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THE

# GARDENERS' CHRONICLE

AND

# AGRICULTURAL GAZETTE

FOR

1859.

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# THE GARDENERS' CHRONICLE
AND
# AGRICULTURAL GAZETTE.

**A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.**

No. 1.—1859.] SATURDAY, JANUARY 1. {Price Fivepence. STAMPED EDITION, 6*d*.


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HORTICULTURAL SOCIETY OF LONDON.—Meetings of the Fruit Committee will be held at 21, Regent Street, at 12, noon, on TUESDAY, January 11, 1859; on TUESDAY, February 1, 1859; and TUESDAY, March 1, 1859.

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| At the Meeting in Jan. for WINTER NELIS | 20*s*. | 10*s*. |
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ROBERT M. STARK, Secretary.

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St. John's Market, Liverpool.

TWO MILLIONS OF 1 AND 2-YEAR SEEDLING AXD TRANSPLANTED **LARCH FIR**, ALSO TRANSPLANTED **SPANISH CHESNUTS.**

WM. WOOD AND SON have to offer a very fine stock of the above, also Seedlings of the following:—ALDER, BEECH, SPANISH CHESNUTS, SCOTCH, SPRUCE, and SILVER FIRS, OAKS, CRAB, PEAR, EVERGREEN OAKS, and other Seedlings.

Prices will be forwarded on application.

Woodlands Nursery, Maresfield, near Uckfield, Sussex.

**TO THE TRADE.**—MAGNIFICENT DWARF-TRAINED PEACHES, NECTARINES, AND APRICOTS.

WM. WOOD AND SON refer with pleasure to their truly superb and extensive stock of the above, which for growth and quality are quite unsurpassed, each tree being furnished with from 9 to 12 branches, well ripened and admirably trained. Also very fine Dwarf Maiden NECTARINES.

The Trade supplied on advantageous terms.

Woodlands Nursery, Maresfield, near Uckfield, Sussex.

**FIGS IN POTS FOR FORCING.**

THOMAS RIVERS can supply fine trees three years old, fit for immediate forcing, of the following first-rate kinds. They have been raised from single eyes, grown under glass, and have clear 1-foot stems:—

White Marseilles, Brown Turkey or Lee's Perpetual, White Ischia. First size, 5*s*. each; second do., 3*s*. 6*d*. Carriage paid to London.—Nurseries, Sawbridgeworth.

**PYRAMIDAL PEACH TREES IN POTS.**

THOMAS RIVERS offers the following kinds of PEACHES as close pyramids; their shoots have been pinched in during the summer, and they are full of fruiting spurs up their stems; well calculated for forcing or for orchard houses, as they occupy but a very small space:—

Noblesse, Royal George, French Galande, Reine des Vergers, Grosse Mignonne, Early Grosse Mignonne, George the Fourth, Belle de Doué, Monstreuse de Doué, all from 3 to 4 ft. in height, 5*s*. each. Carriage paid to London.—Nurseries, Sawbridgeworth.

**PLANTING SEASON.**

WILLIAM URQUHART AND SONS' (Dundee) PRICED LIST OF SEEDLING AND TRANSPLANTED FOREST TREES, SHRUBS, FLOWERS, AND FERNS, is now ready on application.

**THREE MILLIONS OF TRANSPLANTED QUICKS.**

GEORGE CHIVAS, Chester, offers the above to the notice of Planters, which for extent and quality he believes are unequalled in the kingdom. A Sample Bale containing 100 of each five sizes forwarded on receipt of a Post-office Order for 15*s*. Truck loads delivered free at any Railway Station having through communication with Chester.

500,000 Transplanted LARCH, 2, 3, and 4 feet; 200,000 Transplanted SPANISH CHESNUTS, 2, 3, and 4 feet; 200,000 Transplanted HAZEL, 2, 3, and 4 feet. Samples (with prices delivered in quantity free to London, Reigate, or Reading,) on application to WATERER & GODFREY, Knap Hill Nursery, Woking, Surrey.

SEEDLING AND TRANSPLANTED FOREST AND ORNAMENTAL TREES, HEDGE PLANTS, SHRUBS, CONIFERÆ, RHODODENDRONS, &c.—The Subscribers inviting attention to their extensive, varied, and well-grown stocks as above, have pleasure in intimating that their CATALOGUES, priced as moderately as possible, are now ready, and will be forwarded on application.—DAVID REID & SON, Nurserymen and Seedsmen, Edinburgh.

PAMPAS GRASS (GYNERIUM ARGENTEUM).—The beauty of this extraordinary plant has this season been fully appreciated. It can be supplied by the dozen, hundred, or thousand, by CHARLES NOBLE, Bagshot, Surrey.

**PERENNIAL AND ITALIAN RYE-GRASS.**

MCBLAIN AND CO., SEEDSMEN, Newry, Ireland, offer to the Trade PERENNIAL AND ITALIAN RYE-GRASS of every description. Samples and offers on application.

**EARLY ASHLEAF KIDNEY POTATOES.**

JAMES FAIRHEAD AND SON, SEED GROWERS, Lewisham, Kent, offer an extra selected genuine stock of the above of home growth.—Price 10*s*. per cwt.; 168*s*. per ton, free to London.

THE EARLIEST ASH-LEAVED KIDNEY POTATOES.—For the true early short-top Lancashire kind, unsurpassed for forcing and early borders, price 16*s*. per cwt., apply to JAMES TYNAN, Seedsman, 68, Great George Street, Liverpool.

SEED POTATOES.—Fluke, Ashleaf, Kirk's Kidneys, and all other kinds of the best cropping Potatoes, to be had of Messrs. JOHN & GEORGE BELL, Potato Salesmen, Covent Garden, and Hungerford Wharf, Strand. PRICE LISTS sent on application. All orders from unknown correspondents must be accompanied with a reference in London, or Post-office order to Messrs. J. & G. BELL.

MILLER'S MANIFOLD POTATO.—The undersigned begs to intimate that he has appointed the following Seedsmen as Agents for the sale of the above POTATO, that has hitherto resisted the disease; and as extensive circulation is required rather than profitable speculation, the price is fixed at 2*s*. 6*d*. per stone, so as to be within the reach of all interested in the culture of that valuable esculent:—

Messrs. J. & C. LEE, Hammersmith, London.
,, GEORGE CUNNINGHAM & SON, Oak Vale, Liverpool.
,, DRUMMOND & SONS, 58, Dawson Street, Dublin.
ALEX. ROBERTSON, Powerscourt.

**BEST POTATO IN THE WORLD—IMPERIAL KIDNEY.**

M. WEBB, of Calcot, having succeeded in raising a quantity of the above excellent POTATO, begs to offer it to the public as the Best of its Class in every respect. Its quality cannot be surpassed, its yield most abundant, and its size from 2 inches to 9 inches long. Price 16*s*. per bushel, and no less quantity than 1 bushel disposed of. Also about 3000 true KENTISH COB NUT Trees from 2 to 4 feet high.—Apply to Messrs. JOSH. MAY & Co., 1, Wellington Street, Strand, or to M. WEBB, Calcot, near Reading, Berks.

## TO THE TRADE.

WOOD AND INGRAM beg to offer the following articles which they have of extra fine growth :—
STANDARD, DWARF, AND TRAINED CHERRIES, of all the best sorts.
OAKS, 1 and 2 year seedling, 2 to 3, and 3 to 4 feet.
" Evergreens, 1 year seedling.
" Turkey, 1 year ditto.
SYCAMORE, 1 year ditto.
WHITETHORN, 2 year ditto.
ELM, narrow-leaved English, 1 year ditto.
CHESNUT, Spanish, 3 to 4, 4 to 5, and 5 to 7 feet.
FIR, Scotch, 1½ to 2, 2 to 2½, and 3 feet.
HAZELS, 2 to 3, and 3 to 4 feet.
POPLAR, Black Italian, 3 to 4, 4 to 5, and 5 to 6 feet.
" Lombardy, 4 to 5, 5 to 6, and 7 to 8 feet.
BOX, sorts, 2 to 3, and 3 to 4 feet.
LAURELS, 1 year bedded.
Prices on application.—Huntingdon Nurseries.

ESTABLISHED 1823.

## NEW PLANTS.

AMBROISE VERSCHAFFELT, NURSERYMAN, Ghent, Belgium, begs to offer the following new Plants :—

| | | | |
|---|---|---|---|
| Alstrœmeria argenteo-guttata | £0 | 16 | 0 |
| Azalea indica Baron de Vrière | 0 | 2 | 6 |
| " gigantiflora | 0 | 2 | 6 |
| " Grande Duchesse Hélène | 0 | 8 | 0 |
| " magniflora (Spae) | 0 | 2 | 6 |
| 16 new Ghent Azaleas, hardy (figured in VERSCHAFFELT's "Illustration"), nice bushy plants, and most of them with flower buds. The set | 0 | 16 | 0 |
| Camellia Grande Duchesse Hélène | 0 | 12 | 0 |
| " Princesse de Prusse | 0 | 8 | 0 |
| (These are two of the finest Camellias of all. The correct figure can be seen in VERSCHAFFELT's Camellia work.) | | | |
| Clematis Sophia flore-pleno, hardy | £0 | 16 | 0 |
| Cydonia Mallardi, hardy | 0 | 4 | 0 |
| " Moerloosi, hardy | 0 | 2 | 6 |
| Magnolia Lenné, the finest hardy Magnolia of all | 0 | 7 | 0 |
| Rhododendron acutilobum, greenhouse | 0 | 4 | 0 |
| " crispiflorum " | 0 | 4 | 0 |
| " Bylsianum, hardy, extra | 1 | 0 | 0 |
| " Madame Wagner, hardy | 0 | 3 | 6 |
| " Prince Camille de Rohan, hardy | 0 | 3 | 6 |

Nearly all the above plants are figured in VERSCHAFFELT'S "Illustration Horticole."

The 12th Number (December) of 1858 of the "ILLUSTRATION HORTICOLE" is now ready, and will be sent out in a few days. It contains :—

Leschenaultia biloba, v. Huntsi
Erica cerinthoides coronata
Burlingtonia venusta
New Pear Général Totleben

With the new postal convention the work can be sent FREE to all parts of England, Scotland, &c., at 14*s.* 6*d.* a year. A Specimen Number will be sent free on application.

MESSRS. WATERER AND GODFREY respectfully invite the attention of parties engaged in planting to the following list of very desirable plants, all of which may be seen growing in the open quarters of their Nursery, and are in the finest possible condition for transplanting :—

Araucaria imbricata, 9 to 12 inches, 5*l.* per 100 ; 40*l.* per 1000
" " 1½, 2, 3, 4, 5, 6, and 8 feet high. Our stock of this plant exceeds 100,000
Wellingtonia gigantea, stout handsome plants from seed, 84*s.* per dozen ; 25*l.* per 100. These are all in the open ground, and are believed to be the finest lot of seedling plants in the Trade.
Cedrus Deodara, 1½ to 2 feet, 18*s.* per dozen ; 6*l.* per 100
Do. 3, 4, 5, 6, 7, 8, 10 and 12, and 15 feet. Our stock of Deodars at the present moment occupies several acres of land ; they have been constantly removed, and with fair usage not one in a thousand would fail. We offer them on very advantageous terms either in large or small quantities
Cedrus atlantica, 4, 5, 6, and 7 feet
Cupressus macrocarpa, magnificent plants, 7, 8, and 10 feet high
" Lawsoniana, stout handsome plants from seed, 18 inches, by the dozen or 100
Abies nobilis, from imported seed, 6*l.* 6*s.* per doz. ; 40*l.* per 100
" do. 1, 2, and 3 feet high
" Nordmanniana, a large number of beautiful plants, all from seed, 2, 3, 4, 5, and 6 feet high
" Pinsapo, do. do.
[We believe we are justified in stating our stock of the three last-mentioned Firs offers a selection to be met with in no other Nursery.]
" Douglasi, 6, 7, 10, and 12 feet
" orientalis, 3, 4, 5, and 6 feet
Pinus Benthamiana, stout seedling plants, about 1 foot, 18*s.* per dozen ; 5*l.* per 100 ; 40*l.* per 1000. Unquestionably the finest of all the long-leaved Californian kinds, and well known to be perfectly hardy. It is the most valuable of all for timber.
Juniper, Chinese, 2, 3, 5, 7, 8, and 10 feet high
" Irish Upright, 3, 4, 5, 6, 7, and 8 feet. The Irish and Chinese Junipers are grown by us to a very large extent
Thuja aurea.—This plant originated in our Nursery, and our stock of it offers a choice of many hundred specimens from 1½, 2, 3, 4, and 5 feet high, and measuring from 2 to 10 and 15 feet in circumference. Nothing can well exceed the beauty of these plants, and certainly are to be met with in no other Nursery
Thuja gigantea, stout seedling plants, 1½ to 2 feet high
" Wareana, 3, 4, 5, 6, 7, and 8 feet
Thujopsis borealis, handsome plants, in quantity, 1½ & 2 ft. high
Taxus, Yew, Common English.—A large quantity, and of all sizes up to 5, 6, and 7 feet
" Irish Yew, 4, 5, 6, 7, and 10 feet. Many thousands of these beautifully formed plants grown to one stem
" Golden Yews in large quantities and of all sizes up to 6, 7, and 8 feet
We also have them worked on the Common and Irish Yew as Standards, with heads from 12 to 15 years' growth
Holly, Variegated, Scottica, laurifolia, &c. We hold probably the largest stock of good sized variegated Hollies in the kingdom, especially of the better kinds of silver and gold striped
Rhododendron ponticum, for cover, stout plants, 1½ to 2½ feet, by the 1000. All the well-known proved hardy late blooming kinds, in any quantity, at from 30*s.*, 42*s.*, to 84*s.* per dozen
Standard Rhododendrons of all kinds
Azaleas, stout bushy plants, covered with bloom buds, from 18 inches to 2 feet high, and of all colours, 9*s.*, 12*s.*, 18*s.*, and 24*s.* per dozen ; 50*s.*, 75*s.*, to 100*s.* per 100
Hardy Heaths, a first-rate collection, at 35*s.* per 100 ; 15*l.* p. 1000
Roses, fine Standards, of the most popular kinds, at very low prices.

As well as the above, we are very large holders of the ordinary kinds of Nursery Stock, which may be judged from the fact that the Nursery far exceeds 100 acres in extent of all such things as Laurels, Box, Lilacs, Limes, Purple Beech, and the commoner descriptions of Evergreens and Deciduous Flowering Shrubs. An enormous stock of Fruit and Forest Trees are also grown extensively.

Goods are delivered free to London, Reading, or Reigate. The Nursery is reached in an hour from Waterloo, and conveyances are always to be had at the Woking Station.

CATALOGUES, Priced and Descriptive, will be sent on application, enclosing one postage stamp. to

WATERER & GODFREY, Knap Hill, Woking, Surrey.

## ROSES.

A. PAUL AND SON invite attention to the following facts in reference to their position at the Rose Shows during the present year :—

| | | |
|---|---|---|
| May 12. | Royal Botanic Society, 10 Roses in pots | 1st Prize |
| " 22. | Crystal Palace 12 ditto | 2d Prize |
| June 2. | Royal Bot. Society, Collection of Cut Roses | 1st Prize |
| " | " " 24 Cut Roses | 1st Prize |
| June 10. | London Horticultural Society, 50 Cut Roses | 1st Prize |
| " | " " 10 Roses in pots | 2d Prize |
| June 16. | Crystal Palace, 50 Cut Roses | 1st Prize |
| " | " " 24 ditto | 1st Prize |
| " 23. | Royal Botanic Society, 50 Cut Roses | 1st Prize |
| " | " " 24 ditto | 1st Prize |
| July 1. | Grand National Rose Show, Collection of Roses (unlimited) | 1st Prize |
| " | " " 48 Cut Roses | 1st Prize |
| " | " " Collection of Moss Roses | 1st Prize |
| " | " " Ditto Tea & Noisette Roses | 2d Prize |
| " | " " Ditto of Gallica Roses | 2d Prize |
| July 7. | Stamford Horticultural Society, 24 Cut Roses | 1st Prize |
| Sept. 8. | Crystal Palace, 50 Cut Roses | 1st Prize |

The sorts which obtained these prizes are offered, strong healthy plants from 18*s.* to 24*s* per dozen standards, and from 12*s.* to 18*s.* per dozen for dwarfs or dwarf standards. For further particulars and general information on Roses see Descriptive Catalogue just published, and furnished post free on application.—Nurseries, Cheshunt, Herts.

## GRAPE VINES FROM EYES.

JOHN AND CHARLES LEE beg to offer an immense stock of strong well-ripened VINES FROM EYES, of the following kinds :—

Alicant
Barbarossa
Bidwell's Seedling
Black Cluster
Black Constantia
Black Damascus
Black Prince
Blanche Vigne
Calabrian Raisin
Charlsworth Tokay
Chasselas Frocklaboulay
Chasselas Musqué
Duzetto
Esperione
Frontignan, black
" grizzly
" white
Hamburgh, black
" Champion
" Dutch
" golden
" Mill Hill
Hamburgh, Pope's
" Victoria
Hâtif de Jura
Isabella
Lady Down's Seedling
Marchioness of Hastings
Muscadine, Royal
" Parsley leaved
Muscat, August
" Bowood
" Cannon Hall
" Hamburgh
" Noir Hâtif
" of Alexandria
" of Fontainebleau
Pitmaston Cluster white
Raisin des Carmes
Sweet Water, Dutch
Syrian
Trebiana
Tripoli
West's St. Peter's

Nursery and Seed Establishment, Hammersmith, London.

## SEEDLING FOREST TREES, &c.

| | | | Per 1000—*s.* | *d.* |
|---|---|---|---|---|
| 3,000,000 | 1-year | Larch | 1 | 0 |
| 1,000,000 | " | Scotch Fir | 0 | 10 |
| 300,000 | " | Alder | 1 | 0 |
| 200,000 | " | Birch | 1 | 6 |
| 200,000 | " | Elms | 1 | 6 |
| 150,000 | " | Ash | 1 | 6 |
| 100,000 | " | Sycamore | 1 | 6 |
| 300,000 | " | English Oak | 2 | 6 |
| 10,000 | " | Evergreen Oak | 40 | 0 |
| 20,000 | " | Horse Chesnut | 5 | 0 |
| 40,000 | " | Chinese Arbor-vitæ | 10 | 0 |
| 70,000 | " | Cupressus horizontalis | 8 | 0 |
| 80,000 | " | Pinus Laricio | 10 | 0 |
| 100,000 | " | Pinus austriaca | 6 | 0 |
| 300,000 | " | Pinus maritima | 2 | 6 |
| 20,000 | " | Common Laurel | 17 | 6 |
| 20,000 | " | Crab Apple | 3 | 6 |
| 250,000 | " | Quick | 2 | 0 |
| 10,000 | " | Laburnum | 2 | 6 |
| 10,000 | 2-year | do, | 4 | 0 |
| 1,000,000 | " | Norway Spruce Fir | 1 | 6 |
| 40,000 | " | White Spruce Fir | 4 | 0 |
| 50,000 | 3-year | Silver Fir | 7 | 0 |
| 800,000 | 2 " | Scotch Fir | 1 | 6 |
| 100,000 | 1 " | bedded Scotch Fir | 2 | 6 |
| 100,000 | 2 " | Beech | 3 | 0 |
| 60,000 | 2 " | Birch | 3 | 0 |
| 30,000 | 2 " | Alder | 3 | 0 |

The Subscriber begs to call attention of his friends and the public in general to the above stock of SEEDLINGS, and is happy to intimate to them that they are generally fine in quality, and trusts they will give satisfaction. Any order, large or small, will be promptly attended to. All delivered free of expense at Dublin, and thence half carriage paid to any part of England, &c.—Apply to MICHAEL BURKE, Drumlargan Nursery, Summerhill, county Meath, Ireland.

## WINTER AND SPRING-FLOWERING PLANTS.

HUGH LOW AND CO. have to offer the undernamed articles, the quality of which they believe to be unsurpassed :—

ERICA WILMOREA, in 32-pots, plants 18 to 20 inches in height, with 12 flowering shoots. Each, 2*s.* 6*d.*
ERICA WILMOREA, in 48-pots, plants 12 to 15 inches in height, with from 6 to 8 flowering shoots. Each, 1*s.* 6*d.*
ERICA HYEMALIS, in 48-pots, 9 to 12 flowering shoots. Each, 1*s.* 6*d.*
ERICA REGERMINANS, in 54-pots, plants 1 foot high, with from 12 to 15 flowering shoots. Each, 1*s.*
ERICA SINDRYANA, in 48-pots, plants 12 to 15 inches in height, with from 12 to 15 flowering shoots. Each, 1*s.* 6*d.*
EPACRIS IMPRESSA CARNEA, in 48-pots, plants 12 to 15 inches in height, with from 20 to 25 flowering shoots. Each, 1*s.* 6*d.*
EPACRIS DELICATA, in 48-pots, plants 12 to 20 inches in height, with from 15 to 18 flowering shoots. Each, 1*s.* 6*d.*
EPACRIS KINGHORNI, in 48-pots, plants 12 to 15 inches in height, with from 12 to 15 flowering shoots. Each, 1*s.* 6*d.*
EPACRIS AND ERICAS, in very large variety, all strong bushy plants, in 48 pots, 1*s.* 6*d.* to 3*s.* 6*d.* each.
CAMELLIAS, in variety, with flower buds, plants 9 to 15 inches in height, 2*s.* 6*d.* to 3*s.* 6*d.* each.
BORONIA DRUMMONDI, 9 to 12 inches in height, with 12 flowering shoots. Each, 1*s.* 6*d.*
AZALEA AMŒNA, one of the most lovely plants grown for early spring-flowering, plants in 48-pots, 9 inches high and the same in diameter, with from 20 to 25 flowering shoots. Each, 2*s.* 6*d.*
AZALEA INDICA, in large variety, 2*s.* 6*d.* to 7*s.* 6*d.* each.
CHOROZEMAS, in variety, well set with flower buds. Each, 1*s.* 6*d.*
CLEMATIS LANUGINOSA, the finest of all the hardy species, strong plants, 5*s.* to 7*s.* 6*d.* each.
ORANGE TREES, in fruit, 2 to 3 feet high, 7*s.* 6*d.* to 10*s.* 6*d.*
Half-specimen ERICAS, EPACRIS, & AUSTRALIAN PLANTS, in large variety. The greater part are in 8-inch pots, 7*s.* 6*d.* to 10*s.* 6*d.* each.

With the single exception of the Orange Trees, all the articles named above can be supplied to the Trade by the dozen and hundred of each kind. Wholesale Prices on application. Inspection of the General Nursery Stock respectfully invited.

Clapton Nursery, London, N.E.

## TO BRITISH AND EXOTIC BOTANISTS.

FREDERICK Y. BROCAS has for 12 years devoted his time principally to botanical pursuits, and has accumulated about 90,000 British and Exotic specimens. He has had ample experience in the conservation of an Herbarium.

F. Y. B. is prepared to receive orders for supplying collections or desiderata ; and having lately returned from a month's excursion, during which he paid especial attention to collecting seeds, can supply sets of the same, which include many critical species.

*** A few nearly complete sets are now ready ; and also collections for Gardeners, Schools, or private instruction, at a reduced price. Collections named, arranged, mounted, and an allowance made for duplicates.

Inquiries addressed to FREDERICK Y. BROCAS, Botanist, St. Martin's Lane, London, W.C., will receive immediate attention.

## TO THE TRADE AND PUBLIC IN GENERAL.

M. A. LAKE begs to offer 1000 DWARF TRAINED FRUIT TREES of the following kinds, viz., Peaches, Apricots, Nectarines, Plums, Pears, and Apples on Standard Pears, all of which are of the choicest kinds, and warranted true to name ; also a large stock of 3 and 4 year old Gooseberries, named sorts ; 20,000 Currants, consisting of Red and White Grape, Raby Castle, Wilmot's Superb Red, Knight's Black Naples, strong 3 and 4 years old bushes ; Lake's Seedling and Falstoff Raspberries ; Laurels and Laurustinus, very fine ; also a large well-grown stock of Lime, Sycamore, Spanish and Horse Chesnuts, Beech, Mountain Ash, Yew, Birch, Tree Ilex, and English Oak, Hazel, Spruce Fir, Cypress, Cedar Deodara, Pinus excelsa, Seedling Holly, and Ilex Oak, Privet very fine, 2 and 3 years Seedling ; Thorns, Standard and Dwarf Roses, and Asparagus Roots.

The above will be sold at very low prices, which can be obtained on application, especially if quantities are taken.

The Nurseries, Bridgewater, Somerset.

THE SUBSCRIBERS respectfully invite attention to their superior stock of the following, all of which have been frequently transplanted, and will remove with a good chance of success.

### CONIFERÆ.

Araucaria imbricata, 1 to 1½ foot, a large quantity ; also a few fine specimens 4, 5, and 6 feet
Biota meldensis, quite new, 1½ to 2 feet
" glauca, 1 to 1½ foot
Cedrus Deodara, 2½ to 3 feet
" robusta, 1 to 1½ foot, very distinct and beautiful
" viridis, 1 to 1½ foot
Cryptomeria japonica, 4 to 5 feet, fine specimens
Cupressus ericoides, 1 to 2 feet, fine
" fastigiata, 1, 2, and 3 feet
" Lambertiana, 1 to 1½ foot
" macrocarpa, 2, 3, 4, and 5 feet
" Lawsoniana, 9 inches
Pinus austriaca, 2, 3, and 4 feet
" Laricio, 1 to 2 feet
" Montezumæ, from seed, very fine
Taxodium distichum, 3, 4, and 5 feet
Thuja aurea, 9 to 12 inches
" Knighti, 2, 3, 4, and 5 feet, fine

### EVERGREENS, &c.

Ivies, Irish, New Giant, and Regeneriana, very strong
Junipers, English, Irish, and Swedish
Laurels, common, 2 and 3 ft., very fine, in very large quantity
Laurustinus, black-leaved, 3 to 4 feet
Privet Evergreen, very strong
Rhododendron ponticum, 1 to 2 ft., very fine, by the 100 or 1000
Ailanthus glandulosa, 6 to 8 feet
Ash, Weeping, 8 to 10 feet, stems very fine
Rose Acacias
Sophora japonica, 4 to 6 feet

With a very large quantity of every description of Nursery Stock. CATALOGUES sent free on application.

Plants presented free to compensate for distant carriage.

WM. WOOD AND SON.

## ABERGAVENNY NURSERY GROUNDS.

JAMES SAUNDERS has a large Stock of SCOTCH FIR, 1½ to 2 feet ; Do., 2 to 3 feet. LARCH and SPRUCE of all sizes, WEYMOUTH PINE, SILVER and BALM OF GILEAD FIR. A large quantity of Pinus austriaca, various sizes from 1 to 5 feet, particularly fine ; many choice varieties of Pinus ; 20,000 to 30,000 Black Italian and other sorts of POPLAR ; several thousands of Chichester and English ELMS, with other choice kinds, all of various sizes : Spanish and Horse Chesnut ; Sycamore, from 3 to 20 feet ; Turkey and Evergreen Oak ; Acacia, Norway Maple, Oriental Plane, and other Ornamental Trees and Shrubs of all kinds and sizes. A large number of fine Trees for Parks and Plantations where immediate effect is an object.

An extensive collection of Standard, Half Standard, and Dwarf ROSES ; 2000 to 3000 Perpetual and other kinds of ROSES, in pots, suitable for beds and bordering ; Trained and other FRUIT TREES ; Standard APPLES and PEARS, DWARF APPLES on Paradise Stocks ; a choice collection of PEARS on Quince Stocks. The whole of the extensive Stock on upwards of 20 acres of Land, is remarkably healthy and well grown. A liberal discount for cash.

About 350 FERNS, MOSSES, ORCHIDS, and other Stove Plants, to be disposed of.—All Orders and other communications to be addressed to JAMES SAUNDERS.

RED LODGE NURSERY AND AMERICAN GROUNDS, SOUTHAMPTON.—These Grounds, extending over 60 acres, and consisting of every variety of soil, contain a large and choice assortment of AMERICAN PLANTS, including many thousands of Scarlet, Pink, White, and Rose RHODODENDRONS, of the newest and best varieties, and half a million of RHODODENDRON PONTICUM, suitable for covers or large Plantations.

KALMIAS, AZALEAS, ANDROMEDAS, &c.

Transplanted FOREST TREES of every denomination, in immense quantity, including 600,000 Scotch, Larch, and Seedlings.

FRUIT TREES of the choicest kinds, strong, well grown, and mostly in a bearing state.

Strong plants of the beautiful GYNERIUM ARGENTEUM, or PAMPAS GRASS.

QUICKSETS, for Fencing, about two millions.

ORNAMENTAL TREES, EVERGREENS, and FLOWERING SHRUBS, in great variety, and of all sizes.

Standard and Dwarf ROSES, upwards of 20,000, in named sorts.

Beautiful specimens of CONIFERÆ, including Cedrus Deodara, Crytomeria japonica, Libocedrus chiliensis, Araucaria imbricata, Thujopsis borealis, Thuja aurea, Abies Douglasii, Pinus Lambertiana, Pinus Pinsapo, Pinus Jeffreyana, Cupressus macrocarpa, do. Bedfordiana, do. Lawsoniana, do. McNabiana, do. torulosa, Abies Brunoniana, Pinus excelsa, Cedrus Libani, Lebanon, Cedrus africanus, Irish and Golden Yews, Pinus Cembra, Pinus insignis, the magnificent Wellingtonia gigantea, and 50 other elegant varieties, mostly of recent introduction, all more or less interesting and beautiful. The specimens, from frequent removal, are well rooted, and transplant with certainty of success.

An inspection of the General Stock growing in this unrivalled Nursery is earnestly and respectfully solicited.

All orders are promptly executed and carefully packed.

CATALOGUES and every information may be obtained on application to W. H. ROGERS, Red Lodge Nursery, or to the Seed Establishment, 130, High Street, Southampton.

ROSES.

WM. WOOD AND SON beg leave to offer ROSES on the following terms, selection of sorts left to themselves:—

Extra tall Standards, budded with 2 to 3 different varieties of Climbing Roses in each stem, 3s. 6d. to 5s. each.

| | Per dozen. |
|---|---|
| Superior selected Standards | 18s. to 24s. |
| Fine Dwarf ditto | 12 ,, 18 |
| Superb Dwarfs, for exhibition | 12 ,, 18 |
| Fine Dwarfs | 9 ,, 15 |
| Hybrid Perpetuals, on 6-inch stems | 9 ,, 15 |
| Tea-scented, in 48-pots | 12 |
| ,, in 24-pots | 24 ,, 30 |
| Climbing Roses, without names | 4 |
| Good Dwarfs ,, | 4 |

Plants presented to compensate for carriage.
Woodlands Nursery, Maresfield, near Uckfield, Sussex.

MESSRS. PARKER AND WILLIAMS beg to inform their friends and patrons that their NEW PRICED and DESCRIPTIVE CATALOGUE of Exotic Orchids, Stove, Greenhouse, and Hardy Ferns, Miscellaneous Stove, Greenhouse, and Hardy Plants, Variegated and Ornamental foliaged Plants, Conifers, Roses, Rhododendrons, Indian Azaleas, Gloxinias, Fuchsias, Cactuses, &c., is now published, and will be forwarded post free on application.—Paradise Nursery, "Seven Sisters' and Hornsey Roads, Holloway, London, N.

ORANGE TREES, JUST ARRIVED, OTAHEITE, ST. MICHAEL, and MYRTLE-LEAVED; CITRON and LEMON TREES, with from 2 to 20 fruit on each, in beautiful condition, at 2s. 6d., 3s. 6d., 5s., 7s. 6d. each; best HYACINTHS, 6s. per dozen; ditto, 4s.; mixed CROCUSES, 1s. 6d. per 100; VAN THOL TULIPS, 3s. per 100; Double mixed ditto, 4s.; JONQUILS, 4s.; mixed NARCISSUS, 1s. 6d. per dozen; GLADIOLUS FLORIBUNDUS, 1s. 6d. per dozen; GANDAVENSIS, 2s.

PRICED LISTS of FERNS and BULBS may be had on application to ROBT. GREEN, 154, Kingsland Road, 55 doors from Shoreditch Church.

HALF-SHRUBBY CALCEOLARIAS. — To meet the difficulty experienced by Amateurs in dealing with the above in the earlier stages of their culture, the undersigned has provided a quantity of healthy unbloomed Seedlings for flowering in May, which he now offers at 4s. per doz. Package and carriage included.

These novel and charming varieties are very distinct from most others in cultivation, being chiefly shaded Selfs, of violet, crimson, purple, lavender, and many other colours, and of exquisite form and habit,

They have also been awarded the First Prizes at the Bath, Bristol, and Clifton Horticultural Exhibitions two successive seasons.

A few practical remarks as to soil and peculiar treatment will accompany each order.

ROBT. ALEXANDER, Nurseryman, Lyncombe Vale, Bath.

LODGE'S NEW HYBRID RHODODENDRON, "COUNTESS OF WILTON," the best and hardiest Rhododendron in cultivation; obtained a first class Certificate at the Manchester Botanical Gardens. Strong bushy plants from 2 to 4 feet high are now ready, and can also be had from the following agents:—

Mr. John Waterer, American Nursery, Bagshot, Surrey
Messrs. Wm. Rollisson & Sons, Tooting, near London
,, E. G. Henderson & Son, St. John's Wood, London
,, Wm. Wood & Son, Maresfield, Sussex
,, Thomas Jackson & Sons, Kingston, Surrey
,, Benjamin Reid & Co., Aberdeen

A remittance or reference is requested from unknown correspondents. Post-office Orders made payable to JAMES LODGE, Park Nurseries, Singleton Brook, Broughton, Manchester.

Descriptive circulars can be had as above, or from any of the agents.

BEAUTIFUL NEW TORENIA.

JOHN AND CHARLES LEE are now prepared to send out their beautiful new TORENIA PULCHERRIMA, which has been so much admired. It is figured in the present Number of Henderson's "Illustrated Bouquet," and undoubtedly surpasses all other Torenias by the great contrast it exhibits in the rich dark velvet, approaching to black, of the side lobes, and the pure white of the lip.

Dr. Lindley thus describes it in the *Gardeners' Chronicle* of October 30, 1858:—"We have received from Messrs. Lee of the Hammersmith Nursery a singularly beautiful variety of the favourite Torenia asiatica. The tube of the corolla and its eye are an intense purple violet; the two side lobes are the same colour, fading at the edge into pure violet; the upper lobe is pale violet; the lower is white, with a purple oblate blotch at the point. This variety puts the old original kind quite out of the field."

Price 10s. 6d. The usual discount to the Trade.
Nursery and Seed Establishment, Hammersmith, London.

CHRYSANTHEMUM TRICOLOR BURRIDGEANUM.
CHRYSANTHEMUM TRICOLOR VENUSTUM.

F. K. BURRIDGE, SEED GROWER, Lexden Road, Colchester, has much pleasure in inviting the special attention of the Seed Trade to the above-named new Hardy Annuals, which he now offers for the first time, believing they will be found among the finest novelties of the season. The variety Burridgeanum differs from the old C. tricolor in having a fine crimson ring surrounding the yellow circle next the eye of the flower, the rest of the ray being snow white. The variety venustum has the ray florets of a deep reddish purple or plum colour for about one-half their length, shading into yellow at the base, and stained on the under side with purple. Both varieties are striking objects in the flower border, and from their bold conspicuous character, free blooming qualities, and perfect hardiness, together with their adaptability for bouquets, F. K. B. confidently predicts that they will become universal favourites.

A beautifully-coloured group of the two varieties has been prepared, and may be had on application, price 1s.; or gratis to Purchasers of 1 oz. of seed.

CHRYSANTHEMUMS—CHRYSANTHEMUMS.

J. H. BIRD, F.H.S., NURSERYMAN, Stoke Newington, the largest grower and most successful exhibitor of the Chrysanthemum in the British Empire, begs to call the attention of the lovers of the above beautiful autumn flower to his matchless collection, the stock of which amounts to upwards of 50,000 plants. Amongst them will be found the following new and rare varieties:—Admirable, Aimée Ferrière, Augustine, Constantine, Louisa, Louis Bonamy, Madame Leo, Norfolk Hero, Progne, Raymond, Beauté de Nord, Dr. Maclean, Queen of England, Plutus, Alfred Salter, Stellaris globosa, Beauty, Themis, Dupont de l'Eure, &c.

J. H. B. can supply strong plants, one dozen for 6s.; or five dozen in 30 varieties, containing two of each variety, for 1l.; or he can supply 100 plants in 50 varieties, two of each variety, for 1l. 10s. Also POMPONES in great variety; 50 Pompones in 25 varieties, two of each variety, for 10s.; or 100 in 50 varieties, two of each variety for 1l. Strong plants of the beautiful new Pompone the Golden Cedo Nulli, 5s. each, will be ready in March with the usual allowance to the Trade. Every order will be accompanied by a popular work on the Chrysanthemum.

Post-office Orders payable to J. H. BIRD, Stoke Newington, will be immediately attended to.

FRUIT TREES IN POTS.

JOHN AND CHARLES LEE have now the largest and finest stock of FRUIT TREES IN POTS in a bearing state for FORCING AND ORCHARD HOUSES ever offered. They consist of the following kinds, a CATALOGUE of which may be had on application:—

| | | |
|---|---|---|
| APRICOTS | FIGS | PEARS |
| PEACHES | PLUMS | APPLES. |
| NECTARINES | CHERRIES | ALSO, |

VINES AND STRAWBERRIES.
Nursery and Seed Establishment, Hammersmith, London.

FRUITING VINES.

JOHN AND CHARLES LEE beg to offer extra strong short-jointed and well-ripened FRUITING VINES of the following kinds:—

| | |
|---|---|
| BLACK HAMBURGH | BLACK FRONTIGNAN |
| CHAMPION HAMBURGH | WHITE FRONTIGNAN |
| MILL HILL HAMBURGH | BLACK PRINCE |
| GOLDEN HAMBURGH | ROYAL MUSCADINE |
| MUSCAT OF ALEXANDRIA | BIDWELL'S SEEDLING |
| | BOWOOD MUSCAT. |

Nursery and Seed Establishment, Hammersmith, London.

ROYAL EXOTIC NURSERY, CHELSEA, S.W.

JAMES VEITCH, JUN., respectfully announces that his CATALOGUE of KITCHEN GARDEN and FLOWER SEEDS for 1859, with a List of Implements and other Garden requisites, is now published, and will be forwarded post free on application.

J. V., Jun., devoting his personal attention to this department of his business can warrant his seeds TRUE TO NAME and of the MOST GENUINE description.—Jan. 1.

PINE-APPLE NURSERY, EDGEWARE ROAD (W.).

ARTHUR HENDERSON AND CO. beg respectfully to announce that their CATALOGUE OF KITCHEN GARDEN AND FLOWER SEEDS FOR 1859, with a List of Garden Implements and other requisites is now published, and will be forwarded, post free, on application.

They particularly desire to call the attention of the public to their "celebrated Short-topped Garden Beet," the only variety that really will repay the grower; colour, flavour, and quality are such as to render it worthy of extensive cultivation; also "Kite's Branching Marrow Pea," a very valuable and prolific bearer for every day use; "Snow's true White Winter Broccoli;" "Snow's Champion Cos Lettuce," a large crisp summer and autumn Lettuce, and for these seasons unequalled. In this select List will also be found the "Moor Park Lettuce," those very superior sorts as yet but little known, namely, the "Palatine" and "Versailles" Cabbage Lettuce; neither of these are disposed to run to seed during the hot summer months. The White and Black spined Imperial Cucumber, the new sprouting or Feather-stemmed Savoy, a scarce but most delicious Green; the "Waterloo framed short-topped seeding Potato," raised between the "Albion" and "Frame;" it is earlier than either, very productive, and the sort that must eventually be depended upon as the best early frame and forcer, as soon as its merits become better known. The "Australian Salad Cress"; this plant grows about 1 foot in height, branching and spreading all round the stem; it may be constantly cut and gathered throughout the summer, the leaves are of a peculiarly delicate light green, the flavour is exquisite, grateful, and piquant.

ROYAL BERKSHIRE SEED ESTABLISHMENT.

PRIZE MANGEL AND SWEDE SEED.—ORDERS ARE NOW RECEIVED for new Seeds of SUTTON'S choice sorts of Mangel Wurzel and Swede, saved from similar roots to those so much admired on Messrs. SUTTON'S Stands at the Smithfield Club Show, Baker Street Bazaar. The prices will be as under:

SUTTON'S CHAMPION SWEDE, 1s. per lb., or 45s. per bush.
SKIRVING'S IMPROVED SWEDE, 9d. per lb., or 30s. per do.
SUTTON'S LARGE YELLOW GLOBE MANGEL, 9d. per lb., or 70s. per cwt.
SUTTON'S ELVETHAM LONG RED MANGEL, 10d. per lb., or 84s. per cwt.
GREEN-TOP WHITE BELGIAN CARROT, 1s. per lb.
HOLCUS SACCHARATUS, OR CHINESE SUGAR CANE GRASS, 2s. 6d. per lb.
DIOSCOREA BATATAS, OR CHINESE YAM, 5s. per dozen.
KOHL RABI, OR TURNIP-ROOTED CABBAGE, 5s. per lb.

Immediate orders are requested and recommended to insure the above choice sorts at the moderate prices quoted. Goods delivered Carriage Free, and 5 per cent. allowed for cash payment.

PRICE LISTS of every description of FARM AND GARDEN SEEDS may be had post free.

Address, SUTTON & SONS, Reading, Berks.

SHAW AND CROSLAND'S RICHMOND DWARF, late WHITE BROCCOLI.—This Broccoli has proved to be the hardiest in cultivation, having been grown on the most exposed situations, producing fine heavy heads from the middle of May to the middle of June. It gained the First and Second Prizes at the Sheffield Floral and Horticultural Society's Exhibition, held at the Sheffield Botanical Gardens, June, 1856. SEEDS can be had in sealed packets, price 2s. 6d. each, at the Richmond Nursery, Sheffield; or of

Charlwood & Cummins, Covent Garden
Chaundy & Co., Lewisham
Chatter's, Mr. Wm., Saffron Walden
Davies, Thos. & Co., Wavertree, Liverpool
Dean, Mr. Wm., Bradford, Yorkshire
Flanagan & Son, Mansion House Street
Godwin, Mr. F., Sheffield
Hurst & M'Mullen, Leadenhall Street
Henderson, E. G. & Son, St. John's Wood
Kernan, Mr. J., Great Russell Street
Kearsley, Mr. J., Leeds
Low & Co., Clapton
Laing, Mr. Alex., Beverley
Stewart & Son, Dundee
Sharpe & Co., Sleaford
Turner, Mr. C., Slough
Urquhart & Son, Dundee
Wheeler, Mr., Geo., Warminster
Wood & Ingram, Huntingdon

P.S. Fine Transplanted Larch 1½ to 3 feet. Samples and Price to be had on application.—Richmond Nursery, Sheffield.

NEW SPLENDID SEEDLING GLADIOLI. — 15 named varieties of Seedlings from RAMOSUS, and 15 ditto from GANDAVENSIS, for 1l. 1s., carriage paid. Large bulbs of Gladioli gandavensis, ramosus, and floribundus, 2s. 6d. per dozen. Fine Anemones per 100, Mixed Double, 6s.; Scarlet Double, 10s.; Mixed Single, 4s.; Scarlet Single, 6s. Fine mixed Persian Ranunculus, 3s. per 100. Scarlet Turban, 2s. 6d. per 100. A DESCRIPTIVE PRICED CATALOGUE of GLADIOLI, &c., sent free and post paid on application.

BUTLER & MCCULLOCH, Seedsmen, Covent Garden Market, London.

NEW EXOTIC FERN,
NEPHRODIUM MOLLE, VARIETY CORYMBIFERUM.
Named and described in the *Gardeners' Chronicle* of May 22, 1858.

ROBERT SIM is now prepared to supply, at 15s. each, vigorous and well-established profusely crested plants of this beautiful and unique variety, of which he possesses the entire stock. It ought to prove quite a greenhouse kind.

The customary discount to the trade. Price per dozen on application. Carriage paid to London. Post-office Orders on Foot's Cray.—Nursery, Foot's Cray, Kent, S.E.

AMERICAN BLACKBERRY. — The Subscribers have received from New Rochelle a few plants of a BLACKBERRY (BRAMBLE) which their correspondent assures them "is by far the best of the many varieties cultivated in New York State," adding that "he has known 400 dollars' worth of the fruit taken from one acre of ground." Any one wishing to try whether this Blackberry will succeed in this country may have a plant or plants at 5s. each on application to EDWARD SANG & SONS, Kirkcaldy, N.B.

SPLENDID NEW SEEDLING CROCUS per 100. Albion, large white, 3s. 6d.; Mrs. Beecher Stowe, clear white, 3s. 6d.; Queen Victoria, pure white, 3s.; Ne plus Ultra, light blue, 3s.; Othello, very dark, 5s.; David Rizzio, purple, 4s. 6d.; Prince Albert, lilac, 4s.; Sir Walter Scott, beautifully striped, 4s.; New Golden, very large, 4s.; large yellow, 3s.; Dutch Crocus, 2s. 6d.; Cloth of Gold, 2s. 6d.; and many other handsome varieties.—PRICED AND DESCRIPTIVE LIST on application.—BUTLER & MCCULLOCH, Seedsmen, Covent Garden Market, London.

"JACK OF NEWBURY" SWEDE, ETC.

PETER LAWSON AND SON, THE QUEEN'S SEEDSMEN, &c., 27, Great George Street, Westminster, respectfully request attention to their very genuine Stock of the above excellent Swede: also of the LOTHIAN PURPLE-TOP SWEDE, both of which have been selected with the greatest care. They have also a very fine Stock of the KOHL RABI, or TURNIP-ROOTED CABBAGE, specimens of which were shown at their Stands at Smithfield Club Show. The Kohl Rabi was largely grown last season, and may now be relied on as a substitute for the Turnip and Mangel, where these roots do not succeed, or for filling up blanks where there is a partial failure. Its feeding qualities, hardiness, and weight per acre are equal to the Swede, and all kinds of stock prefer it to other roots.

P. L. & SON have also selected a first-rate Stock of MANGEL WURZEL SEED, which they can confidently recommend. Their natural GRASS SEEDS have been also saved with very great care, and they are ready to supply them separately or in mixture, for laying down Permanent Pastures, Lawns, &c.

P. L. & SON have arranged to deliver Seeds free throughout England and Wales from their London Establishment, for all quantities exceeding 20s. in value.

LISTS OF PRICES of the above and all other Seeds, Plants, &c., may be had on application.

27, Great George Street, Westminster.

CHAMPION OF SCOTLAND PEA. —A new and first-rate sort, declared by all who grew it last year to be the most distinct and best flavoured Pea in cultivation. To be had only at PETER LAWSON & SON'S, the Queen's Seedsmen, &c., who are also prepared to execute orders for all sorts of Garden and Flower Seeds of the finest quality.

27, Great George Street, Westminster.

ORCHARD HOUSES.

LUCOMBE, PINCE, AND CO. invite attention to their very superior Stock of

FRUIT TREES IN POTS

for the above purpose, consisting of all the best kinds of APRICOTS, CHERRIES, FIGS, NECTARINES, PEACHES, PEARS AND PLUMS,

thoroughly established in their pots, and full of well ripened wood, so that they are capable of bearing abundantly next season.

Prices will be found very moderate, and can be had on application to them.—Exeter Nursery, Exeter, established 1720.

GENUINE GARDEN SEEDS.

LUCOMBE, PINCE, AND CO. very respectfully announce that their Stock of KITCHEN GARDEN SEEDS for 1859 is now complete, and comprises many novelties of great promise, and all the best old sorts of acknowledged merit. The quality of all their seeds is this season particularly fine, and as they take great pains in selecting the whole from the *purest stocks, and prove their vitality previously to sending them out*, L., P., & Co. are enabled with great confidence strongly to recommend them. CATALOGUES of the above are now ready, and may be had on application to

LUCOMBE, PINCE, & CO., Exeter Nursery, Exeter.



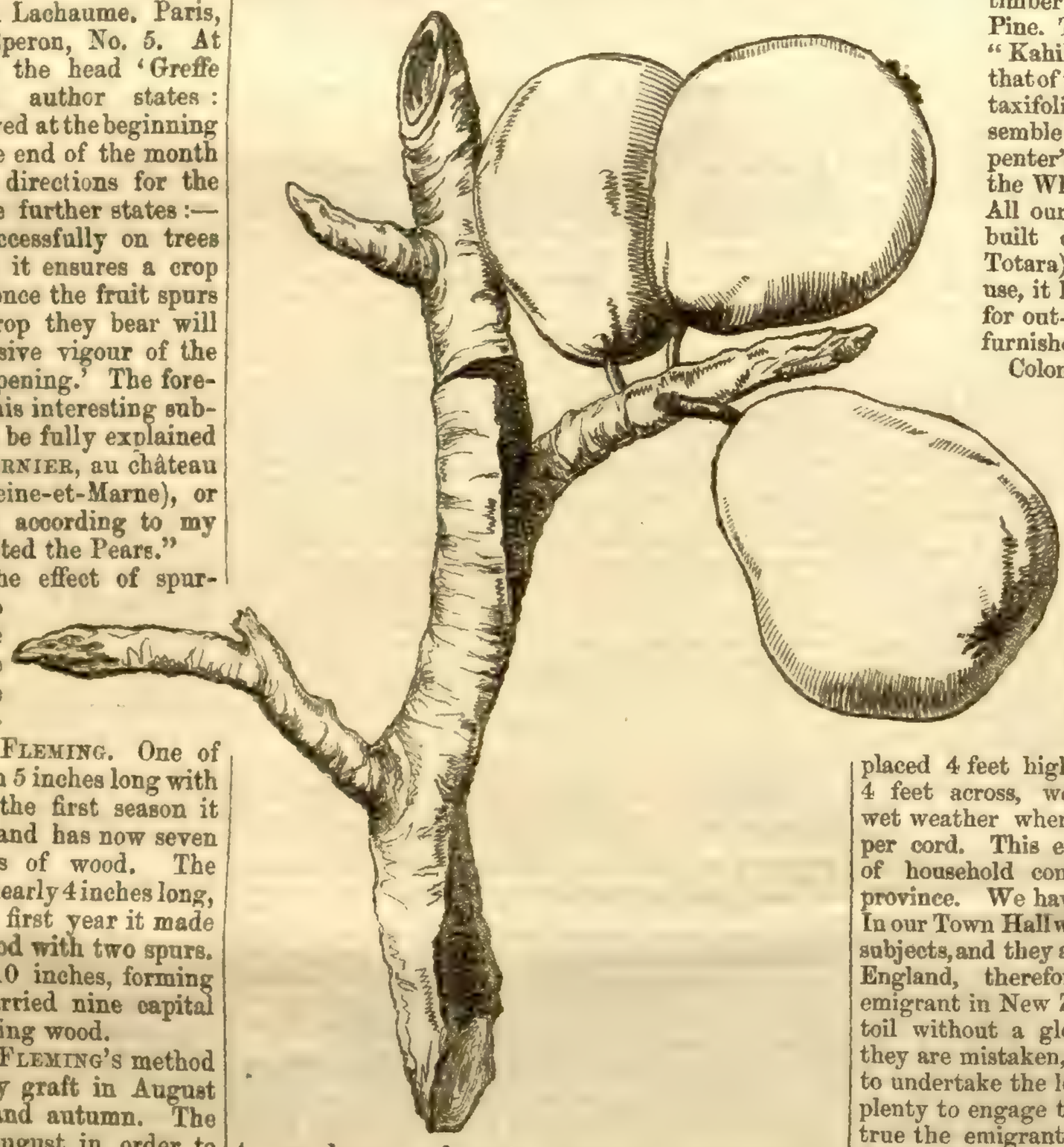
# The Gardeners' Chronicle.

*SATURDAY, JANUARY* 1, 1859.


THE great interest excited by the method of immediately rendering barren fruit trees fertile by using fruit spurs or buds as scions is so great that we lose no time in returning to the subject. In another column will be found a translation of a good practical paper by Mons. BALTET, a French nurseryman, in which he fully describes his mode of operating. The following memorandum from the valuable correspondent who first drew attention to the practice, also throws further light upon the question:—

"The notice, in a late Number, of a sentence contained in the brief report sent to you of the Exhibition of flowers, fruits, &c., held by the Horticultural Society of Paris last September, viz., 'that the finest Pears exhibited were produced from flower-buds which had been inserted on barren spurs of other trees during the previous autumn,' leads me to offer some additional information on the matter. You state you are not surprised at the inquiry made about this novel operation, and farther, that no success has attended your examination of French works on gardening relative to it, consequently you are driven to the conclusion 'that the reporter was misinformed, or

else that the method of grafting (budding I would rather call it) is undescribed.' In reference to the foregoing, I would beg to state in the first place, that my opinion on the superiority of the fruit appears to have coincided with that of the judges, who awarded a first-class prize to the group; and in the second, that it was under the supposition that the latter of your conclusions is correct, at least in so far as English practice and works on horticulture are concerned, that I considered the subject worthy of being recorded. My imperfect knowledge of the French language might make me doubt whether I understood exactly the information given to me by the gentleman who exhibited the fruit in question, but it was fully borne out by what I saw. The spurs on the parent tree on which the fruit buds were inserted were cut off together with the latter growing on them, and the fruit still attached, of which I made the accompanying rough sketch. Judging from the extracts you give of M. PEPIN's report and M. BOURGEOIS' garden, I consider the budding with fruit buds to be similar both in practice and effect to that in question. I may also refer to another French work where this method of budding fruit buds is very pointedly alluded to, viz.: 'Méthode Elémentaire pour tailler et conduire soi-même les Poiriers, Pommiers, et autres Arbres Fruitiers,' &c., par Jean Lachaume. Paris, Bouchard-Huzard, Rue de l'Eperon, No. 5. At page 49 of that work, under the head 'Greffe de boutons à fruits,' the author states: 'This mode of working is employed at the beginning of August for Apples, and at the end of the month for Pears;' and after giving directions for the performance of the operation, he further states:—'This method is employed successfully on trees which are obstinately barren; it ensures a crop the following year; and when once the fruit spurs are fixed on such trees, the crop they bear will completely overcome the excessive vigour of the stock, and hasten the time of ripening.' The foregoing may assist inquirers on this interesting subject, which I have no doubt can be fully explained and dilated on by M. LOUIS BERNIER, au château de Boulayes, près Tournan (Seine-et-Marne), or his gardener, M. MAYRE, who according to my notes are the parties who exhibited the Pears."



In further illustration of the effect of spur-grafting we have before us two branches of the Easter Beurré thus treated at Trentham, where the method has for some time been employed under the intelligent management of Mr. FLEMING. One of these specimens had been a scion 5 inches long with a single spur on the side. In the first season it made 3 inches further growth, and has now seven magnificent Pears on 8 inches of wood. The other specimen had been a scion nearly 4 inches long, with a spur near its base. The first year it made rather more than 3 inches of wood with two spurs. The second year it extended 10 inches, forming four spurs; and this year it carried nine capital fruit on about 17 inches of bearing wood.

In one important respect Mr. FLEMING's method differs from the French. They graft in August only, he grafts both in spring and autumn. The French seem to have taken August in order to avoid with certainty the chance of the fruit spurs breaking into wood and forming branches, as we should have feared they would do. No such bad consequence appears however to have been experienced at Trentham. The method of working there adopted is the common English side grafting, the only kind that can be conveniently followed.

That this process will come largely into use can hardly be doubted, for it enables the gardener immediately to cover the old naked branches of his wall Pears with bearing wood not only of the same variety but of any other variety—an immense advantage—and it also invigorates old trees in a very remarkable manner by aid of the abundance of new healthy wood, which these stranger spurs immediately organise all over the old alburnum. For so complete is the junction between stock and scion in this spur-grafting that no force will separate the two after the first year.

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WE ventured a short time since, on information upon which we had every reason to depend, to make some remarks upon the unwillingness of practical men in some parts of the United States to admit those facts as to the agency of fungi in the production of several vegetable maladies, which are now received almost everywhere in Europe as undoubted verities. It was far from our intention to give offence, and though the remarks upon the article in MOORE's Rural New Yorker are expressed in no very courteous phrase, we are not so thin skinned as to think it necessary to make any formal reply, assured as we are from the remarks themselves, that even the practical men whom we are accused in our conceit and arrogance of treating so slanderously and unjustly, are beginning to allow that there is some weight in the assertion that these complaints are produced by fungi.

The fact is that it was only after a 10 years' struggle that the influence of fungi in the production of the Potato murrain and Vine and Hop mildews obtained credence in Europe even amongst scientific men, and at the present day they are still sometimes spoken of as the effect and not the cause of disease. The ventilation of the question has however resulted in the amelioration of two forms of disease at least, viz., those of the Vine and Hop, and it is now universally acknowledged, as the result of experience, that when the parasite is destroyed, the disease ceases.

We have not indeed at present any certain method of contending against such fungi as those which cause such disastrous consequences to Pears and Apples, but a knowledge of the cause of the evil will in all probability eventually result in some remedy. It is foolish to sneer at those who indicate the cause, merely because they are obliged to use phrases and words which are not in general use, and because their explanations do not accord with popular notions. Such misplaced ridicule is sure in the end to lead to private loss, if it does not inflict a public injury. At the very moment when the sulphured Hop grounds alone in Kent presented an abundant crop, there were many scoffers who had scarcely a Hop to show, and who tried in vain to excite a public prejudice against the use of the Hops produced in grounds where sulphur had been employed; and if the Vine growers as a body were disposed to try the sulphur, though in some districts there were strong exceptions, it was because the ridicule which had been cast upon the upholders of the Fungal Theory in respect of the Potato murrain had at length subsided. Had the Potato murrain been unknown, it is pretty certain that the Vine mildew would not so soon have been attacked successfully.

We rejoice therefore at any indication of a disposition to give proper deference to science amongst ourselves and our American brethren, with the latter of whom we have too many bonds of sympathy, not to mention any personal obligations, to offend them willingly even in so small a matter as the present. An acrimonious tone is ill suited for such discussions, and we can safely say that if articles conceived in such a strain as a whole file of extracts from American Journals which we have now before us relative to the Pear blight were to appear frequently in our own or any cognate Journal, it could only be at the risk of forfeiting the support of its subscribers. Such a tone was too common at the beginning of the p autumn, but happily this has vanished t with a host of other things far better honou the breach than the observance. *M. J. B.*

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WE regret to announce the decease of Pr CHARLES MORREN at Liège on the 17th u the 52d year of his age, after a very long and illness. He was the author of a consid number of curious papers on various poi interest in Vegetable Physiology, but wa known as the Editor of the *Annales de la Royale d'Agriculture et de Botanique de G* Belgian work of the same class as Paxton's Garden, which terminated in 1849 with i volume.

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## JOTTINGS RELATING TO THE PROVINC CANTERBURY, NEW ZEALAND.

RAIN-water at the present time dropping fr clouds in quantities never before witnessed o plains of Canterbury, has put a stop to out-doo ployment and allowed me to send you a few jott relating to our infant community in this province.

We have our Town Hall, which is well suppor spacious edifice, built of the indigenous timber of Zealand. The building is 70 feet long by 35 feet and about 35 feet high from the floor. timber employed consists of White and B Pine. The native name of the White kin "Kahikatêa" (Dacrydium excelsum), that of the Black "Mai or Matai" (Dacryd taxifolium). The timbers of these two semble each other in quality as far as penter's work is concerned; but of the the White is found to be the most dura All our cottages, places of worship, &c., built of this; but Totatara (Podocar Totara) timber is now coming much i use, it having been found to be very dura for out-door purposes. Our supply of fu furnished by these three kinds of trees.

Colonial geologists have not yet been to ascertain exactly where and what depth our native coal-fields but it is to be hoped that their e position will soon be found. The tensive forests within the district Wellington, however, afford a sup of fire-wood which will last for m generations yet to come. Neverth less coals are much wanted. abundance of them would do aw with the high price which we ha to pay for fire-wood. For a "cor of wood, consisting of trunks Black and White Pine, 8 feet lo placed 4 feet high in the dray which conveys it, a 4 feet across, we pay in fine weather 3*l.*, and wet weather when the roads are bad, 4*l.* and upward per cord. This enormous price for this staple artic of household comfort is a great drawback to th province. We have to pay 10*s.* for half a cwt. of c In our Town Hall we often have good lectures on scientif subjects, and they are generally well attended; people England, therefore, who picture the life of emigrant in New Zealand to be a dull round of drea toil without a gleam of sunny pleasure, will see th they are mistaken, all that is required is a little plu to undertake the long sea voyage. When here there plenty to engage the mind as well as the body. It true the emigrant must work; but it is equally tru that moderate working, compared with what he has home, either of head or hands, will give him plenty a to spare. If he will only be industrious, and that for couple of years, he will be sure to obtain his ow cottage and his own garden. All of us, whatever ma be our trade or profession, when we have been here a time feel a great desire to possess these comforts and in the end we generally obtain our wish. I fin that the homesteads of those who have settled before myself are growing under their hands, and that the are living in a state of comparative independence. It i not all chop, chip, dig, dig, with us; why should it be. The cottager's garden here is of a description ver superior to any in the mother country. This may startl some, but such is the fact.

Of naturalised early spring flowering plants on th plains of Canterbury, we have in flower during thi month—Cape Broom, (Genista canariensis) which i very beautiful when allowed to grow into a large bush It grows rapidly, and makes handsome hedges when kept clipped with shears. Common Gorse: This is in flower all the year round, and makes very rapid growth In its duration of flowering it forms an exception to everything else. Common Yellow Broom is just in flower. New blooms are opening daily. Common Blood-red single Wallflower: This is beautifully in flower at every cottager's door. Double Blood-red Wallflower is in flower here and there. This variety is rather scarce. Sweet Violets, blue and white, are very fragrant during the day in showery weather. Single Blue Hyacinth: This is as yet scarce. It is a great treat to see such an old acquaintance. Bulbs of all sorts received up to the present time from England turn out to be rotten and mouldy on their arrival. The long sea-voyage does not suit them. They might arrive sound if packed in dry silver sand. Single

White Hyacinth: This, like the blue, is as yet scarce. Common Double Red and White Daisy: These grow and flower freely. Red and Purple Brompton Stocks flower all through the winter. Heartsease: Of these odd flowers may be seen opening here and there. Polyanthus flowers very freely in most of the cottagers' gardens. Primroses and Cowslips: These are very plentiful in our little gardens; they are great favourites. Every cottager nurses them with great care. Hazel Nuts are scarce; the trees are generally very dwarf and bushy. Standard Peaches are in blossom, and look as if they would bear good crops, provided the late spring frosts here do not cut them off just when the calyx is shrivelling. Broad-leaved Periwinkle, which is very fond of a warm nook or corner, flowers freely, as does also the small-leaved variety. Common Thyme flowers and seeds profusely. Nemophila insignis: This is very beautiful, the blossoms being produced by self-sown plants in autumn. Other self-sown annuals are growing fast. Collinsia grandiflora and Leptosiphon densiflorum will be the next annuals in flower. Lupinus nanus stood the winter, and remained in flower.

From the beginning of this month (August) we date the commencement of spring, which closely resembles the changeable characteristics of an English February—one day is warm and pleasant; a second mild and agreeable, with growing showers and hot sunshine; a third cold, wet, stormy, with a very sharp frost in the morning, after which several delightful days may succeed, with gentle showers rapidly exciting vegetation, which at the present time is progressing rapidly. Blossom-buds on the Apple, Pear, Plum, and Cherry are swelling fast. The fruit of the Gooseberry can just be seen among the infant leaves. The only two trees in which the sap does not appear to be in motion are the seedling Walnuts and seedling English Oaks. Showers are frequent; it is common for us to go home at 5 P.M. soaked with rain or the humidity of the climate at this season of the year. We have become like naturalised fruits, vegetables, and flowers—used to it. Early Peas for Christmas Day next are up and growing fast. Green Peas are thought as much of here on Christmas Day as roast beef and plum pudding are in England.

In the immediate neighbourhood where I am living—indeed, at the very spot where I now rent a cottage and ¼ of an acre of land ready for the reception of my family on their arrival from England—at about 3 feet deep from the surface are immense trunks of trees, the circumference of which cannot be well ascertained, they are so bulky. They look as if an ancient forest had disappeared or been swallowed up on the plains here. The land around me is a huge bog. What kind of tree the submerged trunks may be is hard to tell. "Fat earth" is a very appropriate name for the top spit of this bog. I was very much struck last summer with the cereals on it. Their straw or stalks on the average were the height of a man, and the leaves very long and of a very dark green hue. Crops of this rank-growing corn were very heavy. All kinds of culinary vegetables grow rapidly on this boggy land, particularly the Brassica tribe. The Early York Cabbage comes very true to its character. Only put the plants in the ground and they will be sure to form good Cabbages in a much shorter time than in England. I mean next summer to dry some turves of this bog for fuel, and stack them away in a dry place for winter. It may be thought that we are quite enthusiasts out here when I relate that we succeed very well with grafting the Lime on the Aspen.

During the last seven years great efforts have been made to introduce forest-tree seeds into this province, but without good success, the long sea voyage generally destroying their germinating and vegetative properties. The seeds on their arrival appear good, but the growing point on examination generally turns out to be black. About six weeks ago 21 large casks of different kinds of seeds arrived from England, most of them in good condition, with the exception of Portugal and Common Laurel berries and Scarlet Runners, which were perfectly black and decomposed. The Laurel berries would no doubt have arrived in good condition had they been mixed in dry silver sand or even dry chaff instead of having been put in brown paper bags. Fermentation of the outer coat of the seeds caused decomposition. Sand or chaff would have absorbed the moisture and the seeds would have reached us in a sound state. The following is the condition in which the different seeds were received:—Apple pips were sound and good; they were sown about three weeks since and are now germinating; Pear pips, germinating like the Apple pips; these were in canvass bags; Arbutus seed, mixed with dry silver sand in a tin canister, and hermetically closed from air and moisture, are now germinating in the open ground; Medlar pips, mixed with silver sand, are sound, and will doubtless grow; Mezereon Berries, packed in the same way, are swelling in the ground and will soon sprout; Plum-stones, in a canvas bag, are sound—around them, inside the cask, were Elm-chats, which are sown and appear to be in good condition; Sycamore seed is germinating by the 1000, although only sown about three weeks ago it is all up above ground; Ash-keys, equally good as the Sycamore; Beech-mast sound and swelling in the ground, and will soon sprout; Evergreen Cypress seeds good and plump, swelling in the ground; Juniper Berries, good and plump, swelling; Alder seed, germinating freely; Birch seed, good and sound, germinating freely; Platanus orientalis, bad; White Cedar (Cupressus thyoides), seeds swelling, will germinate; Laurustinus, doubtful; Pyracantha berries, ditto; Black Mulberry, germinating, very scarce; Yew Berries, swelling and will germinate; Chinese Arbor-Vitæ, good and germinating; American Arbor-Vitæ, do., do.; Sweet Bay, dead; Pomegranate, sound and germinating; Hornbeam, plump and swelling; Lime, seed good, germinating; Kalmia and Rhododendron, doubtful; common Berberry, good, germinating by the 1000; Blue Gum seed (from Australia), germinating; Service tree, berries good and plump, swelling; Box tree, good, swelling; Spindle tree, do., do.; Alaternus, doubtful. Acorns: Evergreen Oak, dead; English Oak, germinated in the cask during the voyage; they would have remained sound all the way if they had been mixed with dry chaff; hundreds of them had the radicle just protruding through the outer shell. These have been dibbed in the ground in rows, the radicles having taken hold and lifted up the two fleshy cotyledons above ground with the plumule between them. By-and-bye the cotyledons will drop off, then we shall have some nice seedlings. At present, to persons not acquainted with their nature, a row of acorns in a straight line on the surface of the ground looks very curious. Laurustinus berries, Barcelona Nuts, Scotch Laburnum, and Cobbett's Thorn Acacia, are the only seeds that germinated freely after being sown last spring with us. The two first this spring are germinating freely, and just appearing above ground; and the two last were up very quickly just after being sown.

A few more nick-nacks will end my list; Forget-me-Not, mixed Pæony, mixed Pansy, Mimulus, Auricula, and Lily of the Valley. Seedlings of all these are coming up.

The wet weather here of late has been bad enough to evoke expressions of misery, but now it has ceased to be the fashionable complaint since the arrival of the English mail for May; and if it is bad for us, it is good for the seeds when once put into the ground. They germinate freely and are up quickly. Warm showers and hot sunshine effect wonders here.

From my list it will be seen that most of the seeds have been received in good condition, and this may be mainly attributed to their having been packed in good sound air-tight casks and the interstices between the canvas bags inside the casks filled in with dry chaff. Garden and agricultural seeds were also in excellent condition when received. *William Swale, Christchurch, Canterbury, New Zealand, August* 30.

## FRUIT BUD GRAFTING.

BY M. CHARLES BALTET, NURSERYMAN, TROYES, FRANCE.

FOR the last eight years we have practised grafting blossom buds in order to cause barren trees to bear fruit; and the results have always been satisfactory. In endeavouring to extend the practice, we cannot do better than give some explanation as to the mode of proceeding.

In the course of the month of August, cut off fruit spurs from trees where they are too numerous. Let them be shortened to lengths of from ½ to 1½ inch, and cut slanting as if for crown grafting; then make in the branch a T cut for the reception of the scion as if in budding. The graft should be tightly tied with matting or Rushes; and as there is always a space at the upper part of the wound surround it with grafting clay, pitch, or liquid mastick. In the following spring the fruit buds thus inserted will flower and fruit quite as well as if they had not been removed. Frequently, indeed, the fruit is much larger than that on the tree from which the grafts were taken. We should endeavour as much as possible to graft on a vigorous branch, and near its base; and even on the main stem very handsome fruits are in this way produced. These fruit spurs retain their bearing properties in succeeding years; and if an eye produce a wood shoot, it must be successively pinched back in the usual way.

It will be seen that by this system it is easy to utilise fruit buds which have been cut off in pruning, as well as those on trees which have to be transplanted, or on branches which are to be cut off, &c. Every eye should be turned to account; those fruit buds which have no spur may be raised up and worked like common buds; and spurs on which the fruit buds are crowded may be split longitudinally; in fact it is impossible to explain every mode of cutting the scion, for that must be left to the judgment of the operator.

The most suitable period for this operation is when the flow of sap is declining, for if performed too soon the fruit bud might become a wood bud; it is sufficient that the edges of the bark can be easily raised; and it is almost needless to add that the bud should have some alburnum attached to it, which must not be removed. We have made some experiments with this process, but the Pear has always afforded the best results. We have one tree which bears, besides two varieties of Pears, the White Beam and two sorts of Service, covered with fruit.

Pears, Williams's Bon Chrétien, Colmar d'Aremberg, Duchesse d'Angoulême, Esperen, Beurré Clairgeau, Nouveau Poiteau, Alexandrine Douillard, Spoëlberg, and other very productive varieties, succeed perfectly well, and produce every year handsome and very good fruit. Experiments with large-fruited varieties worked with small ones, and melting kinds with those that are not so, have led to no conclusive results. Nevertheless several kinds of Pears may be gathered from the same tree. The length to which the scion ought to be inserted is very variable; it should be in proportion to the length of the part not inserted, and a length of 1 centimètre, (four-tenths of an inch) has succeeded quite as well as one of 15 centimètres (nearly 6 inches). We are of opinion that some kinds of ornamental shrubs may be treated in the same way.

M. Luizet, of Écully (Rhone), was the first who called attention to this mode of grafting in 1849; after him a horticulturist at Rouen, and we were amongst the first who practised it in France. M. Luizet also increases the size of his Pears by inarching an herbaceous or young growing shoot on their footstalks, and maintaining the fruits in a horizontal position. We have witnessed these facts and can vouch for the whole of them. *Annales de l'Académie d'Horticulture de Gand.*

## THE BOTANIC GARDEN, SYDNEY, N.S.W.

WE learn from the *Sydney Herald* that some important additions have been made to this excellent establishment, which, under the direction of Mr. Chas. Moore, is becoming one of the most important gardens out of Europe.

The visitors to the Botanic Gardens had long regarded as an eyesore a tract of sand and rock of about 4 acres, at the North-East extremity of the lower garden, over which the tide washed at high water. To reclaim this from the waters of the bay was seen to be not a difficult, but a tedious and somewhat expensive operation; nevertheless Sir William Denison decided upon having it undertaken, and a money vote from his Parliament having been obtained, the work is rapidly approaching completion. Eight large lighters and punts have been, and continue to be daily employed in conveying to the garden the silt which the dredging machine raises in the harbour, and which is, to a great extent, composed of the soil washed down during heavy rains from the neighbouring streets and lanes. This is largely intermixed with sewage matter, which on exposure to the sun becomes quite prepared for the growth of plants. At the commencement of the work, boisterous weather impeded the reclaiming process, as the high tides washed the silt into the bay as soon as it was thrown upon the bank. This difficulty was, however, overcome, and the greater part of the sand and rock is now covered with the silt, in layers from 7 to 9 feet in depth. On the southern side Mr. Moore has commenced planting operations, selecting for his first experiments varieties of Sorghum, such as saccharatum and other kinds. It is understood that Sir William Denison proposes to apply to the Legislative Council for a further vote, with a view to carrying the work of reclamation still further, so as to form a carriage drive and promenade near the garden.

We are further informed that the Governor has set apart 2 acres for the growth of Conifers alone, which the Australian climate seems to suit, and of which a rather considerable number of species has been already introduced.

At the date of the last letters from Sydney Mr. Moore was preparing to join a Government expedition to the furthest advanced settlements towards the interior, passing through districts which as yet are but little known, for the purpose of inquiring into the causes of a disease among cattle of a very fatal character.

## Home Correspondence.

*A Letter to the Lime Tree.*—Poor old thing! is that all you have to say for yourself? Can you find no better defence of your quality than to say that you are modest, handsome, old, and a favourite? Why, a deal of that was given to you in our Editor's speech when he proposed to shelve you, and to take under his patronage some other creatures of the genus tree. None but a spoiled, petted, conceited old lady would have compared such flattery to dirty water, or been spiteful enough to sneer at her neighbours. We too are trees. We come from the land of freedom, where, if everybody is at liberty to abuse everything, everybody has also the privilege of praising himself; it is the inalienable right of an independent citizen of the greatest country in the universal world, and I shan't permit any old white-wooded stranger to us to speak small of our merits without a reply. What do you mean by calling us American Maples "such a common piece of goods?" I would have you to know that we are so much your superiors that we should be ashamed of your company anywhere except among the Britishers; for them you may be good enough; if they like you let them have you, and joy to them for their choice. But don't turn up your nose at us. Where have you the noble majestic air of the great Oregon Sycamore, which beats out of the whole field all but the Plane tree that Turks smoke under? And what are you in the autumn with your dirty yellow leaves at a time when another of us, the most graceful creature in the forest, is one glow of rosy light? You don't seem to know of what you are talking, my good Madam. Then you presume to say that a Black Walnut tree and a Tulip tree might give variety, but you don't know what they would be worth a hundred years hence. Don't know! why then talk about them? But we'll tell you. When you soft-hearted Lime tree are smothered in soot, and eaten up by grubs, these two friends of ours will be in the beginning of their majestic treehood. Were you ever in Kentucky, or Virginia, or Tennessee, Mrs. Lime? I should think not. Your weak nerves would be shaken to pieces at the sight of us glorious Tulip trees, sometimes a couple of yards through the bole and 100 feet high, and at us splendid Black Walnuts not much smaller. Well! if you never were there you had better set out on your

travels down West, and then perhaps you'll learn to treat your superiors with proper respect. *White Maple* (I don't choose to be nicknamed Sir Charles Somebody's; for I am my own and nobody's else), *Oregon Sycamore, Tulip Tree, Black Walnut.*

*New Hybrid Pea.*—I observe in the Nov. Bulletin of the Paris Horticultural Society, p. 763, in a translation from a paper by Dr. Rauch, an account of a hybrid between the Pea and the Lentil, said to be very productive of long pods with large somewhat cylindrical seeds, nearer to the Lentil than the Pea. It is called Erblinse, or Pea-Lentil. Do you know anything of it? I should be very curious to see a very productive hybrid between two species so very distant as Pisum sativum and Ervum Lens, although Visiani and others do reduce the latter also to the genus Lathyrus. *B.*

*Canadian Cotton.*—The following appeared in a recent Canadian paper:—"Public attention has lately been directed here to some specimens of Canadian Cotton, gathered by Mr. Nettle, which equals silk in texture, and which can be procured in any quantity. This is indigenous to the country, and grows as a weed in the greatest abundance, and has been long used by the Canadian farmers for various domestic purposes. It is not improbable that at some future and not very distant day its value will be better appreciated, and that after due attention has been paid to its culture it may enter largely into competition with the foreign product upon which we are now exclusively dependent." If this is true our seedsmen ought immediately to avail themselves of the aid of their "correspondents" to obtain seed of this plant, which seems to offer quite a new branch to the agriculture of temperate climates, as should all horticultural societies whether national or local, for distribution to experimentalise with. *J. M., Hawkchurch, near Axminster, Devon.*

*Cottager's Kale.*—I got in the spring a small packet of this Kale, and sowed it in the usual way. All the seed came up, though slowly; I planted out in well manured ground 2 feet apart every way (next year I intend to give 3 feet distance between the rows); it is now on an average 3 to 4 feet high, and beginning to be covered with plenty of sprouts, which will be fit for use in about a month. The seed was not mixed; every plant is true, but there appears to be two kinds, each to all appearance taking after its parent—some purple like Purple Broccoli, and some like Brussels Sprouts in the head, but not in the sprouts. I have been using the heads or top shoot of the purple kind for some time past, and without doubt it is the most delicious vegetable I ever ate; far superior to Asparagus or Seakale. The tops of the green kind are not near so good. As far as I know there is no Greens or Cabbage at all superior or anything approaching it; and I intend growing it as long as I live for winter use, conceiving that I will be well repaid by the tops of the purple kind, even if I never got a sprout. *Ballintemple, Cork.*

*Asplenium Petrarchæ.*—I observe an article on this plant (p. 941 of last volume) which will not bring its spores to perfection in this country. Is not that owing to climate? I have never found it elsewhere than in the clefts of hot limestone rocks fully exposed to the burning sun of the Mediterranean region. For although it grows so deep in the clefts that it has not the direct rays of the sun much on it and certainly not on the roots, yet the whole rock gets heated and I could never find it except upon a southern aspect. I have gathered it at Vaucluse, on a similar rock at the source of the Lee, near Montpellier, and in Roussillon. *B.*

*Mildness of Devonshire.*—The following is a list of flowers gathered out-of-doors in my garden on Christmas Day, viz.:—Scarlet-flowered Sage, Salvia fragrans, Yellow Calceolaria, Yellow shrubby ditto, Fuchsia Carolina, globosa, longiflora, fulgens, common red; Nierembergia, White Jasmine, Jasminum nudiflorum, Yellow Coronella, Heliotrope, Sweet Verbena; also Brillant de Vaise, Emma, and White Perfection Verbenas; Hellebore, or Winter Rose; Wallflower, Red Stock, Hydrangea, Vinca major and minor, Sparmania africana, Acanthus major, common Blue Veronica and V. Andersoni, Small-leaved and other Myrtle, White Pentstemons, Chinese Primrose, White Potentilla, Lonicera flexuosa, large Yellow, Dwarf Yellow, Temple of Solomon, and large Pink Chrysanthemums; Mignonette, Pelargonium Sylph, Ageratum mexicanum, single Clove Pinks, China, Auguste Mie, and Souvenir de la Malmaison Roses; Escallonia rubra and alba, White Daphne, Yellow Poppy, large Pink and Creeping lilac Antirrhinums, Scarlet and other Geraniums, together with Neapolitan and Russian Violets, Wild Sweet do.; Sweet-scented, Rose-scented, dwarf do., Cut-leaved dwarf do., Pheasant's Foot, Cinnamon-scented, Peppermint-scented, Prince of Orange, Sir John Moore, dwarf do., Pink variegated, Flower of the Day, Ivy-leaf three sorts, and other Geraniums; &c. *V. P. C., Langdon Court, near Plymouth, Dec.* 29.

*Scolytus destructor.*—I have been very much interested in the communications which have lately been made on this subject, and your remarks thereon. The mischief seems rapidly to gain upon us, notwithstanding that there are gentlemen who do not believe that insects bore holes in trees to effect their destruction, and who do not also believe that what are called "the fine old trees of St. Giles's" have been destroyed by these creatures. Living, as I do, in close proximity to these unhappy trees, and taking much interest in the subject, I have carefully watched the progress of their malady, and am fully of opinion that the cause of their death is attributable to the insect in question. That some of the trees were partly diseased, and emitted their sap, which flowed in black streams down their sides, I admit, and that trees thus weakened might tempt the Scolyti to attack them does not appear unreasonable, but whence came they? not having been observed before. At this place, Nuneham Park, which has the most stately Elms I ever saw, in the year 1840 we had a large tree attacked by this beetle. At my suggestion it was cut down and the bark burned; and since that time I have not seen any of them till this year 1858, when we have several trees affected by them simultaneously with the Oxford trees. In our case the worst of the trees are from 100 to 200 years old, while younger and more vigorous trees are attacked by the insect for food. The Oxford trees do not exced 100 years of age, and may be said to be in the prime of life. I wonder how persons can be so incredulous as to doubt this insect destroying Elms when we read in Loudon's "Arboretum Britannicum" that at that period it had destroyed trees at Brussels, Paris, St. Loo, Caen, Dunkirk, and Havre de Grace. In our own time we have to deplore the loss of trees in Hyde Park and Kensington Gardens, Nuneham and Oxford, with many other instances. The disappearance of the insect here for the period of 18 years seems to be a most mysterious fact, taking into account how readily they propagate. Is there no limit to the vitality of their eggs? and is a dry hot season favourable to their development? or must this be explained by the now extinct doctrine of equivocal generation? The infected trees at Oxford have been sold to various persons who are in all probability ignorant of the insect disease from which they have suffered. These persons should be cautioned that they ought to strip off the bark and burn it, and that they should not carry the timber away in its present state and lay it in proximity to other trees which may at present be unaffected, thus unintentionally spreading this pest, and hastening the time when our English Elms shall have disappeared. To check the progress of this pest every effort should be used, for the Elm seems to be doomed, and in rural districts it will be much missed, for it is used for a great variety of purposes. I think the remedy you propose is one likely to disgust the insects, but at the same time the task of applying it all over the surface of a large Elm seems to me somewhat superhuman. *Henry Bailey.*

*Salway Peach.*—In reply to your appeal on behalf of your "Constant Reader," who inquires how it is that this Peach has not been produced in public, I may state, for your correspondent's information, that it was shown at one of the autumn meetings of the Fruit Committee of the Horticultural Society, on which occasion it proved in every way excellent—though very similar in character to another first-class late yellow fleshed variety, shown by Mr. Rivers, an American kind of which I have forgotten the name. I conclude that the reports of the meetings held by this Committee will very shortly be ready for distribution—probably by the time it again assembles on January 11th, as the secretary was some time since directed to have these reports printed for the purpose of giving publicity to the opinions it had formed on the subjects submitted to it for examination. *M.*

*Packing Plants.*—I would suggest the use of pots with three or four tubes placed at equal distances on their inside for the insertion of the sticks when a plant requires to be packed for travelling. This would obviate the necessity of employing the present rough and barbarous method of forcing sticks into the soil, tearing and lacerating the tender roots, and often causing serious injury or death to valuable plants. *A Sufferer.*

*Monstrous Potato.*—I send you a sketch which represents a remarkable instance of the effects of the late summer on the Potato. It is taken from a specimen found in my garden, the actual size, of the variety known by the local name of Antelope or Clumper. Rain after a long drought on a very dry gravelly subsoil seems the cause. Whole acres in this neighbourhood have thus been rendered unfit for human food. *J. M., Hawkchurch, near Axminster, Devon.* [The sketch which accompanied this communication represented what may be described as an ordinary Potato 2 inches in diameter, with five others or rather extensions of itself of nearly equal size attached to its sides. Such malformations are far from being uncommon, but it is only in extremely dry warm seasons like the past that they occur to the extent mentioned by our correspondent. The nature of successive attempts at extension of this kind has been scientifically explained at p. 52 of the present year's volume, and at p. 4, 1849, where will be found a representation of a Potato much resembling a man's hand.]

## Reviews.

*Familiar Letters on Chemistry, in its relation to Physiology, Dietetics, Agriculture, Commerce, and Political Œconomy.* By J. v. Liebig. 4th ed. revised and enlarged. Edited by Dr. Blyth. Small 8vo, pp. 536. Walton and Maberly.

It is something to announce a new edition of Liebig's famous Letters on Chemistry, especially when it can be added that they have been revised and amplified by the author himself. For, with all their faults, it must be conceded that the works of the learned Prof. have given an impulse to the diffusion of chemical knowledge in this country, for which, in their absence, we might have waited half a century. The following extract from the author's Preface will show what, in his opinion, are the most material alterations to be found in the volume before us:—

"Besides extending considerably the former letters, I have in the present edition added a number of new letters, which refer to general scientific questions and to the most remarkable discoveries recently made in the departments of chemistry and physics. Among these are letter 2d, on the Study of the Natural Sciences; letter 13th, on the Correlation of the Forces of Inorganic Nature; letter 15th, on the Alteration of Properties in Bodies; letter 23d, on Materialism in Connection with Natural Inquiries. Some investigations which I instituted last year on soils, and their component with the soluble food of plants, which were principally occasioned by the excellent papers of Way, have led to new and unexpected views of the nutrition of plants, and of their mode of absorbing food. Further a series of experiments on cultivation has been undertaken by many agricultural societies in Germany, and particularly by the general committee of the Agricultural Society of Bavaria, in which I took part. The experimental results thus obtained induced me to discuss more fully certain highly important agricultural questions indicated in the 35th letter of the former edition. I have embodied my conclusions in a separate series of agricultural chemical letters on 'Theoretical and Practical Agriculture,' to which I must refer the reader. My friend Dr. Gregory, who assisted me in the former editions, has, meantime, been removed by a Higher Power from his family and from science. I have requested Dr. Blyth, professor of chemistry, Queen's College, Cork, my friend and former pupil, to edit the present edition of my letters. Dr. Blyth is one of the most distinguished chemists of Great Britain."

It will thus be seen that of the new chapters one is wholly occupied with a disclaimer on the part of the author of all leaning whatsoever towards the doctrine of materialism. The disavowal was wanted; for although no one could put his finger upon passages in Liebig's works directly maintaining the opinions alluded to, yet the common belief that the learned author did advocate such views is, we think, conclusive proof that there was an apparent tendency that way. No physiologist can, in the presence of other physiologists, sustain the doctrines of materialism without immediately sinking to zero in their estimation; and we are glad to learn, however late, that the high merits of the author are not neutralised by a false, and most absurd philosophy. In what manner he deals with this subject will be seen by the following extracts from the 23d letter of the volume before us:—

"The life of plants is dependent on the food obtained from the air, from water, and the soil. The elements of their living structures are derived from the inorganic substances, carbonic acid, water, ammonia, sulphuric, phosphoric, and silicic acids, and from alkalies, alkaline earths, and iron. But the processes which take place in the inorganic world are quite opposite to those which occur in plants. In inorganic nature predominate mechanical and chemical forces. The weathering of stones, the disintegration of lofty rocks, depend on changes of temperature, on the influence of water and air; and organised beings, when life is extinct, are again resolved, by the action of oxygen, into the original compounds from which their bodies were formed. In the living organic frame of plants, however, air, water, oxygen, and carbonic acid, lose their chemical character, and exert no influence either through affinity or by their presence in preponderating quantities. Removed from the sphere of the vital force, oxygen exerts its powerful attraction for the combustible elements carbon and hydrogen; but when subjected to this influence in the interior of plants, the hydrogen of water and the carbon of carbonic are separated from oxygen, and the latter is again restored to the air. The vital process in plants thus exhibits itself as a process of reduction—the opposite of the process of oxidation which takes place in inorganic nature. * * * By ultimate chemical analysis we do not obtain the slightest clue to the real properties of organic compounds. Hence, in investigating the different vital products of plants, chemists have latterly directed all their efforts to ascertain the order of grouping of their elements, on which they see that their properties are dependent. * * * In the structure and development of the lowest, as well as of the highest orders of plants, their materials are arranged with a beauty and regularity far surpassing the utmost efforts of the architect in the erection of his house. In each species of plants the same plan is repeated; and this, from its unchangeableness, comes to be regarded as the natural law of that species. We see it stand before us at last perfect and complete in all its parts, and ready to be reproduced after a certain time in the seeds. Our senses can only see the hand of the architect in his work. We can recognise an idea, a plan in the development of these forms according to fixed laws, but we cannot see the forces which have controlled the resisting materials, and forced them into the prescribed arrangement. Our reason, however, tells us that the idea must have had an author, and that there exists in the living body a cause which controls the chemical and physical forces of matter, and determines it to assume forms never observed out of the living organism. * * * The opponents of this opinion are easily seen to be total strangers to all investigations connected with chemical and physical forces. No well-informed natural philosopher or chemist has ever ranged himself on their side. If we refer the question to our

...physiologists, to whom we are indebted for the ... of these facts on which the opponents of a ... have found their assertions, these masters of ... will reply, that such assertions are utterly ... foundation. They are the speculations of ..., who assume the right, after a very slight ... with the investigation of natural phenomena, of expounding to an ignorant and credulous ... the wonders of creation and of life, and of setting ... to them what progress has been attained in the highest departments of science. And such ignorant and presumptuous dreamers are listened to more readily than the most philosophic inquirer. * * * To do justice to the materialists, we must take into consideration that their views are in reality but the consequence of an extreme reaction against the prevailing doctrines of a few years ago. The physiology of that period did not possess the firm foundation of exact inquiry, viz., experiment. All the processes of nutrition, respiration, and motion, were referred by it to a single imaginary cause, viz., the vital force. In the organic frame, physical and chemical forces had no part. The organism produced in its own peculiar way the iron and other materials which it required, just as it did heat. Exact inquiry has, however, proved that all material laws are actually in operation in the various organic processes, and the consequence has been, that the extreme reaction against the earlier views has led to the opinion, that no forces but those of chemistry and physics preside over the phenomena of life. Incapable as the natural philosophers of a former period were to prove the operation of a vital force in every process of the organism, the materialists of a later period are equally unable to show that their inorganic forces take the place of the vital force, and even give rise to the manifestations of mind. The assertions of both parties are equally without foundation, and arise from the want of a true knowledge of the processes of the living body. Between these extremes lies the truth, which rises above all partial speculations, and recognises in the living frame, in addition to the physical and chemical forces, another cause which presides over, and determines the forms of organic structures."

The great author's chemical explanation of the manner in which clay is altered in its nature by the mere act of burning must close our extracts for the present. On some future occasion we shall certainly return to some of the subjects now first discussed :—

"A no less favourable influence than that of lime is exercised upon clay soil by the mere act of burning it. This greatly enhances its fertility. We have not long been acquainted with the remarkable change which the properties of clay undergo by burning. The observation was first made in the process of analysing the clay silicates. Many of these, in their natural state, are not acted on by acids, but they become perfectly soluble if heated to redness before the application of the acid. This property belongs to potters' clay, pipe clay, loam, and many different modifications of clay in soils. In their natural state they may be boiled in concentrated sulphuric acid, without sensible change; but if greatly calcined, as is done with the pipe-clay in many alum manufactories, they dissolve in the acid with the greatest facility, the contained silica being separated like a jelly in a soluble state. Potters' clay belongs to the most sterile kinds of soil, and yet it contains within itself all the constituent elements essential to a most luxurious growth of plants; but their mere presence is insufficient to secure this end. The soil must be accessible to the atmosphere, to its oxygen, to its carbonic acid; these must penetrate it, in order to secure the conditions necessary to a happy and vigorous development of the roots. The elements present must be brought into that peculiar state of combination which will enable them to enter into plants. Plastic clay is wanting in these properties; but they are imparted to it by a general calcination. At Hardwicke Court, near Gloucester, I have seen a garden (Mr. Baker's) consisting of a stiff clay, which was perfectly sterile, become, by mere burning, extremely fertile. The operation was extended to a depth of 3 feet. This was an expensive process, certainly; but it was effectual.

"The great difference in the properties of burnt and unburnt clay is illustrated by what is seen in brick houses built in moist situations. In the town of Flanders, for instance, where most buildings are of brick, efflorescences of salts cover the surfaces of the walls, like a white crust, within a few days after they are erected. If this saline incrustation is washed away by the rain, it soon reappears: and this is even observed on walls which, like the gateway of Lisle, have stood for centuries. These saline incrustations consist of carbonates and sulphates, with alkaline bases; and it is well known these act an important part in vegetation. The influence of lime in their production is manifested by their appearing first at the place where the mortar and brick come in contact."

We add with regret that the Index is quite unworthy the text. A work so filled with the most varied subjects demanded the most full, and perfectly arranged alphabetical references which care and skill could produce.

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*The Rose Annual for* 1858-9. By Wm. Paul, F.H.S. Large 8vo, pp. 55, with four coloured plates. Piper & Co.

The author of *The Rose Garden*, and its *Supplement*, two good works indispensable to all lovers of the Rose, has this year produced, in the same form and manner, a very satisfactory account, first, of what has been doing in the world of Roses since 1853, and secondly what the present planting season can add to the amateur's stock of things worth *having*. In addition to this we have extracts from Mr. Paul's Rose Journal, in which will be found many points of interest.

The plates which accompany this annual are well drawn and coloured and do credit to the practised pencil of Mr. Andrews. The first of these is *Louis Chaix*, a rival of Lord Raglan and Géant des Batailles, and an uncommonly handsome one. The second represents *Madame William*, a very handsome pale yellow Tea-scented kind with very fine firm petals. Nothing attracted more notice than this at the great Rose festival in St. James's Hall. "It is a good Rose out-of-doors." The third figure is that of *Lord Palmerston*, a superb crimson "Bourbon Perpetual." The fourth represents a little perpetual Moss called the *Empress Eugenie*. It looks as if it were a mossy sport from the old De Meaux, and if as good as its picture is something to be proud of.

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*Piesse's Chymical, Natural, and Physical Magic* (Longmans, 12mo) is a well devised attempt at showing schoolboys how some simple jugglers' tricks may be easily performed. We heartily recommend it as a capital book for Christmas holidays. The explanations and directions are as plain and simple as words can make them, but they must be *exactly* followed.

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TRADE LISTS RECEIVED.—*John Grier* (Waterhead Nursery, Ambleside), *a Priced Catalogue, with brief descriptions and cultural Remarks, of a selection of Trees, &c.*—This is one of a class of Trade Catalogues which show the great improvement that a few years have produced in this kind of publication. Mr. Grier's directions and descriptions appear to be clear, correct, and to the purpose.—*Louis* v. *Houtte* (Ghent) *Prix Courant des graines.* A closely printed duodecimo pamphlet of 50 pages, containing priced lists of one of the most extensive trade collections in Europe. It is a great merit to have excluded all the trashy annuals, which are now worth nobody's growing, except in Botanic Gardens. Could Mr. v. Houtte give us any information concerning the *Erblinse*, a hybrid between the Pea and the Lentil, described by Dr. Rauch of Bamberg in the Zeitschrift des Landwirthschaft's Verein in Baiern, Nov. 1858. We should much like to see its seeds.

## Garden Memoranda.

THE GARDENS OF PRINCE PETER TROUBETZKOY AT NYKOLSKY, NEAR MOSCOW.—Prince Troubetzkoy has devoted about 25 acres to the establishment of an English garden and park near his splendid residence at Nykolsky, and which we have visited several times. Its creation, though only dating from 1849, nevertheless deserves attention in various respects.

As in all designs of this kind made by professional men, the most charming and agreeable part of the landscape is near the mansion. This portion, called the English flower garden, is exclusively devoted to the cultivation of the newest and most remarkable annuals which have been introduced into our gardens. On the same plan are cultivated biennial and herbaceous perennials from all countries, and in the acclimatising of these the Prince is always making experiments, and his able directions are attended with speedy success. Only a few years ago the number of herbaceous plants known to resist the Russian winters was but few; but now the Prince has, by expensive and well directed experiments, succeeded in greatly extending the list. As examples I may mention Dielytra spectabilis, Phlox decussata, and all the herbaceous Pæonies without exception.

Up to the present time but few amateurs have thought of acclimatising in this high latitude the useful and ornamental trees. The Prince, during the last eight years, has devoted his park to such trees, and already more than 300 species of all sizes are growing and in thriving condition in ground which a few years ago contained only common Oaks, Birch, Sycamore, Acer tataricum, Populus tremula, Alder, Pine, and Spruce. Among those which have been recently introduced, and which may be considered fairly acclimatised, we may content ourselves with pointing out those which are of real use: such are the Acer platanoides, Negundo, striatum, and pennsylvanicum; Æsculus tricolor, rubicunda, and lutea; Celtis orientalis, Fraxinus excelsior, crispa, pendula, and macrophylla; Gymnocladus canadensis, Juglans cinerea and nigra, Populus Lindleyana (?) and ontariensis, Quercus rubra and Banisteri, Sorbus aucuparia, Tilia canadensis and begoniæfolia; Ulmus campestris, montana, pyramidalis, and oxoniensis; Fagus atropurpurea, variegata, crispa, and aspleniifolia; Cytisus Laburnum, Amygdalus communis, &c.

Many shrubs which have not yet been trusted in the open air grow very well at Nykolsky, and appear in no way to suffer. Nevertheless, we remarked that those which had been grafted on the wild stocks of the country were more vigorous than those which had been imported from abroad. Among these may be mentioned Berberis canadensis and purpurea, Cratægus quercifolia, Halesia tetraptera, Philadelphus nepalensis, Rhododendron hirsutum, Azalea pontica, Mahonia aquifolium, Ribes sanguineum and palmatum, Sambucus laciniata and monstrosa; Spiræa ariæfolia, prunifolia flore pleno, Reevesi, and lanceolata; Tamarix caspica, Euonymus japonicus, Marly Lilac, Weigela, Deutzia, Lonicera, &c.

This establishment, the only one of its kind in the vast empire of Russia, likewise contains a fine collection of Conifers. To give an idea of its riches it may be remarked that there are 14 sorts of Araucaria; and among the species which are on trial in the open ground it was not without surprise that we observed handsome plants of Thujopsis borealis, Abies Nordmanniana, and Thuja Warreana.

The Prince, encouraged by his success in trying the hardiness of many kinds of trees and shrubs, conceived the idea of planting in the open ground some varieties of Pear trees; but here it must be admitted the attempt completely failed; for, with the exception of the Poire sans Pepins, none could withstand the cold of winter. But, on the other hand, the collection of fruit trees obtained from France and England, and cultivated under glass, is very remarkable. They are subjected to the same mode of culture as Orange trees are with us. Several conservatories of various forms and heights are appropriated to them. I remarked with satisfaction that the true principles of pruning, as yet so little understood, had been applied to them; and already were these young trees in full bearing.

The glass houses, altogether, measured nearly 1000 feet in length; and their architecture, in accordance with that of the mansion, is elegant. They appeared to us well adapted for the numerous and rich collections which they contain. They consist—

1. Of a splendid Orchid house, containing a collection of more than 400 species, obtained from nurserymen in all parts of Europe. Among these we should more especially advert to fine specimens of Vanda suavis and tricolor, Ansellia africana, Uropedium Lindeni, Eriopsis Sceptrum, Chysis Limminghi, Saccolabium Blumei, Phalænopsis grandiflora, Sobralia dichotoma, Odontoglossum nævium, &c.

2. Two Palm-houses, containing the richest collection of these plants that we have seen in Europe. There are 250 species, some of which have not been published, and others are very rare in the trade, such as Areca lutescens, Platonia chiragua, Iriartea præmorsa, and a species from Peru, Chamærops stauracantha, Hyospathe elegans, Leopoldinia Piassaba, Calamus rudentum, Brahea dulcis et species, Attalea macrocarpa and Magdalenæ, Ceratolobus glaucescens, Latania rubra, &c.

The collection of Ferns, which occupies a whole house, consists of 220 of the rarest species. Amongst these we remarked 20 arborescent kinds, such as Hemitelia horrida, integrifolia, Karsteniana, Klotzschiana, and spectabilis, together with the gigantic Balantium antarcticum and Karstenianum, the Cyathea aurea, and a new species. The stems of the two Balantiums were at least 9 or 10 feet high; I saw them landed at Ghent 12 years ago for the fine establishment of Van Houtte, and it was not without astonishment that I rediscovered them at Moscow, in the houses to which I here refer.

In the same range are some fine Orange trees planted in tubs, which are nearly 5 feet in diameter. These trees were bought by the Prince at Palermo, in 1850. Their stems are 13 inches in diameter, and 10 feet high. They were forwarded without branches, and furnished with only some small roots near the stems; but notwithstanding this almost complete privation of roots, these Orange trees now present large heads.

The Camellia-house contains 400 varieties of all sizes. In this fine collection the most interesting novelties have been directly obtained from France and Italy; and in the same house there is also a fine selection of 100 species and varieties of Azaleas, and at least 50 of Rhododendron arboreum, with which are associated the fine species recently brought from the Himalaya.

This establishment is likewise furnished with an aquarium, rich in Nelumbiums and Nymphæas. We also believe that in this was received the first plant of Victoria regia introduced into Russia.

There are also two other houses, one for New Holland and the other for Cape plants. *Masson in Journal de l'Academie d'Horticulture de Gand.* [We are not responsible for the names here mentioned, which stand upon the authority of M. Masson.]

## Miscellaneous.

*Habits of the Lemur.*—I had repeatedly seen lemurs of more than one species in the market at Tamatave, and numbers among the people of the place. There were two or three of the large-ruffed lemur in a house near my own dwelling, and they seemed to be quite domesticated. Though covered with thick, almost woolly hair, they appeared to be ill at ease in wet or cold weather, but to luxuriate in the warm sunshine. I often noticed two or three of them together, on a fine morning after rain, raised up on their hind legs, on the outside of the house, leaning back against the wall of the house, with their fore legs spread out, evidently enjoying the warmth of the sun which was shining upon them. They are often kept tame by the natives for a long time, and numbers are sold to the masters of vessels and others visiting the port. We had one on board the ship in which I made my first voyage from Madagascar. It was a fine animal, and during the 28 days of our passage I had frequent opportunities of observing its disposition and habits. It was tied to a boat on the deck; and in a basket under the fore part of the boat it found a partial shelter from the rain and the wind. It conveyed its food, boiled rice and fruit, to its mouth by the hand. It was gentle and sociable, seemingly grateful for any trifling notice or kindness. I frequently gave it water, which it lapped like a dog, and occasionally a banana and in a short time it seemed to

watch my movements whenever I came on deck, jumping on my arm or shoulder, if I approached the boat; but was most delighted when, attaching a long line to the short piece tied round its body, I loosened it from the boat and allowed it to run up the cords or rigging, which it ascended with astonishing ease and speed, sitting sometimes with apparent pleasure on the extremity of the yard. It was scrupulously clean, and seemed unable to endure any tar or other dirt on its shaggy coat. One morning, during a heavy gale of wind, when there was much motion in the ship, and great confusion and noise among the sailors, the lemur seemed unusually excited, and repeatedly raised itself up on its hind legs, and clapped its hands together, and chattered loud in a most extraordinary manner, occasioning great uneasiness among our crew of Malagasy sailors, who declared it was an omen of evil to the ship, and that some fearful calamity might be expected.—*Ellis's Madagascar.*

## Calendar of Operations.

*(For the ensuing Week.)*

### PLANT DEPARTMENT.

CONSERVATORY, &c.—As severe weather may now at any time be expected, a good supply of dry litter, Fern, or other materials should be in readiness for extra coverings when required. If not already done, lose no time in getting under cover a supply of the various loams, peat, &c., required for spring potting. The principal work in plant houses will consist in keeping them and their inmates scrupulously clean. Moderate fires and ventilation with frequent washing of stove plants will be necessary. The conservatory and show house should now be gay with Camellias and forced plants, which will take the place of the Chrysanthemums now over. Keep up a regular succession of plants to bloom through the spring, by bringing forward the stock of forcing plants as wanted. Roses, both dwarf and standard, Honeysuckles, Scarlet Thorns, Hybrid Rhododendrons, and Azaleas, with a host of other things, will enable cultivators in addition to the usual occupants of the houses to make a brilliant show through spring. Hyacinths, Narcissus, Tulips, Lily of the Valley, and other plants of the above class must be duly forwarded as wanted. Hard-wooded plants will require a dry pure atmosphere to guard against mildew and damp.

### FORCING DEPARTMENT.

The forcing of fruit trees in pots has become both useful and interesting, and where separate houses do not exist for each kind a valuable addition to the dessert in spring may be secured by growing a collection of Peaches, Nectarines, Apricots, Figs, Plums, Cherries, and Raspberries in pots; they are easily managed in this form, provided there are one or two houses at work to hold them during the later stages of their growth. All the above kinds (with the exception of Raspberries) should have been grown in pots two years at least, and be well furnished with fruit-buds. Raspberries are best obtained by taking up the strongest suckers early in September and potting them either singly or three together in rich soil, shading them for a few days to make fresh roots, and then placing them against a south wall to ripen. Where a stock of the above fruits is prepared for forcing the advantages of a deep pit with a bed of leaves will be apparent; the slight bottom heat thus afforded will be found beneficial in setting the roots in action. Cherries and Raspberries are the most impatient of heat and should be brought forward in a very low temperature, and unless they are required very early they will succeed better when started next month. The remainder should be started with a top heat ranging between 40° and 60°. with a gentle syringing daily, and air according to the state of the weather. Here they may remain till they are nearly in bloom, when a drier atmosphere being necessary, they may be removed to vacant shelves or stages in any house at work where a moderate heat is kept up. Peaches and Nectarines may even be placed on the back shelves of the Pine-houses after they have set their fruit, though a more moderate temperature would suit them better. In carrying out the subsequent treatment we may add that Figs, Peaches, &c., should occupy the warmest part of the house in which they are to fruit, and Apricots, Plums, and Cherries the coolest end. If required, Raspberries will succeed well in pits or in the partial shade of other plants. If circumstances permit of the whole being kept plunged in a gentle heat it will assist the swelling of the fruit, but with proper attention in supplying them with manure water they will do well without that assistance. Prepared plants of the most suitable kinds of the above fruits may be obtained at most of the principal nurseries, or maiden plants of each may now be potted in rich turfy loam for future operations, getting them into a bearing state by judicious stopping rather than by the use of the knife. Pursue former directions as regards the early Vinery and Peach house. Be careful not to use too much fire heat at first.

STRAWBERRIES.—Where ripe fruit is wanted early, a portion of the most promising plants should now be selected and placed in a pit where they can be afforded a gentle bottom-heat; or if this cannot be commanded, a Peach-house or Vinery which has just been closed for forcing will do. They must, however, be kept close to the glass, for they require all the light that can possibly be afforded them at this season, and a free admission of air on mild days, with a low temperature until the fruit is fairly set, and if these conditions can be combined with bottom-heat, success will be more certain than under any other circumstances, and this will be more easily done in a small pit than in a house, the temperature of which must be regulated to suit other things.

### FLOWER GARDEN AND SHRUBBERIES.

Where any of the beds or borders require a dressing of fresh soil this should be provided, in order to have it in readiness to wheel on when favourable weather for such work may occur. Fresh soil is in most cases preferable as a dressing for flower beds to manure, which is apt to cause too luxuriant a growth for a first-rate display of flowers. On soils that are naturally poor however and where neither fresh mould nor decayed leaves can be had a moderate dressing of well rotted farm-yard manure will be useful, but this should be well mixed with the mould the full depth of the bed, and not carelessly turned in and left in lumps near the surface, for in this case a gross habit of growth would be promoted early in the season, and as the principal part of the roots would be near the surface in the manure, the plants would soon feel the effects of dry weather, whereas if the manure is well incorporated with the soil to the depth of about 18 inches, no ordinary amount of dry weather will injure the plants after they once get fairly established. Shrubberies may be thinned when this involves only the cutting out of overgrown plants or lopping deciduous trees or the hardier kinds of evergreens, but where evergreens generally require pruning, the work had better be deferred until March, except in favourable localities, for although when the winter proves mild such work may be successfully performed at any time, it is never safe to depend upon this. Avoid treading upon or working the ground when it is in a sodden state; and if the workmen cannot be profitably employed out-doors, get a good stock of Dahlia stakes, brooms, and things of that kind prepared for use when wanted.

### HARDY FRUIT AND KITCHEN GARDEN.

If any transplanting of fruit trees has yet to be done this season, it should be seen to while the weather is favourable for such work; also see to getting ground intended to be planted with young trees prepared, and spare no pains or expense to have this properly done. Make sure of thorough drainage, and where the subsoil is unkind this should be removed, replacing it with some good fresh loam. When a large breadth has to be planted in one season this expensive kind of preparation cannot be always afforded, but it is better to do such work only in such quantities as will allow of every precaution being used with the view of securing success. Attend to keeping up a supply of Rhubarb, Seakale, and Asparagus by introducing quantities of the roots into heat at intervals of about a fortnight. Where there is room in the Mushroom house the two former will be found to do exceedingly well there, and a supply will be obtained with little trouble. For land that has long been cropped with vegetables a good dressing of fresh loam would in many cases be preferable to manure, and where this is wanted and can be obtained, it should be got to hand in order that advantage may be taken of frosty days for wheeling it upon the ground. Where fresh soil cannot be obtained, charred vegetable refuse, such as prunings of shrubberies, edgings of walks, and many things which turn up in course of the season may be cheaply made to form an excellent substitute.

### STATE OF THE WEATHER AT CHISWICK, NEAR LONDON,

For the 6 Days ending Dec. 22, 1858, as observed at the Horticultural Gardens

| Dec. | Moon's Age. | Barometer. Max. | Barometer. Min. | Temperature Of the Air. Max. | Of the Air. Min. | Of the Air. Mean | Of the Earth 1 foot deep. | Of the Earth 2 feet deep. | Wind. | Rain. |
|---|---|---|---|---|---|---|---|---|---|---|
| Friday 17 | 12 | 30.025 | 29.783 | 42 | 38 | 40.0 | 44 | 45 | S.E. | .00 |
| Satur. 18 | 13 | 29.618 | 29.457 | 49 | 34 | 41.5 | 45 | 45 | S. | .62 |
| Sunday 19 | 14 | 29.453 | 29.440 | 48 | 29 | 38.5 | 46 | 44½ | S.W. | .09 |
| Mon. 20 | ● | 29.677 | 29.542 | 46 | 38 | 42.0 | 45 | 45 | S.W. | .04 |
| Tues. 21 | 16 | 29.732 | 29.577 | 52 | 43 | 47.5 | 46 | 45 | S.W. | .03 |
| Wed. 22 | 17 | 29.742 | 29.628 | 49 | 41 | 45.0 | 47 | 45 | S.W. | .01 |
| Average | | 29.708 | 29.571 | 47.6 | 37.1 | 42.4 | 45.5 | 44.9 | | 0.79 |

Dec. 17—Overcast; hazy; fine at night.
— 18—Cloudy; clouds in strata, the upper tinged with red: heavy rain at night.
— 19—Rain; fine; rain at night.
— 20—Slight frost; fine; rain.
— 21—Rain; overcast; fine.
— 22—Heavy low clouds; showers; fine.
Mean temperature of the 6 days, 3 deg. above the average.

### RECORD OF HE WEATHER AT CHISWICK

During the last 32 years, for the ensuing Week, ending Jan. 1, 1859.

| Dec. and Jan. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds. N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday 26 | 42.9 | 32.0 | 37.4 | 11 | 0.39 in. | 2 | 4 | 3 | 4 | 4 | 9 | 3 | 3 |
| Mon 27 | 42.5 | 29.4 | 35.9 | 11 | 0.40 | 5 | 4 | 1 | — | 5 | 7 | 6 | 4 |
| Tues. 28 | 41.5 | 28.6 | 35.1 | 9 | 0.16 | 4 | 3 | 3 | 3 | 3 | 3 | 8 | 5 |
| Wed. 29 | 43.0 | 33.9 | 38.4 | 14 | 0.17 | 2 | 5 | 1 | 3 | 4 | 7 | 6 | 4 |
| Thurs. 30 | 44.6 | 32.5 | 38.6 | 10 | 0.30 | 1 | 5 | 2 | 2 | 3 | 9 | 9 | 1 |
| Friday 31 | 43 9 | 32.8 | 38.3 | 8 | 0.44 | — | 6 | 1 | 1 | 6 | 10 | 4 | 4 |
| Satur. 1 | 43.2 | 31.2 | 37.2 | 9 | 0.70 | 5 | 3 | 2 | 3 | 4 | 7 | 5 | 4 |

The highest temperature during the above period occurred on the 28th, 1855—therm. 58 deg.; and the lowest on the 28th, 1853—therm. 8 deg.

### STATE OF THE WEATHER AT CHISWICK, NEAR LONDON,

For the 8 Days ending Dec. 30, 1858, as observed at the Horticultural Gardens.

| Dec. | Moon's Age. | Barometer. Max. | Barometer. Min. | Temperature Of the Air. Max. | Of the Air. Min. | Of the Air. Mean | Of the Earth 1 ft. dp | Of the Earth 2 ft. dp | Wind. | Rain. |
|---|---|---|---|---|---|---|---|---|---|---|
| Thurs. 23 | 18 | 29 600 | 29.157 | 51 | 37 | 44 0 | 45½ | 45½ | S.W | .01 |
| Friday 24 | 19 | 29.516 | 29.475 | 47 | 31 | 39.0 | 46½ | 45½ | S.W. | .01 |
| Satur. 25 | 20 | 29.658 | 29.335 | 46 | 40 | 43.0 | 45 | 44 | S.W. | .25 |
| Sunday 26 | 21 | 29.376 | 29.220 | 48 | 37 | 42.5 | 45 | 45 | W. | .17 |
| Mon. 27 | ( | 29.424 | 29 353 | 44 | 37 | 40.5 | 45 | 44½ | W. | .05 |
| Tues. 28 | 23 | 29.707 | 29.630 | 44 | 28 | 36.0 | 44½ | 44½ | W. | .02 |
| Wed. 29 | 24 | 30.047 | 29 825 | 43 | 24 | 33.5 | 44 | 44 | N.W | .00 |
| Thurs. 30 | 25 | 30.124 | 30.049 | 40 | 39 | 39.5 | 43 | 43½ | W. | .01 |
| Average | | 29.681 | 29.518 | 45.4 | 34.1 | 39.7 | 44.8 | 44.5 | | .55 |

Dec. 23—Densely overcast; rain; boisterous.
— 24—Clear, quite cloudless; very fine.
— 25—Fine; rain; clear at night.
— 26—Overcast: clear and fine; boisterous; rain.
— 27—Fine; clear and fine; windy.
— 28—Partially overcast; very fine; overcast
— 29—Clear and fine; very clear at night; frosty.
— 30—Foggy; drizzly; hazy; foggy at night.
Mean temperature of the 8 days, 2½ deg. above the average.

### RECORD OF THE WEATHER AT CHISWICK,

During the last 33 years, for the ensuing Week, ending Jan. 8, [illegible]

| Jan. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing [illegible] N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday 2.. | 42.4 | 30.1 | 36.3 | 13 | 0.21 in. | 3 | 1 | 5 | 1 | [illegible] | | | |
| Mon. 3.. | 43.0 | 31.6 | 37.3 | 16 | 0.56 | 1 | 2 | 6 | 1 | | | | |
| Tues. 4.. | 42.3 | 31.7 | 37.0 | 15 | 0.86 | 3 | 3 | 4 | 6 | | | | |
| Wed. 5.. | 41.0 | 30.7 | 35.9 | 12 | 0.40 | 6 | 5 | 5 | 1 | | | | |
| Thurs. 6.. | 40.7 | 30.0 | 35.3 | 12 | 0.33 | 2 | 1 | 4 | 4 | | | | |
| Friday 7.. | 41.4 | 29.7 | 35.6 | 12 | 0.34 | 2 | 5 | 4 | 3 | | | | |
| Satur. 8.. | 40.3 | 31.5 | 35.9 | 10 | 0 26 | 3 | 4 | 8 | 4 | | | | |

The highest temperature during the above period occurred on the [illegible] 1844, and 7th, 1845—therm. 54 deg.; and the lowest on the 2d, 1854—[illegible] 4 deg

## Notices to Correspondents.

ANNUALS: *Sub.* You may make a pretty border (4 feet [illegible] with the following, sown in lines in April where they [illegible] to grow, viz., Nemophila insignis, blue; Platystemon [illegible] fornicum, yellow; Sweet Alyssum, white; Collinsia [illegible] rubens, dark red; Leptosiphon androsaceus, purplish [illegible] and Limnanthes grandiflora, yellow and white.‡

BEDDING PLANTS: *Saltwood* will be obliged by some practical gardener informing him whether it is not possible to obtain good bedding plants of the Scarlet Geranium equally well propagated in March as in October or September?

BOOKS: *A B C.* Mills's treatise on the Pine Apple can only be had of the author. His address is Uxbridge Road, Ealing.

FRUIT TREES: *Old Sub.* The following sorts of Apples and Pears are good kinds, and may be tried as espaliers in your high locality, 750 feet above the sea. At that elevation it is impossible for us, or perhaps for any one, to say which will succeed best; we therefore give the most probable. Those that you find do not succeed can be readily grafted with those that do:—Apples: Oslin, Early Med Margaret, Wormsley Pippin, Golden Reinette, Kerry Pippin, [illegible] Nonpareil, Blenheim Pippin, Margil, Court of Wick, [illegible] House Russet, Ribston Pippin, Pitmaston Russet Nonpareil, Baxter's Pearmain, Scarlet Nonpareil, Boston Russet, Court Pippin, Wyken Pippin, Sturmer Pippin, Dutch Codlin, Dumelow's Seedling, Northern Greening, Alfriston, Tower of Glammis, Rymer, Waltham Abbey Seedling, Keswick Codlin, Yorkshire Greening. Pears: Williams's Bon Chrétien, Seckel, Aston Town, Beurré de Capiaumont, Forell, [illegible] wood, Knight's Monarch, Louise Bonne (of Jersey), [illegible] Park, Comtesse Lamy, Verulam. Harrison's work on Fruit Trees, good in many respects, requires to be [illegible] dernised.‖

NAMES OF FRUITS: May we beg our correspondents to send their specimens, *carriage paid*, to our Office, No. 5, Upper Wellington Street, Covent Garden, London: AND TO NO OTHER PLACE WHATEVER.—*R H, Henning.* 5, Chaumontel, 6, Ne plus Meuris; 9, Waltham Abbey Seedling; 12, Marie, 13, Blenheim Pippin; 16, London Pippin. 1 or 2, Fondante du Bois; 1 or 2, Van Mons Léon le Clerc. Fruit partly decayed, the paper wet, so that the Nos. 1 and 2 could not be distinguished.—*J S.* 1, Grosse Calebasse; 2, Beurré Diel. *J B N.* 3, Beurré Diel; 4, Beurré Rance; 5, Easter Beurré, 6, Old Colmar; 2, Nonsuch; 4, Downton; 5, London Pippin, 6, Kirke's Lord Nelson.—*A Correspondent.* 1, London Pippin, 2, "Long Keeper" is the same as one known near London as the Orme Apple; 3, Norfolk Paradise.—*James Kitley.* Probably Bishop's Thumb; 2, 3, Glou Morceau; 4, Sa Vert; 5, Beurré Rance; 6, Easter Beurré; 8, Blenheim Pippin.—*R Anderson.* 2, Dumelow's Seedling; 3, Veiny Pippin; Wyken Pippin; 5, Pearson's Plate; 6, Cluster Golden [illegible] 8, Orange Pippin; 9, Blenheim Pippin; 10, Beauty of Kent; 11, Alfriston; 12, Beauty of Kent; 15, Court of Wick; [illegible] Hawthornden; 17, Scarlet Nonpareil.—*B L.* Not known. The small, round, very gritty Pear is sweet but not rich. The long one resembles a St. Germain, grown in the garden of *C Truman.* 2, Wyken Pippin; 6, Scarlet Nonpareil; 8, Golden Reinette; 9, Court-pendu Plat; 12, Royal Russet; [illegible] Norfolk Beaufin; 15, Burr Knot; 20, a stewing Pear; [illegible] Beurré Rance; the other large Pear is Easter Beurré (not detached); 23, Uvedale's St. Germain; 24, quite worthless; 27, Swan's Egg.‖

NAMES OF PLANTS.—We have been so often obliged to reluctantly decline naming heaps of dried or other plants, that we venture to request our correspondents to recollect that we never have or could have undertaken an unlimited duty of this kind. Young gardeners, to whom these remarks more especially apply, should bear in mind that, before applying to us for assistance, they should exhaust their other means of gaining information. We cannot save them the trouble of examining and thinking for themselves; nor would it be desirable if we could. All we can do is to *help* them—and that most willingly. It is now requested that, in future, not more than four plants may be sent us at one time.—*R H.* 1, Chorozema varium; 2, C. cordatum; 3. C. nanum. *Exon.* Eugenia apiculata, not E. Ugni.—*Elizabeth.* It is difficult to name uncommon trees not in leaf. One of yours, however, is certainly Gymnocladus Canadensis, the other probably Acer Negundo.—*Jacques.* The White Lime is a totally different species from the common Lime. It could not be made into an avenue unless it were to be obtained on its own roots, which we fear could scarcely be accomplished in this country where it is propagated by grafting on a stock that does not suit it well.—*R C.* Cacalia articulata.—*James.* Ruscus hypoglossum.

PINE APPLES: *Ashford.* It is impossible to tell the cause of the disease in your Pine Apple. Most probably wet and cold at the root.‖

PRESERVING LATE GRAPES: *Buchan.* Three conditions are at least absolutely necessary in order to insure success; 1st, the berries must be well fed, plump, and well coloured; 2d, the wood must be thoroughly ripened by the end of August; and 3d, they should receive abundance of ventilation, and the air of the house must be kept as dry as possible. To ensure the latter a little fire heat may be necessary during dull weather. The outside border should also be covered with wood shutters or tarpauling to keep it from being saturated with wet. By strict attention to these matters Grapes may be induced to hang on the Vines after they are ripe, plump, and sound for a long time.‡

RED SPIDER: *W M.* You will find a good account of the habits and history of this pest in our Volume for 1841, p. 164.‡

SERVANTS AND MASTERS: *A G T.* Obey those who are set in authority over you. If you don't like your place, you are free to quit it. But you are not free to act disrespectfully and to neglect your charge. Imagine yourself a master with an ill-conditioned servant, and do as you would then be done by.

*** As usual, many communications have been received too late, and others are detained till the necessary inquiries can be made. We must also beg the indulgence of those correspondents the insertion of whose contributions is still delayed

ARTIFICIAL MANURES, &c.—Manufacturers and others engaged in making ARTIFICIAL MANURES may obtain every necessary instruction for their economical and efficient preparation, by applying to J. C. NESBIT, F.G.S., &c., Principal of the Agricultural and Chemical College, Kennington, London. Analyses of Soils, Guanos, Superphosphates of Lime, Coprolites, &c., and Assays of Gold, Silver, and other Minerals are executed with accuracy and despatch. Gentlemen desirous of receiving instruction in Chemical Analyses and Assaying, will find ample facility and accommodation at the College.

LONDON MANURE COMPANY, removed to 116, Fenchurch Street, E. C. (Established 1840), have the following MANURES ready for delivery:—

CORN MANURE for SPRINGTOP DRESSING
URATE
SUPERPHOSPHATE OF LIME
BLOOD MANURE
} all of guaranteed quality.

In consequence of the reduction in the price of raw material the London Manure Co. are enabled to lower the price of their Superphosphate of Lime, and to materially improve the Corn Manure and Urate.

The London Manure Co. also supply PERUVIAN GUANO (direct from Messrs. A. Gibbs and Sons), SULPHATE of AMMONIA, NITRATE OF SODA, CRUSHED BONES, and every other Manure of value. Wholesale dealers supplied.

116, Fenchurch Street, E.C. EDWARD PURSER, Secretary.

POTTER'S CELEBRATED GUANO.—Established 16 years, during which period it has been used on every variety of crop and soil with great success. See Mr. POTTER'S numerous testimonials. Price 7*l.* 10*s.* per ton. Also POTTER'S SUPERPHOSPHATE OF LIME, 6*l.* 10*s.* per ton.—28, Clapham Road Place, S.

*** A very liberal allowance to Agents. Mr. POTTER'S work on Agricultural Chemistry sent free for 6 stamps.

ESTABLISHED 1812.

H. AND T. PROCTOR'S TURNIP MANURE.—Messrs. H. & T. P. draw particular attention to this valuable Manure, which contains all the elements necessary for the full development of the Turnip Crop, so combined, that, from their chemical knowledge and long experience, they feel satisfied is most advantageous to the consumer. It has been very extensively used by most of the eminent Agriculturists of the day, and has attained a high reputation throughout England, Scotland, and Wales, and, they venture to say, is unrivalled for the weight and quality of the Bulbs which it produces. The application of this Manure to the Turnips will be found to benefit considerably the after crops of Barley, Clover, and Wheat.

POTATO, GRASS, BARLEY, CLOVER, AND WHEAT MANURES; also BONE DUST, PERUVIAN GUANO, and SUPERPHOSPHATE of LIME, warranted of the best quality.

Apply to H. & T. PROCTOR, West of England Depôt for Artificial Manures, Cathay, Bristol; or PROCTOR & RYLAND, Birmingham, and Saltney, near Chester.

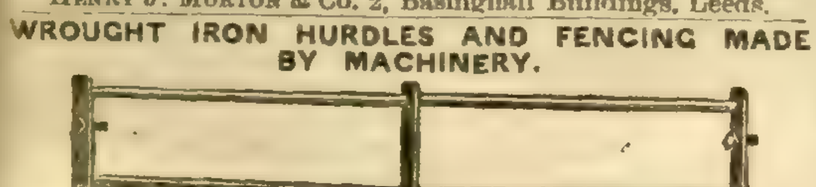
PRICES REDUCED.

H. J. MORTON AND CO., Galvanised Iron Works, 2, Basinghall Buildings, Leeds.

GALVANISED IRON ROOFING

for Farm Buildings and other Roofs; the cheapest, most durable, and neatest Roofing in use; also Spouting at 10½*d.* per yard.

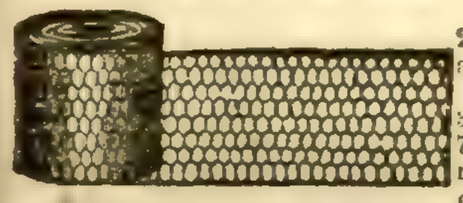
WIRE STRAND CABLE FENCING



(formed of Twisted Wires like a rope or cable), the strongest, cheapest, and neatest fence in use, will resist the largest cattle, and will not bend or get out of form by trespassing upon or over. Price, with five lines of the Galvanised Strand, iron main posts, and pronged Standards, 1*s.* 2½*d.* per yard.

This fence is far cheaper than posts and rails, or any kind of iron fencing; and possesses four times the strength of solid bars. Will not rust nor corrode. Upwards of 1200 miles of this Fencing supplied.

GALVANISED GAME AND POULTRY NETTING.



Galvanised, 24 ins. wide, 2-inch mesh, 5*d.*, 6*d.*, 7½*d.*, and 10*d.* per yard.

Galvanised, 24 ins. wide, 3-inch mesh, 4*d.*, 5*d.*, and 7*d.* per yard. The Netting made any width, and with openings of any size.

GALVANISED IRON CHAIN CAMP STOOLS & CHAIRS, POULTRY FOUNTAINS & FEEDERS, PRONGED DAHLIA RODS AND ROSE STAKES, &c.

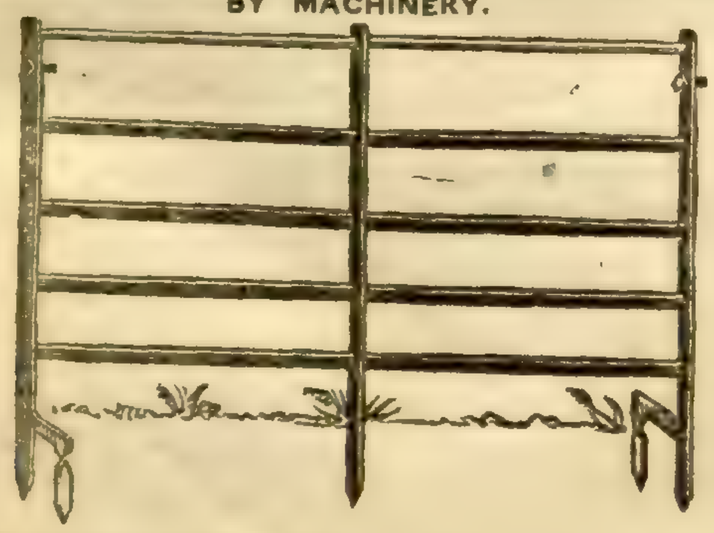
Strong CATTLE HURDLES from 2*s.* per yard.

PATENT IMPROVED GAS WORKS

of all sizes for the use of Private Houses, Mansions, Railway Stations, Mills, Collieries, Mines, Villages, &c. Works from 10 to 500 lights estimated for. The works can be entrusted to an ordinary labourer.—Apply to

HENRY J. MORTON & Co. 2, Basinghall Buildings, Leeds.

WROUGHT IRON HURDLES AND FENCING MADE BY MACHINERY.

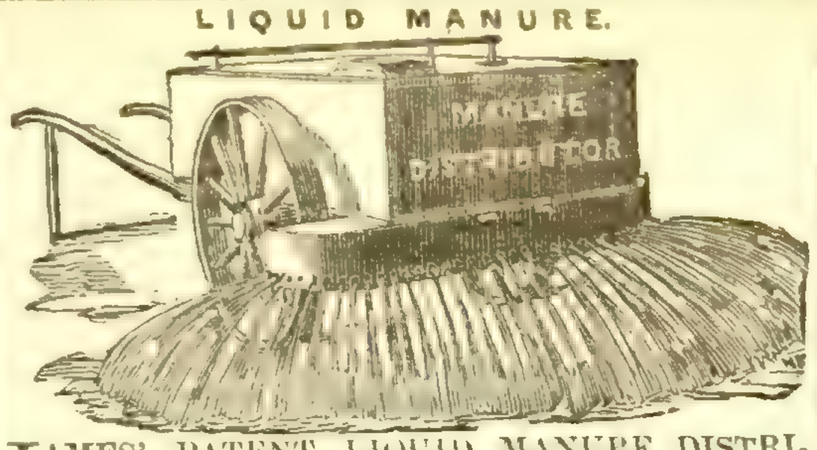


THOMAS GREEN, Smithfield Iron Works, begs to call the attention of parties requiring machine-made Hurdles, which are a very superior article, as well as being both cheap and durable. The above cut represents a Hurdle 6 feet long by 3 feet 6 inches high; the top bar ⅝ of an inch diameter, the four low bars 1 inch by ¼ inch, the uprights 1½ by ¼ inch. The Prongs fasten 12 inches in the ground. Price 4*s.* 6*d.* each, or 2*s.* 3*d.* per yard. If the four lower bars were made of ½ inch diameter instead of 1 inch by ¼ inch iron, the price would be 4*s.* 2*d.* each, or 2*s.* 1*d.* per yard. The above are the lowest net cash prices at the Works.

THOMAS GREEN, Smithfield Iron Works, Leeds, Yorkshire, Manufacturer of every description of Iron and Wire Fencing, Iron Work of all kinds, both plain and ornamental, Entrance Gates, Palisading, Tomb Railing, Iron Bedsteads, &c. Illustrated Catalogues may be had free on application at the Works.

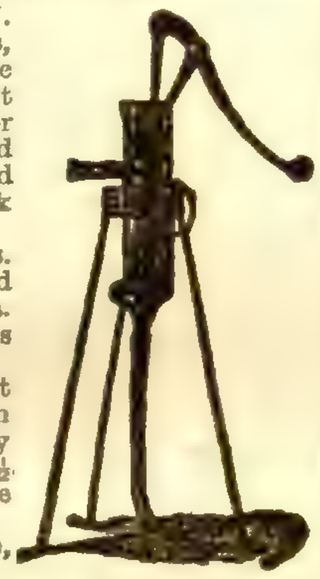
N.B. Also Patentee and Sole Manufacturer of GREEN'S Patent Lawn Mowing, Collecting, and Grass Rolling Machines, which have proved to be the best in all cases of competition.

LIQUID MANURE.




JAMES' PATENT LIQUID MANURE DISTRIBUTOR OR WATER-CART, warranted not to choke up or otherwise get out of order. It is thoroughly adapted for Drill Crops, or Pasture Land, or for Watering Streets; has been awarded SIX FIRST PRIZES. Full Particulars and Testimonials may be obtained of the Patentee, ISAAC JAMES, Tivoli Waggon Works, Cheltenham.—Improved LIQUID MANURE PUMPS supplied.

WARNER'S IMPROVED LIQUID MANURE OR GENERAL PORTABLE PUMP.



These Pumps are fitted with J. W. & SON'S Patent Buckets and Suckers, and cannot clog in action. The barrel is of galvanised iron, not likely to corrode, and can be raised or lowered at pleasure. The legs will fold together, and the whole may be carried on the shoulder to any pond or tank required.

Price of 4½ in. Pump, with legs, 3*l.* 3*s.* If with planished copper barrel and galvanised iron handle, &c., 14*s.* extra. The barrel is 27½ in. long, and the legs are 5 ft. high.

These Pumps are also made without the legs, with strong wrought-iron straps for screwing on to any ordinary water butt or cart, and fitted with 1½ inch brass union for attaching flexible suction. Price 50*s.*

1¾ inch Gutta Percha Suction Pipe, 1*s.* 11*d.* per foot.

Rubber and Canvas Suction and Delivery Hose, from ½ inch to 4 inches diameter, in lengths of 60 feet to order. Branch Pipes with Cocks, Union Screws, &c., at reduced prices.

May be obtained of any Ironmonger or Plumber in town or country, at the above prices, or of the Patentees and Manufacturers, JOHN WARNER & SONS, 8, Crescent, Jewin St., London.

WARNER'S PATENT VIBRATING STANDARD PUMPS.

PATENT CAST-IRON PUMPS, fitted with J. W. & Son's Patent Buckets and Suckers, which cannot clog in action, for Farms, Cottages, and Wells, not exceeding 28 feet.

| Diameter of Barrel. | Height. | | £ | *s.* | *d.* |
|---|---|---|---|---|---|
| 2¼ in. | short | 1 ft. 7 in. | 1 | 10 | 0 |
| 2½ ,, | long | 3 ,, 3 ,, | 1 | 14 | 0 |
| 3 ,, | ditto | 3 ,, 6 ,, | 2 | 8 | 0 |
| 3½ ,, | ditto | 3 ,, 6 ,, | 2 | 12 | 0 |
| 4 ,, | ditto | 3 ,, 6 ,, | 3 | 3 | 0 |

Fitted for lead, gutta percha, or cast iron flanged pipe, as required.

2½ ,, short, with 15 feet of Lead Pipe attached, ready for fixing .... 2 14 0

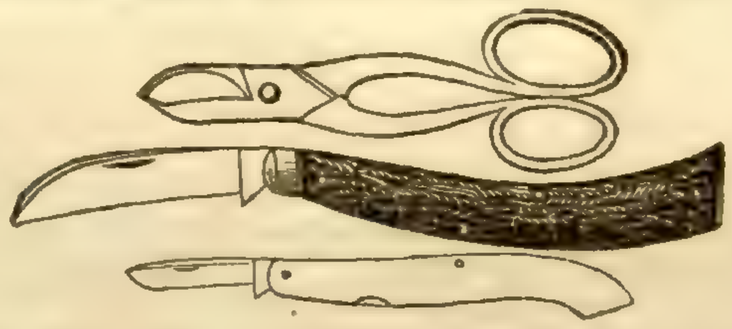
2½ in. long ditto ditto ditto 2 18 0

The short barrel Pump is very convenient for fixing in situations of limited height and space, for the supply of coppers and sinks in Wash-houses with soft water from underground tanks, or in Hot, Forcing, and Plant Houses; they may be fixed, when desired, under the stage.

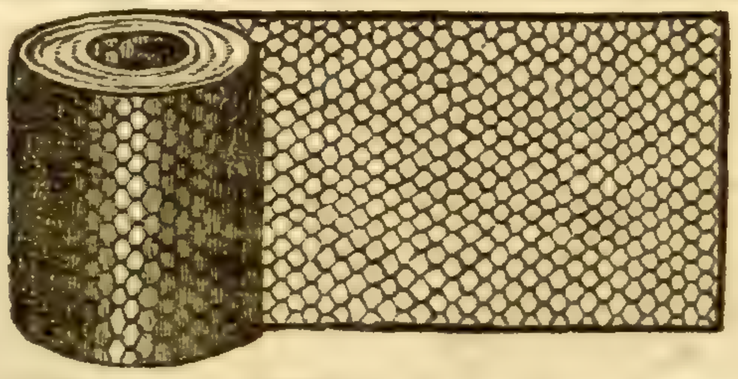
May be obtained of any Ironmonger or Plumber in Town or country, at the above prices, or of the Patentees and Manufacturers, JOHN WARNER & SONS, 8, Crescent, Jewin Street, London.

Every description of Machinery for Raising Water by means of Wheels, Rams, Deep Well Pumps, &c.; also Fire and Garden Engines, &c. &c.—Engravings sent on application.

PAXTON WORKS, SHEFFIELD, ESTABLISHED 1738.



SAYNOR AND COOKE'S warranted PRIZE PRUNING and BUDDING KNIVES, SCISSORS, &c.—Sold by all respectable Nurserymen and Seed Merchants in the three Kingdoms.



BARNARD AND BISHOP, Market Place, Norwich, in consequence of improvements in their machinery for the manufacture of the above article, have been enabled to make a great reduction in the prices.

| | | Galvanised. | Japanned Iron. |
|---|---|---|---|
| 2-inch mesh, | 24 inches wide .. .. | 5*d.* per yd. | 4*d.* per yd. |
| 2-inch ,, | strong do. .. .. | 6 ,, | 4½ ,, |
| 2-inch ,, | intermediate, do. .. | 7 ,, | 5½ ,, |
| 2-inch ,, | extra strong, do. .. | 9½ ,, | 7½ ,, |
| 1⅝-inch ,, | 24 inches wide .. .. | 5½ ,, | 4½ ,, |
| 1⅝-inch ,, | strong, do. .. .. | 6½ ,, | 5½ ,, |
| 1⅝-inch ,, | intermediate, do. .. | 7½ ,, | 6 ,, |
| 1⅝-inch ,, | extra strong, do. .. | 10 ,, | 8 ,, |

All the above kinds can be made of any width (under 8 feet) at proportionate prices. If the upper half is of a coarser mesh than the lower, it will reduce the prices about one-fifth.

Strong Galvanised Poultry Netting, 8½*d.* per yard, 3 feet wide Galvanised Sparrow-proof Netting for Pheasantries, 2½*d.* per square foot. Delivered free of expense in London, Peterborough, Hull, or Newcastle. Manufacturers of Improved Strained Wire Cattle and Deer Fencing, Iron Hurdles, &c.

Illustrated Catalogues and Patterns forwarded by post.

SMITH'S PATENT STEAM PLOUGHS are the only implements that can be of use to the farmers of England. His mode of applying steam power to the cultivation of the soil is the only one with which the irregular hills and cold clays of England can be worked. He thanks the farmers of England for the liberal adoption of his system, and for the aid they have thus rendered him. Ireland has now adopted his system, and lent her aid to the road of progress.

Mr. SMITH'S Steam-tilled Farm is open to the inspection of all. The fullest information may be had either there or at his Office, 40, Mark Lane, London.

Woolston, Bletchley Station.—Jan. 1.

AGRICULTURAL MACHINERY.

E. R. AND F. TURNER, Ipswich, manufacture Prize Mills for Crushing Corn, Seed, Malt, &c.; Portable Grinding Mills, Steam Engines fixed and portable from 2 horse-power and upwards; Threshing Machines, Chaff Cutter Oilcake Breakers, Horse Gears, Saw Tables, &c., all of a superior description and adapted for Home, Colonial, and Foreign use. Illustrated Price Lists sent free on application.

HALKETT'S GUIDEWAY STEAM AGRICULTURE.—Every operation of the Farm performed by Steam. At a large reduction of cost, and a great improvement in the result upon the land. Early in February Mr. Halkett's Cultivator will again be exhibited in operation. Cards stating the days and place will be forwarded, with an Illustrated pamphlet, and a paper read before the Society of Arts, upon receipt of two postage stamps.—Office, 80, Chancery Lane, W.C.

WIRE NETTING for GAME, POULTRY, and PHEASANTRIES, &c., by improved machinery. Illustrated Catalogues sent free.—THOMAS P. HAWKINS, Manufacturer, 27, Dale End, Birmingham.

PATENT GUTTA PERCHA SOLES.—IMPORTANT TO GARDENERS.—The Gutta Percha Company have the pleasure to acknowledge the receipt of the following letter from G. GLENNY, Esq., the celebrated Florist:—

"420, Strand, London.

"Gentlemen,—I have worn Gutta Percha Soles and Heels these two years, and being so much in a garden as I necessarily am in all weathers, and with the ground in all states, I would on no account be without them. As a matter of economy I would recommend Gardeners to use them, for they may repair the worn part at all times by warming the material at the fire, and pressing it from the thick parts to the worn parts as easily as if it were so much dough. I think it the duty of all persons who must occasionally wet their feet to adopt a material that completely defies damp. Many a gardener would escape colds and rheumatism by the use of Gutta Percha Soles.

"Your obedient servant, G. GLENNY."

Every variety of Gutta Percha articles, such as Mill Bands, Tubing, Soles, Goloshes, Sheet, Pump Buckets, Fire Buckets, Bosses, Union Joints, Flasks, Bottles, Bowls, Chamber Vessels, Toilet Trays, Sponge Bags, Curtain Rings, Galvanic Batteries, Talbotype Trays, &c., manufactured by the Gutta Percha Company, and sold by their wholesale dealers in town or country.—The Gutta Percha Company, Patentees, 18, Wharf Road, City Road, London.

LAND DRAINAGE.—Works of Drainage of any extent are executed by the GENERAL LAND DRAINAGE AND IMPROVEMENT COMPANY on all descriptions of Property, whether Freehold, Entailed, Mortgaged, Trust, Ecclesiastical, Corporate, or Collegiate.

Repayment may be made by the Landowner as successive portions of the Works are completed, or the actual expenditure, with a Commission thereon, may be charged on the property improved by way of rent charge for any term not exceeding 50 years, the instalments to repay principal and interest being thereby kept down nearly to 5 per cent. per annum.

No investigation of title being required, and the charge not being affected by incumbrances, no legal expenses are incurred.

Works of Irrigation, Enclosing, Wood Grubbing, Road Making, and Farm Buildings are executed in a similar manner.

The Company also assist Landowners in executing any of the improvements by their own agents, and charge the amount expended on the property improved.

Applications to be made to WILLIAM CLIFFORD, the Secretary, at the Offices of the Company, 52, Parliament Street, London.

TO LANDOWNERS.

THE PERMANENT WAY COMPANY having been appointed the sole Licensees for the use of Dr. BOUCHERIE'S Patent Process for Preserving Timber, beg to inform Landowners and others interested in the use of English Timber that a Pamphlet, with full explanations of this cheap and most effectual process, may be had gratis on application to the undersigned. Landowners having Beech, Elm, Fir, or other Timber fit for Railway Sleepers are requested to communicate particulars of quantity, locality, and prices.

WILLIAM HOWDEN, Secretary.

26, Great George Street, Westminster.

COLLEGE OF AGRICULTURE AND CHEMISTRY, AND OF PRACTICAL and GENERAL SCIENCE, 37 and 38, Lower Kennington Lane, Kennington, near London.

Principal—J. C. NESBIT, F.G.S., F.C.S., &c.

The system of studies pursued in the College comprises every branch requisite to prepare youth for the pursuits of Agriculture, Engineering, Mining, Manufactures, and the Arts; for the Naval and Military Services, and for the Universities.

Analyses and Assays of every description are promptly and accurately executed at the College. The terms and other particulars may be had on application to the Principal.

# The Agricultural Gazette.

*SATURDAY, JANUARY* 1, 1859.

THERE is not a task the living year brings with it, to be compared in interest—or in difficulty—with that it leaves behind it when it dies. *Respice finem*, "Look to *the end!*" said the sage: tell us not of cotemporary happiness or sorrow; that this man is successful, and envied, and that one marked by misfortune. Look to the end! Wait till death has set its seal upon the closed biography: who shall pronounce judgment on a case not heard *throughout?*

And as it is with individual men, so is it with that ever progressive element in which their acts are measured, marked off, cut up into chapter and verse. 'Time is the stuff Life is made of'—the smooth blank scroll—for ever 'paying out' as the stamp of Current Events falls on it, and leaves the indelible cypher machine-marked there for all time, telegraphing to future ages the thing that is, and was, and has been! A common-place truth this; trite, and old; but amid all the novelties

and wonders that Time brings, which of us does not cast a thought of wonder sometimes at that greatest mystery and marvel of all—its own silent insidious relentless speed? It seems but the other day, and we were welcoming a new-born year! It has gone—gone like the rest, each if possible more quickly than its predecessor: and all that remains to us is to tell its tale, to sum up its account, to cast its balances like an executor, and say what it has bequeathed to those that come after.

Is Agriculture an exception to the universal rule? Does Time bring nothing new in this one branch of human history? Is it indeed true, as Mr. PUSEY said at the end of seventeen years' labour at the Royal Agricultural Society's Journal, that 'Farming is written *out*,' and has nothing left to furnish an essay! Is this true? or is it nearer the truth to say that in the whole catalogue of subjects the new-born year suggests to our prospective views and thoughts, there is scarcely one so pregnant with matter, and with coming change? Is there any one conversant with the present state of farming in this country who does not feel this, or at least suspect it? We have before drawn notice to the fact that when the inclosure of fresh land is exhausted, then begins the real struggle for improving our resources upon the acreage that *we have*. The question is not, as simply stated by the Irish Dean, 'how to grow two blades of corn where but one grew before,' but how to grow them at *less cost*. There is hardly a farmer now who does not know that the second blade may be bought too dear; that the essence of improvement in any and in every branch of industry, manufacturing or agricultural, lies not in the bare problem of increased production, but in that relatively with diminished cost. And is not *this* the pressing problem *now?*

The year whose tale has just run out has left us with the price of Wheat, once the unchallenged criterion of 'agricultural prosperity,' at about as low a figure as the most doubtful friend would wish to see. The question now is, how are we to meet it? We cannot command prices any more than seasons: the two problems are not unsimilar; indeed there are not wanting those who have declared that during 'awkward times' they have made the highest profits. How was this? Was there a mine discovered on the farm? did the 'bowels of the land' help to eke out what its surface soil failed to accomplish? What did it consist of? Gold and silver alas! are out of the question here: was it some subterranean marvel of the 'Food for Cattle' order fattening the Team by magic, and releasing to better use and profit that heavy portion of the farm that was once required to feed the power that cultivated it? A famous country that for farming! where the horse-power could thus be furnished *from below*, and rent is paid no longer for acres idly spent from year to year in foddering the Team. Have *we* any prospect of such a consummation? It was but the other day that a new coal mine was opened in Cheshire, which it was calculated would produce 500 tons a month for 500 years. If STEAM-POWER be cheaper than horse power how many acres of land may be thus in time set free for growing food for men instead of horses? The question would have sounded strange not long ago, but if it only be considered how large a portion of the produce of every farm in England is consumed by the power that cultivates it, the subject of steam-agriculture is one of no light moment in a country that imports ten million quarters of corn from abroad, half of it wheat, every year, and *doubles its number of mouths*, in forty.

It is easy for France, with its stand-still population, and unfelled forests of 'protected' firewood, to ask of England how free trade in corn has operated on its agriculture: but it is scarcely in a position to understand or to apply even the answers that have been, much less those that might be given. The mere difference in the tenure and distribution of land in the two countries, deprives the cases of all practical analogy. The application of improved machinery both of horse and steam power, presents two separate elements of diversity between the countries, which the most exact statistics would fail to meet, even had we statistics to give.

But the plainest truth in which reply could dress itself would be to acknowledge that in fact we have no reply to furnish. If we were, in the judgment of the first NAPOLEON, a 'Nation of Shopkeepers,' we shall yet perhaps surprise the *Third* when he finds that our greatest branch of business is one that never 'takes stock.' The Inclosure Commissioners tell us, once a year, how much, or rather how little land,—"small by degrees, and beautifully less"—has been enclosed; the Census, once in ten, the rate at which our numbers multiply; and the Board of Trade, once a month, how much food we import; but how much we *grow ourselves*, or ever grew, we simply do not know; but leave it to the curious in such matters to calculate the cunning problem in their heads, how much we *must* grow that every one may have a little, and be fed; leaving it to Mr. M'CULLOCH's and Mr. PORTER's tables to decide the knotty problem whether seven bushels, or a quarter of wheat per annum represent the average consumption per head, and to Mr. CAIRD to draw conclusions.

But these are important questions,—Steam-agriculture, Tenures, Land Statistics. Are they exhausted? Are they so used up that there is nothing more for worn-out country pens to write about? And supposing for an instant that they were, does nothing more remain behind? What about the Transfer of Land? Have we probed to the bottom the effect which the costly penalties of sale, or mortgage, produce upon millions of acres that cannot change hands, or borrow for their own improvement, without leaving such a toll in that of the 'conveyancer' as cripples the transaction, exactly robbing it of that profit-portion of the price for which men *do* sell and buy? If every other article which money can measure had to be so clipped under the hammer of the Auctioneer, to prove its right and title to be sold, what would become of the markets of the world? and who would be a buyer, or a seller? The turning-point, the gist of every bargain between man and man is, not the fixed gross value of the article itself, but that elastic morsel at the end of it, that little increment which industry is ever adding on, or sloth deducting, and which bears the same relation to the mere carcase-price that the finishing-off does to the half-fed beast, or to any and every other matter-in-the-rough that nature has submitted to man's agency and skill. It is this that men work for, and fight for, and bargain for, and take to market, whether it be a yard of manufactured ribbon or a hundred acres of land. But let a *third hand* step in between the seller and the buyer and chop off this portion, and that not once, but *every time it changes hands*, and good bye to all real commerce in the article! The thing is in truth so obvious that its exposition would be laughable, in the case of any other thing but *that one* which feudalism, before the days of Trade and Traffic, held actually, and consistently, inintransferable, and the laws and customs it engenhave, in spite of growing Commerce, kept their iron gripe upon, yielding to no expansion from within —like the women's shoes in China,—till the minds of Englishmen were 'to the manner born,' and fairly disbelieved at first the power of the 'Encumbered Estates Act' which broke the fetters off before their eyes, and showed that LAW could set land free in spite of lawyers—at least *in Ireland*.

In spite of lawyers? As well might the occupant of some cobweb-smitten chambers sit down despondent and blame the spiders. Spiders must live, like other folk, and draw their nets as opportunity offers, and there is space to draw them: but they have the wit to know that little flies are plentier far than large ones. Blue-bottles are a noble meal; when they come; but the breed is comparatively scarce; and the small mesh catches faster than the large one, and is less open to remark, and obnoxious to the broom. In truth, the best of our Lawyers, of every rank and grade, desire to see this pressing evil remedied. Intelligence is justified of her children! But who can do for the owners of land what they won't do for themselves? The very thing in which their capital consists is put out of market by being confined to the rarest class of buyers. And it is precisely because the class of buyers, and sellers, is thus reduced, that Parliament is not besieged by numberless petitions to get this measure passed, and land made really and practicably saleable.

We talk of improvements in Agriculture; but all improvement is mainly advanced by the *numbers* who improve: give but facility of sale and purchase, abolish the mediæval folly of hampering the purchaser with the cost of *proving the seller's right to sell*, at an expense he does not know and cannot calculate beforehand; set the land free to the ordinary and healthy action of the self-interest of the greatest number, and more will be done for agricultural improvement than can be judged of by anything we have yet seen, think as we may of the progress of the last ten years. Owners of land are not practically aware how every inconvenience and expense thrown upon a purchaser really recoils upon themselves. The holders of Consols would feel themselves half-ruined were such a fall to take place in the 3 per Cents. as would immediately follow any measure rendering Bank Stock as intransferable as land. Those who had never entertained a thought of 'selling out' would be as much alarmed as the professed Stockjobber. It would be felt as a *common interest;* and nothing but the habit of the thing provents the acre-owners from seeing the existing detriment to their capital in the same light. If they will not stir in the matter, the law-lords may talk, and bring in Bills, and Commissions may sit from Session to Session, but no one can help those who have the power to help but will not help themselves.

There has been, and there still is, in this country, too much narrowness of view in the sources to which men look for improvement in agriculture; and it shows itself not less in the causes to which they refer it. Prizes for this, and a gold or silver medal for that, and a 'meeting of influential gentlemen to promote' the other, are very pretty playthings and amusements in their way; and let us not undervalue their motives, or their results. But there is something that nauseates upon the free and healthy palate, in this factitious and everlasting system of stimulants and tonics. It is below the dignity, out of keeping with the real proportions, of the subject. If you want your cattle to go into a better pasture, the first thing to be done is to *set the gate open*. Has the change wrought in Ireland during the last ten years been bought by prizes for the best show of Turnips and the highest bred Short-horn, or a medal for the least clumsy conjugation of a plough with a Steam Engine? These are indeed the incidents and efflorescence that fitly accompany the revival of a Nation from a death-like paralysis of the soil; but the great re-agent that has occasioned the most rapid and wonderful change that that or any other country has ever exemplified, lies far deeper than these. We have not to seek it: we know it. The 'experiment,' with its whole result, far outstripping expectation, lies under our eyes. We acknowledge, and applaud the *result*. And then, like a magician startled at the product of his own spell, or an empiric who has stumbled upon a 'perfect cure,' we stand secretly amazed at the success we take the credit of. Never is the obtuseness of incapacity more striking than when a clear and obvious success fails to convince the operator's own intelligence, and guide him out of the path of former quackery. The mainspring of 'improvement' lies deep and out of sight: the tricks by which we strive to set it work resemble often those of the child who vainly pushes on 'the hands' that appear upon the face, and mark the hour: one skilful touch in the right place sets the whole machine in genuine and spontaneous action; every wheel performs its proper round, and henceforward the hands take care of themselves, and need no pushing. When will Agriculture have learnt this manly lesson? Let us not be unthankful for the leading-strings and 'prizes' that have coaxed and helped it on in infancy and youth, but may we not look forward to the day when it will have outgrown the system of extrinsic aids and persuasions, and obtains freest action and development in an emancipated soil, and its most powerful and independent motive in the mainspring that lies within?

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## HALKETT'S GUIDEWAY AGRICULTURE.

"WHAT sized pipe do you use in your drains?" a question often asked a few years ago. At present the inquiry would rather be, "Which is the best kind of rail for a 'guideway?'" But before the latter comes common-place we shall have everybody seeking or giving an opinion as to "the best drum for a rope," or it may be "the best shape of cutter for a rotary digger." There might be a long discussion on the many points propounded by Mr. Halkett; but I think this is hardly the time for raising it, except by way of occasional gleams in the pages of this journal projecting dimly the long shadows of "events" that are distantly yet clearly "coming." We are too busy just now to engage in studying which may be the best plan of laying out cash equal to 10 years' rent, to prepare land for steam cultivation.

Market gardeners may, perhaps, find it practicable to lay down a rail at every 10 or 15 yards along their crops; it may be found that the creosoted wood rail at 10*l*. per acre will last long enough to pay; or that the brittle iron rail, at 20*l*. per acre, will not turn up and lacerate you after a hard frost; or that the fixing of the rails and levelling the ground between them can be done efficiently and permanently for the sum estimated; but the fact remains that tenant farmers are not in a position to look at the scheme at all; and while some landlords are too embarrassed already or careless, with a mere interest, to invest so enormously on their property

area of ground open to unrestricted and daring commercial speculation is small indeed compared with that which is occupied by business men holding under large proprietors. Parallel rails above ground may be as commonly considered, hereafter, as parallel drains below; and while adding to the fee-simple of the land may be thought as necessary for farming as buildings or main ditches. But we have now other and lower-priced alternatives for applying steam power to cultivation; let us strive to perfect these, and extend their adoption as far as they will promise profit to those who can employ them. Enterprising farmers will spend a pound an acre in the purchase of a steam cultivator that is to save their expenses and increase their produce; but I have no expectation whatever that landowners will be found to spend ten or twenty times that amount per acre, let the spec. glitter never so brightly—seeing, as we do, such a pitiful extent of drainage yet executed, compared with the vast breadth of ground requiring it, and the scantiness of good buildings, roads, and main channels or rivers, compared with those demanded by the necessities of an improved husbandry.

At the same time, we are much obliged to Mr. Halkett for his zeal and industry in setting before us a novel species of tillage; and it may perhaps turn out that we are indebted to him for other and more available proposals than those of permanent guideways.

Looking at Mr. Halkett's system, I observe the advantages to reside in three things: the steam-engine and machinery have a good road to travel on, formed upon narrow strips of ground given up for the purpose and not cultivated; the field is equally accessible to the machine in all parts, no matter what state of tillage or crop the land may be in; and the land is worked, crops cleaned and nurtured, and manure and produce carried, without the machine or implement bearing with any pressure upon the soil. Now, can the same advantages be secured without the costly aid of the guideway rails?—the operations less cheaply performed it may be, but still at a great economy compared with horse-labour. Suppose a trussed platform, as at present, 10 or 15 yards long, with an 8-horse engine at each end, mounted upon say eight travelling-wheels (four at each end) fitted with Boydell's endless rails. This to traverse up and down the field in the same track, till all the tillage of that compartment is done, and then be shunted sideways at the end either by the arrangement already employed, or by some simpler means. If the wheels took up a width of half a yard at each end, there would be one-twentieth or one-thirtieth part of the entire surface left as hard uncultivated strips for the machine to travel on; the platform with its implements, &c., could be conveyed over the land at any time, without touching the tilled part extending between the hard strips or ways, and all the processes accomplished by Mr. Halkett could be effected with sufficient accuracy—provided you can steer straight without the guideways. Well, the whole apparatus is much like a parallel ruler on an enlarged scale: driving the wheels at both ends the same pace, the machine will be propelled in a generally straight direction; and to give all the steerage nicety you want, nothing seems requisite but that either you must be able to drive at pleasure one set of wheels rather slower than the other by means of a friction-box arrangement, or all the wheels should be capable of turning a little inwards or outwards, as they might do if each were hung in a transom or as on a castor.

I spoke of "shunting" without having the costly tramway and shifting truck on headlands levelled for the purpose lower than the general surface of the field; and, if the Boydell wheels will answer for traversing up and down the field, why may they not be turned at right angles for passing along the headland till the platform comes opposite the next course to be cultivated? All that would be necessary, each wheel being in a transom or on a castor, is to remove the parallel connecting-rods which brace all the wheels together—the means by which the engine drives all the wheels and gets the greatest possible amount of hold or grip on the ground.

If the system be so beneficial in promise as we hear represented, such a modification is well worth consideration; and I am of opinion, that while on tolerably level land (on such only would the scheme be attempted) the endless rails would be amply sufficient to prevent any "skid" of the wheel in hauling powerful implements, the extra power required, as compared with that on fixed guideways, would be trifling in comparison with the expense saved in rails. And certainly an item of 1500*l.* outlay is much more likely to tempt a 100-acre farmer to a trial than such an enormous sum as 5000*l.* to 12,000*l.*

Ploughing at 3*s.* per acre, subsoiling or scarifying at unprecedently low rates, are great inducements; then by drilling or hoeing 30 or 50 feet width at once, hoeing or earthing up between rows of growing plants, manuring, reaping, carrying the crop, and the innumerable operations that are not only partly done now by labourers or by horses, but would be admirable and amazingly productive if steam power could be engaged in them all. Our wire rope methods of hauling implements can only perform a few of the heavier operations of tillage; our locomotive traction engines or locomotive rotary digging machines are comparatively useless after the ground has been broken up the first time; but with the machine proposed steam cultivation can be followed up to the very last in a forest day if required; and it appears as if horses must be completely banished from the farm, and coal and manures fetched and produce delivered at market by the teams of the "common carrier."

As to the untilled strips of ground being able to bear the pressure, what is the whole weight to be supported—would it be 12 or 16 tons? If so, then each of the large Boydell wheels would bear only 1½ to 2 tons; and this is nothing compared with the 456 tons which such wheels have already carried well over arable land. In conclusion, will Mr. Halkett, or some engineering gentleman, reduce this idea to reality? *I. A. C.*

## Home Correspondence.

*What should be done with the Sewage?*—I think it should not be taken, as proposed, parallel with the Thames, to as near its mouth or junction with the sea as possible, in large sewers open or otherwise; but it should be taken at once across the country in iron pipes to some headland, promontory, or place projecting into the sea, where the current runs strong and away from the shore, and that it should be forced along those pipes in the same way as the water is supplied to us from the waterworks. The capacity of the water-pipes supplying London with water, added together, would give some rough idea of the capacity that would be required to take it away after it had been used, allowing for the additions it would receive. The storm or rain water (except that used in domestic purposes) may discharge itself into the Thames as at present, only taking the mouth of the sewers into low water, except the first portion of the storm or rain, which would have in suspension a great amount of animal and other matter from the land that would be good for manure, and might be allowed to go into the house sewage, the remainder into the river. I would send it by different routes across country, which would have many advantages; the principal one I consider, it would be at hand over a great portion of the country when its use and how to use it as a manure are known and appreciated as it ought to be, and will be, I have no doubt. Again, by dividing it we shall not have so great a bulk in any one place, consequently not so formidable in any respect, and easier managed. I think it should travel along the principal railways, either close to the base of the embankments or cuttings, or some few yards away, diverging only to escape formidable constructions or other things that would be too costly to remove; the advantages would be that the materials and workmen for construction could be conveyed to the spot where wanted at the least cost, and the route is in some instances the shortest to the sea, and crosses a great number of turnpike and other roads (from which it may branch if required), to fields and farms, where it may be tried as manure at the smallest possible outlay, because so near at hand, only a few feet of piping being required to manure many hundred acres, which if not successful, would not be much loss; but if successful would be a gold mine to the country in the extra quantities of hay, corn, beef, mutton, pork, &c., it would give. The relative level of the railways should be followed for laying down the pipes, to facilitate the forcing operation. If this plan was followed, the sewage would soon be all used as manure, and none of it go into the sea but at intervals; and as practice makes perfect, very soon none at all. Should this plan be thought advisable, but the expense too great to carry it so great distance at once, it might be carried only part of the way and drop into some creek, canal, or river in the country for the present, which would take it to the sea, and thus form an open sewer, except near habitations, where it should be covered. The sewage might be used on the lands at all seasons I believe, and thousands of acres now looking miserable for want of manure might be made "to smile and blossom as the Rose." The following plan I would follow to spread the sewage: it should be taken to one spot on the farm that would command the rest, *i.e.*, the highest, in iron pipes connected with the main, from whence it should run underground to a spot in every field that would command the rest, in earthenware pipes (6 inches); those strong red pipes that are made by pressure would do well; from thence it should run over the ground in zinc or other pipes (3 in.) in lengths of 6 or 7 feet, fitting to each other as the rose to a watering pot—zinc, because it would be light to move when empty of sewage. I would have some leather, gutta percha, or other piping to use as occasion may require, such as passing over a stank or hollow; the zinc pipes would leak too much at the joints at such places. Being thus prepared, I would connect the zinc or other pipes together, and begin manuring the furthest off or lowest spot; let it flow out by gravitation or gentle pressure, would have a short length or two, or a short length of flexible tubing, to spread it right and left. One man and boy, what could they do! No treading of horses or grinding wheels spoiling the land,—but see that man guiding and spreading the liquid as it flows out of the last pipe, on the parched meadows which have been cleared of hay, and as he perceives it has had enough ahead right and left, he takes off a joint, fastens a line to it, the boy draws it to himself and takes it to the place next wanted, and so on to the last joint; then stops the flow till he has connected with the next line of operations which the boy has been preparing, and so on acres and acres are manured at a trifling expense compared with the old method, no teams stopped from other work, and the Grass begins to grow the instant the manure is applied, and what is that worth sometimes I will not venture to say. The Grass land having had enough, the fallows having been cleared but want manure, a good dose of the liquid stuff before the last ploughing, and what crops of corn! The harvest in this field of stubble is very clean, and would grow a good crop again if it had a little manure, but I have not time to do it, the horses are busy. Well, set the pipes and man to work, and you may plough and sow as though you had double teams the while. This field (stubble) I want to sow with Italian Rye-grass, but it is too dry, try sewage again and sow as soon as dry enough. What a crop! It is "cut and come again." Well, there is this stubble; I should like to get it into good heart and grow a first-rate crop of Wurzel, but it is so far off from the muck hill; well, set the liquid going. Ah! make a pond of it, and let it have a good swill. Done; the water filtered away down the drains, causing the manure to follow it to a great depth, which I think will suit the Wurzel very well. The result a good crop, no doubt—the same application for Swedes. Then there are Cabbage, Parsnips, Rape, Flax. Plenty of cake and oil, because I have plenty of liquid manure, consequently plenty of beef, mutton, pork, &c.; also Wheat, &c., and other advantages which I can see well present themselves to every thoughtful cultivator of the soil. I see nothing in this sewage question but what may successfully and advantageously be carried out with success. *A Reader.*

## Farmers' Clubs.

EAST BERWICKSHIRE: *The Reaping Machine.*—At the late meeting of this society, letters were written from many members describing their experience with the reaping machine, some of which in a condensed form we here present to our readers. Mr. Hunter, Thurston, reported as follows:—"I have had four of Bell's in constant work at harvest time. The operation was decidedly satisfactory, so much so that I will never let a shearer enter a field if it is possible to use a reaping machine. The use of the machines was more economical than other modes of reaping.

"The only field I have a complete statement of is a field of Oats, 30 acres of which were cut by Bell's machines in 30 hours, the expense of which was, including one pair of horses and two men at 12*s.* per day, or 1*s.* 6*d.* per hour of eight hours per day £2 5 0

83 men and women gathering, tying, and stooking half day each, at 2*s.* 0*d.* per day, or 41½ for a whole day .. .. .. .. 5 3 9

Total, £7 8 9

For 30 acres equal to, per acre .. .. .. 0 4 11¾

I may here state that the same men and horses work Bell's machines with me eight hours a-day, viz., from 8 A.M. to 12 noon, and then from 2 P.M. to 6 P.M., weather permitting. Some people say: Why not keep the machines going all day by changing men and horses? My answer is that every man and horse works best with the tools he is used to, and I find that I get more work out of the machine in eight hours, keeping the same men and horses at their own machines, than I used to do when I kept the machines going for 12 hours and changing the men and horses. The way I generally do is to have the head rigs cut by shearers and stooked close up to the fence; that enables me to take the four machines into the field and put each into its own division of 8 or 12 rigs, or whatever number I think advisable, and they each go on with their own portion of the field without interfering with one another; whereas with the side-working machine, if any person has four of them as I have of Bell's there is no help for them, they must follow one another round and round the field till they come to nothing in the centre; and if one meets with any breakage or stoppage they must all stop, and I believe that most of the side-delivery machines require a lot of people in the field in attendance upon them, and if one breaks or stops the whole party are thrown idle. I can only say that if any one made me an offer of either a Hussey or M'Cormick for nothing I should decline the gift, as they would be of no earthly use to me to work with the ones I have.

"The amounts that I cut with the machine this year were—Oats, 148 acres in 172 hours; Barley, 117 acres in 145 hours; and Wheat, 46 acres in 41 hours; altogether 311 acres in 358 hours. Some of the fields I could only cut one way, and other fields, generally, from the situation of my farm, have to be cut up the hill, which, of course, is much more severe upon the horses. One field of Wheat of 27 acres I cut down in 19 hours' work, as nearly as possible 1½ acre per hour to each machine. The difference in the stubbles generally between the machines and the shearers is decidedly in favour of the machines, and the additional quantity of straw to the stackyard for fodder for cattle is beyond calculation, to say nothing of your not having a particle of corn shaken out by the machines, and the whole of it going through the mill and into the market, instead of sometimes as much as two "seeds" being knocked out by the shearers under the present slashing system."

Mr. J. M'Gall, Hallydown, reported as follows:—"The reaping machine I used last harvest was M'Cormick's with Burgess and Key's improvements. The operation was on the whole satisfactory. I was anxious to do the maximum amount of work—1½ acre per hour, and for that end I cut round each field, very seldom going empty or without cutting, so that where the grain was laid or partially so, I was cutting half or at least quarter of the field the opposite way it should have been cut, consequently the stubble was not so low as I would have liked to have seen it; the other half or three-quarters of the field being cut beautifully low, as it lay to the machine. What was even, cut high, and was quite clean laid from the cut portion into the swathe. I usually get four reapers and one binder to cut and tie 2 acres per day, and I find that with or after the machine two takers-up and one binder manage 2 acres, thus saving one woman or man per acre. The wages with me averaged 20*s.* per week, exclusive of food, which was equal to 3*s.* 4*d.* to 3*s.* 8*d.*—or 4*s.* per

acre. If the takers-up were to work as fast as they do when they are reaping with the hook, the difference would be still more. I may add that I have been much worse pleased with the taking up than with the cutting.

"I like Bell's Crosskill best in so far as at the beginning of a field there is not any one needed to open up its way; but very much object to the attachment of the horses, and the seeming labour to both men and horses in its working, and however heavy the work may be, the position of the horses is such, that you cannot yoke another to help them. Dray's Hussey is compacter and more manageable than the other reapers, and suits well in a wet harvest, by compelling the farmer to take up and stook as fast as the grain is cut, as the way has to be cleared for the next round of the machine; but it is objectionable in not being self delivering, and the delivery being behind and not at the side, necessitates a distribution of hands over a considerable area, which militates against the dispatch desirable at such a busy season. Burgess and Key's M'Cormick's we think the best. It is not, like Crosskill's Bell's, a self-opener up of a field, but its spiral delivery is much superior, and the attachment of the horses decidedly better, as a third and fourth horse can be attached if necessary. We would generally recommend that three horses be yoked to the machine, as we found we got better on; they were able to go five or six miles without being oppressed. A driver's seat being provided on this machine makes it a greater favourite with the servants than the other reapers, where there is a good deal of bodily labour required. By being self-side delivering, (same as Bell's in this respect, and superior to Dray's Hussey's behind delivery) in fine weather a field of grain can be cut down a day or two before the takers-up and binders enter; by this exposure the corn will be ready for the stack in one-half the time necessary if it was tied up immediately after it was cut down."

Mr. Dove, Eccles Newton, used Bell's machine, made by Crosskill, in 1857. Its operation was perfectly satisfactory. What was cut with the machine this year cost 5*s.* 9*d.* per acre, while cutting similar crops with the sickle cost 8*s.* 9*d.*

Mr. Hardie, Ross, used M'Cormick's with Burgess & Key's improved platform; its cost, with two sets of knives, was 43*l.* 2*s.* 8*d.* When the machine was in good going order, the crop suitable, and the field well finished with harrowing and rolling without deep furrows or stones, the operation was good, clean cut, and beautifully laid, without a head in the bottom of the swathe. The saving by the machine was considered to be 2*s.* 6*d*, per acre.

Mr. Gibson, of Foulden West Mains, used one of Burgess & Key's machines. Its operation was on the whole satisfactory and economical; 150 acres were cut with it, trying it on both Wheat, Barley, and Oats.

"Of course the land to be reaped by the machine must be carefully stoned, all stones being lifted off the land which have any chance of coming in contact with the knives of the machines. The land should also be rolled. The machine should not be used when the corn is damp. The gearing of the machine should be often examined and kept regularly oiled. To get the full benefit of the machine it is best to drive it in what is called 'double tides,' that is, start at 4 with the first set going till 8, then with second set going till 12, then with first set going till 4, and then with second set going till 8. This may be done when weather permits. It is best that each set should have three horses and two men, one to drive, the other to walk behind the kepping board to keep all right, and to oil when needed."

Mr. Johnson, Templehall, used Messrs. Dray & Co.'s reaping-machine. The cutting was satisfactory. The reaping-machine is by far the best way to cut corn, being a great saving, it is so well done. "I do not wish to push my horses, therefore I only keep four people lifting the corn, and four binding, one man taking off the corn and a boy managing the horses—10 people in all, and these last two harvests we have cut on an average 8 acres a day."

Mr. Logan, Legerwood, used one of Burgess & Key's reapers last harvest. Its operation was satisfactory, saving in expense fully 4*s.* per acre.

Mr. Jas. Anderson, Greystonelees, used Messrs. Burgess & Key's. "It is fully adapted to cut any white crop, and that with great facility and neatness. It cuts exceedingly low and uniform, not leaving a stalk of corn upon the part operated on; all is taken up, and if the belts are kept properly tightened, the reel exactly adjusted so as to answer a strong or short crop, there is no doubt whatever but the screws (with few exceptions) have the full power of throwing the cut corn in a direct line, and in such regular order, that not a head is laid in a wrong position. Comparing the expense this season with that of the previous year, without giving details, I have nearly saved the half of the purchase money."

Mr. Shaw, of Whiterigg, used Burgess and Key's M'Cormick's. Very satisfactory. More economical than by either hook or scythe, by 40 per cent. on the former, and 35 per cent. on the latter.

"I have this harvest cut 210 acres of Wheat, Barley, Oats, and Beans, with the reaping machine at about an average rate of half an acre per hour, but on several occasions, when circumstances were favourable, at the rate of one and a half, and one and three quarters per hour. I have generally used only two horses, but have sometimes added a third one, which caused greater steadiness in working."

Mr. Hope, Fenton Barns, had two reaping machines, both Bell's made by Crosskill, Beverley, at work last harvest. Their operation was highly satisfactory and economical.

"I consider Bell's machine the best, if the cutting can be done up and down the ridges, or if the land is prepared for it by the complete obliteration of all-furrows, but both Lord Kinnaird's machine and Burgess and Key's M'Cormick have a decided advantage in crossing furrows."

Mr. Calder, Kelloe Mains, Edrom, used M'Cormick's reaper as improved by Messrs. Burgess and Key. Its working generally was most satisfactory. It effected a saving of from 40 to 50 per cent. as compared with the sickle, not charging for the horses' labour which were in better condition than had they been idle, as otherwise they would have been.

"I cut about 170 acres of Wheat, Barley, and Oats; two of the farm servants attended the machine the whole harvest and were never changed, as it took a little time to understand it properly, and being alone responsible, they were more attentive to keeping it in order. While one drove, the other with the scythe rounded the corners, or cleared any laid pieces, and was at hand to assist at any stoppage. Weather permitting they worked it during daylight. Most of the Wheat cut was standing, part a very heavy crop, and a portion as light. Most of this, after opening a road with the scythe, was cut right round and round; the last day a 20-acre field was cut in 12 hours, but for the whole harvest it did not average much above an acre per hour, the Barley and Oats being so much laid, that it had to go empty round one side. I may conclude by adding that it made me independent of Irishmen, and I only employed 11 extra hands last harvest, instead of about four times that number, no small comfort when wages were so high."

Mr. J. Wilson, Edington Mains, used two of Bell's machines made by Crosskill for several years, and one of Burgess & Key's machines during last harvest. Bell's machines worked well when the crop was tall and standing tolerably erect; but they did not reap short crops satisfactorily. Burgess & Key's machines did exceedingly well. "I am not prepared to present any exact tabular statement of the cost of reaping by the several modes which I used this season; but I know that the use of these machines enabled me to cut down my crop in shorter time and with considerably fewer people than would have been required to reap it by hand labour. My harvest bill for crop 1858 was less than that for the previous year on the item of wages by 47*l.* If the high rate of wages this year is set against the longer time that the work was on hand last year, the above sum may fairly enough be put to the credit of the reaping machines. The saving of time is even more important than the saving of wages, and the quality of the work performed by these machines is certainly much superior to the average of hand reaping. I can corroborate what has been already suggested by others, viz., that Burgess & Key's machine should always be worked with three horses. While I still think favourably of Bell's machine, which I believe can reap tall Wheat on level land better than any of its rivals, yet for general usefulness I certainly give the preference to Burgess & Key's. In my experience the latter is lighter in draught than Bell's, is easier to manage, less affected by a damp state of the crop, and less liable to derangement."

Mr. Wilson, Edington Mains, said there was one thing that seemed to be overlooked in all the reports, viz., that there was no allusion to the establishment of a depôt in the county, where the more wearable parts of the machines might be obtained. It was felt to be a serious inconvenience, and entailed a deal of expense, that farmers had to send all the way to the makers for any article they required for the machine—these makers, too, for the most part being resident in the southern counties of England, and not at all accessible. It would, therefore, he thought, be a very great convenience if some local agent were appointed who could supply these articles when wanted. He also thought that these makers would be only consulting their own interest by being somewhat more candid and communicative with their customers. It so happened that a machine said, for instance, to cost 40*l.*, ultimately cost the purchaser 43*l.* or 44*l.*—the additional expense being incurred in fitting with knives, brasses, &c. This came to be a serious item, and he thought the makers ought always to be a little more explicit and straightforward on the subject—stating at once the amount required from the purchaser.

## Notices of Books.

*Progress in Agriculture; with a Description of the "Multum in Parvo" and other Implements.* By Sigma. Ridgway: Piccadilly.

This little book, although professedly an advertisement of the useful and ingenious machines invented by our clever correspondent, "Sigma," and manufactured by Mr. Powell of Hurstgreen, Sussex, does really contain many useful readable and attractive pages on the more general subject of agricultural progress and improvement, which will obtain for it a circulation independently of that which it will receive among intending purchasers of "Sigma's" tools.

Take the following passage, for instance, on the tillage operations of the farm:—

"Generally speaking, it is not necessary to make known the system of cultivation I pursued to cleanse and fallow foul land; but there are many still in darkness, and during my travels last autumn through many hundred miles of the midland counties I was much surprised to find how little the plan of hoeing, stirring, and pulverising was practised between the rows of drilled crops. For miles and miles the Beans were growing in a perfect wilderness of weeds; I hardly saw, during my whole journey, what I considered a clean fallow crop. They told me the Uley cultivator wiped out all stains; but no one can make me believe that such crops of weeds as I then saw do not exhaust the land of half its wealth; besides, what benefit can the after crop receive from fallowing? Weeds I believe were created on purpose to oblige man to hoe and stir his crop; and it is this hoeing, stirring, and pounding Mother Earth, which causes her to yield up her stores. Pulverise the soil, you let in air and moisture, and it is this air in union with moisture which corrodes and renders soluble the earthy ingredients for building up the structure of the future plants; ammonia is absorbed besides, which exerts in various ways so powerful an influence on the soil. Now, let me ask, what is the effect of turning over and baking large clods of earth? It dries, it exhausts, it dissipates every particle of organic food capable of being absorbed by plants. It is altogether a mistake that by baking earth mineral ingredients are rendered soluble: no chemical effect can be produced without the aid of moisture. Hard dry clods certainly become pulverised by rain; with this I find no fault. The benefit to be derived by turning over large dry clods is very questionable, and, in many instances, I believe, does actual injury. Soil is not composed of minerals alone; vegetable matters, stored up through ages, are with them combined. Exposing these to air and sun by continual summer ploughings causes all that is volatile to fly away, to be again brought down by rain, but on another land. Things so costly, and that have been collected with so much care, should be locked up. Do we expose and throw about our dung-heaps? They would in time become a worthless mass; and what is soil but a mixture of earth and vegetable matter in a less concentrated form? And why we should expose every particle of soil to the exhausting rays of Father Sol, to be robbed of everything combustible (or capable of decay) I can't conceive. To reduce soil to the finest tilth, and thus cause it to retain its moisture, also to let in air, would hasten the decay of vegetable, and the corrosion of mineral ingredients; the stores that have accumulated would thus be reduced to food proper for plants. This seems to me the thing that is required; and such a system I adopt, and have always found to answer. In winter, when evaporation is at its lowest ebb and the sun almost powerless, then to plough and stir and pulverise by frost does good, and much advances the decomposition of the soil; but in summer, to turn over and expose its treasures to be dried up and to the four winds cast, is not my plan. At that time I would have every acre have a growing crop, which by means of its leaves should rob the air each moment. The weal that is absorbed by plants from air alone is far beyond the comprehension of the world at large. So much for Summer Fallows!"

There is much more of good writing like this: and the pamphlet may itself be described as being "Multum in Parvo," although that is the name more properly belonging to one of the tools which it describes.

## Miscellaneous.

*The Labourer.*—Labour is the very best of capital when employed, but we will not employ it with money payments, nor allow it to employ itself without money payments by means of allotments. We grasp and grudge the industrious labourer's patch of ground, and inconsistently enough pay cheerfully heavy gaol, police or pauper rates, to restrain or punish the crimes consequent on his non-employment, poverty, and demoralisation. I mention these matters as strong evidence of the necessity of applying the surplus capital of the to the improvement of agriculture. A man with a cow, pig, and an acre of ground, has a stake in the soil. If non-employment and poverty fill your gaols, it is a logical deduction that employment and comfort alone empty them. Self-interest should alone induce us to take up the question, but the higher moral sense of justice to the general welfare commands us so to do. Honour is due to those counties, Lincolnshire for one, where their cottagers can keep a pig or a cow without being suspected of robbing their masters. The masters will be found to be, as a natural consequence, men of talent, capital, and education; and their men many degrees in advance of those without a cow, pig, or land (the comparative criminal record of these districts would be instructive), ragged, and starving, on 7*s.* or 8*s.* per week. The condition of the cottager is too frequently a true index to the character and position of his employer. *Mechi's How to Farm Profitably.*

## Calendar of Operations.

### DECEMBER.

DORSETSHIRE: *Dec.* 20.—We had a fine dry time for sowing, which was begun and finished last month, and the earliest sowings are now showing pretty strong in the... The plough and the drill were employed on Turnip land... with sheep (given an allowance of hay), and on Clover... Our Wheat is put in here rather later than in many other parts, Dorsetshire being, as you must be aware, a bleak... ward county, and this part of it particularly so. To... words of the Rev. Mr. Rham, author of the "Dictionary... Farm" (which I may perhaps be permitted to recommend)... "The climate though mild and healthy is not so warm... geographical situation would lead us to expect, a circumstance owing to the nature of the soil and the barrenest... chalk hills; there being little or nothing to break... the force of the winds that sweep over them. The... keen and bracing rather than soft and warm. At present... harvest is not in general earlier than in the midlands... and although the snow seldom lies long on the ground... land is not fit for sowing in spring sooner than in many... of England where the winters are more severe. A considerable... portion of the soil in the south-east part of this county... similar to that of Bagshot Heath, and not more fertile... a loose sand and gravel with a portion of ferruginous... The whole surface of the county consists chiefly of... sand and gravel, clay and chalk." Sand and gravel... are the chief features of the part of the county from which I... am writing; it is land, therefore, very easy to work... drying up after rain, and very suitable for root crops... are good this year, especially Swedes. There is... large tracts of heath-land left uncultivated, parts of which... however are from time to time broken up; but it would not... pay to enclose the whole, nor would it be desirable... are allowed to have the run of the heath, to supply them... with fuel. This is a great boon to them, as though the... may be rather low (though not so low as in some other parts of... the county quoted) every cottager has his stack of furze... before his door to supply him for the winter. This is... carried for them by their employers, when it is usually... it a kind of festive occasion. Many of the farmers let... Wheat to their men at much less than the cost price... farms round here are mostly small, and our fields small... they need be, but I think it may be said, on the whole... pace with the improved spirit of the times. The... are well drained, artificial manures have been... duced, hedges kept neat, stock improved, steam... water-power where available) is now employed... employed for threshing our corn; and you never...

than a pair of horses in the ploughs. There seems to be a desire among the labourers to improve, if not their own minds, at least the minds of their children, by giving the time not passed in the fields to mental culture. Some of their sons attend the night school of our parish set up during the winter months four times a week, by which it is hoped their brains as well as their lands are prevented from lying fallow. They attend from 6 to 8, and average an attendance of 20 lads out of a population of 650. There are many small landholders here whose little plots are not yet swallowed up by the large occupiers; a sturdy, honest, and independent class of men, who boast their two or three cows and pigs, and say from 5 to 10 acres of land, which they cultivate chiefly in Potatoes and Wheat, with perhaps a few Mangels, and who brew their own beer and bake their own bread. We are able to speak more favourably of the Potato crop this season. The disease has been very partial, very few Potatoes having been affected, while those that are good are of larger and better quality than usual.

CHESHIRE: *Dec.* 29.—Although the year is nearly brought to a close, the weather is quite mild and the fields have a freshness in appearance which is seldom seen at this time of the year, and Wheat sowing has been continued unusually late; in fact, field operations of every kind are in a forward state, owing chiefly to the fine dry weather which has characterised the autumnal season. The frost in November, which was rather severe, in some measure retarded the ploughing, but had the effect of putting the land into better working condition than it was before, and Wheat sowing was resumed under very favourable auspices as regards the crop, but as regards prices there certainly is a drawback, for although we cannot pretend to predict what the price of Wheat will be when the crops come off the ground, with present prospects we are not sanguine enough to anticipate remunerative prices to the grower, who, after all the expense of preparing his land has to wait 12 months for any return. Generally speaking the crops of Mangel Wurzel were very good, and secured without much injury by frost, but Turnips have not done so well, probably to some extent owing to the dryness of the season, which occasioned mildew, attacks from insects of various tribes and other causes, which we think have not been very satisfactorily ascertained, some ascribing their failure to the want of lime, which others will not admit. That disease has prevailed to some extent is very evident, and many opinions have been expressed regarding this valuable root, as to the cause and probable cure, some affirming that marl when it can be procured of good quality is an antidote to "club" or "anbury," whilst others are of opinion that the Swede has become deteriorated and must eventually go out of cultivation. If this was really the case we should not still see some very good crops of Swedes and some very indifferent ones from the same stock of seed. There is unquestionably a great deal owing to the management of Turnips and selection of seed, and after all very frequent disappointments will occur, but the value of that root is too well known to be discarded from our green crops, especially as our experience tells us that a season which may be unfavourable to the growth of Mangel Wurzel may be most favourable to the Turnip. Potatoes are keeping well; and the prices in the market moderate as compared with former years. *W. P.*

WEST SUSSEX, *Dec.* 29.—We have now got to the end of another year, and in looking back upon it we find that it has been a very favourable one for getting the work well kept up. It has upon the whole been very dry, yet we had showers sufficient to make our stiff clays work well, and an early harvest has enabled us to get all our autumn work closely done up, and until about 10 days ago any operation could be easily carried on. Since then we have had some heavy falls of rain, which in many places was much required, as many have been badly off for water; millers have been obliged to work short time, and in some cases to call in the aid of steam. Prices have been on the whole favourable for stock, if we except pigs, which have taken a great and rapid turn downwards, and have lately been almost unsaleable: but there are now signs that they are on the turn upwards again. Stock cattle have come down to a more reasonable price, but still there is nothing to be got for fatting, as artificial food is so dear; and without that few attempt to do anything in that way. Sheep in the early part of the summer came lower; but towards the autumn, when the old ewes are sold off, they rose, and are now but little below their last year's value. Horses are easier to buy, and for two reasons—work is done up closely, and the high prices lately common have caused more to turn breeders, and we may expect that they will not be so high for some time again. Respecting the corn crops, Wheat has been quite an average, but the price is very low though the quality is good. There is much less than the usual quantity yet threshed, and the opinion is general that the market has seen the lowest. Barley commanding a high rate has come into market freely, and has dropped a little in price, but that I believe is owing to the extra supply, and when that is over, no doubt the price will improve. The strange state of the pig market has caused a better demand for the inferior qualities, which have sold far better than we could have expected, for pigs have been fatted off at all ages and sizes to get rid of them. The yield on the whole is bad. Oats command a fair price and are generally of middling quality. Root crops promised badly, but have turned out much better, and as we have up to the present had open weather, we hope they will stand out the season. Work being well done up, as a consequence some hands are out of work, while wages are reduced 1*s.* or 2*s.* a week, the general run being 10*s.* and 11*s.*, carters and shepherds having their cottages free. Of course they are all better off than they were a year ago at 13*s.*, as both bread and pork are one-third to one-fourth lower. But cutting down wages is not much in favour with masters any more than it is with the men, and is not readily had recourse to. *G. S.*

## Notices to Correspondents.

AGRICULTURAL LIBRARY: *O.* We know of no circulating agricultural library. Such a thing would, we are persuaded, be a good speculation; and we commend it to the attention of the bookselling trade.

BURNED CLAY: *An Original Subscriber.* Mr. Denton's essay appeared in vol. xviii. of the Journal of the English Agricultural Society, page 82. It is an essay on road making.

LUCERNE; *G A.* Sow in shallow drills about 12 inches apart. It may be drilled across the Barley; but it is better sown without any other crop.

RABBITS: *R* says a simple and perfectly efficacious recipe for preventing rabbits and hares from barking trees is to take as much thoroughly skimmed milk as required, and mix it up with soot till about as thick as paint. With this paint over the tree with a whitewash brush. It is done very quickly, and is no expense or trouble. It lasts well one season. His garden is open—full of Apples or Pears, and unless they are annually painted over, they are sure to be destroyed, but this fully preserves them. He took the plan many years ago from one of our correspondents.

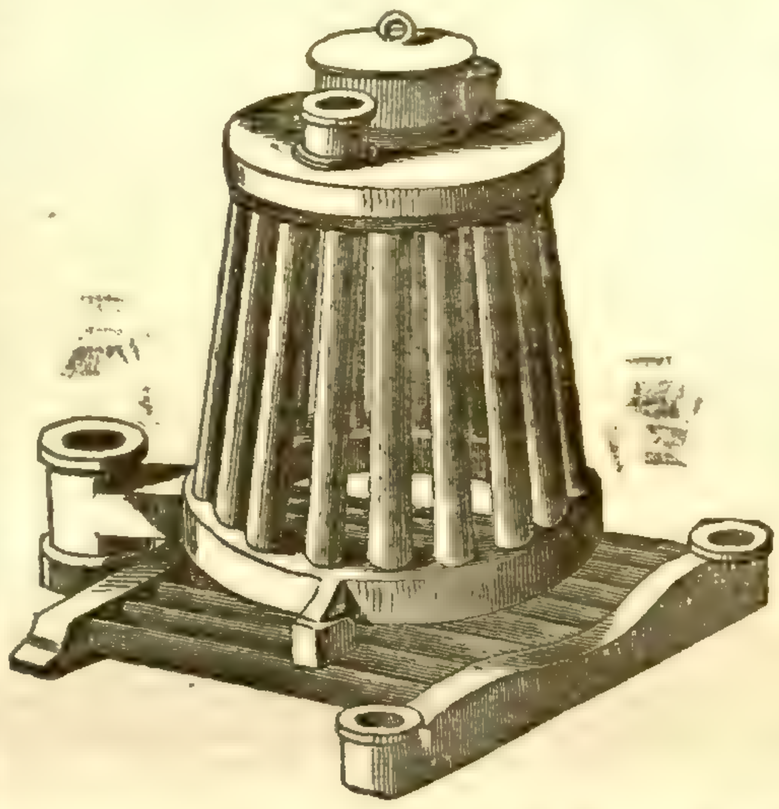
SUNDRIES: *E Little.* 1. Savine has considerable effect on the uterus, and its administration would probably be the cause of the mare slipping her foal. We do not think it to be the cause of blindness in the young horse. No carter ought to be allowed to drug his master's horses. 2. Mangel Wurzel given freely and early to heavy ewes will certainly endanger the slipping of the lamb. Turnips have produced the same effect. As a rule ewes should not have roots before they lamb—probably the use of the pulper with a little meal strewed over the cut roots would obviate the risk. *W. C. S.*


BY HER MAJESTY'S ROYAL LETTERS PATENT.

ORMSON'S PATENT JOINTLESS TUBULAR BOILER.

SEVEN YEARS' WARRANTRY.

HENRY ORMSON



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These Boilers are made of various sizes to suit either the Amateur's Garden or the most extensive Establishments.

*Thousands of feet of Pipe can be efficiently and economically heated from one of these powerful Boilers.*

N.B. Sole Manufacturer of Meston's Registered Fruit and Blossom Protector. Specimens were exhibited at the Horticultural Society's Garden, Chiswick, at the Grand Show in June last; and are now to be seen at Messrs. Veitch's Nursery, King's Road Chelsea. Prices will be forwarded on application.

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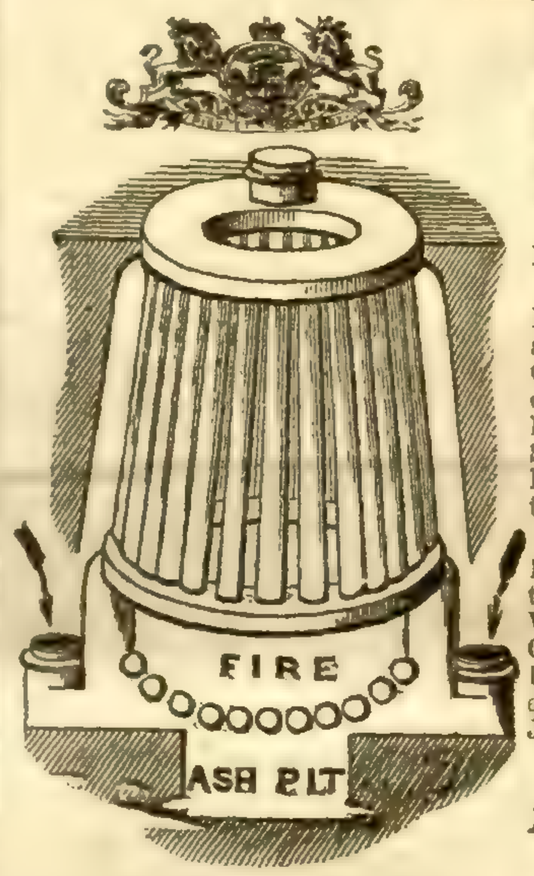


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J. WEEKS & Co. also beg to refer to the celebrated Nurseries of the Messrs E. G. HENDERSON & SON, St. John's Wood. There will be found ONE OF WEEKS' BOILERS attached to various Hothouses, &c., equal to 1200 feet long, also to all the various Offices, Seed Shops, and Warehouses, the Hot Water circulating through 5500 feet of cast-iron pipe. Any one house can be heated separately either with top or bottom heat, or the whole together, or any part regulated at pleasure; also to Messrs. F. & A. SMITH'S Village of Glass at Dulwich. There will be found Hothouses, &c., 3000 feet long, the whole heated upon WEEKS' ONE BOILER SYSTEM, the Hot Water circulating through 10,000 feet of cast-iron pipe.

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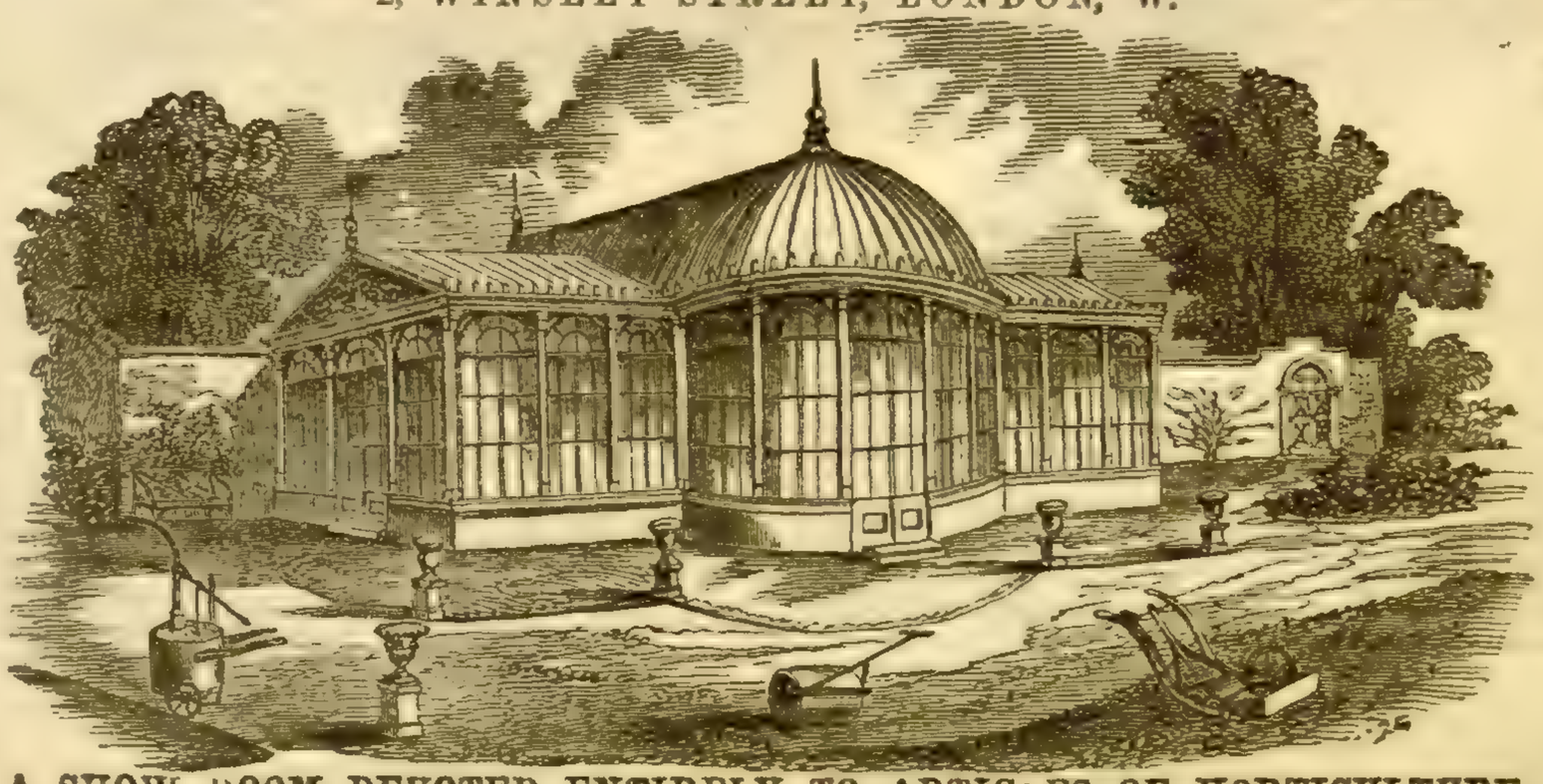

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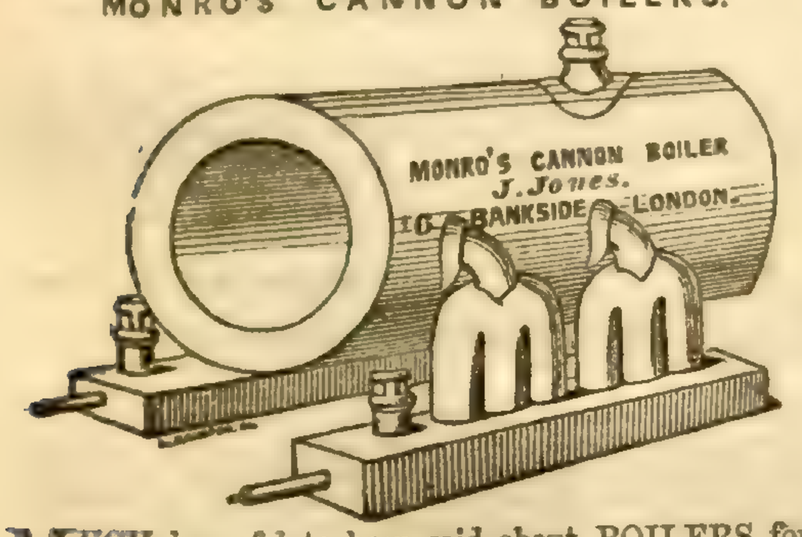
These inventions will repay public inquiry. For Particulars address the Makers, MUSGRAVE BROTHERS. 59, High St., Belfast.

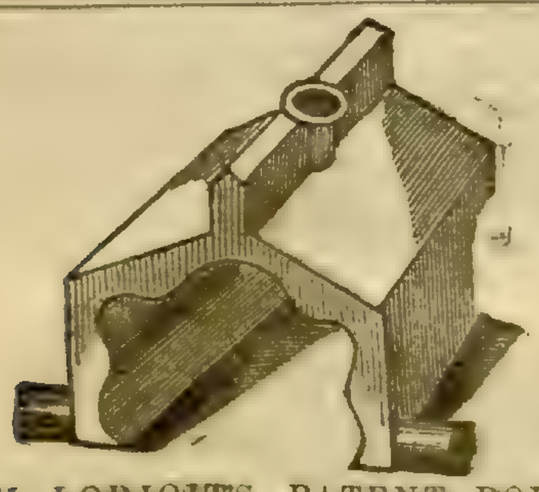
**MONRO'S CANNON BOILERS.**




**MUCH** has of late been said about BOILERS for Heating by Hot Water, but these Boilers have now proved themselves to be the best at present invented. They are adapted for heating every description of building, and are made of various sizes. The Price of the

| | | | |
|---|---|---|---|
| 24 inch Cast Iron is | .. .. | .. £5 10*s.* 0*d.* | each |
| 24 inch Wrought ditto | .. .. | .. 6 10 0 | ,, |
| 36 inch Cast ditto | .. .. | .. 8 0 0 | ,, |
| 36 inch Wrought ditto | .. .. | .. 8 10 0 | ,, |

References to Gentlemen and Nurserymen where these Boilers are now at work. The Cannon Boilers are now kept in stock, and are to be had only of J. JONES, 6, Bankside. Also, every description of Saddle and Cylinder Boilers. Hot Water Pipes and Connections at prices lower than those of any other house in London. Estimates for Hot-water Apparatus erected complete in any part of the country, and an Illustrated Catalogue on application to J. JONES, 6, Bankside, Southwark, London.



**T. M. LOBJOIT'S PATENT BOILERS.**—The most simple, durable, and economical for Heating Horticultural Buildings, Houses, Churches, Halls, &c., by Hot-water Apparatus. Estimates given for Building and Heating all descriptions of Horticultural Buildings.

TESTIMONIALS.

"Sir,—The Boiler you fixed here for me I can assure you works with entire satisfaction, as the water begins to circulate in about two or three minutes after the fire is kindled, and gives so little trouble in attendance, only requiring looking to about once in 12 or 16 hours, and giving a very regular temperature. I only burn cinders, which I find give out greater heat than burning coal, and last longer, particularly as it has to heat both Vineries at once, which it does remarkably well In fact I cannot speak in too high praise of it.—Yours, &c., JOHN KENDALL, Gardener to the Hon. C. H. Cust, Arthingworth, Northampton.

"To Mr. Thos. M. Lobjoit, Turnham Green."

"Sir,—In reference to your Hot-water Boiler, which you fixed here, I am happy to say it is giving every satisfaction. I have had different sorts of boilers during my practice, but I can say with confidence the one you fixed here is the best I have had to do with; it takes the least labour and the smallest quantity of fuel. It heats a stove 60 feet by 10; also a Camellia house, 30 feet by 15, and am confident it is capable of heating more.—I am, &c., D. NEIL, Gardener to the Hon. F. Villiers, Sudbrook Hall, Welford, Northamptonshire.

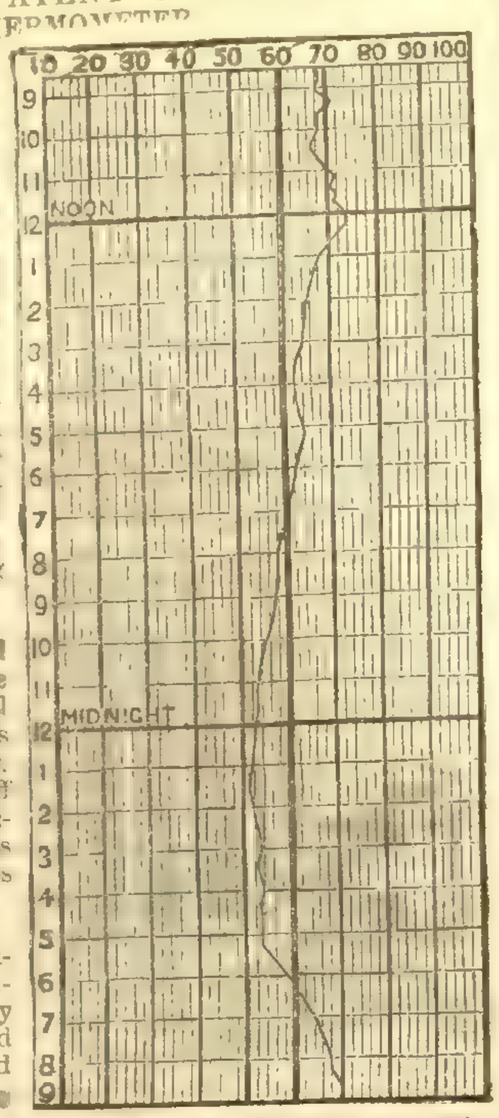
"To Mr. Lobjoit, Sept. 29."

THOMAS M. LOBJOIT, Manufacturing Ironmonger, Smith, and Bellhanger, Gas Fitter, Turnham Green and Acton.

**TO HORTICULTURISTS.**

**GAUNTLETT'S PATENT CHRONOMETRICAL THERMOMETER**

This instrument, which combines an eight-day clock of the best English make showing time, with a newly-patented Thermometer, wherein glass and quicksilver are dispensed with, writes down the temperature of the atmosphere on a slip of paper, and when placed in a Hothouse, Forcing House, or Conservatory, &c., supplies a valuable record of the temperature, with all its variations, showing the time when any change took place, and how long such change continued.



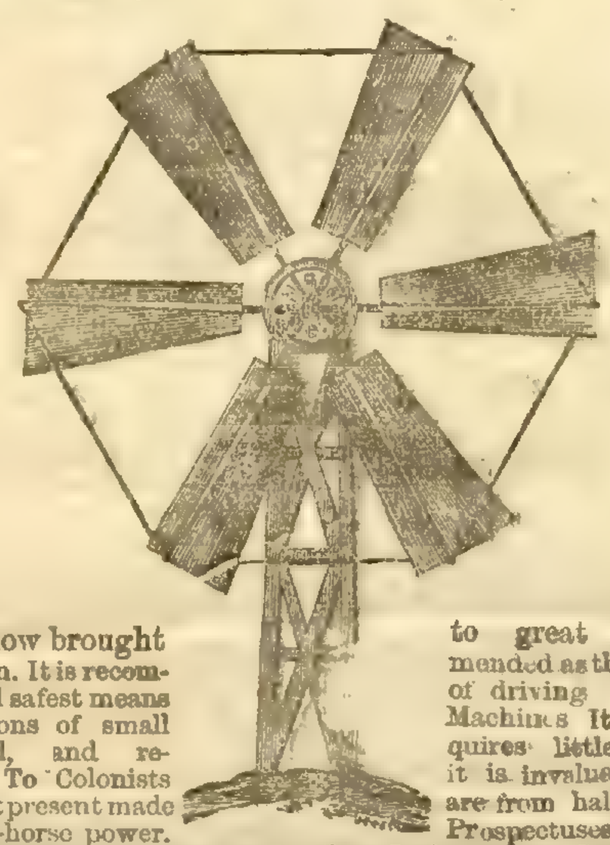

The above slip (reduced in size) exhibits the temperature of the Royal Agricultural Society's show yard at Chester, July 22, 1858, written off by one of these instruments, to which was awarded the Society's SILVER MEDAL.

This is the only instrument that registers temperature continuously and writes it down, and no horticulturist should be without it.

Orders received by W. H GAUNTLETT, Middlesboro-on-Tees.

**ZAHN'S PATENT SELF REGULATING WIND ENGINE**

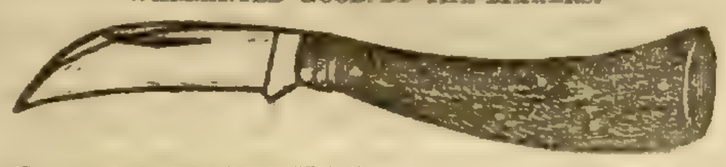
FOR PUMPING, OAT CRUSHING, GRINDING, CHAFF CUTTING, &c.



IS now brought to great perfection. It is recommended as the cheapest and safest means of driving any descriptions of small Machines It is easily erected, and requires little attention. To Colonists it is invaluable. The sizes at present made are from half a horse to two-horse power. Prospectuses may be obtained of J. R. PEILE, 17, New Park Street, Southwark where a Wind Engine in full work can be inspected.

**MAPPIN'S PRUNING KNIVES IN EVERY VARIETY.**

WARRANTED GOOD BY THE MAKERS.



**MAPPIN BROTHERS**, Queen's Cutlery Works, Sheffield; and 67 and 68, King William Street, London.

**MAPPIN'S "SHILLING" RAZORS** Shave well for Twelve Months without Grinding.

MAPPIN'S 2*s.* RAZORS Shave well for Three Years.

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MAPPIN BROTHERS, Queen's Cutlery Works, Sheffield; and 67, King William Street, City, London; where the largest Stock of Cutlery in the world is kept.

**MAPPIN'S SUPERIOR TABLE-KNIVES maintain their unrivalled Superiority—handles cannot possibly become loose—the blades are all of the very first quality, being their own Sheffield manufacture.**

| | Tble. Kns. | Dst. Kns. | Carvers. |
|---|---|---|---|
| Ivory 8½ in. Handle, balanced, | 20*s.* p. doz.; | 16*s.* p. doz.; | 6*s.* p. pair |
| Do. 4 in. do. .. | 25*s.* ,, | 18*s.* ,, | 9*s.* ,, |

**MAPPIN'S SILVER-PLATED DESSERT KNIVES and FORKS, in Mahogany Cases.**

| | | |
|---|---|---|
| 12 Pairs Knives and Forks, Ivory Handles, in Case | .. | 80*s.* |
| 12 Do. Pearl Handles, do. | .. | 130*s.* |
| 12 Do. Silver-Plated Handles, do. | .. | 80*s.* |

**MAPPIN'S ELECTRO-SILVER PLATE.**—MAPPIN BROTHERS, Manufacturers by Special Appointment to the Queen, are the only Sheffield makers who supply the consumers in London. Their LONDON SHOW ROOMS, 67 and 68, King William Street, London Bridge, contain by far the largest STOCK of ELECTRO-SILVER PLATE in the World, which is transmitted direct from their Manufactory, Queen's Cutlery Works, Sheffield.

| | Fiddle Pattern. | Double Thread. | King's Pattern |
|---|---|---|---|
| 12 Table Forks, best quality | £1 16 0 | £2 14 0 | £3 0 |
| 12 Table Spoons, best quality | 1 16 0 | 2 14 0 | 3 0 |
| 12 Dessert Forks, best quality | 1 7 0 | 2 0 0 | 2 4 |
| 12 Dessert Spoons, best quality | 1 7 0 | 2 0 0 | 2 4 |
| 12 Tea Spoons, best quality | 0 16 0 | 1 4 0 | 1 |

Messrs. Mappin Brothers respectfully invite buyers to inspect their unprecedented display, which, for beauty of design, exquisite workmanship and novelty, stands unrivalled. Their illustrated Catalogue, which is continually receiving addition of New Designs, free on application.—MAPPIN BROTHERS, 67 and 68, King William Street, London Bridge: Manufactory, Queen's Cutlery Works, Sheffield.

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**HORTICULTURAL GLASS, STOCK SIZES, in 100 feet boxes.**

| | | |
|---|---|---|
| 11 by 9, 12 by 9, 13 by 9, 14 by 9 .. | } | 14*s.* 6*d.* |
| 12 ,, 10, 13 ,, 10, 14 ,, 10, 15 ,, 10 .. | | |
| 13 ,, 11, 14 ,, 11, 15 ,, 11, 16 ,, 11 .. | | |
| 14 ,, 12, 15 ,, 12, 16 ,, 12, 17 ,, 12 .. | } | 16*s.* 6*d.* |
| 18 ,, 12, 19 ,, 12, 16 ,, 13, 17 ,, 13 .. | | |
| 18 ,, 13, 19 ,, 13, 20 ,, 13, 21 ,, 13 .. | | |
| 16 ,, 14, 17 ,, 14, 18 ,, 14 .. .. | | |
| 19 ,, 14, 20 ,, 14, 21 ,, 14 .. .. | | |

PACKED IN CASES.

| | | |
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| 200 feet .. .. .. | £2 2 0 | } 16 oz. |
| 300 feet .. .. .. | 3 3 0 | |
| 200 feet .. .. .. | 2 18 0 | 21 oz. |

**ORCHARD HOUSE SIZES,**

As supplied by us to Mr. Rivers.

| | | | |
|---|---|---|---|
| | | 16 oz. | 21 oz. |
| 20 in. by 12 in. / 20 in. by 13 in. / 20 in. by 14 in. / 20 in. by 15 in. | Common .. .. | 14*s.* 0*d.* .. | £1 |
| | Superior do. .. | 16 6 .. | 1 |
| | English Glass .. | 18 0 .. | 1 |

SMALL SQUARES.—Per 100 feet.

| | | | | |
|---|---|---|---|---|
| 6 by 4 | 6½ by 4½ | 7 by 5 | 7½ by 5½ | 11 |
| 8 ,, 6 | 8½ ,, 6½ | 9 ,, 7 | 9½ ,, 7½ | |
| 10 ,, 8 | 10½ ,, 8½ .. | .. .. | .. .. | 12 |

JAMES PHILLIPS AND CO.,

**180, Bishopsgate St. Without, London, E.**

**HORTICULTURAL GLASS—JUNE TARIFF.**

**THOMAS MILLINGTON'S** reduced Tariff

GLASS, &c.

6 by 4, 7 by 5, 8 by 6, 9 by 7 } 16 oz. to the foot,
6½ by 4½, 7½ by 5½, 8½ by 6½, 9½ by 7½ } per 100 feet.

In 100 boxes,—4ths quality, 12*s.* 6*d.*; 3ds do., 14*s.*

10 by 8, 12 by 9, 12½ by 10½, 14½ by 10½, 13 by
10½ by 8½, 12½ by 9½, 13 by 10, 15 by 10, 13½ by
11 by 9, 13 by 9, 13½ by 10½, 12 by 11, 14 by
11½ by 9½, 12 by 10, 14 by 10, 12½ by 11½ ..

| | per 100 feet | 16 oz. | 21 oz. |
|---|---|---|---|
| 20 by 12 / 20 by 13 / 20 by 14 / 20 by 15 | Common .. | 16*s.* .. | 24*s.* |
| | Superior . | 18*s.* .. | 27*s.* |

All Boxes included.

Orchard House sizes as supplied to Mr. Rivers.

Hartley's improved Rough Plate Glass from ⅛ to ¾ in thick

Coloured Glass in great variety, at 9*d.* and 1*s.* per foot.

Paints, Genuine White Lead, Linseed Oil, Boiled Oil, Turpentine, Putty, Colours, Varnishes, Brushes, Lamp Glasses, &c.

87, Bishopsgate Street Without, same side as Eastern Counties Railway.

**GLASS FOR CONSERVATORIES, GREENHOUSES, PIT FRAMES, ETC.**

**HETLEY AND CO. are supplying 16-oz. Sheet Glass** of British Manufacture, packed in boxes, containing square feet each, at the following **REDUCED PRICES** for A reduction made on 1000 feet.

| Sizes.—Inches. | | Inches. | | Per foot. | Per 100 |
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| | Under 6 | by 4 | at 1½*d.* | is | £0 12 |
| From 6 by 4 | ,, 7 | ,, 5 | ,, 2*d.* | ,, | 0 16 |
| ,, 7 ,, 5 | ,, 8 | ,, 6 | ,, 2¼*d.* | ,, | 0 18 |
| ,, 8 ,, 6 | ,, 10 | ,, 8 | ,, 2½*d.* | ,, | 1 01 |
| ,, 10 ,, 8 | ,, 12 | ,, 9 | ,, 2¾*d.* | ,, | 1 2 |

Larger sizes, not exceeding 40 inches long.

16 oz. from 3*d.* to 3½*d.* per square foot, according to size

21 oz. ,, 3½*d.* to 5*d.* ,, ,, ,,

26 oz. ,, 3½*d.* to 7½*d.* ,, ,, ,,

PATENT ROUGH PLATE, THICK CROWN GLASS, PATENT PLATE GLASS, for Horticultural purposes, reduced prices, by the 100 square feet.

GLASS TILES AND SLATES made to any size or pattern either in Sheet or Rough Plate Glass.

Propagating Glasses, Beehive Glasses, Cucumber Tubes, Milk Pans, Glass Water Pipes, and various other articles hitherto manufactured in Glass.

PATENT PLATE GLASS.—The present extremely moderate price of this superior article should cause it to supersede other inferior window glass in a gentleman's residence. No alteration connected with the sash is required.

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**ARTIFICIAL ROCKWORK** executed in the best way it should be, viz., in close imitation of Nature, with Caves, Waterfalls, to sides of Streams, Ponds, Rocky Pools, and for Ferneries, not to look as if built up by hand, with the usual arches, pinnacles, &c. Also Artificial Ruins, so as to be supposed real; Remains of Castles, Churches, Towers, &c., for picturesque scenery and effect in Gardens, &c. **guaranteed durability** in stone or cement, by

JAMES PULHAM, of Broxbourne.

Numerous references given of works executed over many years.

**SHAW'S TIFFANY.**—The best and cheapest material for Shading Conservatories, Protecting from Birds and Wasps, &c. Sold in pieces 20 yards long, 38 inches wide. No. 1, best quality, 5*s.* per piece; quality, 4*s.* per piece. Extra strong and thick (see Circular) sent free by post with samples).

Address JOHN SHAW & Co., Manufacturers and Importers, Princess Street, Manchester.

**"FRIGI DOMO."**—Patronised by her Majesty the Queen, the Duke of Northumberland for Syon House, His Grace the Duke of Devonshire for Chiswick Gardens, Professor Lindley for the Horticultural Society's Gardens, Joseph Paxton for the Crystal Palace, Royal Zoological Society's late Mrs. Lawrence, of Ealing Park, and — Collier, Esq., Dartford.

**PROTECTION FROM COLD WINDS AND MORNING FROSTS.**

"FRIGI DOMO," a Canvas made of patent prepared Cotton and Wool, a perfect non-conductor of Heat and Cold, keeps wherever it is applied, a fixed temperature. It is adapted for all horticultural and floricultural purposes, for protecting Fruits and Flowers from the scorching rays of the sun, from wind, from attacks of insects, and from morning frosts. It may be had in any required lengths. Two yards wide, 1*s.* per yard run; four, 3*s.* per yard. Also, an improved material for Shading Purposes. Three yards wide, 2*s.* 6*d.* per yard.

ELISHA THOMAS ARCHER, whole and sole manufacturer, 7, Trinity Lane, Cannon Street, City, and of all Nurserymen and Seedsmen throughout the kingdom. "It is much better than mats as a covering."

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**METCALFE, BINGLEY, AND CO.'S New Patent** and Penetrating Tooth Brushes, Penetrating unbleached Hair Brushes, Improved Flesh and Cloth Brushes, and Smyrna Sponges; and every description of Brush, Comb, Perfumery for the Toilet. The Tooth Brushes search the between the divisions of the Teeth and clean them effectually—the hairs never come loose. M., P., and Co. sole makers of the Oatmeal and Camphor, and Orris Soaps—sold in Tablets (bearing their names and address) each, of METCALFE'S celebrated Alkaline Tooth Powder box; and of the New Bouquets.—Sole Establishment, 131, Oxford St., 2d and 3d doors west from Holles St.

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CHAMPION PLOUGHS,

For which they received All the First Prizes last offered by the Royal Agricultural Society of England, viz. :—

The First Prize for the best Plough for general purposes.
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The only Prize ever offered by the Society for the best Double Breasted Ridging Plough was also awarded to J. & F. HOWARD.

J. & F. HOWARD have discontinued troubling the Public with a long List of Prizes awarded to their Implements, but they would just state that for PLOUGHS, HARROWS, and HORSE RAKES, they have for several years gained every Prize for which they have competed.

PLOUGHS.

| | | | |
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| PLOUGH, with two wheels, for light work .. | £4 | 7 | 6 |
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STEEL BREASTS, 7s. and 7s. 6d. extra.

HARROWS.

A Set of Three 4-Beam HARROWS, with Whippletree, recommended as general Seed Harrows, 9½ feet wide, marked No. 12 .. .. .. .. .. .. £3 14

A Set of Three 4 Beam HARROWS, with Whippletree, adapted for 3 Horses, 10 feet wide, marked No. 11 .. 4 4

HORSE RAKES.

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|---|---|---|---|
| Price of small size RAKE, marked A, with 24 iron teeth, extreme width 7½ feet .. .. .. .. | £7 | 10 | 0 |
| Ditto, with Steel Teeth .. .. .. .. .. | 8 | 0 | 0 |
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| Price of a Set of 15 Prongs, to be attached to the above when used as Weed Extirpators .. .. .. | 1 | 10 | 0 |

Free Delivery to Birmingham, Bristol, Derby, Gloucester, Lincoln, Liverpool, London, Manchester, Norwich, Nottingham, Retford, Wisbeach, and Worcester; or to Dublin, Edinburgh, Glasgow, and other parts at fixed rates.

HOWARDS' NEW CATALOGUE, containing prices and description of their Patent Ploughs, Harrows, Horse Rakes, and other Implements, including Smith's Steam Cultivators, for which they received at Chester the Gold Medal of the Royal Agricultural Society of England, sent free on application to

J. & F. HOWARD, Britannia Iron Works, Bedford.

LAMPES à MODERATEUR, from 6s. to 7l. 7s. WILLIAM S. BURTON has collected from the different makers here and in France a variety that defies competition. As many imported from France are inferior in the works, WILLIAM S. BURTON selects at Paris from the best makers only, and he can guarantee each lamp he sells as perfect in all parts.

His stock comprises also an extensive assortment of SOLAR, CAMPHINE, PALMER'S, and all other LAMPS.

Pure Colza Oil .. 4s. 3d. per gallon.
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Illustrated Catalogues sent (per post) free.

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| | Fiddle or Old Silver Pattern. | | | Thread or Brunswick Pattern. | | | King's Pattern. | | | Military Pattern. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | £ | s. | d. | £ | s. | d. | £ | s. | d. | £ | s. | d. |
| 12 Table Forks .. .. | 1 | 18 | 0 | 2 | 8 | 0 | 3 | 0 | 0 | 3 | 10 | 0 |
| 12 Table Spoons .. .. | 1 | 18 | 0 | 2 | 8 | 0 | 3 | 0 | 0 | 3 | 10 | 0 |
| 12 Dessert Forks .. .. | 1 | 10 | 0 | 1 | 15 | 0 | 2 | 2 | 0 | 2 | 10 | 0 |
| 12 Dessert Spoons .. | 1 | 10 | 0 | 1 | 15 | 0 | 2 | 2 | 0 | 2 | 10 | 0 |
| 12 Tea Spoons .. .. | 0 | 18 | 0 | 1 | 4 | 0 | 1 | 10 | 0 | 1 | 18 | 0 |
| 6 Egg Spoons, gilt bowls .. | 0 | 12 | 0 | 0 | 15 | 0 | 0 | 18 | 0 | 1 | 1 | 0 |
| 2 Sauce Ladles .. .. | 0 | 7 | 0 | 0 | 8 | 6 | 0 | 10 | 6 | 0 | 16 | 0 |
| 1 Gravy Spoon .. .. | 0 | 8 | 0 | 0 | 11 | 0 | 0 | 13 | 6 | 0 | 16 | 0 |
| 2 Salt Spoons, gilt bowls .. | 0 | 4 | 0 | 0 | 5 | 0 | 0 | 6 | 0 | 0 | 7 | 6 |
| 1 Mustard Spoon, gilt bowl .. .. | 0 | 2 | 0 | 0 | 2 | 6 | 0 | 3 | 0 | 0 | 3 | 9 |
| 1 Pair of Sugar Tongs .. | 0 | 3 | 0 | 0 | 3 | 9 | 0 | 5 | 0 | 0 | 7 | 0 |
| 1 Pair of Fish Carvers .. | 1 | 4 | 0 | 1 | 7 | 6 | 1 | 12 | 0 | 1 | 18 | 0 |
| 1 Butter Knife .. .. | 0 | 3 | 6 | 0 | 5 | 9 | 0 | 7 | 0 | 0 | 8 | 0 |
| 1 Soup Ladle .. .. | 0 | 13 | 0 | 0 | 17 | 6 | 1 | 0 | 0 | 1 | 1 | 0 |
| 1 Sugar Sifter .. .. | 0 | 4 | 0 | 0 | 4 | 9 | 0 | 5 | 9 | 0 | 8 | 6 |
| Total .. .. | 11 | 14 | 6 | 14 | 11 | 3 | 17 | 14 | 9 | 21 | 4 | 9 |

Any article to be had singly at the same prices. An oak chest to contain the above, and a relative number of knives, &c., 2l. 15s. Tea and coffee sets, cruet and liqueur frames, waiters, candlesticks, &c., at proportionate prices. All kinds of re-plating done by the patent process.

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HOLLOWAY'S PILLS AND OINTMENT.—Anxiety is the greatest obstacle to human happiness. The prudent pride themselves in adopting measures for avoiding it—they insure their houses and ships, and the still more provident assure their lives—Yet what is life without health? Comfort and enjoyment dwell harmoniously together? The man secures his own well-being, and in HOLLOWAY'S finds a perfect and indisputable policy of assurance against most of the diseases by which humanity is assailed. These preparations ward off many an attack that without them would cause desolation in its track, and cause the heart-rent mourner unavailingly to regret that these two policies, HOLLOWAY'S Pills and Ointment, were not numbered amongst their household treasures.

WHISKIES (EQUALISATION OF DUTY).—The choicest Scotch and Irish, from 14s to 18s per gallon.—OWEN & Co., 75, Lower Thames Street, London, E.C. opposite the Custom House. Shipping and the Trade supplied

GLENFIELD PATENT STARCH
USED IN THE ROYAL LAUNDRY,
And pronounced by HER MAJESTY'S Laundress to be
THE FINEST STARCH SHE EVER USED.
Sold by all Chandlers, Grocers, &c.

CHUBB'S LOCKS, FIREPROOF SAFES, DOOR LATCHES, CASH AND DEED BOXES. Illustrated Priced Lists sent free.—57, St. Paul's Churchyard, London; 28, Lord Street, Liverpool; 16, Market Street, Manchester; and at Wolverhampton.

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J.W. & T. ALLEN, Manufacturers of PORTABLE BARRACK-ROOM FURNITURE and MILITARY OUTFITTERS.
(See separate Catalogue.)—18 and 22, Strand.

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CHRISTMAS, 1858.

MESSRS. MAPPIN invite attention to their ELEGANT STOCK OF NOVELTIES FOR THE PRESENT SEASON, now on View at their SHOW ROOMS, 67 & 68, King William Street, London.

| | £ | s. | d. |
|---|---|---|---|
| 12 ivory handle silver-plated Fish-eating Knives, in mahogany case .. .. .. .. .. | 4 | 2 | 0 |
| 12 pairs ivory-handle silver-plated Desserts, in case .. | 4 | 0 | 0 |
| Lady's Travelling Toilet Bag .. .. .. .. | 2 | 12 | 0 |
| Elegant Tea and Coffee Service, electro silver-plated .. | 6 | 4 | 0 |
| Silk Velvet Case, containing four pairs finest Scissors | 1 | 5 | 0 |
| Lady's Morocco Scent Case, with silver-capp'd Bottles | 1 | 0 | 0 |
| Lady's Rosewood full-size Dressing Case, completely fitted with Bottles, Cutlery, Brushes, &c. .. .. | 4 | 0 | 0 |
| Gentleman's solid Leather Dressing Case, fitted .. | 1 | 0 | 0 |
| Gentleman's solid Leather Dressing Case, more completely fitted .. .. .. .. .. .. | 2 | 2 | 0 |
| A Set of Three Papier-mâché Tea Trays .. .. .. | 1 | 11 | 0 |

A costly Book of Engravings, with prices attached, forwarded by post on receipt of 12 stamps.

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Manufactory: Queen's Cutlery Works, Sheffield.

NEW YEAR'S GIFTS.—The most appropriate offerings are those which tend to the promotion of personal beauty in the fair and youthful, who at this festive season are more than usually desirous to shine to advantage under the gaze of their friends: none can be more acceptable than ROWLANDS' MACASSAR OIL, a delightfully fragrant and transparent preparation for the hair; and as an invigorator and beautifier beyond all precedent. ROWLANDS' KALYDOR, unequalled for its rare and inestimable qualities in imparting a radiant bloom to the Complexion, and a softness and delicacy to the hands and arms. And ROWLANDS' ODONTO, or, PEARL DENTIFRICE, which bestows on the teeth a pearl-like whiteness, strengthens the gums, and renders the breath sweet and pure. The patronage of Royalty, and rank and fashion, throughout Europe, and their universally-known efficacy, give these preparations a celebrity unparalled, and render them peculiarly elegant and seasonable presents.—Sold by A. ROWLAND & SONS, 20, Hatton Garden, London, and by Chemists and Perfumers.

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Waterloo Place, Edinburgh.—January 1.

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N.B. All Orders to be accompanied with a Post-office Order payable to HENRY APPLEBY, Dorking, Surrey.

### HORTICULTURAL WORKS,
### DANVERS STREET CHELSEA, SEPTEMBER, 1857.
DISSOLUTION OF PARTNERSHIP.

MR. GRAY begs most respectfully to announce to his patrons and friends that the Partnership lately existing between Mr. ORMSON and himself is now at an end, and that the Business will be carried on by him as usual, he hopes to be honoured with a continuance of that support and patronage with which this establishment has been so long favoured.

Mr. GRAY avails himself of this opportunity to tender his grateful thanks to the many kind friends and supporters by whose patronage this establishment has been raised to its present position, and he begs to assure them that it will be his most anxious care and study to maintain it.

### NOTICE.

VOKINS AND HURD (removed from Smith's Yard) to Seymour House, Jubilee Place, King's Road, Chelsea, HORTICULTURAL BUILDERS and HOT-WATER APPARATUS MANUFACTURERS. Estimates forwarded.

HOT-WATER PIPES, at wholesale prices. Elbows, Syphons, Tee Pipes, and every other description. Wrought and Cast-iron Boilers, Saddle, Conical, Oval and Flat, from 21*s.* each. Boilers and Iron Stands to range without Brickwork. Valves, from 12*s.* 6*d.* each. Furnace Doors, Furnace Bars, Supply Cisterns and Castings of every description in Stock, at Mr. LYNCH WHITE'S Iron Wharf, Ground Street, Blackfriars Bridge, London.

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BLOSSOM OF WALL-FRUIT TREES.—Woven Net, so very generally approved, 7*d.* per square yard, will last 10 years; plan of fixing it sent free. All kinds of Garden, Fishing, and Sheep Net, made by machinery, very cheap.

GALVANISED WIRE-WORK, less than 2-inch mesh, 8*d.* per square yard; mesh 3 inches by 2 inches, for 5*d.* per square yard; for Sheep, 4*d.* per square yard.

TRANSPARENT SHEETING, near 2 yards wide, 1*s.* per yard run.

WATERPROOF CAPES, long enough to protect a man when wet while stooping down, 3*s.* each; Police Capes, 18*s.* per doz.; Tarpaulings for Carts, 12*s.*; Waggons, 25*s.*; Shooting Coats, 8*s.* each; Roofing Canvas, 1*d.* per square foot, &c.

R. RICHARDSON, White Horse Factory, Bidborough and Judd Street; Office, 99, Euston Road, London.


Printed by WILLIAM BRADBURY, of No. 13, Upper Woburn Place, and FREDERICK MULLETT EVANS, of No. 20, Queen's Road West, both in the Parish of St. Pancras, in the Co. of Middlesex, Printers, at their Office in Lombard St., Precinct of Whitefriars, City of London, and published by them at the Office, No. 5, Upper Wellington St., Parish of St. Paul, Covent Garden, in the said Co.—SATURDAY, January 1, 1859.

# THE GARDENERS' CHRONICLE
AND
# AGRICULTURAL GAZETTE.

**A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.**

No. 2.—1859.] SATURDAY, JANUARY 8. {Price Fivepence. STAMPED EDITION, 6d.


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HORTICULTURAL SOCIETY OF LONDON.—Meetings of the Fruit Committee will be held at 21, Regent Street, at 12, noon, on TUESDAY, January 11, 1859; on TUESDAY, February 1, 1859; and TUESDAY, March 1, 1859.

The Committee have decided on offering Prizes for the following Pears:—

| | 1st Prize. | 2d Prize. |
|---|---|---|
| At the Meeting in Jan. for WINTER NELIS | 20s. | 10s. |
| ,, ,, Feb. for EASTER BEURRE | 20s. | 10s. |
| ,, ,, Mar. for BEURRE RANCE | 20s. | 10s. |

N.B. The carriage of packages of fruit for the above meetings will be paid

CHAMPION CABBAGE can be had in any quantity at 2s. per lb.
J. G. WAITE, Seed Establishment, 181, High Holborn, London.

## TOM THUMB PEA.

CAUTION.—There are two distinct kinds selling under this name. They were grown side by side in Hertfordshire last summer, and the one is in every way inferior to the other. The best and earliest kind as originally shown by A. PAUL & SON at the Regent's Park, Crystal Palace, and elsewhere, may be had in pint packets, 2s. 6d. each. It is 10 days earlier than Sangster's No. 1.—Nurseries, Cheshunt, Herts.

## EARLY PEAS.

WAITE'S DANIEL O'ROURKE PEA; the earliest Pea in cultivation.

EARLY NAPOLEON; a Blue Wrinkled Marrow Pea, as early as EMPEROR.

EARLY EUGENE; a White Wrinkled Marrow Pea, as early as EMPEROR.

Prices to be had on application of J. G. WAITE, Seed Establishment, 181, High Holborn, London, W. C.

THE EARLIEST PEA.—DUNNETT'S FIRST EARLY is in every respect superior to "Daniel O'Rourke," being several days earlier, having finer pods, and richer in flavour, height 2½ feet. For an early dish of fine-flavoured Peas we can confidently recommend this; 2s. per quart.

CHAMPION CABBAGE, the earliest and best sort, if sown in succession, may be had fit for table throughout the year, 8d. per ounce, or 1s. post free.

BUTLER & MCCULLOCH, Covent Garden Market, London.

EXCELSOR MARROW PEA (KNIGHT'S).—This new Pea is a decided improvement on the well known Ringwood Marrow, being quite as early, greater cropper, longer pod, larger pea, superior flavour, and greener in colour. A great acquisition either for the amateur or the market gardener. 2s. 6d. per quart. Price to the trade upon application. To be had of NUTTING & SONS, Seedsmen, 60, Barbican, London. E.C.

## EARLIEST WRINKLED PEA.

FAIRHEAD AND SON, SEED GROWERS AND MERCHANTS, Lewisham, Kent, beg respectfully to offer their new EXCELSIOR PEA, of robust habit, delicious flavour; much earlier than Napoleon or Eugenie. They can confidently recommend it as the earliest and best Wrinkled Marrow Pea in cultivation. Price on application.

SEED POTATOES.—Fluke, Ashleaf, Kirk's Kidneys, and all other kinds of the best cropping Potatoes, to be had of Messrs. JOHN & GEORGE BELL, Potato Salesmen, Covent Garden, and Hungerford Wharf, Strand. PRICE LISTS sent on application. All orders from unknown correspondents must be accompanied with a reference in London, or Post-office order to Messrs. J. & G. BELL.

THE EARLIEST ASH-LEAVED KIDNEY POTATOES.—For the true early short-top Lancashire kind, unsurpassed for forcing and early borders, price 16s. per cwt., apply to JAS. TYNAN, Seedsman, 68, Great George St., Liverpool.

EARLY POTATOES, LEMON KIDNEYS.—Selected Seed of this choice and early variety (*vide* article in "Royal Agricultural Journal," Part I., Vol. xviii.), may now be had on application to the Author's Bailiff, JOHN HELM, Morecombe, near Lancaster, price 2s. 6d. per stone.

N.B. A reserve of seed has been retained from sprouting for the purpose of supplying late orders. Copies of the article (third edition) may be had from the above address, price by post, 1s. 1d.

MR. WEBB, Calcott, Reading, begs to inform the Trade and the Public that he has disposed of his Stock of best EARLY OXFORD POTATOES to Messrs. J. MAY & Co., Seedsmen, 1, Wellington Street, Strand, where they may be obtained genuine.

## BEST POTATO IN THE WORLD—IMPERIAL KIDNEY.

MR. WEBB, of Calcot, having succeeded in raising a quantity of the above excellent POTATO, begs to offer it to the public as the Best of its Class in every respect. Its quality cannot be surpassed, its yield most abundant, and its size from 7 inches to 9 inches long. Price 16s. per bushel, and no less quantity than 1 bushel disposed of. Also about 3000 true KENTISH COB NUT Trees from 2 to 4 feet high.—Apply to Messrs. JOSH. MAY & Co., 1, Wellington Street, Strand, or to Mr. WEBB, Calcot, near Reading, Berks.

## GRAPE VINES FROM EYES, EXTRA STRONG.

LUCOMBE, PINCE, AND CO. have a large stock of all the choicest sorts of GRAPE VINES, with fine well ripened shoots, fit for immediate use.
Exeter Nursery, Exeter.

SUTTON'S SEED CATALOGUE FOR 1859 is now ready, and will be sent post free on application.
Royal Berkshire Seed Establishment, Reading.—Jan. 8.

GEORGE JACKMAN AND SON'S PRICED and DESCRIPTIVE CATALOGUE of GENERAL NURSERY STOCK for 1858 and 1859 can be had free on application.
Woking Nursery, Woking, Surrey.

WILLIAM YOUNG'S DESCRIPTIVE CATALOGUE OF NEW HARDY ORNAMENTAL PLANTS, CONIFERÆ, ROSES, RHODODENDRONS, FOREST TREES, &c. Can be had on application.—Milford Nurseries, near Godalming.

GEORGE BAKER begs to inform the Nobility and Public that his DESCRIPTIVE CATALOGUE OF AMERICAN PLANTS AND GENERAL NURSERY STOCK will be sent free on application.
American Nursery, Windlesham, near Bagshot, Surrey, about 1 mile from Sunningdale Station, South Western Railway.

## TO THE TRADE.

E. P. DIXON'S WHOLESALE SEED CATALOGUE for 1858 and 1859 is now ready, and may be had free on application.
Seed Establishment, 57, Queen Street, Hull.

GAINES'S DESCRIPTIVE CATALOGUE is now printed and can be sent Post Free upon application to T. GAINES, Nurseryman and Florist, Surrey Lane, Battersea, Surrey.

## NEW CHRYSANTHEMUMS.

JOHN SALTER begs to inform the numerous applicants for his NEW CATALOGUE OF CHRYSANTHEMUMS that it will be published in February, in which his splendid Seedlings and other new varieties for 1859 will be fully described, as well as his unrivalled general collection, which is the largest in Europe.—Versailles Nursery, William Street, near Hammersmith Turnpike, W.

JOHN GRIER'S NEW PRICED CATALOGUE, with brief descriptive and cultural remarks of a selection of TREES, SHRUBS, and PLANTS cultivated for sale at the Waterhead Nursery, Ambleside, Westmorland, may be had upon application.
Waterhead Nursery, Ambleside, Westmorland.

## ROSE MANETTI STOCKS.

JOHN GRIER begs to inform the Trade and others that he has several Thousands of the above to offer for Sale, price of which may be had upon application.
Waterhead Nursery, Ambleside.—Jan. 8.

YELLOW ROSES.—Madame William, orange yellow; Isabella Gray, golden yellow. Strong plants, fit for immediate forcing, 8s. 6d. the pair.
A. PAUL & SON, Nurseries, Cheshunt, Herts.

## SURPLUS STOCK OF ROSES.

TO BE SOLD CHEAP, in quantities not less than 100, the surplus stock of a Rose Grower, consisting of the leading kinds, both standards and dwarfs. They will be delivered Carriage Free to London. For prices and other particulars apply (by letter only) to S. S., 12, Shaftesbury Terrace, Pimlico.

RASPBERRIES.—Victoria (nearly out), 2s.; Carter's Prolific, 4s. per dozen; Fillbasket, Fastolf, Large Fruited, Monthly, and White, 10s. per 100. CURRANTS.—Good plants 12s. per 100, strong 3s. per dozen. Large Laurustinus, &c.
GEO. CORNWELL, Market Gardener, Seedsman, &c., Barnet, N.

TRUE SHROPSHIRE DAMSONS.—Fine Standard Plants of the above can be obtained from H. J. OLDROYD, Nurseryman, Shrewsbury, at 24s per dozen, cash.

CARTER'S EXCELSIOR MELON.—A green-fleshed variety of delicious flavour, netted; fruit averages 4 lbs., requires scarcely any heating, and is very prolific. R. Hogg, Esq., President of the Pomological Society, and Turner and Spencer's "Florist," pronounce this variety to be one of the finest ever tasted. Seeds 1s. per packet.—JAMES CARTER & Co., Seedsmen, 238, High Holborn, London, W.C.

## EARLY CUCUMBER.

CARTER'S EARLY CHAMPION CUCUMBER, price 20s per oz., to be had in any quantity of J. G. WAITE, Seed Establishment, 181, High Holborn, London, W.C.

## GARDEN SEEDS.

HUGH LOW AND CO. are now prepared to supply SEEDS for the Vegetable and Flower Garden, which have been selected with the greatest care, and will be found of the very best quality.
Clapton Nursery, London, N.E.—Jan. 8.

WANTED, AT TAYLOR'S "GRAND STAND."

| | |
|---|---|
| PINES, 2½ to 3½ lbs. each | BLACK & WHITE GRAPES |
| LARGE DESSERT PEARS | SMALL MUSHROOMS |
| CHOICE FLOWERS | CUCUMBERS |
| SEAKALE | ASPARAGUS |

And other choice Garden Produce.
Forward to GEORGE TAYLOR,
CHOICE FRUIT and VEGETABLE SALESMAN.
St. John's Market, Liverpool.

MESSRS. PARKER AND WILLIAMS beg to inform their friends and patrons that their NEW PRICED and DESCRIPTIVE CATALOGUE of Exotic Orchids, Stove, Greenhouse, and Hardy Ferns, Miscellaneous Stove, Greenhouse, and Hardy Plants, Variegated and Ornamental foliaged Plants, Conifers, Roses, Rhododendrons, Indian Azaleas, Gloxinias, Fuchsias, Cactuses, &c, is now published, and will be forwarded post free on application.—Paradise Nursery, Seven Sisters' and Hornsey Roads, Holloway, London, N

## FRUIT TREES IN POTS.

JOHN AND CHARLES LEE have now the largest and finest stock of FRUIT TREES IN POTS in a bearing state for FORCING AND ORCHARD HOUSES ever offered. They consist of the following kinds, a CATALOGUE of which may be had on application:—

| | | |
|---|---|---|
| APRICOTS | FIGS | PEARS |
| PEACHES | PLUMS | APPLES. |
| NECTARINES | CHERRIES | ALSO, |

VINES AND STRAWBERRIES.
Nursery and Seed Establishment, Hammersmith, London.

## FRUITING VINES.

JOHN AND CHARLES LEE beg to offer extra strong short-jointed and well-ripened FRUITING VINES of the following kinds:—

| | |
|---|---|
| BLACK HAMBURGH | BLACK FRONTIGNAN |
| CHAMPION HAMBURGH | WHITE FRONTIGNAN |
| MILL HILL HAMBURGH | BLACK PRINCE |
| GOLDEN HAMBURGH | ROYAL MUSCADINE |
| MUSCAT OF ALEXANDRIA | BIDWELL'S SEEDLING |
| | BOWOOD MUSCAT. |

Nursery and Seed Establishment, Hammersmith, London.

## TO THE TRADE.—MAGNIFICENT DWARF-TRAINED PEACHES, NECTARINES, AND APRICOTS.

WM. WOOD AND SON refer with pleasure to their truly superb and extensive stock of the above, which for growth and quality are quite unsurpassed, each tree being furnished with from 9 to 12 branches, well ripened and admirably trained. Also very fine Dwarf Maiden NECTARINES.
The Trade supplied on advantageous terms.
Woodlands Nursery, Maresfield, near Uckfield, Sussex.

TWO MILLIONS OF 1 AND 2-YEAR SEEDLING AND TRANSPLANTED LARCH FIR, ALSO TRANSPLANTED SPANISH CHESNUTS.

WM. WOOD AND SON have to offer a very fine stock of the above, also Seedlings of the following:—ALDER, BEECH, SPANISH CHESNUTS, SCOTCH, SPRUCE, and SILVER FIRS, OAKS, CRAB, PEAR, EVERGREEN OAKS, and other Seedlings.
Prices will be forwarded on application.
Woodlands Nursery, Maresfield, near Uckfield, Sussex.

SEEDLING AND TRANSPLANTED FOREST AND ORNAMENTAL TREES, HEDGE PLANTS, SHRUBS, CONIFERÆ, RHODODENDRONS, &c.—The Subscribers inviting attention to their extensive, varied, and well-grown stocks as above, have pleasure in intimating that their CATALOGUES, priced as moderately as possible, are now ready, and will be forwarded on application.—DAVID REID & SON, Nurserymen and Seedsmen, Edinburgh.

## THREE MILLIONS OF TRANSPLANTED QUICKS.

GEORGE CHIVAS, Chester, offers the above to the notice of Planters, which for extent and quality he believes are unequalled in the kingdom. A Sample Bale containing 100 of each five sizes forwarded on receipt of a Post-office Order for 15s. Truck loads delivered free at any Railway Station having through communication with Chester.

## LIME TREES.

WILLIAM MAULE AND SONS having a large stock of this Tree 10 to 12 feet, well suited for planting Avenues, Public Parks, Cemeteries, &c., beg to call the attention of Corporations, Burial Boards, and Public Companies. Prices forwarded on application.
Stapleton Road, and Stoke Nurseries, Bristol.

## NURSERY STOCK.

THE Subscribers are disposing of their extensive stock of SEEDLING and TRANSPLANTED FOREST TREES, ORNAMENTAL TREES, EVERGREEN and DECIDUOUS SHRUBS, STANDARD and DWARF-TRAINED FRUIT TREES, GOOSEBERRIES and CURRANTS, &c., at prices considerably reduced in consequence of dissolving partnership.—Priced Lists may be had on application.
Glasgow, Jan. 8. FOWLER & WRIGHT.

## ONE MILLION ONE-YEAR SEEDLING OAKS (STRONG AND STOUT).

JAMES MELDRUM, NURSERYMAN, Kendal, Westmoreland, offers the above in quantities to suit purchasers, price reasonable, upon application.

N.B. Also a quantity of strong clean Transplanted Crab Stocks, 3 to 4 feet; Alders, 4 feet; and a quantity of Larch of different ages.

500,000 Transplanted LARCH, 2, 3, and 4 feet; 200,000 Transplanted SPANISH CHESNUTS, 2, 3, and 4 feet; 200,000 Transplanted HAZEL, 2, 3, and 4 feet. Samples (with prices delivered in quantity free to London, Reigate, or Reading,) on application to WATERER & GODFREY, Knap Hill Nursery, Woking, Surrey.

ASPARAGUS FOR FORCING AND PLANTING.—A few thousand roots, very strong, 2 to 7 years old.—For price, &c., apply to HENRY PAGE, Gardener, St. John's, Fulham, S. W.

## PINE PLANTS.

WANTED, a few plants of PROVIDENCE (FRUITING AND SUCCESSION); also other large kinds.—Apply to J. M., Post Office, Hurstperpoint, Sussex.

THE PLYMOUTH SEED, AGRICULTURAL IMPLEMENT, AND MANURE COMPANY (LIMITED) supply every requisite for the Farm and the Garden.
Registered Offices, Union Road, Plymouth.

## DOUBLE ITALIAN TUBEROSES.

JAMES CARTER AND CO. are now ready to supply strong flowering BULBS of the above at 4s per dozen.
JAMES CARTER & Co., Seedsmen, 238, High Holborn, W.C.

## PERENNIAL AND ITALIAN RYE-GRASS.

MCBLAIN AND CO., SEEDSMEN, Newry, Ireland, offer to the Trade PERENNIAL AND ITALIAN RYE-GRASS of every description. Samples and offers on application.

PAMPAS GRASS (GYNERIUM ARGENTEUM).—The beauty of this extraordinary plant has this season been fully appreciated. It can be supplied by the dozen, hundred, or thousand, by CHARLES NOBLE, Bagshot, Surrey.

NEW ZEALAND RUNNING BEAN.—This Bean was found by a gentleman in the centre of New Zealand, where it forms the cheap vegetable food of the natives. It was not known at Auckland My own observations on it last summer were that it grows tall and strong with a large heart-shaped leaf which droops at sunset Blossom pinky white, a great bearer; pod size of Scarlet Runner but more tender and richer in flavour. The pod while ripening gets beautifully crimson and green striped. Mr. Henderson, of Pine-apple Place, says that it is quite new to him, and has ordered several hundreds of it. A printed account of it sent with each parcel. Price per doz. 2s.; extra Beans allowed to the trade post free. With each order please to enclose stamps or Post-office Order on Camberwell.—JAMES CUTHILL, Camberwell, London, S.

## TO NOBLEMEN, GENTLEMEN, PUBLIC COMPANIES, AND OTHERS ENGAGED IN PLANTING.

JOHN WATERER having a very great quantity of the undermined desirable PLANTS in excellent condition (from frequent removal) for transplanting, offers them at a very reduced scale of charges.

*** Intending Planters having the object of immediate effect in view are respectfully informed that in selecting specimens for such purposes they would find a visit of inspection amply repaid, it being our determination to treat on the most liberal terms.

The Nursery is easily reached, being a short distance from Sunningdale Station, South-Western Railway (Reading Branch), where excellent conveyances meet all trains.

Wellingtonia gigantea, handsome plants, about 1 foot, 15*l.* per 100; 1 to 1½ foot, 5*s* each or 20*l.* per 100; 1½ to 2 feet, 10*s.* 6*d.* to 21*s.* each; larger, up to 5 and 7 feet
Araucaria imbricata, 2 to 3 feet, 10*s.* 6*d.* each; 3 to 4 feet, 21*s.* to 31*s.* 6*d.* each; large beautiful specimens, up to 9 feet
Thuja aurea, good plants, 10*l.* per 100; about 15 inches, very globular handsome plants, 42*s.* per dozen, or 15*l.* per 100; 1½ to 2 feet, 5*s.* to 7*s.* 6*d.* each, or 20*l.* per 100; larger, 2 to 3, and 4 to 5 feet
Thuja gigantea, 1 to 1½ foot, 5*s.* to 7*s.* 6*d.* each; 1½ to 2 feet, 10*s.* 6*d.* each; 2 to 3 feet, 21*s.* each; large handsome plants, 3 to 4, and 5 to 8 feet
Thuja chilensis, 2 to 3 feet, 3*s.* 6*d.* each; 3 to 4 and 5 feet, 5*s.* to 7*s.* 6*d.* each
Cedrus Deodara, 3 to 4 feet, 5*s.* each, or 20*l.* per 100; 4 to 5 to 6 feet, 7*s.* 6*d.* to 10*s.* 6*d.* each; 6 to 8, 10, and 12 to 18 feet
Cedrus Libani, 4 to 5 feet, 5*s.* to 7*s.* 6*d.* each; 5 to 6, 7, and 8 to 10 feet
**Cupressus macrocarpa, 2 to 3 feet, 30*s.* per dozen; 3 to 4 feet,** 3*s.* 6*d.* each; 4 to 5 feet, 5*s.* each
Cryptomeria japonica, 4 to 6 feet, 5*s.*; 20*l.* per 100; 6 to 8, 10 to 15 feet
Cryptomeria japonica viridis, 3 to 4 feet, 5*s.* each; 4 to 6 feet. 7*s.* 6*d.* each
Juniperus hibernica, 2 to 3 feet, 24*s.* per dozen, or 7*l.* 10*s.* per 100; 3 to 4 feet, 42*s.* per dozen, or 12*l.* 10*s.* per 100; 4 to 6, 8 to 10 feet
**Juniperus chinensis, 3 to 4 feet, 5*s.* each;** 4 to 5 feet, 7*s.* 6*d.* each; larger, 5 to 7 and 8 feet
**Juniperus virginiana (Red Cedar), 2 to 3 feet, 5*l.* per 100**
Thujopsis borealis, about 1½ foot, 42*s.* per dozen, or 15*l.* per 100; larger, 2 to 3 feet
**Cephalotaxus Fortuni, 1 to 2 feet,** 5*s.* to 7*s.* 6*d.* each; larger, **2 to 3, and 4 feet**
**Taxus hibernica, 2 to 3 feet, 24*s.* per dozen, or 7*l.* 10*s.* per 100;** 3 to 4 feet, 3*s.* 6*d.* each; 4 to 5 feet, 5*s.*; larger, 5 to 10 feet, all trained to a single stem
FitzRoya patagonica, 3 to 4 ft., 42*s.* per doz.; 4 to 5 ft., 5*s.* each
Pinus Beardsleyana, 1 to 1½ foot, 5*s.* each; 2 to 3 feet
,, Benthamiana, 3 to 4 feet, 7*s.* 6*d.* each
,, canadensis, 4 to 6 feet, 3*s.* 6*d.* each
,, Cembra, 2 to 3 feet, 3*s.* 6*d.* each; 3 to 4 feet, 5*s.* each; large, 4 to 6 and 8 feet
,, Craigiana (new), 1 to 1½ foot, 3*s.* 6*d.* each; 1½ to 2 feet, 5*s.*
,, Douglasi, 1 to 1½ foot, 30*s.* per dozen, or 10*l.* per 100; 2 to 3 feet, 42*s.* per dozen, or 15*l.* per 100; 3 to 5 feet, 5*s.* each; 5 to 6, and 8 to 15 feet
,, excelsa, 1½ to 2 feet, 12*s.* per dozen, or 50*s.* per 100
,, insignis, 1½ to 2 feet, 10*l.* per 100; **2 to 3 feet, 3*s.* 6*d.*,** or 15*l.* per 100; 3 to 4 feet, 5*s.*, or 20*l.* **per 100; 4 to 6 feet,** very fine
,, Jefferyana, 1 to 1½ foot, 5*s.* each; 1½ to 2 feet, 7*s.* 6*d.* (A new species allied to but more distinct, and reported to be the most handsome and valuable of the long-leaved Californian Conifers.)
,, Lambertiana, 2 to 3 feet, 7*s.* 6*d.* each; 3*l.* 10*s.* per dozen; large, 3 to 4 and 5 to 12 feet
,, Nordmanniana, small plants, 15*l.* per 100; **about 1 foot, 10*s.* 6*d.* each; 1 to 1½ ft., 21*s.* each; 1½ to 2 ft., 42*s.* each;** 2 to 3 feet, 63*s.* to 84*s.* **each; 3 to 4 and 5 feet, perfect** specimens
,, Pinsapo, 1 to 1½ foot, 5*s.* each; 1½ to 2 feet, 7*s.* 6*d.* each; large, 2 to 4, 6 to 8 feet
,, ponderosa, 1½ to 2 feet, 5*s.* each
,, Sabiniana, 3 to 4 feet, 5*s.* each
,, taxifolia (Jeffery), 1½ to 2 feet, 10*s.* each
(With the single exception of Pinus Lambertiana, the whole of the above are Seedlings)

**ROSES.**—Select Perpetual and Bourbon, do. varieties, Standards, 4*l.* 4*s.* per 100; do. Dwarfs, 2*l.* 10*s.* per 100
**RHODODENDRONS**, of all the superior kinds of scarlet, crimson, rose, white, &c., such as are annually displayed by us **at the Great Exhibition of American Plants at the Royal Botanic Gardens**, Regent's Park, London, in good plants, 42*s.* to 63*s.* per dozen
,, Fine varieties, for extensive planting, 24*s.* to 30*s.* per doz.
,, Catawbiense and **mixed Hybrids, good plants, 1½ to 2** feet, 7*l.* 10*s.* per 100
,, Standards of the superior **crimson varieties, good plants, 42*s.* to 63*s.*, to 105*s.* each**
,, ponticum (**the only evergreen that entirely escapes the ravages of hares and rabbits**), good plants, fit for immediate planting into woods for cover, 7*l.* 10*s.* per 1000; extra strong, 21*s.* to 25*s.* and 30*s.* per 100
,, Dwarf-growing varieties, 4*l.* 4*s.* to 5*l.* per 100
**AZALEAS**, good common kinds, consisting of scarlet, pink, yellow, &c., and for extensive planting, in good plants, 50*s* per 100
,, superior, 12*s.*, 18*s.*, to 24*s.* per doz., or 3*l.* to 7*l.* 10*s.* p. 100
,, Standard, in fine sorts, 42*s.* each
**KALMIA LATIFOLIA**, 1 to 1½ foot, covered with bloom buds, 5*l.* per 100; larger, 18*s.* to 30*s.* per dozen
,, MYRTIFOLIA, fine plants, 30*s.* to 60*s.* per dozen (a superior kind to latifolia).
**HARDY HEATHS.**—A collection of 25 distinct kinds, 30*s.* per 100, or 12*l.* 10*s.* per 1000
**Transplanted FOREST TREES, of which about 100,000 of each are in hand. We shall have great pleasure in forwarding samples on application.**

| | |
|---|---|
| Ash, 2 to 3 and 4 feet | Beech, 2 to 3 feet |
| Hazel, 2 to 3, and 4 to 7 feet | Birch, 2 to 3 and 4 feet |
| Chesnut, Spanish, 2 to 3, and 4 to 6 feet | Larch, 2 to 3 and 4 feet |
| | Scotch, 1½ to 2 feet |

A large quantity of bushy COMMON LAURELS, 2 to 3, & 4 ft.
Also the commoner kinds of Evergreens, such as HOLLIES, of kinds; BAYS, ARBUTUS, PHILLYREA, AUCUBA, PORTUGAL LAURELS, &c.

CATALOGUES containing descriptions of everything relating to Rhododendrons and Conifers forwarded on application to
JOHN WATERER, American Nursery, Bagshot, Surrey.

UNEQUALLED NEW CUCUMBER, "DR. LIVINGSTONE."—This is one of the finest long hybrid Cucumbers for exhibition purposes that has ever yet been offered to the public; it is a splendid black spine, length 22 to 26 inches, a very free setter, and an abundant bearer. Price 2*s.* 6*d.* per packet.

Also the following fine CUCUMBERS can be supplied:—

| | Per packet—*s.* | *d.* | | Per packet—*s.* | *d.* |
|---|---|---|---|---|---|
| General Outram | 2 | 0 | Sunderland Wick | 1 | 0 |
| Perfection | 1 | 0 | Hunter's Prolific | 1 | 0 |
| Sir Colin Campbell | 1 | 0 | Mill's Jewess | 1 | 0 |
| General Canrobert | 1 | 0 | Cheltenham Surprise | 1 | 0 |
| Phenomena | 1 | 0 | Manchester Prize | 1 | 0 |
| Ipswich Standard | 1 | 0 | Sion House (true) | 1 | 0 |
| Lord Kenyon | 1 | 0 | Cuthill's Black Spine | 1 | 0 |
| Essex Hero | 1 | 0 | Conqueror of the West | 1 | 0 |
| Victory of Bath | 1 | 0 | Lynch's Star of the West | 1 | 0 |
| Gordon's White Spine | 1 | 0 | &c. &c. | &c. | |

"QUEEN OF THE WEST" MELON, a superb new variety, green flesh, very handsome in appearance, beautifully netted, and excellent in flavour. It obtained several first prizes during the past season. This Melon has proved itself to be one of the best varieties ever yet offered for early forcing. It sets well, and will carry an immense crop. Fruit weighing 2½ lbs. was cut on the 20th of April, and the plants continued bearing abundantly until the end of July. Seeds 2*s.* 6*d.* per packet.

NEW MELON "GENERAL HAVELOCK," sent out for the first time last season. It is a green flesh, of a very handsome shape, and beautifully netted; a very thick substance, thin skin, of a melting and most delicious flavour, and an abundant bearer. Weight from 3 to 4 lbs. It is very hardy, and may be grown as easily in a cold frame in the summer as a Vegetable Marrow. Seed 1*s.* per packet.

Also the following fine varieties of MELONS:—

| | Per packet—*s.* | *d.* | | Per packet—*s.* | *d.* |
|---|---|---|---|---|---|
| M'Ewen's Arundel Hybrid Scarlet-flesh | 1 | 0 | Bowood | 1 | 0 |
| M'Ewen's Arundel Hybrid Green-flesh | 1 | 0 | Victory of Bath | 1 | 0 |
| Monro's Crystal Palace Hero | 1 | 0 | Cashmere | 1 | 0 |
| Monro's Golden Gage | 1 | 0 | Camerton Court | 1 | 0 |
| The Queen | 1 | 0 | Beechwood | 1 | 0 |
| Orion | 1 | 0 | Windsor Prize | 1 | 0 |
| Golden Drop | 1 | 0 | Emperor | 1 | 0 |
| Green Gage | 1 | 0 | Fleming's Hybrid Persian | 1 | 0 |
| Bromham Hall | 1 | 0 | Blackall Green-flesh | 1 | 0 |
| Incomparable | 1 | 0 | Bailey's | 1 | 0 |
| Golden Ball | 1 | 0 | Snow's Hybrid | 1 | 0 |
| | | | Golden Perfection | 1 | 0 |
| | | | Scarlet King | 1 | 0 |

A packet of any var. of Cucumber marked at 1*s.* per packet sent with a packet of the Dr. Livingstone Cucumber for 3*s.*

A packet of any var. of Melon marked at 1*s.* per packet sent with a packet of the Queen of the West Melon for 3*s.*

Extra fine mixed Hollyhock Seed, saved from all named vars., 1*s.* per packet.

Early Emperor Celery, the finest ever yet sent out, 1*s.* p. pkt.
Tiley's Solid White Celery, 6*d.* per packet.
Delphinium formosum, 6*d.* per packet.
Digitalis, or Foxglove Seed, 6*d.* per packet.

A remittance must accompany every order in Cash or Penny Postage Stamps, when the whole or any part, as the case may be, will be immediately sent.

EDWARD TILEY, NURSERYMAN, SEEDSMAN, AND FLORIST,
14, Abbey Church Yard, Bath.

ESTABLISHED 1823.

## NEW PLANTS.

AMBROISE VERSCHAFFELT, NURSERYMAN, Ghent, Belgium, begs to offer the following new Plants:—

| | |
|---|---|
| Alstrœmeria argenteo-guttata | £0 16 0 |
| Azalea indica Baron de Vrière | 0 2 6 |
| ,, gigantiflora | 0 2 6 |
| ,, Grande Duchesse Hélène | 0 8 0 |
| ,, magniflora (Spae) | 0 2 6 |
| 16 new Ghent Azaleas, hardy (figured in VERSCHAFFELT'S "Illustration"), nice bushy plants, and most of them with flower buds. The set. | 0 16 0 |
| Camellia Grande Duchesse Hélène | 0 12 0 |
| ,, Princesse de Prusse | 0 8 0 |
| (These are two of the finest Camellias of all. The correct figure can be seen in VERSCHAFFELT'S Camellia work.) | |
| Clematis Sophia flore-pleno, hardy | £0 16 0 |
| Cydonia Mallardi, hardy | 0 4 0 |
| ,, Moerloosi, hardy | 0 2 6 |
| Magnolia Lenné, the finest hardy Magnolia of all | 0 7 0 |
| Rhododendron acutilobum, greenhouse | 0 4 0 |
| ,, crispiflorum ,, | 0 4 0 |
| ,, Bylsianum, hardy, extra | 1 0 0 |
| ,, Madame Wagner, hardy | 0 3 6 |
| ,, Prince Camille de Rohan, hardy | 0 3 6 |

Nearly all the above plants are figured in VERSCHAFFELT'S "Illustration Horticole."

The 12th Number (December) of 1858 of the "ILLUSTRATION HORTICOLE" is now ready, and will be sent out in a few days. It contains:—

| | |
|---|---|
| Leschenaultia biloba, v. Huntsi | Burlingtonia venusta |
| Erica cerinthoïdes coronata | New Pear Général Totleben |

With the new postal convention the work can be sent FREE to all parts of England, Scotland, &c., at 14*s.* 6*d.* a year. A Specimen Number will be sent free on application.

## SEEDLING FOREST TREES, &c.

| | | | Per 1000—*s.* | *d.* |
|---|---|---|---|---|
| 3,000,000 | 1-year | Larch | 1 | 0 |
| 1,000,000 | ,, | Scotch Fir | 0 | 10 |
| 300,000 | ,, | Alder | 1 | 0 |
| 200,000 | ,, | Birch | 1 | 6 |
| 200,000 | ,, | Elms | 1 | 6 |
| 150,000 | ,, | Ash | 1 | 6 |
| 100,000 | ,, | Sycamore | 1 | 6 |
| 300,000 | ,, | English Oak | 2 | 6 |
| 10,000 | ,, | Evergreen Oak | 40 | 0 |
| 20,000 | ,, | Horse Chesnut | 5 | 0 |
| 40,000 | ,, | Chinese Arbor-vitæ | 10 | 0 |
| 70,000 | ,, | Cupressus horizontalis | 8 | 0 |
| 80,000 | ,, | Pinus Laricio | 10 | 0 |
| 100,000 | ,, | Pinus austriaca | 6 | 0 |
| 300,000 | ,, | Pinus maritima | 2 | 6 |
| 20,000 | ,, | Common Laurel | 17 | 6 |
| 20,000 | ,, | Crab Apple | 3 | 6 |
| 250,000 | ,, | Quick | 2 | 0 |
| 10,000 | ,, | Laburnum | 2 | 6 |
| 10,000 | 2-year | do. | 4 | 0 |
| 1,000,000 | ,, | Norway Spruce Fir | 1 | 6 |
| 40,000 | ,, | White Spruce Fir | 4 | 0 |
| 50,000 | 3-year | Silver Fir | 7 | 0 |
| 800,000 | 2 ,, | Scotch Fir | 1 | 6 |
| 100,000 | 1 ,, | bedded Scotch Fir | 2 | 6 |
| 100,000 | 2 ,, | Beech | 3 | 0 |
| 60,000 | 2 ,, | Birch | 3 | 0 |
| 20,000 | 2 ,, | Alder | 3 | 0 |

The Subscriber begs to call attention of his friends and the public in general to the above stock of SEEDLINGS, and is happy to intimate to them that they are generally fine in quality, and trusts they will give satisfaction. Any order, large or small, will be promptly attended to. All delivered free of expense at Dublin, and thence half carriage paid to any part of England, &c.—Apply to MICHAEL BURKE, Drumlargan Nursery, Summerhill, county Meath, Ireland.

## CALLICARPA PURPUREA.

JOHN STANDISH, the exhibitor of the above (St. James's Hall), can supply a few good plants at 7*s.* each. The following passage from Dr. Lindley's leading article in the *Gardeners' Chronicle* for Nov. 20 will give an idea of its beauty:—"Callicarpa purpurea, quite insignificant when in flower, was beautiful in its winter dress of innumerable small purple berries, about the size of swan shot." It is easily cultivated, and does well in a cold greenhouse or conservatory planted out, where it will produce thousands of bright purple berries resembling glass beads, and remaining on nearly the whole winter.—Bagshot, Jan. 8.

THE SUBSCRIBERS respectfully invite attention to their superior stock of the following, all of which have been frequently transplanted, and will remove with every chance of success.

### CONIFERÆ.

Araucaria imbricata, 1 to 1½ foot, a large quantity; also some fine specimens 4, 5, and 6 feet
Biota meldensis, quite new, 1½ to 2 feet
,, glauca, 1 to 1½ foot
Cedrus Deodara, 2½ to 3 feet
,, robusta, 1 to 1½ foot, very distinct and beautiful
,, viridis, 1 to 1½ foot
Cryptomeria japonica, 4 to 5 feet, fine specimens
Cupressus ericoides, 1 to 2 feet, fine
,, fastigiata, 1, 2, and 3 feet
,, Lambertiana, 1 to 1½ foot
,, macrocarpa, 2, 3, 4, and 5 feet
,, Lawsoniana, 9 inches
Pinus austriaca, 2, 3, and 4 feet
,, Laricio, 1 to 2 feet
,, Montezumæ, from seed, very fine
Taxodium distichum, 3, 4, and 5 feet
Thuja aurea, 9 to 12 inches
,, Knighti, 2, 3, 4, and 5 feet, fine

### EVERGREENS, &c.

Ivies, Irish, New Giant, and Regeneriana, very strong
Junipers, English, Irish, and Swedish
Laurels, common, 2 and 3 ft., very fine, in very large quantities
Laurustinus, black-leaved, 3 to 4 feet
Privet Evergreen, very strong
Rhododendron ponticum, 1 to 2 ft., very fine, by the 100 or 1000
Ailanthus glandulosa, 6 to 8 feet
**Ash, Weeping, 8 to 10 feet, stems very fine**
Rose Acacias
Sophora japonica, 4 to 6 feet

With a very large quantity of every description of Nursery Stock. CATALOGUES sent free on application.

Plants presented free to compensate for distant carriage.

WM. WOOD AND SON,
Woodlands Nursery, Maresfield, near Uckfield, Sussex.

MESSRS. WATERER AND GODFREY respectfully invite the attention of parties engaged in planting to the following list of very desirable plants, all of which may be seen growing in the open quarters of their Nursery, and are in the finest possible condition for transplanting:—

Araucaria imbricata, 9 to 12 inches, 5*l.* per 100; 40*l.* per 1000
,, ,, 1½, 2, 3, 4, 5, 6, and 8 feet high. Our stock of this plant exceeds 100,000
Wellingtonia gigantea, stout handsome plants from seed, 8*s.* per dozen; 25*l.* per 100. These are all in the open ground and are believed to be the finest lot of seedling plants in the Trade.
Cedrus Deodara, 1½ to 2 feet, 18*s.* per dozen; 6*l.* per 100
Do. 3, 4, 5, 6, 7, 8, 10 and 12, and 15 feet. Our stock of Deodars at the present moment occupies several acres of land; they have been constantly removed, and with fair usage not one in a thousand would fail. We offer them on very advantageous terms either in large or small quantities
Cedrus atlantica, 4, 5, 6, and 7 feet
Cupressus macrocarpa, magnificent plants, 7, 8, and 10 feet high
,, Lawsoniana, stout handsome plants from seed, 18 inches, by the dozen or 100
Abies nobilis, from imported seed, 6*l.* 6*s.* per doz.; 40*l.* per 100
,, do. 1, 2, and 3 feet high
,, Nordmanniana, a large number of beautiful plants, raised from seed, 2, 3, 4, 5, and 6 feet high
,, Pinsapo, do. do.
[We believe we are justified in stating our stock of the three last-mentioned Firs offers a selection to be met with in no other Nursery.]
,, Douglasi, 6, 7, 10, and 12 feet
,, orientalis, 3, 4 5, and 6 feet
Pinus Benthamiana, stout seedling plants, about 1 foot, 15*s.* per dozen; 5*l.* per 100; 40*l.* per 1000. Unquestionably the finest of all the long leaved Californian kinds, and well known to be perfectly hardy. It is the most valuable of all for timber.
Juniper, Chinese, 2, 3, 5, 7, 8, and 10 feet high
Irish Upright, 3, 4, 5, 6, 7, and 8 feet The Irish and Chinese Junipers are grown by us to a very large extent
Thuja aurea.—This plant originated in our Nursery, and our stock of it offers a choice of many hundred specimens from 1½, 2, 3, 4, and 5 feet high, and measuring from 2 to 10 and 15 feet in circumference. Nothing can well exceed the beauty of these plants, and certainly are to be met with in no other Nursery
Thuja gigantea, stout seedling plants, 1½ to 2 feet high
,, Wareana, 3, 4, 5, 6, 7, and 8 feet
Thujopsis borealis, handsome plants, in quantity, 1½ & 2 ft. high
Taxus, Yew, Common English.—A large quantity, and of sizes up to 5, 6, and 7 feet
,, Irish Yew, 4, 5 6, 7, and 10 feet. Many thousands of these beautifully formed plants grown to one stem
,, Golden Yews in large quantities and of all sizes up to 6, 7, and 8 feet
We also have them worked on the Common and Irish Yew Standards, with heads from 12 to 15 years' growth
Holly, Variegated, Scottica, laurifolia, &c. We hold probably the largest stock of good sized variegated Hollies in the kingdom, especially of the better kinds of silver and gold striped
Rhododendron ponticum, for cover, stout plants, 1½ to 2½ ft. by the 1000. All the well-known proved hardy late blooming kinds, in any quantity, at from 30*s.*, 42*s.*, to 84*s.* per dozen
Standard Rhododendrons of all kinds
Azaleas, stout bushy plants, covered with bloom buds, from 18 inches to 2 feet high, and of all colours, 9*s.*, 12*s.*, 18*s.*, and 24*s.* per dozen; 50*s.*, 75*s.*, to 100*s.* per 100
Hardy Heaths, a first-rate collection, at 35*s.* per 100; 15*l.* per 1000
Roses, fine Standards, of the most popular kinds, at very low prices.

As well as the above, we are very large holders of the ordinary kinds of Nursery Stock, which may be judged from the fact that the Nursery far exceeds 100 acres in extent of all such things as Laurels, Box, Lilacs, Limes, Purple Beech, and the commoner descriptions of Evergreens and Deciduous Flowering Shrubs. An enormous stock of Fruit and Forest Trees are also grown extensively.

Goods are delivered free to London, Reading, or Reigate. The Nursery is reached in an hour from Waterloo, and conveyances are always to be had at the Woking Station.

CATALOGUES, Priced and Descriptive, will be sent on application, enclosing one postage stamp, to
WATERER AND GODFREY, Knap Hill, Woking, Surrey.

## SEEDS.

JOSEPH MAY AND Co. beg to announce the arrival of their new VEGETABLE, AGRICULTURAL, & FLOWER SEEDS, which they have selected with the greatest care. Amongst Peas they would particularly recommend, as the two best kinds for early sowing, Waite's Daniel O'Rourke and Dickson's Favourite, the latter producing 8 to 14 Peas in a pod, and will do for sowing at any season. Collections of vegetable seeds made up from 10*s.* to 20*s.* and upwards, according to size of garden for which they are intended. These collections gave great satisfaction last season. Flower Seeds in collections: 12 packets choice seeds, 6*s.*; 30 packets hardy ditto, 5*s.*; 12 packets ditto, 2*s.* 6*d.*, free by post.

Cucumber "Ne plus ultra" from specimens 27 to 31 inches each—straight and handsome—per packet, 1*s.*; all other best kinds, 6*d.* per packet. Melons, choicest kinds, 6*d.* and 1*s.* Gourds, the large hundredweight and others, 12 packets, free by post, 2*s.* Potatoes, all the best kinds. Grasses and all kinds of Agricultural Seeds of the best quality.

Trees, Plants, and Seeds packed for Australia, &c., at the lowest prices.—1, Wellington Street, Strand, W.C.

## CHRYSANTHEMUMS—CHRYSANTHEMUMS.

J. H. BIRD, F.H.S., NURSERYMAN, Stoke Newington, the largest grower and most successful exhibitor of the Chrysanthemum in the British Empire, begs to call the attention of the lovers of the above beautiful autumn flower to his matchless collection, the stock of which amounts to upwards of 50,000 plants. Amongst them will be found the following new and rare varieties:—Admirable, Aimée Ferrière, Augustine, Constantine, Louisa, Louis Bonamy, Madame Leo, Norfolk Hero, Progne, Raymond, Beauté de Nord, Dr. Maclean, Queen of England, Plutus, Alfred Salter, Stellaris globosa, Beauty, Themis, Dupont de l'Eure, &c.

J. H. B. can supply strong plants, one dozen for 6*s.*; or five dozen in 30 varieties, containing two of each variety, for 1*l.*; or he can supply 100 plants in 50 varieties, two of each variety, for 1*l.* 10*s.* Also POMPONES in great variety; 50 Pompones in 25 varieties, two of each variety, for 10*s.*; or 100 in 50 varieties, two of each variety for 1*l.* Strong plants of the beautiful new Pompone the Golden Cedo Nulli, 5*s.* each, will be ready in March with the usual allowance to the Trade. Every order will be accompanied by a popular work on the Chrysanthemum.

Post-office Orders payable to J. H. BIRD, Stoke Newington, will be immediately attended to.

## CHRYSANTHEMUM TRICOLOR BURRIDGEANUM. CHRYSANTHEMUM TRICOLOR VENUSTUM.

F. K. BURRIDGE, SEED GROWER, Lexden Road, Colchester, has much pleasure in inviting the special attention of the Seed Trade to the above-named new Hardy Annuals, which he now offers for the first time, believing they will be found among the finest novelties of the season. The variety Burridgeanum differs from the old C. tricolor in having a fine crimson ring surrounding the yellow circle next the eye of the flower, the rest of the ray being snow white. The variety venustum has the ray florets of a deep reddish purple or plum colour for about one-half their length, shading into yellow at the base, and stained on the under side with purple. Both varieties are striking objects in the flower border, and from their bold conspicuous character, free blooming qualities, and perfect hardiness, together with their adaptability for bouquets, F. K. B. confidently predicts that they will become universal favourites.

A beautifully coloured group of the two varieties has been prepared, and may be had on application, price 1*s.*; or gratis to Purchasers of 1 oz. of seed.

N.B. The Botanical Magazine for the present month (Jan. 1859), contains a coloured plate of the above.

SHAW AND CROSLAND'S RICHMOND DWARF late WHITE BROCCOLI.—This Broccoli has proved to be the hardiest in cultivation, having been grown on the most exposed situations, producing fine heavy heads from the middle of May to the middle of June. It gained the First and Second Prizes at the Sheffield Floral and Horticultural Society's Exhibition, held at the Sheffield Botanical Gardens, June, 1856. SEEDS can be had in sealed packets, price 2*s.* 6*d.* each, at the Richmond Nursery, Sheffield; or of

Charlwood & Cummins, Covent Garden
Chaundy & Co., Lewisham
Chatter's, Mr. Wm., Saffron Walden
Davies, Thos. & Co., Wavertree, Liverpool
Dean, Mr. Wm., Bradford, Yorkshire
Flanagan & Son, Mansion House Street
Fisher, Holmes, & Co., Sheffield
Godwin, Mr. F., Sheffield [St.
Hurst & M'Mullen, Leadenhall
Henderson, E. G. & Son, St. John's Wood
Kernan, Mr. J., Great Russell Street
Kearsley, Mr. J., Leeds
Low & Co., Clapton
Laing, Mr. Alex., Beverley
Stewart & Son, Dundee
Sharpe & Co., Sleaford
Turner, Mr. C., Slough
Urquhart & Son, Dundee
Wheeler, Mr., Geo., Warminster
Wood & Ingram, Huntingdon

P.S. Fine Transplanted Larch 1½ to 3 feet. Samples and Price to be had on application.—Richmond Nursery, Sheffield

## WINTER AND SPRING-FLOWERING PLANTS.

HUGH LOW AND CO. have to offer the undernamed articles, the quality of which they believe to be unsurpassed:—

ERICA WILMOREA, in 32-pots, plants 18 to 20 inches in height, with 12 flowering shoots. Each, 2*s.* 6*d.*
ERICA WILMOREA, in 48-pots, plants 12 to 15 inches in height, with from 6 to 8 flowering shoots. Each, 1*s.* 6*d.*
ERICA HYEMALIS, in 48-pots, 9 to 12 flowering shoots. Each, 1*s.* 6*d.*
ERICA REGERMINANS, in 54-pots, plants 1 foot high, with from 12 to 15 flowering shoots. Each, 1*s.*
ERICA SINDRYANA, in 48-pots, plants 12 to 15 inches in height, with from 12 to 15 flowering shoots. Each, 1*s.* 6*d.*
EPACRIS IMPRESSA CARNEA, in 48-pots, plants 12 to 15 inches in height, with from 20 to 25 flowering shoots. Each, 1*s.* 6*d.*
EPACRIS DELICATA, in 48-pots, plants 12 to 20 inches in height, with from 15 to 18 flowering shoots. Each, 1*s.* 6*d.*
EPACRIS KINGHORNI, in 48-pots, plants 12 to 15 inches in height, with from 12 to 15 flowering shoots. Each, 1*s.* 6*d.*
EPACRIS AND ERICAS, in very large variety, all strong bushy plants, in 48 pots, 1*s.* 6*d.* to 3*s.* 6*d.* each.
CAMELLIAS, in variety, with flower buds, plants 9 to 15 inches in height, 2*s.* 6*d.* to 3*s.* 6*d.* each.
BORONIA DRUMMONDI, 9 to 12 inches in height, with 12 flowering shoots. Each, 1*s.* 6*d.*
AZALEA AMŒNA, one of the most lovely plants grown for early spring-flowering, plants in 48-pots, 9 inches high and the same in diameter, with from 20 to 25 flowering shoots. Each, 2*s.* 6*d.*
AZALEA INDICA, in large variety, 2*s.* 6*d.* to 7*s.* 6*d.* each.
CHOROZEMAS, in variety, well set with flower buds. Each, 1*s.* 6*d.*
CLEMATIS LANUGINOSA, the finest of all the hardy species, strong plants, 5*s.* to 7*s.* 6*d.* each.
ORANGE TREES, in fruit, 2 to 3 feet high, 7*s.* 6*d.* to 10*s.* 6*d.*
Half specimen ERICAS, EPACRIS, & AUSTRALIAN PLANTS, in large variety. The greater part are in 8-inch pots, 7*s.* 6*d.* to 10*s.* 6*d.* each.

With the single exception of the Orange Trees, all the articles named above can be supplied to the Trade by the dozen and hundred of each kind. Wholesale Prices on application. Inspection of the General Nursery Stock respectfully invited.

Clapton Nursery, London, N.E.

## ROYAL EXOTIC NURSERY, CHELSEA, S.W.

JAMES VEITCH, JUN., respectfully announces that his CATALOGUE of KITCHEN GARDEN and FLOWER SEEDS for 1859, with a List of Implements and other Garden requisites, is now published, and will be forwarded post free on application.

J. V., Jun., devoting his personal attention to this department of his business can warrant his seeds TRUE TO NAME and of the MOST GENUINE description.—Jan. 8.

## PRICED CATALOGUE OF SEEDS FOR 1859.

Just published by MILNE, ARNOTT, & Co., and will be forwarded free upon application,

A PRICED AND DESCRIPTIVE CATALOGUE OF SEEDS, containing select lists of the best kinds all from the most genuine stocks, and of excellent quality. Orders above 1*l.* carriage free to any station within 100 miles of London; above 5*l.* to any station or port in the United Kingdom.—MILNE, ARNOTT, & Co., Wandsworth Road, London, S., successors to Messrs. Chandler & Sons (established upwards of 60 years).

## PINE-APPLE NURSERY, EDGEWARE ROAD (W.).

ARTHUR HENDERSON AND CO. beg respectfully to announce that their CATALOGUE OF KITCHEN GARDEN AND FLOWER SEEDS FOR 1859, with a List of Garden Implements and other requisites is now published, and will be forwarded, post free, on application.

They particularly desire to call the attention of the public to their "celebrated Short-topped Garden Beet," the only variety that really will repay the grower; colour, flavour, and quality are such as to render it worthy of extensive cultivation; also "Kite's Branching Marrow Pea," a very valuable and prolific bearer for every day use; "Snow's true White Winter Broccoli;" "Snow's Champion Cos Lettuce," a large crisp summer and autumn Lettuce, and for these seasons unequalled. In this select List will also be found the "Moor Park Lettuce," those very superior sorts as yet but little known, namely, the "Palatine" and "Versailles" Cabbage Lettuce; neither of these are disposed to run to seed during the hot summer months. The White and Black spined Imperial Cucumber, the new sprouting or Feather-stemmed Savoy, a scarce but most delicious Green; the "Waterloo framed short-topped seeding Potato," raised between the "Albion" and "Frame;" it is earlier than either, very productive, and the sort that must eventually be depended upon as the best early frame and forcer, as soon as its merits become better known. The "Australian Salad Cress"; this plant grows about 1 foot in height, branching and spreading all round the stem; it may be constantly cut and gathered throughout the summer, the leaves are of a peculiarly delicate light green, the flavour is exquisite, grateful, and piquant.

CHAMPION OF SCOTLAND PEA.—A new and first-rate sort, declared by all who grew it last year to be the most distinct and best flavoured Pea in cultivation. To be had only at PETER LAWSON & SON'S, the Queen's Seedsmen, &c., who are also prepared to execute orders for all sorts of Garden and Flower Seeds of the finest quality.

27, Great George Street, Westminster.

## "JACK OF NEWBURY" SWEDE, ETC.

PETER LAWSON AND SON, THE QUEEN'S SEEDSMEN, &c., 27, Great George Street, Westminster, respectfully request attention to their very genuine Stock of the above excellent Swede: also of the LOTHIAN PURPLE-TOP SWEDE, both of which have been selected with the greatest care. They have also a very fine Stock of the KOHL RABI, or TURNIP-ROOTED CABBAGE, specimens of which were shown at their Stands at Smithfield Club Show. The Kohl Rabi was largely grown last season, and may now be relied on as a substitute for the Turnip and Mangel, where these roots do not succeed, or for filling up blanks where there is a partial failure. Its feeding qualities, hardiness, and weight per acre are equal to the Swede, and all kinds of stock prefer it to other roots.

P. L. & SON have also selected a first-rate Stock of MANGEL WURZEL SEED, which they can confidently recommend. Their natural GRASS SEEDS have been also saved with very great care, and they are ready to supply them separately or in mixture, for laying down Permanent Pastures, Lawns, &c.

P. L. & SON have arranged to deliver Seeds free throughout England and Wales from their London Establishment, for all quantities exceeding 20*s.* in value.

LISTS OF PRICES of the above and all other Seeds, Plants, &c. may be had on application.

27, Great George Street, Westminster.

THE PLYMOUTH SEED COMPANY'S COLLECTIONS OF VEGETABLE SEEDS.—These Collections have for many years been sent out, and have given universal satisfaction. They combine excellent germinating qualities, superior sorts, and may be deemed economical in the truest sense of the word.

No. 1.—Complete Collection, sufficient for a large Garden, 3*l.*
No. 2.—Complete Collection for a moderate size Garden, 2*l.*
No. 3.—Complete Collection in small quantities, 1*l.* 5*s.*
No. 4.—Complete Collection for a small Garden, 15*s.*

COLLECTIONS OF FLOWER SEEDS.—Post Free.

| | Large Pkts. | Small Pkts. |
|---|---|---|
| No. 1.—100 Packets | £1 5*s.* | £1 0*s.* |
| No. 2.—50 ,, | 0 15 | 0 12 |
| No. 3.—25 ,, | 0 8 | 0 6 |
| No. 4.—12 ,, | 0 4 | 0 3 |

Freight and Carriage.

All orders for Seeds above 1*l.* forwarded free to any Stations between Plymouth and Paddington. All orders above 2*l.*, free to all Broad Gauge Stations, to most other Railway Stations, and by steamers to Cork, Dublin, Liverpool, Guernsey and Jersey. All orders above 5*l.* free to all Railway Stations in England and Wales, and to any Steam Port in the United Kingdom.—For other and full particulars, the reader is respectfully referred to the General Price Current of the Plymouth Seed, Agricultural Implement and Manure Company Limited, (late Rendle's Price Current), which is now published and ready for delivery, on application to the Secretary of the Company. Copies can also be obtained from any bookseller in town and country through Messrs. SIMPKIN, MARSHALL, & Co., Stationers' Hall Court, London.

Free for 6 stamps, or gratis to customers.

## TO THE SEED TRADE.

CHOICE STOCKS OF SEEDS GROWTH OF 1858.—The undermentioned Seeds having been grown from choice stocks in larger quantities than we required for retailing, we are prepared to offer a portion of each kind, or either of them at very low prices:—

IMPROVED GLOUCESTERSHIRE WHITE SWEDE
SUTTON'S LINCOLNSHIRE RED GLOBE TURNIP
SUTTON'S IMPERIAL CABBAGE
SUTTON'S EARLY DWARF COMBE CABBAGE

| | |
|---|---|
| Reading Onion | Paradise Marrow Pea |
| Danver's Yellow ditto | Tweeddale Purple top Turnip |
| James's Long-keeping ditto | Yellow Tankard Turnip |
| Dickson's Favourite Pea | Green Globe ditto |

Green Round Turnip (old sort).

The above were grown by or expressly for us from our own stocks and can be confidently recommended. Applications for prices, stating quantity required, addressed as below, will be replied to promptly and liberally.

SUTTON & SONS, Seed Growers, Reading, Berks.

## BEAUTIFUL NEW TORENIA.

JOHN AND CHARLES LEE are now prepared to send out their beautiful new TORENIA PULCHERRIMA, which has been so much admired. It is figured in the present Number of Henderson's "Illustrated Bouquet," and undoubtedly surpasses all other Torenias by the great contrast it exhibits in the rich dark velvet, approaching to black, of the side lobes, and the pure white of the lip.

Dr. Lindley thus describes it in the *Gardeners' Chronicle* of October 30, 1858:—"We have received from Messrs. Lee of the Hammersmith Nursery a singularly beautiful variety of the favourite Torenia asiatica. The tube of the corolla and its eye are an intense purple violet; the two side lobes are the same colour, fading at the edge into pure violet; the upper lobe is pale violet; the lower is white, with a purple oblate blotch at the point. This variety puts the old original kind quite out of the field."

Price 10*s.* 6*d.* The usual discount to the Trade.

Nursery and Seed Establishment, Hammersmith, London.

## ORCHARD HOUSES.

LUCOMBE, PINCE, AND CO. invite attention to their very superior Stock of

FRUIT TREES IN POTS

for the above purpose, consisting of all the best kinds of APRICOTS, CHERRIES, FIGS, NECTARINES, PEACHES, PEARS AND PLUMS,

thoroughly established in their pots, and full of well ripened wood, so that they are capable of bearing abundantly next season.

Prices will be found very moderate, and can be had on application to them.—Exeter Nursery, Exeter, established 1720.

## GENUINE GARDEN SEEDS.

LUCOMBE, PINCE, AND CO. very respectfully announce that their Stock of KITCHEN GARDEN SEEDS for 1859 is now complete, and comprises many novelties of great promise, and all the best old sorts of acknowledged merit. The quality of all their seeds is this season particularly fine, and as they take great pains in selecting the whole from the *purest stocks, and prove their vitality previously to sending them out*, L., P., & Co. are enabled with great confidence strongly to recommend them. CATALOGUES of the above are now ready, and may be had on application to

LUCOMBE, PINCE, & Co., Exeter Nursery, Exeter.



# The Gardeners' Chronicle.

*SATURDAY, JANUARY* 8, 1859.


### MEETINGS FOR THE FOLLOWING WEEK.

TUESDAY, Jan. 11 { Horticultural (Fruit Committee at 21, Regent Street)..... Noon.

"THE discussion," says a correspondent, "on the merits of the Rose Isabella Gray was very interesting and useful to amateur Rose growers, and has led to the hope that it might be followed by others on the same subject, as those who have not the opportunity of judging for themselves at the great Rose shows, or of testing the merits of many of the new varieties, look with eager eyes for the information they may derive from the pages of the *Gardeners' Chronicle*. The description which Mr. RIVERS gives in his excellent little book of some of the new Roses is very tempting, and the opinion of so sober-minded an enthusiast leads to great hopes that the result may be favourable. I and others of your readers would be obliged by being informed if some of the new Perpetual Roses, as Triomphe des Beaux Arts, Madame Vigneron, Caroline Riguet, &c., and the Tea Auguste Vacher, can now take first places as free bloomers and vigorous growers. Much was anticipated from Arthur de Sansal last season; but he does not seem to advance in favour. May this arise from the habit of growth being delicate? Will you inform me if the vigorous Perpetuals, such as General Jacqueminot, Jules Margottin, Louise Odier, could be trained as *weeping* Roses on a Briar stock of 4 or 5 feet high?"

We print thus prominently an inquiry which would, under ordinary circumstances, be placed in another part of our columns, because the writer expresses clearly some of the wants which all lovers of the Rose, whether within reach of the great nurseries or not, must necessarily experience. In truth the whole question of Rose growing, as well as of Rose qualities, is one of the most complicated in modern gardening; and more than almost any other in need of very ample discussion. Considering the intense interest which great numbers of persons take in the growth of Roses, and the hopelessness of all, or even many, acquiring personal experience concerning their various, and let us add variable, qualities, there is nothing which stands more in need of copious illustration by comparing notes of the results obtained in all sorts of climates and soils.

No plant is more influenced by the nature of

soil, or the degree of summer and winter temperature, or the dryness or moisture of the atmosphere; and the conflicting testimony to be met with so abundantly arises evidently out of unappreciated differences of this kind. For example, the most trustworthy information that the United States can supply about Roses is valueless with us. It is useless to say that the Isabella Gray flowers profusely at Boston; for owing to the wide difference between Massachussetts and England success in the former is not in the smallest degree a guarantee of its attending growth in the latter. And so it proves, for, until artificial heat is provided the hopes of Miss Gray's admirers have, hitherto at least, been doomed to disappointment. Take again the old double yellow Rose (*R. sulphurea*), an oriental plant, the glory of the countries washed by the waters of the Mediterranean; to this day we have no certainty that it will flower properly in England; and when it does none know the reason why. Then there is the vexed question about the value of that variety of *Rosa alpina* called Manettii, after a late able horticulturist at Monza near Milan. How is that to be settled? One grower finds it admirable, another pronounces it worthless. We in our cold heavy Middlesex land, being asked for an opinion say it is a very bad stock here; but that does not justify us in denouncing it everywhere. We want information. Is it for light land only? or for chalk? or for what? We have at present no right to accuse its advocates of exaggeration. A dozen testimonials from amateurs with gardens in different soils would settle the matter one way or other. In truth, as we have already remarked, there is nothing within the whole range of horticulture which so much needs elucidation and explanation as the Rose. Our readers would therefore confer very great mutual benefit on themselves and others if they would carefully communicate the experience they have gained in various soils and climates. It was for such inter-communication that our Journal was originally undertaken, and the unquestionable service it has rendered to horticulture has been greatly owing to the temperate discussion of an infinite variety of facts and opinions freely published in its columns.

With regard to the questions proposed by our correspondent whose inquiry has led to these remarks, we shall be rather curious to know whether the information we ourselves can communicate from personal experience will agree with that of others. First then as to Arthur de Sansal, a thoroughly bad grower; we can make nothing of him. As to Jacqueminot and Jules Margottin they grow famously, and make as good a balloon tree as Coupe d'Hébé itself, which is saying a great deal. The General moreover, on his own legs makes a splendid bed, which on light warm Hampshire land is one of the most effective things we have seen. What Louise Odier may be good for as a weeper we cannot say; she is a good autumn sort. Among weepers, for ballooning, we have a great fancy for a Tea sort called Sombreuil, which grows prodigiously on the common hedge stock; it has fine white blossoms, not very good in form, but most abundant, and the kind is hardy. Caroline Riguet is a capital white, and a strong grower, but nothing like so hardy as Sombreuil. Auguste Vacher seems not to have much merit. We know nothing of Madame Vigneron, and as for Triomphe des Beaux Arts, a beautiful sort undoubtedly, we do not think it is much of an improvement on General Jacqueminot, said to be its father.

While touching upon this subject there is another point on which we think it well to offer a word or two. No one has more constantly than ourselves urged the necessity of reducing the varieties of cultivated plants. The seedsmen's lists of Peas and other esculents, the florists' of Hyacinths, Crocuses, Geraniums, Fuchsias, &c., are great inconveniences, unattended by the slightest advantage to the buyer. But with Roses it is quite different; the more good sorts the better; for if two are much alike in flower they may be quite unlike in manner of growth, in constitution, or duration. Some like one place, some another. Heat is the nurse of one, and the pest of another. One requires dryness, another can only live in damp; and then there is the season of flowering, the fragrance, and a hundred other little peculiarities unknown in the greater part of domesticated flowers. He therefore who really loves the Rose should plant all the sorts he can afford to buy; get them to grow, and himself discard what does not suit him. A field, instead of a garden, is as good a place as any for this sort of investigation; and, since Roses in profusion are what we would most wish to have, so the ample area of a field gives us the best opportunity of gratifying the desire. We for one therefore say to nurserymen: keep plenty of sorts for the various tastes of customers; and for the same reason to the managers of exhibitions: set no limit to the number of sorts which may be exhibited.

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A FEW years since the destruction of ships by dryrot was one of the most formidable items of expense in our dockyards. Ships when scarcely off the stocks were speedily condemned as untrustworthy, while in other cases a large portion of the timbers had to be renewed, before the launching of the vessel. Improved ventilation and a careful selection of timber, independent of the use of any chemical antiseptics, have made such disasters matters of history. The slightest suspicious hue in the wood admitted into the dockyards is quite enough to condemn it, and the condemnation is not attended in general with pecuniary loss, as there are plenty of purchasers of it for other purposes.

Some facts have lately come before us which tend to show that a more accurate inspection of timber in other cases besides ship building might be attended with great advantage. The wheelwright, for example, if he wishes to establish a steady trade, must be extremely particular in the selection of his materials. And for the most part he is sufficiently aware of the wisdom, if not of the necessity of peculiar care. He is anxious to buy the best trees; he does not saw them out till he considers them sufficiently seasoned to make sound work, and he keeps the planks or blocks when cut out for two or three years before he makes use of them. He is not, however, aware that before the trees are cut up, an insidious process is frequently taking place, which is undermining all his precautions. He leaves, for instance, his Elm trees, of which the naves of the wheels besides other parts are made, exposed to the weather; fungi appear in abundance upon the bark, the bark separates, the wood is considered to be ready for sawing, and no longer liable to split, as is sure to be the case if sawed up green, and he therefore fancies that all is well. If, however, he were to examine the cross cut he would perhaps perceive differences of tint in the several parts of the surface, which indicate too surely the penetration of fungus-spawn into the wood, the consequence of which is that whenever it becomes damp, it may be a year or two after it has been fabricated, the spawn grows, the wood is further decomposed, its strength and toughness consequently impaired, and under some more heavy strain than usual the work gives way, to the disgust of the purchaser, and the astonishment of the maker, whose intention was to employ only the best materials.

The facts to which we allude as illustrative of these observations are as follows. A quantity of fine Elm trees were cut down in the winter of 1855, and lay exposed to the weather for seasoning in a wheelwright's yard up to Christmas 1858. The bark was everywhere covered with *Agaricus velutipes*, the white spawn of which penetrated it in every direction. Between the bark and the wood was an abundant development of the peculiar production known under the name of *Rhizomorpha subcorticalis*, which arises from the imperfect growth of several different fungi, where unable to reach the light. The trees were all supposed to be quite sound, but one attracted our attention more especially than the rest. Its trunk was 3 feet in diameter, and was undoubtedly sound to the very base when felled. When however the butt was cut off it was at once apparent that the spawn had penetrated from the bark deeply into the heart wood. In general it was easily traced for 12 inches into the tree, and to show that it was not the sap-wood only which was affected, it is sufficient to state that in one part it had reached to within 4 inches of the centre. This was however on the north side of the tree, on which the rings of growth are usually the narrowest. We did not see a cross cut high up in this tree, but in another of equal dimensions a section half way up presented the same phenomena. An inspection of the wood under the microscope exhibited a quantity of extremely delicate spawn threads, which were however apparently confined to the longitudinal tissue without penetrating the medullary rays. It is quite clear that whereve this wood when used should be exposed to the weather, the spawn would grow, and would, as a matter of course, either cause the decay of the tissues, or if the exposure was sufficiently long develope its proper fungus.

It is evident then that the exposure of timber to the weather for the purpose of seasoning is not unattended with danger. It is not always convenient to place trees under cover, but where this is impossible it may be worth consideration whether it might not be prudent to remove the bark; for though this would not absolutely prevent the growth of fungi, it would at any rate be more evident what was going on, and the wood would be more rapidly seasoned.

In conclusion it may be remarked, that in addition to the mycelium of the Agaric the wood was slightly penetrated by a dark-coloured spawn, on which the perfect plant was not developed. This had impaired the colour of the timber materially, as far as it penetrated, while the spawn of the Velvet-footed Agaric had caused only a slightly paler tint than that of the rest of the wood. *M. J. B.*

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## PRICES OF FRUIT AND FOREST TREES IN NEW ZEALAND.

THE following are notes made at a public auction for the sale of Nelson fruit and forest trees in the Market Place, Christchurch, Canterbury, New Zealand. The consignment was advertised to consist of Cherry, Plum, Pear, Apple, Currant, Filbert, Sweet Chesnut, Mulberry and Peach; English and Turkey Oak, Ash, Horse Chesnut, Elm, and Silver Gum (*sic*); Roses; Herrya (*sic*) japonica, Dutch Honeysuckle; 3000 Privets and 30,000 Hawthorns; the season having arrived for planting fruit and forest trees, but more particularly fruit trees. The large prices realised, and keen competition in bidding is owing to the great scarcity there is of such things, and shows how prevalent the desire is to possess trees and fruits of our fatherland.

The following table will give English nurserymen some idea of the demand for fruit and forest trees here.

| Name. | Height. | Age. | Quantity. | Price put up at. | Price knocked down at. | Remarks. |
|---|---|---|---|---|---|---|
| FRUIT TREES. | | | | *s. d.* | *s. d.* | |
| Cherries .. .. .. | 18 inches | 1 year grafted | One dozen | 14 0 | 24 0 | Good sorts — Bigarreau, Black Heart, &c. |
| Plums .. .. .. | 18 inches | Ditto | Ditto | 12 0 | 25 0 | Good sorts. |
| Pears .. .. .. | 2 feet | Ditto | Ditto | 21 0 | 24 0 to 36 0 | Marie Louise, and other good sorts |
| Apples .. .. .. | 18 inches | Ditto | Ditto | 15 0 | 21 0 to 27 0 | Good kinds. |
| Filberts .. .. . | Ditto | 1 year seedlings | Half a dozen | 5 0 | 10 0 | |
| White Currants .. | Ditto | 1 year old cuttings | One dozen | 12 0 | 17 0 to 19 0 | |
| Black ,, .. .. | Ditto | Ditto | Ditto | 5 0 | 12 0 | |
| Sweet Chesnuts .. | Ditto | 1 year seedlings | Ditto | 21 0 | 40 0 | Very scarce. |
| Peaches .. .. .. | 2½ feet high | 1 year budded | Ditto | 15 0 | 45 0 | Royal George, and other good sorts. |
| Dutch Medlars .. .. | 1 foot high | 1 year seedlings | Single plants | 12 0 | 15 0 to 19 0 | Very scarce. |
| Mulberries .. .. | Ditto | Ditto | Ditto | 10 0 | 15 0 to 20 0 | Ditto. |
| Walnuts .. .. .. | 9 feet high | 6 years old | One dozen | 15 0 | 27 0 | Plentiful. |
| FOREST TREES, &c. | | | | | | |
| English Oaks .. .. | 9 feet high | 6 years old | One dozen | 15 0 | 27 0 | Scarce. |
| Laburnums .. .. | Ditto | Ditto | Ditto | 10 0 | 21 0 | Plentiful. |
| Turkey Oaks .. .. | 9 inches | 1 year seedlings | Ditto | 8 0 | 12 0 | Scarce. |
| Ash . .. . | Ditto | Ditto | Ditto | 10 0 | 15 0 | Ditto. |
| Elm .. .. .. | 2 feet high | 2 year seedlings | Ditto | 7 0 | 15 0 | Ditto. |
| Horse Chesnut .. .. | 1 foot high | 1 year seedlings | Single plants | 2 6 | 8 0 | Very scarce. |
| Sycamore .. .. | 9 inches | Ditto | 100 plants | 20 0 | 36 0 | Scarce. |
| Silver Gums .. .. | Ditto | Ditto | One dozen | 10 0 | 12 0 | Common. |
| Roses .. .. .. | Ditto | 1 year old cuttings | Single plants | 1 0 | 2 6 | Ditto. |
| Common Privet .. | Ditto | Ditto | 1000 plants | 6 0 | 8 0 | Plentiful. |
| Hawthorns . .. | Ditto | 1 year seedlings | Ditto | 12 0 | 14 0 | Ditto. |

The climate is very nearly that of this district, and suits fruit and forest trees remarkably well. The six-year-old Oaks had young shoots from 3 to 4 feet in length and tap roots of similar size. They were excellent examples of what forest trees may become here by-and-bye. Acorns of the English Oak from England are realising the high price of 14*l.* per bushel and Ash seed 17*s.* per lb.

I have assisted to lift during this month and beginning of last more than 3000 different sorts of fruit trees for distribution in every part of this province. Apples one year grafted are sold at 2*s.* 6*d.* each; two year, 3*s.* 6*d.*; three years and upwards, 5*s.* to 6*s.* Pears are much higher priced. Two thousand at least of the fruit trees distributed have been Apple trees. The great demand for these I can attribute to nothing else but the high price we have to pay for the Apple in its ripe and green state, namely, 1*s.* 4*d.* for a lb. The Apple promises well, and seems adapted to our district. Nonpareils attain the size of the Blenheim Orange, and so on. With reference to this king of fruits in this part of New Zealand, I may state that it will by-and-bye, under attentive and scientific cultivation, become an increasing treasure both of wealth

and utility to the inhabitants of this and the neighbouring provinces.

I may add that I tried an experiment this last season in the garden of a friend with respect to planting Potatoes. I planted 10 lbs. of sets in the way suggested by the late T. A. Knight, Esq. I gave them plenty of room by having the rows a yard asunder, and the Potatoes 18 inches apart from set to set in the row. Instead of earthing them up in ridges in the usual way, when ready for that operation, I laid the shoots flat down on the surface of the ground and placed the earth upon them, and from time to time as growth increased I added more earth until they stopped growing. At digging-up time I was well rewarded for my trouble. The crop of good-sized Potatoes weighed without chats 130 lbs. Four or five joints up the stem the Potatoes hung like ropes of Onions, but the nearer the top of the shoots the Potatoes became gradually smaller. Here the Potato is particularly productive. *William Swale, July* 25, 1858.

## ON THE BRITISH LICHENS:

### THEIR CHARACTER AND USES.

By CUTHBERT COLLINGWOOD, M.B., F.L.S.

No section of the organic kingdom is, perhaps, at first sight, so valueless as Lichens; nevertheless, the words which that great philosopher, Shakespeare, puts into the mouth of Friar Lawrence when he goes forth in the morning to cull his simples, are peculiarly applicable to them—

"For nought so vile that on the earth doth live,
But to the earth some special good doth give."

For whether we regard them structurally or from a commercial point of view, or even merely æsthetically, as an element of the picturesque in the landscape, they are equally worthy our attention.

Linnæus applied to the Mosses the term *servi*, or slaves, and it has been considered by some that this term would have been more applicable to Lichens; but *servi* strictly means prisoners of war reduced to slavery *(bello servati)*. The title, however, given by the great Swede to the Algæ, viz., *vernaculi*, and which signifies slaves born in their master's house, rather expresses the position of the family in question; for where they first spring up, there they live a life of labour as it were, reducing the solid rock to powder, and rendering it fit for higher vegetating plants—and there, after for an almost unlimited period, they die.

The most important uses therefore of this tribe of plants — those which are most general in their influence, and which affect the physical conditions of the globe—consists in their capability of producing and disseminating fertile cells, which can find a suitable nidus in situations where no other vegetable production can find food capable of assimilation. For like Algæ among vegetables, they possess no true root; and like them also, and entozoa among animals, they derive nourishment from the surrounding fluids. Air and moisture appear to supply them with all the materials necessary for their growth, which is consequently slow and imperceptible. Thus they are able to affix themselves in situations in which no other vegetable could exist. They are the first workers upon newly-exposed rocks—they are also the last organisms met with upon the most elevated Alpine crags, and in the highest Polar latitudes. Lecidea geographica is found in both these situations—a grey crustaceous Lichen; nevertheless their geographical distribution is not by any means confined to such spots, for the green and coloured foliaceous species attain their maximum development in the regions of the tropics.

It does not appear that there is any rock whose hardness and impenetrability suffice to secure it from their attacks. Lecidea immersa, rimosa, and epipolia prefer calcareous rocks; Lecidea lucida and intricata sandstone: Lecanora frustulosa grows upon the Scotch micaceous schists; Lecidea geographica, on trap. Many attack granite, as Lecidea polytropa, and Lecanora ventosa; Lecanora tuberculosa prefers flints; and even quartz in its smoothest form is disintegrated by Gyrophoras and Lecidea geographica. Many of them secrete an acid (chiefly oxalic) by means of which they corrode the rock, and become inseparable from it. As a general rule, the crustaceous Lichens affect rocks and walls, and foliaceous ones the barks of trees; but this is not universal. Some, however, are only found upon wrought wood; others affect particular trees; many grow upon Mosses; and one, Parmelia hypnorum, appears to lie quite loosely upon the ground.

If, in the animal or vegetable kingdom, we attempt to form a chain of beings, in which one shall succeed another in regular order, we shall be disappointed; for we shall ever be branching off from the main line, to accommodate forms which will not be bound by any law of a single series. Kingdoms of nature, as well as sub-kingdoms, rather run parallel with one another, than succeed each other. Fungi and Algæ are not so much "inferior forms" of vegetation, as parallel series of forms, differing in the main points of their habits and economy, but still both of them alike touching in certain points the class we are considering. Thus some Lichens so much resemble fungi in appearance, that they were long passed over as such by botanists, who did not make fungi an especial study. The genus Bæomyces (especially B roseus) resembles in odour, texture, and form, a Helvella. Acharius long referred Endocarpon pulchellum to the genus Thelephora. Collema spongiosum used to be mistaken for a Peziza. So also Lecanora pezizoides, &c. On the other hand, the fam. Algæ has its imitators. Collema pubescens was long claimed as an Alga, and both Verrucaria submersa and Endocarpon miniatum resemble Algæ in their habit. Hence has arisen much misconception, and very erroneous views as to the permanency or otherwise of species and classes, which more enlarged views and increased knowledge have helped to dispel.

Most Lichens arrive at perfection in the winter season, and afford much employment to the botanist at that period which is usually looked upon as the dead season. Their powers of absorbing moisture also render them more conspicuous in wet weather, when they are sometimes totally changed in appearance and in colour; as Endocarpon sorediatum, which thus changes from earthy-brown to olive-green. From a consideration of these facts, we shall not be surprised to find that the largest and handsomest Lichens inhabit Alpine regions. The most conspicuous British Lichen, Parmelia glomulifera, whose thallus is often 2 or 3 feet in diameter, as well as the handsome Parmelia caperata and conspersa, and the most splendid Cup-lichen, Scyphophorus bellidiflorus, whose scarlet apothecia resemble the flower of a double red Daisy, are Alpine. So also are the grass-green Solorina crocea, and the fimbriated Usnea florida, which has a strong claim to be the flowering Lichen, just as Osmunda is the flowering Fern.

There are many obscure points in the history of Lichens which require diligent examination; and although they have attracted a large share of the attention of able inquirers of late years—as Acharius, Swartz, Wahlenberg, Borrer, Schærer, Fries, Fée, Meyer, Wallroth, Montagne, and Von Flotow—still there is a wide field in which a student, armed with perseverance and ardour, may add to our knowledge. Many species are extremely ill-defined, and present difficulties of distinction of no ordinary kind. Such are the close affinities of Verrucaria muralis and V. viridula, as well as those existing among the species of the genus Scyphophorus, which Sir J. E. Smith characterises as one of the most difficult problems in botany. Their peculiar mode of reproduction is not their least remarkable and puzzling character; and it cannot fail to strike the observer with considerable astonishment, that the shield-like fructification should so frequently be absent. Not only is it very rarely seen in certain species, as Parmelia sinuosa and Borreri, Sticta limbata, &c., but the shields of Cetraria Juniperina and nivalis, Cornicularia vulpina, &c., are absolutely unknown; and yet these Lichens flourish in abundance. No wonder that the theory of spontaneous generation gained strength from these facts, until G. F. Meyer established the fact that Lichens were possessed of a layer of cells, which are capable, in the absence of apothecia, and without impregnation, of reproducing the plant. This *gonidic* layer, as it is called, lies immediately beneath the cortex of the thallus, and its isolated green cells are peculiar and characteristic of this class of vegetables; being "intermediate in their function between the vegetative and reproductive cell, assuming the offices, and partaking of the characters of both." According to Schærer, their reproductive power is even greater than that of the spores. The whole history of the reproduction of the Cryptogamia is most remarkable, and taken in connexion with some facts referred to by Schleiden in his last edition of "The Plant," very significant. It seems as though the whole theory of generation, both of plants and animals, were in a transition state, from the pressure of the facts alluded to, added to those of parthenogenesis, &c.; and awaits the time when a sufficient collection of facts shall authorise a new generalisation.

The author next proceeded to refer to the uses of Lichens as food and medicine. The nutritive properties of Lichens chiefly consist of gum and starch—the gum very similar in its character and properties to gum arabic, and the starch of two kinds, viz., lichenin and inuline, the former peculiar to Lichens, the second shared by some plants. Lichen starch may be considered intermediate in its properties between ordinary starch and dextrine. It exists largely in Iceland Moss *(Cetraria Islandica)*, which is consumed to a great extent even in this country, the imports having reached the amount of 20,500 lbs. in a year. It is here, however, used rather as a medicine than as a food. Gyrophoras and Ramalina farinacea also yield much starch and gum, the latter producing a mucilage almost equal to Iceland Moss. Rein-deer Moss *(Cladonia rangiferina)*, although not eaten in this country, nor indeed by man anywhere, must not be omitted; for in ice-bound regions, where man is dependent upon his domestic animals for everything, those animals find a table spread bounteously for them in the most unpromising situations, where their instinct alone would lead them to search for it.

The medicinal properties of Lichens were more valued under the reign of signature medicine than they are at present. Thus, Cetraria Juniperina, a very yellow Lichen, was long in repute as a useful medicine in jaundice, for no other reason apparently than because of its resemblance to the tint assumed in that disease. So, also, Sticta pulmonaria, from the resemblance its thallus bears to the lobes and pits of the lungs, was thought useful in pulmonic disorders. But, as Sir James Smith observes, the signature was not an untrue one, for this Lichen possesses, in a marked degree, those mucilaginous and bitter properties which make certain Lichens so useful as pectoral medicines. Peltigera canina was long in vogue as a specific against hydrophobia; while P. aphthosa is still used as a medicine for aphthæ, and Scyphophorus pyxidatus for whooping cough. But the common properties of these and many others are the same—viz., their bitter principle and their demulcent character. Some Lichens possess them to a more marked extent than others, but both are possessed in an eminent degree by Iceland Moss, or Lichen as it is called *par excellence*; which may, therefore, fairly supersede all others for medicinal purposes, and which in some cases is really a very useful production. The medicinal principles of Iceland Moss consist chiefly of two acids—cetraric ($C_{34}H_{16}O_{15}$), and lichestearic ($C_{21}H_{25}O_6$), according to Schneidermann and Knop's analysis.

But the properties which render these vegetables most valuable in a commercial point of view are the dyes which they so abundantly yield. The most important dye-Lichens are themselves colourless, and require certain combinations to be effected before they become apparent. Lindsay, indeed says, that the more showy and brilliantly coloured the thallus, the less probability is there of the Lichen being possessed of valuable colouring matters. Thus the scarlet apothecia of Scyphophori and the yellow Parmelia parietina are valueless as dye-Lichens.

The accidental action of ammonia upon Lichens has usually been the cause of the discovery of their dyeing properties. Thus Lichens are often noticed to be tinged with red in situations where they have been exposed to the urine of wild animals, a fact which always points to their capability of yielding dyes in combination with ammonia; and this is the principle of Hebot's test, which consists in digesting the powdered Lichens at a temperature of 130° in a solution of ammonia; when if fit for the dyer, it will yield a violet-red liquor.

Green, yellow, brown, red, and purple dyes have been obtained; and these are in the order of their value and application. Green is very rare as a dye, but Lindsay mentions that Lecanora ventosa yielded a rich green reaction with ammonia, "a reaction," he adds, "which we found in no other Lichen whose colorific capabilities we examined." Among yellow dyes, Cornicularia flavicans and vulpina afford the chief—in the cortical layer of these it exists in the form of a resinoid principle (vulpinic acid.) Usnea barbata affords an orange dye in America. The Scottish peasantry have long been in the habit of collecting Lichens, which they macerate in tanks of urine, applying their colorific products (chiefly shades of brown) for the dyeing of their stuffs. Among those so used are Parmelia ceratophylla and saxatilis, and Sticta pulmonaria.

Red dyes are yielded by Ramalina scopulorum, R. pollinaria,

## THE GREAT OREGON PEAR.

WE find in the American "Country Gentleman" the following account of what bears the above name, but is probably the well-known Uvedale's St. Germain Pear. It is a striking illustration of the extraordinary size acquired in California by European fruits. A Mr. Walling states that he raised on several two and three year grafts eleven Pears that weighed in the aggregate 34 lbs., the heaviest weighing 4 lbs. and the lightest 2 lbs. "The scions were taken from a tree of the Pound Pear, or English Bell variety—were grafted into the White Thorn, very common here along the large watercourses—two trees, the tops bound together, the heels of which are situated about 8 feet apart, the base of the grafts being about 4 feet from the ground." Mr. Walling would further state that the soil is made land—black, rich, and deep, and somewhat moist. He placed under the tree during the growing season a half-barrel tub filled with water. "The location of the trees is distant from the river some 20 or 25 rods. The largest Pear, of which I send a full-sized representation, measured 18 inches round it, and 21 inches lengthwise. I refused 75 dols. for it previous to its leaving Portland. The production of such an enormous Pear has awakened a new and increased interest here in the fruit line." This confirms the account given by Mr. Seyd of the extraordinary size at which European garden produce arrives in California, concerning which people in Europe have been incredulous. Among other instances that author gives the following, viz.:—"A Beet weighing 73 lbs.; a Carrot weighing 10 lbs., measuring 1 foot 8 inches in circumference, and 3 feet 3 inches in length; fifty in the same bed of equal size. An Onion weighing 2 lbs. 15 ozs., and measuring 22 inches in circumference. A sweet Potato weighing 11 lbs. 2 oz., and one 21 lbs. An Irish Potato weighing 7¼ lbs. A bunch of Potatoes from a single eye weighing 10 lbs. Grapes — several bunches, weighing over 4 lbs. each, one bunch weighing 14 lbs. A Citron Lemon, 16½ by 18¾ inches in circumference, weighing 2 lbs. 14 ozs. Peaches in 28 months from the seed over 9 inches in circumference, and weighing from 7 to 8½ ozs.; 34 of these on one tree. An Apple measuring 15⅓ inches each way, and weighing 23 ozs. Eight Onions, weighing together over 25 lbs., one weighed 4 lbs. 2 ozs. A Quince measuring 14¼ inches one way, and 13¼ the other. A Beet measuring 3 feet 6 inches in circumference, but as yet young, not having completed its growth. Salad heads as big as ordinary Cabbage in the old countries, with but little 'green;' the heart, or 'white,' being very large, and of the greatest fineness and mellowness. A Cabbage weighed 32 lbs., not overgrown and coarse; the outer leaves had been taken off before sending it to market, and the solid firm head weighed as stated 32 lbs; the enclosing leaves were already white, and when two or three layers had been pulled off, the whole head remaining was as white as snow, and after a part was boiled, it was found to be of the utmost fineness and delicacy of flavour."

and Psychotria prunifera. But the dyes which render this tribe of plants important in a commercial point of view are derived from a few species which go under the general name of orchils. The chief of these are the species of Roccella and Lecanora, which yield a rich and enduring colour. The orchil dyes are yielded by Umbilicaria pustulata and pertusata, Parmelia perlata, and some Urceolarias. There are, however four species, which yield the finest dye, Roccella tinctoria and fuciformis, and Lecanora Parella and tartarea. The Roccellæ are maritime in character, and in Britain are confined to the south coasts. About 600 tons are annually imported for the purpose of manufacturing orchil, the best being from the Canaries, costing £60 per ton; and Azores, £50 per ton; while the Cape and Indian fetches £30. The Lecanoræ are not uncommon in Scotland, upon bark stones and trees, the Perella yielding the best dye. Litmus is principally prepared in Holland by a secret process from orchil, by the addition probably of potash; and with an infusion of this lichen-blue, as it is termed by Pereira, paper is dipped, and thus prepared for testing. *Pharmaceutical Journal.*

## Home Correspondence.

*Trees for Avenues.*—I have enclosed a twig with leaves on it of Ulmus sinensis gathered January 1. The tree is very conspicuous still in its autumn foliage, being the only deciduous forest tree that has any leaves on excepting the dead ones that adhere to the Turkey Oak. I send these leaves from reading your remarks on the avenues about to be planted in the Parks, in which I generally agree, especially in what you say about Lime trees. I am a lover of all trees, but of some more than others. I however object to Lime trees from their not being early in leaf, and being one of the first trees to shed their foliage; also on account of their liability to honey dew in excess, and the habit this tree has of throwing out lateral branches from the ground, renewing them when shrouded. The scent of the blossoms, too, although very well for a single tree, would be sickening in an avenue. I would suggest the Turkey Oak, provided it will grow in the London clay and gravel as it does here—straight, rapidly, and lofty, every tree varying in form of leaf, and retaining them nearly all winter. The Ulmus sinensis, of which I send leaves, has a rather pendent growth in the young shoots and a tendency to branch—the first a great recommendation, giving it a weeping character; the latter objectionable for an avenue, unless capable of being corrected by pruning. It would be a perfect tree to line the promenades of Cheltenham. On the whole my plan would be to plant alternately two different kinds, first, visiting Syon or other localities of the same soil and climate, and learning with certainty what trees flourish in old age and grow rapidly. I must not omit one fast-growing tree, the Acer pseudo-platanus, so full of delicate blossoms of a yellow green in April as to appear to be in leaf, so beautiful in summer from the finely cut leaf, and so gorgeous in autumn with its red stalks and orange leaves. Since writing the above I have been walking in a plantation of evergreens, which are so beautiful that I have second thoughts whether one avenue at least should not be planted with Conifers, provided the soil will suit and it is far enough away from smoke. My choice, influenced by my own locality, would be to plant Beech; but still I would recommend the planting one avenue at least with evergreen Conifers rather thickly, and including some of the new kinds, which if afterwards proved unfit may be cut out. But on no account when planting for posterity omit that which may prove at last the glory of the avenue. *Thomas C. Brown, Cirencester.* [Conifers will not thrive at Kensington Gore. We doubt the Elm sent us being U. sinensis. As to common Sycamores, they are by no means handsome enough.]

*Cox's Orange Pippin Apple.*—In reply to some remarks that have recently been made condemnatory of the decision of the judges who awarded a prize to this Apple at the Great Fruit Show at Willis's Rooms in 1857, I beg to say that the award in question was not lightly or carelessly given; but after carefully tasting the several Apples exhibited for superior flavour, it was found by the judges that Cox's Orange Pippin was better than the Ribston; under such circumstances no other course was open to the judges than to award the prize to the Orange Pippin. Judges have nothing to do with the question of the operation of future seasons upon the quality of fruits; they have merely to reward merit where they find it. The same Apple I find obtained the 2d prize at the Horticultural Society's second Great Fruit Show in 1858, the Cornish Gilliflower coming first. This recognition of the great merits of an Apple before unknown by a different set of judges is surely sufficiently confirmatory of the excellence of the Apple; that another Apple not the Ribston should beat it detracts nothing from its deserved fame. *A Judge of* 1857. [We agree with the judges complained of.]

*Importance of Selecting Seed, &c., for Early Crops.*—When visiting the district about the Land's End, in Cornwall, in June, 1858, where an abundant supply of early Potatoes is raised for the London and Birmingham markets, I was informed by one of these cultivators, a thorough Cornish native, that having heard that if they could procure their seed Potatoes from some warmer country enjoying an earlier spring they might probably obtain earlier crops in Cornwall, "we procured," said he, "some seed Potatoes from Portingal [Portugal], and from them obtained Potatoes a fortnight earlier than from any other sets." *R. J. B.*

*A Corner of the Kingdom where a very useful Vegetable Production is still Unknown.*—After climbing up the Loggan Rock (Cornwall) my guide noticed me plucking a few leaves of the Wild Sorrel (Rumex acetosella) and eating them, the day being very warm. "That's a pleasant herb," said he. "They tell me there's a grand herb, something of that nature, now grown in large quantities; they call it Rhubarb; have you seen it, sir?" On my replying in the affirmative, and repeating the same question to him, he said, "No, I have not yet seen the plant, but hope to do so some day or other." *R. J. B.*

*Yucca gloriosa.*—A lady having noticed Mr. Cuthill's inquiry about this in the *Gardeners' Chronicle*, writes to say that here the Yucca grows and flowers freely. She had them from a place where they grow in masses, here and there throwing up flowering stems to the height of 12 feet and more, covered with white bell-shaped flowers, in perfection in July and August; but for the last four or five years the plants have thrown up flowering stems in autumn. These never have come to perfection, and the summer bloom is lost. This season she has had these late shoots cut off the moment they appeared, and thus hopes to restore the proper seasons. She has had three stems in flower here at once. *Ireland, Dec.* 28.

*Fungus Spawn.*—What is the name of the inclosed plant? It grew below a gravestone, inside an old church, not far from the wall, and in some places formed a thick interlaced mass. The church is in the middle of a large manufacturing town, and it is believed that there has not been any Ivy, or other flowering plant growing near the walls for above 100 years. *S. P., Chepstow.* [It is what was once called a Rhizomorpha, now known to be the mycelium or spawn of some large fungus.]

*Propagation of Scarlet Geraniums.*—A correspondent (see p. 8) wishes to know whether it is not possible to have as good Scarlet Geraniums propagated in March as in September. I should say he would not, for two reasons: in the first place, Geraniums struck in autumn flower sooner after being bedded out than those struck in spring, a consideration of some importance; secondly, plants from spring cuttings are generally propagated in heat, and consequently are more tender and less likely to withstand spring frosts than September plants: and last, but not least, a Scarlet Geranium to produce 20 good strong cuttings in spring equal to those propagated in autumn would take up as much room as three cutting pots each holding 10 autumn-struck plants. *A Practical Gardener.*

*Rain at Cirencester in* 1858.—

| | Inches. | | Inches. |
|---|---|---|---|
| January .. .. .. | 0.60 | Brought forward .. | 15.58 |
| February .. .. | 1.0 | August .. .. .. | 1.97 |
| March .. .. .. | 6.90 | September .. .. | 2.94 |
| April .. .. .. | 5.25 | October .. .. .. | 1.76 |
| May .. .. .. | 2.65 | November .. .. | 0.83 |
| June .. .. .. | 3.18 | December .. .. | 2.56 |
| July .. .. .. | 2.0 | | |
| Total .. .. | 15.58 | Total .. .. | 25.64 |

Average of 12 years, 31 inches. *T. C. Brown.*

*Tree Ferns.*—Among the Tree Ferns of Australia and New Zealand are there any, especially from the latter country, that might with any degree of probability be expected to bear the climate of the south of England? [We think not, unless in some sheltered cove in S. Cornwall or Devon.] If so, could not spores be conveyed to England and propagated there? What a desirable addition to our ornamental park scenery. *G.*

*Flower-pot Drainage.*—I beg to suggest the use of perforated earthenware cylinders instead of potsherds, stones, &c., for this purpose. These, if merely covered with a thin layer of Moss, fibrous-rooted Peat, or charcoal, would, doubtless, answer admirably. *A. B. C.*

*Hardiness of the Petunia.*—It may not be uninteresting to know that under proper treatment many plants may be made to endure more cold than most people imagine. I have several things illustrative of this, but that which I consider the most striking is a "Shrubland Rose" Petunia, of which I send examples. This has stood two summers and last winter against the wall of my dwelling-house, and seems in a fair way to stand this winter. It has never received the slightest protection of any kind, except the wall against which it is nailed. *F. J., Faringdon, Berks, Jan.* 5. [The specimens sent were fresh and green, and evidently in vigorous health.]

## Societies.

BOTANICAL OF EDINBURGH: *Dec.* 9, 1858.—The President in the chair. Among donations to the museum at the Botanic Gardens were:—From J. Balfour, Esq., Melbourne, per B. Stewart, Esq., caterpillars with a species of sphæria growing from their bodies. From R. C. Bell, Esq., Milton, Lockerbie, bark of Quillaia Saponaria from South America. Mr. Bell remarks—"I practised for 15 years in Chile, where an extract and infusion of this bark have been long in great repute for the cure of baldness and for promoting the growth of hair. Its saponaceous qualities render it useful in cleansing the hair. It is also administered medicinally as a febrifuge." From Mrs. R. Brooking, Rossville, per Mrs. Miller, cones and roots, of a remarkable length, of Abies nigra; also basket and cloth, made from the roots by the Indians. Professor Balfour read the following notice from Mr. Gair relative to the cones of Cupressus Lambertiana, from a plant grown at the Kilns, near Falkirk:—"The plant from which these cones are taken is of the hardy spreading variety of the species known as C. Lambertiana. It is only about 8½ feet high, and 7½ feet through at the widest part, and the stem near the ground is about 1 foot in circumference. The plant has never been injured by frost, while others of the same spreading habit, got at the same time, have been severely injured here; and many of the upright growing species, generally known as C. macrocarpa, have been completely killed by frost and exposure. The plant stands fully exposed to the south. There are 23 cones upon it, and it is remarkable that they are all on the northern side of the tree, and generally on that part of the tree which is between 2 or 3 feet from the ground. There are two clusters of four cones, one cluster of three, two clusters of two, and the rest are single cones. They are all towards the extremity of the branches, as in the specimen sent. Mr. Robertson, of Golden Acres Nursery, sent a dried specimen of Œnothera tetraptera, grown from seeds four years old, which had been enclosed in gum. The seeds had been received from Mr. J. E. Hussey Tarn. "They were soaked in cold water about 20 hours before they were sown, and they were afterwards placed in heat until they grew. The gum referred to contained seeds of Poppies, Lentils, Acacias, Mesembryanthemums, and Convolvulus, but none of the sorts germinated except the Œnothera tetraptera, of which nearly every seed which was sown germinated." The following communication was read:—Account of an Excursion in Switzerland with Pupils, in Aug. 1858, by Prof. Balfour. The chief botanical ground which they examined was the Grimsel and Zermatt, where they made a large collection of Alpine plants. Among them may be mentioned species of Ranunculus, Arabis and Cardamine, Viola, Arenaria, Gypsophila and Silene, Astragalus, Oxytropis, Potentilla, Epilobium, Sedum and Crassula, Saxifraga, Achillea, Gnaphalium, Arnica, Artemisia, Aster, Erigeron, Chrysanthemum, Hieracium, Senecio, Campanula, Phyteuma, Rhododendron, Gentiana, Veronica, Linaria, Pedicularis, Androsace, Primula, Salix, Orchis, Tofieldia, Juncus, Luzula, Carex, along with numerous Grasses, Ferns, Mosses, and Lichens. These were observed in all between 500 and 600 species. Professor Balfour remarked that it is of importance to the student of botany to see the floras of different countries. It is thus only that he can acquire a correct view of the geographical distribution of plants, and correct his notions regarding the species found in his own country. Mr. Bentham says—"There is probably not a single species of flowering plants peculiar to our islands. Those which are confined to our western counties and to Ireland may generally be traced down the western departments of France to Spain and Portugal; the mountain plants of Scotland are more or to be found in greater abundance in Norway and Sweden, and often, though at great elevation, on the Alps and Pyrenees; in our eastern counties there are occasionally found a very few of the east European species, which, although extending over the Scandinavian Peninsula and Denmark, do not in Central Europe spread much to the westward of the Rhine; our southern coasts here and there shelter the extreme northern representatives of species common in the warmer regions of southern Europe, whilst the bulk of our flora, the more common inhabitants of our low hills, plains, and sea-coasts, are, in similar situations, more or less spread over the continent of Europe and that vast portion of temperate or northern Asia under the Russian dominion, extending frequently beyond Eastern Siberia to the shores of the Pacific. During the excursion the party met with a great number of plants belonging to the British flora. In the Alpine districts, which were particularly examined, they met with many of the rare species of the Scottish mountains; while on the less elevated districts the flora of the British Islands, called Germanic by Forbes, was seen. Professor Balfour noticed the general distribution of plants on the Alps visited by the party, dividing them into different regions:—1. The region of the plains or lower hills, on which the common Germanic flora occurs. 2. The lower mountain region, extending to about 2000 or 2500 feet, called by botanists the zone of the Chesnut. 3. The upper mountain region, from about 2000 to 4000 feet, characterised as the zone of the Beech, and including the Ash, Cherry, Oak, and Maple. 4. The sub-Alpine region, from 4000 to 6500 feet, where many Coniferous plants occur, as Fir, Spruce, Larch, and herbaceous species, such as Alchemilla alpina, Gentiana verna, Dryas octopetala, Saxifraga oppositifolia, &c. 5. The Alpine region, from about 6000 to 7000 feet, where shrubs, such as Rhododendron ferrugineum, Juniper and dwarf Alder, occur. 6. Subnival region, from about 7000 to 8500 feet, in which the plants which attain the highest elevation are seen belonging to genera already enumerated. Some of these plants extend to 10,000 or even 11,000 feet. Some of the Genera Saxifrages, Aretias, Silenes, and Ranunculuses have been found at 10,700. Chrysanthemum alpinum and Phyteuma pauciflora have been gathered at the Glacier, on Monte Rosa, at the height of 11,350. 7. The nival or snowy region destitute of all vegetation. Office-bearers were chosen for the ensuing year, and several new members elected.

## Notices of Books.

*Mrs. Kemp's Conversations on England as it Was and Is, designed for Schools and Home Tuition.* (Longmans, 8vo) In 673 well printed pages Mrs. Kemp carries her pupils through every county in England, pointing out what is most noteworthy in each, whether historically, archæologically, commercially, or otherwise. The plan seems to have been

prevented, the volume containing a large quantity of really useful information arranged upon sound principles, and placed in a familiar form. For ourselves indeed we cannot but think that the teaching by means of imaginary conversations is a mistake; this however is an opinion in which we are far from saying that teachers and pupils concur, whatever may be the case with mere readers. We must give one example in justice to the fair authoress; and select what relates to Cardinal à Becket, whose history is of course inseparable from that of Kent:—

"*Mrs. Leslie.* Some of the things I shall have to tell you would appear very odd at the present day. At the period when Becket was in the highest favour with his sovereign, Henry the Second, whom he rivalled in the magnificence of his entertainments, his biographer, after speaking of his splendid hangings, gold and silver vessels, and the luxury of his table, gives a further instance of his extravagance by stating that 'the apartments of the chancellor were every day in winter covered with clean hay or straw, and in summer with green rushes or boughs, lest the gentlemen who came to visit him, and who could not, by reason of the great number of the guests, find room to sit at table, should soil their clothes by sitting on a dirty floor.'—*Kate.* I think the Flemings did not set up the woollen manufacture in England before it was wanted. There appears to be such an inconsistency in drinking out of gold and silver, and having the floor covered like a stable! But pray go on, mamma.—*Mrs. Leslie.* Becket's style of travelling was even more ostentatious than his household appointments. Everywhere he went he was attended by a vast retinue of barons, knights, esquires, priests, huntsmen, falconers, and a host of serving men splendidly attired. His baggage was conveyed in eight large waggons, drawn by five horses each. One waggon contained the furniture of his chapel, another that of his bedchamber, a third conveyed his plate and wardrobe, a fourth his ale and wine, while the remainder were appropriated to his kitchen utensils and the baggage of his servants.—*Herbert.* What a motley cavalcade! Of course the kitchen apparatus was under the care of the black-guard.—*Kate.* The black-guard, Herbert! What can you mean?—*Herbert.* Just what I say, Katie. I have lately been reading Trench on the 'Study of Words,' and I find, that in the times of which we are speaking, when it was usual for a person of distinction to carry his furniture with him from one of his castles to another, the care of the kitchen utensils fell to the lot of the most menial of his servants, who, from the black or dirty nature of the goods conveyed by them, were called the black-guard. There was then nothing disreputable in the appellation, it simply denoted the particular department of those to whom it was applied. In course of time the word became associated with character, and any one guilty of a dishonourable, or as it was vulgarly expressed, a dirty action, was called a blackguard. But I am sorry I have interrupted you, mamma.—*Mrs. Leslie.* I was merely going to add, in reference to Becket's style of travelling, that in a journey he made through some parts of France, the people exclaimed, 'What manner of man must the king of England be, when his chancellor can travel with so much state?'—*Willie.* But you know, mamma, you have to tell us about the change in Becket during the latter part of his life.—*Mrs. Leslie.* As soon as Becket was made Archbishop of Canterbury, he gave up his former gay and luxurious style of living, and became all at once the most austere and solemn monk. Nothing could exceed the severity of his self-inflicted penances; he wore rough sackcloth next his skin, and changed it so seldom that it was full of dirt and vermin. His usual diet was bread, and his drink water in which Fennel had been boiled, on purpose to make it unpleasant to the taste. He daily washed the feet of 13 beggars, and mangled his back by frequent scourgings.—*Marion.* I suppose it was all this self-mortification that gained him the name and reputation of a saint.—*Mrs. Leslie.* In that ignorant and superstitious age, his assumed sanctity made him while living an object of veneration to the people; and the manner and circumstances of his death invested him with the glory of martyrdom. He was, moreover, an Englishman, and the first of Saxon blood who had attained to any high position in church or state since the Norman conquest. All these circumstances combined to make his shrine more frequented than that of any other in England. You will have some idea of the estimation in which St. Thomas à Becket was held by his ignorant and superstitious votaries, when I tell you the value of the contributions made on two successive years to *his* shrine, the *Virgin Mary's*, and *Christ's*. The offerings amounted to—

| First year: | £ | s. | d. | Second year: | £ | s. | d. |
|---|---|---|---|---|---|---|---|
| Christ's altar .. | 3 | 2 | 6 | Christ's altar .. | 0 | 0 | 0 |
| Virgin Mary's .. | 63 | 5 | 6 | Virgin Mary's .. | 4 | 1 | 8 |
| Becket's .. .. | 832 | 12 | 9 | Becket's .. .. | 954 | 6 | 3 |

*Kate.* How very shocking to set up Becket above the Saviour."

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*The Illustrated Bouquet*, published by Messrs. Henderson, of the Wellington Road Nursery, improves with time. Part V. now before us contains some very remarkable things extremely well figured. First and foremost is a capital figure of the Bootan Rhododendron called R. Nuttallii, certainly one of the most glorious plants in cultivation, not yielding precedence to even R. Dalhousianum itself. With noble leaves of the largest size it bears masses of golden-eyed snow white flowers, represented in the drawing as 18 inches round the edge, and actually, in a dried specimen before us, measuring something more; a real goddess this among the crowds of inferior deities that follow in the train of Flora. Unfortunately the species is strictly greenhouse, not being able to bear even an inconsiderable degree of frost. It is probably the same as the Rhododendron found by Griffith in Bootan, on the ascent to Chupcha, growing in a wood of Quercus ilicifolia at an elevation of 8000 to 8500 feet, and described as a small tree (see *his Itinerary Notes*, p. 192). The following is the account of the plant given in the Bouquet:—

"The noble evergreen shrub which is the subject of the accompanying plate forms part of the very valuable collection of Rhododendrons made in the Assam and Bhotan mountains, by Mr. T. J. Booth, by whom they were sent to Mr. Thomas Nuttall, of Rainhill, near Liverpool. Our present subject, R. Nuttallii, forms a robust growing, sparingly branched tree-like shrub, well suited for conservatory or greenhouse culture. The young growth of the plant is green, changing, in the second year on the under side of the leaves, to a rich cinnamon red, which ultimately passes to a pale brown. Another peculiarity of the species is that its young green shoots are thickly dotted over with rusty brown scales, which ultimately disappear from the stems and the upper surface of the leaves, but are retained longer on the lower surface. The leaves are for the most part disposed in nearly opposite pairs along the stems, arranging themselves in whorls or flattish tufts at the extremities; they are ovate-oblong, with a small prominent point, large—being almost or quite a foot in length, and 4 to 6 inches in width, the mid-rib and veins of the under surface tinted red whilst young, and becoming green afterwards; they are thick and rigid in texture, and wrinkled with raised bosses on the upper side, and corresponding depressions beneath, where the prominent nerves spread out from the central rib. The flowers are produced in colossal corymbose heads upwards of a foot in diameter, containing each from six to ten blossoms, which are individually extremely beautiful, being bell-shaped and massive, measuring upwards of 6 inches in diameter, and expanding into a graceful cup, with broad, compact, marginal lobes; these lobes are snow white, relieved by a rich golden tint in the interior of the cup, and elegantly suffused with rose on the outside. The filaments of the stamens are tipped by light brown anthers, and the long style is terminated by a large capitate five-lobed stigma. This magnificent plant may, on account of the wonderful proportions of its parts, chaste outline, and purity of colour, and exquisite fragrance of its flowers, be considered as one of the finest of the genus. The accompanying figure was made from a specimen which flowered last spring in the garden of Herr Otto Forster, of Augsburg, Bavaria, who was, we believe, the first to bloom this remarkable species."

The second plate is occupied by a very good figure of Tritoma Uvaria, that gorgeous autumn hardy plant which has recovered its long-lost reputation in consequence of having been taken into the favour of Royalty at Osborne. The author of the remarks accompanying the plate makes five species of Tritoma, and three varieties of T. Uvaria itself.

A third plate is filled with huge flowers of four new Indian Azaleas, from the pencil of a Belgian artist; viz., Leopold I. and Duc de Brabant, rose-coloured and much alike; Etoile de Gand, pink, with a few spots of carmine; and Reine des Panachées, white, streaked with crimson, apparently rather coarse and too much like other stripes now in cultivation.

The last plate includes a variety of Gardenia radicans, and a very faithful representation of Messrs. Lee's beautiful Torenia noticed in our last year's volume, p. 800, and now called pulcherrima, without exaggeration.

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*Walpers' Annales. Vol. 5, fasc. 1* of this compilation, by Dr. Karl Müller, has just appeared. Systematic botanists must find it very useful, notwithstanding the absence of all original matter. It may indeed be questioned whether it could be published at all if it were done better. The part before us once more travels over the road from Passiflora to Stevia.

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TRADE LISTS RECEIVED.—*R. Stark's* (Edgehill Nursery, Edinburgh) *Catalogue of Choice and Select Fruit Trees.* What is the difference between choice and select? Also *Catalogue of American Plants.* Good descriptive lists of a good trade assortment.—*W. Cutbush & Son's* (Nursery, Highgate) *Catalogue of Vegetable, Flower, and Agricultural Seeds for* 1859. A very good list of well selected seeds, with occasional useful remarks on cultivation.—*Wm. Holmes* (Well Street, Hackney), *a Descriptive Catalogue of Chrysanthemums, Dahlias, &c., grown in Frampton Park Nursery.* A very nice assortment of Florists' Flowers, especially of Chrysanthemums, which seem to be Mr. Holmes's favourites, and concerning the cultivation of which he gives the following good practical directions:—"Presuming the month to be April, the whole of your stock should be well established in small 60 pots, kept in a cold frame, with abundance of air; protect only from severe frost, for bear in mind, should the heart of the plant be injured either by frost or aphis, the plant receives a check, which I am of opinion it never recovers, or in other words, such plants never produce blooms of first-rate quality. Towards the close of the month, or early in the following month, shift the plants into 48's, two plants in each pot. As soon as the pot becomes filled with root, shift again into 24's, in which pots they may remain till their final shift. Let the pots be thoroughly drained, oyster shells will be found the best material for this purpose; broken oyster shells may be liberally mixed with the soil during every stage of their growth; the soil used should be porous but not rich, the object being to secure a strong stocky growth; it is a mistake to endeavour at this period to induce a luxuriant growth. As a general rule, shift into their blooming pots by the middle of July, the size we recommend are 11 inches, deferring till the last the early blooming varieties; two-thirds loam, one-third leaf mould, or manure from an old hot-bed, with broken oyster shells or sand, will be found the most suitable compost; thoroughly drain the pots; as the plants advance in growth, remove all laterals or side branches; keep them at this stage especially free from aphis, which can easily be kept in check by the free use of tobacco-water; if this is neglected, the result will be blindness in the plant, which will be fatal as regards the bloom of many varieties; use liquid manure at all times sparingly. If the foregoing instructions have been properly attended to, and the plants are in a tolerably vigorous and healthy state, their bloom buds will make their appearance about the middle or latter end of August; in most places laterally, but in some cases (especially if the plant be of weakly habit) terminally. The lateral bud will be found in the fork of the newly formed leaders, which leaders should be pinched off as soon as the operation can be performed without bruising or otherwise damaging the bud; if however this the first bud should set before the time mentioned, 'a very common occurrence with plants overgrown in the early part of the season,' the grower must nip off all superfluous shoots, and take his chance of a later and in all probability a vastly inferior flower. The terminal bud appears on the tips of the leaders, and is the centre of a cluster of smaller ones, which smaller ones should be removed as soon as possible, care being taken not to bruise or in any way injure the centre or main bud, which with the growth of the footstalk becomes gradually disengaged from the lesser buds. As the taking of the bud is an element of the utmost importance in the treatment of the Chrysanthemum, I cannot too strongly impress upon the grower the absolute necessity of watching his plants more closely than ever after the first week in August, and for this reason, however well they may have been grown, and whatever time and attention may have been bestowed upon them, all will ultimately prove futile if the proper buds be not taken at the proper time."

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## Miscellaneous.

*On the introduction of Bombyx Cynthia into France.*—One of the most active and distinguished of the members of the Society of Acclimation, M. Guérin-Méneville, who has been especially interested in the introduction of new silkworms, has just succeeded in acclimatising in France a new silkworm from China, where it lives on the Varnish tree (Ailanthus glandulosus). The species is the true Bombyx Cynthia of Drury (1773), figured for the first time by Daubenton, jun., in his coloured plates, which were published between 1760 and 1765, and raised for some centuries in China, where its silk clothes the people. Roxburgh, in 1804, supposed the Eria which is raised in British India to be the same; and this confusion has continued till recently.—so that the Eria (or "Arrindy-arria," as it is called in Hindostan) has gone by the name of Bombyx Cynthia. The Eria is a different species, living on the Ricinus. The study of the species by Guérin-Méneville has brought to light differences between the two in the cocoons and the habits of the worms. The cocoons carded give an excellent flock of silk, which is used in China and Bengal for very firm tissues. The colour of the silk is a fine flax-gray; and clothes made of it are not injured by the rain, or oil, and wear long. Now that the introduction of the silkworm is accomplished, attention is turned to the extension of it industrially. Guérin-Méneville proposes for this end the making of plantations of Ailanthus, a tree that grows easily on poor soil, then to place upon them in spring the worms that were hatched in the month of May, and let them eat the leaves. Care should be taken to preserve them from the birds, which is easily done by an invalid workman incapable of other work, as has been the custom for centuries in China. At the end of June the first crop may be gathered, and a second in August. The cocoons for reproduction should be preserved until the next May, which requires, as with the silkworm of the Ricinus and the Dipsacus Fullonum, special care in the winter.—*Silliman's Journal*, November 1858. *Annals of Natural History.*

*The Mithridatea of the Mauritius.*—One of my companions soon surpassed all our discoveries by finding amongst the Ferns, and near the ground, on the stem of a tree which was thicker than my arm, 6 or 8 thick, leathery, fleshy flowers, and a great many buds about the size and shape of a Fig. Some of the buds just opening appeared like a wine-glass with a Vandyck rim, and others, more open, appeared like the most beautiful Anœctochilus, the flower 5 or 6 inches across, and presenting a dark-green velvety ground, with pink and lilac spots; and until I satisfied myself that it was the actual blossom of the tree itself, I thought it was really an Anœctochilus. We marked the place, and charged the natives to take especial notice, so that we might find it again on our descent. However, we soon saw many others, and became satisfied that we had only

met with a curiosity without making a discovery. I brought specimens of this flower to M. Bojer, who said it was a most curious plant, the Mithridatea tamburissa; and that after the open flower was fertilised it closed up again, the seams all united, and it swelled into a fruit as large as a small Gourd or Pumpkin, filled with bright red berries like a Pomegranate. He said it was vulgarly called Monkey Apple.—*Ellis's Madagascar.*

## Calendar of Operations.

*(For the ensuing Week.)*

PLANT DEPARTMENT.

CONSERVATORY, &c.—Where the twiners for covering the roof are grown in boxes or have but limited root room, as much of the surface soil should be removed annually as can be done without seriously injuring the roots, replacing it with some good, rich, fresh material, and this cannot be done at a better season than the present. The conservatory or show-house should very soon be full of floral beauty. Camellias, Luculias, Epacrises, Heaths, Primulas, Mignonette, Tree Violets, Cinerarias, Indian Daphnes, and many other showy things may easily be had in bloom about this time, and with proper convenience a few Roses and other forced plants, as Oranges, bulbs, &c., should also be coming in, and will greatly assist in maintaining the gaiety so desirable in this house.

FORCING DEPARTMENT.

The forcing of fruit trees in pots is easily managed, provided there are one or two houses at work to hold them during the later stages of their growth. Most kinds, as stated last week, should have been grown in pots two years at least, and be well furnished with fruit buds. In the case of Raspberries, however, take up the strongest suckers early in September and pot them either singly or three together in rich soil, shading them for a few days to make fresh roots, and then placing them against a south wall to ripen. Where a stock of the above fruits is prepared for forcing the advantages of a deep pit with a bed of leaves will be apparent; the slight bottom heat thus afforded will be found beneficial in setting the roots in action. Cherries and Raspberries are the most impatient of heat and should be brought forward in a very low temperature, and unless they are required very early they will succeed better when started next month. The remainder should be started with a top heat ranging between 40° and 60°, with a gentle syringing daily and air according to the state of the weather. Here they may remain till they are nearly in bloom, when a drier atmosphere being necessary, they may be removed to vacant shelves or stages in any house at work where a moderate heat is kept up. Peaches and Nectarines may even be placed on the back shelves of the Pine-houses after they have set their fruit, though a more moderate temperature would suit them better. In carrying out the subsequent treatment we may add that Figs, Peaches, &c., should occupy the warmest part of the house in which they are to fruit, and Apricots, Plums, and Cherries the coldest end. If required Raspberries will succeed well in pits or in the partial shade of other plants. If circumstances permit of the whole being kept plunged in a gentle heat it will assist the swelling of the fruit, but with proper attention in supplying them with manure water they will do well without that assistance. Prepared plants of the most suitable kinds of the above fruits may be obtained at most of the principal nurseries, or maiden plants of each may now be potted in rich turfy loam for future operations, getting them into a bearing state by judicious stopping rather than by the use of the knife. Pursue former directions as regards the early Vinery and Peach house.

FLOWER GARDEN AND SHRUBBERIES.

Where the turf is at all unlevel time should be spared in course of this or next month to repair this, as if lifted in February it might require some attention to get it to take quickly. Unlevel turf is an eyesore the season round, and it makes the mowing more tedious and difficult; hence it is worth an effort to spare time to make whatever little repairs may be necessary here. Sweep lawns occasionally to clear them of fallen bits of branches, &c., and use the roller here and on gravel frequently, to secure a firm smooth surface. Let the stock of plants, except those that may be wanted to furnish cuttings, be freely exposed to air whenever the weather will admit, so as to keep them hard, and render them less liable to damp off in the event of their having to be kept covered up for some time. Any of the stock from which many cuttings are wanted should be removed to a light warm situation without loss of time, first washing the pots, and clearing and adding a little fresh soil to the surface of the ball. Some kinds of Verbenas, &c., are very subject to mildew when placed in heat in the winter season; but this is easily kept in check by means of sulphur; take care, however, that the sulphur is applied the moment the pest makes its appearance. Now is as good a time as any for putting in cuttings or suckers of Chrysanthemums. In selecting them take the strongest, which always make the best plants. When potted in sandy loam place them in cold frames.

HARDY FRUIT AND KITCHEN GARDEN.

If any planting of fruit trees still remains to be done this should be seen to very soon, and every available despatch used to get it completed. If it is worth while to occupy ground with fruit trees and incur the expense, &c., of planting them, it certainly is worth consideration whether the ground is in the best possible state of preparation for being planted with fruit trees, and to incur any expense and trouble which may be requisite in order to render the soil as suitable as can be made for the kind of trees with which it is to be planted. To do this is seldom a work involving much direct outlay, for provided the ground is well drained there is little else required except labour, materials for concreting, and a supply of good loamy soil, all of which can generally be obtained about most places. But it is useless to plant trees except there is a fair prospect of their doing well, and the necessary preparations for securing this can be more conveniently, cheaply, and efficaciously made before planting than afterwards, and the requisite preparations should be made even if doing this should necessitate putting off planting until another season. Push forward the digging or trenching as the case may be, and get all vacant ground turned over as soon after this as circumstances will admit. In the kitchen garden as in other departments alterations will occasionally be required, such as taking up and relaying Box edgings that have become imperfect, or those that have grown too strong and bulky, turning or surfacing walks with fresh gravel, and such jobs should be done if possible before the busy season.

MONTHLY DEPTH OF RAIN, in inches and hundredth parts of an inch, which fell at Chiswick in the years 1841 to 1858 inclusive.

| | 1841. | 1842. | 1843. | 1844. | 1845. | 1846. | 1847. | 1848. | 1849. | 1850. | 1851. | 1852. | 1853. | 1854. | 1855. | 1856. | 1857. | 1858. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| January .... | Ins. 2.60 | Ins. 1.06 | Ins. 1.33 | Ins. 2.25 | Ins. 2.97 | Ins. 2.85 | Ins. 1.31 | Ins. 1.16 | Ins. 1.73 | Ins. 1.43 | Ins. 3.07 | Ins. 2.72 | Ins. 2.14 | Ins. 1.92 | Ins. 0.10 | Ins. 1.76 | Ins. 2.09 | Ins. 0.41 |
| February .. | 0.76 | 1.22 | 2.35 | 2.27 | 0.93 | 1.47 | 1.34 | 3.12 | 2.52 | 0.95 | 0.90 | 1.06 | 0.59 | 0.78 | 1.35 | 0.62 | 0.31 | 1.48 |
| March ..... | 1.32 | 1.81 | 0.47 | 2.44 | 1.25 | 1.02 | 0.41 | 3.05 | 0.85 | 0.13 | 3.57 | 0.25 | 1.48 | 0.42 | 1.75 | 0.97 | 0.73 | 0.88 |
| April ..... | 1.58 | 0.15 | 1.62 | 0.33 | 0.95 | 3.93 | 0.92 | 3.06 | 2.21 | 1.79 | 1.65 | 0.52 | 2.58 | 0.30 | 0.26 | 1.97 | 1.77 | 2.13 |
| May ..... | 2.16 | 1.73 | 5.26 | 0.25 | 2.80 | 1.35 | 1.59 | 0.28 | 3.53 | 1.84 | 0.74 | 1.74 | 1.60 | 4.03 | 1.94 | 4.38 | 0.87 | 2.05 |
| June ..... | 2.45 | 1.58 | 1.62 | 0.97 | 1.36 | 0.80 | 1.31 | 3.20 | 0.31 | 1.40 | 1.33 | 4.69 | 2.54 | 1.53 | 1.48 | 0.88 | 1.91 | 0.78 |
| July ..... | 3.56 | 1.52 | 1.67 | 2.10 | 2.31 | 1.78 | 0.79 | 2.21 | 2.82 | 2.68 | 3.90 | 2.28 | 4.17 | 2.40 | 6.80 | 1.43 | 1.22 | 2.55 |
| August .... | 2.69 | 2.81 | 3.28 | 1.84 | 2.79 | 4.50 | 1.50 | 4.70 | 1.60 | 0.97 | 2.03 | 3.71 | 1.87 | 1.77 | 1.45 | 3.50 | 2.80 | 1.46 |
| September.. | 3.71 | 3.39 | 0.98 | 1.31 | 1.77 | 1.76 | 1.66 | 2.20 | 2.49 | 2.36 | 0.42 | 3.54 | 2.41 | 0.58 | 1.15 | 1.99 | 3.52 | 1.05 |
| October .... | 4.61 | 1.71 | 4.19 | 4.13 | 1.99 | 5.54 | 1.75 | 2.93 | 2.18 | 1.55 | 2.01 | 3.87 | 3.78 | 2.61 | 6.15 | 2.40 | 4.01 | 1.36 |
| November ... | 3.41 | 4.43 | 2.13 | 3.06 | 2.11 | 1.43 | 2.26 | 0.90 | 1.32 | 2.03 | 0.55 | 6.20 | 0.91 | 1.31 | 1.84 | 0.94 | 1.53 | 0.08 |
| December .. | 2.12 | 0.76 | 0.53 | 0.39 | 2.61 | 1.21 | 1.81 | 2.03 | 1.28 | 1.15 | 0.62 | 1.97 | 0.30 | 1.27 | 1.11 | 1.88 | 0.30 | 1.43 |
| Annual amount | 30.97 | 22.27 | 25.43 | 21.84 | 23.33 | 27.71 | 16.65 | 28.84 | 22.84 | 18.28 | 20.70 | 32.55 | 24.87 | 18.92 | 24.38 | 22.72 | 21.06 | 15.66 |

The amount of rain in 1853 is 8 1-10th inches below the average; and very nearly 1 inch less than that of any other year since 1826, when the Chiswick observations began.

STATE OF THE WEATHER AT CHISWICK, NEAR LONDON,
For the Week ending Jan. 6, 1859, as observed at the Horticultural Gardens.

| Dec. and Jan. | Moon's Age | Barometer. Max. | Barometer. Min. | Temperature. Of the Air. Max. | Of the Air. Min. | Of the Air. Mean | Of the Earth. 1 foot deep. | Of the Earth. 2 feet deep. | Wind. | Rain. |
|---|---|---|---|---|---|---|---|---|---|---|
| Thurs. 31 | 26 | 30.182 | 30.134 | 42 | 40 | 41.0 | 44 | 43½ | N.E. | .01 |
| Friday 1 | 27 | 30.404 | 30.331 | 43 | 36 | 36.5 | 44½ | 44 | N.E. | .03 |
| Satur. 2 | 28 | 30.506 | 30.544 | 39 | 29 | 34.0 | 44½ | 44 | W. | .00 |
| Sunday 3 | 29 | 30.591 | 30.483 | 38 | 31 | 34.5 | 43 | 43 | S.W. | .01 |
| Mon 4 | ● | 30.521 | 30.412 | 41 | 35 | 38.0 | 43½ | 43 | S.W. | .00 |
| Tues. 5 | 1 | 30.537 | 30.380 | 43 | 34 | 38.5 | 43¾ | 43½ | E. | .00 |
| Wed. 6 | 2 | 30.459 | 30.312 | 38 | 31 | 34.5 | 43½ | 43½ | S.W. | .02 |
| Average | | 30.466 | 30.375 | 40.5 | 32.8 | 36.7 | 43.8 | 43.5 | | .07 |

Dec. 31—Foggy; hazy; overcast; temperature, day and night, nearly uniform.
Jan. 1—Drizzly; foggy; overcast.
— 2—Foggy throughout; slight rain.
— 3—Foggy; hail; overcast at night; barometer very high.
— 4—Foggy; hazy; overcast.
— 5—Foggy; hazy; overcast.
— 6—Foggy; uniformly overcast.
Mean temperature of the week equal to the average.

RECORD OF THE WEATHER AT CHISWICK,
During the last 45 years, for the ensuing Week, ending Jan. 15, 1859.

| Jan. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds. N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday 9.. | 40.5 | 31.4 | 36.0 | 14 | 0.71 in. | 1 | 7 | 4 | 3 | 3 | 9 | 5 | 1 |
| Mon. 10.. | 41.9 | 30.7 | 36.3 | 16 | 0.40 | 2 | 8 | 3 | 4 | 5 | 5 | 4 | 2 |
| Tues. 11.. | 41.2 | 30.9 | 36.0 | 18 | 0.83 | 4 | 6 | 3 | 1 | 5 | 8 | 4 | 2 |
| Wed. 12.. | 41.9 | 30.7 | 36.3 | 15 | 0.76 | 2 | 7 | 2 | 3 | 5 | 10 | 3 | 1 |
| Thurs. 13.. | 42.6 | 32.2 | 37.4 | 16 | 0.29 | 4 | 5 | 5 | 2 | 6 | 6 | 3 | 2 |
| Friday 14.. | 42.2 | 29.6 | 35.9 | 16 | 0.80 | 5 | 6 | 4 | 3 | 3 | 6 | 3 | 3 |
| Satur. 15.. | 41.5 | 29.3 | 35.4 | 11 | 0.54 | 3 | 4 | 3 | 3 | 3 | 7 | 7 | 3 |

The highest temperature during the above period occurred on the 14th, 1849, and 15th, 1852—therm. 56 deg.; and the lowest on the 14th, 1838—therm.. 4 deg.

## Notices to Correspondents.

AERIDES CRISPUM: *L W.* Either this is a very variable plant or more than one species is included under the name. It is easily known from A. maculosum by not having a green tubercle at the base of the lip, as well as by the flowers not being spotted, both characteristic marks of A. maculosum. Instead of the tubercle A. crispum has two fleshy horns or teeth at the base of the lip, as is shown in the accompanying cut; which represents a variety which we call A. crispum ovatum, its lip being entire and nearly ovate, instead of being truncate and toothletted at the edge. We have seen no wild specimen and suspect it to be some garden hybrid.

GARDEN IMPLEMENTS: *J T Hodday.* Your letter should have been sorry to hear that gardeners have little mechanical skill as to use such contrivance. It is as bad as a plough, the rude implement left behind by rude ages, and the disgrace of this age of engineers.

HERBARIA: *Beginner.* As has been previously stated every young gardener who desires to rise above the common herd should form a small collection of dried plants, taking care that they are *correctly* named. A folio volume of cartridge paper, done up with narrow slips at back, will hold a great many, probably as many as he wants; and the cost is not more than is too often wasted upon beer and tobacco.

INSECTS: *John Hunter.* It is a fine specimen of the mole cricket of which the following account is given in White's Selborne, a charming book that gardeners would find useful:—"While the field cricket delights in sunny dry banks, and the house cricket rejoices amidst the glowing heat of the kitchen hearth or oven, the Gryllus Gryllotalpa (the mole cricket) haunts the most moist meadows, and frequents the sides of ponds and the banks of streams, performing all its functions in a swamp or wet soil. With a pair of fore-feet, curiously adapted to the purpose, it burrows and works underground like the mole, raising a ridge as it proceeds, but seldom throwing up any locks. As mole crickets often infest gardens by the side of canals, they are unwelcome guests to the gardener, raising up ridges in their subterraneous progress, and rendering the walks unsightly. If they take to the kitchen quarters they occasion great damage among the plants and roots by destroying whole beds of Cabbage, young Legumes, and flowers. When dug out they seem very slow and helpless, and make no use of their wings by day; but at night they come abroad and make long excursions, as I have been convinced by finding stragglers in a morning in improbable places. In warm weather, about the middle of April, and just at the close of day, they begin to solace themselves with a low, dull, jarring note, continued for a long time without interruption, and not unlike the chattering of the fern owl or goat sucker, but more inward. About the beginning of May they lay their eggs, as I was once an eye-witness, for a gardener at a house where I was on a visit happening to be mowing on the 6th of that month, by the side of a canal, his scythe struck rather deep, pared off a large piece of turf, and laid open to view a curious scene of domestic economy. There were many small caverns and winding passages leading to a kind of chamber neatly smoothed and rounded, about the size of a moderate snuff-box. Within this secret nursery were deposited about 100 eggs, of a dirty yellow colour, and enveloped in a tough skin; but too lately excluded to contain any rudiments of young, being full of a viscous substance. The eggs lay very shallow, and within the influence of the sun, just under a little heap of fresh moved mould, like that which is thrown by ants. When mole crickets fly, they move *curve* wise, rising and falling in curves, like the other species mentioned before. In different parts of the kingdom people call them fen crickets, churr worms, and eve churrs, all very apposite names."

NAMES OF FRUITS: May we beg our correspondents to send their specimens, *carriage paid*, to our Office, No. 5, [illegible] Wellington Street, Covent Garden, London: AND NOT TO ANY OTHER PLACE WHATEVER.—*T P.* 1, Poire d'Austrasie; 3, a sort of Red Streak; 4, Dumelow's Seedling.—*Quercus.* No. 3 is Court pendu Plat. Of the names of the other two we are not certain. No. 1 is very like the Autumn Pearmain, late for that sort, but grown in your climate (Carlisle) it may have kept till this time; 2 is perhaps the Dutch Mignonne.

NAMES OF PLANTS.—We have been so often obliged to reluctantly decline naming heaps of dried or other plants, that we venture to request our correspondents to recollect that we never have or could have undertaken an unlimited duty of this kind. Young gardeners, to whom these remarks more especially apply, should bear in mind that, before applying to us for assistance, they should exhaust their other means of gaining information. We cannot save them the trouble of examining and thinking for themselves; nor would it be desirable if we could. All we can do is to *help* them—and that most willingly. It is now requested that, in future, not more than four plants may be sent us at one time.—*J S Salter.* Your Alga is a Batrachospermum, not a Draparnaldia. We do not see anything peculiar about the specimen.—*M J B.—W W F.* A small specimen of Fuchsia arborea.—*Ducy.* 1, Pteris longifolia; 2, Nephrodium molle; 3, Adiantum cuneatum; 4, Pteris serrulata.—*B S, Lambeth.* Not numbered. Polystichum acrostichoides, quite hardy in shady situations.—*T W.* 1. Pilea macrophylla; 2, Asplenium flabellifolium; 3, Onychium japonicum; 4, Goniophlebium neriifolium.

PEACH STOCKS: *Beta.* The Muscle and Pear Plum are the best stocks generally suited to Peaches and Nectarines. The latter is used for what are called French Peaches. You may bud Peaches and Nectarines if you think it worth while.

VINES: *Rusticus.* We believe the sorts you name to have each merit, with the exception of Bidwell's Seedling, with which we are unacquainted. They all suit the same temperature as the B. Hamburgh requires. At least the growers say so. We should put the Muscats at the warmest end of the house.

ARTIFICIAL MANURES, &c.—Manufacturers and others engaged in making ARTIFICIAL MANURES may obtain every necessary instruction for their economical and efficient preparation, by applying to J. C. NESBIT, F.G.S., &c., Principal of the Agricultural and Chemical College, Kennington, London. Analyses of Soils, Guanos, Superphosphates of Lime, Coprolites, &c., and Assays of Gold, Silver, and other Minerals are executed with accuracy and despatch. Gentlemen desirous of receiving instruction in Chemical Analyses and Assaying, will find ample facility and accommodation at the College.

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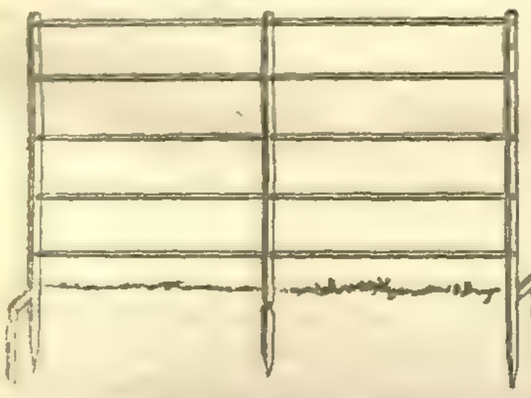

COTTAM AND COMPANY, of Winsley Street, have invented machinery for making Hurdles, &c.; the bars, instead of being pointed by hand in the old fashioned style, are nipped down by the machine, leaving a shoulder so as to more effectually tighten the standards when rivetted. They are made of superior iron only, and will compete in price with those made by hand from cinder or common iron which so frequently break. Iron Fencing, Gates, and Iron Work of all kinds, both Plain and Ornamental, Conservatories, Hot Water Apparatus and Garden Implements.

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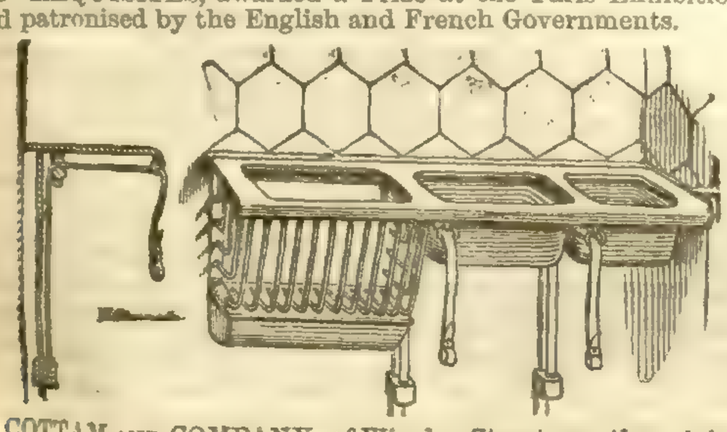

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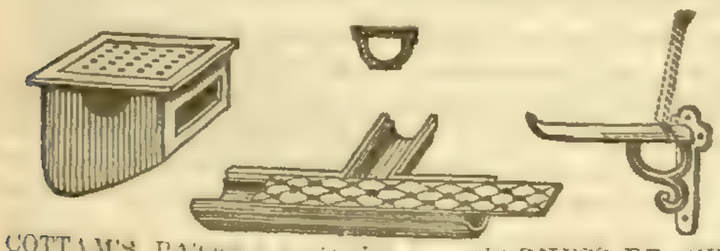

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PATENT LOOSE-BOX FITTINGS, and every article for the harness room and stable, kept in stock, plain, galvanised, and enamelled. Iron gates, fencing, hurdles, &c.

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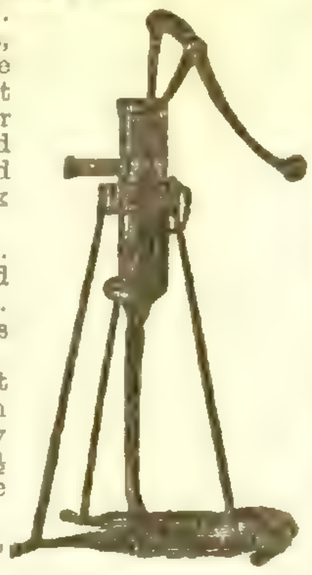

These Pumps are fitted with J. W. & SON'S Patent Buckets and Suckers, and cannot clog in action. The barrel is of galvanised iron, not likely to corrode, and can be raised or lowered at pleasure. The legs will fold together, and the whole may be carried on the shoulder to any pond or tank required.

Price of 4½ in. Pump, with legs, 3*l.* 3*s.* If with planished copper barrel and galvanised iron handle, &c., 14*s.* extra. The barrel is 27½ in. long, and the legs are 5 ft. high.

These Pumps are also made without the legs, with strong wrought-iron straps for screwing on to any ordinary water butt or cart, and fitted with 1½ inch brass union for attaching flexible suction. Price 50*s.*

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May be obtained of any Ironmonger or Plumber in town or country, at the above prices, or of the Patentees and Manufacturers, JOHN WARNER & SONS, 8, Crescent, Jewin St., London.

WARNER'S PATENT VIBRATING STANDARD PUMPS.

PATENT CAST-IRON PUMPS, fitted with J. W. & SON'S Patent Buckets and Suckers, which cannot clog in action, for Farms, Cottages, and Wells, not exceeding 28 feet.

| Diameter of Barrel. | Height. | | £ | s. | d. |
|---|---|---|---|---|---|
| 2½ in. | short | 1 ft. 7 in. | 1 | 10 | 0 |
| 2½ ,, | long | 3 ,, 3 ,, | 1 | 14 | 0 |
| 3 ,, | ditto | 3 ,, 6 ,, | 2 | 8 | 0 |
| 3½ ,, | ditto | 3 ,, 6 ,, | 2 | 12 | 0 |
| 4 ,, | ditto | 3 ,, 6 ,, | 3 | 3 | 0 |

Fitted for lead, gutta percha, or cast iron flanged pipe, as required.

2½ ,, short, with 15 feet of Lead Pipe attached, ready for fixing .... 2 14 0
2½ in. long ditto ditto ditto 2 18 0

The short barrel Pump is very convenient for fixing in situations of limited height and space, for the supply of coppers and sinks in Wash-houses with soft water from underground tanks, or in Hot, Forcing, and Plant Houses; they may be fixed, when desired, under the stage.

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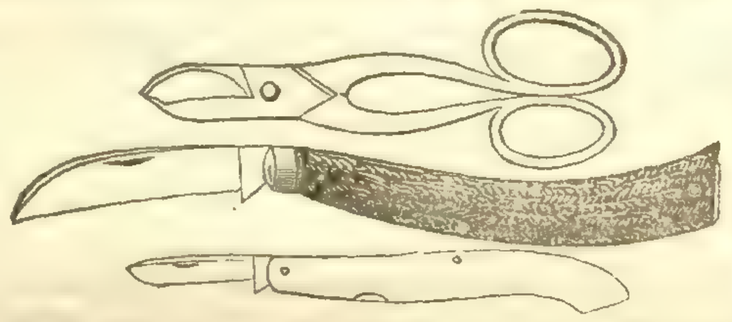

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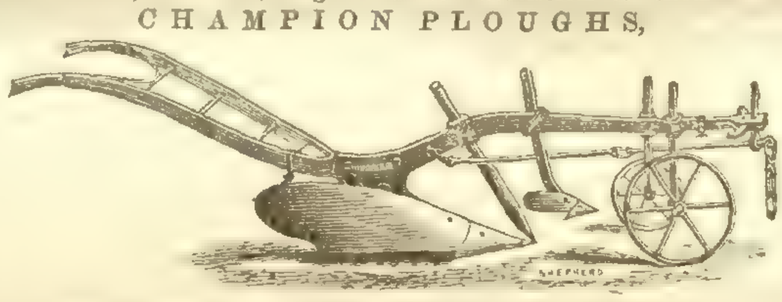
JAMES AND FREDK. HOWARD, Britannia Iron Works, Bedford, beg to direct attention to their CHAMPION PLOUGHS,



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The First Prize for the best Plough for general purposes.
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The only Prize ever offered by the Society for the best Double Breast or Ridging Plough was also awarded to J. & F. HOWARD.

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PLOUGHS.

| | | | |
|---|---|---|---|
| P PLOUGH, with two wheels, for light work .. | £4 | 7 | 6 |
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| SKIM COULTER .. .. .. .. .. | £0 | 5 | 6 |

STEEL BREASTS, 7*s.* and 7*s.* 6*d.* extra.

HARROWS.

| | | | |
|---|---|---|---|
| A Set of Three 4-Beam HARROWS, with Whippletree, recommended as general Seed Harrows, 9½ feet wide, marked No. 12 .. .. .. .. .. .. .. | £3 | 14 | |
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| | | | |
|---|---|---|---|
| Price of small size RAKE, marked A, with 24 iron teeth, extreme width 7½ feet .. .. .. .. | £7 | 10 | 0 |
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| Price of large size, marked B, with steel teeth .. | £8 | 10 | 0 |
| Price of extra large size, marked C, with 24 steel teeth, extreme width, 8½ feet .. .. .. .. | 10 | 10 | 0 |
| Price of a Set of 15 Prongs, to be attached to the above when used as Weed Extirpators .. . .. | 1 | 10 | 0 |

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Mr. SMITH'S Steam-tilled Farm is open to the inspection of all. The fullest information may be had either there or at his Office, 40, Mark Lane, London.

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To Landowners, the Clergy, Solicitors, Estate Agents, Surveyors, &c.—The Company is incorporated by Special Act of Parliament for England, Wales, and Scotland.—Under the Company's Acts Tenants for Life, Trustees, Mortgagees in possession, Incumbents of Livings, Bodies Corporate, certain Lessees, and other Landowners, are empowered to charge the inheritance with the cost of Improvements, whether the money be borrowed from the Company or advanced by the Landowner out of his own funds.

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THE PERMANENT WAY COMPANY having been appointed the sole Licensees for the use of Dr. BOUCHERIE'S Patent Process for Preserving Timber, beg to inform Landowners and others interested in the use of English Timber that a Pamphlet, with full explanations of this cheap and most effectual process, may be had gratis on application to the undersigned. Landowners having Beech, Elm, Fir, or other Timber fit for Railway Sleepers are requested to communicate particulars of quantity, locality, and prices.

WILLIAM HOWDEN, Secretary.

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Analyses and Assays of every description are promptly and accurately executed at the College. The terms and other particulars may be had on application to the Principal.

# The Agricultural Gazette.

*SATURDAY, JANUARY* 8, 1859.

THERE is a considerable movement at many important centres of the corn trade, especially in the north of England, in favour of adopting weight instead of measure in sales and purchases of grain. The Liverpool corn trade has adopted the "cental" of 100 lbs. as their invariable unit of quantity; Hull has also resolved to adopt the "cental." Belfast, as represented by the North-East Agricultural Association of Ireland, has acquiesced; and no doubt so reasonable a proposition will ultimately command universal assent. It cannot be admitted as an objection to the plan that even after it has been adopted purchasers of grain will require their "cental" warranted to weigh so much per bushel. Weight is the only unquestionable test of *quantity*. Purchasers of grain may apply what tests and use what guarantees of *quality* they please. Their experience may not differ from that of purchasers of many other sorts of goods. It is

difficult to determine quality and to ensure that the bulk be exactly as the sample was. This is true, whether it be grain or sugar, wool or cotton that is offered. But having determined upon the price proper to the quality exhibited in sample, it is weight alone that can determine accurately the quantity which changes hands. Possibly the "cental" may not be everywhere considered in the corn trade the most convenient unit of quantity by which to buy and sell; but that transactions will ultimately be universally guided by weight alone, applied to a sample priced according to quality, we have not a doubt.

—— We have to announce the recurrence next May of the Society of Arts' annual examinations. Agriculture is one of their subjects. There were in 1856 four candidates for the Society's certificate of excellence, proficiency, or competency in this class. In 1857 there were two, and in 1858 there were none! It is announced that no paper of questions will be set on this subject, unless before February 1st the Council of the Society is informed that 10 candidates are to present themselves for examination. The Institutes in union with the Society are not the most likely channel through which to reach the agricultural class; but it is hardly possible that if any gentlemen in the different localities (upwards of 40) where these examinations are to be conducted will interest themselves in making known the nature of the proposed examination, so few as ten candidates should not present themselves. The examination will embrace so much of the theory of agriculture as concerns the influence of tillage operations and of manures upon fertility and the relations of food to animal growth, and so much of the practice of agriculture as is included in the cultivation of the principal crops and the management of the principal domesticated animals.

A properly authenticated certificate of excellence, proficiency, or competency in knowledge of these subjects will certainly be of some use hereafter to a young man, and we hope that some of the readers of this paragraph will take pains to make the subject of it known.

We may add here that the Society of Arts offer their gold and silver medals for essays and reports on various subjects, among which are the following:—

The economical production of cyanogen compounds in the arts or as manures

An essay on the theory and practice of fermentation, particularly as applied to the art of brewing

An account of the best machinery for preparing, grinding, and dressing Barley and Oats.

For the best method of converting precipitated or extracted sewage matters into a dry state valuable for agricultural purposes.

—— We direct attention to a paragraph in another page on the mischief arising from the consumption of cake from rough Cotton seed as food. The cakes analysed and recommended by Professor VOELCKER are made of decorticated Cotton seed—a distinction that must be carefully borne in mind.

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THE old adage which assures us that "the best is ever the cheapest" is generally as true of agricultural as of any other produce. We have frequently protested against the glaring absurdity of purchasing cheap and always dirty seeds, and shown in the clearest manner how this has become a source of weed cultivation to be afterwards atoned for by additional labour; and we would now direct the serious attention of readers to another phase of this interesting subject of inquiry of equal importance to the thinking and carefully calculating farmer.

Among the plants of agricultural value which are daily rising into increased importance there is perhaps none that surpasses the Flax or Linseed; its fibre being valued for the production of a fabric for which the sister island is justly celebrated, its seeds yield the useful Linseed oil, and their remains are brought to the farmers' market in the shape of flattened slabs, under the title of oilcake.

A plant so useful as Flax could hardly have escaped experiment and discussion as to its capabilities for home cultivation, and as a result, it has been grown with greater or less success in England, Scotland, and Ireland; but probably the cost at which we grow it has precluded the necessary amount of profit to render it remunerative, and so most of the Flax fibre as well as seed used in Great Britain is derived from foreign sources.

Now what we more particularly wish to urge on the present occasion may be summed up in the following propositions:—

1st. Flax is not so remunerative a crop as it ought to be, because dirty seed is usually employed in its cultivation; and

2dly. Unless oilcake be priced strictly in accordance with its feeding value, the cheapest seed but not the best will be preferred in its production.

1. As regards the first position everybody knows the expenses entailed in the cultivation of a crop of Flax to be very heavy, and yet when the soil is finely pulverised and has been made, to use a farming phrase, "as clean as a flower garden," it is too often found at harvest most disappointing in its results from a paucity of Flax both in fibre and seed, and a great increase of weeds, many of which are left as a perpetual legacy to the Flax growing farmer. That these things should be so will not surprise any one who will take the trouble to analyse such samples of seed as may be shown them in the Flax market, and in order to put this matter in as clear a light as possible, we at once give the result of an examination of a sample of Flax seed which we lately took direct from a cake mill, where it was deposited ready for the operation of crushing.

The following table is made up from an examination of 2 ozs. by measure of the Flax as we casually took it up. Now this table acquaints

| Two ounces by measure of Flax seed yielded the following weeds. | Number of seeds &c. | Weight in Grains. | Remarks. |
|---|---|---|---|
| Sinapensis arvensis } " nigra } | 292 | 24 | Probably other Mustards also. |
| Agrostemma Githago, Corn Cockle. | 24 | 12 | A large weed very common in most foreign seeds. |
| Various undetermined weeds. | 160 | 40 | Some of Grasses, as Millet, and hence a dilution of the seed but not of the cake. |
| Bits of dirt and stones | .. | 160 | Probably derived from the Flax roots. |
| | 476 | 236 | |

us with the startling fact that every such sample of seed used by the farmer for sowing contains as many as *four thousand seven hundred and sixty* weeds to the pint, in themselves enough to stock the land, however cleanly it may have been previously farmed; and if, as is not unusually the case, the destructive Flax Dodder (Cuscuta epilinum) should be amongst them, no wonder disappointment as to the result should render it as our farmers say a "casualty crop," and consequently one of which remuneration is uncertain, even putting altogether out of the question the subject of fouling and exhausting the land.

Why then will not the Flax grower purchase good and pure seed? It can be got if he will pay for it; but if he prefers the example before us because he can purchase it at a few pence less, what wonder that little trouble should be taken by him who has to sell the seed; for in this, as in all similar circumstances, the difference in price between pure and impure seed is always in favour of the seller. In the sample before us can we suppose that the purchaser got it for half the price of a pure seed?—and yet he should do so to have the advantage in the transaction on his side, the sum being as follows:—

| | Grains. | Grains. |
|---|---|---|
| In a pint of this sample we have WEEDS .. = 760 } STONES and Dirt .. .. .. .. = 1600 } | | = 2360 |
| Weight of separated seed .. .. .. = .. | | 2680 |

2. The figures just quoted forcibly point out the urgency of our second proposition, for in investigating Flax seed we have to take into consideration its uses as a cattle feeding stuff.

In this sample of seed we have a large proportion of Mustard seeds; these are well known to be not only not of feeding value but absolutely poisonous to cattle; and though probably the small quantity here found would not be productive of a directly injurious effect, yet we may safely affirm that its qualities are negative, and therefore its admixture is so much loss. If again we take this in connection with the dirt and stones, we can only come to the conclusion that the cake crusher, who no doubt buys this at a less cost than he would purer seed, is a loser by the transaction, if only in the matter of oil—and how much more loss would he suffer if cake was properly tested before purchasing it? But here is a matter in which the consumer of cake is immensely interested, and a greater service could hardly be done him than the pointing out some easy and simple method by which cake might be tested, at least, as to some of its more important characters, a subject which would best be handled by our learned friend Professor VOELCKER.

It will be seen that cake made from the seed before us may be sweet to the taste and smell, and, indeed, as we happened to examine it, we can testify that it was good to look at, so much so that neither from our first view of the seed nor the subsequent one of the resulting cake, were we at all prepared for the result which our seed analysis has demonstrated. At the same time all examinations which we have been enabled to make of Linseed—especially of foreign samples—convince us that they are immensely impure. The sum of this impurity may, however, be readily ascertained, whether a matter for the buyer of seed for planting or for cake-crushing, and we have called attention this important subject as showing the amount dilution—probably seldom the result of delibe adulteration—which both seed and cake are liable A careful examination may, however, detect th and if this should result in a demand for a clea and purer article, we have no more doubt of being produced than we have that it would redou to the profit of the consumer.*

With the sample of seed we have been describi freight has been paid upon nearly half its weig of dirt: surely this is a most expensive way ev of dilution; surely it would be better to do was recommended to the purveyor of skyblue wh the tint of the fluid was more cerulean than usu "Bring it as pure as you can, and we will dil it as we require it."

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## THE MANGEL WURZEL CROP.

As the subject of the Mangel Wurzel crop is one very great importance to the agricultural communi of these countries, and as it is at present engaging large share of attention, as shown by the numer queries addressed to you on its cultivation, &c., I h thought that the following remarks might not be dev of interest to some of the readers of your Journ The crop of the various sorts of Mangel grown on t farm in the past year, as the subjoined table w show, was very superior. I admit that the roots w not such monsters in size as are to be seen at exhibitions of farm produce, and which, I believe, i pretty generally acknowledged do not obtain th great magnitude by ordinary manuring and mana ment. I have often thought (and if I mistake not, same feeling is becoming pretty general) that it wo be both more sensible, and more useful, to offer p for a well cultivated and generally good crop of extent than holding out inducements to growers spend so much of their time in raising a few gi roots.

I shall now proceed to detail as concisely as possible mode of management adopted in the cultivation of crop on this farm. I may premise that the soil is for from the calp, or mountain limestone, and the divisio the farm on which the Mangels were grown has b thorough-drained to a depth of about 3½ feet. Dec. 1857 a two-horse plough, turning a furro inches in depth, was followed by 16 of the pupils, with the ordinary spades stirred the soil to a dept 8 inches, and at the same time threw up a portion of subsoil on the surface. A subsoil plough, drawn b pair of bullocks, followed and loosened the subsoil t additional depth of 6 inches. The land remained in t state until the first week in April, when the ro surface which the field presented after the subsoi (or partial trenching) had been finely reduced by t winter's frost. A double turn of the grubber, and harrowing, followed by the roller, prepared the land f drilling. The drills were made 32 inches wide, a only as many drills opened as could be manured, clos and sown on the same or following day. The fa yard manure intended for this crop had been p viously well prepared, and when applied at t time of sowing the crop, it was in a well decompo condition. By attention to this point, and sowing i seed on the freshly made up drills, I ha never failed to secure a full plant of Mangels even in driest season. The sowing of the crop commenced the 24th of April, and ended on the 4th of May, ha rains having interrupted the sowing for an entire we The manures applied per statute acre were:—25 t of farmyard dung, 1½ cwt. of Peruvian guano, a 8 cwt. of salt.

The salt was sown over the drills after spreading t farmyard manure; the drills were then made up w the double mould-board plough, the guano at the s time (mixed with mould) applied on the half-fi drill. The practice on this farm is to sow the seed hand, and four of the pupils sowed a statute acre i day of 10 hours. A portion of the seed was steep before sowing, but with no apparent advantage. thinning out the crop I prefer leaving two plants in space (but not quite close together) for some time, on going over them at the second thinning the la promising plants are drawn out. This pays well for additional expense incurred. The distance between plants on the drill is usually from 12 to 15 inch Two hand hoeings and three drill grubbings, at differe periods, complete the after culture.

The early sown crop is more liable to throw up s stems than later sowings, but the latter will genera be found deficient in acreable produce when compa with the former. I have the seed stems cut off as s as convenient after they appear, and in this way la roots are obtained, which, though they contain a la proportion of woody fibre, nevertheless are of consid able value. I invariably find the Long Red variety m subject to run to seed.

The removal of a portion of the Mangel leaves been a regular practice on this farm for many yea and as some of your correspondents seem to doubt propriety of this course, I subjoin some statistics of feeding obtained from this source, and (as experime on this farm have shown) with very little injury

* Correspondents would much oblige by sending us all samples of Flax seed they can.

any, to the general crop, if the work is carefully performed. I began to strip off a portion of the under leaves about the beginning of September; but those only which showed signs of decay were removed. By going regularly over 10 statute acres from the above date to the end of October (when storing began) 60 tons of leaves were obtained, which gave 160 stones per day for 60 days. Twenty-four milch cows were thus provided each with (in round numbers) 7 stones of leaves daily, and this quantity, with one feed of Turnips, and good fresh straw, kept them in good condition, and in full milk during the above period. I calculate that it would take 3 acres of Aberdeen or other Turnips to supply the place of 60 tons of Mangel leaves, and the farmer and the chemist can both prove this to their satisfaction. I have also found, from numerous experiments carefully conducted on this farm, that Mangel leaves are quite equal to Turnips or Italian Rye-grass for the production of milk and butter as regards quantity, but the butter produced from the former will be deficient in colour.

I beg to call attention to the following extract from Tynan's pamphlet on the "Cultivation, &c., of Mangel Wurzel":—

"The value of Mangel leaves as a food for milch cows stands high amongst green fodder, as tested by a series of carefully conducted experiments made at this (the Albert) Institution, of which the following table shows the results:—

| No. | Date of experiment. | Kind of feeding. | Butter produced by 40 quarts of milk. | |
|---|---|---|---|---|
| | 1857. | | Lbs. | Ozs. |
| 1 | 4th May | Italian Rye-grass alone .. | 3 | 5 |
| 2 | 5th Sept. | Italian Rye-grass & Pasture.. | 3 | 13 |
| 3 | 28th Sept. | Mangel Leaves and Pasture | 3 | 14 |
| 4 | 6th Oct. | Mangel leaves alone .. .. | 4 | — |

"The leaves of the plant," remarks Professor Wilson, "also appear to possess a far higher value, both as a feeding and as a manuring substance, than we are accustomed to assign to them. Boussingault (Annales de Chimie) gives us an organic analysis of the roots and the leaves of the plants; a comparison between their respective compositions will be very much in favour of the leaves for the purposes just mentioned. The substance were dried necessarily previous to their analysis. Their proportions of water were about the same, and their elementary composition was as follows:—

| | Root. | Root. | Leaves. |
|---|---|---|---|
| Carbon .. .. .. .. .. | 42.75 | 42.93 | 38.1 |
| Hydrogen .. .. .. .. .. | 5.77 | 5.94 | 5.1 |
| Oxygen .. .. .. .. .. | 43.58 | 43.23 | 30.8 |
| Nitrogen .. .. .. .. .. | 1.66 | 1.66 | 4.5 |
| Ash .. .. .. .. .. | 6.24 | 6.24 | 21.5 |

Thus showing that, in a chemical point of view, the leaves were three times as valuable as the same weight of roots would be." *Journal of the Royal Agricultural Society of England*, Vol. XIII., p. 160.

The following table gives the acreable produce, &c., of the several kinds of Mangel grown on this farm in the present year:—

| No. | Varieties. | Date of Sowing. | Manures applied. | | Produce per stat. Acre. | |
|---|---|---|---|---|---|---|
| | | | | | Tons | cwt. |
| 1 | Yellow Globe | 24th April | 25 tons farmyard, 1½ cwt. Per. guano, 8 cwt. salt | | 35 | 2 |
| 2 | Long Red | Do. | Do. | Do. | 34 | 5 |
| 3 | Red Globe | 3d May | Do. | Do. | 35 | 2 |
| 4 | Long Red Bugle | Do. | Do. | Do. | 36 | 4 |
| 5 | Long Yellow | Do. | Do. | Do. | 36 | 14 |
| 6 | Deep Orange Globe | 4th May | Do. | Do. | 31 | 5 |
| 7 | New Yellow Oval | Do. | Do. | Do. | 41 | 13 |
| 8 | New Red Oval | Do. | Do. | Do. | 31 | 0 |

OBSERVATIONS.—The entire crop of each variety was weighed, and 1 ton per acre deducted for adhering clay.

It will be seen that the New Yellow Oval yielded 5 tons per acre more than any any other of the 8 varieties and 10 tons per acre more than Nos. 6 and 8. For weight per acre, and beauty of shape, it appears to me that it will surpass all the other sorts with which I am acquainted. The seed was obtained from Messrs. W. Drummond and Sons, Dawson Street, Dublin. The long yellow and the Long Red Bugle are the next highest on the list: the latter usually gives a large produce; but, as it falls to either side of the drill at an early period of its growth, it obstructs the after culture considerably. Besides, if frost should set in before storing it is more liable to injury than any other variety from its peculiar habit of growth. *William Boyle, Albert Institution, Glasnevin, Dublin.*

## PAUPERISM IN IRELAND.

FROM Mr. Fonblanque's last statistic report of pauperism in the United Kingdom it would appear that Ireland has emerged from its poverty in a wonderful measure. The total number of her registered paupers in 1857 was only 56,910 against 73,525 in 1856, and 89,619 in 1855; and the per centage ratio to the population was a fraction under 1 per cent. That Ireland, whose people have been so notoriously miserable, so overrun with beggars, and so over-stocked with poor labourers and their swarms of children, even within a short period of time, should in the present day be represented as the least pauperised portion of the United Kingdom may well excite surprise. The statistic tables demonstrate that more than 4½ per cent. in England and Wales, and 4 per cent. in Scotland of the population are stated to have been paupers in the same year. Lest any one should be deceived into the notion that there are only about 60,000 paupers throughout the Emerald Isle, while there are nearly a third more in Scotland, with much less too than half the population of Ireland, and nearly 100,000 in England and Wales, I take leave to offer the following remarks.

In the Irish enumeration of paupers none are entered as relieved (with a very trivial exception) but those who are inmates of the union houses, whereas in England and Wales the contrary practice of giving out-door relief—and this in six cases out of seven on the average—has prevailed. This explains to any persons unacquainted with our poor-law system the inconsistency of obvious pauperism to a great extent with the foregoing return. This state of poverty has indeed much abated, and even diminished somewhat within the past year, but still it is a sad reality, and will painfully manifest its existence during the ensuing winter season. Great numbers of destitute families and individuals who in my judgment ought to be allowed out-door relief remain in their cabins dependent on the charity of benevolent neighbours and casual charity for their subsistence. They will not, except under such extreme pressure as a national famine might produce, leave their homes, though for the better accommodation of the poor-house, dreading the severance of domestic connections, the prison-like order of the asylum, with which they associate also the ideas of disgrace. If the destitute widow with helpless children, the worn-out labourer who can no longer earn wages, and the sick families temporally deprived of the ability to labour, were in Ireland, as in England, placed on the pauper roll, the return now made public with regard to Irish pauperism would be far less favourable.

I think that with due precautions, and without increasing the amount of our poor rates to a burdensome extent, adequate out-door relief might be granted; humanity calls for it loudly, and economy suggests that the timely allowance of money and bread to families under temporary distress from sickness, or other visitations of Providence, would prevent their decided pauperism and ultimate permanent and burdensome charge upon their unions, or on individual benevolence. In the electoral divisions around me the present (annual) rate does not exceed 9*d.* in the 1*l.* on the rental. As there are only individuals from our district in the union house, we receive, under all the present circumstances of the country, no direct advantage from the poor rate and the existing system—except medical aid for the sick poor—though we have the satisfaction, I readily admit, the great advantage too, of having a House of Refuge kept open for our poor in case of any extreme and unforeseen calamity. An increase of the present rate to a small amount would meet what I consider urgent claims for out-door relief. This surplus rate I am convinced would be much less burdensome to the benevolent and generous of the ratepayers than the voluntary amount of relief which they afford in various ways to the pauper families around them; and the hard-hearted and niggardly ratepayers whose private charities are insignificant might justly be compelled to contribute to an object of great social good.

The expenditure (which had decreased from 849,951*l.* in 1855) was 619,514*l.* for the maintenance of the Irish poor in 1857. Yet the cost of maintenance for each individual of the 56,910, at the usual average of 5*l.* per head per annum, could only have been 284,550*l.* The remainder, viz. 334,964*l.*, has been principally absorbed in rents, salaries of staffs of management, the support of the medical charities of 720 dispensing districts, which cost about 90,000*l.* per annum, and of poor law union fever hospitals.

The maintenance of less than 60,000 paupers in the union houses, and the medical aid afforded by the medical charities in dispensaries and fever hospitals are the only legalised benefits of which the Irish paupers are now partakers. As to their maintenance in the union houses it is meagre in the extreme, as will appear by comparison with that of the English pauper. One example will suffice. An English male pauper usually consumes weekly 8½ lbs. of bread, 13½ pints of gruel, 1¾ pints of pea soup, 1 lb. cooked meat, 1 lb. of suet pudding, 3 lbs. of vegetables, and 12 oz. of cheese. He is allowed breakfast, dinner, and supper, the latter meal being of bread with either cheese or gruel. The Irishman consumes, in a union house in the province of Ulster, 4 lbs. 12 oz. of bread, 5 quarts of soup, 4 lbs. 12 oz. of oatmeal (in porridge), and 5 pints of buttermilk. In the other provinces something less, as he is rarely allowed the supper meal except in Ulster. Children however under the age of 16 are allowed bread for supper. With two meals only—the far more general rule in the Irish union houses (or if there be a third, with a very small increase to the quantity of weekly food allowed)—it is not surprising that the Irish pauper will take his chance for food anywhere, with freedom of action, rather than in the poorhouse.

This question may occur to some minds: Were the "Commissioners for administering the laws for the relief of the poor in Ireland," when framing the poor-house dietary tables and refusing support to the extern poor, influenced by the notion that they were thereby promoting a tendency to the remultiplication of the people whose numbers had so fearfully decreased by famine, fever, and emigration? I have accidentally opened an old volume of Blackwood's Magazine, in which I find* a train of reasoning theoretically such as may have actuated the commissioners in working out the practical details under my consideration. The writer, addressing Lord Brougham on the Malthusian doctrine which he impugns, argues in this manner respecting what he holds to be an admitted law of nature:—

"When a species, whether animal or vegetable, is put in danger, Nature invariably provides an extraordinary effort for its perpetuation; and on the contrary, when the means of perpetuation are profuse the powers of perpetuation are diminished. In short, the 'plethoric state' is unfavourable to increase, the deplethoric state (or opposite state) is favourable to it. * * * First, as to the vegetable world: all gardeners and botanists know that if a tree, plant, or flower be placed in mould too rich for it the 'plethoric state' is immediately produced, and it ceases to be fruitful. If a tree, it runs to superfluous wood, blossoms irregularly, and is destitute of fruit. If a flowering shrub or flowering plant, it becomes double, and loses its power of producing seed; and next ceases, or nearly ceases, even to flower. In order to remedy this, gardeners and florists are accustomed to produce the opposite, or 'deplethoric' state, by artificial means. This they denominate 'giving a check.' In short, they put the species in danger, in order to produce a correspondingly determined effort of nature to insure perpetuation and their end is attained."

I shall not recapitulate the various illustrations of checking luxuriant growth by ringing the bark of a tree, &c. Having shown that a gardener will not give extra manure or warmth, but the contrary, to a fruit or flower which he would have full seeded, and asserted that Vines and other fruiting trees and shrubs bear most abundantly after severe winter, the writer advances from vegetable to animal life:—

"What does the farmer, the grazier, or the breeder if he wishes to obtain a breed from some particular animal? Does he fatten it in order to secure its fecundity? He does precisely the contrary. He keeps it lean; he keeps it in that state in which Nature keeps all animals engaged in search and travel for food, and exposed to perpetual interruption during their time of feeding. He does this because he knows that to 'fatten' the animal, to bring it into the plethoric state by means of plenty of food and leisure, would be to destroy the chances of its fruitfulness."

To the main point the writer gradually advances, and after several interesting remarks and allusions to the fecundity of the ancient people termed Ichthyophagi or fish-eaters, says, "That any people living exclusively upon the low and meagre diet of fish must be unnaturally prolific, the experience of modern times will sufficiently prove. The fecundity, however, is not because the sustenance is *fish*, but because the sustenance is poor. This I shall make apparent by a comparison between the prolificness of people such as the inhabitants of the Highlands and Western Islands of Scotland, who subsist upon a low diet, chiefly of fish and vegetables, and that of the natives of more favourable countries, whose fare is richer, more plentiful, and more solid, and whose labour and exposure are less. This general notion of a thin and meagre diet being favourable to fruitfulness is borne out by the recorded opinions of medical writers upon this subject down to the present day. Several instances are enumerated by them, of persons who, being childless during their prosperity, became parents of families after being subjected to privations and the scanty table and hard bed of misfortune." By substituting oatmeal gruel or Indian meal, or why not the Potato, for "fish," or any other "meagre" diet, we have here the case of the pauper Irishman, whether in or out of the poor-house, subsisting on two meals per day, weight 22 ounces, of bread and oatmeal and a little butter-milk or broth, or kept "in search and travel for food, and exposed to perpetual interruptions during his hours of feeding." Thus Irish pauperism and vagrancy may become physical causes of fecundity.

I shall now advert to the real benefit conferred upon the poor of Ireland by the Medical Charities Act passed in 1851, under the authority of which the Board of Guardians provide requisite accommodation for the dispensaries in the several districts, medicines and appliances, and pay the salaries of the medical officers; the expenses being charged upon the poor-rates of the electoral divisions, comprised in the dispensary district. The 162 unions containing 3439 electoral divisions are divided into 720 dispensary districts, giving an average of more than four divisions to each district, the average population of the districts being about 9000, and for each medical officer thereof. There were in 1857 982 dispensaries and 777 medical officers; in some districts an apothecary also is appointed, and in some few (the total being 13) a midwife also. There are also, under the same Act, Poor-law fever hospitals, the expenses of which are charged upon the union-rates, and county and district hospitals and county and city infirmaries, supported by county presentments and private subscriptions, and in the instance of infirmaries by other means also irrespective of poor rates.† The poor, therefore, may enjoy the privilege of obtaining every requisite medicine through their medical officer, if he state that they are necessary for them. The guardians do not refuse to order for their respective dispensaries any medicines, even such as are very costly, if absolutely required by the medical officers. And in this point of detail the Irish seems to be free from an objection urged against the English system, viz., that expensive medicines, however necessary to the recovery of the sick, cannot be generously afforded to them by the medical officers, because these gentlemen (who are often inadequately paid and over-worked) are bound to supply at their own cost all medicines for their pauper patients. Sir John Trollope took occasion in the House of Commons to call the attention of the President of the Poor-law Board to the fact that in many English unions "the mere medicines required would absorb the whole of the salaries given to the medical officers. Under the operation of excessive competition, they have been induced to take contracts at a lower scale than they can afford to do. It is

* March, 1837.

† See Thom's admirable Almanac and Official Directory for the year 1857.

notorious that in the case of illness of paupers private charity is compelled to supply the medical comforts which the Poor-law Unions do not provide." Now, on this particular point the Irish mode contrasts favourably with that adopted in England; but in the other circumstance, of good nourishment during sickness, supplied by the poor rates as a matter of course if ordered by the medical gentleman through the relieving officer, and other things so frequently afforded by private charity in England where wealth and liberality abound, the case is reversed. In numerous Irish electoral divisions there are no gentry or other individuals able or disposed to give such sustenance as the sick poor require. If in Ireland the medical officer visits a cabin in which sickness exists, he must either give from his own limited resources the means of purchasing some necessary nourishment, or leave the sick without the means of regaining health and strength. He cannot be sure that the Board of Guardians would sanction a disbursement at his discretion, and generally there are such impediments presented against any mode of giving casual relief that few of the medical men will encounter them. Liberally disposed and considerate guardians are, it must be presumed, often out-voted in their proposed kindly treatment of sick out-of-door paupers by others of the opposite dispositions. I think that the medical officers are, from education, professional knowledge, and position, the best judges of the quality and measure of relief which the pauper cases under their management may call for; and therefore that they—whose lives too are in continued peril while pursuing their vocation — should have more authority than is now vested in them, and while duly responsible to the Board of Guardians, be legally allowed to do as a matter of right what they now must ask as a favour, or do at their own risk. *M. D.*

## Home Correspondence.

*Cotton Cake.*—I shall be obliged by your inserting in the *Agricultural Gazette* the following report of a case of death of a bullock from eating Cotton-cake. I was present at the examination, and can vouch for the correctness of the report in every particular. I enclose samples of the Cotton-cake in its natural state, and as it appears boiled, and as it came from the bowel of the bullock. It seems a most important matter to ascertain whether other farmers have met with similar cases. *John Fryer, Jun., Manor House, Chatteris.*

COTTON CAKE.—*(A case by J. G. Cooper, V.S., Chatteris.)* "A bullock doing well was taken seriously ill on Wednesday, December 22. I found him labouring under symptoms of 'mad staggers,' running his head against posts, and then falling down as if dead. There was evidently congestion of the brain, and giving it as my opinion that the case was beyond the reach of medicine, with the sanction of the owner it was slaughtered forthwith. I regret that illness prevented me conducting the *post mortem*, but I found a most efficient substitute in my neighbour, Mr. Wright, Surgeon. I give his report. 'This bullock had evidently being doing well. Every viscus so healthy that the cause had to be sought for with care. The paunch was enormously distended with food; the upper stomachs perfectly overloaded, the lower one empty. The cause of all this distention and mischief was discovered in the first bowel, 2 feet of which were blocked up with Cotton husks, pressed so tightly into the bowel as to give externally the appearance of stones. Here was an obstruction that could never have been foreseen, and that it was impossible to overcome. The duodenum was not inflamed—other bowels empty. Signed, J. HALL WRIGHT, M.R.C.S.'—On the following day, in conjunction with Mr. Wright, we divided half a Cotton-cake (from the same store), powdering one-fourth, steeping another in cold, another in water at 98°, and the last fourth in boiling water for eight hours each. By this means we procured a large quantity of husks, that not only resembled those found blocking up the bowel when examined by the naked eye, but under the microscope their identity was perfect. Experiments precisely similar with Linseed-cake revealed the facts that whereas in Cotton-cake there is an enormous quantity of insoluble matter, in Linseed-cake there is none at all. These Cotton husks are all concave, and seem to have a special aptitude for adhering to mucous membranes. The food was Mangels, Cotton-cake, goop hay and straw, with a little Barley-meal soaked three days in water. One would imagine that the bowel had been gradually coating, and that on the night in question, the obstruction becoming complete, the symptoms were matters of course."

*Superphosphate of Lime.*—The following remarks have been suggested by the perusal of an article on this subject in your Paper of the 25th ult. It is not my intention to find fault with the writer of that article, but rather to offer some opinions and observations of my own, in the hope that they may be useful to your readers. Superphosphate, as you are aware, is entirely a mineral manure, and does not, therefore, necessarily contain either organic matter or nitrogen. I cannot therefore agree with the writer of the book, from which your extract is made, when he asserts that superphosphate of lime can *only* be valued by the per-centage of organic matter, sand, and ammonia which it contains. Such a statement would be perfectly correct if made with reference to a nitro-phosphate, but that is quite another article. Superphosphate ought, as the writer says in another place, to be valued according to the amount of bi-phosphate (soluble phosphate) which is found in it. But here is a difficulty. How is the buyer to know the per-centage of soluble phosphate which any given sample contains? It is not difficult to determine that by analysis, yet even here it is easy to make a blunder; and it is very clear that farmers as a body cannot do it for themselves. It is not sufficient that an analysis has once been made of a certain maker's superphosphate, supposing that analysis to have been correct, because, unless the manufacturer understands the principles on which he works, and I fear there is not a tithe of them who do, his manure will be liable to very great variation in point of quality. I have known superphosphate, from the same manufactory, which contained in one case only 4. and in another nearly 40 per cent. of bi-phosphate; the former was not worth more than 2*l.*, and the latter would have been cheap at 10*l.* per ton. To obtain a constant article it is absolutely necessary that the manufacturer should be able to determine the strength of his acid, the composition of his bone ash, coprolites, &c., and then to calculate the exact quantity of each he must use, in order, not only to make the most of his ingredients, but to guide him in the reduction of his manure to an uniform strength. This is necessary, because these materials are of very uncertain composition. Again, the maker ought frequently to examine his superphosphate as the manufacture of it proceeds, in order that he may know whether he has the quantity of soluble phosphate which he expects, and whether he has an insufficiency or a superabundance of acid. From such a maker as this the manure might be depended upon, and it would make very little difference whether he employed in its manufacture bone earth, animal charcoal, coprolites, or any other of the materials now in the market. But the farmer's difficulty—that of getting a constant article—does not end with the maker. Superphosphate, like everything else, is adulterated after it leaves the manufactory. That there are as honest agents of manures as of anything else nobody can doubt, but that some of them are in the habit of mixing inexpensive and useless things with their manures is a well-known fact. I understand from some of the manufacturers that their customers are generally satisfied if you can show them a large per centage of phosphate, soluble or insoluble. If it contains a small amount of the former but a large quantity of the latter they are contented, believing that the one makes up for the other. Now this is an unfortunate state of things for the purchaser, but very convenient for the maker, who needs only to shovel into his poor superphosphate a quantity of ground coprolites in order to swell the per centage of insoluble phosphate, which will be found on analysis. My advice to farmers on this subject is—1. Purchase from a respectable maker or agent, I mean one of respectable character and ability. 2. Remember that superphosphate may be manufactured of any strength, and that, consequently, it may be quite as expensive at 5*l.* as at 7*l.* per ton. 3. Obtain, if you can, an analysis of the kind you think of buying, and if it contains 14 per cent. and upwards of soluble it is a good manure. Such an article should not cost this year more than 6*l.* or 6*l.* 10*s.* per ton, as both bone and acid are cheap. 4. Observe that the effect of the manure will be proportioned to quantity applied, up to a certain point, and after that nearly all will be wasted, as it is extremely soluble and will pass through a porous subsoil or the drain pipes. This point, which ought to be reached, but not exceeded, depends not only upon the requirement of the roots but also upon the strength of the superphosphate and upon the character and condition of the soil to which it is applied. From these statements it is clear that only general directions can be given as to the quantity necessary to be used; but a few experiments, conducted on the same land, and during the same season, with different quantities of superphosphate, will determine this matter with sufficient accuracy. *Moses Pullen, Painswick, Gloucestershire.* [The statement that a superphosphate is to be valued partly according to the nitrogen it contains may be objected to on the score that superphosphate of lime really does not contain nitrogen; but it is nevertheless true, because it refers not to superphosphate as a true chemical salt, but to a class of very mixed manures which are known in the market by this name.]

## Foreign Correspondence.

FARMING IN COURLAND.—Now that free trade appears to be an established fact I am surprised that more of the young farmers do not find their way to this country. The reason being probably that it is but little known in England, I will endeavour to give you an impartial sketch of it. Sixty years since it was independent, and governed by a duke. The whole land was and still is divided into 500 estates, the greater half of which are owned by German barons, who settled here at various times during the last 600 years; the remainder are let, and the proceeds are employed for paying the State expenses. Although it has since been ceded to Russia, yet affairs remain nearly the same; they have their own officials, and the German language is still the predominant, and used in all the courts of law, &c., and in fact Russian is seldom heard. It may therefore be said to be a German State under the protection of Russia.

The soil is diluvial, situated on the limestone. It varies from nearly pure sand to heavy loams, but heavy wet clays like those of Essex are not to be found. A large proportion of lime is to be found everywhere, and, as may be supposed, several descriptions of Clover, including the Alsike, are to be found wild. On my farm there is an open ditch full of Alsike Clover, to the exclusion of other Grasses, which neither time nor ill treatment seems possible to exterminate. We have no hedge rows or trees standing in the arable land, but all open like Mr. Mechi's; neither have we any damage done by game, for we have no rabbits, and but a small quantity of hares and partridges, in consequence of the game laws not being severe. Instead of the arable lands of the several farms or estates joining each other as in England, we have around each farm a certain quantity of pasture land and wood which affords fuel; there is also a portion of water meadow belonging to each farm, giving about 10 tons of hay per annum. 100 acres of arable, and neither the pasture or wa meadow are reckoned on the tenant. For the ara land, exclusive of roads, site of buildings, &c., about per acre are paid, which includes all rates and taxes, a leases of 6, 12, and even 24 years are common. dwelling and farm buildings are generally large a good, and many are even better than in Engla Belonging to every estate are a number of small farme who formerly did all the work of the home fa but now they are let quite distinct, but have still all public burdens of the estate to bear, such as mending of the high roads, the keeping of the poor, a the liability of soldiers being quartered upon the Ten years since the three-field system of fallow, win corn, summer corn were general, but since that Clo is usually sown, and the most common rotation now fallow, Wheat or Rye, Clover, ditto for pasture, Bar fallow, winter corn, Peas, Potatoes, Flax, and Oa making nine years. Turnips have only been tried by few enterprising men, some of whom have been su successful. Rye-grass is not yet used, but a few acre sowed last year did exceedingly well. I am living in the centre of the best Flax district, and as the soil a climate suit it remarkably well, there is scarcely farm which does not produce a small quantity, a 6 acres in every 100; more than that they do not fi it advisable to grow, because the preparing of it occ pies a great deal of time, and as the seed is generi sold at good prices for export, it gives neither wi provender nor manure. It is all managed in the fashioned way—soaked in a pond or hole dug out the purpose immediately after being pulled for five six days, until the bone or wood easily breaks betw the fingers; it is then laid out on a clear piece Grass or stubble for a few weeks, turned once over, t as dry as possible in bundles with straw and scutch at leisure. As it is always sown in the place of Bar or Oats it does not displace a portion of Wheat, and managed and treated as advocated, I believe, also, by M Warner, I think worthy the attention of every agricu turist in England; there is no costly apparatus, nothi necessary but what a few shillings will pay for. It gr here on all soils, the only condition being that it gets showers of rain. The troublesome operation of weedi also, which we have been so often told to be absolu necessary, is here totally dispensed with.

The land is ploughed with an instrument wh defies description, and I believe peculiar to this part Europe. It acts something like a pair of scis slightly opened, with the points turning inward, held at an angle of 45°; two shafts, nearly horizon are fixed to it, and it is drawn by one stro pony. About 3 inches is the usual depth mov Many persons, however, are now getting implemen from England. I and a few others have tried drain but with the exception of low situations, without m effect. This may be accounted for by the cli which I will endeavour to explain in another com cation, together with statistics of expenses and retur if the subject be considered sufficiently interesting fo insertion. *W. Grossmith, Bauske, Courland, Russia.*

## Farmers' Clubs.

BOTLEY: *The Cross Breeding of Sheep.*—Mr. Jo Twynam, of Winchester, in a statement on this subje at a recent meeting of this club, said that the exp rience of late years had fully proved that the she anchor of the cultivator of the soil was the green cr system. The next important consideration which pr sented itself was the best mode of converting them, a the animals the most fitted to accomplish it; and reference to at least three-fourths of the arable land this kingdom, the sheep stood forth as the most prom nent indispensable agent for that purpose. The lectur then entered into the history of the Southdown, t Leicester, the Cotswold, and the Hampshire Down Amongst the finer qualities, the Southdown held th foremost rank where the taste of the epicure is to consulted; old mutton required parks to be fed, or a arable lands of a dry subsoil, in a warm locality, the sheep might graze with as great advantage as any othe They would also go well long distances without injur making a close bite on short herbage, but in the winte season were not so good proof against our fickle climat in exposed situations. The Leicester, for grazing pu poses, on rich pastures, where no folding was required the temperature warm, and weight of carcase, wit early maturity in view, were perhaps to be preferred all others, especially when they remembered that th breed had partaken, with other breeds, of the improv ments of the day; for they no longer found them as the days of Bakewell, beautiful indeed in symmetr and high in blood, but too often like so many rolling tallow-tubs, fit more for the chandler's than the butcher shop. There was now a better intermixture of muscl or lean meat with fat, by which the quality of th mutton was much improved, and the fleece was a thir heavier, without having suffered any deterioration i quality. The Cotswolds, in former days, were of large yet rather coarse-grained carcass, with a heav fleece of wool, possessing a good proportion of lea more hardy than the Leicester, by judicious crossing with which they have been much improved, arrivin much earlier at maturity, yielding a fleece of fine quality, scarcely diminished in weight, and adapted to the same purposes to which the Leicesters alone has hitherto been devoted, with the additional advantag of retaining with the cross their original hardie

nature. "I have known them," said Mr. Twynam, "wintered on the arable soils of Hampshire in the open air, with hay and Turnips, become superfluously fat; while other breeds, fed on the same food, side by side, have barely sustained themselves in store condition." The aim of the Hampshire and Wiltshire breeds is to combine size, quality, aptitude to arrive at early maturity, and a heavy fleece of good quality, with a constitution sufficiently hardy to undergo the process of consuming the green crops and folding on the ground where they go, thereby leaving a full dressing for the crop of corn which is to follow. The better points of different breeds require to be fused into one mould; and this daring exploit—for daring it was declared to be by a public prejudice against the smallest deviation from the beaten track—has been made with signal success by many of the more enlightened flockmasters of these counties. They saw population had so gained on the heels of production, that a greater weight of meat was annually required to be grown; that, simultaneously with increase of number of sheep, they bethought themselves that to improve the symmetry, increase the aptitude to fatten, and arrive at heavier weights, with the same food, might be quite as economical a mode of supplying the increased demand, as to effect it solely by the increase of numbers. They had before their eyes the parent-breed of the matchless South-downs, Leicesters, and improved Cotswolds. These, in their separate state, were unfit for the system of arable-land farming, as well as for the description of carcase which has the "call" in the market at the present day. To meet the requirements of both, an amalgamation was decided on; and the result was a carcase of mutton exhibiting the early maturity of the Leicester, the muscle of rich lean of the Cotswold, and superior grain of the Down—a carcase "ripe" at 14 months old, instead of at three or four years, as formerly. From this admixture, assisted by the original Hampshire breed, which was founded about the beginning of the present century, on (the then prevailing breed of the country) the old horn-ewe and Sussex ram, the present new Hampshire breed was formed. No long pedigree of what is called "purity of blood" can be claimed by any Hampshire flock-master: but he has the satisfaction of knowing that it is the admixture he has made which constitutes the value of his stock; for neither of the parent-breeds from which he derived it can claim comparison with his own for the union of qualities necessary to form the most useful and best-adapted sheep for the profitable consumption of his green crops, or so satisfactorily to meet the demand of the consumers of mutton or of wool.

## Miscellaneous.

*Sickles and Cycles.*—Mr. Wren Hoskyns calls attention in the *Times* of January 6 to the fact that "for no less a period than 32 years—ever since 1827—the price of Wheat in this country has moved in quadrennial periods—four years up and four years down—with a regularity so steady and invariable that it is difficult to cast one's eyes over the scale of 'annual averages' and escape the impression it conveys of a perfect natural cycle. No expansion into verbal statement will do justice to the expressive tale which the diagram of annual prices affords to the eye. Briefly told, however, and omitting fractional figures, it is as follows:—From 1827 to 1831, the first quadrennial period, the prices of Wheat rose from 58*s.* in the first-named year to 66*s.* in the last. Thence to 1835 it fell by regular annual steps, 58*s.*, 52*s.*, and 46*s.*, to 39*s.* In the next four years it rose again with equal regularity, through 48*s.*, 55*s.*, and 64*s.* to 70*s.* in 1839. Then down, by the gradations of 66*s.*, 64*s.*, and 57*s.*, to 50*s.* in 1843. Up again, through 50*s.*, 51*s.*, and 54*s.*, to 69*s.* in 1847. Down again, in turn, by the regular stages of 50*s.*, 44*s.*, 40*s.*, to the figure fearful to agricultural eyes of 38*s.* in 1851. The next four years it mounted again by the encouraging degrees of 41*s.*, 53*s.*, 72*s.* to the Crimean altitude of 74*s.* in 1855; whence it has declined, in obedience to the same singular law of succession, to 69*s.* and 56*s.* in 1856 and 1857, and to the still lower figure it holds in the year just expired, the third, and happily the penultimate, of our present descending series. From this statement (unavoidably tiresome and ineffective in the mere reading) any one caring to take the trouble can readily draw the diagram for himself, and observe the instructive, or, at any rate, suggestive picture it furnishes."

## Notices to Correspondents.

BLACK PUDDINGS: *R S, Tottenham.* Take 1 quart of whole oatmeal, boil it and let it steep all night in the water; boil a penny loaf in milk, put in 2 lbs. of hog fat cut small, four eggs, some Pennyroyal, Sage, sweet Leeks, or Onions, black pepper, Nutmeg, Cloves, and Mace, and what blood you think proper; fill the intestine a little more than half full. Boil it three quarters of an hour. The blood should be stirred when hot to prevent its congealing. *S.*

CLAY FARM: *E L S.* Mangel Wurzel is the best root crop for stiff soils whether for consumption by sheep or cattle. If by the former they had better be fed in Grass fields or yards. In recommending Mangel Wurzel we suppose that you farm in south or midland England. In Scotland Swedish and other Turnips are better.

DUTCH CLOVER: *M R.* You had better sow it with a thin crop of Barley; and do not stock it too heavily. Read Mr. Thompson's paper in the last number of the Journal.

STEAM BOILER: *W B H.* Apply to Stanley, of Peterborough, and Richmond and Chandler, of Salford

TOP DRESSING WHEAT: *E L S.* Notwithstanding its price we would apply genuine Peruvian guano in preference to almost anything else. Nitrate of soda 1 cwt. per acre, along with 2 cwt of common salt, is also a good dressing.


GENUINE TOBACCO PAPER.

MESSRS. JACKSON'S Workmen are now selling their Genuine RAG and TOBACCO PAPER at 10*d.* per lb. Money Orders made payable to BEN BAXTER, Messrs. Jackson & Sons, Lady Lane, Leeds.

GENUINE TOBACCO PAPER FOR FUMIGATING.

H. APPLEBY (Foreman to Messrs. Ivery & Son, Nurserymen, Dorking, Surrey), begs to inform his friends and the public that he now offers the above article at a reduced price. Sold in 4-lb. packets, 1*s.* 3*d.* per lb. A great reduction to the trade; price on application. For testimonials that will guarantee its quality, see *Gardeners' Chronicle*, Dec. 11, 1858, page 920.

SHEET IRON POTS FOR FUMIGATING, 3*s.* 6*d.* each.

N.B. All Orders to be accompanied with a Post-office Order, payable to HENRY APPLEBY, Dorking, Surrey.

JAMES PHILLIPS AND CO.'S PRICES of GLASS for the present month.

HORTICULTURAL GLASS, STOCK SIZES, in 100 feet boxes.

| | 3rds. | 4ths. |
|---|---|---|
| 11 by 9, 12 by 9, 13 by 9, 14 by 9 .. / 12 ,, 10, 13 ,, 10, 14 ,, 10, 15 ,, 10 .. | 14*s.* 6*d.* | 12*s.*6*d.* |
| 13 ,, 11, 14 ,, 11, 15 ,, 11, 16 ,, 11 .. / 14 ,, 12, 15 ,, 12, 16 ,, 12, 17 ,, 12 .. / 18 ,, 12, 19 ,, 12, 16 ,, 13, 17 ,, 13 .. / 18 ,, 13, 19 ,, 13, 20 ,, 13, 21 ,, 13 .. / 16 ,, 14, 17 ,, 14, 18 ,, 14 .. .. / 19 ,, 14, 20 ,, 14, 21 ,, 14 .. .. | 16*s.* 6*d.* | 14*s.*0*d.* |

PACKED IN CASES.

| | | |
|---|---|---|
| 200 feet .. .. .. | £2 2 0 | 16 oz. |
| 300 feet .. .. .. | 3 3 0 | |
| 200 feet .. .. .. | 2 18 0 | 21 oz. |

ORCHARD HOUSE SIZES, As supplied by us to Mr. Rivers.

| | | 16 oz. | 21 oz. |
|---|---|---|---|
| 20 in. by 12 in. / 20 in. by 13 in. | Common .. .. | 14*s.* 0*d.* | £1 1*s.* |
| 20 in. by 14 in. / 20 in. by 15 in. | Superior do. .. | 16 6 | 1 5 |
| | English Glass .. | 18 0 | 1 9 |

SMALL SQUARES.—Per 100 feet.

| | | | | |
|---|---|---|---|---|
| 6 by 4 | 6½ by 4½ | 7 by 5 | 7½ by 5½ | 11 6 |
| 8 ,, 6 | 8½ ,, 6½ | 9 ,, 7 | 9½ ,, 7½ | |
| 10 ,, 8 | 10½ ,, 8½ .. | .. | .. .. | 12 6 |

JAMES PHILLIPS AND CO.,

130, Bishopsgate St. Without, London, E.C.

GLASS FOR CONSERVATORIES, ETC.

HETLEY AND CO. supply 16-oz SHEET GLASS of British Manufacture at prices varying from 2*d.* to 3*d.* per square foot for the usual sizes required, many thousands of which are kept ready packed for immediate delivery.

Lists of Prices and Estimates forwarded on application, for PATENT ROUGH PLATE, THICK CROWN GLASS, GLASS TILES, and SLATES, WATER-PIPES, PROPAGATING GLASSES, GLASS MILK PANS, PATENT PLATE GLASS, ORNAMENTAL WINDOW GLASS, and GLASS SHADES, to JAMES HETLEY & Co., 35, Soho Square, London.

See *Gardeners' Chronicle* first Saturday in each month.

HORTICULTURAL GLASS—JUNE TARIFF.

THOMAS MILLINGTON'S reduced Tariff of GLASS, &c.

6 by 4, 7 by 5, 8 by 6, 9 by 7 / 6½ by 4½, 7½ by 5½, 8½ by 6½, 9½ by 7½ } 16 oz. to the foot, 11*s.* 6*d.* per 100 feet.

In 100 boxes,—4ths quality, 12*s.* 6*d.*; 3ds do., 14*s.* 4*d.*

10 by 8, 12 by 9, 12½ by 10, 14½ by 10½, 13 by 11
10½ by 8½, 12½ by 9½, 13 by 10, 15 by 10, 13½ by 11½
11 by 9, 13 by 9, 13½ by 10½, 12 by 11, 14 by 11
11½ by 9½, 12 by 10, 14 by 10, 12½ by 11½ .. ..

| | per 100 feet | 16 oz. | 21 oz. |
|---|---|---|---|
| 20 by 12 / 20 by 13 / 20 by 14 / 20 by 15 | Common .. | 16*s.* .. | 24*s.* |
| | Superior . | 18*s.* .. | 27*s.* |

All Boxes included.

Orchard House sizes as supplied to Mr. Rivers.

Hartley's improved Rough Plate Glass from ⅛ to ⅝ in thickness.

Coloured Glass in great variety, at 9*d.* and 1*s.* per foot.

Paints, Genuine White Lead, Linseed Oil, Boiled Oil, Turpentine, Putty, Colours, Varnishes, Brushes, Lamp Glasses, &c.

87, Bishopsgate Street Without, same side as Eastern Counties Railway.

NETTING! NETTING! NETTING! FOR GARDENS, YOUNG PLANTATIONS, NURSERIES, POULTRY YARDS, AND PHEASANTRIES.

THE SUBSCRIBERS have much pleasure in offering the following very low prices for their PREMIUM PRIZE WIRE NETTING, now universally acknowledged the only reliable article in the market, the monopoly of which it has almost entirely secured. The quality which they supply has gained the Silver Medal from the principal Agricultural Shows in England, Scotland, and Ireland; it is all hand made, giving it an eminent superiority over that manufactured by machinery, as by the latter process the wire is split, and in a very short time the meshes break and gave way. The Subscribers cannot give a better idea of the undoubted excellence of their PREMIUM PRIZE NETTING than by stating that the weight of 1 yard of their 24 inch is equal to about 3 yards of another article in the market the same width, at 9*d.* per yard.

PRICES.

| | | |
|---|---|---|
| 12 inches high | 6*d.* per yard | Premium Prize Netting |
| 24 ,, 1*s.* | 0 do. | do. |
| 36 ,, 1 | 6 do. | do. |
| 12 inches high | 4½ per yard | Medium Netting |
| 24 ,, | 9 do. | do. |
| 36 ,, 1 | 1½ do. | do. |
| 12 inches high | 3 per yard, | Light Wire Netting |
| 24 ,, | 6 do. | do. |
| 36 ,, | 9 do. | do. |

Made any height. If a web of 100 yards is ordered it will be delivered free at any Railway Station. All coated with their Impervient Composition for preservation, and thus rendered superior to galvanised netting.

THOMAS PEARSON & Co., 71, Queen Street, Glasgow.

PATENT GUTTA PERCHA SOLES.—IMPORTANT TO GARDENERS.—The Gutta Percha Company have the pleasure to acknowledge the receipt of the following letter from G. GLENNY, Esq., the celebrated Florist:—

"420, Strand, London.

"Gentlemen,—I have worn Gutta Percha Soles and Heels these two years, and being so much in a garden as I necessarily am in all weathers, and with the ground in all states, I would on no account be without them. As a matter of economy I would recommend Gardeners to use them, for they may repair the worn part at all times by warming the material at the fire, and pressing it from the thick parts to the worn parts as easily as if it were so much dough. I think it the duty of all persons who must occasionally wet their feet to adopt a material that completely defies damp. Many a gardener would escape colds and rheumatism by the use of Gutta Percha Soles.

"Your obedient servant, G. GLENNY."

Every variety of Gutta Percha articles, such as Mill Bands, Tubing, Soles, Goloshes, Sheet, Pump Buckets, Fire Buckets, Bosses, Union Joints, Flasks, Bottles, Bowls, Chamber Vessels, Toilet Trays, Sponge Bags, Curtain Rings, Galvanic Batteries, Talbotype Trays, &c., manufactured by the Gutta Percha Company, and sold by their wholesale dealers in town or country.—The Gutta Percha Company, Patentees, 18, Wharf Road, City Road, London.

HORTICULTURAL WORKS,
DANVERS STREET, CHELSEA, SEPTEMBER, 1857.
DISSOLUTION OF PARTNERSHIP.

MR. GRAY begs most respectfully to announce to his patrons and friends that the Partnership hitherto existing between Mr. ORMSON and himself is now at an end, and that the Business will be carried on by him as usual, and he hopes to be honoured with a continuance of that support and patronage with which this establishment has been so long favoured.

Mr. GRAY avails himself of this opportunity to tender his grateful thanks to the many kind friends and supporters by whose patronage this establishment has been raised to its present position, and he begs to assure them that it will be his most anxious care and study to maintain it.

NOTICE.

VOKINS AND HURD (removed from Smith Street to Seymour House, Jubilee Place, King's Road, Chelsea), HORTICULTURAL BUILDERS and HOT-WATER APPARATUS MANUFACTURERS. Estimates forwarded

HEATING BY HOT WATER ON HAMMOND'S improved principle, for Horticultural Works, Mansions, Churches, Public Buildings, in fact everywhere that heat is required. Also his improved Ventilating Greenhouses, which can be erected at 1*s.* per foot, and entirely prevent the possibility of scorching the Vines or plants. The Patent Hot-water Register Stove.—Estimates at No. 18, George Street, Portman Square. Workmen sent into the country.

C. STEPHENSON, late STEPHENSON AND SONS, 61, Gracechurch Street, London, Manufacturer of Iron Hurdles, Fencing, &c., Improved Iron and Copper Conical Boilers and Apparatus for Warming Buildings of every description by Hot Water.

Prices and Estimates furnished upon application.

SCIENTIFIC GARDEN INSTRUMENTS.

CASELLA'S POPULAR SERIES includes GARDEN THERMOMETER FOR REGISTERING COLD.. 4*s.* 0*d.*
Do. GARDEN do. for HEAT .. .. .. .. 7 6
COTTAGE BAROMETER .. .. .. .. 11 6
GARDENER'S RAIN-GAUGE .. .. .. 15 6
THERMOMETER for Hotbeds .. .. .. .. 21 0
SCHOOL or GARDEN MICROSCOPE, with Rack-work and six Powers complete .. .. .. 21 0
MILK TEST for the Dairy, 4*s.* 6*d.*; Cream do. .. 3 0

Illustrated descriptions on receipt of stamp. Every trial ensures commendation.—23, Hatton Garden, London.

THE "ART JOURNAL" for January contains an Illustrated and descriptive notice of a Visit to the TERRA COTTA WORKS of JAMES PULHAM, Broxbourne, who was awarded a Prize Medal of 1851 for Garden and Architectural Decorations, with special notice of Artistic Merit; exhibited in Fine Arts Court, Class 30 and 27, and will send Stereographs (like seeing the objects in minature) on receipt of 12 stamps, and card of address.

PULHAM'S STONE COLOUR CEMENT to match with Terra Cotta, and both guaranteed for durability. References to works executed during 36 years. Specimens at the Kensington Museum and Polytechnic.

Scagliola Modelling and General Plasterers' work in first-rate style in any part of the country.

BLOSSOM OF WALL-FRUIT TREES.—Worsted Net, so very generally approved, 7*d.* per square yard—will last 10 years; plan of fixing it sent free. All kinds of Garden, Fishing, and Sheep Net, made by machinery, very cheap.

GALVANISED WIRE-WORK, less than 2-inch mesh, 16-gauge, 8*d.* per square yard; mesh 3 inches by 2 inches, for Poultry, 5*d.* per square yard; for Sheep, 4*d.* per square yard.

TRANSPARENT SHEETING, near 2 yards wide, 1*s.* per yard run.

WATERPROOF CAPES, long enough to protect a man from wet while stooping down, 3*s.* each; Police Capes, 18*s.* to 24*s.* per doz.; Tarpaulings for Carts, 12*s.*; Waggons, 25*s.*; Sheepskin Coats, 8*s.* each; Roofing Canvas, 1*d.* per square foot, 6 feet wide.

R. RICHARDSON, White Horse Factory, Bidborough Street, Judd Street; Office, 99, Euston Road, London.

2000 YARDS SECOND-HAND WIRE FENCING, five wires deep; the two top wires of No. 4 wire are new, the three lower wires in a perfectly sound state, equal to new. Price for the whole, 8*l.* per 1000 yards, including straining bolts. It is suitable for fastening on wood posts, with staples or otherwise.—R. RICHARDSON, White Horse Factory, Bidborough Street, Judd Street. Office: 99, Euston Road, London.

TRELOAR'S COCOA-NUT FIBRE WAREHOUSE 42, Ludgate Hill.—Matting, Mats, Mattresses, Sheep Netting, Hassocks, &c. Prize Medals awarded, London, New York, and Paris. Catalogues, containing prices, and every particular, free by post.—T. TRELOAR, Cocoa-Nut Fibre Manufacturer, 42, Ludgate Hill, London, E.C.

SHAW'S TIFFANY.—The best and cheapest material for Shading Conservatories, Protecting Fruit from Birds and Wasps, &c. Sold in pieces 20 yards long by 38 inches wide. No. 1, best quality, 5*s.* per piece; second quality, 4*s.* per piece. Extra strong and thick (see Circular sent free by post with samples).

Address JOHN SHAW & Co., Manufacturers and Dealers, Princess Street, Manchester.

HENRY J. MORTON AND CO., 2, Basinghall Buildings, Leeds.

GALVANISED IRON WATER CISTERNS

for Cottage Houses, &c., to contain 50 gallons, 25*s.*; 80 gallons, 30*s.* each; and 140 gallons, 36*s.*, and fitted with tap, keeping the water perfectly sweet and clean; will not rust or corrode. Cisterns of all sizes.

GALVANISED IRON PUMPS

for Liquid Manure or Domestic Use, 3 inches diameter, 30*s.* and 32*s.* 6*d.* each; Tail Pipe for same at from 10*d.* per foot.

GALVANISED IRON SWING WATER BARROWS

for Garden or Farm use, containing about 20 gallons, entirely formed of iron, 32*s.* 6*d.* each.

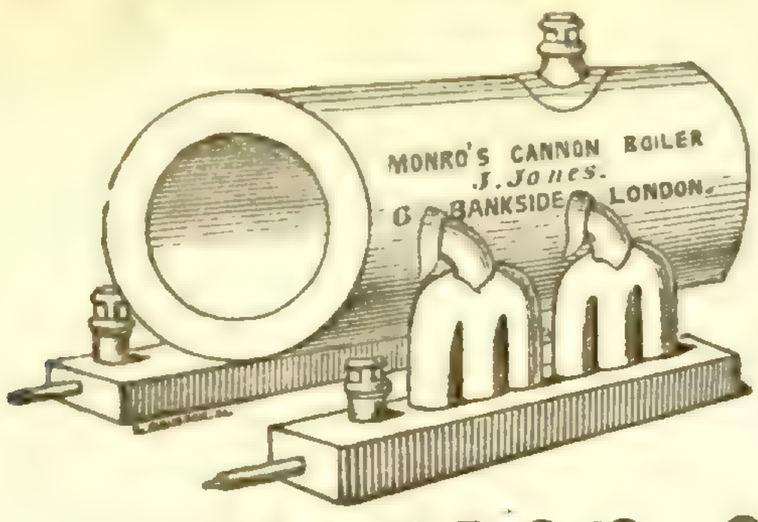
"FRIGI DOMO."—Patronised by her Majesty the Queen, the Duke of Northumberland for Syon House, His Grace the Duke of Devonshire for Chiswick Gardens, Professor Lindley for the Horticultural Society, Sir Joseph Paxton for the Crystal Palace, Royal Zoological Society, late Mrs. Lawrence, of Ealing Park, and — Collier, Esq., of Dartford.

PROTECTION FROM COLD WINDS AND MORNING FROSTS.

"FRIGI DOMO," a Canvas made of patent prepared Hair and Wool, a perfect non-conductor of Heat and Cold, keeping, wherever it is applied, a fixed temperature. It is adapted for all horticultural and floricultural purposes, for preserving Fruits and Flowers from the scorching rays of the sun, from wind, from attacks of insects, and from morning frosts. To be had in any required lengths. Two yards wide, 1*s.* 6*d.* per yard run; four, 3*s.* per yard. Also, an improved make for Shading Purposes. Three yards wide, 2*s.* 6*d.* per yard run.

ELISHA THOMAS ARCHER, whole and sole manufacturer, 7, Trinity Lane, Cannon Street, City, and of all Nurserymen and Seedsmen throughout the kingdom. "It is much cheaper than mats as a covering."

# HEATING BY HOT WATER.




**24-inch Cast Iron is ... ... ... £5 10 each.**

**24-inch Wrought ditto ... ... 6 10 „**

**36-inch Wrought ditto ... ... 8 10 „**

## MONRO'S CANNON BOILER.

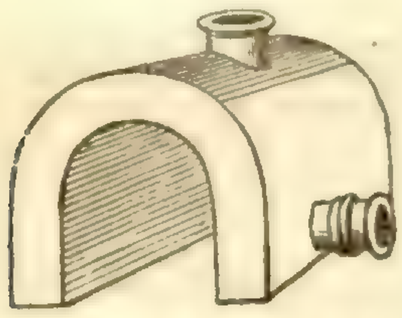
MUCH has of late been said about Boilers for Heating by Hot Water, but these Boilers have now proved themselves to be the best at present invented. They are adapted for Heating every description of Building, and are made of various sizes. These Boilers are to be had only of J. JONES, 6, Bankside, Southwark, London. References to Gentlemen and Nurserymen where these Boilers are now at work. Among others may be mentioned the Establishment of

**Messrs. H. LOW & CO., Clapton Nurseries,**

where three of these Boilers are now at work—two of 36 inches long, heating 800 feet of 4-inch pipe each, and one of 24 inches, heating 600 feet of 4-inch pipe.

Mr. BEATON, in the "Cottage Gardener," of November 30, 1858, says:—"The hottest work I ever saw done with cannon was at the Clapton Nursery. MONRO'S Cannon Boiler was fixed and fired there in earnest, and did the work so unlike other cannons, by saving the lives of thousands of plants from hurt and harm, that a second Cannon Boiler was ordered while the iron was hot; and I have seen them both at work on new targets, in the shape of 'a world of new glass' houses. 'Bless you, Sir, they burns any mortal thing you likes to give 'em,' as Sam would say. And the foundations for them need not be more than 3 feet deep below the level of the pipes. The best proof of their efficiency is the fact that one of them, which cost 8*l.* 10*s.*, does the work of four or five older boilers; and that as soon as its power was proved, a new one, costing 5*l.* 10*s.*, was set to work in a new Camellia-house, which is a span-roof, north to south, 135 feet long, and 15 feet wide; also, an Epacris-house of the same shape and size—600 feet of 4-inch pipes—worked by a Five-guinea Cannon Boiler, which burns 'any mortal thing.' In addition to the two long span-houses mentioned, there is a high lean-to house, 60 feet long and 14 feet wide; also, a lean-to tan pit;—all heated by the two Cannon Boilers and 4-inch pipes. Fourteen pounds for two boilers!"

*Messrs. Low & Co. will be happy to show these Boilers to any parties interested in the matter.*



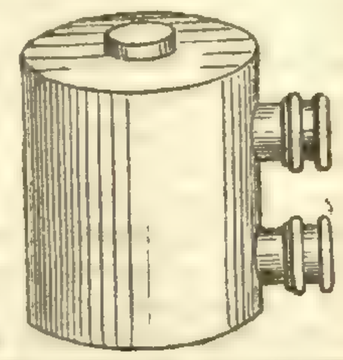
**SADDLE BOILER.**

J. JONES has also the largest Stock in London of

**HOT-WATER PIPES, ELBOWS, and TEES, CYLINDER and SADDLE BOILERS, of both Wrought and Cast Iron; DOUBLE DOORS,**

And every description of Fitting required for the same.

☞ *Prices given for the materials, which will be found cheaper than those of any other house, or Estimates for the work, fixed complete in any part of the country, and an Illustrated Catalogue on application to*



**CYLINDER BOILER.**

**J. JONES, 6, BANKSIDE, SOUTHWARK, LONDON,**

WHERE ONE OF THE CANNON BOILERS CAN BE SEEN FIXED.

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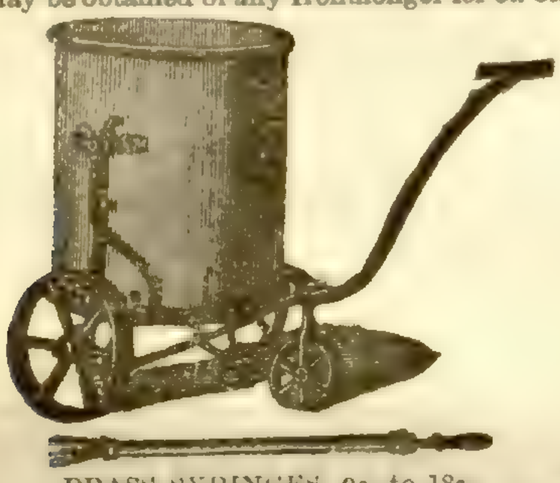
WARNER'S SWING WATER-BARROW (TO HOLD FORTY GALLONS) MOUNTED ON WHEELS 20 INCHES HIGH. Will save much of the Gardener's time and labour. May be obtained of any Ironmonger for 3*l.* 3*s.*



BRASS SYRINGES, 9*s.* to 18*s.*

Also a great variety of effective Machines for Hydraulic purposes, and to supply Gardens, Hothouses, Cottages, Farms, Mansions, or Boards of Health, with every requisite connected with the conveyance and distribution of Liquids.

Fountains suitable for Conservatories, Lawns, &c.

JOHN WARNER & SONS, 8, Crescent, Jewin Street, London.

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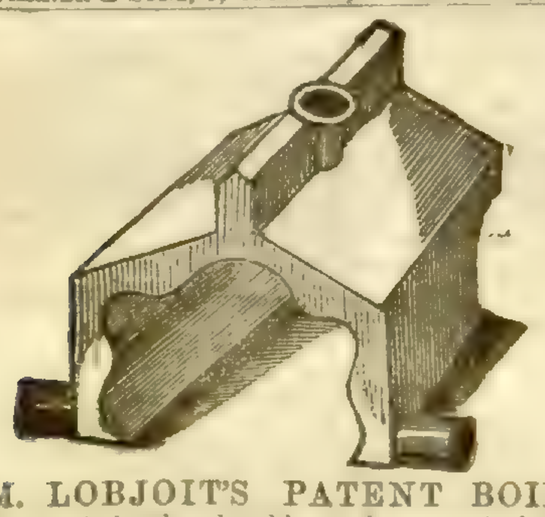

T. M. LOBJOIT'S PATENT BOILERS.—The most simple, durable, and economical for Heating Horticultural Buildings, Houses, Churches, Halls, &c., by Hot-water Apparatus. Estimates given for Building and Heating all descriptions of Horticultural Buildings.

TESTIMONIALS.

"Sir,—The Boiler you fixed here for me I can assure you works with entire satisfaction, as the water begins to circulate in about two or three minutes after the fire is kindled, and gives so little trouble in attendance, only requiring looking to about once in 12 or 16 hours, and giving a very regular temperature. I only burn cinders, which I find give out greater heat than burning coal, and last longer, particularly as it has to heat both Vineries at once, which it does remarkably well. In fact I cannot speak in too high praise of it.—Yours, &c., JOHN KENDALL, Gardener to the Hon. C. H. Cust, Arthingworth, Northampton.

"To Mr. Thos. M. Lobjoit, Turnham Green."

"Sir,—In reference to your Hot-water Boiler, which you fixed here, I am happy to say it is giving every satisfaction. I have had different sorts of boilers during my practice, but I can say with confidence the one you fixed here is the best I have had to do with; it takes the least labour and the smallest quantity of fuel. It heats a stove 60 feet by 10; also a Camellia house, 30 feet by 15, and am confident it is capable of heating more.—I am, &c., D. NEIL, Gardener to the Hon. F. Villiers, Sulby Hall, Welford, Northamptonshire.

"To Mr. Lobjoit, Sept. 29."

THOMAS M. LOBJOIT, Manufacturing Ironmonger, Smith, and Bellhanger, Gas Fitter, Turnham Green and Acton.

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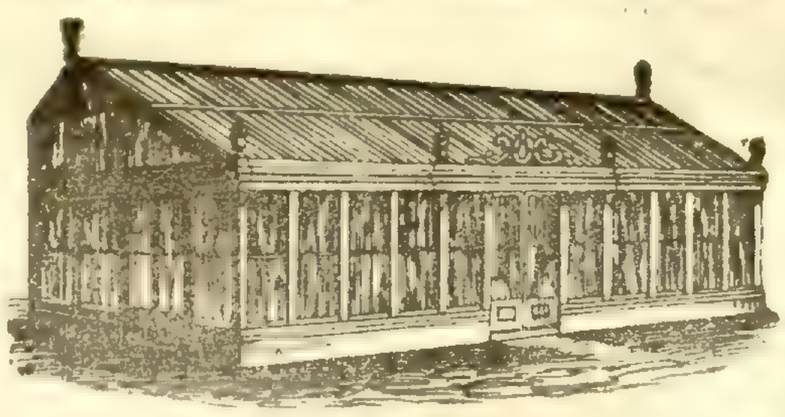
HOTHOUSES, CONSERVATORIES, FRAMES & LIGHTS OR PITS, CUCUMBER & MELON BOXES & LIGHTS.



JAMES WATTS, HOTHOUSE BUILDER, 8, Claremont Place, Old Kent Road, London.

Green and Hothouses, 9, 10, 11, 12, 13, and 14 feet wide, any length, from 16 to 100 feet. Frames and Lights for Pits, 6ft. 6 in., 7 ft., 7 ft. 6 in., 8 ft., and 8 ft. 6 in. wide, any length, from 12 to 100 feet. Upwards of 200 Cucumber and Melon Boxes and Lights, from 4 ft. by 3 to 10 ft. 6 in. by 5 ft. 6 in., kept ready, glazed with stout sheet glass, painted four times, complete, ready for immediate use, all made of best material, packed and sent to all parts of the kingdom.—References may be had to the Nobility, Gentry, and the Trade in most of the counties in England. Horticultural Buildings of every description heated on the most approved and economical principles.

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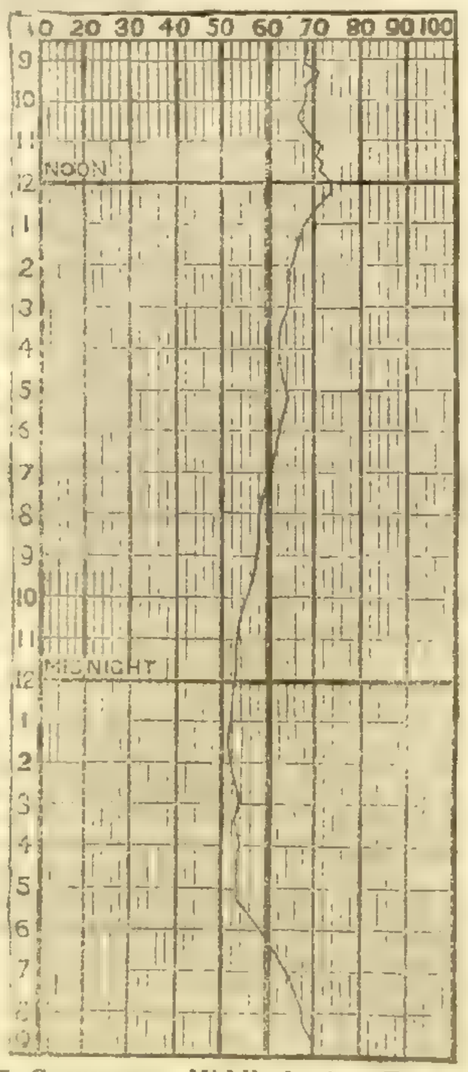
TO HORTICULTURISTS.

GAUNTLETT'S PATENT CHRONOMETRICAL THERMOMETER.

This instrument, which combines an eight-day clock of the best English make showing time, with a newly-patented Thermometer, wherein glass and quicksilver are dispensed with, writes down the temperature of the atmosphere on a slip of paper, and when placed in a Hothouse, Forcing House, or Conservatory, &c., supplies a valuable record of the temperature, with all its variations, showing the time when any change took place, and how long such change continued.




The above slip (reduced in size) exhibits the temperature of the Royal Agricultural Society's show yard at Chester, July 22, 1858, written off by one of these instruments, to which was awarded the Society's SILVER MEDAL.

This is the only instrument that registers temperature continuously and writes it down, and no horticulturist should be without it.

Orders received by W. H. GAUNTLETT, Middlesbro'-on-Tees.

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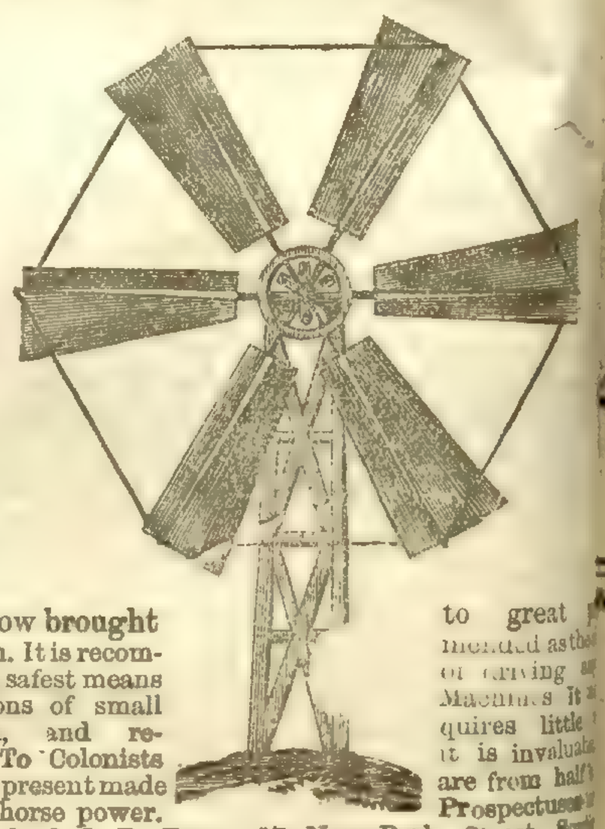
ZAHN'S PATENT SELF REGULATING WIND ENGINE

FOR PUMPING, OAT CRUSHING,



IS now brought to great perfection. It is recommended as the cheapest and safest means of driving any descriptions of small Machines. It requires little erected, and requires little attention. To Colonists it is invaluable sizes at present made are from half to two-horse power. Prospectuses obtained of J. R. PEILL, 17, New Park Street, Southwark, where a Wind Engine in full work can be inspected.

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MICROSCOPES.

J. AMADIO'S BOTANICAL MICROSCOPE packed in mahogany case, with three powers, one pincers, and two slides, will show the animalculæ in Price 18*s.* 6*d.*—Address JOSEPH AMADIO, 7, Throgmorton A large assortment of Achromatic Microscopes.

"It is marvellously cheap, and will do everything which lover of nature can wish it to accomplish either at home the open air."—*The Field*, June 6, 1857.

Just published, an Illustrated Catalogue, containing names of 1000 Microscopic objects, post free for 4 stamps.

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PARKES' STEEL DIGGING FORKS.

BURGESS AND KEY, 95, Newgate Street, London, being the Wholesale and Retail Agents for these celebrated TOOLS have always a large Stock on hand from which their Customers may select what they may require.

ANTHONY'S PATENT AMERICAN CHURN.—The FIRST PRIZE was again awarded to this Churn in Competition with several others at the Chester Meeting of the Royal Agricultural Society; it has obtained the First Prize given by the Society at every Meeting since 1850.

Messrs. BURGESS & KEY, 95, Newgate Street, strongly recommend it as the most perfect Churn now in use. Further particulars sent on application.

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TO THE NERVOUS AND DEBILITATED.—CHARLES WATSON, M.D., Fellow and Honorary Vice-President of the Imperial African Institute of France, and Physician to the Bedford Dispensary, 27, Alfred Place, Bedford Square, London, continues to issue, on receipt of six stamps, "The GUIDE TO SELF CURE." "The true guide to those who desire a speedy and private cure." "The first manual of the day in these complaints."—*Medical Review*, July, 1858.

For qualifications, vide Diplomas and Medical Directory.

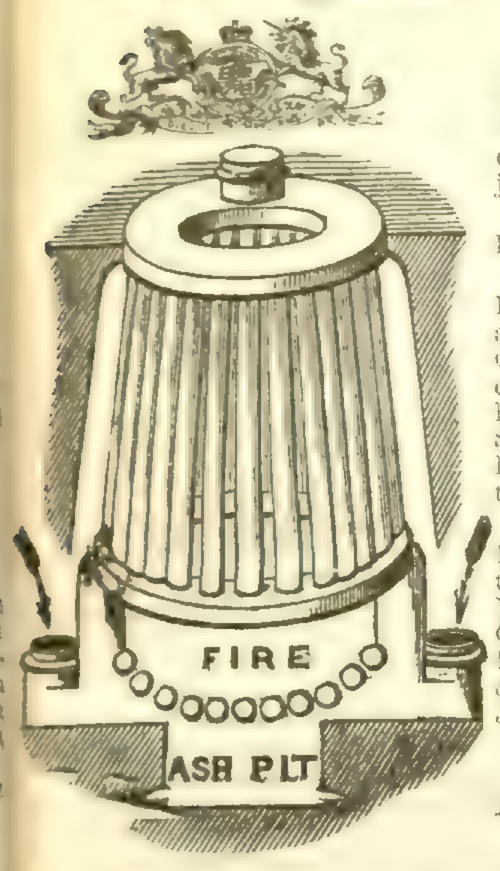
# WEEKS' ONE BOILER SYSTEM.

THE

## LARGEST HORTICULTURAL ESTABLISHMENT IN EUROPE

IS NOW SUCCESSFULLY HEATED BY

## JOHN WEEKS & CO. on their One Boiler System.




EVERY YEAR FURNISHES NUMEROUS ADDITIONAL PROOFS of the success and efficiency of J. WEEKS & Co.'s Hot-water Apparatus. Within the last few years upwards of 1000 have been erected, all of which are working most satisfactorily. Among the most important, J. WEEKS & Co. have the honour to announce Mr. LOUIS VAN HOUTTE, of Ghent. The whole of his immense Establishment is now effectually and most satisfactorily heated on WEEKS' ONE BOILER SYSTEM. This may be justly termed the masterpiece of the world in the science of Heating by Hot Water.

Also at the extensive Nursery of Mr. CHARLES WOODROFFE, Kensal Green, Harrow Road. Mr. Woodroffe will be happy to show the Apparatus.

J. WEEKS & Co. also beg to refer to the celebrated Nurseries of the Messrs E. G. HENDERSON & SON, St. John's Wood. There will be found ONE OF WEEKS' BOILERS attached to various Hothouses, &c., equal to 1200 feet long, also to all the various Offices, Seed Shops, and Warehouses, the Hot Water circulating through 5500 feet of cast-iron pipe. Any one house can be heated separately either with top or bottom heat, or the whole together, or any part regulated at pleasure; also to Messrs. F. & A. SMITH'S Village of Glass at Dulwich. There will be found Hothouses, &c., 3000 feet long, the whole heated upon WEEKS' ONE BOILER SYSTEM, the Hot Water circulating through 10,000 feet of cast-iron pipe.

J. WEEKS & Co. further beg particular attention to their OWN HORTICULTURAL ESTABLISHMENT AT CHELSEA, the whole of which is reserved expressly for reference, and to exhibit all modern improvements in Horticultural Building and Heating by Hot Water. These extensive ranges of Hothouses, together with the renowned Winter Garden, the whole equal to a range 1300 feet long, are now being managed as a FRUIT FORCING ESTABLISHMENT; and in future Pines, Grapes, Peaches, Figs, &c., will be forced early and in succession throughout the year. This will prove the great power of J. WEEKS & Co.'s Hot-Water Apparatus, and also the economy of the ONE BOILER SYSTEM.

CHURCHES, MANSIONS, HOTHOUSES, &c., HEATED BY HOT WATER.

*Illustrated Pamphlets of Horticultural Buildings, also Plans and Estimates on application.*

**JOHN WEEKS & COMPANY, KING'S ROAD, CHELSEA.**

---

**BY HER MAJESTY'S ROYAL LETTERS PATENT.**

## ORMSON'S PATENT JOINTLESS TUBULAR BOILER.

SEVEN YEARS' WARRANTRY.

## HENRY ORMSON

HAVING fixed many of these excellent and powerful BOILERS in extensive Establishments, and having received the highest Testimonials as to their efficient and economical capabilities, feels himself fully justified in giving the above WARRANTRY, and in calling public attention to their very superior qualities.

### THE IMMENSE ADVANTAGE

Of this invention is its evident safety from LEAKAGE in the fact of there not being a SINGLE JOINT in the entire BOILER exposed to the action of the fire. The furnace bars being also joint less tubes through which the return water passes.

These Boilers are made of various sizes to suit either the Amateur's Garden or the most extensive Establishments.

*Thousands of feet of Pipe can be efficiently and economically heated from one of these powerful Boilers.*

N.B. Sole Manufacturer of Meston's Registered Fruit and Blossom Protector. Specimens were exhibited at the Horticultural Society's Garden, Chiswick, at the Grand Show in June last; and are now to be seen at Messrs. Veitch's Nursery, King's Road Chelsea. Prices will be forwarded on application.

HORTICULTURAL BUILDING AND HOT-WATER APPARATUS MANUFACTORY,

**Stanley Bridge, King's Road, Chelsea.**

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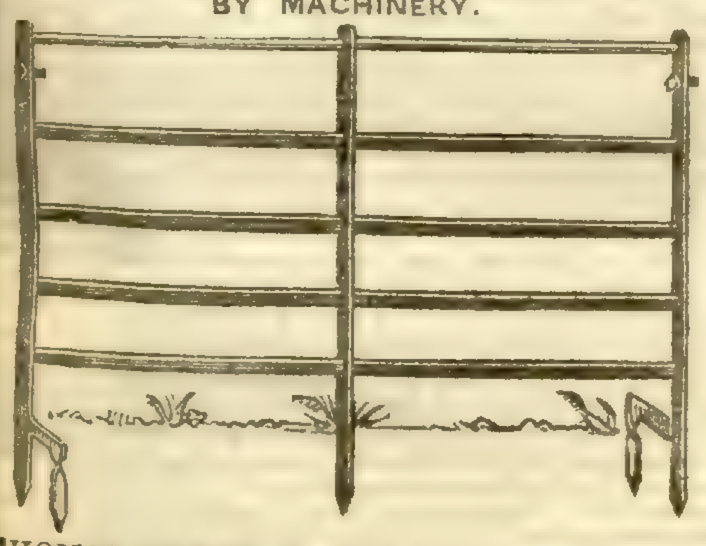
WROUGHT IRON HURDLES AND FENCING MADE BY MACHINERY.



THOMAS GREEN, Smithfield Iron Works, begs to call the attention of parties requiring machine-made Hurdles, which are a very superior article, as well as being both cheap and durable. The above cut represents a Hurdle 6 feet long by 3 feet 6 inches high; the top bar ⅝ of an inch diameter, the four low bars 1 inch by ¼ inch, the uprights 1¼ by ¼ inch. The Prongs fasten 12 inches in the ground. Price 4*s.* 6*d.* each, or 2*s.* 3*d.* per yard. If the four lower bars were made of ½ inch diameter instead of 1 inch by ¼ inch iron, the price would be 4*s.* 2*d.* each, or 2*s.* 1*d.* per yard. The above are the lowest net cash prices at the Works.

THOMAS GREEN, Smithfield Iron Works, Leeds, Yorkshire, Manufacturer of every description of Iron and Wire Fencing, Iron Work of all kinds, both plain and ornamental, Entrance Gates, Palisading, Tomb Railing, Iron Bedsteads, &c. Illustrated Catalogues may be had free on application at the Works.

N.B. Also Patentee and Sole Manufacturer of GREEN'S Patent Lawn Mowing, Collecting, and Grass Rolling Machines, which have proved to be the best in all cases of competition.

GLENFIELD PATENT STARCH

USED IN THE ROYAL LAUNDRY,

And pronounced by HER MAJESTY'S Laundress to be THE FINEST STARCH SHE EVER USED.

Sold by all Chandlers, Grocers, &c.

---

ORNAMENTAL GARDENING.

AUSTIN, SEELEY, AND CO. respectfully invite the attention of the nobility and gentry to their large FLOWER BASINS or "PORTE-FLEURS," of which they have now some handsome designs, from 7 to 20 feet diameter.

Any such work ordered IMMEDIATELY might be ready for fixing in March, so as to be well settled by the time for planting.—371 to 375, Euston Road.

---

MAPPIN'S PRUNING KNIVES IN EVERY VARIETY.

WARRANTED GOOD BY THE MAKERS.

MAPPIN BROTHERS, Queen's Cutlery Works, Sheffield; and 67 and 68, King William Street, London.

MAPPIN'S "SHILLING" RAZORS Shave well for Twelve Months without Grinding.

MAPPIN'S 2*s.* RAZORS Shave well for Three Years.

MAPPIN'S 3*s.* RAZORS (suitable for Hard or soft Beards) Shave well for Ten Years.

MAPPIN BROTHERS, Queen's Cutlery Works, Sheffield; and 67, King William Street, City, London; where the largest Stock of Cutlery in the world is kept.

MAPPIN'S SUPERIOR TABLE-KNIVES maintain their unrivalled Superiority—handles cannot possibly become loose—the blades are all of the very first quality, being their own Sheffield manufacture.

| | Tble. Kns. | Dst. Kns. | Carvers. |
|---|---|---|---|
| Ivory 3⅝ in. Handle, balanced, | 20*s.* p. doz.; | 16*s.* p. doz.; | 6*s.* p. pair |
| Do. 4 in. do. .. | 25*s.* ,, | 18*s.* ,, | 9*s.* ,, |

MAPPIN'S SILVER-PLATED DESSERT KNIVES and FORKS, in Mahogany Cases.

| | | |
|---|---|---|
| 12 Pairs Knives and Forks, | Ivory Handles, in Case .. | 80*s.* |
| 12 Do. | Pearl Handles, do. .. | 130*s.* |
| 12 Do. | Silver-Plated Handles, do. .. | 80*s.* |

MAPPIN'S ELECTRO-SILVER PLATE.—MAPPIN BROTHERS, Manufacturers by Special Appointment to the Queen, are the only Sheffield makers who supply the consumers in London. Their LONDON SHOW ROOMS, 67 and 68, King William Street, London Bridge, contain by far the largest STOCK of ELECTRO-SILVER PLATE in the World, which is transmitted direct from their Manufactory, Queen's Cutlery Works, Sheffield.

| | Fiddle Pattern. | Double Thread. | King's Pattern |
|---|---|---|---|
| 12 Table Forks, best quality | £1 16 0 | £2 14 0 | £3 0 |
| 12 Table Spoons, best quality | 1 16 0 | 2 14 0 | 3 0 |
| 12 Dessert Forks, best quality | 1 7 0 | 2 0 0 | 2 4 |
| 12 Dessert Spoons, best quality | 1 7 0 | 2 0 0 | 2 4 |
| 12 Tea Spoons, best quality | 0 16 0 | 1 4 0 | 1 |

Messrs. Mappin Brothers respectfully invite buyers to inspect their unprecedented display, which, for beauty of design, exquisite workmanship and novelty, stands unrivalled. Their illustrated Catalogue, which is continually receiving addition of New Designs, free on application.—MAPPIN BROTHERS, 67 and 68, King William Street, London Bridge; Manufactory, Queen's Cutlery Works, Sheffield.

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DO YOU WANT LUXURIANT HAIR, WHISKERS, &c.?—COUPELLE'S CRINUTRIAR is guaranteed to produce whiskers, moustachios, eyebrows, &c., in two or three weeks with the utmost certainty, strengthen weak hair, prevent its falling off, check greyness in all its stages, and reproduce the hair in baldness, from whatever cause, price 2*s.* Sold by all chemists in the world; or will be sent post free, on receipt of 24 penny postage stamps, by Miss COUPELLE, 69, Castle Street, Newman Street, Oxford Street, London. A toilet guide sent post free for four penny postage stamps. "It completely restored my hair."—Miss Davis. "My whiskers are now growing freely."—H. Merry, Esq.

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HOLLOWAY'S OINTMENT AND PILLS.—FEMALE COMPLAINTS. — Climate, fashion, and neglect hurry thousands of England's beauteous daughters to the silent tomb ere their youthful graces have shed more than one glimpse of brightness over the domestic hearth; which, with prudence and vigilance, their loveliness and virtues would have illumined for many happy years. Fond parents, dismayed by the desponding look and drooping form of their cherished daughter, may exult in the discovery of HOLLOWAY'S remedies, which invariably prove a panacea for all female irregularities, whether constitutional or functional, chronic or recent. All may use these medicines, the young and middle aged, the delicate and robust, with advantage. At the turn of life nothing secures against disease so effectually as HOLLOWAY'S preparations.

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FLOUR, Warranted Unadulterated, free to any part of London (not less than 14 lbs.); Whites, for pastry, at per bushel (56 lbs.), 8*s.* 4*d.*; households, for bread-making, 7*s.* 8*d.*; seconds, 7*s.* 0*d.*; Wheatmeal, for brown bread, 7*s.* 0*d.*; best fine and coarse Scotch Oatmeal.—Address, HORSNAIL & CATCHPOOL, Bullford Mill, near Witham, Essex, or 97, Goswell Road, City Road, E.C. Directions for bread making gratis. Terms, cash. Bags lent. German yeast. A half sack (140 lbs.), or upwards, free to any railway station within 200 miles.

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FARM.—WANTED TO RENT, either at Lady Day or Michaelmas next, from 200 to 300 Acres Arable and Pasture, with a House suitable for a gentleman's occupation. Distance from London not above 100 miles preferred.—Address WM. BOWKER, Esq., No. 1, Gray's Inn Square, London.

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WANTED TO DISPOSE OF, A NURSERY BUSINESS with a first-class connection of 60 years' standing. The Land is held upon Lease, broken up from Grass within the last three years; the stock upon it is young and flourishing, and can be taken to at any time at a valuation not exceeding 300*l.*—For further particulars apply to WALTER PENNINGTON, Nurseryman, South Retford, Notts.

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RICHMOND, SURREY.—TO GREENGROCERS AND FRUITERERS.

TO BE DISPOSED OF, A FRUITERER'S and GREENGROCERY BUSINESS, established for upwards of 50 years, excellently situated in a populous part of the town. The fixtures to be taken at a valuation, and a small sum required for goodwill; a well-stocked Fruit Garden may be taken with or without the business. Satisfactory reasons will be given for parting with the same.—Particulars may be obtained by application to Mr. W. T. ATWOOD, Land Agent, Mortlake, Surrey.

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TO BE SOLD, by Private Contract, the CONTENTS OF AN ORCHARD-HOUSE, consisting of 12 Peaches, 7 Nectarines, and 4 Apricots. The whole were received from Mr. Rivers in 18 6 and 1857, and are now in a most promising state, the wood being well ripened and full of blossom-buds.—Apply to Mr. BURGESS, Holme Pierrepont, Nottingham, who is parting with them on account of an alteration in his premises.

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POULTRY SALE (EXTRA).

MR. J. C. STEVENS will Sell by Auction at his Great Room, 38, King Street, Covent Garden, on TUESDAY, January 18, at 12 o'clock precisely, A VERY CHOICE SELECTION OF POULTRY, sent by Mrs. L. Stow, Mrs. H. Fookes, Messrs. G. Botham, Bridges, Leno, Rev W. G. Holmes, and others, including some very superior Spanish, Dorkings, Cochins, Brahmas, Polands, Hamburghs, Sebright Bantams, Ducks, Guinea Fowl. Also a few lots of good Pigeons.—Catalogues, by enclosing a stamped directed envelope to Mr. J. C. STEVENS, 38, King Street, Covent Garden, W.C.

## NEW SEEDS.
### CHARLES TURNER'S

CATALOGUE OF VEGETABLE, FLOWER, AND AGRICULTURAL SEEDS, CULINARY ROOTS, &c., is now ready, and may be had on application. The lists are Descriptive, and in addition to Selections of all the old and established favourite varieties, contains some valuable new additions, the most prominent of which are DR. MACLEAN'S FINE DWARF NEW PEAS, THE FROGMORE PROTECTING BROCCOLI, SCARLET GEM MELON, COTTAGER'S KALE, ROSEBERRY BRUSSELS SPROUTS, PERENNIAL SPINACH, &c.—The Royal Nurseries, Slough.

## VEGETABLE, FLOWER, AND AGRICULTURAL SEEDS.

WILLIAM BARNES'S CATALOGUE of the above is now ready, and may be obtained postage free, upon application. It will be found to contain every article of known value, among them some that cannot be excelled, the stock of which having been saved specially for himself by private and competent friends, he can recommend with the greatest confidence. Every article is warranted of the purest and most genuine kind, as well as very moderate in price.
Camden Nursery, Camberwell.

## NEW SEEDS FOR 1859.

WM. CUTBUSH AND SON beg respectfully to intimate that their PRICED CATALOGUE OF VEGETABLE AND FLOWER SEEDS, &c., is now ready post free on application. WM. C. AND SON devote particular attention to this department of their business, and most of the choicer kinds of culinary seeds and roots are saved under their own inspection, and they can consequently guarantee the quality of all offered.—Highgate Nurseries, London, N. Established A.D. 1695.

## HARDY SCARLET RHODODENDRONS AND AMERICAN PLANTS GENERALLY.

WATERER AND GODFREY'S PRICED and DESCRIPTIVE CATALOGUE of the above beautiful tribe of plants, as exhibited by them in London and Manchester, may now be had on application inclosing one stamp for postage. The Catalogue also furnishes the heights and prices of their unequalled stock of Conifers and Evergreens, &c. Catalogues may also be had of Messrs. J. MAY & Co., Seedsmen, &c., Wellington Street, Strand.
Knap Hill Nursery, Woking, Surrey.

## RHODODENDRONS.

JOHN WATERER'S CATALOGUE OF UNRIVALLED HARDY SCARLET AND OTHER CHOICE RHODENDRONS, as Exhibited by him at the Royal Botanic Gardens, Regent's Park, London, is published, and will be forwarded on application.

☞ This List is recommended as a work of reference, as it contains accurate descriptions of all the esteemed varieties.

The American Nursery, Bagshot, Surrey, near the Sunningdale Station, South Western Railway.

## CELOSIA AUREA VAR. PYRAMIDALIS.

DICKSON'S AND CO., NURSERYMEN AND SEEDSMEN, Waterloo Place, Edinburgh, have now a limited supply of the above rare and beautiful Annual. Packets 5*s.* each sent free by post on receipt either of a Post-Office Order or postage stamps from unknown correspondents. See description in *Gardeners' Chronicle* of December 25, 1858.
Waterloo Place, Edinburgh.—January 8.

## AZALEA INDICA.

J. IVERY AND SON beg respectfully to invite growers of the above named to an inspection of their unrivalled Stock of Young Specimens of all the newest and best varieties, many of which have been exhibited at the Metropolitan Exhibitions. They are clean and healthy, well set with bloom, and moderate in price. Catalogues forwarded post free upon application.—Dorking Nursery, Jan. 8.

AMERICAN BLACKBERRY. — The Subscribers have received from New Rochelle a few plants of a BLACKBERRY (BRAMBLE) which their correspondent assures them "is by far the best of the many varieties cultivated in New York State," adding that "he has known 400 dollars' worth of the fruit taken from one acre of ground." Any one wishing to try whether this Blackberry will succeed in this country may have a plant or plants at 5*s.* each on application to EDWARD SANG & SONS, Kirkcaldy, N.B.

## RED MATCHLESS CELERY.

JENKINS'S RED MATHLESS CELERY, the best for years in Covent Garden Market, per packet 1*s.*
SHILLING'S QUEEN CABBAGE (the very best out), true. per oz. 1*s.*
INVISIBLE WHITE BROCCOLI, very hardy, 1*s.*
COTTAGERS' KALE (Turner's), 1*s*
NEW HEADING (Turner's), an excellent kind, 6*d.*
BRUSSELS SPROUTS, 6*d.*
LONDON WHITE COS LETTUCE, 1*s*
MAUNDER'S PEARLY CAULIFLOWER, 1*s.*
TRUE WALCHEREN ditto, 1*s.*
The above sent post free. CATALOGUE of VEGETABLE and FLOWER SEEDS forwarded on application.—JOSEPH MAY & Co., Wellington Street, Strand, W.C.

## TO BRITISH AND EXOTIC BOTANISTS.

FREDERICK Y. BROCAS has for 12 years devoted his time principally to botanical pursuits, and has accumulated about 90,000 British and Exotic specimens. He has also had ample experience in the conservation of an Exotic Herbarium.

F. Y. B. is prepared to receive orders for supplying collections or desiderata; and having lately returned from a month's excursion, during which he paid especial attention to collecting seeds, can supply sets of the same, which include many critical species.

⁂ A few nearly complete sets are now ready; and also small collections for Gardeners, Schools, or private instruction, at a reduced price. Collections named, arranged, mounted, and an allowance made for duplicates.

Inquiries addressed to FREDERICK Y. BROCAS, Botanist, 85, St. Martin's Lane, London, W.C., will receive immediate attention.

## ABERGAVENNY NURSERY GROUNDS.

JAMES SAUNDERS has a large Stock of SCOTCH FIR, 1½ to 2 feet; Do., 2 to 3 feet. LARCH and SPRUCE of all sizes, WEYMOUTH PINE, SILVER and BALM of GILEAD FIR. A large quantity of Pinus austriaca, varying from 1 to 5 feet, particularly fine; many choice varieties of Pinus; 20,000 to 30,000 Black Italian and other sorts of POPLAR: several thousands of Chichester and English ELM, with other choice kinds, all of various sizes; Spanish and Horse Chesnut; Sycamore, from 3 to 20 feet; Turkey and Evergreen Oak; Acacia, Norway Maple, Oriental Plane, and other Ornamental Trees and Shrubs of all kinds and sizes. A large number of fine Trees for Parks and Plantations where immediate effect is an object.

An extensive collection of Standard, Half Standard, and Dwarf ROSES; 2000 to 3000 Perpetual and other kinds of ROSES, in pots, suitable for beds and bordering; Trained and other FRUIT TREES; Standard APPLES and PEARS; DWARF APPLES on Paradise Stocks; a choice collection of PEARS on Quince Stocks. The whole of the extensive Stock, on upwards of 20 acres of Land, is remarkably healthy and well grown. A liberal discount for cash.

About 350 FERNS, MOSSES, ORCHIDS, and other Stove Plants, to be disposed of.—All Orders and other communications to be addressed to JAMES SAUNDERS.

## NEW EXOTIC FERN,
### NEPHRODIUM MOLLE, VARIETY CORYMBIFERUM.

Named and described in the *Gardeners' Chronicle* of May 22, 1858.

ROBERT SIM is now prepared to supply, at 15*s.* each, vigorous and well established profusely crested plants of this beautiful and unique variety, of which he possesses the entire stock. It ought to prove quite a greenhouse kind.

The customary discount to the trade. Price per dozen on application. Carriage paid to London. Post-office Orders on Foot's Cray.—Nursery, Foot's Cray, Kent, S.E.

NEW SPLENDID SEEDLING GLADIOLI. — 15 named varieties of Seedlings from RAMOSUS, and 15 ditto from GANDAVENSIS, for 1*l.* 1*s.*, carriage paid. Large bulbs of Gladioli gandavensis, ramosus, and floribundus, 2*s.* 6*d.* per dozen. Fine Anemones per 100, Mixed Double, 6*s.*; Scarlet Double, 10*s.*; Mixed Single, 4*s.*; Scarlet Single, 6*s.* Fine mixed Persian Ranunculus, 3*s.* per 100. Scarlet Turban, 2*s.* 6*d.* per 100. A DESCRIPTIVE PRICED CATALOGUE of GLADIOLI, &c., sent free and post paid on application.
BUTLER & MCCULLOCH, Seedsmen, Covent Garden Market.

ORANGE TREES, JUST ARRIVED, OTAHEITE, ST. MICHAEL, and MYRTLE-LEAVED; CITRON and LEMON TREES, with from 2 to 20 fruit on each, in beautiful condition, at 2*s.* 6*d.*, 3*s.* 6*d.*, 5*s.*, 7*s.* 6*d.* each; best HYACINTHS, 6*s.* per dozen; ditto, 4*s.*; mixed CROCUSES, 1*s* 6*d.* per 100; VAN THOL TULIPS, 3*s.* per 100; Double mixed ditto, 4*s.*; JONQUILS, 4*s.*; mixed NARCISSUS, 1*s.* 6*d.* per dozen; GLADIOLUS FLORIBUNDUS, 1*s.* 6*d.* per dozen; GANDAVENSIS, 2*s.*

PRICED LISTS of FERNS and BULBS may be had on application to ROBT. GREEN, 154, Kingsland Road, 55 doors from Shoreditch Church.

## ROSES.

WM. WOOD AND SON beg leave to offer ROSES on the following terms, selection of sorts left to themselves:—

| | Per dozen. |
|---|---|
| Extra tall Standards, budded with 2 to 3 different varieties of Climbing Roses in each stem, 3*s.* 6*d.* to 5*s.* each. | |
| Superior selected Standards | 18*s.* to 24*s.* |
| Fine Dwarf ditto | 12 ,, 18 |
| Superb Dwarfs, for exhibition | 12 ,, 18 |
| Fine Dwarfs | 9 ,, 15 |
| Hybrid Perpetuals, on 6-inch stems | 9 ,, 15 |
| Tea-scented, in 48-pots | 12 |
| ,, in 24-pots | 24 ,, 30 |
| Climbing Roses, without names | 4 |
| Good Dwarfs | 4 |

Plants presented to compensate for carriage.
Woodlands Nursery, Maresfield, near Uckfield, Sussex.

## TO THE TRADE.

THOS. CRIPPS, NURSERYMAN, &c., Tunbridge Wells, Kent, respectfully offers the following fine strong SPANISH CHESNUT PLANTS, 4 feet to 6 feet in height, 40*s.* per 1000; Blush CHINA ROSES, fine strong plants, 15*s.* per 100; Crimson do., very strong, 25*s.* per 100; fine Standard and Half-standard ROSES, 60*s.* per 100; good do., do., 50*s* per 100; Dwarf Perpetual and other ROSES by name, 42*s.* per 100; Double Yellow PRIMROSE, 20*s.* per 100 or 400 for 3*l.*; PINUS INSIGNIS and P. RADIATA from Seed, 15 inches to 28 inches, 7*l.* 10*s.* per 100; MANETTI STOCKS, 50*s.* per 1000; do. second size, 40*s.* per 1000; IRISH YEWS, 2 feet to 3 feet, 50*s.* per 100; Hardy HEATHS, a fine collection, 25*s.* per 100; LONICERA SHEPHERDI, or new Scarlet-trumpet HONEYSUCKLE, fine strong plants, 4*s.* per dozen.

Orders from unknown correspondents unaccompanied by a remittance will not be noticed.

## GRAPE VINES FROM EYES.

JOHN AND CHARLES LEE beg to offer an immense stock of strong well-ripened VINES FROM EYES, of the following kinds:—

Alicant
Barbarossa
Bidwell's Seedling
Black Cluster
Black Constantia
Black Damascus
Black Prince
Blanche Vigne
Calabrian Raisin
Charlsworth Tokay
Chasselas Frocklaboulay
Chasselas Musqué
Duzetto
Esperione
Frontignan, black
,, grizzly
,, white
Hamburgh, black
,, Champion
,, Dutch
,, golden
,, Mill Hill
Hamburgh, Pope's
,, Victoria
Hâtif de Jura
Isabella
Lady Down's Seedling
Marchioness of Hastings
Muscadine, Royal
,, Parsley leaved
Muscat, August
,, Bowood
,, Cannon Hall
,, Hamburgh
,, Noir Hâtif
,, of Alexandria
,, of Fontainebleau
Pitmaston Cluster white
Raisin des Carmes
Sweet Water, Dutch
Syrian
Trebiana
Tripoli
West's St. Peter's

Nursery and Seed Establishment, Hammersmith, London.

## SEEDLING CHERRY "BEDFORD PROLIFIC"

J. SHEPPARD intends sending out the above this autumn. It has twice received the commendation of the Pomological Society, viz., July 1857 and 1858. It is a very fine large Black Cherry; flesh firm and sweet, resembling the Circassian but larger, quite hardy, and an excellent bearer, having never failed to produce a good crop since it came into bearing, more than 12 lbs. being produced on a small tree last summer. It is a strong and free grower.

Dwarf maiden plants 5*s.* 0*d.* each. | Standards 6*s.* 0*d.* each.

Plants may be obtained of the undernamed persons:—

Messrs. A. Henderson & Co., Pine-apple Place
Messrs. E. G. Henderson & Son, Wellington Road
Messrs. Hugh Low & Co., Clapton
Messrs. Fisher & Holmes, Sheffield
Messrs. H Lane & Son, Great Berkhampstead
Messrs. Wood & Ingram, Huntingdon
Mr. R. Smith, Worcester
Mr. C. Noble, Bagshot
Mr. H. Cobbett, Woking
and James Sheppard, Nurseryman, Bedford

P.S. Orders received by Messrs. Hurst & M'Mullen, 6, Leadenhall Street.

## TO THE TRADE AND PUBLIC IN GENERAL.

M. A. LAKE begs to offer 1000 DWARF TRAINED FRUIT TREES of the following kinds, viz., Peaches, Apricots, Nectarines, Plums, Pears, and Apples; Standard Pears, all of which are of the choicest kinds and warranted true to name; also a large stock of 3 and 4 years old Gooseberries, named sorts; 20,000 Currants, consisting of Red and White Grape, Raby Castle, Wilmot's Superb Red, and Black Naples, strong 3 and 4 years old bushes; Lake's Superb and Falstoff Raspberries; Laurels and Laurustinus, very fine; also a large well-grown stock of Lime, Sycamore, Spanish and Horse Chesnuts, Beech, Mountain Ash, Yew, Birch, Turkey, Ilex, and English Oak, Hazel, Spruce Fir, Cypress, Cedrus Deodara, Pinus excelsa, Seedling Holly, and Ilex Oak. Privet, very fine, 2 and 3 years Seedling; Thorns, Standard and Dwarf Roses, and Asparagus Roots.

The above will be sold at very low prices, which can be obtained on application, especially if quantities are taken.
The Nurseries, Bridgewater, Somerset.

## THE GREAT VINE AT HAMPTON COURT.

TH SUBSCRIBERS being the holders of the Kitchen Gardens, Hampton Court, are enabled to genuine the famous and truly excellent HAMPTON BLACK HAMBURGH GRAPE.

Strong well-ripened plants in 9-inch pots, 42*s.* and 60*s.* per ,, ,, fruiting plants in 12-inch pots, 10*s.* 6*d.* each.

If purchased in large numbers a considerable reduction be made in price.—JACKSON & SON, Nurseries, Kingston.

SPLENDID NEW SEEDLING CROCUS for Albion, large white, 3*s.* 6*d.*; Mrs. Beecher Stowe, white, 3*s.* 6*d.*; Queen Victoria, pure white, 3*s.*; Neptune, light blue, 3*s.*; Othello, very dark, 5*s.*; David Rizzio, 4*s.* 6*d.*; Prince Albert, lilac, 4*s.*; Sir Walter Scott, beautifully striped, 4*s.*; New Golden, very large, 4*s.*; large yellow Dutch Crocus, 2*s.* 6*d.*; Cloth of Gold, 2*s.* 6*d.*; and many handsome varieties.—PRICED AND DESCRIPTIVE List on application.—BUTLER & MCCULLOCH, Seedsmen, Covent Garden Market, London.

LODGE'S NEW HYBRID RHODODENDRON "COUNTESS OF WILTON," the best and hardiest Rhododendron in cultivation; obtained a first class Certificate at Manchester Botanical Gardens. Strong bushy plants from 4 feet high are now ready, and can also be had from the following agents:—

Mr John Waterer, American Nursery, Bagshot, Surrey
Messrs. Wm. Rollisson & Sons, Tooting, near London
,, E. G. Henderson & Son, St. John's Wood, London
,, Wm. Wood & Son, Maresfield, Sussex
,, Thomas Jackson & Sons, Kingston, Surrey
,, Benjamin Reid & Co., Aberdeen

A remittance or reference is requested from unknown correspondents. Post-office Orders made payable to JAMES, Park Nurseries, Singleton Brook, Broughton, Manchester.

Descriptive circulars can be had as above, or from any agents.

## TO THE TRADE.

WOOD AND INGRAM beg to offer the following articles which they have of extra fine growth:—

STANDARD, DWARF, AND TRAINED CHERRIES, the best sorts.
OAKS, 1 and 2 year seedling, 2 to 3, and 3 to 4 feet.
,, Evergreens, 1 year seedling.
,, Turkey, 1 year ditto.
SYCAMORE, 1 year ditto.
WHITETHORN, 2 year ditto.
ELM, narrow-leaved English, 1 year ditto.
CHESNUT, Spanish, 3 to 4, 4 to 5, and 5 to 7 feet.
FIR, Scotch, 1½ to 2, 2 to 2½, and 3 feet.
HAZELS, 2 to 3, and 3 to 4 feet.
POPLAR, Black Italian, 3 to 4, 4 to 5, and 5 to 6 feet.
,, Lombardy, 4 to 5, 5 to 6, and 7 to 8 feet.
BOX, sorts, 2 to 3, and 3 to 4 feet.
LAURELS, 1 year bedded
Prices on application.—Huntingdon Nurseries.

## VEGETABLE AND AGRICULTURAL SEEDS, &c.

MESSRS. PARKER AND WILLIAMS beg to inform their friends and patrons that they are prepared to execute with new and genuine SEEDS all orders may be favoured with. Their PRICED and DESCRIPTIVE CATALOGUE, containing all new VEGETABLES proved good, and all the best of the older varieties, &c., will be forwarded post free on application.

The following are particularly recommended, all being superior in quality, and valuable acquisitions to the select collections:—Beet (Pine Apple Short Top), per oz., 1*s.*; Broccoli, Winter White (Snow's), per oz., 3*s.* 6*d.*; do. Penzance White (Mitchinson's), per packet, 1*s*; Celery, White (Ivery's), per packet, 1*s.*; Cottager's Kale, per packet, 1*s.*; Lettuce, Alma Cos (Griffin's), per packet, 1*s.*; ditto, Matchless Cos, per packet, 1*s.*; Marrow, Custard (Thomson's), per packet, 6*d.*—Paradise Nursery, Seven Sisters and Page Road, Holloway, London, N.

## NEW SEEDLING PEA.

COTTON'S LEVIATHAN PROLIFIC MARROW. —A tall, large wrinkled Marrow, flavour excellent, very green. From one Pea 11,000 were produced the first year; 17 quarts sown last March (notwithstanding the unfavourable season) yielded 11 bushels; they were in flower and pod in June; height about 6 feet; a very distinct variety. See *Gardeners' Chronicle*, August 7, 1858.

May be had of GILBERT KNILL COTTON, Barnstaple, Devon, 3*s.* per quart, and of all the principal London Seedsmen.

## DICKSON'S EARLY FAVOURITE PEA.

FRANCIS AND ARTHUR DICKSON AND SONS, SEED MERCHANTS and NURSERYMEN, 103, Eastgate, Chester, have again the pleasure and satisfaction to offer the above PEA, which has now established itself as a superior variety, and is pronounced by all who have grown it the last four seasons to be the very best second Early Pea in cultivation. It grows about 4 feet high, and the haulm is literally covered with pods, each containing on an average 10 Peas, the flavour and quality of which are all that could be desired. Testimonials as to its general excellence and desirability have been received from several hundreds of the first gardeners in the Kingdom. As many worthless varieties have been sent out for this Pea, and in order that parties at a distance may have an opportunity of getting the true variety, F. and A. Dickson and Sons will send one quart extra with every four quarts ordered, to compensate for carriage.—Price 1*s.* 6*d.* per quart.

F. AND A. DICKSON AND SONS respectfully announce that their CATALOGUE of KITCHEN GARDEN and FLOWER SEEDS for 1859, including a list of Garden Implements and other requisites, is published, and will be forwarded (gratis) on application.

RICH BOG AND LOAM.—Gentlemen and Nurserymen will do well to apply early for the above to plant their American beds. To be had in any quantity upon reasonable terms, by land or water carriage.
ROBERT NEAL, Nurseryman, Wandsworth Common, S.

## TO COWKEEPERS AND OTHERS.

A QUANTITY OF MANGEL WURZEL for sale at 21*s.* per ton.—Apply WILLIAM CLARK'S, Seedsman, Bishopgate Within.

## TO PIG AND POULTRY FEEDERS AND MILLERS.

CHICKEN RICE, 7*s.* 6*d.* per cwt., in bags 1*s.* each. SCREENED RICE, 10*s.* per cwt., in bags 1*s.* each. RICE MEAL, 6*s.* 9*d.* to 8*s.* 9*d.* per cwt. For grinding. An allowance per Ton.—Sold for Cash by JUPP, 6, Cross Lane, St. Mary-at-Hill, Eastcheap, E.C.

PIGS WILL PAY FOR FEEDING. — On receipt of stamps for 3*s.* 6*d.* will be forwarded a DETAILED STATEMENT of MANAGEMENT and FEEDING, by which that they can easily be fattened in 12 weeks after leaving the teat, at less than 2*d* per head per day. The food costs 3*s.* 9*d.* per cwt. or 7 lbs for 2¾*d.*, and can easily be prepared by the owners of the Pigs. Testimonials from well-known breeders.—Address, Mr. G. MARGARETTS, Stock Breeder, Wells, Chemist, Fitzroy Square, London.

Printed by WILLIAM BRADBURY, of No. 13, Upper Woburn Place, and FREDERICK MULLETT EVANS, of No. 20, Queen's Road West, both in the Parish of St. Pancras, in the Co. of Middlesex, Printers, at their Office in Lombard St., Precinct of Whitefriars, City of London, and published by them at the Office, No. 5, Upper Wellington St., Parish of St. Paul, Covent Garden in the said Co.—SATURDAY, January 8, 1859.

# THE GARDENERS' CHRONICLE
AND
# AGRICULTURAL GAZETTE.

**A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.**

No. 3.—1859.] SATURDAY, JANUARY 15. {Price Fivepence. STAMPED EDITION, 6d.


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HORTICULTURAL SOCIETY OF LONDON.—At a Meeting of the FRUIT COMMITTEE of this Society, held at 21, Regent Street, Jan. 11th, Prizes were awarded for Winter Nelis Pears as follows:—

FIRST PRIZE to Mr. Cox, F.H.S., Gardener to William Wells, Esq., Redleaf, Penshurst, Kent.

SECOND PRIZE to Mr. A. Ingram, Gardener to J. J. Blandy, Esq., F.H.S., High Grove, Reading.

NATIONAL FLORICULTURAL SOCIETY.—Raisers of Seedling Florists' Flowers, Amateurs, and Nurserymen in general are invited to give small special Prizes for Collections of their favourite Flowers, to be Exhibited at the Society's ordinary meetings during the present year.

Early communications should be made to the Secretary, naming the sum offered, and the number of plants or blooms to be exhibited. RICHARD DEAN, Secretary.

21, Regent Street, London, S.W.

THE PLYMOUTH SEED, AGRICULTURAL IMPLEMENT, AND MANURE COMPANY (LIMITED) supply every requisite for the Farm and the Garden.

Registered Offices, Union Road, Plymouth.

CHAMPION CABBAGE can be had in any quantity at 2s. per lb.

J. G. WAITE, Seed Establishment, 181, High Holborn, London.

EARLY CUCUMBER.

CARTER'S EARLY CHAMPION CUCUMBER, price 20s. per oz., to be had in any quantity of J. G. WAITE, Seed Establishment, 181, High Holborn, London, W.C.

CHINA MELON.—The Subscriber can supply the nobility and gentry with SEED of this fine variety, the best extant for early or late cultivation. A packet forwarded free by post on receipt of 12 stamps.—J. ROGERS, Chelsea, S.W.

CARTER'S EXCELSIOR MELON.—A green-fleshed variety of delicious flavour, netted; fruit averages 4 lbs., requires scarcely any heating, and is very prolific. R. Hogg, Esq., President of the Pomological Society, and Turner and Spencer's "Florist," pronounce this variety to be one of the finest ever tasted. Seeds 1s. per packet.—JAMES CARTER & Co., Seedsmen, 238, High Holborn, London, W.C.

EARLY PEAS.

WAITE'S DANIEL O'ROURKE PEA; the earliest Pea in cultivation.

EARLY NAPOLEON; a Blue Wrinkled Marrow Pea, as early as EMPEROR.

EARLY EUGENE; a White Wrinkled Marrow Pea, as early as EMPEROR.

Prices to be had on application of J. G. WAITE, Seed Establishment, 181, High Holborn, London, W. C.

THE EARLIEST PEA.—DUNNETT'S FIRST EARLY is in every respect superior to "Daniel O'Rourke," being several days earlier, having finer pods, and richer in flavour, height 2½ feet. For an early dish of fine-flavoured Peas we can confidently recommend this; 2s. per quart.

CHAMPION CABBAGE, the earliest and best sort, if sown in succession, may be had fit for table throughout the year, 8d. per ounce, or 1s. post free.

BUTLER & MCCULLOCH, Covent Garden Market, London.

EARLIEST WRINKLED PEA.

FAIRHEAD AND SON, SEED GROWERS AND MERCHANTS, Lewisham, Kent, beg respectfully to offer their new EXCELSIOR PEA, of robust habit, delicious flavour; much earlier than Napoléon or Eugenie. They can confidently recommend it as the earliest and best Wrinkled Marrow Pea in cultivation. Price on application.

TOM THUMB PEA.

CAUTION.—There are two distinct kinds selling under this name. They were grown side by side in Hertfordshire last summer, and the one is in every way inferior to the other. The best and earliest kind as originally shown by A. PAUL & SON at the Regent's Park, Crystal Palace, and elsewhere, may be had in pint packets, 2s. 6d. each. It is 10 days earlier than Sangster's No. 1.—Nurseries, Cheshunt, Herts.

SUTTON'S ELVETHAN MANGEL WURZEL, and SELECTED YELLOW GLOBE.—These two sorts of Mangel are still preferred to all others by the principal root-growers throughout the kingdom. SUTTON & SONS have some fine seed of each sort, at very moderate prices Price Lists may be had post free.—Royal Berkshire Seed Establishment.

GARDEN SEEDS.

THOMAS KENNEDY AND CO., NURSERYMEN and SEEDSMEN, Dumfries, N.B., beg respectfully to intimate that they have got to hand their VEGETABLE AND FLOWER SEEDS, and are now prepared to execute orders for the same. Their DESCRIPTIVE PRICED CATALOGUE FOR 1859, "which is of a most practical character, supplying all the information needed by the purchaser," is now ready and will be sent post free on application.

Free delivery. For particulars see Catalogue.

JAMES CARTER AND CO. are now ready to supply SEEDS for the VEGETABLE and FLOWER GARDEN which will be found to be, as usual, of the best quality only.

SUTTON'S SEED CATALOGUE FOR 1859 is now ready, and will be sent post free on application.

Royal Berkshire Seed Establishment, Reading.—Jan. 15.

JOHN JEYES' Select SEED CATALOGUE will be ready in a few days, and will contain every variety of real value. Applications for it are respectfully solicited.—Northampton.

CATALOGUE.

YOUELL AND CO'S GENERAL AND DESCRIPTIVE PRICED CATALOGUE for this season is now ready, and will be sent free on application.

It contains detailed Lists of Greenhouse Plants, Conifers, Shrubs, as well as all the newest introductions in Soft-wooded Plants.—Royal Nursery, Great Yarmouth.

GEORGE BAKER begs to inform the Nobility and Public that his DESCRIPTIVE CATALOGUE OF AMERICAN PLANTS AND GENERAL NURSERY STOCK will be sent free on application.

American Nursery, Windlesham, near Bagshot, Surrey, about 1 mile from Sunningdale Station, South Western Railway.

WILLIAM YOUNG'S DESCRIPTIVE CATALOGUE OF NEW HARDY ORNAMENTAL PLANTS, CONIFERÆ, ROSES, RHODODENDRONS, FOREST TREES, &c. Can be had on application. — Milford Nurseries, near Godalming.

GEORGE JACKMAN AND SON'S PRICED and DESCRIPTIVE CATALOGUE of GENERAL NURSERY STOCK for 1858 and 1859 can be had free on application.

Woking Nursery, Woking, Surrey.

TO THE TRADE.

E. P. DIXON'S WHOLESALE SEED CATALOGUE for 1858 and 1859 is now ready, and may be had free on application.

Seed Establishment, 57, Queen Street, Hull.

NEW CHRYSANTHEMUMS.

JOHN SALTER begs to inform the numerous applicants for his NEW CATALOGUE OF CHRYSANTHEMUMS that it will be published in February, in which his splendid Seedlings and other new varieties for 1859 will be fully described, as well as his unrivalled general collection, which is the largest in Europe.—Versailles Nursery, William Street, near Hammersmith Turnpike, W.

CROCUS AND TULIP BULBS.—Finest imported Crocus mixed, 16s. per 1000, 2s. per 100. Splendid Double Tulips, Scarlet 7s. per 100, Yellow 7s. do., Variegated 7s. do., Mixed all sorts, 6s. do.—BUTLER & MCCULLOCH, Covent Garden Market.

YELLOW ROSES.—Madame William, orange yellow; Isabella Gray, golden yellow. Strong plants, fit for immediate forcing, 8s. 6d. the pair.

A. PAUL & SON, Nurseries, Cheshunt, Herts.

TRUE SHROPSHIRE DAMSONS.—Fine Standard Plants of the above can be obtained from H. J. OLDROYD, Nurseryman, Shrewsbury, at 24s per dozen, cash.

WANTED, AT TAYLOR'S "GRAND STAND."

| | |
|---|---|
| PINES, 2½ to 3½ lbs. each | BLACK & WHITE GRAPES |
| LARGE DESSERT PEARS | SMALL MUSHROOMS |
| CHOICE FLOWERS | CUCUMBERS |
| SEAKALE | ASPARAGUS |

And other choice Garden Produce.

Forward to GEORGE TAYLOR,

CHOICE FRUIT and VEGETABLE SALESMAN.

St. John's Market, Liverpool.

AZALEA INDICA.

J. IVERY AND SON beg respectfully to invite growers of the above named to an inspection of their unrivalled Stock of Young Specimens of all the newest and best varieties, many of which have been exhibited at the Metropolitan Exhibitions. They are clean and healthy, well set with bloom, and moderate in price. Catalogues forwarded post free upon application.—Dorking Nursery, Jan. 15.

HOLCHUS SACCHARATUS, or North China Sugar Cane, 2s. per lb. Pamphlet, "A Visit and a Plant;" or Hints on the Cultivation of the above, and its Uses. Post free 6d., or gratuitous with all orders for 10 lbs. and upwards.

DIOSCOREA BATATAS, or Chinese Yam; strong roots, 4s. per dozen; with directions for cultivation.

JOHN W. CLARKE, Whittlesea, Cambridgeshire.

DIOSCOREAS—FINE LARGE ROOTS CHEAP.

SUTTON AND SONS, Reading, can supply DIOSCOREA BATATAS, 9 inches long, at 5s. per dozen, or 40s. per 100. This vegetable is worthy of all that has been said in its favour, and will thrive in almost any soil and situation.

UTTON & SONS, Royal Berkshire Seed Establishment, Reading.

SEED POTATOES.

SUTTON AND SONS, SEED GROWERS, Reading, have a large stock of the early kinds of POTATOES, very true, and free from disease. Also true Flukes, Regents, and others. Prices, &c., will be sent post free on application.

THE EARLIEST ASH-LEAVED KIDNEY POTATOES.—For the true early short-top Lancashire kind, unsurpassed for forcing and early borders, price 16s. per cwt., apply to JAS. TYNAN, Seedsman, 68, Great George St., Liverpool.

BEST POTATO IN THE WORLD—IMPERIAL KIDNEY.

MR. WEBB, of Calcot, having succeeded in raising a quantity of the above excellent POTATO, begs to offer it to the public as the Best of its Class in every respect. Its quality cannot be surpassed, its yield most abundant, and its size from 2 inches to 9 inches long. Price 16s. per bushel, and no less quantity than 1 bushel disposed of. Also about 3000 true KENTISH COB NUT Trees from 2 to 4 feet high.—Apply to Messrs. JOSH. MAY & Co., 1, Wellington Street, Strand, or to Mr. WEBB, Calcot, near Reading, Berks.

GRAPE VINES FROM EYES.

J. EATON has a few left, very strong and quite ripe, which he can recommend for Forcing; sorts, Black Hamburgh, Muscat Alexandria, and Sweetwater. Likewise a very fine stock of Vines, wood ripe, fit for bedding out. An early inspection is recommended.

Shacklewell Road, Stoke Newington, N.

THE GREAT VINE AT HAMPTON COURT.

THE SUBSCRIBERS being the holders of the Royal Kitchen Gardens, Hampton Court, are enabled to offer genuine the famous and truly excellent HAMPTON COURT BLACK HAMBURGH GRAPE.

Strong well-ripened plants in 9-inch pots, 42s. and 60s. per doz.

" " fruiting plants in 12-inch pots, 10s. 6d. each.

If purchased in large numbers a considerable reduction will be made in price.—JACKSON & SON, Nurseries, Kingston, S.W.

FRUITING VINES.

JOHN AND CHARLES LEE beg to offer extra strong short-jointed and well-ripened FRUITING VINES of the following kinds:—

| | |
|---|---|
| BLACK HAMBURGH | BLACK FRONTIGNAN |
| CHAMPION HAMBURGH | WHITE FRONTIGNAN |
| MILL HILL HAMBURGH | BLACK PRINCE |
| GOLDEN HAMBURGH | ROYAL MUSCADINE |
| MUSCAT OF ALEXANDRIA | BIDWELL'S SEEDLING |
| | BOWOOD MUSCAT. |

Nursery and Seed Establishment, Hammersmith, London.

FRUIT TREES IN POTS.

JOHN AND CHARLES LEE have now the largest and finest stock of FRUIT TREES IN POTS in a bearing state for FORCING AND ORCHARD HOUSES ever offered. They consist of the following kinds, a CATALOGUE of which may be had on application:—

| | | |
|---|---|---|
| APRICOTS | FIGS | PEARS |
| PEACHES | PLUMS | APPLES. |
| NECTARINES | CHERRIES | Also, |

VINES AND STRAWBERRIES.

Nursery and Seed Establishment, Hammersmith, London.

TO PLANTERS OF CONIFERS.

YOUELL AND CO. supply 50 species of RARE and HARDY CONIFERS in good plants for 5l., package included and carriage paid to Manchester, Newcastle-on-Tyne, Hull, London, Peterborough, or to any Railway Station within 150 miles of the Nursery. A LIST of the above can be had on application.—Royal Nursery, Great Yarmouth, Norfolk.

NURSERY STOCK.

THE Subscribers are disposing of their extensive stock of Seedling and Transplanted Forest Trees, Ornamental Trees, Evergreen and Deciduous Shrubs, Standard and Dwarf-trained Fruit Trees, Gooseberries and Currants, &c., at prices considerably reduced in consequence of dissolving partnership.—Priced Lists may be had on application.

Glasgow, Jan. 15. FOWLER & WRIGHT.

LIME TREES.

WILLIAM MAULE AND SONS having a large stock of this Tree 10 to 12 feet, well suited for planting Avenues, Public Parks, Cemeteries, &c., beg to call the attention of Corporations, Burial Boards, and Public Companies. Prices forwarded on application.

Stapleton Road, and Stoke Nurseries, Bristol.

THREE MILLIONS OF TRANSPLANTED QUICKS.

GEORGE CHIVAS, Chester, offers the above to the notice of Planters, which for extent and quality he believes are unequalled in the kingdom. A Sample Bale containing 100 of each five sizes forwarded on receipt of a Post-office Order for 15s. Truck loads delivered free at any Railway Station having through communication with Chester.

TO PLANTERS.

200,000 FINE TRUE SCOTCH FIR, 1½ to 2 feet, at 14s. per 1000.—Large quantities of strong LARCH, QUICKWOOD, BEECH, SPRUCE FIR, SILVER FIR, &c.—Address, HENRY MAY, The Hope Nurseries, near Bedale, Yorkshire.

TAXUS BREVIFOLIA OR ADPRESSA, fine bushy plants.

CEDRUS DEODARA, good sized specimens.

Prices and further particulars upon application.

JAMES DICKSON & SONS, Newton Nurseries, Chester.

WANTED, 30,000 SEEDLING GORSE, by GEO. WYATT, Nurseryman, Banbury, Oxon.

WANTED, 32,000 STRONG QUICK, three years old, to be delivered, carriage free, at Kirkstead, Great Northern Railway.—Apply by letter stating all particulars to A. B., care of Mrs. Toynbee, near Sleaford, Lincolnshire.

TO NURSERYMEN AND GARDENERS.

WANTED TO PURCHASE 4 DWARF-TRAINED MOORPARK APRICOTS; 3 STANDARD do. do; not less than 4 years old, as they are required for immediate fruiting. Write, stating price, delivered either to Oxford or Aylesbury Station.—H. MEARS, Nurseryman, Thame.

AUSTRALIAN SEEDS.—Received by Overland Mail, three SETS of SEEDS from King George's Sound, 135 varieties, price 6l. 10s. each set.—W. CUTTER, Crystal Palace

PAMPAS GRASS (GYNERIUM ARGENTEUM).—The beauty of this extraordinary plant has this season been fully appreciated. It can be supplied by the dozen, hundred or thousand, by CHARLES NOBLE, Bagshot, Surrey.

PERENNIAL AND ITALIAN RYE-GRASS.

MCBLAIN AND CO., SEEDSMEN, Newry, Ireland, offer to the Trade PERENNIAL AND ITALIAN RYE-GRASS of every description. Samples and offers on application.

TO THE SEED TRADE.

J. DIXON, SEEDSMAN, BACON & BUTTER FACTOR, and GENERAL PRODUCE MERCHANT, Kendal, Westmoreland, has for sale pure ITALIAN RYE-GRASS SEED at 30s. per cwt. Also a parcel of very prime Rib Grass at 50s. per cwt. Worthy of notice. (Terms Cash.)

## SEEDS.

BASS AND BROWN'S New SEED CATALOGUE (28th annual edition) will be supplied free on application. It this year contains much descriptive information, with copious remarks on culture, &c., and a drawing of their Improved Custard Vegetable Marrow, totally distinct from the one figured in the periodicals of last year. It also contains lists of choice Bulbs for spring planting, with various other choice Bulbs in pots.

VEGETABLE SEEDS (ASSORTED COLLECTIONS).

These for quality and selection of sorts will not be surpassed. The names of sorts contained in the three largest collections appear in the Catalogue.

| | | | |
|---|---|---|---|
| No. 1 Collection | £3 | 0s. | 0d. |
| No. 2 ,, | 2 | 0 | 0 |
| No. 3 ,, | 1 | 5 | 0 |
| No. 4 ,, | 0 | 15 | 0 |
| No. 5 ,, | 0 | 10 | 6 |

Goods (20s. and upwards) carriage free to all stations in London, &c.—See Catalogue. Post-office Orders payable to BASS & BROWN, or to STEPHEN BROWN. Remittances requested from unknown correspondents.

BASS & BROWN, Seed Growers, &c., Sudbury, Suffolk.

## THE SALWAY PEACH.

CHARLES TURNER can supply strong dwarf trained Trees of this new and valuable late Peach at 7s. 6d. each. Maiden Trees, 5s. each. The SALWAY PEACH is strongly recommended as an acquisition of great worth.

Having maintained the high opinion formed of it when first exhibited, it has subsequently been shown at the great Fruit Show, held at Willis's Rooms in 1857, and an Autumn Meeting of the Fruit Committee of the Horticultural Society, 1858.

The Royal Nurseries, Slough, near Eton and Windsor, and also at Salt Hill.

MESSRS. PARKER AND WILLIAMS beg to inform their friends and patrons that their NEW PRICED and DESCRIPTIVE CATALOGUE of Exotic Orchids, Stove, Greenhouse, and Hardy Ferns, Miscellaneous Stove, Greenhouse, and Hardy Plants, Variegated and Ornamental foliaged Plants, Conifers, Roses, Rhododendrons, Indian Azaleas, Gloxinias, Fuchsias, Cactuses, &c., is now published, and will be forwarded post free on application.—Paradise Nursery, Seven Sisters' and Hornsey Roads, Holloway, London, N.

## CALLICARPA PURPUREA.

JOHN STANDISH, the exhibitor of the above (at St. James's Hall), can supply a few good plants at 7s. 6d. each. The following passage from Dr. Lindley's leading article in the *Gardeners' Chronicle* for Nov. 20 will give an idea of its beauty:—"Callicarpa purpurea, quite insignificant when in flower, was beautiful in its winter dress of innumerable rich purple berries, about the size of swan shot." It is easily cultivated, and does well in a cold greenhouse or conservatory planted out, where it will produce thousands of bright purple berries resembling glass beads, and remaining on nearly the whole winter.—Bagshot, Jan. 15.

FLOWER AND VEGETABLE SEEDS OF BEST QUALITY.—The Advertisers respectfully solicit applications for their extensive and DESCRIPTIVE CATALOGUE OF FLOWER AND VEGETABLE SEEDS, which they will feel pleasure in forwarding to any address throughout the world without charge, and postage free. It will be found to contain, beside the usual names of garden occupants, a numerous list of very CHOICE, NEW, and RARE SEEDS of all classes of the floral world, with many not to be met with elsewhere; and also of the Kitchen Garden Department, to the quality and purity of which they pay particular attention. Collections made up for all climates.—Address HOOPER & Co., Seedsmen, Covent Garden Market, London, W.C.

## GRASS SEEDS FOR ALL SOILS

SUTTON AND SONS have had the honour of supplying their GRASS SEEDS to the ROYAL FARMS near Windsor and at OSBORNE PALACE; also to the CRYSTAL PALACE COMPANY, the Grass Seeds by which so many acres of arable land have been converted into the beautiful Park and Lawns now so much admired at Sydenham; also to the HORTICULTURAL SOCIETY OF LONDON, for the Gardens at Turnham Green, and to most of the Public Parks, Gardens, Asylums, &c., in the Kingdom, including the PEOPLE'S PARK, Halifax. This magnificent Park, presented to the town of Halifax by Frank Crossley, Esq., M.P., was laid down with SUTTON'S Permanent Grass Seeds, and at the inaugural meeting held last summer, had already become a beautiful sward (see *Illustrated London News*, August 22, 1857). SUTTON & SONS have since been honoured with further orders for Seeds to extend the Pleasure Grounds.

### THE ALDERSHOT CAMP.

From a supply of SUTTON'S Grass Seeds especially adapted to the soil and situation there are now some very perfect swards formed on these bleak hills, forming a pleasing contrast to the surrounding barren waste.

Messrs. SUTTONS' charges for Grasses are very moderate, varying according to the quantity required, and other circumstances.

Prices and other particulars may be obtained on application, addressed, SUTTON & SONS, Royal Berkshire Seed Establishment, Reading.

## THE READING ONION.

THE TRUE READING ONION is so highly esteemed that SUTTON & SONS have annual demands for large quantities of Seed from all parts of the kingdom; the town of Reading having been famed for Onion Seed for upwards of a century.

Besides many similar communications the following have been received quite unsolicited:—

*From* Mr. JAS. MCINTOSH, *Gardener to the Duke of Buccleugh, at Drumlanrig.*

"Your Onion is particularly fine."

*From the* Rev. F. T. SCOTT, *Sibertswold Vicarage, near Dover.*

"The seeds of last year gave great satisfaction, especially the Onions, which were superb."

*From the* Rev. J. A. CARR, *Bolshford Rectory, Horncastle.*

"Your Onions are the largest and best I ever grew or saw."

*From* Mr. W. ROBINSON, *Gardener at Atherstone, Sept.* 10, 1858.

"The seeds I have had from you for the present year satisfied me to the utmost, the Onions, Carrots, and White Cos Lettuce especially."

*From* Major J. RICHARDSON, *Willowmead, South Molyneux, Otago, New Zealand, Feb.* 2, 1858.

"Before asking you to pack up my present order, I must state that those with which you furnished me before were universally approved. I might almost say that not one seed failed. Even the Onion, so very seldom successful here, was not an exception."

*From* Capt. FRANCIS T. BROWN, *Penymaer, Hay, Jan.* 29, 1858.

"I hope the seeds will do as well as last year, which were all good. The Onions were the finest I ever saw in England."

*From* Mr. DURY, *Master of Clutton Union, Somerset.*

"I have grown your Lettuce, Leeks, and Reading Onion, the like of which I never saw before."

N.B. Fine new Seed is now selling by the undersigned at 4d. per ounce (8d. free by post), or much cheaper in large quantities. Carriage free.

SUTTON & SONS, Royal Berkshire Seed Establishment, Reading.

## THE PLYMOUTH SEED COMPANY'S COLLECTIONS OF VEGETABLE SEEDS.

—These Collections have for many years been sent out, and have given universal satisfaction. They combine excellent germinating qualities, superior sorts, and may be deemed economical in the truest sense of the word.

No. 1.—Complete Collection, sufficient for a large Garden, 3l.
No. 2.—Complete Collection for a moderate size Garden, 2l.
No. 3.—Complete Collection in small quantities, 1l. 5s.
No. 4.—Complete Collection for a small Garden, 15s.

COLLECTIONS OF FLOWER SEEDS.—Post Free.

| | Large Pkts. | Small Pkts. |
|---|---|---|
| No. 1.—100 Packets | £1 5s. | £1 0s. |
| No. 2.—50 ,, | 0 15 | 0 12 |
| No. 3.—25 ,, | 0 8 | 0 6 |
| No. 4.—12 ,, | 0 4 | 0 3 |

Freight and Carriage.

All orders for Seeds above 1l. forwarded free to any Stations between Plymouth and Paddington. All orders above 2l., free to all Broad Gauge Stations, to most other Railway Stations, and by steamers to Cork, Dublin, Liverpool, Guernsey and Jersey. All orders above 5l. free to all Railway Stations in England and Wales, and to any Steam Port in the United Kingdom.—For other and full particulars, the reader is respectfully referred to the General Price Current of the Plymouth Seed, Agricultural Implement and Manure Company Limited, (late Rendle's Price Current), which is now published and ready for delivery, on application to the Secretary of the Company. Copies can also be obtained from any bookseller in town and country through Messrs. SIMPKIN, MARSHALL, & Co., Stationers' Hall Court, London.

Free for 6 stamps, or gratis to customers.

SHAW AND CROSLAND'S RICHMOND DWARF late WHITE BROCCOLI.—This Broccoli has proved to be the hardiest in cultivation, having been grown on the most exposed situations, producing fine heavy heads from the middle of May to the middle of June. It gained the First and Second Prizes at the Sheffield Floral and Horticultural Society's Exhibition, held at the Sheffield Botanical Gardens, June, 1856. SEEDS can be had in sealed packets, price 2s. 6d. each, at the Richmond Nursery, Sheffield; or of

Charlwood & Cummins, Covent Garden
Chaundy & Co., Lewisham
Chatter's, Mr. Wm., Saffron Walden
Davies, Thos. & Co., Wavertree, Liverpool
Dean, Mr. Wm., Bradford, Yorkshire
Flanagan & Son, Mansion House Street
Fisher, Holmes, & Co., Sheffield
Godwin, Mr. F., Sheffield [St
Hurst & M'Mullen, Leadenhall
Henderson, E. G. & Son, St. John's Wood
Kernan, Mr. J., Great Russell Street
Kearsley, Mr. J., Leeds
Low & Co., Clapton
Laing, Mr. Alex., Beverley
Noble, Cooper, & Bolton, Fleet Street
Stewart & Son, Dundee
Sharpe & Co., Sleaford
Turner, Mr. C., Slough
Urquhart & Son, Dundee
Wheeler, Mr., Geo., Warminster
Wood & Ingram, Huntingdon

FRANCIS AND ARTHUR DICKSON AND SONS, SEED MERCHANTS and NURSERYMEN, respectfully announce that their CATALOGUE OF KITCHEN GARDEN & FLOWER SEEDS FOR 1859, including a List of Garden Implements and other requisites, is published, and will be forwarded post free on application. Their special personal attention being directed to this department of their business, and as the whole of their Seeds have been carefully saved from select Stocks, and are all the growth of 1858, they can guarantee them to be true to name and of the most genuine description.

In addition to their carefully selected Stock of Seeds generally, they would direct particular attention to the novelties specified at foot, all of which they believe to be valuable acquisitions to their respective classes.

In order to save the trouble of writing out seed orders in full, they have this season also published a Catalogue with blank columns for the quantities required, which can be filled up and returned to them by post or otherwise.

PEA, DICKSON'S EARLY FAVOURITE.—Pronounced by all who have grown it to be the best Second Early Pea in cultivation. See Advertisement. Price 1s. 6d. per quart.

PEA, DUNNETT'S FIRST EARLY.—The raiser affirms that "this Pea is fit for gathering many days earlier than 'Sangster's No. 1:' is of excellent flavour and an abundant cropper." 2s. 6d. per quart.

PEA, CHAMPION OF SCOTLAND.—A new white wrinkled marrow Pea, of great merit, considered superior in many respects to "Champion of England." 2s. 6d. per quart.

BEET, DICKSON'S DWARF-TOP BLACK.—A very small Beet of deep crimson colour, nearly black; particularly tender and of most delicious flavour. Highly recommended. 6d. per packet or 1s. per oz.

BROCCOLI, FROGMORE PROTECTING.—A very hardy variety, of dwarf habit, the heads large, white, and tender. A much superior variety to "Knight's Protecting." 2s. 6d. per packet.

BROCCOLI, SNOW'S SUPERB WINTER (TRUE).—This invaluable Broccoli is hardly to be met with true. The seed here offered is direct from Mr. Snow. 1s. 6d. and 2s. 6d. per packet.

CABBAGE, ESSEX CHAMPION.—A new very dwarf variety, said to be the earliest grown. It stands longer than most other varieties before going to seed, and by a succession of sowings may be had fit for use all the year round. 6d. per packet; 1s. per ounce.

CAULIFLOWER, LEONORMAND'S.—A new variety from France, said to be the largest and best in cultivation. 2s. 6d. per packet.

CAULIFLOWER, EARLY PARIS.—The variety which is found in the Paris market so early in the season; of a beautiful white colour; large and excellent 1s. per pckt., or 3s. 6d. p. oz.

CELERY, INCOMPARABLE DWARF WHITE.—A very dwarf variety, solid, crisp, and juicy; keeps in perfection longer than any other variety. 1s. per packet.

CUCUMBER, COPPACK'S SEEDLING.—One of the best in cultivation, grows 18 to 20 inches long, of deep green colour, fills up well in the shoulder, and is altogether a particularly handsome variety, well adapted for exhibition. 1s. and 2s. per packet.

LETTUCE, DICKSON'S NEW HARDY WINTER CABBAGE.—Undoubtedly the best winter Lettuce in cultivation; much hardier, more solid than the "Hardy Hammersmith," and of excellent quality. 1s. per packet.

LETTUCE, DICKSON'S CHAMPION COS.—This is perhaps the largest Cos Lettuce in cultivation, and altogether a great acquisition to our Summer Lettuces. Notwithstanding its large size, it is in every respect of first-rate quality, being tender, crisp, self blanching, and stands longer than any other variety before running to seed. 1s. per packet.

CARRIAGE OF SEEDS.

*** It is now a very common practice to advertise Seeds "carriage paid." However tempting this may appear at first sight, it is evident that the cost of carriage must be charged indirectly on the price of the Seeds.

F. & A. DICKSON & SONS prefer sending out really superior Seeds at strictly moderate prices (without paying carriage), and are convinced that they will be found more satisfactory in every way, as well as cheaper in the end.

F. & A. D. & SONS have however special arrangements with the various Railway Companies for the cheap and quick conveyance of all goods, and will be happy to prepay the carriage, when desired, charging cost of same to account.

106, Eastgate Street, Chester.

## NEW SEEDS FOR 1859.

WM. CUTBUSH AND SON beg respectfully intimate that their PRICED CATALOGUE OF TABLE AND FLOWER SEEDS, &c., is now ready on application. WM. C. AND SON devote particular attention this department of their business, and most of the kinds of culinary seeds and roots are saved under their inspection, and they can confidently guarantee the quality offered.—Highgate Nurseries, London, N. Established

## VEGETABLE, FLOWER, AND AGRICULTURAL SEEDS.

WILLIAM BARNES'S CATALOGUE of the is now ready, and may be obtained postage free application. It will be found to contain every article value, among them some that cannot be excelled, the which having been saved specially for himself by pr competent friends, he can recommend with the confidence. Every article is warranted of the purest genuine kind, as well as very moderate in price.

Camden Nursery, Camberwell.

## TO THE TRADE.

MESSRS. MASTERS AND SON have to some fine clean grown WILLOWS, with ste feet, fit for working the Weeping varieties upon A large Collection of the best named Azaleas, Rhode and other American Plants, of small sizes fit for Stock as larger specimens with flower-buds for immediate Prices furnished upon application.—Exotic Nurser bury, and Fant Nursery, Maidstone. Jan. 15.

BUYERS OF ROSES, HOLLYHOCKS, DA CHRYSANTHEMUMS, GERANIUMS, FRUIT PLANTS and SEEDS, are recommended to rely Advertisers in GLENNY'S ANNUAL POCKET ADVERTI comprise the most trustworthy men in the trade. A ments must be all in early in the week. GLENN SIXTY Flower Seeds for Amateurs free on receipt of envelope. Glenny's Improved Balsam, 6 classes, mixed, 13.—G. GLENNY, Horticultural Agent and Fulham, S.W.

## BEAUTIFUL NEW TORENIA.

JOHN AND CHARLES LEE are now prep send out their beautiful new TORENIA PULCH which has been so much admired. It is figured in the Number of Henderson's "Illustrated Bouquet," and edly surpasses all other Torenias by the great contr hibits in the rich dark velvet, approaching to black, of lobes, and the pure white of the lip.

Dr. Lindley thus describes it in the *Gardeners' Ch* October 30, 1858:—"We have received from Messrs. L Hammersmith Nursery a singularly beautiful varie favourite Torenia asiatica. The tube of the corolla an are an intense purple violet; the two side lobes are colour, fading at the edge into pure violet; the upp pale violet; the lower is white, with a purple oblate the point. This variety puts the old original kind of the field."

Price 10s. 6d. The usual discount to the Trade.

Nursery and Seed Establishment, Hammersmith,

## VEGETABLE AND AGRICULTURAL SEEDS,

MESSRS. PARKER AND WILLIAMS beg form their friends and patrons that they are pared to execute with new and genuine SEEDS all or may be favoured with. Their PRICED and DESCR CATALOGUE, containing all new VEGETABLES prov good, and all the best of the older varieties, &c., wi warded post free on application.

The following are particularly recommended, all be superior in quality, and valuable acquisitions to t select collections:—Beet (Pine Apple Short Top), pe Broccoli, Winter White (Snow's), per oz., 3s. 6d; dit zance White (Mitchinson's), per packet, 1s. 6d.; Celery, (Ivery's), per packet, 1s.; Cottager's Kale, per pa Lettuce, Alma Cos (Griffin's), per packet, 1s.; ditto, M Cos, per packet, 1s.; Marrow, Custard (Thomson packet, 6d.—Paradise Nursery, Seven Sisters and Road, Holloway, London, N.

## TO THE SEED TRADE.

CHOICE STOCKS OF SEEDS GROWTH OF —The undermentioned Seeds having been grow choice stocks in larger quantities than we required for ing, we are prepared to offer a portion of each kind, or them at very low prices:—

IMPROVED GLOUCESTERSHIRE WHITE SWEDE
SUTTON'S LINCOLNSHIRE RED GLOBE TURNIP
SUTTON'S IMPERIAL CABBAGE
SUTTON'S EARLY DWARF COMBE CABBAGE

| | |
|---|---|
| Reading Onion | Paradise Marrow Pea |
| Danver's Yellow ditto | Tweeddale Purple-top T |
| James's Long-keeping ditto | Yellow Tankard Turnip |
| Dickson's Favourite Pea | Green Globe ditto |

Green Round Turnip (old sort).

The above were grown by or expressly for us from s stocks and can be confidently recommended. Applicati prices, stating quantity required, addressed as below replied to promptly and liberally.

SUTTON & SONS, Seed Growers, Reading, Berks.

## TO THE TRADE.

WOOD AND INGRAM beg to offer the foll articles which they have of extra fine growth:—

STANDARD, DWARF, AND TRAINED CHERRIES, the best sorts.
OAKS, 1 and 2 year seedling, 2 to 3, and 3 to 4 feet.
,, Evergreens, 1 year seedling.
,, Turkey, 1 year ditto.
SYCAMORE, 1 year ditto.
WHITETHORN, 2 year ditto.
ELM, narrow-leaved English, 1 year ditto.
CHESNUT, Spanish, 3 to 4, 4 to 5, and 5 to 7 feet.
FIR, Scotch, 1½ to 2, 2 to 2½, and 3 feet.
HAZELS, 2 to 3, and 3 to 4 feet.
POPLAR, Black Italian, 3 to 4, 4 to 5, and 5 to 6 feet
,, Lombardy, 4 to 5, 5 to 6, and 7 to 8 feet.
BOX, sorts, 2 to 3, and 3 to 4 feet.
LAURELS, 1 year bedded.

Prices on application.—Huntingdon Nurseries.

(CIRCULAR.)

SEED WAREHOUSE, 86, High Street, Bo London, S.E., January, 1859.—We beg to inform y late traveller, Mr. John J. Polden, is no longer in our e having accepted a similar situation with a recently estab firm in the Seed trade; therefore, for the future, he is n powered to receive orders, or transact any business o account. We return you many thanks for your past fa and hope to receive a continuance of the same.—We re yours very respectfully, CLARKE & COMPANY. Estab above 30 years.

P.S. Our Wholesale CATALOGUE OF SEEDS is now and may be had on application.

RICH BOG AND LOAM.—Gentlemen and Nur men will do well to apply early for the above to re their American beds. To be had in any quantity upon re able terms, by land or water carriage.

ROBERT NEAL, Nurseryman, Wandsworth Common, Su

# NEW SEED CATALOGUE.

## MESSRS. E. G. HENDERSON & SON

RESPECTFULLY announce that they will forward, post free, their NEW SEED CATALOGUE FOR 1859 (which will shortly be published); in its pages all the principal novelties of the season will be introduced or noticed with full descriptions, and only those that are known to be valuable will be recommended for cultivation. Much useful information as regards Cropping of Gardens, Sowing, &c., will be given, and E. G. HENDERSON & SON trust that the hints thrown out will be acceptable and practically useful to amateur cultivators.

### THE ILLUSTRATED BOUQUET

Of rare and beautiful flowers is now published (Part V.), and contains a magnificent illustration of RHODODENDRON NUTTALLI: also of the truly splendid TRITOMA UVARIA, the finest of all summer and autumn-flowering herbaceous plants, and the intensely rich violet-blue TORENIA PULCHERRIMA, grouped with the fine large-flowered variety of GARDENIA RADICANS MAJOR, with fragrant snow-white flowers.

P.S. The figure and descriptions given of TRITOMA UVARIA (GLAUCESCENS) will enable cultivators to determine whether they possess the fine variety now illustrated.

**Wellington Nursery, St John's Wood, London.**

# SUTTON'S COLLECTIONS OF GARDEN SEEDS.

CARRIAGE FREE, WITH INSTRUCTIONS ON CULTIVATION.

| | | | |
|---|---|---|---|
| No. 1. A COMPLETE COLLECTION of KITCHEN GARDEN SEEDS for a LARGE GARDEN, for one whole year's supply | £3 | 0 | 0 |
| No. 2. A COMPLETE COLLECTION of DITTO, in quantities proportionately reduced | 2 | 0 | 0 |
| No. 3. A COMPLETE COLLECTION of DITTO DITTO | 1 | 5 | 0 |
| No. 4. A COMPLETE COLLECTION of DITTO DITTO | 0 | 15 | 0 |

The sorts of Vegetable included in these Collections are those which we have proved to be the most prolific, best flavoured, and most worthy of general cultivation, and of which sorts we have therefore grown large crops of Seed; by this means we are enabled to furnish "A Complete Collection for One Year's Supply," of superior quality, and at much less expense than when a Gentleman or his Gardener makes his own selection.

### COLLECTIONS OF FLOWER SEEDS TO BE SENT FREE BY POST.

| | | | |
|---|---|---|---|
| The best 100 sorts of FLOWER SEEDS, hardy, half-hardy, and tender, with instructions | £1 | 1 | 0 |
| The best 50 sorts of DITTO, with instructions | 0 | 10 | 6 |
| The best 36 sorts ditto ditto | 0 | 7 | 6 |
| The best 24 sorts ditto ditto | 0 | 5 | 0 |

Also NATURAL GRASSES for Lawns and Meadows, fine MANGEL WURZEL, TURNIP, and other AGRICULTURAL SEEDS.

**Post-office Orders payable to SUTTON & SONS, Seed Growers, Reading, Berks.**

### SEEDS OF ALPINE PLANTS.

(SUITABLE FOR ROCK WORK.)

JAMES CARTER AND CO. beg to announce the arrival of a Consignment of SEEDS (many of which are extremely rare) from Monsieur Ortgies, Curator of the Botanic Gardens, Zurich. The Seeds have been collected amongst the Alps, during the past autumn, under his immediate superintendence, and J. C. & Co. have no doubt they will give great satisfaction.

| | |
|---|---|
| 12 selected varieties | 2s. 6d. |
| 25 ,, | 5 0 |
| 50 ,, | 10 0 |

238, High Holborn, London, W.C.

### ASPARAGUS AND SEAKALE.

YOUELL AND CO. having a large Stock of the above growing on the Sea Coast, of the finest quality, beg to offer it at the following prices:—

ASPARAGUS, GIANT, three years old .. 3s. 6d. per 100.
,, two years .. .. 2s. 6d. ,,
SEA KALE .. .. .. .. .. 6s. 0d. ,,

RHUBARB.—Myatt's Victoria, Myatt's Linnæus, Mitchell's Royal Albert, strong roots, 8s. per dozen.
Hawke's Champagne Rhubarb, 9s. per dozen.
All orders of 2l. and upwards are delivered Carriage Free to London, Manchester, Newcastle, and Hull, as well as to any Railway Station within 150 miles of the Nursery.
Royal Nursery, Great Yarmouth, Norfolk.

### RHODODENDRONS.

JOHN WATERER'S CATALOGUE OF UNRIVALLED HARDY SCARLET AND OTHER CHOICE RHODENDRONS, as Exhibited by him at the Royal Botanic Gardens, Regent's Park, London, is published, and will be forwarded on application.

☞ This List is recommended as a work of reference, as it contains accurate descriptions of all the esteemed varieties.

The American Nursery, Bagshot, Surrey, near the Sunningdale Station, South Western Railway.

### HARDY SCARLET RHODODENDRONS AND AMERICAN PLANTS GENERALLY.

WATERER AND GODFREY'S PRICED and DESCRIPTIVE CATALOGUE of the above beautiful tribe of plants, as exhibited by them in London and Manchester, may now be had on application inclosing one stamp for postage. The Catalogue also furnishes the heights and prices of their unequalled stock of Conifers and Evergreens, &c. Catalogues may also be had of Messrs. J. MAY & Co., Seedsmen, &c., Wellington Street, Strand.

Knap Hill Nursery, Woking, Surrey.

### NEW EXOTIC FERN,

NEPHRODIUM MOLLE, VARIETY CORYMBIFERUM.

Named and described in the *Gardeners' Chronicle* of May 22, 1858.

ROBERT SIM is now prepared to supply, at 15s. each, fine vigorous and well-established profusely crested plants of this beautiful and unique variety, of which he possesses the entire stock. It ought to prove quite a greenhouse kind.

The customary discount to the trade. Price per dozen on application. Carriage paid to London. Post-office Orders on Foot's Cray.—Nursery, Foot's Cray, Kent, S.E.

NEW SPLENDID SEEDLING GLADIOLI. — 15 named varieties of Seedlings from RAMOSUS, and 15 ditto from GANDAVENSIS, for 1l. 1s., carriage paid. Large bulbs of Gladioli gandavensis, ramosus, and floribundus, 2s 6d per dozen. Fine Anemones per 100, Mixed Double, 6s.; Scarlet Double, 10s.; Mixed Single, 4s.; Scarlet Single, 6s. Fine mixed Persian Ranunculus, 3s. per 100. Scarlet Turban, 2s 6d. per 100. A DESCRIPTIVE PRICED CATALOGUE of GLADIOLI, &c., sent free and post paid on application.

BUTLER & MCCULLOCH, Seedsmen, Covent Garden Market.

LODGE'S NEW HYBRID RHODODENDRON, "COUNTESS OF WILTON," the best and hardiest Rhododendron in cultivation; obtained a first class Certificate at the Manchester Botanical Gardens. Strong bushy plants from 2 to 4 feet high at 1½, 2, and 3 guineas each, according to size, are now ready, and can also be had from the following agents:—

Mr. John Waterer, American Nursery, Bagshot, Surrey
Messrs. Wm. Rollisson & Sons, Tooting, near London
,, E. G. Henderson & Son, St. John's Wood, London
,, Wm. Wood & Son, Maresfield, Sussex
,, Thomas Jackson & Sons, Kingston, Surrey
,, Benjamin Reid & Co., Aberdeen

A remittance or reference is requested from unknown correspondents. Post-office Orders made payable to JAMES LODGE, Park Nurseries, Singleton Brook, Broughton, Manchester.

Descriptive circulars can be had as above, or from any of the agents

LAING'S MAMMOTH RED CELERY.—This is the largest yet grown, attaining the extraordinary weight of from 10 to 12 lbs., and is perfectly solid. It is nearly perennial in its habit, as it will not under any circumstances run to seed the first season. In flavour it is unsurpassed, and may be deemed a new feature in the garden from the fact that it may be had for use all the year. Packets free per post, 1s.; large trade packets, 3s. 6d. Postage stamps received in payment.—YOUELL & Co., Royal Nursery, Great Yarmouth.

ROSES, &c. — Fine Tall Standard Roses, best kinds .. .. .. .. .. per dozen £0 18 0
Fine Standard and Half-Standard Roses, per dozen 0 12 0
,, named Lancashire Gooseberries .. per 100 0 8 0
,, White and Red Currants .. .. per 100 0 8 0
,, Hardy Herbaceous and Alpine plants, one of the best collections extant, per 100 sorts 1 5 0
,, Hardy Shrubs by name .. per 100 sorts 2 10 0
,, named Hollyhocks, good plants .. per dozen 0 6 0
,, named Phloxes do. do. do. 0 4 0
,, named Pyramidal Pears on Quince do. 0 15 0

Catalogues of all the above sent free on application to HENRY MAY, The Hope Nurseries, near Bedale, Yorkshire.

### RED MATCHLESS CELERY.

JENKINS'S RED MATCHLESS CELERY, the best for years in Covent Garden Market, per packet 1s.
SHILLING'S QUEEN CABBAGE (the very best out), true, per oz. 1s.
INVISIBLE WHITE BROCCOLI, very hardy, 1s.
COTTAGERS' KALE (Turner's), 1s.
NEW HEADING (Turner's), an excellent kind, 6d.
BRUSSELS SPROUTS, 6d.
LONDON WHITE COS LETTUCE, 1s.
MAUNDER'S PEARLY CAULIFLOWER, 1s.
TRUE WALCHEREN ditto, 1s.

The above sent post free. CATALOGUE of VEGETABLE and FLOWER SEEDS forwarded on application.—JOSEPH MAY & Co., Wellington Street, Strand, W.C.

### PRICED CATALOGUE OF SEEDS FOR 1859.

Just published by MILNE, ARNOTT, & Co., and will be forwarded free upon application,

A PRICED AND DESCRIPTIVE CATALOGUE OF SEEDS, containing select lists of the best kinds all from the most genuine stocks, and of excellent quality. Orders above 1l. carriage free to any station within 100 miles of London; above 5l. to any station or port in the United Kingdom.—MILNE, ARNOTT, & Co., Wandsworth Road, London, S., successors to Messrs. Chandler & Sons (established upwards of 60 years).

### PINE-APPLE NURSERY, EDGEWARE ROAD (W.).

ARTHUR HENDERSON AND CO. beg respectfully to announce that their CATALOGUE OF KITCHEN GARDEN AND FLOWER SEEDS FOR 1859, with a List of Garden Implements and other requisites is now published, and will be forwarded, post free, on application.

They particularly desire to call the attention of the public to their "celebrated Short-topped Garden Beet," the only variety that really will repay the grower; colour, flavour, and quality are such as to render it worthy of extensive cultivation; also "Kite's Branching Marrow Pea," a very valuable and prolific bearer for every day use; "Snow's true White Winter Broccoli;" "Snow's Champion Cos Lettuce," a large crisp summer and autumn Lettuce, and for these seasons unequalled. In this select List will also be found the "Moor Park Lettuce," those very superior sorts as yet but little known, namely, the "Palatine" and "Versailles" Cabbage Lettuce; neither of these are disposed to run to seed during the hot summer months. The White and Black spined Imperial Cucumber, the new sprouting or Feather-stemmed Savoy, a scarce but most delicious Green; the "Waterloo framed short-topped seeding Potato," raised between the "Albion" and "Frame;" it is earlier than either, very productive, and the sort that must eventually be depended upon as the best early frame and forcer, as soon as its merits become better known. The "Australian Salad Cress": this plant grows about 1 foot in height, branching and spreading all round the stem; it may be constantly cut and gathered throughout the summer, the leaves are of a peculiarly delicate light green, the flavour is exquisite, grateful, and piquant.

### NEW SEEDS.

CHARLES TURNER'S CATALOGUE OF VEGETABLE, FLOWER, AND AGRICULTURAL SEEDS, CULINARY ROOTS, &c., is now ready, and may be had on application. The lists are Descriptive, and in addition to Selections of all the old and established favourite varieties, contains some valuable new additions, the most prominent of which are DR. MACLEAN'S FINE DWARF NEW PEAS, THE FROGMORE PROTECTING BROCCOLI, SCARLET GEM MELON, COTTAGER'S KALE, ROSEBERRY BRUSSELS SPROUTS, PERENNIAL SPINACH, &c.—The Royal Nurseries, Slough.

### THE NEW MUSCAT HAMBURGH VINE.

MESSRS. ARTHUR HENDERSON AND Co. have much pleasure in directing the attention of Grape Growers to the new Muscat Hamburgh. Plants of which they are now sending out. In consequence of the extraordinary demand for the large three guinea fruiting plants, they are unable to supply any more of this size, but they still have excellent Plants at two guineas, suitable for fruiting next spring in pots, and also good plants at one guinea each.

Pine-apple Place, Edgware Road, London, W.

NEW ZEALAND RUNNING BEAN.—This Bean was found by a gentleman in the centre of New Zealand, where it forms the chief vegetable food of the natives. It was not known at Auckland. My own observations on it last summer were that it grows tall and strong with a large heart-shaped leaf which droops at sunset. Blossom pinky white, a great bearer; pod size of Scarlet Runner but more tender and richer in flavour. The pod while ripening gets beautifully crimson and green striped. Mr. Henderson, of Pine-apple Place, says that it is quite new to him, and has ordered several hundreds of it. A printed account of it sent with each parcel. Price per doz. 3s.; extra Beans allowed to the trade post free. With each order please to enclose stamps or Post-office Order on Camberwell.—JAMES CUTHILL, Camberwell, London, S.

### VEGETABLE AND FLOWER SEEDS, ETC.

JAMES DICKSON AND SONS, SEED MERCHANTS and NURSERYMEN, Chester, respectfully intimate the publication of their ANNUAL LIST OF VEGETABLE AND FLOWER SEEDS, which they will be happy to transmit prepaid to those who may apply for it. The whole of the seeds they offer have been selected with great care, and they therefore feel confidence in recommending them as being of really good quality.

Their Nursery Grounds at Newton-by-Chester, which lie in a high and exposed situation, contain a large and valuable Stock of FOREST and FRUIT TREES, SHRUBS, &c., all healthy and vigorous; also a great quantity of transplanted QUICKS, suitable for forming new fences, &c. Lists and every information furnished upon application.

Communications should be addressed JAMES DICKSON & SONS 102, Eastgate Street, and Newton Nurseries, Chester.

### "JACK OF NEWBURY" SWEDE, ETC.

PETER LAWSON AND SON, THE QUEEN'S SEEDSMEN, &c., 27, Great George Street, Westminster, respectfully request attention to their very genuine Stock of the above excellent Swede; also of the LOTHIAN PURPLE-TOP SWEDE, both of which have been selected with the greatest care. They have also a very fine Stock of the KOHL RABI, or TURNIP-ROOTED CABBAGE, specimens of which were shown at their Stands at Smithfield Club Show. The Kohl Rabi was largely grown last season, and may now be relied on as a substitute for the Turnip and Mangel, where these roots do not succeed, or for filling up blanks where there is a partial failure. Its feeding qualities, hardiness, and weight per acre are equal to the Swede, and all kinds of stock prefer it to other roots.

P. L. & SON have also selected a first-rate Stock of MANGEL WURZEL SEED, which they can confidently recommend. Their natural GRASS SEEDS have been also saved with very great care, and they are ready to supply them separately or in mixture, for laying down Permanent Pastures, Lawns, &c.

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# The Gardeners' Chronicle.

*SATURDAY, JANUARY 15, 1859.*


**MEETINGS FOR THE FOLLOWING WEEK.**

THURSDAY, Jan. 20—Linnean ..... 8 P.M.

SOME weeks since we printed a copy of a memorial addressed to the Chancellor of the Exchequer, by a few working naturalists, representing in what manner in the judgment of the memorialists it would be desirable to rearrange the Natural History Department of the British Museum, whenever it is removed from Great Russell Street. Now that Parliament is about to meet and consider the subject we venture to offer a few remarks explanatory of the document alluded to.

That our public Natural History collections must be speedily separated from the library, and the fine art and archæological treasures now crowded into a space far too small even to contain them if

shut up in packing cases, is now pretty generally admitted. Then arise two questions: Whither shall they go? and How shall they be rendered most useful to the public on the one hand and to the student of Natural Science on the other?

Upon the first of these questions it will be seen that the memorialists have not touched. They may have thought that, provided the collections are removed from the dust and dirt of a London street, and placed in some accessible locality where space in abundance can be found, it is not of much importance where the space should be found. Nor, indeed, could they as a body have presumed to insist upon such a point, locality being a subject upon which a judgment may be formed without possessing any of that special knowledge which is required f r determining upon the organisation of a department of science. But although they have themselves made no suggestion we need not on our own part conceal the fact that the opinion is gaining ground that no situation near London is so eligible as the land belonging to the Royal Commissioners at Kensington Gore. There are to be found combined ample space, good air, dry soil, and a space more easily accessible than any other in the suburbs of the metropolis, especially now that all our northern and southern railway lines are about to be concentrated in Brompton.

It is to the future organisation of our Natural History collections that the memorialists exclusively address themselves. They suggest that Natural History should be arranged under distinct heads, in manner following:—

MUSEUMS.

*Popular;* in which typical forms of Animals and Plants should be so displayed as to diffuse a general knowledge of Science, and to serve as a general introduction to the Student of Natural History. 1. *Botanical.* 2. *Zoological.*

*Scientific;* in which Collections should be disposed for study; and to which should be attached an appropriate Library of Books relating to Science. 3. *Botanical.* 4. *Zoological.*

*Economic:* in which Economic Products, with illustrations of the processes by which they are obtained and applied to use, should be so disposed as best to assist the progress of Commerce and the Arts. 5. *Botanical.* 6. *Zoological.*

GARDENS.

7. *Zoological*, for living animals.

8. *Botanical*, for living plants.

Of these eight divisions, the two last already exist in a state of perfect organisation; the 7th in the Regent's Park, the 8th at Kew. Moreover the 5th is complete at Kew, a nucleus of the 3d also exists in the same place, and the 6th is actually in progress towards formation at South Kensington. Therefore supposing Government to adopt the views of the memorialists there would be only four of these museums to form anew, viz.:—

1. *The Popular Botanical.* | 3. *The Scientific Botanical.*
2. *The Popular Zoological.* | 4. *The Scientific Zoological.*

For these four museums materials belonging to the public already abound in the British Museum and at Kew. All that is wanted is a suitable building to contain them all, and the means of displaying its contents, so that the public and naturalists shall have daily access whether for sight seeing, instruction, or study, without interfering with one another. The nucleus of the other, namely the Scientific Botanical, No. 3, also exists, partly at Kew, in the form of the Great Benthamian Herbarium, and partly within the walls of the British Museum itself; all that this Museum would really require is an increase of materials. So that the formation of eight Natural History Collections, at first sight a formidable undertaking for even the English Government, shrinks, when closely examined, to four and a half, most of the materials for which are only waiting to be judiciously employed.

Let us now assume that Kensington Gore or South Kensington was determined on as the locality in which to place the Zoological Museums, then the whole scheme recommended by the memorialists would stand thus:—

2 and 4, ZOOLOGICAL MUSEUMS; *Popular* and *Scientific*. Kensington—to be formed.

1, 3, and 5, BOTANICAL MUSEUMS; *Popular, Scientific, and Œconomical.* The Popular, to be formed at Kensington, in the same building with 2 and 4; the Scientific partly, and the Œconomical wholly, formed already at Kew.

7. ZOOLOGICAL GARDEN; already formed in the Regent's Park.

8. BOTANICAL GARDEN; already formed at Kew.

Such is a very condensed abridgement of the suggestions offered to the Chancellor of the Exchequer by the memorialists. For the details of their scheme gentlemen will doubtless refer to the memorial itself, which will be found at p. 861 of our last year's volume.

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THE formation of a new British colony out of a part of what was once called the Hudson's Bay Company's Territory in North-West America is by far the most important incident in the history of 1858, and will undoubtedly be found pregnant with events of the highest political interest. A temperate climate, a fertile soil, natural wealth of every kind, especially timber that yields to none in commercial value, for the Douglas Fir, the weed of the colony, is of the very highest excellence for every purpose of construction, gigantic, strong, and durable, British Columbia offers great inducement to emigrants to settle there, especially to gardeners, or active young men acquainted with country life. It has moreover one of the finest coast lines in the world, with natural harbours capacious enough to float a navy, a secure anchorage, and shelter on all sides. When we add to this the direct and easy communication which British Colombia may have with Japan, China, and all our Asiatic possessions, it is not too much to anticipate its capital, Victoria, becoming the emporium of the Pacific.

There is however at present the rather important disadvantage of its being difficult of access. The only roads yet open are by way of Panama, or by the new coach track reported to run through the United States to California, unless indeed a passage is taken by sea round Cape Horn. The Canadian Government has therefore naturally taken into consideration the possibility of forming a line of communication between its territory and British Columbia, the two countries lying in the same latitude and in fact touching by the whole of their eastern and western frontiers. But that frontier is a chain of lofty mountains whose very name, "the Rocky," sufficiently shows how formidable a barrier they must be; and on the Canadian side the border line can only be reached through vast prairies and interminable labyrinths of lakes, and rapids, extending for more than 2000 miles as the crow flies from the head of Lake Superior to Victoria, the capital of British Columbia. The great problem for the Canadian Government to solve is whether it is possible to overcome those difficulties, so far at least that by degrees a way may be found from the Atlantic to the Pacific through British American territory. Were that possible Canada and British Columbia would become the great highway between eastern Asia and Europe.

With this grand object in view an expedition was organised in July, 1857, for the preliminary object of ascertaining what obstacles there might be to overcome between Lake Superior and a post of the Hudson's Bay Company called Fort Garry, situated at the confluence of the Assinaboine with Red River, a great stream running due south from Lake Winipeg into the state of Minnesota. (If the reader will place before him a good modern map of N. America, such for example as BLACK'S, which may be had for 1*s.* uncoloured, he will readily understand the description that follows.) The expedition was placed in charge of Mr. GLADMAN, assisted by Prof. HIND as geologist and naturalist, Mr. NAPIER as engineer, and Mr. DAWSON as surveyor, and their copious report is before us.* They were instructed that—

The primary object of the expedition was to make a thorough examination of the tract of country between Lake Superior and Red River, by which may be determined the best route for opening a facile communication through British territory from the lake to the Red River Settlements, and ultimately to the great tracts of cultivable land beyond them. After being landed at Fort William, a place on Lake Superior, they were to proceed by the present Hudson's Bay Canal route—by the Kaministiquia River, Dog Lake, Lake of the Thousand Islands, &c., to Lac La Croix, and thence by Rainy Lake, Lake of the Woods, Winipeg River to Lake Winipeg, and up the Red River to Fort Garry. From Rainy Lake to Lake Winipeg, the route already existing affords a good navigation for boats of considerable size, with the interruption however of some short portages; but from Rainy Lake eastward to Lake Superior the route is very much interrupted, and rendered laborious, tedious, and expensive by the great number of portages, some of considerable length, which have to be encountered to avoid the falls and rapids in the ravines and creeks which this route follows. It was therefore of the first importance to find some track which should be independent of the River Winipeg, its lakes, swamps, shallows, narrows and rapids, and of similar obstacles lying between the Lake of the Woods and Lake Superior. The vol quoted above relates in ample detail what the explo party was able to discover.

The result was satisfactory; it was found th good communication could be formed in the lowing way; by land from Lake Superior to Lake; then, crossing it by water, up the Sa nah river into Lac des Mille Lacs; thence by l in a line to Rainy Lake; across this to L Francis; next along a practicable stream n across the Lake of the Woods to its north-west tremity; and finally from this point stra across country to Fort Garry on the Red Ri The whole distance from this station to L Superior being between 450 and 500 miles which at least half is by water. So far the advance westward is practicable. Above miles more remain to be surveyed, up to the R Mountains.

It is known that this western country is l lessly barren within the boundary of the U States, so that a road to the Pacific thro American territory is to all appearance impra able. But the Report informs us that wi British boundary it is exactly the reverse. N due west from Fort Garry runs a river called Assinaboine, which communicates with a south arm of the Saskatchewan, a river rising in Rocky Mountains themselves. It is in this di tion that emigration must flow, and hereab that a way through the Rocky Mountains British Columbia must be sought. As far as formation at present extends, it appears that whole of this vast north-west American Br territory, touching on the frontier of Br Columbia, is as remarkable for fertility as United States' ground within the same degree longitude is for its hopeless barrenness. "Th says Mr. BLODGET, a recent writer of high author "is a wedge-shaped tract, 10 degrees of longitud width at its base along the 47th parallel, incl north-westward to conform to the bend of Rocky Mountains, and terminating not far f the 60th parallel in a narrow line which extends along the Mackenzie for three or degrees of latitude in a climate barely tolera Lord SELKIRK began his efforts at colonis here as early as 1805, and from personal kn ledge he then claimed for this tract a capaci support 30 millions of inhabitants.

"All the grains of the cool temperate latit are produced abundantly. Indian Corn may grown on both branches of the Saskatchewan, the Grass of the plains is singularly abundant rich; not only in the earliest period of explora of these plains, but now, they are the great re for buffalo herds, which, with the domestic he and the horses of the Indians and the colon remain on them and their woodland bord through the year. The simple fact of the pres of these vast herds of wild cattle on plains s high a latitude is ample proof of the climatolog and productive capacity of the country. Of t plains and their woodland borders the valu surface measures fully 500,000 square miles."

Indeed the Canadian explorers give an acco of the country, near Fort Garry, 500 miles wes Lake Superior, for which very few persons in country can be prepared:—

"At the hospitable home of the Rev. Archde Hunter," says Mr. HIND, "I saw Tomatoes ripening in house; they had been gathered before maturity, in an pation of frost, and were laid upon a shelf in the way as we are accustomed to dispose of them in Ca under similar circumstances. Tomatoes, well known very susceptible of frost, can be grown in the ope at Red River, under the lee of fences or the side house, but unless the maturity of the fruit is ac rated by careful cultivation the autumnal f generally arrive before it ripens thoroughly in the air. So late as the 7th October, the day be my departure from Red River, I gathered Mignon and several other annuals in Mrs. Bird's garden, near middle settlement, and saw similar garden flowers in bloom and untouched by frost in Mr. Logan's gar and also in Mr. McDermott's. In the large and ordered gardens attached to the Upper and L Forts, every variety of vegetable commonly grown Canada was flourishing in the greatest luxuria Cauliflowers, Windsor Beans, Celery, Beets, se varieties of Cabbages, in fact every desirable vegeta was seen in profusion, and of excellent grow Lastly, and certainly not the least important in relation to summer climate, Melons of many varieti had the good fortune to see and eat in several part the settlement. In every case I inquired into t were grown in the open air, without any assista beyond throwing up the soil into the form of a l hill. The seed was planted in the earth in May, the fruit gathered towards the end of August. Fro small patch in the garden belonging to the very h pitable and generous Recorder and Governor of A niboia, James Johnston, Esq., no less than 103 Me were produced. At the time when I had the op

* *Report on the Exploration of the Country between Lake Superior and the Red River Settlement.* Printed by order of the Legislative Assembly. Toronto. 1858.

tunity of seeing this feat of horticulture 56 Melons (a green-flesh variety) had been gathered and 57 still remained, all of which had nearly reached maturity. I did not measure the bed, but to the best of my recollection it did not exceed 25 feet in length by 10 or 12 in breadth. Having been accustomed to cultivate Melons myself near Toronto, the surprise I felt at the remarkable yield of a delicate fruit which does not always ripen in the open air at Toronto could scarcely be attributed to a want of familiarity with the requirements of soil and climate necessary to produce this result. In other parts of the settlement I saw Melons in great profusion, but perhaps in no instance in such rich abundance and of such excellent flavour as in Mr. Johnson's garden. I find in my notes, however, the following memorandum:—'September 10: saw in Mr. Logan's house several Melons which were grown in the open air, without any protection. Mr. Mackenzie informed me that this year he raised from one seed 30 Melons. On the 10th of August one Melon weighed by actual measurement 6 lbs.' I look upon the cultivation of the Melon in the open air, without any kind of assistance beyond weeding, as second to the production of Indian Corn in its relation to the climatic adaptation of a country for agricultural purposes; and in view of this connection I have ventured to introduce the foregoing facts relating to its cultivation and growth in Assiniboia."

Again—

"Of the valley of Red River I find it impossible to speak in any other terms than those which may express astonishment and admiration. The description which I had read previous to my arrival there certainly did not in any way prepare me for the magnificent country at present occupied and controlled by those whose interests, no one seeks to deny, have been opposed to settlement or communication with what may be termed the outer world. I entirely concur in the brief but expressive description given to me by an English settler on the Assiniboine, that the valley of Red River, including a large portion belonging to its great affluent, is a 'paradise of fertility.' The summer climate of this region appears to be very well adapted for agricultural operations. The summer temperature is nearly 4° warmer than at Toronto, as ascertained by a comparison of corresponding observations. Indian Corn, if properly cultivated, and an early variety selected, may always be relied on. The Melon grows with the utmost luxuriance without any artificial aid, and ripens perfectly before the end of August. And yet with these natural and most truthful registers of climate, we are accustomed to hear of late spring and early autumn frosts deplored, lamented, and held up as one of the great drawbacks of Red River. All kinds of farm produce common in Canada succeed admirably in the district of Assiniboia; these are Wheat, Oats, Barley, Indian Corn, Hops, Flax, Hemp, Potatoes, root crops, and all kinds of common garden vegetables. The Potatoes, Cauliflowers, and Onions I have not seen surpassed at any of our provincial fairs; an enumeration of the weight of some of these productions of the garden and farm will be found in the text, and numerous specimens accompany this report. The character of the soil in Assiniboia, within the limits of the ancient lake ridges, cannot be surpassed. It is a rich black mould 10 to 20 inches deep, reposing on a lightish coloured alluvial clay about 4 feet deep, which again rests upon lacustrine or drift clay to the level of the water in all the rivers and creeks inspected. I frequently examined the soil some miles distant from the rivers along my line of route, as shown on the map, and I invariably found the prairie portion to exhibit a uniform fertility. The area occupied by fertile prairies I visited and saw certainly exceeds 1,500,000 acres, and as will appear from an inspection of the map of Minnesota; the greater portion of the rich and available prairie land in the valley of the Red River lies within British territory, while the valley of the Assiniboine is wholly within it. The altitude of the valley of the Red River above the level of the sea is about 680 feet, or 320 feet less than the elevation given to it by high authority, and from which erroneous conclusions respecting its climate, in relation to agriculture, have been drawn. As an agricultural country, I have no hesitation in expressing the strongest conviction that it will one day rank amongst the most distinguished."

In another part of the Report we have still further details concerning this little known country, which already posseses industrious prosperous settlers, schools, clergy, magistrates, and a population of some 7000 distributed through 10 parishes. The following account is of the highest interest to emigrating cultivators:—

"One of the farms which I visited was occupied by Mr. Gowler; it is situated on the Assiniboine, nine miles from Fort Garry, and is marked on the map which accompanies this report. On the 16th September, the day I visited Mr. Gowler's house and farm, nearly all farming operations were over. A small stack-yard was filled with stacks of Wheat and hay; his barn, which was very roomy, was crammed with Wheat, Barley, Potatoes, Pumpkins, Turnips and Carrots. His roots were shortly to be transferred to root houses, which he had constructed by excavating chambers near the high bank of the Assiniboine, and draining them into the river. The drain was supplied with a close and tightly fitting trap, which was closed when the water rose during the spring above its mouth, which at that time might be 8 feet above the level of the river. The chambers were about 9 feet high, and their ceilings 3 feet below the prairie level. Access was obtained through a hole in the ceiling, which was covered with a neat little moveable roof. There were three of these cellars or root-houses before the dwelling-house, and between it and the river. Frost never entered them, and he found no difficulty in preserving any quantity of Potatoes and Turnips through the severe winters of this region.—Mr. Gowler farmed 50 acres in white and green crops, hay and pasture being furnished by the prairie. He owned much more land, but found it useless to crop it, as no market for surplus produce existed. Last year he had sold many bushels of Potatoes at 6*d.* per bushel, and had carted them 9 miles. I had been previously informed of the extraordinary success of Mr. Gowler in growing Wheat, but I found upon inquiry that the practice he employed was simply not to grow Wheat after Wheat; he had grown 56 measured bushels to the acre. The price of Wheat at the time of my departure was 4*s.* 5*d.* sterling a bushel, but last year at the same time it had been 3*s.* 6*d.* sterling. His Turnips (Swedes) were magnificent; four of them weighed 70 lbs., two weighed 39 lbs., and two others 31 lbs. Whatever manure his yard and stables supplied he gave to green crops and the garden. A portion of the Potato crop was still in the ground; they far surpassed in quantity, quality, and size any I had ever seen before. Mr. Gowler very kindly turned them up out of the soil wherever I pointed out. I counted 13, 14, and 16 Potatoes, averaging 3½ inches in diameter, at each root. They were a round white-skinned variety, and seemed to be like those known in Canada as the 'English White.' The Potatoes were planted on the 1st June, and were ready for eating on the 16th or 18th August. The winter supply was rarely taken out of the ground before the beginning of October. The greatest enemy to the Turnip crop is the cut-worm (the grub of an elater). Indian Corn succeeds well on Mr. Gowler's farm, and Onions of rare dimensions were growing in his garden. He had had this year a splendid crop of Melons, the seed being sown in the open air at the end of May, and the fruit gathered about the 1st September. At the time of my visit the Melons had all been consumed, but I had several opportunities of tasting and enjoying this fruit, at Fort Garry and elsewhere, on the Assiniboine and Red River. In every instance they were grown in the open air, without any artificial aid beyond weeding, from the time the seed was planted to the maturation of the fruit. Mr. Gowler insisted on my tasting his wife's cheese, and smoking his tobacco, before I departed. The cheese was tolerable; the tobacco, which was grown in the neighbourhood and highly prized by Mr. Gowler, was dreadfully strong, and would involve, I should think, long training in order to acquire a taste for its qualities. Nevertheless, Mr. Gowler preferred it to some excellent Fig-leaf which I offered him; he remarked that he had grown and prepared it himself, and knew what it was. I may here relate, with a view to show how long old associations linger in the recollections of the European portion of the population in this remote region, that when I sat down to table Mr. Gowler turned inquiringly to his wife saying, 'And where is my plate?' 'Oh, John! you would not think of sitting at table with gentlemen?' Mr. John seemed puzzled for a moment; his son-in-law and children were looking in silence from different corners of the room. He cast a hasty glance around, and the true feelings of independence and manly right showed themselves, as he exclaimed, 'Give me a chair and a plate; am I not a gentleman, too? Is not this my house, my farm, and these my victuals? Give me a plate.' Mr. Gowler had been in Rupert's Land for I think 23 years. His native county was Cambridgeshire. He considered the Assiniboine River to be a 'Paradise of fertility,' and all that was wanted in his opinion to make it a region which, if known, would soon attract a large emigration, found expression in the words 'market' and 'labour.' I venture to introduce here some remarks which Mr. Gowler made, as he accompanied me to the gate of his farmyard, where my horse was tied. 'Look at that prairie; 10,000 head of cattle might feed and fatten there for nothing. If I found it worth my while I could enclose 50, 100, or 500 acres, and from every acre get 36 to 40 bushels of Wheat year after year. I could grow Indian Corn, Barley, Oats, Flax, Hemp, Hops, Turnips, Tobacco, anything you wish, and to any amount, but what would be the use? There are no markets; it's a chance if my Wheat is taken, and my Potatoes I may have to give to the pigs. If we had only a market you'd have to travel long before you would see the like of these prairies about the Assiniboine.'—The substantial character of the barn, stables, and piggeries, all constructed of wood, their neatness and cleanliness, the admirable arrangement of the hammels for cattle and the sheds for sheep, all showed how far a little energy and determination, instructed by the experience of earlier years, would go in reproducing amidst the boundless prairies of Assiniboia the comforts and enjoyments which are by no means the rule among the small farmers of Great Britain. I have brought specimens of Mr. Gowler's Barley, Wheat, prairie hay, and Carroway seed, which I took at random from the stacks in the yards, or from the garden, where the last-named fragrant herb was growing largely. I regret to say that a few days before my visit the grasshoppers had arrived from the south-west, and consumed in a single day every green leaf in the garden, which remained exposed to their attacks."

One rather important fact remains to be added. There does not appear to be any serious danger from the native Indians. The exploring party met with no opposition from them, although the natives did not approve of its visit, and had no mind to help it on its way. Notwithstanding the length to which these remarks have extended—not too great let us hope considering the intense interest of the subject to this country—we must find room for a part of the conference that took place at the Lake of the Woods between Professor HIND and an Indian Chief:—

"*Chief.* 'Tell them all these they see around me are my own tribe. It is our custom to smoke before talking. We shall follow the practice of our fathers.' About half-an-hour was devoted to the distribution of tobacco, the filling of pipes, and the smoke, after which the chief resumed.—*Chief.* We do not think you will start to-day, we wish to know what you are doing in our country (to the interpreter), what are these men, are they ministers, surveyors, or what are they?—*Reply.* We are instructed by our chief to journey to Red River, and have been told to take this route.—*Chief.* We have heard that you have been gathering flowers, what does that mean?—*Reply.* To amuse ourselves when on the portages or in camp; we have gathered your flowers because some of them we have never seen before.—*Chief.* The white man looks at our flowers and trees and takes away the Indian's land. Did these men see nothing near the Fort on Rainy River?—*Reply.* They saw nothing extraordinary.—*Chief.* Did they not see a grave near the fort? A single grave: a chief's grave. All these people here are descendants of that chief; and they do not know for what purpose you have been sent here, or why you pass through this part of our country.—*A Brave.* Why did their chief send them by this route?—*Reply.* Our government gave orders to our chief and he told us to go by this route to Red River; they thought it was the shortest way; we are not traders but messengers.—*A Brave.* Why did you not go with your chief?—*Reply.* Our chief sent us, and waits for us at Red River. He will return by the Rat Portage, and give every explanation to you; he will return in three weeks.—*Chief.* We think you want to do something with these paths, and that is the reason why you have been sent.—*Reply.* We have been sent by this route because it is the shortest, and we have to obey our instructions. We ask you now to send us one of your young men to show us the road; we shall pay him well, and send back presents to you; what do you ask?—*Chief.* It is hard to deny your request, but we see how the Indians are treated far away. The white man comes, looks at their flowers, their trees, and their rivers; others soon follow him; the lands of Indians pass from their hands, and they have a home nowhere. You must go by the way the white man has hitherto gone. I have told you all.—*Reply.* We paid you for your corn in tobacco; we tell you now that we are anxious to go by that Muskeg Road to Red River, because we have learned that the path is travelled by the Americans (Long-Knives); we want to see if it be true, if they come through this country, and what these white men are doing. Remember, we are your friends, and we shall be glad to be always friendly with you.—*Chief.* Why did you not say that at first; we know you had good reason for going through those bad paths?"

In conclusion we may recommend Mr. HAZLITT'S work on British Columbia* to favourable notice. Although a very imperfect compilation by a gentleman unacquainted with the country, it is the only work to which the public can have access; and it contains long extracts from a communication made by Colonel COLQUHOUN GRANT to the Royal Geographical Society on the subject of Vancouver Island.

## ANOTHER FLY LEAF.

(*See p.* 925, 1858.)

I NEVER like doing things by halves, that is to say, when my advice is asked and given, I am always anxious to know the result. This therefore is the only plea I have to offer for paying a second visit to —— Castle to see my young friend Tom, who when we last parted was "halting" between two opinions.

Never afraid to show my face, I walked up to the garden door as bold as brass. "Good morning," said I.—"Good morning, sir," said Tom, "glad to see you. Come in, come and see this." Following Tom at the rate of four miles an hour, without speaking a word, we soon arrived at the Calceolaria pit where we last parted. "There now sir," said Tom, with an air of importance, "what do'e think o' that? That rather licks 'em, don't it? Five hundred and seven there, sir, and there hasn't so much as one looked o'er its shoulder. There they are, sir, you can see for youself; I did as you said, and I ain't sorry for it."—"Glad to hear it, Tom," said I. "Now don't you think that knowledge is worth a Fly Leaf?"—"Worth a Fly Leaf?—worth a five pound note to anybody. I wish I could trump every trick in the same style. How would Verbenas do? I find I'll be rather short on 'em. If I could hit on a plan of doing 'em off in that way, why I could soon stock a nation." "You may do that very easily, Tom," said I, "if you go the right way about it. What have you got in the mixt pit?"—"Cauliflowers, sir; rather strange, isn't it, that they should want the same treatment as Calceolarias in winter? This other is a deal of money sunk to no manner o' purpose; it's too big for a pit and it's too small for a house—in fact it isn't any use whatever; I wish it were down."—"Down," said I, "why not use it as a propagating-house? You cannot have a better. You are short of Verbenas, you say; don't you want anything else?"—"Of course I do; I wants all I can get in the way of bedding."—"Well, Tom, there are two beautiful slate shelves," said I, "not too far from the glass, with, let me see, ledges about 3 inches high. Now, if you will fill these up with clean-washed drift sand, put through a fine sieve, you might here strike bedding-out stuff for

* *British Columbia and Vancouver Island, &c., with a Map.* By W. C. HAZLITT. 12mo. Routledge. 1*s.* 6*d.*

the million. Look you," said I, scoring on the slate, as a schoolmaster would do on a copy-book, "suppose this to be on the sand, each line an inch apart, or such a distance as your cuttings will not touch each other when put in—no black art is required here—dibble in your cuttings the same distance apart in the lines; give such as Verbenas, Lobelias, Ageratums, Cupheas, &c., plenty of water to keep them up, and I'll guarantee 99 out of the 100 to succeed. Bottom-heat is unnecessary; only keep up comfortable greenhouse temperature. At this season, in a fortnight or three weeks all the plants I have mentioned will be rooted and ready to pot off in 2½ inch pots. Petunias like to be shaded from strong sun when it comes, and they do not require much water; Scarlet Geraniums do not require much water either, but all the sunshine you can give them. I might, however, stand here and preach to you all day, and yet do you no good if you don't try. Practice makes perfect, Tom. Try; that is the way to get on. I know a place where they will this season plant out no less than 40,000 plants, the greater part of them propagated in the way I have described; and were you to see the little convenience for so doing you would think it impossible to turn out as many hundreds. Now, Tom," said I, "I think I have just told you as much as you will think of at once. I may call again in the summer time to see what your beds look like, when we may have a gossip about them." Tom thanked me, shook hands heartily, and wishing each other a happy new year we parted, even better friends than we met. *An Old Showman.*

## Home Correspondence.

*Vines at Raby.*—Having perused Mr. Roberts' doleful letter on the above Vines, and the chapter of accidents connected therewith, I should have let the matter rest, as far as I am concerned, but for one paragraph. Mr. Roberts says, "I cannot think that his love for a theory will induce him to repeat the process throughout the range," meaning the replanting of the Vines. It appears that in 1812 Mr. Roberts published a work on the Vine (did he write it?), in which he starts a theory which he is unable to carry out; he attempts to teach a practice to others he shrinks from following himself. He recommends carrion for borders, while he states he does not employ it: so much for "practical authority"—one at least I shall not follow, as I do not wish to build on another's foundation, not wishing to risk the chance of a crop, by tinkering up the old rotten borders, and trusting to fibreless Vines. Having already replanted the Vines in one house and part of a second, an account of the borders and Vines may be interesting. The bottom of the borders was concreted in a very efficient manner; over this a good layer of broken bricks, the interstices of which had become filled with a fine aluminous mass, I believe from percolation; over this from 12 to 14 inches of a tenacious clayey mass containing a great quantity of whole bones and large stones (some of them 6 and 8 stone weight); over this a quantity of dark-coloured soil containing strong traces of partially decomposed vegetable and animal matter. This upper soil appeared in layers, as if put on at various periods. In this the whole of the roots were found; remains of dead roots were visible in the lower tenacious mass, but appear to have perished some time back. The borders when first opened emitted the effluvium too frequently perceived in old crowded graveyards. I am inclined to believe that one cause of the sour solidity of the border was caused by the large quantity of fermenting materials used for several months in the year; the drainings from this and the filling up of the interstices of the broken bricks having caused the borders to become anything but genial to the growth of Vines. The wood in the first house was bad, that in the second worse, as it is not ripe, and very poor. Mr. Roberts states that "the wood in the first and second house was indifferent, but in the third and fourth very good, and the fruit equally good and a very heavy crop." When I came to Raby no Grapes had been cut out of the fourth house, and very few from the third. I consider the quantity anything but heavy. Bunches enough in all conscience! But oh, such bunches! I firmly believe not one would weigh 1½ lb., the average being below ¾ lb., and the berries small. As for the Nice Grape, spoken of, which by-the-bye has oval berries, I have seen much larger shoulders of bunches at Welbeck than any one whole bunch in the gardens of Raby, and I must add that the Grapes from a flued wall at Selby, 3 miles from this, were infinitely superior in size, colour, and form. I was told by authority it would not be right for me to dispute that instead of the Grapes improving they have gradually grown worse, anything but creditable productions of a model Vinery; and I doubt not Mr. Roberts has had more than one complaint of their inferiority. Now for these "model Vineries." I will take Mr. Roberts's measurement, viz., 164 feet long by 18 feet wide, a creditable size—sufficient to supply any reasonable family. The four houses are heated by two boilers, and two rows of 6-inch pipes in front; well, what did this model range cost? Near 2000*l.*, exclusive of endless after-claps in alterations, ventilation, &c. The borders are 20 feet wide, in front of which runs a large flue to carry out some grand theory not explained; but from some unfortunate accident or ignorance in the construction it refused to act, as the smoke would not travel. The houses are heavy and dark, the squares being only 6½ inches wide, glazed with as good sheet glass as I ever saw; in fact, such as will be used in the two new houses now erecting. It is not everybody that can afford to spend such a sum on model Vineries, and God forbid they should; much more ought to be, and can be obtained for that sum, and satisfaction given. Mr. Roberts states:—"My employer wished to have one house forced to supply early Grapes for town, a second house soon followed." But why should a "second house soon follow?" Simply because the first house failed, and the blank must be filled from some quarter—this was why the second followed. When a person fills a gardener's situation for emolument more than employment, he is apt to let the sun get up before him in a morning, and scorch his Vines before he is out of bed, and some people are so stupid that air must only be admitted at a certain hour! Then oh! this sheet glass, I wish I had never seen it; but the Grapes are gone, and my lord has the honour of keeping a gentleman to carry out his theories at an endless expense, and nothing to show for the outlay. In the gardens at Raby is an old Vinery planted by the predecessor of Mr. Roberts, the borders of which I am told have not received a dose of "the pabulum to produce the nectar of Bacchus;" how the border was formed I know not, nor do I intend to disturb it, as with a little care the Vines can be brought round. These Vines are in a far better state than any in the model range, although I am credibly informed they have been doing double duty for some time; even here some "irregularities occur," as the favourite theory has failed also, and no sheet glass to blame. In conclusion, I may add that the Vines in the first house replanted have broken down to the lowest eye very regularly, and much stronger than I anticipated. The practice, not theory, of replanting will be carried out through the whole range; and as many of the old Vines are useless or past redemption, young strong Vines in a bearing state are at hand to fill the vacancies, and 50 or 60 others to fruit in pots to fill the blanks. The model houses are open to the inspection of practical men; the Vines are many of them unpruned; and the border can be opened for inspection till such time as the work of replanting is commenced, AS THERE IS NO DANGER OF INJURING THE ROOTS. *K. Short, Raby Gardens, Jan.* 4.

*Fall of Rain in Sussex in* 1858.—

| | Museum, Chichester. | Westdean in the Downs. |
|---|---|---|
| January | 1.00 | 1.74 |
| February | 1.21 | 1.13 |
| March | 0.96 | 1.66 |
| April | 2.11 | 2.83 |
| May | 1.72 | 2.31 |
| June | 0.47 | 0.63 |
| July | 2.52 | 3.58 |
| August | 2.85 | 2.71 |
| September | 1.77 | 2.57 |
| October | 1.73 | 2.29 |
| November | 1.37 | 1.82 |
| December | 2.87 | 3.86 |
| | 20.58 | 27.07 |

These two stations are only a few miles apart. *H.*

*Avenues at Kensington Gore.*—I think Mr. Brown refers to the Norway Maple, not to the common Sycamore, as desirable for avenues. He is right in his observations as to the beauty of colouring of this tree, but the general form of the tree is rarely good. In combining beauty of outline with beauty of foliage, perhaps no hardy deciduous tree comes up to the Oriental Plane. I think in your list of desirable trees you did not notice the Abele, which I think thrives well in London, and is sometimes very handsome. I have a word to say on your remarks about the merits of different kinds of Roses, in which I entirely concur. Why should not the Horticultural Society form a committee to investigate the hardiness and other merits of Roses? They could do it very well if they would do so. *C. W. Strickland, Hildenley.*

*The Cottager's and Asparagus Kales.*—I am a great lover of such tender and delicate flavoured members of the Cabbage tribe as young Cabbages in May and Cauliflowers in the summer, but for most of the tribe of "greens," such as Savoys, Kale, and Brussels Sprouts, even when cooked with the greatest nicety as to colour and tenderness, I have no great liking—rather the contrary. Even White Broccoli are, to my taste, strong, for they have a slight Cabbagy smell and taste, the former perhaps the most disagreeable of all smells. Premising this, I hailed the advent of the Cottager's Kale, which was so highly lauded, and procured some seed from Mr. Turner. My plants are now 3 feet high, and most of them full of sprouts at their sides. There are however many among them untrue, and varying from pink to purple in colour. I do not blame the seedsman for this; it is merely unfortunate for him that the seed was grown by some one who did not look sharply enough into his neighbours' gardens, and so the bees, with their usual industry, hybridised his Kale, and made the seed produce some very uninteresting varieties. The true kind, as it appears to me, has rather light green curled leaves (as if it were a hybrid of the Brussels Sprouts) and numerous open sprouts up its stem. No vegetable of the kind can be more sweet, tender, and excellent, without the least Cabbagy flavour. I shall most certainly never grow another plant of the Brussels Sprouts, which although such pretty little green knobs when brought on to the table, either *au naturel*, or with savoury sauce in the continental way, are always strong when cut open. There is another Kale which I do not think is new, but it is not in the seedsmen's lists—the Asparagus Kale. I received some seeds of this from a great garden lover in South Wales. The plants are like Swedish Turnips without the bulb, growing close to the ground without any stem, leaves are of a light glaucous green, and its leaf stalk whitish green. It throws up its sprouts in March when they are about 6 inches long they should be cut tied in bunches like Asparagus, and cooked. When say that, if possible, they are more tender and sweet than even the Cottager's Kale, I have said enough. They are, indeed, almost as good as Asparagus, and vastly superior to Seakale, however well blanched. *Brassica*

*Exotic Ferns hardy in the South of England.*—The *Gardeners' Chronicle* asks or suggests southern Ferns might do in Cornwall and Devon. I have the beautiful Cyathea dealbata out some years, but does not grow up. A very handsome one to plant the foot of an old wall or a mossy tree, up which time, it will climb, is Phymatodes Billardieri. Allantodias succeed well here, Lomaria alpina, particularly Cyrtomium falcatum, Lomaria chilensis Pteris cretica finer than ever in a greenhouse, Polystichum falcinellum. Asplenium lucidum lived out some years here, and Woodwardia radicans and Adiantum Cunninghami or Cummingi—I know which. Some of the so-called hardy North American are harder to preserve than any of them. *I., Abbotsbury, Dorset.*

*Trees for London Avenues.*—I read an article on alleys of trees for towns; there must be some overlooked Ulmus sinensis I never saw but as a small evergreen weeping tree, not fit for a street, and tender at first. Acer platanoides must be meant—not pseudo-platanus the former is the more ornamental. Evergreens would become too dirty; clean leaves are as requisite as clean linen in London. Turkey Oaks I should say were the best of all—quick growers, straight, stately trees, and all Oaks singular in growing one like another, almost to a pattern. *I.* [Undoubtedly the statement respecting Ulmus sinensis was a mistake, as we hinted. The leaves sent us were not recognisable, having been smashed in the Post Office. They probably belong to Ulmus glabra.]

*Death's Head Moth.*—I received a letter the other day from a most intelligent natural historian and reliable correspondent, a passage in which exhibits the tenacity of life in these creatures in such a manner that I thought it might interest your readers. "Had you an unusual supply of Death's Head caterpillars and moths this autumn? Both have been unusually numerous here, although I could only find three or four perfect moths. One I found among some growing Potatoes on our premises, and proceeded to kill and set it up. I first chloroformed it, then punctured its chest with a small tube containing prussic acid, and cut open and emptied its abdomen, dressed the inside of the skin with creosote and spirits of wine and stuffed it with cotton wool. I then displayed it on a board with the wings open and fastened by pins, and concluded all would be right; but on going to the creature next morning I found it had upset all the pins (except the one in the thorax), had got its wings closed and when I touched it it emitted the grating shriek peculiar to the insect. I of course immediately set to work and killed it again, by blowing the prussic acid out of the tube into the chest or thorax. I obtained about 30 chrysalids from men 'Tater-lifting,' but only one became a perfect insect; about six others hatched in an imperfect state, their wings being undeveloped (some of them not more than a quarter of an inch long), the other chrysalids died in the earth." *W. Marshall, Ely.*

*Cox's Orange Pippin Apple.*—In my capacity as judge at the exhibition of fruit in Willis's Rooms in 1857, I ate of this Apple and placed it in my estimation as one of the most delicious I had ever tasted. It was again exhibited at St. James's Hall last November and I took an opportunity of eating a portion of a fine specimen, feeling a wish to know if it sustained its reputation. I found it most decidedly inferior to the specimens I had tasted in 1857, being simply a good Apple, sweet but not very juicy, and with scarcely any aroma. Bearing this in mind I to-day visited my fruit cellar to have a "bout" at Apple tasting. My first essay was with a medium-sized fruit of Cox's Orange Pippin; it was yellow and beautifully streaked with red. To my great delight I found it most delicious; flesh sugary and tender, yet crisp, with a fine aroma, and so full of juice that it seemingly gushed out and filled the mouth when only slightly crushed with the teeth. In this respect it differs from most of our good dessert Apples at this season, for they nearly all require grinding down with the teeth before their juice and flavour are brought out. My fruit were grown on dwarf trees growing in a heavy dark coloured soil, with strong calcareous clay underneath. *Thos. Rivers, Jan* 10.——As one of the judges of Apples at the late show will you allow me to express my admiration of Cox's Orange Pippin both as to appearance and quality. Ribston Pippins were not fairly represented there; there were no really fine specimens shown. *C. W. Strickland, Hildenley.*

*Rose Seed.*—Last March I received from a nurseryman a packet of H. P. Rose seed, which was then sown in a seed-pan and placed first in a moderate hot-bed along with my Balsams, &c., and afterwards in a greenhouse; but up to this period not a single plant has made its appearance. Upon my representing the circumstance to the party who supplied the seed I was informed that "it took two years to vegetate." Is this really the case? It appears to me strange that it should be so, because in September, 1856, I sowed some seed of a double summer Rose, saved by myself the preceding

year, the whole of which came up in about five weeks afterwards, and the plants blossomed splendidly last summer, 21 months after the seed was sown. While on the subject of Roses, may I ask how it was that at the great Rose Show, held in St. James's Hall last autumn, there did not appear, so far as I could discover, a single bloom of H. P. "Bacchus?" In 1857 I obtained two small plants of this variety for 10*s.* 6*d.* each. One of them was planted in a cold frame, where it remained throughout the winter, and the other in the open ground. From the beginning of June until the end of August last the former produced a succession of magnificent blooms, quite as double and superior in size and colour (the latter being more persistent) to its parent "Géant des Batailles," while the other in comparison appeared very insignificant. I am therefore led to believe that this Rose must be of a rather delicate habit; it however puzzles me to know why it was not present at the "Court of Roses" in question. Perhaps Mr. Paul or some other of your correspondents may be able to throw some light on the matter, for the variety is certainly well worth cultivating, although expunged from sundry Rose catalogues for 1859 now before me. *A Subscriber, South Wales.* [Rose seed is very capricious. If you sow a bushel you will find part come up the first year and part the second.]

*Autumn and Spring-struck Scarlet Geraniums.*—If well managed good plants of scarlet Geraniums may be obtained by propagating them in March, but if cuttings struck in September or October are equally well managed they will be by far the best at planting-out time; if however the spring-struck cuttings are grown well and a thumb pot only is devoted to the autumn-struck ones until turning-out time, say the middle of May, then the spring stock will have the advantage, for if the latter are turned out of 4-inch pots it is evident that the roots of these are in a much better condition to take hold of the new soil than those that have been cramped in thumb pots during a period of six or seven months. Under these circumstances, after the spring-struck stock is turned out, they start into growth sooner and grow more vigorously than the autumn stock; but we must bear in mind that if the latter be well treated they will be in beauty a month earlier than spring-struck cuttings. It is also much more convenient to have autumn stock in the busy months of March and April, when every inch of room is a consideration. We may shift it about the latter end of February or in March from small pots into larger ones, and then set it anywhere out of the reach of frost. Or if pots are scarce, about the latter end of March beds may be prepared in sheltered situations and the plants turned out, protecting them in severe weather with mats or any other material that will answer the purpose, and thus we get pots and room for other fast growing bedding plants which cannot be obtained satisfactorily with spring stock, as the roots would not be sufficiently matted to hold together a ball of earth when lifted for planting in the flower garden. *A Propagator of Autumn and Spring Bedding Geraniums.*

*Rendering barren Fruit Trees fertile.*—It fell to my lot some 10 years ago to take charge of some barren old Pear trees with long spurs full of cankers. Although I took a different course from the one you have lately been advocating to render them fertile, I have the satisfaction of observing that all the old stocks are well filled with bearing wood. The horizontal branches were all cut off and a graft or two put on the stumps or short arms, except in some places where buds were inserted and allowed to replace the branch; those put on in the shape of buds make less wood than the others, but are very productive. The trees first grafted have nearly covered the walls; they bore fruit freely on the second year's growth, and the year after the produce became greater. I allude to this to show that it would have been a mistake where there is a great consumption of winter fruit to have torn up the old trees and planted young ones. In the latter case I should have had to wait long and patiently for the first fruit bud (unless root-pruning had been resorted to), while now I have plenty of growth and abundance of fruit. I think grafted trees will continue longer in bearing than if buds had been inserted in branches. I may mention another fact not a little interesting. Last spring a Barbarossa Vine produced bunches somewhat irregularly, leaving a longer space without fruit than I liked to see. I took a shoot from its neighbour, a Hamburgh, with a bunch just coming into flower, inarched it, and put a small bottle of water to the end of it. This was done merely as an experiment, but to my astonishment every flower became a berry. The bunch progressed and was to every one here a curiosity; it coloured well and became a compact little bunch in September. *Thorp Perrow.*

*Pomeloes or Forbidden Fruit.*—I would feel obliged by your giving me the botanical name of the fruit sold in Covent Garden market under the name of Pomeloes, or Forbidden Fruit, and if they are really the fruit so called. *Ignoramus, Exeter.* [The fruit to which our correspondent alludes we believe to be a variety of Citrus decumana, the Shaddock of English gardens, and the Pompelmouse of the French. As to what is *really* the Forbidden Fruit, we confess we are not sufficiently acquainted with such subjects of antiquity to give a decided opinion. We may, however, observe that Dr. Sickler, an authority on this class of productions, considers the fruit in question to be a variety of Citrus medica, or Citron; while MM. Risso and Poiteau, in their beautiful work entitled "Histoire Naturelle des Oranges," regard the Forbidden Fruit as being a small variety of Shaddock. We are unable to say which conjecture is right, there being as much uncertainty about it as there is about the "Golden Apples" of the garden of the Hesperides which Juno gave to Jupiter on the day of their nuptials. *B.*]

*Fungi attacking Silkworms.*—In 1856 I purchased a few dozens of silkworms in Covent Garden market of various sizes, and carried them to Catteris Romford, where I had two very large fruitful Black Mulberry trees. The larger worms soon became sick, and died one after the other, and instead of being solid their bodies were chiefly a mass of fluid. The situation being very favourable for the growth of moulds, ripe Mulberries in still weather even being attacked before they fell off the tree, and knowing that the atmosphere of an attic was not so likely to suit Fungi, I removed the remainder to the top of the house, a fourth story, and when that was done the progress of the disease was retarded. All however died 10 days after I had purchased the worms. I went to the party from whom I had them, and in answer to very inquisitive inquiries, I learnt and saw that those from amongst which mine had been taken were quite healthy and well. I would have repeated the experiment had I not had to leave the south, as I was desirous of avoiding the cause of illness, which was occasioned by having kept the worms in a paper bag for about 3½ hours, and then having given them fresh leaves, of which they ate rather voraciously, while they would have been accustomed to rather dry leaves in Covent Garden. *W. Wooler.*

*Choice of trees for planting in a very gravelly situation.*—Would some of your readers skilled in arboriculture say whether any, and if so, which of the trees recently recommended to be planted in the new roads at Kensington Gore would thrive in St. Giles' Oxford, where the soil is for many feet deep a thoroughly drained gravel, with only a very thin face of mould? The authorities of St. John's College are desirous of having the best advice previous to planting, and that is to be obtained in the pages of the *Gardeners' Chronicle.* *J. O. W.*

## Notices of Books.

*Horticultural Society of London. Reports of the Fruit Committee. Report on the Great Fruit Show held in St. James's Hall, Piccadilly,* 8vo. Sent gratis to all Fellows of the Society, upon application.

In these pages we have in the first place an official account of what the Committee found most noteworthy in fruits and esculents exhibited in Regent Street during the last autumn. The information thus collected proves a good beginning of what we trust may in time become a very important department of the Horticultural Society. Among other matters of interest we find the following note upon the Chinese Yam.

"*Vegetables.*—Messrs. Ivery and Son, Dorking, exhibited nine roots of Dioscorea Batatas, accompanied by the following letter from Mr. James Ivery, F.H.S.:—'I have sent nine roots of Dioscorea Batatas, thinking they may be interesting to the meeting. The three largest roots were obtained from whole roots planted the first week in April, and then weighed about 1 lb. each. The other six roots were obtained from cut sets planted at the same time, and side by side. The ground was trenched to the depth of 3 feet, and had a good coat of hot-bed manure; they were planted 1 foot apart in the row, and 2½ feet between the rows (there being only two rows). When they began to grow, I had them sticked with Pea-sticks, but for these the plants soon got too strong, and I then had placed between the two rows some Fir-poles, to which the plants soon clung, as the points of the shoots twist round the pole, in the same manner as those of the Hop. The foliage of the plant is very ornamental; and the bloom, though small, is very fragrant.' The roots were very fine; the largest weighed 4 lbs., and when taken up 4 lbs. 6 oz. The above mode of cultivation may therefore be recommended. It is reasonable to suppose, that, as the plant is adapted for twining, its foliage will be in a more natural position, and better exposed to light, when elevated, then if left to trail on the damp soil; and will consequently better elaborate sap for the production of roots of larger size, and superior quality."

The report of the GREAT FRUIT SHOW in St. James's Hall in last November is a masterly description of the crowd of articles there produced. The author is Mr. Hogg, assisted by Mr. Moore and Mr. Thompson. "Such," says the reporter, "was the quantity of fruit exhibited on this occasion, that it was found impossible to examine the whole of it minutely. Notwithstanding that the reporters applied themselves most assiduously to the work for two whole days, no time was left to enter upon the examination of the characters and relative merits of the Apples, and consequently they were obliged to be passed over. The reporters regret that the responses made to the schedules issued by the Committee were so few. The object of these schedules was to ascertain particulars respecting the climate, soil, and subsoil of the locality where the respective fruits were grown, and the circumstances under which they were produced. Such of these schedules as were returned filled up have been incorporated in the Report; and, where such is the case, it will at once be seen how desirable it would have been if similar information could have been given in every instance." Let us hope that this gentle hint will not have been thrown away on our gardening friends. We extract two or three notes, which will be welcome to some of our readers.

"*Pine Apples.*—The seedling from Mr. Oates, gardener to the Right Hon. Lord Leigh, Stoneleigh Abbey, Kenilworth, was, however, submitted to the judgment of a committee, the report of which is as follows;—'The fruit weighs 3¼ lbs.; is of a conical shape and pale orange colour. The pips are rather large, flat, and depressed in the centre, and the scales cover one-third of their surface; the intermediate space between the pips forms spiral ridges round the fruit. The flesh is yellowish, solid, and tender, very juicy and free from fibre, brisk, sweet, and well flavoured. A better late Pine than the Queen.'

"*Muscat Grapes.*—The three bunches exhibited by Mr. Drewett were objects of universal admiration, and were excellent examples of first-rate culture. They were large, handsome, and well set; the berries also were large, of a fine amber colour, and almost as uniform in size as if they had all been cast in the same mould. Their flavour was rich, and the Muscat aroma was delicate and subdued. [See our own report p. 846 of last year.] Those of Mr. Crawshay were longer and very much narrower in the bunches, less shouldered, and not nearly so highly coloured. Their flavour was more piquant, and with a more powerful aroma, but not so delicate and sugary in flavour as the former."

*Apples.*—The first prize having been won by Mr. Newton, gardener to G. J. Graham, Esq., of Enfield Chase, whose fruit has, for two successive seasons, possessed extraordinary beauty, we have the following useful account of the circumstances under which it was produced. "In Mr. Newton's schedule it was stated that the locality is in North Middlesex, sheltered from the north by Lime trees, from the east by Scotch Firs, from the south by shrubberies, and from the west by buildings. The soil is turfy loam 1 foot deep; subsoil yellow clay, with veins of gravel. The surface slopes to the south 1 foot in 50. The fruit was all grown on standard trees, which are of middle age, healthy and vigorous, and grafted on Crab stocks. The orchard is laid down with Grass, and was manured with 16 cart-loads of manure to the acre in 1856, and in 1857 it was drained with pipes 4 feet deep. The cross branches are pruned out every two years."

*Phycologia Australica, or a History of Australian Seaweeds.* By W. H. Harvey, M. D. Vol. I. 8vo. tab. pict. 60. 1858.

The plan of this admirable work is precisely that of the Phycologia Britannica, which has done so much not merely to advance the knowledge of seaweeds, but to recommend a delightful pursuit to many of our countrymen, who have found in it a relief from care and anxiety, and a pleasing employment of many an hour which would otherwise have proved dull and objectless. It may seem at first sight a hopeless task to bring out a work like the present, which from its very nature can only have a limited circulation. There is, however, a growing taste amongst our brethren in the southern hemisphere for accurate illustrations of the beautiful objects of natural history with which they are so richly and even redundantly surrounded. Much has been done to foster and excite such a taste by the splendid works on New Zealand, Tasmania, and other southern isles, which have been published by Dr. Hooker under the auspices of the Government; and while the colonial authorities have not been backward in promoting a spirit of research, the demands of the colonists themselves are pressing enough to give a certain degree of encouragement to works which can at the best merely be expected to pay their way, without any prospect of emolument. It is hoped, however, in the present instance that in addition to the wants of the especial student of this attractive branch of botany, there will be considerable aid from those persons who are already in possession of the History of British Seaweeds. An acquaintance with the Algæ of their own coasts will, it is thought, excite their curiosity respecting those of another hemisphere, and, as the work is published on the same liberal terms as that with which they are so well acquainted, there is no doubt that many a copy will be taken by persons who are not professed Algologists, but who love to know a little of Nature in her more elegant forms. It is a work which can never be taken up without pleasure, and we sincerely hope that it will not prove a loss to the excellent author.

We must now say a few words of the work itself and of the circumstances which gave rise to it. At the solicitations of many scientific men, Dr. Harvey undertook in 1853 an expedition to the southern hemisphere in search of Algæ. He had already fully investigated those of the Cape, and it was matter of interest to himself and others to be able to institute a strict comparison between them and the Algæ of more southern regions. He was assisted in the object by the University and Royal Society of Dublin, and a very numerous body of Algologists engaged to take specimens towards the payment of the heavy expenses inseparable from such a voyage.

Dr. Harvey was not however left entirely to his own resources on his arrival at the scene of his labours, for he received effectual and sometimes unexpected aid from several residents who were interested in the subject, and indeed in some cases their assistance was so valuable that he candidly confesses that he could not have arrived at a satisfactory completion of his object without it. The result of the expedition was a collection consisting of upwards of 20,000 specimens, comprising 600 species of Algæ. It is not intended indeed

in the present work to [illegible] than 300 plates. Every genus however will be illustrated, and such a selection of species will be made as may give a correct general view of the riches of the marine flora of Australia.

As regards the execution of the work it may be confidently stated that the plates are upon the whole superior to those of the British Seaweeds; indeed we cannot point out one which is a decided failure, and wherever it has been possible copious details are given of structure and fructification. Dr. Harvey is not disposed to multiply genera needlessly; but where there is decided difference of structure and fruit he very wisely adopts or himself proposes a distinct genus. He treads in fact in the steps of J. Agardh and Montagne, without giving way to the vagaries of Kutzing. The genera are necessarily founded on characters which are not to be ascertained without the help of the microscope, but the student will soon find that the habit alone will seldom lead him astray, and that differences of habit are for the most part accompanied by differences of structure. The characters of Cryptogamic plants must necessarily be more or less recondite; but those who would lay this as a charge against their study, should remember that in Phænogams the best characters are oftener those which are the least obvious.

In conclusion, we would express a hope that the work will be in the hands of botanists generally, and that it will not be confined to those who have been purchasers of the sets of Algæ which it illustrates.

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TRADE LISTS RECEIVED.—*Messrs. Kennedy & Co.'s* (Dumfries) *Catalogue of Selected Vegetable and Flower Seeds.* This is one of the most convenient lists we have seen. The *selection* (let us rejoice in hearing no more of *collections*) is good, and especially adapted to Scotland; there are nice figures of various tools and implements used by gardeners, and in addition there is a skeleton list for orders, which saves purchasers all trouble except that of inserting the quantities they desire to have.

## Miscellaneous.

*Society of Arts.*—The sum of 100*l.* has been placed at the disposal of the Council of the Society of Arts by Sir Walter C. Trevelyan, as a prize to be awarded for the best essay on the applications of the marine algæ and their products as food or medicine for man and domestic animals, or for dyeing and other manufacturing purposes. Competitors must give the results of their original investigations on seaweeds, and they must prepare a series of specimens illustrative of the best modes of collecting, preserving, and preparing the several species. Mere compilations will not be admitted to competition. The essays, with accompanying specimens, must be sent to the Society of Arts by the 31st of December, 1860. Each essay must be marked "Essay on Marine Algæ," and must have a motto or distinctive mark attached, which mark must also be written on a sealed letter, containing the name and address of the author. The letters containing the names and addresses of the authors will remain with the Society of Arts, and none will be opened except that bearing the motto or mark attached to the essay to which the adjudicators award the prize.

*Rat Tales.*—Quite lately, in Paris, a specimen was given of the force in which rats can muster, where they have gained only a provisional footing. The historical Halles, or markets, having been re-built and re-arranged on a more commodious plan, the 26th of October last was fixed for the moving of the dealers in flour-stuffs, green vegetables, poultry, and Potatoes, from the ground they have occupied near the church of Saint Eustache to their new stalls and shops in the Halles Centrales. After the departure of the human tenants of the old provisional market, the workmen proceeded to pull down the sheds. Beneath these sheds a colony of rats had fixed their domicile for some time past. A regiment of boys, armed with sticks and backed by all the dogs of the quarter, mustered in a pack, awaiting the unearthing of the game from their cover. A crowd of spectators made the lofty buildings around re-echo with their shouts and their bursts of laughter. Several rats, alarmed at the disturbance and the barking of the dogs, climbed up the persons of the lookers-on, to find a refuge on their shoulders or on their heads. One girl, feeling a rat taking a walk round her neck, was so overcome with terror that she fainted. One thousand is the estimated number of rats who fell victims to this inhospitable reception; but it may be presumed that those who saved their bacon were in considerable majority. This is nothing to what occurs at Monte Video (unless it is greatly changed from what it was), where the only drawback upon the delightful way in which an evening may be spent, is the necessity of returning home through long narrow streets so infested with voracious rats as sometimes to make the way perilous. There are no sanitary regulations in the town, except those provided by the showers of rain, which at intervals carry off the heaps of filth from long-established resting-places. Around huge mountains of carrion, vegetables, and stale fruit, here accumulated, rats muster in legions. If you attempt to pass near these formidable banditti, or to interrupt their orgies, they will gnash their teeth at you fiercely, like so many wolves. So far are they from running off in affright to their burrows that they will turn round, set up an ominous cry, and will then make a rush at your legs in a way to make your hair stand on end. Between them and the venturesome stranger many a hazardous affray occurs, and though sometimes he may fight his way home victoriously by the aid of a stout stick, on other occasions he will be forced to fly down some narrow cross lane, leaving the rats undisputed masters of the field. * * * It is something to have made best French kid gloves out of the skins of Parisian rats, and best French beaver hats from their fur. A man of genius—a Swede, with an unpronounceable name—has done more. Lamenting probably the dearth of dramatic talent, he conceived the idea of raising rats to the dignity of tragic and comic stars. His training succeeded admirably. Hamlet, followed by a comic farce, acted by rats in a portable theatre, which the manager could carry on his shoulders from place, obtained a colossal success in Sweden and Germany. *Dickens's Household Words.*

## Calendar of Operations.

(*For the ensuing Week.*)

PLANT DEPARTMENT.

CONSERVATORY, &C.—When it is found necessary to water the beds of this house choose a fine morning for the operation, and give enough to well moisten the soil, using lukewarm water for the purpose, and be careful to guard against damp for a few days afterwards by giving air, or when this cannot be done use sufficient fire heat to secure a gentle circulation of the atmosphere. Go carefully over the plants every morning, and remove any decaying leaves or flowers as soon as they are perceptible, for no amount of floral display will render a house agreeable unless accompanied by cleanliness and neatness. And as soon as the beauty of any of the pot specimens is over remove them to suitable quarters elsewhere, and supply their places with others in full flower. Do not excite stove plants at present; wait for longer days and more light.

FORCING DEPARTMENT.

PINERY.—There is often considerable difficulty experienced in getting the requisite number of plants to show fruit at this season, and where this is the case every advantage should be taken of mild weather to maintain a brisk temperature, which may be kept at from 70° to 75° by night, and 80° to 85° by day. The difficulty of getting plants to show fruit is generally the result of their growth not having been properly matured in time to allow the plants a period of comparative rest before subjecting them to forcing with the view of getting them to show fruit, and where any difficulty of this kind is experienced timely attention should be given to the preparation of the plants for another season, which is the only means of having them at command. All that can be done this season, however, with backward plants will be to take advantage of bright days to maintain a brisk temperature, letting it rise to 80° or 85° with sunshine, and 70° to 75° should be secured at night. Maintain a moist growing atmosphere, but do not syringe plants overhead that are showing fruit. Also see that the roots are in a properly moist state, using tepid water where any is wanted. VINERY.—In houses being started use means to get the buds to break regularly, and where necessary bend the Vines, raising the backward buds to the highest point; maintain a moist atmosphere, and sprinkle the Vines morning and afternoon. When the buds begin to break the night temperature may be increased a few degrees, but it should not exceed 55° until they are all fairly started, and 65° by day should not be exceeded except with sunshine and air. Rub off all superfluous buds, taking care to leave the strongest ones, but in cases where there is any fear about the show of fruit, it will be advisable to leave all promising buds until the bunches can be perceived. It is only in cases, however, where the Vines are in a bad state that there need be any fear about destroying all superfluous buds as soon as this can be done. Admit air on every mild day, using a sufficient amount of fire-heat to maintain the proper temperature. Look well to the border, and see that it is protected from wet or sudden changes of weather; and where fermenting materials are used turn them as often as necessary, adding a small quantity of fresh leaves and dung, in order to maintain a steady heat.

FLOWER GARDEN AND SHRUBBERIES.

With the exception of pruning, or thinning and wheeling when the weather is frosty, little can be done in these departments at present. Any of the shrubbery borders which may require a dressing of fresh soil or manure should however be attended to whenever the weather is favourable for such work. Any alterations that may be in hand involving the removal of a considerable bulk of soil, cutting walks, or anything which can be judiciously done now, should be pushed forward expeditiously, in order to have the hands at liberty for the ordinary routine of spring work, which will be soon demanding attention. When out-door operations cannot be profitably proceeded with, see to getting an ample stock of stakes made and painted, also pegs, labels, brooms, &c., and put them aside ready for use when wanted. The preparation of these things is sometimes omitted until they are wanted for use, and then it is generally difficult to spare time for such tedious work; therefore see that there is a sufficient stock of all such things in readiness before the busy season arrives.

HARDY FRUIT AND KITCHEN GARDEN.

The pruning of orchard trees is a matter which is too frequently neglected, and the result is that the heads of the trees get so crowded with wood as to render a crop of fruit, except upon the extremities of the outer branches, not to be expected, and the thicket of worse than useless spray which the trees have to support is injurious to the size and quality of the fruit, and also to the general health of the tree. Where this state of things has been allowed to prevail, advantage should be taken of the first opportunity to give the trees a careful pruning, thinning out the inner branches severely. In the case of large branches being cut the surface of the wound should be neatly trimmed with a sharp tool and covered with a coat of paint to prevent the wet soaking into and rotting the wood. See to the protection of Lettuces, Cauliflowers, &c., under glass, by guarding them from frost; but take every opportunity of exposing such things to light and air. Introduce roots of Asparagus, Seakale, and Rhubarb into heat at regular intervals, so as to make sure of a constant supply. Rhubarb and Seakale do well on a shelf or the floor of a Mushroom house, where they are probably less troublesome than elsewhere.

STATE OF THE WEATHER AT CHISWICK, NEAR LONDON

For the Week ending Jan. 13, 1859, as observed at the Horticultural Gardens

| Jan. | Moon's Age. | Barometer. Max. | Barometer. Min. | Temperature of the Air. Max. | Temperature of the Air. Min. | Temperature of the Air. Mean | Temperature of the Earth 1 foot deep | Temperature of the Earth 2 feet deep | Wind |
|---|---|---|---|---|---|---|---|---|---|
| Friday 7 | 3 | 30.464 | 30.402 | 37 | 27 | 32.0 | 43 | 43 | S |
| Satur 8 | 4 | 30.603 | 30.580 | 38 | 23 | 30.5 | 42 | 43 | S W |
| Sunday 9 | 5 | 30.702 | 30.651 | 36 | 24 | 30.0 | 42 | 42 | W |
| Mon 10 | 6 | 30.695 | 30.567 | 45 | 30 | 37.5 | 42 | 42 | S W |
| Tues 11 | 7 | 30.484 | 30.422 | 47 | 42 | 44.5 | 40 | 40½ | W |
| Wed. 12 | . | 30.426 | 30.366 | 48 | 31 | 39.5 | 43 | 42 | W |
| Thurs 13 | 9 | 30.443 | 30.414 | 42 | 32 | 37.0 | 43½ | 43 | W |
| Average | | 30.545 | 30.486 | 41.8 | 29.8 | 35.8 | 42.2 | | |

Jan. 7—Clear throughout; slight frost at night.
— 8—Cloudy; slight shower of small granular snow; fine; overcast.
— 9—Frosty; foggy; fine; clear and frosty.
— 10—Fine; uniformly overcast; fine.
— 11—Fine throughout.
— 12—Fine; clear at night.
— 13—Fine; cloudy; fine at night.
Mean temperature of the week, ½ deg. below the average.

RECORD OF THE WEATHER AT CHISWICK,

During the last 33 years, for the ensuing Week, ending Jan. 22, inclusive

| Jan. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Wind N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday 16 | 41.9 | 31.4 | 36.7 | 19 | 0.34 in. | 1 | 7 | 5 | 1 | 5 | 7 | 4 | 3 |
| Mon. 17 | 42.5 | 31.0 | 36.7 | 11 | 0.48 | 3 | 6 | 2 | 3 | 3 | 6 | 4 | 2 |
| Tues. 18 | 42.6 | 31.3 | 36.9 | 13 | 0.55 | 3 | 6 | 2 | 3 | 2 | 8 | 4 | 1 |
| Wed. 19 | 42.8 | 30.5 | 36.7 | 13 | 0.88 | 4 | 2 | 4 | 2 | 5 | 6 | 4 | 2 |
| Thurs. 20 | 42.1 | 30.7 | 36.4 | 13 | 0.65 | 4 | 7 | 4 | 1 | 6 | 7 | 2 | 1 |
| Friday 21 | 43.3 | 32.2 | 37.8 | 14 | 0.48 | 1 | 5 | 4 | 1 | 7 | 6 | 3 | 2 |
| Satur 22 | 43.4 | 32.9 | 38.1 | 13 | 0.57 | 3 | 5 | 1 | 5 | 3 | 9 | 3 | 2 |

The highest temperature during the above period occurred on the 18th, 1828—therm. 60 deg.; and the lowest on the 19th, 1838—therm. 4 deg. below zero.

## Notices to Correspondents.

APPLES: *J Roper.* Is it not possible for an Apple pip to vegetate in the bark of the Apple tree—become parasitical—and afterwards to adhere or become grafted into it?

ASPARAGUS: *R Landon.* Sow the seed in rows some time in March or the beginning of April. The rows may be about 15 inches apart, according to the richness of the soil—the richest may be closest. A pound of seed is enough for about 60 yards.

BOILERS: *T D.* You may effectually prevent incrustation inside of boilers by never using any other than rain water. As to removing it we doubt whether it can be done effectually except by knocking it off. It has however been said that it may be dissolved and rendered harmless by putting sal-ammoniac into the water—say 10 lbs. weight to 100 gallons—but if you try the experiment you must dissolve the sal-ammoniac before putting it into the supply cistern. It would not do to put it in in lumps.

BOOKS: *Viridis.* There is no book which fulfils all your conditions. Loudon's two Encyclopædias of Gardening and Plants will give you as much information as is attainable in a moderate space. They are remarkable volumes, and should be in all garden libraries.

INSECTS: *C M.* Without seeing specimens it is difficult to say what may have been the cause of the injury to the Pears you mention. We suppose it, however, to have been one of the caterpillars of the Codling Moth (Tortrix Pomonana) or those of an allied species, which were the delinquents.

NAMES OF FRUITS: May we beg our correspondents to send their specimens, *carriage paid*, to our Office, No. 5, Upper Wellington Street, Covent Garden, London: AND NOT TO ANY OTHER PLACE WHATEVER.—*E B.* 1, Golden Russet; 2, Golden Nonpareil; 3, Court pendu Plat; 5, Royal Russet; 7, Court Golden Pippin; 11, Boston Russet; 12, Early Nonpareil; 13, Beauty of Kent; 15, resembles Golden Noble; 17, Belona Pearmain; 19, Christie's Pippin. 1, Beurré Diel; 2, Beurré Rance; 2, Uvedale's St. Germain; 4, Crassane; Spanish Bon Chrétien; 7, Passe Colmar; 12, Franc d'Hiver; 13, Verulam; 14, Bezi Voet.—*Annon* 1, Bon Beurré; 2, perhaps Louise Bonne; 3, Brown Beurré; Swan's Egg; 6, Blenheim Pippin (?); 7, Hollandbury; Red Streak; 10, Dumelow's Seedling; 12, Dutch Mignonne.—*Robinson & Son.* M 1, not the Catillac, it is Uvedale's St. Germain; M 2, Black Worcester; H 1, Bon Beurré; H 2, Glou Morceau; H 3, Winter Nelis; H 1, Apple, Golden Noble; H 2, Cluster Golden Pippin.—*A Constant Reader.* 1, Hollandbury; 2, Dutch Mignonne; Cockle Pippin; 5, Golden Pippin; 7, Early Nonpareil; White Russet. 1, Passe Colmar; 4, Hacon's Incomparable; 5, Uvedale's St. Germain; 6, Knight's Monarch; 7, Catillac; 8, Beurré Diel.—*W J B.* 1, Beauty of Kent; 2, does not appears to be Mère de Ménage; 3, Court pendu Plat; Blenheim Pippin; 5, Bedfordshire Foundling. 1, Knight's Monarch; 2, Beurré Diel; 3, Bequêne Musqué; 4, Passe d'Austrassie.‖

NAMES OF PLANTS.—We have been so often obliged to reluctantly decline naming heaps of dried or other plants, that we venture to request our correspondents to recollect that we never have or could have undertaken an unlimited duty of this kind. Young gardeners, to whom these remarks more especially apply, should bear in mind that, before applying to us for assistance, they should exhaust their other means of gaining information. We cannot save them the trouble of examining and thinking for themselves; nor would it be desirable if we could. All we can do is to *help* them—and that most willingly. It is now requested that, in future, not more than four plants may be sent us at one time.—*Cork.* Your specimens are broken to pieces, and most have lost their labels. We name our usual number, viz., four. No. 6 is Cuscuta Epithymum; 2, Fumaria officinalis; in the other fragments are Mentha rotundifolia and Mentha arvensis.

PEACH WOOD: *A Constant Reader.* We suspect your plant is in for a fit of mildew. All you can do now is to cut away as much of the diseased wood as you can spare; and when the mildew appears to dose it with flowers of sulphur.

WARDIAN CASES: *Flora D.* Mr. Ward published his own mode of managing these contrivances. You can obtain his little volume through your bookseller.

ARTIFICIAL MANURES, &c.—Manufacturers and others engaged in making ARTIFICIAL MANURES may obtain every necessary instruction for their economical and efficient preparation, by applying to J. C. NESBIT, F.G.S., &c., Principal of the Agricultural and Chemical College, Kennington, London. Analyses of Soils, Guanos, Superphosphates of Lime, Coprolites, &c., and Assays of Gold, Silver, and other Minerals are executed with accuracy and despatch. Gentlemen desirous of receiving instruction in Chemical Analyses and Assaying, will find ample facility and accommodation at the College.

LONDON MANURE COMPANY, removed to 116, Fenchurch Street, E. C. (Established 1840), have the following MANURES ready for delivery:—

CORN MANURE for SPRINGTOP DRESSING
URATE
SUPERPHOSPHATE OF LIME
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} all of guaranteed quality.

In consequence of the reduction in the price of raw material the London Manure Co. are enabled to lower the price of their Superphosphate of Lime, and to materially improve the Corn Manure and Urate.

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POTTER'S CELEBRATED GUANO.—Established 16 years, during which period it has been used on every variety of crop and soil with great success. See Mr. POTTER'S numerous testimonials. Price 7*l.* 10*s.* per ton. Also POTTER'S SUPERPHOSPHATE OF LIME, 6*l.* 10*s.* per ton.—28, Clapham Road Place, S.

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ESTABLISHED 1812.

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POTATO, GRASS, BARLEY, CLOVER, AND WHEAT MANURES; also BONE DUST, PERUVIAN GUANO, and SUPERPHOSPHATE of LIME, warranted of the best quality.

Apply to H. & T. PROCTOR, West of England Depôt for Artificial Manures, Cathay, Bristol; or PROCTOR & RYLAND, Birmingham, and Saltney, near Chester.

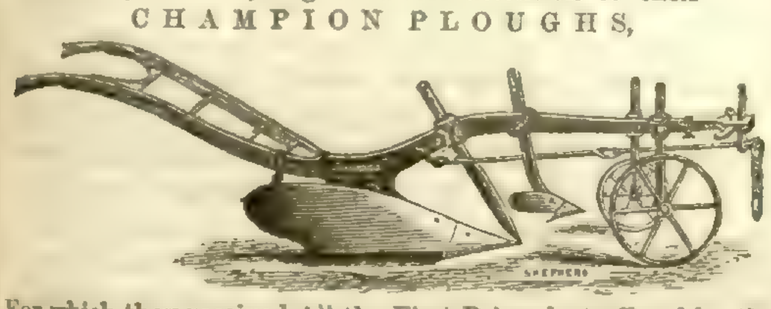
AGENCY FOR A VALUABLE MANURE.—Wanted, respectable Agents for a Manure which commands a ready sale, as its goodness is certified by 3000 testimonials from all parts of the United Kingdom, and by many farmers who have used it several years.—Address, with occupation and references, N. Y., at Messrs. J. & E. Saunders, 4, Cannon Street, London.

THORLEY'S FOOD FOR CATTLE.—Every person having an interest in domestic or farm animals should obtain a supply of this celebrated and economical food which will prove invaluable during the approaching season. For keeping horses in good condition, it is unequalled. Pigs fatten with surprising rapidity upon it, and their flesh increases in flavour and value. Cowkeepers will find great advantage in the increased quantity and improved quality of the milk during its use. All animals are benefited by it. A pamphlet on this interesting subject, accompanied by Testimonials from the principal Nobility, Gentry and Agriculturists forwarded on application. In casks containing 448 feeds (measures inclosed), price 50*s.*, carriage paid to any Railway Station in the United Kingdom. Post-office Orders payable to JOSEPH THORLEY, 77, Newgate Street, London.—N.B. The public are cautioned against being imposed upon by worthless imitations.

HOWARDS' PRIZE IMPLEMENTS, 1859.

JAMES AND FREDK. HOWARD, Britannia Iron Works, Bedford, beg to direct attention to their

CHAMPION PLOUGHS,



For which they received All the First Prizes last offered by the Royal Agricultural Society of England, viz.:—

The First Prize for the best Plough for general purposes.
The First Prize for the best Plough for light land.
The First Prize for the best Plough for heavy land.

The only Prize ever offered by the Society for the best Double Breast or Ridging Plough was also awarded to J. & F. HOWARD.

J. & F. HOWARD have discontinued troubling the Public with a long List of Prizes awarded to their Implements, but they would just state that for PLOUGHS, HARROWS, and HORSE RAKES, they have for several years gained every Prize for which they have competed.

PLOUGHS.

| | | | |
|---|---|---|---|
| P PLOUGH, with two wheels, for light work .. | £4 | 7 | 6 |
| PP PLOUGH, ,, for general purposes | 4 | 12 | 6 |
| SKIM COULTER .. .. .. .. .. | £0 | 5 | 6 |

STEEL BREASTS, 7*s.* and 7*s.* 6*d.* extra.

HARROWS.

| | | | |
|---|---|---|---|
| A Set of Three 4-Beam HARROWS, with Whippletree, recommended as general Seed Harrows, 9½ feet wide, marked No. 12 .. .. .. .. .. .. .. | £3 | 14 | |
| A Set of Three 4-Beam HARROWS, with Whippletree, adapted for 3 Horses, 10 feet wide, marked No. 11 .. | 4 | 4 | |

HORSE RAKES.

| | | | |
|---|---|---|---|
| Price of small size RAKE, marked A, with 24 iron teeth, extreme width 7½ feet .. .. .. .. | £7 | 10 | 0 |
| Ditto, with Steel Teeth .. .. .. .. .. | 8 | 0 | 0 |
| Price of large size, marked B, with 28 iron teeth, extreme width 8½ feet .. .. .. .. .. | 8 | 0 | 0 |
| Price of large size, marked B, with steel teeth .. | £8 | 10 | 0 |
| Price of extra large size, marked C, with 24 steel teeth, extreme width, 8½ feet .. .. .. .. | 10 | 10 | 0 |
| Price of a Set of 15 Prongs, to be attached to the above when used as Weed Extirpators .. . .. | 1 | 10 | 0 |

Free Delivery to Birmingham, Bristol, Derby, Gloucester, Lincoln, Liverpool, London, Manchester, Norwich, Nottingham, Retford, Wisbeach, and Worcester; or to Dublin, Edinburgh, Glasgow, and other parts at fixed rates.

HOWARDS' NEW CATALOGUE, containing prices and description of their Patent Ploughs, Harrows, Horse Rakes, and other Implements, including Smith's Steam Cultivators, for which they received at Chester the Gold Medal of the Royal Agricultural Society of England, sent free on application to
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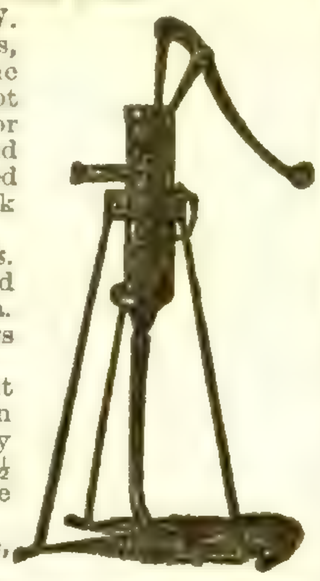
WARNER'S IMPROVED LIQUID MANURE OR GENERAL PORTABLE PUMP.



These Pumps are fitted with J. W. & SON'S Patent Buckets and Suckers, and cannot clog in action. The barrel is of galvanised iron, not likely to corrode, and can be raised or lowered at pleasure. The legs will fold together, and the whole may be carried on the shoulder to any pond or tank required.

Price of 4½ in. Pump, with legs, 3*l.* 3*s.* If with planished copper barrel and galvanised iron handle, &c., 14*s.* extra. The barrel is 27½ in. long, and the legs are 5 ft. high.

These Pumps are also made without the legs, with strong wrought-iron straps for screwing on to any ordinary water butt or cart, and fitted with 1½ inch brass union for attaching flexible suction. Price 50*s.*

1¾ inch Gutta Percha Suction Pipe, 1*s.* 11*d.* per foot.

Rubber and Canvas Suction and Delivery Hose, from ½ inch to 4 inches diameter, in lengths of 60 feet to order. Branch Pipes with Cocks, Union Screws, &c., at reduced prices.

May be obtained of any Ironmonger or Plumber in town or country, at the above prices, or of the Patentees and Manufacturers, JOHN WARNER & SONS, 8, Crescent, Jewin St., London

WARNER'S PATENT VIBRATING STANDARD PUMPS.

PATENT CAST-IRON PUMPS, fitted with J. W. & SON'S Patent Buckets and Suckers, which cannot clog in action, for Farms, Cottages, and Wells, not exceeding 28 feet.

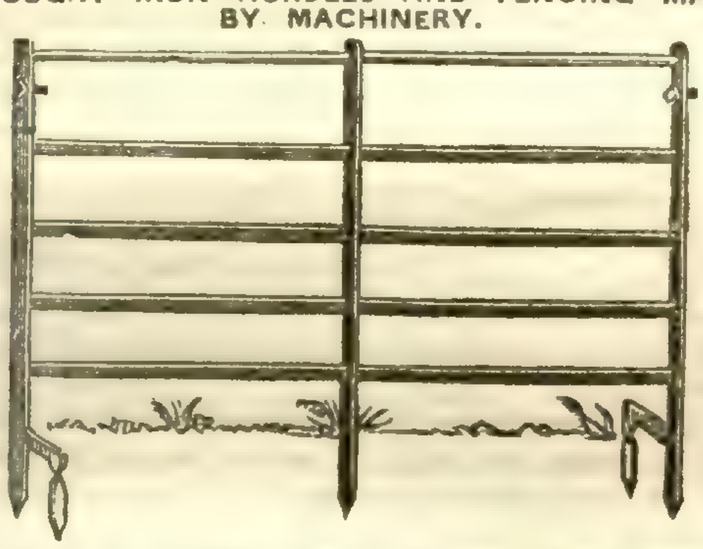
| Diameter of Barrel. | Height. | | £ | s. | d. |
|---|---|---|---|---|---|
| 2½ in. | short 1 ft. 7 in. | Fitted for lead, | 1 | 10 | 0 |
| 2½ ,, | long 3 ,, 3 ,, | gutta percha, | 1 | 14 | 0 |
| 3 ,, | ditto 3 ,, 6 ,, | or cast iron | 2 | 8 | 0 |
| 3½ ,, | ditto 3 ,, 6 ,, | flanged pipe, | 2 | 12 | 0 |
| 4 ,, | ditto 3 ,, 6 ,, | as required. | 3 | 3 | 0 |
| 2½ ,, | short, with 15 feet of Lead Pipe attached, ready for fixing .... | | 2 | 14 | 0 |
| 2½ in. | long ditto ditto | ditto | 2 | 18 | 0 |

The short barrel Pump is very convenient for fixing in situations of limited height and space, for the supply of coppers and sinks in Wash-houses with soft water from underground tanks, or in Hot, Forcing, and Plant Houses; they may be fixed, when desired, under the stage.

May be obtained of any Ironmonger or Plumber in Town or country, at the above prices, or of the Patentees and Manufacturers, JOHN WARNER & SONS, 8, Crescent, Jewin Street, London.

Every description of Machinery for Raising Water by means of Wheels, Rams, Deep Well Pumps, &c.; also Fire and Garden Engines, &c. &c.—Engravings sent on application.

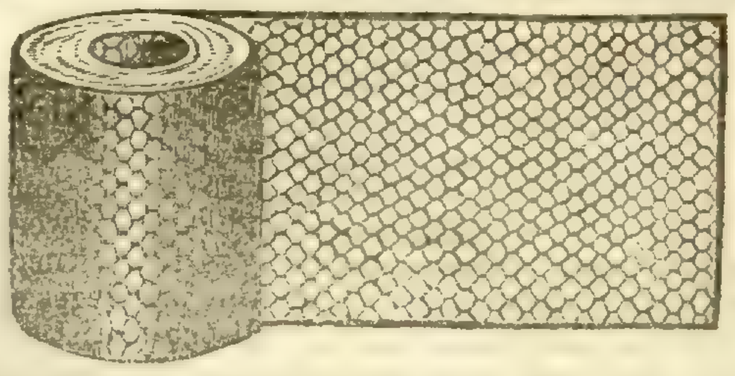
WROUGHT IRON HURDLES AND FENCING MADE BY MACHINERY.



THOMAS GREEN, Smithfield Iron Works, begs to call the attention of parties requiring machine-made Hurdles, which are a very superior article, as well as being both cheap and durable. The above cut represents a Hurdle 6 feet long by 3 feet 6 inches high; the top bar ⅝ of an inch diameter, the four low bars 1 inch by ¼ inch, the uprights 1¼ by ¼ inch. The Prongs fasten 12 inches in the ground. Price 4*s.* 6*d.* each, or 2*s.* 3*d.* per yard. If the four lower bars were made of ½ inch diameter instead of 1 inch by ¼ inch iron, the price would be 4*s.* 2*d.* each, or 2*s.* 1*d.* per yard. The above are the lowest net cash prices at the Works.

THOMAS GREEN, Smithfield Iron Works, Leeds, Yorkshire, Manufacturer of every description of Iron and Wire Fencing, Iron Work of all kinds, both plain and ornamental, Entrance Gates, Palisading, Tomb Railing, Iron Bedsteads, &c. Illustrated Catalogues may be had free on application at the Works.

N.B. Also Patentee and Sole Manufacturer of GREEN'S Patent Lawn Mowing, Collecting, and Grass Rolling Machines, which have proved to be the best in all cases of competition.



BARNARD AND BISHOP, Market Place, Norwich, in consequence of improvements in their machinery for the manufacture of the above article, have been enabled to make a great reduction in the prices.

| | | Galvanised. | Japanned Iron. |
|---|---|---|---|
| 2-inch mesh, 24 inches wide .. .. | | 5*d.* per yd. | 4*d.* per yd. |
| 2-inch ,, strong do. .. .. | | 6 ,, | 4½ ,, |
| 2-inch ,, intermediate, do. .. | | 7 ,, | 5½ ,, |
| 2-inch ,, extra strong, do. .. | | 9½ ,, | 7½ ,, |
| 1⅝-inch ,, 24 inches wide .. .. | | 5½ ,, | 4½ ,, |
| 1⅝-inch ,, strong, do. .. .. | | 6½ ,, | 5¼ ,, |
| 1⅝-inch ,, intermediate, do. .. | | 7½ ,, | 6 ,, |
| 1⅝-inch ,, extra strong, do. .. | | 10 ,, | 8 ,, |

All the above kinds can be made of any width (under 8 feet at proportionate prices. If the upper half is of a coarser mesh than the lower, it will reduce the prices about one-fifth.

Strong Galvanised Poultry Netting, 8½*d.* per yard, 3 feet wide Galvanised Sparrow-proof Netting for Pheasantries, 2½*d.* per square foot. Delivered free of expense in London, Peterborough, Hull, or Newcastle. Manufacturers of Improved Strained Wire Cattle and Deer Fencing, Iron Hurdles, &c.
Illustrated Catalogues and Patterns forwarded by post.

THE CHAMPION.

SMITH'S CULTIVATORS AND APPARATUS are got up not for Show but for Work. The Cultivators are almost indestructible, easily turned, and therefore double cumbersome implements are avoided. The Windlass is simple, convenient, and its working easily understood; it is very strong, and like the Implements subject to little or no damage from working. The Rope required averages only about five chains more than an endless rope, its friction only one-fourth: it never slips, and the tension is only one half at a time. The whole Apparatus can work all useful implements on all shapes and forms of ground; is admirable for autumnal cultivation; has stood the test of three years' work, and has produced "results most astonishing and invaluable;" and while the total cost is not more than half that of the Endless Rope one, it can be worked by an ordinary engine without alteration.
Woolston, Bletchley Station.—Jan. 15.

TO LANDOWNERS.

THE PERMANENT WAY COMPANY having been appointed the sole Licensees for the use of Dr. BOUCHERIE'S Patent Process for Preserving Timber, beg to inform Landowners and others interested in the use of English Timber that a Pamphlet, with full explanations of this cheap and most effectual process, may be had gratis on application to the undersigned. Landowners having Beech, Elm, Fir, or other Timber fit for Railway Sleepers are requested to communicate particulars of quantity, locality, and prices.
WILLIAM HOWDEN, Secretary.
26, Great George Street, Westminster.

LAND DRAINAGE.—Works of Drainage of any extent are executed by the GENERAL LAND DRAINAGE AND IMPROVEMENT COMPANY on all descriptions of Property, whether Freehold, Entailed, Mortgaged, Trust, Ecclesiastical, Corporate, or Collegiate.

Repayment may be made by the Landowner as successive portions of the Works are completed, or the actual expenditure, with a Commission thereon, may be charged on the property improved by way of rent charge for any term not exceeding 50 years, the instalments to repay principal and interest being thereby kept down nearly to 5 per cent. per annum.

No investigation of title being required, and the charge not being affected by incumbrances, no legal expenses are incurred.

Works of Irrigation, Enclosing, Wood Grubbing, Road Making, and Farm Buildings are executed in a similar manner.

The Company also assist Landowners in executing any of the improvements by their own agents, and charge the amount expended on the property improved.

Applications to be made to WILLIAM CLIFFORD, the Secretary, at the Offices of the Company, 52, Parliament Street, London.

COLLEGE OF AGRICULTURE AND CHEMISTRY, AND OF PRACTICAL and GENERAL SCIENCE, 37 and 38, Lower Kennington Lane, Kennington, near London.
Principal—J. C. NESBIT, F.G.S., F.C.S., &c.

The system of studies pursued in the College comprises every branch requisite to prepare youth for the pursuits of Agriculture, Engineering, Mining, Manufactures, and the Arts; for the Naval and Military Services, and for the Universities.

Analyses and Assays of every description are promptly and accurately executed at the College. The terms and other particulars may be had on application to the Principal.

ROYAL AGRICULTURAL COLLEGE, CIRENCESTER.
Patron—His Royal Highness the PRINCE CONSORT.
President of Council—Earl BATHURST.
Principal—Rev. J. S. HAYGARTH, M.A.
PROFESSORS, &c.
Chemistry—J. A. C. Voelcker, Ph.D., F.C.S. (Consulting Chemist to the Royal Agricultural Society of England).
Zoology, Geology, and Botany—Jas. Buckman, F.G.S., F.L.S.
Veterinary Medicine and Surgery—G. T. Brown, M.R.C.V.S.
Surveying, Civil Engineering, and Mathematics—J. A. Jarman, C.E.
Practical Agriculture—J. Coleman.
Assistant to Chemical Professor—A. Sibson.
The FIRST SESSION OF 1859 begins February 2.
Fees for Boarders:—Under 16 years of age, 65 guineas per annum; between 16 and 18, 70 guineas; above 18, 80 guineas. The fee for Out-students is 40*l.* per annum.
Prospectuses and information can be had on application to the Principal.

The Agricultural Gazette.
*SATURDAY, JANUARY* 15, 1859.

MEETINGS FOR THE ENSUING WEEK.

WEDNESDAY, Jan 19—Highland and Agricultural Society.

THE general meeting of the Highland and Agricultural Society will take place at Edinburgh on the 19th inst. It is likely to be unusually interesting, owing to certain differences which have arisen between the directors and large numbers of the members. Among them is their resolution to confine the *prestige* of their patronage to the older of the two veterinary schools now at work in Edinburgh. Professor SYME is to move at the ensuing meeting—

"That the teaching of veterinary surgery in Scotland should not be restricted to one school, since advantage may be expected from competition in this no less than in other departments of education."

—a resolution which certainly appears on the face of it to deserve adoption.—Some resolution will also probably be adopted in connection with the memorial which was some time since presented about the relations of judges and exhibitors at the Aberdeen Show. That the feeling which has been excited on this point runs high is plain from the following formula, which is, we understand, obtaining signatures:—

"I hereby declare that I will not henceforth exhibit any animal at any of the Highland and Agricultural Society's shows, unless all exhibitors are strictly excluded from the show yards, till such time as the judges have given in their awards."

While, however, some resolution in accordance with this statement will probably be adopted, we are glad to know that its immediate cause is no longer a matter of difference between the Directors and the members. A common ground has been found on which all will act for the prevention in

future of the irregularities complained of at the late Show at Aberdeen.

——The circumstances connected with Mr. LAWSON's resignation of his curatorship of the Society's Museum and of his position as the Society's seedsman will also probably engage attention.

—— Dr HASSALL has published his opinion of THORLEY's food for cattle. He has witnessed the process of manufacture and analysed samples of the manufactured article. And he asserts—that the ingredients used are all of excellent quality, and are purchased without regard to expense; that the recipe according to which the food is prepared is an admirable one, no ingredient being selected on account of its cheapness, but those only being chosen which are best adapted to fulfil the objects intended: that the food is highly nutritious and fattening; it is a tonic and gentle stimulant, aiding, when mixed with other descriptions of food, materially the digestive powers of an animal: that it is infinitely superior to any others at present known to Dr. HASSALL. All which may be perfectly true and yet throw no light whatever on the policy of using THORLEY's food for cattle. That depends simply on the price charged for it as compared with the price of other articles of known value as food. Dr. HASSALL's statement would in every particular be true of a mixture of Linseed and Bean meal flavoured with a little salt. Such a mixture might cost 10*s.* a cwt.* Dr. HASSALL's testimonial to the quality of this food entirely shirks the only point in which agriculturists are interested, and we greatly prefer the opinion of the *North British Agriculturist*, which speaks thus in one of its paragraphs on the past year's agricultural history:—

"A comparatively new trade, cattle foods, has been very active in 1858. Mixtures of Carob Beans, Bean meal, and of the meals of cereals, with a flavouring substance such as Coriander seed, have been vended at from 30*l.* to 40*l.* per ton, while the real feeding value may be taken at something like one-half that of Linseed cake, or 5*l.* The extent to which a trade of this kind is carried on is evidence of an extreme facileness on the part of the owners of the domesticated animals, the horse, the ox, and the pig."

—— Mr. HUDSON, of Castleacre, calls attention in the *Mark Lane Express*, as Mr. W. WOOD, of Burton-on-Trent, did many months ago in our columns, to the use of cheap Wheat as food for cattle. He says:—

"When Wheat was selling at from 60*s.* to 70*s.* a quarter, almost every farmer was endeavouring to grow as many acres of Wheat as he possibly could. His Mangel Wurzel land, and that where early Turnips were fed off, was all sown with Wheat, in addition to the whole of his regular quantity after Clover; but now the price has receded to about 40*s.* a quarter, very little land is sown with Wheat beyond the usual quantity after Clover. My farm now consists of about 800 acres of arable land, 200 acres being in Wheat after Clover, and for several years I have sown 100 acres of Wheat in addition after the root crop, but now there is nothing to induce me to pursue that system. We now grow all the Barley we can, and one-third fewer acres of Wheat than we have done for several years past. The very low price of Wheat has induced us to feed our cattle upon Wheat on a large scale, it being cheaper than Linseed cake. I never remember so large a quantity of Wheat consumed by cattle as there has been during this season, and a great deal is being made into malt instead of Barley; surely this must tell upon prices by-and-bye; and the farmers intend to keep a large quantity in stock, to see the result of another harvest."

—— The London Farmers' Club has issued its card of subjects to be discussed at its ensuing monthly meetings. They will be found in another column. Arterial Drainage, Agricultural Education, Agricultural Progress, Advantages of Steam in Agriculture, Mixed soil Husbandry under existing circumstances, Growth of Clover, Composition and Value of Various Foods—are to be successively discussed. The list contains some old subjects and some very large subjects, and is not equal in point and utility to those of previous years. The most useful of the series is named for discussion at the June meeting, when the smallest attendance can be expected. Mr. BAKER, of Writtle, who has done more than any other person for the Club, and more than any other through it for English agriculture, is then to state the system of cultivation on mixed soils which he considers most profitable under existing circumstances.

—— The annual circulars in the manure trade intimate an enormous accumulation of guano in the hands of the importers. It is said that owing to the high prices fixed by the Peruvian Government they have upwards of 600,000 tons in the hands of their agents unsold—and 400,000 lying thus in Liverpool and London alone. The imports during the past four years into the United Kingdom have been 305,061 tons, 191,501 tons, 288,362, and 312,000 tons respectively—and a larger quantity than the whole of last year's importation is lying in the hands of the importers. A reduced price must no doubt be submitted to in order to clear away this stock in the face of the competition with artificial manure makers.

—— A correspondence with the Cottage Improvement Society (18, Adam Street, Adelphi), has been handed to us by Mr. BAILEY DENTON, from which it appears that a reader of this Paper has seen it announced that a pair of cottages designed by the Society and approved of by the Inclosure Commissioners could be erected for 160 guineas, and has applied in consequence to the General Land Drainage and Improvement Society to erect two such pairs of cottages. Mr. DENTON, their engineer, applies to the Cottage Improvement Society for the name of any builder who will undertake the erection of these cottages on these terms, and to the Inclosure Commissioners to know if the design had received the approval of the Board: and he finds (1) that there are several points in the designs which do not meet the approval of the Board, and (2) that no builder is forthcoming to undertake their erection at the price. He thinks that these things ought to be made known in the same column in which the original announcement on the subject was made, and agreeing with him on this point we add here the concluding sentences of his letter—

"I have had the cottages No. 2 tendered for by a builder, *and the amount is* 242*l.*; and this is so different from 168*l.*, the price stated by the Society, that the imposition ought to be exposed, for landowners would consider the honest tradesman the imposter, and not the Society (whose object is philanthropical) and would decline to make themselves the victims of such robbery as the difference in figures would imply."

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FROM a recent Report of the Registrar-General on the Progress of Victoria in S. Australia during seven years terminating in June last, we collect many facts highly important and interesting in social, commercial, and agricultural points of view.

It is to be premised that this marvellously progressing colony comprehends an area of 90,000 square miles, equal in extent to that of Great Britain and Ireland combined, and embraces from north to south the district between the River Murray and Bass's Straits.

The first settlement commenced in 1835, and the population in 1851 (of whom about 23,000 were congregated in the town of Melbourne alone) amounted to 77,345 persons: these, with the foregoing deduction of souls inhabiting Melbourne town — now a city — were located in the counties of Bourke and Grant, in the latter of which the town of Geelong is situated. The total population of Victoria amounted in March last to nearly 500,000. Morally, we may have great reason to regret that an immigration of nearly 35,000 Chinese, almost entirely males, has been absorbed into the population. The discouragement of this unwelcome accession to the Anglo-Saxon and Celtic colonists has been sought in restrictions by special taxations of these "Celestials" throughout South Australia and New South Wales. The eager thirst for gold in the auriferous districts has been productive of this unquestionable evil.

The rapidity with which the population has multiplied, of recent years especially, is astonishing. Between the censuses taken in 1851 and 1854 it had trebled, and in the course of the four last years doubled. Melbourne and Geelong were the only corporate towns previously to 1855; there are now 21 such towns enjoying the privileges of self government, which (though all the statistical returns had not been received when the official report was issued) possessed rateable property amounting in annual value to 2,115,136*l.*, with a revenue for the year 1857 of 239,579*l.* The expenditure on streets alone in the 21 towns has been 1,191,734*l.* The arrivals of emigrants for the last six years are thus given:—

| | | |
|---|---|---|
| In 1852 | .. .. .. | 94,664 persons |
| 1853 | .. .. .. | 92,312 ,, |
| 1854 | .. .. .. | 83,410 ,, |
| 1855 | .. .. .. | 66,571 ,, |
| 1856 | .. .. .. | 41,594 ,, |
| 1857 | .. .. .. | 63,260 ,, |

Many of these from various causes, viz., the realisation of sufficient independence enabling them to return to their native lands, or a desire to locate themselves elsewhere in Australia, have left the colony. Of such the numbers increased prodigiously from 1851 to 1853 inclusive. In the first the number was only 2962, but in the succeeding year 31,038 departed, and in 1853, 42,442 left.

We now come to considerations more directly bearing on our agricultural department.

Out of the 55,571,840 acres contained within the limits of Victoria, 2,748,415 have been disposed of to colonists, of which 1,781,347 realised 3,994,524*l.* during the four past years (ending December 1857), being at an average price of 2*l.* 4*s.* 10*d.* per acre—so great was the demand for land beyond the limited supply in those years, especially in the towns and their adjacent lands. But it is anticipated that the Government price of 1*l.* per acre will be henceforward no unusual rate. The yet unsold lands are reported to be mostly close to markets, and this anomaly is explained by the unusual fact that the population, instead of being dispersed over a large area, is concentrated in masses in consequence of the general diffusion of the metallic wealth of the land.

The agricultural statistical returns made up in March last present these returns of produce for the past year:—

| | | |
|---|---|---|
| Wheat | .. .. .. .. | 1,808,438 bushels |
| Maize | .. .. .. .. | 6,558 ,, |
| Barley | .. .. .. .. | 156,458 ,, |
| Oats | .. .. .. .. | 1,249,799 ,, |
| Potatoes | .. .. .. .. | 51,114 tons |

besides other crops. 382 acres were planted as Vineyards, which produced 5761 gallons of wine and supplied nearly half a million lbs. of Grapes for the table.

From the table, which exhibits the average yield of corn per acre during the three preceding years, Victoria stands comparatively with Tasmania, South Australia, New South Wales, States of New York and California, at the head of the list as to Wheat, Oats, and (excepting California) Barley; the quantities being Wheat, 23.1; Barley, 30.3; and Oats, 29.3 bushels per acre. California rates next. Wheat, 20.0; Barley, 31.5; Oats, 20.2. The yield of Wheat in South Australia has been but a fraction less than half per acre of that obtained in Victoria, though fully equal as to the returns of Barley and Oats, and far above New York, which exhibits but 14.0 bushels of Wheat, 16.0 do. of Barley, and 26. do. of Oats. It is to be observed, too, that Mr. M'CULLOCH, who gives the above estimate for New York, has affirmed that "this State possesses some of the best corn-growing land in the Union." A return from the State of Michigan, published by authority in 1849, declared that the average produce of Wheat did not exceed 10⅕ bushels per acre, and concludes Mr. M'CULLOCH, "it would appear from the best attainable information on the subject, that if we take the produce of the new States generally at 12 or 13 bushels per imperial acre, we shall not be within but beyond the mark." The fertility then of Victoria in this the most important of cereals, as also in productiveness of Barley and Oats, is a subject for our hearty congratulation to the agriculturist in that great colony.

Labour and capital seem to be unceasingly employed, not only in extracting the precious gold from the soil, but in tilling the land also. The number of occupiers of land in six counties has increased from 9800 in the year 1856 to 29,82[illegible] in 1857; those of Talbot and Dalhousie having the greatest increments — and being absolutely an increase on the whole of 282 per cent. in one year. In 11 districts, those of Bourke and Grant, with about 5000 holders of land, the total number of acres under cultivation in the past year has been 223,316, of which 123,326 were under grain crops. Since 1854 the progress of agriculture throughout Victoria has been far greater than that of population; the agricultural increase in 1857 was more than 400 per cent. that of population being 73 per cent. Of 237,729 acres under cultivation in the present year, 87,230 have been under Wheat; 54[illegible] under Barley; 40,118 under Oats; 20,693 under Potatoes (which would indicate a large proportion of Irish in the population); and 84,281 under other crops, in which we suppose meadow Grasses must preponderate, because in the reported value of the crops raised hay is estimated at 140,51[illegible] The Wheat at the Melbourne prices is valued at nearly 800,000*l.*, and Potatoes (much above the Barley in value), upwards of 690,000*l.*

The colonial administration have not complained of any difficulties in the attainment of the agricultural statistics now officially presented to the Chief Secretary, from the Registrar-General's office, by means of a carefully organised staff. They have ascertained thereby in addition to the foregoing particulars the amount of live stock. We learn that though there has been a considerable decrease in the number of sheep since 1851, when tillage

* See Professor Anderson's Opinion in page 44.

had made but little progress and population was considerable, there has been an increase of 188,150 sheep over the numbers returned in 1856, and that the increase of horned cattle has more than compensated for the falling off in the other instance. The vastly increased demand for beef, milk, and butter, has by the reciprocal agencies of supply and demand induced an increase of 80,424 horned cattle. Pigs have multiplied also, and horses in about equal numbers with the porcine race. The northern side of the river Murray has, however, contributed to the raising of the above enumerated live stock, the population in that quarter being numerically insufficient to the consumption of the whole of their own stock. A notice of the details regarding commerce, gold, mills, manufactories, revenues, banks, education, religion, railways, however important and interesting to many persons, is hardly suited to our pages. We therefore omit them here, with the exception of one or two paragraphs bearing altogether upon our proper department, or so intrinsically momentous as to attract attention from every reflecting man in our social community.

Under the head of imports and exports we find that Victoria holds the fourth rank among the chief countries (eight in number), which import manufactures from Great Britain. The first in the order is the United States; the second, British East Indies; the third, the Hanse Towns; the fourth, Victoria, importing to the value of between six and seven millions sterling—about a third of the amount of imports by the United States. Victoria takes 50 per cent. more of the manufactures of the parent country than all the British settlements in North America.

The total amount in value of exports from the colony during the year 1857 was 15,079,512*l.* The wool was valued at 1,335,642*l.*, and hides and leather at 190,746*l.*

Most of the foregoing details attest the marvellous agricultural progress of Victoria, besides her great advancement in commercial prosperity. We unwillingly close the report, in which there are many other details of exceeding interest.

## LOIS-WEEDON TILLAGE.

SURELY it is much to be regretted that the Lois-Weedon system finds so few followers; and yet more, that of these few followers the greater part are, as Pat would say, "no followers at all." They very much appear to enter upon it without due consideration, if not without any defined ideas of the principles upon which it is founded; hence failures naturally follow. They adopt some part of its details, and think they have done everything, when, instead of attributing their want of success to their shortcomings and overdoings, they ascribe it to the system, and console themselves by fancying Mr. Smith owes his to some occult property in his field. It is indebted to an oolitic subsoil, says an Irish writer.

Because Mr. Smith works deeply, forgetting that he does so progressively, they turn their spadesmen or forkmen, as it may be, into the field, and excavate at once to some extraordinary depth, throwing upon the surface a mass of crude matters which would require the sun and frosts and atmospheric solvents of years to reduce. Nor do they call to mind that in thus burying the tender and friable active soil they place it out of the reach of the early rooting process of the young plants, on which their future development so much depends. While at the same time, perhaps, they neglect by frequent surface breakings to open out these crude substances to aërial actions or to arrest the growth of weeds. Or instead of the merely superficial stirrings called for to these ends they delve deeply and mix their crude substances with the fertile soil to its detriment, as also to the injurious loosening of the deeper rootings of the plants. To such deep spring working and to the consequent loosening of the roots Mr. Calwell, of Belvedere, in the county of Down, attributed his failure in a very large and spirited experiment in 1854.

This gentleman even went to the expense of a journey to Lois Weedon previous to his entering on his experiment, which with a spirit evinced by few, if equalled by any, he extended over 14 acres in 1845, and 29 in 1855, but after all he seems to have sown the seed too late, not having finished his sowing till the 19th Nov., 1853, and to have forked his intervals deeply in the following spring stated to have taken place the 31st March, 1854. His return on the 14 acres was but 5 tons 17 cwt. But as Mr. Calwell says the stooks stood as thick on the ground as they did on land sown broadcast after Potatoes, the short crop did not appear to arise from want of straw, but, as he remarks, from the heads not filling, which he ascribes to the deep spring forking loosening the roots; it is then fair to suppose the crop would have been considerably greater but for these mistakes. In his experiments of 1855 on 29 acres in part he had a very fair crop, in other parts there was failure, but of this I cannot at present lay my hand on my memoranda. But, if I recollect rightly, Mr. Calwell attributed them to inclemency of weather, which appears to have been most unpropitious.

Again, the expediency of an early sowing, on which depends so much the success of all thin sowings—and all drill sowings must be considered as thin ones—appears frequently to be neglected, as well as Mr. Smith's injunction that tillering should take place before winter, and his observation that spring tillering should be avoided as tending to mildew.

Failure may also occur in the first crop (which certainly does not depend on Mr. Smith's working) from the previous state of the land, and from deficient preparation for which there appears, under ordinary circumstances, after a grain crop not sufficient time, and, indeed, with Mr. Smith, his first sowing appears to have been late; in Ireland I am sure this must be very generally the case, as not only are our harvests late, but the ground is in a foul state.

Whether Mr. Smith's system will admit of variations in details may be a question, but its principles will admit of none; it absolutely depends on a gradual raising to the surface before winter for exposure to the disintegrating action of alternate frosts and thaws, and to subsequent aerial influences, of small quantities of mineral substances that have hitherto been but partially acted upon by these solvents, and by frequently moving them through the summer months to assist these aerial influences. It stands, as matter of course, that it is not only unnecessary, but may be injurious to bring up to the surface more of these mineral substance than the ammonia and carbonic acid in the air can amalgamate with, for though the power of oxidation in the air is unlimited, it is far from being so with those matters which act on the oxides and render them fit for vegetable assimilation; besides this, by bringing up too great an amount of crude mineral substances the fertility of the active soil may be for a long time impaired, and, which is a known practical fact, the ground is poisoned. The deep working of the soil is therefore an exclusive ante-winter operation, and must be strictly restricted to it, while the summer ones must be as strictly confined to superficial ones so frequently repeated as to expose continually fresh surfaces to the air at the same time that they prevent the vegetation of weeds. Deep working in the spring or summer would not only bring again the yet undigested mineral matters, but by loosening the soil about the roots of the plants, possibly prove injurious to them, perhaps even stimulate a too long continued growth of straw. And moreover it is generally supposed that Wheat requires a sound or firm bottom, and this would be impaired for the successive crop by such late working. In the last edition of "A Word in Season" I see Mr. Smith now subsoils the intervals after earthing up the rows in summer.

Thus early sowing is not only required for the early development of the tillering process, but also as affording time for the deep ante-winter forking. If the sowing is deferred till the latter part of October or to November, with all the chances of weather, I do not see how, on anything like an extensive scale, this can be effected, at least a month of winter exposure would be lost.

These are the great principles of Mr. Smith's system, a neglect of which will certainly bring disappointment. Modifications in the details of his economy may perhaps be admitted—Mr. Smith himself has done so, for after having attained a depth of 16 or 18 inches he has been "satisfied for the four following years with a single spit." But such modifications should be adopted with much caution, and in no case can experiments under them be admitted as evidence against the plan. *J. M. G., Granard.*

## TRADE MEMORANDA.

MR. ALDERMAN MECHI having reason to fear (it having just come to his knowledge) that many hundreds of his friends and acquaintances throughout the kingdom have been defrauded of a guinea each, by a person pretending to collect for a testimonial to him, requests that such information may be sent to him as may lead to the arrest and punishment of the offender. 4, *Leadenhall Street, January* 11.

## Home Correspondence.

*Cotton Cake.*—I was sorry to see a report recently of the death of a bullock from having been fed on Cotton-seed cake. Your readers will probably bear in mind that I sent you heretofore some observations on this subject, which you inserted, recommending Cotton-seed cake as useful and economical for feeding purposes, and at the same time especially cautioning farmers on the point of quality. I gave some analyses in order to show the extreme variations in quality, and pointed out that there were Cotton cakes in the market which it would be unsafe to use. I have recently seen a sample from Hull at the price of 6*l.* per ton, not only absolutely worthless, but which I have little doubt would produce just the same mischief as was found in the stomach of the bullock whose death was reported. The sample of cake I refer to was of a very dark colour, and coutaining all the husk of the seeds. The safe and highly nutritious cake is made from the decorticated seed, and the fracture of it resembles the fracture of a cake of bees-wax nearer than anything which occurs to me, only that the surface is more mealy; the colour is nearly the same. The present price of this article is from 7*l.* to 7*l.* 10*s.* per ton. I have had a large stock of sheep and bullocks thriving on it for many months most satisfactorily. It is a pity that communications of importance to agriculturists generally, sent to any one agricultural periodical, should not be extracted by the others for the general benefit. *C. Lawrence, Cirencester, January* 11.——I have given 1 lb. of Cotton cake per diem with Mangel, hay, and straw, to two milch cows for six weeks past. The cows have improved in condition, and for the first month the yield of cream was decidedly increased. For the last fortnight the same quantity of milk has yielded much less cream. Yet the cows appear in good health. Can this failure be connected with the experience of your correspondent from Chatteris? *A. B., Iver, Jan.* 10.

*Tithe Commutation.*—As many of your readers may feel anxious to know the result of the corn averages for the seven years to Christmas, 1858, published by authority in the *London Gazette* of this evening, viz.—

| | | | |
|---|---|---|---|
| Wheat .. .. .. | 7*s.* | 4*d.* | per imperial bushel, |
| Barley .. . .. | 4 | 5½ | ditto |
| Oats .. .. .. | 3 | 0¼ | ditto |

I beg to state for their information that each 100*l.* of tithe rent-charge will, for the year 1859, amount to 108*l.* 19*s.* 6¼*d.*, which is a little more than 3 per cent. above the last year's value. The following statement from my "Annual Tithe Commutation Tables" will show the worth of 100*l.* of tithe rent-charge for each year since the passing of the Tithe Commutation Act, viz.—

| | | | |
|---|---|---|---|
| For the year 1837 .. .. .. .. .. | £98 | 13*s.* | 9¾*d* |
| ,, ,, 1838 .. .. .. .. .. | 97 | 7 | 11 |
| ,, ,, 1839 .. .. .. .. .. | 95 | 7 | 9 |
| ,, ,, 1840 .. .. .. .. .. | 98 | 15 | 9½ |
| ,, ,, 1841 .. .. .. .. .. | 102 | 12 | 5¼ |
| ,, ,, 1842 .. .. .. .. .. | 106 | 8 | 2¾ |
| ,, ,, 1843 .. .. .. .. .. | 105 | 12 | 2¼ |
| ,, ,, 1844 .. .. .. .. .. | 104 | 3 | 5¼ |
| ,, ,, 1845 .. .. .. .. .. | 103 | 17 | 11¼ |
| ,, ,, 1846 .. .. .. .. .. | 102 | 17 | 8¾ |
| ,, ,, 1847 .. .. .. .. .. | 99 | 18 | 10¼ |
| ,, ,, 1848 .. .. .. .. .. | 102 | 1 | 0 |
| ,, ,, 1849 .. .. .. .. .. | 100 | 3 | 7¾ |
| ,, ,, 1850 .. .. .. .. .. | 98 | 16 | 10 |
| ,, ,, 1851 .. .. . .. .. | 96 | 11 | 4¾ |
| ,, ,, 1852 .. .. .. .. .. | 93 | 16 | 11¼ |
| ,, ,, 1853 .. .. .. .. .. | 91 | 13 | 5¾ |
| ,, ,, 1854 .. .. .. .. .. | 90 | 19 | 5 |
| ,, ,, 1855 .. .. .. .. .. | 89 | 15 | 8¾ |
| ,, ,, 1856 .. .. .. .. .. | 93 | 18 | 1¼ |
| ,, ,, 1857 .. .. .. .. .. | 99 | 13 | 7¼ |
| ,, ,, 1858 .. .. .. .. .. | 105 | 16 | 3½ |
| ,, ,, 1859 .. .. .. .. .. | 108 | 19 | 6¼ |
| 23) | 2287 | 2 | 0½ |
| General average for 23 years .. .. | £99 | 8 | 9¼ |

*Charles M. Willich, Actuary University Life Assurance Society, 25, Suffolk Street, Pall Mall East, S. W., Jan.* 7.

## Foreign Correspondence.

FARMING IN COURLAND (*continued*).—The latitude is about the same as Edinburgh, but on account of its being more eastward and adjoining the continent the winters and summers are both more decided in character. Thus, from the 1st of May to the end of August the temperature is equal to the south of England, and in consequence of the days being much longer the growth is much more rapid; for instance, spring Wheat which in Sussex requires 150 days to ripen will do the same here in 100, and so with other things in proportion. The Wheat harvest begins also the first week in August. Altogether, it is perhaps the most agreeable summer climate in Europe. The winter commences about the first week in November with a little snow, then a good frost, then snow again, which covers the fields from 3 to 6 inches deep, and protects the Wheat from any variations of weather throughout the winter. In the spring the snow gradually disappears from the fields by evaporation, so that there is seldom any superfluous quantity of water either in summer, autumn, or winter. This is why drainage has not been found of general service. Most of the large farms have small distilleries attached to them, on the refuse of which, during the winter, they fatten oxen; but the other farms use principally cow manure, and as the cows are but badly fed the manure is very weak. It is nevertheless to me astonishing to see how well Wheat grows in the climate with only cow-dung. A neighbour of mine had last year 30 bushels per acre on an average of 250 acres; and another this year on the first three acres he threshed had 120 bushels; the corn is also of excellent quality, resembling the White Dantzic. My farm consists of 150 acres of arable and 50 of pasture and meadow, with excellent buildings. The rent, rates, taxes, &c., together with five cubic fathoms of wood for fuel, is 60*l.* sterling. I require also about six men, two lads, and two maids, which cost me about 100*l*; seven horses, 50*l.*; and tradesmen's bills 10*l.*; total, 220*l.* for rent and labour, or about 30*s.* an acre for the arable land. The prices at present, which are about the average, are Wheat 5*s.* 6*d.* per bushel; Rye, 3*s.*; Barley, 2*s.* 9*d.*; Oats, 1*s.* 9*d.*; but as I grow more Wheat in proportion to other corn, I get an average of 3*s.* per bushel. I have therefore nearly 1500 bushels to grow to pay all expenses on 150 acres of arable land. One disadvantage here is that you can seldom take a farm in good condition, so that for the first three or four years you cannot do much more than pay your expenses. On the other hand it is advantageous, as but a small capital is necessary to enter with. We enter in the spring, when you will find all the winter fields sown, and seed in the granary for the summer ditto. You have to pay half a year's rent in advance, but there is generally a certain number of cows or horses belonging to the farm which

are valued, but for which you do not pay. These belong to the inventory, and are let with the farm, and already included in the rent. The labourers are paid in the Scotch fashion, a certain number of bushels of Rye and Barley per annum, with the Grass and winter food of a cow, with a patch of land to grow Flax and Potatoes on, so that no money is wanted to pay the labour of the current year. Thus for 150*l.* to 200*l.* one can take a farm of from 200 to 300 acres. We have also a good market in Riga, which is distant about 40 miles; but as I sell nothing but Wheat and Flax, I prefer selling the former to flour mills in the neighbourhood, and the latter to dealers. Of good society we have no reason to complain. On an average there is a respectable house every three miles, and the upper classes are hospitable, well educated and agreeable. The whole Government are Protestants, there being I believe but one Russian church, and that is in the chief town, Mitau, for the military. The labouring population are particularly quiet and inoffensive. If any of your readers should be desirous of further information, I shall be happy to give it them to the best of my power. P.S. I must not neglect to mention that serfdom has not existed in Courland since 1818. *W. Grossmith, Bauske, Courland, Russia.*

## Societies.

CRYSTAL PALACE POULTRY SHOW.—The number of local and metropolitan Poultry Shows, the value of the prizes offered at them, and the extraordinary interest taken in them during the past few years, is one of the most remarkable features of recent agricultural history. We read advertisements of eggs and birds of first-rate strains and pure breeds offered by gentlemen who have won nearly 500 prizes! And the Poultry Directory lately published tells yet more strikingly how much care and attention is now bestowed, when formerly mere chance work and neglect resulted how they might in mongrel and inferior poultry produce. The difference between the present and a very recent past in this particular is of course still seen most at shows of birds. It is when you compare the heavy Dorking or Cochin China fowl, the beautifully shaped Spanish, or elegant Hamburgh with the generality of farmyard poultry as it used to be that you are most struck with the useful result of the so-called poultry mania; but the farm-yard birds now commonly to be met with are also much improved, and it does not now need a difficult and laborious selection of birds to produce a show worth looking at.

The Crystal Palace Company have had a winter show of Poultry now for several seasons. The one just held much surpasses any previous one in number and in quality. It has comprised 120 pens of the black Spanish fowl, more than 200 pens of coloured and white Dorkings, 110 pens of Cochin Chinas, 200 pens of game fowl, 170 pens of the various sorts of Hamburgh fowl, 50 pens of Polish fowl, a large show of other sorts, as well as of geese, turkeys, ducks, making in all 1117 pens, to which must be added 300 lots of pigeons.

The classes of Dorkings, game, and Spanish birds were of wonderful excellence. The prize list contains a number of the old names as well as new ones, as Messrs. Botham, Fowler, Rodbard, Punchard, Captain Hornby, Archer, and many others. We have not room for the prize list.

## Farmers' Clubs.

LONDON CENTRAL.—The following subjects have been selected for discussion during the ensuing year:—

*February* 7.—Arterial Drainage—including the state of our Rivers and Water-courses—proposed by Mr. J. A. Clarke, Long Sutton, Lincoln.

*March* 7.—The Education, Discipline, and Introduction of the young Farmer to Life—Mr. R. Bond, Kentwell, Long Melford, Suffolk.

*April* 4.—The Progress of Agriculture—Mr. R. Smith, Emmett's Grange, South Molton.

*May* 2.—The Advantages of Steam in Agriculture—how far they have been availed of—Mr. J. J. Mechi, Tiptree Hall, Essex.

*June* 6.—What System of Cultivation upon Mixed Soils will, under present circumstances, be found most profitable?—Mr. R. Baker, Writtle, Essex.

*November* 7.—The Growth of Seeds in alternate Husbandry, without the admixture of Trefoil or Rye-grass—Mr. J. Marshall, Riseholme, Lincoln.

*December* 5.—The Composition of Different Varieties of Vegetables and Plants, and their respective Values as Food—Mr. J. C. Nesbit, Kennington Lane.

The discussion will commence at half-past 5 o'clock, P.M. Members unable to attend these meetings are invited to forward practical information upon them. Their letters will be handed to the introducer of the subject to which reference is made.

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OXFORD: *Kinds of Corn and Cake most Economical at Present Prices.*—Mr. Osborne said: They did not want to pay 7*d.* per lb. for mutton, but would prefer to have more mutton at a lower rate, and keep the bread a little higher than it was. Barley was much the same price as Wheat, but Beans were higher, and for that reason he was in favour of Wheat for sheep, as it was well adapted for producing mutton and wool. Some persons had a great objection to give Wheat to sheep; but he had tried it, and never found the slightest harm or loss from using it. He commenced by taking his sheep home, and starving them down till they became used to bran and water, and when that had gone through their system, then he used Wheat. He gave them a pint, or 1lb. per head, per day; and if they adopted the plan of starving them down to it, they would find no loss; but if they did not do so, and threw in a quantity, some of the sheep would, perhaps, take a quart, which would do them an injury, while others would get none. Looking, therefore, at the present price of wool (2*l.* per tod), it was to their interest to grow all the wool they could; and if they could feed the people with more mutton and less bread, they would be only doing their duty. With regard to cake for sheep, he believed that the best description of oilcake was the best and most economical for that purpose, and that if they did not use the best description, they would have to pay the penalty. At the same time, he was bound to say that when he gave his sheep a mixture of Wheat, Beans, and cake, they picked out the Wheat, and left the Beans and cake, clearly showing which they preferred; and, therefore, the less they went against nature in feeding sheep the better. Mr. Osborne concluded by moving, "That of all kinds of corn, Wheat, at its present price, is the most economical for feeding sheep on roots; and of cake, the best oilcake for the same purpose."—The Rev. J. Clutterbuck said it was generally supposed that if they gave Wheat to animals it would have a tendency to heat them, and therefore few gave it alone; it might be found necessary and advisable to mix it with other food which gave meat and muscle, for Wheat gave bone, containing, as it did, phosphate of lime. The ashes of a large Swede would lie in a man's hand, and consisted of phosphate of lime, of which animals were made, and substances of which they were made they would consume; and therefore it was necessary to consider what food was most consistent with the nature of the animal itself. There was nothing so nourishing to man as Wheat, but it had been considered a sin and a waste to give it to animals; but they gave their pigs offal, which now it was very difficult to procure; and what nourished pigs would do the same for sheep, and therefore he saw no reason why Wheat should not be consumed in this way as well as in any other. Some parties objected to grow certain descriptions of Wheat which was very productive, but, at the same time, was coarse; but if they could grow 6 quarters to the acre, instead of from 4½ to 5, it might not be a bad sort for feeding purposes. As they could not take Wheat out of the land without returning Wheat to it, he thought that the best way was to consume the Wheat on the land, and for these reasons he had very great pleasure in seconding Mr. Osborne's motion.

Mr. James Williams, of Northcourt, said roots alone were of a purgative character, a large per-centage being water; and they wanted to correct that, and the best corn for that purpose had been found to be good old Beans, not so much for the formation of fat, but for supplying that which was wanting in feeding on roots. In looking at Wheat, they naturally inferred a tendency to scour, which was increased by the consumption of roots. He had watched a flock for some months that had been consuming half a pint of Wheat per day; they thrived quickly and came very heavy to the scale, but there was a tendency to scour, and he had asked the shepherd if he continued to give them Wheat, and he told him he was obliged to leave off the Wheat because it scoured the lambs, and for the last month he had given them Clover, hay, and Turnips, upon which they made the same progress; but he doubted whether they did so well without corn as with it. They ought not, however, to look to the effect of any kind of food independent of other food. He had seen a very fine flock of 250, which made 70*s.* each, and they consumed 1 lb. of oil-cake per day, and he had asked the party if old Beans would not have been cheaper, but his reply was that, from his experience, oilcake was not only the safest thing to consume, but was cheaper than any other description of food. That was the experience of a man who farmed largely, and who produced most excellent crops. They found from experience that by feeding with new or old Beans they lost sheep from congestion of the brain, brought on by indigestion, and thus it was a great question whether Beans were equal to, or as safe as, oilcake, which did not produce that effect. He had lambed 350 ewes, when he fatted the lambs with oilcake alone, but his experience with oilcake this year led him to give it up, for it produced a good deal of fever, and they did not progress so well as with split Beans. One year he fed his lambs with Peas, and he found they did best on old Peas, which were not so apt to scour, or to engender disease, as new Peas. Then came the question as to whether Wheat was the most profitable article to consume for sheep, and, as far as his experience went, Beans or old Peas were preferable, as being not only cheaper and safer, but possessing equal feeding properties. He could not advocate using Wheat alone; for, as such, he did not think it either the safest or cheapest, but it might be used in company with other corn. He disagreed with Mr. Osborne's plan of using Wheat alone, and was of opinion that a mixture of one-third Wheat, one third cake, and one-third old Beans would be preferable, as the cake would produce fat, Beans made muscle, while Wheat would give strength to the general frame.

Mr. James Walker, of Begbroke Hill Farm, said that for some years past he had been an extensive consumer of oilcake, and the more he used it the better he liked it. The price of Beans was so near to that of Wheat that he strongly upheld the feeding of sheep with Beans on roots; he was however in favour of a mixture of cake, Barley, and Beans, and moved as an amendment, "That a mixture of Beans, Barley, and cake preferable as food for sheep."

Mr. Williams remarked, that if they took the price of Beans at 44*s.* per quarter, they could get a ton of cake at 10 guineas, which would produce as much as five quarters of Beans, whereas they could buy Peas at 38*s.* per quarter, which would compete with Beans. At the same time, they could not throw over board cake, Beans, or Peas. He had consumed several hundreds of quarters of Wheat; but what would be if pigs would not feed sheep, because they had not to contend against the purgative property of roots, which sheep consumed, but which pigs did not.

On a division the amendment was carried.

## Reviews.

*The Journal of Agriculture and the Transactions of the Highland and Agricultural Society of Scotland.* Blackwood & Sons.

The number just issued of this quarterly periodical is more than usually good, containing a number of useful papers interesting both particularly to Scottish farmers and generally to agriculturists of both divisions of the island. Among the former may be enumerated Mr. Turnbull's report on Mangel Wurzel, a plant whose merits in English agriculture are already generally admitted, though in Scotland they are still doubted and indeed generally considered doubtful. Among the latter is Mr. Russell's excellent paper on Anbury, Finger and Toe in the Turnip crop, to which we shall hereafter direct attention. The Journal contains papers by Mr. Burn on the Novelties of the Agricultural Shows of last year, by Mr. Russell on Finger and Toe; by a Farmer on the Present Position of Agriculture, on the Selling of Grain by Weight or Measure, on the British Grasses, Specifications of Patents, on Steam Culture, and various paragraphs under the head of Farmers' Note-book. The Transactions contains papers on River Embankments, on Mangel Wurzel, on Drainage in Ploughing, on the Disease of Stomach Staggers, on Professor Anderson's Laboratory Researches and Experiments. From these latter we extract the following *Note on Concentrated Cattle Food*:—

"I had prepared some months since a short paper regarding the nature of some of the substances which so extensively advertised as foods for cattle, which circumstances prevented appearing at the time it was written. Since then, Mr. Lawes has published in the Journal of the Royal Agricultural Society of England a paper on the same subject, in which he expresses opinions completely concordant with my own, and has rendered my observations unnecessary. But as there are probably many readers of the Transactions into whose hands Mr. Lawes's paper may not fall, it may be of some use to put on record two analyses of such foods merely for the sake of showing how little they merit the encomiums bestowed on them, or the price at which they are advertised:—

| | I. | II. |
|---|---|---|
| Water .. .. .. .. | 14.38 | 12.66 |
| Oil .. .. .. .. .. | 7.05 | 4.00 |
| Albuminous compounds .. | 10.00 | 7.94 |
| Gum, sugar, &c... .. .. | 54.37 | 69.81 |
| Fibre .. .. .. .. | 7.61 | |
| Ash .. .. .. .. .. | 6 59 | 5.60 |
| | 100.00 | 100.00 |
| Nitrogen .. .. .. .. | 1.60 | 1.27 |

"These substances are made up of a variety of different kinds of ordinary food, among which Indian meal and Beanmeal appear to be the principal, mixed with a small quantity of some aromatic seed (in one case apparently Caraway seed) for the purpose of giving the mixture an attractive flavour. The exact nature of the latter substance cannot be determined without a long and elaborate examination, which, under the circumstances, it did not appear necessary to undertake, as the results, so far as they go, are sufficiently conclusive as to the value of the articles. It is obvious that they are cattle-foods of the most ordinary description, of comparatively low value, and not for a moment to be compared with the ordinary cereals, Beans, or oilcake. And yet No. 2 is offered for sale at 42*l.* per ton, being at the rate of 4½*d.* per lb., when the meat it will produce is sold for about 6*d.* The materials of which these foods are made cannot, when reckoned at the very highest rates, be worth more than from 7*l.* to 8*l.* per ton; so that the farmer who purchases is made to give an unreasonable and unfair price, which he ought not to pay, even if the food fulfilled the promises of the sellers. That the traffic in these articles must be carried on very extensively cannot be doubted; and it is a matter of the very greatest regret that farmers should give countenance to it by testimonials, of which a long list is to be found appended to the advertisements. So strong is my opinion on this point, that I have absolutely refused to make analyses of these foods for their makers, lest the results should be used in any way to lead farmers into the belief that I am favourable to them.

"It is worthy of notice that all foods of this description have a small quantity of an aromatic substance mixed with them, which may serve the part of a condiment, and induce the animals fed upon them to consume a larger quantity of their ordinary food, and

promoting digestion, cause the animal to fatten more rapidly than it otherwise would. But on this point we have no information: and it would be of interest to have a few experiments made on the effect of such substances mixed in small proportion with the food of animals. But even supposing a favourable result to be obtained from such substances, it would not in any way invalidate the remarks now made, or form an argument for the farmer's paying 40*l.* per ton for what is worth 7*l.* or 8*l.*"

## Miscellaneous.

*Draining Match on the Estate of the Duke of Sutherland at Trentham.*—Under the auspices of this nobleman and the management of George Loch, Esq., first agent to his Grace, an interesting draining trial took place last week, the competitors being workmen in the employ of the Dukes of Sutherland and Cleveland, the Marquises of Westminster and Cholmondeley, the Earls of Carlisle, Radnor, and Ellesmere, Lord Denbigh, W. Egerton, Esq., and other gentlemen from the adjoining counties. A suitable piece of ground in Trentham Ley, near the far-famed ornamental pleasure grounds of Trentham House, having been selected and enclosed by hurdles for the purpose, the stalwart competitors (24 sets of three men in each) commenced operations at 9 o'clock. The lines of the drains were marked, the sod upturned, and then spits of soil and subsoil were thrown out of the trenches in rapid succession. Very great interest was evinced in the operations. Everything in connection with the match was conducted most satisfactorily, and very great praise is due to the chief agent, Mr. G. Loch, with whom it originated. In draining, the Earl of Ellesmere's men obtained the first prize; the second being taken by the Earl of Carlisle's, and the third by the Duke of Cleveland's. In pipe laying, the Duke of Sutherland's took the first prize, and those of William Egerton, Esq., the second.

## Calendar of Operations.

### DECEMBER.

ISLE OF ELY: *Dec.* 30.—The past year has been one which the agricultural interest has not characterised as a prosperous one. The unremunerative price of meat in the early part of the year, and the very low price of corn prevailing during the latter part of it, have tended to make the farmers' profits very small, and in many instances have doubtless occasioned an actual loss. But we must not despond, but look forward cheerfully to the future, resolving not to relax our energies, or abate our zeal, and sooner or later the well-directed and vigorous efforts of the diligent and persevering shall be requited. Our local report of the doings and employments upon a Fen farm at this season of the year must necessarily be dull and uninteresting. Work is almost wholly of a routine character for two or three months in the depth of winter; ploughing, threshing, waiting upon stock, and claying, are the chief employments. And when the frost sets in, carting manure from the yards and upon the lands designed for spring cropping may be added. The weather since the severe frost of November broke up has been upon the whole mild and seasonable, and we have had some very good rains, which have been highly beneficial, but yet not sufficiently heavy to make the springs rise or to occasion a flood. A wet "dripping" winter is generally advantageous to our Fen soils; they become consolidated, and are consequently better enabled to bear the frosts and drying easterly winds which prevail so much in the early spring months. During the last month our Wheats have improved considerably, and are getting well rooted and strong. Work is generally very forward, ploughing almost finished, and a frost will soon be required to enable us to remove manure to find employment for both men and horses. Coleseeds eat away quickly, and mutton is getting thinner. The meat trade has been active, and prices good at the Christmas markets. The corn trade also, after a long period of intense dullness, has shown some little symptoms of activity, and prices are slightly advancing, but are still low and un-remunerative. *Your Fen Reporter.*

## Notices to Correspondents.

GREEN FOOD FOR LATE SOILING: *An Ely Islander* says, "I have been a grower of Carrots (Belgium White) for 13 or 14 years, and have always at the time of digging been able to furnish my horses, cattle, and even pigs with a considerable amount of green food, but it was not until last year that it struck me Carrot tops might be grown as green food for use in the yard; but I am now confident they can be grown most successfully for that purpose." [It is hardly probable we shall be able to compare Carrot tops and Tares for you exactly; and though analyses could be obtained they would be those only of the specimens analysed; while no doubt the chemist would bear out what the farmer knows, that Tares vary much in nutritive quality according to age and circumstances of growth, &c. We shall be very glad to receive the account of your experience.]

MIXED SEEDS: *A Young Farmer* asks for the experience of any one who has tried Trifolium incarnatum for filling blanks in Clover. [It is we fear too late now for sowing it.]

RAPE-CAKE: *Ignorance.* If it destroys wire-worm it may be used horticulturally as well as agriculturally. Mr. Mechi's meaning is no doubt what you suppose. Whether he reads his own experience rightly in the matter is uncertain.

STOCKING OF A CLAY FARM: *Dentatus* says:—"It would enlighten many of those engaged in farming pursuits if any of your practically intelligent correspondents would give the following information:—How many horned cattle and sheep would be considered full stocking for a stiff land farm consisting of 130 acres of arable, 40 acres of meadow, and 160 acres of pasture land? The latter are good pastures, full of Grass during the summer and autumn months. The farm is cultivated on the four-course system, and from 20 to 30 acres of Mangel Wurzel and Swedes are grown yearly. Is it generally considered that purchasing straw pays the farmer? That is, does he get an equivalent return for 20*s.* per load in the good it does the cattle and the manure produced from it? It has been asserted that one load of straw produces four loads of dung. Is this a fact? If this should meet the eye of some of the practical farmers of our land, such as Mr. Bond and others, who have entered closely into the minutiæ of production and expense, they would not only enlighten many of the fraternity, but nearly all those who style themselves gentlemen farmers by giving a full reply to the questions proposed, as the stocking of farms of larger or smaller dimensions could be calculated accordingly. [We hope next week to state the data on which calculations of this kind must be made.]


CHRYSANTHEMUMS—CHRYSANTHEMUMS.

J. H. BIRD, F.H.S., NURSERYMAN, Stoke Newington, the largest grower and most successful exhibitor of the Chrysanthemum in the British Empire, begs to call the attention of the lovers of the above beautiful autumn flower to his matchless collection, the stock of which amounts to upwards of 50,000 plants. Amongst them will be found the following new and rare varieties:—Admirable, Aimée Ferrière, Augustine, Constantine, Louisa, Louis Bonamy, Madame Leo, Norfolk Hero, Progne, Raymond, Beauté de Nord, Dr. Maclean, Queen of England, Plutus, Alfred Salter, Stellaris globosa, Beauty, Themis, Dupont de l'Eure, &c.

J. H. B. can supply strong plants, one dozen for 6*s.*; or five dozen in 30 varieties, containing two of each variety, for 1*l.*; or he can supply 100 plants in 50 varieties, two of each variety, for 1*l.* 10*s.* Also POMPONES in great variety; 50 Pompones in 25 varieties, two of each variety, for 10*s.*; or 100 in 50 varieties, two of each variety for 1*l.* Strong plants of the beautiful new Pompone the Golden Cedo Nulli, 5*s.* each, will be ready in March with the usual allowance to the Trade. Every order will be accompanied by a popular work on the Chrysanthemum.

Post-office Orders payable to J. H. BIRD, Stoke Newington, will be immediately attended to.

CHRYSANTHEMUM TRICOLOR BURRIDGEANUM.
CHRYSANTHEMUM TRICOLOR VENUSTUM.

F. K. BURRIDGE, SEED GROWER, Lexden Road, Colchester, has much pleasure in inviting the special attention of the Seed Trade to the above-named new Hardy Annuals, which he now offers for the first time, believing they will be found among the finest novelties of the season. The variety Burridgeanum differs from the old C. tricolor in having a fine crimson ring surrounding the yellow circle next the eye of the flower, the rest of the ray being snow white. The variety venustum has the ray florets of a deep reddish purple or plum colour for about one-half their length, shading into yellow at the base, and stained on the under side with purple. Both varieties are striking objects in the flower border, and from their bold conspicuous character, free blooming qualities, and perfect hardiness, together with their adaptability for bouquets, F. K. B. confidently predicts that they will become universal favourites.

A beautifully-coloured group of the two varieties has been prepared, and may be had on application, price 1*s.*; or gratis to Purchasers of 1 oz. of seed.

N.B. The Botanical Magazine for the present month (Jan. 1859), contains a coloured plate of the above.

THE GARDEN.

IN THE CATALOGUE OF VEGETABLE AND FLOWER SEEDS issued by W. DRUMMOND & SONS, Stirling, the intelligent gardener will be gratified to find the system of inserting only the best and really distinct varieties in the various classes still strictly adhered to; and from the brief but correct descriptions affixed thereto, as well as the general simplicity of the whole, it will be found a ready guide to the amateur in making a suitable selection.

W. D. & SONS will, on application, be glad to forward a copy of their Catalogue, post free, to any address.

Stirling is most favourably placed in point of railway accommodation, there being direct and constant traffic to all the principal stations in Scotland and England, and by steamers (*vid* Glasgow) almost daily to the chief ports in Ireland, thereby insuring a speedy delivery of goods, all of which are, with a limited exception, forwarded carriage paid.

W. DRUMMOND & SONS: Seed Warehouse, Stirling, N.B.; and 58, Dawson Street, Dublin.

R. M. STARK, SEEDSMAN, &c., 31, Castle Street, Edinburgh, begs to intimate that his CATALOGUE OF GARDEN, FARM, AND FLOWER SEEDS for the Season is now ready. Of the numerous interesting additions to his Stock he would especially notice the following:—Peas: Champion of Scotland, Excelsior Marrow, Dunnett's First Early. Broccoli: Penzance and Snow's Superb. Cabbage: Champion and Shepherd's Marrow. Lettuce: Crystal and Superb White Cos. Potatoes of fine sorts, &c. &c.

| FLOWER SEEDS. | Per pkt—*s.* | *d.* |
|---|---|---|
| Bravoa geminiflora, beautiful Iris-like plant, with spikes of rich orange waxy flowers | 0 | 6 |
| Brizopyrum siculum, very ornamental Grass | 1 | 6 |
| Callirhoe pedata (Malvaceæ), crimson with white eye, fine | 2 | 6 |
| Chrysobactron Hookeri, fine new Asphodel from New Zealand | 1 | 0 |
| Datura humilis fl. flavo pl., from Texas, flowers golden yellow | 2 | 6 |
| Eryngium yuccæfolium, fine hardy species | 1 | 6 |
| Fenzlia (Gilia) dianthoides, rosy pink | | |
| Lupinus Menziesi, new yellow species | 1 | 0 |
| Portulacca caryophylloides | 1 | 0 |
| Solanum capsicastrum, ornamental fruit suitable for pot | 1 | 0 |
| Stock, Stark's intermediate, brighter in colour than Young's | 1 | 0 |
| Trifolium tomentosum, ornamental dwarf species with woolly heads | 0 | 6 |
| Zinnia elegans striata | 0 | 6 |

With many others of equal interest purchased or collected on the Continent by R. M. S. in the course of last season.

Edinburgh, Jan. 15.

SEEDLING FOREST TREES, &c.

| | | | Per 1000—*s.* | *d.* |
|---|---|---|---|---|
| 3,000,000 | 1-year | Larch | 1 | 0 |
| 1,000,000 | ,, | Scotch Fir | 0 | 10 |
| 300,000 | ,, | Alder | 1 | 0 |
| 200,000 | ,, | Birch | 1 | 6 |
| 200,000 | ,, | Elms | 1 | 6 |
| 150,000 | ,, | Ash | 1 | 6 |
| 100,000 | ,, | Sycamore | 1 | 6 |
| 300,000 | ,, | English Oak | 2 | 6 |
| 10,000 | ,, | Evergreen Oak | 40 | 0 |
| 20,000 | ,, | Horse Chesnut | 5 | 0 |
| 40,000 | ,, | Chinese Arbor-vitæ | 10 | 0 |
| 70,000 | ,, | Cupressus horizontalis | 8 | 0 |
| 80,000 | ,, | Pinus Laricio | 10 | 0 |
| 100,000 | ,, | Pinus austriaca | 6 | 0 |
| 300,000 | ,, | Pinus maritima | 2 | 6 |
| 20,000 | ,, | Common Laurel | 17 | 6 |
| 20,000 | ,, | Crab Apple | 3 | 6 |
| 250,000 | ,, | Quick | 2 | 0 |
| 10,000 | ,, | Laburnum | 2 | 6 |
| 10,000 | 2-year | do. | 4 | 0 |
| 1,000,000 | ,, | Norway Spruce Fir | 1 | 6 |
| 40,000 | ,, | White Spruce Fir | 4 | 0 |
| 50,000 | 3-year | Silver Fir | 7 | 0 |
| 800,000 | 2 ,, | Scotch Fir | 1 | 6 |
| 100,000 | 1 ,, | bedded Scotch Fir | 2 | 6 |
| 100,000 | 2 ,, | Beech | 3 | 0 |
| 60,000 | 2 ,, | Birch | 3 | 0 |
| 30,000 | 2 ,, | Alder | 3 | 0 |

The Subscriber begs to call attention of his friends and the public in general to the above stock of SEEDLINGS, and is happy to intimate to them that they are generally fine in quality, and trusts they will give satisfaction. Any order, large or small, will be promptly attended to. All delivered free of expense at Dublin, and thence half carriage paid to any part of England. &c.—Apply to MICHAEL BURKE, Drumlargan Nursery, Summerhill, county Meath, Ireland.

"JEYES'S CONQUEROR PEA," 3*s.* 6*d.* per quart.—This remarkable Pea was sent out to a few private growers a few years since, and it has established its own reputation so much, that although I have kept on increasing my supply every year, I have always had to deal it out with great caution lest my regular customers should not be supplied; and long before the season for sowing was over I have been sold out and had to turn away many scores of customers. To prevent a repetition of such a short supply I engaged with two gentlemen to grow me five acres each, and forwarded them the seed very early in the spring. The present stock is the result of that arrangement, and it is with much pleasure and confidence that I offer it to the criticism of the whole gardening world.

I have much pleasure in submitting to notice the following testimonials respecting this wonderful Pea.—JOHN JEYES, Northampton.

Delapre Garden, January 1, 1859.

Dear Sir,—I have grown your "Conqueror Pea" for several seasons, in fact ever since its introduction. During that period I have had its qualities tested in comparison with the numerous varieties of recent introduction, and the result has been invariably favourable to your Pea. As a second early and main cropper, its immense supply and continued bearing make it truly valuable, and if my humble testimonial to its great worth should be the means of bringing it into more general notice, I shall rest satisfied that its merit will make it become a universal favourite.—I am, dear Sir, yours very truly,

Mr. J. Jeyes. GEORGE MACKIE.

Sir,—After having grown and tested your marrow Pea, "Conqueror," for three consecutive seasons, including the past dry and unfavourable one, I have no hesitation in stating that it is a really valuable addition to our culinary garden. Its fine branching habit, bearing a profusion of pods, having from eight to ten large sized fine green coloured Peas in each, will make it of sterling value to growers, when its merits become more universally known.—I am, Sir, yours, &c.,

Moulton Grange. J. R. TANTON.

Northampton, January 4, 1859.

Sir,—I have grown your "Conqreror Pea" for the last six years, and cannot speak too highly of it, indeed it is such a fine thing that it cannot be flattered. It will yield better than any other Pea sell more freely, and fetch half as much more money.—Yours truly, JOHN MORING, Market Gardener.

56, Gold Street, Northampton, January 8, 1859.

Dear Sir,—We feel great pleasure in bearing testimony to the excellent quality of your "Conqueror Pea." It stands so far above any other Pea we produce as to fetch a much higher price; it is THE favourite with our customers.—We are, dear Sir, very truly yours, WATTS & SON, Market Gardeners, &c.

Mr. John Jeyes.

Hundreds of testimonials can be given and all most complimentary.

The following Firms have received a large supply, and are authorised Agents:—

Messrs. NOBLE, COOPER, & BOLTON, Fleet Street, London.
Messrs. FAIRHEAD & SON, Borough Market, London.

MESSRS. WATERER AND GODFREY respectfully invite the attention of parties engaged in planting to the following list of very desirable plants, all of which may be seen growing in the open quarters of their Nursery, and are in the finest possible condition for transplanting:—

Araucaria imbricata, 9 to 12 inches, 5*l.* per 100; 40*l.* per 1000
,, ,, 1½, 2, 3, 4, 5, 6, and 8 feet high. Our stock of this plant exceeds 100,000
Wellingtonia gigantea, stout handsome plants from seed, 84*s.* per dozen; 25*l.* per 100. These are all in the open ground, and are believed to be the finest lot of seedling plants in the Trade.
Cedrus Deodara, 1½ to 2 feet, 18*s.* per dozen; 6*l.* per 100
Do. 3, 4, 5, 6, 7, 8, 10 and 12, and 15 feet Our stock of Deodars at the present moment occupies several acres of land; they have been constantly removed, and with fair usage not one in a thousand would fail. We offer them on very advantageous terms either in large or small quantities
Cedrus atlantica, 4, 5, 6, and 7 feet
Cupressus macrocarpa, magnificent plants, 7, 8, and 10 feet high
,, Lawsoniana, stout handsome plants from seed, 18 inches, by the dozen or 100
Abies nobilis, from imported seed, 6*l.* 6*s.* per doz.; 40*l.* per 100
,, do. 1, 2, and 3 feet high
,, Nordmanniana, a large number of beautiful plants, all from seed, 2, 3, 4, 5, and 6 feet high
,, Pinsapo, do. do.
[We believe we are justified in stating our stock of the three last-mentioned Firs offers a selection to be met with in no other Nursery.]
,, Douglasi, 6, 7, 10, and 12 feet
,, orientalis, 3, 4, 5, and 6 feet
Pinus Benthamiana, stout seedling plants, about 1 foot, 18*s.* per dozen; 5*l.* per 100; 40*l.* per 1000. Unquestionably the finest of all the long-leaved Californian kinds, and well known to be perfectly hardy. It is the most valuable of all for timber.
Juniper, Chinese, 2, 3, 5, 7, 8, and 10 feet high
Irish Upright, 3, 4, 5, 6, 7, and 8 feet The Irish and Chinese Junipers are grown by us to a very large extent
Thuja aurea.—This plant originated in our Nursery, and our stock of it offers a choice of many hundred specimens from 1½, 2, 3, 4, and 5 feet high, and measuring from 2 to 10 and 15 feet in circumference. Nothing can well exceed the beauty of these plants, and certainly are to be met with in no other Nursery
Thuja gigantea, stout seedling plants, 1½ to 2 feet high
,, Wareana, 3, 4, 5, 6, 7, and 8 feet
Thujopsis borealis, handsome plants, in quantity, 1½ & 2 ft. high
Taxus, Yew, Common English.—A large quantity, and of all sizes up to 5, 6, and 7 feet
,, Irish Yew, 4, 5, 6, 7, and 10 feet. Many thousands of these beautifully formed plants grown to one stem
,, Golden Yews in large quantities and of all sizes up to 6, 7, and 8 feet
We also have them worked on the Common and Irish Yew as Standards, with heads from 12 to 15 years' growth
Holly, Variegated, Scottica, laurifolia, &c. We hold probably the largest stock of good sized variegated Hollies in the kingdom, especially of the better kinds of silver and gold striped
Rhododendron ponticum, for cover, stout plants, 1½ to 2½ feet, by the 1000. All the well-known proved hardy late blooming kinds, in any quantity, at from 30*s.*, 42*s.*, to 84*s.* per dozen
Standard Rhododendrons of all kinds
Azaleas, stout bushy plants, covered with bloom buds, from 18 inches to 2 feet high, and of all colours, 9*s.*, 12*s.*, 18*s.*, and 24*s.* per dozen; 50*s.*, 75*s.*, to 100*s.* per 100
Hardy Heaths, a first-rate collection, at 35*s.* per 100; 15*l.* p. 1000
Roses, fine Standards, of the most popular kinds, at very low prices.

As well as the above, we are very large holders of the ordinary kinds of Nursery Stock, which may be judged from the fact that the Nursery far exceeds 100 acres in extent of all such things as Laurels, Box, Lilacs, Limes, Purple Beech, and the commoner descriptions of Evergreens and Deciduous Flowering Shrubs. An enormous stock of Fruit and Forest Trees are also grown extensively.

Goods are delivered free to London, Reading, or Reigate. The Nursery is reached in an hour from Waterloo, and conveyances are always to be had at the Woking Station.

CATALOGUES, Priced and Descriptive, will be sent on application, enclosing one postage stamp, to

WATERER AND GODFREY, Knap Hill, Woking, Surrey.

## GRAPE VINES FROM EYES.

JOHN AND CHARLES LEE beg to offer an immense stock of strong well-ripened VINES FROM EYES, of the following kinds:—

| | |
|---|---|
| Alicant | Hamburgh, Pope's |
| Barbarossa | ,, Victoria |
| Bidwell's Seedling | Hâtif de Jura |
| Black Cluster | Isabella |
| Black Constantia | Lady Down's Seedling |
| Black Damascus | Marchioness of Hastings |
| Black Prince | Muscadine, Royal |
| Blanche Vigne | ,, Parsley leaved |
| Calabrian Raisin | Muscat, August |
| Charlsworth Tokay | ,, Bowood |
| Chasselas Frockaboulay | ,, Cannon Hall |
| Chasselas Musqué | ,, Hamburgh |
| Duzetto | ,, Noir Hâtif |
| Esperione | ,, of Alexandria |
| Frontignan, black | ,, of Fontainebleau |
| ,, grizzly | Pitmaston Cluster white |
| ,, white | Raisin des Carmes |
| Hamburgh, black | Sweet Water, Dutch |
| ,, Champion | Syrian |
| ,, Dutch | Trebiana |
| ,, golden | Tripoli |
| ,, Mill Hill | West's St. Peter's |

Nursery and Seed Establishment, Hammersmith, London.

UNEQUALLED NEW CUCUMBER, "DR. LIVINGSTONE."—This is one of the finest long hybrid Cucumbers for exhibition purposes that has ever yet been offered to the public; it is a splendid black spine, length 22 to 26 inches, a very free setter, and an abundant bearer. Price 2s. 6d. per packet.

Also the following fine CUCUMBERS can be supplied:—

| | Per packet—s. | d. | | Per packet—s. | d. |
|---|---|---|---|---|---|
| General Outram | 2 | 0 | Sunderland Wick | 1 | 0 |
| Perfection | 1 | 0 | Hunter's Prolific | 1 | 0 |
| Sir Colin Campbell | 1 | 0 | Mill's Jewess | 1 | 0 |
| General Canrobert | 1 | 0 | Cheltenham Surprise | 1 | 0 |
| Phenomena | 1 | 0 | Manchester Prize | 1 | 0 |
| Ipswich Standard | 1 | 0 | Sion House (true) | 1 | 0 |
| Lord Kenyon | 1 | 0 | Cuthill's Black Spine | 1 | 0 |
| Essex Hero | 1 | 0 | Conqueror of the West | 1 | 0 |
| Victory of Bath | 1 | 0 | Lynch's Star of the West | 1 | 0 |
| Gordon's White Spine | 1 | 0 | &c. &c. | &c. | |

"QUEEN OF THE WEST" MELON, a superb new variety, green flesh, very handsome in appearance, beautifully netted, and excellent in flavour. It obtained several first prizes during the past season. This Melon has proved itself to be one of the best varieties ever yet offered for early forcing. It sets well, and will carry an immense crop. Fruit weighing 2½ lbs. was cut on the 20th of April, and the plants continued bearing abundantly until the end of July. Seeds 2s. 6d. per packet.

NEW MELON "GENERAL HAVELOCK," sent out for the first time last season. It is a green flesh, of a very handsome shape, and beautifully netted; a very thick substance, thin skin, of a melting and most delicious flavour, and an abundant bearer. Weight from 3 to 4 lbs. It is very hardy, and may be grown as easily in a cold frame in the summer as a Vegetable Marrow. Seed 1s. per packet.

Also the following fine varieties of MELONS:—

| | Per packet—s. | d. | | Per packet—s. | d. |
|---|---|---|---|---|---|
| M'Ewen's Arundel Hybrid Scarlet-flesh | 1 | 0 | Bowood | 1 | 0 |
| M'Ewen's Arundel Hybrid Green-flesh | 1 | 0 | Victory of Bath | 1 | 0 |
| Monro's Crystal Palace Hero | 1 | 0 | Cashmere | 1 | 0 |
| Monro's Golden Gage | 1 | 0 | Camerton Court | 1 | 0 |
| The Queen | 1 | 0 | Beechwood | 1 | 0 |
| Orion | 1 | 0 | Windsor Prize | 1 | 0 |
| Golden Drop | 1 | 0 | Emperor | 1 | 0 |
| Green Gage | 1 | 0 | Fleming's Hybrid Persian | 1 | 0 |
| Bromham Hall | 1 | 0 | Blackall Green-flesh | 1 | 0 |
| Incomparable | 1 | 0 | Bailey's ,, | 1 | 0 |
| Golden Ball | 1 | 0 | Snow's Hybrid | 1 | 0 |
| | | | Golden Perfection | 1 | 0 |
| | | | Scarlet King | 1 | 0 |

A packet of any var. of Cucumber marked at 1s. per packet sent with a packet of the Dr. Livingstone Cucumber for 3s.

A packet of any var. of Melon marked at 1s. per packet sent with a packet of the Queen of the West Melon for 3s.

Extra fine mixed Hollyhock Seed, saved from all named vars., 1s. per packet.

Early Emperor Celery, the finest ever yet sent out, 1s. p. pkt.
Tiley's Solid White Celery, 6d. per packet.
Delphinium formosum, 6d. per packet.
Digitalis, or Foxglove Seed, 6d. per packet.

A remittance must accompany every order in Cash or Penny Postage Stamps, when the whole or any part, as the case may be, will be immediately sent.

EDWARD TILEY, NURSERYMAN, SEEDSMAN, AND FLORIST,
14, Abbey Church Yard, Bath.

FLOUR, Warranted Unadulterated, free to any part of London (not less than 14 lbs.); Whites, for pastry, at per bushel (56 lbs.), 8s. 4d.; households, for bread-making, 7s. 8d.; seconds, 7s. 0d.; Wheatmeal, for brown bread, 7s. 0d.; best fine and coarse Scotch Oatmeal.—Address, HORNAIL & CATCHPOOL, Bullford Mill, near Witham, Essex, or 97, Goswell Road, City Road, E.C. Directions for bread making gratis. Terms, cash. Bags lent. German yeast. A half sack (140 lbs.), or upwards, free to any railway station within 200 miles.

## GENUINE TOBACCO PAPER FOR FUMIGATING.

H. APPLEBY (Foreman to Messrs. Ivery & Son, Nurserymen, Dorking, Surrey), begs to inform his friends and the public that he now offers the above article at a reduced price. Sold in 4-lb. packets, 1s. 3d. per lb. A great reduction to the trade; price on application. For testimonials that will guarantee its quality, see *Gardeners' Chronicle*, Dec. 11, 1858, page 920.

SHEET IRON POTS FOR FUMIGATING, 3s. 6d. each.

N.B. All Orders to be accompanied with a Post-office Order, payable to HENRY APPLEBY, Dorking, Surrey.

TOBACCO PAPER OR CLOTH.—TO NURSERYMEN, &c.

GENUINE TOBACCO PAPER OR CLOTH at 10d. per lb. to be had of G. DARLINGTON, Tobacco Cutter, 16, Wellington Place, Warner Place, Hackney Road, London.—All orders to be accompanied with a Post-office Order, payable to GEORGE DARLINGTON, Hackney Road, London.

## OF THE GREATEST IMPORTANCE TO GARDENERS.

A COMPOSITION FOR "GRAFTING," vastly superior to that generally used, quickly prepared, easily applied, and most successful in its results, can be made at a very trifling cost, and kept for any number of years in a state of purity.

The above is highly approved of and strongly recommended by Mr. Richard Scott, late head gardener to the Hon. R. Cursons, Parham Park, Sussex.

A Recipe forwarded post free for 30 postage stamps.—Address Rev. F. G. SHARP, Pulborough, Petworth, Sussex.

RIMMEL'S CITY BRANCH, 24, Cornhill, Corner of Change Alley, opposite the Royal Exchange, will OPEN on MONDAY next for the Sale of his well known PERFUMERY and Toilet Requisites. Shipping Orders taken.—RIMMEL, Perfumer to her Majesty, 96, Strand, and 24, Cornhill. Manufactory, 96, Strand, W.

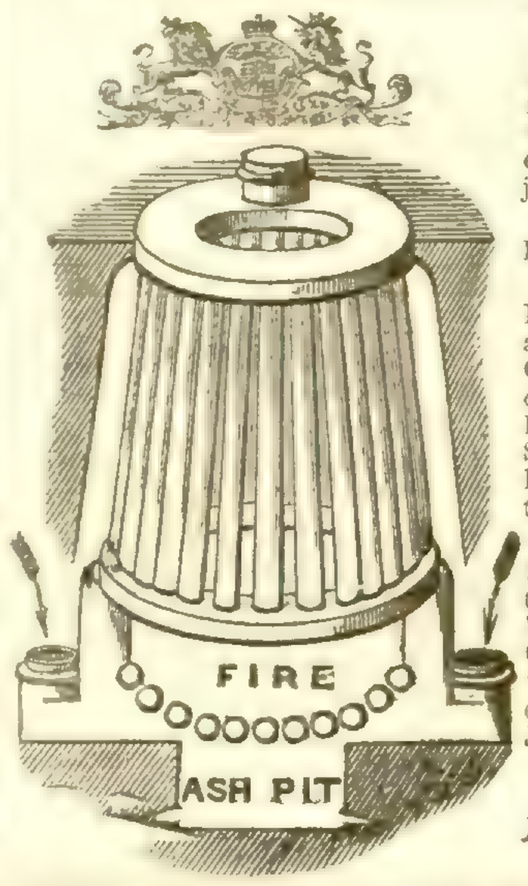
# WEEKS' ONE BOILER SYSTEM.

THE

# LARGEST HORTICULTURAL ESTABLISHMENT IN EUROPE

IS NOW SUCCESSFULLY HEATED BY

## JOHN WEEKS & CO. on their One Boiler System.




EVERY YEAR FURNISHES NUMEROUS ADDITIONAL PROOFS of success and efficiency of J. WEEKS & Co.'s Hot-water Apparatus. Within last few years upwards of 1000 have been erected all of which are working most satisfactorily. Among the most important, J. WEEKS & Co. have the honour to name Mr. LOUIS VAN HOUTTE, of Ghent. The whole of his immense Establishment is effectually and most satisfactorily heated on WEEKS' ONE BOILER SYSTEM. This may justly termed the masterpiece of the world in the science of Heating by Hot Water.

Also at the extensive Nursery of Mr. CHARLES WOODROFFE, Kensal Green, Harrow Road. Mr. Woodroffe will be happy to show the Apparatus.

J. WEEKS & Co. also beg to refer to the celebrated Nurseries of the Messrs. E. G. HENDERSON & SON, St. John's Wood. There will be found ONE OF WEEKS' BOILERS attached to various Hothouses, &c., equal to 1200 feet long, also to all the various Offices, Seed Shops, and Warehouses, the Hot Water circulating through 5500 feet of cast-iron pipe. Any one house can be heated separately either with top or bottom heat, or the whole together, or any part regulated at pleasure; also to Messrs. F. & A. SMITH'S Village of Glass at Dulwich. There will be found Hothouses, &c., 3000 feet long, the whole heated upon WEEKS' ONE BOILER SYSTEM, the Hot Water circulating through 10,000 feet of cast-iron pipe.

J. WEEKS & Co. further beg particular attention to their own HORTICULTURAL ESTABLISHMENT AT CHELSEA, the whole of which is reserved expressly for reference, to exhibit all modern improvements in Horticultural Building and Heating by Hot Water. These extensive ranges of Hothouses, together with the renowned Model Garden, the whole equal to a range 1300 feet long, are now being managed as a FIRST-CLASS FORCING ESTABLISHMENT; and in future Pines, Grapes, Peaches, Figs, &c., will be shown early and in succession throughout the year. This will prove the great power of J. WEEKS & Co.'s Hot-Water Apparatus, and also the economy of the ONE BOILER SYSTEM.

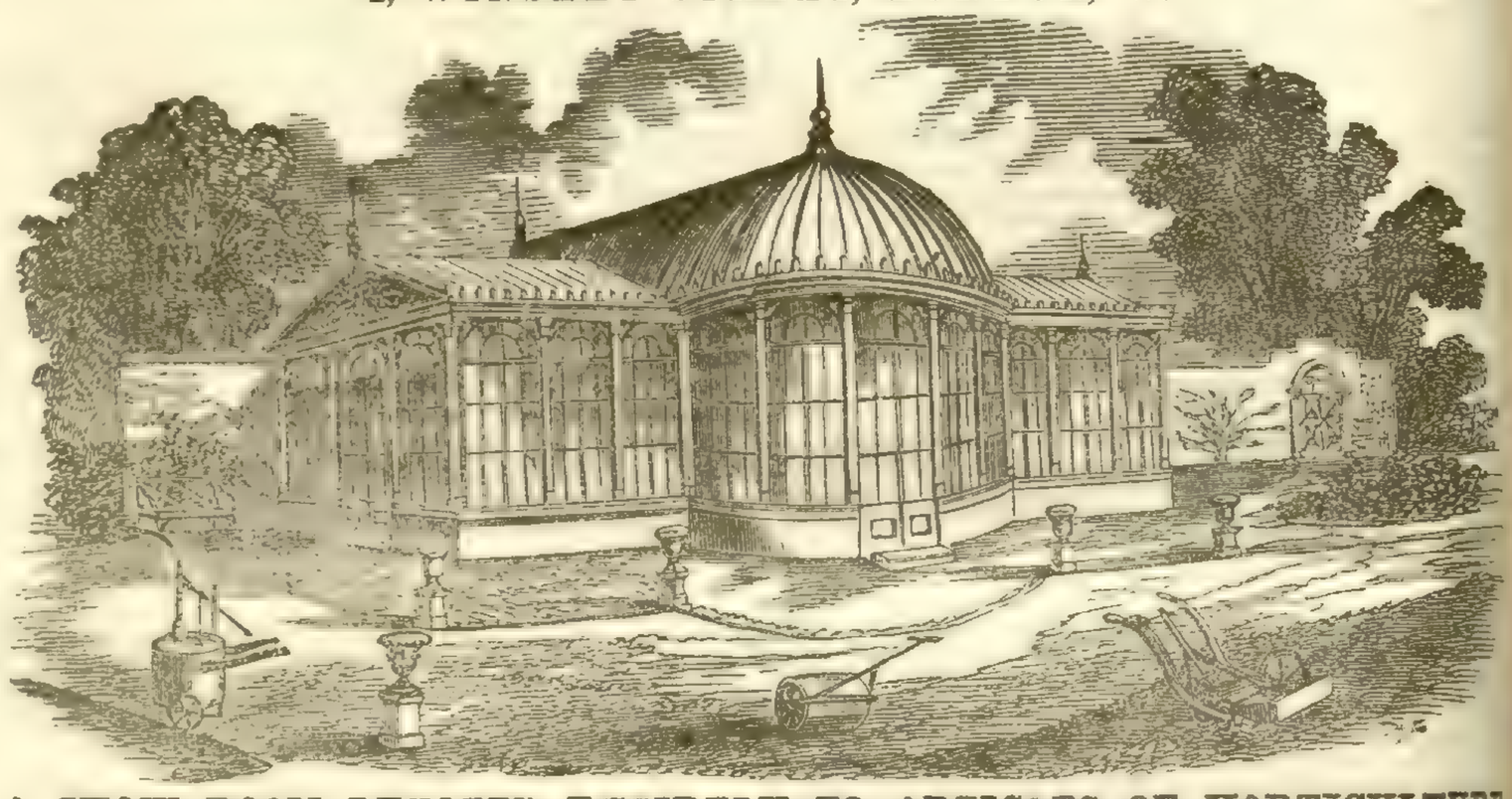
CHURCHES, MANSIONS, HOTHOUSES, &c., HEATED BY HOT WATER

*Illustrated Pamphlets of Horticultural Buildings, also Plans and Estimates on application.*

## JOHN WEEKS & COMPANY, KING'S ROAD, CHELSEA.

# COTTAM & COMPANY, Engineers, Founders, &c.,

2, WINSLEY STREET, LONDON, W.



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**Iron Hurdles, Strained Wire Fencing, Game Netting, &c.**

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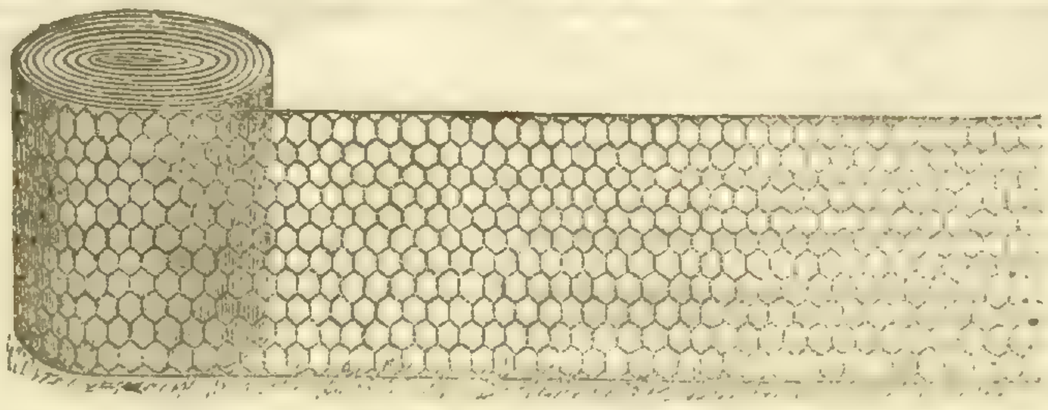
*Every description of Plain, Ornamental, Cast and Wrought Iron, and Wire Work.*

**EXHIBITION PRIZE MEDAL GATES AND ENAMELLED MANGERS.**

N.B. COTTAM AND CO. beg to make it known that the entrance to their establishment is no longer in Oxford St., as formerly, but they have made a second entrance from 2, Winsley St. Oxford St., W., by the side of the old entrance to their works.

# STRONG PREMIUM RABBIT-PROOF WIRE NETTING



## PRICES:—

| | | | | |
|---|---|---|---|---|
| 24 inches high, 2-inch mesh, | light, | 4d. per yard, or 16s. 8d. | per roll of 50 yards | |
| 24 inches high, 2-inch mesh, | medium, | 4¾d. per yard, or 19s. 9d. | per roll of 50 yards | |
| 24 inches high, 2-inch mesh, | strong, | 5½d. per yard, or 22s. 11d. | per roll of 50 yards | |
| 24 inches high, 2-inch mesh, | extra strong, | 7½d. per yard, or 31s. 8d. | per roll of 50 yards | |
| 24 inches high, 1⅝-inch mesh, | light, | 4½d. per yard, or 18s. 9d. | per roll of 50 yards | |
| 24 inches high, 1⅝-inch mesh, | medium, | 5¼d. per yard, or 21s. 10d. | per roll of 50 yards | |
| 24 inches high, 1⅝-inch mesh, | strong, | 6d. per yard, or 25s. | per roll of 50 yards | |
| 24 inches high, 1⅝-inch mesh, | extra strong, | 8d. per yard, or 33s. 4d. | per roll of 50 yards | |

All effectually varnished or japanned. If galvanised, 1d. and 1½d. per yard extra. The extra strong Netting of 3-inch mesh at 7½d., and 1⅝-inch mesh at 8d.; 2d. per yard extra for galvanising. Quantities of 100 yards or upwards delivered free at all the principal Railway Stations and Shipping Ports in England; also by special estimate to any part of Scotland or Ireland.

Mixed mesh GAME NETTING (the upper half of the Netting of a larger sized mesh than the lower), about a fifth lower price than the above quotations. Any width of Netting under 8 feet made at proportionate prices.

POULTRY NETTING, 36 inches wide, 2¼-inch mesh, 6½d. and 7½d. per yard. SPARROW-PROOF NETTING for Aviaries and Pheasantries, 1-inch mesh. 2d., and ⅞-inch mesh 2½d. per square foot. Best improved hand-made HEXAGON POULTRY NETTING, from ½d. to 1½d. per yard extra.

☞ *Every description of Netting warranted to give satisfaction, and if not approved to be exchanged or returned unconditionally.*

## J. B. BROWN & CO., 18, CANNON STREET, LONDON, E.C.

### HORTICULTURAL WORKS,
DANVERS STREET, CHELSEA, SEPTEMBER, 1857.
DISSOLUTION OF PARTNERSHIP.

MR. GRAY begs most respectfully to announce to his patrons and friends that the Partnership hitherto existing between Mr. ORMSON and himself is now at an end, and that the Business will be carried on by him as usual, and he hopes to be honoured with a continuance of that support and patronage with which this establishment has been so long favoured.

Mr. GRAY avails himself of this opportunity to tender his grateful thanks to the many kind friends and supporters by whose patronage this establishment has been raised to its present position, and he begs to assure them that it will be his most anxious care and study to maintain it.

HEATING BY HOT WATER ON HAMMOND'S improved principle, for Horticultural Works, Mansions, Churches, Public Buildings, in fact everywhere that heat is required. Also his improved Ventilating Greenhouses, which can be erected at 1*s.* per foot, and entirely prevent the possibility of scorching the Vines or plants. The Patent Hot-water Register Stove.—Estimates at No. 18, George Street, Portman Square. Workmen sent into the country.

### NOTICE.

VOKINS AND HURD (removed from Smith Street to Seymour House, Jubilee Place, King's Road, Chelsea), HORTICULTURAL BUILDERS and HOT-WATER APPARATUS MANUFACTURERS. Estimates forwarded.

HORTICULTURAL WORKS. — HOT-WATER APPARATUS from 5*l.*, at E. ELEY'S, City Road opposite the Eagle Tavern, London. N.B. Patentee of the Fluted Pipes for obtaining moisture, saving fuel, labour, &c. See Prospectus by post. E. ELEY being a practical and scientific workman defies competition. Boilers of every description supplied. Old work taken down, remodelled, and refixed.

HOT-WATER PIPES at wholesale prices, with Elbows, Syphons, Tee Pipes, and every other connection. Wrought and cast iron Boilers, Saddle, Conical, Cylinder, and Elliptic, from 21*s.* each. Boilers and Iron Stands to use without brickwork. Valves from 12*s.* 6*d.* each. Furnace Doors, Furnace Bars, Supply Cisterns, and Builders' Castings of every description in stock, at Mr. LYNCH WHITE'S Iron Wharf, Upper Ground Street, Blackfriars Bridge, London.

ARTIFICIAL ROCKWORK executed in the only way it should be, viz., in close imitation of Nature, in Caves, Waterfalls, to sides of Streams, Ponds, Rocky Passes, and for Ferneries, not to look as if built up by hand, with the usual arches, pinnacles, &c. Also Artificial Ruins, so as to be supposed real; Remains of Castles, Churches, Towers, Gateways, &c., for picturesque scenery and effect in Gardens, and of guaranteed durability in stone or cement, by

JAMES PULHAM, of Broxbourne.

Numerous references given of works executed over many years.

WIRE NETTING for GAME, POULTRY, and PHEASANTRIES, &c., by improved machinery.

Illustrated Catalogues sent free.—THOMAS P. HAWKINS, Manufacturer, 27, Dale End, Birmingham.

BRITTAIN'S GARDEN NET completely protects Fruit Blossoms from injury by frost, and provides for the circulation of air and admission of light, so essential to healthy growth; 55 inches wide, 5*d.*, 6*d.*, and 7*d.* a yard; good yard wide TIFFANY, 2½*d.* do.—Manchester, Jan. 15.

NETTING! NETTING! NETTING! FOR GARDENS, YOUNG PLANTATIONS, NURSERIES, POULTRY YARDS, AND PHEASANTRIES.

THE SUBSCRIBERS have much pleasure in offering the following very low prices for their PREMIUM PRIZE WIRE NETTING, now universally acknowledged the only reliable article in the market, the monopoly of which it has almost entirely secured. The quality which they supply has gained the Silver Medal from the principal Agricultural Shows in England, Scotland, and Ireland; it is all hand made, giving it an eminent superiority over that manufactured by machinery, as by the latter process the wire is split, and in a very short time the meshes break and gave way. The Subscribers cannot give a better idea of the undoubted excellence of their PREMIUM PRIZE NETTING than by stating that the weight of 1 yard of their 24 inch is equal to about 3 yards of another article in the market the same width, at 9*d.* per yard.

PRICES.

| | | | | |
|---|---|---|---|---|
| 12 inches high | | 6*d.* | per yard | Premium Prize Netting |
| 24 | ,, 1*s.* | 0 | do. | do. |
| 36 | ,, 1 | 6 | do. | do. |
| 12 inches high | | 4½ | per yard | Medium Netting |
| 24 | ,, | 9 | do. | do. |
| 36 | ,, 1 | 1½ | do. | do. |
| 12 inches high | | 3 | per yard, | Light Wire Netting |
| 24 | ,, | 6 | do. | do. |
| 36 | ,, | 9 | do. | do. |

Made any height. If a web of 100 yards is ordered it will be delivered free at any Railway Station. All coated with their Impervient Composition for preservation, and thus rendered superior to galvanised netting.

THOMAS PEARSON & Co., 71, Queen Street, Glasgow.

### PRICES REDUCED.

H. J. MORTON AND CO., Galvanised Iron Works, 2, Basinghall Buildings, Leeds.

GALVANISED IRON ROOFING for Farm Buildings and other Roofs; the cheapest, most durable, and neatest Roofing in use; also Spouting at 10½*d.* per yard.

WIRE STRAND CABLE FENCING

(formed of Twisted Wires like a rope or cable), the strongest cheapest, and neatest fence in use, will resist the largest cattle, and will not bend or get out of form by trespassing upon or over. Price, with five lines of the Galvanised Strand, iron main posts, and pronged Standards, 1*s.* 2½*d.* per yard.

This fence is far cheaper than posts and rails, or any kind of iron fencing; and possesses four times the strength of solid bars. Will not rust nor corrode. Upwards of 1200 miles of this Fencing supplied.

GALVANISED GAME AND POULTRY NETTING.

Galvanised, 24 ins. wide, 2-inch mesh, 5*d.*, 6*d.*, 7½*d.*, and 10*d.* per yard.

Galvanised, 24 ins. wide, 3-inch mesh, 4*d.*, 5*d.*, and 7*d.* per yard. The Netting made any width, and with openings of any size.

GALVANISED IRON CHAIN CAMP STOOLS & CHAIRS, POULTRY FOUNTAINS & FEEDERS, PRONGED DAHLIA RODS AND ROSE STAKES, &c.

Strong CATTLE HURDLES from 2*s.* per yard.

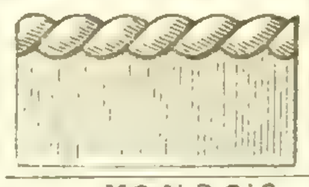
PATENT IMPROVED GAS WORKS

of all sizes for the use of Private Houses, Mansions, Railway Stations, Mills, Collieries, Mines, Villages, &c. Works from 10 to 500 lights estimated for. The works can be entrusted to an ordinary labourer.—Apply to

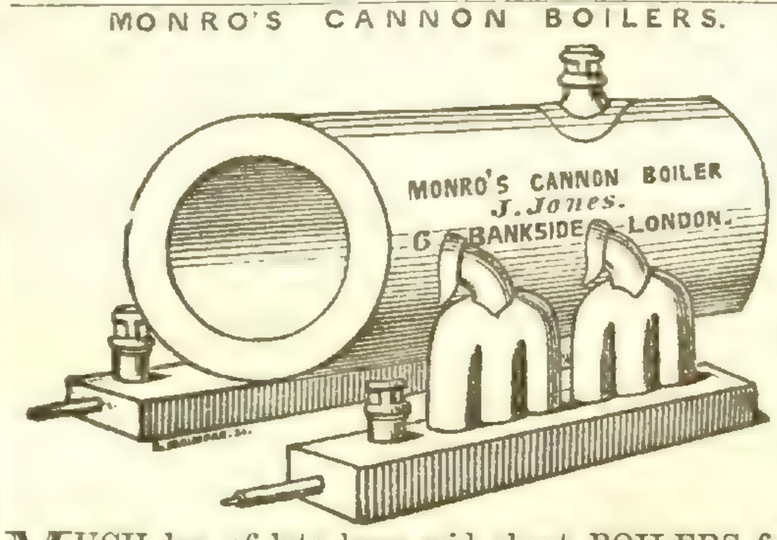
HENRY J. MORTON & Co. 2, Basinghall Buildings, Leeds.

GEORGE SPILL, St. George's Street, London Docks, E., LEAD, OIL, and COLOUR WORKS; WHITE LEAD, TAR, and TURPENTINE MERCHANT; WHITE ZINC, PAINT, COLOURS, and VARNISHES. To meet the desire of purchasers in the country the following colours are prepared ready for use:—Pruning Colour, Red and Yellow Paint, Buff Stone, Lead, and Green Colours. Putty, Painter's Tools and Brushes, Refined Coal and Stockholm Tars; Pure Colza, Olive, Sperm, and Nut Oils.

LOOMES AND CO., Whittlesea, MANUFACTURERS OF BRICKS, TILES, POTTERY, &c., beg to call attention to their new CABLE PATTERN GARDEN BORDER EDGING, which not only surpasses others in appearance and durability, but is free from the dangerous points and sharp edges of most.—Price, delivered on any Railway at Peterborough, 5*d.* per yard.



MONRO'S CANNON BOILERS.




MUCH has of late been said about BOILERS for Heating by Hot Water, but these Boilers have now proved themselves to be the best at present invented. They are adapted for heating every description of building, and are made of various sizes. The Price of the

| | | | | |
|---|---|---|---|---|
| 24 inch Cast Iron is | .. .. | .. | £5 10*s.* 0*d.* | each |
| 24 inch Wrought ditto | .. .. | .. | 6 10 0 | ,, |
| 36 inch Cast ditto | .. .. | .. | 8 0 0 | ,, |
| 36 inch Wrought ditto | .. .. | .. | 8 10 0 | ,, |

References to Gentlemen and Nurserymen where these Boilers are now at work. The Cannon Boilers are now kept in stock, and are to be had only of J. JONES, 6, Bankside. Also, every description of Saddle and Cylinder Boilers. Hot Water Pipes and Connections at prices lower than those of any other house in London. Estimates for Hot-water Apparatus erected complete in any part of the country, and an Illustrated Catalogue on application to J. JONES, 6, Bankside, Southwark, London.

### TO HORTICULTURISTS.

GAUNTLETT'S PATENT CHRONOMETRICAL THERMOMETER.

This instrument, which combines an eight-day clock of the best English make showing time, with a newly-patented Thermometer, wherein glass and quicksilver are dispensed with, writes down the temperature of the atmosphere on a slip of paper, and when placed in a Hothouse, Forcing House, or Conservatory, &c., supplies a valuable record of the temperature, with all its variations, showing the time when any change took place, and how long such change continued.

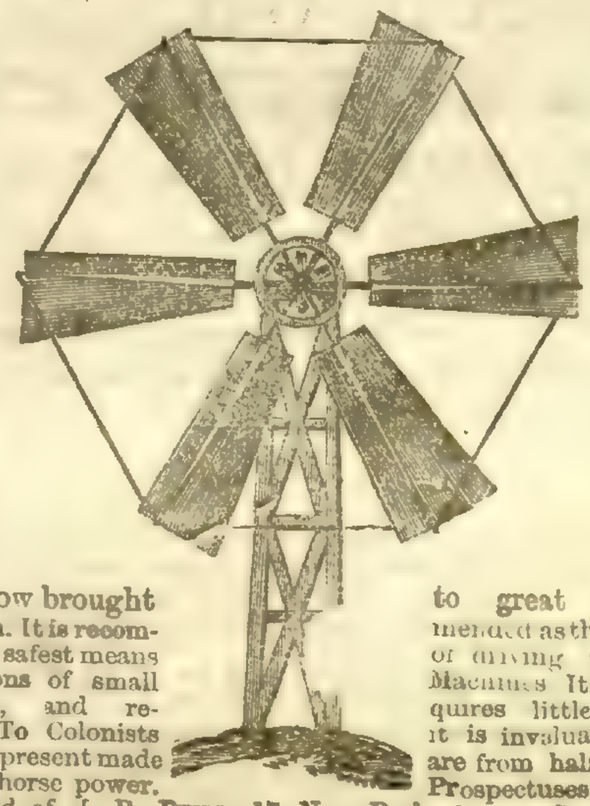
The above slip (reduced in size) exhibits the temperature of the Royal Agricultural Society's show yard at Chester, July 22, 1858, written off by one of these instruments, to which was awarded the Society's SILVER MEDAL.

This is the only instrument that registers temperature continuously and writes it down, and no horticulturist should be without it.

Orders received by W. H. GAUNTLETT, Middlesbro'-on-Tees.

ZAHN'S PATENT SELF REGULATING WIND ENGINE

FOR PUMPING, OAT CRUSHING, GRINDING, CHAFF CUTTING, &c.



IS now brought to great perfection. It is recommended as the cheapest and safest means of driving any descriptions of small Machines. It is easily erected, and requires little attention. It is invaluable. The sizes at present made are from half a horse to two-horse power. Prospectuses may be obtained of J. R. PEILL, 17, New Park Street, Southwark where a Wind Engine in full work can be inspected.

AGRICULTURAL MACHINERY.

E. R. AND F. TURNER, Ipswich, manufacture Prize Mills for Crushing Corn, Seed, Malt, &c.; Portable Grinding Mills, Steam Engines fixed and portable from 2 horse-power and upwards; Threshing Machines, Chaff Cutter Oilcake Breakers, Horse Gears, Saw Tables, &c., all of a superior description and adapted for Home, Colonial, and Foreign use. Illustrated Price Lists sent free on application.

### TO PIG AND POULTRY FEEDERS AND MILLERS.

CHICKEN RICE, 7*s.* 6*d.* per cwt., in bags 1½ cwt. each. SCREENED RICE, 10*s.* per cwt., in bags 1¾ cwt. each. RICE MEAL, 6*s.* 9*d.* to 8*s.* 9*d.* per cwt. RICE for grinding. An allowance per Ton.—Sold for Cash by W. & R. JUPP, 6, Cross Lane, St. Mary-at-Hill, Eastcheap, E.C.

PIGS WILL PAY FOR FEEDING. — On receipt of 24 stamps will be forwarded a DETAILED PRINTED STATEMENT of MANAGEMENT and FEEDING, proving that they can easily be fattened in 12 weeks after leaving the teat, at less than 2*d.* per head per day. The food costs about 3*s.* 9*d.* per cwt. or 7 lbs. for 2¾*d.*, and can easily be prepared by the owners of the Pigs.—Address, Mr. G. MARGARETTS, Mr. Wells, Chemist, Fitzroy Square, London.

DORKING SPANISH BUFF AND WHITE COCHIN FOWLS FOR SALE, 10*s.* 6*d.* a Pair, also 1*s.* for each basket. They are from the strains of Captains Hornby and Squire, and Mr. Terry.—Apply to A. COTTIS (the Bailiff), Sewels Galley Wood, Chelmsford.

RICHMOND, SURREY.—TO GREENGROCERS AND FRUITERERS.

TO BE DISPOSED OF, A FRUITERER'S and GREENGROCERY BUSINESS, established for upwards of 50 years, excellently situated in a populous part of the town. The fixtures to be taken at a valuation, and a small sum required for goodwill; a well stocked Fruit Garden may be taken with or without the business. Satisfactory reasons will be given for parting with the same.—Particulars may be obtained by application to Mr. W. T. ATWOOD, Land Agent, Mortlake, Surrey.

WANTED TO DISPOSE OF, A NURSERY BUSINESS with a first-class connection of 60 years' standing. The Land is held upon Lease, broken up from Grass within the last three years; the stock upon it is young and flourishing, and can be taken to at any time at a valuation not exceeding 300*l.*—For further particulars apply to WALTER PENNINGTON, Nurseryman, South Retford, Notts.

### NURSERY GROUND.

TO BE LET, WHITTINGTON NURSERY, Upper Holloway, to be entered on immediately.—For particulars apply to J. F. MARSON, Esq., Small Pox Hospital; or to Mr. BUNNEY, Nurseryman, Stratford, Essex.

TO BE LET ON LEASE, for 12 years from Lady-day next, a MARKET GARDEN, consisting of 8 acres of Fruit Ground, five Peach Houses, six Vineries, four Pine Pits, three Strawberry Houses, &c. A 7-Roomed House, Stabling, Sheds, &c. Terms for coming in very moderate, with immediate possession.—Apply to Mr. JOHN THOMSON, Hope Cottage, Ealing, Middlesex.

## Sales by Auction.

### FRUIT TREES FROM BELGIUM.

MR. J. C. STEVENS will Sell by Auction, at his Great Room, 38, King Street, Covent Garden, on FRIDAY, Jan. 21, at half-past 12 o'clock, FIVE HUNDRED PEAR TREES from Belgium, including many of the choicest sorts, some trained as Pyramids; TWENTY VINES, &c.—May be viewed on the morning of Sale and Catalogues had.

### ACRE LANE NURSERY, BRIXTON.
To GENTLEMEN, NURSERYMEN, & OTHERS.

MESSRS. PROTHEROE AND MORRIS are instructed by the Assignees of Mr. Francis Sharon, (a bankrupt) to Sell by Auction on the Premises, Acre Lane, Brixton, and Clapham, on FRIDAY, January 21, at 11 o'Clock, the whole of the NURSERY STOCK and the Surplus Stock of a Nurseryman, comprising Berberis aquifolia, Common Laurels, Aucubas, and other evergreens; 500 handsome Standard ROSES of the choicest kinds; FRUIT TREES, including Dwarf-trained Peaches, Nectarines, and Apricots, Standard Apples and Pears; Asparagus plants; about 60 rod of Colewort, Cauliflowers, and Brussel Sprouts, &c. Also Scarlet Geraniums, Acacias, and various Greenhouse plants, together with the HOUSEHOLD FURNITURE, 65 Glazed Lights; two 2-light Boxes; 40 Iron-gratings; 18 Wheelbarrows; a quantity of Paving Tiles and Stones; 43 Planks, and sundry effects.—May be viewed, previous to the Sale. Catalogues may be had on the Premises; of Mr. Gerard, No. 3, Foley Place, Wandsworth Road; of H. H. Stansfield, Esq., Official Assignee, 10, Basinghall Street, City; of the principal Seedsmen in London, and of the Auctioneers, American Nursery, Leytonstone, Essex.

### ALDRIDGE'S, ST. MARTIN'S LANE, LONDON.

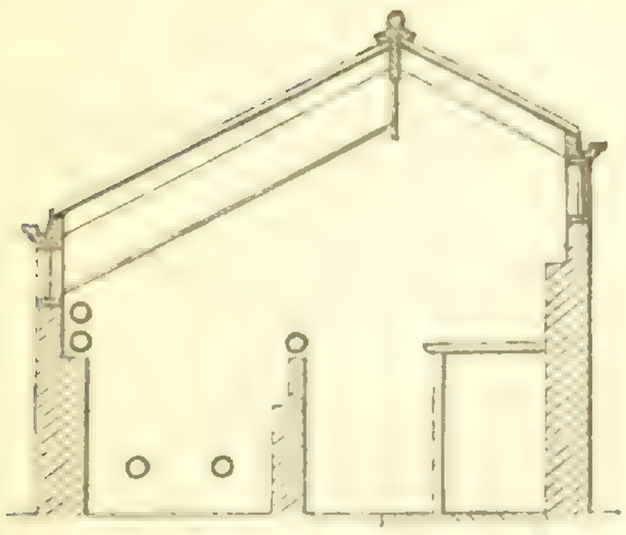
TO BE SOLD BY AUCTION, on WEDNESDAY, Feb. 2, the following pure bred Suffolk CART HORSES, the property of T. Beale Brown, Esq., of Salperton Park, Gloucestershire:—1. PRINCE, stallion, 8 years old off, by the Suffolk Champion out of a pure bred mare, won the first prize at Killarney; Suffolk Champion won the first prize at the National Show at Exeter, and was afterwards sold to the Emperor of Russia. 2. DRAGON, stallion, 7 years old off; sire, Champion. 3. BOXER, stallion, 3 years old off, out of a beautiful mare, by Suffolk Champion. 4. DUKE, stallion, 3 years old off, by Champion out of a pure bred mare. 5. VIOLET, a mare, 3 years old off, by Champion out of Violet. All the horses are quiet steady workers on the Farm.—On view at ALDRIDGE'S, St. Martin's Lane, London, two days before and on the morning of Sale.

### EGHAM, HYTHE.—EGHAM, SURREY.

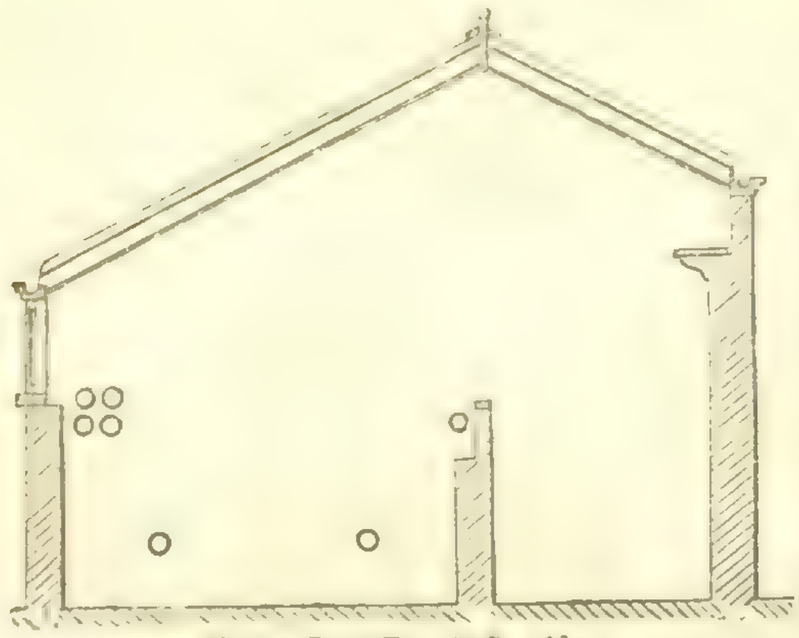
MESSRS. ADAMS AND OADES beg most respectfully to announce that they have been favoured with instructions to Sell by Auction, on THURSDAY, January 20, at 11 o'clock, upon the premises, situate near Staines Bridge, by order of the Proprietor, J. G. Chillingworth, Esq., who is giving up his farm, the whole of his first-class and valuable live and dead FARMING STOCK and effects, which comprise five superior young Cart-horses (fit for London work), five fat Devon Oxon, three fat Welsh Heifers, four choice half-bred Alderney and Shorthorn Cows, three 2-year old Welsh Heifers, five 2-year old Steers, two yearling Bulls, three improved Berkshire and Chichester Sows, improved Chichester Boar, eleven fat Hogs, a quantity of Poultry, handsome black Setter Bitch, Scotch Deer-hound, and Yard Dog, together with the whole of the valuable Implements, which have been purchased within 2 years, regardless of cost; Stumps of Clover and Meadow Hay, six Ricks of Wheat and Oat straw, about 35 tons of Mangel Wurzel, and numerous effects.—May be viewed the day preceding and morning of Sale, and Catalogues had at the place of Sale; Railway Station, Staines; Staines Bridge Toll Gate; the neighbouring Inns; in London at 166, Edgeware Road, and of Messrs. MAY & Co., Seedsmen, Wellington Street, Waterloo Bridge, Strand, and at the Offices of Messrs. ADAMS & OADES, Auctioneers and Surveyors, Hythe Farm, and the Hill, Egham, Surrey.

# HORTICULTURAL BUILDINGS MANUFACTURED BY STEAM POWER MACHINERY

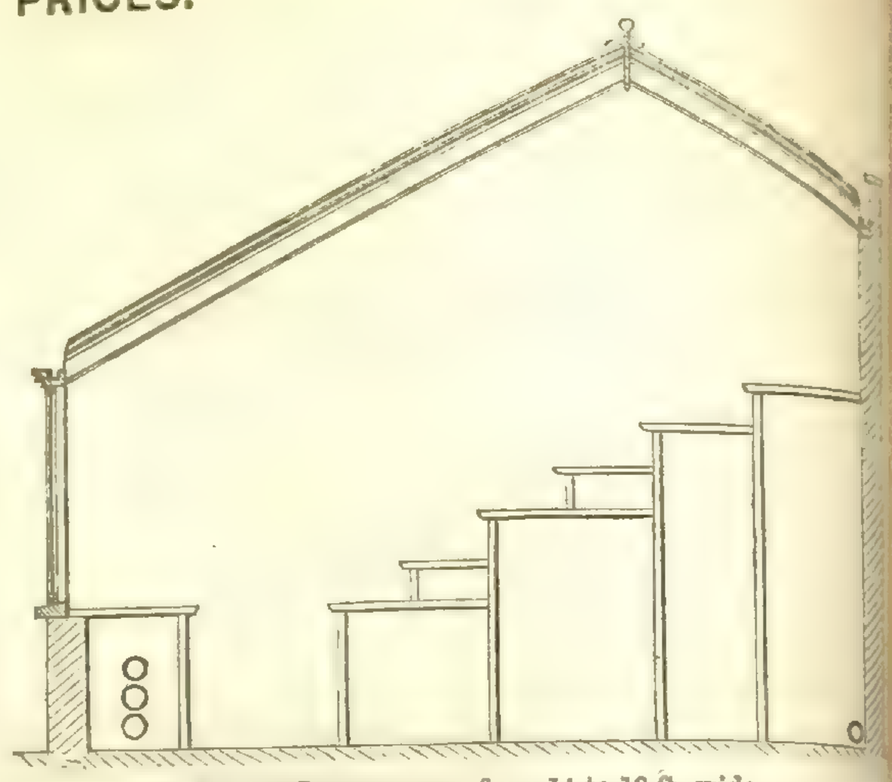
## BEST MATERIALS AND LOWEST PRICES.



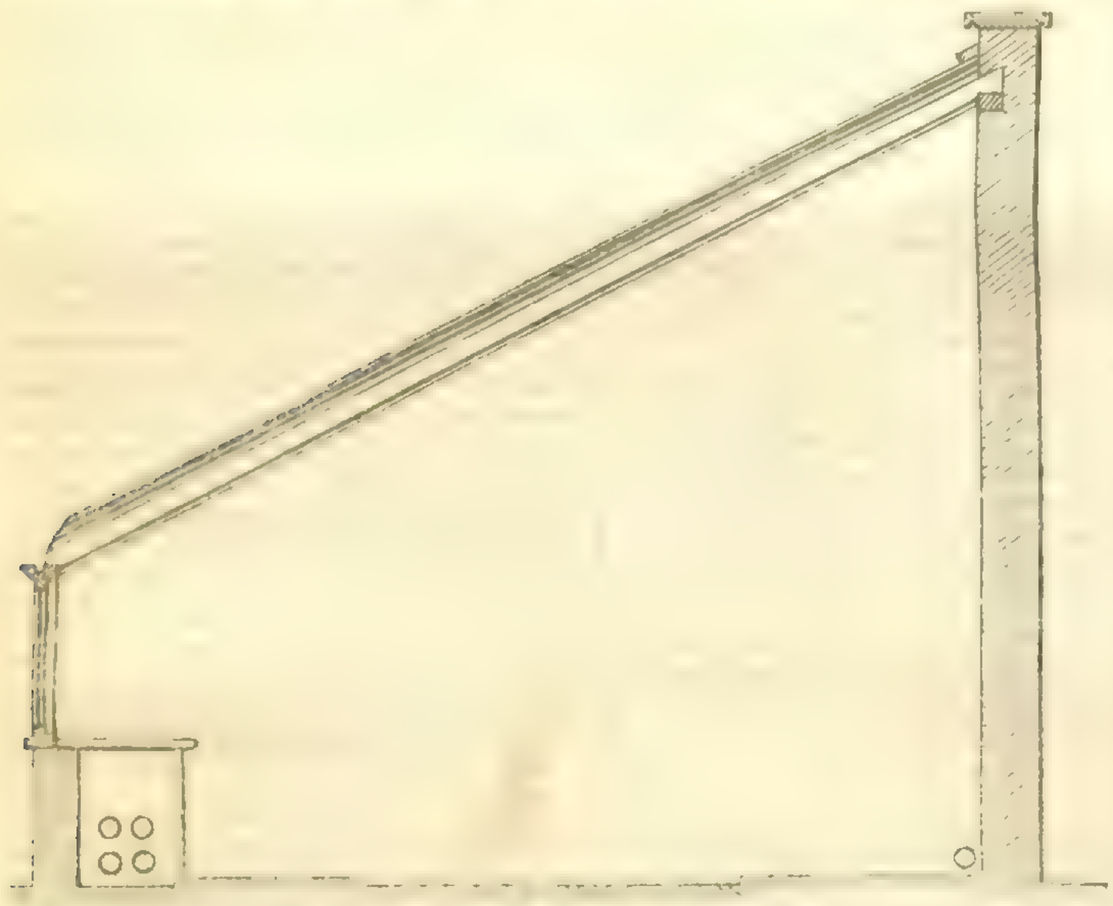
No. 1.—CUCUMBER AND MELON PITS, 10 ft. wide.



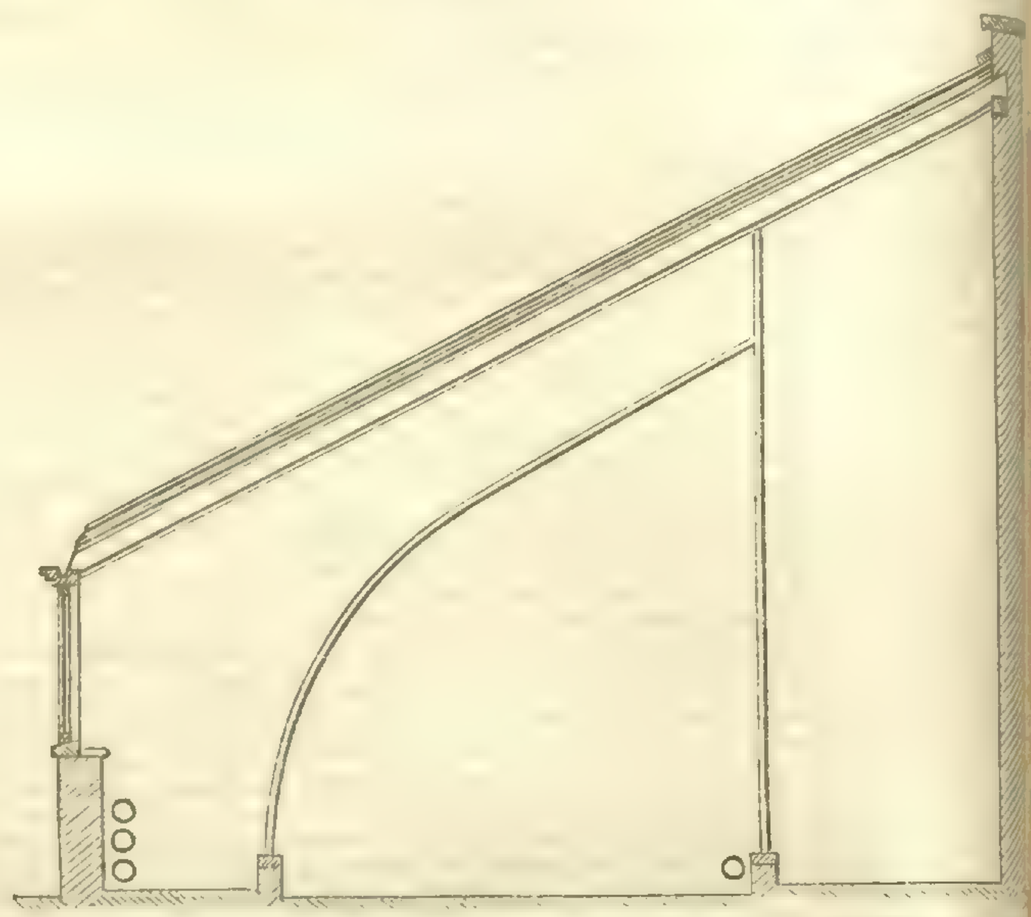
No. 2.—PINE PIT, 14 ft. wide.



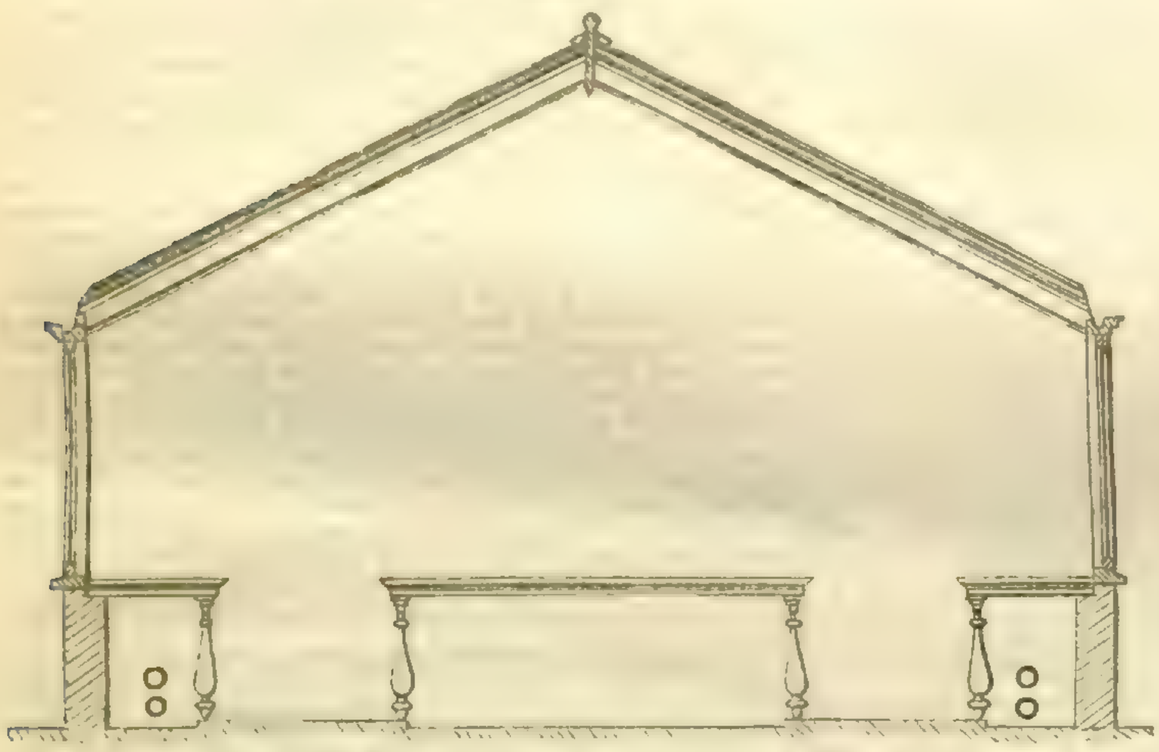
No. 3.—GREENHOUSE, from 14 to 18 ft. wide.



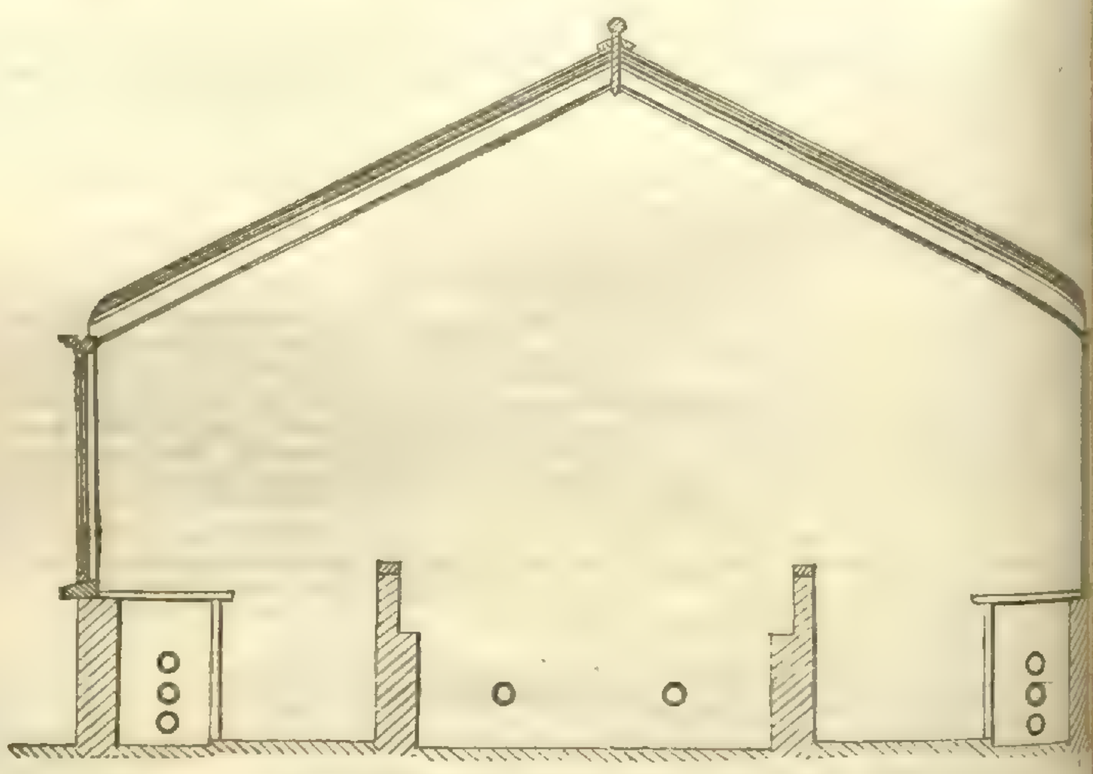
No. 4.—VINERY, from 15 to 18 ft. wide.



No. 5.—PEACH HOUSE, from 15 to 18 ft. wide.



No. 6.—GREENHOUSE, from 18 to 20 ft. wide.



No. 7.—FORCING HOUSE, from 18 to 20 feet wide.

# HENRY ORMSON,

## HORTICULTURAL BUILDER & HOT-WATER APPARATUS MANUFACTURER

### STANLEY BRIDGE, KING'S ROAD, CHELSEA, LONDON,

Deeply grateful for the very liberal and kind patronage bestowed upon him since his commencement on his own account, begs most respectfully inform the Nobility, Gentry, Nurserymen, &c., that it being his determination to spare no pains to merit a continuance of their favours, and that he may be enabled to execute his extensive and increasing orders punctually, and at the lowest possible cost (agreeably with the best Materials and Workmanship) has erected a most complete set of Steam Power Machines, peculiarly adapted for the purposes of his Trade.

PARTIES DESIRING INFORMATION as to prices, &c., will, by referring to any of the above sections, receive immediate attention.

PLANS, SPECIFICATIONS, and ESTIMATES for plain and inexpensive practical Structures, and for the most elaborate Architectural Erections, either Wood or Iron, forwarded on application.

**N.B. ORMSON'S Patent, Jointless, Tubular Boilers of all sizes, always on view and for sale at**

**THE MANUFACTORY.**


Editorial Communications should be addressed to "The Editor"—Advertisements and Business Letters to "The Publisher"—at the Office 5, Upper Wellington Street, Covent Garden, London, W.C.
Printed by WILLIAM BRADBURY, of No. 13, Upper Woburn Place, and FREDERICK MULLETT EVANS, of No. 20, Queen's Road West, both in the Parish of St. Pancras, in the Co of Middlesex, Printers, at their Office, Lombard St., Precinct of Whitefriars, City of London, and published by them at the Office, No. 5, Upper Wellington St., Parish of St. Paul's, Covent Garden, in the said Co.—SATURDAY, January 15, 1859.

# THE GARDENERS' CHRONICLE
AND
# AGRICULTURAL GAZETTE.

**A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.**

No. 4.—1859.] SATURDAY, JANUARY 22. {Price Fivepence. STAMPED EDITION, 6d.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CRYSTAL PALACE.—FLOWER SHOWS for 1859 are fixed to take place on the following days:—WEDNESDAY, May 18; June 8, September 7 and 8; and CHRYSANTHEMUM SHOW, on November 9 and 10.

By Order, GEO. GROVE, Secretary.

NATIONAL FLORICULTURAL SOCIETY.—Raisers of Seedling Florists' Flowers, Amateurs, and Nurserymen in general are invited to give small special Prizes for Collections of their favourite Flowers, to be Exhibited at the Society's ordinary meetings during the present year.

Early communications should be made to the Secretary, naming the sum offered, and the number of plants or blooms to be exhibited. RICHARD DEAN, Secretary.

21, Regent Street, London, S.W.

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.—At a General Meeting of the Members of this Institution, held on Tuesday, January 11, for the purpose of Electing Three Pensioners on the Funds of the Charity, the following was the result of the Ballot:—

CANDIDATES.

| No. | Name. | Application. | Age. | Votes |
|---|---|---|---|---|
| 1 | James Smith | Tenth | 73 | 319 |
| 2 | William Dungate (a Subscriber 6 years) | Ninth | 72 | 664 |
| 3 | William Priest (a Subscriber 7 years) | Sixth | 64 | 337 |
| 4 | Sarah Ayres (Husband subscribed 4 years) | Fifth | 74 | 607 |
| 5 | William Croucher | Fifth | 69 | 127 |
| 6 | John Mackintosh (a Subscriber 5 years) | Fifth | 68 | 172 |
| 7 | William Baillie | Fourth | 66 | 808 |
| 8 | George Drury | Fourth | 73 | 89 |
| 9 | John Alderman | Third | 70 | 116 |
| 10 | John Flinn | Third | 67 | 75 |
| 11 | Margaret Mitchinson (Husband subscribed 7 years) | Third | 65 | 41 |
| 12 | John Downing | Second | 72 | 420 |
| 13 | Thomas Jenkins (a Subscriber 11 years) | Second | 71 | 171 |
| 14 | James Wallis | Second | 81 | 55 |
| 15 | George Annaball | First | 62 | 56 |
| 16 | Samuel Faulkner (a Subscriber 6 years) | First | 65 | — |
| 17 | William Smith | First | 82 | 15 |
| 18 | Maria Squibbs (Husband subscribed 14 years) | First | 60 | 575 |

The Meeting then declared WILLIAM BAILLIE, WILLIAM DUNGATE, and SARAH AYRES, as having the greatest number of Votes, duly elected Pensioners. (By Order)

E. R. CUTLER, Sec., 14, Tavistock Row, W.C.

TO THE MEMBERS OF THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.—HENRY MCMILLAN, in behalf of himself and MARIA SQUIBBS, sincerely thanks those Members who kindly assisted in placing her in so prominent a position on the Poll at the late Election; and hopes at the next Election to be again favoured with their support, which shall ever be remembered with the warmest gratitude.—Westerham, January 22.

[CIRCULAR]

86, High Street, Borough, London, January, 1859.

IN reply to numerous inquiries from our Customers, we beg to say we have no connection whatever with Fairhead & Son, of the Borough Market.

(Signed) CLARKE & COMPANY, Wholesale and Retail Seedsmen.

THE PLYMOUTH SEED, AGRICULTURAL IMPLEMENT, AND MANURE COMPANY (LIMITED) supply every requisite for the Farm and the Garden.

Registered Offices, Union Road, Plymouth.

YELLOW ROSES.—Madame William, orange yellow; Isabella Gray, golden yellow. Strong plants, fit for immediate forcing, 8s. 6d. the pair.

A. PAUL & SON, Nurseries, Cheshunt, Herts.

DESCARTES ROSE STOCKS.—The best Dwarf Rose Stock known is the cultivated ROSE DESCARTES, being proved nine years. Price 12s. per 100, with trade allowance. STANDARD MANETTIS, 9s. per 100; also fine tall LAURELS, with other EVERGREENS, SHRUBS, &c.—Apply to J. J. FOSTER, Edgware Nurseries.

TO BE SOLD CHEAP, EUGENIA UGNI, TRUE, 1 foot high, very bushy, per doz. or hundred; also Dwarf FRENCH ROSES, at half price, best kinds.—ISAAC DAVIES, Larkfield Nursery, Wavertree, near Liverpool.

TO THE TRADE.

TO BE DISPOSED OF, a few thousand very superior PERSIAN RANUNCULI in mixture, at 20s. per 100, the surplus stock from an amateur's collection.—Apply to JOHN MORSE, Nurseryman, &c., Dursley, Gloucestershire.

RICH BOG AND LOAM.—Gentlemen and Nurserymen will do well to apply early for the above to refresh their American beds. To be had in any quantity upon reasonable terms, by land or water carriage.

ROBERT NEAL, Nurseryman, Wandsworth Common, Surrey.

GEORGE BAKER begs to inform the Nobility and Public that his DESCRIPTIVE CATALOGUE OF AMERICAN PLANTS AND GENERAL NURSERY STOCK will be sent free on application.

American Nursery, Windlesham, near Bagshot, Surrey, about 1 mile from Sunningdale Station, South Western Railway.

GEORGE JACKMAN AND SON'S PRICED and DESCRIPTIVE CATALOGUE of GENERAL NURSERY STOCK for 1858 and 1859 can be had free on application.

Woking Nursery, Woking, Surrey.

WILLIAM YOUNG'S DESCRIPTIVE CATALOGUE OF NEW HARDY ORNAMENTAL PLANTS, CONIFERÆ, ROSES, RHODODENDRONS, FOREST TREES, &c. Can be had on application.—Milford Nurseries, Godalming.

NEW CHRYSANTHEMUMS.

JOHN SALTER begs to inform the numerous applicants for his NEW CATALOGUE OF CHRYSANTHEMUMS that it will be published in February, in which his splendid Seedlings and other new varieties for 1859 will be fully described, as well as his unrivalled general collection, which is the largest in Europe.—Versailles Nursery, William Street, near Hammersmith Turnpike, W.

CATALOGUE.

YOUELL AND CO'S GENERAL AND DESCRIPTIVE PRICED CATALOGUE for this season is now ready, and will be sent free on application.

It contains detailed Lists of Greenhouse Plants, Conifers, Shrubs, as well as all the newest introductions in Soft-wooded Plants.—Royal Nursery, Great Yarmouth.

JOHN GRIER'S NEW PRICED CATALOGUE, with brief descriptive and cultural remarks of a selection of TREES, SHRUBS, and PLANTS, may be had upon application by enclosing One Stamp for Postage.—Waterhead Nursery, Ambleside, Jan. 22.

JAMES LOTHIAN respectfully intimates that his ANNUAL LIST OF VEGETABLE, FLOWER, AND AGRICULTURAL SEEDS for 1859 is now ready, and will be forwarded upon application.—Campbellton, Argyleshire.

KITCHEN GARDEN SEEDS.

JOHN CATTELL begs respectfully to announce that his CATALOGUE of the above may be had free by return of Post. It contains selections of the most approved culinary vegetables in cultivation, nearly the whole of them having been saved under J. C.'s own personal superintendence.—Nursery and Seed Establishment, Westerham, Kent.

MESSRS. B. ROEZL AND CO.'S CATALOGUE OF MEXICAN SEEDS AND PLANTS to be had on application to Messrs. B. A. GRAUTOFF & Co., 4, Lime Street Square, London.

GRAPE VINES FROM EYES.

J. EATON has a few left, very strong and quite ripe, which he can recommend for Forcing; sorts, Black Hamburgh, Muscat Alexandria, and Sweetwater. Likewise a very fine stock of Vines, wood ripe, fit for bedding out. An early inspection is recommended.

Shacklewell Road, Stoke Newington, N.

THE GREAT VINE AT HAMPTON COURT.

THE SUBSCRIBERS being the holders of the Royal Kitchen Gardens, Hampton Court, are enabled to offer genuine the famous and truly excellent HAMPTON COURT BLACK HAMBURGH GRAPE.

Strong well-ripened plants in 9-inch pots, 42s. and 60s. per doz.
" " fruiting plants in 12-inch pots, 10s. 6d. each.

If purchased in large numbers a considerable reduction will be made in price.—JACKSON & SON, Nurseries, Kingston, S.W.

CROCUS AND TULIP BULBS.—Finest imported Crocus mixed, 16s. per 1000, 2s. per 100. Splendid Double Tulips, Scarlet 7s. per 100, Yellow 7s. do., Variegated 7s. do., Mixed all sorts, 6s. do.—BUTLER & MCCULLOCH, Covent Garden Market.

PINE APPLES WANTED,
Forward "Immediately" to
GEORGE TAYLOR,
CHOICE FRUIT AND VEGETABLE SALESMAN,
St. John's Market, Liverpool.

EARLY CUCUMBER.

CARTER'S EARLY CHAMPION CUCUMBER, price 20s. per oz., to be had in any quantity of J. G. WAITE, Seed Establishment, 181, High Holborn, London, W.C.

CHAMPION CABBAGE can be had in any quantity at 2s. per lb.

J. G. WAITE, Seed Establishment, 181, High Holborn, London.

THE ROSEBERRY BRUSSELS SPROUTS.—"We never before saw any so fine. The stalks, 18 inches high, were literally studded with sprouts throughout their length, and many of the sprouts were as large as moderately-sized Apples."—*Cottage Gardener*. 1s. per packet.

Royal Nurseries, Slough.

NEW PERENNIAL SPINACH.—Mr. Poulter, Gardener to Lord Chesham, writes:—"This is one of the most valuable additions to the kitchen garden which we have had for years; no one who has a demand for Spinach should be without it." 1s. per packet.—The Royal Nurseries, Slough.

PAMPAS GRASS (GYNERIUM ARGENTEUM).—The beauty of this extraordinary plant has this season been fully appreciated. It can be supplied by the dozen, hundred, or thousand, by CHARLES NOBLE, Bagshot, Surrey.

PERENNIAL AND ITALIAN RYE-GRASS.

MCBLAIN AND CO., SEEDSMEN, Newry, Ireland, offer to the Trade PERENNIAL AND ITALIAN RYE-GRASS of every description. Samples and offers on application.

JOHN CULVERWELL, Taunton, begs to call the attention of Agriculturists to his superior selection of GRASS SEEDS, which for PURITY, change of SOIL, and CLIMATE, will bear comparison with any house in the kingdom. Prices, terms, and samples forwarded on application.

CONIFERÆ.

A. PAUL AND SON have a large stock of the above, very handsome, in fine order for removal, many suited for immediate effect. For particulars see Advertisements in *Gardeners' Chronicle* of November and December last.—Nurseries, Cheshunt, Herts.

ONE MILLION ONE-YEAR SEEDLING OAKS (STRONG AND STOUT).

JAMES MELDRUM, NURSERYMAN, Kendal, Westmoreland, offers the above in quantities to suit purchasers. Price reasonable, on application.

N. B. Also a quantity of strong clean Transplanted CRAB STOCKS 3 to 4 feet; ALDERS, 4 feet; and a quantity of LARCH of different ages.

THREE MILLIONS OF TRANSPLANTED QUICKS.

GEORGE CHIVAS, Chester, offers the above to the notice of Planters, which for extent and quality he believes are unequalled in the kingdom. A Sample Bale containing 100 of each five sizes forwarded on receipt of a Post-office Order for 15s. Truck loads delivered free at any Railway Station having through communication with Chester.

TO PLANTERS.

200,000 FINE TRUE SCOTCH FIR, 1½ to 2 feet, at 14s. per 1000.—Large quantities of strong LARCH, QUICKWOOD, BEECH, SPRUCE FIR, SILVER FIR, &c.—Address, HENRY MAY, The Hope Nurseries, near Bedale, Yorkshire.

NURSERY STOCK.

THE Subscribers are disposing of their extensive stock of Seedling and Transplanted Forest Trees, Ornamental Trees, Evergreen and Deciduous Shrubs, Standard and Dwarf-trained Fruit Trees, Gooseberries and Currants, &c., at prices considerably reduced in consequence of dissolving partnership.—Priced Lists may be had on application.

Glasgow, Jan. 22. FOWLER & WRIGHT.

LIME TREES.

WILLIAM MAULE AND SONS having a large stock of this Tree 10 to 12 feet, well suited for planting Avenues, Public Parks, Cemeteries, &c., beg to call the attention of Corporations, Burial Boards, and Public Companies. Prices forwarded on application.

Stapleton Road, and Stoke Nurseries, Bristol.

JOHN ADAMS AND CO., NURSERYMEN, Brentford, Middlesex, have a large stock of very fine DWARF MAIDEN MOORPARKS; strong cut-back DWARF APPLES of the best kinds, fit for Market Garden planting. Very fine DWARF-TRAINED CHERRIES and PEACHES and NECTARINES.

WANTED, strong SPRUCE and SILVER FIRS, 4 feet, well rooted and clean leaders; also MAGNOLIA GRANDIFLORA EXMOUTH, 5 feet.—JAMES DICKSON & SONS, The "Newton" Nurseries, and 102, Eastgate Street, Chester.

P.S. Description and price to J. D. & Sons.

PINE PLANTS always on Sale at Stedham Hall, Midhurst.—Apply to JAMES NEWMAN.

TO THE TRADE.

R. GLENDINNING begs to offer the following MAIDEN TREES of first class quality; they comprise the leading sorts, and guaranteed true to name, Peaches, Nectarines, Apricots, Plums, and Apples.

Chiswick Nursery, near London, W.—Jan. 22.

GRAPE VINES FROM EYES.

R. GLENDINNING has this season a very large and extensive assortment of all the best kinds of GRAPE VINES. They comprise all the well known established varieties, as well as those recently sent out; the wood is ripened from 5 to 10 feet high. Those who intend planting Vines would do well to inspect this collection.

Chiswick Nursery, near London.—Jan. 22.

TO THE TRADE.

2000 yards of superior DWARF BOX for Edging.

Price on application.

CURRANT AND GOOSEBERRY TREES, 16s. per 100.

JAMES HOLDER, Nurseryman, Reading, Berks.

HOLCUS SACCHARATUS, or North China Sugar-Cane, 2s. per lb. Pamphlet, "A Visit and a Plant;" or Hints on the Cultivation of the above, and its Uses. Post free 6d., or gratuitous with all orders for 10 lbs. and upwards.

DIOSCOREA BATATAS, or Chinese Yam; strong roots, 4s. per dozen; with directions for cultivation.

JOHN W. CLARKE, Whittlesea, Cambridgeshire.

DIOSCOREAS—FINE LARGE ROOTS CHEAP.

SUTTON AND SONS, Reading, can supply DIOSCOREA BATATAS, 9 inches long, at 5s. per dozen, or 40s. per 100. This vegetable is worthy of all that has been said in its favour, and will thrive in almost any soil and situation.

SUTTON & SONS, Royal Berkshire Seed Establishment, Reading.

SEED POTATOES.

SUTTON AND SONS, SEED GROWERS, Reading, have a large stock of the early kinds of POTATOES, very true, and free from disease. Also true Flukes, Regents, and others. Prices, &c., will be sent post free on application.

THE EARLIEST ASH-LEAVED KIDNEY POTATOES.—For the true early short-top Lancashire kind, unsurpassed for forcing and early borders, price 16s. per cwt., apply to JAS. TYNAN, Seedsman, 68, Great George St., Liverpool.

VERY TRUE, SHORT TOPPED, ASH-LEAVED KIDNEY POTATOES, 14s. per cwt., warranted true. HENRY MAY, The Hope Nurseries, near Bedale, Yorkshire.

EARLY POTATOES, LEMON KIDNEYS.—Selected Seed of this choice and early variety (see article in "Royal Agricultural Journal," Part I., Vol. xviii.), may now be had on application to the Author's Bailiff, JOHN HALL, Morecombe, near Lancaster, price 2s. 6d. per stone.

N.B. A reserve of seed has been retained from sprouting for the purpose of supplying late orders. Copies of the article (third edition) may be had from the above address, price by post, 1s. 1d.

## NEW MELON.

TURNER'S SCARLET GEM MELON.—An early and most prolific variety, and by far the best flavoured of the scarlet-fleshed Melons, having taken Seven First Prizes during the past season at the great exhibitions. It is well netted and handsome.

Mr Bailey, the very successful fruit grower of Swardeloes Gardens, Amersham, having grown this variety for two seasons, reports that "it is by far the best Melon he has ever cultivated or ever tasted." Its superior flavour alone entitles it to a first place in every garden collection, while its easy culture" [illegible] 6*d*. per packet.—The Royal Nurseries, Slough.

## TO PLANTERS OF CONIFERS.

YOUELL AND CO. supply 50 species of RARE and HARDY CONIFERS in good plants for 2*l*., package included, and carriage paid to Manchester, Newcastle-on-Tyne, Hull, London, Peterborough, or to any Railway Station within 150 miles of the Nursery. A LIST of the above can be had on application.—Royal Nursery, Great Yarmouth, Norfolk.

## ASPARAGUS AND SEAKALE.

YOUELL AND CO. having a large Stock of the above growing on the Sea Coast, of the finest quality, beg to offer it at the following prices:—

ASPARAGUS, GIANT, three years old ... 3*s*. 6*d*. per 100.
" two years ... 2*s*. 6*d*. "
SEA KALE ... 6*s*. 0*d*. "
RHUBARB.—Myatt's Victoria, Myatt's Linnæus, Mitchell's Royal Albert, strong roots, 3*s*. per dozen.
Hawkes's Champagne Rhubarb, 2*s*. per dozen.

All orders of 2*l*. and upwards are delivered Carriage Free to London, Manchester, Newcastle, and Hull, as well as to any Railway Station within 150 miles of the Nursery.

Royal Nursery, Great Yarmouth, Norfolk.

## VEGETABLE, FLOWER, AND AGRICULTURAL SEEDS.

WILLIAM BARNES'S CATALOGUE of the above is now ready, and may be obtained postage free, upon application. It will be found to contain every article of known value, among them some that cannot be excelled, the stock of which having been saved specially for himself by private and competent friends, he can recommend with the greatest confidence. Every article is warranted of the purest and most genuine kind, as well as very moderate in price.

Camden Nursery, Camberwell.

## NEW SEEDS FOR 1859.

WM. CUTBUSH AND SON beg respectfully to intimate that their PRICED CATALOGUE OF VEGETABLE AND FLOWER SEEDS, &c., is now ready post free on application. WM. C. AND SON devote particular attention to this department of their business, and most of the choicer kinds of culinary seeds and roots are saved under their own inspection, and they can confidently guarantee the quality of all offered.—Highgate Nurseries, London, N. Established A.D. 1695.

## HARDY SCARLET RHODODENDRONS AND AMERICAN PLANTS GENERALLY.

WATERER AND GODFREY'S PRICED and DESCRIPTIVE CATALOGUE of the above beautiful tribe of plants, as exhibited by them in London and Manchester, may now be had on application inclosing one stamp for postage. The Catalogue also furnishes the heights and prices of their unequalled stock of Conifers and Evergreens, &c. Catalogues may also be had of Messrs. J. MAY & Co., Seedsmen, &c., Wellington Street, Strand.

Knap Hill Nursery, Woking, Surrey.

## RHODODENDRONS.

JOHN WATERER'S CATALOGUE OF UNRIVALLED HARDY SCARLET AND OTHER CHOICE RHODENDRONS, as Exhibited by him at the Royal Botanic Gardens, Regent's Park, London, is published, and will be forwarded on application.

☞ This List is recommended as a work of reference, as it contains accurate descriptions of all the esteemed varieties.

The American Nursery, Bagshot, Surrey, near the Sunningdale Station, South Western Railway.

## NEW EXOTIC FERN, NEPHRODIUM MOLLE, VARIETY CORYMBIFERUM.

Named and described in the *Gardeners' Chronicle* of May 22, 1858.

ROBERT SIM is now prepared to supply, at 15*s*. each, vigorous and well-established profusely crested plants of this beautiful and unique variety, of which he possesses the entire stock. It ought to prove quite a greenhouse kind.

The customary discount to the trade. Price per dozen on application. Carriage paid to London. Post-office Orders on Foot's Cray.—Nursery, Foot's Cray, Kent, S.E.

CHARLES CLARKE, NURSERYMAN, SEEDSMAN, &c., 179, Windmill Street, Gravesend, Kent; or home Nursery, Windmill Hill.

Fruit Trees and Forest do., in any quantities: full-trained Peaches, Nectarines, Apricots, &c., remarkably fine; large bushy Yews, Portugal and Common Laurels, and other Evergreens, very handsome and good colour; Rhubarb Roots, Seakale, Asparagus for forcing, pricked out Strawberry Plants, Globe Artichokes, &c. Prices very moderate. Cash or a reference is respectfully requested from unknown correspondents.

N.B. Spanish Chesnuts 4 to 5 feet, and Standard Roses, a great quantity very cheap.

## "PINUS DOUGLASSI CONES."

JAMES DICKSON AND SONS, NURSERYMEN and SEEDSMEN, Hanover Street, Edinburgh have the pleasure of informing their numerous friends that they have received a large quantity of CONES of the above beautiful Pine. They are of last year's saving, and have been found to contain from 8 to 15 good seeds in a Cone.

They will be sent out at the following very low prices, viz., 7*s*. 6*d*. per dozen, and 45*s*. per 100 Cones. A liberal discount to the Trade.

N.B. A fine lot of Succession Pine Plants for Sale.

NEW SPLENDID SEEDLING GLADIOLI.—15 named varieties of Seedlings from RAMOSUS, and 15 ditto from GANDAVENSIS, for 1*l*. 1*s*., carriage paid. Large bulbs of Gladioli gandavensis, ramosus, and floribundus, 2*s*. 6*d*. per dozen. Fine Anemones per 100, Mixed Double, 6*s*.; Scarlet Double, 10*s*.; Mixed Single, 4*s*.; Scarlet Single, 6*s*. Fine mixed Persian Ranunculus, 3*s*. per 100. Scarlet Turban, 2*s*. 6*d*. per 100. A DESCRIPTIVE PRICED CATALOGUE of GLADIOLI, &c., sent free and post paid on application.

BUTLER & M'CULLOCH, Seedsmen, Covent Garden Market.

## TO THE TRADE.

THOS. CRIPPS, NURSERYMAN, &c., Tunbridge Wells, Kent, respectfully offers the following fine strong SPANISH CHESNUT PLANTS, 4 feet to 6 feet in height, 40*s*. per 1000; Blush CHINA ROSES, fine strong plants, 15*s*. per 100; Crimson do., very strong, 25*s*. per 100; fine Standard and Half-standard ROSES, 60*s*. per 100; good do., do., 50*s* per 100; Double Yellow PRIMROSE, 20*s*. per 100 or 400 for 3*l*.; PINUS INSIGNIS and P. RADIATA from Seed, 15 inches to 28 inches, 6*l*. per 100; MANETTI STOCKS, 30*s*. per 1000; do. second size, 40*s*. per 1000; IRISH YEWS, 2 feet to 3 feet, 50*s*. per 100; Hardy HEATHS, a fine collection, 25*s*. per 100; large plants, good do., 20*s*. per 100; LARCH FIR, fine stout plants, 2 to 3 feet; LONICERA SHEPHERDI, or new Scarlet-trumpet HONEYSUCKLE, fine strong plants, 1*s*. per dozen; RHODODENDRON MAXIMUM, fine bushy plants, 18 inches to 2 feet, 60*s*. per 100. Orders from unknown correspondents unaccompanied by a remittance will not be noticed.

## NEW SORTS OF SEEDS.—

| | |
|---|---|
| Sutton's Berkshire Hero Pea | New Zealand Runner Bean |
| Turner's Cottager's Kale | Asparagus Kale |
| Standhoulder Cauliflower | Frogmore Protecting Broccoli |
| Winnigstadt Cabbage | Ward's Late White ditto |
| Intermediate Carrot | Pomeranian Cabbage |
| Sutton's Superb Lettuce | New Giant Onion |
| Tom Thumb Pea, 1*s*. 6*d*. quart | White Olive-shaped Radish |

Also many new and rare kinds of Flower Seeds and Agricultural Seeds. Price List on application.

SUTTON & SONS, Royal Berkshire Seed Establishment, Reading.

ROSES, &c.—Fine Tall Standard Roses, best kinds ... per dozen £0 18 0
Fine Standard and Half-Standard Roses, per dozen 0 12 0
" named Lancashire Gooseberries ... per 100 0 8 0
" White and Red Currants ... per 100 0 8 0
" Hardy Herbaceous and Alpine plants, one of the best collections extant, per 100 sorts 1 5 0
" Hardy Shrubs by name ... per 100 sorts 2 10 0
" named Hollyhocks, good plants ... per dozen 0 6 0
" named Phloxes do. do. do. 0 4 0
" named Pyramidal Pears on Quince do. 0 15 0

Catalogues of all the above sent free on application to HENRY MAY, The Hope Nurseries, near Bedale, Yorkshire.

## NEW FLORAL CATALOGUE, 1859.

CAREY TYSO, FLORIST and SEEDSMAN, Wallingford, Berks, announces that his NEW CATALOGUE OF FLOWERS AND SEEDS will be sent to any address, free, for one label.

| Selections therefrom as under:— | *s*. | *d*. | | £ | *s*. | *d*. |
|---|---|---|---|---|---|---|
| *Double Anemones, 50 fine sorts ... ... | 10 | 6 | to | 0 | 13 | 0 |
| *Ranunculus, 50 ditto ... ... ... | 20 | 0 | " | 2 | 0 | 0 |
| *Ditto, 100 fine mixed ... ... ... | 8 | 0 | " | 1 | 0 | 0 |
| Carnations and Picotees, 25 pairs ... ... | 35 | 0 | " | 3 | 0 | 0 |

New edition of *Treatise on Ranunculus for 7 labels. *Ditto on Anemone, 4 labels.

* These articles can be forwarded by post.

STOUT WELL-ROOTED TRANSPLANTED CHESNUT, 2 feet ... ... ... ... 25*s*. per 1000
SCOTCH, 2 to 3 feet ... ... ... ... 10*s*. per 100
AUSTRIACA, 3 to 4 feet ... ... ... ... 30*s*. per 100
STONE PINE, do. ... ... ... ... 30*s*. per 100
Large PORTUGAL LAURELS, very bushy, 4 to 5 feet, very large bulbs, warranted to move, 21*s*. to 24*s*. p. doz.
PINUS EXCELSA, 3 to 4 feet ... ... ... 21*s*. per doz.
SMITHIANA, 2 to 3 feet ... ... ... ... 20*s*. per doz.

Carriage paid to London.—GEO. HODSON, Ashford, Kent.

## TREES FOR CRATEWOOD, GAME COVERS, &c.

| | |
|---|---|
| Ash, strong transplanted, 2, 3, 4, and 5 feet. | Berberis (Mahonia) aquifolia, strong transplanted, 1, 2, 3, and 4 feet. |
| Alder, do. | Berberry, common, do. |
| Mountain Ash, do. | Box (Tree), do. |
| Birch, do. | Broom, do. |
| Elms, do. | Holly, do. |
| Hornbeam, do. | Blackthorn, do. |
| Hazel, do. | Laurel, do. |
| Willow, do. | Rhododendrons, do. |

We offer the above of best quality at moderate prices, which will be furnished upon application.

JAMES DICKSON & SONS, Newton Nursery, Chester.

SHAW AND CROSLAND'S RICHMOND DWARF late WHITE BROCCOLI.—This Broccoli has proved to be the hardiest in cultivation, having been grown on the most exposed situations, producing fine heavy heads from the middle of May to the middle of June. It gained the First and Second Prizes at the Sheffield Floral and Horticultural Society's Exhibition, held at the Sheffield Botanical Gardens, June, 1856. SEEDS can be had in sealed packets, price 2*s*. 6*d*. each, at the Richmond Nursery, Sheffield; or of

| | |
|---|---|
| Charlwood & Cummins, Covent Garden | Kernan, Mr. J., Great Russell Street |
| Chaundy & Co., Lewisham | Kearsley, Mr. J., Leeds |
| Chatter's, Mr. Wm., Saffron Walden | Low & Co., Clapton |
| Davies, Thos. & Co., Wavertree, Liverpool | Laing, Mr. Alex., Beverley |
| Dean, Mr. Wm., Bradford, Yorkshire | Noble, Cooper, & Bolton, Fleet Street |
| Flanagan & Son, Mansion House Street | Stewart & Son, Dundee |
| Fisher, Holmes, & Co., Sheffield | Sharpe & Co., Sleaford |
| Godwin, Mr. F., Sheffield [St. | Turner, Mr. C., Slough |
| Hurst & M'Mullen, Leadenhall | Urquhart & Son, Dundee |
| Henderson, E. G. & Son, St. John's Wood | Wheeler, Mr., Geo., Warminster |
| | Wood & Ingram, Huntingdon |

## GRAPE VINES FROM EYES.

JOHN AND CHARLES LEE beg to offer an immense stock of strong well-ripened VINES FROM EYES, of the following kinds:—

| | |
|---|---|
| Alicant | Hamburgh, Pope's |
| Barbarossa | " Victoria |
| Bidwell's Seedling | Hâtif de Jura |
| Black Cluster | Isabella |
| Black Constantia | Lady Down's Seedling |
| Black Damascus | Marchioness of Hastings |
| Black Prince | Muscadine, Royal |
| Blanche Vigne | " Parsley leaved |
| Calabrian Raisin | Muscat, August |
| Charlsworth Tokay | " Bowood |
| Chasselas Frocklaboulay | " Cannon Hall |
| Chasselas Musqué | " Hamburgh |
| Dusetto | " Noir Hâtif |
| Esperione | " of Alexandria |
| Frontignan, black | " of Fontainebleau |
| " grizzly | Pitmaston Cluster white |
| " white | Raisin des Carmes |
| Hamburgh, black | Sweet Water, Dutch |
| " Champion | Syrian |
| " Dutch | Trebiana |
| " golden | Tripoli |
| " Mill Hill | West's St. Peter's |

Nursery and Seed Establishment, Hammersmith, London.

## THE GARDEN.

IN THE CATALOGUE OF VEGETABLE AND FLOWER SEEDS issued by W. DRUMMOND & SONS, Stirling, the intelligent gardener will be gratified to find the system of inserting only the best and really distinct varieties in the various classes still strictly adhered to; and from the brief but correct descriptions affixed thereto, as well as the general simplicity of the whole, it will be found a ready guide to the amateur in making a suitable selection.

W. D. & SONS will, on application, be glad to forward a copy of their Catalogue, post free, to any address.

Stirling is most favourably placed in point of railway accommodation, there being direct and constant traffic to all the principal stations in Scotland and England, and by steamers (*vid* Glasgow) almost daily to the chief ports in Ireland, thereby insuring a speedy delivery of goods, all of which are, with a limited exception, forwarded carriage paid.

W. DRUMMOND & SONS: Seed Warehouse, Stirling, N.B.; and 58, Dawson Street, Dublin.

FRUIT TREES.—The Trade can be supplied with an excellent Stock of DWARF MAIDEN MOORPARK and strong, cut back DWARF APPLES, consisting of the Codlin, King of the Pippins, Dumelow's Seedling, Blenheim, Hawthorndens and Keswick Codlins; also a large Stock of fine DWARF-TRAINED CHERRIES and DWARF-TRAINED PEACHES and NECTARINES, all strong handsome trees. Early application is necessary, to JOHN ADAMS & Co., Nurserymen, Brentford, Middlesex.

## SORCHUM OR HOLCUS SACCHARATUS. CHINESE SUGAR CANE GRASS.

SUTTON AND SONS having imported largely new Seed of the true HOLCUS SACCHARATUS, can supply it at reduced price according to quantity required.

CAUTION.—SUTTON & SONS respectfully intimate to intending cultivators of the Sorghum or Holcus saccharatus, that several varieties are in the market which are comparatively destitute of saccharine and nutritive properties.

The Stock SUTTON & SONS have provided is the true saccharine species procured from the same Continental source from which they have imported in previous seasons. Present price 2*s*. 6*d*. per lb.; quantity required per acre, 8 lbs. Instructions on Cultivation will be sent with the Seed.

Royal Berkshire Seed Establishment, Reading.—Jan. 22.

## BEAUTIFUL NEW TORENIA.

JOHN AND CHARLES LEE are now prepared to send out their beautiful new TORENIA PULCHERRIMA, which has been so much admired. It is figured in the present Number of Henderson's "Illustrated Bouquet," and undoubtedly surpasses all other Torenias by the great contrast it exhibits in the rich dark velvet, approaching to black, of the side lobes, and the pure white of the lip.

Dr. Lindley thus describes it in the *Gardeners' Chronicle* of October 30, 1858:—"We have received from Messrs. Lee of Hammersmith Nursery a singularly beautiful variety of our favourite Torenia asiatica. The tube of the corolla and its lobes are an intense purple violet; the two side lobes are the same colour, fading at the edge into pure violet; the upper lobe pale violet; the lower is white, with a purple oblate blotch at the point. This variety puts the old original kind quite out of the field."

Price 10*s*. 6*d*. The usual discount to the Trade.

Nursery and Seed Establishment, Hammersmith, London.

FLOWER AND VEGETABLE SEEDS OF EXTRA QUALITY.—The Advertisers respectfully solicit applications for their extensive and DESCRIPTIVE CATALOGUE OF FLOWER AND VEGETABLE SEEDS, which they feel pleasure in forwarding to any address throughout the world without charge, and postage free. It will be found to contain, beside the usual names of garden occupants, a numerous list of very CHOICE, NEW, and RARE SEEDS of all classes of the floral world, with many not to be met with elsewhere; and also of the Kitchen Garden Department, the quality and purity of which they pay particular attention. Collections made up for all climates.—Address HOOPER & CO., Seedsmen, Covent Garden Market, London, W.C.

WM. IVERY respectfully announces that his Seed CATALOGUE of GARDEN and AGRICULTURAL SEEDS for 1859 is now ready, post free on application, containing none but the very best quality at moderate prices. He has great pleasure in offering his Nonsuch Celery as the best for cultivation for crispness and flavour, not to be equalled by any other variety, 1*s*. per packet. This can also be obtained of the principal seedsmen in London. IVERY'S Nonsuch Lettuce, Black Seeded White Cos, will stand one month longer than any other known without running to seed in hot weather, a very fine large Lettuce of exquisite flavour, blanching in 1*s*. 6*d*. per packet. W. I. begs to inform the Trade that he will now finish the supply of New Mushroom Spawn, of the same quality.—Hanover Nursery, Peckham, London, S. E.—Jan. 22.

## TO THE TRADE AND OTHERS ENGAGED IN PLANTING.

WILLIAM CORNWELL begs to offer the following, of which he has a large stock on hand, well grown and warranted true to name:—Standard and Dwarf ROSES of all the leading kinds; Dwarf Trained Peaches, Nectarines, and Apricots; Dwarf Maiden Do. Do.; Dwarf Trained Apples, Pears, Plums, &c.; Red and Black Currants; Larch Fir, 2 to 3 feet; Scotch Do., 1½ to 2 feet; Do., 2 to 3 feet; Cedrus Deodara, 2 to 3 feet; White and Yellow Broom, 2 to 3 feet; Double Furze in pots; Cotoneaster microphylla in pots; Irish Ivies in pots; Berberis aquifolium, 2 to 3 feet; Box Edging; Box green, 2 feet; Laurel, common, 2 to 3 feet and 3 to 4 feet bushy; Passiflora cærulea in pots; Privet Evergreen, 2 to 3 feet; large Scarlet Rhododendrons, 4 to 8 feet; ponticum and Catawbiense, do.; Andromedas, Hardy Heaths, Ledums, &c., a large stock of most kinds of Evergreens, Flowering Shrubs, Ornamental Trees, &c.—The Nurseries, Barnet, Herts.

## CHRYSANTHEMUM TRICOLOR BURRIDGEANUM. CHRYSANTHEMUM TRICOLOR VENUSTUM.

F. K. BURRIDGE, SEED GROWER, Lexden Road, Colchester, has much pleasure in inviting the special attention of the Seed Trade to the above-named new Hardy Annuals, which he now offers for the first time, believing they will be found among the finest novelties of the season. The variety Burridgeanum differs from the old C. tricolor in having a fine crimson ring surrounding the yellow circle next the eye of the flower, the rest of the ray being snow white. The variety venustum has the ray florets of a deep reddish purple or purple colour for about one-half their length, shading into yellow at the base, and stained on the under side with purple. Both varieties are striking objects in the flower border, and from their bold conspicuous character, free blooming qualities, and perfect hardiness, together with their adaptability for bouquets, F. K. B. confidently predicts that they will become universal favourites.

A beautifully-coloured group of the two varieties has been prepared, and may be had on application, price 1*s*.; or gratis to Purchasers of 1 oz. of seed.

N.B. The Botanical Magazine for the present month (Jan. 1859), contains a coloured plate of the above.

## CHRYSANTHEMUMS—CHRYSANTHEMUMS.

J. H. BIRD, F.H.S., NURSERYMAN, Stoke Newington, the largest grower and most successful exhibitor of the Chrysanthemum in the British Empire, begs to call the attention of the lovers of the above beautiful autumn flower to his matchless collection, the stock of which amounts to upwards of 50,000 plants. Amongst them will be found the following new and rare varieties:—Admirable, Aimée Ferrière, Augustin, Constantine, Louisa, Louis Bonamy, Madame Leo, Norfolk Hero, Progne, Raymond, Beauté de Nord, Dr. Maclean, Queen of England, Plutus, Alfred Salter, Stellaris globosa, Beauty, Themis, Dupont de l'Eure, &c.

J. H. B. can supply strong plants, one dozen for 6*s*.; or one dozen in 30 varieties, containing two of each variety, for 1*l*.; he can supply 100 plants in 50 varieties, two of each variety, for 1*l*. 10*s*. Also POMPONES in great variety; 50 Pompones in 25 varieties, two of each variety, for 10*s*.; or 100 in 50 varieties, two of each variety for 1*l*. Strong plants of the beautiful new Pompone the Golden Cedo Nulli, 5*s*. each, will be ready in March with the usual allowance to the Trade. Every order will be accompanied by a popular work on the Chrysanthemum.

Post-office Orders payable to J. H. BIRD, Stoke Newington, will be immediately attended to.

FIVE SILVER CUPS

WERE AWARDED TO

A. PAUL AND SON, NURSERYMEN, Cheshunt, Herts, for five Collections of ROSES at the Grand National Rose Show held in St. James's Hall, London, in July. Also FIVE FIRST PRIZES at the Royal Botanic Society's Shows in May and June last. The sorts which won these prizes are now offered at 18s. to 24s. per dozen for standards, 12s. to 18s. per dozen for dwarfs. A PRICED DESCRIPTIVE CATALOGUE forwarded on application, post free.

SEEDS FOR 1859.

HARGRAVE'S SELECTIONS OF KITCHEN GARDEN SEEDS are arranged in quantities and sorts suitable for a succession of Vegetables through the whole year. That adapted for a moderate sized garden contains 10 pints of the choicest kinds of Peas, 6 pints of superior garden Beans, 3 pints of very fine French or Kidney Beans, and a fair assortment of small Seeds too numerous for specifying here. Cash price, One Guinea, package included.

C. W. HARGRAVE, Nurseryman, Florist, Seed Grower, and Importer.—The Nursery, Winchmore Hill, N.

THE SALWAY PEACH.

CHARLES TURNER can supply strong dwarf-trained Trees of this new and valuable late Peach at 7s. 6d. each. Maiden Trees, 5s. each. The SALWAY PEACH is strongly recommended as an acquisition of great worth.

A dish of this fruit was sent to the Meeting of the Fruit Committee of the Horticultural Society, October 19, 1858, who reported:—"The Salway Peach is a melting variety, with orange flesh, sweet and rich. It was considered a first-rate late Peach."—The Royal Nurseries, Slough.

TO THE TRADE.

MESSRS. MASTERS AND SON have to dispose of some fine clean grown WILLOWS, with stems 6 to 8 feet, fit for working the Weeping varieties upon. Also a very large Collection of the best named Azaleas, Rhododendrons, and other American Plants, of small sizes fit for Stock, as well as larger specimens with flower-buds for immediate planting. Prices furnished upon application.—Exotic Nursery, Canterbury, and Fant Nursery, Maidstone. Jan. 22.

CALLICARPA PURPUREA.

JOHN STANDISH, the exhibitor of the above (at St. James's Hall), can supply a few good plants at 7s. 6d. each. The following passage from Dr. Lindley's leading article in the *Gardeners' Chronicle* for Nov. 20 will give an idea of its beauty:—"Callicarpa purpurea, quite insignificant when in flower, was beautiful in its winter dress of innumerable rich purple berries, about the size of swan shot.' It is easily cultivated, and does well in a cold greenhouse or conservatory planted out, where it will produce thousands of bright purple berries resembling glass beads, and remaining on nearly the whole winter.—Bagshot, Jan. 22.

EARLY PEAS.

WAITE'S DANIEL O'ROURKE PEA; the earliest Pea in cultivation.

EARLY NAPOLEON; a Blue Wrinkled Marrow Pea, as early as EMPEROR.

EARLY EUGENE; a White Wrinkled Marrow Pea, as early as EMPEROR.

Prices to be had on application of J. G. WAITE, Seed Establishment, 181, High Holborn, London, W. C.

EXCELSOR MARROW PEA (KNIGHT'S).—This new Pea is a decided improvement on the well known Ringwood Marrow, being quite as early, greater cropper, longer pod, larger pea, superior flavour, and greener in colour. A great acquisition either for the amateur or the market gardener. 2s. 6d. per quart. Price to the trade upon application. To be had of NUTTING & SONS, Seedsmen, 60, Barbican, London. E.C.

THE EARLIEST PEA.—DUNNETT'S FIRST EARLY is in every respect superior to "Daniel O'Rourke," being several days earlier, having finer pods, and richer in flavour, height 2½ feet. For an early dish of fine-flavoured Peas we can confidently recommend this; 2s. per quart.

CHAMPION CABBAGE, the earliest and best sort, if sown in succession, may be had fit for table throughout the year, 8d. per ounce, or 1s. post free.

BUTLER & MCCULLOCH, Covent Garden Market, London.

EARLIEST WRINKLED PEA.

FAIRHEAD AND SON, SEED GROWERS AND MERCHANTS, Lewisham, Kent, beg respectfully to offer their new EXCELSIOR PEA, of robust habit, delicious flavour; much earlier than Napoléon or Eugenie. They can confidently recommend it as the earliest and best Wrinkled Marrow Pea in cultivation. Price on application.

POTATO GROWING. — Extraordinary Produce again in 1858 (See Advertisement in *Gardeners' Chronicle*, Jan 15). 600 Bushels to the Acre, free from disease, of that most delicate, most liable to disease, and best Potato, the LAPSTONE KIDNEY, which at 4s. per bushel gives 100*l.* an acre clear profit on land in one year. The Book forwarded post free for 18 postage stamps.—Address R. B., Post Office, Hathersage, Derbyshire.

BEST POTATO IN THE WORLD—IMPERIAL KIDNEY.

MR. WEBB, of Calcot, having succeeded in raising a quantity of the above excellent POTATO, begs to offer it to the public as the Best of its Class in every respect. Its quality cannot be surpassed, its yield most abundant, and its size from 2 inches to 9 inches long. Price 10s. per bushel, and no less quantity than 1 bushel disposed of. Also about 3000 true KENTISH COB NUT Trees from 2 to 4 feet high.—Apply to Messrs. JOSH. MAY & Co., 1, Wellington Street, Strand, or to Mr. WEBB, Calcot, near Reading, Berks.

NEW ZEALAND RUNNING BEAN.—This Bean was found by a gentleman travelling in Central New Zealand. It is not known by Mr. Arthur Henderson, Mr. James Veitch, Messrs. Sutton, Mr. Carter, Mr. Hooper, nor at the Hort. Society. Price per doz., 3s.; trade allowed Beans extra. A printed account will be sent with each order; see last week's advertisement. Melon, Cucumber, and true Custard Marrow, 1s. per packet. J. C.'s Pamphlets always on sale.—JAMES CUTHILL, Camberwell, London.

SEED POTATOES.—The best Early Kinds are:—

ASHLEAF, true.

ASHLEAF, MYATT'S PROLIFIC, a very excellent first early variety, the productiveness of which is remarkable.

EARLY OXFORD (SODEN'S), a fine variety for frame or first crop. One of the best Potatoes grown.

EARLY SURPRISE, early, a fine large variety, and a good cropper.

Also the following select varieties for general crop:—

| | |
|---|---|
| Brighton Kidney | Early Uxbridge |
| Brockley Kidney | Early Frame |
| Fluke | Fortyfold |
| Looker's Kidney | Flourball |
| ROUND VARIETIES. | Hundredfold |
| American Seedling | Perkins's Seedling |
| White Fortyfold, alias British Queen | Prince of Wales |
| | Tarku's Seedling |
| | Wellington |

CHARLES TURNER has fine samples of the above. The Royal Nurseries, Slough.

CHAMPION OF SCOTLAND PEA.—A new and first-rate sort, declared by all who grew it last year to be the most distinct and best flavoured Pea in cultivation. To be had only at PETER LAWSON & SON'S, the Queen's Seedsmen, &c., who are also prepared to execute orders for all sorts of Garden and Flower Seeds of the finest quality.

27, Great George Street, Westminster.

"JACK OF NEWBURY" SWEDE, ETC.

PETER LAWSON AND SON, THE QUEEN'S SEEDSMEN, &c., 27, Great George Street, Westminster, respectfully request attention to their very genuine Stock of the above excellent Swede; also of the LOTHIAN PURPLE-TOP SWEDE, both of which have been selected with the greatest care. They have also a very fine Stock of the KOHL RABI, or TURNIP-ROOTED CABBAGE, specimens of which were shown at their Stands at Smithfield Club Show. The Kohl Rabi was largely grown last season, and may now be relied on as a substitute for the Turnip and Mangel, where these roots do not succeed, or for filling up blanks where there is a partial failure. Its feeding qualities, hardiness, and weight per acre are equal to the Swede, and all kinds of stock prefer it to other roots.

P. L. & SON have also selected a first-rate Stock of MANGEL WURZEL SEED, which they can confidently recommend. Their natural GRASS SEEDS have been also saved with very great care, and they are ready to supply them separately or in mixture, for laying down Permanent Pastures, Lawns, &c.

P. L. & SON have arranged to deliver Seeds free throughout England and Wales from their London Establishment, for all quantities exceeding 20s. in value.

LISTS OF PRICES of the above and all other Seeds, Plants, &c., may be had on application.

27, Great George Street, Westminster.

VEGETABLE AND FLOWER SEEDS, ETC.

JAMES DICKSON AND SONS, SEED MERCHANTS and NURSERYMEN, Chester, respectfully intimate the publication of their ANNUAL LIST OF VEGETABLE AND FLOWER SEEDS, which they will be happy to transmit prepaid to those who may apply for it. The whole of the seeds they offer have been selected with great care, and they therefore feel confidence in recommending them as being of really good quality.

Their Nursery Grounds at Newton-by-Chester, which lie in a high and exposed situation, contain a large and valuable Stock of FOREST and FRUIT TREES, SHRUBS, &c., all healthy and vigorous; also a great quantity of transplanted QUICKS, suitable for forming new fences, &c. Lists and every information furnished upon application.

Communications should be addressed JAMES DICKSON & SONS, 102, Eastgate Street, and Newton Nurseries, Chester.

PRICED CATALOGUE OF SEEDS FOR 1859.

Just published by MILNE, ARNOTT, & Co., and will be forwarded free upon application,

A PRICED AND DESCRIPTIVE CATALOGUE OF SEEDS, containing select lists of the best kinds all from the most genuine stocks, and of excellent quality. Orders above 1*l.* carriage free to any station within 100 miles of London; above 5*l.* to any station or port in the United Kingdom.—MILNE, ARNOTT, & Co., Wandsworth Road, London, S., successors to Messrs. Chandler & Sons (established upwards of 60 years).

PINE-APPLE NURSERY, EDGEWARE ROAD (W.).

ARTHUR HENDERSON AND CO. beg respectfully to announce that their CATALOGUE OF KITCHEN GARDEN AND FLOWER SEEDS FOR 1859, with a List of Garden Implements and other requisites is now published, and will be forwarded, post free, on application.

They particularly desire to call the attention of the public to their "celebrated Short-topped Garden Beet," the only variety that really will repay the grower; colour, flavour, and quality are such as to render it worthy of extensive cultivation; also "Kite's Branching Marrow Pea," a very valuable and prolific bearer for every day use; "Snow's true White Winter Broccoli;" "Snow's Champion Cos Lettuce," a large crisp summer and autumn Lettuce, and for these seasons unequalled. In this select List will also be found the "Moor Park Lettuce," those very superior sorts as yet but little known, namely, the "Palatine" and "Versailles" Cabbage Lettuce; neither of these are disposed to run to seed during the hot summer months. The White and Black spined Imperial Cucumber, the new sprouting or Feather-stemmed Savoy, a scarce but most delicious Green; the "Waterloo framed short-topped seeding Potato," raised between the "Albion" and "Frame;" it is earlier than either, very productive, and the sort that must eventually be depended upon as the best early frame and forcer, as soon as its merits become better known. The "Australian Salad Cress"; this plant grows about 1 foot in height, branching and spreading all round the stem; it may be constantly cut and gathered throughout the summer, the leaves are of a peculiarly delicate light green, the flavour is exquisite, grateful, and piquant.

VEGETABLE AND AGRICULTURAL SEEDS, &c.

MESSRS. PARKER AND WILLIAMS beg to inform their friends and patrons that they are now prepared to execute with new and genuine SEEDS all orders they may be favoured with. Their PRICED and DESCRIPTIVE CATALOGUE, containing all new VEGETABLES proved to be good, and all the best of the older varieties, &c., will be forwarded post free on application.

The following are particularly recommended, all being very superior in quality, and valuable acquisitions to the most select collections:—Beet (Pine Apple Short Top), per oz., 2s.; Broccoli, Winter White (Snow's), per oz., 3s. 6d.; ditto, Penzance White (Mitchinson's), per packet, 1s. 6d.; Celery, Nonsuch (Ivery's), per packet, 1s.; Cottager's Kale, per packet, 1s.; Lettuce, Alma Cos (Griffin's), per packet, 1s.; ditto, Moor Park Cos, per packet, 1s.; Marrow, Custard (Thomson's), per packet, 6d.—Paradise Nursery, Seven Sisters and Hornsey Road, Holloway, London, N.

ROYAL SOUTH HANTS SEED ESTABLISHMENT.

UNDER THE PATRONAGE OF H.R.H. THE PRINCE CONSORT, THE AGRICULTURAL, HORTICULTURAL SOCIETY OF INDIA, AND THE LEADING AGRICULTURISTS OF THE UNITED KINGDOM.

PAGE AND TOOGOOD can now supply GARDEN AND FARM SEEDS, carriage free; SEED POTATOES, &c. The numerous Prizes gained by their Stocks are convincing proofs of superior quality, and their prices compete with any house in the kingdom. WHOLESALE and RETAIL PRICED CATALOGUES upon application.

Agents for ODAMS' Blood Manure, Superphosphate, &c. Seeds Packed for Exportation to all Parts of the world,

37 and 38, Oxford Street (facing the Railway Terminus); and 58, Above Bar, Southampton.


BRITISH POMOLOGICAL SOCIETY,

ST. JAMES'S HALL, 69 and 71, Regent Street, London, W.

MEETINGS AND PREMIUMS FOR THE YEAR 1859.

THURSDAYS.

Feb. 3.—2*l.* 2*s.*, and 1*l.* 1*s.*, for the best and second best collections of Six varieties of Late Dessert Pears. (Open to growers only.)

March 3.—2*l.* 2*s.*, and 1*l.* 1*s.*, for the best and second best collection of well-kept Apples and Pears, accompanied by careful descriptions of the manner in which they have been kept. (Open to growers only.)

May 5.—1*l.* 1*s.*, for the best late Seedling Kitchen Apple.

June 16.—1*l.* 1*s.*, and 10*s.* 6*d.*, for the best and second best collections of Strawberries.

June 23.—1*l.* 1*s.*, and 10*s.* 6*d.*, for Strawberries, as before.
1*l.* 1*s.* for the best Seedling Strawberry.

July 7.—1*l.* 1*s.*, and 10*s.* 6*d.*, for Strawberries, as before.
2*l.* 2*s.*, 1*l.* 1*s.*, and 10*s.* 6*d.*, for the best, second, and third collections of Figs.
2*l.* 2*s.*, and 1*l.* 1*s.*, for the best and second best collections of Melons.

July 21.—2*l.* 2*s.*, and 1*l.* 1*s.*, for Melons, as before.
1*l.* 1*s.*, and 10*s.* 6*d.*, for Strawberries, as before.
2*l.* 2*s.*, for the best Seedling Early Apricot.
1*l.* 1*s.*, for the best Early Dessert Pear.
General collections of Cherries, Raspberries, and Currants are also specially requested at this meeting.

Aug. 4.—ANNUAL GENERAL MEETING.
2*l.* 2*s.*, for the best Seedling Early Peach.
2*l.* 2*s.*, for the best Seedling Early Nectarine.
3*l.* 3*s.*, 2*l.* 2*s.*, and 1*l.* 1*s.* for the best, second, and third collections of Grapes.

Aug. 18.—2*l.* 2*s.*, 1*l.* 1*s.*, and 10*s.* 6*d.*, for Figs, as before.
2*l.* 2*s.*, for the best Seedling Grape, having a Muscat flavour.
2*l.* 2*s.*, for the best Seedling Grape of any other description, and not having a Muscat flavour.
2*l.* 2*s.*, for the best Grape, not a Seedling, raised in this country, and not in general commerce.

Sept. 1.—2*l.* 2*s.*, for the best Seedling Late Strawberry.
1*l.* 1*s.*, for the best dish of Golden Hamburgh Grapes.

Sept. 22.—3*l.* 3*s.*, 2*l.* 2*s.*, and 1*l.* 1*s.*, for Grapes, as August 4. (Open to growers only.)

Oct. 6.—2*l.* 2*s.*, for the best Late Seedling Apricot.
2*l.* 2*s.*, for the best Late Seedling Peach.
2*l.* 2*s.*, for the best Late Seedling Nectarine.

Oct. 27.—1*l.* 1*s.*, for the best dish of Six Salway Peaches.

Nov. 17.—10*s.* 6*d.*, for the best dish of Cox's Orange Pippin.

Dec. 15.—The premiums to be offered at this Meeting will be announced at a later period.

The premiums will be awarded if specimens be exhibited in accordance with the Society's regulations, and if considered worthy by the members present, who will be the judges on the respective occasions.

The word Seedling is intended to apply to varieties raised in this country, and which, at the time of exhibition, are not in the hands of more than two parties, who may represent the rrisers and the propagators. All premiums offered for such subjects, but not taken this year, will be announced for competition at or about the same time in next and subsequent years, until such varieties are brought forward as shall be considered worthy of the Society's commendation.

The premiums offered for Collections of Grapes, Melons, Figs, and Strawberries are offered for the purpose of obtaining, if possible, examples of all the varieties in cultivation, that the Society may be enabled to determine their nomenclature, and pronounce on their relative values. It is not necessary in these competitions that the exhibitions should all have been cultivated by the parties sending them. Every subject exhibited for competition must be accompanied by information filled up in forms obtainable on application to the Secretary.

Of Apples and Pears, in February and March, not less than three, and at other periods not less than six specimens to be exhibited of each variety; 10 specimens should be sent of culinary varieties.

Strawberries to be exhibited in dishes of not less than 20 fruits, accompanied by leaves and flowers when possible.

Peaches, Nectarines, Apricots, and Figs, in dishes of not less than three fruits, in all cases accompanied by a shoot with three or four perfect leaves.

All fruit which will endure being packed up for 24 hours should be sent, if by public conveyance, early enough to arrive on the day previous to the Meeting; and if by hand, not later than 10 o'clock on the morning of Meeting.

The room will be open to members and the friends they introduce at 2 o'clock each day, and the chair will be taken at half-past 2.

Forms, Copies of Rules, instructions for packing, or other information may be obtained upon application to Mr. W. DAVIDSON, Secretary, to whom parcels, &c., should be addressed, at St. James's Hall, 69-71, Regent Street, London, W., and letters (to avoid delay), at 2, Randolph Road, Maida Hill, London, W.


# The Gardeners' Chronicle.

*SATURDAY, JANUARY* 22, 1859.


MEETINGS FOR THE FOLLOWING WEEK.

MONDAY, Jan. 24—Entomological ..... 8 P.M.
WEDNESDAY, — 26—Microscopical ..... 8 P.M.

GERMAN STOCKS! who that is a lover of gardens does not know how much these are prized above those of France and England? In CARTER'S list no fewer than 50 sorts are offered for sale; VAN HOUTTE has 35 "of the brightest and most exquisite colours," to say nothing of quantities more. Every great seed list puts them forward among the best novelties to be offered; and travellers bring them home in packets as the most acceptable present that can be offered to their friends. To rival the German seed appears hopeless, and in a climate like ours possibly may be so. Nevertheless, considering what other "impossi-

bilities" have been overcome, such for instance as persuading the Chinese Yam to be gracious, it seems worth while to explain what the Germans consider to be the master key to their success. This we are enabled to do by means of a paper in the *Illustrirte Gartenzeitung*, translated for the Horticultural Society of Paris by M. COURTIN.

It appears that the finest possible seed is sown in the beginning of March on a gentle hotbed covered with light rich sandy soil. Care must be taken not to sow the seeds too thickly, for if that is done the seedlings are weak. A little earth is scattered over the seed and gently pressed down with a very even board, after which they are slightly watered with a fine rose. The sashes are immediately afterwards covered down, and left so till the young plants appear. After that a little air is given whenever the weather permits, it being of the first importance that the seedlings should not be drawn up, but be short and strong. In places where there is risk of air being too moist, in spite of ventilation, so as to make the seedlings damp off, it is then found expedient to cover the soil with a thin layer of fine soft dry loam, and after the seeds are sown to cover them gently with the same soil. As soon as the seedlings have formed their first leaves they are pricked out on a cold bed at about 1 inch apart. This bed should be formed either of good light soil mixed with old rotten leaf-mould, or of light earth from a heap of well worked turf. In pricking out, the end of the tap root is cut off, and the seedlings are plunged up to the seed leaves. The young plants are then gently watered, the frames are shut down close, and kept so for a few days. When the sun is strong the lights are shaded by some thin transparent canvas; but as soon as the seedlings are seen to have taken air and sun are by degrees admitted freely. In fine warm sunny days the lights are taken off, and replaced at night. This kind of pricking out is the most important part of the operation; it causes plenty of roots to form continually. In short nothing can be more striking than the difference between plants thus treated, and seedlings which are removed at once from the seed bed to the place where they are to grow. Experience also shows that roots hold together better in the kind of soil above described than in any other, a most important circumstance.

The beds on which the young Stocks are to be planted out are prepared the previous autumn by a good dressing of stable dung dug in immediately. In the spring the beds receive a pretty good coating of pigeons' dung, or fowls' dung, which is left exposed till the planting out takes place (guano would doubtless do as well). Just before this happens it is thoroughly well worked in.

About the end of April the seedlings are strong enough to be planted out. This is done for the most part in the evening. Care must be taken that the soil is not too wet. The plants generally stand between 5 and 6 inches apart. After being put into the ground they are well watered. It seems, however, that many gardeners object to planting out so early, because of the check likely to be given by late frosts. It is, however, asserted that nothing is to be feared on this account, provided the Stocks are well established and have been properly hardened off; for if that is done neither snow nor frosts will injure them.

After the Stocks are planted out they merely require watering night and morning in dry weather, and to be kept perfectly clean from weeds. As soon as the flower buds begin to show the beds must be covered an inch or two deep with old horsedung perfectly rotted down; such as comes from an old hot-bed. But the greatest care must be taken that this material does not touch the stems of the plant. Water is given over this manure, which carries down to the plants such an abundant supply of food that they become extraordinarily strong, and produce abundance of fine flowers.

If Stocks are to be grown in pots they are planted out on a bed by themselves, so that they can be lifted with a good ball when the time comes. That time is as soon as it is possible to see whether the blossoms will be single or double. When potted they are placed in the shade in a rather close place, until it is seen that they have taken. They are then plunged in well worked soil, up to the rim of the pots in an open situation exposed to the sun. They are regularly watered, and fed from time to time with strong liquid manure made from cowdung or sheep's droppings. Should it be wished to flower them late the leading stem is stopped so as to force it to produce laterals which not only flower later, but often have finer blooms than if the plants are not pinched. The gardener must not, however, be too late in doing this, and he must only nip off the blossoms without touching the smallest leaf.

In conclusion we are informed that seed of the finest quality is obtained from plants in pots, and that the best seeds are those which have a very small border, but which are irregular in form, rather angular, and not flat.

Let us add that these directions are applicable to many other annuals besides German Stocks. The manner and time of sowing, the preparation of the bed, how and when to manure, how to water, when to turn out, how to manage the potted plants, and what changes to make in the kind of manure are all conformable to the strictest rules of theory, on which it is clear that intelligent gardeners have built up their practical routine.

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AT the general meeting of the GARDENERS' ROYAL BENEVOLENT INSTITUTION, which took place on the 11th inst., for the purpose of electing three pensioners, the following was the result of the ballot.

| Number. | Name. | Subscriber. | Application. | Votes. |
|---|---|---|---|---|
| 1 | JAS. SMITH .. .. | .. | 10th | 319 |
| 2 | WM. DUNGATE .. | 6 | 9 | 664 |
| 3 | WM. PRIEST .. .. | 7 | 6 | 337 |
| 4 | SARAH AYRES .. | 4 | 5 | 607 |
| 5 | WM. CROUCHER .. | .. | 5 | 127 |
| 6 | JNO MACINTOSH .. | 5 | 5 | 172 |
| 7 | WM. BAILLIE .. .. | .. | 4 | 808 |
| 8 | GEO. DRURY .. .. | .. | 4 | 39 |
| 9 | JNO. ALDERMAN .. | .. | 3 | 116 |
| 10 | J. FLINN .. .. | .. | 3 | 75 |
| 11 | M. MITCHINSON .. | 7 | 3 | 41 |
| 12 | J. DOWNING .. .. | .. | 2 | 429 |
| 13 | T. JENKINS .. .. | 11 | 2 | 171 |
| 14 | J. WALLIS .. .. | .. | 2 | 55 |
| 15 | G. ANNABALL .. | .. | 1 | 56 |
| 16 | S. FAULKNER .. | 6 | 1 | .. |
| 17 | WM. SMITH .. .. | .. | 1 | 15 |
| 18 | MARY SQUIBBS .. | 14 | 1 | 575 |

In printing this return, while we heartily congratulate the elected pensioners—all most worthy persons—upon the success that has attended the exertions of their friends, we must also draw attention to the determination now evinced by the majority of the subscribers to throw the weight of their support upon the side of those applicants who have themselves done the most to support the charity. This is conspicuously the case with No. 18, who upon the first application reaches within 32 votes of the position which it has taken others at least four years to attain—a circumstance undoubtedly owing to her poor husband having subscribed 14 years. We cannot but repeat the conviction we have so often already expressed, that this consideration ought always to have very great weight with voters; and we trust the present instance may be regarded as a sign that a large number of the most powerful supporters of the charity entertain the same opinion.

Let it not be imagined that this remark is intended to convey anything resembling an objection to the proceedings of the Committee of Management. On the contrary, the gentlemen who have for so long a time undertaken the duty of administering the affairs of the charity deserve the warmest thanks of gardeners for the disinterested care with which they have watched over its interests. And that, not merely for what they have done, which is a very great deal with the small means placed at their disposal, but for what they have refused to do. They have shut their ears to clamour; they have steadily opposed the schemes of imprudent advisers; and they have deliberately acted upon their own judgment, whether it pleased or displeased the praters at their meetings. In this way they have won public confidence, and so long as they continue in such a course they are certain to preserve it. It may be indeed that their progress is slow, but it is sure, as their annual accounts, now more flourishing than ever, unmistakeably demonstrate. For ourselves we readily admit that where we have had the misfortune to differ from the Committee upon some points of detail, those points have always been fairly discussed, and we have bowed to the decision of the Committee with the same deference as would be shown to the verdict of a jury.

We believe the Committee now possess something less than 5000*l.* invested in the public funds, out of the interest of which and annual subscriptions their pensions are paid—12*l.* to widows, and 16*l.* to destitute Gardeners—scanty pittances, it must be owned—but as much as the means of the charity can prudently afford. Inconsiderate people are to be found who cry out at the smallness of these allowances, and blame the Committee for not paying twice as much, forgetting that it is better to give 20 poor persons even 10*l.* a year than to allow 20*l.* a year to only ten. We take the liberty to point out to the gentlemen here alluded to that the real blame attaches to the parsimony of the public, which niggardly withholds the [illegible] that is indispensable to a more liberal action [illegible] the Committee. Let those gentlemen subscribe more, canvas more, keep the charity more before the world, at the same time carping less, and then if the Committee are found to hoard their means instead of expending them wisely, it will be time enough to talk of illiberality.

All experience shows that in this country money will always be contributed freely for charitable purposes, provided the donors have confidence in those who are entrusted with the management of it, and are satisfied that it will be prudently expended upon really deserving objects. Surely there is no one class of society more deserving the aid of the wealthy, and, indeed, of all who have money to spare, than decayed gardeners of irreproachable character, and their aged widows. It is upon these that the means which the charity before us possesses are expended—as we think most judiciously—by a body of gentlemen of unimpeachable integrity, who by their position are able to judge with unfailing accuracy whether applicants are proper objects for relief or not. And it is on these grounds that we most earnestly appeal for more energetic support of the Gardeners' Royal Benevolent Institution.

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## New Plants.

212. FREMONTIA CALIFORNICA; *Torrey in Smithsonian Contributions to Knowledge, Vol. V. t. 2.*

Of this most remarkable plant a solitary individual was raised in 1851 in the garden of the Horticultural Society from a seed received from Mr. Robert Wrench. In April 1854 it produced flowers for the first time, as large as those of Trollius asiaticus, brilliant yellow inside, apricot coloured outside, with the addition of some cinnamon coloured down; and their substance was so thick that each flower remained in perfection for weeks.

Since that time it has proved to be a beautiful hardy shrub, with a habit wholly unlike that of every hardy plant in cultivation, most resembling indeed some of the Hibiscuses of Western Australia. The plant has hitherto resisted all attempts at propagation, and still remains at Chiswick unique in Europe.

The seed paper bore the following superscription: "A shrub 4 feet high with blossoms the size of a Quince, of a deep yellow colour, sessile, and covering the branches. The capsules are an inch in diameter, resembling fruit."

This most interesting shrub was first described by Dr. Torrey in the work above quoted, from dried specimens gathered by the Rev. A. Fitch at the sources of the Sacramento, in the northern part of the Sierra Nevada of California. Also on hill-sides, Mariposa county, especially near the gold works of the Merced Company, flowering in May.

We also find a dried specimen, for which we are indebted to Messrs. Veitch, among the plants (No. [illegible]) collected for that enterprising firm by Wm. Lobb on the Sierra Nevada at the height of 5000 feet, marked "Deciduous Shrub, 3 to 4 feet high."

The description given by Dr. Torrey is as follows:—

"A beautiful shrub, usually from 3 to 4 feet high, but occasionally reaching a height of 10 feet, and having very much the appearance of an ordinary [illegible]

tree. The bark is of a brownish gray colour; the wood is hard, and apparently of slow growth. Most of the leaves and flowers are produced at the extremity of very short lateral branches or spurs. The former are petiolate, roundish in outline, from three-fourths of an inch to an inch, or sometimes even 3 inches, in diameter, three to seven-lobed; the lobes entire, or crenate-toothed, of a thick (and when old of a somewhat coriaceous) texture, green and sparsely stellate-pubescent on the upper surface, ferruginous-tomentose underneath; the petioles from 4 to 6 lines long. In the specimens from Mariposa county, the leaves of the young shoots are less deeply and more numerously lobed. The peduncles are about as long as the petioles, stout, straight, or somewhat recurved. Immediately under each flower, and closely applied to the calyx, are three small lanceolate bracts. The calyx is sulphur-yellow widely campanulate, about an inch and a quarter in diameter, deeply five-parted; the segments roundish-obovate, and usually with a short abrupt point, or sometimes mucronate. Externally the calyx is sparsely stellate-pubescent, and on the inside at the base it is densely villous. The stamens are equal, shorter than the calyx, and opposite to its segments: the filaments are glabrous, the upper half filiform, spreading and distinct; the lower part united into a tube which embraces the ovary and nearly conceals it: the anthers are about three lines long, extrorse, adnate, tortuous, and incurved at each end. In the bud they are four-celled, but only two-celled in the expanded flower; the cells are distinct and open longitudinally their whole length. Under the microscope the pollen appears triangular-globose and reticulated. The ovary is ovoid, and densely clothed with short conical hairs or processes. It is usually five-celled; each cell containing eight or ten horizontal anatropous ovules: the style is about one third longer than the stamens, and gradually tapers towards the summit, where it terminates in a minute undivided stigma. The capsule is about as large as that of Hibiscus Syriacus, and is closely covered with short stiff reddish stellate hairs; a portion of the calyx remaining at its base. At maturity it splits loculicidally nearly to the base into five valves. Only two or three seeds ripen in each cell; and these are smooth, resembling those of the Ochra.

"This genus is a near ally of the celebrated Cheirostemon of Humboldt, the Hand Tree of Mexico. The latter differs, however, in the form and texture of the calyx, the lobes of which are deciduous; in the much longer stamineal column and secund mucronate free portion of the filaments; in the straight parallel anther-cells, and in some other characters of less importance."

Whenever it shall have been found possible to propagate this plant we shall have added an uncommonly fine thing to our list of small neat hardy shrubs.

## TRENTHAM.

THIS magnificent palace residence of his Grace the Duke of Sutherland is situated something more than a mile from the very pretty station of that name on the North Staffordshire Railway. From thence the road leads over a flat and open country; passing through a portion of the village of Trentham and crossing the Trent by an ancient four-arched bridge, it enters the park by an unpretending gate and sweeping round to the western or entrance point (which is close at hand), it passes between two richly ornamented lodges immediately in front of the mansion, which is a noble pile of a pure and chaste style of Italian architecture, elaborately and richly ornamented, the parapet adorned with an open balustrade surmounted at intervals with lofty urns and vases. A lofty open-columned tower 100 feet in height rises from its centre, conferring a certain degree of majesty on the whole mass, and there is an Orangery and conservatory at either end, of the same unique and magnificent character. The large adjoining masses of offices, stables, artificial shops and farm buildings are of a secondary class of the same order of architecture, or what is usually known as the Anglo-Italian style, which is preserved in a great measure through the village, and even to the buildings at the railway station; the towers and projecting pantile roofs producing on the landscape the most pleasing and picturesque effect.

The south or garden front is on a scale commensurate with the noble proportions of the mansion to which it forms so admirable an appendix. That portion immediately in front of the principal rooms is some 10 or 11 acres in extent—a parallelogram in form, and laid out in terrace and panel gardens of a purely Italian character; they are separated from the park on the western side by a slight screen of a dwarf and mixed plantation; the south end abuts on the lake—a large and beautiful sheet of water of 85 acres in extent, and from which it is separated by an open balustrade fence. The main walk of the lower or Italian garden is 250 yards long, and 14 yards wide, at the lower end of which there is an admirable bronze figure; there are also parallel walks on either side, and the whole is lined with Portugal Laurels in large boxes, trained with nicely formed heads, and producing an excellent effect. These walks are again crossed by other walks, which divide the whole space into six compartments, and each is formed into panel, the raised portion in the middle having as a centre a simple fountain and jet; the surrounding beds partake of the same character, the latter edged with Oak, Cotoneaster, Yew, Berberis, &c., all trained to a uniform height, and the whole was filled with the choicest description of bedding plants, arranged and managed with the most scrupulous taste, alike in regard to height and harmony of colour. Fine specimens of Humea elegans were used with much effect in relieving alike the flatness of the surface and intensity of colouring in the beds. Every compartment is lined with fine specimens of upright Cypress and the Irish Yew, producing an excellent effect, and each division is a counterpart of the other. On the east and west sides of this garden are raised terraces of some considerable width, on which are placed at regular intervals polished granite seats, vases, busts, and ornamental baskets, the latter filled with beautiful plants in flower. At the lower end of the eastern terrace there is an iron-covered trellis walk 140 yards long and 15 feet high, over which are trained Roses, Clematis, Ivy, Aristolochia Sipho, &c., furnishing during the summer months a sheltered promenade of the most inviting character. The terrace is some 2 or 3 feet higher than the walks of the Italian garden, from which it is divided by an open balustrade surmounted with vases artistically disposed, and these are filled with flowering plants, producing a most charming effect. The approach is by wide steps ornamented on the ascent by bronze vases and baskets of choice flowers; the pavement of this terrace is of slate bordered with stone, on which are some raised beds, and the whole is replete with rich marble vases and bronze statuary, apparently of much value, and gorgeous in their effect and character. The sides of the lawn windows facing this terrace are each fitted with a China box, and filled with flowering plants, chiefly Geraniums. Advantage seems to be taken of every available space in this "garden of gardens" for a rich display of the very best description of flowering plants, and here the elegant Humea is again brought into contrast with the finest possible effect. This garden is bounded by a conservatory at the west end—a building of considerable dimensions, and containing some noble specimens of Orange trees, Camellias, and others of a kindred character, in the most perfect health, ornamented with quantities of Fuchsias, Geraniums, Achimenes, the whole being interspersed with a considerable collection of nicely grown specimens of Ferns and Lycopods. Creepers, too, descending in festoons from the roof added much to the beauty of the whole. The east end of the terrace is bounded by the private apartments, which project like the conservatory from the main portion of the building. Passing along this terrace garden one cannot help admiring the beautiful view that presents itself, and I would here note that although it was somewhat late in the season when I had the rich treat afforded me of visiting these beautiful gardens and grounds, and that too after the heavy rains had fallen in the middle part of September, which had considerably detracted from the beauty of the flower-buds, still enough was left to show the gorgeous character of the scene as well as the artistic and tasteful manner in which all had been treated. Everything was in the most perfect order and neatness. In the foreground were long walks lined with avenues of Laurel trees in boxes, having nicely formed heads; the latter are more appropriate than Orange trees in a northern climate; and these viewed in contrast with the light and erect forms of Cypress and Irish Yew, through which the gorgeous masses of the flower-beds are seen to great advantage, look uncommonly well, while the noble bronzes, balustrades, figures, vases, &c., with which this garden is so liberally adorned produce an effect of the most charming and perfect kind. Adjoining this gorgeous scene the large and beautiful lake in its irregular outline stretches onwards to the south, and is lost in the vast amphitheatre of wood which rises beyond, whilst densely clothed green islands rest on its bosom, and stately swans proudly glide on its crystal-faced surface. A little to the right the highest point of the wooded hill is crowned by a colossal bronze statue, 15 feet in height, of the late Duke of Sutherland, after the original by Sir Francis Chantrey, and erected, as the inscription informs us, by a "mourning and grateful tenantry;" a noble object in the landscape, and seen from a great distance in the surrounding country. From here the hill stretches northward to a considerable distance beyond the mansion, where it terminates somewhat abruptly, and is clothed for a considerable part of its length with a range of stately wood; the magnificent park of some 400 acres in the foreground is nicely broken by large masses and specimens of ancient timber, amongst which the noble herds of deer and West Highland cattle roam undisturbed; immediately opposite the mansion, and beyond the range of wood a large knoll rises up majestically in the horizon, the apex of which is covered with a noble group of Scotch Fir, producing an excellent effect, and giving much variety to the scene. Here the ground is thickly covered with groups of "Bracken," which has a very nice appearance, and from this spot there is an excellent view over a bare and somewhat flat country, embracing however in its extent a vast field of industry, the pottery towns of North Staffordshire, the site of each being well marked by huge volumes of fire and smoke. It is worthy of remark that this magnificent park is open at all times for the amusement and recreation of the dense population of these towns, and there are certain occasions during the "Stoke wakes" when thousands enjoy the advantages so liberally offered by the Duke of Sutherland.

The Orangery is a long and somewhat narrow building; it contains many noble specimens in rude health. In front there is a very pretty garden, centered with a Cupid fountain, the beds being effectively planted, and the whole is further ornamented by a handsome gilt railing. The pleasure grounds contain some 50 acres of an irregular form, and are charmingly disposed in masses broken into glades, through which the silvery surface of the water appears glittering in the sun. It also contains very nice specimens of Araucaria and other Conifers, Tulip trees, Magnolias, &c., and is further decorated by masses of flowers effectively disposed. The Trent winds through these grounds, and its waters are spanned by an iron bridge of 90 feet. There is also a ferry boat at some little distance up the river. From this spot onwards to a considerable distance the water is fringed on either side by Water Lilies and other flowering aquatics; and from here one observes the gigantic operation which has been resorted to in changing the course of the river from the bed of the lake, and which formerly used to silt it up in all directions; that beautiful sheet of water is now fed exclusively from a rivulet on the opposite side. Of late years another enemy has overtaken it; this is the water weed, Anacharis alsinastrum, an American pest of a determined character, which has spread alike over the surface of the river and lake. Near this spot some 10 or 12 acres have been recovered from a quagmire condition by draining, all which has been laid out with much judgment and good taste, and added to the existing pleasure ground; the masses are generally large, and have been skilfully planted with Evergreens and early flowering shrubs, white and yellow Broom, Double Furze, Ferns, Heath, &c., the whole being interspersed with Conifers, Hollies, Thorns, &c. Many of the latter are covered with creeping Roses, Honeysuckles, and Clematis, and these latter at the period of my visit presented a somewhat singular but excellent effect.

Immediately facing the bridge and sloping to the river on a parallellogram of gravel, and appropriately surrounded by "Forget-me-not," are the following inscriptions laid down in broad Box, in large letters:—

ELIZABETH LORN | CAROLINE KILDARE
EVELYN BLANTYRE | CONSTANCE GROSVENOR
VIREAT MEMORIA.

These ladies are the daughters of the Duke and Duchess of Sutherland, and married to the noblemen whose names they bear; the first named is now Duchess of Argyll. Close at hand is an excellent conservatory 89 feet long, 60 feet wide, and 14 feet high, of a ridge and furrow construction and admirably adapted for plant cultivation. It contains many fine specimens of Camellias, Azaleas, Acacias, Brugmansias, &c.; the general style of training is of a pyramidal character, which has an excellent effect, and being cramped at the roots by brick-work, they are now splendidly set with flower-buds. The roof is prettily festooned with creepers of the most showy kinds; suspended baskets with trailing plants adding much to the general effect. The whole is kept gay during the season by a constant succession of flowering plants liberally distributed over the whole house. At the period of my visit it was richly decorated with Fuchsias, Geraniums, Achimenes, Liliums, &c., all capital specimens, producing a rich mass of beauty and effectiveness; and I would observe in passing from these grounds that the whole of the Grass and gravel are kept in the most perfect order by the aid of machinery, the former by a horse machine wherever it can be worked, a small hand instrument being used in places of difficult access; the latter is kept in order by a salting machine, the invention of Mr. Fleming, and judging from the beautiful condition of the gravel in every direction, I should say that it was altogether most efficient.

Adjoining the conservatory is the principal entrance to the kitchen garden through some very elegant iron gates, opposite to which is a noble walk 200 yards in length, with wide borders on either side most effectively disposed in ribboned stripes, the colours being well contrasted, and producing an admirable effect. On the left hand side, and occupying the whole south wall of the garden, is the famous "Trentham Case," a very beautiful structure; it has a narrow slate path up the entire centre, and forms a most delightful promenade. The fruit when I saw it was all gathered; the appearance of the wood, however, for the next season's crop seemed all that could be desired. The western aspect of the east wall is also covered with the same unique and magnificent building, from which excellent crops are obtained, and with certainty of success. The northern wall is covered with a noble range of glass erections of elegant designs and construction; there are several Peach-houses with arched trellis in front, and the back walls covered also with trees; and the whole of the trees looked in the most perfect health; the wood being strong and full of well rounded fruit buds.

Adjoining these is the new ridge and furrow roofed Vinery, erected for the cultivation of the Trentham Black Grape; it is 134 feet long and of considerable width. The ventilation of the roof is of the most perfect kind; the cap in each ridge moves simultaneously by machinery, and the whole of the foliage is stirred by the wind on the least air being given. [We hope to be able shortly to publish a detailed account of this building, a representation of which is now before us.] Another excellent plan has also been adopted here; a large tank has been formed in the house for the reception of the rain-water from the roof, and a hot-water pipe is laid into it in order to render the water tepid, and judging from my

own experience in this particular, the plan is worthy of adoption everywhere. The early Vinery immediately adjacent contained some excellent rods which were expected to produce fruit of no ordinary character for the exhibition in the coming May month; they were produced from a Vine planted about the centre part of the back wall of the house, the stem of which was mossed and trained down one of the rafters to the front border of the house, and then laid along in its whole length. From this mode shoots of the greatest promise had been produced; and surely with this extraordinary amount of feeding some magnificent fruit may at least be expected. Other Vine houses contained some beautiful Muscat and other Grapes faultless alike in regard to colour and size.

The Pineries are contained in an inclosed square a little southward of the Peach-houses, and from the fame these gardens have obtained in the production of this king of fruits, I fully expected to find some noble specimens; nor was I disappointed, for the pits contained not only some admirable plants but there were then just fully ripe four of the most beautiful and unique specimens of Black Prince I ever beheld—of that peculiar redness for which this variety is distinguished. The whole of the forcing structure in these gardens has just been reheated on the "pair of boilers" system, and by a mode different from others I have recently had an opportunity of seeing—the flue pipes from the boilers being of a much greater diameter. The different modes of training fruit trees and bushes in these gardens are worthy of remark; on either side of the middle walk Pear trees are trained—pyramidal, bell-shaped, and cylindrical—not more than 4 or 5 feet in height; they appeared to be in perfect health, and were producing excellent crops of fine fruit; the roots alike of Pears and other fruit-bearing trees were kept periodically shortened, and with the best effect. I also observed a quantity of excellent Apple trees trained on these cylindrical forms, and producing fine specimens of unspotted fruit, and the trees, as far as I observed, were altogether free from canker. Gooseberries and Currants were trained as standards with nicely formed heads, strong, and covered with excellent fruit. The iron trellised arches are covered with Pears, and are very productive. Mr. Fleming's mode of managing these trees has recently been reported on and specimens laid before the Fruit Committee of the Horticultural Society, and further noticed at p. 4 of the present year's *Gardeners' Chronicle*. I can only add that the system of grafting fruit spurs in the autumn or spring appears to be a most successful one, producing fruit of the best quality, and they are inserted down the branches wherever there is sufficient room for a spur—a ready mode of renewing old trees or changing the sorts if required. The walks are well proportioned, dry, and firm; they are edged with Ivy trained and kept to a uniform height, and backed with Musk, Mimulus, and rows of flowering plants, and these are again relieved by patches of Sweet Peas and Hollyhocks at intervals, producing a very good effect. What struck me as remarkable was the smallness of the garden in comparison with the requirements of a first-rate establishment (only 5 acres). I have, however, long been of opinion that in a choice of evils a small garden is preferable to a large one.

Behind the long range of forcing houses in a low inclosed situation there are some excellent houses and pits for the cultivation of subjects of particular interest; thus in a range of three houses of nice construction, the eastern one is devoted to the growth of Geraniums, and had recently been filled with nice plants of the scarlet tribe coming freely into flower. They had an edging of the variegated sorts, and in a very short period the whole would be a blaze of flowers, which would doubtless continue in perfection for a long time. The centre house is an aquarium, and is most effectively disposed in its internal arrangement. The back wall is covered with irregular masses of sandstone rocks on which Ferns and Lycopods are displayed to much advantage. In the centre is the water tank with a continual stream, in which several species of Nymphæa are apparently at home. Towards the back wall are some Musas and other fine foliaged plants, supported by Dracæna terminalis, Caladium pictum, varieties of Maranta, &c., and the front plate is covered with a zinc pan, some 6 inches or more in width, the whole length of the front wall, and this is filled with the minute Lycopodium apodum, producing a unique and beautiful effect. Creeping plants hung here in graceful festoons from the roof, consisting of Cissus discolor, Stephanotis floribunda, Ipomæa Leari, Allamanda cathartica, &c. The beautiful flowers of these mixed with the glorious foliage of the Cissus were truly charming, and these were again relieved by globular masses of Moss, suspended at intervals from the roof. The whole indeed was a scene of much beauty, novelty, and interest, produced by the fine foliage and flowers of these remarkable plants.

The next house contained a quantity of useful plants in pots. Near this range there is a very large and well constructed greenhouse, well filled with Chinese Azaleas and other kindred plants all nicely trained and most effective specimens in excellent health. This house is also kept gay with flowering plants at all periods, introduced at intervals amongst the specimens. A little distance further on there is a large stove with a walk behind, chiefly used for the growth of plants for the mansion and conservatories; here I noticed many specimens in fine pans which fit into vases and other works of art, each in its proper position. There are also some nicely constructed pits for the special cultivation of Heaths and Geraniums. The Melon house is another well constructed and efficient building, in which were some very fine hybridised specimens, and for which Trentham gardens have long been famous. The grounds about these numerous houses and pits are laid out ornamentally, and were gay with flowering plants. Immediately behind are the children's gardens, in which is a pretty cottage surrounded by beds of flowering plants very effectively disposed. Hence the beautiful lawn stretches onward beneath the umbrageous shade of lofty trees to the ferry boat already referred to immediately in front of the large mass of stable and office building. Leaving these grounds and proceeding by a rustic bridge over a tributary of the Trent, we came in front of Mr. Fleming's house, a very pretty Elizabethan structure of some considerable size, situated at a short distance from the end of the range of forcing houses; its walls are covered with creepers, and the borders immediately surrounding it with strong flowering plants; there are also some raised baskets on the gravel covered with Ivy and gay with flowers. A little to the right there are three arches by which there is an entrance to the garden. In the side wall of these there is a projecting square block of stone on which a date and Mr. Fleming's initials are cut by the special order of the Duke of Sutherland—a tribute to the master spirit who for a long series of years not only conducted works of vast magnitude to a successful termination (the changing the bed of the river may be adduced as one example), but also by the triumphs of his skill, under circumstances of much difficulty, has made the name of these gardens famous through the length and breadth of the civilised world. *D.*

[Merit like that of Mr. Fleming does not go unrewarded. The gardening world has heard with much gratification—let us even say with pride—that his Grace the Duke of Sutherland has recently appointed this most able and faithful servant to the great post of manager of the whole Trentham estate. Mr. Fleming is now succeeded in the detailed management of the gardens by Mr. Wren, a young man of much practical knowledge and ability—a former pupil at Trentham, and lately gardener to the Duke of Leinster at Carton, near Maynooth.]

## THE YEAR 1858 AT WEYBRIDGE.

| Wind. | | Weather. | | Departure from average of last three years. +, *above*; —, *below*. |
|---|---|---|---|---|
| Prevailing winds. | On days. | | | |
| N. | 17 | Mean height of barometer .. .. inches | 29.907 | ins. .0381+ |
| N.E. | 97 | Mean height of thermometer :— | | |
| E. | 11 | Highest In the sun.. | 66°.3515 | .3014°+ |
| S.E. | 18 | Highest In the shade | 59°.8196 | .4542°— |
| S. | 10 | Lowest .. .. .. | 39°.6013 | 1.174° — |
| S.W. | 84 | Mean temperature .. | 49°.7186 | .79° — |
| W. | 7 | Rain-fall in inches, &c. | 19.946 | 2.4808 — |
| N.W. | 40 | (NOTE.—1 inch deep of rain is equal to 22,622½ gallons per acre.) | | |
| | | Number of wet days .. | 30 | days 3.7— |
| Highest winds | | Number of days on which rain, &c., fell .. .. | 166 | 7.8— |
| | | Driest month .. | November | |
| | | Wettest ditto .. | July | |
| January 20, 21 | | Range of barometer .. | ins. 1.64 | ins. .12— |
| February 25 | | Do. of thermometer.. .. | 80°.5 | .89°— |
| March 1, 3, 6 | | Jan. 24 — Barometer, highest.. | ins. 30.58 | ins. .01— |
| April 5 | | March 31 — Barometer, lowest .. | ins. 28.94 | .11+ |
| May 19 | | June 15—Thermometer : | | |
| July 9, 25 | | Highest In the sun .. | 105° | .5°+ |
| October 7, 19 | | Highest In the shade.. | 96°.5 | equal |
| November 14, 15 | | Nov. 23—Thermometer : | | |
| Dec. 23, 26, 27 | | Lowest (in the night of) | 16° | .88°+ |

—*W. F. Harrison, Bartropps, Weybridge Heath January 3.*

## Home Correspondence.

*Insects attacking Timber Trees.*—I was very sorry to perceive an article by that venerable naturalist Mr. Waterton in your pages of the 18th ult., in which that excellent writer has adopted the theory that insects never bore through the bark of healthy trees, and then form a settlement in the wood beneath, and consequently that the Elms of St. Giles's, Oxford, have not been destroyed by the attacks of Scolytus destructor, that pest which has done so much mischief in and round London. This opinion of Mr. Waterton is, I know, a very generally received one, and we have heard all sorts of other causes assigned for the first germ of disease being laid in the trees—bad drainage, leakage from gas pipes, improper soil, cutting through the roots for the formation of drains, &c., and then when the tree is already in a state of disease it is attacked by insects, which soon, as in the case of the Scolytus, complete its destruction by cutting through the whole of the sap vessels. That the course of the decay of some trees may be in accordance with Mr. Waterton's observations there is perhaps no reason to doubt; but to affirm that insects do not attack healthy trees, and that the Scolytus in question waits until the Elm is already diseased before it burrows into it, first for food, and secondly to prepare a place for the deposition of its eggs, is, I conceive, unwarranted both from analogy and the direct observation of fact. Every practical entomologist knows, for example, that Hylobius abietis gnaws the bark of young Pines and Fir trees to such an extent as to become a pest detriment, especially in the Pine woods of Scotland. Again, Hylurgus piniperda always selects the healthy leading shoot of the Pine and other Coniferæ which to burrow for obtaining a supply of food. So again, I have now before me portions of the stem a young Ash tree not more than a foot in diameter which there is scarcely a space of more than an inch of an inch which is not bored into by the Hylesinus fraxini and its larvæ. Hundreds of instances of insects attacking healthy trees might advanced. So much for analogy derived from insects belonging for the most part to the same family as the Scolytus. Then as to direct observation of fact, there is always a difficulty in proving a tree, only known to be in an ill state of health suffering from a bad attack of Scolytus, was not viously suffering from some other cause, but ordinary conditions for insuring the health of exist, and yet that tree is attacked by Scolytus apprehend it is warrantable to assert that the Scolytus is the cause of the mischief. The usual cause for the decay of the Elm, noticed in the early part this communication, did not exist in the case of the trees destroyed some years ago in Kensington Gardens and the *Gardeners' Chronicle* of last week contains another instance from this neighbourhood, where the condition was in favour of the health of the trees, yet they have been destroyed, and as the Scolytus found to be present, I consider we are warranted ascribing the damage to it alone. The young trees the grounds at Nuneham Park had only been planted from 35 to 40 years; they were very luxuriant in growth, the drainage good, the soil a light gravelly loam resting upon the new sand, but they grew in the neighbourhood of older and infected trees, as I am informed by Mr. Bailey, the intelligent gardener at Nuneham and hence the mischief. *J. O. Westwood, Taylor Institute, Oxford.*

*Josephine de Malines Pear.*—Owing to some delay in their being forwarded to me, the finest specimens of this very fine late Pear were not exhibited at the meeting of the Fruit Committee of the Horticultural Society on the 11th inst. I now send them to you to taste and test their merit. Under common circumstances I should not have troubled you to give an opinion on this well-known variety, but those now sent are from a tree grafted on a common Whitethorn stock (Cratægus oxyacantha). The tree in question is now about 12 years old and is a half standard, growing in the open air in the garden of a gentleman in that hilly hill of gravel close to Hertford, called Port Hill. It was grafted on a stout stock growing in the hedge and commenced to bear at three years from the time of grafting. It has continued to bear regularly and well has failed but once or twice in giving a crop, and now bears from two to three pecks annually. One would suppose that a Pear grafted on the Thorn and growing in gravel would give fruit inclined to be gritty and stony at the core, and owing to the dryness of the site on which it grows—what is called a "hot gravel"—one would think that the fruit must ripen early in the season. On the contrary, this Pears always ripen slowly, commencing in January and keeping in fine condition till March. This variety seems to like the Thorn for a stock, for grafts put on here last March on stout stocks have made most vigorous shoots; whether they will bear abundantly on a deep loamy soil as well as the Hertford tree grown in gravel remains to be seen. I send you three fruits of the same kind from a tree growing in the open, grafted on the genuine stock merely to test the quality as compared with the others. *T. R., Hertford.*

[We much prefer the fruit from the Thorn stock, which was delicious and not at all gritty. Is the faint tinge of salmon colour near the core a constant character of this variety?]

*New Zealand Kidney Bean.*—My attention was directed last week to an advertisement in your Paper under the title of "New Zealand Running Beans." Now, would you kindly inform the public whether this is indeed a new variety, or only one of our old ones puffed off under this new and attractive title? I am unable to understand how this Bean should form the chief vegetable food of the natives, and yet be unknown to the settlers. Can you solve this enigma? *P. Kitteman.* [There is no doubt in our mind that the Bean in question has at some time or other been sent to New Zealand from Europe or India. The Beans are roundish and speckled, and unlike any in the trade in this country. It is, however, well known that a large number of varieties of the Kidney Bean which are cultivated here are grown on the Continent and elsewhere.]

*Trees for Avenues.*—In everything that has been said lately about trees for avenues, their merits and demerits as to appearance seem to be estimated entirely from the character of their foliage. It is strange that not one word has been written concerning their winter aspect. Surely trees are not to be regarded as nonentities all the while from October to May. Greenhouse shrubs may often be put out of sight during their time of rest. You can't do this with great trees; but, from the dead silence on the subject of their winter appearance, it almost seems that men would if they could. Now no one loves foliage more than I do, but that does not hinder me from loving the trees now in January. Their beauty now seems to me as various as in June, and it is not always the best leaved tree that makes the best show when bare. The charm

...ange of the Ash, the Spanish and Horse Chestnuts, and generally the Beech is not supported by ...nts, and a very beautiful system of sprays. Also the last three ...of these are often without much dignity in their large ...boughs. Through your attacks, ably seconded by those ...of the "Scolytus," it seems to be all over with the dear ...old English Elm; but though with trembling, let me ...ask what tree can be less easily spared as an element in ...the beautiful landscapes of this country; and this not ...in summer and autumn only, but in winter too, and ...perhaps then most of all? The minute divisions into ...which the boughs branch at their ends form a mass, ...and, consequently, light and shade such as no other ...large non-evergreen can show at this season. I grant ...that these masses have at times a bunchy Cauliflower ...outline; but this is the exception. The Oak spray is ...also very fine; but that of sessiliflora is, I fancy, less so ...than robur. Speaking of the Elm reminds me to ask ...if you will have the kindness to tell me the name of a ...certain small but most beautiful kind. It may easily ...be known by its remarkably straight stem, and by its ...notable perseverance in holding its leaves in the ...autumn. Its leaves are small. I suppose it to be a ...common sort, but I have never been able to learn its ...name. *H. J. Moule, Wentworth-Woodhouse, Jan.* 17. [If you will send us a bit when next in leaf we shall be happy to name it. We only object to Elms when it is proposed to plant them in unsuitable soil. It is, however, not a long-lived tree under any circumstances.]

*Fruiting of Paulownia imperialis.*—It may be interesting to some to hear that the Paulownia has fruited freely this year at the seat of Wm. H. Pole Carew, Esq. The seed vessels are wide at the base and coming to a sharp point, something like an exaggeration of a Filbert, but with the beard of the Filbert closing to a sharp point instead of foliating, and the base of the nut is far wider. These trees were planted about eight years ago, and have flowered more or less profusely for the last four or five years, but until this last autumn have never ripened any seed. The trees at Mr. Pole Carew's, Antonie House, Cornwall, are at this moment covered with long spikes of flower-buds and seed-vessels. *C. L. C.* [The seeds of this plant are beautiful microscopical objects. Some of those with which our correspondent has favoured us are perfect enough to grow.]

*A few Words upon Roses.*—Although the great show which was held in St. James's Hall last summer was expected to turn out an array of new faces—something that would astonish the world in new colours, fine forms, and thick petals—yet little did appear worth noticing except well-known favourites, which we had been accustomed to look at in previous years. Certainly nothing could have surpassed the beauty of H. P. General Jacqueminot, now a well proven and faithful friend to the Rose grower; but he is producing sad havoc among his neighbours by lessening their ranks. It may be remarked, however, that I have never seen our favourites "done up" in better style than they were on that occasion. Madame Vidot made her début in richest white silvery satin, and in a manner not seen to be forgotten. M. Revel was robed in richest velvety scarlet and never on any occasion did he look better, perfection was stamped on every petal. One bloom of Prince de la Moskwa was of the deepest dark velvety purple, and although he did not belong to the numerously petalled class, he was nevertheless very handsome. Lord Raglan kept his place with great dignity, but he wears a different dress in England from what he does in Scotland, being scarlet in the former country and purple in the latter. Sir John Franklin appeared with more than ordinary brilliancy and took a very prominent position. Toujours Fleurie looked fiery in the face, and seemed to entertain a spiteful opposition towards M. Revel. Madame Hector Jacquin, Comte de Nanteuil, and Graziella got a fair share of attention. Ornement des Jardins was neither so brilliant nor so large as I have it in Scotland. Amongst the celebrities must not be forgotten Jules Margottin, which is one of the best Roses in cultivation; Mathurin Regnier, Madame Place, William Griffith, and Madame Masson. These all appeared in great perfection. Victor Trouillard seemed to be a noble addition to the class of dark hybrid perpetuals. It is a pity he does not grow a little more freely. Madame Bravy was one of the best Tea-scented Roses in the hall. Cardinal Patrizzi was fine in colour, but not so large as we have it here. Salvator Rosa in Mr. Turner's collection was a credit to the grower, and Madame Phelip, although last not least, was attired in superb pink. The foregoing may be said to have been the most distinguished of the notables that arrested my attention out of the thousands of blooms with which the large hall was so copiously supplied. I expected to have seen in the prize stands such reputed members of the new Rose-world as Evêque de Nimes, Madame Vigneron, and Triomphe des Beaux Arts, but I am sorry to say that I could not discover them. I have no hesitation however in saying that they will be acquisitions to the next national show. *Paul Ricaut, Falkirk.*—I am glad to see the discussion about Roses resumed. In this county, Oxfordshire, I find that standards of the Tea-scented and China grow as well as any of the hybrid perpetuals. Last season I had standards of Adam, Bougère, Comte de Paris, Devoniensis, Gloire de Dijon, Le Pactole, Safranot, Souvenir d'un Ami, Niphetos, and Victoria flowering beautifully; also standards of the Cloth of Gold and Lamarque. I find here that hybrid perpetuals on Manettii stocks grow stronger than those on the common Brier. I may add that the soil is light, the subsoil limestone, the situation dry, and in summer very warm. *A. J., Blenheim.*

*Asparagus Kale.*—A correspondent (see p. 38) intimates that this Kale (a vegetable the merits of which are not sufficiently well known) is not offered in seedsmen's lists. We beg to state that the *true* sort has been offered in our list for some years. *James Carter & Co.*, 238, *High Holborn.*

*Queries about Mules.*—Is there any well authenticated instance of the hybridisation of a composite plant, or of the Grape Vine? Now don't all speak at once. Will any one, amateur or professional, who has stated himself the producer or vendor of such plant answer the following questions? Which was the male plant and which the female? Were the anthers removed from the seed-bearing parent before the pollen was shed? Describe accurately your manipulation in crossing the plant in question? After writing the above it struck me that it might be thought I was tilting at somebody in particular; such, however, is not the case. I couch my lance at nothing but error, and really wish for information. My good friends the Messrs. Carter, for instance, have a hybrid Gaillardia. Now, how the plague anybody could cross a Gaillardia I don't know, unless it was the man that poisoned the flea by putting a pinch of flea-powder into his mouth. Again, to fertilise artificially the Vine blossom will require the patience of Job and the fingers of a lady, let alone total disregard for a crick in your neck. I have tried my hand (a tolerably practised one) on both these subjects. The attempts made with the Compositæ failed entirely. My Grapes swelled, only, however, to be cut off and thrown away as a "skimpy bunch." This arose from my not having set my seal, a piece of red worsted, on the bunch; not red tape, that would have soon caused death from atrophy. Other hybrids, too, exist (on paper) as plenty as Blackberries, of which I should like to hear the history where the qualities do not indicate the origin. They say that Captain is a good travelling name; I don't know, never having commanded anything but what Sir Charles Napier would call "a horrid old tub," and so perhaps "hybrid" is a good selling one. *Quien sabe.* You see I have been studying modern languages; but they don't come up to the old Greek. *Diogenes.*

*Mildness of the Season in Ireland.*—In proof of the extreme mildness of the season, I beg to forward you a blossom taken from one of several young Apple trees planted here about two years since. Judging from the appearance of the fruit trees and some Roses in full bearing, one could scarcely imagine we had so lately partaken of roast beef and plum pudding. I also send you a bud taken from a fine Rose, Gloire de Dijon, at present covered with blossom. We certainly cannot complain of our climate in this part of the Green Isle. *John Nunn, Gr. to Thomas Smith, Esq., Seamore Park, Wicklow.*

*Trees for St. Giles, Oxford.*—In reply to the inquiry of "J. O. W." (see p. 39), I would suggest that the decayed Elm trees in St. Giles, Oxford, should be replaced with Tulip trees, as I find that the latter succeed admirably in the soil alluded to by your correspondent. I have seen some now about 50 feet high planted about 28 years ago in a similar soil, only a few miles distant from the place in question. I would advise the ground where the trees are to be planted to be well trenched, and all decayed roots eradicated. *An Oxonian.*—I can say that the varieties of Birch and Alder thrive in dry gravelly soil, in exposed situations, in this district. Acer platanoides, Alnus glutinosa laciniata, and A. cordifolia are very ornamental, the latter generally retaining its foliage till Christmas. I am aware that the above are not in the list "J. O. W." refers to. *W. F., Stroud.*

## Societies.

HORTICULTURAL: *Fruit Committee Meeting*, 21, *Regent Street, Jan.* 11.—Mr. Edmonds in the chair. At this meeting prizes were offered for the best Winter Nelis Pears, in dishes, each containing six specimens. The following were the competitors:—

Mr. Tillery, gr. to his Grace the Duke of Portland, at Welbeck; Mr. Harrison, Oatlands Palace Gardens, Weybridge; Mr. A. Ingram, gr. to J. J. Blandy, Esq., High Grove, Reading; Mr. Cox, gr. to W. Wells, Esq., Redleaf, Penshurst, Kent; Mr. Shoesmith, gr. to J. Moorman, Esq., Bexhill, Sussex; Mr. W. Ingram, gr. to his Grace the Duke of Rutland, Belvoir Castle, Lincolnshire; Mr. D. Judd, Althorp Gardens, Northampton.

The first prize was awarded to Mr. Cox, and the second to Mr. A. Ingram. These two exhibitions consisted of fruit of the richest flavour; but all produced was very fine; those from Mr. Shoesmith were large, remarkably well grown, and finely russeted.

Mr. Evans, gr. to Archdeacon Jones, Brynsteddfod, near Conway, sent very fine large specimens of Glou Morceau, but they were scarcely ripe; Mr. Tillery, large specimens of Glou Morceau from a west wall; and Mr. Culverwell very large Marie Louise kept sound till this time, but the flavour was inferior.

Mrs. Webber & Co., fruiterers, Covent Garden, sent, but not for competition, very fine specimens of Winter Nelis, equal in size to the largest of that kind exhibited; also some very good Ne Plus Meuris. Mr. William Ingram exhibited a dish of the Orpheline d'Enghien, which is the original name of the real Beurré d'Aremberg, concerning which an erroneous figure in the Transactions of the Horticultural Society has led to great confusion. The specimens were pale, smooth skinned, and more attenuated towards the stalk than is usual when the variety assumes its true character, which is that of being more turbinate, with a short oblique stalk, and somewhat russeted skin; then the fruit is generally rich, with a slight refreshing acidity; but when not russeted the acidity prevails too much. Mr. Judd sent dishes of the Beurré Diel and Glou Morceau, as specimens of Northamptonshire growth, and handsome they were; but the Beurré Diel was not found sufficiently melting, nor could the Glou Morceau stand the test of comparison, as regards flavour, with the same sort grown in more southern counties. Mr. Whiting submitted for trial a specimen of the Vauquelin Pear fruited for the first time in this country; its quality was found to be very indifferent. He also exhibited very fine large fruit of the Sweeny Nonpareil Apple, and well-coloured specimens of Adams's Pearmain. J. Allnutt, Esq., sent some Easter Beurré Pears; on account of their being now ripe they did not possess the usual quality of the variety. It was supposed to be owing to the trees having been too dry at the root. A seedling Grape was exhibited by Mr. Newton, gr., East Lodge, Enfield Chase, but it was not considered equal to other sorts already in cultivation. Mr. Melville, gr. to the Earl of Roseberry, sent some Brussels Sprouts, hybridised with the Savoy; the effect produced was sprouts of more than ordinary size, but somewhat open.

## Notices of Books.

The *Flore des Serres* for October, 1857, has rapidly succeeded the number for September. It contains original figures of *Campanumœa javanica*, a climbing greenhouse plant with yellow bell-shaped flowers streaked with red; *Bouvardia Oriana*, a very handsome rich red hybrid obtained by Mr. Parsons, of Brighton, between B. longiflora and leiantha; *Datura Meteloides*, a pale lilac-flowered plant allied to the old and well known Purple Stramonium, like which it is best treated as a tender annual; *Arisæma ringens*, a showy-looking greenhouse Arad, with great purple and green spathes, and large ternate leaves. Under plate 1272, representing the curious *Rheum nobile*, copied from Hooker and Thomson's Illustrations of Himalayan plants we find the following honest tribute offered by a foreign horticulturist to one of the most distinguished of our English naturalists:—

"Encore une de ces merveilles dues au voyage devenu célèbre de M. J. D. Hooker! En vérité, à la vue d'aussi admirables découvertes, ne sent-on pas l'urgence, ô Sociétés d'horticulture! de voter une légère médaille d'or, comme témoignage de gratitude, à un aussi intrépide explorateur! — Et, si la gratitude des gens *brillait par son absence*, ne serait-il pas d'une bonne politique (Proh pudor!) de montrer à la génération qui s'apprête à affronter des dangers semblables quelque sympathie, au moins simulée, envers leurs devanciers?"

Shall we never see this wondrous Chuka, as the Lepchas call it, in our gardens? A figure of it will be found at p. 103 of our volume for 1855.

TRADE LISTS.—*Carter's* (238, Holborn) *Spring Catalogue of Seeds and Gardeners' Vade Mecum.* In this enormous Catalogue of seeds that are ready for sale we have 80 closely printed pages in large 8vo, including, in addition to its usual well-known contents, much useful practical information, and a Kalendar of operations. It seems to contain everything that a purchaser can want with the exception of those worthless kinds of vegetables which no well-informed gardener now thinks of asking for.—*James Lothian's* (Campbeltown) *List of Garden and other Seeds:* a useful little catalogue of such articles as Scotch country gardeners are likely to want.—*Milne, Arnott, & Co.'s* (Wandsworth) *Priced Catalogue of Seeds.* Another selection of horticultural articles in common use, with practical remarks here and there, of which we select one on the subject of Peas:—"For small gardens, sowings of the following in the order noted will secure a constant succesions of excellent Peas; they are merely quoted again here to assist purchasers who may require only a few sorts, and who might be puzzled which to choose from the above list; in compiling which, while endeavouring to make it as concise as possible, it has also been necessary to take care to include all distinct sorts of merit,—Sangster's No. 1 or Emperor, Auvergne, Champion of England, Perfection or Hair's Mammoth, British Queen. As a good *late* crop of Peas is very desirable, and not often secured, a plan originally recommended by the Horticultural Society of London, and which has been proved a good one, may not be out of place here, nor perhaps altogether unacceptable to amateurs who have not heard of it before:—'The ground is dug over in the usual way, and the places to be occupied by the future rows of Peas are well soaked with water. The mould upon each side is then collected, so as to form ridges 7 or 8 inches above the previous level of the ground, and these ridges are well watered. The seeds are now sown in single rows along the top of the ridges. The plants grow vigorously owing to the depth of soil and abundant moisture. If dry weather at any time sets in, water is supplied profusely once a week. In this way the plants continue green and vigorous, resisting mildew and yielding fruit, till subdued by frost." It is to be regretted that a pale blue ink has been employed by the printer, as it renders the type fatiguing to the eyes, and indeed, to

a people, quite difficult.—*Bass & Brown's* (Sedbergh) *No. 2 Catalogue of Plants, and No. 3 Catalogue of Vegetable and Flower Seeds.* An extensive list of good things, with numerous short practical notes, which gardeners will find useful.—*John Cattell's* (Westerham) *Catalogue No. 1 [of Seeds and Culinary Roots, &c.* A list of selected articles with useful practical hints.—*Drummond & Sons'* (Stirling) *Catalogue of Select Vegetable and Flower Seeds—and practical directions for sowing and cultivation.* We see no reason to modify the favourable opinion we expressed last year of these lists, which are among the best and most convenient of their class, especially for cottage gardeners, not only in Scotland but in all parts of the three Kingdoms.

## Miscellaneous.

*Climate of the Red River Settlement in North Western British America* (see p. 36 of the present volume).—The climate of the valley of Red River exhibits the extremes of many characteristics, which belong to the interior of continents in corresponding latitudes. High summer temperatures, with winter cold of extraordinary severity, appear to prevail in Assiniboia, as in the interior of North Eastern Europe and Asia. It cannot fail to be noticed, however, that the general absence of late spring and early autumn frosts, with an abundant fall of rain, during the agricultural months, are the distinguishing features of the climate of the valley of Red River. The Melon growing in the open air, and arriving at perfect maturity in August and September, Indian Corn succeeding invariably when due precautions are used to ensure ripening before the middle of September, are strong proofs of the almost uniform absence of summer frosts. * * * The summer of Red River is nearly 4° warmer than the summer at Toronto, and with this remarkable excess of temperature we find the unexpected difference of 21.74 inches of rain in favour of Red River. These meteorological facts explain the wonderful richness of the prairie vegetation, and the vast accumulation of vegetable matter which is now found there. * * * The small difference between the temperature of the spring at Toronto and Red River is another interesting fact. While the summer shows an excess of 3.78 the spring gives a deficiency of 2.83, so that the mean of the spring and summer months at Red River is nearly 1° higher than the corresponding months of Toronto. No feature in the meteorology of this distant region is likely to excite so much interest as the extraordinary fall of rain during the agricultural months. It is well known that the cause of the sterility of a vast region on the east of the Rocky Mountains, within the limits of the United States, is traced to extreme aridity. The great American desert which places so vast a barrier between the Mississippi valley and the west flank of the Rocky Mountains derives its barrenness from the absence of rain during the summer months. A fall of 30 inches in the valley of Red River during the summer of 1855, with a corresponding fall of 8.76 at Toronto, shows the remarkable difference in the humidity of the two places, and one which report states is generally maintained in other years. * * * We find upon inspection of Dove's Tables that there is not one locality within the limits of the United States where so low an annual mean attains. At Kasan (Russia) lat. 55° 48, long. 47°7, the mean of 10 years was 35°45, and the difference between the hottest and coldest months 61°33, while at Red River the difference was 82°15. The difference between summer and winter at Kasan was 56°, and at Red River 74°61. At Orenburg, lat. 50°46, or in nearly the same latitude as that part of Red River Settlement where these observations were made, and in long. 55°6, the annual mean is 35°6; the difference between the hottest and coldest month 66°38, and the difference between winter and summer 59°66. At Quebec the difference between the hottest and coldest month is 60°75; at Red River Settlement 82°15, or 21°40 in excess. At Fort Snelling the difference is 61°89, or about one degree more than Quebec. * * * At Quebec the difference between the mean temperature of summer and winter is 53°93; at Fort Snelling 56°81; and at Red River Settlement 74°61. * * * The summer temperature of Red River, and the absence of frosts during that season, determines its fitness for agricultural purposes. The following table exhibits a comparison between the summer temperature of the settlement and various other well-known places in Canada:—

| | |
|---|---|
| Summer temperature at Red River Settlement | 67.76 |
| Montreal, Canada .. .. .. .. .. | 66.62 |
| Quebec .. .. .. .. .. .. .. | 62.91 |
| Toronto .. .. .. .. .. .. .. | 63.98 |

* * * The prevailing characters of the winter months are long continued intense cold, with a clear dry atmosphere. Mercury often freezes, and remains congealed for many days together. In calm weather, exposure to such intense cold is not described as producing inconvenience or suffering, and when the wind is blowing, the cold is rarely so intense. The half-breeds, and of course the Indians, camp out in the open plain during the whole winter, and the only protection they enjoy consists of a buffalo skin tent, and an abundance of buffalo robes. * * * The salubrity of the climate of Red River is indicated by the extent of professional services in the settlements. One medical man, not overburthened with work, to a population nearly reaching 7000, may be accepted as a fair standard by which to estimate their sanitary condition. It will be understood that the foregoing comparisons refer to corresponding months of the same years, and are of course liable to those annual fluctuations to which the climatic elements of all countries are subject. It is very probable that more extended observations will reduce the extremes. *Official Report on Lake Superior and Red River.*

## Calendar of Operations.

*(For the ensuing Week.)*

### PLANT DEPARTMENT.

CONSERVATORY, &c.—In pruning and training the climbers in this and other houses some regard must be paid to the time when it is desirable the plants should bloom. Thus, with stove climbers not required to flower before autumn, pruning may be deferred for some time yet, but for earlier display it should be done at once. Passion flowers, Bignonias, and similar plants which make long annual shoots should only have their branches thinned and slightly shortened, while others, as Combretums for instance, may be spurred in. Kennedyas will soon be showing bloom, and what training they require should be done at once, but the pruning of these should not take place till after they have done flowering. Where Orange trees are grown to decorate the flower garden in summer care should be taken to prevent their beginning to push previous to their removal to the open air, and this more especially if the trees are wintered in a dark-roofed house. Where such happens the young leaves have always a thin flabby appearance, and soon turn brown after the plants have been set out-of-doors, whereas if growth is prevented till the trees are in the open air the foliage will bear any amount of sunshine, and still look green and healthy.

### FORCING DEPARTMENT.

PINERIES.—Cold changeable weather will necessitate the use of a considerable amount of fire-heat, particularly where a high temperature is being maintained with the view of inducing the plants to show fruit, and in the case of swelling fruit see that a proportionate amount of atmospheric moisture is secured, for accommodating as the Pine must be admitted to be, it is by no means benefited by a warm parched state of the atmosphere; see that none of the stock is allowed to suffer for want of water at the root. For succession plants a temperature of from 50° to 55° by means of fire-heat will be sufficiently high, but it should not be allowed to fall below 50°. VINERIES.—The early house will now require careful attention, and as the Vines in some places will probably be in bloom, the night temperature must not be allowed to fall below 60°, and 70° should be secured during the day. Maintain a healthy growing atmosphere by sprinkling the floors, &c., as may be necessary, and admit fresh air whenever this can be safely done. Also attend carefully to the border, and if fermenting material is used do not allow the heat to decline, and where this is not used see that whatever covering is employed is efficient. PEACH HOUSE.—Discontinue syringing where the blossoms are beginning to open, but secure a nice, moist, healthy state of the atmosphere by sprinkling the passages, &c., as may be necessary, but avoid anything like dampness while the trees are in bloom. Maintain a steady night temperature of 50° to 55° while the trees are in flower. Take every possible opportunity of admitting fresh air, and where the external air can be made to pass over the heating apparatus, so as to get warm before coming in contact with the plants, a gentle circulation should be constantly kept up until the fruit is fairly set. Avoid the admission of currents of dry cold air, however, which would be most injurious to the trees.

### FLOWER GARDEN AND SHRUBBERIES.

Those who are fortunate enough to have the command of a gravel pit should get a good supply of this provided whenever the weather is favourable for that kind of work. Let everything in the shape of in-door operations which can be done now to save time in spring be attended to. See to having plenty of soil prepared for striking cuttings in, as also for potting off, and have plenty of draining materials prepared and sorted out in sizes. Where the stock of bedding-out plants is short the strongest store plants should be selected and placed in a moist growing temperature, keeping them as near the glass as possible, in order to secure strong growth and obtain good cuttings. If the plants are well rooted it will be advisable soon to give them a shift, using rich soil, for it is of great importance to obtain strong cuttings, as they are not half the time becoming established plants as when weakly dwindling shoots have to be used for that purpose.

### HARDY FRUIT AND KITCHEN GARDEN.

Where orchard trees are infested with insects or Moss, the bark should be well scraped with a blunt tool to remove as many of the larvæ of the insect as possible, after which the parts should receive a coat of the following composition; viz., hot lime and soot in equal quantities mixed with water from the cow-house until it attains the consistency of thick paint. This composition should be well rubbed into the crevices of the bark in order to make sure of its reaching every hiding place of the enemy; and if a little cow manure was worked up in the composition it would be useful in causing it to adhere better. It is a tedious task to properly cover large old trees with this, but its effect in clearing them of insects will repay the trouble, and an occasional coat to young trees will be useful in keeping them clean. Where early sown Peas are likely to be a failure a quantity should be sown in strips of turf and raised in a gentle heat, to be hardened off and planted out towards the end of next month. Also make a successional sowing of an early variety on a warm border as soon as the state of the weather permits. Sangster's No. 1 is the earliest variety we know of. Likewise get in some early Mazagan Beans, and a sowing of some variety of Pea of good quality, as Champion of England, should be made, in order to have these as early as possible.

### COTTAGERS' GARDEN.

Plant Horseradish, Jerusalem Artichokes, Seakale and Rhubarb. The Artichokes will do in any waste corner, or as a boundary screen to protect tender things. Make cuttings of choice Gooseberries and Currants, also Honeysuckles in the same manner, and Ivy for covering naked fences. Lose no time in planting a good breadth of Potatoes, especially Kidneys, if the first sprout is lost from these they are of little use. If planted in well managed beds, Drumhead and other Cabbages may be planted in the alleys, and will come in very serviceable for the cow. Get some ground trenched for Parsnips. Make a slope and sow a few Horn Carrots, to come in early.

STATE OF THE WEATHER AT CHISWICK, NEAR LONDON
For the Week ending Jan. 20, 1859, as observed at the Horticultural Gardens

| Jan. | Moon's Age. | Barometer. Max. | Barometer. Min. | Temperature. Of the Air. Max. | Of the Air. Min. | Of the Air. Mean | Of the Earth. 1 foot deep. | Of the Earth. 2 feet deep. | Wind |
|---|---|---|---|---|---|---|---|---|---|
| Frida 14 | 10 | 30.418 | 30.332 | 41 | 26 | 33 5 | 43½ | 43 | N |
| Satu- 15 | 11 | 30.309 | 30.202 | 39 | 22 | 30.5 | 43 | 43 | S W |
| Sunday 16 | 12 | 30.154 | 30.036 | 42 | 26 | 34.0 | 42½ | 42½ | S W |
| Mon. 17 | 13 | 29.933 | 29.844 | 49 | 43 | 46.0 | 44¼ | 43¾ | S W |
| Tues. 18 | ● | 29.757 | 29.694 | 52 | 41 | 46.5 | 45 | 43¾ | S W |
| Wed. 19 | 15 | 30.037 | 29.882 | 48 | 23 | 35.5 | 46 | 44 | S W |
| Thurs. 20 | 16 | 30.156 | 30.098 | 49 | 40 | 44.5 | 46 | 44 | S W |
| Average | | 30.109 | 30.012 | 45.7 | 31.5 | 38.6 | 44.3 | 43.3 | |

Jan. 14—Cloudy; partially overcast and fine; slight frost.
— 15—Fine; very fine; frosty.
— 16—Clear and frosty; fine; slight frost at night.
— 17—Overcast; rain; drizzly and mild.
— 18—Rain; densely clouded; boisterous.
— 19—Fine throughout; clear and frosty at night.
— 20—Densely overcast; very fine throughout.
Mean temperature of the week, 2 deg. above the average.

RECORD OF THE WEATHER AT CHISWICK,
During the last 33 years, for the ensuing Week, ending Jan. 29, inclusive

| Jan. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Wind N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday 23.. | 44.5 | 33.0 | 38.7 | 13 | 0.27 in. | 2 | 3 | 2 | 3 | 5 | 10 | 4 | 4 |
| Mon. 24.. | 43.5 | 32.0 | 37.7 | 15 | 0.51 | 3 | 4 | 2 | 1 | 4 | 12 | 3 | 4 |
| Tues. 25.. | 44.1 | 32.7 | 38.4 | 16 | 0.90 | 1 | 4 | 3 | 1 | 5 | 9 | 4 | 5 |
| Wed. 26.. | 44.4 | 31.6 | 38.0 | 14 | 0.34 | 1 | 5 | 3 | 4 | 1 | 12 | 3 | 4 |
| Thurs. 27.. | 43.5 | 30.9 | 37.2 | 16 | 0.43 | 2 | 5 | 4 | 1 | 4 | 12 | 1 | 4 |
| Friday 28.. | 44.4 | 30.6 | 37.5 | 17 | 0.17 | 2 | 5 | 2 | — | 1 | 13 | 1 | 5 |
| Satur. 29.. | 44.8 | 31.2 | 38.0 | 13 | 0.32 | 5 | 4 | — | 1 | 1 | 20 | — | — |

The highest temperature during the above period occurred on the 2nd, 1834—therm. 58 deg.; and the lowest on the 25th, 1827, and 27th, 1838—therm. 15 deg.

## Notices to Correspondents.

APPLES: *J Roper.* By a typographical error you received last week a wrong answer. The reply should have been, "It is not possible for an Apple pip to vegetate in the bark of an Apple tree—become parasitical and afterwards to adhere and become grafted into it."

DWARF APPLES AND PEARS: *A Scotchman* will do well to refrain from pruning his trees beyond removing the extreme ends of the strong shoots. From his statement it would appear that the trees are already making too much wood. Thirty-six inches in a year is a great deal; and the more such shoots are cut back the less they will be inclined to form spurs.

ERBSENLINSE: *H B.* Just arrived. A thousand thanks. I am uncertain whether the work by Dr. Lindley to which you refer will ever appear. We have nothing as yet comparable to Loudon's Arboretum. But Gordon's *Pinetum* should be added to it, as the most complete account of Coniferæ at present published.

HEATING: *W W B.* Use 4-inch pipes *once* round the whole back wall, and a boiler presenting 4 square feet or something like to the action of heat. Or you may confine your pipes to the front wall and ends if your back wall is well sheltered. Whatever you do employ Ormson's ventilating pipes.

HORTICULTURAL SOCIETY: *F H S.* It has just been settled that a number of valuable and useful plants shall be distributed among the Fellows by method of ballot. There will be three drawings in the course of the year, viz., two in the spring and one in the autumn. The famous Pinus Don Pedri will not be distributed among the four-guinea Fellows. You will soon receive official notice of this and other important matters. Seeds are not yet ready, but will be in ample time for the season.

MELBOURNE: *Stroud.* Very much obliged, but we have the official report, which will appear next week if we can find room.

MICE: *Enquirer* asks if it is a fact that Peas and Beans soaked in nitre are free from the attacks of mice, and if so he would be glad to be informed if it would be equally effective in preventing their ravages in the case of other firm-bodied garden grains.

NAMES OF FRUITS: May we beg our correspondents to send their specimens, *carriage paid*, to our Office, No. 5, Upper Wellington Street, Covent Garden, London: AND NOT TO ANY OTHER PLACE WHATEVER.—*T T Notts.* The Winter Nelis. *Cymro.* 1, Mère de Ménage; 3, Norfolk Beaufin; 4, Winter Pearmain; 5, Passe Colmar; 6, Forelle.

NAMES OF PLANTS.—We have been so often obliged to reluctantly decline naming heaps of dried or other plants, that we venture to request our correspondents to recollect that we never have or could have undertaken an unlimited duty of this kind. Young gardeners, to whom these remarks will especially apply, should bear in mind that, before applying to us for assistance, they should exhaust their other means of gaining information. We cannot save them the trouble of examining and thinking for themselves; nor would it be desirable if we could. All we can do is to *help* them—and that most willingly. It is now requested that, in future, not more than four plants may be sent us at one time. *B S.* No. 3 is Begonia hydrocotylifolia, the others are all Begonias, but being unaccompanied by leaves are indeterminable.

NOTICE TO QUIT: *J C.* Six months' notice only need be given, unless a longer notice has been bargained. There is no exception in favour of nurserymen

TRANSPLANTING: *Clericus.* We should not move the Hollies in August. But we would open a circular trench now round the tree, so as to cut the lateral roots, and then fill the trench again with good mould. By that means you will have plenty of fine fibres newly formed when August comes. Plant the following Apples:—Wellington, Northern Greening, Tower of Glamis, London Pippin.

VINES AT RABY: *Erratum.* Page 38, col. *b*, line 11 from top, "for emolument more than employment," *read* "employment more than emolument."

ARTIFICIAL MANURES, &c. — Manufacturers and others engaged in making ARTIFICIAL MANURES may obtain every necessary instruction for their economical and efficient preparation, by applying to J. C. NESBIT, F.G.S., Principal of the Agricultural and Chemical College, Kennington, London. Analyses of Soils, Guanos, Superphosphates of Lime, Coprolites, &c., and Assays of Gold, Silver, and other Minerals are executed with accuracy and despatch. Parties desirous of receiving instruction in Chemical Analysis and Assaying, will find ample facility and accommodation at the College.

POTTER'S CELEBRATED GUANO.—Established 16 years, during which period it has been used on every variety of crop and soil with great success. See Mr. POTTER'S numerous testimonials. Price 7*l.* 10*s.* per ton. Also POTTER'S SUPERPHOSPHATE OF LIME, 6*l.* 10*s.* per ton.—28, Clapham Road Place, S.

*** A very liberal allowance to Agents. Mr. POTTER'S work on Agricultural Chemistry sent free for 6 stamps.

LONDON MANURE COMPANY, removed to 116, Fenchurch Street, E. C. (Established 1840), have the following MANURES ready for delivery:—

CORN MANURE for SPRINGTOP DRESSING
URATE
SUPERPHOSPHATE OF LIME
BLOOD MANURE
} all of guaranteed quality.

In consequence of the reduction in the price of raw material the London Manure Co. are enabled to lower the price of their Superphosphate of Lime, and to materially improve the Corn Manure and Urate.

The London Manure Co. also supply PERUVIAN GUANO (direct from Messrs. A. Gibbs and Sons), SULPHATE of AMMONIA, NITRATE OF SODA, CRUSHED BONES, and every other Manure of value. Wholesale dealers supplied.
116, Fenchurch Street, E.C. EDWARD PURSER, Secretary.

ESTABLISHED 1812.

H. AND T. PROCTOR'S TURNIP MANURE.—Messrs. H. & T. P. draw particular attention to this valuable Manure, which contains all the elements necessary for the full development of the Turnip Crop, so combined, that, from their chemical knowledge and long experience, they feel confident is most advantageous to the consumer. It has been very extensively used by most of the eminent Agriculturists of the day, and has attained a high reputation throughout England, Scotland, and Wales, and, they venture to say, is unrivalled for the weight and quality of the Bulbs which it produces. The application of this Manure to the Turnips will be found to benefit considerably the after crops of Barley, Clover, and Wheat.

POTATO, GRASS, BARLEY, CLOVER, AND WHEAT MANURES; also BONE DUST, PERUVIAN GUANO, and SUPERPHOSPHATE of LIME, warranted of the best quality.

Apply to H. & T. PROCTOR, West of England Depôt for Artificial Manures, Cathay, Bristol; or PROCTOR & RYLAND, Birmingham, and Saltney, near Chester.

SOLUBLE PHOSPHATE OF LIME.

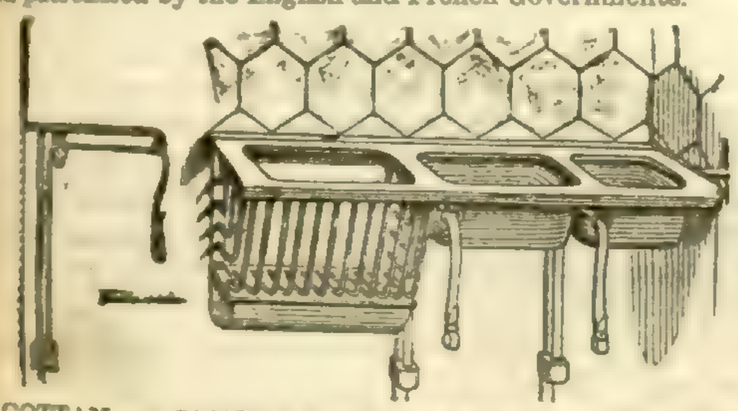
FREDERIC CORNWELL begs to inform his friends and the Agricultural public that he can now supply a "SUPERPHOSPATE of LIME" superior to anything yet produced. Each Bag guaranteed to contain from 20 to 25 per cent. of "Soluble Phosphate of Lime." Price 5*l.* 10*s.* per ton, delivered free to any Railway or Wharf in London. Dealers and the trade supplied.

Linseed-cakes, Cotton-cakes, and all descriptions of Artificial Manures at lowest market prices.—Offices, 7, Great St. Helen's, London, E. C.

THE CHAMPION.

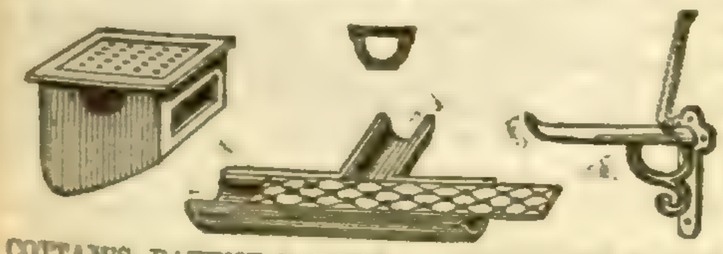
SMITH'S CULTIVATORS AND APPARATUS are got up not for Show but for Work. The Cultivators are almost indestructible, easily turned, and therefore double cumbersome implements are avoided. The Windlass is simple, convenient, and its working easily understood; it is very strong, and like the Implements subject to little or no damage from working. The Rope required averages only about five chains more than an endless rope, its friction only one-fourth; it never slips, and the tension is only one half at a time. The whole Apparatus can work all useful implements on all shapes and forms of ground; is admirable for autumnal cultivation; has stood the test of three years' work, and has produced "results most astonishing and invaluable;" and while the total cost is not more than half that of the Endless Rope one, it can be worked by an ordinary engine without alteration.
Woolston, Bletchley Station.—Jan. 22.

COTTAM'S PATENT INVENTIONS FOR STABLE REQUISITES, awarded a Prize at the Paris Exhibition, and patronised by the English and French Governments.



COTTAM AND COMPANY, of Winsley Street, are the original inventors of the PATENT ENAMELLED MANGER, Water Trough, and Wrought Iron Rack, united to an iron top-plate, and forming one complete and useful fixture, having COTTAM'S patent noiseless halter guide and collar rein attached, which is taken to the back of the manger, and works with ease and freedom up or down the guide-bar.

COTTAM'S NEW PATENT SEED-BOX, an important addition to the above fittings, being simple in construction, light, and durable, promotes cleanliness, and is economical in its results.



COTTAM'S PATENT SADDLE and HARNESS BRACKET combined, can be used with great advantage where space is an object, as it can be turned up out of the way when not in use.

COTTAM'S IMPROVED SURFACE GUTTER, with perforated moveable cover, the use of which prevents accidents, and can be easily cleaned out.

COTTAM'S CAST-IRON SANITARY TRAP, from its improved construction, gives a full water passage, and does not allow any smell to ascend from the drain.

PATENT LOOSE-BOX FITTINGS, and every article for the harness room and stable, kept in stock, plain, galvanised, and enamelled. Iron gates, fencing, hurdles, &c.

The New Illustrated Catalogue and Estimates, gratis, upon application to COTTAM and COMPANY, 2, Winsley Street, Oxford Street.

WARNER'S IMPROVED LIQUID MANURE OR GENERAL PORTABLE PUMP.

These Pumps are fitted with J. W. & Son's Patent Buckets and Suckers, and cannot clog in action. The barrel is of galvanised iron, not likely to corrode, and can be raised or lowered at pleasure. The legs will fold together, and the whole may be carried on the shoulder to any pond or tank required.

Price of 4½ in. Pump, with legs, 3*l.* 3*s.* If with planished copper barrel and galvanised iron handle, &c., 14*s.* extra. The barrel is 27½ in. long, and the legs are 5 ft. high.

These Pumps are also made without the legs, with strong wrought-iron straps for screwing on to any ordinary water butt or cart, and fitted with 1½ inch brass union for attaching flexible suction. Price 50*s.*

1¾ inch Gutta Percha Suction Pipe, 1*s.* 11*d.* per foot.

Rubber and Canvas Suction and Delivery Hose, from ½ inch to 4 inches diameter, in lengths of 60 feet to order. Branch Pipes with Cocks, Union Screws, &c., at reduced prices.

May be obtained of any Ironmonger or Plumber in town or country, at the above prices, or of the Patentees and Manufacturers, JOHN WARNER & SONS, 8, Crescent, Jewin St., London.

WARNER'S PATENT VIBRATING STANDARD PUMPS.

PATENT CAST-IRON PUMPS, fitted with J. W. & Son's Patent Buckets and Suckers, which cannot clog in action, for Farms, Cottages, and Wells, not exceeding 28 feet.

| Diameter of Barrel. | Height. | | £ | s. | d. |
|---|---|---|---|---|---|
| 2½ in. | short | 1 ft. 7 in. | 1 | 10 | 0 |
| 2½ ,, | long | 3 ,, 3 ,, | 1 | 14 | 0 |
| 3 ,, | ditto | 3 ,, 6 ,, | 2 | 8 | 0 |
| 3½ ,, | ditto | 3 ,, 6 ,, | 2 | 12 | 0 |
| 4 ,, | ditto | 3 ,, 6 ,, | 3 | 3 | 0 |

(Fitted for lead, gutta percha, or cast iron flanged pipe, as required.)

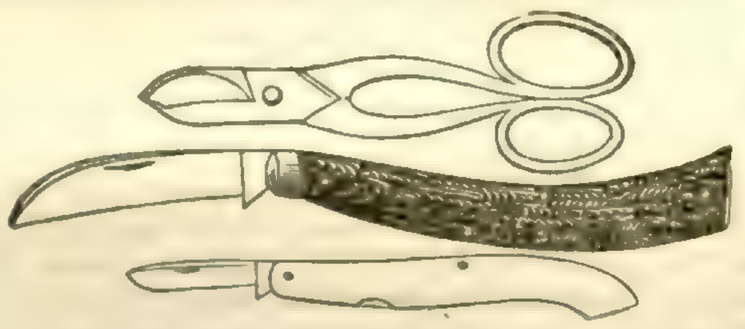
2½ ,, short, with 15 feet of Lead Pipe attached, ready for fixing .... 2 14 0
2½ in. long ditto ditto ditto 2 18 0

The short barrel Pump is very convenient for fixing in situations of limited height and space, for the supply of coppers and sinks in Wash-houses with soft water from underground tanks, or in Hot, Forcing, and Plant Houses; they may be fixed, when desired, under the stage.

May be obtained of any Ironmonger or Plumber in Town or country, at the above prices, or of the Patentees and Manufacturers, JOHN WARNER & SONS, 8, Crescent, Jewin Street, London.

Every description of Machinery for Raising Water by means of Wheels, Rams, Deep Well Pumps, &c.; also Fire and Garden Engines, &c. &c.—Engravings sent on application.

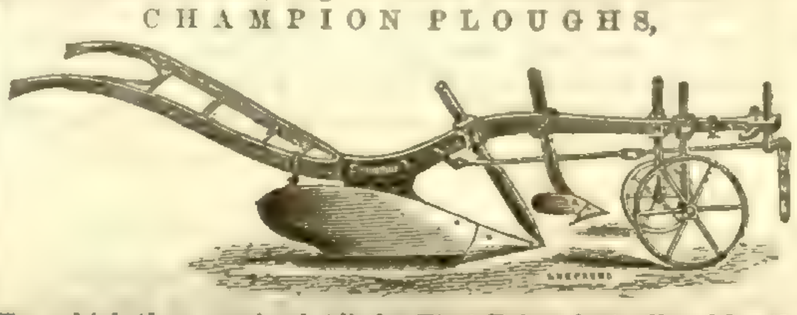
PAXTON WORKS, SHEFFIELD, ESTABLISHED 1738.



SAYNOR AND COOKE'S warranted PRIZE PRUNING and BUDDING KNIVES, SCISSORS, &c.—Sold by all respectable Nurserymen and Seed Merchants in the three Kingdoms.

HOWARDS' PRIZE IMPLEMENTS, 1859.

JAMES AND FREDK. HOWARD, Britannia Iron Works, Bedford, beg to direct attention to their CHAMPION PLOUGHS,



For which they received All the First Prizes last offered by the Royal Agricultural Society of England, viz.:—

The First Prize for the best Plough for general purposes.
The First Prize for the best Plough for light land.
The First Prize for the best Plough for heavy land.

The only Prize ever offered by the Society for the best Double Breast or Ridging Plough was also awarded to J. & F. HOWARD.

J. & F. HOWARD have discontinued troubling the Public with a long List of Prizes awarded to their Implements, but they would just state that for PLOUGHS, HARROWS, and HORSE RAKES, they have for several years gained every Prize for which they have competed.

PLOUGHS.

| | | | |
|---|---|---|---|
| P PLOUGH, with two wheels, for light work .. | £4 | 7 | 6 |
| PP PLOUGH, ,, for general purposes | 4 | 12 | 6 |
| SKIM COULTER .. .. .. .. .. | £0 | 5 | 6 |

STEEL BREASTS, 7*s.* and 7*s.* 6*d.* extra.

HARROWS.

| | | | |
|---|---|---|---|
| A Set of Three 4-Beam HARROWS, with Whippletree, recommended as general Seed Harrows, 9½ feet wide, marked No. 12 .. .. .. .. .. .. | £3 | 14 | |
| A Set of Three 4-Beam HARROWS, with Whippletree, adapted for 3 Horses, 10 feet wide, marked No. 11 .. | 4 | 4 | |

HORSE RAKES.

| | | | |
|---|---|---|---|
| Price of small size RAKE, marked A, with 24 iron teeth, extreme width 7½ feet .. .. .. .. .. | £7 | 10 | 0 |
| Ditto, with Steel Teeth .. .. .. .. .. | 8 | 0 | 0 |
| Price of large size, marked B, with 28 iron teeth, extreme width 8½ feet .. .. .. .. .. | 8 | 0 | 0 |
| Price of large size, marked B, with steel teeth .. | £8 | 10 | 0 |
| Price of extra large size, marked C, with 24 steel teeth, extreme width, 8½ feet .. .. .. .. | 10 | 10 | 0 |
| Price of a Set of 15 Prongs, to be attached to the above when used as Weed Extirpators .. .. .. | 1 | 10 | 0 |

Free Delivery to Birmingham, Bristol, Derby, Gloucester, Lincoln, Liverpool, London, Manchester, Norwich, Nottingham, Retford, Wisbeach, and Worcester; or to Dublin, Edinburgh, Glasgow, and other parts at fixed rates.

HOWARDS' NEW CATALOGUE, containing prices and description of their Patent Ploughs, Harrows, Horse Rakes, and other Implements, including Smith's Steam Cultivators, for which they received at Chester the Gold Medal of the Royal Agricultural Society of England, sent free on application to
J. & F. HOWARD, Britannia Iron Works, Bedford.

AGRICULTURAL MACHINERY.

E. R. AND F. TURNER, Ipswich, manufacture Prize Mills for Crushing Corn, Seed, Malt, &c.; Portable Grinding Mills, Steam Engines fixed and portable from 2 horse-power and upwards; Threshing Machines, Chaff Cutter Oilcake Breakers, Horse Gears, Saw Tables, &c., all of a superior description and adapted for Home, Colonial, and Foreign use. Illustrated Price Lists sent free on application.

"FRIGI DOMO."—Patronised by her Majesty the Queen, the Duke of Northumberland for Syon House, His Grace the Duke of Devonshire for Chiswick Gardens, Professor Lindley for the Horticultural Society, Sir Joseph Paxton for the Crystal Palace, Royal Zoological Society, late Mrs. Lawrence, of Ealing Park, and — Collier, Esq., of Dartford.

PROTECTION FROM COLD WINDS AND MORNING FROSTS.

"FRIGI DOMO," a Canvas made of patent prepared Hair and Wool, a perfect non-conductor of Heat and Cold, keeping, wherever it is applied, a fixed temperature. It is adapted for all horticultural and floricultural purposes, for preserving Fruits and Flowers from the scorching rays of the sun, from wind, from attacks of insects, and from morning frosts. To be had in any required lengths. Two yards wide, 1*s.* 6*d.* per yard run; four, 3*s.* per yard. Also, an improved make for Shading Purposes. Three yards wide, 2*s.* 6*d.* per yard run.

ELISHA THOMAS ARCHER, whole and sole manufacturer, 7, Trinity Lane, Cannon Street, City, and of all Nurserymen and Seedsmen throughout the kingdom. "It is much cheaper than mats as a covering."

TO LANDOWNERS.

THE PERMANENT WAY COMPANY having been appointed the sole Licensees for the use of Dr. BOUCHERIE'S Patent Process for Preserving Timber, beg to inform Landowners and others interested in the use of English Timber that a Pamphlet, with full explanations of this cheap and most effectual process, may be had gratis on application to the undersigned. Landowners having Beech, Elm, Fir, or other Timber fit for Railway Sleepers are requested to communicate particulars of quantity, locality, and prices.
WILLIAM HOWDEN, Secretary.
26, Great George Street, Westminster.

THE LANDS IMPROVEMENT COMPANY,
2, Old Palace Yard, Westminster, S.W.

To Landowners, the Clergy, Solicitors, Estate Agents, Surveyors, &c.—The Company is incorporated by Special Act of Parliament for England, Wales, and Scotland.—Under the Company's Acts Tenants for Life, Trustees, Mortgagees in possession, Incumbents of Livings, Bodies Corporate, certain Lessees, and other Landowners, are empowered to charge the inheritance with the cost of Improvements, whether the money be borrowed from the Company or advanced by the Landowner out of his own funds.

The Company advance money, unlimited in amount, for Works of Land Improvement, the Loans and incidental expenses being liquidated by a rentcharge for a specified term of years.

No investigation of Title is required, and the Company being of a strictly commercial character do not interfere with the plans and execution of the works, which are controlled only by the Enclosure Commissioners.

The improvements authorised comprise Drainage, Irrigation, Warping, Embanking, Enclosing, Clearing, Reclaiming, Planting, Erecting and Improving Farm Houses and Buildings for Farm purposes, Farm Roads, Jetties, Steam Engines, Water Wheels, Tanks, Pipes, &c.

Owners in fee may effect improvements on their Estates without incurring the expense and personal responsibilities incident to Mortgages, and without regard to the amount of existing incumbrances. Proprietors may apply jointly for the execution of Improvements mutually beneficial, such as a Common Outfall, Roads through the District, Water Power, &c. For further information and for forms of application apply to the Hon. W. NAPIER, Managing Director, 2, Old Palace Yard, Westminster, S.W.

LAND DRAINAGE.—Works of Drainage of any extent are executed by the GENERAL LAND DRAINAGE AND IMPROVEMENT COMPANY on all descriptions of Property, whether Freehold, Entailed, Mortgaged, Trust, Ecclesiastical, Corporate, or Collegiate.

Repayment may be made by the Landowner as successive portions of the Works are completed, or the actual expenditure, with a Commission thereon, may be charged on the property improved by way of rent charge for any term not exceeding 50 years, the instalments to repay principal and interest being thereby kept down nearly to 5 per cent. per annum.

No investigation of title being required, and the charge not being affected by incumbrances, no legal expenses are incurred.

Works of Irrigation, Enclosing, Wood Grubbing, Road Making, and Farm Buildings are executed in a similar manner.

The Company also assist Landowners in executing any of the improvements by their own agents, and charge the amount expended on the property improved.

Applications to be made to WILLIAM CLIFFORD, the Secretary, at the Offices of the Company, 52, Parliament Street, London.

AGRICULTURAL EDUCATION.

HIGHLAND AND AGRICULTURAL SOCIETY OF SCOTLAND.—The BOARD of EXAMINERS, nominated in terms of the Society's Charter, will meet in the Museum Hall, George IV. Bridge, Edinburgh, on APRIL 6th and 7th, between the hours of 11 and 4, to examine CANDIDATES for the Society's Agricultural Diploma. The subjects of Examination will be:—

| | |
|---|---|
| Science and Practice of Agriculture | Natural History |
| Mechanics and Architecture of the Farm | Technology |
| Botany | Veterinary Surgery |
| Chemistry | Field Engineering and Surveying |
| | Book-keeping and Accounts |

Candidates must intimate their names to the Secretary, not later than March 10. JN. HALL MAXWELL, Secretary.
Edinburgh, January 22

COLLEGE OF AGRICULTURE AND CHEMISTRY, AND OF PRACTICAL and GENERAL SCIENCE, 37 and 38, Lower Kennington Lane, Kennington, near London.
Principal—J. C. NESBIT, F.G.S., F.C.S., &c.

The system of studies pursued in the College comprises every branch requisite to prepare youth for the pursuits of Agriculture, Engineering, Mining, Manufactures, and the Arts; for the Naval and Military Services, and for the Universities.

Analyses and Assays of every description are promptly and accurately executed at the College. The terms and other particulars may be had on application to the Principal.

# The Agricultural Gazette.

*SATURDAY, JANUARY* 22, 1859.

A VERY remarkable series of Tables was published last week in a supplement to the *Economist*, containing pictures of our commerce since the commencement of the century, from which we

extract the following figures which will be interesting to the agriculturist.

The following are the imports during the 10 years preceding 1858 :—

QUANTITIES OF THE PRINCIPAL ARTICLES IMPORTED INTO THE UNITED KINGDOM.

| ARTICLES. | | 1848 | 1849 | 1850 | 1851 | 1852 | 1853 | 1854 | 1855 | 1856 | 1857 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Butter | cwts. | 294,427 | 281,969 | 330,579 | 353,718 | 285,497 | 408,289 | 482,514 | 447,266 | 513,892 | 441,606 |
| Cheese | .. | 441,635 | 390,147 | 347,803 | 338,659 | 289,458 | 396,404 | 388,714 | 384,192 | 406,323 | 393,323 |
| Corn—Wheat | qrs. | 2,580,959 | 3,845,378 | 3,738,995 | 3,812,008 | 3,060,268 | 4,915,430 | 3,431,227 | 2,667,702 | 4,072,833 | 3,437,957 |
| Other kinds | .. | 4,364,533 | 5,806,578 | 4,181,869 | 4,281,393 | 3,581,461 | 3,932,178 | 3,419,271 | 3,061,539 | 4,124,420 | 5,107,225 |
| Flour of Wheat | cwts. | 1,754,449 | 3,349,839 | 3,819,440 | 5,314,414 | 3,865,173 | 4,621,506 | 3,646,505 | 1,904,224 | 3,970,100 | 2,178,148 |
| Other kinds | .. | 275,788 | 162,001 | 18,568 | 18,955 | 1,546 | 16,504 | 58,656 | 18,094 | 21,267 | 6,028 |
| Eggs | No | 88,012,585 | 97,745,849 | 103,689,060 | 115,526,245 | 108,281,233 | 123,450,678 | 121,946,801 | 99,732,800 | 117,230,600 | 126,818,600 |
| Flax, dressed and undressed | cwts. | 1,463,661 | 1,806,673 | 1,822,918 | 1,194,184 | 1,408,714 | 1,883,374 | 1,303,235 | 1,293,435 | 1,687,041 | 1,866,250 |
| Guano | tons. | 71,414 | 83,438 | 116,925 | 243,014 | 129,889 | 123,166 | 235,111 | 305,061 | 191,501 | 288,362 |
| Hemp, undressed | cwts. | 845,771 | 1,061,893 | 1,048,635 | 1,293,412 | 1,068,155 | 1,237,872 | 1,211,297 | 1,267,678 | 1,502,626 | 1,401,104 |
| Potatoes | cwts. | 940,707 | 1,417,867 | 1,348,883 | 636,771 | 773,619 | 1,133,609 | 116,446 | 58,261 | 109,838 | 955,057 |
| Rice | .. | 906,372 | 976,195 | 785,451 | 734,847 | 987,813 | 1,504,629 | 1,342,748 | 2,238,158 | 3,692,001 | 3,416,557 |
| In the husk | qrs. | 84,627 | 81,828 | 37,150 | 31,481 | 23,670 | 19,477 | 18,956 | 18,673 | 33,694 | 20,900 |
| Saltpetre and cubic nitre | cwts. | 515,076 | 566,794 | 529,012 | 465,007 | 565,588 | 641,014 | 893,344 | 506,984 | 697,361 | 808,646 |
| Seeds, Clover | .. | 99,813 | 130,254 | 93,649 | 184,567 | 124,629 | 214,695 | 141,114 | 173,698 | 169,449 | 171,585 |
| Flax and Linseed | qrs. | 799,650 | 626,495 | 608,984 | 603,471 | 799,402 | 1,035,335 | 828,513 | 756,951 | 1,180,180 | 1,051,113 |
| Rape | .. | 79,970 | 29,480 | 107,029 | 822,394 | 146,230 | 86,815 | 103,155 | 162,353 | 264,920 | 220,495 |
| Total of timber, not sawn or split | .. | 928,741 | 817,909 | 868,179 | 1,102,069 | 923,970 | 1,180,135 | 1,216,209 | 908,514 | 1,081,223 | 1,178,689 |
| Total of timber, sawn or split | .. | 864,593 | 809,783 | 794,178 | 1,009,708 | 1,118,350 | 1,345,393 | 1,262,461 | 934,579 | 1,352,256 | 1,316,275 |
| Wool—sheep, lamb and alpaca | lbs. | 70,864,847 | 76,768,647 | 74,326,778 | 83,311,975 | 93,761,458 | 119,396,449 | 106,121,995 | 99,300,446 | 116,211,392 | 129,749,898 |

But from these figures there have to be deducted from 5000 to 9000 cwts. of cheese exported, and in like manner 60,000 to 90,000 quarters of Wheat, and 80,000 to 100,000 cwts. of flour annually, together with smaller quantities of the other articles named, before the exact quantities added to our home consumption can be ascertained. The re-exportation of guano however has amounted to from 20,000 to 60,000 tons annually; reaching 64,103 tons in 1856, and 23,741 tons in 1857.

Our contemporary gives a number of other most instructive tables describing the recent rapid increase in various branches of trade and manufacture, and in the consumption of imported food.

We add to the figures already extracted a table showing the quantity of recorded sales of Wheat, Barley, and Oats during the past 10 years.

QUANTITIES OF BRITISH WHEAT, BARLEY, AND OATS, SOLD IN THE PRINCIPAL MARKET TOWNS IN ENGLAND AND WALES, IN EACH YEAR.

| | 1848 | 1849 | 1850 | 1851 | 1852 | 1853 | 1854 | 1855 | 1856 | 1857 |
|---|---|---|---|---|---|---|---|---|---|---|
| | Quarters. | Quarters. | Quarters. | Quarters. | Quarters. | Quarters. | Quarters. | Quarters. | Quarters. | Quarters. |
| Wheat .. .. | 5,399,834 | 4,453,983 | 4,688,247 | 4,487,041 | 4,854,513 | 4,560,912 | 3,913,257 | 5,256,874 | 5,046,736 | 5,243,940 |
| Barley .. .. | 2,401,737 | 2,099,821 | 2,235,271 | 2,333,710 | 2,389,489 | 2,474,206 | 2,267,997 | 2,608,862 | 2,678,936 | 2,262,733 |
| Oats .. .. | 1,022,875 | 851,080 | 866,082 | 940,006 | 947,550 | 880,408 | 765,438 | 816,688 | 701,159 | 537,364 |

IN considering the agricultural value of the British Grasses, we cannot perhaps commence better than by arranging them in groups according to the nature of the soil and circumstances under which they are formed.

In the following Table therefore will be found arranged a more or less complete list of the *genera* of our native Grasses, in such a manner that we can see at a glance the number of species which occur under the different and often well-defined conditions, under which the species of even a small genus are marked.

It should however be remarked that as yet we are not in possession of sufficient information to say that any particular allocation is absolutely correct, nor indeed are the specific limits of the tribe at all firmly established, yet the Table will sufficiently illustrate some important principles connected with the subject, and which will be presently dwelt upon.

TABLE OF THE DISTRIBUTION OF BRITISH WILD GRASSES.

| FORTY GENERA. | Pasture. | Agrarian. | Wood. | Moor and Heath. | Water. | Sea-side. | Number of Species. |
|---|---|---|---|---|---|---|---|
| Anthoxanthum | 1 | .. | .. | .. | .. | .. | 1 |
| Nardus | .. | .. | .. | 1 | .. | .. | 1 |
| Alopecurus | 1 | 1 | .. | 2 | 2 | .. | 6 |
| Phleum | 2 | .. | .. | 3 | .. | 1 | 6 |
| Ammophila | .. | .. | .. | .. | .. | 1 | 1 |
| Lagurus | .. | .. | .. | .. | .. | 1 | 1 |
| Phalaris | .. | 1 | .. | .. | 1 | .. | 2 |
| Gastridium | .. | 1 | .. | .. | .. | .. | 1 |
| Polypogon | .. | 1 | .. | .. | .. | 1 | 2 |
| Milium | .. | .. | 1 | .. | .. | .. | 1 |
| Calamagrostis | .. | .. | 3 | .. | .. | 1 | 4 |
| Agrostis | 2 | 1 | .. | 2 | .. | 1 | 6 |
| Rottboellia | .. | .. | .. | .. | .. | 1 | 1 |
| Spartina | .. | .. | .. | 1 | .. | .. | 1 |
| Cynodon | .. | 1 | .. | .. | .. | .. | 1 |
| Digitaria | .. | 1 | .. | .. | .. | .. | 1 |
| Setaria | .. | 2 | .. | .. | .. | .. | 2 |
| Panicum | .. | 1 | .. | .. | .. | .. | 1 |
| Molinia | .. | .. | .. | 1 | .. | .. | 1 |
| Melica | .. | .. | .. | 2 | .. | .. | 2 |
| Catabrosa | .. | .. | .. | .. | 1 | .. | 1 |
| Aira | 2 | .. | 1 | 3 | .. | 1 | 7 |
| Triodia | .. | .. | .. | 1 | .. | .. | 1 |
| Holcus | 1 | .. | .. | 1 | .. | .. | 2 |
| Arrhenatherum | 1 | .. | .. | .. | .. | .. | 1 |
| Hierochloe | .. | .. | .. | 1 | .. | .. | 1 |
| Sesleria | .. | .. | .. | 1 | .. | .. | 1 |
| Cynosurus | 1 | .. | .. | .. | .. | 1 | 2 |
| Arundo | .. | .. | .. | .. | 1 | .. | 1 |
| Elymus | .. | .. | 1 | .. | .. | 2 | 3 |
| Hordeum | 1 | 1 | .. | .. | .. | 1 | 3 |
| Triticum | .. | 1 | 1 | .. | .. | 3 | 5 |
| Brachypodium | .. | .. | 1 | 1 | .. | .. | 2 |
| Lolium | 2 | 1 | .. | .. | .. | .. | 3 |
| Poa | 2 | 4 | 1 | 2 | 2 | 4 | 15 |
| Briza | .. | .. | .. | 2 | .. | .. | 2 |
| Dactylis | 1 | .. | .. | .. | .. | .. | 1 |
| Festuca | 4 | .. | 1 | 2 | .. | 2 | 9 |
| Bromus | 1 | 7 | 2 | .. | .. | .. | 10 |
| Avena | 2 | 2 | .. | 3 | .. | .. | 7 |
| Total | 24 | 26 | 14 | 27 | 7 | 21 | 119 |

This Table then amongst other facts teaches us the highly interesting one that in a country pre-eminently pastoral, and in which pasture forms so large a portion of our soil, we have yet only 40 genera of the important natural order *Graminaceæ*, and though these number as many as 119 species, yet the species absolutely of use as food for cattle are so few as that at a first glance the list can hardly be believed. If however we dwell for a few moments on the divisions as laid down in the Table, we shall be in a better position for grappling with this curious and important inquiry.

1. *Pasture Grasses* occupy the first column, and these we see to consist of 15 genera, divided into 24 species. Now, in all probability the reader will express astonishment and be ready to inquire: "What? Only 24 species of Grass in England of good pasture quality?" The answer will be:—Search if you were going to lay down a piece of land for permanent pasture how few even of these would you employ. Again if we look over the species contained in a good meadow, we see the list of Grasses making up the true Grass part of the herbage to be ridiculously small—small almost in proportion to their goodness, and though the list would be greatly augmented by adding the names of pasture plants to which the term Grass is wrongly applied, it is a question whether a meadow is not the better for being Grass simply, and whether the quantity of Grass, which is abstracted by the growth of other herbage, is ever made up for either in *quantity* or the still more important element of *quality*.

2. *Agrarian Grasses.*—It is a somewhat curious circumstance that tilled or arable land should have as constant attendants some kinds or other of Grasses—the species differing not so much with the management as with the soil. Thus a sand, clay, or limestone subsoil can at once be predicated amid very great changes of tillage from the presence of certain species of Grasses; and these are forms that have tracked the farmer into very remote regions, English Couch, Fiorin, Hassock, and other Grasses being now common to agriculture in North America.

This list is somewhat larger than the preceding, being 26 species, belonging to 16 genera. They can only be considered as weeds; and though they are constantly being attacked in various ways, yet from the little known about them and their natural history the very mechanical means adopted for their eradication only tend to their greater spread; and besides, the seeds of agrarian Grasses are just those that the farmer is constantly sowing, having too often paid a large price for them in the seeds of his crop.

3. *Wood Grasses.*—This again is a tolerably distinct list, many species of Grass seeming to prefer the shade of covert, to which indeed they often add in a most efficient manner. In such situations they get on remarkably well, but none of the wood Grasses grow so well even on the margins of woods. Some one or two however have been recommended to be sown in glades between plantations, amongst which may be particularly mentioned the *Poa sylvatica*, Wood Meadow Grass, which certainly answers the purpose tolerably well.

4. *Moor and Heath Grasses.*—These, though they might probably have been more accurately distinguished, yet for our present purpose sufficiently illustrate principles contend for. wild moor and posed heath both liable that jungh separate of growth Grasses render a and well turf almost possible; Grasses light to grow this way particularly tritious, and thus indicate a kind of connexion with the Carices or Sedges, whose natural habitat is ever the moor or the heath, some sorts being peculiar to the more or less sandy parts there whilst others are favoured by stiffness and moisture. The list is one of the largest of all the groups, its 16 genera numbering 27 species; these are probably less dependant upon soil or climate or mere geological or geographical details, but upon the absence of cultivation, for even a portion folding sheep upon a portion and rolling with heavy rollers, treatment with salt, and indeed almost any cultivative process will inevitably destroy a great part of the worst of these Grasses, when the better ones, which in every soil however bad and unkempt will still have a remnant left, immediately begin to develope their powers. Thus then these moor and heath Grasses may be considered as plants not incidental to cultivation, like the agrarian set of Grasses, but occupying uncultivated waste places only to give up their reign when man with his skill takes possession. And yet, wild as they are, they have had high destinies to perform. They have aided in filling up swamps and making humus soil out of what would perhaps have been but a waste of water for a great part of the year, and the soil so prepared has nourished an exceedingly beautiful flora, which in its turn has been a nidus for many insect tribes. Thus, although man has a high prerogative to till the soil so as to increase food and increase, yet in reality Nature has no waste, no void, and just in proportion as we cultivate, so have we cultivative results, whilst neglect only tends to wildness.

5. *Water Grasses.*—Though the list of these is but small, yet they constitute an interesting section; their habits are so decidedly aquatic, that under common circumstances they are never found except where water prevails. For at least a great part of the year they are of no use to the farmer, but their trailing method of growth and the rank herbage which they usually present render them mischievous in stopping up water-courses, and thus preventing that ready escape of water which in open conduits, such as ditches, rivulets, and brooks, is so important an element in thorough drainage.

At the same time that we remark that this section will not naturally grow out of water, some curious experiments which we have instituted upon the *Phalaris arundinacea*, *aquatica*, and *P. fluitans* have not been without important results, as showing that Grasses like other plants, when made to grow under conditions and circumstances to which they have been used, result in new and different forms which tend very much to confuse our present idea of species. These however are facts which will be dwelt upon more at length in a future article, for if Grass is, as we would have it to become, a cultivated crop, it is of as much importance to develope the principle upon which new forms or varieties of these can be obtained, suitable for different circumstances, as it is that we should be enabled to develope new forms of grain or other crops.

6. *Sea-side Grasses.*—Of those which alone grow on the sea coast the list is comparatively large, consisting of 14 genera and 21 species. Of these probably most choose their position on account of the purely silicious conditions which so often pertain; others in all probability are influenced in their choice by atmospheric causes; but however this may be, few Grasses are more useless as fodder than the marine forms, being uniformly coarse and rough; those however with *rhizomata* have their uses in binding together the otherwise loose sands of the low shelving beaches on which they grow.

These remarks upon the habitats of Grasses are sufficient to show us how widely different are the conditions to which the several members of

group of plants are attached. The presence therefore of some species and the absence of others may well serve to instruct in many matters connected with the nature and condition of land, and if we take into consideration the facility with which we can bring about a change in the grassy carpet of any spot, according as we observe or neglect certain laws connected with their growth, we see that a knowledge of Grasses, involving an intimate acquaintance with what they do and how they do it, is a desideratum of no small value to farmers in general.

## HISTORY AND PROSPECTS OF AGRICULTURE.

MR. GREY, of Dilston, has recently added one more to the admirable addresses which he has occasionally given to farmers' clubs and agricultural societies. The following passages are extracted from the speech to which we refer, delivered at a recent meeting of the Hexham Farmers' Club.

"I shall turn back the thoughts of those who are old enough with myself to recollect what things were, about the beginning of this century, and direct your attention to the great changes which have taken place, which the farmer could not be blamed for not having anticipated, because what would have been the use of increasing your produce to such an amazing extent as it has been increased unless there were people to feed, mouths to be filled, and money to pay for it? But I would rescue the farmers from the imputation of slowness in this, because the moment the impulse was given, the moment remuneration was shown, the moment it was seen we had a population to feed which could afford to buy their beef and mutton as they do now, the farmer put the spur to the wheel, and he has been found to produce that which is sufficient for them. You will recollect, I dare say, at the time I speak of, when it was the habit to allow young cattle and sheep to go in a very meagre way upon very poor pastures; and after they had attained an age when it was fancied they might be matured and brought to market they were taken up and fattened. Now, that won't do in the present day. We had then a scanty fleece of wool every year from the sheep, and when the sheep got to be two or three years older they were fed. But what is the fact now? On high ground you see that they are taken a year sooner that they were at those times; on low ground you can hardly say that a sheep is allowed to go till he is two years old. We should consider that a perfect waste. Sheep are brought to market at 14 or 15 months old, and you are deriving from sheep of that age as much wool as you derived from sheep that had gone two years longer, and occupied your ground more unprofitably. In the same way it is with cattle; and the secret of raising the greatest amount of produce, whether in beef or mutton, I believe to be this, that you never ought to allow the animal to be so pinched or starved as that it retrogrades in the least. You should keep it progressing from the first month of its birth, and never let it lose the flesh it has acquired, because if you have an animal losing for one month, it takes another month to make it up, and then a month more to bring it into a regular healthy condition. The secret, then, I believe is, and it is now pretty well understood, that from their birth forward the animals ought to be brought forward to the condition which they are intended to be in, without ever losing one day. And thus you see the practice of some of my neighbours, of storing their Turnips in the fields in heaps, so that the hardest frosts that come will not make the sheep have a hungry day—they have always fresh food to go to. In this way it is that we find we have it in our power to supply to a considerable degree the greatly increased consumption of the people; but yet we do not find that this is overdone, for when I talk, as I do at present, upon the head of stock, I would just turn your view to the different prices which beef and mutton have maintained for a long period, as compared with other articles of farming produce. When I first recollect farming, the common way was for a man to select a portion of his fallow which was best suited for Turnips. That portion got all the manure which was made upon the farm; it was not so much as might have been, I am sorry to say, because we recollect the quantities that were lost as the stubble of the field, as compared with now-a-days, when the machine cuts it so close that sportsmen complain that a partridge cannot find a hiding place from one end of the farm to another upon a stubble-field. Well, that portion of fallow received the whole of the manure; what was left, perhaps, got a little scanty dose of lime, and then it was expected to grow a crop of Wheat. We know what kind of crops were grown; we know that, as compared with now, there was not above two-thirds, or perhaps, in many cases, not one-half, of the produce of corn. There was not, certainly, nearly one-half of the produce of butchers' meat which there is at this moment. Then with regard to wool. Look at the prices which wool is maintaining, and the desirability there is for the cultivation of that kind of stock which not only gives you the carcase at the end, but gives you an annual produce of wool. It is said, and may be said truly with regard to some farms, that it is impossible that the farmer can thrive with the average price of Wheat at 40*s.* and below it. I saw it stated in one of our periodical papers the other day that the farmer would be ruined by the price of Wheat. So say I, if there are farms which have nothing else but Wheat to depend upon. This is the case, certainly, on some small farms of cold land; but it will hardly be the case, as it might have been if beef and mutton were at 4*d.* a lb. instead of 7*d.* and 8*d.*, and had wool been at 18*s.* or 20*s.* the stone instead of 36*s.*, as we have had it formerly, or instead of 42*s.* as it is now; for, it may be of some consequence for you to know, and some consolation to those who have much to sell, that I know of one person who has been offered for his next year's clip of between 200 and 300 stones 42*s.* a stone, to be paid within a fortnight of his clipping it. I think there is a lesson taught by that, when I have directed your attention to the low price ruling for Wheat and other grain, though Oats and Barley are not so depressed; but when I have drawn your attention to the low price of Wheat and to the high comparative price of butchers' meat, I think this lesson meets you that there are countries more favourable as to the soil and climate for the production of Wheat than our own; that Wheat is an article which can be transferred from one part of the world or one part of the country to another, and is of small bulk as compared with its value, but that no one can injure or come up to us either in beef or mutton or in the growth of wool. We have pastures for summer feed; we have capabilities for rearing root crops, as you all know, to make up the supply when the summer food fails; and we have the opportunity, if we have the judgment, the skill, and the liberality to do it, to raise beef and mutton beyond any other country on the face of the globe. It is very astonishing to look to the statistics of France and of this country, and to see the wonderful difference between the amount that is produced in butchers' meat here; and there is this to console you in the prospect of it, that there is now such a consumption of this description of food that it will hardly be outdone in this country. For my own part I think it has ruled rather as much too high as Wheat has ruled too low for some time past. Since I recollect it was hardly the case that the labouring population of this country were able to indulge themselves with eating butchers' meat at home. The father of a family thought himself very well off if he could feed one or two pigs, and exceedingly well off if he could maintain a cow; but you now see the butcher's shop in every village, and the butcher's cart dispensing joints of meat at every cottage door as you go along the road. Such is the difference in the way of living, and I am sure you will all rejoice with me in thinking that it is so. Then since these changes have taken place in the improvement and in the increase of the quantity of butchers' meat which we are now able to take from our farmers to market, has not a corresponding increase taken place in corn?—because the very thing that creates one gives a stimulant to the other. You manure your lands that you may rear root crops, and you use guano, bone phosphates, and every kind of combination which can increase the quantity. The quantity increased in that respect goes again to increase the manure in your foldyard. You have had the wisdom to adopt a very different plan of reaping your corn and harvesting it from that which prevailed when I first knew this county. At that time you might have gone into the fields and into the stubbles, where it would have taken you almost up to the knees, and you would have seen a proportionate amount of heads of corn scattered among it, and which could not have been saved in that slovenly mode of harvesting. I am glad to see now that from one end of the Tyne to the other you hardly see a field which, as I said before, would give cover to a partridge. Therefore the quantity of manure is not only increased in your foldyards, but you increase it also by the purchase of those foreign and adventitious manures which have had so great an effect in producing your root crops, and those root crops produce to you what all of you who have had experience in farming know is so profitable—that is, butchers' meat and wool. I should like to say one word in the cause of sheep stock. There is a friend of mine here to whom I have talked for the last 20 years on the subject, and I am happy to say I have no cause to change my opinion, and it is this—that the wealth and success of a farmer may be pretty well calculated by the amount of his sheep stock. Sheep are said to be the animals with the golden hoof, that they enrich where they go, and that is true. They not only enrich the master, but the soil. Their manure has a peculiarly efficacious quality, and it is distributed throughout the land in a way very different from that which is left in patches by horned cattle; but there is this also, that while you have the mutton, probably as valuable at the end of the sheep's life as beef, it has given you, year after year, the fleece, which is of itself so important, and which, in the progress of the manufacture of this country, I think we have no reason to fear ever again seeing at a very disastrous price." After enumerating the improvements which had taken place in agriculture for the last 20 years, Mr. Grey continued:—

"If we contemplate the increase of the population in this country as 360,000 a year, we shall see that, unless from wars or emigration, all the efforts we can use will fall far short of supplying them with food. It is on this ground that I think that you must have farms of considerable extent if you intend that the progress of agriculture should go on. It is consistent with theory that it should be so, because on a farm of considerable extent, where all the arrangements are regular, and the operations are conducted with skill and good management, you have skilled hands needful for each kind of work. If you go to the farm of a man who has eight or 10 horses, you see as regular a system as in any other manufactory; you see ploughs sent to make the drill rows, you see carts putting manure into these rows, and followed by another set of ploughs covering that up, and then comes the row drill to put in the seed, and before night 10 or 12 acres are sown and covered in the most promising way; but, on the other hand, the poor man on a small farm, with a pair of horses and a lind, how is he to succeed? He make a few rows in the morning, he changes all the harness of his horses, and puts them into the cart, and gets his wife and daughters, or whoever he can catch, to help him to put in a little manure, and then he changes his horses again from the cart to the plough, and perhaps by working an hour or two over, he gets it sown with Turnips; but all the time it was exposed to a baking sun, and it might be that unfortunately rain came, and he was laid off altogether for a week. If you compare the probable success and cheapness of management of the one with those of the other, you will find that all the hard work, all the poor hoeing, all the parsimony employed—and which is all a poor man has to employ upon a small farm—is not at all adequate to the system, the arrangement, and the skilful operations of larger establishments. I have had through my hands a good many farms of different descriptions, and for the last three years, when I have had a small farm of 100 a year or less to let, I have been obliged to take the same rent, or perhaps less than before; but, when I have had a large farm of 500*l.* a year, I have been able to realise a great advance of rent; and, if I have had a farm of 1000*l.* or 1200*l.* a year, then I have had 25 or 30 per cent. advance. I do not say I rejoice in this, but it forces itself on my observation. The only liking I have for a small farm is that it affords a kind of stepping-stone to the industrious labourer to advance himself in society. I have seen instances of this, and I have been very glad to encourage it; but, whether we look to individual interest or the national good, I must give my vote for farms of a considerable size, where there is abundant capital to employ all the improvements and implements known, and to purchase all the manures found to be advantageous, and to make that division of labour which is so essential to the good working of a large establishment. Under all progress and improvement it is our bounden duty to try to cultivate the minds of our men as well as to cultivate our land. It will be unnecessary to turn your attention to the fact that it is most desirable that we should produce that which the country offers the greatest home market for, and that which will at the same time be most remunerative. I know there is a way of reckoning upon Wheat as productive and remunerative; it has been fixed upon to guide the commutation of tithes and various other things, but it is proved to be a fallacious ground for computing the prosperity of a farmer. I have heard many people inveighing against the low market price of Wheat at the present moment, and saying, 'How can a farmer thrive?' But there is a fallacy in this, and many of you will hold me out in saying that, notwithstanding the very low prices, the crop of this year is remunerating you very much better than the crop of the two former years did. Therefore the actual price is not a fair criterion of the profit which the farmer is making. But again, if you turn to the remunerating prices that the farmer is receiving for both beef and mutton, I need not recommend you to pursue the rearing of beef and mutton, but more especially the enlargement of your flocks of sheep to the utmost extent they are capable of receiving, because this I do believe is the great object we must look to hereafter as the staple commodity of our farms."

## Home Correspondence.

*Liebig on Sewerage.*—["C. L." sends to the *Times* the following translation of a letter received from Professor von Liebig:—]

"Munich, Jan. 9.

"Pray accept my best thanks for your continued interest in my lectures on theoretical and practical agriculture; they are being translated by Dr. Blyth of Cork, who has by this time nearly completed them. Since last week I have been lecturing on sewage; and I am firmly of opinion that if England wishes to remain an agricultural country she must use as manure the nightsoil and similar residues produced in large cities. This necessity would be increased in the event of a war with America, when the supplies of guano would cease. The price of corn depends upon that of guano, and it is most unnatural that, in a country like England, the production of corn and meat should be so dependent on the supplies of foreign manure. The heads of even the most enlightened agriculturists have been turned by a theory propounded by Mr. Lawes, viz., that nitrogen or ammonia are the most necessary ingredients in manure, and that consequently solid excrements are valueless, the urine alone being of use. These views expose utter ignorance, and prove that in England leading agriculturists do not pay sufficient attention to the fundamental principles of chemistry. It is difficult, nay, perhaps impossible, at this moment to convince them of their error. I have tried to do so in my Letters on Chemistry I have just published, and I shall feel most grateful to you, as well as to all who, like yourself, take an interest in the welfare of their country, for any assistance that may be rendered me in propagating this great truth. *Justus von Liebig.*"

*Food for Cattle.*—The compound used here for fattening beasts and keeping sheep in a growing and healthy state during the winter months has been one part Beans or Peas (old if possible), one of Linseed, which I prefer to oilcake as it contains all the oil, one Barley, and one Wheat, all mixed and ground up together. This combination I believe to be equal to any artificial preparation now sold at four times the value, particularly if a small quantity of some warm seed be mixed with it to aid digestion. We have here gluten for flesh, starch for fat, and pure oil for burning in the lungs to keep up the animal heat. Judging from the effects, I think this compound to be more valuable than oilcake.

and without the adulteration. It is given dry with cut Turnips to the fattening beasts, to be moistened by the saliva. This I consider tends to a more perfect digestion than if mixed with warm water, and at the same time it may be said that as the animal chews the cud there can be no want of saliva. The quantity given to sheep has been at the rate of half a bushel to 100 sheep, merely sprinkled over the Turnips as a condiment and corrective, as we use pepper for our Turnips; little enough certainly, still it has the desired effect. I feel certain that nothing is gained by stinting sheep in winter; where we gain one by saving in food, we loose doubly through leanness and want of vigour in spring. I have no scouring. *Sigma.*

*Portable Manures for Potato Growing.*—The field on which the experiments noted below was tried is a clay loam, drained and in fair condition. It bore Oats in 1857, was ploughed with a deep furrow that autumn, cross ploughed and broken down in spring, 1858, dunged in the drills (28 inches wide) with 20 loads good farm-yard manure per acre, and planted the second week of April with Potatoes of the Dalmahoy variety. It did not wholly escape the attack of disease, but, in consequence of the earliness of that variety (it comes in at least three weeks earlier than the Prince Regent, to which in colour, shape, and quality it bears otherwise a strong resemblance), the tubers were little if at all affected, not above 8 per cent. of the gross produce being diseased. They were lifted the first week of September; and the quantities below are those of sound Potatoes gathered and stored, viz.:—

| | Tons | cwt. | lbs. |
|---|---|---|---|
| Where farmyard alone was used, per imp. acre | 6 | 5 | 45 |
| Together with farmyard manure were sown in the drills (at the cost of 24*s.* per acre), 1 cwt. Peruvian guano and 3 bushels dissolved bones, per imperial acre .. .. .. .. .. | 7 | 9 | 88 |
| Drills with farmyard manure alone were top-dressed on June 21, with 1¾ cwt. Peruvian guano (at the cost of 24*s.* 11*d.* per acre) .. | 7 | 13 | 30 |

Showing in the one case an extra production of $24\frac{43}{112}$ cwt. at the cost of 21*s.*; in the other an extra production of $27\frac{17}{112}$ at the cost of 24*s.* 11*d.* This is a cheap purchase money for Potatoes, without taking into consideration the benefit the subsequent Wheat crop will undoubtedly receive from the remains of the artificial manure stored up for its use in that unfailing bank the soil. Of the certainty of such benefit being derived, we think no one can doubt who has read the very interesting series of experiments as to the effect on the second crop, resulting from the application of guano and other fertilisers, communicated to the Highland and Agricultural Society by Mr. Ferguson Coupar Angus, and published in No. 61 (July 1858) of that Society's Journal. This is a most valuable paper to practical men; and it is one which has, we think, attracted much less general attention than it merits. We would remark further in regard to Potato planting that we shall in future choose a loamy in preference to a gravelly soil for them. We tried two fields, one clay loam, as described in the above experiment; the other sharp gravel, a first-rate Turnip and Barley soil, and maiden to Potatoes for at least 25 years. The crop on the gravel was nearly 2 tons per acre behind that on the clay mould field, though in respect to manuring and preparation it was rather the best attended to of the two. We purpose planting our whole crop of Dalmahoys this season in the latter end of March, shall top-dress them with Peruvian guano 2 cwt. per acre in early May, and anticipate having them sound and safe in their winter pits by the first week of August. *S., Inverness-shire.*

## Societies.

HIGHLAND SOCIETY, *Jan.* 19.—A large and exciting meeting of this Society took place this day, of which we must give a fuller account next week. It was presided over by the Duke of Atholl. Upward of 800 members were present, and 100 new members were elected. Mr. Hall Maxwell was reinstated as secretary by a formal motion, seconded by the Duke of Buccleugh. Mr. Caird, M.P., moved in like manner the reinstatement of Mr. Lawson as honorary seedsman. The Earl of Rosslyn defended the Directors of the Society in the course taken by them on the differences which had arisen, and which had led to Mr. Lawson's resignation. Lord Panmure seconded Mr. Caird's motion. Sir George Clark objected to a motion which was a vote of censure on the Directors. Sir Thomas Gladstone proposed as an amendment that the Directors should expunge a certain passage from their minutes of the proceedings, to which Mr. Lawson and his friends objected. Mr. D. McLaren defended Mr. Lawson. The Duke of Buccleugh seconded Sir T. Gladstone's amendment, and it was ultimately declared to be carried. But this was disputed by Lord Panmure and others, and a poll was demanded. This however and other business was ultimately postponed until that day fortnight.

BATH AND WEST OF ENGLAND: *Jan.* 15.—*Abolition of the Implement Prize System.*—Mr. Gabriel Poole brought up the report of the committee setting forth the regulations made in the implement department for the forthcoming exhibition at Barnstaple. It was also resolved, "That the council, in abandoning the system of prizes for implements, beg to record their sincere thanks to the judges of implements for their valuable services, which have in past years conduced so much to the welfare and prosperity of the society, and that a copy of this resolution be sent to the judges."

*Proposed Extension of the Exhibitions to Arts and Manufactures.*—Mr. Thomas Dyke Acland introduced this subject in the form of a "memorandum" for the consideration of the council. This document, which was very lengthy, described the success which had each year attended the exhibitions since the meetings of the society became migratory, and stated that the agricultural implements exhibited increased in number from 400 in 1852 to 1100 in 1857. What was still more important, the practical character of the implements had steadily improved, and the attendance of exhibitors from a distance had increased from 16 to above 40. The increasing number of visitors, including a large proportion of ladies, had led to the exhibition of many articles not directly agricultural, with a view to their advertisement and sale; and in order to facilitate the disposal of the products of local industry or talent, it was now proposed to extend the exhibition of 1859 to agricultural implements, viz., in the mechanical department, scientific department, domestic or economical department, and an artistic department, &c. The memorandum having been debated at some length, it was resolved—"That a committee be appointed to carry into effect the proposed extension of the exhibition to arts and manufactures, with reference to the memorandum prepared by Mr. Acland." Several members of the council offered handsome donations towards a special fund for carrying out the extension of the Barnstaple exhibition to arts and manufactures.

## Farmers' Clubs.

NORTH WALSHAM: *Artificial* v. *Farm-yard Manures.*—Mr. W. Cubitt, of North Walsham, spoke on the growth of Mangel Wurzel, and said it had become a question with him, not as to whether the Mangel ought to be cultivated more than at present, but as to whether it ought not entirely to supersede the use of the common Turnip, for they found it could be used early and late, and in this and the two preceding years, the crop of the Mangel had almost doubled the weight of the common Turnip. They had found in the weighing, that the extreme breadth of drill did not answer, and that the greatest weights were produced from a moderate width. His opinion was, that from 22 to 25 inches in drilling Swedes was the best width to be adopted for producing the greatest weights per acre. Where farm-yard manure was used, he had found the Turnips more full of growth than otherwise, and of better quality; but he wished to say a word or two on artificial manure, for in the *Times* of that morning he had seen in one of the agricultural reports, of which that paper was full just now, the statement of Mr. Jonas, of Cambridgeshire, that the farmers were humbugged by artificial manure. Now, he could not agree with Mr. Jonas entirely, although there was no doubt that the farmers were humbugged by artificial manures to the extent of some tens of thousands annually. For the last 10 years he had used home-made superphosphate with bones dissolved on his own premises, and under his own inspection, and having tried various other manures, he had come to the conclusion that, as an artificial manure, there was nothing equal to the home-made superphosphate. He must, however, caution the farmers as to how they used it. He had heard many farmers having good land say it was useless, and throwing money away, to use artificial manure; and the reason of this was, that too much farm-yard manure was used with it. He could grow as good a body of Swedes with the artificial manure and six or eight loads of farm-yard dung as he could with that quantity of artificial manure and three times the quantity of farm-yard dung. A very small quantity of farm-yard dung, with 6 bushels of dissolved bones, would grow a good body of Turnips. He was particular in urging the cultivation of the root-crop as most important to the farmer, and as that which alone rendered the English farmer superior to every other, and would prevent others from competing with him; for, in whatever quantities they might export corn, they never could export beef and mutton to bring down the price in this country—in fact, it was a question with him, whether, with the increasing prosperity of the country, they could in a few years keep down animal food at a reasonable price to the consumer.

## Reviews.

*A Directory to the Principal Exhibitors of Poultry, Pigeons, and Rabbits, &c.* By the Editor of the "Poultry Diary." *Essex and West Suffolk Gazette* Office, Colchester.

This is a most laboriously compiled pamphlet, containing a list of exhibitions during the year 1857, a list of judges, a list of 84 varieties of fowl referred to, and a list of 1455 exhibitions of poultry, &c., with a statement of all the prizes, and where and for what, that each has won during the period. The whole is closed with a series of miscellaneous paragraphs on poultry feeding, the management of birds for exhibition, &c. The following is one of them on the preparation of pastes for feeding poultry:—

"Potatoes should be well cooked, mashed, and mixed in such a manner as to be brought to a proper consistence, with a certain quantity of mill refuse, or Barley-meal, or bran, or with all these substances combined, to form a very fine paste for the feeding troughs; to this may be added herbs of all kinds, or half-cooked vegetables, which produce a very good effect. Barley is ground, or rather bruised, so as to preserve the [illegible] and keep all the parts of the grain together. We [illegible] into a pail a certain quantity of water or whey, pro[portioned] to the quantity of paste desired, which is [soon] ascertained by experience. A few handfuls [are] thrown in, and the whole stirred till they are soaked. Then further handfuls are added, and worked in the same manner, no portion being left at the bottom of the pail in an unsoaken state. This process is continued until the paste becomes thickened, when the mass is well worked throughout from the bottom to the top, by means of the hand and the grasp of the fingers, until brought to a sufficiently firm consistence. It is then well pressed and flattened, and the surface sprinkled with a little dry Barley-meal. At the end of an hour or two the paste will have become so firm as to be brittle, and may be given to the poultry, which relish it much. In Normandy it is made over night, in order that by the next day it may have acquired a fermented flavour, which renders it still more palatable. In England a very hard paste is made of Barley-meal and Oatmeal mixed, formed into large balls the size of the fist, which is given from time to time to the chickens and young hens."

*Common Sense about the Murrain, Pleuro-pneumonia or Cattle Epidemic, with Cases of its Successful Treatment.* By Joseph Major, V.S.

This pamphlet asserts that the Rinderpest of Eastern Europe exists in England—that Professor Simonds' researches last year have been fruitless, and his report useless—that the Veterinary College knows nothing of it—and in short that only Mr. Major is in possession of the infallible specific. Cases of his successful treatment are of course described, and duly enforced by woodcuts of the "look-on-this-picture-and-on-that" style—where Mr. Major is represented standing with a bottle in his hand beside the quadruped which he has restored to health, while his rivals of the Veterinary College surround an animal prostrate and dying, which, with all their instruments and treatment, they have been unable to save.

## Miscellaneous.

*On the General Subject of Tenant Right*, and the difficulty of its enforcement by any legislative enactment applying over the whole country, we [will] a paragraph. The questions into which this matter resolves itself, were submitted some years ago by a committee of the Law Amendment Society, to whom they received the following answers:—1st. That a landowner ought not to be compelled to pay for an addition to his property for which he has not bargained: that the tenant of land binds himself by the mere occupation of it, to what in the neighbourhood is understood to be good husbandry; indeed, the art of cultivation being progressive, he is even bound to preserve his place in the movement: that what improvements, however, involve extraordinary [outlay] capable of reimbursement only after several [years] they constitute an addition to the *corpus* of the landlord's property, and it may be advisable to [enforce] force upon the latter a condition for the purpose. 2d. That the improvements for which compensation should be thus allowed being dependent for their value, their cost, and their permanence, upon the circumstances under which they are made, it is impossible to frame any one statutory rule which would be fair for the whole country. 3d. That the landlord ought to have the option of making these improvements himself. 4th. That no way has yet been devised of valuing improvements for compensation, insuring justice to both parties; for to take the increased value of the land at the close of the tenancy as the amount of the tenant's claim, would not be just to the landlord, being only that portion of the increased value due to the improvements in question for which the tenant can contend. And, on the other hand, to take the present cost of the works, subject to an annual deduction during the continuance of the tenancy, as the basis of the calculation might not be fair, and would not be just. Suppose the case is one of valuing an unexpired claim for drainage, that 14 years is the term allowed, and six of them have elapsed, then $\frac{8}{14}$ is the proportion of the original cost to which the tenant lays claim, if the original sum may have been wastefully or injudiciously expended; and while there are difficulties in the way of valuing to the tenant an actual increased value which has attached itself to his farm during his occupation of it, there seems to be a still more obvious injustice in awarding to him sums, according to a mere formula of calculation, for which, in point of fact, he may have no increased value whatever to exhibit. We refer to these points in order to show how impossible it is, by any form of words, to enact justice in all circumstances between parties who should have secured it for themselves at the commencement of the connection, by agreements adapted to the circumstances of each particular case. *J. C. M. in Morton's Cyclopædia of Agriculture.*

## Calendar of Operations.

JANUARY.

INVERNESS.—[Our correspondent "S." has forwarded his quarterly report to the *North British Agriculturist*, from it we extract the following passages.] The price returns from Wheat have been so unsatisfactory for two years that little desire was shown to put much ground in the autumn; the breadth will be less than

growth of plants are attached. The presence therefore of some species and the absence of others may well serve to instruct in many matters connected with the nature and condition of land, and if we take into consideration the facility with which we can bring about a change in the grassy carpet of any spot, according as we observe or neglect certain laws connected with their growth, we see that a knowledge of Grasses, involving an intimate acquaintance with what they do and how they do it, is a desideratum of no small value to farmers in general.

## HISTORY AND PROSPECTS OF AGRICULTURE.

MR. GREY, of Dilston, has recently added one more to the admirable addresses which he has occasionally given to farmers' clubs and agricultural societies. The following passages are extracted from the speech to which we refer, delivered at a recent meeting of the Hexham Farmers' Club.

"I shall turn back the thoughts of those who are old enough with myself to recollect what things were, about the beginning of this century, and direct your attention to the great changes which have taken place, which the farmer could not be blamed for not having anticipated, because what would have been the use of increasing your produce to such an amazing extent as it has been increased unless there were people to feed, mouths to be filled, and money to pay for it? But I would rescue the farmers from the imputation of slowness in this, because the moment the impulse was given, the moment remuneration was shown, the moment it was seen we had a population to feed which could afford to buy their beef and mutton as they do now, the farmer put the spur to the wheel, and he has been found to produce that which is sufficient for them. You will recollect, I dare say, at the time I speak of, when it was the habit to allow young cattle and sheep to go in a very meagre way upon very poor pastures; and after they had attained an age when it was fancied they might be matured and brought to market they were taken up and fattened. Now, that won't do in the present day. We had then a scanty fleece of wool every year from the sheep, and when the sheep got to be two or three years older they were fed. But what is the fact now? On high ground you see that they are taken a year sooner that they were at those times; on low ground you can hardly say that a sheep is allowed to go till he is two years old. We should consider that a perfect waste. Sheep are brought to market at 14 or 15 months old, and you are deriving from sheep of that age as much wool as you derived from sheep that had gone two years longer, and occupied your ground more unprofitably. In the same way it is with cattle; and the secret of raising the greatest amount of produce, whether in beef or mutton, I believe to be this, that you never ought to allow the animal to be so pinched or starved as that it retrogrades in the least. You should keep it progressing from the first month of its birth, and never let it lose the flesh it has acquired, because if you have an animal losing for one month, it takes another month to make it up, and then a month more to bring it into a regular healthy condition. The secret, then, I believe is, and it is now pretty well understood, that from their birth forward the animals ought to be brought forward to the condition which they are intended to be in, without ever losing one day. And thus you see the practice of some of my neighbours, of storing their Turnips in the fields in heaps, so that the hardest frosts that come will not make the sheep have a hungry day—they have always fresh food to go to. In this way it is that we find we have it in our power to supply to a considerable degree the greatly increased consumption of the people; but yet we do not find that this is overdone, for when I talk, as I do at present, upon the head of stock, I would just turn your view to the different prices which beef and mutton have maintained for a long period, as compared with other articles of farming produce. When I first recollect farming, the common way was for a man to select a portion of his fallow which was best suited for Turnips. That portion got all the manure which was made upon the farm; it was not so much as might have been, I am sorry to say, because we recollect the quantities that were lost as the stubble of the field, as compared with now-a-days, when the machine cuts it so close that sportsmen complain that a partridge cannot find a hiding place from one end of the farm to another upon a stubble-field. Well, that portion of fallow received the whole of the manure; what was left, perhaps, got a little scanty dose of lime, and then it was expected to grow a crop of Wheat. We know what kind of crops were grown; we know that, as compared with now, there was not above two-thirds, or perhaps, in many cases, not one-half, of the produce of corn. There was not, certainly, nearly one-half of the produce of butchers' meat which there is at this moment. Then with regard to wool. Look at the prices which wool is maintaining, and the desirability there is for the cultivation of that kind of stock which not only gives you the carcase at the end, but gives you an annual produce of wool. It is said, and may be said truly with regard to some farms, that it is impossible that the farmer can thrive with the average price of Wheat at 40*s.* and below it. I saw it stated in one of our periodical papers the other day that the farmer would be ruined by the price of Wheat. So say I, if there are farms which have nothing else but Wheat to depend upon. This is the case, certainly, on some small farms of cold land; but it will hardly be the case, as it might have been if beef and mutton were at 4*d.* a lb. instead of 7*d.* and 8*d.*, and had wool been at 18*s.* or 20*s.* the stone instead of 36*s.*, as we have had it formerly, or instead of 42*s.* as it is now; for, it may be of some consequence for you, to know, and some consolation to those who have much to sell, that I know of one person who has been offered for his next year's clip of between 200 and 300 stones 42*s.* a stone, to be paid within a fortnight of his clipping it. I think there is a lesson taught by that, when I have directed your attention to the low price ruling for Wheat and other grain, though Oats and Barley are not so depressed; but when I have drawn your attention to the low price of Wheat and to the high comparative price of butchers' meat, I think this lesson meets you that there are countries more favourable as to the soil and climate for the production of Wheat than our own; that Wheat is an article which can be transferred from one part of the world or one part of the country to another, and is of small bulk as compared with its value, but that no one can injure or come up to us either in beef or mutton or in the growth of wool. We have pastures for summer feed; we have capabilities for rearing root crops, as you all know, to make up the supply when the summer food fails; and we have the opportunity, if we have the judgment, the skill, and the liberality to do it, to raise beef and mutton beyond any other country on the face of the globe. It is very astonishing to look to the statistics of France and of this country, and to see the wonderful difference between the amount that is produced in butchers' meat here; and there is this to console you in the prospect of it, that there is now such a consumption of this description of food that it will hardly be outdone in this country. For my own part I think it has ruled rather as much too high as Wheat has ruled too low for some time past. Since I recollect it was hardly the case that the labouring population of this country were able to indulge themselves with eating butchers' meat at home. The father of a family thought himself very well off if he could feed one or two pigs, and exceedingly well off if he could maintain a cow; but you now see the butcher's shop in every village, and the butcher's cart dispensing joints of meat at every cottage door as you go along the road. Such is the difference in the way of living, and I am sure you will all rejoice with me in thinking that it is so. Then since these changes have taken place in the improvement and in the increase of the quantity of butchers' meat which we are now able to take from our farmers to market, has not a corresponding increase taken place in corn?—because the very thing that creates one gives a stimulant to the other. You manure your lands that you may rear root crops, and you use guano, bone phosphates, and every kind of combination which can increase the quantity. The quantity increased in that respect goes again to increase the manure in your foldyard. You have had the wisdom to adopt a very different plan of reaping your corn and harvesting it from that which prevailed when I first knew this county. At that time you might have gone into the fields and into the stubbles, where it would have taken you almost up to the knees, and you would have seen a proportionate amount of heads of corn scattered among it, and which could not have been saved in that slovenly mode of harvesting. I am glad to see now that from one end of the Tyne to the other you hardly see a field which, as I said before, would give cover to a partridge. Therefore the quantity of manure is not only increased in your foldyards, but you increase it also by the purchase of those foreign and adventitious manures which have had so great an effect in producing your root crops, and those root crops produce to you what all of you who have had experience in farming know is so profitable—that is, butchers' meat and wool. I should like to say one word in the cause of sheep stock. There is a friend of mine here to whom I have talked for the last 20 years on the subject, and I am happy to say I have no cause to change my opinion, and it is this—that the wealth and success of a farmer may be pretty well calculated by the amount of his sheep stock. Sheep are said to be the animals with the golden hoof, that they enrich where they go, and that is true. They not only enrich the master, but the soil. Their manure has a peculiarly efficacious quality, and it is distributed throughout the land in a way very different from that which is left in patches by horned cattle; but there is this also, that while you have the mutton, probably as valuable at the end of the sheep's life as beef, it has given you, year after year, the fleece, which is of itself so important, and which, in the progress of the manufacture of this country, I think we have no reason to fear ever again seeing at a very disastrous price." After enumerating the improvements which had taken place in agriculture for the last 20 years, Mr. Grey continued:—

"If we contemplate the increase of the population in this country as 360,000 a year, we shall see that, unless from wars or emigration, all the efforts we can use will fall far short of supplying them with food. It is on this ground that I think that you must have farms of considerable extent if you intend that the progress of agriculture should go on. It is consistent with theory that it should be so, because on a farm of considerable extent, where all the arrangements are regular, and the operations are conducted with skill and good management, you have skilled hands needful for each kind of work. If you go to the farm of a man who has eight or 10 horses, you see as regular a system as in any other manufactory; you see ploughs sent to make the drill rows, be that unfortunately rain came, and he was laid off altogether for a week. If you compare the probable success and cheapness of management of the one with those of the other, you will find that all the hard work, all the poor hoeing, all the parsimony employed—and which is all a poor man has to employ upon a small farm—is not at all adequate to the system, the arrangement, and the skilful operations of larger establishments. I have had through my hands a good many farms of different descriptions, and for the last three years, when I have had a small farm of 100 a year or less to let, I have been obliged to take the same rent, or perhaps less than before; but, when I have had a large farm of 500*l.* a year, I have been able to realise a great advance of rent; and, if I have had a farm of 1000*l.* or 1200*l.* a year, then I have had 25 or 30 per cent. advance. I do not say I rejoice in this, but it forces itself on my observation. The only liking I have for a small farm is that it affords a kind of stepping-stone to the industrious labourer to advance himself in society. I have seen instances of this, and I have been very glad to encourage it; but, whether we look to individual interest or the national good, I must give my vote for farms of a considerable size, where there is abundant capital to employ all the improvements and implements known, and to purchase all the manures found to be advantageous, and to make that division of labour which is so essential to the good working of a large establishment. Under all progress and improvement it is our bounden duty to try to cultivate the minds of our men as well as to cultivate our land. It will be unnecessary to turn your attention to the fact that it is most desirable that we should produce that which the country offers the greatest home market for, and that which will at the same time be most remunerative. I know there is a way of reckoning upon Wheat as productive and remunerative; it has been fixed upon to guide the commutation of tithes and various other things, but it is proved to be a fallacious ground for computing the prosperity of a farmer. I have heard many people inveighing against the low market price of Wheat at the present moment, and saying, 'How can a farmer thrive?' But there is a fallacy in this, and many of you will hold me out in saying that, notwithstanding the very low prices, the crop of this year is remunerating you very much better than the crop of the two former years did. Therefore the actual price is not a fair criterion of the profit which the farmer is making. But again, if you turn to the remunerating prices that the farmer is receiving for both beef and mutton, I need not recommend you to pursue the rearing of beef and mutton, but more especially the enlargement of your flocks of sheep to the utmost extent they are capable of receiving, because this I do believe is the great object we must look to hereafter as the staple commodity of our farms."

## Home Correspondence.

*Liebig on Sewerage.*—["C. L." sends to the *Times* the following translation of a letter received from Professor von Liebig:—]

"Munich, Jan. 9.

"Pray accept my best thanks for your continued interest in my lectures on theoretical and practical agriculture; they are being translated by Dr. Blyth of Cork, who has by this time nearly completed them. Since last week I have been lecturing on sewage; and I am firmly of opinion that if England wishes to remain an agricultural country she must use as manure the nightsoil and similar residues produced in large cities. This necessity would be increased in the event of a war with America, when the supplies of guano would cease. The price of corn depends upon that of guano, and it is most unnatural that, in a country like England, the production of corn and meat should be so dependent on the supplies of foreign manure. The heads of even the most enlightened agriculturists have been turned by a theory propounded by Mr. Lawes, viz., that nitrogen or ammonia are the most necessary ingredients in manure, and that consequently solid excrements are valueless, the urine alone being of use. These views expose utter ignorance, and prove that in England leading agriculturists do not pay sufficient attention to the fundamental principles of chemistry. It is difficult, nay, perhaps impossible, at this moment to convince them of their error. I have tried to do so in my Letters on Chemistry I have just published, and I shall feel most grateful to you, as well as to all who, like yourself, take an interest in the welfare of their country, for any assistance that may be rendered me in propagating this great truth. *Justus von Liebig.*"

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All orders for Seeds above 1*l.* forwarded free to any Stations between Plymouth and Paddington. All orders above 2*l.*, free very free bearer, 1*s.* 6*d.* per packet.

DIXON'S EARLY DWARF INCOMPARABLE CELERY, a very dwarf variety, cannot be excelled for firmness, flavour, and crispness; keeps in perfection longer than any other; 1*s.* per packet.

DUNNETT'S FIRST EARLY PEA, the earliest, 2*s.* 6*d.* per qt.

MELONS.—The following sorts 6*d.* per packet, or six varieties for 2*s.*, post free:—Seymour's Golden Perfection, Seymour's Golden Prince, Beechwood, Marshal Pelissier, Netted Egyptian Green-fleshed, Trentham Hybrid, Golden Drop, Bailey's Green-fleshed, Black Rock, Robinson's Scarlet Cantaloupe, Greek Green-fleshed, Sir Gore Ouseley's, Holme Hall.

PETURION GOURD, 1*s.* per packet.

Seed Establishment, 57, Queen Street, Hull.

## IMPORTANT TO PLANTERS.

ENGLISH YEWS.—The Subscribers having many Thousands of fine bushy well-grown Plants, with excellent roots, can offer them at the following unprecedented low prices, for Cash only :—

| | | | | | |
|---|---|---|---|---|---|
| 2½ to 3 feet extra transplanted | 30s. | per 100, | £10 | 10 | per 1000. |
| 3 to 4 feet ,, ,, | 45s. | ,, | 20 | 0 | ,, |
| 4 to 5 feet ,, ,, | 63s. | ,, | 30 | 0 | ,, |

Also a fine Stock of unusually well-grown Cedrus Deodara (from seed), Cedrus Libani, Juniperus sinensis, and other Coniferæ.

DESCRIPTIVE CATALOGUES sent gratis and post paid on application to RICHARD BRADLEY & SON, Halam Nursery, near Southwell, Notts.

## TO NOBLEMEN, GENTLEMEN, PUBLIC COMPANIES, AND OTHERS ENGAGED IN PLANTING.

JOHN WATERER having a very great quantity of the undernamed desirable PLANTS in excellent condition (from frequent removal) for transplanting, offers them at a very reduced scale of charges.

*** Intending Planters having the object of immediate effect in view are respectfully informed that in selecting specimens for such purposes they would find a visit of inspection amply repaid, it being our determination to treat on the most liberal terms.

The Nursery is easily reached, being a short distance from Sunningdale Station, South-Western Railway (Reading Branch), where excellent conveyances meet all trains.

Wellingtonia gigantea, handsome plants, about 1 foot, 15*l.* per 100 ; 1 to 1½ foot, 5*s.* each or 20*l.* per 100 ; 1½ to 2 feet, 10*s.* 6*d.* to 21*s.* each ; larger, up to 5 and 7 feet

Araucaria imbricata, 2 to 3 feet, 10*s.* 6*d.* each ; 3 to 4 feet, 21*s.* to 31*s.* 6*d.* each ; large beautiful specimens, up to 9 feet

Thuja aurea, good plants, 10*l.* per 100 ; about 15 inches, very globular handsome plants, 42*s.* per dozen, or 15*l.* per 100 ; 1½ to 2 feet, 5*s.* to 7*s.* 6*d.* each, or 20*l.* per 100 ; larger, 2 to 3, and 4 to 5 feet

Thuja gigantea, 1 to 1½ foot, 5*s.* to 7*s.* 6*d.* each ; 1½ to 2 feet, 10*s.* 6*d.* each ; 2 to 3 feet, 21*s.* each ; large handsome plants, 3 to 4, and 5 to 8 feet

Thuja chilensis, 2 to 3 feet, 3*s.* 6*d.* each ; 3 to 4 and 5 feet, 5*s.* to 7*s.* 6*d.* each

Cedrus Deodara, 3 to 4 feet, 5*s.* each, or 20*l.* per 100 ; 4 to 5 to 6 feet, 7*s.* 6*d.* to 10*s.* 6*d.* each ; 6 to 8, 10, and 12 to 18 feet

Cedrus Libani, 4 to 5 feet, 5*s.* to 7*s.* 6*d.* each ; 5 to 6, 7, and 8 to 10 feet

Cupressus macrocarpa, 2 to 3 feet, 30*s.* per dozen ; 3 to 4 feet, 3*s.* 6*d.* each ; 4 to 5 feet, 5*s.* each

Cryptomeria japonica, 4 to 6 feet, 5*s.* ; 20*l.* per 100 ; 6 to 8, 10 to 15 feet

Cryptomeria japonica viridis, 3 to 4 feet, 5*s.* each ; 4 to 6 feet, 7*s.* 6*d.* each

Juniperus hibernica, 2 to 3 feet, 24*s.* per dozen, or 7*l.* 10*s.* per 100 ; 3 to 4 feet, 42*s.* per dozen, or 12*l.* 10*s.* per 100 ; 4 to 6, 8 to 10 feet

Juniperus chinensis, 3 to 4 feet, 5*s.* each ; 4 to 5 feet, 7*s.* 6*d.* each ; larger, 5 to 7 and 8 feet

Juniperus virginiana (Red Cedar), 2 to 3 feet, 5*l.* per 100

Thujopsis borealis, about 1½ foot, 42*s.* per dozen, or 15*l.* per 100 ; larger, 2 to 3 feet

Cephalotaxus Fortuni, 1 to 2 feet, 5*s.* to 7*s.* 6*d.* each ; larger, 2 to 3, and 4 feet

Taxus hibernica, 2 to 3 feet, 24*s.* per dozen, or 7*l.* 10*s.* per 100 ; 3 to 4 feet, 3*s.* 6*d.* each ; 4 to 5 feet, 5*s.* ; larger, 5 to 10 feet, all trained to a single stem

FitzRoya patagonica, 3 to 4 ft., 42*s.* per doz. ; 4 to 5 ft., 5*s.* each

Pinus Beardsleyana, 1 to 1½ foot, 5*s.* each ; 2 to 3 feet
,, Benthamiana, 3 to 4 feet, 7*s.* 6*d.* each
,, canadensis, 4 to 6 feet, 3*s.* 6*d.* each
,, Cembra, 2 to 3 feet, 3*s.* 6*d.* each ; 3 to 4 feet, 5*s.* each ; large, 4 to 6 and 8 feet
,, Craigiana (new), 1 to 1½ foot, 3*s.* 6*d.* each ; 1½ to 2 feet, 5*s.*
,, Douglasi, 1 to 1½ foot, 30*s.* per dozen, or 10*l.* per 100 ; 2 to 3 feet, 42*s.* per dozen, or 15*l.* per 100 ; 3 to 5 feet, 5*s.* each ; 5 to 6, and 8 to 15 feet
,, excelsa, 1½ to 2 feet, 12*s.* per dozen, or 50*s.* per 100
,, insignis, 1½ to 2 feet, 10*l.* per 100 ; 2 to 3 feet, 3*s.* 6*d.*, or 15*l.* per 100 ; 3 to 4 feet, 5*s.*, or 20*l.* per 100 ; 4 to 6 feet, very fine
,, Jefferyana, 1 to 1½ foot, 5*s.* each ; 1½ to 2 feet, 7*s.* 6*d.* (A new species allied to Benthamiana but more distinct, and reported to be the most handsome and valuable of the long-leaved Californian Conifers.)
,, Lambertiana, 2 to 3 feet, 7*s.* 6*d.* each ; 3*l.* 10*s.* per dozen ; large, 3 to 4 and 5 to 12 feet
,, Nordmanniana, small plants, 15*l.* per 100 ; about 1 foot, 10*s.* 6*d.* each ; 1 to 1½ ft , 21*s.* each ; 1½ to 2 ft., 42*s.* each ; 2 to 3 feet, 63*s.* to 84*s.* each ; 3 to 4 and 5 feet, perfect specimens
,, Pinsapo, 1 to 1½ foot, 5*s.* each ; 1½ to 2 feet, 7*s.* 6*d.* each ; large, 2 to 4, 6 to 8 feet
,, ponderosa, 1½ to 2 feet, 5*s.* each
,, Sabiniana, 3 to 4 feet, 5*s.* each
,, taxifolia (Jeffery), 1½ to 2 feet, 10*s.* each

(With the single exception of Pinus Lambertiana, the whole of the above are Seedlings.)

ROSES.—Select Perpetual and Bourbon, do. varieties, Standards, 4*l.* 4*s.* per 100 ; do. Dwarfs, 2*l.* 10*s.* per 100

RHODODENDRONS, of all the superior kinds of scarlet, crimson, rose, white, &c , such as are annually displayed by us at the Great Exhibition of American Plants at the Royal Botanic Gardens, Regent's Park, London, in good plants, 42*s.* to 63*s.* per dozen
,, Fine varieties, for extensive planting, 24*s.* to 30*s.* per doz.
,, Catawbiense and mixed Hybrids, good plants, 1½ to 2 feet, 7*l.* 10*s.* per 100
,, Standards of the superior crimson varieties, good plants, 42*s.* to 63*s.*, to 105*s.* each
,, ponticum (the only evergreen that entirely escapes the ravages of hares and rabbits), good plants, fit for immediate planting into woods for cover, 7*l.* 10*s.* per 1000 ; extra strong, 21*s.* to 25*s.* and 30*s.* per 100
,, Dwarf-growing varieties, 4*l.* 4*s.* to 5*l.* per 100

AZALEAS, good common kinds, consisting of scarlet, pink yellow, &c., and for extensive planting, in good plants, 50*s.* per 100
,, superior, 12*s.*, 18*s.*, to 24*s.* per doz., or 3*l.* to 7*l.* 10*s.* p. 100
,, Standard, in fine sorts, 42*s.* each

KALMIA LATIFOLIA, 1 to 1½ foot, covered with bloom buds, 5*l.* per 100 ; larger, 18*s.* to 30*s.* per dozen
,, MYRTIFOLIA, fine plants, 30*s.* to 60*s.* per dozen (a superior kind to latifolia).

HARDY HEATHS.—A collection of 25 distinct kinds, 30*s.* per 100, or 12*l.* 10*s.* per 1000

Transplanted FOREST TREES, of which about 100,000 of each are in hand. We shall have great pleasure in forwarding samples on application.

| | |
|---|---|
| Ash, 2 to 3 and 4 feet | Beech, 2 to 3 feet |
| Hazel, 2 to 3, and 4 to 5 feet | Birch, 2 to 3 and 4 feet |
| Chesnut, Spanish, 2 to 3, and 4 to 6 feet | Larch, 2 to 3 and 4 feet |
| | Scotch, 1½ to 2 feet |

A large quantity of bushy COMMON LAURELS, 2 to 3, & 4 ft.

Also the commoner kinds of Evergreens, such as HOLLIES, of kinds ; BAYS, ARBUTUS, PHILLYREA, AUCUBA, PORTUGAL LAURELS, &c.

CATALOGUES containing descriptions of everything relating to Rhododendrons and Conifers forwarded on application to JOHN WATERER, American Nursery, Bagshot, Surrey.

FRANCIS & ARTHUR DICKSON & SONS, SEED MERCHANTS and NURSERYMEN, respectfully announce that their CATALOGUE OF KITCHEN GARDEN AND FLOWER SEEDS FOR 1859, including a List of Garden Implements and other requisites, is published, and will be forwarded post free on application.

The whole of their Seeds having been carefully saved from *select* Stocks, and being all the growth of 1858, they can *guarantee* them to be *true* to name and of the most *genuine* description.

They beg to direct particular attention to the following novelties, all of which they believe to be *valuable acquisitions* to their respective classes.

PEA, DICKSON'S EARLY FAVOURITE.—Pronounced by all who have grown it to be the best Second Early Pea in cultivation. See Advertisement in *Gardeners' Chronicle*, Jan. 9, 1859. Price 1*s.* 6*d.* per quart.

PEA, CHAMPION OF SCOTLAND.—2*s.* 6*d.* per quart.

BEET, DICKSON'S DWARF-TOP BLACK.—Highly recommended. 6*d.* per packet or 1*s.* per oz.

BROCCOLI, FROGMORE PROTECTING.—A much superior variety to "Knight's Protecting." 2*s.* 6*d.* per packet.

BROCCOLI, SNOW'S SUPERB WINTER (TRUE), direct from Mr. Snow.—1*s.* 6*d.* and 2*s.* 6*d.* per packet.

CABBAGE, ESSEX CHAMPION.—6*d.* per pkt. ; 1*s.* per oz.

CAULIFLOWER, LEONORMAND'S.—2*s.* 6*d.* per packet.

CAULIFLOWER, EARLY PARIS.—1*s.* per packet, or 3*s.* 6*d.* per ounce.

CELERY, INCOMPARABLE DWARF WHITE.—1*s.* per packet.

CUCUMBER, COPPACK'S SEEDLING.—1*s.* and 2*s.* per pkt.

LETTUCE, DICKSON'S NEW HARDY WINTER CABBAGE.—The best winter Lettuce in cultivation. 1*s.* per packet.

LETTUCE, DICKSON'S CHAMPION COS.—Perhaps the largest Cos Lettuce in cultivation, and of first-rate quality. 1*s.* per packet.

☞ The whole of the above are *fully described* in the *Gardeners' Chronicle* of January 15, 1859.

### CARRIAGE OF SEEDS.

*** It is now a common practice to advertise Seeds "carriage paid." However *tempting* this may appear at first sight, it is *evident* that the cost of carriage *must* be charged indirectly *on the price* of the Seeds.

F. & A. DICKSON & SONS prefer sending out really superior Seeds at *strictly moderate* prices (without paying carriage), and are convinced that they will be found more satisfactory in every way, as well as *cheaper* in the end.

F. & A. D. & SONS have however special arrangements with the various Railway Companies for the *cheap* and *quick* conveyance of all goods, and will be happy to prepay the carriage, when desired, charging cost of same to account.

106, EASTGATE STREET, CHESTER.

MESSRS. WATERER AND GODFREY respectfully invite the attention of parties engaged in planting to the following list of very desirable plants, all of which may be seen growing in the open quarters of their Nursery, and are in the finest possible condition for transplanting :—

Araucaria imbricata, 9 to 12 inches, 5*l.* per 100 ; 40*l.* per 1000
,, ,, 1½, 2, 3, 4, 5, 6, and 8 feet high. Our stock of this plant exceeds 100,000

Wellingtonia gigantea, stout handsome plants from seed, 84*s.* per dozen ; 25*l.* per 100. These are all in the open ground, and are believed to be the finest lot of seedling plants in the Trade.

Cedrus Deodara, 1½ to 2 feet, 18*s.* per dozen ; 6*l.* per 100

Do. 3, 4, 5, 6, 7, 8, 10 and 12, and 15 feet. Our stock of Deodars at the present moment occupies several acres of land ; they have been constantly removed, and with fair usage not one in a thousand would fail. We offer them on very advantageous terms either in large or small quantities

Cedrus atlantica, 4, 5, 6, and 7 feet

Cupressus macrocarpa, magnificent plants, 7, 8, and 10 feet high
,, Lawsoniana, stout handsome plants from seed, 18 inches, by the dozen or 100

Abies nobilis, from imported seed, 6*l.* 6*s.* per doz. ; 40*l.* per 100
,, do. 1, 2, and 3 feet high
,, Nordmanniana, a large number of beautiful plants, all from seed, 2, 3, 4, 5, and 6 feet high
,, Pinsapo, do. do.

[We believe we are justified in stating our stock of the three last-mentioned Firs offers a selection to be met with in no other Nursery.]

,, Douglasi, 6, 7, 10, and 12 feet
,, orientalis, 3, 4, 5, and 6 feet

Pinus Benthamiana, stout seedling plants, about 1 foot, 18*s.* per dozen ; 5*l.* per 100 ; 40*l.* per 1000. Unquestionably the finest of all the long-leaved Californian kinds, and well known to be perfectly hardy. It is the most valuable of all for timber.

Juniper, Chinese, 2, 3, 5, 7, 8, and 10 feet high
Irish Upright, 3, 4, 5, 6, 7, and 8 feet The Irish and Chinese Junipers are grown by us to a very large extent

Thuja aurea.—This plant originated in our Nursery, and our stock of it offers a choice of many hundred specimens from 1½, 2, 3, 4, and 5 feet high, and measuring from 2 to 10 and 15 feet in circumference. Nothing can well exceed the beauty of these plants, and certainly are to be met with in no other Nursery

Thuja gigantea, stout seedling plants, 1½ to 2 feet high
,, Wareana, 3, 4, 5, 6, 7, and 8 feet

Thujopsis borealis, handsome plants, in quantity, 1½ & 2 ft. high

Taxus, Yew, Common English.—A large quantity, and of all sizes up to 5, 6, and 7 feet
,, Irish Yew, 4, 5, 6, 7, and 10 feet. Many thousands of these beautifully formed plants grown to one stem
,, Golden Yews in large quantities and of all sizes up to 6, 7, and 8 feet

We also have them worked on the Common and Irish Yew as Standards, with heads from 12 to 15 years' growth

Holly, Variegated, Scottica, laurifolia, &c. We hold probably the largest stock of good sized variegated Hollies in the kingdom, especially of the better kinds of silver and gold striped

Rhododendron ponticum, for cover, stout plants, 1½ to 2½ feet, by the 1000. All the well-known proved hardy late blooming kinds, in any quantity, at from 30*s.*, 42*s.*, to 84*s.* per dozen

Standard Rhododendrons of all kinds

Azaleas, stout bushy plants, covered with bloom buds, from 18 inches to 2 feet high, and of all colours, 9*s.*, 12*s.*, 18*s.*, and 24*s.* per dozen ; 50*s.*, 75*s.*, to 100*s.* per 100

Hardy Heaths, a first-rate collection, at 35*s.* per 100 ; 15*l.* p. 1000

Roses, fine Standards, of the most popular kinds, at very low prices.

As well as the above, we are very large holders of the ordinary kinds of Nursery Stock, which may be judged from the fact that the Nursery far exceeds 100 acres in extent of all such things as Laurels, Box, Lilacs, Limes, Purple Beech, and the commoner descriptions of Evergreens and Deciduous Flowering Shrubs. An enormous stock of Fruit and Forest Trees are also grown extensively.

Goods are delivered free to London, Reading, or Reigate. The Nursery is reached in an hour from Waterloo, and conveyances are always to be had at the Woking Station.

CATALOGUES, Priced and Descriptive, will be sent on application, enclosing one postage stamp, to

WATERER AND GODFREY, Knap Hill, Woking, Surrey.

## TO THE TRADE.

WOOD AND INGRAM beg to offer the articles which they have of extra fine grown STANDARD, DWARF, AND TRAINED CHERRIES the best sorts.

OAKS, 1 and 2 year seedling, 2 to 3, and 3 to 4 feet
,, Evergreens, 1 year seedling.
,, Turkey, 1 year ditto.
SYCAMORE, 1 year ditto.
WHITETHORN, 2 year ditto.
ELM, narrow-leaved English, 1 year ditto.
CHESNUT, Spanish, 3 to 4, 4 to 5, and 5 to 7 feet
FIR, Scotch, 1½ to 2, 2 to 2½, and 3 feet.
HAZELS, 2 to 3, and 3 to 4 feet.
POPLAR, Black Italian, 3 to 4, 4 to 5, and 5 to 6 feet
,, Lombardy, 4 to 5, 5 to 6, and 7 to 8 feet
BOX, sorts, 2 to 3, and 3 to 4 feet.
LAURELS, 1 year bedded.

Prices on application.—Huntingdon Nurseries.

ROSES.—The following varieties can be true to name ; they are all of the most and will give satisfaction to all purchasers :—

Plants on stems, 1½ to 2½ feet in height, 1*s.* each When three or more of a sort taken, 9*s.* per doz 100. Dwarfs (worked), 10*s.* per doz., 60*s.* per 100 or more of a sort taken, 8*s.* per doz., or 50*s.* per chaser's selection.

HYBRID PERPETUALS.—Alexandrine Bachmet de Sansal, Auguste Mie, Baronne de Heckeren Hallez, Baronne Laray, Baronne Prevost, Belle Berceau Imperial, Caroline de Sansal, Colonel Colonel Rougemont, Comte de Durois, Deuil moz, Dr. Marx, Duc d'Aumale, Duchesse de Duchesse de Montpensier, Duchesse d'Orleans of Sutherland, Emperor Napoleon, Eugène des Batailles, General Brea, General Castellane Jacqueminot, General Pelissier, General Simpson d'Arc, Joseph Decaisne, Jules Margottin, Le Peel, Lady Stuart, La Reine, Laure Ramand, Le Mont Carmel, Le Lion des Combats, Lord Peyronny, Lucie de Barante, Madame Andry Campbell d' Islay, Madame de Mansel, Madame Boll Madame Domage, Madame Ducher, Madame Madame Guillot, Madame Hector Jacquin, Madame Madame Knoor, Madame Lamoricière, Madame Madame Phelip, Madame Place, Madame Rivers Regnier, Panaché d'Orleans, Paul Dupuy, Pius II Chipetouzikoff, Prince Imperial, Prince Leon, Fleurs, Reine Mathilde, Robert, Robin Hood, Franklin, Souvenir de la Reine d'Angleterre, Leveson Gower, Standard of Marengo, Standard of Triomphe de L'Exposition, Triomphe de Paris, Victor William Griffiths.

BOURBONS.—Bouquet de Flore, Comice de Seine Edouard Desfosses, George Cuvier, Louise Odier, Mme Joseph, Paxton, Queen Reveil, Scipion, Souvenir Malmaison.

TEA-SCENTED CHINA.—Gloire de Dijon, half only ; Isabella Grey, half standards, 2*s.* each.

HYBRID BOURBON.—Charles Lawson, Comte Paul Ricaut.

PERPETUAL MOSS.—Alfred de Dalmas, bicolor, White, Salet.

Named Climbing Roses, 6*s.* per doz. Summer Roses most superior varieties. Many other both old and ties can be supplied.

DESCRIPTIVE CATALOGUES sent gratis and post application to RICHARD BRADLEY & SON, Halam Nurseries Southwell, Notts,

P.S. A satisfactory reference or a remittance must pany all orders from unknown correspondents.

REIGATE SILVER SAND, best quality for 16*s.* per ton ; less quantities, 1*s.* 6*d.* per bushel ; to any London Wharf or Railway. Leaf Mould. Loam of various kinds, in large or small quantities. Sand 1*s.* 9*d.* each, on hire 6*d.* each (five hold a ton). KENNARD, Purveyor to her Majesty, Swan Place, Road, S.E.

FLOUR, Warranted Unadulterated, free to of London (not less than 14 lbs.) ; Whites, for per bushel (56 lbs.), 8*s.* 4*d.* ; households, for bread-making seconds, 7*s.* 0*d.* ; Wheatmeal, for brown bread, 7*s.* fine and coarse Scotch Oatmeal.—Address, HORSNAIL POOL, Bullford Mill, near Witham, Essex, or 97, Goswell City Road, E.C. Directions for bread making gratis. cash. Bags lent. German yeast. A half sack (14 upwards, free to any railway station within 200 miles.

TOBACCO PAPER OR CLOTH.—To NURSERYMEN GENUINE TOBACCO PAPER OR CLOTH per lb. to be had of G. DARLINGTON, Tobacco Co Wellington Place, Warner Place, Hackney Road, Lon orders to be accompanied with a Post-office Order, GEORGE DARLINGTON, Hackney Road, London.

GENUINE TOBACCO PAPER FOR FUMIGATING

H. APPLEBY (Foreman to Messrs. Ivery Nurserymen, Dorking, Surrey), begs to friends and the public that he now offers the above reduced price. Sold in 4-lb. packets, 1*s.* 3*d.* per lb. reduction to the trade ; price on application. For test that will guarantee its quality, see *Gardeners' Chronicle*, 1858, page 920.

SHEET IRON POTS FOR FUMIGATING, 3*s.* 6*d.*

N.B. All Orders to be accompanied with a Post-office payable to HENRY APPLEBY, Dorking, Surrey.

TO PIG AND POULTRY FEEDERS AND MILLERS

CHICKEN RICE, 7*s.* 6*d.* per cwt., in bags each. SCREENED RICE, 10*s.* per cwt., in bags each. RICE MEAL, 6*s.* 9*d.* to 8*s.* 9*d.* per cwt. grinding. An allowance per Ton.—Sold for Cash by JUPP, 6, Cross Lane, St. Mary-at-Hill, Eastcheap, E.C.

PATENT GUTTA PERCHA SOLES.—TO GARDENERS.—The Gutta Percha Company pleasure to acknowledge the receipt of the following G. GLENNY, Esq., the celebrated Florist :—

"420, Strand, London

"Gentlemen,—I have worn Gutta Percha Soles these two years, and being so much in a garden sarily am in all weathers, and with the ground in would on no account be without them. As a matter I would recommend Gardeners to use them, for repair the worn part at all times by warming the the fire, and pressing it from the thick parts to the as easily as if it were so much dough. I think it the persons who must occasionally wet their feet to adopt that completely defies damp. Many a gardener would colds and rheumatism by the use of Gutta Percha Soles

"Your obedient servant,

G. GLENNY."

Every variety of Gutta Percha articles, such as Tubing, Soles, Goloshes, Sheet, Pump Buckets, Fire Bosses, Union Joints, Flasks, Bottles, Bowls, Chamber Toilet Trays, Sponge Bags, Curtain Rings, Galvanic Talbotype Trays, &c., manufactured by the Gutta Company, and sold by their wholesale dealers in country.—The Gutta Percha Company, Patentees, 18 Road, City Road, London.

# WEEKS' ONE BOILER SYSTEM.

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## LARGEST HORTICULTURAL ESTABLISHMENT IN EUROPE

IS NOW SUCCESSFULLY HEATED BY

## JOHN WEEKS & CO. on their One Boiler System.

EVERY YEAR FURNISHES NUMEROUS ADDITIONAL PROOFS of the success and efficiency of J. WEEKS & Co.'s Hot-water Apparatus. Within the last few years upwards of 1000 have been erected, all of which are working most satisfactorily. Among the most important, J. WEEKS & Co. have the honour to announce Mr. LOUIS VAN HOUTTE, of Ghent. The whole of his immense Establishment is now effectually and most satisfactorily heated on WEEKS' ONE BOILER SYSTEM. This may be justly termed the masterpiece of the world in the science of Heating by Hot Water.

Also at the extensive Nursery of Mr. CHARLES WOODROFFE, Kensal Green, Harrow Road. Mr. Woodroffe will be happy to show the Apparatus.

J. WEEKS & Co. also beg to refer to the celebrated Nurseries of the Messrs E. G. HENDERSON & SON, St. John's Wood. There will be found ONE OF WEEKS' BOILERS attached to various Hothouses, &c., equal to 1200 feet long, also to all the various Offices, Seed Shops, and Warehouses, the Hot Water circulating through 5500 feet of cast-iron pipe. Any one house can be heated separately either with top or bottom heat, or the whole together, or any part regulated at pleasure; also to Messrs. F. & A. SMITH'S Village of Glass at Dulwich. There will be found Hothouses, &c., 3000 feet long, the whole heated upon WEEKS' ONE BOILER SYSTEM, the Hot Water circulating through 10,000 feet of cast-iron pipe.

J. WEEKS & Co. further beg particular attention to their own HORTICULTURAL ESTABLISHMENT AT CHELSEA, the whole of which is reserved expressly for reference, and to exhibit all modern improvements in Horticultural Building and Heating by Hot Water. These extensive ranges of Hothouses, together with the renowned Winter Garden, the whole equal to a range 1300 feet long, are now being managed as a FRUIT FORCING ESTABLISHMENT; and in future Pines, Grapes, Peaches, Figs, &c., will be forced early and in succession throughout the year. This will prove the great power of J. WEEKS & Co.'s Hot-Water Apparatus, and also the economy of the ONE BOILER SYSTEM.

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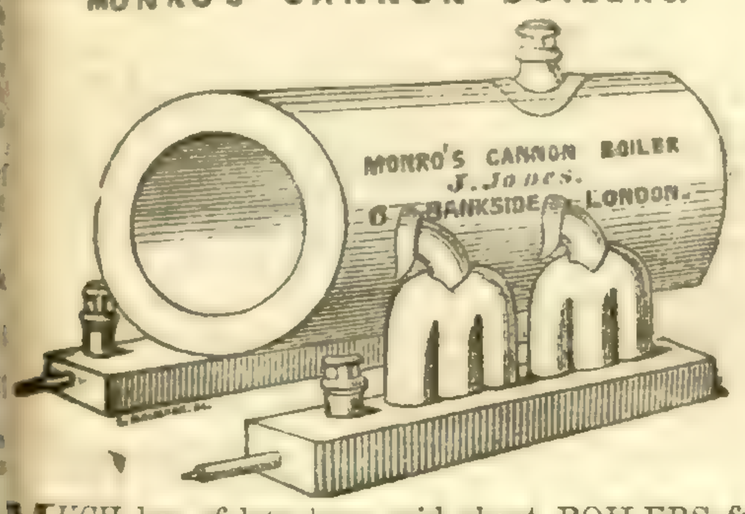
### MONRO'S CANNON BOILERS.




MUCH has of late been said about BOILERS for Heating by Hot Water, but these Boilers have now proved themselves to be the best at present invented. They are adapted for heating every description of building, and are made of various sizes. The Price of the

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|---|---|---|---|---|
| 24 inch Cast Iron is | .. | .. | £5 10s. 0d. | each |
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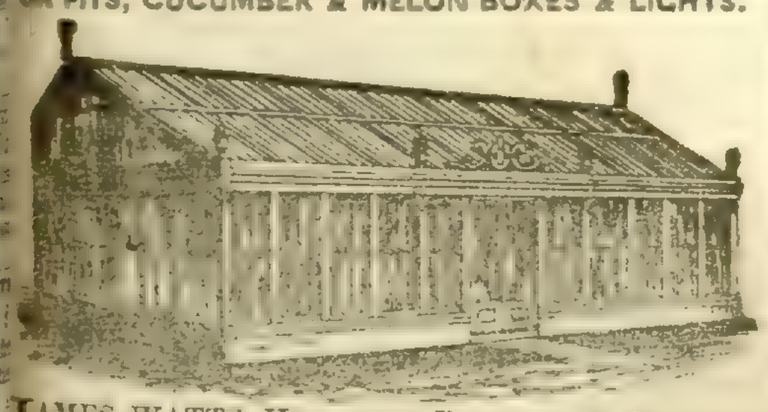
| 36 inch Cast ditto | .. | .. | 8 0 0 | ,, |
| 36 inch Wrought ditto | .. | .. | 8 10 0 | ,, |

References to Gentlemen and Nurserymen where these Boilers are now at work. The Cannon Boilers are now kept in stock, and are to be had only of J. JONES, 6, Bankside. Also, every description of Saddle and Cylinder Boilers. Hot Water Pipes and Connections at prices lower than those of any other House in London. Estimates for Hot-water Apparatus erected complete in any part of the country, and an Illustrated Catalogue on application to J. JONES, 6, Bankside, Southwark, London.

### HOTHOUSES, CONSERVATORIES, FRAMES & LIGHTS FOR PITS, CUCUMBER & MELON BOXES & LIGHTS.



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Green and Hothouses, 9, 10, 11, 12, 13, and 14 feet wide, any length, from 16 to 100 feet. Frames and Lights for Pits, 6ft. 6 in., 7 ft 6 in., 8 ft, and 8 ft. 6 in. wide, any length, from 12 to 20 feet. Upwards of 200 Cucumber and Melon Boxes and Lights, from 4 ft. by 3 to 10 ft. 6 in. by 5 ft. 6 in., kept ready, glazed with stout sheet glass, painted four times, complete, ready for immediate use, all made of best material, packed and sent to all parts of the kingdom.—References may be had to the Nobility, Gentry, and the Trade in most of the counties in England. Horticultural Buildings of every description heated on the most approved and economical principles.

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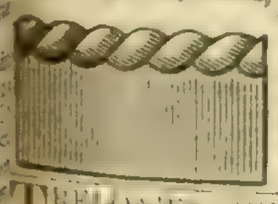
LOOMES AND CO., Whittlesea, MANUFACTURERS OF BRICKS, TILES, POTTERY, &c., beg to call attention to their new CABLE PATTERN GARDEN BORDER EDGING, which not only surpasses others in appearance and durability, but is free from the dangerous points and sharp edges of most.—Price, delivered on any Railway at Peterborough, 5*d*. per yard.



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SHAW'S TIFFANY.—The best and cheapest material for Shading Conservatories, Protecting Fruit from Birds and Wasps, &c. Sold in pieces 20 yards long by 36 inches wide. No. 1, best quality, 5*s*. per piece; second quality, 4*s*. per piece. Extra strong and thick (see Circular sent free by post with samples).

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Any such work ordered IMMEDIATELY might be ready for fixing in March, so as to be well settled by the time for planting.—3 71 to 375, Euston Road.

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### TO HORTICULTURISTS.

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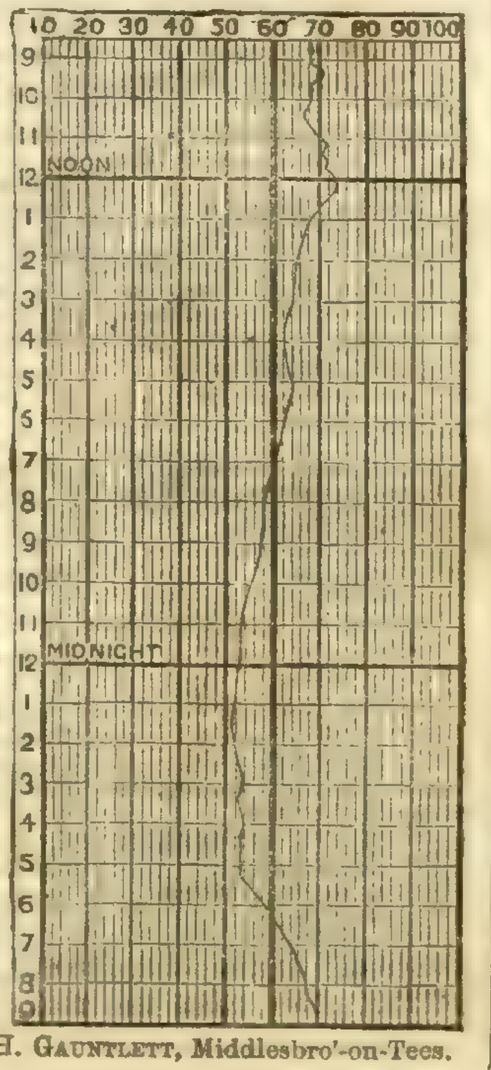
This instrument, which combines an eight-day clock of the best English make showing time, with a newly-patented Thermometer, wherein glass and quicksilver are dispensed with, writes down the temperature of the atmosphere on a slip of paper, and when placed in a Hothouse, Forcing House, or Conservatory, &c., supplies a valuable record of the temperature, with all its variations, showing the time when any change took place, and how long such change continued.

The above slip (reduced in size) exhibits the temperature of the Royal Agricultural Society's show yard at Chester, July 22, 1858, written off by one of these instruments, to which was awarded the Society's SILVER MEDAL.

**This is the only** instrument that registers temperature **continuously** and writes it down, and no horticulturist should be without it.

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HORTICULTURAL WORKS,
DANVERS STREET, CHELSEA, SEPTEMBER, 1857.
DISSOLUTION OF PARTNERSHIP.

MR. GRAY begs most respectfully to announce to his patrons and friends that the Partnership hitherto existing between Mr. ORMSON and himself is now at an end, and that the Business will be carried on by him as usual, and he hopes to be honoured with a continuance of that support and patronage with which this establishment has been so long favoured.

Mr. GRAY avails himself of this opportunity to tender his grateful thanks to the many kind friends and supporters by whose patronage this establishment has been raised to its present position, and he begs to assure them that it will be his most anxious care and study to maintain it.

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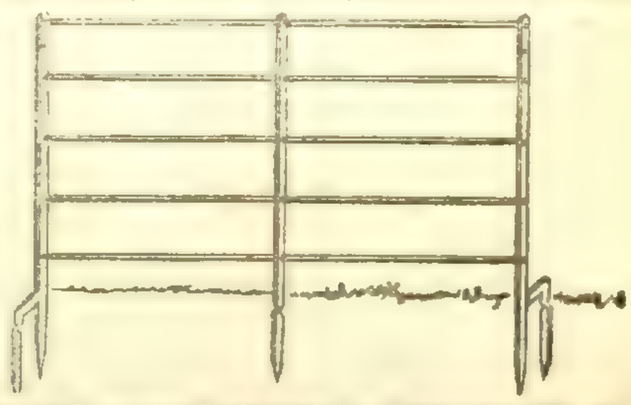

COTTAM AND COMPANY, of Winsley Street, have invented machinery for making Hurdles, &c.; the bars, instead of being pointed by hand in the old fashioned style, are nipped down by the machine, leaving a shoulder so as to more effectually tighten the standards when rivetted. They are made of superior iron only, and will compete in price with those made by hand from cinder or common iron which so frequently break. Iron Fencing, Gates, and Iron Work of all kinds, both Plain and Ornamental, Conservatories, Hot Water Apparatus and Garden Implements.

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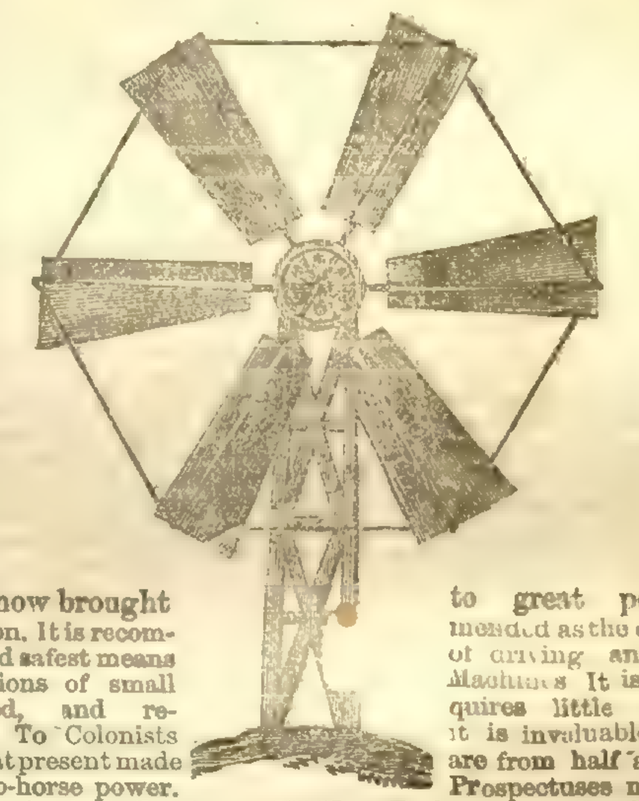
FOR PUMPING, OAT CRUSHING, GRINDING, CHAFF CUTTING, &c.



IS now brought to great perfection. It is recommended as the cheapest and safest means of driving any descriptions of small Machines erected, and requires little attention. To Colonists it is invaluable. The sizes at present made are from half a horse to two-horse power. Prospectuses may be obtained of J. R. PEILL, 17, New Park Street, Southwark where a Wind Engine in full work can be inspected.

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Mr. GIBBS, giving his personal attention to the assorting of these seeds, assures his friends that every care is taken with regard to the proper proportions.

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| Elvethan Long Red | 0 10 | Yellow Belgian | 1 3 | Skirving's | 0 9 | Dickenson's Italian | 7 0 | White Dutch | 10d. to 1 0 | Lucerne | |
| Yellow Globe | 0 9 | Large Altringham | 1 6 | Matson's | 1 0 | Fine Imported do. | 7 0 | Trefoil | 4d. to 0 5 | Drumhead Cabbage | |
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# THE GARDENERS' CHRONICLE
AND
# AGRICULTURAL GAZETTE.

**A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.**

No. 5.—1859.] SATURDAY, JANUARY 29. {Price Fivepence. STAMPED EDITION, 6d.


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BRITISH POMOLOGICAL SOCIETY, ST JAMES'S HALL, 69—71, Regent Street.—The next Meetings for the Examination of FRUITS will be held on THURSDAYS, February 3 and March 3. For further particulars see last week's Paper, or apply to

WILLIAM DAVIDSON, Secretary.
2, Randolph Road, Maida Hill.

The following Premiums will be offered:—

Feb. 3.—2*l.* 2*s.* and 1*l.* 1*s.*, for the best and second best collections of Six varieties of Late Dessert Pears. (Open to growers only.)

March 3.—2*l.* 2*s.* and 1*l.* 1*s.*, for the best and second best collection of well-kept Apples and Pears, accompanied by careful descriptions of the manner in which they have been kept. (Open to growers only.)

ALEXANDER FORSYTH, LANDSCAPE GARDENER, 13, Islington Square, Salford, Manchester.

GRAPE VINES FROM EYES.

J. EATON has a few left, very strong and quite ripe, which he can recommend for Forcing; sorts, Black Hamburgh, Muscat Alexandria, and Sweetwater. Likewise a very fine stock of Vines, wood ripe, fit for bedding out. An early inspection is recommended.
Shacklewell Road, Stoke Newington, N.

GRAPE VINES FROM EYES.

R. GLENDINNING has this season a very large and extensive assortment of all the best kinds of GRAPE VINES. They comprise all the well known established varieties, as well as those recently sent out; the wood is ripened from 5 to 10 feet high. Those who intend planting Vines would do well to inspect this collection.
Chiswick Nursery, near London.—Jan. 29.

THE GREAT VINE AT HAMPTON COURT.

THE SUBSCRIBERS being the holders of the Royal Kitchen Gardens, Hampton Court, are enabled to offer genuine the famous and truly excellent HAMPTON COURT BLACK HAMBURGH GRAPE.

Strong well-ripened plants in 9-inch pots, 42*s.* and 60*s.* per doz.
" " fruiting plants in 12-inch pots, 10*s.* 6*d.* each.

If purchased in large numbers a considerable reduction will be made in price.—JACKSON & SON, Nurseries, Kingston, S.W.

ON SALE, or in EXCHANGE for VINES, about 200 PINE PLANTS, 1 and 2 years old.—Apply to Mr. J. HARGREAVES, High Street Gardens, Lancaster.

THE PLYMOUTH SEED, AGRICULTURAL IMPLEMENT, AND MANURE COMPANY (LIMITED) supply every requisite for the Farm and the Garden.
Registered Offices, Union Road, Plymouth.

DODECATHEON ELEGANS.

DOWNIE AND LAIRD have a large healthy stock of the above beautiful, hardy, herbaceous Plant, which they offer to the trade at 25*s.* per 100.
17, Frederick Street, Edinburgh.

YELLOW ROSES.—Madame William, orange yellow; Isabella Gray, golden yellow. Strong plants, fit for immediate forcing, 8*s.* 6*d.* the pair.
A. PAUL & SON, Nurseries, Cheshunt, Herts.

DESCARTES ROSE STOCKS.—The best Dwarf Rose Stock known is the cultivated ROSE DESCARTES, being proved nine years. Price 12*s.* per 100, with trade allowance. STANDARD MANETTIS, 9*s.* per 100; also fine tall LAURELS, with other EVERGREENS, SHRUBS, &c.—Apply to J. J. FOSTER, Edgware Nurseries.

PINE APPLES WANTED,
Forward "Immediately" to
GEORGE TAYLOR,
CHOICE FRUIT AND VEGETABLE SALESMAN,
St. John's Market, Liverpool.

EARLY CUCUMBER.

CARTER'S EARLY CHAMPION CUCUMBER, price 20*s.* per oz., to be had in any quantity of J. G. WAITE, Seed Establishment, 181, High Holborn, London, W.C.

CHAMPION CABBAGE can be had in any quantity at 2*s.* per lb.
J. G WAITE, Seed Establishment, 181, High Holborn, London.

NEW PERENNIAL SPINACH.—Mr. Poulter, Gardener to Lord Chesham, writes:—"This is one of the most valuable additions to the kitchen garden which we have had for years; no one who has a demand for Spinach should be without it." 1*s.* per packet.—The Royal Nurseries, Slough.

THE ROSEBERRY BRUSSELS SPROUTS.—"We never before saw any so fine. The stalks, 18 inches high, were literally studded with sprouts throughout their length, and many of the sprouts were as large as moderately-sized Apples."—*Cottage Gardener.* 1*s.* per packet.
Royal Nurseries, Slough.

PURCHASERS OF LARGE QUANTITIES OF GARDEN OR FARM SEEDS will be treated liberally on application to SUTTON & SONS, Royal Berkshire Seed Establishment, Reading.

CATALOGUE.

YOUELL AND CO'S GENERAL AND DESCRIPTIVE PRICED CATALOGUE for this season is now ready, and will be sent free on application.
It contains detailed Lists of Greenhouse Plants, Conifers, Shrubs, as well as all the newest introductions in Soft-wooded Plants.—Royal Nursery, Great Yarmouth.

KITCHEN GARDEN SEEDS.

JOHN CATTELL begs respectfully to announce that his CATALOGUE of the above may be had free by return of Post. It contains selections of the most approved culinary vegetables in cultivation, nearly the whole of them having been saved under J. C.'s own personal superintendence.—Nursery and Seed Establishment, Westerham, Kent.

JOHN GRIER'S NEW PRICED CATALOGUE, with brief descriptive and cultural remarks of a selection of TREES, SHRUBS, and PLANTS, may be had upon application by enclosing One Stamp for Postage.—Waterhead Nursery, Ambleside, Jan. 29.

WILLIAM YOUNG'S DESCRIPTIVE CATALOGUE OF NEW HARDY ORNAMENTAL PLANTS, CONIFERÆ, ROSES, RHODODENDRONS, FOREST TREES, &c. Can be had on application.—Milford Nurseries, Godalming.

GEORGE BAKER begs to inform the Nobility and Public that his DESCRIPTIVE CATALOGUE OF AMERICAN PLANTS AND GENERAL NURSERY STOCK will be sent free on application.
American Nursery, Windlesham, near Bagshot, Surrey, about 1 mile from Sunningdale Station, South Western Railway.

GEORGE JACKMAN AND SON'S PRICED and DESCRIPTIVE CATALOGUE of GENERAL NURSERY STOCK for 1858 and 1859 can be had free on application.
Woking Nursery, Woking, Surrey.

JAMES LOTHIAN respectfully intimates that his ANNUAL LIST OF VEGETABLE, FLOWER, AND AGRICULTURAL SEEDS for 1859 is now ready, and will be forwarded upon application.—Campbellton, Argyleshire.

NEW CHRYSANTHEMUMS.

JOHN SALTER begs to inform the numerous applicants for his NEW CATALOGUE OF CHRYSANTHEMUMS that it will be published in February, in which his splendid Seedlings and other new varieties for 1859 will be fully described, as well as his unrivalled general collection, which is the largest in Europe.—Versailles Nursery, William Street, near Hammersmith Turnpike, W.

MESSRS. B. ROEZL AND CO.'S CATALOGUE OF MEXICAN SEEDS AND PLANTS to be had on application to Messrs. B. A. GRAUTOFF & Co., 4, Lime Street Square, London.

CHOICE NEW GLADIOLI.

CHARLES ALEXANDER, 30, West Register Street, Edinburgh, has a fine STOCK of the above from France and Holland.—Descriptive Priced Lists free on application.

GOLDEN CHAIN GERANIUMS.

WILLIAM HUSSEY begs to offer the above at 4*s.* per dozen, or 30*s.* per 100. Also several thousand seedling HOLLYHOCKS, raised from a fine named Collection, at 2*s.* per dozen, or 12*s.* per 100.—Horticultural Gardens, Norwich.

LANCASHIRE SHOW GOOSEBERRIES.—Two selected varieties, the heaviest and finest flavoured from our unrivalled stock, 6*s.* per dozen; Black Currants, 2*s.* per dozen; Red Currants, 3*s.* per dozen; White Currants, 3*s.* per dozen, the finest varieties.—HOLLAND, DODWELL & BAYLEY, Bradshaw Gardens, Chadderton, Manchester.

RASPBERRIES 10*s.*, CURRANTS, good plants, 12*s.* per 100; Strawberries, British Queens, Elton Pine and Keen Seedlings, 10*s.* per 1000 or 1*s.* 6*d.* per 100. Large Laurustinus.—GEORGE CORNWELL, Market Gardener, Barnet.

EARLY POTATOES FOR SEED.—A quantity of German and Dutch SILVERSKINS, just imported, quite free from disease, price 10*s.* per bushel, package included. Country orders require a remittance or a reference in London.—Address, T. CHAMBERLAYNE, Hungerford Wharf, W.C.

NEW SORTS OF POTATOES.

| | |
|---|---|
| FIFTYFOLD KIDNEY. | RED EARLY ASH-LEAF. |
| WELLINGTONS. | OMAR PACHA. |

SUTTON & SONS, Reading, recommend the above as prolific and fine flavoured Potatoes, which come off early so as to escape the disease. Price 3*s.* 6*d.* per peck, or cheaper in large quantities.

VERY TRUE, SHORT TOPPED, ASH-LEAVED KIDNEY POTATOES, 14*s.* per cwt., warranted true.
HENRY MAY, The Hope Nurseries, near Bedale, Yorkshire.

YORK REGENTS.—Warranted True. Excellent Sets will be delivered free at the Kingston or Twickenham Stations, in quantities not less than 1 bushel; or if a sack is taken, within a distance of 6 miles from Teddington, at 3*s.* per bushel.—Address R D. BLACKMORE, Coryeian Garden, Teddington, S. W.

HOLCUS SACCHARATUS, or CHINA SUGAR-CANE GRASS.—Seed of this lately introduced Fodder plant can be supplied by NUTTING and SONS in any quantity. Price on application.—Seed Warehouses, 60, Barbican, London, E.C.

HOLCUS SACCHARATUS, or North China Sugar-Cane, 2*s.* per lb. Pamphlet, "A Visit and a Plant;" or Hints on the Cultivation of the above, and its Uses. Post free 6*d.*, or gratuitous with all orders for 10 lbs. and upwards.
DIOSCOREA BATATAS, or Chinese Yam: strong roots, 4*s.* per dozen; with directions for cultivation.
JOHN W CLARKE, Whittlesea, Cambridgeshire.

TO THE TRADE.—MAGNIFICENT DWARF-TRAINED PEACHES, NECTARINES, AND APRICOTS.

WM. WOOD AND SON refer with pleasure to their truly superb and extensive stock of the above, which for growth and quality are quite unsurpassed, each tree being furnished with from 9 to 12 branches, well ripened and admirably trained. Also very fine Dwarf Maiden NECTARINES.
The Trade supplied on advantageous terms.
Woodlands Nursery, Maresfield, near Uckfield, Sussex.

CONIFERÆ.

A. PAUL AND SON have a large stock of the above, very handsome, in fine order for removal, many suited for immediate effect. For particulars see Advertisements in *Gardeners' Chronicle* of November and December last.—Nurseries, Cheshunt, Herts.

TO THE TRADE.

R. GLENDINNING begs to offer the following MAIDEN TREES of first class quality; they comprise the leading sorts, and guaranteed true to name, Peaches, Nectarines, Apricots, Plums, and Apples.
Chiswick Nursery, near London, W.—Jan. 29.

JOHN ADAMS AND CO., NURSERYMEN, Brentford, Middlesex, have a large stock of very fine DWARF MAIDEN MOORPARKS; strong cut-back DWARF APPLES of the best kinds, fit for Market Garden planting. Very fine DWARF-TRAINED CHERRIES and PEACHES and NECTARINES.

COMMON LAURELS FOR IMMEDIATE EFFECT.

THE SUBSCRIBERS beg to offer their immense Stock of the above, strong transplanted bushy plants grown singly, 1½ to 2½ ft., 3*l.* 10*s.*; 3 ft., 5*l.*; 3 to 4 and 5 ft., 6*l.* per 1000, and all other Nursery Stock equally reasonable. Prices on application.—WM. JACKSON & Co., Nurseries, Bedale, Yorkshire.

NURSERY STOCK.

THE Subscribers are disposing of their extensive stock of Seedling and Transplanted Forest Trees, Ornamental Trees, Evergreen and Deciduous Shrubs, Standard and Dwarf-trained Fruit Trees, Gooseberries and Currants, &c., at prices considerably reduced in consequence of dissolving partnership.—Priced Lists may be had on application.
Glasgow, Jan. 29. FOWLER & WRIGHT.

FRUIT TREES.—The Trade can be supplied with an excellent Stock of DWARF MAIDEN MOORPARKS and strong, cut back DWARF APPLES, consisting of Manks Codlin, King of the Pippins, Dumelow's Seedling, Blenheims, Hawthorndens and Keswick Codlins; also a large Stock of very fine DWARF-TRAINED CHERRIES and DWARF-TRAINED PEACHES and NECTARINES, all strong handsome plants. Early application is necessary, to JOHN ADAMS & Co., Nurserymen, Brentford, Middlesex.

ONE MILLION ONE-YEAR SEEDLING OAKS (STRONG AND STOUT).

JAMES MELDRUM, NURSERYMAN, Kendal, Westmoreland, offers the above in quantities to suit purchasers. Price reasonable, on application.
N. B. Also a quantity of strong clean Transplanted CRAB STOCKS 3 to 4 feet; ALDERS, 4 feet; and a quantity of LARCH of different ages.

THREE MILLIONS OF TRANSPLANTED QUICKS.

GEORGE CHIVAS, Chester, offers the above to the notice of Planters, which for extent and quality he believes are unequalled in the kingdom. A Sample Bale containing 100 of each five sizes forwarded on receipt of a Post-office Order for 15*s.* Truck loads delivered free at any Railway Station having through communication with Chester.

TO PLANTERS.—Fine stock of Larch, 1½ to 3 feet Scotch Firs, 1½ to 2 feet; Beech, 1½ to 4 feet; Elms, 3 to 6 feet; Evergreen Privets, Common Hollies, 1 to 1½ foot; fine Healthy Plants, with all other kinds of Nursery Stock. Samples and price on application to JOHN SCHOLEY, Pontefract Nurseries.

TO PLANTERS.

200,000 FINE TRUE SCOTCH FIR, 1½ to 2 feet, at 14*s.* per 1000.—Large quantities of strong LARCH, QUICKWOOD, BEECH, SPRUCE FIR, SILVER FIR, &c.—Address, HENRY MAY, The Hope Nurseries, near Bedale, Yorkshire.

500,000 EXTRA FINE TRANSPLANTED LARCH FIR, from 1 to 5 feet. Also SPANISH CHESNUTS.—Samples and Prices can be had on application to WM. WOOD & SON, Woodlands Nursery, Maresfield, near Uckfield, Sussex.

TO THE TRADE

2000 yards of superior DWARF BOX for Edging.
Price on application.
CURRANT AND GOOSEBERRY TREES, 16*s.* per 100.
JAMES HOLDER, Nurseryman, Reading, Berks.

PAMPAS GRASS (GYNERIUM ARGENTEUM).—The beauty of this extraordinary plant has this season been fully appreciated. It can be supplied by the dozen, hundred, or thousand, by CHARLES NOBLE, Bagshot, Surrey.

PERENNIAL AND ITALIAN RYE-GRASS.

McBLAIN AND CO., SEEDSMEN, Newry, Ireland, offer to the Trade PERENNIAL AND ITALIAN RYE-GRASS of every description. Samples and offers on application.

GIANT SAINFOIN SEED.—Seed of this excellent and productive Plant may be had of RAYNBIRD & HARVEY, Basingstoke, and 89, Seed Market, Mark Lane. Samples and prices on application.
N.B. R. & H. can also supply Common Sainfoin both of English and French growth at market prices.

THE PRIMULARY.—Expressly for the cultivation of Latter's superb Semi-double Fimbriated CHINESE PRIMROSES of world-wide celebrity, with all the latest improvements in size, shape, substance, and colours. Sealed packets, post free, to all parts of the world on receipt of 2*s.* 6*d.* in stamps.
THOMAS WILD, The Primulary, Handford Road, Ipswich.

## NEW SEEDS.

CHARLES TURNER'S

CATALOGUE OF VEGETABLE, FLOWER, AND AGRICULTURAL SEEDS, CULINARY ROOTS, &c., is now ready, and may be had on application. The lists are Descriptive, and in addition to Selections of all the old and established favourite varieties, contains some valuable new additions, the most prominent of which are DR. MACLEAN'S FINE DWARF NEW PEAS, THE FROGMORE PROTECTING BROCCOLI, SCARLET GEM MELON, COTTAGER'S KALE, ROSEBERRY BRUSSELS SPROUTS, PERENNIAL SPINACH, &c.—The Royal Nurseries, Slough.

## THE SALWAY PEACH.

CHARLES TURNER can supply strong dwarf-trained Trees of this new and valuable late Peach at 7*s.* 6*d.* each. Maiden Trees, 5*s* each. The SALWAY PEACH is strongly recommended as an acquisition of great worth.

A dish of this fruit was sent to the Meeting of the Fruit Committee of the Horticultural Society, October 19, 1858, who reported:—"The Salway Peach is a melting variety, with orange flesh, sweet and rich. It was considered a first rate late Peach."—The Royal Nurseries, Slough.

## NEW MELON.

TURNER'S SCARLET GEM MELON.—An early and most prolific variety, and by far the best flavoured of the scarlet-fleshed Melons, having taken Seven First Prizes during the past season at the great exhibitions. It is well netted and handsome.

Mr. Bailey, the very successful fruit grower, of Shardeloes Gardens, Amersham, having grown this variety for two seasons, reports that "it is by far the best Melon he has ever cultivated of either class. Its superior flavour alone entitles it to a first place, besides other good qualities, among which is its easy culture" 2*s.* 6*d.* per packet.—The Royal Nurseries, Slough.

THE FROGMORE PROTECTING BROCCOLI.—"A variety raised by Mr. Ingram, of the Royal Gardens. Its merits consist in its extreme hardiness, in its being very dwarf, in its leaves cabbaging or wrapping very closely over the heads till they are large enough for use to effectually protect them from the action of severe weather. In the latter respect it is much superior to Knight's Protecting; the heads are large, white, tender, and excellent, and altogether it must be considered a great acquisition to the class to which it belongs."—*Gardeners' Chronicle*, May 15, 1858. 2*s.* 6*d.* per packet.

The Royal Nurseries, Slough.

TURNER'S COTTAGER'S KALE.—Specimens of this new, hardy, prolific, and delicious Vegetable were exhibited in February last, and were found to possess superior excellence, the Horticultural Society of London awarding it a Certificate of Merit. It was also exhibited at the Great Fruit Show, St. James's Hall, in November last, and again received a Certificate, Professor Lindley pronouncing it to be both "new and invaluable," being unsurpassed for sweetness and tenderness. Sealed packets, 1*s.* each. A list of Agents that can supply it true was published Oct. 16, 1858, in the *Gardeners' Chronicle*.—The Royal Nurseries, Slough.

SEED POTATOES.—The best Early Kinds are:—

ASHLEAF, true.

ASHLEAF, MYATT'S PROLIFIC, a very excellent first early variety, the productiveness of which is remarkable.

EARLY OXFORD (SODEN'S), a fine variety for frame or first crop. One of the best Potatoes grown.

EARLY SURPRISE, early, a fine large variety, and a good cropper.

**Also the following select varieties for general crop:—**

Brighton Kidney
Brockley Kidney
Fluke
Looker's Kidney

ROUND VARIETIES.

American Seedling
White Fortyfold, alias British Queen
Early Uxbridge
Early Frame
Fortyfold
Flourball
Hundredfold
Perkins's Seedling
Prince of Wales
Tarku's Seedling
Wellington

CHARLES TURNER has fine samples of the above.
The Royal Nurseries, Slough.

## NEW SEEDS FOR 1859.

WM. CUTBUSH AND SON beg respectfully to intimate that their PRICED CATALOGUE OF VEGETABLE AND FLOWER SEEDS, &c., is now ready post free on application. WM. C. AND SON devote particular attention to this department of their business, and most of the choicer kinds of culinary seeds and roots are saved under their own inspection, and they can confidently guarantee the quality of all offered.—Highgate Nurseries, London, N. Established A.D. 1695.

## SEED CATALOGUE.

E. P. DIXON has great pleasure in announcing to his patrons and friends that his CATALOGUE OF KITCHEN GARDEN, FLOWER SEEDS, &c., is now ready, and he will be happy to forward a copy free upon application.

KEMP'S EARLY INCOMPARABLE CABBAGE is quite a distinct variety, and superior to any other known kind; of delicious flavour, dwarf habit, extra early, attains a very large size, does not run to seed, and every plant warranted to Cabbage, 1*s.* per packet.

SUNDERLAND WICK PRIZE CUCUMBER, wherever exhibited has always obtained the first prize, 1*s.* 6*d.* per packet.

YORKSHIRE PRIZE CUCUMBER, fine dark green, and very free bearer, 1*s.* 6*d.* per packet.

PETURION GOURD, 1*s.* per packet.

CATALOGUE of CONIFERÆ, &c., now ready.

Seed Establishment, 57, Queen Street, Hull.

## SORGHUM OR HOLCUS SACCHARATUS,

CHINESE SUGAR CANE GRASS.

SUTTON AND SONS having imported largely of new Seed of the true HOLCUS SACCHARATUS, can supply it at reduced price according to quantity required.

CAUTION.—SUTTON & SONS respectfully intimate to intending cultivators of the Sorghum or Holcus saccharatus, that other varieties of Sorghum are in the market which are comparatively destitute of saccharine and nutritive properties.

The Stock SUTTON & SONS have provided is the true saccharine species procured from the same Continental source from which they have imported in previous seasons. Present price 2*s.* 6*d.* per lb., or cheaper in large quantities; quantity required per acre, 8 lbs. Instructions on Cultivation will be sent with the Seed.

Royal Berkshire Seed Establishment, Reading.—Jan 29.

## TO THE TRADE AND OTHERS ENGAGED IN PLANTING.

WILLIAM CORNWELL begs to offer the following, of which he has a large stock on hand, well grown and warranted true to name:—Standard and Dwarf ROSES of all the leading kinds; Dwarf Trained Peaches, Nectarines, and Apricots; Dwarf Maiden Do. Do.; Dwarf Trained Apples, Pears, Plums, &c.; Red and Black Currants; Larch Fir, 2 to 3 feet; Scotch Do., 1½ to 2 feet; Do., 2 to 3 feet; Cedrus Deodara, 2 to 3 feet; White and Yellow Broom, 2 to 3 feet; Double Furze in pots; Cotoneaster microphylla in pots; Irish Ivies in pots; Berberis aquifolium, 2 to 3 feet; Box Edging; Box, bushy; Passiflora cærulea in pots; Privet Evergreen, 2 to 3 feet; large Scarlet Rhododendrons, 4 to 8 feet; ponticum and Cunninghamiense, do.; Andromedas, Hardy Heaths, Ledums, &c.; a large stock of most kinds of Evergreens, Flowering Shrubs, Ornamental Trees, &c.—The Nurseries, Barnet, Herts.

## NEW SORTS OF SEEDS.—

| | |
|---|---|
| Sutton's Berkshire Hero Pea | New Zealand Runner Bean |
| Turner's Cottager's Kale | Asparagus Kale |
| Standhoulder Cauliflower | Frogmore Protecting Broccoli |
| Winningstadt Cabbage | Ward's Late White ditto |
| Intermediate Carrot | Pomeranian Cabbage |
| Sutton's Superb Lettuce | New Giant Onion |
| Tom Thumb Pea, 1*s.* 6*d.* quart | White Olive-shaped Radish |

Also many new and rare kinds of Flower Seeds and Agricultural Seeds. **Price List on application.**

SUTTON & SONS, Royal Berkshire Seed Establishment, Reading.

SPECIMEN TEA-SCENTED ROSES, in 8-inch pots. Strong plants for Exhibition, from 3*s.* 6*d.* to 5*s.* each.

The same kinds and many other leading sorts can be supplied as Half specimen Plants, in 6-inch pots, at 24*s.* and 30*s.* per doz.

TEA-SCENTED.—Buret, Blanche de Solville, Bougère, Canaris Clara Sylvain, Comte de Paris, David Pradel, Elize Sauvage, Eugénie Desgaches, Général Tartas, Goubault, Jeannie Deans, La Sylphide, Laurette, Le Cameléon, Le Pactólé, Léontine de Laporte, Madame Bravy, Maréchal Bugeaud, Mélanie Willermoz, Mélanie Oger, Nina, Safrano, &c.

The Subscribers will be happy to furnish extra fine strong plants of the above named Roses adapted for Exhibition.

Early orders are respectfully solicited to ensure the strongest plants.—WM. WOOD & SON, Woodlands Nursery, Maresfield, near Uckfield, Sussex.

## THE LARGEST STOCK OF

TEA-SCENTED ROSES in the kingdom.—Upwards of 10,000 DWARF TEA ROSES in pots, fine healthy plants now ready for sending out, consisting of all the best leading kinds, and comprising among others—

| | |
|---|---|
| 750 Mélanie Willermoz | 300 Maréchal Bugeaud |
| 500 ,, Oger (yellow) | 300 Madame Bravy |
| 500 Vicomtesse de Cazes (do.) | 300 Le Pactôle, yellow |
| 500 Souvenir d'un Ami | 300 Niphetos, fine white |
| 500 Safrano | 300 Goubault |
| 400 Devoniensis | 300 Canari (yellow) |
| 400 Adam | |

400 Miss Gray or Isabella Gray, TRUE, yellow Rose, &c.

Plants presented to compensate for carriage.—Address WM. WOOD & SON, Woodlands Nursery, Maresfield, near Uckfield, Sussex.

A COLLECTION OF SUPERB YELLOW ROSES.

| | TEA-SCENTED. Dwarf plants in 4-inch pots. Each. 1*s.* 6*d.* | in 6-inch pots. Each. 2*s.* 6*d.* |
|---|---|---|
| Barillet Deschamps, pale lemon | 1 6 | 2 6 |
| Canari, bright yellow | 2 0 | 3 0 |
| Elize Sauvage, yellow, very fine | | |
| Gloire de Dijon, fawn shaded salmon | 1 0 | 2 0 |
| Le Pactôle, lemon; yellow centre | 1 6 | 2 6 |
| Louise de Savoie, lemon yellow | 2 6 | 3 6 |
| Mélanie Oger, pale yellow | 1 6 | 2 6 |
| Pauline Plantier, yellowish white | 1 6 | 2 6 |
| Vicomtesse de Cazes, bright orange yellow | 2 0 | 3 0 |
| Yellow, or Jaune; pale sulphur | 1 6 | 2 6 |
| YELLOW NOISETTE ROSES. | | |
| Adelaide Pavie (new) pale lemon | 3 6 | |
| Augusta, sulphur; similar to Solfaterre | 1 6 | 2 6 |
| Claudia Augustin, white, with yellow centre | 3 6 | |
| Lamarque, lemon; very large | 1 6 | 2 6 |
| Madame Schulz, canary-shaded carmine | 2 0 | 3 0 |
| Miss Gray, or Isabella Gray; bright yellow | 2 6 | 3 6 |
| Narcisse, sulphur yellow | 2 0 | 3 0 |
| Solfaterre, bright sulphur yellow | 1 6 | 2 6 |

WM. WOOD & SON beg leave to offer fine strong plants of the above-named superb yellow Roses. Plants will be presented to compensate for distant carriage.

Woodlands Nursery, Maresfield, near Uckfield, Sussex.

ROSES, &c.—Fine Tall Standard Roses, best kinds .. .. .. .. .. per dozen £0 18 0
Fine Standard and Half-Standard Roses, per dozen 0 12 0
,, named Lancashire Gooseberries .. per 100 0 8 0
,, White and Red Currants .. .. per 100 0 8 0
,, Hardy Herbaceous and Alpine plants, one of the best collections extant, per 100 sorts 1 5 0
,, Hardy Shrubs by name .. per 100 sorts 2 10 0
,, named Hollyhocks, good plants .. per dozen 0 6 0
,, named Phloxes do. do. do. 0 4 0
,, named Pyramidal Pears on Quince do. 0 15 0

Catalogues of all the above sent free on application to HENRY MAY, The Hope Nurseries, near Bedale, Yorkshire.

## DWARF ROSES ON MANETTI STOCKS & CINERARIAS.

THE following ROSES are offered in fine Plants with shoots 2 to 4 feet long, at 8*s.* 6*d.* per doz., true to name:—Jules Margottin, La Reine, Baronne Prevost, Coupe d'Hébé, Wm. Griffiths, Duc de Cazes, Wm. Jesse, Duchess of Sutherland, Victoria (Paul's), Paul Ricaut, La "Leo" des Combats, Earl Talbot, Pius IX., Alexandrine Bachmeteff, Madame Domage, Souvenir de la Reine d'Angleterre, &c.

Also the annexed CINERARIAS in 48-inch pots, true to name, 8*s.* per dozen:—Alma, Admiration, Brilliant (R), Brilliant (L), Lady Paxton, Lord Palmerston, optima, Pride of Uttoxeter, Eupatoria, Purple Standard, Fascination, Magnum Bonum, &c. Post-office Orders payable at Haverhill.

JOHN CHATER & SON, Nurseries, Haverhill.

## FIRST-CLASS CERANIUMS.

J. CATTELL offers the following in good healthy plants; the price includes hamper and carriage paid to London.

The following 13 new French varieties, 18*s.*:—Mesdames Pescatore, Heine, Fertado, Laffay, Sueur; Perrugino, Monte Christe, Dr. Andry, Florence, Hendersonia, Dr. Marjolin, General Eugène Cavaignac, Van Houtti.

The following 13 older showy French varieties, 12*s.*:—Auguste Odier, Adèle Odier, James Odier, Mesdames Lamoricière, Chereau, Andry; Chauvieri, Triomphe de la Tour, Susette Mallet, Jacques Duval, Medaille d'Or, Roi des Pourpres, Auguste Miellez.

| | | s. | d. |
|---|---|---|---|
| 13 very superior new Florist or Show Geraniums | .. | 18 | 0 |
| 13 very good ditto | .. .. | 12 | 0 |
| 13 good ditto | .. .. 6*s.* to | 9 | 0 |

NEW VARIEGATED GERANIUMS.

| Each— | s. | d. | Each— | s. | d. |
|---|---|---|---|---|---|
| Bijou | 3 | 6 | Perfection | 3 | 6 |
| Bridal Wreath | 3 | 6 | Shottisham Pet | 3 | 6 |
| Culford Beauty | 2 | 0 | St. Clair | 1 | 6 |

New variegated crimson Ivy-leaved, 1*s.* 6*d.*

NEW VARIETIES OF THE SCARLET SECTION.

| | | | |
|---|---|---|---|
| Christiana | 2 | 6 | Rose Perfection extra fine | 2 | 0 |
| Pink Perfection extra fine | 2 | 0 | Rose Queen | 2 | 6 |

One of each of the last 11 varieties, 24*s.*

CALCEOLARIAS.—Seedlings from J. C.'s superb collection 4*s.* per dozen.

Nursery and Seed Establishment, Westerham, Kent.

## SEEDS OF ALPINE PLANTS

(SUITABLE FOR ROCK WORK).

JAMES CARTER AND CO. beg to announce arrival of a Consignment of SEEDS (many of extremely rare) from Monsieur Ortgies, Curator of Gardens, Zurich. The Seeds have been collected Alps during the past autumn, under his immediate tendence, and J. C. & Co. have no doubt they will satisfaction.

12 selected varieties.. 2*s.* 6*d.* | 25 selected varieties
50 selected varieties .. .. .. 10*s.*

238, High Holborn, London, W.C.

NEW ZEALAND RUNNING BEAN.—This was found by a gentleman travelling in Zealand. It is not known by Mr. Arthur Hender James Veitch, Messrs. Sutton, Mr. Carter, Mr. Ho Wrench, Mr. Flanagan, nor at the Hort. Society. doz., 3*s.*; trade allowed Beans extra. A printed be sent with each order; see last week's advertisement Cucumber, and true Custard Marrow, 1*s.* per packet Pamphlets always on sale.—JAMES CUTHILL, Ca London.

## GARDEN SEEDS.

THOMAS KENNEDY AND CO., NURSERY SEEDSMEN, Dumfries, N.B., beg respectfully to that they have got to hand their VEGETABLE AND F SEEDS, and are now prepared to execute orders for th

Their DESCRIPTIVE PRICED CATALOGUE "which is of a most practical character, supplying formation needed by the purchaser," is now ready a sent post free on application.

Free delivery. For particulars see Catalogue.

## KITCHEN GARDEN AND FLOWER SEEDS

THOMAS GIBBS AND CO., THE SEEDSMEN "ROYAL AGRICULTURAL SOCIETY OF ENGLAND," announce that they are now prepared to execute or their Collections of KITCHEN GARDEN SEEDS f large or small Gardens, containing a proper selection new and most approved varieties. Packets of Flow containing all the new and choice kinds. Packets of Flower Seeds in the original imported Packets.

Descriptive priced Catalogues forwarded free on appl T. G. & Co.'s Priced List of AGRICULTURAL and SEEDS will be ready in February.

THOMAS GIBBS & Co., Corner Half-Moon Street, Pic London, W.

## GARDEN SEEDS.

JOHN PERKINS is now prepared to supply S for the VEGETABLE and FLOWER GARDEN addition to well-known old varieties, many new and ones have been added to his collection.

J. P. having devoted his personal attention to this ment of his business, most of the choice kinds of Seed been saved under his own inspection. In addition general stock, he begs to offer the following:—

| | |
|---|---|
| BROCCOLI, Snow's superb Winter White, fine, each | In |
| ,, Perkins's Northampton White | |
| ,, Late White | |
| CUCUMBERS, Perkins's Prizetaker, Black Spine; good length 18 to 24 inches—a great bear superior for forcing. | |
| ,, Perkins's No. 1 Black Spine; a good h an excellent kind for all purposes. | |

Catalogues of the above will be sent free upon applica Seed Warehouse, 5, West Side, Market Square, Northa

## AGRICULTURAL, FLOWER AND KITCHEN GA SEEDS.

GARAWAY, MAYES, AND CO. invite att to their Establishment for the sale of all h AGRICULTURAL, FLOWER AND KITCHEN GA SEEDS, their long connection with the trade and th known respectability of their house being a sufficient gu that all articles supplied by them will be of the re quality. All seeds are proved by them before sending o their stock being large, and purchased from the first ho the trade, offers great inducement to purchasers.

Their Stock of AGRICULTURAL SEEDS is produce the best sources, and all are guaranteed by them to be best quality.

GRASS SEEDS of all kinds for Lawns or permanen ture; and the high testimonials they have received from customers warrant them in stating that their qual unsurpassed.—Catalogues on application.

Durdham Down Nurseries, Bristol.—January 29

## TO THE TRADE.

JOHN PALMER, NURSERYMAN, Annan, begs to inform his Friends and the Trade generally, that on hand the following—all of excellent quality—which disposed to offer on very reasonable Terms:—

SEEDLINGS.

| | |
|---|---|
| 4,000,000 1-year Larch | 40,000 1-year Labu drills |
| 1,000,000 2-year Scotch Fir. | 100,000 2-year Weymouth |
| 1,000,000 2-year Spruce | 100,000 1-year Pear stocks |
| 200,000 1-year Beech | 100,000 1-year Crab stocks |
| 300,000 1-year Alder | 100,000 1-year Wild stocks, drills |
| 300,000 1-year Oak, drills | 100,000 1-year Portugal |
| 100,000 1-year Turkey Oak, drills | 200,000 1-year Yew |
| 100,000 1-year Spanish Chesnuts, drills | 50,000 1-year bedded can Arbor |
| 100,000 1-year Horse Chesnuts, drills | 20,000 bedded common |
| 200,000 2-year Ash, drills | 20,000 bedded Portugal |

TRANSPLANTED.

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| 300,000 2-year tr. Larch | 100,000 2-year tr. Spruce |
| 100,000 2-year tr. Scotch Fir | 400,000 2-year tr. Thorn |

Prices to be had on application, and all orders promptly and carefully attended to. Carriage will be p to London, Liverpool, Birmingham, Newcastle, Glasgo Edinburgh, and the half thereof charged to the buyer.

JOHN PERKINS begs to offer the following of which are unusually fine:—Dwarf trained PEAC NECTARINES, APRICOTS, PLUMS, PEARS, CHERRIES. From 4000 to 5000 extra strong Sto APPLES and PEARS. Also a large Stock of fine Spe Cedrus Deodara, Araucaria imbricata, Abies Pinsapo fine 8 feet, and all the intermediate sizes; Abies Nordmann beautiful plants 2 to 3 feet; a fine stock of Wellingt gigantea from seed; Thujopsis borealis, from 1 to 3 feet Cupressus Lawsoniana, from 1 to 2½ feet; also a large st strong transplanted Privets and Berberis aquifolia, Spa Chesnuts, Mountain Ash, Hazel, Birch, Elms, Alder, from 2½ to 4 feet; Balm of Gilead and Weymouth Pine Pinus austriaca, several thousand beautiful plants, from feet; standard Limes, fine, 8, 10, to 12 feet; strong Aspar plants for forcing.

J. P.'s DESCRIPTIVE CATALOGUE OF GEN STOCK for 1859 will be sent free upon application. Nurs about a quarter of a mile on the Bedford Road; also a Billing Road.

Seed Warehouse, 5, West side, Market Square, Northa

FIVE SILVER CUPS

WERE AWARDED TO

A. PAUL AND SON, NURSERYMEN, Cheshunt, Herts, for five Collections of ROSES at the Grand National Rose Show held in St. James's Hall, London, in July. Also FIVE FIRST PRIZES at the Royal Botanic Society's Shows in May and June last. The sorts which won these prizes are now offered at 18s. to 24s. per dozen for standards, 12s. to 18s. per dozen for dwarfs. A PRICED DESCRIPTIVE CATALOGUE forwarded on application, post free.

FRUIT TREES IN POTS.

JOHN AND CHARLES LEE have now the largest and finest stock of FRUIT TREES IN POTS in a bearing state for FORCING AND ORCHARD HOUSES ever offered. They consist of the following kinds, a CATALOGUE of which may be had on application:—

| | | |
|---|---|---|
| APRICOTS | FIGS | PEARS |
| PEACHES | PLUMS | APPLES. |
| NECTARINES | CHERRIES | ALSO, |

VINES AND STRAWBERRIES.

Nursery and Seed Establishment, Hammersmith, London.

FRUITING VINES.

JOHN AND CHARLES LEE beg to offer extra strong short-jointed and well-ripened FRUITING VINES of the following kinds:—

| | |
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| BLACK HAMBURGH | BLACK FRONTIGNAN |
| CHAMPION HAMBURGH | WHITE FRONTIGNAN |
| MILL HILL HAMBURGH | BLACK PRINCE |
| GOLDEN HAMBURGH | ROYAL MUSCADINE |
| MUSCAT OF ALEXANDRIA | BIDWELL'S SEEDLING |
| | BOWOOD MUSCAT. |

Nursery and Seed Establishment, Hammersmith, London.

THE NEW MUSCAT HAMBURGH VINE.

MESSRS. ARTHUR HENDERSON AND Co. have much pleasure in directing the attention of Grape growers to the new Muscat Hamburgh, Plants of which they are now sending out. In consequence of the extraordinary demand for the large three guinea fruiting plants, they are unable to supply any more of this size, but they still have excellent Plants at two guineas, suitable for fruiting next spring in pots, and also good plants at one guinea each.

Pine-apple Place, Edgware Road, London, W.

CARTER'S EXCELSIOR MELON.—A green-fleshed variety of delicious flavour, netted; fruit averages 4 lbs., requires scarcely any heating, and is very prolific. R. Hogg, Esq., President of the Pomological Society, and Turner and Spencer's "Florist," pronounce this variety to be one of the finest ever tasted. Seeds 1s. per packet.—JAMES CARTER & Co., Seedsmen, 238, High Holborn, London, W.C.

DOUBLE ITALIAN TUBEROSE ROOTS, 4s. per dozen.—The annual importation of the above named beautiful and fragrant Flower has just been received, and large and well selected Bulbs may be obtained, without disappointment, at A. CORBETT'S Foreign Warehouse, 18, Pall Mall.

N.B. Printed regulations for treatment sent; also, just arrived, very moist and open Parmesan Cheeses.

HOLLYHOCK SEED FROM NEW VARIETIES.

J. CHATER AND SON offer the above from 12 new varieties, separate packets, the collection, 3s. 6d.

24 varieties, best older sorts, 3s. 6d.

Best mixed, 20 sorts, 200 seeds, 1s. 6d.

J. C. & SON feel confident the above will give satisfaction, having been saved with great care.

Strong seedling plants, 20s. per 100.

If sown now will flower by September.

Nurseries, Haverhill.

RANUNCULUSES.—The admirers of this beautiful flower have now an opportunity of purchasing some that will flower as free as Daisies.

T. MELLON, having grown this flower from seed for a number of years with great success, is now willing to dispose of a portion of them, and impart his mode of cultivation to any purchaser. These Ranunculuses are very hardy, perfectly double, and warranted to bloom. Satisfactory references can be given as to the quality of these flowers. Price 5l. per 100.

T. MELLON, 71, New Street, Birmingham.

CAMELLIAS, double flowering, in pots, well set for bloom, 18s., 21s., and 24s. per doz.; Azaleas in pots, in six sorts, 12s. per doz.; larger plants, in 30 sorts, 18s. per doz.; best Hyacinths, 5s. per doz.; second ditto, 4s.; third ditto, 3s.; Gladiolus gandavensis, 2s.; floribundus, 1s. 6d; Queen Victoria, 2s; Beauty of England, 2s.; Byzantinus, 6d.; Psillinus, 9d.; ramosus, 1s. 6d.; double Van Thol Tulips, 2s. per 100; fine double mixed, 3s. per 100; finest mixed Ranunculus, 5s. per 100; good ditto, 3s. 6d. and 2s. 6d.; mixed Crocuses, 1s. 6d.; finest new Seedlings, 3s. per 100; Ash-leaved Kidney Potatoes, 7s. bushel; and every other sort of bulb and seed of the best quality, equally cheap.—ROBT. GREEN, 154, Kingsland Road, 55 doors from Shoreditch Church.

AZALEA INDICA.

J. IVERY AND SON beg respectfully to invite growers of the above named to an inspection of their unrivalled Stock of Young Specimens of all the newest and best varieties, many of which have been exhibited at the Metropolitan Exhibitions. They are clean and healthy, well set with bloom, and moderate in price. Catalogues forwarded post free upon application.—Dorking Nursery, Jan. 29.

TO PLANTERS.

WILLIAM MASTERS AND SON respectfully inform the public that they have fine plants of Chestnut fit for filling up woods, as well as Scots and Spruce Firs, Larch and Austrian Pines, also Oaks, Elms, Beech, Sycamore, Norway and other Maples, Acacias and other Forest Trees in great variety and abundance. Their Stock of Ornamental Evergreens and Shrubs is exceedingly rich both in quantity and variety. They may especially refer to their beautiful assortment of Rhododendrons, Azaleas, Hardy Heaths, and of so called American Plants generally, to the culture of which they have devoted an entire nursery. Deodars they can supply from 1 to 6 feet, and of Coniferæ their collection is of unusual extent. Orders are respectfully solicited.

Exotic Nursery, Canterbury, and Fant Nursery, Maidstone.

SEEDS.

JOSEPH MAY AND Co. beg to announce the arrival of their new VEGETABLE, AGRICULTURAL, & FLOWER SEEDS, which they have selected with the greatest care, Amongst Peas they would particularly recommend, as the two best kinds for early sowing, Waite's Daniel O'Rourke and Dickson's Favourite, the latter producing 8 to 11 Peas in a pod, and will do for sowing at any season. Collections of vegetable seeds made up from 10s. to 20s. and upwards, according to size of garden for which they are intended. These collections gave great satisfaction last season. Flower Seeds in collections: 12 packets choice seeds, 6s.; 30 packets hardy ditto, 5s.; 15 packets ditto, 2s. 6d., free by post.

Cucumber "Ne plus ultra" from specimens 27 to 31 inches each—straight and handsome—per packet, 1s.; all other best kinds, 6d per packet. Melons, choicest kinds, 6d. and 1s. Gourds, the large hundredweight and others, 12 packets, free by post, 3s. Potatoes, all the best kinds. Grasses and all kinds of Agricultural Seeds of the best quality.

Trees, Plants, and Seeds packed for Australia, &c., at the lowest prices.—1, Wellington Street, Strand, W.C.

# SUTTON'S GRASS SEEDS

## AT THE ROYAL FARMS NEAR WINDSOR, AND IN THE ISLE OF WIGHT.

SUTTON'S GRASS SEEDS FOR PERMANENT PASTURE, PARKS, AND LAWNS are now sown at the ROYAL FARMS, at OSBORNE PALACE, the CRYSTAL PALACE, SYDENHAM, the HORTICULTURAL SOCIETY'S GARDENS, the ALDERSHOT CAMPS, and in the formation of the NEW PARK at HALIFAX, called the "PEOPLE'S PARK," the munificent gift of Frank Crossley, Esq., M.P., and on most of the largest estates in the kingdom. Messrs. SUTTON'S Grass Seeds being mixed expressly to suit the soil for which they are required, are never known to fail.

SUTTON'S MIXTURES FOR LAYING DOWN LAND TO PERMANENT MEADOW OR PASTURE.—The sorts contained in these Mixtures are grown in different localities, and gathered separately by the hand expressly for this purpose, by which means all noxious weeds are excluded; they consist of the most nutritive kinds of Fescues, Poas, Sweet Vernal, Perennial Clovers, Loliums, &c., and each sort being kept separate, they are subsequently mixed in such sorts and proportions as are most suitable to the soil to be laid down. The quantity we usually supply is 2 bushels of light Seeds and 12 lbs. heavy Seeds per acre. For large quantities special contracts may be made at reduced prices.

The Mixtures above referred to are mixed expressly as under:

MIXTURES FOR CLAYS AND HEAVY MARLS.
MIXTURES FOR SHARP GRAVELS AND LIGHT SOILS.
MIXTURES FOR DRY SANDY SOIL
MIXTURES FOR GOOD LOAMS OF MEDIUM TEXTURE, OR GOOD BARLEY LAND.
MIXTURES FOR RECLAIMED MARSHES & HEATH LANDS
MIXTURES FOR CHALKY UPLANDS & SHEEP DOWNS.
MIXTURES FOR WATER MEADOWS.
MIXTURES FOR PARK LAWNS.

EVERGREEN GRASSES FOR CHURCHYARDS AND CEMETERIES.

SUTTON'S RENOVATING MIXTURE for improving Parks, Meadows, and Pastures, 9d. per lb., or 80s. per cwt. (8 to 12 lbs. per acre required).

MIXTURES FOR ONE, TWO, OR THREE YEARS' PASTURE OR HAY.—These we can supply of best quality, at 20s. to 24s. per acre. In ordering these Mixtures it is necessary to state whether they are required principally for pasture or for hay.

MIXTURES OF CLOVERS AND RYE-GRASS to be sown with Corn, for a crop of Clover, &c., in the following year. These we can supply of best quality at 19s. per acre, or 20s. with ITALIAN Rye-grass.

SUTTON'S FINE LAWN GRASS SEEDS.—The finest garden lawns are furnished from these Seeds, which are perfectly free from weeds and coarse Grasses. Price of seeds, 1s. per lb., or 20s. per bushel. Quantity required for making new Lawns, 3 bushels, or 60 lbs. per acre; for improving old Lawns, 10 to 15 lbs.

SUTTON'S PRICED LIST OF FARM AND GARDEN SEEDS

WILL BE SENT POST FREE.

ALL KINDS OF SEEDS CARRIAGE FREE EXCEPT SMALL PARCELS.

SUTTON & SONS, Royal Berkshire Seed Establishment, Reading.

# IMPROVEMENT OF GRASS LANDS

## BY SOWING GOOD SEEDS OF THE MOST SUITABLE KINDS.

# SUTTON'S RENOVATING GRASS SEEDS

CONSIST of the finest GRASSES and PERENNIAL CLOVERS, producing great improvement in the Pasture, and at a small expense. *Quantity of Seed required, 8 to 12 lbs. per acre.* Price reduced to **9d. per lb., or 80s. per cwt.** Sow in February and March. *Parks, Meadows, and Upland Pastures may be increased in value 50 per cent. by sowing these Seeds, the cost of Seeds being only 5s. to 9s. per acre.*

The following extracts from letters are similar to many others received unsolicited:—

*From* SHAFTESBURY WALMSLEY, Esq., *Mottistone, Isle of Wight.*

"The Grass Seeds were extremely good, and answered my purpose uncommonly well; they gave me a famous crop of hay last summer, 2½ tons per acre, where I never saw anything but Bents and rubbish grow before. I strongly recommend your Renovating Seeds; they are clean, and I believe safely to be depended upon."

*From* Mr. THOMAS BOWICK, *Farm Bailiff to Lord Leigh, Stoneleigh Abbey Farm.*

"The Renovating Mixture with which you supplied Lord Leigh last season, for 40 acres of old turf, has more than equalled our expectations. I would add that the other seeds supplied have each proved clean, true to name, and active in vegetative powers."

SEEDS CARRIAGE FREE TO ALL PARTS, EXCEPT SMALL PARCELS. CATALOGUES POST FREE

**GRASS SEEDS, for Laying Down Permanent Pasture, 30s. to 34s. per acre.**

SUTTON & SONS, Royal Berkshire Seed Establishment, Reading.

MANGEL SEED FROM LARGE BULBS.

# SUTTON'S YELLOW GLOBE MANGEL

IS SAVED EXCLUSIVELY FROM FULLY DEVELOPED ROOTS, THE ADVANTAGES OF WHICH HAVE BEEN PROVED FOR SEVERAL YEARS PAST.

(SEE THE FOLLOWING LETTERS.)

*From the* Right Hon. Lord BERWICK, *Cronkhill, Dec.* 22.

"Let me have the same Globe Mangel as last year, which has given me the best crop I ever grew, good both as to bulk of crop, and also in the fineness of roots and freedom from fangs and irregular growth; when pulled, the roots were nearly as clean and free from fibre as a Globe Turnip, and I had 40 loads per acre and more."

*From* Mr. HORSBURGH, *Steward to* R. BENYON, Esq., *Englefield, October* 11.

"One of the Long White Mangels washed up by the heavy rains weighed 45½ lbs. I will bring it you next market day."

*From* Mr. GRAY, *Bailiff to* G. RAWLINS, Esq., *Bullington House.*

"I believe we had one of the finest lots of Mangels and Swedes in the country. We had not quite enough of your seed of Mangel, and sent elsewhere for some to finish the field, and though sown the same day, and with exactly similar treatment, we had not so much weight by one-third as on the part sown with your seed."

*From* Mr. ANDREW NANCE, *Portsmouth, January* 28.

"I have had the largest crop of Mangel I ever saw from your Elvetham; I therefore order 80 lbs. of that kind this season."

*From* H.N. MIDDLETON, Esq., *Islington House, Dorchester, Nov.* 11.

"My crop of Elvetham Mangel is astonishingly fine."

*From* J. C. ADKINS, Esq., *Milcote, Stratford-on-Avon, Dec.* 17.

"It is again my pleasure to be able to inform you how good a crop of Orange Globe and Red Globe Mangels I had from the seed you sent me last spring. My plant was so uniform that on the whole field I could not have wished for another bulb. They were very handsome and remarkably small in the top."

*From the Wexford Independent.*

"In the show of roots Mr. Kinealy (Mr. Walker's steward) was a host in himself. The Elvetham Mangel transplanted after a crop of Vetches were monstrous, and exceeded anything in the way of Mangels ever grown. The seed was procured from Messrs. SUTTON'S Royal Berkshire Seed Establishment."

The FIRST PRIZES at Birmingham and other Shows throughout the Kingdom have been taken by Messrs. SUTTON'S customers both for Mangel and for their "Champion" Swede. The price of SUTTON'S Large Yellow Globe Mangel Wurzel is 9d. per lb., or cheaper in large quantities.

Priced Lists of other kinds of Mangel, Swedes, Turnips, Grasses, &c., will be sent gratis and post free.

CARRIAGE FREE TO ALL PARTS EXCEPT SMALL PARCELS.

Address SUTTON & SONS, Royal Berkshire Seed Establishment, Reading.

# THE GARDENERS' ROYAL BENEVOLENT INSTITUTIO

## INSTITUTED 1838.

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| §§Lee, J. & C., Messrs., Nurserymen, Hammersmith | 42 | 0 | 2 | 2 |
| Legge, The Rev. Mr., Ashstead, near Epsom | | | 1 | 1 |
| L., Mrs., Balham Hill, Surrey | 21 | 0 | | |
| Lessells, J., Gr, to Sir J. Boughey, Bart., Newport | | | 1 | 1 |
| Liddiard, J., Gr., The Grange, near Uxbridge | 10 | 10 | | |
| Little & Ballantyne, Messrs., Carlisle | | | 1 | 1 |
| Llewellyn, J. D., Esq., Penttigar, near Swansea | | | 2 | 2 |
| Lochner, C. P., Esq , Doctors' Commons | | | 1 | 1 |
| §Loddiges, Conrad, Esq., Hackney | 10 | 10 | 1 | 1 |
| §London Manure Company, E. Purser, Esq., Sec. | | | 1 | 1 |
| §Low, H., & Co., Messrs., Nurserymen, Clapton | 13 | 13 | 2 | 2 |
| Low, Stuart, H., ditto | 1 | 1 | 1 | 1 |
| §Loyd, Lewis, Esq., jun., 20, Hyde Park Gardens | 10 | 10 | | |
| Lovelock, D., Gr. to T. W. Gifford, Esq. | | | 1 | 1 |
| Lucas, J., Gr., Kimbolton Castle, Kimbolton | | | 1 | 1 |
| Lucking, W. J., Florist, Paddington | | | 1 | 1 |
| Lucombe, Pince, & Co., Messrs., Exeter | | | 1 | 1 |
| §Lyall, George, Esq., jun., Gatton Park, Surrey | 10 | 10 | | |
| Mansfield, The Rt. Hon. the Earl of, Hampstead | | | 1 | 1 |
| §§Martineau, J., Esq., Basing Park, Alton, Hants | 31 | 10 | 1 | 1 |
| §§Mechi, J. J., Esq , Tiptree Hall, Kelvedon, Essex | 45 | 5 | | |
| Meux, Sir Henry, Bart., M.P., Waltham Cross | | | 2 | 2 |
| Mordaunt, Lady, Walton House, Warwick | | | 1 | 1 |
| M'Arthur, Peter, Nurseryman, Edgware Road | 1 | 1 | 2 | 2 |
| M'Bey, G., Gr., Sudbrooke Holme, Lincoln | | | 1 | 1 |
| M'Donald, J., at Messrs. Low & Co.'s, Clapton | | | 1 | 1 |
| M'Ewen, D., Gr. to Col. Wyndham, Sussex | | | 1 | 1 |
| M'Ewen, G , Esq., Horticultural Gardens, Chiswick | | | 1 | 1 |
| M'Intosh, Donald, Seedsman, Salisbury | | | 1 | 1 |
| M'Millan, H., Mr Cattell's Nursery, Kent | | | 1 | 1 |
| M'Pherson, R., Nurseryman, Plaistow, Essex | | | 1 | 1 |
| M'Robie, Charles, Gr. to O. Ricardo, Esq., M.P. | | | 1 | 1 |
| M'Mullen, W., Esq., jun., 6, Leadenhall Street | | | 1 | 1 |
| Mackay, J. B., Nurseryman, Totteridge, Herts | | | 1 | 1 |
| Mackay, James, Gr., Longworth, Ledbury | | | 1 | 1 |
| Mackintosh, George, Nurseryman, Hammersmith | | | 1 | 1 |
| Maclaren, John B., Gr. to S. C. Whitbread, Esq. | 10 | 10 | | |
| Madgwick, R., The Swan Hotel, Alton, Hants | | | 1 | 1 |
| Malcolm, John, Esq., Lamorby, Bexley, Kent | 10 | 10 | | |
| Mallison, Fred. T., Royal Gardens, Claremont | | | 1 | 1 |
| §Marnock, Robert, Esq., Royal Botanic Gardens | 5 | 5 | 1 | 1 |
| Marter, Wm , Ottershaw Nursery, Chertsey | | | 1 | 1 |
| Martin, John, Gr. to Sir P. Dyke | | | 1 | 1 |
| Mason, James, Gr., Hill House Gardens, Bristol | | | 1 | 1 |
| Matthews, Alexander, Nurseryman, Sheffield | | | 1 | 1 |
| May, Richard, 1, Albert Place, Penge, Kent | 10 | 10 | | |
| Maybee, Charles, Esq., Kingsley, Alton, Hants | | | 1 | 1 |
| Meeking, Charles, Esq., Wood Lodge, Streatham | | | 1 | 1 |
| Meldrum, James, Nurseryman, Kendal | | | 1 | 1 |
| Mennie, A., at Messrs. Donald & Sons, Surrey | 10 | 10 | | |
| Mercer, William, Esq. | 10 | 10 | | |
| Metcalf, Jacob, Esq., Edgware Road | | | 1 | 1 |
| Methven, Thomas, Stanwell Nursery, Edinburgh | | | 1 | 1 |
| Mileham, James, Gr. to Sir Chas. Taylor, Bart. | | | 1 | 1 |
| Meller, Walter, Esq. | 10 | 10 | | |
| Mills, George, Uxbridge Road, Ealing | | | 1 | 1 |
| Mills, R., Esq , Court Yard, Eltham, Kent | | | 1 | 1 |
| §Milner, E., Esq., Crystal Palace, Sydenham | 10 | 10 | | |
| Milne, G., Gr. to Sir R. Throckmorton, Bart. | | | 1 | 1 |
| Milne, Arnott, & Co., Nursery, Vauxhall | | | 2 | 2 |
| Milroy, Peter, Gr. to J. W. Napier, Esq. | | | 1 | 1 |
| §Minier, Nash, & Nash, Messrs., Seedsmen, Strand | 26 | 5 | | |
| Mitchell, J., Gr. to Lord Wenlock, Escrick Park | | | 1 | 1 |
| Moffatt, T., Clumber Gardens, Worksop, Notts | | | 1 | 1 |
| Moore, Thomas, Botanic Gardens, Chelsea | | | 1 | 1 |
| Moore, William, New Hall, Salisbury | | | 1 | 1 |
| Moore, William, Nurseryman, East Dereham | | | 1 | 1 |
| Mortlock, John, Esq., Melbourne, Royston | 10 | 10 | | |
| Moses, George, Gr., Pepper Hall, Northallerton | | | 1 | 1 |
| Mountford, William, Gr., Kinmell Park | | | 1 | 1 |
| Mowl, Josh , Markhouse Common, Walthamstow | | | 1 | 1 |
| Moxon, Miss, Leyton, Essex | 10 | 10 | | |
| Moxon, Felix, Esq., 27, Throgmorton Street | 5 | 5 | 1 | 1 |
| §§Moxon, Thomas, Esq., Leyton, Essex | 10 | 10 | | |
| Muirhead, William, Gr. to Lord Charles Wellesley | 10 | 10 | | |
| Murdoch, John, Gr., Sandgate Lodge, Sussex | | | 1 | 1 |
| Murdoch, John, Markham Gardens | | | 1 | 1 |
| Murray, William, Gr., Ormsby Gardens | | | 1 | 1 |
| Munro, J., Forester to the Marquis of Northampton | | | 1 | 1 |
| Murrison, James, Gr. to the Duke of Montrose | | | 1 | 1 |
| Mylam, John, Gr. to G. Reed, Esq., Burnham | 10 | 10 | | |
| §Northumberland, His Grace the Duke of | 253 | 6 | | |
| §§Norman, George Warde, Esq., Bromley, Kent | 21 | 0 | 1 | 1 |
| Norman, Mrs , Carshalton, Surrey | | | 1 | 1 |
| Norman, George, Esq , ditto | | | 1 | 1 |
| Nash, Francis, Esq., Pickle Herring Wharf | | | 1 | 1 |
| Neeld, John, Esq., M.P., Chippenham | 10 | 10 | | |
| Nethercote, H. O., Esq., Northampton | | | 1 | 1 |
| §Noble, Cooper, & Bolton, Messrs., Seedsmen | 10 | 10 | | |
| Nutting & Sons, Messrs., Seedsmen, Barbican | | | 1 | 1 |
| §Overstone, The Right Hon. Lord | 21 | 0 | | |
| Oakes, Ralph, Gr. to W. H. Jones, Esq. | | | 1 | 1 |
| Odell, Islip, Esq., Upper Clapton | | | 1 | 1 |
| Ogden, John, Nurseryman, Coventry | | | 1 | 1 |
| Orchard, George, Gr., to J. Rigby, Esq., Kew | | | 1 | 1 |
| §Ormson, Henry, Horticultural Builder | 17 | 17 | 1 | 1 |
| Orr, William, Nurseryman, Hulme, Manchester | | | 1 | 1 |
| Osborne & Sons, Messrs., Nurserymen, Fulham | | | 2 | 2 |
| Owen, Richard, Leamington | | | 2 | 2 |
| §Paxton, Sir Joseph, M.P., Sydenham | 105 | 0 | | |
| §Pownall, Henry, Esq., 20, Ladbroke Square | 10 | 10 | | |
| Peto, Sir S. Morton, Bart., Kensington | 21 | 0 | 2 | 2 |
| Page, Joseph, 7, Woodstock St., Oxford St. | | | 1 | 1 |
| Page, Thos., Gr. to W. Leaf, Esq., Streatham | | | 1 | 1 |
| Pain, Robert, Nurseryman, Uxbridge | | | 1 | 1 |
| Palmer, Charles (legacy) | 50 | 0 | | |
| Palmer, John, Nurseryman, Annan, Dumfries-shire | | | 1 | 1 |
| Pamplin, James, Nurseryman, Walthamstow | | | 1 | 1 |
| Pantling, John G., Gr to B. Smith, Esq. | | | 1 | 1 |
| Pape, R, Gr. to Joseph Pease, Esq. | | | 1 | 1 |
| Parker, John, Messrs. Fisher & Co., Sheffield | | | 1 | 1 |
| Parker & Williams, Messrs., Paradise Nursery | | | 2 | 2 |
| Parsons, Anthony, Gr. to W. Blake, Esq. | | | 1 | 1 |
| §Paul, George, Nurseryman, Cheshunt | | | 1 | 1 |
| Paul, William, Nurseryman, Cheshunt | | | 1 | 1 |
| Pawley, W., Bromley | 10 | 10 | | |
| Paxton, George, Esq., Rock Hill, Sydenham | 10 | 10 | | |
| Pease, Joseph, Esq. | 10 | 10 | | |
| Pearson, James, Nurseryman, Hampstead Road | | | 1 | 1 |
| Peel, John, Gr. to H. Bevan, Esq. | | | 1 | 1 |
| Peers, J. D., Gr. to J. Groom, Esq. | | | 1 | 1 |
| Perkins, Thomas, Gr. to S. C. Fletcher, Esq. | | | 1 | 1 |
| Perceval, Miss, Bramdean Lodge, Alresford | | | 1 | 1 |
| Perceval, Miss C., ditto ditto | | | 1 | 1 |
| Perceval, the Hon. and Rev. C. G. | | | 1 | 1 |
| Perry, J., Algerkirk Gardens, Spalding, Lincolnsh. | | | 1 | 1 |
| Phelps, Jas., Gr. to H. Bright, Esq. | | | 1 | 1 |
| Phipps & Co., Messrs., Upper Thames Street | 11 | 11 | | |
| Pillens, Wm., Gr. to the Duke of Northumberland | | | 1 | 1 |
| §Pince, Robert T., Esq., Exeter | | | 1 | 1 |
| Pitman, W. F., Esq., Threadneedle Street | | | 1 | 1 |
| Plymouth, The Seed, Agric. Imp. and Man. Comp., Union Road, Plymouth, W. E. Rendle, Manager | | | 2 | 2 |
| Preston, T., Gr., Woodford Hall, Woodford, Essex | | | 1 | 1 |
| Pond, James, 6, Elm Place, Bath | | | 1 | 1 |
| §Pontey, Alexander, Nurseryman, Plymouth | 10 | 10 | 1 | 1 |
| Pope, Thos., Gr. to Sir G. Osborne, Bart. | | | 1 | 1 |
| Pott, R., Esq., Bridge Street, Southwark | 10 | 10 | | |
| Prior, Edw., Esq., 48, York Terrace, Regent's Park | | | 1 | 1 |
| Protheroe, J., Roll's Gardens, Chigwell, Essex | | | 1 | 1 |
| Protheroe & Morris, Messrs., Nur., Leytonstone | | | 1 | 1 |
| §Rothschild, The Baron, M.P., Gunnersbury Park | 42 | 0 | | |
| Rucker, Sigismund, Esq., Wandsworth | 31 | 10 | | |
| Rothschild, The Baroness, Gunnersbury Park | | | 1 | 1 |
| Rothschild, Messrs., New Court, St Swithin's Lane | 21 | 0 | | |
| Ramsay, Henry, Brooklands Nursery, Chelsea | | | 1 | 1 |
| Reed, George, Esq., Burnham, near Bridgewater | 10 | 10 | | |
| Reeves, J. R , Esq., King's Arms Yard, Moorgate St. | 10 | 10 | | |
| Reed, John L., Messrs. Lee, Hammersmith | | | 1 | 1 |
| Reith, Alexander, C. Loddiges, Esq., Hackney | | | 1 | 1 |
| Richardson, W., Esq., Charles St., Horselydown | | | 1 | 1 |
| §Ridgway, G. S., Esq., Burlington Villa, Chiswick | 10 | 10 | | |
| §Rivers, T., Nurseryman, Sawbridgeworth, Herts | 26 | 5 | 2 | 2 |
| Robins, E., Gr. to Colonel Hawkins | | | 1 | 1 |
| Robins, William, Gr. to W. Beach, Esq. | 10 | 10 | | |
| Robinson, F. E., Esq., Old Bank, Oxford | | | 1 | 1 |
| Robinson, George, Gr. to E. R. Tunno, Esq. | | | 1 | 1 |
| Robinson, James, Gr., Chiselhurst | | | 1 | 1 |
| Robinson, Joseph | 10 | 10 | | |
| Robson, John, 15, Clifton Terrace, Brighton | | | 1 | 1 |
| §Rollisson & Sons, Messrs., Nurserymen, Tooting | 10 | 10 | 2 | 2 |
| Ronalds, Robert, Nurserymen, Brentford | | | 1 | 1 |
| §Rosher, E., Esq., St. John's Wood | | | 1 | 1 |
| §Roupell, Wm., Esq., M.P., Roupell Park, Brixton | 15 | 15 | 1 | 1 |
| Rowell, William, Gr., Boldon House, West Boldon | | | 1 | 1 |
| Rowe, Frederick, Gr., Peterborough House, Fulham | | | 1 | 1 |
| §Rowland, A., Esq., Rosenthal, Lewisham | 5 | 5 | | |
| Roy, J., Nurseryman, Aberdeen | 10 | 10 | | |
| Russell, Lord John, M.P. | 10 | 10 | | |
| Rye, Henry, Gr. to O. S. Onley, Esq. | | | 1 | 1 |
| Sutherland, his Grace the Duke of, K.G. | | | 1 | 1 |
| Sefton, the Right Hon. the Earl of, Croxteth Hall | 10 | 10 | | |
| South, Sir James, Campden Hill, Kensington | | | 1 | 1 |
| §Sullivan, Rt. Hon. Laurence, Broom House, Fulham | 10 | 10 | | |
| Sanders, James, Gr., Ashurst, Dorking | | | 1 | 1 |
| Sanders, John, Gr. to J. Assheton Smith, Esq. | | | 1 | 1 |
| Sansom, John, Gr. to the Hon. Mrs. Legge | | | 1 | 1 |
| Scarboro, William, Gr., Hendon | | | 1 | 1 |
| Scholey, Wm., Gr., Burnham Hall, Norfolk | 10 | 10 | | |
| §Schroeder, J. H., Esq., Brighton | 10 | 10 | | |
| Schroeder, Mrs., ditto | 10 | 10 | | |
| Scobie, John, Gr., Holland House, Kensington | | | 1 | 1 |
| Scott, Alexander, Gr. to Sir G. Staunton, Bart. | | | 1 | 1 |
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| §Scott, J. R., Esq., Crouch End, Hornsey | | | 1 | 1 |
| Scott, James, Gr. to R. V. Yates, Esq. | | | 1 | 1 |
| Sealey, John, Mugland, Nursery, Bristol | | | 1 | 1 |
| Searle, William, Gr. to T. L. Whitmore, Esq. | | | 1 | 1 |
| Selkirk, John, Gr., Porters, near Barnet | | | 1 | 1 |
| Shackley, Edward, Gr., Croft Lodge, Ambleside | | | 1 | 1 |
| Shanks & Son, Messrs , Arbroath | | | 1 | 1 |
| Shakshaft, Samuel, 25, Park Street, Islington | | | 1 | 1 |
| Sharland, Thomas, Gr., Gunnersbury House, Acton | | | 1 | 1 |
| Shepherd, James, Gr., West Dean House, Chichester | 10 | 10 | | |
| Sheppard, S., Gr. to T. S. Oudon, Esq. | | | 1 | 1 |
| Shuard, John, Gr., Herne Hill | | | 1 | 1 |
| Shilling, Stephen, Nurseryman, North Warnboro | | | 1 | 1 |
| Shurvin, Joseph, Gr to W. Miskin, Esq., Eltham | | | 1 | 1 |
| Sim, R., Nurseryman, Footscray, Kent | | | 1 | 1 |
| Simpson, Edward, Gr. to Lord Wrottesley | | | 1 | 1 |
| Simpson, Geo , Esq , the Old Palace, Richmond | | | 1 | 1 |
| Simpson, T. B , Esq., Cremorne Gardens, Chelsea | | | 1 | 1 |
| Skene, John, Gr. to Sir R. G. Gerard, Bart. | | | 1 | 1 |
| Skinner, George Ure, Esq., Rickmansworth | 33 | 6 | | |
| Slade, A. F., Esq , Broad Street | 10 | 10 | | |
| Smith, Abel, Esq. | 10 | 10 | | |
| Smith, Charles, Gr. to Captain Chawner | | | 1 | 1 |
| Smith, C., Gardener, Park Place, Dulwich | | | 1 | 1 |
| Smith, Charles, Gr. to A. Anderson, Esq. | | | 1 | 1 |
| Smith, George, Gr. to J. Hargreaves, Esq. | | | 1 | 1 |
| §Smith, W. B., Esq., 27, Gt. George St., Westminster | | | 1 | 1 |
| Smith, J., Gr. to Lord Tenterden | | | 1 | 1 |
| Smith, John, Royal Botanical Gardens, Kew | | | 1 | 1 |
| Smith, John, Gr. to Miss Webb | | | 1 | 1 |
| Smith, John, Gr. to the Earl of Scarborough | | | 1 | 1 |
| Smith, Oswald, Esq., Bexley, Kent | 10 | 10 | | |
| Smith, Richard, Nurseryman, Worcester | 10 | 10 | | |
| Smith, Thomas, Gr. to the Hon. and Rev. J. Somers Cocks, Mathon Lodge, Malvern | | | 1 | 1 |
| Snow, Seward, Gr. to Earl de Grey, Wrest Park | 10 | 10 | | |
| Snow, W., Gr. to Earl de Grey, Putney | | | 1 | 1 |
| Soden, J., & Co., Messrs., Nurserymen, Woodstock | | | 1 | 1 |
| Solomon, L , Fruiterer, Covent Garden | 1 | 1 | 1 | 1 |
| Sowerby, James De Carle, Esq., Royal Botanic Gardens, Regent's Park | | | 1 | 1 |
| Spary, E., Queen's Graperies. Brighton | | | 1 | 1 |
| Spavy, George, Clumber Park, Worksop | | | 1 | 1 |
| Speed, Joseph, Gardener, Saffron Walden | | | 1 | 1 |
| Spencer, James, Esq., Leicester | | | 1 | 1 |
| §Spencer, J., Gr. to the Marquis of Lansdowne | 10 | 10 | | |
| Spire, Robert, Gr. to W. Taylor, Esq. | | | 1 | 1 |
| Spivey, Edward, Gr. to J. N. Houblon, Esq. | | | 1 | 1 |
| Staniforth, Rev. T. | 10 | 10 | | |
| Stanley, George, Bexley, Kent | 10 | 10 | | |
| Stanley, Wm., Gr. to O. Smith, Esq. | | | 1 | 1 |
| Stannard, J., Gardener, Priory, Roehampton | | | 1 | 1 |
| Starkey, J. B., Esq., Spye Park, Chippenham | | | 1 | 1 |
| §Stevens, J. C., Esq., King St., Covent Garden | 16 | 11 | | |
| Stephens, Charles, Esq., Brixton, Surrey | | | 1 | 1 |
| Stephenson, Jas., Gr. to Harvey Combe, Esq. | | | 1 | 1 |
| Stewart, Alexander, Loughcrew, Ireland | | | 1 | 1 |
| Stewart, G., Gr. to Sir J. Pollen, Bart. | | | 1 | 1 |
| Stone, Mrs., Dulwich | | | 1 | 1 |
| Streacy, T., Pewter Platter, Norton Folgate | | | 1 | 1 |
| §Strachan, J. M., Esq., Teddington Grove | | | 1 | 1 |
| Stuart, William, Esq., 18, Hill St., Berkeley Sq. | 10 | 10 | | |
| Sutherland, George, Yorkshire | | | 1 | 1 |
| Sutton & Sons, Messrs., Seedsmen, Reading | | | 2 | 2 |
| Tanqueray, Charles, Esq., Vine St., Bloomsbury | 5 | 5 | 1 | 1 |
| Tanqueray, John S., Esq., ditto | | | 1 | 1 |
| Tarent, G., Gr., Plumber's Lane, Camberwell | | | 1 | 1 |
| §Tayloe, Thos., Esq., 4, Scott's Yard, Cannon St. | 11 | 11 | | |
| Taylor & Son, Messrs., Kensall Green | | | 1 | 1 |
| Taylor, Adam, Gr. to Weston Wood, Esq. | | | 1 | 1 |
| Taylor, George, St. John's Market, Liverpool | | | 1 | 1 |
| Taylor, Wm., Mineral Wells, Streatham, Surrey | 1 | 1 | 1 | 1 |
| Thibaut & Ketcleer, Messrs., Paris | | | 1 | 1 |
| Thomas, George, Gr. to J. Baxendale, Esq. | | | 1 | 1 |
| Thomson, David, Leith Walk, Edinburgh | | | 1 | 1 |
| Thomson, George, Gr. to Mrs. Dixon | | | 1 | 1 |
| Thompson, Geo., Gr. to George Lane Fox, Esq. | 10 | 10 | | |
| Thomson, Wm., Gr. to the Duke of Buccleuch | | | 1 | 1 |
| §§Thorne, J., Esq., Mawbey House, South Lambeth | 11 | 11 | | |
| Tillery, William, Gr. to the Duke of Portland | | | 1 | 1 |
| Tiley, E , Nurseryman, Bath | | | 1 | 1 |
| Tillyard, G., Gr. to Rt. Hon. Earl Eversley | | | 1 | 1 |
| Tobutt, Wm., 5, Priory Cottages, South Lambeth | | | 1 | 1 |
| Todman, James, Nurseryman, Eltham, Kent | | | 1 | 1 |
| Toogood, C., Gr. to Sir T. F. Lewis, Bart. | | | 1 | 1 |
| Toward, Andrew, Royal Gardens, Cowes | 10 | 10 | | |
| §Travers, J. H., Esq., St. Swithin's Lane, City | 10 | 10 | | |
| Trotter, J., Gr. to the Duke of Beaufort | | | 1 | 1 |
| Truelove, William, Gr., Buckland Court, Dorking | | | 1 | 1 |
| Truman, Hanbury, & Co., Messrs, Spitalfields | 10 | 10 | | |
| §Turner, Charles, Nurseryman, Slough | 11 | 11 | 1 | 1 |
| Turrill, John, Hartley Maudit, Alton, Hants | | | 1 | 1 |
| Turtle, James, Gr. to E. R. Pickering, Esq. | | | 1 | 1 |
| Tylor, Francis, Esq., Uppingham | | | 1 | 1 |
| Vair, James, Gr. to Lady Neville, Dangstein | | | 1 | 1 |
| Veitch, James, Nursery, Exeter | | | 1 | 1 |
| §§Veitch, Jas., jun., Royal Exotic Nursery, Chelsea | 47 | 5 | 1 | 1 |
| Veitch, John Gould, ditto ditto | | | 1 | 1 |
| Vickers, William, Gr. to Viscount Folkestone | | | 1 | 1 |
| Videon, G., 1, Clarendon Place, Edgeware Road | | | 1 | 1 |
| Wrench & Sons, Messrs., London Bridge | 52 | 12 | | |
| Wackrell, Uriah, Gr. to H. Wheeler, Esq. | | | 1 | 1 |
| Wadey, Michael, Gr. to C. Meeking, Esq. | | | 1 | 1 |
| Wainwright, John, Gr., Ruston Hall, Kettering | | | 1 | 1 |
| Ward, E. M., Gr. to C. Kinnersley, Esq. | | | 1 | 1 |
| Ward, R. C., Seedsman, Bath | | | 1 | 1 |
| §Warner, C. B., Esq., Stratford, Essex | 1 | 1 | 1 | 1 |
| Warnaby, Wm., Esq., Market Harborough | | | 1 | 1 |
| Waterer & Godfrey, Messrs., Nurserymen | 23 | 2 | | |
| Waterer, John, Nurseryman, Bagshot | | | 1 | 1 |
| Weaver, Thomas, Gr. to Kevill Davis, Esq. | | | 1 | 1 |
| Webb, John, Gr. to W. H. Cox, Esq. | 10 | 10 | | |
| Webber, M., & Co., Messrs., Covent Garden | | | 1 | 1 |
| Wedlake, George, Gr. to Mrs. Wade Brown | | | 1 | 1 |
| §Weeks, J., King's Road, Chelsea | 12 | 12 | | |
| Wells, Chas., Gr., Highnam Court, Gloucester | | | 1 | 1 |
| Wells, George, Gr to J. Hussey, Esq., Kent | | | 1 | 1 |
| Wells, Joseph, Shorn, near Gravesend | | | 1 | 1 |
| Wells, J., Gr. to J. B. Phillipson, Esq. | | | 1 | 1 |
| Wells, Samuel, Gr., Holme Lacy, Hereford | | | 1 | 1 |
| §Wheeler, J. C., & Sons, Messrs., Seedsmen | | | 1 | 1 |
| White, John, Gr., Norman's Court, Stockbridge | | | 1 | 1 |
| Whiting, J. B., Gr. to H. T. Hope, Esq. | | | 1 | 1 |
| Wighton, J., Gr. to Lord Stafford, Cossey Hall | | | 1 | 1 |
| Wilder, E , Esq. | 10 | 10 | | |
| Wilder, Mrs., Belmont House, Havant | | | 1 | 1 |
| Wilkins, William, Nurseryman, Newport | 10 | 10 | | |
| Williamson, Joseph, Gr. to the Earl of Lonsdale | | | 1 | 1 |
| Wilcox, —, Dunham Massey, Altringham | | | 1 | 1 |
| Wilson, Isaac, Gr. to A. Mortimer, Esq. | | | 1 | 1 |
| Wilson, R., Esq., Corn Exchange, Sheffield | | | 1 | 1 |
| Wilson, William, Gr. to Lord Melford | | | 1 | 1 |
| Winfield, William, Gr., Warwick | | | 1 | 1 |
| Winston, Rev. B., Harcourt Buildings, Temple | | | 1 | 1 |
| Wintle, Thomas, Esq., Swanswick Villa, Bath | | | 1 | 1 |
| Witham, William, Horticultural Builder | | | 1 | 1 |
| Wood & Ingram, Messrs., Nurserymen | 1 | 1 | 1 | 1 |
| Wood, William & Son, Messrs., Nurserymen | | | 1 | 1 |
| Woodbourne, Jas., Esq., Kingsley, Alton, Hants | | | 1 | 1 |
| Woods, W., Heath Nursery, Leighton Buzzard | | | 1 | 1 |
| Wood, Western, Esq. | 10 | 10 | | |
| §Woods, Rd., Bedford Nursery, Hampstead Road | 26 | 5 | 1 | 1 |
| Woods, John, Gr., Ollerton, Notts | | | 1 | 1 |
| §Woodroffe, Charles, Harrow Road | 10 | 10 | 1 | 1 |
| Woolley, Samuel, Gr. to H. B. Ker, Esq. | 10 | 10 | | |
| Wortley, B., at Mr. Barnes', Camden Nursery | | | 1 | 1 |
| Wortley, Gr. to Mrs. Maubert, Norwood | | | 1 | 1 |
| Wright, George, Mitcham Common, Surrey | | | 1 | 1 |
| X. Z., per Mr. Chandler, Vauxhall | 10 | 10 | | |
| Yates, —, Esq., Sale Moor, Manchester | | | 1 | 1 |
| Yole, Francis, Gn., Plymouth | | | 1 | 1 |
| Young, Andrew, Tadsworth, Banstead, Surrey | | | 1 | 1 |
| Young, George, Gr. to Mrs. Stone, Dulwich | | | 1 | 1 |
| Young, George, Gr. to Lord Braybrooke, Essex | | | 1 | 1 |
| Young, John, Esq., Elm Cottage, Taunton | | | 1 | 1 |

[Those marked thus § have served the office of Stewards.

## ROYAL SOUTH HANTS SEED ESTABLISHMENT.

UNDER THE PATRONAGE OF H.R.H. THE PRINCE CONSORT, THE AGRICULTURAL, HORTICULTURAL SOCIETY OF INDIA, AND THE LEADING AGRICULTURISTS OF THE UNITED KINGDOM.

PAGE AND TOOGOOD can now supply GARDEN AND FARM SEEDS, carriage free; SEED POTATOES, &c. The numerous Prizes gained by their Stocks are convincing proofs of superior quality, and their prices compete with any house in the kingdom. WHOLESALE and RETAIL PRICED CATALOGUES upon application.

Agents for ODAMS' Blood Manure, Superphosphate, &c. Seeds Packed for Exportation to all Parts of the world,

37 and 38, Oxford Street (facing the Railway Terminus); and 58, Above Bar, Southampton.

## PRICED CATALOGUE OF SEEDS FOR 1859.

Just published by HILNE, ARNOTT, & Co., and will be forwarded free upon application,

A PRICED AND DESCRIPTIVE CATALOGUE OF SEEDS, containing select lists of the best kinds all from the most genuine stocks, and of excellent quality. Orders above 1*l.* carriage free to any station within 100 miles of London; above 5*l.* to any station or port in the United Kingdom.—MILNE, ARNOTT, & Co., Wandsworth Road, London, S., successors to Messrs. Chandler & Sons (established upwards of 60 years).

## PINE-APPLE NURSERY, EDGEWARE ROAD (W.).

ARTHUR HENDERSON AND CO. beg respectfully to announce that their CATALOGUE OF KITCHEN GARDEN AND FLOWER SEEDS FOR 1859, with a List of Garden Implements and other requisites is now published, and will be forwarded, post free, on application.

They particularly desire to call the attention of the public to their "celebrated Short-topped Garden Beet," the only variety that really will repay the grower; colour, flavour, and quality are such as to render it worthy of extensive cultivation; also "Kite's Branching Marrow Pea," a very valuable and prolific bearer for every day use; "Snow's true White Winter Broccoli;" "Snow's Champion Cos Lettuce," a large crisp summer and autumn Lettuce, and for these seasons unequalled. In this select List will also be found the "Moor Park Lettuce," those very superior sorts as yet but little known, namely, the "Palatine" and "Versailles" Cabbage Lettuce; neither of these are disposed to run to seed during the hot summer months. The White and Black spined Imperial Cucumber, the new sprouting or Feather-stemmed Savoy, a scarce but most delicious Green; the "Waterloo framed short-topped seeding Potato," raised between the "Albion" and "Frame;" it is earlier than either, very productive, and the sort that must eventually be depended upon as the best early frame and forcer, as soon as its merits become better known. The "Australian Salad Cress"; this plant grows about 1 foot in height, branching and spreading all round the stem; it may be constantly cut and gathered throughout the summer, the leaves are of a peculiarly delicate light green, the flavour is exquisite, grateful, and piquant.

CHAMPION OF SCOTLAND PEA.—A new and first-rate sort, declared by all who grew it last year to be the most distinct and best flavoured Pea in cultivation. To be had only at PETER LAWSON & SON'S, the Queen's Seedsmen, &c., who are also prepared to execute orders for all sorts of Garden and Flower Seeds of the finest quality.

27, Great George Street, Westminster.

## "JACK OF NEWBURY" SWEDE, ETC.

PETER LAWSON AND SON, THE QUEEN'S SEEDSMEN, &c., 27, Great George Street, Westminster, respectfully request attention to their very genuine Stock of the above excellent Swede; also of the LOTHIAN PURPLE TOP SWEDE, both of which have been selected with the greatest care. They have also a very fine Stock of the KOHL RABI, or TURNIP-ROOTED CABBAGE, specimens of which were shown at their Stands at Smithfield Club Show. The Kohl Rabi was largely grown last season, and may now be relied on as a substitute for the Turnip and Mangel, where these roots do not succeed, or for filling up blanks where there is a partial failure. Its feeding qualities, hardiness, and weight per acre are equal to the Swede, and all kinds of stock prefer it to other roots.

P. L. & SON have also selected a first-rate Stock of MANGEL WURZEL SEED, which they can confidently recommend. Their natural GRASS SEEDS have been also saved with very great care, and they are ready to supply them separately or in mixture, for laying down Permanent Pastures, Lawns, &c.

P. L. & SON have arranged to deliver Seeds free throughout England and Wales from their London Establishment, for all quantities exceeding 20*s.* in value.

LISTS OF PRICES of the above and all other Seeds, Plants, &c. may be had on application.

27, Great George Street, Westminster.

## CALLICARPA PURPUREA.

JOHN STANDISH, the exhibitor of the above (at St. James's Hall), can supply a few good plants at 7*s.* 6*d.* each. The following passage from Dr. Lindley's leading article in the *Gardeners' Chronicle* for Nov. 20 will give an idea of its beauty:—"Callicarpa purpurea, quite insignificant when in flower, was beautiful in its winter dress of innumerable rich purple berries, about the size of swan shot.' It is easily cultivated, and does well in a cold greenhouse or conservatory planted out, where it will produce thousands of bright purple berries resembling glass beads, and remaining on nearly the whole winter.—Bagshot, Jan. 20.

FLOWER AND VEGETABLE SEEDS OF BEST QUALITY.—The Advertisers respectfully solicit applications for their extensive and DESCRIPTIVE CATALOGUE OF FLOWER AND VEGETABLE SEEDS, which they will feel pleasure in forwarding to any address throughout the world without charge, and postage free. It will be found to contain, beside the usual names of garden occupants, a numerous list of very CHOICE, NEW, and RARE SEEDS of all classes of the floral world, with many not to be met with elsewhere; and also of the Kitchen Garden Department, to the quality and purity of which they pay particular attention. Collections made up for all climates.—Address HOOPER & Co., Seedsmen, Covent Garden Market, London, W.C.

## NEW FLORAL CATALOGUE, 1859.

CAREY TYSO, FLORIST and SEEDSMAN, Wallingford, Berks, announces that his NEW CATALOGUE will be sent to any address, free, for one postage label.

Selections therefrom as under:—

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Double Anemones | .. | 50 fine sorts | .. | 10*s.* | 6*d.* | to £0 | 13*s.* | 0*d.* |
| Ranunculuses | .. | 50 splendid do. | | 20 | 0 | to 2 | 0 | 0 |
| Seedling ditto | .. | 50 ditto | .. | 60 | 0 | to 3 | 10 | 0 |
| Carnations and Picotees | | 25 pairs ditto | | 35 | 0 | to 3 | 0 | 0 |

C. T. has saved some Choice Ranunculus, Pink, and Sweet William Seeds, in packets 2*s.* 6*d.* and 5*s.* each, post free.

Imported German Seeds of best quality.

## HARDY SCARLET RHODODENDRONS AND AMERICAN PLANTS GENERALLY.

WATERER AND GODFREY'S PRICED and DESCRIPTIVE CATALOGUE of the above beautiful tribe of plants, as exhibited by them in London and Manchester, may now be had on application inclosing one stamp for postage. The Catalogue also furnishes the heights and prices of their unequalled stock of Conifers and Evergreens, &c. Catalogues may also be had of Messrs. J. MAY & Co., Seedsmen, &c., Wellington Street, Strand.

Knap Hill Nursery, Woking, Surrey.

## SEED CORN FROM THE CHALK.

MESSRS. RAYNBIRD AND HARVEY beg to offer to Agriculturists requiring change of SEED Talavera Red Nursery, and April WHEAT, the best sorts for Spring sowing.

Chevalier, Thanet, Golden Drop, Long-eared Nottingham, American, Hudson's Golden Melon, Banham's Sprat, and other varieties of BARLEY.

Canadian Potato, Hopetoun, Poland, and Tartarian OATS.

Fine CLUSTER BEANS, weighing 68 lbs. per bushel.

Samples and Prices on application.

Address—Basingstoke, and 89, Seed Market, Mark Lane, London, E.C.

## POTATOES FOR EARLY PLANTING.

MYATT'S PROLIFIC SEEDLING ASH-LEAF KIDNEY.—For description of this valuable variety, which has again given such universal satisfaction, see Dr. Lindley's report in the *Gardeners' Chronicle* of August 1, 1857, at the Horticultural Society's Garden, wherein it is described as a "best cropper than the old Ash-Leaf, and one of the best early kinds." Price per bushel, 7*s.* To be had of Mr. J. MYATT, Evesham, or of Mr. J. MYATT, Camberwell. A small quantity of Yellow Globe Mangel Seed saved from large selected roots for stock. The trade on application.

# IMPROVED CUSTARD VEGETABLE MARROW.

THIS handsome variety is totally distinct from the one figured in the Horticultural Periodicals of last season. I forwarded a specimen of the Fruit (as above) to PROFESSOR LINDLEY last Spring, which was exhibited by him at the HORTICULTURAL ROOMS in Regent Street, and noticed in The *Gardeners' Chronicle* (page 175). Its unique shape, agreeable flavour, and easy culture, added to its large productiveness is a strong recommendation to its having a place in every garden.

We are this season enabled to offer the New Seed at a reduced price, as under.

Packets of 18 Seeds, 1*s.* 9 Seeds, 6*d.*

Price to the Trade per 100 or 1000 will be given on application.

**BASS & BROWN, SUDBURY, SUFFOLK.**

# CHOICE FLOWERS.

# BUTLER & McCULLOCH'S SPRING CATALOGUE OF SEEDS,

ESTABLISHED UPWARDS OF A CENTURY

ARRANGED on a new and original plan, with copious Descriptive and Cultural Notes, and containing many new and rare species and varieties not found in any other Catalogue, now ready and may be had free and post paid on application.

FLOWER, SHRUB, TREE, and VEGETABLE SEEDS, the crop of 1858, saved with the greatest care, by the most eminent growers.

We may also state that the Sardinian correspondent of Messrs. JAMES CARTER & Co., whose Seeds, especially Carnations and Picotees, have given such universal satisfaction, has transferred the Agency from that firm and appointed us his representative in this country. To meet the growing demand for first class flowers, particularly FLORISTS' FLOWERS, we have adopted our usual maxim of charging the lowest possible prices.

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A selection of 44 pkts. of beautiful Annual Flower Seeds | | | | | | | 7*s.* | 6*d.* | An Assortment of Vegetable Seeds, 20 quarts of Peas, and other Seeds in proportion for 1 year's supply | .. | £3 3 0 |
| Ditto | 33 | ditto | ditto | .. | .. | 5 | 0 | | | | |
| Ditto | 21 | ditto | ditto | .. | .. | 3 | 0 | | Ditto | ditto 12 quarts of Peas ditto | .. 2 2 0 |
| A selection of 40 pkts. of beautiful Biennial and Perennial ditto | | .. .. .. .. .. | | | .. | 10 | 6 | | Ditto | ditto 6 ditto ditto | .. 1 1 0 |
| Ditto | 31 | ditto | ditto | .. | .. | 7 | 0 | | Ditto | ditto 5 ditto ditto | .. 0 15 0 |
| Ditto | 24 | ditto | ditto | .. | .. | 5 | 0 | | | | |

All Flower Seeds sent post paid, and Vegetable or Vegetable and Flower Seeds amounting to 1*l.* 1*s.* Carriage Paid to any principal Railway Station in England, Wales, and Scotland, or any port on the Irish Coast.

**BUTLER & McCULLOCH, Covent Garden Market.**

# SEEDS RIPENED ON THE CONTINENT.

## JAMES CARTER & Co.

HAVING observed their name mentioned in an advertisement in connection with a late correspondent, feel it their duty to state that, preferring to have their Seeds from the Continental growers *direct*, one of the Firm has travelled during the past autumn with that object, *and purposes doing so every season;* the services of the correspondent alluded to are therefore dispensed with. Their Seeds for the present season, having been *personally* selected, are better than any they have hitherto offered.

**JAMES CARTER & CO., Seedsmen, 238, High Holborn, London, W.C.**

# GENUINE KITCHEN GARDEN SEEDS.

## JAMES CARTER & CO.

ARE NOW READY TO SUPPLY SEEDS FOR THE VEGETABLE AND FLOWER GARDEN, WHICH WILL BE FOUND, AS USUAL, OF THE BEST QUALITY ONLY.

## CARTER'S "ENCYCLOPÆDIC CATALOGUE OF SEEDS, AND GARDENER'S VADE MECUM."

The Twenty-fourth Annual Issue of the above is now ready, and, in addition to its usual comprehensiveness, has affixed a CALENDAR OF OPERATIONS for each month in the year for the Vegetable and Flower GARDEN, also for the Stove, Conservatory, Greenhouse, Orchid House, Pineries, Vineries, Pits, Frames, &c., forming a complete Gardener's Book of reference, which it is hoped will be found useful alike to the Amateur and professional Gardener. Forwarded free of charge and post paid to all parts of the world upon application.

**JAMES CARTER & CO., Seedsmen, 233, High Holborn, London, W.C.**

# MEADOW AND PASTURE GRASS SEEDS.

## GEORGE GIBBS & Co., Seedsmen, 26, Down Street,

BEG to announce that their mixtures of GRASS SEEDS are now ready for delivery. These mixtures are made up expressly to suit the various soils and the growth of each variety is fully tested previous to being bulked. G. G. & Co. having supplied the Seeds for *Hyde Park, St. James's, and Regent's Park, Kensington Gardens, Kennington Park*, &c., for many years, feel assured no further testimonials are requisite. The Seeds are made up into two different mixtures, as they do not sow well together; 2 bushels of the light and 12 lbs. of the heavy seeds are allowed per acre.

Mr. GIBBS, giving his personal attention to the assorting of these mixtures assures his friends that every care is taken with regard to the proper proportions.

**MIXTURES FOR PERMANENT MEADOW & PASTURE** (adapted to the different soils) 32s. to 34s. per acre.
**MIXTURES FOR IMPROVING & RENOVATING OLD GRASS LAND** (8 to 12 lbs. per acre) 1s. per lb.
**MIXTURES OF THE FINEST SORTS FOR LAWNS, GRASS PLOTS, BOWLING GREENS, &c, 1s. 3d. per lb.**

SELECT STOCKS OF THE UNDERMENTIONED AGRICULTURAL SEEDS SUPPLIED AT THE PRICES STATED FOR THE PRESENT MONTH:—

| MANGEL WURZEL. Per lb.—s. d. | | CARROTS. Per lb.—s. d. | | SWEDES. Per lb.—s. d. | | RYE-GRASS. Per bushel—s. d | | CLOVERS. Per lb.—s. d. | | VARIOUS. Per lb.—s. d. | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Long Red .. .. | 0 9 | White Belgian .. | 1 0 | Asheroft .. .. | 0 9 | Gibbs' Improved Italian | 7 0 | English Red .. | 9d. to 0 10 | Holcus saccharatus .. | 2 0 |
| Leviathan Long Red .. | 0 10 | Yellow Belgian .. | 1 3 | Skirving's .. .. | 0 9 | Dickenson's Italian .. | 7 0 | White Dutch .. | 1d. to 1 0 | Lucerne .. .. | 1 0 |
| Yellow Globe .. .. | 0 9 | Large Altringham .. | 1 6 | Matson's .. .. | 1 0 | Fine Imported do. .. | 7 0 | Trefoil .. .. | 4d. to 0 5 | Drumhead Cabbage .. | 3 0 |
| Red Globe .. .. | 0 9 | Long Surrey .. .. | 1 6 | Kentish Green Crown . | 1 0 | Common English.. .. | 6 0 | Alsike Hybrid .. .. | 2 0 | Large Cattle Parsnip .. | 1 6 |
| Long Yellow .. .. | 0 9 | James's Scarlet .. | 1 6 | Marshall's Purple Top .. | 1 0 | Pacey's Perennial.. | 6s. to 7 0 | True Cow-grass.. .. | 1 0 | Kohl Rabi .. .. | 5 0 |

*Full Priced Catalogues sent free on application.—Cash or reference required from unknown Correspondents.*

**GEORGE GIBBS & Co., 26, Down Street, Piccadilly, London, W.**

## NEW SEED CATALOGUE.

# MESSRS. E. G. HENDERSON & SON

RESPECTFULLY announce that they will forward, post free, their NEW CATALOGUE for 1859, in which the following novelties of the season will be introduced or noticed with full descriptions of management, cultivation, and adaptation; and only those that are known to be valuable are recommended for cultivation. Much useful information on the cropping of Gardens, sowing, &c., is also given for the guidance of cultivators. The following NEW FLOWERS and other Seeds are offered by E. G. HENDERSON & SON for the **first season, full descriptions of which, with treatment, are given in the Catalogue.**

THE GIANT EMPEROR ASTER, of rosy carmine colour, s. 6d. (The splendid lavender-blue variety of this Aster, we had the pleasure of introducing last season, proved the very finest of its class yet known).

NUTTALLIA PEDATA, var., see Catalogue for the description of this beautiful plant, 2s. 6d.

CLIANTHUS DAMPIERI, 2s. 6d., 5s. and 10s. per packet. A most beautiful cool greenhouse plant, from 1 to 2 or 3 feet in height, with neat winged leaves and drooping clusters of large rich scarlet long petalled Pea-shaped flowers, 3 to 4 inches in length, and in form somewhat resembling the splendid blossoms of the Coral-tree, but still longer and more pointed, each individual blossom being also picturesquely marked with a large conspicuous front black cloud-like blotch. The seeds of this magnificent flowering shrub have been received in fine condition by the most expeditious and safe mode: through the post by the overland mail. The proper culture and best situation and soil for the growth of this plant, and of young plants in particular through the winter months, are fully given in the Catalogue.

THE LAWTON BLACKBERRY (new American Fruit), 2s. 6d. each; 25s. per dozen. For its value and descriptive features, see the Catalogue.

### NEW FLOWER SEEDS OF 1859.

Price per packet is given in the Catalogue. A select assortment for 6s. from the following New Flowers for 1859.

Acroclinium roseum album
Celosia pyramidalis
Chrysanthemum Burridgeanum
,, venustum
Datura humilis (flava pleno)
Dianthus hybridus corymbosus flore pleno
Gaillardia hybrida grandiflora
Fenzlia dianthæflora
Ipomœa hederacea superba lilacina
,, ,, atropurpurea
Lupinus Hartwegi cœlestinus
Myosotis azurea grandiflora (Large-flowered Forget me-Not)
New Double Orange French Marigold
Nasturtium Tom Thumb (dwarf)
Nasturtium Brilliant (not Lobbi Brilliant)
Pharbites (Convolvulus) hybrida marginata
Portulacsa caryophylloides
Œnothera bistorta Veitchi
,, Drummondi nana
Viscaria cœli rosa alba
,, Dunnetti
Silene rubella alba

### Also the following Choice and Rare Seeds:—

Nolana paradoxa violacea
Intermediate Stock (red)
,, ,, (white) see description in Catalogue
Datura Wrighti (see note on this plant in Catalogue)
Tritoma Uvaria
Tropæolum elegans
Tacsonia ignea
Perilla Nankinensis (see Catalogue for decorative purposes)
Lobelia erinus speciosa (see fine features for use in Catalogue)
Calliopsis Burridgeanum
Dianthus chinensis coronata
Balsams, Camellia-flowered and Rose-flowered
Gaillardia splendidissima, and G. rosea lutea
Aster, new crowned, or two coloured
,, English quilled, finest quality
,, French pyramidal quilled
Aster, Chrysanthemum-flowered, new dwarf (see note in Descriptive Catalogue of this splendid variety)
Carnation, Picotees, and perpetual flowering varieties (extra choice)
Petunia Marquis de la Ferté, the rose-coloured variety for bedding, and others
Phlox Drummondi (new varieties)
Marigold, double striped flowered
Californian Sunflower, splendid double orange

A List of Sixty ORNAMENTAL GRASSES, a few of which are adapted for margins to beds, borders, &c.

*A Descriptive Priced List of that most splendid tribe of hardy bulbs: Gladiolus Gandavensis.*

The new vegetable CHÆROPHYLLUM BULBOSUM, and now well-known DIOSCOREA BATATAS (the Chinese Potato or Yam). Seed of the former and sets of the latter per dozen or 100, large tubers for tasting of both, per lb.

**A List of 100 Select ORNAMENTAL GOURDS and MARROWS.**

### SPERGULA PILIFERA, a perfect substitute for Grass Lawns, &c., in Villa Gardens, without mowing.

SPERGULA PILIFERA in its style of growth is a neat dwarf hardy perennial tufted Alpine plant, forming close compact wiry Grass-like stems, from a quarter to half an inch in height, at first erect, afterwards decumbent, clothed with closely set green bristle-like leaves which, by permanent growth and occasional rolling, forms an unbroken level velvet-like surface, of the richest conceivable verdure, remaining uninjured in severe drought or intense cold, and assumes the same beautiful verdurous tint during the winter months, as in summer. The seedling plant of this highly interesting object starts into growth with a single unbranched perpendicular radicle or root, and afterwards manifests a remarkable power of extension in its ramifying hair-like roots, penetrating to the depth of 1 to 2 feet; a fact quite sufficient to account for its enduring the opposite extremes of severe heat and cold. In addition to its hardiness, **under the vicissitudes of an English** climate, its value is considerably enhanced in its adaptation to all the varieties of common garden soil, requiring but a thin firm surface stratum of one inch ordinary sifted or broken loam. Maintaining its verdant freshness alike beneath storm and sunshine, it combines every needful feature of adaptation with economy, and an uniform aspect of neatness with the least possible care or attention. Its fertility in bloom during the month of July is equally beautiful, being at that period studded over with myriads of low compact salver-shaped snow-white blossoms, appearing not as in fancy, but in reality, the living picture of an emerald-green velvet carpet, spangled with innumerable silver stars. From the preceding remarks, it will be seen, that the established growth of this plant maintains a dwarf close web of green verdure, and entirely dispenses with the extra toil and expense of mowing; its innumerous small brittle flower-scapes being removed by the gentlest movement of a wing or brush over the surface of the lawn, either whilst in bloom or afterwards, and these constitute the only surface growth, or tokens of its beauty, which require this operation but once a year. For small or medium-sized lawns, terraces, verges, mounds, &c., this remarkably interesting and beautiful little plant offers an object of great interest to every lover of gardening pursuits, and every lady amateur cultivator may superintend and personally manage the slight attentions required to preserve the terrace margins or velvet lawn in the highest condition. The permanent and uniform condition of dense growth, with the penetrative power of its roots, preserves it from all risks of being parched by extreme exposure in sultry weather, and the progressive accumulation of its Moss-like growth gives an elastic pressure to the foot, much softer than the finest Turkey carpet. It is also admirably adapted for picturesque green tufts and edgings on avenue lines and borders, for grouping the front spaces of massive rock-work, and surfacing partially raised mounds around classic fountains and basins or artistic columns where Grass is unavailable for mowing, and equally telling for cultivation in larger vases, in alternate effect with the silvery sheen of the beautiful *Cerastium tomentosum*, on terrace verges and architectural approaches.

A practical proof of the success of *Spergula pilifera* for the objects above stated may be seen in the gardens of A. Mongredien, Esq., at Forest Hill, Sydenham, Kent, where a rich and verdant plot or lawn has been established 4 years by Mr. Summers, the intelligent gardener there, and is now in fine condition. In the same gardens, a considerable space is allotted for further illustration of its perfect adaptation, which may be seen on application. 6d., 2s. 6d., 5s., and 10s. packets. For directions for sowing, see Catalogue.

**Wellington Nursery, St. John's Wood, London.**

THE EARLIEST PEA.—DUNNETT'S FIRST EARLY is in every respect superior to "Daniel O'Rourke," being several days earlier, having finer pods, and richer in flavour, height 2½ feet. For an early dish of fine-flavoured Peas we can confidently recommend this; 2s. per quart.

CHAMPION CABBAGE, the earliest and best sort, if sown in succession, may be had fit for table throughout the year, 8d. per ounce, or 1s. post free.

BUTLER & MCCULLOCH, Covent Garden Market, London.

EARLY PEAS.

WAITE'S DANIEL O'ROURKE PEA; the earliest Pea in cultivation.
EARLY NAPOLEON; a Blue Wrinkled Marrow Pea, as early as EMPEROR.
EARLY EUGENE; a White Wrinkled Marrow Pea, as early as EMPEROR.

Prices to be had on application of J. G. WAITE, Seed Establishment, 181, High Holborn, London, W. C.



# The Gardeners' Chronicle.

*SATURDAY, JANUARY* 29, 1859..


MEETINGS FOR THE FOLLOWING WEEK.

THURSDAY, Feb. 3—Linnean ..... 8 P.M.

GARDEN wonders will never cease. At least it seems so in the important department that belongs to the Hybridist, out of which so many surprising changes have been produced. The old dogmata of KOELREUTER and his disciples have, one by one, proved untenable; species the most unlike have been found to mix freely and produce permanent successors, as in the case of the Banksian and China Roses, the latter and the old European forms, the famous Narcissi of Dean HERBERT, and many others; and we suppose the day will come when some quick-eyed dexterous operator will even overcome the repugnance of the Bramble to the Raspberry, the Apple to the Pear, the Peach to the Plum, and the Gooseberry to the Currant. At least there is something like evidence that a mixture far more improbable has been brought about in Germany.

In a late number of the Journal of the Horticultural Society of Paris are to be found translated extracts from a paper by Dr. RAUCH, of Bamberg, on his experiments with new Leguminous plants. The greater part of the results which he obtained relates to trials of Peas, Kidney Beans, and ordinary Lentils. But among the statements is the following:—"PEA LENTIL (*Erblinse*). This is a hybrid between the Pea and the Lentil, nearest however to the latter. It bears long pods, great slightly cylindrical seeds, and is very productive. The taste of its seeds is very agreeable, and, says the author, suited to those who do not like Lentils." The memoir by Dr. RAUCH, which appeared in the November number of the *Journal of the Agricultural Society of Bavaria*, not having reached us we can give no further details. But the announcement in question, meagre as it is, could not fail to excite much curiosity in this country. A *true mule, productive enough to be the subject of extensive cultivation*, and *between* two such totally different plants as *a Garden Pea and a Garden Lentil!* The case seems incredible, so contrary is it to all experience. We have not before had a single example of a Leguminous mule. Of course we do not refer to crossbreds, which are common and familiar.

Hitherto we have not had a single example, satisfactorily attested, of a Leguminous mule. For the Cytisus Adami or purple Laburnum is a mere case of the sap of a Laburnum so tainted by the sap of Cytisus purpureus, as to have acquired in some degree the nature of the latter. That example has no analogy with the Pea Lentil. So deter-

mined has been the resistance of Leguminous flowers to experimental hybridizers that all report against the possibility, or at least probability, of effecting such a union. Cases have been mentioned indeed of Vetches having intermingled with the Garden Pea, but GÆRTNER, the greatest of modern experimentalists upon this curious subject, regarded them as "more or less uncertain in some part of their history." If such mules were ever obtained they soon disappeared. Dean HERBERT could make nothing of muling Peaflowered plants. They were equally unmanageable in the hands of Mr. ANDREW KNIGHT, although he, like others, found no difficulty in producing cross-breds. And notwithstanding the long-continued cultivation of Peas, Beans, Kidney Beans *pêle mêle* in gardens, no one appears ever to have observed an accidental mule, a circumstance the more remarkable considering how much their flowers are frequented by bees. Nor indeed is it foreign to the subject to add that we know of no reputed wild mule among Leguminous plants except a plant intermediate now and then between Lucerne and Medicago falcata, themselves so closely allied as to render their distinction as species quite problematical.

In the face of all this experience we have the sudden announcement that Dr. RAUCH has obtained a mule of fixed habits, fit for cultivation, between the garden Pea and Lentil! Gardeners as well as naturalists may well be incredulous. Very strong proof is required before the report can be received as free from all doubt. We are, however, in a position to declare that evidence in our own possession supports the statement so far as any opinion can be formed from an examination of the seeds. By the prompt courtesy of Mr. BEHRENS, of Travemünde, we have received a parcel of this seed, transmitted by Dr. RAUCH himself; and certainly it is in appearance exactly what a seed between the Garden Pea and Lentil might be expected to prove. The colour is like that of the best ripened early frame Pea, a little heightened so as to verge upon Apricot. In form the seeds are compressed like a Lentil, not spherical like a Pea. In size they are generally about twice as large as that of a fine Lentil, or even somewhat bigger, but they are by no means even in magnitude.

Since the Bavarian Journal containing the original memoir has not reached us, the foregoing statement is founded upon the language of the French translator. We understand however that the words used by Dr. RAUCH are not expressly "a *hybrid* between the Pea and Lentil;" but "a fruit standing between the Pea and the Lentil, and nearest approaching the latter," which is by no means the same thing as a hybrid. At all events the production in question is of the highest interest to those who are occupied with the domestication of plants, and enough is known to assure us that it must be the forerunner of experiments, the importance of which cannot be overrated.

As we were going to press the following translation of a letter from Dr. RAUCH to Mr. VAN HOUTTE has reached us from the latter indefatigable correspondent, along with a further supply of seed:—

"I have the honour to send you the seed you have wished for, gathered from my hybrid called *Erblinse*.

"This has got now already some renown, and is more productive than the common Lentil. It has a peculiar taste, altogether characteristic, but very agreeable indeed. The hybridisation has been effected by fecundating the common Lentil with the pollen of a variety of Pea called *Honigerbse*.*

"Further particulars on this plant and many other new varieties are given in a work published some time ago under the title of 'Essay on the Culture of New and Unknown Useful Plants,' by Dr. A. RAUCH."

It thus appears that the seed is certainly the produce of a real hybrid.

(*) Honig signifies honey—Honey Pea, a species of Sugar Pea.

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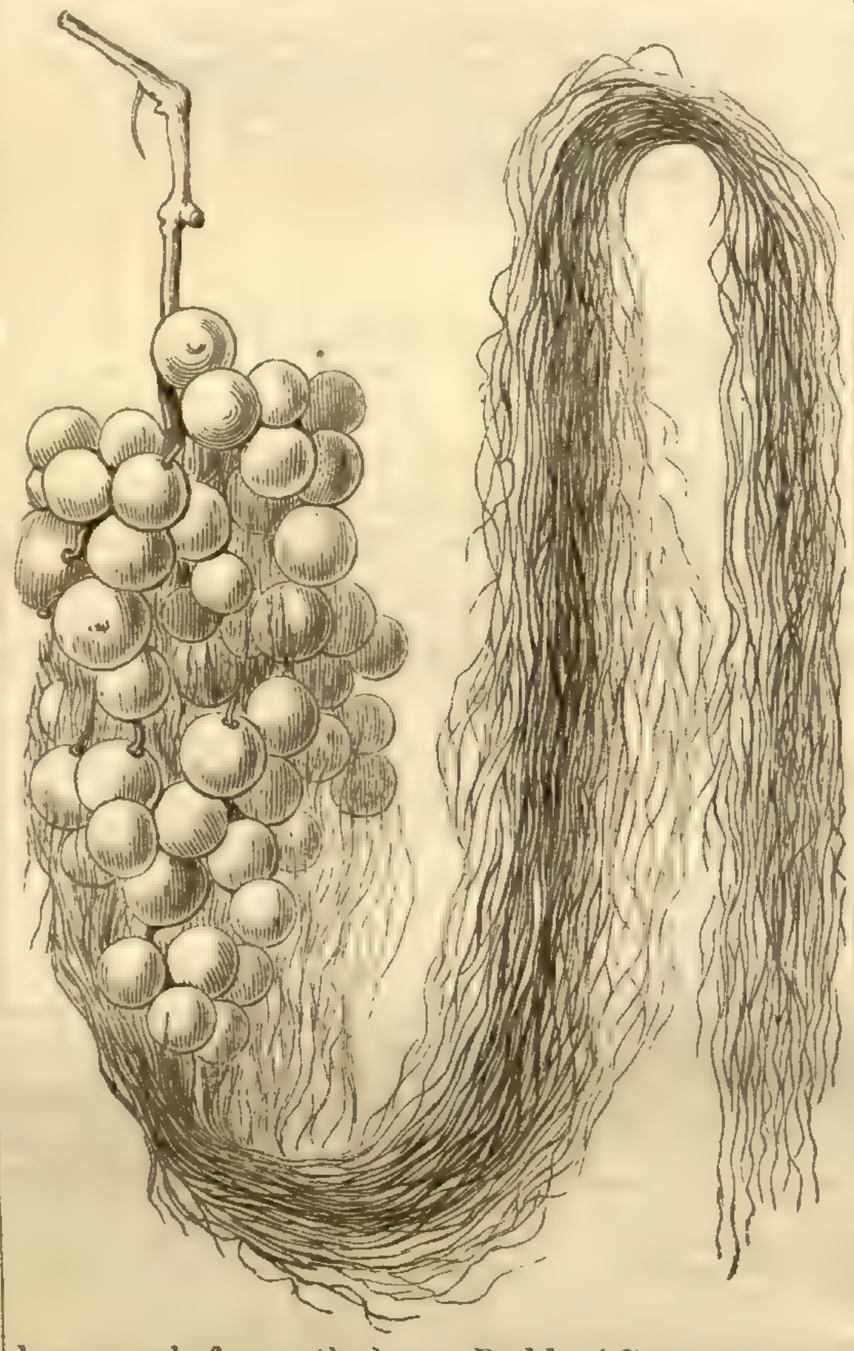
SOME of the French newspaper scribes have been alarming their readers with more terrible news about the VINE. According to these well informed gentlemen the Oidium or mildew has suddenly changed its nature, and instead of remaining a mere mould has assumed the condition of long beards hanging down from among the Grapes. It seems never to have occurred to the learned editors that such marvellous stories were unworthy the age; but they have allowed the new Medusa's head to be shaken before their public till at last the French naturalists have taken the trouble to explain the real meaning of a curious fact most ridiculously distorted.

It appears that in several places bunches of Grapes have this year presented the strange phænomenon of producing a long beard of living threads or hairs, which to those unacquainted with natural history may probably have been regarded as alarming as the tail of a comet. Bunches became matted with a strange stringy substance which grew longer every day, and half concealed the berries, hanging down like a coarse mane, or "the hair of BERENICE," as is shown in the annexed cut. The explanation of this appearance is given well and in considerable detail, in a late number of the Journal of the Paris Horticultural Society, by M. C. MULLET and Prof. DUCHARTRE, from whom we borrow our details. Appearances of the kind are not new. Bearded bunches of Grapes were mentioned as prodigies in the 16th century by CONRAD WOLFHART, who wrote under the name of LYCOSTHENES. Other authors of a later period occasionally speak of them; and in 1827 the botanist BROTERO, having found them in Portuguese Vineyards, figured them in his Phytographia, at the same time explaining their real nature.

The "new" enemy, instead of being a transformation, or rather a progress in development, of the mould which mildews the Vine, is merely a Dodder or Cuscuta which here and there takes possession of the Vine in more parts of the world than France, just as such parasites seize upon Lucerne, Clover, Heather, and other plants everywhere. We



have now before us the larger Dodder (*Cuscuta monogyna*) growing on a Vine gathered in some Vineyard in Provence by Mr. BENTHAM, as well as both Cuscuta Saururi and Lepidanche adpressa, a similar parasite, strangling Cissus stans in the United States. Considering, indeed, the indiscriminate appetite of these Dodders, the Vine can hardly hope to escape them whenever they can get at its soft succulent shoots. That the Dodder should seize upon a Vine is anything rather than surprising; that which is really unaccountable is its having taken possession of bunches of Grapes. For the seed of Dodders always germinates in the ground; the time of its infancy, however short, is passed there. On the soil it is nourished until it gets strong enough to suck its neighbours, when it ceases to consume mere dead food, and ever after preys upon living matter. Had the bearded bunches of Grapes been lying on the surface of the ground, or were there any trace of the Cuscuta on the stem of the Vine, its appearance upon the bunches would be easily explained; but nothing of the kind was observed. The branches had no Cuscuta, and the Grapes which it had seized upon were far from the ground. M. MULLET, who personally examined some Vines whose bunches had formed beards, describes what he saw to the following effect:—"The bunch with the shortest beard hung from a plant at the edge of an alley, and was about a yard from the ground, towards which the threads of Cuscuta were becoming directed. They had been turned from their road by the leaves, which had caused them to take an oblique course, and upon which some of the threads had fixed themselves. A second bunch was taken from a trellis against a wall, was about 2 yards up, hung freely without being interfered with, and had a beard a yard and a quarter long." The Dodder had fixed itself on the very berries, on the stalks, and on the branches of the bunch. In a bunch of black Grapes the berries seized by the Cuscuta remain green, altogether or only in the places where the Dodder had fixed its suckers, around which spreads a little green stain (*auréole*).

How then could the Dodder have gained access to the Grapes? M. MULLET suggests that the seeds might have been deposited by birds. We agree with Prof. DUCHARTRE in thinking that not probable. The suggestion which our learned friend himself offers is the following. The threads of Cuscuta have a vital energy, and a rapidity of development as surprising as they are formidable. An experiment of ALMERICO BENVENUTI, the author of a curious Italian memoir on Cuscuta, will show how quickly the threads extend and propagate. This observer fixed to a small tablet some fragments of Cuscuta, separated from all support, after which he placed near them about inches off a pot containing a plant of Lucerne. three days the plant was seized by the parasite which immediately spread all over it and separated itself from the original fragment which remained dried up on the table. M. KETELEER, the celebrated Paris Nurseryman also states that he has seen the young mules in the horticultural establishment of Fromont amuse themselves by putting bits of Cuscuta on bunches of Grapes, which were immediately attacked by it. So that bearded Grapes can also be produced at pleasure.

Curious as these statements undoubtedly are, must be owned that they are very far from explaining how the Dodder gets at Grapes under ordinary circumstances. The fact, like many another, must remain for the present without explanation. It is, however, important enough as stands—for it teaches gardeners to be cautious how they admit into cultivation such dangerous guests as the Dodder—a warning not uncalled for, considering that we have ourselves seen the enemy springing up from peat soil and scrambling over Geraniums and other potted plants with a vigour which could only be arrested by the fire heap.

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## BOTANIC GARDEN, MELBOURNE.

The following are extracts from Dr. Ferd. Mueller's official report, dated Oct. 24, 1858; and show how rapidly the Botanical Garden of Melbourne is rising into an establishment of the first order under the management of its able and indefatigable director.]

Of the ground destined for an arrangement of plants according to their botanical affinity, 2 acres were trenched, and by gradually securing the requisite genera and species, more than 100 of the principal exogenous orders are now represented in this plantation by about 1700 plants. This class-ground cannot fail to become a still greater source of instruction to the botanical inquirer than it has been already, especially when extended over the endogenous orders, and when its plants are more advanced in growth.

A further increase of the cultivated ground has been effected by the enlargement of several borders and by laying out a new nursery of plants on the slopes of the southern valley.

The barren declivity which fronts the western portion of the lagoon has been planted for the formation of a future Pine forest, with lines of Aleppo Pine, with those of Moreton Bay and Norfolk Island Araucarias, and with groups of miscellaneous Coniferæ, comprising 226 trees, many of great rarity, and all equally calculated to beautify the spot and to become an ornament in our landscape. In planting this Pinetum the silurian rock had to be replaced by trap soil from the banks of the Yarra, and was used in raising a new walk on the south-western side of the lagoon.

During the summer and autumn season an effective system of draining was adopted throughout the greater portion of the cultivated ground, by laying numerous lines of lasting underground drain-pipes, varying from 4 inches to 9 inches in width, and by lining many of the walks and borders with brick or stone gutters, the material for the latter and for the largest drains being obtained in our quarry. Thus much labour formerly lost in repairs, after those devastations which every rainstorm left on the undulated ridges of our garden, will henceforth be saved.

The whole of the cultivated ground, extending now over about 18 acres, has been dug this season, and many improvements have been effected by additions to the variety of plants in the shrubberies, by their occasional re-arrangement, and by the completion and partial renewal of the edges.

In order to afford the shade necessary for the enjoyment of a pleasant walk, in a climate like ours, avenues have been planted through most of the lawns. The quick growing Moreton Bay Grevillea (Gr. robusta) and

* Sulla Cuscuta europæa. Modena 1847.

the Maple-like Flame-tree of Illawarra (Brachychiton acerifolium), were principally chosen for this purpose, not only as being readily available, but also as combining a beautiful evergreen foliage with ornamental flowers. The soil for planting these trees had also to be brought from a considerable distance. The lines of Blue Gum trees (Eucalyptus globulus), planted along the banks of the Yarra towards the city and along the St. Kilda Road, have been extended over the southern limits of our ground.

We also proceeded with laying out the remainder of the garden walks, some of which, however, are yet to be covered with layers of gravel. Their continuation throughout the reserve, in combination with avenues, the formation of islands in the lagoon for the habitation of aquatic birds, and the extension of the Yan Yean pipes to the higher parts of our ground for irrigation, will probably be works of future years.

About 780 conspicuous iron labels, containing the scientific and (where such exist) the vernacular name of the plant to which they are attached, as well as its classification and native country, have been distributed over the ground, and by contracts already entered into this number will probably be augmented to 2000 before the end of the year.

We enjoyed weekly at the pavilion, till late in the autumn, the excellent music of the military band; and the greatest thanks are due to the kindness of the Officers of the 40th Regiment, and to the exertions of Mr. Johnson, the master, and the other members of the regimental band, in offering such an additional charm to the visitors of the garden.

The aviary and the menagerie, both established within the year, have likewise become very attractive to the public. The former already contains a fair variety of singing birds and is placed in the dense shrubbery of the valley between the rustic bridge and the lake, in order that the sight and song of the birds may be fully enjoyed without disturbing them. This aviary will be extended to the other side of the bridge, and in adding the new wing, an arched bower over the bridge and a sheltered passage of flight may be formed.

The menagerie, established without special provision for conducting it, suffered from a scantiness of accommodation for the animals, and therefore sustained several losses, chiefly in the kangaroo tribe. It comprises, at present, emus, a Sumatra and 12 English fallow deer, some monkeys, coalos or native bears, wallabys, Cape Barren geese, native companions, black swans, eagles, gulls, &c.

The hitherto only flock of Angora goats in this colony, introduced under great sacrifices by E. F. Sichel, Esq., and comprising seven in number, has been secured by purchase for the Zoological Gardens. The probable importance of these fine-fleeced animals in the future rural and pastoral economy of Australia will now become more generally patent. From the proposed union of the Botanical and Zoological Gardens manifold advantages are likely to arise, the dry ridges of the former being far better adapted for the healthy preservation of most animals, than the low basaltic flats on the opposite bank of the Yarra, originally granted for the formation of a Zoological Garden, but which will become highly valuable to us in rearing an arboretum of such trees as it is almost hopeless to cultivate on this side of our area.

The entrances to our extensive area being numerous, it lay not within our means to ascertain the exact number of our visitors during the year; but since within the last five months 51,000 were counted as entering the gardens on Sunday afternoons at the principal gates, notwithstanding much unfavourable weather during that period, it may be assumed that the total number of visitors during the last year must have rather exceeded than have fallen short of 200,000.

During the year, 39 public institutions in the colony and 53 abroad, as well as 206 private applicants (the latter in reciprocation or under a promise of sending equivalents), have been furnished with supplies from this department, the number of plants contributed by us to the gardens of the colony amounting to 7120, and the papers of seeds to the large amount of 22,438, besides which cuttings have been supplied to 57 gardens; whilst we furnished on 57 occasions bows and flowers needed for decoration in celebrating public festivals or aiding benevolent purposes.

Arrangements have been made to render next session a still larger supply of plants available for distribution; and in the same degree as the completion of the garden will strengthen our labours in this particular branch of the service, and in proportion to our constant additions and improvements in the means of forcing and rearing plants, the utility of our establishment in this direction may be expected to increase.

Three shows of the Horticultural Society and a bazaar in aid of the South Yarra Episcopal School fund have been held on our ground; and exhibitions so pleasing and useful as these are likely to be of more frequent occurrence after the contemplated erection of a larger pavilion for such purposes.

How far we have succeeded in adding to the richness of this establishment may be observed by a comparison of the Garden Catalogue which accompanies this report, with the Index of Plants under cultivation here at the beginning of 1857, since which period the number of plants has become more than doubled. The new Catalogue enumerates about 3300 species, but it might have been vastly augmented had we added the mere garden varieties, although often of greater value to the horticulturist than new and distinct species, or had we included in the enumeration those endless numbers of hybrid plants which supersede in gardens generally too much the simple forms of nature.

The compilation of the Catalogue caused work much beyond anticipation, since so many plants were received nameless, or under erroneous appellations. For the above reason several hundred plants have been excluded which are not yet sufficiently developed for an accurate botanical examination. The future annual supplements will furnish ready means of measuring the progress of our establishment in this direction. By the contributions expected from kindred institutions in many parts of the globe, and by the friendly co-operation promised by several of the greatest *savants* in botanical science, and it is hoped by the continued patronage and exertions of the many friends of our garden, we shall probably add very extensively to the garden plants from the seeds to be gathered for us at the approaching season, and when the dormant state of trees and shrubs with deciduous leaves facilitates their transmission from distant countries. Both for interchange, and for enriching our own establishment, seedlings of the remarkable and rare plants of the Grampians were secured at the season favourable for their transit; and Mr. Dallachy, who carried out very successfully this part of the service, is now engaged in transferring to us from the Murray desert those botanical treasures which scarcely any garden yet possesses.

A botanical collector has been employed periodically in the Moreton Bay district, and steps have also been taken to secure this season for the garden more yet of the singular vegetation of Western Australia than during the preceding one; inasmuch as no country, South Africa excepted, furnishes a greater variety of highly ornamental plants calculated to resist the dry heat of the Australian summer.

In importing plants due preference has been given to those of utility and more general interest, and many of practical value are already contained in our collection. Amongst them various Spice plants, the Tallow tree, the Nettle tree of Illawarra, the Desert Clianthus (which was figured as a notable flower already by Capt. Dampier), the Bottle tree of Sir Thomas Mitchell, the Litchi tree, the Cherimoyer, the Banyan tree, the tall Pampas Grass, the prolific Prairie Festuca, the edible Hovenia, the Gunyang, the Staranis, the Paraguay and the Chinese Tea, the Camphor tree, the Tulip tree, Waratah, Bananas, the American Sarsaparilla, the Cork tree, the Giant Pine of California, the Cochineal Cactus, the Chinese Grass-cloth plant, the Australian and Indian Rotang, the Coffee tree, the Cotton plant (which now without protection occasionally ripens its pods), the Red Cedar, the Kaurie Pines from East Australia, Polynesia, and New Zealand, Bog Bean, Acorus, Nelumbium or Sacred Pythagorean Bean, many medicinal plants, &c.

The intended erection of a larger building in the reserve will offer to the Government botanist the opportunity not only to deliver a regular course of phytological lectures during future seasons, and collect gradually, for the formation of a botanical museum and experimental laboratory, the vegetable products of the colony, but also to give the fullest access to his extensive and carefully examined botanical collections, which he desires, although they have absorbed the greater part of his private means and nearly all his leisure time for the last eighteen years, to transfer permanently to this department as a nucleus of a state collection. It comprises one of the most important series of Australian plants anywhere in existence, which will probably be consulted centuries hereafter, and which amounts to about 6000 well marked species in very numerous varieties, and embraces also an herbarium of miscellaneous plants from all parts of the globe, enhanced in value by many authentic specimens from the hands of celebrated botanical authors, the whole forming an accumulation of about 45,000 equally well preserved and arranged specimens, and exhibiting in about 15,000 species nearly one sixth of the hitherto revealed vegetation of the world.

## MR. GLASSE'S GARDENING BOOK.—No. V.

### 25. *About Pruning Roses.*

WHEN I was an apprentice it was a rule to prune all sorts of Roses in the hard weather of winter; and many a day have I stood in the nurseries, cutting the Roses back to four or five good eyes, while the wind almost cut off my fingers. That was 50 years ago and more, for I am 70, and worked at my business before Chinas came into fashion. [That is to say about 1790. *P. G.*]

I had had a place for several years when master brought home one summer, from Lee & Kennedy's, what was called a China Rose; it was a poor spindling thing with no bloom on it, but I knew it to be a Rose by its hooks and its leaves. Well, we planted it in a warm place near the house and it got on pretty well. Not knowing exactly what to do with it in winter, and as it came from China, a warmish country I expect, we put a mat over it till spring came. It was a very mild winter that, and when we undid the China it had made some shoots 3 or 4 inches long, almost blanched for want of light and air. But it didn't signify much, for when the blanched shoots were cut off it shot from the bottom wood, and by the summer had become a niceish bush, with a good many flowers, not with much smell, like our old ones, but as much as could be expected from a foreigner. Now, our old Roses never would bloom after July; but this China went on flowering and flowering as if it would never have done, and only left off when hard weather set in in earnest. Thought I to myself, thought I, as my dear wife used to say, "I shan't have any long blanched shoots this time, anyhow; for we won't mat up the China any more, but leave it and prune it in January, like other Roses." It so happened that we had a very warm February, with no frost to speak of, and as the Rose was in a nice warm corner it had begun to push its bottom buds ever so much, quite contrary to our old ones' ways. But by and bye the weather changed; the end of March and April were nothing but snow storms and hard frosts at night; and the new shoots of the China were all nipped and blacked as if they'd been burnt. And I really thought it was dead; and master looked very cross, for he'd paid a good deal for the plant. Sure enough it was almost Midsummer before it sent up some ground shoots and began to recover, so from that time I never pruned my China in winter, but waited till Jack Frost had spent himself on the ends of the branches; for I found that if they were let grow the bottom buds wouldn't stir, but remained snug and quiet till frost was gone; and as for the ends the plants seemed to be all the better for having them cut off. This was my first experience with foreign Roses.

## Home Correspondence.

*Avenues.*—I am much obliged to your correspondents "I." and "C. W. Strickland" for correcting the name, which I found out when too late. Acer platanoides, or the Norway Maple, is the tree I intended to recommend, and which, whether suitable in all respects for Kensington Gore or not, is one of the most attractive trees I am acquainted with. The Ulmus sinensis, so called in my former letter, is the name given by the nurseryman who supplied me with it; but it is certainly not the common Ulmus glabra, or Wych—it comes nearest to montana. It affords another proof of the remark of Dr. Lindley, that this genus is in a state of confusion. One thing is certain, the weeping character, the small leaves, the late retaining of leaves. Any one desirous of buds or grafts may be supplied on application to me. *Thos. C. Brown, Mather Barton, Cirencester, Jan.* 20. [Our correspondent must excuse us for saying that Ulmus montana, not glabra, is the Wych Elm. We retain our opinion that the leaves sent did really belong to U. glabra, one of the best characters of which is its weeping habit.]

*Culture of the Fuchsia.*—My plan is as follows:—I place my old plants in heat about the latter end of December, and as soon as they have made shoots about an inch long I take off cuttings close to the old wood; I then fill a sufficient number of small pots with a mixture of loam and leaf mould to within an inch of the top, adding on the top of that half an inch of silver sand. I water gently to make firm, then I put in the cuttings after trimming off the lower leaves; I give another gentle watering, and then place them in a mild hotbed. As soon as the cuttings are sufficiently rooted to bear handling I pot them singly in 3 inch pots and keep them close and moist until they are fully established; a temperature of from 50° to 55° will be sufficient during the first month; and if kept free from insects and properly supplied with water and a moist growing atmosphere maintained, their progress will be very rapid. If struck in January the plants should be strong and vigorous by the end of March and ready for a shift into 6-inch pots; keep them rather close after shifting to encourage root action. Syringe overhead freely on fine warm days, and keep the atmosphere ranging from 55° to 65° by day; but water carefully till the growth indicates that they have taken to the fresh soil. I then admit air freely at all times when the external temperature is mild, but close early in the afternoon. Clear manure water should be used as soon as the pots are moderately filled with roots. If the plants are required in perfection in July or August they should be shifted into 9-inch pots, and discontinue the stopping of the side shoots after the middle of June; a great point to secure well-grown specimens is to maintain a regular temperature from 55° to 65°. Excepting a rise of a few degrees by sunshine the plants will require clear manure water three times a week at all times when the pots are filled with roots. The soil for Fuchsias should be light, rich, and porous, consisting of a strong mellow loam one-half, well decomposed manure a quarter, leaf-mould a quarter, together with a good sprinkling of silver sand; it should not be sifted but well mixed and broken together. A cool airy house is the proper situation for them while in bloom, and they should be liberally supplied with water, and they will continue in bloom until the end of the season. *T. L. B.*

*Cottagers' Kale.*—Having noticed the controversy which has taken place respecting this Kale, I have much pleasure in bearing testimony to its good qualities. When it was first exhibited I confess that I could not see any particular merit in it, but knowing Mr. Turner to be a straightforward person I asked him in what its good properties consisted. His reply was: Its delicate flavour. Upon this recommendation I bought a packet of seeds and cultivated some plants, which I showed to a good many persons during their growth. Some at once pronounced the plant to be a humbug, others said it was an ugly coarse thing, and could not think how Turner and Dr. Lindley could father such rubbish. I kept to my own opinion, believing that Mr. Turner could not afford to make such a noise about a worthless thing. I have now tasted it, and others who had

previously from appearance pronounced it worthless have also tasted it at my table, and all think it a green of the highest excellence—in fact, superior to any other in cultivation. Last week some friends from Scotland dined with me; they partook of it, and, like others, pronounced it the tenderest and most delicate green they had ever tasted. I hear too that the water in which this green has been boiled does not smell so disagreeably as that in which any other of the Cabbage tribe has been cooked. *J. Standish, Bagshot.*

*The Weather in Devon.*—The flowers in following list were in full bloom on the 8th inst. in a garden at Little Efford, Plymouth:—Fuchsias, two varieties; Narcissus; Rhododendrons, three varieties; Anemones, various; Intermediate and Ten Week Stocks; Mignonette; Calceolaria; Salvias; Roses, white, red, and pink; Ageratum; Yellow Poppy; Chrysanthemums; Periwinkle, large purple; French Honeysuckle; Virginian Stock; Tom Thumb Geraniums; Yellow Jasmine; Clove Pink; Clematis; Pyrus japonica; Purple Veronica; Violets, white, Neapolitan, Russian, and common blue; Scarlet Daisies; Pink and White Heath; Arabis; Alyssum; Laurustinus; Double Bramble; Berberry; Gentianella; Pentstemon; Cuphea; Heartsease; Arbutus. [To a statement like this the writer should attach his name.]

*Flowers and Grapes in the same house.*—I am constantly assured by gardeners and other learned persons that it is impossible to have Grapes and flowers in the same greenhouse. On the other hand, I have all my life seen both together in as much apparent perfection as are required by me—neither a gardener nor a botanist—but a mere squire who likes both flowers and fruit, if they are not too costly. May I ask you to say what is really possible in the matter. *E. S.* [What is very possible to many is impossible to some. All depends on skill.]

*Scolytus destructor.*—I beg to thank Mr. Westwood for the kind and gentle manner in which he has noticed my remarks on insects attacking timber-trees. In sending those remarks to the *Gardeners' Chronicle*, it was not my intention to combat the opinions and experience of a gentleman whose acquirements in the science of entomology are of undoubted weight and importance, and far surpass any trifling information that I myself may have picked up whilst roving here and there. The fact is, entomology is not my province. I know more about birds than bugs. I merely ventured to state my own notions of the calamity which has befallen the unlucky old Elms in the vicinity of St. Giles's, as the deeds of the Scolytus were not entirely unknown to me. I happen to be literally surrounded here by Oaks, Ashes, Elms, Sycamores, Firs, Beeches, Willows, Chesnuts, Hollies, Limes, and Larches. Some time ago, in a grove of magnificent Spruce Firs (said to be the finest in all England for their age), one of the trees fell sick and died. I know not at what precise period of its distemper the destroying beetle had claimed it for his own, but he had certainly got possession of it, as you shall see in the sequel. When we came to saw it into boards, we found that the hungry insect had made snug lodgments in every part of it, for himself and for his future family. As I could not find any signs of similar workings in any of the surrounding Firs, I fancied that, somehow or other, they were all beyond the destroyer's reach. Under this supposition, I gave it as my opinion that the Scolytus had made free with the unhealthy Fir solely because sickness had rendered it delicious to his taste and serviceable for his domestic arrangements. Furthermore, I persuaded myself that, had any other Spruce Firs, or neighbouring trees, been equally affected by disease, he could not have resisted the offered opportunity to tap their tainted juices. Why, then, I would gently ask, should the destroying insect, here in Yorkshire, gratify his appetite solely on the contents of an unhealthy tree, when there are thousands, and tens of thousands, of other trees in health and beauty, quite at his disposal? Methinks I hear the dreaded beetle say to these healthy trees, "My friends, I need not touch you yet. Your present state instinctively informs me that you have just now nothing within you that will suit me and my forthcoming household. But, with your permission, I will tarry here a little longer, in expectation of something good. In the meantime, should a serious fit of illness smite you, as it has already smitten your departed brother, I will not fail to be on the look out. So, adieu, fair trees, till sickly days approach. Like Virgil's Harpies, my appetite is strong and constant. I am sure to be with you at pudding-time." *Charles Waterton, Walton Hall, January 25th.* [We take sides with Mr. Waterton, in the conviction that he is right. Trees are ailing long before those unfamiliar with their constitution perceive it. One point seems conclusive. No one ever saw, that we know of, young, vigorous trees, or even the vigorous shoots of old trees, attacked by Scolytus.]

*Manetti Rose Stock.*—I had great hopes that your invitation to discuss the merits of Roses in general and those on the Manetti stock in particular would have been better responded to. Surely it is not too much to expect that some of the many who have so signally benefited by the introduction of this stock should say a word or two in its favour. Pray allow me however to introduce the remarks I am about to make by questioning the accuracy of your own conclusions, viz., "That it is unsuited to the cold Middlesex clays." I send yearly increasing consignments to that clay, and I have abundant proof that when properly prepared and treated, even there it beats all competitors. That it is ill-adapted for cold clayey or any other soil, as it is too often prepared, I readily admit, and I believe that a want of knowledge of the management required has led to the failures which have occurred, and the seemingly endless controversy on the subject. Even now in many nurseries nothing can be more unsuited to it than the treatment it receives, and its deplorable condition when so mismanaged is certain to be triumphantly pointed out as conclusive proof of its worthlessness. As a stock for Dwarf Roses generally I believe it to be unequalled, but as a stem it is decidedly the very worst imaginable, and trying to make it the latter has produced much misunderstanding regarding the matter. On its introduction Mr. Rivers, who has the merit of introducing and bringing it into notice, committed in the first instance the fatal mistake of working it far too high, even trying to produce standards and half-standards of it. This at that time was laudable enough, as nothing but experiments could decide its capabilities. But now that these are better understood no person at all conversant with its successful cultivation attempts anything of the sort. Yet in the face of such facts we still hear of standard Manetti. Being thus entirely unfitted to form stems, in no case should this stock be worked so high that the junction of it and scion remains above ground after planting. Therefore any person having Roses on this stock sent them with from 6 to 12 inches of it above ground when planted ought to return them or consign them at once to the faggot heap, as the result, especially with bad growing sorts, can be nothing but disappointment. Some may consider it troublesome to work low enough to comply with these conditions, but if insisted on there will be no want of properly prepared stock to meet the demand. After procuring proper plants the following easily practised rules will generally succeed. Plant in deeply dug, well drained, highly manured ground. Be sure in planting to entirely cover the stock, and on no account neglect to transplant every autumn. Mr. Rivers, when first mentioning this new feature in its cultivation, designated it in the *Gardeners' Chronicle* as the Folkestone system of yearly removal, and recommended it as beneficial to Roses growing on light sandy soil. And so it is most decidedly; but if he contends that its benefits are confined to such, I beg to differ from him; for if anything it benefits those on clayey, damp, ill-conditioned soils the most, as by keeping the roots (by this process rendered numerous) in the best position that circumstances admit of, the plant is enabled to produce the healthy well matured wood and foliage requisite to produce a perfect bloom of Roses, or anything else, and the father of root pruning ought to know it. *J. M., Folkestone.*

*Rain in* 1858.—

| 1858. | Hunton Court, Kent. | Linton Park, Kent. | Gorhambury, Herts. |
|---|---|---|---|
| January .. .. | 0.77 | 0.79 | 0.70 |
| February .. | 0.44 | 0.77 | 1.40 |
| March .. .. | 0.71 | 0.80 | 1.06 |
| April .. .. | 1.91 | 1.93 | 2.45 |
| May .. .. | 2.22 | 2.16 | 2.66 |
| June .. .. | 0.46 | 0.67 | 0.94 |
| July .. .. | 2.39 | 2.69 | 2.85 |
| August .. .. | 1.72 | 1.20 | 1.75 |
| September .. | 0.94 | 1.19 | 1.37 |
| October .. .. | 1.95 | 1.45 | 1.85 |
| November .. | 0.89 | 0.77 | 0.91 |
| December .. | 2.19 | 1.91 | 2.06 |
| | 16.59 | 16.33 | 20.00 |

—*G. Goddard.*

*Rain at Itchen Abbas in* 1858.—

| | | | |
|---|---|---|---|
| January .. .. .. | 0.62 | Brought forward | 9.84 |
| February .. .. .. | 1.00 | August .. .. .. | 1.70 |
| March .. .. .. | 1.35 | September .. .. | 2.16 |
| April .. .. .. | 2.49 | October .. .. .. | 2.24 |
| May .. .. .. | 2.10 | November .. .. | 1.87 |
| June .. .. .. | 0.46 | December .. .. | 3.40 |
| July .. .. .. | 1.82 | | |
| Carry forward .. | 9.84 | Total .. .. | 21.21 |
| Average of 8 preceding years .. .. | | | 29.20 |

—*W. W. Spicer.*

*Who is to be Master?*—I live in a remote part of Ireland where much of the old feudal feeling still exists between landlord and occupiers of the soil, where nearly the entire parish belongs to me, and where an almost affectionate regard has subsisted for many years between me and the humblest inhabitant. I mention these particulars, because otherwise you would not exactly understand my position in the case on which I ask your advice. My gardener (a Scotchman) requires to have uncontrolled power to hire and discharge labourers as he pleases. I require, on the contrary, that before he discharges a labourer he should consult me and explain his reasons. I never yet have required him to employ a labourer whom he considers incompetent, nor is it at all likely (with a view to my own interest) that I ever would do so, but circumstanced as I am, and living almost constantly on my estate I think it my duty not to abdicate all interference in the matter. May I ask you what you believe to be the general custom in such matters, and what you would do were my case yours? *K. K.* [We presume you to be the master of your own establishment; and we cannot advise you to abdicate in favour of your gardener.]

*Gardeners' Royal Benevolent Institution.*—I beg to forward you the following information respecting this charity, which perhaps you may think interesting:—From Jan. 1843 to Dec. 1858 no less a sum than 6684*l.* has been paid in pensions. During the same period 99 pensioners have been placed on the list. Out of this number 7 were added without an election, they or their husbands having subscribed 15 years to the Society consecutively. *Vide* rule 6. Out of number 99 seven have left widows, who succeeded husbands at a pension of 12*l.* Out of the number (after deducting the seven who claimed the pen 23 had been subscribers to the Society. *Rev. R. Cutler, Secretary.*

*Out-door Grapes.*—I wonder that the growing Grapes out of doors is not practised to a greater ex than it is in England, especially in the south by me of flued walls. It is found practicable in Scotla in some places at least. I know personally that in a gar by the banks of the Clyde, Hamburghs and others h been for many years grown with great success; much so that first prizes have been obtained at H cultural meetings by fruit from a flued wall. simple protection of a net in the earlier part of year is all that was employed. The Vines were h ever under the care of a good gardener. But ap from first-class treatment the thing is in most c practicable. I hope the gardener in question will co municate his experience on the subject. *H. D., Airm mont, Greenock.*

*How to have Potatoes free from Disease.*—In impression of the 15th inst. I observe there is a tised a "Treatise on Potato Culture" by one gives his address, "R. B., Hathersage, Derbyshire." have had some experience of the plan "R. B." advoca which has the double object in view of producing h crops, and of securing them against disease. So l as the Potato continues liable to this disease, any which affords a reasonable hope of protection from ravages is well worth attention. As my experience far leads me to believe that this plan does hold such a hope, I shall beg of you to admit one or observations on the subject. They may invite consi ration to what must always be a matter of interest. happened to be present when "R. B." took up a cro the well-known Lapstone Kidneys on the 30th last, and which had been set on the 26th of Ma preceding. The haulm having been cut away, Potatoes were raised and placed, still attached to roots, in a line exactly as they grew. It was really remarkable sight, the roots all touching one anoth without interval from end to end of the line. The was not a diseased Potato amongst them; weighed lengths of 3 yards at a time, the produce was at rate of 600 bushels per acre at 80 lbs. bushel. At dinner that same day we had so of the Potatoes boiled, and more mealy or bet flavoured I never wish to taste. I have myself te the system in my own garden. The best result obtained was with a round Potato, known, I believe the "White Rock," and which I got from Lord Ca bermere's home farm, in Cheshire. Of this I rai some on the 1st August; one root gave the enorm number of 37 tubers fit for table. The whole crop a at the rate of 560 bushels per acre by weight. Th were quite free from disease, and are so now; whi some of the same sort, taken up the end of August a the end of September respectively, and indeed all rest of my Potatoes, were diseased to the extent of a third at least. Without pledging myself to ev detail, which further experience may improve, I yet fe so persuaded that the main principles of "R. B. system are correct, that I feel justified in recommen ing it to a fair trial without misgiving as to the resu *Hugh Ford Bacon, Vicarage, Castleton, Derbyshire.*

*The New Zealand Bean.*—Having seen in the *Gardeners' Chronicle* Mr. Cuthill's advertisement the "New Zealand Runner Bean," and your answer the inquiry of Mr. Kitteman, I inclose you a few Bea answering in every respect the description given in advertisement. They were brought from Holland t years ago by a relative of mine, and called the "Strip podded Runner." I shall be obliged by your informi me if you consider it the same variety. *Wm. Sm Seedsman and Florist, St. Peter's Street, Hereford.* [They are precisely the same.]

*Compartment Cutting Pots.*—In turning cuttin out of the present pots the roots are liable to be broke off and otherwise injured. To prevent this let shallo pots be made into compartments (which may be many tubes placed close together), so that each cuttin can have a division to itself, and preserve its roots entir when removed. This plan has the advantage also preventing their fogging off, as they will be placed a trifling greater distance apart than by the present method; and, besides, should any die or require to be removed, it can be done without disturbing the other —a desideratum now unattainable. *An Old Subscriber.*

*Josephine de Malines Pear.*—The faint rosy salmon tint in the flesh of this Pear is very common but only when it is well ripened and in fine condition. *T. R., Herts.*

## Societies.

ENTOMOLOGICAL: *January* 3.—The President in the chair. Mr. S. Stevens exhibited some very rare Coleoptera received from the interior of Peru, and M Augustus Sheppard various beetles from Melbourne Australia. Mr. Geo. R. Waterhouse announced the capture of two new British Coleoptera, one belonging to a genus not hitherto recognised as indigenous to the country, namely, Symbiotes latus, Redtenbacher, taken by sweeping low herbage in the Isle of Wight; also a specim of Tachyusa from Highgate. Mr. Janson stated that he had also obtained the Symbiotes latus from the nest of Formica flava, and also under bark, and that it has been characterised by Mr. Wollaston under the name

of Microchondrus. Mr. Pickard exhibited a new British Tinea, from Portland, and Mr. White a drawing of a very remarkable Crustaceous animal belonging to the Isopodous family Sphæromidæ, taken at Bass's Straits, and furnished with a horn in the front of the head, a character occurring in no known species of the family. He proposed to name it Cephaloniscus Grayanus, and pointed out an analogous form amongst the fossil Trilobites forming the genus Encrinurus. Mr. Walker exhibited a vegetable gall from Sierra Leone, formed, as was stated, by a species of Thrips. The galls on the leaves of the Lime tree alluded to at a former meeting were produced by a mite, Sarcoptes Tiliæ, described in the Mémoires de l'Institut for 1835. Mr. Frederick Smith read a notice on Hymenopterous insects which he had observed to have been attacked by the parasitic Stylopidæ. In addition to the species of bees belonging to the genera Halictus and Andrena, he enumerated Polistes, Ammophila, Sphex, Pelopœus, Eumenes, and Odynerus as having been observed with the exuviæ of these parasites still remaining between the segments of the body. Some of these parasites had occurred in almost every quarter of the world. Mr. Westwood reminded the members that he had also indicated the presence of these parasites in two still more striking instances, viz., in an ant sent by Mr. Nietner from Ceylon, and in a Homopterous insect sent from Borneo by Mr. Wallace. Mr. Waterhouse read a detailed account of the British species of Latridius and Corticaria, two genera of minute beetles. A new part of the Transactions, completing the 4th volume of the new series, was announced, and notice was given of the alterations in the Council and officers to be proposed at the anniversary meeting.

LINNEAN: *Jan.* 20.—The President in the chair. T. Anderson, Esq., M.D., T. Boycott, Esq., Hon. Walter Elliot, Rev. W. Houghton, Dr. Ferdinand Müller, H. T. Stainton, Esq., and Major R. Strachey, were elected Fellows. The following papers were read:—1. "Notice of Entozoa found in various animals dissected at the Zoological Society's Garden," by Dr. Cobbold. 2. "On Tomopteris," by Dr. Carpenter. 3. "Dennisonia, Barklya, et Laboucheria, genera Floræ Australiæ nondum cognita," described by Dr. F. Müller. 4. "On the anatomical characters of three Australian species of Tunicata," by J. D. M'Donald, Esq.

## Notices of Books.

*Oude, its Past and its Future.* By L. E. R. Rees. Longmans. A pamphlet of 34 pages.

The author of this pamphlet resided for several years in Oude, of which country he possesses as much real knowledge as any European can well have. After assisting in the defence of Lucknow, of which he published one of the earliest narratives, he seems to have returned to England, where he now resides. The pamphlet before us, dated London, Dec. 21, 1858, is for the most part a reprint of an article published in June, 1856, in the Calcutta Review, and therefore shows the state of the country before the lamentable outbreak. By all who are interested in the great future of India it cannot fail to be read with interest; for it relates wholly to matters of fact, connected with the productive resources of an Asiatic kingdom, blessed by Nature with inexhaustible resources of the greatest value, and cursed by the vilest system of government that even an Indian Prince has yet devised.

"Oude," writes Mr. Rees, "is undoubtedly one of the most fertile provinces in India. Its surface extends over about 23,740 square miles. An infinity of rivers and nuddees intersect it, and issuing either from the Himalaya Mountains or the Tarae forest which skirts the Nepal Hills, flow gently through the country, and without cutting too deep into the soil so admirably irrigate it, that there is scarcely a single acre of ground which is not capable of being well tilled. The people are strong, industrious, and well acquainted with agriculture, so that under a powerful and equitable Government Oude would be one vast garden, rich, fertile, and densely peopled."

"Oude is rich in rivers which render the earth productive and fruitful; for in the midst, and in spite of the greatest disorders and the most sanguinary conflicts, tillage is still carried on. The land often yields three, but generally only two crops. In the *khareef*, or autumn and winter harvest, the following crops embellish the surface of the arable lands permitted to be cultivated:—Rice of eight kinds; Indian Corn of two sorts; Till (*Sesamum*), a species of fine oil seed; bajara (*Penicillaria spicata*), a fine grain for birds; and Indigo. In spring the soil can yield in great abundance the following harvest, called the *rubby* crops. Wheat; Indian Corn; gram (*Cicer arietinum*); Mustard; Surson, a kind of fine Mustard; Opium; Arhur (*Cajanus*) (Pulse), of two kinds; Musoor (*Ervum Lens*); Pulse; Moong (*Phaseolus*) or cutils (Pulse); Peas of four sorts; Sugar Cane of six kinds; Safflower; Palma Christi and Linseed.

"The whole kingdom is studded with magnificent trees, whose dense foliage and beautiful blossoms add a charming feature to the general aspect of the surface of this country, so favoured by nature, but so ungratefully treated by man. The Banyan with its ever spreading branches, producing numerous offsprings of the parent tree, round which they cluster, ever multiplying, ever increasing; the Mango, with its yellow and luscious fruit; the Sheesha (?) resembling our Oak in stateliness; the Tamarind, thickly shaded and covered with its red Bean-like produce; the Jamun (?), with its purple Plum-like berries, beautiful to look at, but sharp and acid to the taste; the Peepul (*Ficus religiosa*), with its round thick leaves and shady branches; the Bale (?) with its cocoa-like nuts, whose hard shell contains the sweet juicy fibres along with the Sloe-like bitter of its manifold kernels; the wild Fig; the Cotton tree, with its snow-white blossoms so charmingly relieved by the surrounding green; the Jack (*Artocarpus integrifolia*) with its huge trunk and its curious rough surfaced monstrous oval produce; the Mahooa (*Bassia latifolia*), from the fruit of which a spirit is distilled; the Owla (*Phyllanthus Emblica?*); the Neem (*Melia Azedarach*) with its long thin zigzag shaped leaves so useful to native medical practitioners; the Sandal, and other handsome trees are everywhere discernible, either in fine groves or standing in solitary grandeur, looking proudly on the rich fields beneath, or appearing to protest by their verdancy and beauty against the violence which desolates the country around them." (The italics and (?) are our own.)

"Of the articles of commerce which Oude furnishes, I must say a few words. The trade in hides and horns has been in existence for several years, but was only known to, and carried on by a very few enterprising individuals, who, notwithstanding the great number of servants to be employed for the collection and protection of these articles, and the taxes extorted from the landholders through whose estates they have had to pass, always found it exceedingly profitable. Thousands and thousands of horned cattle in a wild state swarm in the hill forests of the Tarae, and in the jungles of the interior. There hides are rotting by thousands, and horns are lying about by hundreds of thousands, only requiring the trouble of being picked up to be saved from destruction. Under a government where roads and a police are not myths, trade in these might be made very productive. Tallow, already a considerable article of commerce, could also be obtained in greater quantities, for hides, horns, and a good portion of the fat of the cattle, wild and tame, with which Oude abounds, are now literally thrown away.

"Oude might yield Indigo, as to quantity, at least half of the amount produced in Bengal, and as to quality, as good as that grown in the Tirhoot and the Doab. The planter might choose at liberty out of an extent of 24,000 square miles, and in spots where there would be little flooding, and seldom or never a scarcity of rain when it was needed. One with energy might in a very short time make his fortune in the manufacture of this useful article; nor need his capital be very great, as his principal outlay would be the building of vats and factories, though it would be as well if he likewise purchased a few villages."

This is doubtless a highly coloured picture and reads a good deal like puff; nevertheless it is substantially true. But all this natural treasure has been rendered unavailable to the people of Oude by the rapacity and barbarity of those great feudal chiefs, the destruction of whose power has been well nigh accomplished by our gallant troops. Those who think that hard measure has been dealt to these fearful despots will change their opinion by the time they have read Mr. Rees's account of their method of government. It is sufficient to say that treachery, cruelty, murder, and brutal avarice seem to have been the all but universal characteristics of their sway.

In conclusion Mr. Rees touches upon the Cotton question:—

"I feel it particularly deserves the attention of those who take an interest in the growth of Cotton, to remark how peculiarly Oude is fitted for its cultivation. The best proof of this is that no inconsiderable quantity has been exported from it, even during the mismanagement of the native Government, which affected Cotton in the same way as, or even more than, the other natural products of Oude. The immense importance of a supply of Cotton from India (the only one of our colonies that seems capable of producing it in sufficient quantities) is fully appreciated by our manufacturers, whose very existence as such depends on an independent and regular supply of that article. Its successful growth, we must consider, depends upon both the soil and the irrigation. Both the rich black soil, and the more meagre red, which is in the opinion of many quite as fitted for the growth of Cotton, exist in Oude, particularly in many of the jungles. These, however, might, and should, as I have already pointed out, be made available for purposes of cultivation. Indeed, one firm, Messrs. Burns & Co., I understand, have actually undertaken the contract to clear the Jugdeespore jungle, the fifth in my list. There is sufficient water in the streams and rivers in Oude, which have the further advantage of not being, like the Ganges and other rivers, 50 to 100 feet below the level of the soil; the natives being thus enabled, with even their rude implements, to attend to its cultivation with greater facility than in most other parts of India. But I see no reason why, when European science is brought to bear upon native enterprise, this advantage could not be turned to still further account. European supervision is not so much required for its production as for Sugar or Indigo. Unlike those, Cotton is the raw produce of the tree, and with the increased facilities for transport which must arise, the native would easily be induced to pay sufficient attention to its cultivation to render it equal to any other kind of Cotton.

"The only serious obstacle to the production in sufficient quantities to supply all the demands of our markets is the defective and costly means of transport, nowhere so apparent as in Oude, which not only prevents the native from successfully competing with the American in delivering cheap Cotton at a seaport, but also materially damages the quality of the article."

We must warn our Lancashire friends not to be misled by this flourish. That Oude may be able to grow Cotton of good quality is, we believe, true; but rent and other circumstances must greatly alter before it can possibly produce it with profit to the cultivator. Speculators will find it safer to rely on its Pulse and oilseed, hides and tallow.

*Nereis Boreali-Americana; or Contributions towards a History of the Marine Algæ of the Atlantic and Pacific Coasts of North America.* Part III. *Chlorospermeæ.* By W. H. Harvey, M.D., 4to, pp. 140, tab. pict. 14.

We have already noticed a portion of this work comprising the red and black-spored Algæ. The present part, which concludes the whole, comprises what are commonly known as the green-spored Algæ, including however such red-spored Algæ as the Porphyræ, which constitute the Laver or marine sauce which is considered so great a dainty by those to whom it is not "Caviare," and some other allied species. The Laver is not indeed the only culinary production afforded by the Algæ. The Caulerpæ, which grow for the most part upon hard sand or sand-covered rocks between high and low water mark, not only help to fatten the turtles but are eaten by the natives of the Pacific Archipelagos, and the Nostocs, which abound in a peculiar form of Bassorin, are highly nutritious, presenting an approved article of food in China, and considered far superior to the Tripe de Roche by the Arctic voyagers, both from the absence of the bitter taste which renders the Lichen unpalatable, and the purgative qualities which make it so unwholesome to some stomachs.

Apart from these economical properties, the structure of many of these Algæ is extremely curious. In Caulerpa and one or two allied genera, we have vegetable cells of such a size, exceeding sometimes several inches in length with a proportionate breadth, as we shall in vain search for in any other department of botany; the mode of fecundation and reproduction in many genera is most curious, and accompanied by the most extraordinary phenomena; while forms of the greatest elegance occur everywhere, especially amongst those species which in external characters approach the Corallines, and which are at the same time highly attractive and instructive. The ornamental arts indeed have not at present availed themselves sufficiently of the fertile source of beauty, both as regards form and colour, which is presented in such redundant plenty by the Algæ. There is one species especially figured in this volume, *Anadyomene flabellata*, which if well imitated would yield the goldsmith or silversmith an incomparable pattern. A magnified photographic view of a well selected specimen would, we are sure, produce in the hands of a clever workman an almost inconceivably beautiful design. Much, however, would depend upon the faithfulness with which the exquisite network, so fantastically arranged, should be reproduced. Other species also, as certain Halimedæ, Acetabulariæ, &c., might prove highly suggestive.

The execution of the volume, like all which comes from the hands of the author, is most satisfactory. He has wisely abstained from describing those freshwater species which he could not describe from recent specimens and which lose half their characters in the herbarium except when mounted after Mr. Thwaites' method, the great drawback to which is the necessity of very nice manipulation and great expense of time, which are not always at the service of collectors. Nor indeed did these come within the original design, which was rather directed to Marine than Fresh Water Algæ. The Diatomaceæ are altogether omitted, together with the Desmidiaceæ, as having been already so well worked out by Mr. Bailey. We cordially congratulate the Smithsonian Institution on the completion of this highly useful production, and wish it all prosperity in its noble career.

TRADE LISTS RECEIVED.—*Carey Tyso* (Wallingford), *a Descriptive Catalogue of Flower Roots, &c.* Rich in Anemones, Ranunculuses, and all sorts of florists' flowers. It is a pity that it should be printed in the old-fashioned form of a broadside. A little book would not have cost more, and would be much more handy.

## Garden Memoranda.

MESSRS. E. G. HENDERSON'S NURSERY, WELLINGTON ROAD, ST. JOHN'S WOOD.—Even at this season the glass houses here are well worth inspection; for already are the show houses becoming gay with flowering plants, and places in which there is at present little blossom have been decorated with plants remarkable for fine foliage, so as to set them off to the best advantage. Among things in flower were Chinese Primulas, both single and double; the former handsomer than the latter, and being from seed they are more easily increased. Cultivators, however, who are fond of the latter, and have but few plants of them in their possession, may readily have more by dividing them into as many pieces as they have crowns, and potting them separately. This is a surer and better way of multiplying them than by cuttings, as each portion thus detached has roots to it, and is enabled to

begin growing without much check. Among other plants in flower were Early Tulips, Cyclamens, Daphnes, whose fragrance renders them favourites with everybody, and varieties of Epiphyllum truncatum; Mignonette sown last July and brought on in cold pits was also coming into bloom, while some sown in August is growing on to succeed it, and thus by sowing at intervals a supply is kept up all through the spring.

In Stoves the red berries of Ardisias are just now very attractive, and not less so are the large scarlet bracts of Poinsettia pulcherrima, young plants of which, it may be useful to know, produce these gay floral leaves of larger size than old ones. Thyrsacanthus Schomburgki, sometimes erroneously called T. rutilans, was also in blossom, and for effect at this time of year few plants can equal it. Its long drooping clusters of scarlet flowers are extremely ornamental. Gloxinias and Gesneras for early blooming are now receiving attention, and of Ferns and other fine-foliaged plants, for which this nursery is remarkable, there is a beautiful assortment.

In what is called the "winter garden" (*i.e.* a large house, the occupants of which are neatly grouped on the floor instead of being on stages), we noticed some fine plants intermixed with Camellias and Azaleas. Among these were handsome pyramidal Bays, Palm trees, and variegated Yuccas, as well as beautiful plants of the finer kinds of Conifers. Of Bhotan Rhododendrons there were also some fine specimens, especially of Nuttalli, which is one of the very finest of the genus yet introduced. We likewise noticed good examples of Clianthus Dampieri, which attracted (and deservedly) so much attention when shown in St. James's Hall last spring. This is stated to be somewhat difficult to cultivate in pots, and on that account it has been planted out here on prepared beds near the glass. Thus treated it grows luxuriantly and will evidently soon make a handsome specimen. In the same house were some pretty plants of Lapageria rosea. This was also planted out in a mixture of rough pieces of turfy loam, peat, leaf-mould, and sand. Of variegated-leaved Neriums we noticed some fine plants, which had been worked on the common kind.

Among the immense quantities of bedding plants which are raised here every year we noticed a new Golden Chain Geranium which is stated to possess greater merits than the old kind, and to be better able to withstand the effects of cold and wet in autumn. Of variegated Geraniums there is also here a fine collection: for pot culture, Culford Beauty, Fontainebleau, and Golden Admiration are perhaps best adapted. Of these a few specimens are invaluable for autumn display, and under glass their rich markings become beautifully developed. Of dwarf Dahlias Messrs. Henderson also possess many useful sorts for bedding purposes. Among these may be named Titian, yellow; alba floribunda nana, white; Captain Ingram, crimson; Crystal Palace scarlet and Trentham, white. These all bloomed finely in this nursery during the past autumn, and were considered to be among the best of their class. Tree Carnations are cultivated here extensively; during winter and spring they are very valuable and are so easily grown that no one possessing a strip of ground and a cold frame should be without them.

It may perhaps be useful to mention that Weeks's "one boiler system of heating" has been tried here with excellent success. One boiler does the work of several under the old arrangement, and thus a great saving of expense in the shape of fuel and labour is effected. It has been in operation here for several winters.

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HAWKESYARD GARDENS NEAR RUGELEY, STAFFORDSHIRE.—Angræcum sesquipedale, a young plant purchased of Messrs. Veitch and Son May twelvemonth, is now in flower here. The plant when obtained was 8 inches high; it is now 18 inches in height. The flower spike is 10 inches long, and has two flowers on it, one open measuring 4½ inches in diameter, and has a tail 14 inches in length; the other will expand soon; its tail is now 12 inches in length, the colour is greenish white, the centre resembling the head of a newt and very interesting. This is the second or third time this species has flowered in this country.

## Miscellaneous.

*Lead-eating Insects.*—At a meeting of the Imperial Academy of Sciences of St. Petersburgh on the 9th (21st) October, 1857, a communication was read, addressed to the President by the Minister of War, dated the 26th September, 1857, and accompanied by a letter from Marshal Vaillant to Count Kisselev of the 9th September. Marshal Vaillant had sent to the Paris Academy an account of a rather curious phenomenon. The French troops which fought in the Crimea brought home packets of cartridges, of which several presented a remarkable peculiarity. Some of the balls were simply furrowed, whilst others were pierced through and through by an insect which has not been found in the larva state, but which in the perfect state appears to be a hymenopterous fly about 2 centimètres* long. The gallery hollowed by the perforating insect is from 3 to 4 millimètres* in diameter; it runs in a straight line, and the surface is perfectly smooth. Marshal Vaillant observes that the perforations in question differ essentially from those observed in sheets of lead placed upon terraces or vaults of earth, which are pierced through and through by the Cetonia aurata, whose work cannot be compared with the regular and evenly bored galleries of the insect now under consideration. Marshal Vaillant stated that the Academie des Sciences at Paris was desirous of knowing whether the perforation of packets of cartridges had been observed in the Crimea in the Russian army? Whether it is common? Whether it occurs on a large scale? Whether it has been observed elsewhere? Whether the Russian entomologists have studied the habits of this new insect? What name they have given to it? The Society having listened to this communication, and being desirous of replying to the questions transmitted by Marshal Vaillant from the Academie des Sciences, directed M. Brandt to make the necessary inquiries, and resolved that the Minister of War should be requested to send specimens of the perforated balls, and that M. Steven should be asked to communicate any observations which may have been made on this subject in the Crimea.

* 1 inch equals 2½ centimètres, or 25 millimètres.

## Calendar of Operations.

(*For the ensuing Week.*)

### PLANT DEPARTMENT.

CONSERVATORY, &c.—This structure where proper means are allowed should now be getting gay; hybrid Rhododendrons, Camellias, &c., which should be in flower, make a fine display. Large plants of the above that have been some time in their pots or tubs will require much water, more than people commonly imagine, and tepid liquid manure may be given more occasionally with advantage. In stoves heat may soon be indulged in on sunny days by shutting up early after a thorough ventilation. To obtain this keep rather a lively fire from 7 in the morning until 11 o'clock, from which time it may decline until the following morning. By taking the air entirely away an hour afterwards, and watering floors or other temperate surfaces (not pipes or flues), a delightful atmosphere will be created. Begin to repot Orchids, taking them exactly in the order in which they bud; be sure that your material is scalded or half charred to destroy insects. Keep the plants well elevated, and use plenty of charcoal in lumps of considerable size, fastening the whole at last so that the plant cannot be loosened by agitation. Sphagnum or other Moss pegged on the top makes a good finish, and is to be recommended in houses which are unavoidably deficient of atmospheric moisture. Syringe plants on blocks occasionally. Let the temperature be 60° by night, 65° by day, rising to 70° on sunny afternoons.

### FORCING DEPARTMENT.

VINERIES.—Discontinue syringing Vines that are showing fruit; but secure plenty of moisture in the atmosphere by frequently sprinkling the passages, &c. Be satisfied with as low a temperature as will be safe under the state of the Vines at night, and on cold cloudy days, but take advantage of sunshine to raise it considerably, and be cautious how cold air is admitted where the Vines are in leaf. As the Grapes are cleared from late houses, prune and wash the Vines with soft soap, and a little soot and lime; also thoroughly clean the woodwork, glass, &c., and have everything clean and ready for next campaign. PEACH HOUSE.—Discontinue syringing where the blossoms are beginning to open, but secure a nice, moist, healthy state of the atmosphere by sprinkling the passages, &c., as may be necessary, but avoid anything like dampness while the trees are in bloom. Maintain a steady night temperature of 50° to 55° while the trees are in bloom. Take every possible opportunity of admitting fresh air, and where the external air can be made to pass over the heating apparatus, so as to get heated before coming in contact with the plants, a gentle circulation should be constantly kept up until the fruit is fairly set. Avoid the admission of currents of dry, cold air, however, which would be most injurious to the trees. FIGS.—See that trees planted out are properly moist at the roots, and also keep those in pots and tubs carefully supplied with water, for any excess as respects the presence or absence of moisture at the root is very dangerous after the appearance of the fruit, and is the frequent cause of its dropping off. Maintain a moist atmosphere, and if necessary to water the border, use tepid water, giving enough to nicely moisten the whole of the soil. Let the temperature range from 50° or 55° at night to 60° or 65° by day, giving air whenever it can be done with perfect safety.

### FLOWER GARDEN AND SHRUBBERIES.

Continue to make the necessary preparations for clumps or masses by sweetening or renewing the soil. Plant out things of biennial character in masses where requisite in borders. The rearrangement of perennials had better stand over till the latter begin to bud in March. Lose no time in finishing the planting of trees or shrubs.

### HARDY FRUIT AND KITCHEN GARDEN.

Push forward all kinds of wheeling while the ground is in a favourable state for such work. Soils of a heavy tenacious character are improved for working the more they can be exposed to the action of frost, and some persons dig such ground a second time, turning in the frozen surface, in order to expose a further portion to the action of the weather, but where it may be desirable to do this the frozen part should not be dug in deep. Look well to the protection of Lettuce, Cauliflowers, &c., under glass, and take every opportunity of exposing such things to air. Some of the strongest roots of early Rhubarb might be covered with pots or boxes, and sufficient leaves and stable litter to produce a gentle warmth; this would save injuring the roots removing them for forcing, but where there is a stock of roots this is of little importance, and is hardly worth the trouble and litter which it causes. ground prepared by heavy manuring and trenching fresh plantations of Rhubarb, Seakale, and Asparagus and remember that the ground for these things hardly be made too rich.

### COTTAGERS' GARDEN.

The cottager's leisure hours should be occupied collecting together all ditchings, road scrapings, other refuse matters to improve his soil. What folks call rubbish will be to him a valuable manure husbanded aright. He should take care that his dung heap is secure at bottom by means of puddling or otherwise, and an escape drain should be provided at one (the lowest) with a stopper, so that in the case of abundance of manure-water through rains or otherwise, the cottager could draw off the surplus into a sunken waterproof, and by means of a water-barrow supply to his crops. Consult the Kitchen Garden Calendar information on other matters.

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STATE OF THE WEATHER AT CHISWICK, NEAR LONDON For the Week ending Jan. 27, 1859, as observed at the Horticultural Gardens

| Jan. | Moon's Age. | Barometer. Max. | Barometer. Min. | Temperature Of the Air. Max. | Of the Air. Min. | Of the Air. Mean | Of the Earth 1 foot deep | Of the Earth 2 feet deep | Wind |
|---|---|---|---|---|---|---|---|---|---|
| Friday 21 | 17 | 30.089 | 29.942 | 48 | 42 | 45 | 45 | 44 | S.W. |
| Satur. 22 | 18 | 29.913 | 29.887 | 47 | 32 | 39.5 | 45½ | 44 | S.W. |
| Sunday 23 | 19 | 29.641 | 29.262 | 45 | 29 | 37 | 45 | 44 | S. |
| Mon. 24 | 20 | 29.781 | 29.646 | 48 | 41 | 44.5 | 45 | 44 | S.W. |
| Tues. 25 | .. | 29.967 | 29.661 | 49 | 35 | 42 | 45 | 44 | S.W. |
| Wed. 26 | 22 | 29.772 | 29.741 | 49 | 37 | 43 | 46 | 45 | S.W. |
| Thurs. 27 | 23 | 29.722 | 29.688 | 51 | 37 | 44 | 46 | 45 | W. |
| Average | | 29.840 | 29.689 | 48.1 | 36.1 | 42.2 | 45.3 | 44.3 | |

Jan. 21—Densely overcast; fine throughout.
— 22—Slight rain; densely clouded; clear at night.
— 23—Boisterous and densely clouded; rain; clear; slight frost.
— 24—Clear; fine; overcast and mild.
— 25—Cloudy; overcast; boisterous at night.
— 26—Clear; fine throughout.
— 27—Cloudy; fine; overcast at night.
Mean temperature of the week, 4 1-5th deg. above the average

RECORD OF THE WEATHER AT CHISWICK,
During the last 33 years, for the ensuing Week, ending Feb. 5, 1859.

| Jan. and Feb. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Wind N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday 30.. | 43.8 | 31.5 | 37.7 | 14 | 0.38 in. | 2 | 3 | 3 | 3 | 3 | 9 | | |
| Mon. 31.. | 43.7 | 30.3 | 37.0 | 14 | 0.38 | 4 | 5 | 1 | 2 | 9 | | | |
| Tues. 1.. | 42.5 | 30.6 | 36.5 | 12 | 0.42 | 5 | 6 | 1 | 2 | 3 | 8 | | |
| Wed. 2.. | 43.1 | 30.4 | 36.7 | 12 | 0.75 | 2 | 6 | 5 | 3 | 2 | | | |
| Thurs. 3.. | 44.0 | 31.0 | 37.5 | 15 | 0.42 | 2 | 4 | 4 | 3 | 2 | | | |
| Friday 4.. | 44.2 | 32.3 | 38.2 | 16 | 0.31 | 3 | 4 | 4 | 1 | 6 | 9 | | |
| Satur. 5.. | 45.0 | 33.1 | 39.0 | 14 | 0.39 | 2 | 3 | 2 | | | | | |

The highest temperature during the above period occurred on the 1852, and 3d, 1850—therm. 57 deg.; and the lowest on the 5th, 18 therm. 10 deg.

## Notices to Correspondents.

BLACKTHORN: *Buckthorn.* It is best to mix the sloes with sa and leave them out of doors all winter in a heap; sowing the in beds in March. They do not grow so readily if put without any previous preparation.

BOOKS: *W Turnbull.* There is no separate treatise on the pagation of evergreen shrubs by cuttings.—*E James.* really have not one word to say in favour of the book; it would be unwise of you to buy it. In the other mat take Hamilton on the Pine Apple (published by Masters a safe and sensible guide.—*Ottley.* The book of Neuma called *Art de construire et gouverner les Serres* is a thin oblo 4to, with 21 plates, published in Paris by Audot. You get some very useful hints from it, especially abo Orangeries. But you must not look to France for specim of the most skilful hothouse heating and building.—*J.* There is no such book, nor will there ever be.

HOUSEHOLD WORDS: *R B* sends us the following extract fro this work:—"They (the Japanese) are on the whole an ing trious and cultivated people. Their horticulture is advan yet odd. They can enlarge or decrease to any size they *make Plum blossoms four times as big as China Roses Radishes of 50 or 60 pounds in weight*"!! And *R B* asks to inform him upon what authority these prodigious sta ments are made. We are entirely unable to enlighten h

INSECTS: *W W.* The grubs found at the root of your Vine the larvæ of the destructive weevil Otiorhynchus. know no better plan than that of opening the earth ca fully round the plants and picking out the larvæ. In summer the stems may also be carefully searched after su with a light to find the perfect beetles.—*A Gloucestershire* Your "blight" is a mass of the eggs of the common lace moth arranged spirally round the twig of a Plum tree *M C.* The Ash bark is infested with a species of Coccus woful extent. The species has not been illustrated. T specimen is remarkable for consisting entirely of hundre of male scales, which will probably enable us to determi the species.—*E S D.* Your Picotee stem has been gnaw through by the larva of a small two-winged fly (Phytomy sp. ?), which, after assuming the black pupa state, has ma its escape. If you can forward specimens either of the ins or of the pupa from which the fly has not escaped, we sh feel much obliged. *W.*

NAMES OF FRUITS: May we beg our correspondents to se their specimens, *carriage paid*, to our Office, No. 5, Upp Wellington Street, Covent Garden, London: AND TO N OTHER PLACE WHATEVER.—*Darlington.* 1 was decayed, a an unpromising seedling. 2 is the true Glou Morceau *Eatington.* Very fine specimens of the Pear-shaped Seri just ripe. How did you keep them so late?

NAMES OF PLANTS.—We have been so often obliged to re tantly decline naming heaps of dried or other plants, that venture to request our correspondents to recollect that never have or could have undertaken an unlimited duty this kind. Young gardeners, to whom these remarks m especially apply, should bear in mind that, before applying us for assistance, they should exhaust their other means gaining information. We cannot save them the trouble examining and thinking for themselves; nor would it desirable if we could. All we can do is to *help* them—a that most willingly. It is now requested that, in future more than four plants may be sent us at one time *C H, Manchester.* Jasminum nudiflorum.—*Anon.* Chimon thus grandiflorus.—*M D.* 1, Begonia fuchsioides; manicata; 3, B. Evansiana perhaps.—*Eisteddvodd.* T little dried thing is Campanula hederacea, often found waterfalls in the west.—*An Earnest Inquirer.* The cu with a pink blossom is doubtless some Phaseolus; but are unacquainted with the seed.—*H.* We presume that Juniper from Alupka is J. excelsa, a common Crimean There were good specimens of it at the Monastery of George, overlooking Balaclava.—*C G.* It is Odontoglossum cariniferum of Reichenbach.

ARTIFICIAL MANURES, &c.—Manufacturers and others engaged in making ARTIFICIAL MANURES may obtain every necessary instruction for their economical and efficient preparation, by applying to J. C. NESBIT, F.G.S., &c., Professor of the Agricultural and Chemical College, Kennington, London. Analyses of Soils, Guanos, Superphosphates of Lime, Coprolites, &c., and Assays of Gold, Silver, and other Minerals are executed with accuracy and despatch. Gentlemen desirous of receiving instruction in Chemical Analysis and Assaying, will find ample facility and accommodation at the College.

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URATE
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} all of guaranteed quality.

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"FRIGI DOMO," a Canvas made of patent prepared Hair and Wool, a perfect non-conductor of Heat and Cold, keeping, wherever it is applied, a fixed temperature. It is adapted for all horticultural and floricultural purposes, for preserving Fruits and Flowers from the scorching rays of the sun, from wind, from attacks of insects, and from morning frosts. To be had in any required lengths. Two yards wide, 1*s.* 6*d.* per yard run; four, 3*s.* per yard. Also, an improved make for Shading Purposes. Three yards wide, 2*s.* 6*d.* per yard run.

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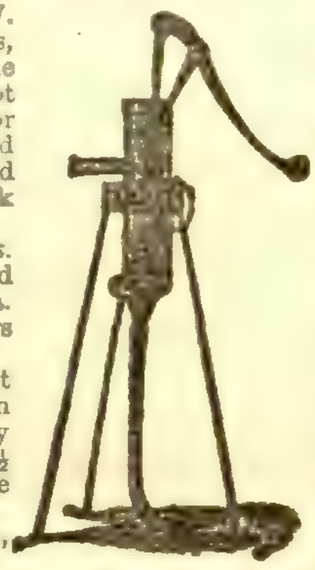

These Pumps are fitted with J. W. & SON'S Patent Buckets and Suckers, and cannot clog in action. The barrel is of galvanised iron, not likely to corrode, and can be raised or lowered at pleasure. The legs will fold together, and the whole may be carried on the shoulder to any pond or tank required.

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| Diameter of Barrel. | Height. | | £ | s. | d. |
|---|---|---|---|---|---|
| 2½ in. | short 1 ft. 7 in. | Fitted for lead, | 1 | 10 | 0 |
| 2½ ,, | long 3 ,, 3 ,, | gutta percha, | 1 | 14 | 0 |
| 3 ,, | ditto 3 ,, 6 ,, | or cast iron | 2 | 8 | 0 |
| 3½ ,, | ditto 3 ,, 6 ,, | flanged pipe, | 2 | 12 | 0 |
| 4 ,, | ditto 3 ,, 6 ,, | as required. | 3 | 8 | 0 |
| 2½ ,, | short, with 15 feet of Lead Pipe attached, ready for fixing .... | | 2 | 14 | 0 |
| 2½ in. | long ditto ditto ditto | | 2 | 18 | 0 |

The short barrel Pump is very convenient for fixing in situations of limited height and space, for the supply of coppers and sinks in Wash-houses with soft water from underground tanks, or in Hot, Forcing, and Plant Houses; they may be fixed, when desired, under the stage.

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PRICES REDUCED.

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for Farm Buildings and other Roofs; the cheapest, most durable, and neatest Roofing in use; also Spouting at 10½*d.* per yard.

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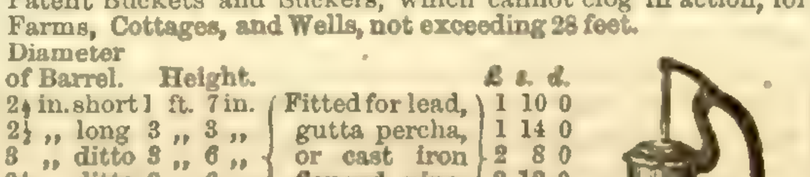

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Strong CATTLE HURDLES from 2*s.* per yard.

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of all sizes for the use of Private Houses, Mansions, Railway Stations, Mills, Collieries, Mines, Villages, &c. Works from 10 to 500 lights estimated for. The works can be entrusted to an ordinary labourer.—Apply to

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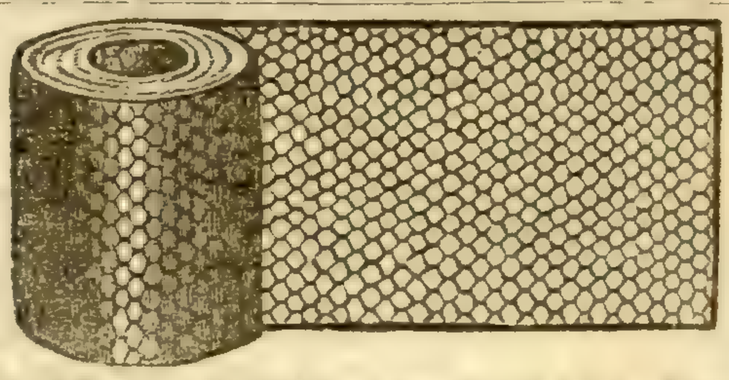

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|---|---|---|---|---|
| 2-inch mesh, | 24 inches wide .. .. | .. | 5*d.* per yd. | 4*d.* per yd. |
| 2-inch ,, | strong do. .. | .. | 6 ,, | 4¾ ,, |
| 2-inch ,, | intermediate, do. | .. | 7 ,, | 5½ ,, |
| 2-inch ,, | extra strong, do. | .. | 9½ ,, | 7½ ,, |
| 1⅝-inch ,, | 24 inches wide .. | .. | 5½ ,, | 4½ ,, |
| 1⅝-inch ,, | strong, do. .. | .. | 6½ ,, | 5¼ ,, |
| 1⅝-inch ,, | intermediate, do. | .. | 7½ ,, | 6 ,, |
| 1⅝-inch ,, | extra strong, do. | .. | 10 ,, | 8 ,, |

All the above kinds can be made of any width (under 3 feet at proportionate prices. If the upper half is of a coarser mesh than the lower, it will reduce the prices about one-fifth.

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CHARLES LEWIS GRUNEISEN, Secretary.

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Repayment may be made by the Landowner as successive portions of the Works are completed, or the actual expenditure, with a Commission thereon, may be charged on the property improved by way of rent charge for any term not exceeding 50 years, the instalments to repay principal and interest being thereby kept down nearly to 5 per cent. per annum.

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# The Agricultural Gazette.

*SATURDAY, JANUARY* 29, 1859.

CONSIDERING the national importance and great influence of the Highland Society of Scotland, its late general meeting held in Edinburgh is unquestionably the most important agricultural event of the month. The report in another page, though considerably abridged from that of the Edinburgh daily papers, is sufficiently full to indicate the very excited personal feeling which found expression both in the addresses delivered and in the confusion prevailing on that occasion. A still more angry expression of it had appeared some days before in a pamphlet arguing, "What is to become of the Highland Society?" It is satisfactory to know that the Society is not likely to suffer from the intemperate statement of the case against its office-bearers which the anonymous author of this pamphlet has laid before the public. Mr. LAWSON, whose treatment by the Directors and their secretary is one of the points insisted on, prefers to resign his official connection with the Society, and bear, unquestioning, the injustice which appears to have been done to him rather than remain the innocent occasion of another angry discussion. To some extent indeed justice has been already done to him at the general meeting just held. His withdrawal of the pamphlet in which an appeal was made from the Directors to the members had been recorded in the minutes of the Society as a "retractation" of its statements. The general meeting of members has directed the "Directors" to expunge the latter word and substitute the former, so that Mr. LAWSON now appears, not in the false light of having made an unfounded complaint, but simply as withdrawing for the sake of peace from a personal contest which threatened to injure the Society's usefulness.

What the details of this personal contest have been we do not care to inquire. If a principal in the affair resolves on silence, no mere spectator has a right to disturb it. And Mr. LAWSON undoubtedly deserves the thanks of his fellow

members and of agriculturists generally for accepting such an *amende* as has been made to him; thus as he could not honourably retain his connection with the Society, becoming as he himself has put it, "honourably quit of it."

For what might have been the upshot of a prolonged dispute? Party feeling threatened to result in the resignation of the Directors of the Society; and that would undoubtedly have been greatly to be lamented; or members in large numbers would have ceased connection with it, and that would have been a still more serious calamity. And we are perfectly sure that the resignation of his office as Secretary by Mr. HALL MAXWELL, which might have ensued, would, notwithstanding all the angry feeling which has connected itself with his proceedings, have been almost universally regarded as a heavy blow upon the usefulness of the Society. Whatever the injury occasionally done or suffered by the impulsive utterances and deeds of an energetic man, there can be little doubt that he is much to be preferred for such a position as Mr. MAXWELL holds to one who is satisfied with the merely careful routine performance of office duties. The activity of a living body which really leads public opinion and gets useful work actually done is more satisfactory, notwithstanding irregular outbursts of ill-regulated vitality, than if it were content with merely expressing public opinion, or with *representing* and describing work done by others—for which, indeed, the "vitality" of a *faithful* mirror is all that would be needed.

Let us, however, hope that for the future the Directors of the Society will personally exhibit somewhat of the energy and activity of their Secretary, and take that guidance of the Society's affairs which their office requires of them; and which ought not to be delegated to others.

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WE have to correct a statement made at page 42, upon the authority of a trade circular. It is there stated that, owing to the high prices fixed by the Peruvian Government, they have upwards of 600,000 tons in the hands of their agents in this and other countries unsold, and 400,000 lying thus in London and Liverpool alone. The stock of Peruvian guano lying at present in London and Liverpool is, we find, not 400,000 tons, but 290,000 tons; and this constitutes nearly all the stock of Great Britain.

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THE paper read by Mr. BOND, of Kentwell, at the last meeting of the Central Farmers' Club does to some extent answer the questions put by a recent correspondent as to the stock required by a certain extent of arable and pasture land.

In the case of fatting stock we have been accustomed to calculate the daily consumption of green food by a full grown sheep having, when ready for the butcher, a carcase weight of 28 lbs. a quarter, at a quarter of a cwt.—and this is a datum which enables one to estimate the power of almost every sort of green crop to maintain live stock. Clover yielding 40 cwt. and meadow 30 cwt. of hay per acre may be supposed when cut to yield four times that weight of green fodder; and the aftermath may be nearly such another quantity. Mangel Wurzel and Turnips yielding 25 and 15 tons per acre respectively should have at least 10 per cent. (often very much more) deducted from them on account of waste from disease and frost, &c.

A breeding stock may be supposed to be maintained for two or three months in the year on straw alone, *i. e.*, their partial maintenance on straw during four or five months of winter may be considered equal to a whole maintenance during the shorter time. A cow will eat as much as eight or 10 sheep—varying of course according to age, and breed, and size, and condition, &c.; and perhaps it may be accepted as a general rule, that an animal will eat, if on green food alone, as much as a quarter of its own carcase weight, supposing it to be at the time in fair condition for the butcher. Of course if grain, or cake, and hay, or dry fodder be given in addition to the green food or in substitution for it, the consumption of the latter may be reduced to any extent; and it is by thus utilising to the utmost extent all the dry food of the farm, and by purchasing artificial food in addition to the natural produce of the land, that the large stock now kept on highly farmed lands is maintained, by which a corresponding quantity of manure is made so as to preserve the fertility of the land at its high artificial pitch.

The particulars thus given will enable our correspondent in a rough way to estimate for himself the quantity of stock he is able to maintain upon a given extent of land. And the particulars of Mr. BOND'S management will still further help him.

On 600 acres of arable, and 200 acres of pasture land, Mr. BOND has kept a flock of 500 ewes, rearing 650 lambs annually, and fattening 200 sheep—he has fattened 40 beasts—reared 30 young beasts, kept 15 cows, 15 colts, and 30 horses, together with an average number of pigs. Mr. BOND declares that there is nothing extraordinary in all this; but we must not forget what the *ordinary* agricultural experience of farmers is. Mr. BOND'S statement indicates a maintenance on the whole equal to nearly three sheep per acre, which is certainly extraordinary.

How this is done is described as follows;—"The secret has been large and increasing breadths of Mangel Wurzels, till this year, upon the four-course system, we have extended the breadth to 100 acres, which at an average of 30 tons per acre equals 3000 tons of good valuable food; and in our eastern counties exceeds by one-third the produce of Swedes, and the Mangel Wurzels have superior fattening qualities. Independently of our permanent course in keeping a flock of breeding ewes, we have varied our system of grazing, generally buying calves, rearing and fattening them for sale at two years old; but if beasts in good fresh condition have promised to be beneath the value at which we could rear them, we have then purchased beasts in the autumn, or in the spring, when partially fattened; or if beasts have been dear, and sheep proportionately cheaper, we have then fattened sheep in yards instead of beasts. After every trial we pronounce greatly in favour of the flock of 500 ewes, as the most paying; and from the improved condition of the land, the number of ewes might now be advantageously increased from 25 to 40 scores; and I believe such an increase of the flock to be the best remedy against the present depression in the price of Wheat. Last year the produce of the 500 ewes realised, for 600 lambs sold in August, 884*l.*; 61 tods of wool, 144*l.*; total, 1028*l.*, which exceeds the rental value of the land. This year the produce of the flock was 650 lambs, and 60 tods of wool, which realised 970*l.*; and in other years the return has been in the same ratio. We have gradually been substituting Hampshire ewes for Southdown ewes; and we have crossed with Cotswold tups, hired of Mr. Sexton, of Earl's Hall, Cockfield, Suffolk. Mutton and wool answers infinitely better than breeding and blood. Size and frame are necessary for early maturity. We made trial of some pure bred lambs, by selecting a few of the best Southdown ewes, and placing with them Southdown tups hired from the best flocks, but the progeny were very unpaying, even allowing that they consumed less food when compared with the lambs of the first cross. In the management of the flock, from the ewes being the scavengers of the farm, they are kept inexpensively; but they are always maintained in a sound, healthy, thriving condition; and one main point is, to have them upon the arable land as much as possible, because of the manure, but never at a wet or improper time. In October the ewes are placed in different lots upon the maiden layers and stubbles generally, whilst the tupping is going on; also upon the Mangel Wurzel tops, after the roots have been carted. In November they have the Swede tops, perhaps a piece of Rape, also the pick of the old Grass on the pastures, and, as the weather becomes wet and cold, they are taken to two good, roomy, well-drained, well-shedded yards, where they receive cut Barley, Oat, Pea, Bean, or Wheat straw in troughs, also a supply of any clean, fresh-threshed straw, placed between hurdles, or in racks, from which they eat the straw most freely. We adhere to the yards in the winter, as ewes folded at night upon a bleak field, exposed to severe frosts, cold cutting winds, rain, sleet, and snow, are in a poor position for progress; and we prefer to cart the manure to the field in a dry season, rather than to deposit it there under such unfavourable circumstances to the animal and to the soil. Each day the ewes have gentle exercise, or a free ramble upon an adjoining pasture, where they receive an allowance of 100 bushels of Swedes or Mangel Wurzel per diem. This treatment is continued till within a month or five weeks of lambing, when a few bushels of crushed Rape-cake are daily added to the straw chaff, which cake we consider may advantageously be passed through the animal instead of applying it direct for a grain crop to the soil. The Rape-cake is always eagerly consumed; and even such inexpensive artificial food is very beneficial in preventing too great a reduction in the condition of the ewes prior to parturition. About 3 acres of Cow Cabbage are grown, some of which are given to the ewes 10 days previous to lambing, or they have a small bait upon aftermath Grass, which assists to ease in parturition, and secures a flow of milk. After lambing, the ewes are placed with the lambs upon a piece of aftermath Grass, which has been reserved, when they receive Mangel Wurzel and Cabbages, and are to the yards at night for Rape-cake and are with straw chaff, till the weather becomes sufficiently warm for the lambs to sleep out, which not usually till April. The lambs are Cabbages, and a small supply of Bean Rape or oilcake, apart from the ewes. In June the flock of ewes and lambs receive Wurzels upon the Rye or Rye-grass or the lambs running forward for the best feed which, in July, the lambs are weaned, and upon good Clover or pasture, where they to receive a small supply of artificial food, sold usually at the commencement of After weaning the lambs, the refuse withdrawn and fattened; whilst the flock shifted to inferior food, and gradually for the following tupping season; they are a fold of Tares or Rape, or second crop of in August and September; and have of some pastures, also the stubbles, after

We do not give Mr. BOND'S statement experience in detail. The upshot of it as the sheep stock is concerned, is stated following terms:—

| | |
|---|---|
| "Attendance .. .. .. .. .. | |
| Autumn quarter at 3*s.* per week per score, 13 weeks | |
| Winter quarter at 5*s.* per score per week .. | |
| Spring quarter at 15*s.* per score per week .. | |
| Summer quarter at 10*s.* per score per week .. | |
| Interest .. .. .. .. .. .. | |
| Loss .. .. .. .. .. .. .. | |
| Tups .. .. .. .. .. .. .. | |

"I have placed all the food at cost price, the calculation is based upon the ewes fattened out at the value, and at the same that the stock ewes are bought in; one is placed for deaths of ewes, which has not exceeded; consequent gain in 185 deducting 736*l.* 5*s.* (the cost), from 1028 return), 291*l.* 15*s.* profit: in 1858 736*l.* cost), deducted from 970*l.* (the return), 23 profit. Now such profits, with the addi value of the manure, are, I think, worthy sideration; and I advocate a flock of ewes preference to fatting sheep, because the quality of the land, and of the produce of land generally, is much better adapted breeding than for a fattening flock. I lamb breeding the most paying course."

This excludes the profit or loss of the and horse accounts; and to this we may hereafter. But the statement already g sufficient to show how large a live stock profitably kept upon a farm; and how it is to be prepared, as Mr. BOND already take the full advantage of the present conditions of the corn and meat markets.

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## WHEEL *VERSUS* SWING PLOUGH.

"Facts are chiels that winna ding,
An' canna be disputed."

I DO not assume the office of dictator, b appear as a learner desirous of further informa the elucidation of both sides of the question steam tillage looming in the not far distant whether under the shape of Fowler's Ploughs, Cultivator, or Halkett's "Guideway"—it thought late in the day to take up the pen on subject. But believing that the death-knell plough will not be sounded in our day, I emb leisure of a winter's evening to jot down a few thereon, original or otherwise.

It is usually found that local customs be solid basis, and it is not wise rashly to depa from. By doing so, many a one has had to g dom and pay heavy fees in the School of Exp while the jog-trot practitioner has been reaping harvest in the well trodden path. Therefore ask from our brethren on the north of the Tweed a hasty acquiescence in, or a churlish dissent fr thing that may be advanced. Take the rem what they are worth. If all is chaff or verbos it aside; but if there is any grain of truth although disagreeing with a previously formed let it have its due weight in practice. A very large number of wheel ploughs are introduced into Scotland, during the last ten there is still a considerable amount of distaste not call it prejudice, for that is a weed that d not vegetate freely in the minds of the int farmers beyond the Tweed)—with which it regarded. But those who have known and u best of both classes of implements—who have Scottish and English experience—ought to be best position for the formation of a correct ju on this point. I have, therefore, obtained from undoubted ability and position, who combine requirements above named, opinions that I hesitation in endorsing.

We have at present nothing whatever to do ploughs turned out by Howard, Ransome, Ba or Hensman in the south, as a class; nor of Kin Scoular's, Cowan's, Ponton's, Sellar's, or Barr in the north. It is simply the principle of W

...Weeds. They are often objected to, as being a ...unnecessary complication, without any counter-...balancing advantages. But there are those advantages, ...whether you choose to admit them or not. Complication ...can hardly be charged with, since we see daily ...the contrary. The system in Scotland fortu... does not send the lads to the fields at so tender ...age as with us. But here you often find good ...ploughing turned out by youths who would ...be entrusted with the "orra horse" in Scotland. ...What stronger proof of complication this! In a neighbouring ...parish—where, however, a considerable stimulus has been ...exerted by a few men of intelligence and industry—I ...mean Berkswell, the majority of the ploughmen are ...Irishmen—the implements manufactured at Bedford or ...Ipswich—and the turning over of the soil second in ...quality or quantity to no district with which we are ...acquainted. The late lamented Earl of Aylesford, ...whose seat is in this parish, held an annual ploughing ...match on the home farm, at which it was a perfect treat ...to see the work, the workmen, and the tools. The ...result is, that a good wheel plough, when well set, ...depends far less for the perfect execution of its work on ...the skill of the holder than does its swing compeer of ...the most approved construction. It was but this morning that I saw a ploughman engaged in the double operation of ploughing, and, at the same time, removing a portable range of hurdles which threatened to interfere with his return furrow. Over some 10 or 12 chains of ...length, he never touched the plough with a finger, while the furrow was laid correctly and beautifully, at the approved dimensions of 6 by 9. Not that there is no room for the due exercise of skill and judgment in the use of this implement; for with it, as with any other, we find that the quality of the work is proportioned to the skill of the ploughman. Still, I do contend, that with a secondary amount of ability, the results are cent. per cent. in favour of the wheels.

A first-class ploughman is undoubtedly a great acquisition on a farm, and the yearly or half-yearly feeing markets fully recognise this. Some farmers will have such hands at whatever cost, and, like the late Mr. Gourlie, in the Carse of Gowrie, judge not the extra few pounds thus entailed. But it is evident that all cannot obtain the best men; and on the generality of Scotch farms probably not more than one or two of such will be found. Hence arises one advantage of the improved wheel ploughs, in that you can obtain as good and equable work, or nearly so, from the second and third-rate hands, without any deterioration of that produced by the others. The farmer obtains the advantage, and is rendered far less dependent on those in his employment. His foreman, or himself, can see, if needful, the setting of the wheels, which are simple of adjustment, and readily altered according to the nature of the work. The new lever neck is an efficient contrivance for giving the ploughshare more or less dip into the land, while the coulter fittings afford unequalled facilities for placing this part in any required position. All the wearing parts can also be readily replaced in the field by a ploughman of average capacity, which saves many a weary and tedious journey to the smithy. Their strength and durability are beyond question, and with new wearing parts, as required, they retain the firmly-framed mellowness of a new plough—the desirableness of which all practical men are agreed upon, as an old shaky plough, of whatever make, is of far heavier draught than when it originally entered the field. There is no reason why one of these ploughs should not, with moderate care and attention, be equally serviceable at the close of the longest lease, or "life-rent," as at its commencement. A well-known East Lothian agriculturist, who has successfully used them on his farm, says that his men consider them more difficult to turn at the end of the field. Good ploughmen in the south complain of swing ploughs for this and other reasons. Custom would speedily remove the barrier in either case. At all events, we find Scotch ploughmen in England almost invariably preferring the wheel plough, and acquiring the plan of balancing on the furrow-wheel in turning at the land's end. With deep ploughing, say 11 or 12 inches, this is indeed tight work when turning to the left. But as far as turning is concerned, wheel ploughs could be much more advantageously worked in Scotland than in England, since the country is generally laid out in larger fields and wider lands.

Before coming to the important question of draught, there is another objection to which I would refer. It is obviously the interest of the farmer to obtain an implement of the most generally-useful character; not a plough or harrow which could only be economically worked on one portion of his farm, while for the remainder it was valueless. I by no means advocate the *multum in parvo* principle, as desirable for farm utensils generally. There are old-fashioned ploughs, such as the Kentish turn-wrest, which may be converted into a broad-share, scarifier, or horsehoe, and do all these operations moderately well. Such great conglomerations are often, in plain language, great humbugs. But a Scotch farmer often wishes a plough which will not only do its legitimate turn-over work, but can also be used, by a "ribbing" process, if memory serves aright, for opening and closing the Bean, Potato, and Turnip ridges. Here, again, the wheel plough is complained of, though with what justice I cannot profess to say, as we invariably use and prefer the double-mould, or ridging plough, for these objects. However, in the Warwick neighbourhood, I find that they are pretty freely adapted for this purpose, by the addition of a small block of wood to the forepart of the frame, on the near side. And I have there seen, on farms well managed by Roxburgh men, ridging of a character that would please the taste of the nicest connoisseur. Taking Howard's P P plough, for instance, you can use it for this purpose in May or June; apply a paring share to it, and skim foul stubbles, 2 inches deep, in September; turn over the Clover or "seeds" for Wheat in October; divest it of the mould-board, and add a penetrating share, so as to form a first-rate subsoil plough (following another plough) at Christmas, on the land for next season's roots. In these varied capacities, saving the ridging above referred to, I have repeatedly used this plough, and found it as good a common plough as ever, when the parts were replaced. A Berwickshire friend, now farming his own property in this county, who has had an extensive experience on both sides of the Border says he is convinced that "no plough should be without wheels; but a good wheel plough should also be a good swing plough; and there is no difficulty in obtaining such ploughs. I do not, under all circumstances, use the wheels." The occasions in which he dispenses with the wheels are probably in the cross-ploughing of cloddy land, or on wet sticky soil, where the land wheel clogs, and in which case a "foot" should be used instead of the wheel. A very practical man, Mr. Bower, of Long Bennington, writes me on this subject that he finds another great advantage in these ploughs. "When I break up," says he, "Clover stubbles for Wheat, after harvest, in dry weather—which I consider the best season for strong soils—I can plough with a wheel plough when a swing plough would scarcely face it at all. I also use Howard's in breaking up land for green crops, and in ploughing 10 inches deep with four horses, without straining or hurting the plough in the least." For the latter description of work, my own experience is, that a heavier plough, of the same make, is invaluable. Some agriculturists express their decided conviction that on the lighter descriptions of soils alone are wheel ploughs any considerable advantage; while others say that on heavy soils and deep loams the most favourable comparative results are obtained. I would strike the balance midway, and say that for all soils, saving very stony land, or steep hill-sides, their use would be found desirable. This reminds me of the notable report given respecting Ransome's ploughs, at the Southampton meeting of the R. A. S. E., in days gone by. The two-wheel ploughs, one-wheel ploughs, and swing ploughs were tried in classes, both on heavy and light land, according to the tastes of the exhibitors. "By this arrangement not only was the quantity done by each implement displayed, but a fair opportunity offered itself for observing and comparing the quality of the work as executed in the same soil, and under the same circumstances, by the three classes of the implements. The skill of the individual construction was also manifested; and on this occasion the remarkable result came out, that one particular plough excelled all the others, whether working with two wheels, with one wheel, or without a wheel. This plough was one of the three in the field, from the manufactory of Messrs. Ransome, marked Y. L. When fitted with two wheels, its performance was like that of a planing machine; the furrow slices were cut vertically from the land, the floors or bottoms were left perfectly flat and clean, and the slices were deposited at an angle of about 45°, with such truth that they could be turned back to their original horizontal bed without gaining or losing ground. According to the generally received principles of perfect ploughing (whether they be correct and equally suitable to all soils and modes of culture or not), it is imagined that practice has, in this instance, closely approached to their fulfilment. How did it happen that the same plough proved to be equally fit for light and heavy land? Messrs. Ransome changed the mould-board from one adapted to light land to one suited to heavy land, an alteration effected in less than five minutes; and abundant proof was afforded to, and acknowledged by, the judges, that one given form of mould-board is utterly inadequate to suit both soils" (*vide* Jour. vol. v. p. 367). This firm has been in the plough trade for a long series of years, and as far back as 1785 the late Robert Ransome, of Ipswich, took out a patent for "making shares of cast iron." Since then other candidates have made most rapid and successful advances for public favour—so much so that the name Howard, Ransome, or Ball may almost be regarded as the synonym for a first-class wheel plough. *T. Bowick.*

*(To be continued).*

## GUIDEWAY AGRICULTURE.

THE "Journal of the Society of Arts" contains a paper by Mr. W. Bridges Adams on the Culture of Food, in which he refers to the agriculture, horticulture, and food provision of the French *habitans* of Canada, of the lithe and dark-eyed inhabitants of the Pampas of South America, and of the natives of Chilé and Patagonia, lastly describing the most advanced speculations of agriculturists and inventors among ourselves. The contrast is sufficiently great. Mr. Adams recites his own advocacy of applied steam power as an agricultural auxiliary in the pages of the "Westminster Review," and at the meeting of the Society of Arts quoting such passages as the following:—

"In sober earnestness we propose to convey artificial heat beneath the earth on open land, so as to maintain the temperature suited to the growth and development of the vegetable tribes by means of pipes of metal or earthenware circulating steam or hot water or air from a close boiler or stove. These pipes to be laid at depths of 4 to 5 feet in the manner of deep draining. Also by a similar process to inject the ground with gaseous manure, as ammonia and carbon, so that the heat and gases may be constantly ascending towards the surface, and thus be absorbed by the roots of the plants. We shall yet see the time when rails will be laid along the surfaces of our fields, whereon cylinder harrows will traverse, driven by the same stationary power, to break the soil into fragments fit for the growth of plants."

He then describes as follows Mr. Halkett's scheme, to which allusion has been already made in our columns:

"Thoroughly convinced of the practicability of such a system of cultivation by steam machinery combined with rails, I had purposed, amongst other projects, to give my imaginations practical effect, or rather to combine existing practice into a whole, whenever leisure might obtain. It was, therefore, with no small pleasure that I listened to the paper read by Mr. P. A. Halkett before the Society of Arts, on the 8th of December last, on 'Guideway Agriculture, being a system enabling all the operations of the farm to be performed by steam power.' It was not left for Lancashire or Yorkshire to do this thing, but to Peter Alexander Halkett, of the Windham Club, St. James's, in our own London, and I understand a naval officer to boot, and not an agriculturist, showing that now, as often before, improvements come from outsiders looking on, rather than from regular practitioners.

"To any competent mechanic the diagrams would have sufficed without the paper, but on the following day I visited Mr. Halkett's machinery at Kensington, and found in Mr. Grafton a most intelligent and practical exponent of the whole system, which in general terms amounts to this:—

"The travelling platform frame of the builder, such as we see at the Houses of Parliament and Westminster Bridge, and at Portland and Holyhead moving by man power on rails, on the tops of high scaffolds, is enlarged in width and breadth, and placed on rails on the surface of the land to be cultivated, raised to such a height as to clear the plants, and instead of man power is moved by engine power, which also serves to put in operation the various tools required for dealing with the land. The tramway frame of the builder is thus practically married to the portable engine of the farmer, and is furnished with tools from the workshop of the engineer. The mill that cuts iron like cheese has ceased to be a fixture, and is made moveable over the face of the land, to cut and carve the soil into fragments, to rake it into fine mould, to free it from weeds, and clean it from stones if needed. This, at Kensington, is the practical germ of the process that will multiply four-fold the farmer's crops, that will convert the farm labourer from an ill-clad, uncultivated human being into a well-clad, intelligent mechanic, working under covered shelter from the sun and rain, and with all the advantages of fresh air for his workshop; that will enable this intelligent mechanic to work on a sugar or cotton plantation with a steam fan if needed, keeping his body constantly cool; that will give to the white man the practical dominion over tropical labour he thinks now only attainable by the negro; that will make as great a revolution for humanity as was done by the advent of railroads, which destroyed the practice of cruelty in overdriving post-horses; that will render the night equally available with the day for all the processes of cultivation. The plough, the harrow, and the hoe, the rake and the dibble, broadcast and drill sowing, may all be set in motion by steam, and hoeing between rows of Wheat may at last be accomplished.

"For the purpose of depositing liquid manure at the roots of the plants instead of on the surface, Mr. Halkett has constructed a tool in imitation of the tooth of the poisonous serpent or the sting of the wasp. The liquid exudes through the end of the pipe which cuts the trench below the surface. But there is yet a very important tool that requires adding, a vertical drill with cutting edges, which, as it advances, will comminute and aërate the soil between rows of plants, and produce a far better result than the man hoe."

"The tank carried on the platform will be very available for liquid manure, but for the purposes of general irrigation a new method is desirable, as it would be impossible to carry sufficient water on wheels. Perforated pipes of earthenware should be deposited at 2 feet depth below the surface, provided with entrance for the water but no exit. These pipes being filled from the nearest level, the water will be absorbed by the spongy superincumbent soil, and carried to the plants without caking the surface. This is a most important process, for it will render level uplands more valuable than the low-lying lands called meadows, usually selected for market gardens, as Greenwich and Deptford.

"An arrangement of this kind would be peculiarly adapted for hot climates, were it only to save water. The valley of Valencia, in Spain, is a large triangular plain, sloping to the Mediterranean, between two lofty mountain ranges, which unite where the river rushes down. This river, the Guadalquiver, would be, in the warm season, wholly absorbed for the purposes of useful irrigation, but probably one-third of it is evaporated by the sun, and another third wasted on surface weeds, and the scarcity of water is so great that perennially faction fights occur amongst the peasantry quarrelling for water, which have to be put down by the soldiery

and though scarcely a drop reaches the sea, large quantities of fine land lie waste.

"On this system of cultivation by machinery it is obvious that a straight surface of soil is the best, and that a level surface will involve less power than an incline. It is obvious, also, that the longer the run of the machine the more convenient will be the operation and the less the cost of rails, as there will be less proportional amount of heading, and, doubtless, as the system goes on, levelling of the soil will take place, as on roads, to facilitate draught. Other things being equal, the level surface will be worked at less cost than the incline, as is the case when horses are used.

"I now come to the question of the rails and machinery as set out by Mr. Halkett.

"To work a railway economically with the least consumption of fuel, it is essential that the rails should not deflect either vertically or horizontally. The greater the pressure the stiffer the rail must be, and the shorter the length over which that pressure extends the greater must be the strength of the rail. If traction be performed by the adhesion of driving wheels, the greater the number of driving wheels with a given load the more the pressure will be distributed, and the lighter may be the rail. As the cost of the rail is proportionately greater than that of the machine, Mr. Halkett prefers to use light rails and a large number of driving wheels.

"On an ordinary line of railway the wheels have a single flange in the inside, and the peripheries are in the form of cones and not of cylinders. The object of this is to compensate for curves on the rails. The result is a great pressure, tending to force the rails out and widen the gauge. For this reason strong cross ties are essential to hold the rails together. For the purpose of cultivation these cross ties are inadmissible, and therefore the wheels of the machine must be made cylindrical and with two flanges. In this mode there will be no tendency to vary the width of the gauge.

"In using a single pair of driving wheels for the purpose of propelling in a straight line, there should be no rubbing friction, provided the wheels are exactly of the same diameter. And whatever is the number of the driving wheels, the exactness must exist both in the peripheries and in the crank pins and connecting rods, or in the connecting chains if chains be used. It becomes, therefore, a question between stiff rails and few drivers, or light rails and many drivers, as to cost. If cast wheels be used not turned to exactness in the lathe, some compensation must be provided to prevent the rubbing of the tyres on the rails, which would soon destroy both. Mr. Halkett, dealing at present with very flexible rails, which can scarcely be permanent, does not sufficiently estimate the amount of this difficulty, which will occur when solid machines and sufficiently firm rails are used. Moreover, if stiffness be not provided in the rails, it must be in the frame. A flexible frame would not distribute the load, but would suffer every wheel to sink into the successive hollows.

"The rail Mr. Halkett has chosen—a light angle-iron, is the worst form for strength that can be contrived, unless we suppose it to be firmly fastened down to a solid base. I have used such rails for light purposes in machinery, but it is a serious objection that they deflect vertically and widen laterally, decreasing their vertical strength rapidly as their load increases. If with a given weight of metal Mr. Halkett does not find his rail deflect, it will simply prove that he is using iron in waste.

"The system is made to depend, not on the strength of the rail itself, but on a substructure of burnt clay or concrete 15 inches wide. The cost is stated at 20*l.* per acre, leaving a serious nuisance on the ground, if at any time the course of the rails needs to be changed. There is no need whatever for this substructure, for at the same cost a self-contained rail of great strength can be applied on the surface in such a mode that it can be taken away without any waste and removed to another position when required. If a rail be used so weak as to depend on substructure, there will need a constant patching and mending. If a stiff rail be used, the ordinary surface will be sufficient.

"The frame, pair of engines and tools, are estimated to weigh about 24 tons, on 24 wheels, or a ton per wheel. As this weight is all adhesive or propelling, it will be equivalent to 6 tons of traction force, supposing no undue friction. If cylinders of 6 inches diameter be used with a 4-feet wheel and 16 inches stroke of piston, the locomotive will give out about 2500 lbs. at the periphery of the wheel, and as little more than 250 lbs. will be needed for the purpose of propulsion at 13 lbs. per ton, 2250 lbs. will be left to work the machinery at a speed of 10 miles per hour.

"But if instead of a level there be an incline of one in one hundred, the resistance to traction will absorb about 740 lbs.; on an incline of one in 25, about 2312 lbs., nearly the whole force.

"If the driving wheels be worked at a slower speed, with a toothed pinion at the periphery, there will of course be more available power for the machinery.

"The system of Mr. Halkett, in making a double engine for an enormously wide gauge by a connecting beam, thus keeping the chief load direct on the rails, displays great ingenuity, but whether the multiplicity of driving wheels in connection with it for the sake of a light rail will prove the best system remains yet to be seen, and it would be quite worth while to try the plan of Mr. Boydell with a similar structure.

"There is little doubt that a gauge of 60 feet may be worked on this system, which will only require 250 yards of rail per acre including headings, calculating a farm of a square mile, or 640 acres at a cost of 20*l.* per acre, or 12,800*l.* per mile. The machine may be estimated at 2000*l.*, making a total of 14,800*l.*, which for interest and materials will be 3*l.* annually per acre. But the machine will go over the whole mile in 44 hours, say, three times in a week, so that four square miles may be estimated to one machine. Reflecting that the rails of four square miles, or 2560 acres, only weigh 5000 tons, and the machine 25 tons—total weigh t 5025 tons, and total cost 53,200*l.*, and total annual interest and material 6384*l.*, it does not seem a matter beyond the reach of a company of tenant farmers with a moderately long lease, inasmuch as they can carry off the whole of the materials at the end of the lease, and the more especially with the probability of a double crop of the same extent of ground at half the cost of labour.

"If this manifestly practical plan, doubling the strength and power of the English nation, be suffered to lie in abeyance, it will be a standing satire upon the agricultural bodies ranking amongst them the oldest traditional names of our country."

## LOIS-WEEDON TILLAGE.

I HAVE said that after attending to the great principles of the Lois-Weedon system with that liberty which we all like to enjoy, judicious modifications under due caution may be admitted. But while the Lois-Weedon plan should be followed in its integrity as an ascertained fact, such modifications must be instituted and held as experiments. I have myself somewhat different views in these carryings out, for while I entertain the highest admiration of Mr. Smith's labours and would give all praise to him for what he has effected, still I am not satisfied that an acre in fallow and crop under such judicious treatment should produce no more than a good average of an acre fully cropped, nor shall I be till I see it amount on the general run to an average of the highest amounts now obtained from an acre under full crop—say to five or six quarters. I feel very confident that this may be effected from various experiments I have made for 40 years past; it is true, for the sake of quicker verification and from other circumstances, they have generally been confined to Barley, yet I see not that the same realisations may not be obtained in Wheat. I have had them in Oats. May not this have been owing to the more intimate relation of the fallowed strips and the sown ones? My products have been obtained by equidistant rows. In the few experiments I have made with three proximate rows, with wide intervals between every set of them, I have found that the centre rows have been far inferior in yield to the external rows, and this I have ascertained by reaping them separately and counting the sheaves. If I do not forget, the centre row was about half the yield of an outside row. Now, if this is so the centre row must have suffered from the proximity of the outer rows, which also must have suffered more or less from that of the centre row. From this I would infer that by substituting equidistant rows for triplex ones a considerable increase might be obtained.

In the substitution of equidistant rows for the triple ones the same previous preparation is required, but, as some may be deterred by so much hard labour the plough may be employed either by one deep operation or by a plough following in the track of another, so as always to bring up some fresh soil, the land grubbed or well harrowed in the spring, and then drilled either by machine, or by opening drills with a double mould board, and sowing the Oats by a barrow drill, covering by the harrow: the intervals between the drills being of course hoed or grubbed two or three times in the summer, and, as a last operation, a light double mould-board passed through them to throw the well worked clay against the rows of grain to earth them up, and which would also leave a track for the succeeding crop. This would only require a cleaning out by the same implement to leave a drill for the seed corn, and little delay would then occur in getting in the Wheat. As soon as the rows of Wheat appear I would pass a hand-hoe between them and the stubbles, as I hold an immediate surface breaking essential to future development; after this should follow as soon as possible the stubble forking, which need only be of the breadth of the fork, with even more gradual deepening than recommended by Mr. Smith; all the light summer hoeings or grubbings should of course ensue, and as they will be but superficial, and as they ought to be so frequently repeated as to leave the surface friable, a single horse should only be employed in them, and again as a last operation this friable soil thrown against the standing rows of corn. Thus I think all the objects desired by Mr. Smith may be obtained without incurring an expense in manual labour that may hitherto have deterred many from following it; the common implements in everyday use also will only be required.

Impatience to try the Lois-Weedon plan has, I suspect, very frequently, I might say almost always, led to a fatal error, the commencing the experiment with a Wheat crop on hastily and ill-prepared land, which also entailed a late sowing: to those, then, who would wish to give the plan a fair, steady, and cool trial, I would suggest attention to Mr. Smith's instruction to his "friend with the clear head and brave spirit and sinewy arm," p. 32, 10th edition of "A Word in Season, 1852." "I take," says Mr. Smith, "many things for granted; and suppose that the land is drained and cleaned for the important commencement. Let your gang, then, of 5 or 10 men dig up your 10 acres at once a spa deep, mixing the soil and subsoil together, and it hollow and loose. Let it lie thus till spring well harrow and pulverise and level the whole that, as an intermediate crop will not be una at this stage, mark out by line and stick 10 acres into compartments or narrow lands Mark the centre of each 5 feet. There set or d rows of Oats 1 foot apart—the middle row being centre of each 5 feet compartment."

"While your Oats are growing, be prepar your Wheat crop; and stir the land incessantly suitable horse-hoe or scuffler."

In giving our attention to the Wheat sowing Weedon we must not forget that it is merely and perhaps the least important part of Mr. S system. The great feature in it is by its rea available natural sources of fertility and of actio mineral ingredients of the soil to the produc grain crops, and which alone are necessary to th permits the application of the whole manure farm, including the straw and refuse of the re crops themselves, to those cattle feeding cr which manure and rankness of soil can scarcely found in excess; thus while a portion of the fa suitable to the production of grain crops is appr to them, another portion by receiving all the m is made to produce an amount of cattle food so as to very much augment the capability of to feed a greater number of stock, and to rem lay unnecessary in the purchase of foreign manu

I have more than once suggested the possi Mr. Smith's raising a larger amount of minera dients than necessary, and that therefore some expense of his tillage might be saved; he seems n to be now of that opinion, for for four years he bring up any fresh matters, nor having attain depth of 16 or 18 inches does he appear to cons necessary to delve any deeper. Thousands of says Liebig, have been necessary for the reduc rocks to soil, and thousands of years more w before this soil gives up its wealth to the labour husbandman. A saving then of manual labo bringing up both in smaller quantities and a distant periods these mineral ingredients, may enco those who grudge the expense in manual labo curred by Mr. Smith to try his plan. Beside the evidence of Mr. Piper's experience, of as many as Mr. Smith's, that continuous crops, and s ones, too, of Wheat have been reaped with deepening of the soil, a small quantity of hand however, having been applied.

The late discoveries of Way and Liebig als into doubt all our foreconceived notions of the u of either organic or mineral substances being us to plants, except from some root actions of wh know nothing. This may render somewhat qu able the necessity of exposing large quanti mineral substances to those actions which rende soluble.

Methinks our great object should be by surface tions to promote an early and large develop leaf and root; this seems more likely effect superficial operations, keeping the surface so ope admit at all times the inflow of the oxygen of t that it may operate on the carbonaceous matter the roots. *J. M. G., Granard.*

P.S. In Wheat after Wheat there is an advan omitted to notice: it can always be sown in good which often is not to be done after green crops rather a curious coincidence that about the ti Smith commenced his operations, that is, in th years of the Potato failure, I suggested, as affordi immediate and increased supply of food, and a same time giving a more rational employment people than breaking up roads, to dig something than ordinary the supposed exhausted stubble Oats in them in rows 2 feet apart, with s workings of the intervals to prepare them as see for the succeeding crop, and so on in succession.

## WAGES IN THE WEST OF ENGLAN

IF we wish the labourer to be anything more mere tool—if we wish him to exercise prudenc forethought, to be conscious of personal respons piece-work must be adopted in all cases where cable, *i.e.* in employments of a fixed character hoeing Turnips, reaping, mowing, hedging and paring and burning. Once give the skilful labo chance of raising himself above the dead leve common drudge, and he will put forth all his e to complete the work intrusted to him. Nor be feared that the quality of the work must in proportion as the quantity increases. Any failing or imperfection is so readily discern agricultural operations, that the slovenly worke but little chance of escaping the vigilance of the We are gratified to find that in nearly all of merous communications which we have receiv the agriculturists of the West of England, the of piecework is strongly recommended, and seem generally practised.*

It is by no means certain that the system of ment of wages in kind is entirely bad. It supporters, able and practical men who have say by way of argument, and much as a matter

* Mr. Raynbird, in his "Prize Essay on Measure (Royal Agricultural Journal, 1846), has enumerated the advantages of piecework that arise both to the labour the employer.

in favour of their view. It is urged by paying wages in kind the labourer is spared the retail dealer's profit, for it is clear that, if a baker sells flour, he must charge for it more than cost price in order to obtain a profit. Now the farmer in paying his men in grain [illegible]. Now the farmer in paying his men in grain rarely seeks to gain thereby, and thus the labourer is saved so much per cent. on the articles of his food. There is another argument which deserves attention. If the farmer supplies his workmen with necessaries they are not compelled to lose valuable time in going to the nearest market town; and hence, too, they are spared many of the temptations which so peculiarly beset the agricultural labourer in large towns. The master is no loss a gainer by this system. In times when grain is high it will happen that he has to pay his servants more than the ordinary rate of wages. But this temporary loss occurs when he is best able to bear it. On the other hand, when grain is plentiful, the farmer pays the men less than the ordinary rate of wages; and thus reaps a benefit when economy is most needed. While, it is further argued, is it not better that the labourer should not be subject to fluctuations of price for which he is not prepared? To all this we reply, your arguments tend to make the labourer an irresponsible being. Strength of character does not consist in security from temptation. A man is not taught to be provident by being deprived of all power to be improvident. Moreover it is not well that any one man should be so completely in the power of another, as the labourer would be in the power of the land occupier if all his wages were invariably paid in kind. Too frequently this system creates the very evils which it is supposed to remedy, since in the West of England large quantities of cider are given in lieu of money. On this point we shall presently dwell more fully. After careful deliberation it would seem that by far the best mode of payment is to give the labourer all his wages in money, and it ought to be clearly understood that the purchase from his employer at cost price of such articles of food as he may require shall be entirely optional on the part of the labourer. This opinion is entertained by many of our correspondents, amongst whom we may mention Sir Stafford Northcote; Mr. Henry T. Mudge, of Paignton; Mr. Gabriel Poole, of Bridgwater; Mr. Tindall Harris, of Egham, Surrey; Mr. Gregory, of Street, Somerset; and many other gentlemen who have kindly favoured us with their opinions on this and similar questions.

*The rate of wages.*—The current rate of wages is not a matter of great certainty, since it differs with the season, and also not unfrequently year by year. So far as we can judge from the information which we have received through a large number of correspondents, the following Table will pretty accurately represent the amount paid in wages throughout the different counties of Cornwall, Somerset, Devon, and Dorset. Cornwall: Weekly wages, 12*s.*; but where the labourer is hired by the year or for any great length of time he receives 9*s.*; little cider is given; hoeing Turnips twice, from 8*s.* to 15*s.* per acre; reaping, 2*s.* 6*d.* to 3*s.* per day with board and cider. Somerset: Weekly wages, 8*s.* to 10*s.* with cider 3 pints per diem, at from 6*d.* to 10*d.* per gallon, according to the season and the crop; hoeing Turnips twice, 10*s.* to 12*s.*; reaping, 5*s.* to 7*s.* per acre, with 2 gallons of cider; mowing, 2*s.* to 3*s.* per acre. Devon: Weekly wages, 7*s.* to 8*s.* in North Devon; 8*s.* to 10*s.* in South Devon. A large quantity of cider is commonly given, amounting to 3 or 4 pints ordinarily, but in harvest this sum is increased to, in some cases, 8 quarts per acre; hoeing once, 4*s.* to 5*s.* 6*d.*; reaping, 4*s.* 6*d.* to 6*s.* per acre, with 6 to 8 quarts of cider; mowing, 2*s.* 3*d.* to 2*s.* 6*d.* per acre. Dorset: 7*s.* weekly wages; the practice of cider payments does not appear to prevail to the same degree as in Devon and Somerset. It will at once be seen that Cornwall ranks highest in the amount of wages paid—that Somerset comes next in order, then South Devon, followed by North Devon, while Dorset brings up the rear. It is not uncommon for the labourers of North Devon to remove to Cornwall, where they may gain larger earnings. Somersetshire stands about on a par with Wiltshire—while Cornwall is equalled only by those parts of Gloucestershire which lie immediately in the neighbourhood of Bristol.

*Payment of part of the wages in cider.*—There is one peculiarity in the payment of wages prevalent in the West of England (Cornwall excepted) that must be regarded with strong feelings of regret; we allude to the payment of a portion of the wages in cider. We desire to approach this question with all due deference to the opinions of many practical men, who regard this custom in a different light.

We believe a candid examination of these opinions will corroborate the remarks of Mr. Acland in his "Farming of Somerset," page 98, in which he says:—

"The fact is, the masters and men play into each other's hands, the women and children suffer, and the men too in the long run. The labourer in a year takes off his master's hands about [illegible] hogsheads of cider and satisfies one of his own bodily appetites at the cost of 15 per cent. of his earnings.* The liquor refreshes and stimulates him, but wears him out, for common cider is not nourishing, but exciting like spirits and water. West Country labourers will never be what they might be so long as this system goes on.'

In many returns it is presumed that the labourer would object to receive money instead of cider. This perhaps arises from the fact that he frequently does not get a sufficient money equivalent. Where the full value of the cider is given, the experiment of paying the wages entirely in money appears to have succeeded.

* Our returns show the percentage to be nearer 20 than 15.

Whilst speaking on this subject we will allude to a kindred one—the "harvest homes"—which instead of being the times of innocent enjoyment and rejoicing, such as the poets have sung, are frequently a season of drunken revelry. We are glad to see that a better system of celebrating the ingathering of the harvest has undergone much discussion in Herefordshire. Mr. Booker Blakemore, M. P., and the local clergy, are actively heading this agitation. Their scheme involves a reform of the general condition of the labourer.

"It has hitherto been the custom in this county for the farmers to pay their workmen partly in money and the remainder in cider, and the keeping of 'harvest home' consisted in an unlimited supply of the famed beverage of the district, which always led to rioting and drunkenness, and in some cases even to loss of life in these bacchanalian orgies. It is now proposed to abolish the system of paying the labourers partly in cider, and substitute for the harvest home drinking bouts parochial tea parties for the men with their wives and families; and the subject, having been taken in hand at all the recent agricultural meetings in the neighbourhood, is gaining much in favour, and seems likely to lead to a large measure of social reform."

It is well known that the same question has been very successfully agitated in Norfolk under the auspices of the Earl of Albemarle and other benevolent and influential persons, where the whole inhabitants of the parish (including wives and children, so often forgotten at labourers' merry-makings) join in a festival where bread, butter, and meat, coffee and tea form the bill of fare. At such meetings as these the rector, and the squire, and the farmers, with the ladies of their respective households, find it a great pleasure and privilege to attend, and that healthy feeling of mutual confidence and respect which should exist between all classes of society has been promoted and extended—

"When none was for a party,
And all were for the State;
And the great man helped the poor,
And the poor man loved the great."

*Messrs. Spender and Isaac on the Labourer in the Bath and West of England Agricultural Society's Journal.*

## Home Correspondence.

*The Condition of the Labourer.*—"S. G. O." lately stated, through the medium of the *Times*, that farm labourers "are now, with little exception, paid their earnings in money;" that "here and there a few employers may be found who expect their labourers to take 'tailing,' Wheat at more than it would fetch in the market: they are generally of a class whose days as tenant-farmers are numbered, for they are far in the rear of that intelligence by the exercise of which a renting occupier of land can live." (*Agricultural Gazette*, p. 850 for 1858.) Since your report of the verbal and written statements at a late meeting of the Berwickshire Farmers' Club speaks for the enterprising spirit that pervades the tenant-farmers in that district, I may state that, as the bondage system peculiar to the border counties and the extensive cultivation of Turnips are coeval, farmers paid the married ploughmen 1*s.* per day for three-quarters of the year, and 10*d.* per day from Nov. 22 to March 1, for the bondagers' work, from the commencement of that oppressive, degrading system till the general stagnation which lasted for some time after the conclusion of the last continental war, which the farmers took advantage of and reduced the female farm labourers' wages 2*d.* per day throughout the year. The hinds made several attempts to both throw off the bondage system and likewise get their wages raised; but for the want of an organised, determined effort they have always failed with regard to the former, and the demand for female labour has compelled the majority of farmers in that district to again raise the bondagers' wages 2*d.* per day and not charge the hind for house rent, but the bondagers' wages absorb all that advance of wages to the hind. The married ploughmen in the counties of Berwick, Roxburgh, and the east part of Selkirkshire are termed "hinds," who bind themselves in their agreement to engage a female farm labourer, be responsible for her wages, give her board, lodgings, and purchase materials for washing her clothes; but few farmers bind themselves to keep the "bondagers" constantly employed throughout the year, and should any of the bondagers be unable to work through illness, the hind not only is not paid her day's wages for the time she is absent, but he has to pay the bondager her wages in full for the time she was engaged. I may explain more fully what I have already stated in the *Agricultural Gazette*, that from 3*l.* 10*s.* to 7*l.* or 8*l.* of money; from 1000 to 1800 yards of drills for growing Potatoes—the amount of money given being regulated by the extent of land allowed for growing Potatoes; 100 imperial stones of Oatmeal, or 60 bushels of Oats; from 18 to 24 bushels of Barley; 6 bushels of Peas is the annual wage of a hind; together with porridge and milk for breakfast, an 18-oz. loaf of bread, and one-sixth of an imperial gallon of "harvest ale" for dinner, and six pecks of Barley as an equivalent for 24 suppers of porridge and milk for a month's food during harvest, or 1*l.* as a substitute. Those who can purchase a cow have it fed on the farm, but those who cannot, either have the milk of one of their master's cows, or from 5*l.* to 7*l.* as a substitute for a cow's keep; they have liberty to keep a pig, but some farmers who don't allow their resident yearly servants to keep a pig, give them 10 imperial stones of pork; all this together with the cartage of six or seven cartloads of coals, and a house rent free, is the general rate of married farm-servants' wages in the above-named district. Taking the aggregate average price of grain at Liverpool from Sept. 25th to Oct. 30th, and taking 3*l.* as the sum that farmers give as an equivalent for 1000 yards of Potato drills when the hinds wanted money instead of land for growing Potatoes, which was such a precarious form of payment during the general prevalence of the Potato blight; 4*l.* of money, which is the average amount a hind receives when he has 1500 yards of Potato drills, let him be a first-class farm servant, and 20, 30, or 50 years of age; 1*l.* as an equivalent for a month's food; 7*l.* as the maximum that is given as a substitute for a cow's keep; 2*l.* 10*s.* for 10 imperial stones of pork; 2*l.* 16*s.* for the cartage of seven cartloads of coals—8*s.* being what some farmers paid lime drivers for the cartage of each cart-load of lime previous to the formation of railways, as an equivalent for the cartage of about the same weight of coals; 2*l.* 16*s.* for a house rent free, as some farmers' harvest lasted 24 days, when each farm servant found a reaper for the rental of a one-roomed hovel only one story high (very few of them had more), and some of those which are still standing have a loft, or more than three or four joists across the family room (such hovels, with their smoke-begrimed rafters, bedecked with cobwebs, present a grotesque appearance before the occupants get all the queer like places shut up with paper, cloth, boards and Reeds); 8*l.* 18*s.* 1½*d.* for Oats, 5*l.* 7*s.* 9*d.* for Barley, 1*l.* 13*s.* 6*d.* for Peas, and reckoning the hind to receive 6*s.* per week for 37 weeks, 14*s.* per week for two weeks during harvest, 5*s.* per week for 13 weeks, and the bondager to have had no holidays; 54*l.* 16*s.* 4½*d.* is all the hind receives for his own wages, for paying the bondager's wages, giving her board, lodgings, and materials for washing her clothes. Since the farmer reckons a comfortable dwelling-house or a mere hovel as part of his servant's wages, a hind is entitled to be remunerated for not only giving an entire stranger her board, but for giving her lodgings, he and his wife having to deaden themselves to every sense of shame, by not having it in their power to act like sensitive rational beings! Deducting 6*s.* per week for the bondager's board and lodgings, and 11*l.* as the present general rate of bondager's wages, 28*l.* 4*s.* 4½*d.* is, according to the above calculation, the maximum value of a married farm servant's wages for 12 months' service. I have known some farm servants on one farm have 4*l.* of money and 40 six-bushel sacks of Potatoes; and the servants of an adjoining farm had only 3*l.* 10*s.* of money and only 14 six-bushel sacks of Potatoes of the same extent of land. I have known one ploughman have 30 sacks of Potatoes and some of his fellow workmen's crop not exceed seven and eight sacks. Farmers are like any other class of employers—some are anxious to make their servants comfortable whatever be their form of payment; but causes over which they have no control, such as their servants planting bad seed, or a course of dry weather, account for a total or partial failure of Potatoes like any other kind of crop. Reckoning 16 imperial stones the average weight of a six-bushel sack of Potatoes, and 4*l.* the value of a ton, there may be a difference of 13*l.* 4*s.* in the value of some hinds' Potato crop. A hind who has about 3 tons of Potatoes, whose cow's milk with good management will produce 8 or 10 lbs. of butter a week during summer, will make a few good cheeses and feed one or two pigs, besides having a dish of Potatoes for the family's dinner the greater part of the year. Reckoning a good cow to be worth 10*l.* per annum to a working man's family, such a form of payment may sometimes be equivalent to 44*l.* 4*s.* 4½*d.* per annum. The seven cartloads of coals will cost about 1*l.* 15*s.* A married hind with six children and a bondager will consume all the oatmeal during the twelvemonth by making use of it for breakfast and supper, and the Peas and Barley meal which is baked into bread in six months. Married farm servants with such a family, and borne down by the bondager, who have a good crop of Potatoes, manage to feed a pig. But a man with such a family, who has a useless cow and only a few sacks of Potatoes, cannot feed a pig; neither has he money to purchase bread, any other household requisite, nor suitable clothing to protect him from the inclemency of the weather to which he is sometimes unavoidably exposed. Suppose a young ploughman to have engaged himself to a farm, at some of the annual hiring markets which are held about the beginning of March, with the intention of getting married previous to entering upon his duties on the 27th of last May. Some farmers would give him 20 stones of oatmeal, one half of the specified quantity of Barley and Peas he receives for the twelvemonth, and a cartload of coals on the evening of the 26th of May; but some would not give him any oatmeal till after harvest. The above meal, grain, and coals is, according to the customs of the district, all that he would be entitled to till after harvest, when he would receive another load of oatmeal, the other half of the grain at Martinmas, and some farmers will ere this time have given all the servants the whole of the corn part of payment. Here is a newly married couple and their bondager expected to live on 20 stones of oatmeal, 9 or 12 bushels of Barley, and 3 bushels of Peas, the produce of a cow which may not be worth 2*s.* per week, and the young Potatoes, from the 26th of May to the beginning of harvest. The young hind would have to pay his bondager's wages last Martimas, which might vary from 6*l.* 10*s.* to nearly 8*l.*; he probably not receiving more than 8*l.* 10*s.* from his master for her wages, board, lodgings and washing. The farmer sends the Oats to the mill, the meal is delivered to the hind, the hind must send his Barley to the mill

to be ground into meal, the hind gets a horse and cart to deliver what grain and meal he has to sell to those who purchase it. The farmers advance the money for the hinds' coals as they are purchased, pay part of the "sheep," "hen," and "lint" money at Martinmas, and settle up once a year, Although the above is only a local form of payment, "S. G. O.'s" remarks cannot be regarded as applicable to Scotland; and I should feel obliged for "S. G. O." or any English farmer to show me, through the medium of the *Agricultural Gazette*, how "the shillings due on Saturday can go further to furnish the week's necessaries" than formerly? With the exception of the present low price of bread, butcher's meat and dairy produce is as high as would satisfy your correspondent "A Suffering Farmer" during a continental war. *A Labourer.*

*The Cottage Improvement Society.*—As a member of the Council of the Cottage Improvement Society (18, Adam Street, Adelphi), may I ask you to insert these few following remarks contradicting the statement in the leading article in the *Gardeners' Chronicle* of last week. The plans which we have issued have, as I believe, been approved by the Inclosure Commissioners. Many builders have offered to build pairs of cottages, according to the plans of the Society, at the prices specified and guaranteed by the Society. Several pairs have been put up at these prices. All the plans sent out by the Society are accompanied by estimates for the guidance of the landowners or builders. The cottages can be put up at the prices named in our estimates; of course builders will charge more if they see they can get it. *C. Whitehead, Barnjet, Maidstone, Jan.* 18. [The following letter from Mr. Denton, together with the correspondence which it introduces, is a sufficient answer to the assertion in the above paragraph:—"Sir, you are fully at liberty to do just as you please with respect to my correspondence with the Cottage Improvement Society and Mr. Punnett, but as I have not the authority of the Inclosure Commissioners to publish their objections, I will content myself with repeating the desire entertained by all earnest agriculturists to reduce to the utmost limit consistent with durability the cost of labourers' cottages, and of which I beg respectfully to give a practical illustration by subscribing personally 10*l.* 10*s.* to the Cottage Improvement Society on two conditions only:—1st. That the Society will guarantee that a builder of established respectability will erect any number of double cottages with three bedrooms each, and proper out-door privies, drains, and fences, which the General Land Drainage and Improvement Company may require, to be approved and certified by the Inclosure Commissioners at a cost of 168*l.* per pair; and 2d, That the builder will make a declaration after he has built two or three pairs that he has gained a profit (the lowest profit, say 10 per cent.), which should fairly satisfy a tradesman. I enclose the cheque, and will simply ask you to hold it until you are satisfied that these two conditions are fulfilled, and in order that it may not be considered that this proposal is mere professional talk, I will at once point out a place where the builder may go to work, viz., at Dibden, opposite Southampton (referred to in the correspondence), where all materials are exceedingly reasonable; bricks, 25*s.* per 1000, delivered on the spot. I am led to make this proposal, through your kind agency, under a conviction that there are few questions connected with agriculture of greater importance, and in which the landed proprietors take greater interest than in the provision of healthy, commodious, and economical dwellings for the labouring poor. But I submit that the best and only recognisable way of advancing that object is by the promulgation of facts upon which there can be no doubt; and I would suggest that the Society should at once ascertain and make publicly known whether the Inclosure Commissioners will sanction their design No. 2, and publish the names of any builders who will (upon prescribed prices) erect those cottages, approved by the Commissioners, for 168*l.* the pair. In the meantime I am obliged to declare that my inquiries entirely deny their professions. *J. Bailey Denton.*

*Communications on the Subject of Agricultural Labourers' Cottages.*—1. See article in *Agricultural Gazette* of Oct. 2d, 1858.—2. Letter from E. H. Harvey, Esq., of Dibden, Oct. 12th, 1858, to Mr. Bailey Denton:—"In an article of the *Gardeners' Chronicle* of Oct. 2d I find a pair of cottages approved of by the Inclosure Commissioners can be erected for 160 guineas; it comes from the Cottage Improvement Society, No. 18, Adam Street, Adelphi. Now, it this can be done, I should like to have two pairs erected."—3. A letter to the Cottage Improvement Society dated October 18th, was despatched by Mr. Denton, "Requesting the Secretary to give the name of any builder who would undertake to build such cottages as were referred to in the article of Oct. 2d at the prices named, and with the condition that the Inclosure Commissioners' approval should be gained." No answer.—4. Interview, same date, at the offices of the Society, 18, Adam Street, Adelphi. The plans and specifications of the Society's two cottages were then obtained, and after some hesitation the name of Mr. Punnett, of Tonbridge, was mentioned as a builder who had actually erected some of the cottages at the cost stated.—5. Second Letter to the Secretary of the Society, 20th October.—"I sent you a note by hand on the 18th instant, requesting the favour of being furnished with the name of any builder who would erect a cottage according to No. 2 of the Society's plans for the sum stated thereon. I have received the plans which you so kindly forwarded, but you omitted to supply any builder's name.—J. Bailey Denton."—6. No answer—but the Secretary of the Society called on 25th October, and stated that he thought it unnecessary to give the name of any builder, as the object of the Society was to induce local builders to take up the matter in their several districts.—7. Plans of the Society submitted to the Inclosure Commissioners on the 19th Oct. and a letter was sent to them, in reply to which certain objections were pointed out by them with reference to which the plan would need to be rearranged before it could receive the sanction of the Commissioners.—8. Letter to Mr. Punnett of Tonbridge, proposing to him the erection of a dozen pairs of cottages in different parts, if the conditions of the Society's designs are complied with.—9. No answer to this letter, but Mr. Punnett called and declined proposal made.]

## Societies.

HIGHLAND AND AGRICULTURAL: *Jan.* 19.—A general meeting was held in the Queen Street Hall, the Duke of Athole, President of the Society in the chair. The hall was crowded in every part, and the meeting was probably the largest the Society has ever had. The ballot for the election of new members having been performed, the next business was the election of Secretary.

Mr. Hope Johnstone said: Some dissatisfaction had been exhibited with regard to Mr. Hall Maxwell, their Secretary, and the symptoms of dissatisfaction had been crowned by the publication within these few days of a pamphlet which, though it appeared in an anonymous form, and under circumstances of very studied concealment, still, taken in connection with other events that had occurred, and other manifestations of feeling that had been exhibited, was not to be altogether disregarded. He did not stand there to justify every expression that Mr. Hall Maxwell might have used on every occasion, but he did stand there to express his firm opinion that Mr. Hall Maxwell had discharged his duties as an officer of this Society with great zeal, with great ability, and much to the advantage of the Society. (Loud applause). He thought that in his hands the Society had not only suffered no damage, but that it stood now, both with regard to the number of its members and with regard to its financial position, in a better condition than it had done at any previous time. Being firmly impressed with that opinion, he (Mr. Hope Johnstone) had no hesitation whatever in saying that it would be an act of great injustice to expel Mr. Hall Maxwell from the position he had so usefully filled, and he therefore begged to move his re-election as Secretary of the Society.—The Duke of Buccleugh said this was the first occasion he had known, during a period of 30 years, of feelings of anger being expressed among its members, or feelings of hostility directed against any of its office-bearers. He begged to second the motion that the election of Mr. Hall Maxwell as Secretary, which had been unanimously agreed to by the Directors, should be confirmed by this general meeting of the Society. That Mr. Hall Maxwell had served this Society well and faithfully he thought no one could deny, looking to the advantageous position in which the Society was now placed.—Sir William Johnston regretted that the motion he was about to make should have come so personally in contact with Mr. Hall Maxwell's name, and he would rather his amendment had been pitted against a motion for re-election of the whole office-bearers than against Mr. Hall Maxwell's name alone. He might remind the Society that, at the last general meeting in July, he took the liberty to suggest that the whole matter respecting the Messrs. Lawson and Mr. Hall Maxwell should be recommitted to the Directors. This motion was ultimately carried, and he believed he expressed the opinion of a very large portion of the meeting when he said that they fully expected that the Directors would have called for evidence, and made inquiries, and brought up to the present meeting a full and satisfactory report on the question. This had not, however, been done. They had no evidence here that the Directors had taken the question in hand at all, and therefore he felt his only alternative was to move the amendment he now did. When they last met, Mr. Lawson, very much against his (Sir William's) wish and inclination, withdrew the pamphlet, which had been rather celebrated. He (Sir William) was no party to that arrangement, and he thought it was a wrong step that was then taken. Neither was he a party to Mr. Lawson's resignation—another step which, he thought, had been taken at a wrong time; but while he made these admissions, he was also bound to say that he could not approve of the very hasty way in which the Directors acknowledged and published that withdrawal, and far less could he approve of their misquoting a portion of that letter, and putting forth to the whole members of the Society and to the public a word which Mr. Lawson never used—namely, calling his letter a "retractation" of his statement, when they knew from Mr. Lawson himself that all he meant was a withdrawal of that paper. He had to state that the place which he occupied to-day had been taken by him at the earnest request of the Marquis of Tweeddale, who was unable to be present. Sir William Johnston then read the following resolution, which the Marquis of Tweeddale had sent to him:—"That this meeting having had under their consideration the unfortunate misunderstandings which have lately occurred between the Directors, Mr. Hall Maxwell, and Mr. Lawson, it is expedient, with a view to preserving that confidence and union among the members of the Society which are so essential to its continued existence and prosperity, that impartial inquiry be made into all the circumstances which have given rise to these misunderstandings; this meeting resolves that a committee be appointed to make such inquiry, with power to take such evidence and to hear such explanations as may enable them to report to a future meeting of the Society whether the resolutions of the Directors, of the 26th of February and 2d of August last, ought or ought not to be confirmed by the Society." Sir William expressed his hope that the Directors would cordially acquiesce in it, as being a very reasonable proposal in itself, and that they would cordially enter into the inquiry on the plain and obvious ground of doing justice to all parties concerned. He certainly sincerely sympathised with Mr. Hall Maxwell in this matter; but he could not forget, and a public Society ought not to forget what was due to one of its oldest, most honoured, and most generous members. Notwithstanding all that had been said of Mr. Lawson's conduct in regard to these untoward matters, he could not help honouring him for his stout defence of a very worthy and dutiful son, a son of whom any parent might well be proud; and he therefore trusted, if the Directors consented to this inquiry, that these gentlemen would come out of it, to be held in still higher estimation than ever by the Society. It being ultimately arranged that Sir William Johnstone's motion should be taken up immediately after Mr. Hope Johnstone's had been disposed of, the latter was put to the meeting, and declared carried.

***The case of Mr. Lawson*—Sir William Johnston then moved his resolution in a substantive form.**

Mr. Caird then said it was understood that he should second the motion of Sir W. Johnston, but he thought it more proper that a direct motion should be put to the meeting than any reference to a committee. He was not one of those who held up their hands against the re-election of Mr. Hall Maxwell. He entertained no ill-feeling against him. He believed him to be an exceedingly zealous public servant. He (Mr. Caird) might have opinions of his own as to various personal matters, but he threw them aside in a matter of this description. He perfectly agreed with the Duke of Buccleugh that it was a pity to see a great national Society convulsed and agitated by paltry personal squabbles. These were not the objects for which they had all met at that inclement season of the year. They had met to do justice to one of their office-bearers who, he believed, had not been fairly treated. The seedsman of the Society had been connected with them many years before Mr. Hall Maxwell had had any connection with it whatever. He had a name which was not Scotch only, but European; and he might tell them that at the meeting in Paris, where the ... lected to see objects of agricultural science from ... Europe, no man had more distinguished himself ... exhibitions than Mr. Lawson had done; and it ... public disgrace to any national society of this ... should submit to such a course as should deprive ... services as his, especially when that had ... no demerits of his own. He therefore rose to ... instead of referring this question to a ... should follow the example Mr. Hope Johnstone ... He moved that "the resignation of Mr Lawson ... accepted, and that he be reinstated as honorary ... the Society, disjoined from the office of ... Museum." They were all aware that Mr. Lawson's ... with the Museum had not been one of any ... to himself; the seedsmanship he had no doubt was ... matter of great profit, and quite right that it should ... it was given to him with that view. It was 2 years ... since Mr. Lawson had first been elected by ... he trusted they would still continue him in the ... man, without reference to the office of curator ... —The Earl of Rosslyn said that by the motion ... gentleman they were not only called on to ... Lawson, and thereby sanction his repudiation ... drawal of his statement, and of all that could be ... be offensive in it, but they were called on, as a ... re-election, to pass a vote of censure on their Directors ... their Secretary, whom they had just re-elected ... mark of confidence and approbation: he ... moving a negative to Mr. Caird's motion.—Lord Panmure ... was received with loud cheers, said he strongly ... Sir W. Johnston to withdraw his motion, to ... Caird to take the direct opinion of the meeting ... not (he said) his intention to have taken any active part ... discussion, but the speech they had just heard ... made up his mind that Mr. Lawson deserved at the ... this Society some token that its members at least ... desert the cause of one of its oldest servants, what ... Directors might do. He believed that Mr. Lawson ... received justice at the hands of the Directors; he thought ... had failed to make sufficient inquiry into his case, ... had not directed their attention to all the evidence ... should have called before them, and that they had ... the first place, an *ex parte* decision in the matter. He ... also, that Mr Lawson was justly offended with a ... was used in the last communication of the Directors ... the word "retractation." He drew a very marked ... between "retractation" and "withdrawal;" and ... latter term been used in the letter of the Directors, he ... would never have supported Mr. Lawson in the course ... took in resuming all his proceedings *de novo*. ... "retractation" inferred confession of guilt in ... retracting. Now, he was convinced Mr. Lawson never ... to confess himself guilty of anything, but that he ... peace' sake in the Society, to put an end to his connection ... take himself quietly out of the way. He therefore ... the motion to continue Mr. Lawson in the office of ... seedsman, as a just tribute to his long services, and ... look upon it as a vote of condemnation of the Directors. ... Sir George Clerk expressed his belief that they could ... look all the circumstances that had occurred since ... July—his withdrawal of his letter, his resignation, ... republication of the offensive pamphlet, besides the ... statement which was now made to it. He held it ... impossible after all that they could receive Mr. Lawson ... with the same cordiality as before.—Sir Thomas ... proposed to move the following amendment, which ... without having had any concert with others:—"That ... 'retractation' be expunged from the minutes, and ... word 'withdrawal' be substituted." What might be ... of his amendment he knew not; it was proposed with ... cordial feelings towards all parties, but with the ... anxiety that justice should be done to a man who ... had been very hardly treated, to say the least. (Cheers.) ... D. M'Laren defended Mr. Lawson in a very effective ... The Duke of Buccleugh said, so far as Mr. Lawson ... was concerned, his regard for him was so great that ... go a long way to do what was in his power to have ... unhappy question. Upon public grounds, from ... services to the Highland Society, as well as to the ... public at large, he thought every consideration was ... His (the Duke's) knowledge of the transactions ... taken place had been confined almost entirely to what ... call the unfortunate publishing of the original statement ... he thought had been chiefly the cause of the great ... standing that had taken place. He would not enter ... cussion of all the details of what had taken place ... this matter. The word "retractation," he thought, ... fortunate word, and he thought "withdrawal" ... been the better word. Had matters been left as they ... one would have more cordially or more warmly ... even perhaps have moved, that Mr. Lawson should ... again to accept the office of honorary seedsman to the ... He would have done that with pleasure, but now ... felt himself compelled to say that what he ... done had rendered it impossible for him either ... or to second that resolution, or even to ... The Duke of Buccleugh begged leave to second the ... ment of Sir Thomas Gladstone, and in so doing ... he had ascertained that the Directors were perfectly ... with it.—Mr. Caird said: If we are to understand the ... tion made by Sir Thomas Gladstone, and ... the Duke of Buccleugh, implies that the case of ... shall be again considered; that, in short, ... why the whole difficulty has occurred, the ... offensive word is removed; by that word being ... then, Mr. Lawson's resignation is withdrawn. ... apprehend, desirous of peace, and do not wish the ... this great Society; when one of the Directors ... that if we did not do as he wanted, he and ... Directors would resign, and while I agree with ... man who said that if they did, others could be found ... ask the Directors to consider that Directors may ... that members may resign too; and so you may ... whole Society. If the noble lord who seconded my ... permit me, I would withdraw it on the understanding ... whole question is replaced in the position in ... before that offensive word was used, and that Mr ... signation be also allowed to be withdrawn.—Mr. ... was received with loud cheers) said: From the ... debate, my mind was made up either to be ... associated with the Society or honourably quit ... former it is for the meeting to do, the latter is a matter ... own. I feel highly gratified indeed by the expression ... feeling which has emanated from many members ... joice in the opportunity I now have of ... sincere thanks for all the favours I have received ... kindness expressed towards me by this Society ... circumstance that could have induced me to send ... of resignation was the use in the minute of the ... "retractation;" and that being removed, I am quite ... withdraw my resignation, if it is the pleasure of the ... permit me.—Lord Panmure: I understand Mr ... to withdraw his motion for the amendment of Sir ... Gladstone, to substitute "withdrawal" for ... Now, inasmuch as the use of that word retractation ... cause, as we have just heard avowed by Mr. ... of his resignation of the office of honorary ... the dignity of the Directors themselves, the ... Society is concerned that they should not settle the ... halves, and leave a sore rankling at the bottom of

...allow the matter to its original source, ... "interpellation" being expunged and "withdrawal" ... in its place, that Mr. Lawson should be permitted ... his resignation and resume his position. It appeared to him so strongly to be the right and reasonable ... that unless the Directors are prepared to ... consent to the withdrawal of Mr. Caird's ... The two resolutions were then put to the meeting, ... declared Sir Thomas Gladstone's amendment ... and the motion negatived.

A scene of great confusion ensued. Lord Panmure protesting against the decision of the Chairman and demanding a poll—the secretary persisting in proceeding to the next item of business.

... Hamilton, of Haddington, said the members of the ... were being treated with great disrespect, but they ... to have the real sentiments of the Society ... If the members were to be so treated, either by ... or the Directors, they must soon expect to hear ... of the Society ring. He was confident that if ... deprived of the services of Mr. Lawson, it would be a ... to the agricultural interests of the country. He ... the amendment.—The Duke of Buccleuch said he ... necessary that any portion of the meeting should suppose ... that was attempted to be done. The mistake ... was that a poll was not demanded earlier; and if granted ... many had left the room, it could not be ... to represent the opinion of the meeting when the show ... was taken, whatever that might chance to be.—Mr. Miller Holme said it was obvious from the large meeting ... assembled that strong public feeling prevailed in the ..., and he feared the only way of settling the matter was ... a poll in terms of the charter. Ultimately, on the ... of Sir William Gibson-Craig, seconded by Mr. Duncan ..., the meeting then adjourned till that day fortnight at ... in the same hall.

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DUBLIN CHEMICAL: *Jan.* 20.—Dr. Cameron presented the following report, embodying the results of some of the proceedings in the laboratory since the last meeting:—

HAMILTON'S (OF CARLOW) BONE MANURE.

| | No. 1. | No. 2. |
|---|---|---|
| Water .. .. .. .. .. | 18.16 | 23.16 |
| Nitrogenous organic matter ) | | |
| Salts of ammonia . .. | 29.34 | 16.23 |
| Carbon .. .. ) | | |
| Bi-phosphate of lime .. .. .. | 11.66 | 14 17 |
| Phosphates of lime and magnesia .. | 6.20 | 7.80 |
| Sulphate of lime .. .. . | 26.55 | 32.55 |
| Alkaline salts .. .. .. .. | 3.85 | 3.34 |
| Insoluble matters .. .. .. | 4.24 | 2.75 |
| | 100.00 | 100.00 |
| Ammonia.. .. .. .. .. | 2.64 | 3.18 |

NATIONAL GUARANTEED MANURE COMPANY'S SUPERPHOSPHATE OF LIME.

| | |
|---|---|
| Water .. .. .. .. .. .. .. | 16.48 |
| Organic matter and salts of ammonia .. .. | 19.64 |
| Yielding ammonia .. .. .. .. .. | (00.84) |
| Bi-phosphate of lime.. .. .. .. .. | 11.97 |
| Equal to bone phosphate made soluble .. | (17.65) |
| Insoluble phosphates.. .. .. .. .. | 7.32 |
| Alkaline salts .. .. .. .. .. .. | 3.82 |
| Sulphate of lime .. .. .. .. .. | 31.98 |
| Insoluble matters .. .. .. .. .. | 8.81 |
| | 100.00 |

PHOSPHO-PERUVIAN GUANO. (This season's arrival.)

100 parts of phospho-Peruvian guano contained the following:—

| | |
|---|---|
| Water .. .. .. .. .. .. .. | 11.32 |
| Organic matter and salts of ammonia* .. .. | 16.22 |
| Bi-phosphate of lime.. .. .. .. .. | 15 84 |
| Phosphates of lime and magnesia .. . | 20.16 |
| Hydrated sulphate of lime.. .. .. .. | 22.16 |
| Alkaline salts .. .. .. .. .. .. | 7.89 |
| Insoluble matter .. .. .. .. .. | 6.51 |
| | 100.00 |

*Capable of yielding ammonia, 4 45, corresponding to 19.66 per cent. of crystallised sulphate of ammonia.

The total amount of phosphoric acid in combination with ... alkaline earths is equivalent to 49.18 per cent of ... phosphate of lime; of this amount considerably more ... exists in the soluble, and, therefore, immediately ... condition. Contrasting the present analysis of phospho-Peruvian guano with that made last season, I have no ... in expressing my conviction that this variety of ... yearly improving in composition; and I have further ... my belief that its practical trials in the field the ... season will be attended with marked success.

KOORIA MOORIA GUANO (of recent importation).

| | |
|---|---|
| Organic matter* .. .. .. .. .. | 8.27 |
| Phosphate of lime .. .. .. .. .. | 45.16 |
| Sulphate of lime .. .. .. .. .. | 8.06 |
| Alkaline salts .. .. .. .. .. .. | 4.22 |
| Water, sand, and other useless matters .. .. | 34.29 |
| | 100.00 |
| *Yielding ammonia.. .. .. .. .. | 1.47 |

The analysis of this variety of guano proves it to be of very ... value.

SOMBRERO PHOSPHATE.

| | |
|---|---|
| Water .. .. .. .. .. .. .. | 7 44 |
| Phosphate of lime .. .. .. .. .. | 42.08 |
| Phosphate of alumina .. .. .. .. | 38.15 |
| Phosphate of iron .. .. .. .. .. | 6.12 |
| Carbonate of lime .. .. .. .. .. | 4.26 |
| Alkaline salts .. .. .. .. .. | 1.17 |
| Silica .. .. .. .. .. .. | 0.78 |
| | 100.00 |

This substance, a specimen of which yielded the above analysis, was sent to me for examination by the Messrs Pickford, of London. It is said to exist in enormous quantities ... the Monk Island of Sombrero. It occurs as a soft, rather ... and easily pulverisable stone. The Messrs. Pickford ... as I understand, selling it to manufacturers of superphosphate of lime as a substitute for bones and coprolites. A ... somewhat analogous to the Sombrero phosphate is met ... Monk's Island (where the phospho Peruvian guano is ... but as it contains only phosphate of alumina, ... although existing in enormous quantities, imported ... for agricultural purposes, as it is generally believed that phosphate of alumina, when in combination with alumina, is incapable of ... to the wants of vegetable life. As, however, M. ... has recently shown that the phosphoric acid which ... in soils is invariably combined with sesquioxide bases ... sesquioxide of iron), and never with protoxide (lime ...), it is more than probable that the phosphate ... the Sombrero and Monk's Island's minerals ... really available to plants, without being even ... the vitriolising process. To say the least, it would ... in the highest degree desirable to institute experiments with the view of testing the agricultural value of these substances when used *per se*.

BRADLEY'S CATTLE FOOD (100 parts contain)

| | |
|---|---|
| Water .. .. .. .. .. .. .. | 12.09 |
| Oil .. .. .. .. .. .. .. | 5.80 |
| Albuminous compounds .. .. .. .. | 10.36 |
| Gum, sugar, mucilage, &c. .. .. .. .. | 60.21 |
| Fibre .. .. .. .. .. .. .. | 5.32 |
| Ash .. .. .. .. .. .. .. | 6.22 |
| | 100.00 |

This "concentrated" cattle food sells at 42*l.* per ton, but is really not worth, at the very most, 7*l.* It is far inferior an article of food to either Linseed cake or Rape cake, as may be seen by comparing its analysis with that of an average sample, say of Linseed cake—

LINSEED CAKE contains in 100 parts—

| | |
|---|---|
| Water .. .. .. .. .. .. .. | 11.30 |
| Oil .. .. .. .. .. .. .. | 9.23 |
| Albuminous compounds .. .. .. .. | 23.60 |
| Sugar, gum, fibre, &c. .. .. .. .. | 48.81 |
| Ash .. .. .. .. .. .. .. | 7.06 |
| | 100.00 |

# Reviews.

*Edinburgh Veterinary Review.* No. III. Simpkin, Marshall & Co.

Among the more notable papers in the current number of this clever and energetic journal are the introductory lecture delivered in the New Veterinary College, Edinburgh, by Mr. Gamgee, to which reference has already been made in our columns—a useful paper, proving the contagious nature of pleuro-pneumonia in cattle, strangely disbelieved by men who have suffered loss enough to shake their scepticism—a long and detailed account of "sturdy" in sheep—a severe review of Professor Spooner's introductory address in October last at the Royal Veterinary College—a statement of the case between the new Veterinary College and the Highland Society, and a number of short reviews and notices of works, continental as well as English.

The following is a passage from Mr. Horsburgh's paper on the contagious nature of pleuro-pneumonia. He says:—

"In all cases (and I must say, with very few exceptions my employers coincided with me) I treated it with the idea of destroying infection; and in every case where that was properly done the progress of the disease was cut short, and many places kept perfectly free, while neighbouring farms, where no means were taken to stop it, suffered severely, and do so yet. I had formed an idea that there was no use in beginning controversy about diseases being contagious or infectious or epidemic, or to split straws about meanings of names. If I ever had doubted the infectious nature of pleuro-pneumonia, it was doing no harm to treat it as infectious, and avoid its spread if I could.

"The means used for destroying infection I will explain by relating the measures adopted in a dairy. Mr. Laing, of Melville Grange, 4 miles from Edinburgh, kept about 50 cows. When pleuro-pneumonia broke out, he was naturally afraid. His stock was insured in the Mutual Farmers' and Graziers' Insurance, of which I was inspector. One morning a messenger brought an order for my immediate attendance. On reaching Melville Grange, Mr. Laing told me he had a cow just taken ill, which, on the previous evening, appeared in perfect health. I examined her, and told him it was pleuro-pneumonia. What was to be done? I advised him to have her slaughtered at once, to save the others. She was immediately sent to Gilmerton, where we went—Mr. L. to be sure that it was that disease, and I to save the calf, of which the cow was about to be delivered in a few days (she had been purchased three days before). He was perfectly satisfied that it was the disease—one of the lungs was so far affected as to show that it had been diseased long prior to the purchase. His byres were all fumigated with chlorine gas, and tar burned in them; a force pump used in hothouses was purchased and the walls washed with a solution of chloride of lime twice a week. Mr. Laing never after purchased a cow in the Edinburgh Market, but about the country where no desease existed. This was continued for many years (about seven at least), and though that disease was at every farm surrounding him, he had never another case till he purchased two cows from a farmer about three miles distant, on the Marquis of Lothian's estate. There disease existed amongst the young stock, and several had died or were killed. The two cows were nearly calving, and within eight days after their purchase, pleuro-pneumonia broke out amongst his stock, and in about three weeks before it could be stopped he lost seventeen. He has now given up the dairy, but I think he lost no more after the latter outbreak.

"This is simply the means I have always taken from the first time I saw pleuro-pneumonia. Till this time the results have been the same. I never attend to easterly or northerly exposures; never blame dirty byres, never look for broken water-roans, want of air in some byres, and too much draught in others. We have seen byres ten times worse kept, in every sense of the word, than what they now are; we know farms that have been standing in the same situations for the last century, and pleuro-pneumonia was never known till within the last 17 years.

"I may contrast Mr. Laing's case with one of his near neighbours. Mr. Barrowman of Muirhouse, near Liberton Kirk, and about 3 miles from Edinburgh, kept a dairy. He called on me one night to have a conversation about pleuro-pneumonia, and to see how Mr. Laing's cows were treated, because he heard Mr. L. had lost no cows, while he had lost at that time 50. Mr. B. was then a stranger to me. I told him my opinion of that disease, from which he differed, saying he had some cows had stood beside diseased ones, and had never taken it. I told him that was no argument that the disease was not infectious; I did not think it required every one that came in contact with either the body of the party affected, or the air they moved in, to take diseases known to be infectious, or nurses in hospitals, surgeons, &c., attending patients with fevers would have little chance of escape; but I promised to go next day to examine his premises. He had a newly-made byre for 40 cows in two rows, a passage down the centre in which a cart might be driven, a broad passage on each side, doors at the sides and ends; two rows of windows, glass in the upper parts, and sliding bars below, plenty of ventilation at the top, and boiling-house separate at the end. A better byre I never saw; it could have been made a stove if doors and windows had been all closed, or as much air might be allowed as 40 cows could require. I thought it was faultless. A new division, 6 feet high, of half-inch deal, ran through the middle of the byre. On asking what it had been recently put up for, he told me he had Mr. Dick out examining his cows, and he advised the partition being put up, because the draught in the byre would make his cows take the disease. I advised him to purchase no more cows in the Edinburgh market, fumigate his byre to destroy infection, remove at once his diseased animals; but that the partition in the middle of his byre was useless as a preventive. I attended Mr. B.'s horses and cows for a number of years after that, but I never could make him believe pleuro-pneumonia to be contagious, or take any means to prevent his cows being destroyed, unless constantly waging war with his fine byre. His landlord was surely a condescending one, he had altered it several times; the last time I saw it, it was made into three divisions by two stone walls built from floor to top, the cows' heads being turned to solid wall to prevent this fatal disease getting into their lungs, but all to no purpose. Mr. Dick, in his essay, read in the Highland Society's Hall, on the non-contagion or non-infection of these diseases in cattle, printed in the *North British Agriculturist* a few months ago, says Mr. B. had lost 172 cows from pleuro-pneumonia, and does not think it infectious yet. 'He, at least, *has* paid for his folly, I think.'"

# Miscellaneous.

*Practical Education.*—Truth is stranger than fiction, and if the history of many a family in our rural population could find a chronicler it would very often convey a more striking lesson than the cleverest novel; and a record of this kind is the more valuable now that our people are so generally attracted to towns as presenting the only or chief field for energy and success. Besides, every rank in life is now so generally influenced by a love of change, and the facility of indulging it is so great, that it is a rare thing to meet with a person whose personal observation of his neighbours in any one spot has not been interrupted through a long course of years. Hence it is a common notion that the labouring class in the country have had no, or very little, chance of rising into a higher grade, especially during the last generation, when the means of what is called education were rarely to be met with in rural districts; and it is justly considered to be an especial advantage of this age that the schoolmaster is really and efficiently abroad. But the tale I am going to tell from personal knowledge of the village of my birth, where I have been familiar with the history of its families for more than 40 years, tends, I think, to show that much more depends upon the individual energy and character of the parent than upon any advantages of schools, and that that is the truest, best, and most efficient education which each one of us, provided he is furnished by his parents with the early instruction suited to his place in life, works out for himself under the blessing of God upon honest painstaking. I have no reason to suppose that my cases are rare or exceptional ones. If they were, the inference from them would be of no value. But I believe them to be not uncommon, though unobserved; and I assure my reader my tale is quite unembellished, literally true, and the cases selected out of a population of only 380. My hero, now a hale man of 78 years of age, one of a large and poor family, born to eat his bread in the sweat of his brow, was placed out with a farmer at seven years of age, having just learnt to read, and, keeping up his little knowledge by the kind encouragement of his mistress on Sunday evenings, continued in that kind of service till he married, when, having been prudent, he was soon enabled to rent a little ground, enough for two or three cows. This he holds at this moment, having brought up 14 children without parish help, eight girls and six boys. Two of the sons have met violent deaths, one in farm service, one in the late Indian war, a private in the Carabineers. The eldest is a very respectable labourer, who has also reared a large family, several of whom are earning their bread in their different occupations. Another son, having been a servant, now rents a farm of the gentleman he served, having a wife and family. Another, having also been a servant, has become a prosperous innkeeper, so much so as to have been recently able to buy the house and land his father rents, at a dear rate, in order to secure his aged parents from being turned out by another purchaser. Six of the girls had married

happily, and two (one of them in bad health, receive pay from a club) live at home with their parents, both having been in good service. The heroine of my tale is a widow, 65 years old, who was left 22 years ago with five children above and five below 10 years of age. The little fund her husband (a labouring man) left was soon exhausted, so that for some years she could not do without parish help. But her energy communicated itself to her children, so that she was soon enabled to dispense with it, and about 15 years ago her eldest son, having gone as a boy to sea, sent home half his pay to his mother, when she went to the board of guardians to thank them for past aid, and to decline it for the future—not that she leant upon her children for support, but has up to this hour continued to keep a dame's school, saving what she can for herself and children, but never omitting to pay her weekly penny to the Society for Propagating the Gospel. The second son is now the owner of some houses and several hundred acres of land in Australia, having gone out there as a shepherd; the third has been a successful gold digger; the fourth, having risen through the lower stages of a sailor's career, has become a petty officer; and the other two sons are honest labourers at home, the daughters having all married creditably. It should be observed that no one of these children had any other teaching than what their parents provided through the village school; but all of them were constant attendants at the Sunday school in their turn, and were all working for their bread at 10 years old or under. I do not pretend to imply that the exemplary conduct and piety of the parents have been reflected in all their children; but I know that they have all been distinguished for sobriety and diligence in their callings, and have many of them risen in life, while the children of other parents, born to comparative affluence, and kept longer at school, have sunk to a lower grade. Nor, again, would I imply that education as it is at present facilitated is not a great advantage; but I would strengthen in parents the feeling of their responsibility, which the present system has, I fear, some tendency to weaken—the feeling that the temporal and eternal welfare of their children depends much more upon their example, upon the home associations they give rise to, upon the habits of diligence, sobriety, and fear of God which they show, than upon any advantages of schooling. *A Devonshire Rector in the Times.*

*Irish Pauperism.*—If the following assertion of Doctor Wallis in evidence before a Committee of the House of Commons in 1854 be correct,—"the number of paupers made paupers through sickness constitutes 72 per cent. of all those made paupers through all causes," then Irish rural labourers in particular have less facilities for escaping decided and unmitigated pauperism as a consequence of lengthened sickness than the same class in Great Britain. One consideration more. The labourer's wife in England, or any poor woman in childbirth, can obtain in case of need the obstetrical assistance of the medical officer of the union, for which he receives a fee of 10*s.* 6*d.* or 2*l.* 2*s.*, according to the nature of the case. This *honorarium* which is sometimes an important item to him where the average payments for attendance on paupers, medicines included, are insignificant in amount—insures special attention to the woman in her hour of danger and difficulty. But the official practitioner in Ireland, who is obliged to attend in similar cases, receives no special compensation for his time and skill on the occasion. It cannot be supposed, then, that the patient in the latter case always receives as prompt and assiduous attendance as in the former. *M. D.*

## Notices to Correspondents.

BARLEY: *D.* We would take a crop of Barley. Choose a short-strawed kind. Sow a cwt. of common salt per acre about seed time, and another cwt. in rainy weather in April.

CANADA: *Emigrant* asks for guidance. Perhaps our kind correspondent writing from Plymouth may be able to assist him—either by direct information through our columns, or by indicating the most trustworthy sources of information.

HOUSEHOLD SERVANTS: *H.* The best criticism we can make upon your difficulty is in the words of "S. G. O.," in the columns of the *Times*:—'I am growing old; I never recollect a time in which I have not been told that 'it is *now* impossible to get good servants,' yet I have never had to discharge more than two male or to change for ill conduct more than three female servants. Whether it is that I and mine live with our servants, or they live with us, I cannot say exactly; I know the connection is seldom broken between us but with equal regret on both sides. The secret is—take pains to get good servants, pay fair wages, give kind treatment, be strict, but be just. Treat them as fellow-creatures, not as mere domestic automatons wound up by the key of wages. They will not be perfect—no more are you; it must be bear and forbear; and, after all, remember you might have been born to shake a duster, wield a broom, or fry yourself in July before the fire which cooks the joint you will have done to a turn."

MOLES; *G P.* Will any one give his experience as a mole-catcher—first of methods and second of results?

POLITICAL ECONOMY: *A Commoner.* We cannot discuss questions of taxation—nor can we inquire into the possibility of preserving a uniform price of grain except by such means as good farming supplies for meeting the influences of a variable climate.

POULTRY: *Hamburgh* asks for a definition of the terms "pencilled" and "spangled." We understand the effect to be produced in the one case by alternate feathers, and in the other by alternate *parcels* of feathers of different colour.

RATS: *Hudcott House.* They say that phosphorus pills are the most effective—inducing intense thirst and death on drinking water.—We doubt the possibility of selling Mangel Wurzel grown in Devonshire at a paying price in London. Sales by auction in the field near London do not exceed 20*s.* per ton, and it will cost you that to deliver by railway.

REFORM FROM A BREWERY: *Zeta.* What particular reform do you refer to?

SEEDS IN RYE-GRASS: *Cor.* The question cannot be answered this week.


RHODODENDRONS.

JOHN WATERER'S CATALOGUE OF UNRIVALLED HARDY SCARLET AND OTHER CHOICE RHODENDRONS, as Exhibited by him at the Royal Botanic Gardens, Regent's Park, London, is published, and will be forwarded on application.

☞ This List is recommended as a work of reference, as it contains accurate descriptions of all the esteemed varieties.

The American Nursery, Bagshot, Surrey, near the Sunningdale Station, South Western Railway.

NEW EXOTIC FERN,

NEPHRODIUM MOLLE, VARIETY CORYMBIFERUM.

Named and described in the *Gardeners' Chronicle* of May 22, 1858.

ROBERT SIM is now prepared to supply, at 15*s.* each, vigorous and well-established profusely crested plants of this beautiful and unique variety, of which he possesses the entire stock. It ought to prove quite a greenhouse kind.

The customary discount to the trade. Price per dozen on application. Carriage paid to London. Post-office Orders on Foot's Cray.—Nursery, Foot's Cray, Kent, S.E.

HUDSON'S GOLDEN MELON BARLEY.—Selected Samples for Seed of this most valuable variety, superior both for produce and malting quality, may be had of RAYNBIRD & HARVEY, of Basingstoke; and 89, Seed Market, Mark Lane, E.C.

ITALIAN RYE-GRASS.

SUTTON'S IMPROVED ITALIAN RYE-GRASS has proved the best kind for general cultivation, being the most productive and hardy, growing freely in all soils.

*From* FREDERICK F. HALLETT, Esq., *the Manor House, Brighton, March* 15, 1858.

"I mowed your Italian Rye-Grass at Christmas, 1856, within three months after sowing; again April 12, 1857; three times since, and am mowing it again now (March 15). The cut on April 12 was 4 feet high, and a perfect mass of Grass."

Messrs. SUTTONS' crop of Seed being large, the prices will be lower this season. Quantity to be sown per acre, 3 bushels.

Priced Lists post free.—Address SUTTON & SONS, Royal Berkshire Seed Establishment, Reading.

EXCELLENCE AND ECONOMY COMBINED.

SUTTON'S COLLECTION OF GARDEN SEEDS FOR 1859.

KITCHEN GARDEN SEEDS.

| | | £ | s. | d. |
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| No. 1. | A complete Collection for one year's supply of a large Garden | 3 | 0 | 0 |
| No. 2. | A complete Collection, in smaller quantities | 2 | 0 | 0 |
| No. 3. | Ditto ditto ditto | 1 | 0 | 0 |
| No. 4. | Ditto ditto ditto | 0 | 10 | 6 |

If some of the sorts are already possessed, increased quantities of others will be given in lieu of those to be omitted.

HARDY AND SHOWY FLOWER SEEDS (POST FREE),

Which may be sown where they are intended to bloom.

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| A Collection of the best 100 sorts known | £1 | 1 | 0 |
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| A Collection of the best 24 sorts known | 0 | 5 | 0 |

BOKHARA CLOVER, BORAGE, AND OTHER SEEDS FOR BEES.

Carriage Free by Rail to almost all parts of the Kingdom.

Address SUTTON & SONS, Seed Growers, Reading, Berks.

THE GARDEN.

IN THE CATALOGUE OF VEGETABLE AND FLOWER SEEDS issued by W. DRUMMOND & SONS, Stirling, the intelligent gardener will be gratified to find the system of inserting only the best and really distinct varieties in the various classes still strictly adhered to; and from the brief but correct descriptions affixed thereto, as well as the general simplicity of the whole, it will be found a ready guide to the amateur in making a suitable selection.

W. D. & SONS will, on application, be glad to forward a copy of their Catalogue, post free, to any address.

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W. DRUMMOND & SONS: Seed Warehouse, Stirling, N.B.; and 58, Dawson Street, Dublin.

SURPLUS STOCK.

JOHN SHARPE is offering to the Trade, on very reasonable terms, the following SEEDS of his own growing, 1858:—

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| Carrot, fine large Altringham | Turnip, Skirving's Swede |
| ,, large White Belgian | ,, Purple-topt do. |
| Mangel, Yellow Globe | ,, Green Globe |
| ,, Long Giant Red | ,, Purple-topt Scotch |
| Cabbage, Early Enfield | |

Prices of not less than sacks and cwts. on application.

Bardney Hall, near Lincoln.

GRAPE VINES FROM EYES.

JOHN AND CHARLES LEE beg to offer an immense stock of strong well-ripened VINES FROM EYES, of the following kinds:—

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| Alicant | Hamburgh, Pope's |
| Barbarossa | ,, Victoria |
| Bidwell's Seedling | Hâtif de Jura |
| Black Cluster | Isabella |
| Black Constantia | Lady Down's Seedling |
| Black Prince | Marchioness of Hastings |
| Blanche Vigne | Muscadine, Royal |
| Calabrian Raisin | ,, Parsley leaved |
| Charlsworth Tokay | Muscat, August |
| Chasselas Frocklaboulay | ,, Bowood |
| Chasselas Musqué | ,, Cannon Hall |
| Duzetto | ,, Hamburgh |
| Esperione | ,, Noir Hâtif |
| Frontignan, black | ,, of Alexandria |
| ,, grizzly | ,, of Fontainebleau |
| ,, white | Pitmaston Cluster white |
| Hamburgh, black | Raisin des Carmes |
| ,, Champion | Syrian |
| ,, Dutch | Trebiana |
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Nursery and Seed Establishment, Hammersmith, London.

TO THE TRADE.

THOS. CRIPPS, NURSERYMAN, &C., Tunbridge Wells, Kent, respectfully offers the following fine strong SPANISH CHESNUT PLANTS, 4 feet to 6 feet in height, 40*s.* per 1000; Blush CHINA ROSES, fine strong plants, 15*s.* per 100; Crimson do., very strong, 20*s.* per 100; fine Standard and Half-standard ROSES, 60*s.* per 100; good do., do., 50*s* per 100; Double Yellow PRIMROSE, 20*s.* per 100 or 400 for 3*l.*; PINUS INSIGNIS and P. RADIATA from Seed, 15 inches to 28 inches, 6*l.* per 100; MANETTI STOCKS, 50*s.* per 1000; do. second size, 40*s.* per 1000; IRISH YEWS, 2 feet to 3 feet, 50*s.* per 100; Hardy HEATHS, a fine collection, 25*s.* per 100; large plants, good do., 20*s.* per 100; LARCH FIR, fine stout plants, 2 to 3 feet; LONICERA SHEPHERDI, or new Scarlet-trumpet HONEYSUCKLE, fine strong plants, 4*s.* per dozen; RHODODENDRON MAXIMUM, fine bushy plants, 18 inches to 2 feet, 60*s.* per 100. Orders from unknown correspondents unaccompanied by a remittance will not be noticed.

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All orders for Seeds above 1*l.* forwarded free to ... between Plymouth and Paddington. All orders above ... to all Broad Gauge Stations, to most other Railway ... and by steamers to Cork, Dublin, Liverpool, ... Jersey. All orders above 5*l.* free to all Railway ... England and Wales, and to any Steam Port in the Kingdom.—For other and full particulars, the ... spectfully referred to the General Price Current of the ... Seed, Agricultural Implement and Manure Company ... (late Rendle's Price Current), which is now published ... ready for delivery, on application to the Secretary ... pany. Copies can also be obtained from any book ... town and country through Messrs. SIMPKIN, MARSHALL ... Stationers' Hall Court, London.

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VEGETABLE AND AGRICULTURAL SEEDS.

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The following are particularly recommended, all being superior in quality, and valuable acquisitions to ... select collections:—Beet (Pine Apple Short Top), per ... Broccoli, Winter White (Snow's), per oz., 3*s.* 6*d.*; ... zance White (Mitchinson's), per packet, 1*s.* 6*d.*; Celery ... (Ivery's), per packet, 1*s.*; Cottager's Kale, per pint ... Lettuce, Alma Cos (Griffin's), per packet, 1*s.*; ditto, ... Cos, per packet, 1*s.*; Marrow, Custard (Thomson's) ... packet, 6*d.*—Paradise Nursery, Seven Sisters ... Road, Holloway, London, N.

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MR. WEBB, of Calcot, having succeeded in ... quantity of the above excellent POTATO, begs ... it to the public as the Best of its Class in every ... quality cannot be surpassed, its yield most abundant, ... size from 2 inches to 9 inches long. Price 10*s.* per ... no less quantity than 1 bushel disposed of. Also ... true KENTISH COB NUT Trees from 2 to 4 feet high ... to Messrs. JOSH. MAY & Co., 1, Wellington Street, ... to Mr. WEBB, Calcot, near Reading, Berks.

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| Andromeda floribunda, strong plants, per doz. | .. |
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| Fine hardy scarlet Rhododendrons, 1 to 2 feet, per ... | |
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| Hyacinths and other Bulbs for early forcing, good ... | |

CHOICE FRUIT TREES.

Fine standard and dwarf Apricots, Peaches, Nectarines, Pears, and Cherries, 2*s.* 6*d.* each, or 25*s.* per ...
Fine dwarf plants of all the above, grown and trained ... cially for pot culture, 18*s.* per dozen.
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Filberts, new thin-shelled, Red and Cob Nuts, 3*s.* per ...
Fine strong Vines from eyes, and layers in pots, 2*s.* ... each.
A large assortment of Ornamental Trees and Evergreens ... Albion Nursery, Stoke Newington, London.—

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DO NOT PURCHASE MORE SEEDS THAN YOU REQUIRE.

JAMES TYNAN begs to offer FLOWER SEEDS ... the choicest kinds in packets to suit the ... chasers not requiring them to take large quantities ... obtain the best varieties.

TRUFFAUT'S PÆONY-FLOWERED ASTERS ... grown.—20 varieties in separate colours, in packets, 3*d.* ... any number sent; the same mixed in packets, 3*d.* ...

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Finest large-flowering, 20 varieties in separate ... packets, 2*d.* each; the same mixed in packets, 3*d.* ...

DOUBLE GERMAN WALLFLOWER.—6 varieties ... colours, packets, 3*d.* each; the same mixed, ... and 6*d.* each.

Very fine PHLOX DRUMMONDI.—In pckts. 4*d.* ...
The choicest CALCEOLARIA, 6*d.* and 1*s.* per ...
,, CINERARIA, 6*d.* and 1*s.* ,, ...
,, GLOXINIA, .. 1*s.* ,, ...
,, PRIMULA, 6*d.* and 1*s.* ,, ...
Agent for SMITH'S BALSAMS 1*s.* ,, ...

Selections of FLOWER SEEDS sent post free.

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| No. 1.—50 packets | .. .. .. .. |
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Large packets, or by the ounce, at prices equally ...

JAMES TYNAN, Importer of Continental Seeds, ... house, 68, Great George Street, Liverpool.

## BEAUTIFUL NEW TORENIA.

JOHN AND CHARLES LEE are now prepared to [illegible] their beautiful new TORENIA PULCHERRIMA, [illegible] so much admired. It is figured in the present [illegible] Henderson's "Illustrated Bouquet," and undoubtedly [illegible] all other Torenias by the great contrast it exhibits in the rich dark velvet, approaching to black, of the side [illegible] and the pure white of the lip.

Mr. Lindley thus describes it in the *Gardeners' Chronicle* of [illegible] 1858:—"We have received from Messrs Lee of the Hammersmith Nursery a singularly beautiful variety of the [illegible] Torenia asiatica. The tube of the corolla and its eye are an intense purple violet; the two side lobes are the same colour, fading at the edge into pure violet; the upper lobe is [illegible]; the lower is white, with a purple oblate blotch at [illegible]. This variety puts the old original kind quite out of the [illegible]."

Price 10s. 6d. The usual discount to the Trade.

Nursery and Seed Establishment, Hammersmith, London.

THE FAMOUS PINUS DON PEDRI.—This noble Pinus is one of the long-leaved Weymouth tribe, and is spoken of by Dr. Lindley (see *Gardeners' Chronicle*, March 27, 1858,) as a "magnificent novelty." Mr. Gordon, in "The Pinetum" (page 231), says, "A noble tree, rivalling Pinus Lambertiana, and growing 140 feet high at an elevation of from 11,000 to 12,000 feet. It will no doubt be hardy, coming, as it does, from so great an elevation and a cold climate."

The undersigned is now prepared to supply stout Seedling plants in pots, raised last summer, at 21s. each, or 9l. 9s. per dozen. The usual allowance to the Trade.

J. HENCHMAN, Edmonton, London.

"JEYES'S CONQUEROR PEA;" 3s. 6d. per Quart. —This remarkable Pea was sent out to a few private [illegible] a few years since, and it has established its own reputation so much, that although I have kept on increasing my supply every year, I have always had to deal it out with great caution, lest my regular customers should not be supplied; and long before the season for sowing was over I have been sold out, and had to turn away many scores of customers.

For Testimonials and descriptions see *Gardeners' Chronicle* of Jan. 8. The following gentlemen have permitted me to say they consider it the very best Pea in cultivation:—Mr. Mackie, Deanery Abbey, Northampton; Mr. Tanton, Moulton Grange, Northampton; Mr. Judd, Althorp Park, Northampton; Mr. Thos. Watts, Market Gardener, Northampton; Mr. John Manning, Market Gardener, Northampton; and hundreds of others.—It can be had genuine of Messrs. NOBLE & Co., Fleet Street, London; Messrs. FLANAGAN & SON, Mansion House St., London; Messrs. NUTTING & SON, Barbican, London; and all respectable Seed-merchants in the United Kingdom.

18, Sheep Street, Northampton.

## THE READING ONION.

THE TRUE READING ONION is so highly esteemed that SUTTON & SONS have annual demands for large quantities of Seed from all parts of the kingdom; the town of Reading having been famed for Onion Seed for upwards of a century.

Besides many similar communications the following have been received quite unsolicited:—

*From* Mr. JAS. M'INTOSH, *Gardener to the Duke of Buccleugh, at Drumlanrig.*

"Your Onion is particularly fine."

*From the* Rev. F. T. SCOTT, *Sibertswold Vicarage, near Dover.*

"The seeds of last year gave great satisfaction, especially the Onions, which were superb."

*From the* Rev. J. A. CARR, *Belshford Rectory, Horncastle.*

"Your Onions are the largest and best I ever grew or saw."

*From* Mr. W. ROBINSON, *Gardener at Atherstone, Sept.* 10, 1858.

"The seeds I have had from you for the present year satisfied me to the utmost, the Onions, Carrots, and White Cos Lettuce especially."

*From* Major J. RICHARDSON, *Willowmead, South Molyneux, Otago, New Zealand, Feb.* 2, 1858.

"Before asking you to pack up my present order, I must state that those with which you furnished me before were universally approved. I might almost say that not one seed failed. Even the Onion, so very seldom successful here, was not an exception."

*From* Capt. FRANCIS T. BROWN, *Peny-Maer, Hay, Jan.* 29, 1858.

"I hope the seeds will do as well as last year, which were all good. The Onions were the finest I ever saw in England."

*From* Mr. DURY, *Master of Clutton Union, Somerset.*

"I have grown your Lettuce, Leeks, and Reading Onion, the like of which I never saw before."

N.B. Fine new Seed is now selling by the undersigned at 4d. per ounce (8d. free by post), or much cheaper in large quantities. Carriage free.

SUTTON & SONS, Royal Berkshire Seed Establishment, Reading.

## CHRYSANTHEMUMS—CHRYSANTHEMUMS.

J. H. BIRD, F.H.S., NURSERYMAN, Stoke Newington, the largest grower and most successful exhibitor of the Chrysanthemum in the British Empire, begs to call the attention of the lovers of the above beautiful autumn flower to his matchless collection, the stock of which amounts to upwards of 50,000 plants. Amongst them will be found the following new and rare varieties:—Admirable, Aimée Ferrière, Augustine, Constantine, Louisa, Louis Bonamy, Madame Leo, Norfolk Hero, Progne, Raymond, Beauté de Nord, Dr. Maclean, Queen of England, Plutus, Alfred Salter, Stellaris globosa, Beauty, Themis, Dupont de l'Eure, &c.

J. H. B. can supply strong plants, one dozen for 6s.; or five dozen in 30 varieties, containing two of each variety, for 1l.; or he can supply 100 plants in 50 varieties, two of each variety, for 1l. 10s. Also POMPONES in great variety; 50 Pomponès in 25 varieties, two of each variety, for 10s.; or 100 in 50 varieties, two of each variety for 1l. Strong plants of the beautiful new Pompone the Golden Cedo Nulli, 5s. each, will be ready in March with the usual allowance to the Trade. Every order will be accompanied by a popular work on the Chrysanthemum.

Post-office Orders payable to J. H. BIRD, Stoke Newington, will be immediately attended to.

## CHRYSANTHEMUM TRICOLOR BURRIDGEANUM. CHRYSANTHEMUM TRICOLOR VENUSTUM.

F. K. BURRIDGE, SEED GROWER, Lexden Road, Colchester, has much pleasure in inviting the special attention of the Seed Trade to the above-named new Hardy Annuals, which he now offers for the first time, believing they will be found among the finest novelties of the season. The variety Burridgeanum differs from the old C. tricolor in having a fine crimson ring surrounding the yellow circle next the eye of the flower, the rest of the ray being snow white. The variety venustum has the ray florets of a deep reddish purple or plum colour for about one-half their length, shading into yellow at the base, and stained on the under side with purple. Both varieties are striking objects in the flower border, and from their bold conspicuous character, free blooming qualities, and perfect hardiness, together with their adaptability for bouquets, F. K. B. confidently predicts that they will become universal favourites.

A beautifully-coloured group of the two varieties has been prepared, and may be had on application, price 1s.; or gratis to Purchasers of 1 oz. of seed.

N.B. The Botanical Magazine for the present month (Jan. 1859) contains a coloured plate of the above.

## SEEDS.

BASS AND BROWN'S New SEED CATALOGUE (28th annual edition) will be supplied free on application.

It this year contains much descriptive information, with copious remarks on culture, &c., and a drawing of their Improved Custard Vegetable Marrow, totally distinct from the one figured in the periodicals of last year. It also contains lists of choice Bulbs for spring planting, with various other choice Bulbs in pots.

VEGETABLE SEEDS (ASSORTED COLLECTIONS).

These for quality and selection of sorts will not be surpassed. The names of sorts contained in the three largest collections appear in the Catalogue.

| | | | | |
|---|---|---|---|---|
| No. 1 Collection | £3 | 0s. | 0d. |
| No. 2 | ,, | 2 | 0 | 0 |
| No. 3 | ,, | 1 | 5 | 0 |
| No. 4 | ,, | 0 | 15 | 0 |
| No. 5 | ,, | 0 | 10 | 6 |

Goods (20s. and upwards) carriage free to all stations in London, &c.—See Catalogue. Post-office Orders payable to BASS & BROWN, or to STEPHEN BROWN. Remittances requested from unknown correspondents.

BASS & BROWN, Seed Growers, &c., Sudbury, Suffolk.

JOHN KERNAN, SEEDSMAN, 4, Great Russell Street, Covent Garden, W. C., takes the opportunity of a new season to return his sincere thanks for the very extensive patronage he has for so many years experienced, and especially to express his warmest gratitude to all those ladies and gentlemen who, not content with repeated assurances of their own individual satisfaction, have, unsolicited, by their recommendations to their friends conferred an additional debt never to be effaced. He has now the honour to submit to their notice the following selection from his General List, which may be had free on application.

SEEDS OF VEGETABLES FOR EARLY SOWING.

PEAS, 1s. per quart.
Prince Albert
Early Emperor
Bishop's new Longpod
Fairbeard's Champion of England
Napoleon
Blue Scimetar
Victoria Marrow
And all other desirable vars.

BEET, 6d. per oz.
Fine London Red
Silver or Seakale

BORECOLE, 6d. per oz.
New Heading
And other varieties

BRUSSELS SPROUTS.
Best imported, 6d. per oz.

BROCCOLI, 1s. per oz.
Myatt's Early Purple Cape
Dancer's Early White
Chappell's Cream
Snow's True White Winter
And other varieties

CABBAGE, 6d. per oz.
Nonpareil
Shilling's Queen
Atkins's Matchless Dwarf
Enfield Market
And all the best varieties.

BEANS, 8d. per quart.
Early Mazagan
Sword Longpod
Johnson's Wonderful
Taylor's Windsor
Green Genoa
Dwarf French (of sorts), 1s. per quart
Scarlet Runners, 1s. per quart
And the best varieties worth cultivating.

CARROT.
Early French Horn, 6d. per oz.
,, Dutch, 6d. per oz.
Fine Surrey, 3d. per oz.
Altringham, 5d per oz.
White, for agriculture, 1s. p. lb.
Hollow Crown Parsnip, 3d. p. oz.

CAULIFLOWER.
Mercer's Fine Pearly, 1s. p. oz.
London Particular, 1s. per oz.
Large Asiatic, 1s. per oz.
Walcheren, 1s. 6d. per oz.

CRESS, all the varieties.
Plain and curled, 1s. per qt.
Water Cress, 3d. per oz.

CUCUMBER.
All the best-known varieties, 3d. to 1s. per packet

ENDIVE, 6d. per oz.
Green curled
New Moss
Batavian

LEEK, 6d. per oz.
London Flag, and other vars.

LETTUCE, 1s. per oz.
Crystal White Cos, and all the choicest varieties

MELONS, 6d. per packet.
Seymour's Golden Perfection
Caubull
Beechwood, and other varieties saved from the finest fruit brought to this market.

ONION, 6d. per oz.
James's long-keeping fine white Spanish
Globe
Strasbourg
Deptford
Silver-skin
Tripoli
Blood Red
Two-bladed, for pickling

PARSLEY, 3d. per oz.
Myatt's extra curled
Hambro', or long-rooted
Giant

RADISH, 1s. 6d. per pint.
Kernan's olive-shaped scarlet, a new delicious variety, raised fit for table in 21 days on moderate heat, or over early Potato beds
Long Scarlet, 1s., do.
Red and White Turnip, 1s.

SPINACH, of sorts, 1s. per qt.

SWEET HERBS of all descriptions, 3d. per packet.

TURNIPS, 3d. per oz.
Early Dutch imported
,, Six Weeks
,, Snowball and other varieties

POTATOES.
Kirk's true Ashleaf Kidney, 6s. per bushel
Fine Early Frame, 6s. per bush.
,, Oxford, 6s. ,,
,, Cockney, 6s. ,,
Walnut-leaved Kidney, 6s. per bushel
Early Shaw, 4s. per bushel
,, Regent, 4s. ,,
Fortyfold, 4s. ,,
Fluke and other varieties, 4s. per bushel

Agricultural and Flower Seeds of every denomination, of which a list may be had on application.

Aviary Seeds of all sorts.

Garlic, 4d.; Shallots, 4d.; Mushroom Spawn, 5s. per bushel

Budding and Pruning Knives, Russia Mats, Cuba Bass, and Guano

Seeds of all the best varieties of Currants, Gooseberries, Raspberries, and Strawberries, at 6d. per pkt.

JOHN KERNAN has much pleasure, in consequence of the satisfaction generally expressed, in continuing to offer his judgment and experience in the selection of the most indispensable and useful Vegetable, Agricultural, and Flower Seeds to any amount that may be required (parties naming anything in particular of which they would like a more abundant supply), the liberality of the discount being of course commensurate to that of the order, especially on Seeds for distribution amongst tenants and cottagers, the cultivation of which will be found to humanise the peasantry much faster than any other leading string to win their hearts to God and man.

Preparing for immediate publication, a treatise on the cultivation of the Sorghum, and on its properties as food for cattle, showing the immense benefits farmers will derive from substituting this Sugar-grass for Turnip and other winter fodder. Seed of the above, for sowing in March or April, 6d. per ounce. "See Treatise."

A list of Asters, Balsams, Calceolariæ, Stocks, &c., the finest imported, as well as of all other new and choice flower seeds, may be had on application.

Anemones, Gladioli, Liliums, Ranunculi, Tigridiums, Double Italian Tuberoses, Fruit and Forest Trees, Standard, Dwarf, and Climbing Roses.

30 hardy and showy California Annuals for immediate sowing, 5s.; 15 ditto, 2s. 6d.

A list of choice new Flower Seeds will be published in time for March and April sowing.

A mixture of Annuals, as recommended by Dr. Lindley for the front of shrubberies, 5s.

Asparagus, Seakale, and Rhubarb Roots, plants of all the best Strawberries, Oilcake, Locust Beans, and Lentils for fattening sheep.

## ROSE NURSERIES, HERTFORD.

EDWARD P. FRANCIS begs to inform his patrons and the public that he has still on hand fine plants of all the best ROSES, either Standards, half Standards, or Dwarfs, worked low on the Manetti Stock, PRICED CATALOGUES of which he will be happy to forward on application.

E. P. F. takes this opportunity of announcing that he will be prepared to supply on and after the month of May next the following new Hybrid Perpetual Roses of 1859, at 5s. each, which have been carefully selected as good and desirable from amongst the numerous French varieties:—

| | |
|---|---|
| Anna Alexieff | Empereur de Maroc |
| Stephanie Beauharnais | Armide |
| Ambroise Verschaffelt | Princesse Olympie |
| Impératrice Eugènie | Anna de Diesbach |
| Albert de Stella | Beauté de Royghem |
| Virginale | Comtesse Cecile de Chabrilland |
| Margottin | De la Mothe |
| Trouillard | Guinnoiseau |
| Vindrin | Beluze |
| Oger | Robichon |
| Guillot | Marest |
| Lacharme | Avoux and Crozy |
| Altesse Impériale } | François Arago |
| Ardoisée de Lyon } | Lord Elgin |
| [These two varieties had the Gold Medal as seedlings at Lyons] | Madame Bruny |
| Comte de Beaufort, Boyan } | Orderic Vital |
| L'Oriflamme de St. Louis, Baudry } | Salomon |
| [These two are splendid new Roses] | Reine de la Cité |
| Docteur Bretonneau | Francis the 1st |
| | Mignard |
| | Madame Jenny Vavin |
| | Oger |
| | Baltet frère |

Full descriptive particulars of the above Roses will be issued shortly. The usual discount to the trade.

Rose Nurseries, Hereford.

CARTER'S SELECT LIST OF NOVELTIES OF MERIT FOR 1859.—The subjoined LIST OF SEEDS we have selected for recommendation from the general body of our Catalogue, as being either desirable new varieties, or old-established favourites highly improved by careful cultivation. All the undermentioned, whether saved in England or on the Continent, may be depended on as true to description: we have travelled the Continent during the past Autumn, and seen the plants in a growing state. The numbers prefixed refer to their position in our Catalogue.

(1891) CARTER'S TOM THUMB NASTURTIUM (Plate No. 5).—A new variety in colour and habit, particularly adapted for bedding, and also for growing in pots and ornamental vases; is the same colour as Tom Thumb Geranium, and the flowers are well thrown up above the foliage; very dwarf and compact in habit.

(1890) NEW DWARF SPOTTED NASTURTIUM (Plate No. 5).—This variety was offered last year for the first time, colour a bright golden orange, with a chocolate blotch at the base of each petal; habit the same as Tom Thumb, with which it harmonises admirably, their colours contrasting most brilliantly; both sorts are admirably adapted for bedding, as they continue in bloom for three months, or even more.

(1265) ŒNOTHERA DRUMMONDI NANA (Plate No. 2).—As its name indicates, it is a dwarf variety from Drummondi, introduced by us from Texas three years since. We had the pleasure of offering it last year; and the results have been most gratifying. It grows about 8 inches high, and is covered with a profusion of bright yellow flowers, many of which measure 4 inches in diameter; it continues in bloom from June to November.

(1246) NOLANA PARADOXA VIOLACEA (Plate No. 5).—The Nolana has long been a favourite annual; and this new variety is particularly pleasing; the flowers are larger than those of the old paradoxa; colour rosy violet.

(1122) LUPINUS HARTWEGI CŒLESTINUS (Plate No. 5) —This new variety is very distinct from all other kinds of Lupines, grows 1½ ft. high; colour, a delicate sky-blue, with pink edgings.

(773) FENZLIA DIANTHIFLORA (Plate No. 5). — This lovely Annual is of a beautiful rose-lilac colour, having five dark blood-coloured spots surrounding an orange-coloured eye in centre of each flower; it is of a very dwarf and compact habit, producing blossoms in profusion: it blooms through the summer months, and continues long in flower if sufficiently supplied with moisture. It has a fine effect in small beds, and is also well adapted for growing in pots or boxes for greenhouse decoration.

(1262) ŒNOTHERA BISTORTA VEITCHI (Plate No. 5).—This beautiful Œnothera is of a brilliant yellow colour with a blood-coloured spot at the base of each petal; it is one of the very best yellow-flowering plants for either bedding or rockwork, continuing in bloom nearly four months. It is figured, and highly commended by Sir W. J. Hooker, in Curtis's 'Botanical Magazine' of October 1858.

(1821) NEW MINIATURE STRIPED GOURD (Lagenaria vittata, Plate No. 5).—A remarkably handsome miniature species of the old Bottle Gourd, particularly adapted for ornamental trellis-work or the conservatory: the fruit when full grown is about 3 inches in circumference, shape very symmetrical, the neck and upper portion of the body are of a bright orange colour, and the lower half of a deep laurel green: it has also regular stripes of a cream colour from the apex to the base equidistant, about a quarter of an inch; will succeed well in any warm situation.

(785) GAILLARDIA HYBRIDA GRANDIFLORA (Plate No. 5).—This truly magnificent hardy herbaceous perennial blooms the first year, has been hitherto offered in plants only: it is the result of an hybridisation between Gaillardia aristata and picta, having the robust habit of the former with the brilliant colour of the latter: the flowers are nearly double the size of the old picta; and the plant is without doubt the finest of its class.

(310) COSMIDIUM BURRIDGI (Plate No. 6).—This we consider we are justified in stating to be the handsomest of the showy tribe of Coreopsis; the blossoms are large, and the colour a deep crimson copper with a broad margin of gold.

(1093) LOBELIA FORMOSA (Plate No. 6).—A large beautiful deep-blue variety of Lobelia, very dwarf in habit and well adapted for bedding.

(1133) LUPINUS NANUS ALBUS.—The old Lupinus nanus has long been a favourite for its neat appearance and general adaptability for bedding; and this, a white variety, forms a very agreeable contrast with it.

(1708) VISCARIA CŒLI-ROSA ALBA (Plate No. 6).—This is a pure white variety of the Old Viscaria cœli-rosa; forms an admirable edging, and beds excellently well.

(1711) VISCARIA DUNNETTI (Plate No. 6).—A new variety of the much-admired "oculata;" colour rosy blush with a dark eye: its general appearance is very attractive; and we can highly recommend it.

(1864) MARIGOLD, tall French Orange (Plate No. 6).—A fine tall Orange Double French Marigold, distinct from the old French varieties, having the beautiful colour of the Orange African; the petals are very broad.

JAMES CARTER & Co., 238, High Holborn, W.C.

## VEGETABLE, FLOWER, AND AGRICULTURAL SEEDS.

WILLIAM BARNES'S CATALOGUE of the above is now ready, and may be obtained postage free, upon application. It will be found to contain every article of known value, among them some that cannot be excelled, the stock of which having been saved specially for himself by private and competent friends, he can recommend with the greatest confidence. Every article is warranted of the purest and most genuine kind, as well as very moderate in price.

Camden Nursery, Camberwell.

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CHARLES CLARKE, NURSERYMAN, SEEDSMAN, &c., 179, Windmill Street, Gravesend, Kent; or home Nursery, Windmill Hill.

Fruit Trees and Forest do., in any quantities; full-trained Peaches, Nectarines, Apricots, &c., remarkably fine; large bushy Yews, Portugal and Common Laurels, and other Evergreens, very handsome and good colour; Rhubarb Roots, Seakale, Asparagus for forcing, pricked out Strawberry Plants, Globe Artichokes, &c. Prices very moderate. Cash or a reference is respectfully requested from unknown correspondents.

N.B. Spanish Chesnuts 4 to 5 feet, and Standard Roses, a great quantity very cheap.

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WM. IVERY respectfully announces that his Select CATALOGUE of GARDEN and AGRICULTURAL SEEDS for 1859 is now ready, post free on application, containing none but the very best quality at moderate prices. W. I. has great pleasure in offering his Nonsuch Celery as the best in cultivation for crispness and flavour, not to be equalled by any other variety, 1s. per packet. This can also be obtained of the principal seedsmen in London. IVERY'S Nonsuch Lettuce Black Seeded White Cos, will stand one month longer than any other known without running to seed in hot weather, a very fine large Lettuce of exquisite flavour, blanching itself, 1s. 6d. per packet. W. I. begs to inform the Trade that he can now finish the supply of New Mushroom Spawn, of the best quality.—Hanover Nursery, Peckham, London, S. E.—Jan 29.

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## TANSLEY NURSERY, NEAR MATLOCK.

To GENTLEMEN PLANTING AND THE TRADE.

J. SMITH begs to offer his STOCK OF TREES AND SHRUBS, of various sizes, and in addition to his general stock of the leading kinds, he has this season to offer an Extra Stock of many hundred thousands of fine Larches, Scotch Firs, and Highland Pines; a large quantity of Evergreens, Privets, Mahonia aquifolia, and other plants for planting under cover. Many things are grown in large quantities, and will be sold on advantageous terms to the trade and gentlemen requiring large lots.—Catalogues sent free on application. The Nurseries are on the Mansfield and Nottingham roads, and 2 miles from Matlock Bridge Station on the Midland Railway.

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MESSRS. WATERER AND GODFREY respectfully invite the attention of parties engaged in planting to the following list of very desirable plants, all of which may be seen growing in the open quarters of their Nursery, and are in the finest possible condition for transplanting:—

Araucaria imbricata, 9 to 12 inches, 5*l.* per 100; 40*l.* per 1000
" " 1½, 2, 3, 4, 5, 6, and 8 feet high. Our stock of this plant exceeds 100,000

Wellingtonia gigantea, stout handsome plants from seed, 84*s.* per dozen; 25*l.* per 100. These are all in the open ground, and are believed to be the finest lot of seedling plants in the Trade.

Cedrus Deodara, 1½ to 2 feet, 18*s.* per dozen; 6*l.* per 100

Do. 3, 4, 5, 6, 7, 8, 10 and 12, and 15 feet. Our stock of Deodars at the present moment occupies several acres of land; they have been constantly removed, and with fair usage not one in a thousand would fail. We offer them on very advantageous terms either in large or small quantities

Cedrus atlantica, 4, 5, 6, and 7 feet

Cupressus macrocarpa, magnificent plants, 7, 8, and 10 feet high
" Lawsoniana, stout handsome plants from seed, 18 inches, by the dozen or 100

Abies nobilis, from imported seed, 6*l.* 6*s.* per doz.; 40*l.* per 100
" do. 1, 2, and 3 feet high
" Nordmanniana, a large number of beautiful plants, all from seed, 2, 3, 4, 5, and 6 feet high
" Pinsapo, do. do.
[We believe we are justified in stating our stock of the three last-mentioned Firs offers a selection to be met with in no other Nursery.]
" Douglasi, 6, 7, 10, and 12 feet
" orientalis, 3, 4, 5, and 6 feet

Pinus Benthamiana, stout seedling plants, about 1 foot, 18*s.* per dozen; 5*l.* per 100; 40*l.* per 1000. Unquestionably the finest of all the long leaved Californian kinds, and well known to be perfectly hardy. It is the most valuable of all for timber.

Juniper, Chinese, 2, 3, 5, 7, 8, and 10 feet high
Irish Upright, 3, 4, 5, 6, 7, and 8 feet. The Irish and Chinese Junipers are grown by us to a very large extent

Thuja aurea.—This plant originated in our Nursery, and our stock of it offers a choice of many hundred specimens from 1½, 2, 3, 4, and 5 feet high, and measuring from 2 to 10 and 15 feet in circumference. Nothing can well exceed the beauty of these plants, and certainly are to be met with in no other Nursery

Thuja gigantea, stout seedling plants, 1½ to 2 feet high
" Wareana, 3, 4, 5, 6, 7, and 8 feet

Thujopsis borealis, handsome plants, in quantity, 1½ & 2 ft. high

Taxus, Yew, Common English.—A large quantity, and of all sizes up to 5, 6, and 7 feet
" Irish Yew, 4, 5, 6, 7, and 10 feet. Many thousands of these beautifully formed plants grown to one stem
" Golden Yews in large quantities and of all sizes up to 6, 7, and 8 feet
We also have them worked on the Common and Irish Yew as Standards, with heads from 12 to 15 years' growth

Holly, Variegated, Scottica, laurifolia, &c. We hold probably the largest stock of good sized variegated Hollies in the kingdom, especially of the better kinds of silver and gold striped

Rhododendron ponticum, for cover, stout plants, 1½ to 2½ feet, by the 1000. All the well-known proved hardy late blooming kinds, in any quantity, at from 30*s.*, 42*s.*, to 84*s.* per dozen
Standard Rhododendrons of all kinds

Azaleas, stout bushy plants, covered with bloom buds, from 18 inches to 2 feet high, and of all colours, 9*s.*, 12*s.*, 18*s.*, and 24*s.* per dozen; 50*s.*, 75*s.*, to 100*s.* per 100

Hardy Heaths, a first-rate collection, at 35*s.* per 100; 15*l.* p. 1000

Roses, fine Standards, of the most popular kinds, at very low prices.

As well as the above, we are very large holders of the ordinary kinds of Nursery Stock, which may be judged from the fact that the Nursery far exceeds 100 acres in extent of all such things as Laurels, Box, Lilacs, Limes, Purple Beech, and the commoner descriptions of Evergreens and Deciduous Flowering Shrubs. An enormous stock of Fruit and Forest Trees are also grown extensively.

Goods are delivered free to London, Reading, or Reigate. The Nursery is reached in an hour from Waterloo, and conveyances are always to be had at the Woking Station.

CATALOGUES, Priced and Descriptive, will be sent on application, enclosing one postage stamp, to

WATERER AND GODFREY, Knap Hill, Woking, Surrey.

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LAING'S MAMMOTH RED CELERY.—This is the largest yet grown, attaining the extraordinary weight of from 10 to 12 lbs., and is perfectly solid. It is nearly perennial in its habit, as it will not under any circumstances run to seed the first season. In flavour it is unsurpassed, and may be deemed a new feature in the garden from the fact that it may be had for use all the year. Packets free per post, 1*s.*; large trade packets, 3*s.* 6*d.* Postage stamps received in payment.—YOUELL & CO., Royal Nursery, Great Yarmouth.

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GLENNY'S LIST OF THE BEST SIXTY SEEDS for amateurs, free on receipt of a directed envelope. GLENNY'S IMPROVED BALSAM, six classes, 37 stamps; GLENNY'S IMPROVED BALSAM, mixed 13; Dungannon House Cineraria, 13 or 37; East Neuk of Fife Cabbage, Haslem's Solid Maltese Cos Lettuce, Black-seeded ditto, Lindsay's Beet, Pine Apple do., True Incomparable dwarf Celery, Oliver's ditto, 7*d.* per packet.—G. GLENNY, Horticultural Agent and Valuer, Fulham, S.W.

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## A PRIZE FOR ENGLISH GARDENERS.

NEW "DEFIANCE CABBAGE," a neat distinct variety.—Its unrivalled excellence for being very early, coming to perfection quick, of dwarf habit, does not run to seed, and flavour not to be surpassed make it an acquisition to every one. Numerous local testimonials could be given.

The following is from Mr. HILL, Gr. to W. R. SNEYD, Esq., Keel Hall. "Sir—Your 'Defiance Cabbage' has been grown the last two seasons by the side of several of the leading kinds, and foundso superior in every respect, that for future we intend growing no other kind. "W. HILL."

Post free on receipt of Cash or Postage Stamps at 2*s.* per oz. To be issued this season in February in 1 oz and ½ oz. packets only, by GEORGE JENKINSON, Nurseryman and Seedsman, Newcastle, Staffordshire.

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SEEDLING FOREST TREES, &c.

| | | | Per 1000.—*s.* | *d.* |
|---|---|---|---|---|
| 3,000,000 | 1-year | Larch | 1 | 0 |
| 1,000,000 | " | Scotch Fir | 0 | 10 |
| 300,000 | " | Alder | 1 | 0 |
| 200,000 | " | Birch | 1 | 6 |
| 200,000 | " | Elms | 1 | 6 |
| 150,000 | " | Ash | 1 | 6 |
| 100,000 | " | Sycamore | 1 | 6 |
| 300,000 | " | English Oak | 2 | 6 |
| 10,000 | " | Evergreen Oak | 40 | 0 |
| 20,000 | " | Horse Chesnut | 5 | 0 |
| 40,000 | " | Chinese Arbor-vitæ | 10 | 0 |
| 70,000 | " | Cupressus horizontalis | 8 | 0 |
| 80,000 | " | Pinus Laricio | 10 | 0 |
| 100,000 | " | Pinus austriaca | 6 | 0 |
| 300,000 | " | Pinus maritima | 2 | 6 |
| 20,000 | " | Common Laurel | 17 | 6 |
| 20,000 | " | Crab Apple | 3 | 6 |
| 250,000 | " | Quick | 2 | 0 |
| 10,000 | " | Laburnum | 2 | 6 |
| 10,000 | 2-year | do. | 4 | 0 |
| 1,000,000 | " | Norway Spruce Fir | 1 | 6 |
| 40,000 | " | White Spruce Fir | 4 | 0 |
| 50,000 | 3-year | Silver Fir | 7 | 0 |
| 800,000 | 2 " | Scotch Fir | 1 | 6 |
| 100,000 | 1 " | bedded Scotch Fir | 2 | 6 |
| 100,000 | 2 " | Beech | 3 | 0 |
| 60,000 | 2 " | Birch | 3 | 0 |
| 30,000 | 2 " | Alder | 3 | 0 |

The Subscriber begs to call attention of his friends and the public in general to the above stock of SEEDLINGS, and is happy to intimate to them that they are generally fine in quality, and trusts they will give satisfaction. Any orders, large or small, will be promply attended to. All delivered free of expense at Dublin, and thence half carriage paid to any part of England, &c.—Apply to MICHAEL BURKE, Drumlargan Nursery, Summerhill, county Meath, Ireland.

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UNEQUALLED NEW CUCUMBER, "DR. LIVINGSTONE."—This is one of the finest long hybrid Cucumbers for exhibition purposes that has ever yet been offered to the public; it is a splendid black spine, length 22 to 26 inches, a very free setter, and an abundant bearer. Price 2*s.* 6*d.* per packet.

Also the following fine CUCUMBERS can be supplied:—

| Per packet—*s.* *d.* | | Per packet—*s.* *d.* | |
|---|---|---|---|
| General Outram | 2 0 | Sunderland Wick | 1 0 |
| Perfection | 1 0 | Hunter's Prolific | 1 0 |
| Sir Colin Campbell | 1 0 | Mill's Jewess | 1 0 |
| General Canrobert | 1 0 | Cheltenham Surprise | 1 0 |
| Phenomena | 1 0 | Manchester Prize | 1 0 |
| Ipswich Standard | 1 0 | Sion House (true) | 1 0 |
| Lord Kenyon | 1 0 | Cuthill's Black Spine | 1 0 |
| Essex Hero | 1 0 | Conqueror of the West | 1 0 |
| Victory of Bath | 1 0 | Lynch's Star of the West | 1 0 |
| Gordon's White Spine | 1 0 | &c. &c. | &c. |

"QUEEN OF THE WEST" MELON, a superb new variety, green flesh, very handsome in appearance, beautifully netted, and excellent in flavour. It obtained several first prizes during the past season. This Melon has proved itself to be one of the best varieties ever yet offered for early forcing. It sets well, and will carry an immense crop. Fruit weighing 2½ lbs. was cut on the 20th of April, and the plants continued bearing abundantly until the end of July. Seeds 2*s.* 6*l.* per packet.

NEW MELON "GENERAL HAVELOCK," sent out for the first time last season. It is a green flesh, of a very handsome shape, and beautifully netted; a very thick substance, thin skin, of a melting and most delicious flavour, and an abundant bearer. Weight from 3 to 4 lbs. It is very hardy, and may be grown as easily in a cold frame in the summer as a Vegetable Marrow. Seed 1*s.* per packet.

Also the following fine varieties of MELONS:—

| Per packet—*s.* *d.* | | Per packet—*s.* *d.* | |
|---|---|---|---|
| M'Ewen's Arundel Hybrid Scarlet-flesh | 1 0 | Bowood | 1 0 |
| M'Ewen's Arundel Hybrid Green-flesh | 1 0 | Victory of Bath | 1 0 |
| Monro's Crystal Palace Hero | 1 0 | Cashmere | 1 0 |
| Monro's Golden Gage | 1 0 | Camerton Court | 1 0 |
| The Queen | 1 0 | Beechwood | 1 0 |
| Orion | 1 0 | Windsor Prize | 1 0 |
| Golden Drop | 1 0 | Emperor | 1 0 |
| Green Gage | 1 0 | Fleming's Hybrid Persian | 1 0 |
| Bromham Hall | 1 0 | Blackall Green-flesh | 1 0 |
| Incomparable | 1 0 | Bailey's | 1 0 |
| Golden Ball | 1 0 | Snow's Hybrid | 1 0 |
| | | Golden Perfection | 1 0 |
| | | Scarlet King | 1 0 |

A packet of any var of Cucumber marked at 1*s.* per packet sent with a packet of the Dr. Livingstone Cucumber for 3*s.*

A packet of any var. of Melon marked at 1*s.* per packet sent with a packet of the Queen of the West Melon for 3*s.*

Extra fine mixed Hollyhocks Seed, saved from all named vars., 1*s.* per packet.

Early Emperor Celery, the finest ever yet sent out, 1*s.* p. pkt.
Tiley's Solid White Celery, 6*d.* per packet.
Delphinium formosum, 6*d.* per packet.
Digitalis, or Foxglove Seed, 6*d.* per packet.

A remittance must accompany every order in Cash or Penny Postage Stamps, when the whole or any part, as the case may be, will be immediately sent.

EDWARD TILEY, NURSERYMAN, SEEDSMAN, AND FLORIST,
14, Abbey Church Yard, Bath.

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GIANT DRUMHEAD CABBAGE SEED SALE.—New seed grown with great care, 14 lb. bags, at 15*s.* per bag, or 4*l.* 5*s.* 6*d* per cwt. London. All orders to be prepaid by Post-office Maidstone Office. The Advertiser has also 6 acres growing of the above stock open to inspection, and to treat for a part or the whole of the produce. Address H. STONHAM, Detling, Maidstone, Kent.

---

RICH BOG AND LOAM.—Gentlemen and Nurserymen will do well to apply early for the above for their American beds. To be had in any quantity on reasonable terms, by land or water carriage.

ROBERT NEAL, Nurseryman, Wandsworth Common.

---

REIGATE SILVER SAND, best quality for 16*s.* per ton; less quantities, 1*s.* 6*d.* per bushel, to any London Wharf or Railway. Leaf Mould, Loam of various kinds, in large or small quantities. Sand 1*s.* 9*d.* each, on hire 6*d.* each (five hold a ton). KENNARD, Purveyor to her Majesty, Swan Place, Road, S.E.

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FLOUR, Warranted Unadulterated, free to any of London (not less than 14 lbs.); Whites, 4*s.* per bushel (56 lbs.), 8*s.* 4*d.*; households, for bread-making seconds, 7*s.* 0*d.*; Wheatmeal, for brown bread, fine and coarse Scotch Oatmeal.—Address, HORSMAN POOL, Bullford Mill, near Witham, Essex, or 97, Gresham City Road, E.C. Directions for bread making gratis. cash. Bags lent. German yeast. A half sack (1 upwards, free to any railway station within 200 miles.

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## TO PIG AND POULTRY FEEDERS AND MILLERS.

CHICKEN RICE, 7*s.* 6*d.* per cwt., in bags each. SCREENED RICE, 10*s.* per cwt., in bags each. RICE MEAL, 6*s.* 9*d.* to 8*s.* 9*d.* per cwt. grinding. An allowance per Ton.—Sold for Cash by JUPP, 6, Cross Lane, St. Mary-at-Hill, Eastcheap, E.C.

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## GENUINE TOBACCO PAPER FOR FUMIGATING.

H. APPLEBY (Foreman to Messrs. Ivery, Nurserymen, Dorking, Surrey), begs to inform friends and the public that he now offers the above at reduced price. Sold in 4-lb. packets, 1*s.* 3*d.* per lb.; reduction to the trade; price on application. For testimonials that will guarantee its quality, see *Gardeners' Chronicle*, 1858, page 920.

SHEET IRON POTS FOR FUMIGATING, 3*s.* 6*d.* each.

N.B. All Orders to be accompanied with a Post-office order payable to HENRY APPLEBY, Dorking, Surrey.

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## GENUINE ROLL TOBACCO CLOTH.

WARRANTED EQUAL IN STRENGTH TO TOBACCO.

JOSEPH BAKER, 10, Gough Square, Fleet Street, E.C., having dealt upwards of 20 years in this article, confidently recommend it as the best article for destroying Fly. 1*s.* 4*d.* per lb., over 10 lbs. 1*s.* Post-office Orders payable Strand Office.

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JAMES PHILLIPS AND CO.'S PRICES for the present month.

HORTICULTURAL GLASS, STOCK SIZES, in 100 feet boxes.

| | | | | |
|---|---|---|---|---|
| 11 by 9, | 12 by 9, | 13 by 9, | 14 by 9 | 14 oz. |
| 12 " 10, | 13 " 10, | 14 " 10, | 15 " 10 | |
| 13 " 11, | 14 " 11, | 15 " 11, | 16 " 11 | 16 oz. |
| 14 " 12, | 15 " 12, | 16 " 12, | 17 " 12 | |
| 18 " 12, | 19 " 12, | 16 " 13, | 17 " 13 | |
| 18 " 13, | 19 " 13, | 20 " 13, | 21 " 13 | |
| 16 " 14, | 17 " 14, | 18 " 14 | | |
| 19 " 14, | 20 " 14, | 21 " 14 | | |

PACKED IN CASES.

| | | |
|---|---|---|
| 200 feet | £2 2 0 | 16 oz. |
| 300 feet | 3 3 0 | |
| 200 feet | 2 18 0 | 21 oz. |

ORCHARD HOUSE SIZES.
As supplied by us to Mr. Rivers.

| | | 16 oz. |
|---|---|---|
| 20 in. by 12 in. / 20 in. by 13 in. / 20 in. by 14 in. / 20 in. by 15 in. | Common | 14*s.* 0*d.* |
| | Superior do. | 16 6 |
| | English Glass | 18 0 |

SMALL SQUARES.—Per 100 feet.

| | | | |
|---|---|---|---|
| 6 by 4 | 6½ by 4½ | 7 by 5 | 7½ by 5½ |
| 8 " 6 | 8½ " 6½ | 9 " 7 | 9½ " 7½ |
| 10 " 8 | 10½ " 8½ | | |

JAMES PHILLIPS AND CO.,
180, Bishopsgate St. Without, London.

---

## GLASS FOR CONSERVATORIES, ETC.

HETLEY AND CO. supply 16-oz SHEET of British Manufacture at prices varying from per square foot for the usual sizes required, many sizes which are kept ready packed for immediate delivery.

Lists of Prices and Estimates forwarded on application. PATENT ROUGH PLATE, THICK CROWN GLASS, TILES, and SLATES, WATER-PIPES, PROPAGATING GLASSES, GLASS MILK PANS, PATENT PLATE, ORNAMENTAL WINDOW GLASS, and GLASS to JAMES HETLEY & Co., 35, Soho Square, London.

See *Gardeners' Chronicle* first Saturday in each month.

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## HORTICULTURAL GLASS—JUNE TARIFF.

THOMAS MILLINGTON'S reduced prices for GLASS, &c.

| | |
|---|---|
| 6 by 4, 7 by 5, 8 by 6, 9 by 7 / 6½ by 4½, 7½ by 5½, 8½ by 6½, 9½ by 7½ | 16 oz. to the foot per 100 feet |

In 100 boxes,—4ths quality, 12*s.* 6*d.*; 3ds do. 16*s.*

| | | |
|---|---|---|
| 10 by 8, | 12 by 9, | 12½ by 10½, 14½ by 10½, 15 by 10, 15 by 11, |
| 10½ by 8½, | 12½ by 9½, | 13 by 10, 15 by 10, 15 by 11, |
| 11 by 9, | 13 by 9, | 13½ by 10½, 12 by 11, |
| 11½ by 9½, | 12 by 10, | 14 by 10, 12½ by 11½ |

| | | | |
|---|---|---|---|
| 20 by 12 / 20 by 13 / 20 by 14 / 20 by 15 | per 100 feet | 16 oz. | 21 oz. |
| | Common | 16*s.* | 24*s.* |
| | Superior | 18*s.* | 27*s.* |

All Boxes included.

Orchard House sizes as supplied to Mr. Rivers.
Hartley's improved Rough Plate Glass from ½ to ¾ in.
Coloured Glass in great variety, at 9*d.* and 1*s.* per foot.
Paints, Genuine White Lead, Linseed Oil, Boiled Oil, Turpentine, Putty, Colours, Varnishes, Brushes, Lamp Glasses, &c.

87, Bishopsgate Street Without, same side as Railway Stations.

---

BLOSSOM OF WALL-FRUIT TREES.—Net, so very generally approved, 7*d.* per square yard; will last 10 years; plan of fixing it sent free. Also Garden, Fishing, and Sheep Net, made by machinery.

GALVANISED WIRE-WORK, less than 2-inch mesh, 8*d.* per square yard; mesh 3 inches by 2 inches, 5*d.* per square yard; for Sheep, 4*d.* per square yard.

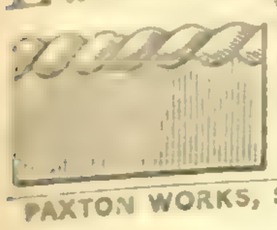
TRANSPARENT SHEETING, near 2 yards wide, 1*s.* per yard run.

WATERPROOF CAPES, long enough to protect the wet while stooping down, 3*s.* each; Police Capes, 4*s.* per doz.; Tarpaulings for Carts, 12*s.*; Waggons, &c. Coats, 8*s.* each; Roofing Canvas, 1*d.* per square foot.

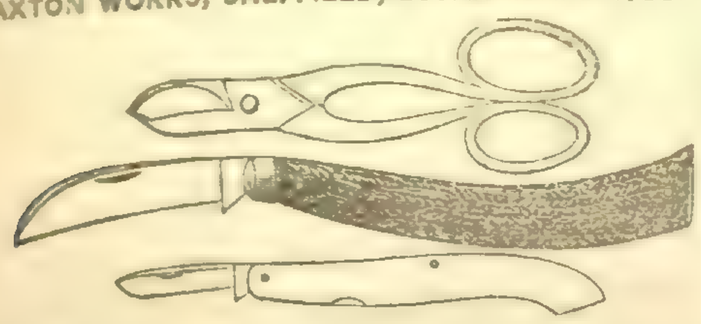
R. RICHARDSON, White Horse Factory, Bishopsgate Judd Street: Office, 99, Euston Road, London.

GLAZIERS' DIAMONDS for CUTTING HORTICULTURAL and other GLASS, to be had of the Wholesale Manufacturers, JOHN HOWARTH, 39, Shear's Alley, West Smithfield, London, E.C. Prices from 10*s.* to 27*s.* 6*d.*

LOOMES AND CO., Whittlesea, MANUFACTURERS OF BRICKS, TILES, POTTERY, &c., beg to call attention to their new CABLE PATTERN GARDEN BORDER EDGING, which not only surpasses others in appearance and durability, but is free from the dangerous points and sharp edges of most.—Price, delivered on any Railway at Peterborough, 5*d.* per yard.

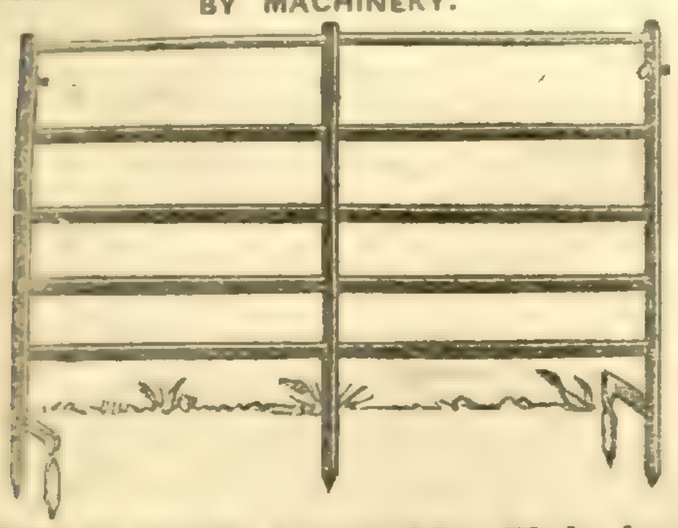


PAXTON WORKS, SHEFFIELD, ESTABLISHED 1738.



SAYNOR AND COOKE'S warranted PRIZE PRUNING and BUDDING KNIVES, SCISSORS, &c.—Sold by all respectable Nurserymen and Seed Merchants in the three Kingdoms.

WROUGHT IRON HURDLES AND FENCING MADE BY MACHINERY.



THOMAS GREEN, Smithfield Iron Works, begs to call the attention of parties requiring machine-made Hurdles, which are a very superior article, as well as being quite cheap and durable. The above cut represents a Hurdle 6 feet long by 3 feet 6 inches high; the top bar ⅝ of an inch diameter, the four low bars 1 inch by ¼ inch, the uprights 1¼ by ¼ inch. The Prongs fasten 12 inches in the ground. Price 4*s.* 6*d.* each, or 2*s.* 3*d.* per yard. If the four lower bars were made of ½ inch diameter instead of 1 inch by ¼ inch iron, the price would be 4*s.* 2*d.* each, or 2*s.* 1*d.* per yard. The above are the lowest net cash prices at the Works.

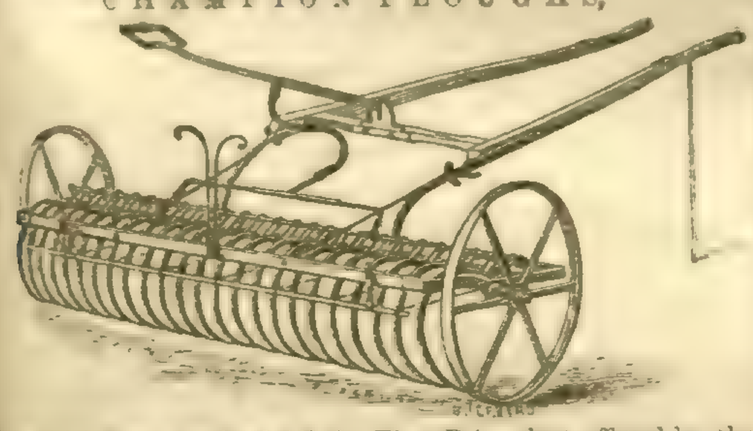
THOMAS GREEN, Smithfield Iron Works, Leeds, Yorkshire, Manufacturer of every description of Iron and Wire Fencing, Iron Work of all kinds, both plain and ornamental, Entrance Gates, Palisading, Tomb Railing, Iron Bedsteads, &c. Illustrated Catalogues may be had free on application at the Works.

N.B. Also Patentee and Sole Manufacturer of GREEN'S Patent Lawn Mowing, Collecting, and Grass Rolling Machines, which have proved to be the best in all cases of competition.

HOWARDS' PRIZE IMPLEMENTS, 1859.

JAMES AND FREDK. HOWARD, Britannia Iron Works, Bedford, beg to direct attention to their

CHAMPION PLOUGHS,



for which they received All the First Prizes last offered by the Royal Agricultural Society of England, viz.:—

The First Prize for the best Plough for general purposes.
The First Prize for the best Plough for light land.
The First Prize for the best Plough for heavy land.

The only Prize ever offered by the Society for the best Double Furrow or Ridging Plough was also awarded to J. & F. HOWARD.

J. & F. HOWARD have discontinued troubling the Public with a long List of Prizes awarded to their Implements, but would just state that for PLOUGHS, HARROWS, and HORSE RAKES, they have for several years gained every Prize for which they have competed.

PLOUGHS.

| | | | |
|---|---|---|---|
| 2 PLOUGH, with two wheels, for light work .. | £4 | 7 | 6 |
| 2P PLOUGH, ,, for general purposes | 4 | 12 | 6 |
| SKIM COULTER .. .. .. .. .. | £0 | 5 | 6 |

STEEL BREASTS, 7*s.* and 7*s.* 6*d.* extra.

HARROWS.

| | |
|---|---|
| Set of Three 4-Beam HARROWS, with Whippletree, recommended as general Seed Harrows, 9½ feet wide, marked No. 12 .. .. .. .. .. .. .. | £3 14 |
| Set of Three 4 Beam HARROWS, with Whippletree, adapted for 3 Horses, 10 feet wide, marked No. 11 .. | 4 4 |

HORSE RAKES.

| | |
|---|---|
| The small size RAKE, marked A, with 24 iron teeth, extreme width 7½ feet .. .. .. .. | £7 10 0 |
| With Steel Teeth .. .. .. .. .. | 8 0 0 |
| Rake of large size, marked B, with 28 iron teeth, extreme width 8½ feet .. .. .. .. .. | 8 0 0 |
| Rake of large size, marked B, with steel teeth .. | £8 10 0 |
| Rake of extra Large size, marked C, with 24 steel teeth, extreme width, 8½ feet .. .. .. .. | 10 10 0 |
| Extra Set of 15 Prongs, to be attached to the above instead of Wood Extirpators .. . .. | 1 10 0 |

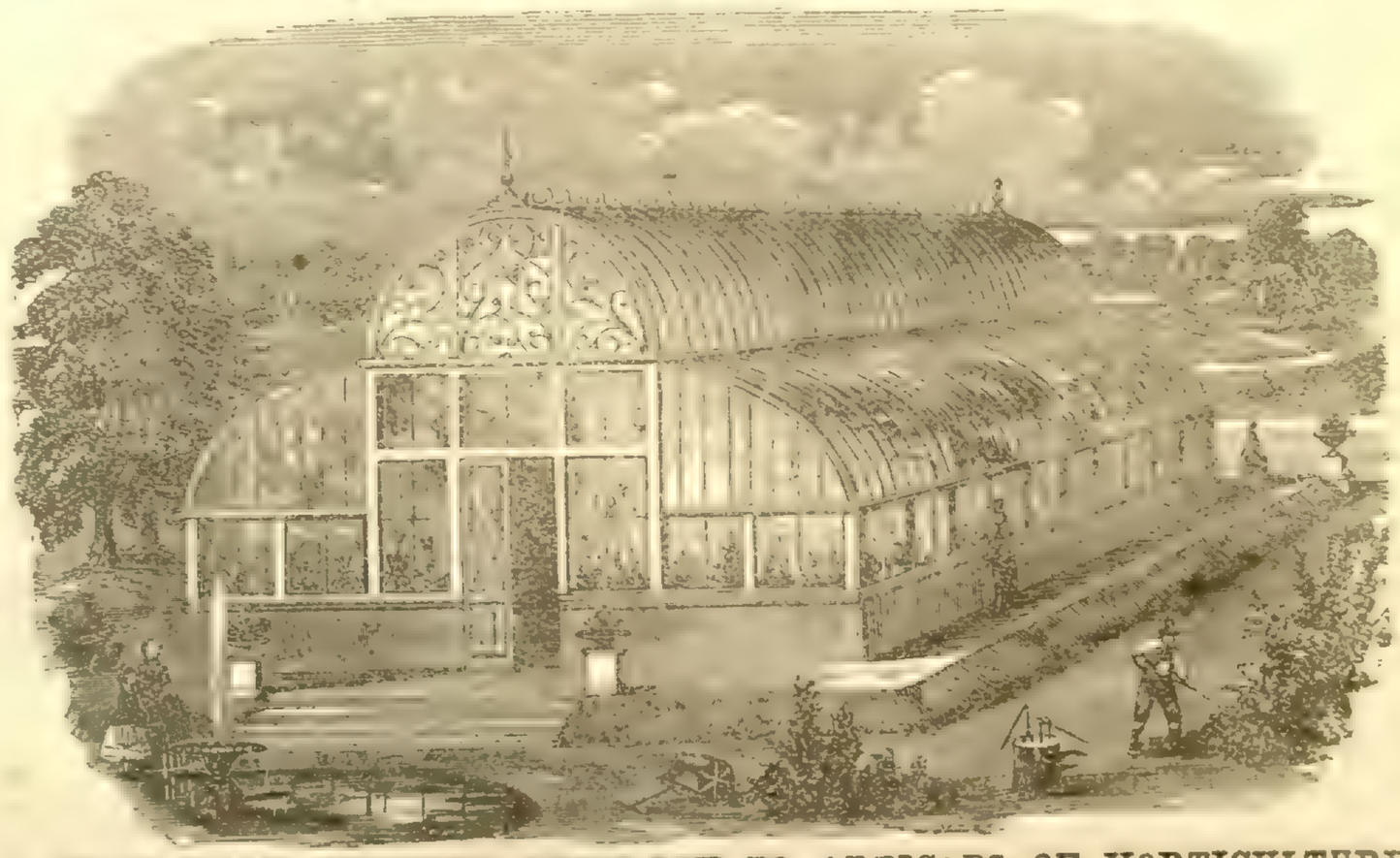
Free Delivery to Birmingham, Bristol, Derby, Gloucester, Leeds, Liverpool, London, Manchester, Norwich, Nottingham, Retford, Wisbeach, and Worcester; or to Dublin, Edinburgh, Glasgow, and other parts at fixed rates.

HOWARDS' NEW CATALOGUE, containing prices and description of their Patent Ploughs, Harrows, Horse Rakes, and other Implements, including Smith's Steam Cultivators, for which they received at Chester the Gold Medal of the Royal Agricultural Society of England, sent free on application to

J. & F. HOWARD, Britannia Iron Works, Bedford

COTTAM & COMPY., Engineers, Founders, &c.,

2, WINSLEY STREET, LONDON, W.



A SHOW ROOM DEVOTED ENTIRELY TO ARTICLES OF HORTICULTURE.

THE NEW ILLUSTRATED CATALOGUE UPON APPLICATION.

| | | | | |
|---|---|---|---|---|
| Conservatories | Mowing Machines | Hand-glass Frames | Garden Engines | Flower Sticks |
| Greenhouses | Fountains | Game Netting | ,, Syringes | Garden Bordering |
| Hot-water Apparatus | Ornamental Wire Work | Hurdles | ,, Rollers | Watering Pots |
| Garden Vases | Flower Stands | Garden Chairs | Flower Labels | Garden Arches, &c. |

Iron Hurdles, Strained Wire Fencing, Game Netting, &c.

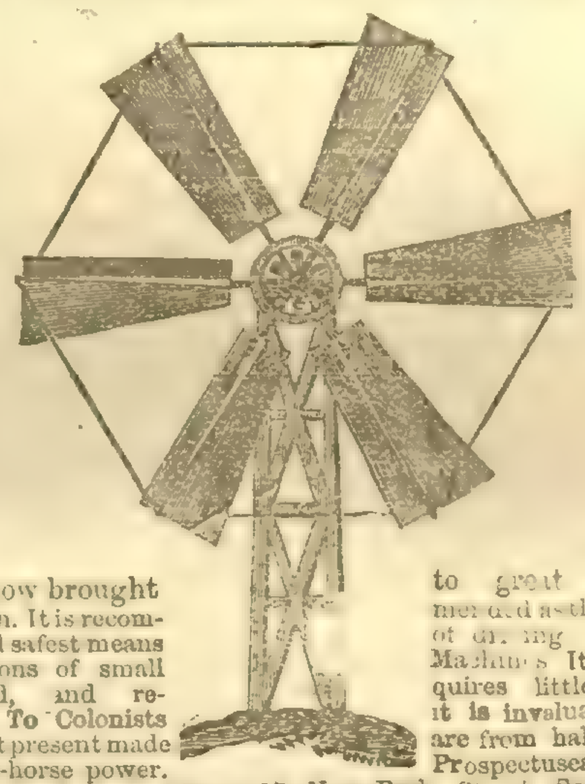
*Every description of Plain, Ornamental, Cast and Wrought Iron, and Wire Work.*

EXHIBITION PRIZE MEDAL GATES AND ENAMELLED MANGERS.

N.B. COTTAM AND CO. beg to make it known that there is no longer an entrance to their establishment from Oxford St., but that they have made a second entrance from 2, Winsley St. Oxford St., W., by the side of the old entrance to their works.

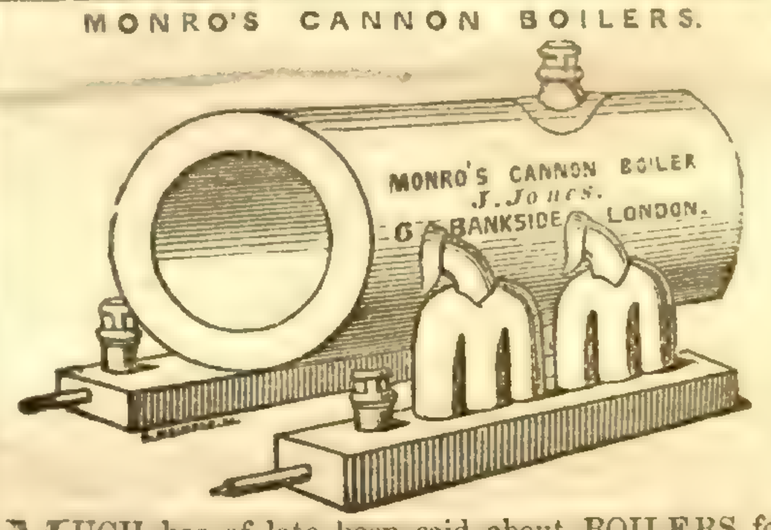
ZAHN'S PATENT SELF REGULATING WIND ENGINE

FOR PUMPING, OAT CRUSHING, GRINDING, CHAFF CUTTING, &c.



IS now brought to great perfection. It is recommended as the cheapest and safest means of driving any description of small Machines. It is easily erected, and requires little attention. To Colonists it is invaluable. The sizes at present made are from half a horse to two-horse power. Prospectuses may be obtained of J. R. PEILL, 17, New Park Street, Southwark where a Wind Engine in full work can be inspected.

MONRO'S CANNON BOILERS.




MUCH has of late been said about BOILERS for Heating by Hot Water, but these Boilers have now proved themselves to be the best at present invented. They are adapted for heating every description of building, and are made of various sizes. The Price of the

| | | | | |
|---|---|---|---|---|
| 24 inch Cast Iron is .. .. .. | £5 | 10*s.* | 0*d.* | each |
| 24 inch Wrought ditto .. .. .. | 6 | 10 | 0 | ,, |
| 36 inch Cast ditto .. .. .. .. | 8 | 0 | 0 | ,, |
| 36 inch Wrought ditto .. .. .. | 8 | 10 | 0 | ,, |

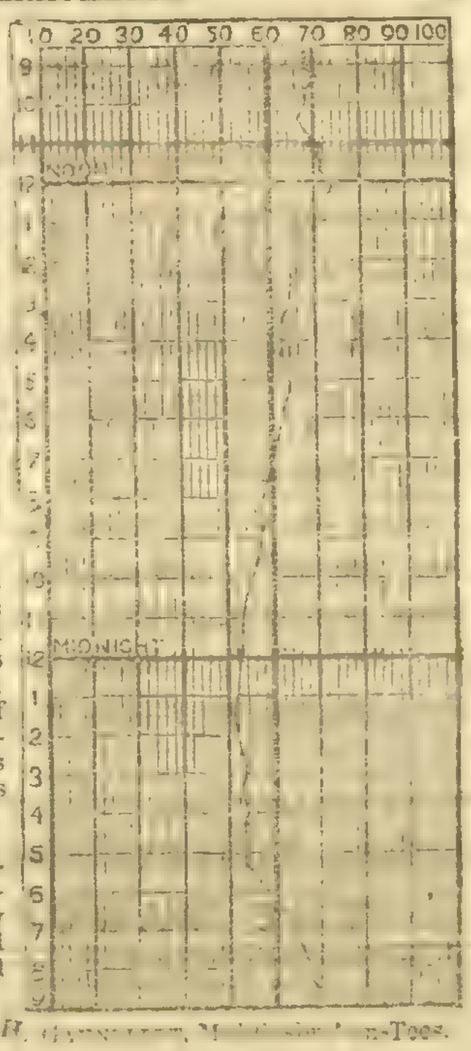
References to Gentlemen and Nurserymen where these Boilers are now at work. The Cannon Boilers are now kept in stock, and are to be had only of J. JONES, 6, Bankside. Also, every description of Saddle and Cylinder Boilers. Hot Water Pipes and Connections at prices lower than those of any other house in London. Estimates for Hot-water Apparatus erected complete in any part of the country, and an Illustrated Catalogue on application to J. JONES, 6, Bankside, Southwark, London.

BRITTAIN'S GARDEN NET completely protects Fruit Blossoms from injury by frost, and provides for the circulation of air and admission of light, so essential to healthy growth; 55 inches wide, 5*d.*, 6*d.*, and 7*d.* a yard; good yard wide TIFFANY, 2½*d.* do.—Manchester, Jan. 29.

TO HORTICULTURISTS.

GAUNTLETT'S PATENT CHRONOMETRICAL THERMOMETER.

This instrument, which combines an eight-day clock of the best English make showing time, with a newly-patented Thermometer, wherein glass and quicksilver are dispensed with, writes down the temperature of the atmosphere on a slip of paper, and when placed in a Hothouse, Forcing House, or Conservatory, &c., supplies a valuable record of the temperature, with all its variations, showing the time when any change took place, and how long such change continued.




The above slip (reduced in size) exhibits the temperature of the Royal Agricultural Society's show yard at Chester, July 22, 1858, written off by one of these instruments, to which was awarded the Society's SILVER MEDAL.

This is the only instrument that registers temperature continuously and writes it down, and no horticulturist should be without it.

Orders received by W. H. [illegible], Middlesbrough-on-Tees.

TO BRICK AND TILE MANUFACTURERS.

TO BE SOLD, by Private Contract, an excellent BRICK AND TILE YARD, standing on Six Acres of Land, with a plentiful supply of excellent Clay. There are two large Kilns on the property, most convenient and extensive Shedding, new and patent Machinery, together with every convenience for doing an extensive and lucrative trade. Also Four Cottages for Labourers. The premises are situated close to the Morchard Road Station, on the North Devon Railway, and are held by the present proprietor under a Lease, of which 18 years are unexpired. The Buildings are in excellent repair, having been erected within the last three years. This will be found an excellent opportunity for investment of capital, the present proprietor relinquishing the business from ill health only.—The premises may be viewed on application at the Yard, and further particulars may be obtained of Mr. WEBBER, Halberton Court, Tiverton; or of Mr. J. A. TOMS, Solicitor, Tiverton.

MRS. FERGUSSON BLAIR.

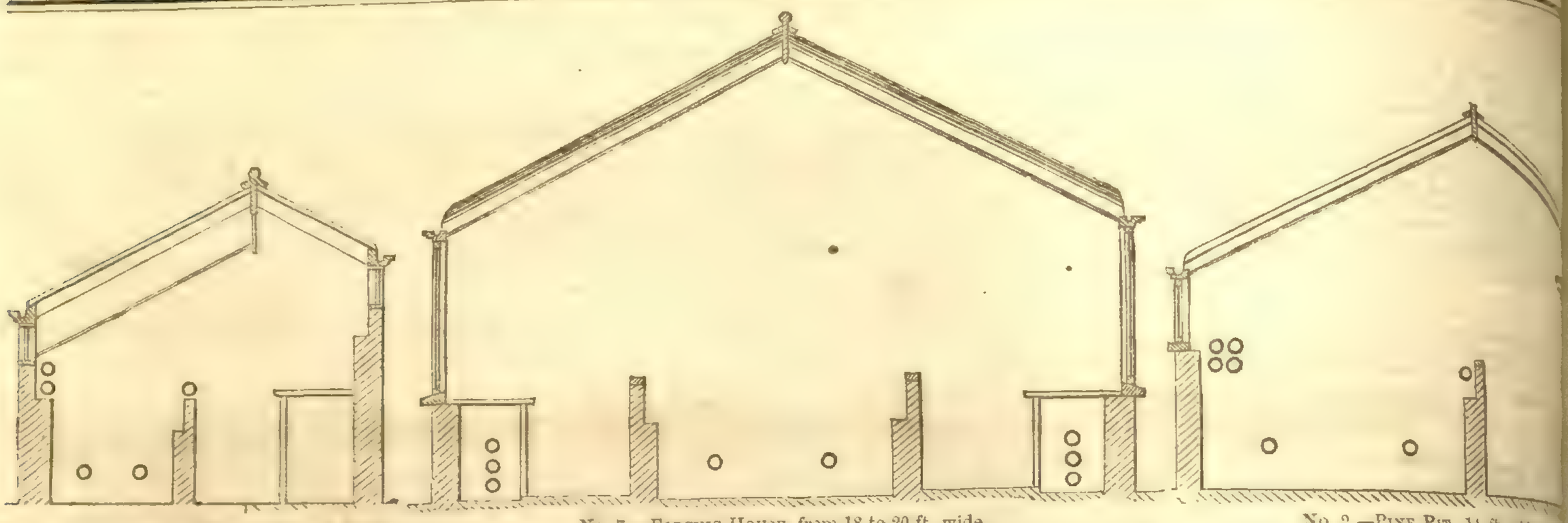
PRIZE POULTRY.—MRS. BLAIR, who has won 216 Prizes in the last two years, will have EGGS to Dispose of, at the following prices:—Silver Grey Dorking Eggs, 1*l.* 1*s.* a Sitting of Thirteen; Grey ditto, 12*s.* ditto; Dark Brahma Pootra, 1*l.* 1*s.* ditto; Light ditto, 1*l.* 1*s.* ditto; Buff Cochin, 1*l.* 1*s.* ditto; Crève Cœur, 12*s.* ditto; Old Scotch Grey, 12*s.* ditto; American Turkeys, 1*l.* 1*s.* ditto; Black Norfolk ditto, 15*s.* ditto; Rouen Ducks, 15*s.* ditto; Toulouse Geese, 15*s.* ditto.

Also, a few pens of Young Birds of these varieties.

Apply to JAMES M'EWEN, Cottage, Inchmartin, Inchture, N.B.

CAMELLIAS, AZALEAS, ROSES, &c., FROM BELGIUM, AND A COLLECTION OF PINE CONES, FROM MEXICO.

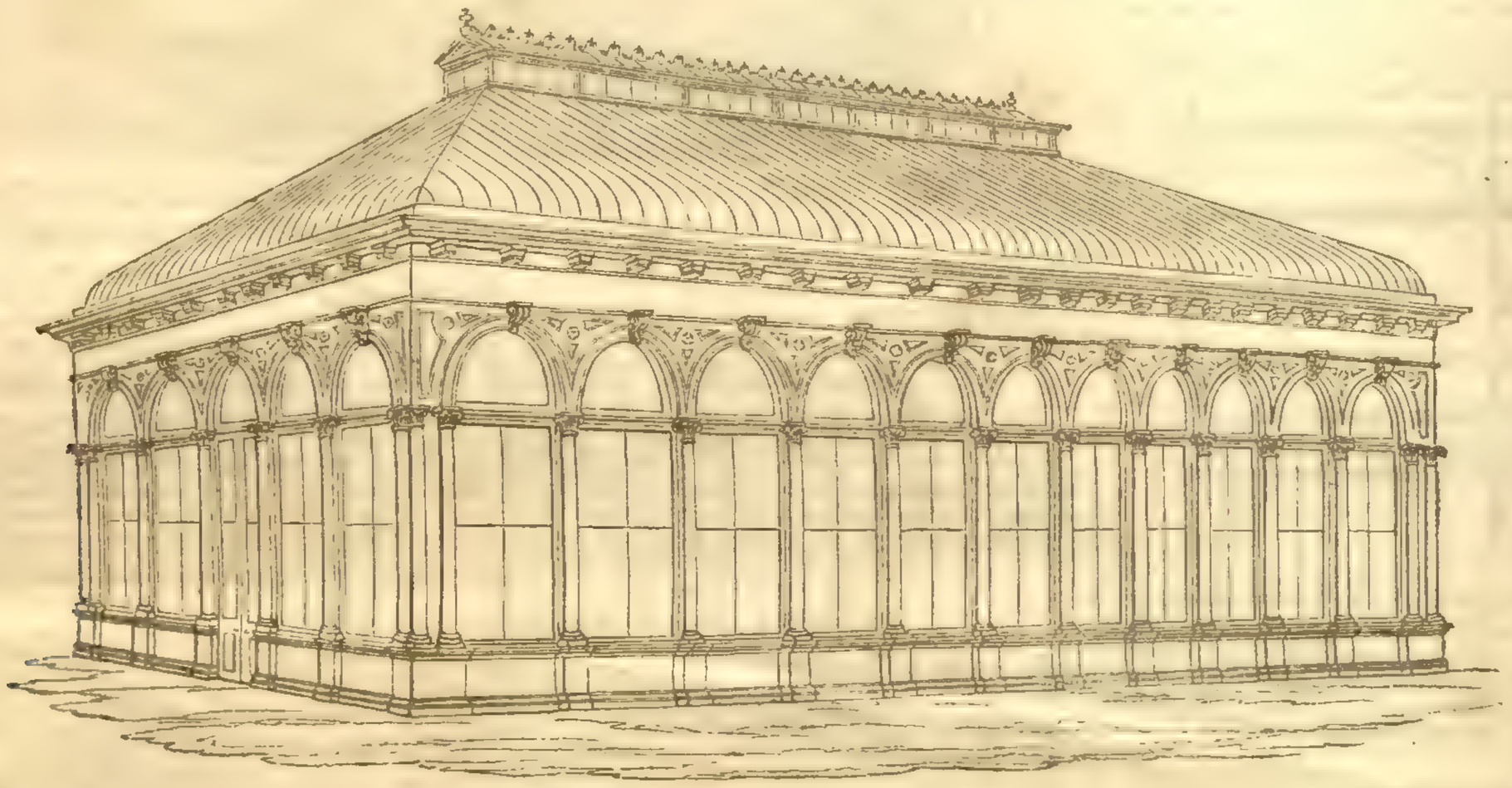
MR. J. C. STEVENS will Sell by Auction at his GREAT ROOM, 38, King Street, Covent Garden, on WEDNESDAY, February 9, at half-past 12 precisely, 300 CAMELLIAS, well set with buds; 300 INDIAN AZALEAS, of the best sorts, ditto; 500 Standard and Half-standard Perpetual ROSES; 500 strong Bulbs of GLADIOLUS GANDAVENSIS; and a Collection of 100 species of PINE CONES from Mexico, with a branch to each (in one lot).—May be viewed on the morning of sale, and Catalogues had; if for the country, by enclosing a stamped directed envelope.

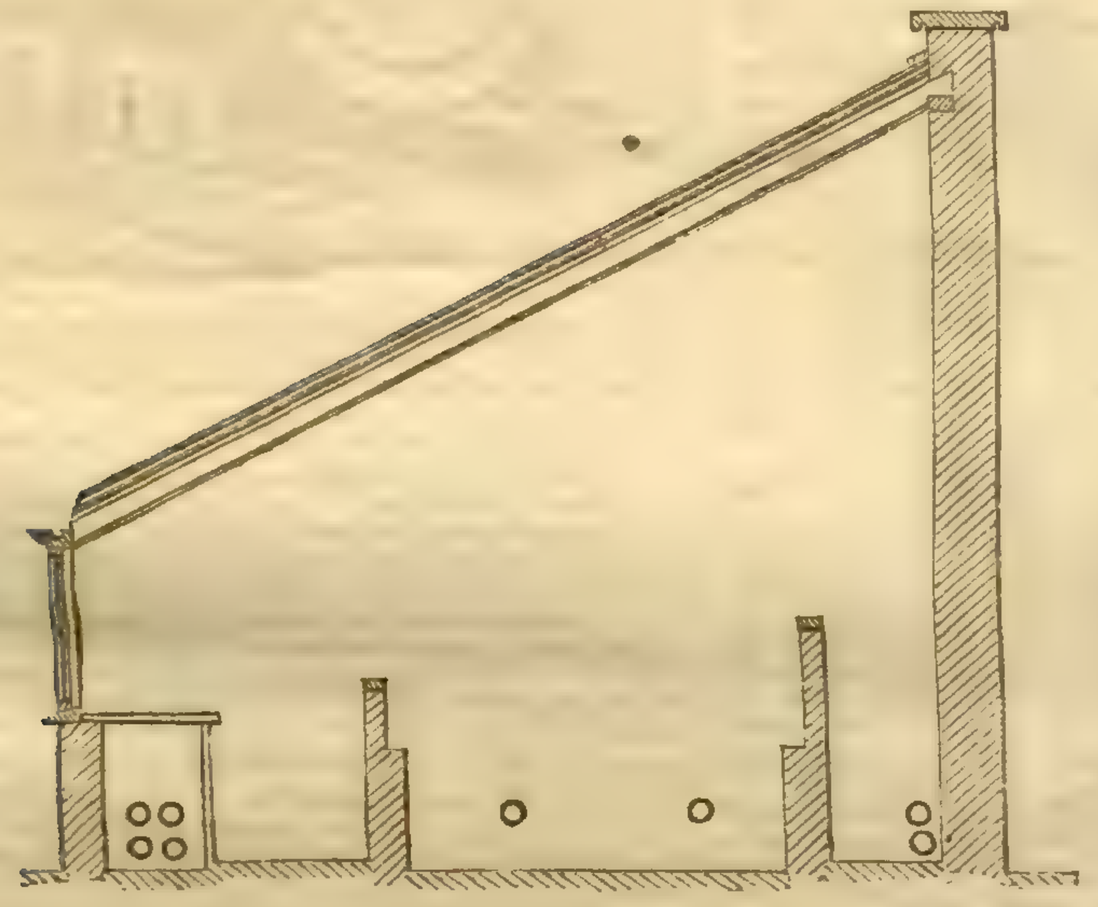


No. 1.—CUCUMBER AND MELON PIT, 10 ft. wide.

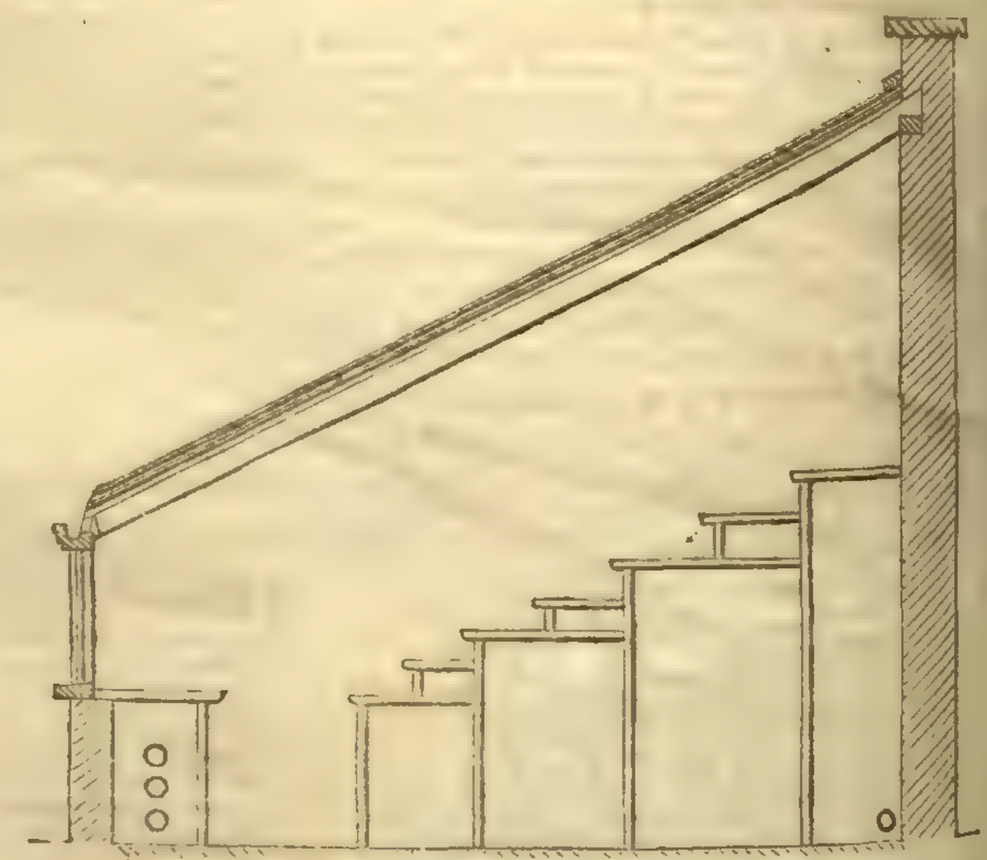
No. 7.—FORCING HOUSE, from 18 to 20 ft. wide.

No. 2.—PINE PIT 14 ft. wide.





No. 8.—PINE STOVE, from 15 to 18 ft. wide.



No. 8.—GREEN HOUSE, from 14 to 18 feet wide.


**HORTICULTURAL BUILDINGS MANUFACTURED BY STEAM POWER MACHIN**

**BEST MATERIALS AND LOWEST PRICES.**

# HENRY ORMSON,

## HORTICULTURAL BUILDER & HOT-WATER APPARATUS MANUFACTURER,

### STANLEY BRIDGE, KING'S ROAD, CHELSEA, LONDON,

Deeply grateful for the very liberal and kind patronage bestowed upon him since his commencement on his own account, begs most respect inform the Nobility, Gentry, Nurserymen, &c., that it being his determination to spare no pains to merit a continuance of their favours, and that be enabled to execute his extensive and increasing orders punctually, and at the lowest possible cost (agreeably with the best Materials and Workman has erected a most complete set of Steam Power Machines, peculiarly adapted for the purposes of his Trade.

PARTIES DESIRING INFORMATION as to prices, &c., will, by referring to any of the above sections, or Elevation, receive immediate attention.

PLANS, SPECIFICATIONS, and ESTIMATES for plain and inexpensive practical Structures, and for the most elaborate Architectural Erections, Wood or Iron, forwarded on application.

**N.B. ORMSON'S Patent, Jointless, Tubular Boilers of all sizes, always on view and for sale at**

**THE MANUFACTORY.**


Editorial Communications should be addressed to "The Editor"—Advertisements and Business Letters to "The Publisher"—at the Office, 5, Upper Wellington Street, Covent Garden, London, W.C.
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# THE GARDENERS' CHRONICLE
AND
# AGRICULTURAL GAZETTE.

**A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.**

No. 6.—1859.] SATURDAY, FEBRUARY 5. {Price Fivepence. STAMPED EDITION, 6*d*.


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ALEXANDER FORSYTH, LANDSCAPE GARDENER, 17, Islington Square, Salford, Manchester.

THE PLYMOUTH SEED, AGRICULTURAL IMPLEMENT, AND MANURE COMPANY (LIMITED) supply every requisite for the Farm and the Garden.
Registered Offices, Union Road, Plymouth.

SEEDS FOR THE FARM.

THE PLYMOUTH SEED, AGRICULTURAL IMPLEMENT, AND MANURE COMPANY, LIMITED, beg to announce that their SPRING LIST OF FARM SEEDS is now ready. The same will be sent free to any address, on application to the Secretary by letter or otherwise, at the Company's Offices, Plymouth.—Feb. 5.

EARLY CUCUMBER.

CARTER'S EARLY CHAMPION CUCUMBER, price 3*s*. per oz., to be had in any quantity of J. G. WAITE, Seed Establishment, 181, High Holborn, London, W.C.

CHAMPION CABBAGE can be had in any quantity at 2*s*. per lb.
J. G. WAITE, Seed Establishment, 181, High Holborn, London.

DODECATHEON ELEGANS.

DOWNIE AND LAIRD have a large healthy stock of the above beautiful, hardy, herbaceous Plant, which they offer to the trade at 25*s*. per 100.
17, Frederick Street, Edinburgh.

CHOICE NEW GLADIOLI.

CHARLES ALEXANDER, 30, West Register Street, Edinburgh, has a fine STOCK of the above from France and Holland.—Descriptive Priced Lists free on application.

NEW PELARGONIUM QUEEN OF THE ISLES.—This was a seedling from Larkfield Rival, crossed with Virgin Queen: it is a white, with medium-sized black blotch in top petals, a very large stout round flower, free blooming and good truss, price 7*s*. 6*d*. Strong plants of Larkfield Rival, 2*s*. 6*d*.; also the fancy varieties—Mrs. Turner and Acme, 3*s*. each. Discount to the trade.
ISAAC DAVIES, Larkfield Nursery, Wavertree, near Liverpool.

HOLCUS SACCHARATUS, or North China Sugar-Cane, 2*s*. per lb. Pamphlet, "A Visit and a Plant;" or Hints on the Cultivation of the above, and its Uses. Post free 1*d*., or gratuitous with all orders for 10 lbs. and upwards.
DIOSCOREA BATATAS, or Chinese Yam; strong roots, 4*s*. per dozen; with directions for cultivation.
JOHN W. CLARKE, Whittlesea, Cambridgeshire.

EARLY OXFORD POTATOES,

FOR SALE, about 20 Tons of the above at 5*l*. per Ton, in large or small quantities.—Apply to Mr. R. RICHARDSON, Cottenham Park, Wimbledon, Surrey.

THE EARLIEST ASH-LEAVED KIDNEY POTATOES.—For the true early short-top Lancashire kind, unsurpassed for forcing and early borders, price 16*s*. per cwt., apply to JAS. TYNAN, Seedsman, 68, Great George St., Liverpool.

EARLY POTATOES FOR SEED.—A quantity of German and Dutch SILVERSKINS, just imported, quite free from disease, price 10*s*. per bushel, package included. Country orders require a remittance or a reference in London.—Address, T. CHAMBERLAYNE, Hungerford Wharf, W.C.

EARLY POTATOES, LEMON KIDNEYS.—Selected Seed of this choice and early variety (*vide* article in "Royal Agricultural Journal," Part I., Vol. xviii.), may now be had on application to the Author's Bailiff, JOHN HELM, Morecombe, near Lancaster, price 2*s*. 6*d*. per stone.
N.B. A reserve of seed has been retained from sprouting for the purpose of supplying late orders. Copies of the article (third edition) may be had from the above address, price by post, 1*s*. 1*d*.

BEST POTATO IN THE WORLD—IMPERIAL KIDNEY.

MR. WEBB, of Calcot, having succeeded in raising a quantity of the above excellent POTATO, begs to offer it to the public as the Best of its Class in every respect. Its quality cannot be surpassed, its yield most abundant, and its size from 2 inches to 9 inches long. Price 16*s*. per bushel, and no less quantity than 1 bushel disposed of. Also about 3000 true KENTISH COB NUT Trees from 2 to 4 feet high.—Apply to Messrs. JOSH MAY & Co., 1, Wellington Street, Strand, or to Mr. WEBB, Calcot, near Reading, Berks.

POTATOES FOR EARLY PLANTING.

MYATT'S PROLIFIC SEEDLING ASH-LEAF KIDNEY.—For description of this valuable variety, which has again given such universal satisfaction, see Dr. Lindley's Report in the *Gardeners' Chronicle* of August 1, 1857, at the Horticultural Society's Garden, wherein it is described as a "better cropper than the old Ash-Leaf, and one of the best early kinds." Price per bushel, 7*s*. To be had of Mr. J. MYATT, Evesham; or of Mr. J. MYATT, Camberwell. A small quantity of Yellow Globe Mangel Seed saved from large selected roots for stock. The trade on application.

FRESH IMPORTED GERMAN FLOWER SEEDS (post free).

SUTTON AND SONS, Reading, Berks, have just received a choice importation of GERMAN FLOWER SEEDS, a List of which will be sent gratis and post free on application.

PURCHASERS OF LARGE QUANTITIES OF FARM AND GARDEN SEEDS will be treated liberally on application to SUTTON & SONS, Royal Berkshire Seed Establishment, Reading.

GEORGE JACKMAN AND SON'S PRICED and DESCRIPTIVE CATALOGUE of GENERAL NURSERY STOCK for 1858 and 1859 can be had free on application.
Woking Nursery, Woking, Surrey.

GEORGE BAKER begs to inform the Nobility and Public that his DESCRIPTIVE CATALOGUE OF AMERICAN PLANTS AND GENERAL NURSERY STOCK will be sent free on application.
American Nursery, Windlesham, near Bagshot, Surrey, about 1 mile from Sunningdale Station, South Western Railway.

WILLIAM YOUNG'S DESCRIPTIVE CATALOGUE OF NEW HARDY ORNAMENTAL PLANTS, CONIFERÆ, ROSES, RHODODENDRONS, FOREST TREES, &c. Can be had on application.—Milford Nurseries, Godalming.

JOHN GRIER'S NEW PRICED CATALOGUE, with brief descriptive and cultural remarks of a selection of TREES, SHRUBS, and PLANTS, may be had upon application by enclosing One Stamp for Postage.—Waterhead Nursery, Ambleside, Feb. 5.

KITCHEN GARDEN SEEDS.

JOHN CATTELL begs respectfully to announce that his CATALOGUE of the above may be had free by return of Post. It contains selections of the most approved culinary vegetables in cultivation, nearly the whole of them having been saved under J. C.'s own personal superintendence.—Nursery and Seed Establishment, Westerham, Kent.

NEW DAHLIAS.

JOHN KEYNES'S SELECT CATALOGUE OF DAHLIAS, ROSES, CARNATIONS, PINKS, &c., containing Lists of all the valuable Show Flowers in each class, is now ready and will be sent on application.
Castle Street Nursery, Salisbury.—Feb. 5.

THE GREAT VINE AT HAMPTON COURT.

THE SUBSCRIBERS being the holders of the Royal Kitchen Gardens, Hampton Court, are enabled to offer genuine the famous and truly excellent HAMPTON COURT BLACK HAMBURGH GRAPE.
Strong well-ripened plants in 9-inch pots, 42*s*. and 60*s*. per doz.
" " fruiting plants in 12-inch pots, 10*s*. 6*d*. each.
If purchased in large numbers a considerable reduction will be made in price.—JACKSON & SON, Nurseries, Kingston, S.W.

TO THE LOVERS OF DELICIOUS FRUIT.

ORION MELON.—Six old Seeds out of the only fruit that ever won four prizes at two shows, viz., Crystal Palace and Regent Street, for weight and flavour, free by post to all parts of the world on receipt of 12 penny stamps.
THOS WILD, the Primulary, Ipswich.

THE NEW ZEALAND RUNNER BEAN.

CHARLES TURNER has purchased Mr. Smith's Stock of this remarkable BEAN, which Professor Lindley has pronounced to be identical with the variety named above. In 2*s*. 6*d*. packets, containing 20 Beans. The Trade supplied on the usual terms.—The Royal Nurseries, Slough.

LAING'S MAMMOTH RED CELERY.—The largest and best flavoured Celery known, and will not run to seed until the second year. (See former advertisement.)
Packets, 1*s*. each; large trade do., 3*s*. 6*d*., per post prepaid. Stamps received in payment.
YOUELL & Co., Royal Nursery, Great Yarmouth.

JOHN CULVERWELL, Taunton, begs to call the attention of Agriculturists to his superior selection of GRASS SEEDS, which for PURITY, change of SOIL, and CLIMATE, will bear comparison with any house in the kingdom. Prices, terms, and samples forwarded on application.

PERENNIAL AND ITALIAN RYE-GRASS.

MCBLAIN AND CO., SEEDSMEN, Newry, Ireland, offer to the Trade PERENNIAL AND ITALIAN RYE-GRASS of every description. Samples and offers on application.

PAMPAS GRASS (GYNERIUM ARGENTEUM).—The beauty of this extraordinary plant has this season been fully appreciated. It can be supplied by the dozen, hundred, or thousand, by CHARLES NOBLE, Bagshot, Surrey.

GIANT SAINFOIN SEED.—Seed of this excellent and productive Plant may be had of RAYNBIRD & HARVEY, Basingstoke, and 89, Seed Market, Mark Lane. Samples and prices on application.
N.B. R. & H. can also supply Common Sainfoin both of English and French growth at market prices.

SUTTON'S ELVETHAN MANGEL WURZEL, and SELECTED YELLOW GLOBE.—These two sorts of Mangel are still preferred to all others by the principal root-growers throughout the kingdom. SUTTON & SONS have some fine seed of each sort, at very moderate prices. Price Lists may be had post free.—Royal Berkshire Seed Establishment.

GIANT DRUMHEAD CABBAGE SEED FOR SALE.—New seed grown with great care, to be had in 14 lb. bags, at 15*s*. per bag, or 4*l*. 5*s*. 6*d*. per cwt., free to London. All orders to be prepaid by Post-office Orders on Maidstone Office. The Advertiser has also 6 acres of Cabbage growing of the above stock open to inspection, and would like to treat for a part or the whole of the produce thereof.—Address H. STONHAM, Detling, Maidstone, Kent.

HUDSON'S GOLDEN MELON BARLEY.—Selected Samples for Seed of this most valuable variety, superior both for produce and malting quality, may be had of RAYNBIRD & HARVEY, of Basingstoke; and 89, Seed Market, Mark Lane, E.C.

FIVE SILVER CUPS
WERE AWARDED TO
A. PAUL AND SON, NURSERYMEN, Cheshunt, Herts, for five Collections of ROSES at the Grand National Rose Show held in St. James's Hall, London, in July. Also FIVE FIRST PRIZES at the Royal Botanic Society's Shows in May and June last. The sorts which won these prizes are now offered at 18*s*. to 24*s*. per dozen for standards, 12*s*. to 18*s*. per dozen for dwarfs. A PRICED DESCRIPTIVE CATALOGUE forwarded on application, post free.

TO THE TRADE.—MAGNIFICENT DWARF-TRAINED PEACHES, NECTARINES, AND APRICOTS.

WM. WOOD AND SON refer with pleasure to their truly superb and extensive stock of the above, which for growth and quality are quite unsurpassed, each tree being furnished with from 9 to 12 branches, well ripened and admirably trained. Also very fine Dwarf Maiden NECTARINES.
The Trade supplied on advantageous terms.
Woodlands Nursery, Maresfield, near Uckfield, Sussex.

CONIFERÆ.

A. PAUL AND SON have a large stock of the above, very handsome, in fine order for removal, many suited for immediate effect. For particulars see Advertisements in *Gardeners' Chronicle* of November and December last.—Nurseries, Cheshunt, Herts.

TO PLANTERS.—Fine stock of Larch, 1½ to 3 feet; Scotch Firs, 1½ to 2 feet; Beech, 1½ to 4 feet; Elms, 3 to 6 feet; Evergreen Privets, Common Hollies, 1 to 1½ foot; fine Healthy Plants, with all other kinds of Nursery Stock. Samples and price on application to JOHN SCHOLEY, Pontefract Nurseries.

COMMON LAURELS FOR IMMEDIATE EFFECT.

THE SUBSCRIBERS beg to offer their immense Stock of the above, strong transplanted bushy plants grown singly, 1½ to 2½ ft., 3*l*. 10*s*.; 3 ft., 5*l*.; 3 to 4 and 5 ft., 6*l*. per 1000, and all other Nursery Stock equally reasonable. Prices on application.—WM. JACKSON & Co., Nurseries, Bedale, Yorkshire.

A VERY LARGE STOCK OF

FINE COMMON LAURELS, 1, 2, and 3 feet high, bushy and a good colour. Also very strong transplanted true Evergreen Privet, 3 to 6 feet.—Prices moderate on application to WILLIAM WOOD & SON, Woodlands Nursery, Maresfield, near Uckfield, Sussex.

NURSERY STOCK.

THE Subscribers are disposing of their extensive stock of Seedling and Transplanted Forest Trees, Ornamental Trees, Evergreen and Deciduous Shrubs, Standard and Dwarf-trained Fruit Trees, Gooseberries and Currants, &c., at prices considerably reduced in consequence of dissolving partnership.—Priced Lists may be had on application.
Glasgow, Feb. 5. FOWLER & WRIGHT.

HALF A MILLION ONE-YEAR SEEDLING OAKS
(STRONG AND STOUT).

JAMES MELDRUM, NURSERYMAN, Kendal, Westmoreland, offers the above in quantities to suit purchasers. Price reasonable, on application.

THREE MILLIONS OF TRANSPLANTED QUICKS.

GEORGE CHIVAS, Chester, offers the above to the notice of Planters, which for extent and quality he believes are unequalled in the kingdom. A Sample Bale containing 100 of each five sizes forwarded on receipt of a Post-office Order for 15*s*. Truck loads delivered free at any Railway Station having through communication with Chester.

500,000 EXTRA FINE TRANSPLANTED LARCH FIR, from 1 to 5 feet. Also SPANISH CHESNUTS.—Samples and Prices can be had on application to WM. WOOD & SON, Woodlands Nursery, Maresfield, near Uckfield, Sussex.

TO THE TRADE

2000 yards of superior DWARF BOX for Edging.
Price on application.
CURRANT AND GOOSEBERRY TREES, 16*s*. per 100.
JAMES HOLDER, Nurseryman, Reading, Berks.

TO NURSERYMEN.

3,000,000 RHODODENDRONS, 2, 3, 4, and 5 years old; small and strong Portugal and Common Laurel, small Red Cedar, Chinese Arbor-Vitæ, Berberis, &c.; layers of Erica Alporti, vulgaris, alba carnea, and many other things to be sold very cheap.
For price, apply to JAMES SMITH, Darley Dale Nursery, near Matlock.—Feb. 5.

ON SALE, or in EXCHANGE for VINES, about 200 PINE PLANTS, 1 and 2 years old.—Apply to Mr. J. HARGREAVES, High Street Gardens, Lancaster.

LANCASHIRE SHOW GOOSEBERRIES True.—Selected varieties, the heaviest and finest flavoured from our unrivalled stock, 6*s*. per dozen; Black Currants, 2*s*. per dozen; Red Currants, 3*s*. per dozen; White Currants, 3*s*. per dozen, the finest varieties.—HOLLAND, DODWELL & BAYLEY, Bradshaw Gardens, Chadderton, Manchester.

PLANTS IN FLOWER.

F. AND A. SMITH have now in bloom Acacia, Azalea indica, Cinerarias (fine), Cytisus, Dielytra spectabilis, Erica Willmoreana, E. perspicua nana, E. Syndriana, Geraniums, Fairy Roses, Primula sinensis fimbriata, &c.
The above are healthy, strong and well-grown plants, prepared for sending away. Prices on application.
Dulwich, Surrey, S.

GARDEN SEEDS.

WILLIAM P. LAIRD, NURSERYMAN and SEEDSMAN, Dundee, is now prepared to execute orders for GARDEN AND FLOWER SEEDS. He can particularly recommend his stocks of Cauliflower, true Musselburgh Leek, Dwarf Red Beet, Brussels Sprouts, Broccoli and Cabbage of sorts, these having been carefully saved by himself and by gardeners specially for him.
Lists of Seeds and Plants sent on application.

## BULBS FOR SPRING PLANTING.

BASS AND BROWN have pleasure in offering as under, all strong and fine roots for flower.

GLADIOLUS.—12 fine Ramosus Hybrids for 10*s*. These grow 2 feet in height, richly marked and striped, and flower from August to the approach of winter; they are best planted without delay to secure their flowering early. 15 choice Gandavensis Hybrids for 15*s*., which flower from August to October. Gandavensis, per doz., 2*s*. 6*d*.; Floribundus, per doz., 2*s*. 6*d*.

RANUNCULUS.—Fine Border varieties mixed, 4*s*. per 100. Very fine mixed, 10*s*. per 100; Œil Noir, the best black, 7*s*. 6*d*. per dozen. Turbans, of separate colours, see Catalogue. Ranunculi priced 10*s*. per 100 or upwards will be supplied free by post.

ANEMONES.—10 choice varieties of rich colour, six roots of each for clumping, 10*s*. 6*d*., or three roots of each for 6*s*. Finest Mixed Double Scarlets, 1*s*. 6*d*. per dozen. La Brillante Eclatante, bright single scarlet, 7*s*. 6*d*. per 100, or 1*s*. per doz. Fine new mixed single, 4*s*. per 100.

LILIUMS.—Lancifolium album, flowering roots, 1*s*. each, extra strong, 1*s*. 6*d*. to 2*s*. 6*d*.; Lancifolium rubrum, do., 2*s*. 6*d*. each; extra strong, 5*s*. each; testaceum, very beautiful spikes of pendent yellow flowers, each, 3*s*. 6*d*. Six beautiful varieties, including the above, for 10*s*. Giganteum, a large noble variety, 5*s*. to 10*s*. 6*d*. each.

Tigridia pavonia, 2*s*. 6*d*. per doz., or 18*s*. per 100.
" canariensis, 9*d*. each; cœlestis, 1*s*. each.
Tritonea aurea, fine strong roots, 1*s*. 6*d*. each; 15*s*. per dozen.
Tuberoses, double Italian, 4*s*. per dozen.

Also a great variety of other roots for spring planting, comprising Oxalis, Amaryllis, Cypella, Pancratium, Rigidilla, &c. &c. See No. III. Catalogue.

Goods (20*s*. and upwards) carriage free to all stations in London, &c., see Catalogue, and with orders of 40*s*. and upwards extra roots or plants added gratis.

Post-office Orders payable to BASS & BROWN, or to STEPHEN BROWN. Remittances required from unknown correspondents.

Seed and Nursery Establishment, Sudbury, Suffolk.

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CARTER'S SELECT LIST OF NOVELTIES OF MERIT FOR 1859.—The subjoined LIST OF SEEDS we have selected for recommendation from the general body of our Catalogue, as being either desirable new varieties, or old-established favourites highly improved by careful cultivation. All the undermentioned, whether saved in England or on the Continent, may be depended on as true to description; we have travelled the Continent during the past Autumn, and seen the plants in a growing state. The numbers prefixed refer to their position in our Catalogue.

(1891) CARTER'S TOM THUMB NASTURTIUM (Plate No. 5).—A new variety in colour and habit, particularly adapted for bedding, and also for growing in pots and ornamental vases; is the same colour as Tom Thumb Geranium, and the flowers are well thrown up above the foliage; very dwarf and compact in habit.

(1890) NEW DWARF SPOTTED NASTURTIUM (Plate No. 5).—This variety was offered last year for the first time, colour a bright golden orange, with a chocolate blotch at the base of each petal; habit the same as Tom Thumb, with which it harmonises admirably, their colours contrasting most brilliantly; both sorts are admirably adapted for bedding, as they continue in bloom for three months, or even more.

(1265) ŒNOTHERA DRUMMONDI NANA (Plate No. 2).—As its name indicates, it is a dwarf variety from Drummondi, introduced by us from Texas three years since. We had the pleasure of offering it last year; and the results have been most gratifying. It grows about 8 inches high, and is covered with a profusion of bright yellow flowers, many of which measure 4 inches in diameter; it continues in bloom from June to November.

(1246) NOLANA PARADOXA VIOLACEA (Plate No. 5).—The Nolana has long been a favourite annual; and this new variety is particularly pleasing; the flowers are larger than those of the old paradoxa; colour rosy violet.

(1122) LUPINUS HARTWEGI CŒLESTINUS (Plate No. 5)—This new variety is very distinct from all other kinds of Lupines, grows 1½ ft. high; colour, a delicate sky-blue, with pink edgings.

(773) FENZLIA DIANTHIFLORA (Plate No. 5). — This lovely Annual is of a beautiful rose-lilac colour, having five dark blood-coloured spots surrounding an orange-coloured eye in centre of each flower; it is of a very dwarf and compact habit, producing blossoms in profusion: it blooms through the summer months, and continues long in flower if sufficiently supplied with moisture. It has a fine effect in small beds, and is also well adapted for growing in pots or boxes for greenhouse decoration.

(1262) ŒNOTHERA BISTORTA VEITCHI (Plate No. 5).—This beautiful Œnothera is of a brilliant yellow colour with a blood-coloured spot at the base of each petal; it is one of the very best yellow-flowering plants for either bedding or rock-work, continuing in bloom nearly four months. It is figured, and highly commended by Sir W. J. Hooker, in Curtis's "Botanical Magazine" of October 1858.

(1821) NEW MINIATURE STRIPED GOURD (Lagenaria vittata, Plate No. 5).—A remarkably handsome miniature species of the old Bottle Gourd, particularly adapted for ornamental trellis-work or the conservatory: the fruit when full grown is about 3 inches in circumference, shape very symmetrical, the neck and upper portion of the body are of a bright orange colour, and the lower half of a deep laurel green: it has also regular stripes of a cream colour from the apex to the base equidistant, about a quarter of an inch; will succeed well in any warm situation.

(785) GAILLARDIA HYBRIDA GRANDIFLORA (Plate No. 5).—This truly magnificent hardy herbaceous perennial blooms the first year, has been hitherto offered in plants only; it is the result of an hybridisation between Gaillardia aristata and picta, having the robust habit of the former with the brilliant colour of the latter: the flowers are nearly double the size of the old picta; and the plant is without doubt the finest of its class.

(310) COSMIDIUM BURRIDGI (Plate No. 6).—This we consider we are justified in stating to be the handsomest of the showy tribe of Coreopsis; the blossoms are large, and the form a deep crimson copper with a broad margin of gold.

(1901) LOBELIA FORMOSA (Plate No. 6).—A large beautiful deep blue variety of Lobelia, very dwarf in habit and well adapted for bedding.

(1133) LUPINUS NANUS ALBUS.—The old Lupinus nanus has long been a favourite for its neat appearance and general adaptability for bedding; and this, a white variety, forms a very agreeable contrast with it.

(1708) VISCARIA CŒLI-ROSA ALBA (Plate No. 6)—This is a pure white variety of the Old Viscaria coeli-rosa; forms an admirable edging, and beds excellently well.

(1711) VISCARIA DUNNETTI (Plate No. 6).—A new variety of the much-admired "oculata;" colour rosy blush with a dark eye: its general appearance is very attractive; and we can highly recommend it.

(1864) MARIGOLD, tall French Orange (Plate No. 6).—A fine tall Orange Double French Marigold, distinct from the old French varieties, having the beautiful colour of the Orange African; the petals are very broad.

JAMES CARTER AND CO., 238, High Holborn, W.C.

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CRYSTAL PALACE.—TO FLORISTS.—The Directors are desirous of receiving TENDERS for the occupation of a Piece of Ground containing rather more than 4 acres, situated between Thicket's Lane, and the Crystal Palace Branch Railway, immediately adjoining the Park, as a FLOWER GARDEN, in connection with a Stall in the Palace, for the sale of Flowers in Pots, Cut Flowers, Bouquets, &c. Further particulars may be obtained at the Secretary's Office, Crystal Palace.

By Order,
GEO. GROVE, Sec.

Crystal Palace, Feb. 5.

*** The above is well worth the notice of any Country Nurseryman wishing to obtain a connection in London.

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## GRAPE VINES FROM EYES.

JOHN AND CHARLES LEE beg to offer an immense stock of strong well-ripened VINES FROM EYES, of the following kinds:—

Alicant
Barbarossa
Bidwell's Seedling
Black Cluster
Black Constantia
Black Prince
Blanche Vigne
Calabrian Raisin
Charlsworth Tokay
Chasselas Frocklaboulay
Chasselas Musqué
Duzetto
Esperione
Frontignan, black
" grizzly
" white
Hamburgh, black
" Champion
" Dutch
" golden
" Mill Hill
Hamburgh, Pope's
" Victoria
Hâtif de Jura
Isabella
Lady Down's Seedling
Marchioness of Hastings
Muscadine, Royal
" Parsley leaved
Muscat, August
" Bowood
" Cannon Hall
" Hamburgh
" Noir Hâtif
" of Alexandria
" of Fontainebleau
Pitmaston Cluster white
Raisin des Carmes
Syrian
Trebiana
Trentham Black
Tripoli
West's St. Peter's

Nursery and Seed Establishment, Hammersmith, London.

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R. M. STARK, SEEDSMAN, &c., 31, Castle Street, Edinburgh, begs to intimate that his CATALOGUE OF GARDEN, FARM, AND FLOWER SEEDS for the Season is now ready. Of the numerous interesting additions to his Stock he would especially notice the following:—Peas: Champion of Scotland, Excelsior Marrow, Dunnett's First Early. Broccoli: Penzance and Snow's Superb. Cabbage: Champion and Shepherd's Marrow. Lettuce: Crystal and Superb White Cos. Potatoes of fine sorts, &c. &c.

| FLOWER SEEDS. | Per pkt—*s*. | *d*. |
|---|---|---|
| Bravoa geminiflora, beautiful Iris-like plant, with spikes of rich orange waxy flowers | 0 | 6 |
| Brizopyrum siculum, very ornamental Grass | 1 | 6 |
| Callirhoe pedata (Malvaceæ), crimson with white eye, fine | 2 | 6 |
| Chrysobactron Hookeri, fine new Asphodel from New Zealand | 1 | 0 |
| Datura humilis fl. flavo pl., from Texas, flowers golden yellow | 2 | 6 |
| Eryngium yuccæfolium, fine hardy species | 1 | 6 |
| Fenzlia (Gilia) dianthoides, rosy pink | 2 | 6 |
| Lupinus Menziesi, new yellow species | 1 | 0 |
| Portulacca caryophylloides | 1 | 0 |
| Solanum capsicastrum, ornamental fruit suitable for pot | 1 | 0 |
| Stock, Stark's intermediate, brighter in colour than Young's | 1 | 0 |
| Trifolium tomentosum, ornamental dwarf species with woolly heads | 0 | 6 |
| Zinnia elegans striata | 0 | 6 |

With many others of equal interest purchased or collected on the Continent by R. M. S. in the course of last season.

Edinburgh, Feb. 5.

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## TO THE TRADE.

JOHN PALMER, NURSERYMAN, Annan, begs leave to inform his Friends and the Trade generally, that he has on hand the following—all of excellent quality—which he is disposed to offer on very reasonable Terms:—

### SEEDLINGS.

4,000,000 1-year Larch
1,000,000 2-year Scotch Fir.
1,000,000 2-year Spruce
200,000 1-year Beech
300,000 1-year Alder
300,000 1-year Oak, drills
100,000 1-year Turkey Oak, drills
100,000 1-year Spanish Chesnuts, drills
100,000 1-year Horse Chesnuts, drills
200,000 2-year Ash, drills
40,000 1-year Laburnum drills
100,000 2 year Weymouth Pine
100,000 1-year Pear stocks, drills
100,000 1-year Crab stocks, drills
100,000 1-year Wild Cherry stocks, drills
100,000 1-year Portugal Laurel
200,000 1-year Yew
50,000 1-year bedded American Arbor-vitæ
20,000 bedded common Laurel
20,000 bedded Portugal Laurel

### TRANSPLANTED.

300,000 2-year tr. Larch
100,000 2-year tr. Scotch Fir
100,000 2-year tr. Spruce
400,000 2-year tr. Thorns

Prices to be had on application, and all orders will be promptly and carefully attended to. Carriage will be prepaid to London, Liverpool, Birmingham, Newcastle, Glasgow, and Edinburgh, and the half thereof charged to the buyer.

### SEEDLING FOREST TREES, &c.

| | | | Per 1000.—*s*. | *d*. |
|---|---|---|---|---|
| 3,000,000 | 1-year | Larch | 1 | 0 |
| 1,000,000 | " | Scotch Fir | 0 | 10 |
| 300,000 | " | Alder | 1 | 0 |
| 200,000 | " | Birch | 1 | 6 |
| 200,000 | " | Elms | 1 | 6 |
| 150,000 | " | Ash | 1 | 6 |
| 100,000 | " | Sycamore | 1 | 6 |
| 300,000 | " | English Oak | 2 | 6 |
| 10,000 | " | Evergreen Oak | 40 | 0 |
| 20,000 | " | Horse Chesnut | 5 | 0 |
| 40,000 | " | Chinese Arbor-vitæ | 10 | 0 |
| 70,000 | " | Cupressus horizontalis | 8 | 0 |
| 80,000 | " | Pinus Laricio | 10 | 0 |
| 100,000 | " | Pinus austriaca | 6 | 0 |
| 300,000 | " | Pinus maritima | 2 | 6 |
| 20,000 | " | Common Laurel | 17 | 6 |
| 20,000 | " | Crab Apple | 3 | 6 |
| 250,000 | " | Quick | 2 | 0 |
| 10,000 | " | Laburnum | 2 | 6 |
| 10,000 | 2-year | do. | 4 | 0 |
| 1,000,000 | " | Norway Spruce Fir | 1 | 6 |
| 40,000 | " | White Spruce Fir | 4 | 0 |
| 50,000 | 3-year | Silver Fir | 7 | 0 |
| 800,000 | 2 " | Scotch Fir | 1 | 6 |
| 100,000 | 1 " | bedded Scotch Fir | 2 | 6 |
| 100,000 | 2 " | Beech | 3 | 0 |
| 60,000 | 2 " | Birch | 3 | 0 |
| 30,000 | 2 " | Alder | 3 | 0 |

The Subscriber begs to call attention of his friends and the public in general to the above stock of SEEDLINGS, and is happy to intimate to them that they are generally fine in quality, and trusts they will give satisfaction. Any orders, large or small, will be promply attended to. All delivered free of expense at Dublin, and thence half carriage paid to any part of England, &c.—Apply to MICHAEL BURKE, Drumlargan Nursery, Summerhill, county Meath, Ireland.

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THE PRIMULARY.—Expressly for the cultivation of Latter's superb Semi-double Fimbriated PRIMROSES of world-wide celebrity, with all improvements in size, shape, substance, and ... packets, post free, to all parts of the world on receipt of ... in stamps.

THOMAS WILD, The Primulary, Handford Road, ...

---

WANTED, the ADDRESSES of the ... Market Gardeners who Grow for ... Market Choice Vegetables and Fruit, such as

| | |
|---|---|
| Asparagus | Pine Apples |
| Cucumbers | Grapes |
| Mushrooms | New Potatoes |
| Brussels Sprouts | Seakale, &c. |

Address Box P. 5, General Post Office, Liverpool.

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## THE GARDEN.

IN THE CATALOGUE OF VEGETABLE AND FLOWER SEEDS issued by W. DRUMMOND, Stirling, the intelligent gardener will be gratified to ... system of inserting only the best and really distinct ... the various classes still strictly adhered to; and ... but correct descriptions affixed thereto, as well as ... simplicity of the whole, it will be found a ready ... amateur in making a suitable selection.

W. D. & SONS will, on application, be glad to forward ... of their Catalogue, post free, to any address.

Stirling is most favourably placed in point of railway ... modation, there being direct and constant traffic ... principal stations in Scotland and England, and ... (*vid* Glasgow) almost daily to the chief ports in Ireland ... insuring a speedy delivery of goods, all of which ... limited exception, forwarded carriage paid.

W. DRUMMOND & SONS: Seed Warehouse, Stirling, ... and 58, Dawson Street, Dublin.

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UNEQUALLED NEW CUCUMBER LIVINGSTONE.—This is one of the finest long Cucumbers for exhibition purposes that has ever ... offered to the public; it is a splendid black spine, ... 26 inches, a very free setter, and an abundant bearer. 2*s*. 6*d*. per packet.

QUEEN OF THE WEST MELON, a superb new green-flesh, very handsome in appearance, beautifully ... and excellent in flavour. It obtained several first prizes ... the past season. Seeds 2*s*. 6*d*. per packet.

NEW MELON GENERAL HAVELOCK, sent out ... first time last season. It is a green-flesh, very ... shape, and beautifully netted; a very thick substance ... skin, of a melting and most delicious flavour, and an ... bearer. Weight from 3 to 4 lbs.; it gave the greatest ... tion to all purchasers during the past season. ... per packet.

Extra fine mixed HOLLYHOCK SEED, saved from ... varieties, 1*s*. per packet.

Early Emperor CELERY, red, the finest ever ... 1*s*. per packet.

TILEY'S Solid White Celery, 6*d*. per packet.

DELPHINIUM FORMOSUM, 6*d*. per packet.

DIGITALIS, or Fox-glove Seed, 6*d*. per packet.

For further particulars, and list of Cucumbers and ... see Advertisement in *Gardeners' Chronicle* of Jan. 29, 18...

A remittance must accompany every order in cash or ... postage stamps, when the whole or any part, as the case ... be, will be immediately sent.

EDWARD TILEY, Nurseryman, Seedsman, and Florist, ... Abbey Church Yard, Bath.

---

GEORGE SMITH, in offering the following ... Superb SEEDLING FUCHSIAS, warrants them ... satisfaction. They are all of good growth, fine habit, ... bloomers, viz.:—

ECLAT (SMITH).—This beautiful flower obtained a ... Certificate at the National Floricultural Society; at ... time the Judges gave the following description in the ... of the proceedings of the Society's General Meeting, ... 1858:—"First-class Certificate to Fuchsia Eclat. ... a free and abundant bloomer, sepals and tube scarlet, ... of sepal delicate rose, corolla clear white, a decided ... ment on the white corolla'd varieties." G. S. has ... that it is a plant of strong growth and fine habit, in ... calculated to please as well as the Princess of Prussia, ... quite distinct. 10*s*. 6*d*. Figured in the "Florist," ...

CHANCELLOR (SMITH), see report of the National ... tural Society, July 22, 1858.—Certificate of Merit ... Chancellor; character and habit first-rate, form ... medium, substance fine, scarlet crimson tube and ... violet purple corolla. The tube of this flower was ... rather too short, or it would have received a higher ...

SCIPIO (SMITH), see report of the National ... Society, Aug. 5, 1858.—First-class Certificate ... Scipio; habit dwarf, tube short, sepals broad, corolla ... expanding, colour coral red sepals, with violet purple ... a great improvement on existing globosa varieties, ... markable for its distinctness and boldness in bud; ...

FASCINATION (SMITH), tube rather shorter than ... cess of Prussia, the sepals broader, the corolla very ... pure, seen to great advantage by the graceful manner ... the sepals reflex; 7*s*. 6*d*.

PERICLES (SMITH), a brilliant flower of average ... smooth and good form, sepals crimson scarlet, broad ... reflexed, corolla violet purple, also an abundant ... 7*s*. 6*d*.

GOLDEN PLOVER, a flower in form and colour of ... de Chiswick. This is particularly recommended for the ... foliage, which is of a golden green heavily veined with ... lake, giving the plant a conspicuous and splendid ... fine habit; 7*s*. 6*d*.

### NEW VERBENAS.

G. S. can confidently recommend the following ... Verbenas as distinct, and worthy to be added to ... collections, viz.:—

CYRUS (SMITH), brilliant rosy purple, primrose ... form, a strong grower; 5*s*.

MARS (SANKEY), brilliant crimson scarlet, ... lemon eye, particularly recommended as a bedding ... received a Certificate at the National Floricultural ...

STRIATA PERFECTA (SMITH), bright lavender, ... white stripe, of good form and habit. This is one ... distinct and beautiful Verbenas that has been offered ... for all purposes; 5*s*.

### SEEDLING CINERARIAS.

Three Cinerarias raised by Mr. Sharman, of ... exhibited at the National Floricultural Society, ... obtained first-class Certificates. G. S. is happy to ... that they are now ready, in strong plants, at 7*s*. 6*d*. ... be sent out by him, viz.:—

LADY PALMERSTON (SHARMAN), white, rosy ... with dark bold disc, well proportioned, and of ... properties.

MARY QUEEN OF SCOTS (SHARMAN), white, ... bright rosy purple tips.

PRESIDENT (SHARMAN), white, deeply tipped ... crimson, dark and fine disc.

A CATALOGUE of all the newest and best ... GERANIUMS of Show, Fancy, Spotted, and ... Verbenas, Dahlias, and Petunias, is just published, ... forwarded in exchange for one postage stamp.

Tollington Nursery, Hornsey Road, Islington, ...

## KITCHEN GARDEN SEEDS.

THOMAS GIBBS AND CO., THE SEEDSMEN TO THE "ROYAL AGRICULTURAL SOCIETY OF ENGLAND," beg to [illegible] are now prepared to execute orders for their

COLLECTIONS OF KITCHEN GARDEN SEEDS for [illegible] or small Gardens, containing a proper selection of the new and most approved varieties.

PACKETS OF FLOWER SEEDS, containing all the new and choice kinds.

Do GERMAN IMPORTED FLOWER SEEDS, in the original imported Packets.

DESCRIPTIVE PRICED CATALOGUES forwarded free on application. T. G. & Co.'s PRICED LIST OF AGRICULTURAL AND GRASS SEEDS will be ready early in February.

THOMAS GIBBS AND CO.,
Corner HALF-MOON STREET, Piccadilly, London, W.

## VEGETABLE AND AGRICULTURAL SEEDS, &c.

MESSRS. PARKER AND WILLIAMS beg to inform their friends and patrons that they are now prepared to execute with new and genuine SEEDS all orders they may be favoured with. Their PRICED and DESCRIPTIVE CATALOGUE, containing all new VEGETABLES proved to be good, and all the best of the older varieties, &c., will be forwarded post free on application.

The following are particularly recommended, all being very superior in quality, and valuable acquisitions to the most select collections:—Beet (Pine Apple Short Top), per oz., 2*s.*; Broccoli, Winter White (Snow's), per oz., 3*s.* 6*d.*; ditto, Penzance White (Mitchinson's), per packet, 1*s.* 6*d.*; Celery, Nonsuch (Ivery's), per packet, 1*s.*; Cottager's Kale, per packet, 1*s.*; Lettuce, Ancona Cos (Griffin's), per packet, 1*s.*; ditto, Moor Park Cos, per packet, 1*s.*; Marrow, Custard (Thomson's), per packet, 6*d.*—Paradise Nursery, Seven Sisters and Hornsey Roads, Holloway, London, N.

WM. IVERY respectfully announces that his Select CATALOGUE of GARDEN and AGRICULTURAL SEEDS for 1859 is now ready, post free on application, containing none but the very best quality at moderate prices. W. I. has great pleasure in offering his Nonsuch Celery as the best in cultivation for crispness and flavour, not to be equalled by any other variety, 1*s.* per packet. This can also be obtained of the principal seedsmen in London. IVERY'S Nonsuch Lettuce Black Seeded White Cos, will stand one month longer than any other known without running to seed in hot weather, a very fine large Lettuce of exquisite flavour, blanching itself, 1*s.* 6*d.* per packet. W. I. begs to inform the Trade that he can now finish the supply of New Mushroom Spawn, of the best quality.—Hanover Nursery, Peckham, London, S. E.—Feb. 5.

## AGRICULTURAL, FLOWER AND KITCHEN GARDEN SEEDS.

GARAWAY, MAYES, AND CO. invite attention to their Establishment for the sale of all kinds of AGRICULTURAL, FLOWER AND KITCHEN GARDEN SEEDS, their long connection with the trade and the well-known respectability of their house being a sufficient guarantee that all articles supplied by them will be of the very best quality. All seeds are proved by them before sending out, and their stock being large, and purchased from the first houses in the trade, offers great inducement to purchasers.

Their Stock of AGRICULTURAL SEEDS is produced from the best sources, and all are guaranteed by them to be of the best quality.

GRASS SEEDS of all kinds for Lawns or permanent Pasture; and the high testimonials they have received from their customers warrant them in stating that their quality is unsurpassed.—Catalogues on application.

Durdham Down Nurseries, Bristol.—Feb. 5.

## DWARF ROSES ON MANETTI STOCKS & CINERARIAS.

THE following ROSES are offered in fine Plants with shoots 2 to 4 feet long, at 8*s.* 6*d.* per doz., true to name:—Jules Margottin, La Reine, Baronne Prevost, Coupe d'Hébé, Wm. Griffiths, Duc de Cazes, Wm. Jesse, Duchess of Sutherland, Victoria (Paul's), Paul Ricaut, La "Leo" des Combats, Earl Talbot, Pius IX., Alexandrine Bachmeteff, Madame Domage, Souvenir de la Reine d'Angleterre, &c.

Also the annexed CINERARIAS in 48-inch pots, true to name, 8*s.* per dozen:—Alma, Admiration, Brilliant (R), Brilliant (L), Lady Paxton, Lord Palmerston, optima, Pride of Uttoxeter, Eupatoria, Purple Standard, Fascination, Magnum Bonum, &c. Post-office Orders payable at Haverhill.

JOHN CHATER & SON, Nurseries, Haverhill.

THE FAMOUS PINUS DON PEDRI.—This noble Pinus is one of the long leaved Weymouth tribe, and is spoken of by Dr. Lindley (see *Gardeners' Chronicle*, March 27, 1858,) as a "magnificent novelty." Mr. Gordon, in "The Pinetum" (page 231), says, "A noble tree, rivalling Pinus Lambertiana, and growing 140 feet high at an elevation of from 11,000 to 12,000 feet. It will no doubt be hardy, coming, as it does, from so great an elevation and a cold climate."

The undersigned is now prepared to supply stout Seedling plants in pots, raised last summer, at 21*s.* each, or 9*l.* 9*s.* per dozen. The usual allowance to the Trade.

J. HENCHMAN, Edmonton, London.

## SEED CORN FROM THE CHALK.

MESSRS. RAYNBIRD AND HARVEY beg to offer to Agriculturists requiring change of SEED Talavera, Red Nursery, and April WHEAT, the best sorts for Spring sowing.

Chevalier, Thanet, Golden Drop, Long-eared Nottingham, American, Hudson's Golden Melon, Banham's Sprat, and other varieties of BARLEY.

Canadian Potato, Hopetoun, Poland, and Tartarian OATS.

Fine CLUSTER BEANS, weighing 68 lbs. per bushel.

Samples and Prices on application.

Address—Basingstoke, and 89, Seed Market, Mark Lane, London, E.C.

## TANSLEY NURSERY, NEAR MATLOCK.

TO GENTLEMEN PLANTING AND THE TRADE.

J. SMITH begs to offer his STOCK OF TREES AND SHRUBS, of various sizes, and in addition to his general stock of the leading kinds, he has this season to offer an Extra Stock of many hundred thousands of fine Larches, Scotch Firs, and Highland Pines; a large quantity of Evergreens, Privets, Mahonia aquifolia, and other plants for planting under cover. Many things are grown in large quantities, and will be sold on advantageous terms to the trade and gentlemen requiring large lots.—Catalogues sent free on application. The Nurseries are on the Mansfield and Nottingham roads and 2 miles from Matlock Bridge Station on the Midland Railway.

## TO PLANTERS.

WILLIAM MASTERS AND SON respectfully inform the public that they have fine plants of Chestnut fit for filling up woods, as well as Scots and Spruce Firs, Larch and Austrian Pines, also Oaks, Elms, Beech, Sycamore, Norway and other Maples, Acacias and other Forest Trees in great variety and abundance. Their Stock of Ornamental Evergreens and Shrubs is exceedingly rich both in quantity and variety. They may especially refer to their beautiful assortment of Rhododendrons, Azaleas, Hardy Heaths, and of so called American Plants generally, to the culture of which they have devoted an entire nursery. Deodars also is of unusual extent. Orders are respectfully solicited.

Exotic Nursery, Canterbury and Plant Nursery, Maidstone.

## NEW ROSES FOR 1859.

J. AND J. FRASER, Lea Bridge Road Nurseries, near London, N. E., beg to offer the following NEW ROSES, which may be depended on as being the best selection from the varieties of this year:—

HYBRID PERPETUAL.

Altesse Impériale
Anna de Diesbach
Anna Alexieff
Ardoise de Lyon
Armide
Beauté de Rayghem
Comte de Beaufort
Comtesse de Chabrilland
Empereur de Maroc
Impératrice Eugenie
Orderic Vital
Oriflamme de St. Louis
Princesse Olympie
Virginal

BOURBON.

Docteur Berthet
Edith de Murat
Mdlle. Aline Pierron
Octavie Fontaine

TEA SCENTED.

Mdme. Damaizin
Mdme. Joseph Halphen
Reine des Pays Bas

DESCRIPTIVE PRICED LIST of the above may be had on application.

## THE LARGEST STOCK OF

TEA-SCENTED ROSES in the kingdom.—Upwards of 10,000 DWARF TEA ROSES in pots, fine healthy plants now ready for sending out, consisting of all the best leading kinds, and comprising among others—

750 Mélanie Willermoz
500 " Oger (yellow)
500 Vicomtesse de Cazes (do.)
500 Souvenir d'un Ami
500 Safrano
400 Devoniensis
400 Adam
300 Maréchal Bugeaud
300 Madame Bravy
300 Le Pactôle, yellow
300 Niphetos, fine white
300 Goubault
300 Canari (yellow)

400 Miss Gray or Isabella Gray, TRUE, yellow Rose, &c.

Plants presented to compensate for carriage.—Address WM. WOOD & SON, Woodlands Nursery, Maresfield, near Uckfield, Sussex.

SPECIMEN TEA-SCENTED ROSES, in 8-inch pots. Strong plants for Exhibition, from 3*s.* 6*d.* to 5*s.* each. The same kinds and many other leading sorts can be supplied as Half-specimen Plants, in 6-inch pots, at 24*s.* and 30*s.* per doz.

TEA-SCENTED.—Buret, Blanche de Solville, Bougère, Canaris Clara Sylvain, Comte de Paris, David Pradel, Elize Sauvage, Eugénie Desgaches, Général Tartas, Goubault, Jeannie Deans, La Sylphide, Laurette, Le Caméléon, Le Pactôle, Léontine de Laporte, Madame Bravy, Maréchal Bugeaud, Mélanie Willermoz, Mélanie Oger, Nina, Safrano, &c.

The Subscribers will be happy to furnish extra fine strong plants of the above named Roses adapted for Exhibition.

Early orders are respectfully solicited to ensure the strongest plants.—WM. WOOD & SON, Woodlands Nursery, Maresfield, near Uckfield, Sussex.

## A COLLECTION OF SUPERB YELLOW ROSES.

| TEA-SCENTED | Dwarf Plants in 4-inch pots. Each. | in 6-in. pots. Each. |
|---|---|---|
| | 1*s.* 6*d.* | 2*s.* 6*d.* |
| Barillet Deschamps, pale lemon | 1 6 | 2 6 |
| Canari, bright yellow | 2 0 | 3 0 |
| Elize Sauvage, yellow, very fine | 1 0 | 2 0 |
| Gloire de Dijon, fawn shaded salmon | 1 6 | 2 6 |
| Le Pactôle, lemon; yellow centre | 2 6 | 3 6 |
| Louise de Savoie, lemon yellow | 1 6 | 2 6 |
| Mélanie Oger, pale yellow | 1 6 | 2 6 |
| Pauline Plantier, yellowish white | 2 0 | 3 0 |
| Vicomtesse de Cazes, bright orange yellow | 1 6 | 2 6 |
| Yellow, or Jaune; pale sulphur | | |
| YELLOW NOISETTE ROSES. | | |
| Adelaide Pavie (new) pale lemon | 3 6 | |
| Augusta, sulphur; similar to Solfaterre | 1 6 | 2 6 |
| Claudia Augustin, white, with yellow centre | 3 6 | |
| Lamarque, lemon; very large | 1 6 | 2 6 |
| Madame Schulz, canary-shaded carmine | 2 0 | 3 0 |
| Miss Gray, or Isabella Gray; bright yellow | 2 6 | 3 6 |
| Narcisse, sulphur yellow | 2 0 | 3 0 |
| Solfaterre, bright sulphur yellow | 1 6 | 2 6 |

WM. WOOD & SON beg leave to offer fine strong plants of the above named superb yellow Roses. Plants will be presented to compensate for distant carriage.

Woodlands Nursery, Maresfield, near Uckfield, Sussex.

## ROSES! ROSES! ROSES!

JOHN HARRISON begs to inform his friends and the public generally that he has still on hand a splendid stock of Standard and Dwarf ROSES, Catalogues of which can be had free on application. J. H.'s stock of Roses are as usual of unequalled excellence, and in the most perfect health and vigour. J. H. having carefully revised his stock has rejected all varieties that do not possess first-class properties, and in addition has marked with an asterisk those varieties that are the most constant for exhibitional purposes. J. H. begs to observe that his plants being grown in the county of Durham (acknowledged to be the coldest in England), renders them suitable for any climate, the following letter from Australia being evidence of this assertion:—

"Dear Sir,—I herewith beg to hand you a cheque on the London and Westminster Bank through the Bank of Victoria, Melbourne, for the Roses you sent me; they arrived in beautiful condition after upwards of two months' voyage of 16,000 miles; I only lost one variety out of 500 plants. As you most justly observe, your plants are unequalled. I never received such before from England, France, or any other country. I hope to receive per next steamer another supply from you, according to my last order.—I am, dear Sir, yours respectfully, R. HOLSGROVE."

"Mr. John Harrison, Darlington, England."

Orders promptly executed and liberally dealt with.

The Nurseries, Darlington.

ALEXANDER CAMPBELL AND SONS, 7, Eden Quay, and Churchill Nurseries, Glasnevin, Dublin, most respectfully beg to acquaint their numerous customers and the public that they have just received their second consignment of new and very superior SEEDS, SEED POTATOES, &c., suited alike for the use of the Garden and Farm. Their Nurseries are well stocked with the finest Fruit Trees, Roses, Carnations, Piccotees, Pinks, Pansies, Climbing and other Shrubs, with an immense stock of their well-known collection of Pelargoniums, Cinerarias, Azaleas, Ericas, and other Greenhouse Plants, &c., DESCRIPTIVE CATALOGUES of which may be had on application, post free, or at the Seed Warehouse, 7, Eden Quay.

## SEEDS FOR 1859.

HARGRAVE'S SELECTIONS OF KITCHEN GARDEN SEEDS are arranged in quantities and sorts suitable for a succession of Vegetables through the whole year. That adapted for a moderate sized garden contains 10 pints of the choicest kinds of Peas, 6 pints of superior garden Beans, 3 pints of very fine French or Kidney Beans, and a fair assortment of small Seeds too numerous for specifying here. Cash price, ONE GUINEA, package included.

C. W. HARGRAVE, Nurseryman, Florist, Seed Grower, and Importer.—The Nursery, Winchmore Hill, N.

## SEEDS.

JOSEPH MAY AND CO. beg to announce the arrival of their new VEGETABLE, AGRICULTURAL, AND FLOWER SEEDS, which they have selected with the greatest care. Amongst PEAS they would particularly recommend, as the two best kinds for early sowing, Waite's Daniel O'Rourke and Dickson's Favourite, the latter producing 8 to 14 Peas in a pod, and will do for sowing at any season. COLLECTIONS OF VEGETABLE SEEDS made up from 1*s.* to 20*s.* and upwards, according to size of garden for which they are intended. These collections gave great satisfaction last season.

FLOWER SEEDS in collections: 12 packets, choice seeds, 6*s.*; 30 packets hardy ditto, 5*s.*; 15 packets ditto, 2*s.* 6*d.*, free by post.

CUCUMBER, "Ne Plus Ultra," from specimens, 27 to 31 inches each—straight and handsome—per packet, 1*s.*; all other best kinds, 6*d.* per packet.

MELONS, choicest kinds, 6*d.* and 1*s.*

GOURDS, the large hundredweight and others, 12 packets, free by post, 3*s.*

POTATOES, all the best kinds; Grasses and all kinds of Agricultural Seeds of the best quality.

TREES, PLANTS, AND SEEDS, packed for Australia, &c., at the lowest prices.

1, Wellington Street, Strand, W. C., near Waterloo Bridge.

## A PRIZE FOR ENGLISH GARDENERS.

NEW "DEFIANCE CABBAGE," a neat distinct variety.—Its unrivalled excellence for being very early, coming to perfection quick, of dwarf habit, does not run to seed, and flavour not to be surpassed make it an acquisition to every one. Numerous local testimonials could be given.

The following is from Mr. HILL, Gr. to W. R. SNEYD, Esq., Keel Hall. "Sir—Your 'Defiance Cabbage' has been grown the last two seasons by the side of several of the leading kinds, and found so superior in every respect, that for future we intend growing no other kind. "W. HILL."

Post free on receipt of Cash or Postage Stamps at 2*s.* per oz. To be issued this season in February in 1 oz. and ½ oz. packets only, by GEORGE JENKINSON, Nurseryman and Seedsman, Newcastle, Staffordshire.

## NEW KINDS OF VEGETABLES.

CHARLES TURNER can supply seed of the following valuable new varieties:—

| | Per packet—*s.* *d.* | | Per packet—*s.* *d.* |
|---|---|---|---|
| Incomparable Cabbage | 1 0 | Royal Dwarf Pea (Pois nain très hâtif à chassis), per quart | 2 6 |
| New Zealand Runner Bean | 2 6 | Turner's Cottagers' Kale | 1 0 |
| Perennial Spinach | 1 0 | The Frogmore Protecting Broccoli | 2 6 |
| Pine-apple Short Top Beet | 1 0 | | |
| Powell's Early Tomato | 1 0 | | |
| Roseberry Brussels Sprouts | 1 0 | | |

The above are strongly recommended. Also TURNER'S Scarlet Gem Melon, 2*s.* 6*d.* per packet. A GENERAL DESCRIPTIVE CATALOGUE of SEEDS may be had on application.

The Royal Nurseries, Slough.

## NEW VARIETIES OF POTATOES.

CHARLES TURNER has fine samples, free from disease, of the following:—

KIDNEY VARIETIES.—Ashleaf, Myatt's Prolific, a very excellent first early variety, the productiveness of which is remarkable. Brockley Kidney, an excellent variety, very early, and a great cropper; worthy of general cultivation. Looker's Kidney, an early and handsome variety, of good flavour.

ROUND VARIETIES.—Early Surprise, early, a fine large variety, and a good cropper. Hundredfold, very prolific, and of good quality. Tarku's Seedling, pink eye, an excellent late variety, very heavy cropper.

Also the following old varieties:—

| KIDNEYS. | | |
|---|---|---|
| Ashleaf | Brighton | Dean's Seedling |
| Fluke | Fiftyfold | Red Ashleaf |
| **ROUND.** | | |
| American Seedling | Prince of Wales | Early Frame |
| Early Uxbridge | British Queen | Fortyfold |
| " Oxford (Soden) | *alias* | Perkins' Seedling |
| Flour Ball | White Fortyfold | Wellington |

The Royal Nurseries, Slough.

## TO THE TRADE AND OTHERS ENGAGED IN PLANTING.

WILLIAM CORNWELL begs to offer the following, of which he has a large stock on hand, well grown and warranted true to name:—Standard and Dwarf ROSES of all the leading kinds; Dwarf Trained Peaches, Nectarines, and Apricots; Dwarf Maiden Do. Do.; Dwarf Trained Apples, Pears, Plums, &c.; Red and Black Currants; Larch Fir, 2 to 3 feet; Scotch Do., 1½ to 2 feet; Do., 2 to 3 feet; Cedrus Deodara, 2 to 3 feet; White and Yellow Broom, 2 to 3 feet; Double Furze in pots; Cotoneaster microphylla in pots; Irish Ivies in pots; Berberis aquifolium, 2 to 3 feet; Box Edging; Box, green, 2 feet; Laurel, common, 2 to 3 feet and 3 to 4 feet, bushy; Passiflora cærulea in pots; Privet Evergreen, 2 to 3 feet; large Scarlet Rhododendrons, 4 to 8 feet; ponticum and Catawbiense, do.; Andromedas, Hardy Heaths, Ledums, &c.; a large stock of most kinds of Evergreens, Flowering Shrubs, Ornamental Trees, &c.—The Nurseries, Barnet, Herts.

## GERMAN STOCKS, ASTERS, ETC.

DO NOT PURCHASE MORE SEEDS THAN YOU REQUIRE.

JAMES TYNAN begs to offer FLOWER SEEDS of the choicest kinds in packets to suit the wants of purchasers not requiring them to take large quantities in order to obtain the best varieties.

TRUFFAUT'S PÆONY-FLOWERED ASTERS, the finest grown.—20 varieties in separate colours, in packets, 2*d.* each, any number sent; the same mixed in packets, 5*d.* and 6*d.* each.

NEW CHRYSANTHEMUM-FLOWERED ASTERS.—5 varieties in separate colours, 4*d.* each; the same mixed in packets, 6*d.* each.

FINEST GERMAN STOCKS.—24 varieties in separate colours, 2*d.* each; the same mixed in packets, 3*d.* and 6*d.* each. Finest large-flowering, 20 varieties in separate colours in packets, 2*d.* each; the same mixed in packets, 3*d.* and 6*d.* each.

DOUBLE GERMAN WALLFLOWER.—6 varieties, separate colours, packets, 3*d.* each; the same mixed, packets, 3*d.* and 6*d.* each.

Very fine PHLOX DRUMMONDI.—In pckts. 4*d.* and 6*d.* each.

The choicest CALCEOLARIA, 6*d.* and 1*s.* per packet.
" CINERARIA, 6*d.* and 1*s.* " "
" GLOXINIA, 1*s.* " "
" PRIMULA, 6*d.* and 1*s.* " "
Agent for SMITH'S BALSAMS 1*s.* " "

Selections of FLOWER SEEDS sent post free:—

| | | |
|---|---|---|
| No. 1.—50 packets | 12*s.* | 6*d.* |
| No. 2.—25 packets | 6 | 3 |
| No. 3.—12 packets | 3 | 0 |

Large packets, or by the ounce, at prices equally moderate.

JAMES TYNAN, Importer of Continental Seeds, Seed Warehouse, 68, Great George Street, Liverpool.

REIGATE SILVER SAND, best quality for Florists, 16*s.* per ton; less quantities, 1*s.* 6*d.* per bushel; delivered to any London Wharf or Railway. Leaf Mould, Peat, and Loam of various kinds, in large or small quanties. Sacks for Sand 1*s.* 9*d.* each, on hire 6*d.* each (five hold a ton).—JOHN KENNARD, Purveyor to her Majesty, Swan Place, Old Kent Road, S.E.

## SORGHUM OR HOLCUS SACCHARATUS,
CHINESE SUGAR CANE GRASS.

SUTTON AND SONS having imported largely of new Seed of the true HOLCUS SACCHARATUS, can supply it at reduced price according to quantity required.

CAUTION.—SUTTON & SONS respectfully intimate to intending cultivators of the Sorghum or Holcus saccharatus, that other varieties of Sorghum are in the market which are comparatively destitute of saccharine and nutritive properties.

The Stock SUTTON & SONS have provided is the true saccharine species procured from the same Continental source from which they have imported in previous seasons. Present price 2*s.* 6*d.* per lb., or cheaper in large quantities; quantity required per acre, 8 lbs. Instructions on Cultivation will be sent with the Seed.

Royal Berkshire Seed Establishment, Reading.—Feb. 5

## TO NOBLEMEN, GENTLEMEN, PUBLIC COMPANIES, AND OTHERS ENGAGED IN PLANTING.

JOHN WATERER having a very great quantity of the undernamed desirable PLANTS in excellent condition (from frequent removal) for transplanting, offers them at a very reduced scale of charges.

*** Intending Planters having the object of immediate effect in view are respectfully informed that in selecting specimens for such purposes they would find a visit of inspection amply repaid, it being our determination to treat on the most liberal terms.

The Nursery is easily reached, being a short distance from Sunningdale Station, South-Western Railway (Reading Branch), where excellent conveyances meet all trains.

Wellingtonia gigantea, handsome plants, about 1 foot, 15*l.* per 100; 1 to 1½ foot, 5*s.* each or 20*l.* per 100; 1½ to 2 feet, 10*s.* 6*d.* to 21*s.* each; larger, up to 5 and 7 feet

Araucaria imbricata, 2 to 3 feet, 10*s.* 6*d.* each; 3 to 4 feet, 21*s.* to 31*s.* 6*d.* each; large beautiful specimens, up to 9 feet

Thuja aurea, good plants, 10*l.* per 100; about 15 inches, very globular handsome plants, 42*s.* per dozen, or 15*l.* per 100; 1½ to 2 feet, 5*s.* to 7*s.* 6*d.* each, or 20*l.* per 100; larger, 2 to 3, and 4 to 5 feet

Thuja gigantea, 1 to 1½ foot, 5*s.* to 7*s.* 6*d.* each; 1½ to 2 feet, 10*s.* 6*d.* each; 2 to 3 feet, 21*s.* each; large handsome plants, 3 to 4, and 5 to 8 feet

Thuja chilensis, 2 to 3 feet, 3*s.* 6*d.* each; 3 to 4 and 5 feet, 5*s.* to 7*s.* 6*d.* each

Cedrus Deodara, 3 to 4 feet, 5*s.* each, or 20*l.* per 100; 4 to 5 to 6 feet, 7*s.* 6*d.* to 10*s.* 6*d.* each; 6 to 8, 10, and 12 to 18 feet

Cedrus Libani, 4 to 5 feet, 5*s.* to 7*s.* 6*d.* each; 5 to 6, 7, and 8 to 10 feet

Cupressus macrocarpa, 2 to 3 feet, 30*s.* per dozen; 3 to 4 feet, 3*s.* 6*d.* each; 4 to 5 feet, 5*s.* each

Cryptomeria japonica, 4 to 6 feet, 5*s.*; 20*l.* per 100; 6 to 8, 10 to 15 feet

Cryptomeria japonica viridis, 3 to 4 feet, 5*s.* each; 4 to 6 feet, 7*s.* 6*d.* each

Juniperus hibernica, 2 to 3 feet, 24*s.* per dozen, or 7*l.* 10*s.* per 100; 3 to 4 feet, 42*s.* per dozen, or 12*l.* 10*s.* per 100; 4 to 6, 8 to 10 feet

Juniperus chinensis, 3 to 4 feet, 5*s.* each; 4 to 5 feet, 7*s.* 6*d.* each; larger, 5 to 7 and 8 feet

Juniperus virginiana (Red Cedar), 2 to 3 feet, 5*l.* per 100

Thujopsis borealis, about 1½ foot, 42*s.* per dozen, or 15*l.* per 100; larger, 2 to 3 feet

Cephalotaxus Fortuni, 1 to 2 feet, 5*s.* to 7*s.* 6*d.* each; larger, 2 to 3, and 4 feet

Taxus hibernica, 2 to 3 feet, 24*s.* per dozen, or 7*l.* 10*s.* per 100; 3 to 4 feet, 3*s.* 6*d.* each; 4 to 5 feet, 5*s.*; larger, 5 to 10 feet, all trained to a single stem

FitzRoya patagonica, 3 to 4 ft., 42*s.* per doz.; 4 to 5 ft., 5*s.* each

Pinus Beardsleyana, 1 to 1½ foot, 5*s.* each; 2 to 3 feet

,, Benthamiana, 3 to 4 feet, 7*s.* 6*d.* each

,, canadensis, 4 to 6 feet, 3*s.* 6*d.* each

,, Cembra, 2 to 3 feet, 3*s.* 6*d.* each; 3 to 4 feet, 5*s.* each; large, 4 to 6 and 8 feet

,, Craigiana (new), 1 to 1½ foot, 3*s.* 6*d.* each; 1½ to 2 feet, 5*s.*

,, Douglasi, 1 to 1½ foot, 30*s.* per dozen, or 10*l.* per 100; 2 to 3 feet, 42*s.* per dozen, or 15*l.* per 100; 3 to 5 feet, 5*s.* each; 5 to 6, and 8 to 15 feet

,, excelsa, 1½ to 2 feet, 12*s.* per dozen, or 50*s.* per 100

,, insignis, 1½ to 2 feet, 10*l.* per 100; 2 to 3 feet, 3*s.* 6*d.*, or 15*l.* per 100; 3 to 4 feet, 5*s.*, or 20*l.* per 100; 4 to 6 feet, very fine

,, Jefferyana, 1 to 1½ foot, 5*s.* each; 1½ to 2 feet, 7*s.* 6*d.* (A new species allied to Benthamiana but more distinct, and reported to be the most handsome and valuable of the long-leaved Californian Conifers.)

,, Lambertiana, 2 to 3 feet, 7*s.* 6*d.* each; 3*l.* 10*s.* per dozen; large, 3 to 4 and 5 to 12 feet

,, Nordmanniana, small plants, 15*l.* per 100; about 1 foot, 10*s.* 6*d.* each; 1 to 1½ ft., 21*s.* each; 1½ to 2 ft., 42*s.* each; 2 to 3 feet, 63*s.* to 84*s.* each; 3 to 4 and 5 feet, perfect specimens

,, Pinsapo, 1 to 1½ foot, 5*s.* each; 1½ to 2 feet, 7*s.* 6*d.* each; large, 2 to 4, 6 to 8 feet

,, ponderosa, 1½ to 2 feet, 5*s.* each

,, Sabiniana, 3 to 4 feet, 5*s.* each

,, taxifolia (Jeffery), 1½ to 2 feet, 10*s.* each

(With the single exception of Pinus Lambertiana, the whole of the above are Seedlings.)

ROSES.—Select Perpetual and Bourbon, do. varieties, Standards, 4*l.* 4*s.* per 100; do. Dwarfs, 2*l.* 10*s.* per 100

RHODODENDRONS, of all the superior kinds of scarlet, crimson, rose, white, &c., such as are annually displayed by us at the Great Exhibition of American Plants at the Royal Botanic Gardens, Regent's Park, London, in good plants, 42*s.* to 63*s.* per dozen

,, Fine varieties, for extensive planting, 24*s.* to 30*s.* per doz.

,, Catawbiense and mixed Hybrids, good plants, 1½ to 2 feet, 7*l.* 10*s.* per 100

,, Standards of the superior crimson varieties, good plants, 42*s.* to 63*s.*, to 105*s.* each

,, ponticum (the only evergreen that entirely escapes the ravages of hares and rabbits), good plants, fit for immediate planting into woods for cover, 7*l.* 10*s.* per 1000; extra strong, 21*s.* to 25*s.* and 30*s.* per 100

,, Dwarf-growing varieties, 4*l.* 4*s.* to 5*l.* per 100

AZALEAS, good common kinds, consisting of scarlet, pink yellow, &c., and for extensive planting, in good plants, 50*s.* per 100

,, superior, 12*s.*, 18*s.*, to 24*s.* per doz., or 3*l.* to 7*l.* 10*s.* p. 100

,, Standard, in fine sorts, 42*s.* each

KALMIA LATIFOLIA, 1 to 1½ foot, covered with bloom buds, 5*l.* per 100; larger, 18*s.* to 30*s.* per dozen

,, MYRTIFOLIA, fine plants, 30*s.* to 60*s.* per dozen (a superior kind to latifolia).

HARDY HEATHS.—A collection of 25 distinct kinds, 30*s.* per 100, or 12*l.* 10*s.* per 1000

Transplanted FOREST TREES, of which about 100,000 of each are in hand. We shall have great pleasure in forwarding samples on application.

| | |
|---|---|
| Ash, 2 to 3 and 4 feet | Beech, 2 to 3 feet |
| Hazel, 2 to 3, and 4 to 5 feet | Birch, 2 to 3 and 4 feet |
| Chesnut, Spanish, 2 to 3, and 4 to 6 feet | Larch, 2 to 3 and 4 feet |
| | Scotch, 1½ to 2 feet |

A large quantity of bushy COMMON LAURELS, 2 to 3, & 4 ft.

Also the commoner kinds of Evergreens, such as HOLLIES, of kinds; BAYS, ARBUTUS, PHILLYREA, AUCUBA, PORTUGAL LAURELS, &c.

CATALOGUES containing descriptions of everything relating to Rhododendrons and Conifers forwarded on application to JOHN WATERER, American Nursery, Bagshot, Surrey.

## CHRYSANTHEMUM TRICOLOR BURRIDGEANUM. CHRYSANTHEMUM TRICOLOR VENUSTUM.

F. K. BURRIDGE, SEED GROWER, Lexden Road, Colchester, has much pleasure in inviting the special attention of the Seed Trade to the above-named new Hardy Annuals, which he now offers for the first time, believing they will be found among the finest novelties of the season. The variety Burridgeanum differs from the old C. tricolor in having a fine crimson ring surrounding the yellow circle next the eye of the flower, the rest of the ray being snow white. The variety venustum has the ray florets of a deep reddish purple or plum colour for about one-half their length, shading into yellow at the base, and stained on the under side with purple. Both varieties are striking objects in the flower border, and from their bold conspicuous character, free blooming qualities, and perfect hardiness, together with their adaptability for bouquets, F. K. B. confidently predicts that they will become universal favourites.

A beautifully-coloured group of the two varieties has been prepared, and may be had on application, price 1*s.*; or gratis to Purchasers of 1 oz. of seed.

N.B. The Botanical Magazine for the present month (Jan. 1859), contains a coloured plate of the above.

## CHRYSANTHEMUMS—CHRYSANTHEMUMS.

J. H. BIRD, F.H.S., NURSERYMAN, Stoke Newington, the largest grower and most successful exhibitor of the Chrysanthemum in the British Empire, begs to call the attention of the lovers of the above beautiful autumn flower to his matchless collection, the stock of which amounts to upwards of 50,000 plants. Amongst them will be found the following new and rare varieties:—Admirable, Aimée Ferrière, Augustine, Constantine, Louisa, Louis Bonamy, Madame Leo, Norfolk Hero, Progne, Raymond, Beauté de Nord, Dr. Maclean, Queen of England, Plutus, Alfred Salter, Stellaris globosa, Beauty, Themis, Dupont de l'Eure, &c.

J. H. B. can supply strong plants, one dozen for 6*s.*; or five dozen in 30 varieties, containing two of each variety, for 1*l.*; or he can supply 100 plants in 50 varieties, two of each variety, for 1*l.* 10*s.* Also POMPONES in great variety; 50 Pompones in 25 varieties, two of each variety, for 10*s.*; or 100 in 50 varieties, two of each variety for 1*l.* Strong plants of the beautiful new Pompone the Golden Cedo Nulli, 5*s.* each, will be ready in March with the usual allowance to the Trade. Every order will be accompanied by a popular work on the Chrysanthemum.

Post-office Orders payable to J. H. BIRD, Stoke Newington, will be immediately attended to.

## SEEDS OF FIRST QUALITY.

BASS AND BROWN offer the following from their CATALOGUE, which may be had free on application:—

### A FEW NEW AND SELECT VEGETABLE SEEDS.

For descriptions of most of these, see Catalogue.

Peas, per quart.—Standard Bearer, 3*s.* 6*d.*; Cotton's Leviathan, 3*s.* 6*d.*; Dunnett's First Early, 2*s.*; Beck's Gem, 1*s.* 6*d.*; Rising Sun, 1*s.* 6*d.*; Ne Plus Ultra, 1*s.* 6*d.*

Beans, Syon House (the earliest), 1*s.* 3*d.* per quart.

Beet, Atking's Scarlet Melford Hall, 1*s.* per oz.

,, Laing's Dark, 6*d.* per oz.

Broccoli, Mitchinson's New Penzance, 6*d.* per packet, 5*s.* p. oz.

,, Giant, late white, 2*s.* per oz., very fine late sort.

,, Ward's Late White, the latest, 2*s.* per oz.

Belgium Brussels Sprouts, imported, 1*s.* per oz.

Cabbage, Furnell's Early Edwardstone, 1*s.* per oz.

Carrot, French Horn, very early, 6*d.* per oz.

Cauliflower, Early Paris, 1*s.* per packet; Lenormand's, 1*s.* 6*d.* per packet.

Celery, Ivery's Nonsuch, 6*d.* per packet; Goodwin's Early York, 1*s.* per oz.

Cottager's Kale, 1*s.* per packet.

Lettuce, Neapolitan, very fine, 1*s.* per oz.

Parsley, extra triple curled, 6*d.* per oz.

Savoy, the Early Ulm, 1*s.* per oz.

Turnip, Polly's Nonsuch, 1*s.* per oz.

Cucumber, each, 1*s.* per packet.—Conqueror of the West, Mill's Jewess, Hunter's Prolific, Sir Colin Campbell, General Canrobert, Gladiator, Glory of Armstadt, Essex Hero, Cheltenham Surprise, Lord Kenyon's Favourite, and many other choice.

Melons, each, 1*s.* per packet.—M'Ewen's Hybrid, Fleming's Trentham Hybrid and Cocoanut-flavoured, Snow's Horticultural Prize, Munro's Crystal Palace, Bromham Hall, and other choice sorts.

### COLLECTIONS OF VEGETABLE SEEDS.

These comprise all first-rate sorts. A considerable reduction in price is secured by ordering these collections. For price and quality they are not to be surpassed.

| | | | | | |
|---|---|---|---|---|---|
| No. 1 | Collection | .. .. .. | £3 | 0 | 0 |
| 2 | ,, | .. .. .. | 2 | 0 | 0 |
| 3 | ,, | .. .. .. | 1 | 5 | 0 |
| 4 | ,, | .. .. .. | 0 | 15 | 0 |
| 5 | ,, | .. .. .. | 0 | 10 | 6 |

The names of sorts contained in Nos. 1, 2, and 3 are given in the Catalogue. If any sorts are not wished for enlarged quantities of the others will be sent instead.

| | | | |
|---|---|---|---|
| Peas, 15 finest sorts for succession, 1 qt. of each | .. | 17*s.* | 6*d.* |
| Peas, 10 do. do. 1 qt. of each | .. | 9 | 6 |
| Broccoli, a packet of each of 10 finest sorts for succession, 6*s.*; six sorts .. .. .. | .. | 3 | 6 |
| Lettuce, a packet of each of six finest sorts | .. .. | 2 | 0 |

### FINEST LAWN GRASSES.

In mixture of the best dwarf sorts. These are excellent. Per lb., 1*s.* 3*d.*; or 18*s.* per bushel.

Holcus saccharatus, an abundant cropper for cattle feed, 1*s.* 6*d.* per lb.

The Improved Custard Marrow, 18 seeds, 1*s.*; nine seeds, 6*d.*

Dioscorea Batatas, strong tubers, 9 inches to 1 foot long, 5*s.* per dozen; extra large, 10*s.* per dozen.

### FLOWER SEEDS—BEST ASSORTMENTS.

(Free by Post.)

Hardy Annuals, 100 very select, including choice novelties, 15*s.*; 50 for 8*s.* 6*d.*; 30 for 5*s.* 6*d.*; 20 for 1*s.*

Half hardy Annuals, including choice novelties, 50 very select, 12*s.* 6*d.*; 30 for 8*s.*; 20 for 6*s.*

Hardy and Half-hardy, including choice novelties, 100 for 20*s.*; 50 for 10*s.* 6*d.*; 30 for 7*s.*; 20 for 5*s.*

Dwarf Hardy Annuals, in large packets, for filling beds on lawns, &c., 20 for 7*s.* 6*d.*; 12 for 5*s.*

Greenhouse Annuals, Greenhouse Perennials, Hardy Biennials and Perennials, &c., in assortments, see Catalogue.

Flower Seeds, cheaper assortments, see Catalogue.

### IMPORTED GERMAN SEEDS.

The varieties of German Stocks, Asters, Larkspurs, Wallflowers, &c., are remarkably fine and double, see Catalogue.

### SEEDS OF CHOICE FLORISTS' FLOWERS.

These, comprising Calceolaria, Cineraria, Geranium, Fuchsia, Carnation, Piccotee, Holyhock, and numerous others have been saved from very choice and first-rate collections, and are nearly all of our own saving.

### NEW AND VERY SELECT FLOWER SEEDS.

A List of a few of these is given separately, extracted from the body of the Catalogue, with full descriptions. See Catalogue, page 55.

Goods (not under 20*s.*) carriage free to all the Railway Stations in London, &c. See Catalogue.

Post-office Orders payable to BASS & BROWN, or to STEPHEN BROWN. Remittances required from unknown correspondents.

BASS AND BROWN, SEED GROWERS, &c., Sudbury, Suffolk.

## TO THE TRADE.

THOS. CRIPPS, NURSERYMAN, &c., Tunbridge Wells, Kent, respectfully offers the following: SPANISH CHESNUT PLANTS, 4 feet to 6 feet in ... per 1000; Blush CHINA ROSES, fine strong ... 100; Crimson do., very strong, 25*s.* per 100; fine ... Half-standard ROSES, 60*s.* per 100; good do., d... Double Yellow PRIMROSE, 20*s.* per 100 or 400 for ... INSIGNIS and P. RADIATA from Seed, 1... 28 inches, 6*l.* per 100; MANETTI STOCKS, 50*s.* ... do. second size, 40*s.* per 1000; IRISH YEWS, 2 feet ... 50*s.* per 100; Hardy HEATHS, a fine collection, 2... large plants, good do., 20*s.* per 100; LARCH FIR, ... plants, 2 to 3 feet; LONICERA SHEPHERDI, or new ... trumpet HONEYSUCKLE, fine strong plants, 4... RHODODENDRON MAXIMUM, fine bushy plants ... to 2 feet, 60*s.* per 100. Orders from unknown correspo... unaccompanied by a remittance will not be noticed.

MESSRS. WATERER AND GODFREY respectfully invite the attention of parties engaged in planting to the following list of very desirable plants, all of which are seen growing in the open quarters of their Nursery, and in the finest possible condition for transplanting:—

Araucaria imbricata, 9 to 12 inches, 5*l.* per 100; 40*l.* per ...

,, ,, 1½, 2, 3, 4, 5, 6, and 8 feet high. Our stock of this plant exceeds 100,000

Wellingtonia gigantea, stout handsome plants from ... per dozen; 25*l.* per 100. These are all in the open ... and are believed to be the finest lot of seedling plants in Trade.

Cedrus Deodara, 1½ to 2 feet, 18*s.* per dozen; 6*l.* per 100

Do. 3, 4, 5, 6, 7, 8, 10 and 12, and 15 feet. Our stock of ... at the present moment occupies several acres of land, ... have been constantly removed, and with fair usage ... in a thousand would fail. We offer them on very ... tageous terms either in large or small quantities

Cedrus atlantica, 4, 5, 6, and 7 feet

Cupressus macrocarpa, magnificent plants, 7, 8, and 10 feet

,, Lawsoniana, stout handsome plants from ... 18 inches, by the dozen or 100

Abies nobilis, from imported seed, 6*l.* 6*s.* per doz.; 60*l.* per ...

,, do. 1, 2, and 3 feet high

,, Nordmanniana, a large number of beautiful plants from seed, 2, 3, 4, 5, and 6 feet high

,, Pinsapo, do. do.

[We believe we are justified in stating our stock of these three last-mentioned Firs offers a selection to ... with in no other Nursery.]

,, Douglasi, 6, 7, 10, and 12 feet

,, orientalis, 3, 4, 5, and 6 feet

Pinus Benthamiana, stout seedling plants, about 1 foot, per dozen; 5*l.* per 100; 40*l.* per 1000. Unquestionably the finest of all the long-leaved Californian kinds, well known to be perfectly hardy. It is the most valuable of all for timber.

Juniper, Chinese, 2, 3, 5, 7, 8, and 10 feet high

Irish Upright, 3, 4, 5, 6, 7, and 8 feet. The Irish and Chinese Junipers are grown by us to a very large extent

Thuja aurea.—This plant originated in our Nursery, and our stock of it offers a choice of many hundred specimens from 1½, 2, 3, 4, and 5 feet high, and measuring from 2 to 15 feet in circumference. Nothing can well exceed the beauty of these plants, and certainly are to be met with in no other Nursery

Thuja gigantea, stout seedling plants, 1½ to 2 feet high

,, Wareana, 3, 4, 5, 6, 7, and 8 feet

Thujopsis borealis, handsome plants, in quantity, 1½ to ...

Taxus, Yew, Common English.—A large quantity, and sizes up to 5, 6, and 7 feet

,, Irish Yew, 4, 5, 6, 7, and 10 feet. Many thousand these beautifully formed plants grown to one ...

,, Golden Yews in large quantities and of all sizes 6, 7, and 8 feet

We also have them worked on the Common and Irish ... Standards, with heads from 12 to 15 years' growth

Holly, Variegated, Scottica, laurifolia, &c. We hold ... the largest stock of good sized variegated Hollies ... kingdom, especially of the better kinds of silver and ... striped

Rhododendron ponticum, for cover, stout plants, 1½ to ... by the 1000. All the well-known proved hardy late blue kinds, in any quantity, at from 30*s.*, 42*s.*, to 84*s.* per ...

Standard Rhododendrons of all kinds

Azaleas, stout bushy plants, covered with bloom buds, 18 inches to 2 feet high, and of all colours, 9*s.*, 12*s.*, ... 24*s.* per dozen; 50*s.*, 75*s.*, to 100*s.* per 100

Hardy Heaths, a first-rate collection, at 35*s.* per 100: 15... Roses, fine Standards, of the most popular kinds, at ... prices.

As well as the above, we are very large holders of ... ary kinds of Nursery Stock, which may be judged from ... fact that the Nursery far exceeds 100 acres in extent of ... things as Laurels, Box, Lilacs, Limes, Purple Beech, ... commoner descriptions of Evergreens and Deciduous ... Shrubs. An enormous stock of Fruit and Forest Trees ... grown extensively.

Goods are delivered free to London, Reading, or ... The Nursery is reached in an hour from Waterloo, ... veyances are always to be had at the Woking Station.

CATALOGUES, Priced and Descriptive, will be ... application, enclosing one postage stamp, to

WATERER AND GODFREY, Knap Hill, Woking, Surrey.

RICH BOG AND LOAM.—Gentlemen and Nurserymen will do well to apply early for the above ... their American beds. To be had in any quantity upon ... able terms, by land or water carriage.

ROBERT NEAL, Nurseryman, Wandsworth Common, ...

## GENUINE TOBACCO PAPER FOR FUMIGATING.

H. APPLEBY (Foreman to Messrs. Ivery & ... Nurserymen, Dorking, Surrey), begs to inform ... friends and the public that he now offers the above article ... reduced price. Sold in 4-lb. packets, 1*s.* 3*d.* per lb. ... reduction to the trade; price on application. For testimonials ... that will guarantee its quality, see *Gardeners' Chronicle*, ... 1858, page 920.

SHEET IRON POTS FOR FUMIGATING, 3*s.* 6*d.* ...

N.B. All Orders to be accompanied with a Post-office ... payable to HENRY APPLEBY, Dorking, Surrey.

TOBACCO PAPER AND CORD FOR FUMIGATING, in its pure and unmanufactured state, ... only the oil exuding from the Cavendish Tobacco in the ... of manufacture, 1 lb. of which is equal to 3 lbs. of that ... offered. The following amongst many other testimonials ... have been received:—

*From* Messrs. JAMES VEITCH & SON, *Nurserymen, Exeter.*

"Gentlemen,—We are much pleased with the Tobacco ... received last week, and should therefore feel obliged if ... sending us as soon as possible 56 lbs. of the same sort. ... respectfully, (Signed) "JAMES VEITCH & SONS."

The above will be forwarded in any quantity at 1*s.* 6*d.* ... on receipt of Post-office Orders payable to YORKE & ... Royal Nursery, Yarmouth, Norfolk, who are appointed ... Agents for its sale.

THE

# GARDENERS' ROYAL BENEVOLENT INSTITUTION.

## INSTITUTED 1838.

**PATRONESS.—Her Most Gracious Majesty the QUEEN.** **PATRON.—His Royal Highness the PRINCE CONSORT, K.G.**

**PRESIDENT.—The Right Hon. the Earl of CARLISLE.**

**VICE-PRESIDENTS.**

HIS GRACE THE DUKE OF CLEVELAND, K.G.
HIS GRACE THE DUKE OF NORTHUMBERLAND, K.G.
THE RIGHT HON. THE EARL OF MANSFIELD.
THE RIGHT HON. LORD OVERSTONE.
THE RIGHT HON. LORD EBURY.
THE BARON ROTHSCHILD, M.P.
SIR THOMAS DYKE ACLAND, BART., M.P.
SIR JOSEPH PAXTON, M.P.
THOMAS BARING, ESQ., M.P.
JOSEPH BAXENDALE, ESQ.
HENRY GEORGE BOHN, ESQ.
ROBERT HANBURY, ESQ.
ROBERT STEINER HOLFORD, ESQ., M.P.
HENRY THOMAS HOPE, ESQ.
JOHN LINDLEY, ESQ.
JOSEPH MARTINEAU, ESQ.
JOHN JOSEPH MECHI, ESQ.
GEORGE WARDE NORMAN, ESQ.
HENRY POWNALL, ESQ.
SIGISMUND RUCKER, ESQ.

## LIST OF OFFICERS FOR 1858.

**TREASURER.**—ROBERT WRENCH, Esq., London Bridge.
TRUSTEES.—Mr. JOHN ANDREW HENDERSON, Hamilton Terrace.—Mr. JOHN LEE, Hammersmith.—Mr. JAMES VEITCH, Junr., Chelsea.
**AUDITORS.**—Messrs. CHARLWOOD, LEE, & FORSYTH.

COMMITTEE:—

Messrs. WILLIAM ADDISCOTT, Leadenhall St.
,, RICHARD ATLEE, Stockwell.
,, R. N. ARNOTT, Vauxhall.
,, WILLIAM BARNES, Camberwell.
,, JAMES BRUCE, Tooting.
,, M. BUSBY, Harrow Road.
Messrs. C. D. DANDY, Dalston.
,, JAMES CUTBUSH, Highgate.
,, JAMES DUNCAN, Alton.
A. EAGLES, Highgate.
,, THOMAS HARDING, Camberwell.
,, ARTHUR HENDERSON, Wellington Road.
Messrs. JOHN A. HENDERSON, Hamilton Terrace.
,, ROBERT HOGG, Winchester Street
,, CHARLES HUTT, Highgate.
,, THOMAS PAGE, Streatham.
,, JOHN PEEL, Twickenham.
,, THOMAS RIVERS, Sawbridgeworth.
Messrs. JOHN SCOBIE, Kensington.
,, JOHN STEWARD, Herne Hill.
,, WM. B. SMITH, Great George Street.
,, THOMAS TAYLOR, Covent Garden.
,, CHARLES TURNER, Slough
,, CHARLES WOODROFFE, Harrow Road.

BANKERS.—Messrs. GLYNN, MILLS, & Co., Lombard Street. SECRETARY.—Mr. EDWARD ROGER CUTLER, 14, Tavistock Row, Covent Garden, W.C.

**Post-office Orders to be made payable at King Street, Covent Garden, W.C.**

## ABSTRACT FROM RULES AND REGULATIONS.

3. That the only persons who shall be considered eligible for the Pension of this Institution shall have been either head gardeners, or their foremen, market gardeners, nurserymen, and seedsmen, and foremen of nurserymen and seedsmen, for 20 years at least, subject to the following conditions:—1st. Gardeners who have served in the capacity of head gardeners, or their foremen, in the establishments of ladies or gentlemen for 20 years, and the foremen to nurserymen and seedsmen who have served as such the same number of years. 2nd. Market gardeners who have cultivated not less than 5 acres of land for 20 years. 3rd. Nursery and seedsmen who shall have been regularly engaged in the business 20 years.

4. That no person shall be eligible as a candidate for the pension under 60 years of age, cases of total incapacity alone excepted; age to be verified by a baptismal certificate, or such other documents as may satisfy two-thirds of the Committee that the applicant is of the required age. Incapacity to be verified by a medical certificate. The production of both or either of such certificates, or other evidence as the case may be, shall be indispensable.

5. That no widow shall be eligible to be relieved in virtue of the occupation of her first husband as a gardener, foreman to a gardener, market gardener, nurserymen or seedsmen, or foreman to any nurseryman or seedsman, pursuant to Rule 3, after her marriage with another not a gardener, or otherwise coming within either of the descriptions in Rule 3, and qualified as therein mentioned, though she become a second time a widow; and no widow shall be eligible to be a candidate by virtue of her second husband's occupation unless she shall have been married to such second husband at least 10 years; and that no widow of a pensioner shall be eligible to be placed on the pension list who shall have lived separate from her husband, and shall have continued to do so until the time of his decease, if during the time of such separation she had other means of support than those furnished by her husband.

6. That none but head gardeners, or their foremen, market gardeners, nurserymen, seedsmen, and foremen of nurserymen and seedsmen, respectively qualified pursuant to Rule 3, and who have subscribed 15 years consecutively to the funds of the Institution, or their widows, shall be considered eligible while a sufficient number of such persons are on the list (the object being to give a decided preference to those persons who have been contributing to assist others), so that if the funds should enable the Committee to call for the election of five persons, and there were two or three candidates who had been subscribing 15 years, such persons would be appointed pensioners in preference to the other candidates who had not subscribed for so long a period, or who had not been subscribers, and the election would be for the remaining number to make up the five; but subject, nevertheless, to the conditions of Rules 12 and 13, and such other Rules as apply to the election of pensioners.

8. That the amount of relief to be given be 16*l.* per annum to males, and 12*l* per annum to females, to be paid quarterly; but if the Committee think it necessary, in consequence of a change of circumstances, to recommend that such pension be discontinued or reduced, they shall call a Special General Meeting, which alone shall have power to discontinue or reduce the annuity of any pensioner.

13. That no person shall be considered eligible as a candidate for the pension who is in the receipt of parochial relief.

19. That all life subscriptions of 10*l.* 10*s.* and upwards, and all legacies, shall be invested in the names of the Trustees in the Three per Cent. Consols, and only the interest thereon, the annual subscriptions and donations of less than 10*l.* 10*s.*, be applied to general purposes.

20. That two General Meetings shall be held in each year, one in the month of January, and the other in the month of June:—that in January for the election of Officers, receiving the Report of the Committee, and the accounts of the Society for the past year; and that in June for transacting any business that may be requisite relative to the affairs of the Institution; and that 10 Subscribers then present shall be considered as a quorum for the purposes of such meeting.

## REPORT OF THE COMMITTEE FOR THE YEAR ENDING DECEMBER 1858.

The Committee have the pleasure of presenting their report for the year 1858.

During the past year three pensioners have died, and nine added to the list, six by election from among the general body of subscribers, and three without election in conformity with Rule No. 6.

Four more will also be added to the list this day.

The Society has, in common with many others, to lament the loss of its late noble president His Grace the Duke of Devonshire—a nobleman who by his invariable kindness and unostentatious liberality had endeared to all classes of the community, and whose many virtues demand a lasting remembrance.

The Committee have to present their sincere thanks to Henry Pownall, Esq., one of the Vice-Presidents, who in the absence of Lord John Russell at the shortest notice occupied the chair at the late Anniversary Dinner, for the able and strenuous manner in which he advocated the cause of the Charity; also to those several gentlemen who filled the office of steward for their liberality and that of their friends.

The Committee have to express their gratitude to those many friends who again assisted the Society by the contribution of Fruit, Flowers, and rare valuable plants to decorate the room on occasion of the late dinner. They also beg to tender their warmest thanks to the Editor of the *Gardeners' Chronicle* for the very full and able report of the proceedings which appeared in the columns of that Journal. This they have every reason to believe has been productive of great good to the Society.

It affords your Committee great pleasure to announce that the Hon. Mr. Justice Haliburton has consented to preside at the Anniversary in June next. The Committee beg to draw the attention of Subscribers to the system of advertising in the list of subscribers, by which no less a sum than 52*l.* 11*s.* 6*d.* has been realised. They are thus enabled to circulate a large number of books at a very little expense.

Your Committee have devoted some very serious attention to the subject of increasing the amount of the pensions. But although it would afford them the greatest pleasure to do so, they regret they cannot at the present time recommend any change, but they will take care the matter is not lost of, and when the proper opportunity recurs will not fail to reconsider the matter.

The state of the pension list is as follows:—

15 WOMEN ... .. .. .. £12 | 27 MEN.. .. .. .. £16

## STATEMENT OF THE RECEIPTS AND PAYMENTS OF THE GARDENERS' ROYAL BENEVOLENT INSTITUTION,

**FOR THE YEAR ENDING DECEMBER 31, 1858.**

| DR. | £ | s. | d. | £ | s. | d. |
|---|---|---|---|---|---|---|
| To Balance, 1857 .. .. .. .. .. .. .. .. | | | | 326 | 17 | 9 |
| To Annual Subscriptions .. .. .. .. .. .. .. | 614 | 5 | 0 | | | |
| To Donations received at and in consequence of Annual Dinner, including portion of a Legacy from the late C. Palmer, Esq. | 266 | 4 | 0 | | | |
| To Dividends on Stock .. .. .. .. .. .. .. | 128 | 14 | 0 | | | |
| To Advertisements .. .. .. .. .. .. .. | 52 | 11 | 6 | | | |
| | | | | 1061 | 14 | 6 |
| | | | | 1388 | 12 | 3 |

Stock 4600*l.*, 3 per cent Consols in the names of the Trustees.

| CR. | £ | s. | d. |
|---|---|---|---|
| By Pensions and Gratuities .. .. .. .. .. .. .. | 578 | 0 | 0 |
| ,, Stock Purchased 200*l.* .. .. .. .. .. .. .. | 197 | 7 | 6 |
| ,, Secretary's Salary .. .. .. .. .. .. .. .. | 60 | 0 | 0 |
| ,, Printing.. .. .. .. .. .. .. .. .. | 75 | 9 | 6 |
| ,, Stationery .. .. .. .. .. .. .. .. .. | 7 | 7 | 0 |
| ,, Advertising .. .. .. .. .. .. .. .. .. | 10 | 16 | 0 |
| ,, Expense of Annual Dinner .. .. .. .. .. .. .. | 16 | 7 | 7 |
| ,, Expense of Postages, &c. .. .. .. .. .. .. .. | 31 | 1 | 6 |
| | 976 | 9 | 1 |
| Balance at Bankers .. .. .. .. .. .. | 412 | 3 | 2 |
| | 1388 | 12 | 3 |

Audited January 7, 1859.—JOHN LEE, WILLIAM FORSYTH, GEORGE CHARLWOOD.

**LEGACIES.—1851, JOHN TOWNSEND AITON, Esq., £100.; CHARLES PALMER, Esq., £50.**

## RHODODENDRONS.

JOHN WATERER'S CATALOGUE OF UNRIVALLED HARDY SCARLET AND OTHER CHOICE RHODENDRONS, as Exhibited by him at the Royal Botanic Gardens, Regent's Park, London, is published, and will be forwarded on application.

☞ This List is recommended as a work of reference, as it contains accurate descriptions of all the esteemed varieties.

The American Nursery, Bagshot, Surrey, near the Sunningdale Station, South Western Railway.

## NEW SEEDS FOR 1859.

WM. CUTBUSH AND SON beg respectfully to intimate that their PRICED CATALOGUE OF VEGETABLE AND FLOWER SEEDS, &c., is now ready post free on application. WM. C. AND SON devote particular attention to this department of their business, and most of the choicer kinds of culinary seeds and roots are saved under their own inspection, and they can confidently guarantee the quality of all offered.—Highgate Nurseries, London, N. Established A.D. 1695.

## HARDY SCARLET RHODODENDRONS AND AMERICAN PLANTS GENERALLY.

WATERER AND GODFREY'S PRICED and DESCRIPTIVE CATALOGUE of the above beautiful tribe of plants, as exhibited by them in London and Manchester, may now be had on application inclosing one stamp for postage. The Catalogue also furnishes the heights and prices of their unequalled stock of Conifers and Evergreens, &c. Catalogues may also be had of Messrs. J. MAY & Co., Seedsmen, &c, Wellington Street, Strand.

Knap Hill Nursery, Woking, Surrey.

## VEGETABLE, FLOWER, AND AGRICULTURAL SEEDS.

WILLIAM BARNES'S CATALOGUE of the above is now ready, and may be obtained postage free, upon application. It will be found to contain every article of known value, among them some that cannot be excelled, the stock of which having been saved specially for himself by private and competent friends, he can recommend with the greatest confidence. Every article is warranted of the purest and most genuine kind, as well as very moderate in price.

Camden Nursery, Camberwell.

MESSRS. PARKER AND WILLIAMS beg to inform their friends and patrons that their NEW PRICED and DESCRIPTIVE CATALOGUE of Exotic Orchids, Stove, Greenhouse, and Hardy Ferns, Miscellaneous Stove, Greenhouse, and Hardy Plants, Variegated and Ornamental foliaged Plants, Conifers, Roses, Rhododendrons, Indian Azaleas, Gloxinias, Fuchsias, Cactuses, &c., is now published, and will be forwarded post free on application.—Paradise Nursery, Seven Sisters' and Hornsey Roads, Holloway, London, N.

## NEW CHRYSANTHEMUMS.

JOHN SALTER begs to inform the numerous applicants for his NEW CATALOGUE OF CHRYSANTHEMUMS that it will be published at the end of February, in which his splendid Seedlings and other new varieties for 1859 will be fully described, as well as his unrivalled general collection, which is the largest in Europe.—Versailles Nursery, William Street, near Hammersmith Turnpike, W.

## HOLLYHOCK SEED FROM NEW VARIETIES.

J. CHATER AND SON offer the above from
12 new varieties, separate packets, the collection, 3s. 6d.
24 varieties, best older sorts, 3s. 6d.
Best mixed, 20 sorts, 200 seeds, 1s. 6d.

J. C. & SON feel confident the above will give satisfaction, having been saved with great care.

Strong seedling plants, 20s. per 100.

If sown now will flower by September.

Nurseries, Haverhill.

DOUBLE ITALIAN TUBEROSE ROOTS, 4s. per dozen.—The annual importation of the above named beautiful and fragrant Flower has just been received, and large and well selected Bulbs may be obtained, without disappointment, at A. COBBETT'S Foreign Warehouse, 18, Pall Mall.

N.B. Printed regulations for treatment sent; also, just arrived, very moist and open Parmesan Cheeses.

## AZALEA INDICA.

J. IVERY AND SON beg respectfully to invite growers of the above named to an inspection of their unrivalled Stock of Young Specimens of all the newest and best varieties, many of which have been exhibited at the Metropolitan Exhibitions. They are clean and healthy, well set with bloom, and moderate in price. Catalogues forwarded post free upon application.—Dorking Nursery, Feb. 5.

NEW ZEALAND RUNNING BEAN.—This Bean was found by a gentleman travelling in Central New Zealand. It is not known by Mr. Arthur Henderson, Mr. James Veitch, Messrs. Sutton, Mr. Carter, Mr. Hooper, Mr. Wrench, Mr. Flanagan, nor at the Hort. Society. Price per doz., 3s.; trade allowed Beans extra. A printed account will be sent with each order; see last week's advertisement. Melon, Cucumber, and true Custard Marrow, 1s. per packet. J. C.'s Pamphlets always on sale.—JAMES CUTHILL, Camberwell, London.

LONG-PODDED RUNNER BEANS, a new and very desirable variety raised by J. Harvey, Esq., Oulton High House. The following is the description he gives of it:—Flowers bright pink, Beans curiously marked, very prolific, and handsome in the pod, far superior to the common Scarlet Runner in flavour, and successive crops will produce till the cold of winter cuts them off. 2s. 6d. per quart.

| | | |
|---|---|---|
| Lynch's Star of the West Cucumber, true .. | 1s. 0d. | p. packet |
| Ayres's Perpetual Black Spine .. .. .. | 1 0 | ,, |
| Melville's Treble Curled Garnishing Borecole | 1 0 | ,, |

Price for the above to the Trade on application.

The Plymouth Seed Company, Plymouth.

EXCELSIOR MARROW PEA (KNIGHT'S).—This new Pea is a decided improvement on the well-known Ringwood Marrow, being quite as early, greater cropper, longer pod, larger pea, superior flavour, and greener in colour. A great acquisition either for the amateur or the market gardener. 2s. 6d. per quart. Price to the trade upon application To be had of

NUTTING & SONS, Seedsmen, 60, Barbican, London, E.C.

## EARLY PEAS.

WAITE'S DANIEL O'ROURKE PEA; the earliest Pea in cultivation.

EARLY NAPOLEON; a Blue Wrinkled Marrow Pea, as early as EMPEROR.

EARLY EUGENE; a White Wrinkled Marrow Pea, as early as EMPEROR.

Prices to be had on application of J. G. WAITE, Seed Establishment, 181, High Holborn, London, W. C.

THE EARLIEST PEA.—DUNNETT'S FIRST EARLY is in every respect superior to "Daniel O'Rourke," being several days earlier, having finer pods, and richer in flavour, height 2½ feet For an early dish of fine-flavoured Peas we can confidently recommend this; 2s. per quart.

CHAMPION CABBAGE, the earliest and best sort, if sown in succession, may be had fit for table throughout the year, 8d. per ounce, or 1s. post free.

BUTLER & MCCULLOCH, Covent Garden Market, London.

## SEEDS OF ALPINE PLANTS

(SUITABLE FOR ROCK WORK).

JAMES CARTER AND CO. beg to announce the arrival of a Consignment of SEEDS (many of which are extremely rare) from Monsieur Ortgies, Curator of the Botanic Gardens, Zurich. The Seeds have been collected amongst the Alps during the past autumn, under his immediate superintendence, and J. C. & Co. have no doubt they will give great satisfaction.

12 selected varieties.. 2s. 6d. | 25 selected varieties .. 5s. 0d.
50 selected varieties .. .. .. 10s. 0d.

238, High Holborn, London, W.C.

CARTER'S EXCELSIOR MELON.—A green-fleshed variety of delicious flavour, netted; fruit averages 4 lbs., requires scarcely any heating, and is very prolific. R. Hogg, Esq., President of the Pomological Society, and Turner and Spencer's "Florist," pronounce this variety to be one of the finest ever tasted. Seeds 1s. per packet.—JAMES CARTER & Co., Seedsmen, 238, High Holborn, London, W.C.

## NEW EXOTIC FERN,

NEPHRODIUM MOLLE, VARIETY CORYMBIFERUM.

Named and described in the *Gardeners' Chronicle* of May 22, 1858.

ROBERT SIM is now prepared to supply, at 15s. each, vigorous and well-established profusely crested plants of this beautiful and unique variety, of which he possesses the entire stock. It ought to prove quite a greenhouse kind.

The customary discount to the trade. Price per dozen on application. Carriage paid to London. Post-office Orders on Foot's Cray.—Nursery, Foot's Cray, Kent, S.E.

## FRUIT TREES IN POTS.

JOHN AND CHARLES LEE have now the largest and finest stock of FRUIT TREES IN POTS in a bearing state for FORCING AND ORCHARD HOUSES ever offered. They consist of the following kinds, a CATALOGUE of which may be had on application:—

| | | |
|---|---|---|
| APRICOTS | FIGS | PEARS |
| PEACHES | PLUMS | APPLES. |
| NECTARINES | CHERRIES | ALSO, |

VINES AND STRAWBERRIES.

Nursery and Seed Establishment, Hammersmith, London.

## FRUITING VINES.

JOHN AND CHARLES LEE beg to offer extra strong short-jointed and well-ripened FRUITING VINES of the following kinds:—

| | |
|---|---|
| BLACK HAMBURGH | BLACK FRONTIGNAN |
| CHAMPION HAMBURGH | WHITE FRONTIGNAN |
| MILL HILL HAMBURGH | BLACK PRINCE |
| GOLDEN HAMBURGH | ROYAL MUSCADINE |
| MUSCAT OF ALEXANDRIA | BIDWELL'S SEEDLING |
| | BOWOOD MUSCAT. |

Nursery and Seed Establishment, Hammersmith, London.

## CALLICARPA PURPUREA.

JOHN STANDISH, the exhibitor of the above (at St. James's Hall), can supply a few good plants at 7s. 6d. each. The following passage from Dr. Lindley's leading article in the *Gardeners' Chronicle* for Nov. 20 will give an idea of its beauty:—"Callicarpa purpurea, quite insignificant when in flower, was beautiful in its winter dress of innumerable rich purple berries, about the size of swan shot." It is easily cultivated, and does well in a cold greenhouse or conservatory planted out, where it will produce thousands of bright purple berries resembling glass beads, and remaining on nearly the whole winter.—Bagshot, Feb. 5.

## SUPERB DOUBLE BALSAMS.

F. AND A. SMITH are now sending out Seed of their superb BALSAMS, which are unrivalled for size, form, brilliancy of colour, doubleness of flower, and habit of plant.

| | | |
|---|---|---|
| In collections of nine separate colours .. .. | 2s. | 6d. |
| ,, ,, mixed ,, .. .. | 2 | 0 |
| ,, ,, ,, ,, half quantity | 1 | 0 |

The above are *genuine only* in our sealed packets, and may be had of most respectable Nurserymen and Seedsmen in the United Kingdom.—Dulwich, Surrey, S.

## TO THE SEED TRADE.

CHOICE STOCKS OF SEEDS, GROWTH OF 1858.

Improved Gloucestershire White Swede
Sutton's Lincolnshire Red Globe Turnip
Yellow Tankard Turnip | Green Globe Turnip

The above were grown by or expressly for us, from our own stocks, in larger quantities than we require for retailing, and can be confidently recommended. Also a few other choice Stocks. Applications for prices, stating quantity required, addressed as below, will be replied to promptly and liberally.

SUTTON & SONS, Seed Growers, Reading, Berks.

FLOWER AND VEGETABLE SEEDS OF QUALITY.—The Advertisers respectfully solicit applications for their extensive and DESCRIPTIVE CATALOGUE OF FLOWER AND VEGETABLE SEEDS, which they feel pleasure in forwarding to any address throughout the world without charge, and postage free. It will contain, beside the usual names of garden [illegible] numerous list of very CHOICE, NEW, and RARE [illegible] all classes of the floral world, with many not to be [illegible] elsewhere; and also of the Kitchen Garden Department quality and purity of which they pay particular [illegible] Collections made up for all climates.—Address Hooper Seedsmen, Covent Garden Market, London, W.C.

RANUNCULI.—The admirers of these [illegible] flowers have now an opportunity of purchasing [illegible] will flower as free as Daisies.

T. MELLON, having grown this flower from seed [illegible] of years with great success, is now willing to dispose [illegible] tion of them, and impart his mode of cultivation [illegible] chaser. These Ranunculi are very hardy, perfectly [illegible] and warranted to bloom. Satisfactory references can [illegible] as to the quality of these flowers. Price 5l. per 100.

T. MELLON, 71, New Street, Birmingham.

CHAMPION OF SCOTLAND [illegible] —A new and first-rate sort, declared all who grew it last year to be the most distinct and best flavoured Pea in cultivation. To be had only at PETER LAWSON & [illegible] the Queen's Seedsmen, &c., who are also prepared to execute orders for all sorts of Garden and Flower Seeds of the finest quality.

27, Great George Street, Westminster.

"JACK OF NEWBURY" SWEDE, [illegible]

PETER LAWSON AND SON, QUEEN'S SEEDSMEN, &c., 27, Great George Street, Westminster, respectfully request attention to their very genuine Stock of the above excellent Swede; also of the LONG PURPLE-TOP SWEDE, both of which have been selected with the greatest care. They have also a very fine Stock of the improved RABI, or TURNIP-ROOTED CABBAGE, specimens of which were shown at the Stands at Smithfield Club Show. The Rabi was largely grown last season, and may now be used as a substitute for the Turnip and Mangel, where these may not succeed, or for filling up blanks where there is a partial failure. Its feeding qualities, hardiness, and weight per acre are equal to the Swede, and all kinds of stock prefer it to other roots.

P. L. & SON have also selected a first-rate Stock of MANGEL WURZEL SEED, which they can confidently recommend. Their natural GRASS SEEDS have been saved with very great care, and they are ready to supply separately or in mixture, for laying down Permanent Pasture, Lawns, &c.

P. L. & SON have arranged to deliver Seeds free through England and Wales from their London Establishment, for quantities exceeding 20s. in value.

LISTS OF PRICES of the above and all other Seeds, Roots, &c., may be had on application.

27, Great George Street, Westminster.

## VEGETABLE AND FLOWER SEEDS, ETC

JAMES DICKSON AND SONS, SEED MERCHANTS and NURSERYMEN, Chester, respectfully intimate the publication of their ANNUAL LIST OF VEGETABLE AND FLOWER SEEDS, which they will be happy to transmit prepaid to those who may apply for it. The whole of the seeds they offer have been saved with great care, and they therefore feel confidence in recommending them as being of really good quality.

Their Nursery Grounds at Newton-by-Chester, which lie in a favourable and exposed situation, contain a large and valuable Stock of FOREST TREES and FRUIT TREES, SHRUBS, &c., all healthy and vigorous, and a great quantity of transplanted QUICKS, suitable for forming fences, &c. Lists and every information furnished upon application.

Communications should be addressed JAMES DICKSON & Co., 102, Eastgate Street, and Newton Nurseries, Chester.

# NEW SEED CATALOGUE.

# MESSRS. E. G. HENDERSON & SON

RESPECTFULLY announce that they will forward, post free, their NEW CATALOGUE for 1859, in which the following novelties of the season will be introduced or noticed with full descriptions of management, cultivation, and adaptation; and only those that are known to be valuable are recommended for cultivation. Much useful information on the cropping of Gardens, sowing, &c., is also given for the guidance of cultivators. The following NEW FLOWERS and other Seeds are offered by E. G. HENDERSON & SON for the first season, full descriptions of which, with treatment, are given in the Catalogue.

THE ROSY CARMINE GIANT EMPEROR ASTER, 1s. 6d.
NUTTALLIA PEDATA, var., see Catalogue for the description of this beautiful plant, 2s. 6d.

CLIANTHUS DAMPIERI, 2s. 6d., 5s. and 10s. per packet.
THE LAWTON BLACKBERRY (new American fruit), 2s. 6d. each; 25s. per dozen.

## NEW FLOWER SEEDS OF 1859.

Price per packet is given in the Catalogue. A select assortment of 12 varieties for 6s.

| | | |
|---|---|---|
| Acroclinium roseum album | Ipomœa hederacea superba lilacina | Nolana paradoxa violacea |
| Celosia pyramidalis | ,, ,, atropurpurea | Pharbites (Convolv.) hybrida rosea |
| Chrysanthemum Burridgeanum | Lupinus Hartwegi cœlestinus | Portulaesa caryophylloides |
| ,, venustum | Myosotis azurea grandiflora (Large-flowered Forget-me-Not) | Œnothera bistorta Veitchi |
| Datura humilis (flava pleno) | New Double Orange French Marigold | ,, Drummondi nana |
| Dianthus hybridus corymbosus flore pleno | Nasturtium Tom Thumb (dwarf) | Viscaria cœli rosa alba |
| Gaillardia hybrida grandiflora | Nasturtium Brilliant (not Lobbi Brilliant) | ,, Dunnetti |
| Fenzlia dianthaeflora | | Silene rubella alba |

A List of Sixty ORNAMENTAL GRASSES, a few of which are adapted for margins to beds, borders, &c.

*A Descriptive Priced List of that most splendid tribe of hardy bulbs: Gladiolus Gandavensis.*

The new vegetable CHÆROPHYLLUM BULBOSUM, and now well-known DIOSCOREA BATATAS (the Chinese Potato or Yam). Seed of the former and sets of the latter per dozen or 100, large tubers for tasting of both, per lb.

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**Wellington Nursery, St. John's Wood, London.**

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|---|---|---|---|---|---|---|---|---|---|---|---|
| [illegible] | 0 9 | White Belgian | 1 3 | Ashcroft | 0 9 | Gibbs' Improved Italian | 7 0 | English Red | 9d. to 0 10 | Holcus saccharatus | 2 0 |
| Long Red | 0 10 | Yellow Belgian | 1 3 | Skirving's | 0 9 | Dickenson's Italian | 7 0 | White Dutch | 1s. to 1 0 | Lucerne | 1 0 |
| [illegible] globe | 0 9 | Large Altringham | 1 6 | Matson's | 1 0 | Fine Imported do. | 7 0 | Trefoil | 4d. to 0 5 | Drumhead Cabbage | 3 0 |
| [illegible] | 0 9 | Long Surrey | 1 6 | Kentish Green Crown | 1 0 | Common English | 6 0 | Alsike Hybrid | 2 0 | Large Cattle Parsnip | 1 6 |
| Long Yellow | 0 9 | James's Scarlet | 1 6 | Marshall's Purple Top | 1 0 | Pacey's Perennial | 6s. to 7 0 | True Cow-grass | 1 0 | Kohl Rabi | 5 0 |

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FLOWER, SHRUB, TREE, and VEGETABLE SEEDS, **the crop of 1858, saved with the greatest care, by the most eminent growers.**

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| A selection of 44 pkts. of beautiful Annual Flower Seeds | | | | | | 7s. | 6d. | | |
| Ditto | 33 | ditto | ditto | .. | .. | 5 | 6 | An Assortment of Vegetable Seeds, 20 quarts of Peas, and other Seeds in proportion for 1 year's supply .. .. .. .. .. .. .. £3 3s. 0d. | |
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**BUTLER & McCULLOCH, Covent Garden Market.**

# SEEDS RIPENED ON THE CONTINENT.

## JAMES CARTER & Co.

HAVING observed their name mentioned in an advertisement in connection with a late correspondent, feel it their duty to state that, preferring to have their Seeds from the Continental growers *direct*, one of the Firm has travelled during the past autumn with that object, *and purposes doing so every season*; the services of the correspondent alluded to are therefore dispensed with. Their Seeds for the present season, having been *personally* selected, are better than any they have hitherto offered.

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# GENUINE KITCHEN GARDEN SEEDS.

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ARE NOW READY TO SUPPLY SEEDS FOR THE VEGETABLE AND FLOWER GARDEN, WHICH WILL BE FOUND, AS USUAL, OF THE BEST QUALITY ONLY.

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### AND GARDENER'S VADE MECUM."

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# The Gardeners' Chronicle.

*SATURDAY, FEBRUARY 5, 1859.*


MEETINGS FOR THE FOLLOWING WEEK.

MONDAY, Feb. 7—Entomological ..... 8 P.M.

THE value of that resolution of the House of Commons which declared last session that the Paper duty ought to be repealed will soon be brought to the test of a parliamentary trial. It is clear that the friends of a repeal of the paper duties are ready for the conflict; and a decision, one way or the other, must soon be arrived at. It is no business of ours to ask whether duties amounting to thirteen or fourteen hundred thousand pounds a year can be spared. That is a question for political parties to settle. Nor indeed should we have regarded the subject in its present aspect as being at all within our limits, had it not been that some opponents of the repeal of the duty have asserted that in the event of its being carried the remission would be useless *because materials for the production of a much larger manufacture of paper cannot be found.* Not found! Nothing but a determination to throw dust of any kind in men's eyes could have led to such a statement. Not to be found! Why, materials for paper making surround us on every side, and if our country friends are alive to their own interests, the paper market is more likely to be glutted than starved. The only substance out of which paper can be made is that which constitutes the framework of vegetation. There is not a root, a blade of Grass, a straw, a leaf, a stalk, a twig, that is not fit for this manufacture. Straw itself is now in general use for the purpose; Flax refuse is establishing itself; mere wood is grinding down into paper; the refuse of Beetroot distilleries can all be worked up; Hemp waste is an excellent article; the water-logged marshes of every fen country are full of the most valuable material; Mr. MARTIN makes capital paper from the shavings of common white deal, as we learn from specimens now before us: Hop bines are patented by Messrs. Plunkett & Bower; Potato haulm, Buckwheat straw, Melilot straw, Jerusalem Artichoke stems, Rhubarb leaves, Docks, Thistles, Mallows, Nettles, Furze, Broom, Bram-

bles, Briars, and weeds of every conceivable kind are convertible to this purpose. As to other countries their produce is without limit. And yet, in the face of all this we are told that materials for paper making on any larger scale than the present cannot be found.

It is doubtless true that such substances as have been now enumerated are of unequal value, some being far more suitable to the manufacture than others. But they are all convertible, and by such mixtures as any paper maker would employ, they will all make paper fit for use. Some will bleach better than others, some will break down more easily than others, some are tougher than others; but since nobody expects all paper to be of equally good quality, so nobody should be so unreasonable as to expect that materials for the making it should be all alike. Beet root pulp and straw are two as unpromising substances as could well be named, and yet, with the assistance of longer fibres to improve their staple, they make paper fit for an infinite variety of purposes. It is to be expected that some difficulties may be met with, at the outset, in converting new vegetable substances into paper pulp: but it would be a disgrace to the chemical and mechanical skill of the age if they could not be overcome.

The pretence that it would be useless to take off the paper duty because the increased consumption consequent upon its repeal would speedily exhaust available materials is therefore most absurd. We believe that the market might be supplied by Mr. MARTIN'S process alone.

What effect the repeal of the duty may have upon literature we leave others to insist upon. The strongest argument in our eyes is that derived from the great demand it would create for the labour of the weak, the infirm, and the old. There can be no doubt that untaxed paper would lead to an enormous manufacture of small articles in which children, women, cripples, and aged persons might be profitably employed. And no one will deny that it is sound public policy to favour whatever will conduce to so important an end. Machinery, indeed, would be brought into immediate action for the purpose of dispensing with hand labour; but we believe there is no instance of machinery having really diminished labour. All that it does is to force it into new channels, which is obviously unimportant. If we only consider how many women and children would be required to collect the refuse demanded by the mills were paper untaxed, and they would be largely fed by refuse, it must be evident that a very sensible effect would be produced upon poor rates in every village in the kingdom. Surely this should render the repeal of the paper duties a matter of deep interest with all who have really at heart the welfare of the most helpless portion of the labouring population.

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SOME account was given last year in this Journal, at p. 783, of the destruction of some bees by a fungus, as was supposed, which occurred in their intestines. Specimens were forwarded to us from Liverpool, but unfortunately in such a state that we could arrive at no satisfactory conclusion. A fungal growth was indeed observed, but not in such a condition as to enable us to refer it with any certainty to any particular genus, and Mr. HIGGINS who made the communication was scarcely more successful.

Within a few days, however, we have received from Dr. MONTAGNE a short sketch of a memoir read by him before the Imperial Society of Agriculture at Paris, respecting a fungus found in the same situation by Monsieur LEUCKART, and described by HOFFMANN in the 19th number of Hedwigia. It is not indeed certain that the fungus is the same as that observed by Mr. HIGGINS; but it appears certain from the memoir that bees, like silkworms, are liable to be destroyed by fungi.

Monsieur LEUCKART'S fungus is found in the second stomach of the diseased bees, that, viz., in which the chyme is formed. The mycelium is seated on the wall between the epithelial cells, and consists of numerous highly branched transparent threads which have a few dissepiments. These threads increase continually, and at last distend the stomach enormously, and destroy the insect. With the filaments is found an enormous quantity of extremely minute spores. The threads decrease in number proceeding downwards, and are very sparingly produced in the narrow intestine, disappearing altogether in the rectum, while a few spores only and conidia are found, and these not in a state of germination.

The fructification appears in two forms, viz., in that of a vesicle filled with spores constituting a *Mucor* or true mould, and moniliform threads like those of an *Oidium*. The perfect plant is described as *Mucor melittochthonus*, while to the Oidioid form, which is however probably a mere state of the other, the name of *Oidium Leuckarti* has been assigned.

In conclusion, we may observe that the important part played by fungi in the production of disease, both in the animal and vegetable kingdoms, is daily becoming more evident; and it is fortunate when, as in the present instance, new forms of disease fall under the notice of persons competent to give a decisive opinion as to the real nature of the productions by which disease has been induced. *M. J. B.*

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IT was only the other day that we gave a somewhat lengthened account of the magnificent gardens at TRENTHAM. It is now our office to announce that Mr. ARCHIBALD HENDERSON, the Superintendent of the Horticultural Garden at Chiswick, has been appointed to the charge of this vast establishment, in the place of Mr. WREN, whose health is said to have failed him. The able manner in which Mr. HENDERSON has managed the Chiswick garden justifies us in expressing a confident belief that he will be found worthy of the signal honour that has been conferred upon him.

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## New Plants.

213. CALLICARPA PURPUREA. *Juss. Ann. Mus.* 7, 69.
— *Schauer in D.C., Prodr., xi.* 645.

No plant excited more interest at the last autumn meeting of the Horticultural Society in St. James's Hall, than a little shrub from Mr. Standish, of Bagshot, loaded with the most beautiful shining deep violet berries. Few had seen such a species before, or suspected what it might be; the fact being that Callicarpa, the genus to which it belonged, has never before produced the beautiful fruit, from which its botanical name has been formed. The accompanying figure will convey a good idea of its general appearance.

Not having seen the flowers or the old leaves, we are in some doubt to what species of Callicarpa it should be referred; and in selecting that called *purpurea* we by no means overlook the possibility of its proving botanically distinct. In the form of the leaves, and the proportional size of the clusters of berries, it agrees very well; but the hairiness is that of *C. rubella*, quite a different plant. But these Callicarpas certainly vary much in hairiness at [illegible] periods of growth and under different circumstances. All that we can say for the present is that it may be a state of C. purpurea, the Porphyra dichotoma of Loureiro; but that it may possibly be the C. [illegible]. At all events it is a most interesting little greenhouse shrub, brought from China, we believe by Mr. Fortune. What makes it so extremely useful is that its berries retain their beautiful colour till long after Christmas. Some indeed now before us are as brilliant as they were in November.

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SUMMER PEAS, ROTATION OF CROPS.

IN your notices of seed catalogues, p. 60, you have given a quotation on the growth of summer Peas. No doubt the plan recommended is a very good one, but still I believe not the best that can be adopted. There is a very general opinion extant that it is very rich manure for Peas; but that is a great mistake. If you give sufficient room for light and air to play on all sides of the plants, I believe it is almost impossible to give too much manure to summer crops. For many years past I have sown Peas in trenches prepared as for Celery, mulched them with good dung, irrigated with manure water, and yet never found them suffer from over-luxuriance. I need not say how much superior Peas so grown, especially early ones, are to the wretched "shot-like" things generally sold in markets. It will of course be argued that these are early; true, but is the produce of such half-starved plants forced into premature fruitfulness fit to eat? Certainly, as compared with well-grown Peas a few days later, it is not; and for that reason I have discarded the class of early Peas altogether. I have reduced my assortment of Peas to three kinds, viz., Harrison's Glory and Perfection, and Hair's Mammoth, and these three kinds sown the first week in each month from Christmas to August will give a good succession to the end of October, and sometimes in a favourable locality to the end of November. These three kinds I grow for the parlour table, but have a "pet" in the Scimetar or Bedman's Imperial for the servants' hall. Now, according to my standard, a row of Peas of No. 1 or Daniel O'Rourke, which are generally described in the seed catalogues as 3 feet high, and with scarcely branches sufficient to cover the sticks—should be 4 to 5 feet high, and quite that much round the plants or haulm. A row of Peas of this description will produce as many Peas as many rows such as are generally grown, while the pods produce individually will be almost double the usual size, and of course much superior in quality. As a general rule I never grow Peas closer than from 18 to 20 feet apart in the row, but of course the ground is cropped between the Peas with other vegetables. Under such circumstances the rows are prepared for Celery; that is, after the ground has been well dug it is marked out in rows running from north to south, and trenches are taken out 18 inches wide and two spades deep; the bottom is filled from 6 to 9 inches deep with well-rotted manure, and after being incorporated with the under soil the top soil is returned to the trench leaving a ridge on each side, so that when water is required a trench is provided to receive it. Where a regular system of rotation is followed these Pea stations will be prepared at the winter digging, or at any rate when the ground is prepared for the regular crops, as the Pea sowing has not to wait for other crops to be cleared before they can be got into the ground.

With the general or main supply of vegetables I find a four-course rotation to be the most convenient and profitable. Celery I take as my leading crop, for that the ground is being prepared at the proper time, though the seed is not yet sown. This is not trenched, if not trenched in the usual manner, but I make it, like the London market gardener, stir the under soil for every crop, and bring a fresh surface as frequently as I can. Well, the ground being rough dug I proceed for the Celery crop. I plant all my Celery in beds, not on the Scotch system of four or six rows in a bed, by which means the inner rows are generally very inferior; but I have my beds 4 feet wide, and plant two rows of plants in each bed. This admits of the rows being 1 foot apart and the plants such a distance apart in the row as circumstances or the size of the variety may render necessary. The ground is therefore laid out into spaces 3 feet and 4 feet wide alternately. The earth is taken from the narrow spaces and placed on the wide ones, and thus we have a trench 3 feet wide and a ridge the same height alternately. Of course it is too soon to plant Celery at present, therefore I do not fill the trenches with rotten dung, but leaves, vegetable refuse, &c., are wheeled in, and sufficient dung is added to bring the whole, when properly incorporated, to a nice growing temperature. On these mixed hotbeds two rows of previously prepared Potatoes are planted, and as the plants appear they are protected with Ferns or such other material as may be most convenient. These beds give a crop of Potatoes through part of May and June, and when the trenches are cleared of Potatoes the manure is turned over, well soaked with manure water, and planted with Celery, the plants having of course been prepared elsewhere. In this way all the trenches are successively occupied, and one advantage of this system will be manifest, viz., that no manure has to be carted into the garden at a time when in most gardens men's hands are more than full. So much

... a word for the ridges; these from centre ... are 7 feet apart, and hence afford first-rate ... for the dwarfer kinds of Peas, as Harrison's ... &c. On each side the rows of Peas there is now ... of Lettuce, but it will be well so to time the ... that the Lettuce may be off before the Peas are ... together. Thus the ground is fully occupied the ... season, and in the twelve months may be said to ... four crops.

The deep cultivation which the ground gets for Celery prepares it capitally for root crops, and hence it is occupied with Onions, Carrots, Parsnips, Beet, &c. In the third year it is occupied with Cabbage, Cauliflower, and other Brassicas, and in the fourth year with Potatoes, which are cleared off in time for a dressing of dung, and a good crop of autumn and winter Coleworts or Turnips—and these give place again in turn for Celery trenches and early Potatoes, as at the commencement of the rotation. It must be observed that in addition to the Celery ridges the whole of the ground specified is occupied with Peas in rows, 20 feet apart, care being taken so to divide the ground that Peas do not come on the station without a change of crop.

I do not advance this system of rotation as anything new, as I gave a similar detail in the *Gardeners' Chronicle* now 17 years ago, and others follow the same plan. Experience however has satisfied me that it is the right system, and one especially adapted for small gardens. There is neatness and method in it, and a rotation of cropping very preferable to the higgledy piggledy system of cropping, a bit here and a bit there, followed in many places where better things might be expected. *A. P. H., Orchardleigh Park, Frome.*

## RHODODENDRONS.—No. I.

The Rhododendron has justly been styled the queen of flowering shrubs. It is every day increasing in popularity and importance. "American gardens," of which it is the chief occupant and ornament, have come to be considered as almost necessary features in the grounds of every country residence, large or small, successfully competing with the Rosery in brilliancy and variety of colour, and rivalling it in masses of rich deep evergreen foliage.

The commercial growers of this plant have, with laudable exertions, at once administered to and augmented the popular taste by producing a succession of novelties each more beautiful and striking than the preceding, till at length beauty of form and colour, with size of flower and substance of petal, have been so successfully combined as apparently, to the uninitiated at least, to leave nothing to hope for or desire. But as will be shown in the course of these papers, the results hitherto obtained, great and important though they be, must be considered merely as stepping stones to still greater achievements.

The present important horticultural position of this shrub, coupled with the wishes of several correspondents for detailed instruction on its management, has induced us to undertake a series of articles which shall, as far as possible, meet their requirements. In fact it is proposed to give a complete treatise on the cultivation of this popular plant, combining its treatment both as a pot plant and in the open ground throughout the year, with all necessary instructions as to soil and propagation—a treatise in fact which shall at once initiate the beginner and instruct the more advanced amateur.

Up to a comparatively recent date the materials in the hands of the hybridiser (to whom, in fact, the present important position of the Rhododendron as a hardy garden shrub is mainly due) were limited, and though by skill and industry he was continually producing new change and combination of the materials at his command, he began to feel the want of some new source from whence he could derive the requisites to enable him to produce still greater diversity as well as new combinations. At the moment when the important discoveries of Dr. Hooker in Sikkim Himalaya were announced to the gardening world, and before the expectation and enthusiasm which the announcement of such discoveries had necessarily created had subsided, they received additional stimulus from the publication of "The Rhododendrons of Sikkim Himalaya," giving life-like and life-sized portraits of these magnificent plants. Seeds of the greater portion of these, thanks to the liberality of Sir William Hooker, were quickly disseminated throughout the country, and, according to the skill of the recipients, were more or less successfully raised. Very many of the species have now flowered; some are much superior, others little inferior to the published representations just referred to.

As in all new discoveries, much misapprehension arose in connection with these plants. Their value as individuals and directly must, on the whole, be looked for in a direction opposite to that in which it was supposed to lie; *i. e.*, not as hardy plants but as denizens of our conservatories and greenhouses; indirectly, but not the less valuable, as materials for infusing new blood into our already abundant and beautiful race of garden hybrids, and producing forms and colours hitherto undreamed of in the most enthusiastic cultivator's philosophy. Nor is this all; that great desideratum with many, a hardy, scented Rhododendron, is looming in the distance. Edgeworthi, the prince of fragrant plants, belong to whatsoever genus they may, has contracted an alliance with a cousin, and the union has produced a numerous progeny. But we must quit, at least for the present, anticipations for realities—hoped-for results for present facts, and, fortunately, in so doing we have no lack of brilliant materials to occupy our attention.

As a hardy flowering shrub, in which by the bye the Rhododendron is most directly valuable, it presents us with a combination of desirable qualities not possessed by any other. Its flowers is very diversified in colour. Every shade from white to crimson, purple, and scarlet, with innumerable combinations, are to be obtained. And the early period in the life of the plants at which these flowers are produced is a highly important feature. Formerly many years elapsed between the sowing of a pan of Rhododendron seed and the flowering of the plants. Now the same results can often be obtained in one-fifth part of the time; and this precocity is entirely due to the results of judicious cross-breeding. Nor is the precocity less remarkable than the abundance of the flowers produced—plants 6 inches high having as many heads of bloom, and larger plants in proportion.

Then in the Sikkim and Bootan kinds we have, besides the colours already mentioned, yellow in various shades, with a vast augmentation in the size of leaf and flower, and, in many instances, a marvellous perfection of shape in the latter. Falconeri, for instance, has a head of primrose-coloured bells, with a recurved rim of exquisite form, and of which the fine drawing in the work before alluded to gives no adequate idea. And no less remarkable is the foliage of this fine plant. Individual leaves 18 inches long by half a dozen broad are by no means exceptions. Then there is the famous scented Edgeworthi, the admired of Royalty, with its large Gum Cistus-like flowers, 4 or 5 inches in diameter; and Hodgsoni and Maddeni, and the magnificent Nuttalli of Augsburg celebrity.* The influence of these on our garden hybrids and *vice versâ* has already commenced. That the results will be of the highest importance no one can doubt.

Although the treatment of the Sikkim and hardy hybrid Rhododendrons has much in common, we shall, we think, be consulting the benefit of our readers by treating them as far as possible separately. This we shall do step by step, beginning with the hardy hybrids as being most generally cultivated. ***

*(To be continued.)*

## "PALACE FOR THE PEOPLE."

An influential company is in course of formation, with the object of erecting a second Crystal Palace under the above title at Muswell Hill—a delightful situation between Hornsey and Highgate, where an estate of 450 acres, admirably adapted as a site for the proposed building and grounds, has, we hear, been purchased for that purpose. The proposed building, which, like its great precursors in Hyde Park and Sydenham, is to be a magnificent structure of iron and glass, is from the designs of Mr. Owen Jones, who has, however, introduced very considerable alterations both in the elevation and interior arrangements, and which, in our opinion, constitute great improvements, and will make the building much superior, in many respects, to the Sydenham Palace. The centre of the proposed building, which altogether is upwards of 1200 feet long and 400 feet wide, consists of an immense circular dome of 200 feet span, and 136 feet high, completely divided from the rest of the building, and intended as a winter garden or tropical conservatory, beneath whose capacious and lofty roof Palms and other types of the magnificent vegetation of the tropics will find room enough to attain their utmost development. The great advantage of having this compartment devoted to a conservatory divided from the naves will be to prevent the humid atmosphere necessary for the growth of plants penetrating the rest of the building; and thereby to preserve many fine art productions and delicate manufactures which are found to suffer where the least dampness prevails. One nave is to be devoted to works of practical utility, manufactures, &c., and the other to the fine arts and scientific objects. Besides, there are proposed minor sub-divisions, to include museums, class rooms, show rooms, &c. A grand concert room or theatre is also provided, which forms a circular projection to the building on the north front; this will contain sitting room for 10,000 spectators, and yet is so arranged that it does not interfere with the other interior arrangements.

It is proposed to surround the palace with terrace gardens on a magnificent scale in the early English, Italian, Dutch, and French styles, as well as modern English, to represent the progression of this department of ornamental gardening. An experimental horticultural establishment is also one of the objects contemplated by the promoters, as well as the cultivation of those plants which enter into the arts and manufactures; their object being to make the Palace an educational establishment, as well as to afford amusement and recreation. Useful or economic botany, as well as horticulture, arboriculture, and agriculture, will be introduced in a popular manner, so as to convey a clear view of the principles of cultivation included under each head.

As we stated above, the whole estate comprises about 450 acres, beautifully undulated, and well furnished with timber. The site of the proposed Palace will be at an elevation of 200 feet above the general level, and the view from the building and adjoining terraces will embrace a wide circle, extending over the metropolis to the Surrey hills, and the Sydenham Palace; Kent Middlesex, and Essex. The situation is, in fact, one of the most picturesque to be met with, and remarkably so, considering its close proximity to London, and the ease with which it may be reached from the metropolitan districts north of the Thames. The extent of ground intended for the gardens and park will be about 200 acres; the soil is a sandy loam, varying to that in which clay predominates, and very suitable for the growth of trees, as is evidenced by those growing on the spot, and the luxuriance of the shrubs and exotic trees in the neighbouring gardens growing in similar soil. In addition to the grand architectural terrace gardens, which will enclose the Palace on all sides, the rest of the grounds are to be laid out in the natural style, and will include some 40 or 50 acres laid out as a park, to be stocked with deer and other animals, and also ample spaces of ground for every species of recreation. A broad carriage drive is to be carried entirely round the grounds, which will be a great boon to invalids and equestrians. A lake of 30 acres will occupy the low ground facing the terrace front of the Palace, and will prove a great feature, as seen from the higher grounds. The introduction of ornamental trees and shrubs is intended to be on a most extensive scale, and it is expected will add greatly to the interest and novelty of the gardens, admirably adapted as the features of the ground already are for carrying out the natural style of landscape gardening. The above are the principal features connected with English gardening which the promoters of this undertaking contemplate introducing into their scheme. There can be no question that the idea of making British gardening popular as well as instructive is a step in the right direction; and that there is no reason why the highest attainment of the landscape gardener's art, and the most successful examples of cultivation, may not be made subservient for imparting a knowledge of plants under every form of employment and combination—a beautiful and suggestive idea, worthy of the age. Notwithstanding the great popularity of Kew—maintained by national resources—we think much remains to be accomplished before all the instructive lessons which may be taught through the medium of the vegetable kingdom, and the various uses and objects to which plants can be applied, are fully comprehended by the masses. We can therefore most heartily wish success to a company who, it appears, are endeavouring to carry out such ideas, and who seem desirous of making the grounds belonging to the "Palace for the People" not only as interesting and beautiful as Art can make them, but, by embodying the educational principle in their scheme, they will create thereby a school for studying an important department of natural history, as well as the principles of cultivation applicable to the garden and the farm. *From the Florist of February.*

*To M. Otto Förster, of Augsburg, Bavaria, belongs the honour of having first grown this fine plant. A plate of it is given in the current Number (the fifth) of Messrs. Henderson's "Illustrated Bouquet." The flowers were hybridised, and a fine head of capsules is the result These have been consigned to Mr. Standish, from whose nursery the plant was originally sent to M. Förster.

## Home Correspondence.

*Turning out Rooted Cuttings from Striking Pots.*—Under the title of "Compartment Cutting Pots," there is in your last Paper (p. 74) a description of a pot of that kind, the object of which is to facilitate the turning out of plants from striking pots, without injuring the roots, which are commonly liable to be broken off or greatly damaged, especially when two or more cuttings have been struck in the same pot. Without discussing the merits of the plan proposed for that purpose by your "Subscriber," (which I think he will find to be a great mistake), I will describe a simple method of performing the above process, which with proper management will always answer perfectly. Let the rooted cutting be carefully turned out into one hand without disturbing the earth, and then turned over again into its natural position, and held with both hands under water (which is of course to be warmed where it may be required by the kind of plant, or for the comfort of the operator) and by gentle shaking and pressure on all sides with the separated fingers, the earth may be very gently coaxed away from the root, and allowed to fall to the bottom of the water, which it will readily do and leave the roots quite clean and uninjured; the most brittle roots, which if I remember rightly are those of Fuchsia cuttings, may be so preserved entire. When two or more cuttings have been struck in the same pot, and their roots are entangled with each other, they may be disentangled in the same careful manner, by judiciously disposing them between the fingers of both hands and gradually pulling them apart—under water. Where it is proper to dry the roots, which it is when the cuttings are to be immediately repotted, it may be done by throwing over them enough dry earth or sand, which will fall from them again by its own weight when the roots are lifted out of it; but when it clings to them, which it will do where enough has not been used or the operation has been hurried, and always when the roots are tender, care must be taken to lift them out of it in the direction of their growth. It need not be added that the same process applies equally in all cases of removing plants from pots, when the roots are to be separated from the earth in which they have been growing—with proper modifications where they are large and heavy; and it is essential to sound practice that rooted cuttings should never be repotted or transplanted without removing it from them. But will the great gardeners of these days be patient with me when I tell them that the business of repotting or transplanting in the vast majority of cases is still performed in the very worst possible manner? *N.*

*The Prodigies of Household Words* (see p. 76).—I can bid higher for the admiration of wonder-loving readers than the author you have referred to. Radishes weighing 50 or 60 lbs. are trifles. I know of something much more grand. I was both an eye-witness and ear-witness of a late meeting at Leyden of the "Society to Promote the Introduction into Holland of the Plants of Java and Japan"—a very notable association I can assure you, and presided over by no less a personage than Dr. v. Siebold. After the business was over, the learned President delivered an address to the meeting, concluding his remarks in the following words:—"Gentlemen, before we separate permit me to have the pleasure of offering each of you a few seeds of a Radish which it requires the strength of two donkeys to carry to market (*que deux ânes réunis peuvent seuls porter au marché*). I need not add that the meeting was almost moved to tears by the President's touching generosity. *Batavus.*

*Glazing.*—What is the best plan that I can adopt for stopping the laps of my glass? I have had a large plant-house erected, and the roof of it is glazed with Hartley's rough plate glass; unfortunately the glaziers have not allowed quite a sufficient length to lap more than ½ inch, and the sheets being rather round in some of them the opening is ¾ inch or more, so that when we have rain accompanied with wind I find that the wet comes through. I am not an advocate for stopping the lap of any glass building for plants, but under the present circumstances I am obliged to do so. I now wish to ask what you would advise me to do, and what kind of material to use that will not appear to darken the laps, and that will not quickly perish? *A Subscriber.* [There is nothing better than good "tacky" glazier's putty.]

*New Zealand Kidney Bean.*—I inclose some Beans which I presume are similar to those advertised as the "New Zealand Running Bean." Will you oblige me by stating if they differ from those you have received? The seeds sent were produced from a few taken from the crop of a wild pigeon that was shot in America several years since. They are not so prolific as the Scarlet Bean, but the legume is rather ornamental when arriving at maturity. *N. S. Hodson, Botanic Gardens, Bury St. Edmunds.* [We doubt whether these are the same. They are too long and too large.]

*Rhododendrons.*—Is there any way of causing these to flower in autumn? I have been told that if the flower-buds are picked off now they would blossom in the autumn of 1860. This refers to the common varieties of R. ponticum, or is there any other species that would do so? *G. W. H., Sheffield.*

*Josephine de Malines Pear, &c.*—In answer to your question in the *Gardeners' Chronicle* for January 22 about this Pear, I beg to say that the salmon-colour of the flesh is *not* constant, though it often pervades the whole Pear. There is no apparent difference in ripeness or quality in fruit where it is present, and I cannot account for it. I wish to repeat a question I asked last spring, but to which I had no answer. It had reference to the *yellow ground* Carnations and Picotees, seed of which is now sold at a very high price by most of the first-rate seedsmen, and which is said to produce 80 per cent. of double flowers, yellow, orange, and buff grounds, with scarlet, maroon, lavender, and other coloured stripes. What I wish to ask is, if any of your readers have raised plants of these varieties, and what the result is? *A. R., Bromley.*

*Culture of the Fig in pots.*—It is generally admitted that great improvement has been made in the culture of most fruits; but the Fig, one of the most wholesome, and when properly managed the most fruitful tree with which I am acquainted, appears not to have received so much attention as it is justly entitled to. To force Figs with success they should be root pruned at least once in two years, cutting from 2 to 3 inches less than the pot they are in, refill the pots with good rich soil mixed with rotten dung, and when potted, which of course will be in autumn, keep them from frost, and they should not receive any water. If ripe Figs are wanted in June, they should be put into heat, say the third week in January, keeping the house at 40° at night and from 50° to 55° by day for the first three weeks, syringing twice a day; the roots will now begin to grow and must be attended to with water; but water given before is apt to sour the soil. The house should be shut at 1 o'clock in the day, but air should be given when it can be done with safety. The buds will now be swelling a little, when the temperature may be raised from 4° to 10°—the former by night and the latter with sun heat, till the plants show fruit; keep the house well damped and give water freely once a day, with air as circumstances will admit; but avoid cold draughts. As the fruit advances carefully raise the temperature, but in doing this take every advantage of sun heat; do not get over 60° by night. When the fruit shows signs of ripening, gradually withhold water, keeping the house moist by sprinkling the pipes. Air, which may now be given with safety, should be admitted freely till the first crop is gathered, when a top dressing should be given to the pots, which will encourage the roots and enable the plants to ripen a second crop. Keeping the house moist is what Figs enjoy. *H. S. G.*

*Mistletoe.*—Four or five years ago, or more, being in Mr. Fowell's nursery at Okerthorp, near Alfreton, Derbyshire, my attention was directed to some Mistletoe growing on two very young Crab stocks, not so large then as walking-sticks, and about 1 foot from the ground. Mr. Fowell lifted one into a pot, but the Mistletoe then died out. The other now remains and is a fine bunch at least 18 inches in diameter. Mr. Fowell has succeeded in inarching several pieces on small Crab stocks placed in pots around it. Two are severed from the parent, and seem to be doing well. The stock, I think, shows signs of pushing more Mistletoe in several places. No attempt has been made to insert seed, nor has the stock been wounded in any way. It is healthy and the bark quite smooth, except where I think the parasite is bursting through it. Has Mistletoe ever been propagated in this way before? *W. P., Butterley Hall, near Alfreton.*

*Growth of Pinuses at Esher Place, Surrey.*—

| | January. 1857. | 1858. | 1859. |
|---|---|---|---|
| | Ft. ins. | Ft. ins. | Ft. ins. |
| Abies canadensis .. .. .. | .. | 5 2 | 5 11 |
| ,, Douglasii .. .. .. | .. | 8 6 | 10 0 |
| ,, cephalonica .. .. .. | .. | 6 2 | 7 7 |
| ,, Pinsapo .. .. .. .. | 14 7 | 16 2 | 17 8 |
| ,, Khutrow .. .. .. | .. | 8 2 | 10 0 |
| Cedrus atlantica .. .. .. | 2 0 | 2 10 | 4 0 |
| ,, Deodara .. .. .. | 17 6 | 18 8 | 19 6 |
| Pinus Devoniana .. .. .. | 9 5 | 10 0 | 11 7 |
| ,, Coulteri .. .. .. .. | 26 0 | 29 10 | 32 0 |
| ,, Sabiniana .. .. .. | .. | 8 0 | 9 5 |
| ,, Pyrenaica .. .. .. | 12 0 | 14 0 | 16 3 |
| Araucaria imbricata .. .. .. | 10 0 | 10 8 | 12 1 |
| Thuja plicata .. .. .. .. | .. | 7 3 | 8 0 |
| Cupressus Goveniana .. .. | .. | 8 0 | 8 10 |
| Taxodium sempervirens .. .. | 17 3 | 21 6 | 25 4 |
| Cryptomeria japonica .. .. | 18 0 | 20 6 | 22 0 |

—*W. W. Spicer.*

*Rain at Stoneleigh Abbey, Warwickshire*, 1858.—

| | Rainy days. | Inches. |
|---|---|---|
| January .. .. .. | 8 | .43 |
| February .. .. .. | 7 | .97 |
| March .. .. .. .. | 11 | .90 |
| April .. .. .. .. | 9 | 2.85 |
| May .. .. .. .. | 13 | 2.45 |
| June .. .. .. .. | 4 | 2.51 |
| July .. .. .. .. | 8 | 2.48 |
| August .. .. .. .. | 10 | 2.87 |
| September .. .. .. | 11 | 2.50 |
| October .. .. .. .. | 6 | 2.20 |
| November .. .. .. | 6 | 0.55 |
| December .. .. .. | 13 | 2.05 |
| | 106 | 22.76 |

*J. B.*

*Rain at Dorward's Hall, Witham, in* 1858.—

| | Ins. | | Ins. |
|---|---|---|---|
| January .. .. .. | 0.75 | Brought forward | 8.92 |
| February .. .. .. | 0.81 | August .. .. .. | 0.98 |
| March .. .. .. | 0.17 | September .. .. | 0.93 |
| April .. .. .. | 2.15 | October .. .. .. | 1.41 |
| May .. .. .. | 1.86 | November .. .. | 0.82 |
| June .. ... .. | 0.77 | December .. .. | 1.64 |
| July .. .. .. | 2.41 | | |
| Carried forward .. | 8.92 | Total .. .. | 14.70 |

One-third below average.

*Henry Dixon.*

*Rain in* 1858 *at Burraton, Sheepstow, Dartmoor,* measured by Howard's gauge:—

| | Ins. | | Ins. |
|---|---|---|---|
| January .. .. .. | 3.03 | Brought forward .. | 22.90 |
| February .. .. .. | 3.26 | August .. .. .. | 3.99 |
| March .. .. .. | 2.08 | September .. .. | 4.80 |
| April .. .. .. | 3.55 | October .. .. .. | 3.81 |
| May .. .. .. | 5.23 | November .. .. | 4.37 |
| June .. .. .. | 2.13 | December .. .. | 7.68 |
| July .. .. .. | 3.62 | | |
| Carried forward .. | 22.90 | Total inches .. | 47.55 |

*Henry Terrell.*

*Rain at Cobham, Surrey, in* 1858.—

| | Ins. | | Ins. |
|---|---|---|---|
| January .. .. .. | 0.78 | Brought forward | 11.04 |
| February .. .. .. | 1.68 | August .. .. .. | 2.00 |
| March .. .. .. | 0.55 | September .. .. | 0.86 |
| April .. .. .. | 2.34 | October .. .. .. | 1.48 |
| May .. .. .. | 1.83 | November .. .. | 0.82 |
| June .. .. .. | 1.39 | December .. .. | 1.67 |
| July .. .. .. | 2.47 | | |
| Carried forward .. | 11.04 | Total .. .. | 17.87 |

*C. Molesworth, Cobham, Surrey.*

*Rain in* 1858 *at Goodamore, Plympton St. Mary, Devon,* as measured by Howard's rain gauge:—

| | Ins. | | Ins. |
|---|---|---|---|
| January .. .. .. | 2.81 | Brought forward .. | 25.91 |
| February .. .. .. | 3.37 | August .. .. .. | 3.11 |
| March .. .. .. | 2.85 | September .. .. | 3.95 |
| April .. .. .. | 6.58 | October .. .. .. | 4.02 |
| May .. .. .. | 4.08 | November .. .. | 3.99 |
| June .. .. .. | 1.48 | December .. .. | 8.10 |
| July .. .. .. | 4.74 | | |
| Carried forward .. | 25.91 | Total inches .. | 49.08 |

*Henry Hele, Treby.*

*Rain in North Lancashire in* 1858.—

| | Ins. | | Ins. |
|---|---|---|---|
| January .. .. .. | 6.8 | Brought forward .. | 24.4 |
| February .. .. .. | .8 | August .. .. .. | 6.3 |
| March .. .. .. | 5.4 | September .. .. | 9.2 |
| April .. .. .. | 4.3 | October .. .. .. | 7.2 |
| May .. .. .. | 3.7 | November .. .. | 3.4 |
| June .. .. .. | 1.4 | December .. .. | 8.8 |
| July .. .. .. | 2.0 | | |
| Carried forward .. | 24.4 | Total inches .. | 59.3 |

*Robert Aitken, Gardener to J. G. Marshall, Esq., Monk Coniston Park, North Lancashire.*

*Garden Hybrids.*—The case of chance hybrid intermixture amongst the Kidney Beans is new to me, and very interesting. I have another case to add to those hitherto observed—that of the Onion. My gardener, Mr. Thomas Smith, planted bulbs of the White Spanish and Brown Deptford in proximity. The produce was an undoubted cross as to a large per centage of the bulbs, and according to my judgment an improvement on both. I sent a few bulbs to the authorities at Chiswick for their opinion. We have also verified this year the assertion that the pollen of double ... communicates the habit to the offspring. M... fertilised a single Fuchsia with ... of Mr. Henderson's handsome double ... raised seedlings, most of which were ... double, and one scarcely differing from the ... indeed, I think even a slight improvement. ... was communicated by the male parent in ... the scentless yellow Honeysuckle (hirsuta), ... I raised scented seedlings by the pollen of the ... Woodbine. Cross-bred Michaelmas Daisies ... to have been raised by a French cultivator ... together the heads of bloom, but here the ... not direct, any more than in the case of the ... Cinerarias with their numberless varying ... mediate tints. The Anemone certainly ... for I have produced the same effects by ... between the blues and reds. The Dahlia I ... an instance of legitimate sporting into colour ... bisexual individuality, and the germs of ... may be easily detected in the wild species ... Mr. Carter's Gaillardia was raised by a ... Continental cultivator, and is I believe an ... handsome plant. This may have been an ... proximity in the seed-bearing plants, as in ... alluded to, and would indicate the expediency ... to consider the idea of inoculation by insects ... bear, and turning the knowledge to account by ... such plants together expressly for the purpose ... improvement of species. One instance, that of ... (or rather Dean Herbert's) hybrid Swede Turnip ... alone point out the importance of this system. ... *Clarke.*

*Grafting Old Spurred Pear Trees, &c.*—In Number for January 15, p. 39, your correspondent "Thorp Perrow" speaks of his success in grafting spurred Pear trees, and thus rendering them ... and also of grafting or inarching one Vine with ... I am enabled to corroborate his success by ... perience in my own garden. Seven years ago ... about to cut down a great number of old, ... espalier Apples and Pears; my gardener, then ... appointed, Mr. John Abrahams, begged me not to ... but to allow him to show me what he could do ... them. He, like your correspondent, freely cut ... old shoots, cankers, and useless and fruitless wood, ... engrafted the young and vigorous shoots of the ... plants upon such bare spaces as could be reached ... them. He frequently engrafted a young leading ... head shoot upon an old espalier—where no young ... could otherwise have been produced. The result ... seven years, is that I have as fruitful a garden ... one can desire. The situation is high—on the Cotswold ... hills, from 600 to 700 feet above the vale—upon ... rubble of the oolite, and where the present soil ... not average 4 inches. These experiments have ... time mentioned been successfully carried on upon ... Apple, Pear, Plum, and Cherry. Mr. Abrahams has ... been equally successful in making one kind of ... grow upon another. For the last 30 years he has ... me he has practised the intermixture, and I can ... testimony to his success of recent years. The ... season, being one congenial to the growth of out-door ... Grapes, he ripened very many pounds of the different ... colours, engrafted upon each other, and which ... visited and admired by many people. Should the ... season permit of the same result to the fruit, ... your readers will be readily introduced to the ... one coloured Grape growing upon a Vine of the ... site colour, if he will take the trouble to visit ... gardens. *J. H., Sandywell Park, near Cheltenham.*

*Rose Bacchus.*—In reply to your correspondent (p. 89) I am unable to say whether the Rose Bacchus was exhibited at St. James's Hall in July last. It may be remarked however that as it is an early blooming ... first flowering was probably over. It was in our ... of 50 varieties which gained the first prize ... the Crystal Palace Show, on the 16th of ... last; also in our collection of 50 varieties ... which the first prize was awarded at the ... Botanic Society's Show, on the 23d of the same ... As it is rather small this may be the reason it does ... appear oftener in winning stands. It was never ... mended as a show Rose; but supports all that was ... of it, and it is one of the most attractive in the ... especially if planted in a bed on its own ... The colour is exceedingly rich, bright, and ... not fading like its parent the Géant des Batailles; ... the flowers are produced in great profusion, ... is of dwarf habit, but not delicate. No doubt ... correspondent's treatment of it in "a cold frame" ... congenial to its nature, for a correspondent writing ... Jamaica says—"Bacchus is magnificent, it is never ... out of bloom." From the increasing demand for ... Rose, we infer that it is a favourite with that part ... of the Rose-loving world who do not consider ... sole test of merit. *William Paul, Nurseries, Cheshunt, Herts.*

*The Lime-tree.*—Although this may be suitable ... grouping, there is one decided objection to its ... employed for avenues. In several parts of this ... branches of this tree extend over the flags in ... streets, and are coated over to such an extent with ... honey which exudes from the blossoms, that one ... danger of becoming a chrysalis, if we stop to look ... into this extraordinary appearance. Apiarians may ... grow a few trees profitably for bee food, as they resort ... to the trees abundantly when in bloom. *W. Gobbett, Nurseryman, Hereford.*

*Ants.*—To kill these, mix a small quantity of ...

and loaf sugar and arsenic in equal parts, and drop a few pieces of glass near their runs; they will soon partake of it, and die. If your correspondent "K. M. C." will place a toad in his kitchen for a week or two—first giving it to have a place of retreat in the day-time, such as a small flower-pot laid upon its side with a handful of dry Moss in it—nothing will be seen of it during daylight, but at night when all is quiet it will sally forth, destroying every ant, small beetle, fly, &c. which may come within its reach. I have for years adopted the latter method in my early and late Graperies, Melon pits, and flower houses, during the summer months, and I have never found it to fail. *J. Begbie, Gardener, Moseaden Abbey, Bucks.*

*Culture of the Neapolitan Violet.*—Many questions having lately been asked respecting the culture of this Violet, I venture to offer a few remarks on the subject. It is I need not say a useful little plant, whose fragrance during the winter and spring months is welcome to every lover of flowers. Strong plants may be obtained by dividing the old ones of the previous season's growth. This operation should take place in May; a sloping border under the shade of a north wall should be selected, where they should be planted with a trowel 10 inches apart. Care should be taken to keep the soil loose, and during the summer season a little manure-water would be found beneficial if applied twice a week from July until the beginning of September. Apply it by means of a small-spouted watering pot, but keep the heart of the plants dry, otherwise the liquid might prove injurious. The runners should be kept entirely clear from the time they are planted in the border until the time they are removed to the frame, which should take place about the middle of October; the plants should then be carefully raised with a ball of earth to each, and placed in the frame, which should be three parts filled with garden soil. The frame may be placed upon a bed of leaves about 2 feet thick. The plants should be placed 4 inches apart and about 3 inches from the glass; the frame should be kept close and shaded, only admitting about an inch of air in the evening, which may remain until early the following morning. Let this be continued for a week or ten days, after which the plants will enjoy plenty of light and air: great care must be taken not to overwater during the winter months. Strong stakes driven round the frame in an upright position, 1 foot apart each way, and the interval well filled with straw, will prove a good protection from severe frosts. *Robert Eyres, Stubton Gardens.*

*Improved Plant Saucers.*—It is very useful and saves trouble to set plants in saucers filled with water in hot dry weather, but it is most injurious to the roots of some of them to let them stand in saucers as at present manufactured. If however a rim was made all round the saucer to allow the pot to rest within half an inch of the surface the water would be drawn up by the roots as required, and would last much longer as not being exposed to the sun, and evaporation would be less. *An Old Subscriber.*

## Societies.

Horticultural: *Feb.* 1.—At a meeting of the Fruit Committee held on this occasion at 21, Regent Street, two prizes were awarded to Easter Beurré Pears in sixes. The first to Mr. Cox, gr. to W. Wells, Esq., Redleaf, and the second to Mr. Hall, gr. to T. Lucas, Esq., Lower Grove House, Roehampton. Both exhibitions consisted of large and beautiful fruit of this well-known variety. Other contributions of this Pear came from Mr. Evans, gr. to Archdeacon Jones; Mr. Tucker, gr. to J. Moorman, Esq.; Mr. Masterson, gr. to K. Greenaway, Esq.; Mr. Clarke, Cobham Hall; Mr. Judd, Althorp, Northamptonshire; Mr. Catt, gr. to Colonel Cavendish; and Mr. Douglas, gr. to H. B. Simpson, Esq. J. Allnutt, Esq., of Clapham, also sent a dish of small fruit of this variety.

Of Winter Greens, Mr. Turner sent a remarkably fine specimen of his Cottagers' Kale, of which we hope to give a representation next week. Mr. Melville, gr. to the Earl of Roseberry, Dalmeney Park, near Edinburgh, also furnished examples of the Roseberry Brussels Sprout, which is certainly different from any at present in cultivation. Its distinguishing peculiarity is the size of the Sprouts, each of which is as large and round as a moderate-sized Apple, and they are produced on the stem in great abundance from bottom to top. An open Cabbage sprout called Chou de Milan from the same grower upon trial did not prove good; along with these also came some specimens of a white sprouting Cabbage, which looked exactly as if it had been blanched.

## Notices of Books.

*Collection des Orchidées* ["*Collection of the most remarkable Orchids of the Indian Archipelago and Japan*". By Ch. L. de Blume. Folio. Amsterdam, 1858. Parts 1 and 2.

This is a work printed on superfine paper, decorated with coloured and uncoloured plates, written by a learned Dutch botanist and dedicated to the King of Wurtemberg. The address to his Majesty is like all such addresses and need not be described. The preface opens with an attack upon the Dutch Government for overlooking the learned author's merit and for not paying the expense of his works. Dr. Blume tells his readers that the materials which he has accumulated (and he might have added kept to himself) are enormous, and must be published at his own charge in order that they may not be lost to science; he vouchsafes a little praise of some of the modern Dutch collectors of plants, carefully excluding all notice of others, and he concludes his preface with an explanation of his own theoretical views of the structure of Orchids, with which we shall not trouble our readers, and to which he promises to return at the end of the 24 parts of which this costly book is to consist.

The frontispiece represents a dance performed by three hideous half-naked meretricious figures which an ingenious friend suggests are probably intended for women. The body of the work consists of Latin and French descriptions of certain genera, illustrated by figures black and coloured. Of these the first is Phaius, occupying 14 pages, succeeded by Bletia, Thelasis, Dilochia, and Pachychilus. To the manner and form of this portion of Prof. Blume's work we have nothing to object; his technical language is clear, and his observations are arranged in logical order. But we regret to add that his criticisms are hasty and unsatisfactory, while his neglect of the well-known works of others is most reprehensible. His book appeared in the end of 1858; we received our copy on the 3d of November. His first article is on the genus Phaius, several Java species of which were very sufficiently published and even figured by Prof. Reichenbach long since, one, P. cupreus, in the Bonplandia, as long ago as Aug. 1, 1855. Of none of these is the slightest notice taken. So again with Pachychilus, a name needlessly altered from Pachystoma, a very good account of whose species was also given some years since in the Bonplandia by the same able German botanist, who even pointed out its identity with Apaturia, a name which must give way; yet Prof. Blume passes him over in utter silence as if he had never written a word on the subject. Against conduct like this it is the duty of all friends of science to protest. Such *suppressio veri* is, we believe, unexampled, and while it inflicts a wrong upon contemporary writers, is nothing less than a fraud in the history of discovery. We have the less hesitation in speaking thus strongly because we have ourselves little personally to complain of.

Minute criticism of the systematical part of Dr. Blume's new work we reserve for a future occasion; but there are a few points to which it will be as well at once to advert. The learned author in reducing Pesomeria to Phaius wholly overlooks the very important peculiarities on which the former genus was founded. So again of Dilochia he says that the author of the genus ascribed to it 4 pollen masses instead of 8, which is literally true, the figure 4 having been accidentally misprinted for 8, in the technical description of the genus; but it was an obvious typographical error, corrected in the analytical table given a few pages earlier, as a little care would have enabled Prof. Blume to discover. Nor is his account of his own Java species of the genus less a mistake; his D. Wallichii being perfectly distinct from the species from Singapore, as is sufficiently evident to any attentive reader. It is in fact the D. pentandra of Reichenbach, published under that name in the Bonplandia more than a year and half earlier, that is to say, on 1st March 1857. Whether this determination to ignore the works of others arises from intention or ignorance we shall not venture to determine, but in either case it is as discreditable as, to the honour of naturalists be it said, it is unexampled. Such treatment of by far the most able of the continental Orchidologists will not meet with the support of men of science, who will know how to render to Prof. Reichenbach the justice which Dr. Blume has done his utmost to withhold. Since Dilochia, Phaius, and Bletia will soon find a place in the Folia Orchidacea, we withhold special criticism for the present. Of Thelasis we shall only remark that Dr. Blume's account of his Thelasis capitata is a mere nest of mistakes. In the first place he refers Griffith's Euproboscis pygmæa to his own Thelasis capitata, to which, judging from the figure and description, it has little resemblance; then he declares this Euproboscis to be a distinct species, calling it Th. pygmæa; and finally he makes a third species, Th. triandra, out of a monster (Peloria) figured by Wight. We hardly know how confusion can be carried further.

Of *Nees v. Esenbeck's Genera Plantarum Floræ Germanicæ*, the 30th fasciculus has at last appeared, under the care of Messrs. Schnitzlein & Brandis, chiefly occupied by Papilionaceous plants and Heathworts. The excellence of the figures and descriptions is fully sustained, and when complete the work will be one of the greatest use to botanists. But for how much longer is it to drag its slow length along?

Trade Lists received.—*Edmund Philip Dixon's* (Sculcoates, Hull) *Catalogue of Select Shrubs, Conifers, &c.* A list of useful hardy plants; small, but large enough for the world in general. But what are the "novelties" here offered under the names of Cupressus Bregeoni, Juniperus Langoldiana, and Thuja Caucasica? Some authority should be quoted, or some history given of such things?—*J. H. Cottrell's* (Birmingham) *New Catalogue of Vegetable, Flower, and other Seeds.* A considerable list of useful sorts printed in small 4to., a very inconvenient form for buyers to keep. All trade lists should be as nearly as may be in the same sized 8vo. We regret to be obliged to add that Mr. Cottrell's address to his customers is in the very worst taste; language like his is now confined to traders in quack medicine and cheap manure.—*Butler & McCulloch's* (Covent Garden) *Spring Catalogue of Choice Flower, Shrub, Tree, and Vegetable Seeds.* This list fills 84 closely-printed 8vo. pages, and is remarkably well got up. It appears that the correspondent in Sardinia who formerly supplied one of the great London houses with seeds raised in that warm part of Europe, has now transferred what he saves to Messrs. Butler & McCulloch. Let us add, that it yields to no trade list in the abundance of its materials or the excellence of its arrangements.

## Garden Memoranda.

Woodlands Nursery, Isleworth.—Mr. Dobson, the proprietor of this nursery, has always been famous for growing good specimen Geraniums, of which he has a fine stock both for sale and for exhibition. At the entrance are some neatly arranged beds, which, when filled with summer plants, are very attractive. In these the following have been very gay during the past season, viz., Verbenas: Mrs. Holford, Géant des Batailles, Purple King; Variegated Geraniums: Brilliant and Alma; Calceolarias: Kayi, aurea floribunda, and Prince of Orange; Delphinium formosum, Tom Thumb Geranium, Petunia magnifica, Lobelia speciosa, Perilla nankinensis, &c., all admirable plants for fine effect. On the walls of the seed shop is trained the beautiful winter-blooming Jasminum nudiflorum, which well deserves universal cultivation; no plant is better suited for exposed situations than this is, and it flowers well even in the hardest winters. It is now in full beauty.

Of glass houses, the first, a long span-roofed one, is filled with hundreds of Geraniums, most of which were shifted into their blooming pots a month ago; though stopped back previously the shoots are now an inch long; having thus overcome the repotting, abundance of air is given on every favourable opportunity; this induces them to keep dwarf and bushy. They are turned round once a fortnight. The next house is also a span-roofed one, moveable at top, front, and back, by which means abundance of air can be given; this is particularly essential during the autumn and spring months when the plants are growing. It is filled with large well-grown plants in the best of health, which at the present time measure from 2 to 3 feet across, and are very promising. None are grown here but the best sorts for exhibition, such as The Bride, Rose Leaf, Rose Celestial, Rosalie, Sanspareil, Saracen, Carlos, Admirable, Etna, Euphemia, Gem of the West, Emperor, Richard Benyon, Vestal, Fairest of the Fair, Aurelia, Wonderful, Una, Laura, and Eclipse. These are large and well furnished with shoots. They have not been long tied out, and are now getting strong. On account of the mildness of the weather little fire-heat has been required, while a judicious admission of air has been observed early in the morning, and the sashes are left open till late in the afternoon. Weak liquid manure water is given once a week to induce strong growth. The plants for exhibition in June have started nicely, and are about to receive their final repotting, while those for July are being encouraged to make growth previous to their being stopped back in March. All look clean and free from green-fly—a matter not to be overlooked. The next is a lean-to house about 50 feet long, with a partition in the middle; one half is used as a propagating house, and for bringing plants into early bloom; the other is employed as an intermediate house for hardening off fresh struck plants. Here were a few good fancy Geraniums, each of which has just been stopped for the last time. We also noticed some good Roses in pots; some of the varieties, such as General Jacqueminot, La Reine, William Jesse, Louis Philippe, D'Angers, Gloire de Dijon, Mrs. Bosanquet, Géant des Batailles, &c., were covered with buds. In the propagating house were some Fuchsias, now in 8-inch pots, about a foot high; these are in good rich soil, and are occasionally syringed; they are allowed to grow in a pyramidal form till they get about 3 feet high, when they are topped, and by June and July they are large handsome plants. About the middle of March they are finally repotted, and about a fortnight after that they are removed to a colder house. Those which appeared to be the best growers were Rose of Castille, Queen of Hanover, Prince Frederick of Prussia, Princess of Prussia, British Sailor, Miss Hawtrey, Souvenir de Chiswick, Glory, and Guiding Star. They are liberally supplied during their growing season with manure water.

A large double span-roofed house is filled with named Cinerarias, seedling herbaceous and shrubby Calceolarias, and an immense stock of Tom Thumb Geraniums. On a ledge all round are Verbenas in store pots, such as Earl of Shaftesbury, Eclipse, Mrs. Holford, Lord Raglan, General Simpson, Mrs. Woodroffe, Defiance, Purple King, &c.; on these was not the least sign of mildew, to the attacks of which Verbenas are very subject. In one part of this house were some very fine specimens of named Cinerarias, some 18 inches and more across, with from 20 to 30 shoots. These have been trained in the same way as the Geraniums, and when in bloom must be very effective. The sorts were:—Lord Palmerston, Baroness Rothschild, Mrs. Colmar, Attraction, Sir Charles Napier, picturata, Mrs. Hoyle, Kate Kearney, Brilliant, Admiral Dundas, Mars, Imperial Prince, Perfection, Mrs. Livingstone, and Lady Inglis. In the same house we observed some fine specimens of herbaceous Calceolarias in their

blooming pots; 11-inch ones are used; the plants appeared promising, many of them having 20 and 30 blooming shoots. All who have attended our metropolitan exhibitions must have observed the beautiful plants exhibited from this nursery.

In another house, also a span-roofed one, is a large quantity of Geraniums both Show and Fancy kinds for early flowering, and in a lean-to-house with a north aspect were some nice young Camellias, Azaleas, and Heaths—all well furnished with blooming buds. Some brick pits were full of Roses, Violets, Pansies, Dielytra spectabilis, Deutzia gracilis, Stocks, &c. Out of doors were fine specimens of Deodars, Hollies, Rhododendrons, and Irish Yews. Among herbaceous plants were Delphinium formosum, Aconitum chinense, Pæonies, Double Scarlet Lychnis, Phlox omniflora compacta, and other varieties; Anemone Japonica, Hepaticas, Tritoma Uvaria, and other useful and ornamental plants which are not half so largely grown as they ought to be. We may add that the grounds were everywhere beautifully clean and neat.

## Miscellaneous.

*Madagascar Orchids.*—Orchids were abundant, and often occupied positions in which the growers of these plants in England would little expect to find them, but in which they gave an indescribable singularity and charm to the landscape. The Limodorums were numerous in parts of the road, and formed quite a ball of interlaced roots at the base of the bulbs. A small species, resembling in habit and growth the Camarotis purpurea, but quite unknown to me, and bearing a vast profusion of white and sulphur-tinted flowers, often enlivened the sides of the road along which we passed. But the Angræcums, both A. superbum and A. sesquipedale, were the most abundant and beautiful. I noticed that they grew most plentifully on trees of thinnest foliage, and that the A. sesquipedale was seldom, if ever, seen on the ground, but grew high up amongst the branches, often throwing out long straggling stems terminating in a few small, and often apparently shrivelled leaves. The roots also partook of the same habit. They were seldom branched or spreading, but long, tough, and single, sometimes running down the branch or trunk of a tree, between the fissures in the rough bark, to the length of 12 or 15 feet; and so tough and tenacious that it required considerable force to detach or break them. Many of them were in flower; and, notwithstanding the small, shrivelled appearance of the leaves, the flowers were large, and the yellow colour strongly marked. On more than one occasion I saw a splendid Angræcum sesquipedale growing on the trunk of a decaying or fallen tree, sending its tough roots down the trunk to the moist parts of the vegetation on the ground. I found one decayed tree lying on the ground almost overgrown with Grass and Ferns, on the rotten trunk of which the A. sesquipedale was growing most luxuriantly. The roots which had penetrated the soft trunk of this dead tree were white and fleshy, while the leaves were longer and comparatively soft and green. There were neither flowers nor flower-stalks on any of the plants growing in the rich vegetable mould furnished by this old dead tree. The habits of the superbum were quite different. Of these the fleshy roots formed a sort of network at the base of the bulb. During the journey I occasionally noticed both kinds growing not only on the branches of living trees, but very often high up on the bare barked trunks of the dead trees. Sometimes in the angle formed by the junction of an arm with the trunk of a large naked tree, apparently without a fragment of bark adhering to the trunk, a bunch of Moss, or a cluster of Orchids, or both mingled together, would be growing apparently with great vigour, and often in full flower. More than one tall bare trunk 12 or 18 inches in diameter, and 30 feet high, stood surmounted, or surrounded near its summit, by a cluster of Angræcums, with their long, sword-shaped, fleshy leaves; or, what was more beautiful still, a fine specimen of some species of Birdsnest Fern. The contrast between the white, shining, barkless trunk, and these verdant clusters of plants on the top, was sometimes very striking; especially as the Orchids were often in flower, and by their growth altogether suggested the idea that by the decay of their own roots a receptacle was formed for the moisture or the rain by which the plant was nourished. This combination of life and death, growth and decay, presented one of the most singular amongst the many, to me new and curious aspects of nature which my journey afforded.—*Ellis's Madagascar.*

## Calendar of Operations.

*(For the ensuing Week.)*

### PLANT DEPARTMENT.

CONSERVATORY, &c.—Pursue the directions given in regard to temperature, &c., laid down in previous Calendars. Climbers may be looked over, and if an early display of their beauties is required, some of the irregular wood may be pruned forthwith. Passion-flowers and others may receive this treatment; but permanent plants, as Acacias, &c., will of course point out of themselves an exception. Camellias require at this time abundance of water, and keep a sharp eye to Heaths, Epacrises, and other things that are liable to get pot bound. STOVE.—Let all increase of heat take place on bright days, chiefly early in the afternoon, and then accompanied by a somewhat moist air. Get a batch of Gloxinias repotted and placed in bottom-heat, using peat, loam, charcoal, and sand for compost, in a fibrous state. Stove climbers on trellises in pots or tubs, that require to be shifted soon, should be cut in previously to plump buds preparatory to disrooting or shifting. Attend to shifting Amaryllises where requisite; as soon as they show signs of growth let them be introduced to this house, and give them a little water, increasing it gradually as leaves unfold themselves. Orchids commencing growth should be immediately attended to; keep them at the warmest end of the house, and beware of drip lodging in the young buds. Some of the large specimens that require shifting, and that are very dry, had better be immersed in tepid water for an hour a day or two previously to shifting. COLD PITS OR FRAMES.—Some calculation should now be made as to how far the inmates of these structures will be able to supply the masses in the flower garden. Cold and damp will doubtless have reduced the number of some kinds.

### FORCING DEPARTMENT.

PINERIES.—Where the bottom-heat is maintained by means of fermenting materials such beds as may have been recently renewed should be carefully watched, and if the heat at the bottom of the pots is found to exceed 90° the pots should be slightly raised in order to prevent injury to the roots. It is not usual now to subject the roots of Pines to a temperature of 110° or more, as we have seen growers of the old school quietly doing, but it is still too common a practice to allow the bottom-heat at times to become too strong, throwing the plants prematurely into fruit or otherwise injuring them. Indeed we believe that more harm is done to Pines by too much bottom-heat than by any other cause, and success cannot reasonably be expected while the roots are occasionally subjected to a baking heat. Maintain a steady bottom-heat of about 85° during the growing season, but depend upon it that 90° cannot be exceeded with safety. See that the soil about the roots of growing plants is not allowed to become too dry, and secure a moist state of the atmosphere, but use the syringe carefully, until the sun becomes more powerful to dry the hearts of the plants. VINERIES.—The weather for some time past has not been at all unfavourable for early forcing; nevertheless, careful attention will be necessary with houses where the Vines are fairly in leaf. Take every opportunity to admit fresh air to strengthen the shoots and foliage, &c.; but do this cautiously, and by small openings near the heating apparatus, and shut up early in the afternoon, letting the glass rise to 80°. Where the Vines are in bloom, let the night temperature range between 60° and 65°, raising it 10° by day, and Muscats need hardly be expected to set well unless they can be kept some 5° warmer; but it will be better in every case to let the temperature sink a few degrees on sharp nights than to over-heat the pipes, and render the atmosphere unhealthy. When the syringe cannot be used the evaporating pans must be kept at work, and the floors, &c., sprinkled in the morning or as often as may be necessary to secure a moist state of the atmosphere; for unless this is attended to, red spider will be very apt to make its appearance. But perhaps the great cause of red spider is an unhealthy root action, producing thin, weakly foliage, which despite the most careful internal management is sure to be attacked by this pest, therefore use every means to secure a dry, warm state of the borders. Give Vines in pots a liberal supply of manure-water in a tepid state.

### FLOWER GARDEN AND SHRUBBERIES.

The demand for bedding out plants (in the spring) is greater than the room devoted for their wintering can supply. It will in this case be necessary to commence propagating to make good the deficiencies. For all the soft-wooded and free-growing plants a common dung frame having a slight bottom-heat will suffice; fill up to within 12 inches of the glass, upon which place 4 inches of dry sandy soil, in which the cuttings may be put directly you can procure a young growth for the purpose. As the display of flowers during the early summer months depends mainly on the health of the stock at planting time it will save labour and increase the size and healthiness of the plants by turning them out of their pots or cutting pans into low pits or frames, and a light sandy compost will serve for them to grow in, and if batches of these are placed over a very light bottom heat the plants will soon make rapid growth, and you will have the advantage of an abundance of cuttings for propagation, if wanted. Calceolarias, Petunias, Verbenas, and such things answer best for this; but where time and pot room are objects, Scarlet Geraniums and nearly every description of bedding plant may be managed on the above plan. Before putting out time, the plants should be checked by raising them once or twice with a spade. Put in cuttings of Bouvardias in a brisk bottom-heat, and also of such kinds of Geraniums as are at all difficult to strike in the ordinary way or of which cuttings are not easily obtained. Sow Maurandyas, Lophospermums, and other plants of that kind to get them strong by May. Keep pleasure grounds swept and rolled frequently to keep down Moss.

### HARDY FRUIT AND KITCHEN GARDEN.

Sow Tomatoes in heat, also Basil, Marjoram, &c. Get hand-glasses ready for Cauliflowers in pots; enrich the stations very much, adding fresh loam if at hand. Turn out four strong plants from the pots one at each angle; they should be well soaked with weak liquid manure previously. Plant Box edging, and thoroughly drain any portion of the garden which exhibits the least appearance of stagnation. Plant Horseradish, if not already done; trench it deeply, placing [illegible] at the bottom of the trench. Get all [illegible] trees planted as soon as possible, and stake and [illegible] Remember to drain thoroughly. Nowhere is this [illegible] more necessary than in the orchard; although [illegible] and Pears are fond of stiff soils they will never [illegible] profitable where water is allowed to accumu[illegible] Examine all old or overborne trees. Many of the[illegible] racter may be improved by applying manure to [illegible] tremities of their roots, and also by good top-dress[illegible] which should always be applied the moment the [illegible] begins to fall in autumn.

### COTTAGERS' GARDEN.

If not already done a few broad Beans may [illegible] sown, and also a few Peas, and do not forget a sp[illegible] ling of Radish among the early Carrots; in fact [illegible] most broadcast crops a sprinkling of Radish or Le[illegible] may be put in through the spring. The Thous[illegible] headed Cabbage, Cottagers' Kale, and Early Ulm [illegible] are valuable greens, which no cottage garden shou[illegible] without. A little Spinach may also soon be sow[illegible] some Mustard and Cress in a warm corner. Tak[illegible] also to have a few Red Cabbages for pickling.

### STATE OF THE WEATHER AT CHISWICK, NEAR LOND[illegible]
For the Week ending Feb. 3, 1859, as observed at the Horticultural G[illegible]

| Jan. and Feb. | Moon's Age. | Barometer. Max. | Barometer. Min. | Temperature. Of the Air. Max. | Min. | Mean | Of the Earth. 1 foot deep. | 2 feet deep. | Wind. |
|---|---|---|---|---|---|---|---|---|---|
| Friday 28 | 24 | 29.791 | 29.768 | 50 | 28 | 39.0 | 45½ | 45 | W |
| Satur. 29 | 25 | 29.842 | 29.504 | 50 | 43 | 46.5 | 45½ | 44½ | S W |
| Sunday 30 | 26 | 29.510 | 29.405 | 45 | 30 | 37.5 | 46 | 44 | W |
| Mon. 31 | 27 | 29.584 | 29.515 | 43 | 31 | 37.0 | 44 | 44 | S W |
| Tues. 1 | 28 | 29.867 | 29.712 | 46 | 34 | 40.0 | 44 | 43½ | S W |
| Wed. 2 | 29 | 29.539 | 29.416 | 45 | 30 | 37.5 | 44 | 43½ | W |
| Thurs. 3 | ○ | 30.150 | 29.932 | 39 | 24 | 31.5 | 43½ | 43 | N |
| Average | | 29.754 | 29.607 | 45.4 | 31.4 | 38.4 | 44.6 | 43.9 | |

Jan. 28—Uniformly overcast; very fine; clear at night.
— 29—Fine; overcast; stormy with rain.
— 30—Densely overcast; fine; clear at night.
— 31—Overcast; very fine; showers at night.
Feb. 1—Cloudy; fine; overcast; rain at night.
— 2—Clear; very fine; overcast.
— 3—Clear; slight frost; clear air; frosty at night.
Mean temperature of the week, 2 deg. above the average.

### RECORD OF THE WEATHER AT CHISWICK,
During the last 33 years, for the ensuing Week, ending Feb. [illegible]

| Feb. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing W[illegible] N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday 6.. | 45.9 | 33.0 | 39.5 | 17 | 0,25 in. | 2 | 3 | 3 | 4 | [illegible] | | | |
| Mon. 7.. | 46.6 | 33.5 | 40.1 | 17 | 0.28 | 2 | 2 | 4 | — | [illegible] | | | |
| Tues. 8.. | 45.5 | 33.3 | 39.4 | 17 | 0.67 | 1 | 3 | 4 | 1 | [illegible] | | | |
| Wed. 9.. | 45.4 | 31.9 | 38.7 | 13 | 0.40 | — | 5 | 3 | 3 | [illegible] | | | |
| Thurs. 10.. | 44.5 | 30.2 | 37.4 | 13 | 0.52 | 4 | 0 | 3 | 2 | [illegible] | | | |
| Friday 11.. | 44.3 | 30.1 | 37.2 | 14 | 0.34 | 8 | 4 | 2 | — | [illegible] | | | |
| Satur. 12.. | 44.6 | 30.0 | 37.3 | 14 | 0.28 | 3 | 5 | 1 | — | [illegible] | | | |

The highest temperature during the above period occurred on the 2[illegible] 1831—therm. 65 deg.; and the lowest on the 10th, 1855—therm. 1[illegible]

## Notices to Correspondents.

BEANS; *A B Y.* They have no resemblance to those advert[illegible] by Mr. Cuthill.

FOREIGN CORRESPONDENCE.—We must request German [illegible] respondents to write in Roman, not illegible Gothic [illegible] racters. We cannot read the latter. G. of Göttingen [illegible] excuse this remark.

HOGG'S EDGING TILES: *C A M.* These are upon a good [illegible] but as originally made they would not stand the wea[illegible] and were useless. We understand that they are now [illegible] factured properly, in which case we recommend them.

IMPROVED CHOU DE MILAN SPROUTS. A Correspondent [illegible] our opinion of this esculent. After a trial we are obliged [illegible] report unfavourably of it. It is inferior in flavour to Brus[illegible] Sprouts, and can bear no comparison with Cottagers' K[illegible]

INSECTS: *L.* The mite on the Orchids is apparently an [illegible] scribed species, and shall be illustrated.—*S.* The [illegible] sent as destroying the Grass of the lawn are—1, a hab[illegible] larva of the common cockchafer with a specimen [illegible] perfect female already developed, waiting till the [illegible] weather comes; 2, several larvæ of *Byrrhus pilu'a*, [illegible] for the small cockchafer (are you sure that these added [illegible] mischief?); 3, a dried-up larva of a two-winged fly [illegible] ing to the family *Muscidæ*; 4, caterpillars of one [illegible] *Noctuideous* moths, most probably *Cerapteryx graminis*. [illegible] first and fourth are the chief depredators, and at the pres[illegible] time we know no other plan of getting rid of them [illegible] turning over the soil and picking out the grubs. [illegible] summer children should be employed to collect the pe[illegible] insects. *W.*

NAMES OF PLANTS.—We have been so often obliged to [illegible] tantly decline naming heaps of dried or other plants, [illegible] venture to request our correspondents to recollect [illegible] never have or could have undertaken an unlimited [illegible] this kind. Young gardeners, to whom these remarks [illegible] especially apply, should bear in mind that, before appl[illegible] us for assistance, they should exhaust their other [illegible] gaining information. We cannot save them the tro[illegible] examining and thinking for themselves; nor would [illegible] desirable if we could. All we can do is to *help* them [illegible] that most willingly. It is now requested that, in future [illegible] more than four plants may be sent us at one [illegible] *Hannah* and *B H.* The beautiful evergreen Rhododen[illegible] davuricum.—*B J.* Oncidium bicallosum.—*G W M.* [illegible] American Fraxinus not to be named in the absence of [illegible] *Eugenio.* A bit of Torreya grandis no doubt.—*Dur[illegible]* phrolepis pectinata; 2, Phlebodium aureum; 3, Blech[illegible] cognatum; 4, Polystichum capense.

ORCHIDS: *O* Your Orchids are affected with the disease w[illegible] has been of late years so prevalent in collections. You [illegible] find much information on the subject in our columns [illegible] year. We beg leave to refer you especially to p. 476 [illegible] taining the information you desire. *M J B.*

PINE APPLES: *R G.* Your Pines are covered with scal[illegible] different stages of development. This is an indicati[illegible] some defect in the management, and you will probably [illegible] if you examine the roots that they are in a bad [illegible] dition, which has induced decay. The mould [illegible] which they are covered, and which exists in the [illegible] terior of the fruit, where there is no immed[illegible] communication with the outward air, is the ord[illegible] Penicillium, and has nothing to do with the disease [illegible] you require further information, and can send a few [illegible] post) in an *incipient* stage of decay, and at the same [illegible] a portion of the roots, directed Rev. M. J. B., Kings [illegible] we may perhaps be able to give you some further [illegible] tion. The disease is too far advanced in the specimens [illegible] have transmitted. *M J B.*

MISC.: *Southsea.* When public writers have recourse [illegible] sonal abuse their motive is commonly twofold. 1. They [illegible] nothing else to say. 2. They imagine abuse to be pro[illegible] We have no experience upon this subject.

THE PATENT

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**Offices, 109, Fenchurch Street, London.—Manufactory, Plaistow Marshes, Essex.**

THE Directors beg to inform their Friends and the Agricultural Public that the following Manures are now ready:—

## ODAMS'S BLOOD MANURE FOR CORN AND MANGEL.
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**Full particulars may be had at the Company's Offices, or of the local Agents.**

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ARTIFICIAL MANURES, &c.—Manufacturers and others engaged in making ARTIFICIAL MANURES may obtain every necessary instruction for their economical and efficient preparation, by applying to J. C. NESBIT, F.G.S., &c., Principal of the Agricultural and Chemical College, Kennington, London. Analyses of Soils, Guanos, Superphosphates of Lime, Coprolites, &c., and Assays of Gold, Silver, and other Minerals are executed with accuracy and despatch. Gentlemen desirous of receiving instruction in Chemical Analyses and Assaying, will find ample facility and accommodation at the College.

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LONDON MANURE COMPANY, removed to 116, Fenchurch Street, E. C. (Established 1840), have the following MANURES ready for delivery:—

CORN MANURE for SPRINGTOP DRESSING
URATE
MANGEL MANURE
SUPERPHOSPHATE OF LIME
BLOOD MANURE
} all of guaranteed quality.

In consequence of the reduction in the price of raw material the London Manure Co. are enabled to lower the price of their Superphosphate of Lime, and to materially improve the Corn Manure and Urate

The London Manure Co. also supply PERUVIAN GUANO (direct from Messrs. A. Gibbs and Sons), SULPHATE of AMMONIA, NITRATE OF SODA, CRUSHED BONES, and every other Manure of value. Wholesale dealers supplied.

116, Fenchurch Street E.C. EDWARD PURSER, Secretary.

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**REDUCTION IN PRICE OF LAWES'S MANURES.**

MR. LAWES begs to announce that he has this season reduced the price of the Manures manufactured by him, viz.:—

| | | | |
|---|---|---|---|
| TURNIP MANURE .. .. .. | from £7 | to £6 | 6 |
| SUPERPHOSPHATE OF LIME .. | ,, 7 | to 6 | 6 |
| MINERAL do. .. | ,, 6 | to 5 | 5 |
| BARLEY MANURE.. .. .. .. | .. | .. 8 | 0 |

Prof. Way and Dr. Voelcker have sampled from a bulk of 500 to 600 tons at his factories, and their report and analyses are given in full in Circular to be obtained on application at his office, 1, Adelaide Place, London Bridge, E.C.

N.B. Genuine Peruvian Guano direct from Messrs. GIBBS, Nitrate of Soda, Sulphate of Ammonia, and other Chemical Manures. American Cotton-seed Cake supplied.

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**ESTABLISHED 1812.**

H. AND T. PROCTOR'S TURNIP MANURE.—Messrs. H. & T. P. draw particular attention to this valuable Manure, which contains all the elements necessary for the full development of the Turnip Crop, so combined, that, from their chemical knowledge and long experience, they feel satisfied is most advantageous to the consumer. It has been very extensively used by most of the eminent Agriculturists of the day, and has attained a high reputation throughout England, Scotland, and Wales, and, they venture to say, is unrivalled for the weight and quality of the Bulbs which it produces. The application of this Manure to the Turnips will be found to benefit considerably the after crops of Barley, Clover, and Wheat.

POTATO, GRASS, BARLEY, CLOVER, AND WHEAT MANURES; also BONE DUST, PERUVIAN GUANO, and SUPERPHOSPHATE of LIME, warranted of the best quality.

Apply to H. & T. PROCTOR, West of England Depôt for Artificial Manures, Cathay, Bristol; or PROCTOR & RYLAND, Birmingham, and Saltney, near Chester.

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**SOLUBLE PHOSPHATE OF LIME.**

FREDERIC CORNWELL begs to inform his friends and the Agricultural public that he can now supply a "SUPERPHOSPATE of LIME" superior to anything yet produced. Each Bag guaranteed to contain from 20 to 25 per cent. of "Soluble Phosphate of Lime." Price 5*l.* 10*s.* per ton, delivered free to any Railway or Wharf in London. Dealers and the trade supplied. Linseed-cakes, Cotton-cakes, and all descriptions of Artificial Manures at lowest market prices.

Offices, 7, Great St. Helen's, London, E. C.

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**THE CHAMPION.**

SMITH'S CULTIVATORS AND APPARATUS are set up not for Show but for Work. The Cultivators are almost indestructible, easily turned, and therefore double cumbersome implements are avoided. The Windlass is simple, convenient, and its working easily understood; it is very strong, and like the Implements subject to little or no damage from working. The Rope required averages only about five chains more than an endless rope, its friction only one fourth; it never slips, and the tension is only one half at a time. The whole Apparatus can work all useful implements on all shapes and kinds of ground: is admirable for autumnal cultivation; has stood the test of three years' work, and has produced "results most astonishing and invaluable;" and while the total cost is not more than half that of the Endless Rope one, it can be worked by an ordinary engine without alteration.

Woolston, Bletchley Station.—Feb. 5.

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SIGMA'S INVENTIONS.—A Prospectus with engravings sent of the Bean, Mangel, and Corn Planters; the "Multum in Parvo" with its numerous useful appurtenances, Hoes, Cultivators, Aphis Powder, &c.

C. POWELL, Hurstgreen, Sussex.

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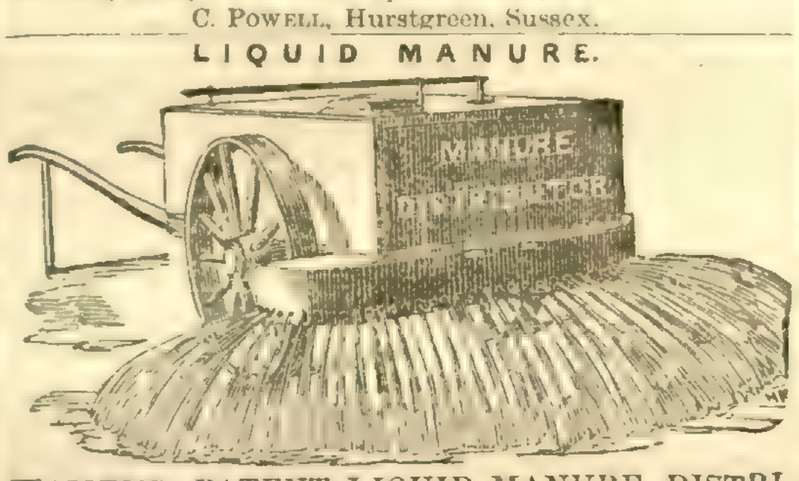
**LIQUID MANURE.**




JAMES'S PATENT LIQUID MANURE DISTRIBUTOR OR WATER-CART, warranted not to choke up or otherwise get out of order. It is thoroughly adapted for Drill Crops, or Pasture Land, or for Watering Streets; has been awarded SIX FIRST PRIZES. Full Particulars and Testimonials may be obtained of the Patentee, ISAAC JAMES, Tivoli Waggon Works, Cheltenham.—Improved LIQUID MANURE PUMPS supplied.

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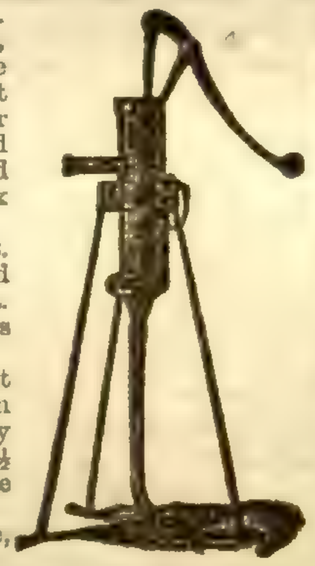
WARNER'S IMPROVED LIQUID MANURE OR GENERAL PORTABLE PUMP.



These Pumps are fitted with J. W. & SON'S Patent Buckets and Suckers, and cannot clog in action. The barrel is of galvanised iron, not likely to corrode, and can be raised or lowered at pleasure. The legs will fold together, and the whole may be carried on the shoulder to any pond or tank required.

Price of 4½ in. Pump, with legs, 3*l.* 3*s.* If with planished copper barrel and galvanised iron handle, &c., 14*s.* extra. The barrel is 27½ in. long, and the legs are 5 ft. high.

These Pumps are also made without the legs, with strong wrought-iron straps for screwing on to any ordinary water butt or cart, and fitted with 1½ inch brass union for attaching flexible suction. Price 50*s.*

1¾ inch Gutta Percha Suction Pipe, 1*s.* 11*d.* per foot.

Rubber and Canvas Suction and Delivery Hose, from ¾ inch to 4 inches diameter, in lengths of 60 feet to order. Branch Pipes with Cocks, Union Screws, &c., at reduced prices.

May be obtained of any Ironmonger or Plumber in town or country, at the above prices, or of the Patentees and Manufacturers, JOHN WARNER & SONS, 8, Crescent, Jewin St., London.

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WARNER'S PATENT VIBRATING STANDARD PUMPS.

PATENT CAST-IRON PUMPS, fitted with J. W. & Son's Patent Buckets and Suckers, which cannot clog in action, for Farms, Cottages, and Wells, not exceeding 28 feet.

| Diameter of Barrel. | Height. | | £ | s. | d. |
|---|---|---|---|---|---|
| 2½ in. | short | 1 ft. 7 in. | 1 | 10 | 0 |
| 2½ ,, | long | 3 ,, 3 ,, | 1 | 14 | 0 |
| 3 ,, | ditto | 3 ,, 6 ,, | 2 | 8 | 0 |
| 3½ ,, | ditto | 3 ,, 6 ,, | 2 | 12 | 0 |
| 4 ,, | ditto | 3 ,, 6 ,, | 3 | 3 | 0 |

Fitted for lead, gutta percha, or cast iron flanged pipe, as required.

2½ ,, short, with 15 feet of Lead Pipe attached, ready for fixing .... 2 14 0
2½ in. long ditto ditto ditto 2 18 0

The short barrel Pump is very convenient for fixing in situations of limited height and space, for the supply of coppers and sinks in Wash-houses with soft water from underground tanks, or in Hot, Forcing, and Plant Houses; they may be fixed, when desired, under the stage.

May be obtained of any Ironmonger or Plumber in Town or country, at the above prices, or of the Patentees and Manufacturers, JOHN WARNER & SONS, 8, Crescent, Jewin Street, London.

Every description of Machinery for Raising Water by means of Wheels, Rams, Deep Well Pumps, &c.; also Fire and Garden Engines, &c. &c.—Engravings sent on application.

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LAND DRAINAGE.—Works of Drainage of any extent are executed by the GENERAL LAND DRAINAGE AND IMPROVEMENT COMPANY on all descriptions of Property, whether Freehold, Entailed, Mortgaged, Trust, Ecclesiastical, Corporate, or Collegiate.

Repayment may be made by the Landowner as successive portions of the Works are completed, or the actual expenditure, with a Commission thereon, may be charged on the property improved by way of rent charge for any term not exceeding 50 years, the instalments to repay principal and interest being thereby kept down nearly to 5 per cent. per annum.

No investigation of title being required, and the charge not being affected by incumbrances, no legal expenses are incurred.

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The Company also assist Landowners in executing any of the improvements by their own agents, and charge the amount expended on the property improved.

Applications to be made to WILLIAM CLIFFORD, the Secretary, at the Offices of the Company, 52, Parliament Street, London.

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THE LANDS IMPROVEMENT COMPANY,
2, Old Palace Yard, Westminster, S.W.

To Landowners, the Clergy, Solicitors, Estate Agents, Surveyors, &c.—The Company is incorporated by Special Act of Parliament for England, Wales, and Scotland.—Under the Company's Acts Tenants for Life, Trustees, Mortgagees in possession, Incumbents of Livings, Bodies Corporate, certain Lessees, and other Landowners, are empowered to charge the inheritance with the cost of Improvements, whether the money be borrowed from the Company or advanced by the Landowner out of his own funds.

The Company advance money, unlimited in amount, for Works of Land Improvement, the Loans and incidental expenses being liquidated by a rentcharge for a specified term of years.

No investigation of Title is required, and the Company being of a strictly commercial character do not interfere with the plans and execution of the works, which are controlled only by the Enclosure Commissioners.

The improvements authorised comprise Drainage, Irrigation, Warping, Embanking, Enclosing, Clearing, Reclaiming, Planting, Erecting and Improving Farm Houses and Buildings for Farm purposes, Farm Roads, Jetties, Steam Engines, Water Wheels, Tanks, Pipes, &c

Owners in fee may effect improvements on their Estates without incurring the expense and personal responsibilities incident to Mortgages, and without regard to the amount of existing incumbrances. Proprietors may apply jointly for the execution of Improvements mutually beneficial, such as a Common Outfall, Roads through the District, Water Power, &c. For further information and for forms of application apply to the Hon. W. NAPIER, Managing Director, 2, Old Palace Yard, Westminster, S.W.

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COLLEGE OF AGRICULTURE AND CHEMISTRY, AND OF PRACTICAL and GENERAL SCIENCE, 37 and 38, Lower Kennington Lane, Kennington, near London.
Principal—J. C. NESBIT, F.G.S., F.C.S., &c.

The system of studies pursued in the College comprises every branch requisite to prepare youth for the pursuits of Agriculture, Engineering, Mining, Manufactures, and the Arts; for the Naval and Military Services, and for the Universities.

Analyses and Assays of every description are promptly and accurately executed at the College. The terms and other particulars may be had on application to the Principal.


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# The Agricultural Gazette.

*SATURDAY, FEBRUARY* 5, 1859.


**MEETINGS FOR THE ENSUING WEEK.**

MONDAY, Feb. 7 { Central Farmers' Club. (Mr. J. A. Clarke on Arterial Drainage.)
WEDNESDAY, — 9— Agri. Society of England .... Noon

ADVERTISEMENTS of the forthcoming sales of pure bred short-horned cattle* naturally lead to a discussion of the varying annual market value of such stock, notwithstanding their constant and probably increasing intrinsic worth. That well bred cattle should not maintain a price so much above their cost as that at which in 1856 for instance they stood, is not to be surprised at considering their enormous extension in this country—the increasing numbers of their breeders here—and we must add their increasing numbers in America and France, from which the greatest demand for them has hitherto come.

Mr. STRAFFORD'S continually enlarging volumes of COATES'S Herd-book coming too at constantly diminishing intervals, are proof that there is now a larger supply in the Short-horn market than has been ever known.

The wonder is not that prices should have somewhat diminished, but that they should have been so nearly maintained. For what has been the history of this matter during the past few years?

We do not speak of the cheques for single animals we have seen, representing their purchase money 1050*l.* and 1260*l.* respectively—nor of the high average prices they have in past years reached: as, for instance, 47 sold at 150*l.* apiece; 60 at 128*l.* 16*s.* each; 62 at 151*l.* apiece; 101 sold at 77*l.* 13*s.* each; whole herds at 67*l.* and 68*l.* 17*s.* apiece; 50 sold at 84*l.* each; 57 sold at 56*l.* each; 59 sold at 90*l.* each; 78 sold at 80*l.* each; these being the prices at which the herds of CHARLES and ROBERT COLLINGS, the Earl of DUCIE, Mr. TANQUERAY, Mr. BATES, Earl SPENCER, Mr. AMBLER, Mr. CATOR, Mr. MARJORIBANKS, and Sir C. KNIGHTLEY, respectively, were parted with. These figures were not reached in 1858: nevertheless prices can be named which prove that a well-bred bull or heifer is still worth a great deal of money; and the exportation to Canada, to America, to Buenos Ayres and Australia, as well as to various Euro-

* The herds of Mr. J. SMITH (Welton, Garth, Feb. 17); Mr. WETHERALL (Aldborough, April); Mr. SPRAGGON (Nallerton, March 8); Mr. J. E. TROUTBECK (Blencow, Penrith, March 9) Mr. HARVEY COMBE (March 23).

pean countries, still largely affects the English market, so that long prices must be offered to get the best blood. Mr. BOOTH, whose herd probably now stands highest in the market, furnishes the most striking instances of this. In 1857 25 bulls from this herd were *let* for 3000 guineas—and the bull "Hopewell" was let for two years for 200 guineas a year to Mr. TORR, of Aylesby: a son of this bull—"Baron Hopewell"—was sold in Ireland for 300 guineas to Colonel TOWNELEY. As other instances of long prices during the past year we may mention the sale of "the Lamp of Lothian" at Dublin, for 200 guineas—of a cow named Eugenie, her calf, with young "Master Butterfly," to the Emperor of the French, for 500 guineas—of Baltic, a young bull from Bessy, one of the cheapest cows at Lord DUCIE'S sale, for 120 guineas—and of "St. Patrick," a bull bought for 60 or 70 guineas by Mr. DRAKE, at Sir C. KNIGHTLEY'S sale, for no less a sum than 600 guineas, in Australia. And taking the sales by Mr. STRAFFORD of the herds of Mr. CHRISP, Mr. CARTWRIGHT, Mr. ALLERTON, and Mr. BATE during the past year—we cull the following particulars as illustrating still more fairly the current value of good stock. At the first of these sales, "Hawkesworth," a two year old bull, was sold for 200 guineas; "Zierow," a yearling, fetched 180 guineas; and "Mainfred," a five year old bull, reached the price of 200 guineas; "Picotee" and "Laura," heifers, sold for 100 and 150 guineas respectively. At Mr. CARTWRIGHT'S sale five cows and heifers were sold, varying from 10 months to 6 years old, at prices averaging upwards of 100 guineas; and the "2nd Duke of Cambridge," a four year old bull, reached the price of 140 guineas.

These instances show that well-bred stock of first-class families in the Short-horn breed still fetch enormous prices; and though we are not acquainted with the herds about to be brought to the hammer, and know not whether their prices are likely to illustrate this position, yet there is every reason to believe that the sales of well bred stock throughout the coming year are as likely as those of previous years to prove the high estimation in which the Short-horn breed is held.

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IF any of those who have been interested in recent discussions of the merits and demerits of English dinners wish to learn what, after all, is the intrinsic value of our different foods they cannot do better than spend a morning in the "Food Department" of the Kensington Museum, which is in the especial charge of Dr. EDWIN LANKESTER, of whom as a gentleman of high scientific attainments few of our readers can have failed to have heard. His arrangement of the materials which have come under his charge—for as yet this portion of the Museum is by no means complete—is at once philosophical and simple, capable of teaching the most important truths to the simplest understanding.

Good examples of the different vegetable products, as of Pulse or grain, are put in compartments of a glass case appropriately labelled, while the other compartments of each case are devoted to the several proximate components of the particular specimen, each being present in the exact proportion in which they occur in the natural specimen. Thus in Wheat the amount of water, starch, gum, and sugar of a given quantity will be found in their relative proportionals side by side, so that the observer can not only see the nature of these, but by looking at other kinds of grain he can compare them, so as to ascertain at a glance their different degrees of nutrient power.

This will be rendered more clear by the annexed Table:—

*Table of the per centage composition of Wheat, Maize, and Rice.*

| | Wheat. | Maize. | Rice. |
|---|---|---|---|
| Water | 14.0 | 14.0 | 13.5 |
| Gluten | 12.8 | 12.0 | 6.5 |
| Albumen | 1.8 | .. | .. |
| Starch | 59.7 | 60.0 | 74.1 |
| Sugar | 5.5 | 0.3 | 0.4 |
| Gum | 1.7 | | 1.0 |
| Fat | 1.2 | 7.7 | 0.7 |
| Fibre | 1.7 | 5.0 | 3.3 |
| Ashes | 1.6 | 1.0 | 0.5 |

Each of these in these proportions has its place under glass side by side with the others. They are equal to the following:—

| | | | |
|---|---|---|---|
| Water | 14.0 | 14.0 | 13.5 |
| Flesh-forming substances | 14.6 | 12.0 | 6.5 |
| Heat-giving substances | 69.8 | 73.0 | 79.5 |
| Mineral matters | 1.6 | 1.0 | 0.5 |

Here then we have at a glance the relative amount of both the useful and the useless matters in three primary feeding elements, the one of the northern, the other of the western, and the last of eastern nations; and while the study of these explains so fully their different capabilities as applied to distinct peoples, so will it explain to us in these islands that while we get different feeding matters from all parts of the world it would be dearer to make British muscle from Rice which costs us 4*d.* per lb., when Wheat is only 1*d.* for the same quantity and yields twice the amount of flesh-forming matter. Again, look at the simple element fat. Can we wonder that the Americans who consume Maize in every form, especially with butter and molasses, should be, as they acknowledge, a "nation of dyspeptics," when their daily food contains so much fat? Facts of this instructive character will, however, come out in a much stronger light if we examine in like manner the composition of such kinds of Pulse as Peas, Lentils, Beans, and compare them with the results of the preceding Table, in which we again quote from the labelled samples in the Kensington Museum where Pulse "food stuffs" are arranged in the same manner as the grain foods.

*Table of the per centage composition of Peas, Lentils, Beans.*

| | Peas. | Lentils. | Beans. |
|---|---|---|---|
| Water | 14.1 | 14.0 | 14.8 |
| Casein or cheese | 23.4 | 26.0 | 24.0 |
| Starch | 37.0 | 35.0 | 36.0 |
| Sugar | 2.0 | 2.0 | 2.0 |
| Gum | 9.0 | 7.0 | 8.5 |
| Fat | 2.0 | 2.0 | 2.0 |
| Woody fibre | 10.0 | 12.5 | 9.2 |
| Mineral matter | 2.5 | 1.5 | 3.5 |

The woody fibre and mineral matter being principally derived from the *testa* or seed covering is less in *split* or decorticated Pulse.

*Equal to the following:—*

| | | | |
|---|---|---|---|
| Water | 14.1 | 14.0 | 14.8 |
| Flesh formers | 23.4 | 26.0 | 24.0 |
| Heat givers | 60.0 | 58.5 | 57.7 = Carbon 36 |
| Mineral matters | 2.5 | 1.5 | 3.5 |

From this table we see that while in the three kinds of Pulse the amount of water is practically equal, and that in this respect there is a remarkable similarity between these and the grain analyses, yet in the important particulars of flesh-forming and heat-giving substances what a decided disparity!—double the amount of the matter of muscle in Peas and Beans when compared with Wheat, and four times as much as in Rice. No wonder then that horses fed on Beans should be strong for work, or that hard work should be said to "get the Beans out of them;" and again no wonder that the miller should defend the mixing of Beans with Wheat in forming flour, "because it gives it greater proof;" the word "proof" in agricultural language being very expressive, as a practical enunciation of relative feeding properties. Maize accordingly would have less proof than Beans and Rice less than Maize, and this accounts for the circumstance which we have noticed in America with respect to horses. In the States horses usually look sleek and well, but they are as a rule incapable of the long-continued exertion of our home animals. They are fed on Maize or Indian Corn, which has not the proof of our Oats and Beans.

We conclude by again recommending all who are interested in the production of food to avail themselves of the first opportunity of visiting the Food Department of the Kensington Museum, where on Tuesdays or Saturdays they will not only find the whole collection open free of charge, but meet the Curator of the Food Department, Dr. LANKESTER himself. There is no greater treat than to hear him explaining, in simple but convincing style, the practical results which science has arrived at with regard to food production and the use of feeding materials.

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## THE CASE OF THE BRITISH LABOURER.

IN your *Gazette* of last week, 22d inst., there is a report of one of Mr. Grey, of Dilston's, "admirable addresses," in which he says that the labourers in his neighbourhood can now afford to consume "butchers' meat," which has hitherto been beyond their reach; that large farms are more valuable than small farms; and that the English farmers, because it is so much less profitable to grow Wheat than beef and mutton, should henceforth direct their chief attention to the growth of beef and mutton instead of Wheat.

Now the greater value of large farms is contrary to the state of the case in almost all the rest of England, and must arise from the abundance of capital in his neighbourhood, which always engenders a greater scale of farming, though not always, by any means, a greater acreable produce; and "the beef and mutton" is an opinion which Mr. Grey will find to be much more difficult to establish than affirm. But what he says about the food of the labourers is so important to the science of their present condition and its causes, and is so astonishing, that it is really quite incumbent on him to confirm what he says, by informing us how it is that they are enabled to live so much better than the peasantry elsewhere, and in so very sumptuous a [illegible] and therefore what is the amount of their wa[illegible] value to them, or the resources, of the p[illegible] which they live; the rent that they pay, &c. [illegible] may be assured that all those who have stu[illegible] case of the British labourer," will read his exp[illegible] with the deepest interest. *N.*

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In your No. of 22d inst. you have given ex[illegible] an interesting and instructive lecture on "the [illegible] and Progress of Agriculture," by Mr. Grey of [illegible] in which the above subject is touched upon.

According to your report Mr. Grey seems [illegible] stated all the advantages likely to arise from the [illegible] farm system, and at the same time he hints in a [illegible] kind of way at one of the drawbacks.

In discussing such a question facts, where [illegible] be had, are much to be preferred to theories [illegible] think I can furnish a few bearing on the subject.

In the north-east of Scotland the large farm [illegible] has of late years in many cases superseded the sm[illegible] the result has been increased productiveness, [illegible] rents, and general improvement, but the pict[illegible] without its shady side.

Along with these improvements there is a [illegible] admitted deterioration in the agricultural la[illegible] Labour has become in many cases scarce, and [illegible] case dear; and the labourers, though earning [illegible] wages, are not improving either morally or soci[illegible] this county (Morayshire) a ploughman receive[illegible] 18*l.* to 24*l.* a year besides his board; fema[illegible] workers get from 7*l.* to 10*l.* a year with board; [illegible] men about 20*l.* with board, and boys about 15 [illegible] age from 12*l.* to 15*l.*, also with board. Day lab[illegible] are to be had at less money this season, but fo[illegible] years past they have been receiving from 2s. to [illegible] a day.

It is not, however, the high price of labour [illegible] ployers complain of, so much as the positive det[illegible] tion of the labouring class. Servants are not [illegible] industrious, so temperate, so respectful, nor so [illegible] worthy, now as of old; and the low state of m[illegible] among this class has in this quarter become pro[illegible] Public attention has of late been much directed [illegible] cause of these evils; and it is now admitted [illegible] hands that the destruction or swallowing up of [illegible] and small holdings is the root of the evil.

Formerly a farm servant, if careful and indus[illegible] could look forward to becoming the possessor [illegible] holding of from 10 to 50 acres; and this hope [illegible] men of character and integrity to become ser[illegible] Now, it is next to impossible to get such small ho[illegible] and the direct consequence is that the better [illegible] the rural population almost invariably bring up [illegible] children as tradesmen rather than as servants. [illegible] same cause has driven many to emigrate, [illegible] hence the scarcity of agricultural labour. Thus [illegible] we have got an inferior class of men as servants [illegible] who too often are thoughtless and improvident, [illegible] careless as to acquiring a good character. The [illegible] that they need never want a place, so great [illegible] demand for farm servants and so limited the [illegible] and they have no sufficient stimulus to industry; [illegible] quite a rare thing for one of this class to be in[illegible] pendent, or to find a home for himself in his o[illegible] with a bit of land attached to it sufficient to ma[illegible] his family.

This then is the great evil of the large farm s[illegible] when too exclusively adopted; and it is the [illegible] desire of all disinterested and unprejudiced men [illegible] quarter to have it very considerably modified. [illegible] very well to speak of improvements in the cultiva[illegible] the soil, and of cheapening the necessaries of life, [illegible] "man shall not live by bread alone," and if these [illegible] tages are purchased by the moral and social degra[illegible] of the industrious classes, they are manifestly too [illegible] bought.

By all means let us have the large farmer to le[illegible] way in improving, but let us have the small farm[illegible] and let us not imagine that when we have intro[illegible] every sort of material improvement, we have gain[illegible] ultimate end we should have in view.

Our peasantry, the country's pride and str[illegible] ought not to be sacrificed to any consideration s[illegible] that of mere gain; and already there are sympto[illegible] many districts of such a sacrifice having been [illegible] begun. I trust you will pardon the liberty I have [illegible] in referring to this subject; and as you profess to [illegible] information from all quarters of the country, [illegible] this statement a place in your columns. *A Friend to Labourer.*

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To this we append the following letter fro[illegible] columns of the *Times*:—The incumbent [illegible] parish in Wiltshire, with kindly feelings [illegible] labouring poor, seems to have received with surpr[illegible] incredulity the remarks made by me at the [illegible] Farmers' Club upon the increased consumption [illegible] butcher's meat by the labouring classes in this co[illegible] and states that the wages of an agricultural la[illegible] in Wiltshire are 7*s.* 6*d.* per week, out of which [illegible] to support his family and pay 1*s.* per week [illegible] house-rent. That is certainly very inconsistent [illegible] the use of meat at 8*d.* per lb. Such a [illegible] one would think, is placed under great temp[illegible] to beg and to steal. Even in Norfolk, [illegible] is more advanced in cultivation than Wiltshire, [illegible] county of the large-minded and patriotic [illegible] that great pioneer in rural improvements, I be[illegible] wages are only 8*s.* and 9*s.* a week. This is ex[illegible]

[illegible] to the wants of a family, and I believe [illegible] as regards the employer; for it is unreasonable to expect that a man existing on the borders [illegible] can be possessed of strength, energy, and spirit to perform a good day's work, or that his children can be brought up in health and vigour.

A striking example of the inefficiency of such labourers was found not many years ago, when a near relative of mine, who has large sums through his hands in superintending works of "land improvement," was brought into communication with parties in the southern counties who complained of want of employment and low wages among their peasantry, which led to his offering to give work to 100 of them, if they could find their way to this county with tools for draining, at which men were making from 17*s.* to 21*s.* per week at piece-work, according to their capacity and application.

Some benevolent persons supplied a party of men with money for their journey and the purchase of tools. The poor men came, so ignorant as not to know whether they could reach Northumberland without crossing the sea. They were lodged and set to work, but proved to be so wanting in method and in power that few of them could make more than half the wages which the men of the country gained. The experiment failed, and ended by their disappearing gradually in poverty and disappointment. It is therefore to be questioned whether, however low the rate of wages may be in some counties, the price of labour is actually less than in this. With men so ill-fed, and children reared in such poverty, the race must become physically and mentally deteriorated. I have many men in my employment, and at wages by no means the highest in the county, because the employment is certain and constant. Some old men have only 10*s.* and 11*s.* a week. Men engaged for the year, with a house and garden free of rent, have 14*s.* 6*d.* per week; and others, who find their own houses, 16*s.* all the year round; while scores of others, employed at draining and other work by measurement, open to the public, are making regularly from 18*s.* to 20*s.* a week. Such men apply themselves with vigour and energy. They require the support of meat as well as bread, and they can afford to use it. I have seen it stated that the regiment of Northumberland Militia occupy more standing ground than any other regiment, because the men have broader shoulders than others, which may be readily believed, if the children of the peasantry are brought up like those in the counties described, on wages of 7*s.* to 9*s.* a week. A proud sentiment is expressed by the elegant Mrs. Barbauld, as a compensation for our want of the richer productions of more luxurious climes—

"But men are ripened in our northern sky."

Men will not ripen, however, on 8*s.* a week for the support of a family. If such a system lasts, the succeeding generations must dwindle and decay. *John Grey, Dilston, Northumberland, Jan.* 29.

## THE LIFE OF AN ENGLISH FARMER.

A TESTIMONIAL to the personal worth and public services of a most excellent man was recently presented by his friends and neighbours to Mr. John Clarke, of Long Sutton, Lincolnshire, and we take from the columns of the *Mark Lane Express* the following sketch of his career extracted from his reply on the occasion. Mr. Clarke said:—

The outlines of a life like mine cannot be very interesting, or possess any remarkable features worth your notice; for I was born where I now live: "I till the land my forefathers tilled." Still it may not be inappropriate to this occasion, and may tend to encourage some of my young friends present to prosecute a course of industrious usefulness—I say, to encourage my young friends; for bear in mind, we do not all possess the same natural powers, either mentally or physically; we can, however, by industry and care improve both; we can strengthen our minds by reading and study and mental effort, just as we can add vigour and hardihood to our bodies by athletic exercise and manual labour. Now, I verily believe that few young men have commenced their career under more disadvantageous circumstances than myself, as respects mental acquirements and effort. I frankly and freely tell you it was in this way I became impressed with the foolish idea that my family was well to do; if not rich I should do very well in the world, and therefore might enjoy myself. A more fatal idea to prevent mental effort could not take possession of the mind; consequently field sports, cricket, and the like, had full predominance; and so I went on from year to year. I, however, attended to farm duties daily, and for 12 years worked hard on my father's farms and our own, as a constant ploughman; and for 12 harvests I stacked a large proportion of the corn, and in the various labours of the farm took my part; this I don't at all regret. I never heard a man complain that he worked too hard, or attended too much to his business in his young days; recollect that, in the main, nothing but persevering industry can achieve success; superior talent is of great value, but careful persevering plodding industry will beat the finest talents in most cases. Well, young, inexperienced, and self-sufficient as I was, I recollect at the age of 17 or 18 I came to this resolution (for I felt it was incumbent upon me to adopt and persevere in some definite course)—*i.e.*, that I would endeavour, 1st, to make myself a good member of society, 2dly, a good parishioner, and 3dly, a good and useful man of business. There cannot be a doubt that resolutions of this sort made in youth, and conscientiously acted upon, would be of vast benefit to the community. We have all our several duties to fulfil, both in public and in private. The world, and particularly that minute portion of it with which we are immediately connected, should be the better for our living in it; otherwise we nearly live in vain, or live wholly for ourselves. Well, to become a good member of society (a vast deal is included in being a good member of society), I set about making myself; I became a teacher in our Church Sunday school, and was superintendent of another for many years. I took great interest in music, and in promoting good congregational singing. I managed a large Friendly Society (this I have done for upwards of 10 years). As time rolled on I became greatly interested in other matters. The days of ploughing matches and prize stacks were scarcely known; the only way we had of encouraging the one and the other was by frequent inspections; and though some evil arose from these inspections, it served to promote the very object I and some of my young friends had in view. The evil was this: It was the invariable custom for the ploughmen around Long Sutton to do their best on the Saturday to leave their primest work, so that passers-by on the Sunday might view it. This soon led to a good deal of Sabbath breaking; and groups of young men might be seen every Sunday taking their stroll round the district or through the marshes to see the straight furrows or the best stacks; and I regret to say, finishing their walk at "The Wash;" and more particularly on tidal Sundays, when many disgraceful scenes were enacted. Long Sutton Fair was at this time merely a servants' holiday; and it was no uncommon thing for young men of more strength than wit to try their prowess in boxing, and many such matches came off in my early days; so many that it became a matter of serious thought as to what should be done to put an end to this disgraceful course, for it was notorious that if a young man was known to be a fighter he had to defend himself from more than one challenger at these meetings; indeed the test of championship seemed to be put off to this very meeting, and I recollect as a ploughboy hearing of the arrangements got up for the strife. Well, things could not go on so. A meeting was got up at Sutton, called a drawing-match—that is, the ploughman who could draw the straightest furrow or make the best ridge received a copper teakettle, or some equally homely but useful prize. I thought this far better than boxing-matches and the like; and at once did my best to encourage it, in which I was aided by several friends. This was our first effort in ploughing matches. We kept it up for some years with very good effect. It drew off from Sutton many refractory spirits; the zest of drinking and boxing was allayed; and as the parties were thus divided, the worst features of Long Sutton Fair subsided. It is now a quiet, orderly meeting—in fact, a pattern of a convivial, pleasant assemblage of servants for mutual recognition and congratulation—a meeting of a very useful kind, as serving to keep up great nationality of character and feeling—a holiday no one grudges, but that all desire consistently, in reason and moderation, to enjoy. The Long Sutton market was soon after this time established, and the fair assumed a higher character. A better order of things prevailed; a decided elevation in the character of our population was to be noticed, owing, I believe, to the many public meetings held—such as bible, missionary, tract meetings, and others, aided by extended and efficient religious teaching in the pulpit and Sunday schools. Gentlemen, it was by giving my best aid in all these movements that I endeavoured to become a good member of society.

But I resolved to fit myself for becoming a good parishioner—that is, I resolved to see wherein I could be useful to my parish, either to aid as I best could in the management of parochial business, or in correcting any of the abuses or irregularities that had, or may, in the course of time, have arisen. When I commenced business, now over 40 years ago, the poor were managed by assistant or deputy overseers, who received each a handsome salary (for at the time I speak of we had two). The parish doctor received from 100*l.* to 110*l.*; bailey constables, at handsome salaries—35*l.* each. At this time the poor had nearly the mastery over the overseers; for it was only requisite for the pauper to go to a magistrate and make oath that he was destitute, and at once to receive a peremptory order for relief, and it was at the peril of the overseer to refuse it. The rates were consequently very high for relief; but added to this it was customary to pay the rents of a great many paupers' cottages, so that the poor's-rate became an enormous burthen (6*s.* to 7*s.* in the pound). A few of us set about its reduction, and many unhappy dissensions we had. We speedily got rid of the assistant-overseers, most of the cottage rents, and by establishing a system of labour either on the roads or otherwise, materially reduced the relief list, and consequently the rates, as I believe with real contentment to the poor. A great many gross inequalities had crept into the rate-book, and I have now in my possession the book which I made out under direction of our committee, which so forcibly showed the absurdity of some of the ratings, that we soon had these rectified. Then there was the making the rate (highway-rate); that is, a chosen or customary party went to the vestry, an adjournment was soon moved to the Bull Inn, a capital dinner and wine was provided, the rate was made, and the dinner bill paid out of it. The charities came next to be considered. These were in a most unsatisfactory state. The lands were let to the friends and relatives of the trustees at low rents. The trustees were very few in number, and in some charities nearly extinct. The church rates also engaged our serious attention: they were very heavy, and included mole catching, sparrow catching, besides all footways and bridges, &c. The steeple was always under repair, and I believe much money was fictitiously expended upon it. The rates had been collected for eight years without being accounted for. What would our church-rate abolitionists say to this? Well, we set about reforming all these matters, and we gradually effected them, and in a way that works satisfactorily up to this time. I often wonder what our zealous young reformers would have done in those days; those were real reforms in parochial affairs; now I reckon them only gleaners in the reform field. All this was not done without some odium and unkindness. It was thus that I sought to make myself useful as a parishioner.

I have one more point. I resolved to qualify myself to become a useful man of business, both in public and private. Well, this I found to be the most difficult thing to attain to; and which I have not nor ever shall attain. However, there was nothing like setting about it. I recollect very well borrowing of Mr. Thomas Peele a number of Evans & Ruffy's *Farmers' Journal, the* agricultural newspaper of 40 years back. I was greatly interested in reading about Holkham sheep-shearings and Woburn gatherings, ploughing meetings, and the like. I soon began to take unusual pleasure in such matters at home; and although we had no matches to test the skill and powers of our workmen, yet the best of them were pretty well known in the district, such as Carter's Will, Forster's Billy Percival, Mr. Peele's George Barton. As time passed on, the whole country became aroused by the success which attended the Holkham and Woburn meetings, and the Holkham system of agriculture. Agricultural societies began to spring up and there, were soon on the increase everywhere, and it was not likely that the inhabitants of this district, who have always stood prominent in promoting every improvement likely to benefit their country, would long be without a society of their own. In the meantime I paid great attention to the introduction into this district of new varieties of grain, seeds, Turnips, Mangels, Cabbages, Kohl-rabi, Chicory, Carrots, Lucerne, and Sainfoin; and after a time the whole country was aroused to inquiry, and now you hear of new "sorts" everywhere, and everybody getting them. I also endeavoured to promote improvements in culture, such as autumn culture, subsoil ploughing, hollow-draining: on the latter subject permit me to state that I wrote and published the first pamphlet ever printed at Long Sutton (this was by Mr. Swain). I also undertook to keep up a breed of large-framed and heavy-woolled sheep for the use of the neighbourhood. It was in this way that I sought in my small capacity to be a useful man of business. I now come to the business of this to me very interesting day, and wherein I have been enabled to act more in a public capacity. I have said that Long Sutton will never be behindhand in promoting improvements; consequently the establishment of an Agricultural Society was often talked over, and at length a fitting time came, and it is one of the many good things which have emanated from this annual meeting for the benefit of the neighbourhood. It was at a meeting of this association held on January 23d, 1837 (22 years next Monday), that the Long Sutton Agricultural Society was mooted. The following Friday, February 3d, was fixed for holding the meeting for establishing the society and drawing up the rules, and by adjournment to the 17th, when they were finally carried, and the society established upon its present basis. The operations, however, for the first year were restricted to the parishes of Long Sutton, Sutton St. James, St. Edmund's, and Gedney, but in the following year it was extended to its present boundary. W. Skelton, Esq., was appointed treasurer, and myself secretary. The premium list comprised prizes for stock, and rewards for labourers; and this order was maintained with varied success up to the meeting of 1844, when the prizes for stock were discontinued. In the course of the first year an amalgamation was attempted with a similar society formed at Holbeach, which failed. In 1839 we numbered 130 members. In 1841 Mr. Skelton was elected president of the society, and myself treasurer as well as secretary. In 1843, the first prizes were offered for mowing Wheat, which speedily had the effect of putting down all prejudices against that course. In 1844, the first prizes were offered for hollow-draining. In 1847, the first prizes were offered for allotments. In 1854 the All-England or Champion ploughing class was established, and the first educational prizes were given. In 1857, the steam-plough was introduced, the Potato-digger, and a large collection of implements was exhibited. In 1858, steam-ploughing and steam cultivation in several of its best phases, a clever locomotive steam-engine, and an economical reaping machine were shown; indeed it has been my aim as your officer to introduce to your notice specimens of our most useful implements, or such as were obtaining the greatest popularity, in order that they might be seen, and, if approved, adopted. I have now gone through with this review, which is chiefly about myself. I ask you to forgive this egotism; you must pardon this setting forth of my doings; it is meant in some sense as an answer to your distinguished token of approval. You have this day honoured me above and before all others in this district: this splendid testimonial is the first given here to any individual for services of this character, by the general public. I shall not stop to point out the great benefit

this society has conferred upon the locality: these beautiful and valuable tokens are a sufficient testimony that you think it a valuable society, and that you approve of my efforts in helping to conduct it. I wish they had been more worthy your approval. What I have done has been from a strong sense of public duty. I am a true believer in the prize system: to it we owe the improvements in British agriculture. I believe that we have mainly to look for our prosperity as farmers—to agricultural improvements, in the judicious adoption of the best breeds of stock, the best modes of culture, the best varieties of grain and of roots, the best implements, the best manures, and the best and most economical management of the whole. It is in this way we may—and I would add that we will—defy the whole world to beat us.

## WHEEL *VERSUS* SWING PLOUGHS.

(*Concluded from page* 78.)

SOME people tell us that on land of a hilly character the wheel plough can never make headway, as it is heavier and apparently more unwieldy than the swing construction. Now, although we cannot here boast of mountains rivalling the noble Grampian chain, there are yet elevations under culture which manifest the same class of difficulties as may be met among their glens and brae-sides. Take the Cotswolds, in Gloucestershire, for instance. On their escarpment will be found a system of husbandry peculiar to the locality, but admirably adapted to it. If my reader has ever travelled the bleak road from Cirencester to Stow-on-the Wold, on a biting blustering morning in March, he requires not to be told that there are heavy physical obstacles with which the district has to contend, crests to be surmounted, and braes to be ploughed by implements of some kind or another. The soil is often thin and brashy, the rock at a very shallow depth, and stones in many cases numerous. Surely here then the improved wheel plough must hide its diminished head. In many cases it does so. We find the wooden beam and handles prevailing, with cast mould-board, and wrought iron shares. These are turned out in the locality much the same as is practised in Scotland. But the mould-board is often on a very incorrect principle—occasionally manufactured of wood—and the draught severe. First-class wheel ploughs are however making a steady onward progress. If a leaf of practice is worth a volume of theory, we are ready to adduce the former. A farmer on the Cotswolds, whose practice is second to none I have elsewhere seen, kindly addresses me on this point. He is the occupier of over 1000 acres in the neighbourhood of Northleach:—

"I have worked (says he) Howards' ploughs for the last three or four years, and consider them the best for general purposes, doing their work well, and much superior to any others I ever had. I think them better adapted for ploughing light stoney land, and having two wheels you can more easily set them—with greater truth; and when set, requiring comparatively little strength to hold. You will in very stoney land break a few shares; but their cost replacing is not expensive; neither any blacksmith to pay—a great nuisance saved, as they are very doubtful after being 'done,' and frequently the plough goes badly. I work 12 of them in preference to others. They are particularly good for ploughing our old seeds—('Clover')—for Wheat, and old Sainfoin for Swedes and Turnips after burning—a system not pursued in your neighbourhood."

It does not follow that because an implement is in itself heavier than another, its draught is either literally or proportionally greater. Look at the case of a 6-horse portable engine and threshing machine—the former weighing 55 cwt., and the latter three-fourths of a ton less. Yet on the road it is not needful to put more strength to one part than to the other. And my own impression is, that of the two the lighter part is the heaviest draught for the horses. This arises from the greater longitudinal as well as lateral spread of the threshing machine between the wheels; while the engine is a firm compact body, occupying less space. So of wheel ploughs, which you often find from 50 to 75 per cent. heavier than a swing plough for the like work. At Paris in 1855 Ball's plough, which looks fully as heavy as any other, registered 380 lbs., with a furrow of 8 inches by 10; while at the trial on Mr. Alexander's farm, near Laurencekirk in November last, one of the best swing ploughs registered 694 lbs., when cutting 6¾ in. by 9½ in. I readily admit the comparison to be incomplete, without a knowledge of the tenacity of the respective soils, and other attendant circumstances, although it does seem that the difference is indeed great. However, there was also one of Howards' ploughs on the ground, at Bent of Halkerton, which registered 369 lbs. at 6¾ in. by 9 ins.; while its most successful compeer at the same dimensions is given at 560 lbs. Surely, there must be some ground for reasoning from a fact like this. At another trial in my native district, also in November last, at Carcary, near Brechin, there was at least 1 cwt. of difference in favour of the wheel plough, as compared with the swing at the like depth. Equally successful results have been reported from Athole, and the neighbourhood of Perth; the former ploughing match being adjudged by men who stand in the first rank of Scottish agriculturists—Messrs, Watson, Keillor, Dickson, Saughton Mains, and Elliott, Laighwood. The *Perthshire Advertiser* of Nov. 25 says that:—

"The time for executing the allotted task of a quarter of an acre to each plough was three hours and 15 minutes. About 30 minutes before the time fixed the Bedford plough had finished its work, and one of the Scotch ploughs within three minutes; but a considerable number of the latter having still a good deal of ground to turn over, the time was extended for half an hour, and even with this extension many of the ploughmen had great difficulty in bringing their work to a close."

I must not omit to add that one of the Scotch ploughs showed the same draught on the dynamometer, viz., 3 cwt., as Howards'. Having repeatedly tested the draught of a good plough under different circumstances, such as increased or lessened depth or width, with the coulter at different angles, with wheels and without, with or without the skim, drawing from the end or middle of the beam or from the body, with additional weight on the plough, at different paces, up-hill, or down-hill, or level work, *et hoc genus omne*—I know full well the care that is needed, in order to ensure a correct reading of the dynameter. I would almost go so far as to say that the nice fluctuations may be given either way, if the object is to serve a given purpose. Plate XII. in the "Cyclopedia of Agriculture," with the corresponding Article at p. 724, will fully illustrate my meaning. But the Scottish trials appear to have been made with care and correctness, and often in the presence of those whose tastes were not in favour of the superior implement. It is true that the ploughman was a first-rate hand, but he had to compete with first-rate hands. It is true that the wheel ploughs were the best of their kind; but it is not less true that in these instances in which the approximation was closest, local plough-makers had become aware of the trials, and lent their aid in bringing new coulters and shares—and in more than one instance, new ploughs—all of which were in advance of those usually found in practice. Whereas, at the present moment, I doubt not but many ploughs in the north will show nearly twice the draught of a good wheel plough, with the same size of furrow slice. I make this remark cautiously, but not without fair proof thereof.

As a whole, these and other trials exhibit the draught as a saving of fully one-third in favour of the wheel plough. This is a matter worthy of the deepest consideration. With prime Wheat not much over 5*s*. per bushel, there is every reason for retrenchment. And if the writer is correct in his remarks, here is an item of an important character. The saving on one plough being considerable, how much more must it be when multiplied by the ploughs of a large farm, or of braid Scotland

"Frae Maidenkirk to Johnnie Groats."

Sir John Forbes lately remarked, that "with three and a half millions of arable acres in Scotland, a saving of an hour per acre in ploughing three-fifths of it would be a gain to the country of 100,000 working days of 10 hours each; a saving of 1 cwt. of draught in that operation (to 150,000 work horses) represents an enormous amount of tear and wear." To enter a little further into details, we may take the arable acreage of Scotland at 56,000 acres over Sir John's estimate. Now, according to the statistical return for 1857, this would give the following extent of crops, on a farm of 500 acres:—

| | | |
|---|---|---|
| 59 | acres | Wheat and Barley. |
| 136 | ,, | Oats, Rye, and Bere. |
| 9 | ,, | Beans, Peas, and Vetches. |
| 91 | ,, | Roots and Fallow. |
| 205 | ,, | Clover. |
| 500 | | Total. |

My object is not to construct a rotation, and I therefore follow the statistical order; but taking the Clover, or "seeds," as being of first and second years' growth, we can see how (by seeding down a portion of the Oats after roots) a five years' course could be constructed—or something nearly approaching thereto. On a well-managed farm of this size there would be some 500 acres of ploughing annually, allowing the roots to be preceded by three furrows. I know that there are many farmers who would manage medium soils with less than 400. The cultivator—and especially Biddell's scarifier in Norfolk—is to some extent exchanged for the plough. A good Warwickshire farmer, who has travelled in Scotland, and profited by it, says he is not in favour of the land being often ploughed, especially if it is of a light description. "On my farm," he adds, "I do not generally plough more than three times for five crops. First, plough up the seeds for Oats; second, manure and plough for Beans and Peas—then scarify for Wheat; third, give a deep furrow for Swedes—afterwards scarify for Barley, and sow down to seeds again." But to return from this digression. With 126,471 working horses in Scotland, the strength for such a farm would be about nine pairs. Although the calculation is seemingly high, we simply give it as founded on these data. A saving of one-third in draught ought to show it somewhere; either in the corn-bin, in the earlier finish of the operation, or in effecting a deeper and more complete tillage of the soil. It is not too much to say that it would show itself, to a greater or less extent, in all these respects. If I take Sir John's hypothesis of an hour per acre saved in the operation, from less expenditure of strength, we gain at least eight weeks' ploughing of a pair of horses—no mean adjunct it will be readily be allowed. We believe, however, that the saving would manifest itself in a less obtrusive, though not in a less tangible form. Mr. Lennie's Gold Medal Report of ploughing experiments, in the Journal of Agriculture, gives some tabular results of a valuable character. Comparing the produce of Oats, after ploughing performed by Small's, Howards' Yester, and Currie ploughs, he says:—

"Howards' prize wheel plough gives the greatest amount of produce both in grain and straw, taking its combined plots, as given in Table No. III. The work was exceedingly well executed, especially of No. 4, the man having a premium awarded to him. The work of No. 9 (both Howards') was nicely cut; but not so well closed as it should have been. This plough, from its light draught, and being easily held, promises to come into extensive use. It is so constructed that it can be adjusted to any kind of work in the field by the plough-man with facility. The furrow-slice is rectangular, of which is cut flatter, and is cleaner taken up than other plough the reporter has seen working."

There are other matters to which I might refer, but my object to aim at "special pleading." I have endeavoured, in the preceeding remarks, to show that wheel ploughs are not the complicated pieces of machinery which some people give them credit for being; that they are simple of adjustment, and can be easily repaired; that they are decidedly advantageous to the farmer, in improving the work of his second-rate soils; that they are easier for the ploughman, lighter for the horses, and of national importance, as a saving of motive power. If anything has been advanced contrary to facts, I will gladly acknowledge the mistake. If anything has been said in a dogmatical or discourteous tone, the writer honestly regrets the same. But he lays down the pen in the fullest conviction of having stated facts worthy of unbiassed consideration, and therefore believing that at no distant date will wheel ploughs predominate on the north of the Tweed. *T. B. Stoneleigh Abbey Farm, Kenilworth.*

## MANURES FOR TURNIPS.

THE Haddington Agricultural Club resolved at a meeting last year to conduct experimenrs for ascertaining the most profitable manures for the growth of turnips, recommending to the members the following as a trial:—

No. 1. 4 cwt. Peruvian guano per acre.
No. 2. 2 cwt. Peruvian and 2 cwt. West Indian do.
No. 3. 2 cwt. Peruvian and 2 cwt. dissolved bones do.
No. 4. 2 cwt. Peruvian and 2 cwt. superphosphate do.
No. 5. A mixture in equal value of dissolved bones and dust do., same money value as No. 1.
No. 6. ¾ cwt. of nitrate of soda, ¾ cwt. of sulphate of ammonia, 2 cwt. of dissolved bones.

At the last monthly meeting the reports of those who had carried out the recommendation were read. The chairman, Mr. R. Scott Skirving, introduced the subject with the following observations. He said:—You will find many clever, intelligent, practical and most successful farmers, who annually order from 30 to 50 tons of Peruvian guano, and never use any other artificial manure—because they found Peruvian guano the cheapest, grew the best crops, and, with the exception, perhaps, of Rape dust and drill bones, all the other stuffs they had ever tried were little else than a concentrated humbug. This might all be very true were there supplies of guano to last for ever, and to continue at a moderate price. But what were the results should the supplies of guano suddenly cease. Why, instead of having been a blessing its loss would be our ruin. I believe at this moment the use of guano has become an absolute necessity—we could not cultivate our land without it. Now by making experiments we get encouragement to those who are at great expense to find out some new and cheap fertiliser, besides the benefit we may derive from ascertaining the best substitute for it. The reason also given by those who never use anything but guano is this—We can always depend upon getting it pure. The temptation to adulterate artificial manures cannot be strong now. Quick and immediate detection by analysis must check any attempt at this. I have a sample of every artificial manure I used last season, sealed up and ready for analysis, if the experiments made this season give occasion to draw any peculiar inference. When the manuring powers of guano became generally known the demand proportionally increased, and the price higher and higher. Every autumn a circular was issued informing agriculturists that, owing to the increased demand for, and the difficulties of obtaining a supply of Peruvian guano would be sold next season at an advance of 1*l*. per ton. Now, where was this to end, unless the demand were put a stop to, by showing that artificial fertilisers could be manufactured and sold at a much lower price than guano, and though not possessing the productive powers of guano, still more profitable when in greater quantities, because sold at a much cheaper rate? In this lies the great benefit of making experiments. In making these trials, half a Scotch acre was allowed for each. I may also add that farmyard manure was applied at the rate of 25 carts to the acre. The experiments were made with Swedish Turnips sown on the 12th of May. I will now read over the results of my results, which were as follow:—

| | Cost per acre. | | | Less. | Crop. | | | |
|---|---|---|---|---|---|---|---|---|
| | £ | *s.* | *d.* | per acre. *s.* *d.* | tons. | cwt. | qr. | lbs. |
| 1. 4 cwt. Per. guano, at 14*s.* .. .. | 2 | 16 | 0 | | 24 | 2 | 3 | 11 |
| 2. 2 cwt. Per. guano, 2 cwt. West Indian, at 11*s.* .. | 2 | 4 | 0 | 12 0 | 24 | 1 | 3 | 11 |
| 3. 2 cwt. Per. guano, 2 cwt. dissolved bones, at 11*s.* 6*d.* | 2 | 6 | 0 | 10 0 | 20 | 19 | 3 | 1 |
| 4. 2 cwt. Per. guano, 2 cwt. superphosphate, at 10*s.* 6*d.* | 2 | 2 | 0 | 13 0 | 21 | 7 | 1 | 18 |
| 5. 4 cwt. Rape dust, at 7*s.*; 3 cwt. bones, at 9*s.* .. .. | 2 | 15 | 0 | 1 0 | 22 | 0 | 6 | 6 |
| 6. ¾ cwt. sulphate, ¾ cwt. nitrate, 2 cwt. bones .. | 2 | 9 | 6 | 6 6 | 22 | 8 | 2 | 10 |

No. 1 table of experiments were made upon gravelly Turnip land.

The following conclusions may be drawn from this experiment:—First of all, guano is proved to be the most pro-

[illegible] but it is not the most profitable; the [illegible] produced by No 2 being only 1 cwt. per [illegible], with a saving of 12s. per acre. The superiority of No 1 and 4 is very marked. But I was not sur[illegible] as I tried West Indian guano at the last [illegible] weights both of dissolved bones and super[illegible] and found it superior to both. The result of [illegible] a surprise. The cheaper mixture with super[illegible] has a decided advantage over dissolved bones. [illegible] very important trial, as far as ascertaining the real [illegible] of guano, being a mixture of rapedust and dissolved [illegible] same as No. 1. But the result is much in [illegible] produce of No. 5 being 2 tons 1 cwt. [illegible] No. 1. The mixture of rapedust and dis[illegible] bones is not a good one. Had West Indian guano or [illegible] been used, the result might have been [illegible]. I now come to No 6, where we again try to find a [illegible] for guano, but the result is still in favour of No. 1, [illegible] deficiency is less, being 1 ton 14 cwt. 1 st. 1 lb.

The experiments at Saltcoats are of little value, the crop being so very bad. The field where the experiments were made was heavily manured in the stubble, partly from a dunghill and partly from the feeding courts, ploughed in time for all the frost we had last winter. The part where the experiments were made was three times grubbed, the Turnips sown with as fine a mould as it was possible to wish for. Guano was applied at the rate of 4 cwt. per imperial acre, and the produce not to reach 14 tons per imperial acre, is most [illegible] untable. But all the farms along the sea-coast suffered very much from the ravages of a caterpillar known as "black Jack." They hung upon the leaves of the Turnips in such numbers that on one Purple-top I counted 64. The variety known as Skirving's Top were totally destroyed by them, but the Swedes partially recovered.

| | £ | s. | d. | tons. | cwt. | st. | lbs. |
|---|---|---|---|---|---|---|---|
| 1. 4 cwt. Peruvian guano, at 14s. .. .. | 2 | 16 | 0 | 13 | 19 | 5 | 11 |
| 2. 2 cwt. Peruvian guano, and 2 cwt. West Indian, at 11s. .. .. .. | 2 | 4 | 0 | 12 | 3 | 3 | 5 |
| 3. 2 cwt. Peruvian guano, and 2 cwt. dissolved bones, at 11s. 6d. .. .. | 2 | 6 | 0 | 12 | 3 | 3 | 5 |
| 4. 2 cwt. Peruvian guano, and 2 cwt. superphosphate, at 10s. 6d. .. .. | 2 | 2 | 9 | 12 | 18 | 2 | 13 |
| 5. 4 cwt. Rape dust, at 7s.; 3 cwt. bones, at 9s. .. .. .. .. | 2 | 15 | 0 | 11 | 6 | 2 | 10 |
| 6. ½ cwt. sulphate, ¾ cwt. nitrate, 2 cwt. bones .. .. .. .. .. | 2 | 9 | 6 | 12 | 18 | 2 | 13 |
| 7. 4 cwt. Dall's manure, at 10s. .. .. | 2 | 0 | 0 | 13 | 13 | 2 | 7 |
| 8. 4 cwt. phospho Peruvian, at 12s. . | 2 | 8 | 0 | 13 | 13 | 2 | 7 |

No 2 table of experiments, the soil was of a more clayey tendency. Besides the published list of experiments, I made two others—one with phospho-Peruvian guano, and another with Mr. Dall's concentrated manure;* the results of both were exactly alike, and next to No. 1. I also tried phospho-Peruvian with white Turnips, in a very light soil; against the same weight of Peruvian, the crop was decidedly superior. Notwithstanding the difficulties against which it had to contend, you see even here No. 1 shows a decided superiority; the mixture of No. 5 is the worst. Nos. 2 and 3 exactly the same, and Nos. 4 and 6 the same. The experiment was made on half an imperial acre—eight drills in each trial. I weighed the Turnips in 50 yards of the whole eight drills of each. But from the fact of so many of them being equal, shows how the season almost totally destroyed the power of testing the manures—the Turnips were the Purple-top Swede, sown on the 31st of May.

Mr. Hope, Fenton Barns, said: I have brought with me the result of some experiments, and in reporting the trial I made with different manures in the growth of Swedish Turnips, I have to premise that the soil on which the experiment was made is naturally of excellent quality—I may say the best on the farm; that the field was dunged on the stubble during the winter to the extent of at least 20 carts per Scotch acre. I selected a piece that I thought was of uniform quality, and intended to sow 100 yards of eight drills 27 inches apart with each kind of manure, and they were weighed up for that purpose. The person that measured the length of the drills with the 60 feet line had only gone on four times in place of five, and the first lot of manure was sown before I felt certain that the ground was not 100 yards in length. On trial it was found just 80 yards. This made the quantity applied one-fourth more than I intended; however, I resolved to make the others the same. In order to test them better, eight drills got nothing, except of course the manure on the stubble with the others. The whole 80 yards in length of eight drills of each were taken up and weighed, and when the manures employed and the weights obtained are calculated by the Scotch acre the following table exhibits the results:—

SWEDES.

| No. | | Tons | cwt. | qr. | lb. |
|---|---|---|---|---|---|
| 1 | Nothing—gave per Scotch acre .. .. | 17 | 11 | 2 | 7 |
| 2 | 6½ cwt. Peruvian guano .. .. .. | 19 | 7 | 2 | 0 |
| 3 | 2½ cwt. „ „ and 4½ cwt bone dust .. .. .. .. .. .. | 20 | 10 | 3 | 21 |
| 4. | 4½ cwt bone dust, 131 lbs. nitrate of soda, 131 lbs. sulphate of ammonia, and 3 cwt. common salt .. .. .. .. .. | 18 | 15 | 0 | 0 |
| 5 | 6½ cwt. concentrated manure of National Guaranteed Company, bought from Mr. Dall, North Berwick .. .. .. | 20 | 17 | 0 | 3 |
| 6. | 6½ cwt. Peruvian guano, and 6½ cwt. common salt .. .. .. .. .. | 16 | 5 | 0 | 0 |
| 7 | 6½ cwt. Phospho-Peruvian guano, from Messrs. Seagrave, Liverpool .. .. | 19 | 4 | 1 | 14 |

The whole crop suffered from the fly, but what got no special manure looked fully as well as any of the lots until some time after they were singled. While lots 4 and 6 to which salt was applied hair-bed very ill, and when singled with the others the plants were few in number and very small; indeed, I thought they were irretrievably ruined. After harvest No. 4 recovered amazingly, but No. 6, which had double the quantity of salt, never looked thriving. The greatest effect produced by the manures over nothing is 3 tons 6 cwt. by the concentrated manure, the cost for the same being 3l. 5s. 6d., or about 20s. per ton. I tried a somewhat similar experiment with yellow Turnips. Guano and bones produce the largest crop, but 4 cwt. guano per acre produced more Turnips than 5 cwt by itself; the concentrated manure, and the 5 cwt guano were nearly the same—the crop however was a wretched one.

* Mr. Dall is the agent at North Berwick for the National Guaranteed Manure Company, 2, Moorgate Street, London.

I made another experiment with White Globe Turnip on sandy link land at Dirleton, the land had been long in Grass, and had carried only one white crop after being broken up. The following is the result:—

| | Tons. | cwt. | qr. |
|---|---|---|---|
| 4 cwt. guano and 1 qr. bone dust per S. acre produced .. .. .. .. .. | 12 | 14 | 0 |
| 5 cwt concentrated manure .. .. .. | 11 | 13 | 0 |
| 2½ cwt. Peruvian guano, and 2½ Indian guano .. | 9 | 2 | 0 |
| 5 cwt *phosphate* Peruvian guano .. .. .. | 10 | 12 | 26 |
| 2½ cwt Peruvian guano, and 2½ brown sulphuretted carbon .. .. .. .. | 10 | 11 | 18 |
| 5 cwt. Peruvian guano .. .. .. .. | 10 | 4 | 12 |

The whole, as will be observed, are a very poor crop, but to all appearance the soil was equal, and no farmyard dung was applied to any of them.

Mr. R. Scott Skirving, of Campton, then read the following series of experiments, 14 in number—the outside figures referred to his own experiments, and the numerals referring to those given out by the Club:—

| | | Imp. acre. Tons. | cwt. |
|---|---|---|---|
| 1. | Home mixture—say 3 cwt. Peruvian guano and 3 cwt. dissolved bones, with 1 qr. crushed bones; this for Scotch acre in proportion to imperial .. .. .. .. | 18 | 10 |
| 2. | 2 cwt. Peruvian guano at 13s. 9d. and 3 cwt. dissolved bones at 8s. 7½d.—2l. 13s. 4½d. .. | 13 | 12 |
| 3. VI. | 2 cwt. dissolved bones at 8s. 7½d., ½ cwt. nitrate of soda at 30s., ¾ cwt. sulphate of ammonia at 20s.—2l. 7s. 3d. .. .. . | 15 | 1 |
| 4. | Dissolved bones, Rape dust, sulphate of ammonia, superphosphate of lime, in all 5 cwt—2l. 10s. .. .. .. .. | 15 | 0 |
| 5. I. | 4 cwt. Peruvian guano—2l. 15s. .. .. | 15 | 4 |
| 6. II. | 2 cwt. Peruvian guano, and 2 cwt. West Indian guano (mixed at home) .. .. | 14 | 4 |
| 7. III. | 2 cwt. Peruvian guano and 2 cwts. dissolved bones (mixed at home) .. .. .. | 13 | 17 |
| 8. | Dissolved bones, crushed bones, West Indian guano, and Peruvian guano, (all equal), total, 4 cwt. (mixed at home) .. .. | 13 | 10 |
| 9. V. | 3 cwt. 20 lbs. dissolved bones and 4 cwt. 18 lbs Rape dust—2l. 15s. .. .. .. | 14 | 14 |
| 10. II. | 2 cwt. Peruvian guano and 2 cwt. West Indian .. .. .. .. .. | 13 | 15 |
| 11. VI. | ½ cwt. nitrate of soda, ¾ cwt. sulphate of ammonia, and 2 cwt. dissolved bones .. | 13 | 16 |
| 12. IV. | 2 cwt. Peruvian guano and 2 cwt. superphosphate .. .. .. .. .. | 14 | 12 |
| 13. | 2 cwt. Peruvian guano and 2 cwt. Californian guano .. .. .. .. .. | 15 | 6 |
| 14. | Home mixture as No. 1, but inferior dung .. | 17 | 1 |

In conclusion, Mr. Skirving said, that the practical conclusion of the whole matter was, that the Club should not be content with a few experiments, but repeat them until they arrived at something like truth. Another remark he had to make was, that he thought they should all grow more Mangel Wurzel. He had done so for the last eight or 10 years, and while it had never failed with him, Turnips often did. He entirely coincided with the results shown in Mr. Hope's experiments by the use of salt; and was of opinion that there was enough of salt in the soil of itself, and no more should be added to it.

## Home Correspondence.

*Subsoiling.*—We are indebted to a writer in a recent Number of your *Gazette* for the idea of using the subsoil plough between the ridges of land prepared for root crops, and the plan might be extended by subsoiling between the rows of growing crops or recently sown ridges. If this were done early in the year and followed in due time by the horse hoe, the effects of drought need not be feared, but favourable results might be anticipated from the action of the air on the subsoil. The result of the experiment detailed in the article above referred to was satisfactory, so far as the single subsoiling was concerned, as it appeared that the crop of Mangel Wurzel on the subsoil ridges was equal to that on the manured portion; but the result on the ground which was both manured and subsoiled fell far short of what might have been expected from the combined operation, and throws considerable doubt on the trustworthiness of the experiment. The facts were these:—(1) The land which received 12 tons of manure per acre yielded 27 tons 8 cwt. per acre. (2) The land which was subsoiled yielded 26 tons per acre. (3) The land which was subsoiled and manured yielded 28 tons 18 cwt. There was, in fact, no more difference in the three cases than would be found in different plots of the same field which had received one uniform treatment. Subsoiling appears then in this case to have been equivalent, or nearly so in effect to 12 tons of manure; and probably in these two cases the natural produce of the land was raised from some 15 tons to 27 tons of roots per acre. But in the third case the addition of 12 tons of manure to the subsoiling adds nothing, or but 2½ tons to the above yield. How is this? How can this small return for this liberal outlay be explained? for if the 12 tons had been added to the dressing of 12 tons in the first case, making in all 24 tons, the produce would probably have been from 35 to 40 tons per acre. This perhaps may be considered an unwarrantable assumption, but a comparison of many experiments shows that there is scarcely any limit to the weight per acre that may be obtained of this root by a liberal manuring; and, taking the average of soils, manure, and management, that we shall not be far wrong in assuming 15 tons for the natural produce per acre of land in good heart, and in reckoning ton for every additional load of manure. To return, then, to the question—how is it that in subsoiled land manure fails to perform its duty, as it has clearly done in the case under review? It may be answered, that in this loosened soil the manure may have been washed down below the reach of the roots, or that the roots have penetrated beyond reach of the manure. Either explanation is however unsatisfactory, and we need not reason too closely in the present case. Other trials will probably tend to elucidate the question, and in the mean time we must thank your correspondent at Cirencester for suggesting the idea, and communicating the first though somewhat inconsistent results of the experiment. *G. P. S.*

*Scottish Agriculture.*—A great many farmers in various parts of the United Kingdom can say "my farm is all regularly drained;" but few can say "the subsoil between and equidistant from each drain is dried to a sufficient depth for the growing of any kind of crop, and the drains are cut to a depth beyond the reach of any disturbing agent, such as the roots of Mangel Wurzel." Hence since draining is the first sure step towards agricultural progress—since so many men depend on draining for a livelihood, there are few labourers but like myself "will agree with your correspondent that there is plenty of room for advantageous money-spending in Scotch agriculture" (*Agricultural Gazette*, p. 835 for 1858). But let us see what has already in many places been spent. I have assisted to drain land in Berwickshire, which cost 10*d.* per rood of 6 yards for cutting the furrow drains 42 inches deep at 20 feet intervals. These are filled with pipes 14 inches long, which cost 22*s.* 6*d.* per thousand. To this large outlay must be added the expenses connected with the cutting of the main drains and filling them with larger pipes and cutting the ends of the furrow drains into the main drains. Some farmers whose farms lie between that extensive farm and the lime kilns paid 7*s.* for the cartage of each cartload of lime; the price of the lime at the kilns was 10*d.* per boll if paid within a given time, but its price was 1*s.* per boll if not paid within the time specified. The farmer of that extensive farm drained it in four, and applied 10 cartloads of lime per acre within five consecutive years. What does such an outlay for a parallel system of drainage, and 5*l.* per acre for lime, add to the yearly rental of every 100 acres of the farm for 19 years, reckoning one-fourth of the whole farm to be drained each of the first four, and one-fifth of the whole farm to be limed each of the first five consecutive years? *A Labourer.*

*Temperance Harvest Labour.*—In your paper of Jan. 29th there is an article from the Bath and West of England Agricultural Society's Journal on the destructive effects of payment of any part of labourers' wages in cider, with a notice of a movement in Herefordshire, headed by an M.P. and the local clergy, to substitute parochial tea parties for labourers and their wives instead of unlimited supplies of cider to celebrate "harvest homes." As there is no doubt that drinking is the curse and will be the ruin of Great Britain if some effectual check is not speedily found, and as example is often more efficacious than the most eloquent dissertation, it may be interesting and useful to those persons who desire to benefit humanity by the suppression of drinking instead of injuring them by its encouragement, to mention that on the farms of the Right Hon. Sir Benjamin Hall at Llanner, in South Wales, everything is conducted during the hay and corn harvest on this gentleman's grounds, as well as at other times, without either beer or cider. The men are able to work much better, and are not only free from all degrading temptations to excess, but from those dreadful seizures so common in summer which frequently cause sudden death where the harvest is worked upon intoxicating drinks. I am not now prepared to state every particular, though no doubt they might be procured in detail, but every man receives in money the value of a gallon of beer per acre, besides receiving his pay by the acre for his work, on condition that no fermented liquor is brought on the premises; also a beverage (called in Wales *Glâs Dwfr*) is freely supplied by the employer, being one part sweet skim milk to two parts spring water, which is found to refresh without clogging, as milk undiluted would do. Tea ready mixed and hot is served round at four o'clock with bread and cheese, brought to the field ready cut for each man, and another supply of the same is carried round between 6 and 8, if the weather allows of the continuance of labour. When hay making begins, men and women receive in money the value of the usual allowance of beer besides their labour wages, and the supplies of milk and water, and two meals of tea, and bread and cheese (or plum bread), before and after 6 o'clock. No remark is needed to prove that this is striking at the root of the evil so much to be deplored. It is not more expensive than beer—it ensures health and promotes morality, and being an undeviating system during hard work will do more to check excess than any occasional parochial tea party after weeks of daily excess can ever accomplish. It is dreadful to think how many youths are forced into habits of drinking, and even women by having nothing but intoxicating liquors given to them to drink, when a crust of home-made bread and a glass of water would often be more acceptable, and a blessing to their sinking strength which is kept beyond their reach. If any further information on this subject is desired I shall be happy to supply an answer to further queries. *G. G.*

*Wages in Dorsetshire.*—Having seen in your Paper of this week the rate of wages given in the western counties, and that the county of Dorset stands at 7*s* a week, I cannot allow it to remain any longer unanswered. I had certainly hoped that some one more competent than myself would have defended us before this, as the Journal of the Bath and West of England

Agricultural Society, and also the Sherborne Journal, made the same statement some time since. I am pleased to hear the labouring classes are so well paid in other counties, as if Dorset stands the lowest in the list the labourers in the western counties are tolerably well off. Now, I think before people fill up the newspapers with such gross untruths endeavouring to set the labourers and their employers at variance, they should make some inquiry into the matter, as I see the other counties have authority from the farmers, but for poor unhappy Dorset the wages are quoted at 7*s.* a week without any authority whatever. I believe that I am paying the same rate of wages as the farmers in my neighbourhood (at any rate I should not give more if I knew it), which is 8*s.* a week with cottage, garden, Potato land, and, though last not least, fuel, carried home to them free of expense, with the exception of making the faggots, for which they are expected to pay. Now I must give you to understand these 8*s.* a-week men are at piecework a great portion of their time. I have taken from my labour-book the amount of money paid to 20 men for the last year, which will average 10*s.* 5½*d.* weekly exclusive of the advantages I have before named; added to this, they are allowed ale or cider for all extra work, such as haymaking, Turnip-hoeing, harvesting, &c. I am fully assured that the same rate of wages is being paid generally in this neighbourhood (Dorchester). I do not mean to say there may not be found solitary cases where old or disabled men may be receiving 7*s.* a week only, which I have no doubt may be found in other counties as well, but I am speaking of able-bodied men. In conclusion, I would venture to suggest that your correspondent should, ere he again attempts to malign the county, or rather the farmers of Dorset, visit our labourers and personally ascertain whether they are the ill-paid, unhappy class of men he has represented them to be. *Charles Hawkins, Alton Pancras, Dorsetshire.*

*Wheel Ploughs.*—I was glad to see the remarks of your correspondent on ploughs, and I am sure it is a subject that can be discussed through your columns with profit. The subject has been broached very opportunely in my case, as I was about to recommend my employer to purchase a plough, and having been accustomed to the light swing and other ploughs used in the north of England and Scotland, I have an instinctive aversion to the immense wooden ploughs that are used in this part of Kent, drawn by four horses at a very slow pace—iron ploughs are almost unknown here. But as your correspondent remarks, "local customs generally have some solid basis," and as I do not understand the matter sufficiently myself, I was apprehensive that if I recommended any of the iron ploughs they would prove useless, as the people here tell me they will. Will some of your correspondents favour me with their opinion? The soil in this locality is generally of a mellow description; sometimes very chalky and light, others gritty, flinty soil, which works light; other parts are very strong, adhesive loams, yet on all the different kinds the large, heavy 4-horse plough is used almost without exception, and as a general rule they do not plough more than 6 inches or 7 inches deep. Now, it appears to me to be a very clumsy and expensive method of ploughing light land, and I am, therefore, anxious to introduce a plough of a lighter description, which I think ought to plough our light loam with two horses in a satisfactory manner. Perhaps some of the Kentish farmers would give us their reason for still adhering to this cumbrous machine. *G. P., Folkestone.* [Apply to Howards or Ransomes.]

## Farmers' Clubs.

GALASHIELS: *Report on Experiments with Manures on Turnip Crop*, 1858:—

No. I.—Conducted by Mr. Gibson, Fernieherst.

| Description of manures. | Cost per Imp. acre. | Weight of Bulbs per acre. Ton | cwt. |
|---|---|---|---|
| Peruvian guano (Dun) | £2 16*s.* | 28 | 13 |
| Dissolved bones (Pat) | .. | 28 | 2 |
| Ammoniacal bones (Ovens) | .. | 27 | 9 |
| West Indian guano | .. | 23 | 17 |
| Mixture of above manures | .. | 28 | 5 |
| Fish manure | .. | 19 | 19 |
| Ecomonical manure | 18*s.* 6*d.* | 17 | 16 |
| No application | .. | 17 | 12 |

*Remarks.*—Variety of Turnip, Fordel Yellow—sown June 1st, and bulbs weighed December 25th. All the lots suffered considerably from fly. The lots sown with dissolved and ammoniacal bones suffered least. In the early part of the season the lot sown with Peruvian guano was decidedly behind, but about the middle of August it began to improve rapidly. The soil is a dry loam, and newly improved; and therefore very rich in organic matter.

No. II.—Conducted by Mr. Haldane, Fernielee.

| Manures. | Cost. | Weight. Ton | cwt. |
|---|---|---|---|
| Peruvian guano (Dun) | £2 0*s.* 10*d.* | 24 | 10 |
| Valparaiso | .. | 25 | 18 |
| Bolivian | .. | 24 | 10 |
| Fish manure | .. | 24 | 17 |
| Bailey | .. | 24 | 10 |
| Drill bones | .. | 24 | 10 |
| Dissolved bones | .. | 25 | 18 |

*Remarks.*—Variety of Turnip, Aberdeen Yellow Bullock. The soil is stiff clay, resting on a retentive subsoil, and was newly limed; and although no farmyard manure was applied either in autumn or in spring, previous to the Turnip crop, yet the soil is in a high manurial condition.

No. III.—Conducted by Mr. Clapperton, Caddonlee.

| Manures. | Cost. | Weight. Ton | cwt. |
|---|---|---|---|
| Peruvian guano | £2 2*s.* | 13 | 15 |
| Bailey | .. | 15 | 2 |
| Fish | .. | 12 | 14 |
| Pigeon manure | .. | 16 | 1 |

*Remarks.*—Variety of Turnip, White Globe—sown 3d June, and pulled and weighed 4th November. The soil is dry and porous. As the field where this crop is only undergoing the second rotation since it was reclaimed, no farmyard manure has ever been applied.

No. IV.—Conducted by Mr. Gibson, Windydoors.

| Manures. | Cost. | Weight. Ton | cwt. |
|---|---|---|---|
| Townsend's manure | £2 15*s.* | 13 | 7 |
| Peruvian guano | .. | 13 | 17 |
| Dissolved bones | .. | 13 | 15 |
| Dissolved bones and Peruvian guano, mixed in equal value | .. | 15 | 17 |
| West India guano | .. | 12 | 17 |
| Fish manure | .. | 12 | 0 |
| Farmyard manure, 24 cartloads per acre | .. | 15 | 3 |

*Remarks.*—Variety of Turnip, Green Top Yellow—sown on the 28th of May, and pulled and weighed on the 22d of November. The soil is earthy, with a mixture of clay, and is poor from a long course of cropping. It was limed in 1853, and no farm-yard manure has been applied since that time.

No. V.—Conducted by Mr. Elliott, Hollybush.

| Manures. | Cost. | Weight. Ton | cwt. |
|---|---|---|---|
| Peruvian guano | £2 16*s.* | 26 | 0 |
| Peruvian guano and bone-dust | .. | 28 | 12 |
| Fish manure | .. | 22 | 8 |
| Hodgson's British guano | .. | 25 | 12 |
| Townsend | .. | 26 | 8 |

*Remarks.*—The Turnips were sown on the 1st June, and lifted and weighed on the 13th November. Variety, Fosterton's Hybrid. The soil, which is rather deficient in vegetable matter, is a thin clay, resting on a hard subsoil. It has recently been well manured and limed. All the lots suffered from fly. The lots sown with Peruvian guano and the mixture of bones and guano suffered most. *(To be continued).*

## Societies.

### ROYAL AGRICULTURAL OF ENGLAND.

MONTHLY COUNCIL, *Feb.* 2.—His Grace the Duke of Marlborough, President, in the chair. Fifty-two new members were elected.

FINANCES.—Mr. Raymond Barker, Chairman of the Finance Committee, presented the report on the accounts of the Society, from which it appeared that the current cash-balance in the hands of the bankers was 3026*l.* The Chairman further reported that the authorities of Warwick had transmitted to the Society, towards the expenses of the ensuing country meeting to be held at that place in the week commencing Monday, the 11th of July next, a subscription of 1500*l.*, which was included in that general balance. He also laid on the table, for the information of members, the usual quarterly statements of income and expenditure, and of assets and liabilities.

JOURNAL.—Mr. Thompson, Chairman of the Journal Committee, presented the following report, which was adopted:—

1. Vol. xix., Part 2, of the Journal is now ready, and copies laid on the table.
2. In the Miscellaneous Class (VIII.) of Essays, the prize is withheld by the Judges; but in the Essay on Liquid Manure Tanks and Under-ground Pipes for Irrigation there are some ingenious suggestions, and the Committee recommend that the author be requested to allow it to be printed in the Journal at the ordinary rate of payment.

AGRICULTURAL CHEMISTRY.—Mr. Wren Hoskyns, Chairman of the Chemical Committee, reported to the Council some suggestions for alteration in the wording of the notice for Members' privileges of chemical analysis; and detailed an interesting series of investigations which Prof. Voelcker, the consulting-chemist of the Society, was about to commence under the direction of the Committee.

WARWICK MEETING.—Lord Leigh, Vice-Chairman of the General Warwick Committee, reported their recommendation of the plan of the Show-yard, submitted to them by the Honorary Directors of the Show and the Society's contractor of works. His lordship also reported the various steps taken by the Committee in making preliminary arrangements for the meeting. An offer made to the Council to defray the expenses connected with the exhibition of Warwickshire cheese in the Show-yard was referred to the General Warwick Committee for their report at the next Monthly Council. Mr. Wren Hoskyns conveyed to the Council, on the part of the County Magistrates of Warwickshire, an offer to place the Judges' House in Warwick at the disposal of the Stewards of the Society, during the period of the ensuing Warwick Meeting. On the motion of Mr. Raymond Barker, seconded by Mr. Hutton, the Council accepted this offer with their best acknowledgments.

IMPLEMENT JUDGES.—On the motion of the Hon. W. G. Cavendish, M.P., seconded by Colonel Challoner, the following resolution was unanimously adopted:—"That in future the Implement Committee shall be requested to nominate the Judges not later than the first Wednesday in June, in order that they may be able to lay before the Council on the first Wednesday in July the names of those Judges that are able and willing to act."

VETERINARY INSPECTION.—On the motion of Mr. Milward, the Council unanimously adopted the following resolution:—"That an additional Assistant-Veterinary-Inspector be appointed; and that the Veterinary Inspectors shall be further [illegible] Stewards before the Judges commence their [illegible]—It was then moved by Lord Feversham, seconded Mr. Jonas Webb, and carried unanimously [illegible] fessor Spooner, of the Royal Veterinary College, [illegible] be requested to accept the appointment of [illegible] Assistant-Veterinary-Inspectors at the country [illegible] ings of the Society.

PROTEST.—Mr. Milward, as one of the Stewards Cattle at the Chester Meeting, reported that the [illegible] lodged with the Stewards against the award [illegible] the local prizes for horses had received the careful investigation; they considered the animal fully qualified for the prize, and recommended it be no longer withheld, but now paid in due course winner. The Council confirmed this decision, instructions accordingly.

MEMBER OF COUNCIL.—Sir Archibald Macdonald, Bart., addressed a letter to the Council, stating having served five years as a Steward, he considered himself no longer as eligible for immediate active vice, and he thought it would be for the benefit Society if his place on the Council were filled by both willing and able to act as Steward, and make self generally useful. His farming operations, he were not now of the same extent as when he first a Member of the Council, and "as the governing of that important Society consisted of men either for their ability or their position, as owners occupiers of land, he had clearly no claim to the in the Council which he then begged leave to re The Council having with great unwillingness Sir Archibald Macdonald's resignation, it was by Mr. Henry Wilson, seconded by Colonel Challoner and carried unanimously, that the Secretary structed to write a suitable letter to Sir Archib Macdonald, expressing to him the great regret the Council that any circumstances should deprive them of his valuable co-operation, and the high entertained both by the Council and the Society important services he had rendered to agriculture.

The Council having appointed the Standing Committees for the year, adjourned to their weekly meeting on Wednesday, the 9th of February.

HIGHLAND SOCIETY: *Feb.* 2.—At the adjourned general meeting of this society, the house-list extraordinary and ordinary directors were after discussion appointed; and Professor Syme's motion "That the teaching of veterinary surgery in Scotland should not be restricted to one school, since advantage may be expected from competition in this more than other departments of education," was carried. The report to the society of the committee on the subject had stated that it was not for the advantage veterinary instruction in Scotland that the prayer the petition should be granted—that was to say, it was not for the benefit of veterinary surgery that Mr. Gamgee, who has established a new veterinary school in Edinburgh, should continue to exist. Professor Syme called on the society to withdraw that statement; nay, more, to retract it. He did not think the society called upon to give its exclusive patronage to one school, and he believed that by refusing to recognise Mr. Gamgee's instruction a blow had been struck at the interests of veterinary surgery. Sir John Stuart Forbes seconded the motion, which was ultimately carried by a large majority.

*On the management of future shows*, it was resolved after an angry discussion, that in future no exhibitor shall act as a judge or attending member, nor shall he, nor his factor, nor land-steward, on any pretext whatsoever, be allowed to enter the showyard, or remain in it from the time the judges commence their duties till their awards are declared.

The meeting was then adjourned to Wednesday, Feb.

## Miscellaneous.

*Feeding on Open Boards.*—Experience has taught me and will teach others, that in order to succeed in feeding, we must procure a much larger quantity of [illegible] on our farms than at present, and at less cost. In order to do this advantageously, it becomes necessary to consume a large portion of the straw of the farm cut into chaff, and cook it with meal or ground oilcake. We are thus deprived of the usual cattle-bedding, and must find a substitute. Having practised the system rather extensively, I will communicate to you my details; observing that, although attended with [illegible] system must be, with certain disadvantages, the balance of benefit is sufficiently considerable to induce me to continue and extend it. The quantity of stock I now have on boards is—

| | | | |
|---|---|---|---|
| Lambs | 100 | Bullocks | [illegible] |
| Sheep | 50 | Cows | [illegible] |
| Calves | 60 | Pigs | [illegible] |

We are indebted to the worthy and Rev. A. Hutton for the idea; but I found his space of three-quarters of an inch between the planks insufficient. I therefore measured the hoofs of the various animals, and arranged my openings accordingly, Thus:—

| | Inches thick. | Inches wide. | Inches long. |
|---|---|---|---|
| For bullocks | 3 | 4 | [illegible] |
| For sheep | 1½ | 3 | [illegible] |
| For pigs | 1¾ | 3 | [illegible] |
| For small pigs and lambs | 1½ | 3 | [illegible] |
| For calves | 2 | 3 | [illegible] |

For large Cotswold or Kent sheep, 1⅞ opening [illegible]

not be too large. 1¼ openings do well for Hampshire [illegible], but are rather too large for small Sussex [illegible]. One cannot too highly appreciate the system on heavy lands, where animals cannot be profitably folded during winter. The area allowed for each animal and its feeding apparatus is thus:

| | Superficial feet. |
|---|---|
| Small sheep | 8 |
| Large ditto | 10 |
| [illegible] | 30 to 40 |
| [illegible] | [illegible] |
| Large ditto | 6 to 8 |
| Small pigs | 9 to 11 |
| Large ditto | [illegible] |

Very much depends on the season and weather. In [illegible] weather, pigs and bullocks can scarcely be packed [illegible] so long as there is room for them to lie down [illegible]. Sheep require a little more room, or [illegible]. In fact, it requires a nice observation to [illegible] the ventilation and temperature. This is best [illegible] by a thermometer, because our own feelings are not [illegible] a sufficient criterion. Every cattle-shed should [illegible] as comfortably warm as a drawing room. The [illegible] for ventilation should be at the highest point. [illegible] pigs, having little hair, must have a much [illegible] temperature than sheep. When pigs huddle together it is a sure sign that they are not warm enough. Cold, stopping the circulation in the skin, drives the blood to the internal organs, and causes inflammation. I have often been struck on seeing how soon my groom will get a horse into condition, by warmth, cleanliness, and [illegible]. The same remark applies to a lady's lap dog. My bullocks are all groomed daily by a boy, whose sole occupation it is. The cost is about one farthing per head per week, and I am sure it pays. Before I leave the open boards, I should say that the bars or planks may be either of straight yellow deals, or of straight-grained hard woods. The latter are to be preferred for heavy animals, as they wear off the edges of the deals. The depth of the pits may be from 2 to 4 feet. It is necessary, once in a way, to level the manure to prevent its touching the boards; it would soften them, and cause them to break. I should say that we never sweep the floor; but the animals are perfectly clean. Of course the manure is taken at once from under the boards to the field, without the interventional expense of a double carting, shooting or turning over of a dung-heap. The effect on the crops is unmistakable. In order to pay you 10 per cent. on your investment for the whole building and floor, complete, with troughing, &c., you would charge your bullocks 1½*d.* per week; sheep and pigs, ½*d.* per week. The cost of erecting covered homesteads, complete with boarded floors, will not exceed 1*s.* to 1*s.* 3*d.* per superficial foot. One man on my farm feeds and entirely attends to 250 pigs. It would require two men on the old straw bed system. Our pigs are never cramped now. Formerly, they used to be, owing to the manure heating under them, and the cold giving those parts rheumatism. One stout lad, at 3*s.* 6*d.* per week, will feed and attend to 30 bullocks; another attends to 60 growing calves. *Mechi's How to Farm Profitably.*

## Calendar of Operations.

### FEBRUARY.

WEST SUSSEX: *Feb.* 1.—There is not much to report at this time of the year, and lately work has been at a stand in the fields, as it has been pretty wet. We have had rain more or less during all last month, though not in very large quantity, and we still want more to fill all the ponds as they usually are at this time of the year; but it has been extremely mild, and the meadows are beginning to assume a greener appearance than they had. The Wheat looks well, but not so [illegible] as usual; it has stood upright all the winter, instead of lying flat on the ground, which is no doubt caused by the mild weather, that has kept it constantly in a partially growing state. Although it looks well there is no fear of its being winter proud. The Turnips are lasting well, and we now expect to get through the winter comfortably. A great many of the Down lambs fell last month, and I believe upon the whole the lambing has been good. There are a great many couples offering in the market, and the prices are from 54*s.* down to 46*s.* per Dozen. Mutton is in fair supply and a good sale. Beef the same. Pigs are also dearer, and will no doubt continue to advance. Our market is very full of Wheat, and will be so for some time, as there is now time to thresh and the straw must be had. We have also a large supply of Barley, but generally of a very inferior quality; and for such the demand has greatly fallen off. Oats, Peas, and Beans rule steady at 24*s.*, 40*s.*, and 42*s.* We are being forward there are a good many hands out of work, and must be so for a long time, as there is not much to do for them till hay making and Turnip sowing begin. *G. P.*

## Notices to Correspondents.

SHEEP DRESSING: *A Ross.* It is spoken well of. We have had no personal experience of it. Perhaps some of our readers who have may give us an account of it.

MANURE: *C A J* Guano 2 cwt. per acre, if for Grass at once. Guano 1 cwt. and superphosphate 3 cwt., if for Turnips, to be fed to the crop by right, and thus being eaten off will make the land ready for Grass seeds again.

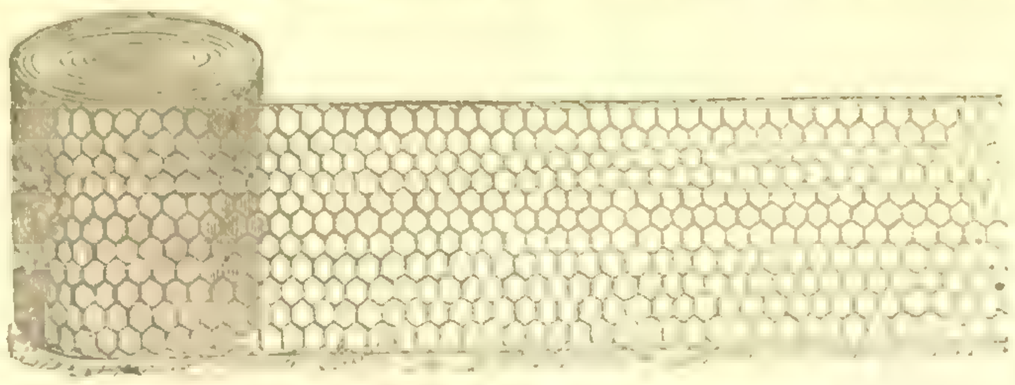
SODA: *A Young Farmer.* In most places we suppose common salt is the cheapest source of soda, and wood ashes of potash.

APPLICATION OF POTATOES: *Young Farmer.* Common salt mixed with green Swede and Mangel Wurzel leaves in a pit preserves them for a certain period, *i.e.*, the mess is tasted at first, but some months afterwards will not, we believe, be eaten by cattle. But we have never heard of the preservation of Potatoes for a length of time in the pits by the use of salt, which destroys their vitality."

HYBRIDISING: *J P.* The seeds taken from your samples [illegible]—No. 1, seeds of Medicago lupulina, the Hop Trefoil of the farmer, differing from the Hop Trefoil of the [illegible] Trifolium procumbens. No. 2, seeds of Soft Brome or Lop grass; the larger seed is a [illegible] or bunch of flowers, the smaller ones [illegible]. *J B.*

[illegible]. By all the harming you can whether of weeds [illegible] same time. Sow plenty of seed with a [illegible] to make it grow rapidly. Roll and trample it. [illegible] the patches of corn which may not have [illegible] it by [illegible].


# IMPROVED PREMIUM WIRE NETTING.



PRICES PER LINEAL YARD, 24 INCHES HIGH:—

| Size of mesh. | Mostly used for | Light. | | Medium. | | Strong. | | Extra strong. | |
|---|---|---|---|---|---|---|---|---|---|
| | | Japanned. | Galvanized. | Japanned. | Galvanized. | Japanned. | Galvanized. | Japanned. | Galvanized. |
| 2½ inch | Hares, Dogs, Poultry | 3½*d.* | 4½*d.* | 4½*d.* | 5½*d.* | 5*d.* | 6½*d.* | 6*d.* | 8*d.* |
| 2 inch | Game Netting | 4*d.* | 5*d.* | 4½*d.* | 6*d.* | 5½*d.* | 7*d.* | 7½*d.* | 9½*d.* |
| 1⅝ inch | Small Rabbits, Hares, &c. | 4½*d.* | 5½*d.* | 5½*d.* | 6½*d.* | 6*d.* | 7½*d.* | 8*d.* | 10*d.* |
| 1½ inch | Smallest Rabbits | 6*d.* | 7½*d.* | 7½*d.* | 9*d.* | 9*d.* | 11*d.* | 11*d.* | 13*d.* |

PRICES PER FOOT SUPERFICIAL:—

| Size of mesh. | Mostly used for | Light. | | Medium. | | Strong. | | Extra strong. | |
|---|---|---|---|---|---|---|---|---|---|
| | | Japanned. | Galvanized. | Japanned. | Galvanized. | Japanned. | Galvanized. | Japanned. | Galvanized. |
| 1¼ inch | Pigeon Houses, Pheasantries, &c. | 1½*d.* | 1¼*d.* | 1¼*d.* | 2*d.* | 2¼*d.* | 2¼*d.* | 2¼*d.* | 3½*d.* |
| 1⅛ inch | Pigeon Houses, &c. | 1¾*d.* | 2*d.* | 2*d.* | 2½*d.* | 2½*d.* | 3*d.* | 3*d.* | 3½*d.* |
| 1 inch | Pheasantries and Small Birds | 2*d.* | 2¼*d.* | 2¼*d.* | 2¾*d.* | 2¾*d.* | 3¼*d.* | 3½*d.* | 4*d.* |
| ⅝ inch | Aviaries, Window Guards, &c. | 2¼*d.* | 2½*d.* | 2¾*d.* | 3¼*d.* | 3¾*d.* | 4*d.* | 4*d.* | 5*d.* |

Quantities of 100 yards, or upwards, delivered free at nearly all the principal Railway Stations and Shipping Ports in England; also by special estimate to any port of Scotland or Ireland. Any width of Netting under 8 feet made at proportionate prices. Best Improved HAND-MADE HEXAGON MESH NETTING, from ½*d.* to 1½*d.* per yard extra on the above price for 24 inches high.

☞ *Every description of Netting warranted to give satisfaction, and if not approved will be exchanged, or may be returned unconditionally.*

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THE PROPRIETORS OF THE ST. PANCRAS IRON WORKS, Old St. Pancras Road, London, were awarded the Silver Medal of the Royal Agricultural Society for their IRON HURDLES and GATES, which, by their peculiar construction, are more than twice as strong and durable as those in ordinary use. Lists per post on application. Gates from 30*s.* to 500*l.*

**The Hurdles can be seen in process of Manufacture at the Works.**

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THESE PATENT MANGERS and STABLE FITTINGS obtained the Commendation and the Silver Medal of the Royal Agricultural Society of England and the Royal Agricultural Society of Ireland, are adopted by the Royal Veterinary College, and Professor Spooner of that Institution states that they should be used by all who value the health and comfort of their horses. They can be had plain, galvanised, or enamelled. A Show Room is devoted entirely to every description of Stable Furniture, and full-sized stalls and loose boxes are erected for inspection at St. Pancras Iron Works.

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BROWN'S FLORAL SHADING still maintains its superiority for cheapness and efficiency over all other materials used for a similar purpose, viz., shading plants under glass from the scorching rays of the sun, protecting Wall Fruit Trees when in bloom from frost, and preserving the fruit from the attacks of birds, flies, and wasps. Sold in pieces 20 yards long, 36 inches wide:—

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J. AMADIO'S BOTANICAL MICROSCOPES, packed in mahogany case, with three powers, condenser, pincers, and two slides, will show the animalculæ in water. Price 18*s.* 6*d.*—Address JOSEPH AMADIO, 7, Throgmorton Street. A large assortment of Achromatic Microscopes.

"It is marvellously cheap, and will do everything which the lover of nature can wish it to accomplish either at home or in the open air."—*The Field*, June 6, 1857.

Just published, an Illustrated Catalogue, containing the names of 1000 Microscopic objects, post free for 4 stamps.

PATENT GUTTA PERCHA SOLES.—IMPORTANT TO GARDENERS.—The Gutta Percha Company have the pleasure to acknowledge the receipt of the following letter from G. GLENNY, Esq., the celebrated Florist:—

"Gentlemen,—I have worn Gutta Percha Soles and Heels these two years, and being so much in a garden as I necessarily am in all weathers, and with the ground in all states, I would on no account be without them. As a matter of economy I would recommend Gardeners to use them, for they may repair the worn part at all times by warming the material at the fire, and pressing it from the thick parts to the worn parts as easily as if it were so much dough. I think it the duty of all persons who must occasionally wet their feet to adopt a material that completely defies damp. Many a gardener would escape colds and rheumatism by the use of Gutta Percha Soles.

"Your obedient servant, G. GLENNY."

Every variety of Gutta Percha articles, such as Mill Bands, Tubing, Soles, Goloshes, Sheet, Pump Buckets, Fire Buckets, Bosses, Union Joints, Flasks, Bottles, Bowls, Chamber Vessels, Toilet Trays, Sponge Bags, Curtain Rings, Galvanic Batteries, Talbotype Trays, &c., manufactured by the Gutta Percha Company, and sold by their wholesale dealers in town or country.—The Gutta Percha Company, Patentees, 18, Wharf Road, City Road, London.

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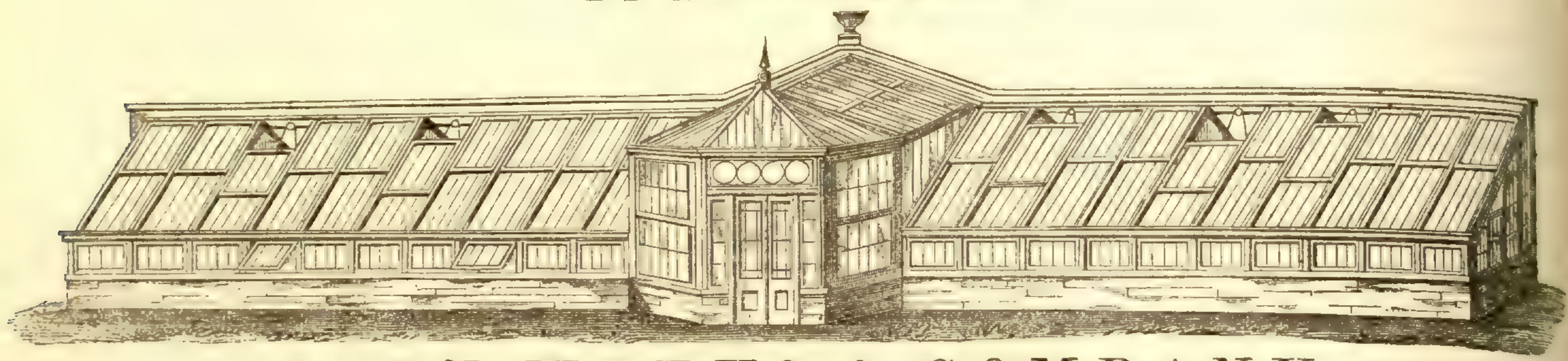
BY APPOINTMENT.



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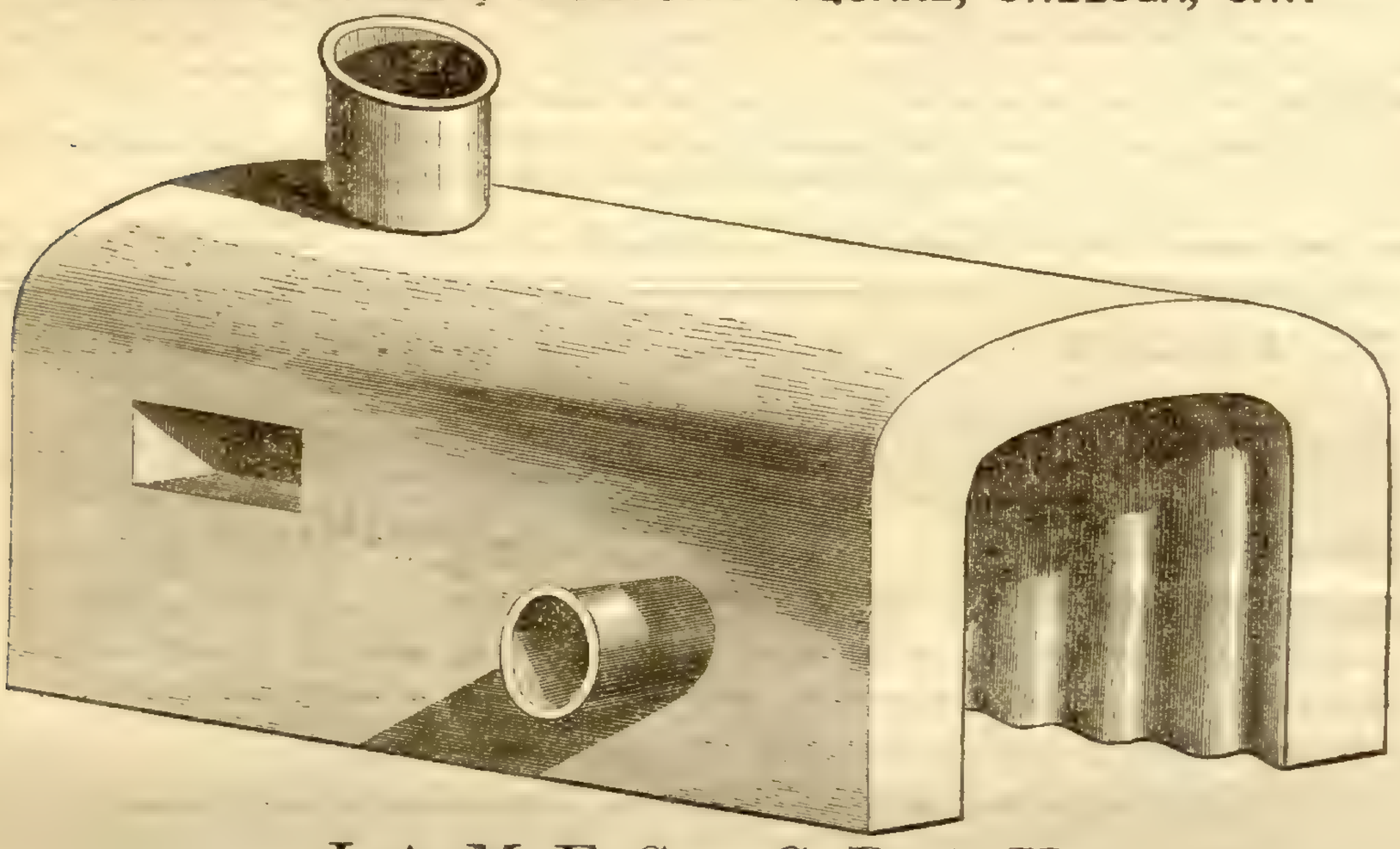

JAMES GRAY

RESPECTFULLY begs to inform the nobility, gentry, Nurserymen, Gardeners, and others, that he continues to carry on the business in all its branches at the above old established premises.

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of every description, erected on the most approved principles.

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J. G. having specially devoted his attention for many years to this part of the business, is now fully prepared to Heat every description of public and private buildings, viz :—Churches, Mansions, Warehouses, &c., as well as all structures connected with Horticulture, in the most efficient manner. His system is the most simple that can be adopted—which he has found from long experience to be the best—can be constructed at less cost, and is more easily managed than those of a complicated nature which have attracted the notice of the public.

J. G. begs to call attention to his CAST-IRON CORRUGATED ARCH BOILER, which from its simplicity of construction has not the liability to fracture to which those of a more complex design are always subject. They have been extensively used for many years, and have given the greatest satisfaction.

All business is conducted at this establishment on the principle of lowest remunerative profits consistent with best materials and workmanship.

Plans and Estimates furnished on the shortest notice.

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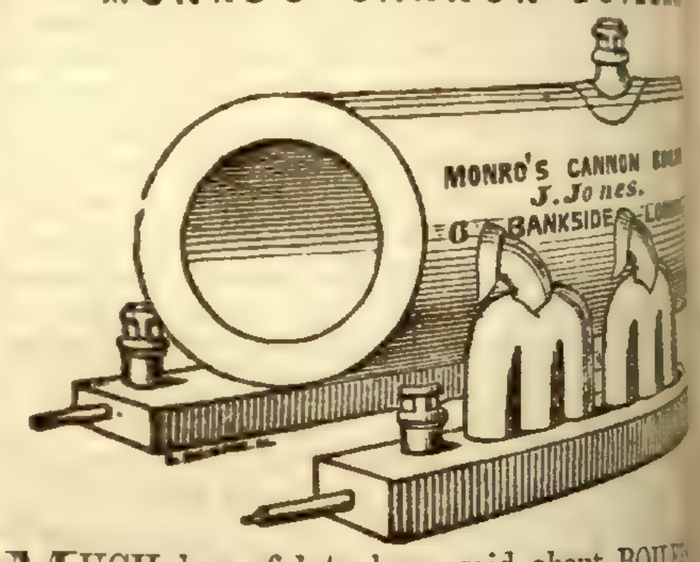


MUCH has of late been said about BOILERS for Heating by Hot Water, but these Boilers have now proved themselves to be the best at present invented. They are adapted for heating every description of building, and are made of various sizes. The Price of the

| | | | |
|---|---|---|---|
| 24 inch Cast Iron is | .. | .. | £5 10s. 0d. |
| 24 inch Wrought ditto | .. | .. | 6 10 0 |
| 36 inch Cast ditto .. | .. | .. | 8 0 0 |
| 36 inch Wrought ditto | .. | .. | 8 10 0 |

References to Gentlemen and Nurserymen [whose] Boilers are now at work. The Cannon Boilers are now in stock, and are to be had only of J. JONES, 6, Bankside, [with] every description of Saddle and Cylinder Boilers. Hot-water Pipes and Connections at prices lower than those of any house in London. Estimates for Hot-water Apparatus complete in any part of the country, and an Illustrated List on application to J. JONES, 6, Bankside, Southwark, [London].

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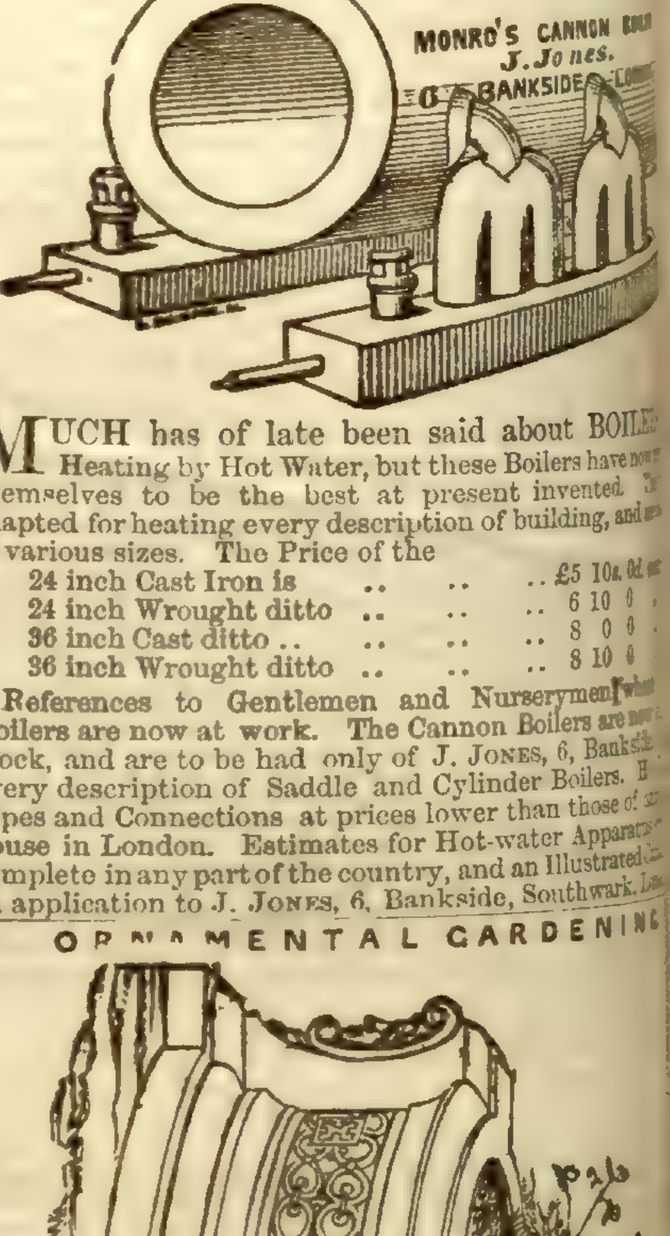

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Any such work ordered IMMEDIATELY might be ready during in March, so as to be well settled by the time for [planting]—3 71 to 375, Euston Road.

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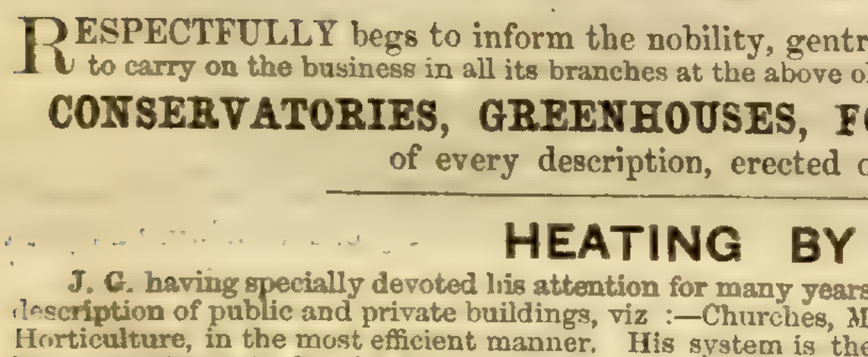

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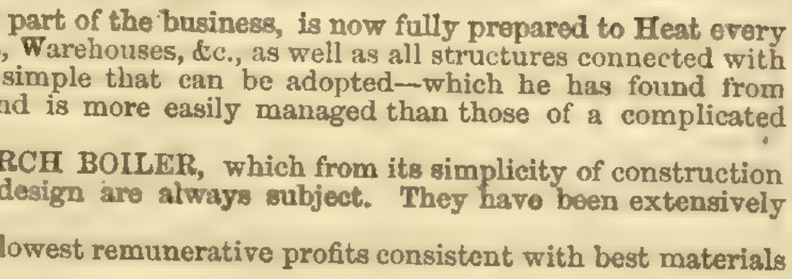
Green and Hothouses, 9, 10, 11, 12, 13, and 14 feet wide, any length, from 16 to 100 feet. Frames and Lights for Pits, 6 ft. 6 in., 7 ft., 7 ft. 6 in., 8 ft., and 8 ft. 6 in. wide, any length, from 12 to 100 feet. Upwards of 200 Cucumber and Melon Boxes and Lights, from 4 ft. by 3 to 10 ft. 6 in. by 5 ft. 6 in., kept ready, glazed with stout sheet glass, painted four times, complete, ready for immediate use, all made of best material, packed and sent to all parts of the kingdom.—References may be had to the Nobility, Gentry, and the Trade in most of the counties in England. Horticultural Buildings of every description heated on the most approved and economical principles.

LOOMES AND CO., Whittlesea, MANUFACTURERS OF BRICKS, TILES, POTTERY, &c., beg to call attention to their new CABLE PATTERN GARDEN BORDER EDGING, which not only surpasses others in appearance and durability, but is free from the dangerous points and sharp edges of most.—Price, delivered on any Railway at Peterborough, 5d. per yard.

PAXTON WORKS, SHEFFIELD, ESTABLISHED 1738.



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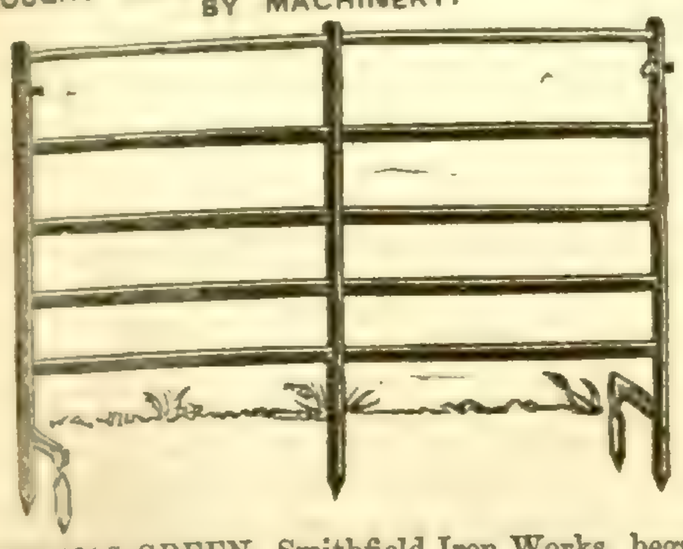
**WROUGHT IRON HURDLES AND FENCING MADE BY MACHINERY.**

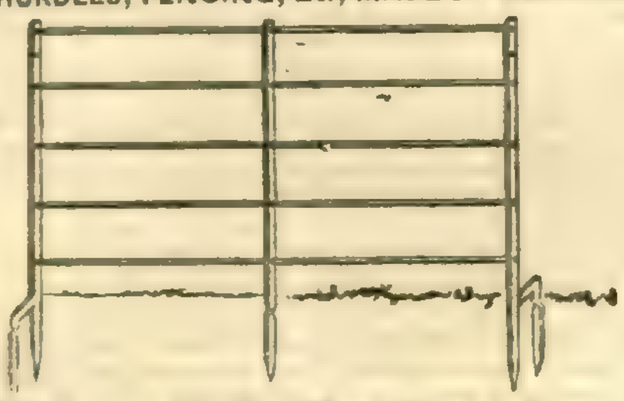


THOMAS GREEN, Smithfield Iron Works, begs to call the attention of parties requiring machine-made Hurdles, which are a very superior article, as well as being both cheap and durable. The above cut represents a Hurdle 6 feet long by 3 feet 6 inches high; the top bar ⅝ of an inch diameter, the four low bars 1 inch by ¼ inch, the uprights 1¼ by ¼ inch. The Prongs fasten 12 inches in the ground. Price 4*s.* 6*d.* each, or 2*s.* 3*d.* per yard. If the four lower bars were made of ½ inch diameter instead of 1 inch by ¼ inch iron, the price would be 4*s.* 2*d.* each, or 2*s.* 1*d.* per yard. The above are the lowest net cash prices at the Works.

THOMAS GREEN, Smithfield Iron Works, Leeds, Yorkshire, Manufacturer of every description of Iron and Wire Fencing, Iron Work of all kinds, both plain and ornamental, Entrance Gates, Palisading, Tomb Railing, Iron Bedsteads, &c. Illustrated Catalogues may be had free on application at the Works.

N.B. Also Patentee and Sole Manufacturer of GREEN'S Patent Lawn Mowing, Collecting, and Grass Rolling Machines, which have proved to be the best in all cases of competition.

**IRON HURDLES, FENCING, &c., MADE BY MACHINERY.**

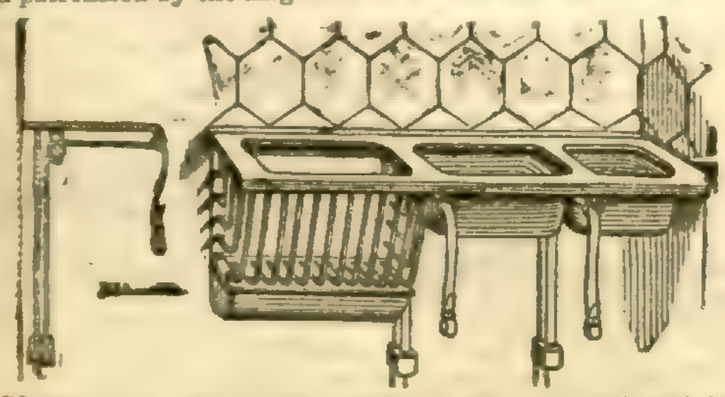


COTTAM AND COMPANY, of Winsley Street, have invented machinery for making Hurdles, &c.; the bars, instead of being pointed by hand in the old fashioned style, are rippled down by the machine, leaving a shoulder so as to more effectually tighten the standards when rivetted. They are made of superior iron only, and will compete in price with those made by hand from cinder or common iron which so frequently break. Iron Fencing, Gates, and Iron Work of all kinds, both Plain and Ornamental, Conservatories, Hot Water Apparatus and Garden Implements.

Illustrated CATALOGUES free on application to COTTAM & COMPANY, Ironfounders, 2, Winsley Street, Oxford Street, W.

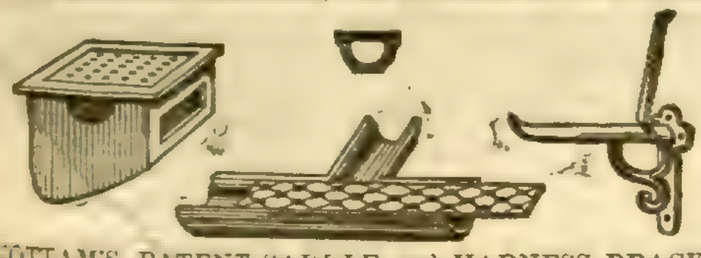
N.B. COTTAM & Co. beg to make it known that there is no longer an entrance to their establishment from Oxford Street, but that they have made a second entrance from 2, Winsley Street, Oxford Street, W., by the side of the old entrance to their works, opposite the Pantheon.

COTTAM'S PATENT INVENTIONS FOR STABLE REQUISITES, awarded a Prize at the Paris Exhibition, and patronised by the English and French Governments.



COTTAM AND COMPANY, of Winsley Street, are the original inventors of the PATENT ENAMELLED MANGER, Water Trough, and Wrought Iron Rack, united to an iron top-plate, and forming one complete and useful fixture, having COTTAM'S patent noiseless halter guide and collar rein attached, which is taken to the back of the manger, and works with ease and freedom up or down the guide-bar.

COTTAM'S NEW PATENT SEED-BOX, an important addition to the above fittings, being simple in construction, light, and durable, promotes cleanliness, and is economical in its results.



COTTAM'S PATENT SADDLE and HARNESS BRACKET combined, can be used with great advantage where space is an object, as it can be turned up out of the way when not in use.

COTTAM'S IMPROVED SURFACE GUTTER, with perforated moveable cover, the use of which prevents accidents, and can be easily cleaned out.

COTTAM'S CAST-IRON SANITARY TRAP, from its improved construction, gives a full water passage, and does not allow any smell to ascend from the drain.

PATENT LOOSE-BOX FITTINGS, and every article for the harness-room and stable, kept in stock, plain, galvanised, and enamelled. Iron gates, fencing, hurdles, &c.

The New Illustrated Catalogue and Estimates, gratis, upon application to COTTAM and COMPANY, 2, Winsley Street, Oxford Street.

N.B. COTTAM & Co. beg to make it known that there is no longer an entrance to their establishment from Oxford Street, but that they have made a second entrance from 2, Winsley Street, Oxford Street, W., by the side of the old entrance to their works, opposite the Pantheon.

HOT-WATER PIPES at wholesale prices, with Elbows, Syphons, Tee Pipes, and every other connection. Wrought and cast iron Boilers, Saddle, Conical, Cylinder, and Elliptic, from 21*s.* each. Boilers and Iron Stands to use without brickwork. Valves from 12*s.* 6*d.* each. Furnace Doors, Furnace Bars, Supply Cisterns, and Builders' Castings of every description in stock, at Mr LYNCH WHITE'S Iron Wharf, Upper Ground Street, Blackfriars Bridge, London.

C. STEPHENSON, late STEPHENSON AND SONS, 61, Gracechurch Street, London, Manufacturer of Iron Hurdles, Fencing, &c., Improved Iron and Copper Conical Boilers and Apparatus for Warming Buildings of every description by Hot Water.

Prices and Estimates furnished upon application.

J. MEREDITH begs to inform the nobility, gentry, and their gardeners that he will have great pleasure in treating with them for the rearrrangement of badly constructed HOT-WATER APPARATUS, as well as for the HEATING of newly erected Hothouses, Mansions, Churches, Chapels, &c.

References may be had from the following parties:—

Mr. G. Fleming, Agent to his Grace the Duke of Sutherland, Trentham, Staffordshire: Mr. Tillery, Gr. to his Grace the Duke of Portland, Welbeck, Notts; Mr. James, Gr. to his Grace the Duke of Leinster, Carton, near Maynooth; Mr. G. Brown, Gr. to the Earl of Powis, Powis Castle, Welsh Pool, Montgomeryshire; Mr. Sheen, Gr. to Sir Robt. Gerrard, Garswood Park, near St. Helen's, Lancashire; Mr, Bellis, Gr. to R. C. Naylor, Esq., Hooton Park, Cheshire; Mr. Smith, Gr. to H. Littledale, Esq., Liscard Hall, Cheshire; Mr. Williams, Gr. to J. N. Walker, Esq., Liscard Hall, Cheshire; Mr. Williams, Gr. to J. N. Walker, Esq., Calderstones, near Wavertree, Liverpool; Mr. Forbes, Gr. Esq., Calderstones, near Wavertree, Liverpool; Mr. Young, Gr. to T. to Mrs. Moss, Otterspool, near Liverpool; Mr. Young, Gr. to T. E. Moss, Esq., Roby Hall, near Liverpool; Mr. Sorley, Gr. to E. Moss, Esq., Roby Hall, near Liverpool; Mr. Sorley, Gr. to E. Zwilchenbart, Esq., Aigburth, near Liverpool; Mr. Mitchell, E. Zwilchenbart, Esq., Aigburth, near Liverpool; Mr. Mitchell, Gr. to P. Heywood, Esq., Norris Green, West Derby, near Gr. to P. Heywood, Esq., Norris Green, West Derby, near Liverpool; Mr. Lucas, Gr. to G. C. Schwabe, Esq., Handstyle Liverpool; Mr. Lucas, Gr. to G. C. Schwabe, Esq., Handstyle House, West Derby, near Liverpool.

J. M. could name many more extensive places where he has done Heating, besides his own extensive establishment at Vine Cottage, Garston, near Liverpool, Lancashire.

N.B.—J. M. begs to state that he will be happy to give estimates for the Erection as well as the Heating of all kinds of Hothouses.

J. M. has a few choice Hybrid KENYON CUCUMBER SEED of his own saving for Sale, 36 seeds for 3*s.*; also some good VINES, of which he has always an immense stock.

HANDS'S PATENT is the only system to circulate Heat, and for WARMING, FUMIGATING, and VENTILATING Hothouses, Greenhouses, Winter Orchards, &c.; to keep vegetation healthy in a humid atmosphere, and can be applied to any kind or shape of Forcing-houses and Conservatories now existing at trifling cost.—For particulars apply at the Office, 10, Charlotte Street, Fitzroy Square, London; or to Mr. JOHNSON HANDS, Epsom.

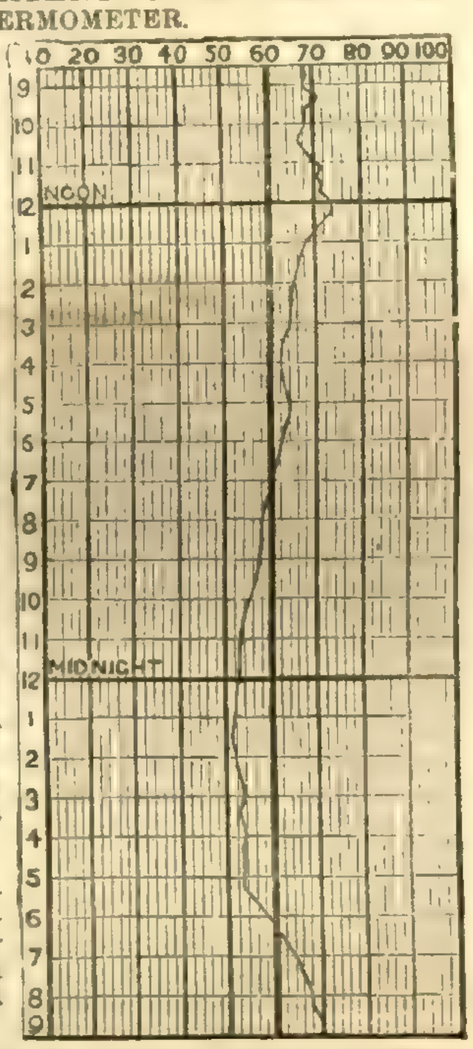
**TO HORTICULTURISTS.**

GAUNTLETT'S PATENT CHRONOMETRICAL THERMOMETER.

This instrument, which combines an eight-day clock of the best English make showing time, with a newly-patented Thermometer, wherein glass and quicksilver are dispensed with, writes down the temperature of the atmosphere on a slip of paper, and when placed in a Hothouse, Forcing House, or Conservatory, &c., supplies a valuable record of the temperature, with all its variations, showing the time when any change took place, and how long such change continued.

The above slip (reduced in size) exhibits the temperature of the Royal Agricultural Society's show yard at Chester, July 22, 1858, written off by one of these instruments, to which was awarded the Society's SILVER MEDAL.

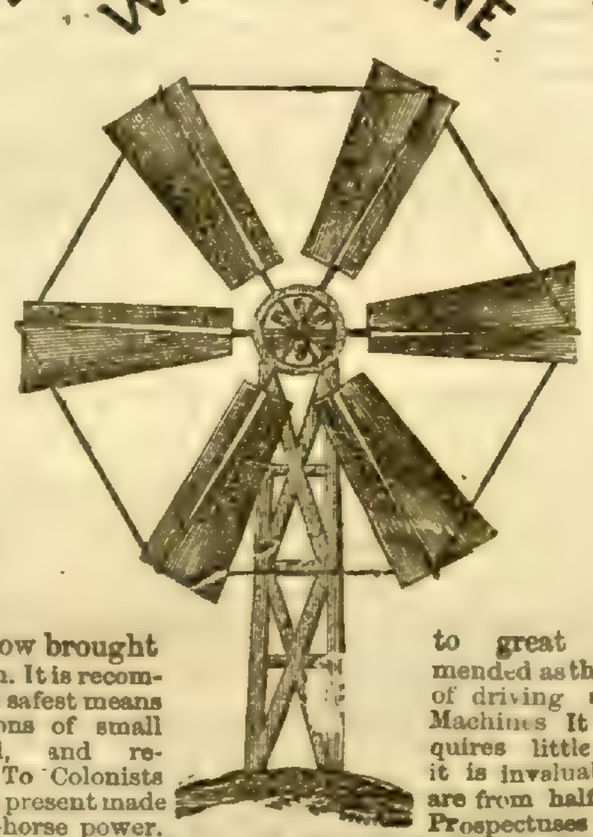
This is the only instrument that registers temperature continuously and writes it down, and no horticulturist should be without it.




Orders received by W. H. GAUNTLETT, Middlesbro' on-Tees.

ZAHN'S PATENT SELF REGULATING WIND ENGINE

FOR PUMPING, OAT CRUSHING, CRINDING, CHAFF CUTTING, &c.



IS now brought to great perfection. It is recommended as the cheapest and safest means of driving any descriptions of small Machines It is easily erected, and requires little attention. The it is invaluable. The sizes at present made are from half a horse to two-horse power. Prospectuses may be obtained of J. R. PEILL, 17, New Park Street, Southwark, where a Wind Engine in full work can be inspected.

**HOTHOUSES FOR SALE.**

TO BE SOLD CHEAP, two nearly new SPAN-ROOF HOUSES, each 65 feet long by 18 feet wide, price 100*l.* each; also a handsome OCTAGON CONSERVATORY, 22 feet diameter with glass all round, quite new, price 90*l.* All these houses are warranted to be of the best materials and workmanship. The reason of their being now Sold is to make room for an extensive alteration and addition to our Workshops and Steam Machinery.—Apply to Messrs JOHN WEEKS & Co., King's Road, Chelsea, where the whole of the above can be seen, as also a great variety of other Horticultural Erections.

TROTMAN'S RUSTIC WORK, a great variety always on view. Thatched Summer Houses, Pagoda-roof Zinc ditto; Yew, Oak, and Swiss Tables, Oak Benches, Yew Seats and Stools, Flower Vases and Baskets, Perambulators, Bath Chairs, &c., ready for delivery, always on view at TROTMAN'S Manufactory, 12, Alfred Terrace, Upper Holloway. Delivered free to any Railway Station.

HENRY J. MORTON AND CO., 2, Basinghall Buildings, Leeds.

**GALVANISED IRON WATER CISTERNS**

for Cottage Houses, &c., to contain 50 gallons, 25*s.*; 80 gallons, 30*s.* each; and 140 gallons, 36*s.*, and fitted with tap, keeping the water perfectly sweet and clean; will not rust or corrode. Cisterns of all sizes.

**GALVANISED IRON PUMPS**

for Liquid Manure or Domestic Use, 3 inches diameter, 30*s.* and 32*s.* 6*d.* each; Tail Pipe for same at from 10*d.* per foot.

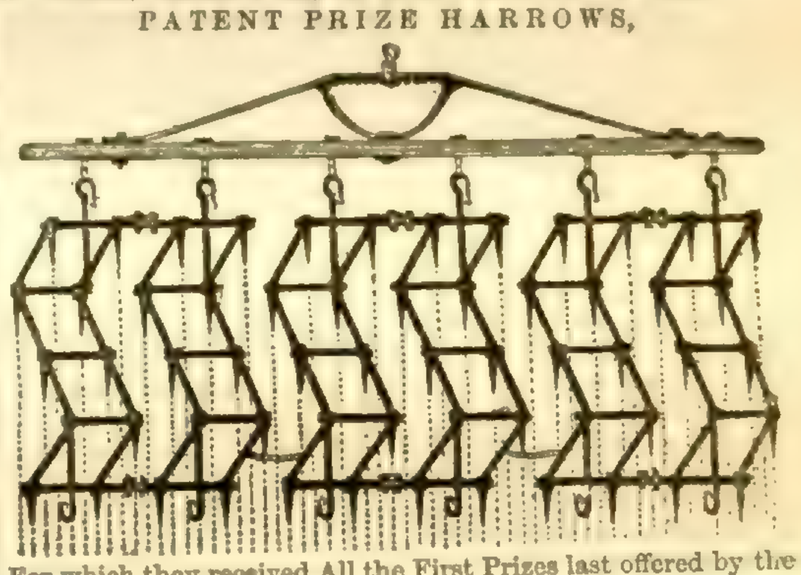
**GALVANISED IRON SWING WATER BARROWS**

for Garden or Farm use, containing about 20 gallons, entirely formed of iron, 32*s.* 6*d.* each.

**HOWARDS' PRIZE IMPLEMENTS, 1859.**

JAMES AND FREDK. HOWARD, Britannia Iron Works, Bedford, beg to direct attention to their

PATENT PRIZE HARROWS,



For which they received All the First Prizes last offered by the Royal Agricultural Society of England, viz.:—

The First Prize for the best Plough for general purposes.
The First Prize for the best Plough for light land.
The First Prize for the best Plough for heavy land.

The only Prize ever offered by the Society for the best Double Breast or Ridging Plough was also awarded to J. & F. HOWARD.

J. & F. HOWARD have discontinued troubling the Public with a long List of Prizes awarded to their Implements, but they would just state that for PLOUGHS, HARROWS, and HORSE RAKES, they have for several years gained every Prize for which they have competed.

PLOUGHS.

| | | | |
|---|---|---|---|
| P PLOUGH, with two wheels, for light work .. | £4 | 7 | 6 |
| PP PLOUGH, ,, for general purposes | 4 | 12 | 6 |
| SKIM COULTER .. .. .. .. .. | £0 | 5 | 6 |

STEEL BREASTS, 7*s.* and 7*s.* 6*d.* extra.

HARROWS.

| | | | |
|---|---|---|---|
| A Set of Three 4-Beam HARROWS, with Whippletree, recommended as general Seed Harrows, 9½ feet wide, marked No. 12 .. .. .. .. .. .. .. | £3 | 14 | |
| A Set of Three 4-Beam HARROWS, with Whippletree, adapted for 3 Horses, 10 feet wide, marked No. 11 .. | 4 | 4 | |

HORSE RAKES.

| | | | |
|---|---|---|---|
| Price of small size RAKE, marked A, with 24 iron teeth, extreme width 7½ feet .. .. .. .. | £7 | 10 | 0 |
| Ditto, with Steel Teeth .. .. .. .. .. | 8 | 0 | 0 |
| Price of large size, marked B, with 28 iron teeth, extreme width 8½ feet .. .. .. .. .. | 8 | 0 | 0 |
| Price of large size, marked B, with steel teeth .. | £8 | 10 | 0 |
| Price of extra large size, marked C, with 24 steel teeth, extreme width, 8½ feet .. .. .. .. | 10 | 10 | 0 |
| Price of a Set of 15 Prongs, to be attached to the above when used as Weed Extirpators .. . .. | 1 | 10 | 0 |

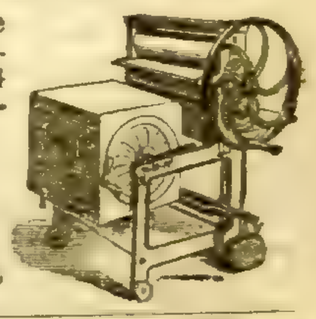
Free Delivery to Birmingham, Bristol, Derby, Gloucester, Lincoln, Liverpool, London, Manchester, Norwich, Nottingham, Retford, Wisbeach, and Worcester; or to Dublin, Edinburgh, Glasgow, and other parts at fixed rates.

HOWARDS' NEW CATALOGUE, containing prices and description of their Patent Ploughs, Harrows, Horse Rakes, and other Implements, including Smith's Steam Cultivators, for which they received at Chester the Gold Medal of the Royal Agricultural Society of England, sent free on application to

J. & F. HOWARD, Britannia Iron Works, Bedford.

**BY HER MAJESTY'S ROYAL LETTERS PATENT.**

"NO ONE KNOWING the value of your Patent WASHING, WRINGING, and MANGLING MACHINE, would be without one."—*Vide Mrs. Hall.*



THOMAS BRADFORD, Patentee, Manchester.

Descriptive Pamphlet, with Prices, free by post.

"FRIGI DOMO."—Patronised by her Majesty the Queen, the Duke of Northumberland for Syon House, His Grace the Duke of Devonshire for Chiswick Gardens, Professor Lindley for the Horticultural Society, Sir Joseph Paxton for the Crystal Palace, Royal Zoological Society, late Mrs. Lawrence, of Ealing Park, and — Collier, Esq., of Dartford.

PROTECTION FROM COLD WINDS AND MORNING FROSTS

"FRIGI DOMO," a Canvas made of patent prepared Hair and Wool, a perfect non-conductor of Heat and Cold, keeping, wherever it is applied, a fixed temperature. It is adapted for all horticultural and floricultural purposes, for preserving Fruits and Flowers from the scorching rays of the sun, from wind, from attacks of insects, and from morning frosts. To be had in any required lengths. Two yards wide, 1*s.* 6*d.* per yard run; four, 3*s.* per yard. Also, an improved make for Shading Purposes. Three yards wide, 2*s.* 6*d.* per yard run.

ELISHA THOMAS ARCHER, whole and sole manufacturer, 7, Trinity Lane, Cannon Street, City, and of all Nurserymen and Seedsmen throughout the kingdom. "It is much cheaper than mats as a covering."

## JAMES PHILLIPS AND CO.'S PRICES of GLASS for the present month.

HORTICULTURAL GLASS, STOCK SIZES, in 100 feet boxes.

| | 3rds. | 4ths. |
|---|---|---|
| 11 by 9, 12 by 9, 13 by 9, 14 by 9 .. / 12 „ 10, 13 „ 10, 14 „ 10, 15 „ 10 .. | 14s. 6d. | 12s. 6d. |
| 13 „ 11, 14 „ 11, 15 „ 11, 16 „ 11 .. / 14 „ 12, 15 „ 12, 16 „ 12, 17 „ 12 .. / 18 „ 12, 19 „ 12, 16 „ 13, 17 „ 13 .. / 18 „ 13, 19 „ 13, 20 „ 13, 21 „ 13 .. / 16 „ 14, 17 „ 14, 18 „ 14 .. .. / 19 „ 14, 20 „ 14, 21 „ 14 .. .. | 16s. 6d. | 14s. 0d. |

PACKED IN CASES.

| | | |
|---|---|---|
| 200 feet .. .. .. | £2 2 0 | 16 oz. |
| 300 feet .. .. .. | 3 3 0 | |
| 200 feet .. .. .. | 2 18 0 | 21 oz. |

ORCHARD HOUSE SIZES,
As supplied by us to Mr. Rivers.

| | | 16 oz. | 21 oz. |
|---|---|---|---|
| 20 in. by 12 in. / 20 in. by 13 in. | Common .. .. | 14s. 0d. | £1 1s. |
| 20 in. by 14 in. / 20 in. by 15 in. | Superior do. .. | 16 6 | 1 5 |
| | English Glass .. | 18 0 | 1 9 |

SMALL SQUARES.—Per 100 feet.

| | | | | |
|---|---|---|---|---|
| 6 by 4 | 6½ by 4½ | 7 by 5 | 7½ by 5½ | 11 6 |
| 8 „ 6 | 8½ „ 6½ | 9 „ 7 | 9½ „ 7½ | |
| 10 „ 8 | 10½ „ 8½ .. | .. .. | .. .. | 12 6 |

JAMES PHILLIPS AND CO.,
**130, Bishopsgate St. Without, London, E.C.**

## HORTICULTURAL GLASS—JUNE TARIFF.

THOMAS MILLINGTON'S reduced Tariff of GLASS, &c.

6 by 4, 7 by 5, 8 by 6, 9 by 7 / 6½ by 4½, 7½ by 5½, 8½ by 6½, 9½ by 7½ } 16 oz. to the foot, 11s. 6d. per 100 feet.

In 100 boxes,—4ths quality, 12s. 6d.; 3ds do., 14s. 4d.

10 by 8, 12 by 9, 12½ by 10½, 14 by 10½, 13 by 11
10½ by 8½, 12½ by 9½, 13 by 10, 15 by 10, 13½ by 11½
11 by 9, 13 by 9, 13½ by 10½, 12 by 11, 14 by 11
11½ by 9½, 12 by 10, 14 by 10, 12½ by 11½ .. ..

| | per 100 feet | 16 oz. | 21 oz. |
|---|---|---|---|
| 20 by 12 / 20 by 13 | Common .. | 16s. | 24s. |
| 20 by 14 / 20 by 15 | Superior . | 18s. | 27s. |

All Boxes included.
Orchard House sizes as supplied to Mr. Rivers.
Hartley's improved Rough Plate Glass from ⅛ to ¾ in thickness.
Coloured Glass in great variety, at 9d. and 1s. per foot.
Paints, Genuine White Lead, Linseed Oil, Boiled Oil, Turpentine, Putty, Colours, Varnishes, Brushes, Lamp Glasses, &c.
87, Bishopsgate Street Without, same side as Eastern Counties Railway.

## GLASS FOR CONSERVATORIES, GREENHOUSES, PIT FRAMES, ETC.

HETLEY AND CO. are supplying 16-oz. Sheet Glass of British Manufacture, packed in boxes, containing 100 square feet each, at the following REDUCED PRICES for cash. A reduction made on 1000 feet.

| Sizes.—Inches. | | Inches. | | Per foot. | | Per 10 feet. |
|---|---|---|---|---|---|---|
| | Under 6 | by 4 | at | 1½d. | is | £0 12 6 |
| From 6 by 4 | „ 7 | „ 5 | „ | 2d. | „ | 0 16 8 |
| „ 7 „ 5 | „ 8 | „ 6 | „ | 2½d. | „ | 0 18 9 |
| „ 8 „ 6 | „ 10 | „ 8 | „ | 2½d. | „ | 1 0 10 |
| „ 10 „ 8 | „ 12 | „ 9 | „ | 2¾d. | „ | 1 2 11 |

Larger sizes, not exceeding 40 inches long.
16 oz. from 3d. to 3½d. per square foot, according to size.
21 oz. „ 3¾d. to 5d. „ „ „
26 oz. „ 3½d. to 7½d. „ „ „

PATENT ROUGH PLATE, THICK CROWN GLASS, and PATENT PLATE GLASS, for Horticultural purposes, at reduced prices, by the 100 square feet.
GLASS TILES AND SLATES made to any size or pattern, either in Sheet or Rough Plate Glass.
Propagating Glasses, Beehive Glasses, Cucumber Tubes, Glass Milk Pans, Glass Water Pipes, and various other articles not hitherto manufactured in Glass.
PATENT PLATE GLASS.—The present extremely moderate price of this superior article should cause it to supersede all other inferior window glass in a gentleman's residence. No alteration connected with the sash is required.
GLASS SHADES, as ornamental to, and for the preservation of every description of goods susceptible of injury by exposure.
Prices, since the removal of the excise duty, reduced one-half.
List of Prices and Estimates forwarded on application to
JAMES HETLEY & Co., 35, Soho Square, London.

GEORGE SPILL, ST. GEORGE'S STREET, LONDON DOCKS, E., LEAD, OIL, and COLOUR WORKS; WHITE LEAD, TAR, and TURPENTINE MERCHANT; WHITE ZINC, PAINT, COLOURS, and VARNISHES. To meet the desire of purchasers in the country the following colours are prepared ready for use:—Priming Colour, Red and Yellow Paint, Buff Stone, Lead, and Green Colours. Putty, Painter's Tools and Brushes, Refined Coal and Stockholm Tars; Pure Colza, Olive, Sperm, and Nut Oils.

SHAW'S TIFFANY.—The best and cheapest material for Shading Conservatories, Protecting Fruit from Birds and Wasps, &c. Sold in pieces 20 yards long by 38 inches wide. No. 1, best quality, 5s. per piece; second quality, 4s. per piece. Extra strong and thick (see Circular sent free by post with samples).
Address JOHN SHAW & Co., Manufacturers and Dealers, Princess Street, Manchester.

## HORTICULTURAL POTTERIES.

ADJOINING THE STAPLETON ROAD NURSERIES, BRISTOL.

MAULE AND SONS have just completed an extensive enlargement of their Manufactories, which will afford them greater facilities for increasing their supplies of all kinds of GARDEN POTS, VASES, and other ORNAMENTAL POTTERY, suitable both for utility and Horticultural decorations and emblishments.
Horticulturists who have not yet favoured this establishment with their patronage will find every advantage both as regards quality and price.
The first workmen are employed, and the whole of their talents and attention is concentrated in the production of Horticultural Pottery alone, an advantage not to be found in the kingdom besides.
ILLUSTRATED CATALOGUES and LISTS of PRICES sent on application.
Nurserymen and the Trade supplied on advantageous terms.

## IMPROVED PATENT TURNIP AND MANGEL GRATER

MANUFACTURED BY

JOHN WARNER AND SONS, No. 8, Crescent, Jewin Street, London, E.C.—J. W. & Sons, in introducing their IMPROVED PATENT TURNIP AND MANGEL GRATER to the notice of Agriculturists, beg to state that they have personally tested its capabilities during the last three seasons, and as such feel that they can, with the greatest confidence, recommend it as a machine that will upon trial, satisfy the requirements of Feeders of Stock generally; one man or strong lad being able with comparative ease to grate 20 bushels of roots in 10 minutes.—Price of the Machine complete, 4l. 10s. Carriage paid to any Railway Station in England. To be procured of any Ironmonger or Agricultural Machine Agent in Town or Country, or of the Manufacturers.

GLAZIERS' DIAMONDS for CUTTING HORTICULTURAL and other GLASS, to be had of the Wholesale Manufacturer, JOHN EDWARDS, 20, Sharp's Alley, West Smithfield, London, E.C. Prices from 10s. to 27s. 6d.

## PARKES' STEEL DIGGING FORKS.

BURGESS AND KEY, 95, Newgate Street, London, being the Wholesale and Retail Agents for these celebrated TOOLS have always a large Stock on hand from which their Customers may select what they may require.
ANTHONY'S PATENT AMERICAN CHURN.—The FIRST PRIZE was again awarded to this Churn in Competition with several others at the Chester Meeting of the Royal Agricultural Society; it has obtained the First Prize given by the Society at every Meeting since 1850.
Messrs. BURGESS & KEY, 95, Newgate Street, strongly recommend it as the most perfect Churn now in use. Full particulars sent on application.

## AGRICULTURAL MACHINERY.

E. R. AND F. TURNER, Ipswich, manufacture Prize Mills for Crushing Corn, Seed, Malt, &c.; Portable Grinding Mills, Steam Engines fixed and portable from 2 horse-power and upwards; Threshing Machines, Chaff Cutter Oilcake Breakers, Horse Gears, Saw Tables, &c., all of a superior description and adapted for Home, Colonial, and Foreign use. Illustrated Price Lists sent free on application.

THE ROYAL AGRICULTURAL SOCIETY'S PRIZE CHURN.—This Churn has taken all the prizes offered by the Royal Agricultural Society from 1850 to 1858 inclusive. Price list and testimonials sent free. Illustrated Catalogue on receipt of six postage stamps.
BURGESS & KEY, Patentees and Manufacturers, 95, Newgate Street, London.

B. SAMUELSON, AGRICULTURAL ENGINEER and MACHINIST, Warehouses, 76, Cannon Street, West, London (Works at Banbury), informs Merchants, the trade, and Agriculturists, that he has opened the above Warehouses as a depôt for his own manufactures and those of Messrs. Barrett, Clayton, Howard, Hornsby, Nicholson, Richmond, Tuxford, Smith, and all other first-class makers, whose implements he is prepared to offer on makers' terms.
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TO NURSERYMEN AND OTHERS.—LAWRENCE STREET AND LAYERTHORPE NURSERIES, AND BRIDGE STREET, YORK.

Important and Extensive Sale of Fruit Trees, Forest Trees, Hardy Plants and Shrubs, Agricultural and Garden Seeds, Shop Fixtures, Pony and Cart, &c.

MESSRS. ACTON AND SON have received Instructions to Sell by Auction, without Reserve, on WEDNESDAY, Feb. 16, and following days, at 10 o'Clock each Day, until the whole is disposed of, on the Premises, Lawrence Street, Layerthorpe, and Bridge Street, as above, occupied by the late Mr. Bainbridge, Nurseryman, the whole of the Extensive and Valuable Nursery Stock, comprising Forest, Coniferous, and other Ornamental Trees; Evergreens, and Deciduous Shrubs; Fruit Trees, including Standard and Dwarf Trained Peaches, Nectarines, Apples, Plums, Pears, Cherries, Standard and Dwarf Apples, Pears, &c.; also a great Variety of Standard and Dwarf Roses; Stove and Greenhouse Plants, of which there are many New Varieties, and several very Fine Specimens; together with a large Stock of Bedding Plants, Florist Flowers, Herbaceous and other Hardy Plants, &c. An Extensive Assortment of Garden and Agricultural Seeds.

ORDER OF SALE.—Wednesday and Thursday, the 16th and 17th Inst, Fruit Trees, Shrubs, and Seeds, at Lawrence Street Nursery; Friday and Saturday, the 18th and 19th, the Stove and Greenhouse Plants, Coniferous Plants in Pots, &c., at the Layerthorpe Nursery.

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## A NEW SERIES OF ELEMENTARY SCHOOL-BOOKS.

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Chaplain-General to the Forces, and Prebendary of St. Paul's.

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DR. R. J. MANN, M.R.C.S.E.
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&c. &c.

☞ In consequence of the large circulation which the Works in this series have now attained, and with a view of further extending their use, the Publishers have determined to REDUCE THE PRICE OF EACH PART FROM ONE SHILLING TO NINEPENCE. The Prospectus of the series is given below.

THE object of the Projectors of this SCHOOL SERIES is to produce a succession of little books, containing progressive lessons suitable to the capacities of every description of learners. In "My First School-Book," the pupil, after being made familiar with the shapes of letters, is taught how the union of letters produces words, and how words awaken images in the mind. He next learns in "Simple Truths," to connect words of one syllable with grave ideas. His third step is to "My Second School-Book," which contains a vast amount of information on "Common Things," systematically arranged. He then proceeds to "The First Book of History," which sets forth, in words advancing from one syllable to four, an outline of the annals of his native country. After this, the histories of the "British Colonies," of "British India," of "Greece," "Rome," "France," and "Modern Europe," are successively placed before him; while from the "Sacred History" he acquires the knowledge of those great truths on which all Christians are agreed.

Meanwhile, the principles on which language is universally based, as well as the peculiar features of his own, are made clear to the pupil in the "Explanatory Grammar"; and a concise "History" of the "English Language" enables him to trace his own tongue from its source to its present state. He is next made acquainted with the laws which regulate the movements of nature, in Treatises on "Astronomy," "Hydrostatics, Hydraulics, Pneumatics, &c." "Experimental Chemistry," "Light, Heat," "Magnetism, Electricity," and the "Steam Engine." In the department of the Exact Sciences, namely, in "Arithmetic," in "Geometry," in "Algebra," and in "Mechanics," the pupil is gradually set forward in a right course.

The Series further contains Elementary Treatises on Geography, both general and particular. The "Child's First Book of Geography" is a collection of easy reading-lessons. The book of "General Geography" sets forth the great distinguishing physical features of the various regions and countries of the globe; while the "Geography of the British Empire" explains all that appertains, physically and politically, to Britain and its dependencies. The "Hand Atlas of General Geography" (sold for 2s. 6d.) is composed of 29 full coloured maps compiled by Mr. M'Leod. Mr. M'Leod's "Class Atlas of Physical Geography" (also sold for 2s. 6d.) comprises a set of 30 full coloured Maps, Sections, and Diagrams, exhibiting the natural features of every region of the terraqueous globe. In writing, Mr. M'Leod's "Graduated Series of Copy Books" leads the pupil forward by easy and progressive steps. M. Isbister's "Treatise on Book-keeping" is the cheapest and most concise extant; and a set of eight forms of Account-Books (price 6d. each), by Mr. Isbister, has recently been added to it. The Series also now comprises a "Book of Health," giving a descriptive outline as well of the human frame as of the ordinary causes which tend either to invigorate or impair it; and a book of "Domestic Economy," conveying sound elementary knowledge of all that relates to food, clothing, and the management of a small income. A short "History of Modern Europe," a concise account of the "English Constitution," an introduction to "Agricultural Chemistry," and a simplified work on "Natural History," illustrative of the principles of the Classification of Animals, and by a "Book of Biography," containing sketches of the careers of individuals who have risen by their own merits, and exercised a powerful influence over their fellow-men, are preparing for publication.

That the public in general has not been indifferent to the merits of these Works is proved by the very wide circulation to which most of them have already attained. Of the "Grammar" there have been sold above 40,000 copies; of the "History of England" above 50,000; of the other Histories, collectively, upwards of 120,000 copies; of the Treatises on Natural Philosophy collectively, above 30,000; of the Geographical Works, collectively, above 60,000; of the "Arithmetic" above 19,000; and of the "Copy-Books" collectively above One Million:—And in consequence of this great success the Publishers have resolved (Jan. 1859) to reduce the original price of ONE SHILLING to NINE PENCE for each work.

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# THE GARDENERS' CHRONICLE

AND

# AGRICULTURAL GAZETTE.

**A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.**

No. 7.—1859.] SATURDAY, FEBRUARY 12. Price Fivepence. STAMPED EDITION, 6d.


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BRIGHTON AND SUSSEX FLORICULTURAL AND HORTICULTURAL SOCIETY'S EXHIBITIONS for 1859 are fixed to be held on the following days:—Summer Show, WEDNESDAY and THURSDAY, June 22 and 23; Autumn Show, WEDNESDAY and THURSDAY, Sept. 14 and 15; on the same grand scale as in former years. Schedules will shortly be published, to be obtained of the Secretary, 96, St James's Street; or of E. SPARY, Queen's Graperies, General Superintendent of Exhibition.

EDWARD CARPENTER, Secretary.
THOS. ATTREE, Esq., Chairman of Committee.

Brighton.—February 12.

BISHOP AUCKLAND FLORAL AND HORTICULTURAL SOCIETY.—The ANNUAL EXHIBITION of the above Society will be held at Bishop Auckland on FRIDAY, September 2, when Prizes far exceeding those of previous Shows will be offered, including the following. Open to Great Britain.

A Piece of Plate, value 10*l.*, for the best 6 Stove and Greenhouse Plants; 2d prize, 7*l.*; 3d, 4*l.*; 4th, 2*l.*; 5th, 1*l.*

A Piece of Plate value 10*l.*, for the best 24 Dissimilar Blooms of Dahlias; 2d prize, 7*l.*; 3d, 4*l.*; 4th, 2*l.*; 5th, 1*l.*

A Piece of Plate, value 3*l.*, for the best 12 Dissimilar Blooms of Fancy Dahlias; 2d prize, 2*l.*; 3d, 1*l.*; 4th, 10*s.*

A Piece of Plate, value 7*l.*, for the best 11 Spikes of Hollyhocks (Dissimilar); 2d prize, 5*l.*; 3d, 3*l.*; 4th, 1*l.*

A Piece of Plate, value 3*l.*, for the best 24 Blooms of Hollyhocks (Dissimilar); 2d prize, 2*l.*; 3d, 1*l.*; 4th, 10*s.*

Also liberal prizes in the Gentlemen's Gardeners, Amateurs' and Cottagers' Classes.

Silver Plate and other valuable prizes for Wax Flowers, Fruit, &c.

The gainer of any of the Pieces of Plate can have the value of the same in money, if preferred. Schedules of the Prizes are now ready, and will be forwarded on application to the Secretary,

S. J. CHERRETT.

Market Place, Bishop Auckland.—Feb. 12.

ALEXANDER FORSYTH, LANDSCAPE GARDENER, 13, Islington Square, Salford, Manchester.

HORTICULTURAL VALUATIONS.

MR. ALFRED CHANDLER (of the late firm of Chandler & Sons, Vauxhall), begs to inform his Friends that he is at liberty to undertake the valuation of Collections of Plants, Nursery Stock, Horticultural Buildings, &c.

A. C. is also open to engagements as Umpire at Horticultural Exhibitions, in which capacity he has had long and extensive experience.—28, Priory Road, Wandsworth Road, S.

CHOICE NEW GLADIOLI.

CHARLES ALEXANDER, 30, West Register Street, Edinburgh, has a fine STOCK of the above from France and Holland.—Descriptive Priced Lists free on application.

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DOWNIE AND LAIRD have a large healthy stock of the above beautiful, hardy, herbaceous Plant, which they offer to the trade at 25*s.* per 100.

17, Frederick Street, Edinburgh.

DOUBLE ITALIAN TUBEROSES.

JAMES CARTER AND CO. have just received a supply of Extra Strong Flowering Roots of the above which they can offer at 4*s.* per dozen.

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SUTTON AND SONS, Reading, can supply DIOSCOREA BATATAS, 9 inch long, at 5*s.* per dozen, or 40*s.* per 100. This vegetable is wo[rthy] of all that has been said in its favour, and will thrive in alm[ost] any soil and situation.

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EARLY POTATOES FOR SEED.—A quantity of German and Dutch SILVERSKINS, just imported, quite free from disease, price 10*s.* per bushel, package included. Country orders require a remittance or a reference in London.—Address, T. CHAMBERLAYNE, Hungerford Wharf, W.C.

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SEEDS FOR THE FARM.

THE PLYMOUTH SEED, AGRICULTURAL IMPLEMENT, AND MANURE COMPANY, LIMITED, beg to announce that their SPRING LIST OF FARM SEEDS is now ready. The same will be sent free to any address, on application to the Secretary by letter or otherwise, at the Company's Offices, Plymouth.—Feb. 12.

NEW DAHLIAS.

JOHN KEYNES'S SELECT CATALOGUE OF DAHLIAS, ROSES, CARNATIONS, PINKS, &c., containing Lists of all the valuable Show Flowers in each class, is now ready and will be sent on application.

Castle Street Nursery, Salisbury.—Feb. 12.

JOHN GRIER'S NEW PRICED CATALOGUE, with brief descriptive and cultural remarks of a selection of TREES, SHRUBS, and PLANTS, may be had upon application by enclosing One Stamp for Postage.—Waterhead Nursery, Ambleside, Feb. 12

WILLIAM YOUNG'S DESCRIPTIVE CATALOGUE OF NEW HARDY ORNAMENTAL PLANTS, CONIFERÆ, ROSES, RHODODENDRONS, FOREST TREES, &c. Can be had on application.—Milford Nurseries, Godalming.

GEORGE JACKMAN AND SON'S PRICED and DESCRIPTIVE CATALOGUE of GENERAL NURSERY STOCK for 1858 and 1859 can be had free on application.

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GEORGE BAKER begs to inform the Nobility and Public that his DESCRIPTIVE CATALOGUE OF AMERICAN PLANTS AND GENERAL NURSERY STOCK will be sent free on application.

American Nursery, Windlesham, near Bagshot, Surrey, about 1 mile from Sunningdale Station, South Western Railway.

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JOHN CATTELL begs respectfully to announce that his CATALOGUE of the above may be had free by return of Post. It contains selections of the most approved culinary vegetables in cultivation, nearly the whole of them having been saved under J. C.'s own personal superintendence.—Nursery and Seed Establishment, Westerham, Kent.

NEW CHRYSANTHEMUMS.

JOHN SALTER begs to inform the numerous applicants for his NEW CATALOGUE OF CHRYSANTHEMUMS that it will be published at the end of February, in which his splendid Seedlings and other new varieties for 1859 will be fully described, as well as his unrivalled general collection, which is the largest in Europe.—Versailles Nursery, William Street, near Hammersmith Turnpike, W.

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CHARLES SHARPE AND CO. have a surplus stock of DANIEL O'ROURKE and HARRISON'S PERFECTION PEAS to offer, of their own growing, true and good stocks. Samples and prices on application.

Seed Establishment, Sleaford.

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FAIRHEAD AND SON, SEED GROWERS and MERCHANTS, Lewisham, Kent, beg respectfully to offer their new EXCELSIOR PEA, of robust habit, delicious flavour; much earlier than Napoléon or Eugénie. They can confidently recommend it as the earliest and best Wrinkled Marrow Pea in cultivation. Price on application.

THE NEW ZEALAND RUNNER BEAN.

CHARLES TURNER has purchased Mr. Smith's Stock of this remarkable BEAN, which Professor Lindley has pronounced to be identical with the variety named above. In 2*s.* 6*d.* packets, containing 20 Beans. The Trade supplied on the usual terms.—The Royal Nurseries, Slough.

HENRY'S HYBRID SCOTCH LEEK.

CHARLES ALEXANDER, SEEDSMAN, Edinburgh, offers Seeds of the above unrivalled LEEK at 1*s.* and 2*s.* 6*d.* per packet.

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YOUELL & Co., Royal Nursery, Great Yarmouth.

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A. PAUL AND SON have a large stock of the above, very handsome, in fine order for removal, many suited for immediate effect. For particulars see Advertisements in *Gardeners' Chronicle* of November and December last.—Nurseries, Cheshunt, Herts.

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YOUELL AND CO. supply 50 species of RARE and HARDY CONIFERS in good plants for 5*l.*, package included and carriage paid to Manchester, Newcastle-on-Tyne, Hull, London, Peterborough, or to any Railway Station within 150 miles of the Nursery. A LIST of the above can be had on application.—Royal Nursery, Great Yarmouth, Norfolk.

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FINE COMMON LAURELS, 1, 2, and 3 feet high, bushy and a good colour. Also very strong transplanted true Evergreen Privet, 3 to 6 feet.—Prices moderate on application to WILLIAM WOOD & SON, Woodlands Nursery, Maresfield, near Uckfield, Sussex.

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THE Subscribers are disposing of their extensive stock of Seedling and Transplanted Forest Trees, Ornamental Trees, Evergreen and Deciduous Shrubs, Standard and Dwarf-trained Fruit Trees, Gooseberries and Currants, &c., at prices considerably reduced in consequence of dissolving partnership.—Priced Lists may be had on application.

Glasgow, Feb. 12. FOWLER & WRIGHT.

TO PLANTERS.—Fine stock of Larch, 1½ to 3 feet; Scotch Firs, 1½ to 2 feet; Beech, 1½ to 4 feet; Elms, 3 to 6 feet; Evergreen Privets, Common Hollies, 1 to 1½ foot; fine Healthy Plants, with all other kinds of Nursery Stock. Samples and price on application to JOHN SCHOLEY, Pontefract Nurseries.

CHARLES DALY AND SON, Coleraine, Ireland, will sell Irish YEWS, 1 to 2 feet, 12*s.* per 100; common LAUREL, 1 to 2 feet, 15*s.* per 1000; 1 year transplanted do., 20*s.* per 1000; 1 year seedling THORNS, 2*s.* 6*d.* per 1000; Portugal LAUREL, 18 inches, 4*s.* per 100; 2 years SPRUCE FIR, 2*s.* per 1000. Free in Liverpool or in Glasgow for cash to Messrs. HURST & M'MULLEN, or with order.

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GEORGE CHIVAS, Chester, offers the above to the notice of Planters, which for extent and quality he believes are unequalled in the kingdom. A Sample Bale containing 100 of each five sizes forwarded on receipt of a Post-office Order for 15*s.* Truck loads delivered free at any Railway Station having through communication with Chester.

HALF A MILLION ONE-YEAR SEEDLING OAKS (STRONG AND STOUT).

JAMES MELDRUM, NURSERYMAN, Kendal, Westmoreland, offers the above in quantities to suit purchasers. Price reasonable, on application.

500,000 EXTRA FINE TRANSPLANTED LARCH FIR, from 1 to 5 feet. Also SPANISH CHESNUTS.—Samples and Prices can be had on application to WM. WOOD & SON, Woodlands Nursery, Maresfield, near Uckfield, Sussex.

TO GENTLEMEN, GARDENERS, AND OTHERS.

WANTED, some PALMS, CITRUS, or any other tall Trees in pots or tubs, in good condition, for greenhouse. A line stating sorts, heights, and lowest prices, will have immediate attention.—Address to A. B., 26, Bride Lane, Fleet Street, London, E.C.

YELLOW ROSES.—Madame William, orange yellow; Isabella Gray, golden yellow. Strong plants, fit for immediate forcing, 8*s.* 6*d.* the pair.

A. PAUL & SON, Nurseries, Cheshunt, Herts.

TO MANGEL GROWERS.

SUTTON'S ELVETHAM MANGEL WURZEL, and SELECTED YELLOW GLOBE.—These two sorts of Mangel are still preferred to all others by the principal root-growers throughout the kingdom. SUTTON & SONS have some fine seed of each sort, price 9*d.* per lb, or cheaper by the cwt.—Royal Berkshire Seed Establishment, Reading.

GIANT SAINFOIN SEED.—Seed of this excellent and productive Plant may be had of RAYNBIRD & HARVEY, Basingstoke, and 89, Seed Market, Mark Lane. Samples and prices on application.

N.B. R. & H. can also supply Common Sainfoin both of English and French growth at market prices.

PAMPAS GRASS (GYNERIUM ARGENTEUM).—The beauty of this extraordinary plant has this season been fully appreciated. It can be supplied by the dozen, hundred, or thousand, by CHARLES NOBLE, Bagshot, Surrey.

TO THE SEED TRADE.—The Advertiser has a quantity of ITALIAN RYE-GRASS SEED at 25*s.* per cwt.; also about half ton of RIB GRASS at 46*s.* cash (a decided bargain, and worthy of early notice).—Apply to JOSEPH DIXON, Seedsman, Kendal

JOHN CULVERWELL, Taunton, begs to call the attention of Agriculturists to his superior selection of GRASS SEEDS, which for PURITY, change of SOIL, and CLIMATE, will bear comparison with any house in the kingdom. Prices, terms, and samples forwarded on application.

HUDSON'S GOLDEN MELON BARLEY.—Selected Samples for Seed of this most valuable variety, superior both for produce and malting quality, may be had of RAYNBIRD & HARVEY, of Basingstoke; and 89, Seed Market, Mark Lane, E.C.

PLANTS IN FLOWER.

F. AND A. SMITH have now in bloom Acacia, Azalea indica, Cinerarias (fine), Cytisus, Dichætospectabilis, Erica Willmoreana, E. perspicua nana, E. Syndriana, Geraniums, Fairy Roses, Primula sinensis fimbriata, &c.

The above are healthy, strong and well-grown plants, prepared for sending away. Prices on application.

Dulwich, Surrey, S.

## CHOICE SARDINIAN FLOWER SEEDS.

MESSRS. HOOPER AND CO., seeing that the writer at page 99 of the *Gardeners' Chronicle* has evidently mistaken the meaning of other advertisers with regard to the transference of an agency for the above, and fearing that others of their extensive connection might also be misled, beg to state that they have this season, as for SEVERAL YEARS past, received their usual consignment of Seeds of PICOTEES, CARNATIONS, and other choice and rare Flowers, ripened in Sardinia, from the same unrivalled collection.

H. & Co. therefore hasten to assure their friends that there is no SOLE AGENCY for the choice seeds collected and saved by the justly celebrated "Sardinian Correspondent" in question.

Seeds of the above-named CARNATIONS and PICOTEES both show flowers and perpetuals, white and yellow grounds, in COLLECTIONS OF 12 VARIETIES. (For detailed list see our Catalogue, page 4 ) Ditto in mixture each per packet, 1*s.* 6*d.* and 2*s.* 6*d.* The variety of their colours, with their constancy and doubleness, render these such as cannot be excelled.

A GENERAL COLLECTION, consisting of the most beautiful and useful kind of Shrubs, Perennials, Annuals, and Climbers of every description, well assorted, for Greenhouse or Conservatory, in all 50 varieties, for 20*s.* This collection includes all the novelties of merit, and can be recommended with confidence. All Flower Seeds sent free by Post.

HOOPER & Co.'s Comprehensive and Descriptive Priced CATALOGUE of FLOWER and VEGETABLE SEEDS for 1859 forwarded to all parts of the world post free.

Seed Warehouse, Centre Avenue, Covent Garden Market, London, W.C.

## COMMON LAURELS.

S. PONSFORD begs to announce to the Trade or other extensive planters that he has a large Stock of the above, from 2 to 5 feet high, bushy, which he is prepared to supply on reasonable terms.

Also a fine Stock of Dwarf-trained PEACHES, NECTARINES, APRICOTS, &c., of the leading varieties. Standard APPLES, PLUMS, &c.

S. P. would also call attention to his Standard and Dwarf ROSES, most of the leading kinds of which he can still supply in fine healthy condition. Prices on application.

CATALOGUES of GENERAL NURSERY STOCK forwarded on receipt of one stamp.

Loughborough Park Nurseries, Brixton, S.

## TO THE TRADE.

JOHN PALMER, NURSERYMAN, Annan, begs leave to inform his Friends and the Trade generally, that he has on hand the following—all of excellent quality—which he is disposed to offer on very reasonable Terms:—

SEEDLINGS.

| | |
|---|---|
| 4,000,000 1-year Larch | 40,000 1-year Laburnum drills |
| 1,000,000 2-year Scotch Fir. | 100,000 2 year Weymouth Pine |
| 1,000,000 2-year Spruce | 100,000 1-year Pear stocks, drills |
| 200,000 1-year Beech | 100,000 1-year Crab stocks, drills |
| 300,000 1 year Alder | 100,000 1-year Wild Cherry stocks, drills |
| 300,000 1-year Oak, drills | 100,000 1-year Portugal Laurel |
| 100,000 1 year Turkey Oak, drills | 200,000 1-year Yew |
| 100,000 1-year Spanish Chesnuts, drills | 50,000 1-year bedded American Arbor-vitæ |
| 100,000 1-year Horse Chesnuts, drills | 20,000 bedded common Laurel |
| 200,000 2-year Ash, drills | 20,000 bedded Portugal Laurel |

TRANSPLANTED.

| | |
|---|---|
| 300,000 2-year tr. Larch | 100,000 2-year tr. Spruce |
| 100,000 2-year tr. Scotch Fir | 400,000 2-year tr. Thorns |

Prices to be had on application, and all orders will be promptly and carefully attended to. Carriage will be prepaid to London, Liverpool, Birmingham, Newcastle, Glasgow, and Edinburgh, and the half thereof charged to the buyer.

## FOREST AND ORNAMENTAL TREES.

THOMAS IMRIE AND SONS, NURSERYMEN, Ayr, beg to inform their Customers and the Trade generally that they have on hand the following well-grown plants, viz.:—

TRANSPLANTED FOREST TREES.

| | |
|---|---|
| 30,000 Alder, 2 to 4 feet | 300,000 Larch, 2 year 2 year, 2½ to 3½ feet |
| 60,000 Ash, 2 to 3½ feet | 400,000 Scotch Fir, 1 year 2 year |
| 150,000 Beech, 1½ to 3½ feet | 200,000 do. 2 year 2 year |
| 20,000 Elm, 3 to 4 feet | 400,000 Spruce Fir, 2 year 2 year, 12 to 18 inches |
| 40,000 Oak, 2½ to 3½ feet | 200,000 Privet, 2½ to 3 feet |
| 20,000 Plane, 2 to 3 feet | 500,000 Thorns, 2 and 3 year (STRONG) |
| 20,000 Black Italian Poplar, 4 to 8 feet | 20,000 Laburnum, 3 to 5 feet |
| 10,000 Lombardy do., 3 to 6 ft. | |
| 400,000 Larch, 2 year 1 year, 2½ to 3½ feet | |

SEEDLINGS.

| | |
|---|---|
| 100,000 Ash, 2 year | 500,000 Beech, 2 year (drilled) |
| 1,000,000 Scotch Fir, 2 year | 200,000 Oak, 1 year (do.) |
| 1,000,000 Norway Spruce, 2 year | 50,000 Laburnum, 1 year |

| | |
|---|---|
| 20,000 Portugal Laurel, 1 foot | 20,000 Common Bays, 1 to 3 feet |
| 10,000 do. do., 2½ to 4 ft. | |

50,000 Rhododendrons, 6 inches to 4 feet, and other Evergreens in great variety.

Dwarf-trained Apples, Pears, Peaches, Nectarines, and Apricots. Rider-trained Peaches, Nectarines, and Apricots. Gooseberries, Currants, Seakale, Asparagus, &c.

Price Lists on application.

## CHEAP AND SELECT NURSERY STOCK.

WILLIAM JACKSON AND CO., Bedale, Yorkshire, beg to offer the following at annexed very reasonable prices. Having a soil peculiarly suitable for the growth of all kinds of Trees and Shrubs, they possess a constitution and stamina hardly ever seen in nurseries.

| | £ | s. | d. |
|---|---|---|---|
| 12 dwarf growing hardy Rhododendrons, by name, nice bushy plants, scarlet, crimson, blush, &c... | 1 | 0 | 0 |
| 12 Rhododendron campanulatum, 1, to 2 ft., large.. | 1 | 10 | 0 |
| 12 do. standards, good heads .. .. | 6 | 0 | 0 |
| 12 Roses, standards, on good stems, best prize varieties (4*l.* per 100), selected plants, 12*s.* to .. | 0 | 18 | 0 |
| 12 Roses, dwarfs, budded, best prize varieties .. | 0 | 9 | 0 |
| 12 new Persian crimson Lilac (standards 18*s.*) .. | 0 | 9 | 0 |
| 12 Berberis Darwini, very pretty (each, 2*s.*) .. | 0 | 12 | 0 |
| 12 Kalmia latifolia, new scarlet with flower-buds .. | 3 | 0 | 0 |
| 100 dwarf Roses, on own roots, including yellow .. | 1 | 10 | 0 |
| 100 evergreen and flowering Shrubs, two of a sort .. | 2 | 0 | 0 |
| 100 common Laurels, 1½ to 2½ feet, strong (70*s.* p. 1000) | 0 | 10 | 0 |
| 100 do. do., 3 to 5 feet, strong (10*s* per 1000) | 0 | 15 | 0 |
| 100 Arbor-vitæ, 4 to 5 feet, grown singly, fine plants | 3 | 0 | 0 |
| 100 Green Tree Box, best varieties, do. do., 3 to 4 feet .. .. .. .. .. .. | 2 | 10 | 0 |
| 100 Variegated do. do., best variety, grown singly, 3 to 4 feet .. .. .. .. .. .. | 3 | 0 | 0 |
| 100 Green Hollies, twice transplanted, 1 to 2 feet (60*s.* per 1000) .. .. .. .. .. .. | 0 | 8 | 0 |

200,000 true Scotch Fir transplanted, at 10*s* per 1000.
500,000 Larch, transplanted, 1 foot up to 4 feet, cheap.

FRUIT TREES, per dozen.

| | | | |
|---|---|---|---|
| Cherries, Pears, Plums, and Apples, strong dwarfs .. | 0 | 9 | 0 |
| do. do. do. standards .. | 0 | 18 | 0 |
| Gooseberries and Currants, best kinds .. .. .. | 0 | 3 | 0 |

Seakale, strong, 2 years old, 5*s* per 100; 40*s* per 1000.
do. do. 3 years old, 6*s*. per 100; 50*s*. per 1000.
Asparagus, 1 year old, 10*s*.; 2 years, 20*s* ; 3 years, 30*s*. do.
Rhubarb, best kinds, 6*s* to 12*s* per dozen.

A trial order or remittance is respectfully solicited from unknown correspondents. The Trade supplied.

## SUPERB DOUBLE BALSAMS.

F. AND A. SMITH are now sending out Seed of their superb BALSAMS, which are unrivalled for size, form, brilliancy of colour, doubleness of flower, and habit of plant.

| | | | |
|---|---|---|---|
| In collections of nine separate colours .. .. | 2*s.* | 6*d.* |
| ,, ,, mixed ,, .. .. | 2 | 0 |
| ,, ,, ,, ,, half quantity | 1 | 0 |

The above are *genuine only* in our sealed packets, and may be had of most respectable Nurserymen and Seedsmen in the United Kingdom.—Dulwich, Surrey, S.

## SEED POTATOES from the North of Scotland.—

The following varieties, carefully grown by the Subscribers for several years, and recommended for seed:—

FLUKES: DALMAHOYS.—A variety allied to the Regent, but 3 to 4 weeks earlier in redness.

PROTESTANTS.—A late White variety; large cropper, and has hitherto escaped disease. Price of each kind, 12*s.* per 2-cwt. sack, free to London or Newcastle.

Orders and remittances to be addressed to ALEXANDER SIMPSON, Beauly, Inverness-shire, who refers to the Editor of the *Agricultural Gazette*.

## FRUITING VINES.

JOHN AND CHARLES LEE beg to offer extra strong short-jointed and well-ripened FRUITING VINES of the following kinds:—

| | |
|---|---|
| BLACK HAMBURGH | BLACK FRONTIGNAN |
| CHAMPION HAMBURGH | WHITE FRONTIGNAN |
| MILL HILL HAMBURGH | BLACK PRINCE |
| GOLDEN HAMBURGH | ROYAL MUSCADINE |
| MUSCAT OF ALEXANDRIA | BIDWELL'S SEEDLING |
| | BOWOOD MUSCAT. |

Nursery and Seed Establishment, Hammersmith, London.

## GRAPE VINES FROM EYES.

JOHN AND CHARLES LEE beg to offer an immense stock of strong well-ripened VINES FROM EYES, of the following kinds:—

| | |
|---|---|
| Alicant | Hamburgh, Pope's |
| Barbarossa | ,, Victoria |
| Bidwell's Seedling | Hâtif de Jura |
| Black Cluster | Isabella |
| Black Constantia | Lady Down's Seedling |
| Black Prince | Marchioness of Hastings |
| Blanche Vigne | Muscadine, Royal |
| Calabrian Raisin | ,, Parsley leaved |
| Charlsworth Tokay | Muscat, August |
| Chasselas Frocklaboulay | ,, Bowood |
| Chasselas Musqué | ,, Cannon Hall |
| Duzetto | ,, Hamburgh |
| Esperione | ,, Noir Hâtif |
| Frontignan, black | ,, of Alexandria |
| ,, grizzly | ,, of Fontainebleau |
| ,, white | Pitmaston Cluster white |
| Hamburgh, black | Raisin des Carmes |
| ,, Champion | Syrian |
| ,, Dutch | Trebiana |
| ,, golden | Trentham Black |
| ,, Mill Hill | Tripoli |
| | West's St. Peter's |

Nursery and Seed Establishment, Hammersmith, London.

## FRUIT TREES IN POTS.

JOHN AND CHARLES LEE have now the largest and finest stock of FRUIT TREES IN POTS in a bearing state for FORCING AND ORCHARD HOUSES ever offered. They consist of the following kinds, a CATALOGUE of which may be had on application:—

| | | |
|---|---|---|
| APRICOTS | FIGS | PEARS |
| PEACHES | PLUMS | APPLES. |
| NECTARINES | CHERRIES | ALSO, |

VINES AND STRAWBERRIES.

Nursery and Seed Establishment, Hammersmith, London.

## FRUIT TREES.

YOUELL AND CO., in offering the following, beg to remark that the greatest care has been observed in working only such kinds as possess sterling merit, all of which may be depended upon as correct to name.

| | Per doz.—£ | s. | d. |
|---|---|---|---|
| Apples, Dwarf Maiden .. .. .. .. .. | 0 | 9 | 0 |
| ,, ,, two years cut back .. .. .. | 0 | 12 | 0 |
| ,, ,, trained .. .. .. .. .. | 1 | 4 | 0 |
| Apricots, dwarf trained .. .. .. 1*l.* 16*s.* to | 2 | 2 | 0 |
| Cherries, standard .. .. .. .. .. .. | 0 | 18 | 0 |
| ,, dwarf maiden .. .. .. .. .. | 0 | 12 | 0 |
| ,, ,, trained .. .. .. .. .. | 1 | 16 | 0 |
| Currants, Black Naples .. .. .. .. .. | 0 | 4 | 0 |
| ,, Ogden's black .. .. .. .. .. | 0 | 4 | 0 |
| ,, long bunched red Dutch .. .. .. | 0 | 4 | 0 |
| ,, short-bunched red Dutch .. .. .. | 0 | 3 | 0 |
| ,, large red Grape .. .. .. .. .. | 0 | 3 | 0 |
| ,, large Cherry red .. .. .. .. .. | 0 | 6 | 0 |
| ,, Victoria or Raby Castle, very fine large red | 0 | 4 | 0 |
| ,, Wilmot's white Grape .. .. .. .. | 0 | 4 | 0 |
| ,, large white Dutch .. .. .. .. | 0 | 4 | 0 |
| ,, Fox's red Grape .. .. .. .. .. | 0 | 4 | 0 |
| ,, Knight's sweet red .. .. .. .. | 0 | 6 | 0 |
| ,, ,, large red .. .. .. .. | 0 | 6 | 0 |
| Figs, of most approved kinds, 2*s.* 6*d.* each. | | | |
| Gooseberries, 100 of the finest varieties by name (including the best of the Lancashire Prize sorts) selected for size and flavour, 30*s.* per 100 .. .. | 0 | 4 | 0 |
| Medlars, standards, 2*s* 6*d.* each. | | | |
| Peaches and Nectarines, dwarf trained .. 1*l.* 16*s.* to | 2 | 2 | 0 |
| Pears, dwarf maiden .. .. .. .. .. | 0 | 9 | 0 |
| ,, ,, trained .. .. .. .. 24*s.* to | 1 | 16 | 0 |
| ,, pyramidal trees, on Quince stocks .. .. | 0 | 18 | 0 |
| Plums, dwarf maiden .. .. .. .. .. | 0 | 12 | 0 |
| ,, ,, trained .. .. .. .. 24*s.* to | 1 | 10 | 0 |
| Quinces of sorts .. .. .. .. .. .. | 0 | 9 | 0 |
| Raspberries, Fastolff "true" (as originally sent out by us) .. .. .. per 100 | 0 | 10 | 0 |
| ,, large white .. .. .. .. ,, | 0 | 18 | 0 |
| ,, Magnum Bonum .. .. .. ,, | 1 | 5 | 0 |
| ,, Carter's Prolific .. .. per doz. | 0 | 6 | 0 |
| ,, New monthly fruiting .. per 100 | 0 | 18 | 0 |
| Strawberries, a collection of all the most approved sorts .. .. .. .. .. .. per 100 | 0 | 3 | 6 |
| Vines from eyes, in pots, fine, according to age, 3*s* 6*d.* to 5*s.* each. | | | |
| Filberts of best kinds, 6*s.* per dozen. | | | |

### ASPARAGUS AND SEAKALE.

YOUELL & Co. having a large Stock of the above growing on the Sea Coast, of the finest quality, beg to offer it at the following prices:—

| | | |
|---|---|---|
| ASPARAGUS, GIANT, two years .. | 2*s.* 6*d.* | per 100. |
| ,, ,, three years .. .. | 3*s.* 6*d.* | ,, |
| SEA KALE .. .. .. .. .. | 6*s.* 0*d.* | ,, |

RHUBARB.—Myatt's Victoria, Myatt's Linnæus, Mitchell's Royal Albert, strong roots, 8*s.* per dozen.

Hawke's Champagne Rhubarb, 9*s.* per dozen.
Artichokes, Globe and Pine-apple shaped, 6*s.* per dozen.
Dioscorea Batatas (Chinese Potato), 6*s.* per dozen.

All orders of 2*l* and upwards are delivered Carriage Free to London, Manchester, Newcastle, and Hull, as well as to any Railway Station within 150 miles of the Nursery.

Royal Nursery, Great Yarmouth, Norfolk.

CARTER'S EXCELSIOR MELON.—A green-fleshed variety of delicious flavour, netted; fruit to ripen requires scarcely any heating, and is very prolific. Esq., President of the Pomological Society, and Spencer's "Florist," pronounce this variety to be finest ever tasted. Seeds 1*s.* per packet.—JAMES Seedsmen, 238, High Holborn, London, W.C.

## MAJOR'S CALCEOLARIA SEED.

MR. HENRY MAJOR, Knosthorpe, begs to announce that he is now sending Seed saved from his unrivalled collection, in packets each, or three for 5*s.* Post free. If sown the plants will bloom about August. Postage Stamps.

THE PRIMULARY.—Expressly for the cultivation of Latter's superb Semi-double Fimbriated PRIMROSES of world-wide celebrity, with all improvements in size, shape, substance, and colour packets, post free, to all parts of the world on receipt in stamps.

THOMAS WILD, The Primulary, Handford Road, Ipswich.

HOLCUS SACCHARATUS, or CHINA SILVER CANE GRASS.—Seed of this lately introduced plant can be supplied by NUTTING and SONS in any Price on application.

Seed Warehouses, 60, Barbican, London, E.C.

HOLCUS SACCHARATUS, or North China Cane, 2*s.* per lb. Pamphlet, "A Visit and a Few Hints on the Cultivation of the above, and its Uses," 6*d.*, or gratuitous with all orders for 10 lbs. and upwards.

DIOSCOREA BATATAS, or Chinese Yam; strong roots per dozen; with directions for cultivation.

JOHN W. CLARKE, Whittlesea, Cambridgeshire.

## VERY SUPERIOR BEET.

CHARLES SOUTHBY (late FAIRBAIRN) begs to inform those who gave the above a trial last season that he can now supply 1 oz. free by Post for 1*s.* 3*d.* ditto 9*d.*—Clapham, London.

PANSIES (competing varieties), 6*s.* to 9*s.* per 100. First-Class HOLLYHOCKS, 9*s.* to 12*s.* per doz.

The above plants can be well recommended. Trade on application.—Apply at CASTAIRS's Nursery, Inverleith, Edinburgh.

## TO THE TRADE AND OTHERS ENGAGED IN PLANTING.

WILLIAM CORNWELL begs to offer the following, of which he has a large stock on hand, well grown and warranted true to name:—Standard and Dwarf ROSES, the leading kinds; Dwarf Trained Peaches, Nectarines, and Apricots; Dwarf Maiden Do. Do.; Dwarf Trained Apples, Pears, Plums, &c.; Red and Black Currants; Larch Fir, 12 to 15 feet; Scotch Do., 1½ to 2 feet; Do., 2 to 3 feet; Cedrus deodara, 2 to 3 feet; White and Yellow Broom, 2 to 3 feet; Furze in pots; Cotoneaster microphylla in pots; Ivies in pots; Berberis aquifolium, 2 to 3 feet; Box Edging, green, 2 feet; Laurel, common, 2 to 3 feet and 4 feet, bushy; Passiflora cærulea in pots; Privet Evergreen, 2 feet; large Scarlet Rhododendrons, 4 to 8 feet; ponticum, Catawbiense, do.; Andromedas, Hardy Heaths, Ledums, a large stock of most kinds of Evergreens, Flowering Ornamental Trees, &c.—The Nurseries, Barnet, Herts.

GEORGE SMITH, in offering the following Superb SEEDLING FUCHSIAS, warrants them to satisfaction. They are all of good growth, fine habit, bloomers, viz.:—

ECLAT (SMITH).—This beautiful flower obtained a Certificate at the National Floricultural Society; at the time the Judges gave the following description in their of the proceedings of the Society's General Meeting 1858:—"First-class Certificate to Fuchsia Eclat. Has a free and abundant bloomer, sepals and tube scarlet of sepal delicate rose, corolla clear white, a decided ment on the white corolla'd varieties." G. S. has that it is a plant of strong growth and fine habit, calculated to please as well as the Princess of Prussia quite distinct. 10*s* 6*d.* Figured in the "Florist,"

CHANCELLOR (SMITH), see report of the National tural Society, July 22, 1858.—Certificate of Merit Chancellor; character and habit first-rate, form medium, substance fine, scarlet crimson tube and violet purple corolla. The tube of this flower was rather too short, or it would have received a higher

SCIPIO (SMITH), see report of the National Society, Aug. 5, 1858.—First-class Certificate Scipio; habit dwarf, tube short, sepals broad, expanding, colour coral red sepals, with violet purple a great improvement on existing globosa varieties markable for its distinctness and boldness in bud.

FASCINATION (SMITH), tube rather shorter than cess of Prussia, the sepals broader, the corolla very pure, seen to great advantage by the graceful manner the sepals reflex; 7*s.* 6*d.*

PERICLES (SMITH), a brilliant flower of average smooth and good form, sepals crimson scarlet, broad reflexed, corolla violet purple, also an abundant 7*s.* 6*d.*

GOLDEN PLOVER, a flower in form and colour de Chiswick. This is particularly recommended for foliage, which is of a golden green heavily veined lake, giving the plant a conspicuous and splendid fine habit; 7*s.* 6*d.*

NEW VERBENAS.

G. S. can confidently recommend the following Verbenas as distinct, and worthy to be added to collections, viz:—

CYRUS (SMITH), brilliant rosy purple, primrose form, a strong grower; 5*s.*

MARS (SANKEY), brilliant crimson scarlet, lemon eye, particularly recommended as a bedding received a Certificate at the National Floricultural

STRIATA PERFECTA (SMITH), bright lavender white stripe, of good form and habit. This is one distinct and beautiful Verbenas that has been offered for all purposes; 5*s.*

SEEDLING CINERARIAS

Three Cinerarias raised by Mr. Sharman, of Deal, exhibited at the National Floricultural Society, obtained first-class Certificates. G. S. is happy to that they are now ready, in strong plants, at 1*s.* 6*d.* be sent out by him, viz.:—

LADY PALMERSTON (SHARMAN), white, rosy with dark bold disc, well proportioned, and of good properties

MARY QUEEN OF SCOTS (SHARMAN), white, with bright rosy purple tips.

PRESIDENT (SHARMAN), white, deeply tipped crimson, dark and fine disc.

A CATALOGUE of all the newest and best GERANIUMS of Show, Fancy, Spotted, and French, Verbenas, Dahlias, and Petunias, is just published, and forwarded in exchange for one postage stamp.

Tollington Nursery, Hornsey Road, Islington, London.

### HARDY SCARLET RHODODENDRONS AND AMERICAN PLANTS GENERALLY.

WATERER AND GODFREY'S PRICED and DESCRIPTIVE CATALOGUE of the above beautiful [illegible] by them in London and Maidenhead, application inclosing one stamp [illegible] furnishes the heights and [illegible] stock of Conifers and Evergreens, &c. [illegible] had of Messrs. J. MAY & Co., Seedsmen, [illegible] Street, Strand.

Knaphill Nursery, Woking, Surrey.

### RHODODENDRONS.

JOHN WATERER'S CATALOGUE OF UNRIVALLED HARDY SCARLET AND OTHER CHOICE RHODENDRONS, as Exhibited by him at the Royal Botanic Gardens, Regent's Park, London, is published, and will be forwarded on application.

☞ This List is recommended as a work of reference, as it contains accurate descriptions of all the esteemed varieties.

The American Nursery, Bagshot, Surrey, near the Sunningdale Station, South Western Railway.

### GARDEN SEEDS.

THOMAS KENNEDY AND CO., NURSERYMEN and SEEDSMEN, Dumfries, N.B., beg respectfully to intimate that they have got to hand their VEGETABLE AND FLOWER SEEDS, and are now prepared to execute orders for the same

Their DESCRIPTIVE PRICED CATALOGUE FOR 1859, "which is of a most practical character, supplying all the information needed by the purchaser," is now ready and will be sent post free on application.

Free delivery. For particulars see Catalogue.

### KITCHEN GARDEN SEEDS.

THOMAS GIBBS AND CO., THE SEEDSMEN TO THE "ROYAL AGRICULTURAL SOCIETY OF ENGLAND," beg to intimate that they are now prepared to execute orders for their

COLLECTIONS OF KITCHEN GARDEN SEEDS

for either large or small Gardens, containing a proper selection of all the new and most approved varieties.

PACKETS OF FLOWER SEEDS, containing all the new and choice kinds.

Do GERMAN IMPORTED FLOWER SEEDS, in the original imported Packets.

DESCRIPTIVE PRICED CATALOGUES forwarded free on application. T. G. & Co.'s PRICED LIST OF AGRICULTURAL AND GRASS SEEDS will be ready early in February.

THOMAS GIBBS AND CO.,

Corner HALF-MOON STREET, Piccadilly, London, W.

### VEGETABLE, FLOWER, AND AGRICULTURAL SEEDS.

WILLIAM BARNES'S CATALOGUE of the above is now ready, and may be obtained postage free, upon application. It will be found to contain every article of known value, among them some that cannot be excelled, the stock of which having been saved specially for himself by private and esteemed friends, he can recommend with the greatest confidence. Every article is warranted of the purest and most genuine kind, as well as very moderate in price.

Camden Nursery, Camberwell.

### VEGETABLE AND AGRICULTURAL SEEDS, &c.

MESSRS. PARKER AND WILLIAMS beg to inform their friends and patrons that they are now prepared to execute with new and genuine SEEDS all orders they may be favoured with. Their PRICED and DESCRIPTIVE CATALOGUE, containing all new VEGETABLES proved to be good, and all the best of the older varieties, &c., will be forwarded post free on application.

The following are particularly recommended, all being very superior in quality, and valuable acquisitions to the most select collections:—Beet (Pine Apple Short Top), per oz., 2*s.*; Broccoli, Winter White (Snow's), per oz., 3*s.* 6*d.*; ditto, Penzance White (M'Lachlan's), per packet, 1*s.* 6*d.*; Celery, Nonsuch (Every's), per packet, 1*s.*; Cottager's Kale, per packet, 1*s.*; Lettuce, Alma Cos (Griffin's), per packet, 1*s.*; ditto, Moor Park Cos, per packet, 1*s.*; Marrow, Custard (Thomson's), per packet, 6*d.*—Paradise Nursery, Seven Sisters and Hornsey Road, Holloway, London, N.

### AGRICULTURAL, FLOWER AND KITCHEN GARDEN SEEDS.

GARAWAY, MAYES, AND CO. invite attention to their Establishment for the sale of all kinds of AGRICULTURAL, FLOWER AND KITCHEN GARDEN SEEDS, their long connection with the trade and the well-known respectability of their house being a sufficient guarantee that all articles supplied by them will be of the very best quality. All seeds are proved by them before sending out, and their stock being large, and purchased from the first houses in the trade, offers great inducement to purchasers.

Their Stock of AGRICULTURAL SEEDS is produced from the best sources, and all are guaranteed by them to be of the best quality.

GRASS SEEDS of all kinds for Lawns or permanent Pasture; and the high testimonials they have received from their customers warrant them in stating that their quality is unsurpassed.—Catalogues on application.

Durdham Down Nurseries, Bristol.—Feb. 12.

### TANSLEY NURSERY, NEAR MATLOCK.

To GENTLEMEN PLANTING AND THE TRADE.

J. SMITH begs to offer his STOCK OF TREES AND SHRUBS, of various sizes, and in addition to his general stock of the leading kinds, he has this season to offer an Extra Stock of many hundred thousands of fine Larches, Scotch Firs, and Highland Pines; a large quantity of Evergreens, Privets, Mahonia aquifolia, and other plants for planting under cover. Many things are grown in large quantities, and will be sold on advantageous terms to the trade and gentlemen requiring large lots.—Catalogues sent free on application. The Nurseries are on the Mansfield and Nottingham roads, and 2 miles from Matlock Bridge Station on the Midland Railway.

### FINE HEALTHY ROSES.—

STANDARDS .. .. .. 18*s.* per doz.
DWARFS (on the Manetti) .. 12*s.* „ „

As the weather still continues mild and favourable for planting, GEORGE CLARKE begs to state he has still a fine stock of all the leading kinds to offer at the above prices, the selection being left to him. The Plants are all healthy and well rooted, therefore calculated to give the greatest satisfaction. Plants carefully packed for any distance. Carriage of all packages paid to London; and in all orders amounting to 20*s.* plants are added to compensate for distant carriage.

GEORGE CLARKE, The Nursery, Brixton Hill.

### DWARF ROSES ON MANETTI STOCKS & CINERARIAS.

THE following ROSES are offered in fine Plants with shoots 2 to 4 feet long, at 8*s.* 6*d.* per doz., true to name:—Jules Margottin, La Reine, Baronne Prevost, Coupe d'Hébé, Wm. Griffiths, Duc de Cazes, Wm. Jesse, Duchess of Sutherland, Victoria (Paul's), Paul Ricaut, Le "Leo" des Combats, Earl Talbot, Pius IX., Alexandrine Bachmeteff, Madame Domage, Souvenir de la Reine d'Angleterre, &c.

Also the annexed CINERARIAS in 48-inch pots, true to name, 8*s.* per dozen:—Alma, Admiration, Brilliant (R), Brilliant (L), Lady Paxton, Lord Palmerston, optima, Pride of Uttoxeter, Eupatoria, Purple Standard, Fascination, Magnum Bonum, &c. Post-office Orders payable at Haverhill.

JOHN CHATER & SON, Nurseries, Haverhill.

### NEW ROSES FOR 1859.

J. AND J. FRASER, Lea Bridge Road Nurseries, near London, N. E., beg to offer the following NEW ROSES, which may be depended on as being the best selection from the varieties of this year:—

HYBRID PERPETUAL.

Altesse Impériale
Anna de Diesbach
Anna Alexieff
Ardoise de Lyon
Armide
Beauté de Rayghem
Comte de Beaufort
Comtesse de Chabrilland
Empereur de Maroc
Impératrice Eugénie
Orderic Vital
Oriflamme de St. Louis
Princesse Olympie
Virginal

BOURBON.

Docteur Berthet
Edith de Murat
Mdlle. Aline Pierron
Octavie Fontaine

TEA SCENTED.

Mdme. Damaizan
Mdme Joseph Halphen
Reine des Pays Bas

DESCRIPTIVE PRICED LIST of the above may be had on application.

### NEW HYBRID PERPETUAL ROSES FOR 1859.

E. P. FRANCIS offers the following NEW ROSES which he will be prepared to send out on and after the first week in May, at 5*s.* each. They have been carefully selected from amongst the numerous new French varieties:—

Anna Alexieff
Stephanie Beauharnais
Ambroise Verschaffelt
Imperatrice Eugénie
Albert de Stella
Virginale
Altesse Impériale
Ardoisée de Lyon
[These two splendid varieties were awarded the Gold Medal as Seedlings at Lyons.]
Comte de Beaufort
Docteur Bretonneau
Empereur de Maroc
Armide
Princess Olympie
Anna de Diesbach
Beauté de Royghem
Comtesse Cecile de Chabrilland
De la Mothe
François Arago
L'Oriflamme de St. Louis
Lord Elgin
Madame Bruny
Orderic Vital
Salomon
Reine de la Cité
François 1st
Mignard
Madame Jenny

Hertford Nurseries.

### THE LARGEST STOCK OF

TEA-SCENTED ROSES in the kingdom.—Upwards of 10,000 DWARF TEA ROSES in pots, fine healthy plants now ready for sending out, consisting of all the best leading kinds, and comprising among others:—

750 Mélanie Willermoz
500 „ Oger (yellow)
500 Vicomtesse de Cazes (do.)
500 Souvenir d'un Ami
500 Safrano
400 Devoniensis
400 Adam
300 Maréchal Bugeaud
300 Madame Bravy
300 Le Pactôle, yellow
300 Niphetos, fine white
300 Gouboult
300 Canari (yellow)

400 Miss Gray or Isabella Gray, TRUE, yellow Rose, &c.

Plants presented to compensate for carriage.—Address WM. WOOD & SON, Woodlands Nursery, Maresfield, near Uckfield, Sussex.

SPECIMEN TEA-SCENTED ROSES, in 8-inch pots. Strong plants for Exhibition, from 3*s.* 6*d.* to 5*s.* each. The same kinds and many other leading sorts can be supplied as Half-specimen Plants, in 6-inch pots, at 24*s.* and 30*s.* per doz.

TEA-SCENTED.—Buret, Blanche de Solville, Bougère, Canaris Clara Sylvain, Comte de Paris, David Pradel, Elize Sauvage, Eugénie Desgaches, Général Tartas, Goubault, Jeannie Deans, La Sylphide, Laurette, Le Cameléon, Le Pactôle, Léontine de Laporte, Madame Bravy, Maréchal Bugeaud, Mélanie Willermoz, Mélanie Oger, Nina, Safrano, &c.

The Subscribers will be happy to furnish extra fine strong plants of the above named Roses adapted for Exhibition.

Early orders are respectfully solicited to ensure the strongest plants.—WM. WOOD & SON, Woodlands Nursery, Maresfield, near Uckfield, Sussex.

### A COLLECTION OF SUPERB YELLOW ROSES.

| TEA-SCENTED | Dwarf Plants in 4-inch pots. Each. | in 6-in. pots. Each. |
|---|---|---|
| Barillet Deschamps, pale lemon .. .. | 1*s.* 6*d.* | 2*s.* 6*d.* |
| Canari, bright yellow .. .. .. .. | 1 6 | 2 6 |
| Elize Sauvage, yellow, very fine .. .. | 2 0 | 3 0 |
| Gloire de Dijon, fawn shaded salmon .. .. | 1 0 | 2 0 |
| Le Pactôle, lemon; yellow centre .. .. | 1 6 | 2 6 |
| Louise de Savoie, lemon yellow .. .. | 2 6 | 3 6 |
| Mélanie Oger, pale yellow .. .. .. | 1 6 | 2 6 |
| Pauline Plantier, yellowish white .. .. | 1 6 | 2 6 |
| Vicomtesse de Cazes, bright orange yellow .. | 2 0 | 3 0 |
| Yellow, or Jaune; pale sulphur .. .. | 1 6 | 2 6 |
| YELLOW NOISETTE ROSES. | | |
| Adelaide Pavie (new) pale lemon .. .. | 3 6 | |
| Augusta, sulphur; similar to Solfaterre .. | 1 6 | 2 6 |
| Claudia Augustin, white, with yellow centre | 3 6 | |
| Lamarque, lemon; very large .. .. .. | 1 6 | 2 6 |
| Madame Schulz, canary-shaded carmine .. | 2 0 | 3 0 |
| Miss Gray, or Isabella Gray; bright yellow .. | 2 6 | 3 6 |
| Narcisse, sulphur yellow .. .. .. | 2 0 | 3 0 |
| Solfaterre, bright sulphur yellow .. .. | 1 6 | 2 6 |

WM. WOOD & SON beg leave to offer fine strong plants of the above-named superb yellow Roses. Plants will be presented to compensate for distant carriage.

Woodlands Nursery, Maresfield, near Uckfield, Sussex.

### THE BEST NEW ROSES FOR 1859.

WM. WOOD AND SON will be prepared to send out strong healthy plants in pots of the following new ROSES, about the end of April, which are offered as the best of the varieties to be sent out this season:—

HYBRID PERPETUAL.

Albert de Stella
Anna de Diesbach
Anna Alexieff
Armide
Ardoisé de Lyon
Altesse impériale
Beauté de Royghem
Bouquet de Marie
Comte de Beaufort
Comtesse Cecile de Chabrillan
Empereur de Maroc
Impératrice Eugénie
Joseph Vernet
Lord Elgin
Le Mont Vésuve
Mathilde de Mondeville
Orderic Vital
Oriflamme de St. Louis
Princesse Olympie
Salomon
Virginal
Madame Bruny

BOURBON.

Aline Pierron
Comtesse de Barbantanne
Docteur Berthet
Edith de Murat
Molière
Octavie Fontaine

NOISETTE.

Beauty of Greenmount
Cornélie

TEA-SCENTED.

Enfant de Lyon
Homère
Madame Damaizan
„ Darru
„ Falcot
Madame Joseph Halphen
Ophelia
Roi des Pays Bas
Socrate

Good Plants will be supplied at 5*s.* each, with the usual discount to the Trade.

Woodlands Nursery, Maresfield, near Uckfield, Sussex.

### BUSBY'S GOLDEN HAMBURGH GRAPE.

JAMES VEITCH, JUN., begs to announce that he offers PRIZES of Five Guineas for the Best Three Bunches of the above Grape at the two following Exhibitions:—

June 29 and 30,—London Horticultural Society, at St. James's Hall .. .. 5*l.* 5*s.*
September 7 and 8, at the Crystal Palace .. .. 5*l.* 5*s.*

Royal Exotic Nursery, King's Road, Chelsea.

### FIVE SILVER CUPS

WERE AWARDED TO

A. PAUL AND SON, NURSERYMEN, Cheshunt, Herts, for five Collections of ROSES at the Grand National Rose Show held in St. James's Hall, London, in July. Also FIVE FIRST PRIZES at the Royal Botanic Society's Shows in May and June last. The sorts which won these prizes are now offered at 18*s.* to 24*s.* per dozen for standards, 12*s.* to 18*s.* per dozen for dwarfs. A PRICED DESCRIPTIVE CATALOGUE forwarded on application, post free.

### THE GREAT VINE AT HAMPTON COURT.

THE SUBSCRIBERS being the holders of the Royal Kitchen Gardens, Hampton Court, are enabled to offer genuine the famous and truly excellent HAMPTON COURT BLACK HAMBURGH GRAPE.

Strong well-ripened plants in 9-inch pots, 42*s.* and 60*s.* per doz.
„ „ fruiting plants in 12-inch pots, 10*s.* 6*d.* each.

If purchased in large numbers a considerable reduction will be made in price.—JACKSON & SON, Nurseries, Kingston, S.W.

### THE NEW MUSCAT HAMBURGH VINE.

MESSRS. ARTHUR HENDERSON AND Co. have much pleasure in directing the attention of Grape Growers to the new Muscat Hamburgh, Plants of which they are now sending out. In consequence of the extraordinary demand for the large three-guinea fruiting plants, they are unable to supply any more of this size, but they still have excellent Plants at two guineas, suitable for fruiting next spring in pots, and also good plants at one guinea each.

Pine-apple Place, Edgware Road, London, W.

### NEW SEEDS FOR 1859.

WM. CUTBUSH AND SON beg respectfully to intimate that their PRICED CATALOGUE OF VEGETABLE AND FLOWER SEEDS, &c., is now ready post free on application. WM. C. AND SON devote particular attention to this department of their business, and most of the choicer kinds of culinary seeds and roots are saved under their own inspection, so that they can confidently guarantee the quality of all offered.—Highgate Nurseries, London, N. Established A.D. 1695.

MESSRS. PARKER AND WILLIAMS beg to inform their friends and patrons that their PRICED and DESCRIPTIVE CATALOGUE of Exotic Orchids, Stove, Greenhouse, and Hardy Ferns, Miscellaneous Stove, Greenhouse, and Hardy Plants, Variegated and Ornamental foliaged Plants, Conifers, Roses, Rhododendrons, Indian Azaleas, Gloxinias, Fuchsias, Cactuses, &c., is now published, and will be forwarded post free on application.—Paradise Nursery, Seven Sisters' and Hornsey Roads, Holloway, London, N.

### CALLICARPA PURPUREA.

JOHN STANDISH, the exhibitor of the above (at St. James's Hall), can supply a few good plants at 7*s.* 6*d.* each. The following passage from Dr. Lindley's leading article in the *Gardeners' Chronicle* for Nov. 20 will give an idea of its beauty:—"Callicarpa purpurea, quite insignificant when in flower, was beautiful in its winter dress of innumerable rich purple berries, about the size of swan shot." It is easily cultivated, and does well in a cold greenhouse or conservatory planted out, where it will produce thousands of bright purple berries resembling glass beads, and remaining on nearly the whole winter.—Bagshot, Feb. 12.

### HOLLYHOCK SEED FROM NEW VARIETIES.

J. CHATER AND SON offer the above from 12 new varieties, separate packets, the collection, 3*s.* 6*d.*
24 varieties, best older sorts, 3*s.* 6*d.*
Best mixed, 20 sorts, 200 seeds, 1*s.* 6*d.*

J. C. & SON feel confident the above will give satisfaction, having been saved with great care.

Strong seedling plants, 20*s.* per 100.

If sown now will flower by September.

Nurseries, Haverhill.

### 100 GOOD PHLOXES FOR 40*s.*

50 Ditto Ditto for 25*s.*
25 Ditto Ditto for 12*s.* 6*d.*
12 Ditto Ditto at 6*s.* and 9*s.* per doz.

The best and newest continental varieties from 12*s.* to 18*s.* per dozen.

CATALOGUES sent free on application, and extra plants presented for distant carriage.

WM. WOOD & SON, having imported all the best and newest PHLOXES from the Continent, will be happy to supply them in collections as stated above, in fine strong plants grown in the open ground.

Woodlands Nursery, Maresfield, near Uckfield, Sussex.

### SEEDS FOR 1859.

HARGRAVE'S SELECTIONS OF KITCHEN GARDEN SEEDS are arranged in quantities and sorts suitable for a succession of Vegetables through the whole year. That adapted for a moderate-sized garden contains 10 pints of the choicest kinds of Peas, 6 pints of superior garden Beans, 3 pints of very fine French or Kidney Beans, and a fair assortment of small Seeds too numerous for specifying here. Cash price, ONE GUINEA, package included.

C. W. HARGRAVE, Nurseryman, Florist, Seed Grower, and Importer.—The Nursery, Winchmore Hill, N.

R. LAING, TWICKENHAM NURSERIES, S.W., begs to offer Dwarf-trained Moorpark Apricots, 6*s.* each; Wistaria sinensis (very strong), 18*s.* per doz.; strong Boursault, Ayrshire, and other Climbing Roses, 12*s.* per doz.; Standard and Dwarf Roses of all the leading sorts, 18*s.* and 12*s.* per doz.; Laing's Prolific Red Raspberry, one of the best in cultivation, 12*s.* per 100. The following choice selected SEEDS at 6*d.* per packet:—Delphinium formosum, German Aster, New Double Sunflower, Double Dwarf Mixed Rocket Larkspur, Camellia-flowered Balsam, superior Crimson Candytuft.

### TO THE TRADE.

THOS. CRIPPS, NURSERYMAN, &c., Tunbridge Wells, Kent, respectfully offers the following fine strong SPANISH CHESNUT PLANTS, 4 feet to 6 feet in height, 40*s.* per 1000; Blush CHINA ROSES, fine strong plants, 15*s.* per 100; Crimson do., very strong, 25*s.* per 100; fine Standard and Half-standard ROSES, 60*s* per 100; good do., do., 30*s* per 100; Double Yellow PRIMROSE, 20*s* per 100 or 400 for 3*l.*; PINUS INSIGNIS and P. RADIATA from Seed, 15 inches to 28 inches, 6*l.* per 100; MANETTI STOCKS, 60*s.* per 1000; do. second size, 40*s* per 1000; IRISH YEWS, 2 feet to 3 feet, 50*s* per 100; Hardy HEATHS, a fine collection, 25*s.* per 100; large plants, good do., 20*s* per 100; LARCH FIR, fine stout plants, 2 to 3 feet; LONICERA SHEPHERDI, or new Scarlet-trumpet HONEYSUCKLE, fine strong plants, 4*s.* per dozen; RHODODENDRON MAXIMUM, fine bushy plants, 18 inches to 2 feet, 60*s.* per 100. Orders from unknown correspondents unaccompanied by a remittance will not be noticed.

## FRUIT TREES FOR ORCHARD-HOUSES.

HUGH LOW AND CO. have a fine stock of PEACHES in the very best health, grown as bushes and covered with blossom-buds. They are of two sizes; the larger, being from 3 to 4 feet high and as much through, are admirably adapted for planting out in the borders of orchard houses or for growing in tubs. The second size, about 2 to 2½ feet high, and bushy, are for pot culture. The whole having been transplanted last year will move with abundance of fibrous roots. Prices and lists of sorts on application.

Upper Clapton Nursery, London, N.E.

## NEW SORTS OF SEEDS.—

| | Per packet—s. | d. |
|---|---|---|
| CUTHILL'S NEW ZEALAND RUNNING BEAN .. | 2 | 6 |
| TURNER'S COTTAGERS' KALE .. .. .. .. | 1 | 0 |
| SUTTON'S SUPERB WHITE COS LETTUCE .. .. | 1 | 0 |
| HOLCUS SACCHARATUS (or Sorghum) .. .. .. | 0 | 6 |
| TRUE ASPARAGUS KALE .. .. .. .. .. | 0 | 6 |

SUTTON & SONS can supply the above, post free, all warranted new and genuine.

Royal Berkshire Seed Establishment, Reading

## IGNAME OF CHINA (DIOSCOREA BATATAS).

M. M. PAILLET AND SONS, of Paris, first Growers of the Igname from China, a nutritious root which has been fully appreciated in this country by all those persons who have been able to partake of it in its state of perfection, have decided upon exporting a quantity of it to England at such prices that the English public, as well as amateurs, may be enabled to appreciate its utility and put an end to all the comments that have been made by certain persons incapable of judging its merits. The result of the first crop on a large scale has been most satisfactory (about 30,000 kilos or 60,000 lbs.); this alimentary tubercle may be treated in the same manner as the Potato, with the exception that they should be planted more thickly in order to reduce the expense attendant on the gathering in of the crop.

Messrs. PAILLET & SON feel confident that after a fair trial this new Chinese vegetable will be found an agreeable and useful acquisition to the table, and that it will be fully appreciated in England, and increase the number of those vegetables we already possess.

PRICES:—The 100 lbs. weight, 2*l.* Persons desirous of obtaining Choice Roots can have them forwarded in cases of 50 or 100 at the price of 2*l.* 5*s.* or 4*l.* 5*s.* Those wishing to make a plantation more or less considerable can have portions of the Roots fit for planting at the following prices:—One year's growth, per 100, 12*s.*; ditto per 1000, 5*l.* For young bulbs two years' growth, per Quart, 3*s.* 6*d.*; ditto per Gallon, 12*s.* 6*d.*

All orders sent free of carriage to London with case and packing included in the above prices.

All letters enclosing a Money Order, addressed post free to Mons. Philipp, agent of the Messageries Impériales, Regent Circus, Piccadilly, London, will be immediately attended to.

MESSRS. WATERER AND GODFREY respectfully invite the attention of parties engaged in planting to the following list of very desirable plants, all of which may be seen growing in the open quarters of their Nursery, and are in the finest possible condition for transplanting:—

Araucaria imbricata, 9 to 12 inches, 5*l.* per 100; 40*l.* per 1000
,, ,, 1½, 2, 3, 4, 5, 6, and 8 feet high. Our stock of this plant exceeds 100,000
Wellingtonia gigantea, stout handsome plants from seed, 84*s.* per dozen; 25*l.* per 100. These are all in the open ground, and are believed to be the finest lot of seedling plants in the Trade.
Cedrus Deodara, 1½ to 2 feet, 18*s.* per dozen; 6*l.* per 100
Do. 3, 4, 5, 6, 7, 8, 10 and 12, and 15 feet. Our stock of Deodars at the present moment occupies several acres of land; they have been constantly removed, and with fair usage not one in a thousand would fail. We offer them on very advantageous terms either in large or small quantities
Cedrus atlantica, 4, 5, 6, and 7 feet
Cupressus macrocarpa, magnificent plants, 7, 8, and 10 feet high
,, Lawsoniana, stout handsome plants from seed, 18 inches, by the dozen or 100
Abies nobilis, from imported seed, 6*l.* 6*s.* per doz.; 40*l.* per 100
,, do. 1, 2, and 3 feet high
,, Nordmanniana, a large number of beautiful plants, all from seed, 2, 3, 4, 5, and 6 feet high
,, Pinsapo, do. do.
[We believe we are justified in stating our stock of the three last-mentioned Firs offers a selection to be met with in no other Nursery.]
,, Douglasi, 6, 7, 10, and 12 feet
,, orientalis, 3, 4, 5, and 6 feet
Pinus Benthamiana, stout seedling plants, about 1 foot, 18*s.* per dozen; 5*l.* per 100; 40*l.* per 1000. Unquestionably the finest of all the long-leaved Californian kinds, and well known to be perfectly hardy. It is the most valuable of all for timber.
Juniper, Chinese, 2, 3, 5, 7, 8, and 10 feet high
Irish Upright, 3, 4, 5, 6, 7, and 8 feet. The Irish and Chinese Junipers are grown by us to a very large extent
Thuja aurea.—This plant originated in our Nursery, and our stock of it offers a choice of many hundred specimens from 1½, 2, 3, 4, and 5 feet high, and measuring from 2 to 10 and 15 feet in circumference. Nothing can well exceed the beauty of these plants, and certainly are to be met with in no other Nursery
Thuja gigantea, stout seedling plants, 1½ to 2 feet high
,, Wareana, 3, 4, 5, 6, 7, and 8 feet
Thujopsis borealis, handsome plants, in quantity, 1½ & 2 ft. high
Taxus, Yew, Common English.—A large quantity, and of all sizes up to 5, 6, and 7 feet
,, Irish Yew, 4, 5, 6, 7, and 10 feet. Many thousands of these beautifully formed plants grown to one stem
,, Golden Yews in large quantities and of all sizes up to 6, 7, and 8 feet
We also have them worked on the Common and Irish Yew as Standards, with heads from 12 to 15 years' growth
Holly, Variegated, Scottica, laurifolia, &c. We hold probably the largest stock of good sized variegated Hollies in the kingdom, especially of the better kinds of silver and gold striped
Rhododendron ponticum, for cover, stout plants, 1½ to 2½ feet, by the 1000. All the well-known proved hardy late blooming kinds, in any quantity, at from 30*s.*, 42*s.*, to 84*s.* per dozen
Standard Rhododendrons of all kinds
Azaleas, stout bushy plants, covered with bloom buds, from 18 inches to 2 feet high, and of all colours, 9*s.*, 12*s.*, 18*s.*, and 24*s.* per dozen; 50*s.*, 75*s.*, to 100*s.* per 100
Hardy Heaths, a first-rate collection, at 35*s.* per 100; 15*l.* p. 1000
Roses, fine Standards, of the most popular kinds, at very low prices.

As well as the above, we are very large holders of the ordinary kinds of Nursery Stock, which may be judged from the fact that the Nursery far exceeds 100 acres in extent of all such things as Laurels, Box, Lilacs, Limes, Purple Beech, and the commoner descriptions of Evergreens and Deciduous Flowering Shrubs. An enormous stock of Fruit and Forest Trees are also grown extensively.

Goods are delivered free to London, Reading, or Reigate. The Nursery is reached in an hour from Waterloo, and conveyances are always to be had at the Woking Station.

CATALOGUES, Priced and Descriptive, will be sent on application, enclosing one postage stamp, to

WATERER AND GODFREY, Knap Hill, Woking, Surrey.

## CRYSTAL PALACE.—SURPLUS PLANTS.

The Company having on hand a considerable surplus stock of healthy and well established CAMELLIAS in pots (principally Double Whites), and a few ORANGE TREES, it has been determined to offer such surplus stock for sale. With this view these plants have been separately marked with their prices. Intending purchasers may apply to Mr. EYLES, Superintendent of Interior Gardens; Office in the Corridor of the Central Transept entrance. By order,

February 12. GEO. GROVE, Secretary.

## CRYSTAL PALACE.—TO FLORISTS.

The Directors are desirous of receiving TENDERS for the occupation of a Piece of Ground containing rather more than 4 acres, situated between Thicket's Lane, and the Crystal Palace Branch Railway, immediately adjoining the Park, as a FLOWER GARDEN, in connection with a Stall in the Palace, for the sale of Flowers in Pots, Cut Flowers, Bouquets, &c. Further particulars may be obtained at the Secretary's Office, Crystal Palace. By Order,

Crystal Palace, Feb. 12. GEO. GROVE, Sec.

*** The above is well worth the notice of any Country Nurseryman wishing to obtain a connection in London.

## LONG-PODDED RUNNER BEANS,

a very desirable variety raised by J. Harvey, Esq., Oulton High House. The following is the description he gives of it:—Flowers bright pink, Beans curiously marked, very prolific, and handsome in the pod, far superior to the common Scarlet Runner in flavour, and successive crops will produce till the cold of winter cuts them off. 2*s.* 6*d.* per quart.

| | | | |
|---|---|---|---|
| Lynch's Star of the West Cucumber, true .. | 1*s.* | 0*d.* | p. packet |
| Ayres's Perpetual Black Spine .. .. .. | 1 | 6 | ,, |
| Melville's Treble Curled Garnishing Borecole | 1 | 0 | ,, |

Price for the above to the Trade on application.

The Plymouth Seed Company, Plymouth.

## NEW ZEALAND RUNNER BEAN, 1*s.* per doz.; 7*s.* 6*d.* per 100.

AUSTRALIAN do. do., a great acquisition, pods similar to Dwarf Beans, 1*s.* per 100.
True COTTAGER'S KALE, 1*s.* per packet.
DAVIS'S INCOMPARABLE NEW BROCCOLI, 1*s.* per packet.
CUSTARD VEGETABLE MARROW, 6*d.* per packet.
PAGE'S IMPERIAL ORANGE GLOBE MANGEL. This variety has superseded all others, 8*d.* per lb.
PAGE'S IMPROVED SUSSEX SWEDE, withstands mildew, ensuring good results from an early plant, 1*s.* per lb.

PAGE & TOOGOOD, Seed Growers and Merchants, Southampton.

## POTATOES FOR EARLY PLANTING.

MYATT'S PROLIFIC SEEDLING ASH-LEAF KIDNEY.—For description of this valuable variety, which has again given such universal satisfaction, see Dr. Lindley's report in the *Gardeners' Chronicle* of August 1, 1857, at the Horticultural Society's Garden, wherein it is described as a "better cropper than the old Ash-Leaf, and one of the best early kinds." Price per bushel, 7*s.* To be had of Mr. J. MYATT, Evesham; or of Mr. J. MYATT, Camberwell. A small quantity of Yellow Globe Mangel Seed saved from large selected roots for stock. The trade on application.

## THE BEST FLOWER SEEDS FREE BY POST.

THOMAS SHERMAN, SEEDSMAN, &c., begs to offer the following FLOWER SEEDS at 3*d.* per packet, except those priced. Payment received in postage stamps.

Abronia umbellata, pink
Acroclinium roseum, rose
Alonsoa Warzewicsi, scarlet, yellow centre
Aster, French (Truffaut's), mixed
,, new, very dwarf bouquet, mixed
,, new Chrysanthemum-flowered, mixed, 6*d.* per packet
,, pyramidal circle, double white edged with crimson, 6*d.*
Balsam, double, mixed from Smith's varieties, 6*d.*
Calandrinia umbellata, deep crimson (good for beds)
Centranthus macrosiphon nanus (new pink)
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Chænostoma polyantha, lilac
Chrysanthemum Pompone, fine mixed, 6*d.*
Clarkia pulchella marginata, rose edged with white
Clintonia pulchella, blue, white, and yellow
Coreopsis tinctoria, fine new quilled variety, 6*d.*
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Eschscholtzia tenuifolia, new straw colour
Eutoca alba striata
Fuchsia, fine hybrid, mixed, 1*s.*
Gaillardia picta nana, very dwarf
Gypsophila muralis, scarlet lilac tinge, good for beds
Ipomopsis elegans aurea, orange scarlet
Kaulfussia amelioides rosea
Larkspur tricolor, double branching
Leptosiphon aureum, golden orange centre
Linum grandiflorum coccineum, scarlet
Marigold, very dwarf double French
Nasturtium, new dwarf spotted, 6*d.*
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Nyctarene selaginoides, white and blue orange centre
Obeliscaria pulcherrima
Petunia, fine green edged
Portulacca, fine mixed
Salpiglossis atrococcinea, fine deep scarlet, 6*d.*
Stock, fine German 10-week mixed, 6*d.*
Stock, new Rose Virginian
Tropæolum minus coccineum, new, very dwarf, 6*d.*
Viscaria Dunnetti, new rose, dark eye, 6*d.*
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Also about 150 bushels Green Globe Turnips.

A Descriptive Priced Catalogue of Kitchen Garden and Flower Seeds forwarded (and post paid) to any address upon application.—5, Cumberland Place, Newington Butts, London.

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DO NOT PURCHASE MORE SEEDS THAN YOU REQUIRE.

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| Agent for SMITH'S BALSAMS | 1*s.* | ,, | ,, | |

Selections of FLOWER SEEDS sent post free:—

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| No. 1.—50 packets .. .. .. .. .. | 12*s.* | 6*d.* |
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Large packets, or by the ounce, at prices equally moderate.

JAMES TYNAN, Importer of Continental Seeds, Seed Warehouse, 68, Great George Street, Liverpool.

## SEEDS.

JOSEPH MAY AND CO. beg to announce the arrival of their new VEGETABLE, AGRICULTURAL AND FLOWER SEEDS, which they have selected with the greatest care. Amongst PEAS they would particularly recommend, as the two best kinds for early sowing, W[illegible] O'Rourke and Dickson's Favourite, the latter producing Peas in a pod, and will do for sowing at any season. [illegible] TIONS OF VEGETABLE SEEDS made up from [illegible] upwards, according to size of garden for which intended. These collections gave great satisfaction last [illegible] 30 packets hardy ditto, 5*s.*; 15 packets ditto, 2*s.* 6*d.* post.

CUCUMBER, "Ne Plus Ultra," from specimens 24 inches each—straight and handsome—per packet, 1*s.* [illegible] best kinds, 6*d.* per packet.

MELONS, choicest kinds, 6*d.* and 1*s.*

GOURDS, the large hundredweight and others, 1*s.* per packet free by post, 3*s.*

POTATOES, all the best kinds; Grasses and all kinds Agricultural Seeds of the best quality.

TREES, PLANTS, AND SEEDS, packed for Australia at the lowest prices.

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## CHRYSANTHEMUMS—CHRYSANTHEMUMS

J. H. BIRD, F.H.S., NURSERYMAN, Stoke Newington, the largest grower and most successful exhibitor of the Chrysanthemum in the British Empire, begs to call the attention of the lovers of the above beautiful autumn flower to his matchless collection, the stock of which amounts to upwards of 50,000 plants. Amongst them will be found the following new and rare varieties:—Admirable, Aimée Ferrière, Annie, Constantine, Louisa, Louis Bonamy, Madame Leo [illegible], Hero, Progne, Raymond, Beauté de Nord, Dr. Maclean, Queen of England, Plutus, Alfred Salter, Stellaris globosa, Isa, Themis, Dupont de l'Eure, &c.

J. H. B. can supply strong plants, one dozen for 6*s.*; one dozen in 30 varieties, containing two of each variety, for 10*s.*; he can supply 100 plants in 50 varieties, two of each variety, for 1*l.* 10*s.* Also POMPONES in great variety; 50 Pompones 25 varieties, two of each variety, for 10*s.*; or 100 in 50 varieties two of each variety for 1*l.* Strong plants of the beautiful Pompone the Golden Cedo Nulli, 5*s.* each, will be ready March with the usual allowance to the Trade. Every [illegible] will be accompanied by a popular work on the Chrysanthemum.

Post-office Orders payable to J. H. BIRD, Stoke Newington, will be immediately attended to.

## CHRYSANTHEMUM TRICOLOR BURRIDGEANUM. CHRYSANTHEMUM TRICOLOR VENUSTUM.

F. K. BURRIDGE, SEED GROWER, Lexden Road, Colchester, has much pleasure in inviting the special attention of the Seed Trade to the above-named new Annuals, which he now offers for the first time, believing they will be found among the finest novelties of the season. The variety Burridgeanum differs from the old C. tricolor in having a fine crimson ring surrounding the yellow circle near the base of the flower, the rest of the ray being snow white. The variety venustum has the ray florets of a deep reddish purple on the colour for about one-half their length, shading into yellow at the base, and stained on the under side with purple. Both varieties are striking objects in the flower border, and from their bold conspicuous character, free blooming qualities and perfect hardiness, together with their adaptability for bouquets, F. K. B. confidently predicts that they will become universal favourites.

A beautifully-coloured group of the two varieties has been prepared, and may be had on application, price 1*s.*; free to Purchasers of 1 oz. of seed.

N.B. The Botanical Magazine for January, 1859, contains a coloured plate of the above.

## WANTED, the ADDRESSES of the Best Market Gardeners who Grow for Covent Garden Market Choice Vegetables and Fruit, such as

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| Asparagus | Pine Apples |
| Cucumbers | Grapes |
| Mushrooms | New Potatoes |
| Brussels Sprouts | Seakale, &c. |

Address Box P. 5, General Post Office, Liverpool.

## UNEQUALLED NEW CUCUMBER LIVINGSTONE.

—This is one of the finest long Cucumbers for exhibition purposes that has ever yet been offered to the public; it is a splendid black spine, length 26 inches, a very free setter, and an abundant bearer. 2*s.* 6*d.* per packet.

QUEEN OF THE WEST MELON, a superb new scarlet green-flesh, very handsome in appearance, beautifully netted, and excellent in flavour. It obtained several first prizes during the past season. Seeds 2*s.* 6*d.* per packet.

NEW MELON GENERAL HAVELOCK, sent out for the first time last season. It is a green-flesh, very handsome shape, and beautifully netted; a very thick substance of skin, of a melting and most delicious flavour, and an abundant bearer. Weight from 3 to 4 lbs.; it gave the greatest satisfaction to all purchasers during the past season. Seeds 2*s.* 6*d.* per packet.

Extra fine mixed HOLLYHOCK SEED, saved from all the best varieties, 1*s.* per packet.

Early Emperor CELERY, red, the finest ever yet sent out, 1*s.* per packet.

TILEY'S Solid White Celery, 6*d.* per packet

DELPHINIUM FORMOSUM, 6*d.* per packet.

DIGITALIS, or Fox-glove Seed, 6*d.* per packet.

For further particulars, and list of Cucumbers and Melons, see Advertisement in *Gardeners' Chronicle* of Jan. 29, 1859.

A remittance must accompany every order in cash or postage stamps, when the whole or any part, as the case may be, will be immediately sent.

EDWARD TILEY, Nurseryman, Seedsman, and Florist, Abbey Church Yard, Bath.

## WALTON NURSERY, LIVERPOOL.

TO NOBLEMEN AND GENTLEMEN PLANTING NEW PARKS OR DRIVES, AND GROUNDS, OR IMPROVING PARKS OR DRIVES, AND COMPANIES PLANTING PUBLIC PARKS OR CEMETERIES.

W. SKIRVING begs to offer his Stock of TREES and SHRUBS, of various sizes, adapted either for immediate effect, or for extensive new Plantations where smaller sizes and less expensive Plants are required.

In addition to his general Stock of the leading kinds of Trees and Shrubs, which is allowed to be the most complete in England, he has this season to offer, at reduced prices, several acres of well-grown CEDRUS DEODARA, 1½ to 2 feet, from 2 to 10 feet in height.

Also, a very large stock of ARAUCARIA IMBRICATA, 1 to 10 feet, and of all the best varieties of Hardy Pines, Cedars, Cryptomeria, Cypress, Yew (Irish and Common), (Green and Variegated), Rhododendrons, &c.

WELLINGTONIA GIGANTEA, a fine stock, all sizes.

Strong transplanted Thorn Quicks for hedge planting.

A most extensive stock of Forest Trees, Underwood, &c., all ages and sizes, at very moderate prices.

FRUIT TREES, a large collection of all the most approved kinds.

CATALOGUES on application.

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J. IVERY AND SON beg respectfully to invite growers of the above named to an inspection of their unrivalled stock of young Specimens of all the newest and best varieties, many of which have been exhibited at the Metropolitan exhibitions. They are clean and healthy, well set with bud, and moderate in price. Catalogues forwarded post free on application.—Dorking Nursery, Feb. 12

YOUNG'S SCARLET STOCK SEED, our own saving, 1s. to 1s per packet; WHITE INTERMEDIATE STOCK SEED 1s per packet. Both are perfectly hardy, and should be sown immediately for Autumn flowering.
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DUC DE MALAKOFF.—"The earliest of the very large sorts good." 12s. per 50; 20s per 100; very strong plants. Many every other sort known can be supplied at reasonable prices. Many new interesting and excellent varieties can be recommended, all having been well tried. Early orders will oblige.
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RICH BOG AND LOAM.—Gentlemen and Nurserymen will do well to apply early for the above to refresh their American beds. To be had in any quantity upon reasonable terms, by land or water carriage.
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REIGATE SILVER SAND, best quality for Florists, 10s. per ton; less quantities, 1s. 6d. per bushel; delivered to any London Wharf or Railway. Leaf Mould, Peat, and Loam of various kinds, in large or small quanties. Sacks for Sand 2s. 6d. each, on hire 6d. each (five hold a ton).—JOHN KENNARD, Purveyor to her Majesty, Swan Place, Old Kent Road, S.E.

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TO PIG AND POULTRY FEEDERS AND MILLERS.

CHICKEN RICE, 7s. 9d. per cwt., in bags 1½ cwt. each. SCREENED RICE, 10s. per cwt., in bags 1½ cwt. each. RICE MEAL, 6s. 9d. to 8s. 9d. per cwt. RICE for grinding. An allowance per Ton. American Oilcake, per ton only, 1st 15s in bags, 11l 5s in barrels.—Sold for Cash by W & R JUPP, 6, Cross Lane, St. Mary-at-Hill, Eastcheap, E.C.

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H. APPLEBY (Foreman to Messrs. Ivery & Son, Nurserymen, Dorking, Surrey), begs to inform his friends and the public that he now offers the above article at a reduced price. Sold in 4-lb. packets, 1s. 3d. per lb. A great reduction to the trade; price on application. For testimonials that will guarantee its quality, see *Gardeners' Chronicle*, Dec. 11, 1858, page 920.
SHEET IRON POTS FOR FUMIGATING, 3s. 6d. each.
N.B. All Orders to be accompanied with a Post-office Order, payable to HENRY APPLEBY, Dorking, Surrey.

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MESSRS. JACKSON AND SONS' WORKMEN are selling their unequalled TOBACCO PAPER at 4l per cwt., any less quantity 10d. per lb.—Address BEN BAXTER, Messrs Jackson & Son, Lady Lane, Leeds.

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RATS, RATS TAKEN WITHOUT POISON OR TRAPS BY WHOLESALE.—Ships, Barns, Stables, Granaries, Mills, Warehouses, Farmsteads, Houses, &c., cleared at one sweep. ANY PERSON can by this method clear the entire premises of every RAT, however numerous they may be, in one single night. Printed directions how to entice and secure the whole alive sent free by return of post for Two Shillings by WILLIAM GOODWIN, High Halstow, near Rochester.

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CALVANISED IRON ROOFING

for Farm Buildings and other Roofs; the cheapest, most durable, and neatest Roofing in use; also Spouting at 10½d. per yard.

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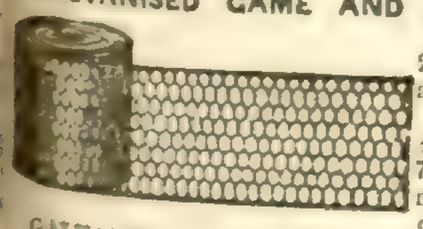
(formed of Twisted Wires like a rope or cable), the strongest cheapest, and neatest fence in use, will resist the largest cattle, and will not bend or get out of form by trespassing upon or over. Price, with five lines of the Galvanised Strand, iron main posts, and pronged Standards, 1s. 2½d. per yard.
This fence is far cheaper than posts and rails, or any kind of wire fencing; and possesses four times the strength of solid bars. Will not rust nor corrode. Upwards of 1200 miles of this Fencing supplied.

GALVANISED GAME AND POULTRY NETTING.



Galvanised, 24 ins. wide, 2-inch mesh, 5d., 6d., 7½d., and 10d. per yard.
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Strong CATTLE HURDLES from 2s. per yard.

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of all sizes for the use of Private Houses, Mansions, Railway Stations, Mills, Collieries, Mines, Villages, &c. Works from 10l to 1000l estimated for. The works can be entrusted to any labourer.—Apply to
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TROTMAN'S RUSTIC WORK, a great variety always on view. Thatched Summer Houses, Pagoda-roof Ditto; Yew, Oak, and Swiss Tables, Oak Benches, Yew Seats and Stools, Flower Vases and Baskets, Perambulators, Bath Chairs, &c., ready for delivery, always on view at TROTMAN'S Manufactory, 12, Alfred Terrace, Upper Holloway. Delivered free to any Railway Station.

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HORTICULTURAL GLASS, STOCK SIZES, in 100 feet boxes.

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| 11 by 9, 12 by 9, 13 by 9, 14 by 9 .. / 12 ,, 10, 13 ,, 10, 14 ,, 10, 15 ,, 10 .. / 13 ,, 11, 14 ,, 11, 15 ,, 11, 16 ,, 11 .. | 14s. 6d. | 12s. 6d. |
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| 200 feet .. .. .. | £2 2 0 | 16 oz. |
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ORCHARD HOUSE SIZES,
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| | | 16 oz. | 21 oz. |
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| 20 in. by 12 in. / 20 in. by 13 in. / 20 in. by 14 in. / 20 in. by 15 in. | Common .. .. | 14s. 0d. .. | £1 1s. |
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SMALL SQUARES.—Per 100 feet.

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| 6 by 4 | 6½ by 4½ | 7 by 5 | 7½ by 5½ | 11 6 |
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6 by 4, 7 by 5, 8 by 6, 9 by 7 / 6½ by 4½, 7½ by 5½, 8½ by 6½, 9½ by 7½ } 16 oz. to the foot, 11s. 6d. per 100 feet.
In 100 boxes,—4ths quality, 12s. 6d.; 3ds do., 14s. 4d.
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11½ by 9½, 12 by 10, 14 by 10, 12½ by 11½ .. ..

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All Boxes included.
Orchard House sizes as supplied to Mr. Rivers.
Hartley's improved Rough Plate Glass from ⅛ to ⅝ in thickness.
Coloured Glass in great variety, at 9d. and 1s. per foot.
Paints, Genuine White Lead, Linseed Oil, Boiled Oil, Turpentine, Putty, Colours, Varnishes, Brushes, Lamp Glasses, &c.
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200 ONE, TWO, and THREE-LIGHT MELON BOXES and LIGHTS, of the best seasoned materials, ready for immediate use.—JAS. WATTS, Hothouse Builder and Hot-water Apparatus Manufacturer, Old Kent Road, London.

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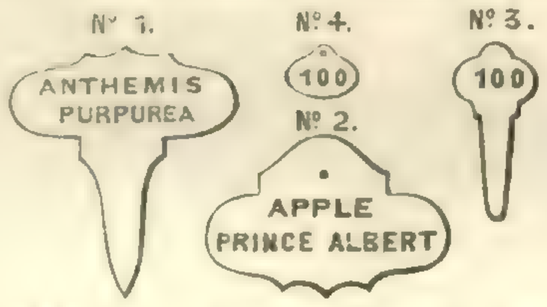


A. J. BOOT, Lloyd Street, Hulme, Manchester, respectfully calls the attention of the Nobility, Gentry, Nurserymen, and Gardeners to his PATENT ANTI-CORROSIVE MARKED LABELS. The indestructible metal of which they are manufactured, the deep and legibly marked letters, and their neatness of design, render them essential in every well-conducted horticultural building, garden, or orchard, where so much depends upon the preservation of names. The inventor guarantees them to endure for centuries in any climate; neither damp nor heated atmosphere having the slightest effect upon their durability. They need only be cleaned with soap and water to renew their usefulness and neat appearance every year, which qualities will ensure for them a preference to all others now in use. The following descriptions will give an idea of their general utility.
No. 1. Large-tongued Label, 4s. per dozen, suitable for all stove plants, Orchids, greenhouse plants, annual and perennial flowers, and all kinds of bulbous roots.
No. 2. Wall Labels, 4s. per dozen, for all kinds of wall trees, standards, Vines, Roses, Dahlias, Hollyhocks, or for fixing on blocks of wood for orchidaceous plants and all kinds of shrubs or ornamental plants and nursery stock in general.
No. 3. Small-tongued Numbered Label, 6s. per 100, for Polyanthus, Auriculas, Tulips, and all descriptions of florists' flowers
No. 4. Small Numbered Label, 5s. per 100, for numbering every description of choice and tender plants, Rose trees, &c.

PATENT GUTTA PERCHA SOLES.—IMPORTANT TO GARDENERS.—The Gutta Percha Company have the pleasure to acknowledge the receipt of the following letter from G. GLENNY, Esq., the celebrated Florist:—

"420, Strand, London.

"Gentlemen,—I have worn Gutta Percha Soles and Heels these two years, and being so much in a garden as I necessarily am in all weathers, and with the ground in all states, I would on no account be without them. As a matter of economy I would recommend Gardeners to use them, for they may repair the worn part at all times by warming the material at the fire, and pressing it from the thick parts to the worn parts as easily as if it were so much dough. I think it the duty of all persons who must occasionally wet their feet to adopt a material that completely defies damp. Many a gardener would escape colds and rheumatism by the use of Gutta Percha Soles.

"Your obedient servant, G. GLENNY."

Every variety of Gutta Percha articles, such as Mill Bands, Tubing, Soles, Goloshes, Sheet, Pump Buckets, Fire Buckets, Bosses, Union Joints, Flasks, Bottles, Bowls, Chamber Vessels, Toilet Trays, Sponge Bags, Curtain Rings, Galvanic Batteries, Talbotype Trays, &c., manufactured by the Gutta Percha Company, and sold by their wholesale dealers in town or country.—The Gutta Percha Company, Patentees, 18, Wharf Road, City Road, London.

HEATING BY HOT WATER ON HAMMOND'S improved principle, for Horticultural Works, Mansions, Churches, Public Buildings, in fact everywhere that heat is required. Also his improved Ventilating Greenhouses, which can be erected at 1s per foot, and entirely prevent the possibility of scorching the Vines or plants. The Patent Hot-water Register Stove.—Estimates at No 18, George Street, Portman Square. Workmen sent into the country.

HOT-WATER PIPES at wholesale prices, with Elbows, Syphons, Tee Pipes, and every other connection. Wrought and cast iron Boilers, Saddle, Conical, Cylinder, and Elliptic, from 21s each. Boilers and Iron Stands to use without brickwork. Valves from 12s 6d. each. Furnace Doors, Furnace Bars, Supply Cisterns, and Builders' Castings of every description in stock, at Mr. LYNCH WHITE'S Iron Wharf, Upper Ground Street, Blackfriars Bridge, London.

HANDS'S PATENT is the only system to circulate Heat, and for WARMING, FUMIGATING, and VENTILATING Hothouses, Greenhouses, Winter Orchards, &c; to keep vegetation healthy in a humid atmosphere, and can be applied to any kind or shape of Forcing Houses and Conservatories now existing at trifling cost.—For particulars apply at the Office, 10, Charlotte Street, Fitzroy Square, London; or to Mr JOHNSON HANDS, Epsom.

VOKINS AND HURD, Seymour House, Jubilee Place, King's Road, Chelsea, BUILDERS OF HOTHOUSES, CONSERVATORIES, GREENHOUSES, PITS, and every description of erections in Glass work, either in Wood or Iron; also Heating the same by hot water on the most approved plans and at the lowest prices consistent with good work. Estimates forwarded.

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HENRY FREEMAN, HOTHOUSE BUILDER and HOT-WATER APPARATUS MANUFACTURER, Triangle, Hackney, Established 20 years. Good substantially built GREENHOUSES, fixed in any part of the kingdom, for cash, 42 ft. long by 13 ft. 90l.; 21 ft by 13 ft., 50l. 12½ ft. by 10 ft., 30l. A first-rate Conservatory, 30 ft. by 16 ft. 130l. A large assortment kept. Estimates for heating, or any branch in wood, iron, or Park Fencing.

HORTICULTURAL BUILDINGS AND HEATING BY HOT WATER.

JOHN R. PEILL, 17, New Park Street, Southwark, Manufacturer of every description of Buildings for Horticultural purposes, and Inventor of the Improved Conical Boiler for heating the same, is prepared to undertake works of any magnitude, and refers among others to the celebrated range of FORCING HOUSES at HER MAJESTY'S GARDENS, FROGMORE, and at SIR ROBERT PEEL'S, DRAYTON MANOR, constructed under the superintendence of his Manager, MR. JOHN JONES; and also to his BOILERS fixed at the CRYSTAL PALACE, the ROYAL BOTANIC GARDENS, REGENT'S PARK, and KEW, and at several hundreds of the Nobility's seats, Public Establishments, and Manufactories in London and the provinces. J. R. P. also manufactures every description of Iron Roofs, Iron Houses, and Iron Fencing, plain and ornamental. Strong Iron Hurdles for Sheep (6 feet long, 3 feet high, with 5 bars), 4s. 3d. each; ditto for cattle, 4s. 9d. each.
Prices and other particulars forwarded on receipt of one postage stamp.

HOTHOUSES FOR SALE.

TO BE SOLD CHEAP, two nearly new SPAN-ROOF HOUSES, each 65 feet long by 18 feet wide, price 100l. each; also a handsome OCTAGON CONSERVATORY, 22 feet diameter with glass all round, quite new, price 90l. All these houses are warranted to be of the best materials and workmanship. The reason of their being now Sold is to make room for an extensive alteration and addition to our Workshops and Steam Machinery.—Apply to Messrs. JOHN WEEKS & Co., King's Road, Chelsea, where the whole of the above can be seen, as also a great variety of other Horticultural Erections.

HORTICULTURAL POTTERIES.

ADJOINING THE STAPLETON ROAD NURSERIES, BRISTOL.

MAULE AND SONS have just completed an extensive enlargement of their Manufactories, which will afford them greater facilities for increasing their supplies of all kinds of GARDEN POTS, VASES, and other ORNAMENTAL POTTERY, suitable both for utility and Horticultural decorations and embellishments.
Horticulturists who have not yet favoured this establishment with their patronage will find every advantage both as regards quality and price.
The first workmen are employed, and the whole of their talents and attention is concentrated in the production of Horticultural Pottery alone, an advantage not to be found in the kingdom besides.
ILLUSTRATED CATALOGUES and LISTS of PRICES sent on application.
Nurserymen and the Trade supplied on advantageous terms.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

E. DENCH, KING'S ROAD, CHELSEA, & HAMPSTEAD ROAD, Patentee and Sole Manufacturer of PATENT GALVANISED IRON HOTHOUSES AND CONSERVATORIES, has Two SPAN-ROOFED HOUSES left for Sale, a great Bargain. Patent Hothouses, every way superior to any other material, at 1s. 3d. per foot super, with excellent heavy good quality Glass. Printed Price List sent on application. Heating by Hot Water with efficiency and economy.

GREEN'S PATENT LAWN MOWERS.

PRELIMINARY ANNOUNCEMENT.

THOS. GREEN begs to inform the Public that he has made several improvements in the Patent Lawn Mowers, and has brought them as near perfection as possible.
Illustrated Price Lists will be ready in a short time, which may be had on application at the Works.
Address, THOS. GREEN, Patent Lawn Mowing Machine Works, Leeds, Yorkshire.

"FRIGI DOMO."—Patronised by her Majesty the Queen, the Duke of Northumberland for Syon House, His Grace the Duke of Devonshire for Chiswick Gardens, Professor Lindley for the Horticultural Society, Sir Joseph Paxton for the Crystal Palace, Royal Zoological Society, late Mrs. Lawrence, of Ealing Park, and—Collier, Esq., of Dartford.
PROTECTION FROM COLD WINDS AND MORNING FROSTS.
"FRIGI DOMO," a Canvas made of patent prepared Hair and Wool, a perfect non-conductor of Heat and Cold, keeping, wherever it is applied, a fixed temperature. It is adapted for all horticultural and floricultural purposes, for preserving Fruits and Flowers from the scorching rays of the sun, from wind, from attacks of insects, and from morning frosts. To be had in any required lengths. Two yards wide, 1s. 6d. per yard run; four, 3s. per yard. Also, an improved make for Shading Purposes. Three yards wide, 2s. 6d. per yard run.
ELISHA THOMAS ARCHER, whole and sole manufacturer, 7, Trinity Lane, Cannon Street, City, and of all Nurserymen and Seedsmen throughout the kingdom. "It is much cheaper than mats as a covering."

## SORGHUM OR HOLCUS SACCHARATUS,

CHINESE SUGAR CANE GRASS.

SUTTON AND SONS having imported largely of new Seed of the true HOLCUS SACCHARATUS, can supply it at reduced price according to quantity required.

The Stock SUTTON & SONS have provided is the true saccharine species procured from the same Continental source from which they have imported in previous seasons. Present price 2*s.* 6*d.* per lb., or cheaper in large quantities; quantity required per acre, 8 lbs. Instructions on Cultivation will be sent with the Seed. Packets for the Garden, 6*d.* each.

Royal Berkshire Seed Establishment, Reading.—Feb. 12.

## IMPROVEMENT OF GRASS LANDS

BY SOWING GOOD SEEDS OF THE MOST SUITABLE KINDS.

SUTTON'S RENOVATING GRASS SEEDS consist of the finest GRASSES and PERENNIAL CLOVERS, producing great improvement in the Pasture, and at a small expense. Quantity of Seed required, 8 to 12 lbs. per acre. Price reduced to 9*d.* per lb., or 80*s.* per cwt. Sow in February and March. Parks, Meadows, and Upland Pastures may be increased in value 50 per cent. by sowing these Seeds, the cost of Seeds being only 5*s.* to 9*s.* per acre.

The following extract from a letter is similar to many others received unsolicited:—

*From* Mr. THOMAS BOWICK, *Farm Bailiff to Lord Leigh, Stoneleigh Abbey Farm.*

"The Renovating Mixture with which you supplied Lord Leigh last season, for 40 acres of old turf, has more than equalled our expectations. I would add that the other seeds supplied have each proved clean, true to name, and active in vegetative powers."

Seeds Carriage Free to all parts, except small parcels. Catalogues post free.

GRASS SEEDS, for Laying Down Permanent Pasture, 30*s.* to 34*s.* per acre.—SUTTON & SONS, Royal Berkshire Seed Establishment, Reading.

THE EARLIEST PEA.—DUNNETT'S FIRST EARLY is in every respect superior to "Daniel O'Rourke," being several days earlier, having finer pods, and richer in flavour, height 2½ feet. For an early dish of fine-flavoured Peas we can confidently recommend this; 2*s.* per quart.

CHAMPION CABBAGE, the earliest and best sort, if sown in succession, may be had fit for table throughout the year, 2*d.* per ounce, or 1*s.* post free.

BUTLER & MCCULLOCH, Covent Garden Market, London.

## EARLY PEAS.

WAITE'S DANIEL O'ROURKE PEA; the earliest Pea in cultivation.

EARLY NAPOLEON; a Blue Wrinkled Marrow Pea, as early as EMPEROR.

EARLY EUGENE; a White Wrinkled Marrow Pea, as early as EMPEROR.

Prices to be had on application of J. G. WAITE, Seed Establishment, 181, High Holborn, London, W. C.

## VERY LARGE ECONOMY IN THE PURCHASE OF SEEDS

THE ASSORTED COLLECTIONS OFFERED BY

BASS AND BROWN will be found full 25 per cent. more value than other collections offered, and for quality of growth and selection of sorts are not to be surpassed. For names of sorts contained in the three largest collections, see Catalogue, sent free on application.

| | | | |
|---|---|---|---|
| No. 1 Collection.. | £3 0*s.* 0*d.* | No. 3 Collections | £1 5*s.* 0*d.* |
| No. 2 ,, .. | 2 0 0 | No. 4 ,, .. | 0 15 0 |

The assortments of Flower Seeds of their own selection also include the novelties of the season and are very select, with reasonable charges.

Goods (20*s.* and upwards) free to all stations in London, &c. See Catalogue.

BASS & BROWN, Seed Growers, Sudbury, Suffolk.

## FIRST-CLASS HOLLYHOCKS.

FINE SEEDLINGS FROM

WILLIAM CHATER'S Celebrated and Newest Varieties that will flower well in September at 30*s.* per 100

| | | | |
|---|---|---|---|
| ditto | *ditto* | ditto | 20*s.* ,, 100 |
| Ground Roots according to colour, also at | | .. | 30*s.* ,, 100 |
| Seed in 12 separate colours, the Collection | | .. | 10*s.* 0*d.* |
| ,, 6 ,, | ,, | ,, .. | .. 5 0 |

From varieties such as Pourpre de Tyre, Memnon, White Globe, Hon. Mrs. H. Ashley, Canary, &c., in 12 separate colours, the Collection .. .. .. .. .. .. 7*s.* 6*d.*

| | | |
|---|---|---|
| Ditto in 6 separate colours, the Collection | .. | 4 0 |
| Seed from 20 of the best varieties, mixed, per pkt. | | 5 0 |
| ,, 12 ,, | ,, ,, | 2 6 |
| ,, good mixed, also a single variety | ,, | 1 0 |

The above can be procured from the Nurseries, Saffron Walden, Essex.

THE FAMOUS PINUS DON PEDRI.—This noble Pinus is one of the long-leaved Weymouth tribe, and is spoken of by Dr. Lindley (see *Gardeners' Chronicle*, March 27, 1858,) as a "magnificent novelty." Mr. Gordon, in "The Pinetum" (page 231), says, "A noble tree, rivalling Pinus Lambertiana, and growing 140 feet high at an elevation of from 11,000 to 12,000 feet. It will no doubt be hardy, coming, as it does, from so great an elevation and a cold climate."

The undersigned is now prepared to supply stout Seedling plants in pots, raised last summer, at 21*s.* each, or 9*l.* 9*s.* per dozen. The usual allowance to the Trade.

J. HENCHMAN, Edmonton, London.

## SURPLUS STOCK.

JOHN SHARPE is offering to the Trade, on very reasonable terms, the following SEEDS of his own growing, 1858:—

| | |
|---|---|
| Carrot, fine large Altringham | Turnip, Skirving's Swede |
| ,, large White Belgian | ,, Purple-topt do. |
| Mangel, Yellow Globe | ,, Green Globe |
| ,, Long Giant Red | ,, Purple-topt Scotch |
| Cabbage, Early Enfield | |

Prices of not less than sacks and cwts. on application.

Bardney Hall, near Lincoln.

## IMPROVED CUSTARD VEGETABLE MARROW.

THIS handsome variety is totally distinct from the one figured in the Horticultural Periodicals of last season. We forwarded a specimen of the Fruit (as above) to PROFESSOR LINDLEY last Spring, which was exhibited by him at the HORTICULTURAL ROOMS in Regent Street, and noticed in The *Gardeners' Chronicle* (page 175). Its unique shape, agreeable flavour, and easy culture, added to its large productiveness, is a strong recommendation to its having a place in every garden.

We are this season enabled to offer the New Seed at a reduced price, as under.

Packets of 18 Seeds, 1*s.* 9 Seeds, 6*d.*

Price to the Trade per 100 or 1000 will be given on application.

BASS & BROWN, SUDBURY, SUFFOLK.

## NEW SEED CATALOGUE.

# MESSRS. E. G. HENDERSON & SON

RESPECTFULLY announce that they will forward, post free, their NEW CATALOGUE for 1859, in which the following novelties of the season will be introduced or noticed with full descriptions of management, cultivation, and adaptation; and only those that are known to be valuable are recommended for cultivation. Much useful information on the cropping of Gardens, sowing, &c., is also given for the guidance of cultivators. The following NEW FLOWERS and other Seeds are offered by E. G. HENDERSON & SON for the first season, full descriptions of which, with treatment, are given in the Catalogue.

THE ROSY CARMINE GIANT EMPEROR ASTER, 1*s.* 6*d.*
NUTTALLIA PEDATA, var., see Catalogue for the description of this beautiful plant, 2*s.* 6*d.*

CLIANTHUS DAMPIERI, 2*s.* 6*d.*, 5*s.* and 10*s.* per packet.
THE LAWTON BLACKBERRY (new American Fruit), 2*s.* 6*d.* each; 25*s.* per dozen.

### NEW FLOWER SEEDS OF 1859.

Price per packet is given in the Catalogue. A select assortment of 12 varieties for 6*s.*

| | | |
|---|---|---|
| Acroclinium roseum album | Ipomœa hederacea superba lilacina | Nolana paradoxa violacea |
| Celosia pyramidalis | ,, ,, atropurpurea | Pharbites (Convolv.) hybrida marginata |
| Chrysanthemum Burridgeanum | Lupinus Hartwegi cœlestinus | Portulacsa caryophylloides |
| ,, venustum | Myosotis azurea grandiflora (Large-flowered Forget-me-Not) | Œnothera bistorta Veitchi |
| Datura humilis (flava pleno) | New Double Orange French Marigold | ,, Drummondi nana |
| Dianthus hybridus corymbosus flore pleno | Nasturtium Tom Thumb (dwarf) | Viscaria cœli rosa alba |
| Gaillardia hybrida grandiflora | Nasturtium Brilliant (not Lobbi Brilliant) | ,, Dunnetti |
| Portulaca dianthæflora | | Silene rubella alba |

A List of Sixty ORNAMENTAL GRASSES, a few of which are adapted for margins to beds, borders, &c.

*A Descriptive Priced List of that most splendid tribe of hardy bulbs: Gladiolus Gandavensis.*

The new vegetable CHÆROPHYLLUM BULBOSUM, and now well-known DIOSCOREA BATATAS (the Chinese Potato or Yam). Seed of the former and sets of the latter per dozen or 100, large tubers for tasting of both, per lb.

A List of 100 Select ORNAMENTAL GOURDS and MARROWS.

**Wellington Nursery, St. John's Wood, London.**

## PLANT THIS MONTH!

CAREY TYSO, FLORIST and SEEDSMAN, Wa[illegible]ford, Berks, offers healthy flowering roots as under:—

RANUNCULI, 100 splendid named sorts, 40*s.* to [illegible]
,, 100 fine mixed sorts, 8*s.*, 15*s.* ,, [illegible]
,, 25 choice seedlings, 25*s.* ,, [illegible]
DOUBLE ANEMONES, 50 fine varieties, 10*s.* 6*d.* to [illegible]
New TREATISE on RANUNCULI, by post for [illegible]
Do. ANEMONE for four labels.

GERMAN FLOWER SEEDS.—Choice named Asters, Balsams, Wallflowers, Zinnias, &c., in 1*s.* and 2*s.* 6*d.* assortments. These can be sent by post. CATALOGUES free on one label.

CHAMPION OF SCOTLAND.—A new and first-rate sort, declared by all who grew it last year to be the most distinct and best flavoured Pea in cultivation. To be had only at PETER LAWSON & SON, the Queen's Seedsmen, &c., who are also prepared to execute orders for all sorts of Garden and Flower Seeds of the finest quality.

27, Great George Street, Westminster.

"JACK OF NEWBURY" SWEDE.

PETER LAWSON AND SON, QUEEN'S SEEDSMEN, &c., 27, Great George Street, Westminster, respectfully call attention to their very genuine Stock of the above excellent Swede; also of the LARGE PURPLE-TOP SWEDE, both of which have been selected with the greatest care. They have also a very fine Stock of the true RABI, or TURNIP-ROOTED CABBAGE, specimens of which were shown in the Stands at Smithfield Club Show. The Rabi was largely grown last season, and may now be sown as a substitute for the Turnip and Mangel, where these do not succeed, or for filling up blanks where there is a total failure. Its feeding qualities, hardiness, and weight per acre are equal to the Swede, and all kinds of stock prefer it to other roots.

P. L. & SON have also selected a first-rate strain of MANGEL WURZEL SEED, which they can confidently recommend. Their natural GRASS SEEDS have been carefully saved with very great care, and they are ready to supply them separately or in mixture, for laying down Permanent Pastures, Lawns, &c.

P. L. & SON have arranged to deliver Seeds free through England and Wales from their London Establishment, in quantities exceeding 20*s.* in value.

LISTS OF PRICES of the above and all other Seeds, Plants, &c., may be had on application.

27, Great George Street, Westminster.

## NEW KINDS OF VEGETABLES.

CHARLES TURNER can supply seed of the following valuable new varieties:—

| Per packet— | *s.* | *d.* |
|---|---|---|
| Incomparable Cabbage .. | 1 | 0 |
| New Zealand Runner Bean | 2 | 6 |
| Perennial Spinach .. | 1 | 0 |
| Pine-apple Short Top Beet | 1 | 0 |
| Powell's Early Tomato .. | 1 | 0 |
| Roseberry Brussels Sprouts.. .. .. | 1 | 0 |

| Per packet— | *s.* | *d.* |
|---|---|---|
| Royal Dwarf Pea (Pois nain très hâtif à cha[illegible] per quart .. .. | | |
| Turner's Cottagers' Kale | | |
| The Frogmore Protecting Broccoli .. | | |

The above are strongly recommended. A GENERAL DESCRIPTIVE CATALOGUE of SEEDS may be had on application.

The Royal Nurseries, Slough.

TURNER'S COTTAGER'S KALE.—Specimens of this new, hardy, prolific, and delicious Vegetable were exhibited in February last, and were found to possess great excellence, the Horticultural Society of London awarding it a Certificate of Merit. It was also exhibited at the Great Show, St. James's Hall, in November last, and again received a Certificate, Professor Lindley pronouncing it to be both "new and invaluable," being unsurpassed for sweetness and tenderness. Sealed packets, 1*s.* each. A list of Agents who supply it true was published Oct. 16, 1858, in the *Gardeners' Chronicle*.—The Royal Nurseries, Slough.

## NEW MELON.

TURNER'S SCARLET GEM MELON.—An early and most prolific variety, and by far the best flavoured of the scarlet-fleshed Melons, having taken Seven First Prizes during the past season at the great exhibitions. It is also netted and handsome.

Mr. Bailey, the very successful fruit grower, of Syon Gardens, Amersham, having grown this variety for the first time, reports that "it is by *far* the best Melon he has ever grown of either class. Its superior flavour alone entitles it to a first place, besides other good qualities, among which is its easy culture." 2*s.* 6*d.* per packet.—The Royal Nurseries, Slough.

## CHOICE FLOWER SEEDS.

CHARLES TURNER recommends the following, being saved from his well-known collections:—

| Per packet— | *s.* | *d.* |
|---|---|---|
| Calceolaria .. .. | 2 | 6 |
| Carnation.. .. .. | 1 | 6 |
| Cineraria .. .. .. | 2 | 6 |
| Dahlia .. .. .. | 2 | 6 |
| Pansy .. .. .. | 2 | 6 |
| Pelargonium .. .. | 2 | 6 |
| ,, fancy .. .. | 2 | 6 |
| ,, French spotted | 2 | 6 |
| Picotee .. .. .. | 1 | 6 |
| Polyanthus, fine mixed | 1 | 6 |

| Per packet— | *s.* | *d.* |
|---|---|---|
| Pink .. .. | | |
| Primula, mixed or in separate colours | | |
| Aster's, Betteridge's quilled, in 12 varieties | | |
| Ditto, mixed | | |
| Balsam, in 8 varieties each colour separate | | |
| Ditto, mixed .. | | |

ALSO THE FOLLOWING IMPORTED SEED.

| Per packet— | *s.* | *d.* |
|---|---|---|
| Asters, Chrysanthemum-flowered, in 5 varieties .. | | |
| ,, Ranunculus ,, | 6 | ,, .. |
| ,, Truffaut's Pæony ,, | 12 | ,, .. |
| Balsam, Camellia-flowered | 8 | ,, .. |
| ,, Rose ,, | 6 | ,, .. |
| Stocks, superb Hambro', Ten-week, | 12 | ,, .. |
| ,, new large flowered | 10 | ,, .. |
| ,, ,, Perpetual, or Emperor | 6 | ,, .. |
| Ten-Week Stock, New Pyramidal, scarlet .. | | |
| ,, ,, ,, purple .. | | |
| Aster, New Cockade, white with red border | | |
| ,, ,, ,, blue ,, | | .. |

The Royal Nurseries, Slough.

## SEED CORN FROM THE CHALK

MESSRS. RAYNBIRD AND HARVEY beg to Agriculturists requiring change of SEED Red Nursery, and April WHEAT, the best sorts for sowing.

Chevalier, Thanet, Golden Drop, Long eared [illegible] American, Hudson's Golden Melon, Banham's Spring, and varieties of BARLEY.

Canadian Potato, Hopetoun, Poland, and Tartary [illegible]
Fine CLUSTER BEANS, weighing 68 lbs. per bush[illegible]

Samples and Prices on application.

Address—Basingstoke, and 39, Seed Market, Mark [illegible] London, E.C.

# MEADOW AND PASTURE GRASS SEEDS.

## GEORGE GIBBS & Co., Seedsmen, 26, Down Street,

BEG to announce that their mixtures of GRASS SEEDS are now ready for delivery. These mixtures are made up expressly to suit the various soils and purposes of each variety is fully tested previous to being bulked. G. G. & Co. having supplied the Seeds for *Hyde Park, St. James's, and Regent's Park, Kensington Gardens, Kennington Park*, &c., for many years, feel assured no further testimonials are requisite. The Seeds are made up into two different mixtures, as they do not sow well together; 2 bushels of the light and 12 lbs. of the heavy seeds are allowed per acre.

Mr. GIBBS, giving his personal attention to the assorting of these mixtures assures his friends that every care is taken with regard to the proper proportions.

**MIXTURES FOR PERMANENT MEADOW & PASTURE (adapted to the different soils) 32s. to 34s. per acre.**
**MIXTURES FOR IMPROVING & RENOVATING OLD GRASS LAND (8 to 12 lbs. per acre) 1s. per lb.**
**MIXTURES OF THE FINEST SORTS FOR LAWNS, GRASS PLOTS, BOWLING GREENS, &c., 1s. 3d. per lb.**

SELECT STOCKS OF THE UNDERMENTIONED AGRICULTURAL SEEDS SUPPLIED AT THE PRICES STATED FOR THE PRESENT MONTH:—

| MANGEL WURZEL. Per lb.—s. d. | | CARROTS. Per lb.—s. d. | | SWEDES. Per lb.—s. d. | | RYE-GRASS. Per bushel—s. d. | | CLOVERS. Per lb.—s. d. | | VARIOUS. Per lb.—s. d. | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Long Red .. .. .. | 0 9 | White Belgian .. | 1 0 | Ashcroft .. .. .. | 0 9 | Gibbs' Improved Italian | 7 0 | English Red .. | 9d. to 0 10 | Helcus saccharatus .. | 2 0 |
| Kingston Long Red .. .. | 0 10 | Yellow Belgian .. | 1 3 | Skirving's .. .. .. | 0 9 | Dickenson's Italian .. | 7 0 | White Dutch .. | 10d. to 1 0 | Lucerne .. .. .. | 1 0 |
| Yellow Globe .. .. .. | 0 9 | Large Altringham .. | 1 6 | Matson's .. .. .. | 1 0 | Fine Imported do. . | 7 0 | Trefoil .. .. | 4d. to 0 5 | Drumhead Cabbage .. | 3 0 |
| Red Globe .. .. .. | 0 9 | Long Surrey .. .. | 1 6 | Kentish Green Crown . | 1 0 | Common English.. .. | 6 0 | Alsike Hybrid .. | .. 2 0 | Large Cattle Parsnip .. | 1 6 |
| Lear Yellow .. .. .. | 0 9 | James's Scarlet .. | 1 6 | Marshall's Purple Top .. | 1 0 | Pacey's Perennial.. | 6s. to 7 0 | True Cow-grass.. | .. 1 0 | Kohl Rabi .. .. .. | 5 0 |

*Full Priced Catalogues sent free on application —Cash or reference required from unknown Correspondents.*

## GEORGE GIBBS & Co., 26, Down Street, Piccadilly, London, W.

## SEEDS RIPENED ON THE CONTINENT.

## JAMES CARTER & Co.

HAVING observed their name mentioned in an advertisement in connection with a late correspondent, feel it their duty to state that, preferring to have their Seeds from the Continental growers *direct*, one of the Firm has travelled during the past autumn with that object, *and purposes doing so every season*; the services of the correspondent alluded to are therefore dispensed with. Their Seeds for the present season, having been *personally* selected, are better than any they have hitherto offered.

**JAMES CARTER & CO., Seedsmen, 238, High Holborn, London, W.C.**

## GENUINE KITCHEN GARDEN SEEDS.

## JAMES CARTER & CO.

ARE NOW READY TO SUPPLY SEEDS FOR THE VEGETABLE AND FLOWER GARDEN. WHICH WILL BE FOUND, AS USUAL, OF THE BEST QUALITY ONLY.

## CARTER'S "ENCYCLOPÆDIC CATALOGUE OF SEEDS, AND GARDENER'S VADE MECUM."

The Twenty-fourth Annual Issue of the above is now ready, and, in addition to its usual comprehensiveness, has affixed a CALENDAR OF OPERATIONS for each month in the year for the Vegetable and Flower GARDEN, also for the Stove, Conservatory, Greenhouse, Orchid House, Pineries, Vineries, Pits, Frames, &c., forming a complete Gardener's Book of reference, which it is hoped will be found useful alike to the Amateur and professional Gardener. Forwarded free of charge and post paid to all parts of the world upon application.

**JAMES CARTER & CO., Seedsmen, 238, High Holborn, London, W.C**

## SELECT LIST OF NOVELTIES FROM CATALOGUE 1859.

| | | |
|---|---|---|
| Carter's Tom Thumb Nasturtion | Lupinus nanus albus | Fenzlia dianthiflora |
| Lagenaria vittata | Viscaria Dunetti | Gaillardia bybrida grandiflora |
| Œnothera Drummondi nana | Laxton's Hybrid Pinks | Lobelia formosa |
| Lupinus Hartwegi cœlestinus | Dwarf spotted Nasturtion | Viscaria cœli rosa alba |
| Œnothera bistorta Veitchi | Nolana paradoxa violacea | Marigold French Orange. |
| Cosmidium Burridgi | | |

J. C. & Co. also wish to call attention to their Splendid Collections of Imported

**GERMAN & FRENCH ASTERS. GERMAN STOCKS. BALSAMS. & WALLFLOWERS,**

UNIVERSALLY ACKNOWLEDGED TO BE UNSURPASSED.

For a Full Description of the above articles they beg to refer to their CATALOGUE, which will be forwarded gratis and post free on application to

**JAMES CARTER & Co., Seedsmen, 238, High Holborn, W.C.**

## CHOICE FLOWERS.

## BUTLER & McCULLOCH'S SPRING CATALOGUE OF SEEDS,

ARRANGED on a new and original plan, with copious Descriptive and Cultural Notes, and containing many new and rare species and varieties not found in any other Catalogue, now ready and may be had free and post paid on application.

FLOWER, SHRUB, TREE, and VEGETABLE SEEDS, the crop of 1858, saved with the greatest care, by the most eminent growers.

We may also state that the Sardinian correspondent of Messrs. JAMES CARTER & Co., whose Seeds, especially Carnations and Picotees, have given such universal satisfaction, has transferred the Agency from that firm and appointed us his representative in this country. To meet the growing demand for first class flowers, particularly FLORISTS' FLOWERS, we have adopted our usual maxim of charging the lowest possible prices.

| | | | | |
|---|---|---|---|---|
| A selection of 44 pkts. of beautiful Annual Flower Seeds | | | 7s. | 0d. |
| Ditto 33 | ditto | ditto .. .. | 5 | 6 |
| Ditto 21 | ditto | ditto .. .. | 3 | 6 |
| A selection of 40 pkts of beautiful Biennial and Perennial | | | | |
| Ditto .. .. .. .. .. .. .. | | | 10 | 6 |
| Ditto 31 | ditto | ditto .. .. | 7 | 6 |
| Ditto 24 | ditto | ditto .. .. | 5 | 6 |

| | | | | |
|---|---|---|---|---|
| An Assortment of Vegetable Seeds, 20 quarts of Peas, and other Seeds in proportion for 1 year's supply .. .. .. .. .. .. .. | | | £3 | 3s. 0d. |
| Ditto | ditto 12 quarts of Peas | ditto .. | 2 | 2 0 |
| Ditto | ditto 6 | ditto ditto .. | 1 | 1 0 |
| Ditto | ditto 5 | ditto ditto .. | 0 | 15 0 |

All Flower Seeds sent post paid, and Vegetable or Vegetable and Flower Seeds amounting to 1*l.* 1*s.* Carriage Paid to any principal Railway Station in England, Wales, and Scotland, or any port on the Irish Coast.

Professor LINDLEY in the *Gardeners' Chronicle* of February 5th, has the following notice of B. & McC.'s Catalogue.

"Messrs. BUTLER & McCULLOCH'S (Covent Garden) Spring Catalogue of Flower, Shrub, Tree, and Vegetable Seeds. This list is a well printed 8vo pages, and is remarkably well got up. It appears that the correspondent in Sardinia, who formerly supplied one of the great London houses with seeds raised in that warm part of Europe, has now transferred what he saves to Messrs. BUTLER & McCULLOCH. Let us add, that it yields to no Trade List in the abundance of its materials or the excellence of its arrangements."

**BUTLER & McCULLOCH, Covent Garden Market.**

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**GOOD SEEDS, CARRIAGE FREE.**

SEEDS DIRECT FROM THE GROWERS THE MOST CERTAIN MEANS OF PREVENTING DISAPPOINTMENT.

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Agriculturists residing in the most remote parts of the kingdom can procure good Seeds at very moderate prices from this Establishment.—For particulars apply to

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**ROYAL SOUTH HANTS SEED ESTABLISHMENT.**

UNDER THE PATRONAGE OF H.R.H. THE PRINCE CONSORT, THE AGRICULTURAL, HORTICULTURAL SOCIETY OF INDIA, AND THE LEADING AGRICULTURISTS OF THE UNITED KINGDOM.

PAGE AND TOOGOOD can now supply GARDEN AND FARM SEEDS, carriage free; SEED POTATOES, &c. The numerous Prizes gained by their Stocks are convincing proofs of superior quality, and their prices compete with any house in the kingdom. WHOLESALE and RETAIL PRICED CATALOGUES upon application.

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37 and 38, Oxford Street (facing the Railway Terminus); and 58, Above Bar, Southampton.



# The Gardeners' Chronicle.

*SATURDAY, FEBRUARY* 12, 1859.


IT is not without some feeling of personal satisfaction that we observe our manufacturing friends awakening from commercial lethargy and acting like men of business. They are in urgent need of more or cheaper Cotton, and of more and cheaper fibrous substances. But they no longer cry to HERCULES to help them. They cease to besiege Government with petitions for assistance and remonstrances for disregarding their prayers. It is no longer "grow Cotton for us to purchase," or "collect fibres at your Indian outports and ship them for Liverpool, where we may go and buy them." These were demands which their good sense should have told manufacturers it was impossible for any Government, European or Indian, to grant with a due regard to public policy.

To be sure they did succeed in persuading the late East India Company to try various costly experiments in the cultivation of Cotton; and those experiments, although unskilfully conducted elsewhere, have proved in the Madras presidency that excellent Cotton, though not Sea Island, the most valuable of all, may be grown in India in any quantity at ample profit to the Ryots. And this is a most important fact, incontestably established by Dr. WIGHT. But, we repeat, it was not the business of the Government of India to carry on such experiments. It is no more the duty of a Government to grow Cotton than to grow food. The moment such an attempt is made individual enterprise is paralysed, self-reliance disappears, and the very scarcity which such ill-judged interference is intended to avert, is certain to become intensified. We have always insisted on this, and at last manufacturers acknowledge its justice.

It is now understood that Chambers of Commerce have resolved upon sending competent AGENTS to India to examine and report upon all such subjects as those to which we here refer. They are to ascertain what commercial difficulties have to be removed, or facilities to be discovered; and, as their name implies, to act for their principals as circumstances may require. If they do this a very little aid from Indian Governors will

enable them to discover that it is in our vast Eastern possessions that the great mine of vegetable wealth is to be most profitably worked. That such aid will be rendered freely, we cannot bring ourselves to doubt, unless they ask for money, which could not and ought not to be granted. The recent appointment of one of the ablest and most experienced of our Government officers is an ample guarantee that this will be done. As Governor of the Madras Presidency, Sir CHARLES TREVELYAN will be called upon to develope the productive resources of one of the finest parts of India, and perhaps the most impoverished. And that he well knows how to do, provided he receives from the Indian Council and the Supreme Government those powers without which beneficial changes are impossible. The first object of an enlightened governor would be to reorganise the whole system of land tenure, securing land to its present owners, freeing it from the monstrous shackles in which it is now bound up, and giving to all landholders titles that will be good against the world. That measure alone will immediately encourage European capitalists to invest their money in Indian estates. The estates secured, European skill and energy will do the rest. As matters now stand nobody in the money-market will look at an Indian estate. Not a shilling would be advanced upon it. Make the title absolutely secure, allow the owners to cultivate as they please, and land in India will stand in the same position as property in Canada or Ireland. That being done capital will flow in, European settlers will occupy the soil and teach the ryots the art of profitable husbandry, unproductive crops will become productive, and such a stimulus will be given to industry as India has not yet witnessed. "Old Indians" may disapprove, may even resist to the extent of their power, but they will find it impossible to prevent the flood of progress from finding that natural level to which no amount of prejudice or wrongheadedness can oppose a serious obstacle. Then too our manufacturers will have a second New Orleans in the East, and they will have learned that individual prosperity and consequently national wealth are inseparable from good laws and even-handed justice firmly administered, beyond which no enlightened government will go. For all the rest men must trust to their own right hands, which guided by knowledge have never yet been known to fail them.

The appointment of intelligent *commercial agents* is a great step towards developing the resources of India. But it will soon be found that something more is wanted. The rude cultivation of the natives will demand improvement: and intelligent practical gardeners will have to be sent out. English farmers, with all their modern skill, are so unaccustomed to any kind of cultivation beyond that of ordinary agricultural routine, that they would scarcely be selected for teaching the growers of Coffee, and Cotton, and tropical fibres, and Asiatic oil seeds or Pulse, in what way their husbandry can be made more remunerative. Skilful intelligent gardeners, on the contrary, accustomed as they are to the most varied kinds of cultivation, now applying themselves to Orchid growing, now to Fern growing, now to fruits of various kinds, and the endless kinds of hothouse, greenhouse, and kitchen garden produce, are the very men to perceive the defects or advantages of Indian cropping as soon as they shall have gained a year's experience of the climate. And it is to them that the owners of Indian estates will do well to look for advice and practical assistance.

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A case of POISONING BY eating THE BERRIES OF THE common HOLLY has been brought to our notice by a correspondent. In the *Chelmsford Chronicle* of last week appeared the following paragraph :—

"DEATH FROM EATING HOLLY BERRIES.—A little boy named FULLER, the son of a labouring man at Northiam, died a few days since from the effects of eating the red berries of the Holly. His parents appear not to have known the poisonous nature of the berry, and allowed the child to eat about 20 or 30 before it was discovered by a neighbour. Though he was very ill and vomited during the night, medical aid was not called in till the morning, when it was too late to save the child. Mr. HARRIS, a surgeon, said the berries had produced violent inflammation of the intestines, and caused death. The jury at the inquest returned a verdict of 'Died from inflammation of the stomach caused by eating a vegetable irritant.'"

This lamentable accident will, we trust, draw attention to a source of danger very little suspected. There is not one person in a county who dreams that the berries, whether red or yellow, with which churches and country houses are so copiously decorated from Christmas to Candlemas, are little less dangerous than so many pills of red-lead, or even arsenic. And it is to be feared that this fatal case in Essex is only one of many which have occurred without the cause being suspected. It is scarcely possible indeed that such tempting berries should have been annually thrown in the way of children without having been eaten—with what consequences is now seen.

It is not a little curious that the berries of the Holly tree should be never named as poisons, even by writers on the subject of vegetable products. ORFILA is silent as far as we can discover in a couple of heavy volumes without an index. CHRISTISON says nothing, at least not in the third edition of his book on poisons. PEREIRA, GEIGER, RICHARD, WOOD and BACHE, and such other Materia Medica authors as we have at hand treat the Holly as a harmless tree. All that SMITH could find to relate is that "The Druids are said to have introduced this custom (that of Christmas) for the accommodation of certain sylvan spirits of a chilly constitution while the Oaks were leafless!" And yet he might have found something more worthy of science than such anility; for REMBRANDT DODOENS had 250 years before announced that Holly berries are purgative in doses of 10 or 12.

There are, however, botanical writers who have pointed out the dangerous properties of these berries. DE CANDOLLE, in his *Flore Française*, says they are purgative; ACHILLE RICHARD quotes DODOENS; ENDLICHER in his *Enchiridion* describes them as being violently purgative (*vehementiùs purgant*); and in LINDLEY's Vegetable Kingdom their character is given still more distinctly, "The berries are purgative and emetic; six or eight will occasion violent vomiting." It would seem, however, that none of these authors had heard of fatal cases. And we believe that so important a fact is now for the first time established by the verdict of a coroner's jury. Let us hope that it will prove a warning, and that the danger of placing Holly berries, whether red or yellow, within the reach of children, will never again be forgotten by parents or servants.

Before quitting this subject we must take the liberty of adding a word or two of censure upon the coroner's jury. These gentlemen were told that the child had died from eating Holly berries; that was what the evidence proved; and it was their bounden duty to say so. But they did no such thing. Their verdict was that the child died from eating *a vegetable irritant*. Some may doubt whether the jury knew the meaning of their own words. At all events they could not know that a vegetable irritant was the cause of death; they could not know whether it was irritation caused by Holly berries, or something else caused by Holly berries which had caused death. Mr. HARRIS, the surgeon, could not have possessed absolute certainty on the subject; more effects may be caused by poisons than men dream of in their philosophy; all that he could say was that he found inflammation, and he found Holly berries. It was open to question whether inflammation caused death; there was no question that death was caused by Holly berries, and the verdict should have been accordingly.

If jurymen would condescend to use plain English, understood by everybody, especially in a case like this which was to be a warning to country people, instead of rummaging a dictionary for Latin words which to peasants are incomprehensible, they would not only act a more sensible part, but they would not so word their verdict as to leave it doubtful, after all, whether death was caused by Holly berries or something else, as they have done in this case, without intending it.

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## ON TREES AND TREE-BORING INSECTS.

IT is commonly believed that insects eat through the bark of healthy trees, and then enter the wood itself. I have already stated that this is not my belief. The workings of boring insects would not shorten the life of a tree, by consuming a portion of the wood, provided there were enough of wood left to ensure the tree against the formidable assaults of the wintry blast. And, as for the bark; if the tree were healthy, every hole which the insect had made through it would be repaired in due time by the fostering hand of Nature.

During the proper season for increase of new wood, it is invariably formed at the periphery; and it steadily rolls on over the old wood already made. Insects do not possess the power of raising up the bark from the wood. The borers merely perforate it. When we discover different insects lurking betwixt the bark and the wood, we must not accuse them of mischief; but we must attribute the separation of the two component parts of a tree either to some injury from without, or to disease from within. The insects assemble there, merely for safety and comfort.

Bark once separated from the wood, which it has covered, will never more adhere to it. The disaster which the separation has made evident [illegible] repaired by new bark; and this new bark [illegible] exactly at the place where the effect from [illegible] has ceased, or where the internal disease [illegible] itself out. No actual renovation of wood [illegible] place after the wood itself has once been [illegible] Holes made in it will always be holes; and [illegible] retain their original shape and size, so long as [illegible] itself exists.

Now, if you take a butcher's knife, and cut [illegible] deeply into the bowels of an animal (an ox [illegible] animal in a minute or two will be as dead [illegible] Cæsar. Not so with a tree. You may use [illegible] and hew out two-thirds of the bole of a tree [illegible] destroying its vital powers. In the course [illegible] Dame Nature from without, by her admirable [illegible] at the periphery, will assist the tree in its [illegible] eventually will heal the gaping wound.

So that I am never much alarmed, or down-mouth, at huge limbs being torn from the trees [illegible] raging winds. Their loss of limbs is undoubtedly [illegible] great in some cases, and gives an unsightly appearance [illegible] to the trees. Still these trees will live on, be [illegible] of the accident what it may. I am speaking of [illegible] trees only.

But when I examine a magnificent tree, with [illegible] holes made by the insect through its bark, oh [illegible] I shake my head in sorrow—my very heart [illegible] me, and I exclaim, "Grand ornament of our [illegible] lawns, it is nearly over with thee. Thy [illegible] dwindled to the shortest span.' Some [illegible] must have tainted thy once healthy juices, [illegible] the Scolytus applied for a residence within thee. [illegible] the wants of the oven-man not demand thee [illegible] present, thou mayest yet remain erect for some [illegible] come. But, of this be certain—that, although [illegible] hadst no attractions for the boring-insect in thy [illegible] health, believe me, now that thou art sick and [illegible] he is sure to pounce upon thee; and he will [illegible] bring thee to the dust in useless ruins; and [illegible] at the very time when all the neighbouring [illegible] vigorous around thee—setting thy keen [illegible] defiance."

I invite the anxious reader to pay attention [illegible] tree at which the Scolytus is pursuing his [illegible] calling. Then, let him examine the same tree [illegible] the following summer, and he will find the little [illegible] holes in the bark, just as the insect had made [illegible] without any alteration whatever. After this [illegible] take a gimlet, and bore as many dozens of holes [illegible] may think fit in the sound bark of some [illegible] healthy trees. Let him visit these in the course [illegible] next summer, and he will perceive every [illegible] made up, by new bark underneath the old bark.

This being the case, I trust it would tend to [illegible] him that, whilst the Scolytus singles out some [illegible] tree wherein to form a lodgment for his [illegible] children, he knowingly neglects a healthy one.—*Waterton, Walton Hall, Feb.* 5.

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## HOW TO INCREASE THE SIZE OF [illegible]

BY A. DUBREUIL.

SEVERAL persons having requested information [illegible] the processes by which we may increase the [illegible] fruits, we shall here point out the principal [illegible] for obtaining this result.

1. *Grafting the Trees on a weak species of* [illegible] Fruits, like leaves, have the power of attracting [illegible] sap from the roots, and of transforming it [illegible] bium, or organisable matter. But contrary [illegible] which takes place in the leaves, they employ [illegible] cambium which they thus elaborate for the [illegible] nourishment. If the stock on which the tree [illegible] is naturally possessed of great vigour, the [illegible] produce numerous long shoots which will appropriate [illegible] the greater portion of the sap, to the detriment [illegible] fruits, which will consequently not attain a [illegible] They will, on the contrary, acquire a larger size [illegible] absorptive power can counterbalance that of the [illegible] It is for this reason that, all other things being [illegible] the fruit of trees worked on the Quince stock [illegible] than that from trees worked on the Pear stock. [illegible] same thing takes place with regard to Apples [illegible] grafted on the Paradise, as compared with those [illegible] Crab stock.

2. *Subjecting the Trees to a proper mode of* [illegible] —This operation, when well performed, has [illegible] of depriving the trees of a certain portion [illegible] shoots. Hence it follows that a great portion [illegible] which would have been absorbed by the parts [illegible] goes to increase the size of the fruit. The [illegible] summer pruning is likewise the complete or [illegible] removal of a large number of shoots by disbudding [illegible] pinching. These operations also contribute to [illegible] sap to the benefit of the fruit; and under like circumstances, the fruit of well pruned trees is always [illegible] than that from trees left unpruned.

3. *Operating so that the Bearing Shoots may be as short as possible, and in immediate connection with the main branches.*—If the mode of pruning adopted [illegible] such that the bearing shoots immediately proceed from [illegible] the principal branches, the consequence is that the [illegible] fruit receiving the sap more directly from the [illegible] acquires a larger size. In fact, it is seen that [illegible] growing on the stem is always larger than that [illegible] at the extremities of long slender branches.

4. *Thinning the Fruits when too numerous.*—[illegible] quantity of sap, disposable for the growth of the [illegible] does not increase in proportion to the fruit which

It is, therefore, apparent that the more numerous the fruits, the less the amount which each receives. Hence the utility of thinning, in order that those retained may be better nourished and become larger. The proper time for performing this operation is when the fruits are fully set.

6. *Shortening the Principal Branches.*—If the length of the principal branches is to a certain extent diminished by shortening them at the winter pruning, a result analogous to that produced by ordinary pruning will follow; but the effect on the fruit is much more powerful because the action of the sap is confined within narrower limits. It is, however, important to check in summer the vigorous shoots, of which a great number will be sure to make their appearance, otherwise they would absorb a large amount of sap to the detriment of the fruit.

6. *Supporting the Fruits so that their Weight may not cause a strain upon the Footstalk.*—The sap from the roots enters the fruit by means of vessels passing along the footstalk, and which ramify to an infinite extent throughout the cellular mass. Bulky fruits, such as Pears and Apples, soon attain such a weight that they exert a strain on their footstalks, which, by tightening the woody fibres and vessels, tends to collapse them. The tissues of the stalk being thus compressed, the passage of fluids is, to some extent, obstructed in that part. Moreover, if fruits are attached to a branch having a more or less vertical direction, their gravity will cause a bending of the stalk, and will thus still further obstruct the passage of the sap. Again, it often happens that the fruit does not make an equal growth on both sides of its longitudinal axis, and a twisting of the stalk and strangling of the vessels takes place, in consequence of which the circulation is partially intercepted. Now, if a support is placed beneath the fruit so as to prevent these effects on the stalk, it is very evident that the sap will flow in much greater abundance into the fruit, which will then become larger. This is the reason why those fruits which accidentally rest on branches or trellises are always of greater size than the rest.

7. *Moderating the amount of Evaporation from the Fruit.*—In order that fruits may swell, their epidermis or skin must be continually expanding, so as to make room for fresh tissues which are forming in the interior, and the new fluids that are accumulating there. If all the parts of fruit are directly exposed to the full force of the sun and the drying action of the air, it will lose by evaporation an amount of fluid nearly equal to that which it receives from the roots, and its growth will therefore be less rapid. On the other hand, the tissues nearest the outside will acquire a greater degree of firmness, and lose to some extent their elasticity; they will offer more resistance to the expansion of the interior tissue, and will consequently restrict the growth of the fruit. If, on the contrary, the latter is kept in the shade, these influences will not affect it, and it will become larger. Indeed, this may be observed in the greater proportion of fruits covered by leaves as compared with those on the same tree, not so covered. It is necessary, however, in order that shading may not affect the quality of the fruit, to expose the latter when full grown to the direct action of the sun. To diminished evaporation must also be attributed the considerable increase in size which always takes place in fruit introduced into bottles soon after it is set. The mouth of the bottle being closed after the portion of branch with the young fruit is introduced, the latter is secluded from the drying action of the air, and is constantly surrounded with a moist warm atmosphere, which keeps the epidermis pliable, and stimulates the growth of the tissues.

8. *Moistening the Fruits with a Solution of Iron (copperas).*—We have already stated that fruit has the power of drawing towards it sap from the roots. If means can be found of stimulating its vital energy it will be perceived that it will absorb a greater amount of sap and attain a larger size. Now, M. Eusèbe Gris has proved that a solution of sulphate of iron applied to the leaves has the effect of increasing their absorptive powers, and stimulating their cellular tissue; and it was only reasonable to suppose that salt would produce the same effect on the fruit. This, indeed, has been ascertained by M. Arthur Gris, who has continued the interesting researches of his father. He has proved that Melons, and various species of fruit trees, the green parts of which had been watered on several occasions with a weak solution of sulphate of iron, yielded much larger fruits than those not so treated. One of my pupils repeated the same experiment in 1854 and 1855 on Pear trees. He gave the first watering as soon as the fruits were fairly set, in the end of June. He repeated the moistening every fortnight, in the evening, in order to prevent evaporation, and that absorption might be completely effected during the night. The solution was at the rate of 26 grains to a quart for the first three, and 35 grains per quart for the two last waterings. He sent us, in the end of February from a tree thus treated, an Easter Beurré, so large that it could scarcely be recognised. He obtained like results in the following season.

But we doubt whether the results would not be still more successful if the fruits alone were moistened with the solution, for then they only would experience the stimulation of their absorptive powers, and would thus draw to themselves a much greater quantity of sap, inasmuch as the absorption by the leaves would be much less intense. Experiments should therefore be made with regard to this point.

9. *Ringing the Shoot or Branch immediately below the Flowers.*—Lancry exhibited to the Société d'Agriculture de Paris in 1776 a branch of a Plum tree which he had ringed. The fruits situated above the incision were much larger than those beneath it, and their ripening much farther advanced. Colonel Bouchotte, of Metz, thought of practising this operation on Vines, in order to accelerate their ripening. He ringed about 60 perches, and the Grapes were larger and 15 days earlier. I have within the last 12 years repeated the experiment nearly every year on Vines against walls and always with like results. I have also tried it with the same success on the bearing shoots of the Peach tree. It is necessary to perform the operation when the flowers are opening; the longer it is delayed after this period, the less is the effect produced. The incision should penetrate to the wood, and the ring of bark removed should have a width equal to half the diameter of the shoot. The width, however, should not exceed one-fifth of an inch, otherwise the wound will not close up, and the success of the operation will be affected. For removing this ring of bark we have invented a small instrument, called a *coupe-sève.*

10. *Inserting on vigorous trees fruit-buds, with a portion of wood attached (Greffes en écusson Girardin).*—This proceeding is only applicable to Apples and Pears. [Chiefly to these we should say; for it has succeeded even in the case of stone-fruit.] A tree which in consequence of excessive vigour has never produced blossom buds, may by this means be made to produce fruit of large size from the abundant supply of sap which the inserted blossom buds will receive. But in order to derive the greatest benefit, it is necessary during the growing season to pinch the vigorous shoots of the tree, otherwise these shoots would absorb the largest portion of the sap to the injury of the fruit.

11. *Inarching vigorous shoots on the footstalks of young fruits on the same tree, or on the bearing shoots near to where the fruits are attached.*—Professor Thouin describes, Monographie des Greffes, a similar operation under the name of Greffe par approche Leberriays. M. Luizet, of Équilly, who certainly did not know of that description, again discovered this kind of inarching, and practised it with the view of increasing the size of fruits. This is how he operates:—About the end of June he selects a vigorous shoot which he inarches upon the peduncle of a fruit; then as soon as the union is effected and the shoot has grown sufficiently to draw the sap in large quantity towards the junction, he pinches the shoot in order to prevent it from absorbing too much sap to the injury of the fruit. When the stalk is too short, the shoot is inarched on the opposite side of the branch to that on which the fruit is situated. In both cases the shoot thus inarched acts as a nurse to the fruit, by drawing to its vicinity a large quantity of sap, and thus contributing to greatly increase its bulk. M. Luizet exhibited, in September last, at the Exhibition of the Paris Horticultural Society, Easter Beurré and Grosse Calebasse Pears, and likewise Clingstone Peaches, which had been treated according to this method; and they were much above the ordinary size of these varieties. *Journal de l'Academie d'Horticulture de Gand.*

## HORTICULTURAL SOCIETY.

[The following address to the Fellows of the Society has been issued by the Council.]

"21, Regent Street, London, S.W., Jan. 29, 1859.

"The Council of the Horticultural Society finding that notwithstanding the liberal manner in which a considerable Subscription was made by a number of the Fellows, and the expenditure out of the ordinary income of the Society of other large sums in maintaining and adorning the Garden at Chiswick, it remains almost unvisited even by the Fellows; and that the public is evidently deterred by the distance from going so far, even on the days of Exhibition, have arrived at the conclusion that they must discontinue the experiment of retaining a Show Garden at so great a distance from town. In the meanwhile, however, the Council have resolved to maintain Chiswick as an Experimental Garden until a situation more advantageous to the Society can be found.

"Suggestions have been made on this subject which may be very beneficial to the Society, but are not yet ripe for adoption. In the meantime, as the change of position must necessarily be attended with considerable expense, it has been resolved to sell the house in Regent Street, which is much larger than the Society requires, now that it has the advantage of other large public rooms for its London Shows. The Council have long found themselves cramped for room on the occasion of their Town Exhibitions, although the Society pays what may be termed an enormous rental for the house. The Council, therefore, propose to engage, at a small cost, a suitable Office in the neighbourhood for the transaction of the daily business of the Society, hiring a Public Meeting Room only when it is wanted. The sale of the house in Regent Street will deprive the Council of space for the whole of their Library and the large collection of Original Drawings connected with it. A Sale will therefore take place of such works as experience shows that the Fellows of the Society seldom or never consult.

"Notwithstanding the difficulties which this state of transition must inevitably produce, the Council entreat the Fellows to rely upon their unceasing exertions to promote the interests of the Society by giving every encouragement to useful and ornamental Gardening, and exhibiting to the public from time to time whatever is most new and interesting in Horticulture. For this purpose they propose to have recourse to three such beautiful Exhibitions as those which gave so much satisfaction last year at St. James's Hall*; and the usual distribution of Seeds will be made to those who ask for them in the spring. In addition to this it has been determined that Ballots for plants of interest shall again take place as in the year just past. Three of these Ballots will be held—two during the spring—one in the autumn—and arrangements will be made to admit the new Two-guinea Members for the first time to a share in them.

"By Order of the Council,

"W. B. Booth, Assistant-Secretary."

* The first Meeting in St. James's Hall, for the Exhibition of Flowers and Fruit, will take place on Thursday and Friday, the 12th and 13th May. The second Meeting will be on Wednesday and Thursday, the 29th and 30th June. The third Meeting will be on Wednesday, Thursday, and Friday, the 7th, 8th, and 9th December, during the meeting of the Smithfield Club.

## Home Correspondence.

*Chamærops humilis.*—Please to give some information about this, also called the "Dwarf Fan Palm." Is it a desirable plant to have? It is stated to be hardy or very nearly so. Carter & Co. and Butler & McCulloch advertise seeds of it. How should I sow and rear these? The seeds are cheap, 6*d.* and 4*d.* per packet. This would seem to argue that they are not scarce, and are in demand. Do you know and can you tell us anything about them? *Tom Pouce.* [Chamærops humilis is the dwarf Palm of Italy, and the more southern parts of Europe. It is very useful as an ornament of greenhouses; its handsome fan-shaped leaves forming a beautiful contrast with those of Camellias, Oranges, Rhododendrons, Azaleas, and other simple-leaved shrubs. You will scarcely get it above 3 feet high, although it is said to become a tree when very old. The following extract from Loudon's Arboretum Britannicum will probably interest you. Don't think of treating it as a hardy plant in your climate. "Though this Palm is designated dwarf, yet, according to the Nouveau Du Hamel, it grows to the height of 30 feet or 40 feet in Spain; and one in the Jardin des Plantes, in a tub, attained the height of 30 feet. In England, one in an old conservatory at Buckridge House, near Godalming, was in 1836 upwards of 12 feet high. The trunk of plants of this size is cylindrical, perfectly naked from the ground to within a short distance of the leaves, where scales commence, of a reddish hue, being the bases of the foot stalks, which remain for some years after the leaves and petioles have dropped off; and which scales, with great plausibility, have been considered as giving the first hint for the foliaged capitals of Corinthian columns. As this Palm produces abundance of seed in Italy and Sardinia, if large quantities of it were imported, and the plants raised from it exposed to the frost, some would doubtless be found more hardy than others; and these might be perpetuated from the suckers, which arise abundantly from the roots. The soil which this Palm prefers is a deep sand; in which soil it is said to grow in the south of Europe, and spread over the surface, in the same manner as the Fern does in England. As a single object on a British lawn, few, in rarity and singularity, can surpass a handsome Fan Palm. A plant has stood out in the open air in the Edinburgh Botanic Garden for several winters, with scarcely any protection." Sow your seeds in March on a hot-bed, and when the young plants appear treat them like any other greenhouse shrub, hardening them by gradual exposure to sun and air.]

*Scolytus destructor.*—Without wishing to derogate in the slightest manner from Mr. Westwood's position as an authority on all subjects connected with entomology, I am sorry to have it in my power to adduce some facts relative to this destructive insect strongly corroborative of the position which Mr. Waterton has assumed. The park at this place is rich in stately Elms, some of them of very magnificent proportions. In the formation of the new gardens it was desirable to retain two of these fine trees upon the terrace, but in carrying out the groundwork, draining, making walks, &c., a large portion of the surface roots was considerably mutilated, if not entirely destroyed. Notwithstanding this the trees look strong, and until about midsummer looked healthy. At that time they assumed a sickly hue, but still as the summer was dry, it did not cause any particular uneasiness. As the autumn however approached the trees became much infested by hornets, who seemed to feed upon the sap, which in places exuded through the old bark. One gentleman remarked that "trees rarely recovered after being visited by hornets," but still though I knew the roots had been much injured, I thought they might recover. Finding however a day or two back the Scolytus busy at work on some sickly trees in another part of the park, I was induced to examine the trees upon the terrace, when I found the bark on the upper part of the trees completely riddled with the perforations of the Scolytus; and having since taken the trees down I think I may safely affirm there is not a square foot of living bark upon the two trees. Now, you will perceive these two trees were unhealthy; but healthy trees immediately contiguous are, as far as a very minute inspection enables me to judge, quite unscathed. Again, in the early part of July, a heavy gale of wind brought down a moderate-sized branch from each of three different trees; these branches were not removed at the time, but upon examining them recently, I found the whole bark a mass of perforations and grubs; but singular to relate, the parent tree in all three instances appears quite healthy and free from attack. Here, again, disease manifests itself, and no doubt the sap in the fallen branches had undergone such a chemical change as to render it acceptable to this truly destructive pest. Of trees in other places I cannot speak; but of those in Hyde Park and Kensington Gardens, many of them were no doubt in an unhealthy state. Perhaps Mr. Bailey can tell us something of the state of the trees previous to attack at Newnham and Oxford. Admitting that the Scolytus does attack healthy trees, I think the fact above stated relative to the fallen branches is a clear proof they prefer unhealthy ones; for in one case the fallen branch had lodged in one of the lower limbs, and yet not the slightest trace of injury from the insect could be discovered. What the summer may bring forth I cannot tell, but one fact manifests itself, viz., the propriety of removing the fallen branches before the

Scolytus has time to attack them. *W. P. Ayres, Orchardleigh Park, Frome.*

*Roses.*—I am glad to see, in a late Number, a communication inviting experience respecting the cultivation of Roses in various soils and climates; permit me to offer my mite of practical knowledge. My locality is in Northumberland, the situation high and exposed—particularly to the south and south-east—the soil a strong rich loam with clay underneath. I have found it admirably suited for the Dog-Rose stocks, on which I now always bud my Roses, having ascertained that the Manetti stocks do not answer, the wood of them being poor and small. My principal Rose beds lie in front of the house, which faces a little to the east and south, and are partially sheltered in that direction by clumps of evergreens; they are well manured every autumn with thoroughly decomposed cow manure, or the remains of an old hotbed, but I find that Roses in these beds, which are well sheltered from the south-east wind, flourish much better than those which are exposed to it; and Tea Roses so exposed though in a situation fronting the south are leafless, when others of the same class facing the west, but well sheltered from the wind, and in winter nearly altogether screened from the sun, retain their foliage till quite late in the season, even in the midst of frost and snow; and as far as my experience goes, bloom much finer. Against the front of the house, the Roses, consisting of Teas, Bourbons, &c., grow and bloom most luxuriantly without any protection in the winter. In such a northern climate, therefore, unless Rose trees are trained against a wall, shelter seems to be of primary importance, as nothing could do better last year than plants of Lord Raglan, Jules Margottin, and Prince Leon (on a slightly enriched soil, and budded the previous season), which stood in a snug, sheltered spot, almost entirely shaded by evergreens; the foliage was magnificent, and the bloom, particularly of the latter, perfect and highly fragrant. Lord Raglan seemed too luxuriant to bloom, and continued through the whole season, though constantly stopped, to put forth most vigorous shoots, the wood of which ripened well. Can any of your readers inform me why in the same soil and situation, within a few yards of each other, some Roses, such as Triomphe de l'Exposition, Enfant du Mont Carmel, Gloire de France, &c., should, almost before the summer bloom is over, lose their leaves, which become marked with brown spots, shrivel and fall off, whilst others of the same class retain their beautiful foliage all through the season? Souvenir de la Reine d'Angleterre is of the latter number, and bloomed splendidly both in summer and autumn last season, while Baronne Hallez—not a yard distant—scarcely maintained its struggling existence. *G. P.*

*Sardinian Seeds.*—Observing from your remarks in last week's *Gardeners' Chronicle*, under the head of "Trade Lists Received," that you are evidently labouring under a mistake with regard to the agency for choice seeds saved by the "celebrated correspondent in Sardinia," we beg publicly to correct that error, and to state that we have for several years been, and are still, supplied with seeds from that very excellent source, and that a sole agency for them does not exist, as might be inferred from your remarks, and also from some advertisements which have appeared in your Journal. *Hooper & Co., Covent Garden, Feb.* 10. [Our statement was made upon what we understood Messrs. Butler and McCulloch to mean in the notices prefixed to their excellent Catalogue. Personal knowledge we of course have none.]

## Societies.

BRITISH POMOLOGICAL: *Dec.* 16.—R. Hogg, Esq., in the chair. E. Banks, Esq., and W. Wigan, Esq., were elected members. Of examples of fruit, the following were the most interesting:—

*Grapes.*—Mr. Wighton, Cossey Hall, Norfolk, again sent his Seedling, observing that he had cut the first bunch from the same Vine on August 5th, when the crop was first ripe, showing that the bunch now sent had been kept over four months. He also stated that he began forcing the house in which they had grown in December last, and that it had stood open for some time past, and in two instances exposed to several degrees of frost. On the former occasion, the meeting expressed a favourable opinion of it, desiring to see it again at this season, to test its keeping properties. Doubts, however, were felt as to its being perfectly distinct from some varieties of the St. Peter section, evident affinity thereto being proved by its foliage; and on this occasion it was not considered quite so juicy as West's St. Peter's. The meeting was of opinion that Mr. Wighton should be invited to send it again next year, on the days specially appointed for the examination of collections of Grapes, and that the final opinion of the Society regarding it should be reserved until then. Mr. Melville (Dalmeney Park, near Edinburgh) again sent his seedling Muscat Grape, which had been laid before previous meetings (August 19th and September 9th), and being then considered promising, was invited to be exhibited in a higher state of development next year. In this instance, a small bunch was sent, upon a *third* lateral shoot, to evince the prolific habit of the variety.

*Pears.*—Premiums of 1*l.* and 10*s.* for the best and second best six fruits of Glou Morceau (growers in the Channel Islands excluded from competing in this class). Nine very excellent dishes were exhibited. The following, however, is the order in which they were placed:—1st prize to Mr. J. Hall (gr. to T. Lucas, Esq., Lower Grove House, Roehampton) for fruit from a west wall, free stock; soil light and sandy, over very porous and drained subsoil. Fruit medium sized for the variety, handsome and perfect, deliciously juicy and melting, with rich, sugary flavour. Considered one of the finest dishes of Pears which had been exhibited at the Society's Rooms this year. 2d prize, to Mr. Tiley, Abbey Churchyard, Bath, for fruit from an espalier, on Pear stock; soil stiff loam, over strong clay. Fruit small, compared with that from walls, juicy, melting and sugary. From the facts collected on this occasion concerning aspect, district, soil, &c., the following deductions may be gleaned:—1st. That it is generally a variety requiring a wall, although succeeding well on espaliers in the south-western counties. 2d. That the quality of the fruit graduates very nearly as the soil passes from light sandy loam, over porous subsoils, to strong loam over retentive clays. 3d. That size increases, but flavour diminishes when the trees grow on rich garden mould. 4th. That the more favourable aspects on which the trees are grown, in Essex and Cheshire, are insufficient to compensate for the stronger soil, combined with the difference in latitude. 5th. That, in the south-western district, the difference of climate is sufficient to compensate for that between wall and espalier, and between strong soil and light. It is proper to mention, that in the above deduction the leading features only of the information furnished have been made use of; there are many other points—such as shelter and exposure, altitude, inclination of surface, &c.—which modify the effect of the more important conditions and circumstances, and which will be useful in more extended analyses, by explaining results which would otherwise appear discrepant.

Premiums of 1*l.* and 10*s.* for the best and second best six fruits of Winter Nelis Pear. Nine dishes also were exhibited; but their general quality, either in appearance or flavour, was not proportionately equal to those in the previous class. The finest dish, in every respect, was one placed, "not for competition," by Messrs. M. Webber and Co. 1st prize to Mr. Cox, for fruit from a south wall (soil, see Glou Morceau). They were large, juicy and melting, vinous, and sugary in flavour. 2d, to Mr. Wighton, for fruit from an espalier. Small, somewhat shrivelled and spotted, but deliciously juicy, melting, and finely flavoured. Reported to be much subject to mildew. The quality of the remaining dishes was according to the order in which they are described. Exhibited by Mr. Tiley, from an espalier. Medium sized, melting, and sugary. By Mr. M'Laren (gr. to J. C. Whitbread, Esq., Cardington, near Bedford), from east wall, on light, black, gravelly soil, over porous subsoil. Fruit medium sized, melting, and sweet, but slightly astringent. By Mr. J. Holder, of Reading, from standard; soil rich, over sandy loam. Large and fine in appearance, promising to be equally so in flavour, but not ripe enough to compare with others. By Mr. Melville (gr. to the Earl of Rosebury, Dalmeny, near Edinburgh), from a south wall, re-grafted on an old Crassane tree. The latter variety is a shy bearer in this garden; but the Winter Nelis is reported to be one of their best December Pears. Soil deep light loam, over rather gravelly rock. Fruit medium-sized, clear, and healthy, but very green, buttery, and melting, but deficient in flavour. Good, however, for the latitude. By Mr. Newton (gr. to G. J. Graham, Esq., East Lodge, Enfield Chase), from a wall, on Quince stock; soil rich garden mould over London clay. Fruit large and handsome, melting, but watery in flavour. By Mr. Smith, Cheshire, from a pyramid, Pear stock; planted on a prepared station. Similar in appearance and quality to the last. By Mr. Elliott (gr. to the Marquis of Stafford, Lillishall), from a south wall, with the ground much shaded by massive, projecting buttresses; soil strong clayey loam; subsoil clay, over old red sandstone; high and exposed. Fruit small, and indifferent in appearance, dry in texture compared with the previous varieties, and watery in flavour.

Premiums of 1*l.* and 10*s.* for the best and second best six of any other kind of Dessert Pear in season, excepting Glou Morceau and Winter Nelis. 1st prize to Marie Louise, exhibited by Mr. Shoesmith (gr. to J. Morman, Esq., Bexhill, Sussex), from south-west wall; soil, medium loam, over stiff clay. Fruit in fine condition, large, clouded with russet, buttery and melting; flavour rich and sugary. 2d, to Van Mons (Leon le Clerc), also by Mr. Shoesmith, from espalier; large, russety, buttery, and melting; rich, aromatic, and sugary. This dish was scarcely ripe, or it would have been first instead of second. Comte de Lamy was exhibited by Mr. Holder, from a standard. Fruit juicy, but rather rough and gritty; good aroma; flavour rich, vinous, but rather sharp. Bergamotte Cadette, or Beurré Beauchamp, by Mr. Whiting, of the Deepdene, from a pyramid, on Quince stock (soil, see Glou Morceau). This is a little-known, small, roundish-obovate Pear; average size, 2 3-16 inches greatest length, by 2 5-16 inches greatest diameter; colour, bright lemon, with patches of light russet, and very dark, irregular spots; calyx open and perfect; juicy and melting; aroma slight; flavour sweet, but not rich. Mr. Whiting reports, that this variety possesses, in a greater degree than any other variety he knows, the quality of ripening so as to furnish a long succession from the same tree. Beurré d'Aremberg, by Mr. Shoesmith, from south-east wall, in nice condition. Juicy and melting, but rather gritty; flavour rather acid, but pleasant. Old Colmar, by Mr. Underwood, from an old tree, [illegible] Juicy and melting, but not rich. Mr. Matthews, of Clapham Rise. This [illegible] brought as a Seedling before the Society [illegible] 3d, 1857, and then highly commended. [illegible] however, on this occasion found to be so [illegible] though juicy and melting. Passe Colmar, M'Laren, from dwarf standard, on Quince [illegible] ripe, by Mr. Smith, Cheshire, from south wall, handsome, but dry and deficient in flavour. Wighton, from south wall. Sugary and [illegible] melting. By Mr. Melville, also from south wall, and half melting, but deficient in flavour. [illegible] locality. By Mr. Spivey (gr. to J. A. Hoy, Halingbury Place, Essex), from pyramid, [illegible] stock; soil rich garden mould, over strong drained subsoil. Large, handsome, and ripe; and juicy; sweet, but not high flavoured, [illegible] best dish exhibited in this variety. For Morris (gr. to T. White, Esq., Manor House, [illegible] field), from espalier Pear stock; soil sandy, sandy subsoil. Fruit handsome, juicy, and [illegible] but deficient in flavour. Belle de Noel, by Mr. [illegible] from a pyramid, on Quince stock. Fruit juicy, [illegible] half melting, not high flavoured. Orpheline d'Enghien, by Mr. Morris, from an espalier, on Quince [illegible] Fruit good in size and appearance, but inferior texture and flavour. Eyewood, by Mr. [illegible] Fruit in good condition, juicy and melting, [illegible] pleasant, but acid. Vicar of Winkfield, by [illegible] Esq., St. Andrew's, Guernsey. Good in [illegible] juicy, and half melting, but deficient in [illegible] Susette de Bavay, by Mr. Wighton, from a tree regrafted on Crassane. Good in appearance, but dry, soft, and, though sweet, not high flavoured. Reported to be a free-bearing and useful kind in the district, and that last year it was excellent in Market.

*Apples.*—Premiums of 1*l.* and 10*s.* for the best and second best six fruits of Old Nonpareil. 1st to Mr. Swinerd (gr. to J. Swinford, Esq., Minster, Isle of Thanet), who sent two dishes; one a dwarf, growing in hazel loam, over brick tree subject to canker. Fruit small, juicy, sharp, and possessing the true Nonpareil flavour. The second dish was from an espalier, in rich mould, and less subject to canker. Fruit large and sweet, but not so true in flavour. 2d, Mr. Holder, of Reading, from a standard (soil, see [illegible] Fruit juicy, acid, and with a slight, but not [illegible] pareil flavour. Mr. Short (gr. to the Duke of [illegible] Raby Castle, Durham), sent a dish from a tree on a south wall; situation low and damp. Fruit juicy, and sub-acid; deficient in Nonpareil [illegible] their merit was, moreover, much injured by [illegible] packed or laid in straw, or some material [illegible] spoiled their flavour. Mr. Short reports that [illegible] decessor, Mr. Roberts, was in the habit of [illegible] trees with a mixture of cowdung, soot, and [illegible] previous to which they had been in a [illegible] dying state, covered with scale and American [illegible] but that now they are healthy, vigorous, and [illegible] Mr. Wright (gr. to Sir H. Cotterell, Bart., Garnon's, near Hereford), sent a dish from a standard; soil strong loam, over marl, natural. Fruit dry, acid, and affected by subcutaneous [illegible]

Premiums of 1*l.* and 10*s.* for the best and second six of any other Dessert Apple in season, except Nonpareil. 1st prize to Mr. Holder, of Reading, Golden Harvey, from a standard; soil rich sandy loam, over gravel. Fruit fine-coloured, vinous, and sugary in flavour, and, but for being [illegible] what shrivelled—probably owing to having been [illegible] what too early gathered—they would have been, in every respect, one of the best dishes ever laid before the Society. The same was also sent by Mr. Simmons, to Lady Molyneux, Stoke Farm, near Slough. Fruit [illegible] and juicy, but small, and slightly astringent. Mr. Duncan (gr. to J. Malcolm, Esq., Lee Park, Eltham, Kent), for Lamb Abbey Pearmain, [illegible] seventy years old; soil loam and gravel, over [illegible] fine condition, well coloured, juicy, rich, and [illegible] Of Scarlet Nonpareil five dishes were sent, [illegible] merit, but in consecutive value as follows:—[illegible] M'Laren, under the name of Old Nonpareil, standards. Medium sized, juicy, but acid, [illegible] ripe.—And from espaliers, much smaller in size, rather more sugary flavour. By Mr. Elliott, [illegible] from an arched trellis. Fruit, large, sweet, and [illegible] but over-ripe. By Mr. Newton, from standard, and in fine condition, but rather dry, and [illegible] flavoured.—And by Mr. Short, from old tree, [illegible] wall (see Nonpareil). Fruit small, but tender, juicy, and sweet. Sweeney Nonpareil was also [illegible] by Mr. Whiting, in good condition, juicy, [illegible] and sugary. This was one of the eight [illegible] selected by the Committee for final [illegible] Autumn Nonpareil, by Mr. Swinerd, from [illegible] This was an Apple of considerable merit, [illegible] best eight, and apparently little known, [illegible] appearing in catalogues, although, probably, [illegible] under some other name (said to have been [illegible] from Mr. Kennett's nursery). Fruit oblate-conoid: average greatest diameter—transverse, [illegible] inches; longitudinally, 2 inches. Stalk [illegible] length, slender, deeply inserted, eye puckered, [illegible] pale yellowish green, almost entirely covered [illegible] russet; flesh tender, juicy; nice Nonpareil [illegible] Aromatic Russet, by Mr. Swinerd, from standard, [illegible] the best eight. Juicy, with rich vinous [illegible] Cornish Gilliflower, by Mr. Ferguson, of Stowe, [illegible]

[illegible], one of the best eight. Juicy, rich, and sugary. By Mr. Newton. Fine in appearance and juiciness, but not equal in condition to those exhibited at previous Meetings, and injured by having been in contact with some material which had given its flavour to the fruit.—A variety much resembling the above, but hardier, heavier, and later, was sent by M. Shepherd, Esq., Howard Lodge, Upper Tulse Hill. It was asked for again, with more information regarding it. Old Golden Pippin, by the same gentleman, and also by Mr. Newton, from standards. Both fine in appearance, rather juicy, and possessing the true flavour of the variety in as fine a degree as it is usually found. They were of the best eight.—Under this name, also, was sent a variety, evidently nearly related, but not quite true, by Mr. Short; not equal to the above in texture or flavour, sweet but dry. Russet Nonpareil, by Mr. Swinerd (without name, No. 4), from a standard. In good condition externally, but dry and deficient in flavour. Golden Russet, by Mr. Newton, from a standard. This was another variety not known in catalogues. Fruit oblate: average diameter—transversely, 2⅛ inches; longitudinally, 1, 7-16 inches; eye slightly depressed, calyx perfect; stalk long, slender, deeply inserted; skin thick, pale green, russety, with large, dark excoriations; texture juicy; flavour rich and sweet. This, however, with several others of Mr. Newton's fruits, were much injured in flavour by having been laid on hay or something similar. Screveton's Golden Pippin, by Mr. Newton, from a standard. Fruit apparently gathered too soon, tough, and not juicy. Ribston Pippin, by Mr. Elliott, grown in the gardens of the Marquis of Stafford, Tarbet House, Ross-shire, on a wall; soil light, over sand, about 400 yards from the sea; trees old, reported to be vigorous. The fruit had suffered in flavour from packing, but was juicy and sweet, quite equal to another dish of the same kind, by Mr. Wright (Garnon's, Hereford), from a standard, and which had been good flavoured, though rather dry and slightly over-ripe. Old trees are reported to be healthy in this case also. Soil strong loam, over marl, naturally dry.—Another dish, but not true, was sent by Mr. Short. Golden Drop, by Mr. Swinerd, in good condition, from a dwarf bush. Flesh tender, juicy, sweet, and vinous. Blenheim Pippin, by Mr. Elliott, Lillishall. Very fine in size and appearance, but dry and deficient in flavour.—By Mr. Wright. Large, but not good enough for dessert. It may be useful to remark, that when not good enough for dessert, this is an excellent kitchen variety, as it bakes down to a sweet, juicy, soft, light-brown pulp, requiring little or no sugar. Cox's Orange Pippin was again sent by Mr. Simpson. Very juicy and good, but damaged in flavour, by having been in contact with straw.—And by Mr. Holder, from a pyramid. Tender and juicy, sweet, but not richly flavoured. Newtown Pippin, by Mr. Holder. Evidently true, by the peculiar taste and aroma; but so small and otherwise out of character, as is usually the case when grown in this country, that it would scarcely be recognised.

*Of General Dessert Apples*, Coronation Pippin was exhibited by Mr. Swinerd. It is a variety not hitherto described. Oblate, slightly turbinate, somewhat ribbed. Average diameter—transversely, 2 3-16 inches; longitudinally, 2 1-16 inches. Pale greenish-yellow, slightly striped, scattered over with small, round, dark spots; pale russet round the stalk, which is of medium length, slender, and deeply inserted; depressed at apex; flesh tender, very juicy; flavour brisk sub-acid. Spring Ribstone Pippin, or Baddow Pippin, by Mr. Lane, of Berkhampstead. This is a little-known variety, but one deserving of more general growth. Fruit roundish, irregular. Average diameter—transversely, 2¾ inches; longitudinally, 2¼ inches. Rind thick; colour pale green much clouded by small patches of russet and spots of darker colour; eye puckered; cavity within calyx deep and hollow; stalk short, thick, inserted deeply; flesh tender, very juicy, sweet, with a slight Nonpareil flavour. The specimens exhibited had, unfortunately, been gathered before they were ripe, and were rather shrivelled: but it is generally reported to be a useful, late-keeping variety.

*Kitchen Apples.*—Riplin, by Mr. Sendall, of Burningham Hall, Aylsham, Norfolk. Reported to be a great bearer, and was considered likely to be a useful cottager's Apple; medium-sized, green, Codlin-shaped. Fruit juicy, tender flesh, producing, when baked, a soft, pale brown pulp, sub-acid. Colonel Vaughan, or Lady's Finger, by Mr. Smith. An old and very beautiful, striped, wax-like, conical-shaped Apple; juicy, and in some districts a favourite variety for mince meat and cider. The same variety was sent by John Ferme, Esq., of Hallington. Pomme de Cire, by G. Wolsey, Esq., St. Andrew's, Guernsey. Reported to be much esteemed in the island for dessert or kitchen use. Fruit medium-sized, pale yellow, tender; flesh juicy, and sub-acid, but not calculated for dessert; when baked producing a dense, soft, syrupy pulp, having a rich pleasant flavour, and requiring no sugar. Violet Apple, by Mr. Ferguson. A handsome, striped, conical, medium-sized, but soft fruit, said to be very productive and useful; when baked, producing soft and sub-acid, but not syrupy, pulp, requiring sugar; probably most suitable as a sauce Apple. A very similar Apple in every respect, except that it was more acid, and likely to keep longer, was sent by Mr. Swinerd, under the name of Scarlet Nonpareil.

*Seedling Apples.*—G. Wolsey, Esq., of St. Andrew's, sent a Seedling, supposed to be a cross between Golden Pippin and Nonpareil, and was considered to possess considerable merit. Fruit small, oblong, slightly conical; average diameter, 2⅛ inches each way; eye puckered, slightly depressed; stalk medium length, stout; skin thin, pale green, yellowish on the sunward side, much flaked, and covered with pale brown russet; texture very tender and juicy; flavour brisk, sugary, rich, and aromatic. It was hoped that Mr. Wolsey would send it again, with information concerning the age of the tree, &c. Mr. Ferguson sent a Seedling Apple, called the Cottager's Ribston Pippin. Reported to be a vigorous grower, great bearer, and excellent for puddings, requiring no sugar. Fruit large and sweet. Tested, and found to be exceedingly sweet and syrupy, when boiled or baked, and whitish coloured, but not breaking down into a nice soft pulp. Messrs. Youell's (of Yarmouth) Seedling Apples again came before the meeting; but not any of them were considered, from the present exhibition, worthy of being commended as acquisitions. Several of the most promising varieties, however, had suffered so much from having been gathered in an unripe state, that it may be worth while to receive them again in a better condition next year.

## Notices of Books.

*Household Surgery; or, Hints on Emergencies.* By J. F. South. Fourth Edit., 18mo. Murray. Pp. 386. We are not surprised at learning that 17,000 copies of this admirable book have been already sold, for it ought to be in every house in the kingdom. When a surgeon of the acknowledged eminence of Mr. South, in plain simple language, instructs his readers what to do in the event of a serious accident occurring where surgical assistance cannot be immediately procured, he confers an inestimable benefit on society; for no one can question the soundness of the advice offered by such a man; and he must be more than ordinarily obstinate who prefers what he fancies to be proper to that which so eminent an authority tells him to do. The learned author in a familiar way that will be found delightful by all who can appreciate the quiet pleasantry of a gentleman, first instructs his readers in the mysteries of Poultices, Fomentations, Lotions, Liniments, Ointments and Plasters. Having thus armed the operator with materials required in almost every case he proceeds to show what should and *what should not* be done in bleeding, blistering, bruises, wounds, broken limbs, scalds, burns, chilblains, drowning, stifling, poisoning, and a hundred other affections which occur occasionally in every family. His account of POULTICES is inimitable. Speaking of the great Abernethy, he observes:—

"With a large and comprehensive mind, Abernethy did not despise the day of small things; he did not think lightly of what many consider little matters in surgery, not worth knowing to a practitioner, and still less fitting to attract the notice of a professor and teacher. Hence his painstaking to impress on his pupils the importance of knowing

*How to make a Poultice.*

"'Blessings or curses,' as he used to say, 'as they are well or ill made.' And accordingly when Professor of Surgery at the Royal College of Surgeons, he described with great humour, as he was accustomed to his own private class, how this important branch of surgical cookery should be managed, and made the following apology for so doing, in his own peculiar but impressive style:—'A pretty fellow, truly, are you, to be appointed Professor of Surgery to the Royal College of Surgeons; could you find no other subject better worth the attention of your audience than poultices? But I said, if any young surgeon has had a troublesome disease to deal with, it would be good for him that he had been in trouble, for poultices are either blessings or curses, as they are well or ill made, and more commonly, as they are made, only irritate, instead of doing good.'

"According to this great professor of the art, poultices are of two kinds, *the evaporating poultice* or *local tepid bath*, and the *greasy poultice*, each of which serves a special purpose, and must be employed according to circumstances.

"'The most soothing application for local disease,' said Abernethy, 'is tepid bathing, and this we can manage by putting on a poultice, being careful that the person is kept in bed, otherwise the poultice will serve the purpose of a cold bath. The poultice of which I am fond above all others is

*The Bread and Water Poultice, or Evaporating Poultice.*

And I tell you the mode of making it. Scald out a basin, for you can never make a good poultice unless you have perfectly boiling water; then having put in some hot water, throw in coarsely crumbled bread, and cover it with a plate. When the bread has soaked up as much water as it will imbibe, drain off the remaining water, and there will be left a light pulp. Spread it, a third of an inch thick, on folded linen, and apply it when of the temperature of a warm bath. It may be said that this poultice will be very inconvenient, if there be no lard in it, for it will soon get dry; but this is the very thing you want, and it can easily be moistened by dropping warm water on it, whilst a greasy poultice will be moist, but not wet.'

"A poultice thus made may be the *vehiculum crassum* of the doctors, the stock of the cooks, to be medicined or seasoned with laudanum, or Poppy water, with Carrot or Horseradish juice, or with decoctions of herbs, anciently known by the name of Stoups, with which the patient or the doctor may be inclined to medicate it, instead of loading an already irritable and very sensitive part with a heap of hard Poppy-shells, or scraped Carrots and Horseradish, called Poppy, Carrot, and Horseradish poultices, but which increase rather than allay the sufferer's pains.

"When vegetables—as Carrots, Horseradish, and others—are used to medicate poultices, they should be bruised, put into a pot, covered with water, and simmered for about half an hour. The juice is then to be strained off and mixed with bread and water or Linseed-meal, to the consistence of a poultice. The Poppy fomentation may be used with bread or meal in the same way."

Read, too, this graphic account of CROTON OIL LINIMENT, "of which 10 or a dozen drops are to be rubbed in lightly with the fingers, guarded with a piece of oiled silk, for two or three nights. Generally on the second day the surface is red and puffy, and on the third day a large crop of little blisters about the size of Hemp-seed cover the skin. When these appear the rubbing must be stopped. In the course of a few hours the fluid in the blisters changes to matter, and these pustules begin to tingle and itch furiously. As soon as this happens, prick each with the point of a needle and press out the matter with a handkerchief; or if you have not patience for this, run the back of your nails smartly over them in various directions, and crack the pustules as fast as you can. The sensation is rather agreeable than otherwise; and soon after, the luxury of a good scratch is beyond all price. Sometimes a few of the pustules are so tough that they cannot be thus broken, and, unless pricked and emptied, become excessively painful, forming a sort of small boil, which the sooner it is got rid of the better. In the course of a week the skin has been completely reproduced, and then the croton oil may be used again; but it does not blister quite so quickly as when first applied. The croton may be used for months, and is a most excellent mild irritant, and infinitely superior to that most cruel and inhuman of all human inventions, a perpetual blister, as it is called; that is, a blister from which the skin having been cut off, the raw surface is dressed with savine ointment. I am sure no person who has ever smarted under this awful torment would order it for another."

In conclusion we recommend Mr. South's opinion upon DRESSING and TIGHT LACING to such of our fair friends as it concerns:—

"When the child begins to run about, the top of her dress, though in some degree altered, being still too wide to allow the proper resting of the straps upon the shoulders, so as to keep it up, the dress slips down first on one side and then on the other, and to relieve herself from this inconvenience, and even to prevent the dress dropping entirely, the child is constantly hitching up first one shoulder and then the other, or even both at once. Usually, however, both sleeves do not drop down equally, and thus one shoulder becomes the habitual hitcher, and the trunk in this action being continually thrown to the opposite side, the spine naturally bends that way, and hence very frequently originates a crooked or curved spine, which is usually first discovered by the medical attendant whose advice is asked, on the mother's attention being drawn to one shoulder being higher than the other, and wishing to have it corrected.

"The mode of preventing these fearful consequences is simple enough. The soundness of the child's lungs, and the straightness of her spine, are preserved by one and the same mode of management. Dress the girl properly by having the frock at least as high as the collar-bones, and the upper opening of the other parts of her dress only so wide, that the shoulder-straps can have a good bearing, and not slip off the shoulders; the dress will then be supported as it should be, on the shoulders, and cannot slip down, consequently there will be no hitching, nor any curved spine from that most common cause of it, and the chest will at the same time be protected from cold.

"The next ill treatment to which a girl is subjected, is that of enclosing the greater part of her body in bone stays, which, covering about the lower two-thirds of her chest, and reaching as low as the tops of the hip-bones, wide at the top and bottom, but narrow enough in the middle, with a broad steel or wooden busk in front, curved forwards, but with its ends bent backwards, and with a pair of stiff whalebones behind at the lacing edges, besides a large array of other smaller bones of the same kind, are so ingeniously contrived as not merely to prevent the expansion of the chest necessary for the proper performance of inspiration, but actually to diminish its capacity at its lower or widest part; so that the poor child has her chest really put into a vice, and can only breathe very imperfectly, for the silly purpose of preventing her waist being thick, which is the real object of wearing stays. Mothers, however, sometimes delude themselves with the notion that they thus encase their girls in steel and whalebone for the purpose of giving them support, whilst in reality they are destroying their children's health and constitutional powers by jamming up the great organs of respiration and circulation into a very much smaller space than is necessary for the due performance of their functions, and thereby disposing the lungs to that fatal disorder consumption, which, though commonly attributed to the variability of our climate, may, I believe, not less frequently be traced to this most abominable custom of stay-wearing, and its attendant, tight lacing: for being early impressed with the notion that the elegance of their figure depends on the tightness of their stays, most girls greedily imbibe this pernicious habit, and

screw their waists so tight that they suffer constant distress for the sake of fashion. This stay-wearing is as needless for the attainment of its object as it is serious in its results; for I have known a few as well-grown and finely formed women as could be met with, who never wore a bone stay till 18 or 19 years of age, one of whom, however, was silly enough so to encase herself on her wedding-day for the first time."

Such is the excellent instruction conveyed in Mr South's book. We can only regret that the dirty practice of sweeping roads with long petticoats, and the hideous custom of putting the lower limbs into balloons cannot be so connected with household surgery as to enable him to introduce these odious fashions in a future edition of his work.

Let us add that to emigrants, squatters, and all who are dependent on their own resources, the volume before us would be a companion of inestimable value.

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*Kelly's Railway Guide* is an extension of the plan called A B C, for conveying plain information amidst the complications of railway travelling. It is clearly printed and well arranged, and will be found a very useful companion, not rival, to Bradshaw.

*A popular edition of Lord Byron's Poetical Works* has begun to be issued by Mr. Murray, to be completed in nine monthly parts, price a shilling each. The edition is beautifully printed, illustrated with excellent engravings on steel, and when finished will be complete in all respects, even as to the notes, which are from the hands of Sir Walter Scott, Bishop Heber, Thomas Moore, Lord Broughton, Campbell, and other eminent writers. Such an edition will be welcome to all lovers of poetry, and its extremely low price renders it attainable by very humble people.

*Half Hours with the Microscope*, by Tuffen West (12mo, Hardwicke, pp. 84), is a very nice companion for microscopical amateurs. It contains extremely useful practical advice as to the manner of using the instrument and preparing objects to be examined by it; and is illustrated by eight plates so exquisitely drawn as to leave nothing to desire.

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TRADE LISTS RECEIVED.—*A. Campbell & Son's* (Glasnevin, Dublin) *Descriptive Catalogue of Kitchen Garden Seeds, &c., &c.* A good set of good things well arranged. Mr. Campbell seems to be a fancier of Stocks, Balsams, and Asters, of which he offers extensive collections.—*Chivas's* (Chester) *Catalogue of Seeds, &c.* Forty-three neatly printed pages, with useful monthly and other instruction; but Mr. Chivas is ill seconded by his printer.—*Daly & Son's* (Coleraine) *Catalogue of Vegetable and Flower Seeds.* A small useful assortment of such as Irish gardeners are most likely to require.—*Hooper & Co.'s* (Covent Garden, London) *Catalogue of Vegetable and Flower Seeds.* A large list with the novelties printed in a distinct black-faced type for the guidance of buyers—very convenient. Growers of Alpine plants should procure this list, and so should the fanciers of Carnations and Picotees.—*Vilmorin & Co.'s* (Quai de la Mégisserie, Paris) *Catalogue des Graines d'Arbres.* A very large and remarkable list of tree seeds, among which are most of what are called "the new Mexican Pines." There are also new Oaks from the Atlas, Peaches, Rhododendrons, &c., of much interest to plant collectors.

## Calendar of Operations.

*(For the ensuing Week.)*

### PLANT DEPARTMENT.

CONSERVATORY, &c.—This should now be nearly as gay as at any period during the whole year. Any Camellias done blooming should if possible be removed forthwith to some of the houses at work; a moist atmosphere, a temperature averaging 65°, and a slight shade in bright weather are the requisites in order to cause them to produce wood freely, and large healthy leaves. STOVE.—Some little increase of temperature may take place here, and that chiefly, as before observed, in the afternoon, by shutting up early, at the same time using a sufficiency of moisture. Look over the fastenings of Orchids on blocks or in baskets, and renew the wires where necessary. Examine and shift all plants that require such attention, and cut back kinds which it may be desirable to increase after flowering in order to get a supply of cuttings.

### FORCING DEPARTMENT.

VINERIES.—Very careful management will be necessary in the present state of the weather, where the Vines are in an advanced state or fairly started, and care must be exercised to counteract the drying effects of so much fire-heat by means of the evaporating pans, and sprinkling the floors, &c. See that inside borders are not allowed to become too dry, and give a good soaking of tepid manure water in a weak state where it is found necessary. Look at last week's directions, and use fire-heat as sparingly as may be safe under the state of the Vines, &c. FIGS.—Stop the young shoots regularly before the fourth or fifth leaf, and keep them regular and sufficiently thin to admit light and air, so as to get the wood matured, and secure a second crop. Where the trees incline to grow too luxuriantly, keep them rather sparingly supplied with water at the root, giving no more than may be absolutely necessary for the present crop, for unless short-jointed firm wood can be obtained, there will be little chance of obtaining an abundant second crop. CUCUMBERS.—There is no doing any good with these without the command of a brisk, moist temperature, which should average 70° at night, and 75° to 85° by day, according to the state of the weather. Sprinkle the foliage frequently with the syringe, and keep the soil in a nice healthy state as to moisture, giving clear weak tepid manure water, also keep the shoots thin and regular, and trained near the glass, so as to expose every part to all the light possible. Take every opportunity of admitting fresh air, but do this very cautiously, for cold draughts would ruin the foliage. Where Melons are wanted early in June, seed of some known good early sort should be got in without further delay, and the young plants should be kept near the glass from the moment they appear above the soil, admitting a little fresh air on every favourable opportunity, with the view of getting strong short-jointed plants, which afford a much better chance of success than long-jointed weakly plants. Ridge out early plants as soon as they are sufficiently strong, and before they sustain any check by being confined in pots; but see that there is a nice regular bottom-heat of about 85° before committing the plants to the hills, and that the soil is in a healthy state as to moisture.

### FLOWER GARDEN AND SHRUBBERIES.

Give lawns a good rolling after wet, and if it may be necessary to take up any of the turf for the purpose of levelling the ground, this should be done as soon as possible. Proceed with edging the walks, and keep these clean, and roll frequently to make them firm for walking upon, and also to prevent the growth of weeds. Where it may be necessary to increase the stock of any of the varieties of Dahlias, these should be placed in heat at once in order to secure cuttings. Look to Crocus bulbs, &c., planted in beds, and protect them from the depredations of mice.

### HARDY FRUIT AND KITCHEN GARDEN.

Pruning of all kinds should now be brought to a close, except Figs, which may yet remain. When Filberts are closely pruned a deficiency of male blossoms sometimes occurs, in which case stick some of the common Hazel having a crop of catkins on about the bushes to fertilise the female flowers. Before Peaches are tied to the walls they should be dressed with a composition consisting of soft soap, tobacco water, and sulphur, to which add quick lime to give it consistence. Whenever any appearance of scale is found on other wall fruits, they should be dressed during winter with the above composition. To provide against failures in the crops already sown, or where the climate is too cold to trust to seeds for the present to the open ground, we advise sowing Peas, Beans, Spinach, &c., in addition to the kinds named in our last Calendar; good early varieties of the former should be selected. They may either be sown in small pots for the more easy transferring to the open ground, or when the quantity is considerable cut fresh pieces of turf 12 inches long and 4 or 5 inches wide; turn the Grassy side downwards and form a channel along the centre of the now upper part in which sow the crop as you would in the open ground.

### COTTAGERS' GARDEN.

An important crop for cottagers is the Parsnip; yet it is difficult to persuade them to cultivate it. It is not like the Potato, liable to be ruined by disease; all kinds of stock will eat it, and it will succeed on almost any soil. A good way to keep it in winter is to spread over the crowns in November the manure that is intended for the next crop, and to trench them out as wanted, leaving the soil in ridges. The ground for Parsnips should be trenched, putting the manure in the bottom, and the seed should be sown now in drills 15 inches apart.

### STATE OF THE WEATHER AT CHISWICK, NEAR LONDON,

For the Week ending Feb. 10, 1859, as observed at the Horticultural Gardens.

| Feb. | Moon's Age. | Barometer. Max. | Barometer. Min. | Temperature Of the Air. Max. | Min. | Mean | Of the Earth 1 foot deep. | 2 feet deep. | Wind. | Rain. |
|---|---|---|---|---|---|---|---|---|---|---|
| Friday 4 | 1 | 30.089 | 29.685 | 48 | 34 | 41.0 | 43 | 43 | S.W. | .15 |
| Satur. 5 | 2 | 29.544 | 29.391 | 52 | 36 | 44.0 | 43 | 43 | S.W. | .22 |
| Sunday 6 | 3 | 29.273 | 29.239 | 45 | 27 | 36.0 | 45 | 43½ | S.W. | .02 |
| Mon. 7 | 4 | 29.322 | 29.279 | 43 | 23 | 33.0 | 44 | 43 | S. | .00 |
| Tues. 8 | 5 | 29.480 | 29.430 | 45 | 33 | 39.0 | 44 | 43 | S. | .10 |
| Wed. 9 | 6 | 29.478 | 29.303 | 47 | 36 | 41 5 | 44½ | 43 | S.W. | .14 |
| Thurs. 10 | ) | 29.460 | 29.417 | 50 | 35 | 42 5 | 45 | 43½ | S.W. | .09 |
| Average | | 29.521 | 29.393 | 47.1 | 32 0 | 39.5 | 44.1 | 43.1 | | .72 |

Feb. 4—Cloudy; overcast; boisterous, with rain.
— 5—Cloudy; exceedingly fine; rain at night.
— 6—Rain; cloudy; overcast; slight frost.
— 7—Fine; very fine; heavy clouds; clear and frosty.
— 8—Fine; overcast; cloudy; rain at night.
— 9—Overcast; boisterous, with rain; overcast.
— 10—Overcast; cloudy; rain at night.
Mean temperature of the week, ½ deg. above the average.

### RECORD OF THE WEATHER AT CHISWICK,

During the last 33 years, for the ensuing Week, ending Feb. 19, 1859.

| Feb. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds. N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday 13.. | 44.2 | 32.3 | 38 2 | 12 | 0.37 in. | 2 | 3 | 5 | 1 | 6 | 8 | 6 | 2 |
| Mon. 14.. | 45.0 | 33.1 | 39.0 | 12 | 0.50 | 1 | 3 | 3 | 2 | 4 | 10 | 8 | 2 |
| Tues. 15.. | 45.9 | 33.0 | 39.5 | 10 | 0.25 | 3 | 4 | 3 | — | 5 | 8 | 7 | 3 |
| Wed. 16.. | 44.6 | 33.5 | 39.1 | 5 | 0.23 | 6 | 4 | 2 | 3 | 1 | 8 | 6 | 3 |
| Thurs. 17.. | 45.5 | 33.3 | 39.4 | 11 | 0.32 | 3 | 3 | 3 | 3 | 4 | 6 | 9 | 2 |
| Friday 18.. | 45.4 | 31.9 | 38.7 | 13 | 0.30 | 4 | 3 | 4 | 1 | 4 | 8 | 6 | 3 |
| Satur. 19.. | 44 5 | 30.2 | 37.4 | 11 | 0.64 | 5 | 2 | 5 | 5 | 1 | 8 | 4 | 3 |

The highest temperature during the above period occurred on the 15th, 1849; 17th, 1847, and 18th, 1850—therm. 57 deg.; and the lowest on the 13th, 1855—therm. 0 deg.

## Notices to Correspondents.

AMERICAN CORRESPONDENCE: *R B S.* Much obliged. But it has very little interest here; and we will not trouble you to send it.

BOOKS: *Musselburgh.* There is no small Latin Dictionary at all comparable to Dr. Smith's "Smaller Latin English Dictionary," which is as cheap as it is excellent, the price being only 7*s.* 6*d.* Since you are acquainted with the rudiments, and want to improve, we strongly recommend you to procure this, which is a real treasure (or Thesaurus as they say) to all students. It is very creditable to you, as a young gardener, to wish to improve yourself in [illegible] besides horticulture; and you will hereafter account in having done so.—*F C D.* It is difficult to book in every way suitable for your purpose. Under circumstances, perhaps the best are Neill's Fruit, Flower, Kitchen Garden, and the Manse Garden.—*Barbaricus.* 1. There is no better work on hardy shrubs than Loudon's "Arboretum et Fruticetum" edition; 2. No book on practical gardening has yet superseded Loudon's Encyclopædia of Gardening; 3. The Theory and Practice of Horticulture by Lindley explains both theory and practice; 4. We are not sufficiently acquainted with Hogg's British Pomology to offer an opinion upon it; but other book is rubbish. 5. The best work on [illegible] either in English, French, or German is the last issued by the Catalogue of the Horticultural Society.

BRITISH COLUMBIA: *Telemachus.* The usual route is from New York or Southampton to Chagres, then across the Isthmus of Panama, and on by steamer. Only you must take care to pick a ship of good reputation—if from New York, for many of the American skippers treat their passengers most shamefully. But if we wished to go from N. York we should embark and cross from the Bay of Campeachy to Tehuantepec, a route little known, but far preferable to Panama unless overloaded with luggage. Concerning this route a correspondent in the Pacific sends us a statement, upon which reliance may be placed:—"We have several [illegible] came by the *Tehuantepec route*, crossing that isthmus on mules. They describe the country of Yucatan as beautiful, abounding in fowls, turkeys, Sugar-cane, Cocoa-nut, Indigo, white cranes, alligators, deer, corn, Oranges, Lemons, and endless other vegetable productions. We took them from New York across the Gulf of Mexico to the Coazacoalco river 20 miles. Thence they embarked in a steamer called the Sachelles, and ascended other [illegible] from which point they went on mule back for an additional 70 miles, whence a stage coach carried them to the port of Ventosa, where the steamer Oregon took them on board, landing them at Acapulco, 300 miles along the Mexican coast, to await our arrival four days after, and go on to San Francisco—making in all 220 miles across the isthmus. A far healthier and more pleasant route than that by Panama. The charge for third class was 150 dollars. The food good all through. They seemed delighted with the route. The country along the isthmus of Tehuantepec they describe as being mountainous, the hill tops covered with wood, alternating with occasional spots of about 15 acres of fine green Grass, well adapted for feeding stock. The soil is thought too gravelly. Timber, Rosewood, Mahogany, &c., abundant." We give you this full information, because British Columbia succeeds, the selection of a good route, cheap must continue to be of great consequence to India and her new Colony, until a railroad to the Pacific is established through Canada, when all other routes will be to us comparatively unimportant.

COTTAGERS' KALE: *N.* It is Ragged Jack and not [illegible] Cottagers' Kale.

GARDENERS: *G N.* It is quite out of our way. Send testimonials, with a recommendation from some Fellow of the Horticultural Society, to W. B. Booth, Esq., 2 [illegible] Street, London, S. W.

HEATING: *J G R.* Certainly, since warm water rises, you have no difficulty in placing your boiler at the lowest of the incline. Quite the contrary.

HORSE CHESNUTS: *D C.* Although this tree is said to have seeds somewhat poisonous, yet we should not apprehend danger from its roots striking through the sides of [illegible] into the water.

INSECTS: *C A J.* The round body found in the body of the Fly is the chrysalis of some large fly, whose maggot has a cozy resting-place in the inside of the dead body and the leaves that covered it.

LAWNS: *W M.* Neither Spergula pilifera nor any other will form a well-kept lawn if it is to be covered with moss, whether from trees or any other source. A good lawn is constantly kept clean. As for Spergula pilifera, we know more about it than was stated the other day.—But the advice we gave you was, we dare say, unpalatable. Physic is unpalatable.

LYCOPODS: *A Subscriber.* Selaginella has the leaves [illegible] from opposite sides of the stem, so as to form a [illegible] Lycopodium has the leaves growing all round the stem. Hooker's Muscologia Britannica.

MISELTOE: *Limerick.* Undoubtedly it will grow in Ireland. Sow the seed now, if the birds have left any berries on the Whitethorn, or Apple tree, or Lime tree. You must get the seed through some private hand. We cannot [illegible] that office. (See also p. 98, col. *a*, of last week's *Gardeners' Chronicle.*)

NAMES OF PLANTS.—We have been so often obliged to [illegible] tantly decline naming heaps of dried or other plants, we venture to request our correspondents to recollect that we never have or could have undertaken an unlimited [illegible] this kind. Young gardeners, to whom these remarks especially apply, should bear in mind that, before applying to us for assistance, they should exhaust their other means of gaining information. We cannot save them the trouble of examining and thinking for themselves; nor would it be desirable if we could. All we can do is to help them, and that most willingly. It is now requested that, in no case more than four plants may be sent us at one time.—*Beta.* Your Orange looks like a small specimen of Otaheite.—*Diss.* We believe the leaves to be:—1, C. affinis; 2, C. frigida; 3, C. bacillaris. But you must rely upon the first two names, because flowers are necessary to render their identification certain.

NEW ZEALAND BEAN: *J Sims, H Holloway, R Marrett.* There is no difference between your Beans and those from New Zealand. But we have never had the pods of the Bean in question. examination.—*R F.* They have no resemblance to those in question.

RUST IN GRAPES: *Wiltshire.* It is impossible to say why your Grapes to rust. That disease arises from many causes. injures the skin of the berries when young and [illegible] Dry heat, cold, draughts of cold air, handling, and many accidents will produce it. So may steam condensed on the berries, and then suddenly evaporated again, or even a sudden night cold for even a few minutes. If you again pray use ink, not ink and water; we have had difficulty in making out your pallid writing.

THE ORCHID DISEASE: *E P.* We have this subject under examination. The facts are all familiar to us. Your [illegible] be used by and by.

THE PEA LENTIL OR ERBSENLINSE: *Grolius.* We can send a few seeds if you send your address with a penny stamp enclosed.

TREE SEEDS: *Cork.* Sow Bay berries and Benthamia seeds the end of April, in pans under glass, so as to be protected night cold.

WONDERFUL BOX TREE. Can any ingenious correspondent assist us in interpreting the following extraordinary advertisement:—"To be Sold, the most beautiful Box tree in Europe, of remarkable form and extraordinary size. It is at 80 metres from a river, whence it can be easily exported. Price, 2000*l.*—Address, in French (pre-paid), to Bourgeois, Payers, Rheims, France." A Box tree worth a thousand pounds sterling is indeed a marvel.

*** As usual, many communications have been received, and others are detained till the necessary inquiries are made. We must also beg the indulgence of those correspondents the insertion of whose contributions is still delayed.

THE PATENT

# NITROPHOSPHATE OR BLOOD MANURE COMPANY (LIMITED),

CONSISTING OF TENANT FARMERS, OCCUPYING UPWARDS OF 30,000 ACRES OF LAND.

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**Offices 109, Fenchurch Street, London.—Manufactory. Plaistow Marshes, Essex.**

THE Directors beg to inform their Friends and the Agricultural Public that the following Manures are now ready:—

## ODAMS'S BLOOD MANURE FOR CORN AND MANGEL.
## ODAMS'S BLOOD MANURE FOR ROOTS.
## ODAMS'S SUPERPHOSPHATE OF LIME.

Full particulars may be had at the Company's Offices, or of the local Agents.

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ARTIFICIAL MANURES, &c.—Manufacturers and others engaged in making ARTIFICIAL MANURES may obtain every necessary instruction for their economical and efficient preparation, by applying to J. C. NESBIT, F.G.S., &c., Principal of the Agricultural and Chemical College, Kennington, London. Analyses of Soils, Guanos, Superphosphates of Lime, Coprolites, &c., and Assays of Gold, Silver, and other Minerals are executed with accuracy and despatch. Gentlemen desirous of receiving instruction in Chemical Analyses and Assaying, will find ample facility and accommodation at the College.

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LONDON MANURE COMPANY, removed to 116, Fenchurch Street, E. C. (Established 1840), have the following MANURES ready for delivery:—

CORN MANURE for SPRINGTOP DRESSING
URATE
MANGEL MANURE
SUPERPHOSPHATE OF LIME
BLOOD MANURE
} all of guaranteed quality.

In consequence of the reduction in the price of raw material the London Manure Co. are enabled to lower the price of their Superphosphate of Lime, and to materially improve the Corn Manure and Urate

The London Manure Co. also supply PERUVIAN GUANO (direct from Messrs. A. Gibbs and Sons), SULPHATE of AMMONIA, NITRATE OF SODA, CRUSHED BONES, and every other Manure of value. Wholesale dealers supplied.

116, Fenchurch Street, E.C. EDWARD PURSER, Secretary.

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SOLUBLE PHOSPHATE OF LIME.

FREDERIC CORNWELL begs to inform his friends and the Agricultural public that he can now supply a "SUPERPHOSPATE of LIME" superior to anything yet produced. Each Bag guaranteed to contain from 20 to 25 per cent. of "Soluble Phosphate of Lime." *Price 5l. 10s.* per ton, delivered free to any Railway or Wharf in London. Dealers and the trade supplied. Linseed-cakes, Cotton-cakes, and all descriptions of Artificial Manures at lowest market prices.

Offices, 7, Great St. Helen's, London, E. C.

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REDUCTION IN PRICE OF LAWES'S MANURES.

MR. LAWES begs to announce that he has this season reduced the price of the Manures manufactured by him, viz.:—

| | | |
|---|---|---|
| TURNIP MANURE .. .. .. | from £7 to | £6 6 |
| SUPERPHOSPHATE OF LIME .. | ,, 7 to | 6 6 |
| MINERAL do. .. | ,, 6 to | 5 5 |
| BARLEY MANURE.. .. .. .. .. | | 8 0 |

Prof. Way and Dr. Voelcker have sampled from a bulk of 5000 to 6000 tons at his factories, and their report and analyses are given in full in Circular to be obtained on application at his office, 1, Adelaide Place, London Bridge, E.C., or of his local Agents.

N.B. Genuine Peruvian Guano direct from Messrs GIBBS, Nitrate of Soda, Sulphate of Ammonia, and other Chemical Manures. American Cotton-seed Cake supplied.

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ESTABLISHED 1812.

H. AND T. PROCTOR'S TURNIP MANURE.—Messrs H. & T. P. draw particular attention to this valuable Manure, which contains all the elements necessary for the full development of the Turnip Crop, so combined, that, from their chemical knowledge and long experience, they feel satisfied is most advantageous to the consumer. It has been very extensively used by most of the eminent Agriculturists of the day, and has attained a high reputation throughout England, Scotland, and Wales, and, they venture to say, is unrivalled for the weight and quality of the Bulbs which it produces. The application of this Manure to the Turnips will be found to benefit considerably the after crops of Barley, Clover, and Wheat.

POTATO, GRASS, BARLEY, CLOVER, AND WHEAT MANURES; also BONE DUST, PERUVIAN GUANO, and SUPERPHOSPHATE of LIME, warranted of the best quality.

Apply to H. & T. PROCTOR, West of England Depôt for Artificial Manures, Cathay, Bristol; or PROCTOR & RYLAND, Birmingham, and Saltney, near Chester.

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THORLEY'S FOOD FOR CATTLE.—Every person having an interest in domestic or farm animals should obtain a supply of this celebrated and economical food which will prove invaluable during the approaching season. For keeping horses in good condition, it is unequalled. Pigs fatten with surprising rapidity upon it, and their flesh increases in flavour and value. Cowkeepers will find great advantage in the increased quantity and improved quality of the milk during its use. All animals are benefited by it. A pamphlet on this interesting subject, accompanied by Testimonials from the principal Nobility, Gentry and Agriculturists forwarded on application. In casks containing 448 feeds (measures inclosed), price 10s., carriage paid to any Railway Station in the United Kingdom. Post-office Orders payable to JOSEPH THORLEY, 77, Newgate Street, London.—N.B. The public are cautioned against being imposed upon by worthless imitations.

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WARNER'S IMPROVED LIQUID MANURE OR GENERAL PORTABLE PUMP.

These Pumps are fitted with J. W. & SON'S Patent Buckets and Suckers, and cannot clog in action. The barrel is of galvanised iron, not likely to corrode, and can be raised or lowered at pleasure. The legs will fold together, and the whole may be carried on the shoulder to any pond or tank required.

Price of 4½ in. Pump, with legs, 3*l.* 3*s.* If with planished copper barrel and galvanised iron handle, &c., 14*s.* extra. The barrel is 27½ in. long, and the legs are 5 ft. high.

These Pumps are also made without the legs, with strong wrought-iron straps for screwing on to any ordinary water butt or cart, and fitted with 1½ inch brass union for attaching flexible suction. Price 50*s.*

1¼ inch Gutta Percha Suction Pipe, 1*s.* 11*d.* per foot.

Rubber and Canvas Suction and Delivery Hose, from ¾ inch to 4 inches diameter, in lengths of 60 feet to order. Branch Pipes with Cocks, Union Screws, &c., at reduced prices.

May be obtained of any Ironmonger or Plumber in town or country, at the above prices, or of the Patentees and Manufacturers, JOHN WARNER & SONS, 8, Crescent, Jewin St., London.

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WARNER'S PATENT VIBRATING STANDARD PUMPS.

PATENT CAST-IRON PUMPS, fitted with J. W. & SON'S Patent Buckets and Suckers, which cannot clog in action, for Farms, Cottages, and Wells, not exceeding 28 feet.

| Diameter of Barrel. | Height. | | £ s. d. |
|---|---|---|---|
| 2½ in. short | 7 ft. 7 in. | Fitted for lead, | 1 10 0 |
| 2½ ,, long | 8 ,, 8 ,, | gutta percha, | 1 14 0 |
| 3 ,, ditto | 8 ,, 6 ,, | or cast iron | 2 8 0 |
| 3½ ,, ditto | 3 ,, 6 ,, | flanged pipe, | 2 12 0 |
| 4 ,, ditto | 3 ,, 6 ,, | as required. | 3 3 0 |
| 2½ ,, short, with 15 feet of Lead Pipe attached, ready for fixing .... | | | 2 14 0 |
| 2½ in. long | ditto | ditto ditto | 2 18 0 |

The short barrel Pump is very convenient for fixing in situations of limited height and space, for the supply of coppers and sinks in Wash-houses with soft water from underground tanks, or in Hot, Forcing, and Plant Houses; they may be fixed, when desired, under the stage.

May be obtained of any Ironmonger or Plumber in Town or country, at the above prices, or of the Patentees and Manufacturers, JOHN WARNER & SONS, 8, Crescent, Jewin Street, London.

Every description of Machinery for Raising Water by means of Wheels, Rams, Deep Well Pumps, &c.; also Fire and Garden Engines, &c. &c.—Engravings sent on application.

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THE CHAMPION.

SMITH'S CULTIVATORS AND APPARATUS are got up not for Show but for Work. The Cultivators are almost indestructible, easily turned, and therefore double cumbersome implements are avoided. The Windlass is simple, convenient, and its working easily understood; it is very strong, and like the Implements subject to little or no damage from working. The Rope required averages only about five chains more than an endless rope, its friction only one-fourth: it never slips, and the tension is only one half at a time. The whole Apparatus can work all useful implements on all shapes and forms of ground; is admirable for autumnal cultivation; has stood the test of three years' work, and has produced "results most astonishing and invaluable;" and while the total cost is not more than half that of the Endless Rope one, it can be worked by an ordinary engine without alteration.

Woolston, Bletchley Station.—Feb. 12.

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SHADING.

BROWN'S FLORAL SHADING still maintains its superiority for cheapness and efficiency over all other materials used for a similar purpose, viz., shading plants under glass from the scorching rays of the sun, protecting Wall Fruit Trees when in bloom from frost, and preserving the fruit from the attacks of birds, flies, and wasps. Sold in pieces 20 yards long, 38 inches wide:—

No. 1 per piece .. 4*s.* 0*d.* | No. 2 per piece .. 4*s.* 3*d.*

To be obtained of all the principal Nurserymen and Seedsmen in town and country. Samples sent free on application to the Manufacturer, CHARLES BROWN, Greenheys, Manchester.

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THE ROYAL AGRICULTURAL SOCIETY'S PRIZE CHURN.—This Churn has taken all the prizes offered by the Royal Agricultural Society from 1850 to 1858 inclusive. Price list and testimonials sent free. Illustrated Catalogue on receipt of six postage stamps.

BURGESS & KEY, Patentees and Manufacturers, 95, Newgate Street, London.

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AGRICULTURAL MACHINERY.

E. R. AND F. TURNER, Ipswich, manufacture Prize Mills for Crushing Corn, Seed, Malt, &c.; Portable Grinding Mills, Steam Engines fixed and portable from 2 horse-power and upwards: Threshing Machines, Chaff Cutter, Oilcake Breakers, Horse Gears, Saw Tables, &c., all of a superior description and adapted for Home, Colonial, and Foreign use. Illustrated Price Lists sent free on application.

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HALKETT'S GUIDEWAY STEAM AGRICULTURE will be Exhibited at Canning Place, Kensington Toll Gate, south of Kensington Gardens, on WEDNESDAYS, the 9th, 16th, and 23d of February, and to private view upon previous appointment. By this system every operation of the Farm is performed by steam power, the land largely increased in value, and the cost of cultivation greatly reduced. "I will be happy to lay down 50*l.* as a share, with others, to see your system carried out on a large scale."—SMITH, of Woolston, the successful inventor of Smith's Steam Plough. A Paper read before the Society of Arts, illustrations, &c., will be forwarded upon application to the Office, 80, Chancery Lane, W. C.

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AGENCY FOR A VALUABLE MANURE.—Wanted, respectable Agents for a Manure, which commands a ready sale, as its goodness is certified by 3000 Testimonials from all parts of the United Kingdom, and by many farmers who have used it for several years.—Address, with occupation and references, N. Y., at Messrs. J. & E. Saunders', 4, Cannon Street, London.

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TO LANDOWNERS.

THE PERMANENT WAY COMPANY having been appointed the sole Licensees for the use of Dr. BOUCHERIE'S Patent Process for Preserving Timber, beg to inform Landowners and others interested in the use of English Timber that a Pamphlet, with full explanations of this cheap and most effectual process, may be had gratis on application to the undersigned. Landowners having Beech, Elm, Fir, or other Timber fit for Railway Sleepers are requested to communicate particulars of quantity, locality, and prices.

WILLIAM HOWDEN, Secretary.

26, Great George Street, Westminster.

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LAND DRAINAGE.—Works of Drainage of any extent are executed by the GENERAL LAND DRAINAGE AND IMPROVEMENT COMPANY on all descriptions of Property, whether Freehold, Entailed, Mortgaged, Trust, Ecclesiastical, Corporate, or Collegiate.

Repayment may be made by the Landowner as successive portions of the Works are completed, or the actual expenditure, with a Commission thereon, may be charged on the property improved by way of rent charge for any term not exceeding 50 years, the instalments to repay principal and interest being thereby kept down nearly to 5 per cent. per annum.

No investigation of title being required, and the charge not being affected by incumbrances, no legal expenses are incurred.

Works of Irrigation, Enclosing, Wood Grubbing, Road Making, and Farm Buildings are executed in a similar manner.

The Company also assist Landowners in executing any of the improvements by their own agents, and charge the amount expended on the property improved.

Applications to be made to WILLIAM CLIFFORD, the Secretary, at the Offices of the Company, 52, Parliament Street, London.

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COLLEGE OF AGRICULTURE AND CHEMISTRY, AND OF PRACTICAL and GENERAL SCIENCE, 37 and 38, Lower Kennington Lane, Kennington, near London.

Principal—J. C. NESBIT, F.G.S., F.C.S., &c.

The system of studies pursued in the College comprises every branch requisite to prepare youth for the pursuits of Agriculture, Engineering, Mining, Manufactures, and the Arts; for the Naval and Military Services, and for the Universities.

Analyses and Assays of every description are promptly and accurately executed at the College. The terms and other particulars may be had on application to the Principal.

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# The Agricultural Gazette.

*SATURDAY, FEBRUARY* 12, 1859.

MEETINGS FOR THE ENSUING WEEK.

WEDNESDAY, Feb. 16—Agri. Society of England .... Noon

AN abridged report of Mr. CLARKE'S very interesting paper ON ARTERIAL DRAINAGE, read before the London Farmers' Club last Monday, will be found elsewhere. A discussion ensued upon it, in which Mr. BAILEY DENTON, Mr. BAKER, of Writtle, and others took part. The main point insisted on was the need of Government interference, in order to the general treatment of the subject, and the settlement of the diverse interests which in every locality are affected by it. The fact is that every year as the value of land increases the interests damaged by the existing nuisance increase in importance, while every year, as steam power relatively to water power increases in profit and economy, the interests bound up in the continuance of the nuisance diminish in importance. There is thus a better opportunity now than there ever yet has been for a useful interference between landowners and millowners, or between landowners amongst themselves alone, in order to the removal of natural and artificial obstructions to the rapid discharge of river water. The dry seasons of late years have, as Mr. DENTON observed, made the subject of less immediate urgency than it generally has been; but wet weather for a year or two would make it impossible any longer to delay attention to it.

—— Among the other agricultural events of the last few days we regret to have to announce the final winding up of the Flax Improvement Society of Ireland—an association which has been in operation for 17 years—successfully engaged since 1841 in the publication of information on Flax culture, and on the best methods of handling the crop after

harvesting it. "Every means," we quote the *Irish Farmers' Gazette*, "calculated to promote the object of the Society were adopted. Young men, specially selected for the purpose, were sent to Belgium, with the view of acquiring a knowledge of the system of cultivation followed in that country, and of the different details connected with the harvesting, steeping, and drying of the plant. These young men, and others trained by them, were afterwards sent out through this country, as practical instructors, and most painstaking were they in the performance of their duties; whilst the information afforded by them has been productive of much benefit, by introducing and establishing improved methods of cultivation and management. Of late years this system of practical instruction had not been so vigorously pursued by the Society, and we would not feel surprised to learn that in this circumstance will be found a reason which partly explains the want of vitality which latterly characterised its operations." The space which has been hitherto occupied by it must now be taken by the national and local agricultural societies, which will doubtless see it to be their interest to give more attention than hitherto to the cultivation of Flax.

—— We hope next week to draw attention to the recently published results of experiments with manures upon the Turnip crop in various parts of Scotland, which are of especial interest just now when the alternative of guano or artificial fertilisers is occupying the minds of intending purchasers. We may mention here that a trial by Mr. RICHARDSON, of Hibaldstowe, near Lincoln, of several manures purchased, not of the manufacturers, but of customers supplied by them, resulted in the superiority of ODAMS'S superphosphate and the phospho-Peruvian guano over other competitors.

—— Since the adjourned meeting of the Highland Society Mr. HALL MAXWELL, the Secretary, has issued a letter to the members, answering in succession the several charges brought against him by the writer of the pamphlet, inquiring "What's to become of the Highland Society?" to which we alluded at page 77. No reference is made in this reply to the case of Mr. Lawson; but on all the points taken up the answer appears to us to be complete.

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WE have received at the last moment before going to press a letter from Mr. C. J. COOKE, of 2, Middle Row, Maidstone, the Hon. Secretary to the Cottage Improvement Society, in answer to the criticism on their proceedings published by Mr. BAILEY DENTON in a recent number of this Paper. He says:—

"In answer to his remarks upon our cottages, I have only to say that Mr. BAILEY DENTON'S objections are just those with which we were met at first; but Mr. DENTON is now a little too late, as a considerable number of cottages have been built already within the prices specified by us. Of these I may mention as nearest to London, that Sir CULLING EARDLEY has erected at Erith a pair of cottages (Plan No. I.) at the cost estimated. With respect to these, Mr. HABERSHON, Sir CULLING'S architect, wrote to me at the request of Mr. MARTIN, our agent, to state the results. His letter contains the following passage:—

"'MR. MARTIN requests me to say that I have carried out for Sir CULLING EARDLEY two cottages on his estate at Erith, according, in all respects, to the published plans, and that they give me great satisfaction. They will be built within the cost named (155 guineas), and will, so far as I am able to judge, answer their end perfectly.'

"MR. DENTON speaks of a fair profit to the builder, to which I reply that it is not likely builders will work without profit, and therefore on that point the following letter will be conclusive.

"'Having erected several pairs of cottages according to the Society's plans, we are willing to carry out the same on the Society's estimates, to any extent, where the bricks can be obtained at 28*s.* per thousand.

'SEAGRAVE and BLOFIELD,* *London, Nov.* 3, 1858.'

"I beg to refer MR. DENTON to the following gentlemen whose names occur to me at this moment, as having built our cottages:—F. DASHLEY, Esq., Bexley; H. E. GURNEY, Esq., Reigate; T. HIBBLE, Esq., Hadlow; Lord SONDES, Norfolk; T. SQUAREY, Esq., Berks. There are a great many others all over England building according to our plans, and we purpose shortly to publish a list. With regard to the Enclosure Commissioners, our Plan No. 2 was taken up to their office before it was lithographed, and verbally approved of by Mr. DARBY and the other Commissioners, who were called by this gentleman into his room, and the plan submitted to them. They all expressed their satisfaction, and requested lithographs to be sent to them as soon as ready. As I perceive Mr. PUNNETT'S name mentioned by Mr. DENTON, I have only to say that that gentleman, who is a most respectable and responsible person, is quite ready to erect the cottages at our estimate, within a reasonable distance of Tonbridge, where he lives; and I may add for Mr. DENTON'S satisfaction that Mr. GURNEY'S builder (BARNES of Nutfield) has undertaken to do the same. In fact, in any locality there will be found no lack of builders if the resident gentry only furnish the means for effecting an improvement so essential to the well-being—physical, social, moral, and religious—of their labourers."

* The originals of these copies may be seen at the Society's Office, 18, Adam Street, Adelphi.

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## THE CASE OF THE BRITISH LABOURER.

[The following letters on this subject have appeared in the columns of the *Times* newspaper.]

*Wiltshire.*—In your impression of January 21 you kindly allowed a "Wiltshire Clergyman" to make a statement of the wages paid to Wiltshire labourers; may I beg the favour of being allowed space to make a few observations on the earnings of the said agricultural labourers? If, before making such an *ex parte* statement, the rev. gentleman had inquired of those "first-rate cattle breeders" and "skilful agriculturists," for which he says his parish is justly celebrated, he, doubtless, would have been informed that carters, shepherds, ox and nag men receive a higher rate of wages per week than the regular day labourers; whereas, the earnings of the latter class average for the year from 11*s.* to 12*s.* per week, independent of beer supplied them by their masters, amounting in value during hay and harvest times to several shillings per week. Their wives, too, get fully employed during the time of year in which out-of-door work can be done; and every boy able to "drive a team a-field," and every girl that can pull a weed, or handle a prong, is equally well employed. The "Wiltshire Clergyman" is correct as to the rent paid by the labourers for their cottages, a less sum than is paid by a traveller for a night's lodging at a common "mumper's lodge," or a working mechanic for a place to lay his head in London, or other large places, but for which 1*s.* per week (less than 2*d.* per diem) the farmer's labourer obtains a decent dwelling-house, garden, and appurtenances, which, with the land he gets in his master's field gratis, supplies himself and family with vegetables the year through; the Wheat usually gleaned in the fields by his wife and children keeps the family in bread, on an average, three months. Respecting coals, your rev. correspondent has overshot the mark, not being, perhaps, aware that the labourers seldom pay more than the depôt price, which throughout the country is not more than 1*s.* per cwt., having the advantage of its being brought home in their master's waggons on their return from market at little or no expense. The rev. gentleman is equally at fault touching the labourer's inability to patronise the butcher, or feed pigs; whereas, in my parish (which, from the description your correspondent gives of his locality, I am inclined to suppose it to be no great distance from my own, consequently but little difference in the circumstances of the labouring class), there is scarce a cottager that has not, this winter, killed his fat pig, averaging something like 15 score each. Wiltshire is famed for its bacon, and I assure you, sir, the cottagers here pride themselves, and justly so, in having a good fat pig in their sties; and my astonishment is that the clergyman should be ignorant of it, as I think it probable that, when making his pastoral visits, his olfactory nerves would make him sensible of the whereabout of the poor man's grunter's dwelling place. On passing through the villages in this neighbourhood you would not see a shoeless child or a slipshod woman, but all decently clad in suitable and substantial clothing. Enter their cottages, and you find them decently kept and suitably furnished—none of those distressing and heartrending scenes so vividly depicted in your journal under the head of "The Homeless Poor." By the press, parsons, and demagogues the English farmer, more particularly us of the western counties, have been held up as the most hard-hearted oppressive race of mortals, but were the true position of ourselves and workpeople better known, I flatter myself that even you, sir, would think that we, like a certain nameless gentleman, are not quite so black as painted. *A Wiltshire Farmer, Feb.* 1.

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*Wiltshire.*—I hope you will pardon a poor labouring man's boldness in begging you to print a few words to contradict the "Wiltshire Farmer" about wages to labourers, for it is but just that everybody should know the truth concerning it. I, with scores of other people, received 8*s.* a week till the fall of the year. In harvest time we had 4*s.* a week more, with beer for one month, and though we be no scholards, we think this would average 8*s.* 3½*d.* all the year through. Since that time we have had 7*s.* a week, and this is nothing but the truth, as you would find, sir, if you would come to Wiltshire and see us. We should like uncommonly to labour for that kind "Wiltshire Farmer" who gives his labourers 11*s.* and 12*s.* a week all the 12 months, but we do not know where to find him in these parts where we live. When we have paid house rent (which master keeps back when we reckon), and bought a bit of firing, which is very dear, there is not much left out of 7*s.* to buy victuals for ourselves and poor families—far less to feed such fat pigs as that gentleman talks about in his letter, which is nothing more or less than gammon. *A Wiltshire Labourer, Feb.* 5.

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*Suffolk.*—It is not often that a poor man like myself gets a look at *The Times*, but to-day your paper, which contains a letter from a "Wiltshire Farmer," has fallen into my hands, and if you will allow me an opportunity of writing a word in reply to it I shall be truly thankful to you. I am a labourer with a wife and four children, and if what the "Wiltshire Farmer" says about the wages of workmen in Wiltshire be correct, I should be very thankful to any lady or gentleman who would assist me to remove to that highly favoured county. I can assure you, sir, we never see 15*s.* a week here, in Suffolk, all the year round. Here we are receiving at present in my parish 9*s.* and 10*s.* per week. In hay and corn harvesting we receive more, as the "Wiltshire Farmer" states; but he omits in common fairness to have told you that then we work longer hours—say, from 5 o'clock in the morning till 7 and 8 o'clock at night. Our work is piecework, and we receive so much per acre. For six weeks I may make on an average—say, 20*s.* per week, and that would include beer. I am an ablebodied labourer, and my wages at the present rate would stand as follows:—

| | | | |
|---|---|---|---|
| 46 weeks at 8*s.* per week | .. .. .. .. | £18 | 8 |
| 6 weeks at 20*s.* | .. .. .. .. | 6 | 0 |
| | | £24 | 8 |
| Now deduct house rent | .. .. .. | £4 | 0 |
| Coals 1*s.* per week | .. .. .. .. | 2 | 12 |
| | | 6 | 12 |
| Which will leave | .. .. .. .. .. | £17 | 16 |

the actual sum upon which myself and wife and four children have to subsist. It is quite true that my wife might find work in the fields at 8*d.* a day, but is it possible for her to leave her baby to earn this pittance? I look forward with good hope to my eldest boy Jem, who is a very promising lad and is getting on nicely with his learning; but when he goes into the fields to "keep crows" or to "herd swine," his wages will not exceed 1*s.* 6*d.* a week—a small sum, sir, I think you will say, on which to maintain a boy in food and clothes. My wife, who is a sort of religious woman, has a great objection to girls going to work in the fields, for she says they learn bad morals there, and, as my two next eldest children are girls, I fear I cannot look forward with the same hope as I do to the boy, of getting anything by their labour. For some years to come, therefore, if I remain in Suffolk, I can only expect poverty, poverty, poverty. I cannot help feeling that the "Wiltshire Farmer" would have you understand that by employing our children farmers are actually benefiting us, while there is no mutual benefit to themselves. Now, sir, believe me that farmers know the value of a boy or girl as well as a sheep or a cow, and that they would not employ our children unless they got "their money out of them." There are boys now working on this farm upon which I have worked for 20 years, and only receiving 5*s.* a week, actually doing men's work. I don't like to see men held up unfairly as hard-hearted or unfeeling, but, judging from experience, I fear there is a great deal of hard-heartedness among the class to which the "Wiltshire Farmer" belongs. Farmers, as a body, do not show real sympathy for their workmen. Of course there are exceptions, but from what I have seen and known I should say the general feeling is this,—"How much can I get out of this man?" and not, "How shall I make this man comfortable and happy so long as he serves me faithfully?" I might add a word in defence of the parsons, if they were not able to defend themselves; but as they are I will only say that I am deeply grateful to the parson of this parish for his kindness towards me and mine. Through his efforts my two eldest children are being educated for 1*d.* a week, and we were all partially clothed last Christmas out of a clothing club. He is the friend of the poor, and I only wish your Wiltshire correspondent would follow our parson's example. When he and the class to which he belongs do this depend upon it they will not be painted so black as that nameless gentleman to which he refers. *A Suffolk Labourer, Feb.* 5.

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*Berkshire.*—I should feel greatly obliged if you could find a place in your valuable paper for the following statement. It will show how differently the poor of a village in Berkshire fare to those mentioned in the letter of the "Wiltshire Farmer." The wages of our carters, shepherds, ox and nag-men, as well as the labourers in winter, never exceed 9*s.* a week, and are more frequently down to 8*s.* a week. The wives earn 8*d.* a day, and boys and girls of the ages of from 10 to 14 years get 2*s.* 6*d.* and 3*s.* a week. In the harvest the wages average 12*s.* a week. No farmer in the village will draw coals for the poor, and the plots of land for the allotments are paid for by each occupant. The rent with bread and rent varying from 1*s.* to 2*s.* 3*d.* a week nearly consumes the poor man's wages. Most of our people have large young families, and out of a population of 400 only nine families are rich enough to keep a pig. Where the people find money for clothes, shoes, candles, soap, &c., is a mystery to me. We have had a great deal of low fever in the village since December, and I heard accidentally that a family were suffering much from it. I went to see them, and found the husband ill at home from his work, and three of their seven children (all under nine years of age) had with fever, and the wife, who daily expects to be confined, told me upon my asking her that she had nothing in the house but 4 lbs. of bread, and their master stopped William's wages while he was at home ill. Surely, sir, even in London there cannot be more abject distress than this, and with this difference, too, that the poor of London have so many good and benevolent persons to sympathise and help them, while here in the country we have only doled out charity from the Union for our afflicted poor brethren. *A Resident in a Berkshire Village, Feb.* 4.

## IMPEDIMENTS TO AGRICULTURAL IMPROVEMENT IN DORSETSHIRE.

AGRICULTURAL improvement has been and is still a favourite and fruitful theme both with landlords and tenants—the former we hope will give every encouragement to the latter by the erection of all necessary and suitable buildings by giving security for capital lying in the soil, and by removing all those antiquated restrictions in leases and agreements which were inserted by [illegible] The tenants we hope will, in return for even-handed justice and liberal treatment, farm on those improved principles that will benefit both themselves and their landlords.

Now this heading leaves a wide field for those gentlemen who have leisure, ability, and inclination to enter on it and search for the facts that lie hidden under the dust of past time. The mighty advance which has been and is still being made in science and practice, the progress of chemistry and other sciences, the wonderful advance in the knowledge of mechanical power, and the increased consumption of manures and feeding stuffs that enrich our soils, give a far different aspect to farming matters to what it wore a few years back.

What does this increased fertility of our soils and the consequent increased amount of capital lying dormant in our soils point to? Why, to long leases containing stipulations unthought of by our fathers. The vast expenditure incurred in the purchase of new implements, without which we could not compete with our neighbours and with continental and American agriculturists, and in manures and feeding stuffs, without which our land would be impoverished and our stock discreditable and less profitable—the increased expenditure thus incurred lessens the margin for profit, but increases the risk when we have not security for the capital employed. Greater crops are grown with increased expense, and greater danger is encountered through the increase of capital in the soil; still without carrying out the improvements in modern agriculture we should be left behind in the struggle against low prices, caused by increased competition, and against increased poor rates, &c.

Now the past year has been one eventful, in Dorset, for useful discussions at Farmers' Clubs and on paper on many interesting agricultural subjects. Much light has been thrown on them, and much good has resulted from it; but we are sorry to say that this vexed question of farm leases has been left undiscussed, but not unthought of. We are inclined to believe that a better knowledge of the wants of their tenantry would lead many landlords to grant leases on those liberal terms required with improved husbandry, for we are sure that they will agree with us that it is absurd to say, "Improve, improve," in the teeth of a set of covenants, or under circumstances which say, "Do it if you dare!"

It is easy to show that much loss is caused to both landlord and tenant through this disheartening policy of yearly tenure being adhered to. The disadvantage attending the impoverishment of the soil by the out-going tenant is incalculable, and cannot be easily prevented with justice to the tenants, except by granting them long leases with restrictions as to cropping during the last few years of their tenancy. The tenant, even the yearly tenant, is bound, in justice to his landlord, to advance with the times; therefore no farm should be left in the same foul and barren state in which it was taken—it is only just of his landlord to expect it. Yet as yearly occupants the tenants cannot and will not leave it in the state in which the in-coming tenant ought to find it. He probably entered that farm when the soil was full of weeds of the worst description, and of seeds ready to germinate and become his enemies the first month of his tenure. This perhaps was not the greater evil, for probably the land was in that vile state of sterility which time and good cultivation alone would remedy. He cleans that land only to see it again covered with weeds that sprung from those rootlets which no implements can get out of the soil, and which can only be destroyed by exposure on the surface and by frequent stirring, and from those seeds which were shed on the soil in former years. He manures heavily for his crop of Turnips, and by spending much extra money in these manures and in hoeing he has the satisfaction of getting an average crop of roots. These are fed off by the sheep which leave a covering of manure that would, under ordinary circumstances, produce not only a luxuriant but a profitable crop of corn. This must not yet be expected from this soil, for the addition of these crude manures, although they produce an abundance of straw and increase the yield of grain, will not give that yield of grain on which the profits depend—will not give that yield from the straw which time and good cultivation will bring about. Heavy crops of straw can be produced by heavy manuring, but this land cannot be made to produce its maximum yield for some years, and the result is the farmer goes on losing money, from this and other causes, that he will never regain unless he has the farm many years. Does not this again point to long leases? to security for capital employed in the cultivation of the land? Is not this state of the farm brought about wholly through the out-going tenant being subjected to quit his farm at six or twelve months' notice?

Giving long leases is the only practical means of finding out what knowledge is possessed by the occupiers of land, for immediate profit is the aim of the yearly tenant. There is a wide difference between a man of great knowledge in his profession and a man whose acquirements are small. The former requires less capital than the man of little experience, he has knowledge of the capital required, he knows what stock and implements are required, and that which is best suited to the soil; he knows the best crops for the descriptions of soil under his care, he knows how to clean and cultivate it, he knows what to expect from the soil, and he farms with advantage and ultimately with profit. Now what does this farmer find? He finds that one great requisite is security for the capital he has in the soil. He is not bold enough to treat his land liberally, he has not got the daring spirit that would place money in another man's hands when he imagines that there is danger of losing it, and he farms in that style which brings him little profit and less credit.

The following, which appeared in the *Mark Lane Express* many years ago, may be quoted as an instance and a proof of the advantage to be derived by both landlord and tenant from a long lease, and gives a very intelligible conception of the stipulations and restrictions required for security to both. It was intimated to a tenant that if he wished for a lease his landlord was willing to give it. He therefore allowed but little time to elapse before he presented himself, when the following conversation took place:—

*Landlord.*—You wish for a lease, I believe?

*Tenant.*—Yes, my lord, if you have no objection.

*Landlord.*—If I grant you a lease for 21 years, what restrictions as to cultivation can you agree to?

*Tenant.*—No restrictions at all, my lord. The noble lord, who was not remarkable for unbending to inferiors, could not here restrain a smile; but, seeming to allow for the simplicity of the tenant, began again:—

*Landlord.*—If, then, you object to restrictions, by what way do you propose to proceed?

*Tenant.*—My lord, I conceive that, in a lease of 21 years, I can do the farm no injury during the first 15 or 16 years of it without inflicting upon myself a greater; and I think my own welldoing (so far as the portion of time I have mentioned) is a sufficient security to your lordship; but I am ready to allow that for the last five or six years it is possible for me to benefit myself, and yet do great injury to the farm; therefore for that portion of the time, I am willing to submit to any conditions your lordship may think fit to impose.

*Landlord.*—Well, that is not so unreasonable. Then, for the last seven years, you will not object to farm the land equal to what has been done in the former part; say, one-seventh part fallow, the usual proportion of good preparation for Wheat—such as Clover lea, Bean or Pea stubble—and so on to the end?

*Tenant.*—My lord, I shall be happy to take the lease upon these terms.

A lease was granted immediately for the time specified; no other restraint was imposed upon the tenant; the lease expired; a second lease was granted upon the same terms, and is now in progress.

This case requires no comment: we recommend it to the notice of liberal landlords with the assurance, which we take from the same authority, that this tenant purchased extra manure annually to the extent of two-thirds of his rent.

The late Lord Eldon was an advocate for and saw the benefit which he and his tenants derived from leases, as may be seen in a letter published in his "Life," by Horace Twiss. In alluding to the improvements made in their farms, his lordship says, "For this I thank you; and I cannot but attribute these beneficial effects, in a great measure, to the alteration which you have made in the tenure of your farms in taking them for a term, instead of from year to year. It is evident to me, as it must, I think, be to you all, that a tenant who is liable to be removed in a year from his farm cannot satisfactorily to himself make those improvements which he will do when he is sure that he can remain on his farm long enough to reap the benefit to himself of those improvements. I thank you all for your management."

"Tenant right" is another form of security to the occupier. This form of agreement was a subject with which the public mind was filled to overflowing a few years back, and many were the rules drawn up by competent hands to meet the demands of tenants when prices of stock and corn were low.

The term "tenant right" is not in our opinion what ought to have been used to express what was intended, even-handed justice, for it was not wished by the tenantry of England that the rules should be drawn up for the purpose of preserving their rights and giving them security, any more than that of their landlords. It is repulsive to our mind, as showing that the landlord's rights are lost sight of, or at least are not to be taken care of, whilst those of the occupiers are to be scrupulously guarded.

If those landlords who let their farms from year to year with six or twelve months' notice to quit are determined to adhere to the antiquated system, we cannot see how the occupiers are to be compensated for unexhausted improvementa, unless they do get a list of rules drawn up similar to those which have been carried into practice on the estates of Mr. Sturt, of Critchel (see "Farmers' Magazine," 1849). One of those rules is very objectionable, and which perhaps ought to receive our attention with the object of directing the attention of others to it that are more directly interested in its decision. "Rule 4.—Lime if used by itself, or with common mould, according to the following scales. Heavy soils, six years:—

| | | | | | |
|---|---|---|---|---|---|
| 1st year, | the out-going tenant to be allowed | | | 20*s.* | in the pound. |
| 2d year, | ,, | ,, | ,, | 17*s.* | ,, |
| 3d year, | ,, | ,, | ,, | 14*s.* | ,, |
| 4th year, | ,, | ,, | ,, | 11*s.* | ,, |
| 5th year, | ,, | ,, | ,, | 8*s.* | ,, |
| 6th year, | ,, | ,, | ,, | 5*s.* | ,, |

Light soils, three years:—

| | | | | | |
|---|---|---|---|---|---|
| 1st year, | the out-going tenant to be allowed | | | 16*s.* | in the pound. |
| 2d year, | ,, | ,, | ,, | 10*s.* | ,, |
| 3d year, | ,, | ,, | ,, | 5*s.* | ,, |

It ought to be stated that the "first year" means the year in which the lime was laid on and previous to a corn crop being taken. We are well aware that lime ought not to be applied to light soils in a caustic state, and we presume that it was with this view that the rule for light soils was drawn different from that for heavy soils. We do not hold this opinion as an undeviating rule, but it holds good generally; there may now and then be an isolated case where caustic lime may be used on a light soil with advantage to the occupier. Now, this does not alter the general standing of Rule 4. The incoming tenant will be really paying his predecessor in the second year 17*s.* in the pound for an unexhausted improvement!! What? does caustic lime improve our Dorsetshire clays at the rate of 17*s.* in the pound in the second year? We thought that it was well known that caustic lime exhausts the soil, improving and increasing the yield of the Wheat crop, to which it is usually applied to the detriment of the crops that follow. It destroys organic matter that is often abundant in the soil, and causes it to become food for growing plants, and it liberates other ingredients of the soil that would be otherwise inert. These are carried into the plants by the vehicle, water, there to assist in building up its structure. Now, what does it add to that soil? It adds lime, that one constituent of plants, lime, and how rarely do we find any other valuable ingredients, such as phosphate of lime. Well this, we must say, is picking the pocket of the in-coming tenant. Had those gentlemen who framed those rules forgotten the old and correct view of liming? Had they forgotten the old saying that it enriches the father but impoverishes the son? Or, perhaps, they might have been misled by this old saying, owing to its not being sufficiently explicit—perhaps they thought it required some years for this caustic lime to return to a carbonate. If this rule was reversed—if the out-going tenant were made to pay this sum instead of receiving it, it would more nearly meet our view.

We are against "tenant right" in any form, for who amongst us as tenants have any desire to place his money in another man's hands that he may spend it in manures according to his judgment? He may be a very spendthrift in manures, cake, &c., and spend it, through ignorance, to that disadvantage to his successor which may cause much loss and consequent ill-feeling.

The conclusion we must draw from this hasty, slight, and imperfect sketch of some of the impediments to agricultural improvement in Dorset is, that it is to the interest of landed proprietors to seek carefully for tenants of extensive knowledge, give them long leases, offer them every advantage compatible with the interest of both, and expect in return that the land should be farmed on those improved principles and with that neatness and regard to appearance of which the occupier may be justly proud.

Whilst we have insufficient buildings, yearly tenures, and no security for capital lying in the soil, what are we to do? We are afraid to treat our land liberally because of the great changes that are constantly going on. Death comes amongst us every day, and who can say that the next victim may not be our respected and valued landlord, in whom we have confidence, and who can say that his successor may not follow the example of some young gentlemen who have lately come into large landed estates in England? Give us good farm buildings and leases for 21 years and we will employ more horse and manual labour—will use more manure and feeding stuffs, and will farm with greater credit to ourselves and to our landlords. We will increase our green crops and add to our flocks—will grow more mutton, more wool, and more corn—in fact we will grow nine sacks of corn where we now grow eight, and that contented, cheerful, and happy spirit will prevail which is the precursor to all that is progressive. *G. S.*

## LIABILITIES OF FARMERS FOR RENT IN CASE OF FIRE.

EVERY farmer in England—nay, every tenant householder for a term of one year or more—who has not made a special stipulation for the contingency of fire, is deeply concerned in the decision of the judges of the Court of Queen's Bench, in the case of *Lafft and others v. Dennis*, which will be found in our present paper. We are not going to discuss the merits of this particular case—whether the conduct of the tenant justified the landlords in refusing to rebuild, or whether the claim of rent under the circumstances was, as alleged for the defendant, "a most unrighteous one;" the question with which the public have to do is the law of the case, as expounded by Lord Campbell and confirmed by the concurrence of the other judges. The broad facts of the case are these: the farm buildings were burnt down, and the landlords, though they received the insurance money, refused to rebuild them, but held the tenant to payment of the rent, without abatement for the loss of accommodation; and the Court decides that the tenant is by law liable to pay it. It is admitted that the tenant hired the farm with certain buildings thereon, which of course formed part of the consideration of his hire. It is not pretended that he was liable to replace them in case of fire—indeed, the fact of insurance by the landlord proves the contrary. The highest authority on the law of real

property, Lord St. Leonard's, in his manual of "Property Law," which was written for the express purpose of enlightening the unlearned in the law as to the sale, purchase, leasing, and other modes of dealing with real estate, has laid it down that, if a landlord has insured and received the money, he cannot compel payment of rent if he declines to lay out the money in rebuilding. But the Court of Queen's Bench has unanimously upset the dictum of the ex-Lord-Chancellor. By the Scotch law, says Lord Campbell, the tenant would in such case be relieved from rent, but, by the law of England, if there be an absolute covenant to pay rent, the covenant must be performed, though the tenant is deriving no benefit from the premises. See, then, the position in which every tenant in England is placed, if his lease or terms of hire contain no provision for the cessation or abatement of rent in case of fire until the premises are reinstated—unless the tenant be bound by his covenants to reinstate, and therefore to insure for himself. It may be that few landlords would take advantage of such a state of the law, or that few tenants would place themselves in such relations towards a landlord as to provoke him to stand upon so seemingly "unrighteous" a "right;" and therefore it is that tenants have remained so long unconsciously in this state of jeopardy, and only one, not very old case, is cited to prove that the great property-lawyer is in error. But the fact that the law has generally slept, does not make it less the duty of every tenant to see that it remains law no longer, or to protect himself by requiring stipulations from his landlord, or, if that be not in his power, to protect himself during the currency of his lease or hire, by insuring in his own name the buildings which he occupies. For let us just see how this promulgation of the law will work. As a general rule, though there are some exceptions, the landlord insures: it now appears that, if there be no stipulation with the tenant, the landlord, whether insured or uninsured, is not bound to rebuild: he may therefore decline to insure what he is not bound to replace and throw the onus on the tenant; or he may do worse—he may take advantage, when a fire occurs, of a "sleeping lion," as such laws have been called, and impose upon a tenant the burden of reinstating, for which he had not covenanted, or the loss and inconvenience attending the want of accommodation for his business. We have no doubt that the Court of Queen's Bench is right, and that Lord St. Leonard's is wrong in the law: indeed on the face of it there is no reasonableness in the statement of the "Handy Book," that the landlord is not bound to insure, and if the house be burnt down, uninsured, the tenant must continue to pay the rent for what he is no longer enjoying the use of; but otherwise, if the landlord had insured. The insurance is a bargain between the landlord and the Insurance Office only, by which the latter takes the place of the former for a certain consideration; but a contract to which he is no party, and of which he may have no cognisance, cannot give to a tenant a right of which he was not before in enjoyment.

Farmers and tenant-householders, then, have an interest—more urgent than for Parliamentary Reform—to obtain an immediate assimilation of the law of England to that of Scotland, in which they are promised the assistance of the Lord Chief Justice; and we cannot believe that legislating landlords will justify the assertions of Mr. Bright by resisting such a measure. It is nothing to say that, in the case referred to, the law afforded to the landlords the means of redress, or retaliation, for losses to which, as they affirm, they were put by the tenant in another matter. It is not for us to inquire how a tenant without a lease could retain possession, to the detriment of a sale, against the wish of his landlord—and we know that the tenant in this case alleges something on the other side; but however this may be, the principles of justice do not allow that wrong on one side should be redressed by wrong on the other.

In a word, the farmer or the householder must either obtain an alteration of the law, or an engagement from the landlord, if he have not one already; or failing either of these, he must insure his occupation till relief is afforded.

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COURT OF QUEEN'S BENCH, Jan. 21.

*Lofft and others* v. *Dennis.*—This important case came on for argument before the full court upon demurrer. Mr. Godfrey appeared for Mr. Capel Lofft, of Bridgewater, Somersetshire, barrister-at-law; the Rev. Thos. Settlewood Gleadowe, of Fodesley, Shropshire, clerk; and the Rev. Frederick Elwes, of Wixoe Rectory, Halstead, Essex, clerk, plaintiffs; and Mr. Phipson and Mr. Joseph Kay appeared for the defendant, who is a farmer, residing at Wicken, in Cambridgeshire. Mr. Jackson, Haverhill, attorney for plaintiffs; Mr. Cross, Ely, for defendant.

By the statement of the defendant's case it appeared that defendant was tenant, under the plaintiffs, of a farm called "Spinney Abbey," in the parish of Wicken, Cambridgeshire. At the time when he entered into possession there were the usual farm buildings and conveniences; no agreement was made respecting insuring the buildings, but the lessors effected an insurance, paid the annual premiums, and sometimes employed their tenant to pay the policy for them. The defendant, knowing that the buildings were so insured, and not being bound to insure, and believing that, if the buildings were injured or destroyed by fire, the lessors would be bound to restore them, did not effect any other insurance upon the premises. After the defendant had been in possession for many years, the premises were destroyed by a fire, which took place in June, 1856, and thereupon the plaintiffs applied to the Royal Exchange Insurance Office, and received the full value of the damages (about 1000*l.*) which had been caused by the fire. They refused, however, to rebuild the premises or any part of them, and subsequently, when the rent became due, they brought an action against the defendant for his rent, making no reduction on account of the destruction of the farm buildings. The defendant objected to pay, on the ground that his landlords had received the value of the buildings and refused to restore them. These facts he stated in the form of an equitable plea to the plaintiffs' declaration. The plaintiffs objected by demur to these facts, as being no answer to their claim.

It was contended for the defendant that the claim was a most unrighteous one, and that there were many authorities in the books to show that it could not be established. The defendant relied on various cases decided, and particularly on the case of *Brown* v. *Quilter*, 2 Ambler's Reports 619, in which the then Lord Chancellor said: "The justice of the case is clear, that a man should not pay rent for what he cannot enjoy, and that occasioned by an accident which he did not undertake to stand to. I am much surprised it should be looked upon as so clear a thing that there should be no defence to such an action at law, and that such a case should not be considered as much an eviction as if it had been an eviction of title, for the destruction of the house is the destruction of the thing. When an action is brought for rent after the house is burnt down there is good ground of equity for an injunction till the house is rebuilt." Defendant's counsel further relied on Lord St. Leonard's Handy Book, in the 15th letter of which it is thus laid down: "If you (the landlord) have insured, although not bound to do so, and received the money, you cannot compel payment of the rent, if you decline to lay out the money in rebuilding."

The counsel for the plaintiffs stated that there were peculiar circumstances which led to the non-reinstatement of the premises, and for which the defendant had himself alone to blame. Immediately after the money was received from the Insurance Office, the Rev. J. Elwes, one of the plaintiffs, went to the farm with his builder, to make arrangements for the reinstating of the buildings; but he withdrew when he found that the defendant, who was only a yearly tenant, set up a claim to have a lease. By that claim he prevented his landlords from accepting an offer to purchase the farm, which was afterwards sold at a loss of 750*l.* The defendant paid the rent for three successive half years after the fire, without any claim to a set-off on the ground of the buildings not having been restored. The farm was sold last summer, and it was not till after the sale, when the defendant was called upon for the half-year's rent to Lady-day (235*l.*), that he laid claim to such set-off, although, as a yearly tenant, he might have previously quitted possession. But for his own obstinacy the premises would have been reinstated soon after they were destroyed. On the question of the legal right to recover the rent, plaintiff's counsel relied upon the case of *Leeds* v. *Cheetham*, 1 Simons' Report 146, decided by Vice-Chancellor Sir John Leech, which was opposed to the authorities cited in favour of the defendant.

Lord Campbell said that by the law of Scotland, if premises were burnt down, the tenant was relieved from the payment of rent; but, by the law of England, if there was an absolute covenant to pay rent, the covenant must be performed, though the tenant derived no benefit from the premises. So also in Scotland, where shootings were rented, and it turned out there was no grouse, the payment of rent might be resisted. But, by the law of England, it was no answer to an action for the rent to say that the premises had been burnt down; nor was it any ground for the interference of a Court of Equity. It was said the plaintiffs had insured, though they had not entered into any covenant to do so, and had received the money. It might be that they would act unhandsomely, if, under such circumstances, they did not lay out the money in rebuilding, and harshly, if they brought an action against the tenant for the rent; but that was not the equity which formed the ground for the interference of a Court of Equity. The case of *Leeds* v. *Cheetham* (1 Simons, 146) was an authority on that point by a court of co-ordinate jurisdiction, and by it this Court ought to be bound. If the defendant wished to overturn it, he must go to a Court of Error; but he (Lord Campbell) must say, he entirely approved it. It made no difference that the landlords had received the money, for they were not bound to lay it out. His Lordship added some strong expressions in favour of Lord St. Leonard's "Handy Book," and said that if it were proposed to make it law, he should support such a proposal; but at present it was only the opinion of a learned Judge, and the Court could not be governed by it, contrary to a most solemn decision. The other Judges (Justices Wightman, Crompton, and Hill) were of the same opinion, that the plea was no answer to the action.—Judgment for the plaintiffs. *Bury and Norwich Post, February* 1, 1859.

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## FOWLER'S STEAM PLOUGH.

THE following is the report by the judges on the trial of ploughing by steam, on the farm of Stewarthall, near Stirling, occupied by Mr. W. Forrester, in October and November, 1858:—

"With a view to the further encouragement of steam cultivation, a subscription was entered into during the year by a few landed proprietors and others in the neighbourhood of Stirling, supplemented by a donation from the Highland Society; two premiums were offered—one of 50*l.* and one of 15*l.*—for the two most efficient steam ploughs or cultivators, the conditions being, to plough or cultivate at the trial at least 70 acres, if required, and to be more economical than horses.

"Although these premiums were pretty widely advertised, and circulars sent to most of the leading implement makers, to the regret of the judges, only two entered the lists for competition, viz., Mr. Fowler, of London, and Balderston, of Glasgow.

"The trial was fixed to take place on the farm of Stewarthall, possessed by Mr. William Forrester, and to commence on the 26th of October.

"The following gentlemen were named as a committee of judges to award the premiums:—Messrs. John Murray, of Touchadam; Robert Graham Moir, of Leckie; David Stewart, of Stewarthall; John Miller, of Leithen; James Stirling, C.E., Edinburgh; George Hope, farmer, Fenton Barns; Peter M'Ewen, farmer, Driphill; John S. Jack, farmer, Carrat; and John Patterson, farmer, Cowie.

"On the morning of the trial Mr. Balderston intimated that, owing to certain breakages, he could not be at the trial with his machine. The principle of this machine we understand to be, a locomotive engine of eight-horse power having gearing attached to a spade 4 feet wide, placed behind the hinder wheels, by which spade the land is dug over as the engine moved along. Mr. Fowler's plough however was on the ground, and the business which remained for the judges was to determine whether that plough was worthy to receive the premium.

"The first day of the trial was very unsatisfactory from the engine brought forward having only one cylinder, making the start at every turning of the [illegible] very unsteady and difficult. It was agreed, therefore, to postpone the trial until a more suitable engine [illegible] got, and the following calculations are based on [illegible] performed in part of four days, when the new [illegible] cylinder engine was at work.

"On the two public trial days and 1½ day previous 20¾ acres were ploughed in 23¾ hours, which is at the rate of 52¼ acres in 60 hours, or 6 days, working 10 hours a day. One half of the land was ploughed 8 inches and the other 7 inches deep.

"The judges are of opinion that the cost of ploughing this land by horses would be 8*s.* 9*d.* per acre, and would amount to 22*l.* 15*s.*: allowing, however, time for repairs, short days and wet weather, four days a week is reckoned the average of working time for the year; this would give 35 acres per week, which at 8*s.* 9*d.* per acre is 15*l.* 6*s.* 3*d.*

"The daily cost of the steam plough is, engineer 4*s.* 6*d.*, ploughman, 3*s.*; labourer, 2*s.* 6*d.*; three men at 1*s.*, 3*s.*; coals, 7*s.*; water, 6*s.*; oil, &c., 1*s.* 6*d.*; interest at 5 per cent., and tear and wear at 20 per cent., 10*s.* 6*d.*; cost of removal, 4*s.*, being at the rate of 2*l.* per day, or 12*l.* 12*s.* per week.

Cost of ploughing 35 acres by horses at 8*s.* 9*d.* per acre £15
Weekly cost of steam plough 12*l.* 12*s.* As the foregoing calculations are made on four days' work per week, two days' coal and water are deducted from the weekly expense, 6*s.* and 7*s.* each per day, 1*l.* 6*s.* .. .. .. .. .. .. [illegible]

Weekly balance in favour of steam plough .. .. £4

"Note.—The work performed by the steam plough was equal to anything done by the common plough.

"After ploughing 60 acres at Stewarthall, it was taken to Polmaise Home Farm, where it trenched several acres of heavy clay; here the work was not quite so satisfactory as the trenching in the alluvial soil at Stewarthall, which might be attributed in a great measure to the trench plough not being properly set for that description of soil; still, what it did was a great work.

"As it was considered desirable to see the plough work on undulating dryfield land, it was taken to the farm of Cowie, possessed by Mr. John Patterson, on the Polmaise estate, where it ploughed several acres in first-rate style. On the top of the hill a few additional rope-porters were required for the bearance of the wire rope, and as owing to the undulating nature of the soil the ploughman was out of sight of the engineer at the anchor end, the boy attending the anchor signalled from the top of the hill.

"Mr. Fowler since exhibiting here in 1857 has greatly improved his apparatus, in making the engine and windlass in separate parts, by which it is more easily transported from field to field, as also having the wire rope working on and off two grooved pulleys instead of coiling and uncoiling on and off two drums, thereby lessening the length and friction of the wire rope.

"From the foregoing calculations it appears there is a large saving by the employment of the steam plough; but the mere lessening of expense is not the principal advantage to be derived from steam cultivation. It gives the agriculturist a greater command of the soil, and makes him more independent of the season, and enables him to plough the land in weather when horses could not be employed.

"We therefore consider Mr. Fowler well entitled to the premium of 50*l.* JOHN MURRAY, Chairman.
" D. STEWART, JOHN PATTERSON,
PETER M'EWEN, J. MILLER,
JOHN S. JACK, ROBT. GRAHAM MOIR.

"Having only attended the first day when the working of the engine was unsatisfactory, I could not sign the above, but having seen the plough at work since I have no doubt of the correctness of the report.
"GEORGE M. HOPE."

A short time subsequent to the competition a meeting of landed proprietors, farmers, &c., was held in the Golden Lion Hotel, to take into consideration the propriety of purchasing a ploughing machine for the district. The following minute will explain the result of the meeting:—

"Gibb's Hotel, Stirling, Jan. 14.

"At a meeting of the subscribers for the purchase of a steam-engine, with ploughs and threshing machine, held here this day, Mr. Murray, of Polmaise, in the chair, the chairman stated that Mr. Fowler offered to supply a 12-horse double cylinder engine of Clayton & Shuttleworth's, with all necessary gearing; also with subsoil ploughs, adapted for ploughing 11 inches deep, and ordinary ploughs, such as he exhibited here; likewise a double blast threshing machine of Clayton & Shuttleworth's, with patent axles and double shafts; the engine, ploughs, and threshing machine to have all the most recent improvements, up to the time of their delivery, for the sum of 954*l.*

"The meeting unanimously agree to accept of the offer; and Mr. Greig, on behalf of Mr. Fowler, agreed to deliver the above-mentioned machinery at Stirling (carriage paid by the company) on the 1st September.

"It is understood, in conformity with Mr. Fowler's letter, that before the company are required to take over and pay for the above, they shall have done their work to the satisfaction of Mr. Miller, of Leithen."

The *Stirling Journal and Advertiser*, from which we copy the above report, observes:—

"We are glad to see the enterprise displayed by our

agriculturists in thus spending about 1000*l.* on ploughing and threshing machinery. It is an example which might well be followed by other districts of Scotland, and it speaks volumes for the desire of our landed proprietors and farmers to keep pace with all the improvements of the day. We wish them much success in this speculation, which we can hardly doubt after the report given above, will turn out a very successful one. The principal parties who form the company are John Murray, Esq., of Touchadam and Polmaise; Robert Graham Moir, Esq., of Leckie; Wm. Stirling, Esq., of Keir, M.P.; James Johnstone, Esq., of Alva; John Miller, Esq., of Millfield and Leithen; Captain Nicolson, of Carnock; David Stewart, Esq., of Stewarthall; along with a number of enterprising farmers, including William Forrester, Esq., Stewarthall, who has all along shown such an interest in the success of the movement for ploughing by steam. This gentleman deserves much credit for his unwearied exertions on this occasion."

## Home Correspondence.

*What does it cost to keep a Hampshire Down Ewe for twelve months, including the keep of her Lamb until sold as a Stock Lamb in June or July?*—Mr. Bond in his very useful paper read before the London Farmers' Club estimates it at 5*d.* per week, or 21*s.* 8*d.* per annum, charging the food at cost price. Having an impression that the cost is greater than this, I should be glad to see some of your correspondents' estimates. The cost price of Mangel in our county would be about 7*s.* 6*d.* per ton, or 2*d.* per bushel. Swedes with us would cost 10*s.* per ton at least. Would it be safe to reckon on less than half the cost of a fattening sheep as the proper charge? Ewes are great consumers when giving milk, to which must be added the food of the lamb, and the cross of the Cotswold quoted by Mr. Bond would produce a large consuming lamb. Mr. Lawes (in his valuable papers on Sheep Feeding, Society's Journal, vols. 10, 12, and 13) shows the weekly cost of fattening a Hampshire Down sheep to be—

| | *s.* | *d.* |
|---|---|---|
| 8 lbs. oilcake, at 1½*d.* per lb. .. .. .. | 0 | 10 |
| 7 lbs. Clover-hay, at ½*d.* per lb. .. .. .. | 0 | 3½ |
| 106 lbs. Swedes, at 5*d.* per 112 lbs.; or 8*s.* 4*d.* per cwt .. .. .. .. .. .. | 0 | 4¾ |
| | 1 | 6¼ |

for a period of six months under favourable circumstances of shelter. This accords with my own experience. After paying for the purchased food (Clover-hay, and oilcake), nothing was left to pay for the Swedes, attendance and shelter. Mr. Bond estimates the keep of the sheep and lamb during the three spring months at 9*d.* per head per week. Is this enough? Would not such an animal with her large cross-breed lamb consume as much as a fattening sheep? Again, during the three summer months the estimate is 6*d.* per week for the ewe with her lamb? How does this contrast with Mr. Lawes's 1*s.* 6*d.* per week? My object is merely to elicit truth and a sound basis, because Mr. Bond's statement of profit beyond the manure would be entirely annihilated if the ewe cost 7½*d.* per week instead of 5*d.* We know that stock ewes are excellent scavengers on a farm, but they are large consumers; I hope Mr. Bond will be kind enough to tell us how many acres of produce are consumed annually by the 300 ewes and their lambs, and what is the rent and quality of the land. A neighbour of mine told me that 70 fattening sheep having 1 lb. of cake per day consumed 36 acres of his produce. He thought 100 ewes would require the produce of 50 acres at least. On this calculation Mr. Bond's flock would require 250 acres; at his estimate of annual cost, 21*s.* 8*d.* each, the return upon this 250 acres would be but 542*l.* I do not agree with Mr. Bond about two years' Clover. I find that my first mowing of Clover for hay sells for about 8*l.* per acre. I then allow the second crop to grow fully and feed it with sheep eating 1 lb. of Rape-cake per day. This gives me a heavy crop of Red Wheat, succeeded by 5 or 6 quarters of Rivett Wheat. On my farm of 170 acres I grow 50 acres of Wheat annually, and 50 acres of Oats, Barley, and Beans. I presume from Mr. Bond's statement that on his 800 acres of land he only grows 150 acres of Wheat. In these times we must produce much corn as well as meat. Two years Clover leas are not likely to do this, nor are poor pastures. Breeding lambs and fattening them for the butcher would produce more corn than selling them as lean stock. Mr. Bond's paper having appeared in many publications I have also distributed these remarks with a view to an elucidation of the subject. *J. J. Mechi, Tiptree Hall, Kelvedon, Essex, Feb. 7.*

*Rates of Wages.*—In reference to the statement from the Bath and West of England Agricultural Society's Journal of the comparative rates of wages in different counties, I believe it will be found upon inquiry that although the wages of South Devon are at the apparently low rate of 7*s.* or 8*s.* a week, the real amount is much augmented by the custom which prevails there, that the labourer is to be supplied with his corn at a fixed price through the year, much below the market prices; by which means he is made more independent of fluctuations in food and wages, and more satisfaction exists between master and workman. *J. G., Bury St. Edmunds.*

*The Cottage Improvement Society.*—Having carefully studied a set of the plans of the Cottage Improvement Society, I think that there are many objections to be found with these cottages, and as I hope that it may lead to further discussion on the subject, I will now attempt to describe them. The cottage having three bedrooms, the living room 11 by 9.4 is too small for a large family; it ought to be 12 by 11. The kitchen, 11.4 by 9.4, is larger than necessary; 7 by 7 would be sufficient for a scullery. The pantry is badly placed, as no fresh air can enter it. This would not answer in the country, especially if cottages are on the farms, and goods bought perhaps only once a week. One door only to cottage; this is bad; there ought always to be a back door. The aspect for entrance door must be bad for one cottage, being either to the north or east, the other being south or west. The boys' bed-room is too small. The brickwork between cottages too thin, only 4½ work. "Necessary" badly placed, being under bedroom windows; better to follow the old plan, and place it in a wood and tool house, about 20 feet behind the cottage. There also appear to me to be several objectionable points in the specification, and that in aiming at the low price of 168*l.* for two cottages any landowner erecting such cottages would have very unsatisfactory buildings; and that he would find it more satisfactory in every respect to build cottages at a cost of 200*l.* to 250*l.* the pair on his farm ("to be let with the farms"), and should the supply of labour be short, the tenants would gladly pay him interest for such an outlay. The best plan of cottage that I have seen has been one combining the English and Scotch systems. A dining-room and a bedroom on the ground-floor with two bedrooms over. The scullery and the pantry were in a lean-to at the back of dining-room. The entrance was in the centre through a porch. As you entered the dining-room was on your left, the bedroom on the right, the stairs facing you. *Anon.*

## Societies.

### ROYAL AGRICULTURAL OF ENGLAND.

WEEKLY COUNCIL: *Feb.* 9.—The Rev. L. Vernon Harcourt in the chair.

Captain Burgess, Secretary of the United Service Institution, transmitted specimens of Guano from Shark's Bay, West Australia, and a portion of soil from the same locality, sent to England by Captain Denham, R.N., of H. M. surveying ship Herald.—The Royal Agricultural Society of Belgium announced a second trial of reapers, to be instituted in that kingdom this year.—The Smithfield Club presented a cask of Wheat sent to them by the Port Phillip Farmers' Society, at Melbourne; samples of which, in bags, for trial, may be had on applying at Messrs. Thomas Gibbs & Co., the Society's seedsmen, by such of the members as may feel disposed to test its merits by trial, and report the result to the Council of the Society.—Mr. S. Kitto, having returned from California with a supply of Wheat from that country, offered to place it at the disposal of the Council under the condition that it should have a "fair trial."—Captain Childers favoured the Council with an offer to communicate to the Society any information he could afford relating to the temperature of the Island of Jersey, its physical character, and population, native and resident.—M. Carl Loeffler transmitted a work on the breeding of poultry in Germany, and Mrs. Eliza Acton a copy of her "English Bread Book;" and several foreign societies their current Transactions.

FARM-YARD SEWERAGE.—Mr. G. Rochfort Clarke, of Chesterton Lodge, Bicester, Oxfordshire, transmitted the following suggestions:—

"I wish to bring the following observations, on the subject of sewerage, under the consideration of the Council of the Royal Agricultural Society. The subject has already attracted their attention; but, considering that the modern plan of conducting all sewerage into brooks and rivers is causing an enormous loss of manure, and is, at the same time, polluting the waters of all parts of the kingdom at a rapidly increasing rate, it appears to me that the time has come when the subject should be made a more distinct and prominent branch of the Society's operations. The collecting and applying of sewerage suitable for manure, and the preservation of the purity of water in brooks, rivers, wells, and ponds, may be advantageously treated of in essays, accompanied by experiments, and followed by prizes, and in the following order:—1. The amount and valure of the manure which is lost to the agriculturist; then the ill construction of cesspools, and the difficulty of emptying them. 2. The amount and value of the manure which is lost to the agriculturist by the modern plan of conducting the sewerage into streams and rivers. 3. The effect of different kinds of water on health, growth, fattening, and length of life of cattle. 4. The effect of sewerage, when introduced into water, on the health, growth, fattening, and length of life of cattle. The following amongst other prizes might be offered:—1. For essays treating of the above subjects generally. 2. For the best mode of constructing cesspools, both for privies and as receptacles for sewerage from drains, farm-yards, &c., whether of separate houses or villages, and for intercepting the sewerage passing through existing sewers. 3. For the best contrivances for emptying cesspools and ponds, as regards both liquid and solid matter, with a view to its use for agricultural purposes. 4. For the best method of disposing of the materials when emptied out, whether in combination with other solid substances, or with water, or otherwise. 5. For the best plan of collecting the sewerage of villages and towns, and of delivering the same to the agriculturist on equitable terms; keeping in view the health, convenience, and advantage of all parties, and their mutual co-operation, and their fair, rateable contribution towards the labour and expense of the operations."

Professor Simonds, in recommending that this communication should be referred to the Journal Committee, expressed his deep sense of the importance of the subject to which it related, and his assurance that many of the vital energies of breeding stock were seriously injured by their drinking polluted water.

Adjourned to Feb. 16.

## Farmers' Clubs.

LONDON: *Feb. 7.—Arterial Drainage.*—A paper on this subject was read by Mr. J. A. Clarke, of Long Sutton, from which the following are extracts:—The subject of arterial or trunk drainage appears to have been asleep for several years, and we have had complaints of a scanty rain-fall that has left the soil comparatively uncharged with water; lowered our springs; made drink for cattle scarce in ponds, wells, and ditches; and kept the half-filled rivers pretty regularly within the brim of their wandering channels. But if we have not recently suffered from severe floods, which a wet season, however, would bring down upon us more disastrously than ever, the periodical overflow of some streams, the injuriously high level of others, and the inefficient and obstructed condition of thousands of brooks, drains, and water-courses intersecting the surface of the kingdom, are all the time working far greater evils than those which occasionally startle the public when a river happens to break loose and sweep away their property. The nature of these evils, to which through long custom we so quietly submit, will appear in the course of my paper. I will just say here that another kind of "inundation" seems threatening to make itself felt by the farmer more heavily than before; I mean the abundance of low-priced bread-corn: and I bring the subject of river reform before you, because I believe it to be one of those great measures of relief and means of profit which are now so urgently needed by the cultivator of the soil. When prices rule low, our only resource lies either in a diminished expenditure or a greater produce, or indeed in both. At present, the agricultural mechanic is doing his part toward meeting the difficulty, by reducing steam tillage to a practical reality; and undoubtedly, if the tenant-farmer is left to fight the battle of the corn market single-handed, the steam-cultivator promises to be his ablest weapon, But we look to better subsoil drainage as one of the surest provisions "against a rainy day;" and here comes in the duty of the landed proprietor to render such an improvement possible upon his estate, with all its after-results of deep tillage and high management, by opening an adequate outfall for any amount of drain-water. An unlooked for high range of prices has been only postponing the fulfilment of several great helps which the landowners and the legislature can rightfully give to the "unprotected" farmer. And among the coming questions affecting our welfare, such as Agricultural Statistics, a Tenant-Right Law, cheap Transfer of Land, alteration of the Law of Settlement, and so on, this one of our general drainage is not the least important and momentous. You see I connect the subject with legislation, and after briefly adverting to the facts of the case, I propose to consider the necessity for Parliamentary interference, and to offer my views of the way in which that assistance may be conferred. To convey an idea of the extensiveness of the subject, I must be a little geographical.

The drainage of our island passes off to sea in a generally eastern direction; the largest English rivers, except the Severn, emptying upon the low east coast, and those of Scotland (all but the Clyde) following the same course. Of English rivers, the principal points of delivery are the estuaries of the Humber, the Wash, the Thames, and the Severn; their respective drainage areas being very large. The Yorkshire Ouse, Trent, and other Humber rivers radiate into the counties of Westmoreland, Stafford, Warwick, Leicester, Derby, and Nottingham; traversing broad meadows throughout their course. The sluggish Wash rivers, the Ouse, Nene, Welland, &c., embrace in their system of flat valleys parts of Lincolnshire, Rutland, Leicestershire, Northamptonshire, Bedfordshire, Buckinghamshire, Huntingdonshire, Cambridgeshire, Suffolk, and Norfolk. The Thames and its feeders extend inland into Buckinghamshire, Oxfordshire, Gloucestershire, Wiltshire, Berkshire, Hampshire, besides Surrey, Middlesex, Kent, and Essex; fringed with peaty or more solid wet lands. The Severn stretching inland through the counties of Gloucester, Worcester, and Salop, into Warwickshire, Staffordshire, and Montgomeryshire, with the Wye and other tributaries ramifying through the counties of Monmouth, Hereford, Radnor, and Brecknock, bring down the rapid floods from the Welsh mountains, and frequently deluge large tracts of the wide-spreading plains. In addition to these chief drains of the central counties, we have streams from the lake district, the Welsh high lands, and the southern, eastern, and northern provinces; aggregating into considerable estuaries round the coast-line, such as the Eden, Lune, Ribble, Mersey, Dee, Conway, Towy, Taff, Usk, Avon, Parret, Taw, Tamar, Dart, Exe, Test, Arun, Rother, Stour, Medway, Crouch, Blackwater, Colne, Orwell, Yar, Tees, Wear, Tyne, and Tweed; not including an innumerable succession of outlets of more or less importance. These, with an immense network of channels branching from them, together with all the mill-streams and other accessories of the main arteries already named, form our natural drains for the whole of England and Wales.

Now, Solomon says, "All the rivers run into the sea." But the grievance is that they don't; for whether or not the oriental streams with which the wise king was familiar may have overflowed at intervals like the Nile and Jordan, it is certain that English fresh waters at the present day seem inclined to linger in the valleys and repose on the meadows, or wander anywhere rather than roll straight down to the ocean. In some cases the outfalls, or river-mouths, are in a defective state; but, generally speaking, the exigencies of their alluvial deltas or estuary marshes have caused them to be to a considerable extent opened, embanked, and watchfully preserved.

Thus, great outfall works have been executed on the river Dee, below Chester; in Somersetshire, at the mouth of the Parret and its connected rivers; in several harbours and estuaries along the shingly coast of the Channel; in East Norfolk; in the estuaries of the Ouse, Nene, and other Wash rivers; and in the streams converging to the Humber; while in Scotland we have the example of the Clyde improvements; and, again, the similar dredging of a deep channel for the Tay. But many great alterations and improvements yet remain to be carried out. However, it is the inland course of the streams that principally calls for ameliora-

tion. These natural arteries are employed for every purpose that water is good for, and the water is thus detained for such uses, in state of drainage necessities, instead of being conducted speedily to the sea. They are dammed into reservoirs, intercepted by canals, especially in the central, northern, and western counties, and besides being neglected and choked with weeds or with Osiers, or obstructed by strangulating bridges, innumerable brooks and rivulets are suffering from the diphtheria of a water mill, or a succession of mill-wheels appropriating the whole descent of the stream. Sometimes hundreds of acres of meadow are ruined by the picturesque dilapidations of a mill mentioned in Domesday, or by the pounding of the water for the few baskets of fish. Not that there is any objection to the employment of running water as a motive power, or a means of transport, or a supply for towns, as an ornament in a park, or for the refreshing of a meadow, provided that damage of greater consequence is not inflicted upon any interest, and that there is an amply capacious channel for the outlet of the heaviest downfall, without overflow and without injury to lands by the prevention of the best husbandry. How many among the myriad watercourses of our country are all that can be desired in this respect I cannot undertake to say, but the following record of actual disaster—to say nothing at present of the still greater mischief of good culture prevented—shows the prevalence of defective and ill-managed rivers. [Cases of violent inundation from the precipitous western districts were then enumerated.]

These items, picked up by my own observation, or gleaned from newspapers of the period, do not comprise anything like complete details of damage done by half the flooding streams of our country; and you perceive that the marsh and fen districts situated at various parts of the coast around our island, but chiefly in the Great Level surrounding the Wash, have not been mentioned at all. In fact, being constructed and conserved upon system, under companies or local acts, with drainage taxes to defray the cost of the works, the Fen rivers do not overflow their margins; and when a deluge does take place, it is from the failure of some embankment or other artificial erection. However, were an action brought against the English streams to recover the value of even what I have enumerated as losses experienced by all the various interests and classes in town and country—manufacturers, millers, agriculturists, landowners, and the community at large—the sum would amount to an immensely heavy figure. But I have not made out half the strength of the case against these incontinent rivers.

There are greater evils than those arising from the occasional or frequent destruction of produce and property by violent inundation. And it is only because we have been for ages accustomed to have our valleys wet with sodden meadows, and spacious districts of flat arable land cultivated with the very shallowest ideas of infiltration and aëration as means of fertility, that we do not hear louder complaints and demands than those which are forced out by some unusual deluge. To be sure, we have articles in newspapers and reviews setting forth the damage to property and danger to public health incurred by the present condition of our arterial drainage. The Royal Agricultural Society's county "Reports" notice the necessity for amelioration; active under-drainers and improving farmers perceive the impossibility of carrying out first-class husbandry without better outlets for the rapidly-increasing amount of water to be discharged. But the reason why there is not a more wide spread agitation and appeal to the Legislature, may be because the great body of those who directly or indirectly suffer are looking upon amendment as almost hopeless from its cost and from the apathy or conflicting views of different interests concerned. I have not time to illustrate the various kinds of injury permanently and perpetually caused by defective brooks and rivers; but take some of them. That the bulk of coarse hay furnished by marginal meadows without asking any return of manure does render them of considerable value to the upland farms with which they are associated is perfectly true; but it is also the fact that this value is hazardous and precarious, owing to the capricious irrigation or sedimentary manuring of the stream that may serve as your Nile; so that if one year you get a fair pasture, in another it is too watery to be grazed. If for one or more years (according to locality) your hay harvest is successful, the next season utterly spoils your crop, leaving also a gritty aftermath that stock cannot relish.

But the evil effects of river-floods are not only agricultural; for, in the neighbourhood of towns, just where the meadows may be rented as "accommodation land" at 2*l.* or 3*l.*, or more per acre (and the proprietors might therefore doubt the advantage of drying them), siderations demand our care. Every man thinks his own home peculiarly healthy, until the Registrar-General dispels the pleasing illusion, and the tabular statistics of public health prove most undeniably that districts abutting upon a flooding river, or intersected with marshy hollows and choked rivulets, are above all others (excepting crowded and filthy cities) the haunts of fever and glandular disease.

Thus Northampton, on the sluggish Nene, which overtops its banks, held up as a navigation and pounded back by mill after mill along its winding course, is shown by the "returns" to be one of the few most deadly places in England; and typhoid and milder but enfeebling maladies constantly visit the villages that inhale the hot-weather malaria of the swampy meadows. The Ouse has a like unhealthy character, as shown by the excessive rate of mortality in Buckinghamshire, Huntingdonshire, &c; and, indeed, so have all our gloomy and lifeless rivers, as exemplified at Norwich, surrounded by the heavily-flowing Wensum and Yare—at Colchester, on the dull and tardy Colne—at Salisbury and the fashionable Bath on the inactive and cheerless Avon; and the smaller towns and parishes flanking the streams are the hotbeds of intermittent fever, rheumatic and liver complaints, and scrofulous and pulmonary disorders, aggravated if not originated by the cold damps and poisonous exhalations from which the inhabitants have no means of escape. Trunk drainage, however, would prove a marvellous preventive. I am informed that at the village of Cople, in Bedfordshire, the Duke of Bedford cut a deep brook which relieved the parish of stagnant water, and although up to that time typhus fever was rarely out of the parish, only a single case has since happened in a period of eight years. The Duke is cutting a deep brook or drain, at the present time, through the adjoining parish; and in that county, as well as in others, many landlords might employ the surplus labour in straightening their watercourses, exchanging angles of land where necessary, and save or reclaim ground enough to pay all the expense.

I have now alluded to the four great mischiefs arising from the defective state of our rivers and watercourses—namely, actual damages by deluge—the prevention of agricultural improvement in the immediate vicinity of the streams—the injuries sustained by the lands situated above the reach of floods, but suffering from obstructions to their drainage—and the calamitous influence of the reeking and pestilential valleys upon the lives of a great proportion of our population. Were I to enter upon a consideration of the various obstacles causing the damage, the nature of the new works or enlargements required, and the means by which opposing interests may be reconciled or compensated, and the burden of the improvement equitably apportioned according to advantages conferred, my paper would be prolonged far beyond any reasonable limits.

One of the most general impediments is the utilisation of a stream for water-power; and, as Captain Blithe said two centuries ago, "mills drown and boggify more gallant land than themselves are worth to the commonwealth." Thus, the upper valley of the Nene has 33 mills in a length of 60 miles; the river Welland, between Market Deeping and Market Harborough, is much obstructed by flower-mills; and upon a small stream in Dorsetshire there are no fewer than five mills within a total distance of four miles. The escape-weirs are generally inadequate to the discharge of the excess of downfall, which therefore overspreads the low lands; and, besides this, the water-level is often held up for the purpose of navigation. As I have before said, no single method of improvement will apply to all districts; in one case, a small breadth of land injured may not be half so valuable as the mill or factory causing the mischief; in another, it may be possible to purchase and abolish a long line of mills, and set the waters free. In one valley you may accomplish the same end cheaply by substituting steam for water power, with a compensation for the greater expensiveness of this motive-power, or by building windmills instead; in another, you may have the assistance of the millers, and provide their wheels with a more copious and regular supply. In one case there may be a canal company to treat with for total removal; in another, you may unite a better navigation with securer drainage. In one instance there may not be a sufficient area of land to warrant a complete measure, and you must be satisfied with an improved regulation of the irrigating waters; in another, half measures would defeat the object in view, and there may be ample means in the town and country interests combined to relieve from all possibility of flood, and give a deep outfall to the hitherto soaked and hurtful lands. As a fine example of what a district may accomplish in arterial drainage, I may refer you to a description of the "Rye and Derwent Drainage" in Yorkshire, given in the Royal Agricultural Society's Journal of 1853. In this case, under a local Act of Parliament, 27,000 acres were charged for the improvement; and 20,000*l.* out of the 30,000*l.* raised was paid to the three mills for their adoption of steam instead of water power. The pecuniary advantages of the works are apparent from the fact that a single flood, such as frequently overflowed the land, has been known to do more damage, if fairly valued in money, than the whole sum expended under the Act. For details of the present Nene Valley improvement — now, unfortunately, in a stagnant plight, the causes of which may be traced to great errors committed in times gone by—I may refer you to an "Essay on Trunk Drainage," written by myself in the Society's "Journal" for 1854. In this case, only one out of a long succession of mills is to be removed and the water power of the remainder increased; the navigation is to be benefited, 20,000 acres made scarce from their present frequent floods, 7000 acres more provided with a better outfall, and Wisbech harbour improved.

Now comes the question: By whom are the desired improvements to be effected? Well, the cost ought of course to be defrayed by the district benefited; and those who pay their money should, according to English usage, have the control of it. But by what organisation or under what authority are the works to be undertaken and maintained? That a universal issuing of sewers commissions under the great seal would answer the purpose, we cannot for a moment believe, seeing that navigations continue to pen up our streams, to float barges over shoals, bridges contract their channels, and mills dam back our drain-water, in spite of sewers "presentments" of the evils, or of their decrees fixing the legal "heads" and falls. They cannot touch half the small drains which unneighbourly neighbours will not cleanse for us; still less provide the additional water-way demanded by annually augmenting delivery; and still less could they deal with mill-dams or ancient canals.

The power of a local Act of Parliament is the authority upon which all our modern fen drainages, our harbour and outfall works, our internal river improvements, and many enclosures of salt marsh from the sea are at present effected. But so many difficulties are connected with the procuring of local Acts, that, if this is to remain the only course open to us, it is pretty certain that hundreds of flooded valleys will continue in a hopeless plight. The voluntary initiation of relief measures, the getting up of an agitation, and the carrying of an Act of Parliament for a larger or smaller district, when no organisation and no court of appeal previously exists, requires a boldness and independence of mind, a degree of enterprise, and a harassing and expensive series of preliminary proceedings, which not only deter proprietors from attempting to combine, but place the subject of river improvement beyond their thought as chimerical or incapable of realisation; and the expense is often enormous. I cannot ascertain what has been the united cost of the Acts of Parliament for our numerous fen-drainings, but I have no doubt that, if we could add together the sums expended in the mere obtaining of the Acts for all the piece-meal estuary works, embanking, sluice-building, digging new cuts, or scouring and enlarging old ones, we should find an amount wasted that might have completed a large portion of the work. In the case of the Eau-brink cut, on the Ouse above Lynn, the first Act, in 1795, contemplated an outlay of 40,000*l.*; yet, owing to a heavy and obstinate contest, the promoters alone had to spend 12,000*l.* in merely carrying the Bill. In the estimated cost of the Nene Valley drainage, which was to come to 275,000*l.* altogether, the expense of the Act of Parliament was set down as 10,000*l.* to begin with.

I believe one general Act embracing the whole kingdom may enable river reform to be instituted on a great scale without any necessity for a local Act in each separate case.

It appears to my mind that a general Act for this kingdom should apportion the whole surface (as I have before said) into drainage districts; each including a main river or watercourse, with all its branches and feeding ditches from the outfall to the very source—i.e. one in fact the entire catchment basin of the stream. And this because each river system is independent of all others; while its separate divisions, whether in the estuary delta, the upper valley, or the thousand feelers along its course, are mutually affected by and dependent upon each other. Not that all rights and responsibilities upon the river are to be swamped and set aside; but a jurisdiction is to be established over all. To conserve and improve the drainage of a district, to regulate all matters concerning mill-power, irrigation, or inland navigation, let there be trustees or commissioners; either a representative sort of water-parliament, elected by all the different or constituted in a different manner, if this were objectionable or unlikely to answer the end in view. Persons might be appointed to watch over and examine every part of the tract, from the tidal harbour to the farm ditch, that may run a right of water way; and a model for such may be found in our fen drainage management. The body could devise, support, or oppose any scheme as at present; and there would exist an organisation submitting proposals to the direct sanction or rejection of parties concerned. The advantage of the general Act would be its provisions empowering the district board (thus constituted) to deal with mills, properties, &c., and rate for outlay, &c., according to fixed principles laid down in different cases, thus obviating the necessity for the many local Acts that would otherwise be necessary for drainage in kingdom, and which, because of their very number, would be obtained. This is merely thrown out by way of suggestion; but that a general Act of some description requisite, I most firmly believe. It is evident that rules for compensation, &c., could be framed, after investigation of the existing state of things throughout the because our rivers are capable of being classified as they subserve the purposes of flour-mills or navigation or simple drainage, and so on; and the measures will be similar in certain descriptions of cases where water-mills must be removed, or steam-power in place of the water, or the water-power itself in where navigation must be abandoned, or, on the other may be combined with better drainage, and so on. And is already a sufficient number of precedents of the purchase mills and canals, and compensations of all kinds, to guide in framing a new general Act, comprehensively embracing specific cases likely to arise. A measure of this kind, laying down principles upon which claims are to be regulated, would be a novelty; but one approaching to the general character have been insisting upon is already before the public. For the spring of 1852, a Bill for the "Drainage and Embankment of Lands" was presented to the House of Lords by the late Carlisle, who, on withdrawal from office, brought it in a bequest to the Ministry succeeding that of which his lordship was a member.

I do not admire a centralised government; preferring, as far as is expedient, to administer my own affairs. Yet I do think that some such measure as I have lightly sketched out would be applicable to our present situation, without trenching too closely upon the liberties of the subject. There appears how ever to be a feeling with some parties in favour of a uniform arterial drainage carried out by the Government, according to the designs and under the inspection of commissioners—with a staff of hydraulic engineers like those of our neighbours the marshy Hollanders, or our own India, or of Northern Italy, where the very climate renders water almost an institution of the country, and irrigating liquid is measured out to the husbandman almost by the quart. But of course under any system short of absolute despotism it must be so for every locality at any rate to say whether it will remain drowned or no. We certainly do permit the Government to aid us in many ways besides "protecting person and property;" it carries our letters, enlightens the inventive minds of would-be patentees, surveys and maps our country, has jurisdiction over tidal streams and marshes, lights our shores, and makes charts of rocks and soundings for shipping, secures a penny-a-mile ride by the railway, and violates therein political economy by fixing (not the standard value of precious metals, but) the fare we are to pay for a cabby. Whether the same power that figures so well as a military storekeeper (on "the Weedon system") would shine better in drainage works I cannot say; but it is clear that Government *can* collect statistics and institute surveys, and I shall therefore close my lengthy address by making the following proposal—

As a preliminary step to the framing of a general Act of Parliament, let a Royal Commission be appointed to examine the real drainage condition of the whole country, report upon the needful works and other requirements of our river outfalls somewhat as another commission has already done for our harbours. What extent of grounds in this kingdom is subject to inundation? What still larger area is imperfectly furnished with outfalls for drained arable and pasture? What serious damages are periodically suffered? What does the country lose by the extent of good husbandry prevented? In what degree do the town and rural populations owe the prevalence of disease to the stagnant or deluging rivers? What are the specific works and obstructions to be removed in each district? How can these be equitably abolished? In which cases would the increased value of the lands or other benefit pay for an alteration? Where are the cases in which improvement would be too costly? We ought to possess full and clear answers to these and similar inquiries; but at present all we can get is fragmentary, collected by individuals who, with all their care, taking, cannot measure the mischief or form a just idea of the alterations required. To arrive at approximate solutions of all these points (in many cases not needing a minute survey) a commission need not expend a very heavy sum of money. And then, still further, besides inquiring into the most satisfactory methods of dealing with conflicting claims and interests, with a view to the framing of a general Act, investigations of an engineering character might be instituted, for instance, into the maximum daily downfall and the proper discharge of districts varying in climate and geological structure; the augmentation of drainage delivery, by improved farm management; the effects of the tidal flow in altering river channels; the rate of deposition of alluvial soil upon salt marshes, and so on—most important points upon which greater fullness than at present exists, would be sought. Acts made of unsuitable dimensions, and money may be spent in vain. The appointment of a drainage commission, consisting of individuals conversant both with engineering and agriculture, and capable of taking broad views of the many various claims and interests that would come before them, is a step that the Government could easily take, and one that would undoubtedly win the approbation of all classes of the community. There are plenty of precedents, too, for such a proceeding on the part of the Crown, as keeper of the soil of the kingdom, to be found in the records of fen drainage, extending back to the early institution of our Commissions of Sewers.

Mr. Clarke having finished reading his paper, which excited great attention, proposed a memorial being presented to Parliament requesting an inquiry into the general state of rivers and watercourses throughout the kingdom. Mr. Bailey Denton, in a speech of considerable length, observed that in the years 1852 and 1853, in consequence of those very

...ness, Lord Carlisle's proposed bill had stimulated ... facilities to adopt the system of drainage, but ... the subsequent dry seasons had put a stop to ... advancement of such desirable objects. He also ... the Society on the introduction of the ... of distributing a printed copy of the paper about ... read, giving great advantage to persons peculiarly interested therein, and likely to state their opinions thereon. Mr. Holmes, of Sussex, clerk to the Commissioners of Sewers, spoke in high terms of approval of the paper read, and likewise of the plan suggested. Mr. Mechi, after commenting in favourable terms on Mr. Clark's able paper, instanced the advantage of steam-power in grinding over any other means, more particularly as regarded expense. Mr. Baker, of Writtle, took a very comprehensive view of the subject, considering it as of national importance, and, consequently, that it should be taken up by Parliament in a similar way to the General Inclosure Act. He also gave a decided opinion in favour of the adoption of steam-power for grinding. Mr. Sidney also viewed it as a national question, and that the expense should be borne by the nation generally, but was of opinion a memorial at present from this Society would be unavailing, recommending that first competent persons should take the question in hand, and make the public generally acquainted with the necessity of it before applying for any legislative interference. He strongly urged the adoption of it by the Agricultural Society. Mr. Howard, of Bedford, confirmed the unhealthy state of the neighbourhood of Cople previous to the drainage adopted by the Duke of Bedford in that locality, and the great advantage resulting therefrom. Mr. Owen Wallis spoke of the necessity of its becoming a national question, instancing the great local expense in the Valley of Nene, which opinion was supported by Mr. Amos, of Wisbeach, stating the expense was too great to be borne solely by the parties residing in the localities requiring the drainage. It was finally resolved that the subject should be laid before the committee at the next general meeting.

## Calendar of Operations.

FEBRUARY.

WESTER ROSS, *Feb.* 7.—Last month was exceedingly boisterous and wet, and very unsuitable for out-door labour. The wetness of the previous months, however, admitted of the ploughing being so far advanced that a short interruption is of less consequence. Seldom have we desiderated as we did last month some method of conveying manure to our fields, either in a liquid or solid state, which would have saved horse labour. In the previous months we took advantage of their peculiar wetness for having everything ploughed that required it, expecting in due season continued frost to admit of easy carting of manure; but, instead of this, nearly every day has had its frost and thaw, with torrents of rain and frost again, so that our courts are full to overflowing, and cannot be emptied without damaging men, horses, and land. If not frost, dry weather will come by and bye. It was sad to see the plight in which the sheep on Turnip fields have been for some time. The dryest land has been wet; and with us, there being a considerable admixture of clay, the soil gets into such a puddle that the animal having extricated a foot appears at a loss to know where next to place it. It is wonderful to see how well they stand out in such weather; but manifestly, in such circumstances, the Cheviot sheep, with its short, close, compact covering, has greatly the advantage over the longer-woolled kinds. Dry weather is much needed to allow them to regain in flesh what they have lately lost. Cattle have been doing well both in court and byre, and for both sheep and cattle we expect a continuance of the present remunerating prices. Barley has been fetching a fair price; but the yield is below our expectations. Wheat in threshing comes nearer our calculations, but the price is so very low—at present about 40*s.* per quarter—that very little can be made of it. Oats perhaps never yielded more abundantly. The profit derived from last year's grain crop will be small indeed, but will be somewhat enhanced, we anticipate, by the more than usual profits derived from stock. Our working classes have passed the winter months easily and comfortably. Labour has been abundant, wages have been high, food of all kinds has been cheap, and Potatoes having kept better have been more abundant than they have been for years.

## Notices to Correspondents.

COTTON-CAKE, &c.: *J M.* asks if it be good for ewes about to lamb. Sudden changes of food are wrong in such cases; but it may be gradually introduced with safety. On Market Gardening there is no published book that we know. Mr. Cuthill published some papers on it a few years ago in the *Gardeners' Chronicle*, and also an article in "Morton's Cyclopædia of Agriculture."

DAIRY: *Old Subscriber.* Your former letter did not reach us. If you remove all old mortar and soil from mason work and floor to a sufficient depth, thoroughly cleanse with chlorine water, &c., and re-paint and plaster, we should think it would be possible to convert a stable into a dairy.

DRAINAGE COMPANIES: *A Very Old Customer.* The cost of haulage is properly included in the sum which Government or Drainage Companies will lend you for drainage. Apply to any of the companies advertising in our columns.

GRASS LAND: *D G.* A smooth roller is best for Grass land.

ITALIAN RYE GRASS: *D W.* Italian Rye-grass and Clover alone will not make a permanent sward.

LAW OF LANDLORD AND TENANT: *Delta.* The *Ayr Observer* informs us that Mr. Tennant, formerly tenant of the farm of Shields, here had in the course of his occupancy erected, at his own cost, several sheds for the accommodation of his cattle. On leaving the farm it was insisted by the landlord that he was entitled to leave these in good tenantable repair. A reference on the point was agreed to be submitted to James Morton, Esq., writer, who gave the following judgment in the negative:—"The referee having considered the within reference, and heard parties' procurators, finds, in accordance with the decision of the Supreme Court, in 'Oliphant of Rossie against John Thomson,' 8th February, 1822, that Mr. Tennant, the late tenant of Sandyford, is not bound to leave in good tenantable repair the cattle sheds voluntarily erected by him on said farm, at his own expense."

LIQUID MANURE: *Old Subscriber.* There is no separate manual on the subject. Mr. Mechi's "Sayings and Doings" have been published by Routledge. There is a considerable demand for manuals on different sections of farm practice which ought to be better supplied. The strength of liquid manure is to be ascertained by an analysis for ammonia which it contains.


# FOWLER'S PATENT STEAM PLOUGH.

THIS IMPLEMENT OBTAINED
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BY HER MAJESTY'S ROYAL LETTERS PATENT.
**Obtained the Silver Medal of the Royal Agricultural Society.**

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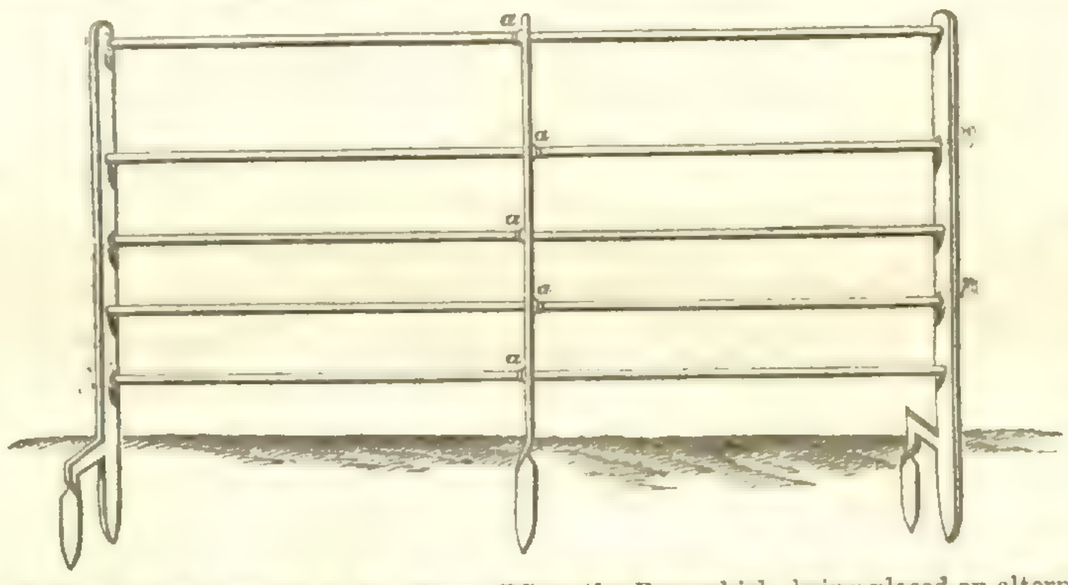


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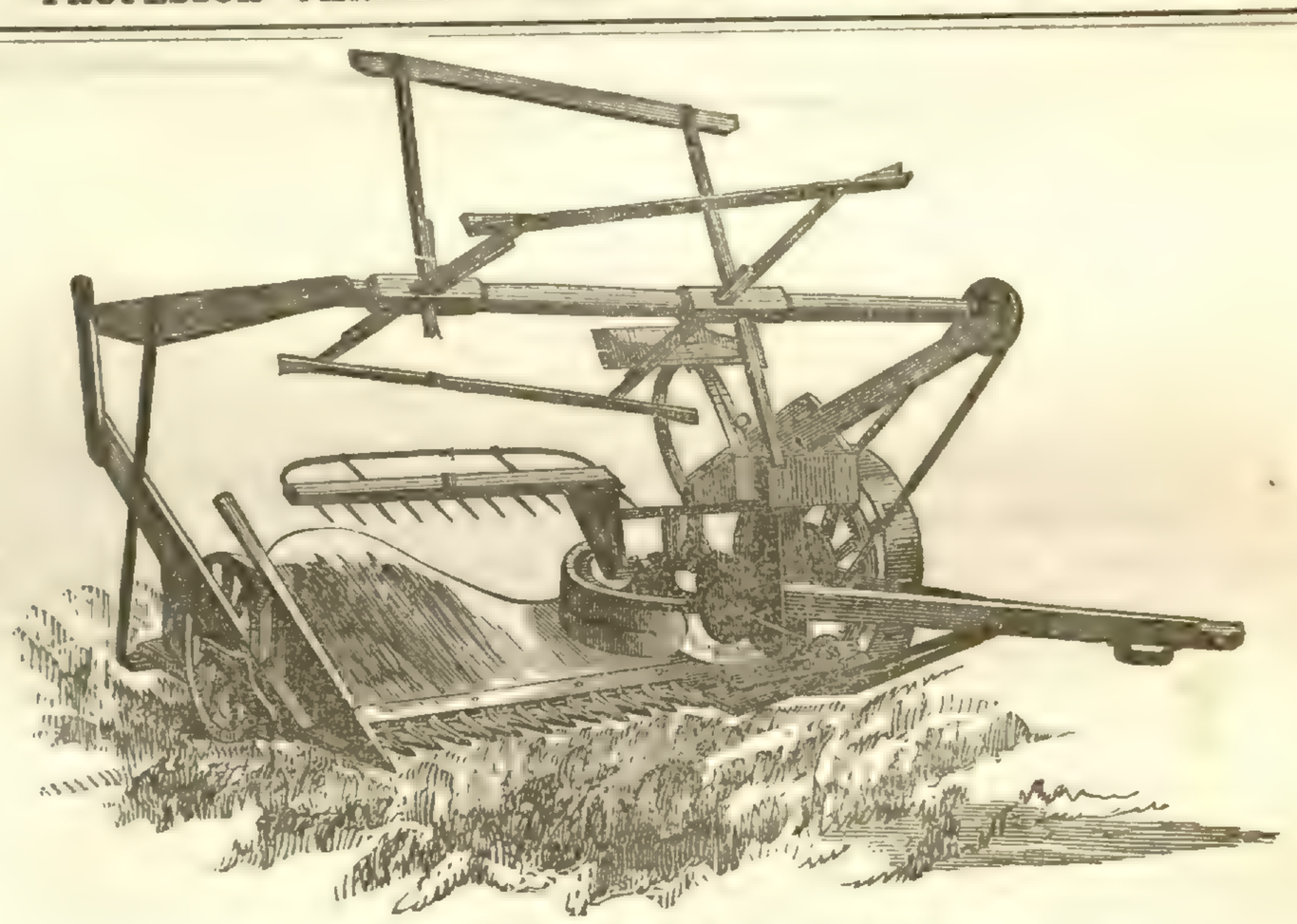

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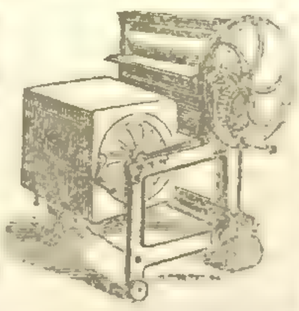
THOMAS BRADFORD, Patentee, Manchester.



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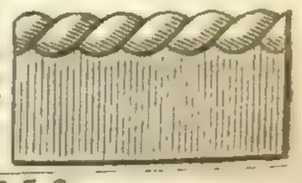

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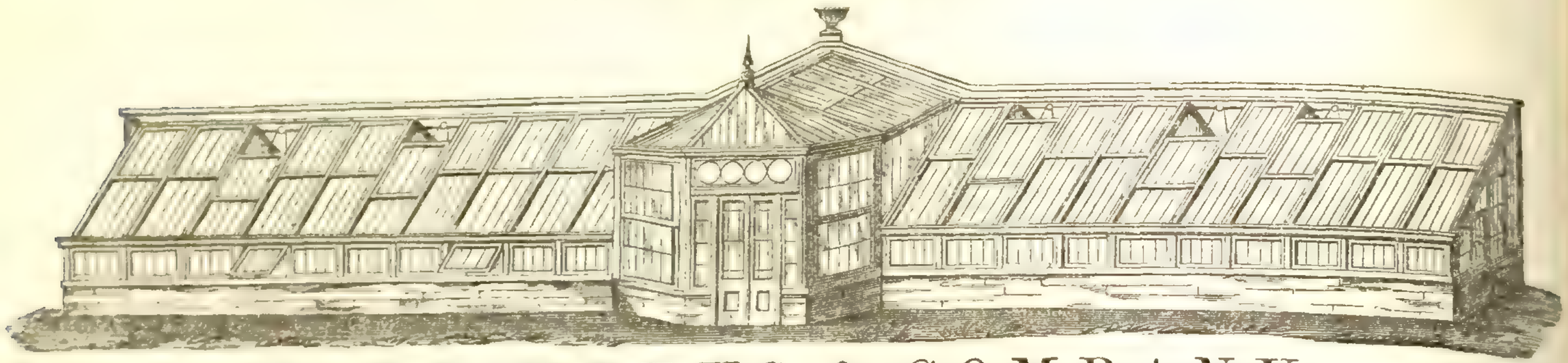

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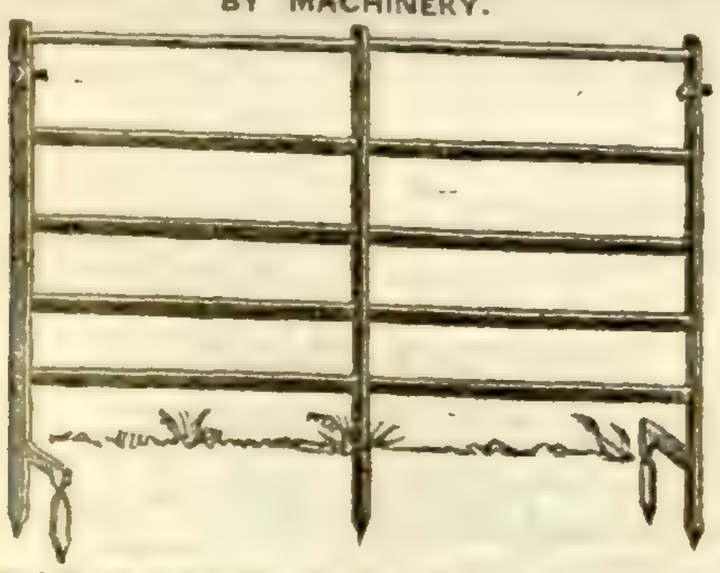

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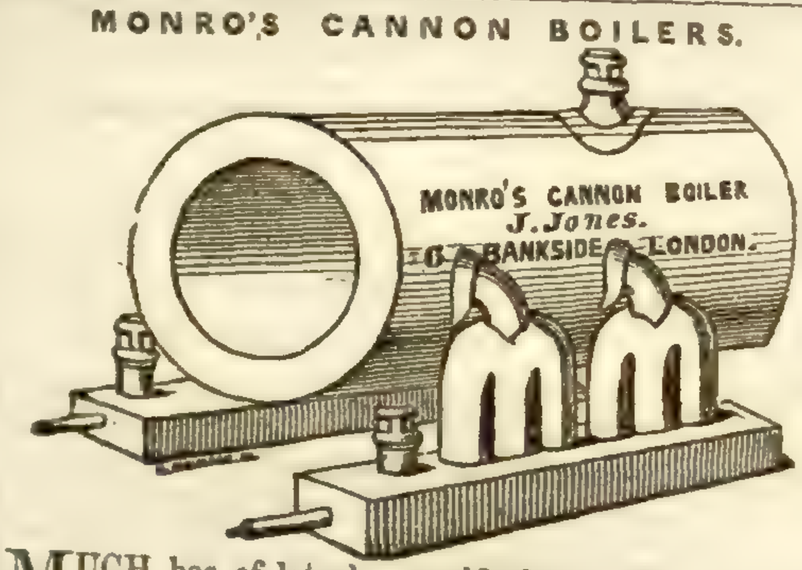


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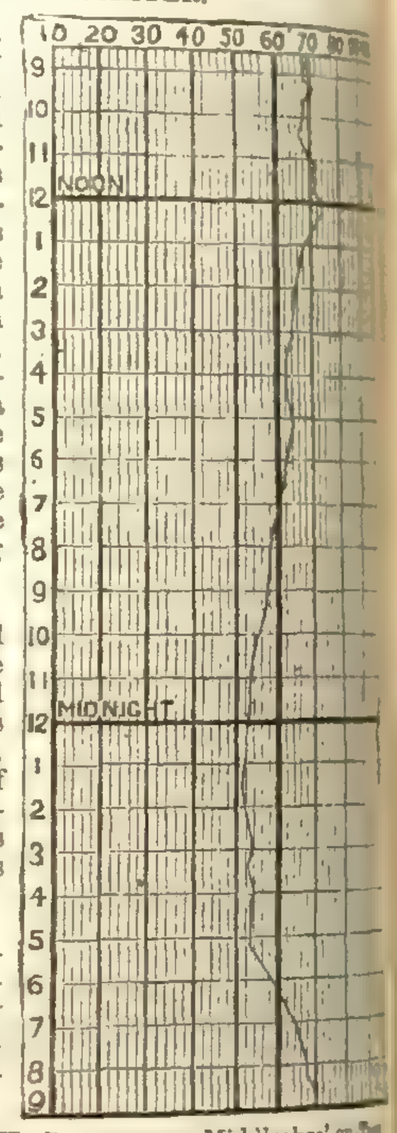


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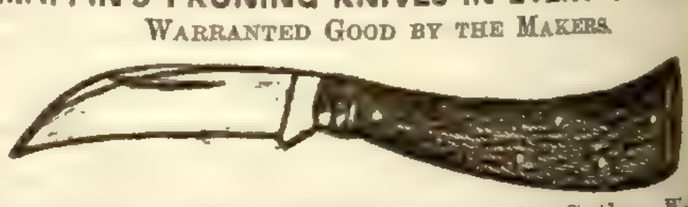

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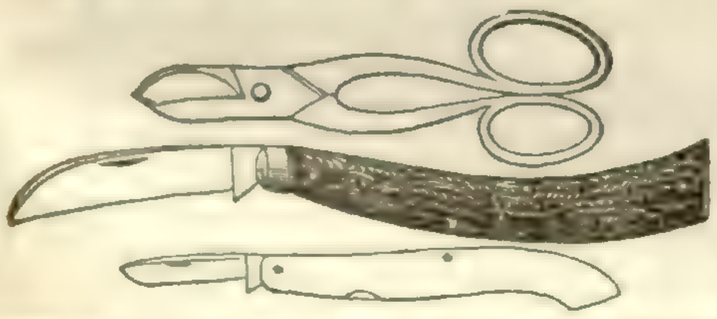

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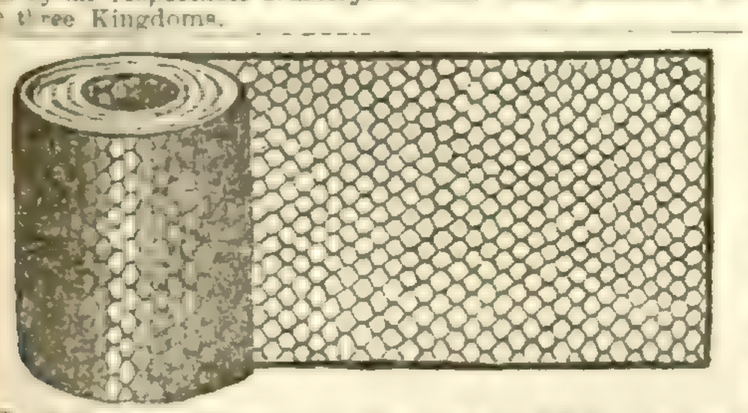

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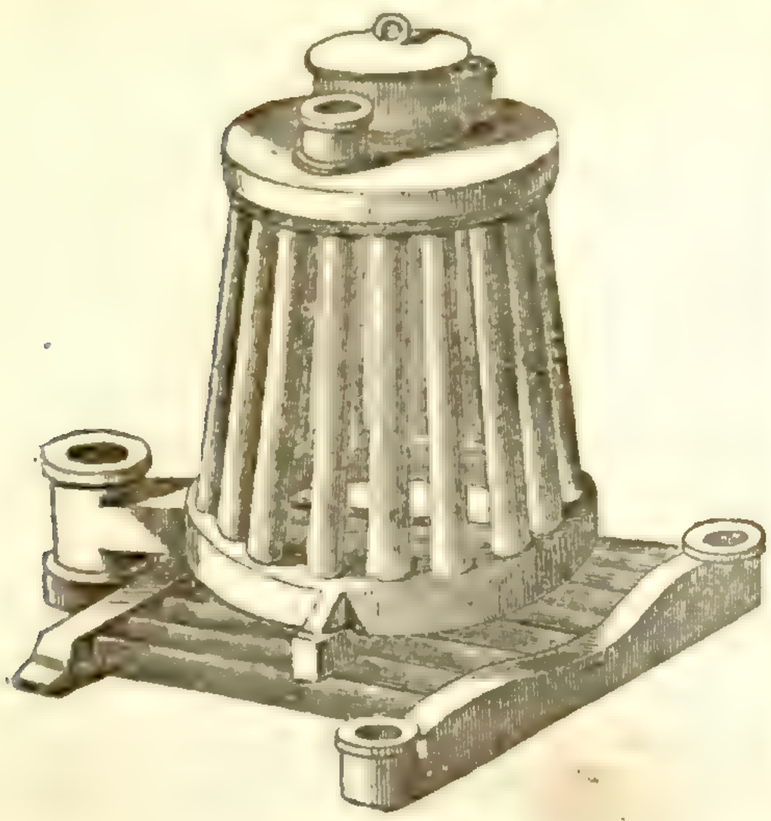
ORDER OF SALE.—Wednesday and Thursday, the 16th and 17th inst., Fruit Trees, Shrubs, and Seeds, at Lawrence Street Nursery ; Friday and Saturday, the 18th and 19th, the Stove and Greenhouse Plants, Coniferous Plants in Pots, &c., at the Layerthorpe Nursery.

By Her Majesty's Royal Letters Patent.



## ORMSON'S
## PATENT JOINTLESS TUBULAR BOILER

### TESTIMONIALS.

"Sir,—I feel much pleasure in bearing testimony to the efficiency of your Patent Jointless Tubular Boiler which you have erected for Baron de Rothschild, at Gunnersbury Park, and from the number of hothouses and great extent of pipe you have heated from one boiler, I now feel confident it is decidedly the most powerful, economical, and safe boiler yet invented. Having had the working of the Wrought-iron Arch, and Cast-iron Corrugated Arch Boilers in these gardens, I have no hesitation in stating that your boiler is infinitely superior to either of them in every respect.—Yours truly,

"William Forsyth.

"The Gardens, Gunnersbury Park, Acton, Middlesex."

"Sir,—It is with much satisfaction I give my testimony in favour of your admirable Patent Jointless Tubular Boiler, being attached to upwards of 3000 feet of 4-inch pipe, and doing the work of four fires, and consumes little more fuel than was required for one of the fires previous to the adoption of your boiler. We can command any amount of heat, the boiler being so powerful I am confident it would with ease heat as much more. Altogether we have realised much more economy in fuel and attendance than we at first anticipated. In addition to the great power and economy of your boiler it possesses another most important advantage over all other tubular boilers which have come under my notice, in the fact of its being jointless, consequently quite safe from all danger of leakage. On referring to my coal account I find that I now only use one where I formerly used five waggon loads of coal for the arched boilers which you took out.—I am, Sir, yours respectfully,

"J. Fraser.

"The Gardens, Luton Hoo, Bedfordshire."

"Mr. Henry Ormson, Sir,—I beg to inform you of my entire satisfaction with your Hot-water Apparatus in general, and your Patent Jointless Tubular Boiler in particular, as fitted up in the newrange of Hothouses you have recently erected for Lord Powerscourt. The Boilers I admire for three excellent reasons; they are simple in construction, effective in working, and I feel assured, from the calculation I have already made, a very great saving of fuel will be the consequence from using these Boilers. You will permit me to add if I had formed a contrary opinion of the merits of these Boilers I should have been candid enough to have told you so, but in justice to you I must distinctly state I consider them a great boon to the horticultural world.—I am, Sir, yours truly,

"Alexander Robertson.

"The Gardens, Powerscourt, Ireland."

"Sir,—I have much pleasure in testifying to the excellent working of your Patent Jointless Tubular Boiler; though a small one it does the work of five fires, and is a great saving of fuel and labour.—I am, Sir, yours respectfully,

"Holland House Gardens, Kensington." "J. Scobie.

"Sir,—In regard to your Patent Jointless Tubular Boiler, it answers admirably the purpose for which it was erected. I consider it the most economical and powerful Boiler ever introduced, and am confident it will not fail to give general satisfaction.—I am, yours most respectfully,

"John Lauder.

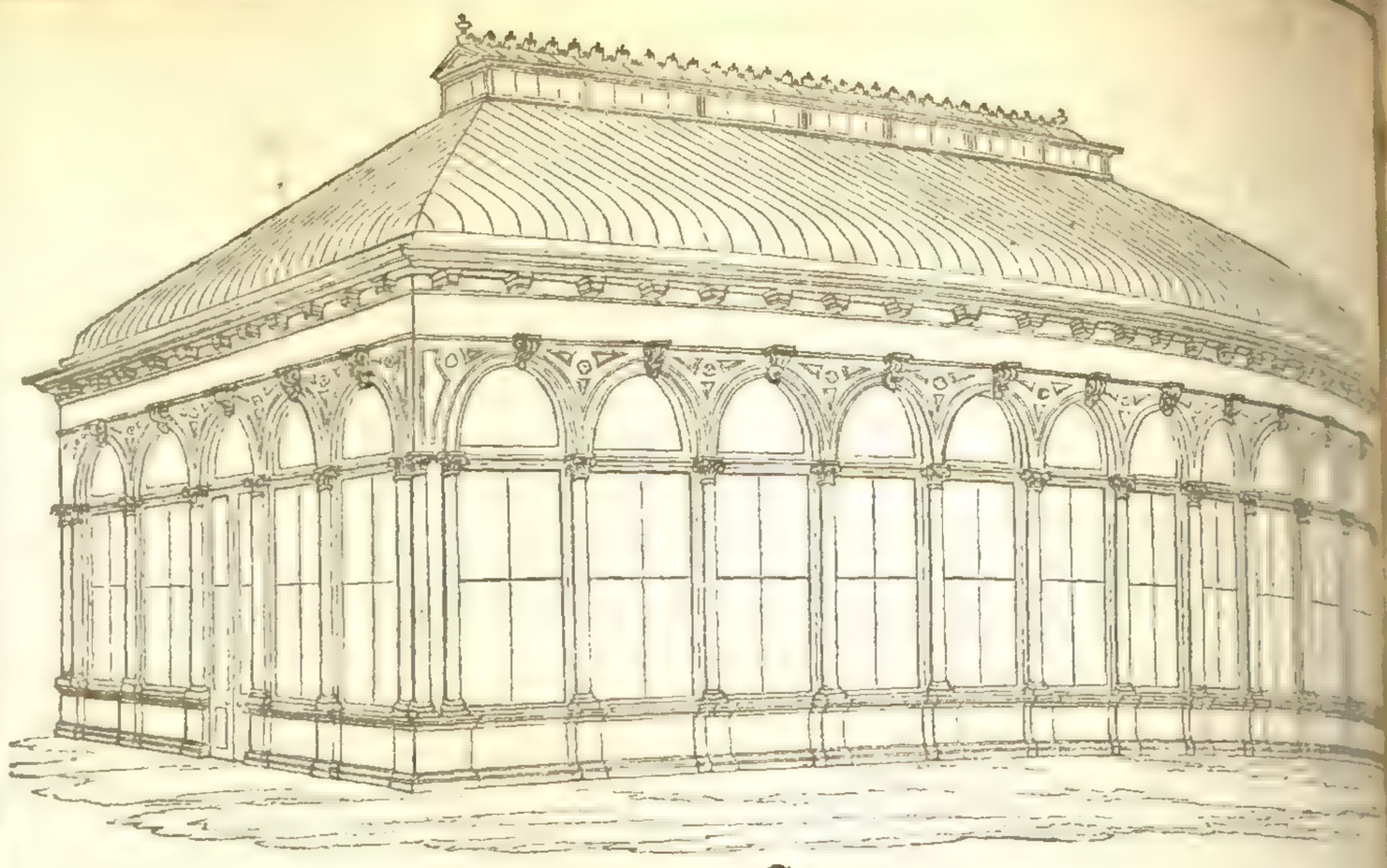
"The Gardens, Witley Court, Worcestershire."

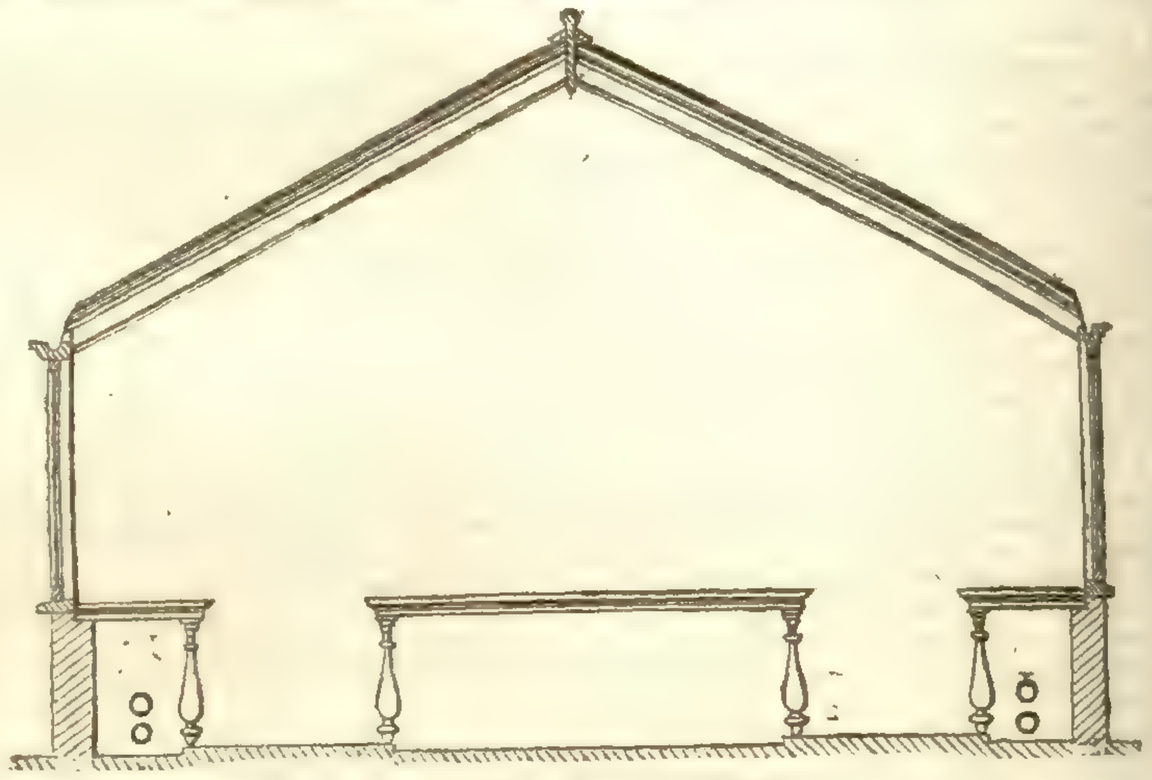
"Sir,—I have much pleasure in testifying to the efficiency of your simple but most powerful Patent Jointless Tubular Boilers. The two small boilers you put up here are doing the work of six fires, with the addition of a range of lofty coach-houses which were afterwards attached. The amount of fuel is little more, and the attention much less, than was required for one fire before these boilers were put up; there is not the least strain on them, and I am confident if required would heat a considerably greater amount of piping. I must also add that the whole of the hot-water apparatus works satisfactory, especially the ventilating boxes you put up in the Fruiting Pine Stove, which I consider a great acquisition, supplying at all seasons a constant stream of pure warm air to the plants, which are in consequence sturdy and in the most robust health. —I am, Sir, yours respectfully,

"John Clark.

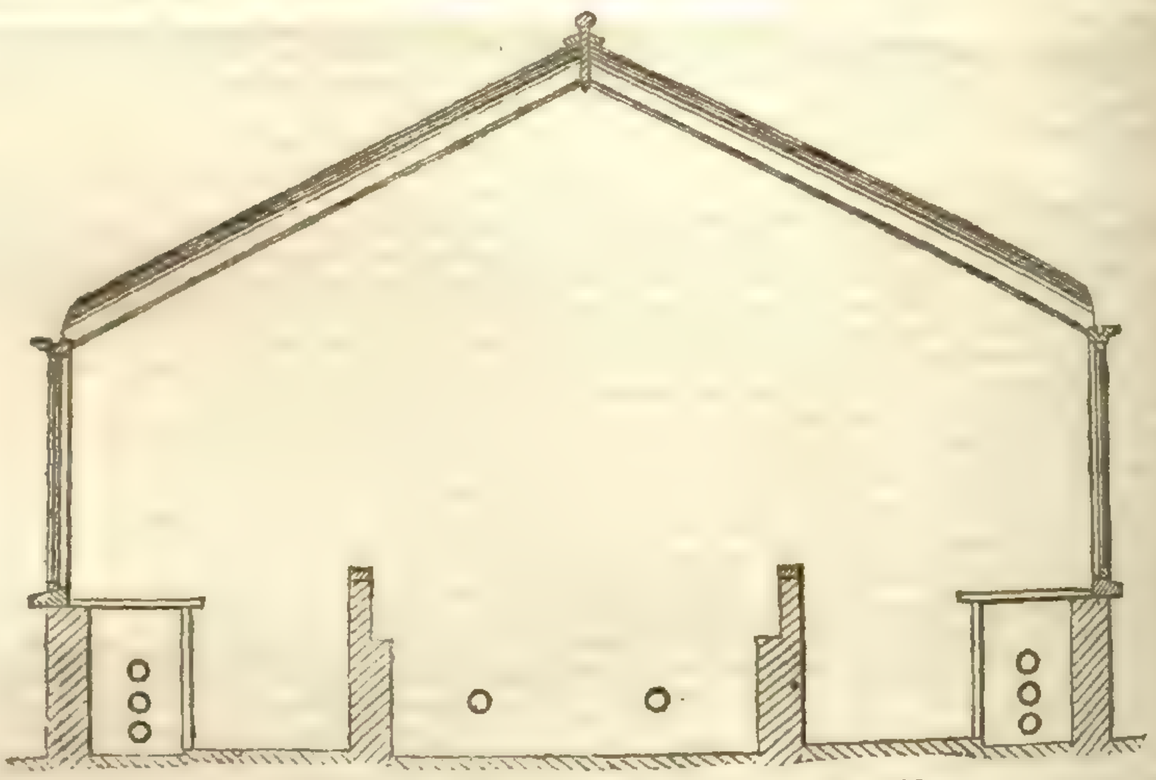
"The Gardens, Cobham Hall, Gravesend, Kent."

**Ormson's Patent Jointless Tubular Boilers may be seen in successful operation at Mr. Veitch's, Royal Exotic Nursery, King's Rd., Chelsea.**





No. 6.—Greenhouse, from 18 to 20 ft. wide.



No. 7.—Forcing House, from 18 to 20 ft. wide.

## HORTICULTURAL BUILDINGS MANUFACTURED BY STEAM POWER MACHINE

### BEST MATERIALS AND LOWEST PRICES.

# HENRY ORMSON,

## HORTICULTURAL BUILDER & HOT-WATER APPARA MANUFACTURER,

### STANLEY BRIDGE, KING'S ROAD, CHELSEA, LONDON

Deeply grateful for the very liberal and kind patronage bestowed upon him since his commen on his own account, begs most respectfully to inform the Nobility, Gentry, Nurserymen, &c. t being his determination to spare no pains to merit a continuance of their favours, and that h be enabled to execute his extensive and increasing orders punctually, and at the lowest possib (agreeably with the best Materials and Workmanship), he has erected a most complete set of Steam Machines, peculiarly adapted for the purposes of his Trade.

PARTIES DESIRING INFORMATION as to prices, &c., will, by referring to the above section Elevation, receive immediate attention.

PLANS, SPECIFICATIONS, and ESTIMATES for plain and inexpensive practical Structures and the most elaborate Architectural Erections, either in Wood or Iron, forwarded on application.


Printed by William Bradbury, of No. 13, Upper Woburn Place, and Frederick Mullett Evans, of No. 20, Queen's Road West, both in the Parish of St. Pancras, in the Co of Middlesex, Printers, at their Office, Lombard St., Precinct of Whitefriars, City of London, and published by them at the Office, No. 5, Upper Wellington St., Parish of St. Paul's, Covent Garden, in the said Co.—Saturday, February 12, 1859

# THE GARDENERS' CHRONICLE
AND
# AGRICULTURAL GAZETTE.

**A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.**

No. 8.—1859.] SATURDAY, FEBRUARY 19. {Price Fivepence. STAMPED EDITION, 6*d*.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[In Mr. THOS. SHERMAN'S Advt. of last week, p. 116, for "150 *Bushels of Green Globe Turnips*," read *Green Globe Turnip Seed*.]

HORTICULTURAL SOCIETY OF LONDON.—The next meeting of the Fruit Committee will be held at 12, noon, on TUESDAY, March 1, when Prizes of 20*s*. and 10*s*. will be awarded for the best dishes of Beurré Rance Pears.

N.B. Each dish to contain six fruit, and to be accompanied with a form filled up by the exhibitor. The blank forms for this purpose, and also for other fruits that may be exhibited, can be obtained on application to Mr. ROBERT THOMPSON, Horticultural Society's Garden, Chiswick, London, W.

ROYAL BOTANIC SOCIETY, REGENT'S PARK.—The COUNCIL have made arrangements for THREE EXHIBITIONS during the ensuing spring of such new, rare, and generally attractive Plants as come into flower early in the season, such Exhibitions to take place on WEDNESDAYS, the 23d of March, and the 6th and 20th of April.

The Gardens will be open on these occasions only to Fellows of the Society and their Orders, and to Members and Ivory Tickets, subject to the general regulations. The Plants will remain in the Conservatory for two or three days. There will be no admission by purchased Tickets to these Exhibitions.

STOKE NEWINGTON FLORICULTURAL SOCIETY.

*Chairman*.—Mr. A. KENDALL.
*Treasurer*.—Mr. R. JAMES. | *Secretary*.—Mr. A. WORTLEY.
*Committee*.

| | | |
|---|---|---|
| W. Bragg. | A. Forsyth. | O. Rhodes. |
| J. Bunningfield. | J. George. | E. Sanderson. |
| G. Baker. | — Goad. | G. Smith. |
| J. Cook. | W. Holmes. | — Wakeman. |

The above Society will hold its Annual Exhibition at the MANOR ROOMS, Church Street, Stoke Newington, on AUGUST 2d, when Prizes will be awarded for DAHLIAS, ASTERS, HOLLYHOCKS, &c.

Further information and Schedules upon application to ARTHUR WORTLEY, Hon. Sec., Stoke Newington Common.

STOKE NEWINGTON CHRYSANTHEMUM SOCIETY. Instituted 1846.

*Chairman*.—E. SANDERSON, Esq.
*Treasurer*.—Mr. R. JAMES. | *Secretary*.—Mr. A. WORTLEY.
*Committee*:—

| | | |
|---|---|---|
| J. Croxford. | W. Holmes. | S. Radley. |
| R. Cottrell. | J. Haines. | J. Shields. |
| A. Forsyth. | A. Kendall. | W. H. Towner. |
| J. George. | R. Mackay. | — Walker. |

The Thirteenth Annual Exhibition of the above Society will be held at the Manor Rooms, Church Street, Stoke Newington, on the 2d and 3d Nov., upon which occasion several Five Guinea Silver Cups and Silver Plate will be offered for competition in addition to the prizes of the Society.

OPEN TO ALL ENGLAND.

N.B. The especial object of this Society is to promote and encourage the cultivation of Chrysanthemums, to secure as far as practicable fair and open competition, and to discountenance by every available means any attempt at unfair or fraudulent showing, thus at once securing the confidence of the respective exhibitor and the public.

Stoke Newington Common. ARTHUR WORTLEY, Hon. Sec.

BRISTOL, CLIFTON, AND WEST OF ENGLAND ZOOLOGICAL SOCIETY.—TWO HORTICULTURAL FÊTES will be held at the Gardens of this Society at Clifton on THURSDAY, June 2, and THURSDAY, August 25. Exhibitors can obtain a List of Prizes and Regulations on application to the Superintendent at the Gardens. Arrangements will be made with the Railway Companies for Special Trains on the days of Exhibition.

BRIGHTON AND SUSSEX FLORICULTURAL AND HORTICULTURAL SOCIETY'S EXHIBITIONS for 1859 are fixed to be held on the following days:—Summer Show, WEDNESDAY and THURSDAY, June 22 and 23; Autumn Show, WEDNESDAY and THURSDAY, Sept. 14 and 15, on the same grand scale as in former years. Schedules will shortly be published, to be obtained of the Secretary, 96, St. James's Street; or of E. SPARY, Queen's Graperies, General Superintendent of Exhibition.

EDWARD CARPENTER, Secretary.
THOS. ATTREE, Esq., Chairman of Committee.
Brighton.—February 19.

HORTICULTURAL VALUATIONS.

MR. ALFRED CHANDLER (of the late firm of Chandler & Sons, Vauxhall), begs to inform his Friends he is at liberty to undertake the valuation of Collections of Plants, Nursery Stock, Horticultural Buildings, &c.

Mr. A. C. is also open to engagements as Censor at Horticultural Exhibitions, in which capacity he has had long and extensive experience.—28, Priory Road, Wandsworth Road, S.

THE PLYMOUTH SEED, AGRICULTURAL IMPLEMENT, AND MANURE COMPANY (LIMITED) supply every requisite for the Farm and the Garden.
Registered Offices, Union Road, Plymouth.

SUTTON'S FARM SEED LIST WITH PRICES FOR MARCH AND APRIL will be ready in a few days, and will be sent gratis and post free to Messrs. SUTTON'S customers.—Royal Berkshire Seed Establishment.

GOOD CLOVER SEEDS.

GENUINE NEW CLOVER SEEDS can be had of SUTTON & SONS, Seed Growers, Reading, Berks.

FRESH IMPORTED GERMAN FLOWER SEEDS (post free).

SUTTON AND SONS, Reading, Berks, have just received a choice importation of GERMAN FLOWER SEEDS, a List of which will be sent gratis and post free on application.

FERN CATALOGUE.

ROBERT SIM'S NEW DESCRIPTIVE AND PRICED CATALOGUE, No. 6 (62 pages) of his COLLECTION of BRITISH FERNS, can be had, post free, for 8 stamps. Gratis to all previous purchasers of Ferns.
Nursery, Foot's Cray, Kent, S.E.

GEORGE JACKMAN AND SON'S PRICED and DESCRIPTIVE CATALOGUE of GENERAL NURSERY STOCK for 1858 and 1859 can be had free on application.
Woking Nursery, Woking, Surrey.

GEORGE BAKER begs to inform the Nobility and Public that his DESCRIPTIVE CATALOGUE OF AMERICAN PLANTS AND GENERAL NURSERY STOCK will be sent free on application.

American Nursery, Windlesham, near Bagshot, Surrey, about 1 mile from Sunningdale Station, South Western Railway.

WILLIAM YOUNG'S DESCRIPTIVE CATALOGUE OF NEW HARDY ORNAMENTAL PLANTS, CONIFERÆ, ROSES, RHODODENDRONS, FOREST TREES, &c. Can be had on application.—Milford Nurseries, Godalming.

KITCHEN GARDEN SEEDS.

JOHN CATTELL begs respectfully to announce that his CATALOGUE of the above may be had free by return of Post. It contains selections of the most approved culinary vegetables in cultivation, nearly the whole of them having been saved under J. C.'s own personal superintendence.—Nursery and Seed Establishment, Westerham, Kent.

NEW DAHLIAS.

JOHN KEYNES'S SELECT CATALOGUE OF DAHLIAS, ROSES, CARNATIONS, PINKS, &c., containing Lists of all the valuable Show Flowers in each class, is now ready and will be sent on application.
Castle Street Nursery, Salisbury.—Feb. 19.

LAING'S MAMMOTH RED CELERY.—The largest and best flavoured Celery known, and will not run to seed until the second year. (See former advertisement.)
Packets, 1*s*. each; large trade do., 3*s*. 6*d*., per post prepaid. Stamps received in payment.
YOUELL & Co., Royal Nursery, Great Yarmouth.

RASPBERRIES—Fastolf, Autumn Fruited, Fill-basket, and White, 10*s*. per 100; STRAWBERRIES—British Queen, Elton Pine, and Keens' Seedling, 10*s*. per 1000, 1*s*. 6*d*. per 100; Red, White, and Black CURRANTS, 12*s*. per 100; Large LAURUSTINUS.
GEO. CORNWELL, Market Gardener, Barnet, N.

LANCASHIRE SHOW GOOSEBERRIES True.—Selected varieties, the heaviest and finest flavoured from our unrivalled stock, 6*s*. per dozen; Black Currants, 2*s*. per dozen; Red Currants, 3*s*. per dozen; White Currants, 3*s*. per dozen, the finest varieties.—HOLLAND, DODWELL & BAYLEY, Bradshaw Gardens, Chadderton, Manchester.

YELLOW ROSES.—Madame William, orange yellow; Isabella Gray, golden yellow. Strong plants, fit for immediate forcing, 8*s*. 6*d*. the pair.
A. PAUL & SON, Nurseries, Cheshunt, Herts.

NEW ROSES FOR 1859.

JOHN CRANSTON begs to inform his friends that he will be prepared to supply early in April fine plants of all the NEW ROSES of the season, at 5*s*. each, with the usual discount to the Trade. A List of varieties will appear next week.—Nurseries, King's Acre, near Hereford.

NEW CATALOGUE OF FLORIST FLOWERS, &c.

DOWNIE AND LAIRD beg to intimate that their DESCRIPTIVE CATALOGUE of FLORIST FLOWERS, New VEGETABLE and FLOWER SEEDS for 1859, is now Ready, and will be sent Free on application.
17, South Frederick Street, Edinburgh.

DOUBLE ITALIAN TUBEROSES.

JAMES CARTER AND CO. have just received a supply of Extra Strong Flowering Roots of the above, which they can offer at 4*s*. per dozen.
JAMES CARTER & Co., Seedsmen, 238, High Holborn.

CHOICE NEW GLADIOLI.

CHARLES ALEXANDER, 30, West Register Street, Edinburgh, has a fine STOCK of the above from France and Holland.—Descriptive Priced Lists free on application.

YOUNG'S SCARLET STOCK SEED, our own saving, 6*d*. to 1*s*. per packet; WHITE INTERMEDIATE STOCK SEED, 1*s*. per packet. Both are perfectly hardy, and should be sown immediately for Autumn flowering.
CARSTAIRS, Florist, 106, George Street, Edinburgh.

MESSRS. J. AND H. BROWN offer the following CHOICE FRUIT TREES:—
Fine standard and dwarf Apricots, Peaches, Nectarines, Plums, Pears, and Cherries, 2*s*. 6*d*. each, or 25*s*. per dozen.
Fine dwarf plants of all the above, grown and trained especially for pot culture, 18*s*. per dozen.
Fine Gooseberries, Currants, and Raspberries, 3*s*. per dozen.
Fig, Medlars, Quinces, Walnuts, and Mulberries, 2*s*. each.
Filberts, new thin-shelled, Red and Cob Nuts, 3*s*. per dozen.
Fine strong Vines from eyes, and layers in pots, 2*s*. 6*d*. to 3*s*. 6*d*. each. [of all kinds.
A large assortment of Ornamental Trees and Evergreen Shrubs
Albion Nursery, Stoke Newington, London.—Feb. 19.

CONIFERÆ.

A. PAUL AND SON have a large stock of the above, very handsome, in fine order for removal, many suited for immediate effect. For particulars see Advertisements in *Gardeners' Chronicle* of November and December last.—Nurseries, Cheshunt, Herts.

TO PLANTERS.—Fine stock of Larch, 1½ to 3 feet; Scotch Firs, 1½ to 2 feet; Beech, 1½ to 4 feet; Elms, 3 to 6 feet; Evergreen Privets, Common Hollies, 1 to 1½ foot; fine Healthy Plants, with all other kinds of Nursery Stock. Samples and price on application to JOHN SCHOLEY, Pontefract Nurseries.

CHARLES DALY AND SON, Coleraine, Ireland, will sell Irish YEWS, 1 to 2 feet, 12*s*. per 100; common LAUREL, 1 to 2 feet, 15*s*. per 1000; 1 year transplanted do., 20*s*. per 1000; 1 year seedling THORNS, 2*s*. 6*d*. per 1000; Portugal LAUREL, 18 inches, 4*s*. per 100; 2 years SPRUCE FIR, 2*s*. per 1000. Free in Liverpool or in Glasgow for cash to Messrs. HURST & M'MULLEN, or with order.

A VERY LARGE STOCK OF

FINE COMMON LAURELS, 1, 2, and 3 feet high, bushy and a good colour. Also very strong transplanted true Evergreen Privet, 3 to 6 feet.—Prices moderate on application to WILLIAM WOOD & SON, Woodlands Nursery, Maresfield, near Uckfield, Sussex.

FRUIT TREES, trained and otherwise, of the finest quality, can be supplied, by YOUELL & Co., who beg respectfully to refer to their advertisement of last week.
Royal Nursery, Great Yarmouth.

HALF A MILLION ONE-YEAR SEEDLING OAKS (STRONG AND STOUT).

JAMES MELDRUM, NURSERYMAN, Kendal, Westmoreland, offers the above in quantities to suit purchasers. Price reasonable, on application.

THREE MILLIONS OF TRANSPLANTED QUICKS.

GEORGE CHIVAS, Chester, offers the above to the notice of Planters, which for extent and quality he believes are unequalled in the kingdom. A Sample Bale containing 100 of each five sizes forwarded on receipt of a Post-office Order for 15*s*. Truck loads delivered free at any Railway Station having through communication with Chester.

JOHN CULVERWELL, Taunton, begs to call the attention of Agriculturists to his superior selection of GRASS SEEDS, which for PURITY, change of SOIL, and CLIMATE, will bear comparison with any house in the kingdom. Prices, terms, and samples forwarded on application.

PAMPAS GRASS (GYNERIUM ARGENTEUM).—The beauty of this extraordinary plant has this season been fully appreciated. It can be supplied by the dozen, hundred, or thousand, by CHARLES NOBLE, Bagshot, Surrey.

HUDSON'S GOLDEN MELON BARLEY.—Selected Samples for Seed of this most valuable variety, superior both for produce and malting quality, may be had of RAYNBIRD & HARVEY, of Basingstoke; and 89, Seed Market, Mark Lane, E.C.

GIANT SAINFOIN SEED.—Seed of this excellent and productive Plant may be had of RAYNBIRD & HARVEY, Basingstoke, and 89, Seed Market, Mark Lane. Samples and prices on application.

N.B. R. & H. can also supply Common Sainfoin both of English and French growth at market prices.

HENRY'S HYBRID SCOTCH LEEK.

CHARLES ALEXANDER, SEEDSMAN, Edinburgh, offers Seeds of the above unrivalled LEEK at 1*s*. and 2*s*. 6*d*. per packet.

He exhibited three in December last which weighed 9 lbs., and blanched to upwards of 12 inches each.

EARLY WHITE FIELD PEA (NEW EARLY RACEHORSE), comes off early in July in time for Turnips, and is a good cropper. Price 12*s*. 6*d*. per bushel, carriage free.—SUTTON & SONS, Seed Growers, Reading.

CUTHILL'S NEW ZEALAND RUNNER BEANS, POST FREE.

SUTTON AND SONS can supply the true kind of NEW ZEALAND RUNNERS, as obtained through Mr. Cuthill, at 2*s*. 6*d*. and 1*s*. per packet.—Reading, Feb. 19.

THE NEW ZEALAND RUNNER BEAN.

CHARLES TURNER has purchased Mr. Smith's Stock of this remarkable BEAN, which Professor Lindley has pronounced to be identical with the variety named above. In 2*s*. 6*d*. packets, containing 20 Beans. The Trade supplied on the usual terms.—The Royal Nurseries, Slough.

VERY SUPERIOR BEET.

CHARLES SOUTHBY (late FAIRBAIRN) begs to inform those who gave the above a trial last season, that he can now supply 1 oz. free by Post for 1*s*. 3*d*.; ½ oz. ditto 9*d*.—Clapham, London.

HOLCUS SACCHARATUS, or CHINA SUGAR CANE GRASS.—Seed of this lately introduced Fodder plant can be supplied by NUTTING and SONS in any quantity. Price on application.
Seed Warehouses, 60, Barbican, London, E.C.

SEED POTATOES.

SUTTON AND SONS, SEED GROWERS, Reading have a large stock of the early kinds of Potatoes very true and free from disease. Prices, &c., will be sent post free on application.

TO THE TRADE.

EGYPTIAN ASH-TOP KIDNEY POTATOES.—We have fine Select Stock of the above, 16*s*. per ton; likewise strong LARCH, &c., cheap.
JOSEPH TREMBLE & SONS, Penrith, Cumberland.

THE TRUE CUSTARD MARROW, a specimen of which was exhibited at the Society's Rooms, March 2, 1858. Price to the trade, per 100 seeds, upon application.—EDWARD HARMAN, Denham, near Uxbridge.

CHEAP AND SELECT NURSERY STOCK, see Advertisement in *Gardeners' Chronicle* of the 12th February, page 114.

LAURELS, fine transplanted, 1½ to 2½ feet, 70*s.* per 1000.

WILLIAM JACKSON & Co., Bedale, Yorkshire.

## NURSERY STOCK.

THE Subscribers are disposing of their extensive stock of Seedling and Transplanted Forest Trees, Ornamental Trees, Evergreen and Deciduous Shrubs, Standard and Dwarf-trained Fruit Trees, Gooseberries and Currants, &c., at prices considerably reduced in consequence of dissolving partnership.—Priced Lists may be had on application.

Glasgow, Feb. 19. FOWLER & WRIGHT.

R. LAING, TWICKENHAM NURSERIES, S.W., begs to offer Dwarf-trained Moorpark Apricots, 5*s.* each; Wistaria sinensis (very strong), 18*s.* per doz.; strong Bourssault, Ayrshire, and other Climbing Roses, 12*s.* per doz.; Standard and Dwarf Roses of all the leading sorts, 18*s.* and 12*s.* per doz.; Laing's Prolific Red Raspberry, one of the best in cultivation, 12*s.* per 100. The following choice selected SEEDS at 6*d.* per packet.—Delphinium formosum, German Aster, New Double Sunflower, Double Dwarf Mixed Rocket Larkspur, Camellia-flowered Balsam, superior Crimson Candytuft.

## TO PLANTERS.

1,000,000 SEEDLING BEECH, Strong, 10 to 18 inch, 5*s.* per 1000. Also in large quantities and the finest health, Larch 1½ to 2 ft., 2 to 3 ft., 3 to 4 ft. Scotch Fir, 4 yrs. old; Spruce Fir, 9 to 18 inches, 15 to 24 inches; Privet, 2 to 3 ft.; Alders, Ash, Beech, Sycamore, &c. Free delivery to Liverpool or Belfast.

Prices moderate, and to be learned on application to GARLIES MITCHELL, Nurseryman, Stranraer, N.B.

## GERMAN AND OTHER FLOWER SEEDS.

MESSRS. PARKER AND WILLIAMS beg to inform their friends and patrons that their NEW PRICED AND DESCRIPTIVE CATALOGUE containing every novelty of proved merit, and all the best of the older kinds, will be published in a few days, and forwarded post free to all previous customers and applicants. Their whole stock of Seeds are from the best Foreign and English sources, and may be relied upon as being genuine and of the finest quality.—Paradise Nursery, Seven Sisters and Hornsey Roads, Holloway, London, N.

PICEA AMABILIS AND CRYPTOMERIA JAPONICA SEED.—1 oz. Cryptomeria, and two seeds of Picea, quite fresh, for 8*s.*—Full particulars on addressing D. M., Post Office, Moy, Ireland.

NEW ROSES now offered for the first time.

GIULIETTA.—Bourbon; vigorous and without thorns; full of panicles. White, slightly tinged with carnation. In the way of Souvenir de Malmaison. Price 15 fr.

PERFECTION.—Hybridised non-climbing Bourbon; flower large and very double, form perfect. Beautiful shaded rose. Price 5 fr. IN THE AUTUMN.

ROSA BONHEUR.—Hybrid Perpetual variegated; nearly full, flattened. Amaranth red, largely streaked with white in the centre of each petal. Price 25 fr.

L'ELEGANTE.—Hybrid Perpetual for espalier; produce of a cross between Rose "Gloire des Rosomènes," and a multiflora; semi-double. Cerise red, blooming in large panicles. This Rose will supersede the non-climbing multiflora varieties. Price 15 fr.

Horticultural Establishment of H. LAURENTIUS, Leipsic, Saxony.

CARTER'S EXCELSIOR MELON.—A green-fleshed variety of delicious flavour, netted; fruit averages 4 lbs., requires scarcely any heating, and is very prolific. R. Hogg, Esq., President of the Pomological Society, and Turner and Spencer's "Florist," pronounce this variety to be one of the finest ever tasted. Seeds 1*s.* per packet.—JAMES CARTER & Co., Seedsmen, 238, High Holborn, London, W.C.

DESCARTES ROSE STOCKS.—The best dwarf Rose Stock known is the cultivated ROSE DESCARTES, being proved nine years. Price 12*s.* per 100, with trade allowance. STANDARD MANETTIS, 9*s.* per 100; also fine tall LAURELS, with other EVERGREENS, SHRUBS, &c.—Apply to J. J. FOSTER, Edgeware Nurseries.

## THE BEST MELON IN CULTIVATION FOR TABLE, MARKET, OR EXHIBITION.

WILD'S ORION, the winner of four First Prizes at two Shows—Crystal Palace and Regent Street.—Handsome, 4 lbs. to 6 lbs. in weight, thin skin, thick flesh (green), luscious as a melting Peach, fragrant and delicious as a Pine Apple, prolific bearer; six good seeds out of the Prize fruit by post on receipt of 12 penny stamps.

THOMAS WILD, The Primulary, Ipswich.

## SUPERB DOUBLE HOLLYHOCKS.

WILLIAM CHATER can now supply fine healthy plants from his Collection, having a large stock ready for immediate planting.

See DESCRIPTIVE CATALOGUE, to be had on application.

Nurseries, Saffron Walden.

## MAJOR'S CALCEOLARIA SEED.

MR. HENRY MAJOR, Knosthorpe, near Leeds, begs to announce that he is now sending out the above Seed saved from his unrivalled collection, in packets at 2*s.* 6*d.* each, or three for 5*s.* Post free. If sown this month the plants will bloom about August. Postage Stamps in payment.

LARGE NORWAY SPRUCE, &c.—The subscribers have to offer 500,000 transplanted Norway Spruce of different sizes, from 12 to 24 inches. Also 100,000 GOOSEBERRIES of best Lancashire roots. Prices to the Trade and large buyers on application to

J. MORRISON & SON, Montcoffer Nurseries, near Banff.

## TO PLANTERS OF CONIFERS.

YOUELL AND CO. supply 50 species of RARE and HARDY CONIFERS in good plants for 5*l.*, package included and carriage paid to Manchester, Newcastle-on-Tyne, Hull, London, Peterborough, or to any Railway Station within 150 miles of the Nursery. A LIST of the above can be had on application.—Royal Nursery, Great Yarmouth, Norfolk.

CHOICE CONIFERÆ, warranted to move well, a great Bargain.—CEDRUS DEODARA and LIBANI, 6 to 10 feet by 8 feet, 7*s.* 6*d.* to 30*s.*; PINUS EXCELSUS, 6 to 8 feet, 5*s.* to 10*s.* 6*d.*; CRYPTOMERIA, 6 to 10 feet, 5*s.* to 10*s.* 6*d.*; CUPRESSUS MACROCARPA, 5 to 7 feet, 5*s.* to 7*s.* 6*d.*; and most other choice sorts from 2 to 10 ft., equally low.

Apply to J. SCOTT, Merriott Nurseries, Crewkerne, Somerset.

## HARDY CONIFERÆ FOR SPRING PLANTING.

J. HENCHMAN, Edmonton, London, begs to offer the following CONIFERS, all Seedling Plants, in pots, and in the most robust health:—

Wellingtonia gigantea, 1 foot, in 32-pots, very fine, 10*s.* 6*d.* each; 7 to 8 inches, in 48-pots, 3*l.* per doz.; stout, 2-year seedlings, 30*s.* per doz.

Pinus Don Pedri, 21*s.* each.

" Buonapartia or Veitchi, 10*s.* 6*d.* each.

" insignis, 15 inches, 15*s.* per doz.

" macrocarpa or Coulteri, 6 inches, fine, 18*s.* per doz.

" tuberculatus, stout 2-year seedlings, 18*s.* per doz.

" Benthamiana, 2-year do. 9*s.* per doz.

Cupressus macrocarpus, 18 inches, fine, 6*s.* per doz.

" MacNabbiana, 2 years, 3*s.* per doz.

Taxodium sempervirens, 15 inches, fine, 24*s.* per doz.

## FRUITING VINES.

JOHN AND CHARLES LEE beg to offer extra strong short-jointed and well-ripened FRUITING VINES of the following kinds:—

| | |
|---|---|
| BLACK HAMBURGH | BLACK PRINCE |
| GOLDEN HAMBURGH | ROYAL MUSCADINE |
| BLACK FRONTIGNAN | BIDWELL'S SEEDLING |
| WHITE FRONTIGNAN | BOWOOD MUSCAT. |
| MUSCAT OF ALEXANDRIA | |

Nursery and Seed Establishment, Hammersmith, London.

## FRUIT TREES IN POTS.

JOHN AND CHARLES LEE have now the largest and finest stock of FRUIT TREES IN POTS in a bearing state for FORCING AND ORCHARD HOUSES ever offered. They consist of the following kinds, a CATALOGUE of which may be had on application:—

| | | |
|---|---|---|
| APRICOTS | FIGS | PEARS |
| PEACHES | PLUMS | APPLES. |
| NECTARINES | CHERRIES | ALSO, |

VINES AND STRAWBERRIES.

Nursery and Seed Establishment, Hammersmith, London.

## FRUIT TREES FOR ORCHARD-HOUSES.

HUGH LOW AND CO. have a fine stock of PEACHES in the very best health, grown as bushes and covered with blossom-buds. They are of two sizes; the larger, being from 3 to 4 feet high and as much through, are admirably adapted for planting out in the borders of orchard-houses or for growing in tubs. The second size, about 2 to 2½ feet high, and bushy, are for pot culture. The whole having been transplanted last year will move with abundance of fibrous roots. Prices and lists of sorts on application.

Upper Clapton Nursery, London, N.E.

## PELARGONIUMS.

CHARLES TURNER'S stock of the above at the present time is most extensive, including large, French, and Fancies. The plants, which were stopped in autumn, have broken very strong, and are ready for an immediate repotting. This is an excellent time for procuring them, the price being moderate.—The Royal Nurseries, Slough.

## NEW KINDS OF VEGETABLES.

CHARLES TURNER can supply seed of the following valuable new varieties:—

| | Per packet—*s.* | *d.* |
|---|---|---|
| Incomparable Cabbage | 1 | 0 |
| New Zealand Runner Bean | 2 | 6 |
| Perennial Spinach | 1 | 0 |
| Pine-apple Short Top Beet | 1 | 0 |
| Powell's Early Tomato | 1 | 0 |
| Roseberry Brussels Sprouts | 1 | 0 |
| Royal Dwarf Pea (Pois nain très hâtif à chassis), per quart | 2 | 6 |
| Turner's Cottagers' Kale | 1 | 0 |
| The Frogmore Protecting Broccoli | 2 | 6 |

The above are strongly recommended. A GENERAL DESCRIPTIVE CATALOGUE of SEEDS may be had on application.

The Royal Nurseries, Slough.

TURNER'S COTTAGER'S KALE.—Specimens of this new, hardy, prolific, and delicious Vegetable were exhibited in February last, and were found to possess superior excellence, the Horticultural Society of London awarding it a Certificate of Merit. It was also exhibited at the Great Fruit Show, St. James's Hall, in November last, and again received a Certificate, Professor Lindley pronouncing it to be both "new and invaluable," being unsurpassed for sweetness and tenderness. Sealed packets, 1*s.* each. A list of Agents that can supply it true was published Oct. 16, 1858, in the *Gardeners' Chronicle*.—The Royal Nurseries, Slough.

## NEW MELON.

TURNER'S SCARLET GEM MELON.—An early and most prolific variety, and by far the best flavoured of the scarlet-fleshed Melons, having taken Seven First Prizes during the past season at the great exhibitions. It is well netted and handsome.

Mr. Bailey, the very successful fruit grower, of Shardeloes Gardens, Amersham, having grown this variety for two seasons, reports that "it is by far the best Melon he has ever cultivated of either class. Its superior flavour alone entitles it to a first place, besides other good qualities, among which is its easy culture." 2*s.* 6*d.* per packet.—The Royal Nurseries, Slough.

WILD'S UNRIVALLED PRIMULAS.—Upwards of 100 Testimonials received:—

*Mrs. Haig, Dundalk, Ireland.*

"The Primula seed you sent me last year proved most beautiful."

*Mr. J. Parker, Manor Gardens, Worksop.*

"Sir,—Please send me two packets of your Primula seed; the last I had from you was superb."

Sealed packets post free to all parts of the world on receipt of 2*s.* 6*d.* in stamps.

THOMAS WILD, The Primulary, Ipswich.

TO GROWERS OF PINE APPLES AND CUCUMBERS.—The above-mentioned goods are in great demand here at present, and commanding high prices, therefore forward "immediately" to

GEORGE TAYLOR,
CHOICE FRUIT AND VEGETABLE SALESMAN,
St. John's Market, Liverpool.

PANSIES (competing varieties), 6*s.* to 9*s.* per doz.
First-Class HOLLYHOCKS, 9*s.* to 12*s.* per doz.

The above plants can be well recommended. Trade price on application.—Apply at Carstairs Nursery, Inverleith Row, Edinburgh.

## NEW CHRYSANTHEMUMS.

JOHN SALTER begs to inform the numerous applicants for his NEW CATALOGUE OF CHRYSANTHEMUMS that it will be published at the end of February, in which his splendid Seedlings and other new varieties for 1859 will be fully described, as well as his unrivalled general collection, which is the largest in Europe.—Versailles Nursery, William Street, near Hammersmith Turnpike, W.

NEW ROSE, HYBRID PERPETUAL "LÆLIA."—Colour delicate satin rose, petals very large, perfectly smooth, and well formed; flowers of exquisite shape, large size, and highly scented. JOHN CRANSTON has the pleasure to announce that he will be prepared to supply early in April plants of this superb new Rose. It was exhibited by him in his winning stand of single blooms at the Grand National Rose Show in July last, and was unquestionably the most attractive variety of the Show, and the admiration of all who saw it. Fine healthy plants, 5*s.* each, with the usual discount to the trade.—Nurseries, King's Acre, near Hereford.

## CAMELLIAS.

TO BE SOLD, a Greenhouse of CAMELLIAS, in pots, consisting of Double White and other choice varieties. Some of the plants are very large, of 20 years' growth. The low price of 25*l.* will be taken in consequence of the family being about to remove nearer the city. They may be seen by application on the premises.—Mr. S. H. HEATH, Richmond House, Church Street, Hackney. The Lease of the Residence, containing 10 rooms, long garden, and Greenhouses, to be sold, having about 17 years to run, held at a ground rent of 13*l.* 10*s.* per annum.

## SEEDS FOR THE FARM

THE PLYMOUTH SEED, AGRICULTURAL IMPLEMENT, AND MANURE COMPANY beg to announce that their SPRING LIST is now ready. The same will be sent free on application to the Secretary by letter or at the Company's Offices, Plymouth.—Feb. 19.

## TO THE TRADE.

TO BE SOLD, 200 bushels of GREEN YELLOW SWEDE SEED, 100 bushels SWEDE Ditto, 60 bushels of DALE'S HYBRID, first-rate stock, warranted to grow well, and true to description. Terms on application.—Address T. A. Lamb, 7, Bull Head Court, Newgate Street, E.C.

## TO THE SEED TRADE

THOMAS AYRES, JUN., SEEDSMAN and Biggleswade, Beds., can supply every sort of Swede, and common Turnip Seeds, on the most moderate terms for cash.

N.B. Dealer in Culinary and Flower Seeds, Bulbs, Shrubs, and Flowering Plants.

THE ALSIKE CLOVER.—This valuable Perennial Clover Seed is included in Messrs. SUTTON'S mixtures of Clover and Grass Seeds for permanent pasture and alternate husbandry. It can be supplied in larger quantities alone if required. Price fluctuating, to be had on application.

Royal Berks Seed Establishment, Reading.

## IMPROVEMENT OF GRASS LANDS

BY SOWING GOOD SEEDS OF THE MOST SUITABLE KINDS.

SUTTON'S RENOVATING GRASS for improving old Pastures, Parks, and Meadows. Quantity of seed required, 8 to 12 lbs. per acre. Price 60*s.* or 80*s.* per cwt., carriage free. Total cost, from 20*s.* to 30*s.* per acre. These seeds should now be sown.

Royal Berkshire Seed Establishment, Reading.

SUTTON'S ELVETHAN MANGEL WURTZEL and SELECTED YELLOW GLOBE.—These two Mangel are still preferred to all others by the principal growers throughout the kingdom. SUTTON & SONS have some fine seed of each sort, at very moderate prices, which may be had post free.—Royal Berkshire Seed Establishment, Reading.

## DIOSCOREAS—FINE LARGE ROOTS ONLY.

SUTTON AND SONS, Reading, can supply DIOSCOREA BATATAS, 9 inches long, at 40*s.* per 100. This vegetable is worthy of all that can be said in its favour, and will thrive in almost any soil or situation.—SUTTON & SONS, Royal Berkshire Seed Establishment, Reading.

## SORGHUM, OR HOLCUS SACCHARATUS.

SUTTON AND SONS, the largest Importers of Seed, can supply it wholesale and retail, warranted true kind, and good growing Seed.

Present retail price 2*s.* per lb., or cheaper in large quantities. Instructions on cultivation sent with the Seed.

SUTTON & SONS, Royal Berks Seed Establishment, Reading.

HOLCUS SACCHARATUS, or North China Cane.—Pamphlet, "A Visit and a Plant" by the English authority on the Cultivation of the above, sent free 6*d.* Prices of Seed on application. Samples of the varieties of Holcus remitted free by post on receipt of stamps.

CHINESE YAMS, 4*s.* per dozen.

ASPARAGUS plants, 16*s.* per 1000.

JOHN W. CLARKE, Whittlesea, Cambridgeshire.

## SEED CORN FROM THE CHALK.

MESSRS. RAYNBIRD AND HARVEY beg to call the attention of Agriculturists requiring change of SEED to their Red Nursery, and April WHEAT, the best sorts for autumn sowing.

Chevalier, Thanet, Golden Drop, Long-eared Russian, American, Hudson's Golden Melon, Banham's Spring, and other varieties of BARLEY.

Canadian Potato, Hopetoun, Poland, and Tartarian OATS.

Fine CLUSTER BEANS, weighing 68 lbs per bushel.

Samples and Prices on application

Address—Basingstoke, and 89, Seed Market, Mark Lane, London, E.C.

## SPECIMEN ERICAS AND GREENHOUSE PLANTS.

R. GLENDINNING has to offer to Exhibitors as well as for private decoration a number of well-grown Specimens and Half-Specimens of ERICAS and other HOUSE PLANTS in the healthiest possible condition. He respectfully solicits an inspection of the same to those who may find it inconvenient names, sizes, and prices furnished on application.—Chiswick Nursery, London.

GLENNY'S IMPROVED BALSAM.—Any one who sells Seed as mine, or as from my stock, except in my own sealed packets, is simply swindling his customers. The grain has been parted from in any other way. The strain is now fully established in Europe and America as superior to the mode of saving as to the naturally fine stock. Post free 37 stamps; mixed 13.

The splendid DAHLIA DUCHESS OF NORTHUMBERLAND.—Strong pot roots, free to any part of the kingdom. It is more in demand than any Dahlia of last year.

G. GLENNY, Horticultural Agent, Feltham.

## GERMAN STOCKS, ASTERS, ETC

DO NOT PURCHASE MORE SEEDS THAN YOU WANT.

JAMES TYNAN begs to offer FLOWER SEEDS of the choicest kinds in packets to suit the wants of purchasers not requiring them to take large quantities, so as to obtain the best varieties.

TRUFFAUT'S PÆONY-FLOWERED ASTERS, saved from plants grown.—20 varieties in separate colours, in packets, 1*s.* each; any number sent; the same mixed in packets, 1*s.* each.

NEW CHRYSANTHEMUM-FLOWERED ASTERS, 5 varieties in separate colours, 4*d.* each; the same mixed in packets, 6*d.* each.

FINEST GERMAN STOCKS.—24 varieties in separate colours, 2*d.* each; the same mixed in packets, 1*s.* each.

Finest large-flowering, 20 varieties in separate colours, packets, 2*d.* each; the same mixed in packets, 1*s.* each.

DOUBLE GERMAN WALLFLOWER.—6 varieties in separate colours, packets, 3*d.* each; the same mixed, 1*s.* each.

Very fine PHLOX DRUMMONDI.—In packets of 24 varieties, 1*s.* and 6*d.* each.

The choicest CALCEOLARIA, 6*d.* and 1*s.* per packet.

" CINERARIA, 6*d.* and 1*s.* "

" GLOXINIA, .. 1*s.* "

" PRIMULA, 6*d.* and 1*s.* "

Agent for SMITH'S BALSAMS 1*s.* "

Selections of FLOWER SEEDS sent post free.

No. 1.—50 packets .. .. .. ..

No. 2.—25 packets .. .. .. ..

No. 3.—12 packets .. .. .. ..

Large packets, or by the ounce, at prices equally low.

JAMES TYNAN, Importer of Continental Seeds, Seed-house, 68, Great George Street, Liverpool.

## TO GARDENERS AND OTHERS

TO BE SOLD, several Thousand loads of superior BLACK GARDEN MOULD. This Soil has remained undisturbed for many years. It is very rich, and particularly adapted for Gardens, Lawns, &c.—Apply at 1, Wilton Terrace, Wilton Road, Pimlico, S.W.

### RHODODENDRONS.

JOHN WATERER'S CATALOGUE OF UNRIVALLED HARDY SCARLET AND OTHER CHOICE RHODODENDRONS, as Exhibited by him at the Royal Botanic Society's Gardens, Regent's Park, London, is published, and will be forwarded on application.

☞ This List is recommended as a work of reference, as it contains accurate descriptions of all the esteemed varieties.

The Knaphill Nursery, Bagshot, Surrey, near the Sunningdale Station South Western Railway.

### HARDY SCARLET RHODODENDRONS AND AMERICAN PLANTS GENERALLY.

WATERER AND GODFREY'S PRICED and DESCRIPTIVE CATALOGUE of the above beautiful class of plants, as exhibited by them in London and Manchester, may now be had on application inclosing one stamp for postage. The Catalogue also furnishes the heights and colours of their unequalled stock of Conifers and Evergreens, &c. Catalogues may also be had of Messrs. J. MAY & Co., Seedsmen, &c., Wellington Street, Strand.

Knap Hill Nursery, Woking, Surrey.

### VEGETABLE, FLOWER, AND AGRICULTURAL SEEDS.

WILLIAM BARNES'S CATALOGUE of the above is now ready, and may be obtained postage free, upon application. It will be found to contain every article of known value among them some that cannot be excelled, the stock of which having been saved specially for himself by private and competent friends, he can recommend with the greatest confidence. Every article is warranted of the purest and most genuine kind, as well as very moderate in price.

Camden Nursery, Camberwell.

MESSRS. PARKER AND WILLIAMS beg to inform their friends and patrons that their PRICED and DESCRIPTIVE CATALOGUE of Exotic Orchids, Stove, Greenhouse, and Hardy Ferns, Miscellaneous Stove, Greenhouse, and Hardy Plants, Variegated and Ornamental foliaged Plants, Conifers, Roses, Rhododendrons, Indian Azaleas, Gloxinias, Fuchsias, Cactuses, &c., is now published, and will be forwarded post free on application.—Paradise Nursery, Seven Sisters' and Hornsey Roads, Holloway, London, N.

### NEW SEEDS FOR 1859.

WM. CUTBUSH AND SON beg respectfully to intimate that their PRICED CATALOGUE OF VEGETABLE AND FLOWER SEEDS, &c., is now ready post free on application. WM. C. AND SON devote particular attention to this department of their business, and most of the choicer kinds of culinary seeds and roots are saved under their own inspection, and they can confidently guarantee the quality of all offered.—Highgate Nurseries, London, N. Established A.D. 1695.

### SEEDS FOR 1859.

HARGRAVE'S SELECTIONS OF KITCHEN GARDEN SEEDS are arranged in quantities and sorts suitable for a succession of Vegetables through the whole year. That adapted for a moderate-sized garden contains 10 pints of the choicest kinds of Peas, 6 pints of superior garden Beans, 3 pints of very fine French or Kidney Beans, and a fair assortment of small Seeds too numerous for specifying here. Cash price, ONE GUINEA, package included.

C. W. HARGRAVE, Nurseryman, Florist, Seed Grower, and Importer.—The Nursery, Winchmore Hill, N.

### AZALEA INDICA.

J. IVERY AND SON beg respectfully to invite growers of the above named to an inspection of their unrivalled Stock of Young Specimens of all the newest and best varieties, many of which have been exhibited at the Metropolitan Exhibitions. They are clean and healthy, well set with bloom, and moderate in price. Catalogues forwarded post free upon application.—Dorking Nursery, Feb. 19.

### CALLICARPA PURPUREA.

JOHN STANDISH, the exhibitor of the above (at St. James's Hall), can supply a few good plants at 7s. 6d. each. The following passage from Dr. Lindley's leading article in the *Gardeners' Chronicle* for Nov. 20 will give an idea of its beauty:—"Callicarpa purpurea, quite insignificant when in flower, was beautiful in its winter dress of innumerable rich purple berries, about the size of swan shot." It is easily cultivated, and does well in a cold greenhouse or conservatory planted out, where it will produce thousands of bright purple berries resembling glass beads, and remaining on nearly the whole winter.—Bagshot, Feb. 19.

EARLY STRAWBERRIES.—MAY QUEEN: "One of the earliest of all its race, as proved last season at the Chiswick Gardens." Ripe at Egglescliffe, Durham, May 28, 1858. 12s. per doz.; 1l. per 25; 1l. 15s. per 50; 3l. per 100. Good strong plants.

TRIOMPHE.—"A most abundant bearer, Hudson's Bay breed." Ripe as above, June 3d. 12s. per 50; 20s. per 100. Good strong plants.

DUC DE MALAKOFF.—"The earliest of the very large varieties, good." 12s. per 50; 20s. per 100; very strong plants. Nearly every other sort known can be supplied at reasonable prices. Many new interesting and excellent varieties can be recommended, all having been well tried. Early orders will oblige

WILLIAM J. NICHOLSON, Egglescliffe, Yarm, Yorkshire.

### BULBS FOR SPRING PLANTING.

BASS AND BROWN have pleasure in offering as under, all strong and fine roots for flower.

GLADIOLUS.—12 fine Ramosus Hybrids for 10s. These grow 2 feet in height, richly marked and striped, and flower from August to the approach of winter; they are best planted without delay to secure their flowering early. 15 choice Gandavensis Hybrids for 15s., which flower from August to October. Gandavensis, per doz., 2s. 6d.; Floribundus, per doz., 2s. 6d.

RANUNCULUS.—Fine Border varieties mixed, 4s. per 100. Very fine mixed, 10s. per 100; Œil Noir, the best black, 7s. 6d. per dozen. Turbans, of separate colours, see Catalogue. Ranunculi priced 10s. per 100 or upwards will be supplied free by post.

ANEMONES.—10 choice varieties of rich colour, six roots of each for clumping, 10s. 6d., or three roots of each for 6s. Finest Mixed Double Scarlets, 1s. 6d. per dozen. La Brillante Eclatante, bright single scarlet, 7s. 6d. per 100, or 1s. per doz. Fine new mixed single, 4s. per 100.

LILIUMS.—Lancifolium album, flowering roots, 1s. each, extra strong, 1s. 6d. to 2s. 6d.; Lancifolium rubrum, do., 2s. 6d. each; extra strong, 5s. each; testaceum, very beautiful spikes of pendent yellow flowers, each, 3s. 6d. Six beautiful varieties, including the above, for 10s. Giganteum, a large noble variety, 5s. to 10s. 6d. each.

Tigridia pavonia, 2s. 6d. per doz., or 18s. per 100.
" canariensis, 9d. each; cœlestis, 1s. each.
Tritonea aurea, fine strong roots, 1s. 6d. each; 15s. per dozen.
Tuberoses, double Italian, 4s. per dozen.

Also a great variety of other roots for spring planting, comprising Oxalis, Amaryllis, Cypella, Pancratium, Rigidilla, &c. &c. See No. III. Catalogue.

Goods (20s. and upwards) carriage free to all stations in London, &c., see Catalogue, and with orders of 40s. and upwards extra roots or plants added gratis.

Post-office Orders payable to BASS & BROWN, or to STEPHEN BROWN. Remittances required from unknown correspondents.

Seed and Nursery Establishment, Sudbury, Suffolk.

### FINE HEALTHY ROSES.—

STANDARDS .. .. .. 18s. per doz.
DWARFS (on the Manetti) .. 12s. .. ..

As the weather still continues mild and favourable for planting, GEORGE CLARKE begs to state he has still a fine stock of all the leading kinds to offer at the above prices, the selection being left to him. The Plants are all healthy and well rooted, therefore calculated to give the greatest satisfaction. Plants carefully packed for any distance. Carriage of all packages paid to London; and in all orders amounting to 20s. plants are added to compensate for distant carriage.

GEORGE CLARKE, The Nursery, Brixton Hill.

### THE LARGEST STOCK OF

TEA-SCENTED ROSES in the kingdom.—Upwards of 10,000 DWARF TEA ROSES in pots, fine healthy plants now ready for sending out, consisting of all the best leading kinds, and comprising among others—

750 Mélanie Willermoz
500 " Oger (yellow)
500 Vicomtesse de Cazes (do.)
500 Souvenir d'un Ami
500 Safrano
400 Devoniensis
400 Adam
300 Maréchal Bugeaud
300 Madame Bravy
300 Le Pactole, yellow
300 Niphetos, fine white
300 Goubault
300 Canari (yellow)

400 Miss Gray or Isabella Gray, true, yellow Rose, &c.

Plants presented to compensate for carriage.—Address WM. WOOD & SON, Woodlands Nursery, Maresfield, near Uckfield, Sussex.

SPECIMEN TEA-SCENTED ROSES, in 8-inch pots. Strong plants for Exhibition, from 3s. 6d. to 5s. each.

The same kinds and many other leading sorts can be supplied as Half-specimen Plants, in 6-inch pots, at 24s. and 30s. per doz.

TEA-SCENTED.—Buret, Blanche de Solville, Bougère, Canaris Clara Sylvain, Comte de Paris, David Pradel, Elize Sauvage, Eugénie Desgaches, Général Tartas, Goubault, Jeannie Deans, La Sylphide, Laurette, Le Caméléon, Le Pactôle, Léontine de Laporte, Madame Bravy, Maréchal Bugeaud, Mélanie Willermoz, Mélanie Oger, Nina, Safrano, &c.

The Subscribers will be happy to furnish extra fine strong plants of the above named Roses adapted for Exhibition.

Early orders are respectfully solicited to ensure the strongest plants.—WM. WOOD & SON, Woodlands Nursery, Maresfield, near Uckfield, Sussex.

### THE BEST NEW ROSES FOR 1859.

WM. WOOD AND SON will be prepared to send out strong healthy plants in pots of the following new ROSES, about the end of April, which are offered as the best of the varieties to be sent out this season:—

HYBRID PERPETUAL.

Albert de Stella
Anna de Diesbach
Anna Alexieff
Armide
Ardoisé de Lyon
Altesse impériale
Beauté de Royghem
Bouquet de Marie
Comte de Beaufort
Comtesse Cecile de Chabrillan
Empereur de Maroc
Imperatrice Eugénie
Joseph Vernet
Lord Elgin
Le Mont Vésuve
Mathilde de Mondeville
Orderic Vital
Oriflamme de St. Louis
Princesse Olympie
Salomon
Virginal
Madame Bruny

BOURBON.

Aline Pierron
Comtesse de Barbantanne
Docteur Berthet
Edith de Murat
Molière
Octavie Fontaine

NOISETTE.

Beauty of Greenmount
Cornélie

TEA-SCENTED.

Enfant de Lyon
Homère
Madame Damaizan
" Darru
" Falcot
Madame Joseph Halphen
Ophelia
Roi des Pays Bas
Socrate

Good Plants will be supplied at 5s. each, with the usual discount to the Trade.

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| Smith, Abel, Esq. | 10 10 | |
| Smith, Charles, Gr. to Captain Chawner | | 1 1 |
| Smith, C., Gardener, Park Place, Dulwich | | 1 1 |
| Smith, Charles, Gr. to A. Anderson, Esq. | | 1 1 |
| Smith, George, Gr. to J. Hargreaves, Esq. | | 1 1 |
| §Smith, W. B., Esq., Gt. George St., Westminster | | 1 1 |
| Smith, J., Gr. to Lord Tenterden | | 1 1 |
| Smith, John, Royal Botanical Gardens, Kew | | 1 1 |
| Smith, John, Gr. to Miss Webb | | 1 1 |
| Smith, John, Gr. to the Earl of Scarborough | | 1 1 |
| Smith, Oswald, Esq., Bexley, Kent | 10 10 | |
| Smith, Richard, Nurseryman, Worcester | 10 10 | |
| Smith, T., Gr. to Hon. and Rev. J. S Cocks, | | 1 1 |
| Snow, Seward, Gr. to Earl de Grey, Wrest Park | 10 10 | |
| Snow, W., Gr. to Earl de Grey, Putney | | 1 1 |
| Soden, J., & Co., Nurserymen, Woodstock | | 1 1 |
| Solomon, L., Fruiterer, Covent Garden | 1 1 | 1 1 |
| South, Sir James, Campden Hill, Kensington | | 1 1 |
| Sowerby, J. De C., Esq., Royal Bot. Gardens | | 1 1 |
| Spary, E., Queen's Graperies, Brighton | | 1 1 |
| Spavy, George, Clumber Park, Worksop | | 1 1 |
| Speed, Joseph, Gardener, Saffron Walden | | 1 1 |
| Spencer, James, Esq., Leicester | | 1 1 |
| §Spencer, J., Gr. to the Marquis of Lansdowne | 10 10 | |
| Spire, Robert, Gr. to W. Taylor, Esq. | | 1 1 |
| Spivey, Edward, Gr. to J. N. Houblon, Esq. | | 1 1 |
| Staniforth, Rev. T. | 10 10 | |
| Stanley, George, Bexley, Kent | 10 10 | |
| Stanley, Wm., Gr. to O. Smith, Esq. | | 1 1 |
| Stannard, J., Gardener, Priory, Roehampton | | 1 1 |
| Starkey, J. B., Esq., Spye Park, Chippenham | | 1 1 |
| Stephens, Charles, Esq., Brixton, Surrey | | 1 1 |
| Stephenson, Jas., Gr. to Harvey Combe, Esq. | | 1 1 |
| §Stevens, J. C., Esq., King St., Covent Garden | 16 11 | |
| Stewart, Alexander, Lougherew, Ireland | | 1 1 |
| Stewart, G., Gr. to Sir J. Pollen, Bart. | | 1 1 |
| Stone, Mrs., Dulwich | | 1 1 |
| Streacy, T., Pewter Platter, Norton Folgate | | 1 1 |
| §Strachan, J. M., Esq., Teddington Grove | | 1 1 |
| Stuart, William, Esq., 18, Hill St., Berkeley Sq. | 10 10 | |
| §Sullivan, Rt. Hon. Laurence, Fulham | 10 10 | |
| Sutherland, George, Yorkshire | | 1 1 |
| Sutherland, His Grace the Duke of, K.G. | | 1 1 |
| Sutton & Sons, Messrs., Seedsmen, Reading | | 2 2 |
| Tanqueray, C., Esq., Vine St., Bloomsbury | 5 5 | 1 1 |
| Tanqueray, John S., Esq., ditto | | 1 1 |
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| §Tayloe, Thos., Esq., 4, Scott's Yard, Cannon St. | 11 11 | |
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| Taylor, Adam, Gr. to Weston Wood, Esq. | | 1 1 |
| Taylor, George, St. John's Market, Liverpool | | 1 1 |
| Taylor, Wm., Mineral Wells, Streatham, Surrey | 1 1 | 1 1 |
| Thibaut & Keteleer, Messrs., Paris | | 1 1 |
| Thomas, George, Gr. to J. Baxendale, Esq. | | 1 1 |
| Thompson, Geo., Gr. to George Lane Fox, Esq. | 10 10 | |
| Thomson, David, Leith Walk, Edinburgh | | 1 1 |
| Thomson, George, Gr. to Mrs. Dixon | | 1 1 |
| Thomson, Wm., Gr. to the Duke of Buccleuch | | 1 1 |
| §§Thorne, J., Esq., Mawbey House, Lambeth | 11 11 | |
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| Tillery, William, Gr. to the Duke of Portland | | 1 1 |
| Tillyard, G., Gr. to Rt. Hon. Earl Eversley | | 1 1 |
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| Turrill, John, Hartley Maudit, Alton, Hants | | 1 1 |
| Turtle, James, Gr. to E. R. Pickering, Esq. | | 1 1 |
| Tylor, Francis, Esq., Uppingham | | 1 1 |
| Vair, James, Gr. to Lady Neville, Dangstein | | 1 1 |
| Veitch, James, Nursery, Exeter | | 1 1 |
| §§Veitch, J., jun., Royal Exotic Nursery, Chelsea | 47 5 | 1 1 |
| Veitch, John Gould, ditto ditto | | 1 1 |
| Vickers, William, Gr. to Viscount Folkestone | | 1 1 |
| Videon, G., 1, Clarendon Place, Edgeware Road | | 1 1 |
| Wackrell, Uriah, Gr. to H. Wheeler, Esq. | | 1 1 |
| Wadey, Michael, Gr. to C. Mecking, Esq. | | 1 1 |
| Wainwright, John, Gr., Ruston Hall, Kettering | | 1 1 |
| Ward, E. M., Gr. to C. Kinnersley, Esq. | | 1 1 |
| Ward, R. C., Seedsman, Bath | | 1 1 |
| §Warner, C. B., Esq., Stratford, Essex | 1 1 | 1 1 |
| Wartnaby, Wm., Esq., Market Harborough | | 1 1 |
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| Waterer, John, Nurseryman, Bagshot | | 1 1 |
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| Webb, John, Gr. to W. H. Cox, Esq. | 10 10 | |
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| Wedlake, George, Gr. to Mrs. Wade Brown | | 1 1 |
| §Weeks, J., King's Road, Chelsea | 12 12 | |
| Wells, Chas., Gr., Highnam Court, Gloucester | | 1 1 |
| Wells, George, Gr. to J. Hussey, Esq., Kent | | 1 1 |
| Wells, Joseph, Shorn, near Gravesend | | 1 1 |
| Wells, J., Gr. to J. B. Phillipson, Esq. | | 1 1 |
| Wells, Samuel, Gr., Holme Lacy, Hereford | | 1 1 |
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| Whiting, J. B., Gr. to H. T. Hope, Esq. | | 1 1 |
| Wighton, J., Gr. to Lord Stafford, Cossey Hall | | 1 1 |
| Wilcox, —, Dunham Massey, Altringham | | 1 1 |
| Wilder, E., Esq. | 10 10 | |
| Wilder, Mrs., Belmont House, Havant | | 1 1 |
| Wilkins, William, Nurseryman, Newport | 10 10 | |
| Williamson, Joseph, Gr. to the Earl of Lonsdale | | 1 1 |
| Wilson, Isaac, Gr. to A. Mortimer, Esq. | | 1 1 |
| Wilson, R., Esq., Corn Exchange, Sheffield | | 1 1 |
| Wilson, William, Gr. to Lord Melford | | 1 1 |
| Winfield, William, Gr., Warwick | | 1 1 |
| Winston, Rev. B., Harcourt Buildings, Temple | | 1 1 |
| Wintle, Thomas, Esq., Swanswick Villa, Bath | | 1 1 |
| Witham, William, Horticultural Builder | | 1 1 |
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| Wood, William & Son, Messrs., Nurserymen | | 1 1 |
| Wood, Western, Esq. | 10 10 | |
| Woodbourne, Jas., Esq., Kingsley, Alton, Hants | | 1 1 |
| §Woodroffe, Charles, Harrow Road | 10 10 | 1 1 |
| Woods, W., Heath Nursery, Leighton Buzzard | | 1 1 |
| §Woods, Rd., Bedford Nursery, Hampstead Road | 26 5 | 1 1 |
| Woods, John, Gr., Ollerton, Notts | | 1 1 |
| Woolley, Samuel, Gr. to H. B. Ker, Esq. | 10 10 | |
| Wortley, B., at Mr. Barnes', Camden Nursery | | 1 1 |
| Wortley, Gr. to Mrs. Maubert, Norwood | | 1 1 |
| Wrench & Sons, Messrs., London Bridge | 52 12 | |
| Wright, George, Mitcham Common, Surrey | | 1 1 |
| X. Z., per Mr. Chandler, Vauxhall | 10 10 | |
| Yates, —, Esq., Sale Moor, Manchester | | 1 1 |
| Yole, Francis, Gr., Plymouth | | 1 1 |
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| Young, George, Gr. to Mrs. Stone, Dulwich | | 1 1 |
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| True Walnut-leaved Kidney | York Regents ditto |
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MR. WEBB, of Calcot, having succeeded in raising a quantity of the above excellent POTATO, begs to offer it to the public as the Best of its Class in every respect. Its quality cannot be surpassed, its yield most abundant, and its size from 2 inches to 9 inches long. Price 16s. per bushel, no less quantity than 1 bushel disposed of. Also about 1 true KENTISH COB NUT Trees from 2 to 4 feet high.—Apply to Messrs. JOSH. MAY & Co., 1, Wellington Street, Strand, or to Mr. WEBB, Calcot, near Reading, Berks.

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RESPECTFULLY ANNOUNCE THAT THEY WILL FORWARD, POST FREE ON APPLICATION, THEIR

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The section of Vegetable Marrows is perhaps the most valuable in the tribe, for their fine flavour in pies, soups, &c., some of them most nutritive in their young or medium growth, others when fully matured. The present enumeration includes the finest collection of Marrows ever offered, some of them very productive and delicious in flavour, and have been collected and grown under the personal superintendence of an eminent grower engaged in their cultivation many years. It is pretty well known that the large blossoms of Gourds, &c., are much sought after by bees in search of their rich stores of honey, and hence arises the many intermediate varieties by this mode of impregnation, the wings of these insects being often literally coated over with the fertilising powder or grains, and which, by its admixture of one variety with another, causes some difficulty in retaining the true character of desirable varieties by their own seed. In the kinds now offered many of the seeds have been artificially impregnated and preserved in their quality, and others have been fertilised with desirable kinds to ensure superior varieties. A general collection of the higher-coloured varieties blended with others, having well-matured fruits, would produce an effect that would startle with momentary surprise all who are strangers to these plants; and it is no exaggeration to say, that their rich combination of colours would appear to reflect back the gorgeous tints of an autumnal sunset. It is indeed questionable whether the entire collection of tropical fruits (strictly so called) would bear a comparison, or vie in effect of briliancy and beauty with those now spoken of. They are, in Nature, the golden reality of what the fabled fruits in the Garden of the Hesperides were in romance. Amongst vegetable fruits, they include some of the most magnificent in size, the most beautiful in colour, and the most remarkable in symmetry yet known in gardens, embodying a diversity of feature, in size and outline, almost as complete as may be imagined to exist between an elephant and a humming-bird.

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Legenaria vittata
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Cosmidium Burridgi

Lupinus nanus albus
Viscaria Dunetti
Laxton's Hybrid Pinks
Dwarf spotted Nasturtion
Nolana paradoxa violacea

Fenzlia dianthiflora
Gaillardia hybrida grandiflora
Lobelia formosa
Viscaria cœli rosa alba
Marigold French Orange.

J. C. & Co. also wish to call attention to their Splendid Collections of Imported

GERMAN & FRENCH ASTERS, GERMAN STOCKS, BALSAMS, & WALLFLOWERS,

UNIVERSALLY ACKNOWLEDGED TO BE UNSURPASSED.

For a Full Description of the above articles they beg to refer to their CATALOGUE, which will be forwarded gratis and post free on application to

JAMES CARTER & Co., Seedsmen, 238, High Holborn. W.C.

## TO GRAPE GROWERS.

## BUSBY'S STOCKWOOD GOLDEN HAMBURGH GRAPE.

# JAMES VEITCH, JUN.,

BEGS to call attention to this SPLENDID GRAPE, of which he is now supplying VINES at the undermentioned prices:—

| | Each.—s. d. |
|---|---|
| Fine extra strong Vines, in 12-inch pots, fit for fruiting in 1859 (with well ripened Wood) | 30 0 |
| Fine strong do., in 9-inch pots (with good well ripened Canes) ... ... ... ... ... | 15 0 |
| Fine 1-year old Vines ... ... ... ... ... ... ... ... ... ... ... | 10 6 |

☞ *Special and advantageous prices to the Trade, varying with the quantity taken, on application.*

This Grape having been so frequently before the Public, J. V., Jun., deems it unnecessary to speak any further as to its qualities; he is, however, happy to say that he has received the most satisfactory reports from those who have grown and fruited it during the present season, which fully confirm all that has heretofore been said of it.

## BUSBY'S GOLDEN HAMBURGH GRAPE.

JAMES VEITCH, JUN., begs to announce that he offers PRIZES of Five Guineas for the Best Three Bunches of the above Grape at the two following Exhibitions:—

June 29 and 30,—London Horticultural Society, at St. James's Hall .. .. .. .. .. £5 5s.
September 7 and 8, at the Crystal Palace .. .. .. .. .. .. .. .. .. 5 5

Royal Exotic Nursery, Chelsea, S.W.—February 19.

## CHOICE FLOWERS.

# BUTLER & McCULLOCH'S SPRING CATALOGUE OF SEEDS,

ARRANGED on a new and original plan, with copious Descriptive and Cultural Notes, and containing many new and rare species and varieties not found in any other Catalogue, now ready and may be had free and post paid on application.

FLOWER, SHRUB, TREE, and VEGETABLE SEEDS, the crop of 1858, saved with the greatest care, by the most eminent growers.

We may also state that the Sardinian correspondent of Messrs. JAMES CARTER & Co., whose Seeds, especially Carnations and Picotees, have given such universal satisfaction, has transferred the Agency from that firm and appointed us his representative in this country. To meet the growing demand for first class flowers, particularly FLORISTS' FLOWERS, we have adopted our usual maxim of charging the lowest possible prices.

A selection of 44 pkts. of beautiful Annual Flower Seeds 7s. 6d.
Ditto 33 ditto ditto .. .. 5 6
Ditto 21 ditto ditto .. .. 3 6
A selection of 40 pkts. of beautiful Biennial and Perennial ditto .. .. .. .. .. .. .. 10 6
Ditto 31 ditto ditto .. .. 7 6
Ditto 24 ditto ditto .. .. 5 6

An Assortment of Vegetable Seeds, 20 quarts of Peas, and other Seeds in proportion for 1 year's supply .. .. .. .. .. .. .. £3 3s. 0d.
Ditto ditto 12 quarts of Peas ditto .. 2 2 0
Ditto ditto 6 ditto ditto .. 1 1 0
Ditto ditto 5 ditto ditto .. 0 15 0

All Flower Seeds sent post paid, and Vegetable or Vegetable and Flower Seeds amounting to 1l. 1s. Carriage Paid to any principal Railway Station in England, Wales, and Scotland, or any port on the Irish Coast.

Professor LINDLEY in the *Gardeners' Chronicle* of February 5th, has the following notice of B. & McC.'s Catalogue.

"BUTLER & McCULLOCH'S (Covent Garden) Spring Catalogue of Choice Flower, Shrub, Tree, and Vegetable Seeds. This list fills 84 closely printed 8vo pages, and is remarkably well got up. It appears that the correspondent in Sardinia, who formerly supplied one of the great London houses with seeds raised in that warm part of Europe, has now transferred what he saves to Messrs. BUTLER & McCULLOCH. Let us add, that it yields to no Trade List in the abundance of its materials or the excellence of its arrangements."

BUTLER & McCULLOCH, Covent Garden Market.

## CHAMPION OF SCOTLAND PEA.

A new and first-rate sort, [illegible] by [illegible] it has come to be the most distinct and best flavoured Pea in cultivation. To be had only of PETER LAWSON & SON'S, [illegible], who are also prepared to execute orders for all sorts of Garden and Flower Seeds of the finest quality.

27, Great George Street, Westminster.

## "JACK OF NEWBURY" SWEDE, ETC.

PETER LAWSON AND SON, THE [illegible] SEEDSMEN, &c., 27, Great George [illegible], Westminster, respectfully request attention to their very genuine Stock of the [illegible] Swede; also of the LOTHIAN [illegible] TOP SWEDE, both of which have been [illegible] with the greatest care. They have also a very fine Stock of the KOHL RABI, or TURNIP-ROOTED CABBAGE, specimens of which were shown at their Stand at Smithfield Club Show. The Kohl Rabi was [illegible] with last season, and may now be relied on as a substitute for the Turnip and Mangel, where these roots do not succeed, or for filling up blanks where there is a partial failure. Its feeding qualities, hardiness, and weight per acre are equal to the Swede, and all kinds of stock prefer it to other roots.

P. L. & SON have also selected a first-rate Stock of MANGEL WURZEL SEED, which they can confidently recommend. Their natural GRASS SEEDS have been also saved with very great care, and they are ready to supply them separately or in mixture, for laying down Permanent Pastures, Lawns, &c.

P. L. & SON have arranged to deliver Seeds free throughout England and Wales from their London Establishment, for all quantities exceeding 20s. in value.

LISTS OF PRICES of the above and all other Seeds, Plants, &c., may be had on application.

27, Great George Street, Westminster.

## ROYAL SOUTH HANTS SEED ESTABLISHMENT.

UNDER THE PATRONAGE OF H.R.H. THE PRINCE CONSORT, THE AGRICULTURAL, HORTICULTURAL SOCIETY OF INDIA, AND THE LEADING AGRICULTURISTS OF THE UNITED KINGDOM.

PAGE AND TOOGOOD can now supply GARDEN AND FARM SEEDS, carriage free; SEED POTATOES, &c. The numerous Prizes gained by their Stocks are convincing proofs of superior quality, and their prices compete with any house in the kingdom. WHOLESALE and RETAIL PRICED CATALOGUES upon application.

Agents for ODAMS' Blood Manure, Superphosphate, &c. Seeds Packed for Exportation to all Parts of the world,

37 and 38, Oxford Street (facing the Railway Terminus); and 58, Above Bar, Southampton.

## SUTTON'S GRASS SEEDS AT THE ROYAL FARMS NEAR WINDSOR, AND IN THE ISLE OF WIGHT,

AND AT THE ALDERSHOT CAMPS.

SUTTON'S GRASS SEEDS FOR PERMANENT PASTURE, PARKS, AND LAWNS, are now sown at the Royal Farms at Osborne Palace, the Crystal Palace, Sydenham, the Horticultural Society's Gardens, at the People's Park, Halifax, and on most of the largest Estates in the Kingdom.

Messrs. SUTTON'S Grass Seeds being mixed expressly to suit the soil for which they are required, are never known to fail. Cost of Seeds 30s. to 34s. per acre, according to the requirements of the land to be laid down.

SUTTON & SONS, Royal Berkshire Seed Establishment, Reading.



# The Gardeners' Chronicle.

*SATURDAY, FEBRUARY* 19, 1859.


Now that rain is falling abundantly, and the springs are slightly on the rise, it may be reasonably supposed that the unusually long period in which a deficiency of rain has been experienced in many parts of the kingdom has terminated. We may therefore advert to the extent of the deficiency that has to be made up before the water in the subsoil near London, and other places similarly circumstanced as regards moisture, can regain its average level.

The quantity of rain which fell near London in the past year was less than that in any other year in the present century. The amount in each month was as follows:—

| | Ins. | | Ins. |
|---|---|---|---|
| January .. .. .. | 0.41 | | |
| February .. .. .. | 1.48 | Brought forward .. | 10.28 |
| March .. .. .. | 0.88 | August .. .. .. | 1.46 |
| April .. .. .. | 2.13 | September .. .. | 1.05 |
| May .. .. .. | 2.05 | October .. .. .. | 1.36 |
| June .. .. .. | 0.78 | November .. .. | 0.08 |
| July .. .. .. | 2.55 | December .. .. | 1.43 |
| Carried forward .. | 10.28 | Total for the year .. | 15.66 |

or very little more than 15½ inches; whereas the average amount is very nearly 24 inches.

| | Inches. |
|---|---|
| There was also a deficiency in 1857 of .. .. | 3.74 |
| To which add, as above, for 1858 .. .. .. | 8.10 |
| The arrear of rain, up to January 1st, 1859, was | 11.84 |

It remains to be seen whether this deficiency will be made up in one year, or spread over several years, whether slowly, during long periods of almost constantly damp cloudy weather, or rapidly by occasional very heavy falls, with considerable intervals of bright sunny days. The latter mode may occasion some damage in places liable to be flooded; but notwithstanding this it must be considered the best on the whole for crops because they have the benefit of the sun's rays in the intervals to form nutritive secretions, which they can only do

imperfectly in continued moist, hazy, sunless weather.

Although the supply of rain in the past year has been unusually limited in some parts of the kingdom, yet in others it has been abundant, as appears from tables at pp. 22, 24, 98; the annual amounts being as follows:—

| | Inches. |
|---|---|
| Monk Coniston Park, North Lancashire .. .. | 59.30 |
| Goodamore, Plympton, St. Mary, Devon .. .. | 49.08 |
| Burraton, Sheepstow, Dartmoor .. .. .. | 47.55 |
| Cirencester .. .. .. .. .. .. | 25.64 |
| Stoneleigh Abbey, Warwickshire .. .. | 22.76 |
| Cobham, Surrey .. .. .. .. .. .. | 17.87 |
| Chiswick, Middlesex .. .. .. .. .. | 15.66 |
| Dorward's Hall, Witham .. .. .. .. .. | 14.70 |

Between the greatest and least amounts at the above places the difference is upwards of 44 inches; and if returns could annually be obtained from all places in the United Kingdom where registers of the fall of rain are kept, it would probably be found that the average of the whole in this or any other year would not differ greatly from the mean, although in particular localities the quantities may be found very unequal.

Rain is derived from a permanent source, viz., the waters of the globe, and chiefly the ocean, whence it is raised by evaporation occasioned principally by the action of the sun's rays. The air is the vehicle in which it ascends in the state of invisible vapour, and the higher the temperature of the air the more vapour it will carry. Thus, at 66° Fahr., each cubic foot of air will hold in solution fully seven grains of water; but at 45°, little more than half that quantity. It is therefore evident that if air at the former temperature, and completely saturated, be cooled by contact and mixture with colder air, the same quantity of moisture can no longer be maintained. If the warmer and colder portions have each as much moisture as they can carry, and if that at 66° should be cooled down, say to 45°, it must then part with half its load, unless the cold air mixing with the warmer is in a comparatively dry state, and then a portion at least of the superflous moisture will be absorbed.

The vapour of water, or steam, is invisible whilst it retains its gaseous form, and air may be charged with it without its being perceived, except by the test of the hygrometer. Steam is invisible when it first issues from the tube of a boiler, and it is only when it becomes partially condensed that it forms a mist or cloud; and the same is true of the vapour in the air. In that state it may float almost stationary; liable, however, to be wafted by the wind to a great distance, provided its course is one of uniform temperature; but if the air should have to ascend in order to get over the tops of mountains, the clouds or moisture carried along with it into a higher and consequently colder region becomes condensed, and falls in the shape of rain. This accounts for the large amount of rain which usually falls in mountainous districts. The general theory of rain may be expressed in a few words: it is vapour raised by heat and condensed by cold. In fact the Huttonian theory, the one mostly approved, amounts to this. Some, however, attribute a considerable share of the process to electricity.

In some localities the quantity of rain is greatly influenced by the direction of the wind. North and north-east winds are usually the driest in most parts of these islands. The following is the number of days in which the wind blows from the respective quarters on the average of 30 years, near London, comparatively with that of last year.

| | North. | N.-East. | East. | S.-East. | South. | S.-West. | West. | N.-West. |
|---|---|---|---|---|---|---|---|---|
| Average of 30 years .. | 26.9 | 51.9 | 38.1 | 18.1 | 46.9 | 95.3 | 58 | 29 |
| 1858 .. .. .. | 24 | 62 | 65 | 16 | 26 | 99 | 48 | 25 |

It thus appears that the north-east and east winds have been most remarkably prevalent, having blown for no fewer than 127 days; and the circumstance may account sufficiently for the limited fall of rain in the locality.

In consequence of so many wells having become dry, it is well known that the level of the springs are low in an unprecedented degree. Some ditches and ponds are now dry, that at this season of the year are usually brimfull. In many parts the underground water level has sunk far lower than even the deep roots of trees can reach. Many such roots have been almost useless during the last summer owing to their being in a dry subsoil, from which every particle of available moisture has been drained away. This may be inferred from the stunted growths which most old established trees have made in the past season. And, unless rain falls heavily before April, there is but little chance of average growth being made in the ensuing season, for, according to some exeellent experiments made by Mr. DICKINSON with a DALTON gauge, and of which some account was given at p. 747 (1858), it appears that very little rain percolates the soil to the depth of 3 feet in the period between April and September.

Although the ordinary rain-gauges measure the quantity of rain which falls in a given time in the locality in which they may be placed, yet they cannot indicate the rise and fall of the underground water level. The DALTON gauge above mentioned would however give a more approximate estimate of this. It is a cylinder, 3 feet long, inserted in the earth and filled with materials representing soil and subsoil, and so that the quantity of rain passing through can be measured. Now if none should pass that depth between April and September, as is frequently the case, it is evident that if trees are too dry at the commencement of that period, they continue to be so till the end of it; and that being the case, the growth of trees with deep roots must be very limited. Those furnished with a large proportion of surface roots will of course thrive better, because moisture even from occasional showers will reach them.

The underground condition of moisture can be very correctly known by any well that may be open, or otherwise adapted for being measured. In one sunk near London, in the gravelly stratum, the water rose in 1852 to within 2 feet 2 inches of the surface of the ground, and at the commencement of the present year it was as much as 9 feet 1 inch below the surface. The former is the highest, and the latter the lowest that has been observed for 30 years. It has continued to sink as follows during last autumn and winter.

| | Ft. | Ins. |
|---|---|---|
| August 17, 1858, depth of water from surface .. | 8 | 3 |
| Sept. 9 ,, ,, ,, .. | 8 | 6 |
| ,, 23 ,, ,, ,, .. | 8 | 8 |
| Oct. 15 ,, ,, ,, .. | 8 | 9 |
| Dec. 13 ,, ,, ,, .. | 8 | 10 |
| Jan. 1, 1859 ,, ,, .. | 9 | 1 |
| ,, 22 ,, ,, ,, .. | 9 | 1 |
| Feb. 12 ,, ,, ,, .. | 8 | 11¼ |

From the above it appears the springs were at the lowest ebb in January, and that they have now risen 1¾ inch; but they have to rise 3 or 4 feet before even their average height is attained. It will be curious to observe how many inches of rain must fall on the surface before the subsoil water is raised to the above number of feet. And we would invite our correspondents, keeping rain gauges, and having open wells, to mark the rise of the latter as well as the contents of the former. We would even say that the weekly ascent of water in wells is a better guide to cultivators than the rain gauge itself.

In the meanwhile it is evident that if the usual depth of water is to be restored to wells, that is to say to land, the ensuing months of March and April must be rainy beyond anything known of late years.

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AMONG the new countries with which Europe is to become familiarised in consequence of the late treaties with China and Japan is the REGION OF THE AMOOR RIVER. This stream, which rises in the mountains of Daouria, falls into the ocean in the Gulf of Sagalin in 52½° N. lat., after traversing above 2000 miles chiefly in the country of the Manchoor Tartars, and flowing as far south as 47° N. lat. The climate of the country being such as to render it certain that whatever plants it produces will prove hardy in these islands, any authentic account of its vegetation possesses much interest. We therefore avail ourselves of a report upon the subject from Mr. K. MAXIMOVICZ, communicated through M. RUPPRECHT to the Imperial Academy of Sciences of St. Petersburgh, and published in a recent number of its Physico-Mathematical Reports.

Amongst others M. MAXIMOVICZ observed 53 species of trees and shrubs growing in the southern regions and towards the mouths of the Amoor, the characters and appearance of which he studied. A careful examination by the Academican M. RUPPRECHT shows that 22 of these species are hitherto unknown. Of this number two new genera have just been determined, the one a tree 40 feet in height, belonging to the family of Leguminosæ; the other belonging to the family of Schizandraceæ, a climbing shrub with an aromatic bark, which ascends the trees to a height of 25 feet, and which is the first representative of this family in the Russian Flora. M. MAXIMOVICZ also mentions a very remarkable tree, called "Kokhto," with a cork bark.

He also notices a new species of Walnut (*Juglans*), 70 feet in height; a new Hazel (*Corylus*); four new species of Maple (*Acer*); a new Lime, 40 feet high; a shrub called "Kolomikta," which bears excellent fruit; two new species of *Xylosteum*, &c. These different kinds would form a valuable addition to our English gardens. To the [illegible] Araliaceæ, of which the Russian Flora [illegible] but two representatives, are added [illegible] species, one of which is very remarkable [illegible] ance, being a thorny shrub 20 feet high [illegible] ling a Palm tree in its mode of growth.

One result of the observations of M. [illegible] MOVICZ is worthy of attention; namely [illegible] families which occupy a low place in the [illegible] have gained fewer new species than the [illegible] higher order; for example, to the 9 [illegible] new species has been added, and to the 10 [illegible] species only 2, while to the 34 species of [illegible] petalous and Polypetalous plants, 20 new [illegible] been added: that is to say, that the last-[illegible] tribes have a more limited distribution than [illegible] first.

The following memoranda will assist in [illegible] ing out the most characteristic features [illegible] Amoor Flora and its affinities. 1. Fourteen [illegible] of trees from the Amoor region have already [illegible] noticed and brought by M. MIDDENDORFF from [illegible] S.W. coast of the sea of Okhotzk, viz., [illegible] the Conifers, three Firs, the common and the [illegible] Fir of Siberia or *Pichta*, and that of Ajan, [illegible] Daourian Larch, the dwarf Cembro, two Junipers, [illegible] the white Birch, and the two Alders.

2. The Arboreous Flora of the Amoor possesses in common with Russian Daouria, besides the above named trees of Okhotzk, the Oak (*Quercus mongolica*), the Cembro (*Pinus Cembra* [illegible]), the Service (*Sorbus aucuparia*), the Aspen (*Populus tremula*), the Buckthorn (*Rhamnus dauricus*), a Leguminous shrub (*Lespedeza juncea*); the Flora of the Okhotzk coast is entirely wanting in [illegible]. The Flora of the Amoor therefore bears a [illegible] resemblance to that of Daouria than to that of Okhotzk, since a third of the woody species of the Amoor are also common to Daouria.

3. Some of the Amoor plants extend [illegible] Pekin, but the number is small, and the [illegible] Flora possesses totally different Conifers.

4. Some European plants which are not [illegible] in Siberia reappear at the Amoor; for example one Lime (*Tilia cordata*), the Yew, the Mistletoe (*Viscum album*), two species of Elm, besides genera *Euonymus* (Spindle), *Acer*, *Juglans*, *Quercus*. This peculiarity of the Daourian [illegible] tory has been already remarked by M. TURCZANINOW.

5. Some of the Amoor plants surprisingly resemble some of the species of the eastern [illegible] of the United States; a similarity already pointed out in the Japan Flora, and even in that of Daouria. A recent and more thorough examination has hitherto, however, shown unquestionably either specific difference between the Asiatic plants and their representatives in America, or, where identical, an unbroken line in their geographical distribution. This last statement is we suspect to be taken with some reserve, now that Dr. ASA GRAY has ascertained beyond all question that [illegible] Pogonia ophioglossoides and Malaxis liliifolia of the United States occur in Japan, without the slightest difference of structure.

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WE have received from Mr. HAYTHORN of Nottingham an instrument for gathering fruit and fruit which hang beyond ordinary reach. It consists of a pair of stout pincers, to which a [illegible] knifeblade is attached, *the pincers holding fast the object to be gathered*, while the knife cuts it off. Like the old Averuncator and the Fruit Secator, the instrument is fixed at the end of a long light pole, and is worked by a rope and pulley. In lofty conservatories, or Vineries where walls are very high the contrivance promises to be useful.

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## RHODODENDRONS.—No. II.

SUCCESS in Rhododendron culture undoubtedly depends mainly upon the soil in which the plants are grown. Not that other circumstances presently to be noted are unimportant or to be lightly regarded as items in the sum total of success; but a suitable soil being of primary consideration, the remaining conditions must be contingent on that. In general [illegible] erroneous opinions prevail as regards soil for Rhododendrons, and plants of analogous constitution and requirements. Possessors of gardens where the soil is naturally unsuitable for them often lament their inability to combat that difficulty. Yet nothing is easier. The materials for a Rhododendron soil, to speak particularly, lie at every man's door—certainly in the [illegible] yard of his garden. Decayed vegetable matter in a highly comminuted state is the great indispensable: and possessing this, which every one having a garden [illegible] in some form or other, the chief difficulty is overcome. Wherever the refuse of a garden has for years been allowed to accumulate is this decaying vegetable matter to be found, which, when mixed with a portion of sandy loam, will grow Rhododendrons to perfection. Perhaps the most familiar form in which such vegetable matter is known is as leaf mould, and when that can

[illegible] is to be preferred to any other. Two parts [illegible] one of light loam and one of sand (white if [illegible] will form a compost for Rhododendrons [illegible] will leave nothing to be desired. As, however, [illegible] perhaps in the main better than precept, we [illegible] describe in detail the process we have often [illegible] with the best success in forming Rhododendron beds in stiff clayey soils, than which none can [illegible] be more antagonistic to the well-being of the [illegible] question. And the same process will of course [illegible] equally efficacious whenever soil alone is the chief [illegible] to success.

Having marked out the spaces to be planted, supposing, as will often be the case, the locality is a lawn or pasture, the surface soil of which will be more or less loamy, and contain besides a large amount of vegetable matter in the form of roots and herbage, remove and lay this aside several inches in depth. In some cases as much as 6 inches may be thus retained, but the nature of the soil must determine the quantity. Then cast out from the whole area of the bed as much more soil as will, with that reserved from the surface, give a depth of at least 18 inches, and break up the bottom for as much more in depth. Now, having at hand a compost as before described, cut and beat up with the spade the reserved soil, mixing a portion of the former with it, and throw in to form the bottom of the bed. Fill up with the prepared compost to a sufficient depth, that when planted and settled down the surface of the beds shall be below that of the natural soil. This is desirable in order to preserve the whole of the rain falling on the beds. If made higher than the natural level a large portion would run off. The beds should also be as level as possible, that the rain may sink where it falls. Where beds are thus formed in very retentive soils they become in wet seasons mere quagmires, unless precautions are taken to get rid of the accumulated water, and to effect this drains will be necessary; for although the Rhododendron requires a cool and moist subsoil, it will not flourish if its roots are wholly and constantly in stagnant water. True, the plant will luxuriate on the margin of and on islands in lakes with but a foot or so of soil above the water level; but a plant in such a situation has nothing in common with one the roots of which are immersed up to the collar in liquid mud, as a moment's consideration will convince.

Although there are comparatively few situations suitable for a garden at all where the Rhododendron may not with more or less care be successfully grown, yet some situations are necessarily more favourable than others. Even the same garden may afford a wide latitude for choice in this respect, which ought carefully to be considered. Shade and coolness should be secured as much as possible—not that degree of shade which by permanently intercepting sun-light and air would inevitably induce weak and immature growths, to the destruction of the main end in view, flowers—but such grateful and partial shade as would at once temper heat and husband moisture. No shade is so grateful to the Rhododendron as that produced by trees. Yet they should not overhang the plants, but be sufficiently near to shade without actually obstructing light. *G. Lovell, Bagshot.*

In note to last article, second line, *grown* should have been *covered*. *(To be continued.)*

## ON TREES WITH AILING BRANCHES.

"Principiis obsta." "A stitch in time saves nine."

I HAVE three inducements to ascend trees, viz. to peep into nests of crows and magpies, to enjoy the scenery far and near, and to inspect the economy of the tree itself. Our trees, like our kingdoms, have their time of misfortune and decay. Still many a downfall of their finest branches might easily be prevented by a little foresight and assistance. On climbing into a tree the expert forester will occasionally perceive at the particular part, where the giant limbs diverge from the trunk, a trivial opening bearing somewhat the appearance of the cleft in a cow's foot. This incipient indication of division is chiefly confined to the magnificent Elms and Beeches which adorn the parks of Great Britain. The opening, sure harbinger of future mischief, cannot be detected by the forester below. Hence the necessity of exerting his climbing acquirements, in order to perceive what is actually going on above him.

The cause of this crack may originate in the weight of the extreme foliage, which, agitated by the winds of summer, is everlastingly counteracting the healing process of Nature, going on at the separating quarter. The limb which exhibits this symptom of separation from the parent trunk may possibly maintain its adherence to it for some length of time; but, if not supported by art, it must ultimately come down with a tremendous crash; leaving the part from which it has been torn, a most unsightly, deep and damaged hole.

In order to prevent this lamentable catastrophe, the forester must positively take time by the forelock. A covering of sheet lead and Roman cement will be utterly useless. He must apply to some neighbouring Vulcan. The swarthy blacksmith will make an auger proportionate to the thickness of the tree: and he will prepare a bolt of sufficient strength, say, in some cases, as thick as your wrist.

Your carpenter will drive this iron bolt through the hole which the auger has made; and he will secure it on the opposite side by a patent nut on the projecting end of it.

The work of safety to the limb is now complete. No raging gales of wind in future will ever injure the once open parts. New wood and new bark will soon be permanently formed, and will gradually roll over them, just where the original wood and bark had separated; and ere long, not a vestige of the late operation will be perceptible.

I have an uncommonly fine Cherry tree growing at the north-east angle of the stables, and about 30 yards distant. During my absence in Guiana, this tree must no doubt have exhibited symptoms of separation, where the bole rises up into two nearly equal parts. But, no attention had been paid to the tree. At last, in the year 1813, the two branches opened with a tremendous yawn, setting apparently all rectification at defiance. However, "*nil mortalibus arduum est.*" I mustered men and planks; and we succeeded in raising the two depressed branches nearly to their original position. We then drove a massive iron bolt through them.

Time and Nature have now fully repaired the disaster. The head and neck of the bolt have disappeared long ago, amid the new wood and bark. The tree sends forth its blossom in undiminished profusion. The fruit arrives at perfect maturity—whilst the Cherry tree itself remains a useful lesson for those who pay attention to their ailing trees. *Charles Waterton, Walton Hall, Feb.* 12.

## SPERGULA PILIFERA.

SPERGULA PILIFERA in its style of growth is a neat dwarf hardy perennial tufted alpine plant, forming close compact wiry Grass-like stems, from ¼ to ½ inch in height, at first erect, afterwards decumbent, clothed with closely set green bristle-like leaves-which, by permanent growth and occasional rolling, forms an unbroken level velvet-like surface of the richest conceivable verdure, remaining uninjured in severe drought or intense cold, and assumes the same beautiful verdurous tint during the winter months, as in summer. The seedling plant of this highly interesting object starts into growth with a single unbranched perpendicular radicle or root, and afterwards manifests a remarkable power of extension in its ramifying hair-like roots penetrating to the depth of 1 to 2 feet—a fact quite sufficient to account for its enduring the opposite extremes of severe heat and cold. In addition to its hardiness, under the vicissitudes of an English climate, its value is considerably enhanced in its adaptation to all the varieties of common garden-soil, requiring but a thin firm surface stratum of 1 inch ordinary sifted or broken loam. Maintaining its verdant freshness alike beneath storm and sunshine, it combines every needful feature of adaptation with economy, and an uniform aspect of neatness with the least possible care or attention. Its fertility in bloom during the month of July is equally beautiful, being at that period studded over with myriads of low compact salver-shaped snow-white blossoms, appearing not as in fancy, but in reality, the living picture of an emerald-green velvet carpet, spangled with innumerable silver stars. From the preceding remarks, it will be seen, that the established growth of this plant maintains a dwarf close web of green verdure, and entirely dispenses with the extra toil and expense of mowing; its numerous small brittle flower-scapes being removed by the gentlest movement of a wing or brush over the surface of the lawn, either whilst in bloom or afterwards, and these constitute the only surface-growth, or tokens of its beauty, which require this operation but once a year. For small or medium-sized lawns, terraces, verges, mounds, &c., this remarkably interesting and beautiful little plant offers an object of great interest to every lover of gardening pursuits, and every lady amateur cultivator may superintend and personally manage the slight attentions required to preserve the terrace margins or velvet lawn in the highest condition. The permanent and uniform condition of dense growth, with the penetrative power of its roots, preserves it from all risks of being parched by extreme exposure in sultry weather, and the progressive accumulation of its Moss-like growth gives an elastic pressure to the foot, much softer than the finest Turkey carpet. The seed may be sown either in or out of pots in the usual method observed for fine seeds, with a slight but uniform covering of soil, and placed within either a frame, cool pit, or greenhouse, using the usual precaution of shading the seed-pans from intense sunlight daily for a few hours, until well germinated, after which it may either be replanted in stores of 10 to 50 plants within dishes or large pots, or otherwise planted out in a rather shady border of the open ground for a few weeks, and ultimately transplanted upon the prepared lawn surface in two or three plants, within 1 inch or more of each other, and such little plant groups may be formed at a distance of 6, 9, or 12 inches apart; in such positions the growths will progressively meet and form the rich and beautiful surface now described. It is also admirably adapted for picturesque green tufts and edgings on avenue lines and borders, for grouping the front spaces of massive rock-work, and surfacing partially raised mounds around classic fountains and basins or artistic columns, where Grass is unavailable for mowing, and equally telling for cultivation in larger vases, in alternate effect with the silvery sheen of the beautiful Cerastium tomentosum, on terrace verges, and architectural approaches.

A practical proof of the success of Spergula pilifera for the objects above stated may be seen in the gardens of A. Mongredien, Esq., at Forest Hill, Sydenham, Kent; where a rich and verdant plot or lawn has been established four years by Mr. Summers, the intelligent gardener there, and is now in fine condition. In the same gardens, a considerable space is allotted for further illustration of its perfect adaptation, which may be seen on application. *E. G. Henderson and Son's Catalogue of Flower Seeds, &c.*

## ARSENICAL PAPER HANGINGS.

BY A. S. TAYLOR, M. D., F. R. S.

A FRIEND whose library walls were covered with an arsenical paper, had suffered for some time from chronic inflammation of the eyes, especially affecting the conjunctivæ of the eyelids. On the discovery that arsenic was contained in the green pigment of this paper in rather large quantity he caused it to be removed during the summer, and to be replaced by another, containing no arsenic. The inflammation from which he had suffered disappeared; but within the last few weeks it has returned. He informed me that he had been dusting some books in a bookcase in this room, and he supposed that the dust which had accumulated for two or three years had affected his eyes, and had caused a return of the inflammation. Some of the dust was carefully removed on the 21st December from the tops of a few books by a feather, and submitted to a chemical analysis. The dust weighed one grain and a half; it had an olive green colour, and, under the microscope, it presented the appearance of fibres with numerous particles of various colours, chiefly of a greyish black. Treated by Reinsch's process, a portion of this dust yielded a deposit of arsenic, and there was therefore clear evidence that some of the arsenical pigment formerly on the wall had found its way through the glass doors of the bookcase, and was deposited in the form of a fine dust on the tops of the books.

On the 23rd December, after having made this chemical examination of the dust from a private dwelling, I procured from the shop of Messrs. Marratt and Short, Opticians, 63, King William Street, London Bridge, a quantity of dust for the purpose of analysis. The walls of this shop are covered with an unglazed arsenical paper, and, as I am informed, they have been so covered for a period of three years. In collecting this dust from the tops of the instrument cases, great care was taken not to touch the walls. The quantity thus collected for examination amounted to about 450 grains. It was nearly black, and, under the microscope it appeared to consist of fibres and sooty particles. It was very light and flocculent. 150 grains of this dust were examined by Reinsch's process, and enough metallic arsenic was obtained from this quantity to coat about 10 square inches of copper foil, in addition to a piece of copper-gauze. From the deposit on the latter, by the application of heat, octahedral crystals of arsenic were readily obtained. The cases had not been dusted for a period of nine months.

The instrument cases are secured by glass doors, and they are lined inside at the back with arsenical paper. A small quantity of dust was removed by a camel's hair pencil from the projecting portions of the thermometers and barometers which are kept there. The quantity thus obtained weighed about eight-tenths of a grain, of which five-tenths were taken for examination. This half grain of dust sufficed to cover with metallic arsenic a square inch of copper gauze, A portion of this, when heated, yielded a large number of well-defined octahedral crystals of arsenious acid.

These facts lead to the inference that the air of a room, of which the walls are covered with an unglazed arsenical paper, is liable to be charged with the fine dust of the poisonous aceto-arsenite of copper. Those who inhabit these rooms are exposed to the risk of breathing this dust. The poison may thus find its way either by the pulmonary membrane into the system, or it may affect the eyes, nose, and throat by local action. That but few cases of actual poisoning under these circumstances have occurred is a fortunate circumstance, but cases involving serious symptoms only would be likely to attract attention. There may have been numerous instances of a disturbance of health depending on this arsenical paper, which, from absence of suspicion, has been referred to other causes. The degree of exposure—the state of health—peculiar susceptibility and the eliminating power of the system may account for the comparative rareness of these cases. The mode in which the pigment is laid on the paper may be such as to prevent in some instances the escape of the fine particles of dust. The fact, however, now demonstrated, that arsenical dust is breathed by those who occupy rooms thus papered, explains the similarity of symptoms observed, justifies the statements made by Dr. Hinds, Dr. Halley, and others, and proves that those who have experimented on this subject with negative results, have not taken the right course to arrive at the truth. These results have to a certain extent misled the public by teaching them to rely on what is now proved to be a false security. If, as a general rule, the quantity of arsenic which can penetrate the body from this source is very small, it is still desirable that arsenic should not be breathed day by day in any proportion, The defenders of this noxious manufacture will hardly go to the length of asserting that this arsenical green, which is a potent poison in the stomach, can exert no injurious effect when taken into the lungs, and yet unless this assumption be made, the inevitable inference is that these papers should not be used for covering the walls of our dwellings. 15, *St. James's Terrace, Regent's Park, December* 26, 1858.

Since the above was written, I have discovered

arsenic in the dust taken from the cornices in a dining-room lined with arsenical paper, as well as in dust removed from the gilt mouldings of picture frames in a hall, the walls of which were covered with arsenical paper. Mr. Gay, of Finsbury Place, sent me a few grains of dust from a room in which he habitually sat, which was lined with green paper. The dust was flocculent, and of a green colour. It contained decided traces of arsenic. He informed me that since his return from a summer residence in the country, he had found his health very indifferent, and had not been able satisfactorily to account for it. He had suffered from colicky pains from time to time, and occasionally they had been very severe. His eyes (the conjunctivæ) were inflamed, and felt uncomfortable. Latterly he had had a severe cough, attended with hoarseness, and almost entire loss of voice.

It is quite true that in numerous cases in which arsenical papers have been used, persons inhabiting such rooms have not suffered or appeared to suffer from any unpleasant symptoms. This, however, is no reason why we should wilfully make an arsenical atmosphere in our sitting and bedrooms. It is not intended that arsenic in any form, in however small a quantity, should be a constituent part of the air we daily breathe, and the fact that we have before us a pleasant green colour affords no compensation for the risk which may be incurred. Sanitary reformers object to an atmosphere containing 1-2000th or even 1-10,000th part of sulphuretted hydrogen gas; but there are numerous instances in which it is breathed with impunity, and although no medical man would advise a person to live in such an atmosphere, yet it is most difficult to produce well-marked cases of illness which can be conclusively assigned to the effects of this gas. We should not knowingly contaminate the air we breathe with any poison, whether in the shape of fine dust, gas, or vapour, and it appears to me that this rule should be most strictly observed with reference to a poison like arsenic.

There are two parties who are reluctant to admit these conclusions:—1st, the arsenical paper manufacturers—and 2d, those who have papered their rooms with arsenical paper-hangings, and who, so far as they know, have not suffered any injurious effects. With respect to the first, let them turn their attention to the manufacture of a green paper free from arsenic; and with regard to the second, it may be said, *quod forsan fieri non debet, factum valet.* If they really can breathe arsenical dust with impunity, they may consider themselves as most fortunately constituted, and rejoice in a state of health which even arsenic received through the lungs cannot disturb. Still it must be remembered all men are not constituted alike. There are many who can live and enjoy comparative health within reach of the effluvia of cesspools and sewers; but the same impunity does not extend to all. It is enough to know that a poisonous material which cannot improve our health, and may really injure it, is present in the air of a sitting or bedroom. The most common sanitary precautions would in such a case justify its removal. *January 7th*, 1859. *Pharmaceutical Journal.*

## DEATH OF BISHOP AGARDH.

[EXTRACT OF A LETTER FROM A SWEDISH CORRESPONDENT TO DR. HOOKER.]

I HAVE to announce to you the death of Bishop Agardh, who died early on the 28th of January of this year. He was a singular man, in some respects a first-rate genius, but a very peculiar one. As a youth he studied mathematics, and wrote some dissertations on that subject; then, hearing that botany was a very difficult science, he determined to show the little world of Lund that in a few months he could become an eminent botanist, and he therefore wrote some botanical dissertations. After that he turned his attention to theology, becoming minister of a church at Lund, and writing dissertations also on this subject; and lastly, as a member of Parliament, he was extremely busy with national, economical, and statistical questions, wrote large books on these subjects, and published maps of Sweden, geological reviews, &c. There are probably few subjects of human knowledge on which he has not ventured to write. He was ever genial, with bright, sparkling wit and good humour; but always very, very superficial. In his moral character he was also very singular! With all his faults, with all his mistakes, he was one of those great geniuses of whom so few now remain in the world.

## Home Correspondence.

*French Carnations and Picotees.*—At the Exposition de l'Industrie at Paris in 1855, there was exhibited a collection of these flowers as described by your correspondent "A. R.," "yellow orange and buff grounds, with scarlet, maroon, lavender, and other coloured stripes." Very many of them were entirely new to me, so, the plants being all numbered, I took notes of those which I approved, and in the following spring ordered 50. They cost me at about the rate of 8*d.* each, including carriage; they were all fine plants, and bloomed to the admiration of mere flower-lovers, the amazement of connoisseurs. I have unfortunately now lost them nearly all, but if "A. R." will give me his address, I will gladly forward to him in July a flower and cutting of one of the best. The nurserymen of whom I made my purchase (Dulos et Gautier, Pierrefitte, près Paris) had then no seeds on sale, but if any can be procured from their choice plants, there is every reason to suppose that a fair average of the produce, though not perhaps 80 per cent. would turn out well. I see that they now advertise seed. *C. A. J., Callipers, Rickmansworth.*

*Rain in* 1858, *in the Gardens at Saltram, Devon.*—

| | Ins. |
|---|---|
| January .. .. .. | 2.13 |
| February .. .. .. | 2.76 |
| March .. .. .. | 1.58 |
| April .. .. .. | 3.45 |
| May .. .. .. | 3.32 |
| June .. .. .. | 1.70 |
| July .. .. .. | 4.06 |
| Carried forward .. | 19.00 |
| Brought forward .. | 19.00 |
| August .. .. .. | 0.88 |
| September .. .. | 3.23 |
| October .. .. .. | 2.56 |
| November .. .. | 3.08 |
| December .. .. | 5.60 |
| Total inches .. | 34.35 |

*John Snow.*

*Rain in* 1858 *at Torhill, Ivybridge, Devon.*—

| | Ins. |
|---|---|
| January .. .. .. | 2.27 |
| February .. .. .. | 2.58 |
| March .. .. .. | 2.63 |
| April .. .. .. | 4.68 |
| May .. .. .. | 3.16 |
| June .. .. .. | 1.26 |
| July .. .. .. | 4.19 |
| Carried forward .. | 20.17 |
| Brought forward .. | 20.17 |
| August .. .. .. | 1.52 |
| September .. .. | 3.82 |
| October .. .. .. | 3.36 |
| November .. .. | 4.17 |
| December .. .. | 6.29 |
| Total inches .. | 39.99 |

*John Widdicombe.*

*Cottagers' Kale.*—People may write as they like about this Kale. It is a most excellent vegetable, and when well grown and used in its proper season it is delicious. Mr. Turner has not said, neither has my friend Dr. Lindley said one word too much in its favour. I think hardly enough. I cannot avoid remarking that I think some of the letters respecting it, which have appeared

in your columns, were written rather prematurely, particularly as the writers of them had only one season's experience of the plants. Their season of usefulness had not arrived at the dates of some of them. Their perfection and usefulness can be best appreciated when other greens have vanished from wet, frost, and hardship of weather—then and then only can the real utility of, and benefit to be derived from this Kale be fully known and valued. *J. C. Lyons, Ledestown, Mullingar, Ireland.* [The above representation was engraved from a photograph of a fine plant of this Kale shown the other day to the Horticultural Society in Regent Street. It measured 4 feet in height from the surface of the pot, and was 2 ft. 1 in. in circumference round the stem, sprouts and all. The total number of the latter was 64. This was one of the most perfect specimens of this in all respects excellent winter green that we have yet seen.]

*Wonderful Box Tree.*—An explanation of this wonder might have been easier had the publication [illegible] date) been named, in which the extraordinary announcement appeared. As it is, two interpretations are offered:—First, that the Box tree is a [illegible] M. Bourgeois is a suspicious proper name; [illegible] burgess, citizen. The master of the house is [illegible] spoken of as *le bourgeois.* There is no such [illegible] Payers to be found in the Dictionary of the [illegible] Post-office, either near Rheims nor anywhere [illegible] France. Payers may be a mis-spelling, or [illegible] print; but a letter, even pre-paid, must [illegible] some difficulty in reaching its intended [illegible] nation. Secondly, supposing there to be no [illegible] matter, 2000*l.* is evidently intended for 2000 [illegible] which would reduce the price to 80*l.* sterling [illegible] fashioned books and by old-fashioned people [illegible] francs are still spoken of as livres. "So-and-so [illegible] *rente* of 5000 livres, or an income of 200*l.* [illegible] year." But supposing an error of a cypher [illegible] in the 2000*l.* advertised, that will reduce [illegible] francs, or 8*l.* English—no very outrageous price [illegible] phenomenal specimen. Moreover, fixed prices [illegible] the fashion than they are in England; a man [illegible] half as much again as he will gladly take; and [illegible] ignorant of the true value of the thing will [illegible] orbitant price on an article to get at its real [illegible] especially for the English market. There are [illegible] many fine specimens of Box, both of the common [illegible] leaved and variegated kinds, and also of the [illegible] leaved species (if it be a species), the Balearic [illegible] Buxus Balearica, or Buis de Mahon. Last year [illegible] found a pair of these in a nursery ground in a [illegible] provincial market town on the borders of Flanders. [illegible] After a rapid journey by railway and [illegible] carriage, they were planted and staked; they [illegible] well watered during the droughts of last summer [illegible] and are now prospering vigorously. They are [illegible] 6 feet high (and will be higher), full of flower [illegible] feathered with branches from the ground to [illegible] summit. Though they did not cost me 2000 francs [illegible] two, nor even 200, they would fetch money from [illegible] a country gentleman as ornaments to his [illegible] ground or winter garden. Although the plant is [illegible] known to you, I inclose a couple of leaves. [illegible] [The advertisement appeared in the *Daily News*, [illegible] must, we suppose, have been paid for. We [illegible] whether the explanation suggested by our [illegible] spondent be the right one.]

## Foreign Correspondence.

NIGER EXPEDITION.—[Extracts from letters [illegible] Mr. Barter to Sir W. J. Hooker.]

"Encampment near Jeba, River Niger [illegible]

"Central Africa, March 19, [illegible]

"Our position here is much the same; we [illegible] chance of moving at present, neither is it [illegible] kie's intention till assistance arrives. The journey [illegible] nearly 300 miles overland to Lagos cannot be [illegible] in the present weak state of our party. To [illegible] the river by means of canoes is equally perilous [illegible] savage tribes of the Delta for the sake of [illegible] would be sure to attack us, as they did lately the [illegible] ship on her descent. By advice from Lagos we [illegible] that a steamer is now entering the river to [illegible] ance, but I have fears that the falling waters [illegible] vent her reaching us for some time.

"Lieut. Glover left us for the sea by Lagos [illegible] month ago. I am sorry to add that much sickness [illegible] prevailed. My own health, I am happy to [illegible] also that of Captain Mackintosh, continues [illegible] unimpaired. The native Kroomen and interpreters [illegible] with us have suffered from dysentery, but no [illegible] death has taken place among them. These people [illegible] behaved very well, but now wish to return to [illegible] homes.

"The health of our party has lately kept [illegible] making any distant journeys, but I have made [illegible] rably complete collection of the arboreal Flora [illegible] about us. Nearly all the trees come into flower [illegible] season. Bassia Parkii, with its dense heads of [illegible] flowers, scented the air with a fragrance like [illegible] Hawthorn. Its fruit is now conspicuous, and [illegible] an abundant harvest of "Shea butter." Inga [illegible] is really a magnificent sight when it bursts [illegible] ball-like masses of crimson flowers, hanging [illegible] peduncles, represent a tree decorated with thousands [illegible] soldiers' top-knots. Baphia nitida has flowered [illegible] now recognise it as very common, a small [illegible] about 20 feet high, flowering profusely. [illegible] when in blossom very like an ordinary [illegible] burnum. I enclose some of its curiously [illegible] seeds, which if they do not vegetate signify [illegible] have abundance of small plants. Leguminosæ are [illegible] represented in the shape of trees; also Combretaceæ, [illegible] several Sapotaceæ, Tiliaceæ, Sterculiaceæ, Rhizophoreæ, [illegible] Bignoniaceæ, one Myrtacea, one Araliacea. [illegible] some true Laurineæ. Loranths are very numerous [illegible] have some dozen species; but they all lose their flowers [illegible] in drying, and are difficult to preserve. These [illegible] small portion; with the great bulk (of the Flora) [illegible] entirely unacquainted, and have here no work to [illegible] my conjectures.

"Passing from trees, the excessive drought has prevented much being done with small plants except [illegible] moist places. Fires have swept the high [illegible] Grass; all looks black and desolate. We have [illegible] plenty of swamps and small lakes, and among [illegible] some good plants are found. In the lakes [illegible] Nymphæa dentata, N. Lotus (?) and a pretty [illegible]

with small purple flowers. The latter I believe is not [illegible] at home. A pretty Limnocharis grows [illegible] pools with submerged Vallisneria-like leaves. Also a curious Villarsia with floating reniform leaves which bear the yellow fringed flowers in the crenatures of the leaf itself like a proliferous Nymphæa. Potamogeton pusillum is a common plant. A singular Naidea with spiny leaves generally accompanies it. Swamps are not always pleasant spots to botanize in. Few plants can be obtained without wading in water and mud up to the waist. Tall Grasses and Sedges in these places form the head-quarters of snakes and other vermin.

"I have at last ascertained a few particulars about gums. The natives brought us many kinds; but no reliance could be placed on their information. I find Afzelia bracteosa yields a gum resin; a fine white gum, which one of our people, a native of Senegal, states to be the best gum Arabic of commerce there, is yielded by an Acacia bearing white flowers. Another is produced by a species of Sterculia. Of these and many others I have abundant specimens; but I rely only on what are collected by myself.

"Sections of woods from all the trees within reach are already cut, including fine specimens of Borassus æthiopicus; this is a noble, but not elegant Palm, abundant in the interior—its usual height is from 70 to 80 feet, though it sometimes, as on the Island of Putashi, near Boussa, attains even 100 feet. No Palm-like proportions exist in its massive trunk, which, bulging out in the centre, gives the idea of a huge elongated puncheon. The wood, which is extremely hard at the base, is soft and spongy in the thick portions. The fruit, which resembles the Cocoa-nut in appearance, hangs in dense masses, but each husky shell encloses three seeds. Sexes we can determine nothing about as yet. Looking upon these vegetable monarchs as they stand out so nobly in the landscape, enjoying the fierce sunshine of these regions, and so different from all other plants, one almost ceases to regard them as such; our sympathies extend to them as if they were sentient beings capable of the perception and feelings of animal life.

"I have great pleasure in enclosing a small Podostemad, gathered up a small tributary which I ascended one day in the boat. I had traced the river several miles till rocks stayed our further progress. The stream which had forced its way through a deep vent in the hills, falling over rocks covered with trees, all contributed to form a delightful spot, in fine contrast with the usual sterile aspect of these stony hills. While the Kroomen rested I was endeavouring to take some pretty coloured fish, and came on the Podostemad growing on the stones. The trees here were covered with an Orchid not in flower but in habit resembling a Sarcanthus which I have seen. Local circumstances, the shade and moisture of the place, favoured it; for these plants seem almost unknown in the dry parts of the interior. Some new lizards and beautiful whip snakes were gliding over the trunks of old trees.

"Some of the wild fruits round us are deserving of notice. A small shrubby Anona yields a fruit much like an Apricot in flavour. There is also a green mealy fruit, sweet and pleasant, from a small tree with fine pinnate leaves. The best is a large yellow fruit like an Orange, but with a hard shell—its seeds surrounded with a pleasant sub-acid pulp. I have flowering specimens which show it to have no affinity with the Oranges. Two kinds of Zizyphus are common, likewise several other fruits belonging to Rhamnaceæ.

"No rain has fallen for five months. Hot winds and scorching heat have prevailed. Average range of the thermometer at noon, 107°; in the shade of our house out-doors, 132°; at midnight, 84°. Once I had it indicate 145° in the sun; but never so high near the river."

*(To be continued.)*

## Societies.

SOUTH METROPOLITAN CHRYSANTHEMUM, *Feb.* 14.—Dr. Bushell in the chair. Nearly 50 new members were elected on this occasion, which increases the Society to upwards of 100 members. The chairman stated that the meeting had been specially convened to hear a short discourse or lecture from Mr. Broome, of the Temple Gardens, as to his mode of cultivating this very favourite London flower. Mr. Broome was then introduced. He commenced by stating that he had not come to lay before his audience a long dry wordy statement, but to show in a practical point of view how Chrysanthemums might be brought to that perfection which has been so admirably exemplified at our late London exhibitions, and directed his advice more to beginners than to those who were better skilled in their culture; he never felt happier than when he was giving his experience to those whom he thought would benefit by it; he could assure them he had only been able to gain it by great perseverance. We ought to state that the lecture was illustrated, and that Mr. Broome here took up an old root of Queen of England and dissected it, showing how varieties are propagated by means of suckers, taking off the best and those of good constitution for his use. He showed how necessary good drainage was to the plant, and pointed out the best kinds of soils, having brought with him specimens of each. He also cautioned all against the too frequent fault of giving too much water when young, thus generating what is technically called "damp," and impressed upon all the necessity that when the pots were getting too full of roots a shift should take place. The next subject he directed attention to was "disbudding," which consisted of taking the centre eye out, thus causing the plant to throw out laterals and branches to an almost incredible extent, after which it should be supplied with a little liquid manure, and allowed plenty of water, keeping it cool during the hot summer months, which prevented the soil caking round the pot, and the plant assuming a ragged and distasteful appearance. "Stopping" or "disbudding" must not be practised after August. Mr. Broome concluded his discourse by requesting all who were desirous of gaining information on the subject to come to him and he would feel great pleasure in giving it; adding that as the time was now approaching for planting, all making purchases would find a list of choice sorts with their colours attached for inspection at the Society's place of meeting in the Lorrimore Road. A short discussion ensued; several questions being put and answered in a practical manner, the lecturer showing that the prevalent idea of growing from the old wood was a mistake, as the heat of a July sun soon occasioned abortion; in illustration of this he instanced Mr. Holland of Hounslow, who kept an old plant, which grew well, "broke" well, until about the middle of July it went off, and there was an end of it, thus indicating that the Chrysanthemum must be propagated by suckers or cuttings only. Mr. Morgan, of Lincoln's Inn Fields, explained his method of growing Pompones as standards, in a manner similar to the Rose; thus treated they have a very handsome appearance, differing very materially from the bushy plants of Mr. Broome. This young Society, we understand, has received the patronage of W. Roupell, Esq., M.P., who has kindly volunteered a Silver Cup for a prize, and which will no doubt be strenuously contended for. We may also intimate that as this lecture was delivered with a view to encourage those who were exhibitors, Mr. Broome, assisted by Mr. Morgan, will, next monthly night (March 14), proceed to show those who have small gardens how they may best decorate them when all else is dreary. After a vote of thanks to the chairman, &c., the meeting separated.

## Notices of Books.

*Flore des Serres* for November 1857 contains original figures of the dark purple-leaved *Acer japonicum*, a charming hardy shrub; *Rhododendron Othello* a fine dark purple sort, bred from R. maximum; *Camellia Princess Frederick William* and *Cup of Beauty*, the two fine varieties introduced by Fortune, and sent into the trade by Glendinning; and the old and half-forgotten *Stapelia orbicularis*, which Mr. Van Houtte has accompanied by some clever writing. There is also a capital woodcut of Gynerium argenteum, and some good useful gardening matter.

*Outlines of Physiology* (Black, 12mo, pp. 247). This is a lucid explanation of Dr. John Bennett's views of the whole theory of Animal Physiology. Being intended as a text book for the lectures of the author, who is Professor of the Institutes of Medicine in the University of Edinburgh, it is of course a mere outline, details and illustrations being reserved for the lectures themselves. It is, however, minute enough for all general readers, and will doubtless prove acceptable to those who make this important subject a study. The following are the author's views of life, or vitality:—

"With regard to the nature of life itself, two opinions have been held:—1. That life is an independent entity, a vital principle—an idea which has come down to us from the ancients, and is founded on the notion that the union of this principle with the body caused it to live, and its separation to die. 2. That life is the collection of phenomena in organised beings, dependent partly on a certain structure and chemical composition, and partly on the existence of external agencies which stimulate them into action. We do not think it worth while to enter into the long arguments by which both these theories have been supported. It is sufficient to say that the latter is the view which has been adopted by modern physiologists, who believe that the various tissues of an organised body are endowed with various properties, some physical and some vital; that the latter require what are called stimuli to bring them into action; and that a knowledge of the tissues, their properties, their stimuli, and the forces evolved from them, is the true method of arriving at just conclusions concerning life as manifested in health, and as modified by disease."

We cannot but regret to find this fundamental question regarded by Dr. Bennett from the second point of view. To us it appears the height of absurdity, not to say presumption, to refer the vital principle to chemical composition, structure, and external forces, or *cosmica momenta*, as some one calls them. Life is—Life—; and that is all that man can know.

*Facts and Fallacies relative to the Main Drainage Scheme of the Metropolis* (Stanford) is a pamphlet from the pen of Mr. Francis Fowler, who condemns in the most decided terms the whole scheme of Mr. Thwaites's board. He says that the plan will directly or indirectly cost, not 3,000,000*l.*, but more than 27,000,000*l.*! that it involves the stoppage of the traffic through such streets as Piccadilly, Oxford Street, and the Strand, for even as much as two years!! that the houses in those long lines of way will be shaken to their foundations, and will probably tumble down; and lastly, that the scheme will prove a fearful failure, not at all answering the purpose it is expected to serve, but creating more mischief than it can remove. Engineers alone can pretend to determine the value of this startling announcement.

*Knight's English Cyclopædia of Arts and Sciences* (4to. Bradbury & Evans) has just begun to appear. Excellent men wrote excellent articles on these subjects, for the Penny Cyclopædia. The best of these are here selected, where necessary revised, and many new articles are introduced, the whole forming a most valuable mass of information upon the following subjects:—Mathematics, Astronomy, Optics, Mathematical, Astronomical, and Optical Instruments, Acoustics, Dynamics, Electricity — Magnetism, Meteorology; Chemistry, Materia Medica, Medicine, Surgery; Fine Arts, Sculpture, Painting, Architecture, &c.; Building and Engineering, Music and Musical Instruments; Navigation and Military Sciences, Rural Economy, Manufactures and Machinery, Philology, Mental Philosophy, Government and Political Economy, Law and Jurisprudence. The Rural Economy is intrusted to the superintendence of Mr. J. C. Morton. The work will appear in 24 monthly numbers, each containing 256 pages in double columns, enriched with woodcuts, at the very small price of 2*s.* 6*d.* each.

*The Student's Hume* (8vo, Murray, pp. 768, with numerous woodcuts). No school books are comparable for real utility, beautiful execution, and extraordinary cheapness to some of those which issue from Albemarle Street. This book, the Student's Gibbon, Smith's Greece, and Liddell's Rome, of themselves form an excellent historical library, the whole procurable for 30*s.* If we only compare works of this class with the books in use when we were schoolboys, it is difficult to avoid envying the happy race whose studies are so greatly lightened. The volume before us is not altogether Hume; some of the great historian's matter is entirely omitted; a part, especially that relating to the Anglo-Saxon period, has been rewritten; striking errors in fact have been corrected, and the period from the reign of James II. down to the present day has been wholly sketched in by the editor himself. The matter is illustrated by a considerable number of woodcuts engraved from original drawings; among these medals and coins are the most numerous. There is also an excellent Index.

*Lund's Geometry and Mensuration* (12mo, Longmans, pp. 362) is a clear, concise, well arranged, and able school book, teaching all that students want to know respecting the measurement of surfaces and solids The diagrams are excellent, and the chapter on land surveying one that every farmer and gardener should make himself master of, as he easily may.

TRADE LISTS RECEIVED.—*William Chater's* (Saffron Walden) *List of Double Hollyhocks.* A very extensive collection of these beautiful autumn flowers, with good practical directions for their management.—*C. W. Hargrave's* (Winchmore Hill, N.) *Catalogue of Garden, Agricultural, and Flower Seeds* consists of 20 pages of the more useful seeds required in gardens and farms.—*J. Samuel & Co.'s* (Newry) *Select and Descriptive Catalogue of Vegetable and Flower Seeds* consists o 12 pages of such sorts as are most wanted in country places in Ireland. In 1845 such a catalogue could not have paid. Fourteen years have brought about a marvellous change even in County Down.—*Downie & Laird's* (Edinburgh) *Descriptive Catalogue of Florists' Flowers.* A very large well-arranged catalogue of such plants, with good useful notes. The orthography is remarkably creditable.—*Wheeler & Sons'* (Gloucester) *Little Book or Select Seed List.* One of the most carefully written country catalogues which we have seen. The descriptions are unusually full.—*E. G. Henderson & Son's* (Wellington Road) *Catalogue of Flower and Vegetable Seeds, &c.* Another of those enormous and valuable lists, with very useful and highly instructive notes, forming quite a new feature in Horticulture, and only to be found in the London trade.

## Garden Memoranda.

A. J. DOXAT'S, ESQ., PUTNEY HEATH.—At few places are Chrysanthemums in pots grown in greater perfection than they are here, Shrimpton, Mr. Doxat's gardener, having been awarded prizes for them at all the great metropolitan exhibitions this year. His plants are remarkable not only for abundance of bloom, but for the large and healthy foliage with which they are furnished quite down to the pots. To ensure this the following points are attended to:—When hot dry weather sets in the plants are well mulched with rotten dung, which prevents the sun's rays from scorching the little rootlets which may be found in multitudes just under the surface of the soil. If these get scorched or burned the plants are almost sure to shed their lower leaves; this is however easily avoided by the mulching just mentioned and frequent waterings, a practice which causes the plants to grow healthily and renders them ornaments to the garden even when out of bloom. Pompones Mr. Shrimpton keeps in shady situations till September; he stops them two or three times during the season, and they are supplied plentifully with water, taking care, if the mould should open or crack round the inside of the pot, to fill up the gap with a little finely sifted soil. If this is not attended to water when

supplied passes off between the soil and the pot, and leaves the middle dry. Another point requiring particular attention is not to allow the plants to get too high before they are stopped; if this is neglected they do not break at the bottom or throw out laterals low enough to induce a handsome bushy habit. Mildew, to which the Chrysanthemum is very subject, is kept down by sprinkling the plants with water and then well powdering them with flowers of sulphur. To be effectual, however, this ought to be done immediately the pest makes its appearance; for if allowed to fairly establish itself it is very difficult to eradicate, and the plants never look so healthy afterwards.

In the flower garden is a greenhouse with a Vinery on either side of it. At present the greenhouse is gay with spring flowering plants. On the back wall is a large Plumbago capensis, planted in a large slate tub; every year this is literally one mass of bloom, forming an elegant background to the stageful of plants in front of it. In the Vineries are raised excellent crops of Grapes, and that by ordinary means skilfully applied. Here are no carrion-made borders, producing gross, ill-ripened, or weakly wood; they consist simply of pure Wimbledon loam mixed with a little well rotted manure laid on a well drained bottom. Thus circumstanced the Vines make no more wood than they are able to ripen thoroughly, and the result is abundance of bunches, not very large, but finely ripened and beautifully coloured. One is a late house, to which no fire-heat is applied except in September, when the weather happens to be cold and wet. This house is ventilated at top and front—in the latter by means of lights swung by their middle on pivots. For many years the crop in this house was ruined by mildew, which Mr. Shrimpton considered was induced by opening the front lights, from which a strong current of air was admitted among the leaves. He therefore tried the effect of keeping them shut always after the fruit had set, and since that time he has never been troubled with that pest.

On the walls of the kitchen garden Peaches, Nectarines, Apricots, and Plums succeed admirably. Figs annually produce an excellent crop, especially the Chesnut, a large and comparatively scarce variety. When Figs were wont to be covered here in winter the result was no crop; but during the last few seasons, when they have received no protection whatever, they have borne well. The situation is, however, naturally somewhat warm and dry.

## Calendar of Operations.

*(For the ensuing Week.)*

### PLANT DEPARTMENT.

CONSERVATORY, &c.—Luculias and other ornamental winter flowering plants in beds or borders should be cut back after blooming as freely as may be necessary to keep them close and well furnished, and this should not be deferred so as to permit the energies of the plants to be wasted in the production of useless wood. The small-leaved weaker growing varieties of Citrus are invaluable for winter flowering, and considering that they are plants of easy culture it is surprising that more of them are not grown for this purpose. Get Camellias and Azaleas for early flowering next season started into growth without loss of time. Camellias may be had in bloom early in September by placing them in heat at once so as to get the buds to set early; and when once the plants acquire an early habit of starting into growth they make as fine wood as those grown in summer; but unless plants with prominent wood-buds can be selected, there may be some little difficulty in getting them to make free growth the first season. Let the temperature range about 45° at night, and give air freely on fine days, which will tend to make the permanent specimens in the house break their buds slowly, and will secure strong close growth. Lose no time in repairing the drainage of any specimens which require such attention, and endeavour to secure a healthy vigorous root action, which is of great importance, especially in the case of hard-wooded plants. Shift and tie out Pelargoniums as may be required, and allow them plenty of space after this time, with all the light possible, and a free circulation of air whenever the weather will permit; but avoid cold north-easterly winds, which are very injurious to plants in active growth. Do not allow Calceolarias to suffer for want of pot room, as any check at the present season might throw them prematurely into flower. Cinerarias and other plants in pits or frames will now require frequent shifting and placing at greater distances from each other, in order that air may be permitted to circulate freely among them. Fumigate occasionally to destroy green-fly. Continue to propagate half-hardy plants for autumn flowering in the open ground. Sow tender annuals.

### FORCING DEPARTMENT.

PINERIES.—Do not allow young stock in pots to become too much pot-bound before shifting, and see that the balls are in a moist state at the time of potting. Aim at keeping these growing slowly, afford them a thoroughly moist atmosphere, and keep them near the glass in order to secure compact strong plants. Let the temperature range from 60° to 70° with fire heat, allowing it to rise some 10° with the assistance of sunshine, and a gentle circulation of air. Plants swelling their fruit must be afforded a moist temperature of 70° at night. VINERIES.—Attend to the border where the Vines are fairly started, and see that it is protected from the cold by a substantial coat of dry litter. Where fermenting materials are used for warming the border this must also be well covered from the weather, and a gentle fermentation secured by turning it on a sunny forenoon, and adding a rather liberal quantity of fresh materials in a warm state; for unless a steady heat can be maintained the use of fermenting materials is much more likely to be injurious than otherwise. Proceed with thinning the bunches and berries as soon as the crop is sufficiently advanced. Stop laterals, regulate and tie in the shoots, taking care not to leave too many for the space, and keep everything neat and orderly. Take every opportunity which the weather may offer of admitting a little fresh air, and maintain a moist atmosphere by frequently sprinkling the paths, &c. Injury is sometimes done to the young tender foliage of Vines by the vapour arising from the evaporating pans when the state of the weather necessitates overheating the pipes, and if there is any danger to be apprehended from this, a board should be suspended over the pans so as to diffuse the heated vapour, and prevent its striking the foliage too much in one place. Examine the leaves in the early house narrowly for red spider, particularly those near the pipes, and if the least vestige of this pest is perceived, wash every affected leaf carefully and at once, using a soft sponge and soapy water. This may appear a tedious plan to those who have not been accustomed to spend much time upon plant washing, &c.; but an active handy man will soon go over a good part of a house, and if the enemy is taken in time it will be easily eradicated by these means. PEACHES.—Where the trees are not so far advanced as blooming, proceed very quietly under the present state of the weather; for it is not desirable to have them in this state until air can be admitted more freely than would be advisable under the most favourable arrangements at present. In houses where the trees are in bloom, a little extra fire-heat should be used, so as to allow of the admission of fresh air whenever the external temperature is not very severe; but this should be effected by small openings near the pipes, so that the air may get warmed before coming into contact with the trees. Maintain a soft humid atmosphere where the fruit is fairly set, syringe the trees lightly after shutting up early on bright afternoons, and proceed gradually with disbudding the trees, and where the fruit is thick a portion should be removed as soon as it is safely set, but then so as to allow for a few falling, to which the Peach is liable until after stoning. See that the trees are properly moist at the root, giving tepid water where it is wanted. STRAWBERRIES.—These are somewhat liable to the attacks of green-fly when the weather necessitates keeping them rather close, and they should be very carefully looked over, and lightly fumigated once or twice if they are found to be at all infested with this pest. Do not exceed 50° at night until the fruit is set, and keep the plants near the glass, giving as much fresh air as can be safely done, and maintain a moist atmosphere except while the plants are in blossom, when every care should be taken to keep it rather dry. CHERRIES.—Guard against sudden changes of temperature until the fruit is stoned; maintain rather a humid atmosphere with a temperature not higher than 60° by fire-heat. MELONS AND CUCUMBERS.—Stop the plants when they have made the second rough leaf; if in dung beds take care not to overline them with rank ill-prepared manure; give air on all favourable opportunities. Water only in the morning. MUSHROOM HOUSE.—Keep this house at about 60° with a humid atmosphere. RHUBARB AND SEAKALE.—Keep up a succession; both may be forwarded with advantage in the Mushroom house.

### FLOWER GARDEN AND SHRUBBERIES.

Finish removing shrubs where not already done, as soon as possible, and lose no time in getting alterations involving the relaying or putting down of fresh turf completed, for it is a great saving of after attention and labour to get this kind of work finished before drying winds set in. If not previously done, get pillar Roses trimmed and tied, and where wooden stakes are used for their support get them examined carefully, letting none be left that are not likely to last the season, for it is extremely inconvenient to replace them after the plants have begun to ramble about. It is a good plan to give pillar Roses a liberal supply of manure-water when it can be conveniently obtained, or a dressing of solid manure may answer the same purpose. A stimulus of this kind will be found of great service in inducing vigorous growth and a fine display of flowers.

### HARDY FRUIT AND KITCHEN GARDEN.

Prune and nail Peaches, Nectarines, and as soon as this is done if it is intended to apply a covering for the protection of the blossoms, bring it into use at once, to shade them from the exciting influence of the sun. Where the early crops of Peas have been injured by cold or mice, get some planted in turves with which to make good the deficiencies in the lines. The turves should be cut in widths of about 5 inches, and 3 or 4 inches deep, cutting out a shallow channel about 3 inches wide and on the under side in which to place the seed. The turves should then be laid with the green side under in a moderately warm house, planting the Peas and covering them with light soil, where they will soon vegetate. As soon as they are fairly in leaf remove them to a cool place, and gradually prepare them for planting out. Managed in this way the Peas will not sustain the slightest check, and will root through the turf into the soil and grow away freely. See to keeping up a supply of French Beans, and give those bearing in pots a liberal supply of manure-water, and endeavour to keep them in vigorous health, so as to avoid them infested with red spider.

### COTTAGERS' GARDEN.

Fruit trees, if any, should now be pruned as... Cabbage seed may be sown; the Early York as... as any for using in a young state, and Vera... Cabbaging. Early White Broccoli for autumn... winter and Knight's Protecting for spring... put in now. Triple curled Parsley may be sown... edging. It is not only useful, but ornamental... Pansies in bloom in the open ground may be taken... and put into pots for window decoration. Cinerarias... may also be treated in the same manner.

### STATE OF THE WEATHER AT CHISWICK, NEAR ...

For the Week ending Feb. 17, 1859, as observed at the Horticultural...

| Feb. | Moon's Age. | Barometer. | | Temperature of the Air. | | | Of the Earth 1 foot deep | |
|---|---|---|---|---|---|---|---|---|
| | | Max. | Min. | Max. | Min. | Mean | | |
| Friday 11 | 8 | 29.569 | 29.526 | 50 | 41 | 45.5 | 46 | |
| Satur. 12 | 9 | 29.747 | 29.608 | 51 | 41 | 46.0 | 46 | |
| Sunday 13 | 10 | 29.897 | 29.747 | 51 | 33 | 42.0 | 46 | |
| Mon. 14 | 11 | 29.869 | 29.566 | 48 | 28 | 38.0 | 45 | |
| Tues. 15 | 12 | 30.089 | 29.987 | 50 | 43 | 46.5 | 45 | |
| Wed. 16 | 13 | 30.069 | 30.025 | 58 | 40 | 49.0 | 46 | |
| Thurs. 17 | C | 30.184 | 29 992 | 56 | 36 | 46.0 | 47 | |
| Average | | 29.917 | 29.778 | 54.8 | 34.5 | 44.7 | 46.0 | |

Feb. 11—Rain; cloudy and fine; rain at night.
— 12—Heavy rain; showery; cloudy.
— 13—Fine; cloudy; overcast; slight showers.
— 14—Hazy; rain; fine at night; frosty.
— 15—Fine; overcast; fine; rain.
— 16—Overcast; fine throughout.
— 17—Clear and fine; cloudy; slight showers, overcast.
Mean temperature of the week, 6 deg. above the average.

### RECORD OF THE WEATHER AT CHISWICK,

During the last 33 years, for the ensuing Week, ending Feb. ...

| Feb. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing ... N. | ... W. | ... |
|---|---|---|---|---|---|---|---|---|
| Sunday 20.. | 45.0 | 30.6 | 37.8 | 13 | 0.65 in. | 3 | 4 | |
| Mon. 21.. | 46.1 | 31.7 | 38.9 | 14 | 0.48 | | | |
| Tues. 22.. | 45.7 | 32 5 | 39.1 | 13 | 0.57 | 3 | 5 | |
| Wed. 23.. | 46.9 | 31.6 | 39.3 | 13 | 0.27 | 5 | 5 | |
| Thurs. 24.. | 47.0 | 33.4 | 40.2 | 15 | 0.51 | 3 | 2 | |
| Friday 25.. | 47.6 | 32.8 | 40.2 | 16 | 0.90 | 4 | 2 | |
| Satur. 26.. | 47.1 | 33.1 | 40.1 | 14 | 0.34 | 5 | 2 | |

The highest temperature during the above period occurred on ... 1846,—therm. 60 deg.; and the lowest on the 20th, 1855—therm. ...

## Notices to Correspondents.

BOOKS: *Inquirer.* Mr. Gordon's names are far more worthy than Loudon's. The subject of Conifers is ... understood now than formerly. You must, however, ... stand that Mr. Gordon's book will not always bear ... criticism. Nevertheless it is by far the best, as a ... that we possess.—*G F.* We do not recommend the ... mention. Consult Neill's Fruit, Flower, and Kitchen ... dener, published by Black, of Edinburgh.—*A Fa...* Prof. Lindley's Descriptive Botany will give you all ... mation you want. It only costs 1s., and was prepared ... guide to those who do not know how to apply ... the general facts explained in Introduction to Botany.

BOUQUETS: *Kensington.* Apply to Mr. Hooper, Bouquet ... Bradmore, Hammersmith; a man very skilful in ... and moderate in his charges. He was the bouquet ... the late Duke of Devonshire, and made that beautiful ... men of the art which was presented to the Queen ... Majesty honoured the Horticultural Society's garden ... public visit in 1855.

GARDENERS: *Effingham.* We regret to say that our inquiry ... unsatisfactory as to No. 2; of No. 1 we can learn ... the information as to No. 3 is, however, such that ... you to put yourself into communication with him.

GLASS: *E A F.* We do not think it very material what ... fluted glass you employ. In our own case we ... the kind with the finest fluting.

NAMES OF FRUITS: May we beg our correspondents ... their specimens, *carriage paid*, to our Office, ... Wellington Street, Covent Garden, London: ... OTHER PLACE WHATEVER.—*R F.* 1, Reinette de ... 2, Fearn's Pippin; 3, French Russet; 4, appears ... yellow Ingestrie. The Pears were decayed.—*R F.* ... Pippin; 2, Bedfordshire Foundling.—*C S.* 1, not ... Minchall Crab.—*T H*, 1, Easter Pippin, or ... very like a Newtown Pippin; 3, Wyken Pippin.—... Your Apple, a small round very sweet Redstreak ... known. Probably a Cider Apple.—*Central Bee...* Apples are very handsome. We believe they are ... the Pippins; and if so, from your account, it ... the variety is very old.‖

NAMES OF PLANTS.—We have been so often obliged ... tantly decline naming heaps of dried or other plants ... venture to request our correspondents to recollect ... never have or could have undertaken an unlimited ... this kind. Young gardeners, to whom these remarks ... especially apply, should bear in mind that, before ... us for assistance, they should exhaust their other ... gaining information. We cannot save them the ... examining and thinking for themselves: nor ... desirable if we could. All we can do is to help ... that most willingly. It is now requested that, in future ... more than four plants may be sent us at one ... *B.* 1. Begonia—we believe obliqua, but the flowers ... males; 2. Passiflora racemosa; 3. Epidendrum ... Rivina lævis.—*G G.* Acer creticum.—*X X.* (Ontario) ... lata.—*Jerdison.* Probably some Stelis; but the species ... genus cannot be determined by leaves alone. In ... number of Folia Orchidacea there is a complete ... this difficult genus, and you can consult it when you ... flowers.—*W A.* Malva pseudo-lavatera.

ORANGE TREES: *E M D.* Shift the trees at the end ... into light loam, with half its bulk of thoroughly ... rotted dung. Give them a gentle bottom heat, and ... summer you may turn them out into a sheltered ... place. But you must soak the balls two or three times ... the autumn with warm rain water; and if you can ... the pots during the first summer in stable litter ... the better.

SPADES: *Feargus.* In heavy land good well made ... are far preferable. In such lands spades will soon ... used.

SPERGULA PILIFERA: *P.* We know nothing about ... beyond what is stated in E. G. Henderson's & Son's ... an extract from which you will find in another column.

VINES: *St. Dunstan's.* Your Vine is swarming with ... like red spiders, but colourless. Put the plant ... give it a good sulphuring as if it had been attacked ... spider. Afterwards syringe it well. If necessary ... the dose.

THE PATENT

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| TURNIP MANURE .. .. .. | from £7 to | £6 | 6 |
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These Pumps are fitted with J. W. & SON'S Patent Buckets and Suckers, and cannot clog in action. The barrel is of galvanised iron, not likely to corrode, and can be raised or lowered at pleasure. The legs will fold together, and the whole may be carried on the shoulder to any pond or tank required.

Price of 4½ in. Pump, with legs, 3*l.* 3*s.* If with planished copper barrel and galvanised iron handle, &c., 14*s.* extra. The barrel is 27½ in. long, and the legs are 5 ft. high.

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| Diameter of Barrel. | Height. | | £ | s. | d. |
|---|---|---|---|---|---|
| 2½ in. | short 1 ft. 7 in. | Fitted for lead, gutta percha, or cast iron flanged pipe, as required. | 1 | 10 | 0 |
| 2½ ,, | long 3 ,, 3 ,, | | 1 | 14 | 0 |
| 3 ,, | ditto 3 ,, 6 ,, | | 2 | 8 | 0 |
| 3½ ,, | ditto 3 ,, 6 ,, | | 2 | 12 | 0 |
| 4 ,, | ditto 3 ,, 6 ,, | | 3 | 3 | 0 |
| 2½ ,, | short, with 15 feet of Lead Pipe attached, ready for fixing .... | | 2 | 14 | 0 |
| 2½ in. | long ditto ditto | ditto | 2 | 18 | 0 |

The short barrel Pump is very convenient for fixing in situations of limited height and space, for the supply of coppers and sinks in Wash-houses with soft water from underground tanks, or in Hot, Forcing, and Plant Houses; they may be fixed, when desired, under the stage.

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Repayment may be made by the Landowner as successive portions of the Works are completed, or the actual expenditure, with a Commission thereon, may be charged on the property improved by way of rent charge for any term not exceeding 50 years, the instalments to repay principal and interest being thereby kept down nearly to 5 per cent. per annum.

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The Company advance money, unlimited in amount, for works of Land Improvement, the Loans and incidental expenses being liquidated by a rentcharge for a specified term of years.

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Analyses and Assays of every description are promptly and accurately executed at the College. The terms and other particulars may be had on application to the Principal.

SMITHFIELD CLUB.—Resolved—"That a Committee be appointed to inquire into the practicability of procuring a better and more commodious place for the Smithfield Club to hold their Annual Exhibitions, and to report the result of their inquiries to the next General Meeting."

In accordance with the above resolution, the Committee are prepared to receive communications or proposals by which an increased accommodation may be afforded to the Club.

Communications to be addressed to the Hon. Secretary on or before April 30, 1859.

B. T. BRANDRETH GIBBS, Hon. Secretary.
47, Half Moon Street, Piccadilly, London, W.

N.B.—The present Building at Baker Street affords about 45,000 superficial feet of ground space (exclusive of Committee Room, Entrances, &c.), and about 20,000 feet in the Galleries.



# The Agricultural Gazette.

*SATURDAY, FEBRUARY* 19, 1859.


MEETINGS FOR THE ENSUING WEEK.

WEDNESDAY, Feb. 23—Agri. Society of England .... Noon.

THE Bill for facilitating the transfer of land and for the registration of titles, which was last week read for the first time before the House of Commons, deserves the attention of our readers.

That our present system of conveyancing is a disgrace to a free and commercial people; that by preventing a speedy and safe transfer of land it seriously diminishes the value of landed estates, and renders them undesirable as an investment for money, are facts which have long been admitted, and cannot at the present time be successfully disputed. If any person is still sceptical on this point we would ask him to consider why it is that 3 per cent is deemed satisfactory interest to those who invest in the funds, whilst 4 or 4½ is always expected by those who invest in land? It cannot be said that the funds are more secure, for the contrary is the indisputable fact owing to their constant fluctuations. The true reason we believe to be that a person who invests in the funds can get his money back without delay, whilst an owner of land can do no such thing, inasmuch as whether he seeks to raise money by sale or mortgage his *title* must be investigated, and the history of the land for the last 60 years has to be examined.

The task, however, of introducing a new system of transfer which shall preserve the merits of that now in use, and at the same time avoid its defects, is one beset with difficulty. It is a great mistake to suppose that the present system of conveyancing is altogether bad. It has grown up amongst us little by little, and to a considerable extent it admirably supplies our wants. Its grand defect

however is that it is a clog to rapid transfer, and unnecessarily impedes dealings in land.

This defect the present Government is attempting to cure, and if its attempts are crowned with anything like success, we are convinced that the value of landed estates in this country will rapidly rise. We believe moreover that dealings in land will be so multiplied as amply to compensate the large class of persons by whom land is conveyed, for the loss of some of the work to which they have been accustomed, and on which they rely for subsistence. If any proof of this is wanting, see the effect produced in Ireland by the recent measures which have facilitated the transfer of land there. It is true it is no part of the plan of the present Government to set up an Encumbered Estates Court in this country, for no such court is wanted; but what is proposed is to do away with the necessity of a lengthened investigation of title every time an acre of land has to be sold or mortgaged, to institute a registry of ownership, to confer on the registered owner power to deal with the land of which he is such owner, with the same facility as the registered owner of so much stock or of a share in a ship can at present deal with such stock or share.

We do not propose upon the present occasion to allude to the details of the Bill now before the House. It is necessarily long, and its particular provisions demand more careful consideration than we have yet been able to give to them. But the nature of the change proposed to be made and the benefits which will be conferred on the holders of land if the objects aimed at by the Government are satisfactorily accomplished under the Bill in question, are of more than ordinary interest to our readers, and demand that it should be supported by all who have at heart the welfare of the great landed interests of this country.

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THE high price of guano during the past year has produced its natural fruit in an unusual extent and frequency of experiment in the Corn and Turnip field with other fertilisers. From Lincolnshire, from Norfolk, from East Lothian and other counties in Scotland, we have comparisons of guano with nitrate of soda on corn crops, and with various superphosphates and blood manures for root crops.

It has been customary in the north to use Peruvian guano alone, and in very large quantities per acre for the Turnip crop. The experience of the past year will probably lead to a diminished use of it for that purpose. Most of the results recorded of the trials made in the Lothians and elsewhere indicate the superiority of guano when mixed with superphosphate; and in many of them the artificial manures of different makers, BAILEY, TOWNSEND, HODGSON, PATERSON, ODAMS, OVENS, DALL, SEAGRAVE, LAWES, BATCHELOR, SIMPSON, THURTELL, MATTHEWS, CARNE, PACKARD, BROWN, and others exceed in their returns those from the best Peruvian guano. On the whole the Galashiels report declares the results of these experiments to be in favour of phosphatic manures. The reporter for this Club declared, too, that the specific gravity of the Turnips grown from Peruvian guano was below that of those grown from other manure. For the decision of such a curious point as this, however, a larger number of facts ought to be examined than were then under review.

The results of a most interesting series of experiments at Holkham Park farm on nitrate of soda and potash as top-dressings for Wheat, and on various artificial manures in comparison with guano for root crops, extending over a series of years, is given in the current number of the English Agricultural Society's Journal. Of 50 experiments, ranging over the years 1850 to 1858, in which various quantities of the nitrates were applied to Wheat, only one indicated no increase of crop in consequence of the application. The average application seems to have been 1 cwt. per acre, and the average increase of crop 7 or 8 bushels per acre. In 1852 the increase was no less than 13 to 23 bushels per acre, according to the application, which varied from 4 to 10 stones of the nitrates per acre.

The series on the different artificial manures is accompanied by Mr. NESBITT'S analyses of them, from which, to take the last instances, those of 1857, upon the list we find that the "economical" manure contains about ½ lb. of soluble phosphate of lime in a cwt., and THURTELL'S manure contains 11 lbs. in the same quantity; the one produced 8½ tons, and the other 11½ tons of Swedish Turnips per acre.

A general review of this series indicates that the addition, whether of farm-yard manure or guano to the other fertilisers in general greatly increases their efficiency, and that where each manure is used by itself, the results of the guano application stand highest on the list. The differences are however in these cases generally very slight—not more than would occur in different patches of a field that had received a uniform manuring. And on the whole there can be little doubt that the effect of artificial fertilisers on last years' sales of guano—the diminished demand for the latter which has been the consequence of their competition with it—is the legitimate and proper result of their true relative values, and likely therefore to be maintained, or even to increase with increasing skill in the manure manufacture.

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As throwing light on the present value of agricultural labour, a subject on which a good deal of discussion has arisen out of the lately published speech of Mr. GREY, of Dilston, we extract the following passages from the current number of the Journal of the Agricultural Society of England. They give the wages paid in different parts of the country to the farm servants—ploughmen and others working in the barn; and are taken from Mr. MORTON'S paper on the Cost of Horse Power.

BEDFORDSHIRE.—"The ploughmen now are paid 2*s.* a day. Of course their wages fluctuate according to the price of provisions. They generally get an advance of 2*s.* per week for four weeks during haymaking, and they are paid 20*s.* a week for a month during the corn harvest; and they have the privilege of working by contract whenever opportunity offers during hay time or harvest. It will not, therefore, be fair at such times to charge the whole of their wages to the cost of horsekeeping." "My horsekeeper's wage is 12*s.* a week; my under ditto and ploughmen from 8*s.* to 10*s.*, with double wages for the harvest month."

BERKSHIRE.—"Carters 15*s.* a week (no perquisites). Young men and boys hired by the year, from 5*s.* to 9*s.* a week."

DORSETSHIRE.—"One man and boy are allowed to a team of four horses. The ploughmen's wages are from 8*s.* to 9*s.* per week, with house, garden, fuel, and 20 perches of Potato ground, and 1*s.* for every journey above 6 miles from the farm."

DUBLIN.—"The ploughman's wage is 12*s.* a week, with a free house."

GLOUCESTERSHIRE: *Cirencester.*—"Three of the ploughmen are paid 11*s.* a week, and receive 36*s.* extra for harvest. Two boys get 7*s.* a week, and about 15*s.* extra for harvest work. No beer or extras of any kind beyond the wages. The carters groom, but do not feed their horses: a regular horse feeder is kept, who employs about half his time at this work, and is paid 12*s.* a week, and 32*s.* extra for harvest work."

*Thornbury.*—"We pay our ploughman 10*s.* a week—more in harvest time."

*Frampton.*—"The wages of the ploughmen are above the common rate of the neighbourhood: they receive 11*s.* 6*d.* in money, besides beer and extra money in harvest, also a house and garden worth 5*l.* a year."

*Didmarton.*—"Carters' wages 15*s.* a week, including rent, fuel, beer, and indulgences."

KENT: *Dover.*—"The waggoners have 2*s.* a week more than the labourers, who are now paid 11*s.* a week. The second man has 1*s.* less than the waggoner, and both have 2*l.* 10*s.* for harvest. The 'all-workers' have 10*s.* per week all the year round. The boys have 7*s.* per week for board, and 6*l.* wages."

KILKENNY.—"Ploughmen get 8*s.* 6*d.* a week."

LINCOLNSHIRE: *Deeping Fen.*—"We are giving our ploughmen 12*s.* per week at the present time, with house and garden free; 20*s.* a week for four weeks in harvest, and 20 bushels of Potatoes. Last year we gave 13*s.* 6*d.*, and the year before 13*s.* Taking an average of years, I suppose it would be barely 12*s.*"

*Grimsby.*—"Ploughmen about 12*s.* a week."

NORTHAMPTONSHIRE: *Peterborough.*—"We have no hiring of servants, but our ploughmen are ordinary labourers, taking the ordinary wages—just now 10*s.* per week; when corn is dearer, 12*s.* a week."

NORTHUMBERLAND: *Hexham.*—"The general wage of a full ploughman has been for the last few years 15*s.* or 16*s.* a week, with from 2 to 4 bushels of Wheat, the same of Barley, 80 stones of Potatoes, and a house free and cartage of coals. He is bound to supply a woman worker at 1*s.* a day in summer, 1*s.* 6*d.* in harvest, and 10*d.* in winter. Some men get less and some few more than this: my own wages are 15*s.*, with the lesser quantities of corn."

NOTTINGHAM: *Mansfield.*—"Ploughmen's wages 15*s.* to 17*s.* a week, except for a month in harvest, when they have from 25*s.* to 35*s.* per week."

OXFORDSHIRE.—"The wages of the ploughmen are from 12*s.* to 14*s.* a week."

SCOTLAND: *Inverness.*—"The ploughmen are engaged by the year, and the money wages, with allowance of provisions (valued at wholesale prices), amount to 30*l.* per annum, besides a cottage on the farm."

*Linlithgow.*—"Ploughmen's wages may amount in all to 16*s.* per week, varying from 12*s.* 9*d.* to 14*s.* 3*d.*, according to price of grain, namely,—house 21*l.*, 1050 lbs. of oatmeal, 10 cwt. of Potatoes, cartage of coals, and food for four weeks in harvest time."

SUSSEX: *Chichester.*—"The wage of the ploughman is usually 1*s.* a week and a house rent free more than the ordinary labourer. For four weeks during [illegible] they have double wages. Their wages for the [illegible] including rent of house, would amount to 35*l.* [illegible]

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—— THE sale of grain by weight seems [illegible] gradually gaining ground. The "cental" (100 [illegible] adopted as the unit of all future transactions [illegible] the Liverpool corn market, though refused [illegible] Leith and one or two other places, is almost [illegible] use in the most important corn markets of the north of England, and seems to give all the satisfaction which it promised.

One hundred firms have signed a recently published declaration that since the 1st of February they have bought and sold by the cental, and [illegible] no reason whatever to doubt that the new system will confer upon the trade and the public the advantages promised from it. They say that "the simplicity of the 'cental' becomes every day more and more evident, and though they [illegible] occasional instances of perplexity among those who are suddenly called upon to use the new weights in lieu of the old one, they are strongly persuaded that few changes of so beneficial a character have ever been made with less real inconvenience, and they are satisfied that all that is required is a little perseverance, when the difficulties attending the introduction of the change will gradually disappear.

—— An interesting paper on the utilisation of waste substances was read at a late meeting of the Society of Arts, from which such extracts have been taken in another column as will be interesting to an agricultural reader. Since its publication in the Journal of the Society of Arts, Mr. SEPTIMUS PIESSE, who formerly contributed to the columns of the *Gardeners' Chron.* a series of papers on Vegetable Odours, has pointed out the waste of such essences, not in England only but in her tropical colonies, where blooms in abundance are wasted, and no effort made to save their fragrance, although the ottos procured from them are really as valuable as gold, weight for weight, in this country. Mr. PIESSE also refers to a "guano," as he calls it, to be found on the banks of the Thames when the tide is down—of which no use is taken, although for 30*s.* a manure might have had worth 5*l.* However useful this mud might be as a top-dressing for poor soils it is not likely that 5*l.* worth of it can be put upon the land for 30*s.* A mud over which the tide flows every six hours is not likely to have retained so much fertilising matter in its substance as is here supposed. It is with greater force that Mr. PIESSE refers to the "waste of so much land now lying agriculturally useless within a short distance of the metropolis. Notwithstanding that an Act of Parliament is necessary for its inhabitants to obtain only 100 superficial feet of space out of the back windows, there are hundreds of acres of waste land near it, of which no use is made. Much of this land—bearing the familiar names of Putney Heath, Boxmoor, Chobham, Aldershott, &c.—should not be "utilised," does appear a paradox to the proverbial industry and economy of Great Britain."

—— A letter has been published by Sir JOHN FORBES, Bart., late Hon. Secretary of the Highland Society, on recent differences and discussions in which temperate expression is given to the satisfaction of many of the members; and the election of the office-bearers of the Society, the resignation of Mr. LAWSON and of Professor WILSON, the alleged mismanagement of some of the proceedings at the Aberdeen Show and the relations of the directors to the Veterinary College are referred to. The absence of Mr. HENRY STEPHENS'S name from the new list of directors and indeed from all former lists is remarked, and is held to prove that a wider range for selection should be taken, and the application of some new minds to the subject might be useful, without interfering with the indispensable condition of having among the 30 directors a considerable number who have some prolonged acquaintance with the business. A list of other subjects demanding the consideration of the Society is given. They include "the arrangements for discussing meetings this season, and the committees of uniformity of weights and measures, old and new style in markets, sale of grain by weight or measure, and, above all, the scheme of fostering agricultural education among farmers' sons by diplomas for which a supplementary charter was obtained and an imposing board appointed. This interesting scheme requires energetic working to produce full effect. Besides these subjects which have been undertaken, and the researches into meteorological phenomena which the Society promised its aid in organising, but which with the exception of a small donation

has never contemplated, a large section of its members appear to be convinced that the social condition of the farm servants as to their morals, brought out by late statistics, their dwellings, and the facilities for evening education among them, require some special attention. It seems probable that this can be attained only by a standing committee of the directors, who shall devote themselves to that department, thus reviving one of the original and very important objects of the Society now represented only by the benevolent Argyll fund under their charge."

—We have received from Messrs. SUTTON, of Reading, the following illustration of the shameless manner in which worthless seeds are sometimes offered to the trade for purposes of fraud. It is a letter from a French dealer in London, who of course gives his name and address. He says:—

"I have sold this day some India Rape-seed for mixing with Turnip-seed, and enclose a sample. If you will have some at 56*s.* per quarter, in the docks, you can have it if unsold, to your answer. I have sold some East India Radish seed at 9*s.* per bushel. If you want some for mixing I shall be very happy to serve you."

## ON THE SALE OF CORN BY WEIGHT.

IT has been publicly announced that from the 1st of February grain, meal, and flour has been sold in the markets of Liverpool, Glasgow, and Hull, only by the "cental" of 100 lbs. avoirdupois.

The effect upon these markets may be inferred from inspection of the following summary of weights about to be displaced, in the Liverpool market, by the "cental":—

| | | |
|---|---|---|
| Wheat has hitherto been sold per .. .. .. | | 70 lbs. |
| Barley ,, ,, .. .. | | 60 ,, |
| Oats ,, ,, .. .. | | 45 ,, |
| Indian corn and Beans ,, .. .. | | 480 ,, |
| Peas ,, ,, .. .. | | 504 ,, |
| Flour ,, ,, | 196lbs. or | 280 ,, |
| Oatmeal and Indian meal, per | 196lbs. or | 240 ,, |

A similar (not identical) variety has prevailed in the markets of Glasgow and Hull, and still prevails in all the principal corn-markets of the United Kingdom.

The resulting evil is twofold—multiplicity of methods in the same market, and variety of methods in different markets; but it is most important in the latter aspect.

The main object of trade in corn may be said to be to equalise the price in different localities. Freedom of trade has its value in the facility it affords to the attainment of this object—its value alike to the producer, to the dealer, and to the consumer. The lowest price fairly attainable throughout the kingdom—the price best for all parties—would be an uniform price, or a close approximation to it; and this is just the price towards which every additional facility given to the corn trade helps us nearer, and to the attainment of which the exertions of every corn dealer are constantly (however unconsciously) directed.

To take first the case of the dealer. The method of equalisation is invariable—it is transfer of corn from places in which it is cheap to places in which it is dear. This process has three parts:—1st, discovery of local inequalities of price; 2d, negociation of a transfer; and 3d, transmission of the required quantity of corn. Corn-dealers' profit is payment for performance, or direction, of these processes; and is palpably dependent upon the number and extent of the transactions effected. But both "number" and "extent" are reduced by every difficulty in the way of the transaction itself; and diversity of modes of sale undoubtedly makes more difficult what the corn dealers are especially called upon to do,—to find out where corn can be bought cheapest and sold dearest; and, until these steps are taken, facilities of transmission are practically worthless. The cases of producer and consumer are disposed of with a moment's reflection. The transfer will only take place when its effect will be to reduce in some degree, the average price of the kingdom. So much for the consumers. And it will only take place when its effect will be to raise, in some degree, the price of the particular corn dealt with. So much for the producer.

This evil of diverse measures is not a new one; but it has of late become more apparent and less bearable, and hence is more heard of. It was felt enough in 1834 to induce the House of Commons to appoint a select committee "to inquire into the present practice of selling corn throughout the United Kingdom, with a view to the better regulation thereof." That committee examined many witnesses and reported the existence in the country of a great diversity in the modes of selling corn; that in some districts sales were made only by weight, in others only by measure; and in others by both methods; that great inconveniences resulted: ever-recurring misunderstandings and disputes; markets ignorant of the state of, and disinclined to have dealings with, each other; fraud constantly facilitated; and published quotations of price commonly unintelligible out of their own locality. Nearly five-and-twenty years have elapsed, and, the diversity remaining nearly as it was, the ill effects of it have been largely increased. For, as to transmission, railways have, in the interim, reduced to one-half, or one-third, the effective distance between the markets; and as to communication, the electric telegraph has put them all within speaking distance of each other. It is now almost as bad as if the diversity existed in the same market.

The committee of 1834, seeking an uniform method halted between weight and measure. They sat in London, and were no doubt made to feel, through the witnesses most readily producible, the bias of the London dealers in favour of their own long-established practice of selling by measure—a practice not adhered to the less firmly, perhaps, for its association with the metage-monopoly of the London corporation. Otherwise, even then, the invariable use of weight throughout Ireland, and its preference in the markets then serving more than half the population of Great Britain—a proportion probably now exceeding two-thirds—would doubtless have led them to choose weight. They chose neither; but proposed a compromise. This was readily shown to be impracticable; and the House dropped the Report into its waste-paper receptacle.

Three of the principal markets of the kingdom, long accustomed to sale by weight, have now determined to use only one denomination—100 lbs. avoirdupois, which they have named the "cental." It is said by some that this is illegal, Were it so, it might be observed that the law has been equally broken, time out of mind, wherever, in Great Britain, corn has been sold by weight; for the law has precisely the same relation to the Scottish boll (240 lbs.), the Welsh hobbett (168 lbs.), the Birmingham bushel (62 lbs.), and the Liverpool bushel (70, 60, or 45 lbs.) as to the cental (100 lbs.). But, in truth, there is no illegality in selling anything by any number of pounds avoirdupois; though the view of the statute (5 and 6 William IV. c. 63) adopted by some of the Scottish authorities, seems to favour that notion.

Assuming that the new system finds general favour in the corn-trade, when tried, there is apparently but one obstacle to its extension into every market in which sale by weight is or shall be adopted, and that is the want of stamped weights (and to use others is clearly illegal) convenient for making up the cental, or aliquot parts of it in the scale. To use the present weights, 56, 28, 14, 7, and so on, will draw somewhat more largely upon the mental arithmetic of the weigher, than would a set running 50, 25, 10, 5 lbs., and so on. But if, to remove this inconvenience, resort be had to Parliament, those who seek the suggested change will find ample support in the documents of the highest authority on this subject yet laid before either House.

Perhaps it may also "speedily be found necessary to pass an Act of Parliament" such as they have suggested. Meanwhile, the best test of the expediency of "the cental movement" will be found in the progress it makes among those it most concerns. The best course for its friends will obviously be to let it speak for itself.

*J. T. Danson in the Journal of the Society of Arts.*

## ON THE EFFECTS OF DRAINAGE,

RECORDED AT NARONOVO (IN THE PROVINCE OF NOVGOROD), IN 1856, BY N. JELEZNOV.

IN spite of the immense extent of drained country in Western Europe, and the increasing adoption of this important aid in the improvement of land, stimulated by brilliant economical results, few facts bearing on the theory of drainage have hitherto been published.

We know that the increased fertility of the soil is principally owing to the removal of the superabundant moisture from those beds in which roots can freely spread, and whence they can draw as much nourishment as is required for the support of the plants. But we must not stop here; we must add that the results of this thorough drainage are also extremely important; for by these are explained the improvement of the soil and the advantages of cultivation, resulting in a larger harvest.

Amongst these results may be particularly specified the warming, aeration, and mellowing of the soil, which, with a proper amount of moisture, decompose fertilising substances more rapidly, at the same time rendering them more suitable for the process of nutrition. With regard to the diminution of evaporation, this equally assists in raising the temperature of the superficial strata of the earth; but it only affects the atmosphere when an entire country is intersected by subterranean channels.

On the other hand it cannot be denied that climate must have a considerable influence on the effects of drainage; which although useful everywhere, cannot for instance be as profitable in the north as in the west of Europe.

Although the north of Germany and especially the Baltic provinces have already furnished us with encouraging facts; yet, since drainage has been but lately introduced amongst us, I hope to be of use to the Russian agricultural public, by turning my attention to some scientific investigations, which may assist in dispelling the doubts which prevent our proprietors attempting the complete drainage of their lands.

Every one knows that one or two years are seldom sufficient to obtain the effects expected from drainage; it is obvious, therefore, that it is impossible in so short a time to solve all questions on the subject: I have however decided on publishing the facts already obtained, in the belief that they are not devoid of interest, and that they will assist in spreading amongst our agriculturists more definite ideas on this branch of rural economy.

It was in 1854 that the first attempts were made in Naronovo on some fields and gardens, at first with stone drains, and afterwards with pipes of baked clay. These essays were made by way of experimenting on the different modes of operation.

Two fields of about equal dimensions, similarly situated, and separated by a deep open ditch, were prepared for the experiments, the results of which I am about to give. In the middle of each field were placed thermometers for observing the temperature of the soil, as described in the physico-mathematical report of the Academy of Sciences for 1855, T. xiii., p. 249; where I also noticed the mechanical composition of the soil, and the position of the experimental fields.

Since the Flax harvest in 1853, the two fields have been cultivated in precisely the same manner. During the fallow season of the following year they received similar dressings of 850 poods* per dessiatine.† The Rye being harvested in September, 1855, the field which we shall call No. 1 was drained. The distance between the drains was from 28 to 37 feet, according to the nature of the soil, the depth being from 4 to 7 feet. From this time an improved system of cultivation was introduced throughout this area.

On the 7th May, 1856, 18 tchetveriks of Oats were sown on No. 1, the drained field; and 19 on No. 2; in all 4 tchetverts‡, 5 tchetveriks, weighing 27 poods, 30 lbs. In this the custom of the country was followed. A few days afterwards each field was divided into three portions, of which one was manured with horn shavings, one with pigeon-dung, and the third, between the two others, was left unmanured.

The Oats sprouted on the 16th May simultaneously in the two portions of the experimental field. During the first period of vegetation it was impossible to remark any difference whatever; but the strip manured with horn shavings was shortly marked by a more luxuriant and darker vegetation. Towards the middle of June, when the weeds appeared, it was easy to perceive that these differed quite as much in their species as in their relative abundance.

The following are the names of those plants which were common to the two fields, arranged according to their abundance or scarcity:—

1. Spergula vulgaris.
2. Rumex acetosella, L.
3. Spergula sativa, maxima, Böingh.
4. Viola arvensis, L.
5. Leucanthemum vulgare, D.C.
6. Scleranthus annuus, L.
7. Stellaria media, Vill.
8. Prunella vulgaris, L.
9. Achillea millefolium, L.
10. Alchemilla vulgaris, L.
11. Phleum pratense, L.
12. Mentha arvensis, L.
13. Equisetum arvense, L.
14. Polygonum minus, Huds.
15. Plantago major, L.
16. Trifolium pratense, L.
17. Trifolium repens, L.
18. Silene inflata, Smith.
19. Centaurea Cyanus, L.
20. Myosotis intermedia, Link.
21. Cirsium arvense, Scop.
22. Vicia angustifolia, Roth.
23. Apera spica venti, Beauv.
24. Bromus arvensis, L.
25. Anthemis arvensis, L.

PLANTS ON THE DRAINED FIELD, NOT OBSERVED ON NO. 2.

26. Vicia sativa, L.
27. Odontites rubra, Pers
28. Campanula patula, L.
29. Bidens tripartita, L.
30. Rumex crispus, L.
31. Potentilla norvegica, L.
32. Potentilla tormentilla, Sibth.
33. Potentilla anserina, L.
34. Galeopsis Tetrabit, L.
35. Euphrasia officinalis, L.
36. Ranunculus repens, L.
37. Gnaphalium uliginosum, L.
38. Tussilago Farfara, L.

PLANTS ON THE UNDRAINED FIELD, NOT FOUND ON NO. 1.

26. Galeopsis Ladanum, L.
27. Scabiosa arvensis, L.
28. Raphanus Raphanistrum, L.
29. Scutellaria galericulata, L.
30. Sagina procumbens, L.
31. Capsella Bursa-pastoris.
32. Erysimum cheiranthoides, L.
33. Ranunculus acris, L.
34. Chenopodium album, L.
35. Chenopodium viride, L.
36. Crepis tectorum, L.
37. Erodium cicutarium.

An examination of the vegetation of the two fields will show that the plants in the second list are not numerous; it is also possible that some of these plants ought to be placed in the first list, since, for fear of treading down the Oats, the weeds were only collected along the sides of the fields, and the withered remains examined after the harvest. For this reason I consider the comparative numbers of the seeds of the weeds, separated by winnowing from the Oats, as more important; although I am far from supposing that all these plants produce exactly the same number of seeds—a supposition which must be admitted if the comparison be considered as strictly exact. I think, however, that I am not far from the truth in approximately accepting this supposition for the few plants named below, since those plants which are most numerously represented by their seeds are in fact those which were most abundant in the field. I took several samples of each residuum of the winnowing, and sorted the seeds which they contained; then by counting those of each species, and ascertaining what ratio they bore to 1000, I obtained the following results:—

| Names of the plants. | Field No. 1. Without manure. | Field No. 1. With horn shavings. | Field No. 1. With pigeon dung. | Field No. 1. Means. | Field No. 2. Without manure. | Field No. 2. With horn shavings. | Field No. 2. With pigeon dung. | Field No. 2. Means. |
|---|---|---|---|---|---|---|---|---|
| 1. Spergula vulgaris .. | 570 | 541 | 671 | 594 | 456 | 275 | 461 | 397 |
| 2. Rumex acetosella .. | 101 | 191 | 41 | 111 | 345 | 450 | 294 | 363 |
| 3. Spergula sativa .. | 211 | 156 | 166 | 178 | 97 | 169 | 192 | 153 |
| 4. Viola arvensis .. | 60 | 30 | 70 | 53 | 40 | 50 | 16 | 35 |
| 5. Polygonum minus .. | 30 | 25 | 21 | 25 | 17 | 17 | 14 | 16 |
| 6. Silene inflata .. | 5 | 50 | 21 | 24 | 13 | 24 | 8 | 15 |
| 7. Centaurea Cyanus .. | 12 | 5 | 2 | 6 | 17 | 7 | 11 | 12 |
| 8. Myosotis intermedia | 11 | 2 | 8 | 7 | 14 | 8 | 4 | 9 |
| | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 |

The entire residuum of the winnowing, with the exception of a small quantity of sand and a few Oat-seeds, was composed of the seeds of these eight plants. I found, it is true, a few seeds of Vicia, of Clover, and some others, but in such a small quantity that it was

* Pood, about 40 lbs.

† Dessiatine, about 2¾ English acres.

‡ Tchetvert or chetvert is equal to 5.75 English bushels; it contains 8 tchetveriks.

necessary to search for them in the entire mass of the residuum, as they only occasionally occurred amongst the seeds which I selected for examination.

I have no remarks to offer with regard to the five last plants, except that their relative proportions are about the same in both fields. But on a comparison of the three first we arrive at the following conclusions. The two species of Spergula, which prefer, as we know, a dry and mellow soil, prevailed in the drained field to the extent (together) of 0.772, whilst on the undrained field they were only in the proportion of 0.550 to the rest of the seeds of the weeds. The contrary was the case with Rumex acetosella, which prefers a damp soil. Early in the summer, when the Oats were yet young, it formed large red patches in the dampest parts of field No. 2, where its amount was three times (0.363) that on the drained field (0.111).

I ought also to remark that the Myosotis intermedia formed a distinguishing feature of No. 2, where it appeared earlier and in tolerable abundance, whilst it was of rare occurrence on No. 1.

The Oats on No. 2 were much retarded by the quantity of rain which fell; whilst on No. 1 they remained in a flourishing condition, the ground immediately over the drains being throughout covered with the most vigorous vegetation, which must be primarily attributed to its thorough mellowing. At the same time this fact proves that the subsoil, which becomes more or less mixed with the upper mould when the trenches are filled in, does not diminish the fertility of the soil. I have often seen a heap of earth, dug from a considerable depth, become clothed with a gigantic vegetation, which indicates that the subsoil frequently contains many nutritive substances, and that its breaking up plays a considerable part in the development of plants.

Soon after the formation of the grain, the Oats were partially laid. They were cut on the 23d and 24th August, although still rather green, for the weather was too changeable to allow of their remaining until they should be riper, and it was necessary to take advantage of a few fine days.

The results of the harvest are given in the accompanying table:—

FIELD No. 1; DRAINED.

| Divisions of the Field. | Dimension Sagènes □.* | Manure. | Number of Sheaves. | Grains. | Straw. | Husks. | Seeds of Weeds. |
|---|---|---|---|---|---|---|---|
| | | Poods. | | Pd. lb. zol. | Pd. lb. | Pd. lb. | Lb. zol. |
| 1. Without manure.. | 271 | 00.0 | 230 | 12 20 37 | 18 33 | 2 2 | 3 16 |
| 2. Manured with horn shavings.. | 451 | 14.5 | 450 | 24 8 55 | 38 12 | 5 19 | 7 76 |
| 3. Manured with pigeons' dung.. | 926 | 31.0 | 885 | 49 17 65 | 65 13 | 10 20 | 9 10 |
| Total .. .. | 1648 | 45.5 | 1565 | 86 6 61 | 122 18 | 18 1 | 20 6 |

FIELD No. 2; NOT DRAINED.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1. Without manure . | 314 | 00.0 | 255 | 12 18 67 | 17 10 | 2 18 | 6 38 |
| 2. Manured with horn shavings.. | 476 | 15.5 | 455 | 21 17 9 | 35 10 | 4 22 | 9 54 |
| 3. Manured with pigeons' dung.. | 953 | 32.0 | 785 | 41 10 27 | 43 25 | 9 15 | 17 89 |
| Total .. .. | 1743 | 47.5 | 1495 | 75 6 7 | 96 5 | 16 15 | 33 85 |

If these products be calculated for a dessiatine they will be more comparable. We thus obtain the following table:—

*Produce of the two Experimental Fields contained in a Dessiatine.*

| Divisions of the Field. | Field No. 1, Drained. | No. 2, not Drained. | Difference. | Per-centage. No. 2=100. |
|---|---|---|---|---|
| | Number of Sheaves. | | | |
| 1. Without Manure | 2037 | 1959 | 88 | 104.5 |
| 2. Horn Shavings .. | 2395 | 2294 | 101 | 104.4 |
| 3. Pigeons' Dung .. | 2294 | 1977 | 317 | 116.0 |
| Means.. .. | 2242 | 2073 | 169 | 108.3 |
| | Weight of the Grain. | | | |
| 1. .. .. .. | 110 pd. 28 lbs. | 95 pd. 14 lbs. | 15 pd. 14 lbs. | 116.1 |
| 2. .. .. .. | 128 ,, 37 ,, | 108 ,, 1 ,, | 20 ,, 33 ,, | 119.3 |
| 3. .. .. .. | 128 ,, 8 ,, | 103 ,, 35 ,, | 24 ,, 13 ,, | 123.4 |
| Means.. .. | 122 ,, 23 ,, | 102 ,, 17 ,, | 20 ,, 6 ,, | 119.6 |
| | Weight of the Straw. | | | |
| 1. .. .. .. | 166 pd. 32 lbs. | 131 pd. 34 lbs. | 34 pd. 88 lbs. | 126.3 |
| 2. .. .. .. | 203 ,, 33 ,, | 177 ,, 19 ,, | 26 ,, 14 ,, | 114.8 |
| 3. .. .. .. | 169 ,, 13 ,, | 109 ,, 24 ,, | 59 ,, 29 ,, | 154.9 |
| Means.. .. | 179 ,, 26 ,, | 139 ,, 26 ,, | 40 ,, 13 ,, | 132.0 |
| | Weight of the Husk. | | | |
| 1. .. .. .. | 18 pd. 6 lbs. | 18 pd. 29 lbs. | 0 pd. 23 lbs. | 96.9 |
| 2. .. .. .. | 29 ,, 6 ,, | 22 ,, 38 ,, | 6 ,, 8 ,, | 126.1 |
| 3. .. .. . | 27 ,, 9 ,, | 23 ,, 24 ,, | 3 ,, 25 ,, | 115.4 |
| Means.. .. | 24 ,, 33 ,, | 21 ,, 30 ,, | 3 ,, 3 ,, | 112.8 |
| | Weight of the entire produce. | | | |
| 1. .. .. .. | 295 pd. 26 lbs. | 245 pd. 37 lbs. | 49 pd. 29 lbs. | 122.6 |
| 2. .. .. .. | 361 ,, 36 ,, | 308 ,, 18 ,, | 53 ,, 18 ,, | 117.3 |
| 3. .. .. .. | 324 ,, 30 ,, | 237 ,, 3 ,, | 87 ,, 27 ,, | 136.9 |
| Means.. .. | 327 ,, 17 ,, | 263 ,, 33 ,, | 63 ,, 24 ,, | 125.6 |
| | Weight of the seeds of the weeds. | | | |
| 1. .. .. .. | 28 lbs. 4 zol.* | 48 lbs. 85 zol. | 20 lbs. 81 zol. | 57.1 |
| 2. .. .. .. | 41 ,, 44 ,, | 48 ,, 21 ,, | 6 ,, 73 ,, | 85.4 |
| 3. .. .. .. | 23 ,, 68 ,, | 45 ,, 14 ,, | 21 ,, 42 ,, | 53.3 |
| Means.. .. | 31 ,, 7 ,, | 47 ,, 40 ,, | 16 ,, 33 ,, | 65.8 |

An examination of the last table will show, that with the exception of the husk from the non-manured strip (—23 lbs.), the amount of all the products is largest on the drained land, while the contrary is the case with the seeds of the weeds. On the average 25 per cent. of the entire weight of the harvest may be considered as the profits of the drainage; *i.e.*, about the same results as are obtained in other countries. *Translated from the Reports of the Physico-Mathematical Class of the Imperial Academy of Sciences at St. Petersburg.*

## THE UTILISATION OF WASTE.

[We extract from Mr. Simmonds's paper on this subject, as reported in the Society of Arts Journal, such extracts as have an agricultural bearing.]

WHEN we perceive in nature how nothing is wasted, but that every substance is reconverted, and again made to do duty in a changed and beautified form, we have at least an example to stimulate us in economically applying the waste materials we make, or that lie around us, ready to be utilised. Some subjects of this kind have already occupied the special attention of the Society, and among others I may allude to those of fish guano by Mr. Horace Green and Mr. Lawes (Journal, vol. ii., p. 87); and the Utilisation of the Sewage of Towns, by Mr. Fothergill Cooke (vol. v., p. 49).

First, as to the *Animal Products*:—The rag-grinder takes the cloth, when thrown aside by the wearer, cuts it into particles, which he forcibly tears asunder, and thus remodels them into raw material, to be again used by the first consumer. A recent visitor to the woollen districts of Yorkshire has discovered that pilot cloth is shoddy; that glossy beavers and silky-looking mohairs are shoddy; that the Petershams so largely exported to the United States are shoddy; that the soft, delicate cloths in which ladies feel so comfortable, and look so graceful, are shoddy; that the "fabric" of Talmas, Raglans, and paletots, and of other garments in which fine gentlemen go to the Derby, or to the Royal Academy Exhibition, or to the evening services in St. Paul's and Westminster Abbey, are shoddy. But there are woollen rags that are not good enough for shoddy, and these are used as manure for the Hops in Kent, so we get shoddy in our beer as well as in our broadcloth. Two-and-a-half lbs. of dry woollen rags, we are told, are equal to 100 lbs. of farmyard manure, or 15 lbs. of liquid blood, when applied to land. There is still some "mill waste" which cannot be worked up again for shoddy, namely, that portion of the wool waste which is so saturated with oil and grease, that the fatty matter is heavier than the wool. This is called "creash," and forms a very valuable manure. A process is now in operation at the Kinghole woollen mills, near Dumfries, by which the hitherto refuse water of the washing houses is made to produce stearine, which forms the basis of composite candles, as well as a cake manure that sells at 40*s.* per ton. This refuse substance, which contains about 71 per cent. of organic matter and 3 per cent. of alkaline salts, is sold for manure. Glue-makers' refuse has long been mployed as a fertiliser in the vicinity of tan and glue works, and with good success when applied to any kind of crop, as from its putridity it acts rapidly. It is worth about 36*s.* per ton. Poake, a name among fellmongers for the collected waste arising in the preparation of skins, which consists of lime, oil, and hair, in various proportions, is also bought for manure. The waste shavings in whalebone cutting are employed as a stuffing material by upholsterers, and for filling fire-grates in summer; and all the refuse goes to the farmer for manure, or to the prussiate maker, to be used with other animal substances, woollen waste, rags, hoofs and horns, button-makers' refuse, bone drillings and filings, to form those beautiful salts.

Under the names of glue pieces, spetches, and scrows, the offal or parings of skins and hides and the pelt from furriers, the hoofs and ears of horses, cattle, and sheep, are used by the glue makers. Old leather scraps are even converted into glue. Gelatine is a purer kind of glue, also obtained from waste materials, such as the raspings and trimmings of ivory, the bones, cartilage, and tendons of animals. The clippings of parchment, vellum, gloves, leather, and other kinds of skin and membranes yield size. The French buy up largely our written parchments, and after removing the writing, return them to us in the shape of kid gloves. The shavings of seal and other skins are used for filling tennis and cricket balls. Dog-fish are caught principally for the oil obtained from their livers, a large fish yielding about a barrel of oil. Their dried bodies are [illegible] Nova Scotia at 2*s.* 6*d.* the hundred, for feeding [illegible] the winter from November till May; two [illegible] roasted are given per day to a good-sized [illegible]. In New York, from 5000 to 8000 dogs are [illegible] ally impounded, and those not redeemed are [illegible]. The carcases are taken to the offal boats, whi[illegible] them to Barren Island, where every part of [illegible] turned to some useful account. The fat is [illegible] the skins are sold to glovers; and of the bones [illegible] lent compost for fertilising land is made. [illegible] certainly a waste product, and are largely [illegible] various purposes. Even the shank bones of the [illegible] have recently been imported in some quantity [illegible] Southern Africa. Ground bones, and dissolved by [illegible] superphosphate of lime, are in extensive demand [illegible] tilisers, and superphosphate is also manufactured [illegible] coprolites. It is the meanest of the bones that are [illegible] up for phosphates, and made fertilisers of the [illegible]. We imported about 64,000 tons of bones in 1857, [illegible] at 397,000*l.*; and it is estimated that 70,000 tons [illegible] collected at home, worth about 435,000*l.* more. [illegible] Geo. Torr, one of the largest manufacturers of [illegible] charcoal, &c., in the metropolis, could supply much [illegible] able information on this head.

How seldom is any attempt made to save the [illegible] when animals are slaughered on the farm; in large [illegible] and towns blood is very generally collected and [illegible] to refiners of sugar and other classes of manufacturers. In some of the agricultural districts it is esteemed [illegible] a fertiliser. Some people use the blood of cattle [illegible] as food, mixed with meal of one kind or another. When intended for this purpose it is stirred briskly [illegible] it flows from the veins, whereby its coagulation is pre[illegible] vented, and it is then stirred into the meal, and boiled [illegible] cooked in any other way. The coagulating property [illegible] blood renders it of considerable use in clarifying the [illegible] mucilaginous liquors. Mr. T. Dixon, one of our members, has supplied me with specimens of the residue after being used in refining sugar, which is sold as manure. Cider is sometimes fined by this method, being simply beat up cold with the blood and put into a barrel. On standing a day the entire coagulation of the blood with the impurities of the cider are found lying at the bottom, in a tough cake, and the liquor above is quite transparent and nearly colourless. The paunches and butchers' offal, liver, boiled horse flesh, &c., are sold as food for dogs and cats. Wholesome horse flesh costs the dealers 1$\frac{3}{4}$*d.* to 2*d.* per lb.; we cannot therefore wonder that the cat's meat vendors dole out rather small halfpenny-worths to the owners of Grimalkins, as they have their profit to turn. The commercial products of the horse and other dead carcases, the useful applications of excrementitious and other waste substances, I have described fully in the catalogue of the animal products of the South Kensington Museum, as these are very generally known to the public, and the subject is not inviting for discussion before a general audience, I need not enlarge upon them here. Neat's-foot oil and trotter oil are products obtained in the process of boiling down calf's feet and sheep's feet: the former is used for softening leather and other purposes, the latter principally as a hair oil. Bladders of oxen, pigs, calves, and sheep are prepared for holding lard, tying down bottles and jars, &c. Quantities are imported from North America and the Continent, packed in salt or pickle. Some of the gut forms cases for Bologna sausages, polonies, black puddings, preserved meats, &c., and they constitute the material of that very important substance—gold-beater's skin, the manufacture and use of which are valuable trades in London. Under the misnomer of catgut and catlings, there is a very important application of a waste material in the manufacture of the dried twisted intestines of sheep, for the strings of musical instruments.

All excrementitious deposits are valuable as fertilisers for land, but those of the domesticated animals are of course most largely available. Attention has frequently been directed to the substances wasted in the fisheries and returned to the sea as garbage, and to the detriment of the fisheries. The difficulty has hitherto been in the collection and bringing together the refuse to one or more conveniently-situated manufactory.

The preparation of fish guano, that is, the transformation of the carcases and offal of fish into a manure adapted for restoring to cultivated soils their fertility, is a branch of industry which, will in due time assume a remarkable extension. It is confessedly an object of the first importance to find an auxiliary or substitute for guano, which may check the excessive prices that now limit the consumption, and which shall afford a provision of artificial manure when the supply of guano shall fail. Fish, the source of guano, naturally suggests itself. The supply is not exhaustible and almost unlimited. Reduced to its solid parts, it is a valuable concentrated manure, rich in the best fertilisers, ammonia and phosphates, while the gelatine and oil may be collected as merchantable products, which will generally pay the cost of conversion of the fish into manure, and perhaps leave a profit. It has been ascertained, by multiplied and successful factory experiments, and confirmed by actual working, that the waste and refuse fish may be thus converted, and the gelatine and oil collected. A new company has recently been formed to manufacture fish guano. The resulting manure is a dry fibrous powder, which retains all the fertilising powers of fish in a form most convenient for transit and distribution, whilst its appearance and sensible properties make adulteration palpable, since every one can judge for himself (by the mere

[illegible] and smelly, of its genuine character. The demand would certainly far exceed the utmost attainable supply, and, at a price moderate as compared with any other manure, it would give a very large profit to the manufacturer. The waste and refuse of a great fishing port will supply the materials cheaply and without much outlay, and as it will be a great gain to a fishing adventure to obtain a certain and constant demand for all this waste and otherwise unsaleable fish, the establishment of manufactories for fish manure will lead to new fisheries where, without such aid, they could not profitably be commenced.

Yarmouth, the chief fishing station in England, with the adjoining coast from Lowestoft to Aldborough, offers every advantage for such a manufacture. It employs nearly 400 boats, from 25 to 60 tons each. They ordinarily afford from 2000 to 3000 tons of broken fish and salt, selling at about 1*l.* 2*s.* per ton, besides the waste of 400 smoking-houses, sold as refuse; and from 600 to 700 tons of herring scales, a substance containing 16 per cent. of nitrogen and a very large proportion of phosphates, and obtainable for 1*l.* 10*s.* per ton. This is independent of the waste from occasional gluts of dog fish and others useless for food, of which no account is taken, yet which are caught in very large quantity, and of which an unlimited supply might be obtained if the fishers could obtain a sale. Last year, so great was the glut of herrings at Lowestoft, that, at one time they were carted by the farmers at 4*s.* 6*d.* per ton. An ample, cheap, and continuous supply would therefore be secured from the first, by simply taking from the fishermen what they will only be too thankful to sell; and the manufacture, which would be in every sense of the word a national benefit, may be carried on with no risk, small outlay, and large profit. It would be a curious investigation to follow out the value of the street sweepings, scavengers' collections, ashes, &c., obtained in this metropolis and other large towns, but the subject would carry me too much into detail, and I have not the figures as to the large sums paid to different districts for the contract or privilege of carting away the waste. The corporation of Antwerp, which used to pay 1000*l.* a year to get rid of the refuse of their city, now receive upwards of 40,000*l.* a year for the sweepings of the streets and the contents of the cesspools, contractors converting the nuisance into powerful guano. At Paris and Milan town guano is manufactured, which has extraordinary powers as a fertiliser.

(*To be concluded in our next*).

## Home Correspondence.

*Cottages.*—As the plans of cottages and their cost have been considerably discussed lately in your Paper, I enclose the plan of three cottages which I have lately built in Cheshire, and their cost. The chief advantage of the plan is that there are three separate bedrooms, each opening upon the landing. The staircase, which is boxed off, ascends from the house room (instead of from the kitchen, as is usually the case) and thereby the evil of the steam from the kitchen boiler rising up to the bedrooms is avoided. At the back of the houses, and about 20 feet away from them, is a range of low buildings containing a coal-shed and privy for each house; and in the centre of the range is a brick oven, common to the three houses. *T. W. Tatton, Wythenshawe, Northenden, Manchester.* [The following are the details of cost. The plans may be described as follows:—They include, below, a house room, 15 feet 6 inches by 12 feet, and alongside of it a kitchen, 9 feet by 10 feet 2 inches, and a pantry 9 feet by 5 feet separated by a 4-inch partition. The staircase, 2 feet 8 inches wide, stands in one corner of the house room and terminates in a landing, from which you enter the chief bedroom, over the house room, and two other bedrooms, 9 feet by 7 feet 7 inches apiece, separated by a 4-inch partition, over the kitchen and pantry.

*Cost of Erecting three Cottages.*

| | £ | s. | d. |
|---|---|---|---|
| Bricks, at 18*s.* per 1000 .. .. .. | 36 | 16 | 6 |
| Flags .. .. .. | 16 | 13 | 6 |
| Mantel-pieces, &c. .. | 6 | 10 | 0 |
| Slates .. .. .. | 30 | 4 | 7 |
| Laths .. .. .. | 5 | 2 | 0 |
| Hair .. .. | 2 | 0 | 0 |
| Lime .. .. .. | 8 | 14 | 4 |
| Chimney pots .. | 1 | 16 | 0 |
| Nails .. .. .. | 4 | 13 | 4 |
| Timber .. .. | 34 | 2 | 6 |
| Poplar boards .. | 6 | 1 | 10 |
| Ironmonger .. .. | 12 | 4 | 6 |
| Carried forward .. | 164 | 19 | 1 |

| | £ | s. | d. |
|---|---|---|---|
| Brought forward .. | 164 | 19 | 1 |
| Bricklayer .. .. | 56 | 3 | 3½ |
| Blacksmith .. .. | 7 | 12 | 4½ |
| Slater .. .. .. | 7 | 3 | 1 |
| Plumber .. .. | 29 | 9 | 2 |
| Painter .. .. | 24 | 2 | 7 |
| Joiner .. .. | 32 | 5 | 0 |
| Labour, excavating, &c. .. .. .. | 4 | 8 | 0 |
| Carting materials .. | 22 | 10 | 0 |
| Total for three cottages .. | £347 | 12 | 7 |

*Black Barley.*—I am very anxious to obtain a small supply of Black Barley. My inquiries hitherto having proved fruitless, I trust you will allow me to ask through your Paper if any of your readers can inform me where I may meet with a small quantity—a quarter of a peck will suffice. I remember the time of its first being brought into notice, though it met with little favour with the farmer; but from the trials I have made of it I think it possesses qualities which ought not to be overlooked. I had an ear given to me some little time since, which did not contain the average number of grains, which is from 90 to near 100. Mine had 75 grains sound, which I planted out separately, and my yield, though unprotected from birds, exceeded 5½ lbs. of plump heavy seed. Of its malting qualities I can speak most favourably, the yield of saccharine matter being above that of some common malt which I purchased, and the wort had almost the tinge of porter, and would answer well without the customary additions used by brewers to colour their porter, and from its malting so well there is no doubt of its high nutritive properties as good for stock. Its productiveness far exceeds all known Barley, and it is suited to soils on which other Barleys are not grown. The colour alone seems objectionable; I suppose it is grown in China. *T. T., Emsworth, Hants.*

*Long's Sheep Dressing.*—Your correspondent, who inquires about this composition, will find it excellent in every respect. It completely effects its purpose, without in any way injuring the fleece or the animal. Everybody here speaks of it in the highest terms, and one person, who has tried several kinds of sheep dressings, pronounces it unsurpassed by anything yet produced in that line. *H. H., Spidlington, Lincolnshire.*

*Mr. Bond's Paper: Sheep Management.*—I am sorry I was not able to attend the Farmers' Club to hear Mr. Bond's paper. I should have felt it necessary to have differed very much from him as regards sheep management and experience: 1st, ewes are not so healthy in yards as in the field, are apt to contract foot rot, and the expense if accounts like mine are kept, charging for every horse, man, woman, and child, would be found enormous bringing home the food and taking out the manure; and, 2dly, it is quite impossible in my opinion a flock of 500 ewes and lambs can be attended for 40*l.* I do hope this will cause some friendly discussion. *T. Beale Browne, Salperton Park, Andoversford.*

## Societies.

### ROYAL AGRICULTURAL OF ENGLAND.

WEEKLY COUNCIL, *Feb.* 16.—Mr. Raymond Barker, V.P., in the chair. A letter was read from Mr. G. J. Neal, on his mode of cultivating the Turnip crop; and from Mr. W. Rutherford, offering to communicate a plan he had found successful in the management of his Potato crop.

Adjourned to Feb. 23.

## Farmers' Clubs.

GALASHIELS: *Report on Experiments with Manures on Turnip Crop*, 1858, (*continued from p.* 106):—

No. VI.—Conducted by Mr. Hobkirk, Langlee.

| Manure | Cost. | Weight. Ton | cwt. |
|---|---|---|---|
| Peruvian guano .. .. .. .. .. | £2 16*s.* | 18 | 7 |
| Bone-dust .. .. .. .. .. | .. | 15 | 8¾ |
| Dissolved bones .. .. .. .. .. | .. | 19 | 6 |
| Peruvian guano and bone dust, mixed in equal value .. .. .. .. | .. | 21 | 8½ |

*Remarks.*—The Turnips were sown on the 31st May, and pulled and weighed on the 13th of December. Variety—Purple-topped Yellow. The soil is of a light friable nature, and is in a rich manurial condition. Soon after singling, the plot manured with guano assumed a dark healthy appearance, followed by the plot with the mixture of guano and bones. These plots, in the same order, were the first to show symptoms of maturity, and about the middle of September a general mildew affected the whole field, and which resulted in a disease which rotted nearly one-third of the entire crop, and which accounts for the comparative small weights, considering the condition of the soil, the sound bulbs only being weighed.

No. VII.—Conducted by Mr. Elliot, Blackhaugh.

| Manures. | Cost. | Weight. Ton | cwt. |
|---|---|---|---|
| Peruvian guano .. .. .. | £2 16*s.* 6*d.* | 27 | 4½ |
| Dissolved bones .. .. .. | .. | 27 | 9 |
| Peruvian guano and bone-dust mixed | .. | 28 | 4 |
| Townsend .. .. .. .. | .. | 30 | 6 |
| Odams' blood manure .. .. | .. | 27 | 15 |
| Dissolved bones .. .. .. | 1 16 0 | 26 | 5 |

*Remarks.*—Variety of Turnip—White Globe. They were sown on the 12th of June, and pulled and weighed on the 5th of December. When they were hoed, the lot sown with guano was about five days later than the other lots. The plot sown with Townsend seemed a shade earlier—all the other lots were equal. The field experimented upon is undergoing the second rotation. No farmyard manure has ever been applied, but the soil, which consists of free clay, is in good condition.

No. VIII.—Conducted by Mr. Sanderson, Meigle.

| Manures. | Cost. | Weight. Ton | Cwt. |
|---|---|---|---|
| Peruvian guano .. .. .. .. | £2 2*s.* 0*d.* | 17 | 0 |
| Peruvian guano and dissolved bones mixed .. .. .. .. .. | .. | 19 | 12 |
| Peruvian guano and bone-dust mixed | .. | 17 | 10 |
| West Indian guano .. .. .. .. | .. | 19 | 10 |
| Chilian do. .. .. .. .. | .. | 19 | 8 |
| Bolivian do. .. .. .. .. | .. | 20 | 5 |
| Towns and manure .. .. .. | .. | 22 | 7 |
| Bailey .. .. .. .. .. | .. | 20 | 12 |
| Hodgson's British guano .. .. | .. | 20 | 15 |
| Newcastle Blaydon chemical manure | .. | 13 | 10 |
| Dissolved bones (Paterson) .. .. | .. | 20 | 5 |
| Fish manure .. .. .. .. | .. | 15 | 0 |
| Odams' blood manure .. .. .. | .. | 17 | 5 |
| Ammoniacal bones (Ovens) .. .. | .. | 17 | 10 |
| A phosphatic guano (Ovens) .. .. | .. | 18 | 5 |

*Remarks.*—All the lots were sown on the 5th of June, and pulled and weighed on the 3d of December. They were all considerably injured by the Turnip-fly; but the plot sown with Peruvian guano suffered most. With the exception of the plot which was sown with Hodgson's British guano, the plots sown with ammoniacal bones and blood manure took the lead soon after brairding. About the end of August, however, the shaws on these plots assumed a mildewed appearance, and the bulbs seemed to make no further increase in size. The plot sown with British guano exhibited a more vigorous braird, and throughout the season presented more luxuriance in shaws than any of the other lots—so much so, that if both shaws and bulbs had been weighed, it would have yielded the heaviest weight of produce. At the time the Turnips were pulled, the lots sown with dissolved bones and West Indian guano exhibited the greenest and healthiest appearance, and probably would have produced more weight if they had been later in being pulled. The variety of Turnips, Fosterson's hybrid. The soil is open clay, resting on a stiff retentive subsoil, and is rather deficient in organic matter. It is the second crop of Turnips since the field was reclaimed, and no farmyard manure has ever been applied.

No IX.—Conducted by Mr. Wm. Scott, Mossilee.

| Manures. | Per acre Cwt. | Cost *s* | Weight Ton | cwt. |
|---|---|---|---|---|
| Peruvian guano .. .. | 4 | 52 | 24 | 0 |
| Phosphate do. .. .. | 4 | 38 | 24 | 0 |
| Chilian do. .. .. | 4 | 38 | 22 | 5 |
| Bird Island do .. .. | 4 | 16 | 21 | 0 |
| Dissolved bones .. .. | 4 | 34 | 19 | 5 |
| Ammoniacal diss. bones .. | 4 | 38 | 19 | 0 |

*Remarks.*—The field was old cropped land, of a dry, sharp soil. They were slightly affected with finger-and-toe—the dissolved least. The Turnips were White Globe—sown June 15th, and weighed November 18th.

N.B. Mr. Scott's experiment differs from the others in respect that he applied equal weights of all prices and kinds.

*Summary.*—Such are the results of the experiments conducted by a few of the members of the club; and although in every case these do not present a perfect correspondence, yet, on the whole, they are characterised by no marked discrepancies. The experiments were conducted as accurately as they could possibly be. The different manures were applied at equal money value and were carefully weighed. Each manure was allotted, in the most of cases, a quarter of an acre. The bulbs—without roots and tops—were carefully weighed upon steelyards, so that whether these experiments may be regarded as having produced negative results or not, there can be no doubt as regards the accurate mode in which they were executed. It will be observed that all the experiments were made on soils to which no farmyard manure had been applied, either in the autumn or spring preceding the Turnip crop, for the purpose of securing a better test of the relative value of the different manures. The soils experimented upon all rest on the greywacke formation, and are of a similar character, but vary in condition. The results generally maintain the superiority of phosphate over ammoniacal manures. In one experiment only, No 1, does Peruvian guano produce the heaviest weight. This soil experimented upon is newly improved—is rich in vegetable matters, and the result obtained corresponds with the results hitherto produced in this district, that Peruvian guano, as the first application to newly reclaimed soils, is superior to any known manure. Soils which have been under a lengthened course of cropping, and to which Peruvian guano has been frequently applied, such as Nos. 2, 4, 6, and 8, show in the results obtained that *that* manure is inferior to a mixture of Peruvian guano and dissolved bones, as well as to some phosphatic guanos. The weight of bulbs produced from Peruvian guano in experiment No 8 was less than the weight produced from four distinct phosphatic guanos with which it was tested; but to show the average results obtained from six experiments—

| | Ton. | cwt. | qr. |
|---|---|---|---|
| Peruvian guano produced .. .. | 21 | 16 | 3 |
| Peruvian guano mixed with dissolved bones, or bone-dust .. .. .. | 25 | 6 | 1 |
| Dissolved bones alone (Paterson) .. | 24 | 0 | 0 |

Townsend's manure stands at the top of two out of four experiments. Fish manure has proved inferior in all the experiments with one exception. Economical manure, as evidenced by experiment No. 1, has proved very inferior. The quantity applied was 1½ cwt. per acre, being the quantity recommended by its manufacturers The result obtained was a very little more weight of bulbs than a plot yielded where no manure was applied. Hodgson's British guano and Bailey's manure have produced favourable results. On the whole the results of these experiments are in favour of phosphatic manures. There can be no doubt in the statements that Peruvian guano hastens the exhaustion of the soil; for its efficacy is more diminished the more frequently it is applied. While, on the other hand, bones or phosphatic manures not only furnish continuous and regular food for plants, but leave nourishment in the soil for succeeding crops. It is worthy of remark that almost all the experiments show that the Turnips sown with Peruvian guano suffered most from the Turnip fly. This may be ascribed to the infant plant being less vigorous after brairding, from its root being long in coming into contact with so small a quantity of manure. It is obvious that such experiments as these I have now read are essential to test the comparative merits of different manures; for unless the produce is carefully weighed, the most scrutinising eye will fail in drawing correct conclusions. I found, for example, that although the Turnips raised from Peruvian guano were equally as large as those raised from phosphatic manures, yet they were deficient in weight. Let farmers, therefore, carefully test every new manure they apply, and thus they will contribute to their own advantage, as well as to the increasing production of food, an object worthy not only of the ambition of the practical agriculturist, but also of the proudest votary of science.

## Reviews.

*The Journal of the Royal Agricultural Society of England.* Vol. XIX., Part II. J. Murray.

The new number of the Journal contains a detailed account of Norfolk farming—Reports on the Implements, Live-stock, and Cheese exhibited at Chester—a paper on the composition of Cotton-cake—directions for the management of Portable Steam Engines—papers on the cost of Horse Power—on the structure of roots—on Horse-labour in France—on live stock for consumption in the metropolis—on the management of breeding cattle—on liquid manure—and on manures for meadow lands. It is fully up to the mark of previous numbers. There has never been a better reported annual meeting than that of Chester; both the implement department and the live stock show are amply illustrated and recorded; that of cheese too is fully described. Mr. Smith's histories and descriptions of the several breeds of cattle and sheep are particularly interesting. To Mr. Clare Read's account of Norfolk farming there is appended a report of experiments made at Holkham on top-dressings for Wheat, to which we have elsewhere referred. The scientific department of the work is usefully represented by Mr. Henfrey's paper on "roots," and Dr. Voelcker's analyses of Cotton-cake and liquid manure.

And there is the first part of a paper from Messrs. Lawes & Gilbert giving an elaborate report of experiments with different manures on permanent meadow land. Several of the shorter papers are both interesting and useful. Thus we have from Mr. Herbert a report of the meat supplies of London, indicating what proportion of the whole in 1838 and 1858 respectively has been supplied by the different breeds of cattle and sheep. The following is an extract:—

"The first question which we propose to consider is, what are the breeds of beasts and sheep which form the supplies exhibited in London? From a careful analysis of the stock exhibited during the past year, and founded on the most careful observation, we have arrived at the following conclusions:—

*Per-centage of Beasts known in the Metropolitan Market in 1858.*

| | |
|---|---|
| Short-horns .. .. .. .. .. | [illegible] |
| Herefords .. .. .. .. .. | [illegible] |
| Devons .. .. .. .. .. | [illegible] |
| Longhorns .. .. .. .. .. | 1.00 |
| Crosses .. .. .. .. .. | 16.00 |
| Highlanders .. .. .. .. .. | 2.00 |
| Polled Scots .. .. .. .. .. | 4.00 |
| Ayrshire .. .. .. .. .. | 0.25 |
| Irish crosses .. .. .. .. .. | 8.00 |
| Welsh runts .. .. .. .. .. | 1.50 |
| Irish .. .. .. .. .. .. | 9.00 |
| Bremen, Tonning, Dutch, and German | 9.50 |
| Spanish and Portuguese .. .. .. | 1.50 |
| | 100.00 |

"The above table shows that the short-horned breed of beasts now stands at the head of the list of stock for what may be termed general consumption. They have gone on progressing at a wonderful rate since the commencement of the present century, and they are now to be found in almost every county in England as well as in Ireland and Scotland. We may further observe that half-bred beasts, between the Scotch and Short-horns, have considerably increased within the last 20 years; indeed, the breeds, almost generally, have undergone important changes. To show this, we direct attention to the annexed statement of the percentage of the bullock supplies shown in Smithfield Cattle Market in the year 1838:—

| | Percentage. |
|---|---|
| Short-horns .. .. .. .. | 30.00 |
| Herefords .. .. .. .. .. | 12.00 |
| Devons .. .. .. .. .. | 11.00 |
| Long-horns .. .. .. .. .. | 2.50 |
| English crosses .. .. .. .. | 13.00 |
| Highlanders .. .. .. .. .. | 8.00 |
| Polled cattle .. .. .. .. | 10.00 |
| Ayrshire .. .. .. .. .. | 6.00 |
| Scotch crosses .. .. .. .. | 1.50 |
| Welsh runts .. .. .. .. | 10.00 |
| | 100.00 |

"The changes in the various breeds, then, in twenty years, have been remarkable. Whilst the Short-horns and crosses have increased, the Herefords, Devons, Long-horns, and polled beasts have declined considerably. The same may be said of Welsh runts; but we find a great increase in Irish crosses, no doubt with the Short-horned breed imported from this country, and the old, or pure native breeds of Irish beasts, which were formerly so much valued for their hides, are now nearly extinct. The decrease in the pure Scotch breeds of cattle grazed and fed in England may be attributed to the increased production of Turnips in Scotland. Previous to the year 1838 the pure Scots were chiefly sent to England for artificial feeding in Norfolk and Suffolk. Since that year the Scotch breeders have fed them themselves, finding the cross with English breeds—Short-horns, and in some instances, Herefords—produce much more weight and an earlier maturity. Even the black polled beasts, by many considered prime Scots, are first crosses from Short-horned bulls.

On Cotton-cake, which is coming into extensive use in the manufacture of all this beef, the following are Dr. Voelcker's conclusions:—

"The principal points of interest, in reference to Cotton-cake, are collected together in the following short summary:—

"1. The best Cotton-cake is richer in oil and albuminous (flesh-forming) compounds than Linseeed-cake, but contains less mucilage and other respiratory constituents.

"2. The mineral portion of Cotton-cake resembles closely in composition that of Linseed and other oil-cakes. Like the ash of all cakes, it is rich in earthy and alkaline phosphates, and well adapted to supply animals with bone-materials.

"3. As far as the indications of chemical analysis can be depended on, the best decorticated Cotton-cake possesses about the same nutritive value as Linseed-cake.

"4. At the present time four distinct kinds of Cotton-cake are offered for sale in the market, namely:—

"1. Thin decorticated Cotton-cake.

"2. Thick decorticated cake.

"3. Common cake made of the whole seed.

"4. Oil-meal (No. 2 reduced to coarse powder).

"5. The thin decorticated cake is a far better and more economic food than the ordinary cake, which is often quite unfit for feeding purposes.

"6. Thick cake scarcely differs in composition from thin cake, but being hard, and 2½ to 3 inches thick, it cannot be crushed by an ordinary oil-cake crusher, and therefore presents inconvenience to the consumer.

"7. Genuine oil-meal is simply thick decorticated cake reduced to a coarse powder, and of course has the same composition as the cake from which it is made.

"8. The composition, and with it the nutritive value, of different samples of Cotton-cake is subject to considerable variation.

"9. Decorticated Cotton-cake and oil-meal, in comparison with other kinds of artificial food, are decidedly cheap feeding materials, and both, no doubt, ere long, will find that favour with the British farmer which a really valuable and cheap article of consumption is certain to command."

## Calendar of Operations.

### FEBRUARY.

DORSETSHIRE, *Feb.* 11.—It is long since one remembers such continued rain as the past week has given us; of course there has been little opportunity afforded for any out-door work. The lambing season began here early last month, and although it was rather sharp weather at the time, more severe from the exposed nature of the surrounding country, the lambs did well and are getting large and strong. They and the ewes having finished white Turnips, are now on Swedes, with an allowance of hay, going on the meadows and stubbles part of the day. The Dorsets seem disappearing from these parts, and nothing but Downs are to be met with, which answer better. I was glad to see in your last a letter from a Dorsetshire man contradicting the exaggerated statements of the Journal of the Bath and West of England Agricultural Society and *Sherborne Journal*, as to the labourers of this county getting only 7*s.* a week. I take this opportunity of endorsing what he says. As far as regards this district (that of Wareham) the wages are 8*s.* and 8*s.*; besides which, as I mentioned in my last report (in December), the people have advantages in the shape of fuel which they are allowed to cut from the adjacent heath, supplying them all the year round, and Wheat is sold them by the farmers much under the cost price. I may add that the labourers have generally capital gardens, helping to keep their pigs, which few of them are without; for, as the "Wiltshire Farmer" remarks (as copied from the *Times* in your last, on the case of the British Labourer) there is scarce a cottager who does not kill his fat pig (though not weighing so much as 15 score, for they more usually "pork" their pigs about here), and you find the men's wives constantly going up to the "squire's," or the "parson's," to know if they would like to buy some of their hams or other parts of their pigs just killed, and very good the pork is, as I can testify from experience.

ISLE OF ELY, *Feb.* 10.—The winter months are passing rapidly away, and without the ordinary winter weather. Since November we have had no severe frosts, nor have we yet had one cover of snow. The barometer has been low for some time, and we have been threatened with rain, but it has not yet fallen. We have had some few showers, but not enough to exert any material influence upon the springs, which still continue very low; and water remains nearly as scarce as ever. Our fen ditches are all dry, and our drainage mills and engines find no employment, a very unusual circumstance at this season of the year. The fine weather has stimulated our farmers to activity, and many of them are getting very forward with their spring seeding. Beans, Peas, and Barley, have been largely sown. We find the practice of sowing Beans over the plough-beam is prevailing to a far greater extent this year than we have known it for many past seasons. It is a system we highly approve, and on our lands should strongly recommend. A little frost after they are sown, pulverises the soil, and makes it work to a beautiful tilth, and secures as fine a seed-bed as could well be desired. The Wheat plant is looking healthy and promises well. The slight frosts we have, with the occasional showers, tend to keep it in check and prevent its rapid growth. Indeed we have nothing approximating to what we should call "winter proud" this season. Many of our farmers are beginning to cross-plough their fallows designed for Potatoes, Mangel and early spring crops of this kind; and in a week or two, with suitable weather, they will be preparing to roll their Wheats, although we have yet had but little frost to make light and dusty our fen soils. But notwithstanding this, we think they will require to be rolled, as consolidation is an important feature in fen-farming. Store sheep are dearer, but not high even yet, when contrasted with the value of wool and mutton. Store cattle are also selling well. The corn trade manifests but little tendency to improvement, but prices have been slightly advancing. *Fen Reporter.*

## Notices to Correspondents.

GRASS: *D W.* Seeds of a mixture of Grasses adapted to your soil might be sown over the field, first harrowing it well, and then brushed and rolled in with every probability of success.

GUTTA PERCHA BOOTS FOR SHEEP: *Cor.* Apply to any agent of the Gutta Percha Company. We have had no experience of them. Perhaps some correspondent who may have tried them will report on them. We should not recommend anything more than an experiment.

HORSESHOE MACHINE: *R.* It is described thus in the *Wolverhampton Chronicle:*—"The bar, after being heated, enters the machine by a feeding apparatus, a piece of the required length is cut off, and, by a stroke from a piece of steel, shaped like the inside of a horseshoe, is bent, and falls upon a die on a wheel beneath, corresponding to one on a cylinder above, and thus acquires by pressure the desired shape, two lateral strikers at the same moment hitting the extremities, or heels, of the shoe, and driving them inwards into the required shape. Thence it passes between another pair of dies, where it is stamped, and by an ingenious arrangement is flattened from the curled shape which the wheel gives it as it falls at the mouth of the machine. The shoes thus made are remarkable for their exactness in shape and in the position of the holes—a most important point with regard to the safety of horses' feet; and they can be produced, when the machine is in proper order, at the rate of 60 per minute, which is more than two men can forge in a day, and the superiority over shoes forged by hand is very striking. As the bar is bent before being pressed in the die, the pressure at the crown is in the direction of the width, and hence the widening is readily effected. The machine is secured by patent in this and in most of the countries of Europe. It has been erected at Wolverhampton, as a central and suitable place of inspection." It is the invention of Mr. Burden of Troy, U.S., a native of Dumblane, N.B.

PICKLING WHEAT: *Alpha.* Soaking the Wheat in nitre will not hinder it from being pulled to pieces by birds as soon as it gets sweet by germination.

POULTRY: *P P.* asks what can be done for fowls when black spots appear on the comb?—Want of vigour of constitution is produced by in-and-in breeding, by bad feeding and housing, &c. The history of the birds must be known before an answer can be given.

RENT: *J H.* We do not know the rent of Grass lands near Edinburgh, but we may nevertheless confidently say that there is no "farming land 100 acres together that pays so high a rent as 9*l.* per acre."

SHEEP: *J M.* Blacklock on Sheep, and Spooner on Sheep, are both good books.

ERRATUM: *Anon.* The word "dining" room in the paragraph on Cottage Building last week should have been printed "living" room.

*** As usual, many communications have been received too late, and others are detained till the necessary inquiries can be made. We must also beg the indulgence of those correspondents the insertion of whose contributions is still delayed.

CHOICE SEEDS.

BUTLER AND MCCULLOCH, with [illegible] tion to their general SPRING CATALOGUE which has elicited such high encomiums [illegible] scientific botanist and amateur cultivator, [illegible] the present opportunity to select from its following list:—

(6) ABUTILON MARMORATUM, a [illegible] ing all the year, and especially in winter; pure, white flowers, veined and marbled; foliage silvery haired; the finest of the genus.

(37) ACACIA LONGIFOLIA (magnificent [illegible] splendid Acacias in cultivation, with bright yellow flowers several inches in length, rare, and beautiful. Of these graceful and [illegible] plants our collection embraces no fewer than [illegible] of the most decorative character.

(199) CALLICHROA PEDATA, crimson [illegible] most beautiful plant, and quite new.

(243) CANNA INDICA SUPERBA, a magnificent flowering all the winter; leaves large, [illegible] picturesque and most ornamental genus we [illegible] collection, consisting of 28 kinds, all remarkable for beauty of their flowers and foliage.

(279) CASUARINA INDICA, the most singular tree of the Australian Flora, with weeping [illegible] like a Bamboo, streaked between the joints with leaves; very elegant in a conservatory (seeds rare).

(304) CELOSIA (species nova).—A most elegant, producing a multitude of long spikes of feathery flowers, white shaded with bright rose, retaining its colour when dried, and therefore admirably adapted for bouquets; one of the greatest novelties of the season out of doors or in pots from July to October. Every attention. A dried specimen may be seen.

(434) CYCLAMEN AFRICANUM MACROPHYLLUM. Fine foliage; flowers large, blush, marked with [illegible] Very rare. Bulbs of this may be had in the summer.

(451) DATURA HUMILIS FLORE PLENO.—A recent Brugmansia-like plant producing a profusion of golden-yellow flowers; very large, double, and sweet. One of the greatest novelties of the season.

(665) HIBISCUS ROSEUS SUPERB.—Flowers [illegible] duced in great abundance.

(677) HIBISCUS THUNBERGI.—Pale yellow, [illegible] free flowering, and pretty.

(956) PAVONIA HASTATA.—A most beautiful [illegible] covered with white flowers, having a rich brown [illegible] some foliage.

(976) PENTAPETES PHŒNICEA.—Bright scarlet, long and serrated, a very handsome plant.

(1001) PHYGELIUS CAPENSIS.—Large red tube, inside golden yellow, a handsome plant (seeds rare).

(1073) RICINUS ALBIDUS (new), white fruited, leaves silvery and handsome.

(1074) RICINUS SANGUINEUS (new), splendid large bunches, very ornamental, producing a grand [illegible]

(1093) SALVIA HYBRIDA.—Scarlet, early flowering [illegible]

(1095) SALVIA SPLENDENS Nova species, scarlet [illegible]

(1137) SIPHOCAMPYLUS BETULEFOLIUS.—A handsome plant, with scarlet tubular flowers; suitable [illegible]

(1144) SOLANUM MELANGERA GRANDISSIMUM striped fruit, weighing from 1 to 4 lbs.

(1149) SOLANUM CAPSICASTRUM.—Miniature tree, covered all winter with a profusion of scarlet [illegible] handsome plant for greenhouse or sitting room.

(1161) STATICE HALFORDI, blue; large and fine, one of the very best for pot culture (seeds rare).

(1165) STATICE PURBERULA.—Purplish white flowering, extremely ornamental plant of neat habit.

(1170) STATICE BONDUELLI, deep golden yellow, early and profusely, in large rosettes.

(1276) VERONICA ANDERSONI, purple and white, hardy; a charming shrub.

(1282) VERONICA MELDENSIS, beautiful rose [illegible]

(1294) VIRGILIA CAPENSIS, a greenhouse tree, drooping racemes of purple and white flowers.

(1331) BIGNONIA GRANDIFLORA, orange scarlet, flowers large, and in magnificent bunches.

(1335) BIGNONIA RADICANS MULTIFLORA, much brighter than radicans; flowers in large panicles, a splendid effect.

(1354) CUCUMIS PERENNIS.—Very ornamental plant, which grows with great rapidity.

(1360) CUCURBITA MELOPEPO CHAPEAU DE Orange; of this class of climbers we have a fine [illegible]

(1370) CYCLANTHERA PEDATA.—Bird-like [illegible]

(1375) GLYCINE SINENSIS, or WISTARIA—[illegible] most valuable climbing trees for out-doors (seeds rare).

(1380) IPOMÆA HYBRIDA MARGINATA.—Large and magnificent; flowers of various colours on the same [illegible] ing from the richest velvety purple to sky-blue, [illegible] the most distinct manner with pure white (new [illegible] This and three new varieties of Hederacea grandiflora pass the old and deservedly favourite ruber [illegible] beauty, hardiness, and free flowering; they rank [illegible] the novelties of the season, possessing advantages [illegible] render them the grandest ornaments for the greenhouse, conservatory, or for out-door decoration.

(1431) MAURANDYA CRIMSON TINTED PURPUREA DIFLORA.—Exquisitely beautiful (new).

(1438) MAURANDYA MAROON GRANDIFLORA (new and rare).

(1445) MEDEOLA ASPARAGOIDES, green [illegible] elegant plant, flowering in winter, and scented [illegible] blossom.

(1457) PASSIFLORA RACEMOSA PRINCEPS, [illegible] arranged in racemes, from 14 to 18 inches in length, striking and beautiful appearance.

(1468) TACSONIA IGNEA.—This magnificent Passion is unequalled for the brillancy and splendour [illegible] blossoms, far surpassing in this respect any [illegible] known. It flowers most profusely, grows rapidly, and [illegible] large space in an incredibly short time. It succeeds [illegible] greenhouse, and even against a south wall with [illegible] tion in winter (new and rare).

(1469) TACSONIA MOLLISSIMA, rosy pink flowers [illegible] able for their long tubes and handsome pink [illegible]

(1473) TROPÆOLUM FLAMMULUM GRANDIFLORUM, yellow; beautifully streaked with carmine [illegible]

(1477) TROPÆOLUM GRACILE, sulphur, [illegible] mine; extremely pretty.

(1479) TROPÆOLUM MINIATUM MACULATUM, striped variety (very rare).

(1488) TROPÆOLUM TRIOMPHE DE GANDAVUM, fringed orange scarlet.

(1501) TRYCHOSANTHES COLUBRINA VERA, extremely handsome; singular fruit, resembling a [illegible] and rare).

CARNATIONS and PICOTEES saved from the Collection of English varieties grown on the [illegible] which may be expected to produce flowers [illegible] merit, sent out in sealed packets as received [illegible] Sardinian correspondent, whose seeds for many [illegible] given such universal satisfaction, and from which [illegible] the greatest excellence have been raised.

For prices and further particulars with regard [illegible] and other novelties, we refer our patrons to [illegible] itself, which is sent free and post paid on application.

BUTLER & MCCULLOCH, Covent Garden, London.

## WALTON NURSERY, LIVERPOOL.

GENTLEMEN PLANTING NEW PLEASURE GROUNDS, IMPROVING PARKS OR DRIVES, AND TO EXTENSIVE PUBLIC PARKS OR CEMETERIES

WM. HEWING begs to offer his Stock of FIRS and SPRUCES of various sizes, adapted either for immediate effect or for extensive new Plantations, where large and expensive Plants are required.

His general Stock of the leading kinds of Evergreens is allowed to be the most extensive and fine in the kingdom, and is offered this season to offer, at reduced prices, including fine grown CEDRUS DEODARA, varying from 1 to 10 feet high.

Also a very large stock of ARAUCARIA IMBRICATA, from 1 foot to 6 feet high, of all the best varieties of Hardy Pines, Spruces, Cryptomerias, Cypress, Yew (Irish and Common), Holly (Green and Variegated), Rhododendrons, &c.

WELLINGTONIA GIGANTEA, a fine stock, all from Seed.

Also a large stock of Thorn Quicks for hedge planting, and a general assortment of Forest Trees, Underwood, &c., of fine quality, at very moderate prices.

Nursery Tools, a large collection of all the most approved kinds.

CATALOGUES on application.

## IGNAME OF CHINA (DIOSCOREA BATATAS)

M. PAILLET AND SONS, of Paris, first introduced the Igname from China, a nutritious root highly appreciated in this country by all those who have been able to partake of it in its state of perfection. Having decided upon exporting a quantity of it to England, in such a state that the English public, as well as cultivators, may be enabled to appreciate its utility and put an end to the doubts that have been made by certain persons as to its verifying its merits. The result of the first trial has been most satisfactory (about 30,000 lbs.). This alimentary tubercle may be treated in the same manner as the Potato, with the exception that it should be planted more thickly in order to reduce the enormous size of it on the gathering in of the crop.

Messrs. PAILLET & SONS feel confident that after a fair trial this new Chinese vegetable will be found an agreeable and useful addition to the table, and that it will be fully appreciated in England, and increase the number of those vegetables we already possess.

Price.—Per 100 lbs. weight, 2*l.* Persons desirous of obtaining small Roots can have them forwarded in cases of 50 or 100 at the price of 2*l.* 5*s.* or 4*l.* 5*s.* Those wishing to make a plantation of some considerable can have portions of the Roots for planting at the following prices:—One year's growth, per quart, 3*s.*; ditto per 1000, 5*l.* For young bulbs two years' growth, per quart, 3*s.* 6*d.*; ditto per Gallon, 12*s.* 6*d.*

All orders sent free of carriage to London with case and packing included in the above prices.

All letters enclosing a Money Order, addressed post free to Messrs. PAILLET, agent of the Messageries Impériales, Regent Circus, Piccadilly, London, will be immediately attended to.

MESSRS. WATERER AND GODFREY respectfully call the attention of parties engaged in planting to the following list of very desirable plants, all of which may be seen growing in the open quarters of their Nursery, and are in the finest possible condition for transplanting:—

Araucaria imbricata, 9 to 12 inches, 5*l.* per 100; 40*l.* per 1000

" " 1½, 2, 3, 4, 5, 6, and 8 feet high. Our stock of this plant exceeds 100,000

Wellingtonia gigantea, stout handsome plants from seed, 84*s.* per dozen; 25*l.* per 100. These are all in the open ground and are believed to be the finest lot of seedling plants in the Trade.

Cedrus Deodara, 1½ to 2 feet, 18*s.* per dozen; 6*l.* per 100

" 4, 5, 6, 7, 8, 10 and 12, and 15 feet. Our stock of Deodars at the present moment occupies several acres of land; they have been constantly removed, and with fair usage not one in a thousand would fail. We offer them on very advantageous terms either in large or small quantities

Pinus atlantica, 4, 5, 6, and 7 feet

" macrocarpa, magnificent plants, 7, 8, and 10 feet high

" Lawsoniana, stout handsome plants from seed, 18 inches, by the dozen or 100

" nobilis, from imported seed, 6*l.* 6*s.* per doz.; 40*l.* per 100

" do. 1, 2, and 3 feet high

" Nordmanniana, a large number of beautiful plants, all from seed, 2, 3, 4, 5, and 6 feet high.

" Pinsapo. do. do.

[We believe we are justified in stating our stock of the three last-mentioned Firs offers a selection to be met with in no other Nursery.]

" Douglasi, 6, 7, 10, and 12 feet

" orientalis, 3, 4, 5, and 6 feet

" Benthamiana, stout seedling plants, about 1 foot, 18*s.* per dozen; 5*l.* per 100; 40*l.* per 1000. Unquestionably the finest of all the long-leaved Californian kinds, and well known to be perfectly hardy. It is the most valuable of all for timber.

Juniper, Chinese, 2, 3, 5, 7, 8, and 10 feet high

" Irish Upright, 3, 4, 5, 6, 7, and 8 feet. The Irish and Chinese Junipers are grown by us to a very large extent

Thuja aurea.—This plant originated in our Nursery, and our stock of it offers a choice of many hundred specimens from 1, 2, 3, 4, and 5 feet high, and measuring from 2 to 10 and 15 feet in circumference. Nothing can well exceed the beauty of these plants, and certainly are to be met with in no other Nursery

" plicata, stout seedling plants, 1½ to feet high

" Wareana, 3, 4, 5, 6, 7, and 8 feet

Retinospora borealis, handsome plants, in quantity, 1½ & 2 ft. high

Taxus, Yew, Common English.—A large quantity, and of all sizes up to 5, 6, and 7 feet

" Irish Yew, 4, 5, 6, 7, and 10 feet. Many thousands of these beautifully formed plants grown to one stem

" Golden Yews in large quantities and of all sizes up to 6, 7, and 8 feet

We also have them worked on the Common and Irish Yew as Standards, with heads from 12 to 15 years' growth

Hollies, Variegated, Scottica, laurifolia, &c. We hold probably the largest stock of good sized variegated Hollies in the kingdom, especially of the better kinds of silver and gold striped

Rhododendron ponticum, for cover, stout plants, 1½ to 2½ feet, by the 1000. All the well-known proved hardy late blooming kinds, in any quantity, at from 30*s.*, 42*s.*, to 84*s.* per dozen

Rhododendrons of all kinds

Azaleas, stout bushy plants, covered with bloom buds, from 18 inches to 2 feet high, and of all colours, 9*s.*, 12*s.*, 18*s.*, and 24*s.* per dozen; 50*s.*, 75*s.*, to 100*s.* per 100

Berry Heaths, a first-rate collection, at 35*s.* per 100; 15*l.* p. 1000

Roses for Standards, of the most popular kinds, at very low prices

As well as the above, we are very large holders of the ordinary kinds of Nursery Stock, which may be judged from the fact that the Nursery far exceeds 100 acres in extent of all such things as Laurels, Box, Lilacs, Limes, Purple Beech, and the commoner descriptions of Evergreens and Deciduous Flowering Shrubs. An enormous stock of Fruit and Forest Trees are also grown extensively.

Goods are delivered free to London, Reading, or Reigate. The Nursery is reached in an hour from Waterloo, and conveyances always to be had at the Woking Station.

CATALOGUES, Priced and Descriptive, will be sent on application, enclosing one postage stamp, to

WATERER AND GODFREY, Knap Hill, Woking, Surrey.

DOUBLE ITALIAN TUBEROSE ROOTS, 4*s.* per dozen.—The annual importation of the above named beautiful and fragrant Flower has just been received, and large and well selected Bulbs may be obtained, without disappointment, at A. COBBETT'S Foreign Warehouse, 18, Pall Mall.

N.B. Printed regulations for treatment sent; also, just arrived, very fine and open Parmesan Cheeses.

100 GOOD PHLOXES FOR 40*s.*

50 Ditto Ditto for 25*s.*

25 Ditto Ditto for 12*s.* 6*d.*

12 Ditto Ditto at 6*s.* and 9*s.* per doz.

The best and newest continental varieties from 12*s.* to 18*s.* per dozen.

CATALOGUES sent free on application, and extra plants presented for instant carriage.

**WM. WOOD & SON, having imported all the best and newest PHLOXES from the Continent, will be happy to supply them in collections as stated above, in fine strong plants grown in the open ground.**

Woodlands Nursery, Maresfield, near Uckfield, Sussex.

## TO THE TRADE.

JOHN PALMER, NURSERYMAN, Annan, begs leave to inform his Friends and the Trade generally, that he has on hand the following—all of excellent quality—which he is disposed to offer on very reasonable Terms:—

### SEEDLINGS.

| | |
|---|---|
| 4,000,000 1-year Larch | 40,000 1-year Laburnum drills |
| 1,000,000 2-year Scotch Fir. | 100,000 2 year Weymouth Pine |
| 1,000,000 2 year Spruce | 100,000 1 year Pear stocks, drills |
| 200,000 1-year Beech | 100,000 1-year Crab stocks, drills |
| 300,000 1 year Alder | 100,000 1-year Wild Cherry stocks, drills |
| 300,000 1-year Oak, drills | 100,000 1-year Portugal Laurel |
| 100,000 1-year Turkey Oak, drills | 200,000 1-year Yew |
| 100,000 1-year Spanish Chestnuts, drills | 50,000 1-year bedded American Arbor-vitæ |
| 100,000 1-year Horse Chestnuts, drills | 20,000 bedded common Laurel |
| 200,000 2-year Ash, drills | 20,000 bedded Portugal Laurel |

### TRANSPLANTED.

| | |
|---|---|
| 300,000 2-year tr. Larch | 100,000 2-year tr. Spruce |
| 100,000 2-year tr. Scotch Fir | 400,000 2-year tr. Thorns |

Prices to be had on application, and all orders will be promptly and carefully attended to. Carriage will be prepaid to London, Liverpool, Birmingham, Newcastle, Glasgow, and Edinburgh, and the half thereof charged to the buyer.

## FOREST AND ORNAMENTAL TREES.

THOMAS IMRIE AND SONS, NURSERYMEN, Ayr, beg to inform their Customers and the Trade generally that they have on hand the following well-grown plants, viz.:—

### TRANSPLANTED FOREST TREES.

| | |
|---|---|
| 30,000 Alder, 2 to 4 feet | 300,000 Larch, 2 year 2 year, 2½ to 3½ feet |
| 60,000 Ash, 2 to 3½ feet | 400,000 Scotch Fir, 1 year 2 year |
| 150,000 Beech, 1½ to 3½ feet | 200,000 do. 2 year 2 year |
| 20,000 Elm, 3 to 4 feet | 400,000 Spruce Fir, 2 year 2 year, 12 to 18 inches |
| 40,000 Oak, 2½ to 3½ feet | 200,000 Privet, 2½ to 3 feet |
| 20,000 Plane, 2 to 3 feet | 500,000 Thorns, 2 and 3 year (STRONG) |
| 20,000 Black Italian Poplar, 4 to 8 feet | 20,000 Laburnum, 3 to 5 feet |
| 10,000 Lombardy do., 3 to 6 ft. | |
| 400,000 Larch, 2 year 1 year, 12 to 20 inches | |

### SEEDLINGS.

| | |
|---|---|
| 100,000 Ash, 2 year | 500,000 Beech, 2 year (drilled) |
| 1,000,000 Scotch Fir, 2 year | 200,000 Oak, 1 year (do.) |
| 1,000,000 Norway Spruce, 2 year | 50,000 Laburnum, 1 year |
| 20,000 Portugal Laurel, 1 foot | 20,000 Common Bays, 1 to 3 feet |
| 10,000 do. do., 2½ to 4 ft. | |

50,000 Rhododendrons, 6 inches to 4 feet, and other Evergreens in great variety.

Dwarf-trained Apples, Pears, Peaches, Nectarines, and Apricots. Rider-trained Peaches, Nectarines, and Apricots. Gooseberries, Currants, Seakale, Asparagus, &c.

Price Lists on application.

## SEEDS FOR THE FARM.

NEW OLIVE-SHAPED YELLOW MANGEL, introduced by us two years ago, has been thoroughly tested and is now recommended with perfect confidence. It is of a remarkably vigorous growth, with finely shaped roots, intermediate in length between the Long and the Globe, and has produced from 5 to 10 tons more per acre than any other variety (see *Gardeners' Chronicle* of Jan. 8):—

SWEDE TURNIP.—All the approved sorts.

YELLOW Do. do. do.

WHITE Do. do. do.

In no description of crop raised on the Farm is a good or a bad one so dependent on the character of the Seed as in that of the Turnip, and from its great liability to degenerate, it requires the most scrupulous care and vigilance to produce Stocks that are every way worthy of confidence. To attain such, we have for several years past been using every known means to keep up or improve the shape, size, and texture of the various kinds; and we believe that what are now offered will give the most perfect satisfaction. All the principal varieties are our own growth, raised from large and fully developed Roots or Bulbs, and in the hope of giving a more vigorous growth to the Stock, the strongest clay soil is always selected for a considerable portion of the Swede and Yellows. This mode of raising Turnip Seed materially increases the expense, but it is a much more satisfactory system than the one usually adopted, viz., sowing random stocks late in the season, after other crops, and taking the seed from mere plants, which in many cases are not even subjected to the process of thinning. Moreover, we guarantee our Seeds free from any of the adulterations so frequently practised to increase profits or cheapen prices, so that a strong healthy "braird" is certain.

PERENNIAL RYE-GRASS.—Finest Ayrshire

Do. do. do. Pacey's, 26*s.* to 32*s.* per bushel

ITALIAN do. Imported

Do. do. Home-grown

NATURAL GRASSES.—All the best varieties

The Stocks of Perennial Rye-grass Seed are the most select growths the country produces, and being all clean and heavy the economy of using such in preference to foul chaffy seed, however cheap, is at once apparent. Our imported Italian is from the usual source, and has always given satisfaction; while the home-grown is the direct produce of imported seed, cultivated under the most favourable circumstances, and more than ordinary pains having been used in dressing the seed; the samples of both are unusually clean and fine. In selecting the Natural Grasses care is taken to have them true to name, fully ripened, and in all respects good clean samples.

ALSIKE CLOVER, and other varieties.

LARGE BROAD-LEAVED SCOTCH TARES.

With every other description of Seed usually required for the farm, PRICED LISTS of which may be had post free on application.

W. DRUMMOND & SONS, Seedsmen, Stirling, N.B.; also at 58, Dawson Street, Dublin.

*** STIRLING is most favourably placed in point of railway accommodation, there being direct and constant traffic to all the principal stations in England and Scotland, and by steamers (*via* Glasgow), almost daily to the chief ports in Ireland, thereby ensuring a speedy delivery of goods, all of which, except grain and Tares, we forward carriage paid.

UNEQUALLED NEW CUCUMBER, DR. LIVINGSTONE.—This is one of the finest long hybrid Cucumbers for exhibition purposes that has ever yet been offered to the public: it is a splendid black spine, length 22 to 26 inches, a very free setter, and an abundant bearer. Price 2*s.* 6*d.* per packet.

QUEEN OF THE WEST MELON, a superb new variety, green flesh, very handsome in appearance, beautifully netted, and excellent in flavour. It obtained several first prizes during the past season. Seeds 2*s.* 6*d.* per packet.

NEW MELON GENERAL HAVELOCK, sent out for the first time last season. It is a green flesh, very handsome shape, and beautifully netted; a very thick substance, thin skin, of a melting and most delicious flavour, and an abundant bearer. Weight from 3 to 4 lbs.; it gave the greatest satisfaction to all purchasers during the past season. Seeds 1*s.* per packet.

Extra fine mixed HOLLYHOCK SEED, saved from all named varieties, 1*s.* per packet.

Early Emperor CELERY, red, the finest ever yet sent out, 1*s.* per packet.

TILEY'S Solid White Celery, 6*d.* per packet

DELPHINIUM FORMOSUM, 6*d.* per packet.

DIGITALIS, or Fox-glove Seed, 6*d.* per packet.

For further particulars, and list of Cucumbers and Melons, see Advertisement in *Gardeners' Chronicle* of Jan. 29, 1859.

A remittance must accompany every order in cash or penny postage stamps, when the whole or any part, as the case may be, will be immediately sent.

EDWARD TILEY, Nurseryman, Seedsman, and Florist, 14, Abbey Church Yard, Bath.

## SEEDS OF FIRST QUALITY.

BASS AND BROWN offer the following from their CATALOGUE, which may be had free on application:—

### A FEW NEW AND SELECT VEGETABLE SEEDS.

For descriptions of most of these, see Catalogue.

Peas, per quart.—Standard Bearer, 3*s.* 6*d.*; Cotton's Leviathan, 3*s.* 6*d.*; Dunnett's First Early, 2*s.*; Beck's Gem, 1*s.* 6*d.*; Rising Sun, 1*s.* 6*d.*; Ne Plus Ultra, 1*s.* 6*d.*

Beans, Syon House (the earliest), 1*s.* 3*d.* per quart.

Beet, Atking's Scarlet Melford Hall, 1*s.* per oz.

" Lang's Dark, 6*d.* per oz.

Broccoli, Mitchinson's New Penzance, 6*d.* per packet, 5*s* p. oz.

" Giant, late white, 2*s.* per oz., very fine late sort.

" Ward's Late White, the latest, 2*s.* per oz.

Belgium Brussels Sprouts, imported, 1*s.* per oz.

Cabbage, Furnell's Early Edwardstone, 3*s.* per oz.

Carrot, French Horn, very early, 6*d.* per oz.

Cauliflower, Early Paris, 1*s.* per packet; Lenormand's, 1*s.* 6*d.* per packet.

Celery, Ivery's Nonsuch, 6*d.* per packet; Goodwin's Early York, 1*s.* per oz.

Cottager's Kale, 1*s.* per packet.

Lettuce, Neapolitan, very fine, 1*s.* per oz.

Parsley, extra triple curled, 6*d.* per oz.

Savoy, the Early Ulm, 1*s.* per oz.

Turnip, Polly's Nonsuch, 1*s.* per oz.

Cucumber, each, 1*s.* per packet.—Conqueror of the West, Mill's Jewess, Hunter's Prolific, Sir Colin Campbell, General Canrobert, Gladiator, Glory of Armstadt, Essex Hero, Cheltenham Surprise, Lord Kenyon's Favourite, and many other choice.

Melons, each, 1*s.* per packet.—M'Ewen's Hybrid, Fleming's Trentham Hybrid and Cocoanut flavoured, Snow's Horticultural Prize, Munro's Crystal Palace, Bromham Hall, and other choice sorts.

### COLLECTIONS OF VEGETABLE SEEDS.

These comprise all first-rate sorts. A considerable reduction in price is secured by ordering these collections. For price and quality they are not to be surpassed.

| | | | | |
|---|---|---|---|---|
| No. 1 Collection | .. | .. | .. | £3 0 0 |
| 2 " | .. | .. | .. | 2 0 0 |
| 3 " | .. | .. | .. | 1 5 0 |
| 4 " | .. | .. | .. | 0 15 0 |
| 5 " | .. | .. | .. | 0 10 6 |

The names of sorts contained in Nos. 1, 2, and 3 are given in the Catalogue. If any sorts are not wished for enlarged quantities of the others will be sent instead.

| | | | | |
|---|---|---|---|---|
| Peas, 15 finest sorts for succession, 1 qt. of each | .. | .. | 17*s.* | 6*d.* |
| Peas, 10 do. do. 1 qt. of each | .. | .. | 9 | 6 |
| Broccoli, a packet of each of 10 finest sorts for succession, 6*s.*; six sorts | .. | .. | 3 | 6 |
| Lettuce, a packet of each of six finest sorts | .. | .. | 2 | 0 |

### FINEST LAWN GRASSES.

In mixture of the best dwarf sorts. These are excellent. Per lb., 1*s.* 3*d.*; or 18*s.* per bushel.

Holcus saccharatus, an abundant cropper for cattle feed, 1*s.* 6*d.* per lb.

The Improved Custard Marrow, 18 seeds, 1*s.*; nine seeds, 6*d.*

Dioscorea Batatas, strong tubers, 9 inches to 1 foot long, 5*s* per dozen; extra large, 10*s.* per dozen.

### FLOWER SEEDS—BEST ASSORTMENTS.

(Free by Post.)

Hardy Annuals, 100 very select, including choice novelties, 15*s.*; 50 for 8*s.* 6*d.*; 30 for 5*s.* 6*d.*; 20 for 4*s.*

Half hardy Annuals, including choice novelties, 50 very select, 12*s.* 6*d.*; 30 for 8*s.*; 20 for 6*s.*

Hardy and Half-hardy, including choice novelties, 100 for 20*s.*; 50 for 10*s.* 6*d.*; 30 for 7*s.*; 20 for 5*s.*

Dwarf Hardy Annuals, in large packets, for filling beds on lawns, &c., 20 for 7*s.* 6*d.*; 12 for 5*s.*

Greenhouse Annuals, Greenhouse Perennials, Hardy Biennials and Perennials, &c., in assortments, see Catalogue.

Flower Seeds, cheaper assortments, see Catalogue.

### IMPORTED GERMAN SEEDS.

The varieties of German Stocks, Asters, Larkspurs, Wallflowers, &c., are remarkably fine and double, see Catalogue.

### SEEDS OF CHOICE FLORISTS' FLOWERS.

These, comprising Calceolaria, Cineraria, Geranium, Fuchsia, Carnation, Piccotee, Holyhock, and numerous others have been saved from very choice and first-rate collections, and are nearly all of our own saving.

### NEW AND VERY SELECT FLOWER SEEDS.

A List of a few of these is given separately, extracted from the body of the Catalogue, with full descriptions. See Catalogue, page 55.

Goods (not under 20*s.*) carriage free to all the Railway Stations in London, &c. See Catalogue.

Post-office Orders payable to BASS & BROWN, or to STEPHEN BROWN. Remittances required from unknown correspondents.

BASS AND BROWN, SEED GROWERS, &c., Sudbury, Suffolk.

RICH BOG AND LOAM.—Gentlemen and Nurserymen will do well to apply early for the above to refresh their American beds. To be had in any quantity upon reasonable terms, by land or water carriage.

ROBERT NEAL, Nurseryman, Wandsworth Common, Surrey.

TO NURSERYMEN and OTHERS.—Those having in their Nurseries a quantity of extra large prolific, clean, good PEAR TREES for Sale, will oblige by giving the lowest price per 100.—Address, stating full particulars, by letter, to R. MARTIN, Fish and Fruit Salesman, Bath.

N.B. Wanted early in the coming fall.

### TO NURSERYMEN.

**3,000,000** RHODODENDRONS, 2, 3, 4, and 5 years old: small and strong Portugal and Common Laurel, small Red Cedar, Chinese Arbor Vitæ, Berberis, &c.; layers of Erica Alporti, vulgaris, alba carnea, and many other things to be sold very cheap

For price, apply to JAMES SMITH, Darley Dale Nursery, near Matlock.—Feb. 19.

### TO LANDOWNERS.

THE PERMANENT WAY COMPANY having been appointed the sole Licensees for the use of Dr. BOUCHERIE'S Patent Process for Preserving Timber, beg to inform Landowners and others interested in the use of English Timber that a Pamphlet, with full explanations of this cheap and most effectual process, may be had gratis on application to the undersigned. Landowners having Beech, Elm, Fir, or other Timber fit for Railway Sleepers are requested to communicate particulars of quantity, locality, and prices

WILLIAM HOWDEN, Secretary.

26, Great George Street, Westminster.

FLOUR, Warranted Unadulterated, free to any part of London (not less than 14 lbs.); Whites, for pastry, at per bushel (56 lbs.), 8*s.* 4*d.*; households, for bread-making, 7*s.* 8*d.*; seconds, 7*s.* 0*d.*; Wheatmeal, for brown bread, 7*s.* 0*d.*; best fine and coarse Scotch Oatmeal.—Address, HORSNAIL & CATCHPOOL, Bullford Mill, near Witham, Essex, or 97, Goswell Road, City Road, E.C. Directions for bread making gratis. Terms cash. Bags lent. German yeast. A half sack (140 lbs.), or upwards, free to any railway station within 200 miles.

### TO PIG AND POULTRY FEEDERS AND MILLERS.

CHICKEN RICE, 7*s.* 9*d.* per cwt., in bags 1½ cwt. each. SCREENED RICE, 10*s.* per cwt., in bags 1¾ cwt. each. RICE MEAL, 6*s.* 9*d.* to 8*s.* 9*d.* per cwt. RICE for grinding. An allowance per Ton. American Oilcake, per ton only, 10*l.* 15*s.* in bags, 11*l.* 5*s.* in barrels.—Sold for Cash by W. & R. JUPP, 6, Cross Lane, St. Mary-at-Hill, Eastcheap, E.C.

### GENUINE TOBACCO PAPER FOR FUMIGATING.

H. APPLEBY (Foreman to Messrs. Ivery & Son, Nurserymen, Dorking, Surrey), begs to inform his friends and the public that he now offers the above article at a reduced price. Sold in 4-lb. packets, 1*s.* 3*d.* per lb. A great reduction to the trade; price on application. For testimonials that will guarantee its quality, see *Gardeners' Chronicle*, Dec. 11, 1858, page 920.

SHEET IRON POTS FOR FUMIGATING, 3*s.* 6*d.* each.

N.B. All Orders to be accompanied with a Post-office Order, payable to HENRY APPLEBY, Dorking, Surrey.

### GENUINE TOBACCO PAPER.

MESSRS. JACKSON AND SONS' WORKMEN are selling their unequalled TOBACCO PAPER at 4*l.* per cwt., any less quantity 10*d.* per lb.—Address BEN BAXTER, Messrs. Jackson & Son, Lady Lane, Leeds.

### GENUINE ROLL TOBACCO CLOTH.

WARRANTED EQUAL IN STRENGTH TO TOBACCO.

JOSEPH BAKER, 10, Gough Square, Fleet St. E.C., having dealt upwards of 20 years in the above, can recommend it as the best article for destroying the Fly. 1*s.* 4*d.* per lb., over 10 lbs. 1*s.* Post-office Orders payable Strand Office.

TOBACCO PAPER AND CORD FOR FUMIGATING, in its pure and unmanufactured state, containing only the oil exuding from the Cavendish Tobacco in the process of manufacture, 1 lb. of which is equal to 3 lbs. of that usually offered. The following amongst many other testimonials have been received:—

*From* Messrs. JAMES VEITCH & SON, *Nurserymen, Exeter.*

"Gentlemen,—We are much pleased with the Tobacco Paper received last week, and should therefore feel obliged by your sending us as soon as possible 56 lbs. of the same sort.—Yours respectfully, (Signed) "JAMES VEITCH & SON."

The above will be forwarded in any quantity at 1*s.* 6*d.* per lb. on receipt of Post-office Orders payable to YOUELL & Co., Royal Nursery, Yarmouth, Norfolk, who are appointed Sole Agents for its sale.

BEES.—Strong early SWARMS, in improved Bar Hives, will be obtainable at Mr. LOWE'S Apiary, Broad Oak, Accrington, Securely packed for carriage by rail. Immediate application is desirable.

FOR Effectually Protecting the Bloom of Wal Trees from Spring Frosts use SHAW'S No. 3 TIFFANY] DOUBLE STRENGTH. In pieces 18 yards long by 39 inches wide 7*s.* 6*d.* each.—JOHN SHAW & Co., Princess Street, Manchester.'

TREES COMING INTO BLOOM will be protected from Frosts, Hail, &c., by using HAYTHORN'S HEXAGON AND CHISWICK GARDEN NETS, now used and recommended by all the principal Gardeners; the Nets will also preserve the Fruit from Wasps, Flies, Birds, &c.—For Patterns, Prices, and Testimonials, direct to Mr. HAYTHORN, Nottingham.

TANNED GARDEN NETTING, for preserving Fruit Trees from frost, blight, birds, &c., and as a fence for fowls, &c. One yard wide 1½*d.*, 2 yards 3*d.*, 3 yards 4*d.*, and 4 yards 6*d.*, per yard, in any quantity, may be had at C. WRIGHT'S, 376, Strand, W.C.—A liberal allowance to Nurserymen.

BRITTAIN'S GARDEN NET completely protects Fruit Blossoms from injury by frost, and provides for the circulation of air and admission of light, so essential to healthy growth; 55 inches wide, 5*d.*, 6*d.*, and 7*d.* a yard; good yard wide TIFFANY, 2½*d.* do.—Manchester, Feb. 19.

BLOSSOM OF WALL-FRUIT TREES.—Worsted Net, so very generally approved, 7*d.* per square yard—will last 10 years; plan of fixing it sent free. All kinds of Garden, Fishing, and Sheep Net, made by machinery, very cheap.

GALVANISED WIRE-WORK, less than 2-inch mesh, 16-gauge, 8*d.* per square yard; mesh 3 inches by 2 inches, for Poultry, 5*d.* per square yard; for Sheep, 4*d.* per square yard.

TRANSPARENT SHEETING, near 2 yards wide, 1*s.* per yard run.

WATERPROOF CAPES, long enough to protect a man from wet while stooping down, 3*s.* each; Police Capes, 18*s.* to 24*s.* per doz.; Tarpaulings for Carts, 12*s.*; Waggons, 25*s.*; Sheepskin Coats, 8*s.* each; Roofing Canvas, 1*d.* per square foot, 6 feet wide.

R. RICHARDSON, White Horse Factory, Bidborough Street, Judd Street; Office, 99, Euston Road, London.

### HORTICULTURAL POTTERIES.

ADJOINING THE STAPLETON ROAD NURSERIES, BRISTOL.

MAULE AND SONS have just completed an extensive enlargement of their Manufactories, which will afford them greater facilities for increasing their supplies of all kinds of GARDEN POTS, VASES, and other ORNAMENTAL POTTERY, suitable both for utility and Horticultural decorations and embellishments.

Horticulturists who have not yet favoured this establishment with their patronage will find every advantage both as regards quality and price.

The first workmen are employed, and the whole of their talents and attention is concentrated in the production of Horticultural Pottery alone, an advantage not to be found in the kingdom besides.

ILLUSTRATED CATALOGUES and LISTS of PRICES sent on application.

Nurserymen and the Trade supplied on advantageous terms.

### JAMES PHILLIPS AND CO.'S PRICES of GLASS for the present month.

HORTICULTURAL GLASS, STOCK SIZES, in 100 feet boxes.

| | | | | 3rds. | 4ths. |
|---|---|---|---|---|---|
| 11 by 9, | 12 by 9, | 13 by 9, | 14 by 9 .. | 14*s.* 6*d.* | 12*s.* 6*d.* |
| 12 ,, 10, | 13 ,, 10, | 14 ,, 10, | 15 ,, 10 .. | | |
| 13 ,, 11, | 14 ,, 11, | 15 ,, 11, | 16 ,, 11 .. | 16*s.* 6*d.* | 14*s.* 0*d.* |
| 14 ,, 12, | 15 ,, 12, | 16 ,, 12, | 17 ,, 12 .. | | |
| 18 ,, 12, | 19 ,, 12, | 16 ,, 13, | 17 ,, 13 .. | | |
| 18 ,, 13, | 19 ,, 13, | 20 ,, 13, | 21 ,, 13 .. | | |
| 16 ,, 14, | 17 ,, 14, | 18 ,, 14 | .. .. | | |
| 19 ,, 14, | 20 ,, 14, | 21 ,, 14 | .. .. | | |

PACKED IN CASES.

| | | |
|---|---|---|
| 200 feet .. .. .. | £2 2 0 | 16 oz. |
| 300 feet .. .. .. | 3 3 0 | |
| 200 feet .. .. .. | 2 18 0 | 21 oz. |

ORCHARD HOUSE SIZES,

As supplied by us to Mr. Rivers.

| | | 16 oz. | | 21 oz. |
|---|---|---|---|---|
| 20 in. by 12 in. / 20 in. by 13 in. | Common .. .. | 14*s.* 0*d.* | .. | £1 1*s.* |
| 20 in. by 14 in. | Superior do. .. | 16 6 | .. | 1 5 |
| 20 in. by 15 in. | English Glass .. | 18 0 | .. | 1 9 |

SMALL SQUARES.—Per 100 feet.

| | | | | |
|---|---|---|---|---|
| 6 by 4 | 6½ by 4½ | 7 by 5 | 7½ by 5½ | 11 6 |
| 8 ,, 6 | 8½ ,, 6½ | 9 ,, 7 | 9½ ,, 7½ | |
| 10 ,, 8 | 10½ ,, 8½ .. | .. .. | .. .. | 12 6 |

JAMES PHILLIPS AND CO.,

**180, Bishopsgate St. Without, London, E.C.**

### GLASS FOR CONSERVATORIES, ETC.

HETLEY AND CO. supply 16-oz SHEET GLASS of British Manufacture at prices varying from 2*d.* to 3*d.* per square foot for the usual sizes required, many thousands of which are kept ready packed for immediate delivery.

Lists of Prices and Estimates forwarded on application, for PATENT ROUGH PLATE, THICK CROWN GLASS, GLASS TILES, and SLATES, WATER-PIPES, PROPAGATING GLASSES, GLASS MILK PANS, PATENT PLATE GLASS, ORNAMENTAL WINDOW GLASS, and GLASS SHADES, to JAMES HETLEY & Co., 35, Soho Square, London.

See *Gardeners' Chronicle* first Saturday in each month.

### HORTICULTURAL GLASS—JUNE TARIFF.

THOMAS MILLINGTON'S reduced Tariff of GLASS, &c.

6 by 4, 7 by 5, 8 by 6, 9 by 7 / 6½ by 4½, 7½ by 5½, 8½ by 6½, 9½ by 7½ } 16 oz. to the foot, 11*s.* 6*d.* per 100 feet.

In 100 boxes,—4ths quality, 12*s.* 6*d.*; 3ds do., 14*s.* 4*d.*

10 by 8, 12 by 9, 12½ by 10½, 14½ by 10½, 13 by 11
10½ by 8½, 12½ by 9½, 13 by 10, 15 by 10, 13½ by 11½
11 by 9, 13 by 9, 13½ by 10½, 12 by 11, 14 by 11
11½ by 9½, 12 by 10, 14 by 10, 12½ by 11½ .. ..

| | per 100 feet | 16 oz. | 21 oz. |
|---|---|---|---|
| 20 by 12 / 20 by 13 / 20 by 14 / 20 by 15 | Common .. | 16*s.* | 24*s.* |
| | Superior . | 18*s.* | 27*s.* |

All Boxes included.

Orchard House sizes as supplied to Mr. Rivers.

Hartley's improved Rough Plate Glass from ⅛ to ⅝ in thickness.

Coloured Glass in great variety, at 9*d.* and 1*s.* per foot.

Paints, Genuine White Lead, Linseed Oil, Boiled Oil, Turpentine, Putty, Colours, Varnishes, Brushes, Lamp Glasses, &c.

87, Bishopsgate Street Without, same side as Eastern Counties Railway.

RATS, RATS TAKEN WITHOUT POISON OR TRAPS BY WHOLESALE.—Ships, Barns, Stables, Granaries, Mills, Warehouses, Farmsteads, Houses, &c., cleared at one sweep. ANY PERSON can by this method clear the entire premises of every RAT, however numerous they may be, in one single night. Printed directions how to entice and secure the whole lot alive, sent free by return of post for Two Shillings by WILLIAM GOODWIN, High Halstow, near Rochester.

TROTMAN'S RUSTIC WORK, a great variety always on view. Thatched Summer Houses, Pagoda-roof Zinc ditto; Yew, Oak, and Swiss Tables, Oak Benches, Yew Seats and Stools, Flower Vases and Baskets, Perambulators, Bath Chairs, &c., ready for delivery, always on view at TROTMAN'S Manufactory, 12, Alfred Terrace, Upper Holloway. Delivered free to any Railway Station.

HENRY J. MORTON AND CO.,

2, Basinghall Buildings, Leeds.

### GALVANISED IRON WATER CISTERNS

for Cottage Houses, &c., to contain 50 gallons, 25*s.*; 80 gallons, 30*s.* each; and 140 gallons, 36*s.*, and fitted with tap, keeping the water perfectly sweet and clean; will not rust or corrode. Cisterns of all sizes.

### GALVANISED IRON PUMPS

for Liquid Manure or Domestic Use, 3 inches diameter, 30*s.* and 32*s.* 6*d.* each; Tail Pipe for same at from 10*d.* per foot.

### GALVANISED IRON SWING WATER BARROWS

for Garden or Farm use, containing about 20 gallons, entirely formed of iron, 32*s.* 6*d.* each.

"FRIGI DOMO."—Patronised by her Majesty the Queen, the Duke of Northumberland for Syon House, His Grace the Duke of Devonshire for Chiswick Gardens, Professor Lindley for the Horticultural Society, Sir Joseph Paxton for the Crystal Palace, Royal Zoological Society, late Mrs. Lawrence, of Ealing Park, and —Collier, Esq., of Dartford.

PROTECTION FROM COLD WINDS AND MORNING FROSTS.

"FRIGI DOMO," a Canvas made of patent prepared Hair and Wool, a perfect non-conductor of Heat and Cold, keeping, wherever it is applied, a fixed temperature. It is adapted for all horticultural and floricultural purposes, for preserving Fruits and Flowers from the scorching rays of the sun, from wind, from attacks of insects, and from morning frosts. To be had in any required lengths. Two yards wide, 1*s.* 6*d.* per yard run; four, 3*s.* per yard. Also, an improved make for Shading Purposes. Three yards wide, 2*s.* 6*d.* per yard run.

ELISHA THOMAS ARCHER, whole and sole manufacturer, 7, Trinity Lane, Cannon Street, City, and of all Nurserymen and Seedsmen throughout the kingdom. "It is much cheaper than mats as a covering."

PATENT GUTTA PERCHA SOLES.—IMPORTANT TO GARDENERS.—The Gutta Percha Company have the pleasure to acknowledge the receipt of the following letter from G. GLENNY, Esq., the celebrated Florist:—

"Gentlemen,—I have worn Gutta Percha Soles and Heels these two years, and being so much in a garden as I necessarily am in all weathers, and with the ground in all states, I would on no account be without them. As a matter of economy I would recommend Gardeners to use them, for they may repair the worn part at all times by warming the material at the fire, and pressing it from the thick parts to the worn parts as easily as if it were so much dough. I think it the duty of all persons who must occasionally wet their feet to adopt a material that completely defies damp. Many a gardener would escape colds and rheumatism by the use of Gutta Percha Soles.

"Your obedient servant, G. GLENNY."

Every variety of Gutta Percha articles, such as Mill Bands, Tubing, Soles, Goloshes, Sheet, Pump Buckets, Fire Buckets, Bosses, Union Joints, Flasks, Bottles, Bowls, Chamber Vessels, Toilet Trays, Sponge Bags, Curtain Rings, Galvanic Batteries, Talbotype Trays, &c., manufactured by the Gutta Percha Company, and sold by their wholesale dealers in town or country.—The Gutta Percha Company, Patentees, 18, Wharf Road, City Road, London.

GLAZIERS' DIAMONDS for CUTTING CULTURAL and other GLASS, to be had sale Manufacturer, JOHN EDWARDS, 20, Smithfield, London, E.C. Prices from 10*s.* to

C. STEPHENSON, late STEPHENSON & 61, Gracechurch Street, London, Manufacturer Hurdles, Fencing, &c., Improved Iron and Boilers and Apparatus for Warming B description by Hot Water.

Prices and Estimates furnished upon a

HANDS'S PATENT is the only system Heat, and for WARMING, FUMIGATING TILATING Hothouses, Greenhouses, Winter to keep vegetation healthy in a humid atmosphere applied to any kind or shape of Forcing-houses tories now existing at trifling cost.—For particulars the Office, 10, Charlotte Street, Fitzroy Square, Mr. JOHNSON HANDS, Epsom.

VOKINS AND HURD, Seymour H Place, King's Road, Chelsea, BUILDERS CONSERVATORIES, GREENHOUSES, PITS, and every erections in Glass work, either in Wood or Iron the same by hot water on the most approved lowest prices consistent with good work. Estimates

### GREENHOUSES.

HENRY FREEMAN, HOTHOUSE BUILDER WATER APPARATUS MANUFACTURER, Tra Established 20 years. Good substantially HOUSES, fixed in any part of the kingdom long by 13 ft, 90*l.*; 21 ft by 13 ft., 50*l.* 12½ ft. first-rate Conservatory, 30 ft. by 16 ft, 130*l.* ment kept. Estimates for heating, or any iron, or Park Fencing.

### GREENHOUSES, ORCHARD HOUSES, AND

OF EVERY DESCRIPTION, MADE BY STEAM MACHINERY HEATED BY HOT WATER ON AN IMPROVED PLAN

J. LEWIS'S HORTICULTURAL WORKS Hill, Middlesex, established 20 years. These are warranted of the best materials, and at prices competition. The ventilation is most efficient, improvement of the present day. Prices of any tion. References in all parts of the United Kingdom

### HORTICULTURAL BUILDINGS AND HEATING HOT WATER.

JOHN R. PEILL, 17, New Park Street, Manufacturer of every description of Buildings tural purposes, and Inventor of the Improved for heating the same, is prepared to undertake magnitude, and refers among others to the celebrated FORCING HOUSES at HER MAJESTY'S GARDENS MORE, and at SIR ROBERT PEEL'S, DRAYTON constructed under the superintendence of his Manager JOHN JONES; and also to his BOILERS fixed at TAL PALACE, the ROYAL BOTANIC GARDENS PARK, and KEW, and at several hundreds of the seats, Public Establishments, and Manufactories in the provinces. J. R. P. also manufactures every description Iron Roofs, Iron Houses, and Iron Fencing, plain mental. Strong Iron Hurdles for Sheep (6 feet high, with 5 bars), 4*s.* 3*d.* each; ditto for cattle, 4

Prices and other particulars forwarded on receipt postage stamp.

A GOOD GREENHOUSE FOR SALE, inches long, by 9 feet 9 inches wide, inside glazed, span roof, and glass folding doors to front end, small door at other end with brickwork shelves, complete. Price 24*l.* To be seen temporarily at Mr. AKHURST'S, Eltham, Kent.

### HOTHOUSES FOR SALE

TO BE SOLD CHEAP, two nearly new SPAN HOUSES, each 65 feet long by 18 feet wide each; also a handsome OCTAGON CONSERVATORY diameter with glass all round, quite new, price houses are warranted to be of the best materials and ship. The reason of their being now Sold is to make an extensive alteration and addition to our Steam Machinery.—Apply to Messrs. JOHN KING'S Road, Chelsea, where the whole of the seen, as also a great variety of other Horticultural

POULTRY HOUSES—SUMMER-HOUSES Poultry House, 12 ft. by 4 ft., 6 ft. high 5*l.*; consisting of roosting-house, 4 ft. by 4 ft. wired in, 8 ft. by 4 ft. of corrugated iron, fitted boxes, perch, &c.; House without run, 2*l.* Poultry galvanised, 5*d.* per square yard. Corrugated house, 10 ft. by 6 ft., price 6*l.*—a good retreat for children; larger or smaller, on equally moderate Bath House, 5*l.*, for yard or garden. Tool Houses, &c.—R. RICHARDSON, Portable House Builder, Factory, Bidborough Street, Judd Street; Office Road, London. Drawings of Poultry Houses, Summer and Portable Houses free on application.

### TO GARDENERS, ETC.

PATENT WATERING ENGINES, PA CHINES, CONSERVATORY PUMPS, and HOUSE SYRINGES, with all the latest manufactured only by the Patentee, RICHARD READ, 35, REGENT CIRCUS, PICCADILLY,

*** Descriptions sent post free.

THE CHAMPION STEAM PLOUGH by applying at 40, Mark Lane, London. dation is the valuable work it has done. Orders must be sent at once.

Woolston, Bletchley Station.—Feb. 19

GEORGE SPILL, ST. GEORGE'S STREET DOCKS, E., LEAD, OIL, and COLOUR WORKS; TAR, and TURPENTINE MERCHANT; WHITE ZINC, PAINTS and VARNISHES. To meet the desire of purchasers try the following colours are prepared ready for use Colour, Red and Yellow Paint, Buff Stone, Lead Colours. Putty, Painter's Tools and Brushes, Refined Stockholm Tars; Pure Colza, Olive, Sperm, and

SHAW'S TIFFANY.—The best and material for Shading Conservatories, Protecting from Birds and Wasps, &c. Sold in pieces 20 yards 38 inches wide. No. 1, best quality, 5*s.* per piece quality, 4*s.* per piece. Extra strong and thick (as sent free by post with samples).

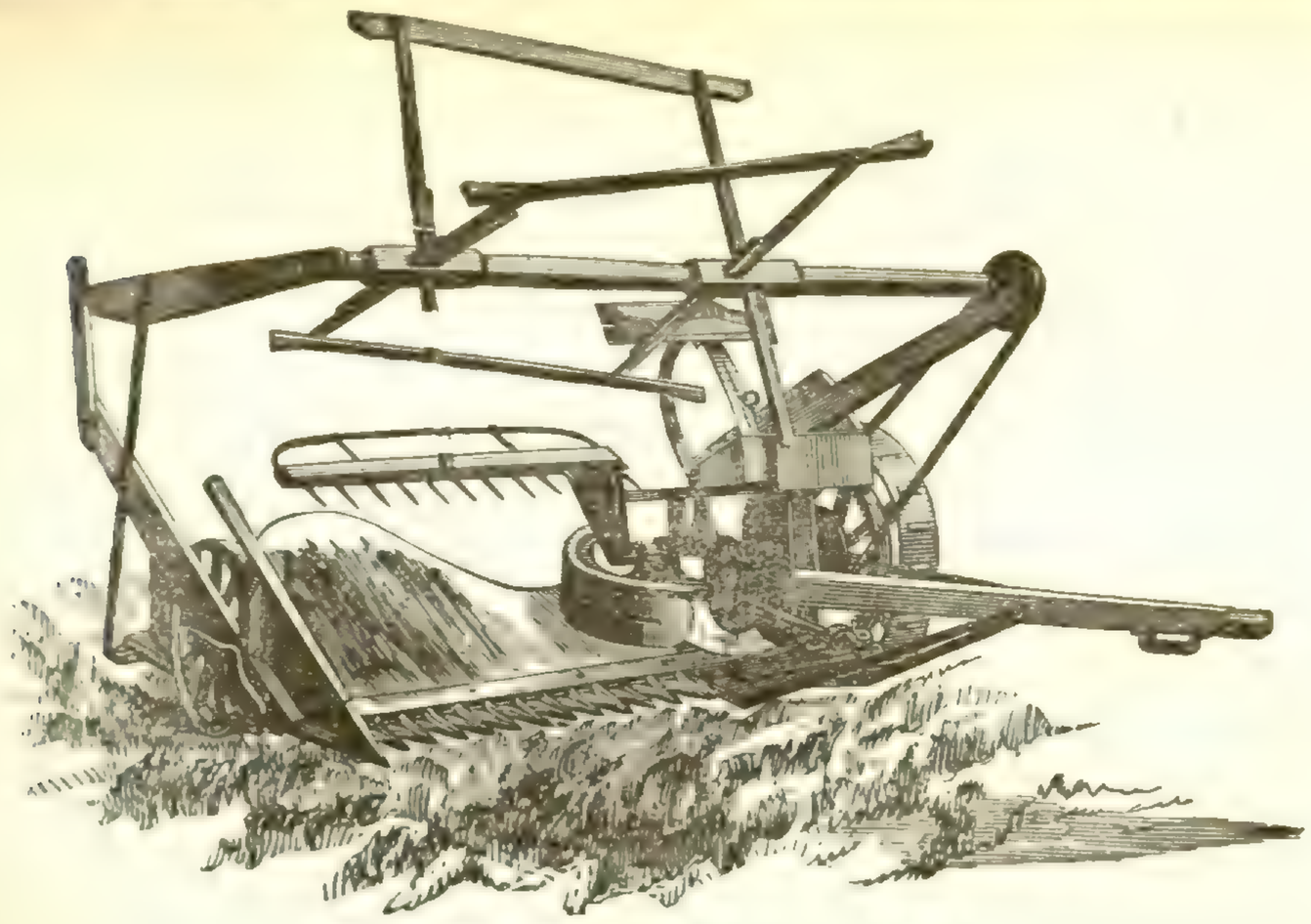
Address JOHN SHAW & Co., Manufacturers, Princess Street, Manchester.

### SHADING.

BROWN'S FLORAL SHADING still maintains superiority for cheapness and efficiency over materials used for a similar purpose, viz., shading glass from the scorching rays of the sun, protecting Fruit Trees when in bloom from frost, and preserving fruit from the attacks of birds, flies, and wasps. In pieces 20 yards long, 38 inches wide:—

No. 1 per piece .. 4*s.* 0*d.* | No. 2 per piece

To be obtained of all the principal Nurserymen in town and country. Samples sent free on application to the Manufacturer, CHARLES BROWN, Greenheys, Manchester.



# B. SAMUELSON,

## AGRICULTURAL ENGINEER AND MACHINIST,

WAREHOUSE, 76, CANNON STREET WEST, LONDON,

**WORKS AT BANBURY,**

INFORMS MERCHANTS, the TRADE, and AGRICULTURISTS, that he has opened the above Warehouses as a depôt for his own manufactures and those of Messrs. Barrett, Clayton, Howard, Hornsby, Nicholson, Richmond, Tuxford, Smith, and all other first-class makers, whose implements he is prepared to offer on makers' terms.

## THE BRITANNIA SELF-RAKING REAPING MACHINE,

With side delivery in sheaf, no rakers or gatherers required; and all the most improved Food-preparing Machines of the season, may be inspected at the above depôt.

**B. SAMUELSON, 76, Cannon Street West, London; and Britannia Works, Banbury.**

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# GREEN'S PATENT

## GRASS CUTTING, COLLECTING, & ROLLING MACHINES.

**MANUFACTORY, LEEDS, YORKSHIRE.**

## Trial at the London Horticultural Society's Gardens, Chiswick, June 5, 1857.

FOUR COMPETITORS.

First trial on level ground; second do. on undulated; third ditto on intricate places around trees, &c., when GREEN'S PATENT was unanimously declared to be the best in each trial by Colonel Challoner, Dr. Lindley, and G. M'Ewen, Esq., the appointed judges.

See the *Gardeners' Chronicle* of May 22, 1858, p. 423, under the heading of "Garden Memoranda."

"LONDON HORTICULTURAL GARDENS, CHISWICK.—The Grass in the Arboretum and elsewhere is in excellent condition; it is kept in order by means of one of GREEN'S 2-feet Mowing Machines, which does its work very satisfactorily, and, compared with the scythe, effects a saving of at least one half."

Extract from London *Times* of June 8, and *Gardeners' Chronicle* of June 12, 1858.

"TRIAL OF MOWING MACHINES.—A considerable number of machines of various sizes having been brought to the ground, it was agreed that the trial should take place between one Hand Machine of each exhibitor, all selected as nearly as possible of uniform size, and worked by themselves, or their men. The ground to be worked was determined by lot, the pieces having been previously selected of as uniform quality as possible. After trials on level ground and round trees the judges, Colonel Challoner and Mr. Edward Easton, delivered the following award:—

| Name. | Time. | Square feet cut. | Square feet cut per minute. | Points indicating quality, 60 being perfection. | | | | Price. |
|---|---|---|---|---|---|---|---|---|
| | | | | Quality of work. | Construction of machine. | Lightness of draught. | Total. | |
| GREEN ..... | 6min. 35sec. | 1600 | 242 | 50 | 50 | 60 | 160 | £8 10s. |
| Shanks ..... | 6 35 | 1302 | 197 | 45 | 50 | 40 | 135 | 7 10 |
| Ferrabee ..... | 6 35 | 1503 | 228 | 15 | 45 | 50 | 110 | 6 0 |
| Deane ..... | 6 36 | 1046 | 158 | 25 | 10 | 60 | 95 | 6 8 |

(Signed) "C. B. CHALLONER, EDWARD EASTON, Judges."

Extract from the "Cottage Gardener" of June 15, 1858.

"The decision was just what was anticipated, all present being satisfied of the manifest superiority of GREEN'S Machine, both in construction, lightness of draught, and superiority of work."

---

THOMAS GREEN respectfully informs the Nobility, Gentry, Gardeners, Amateurs, and others that upwards of Fifteen Hundred of these Machines were sold during the last two seasons, which were proven to be the best in all cases of competition, and have since been REMODELLED ENTIRELY; the little defects pointed out by the judges last year are now rectified. The Patentee now considers the Machines as near perfection as possible.

THE FOLLOWING IS A LIST OF PRICES:—

Made very strong, suitable for Horse Power, to cut 48 inches, £27; do. 42 inches, £24; do. 36 inches, £21; do. very strong, suitable for a strong Pony, to cut 30 inches, £18; do. do., made lighter, suitable for a small Pony or Donkey, to cut 30 ins., £15. If fitted up with leather traces, hooks, stretcher, &c., which may be attached to the usual harness or chain traces, 7*s.* 6*d.* extra.

Box of requisites for cleaning andsharpening, with instructions for keeping the Machine in order, 5*s.* extra.

Leather Boots, suitable for Horses' feet, to prevent injury to the lawn, will be for a set of four, 24*s.* extra.

## HAND MACHINES.

To cut 24 inches, £8 10*s.*, suitable for two men.
To cut 22 inches, £8 0*s.*, suitable for man, or a man and boy.
To cut 20 inches, £7 10*s.*, suitable for man and boy.
To cut 18 inches, £7 0*s.*, suitable for one man.
To cut 16 inches, £6 10*s.*, suitable for one man.
To cut 14 inches, £6 0*s.*, suitable for a stout lad.

Box and requisites for cleaning and sharpening, with instructions for keeping the Machine in order, 5*s.* extra.

The above are Nett Cash prices, delivered at any of the principal Railway Stations in England.

*** The Machines are warranted to give satisfaction, or may be at once returned by the party paying the carriage back to Leeds. The Patentee has spared neither time nor expense in producing the best and cheapest Mowing, Collecting, and Rolling Machines ever brought before the public.

Hundreds of Testimonials (unsolicited) may be seen, and references given with regard to the superiority of the Machines, by applying to the Patentee,

## THOMAS GREEN, Smithfield Iron Works, Leeds.

☞ T. G. *will be glad to receive orders for Machines as early as possible; a great difficulty was found last season in supplying the number required.*

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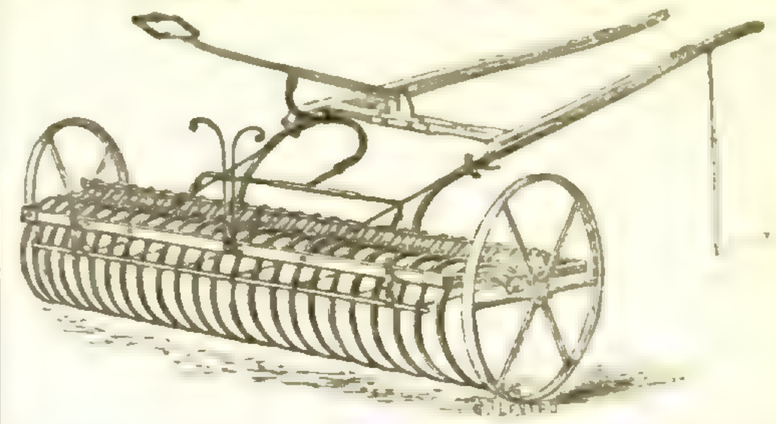
**HOWARDS' PRIZE IMPLEMENTS, 1859.**

JAMES AND FREDK. HOWARD, Britannia Iron Works, Bedford, beg to direct attention to their

PATENT STEEL-TOOTH HORSE RAKE.



For which they received the Three First Prizes last offered by the Royal Agricultural Society of England.

J. & F. HOWARD have discontinued troubling the Public with a long List of Prizes awarded to their Implements, but they would just state that for PLOUGHS, HARROWS, and HORSE RAKES, they have for several years gained every Prize for which they have competed.

PLOUGHS.

P PLOUGH, with two wheels, for light work .. £4 7 6
PP PLOUGH, " for general purposes 4 12 6
SKIM COULTER .. .. .. .. .. £0 5 6

STEEL BREASTS, 7*s.* and 7*s.* 6*d.* extra.

HARROWS.

A Set of Three 4-Beam HARROWS, with Whippletree, recommended as general Seed Harrows, 9½ feet wide, marked No. 12 .. .. .. .. .. .. .. £3 14

A Set of Three 4-Beam HARROWS, with Whippletree, adapted for 3 Horses, 10 feet wide, marked No. 11 .. 4 4

HORSE RAKES.

Price of small size RAKE, marked A, with 24 iron teeth, extreme width 7½ feet .. .. .. .. £7 10 0
Ditto, with Steel Teeth .. .. .. .. .. 8 0 0
Price of large size, marked B, with 28 iron teeth, extreme width 8½ feet .. .. .. .. .. 8 0 0
Price of large size, marked B, with steel teeth .. £8 10 0
Price of extra large size, marked C, with 24 steel teeth, extreme width, 8½ feet .. .. .. .. 10 10 0
Price of a Set of 15 Prongs, to be attached to the above when used as Weed Extirpators .. .. .. 1 10 0

Free Delivery to Birmingham, Bristol, Derby, Gloucester, Lincoln, Liverpool, London, Manchester, Norwich, Nottingham, Retford, Wisbeach, and Worcester; or to Dublin, Edinburgh, Glasgow, and other parts at fixed rates.

HOWARDS' NEW CATALOGUE, containing prices and description of their Patent Ploughs, Harrows, Horse Rakes, and other Implements, including Smith's Steam Cultivators, for which they received at Chester the Gold Medal of the Royal Agricultural Society of England, sent free on application to

J. & F. HOWARD, Britannia Iron Works, Bedford.

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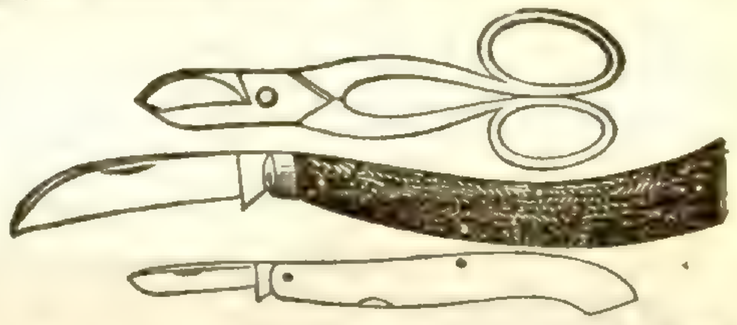
**PAXTON WORKS, SHEFFIELD, ESTABLISHED 1738.**



SAYNOR AND COOKE'S warranted PRIZE PRUNING and BUDDING KNIVES, SCISSORS, &c.—Sold by all respectable Nurserymen and Seed Merchants in the three Kingdoms.

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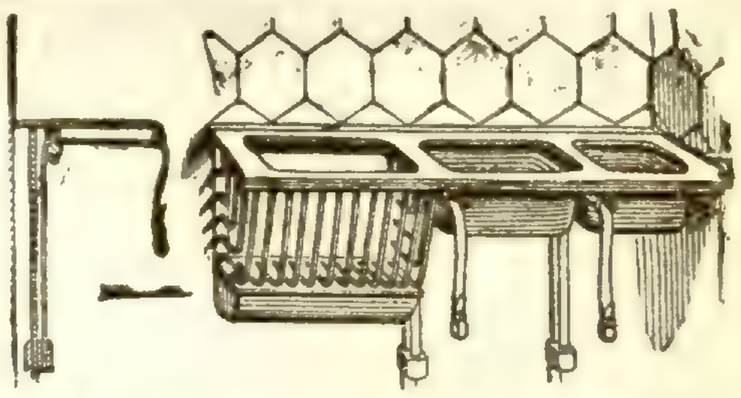
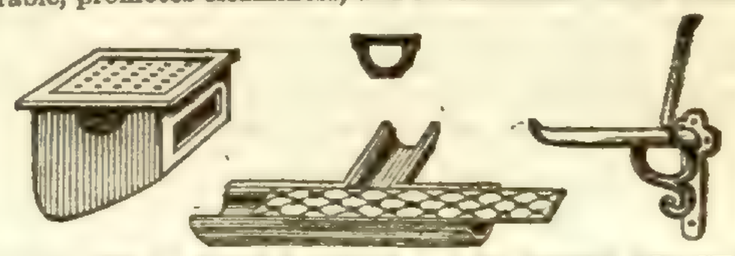
COTTAM'S PATENT INVENTIONS FOR STABLE REQUISITES, awarded a Prize at the Paris Exhibition, and patronised by the English and French Governments.



COTTAM AND COMPANY, of Winsley Street, are the original inventors of the PATENT ENAMELLED MANGER, Water Trough, and Wrought Iron Rack, united to an iron top-plate, and forming one complete and useful fixture, having COTTAM'S patent noiseless halter guide and collar rein attached, which is taken to the back of the manger, and works with ease and freedom up or down the guide-bar.

COTTAM'S NEW PATENT SEED-BOX, an important addition to the above fittings, being simple in construction, light, and durable, promotes cleanliness, and is economical in its results.



COTTAM'S PATENT SADDLE and HARNESS BRACKET combined, can be used with great advantage where space is an object, as it can be turned up out of the way when not in use.

COTTAM'S IMPROVED SURFACE GUTTER, with perforated moveable cover, the use of which prevents accidents, and can be easily cleaned out.

COTTAM'S CAST-IRON SANITARY TRAP, from its improved construction, gives a full water passage, and does not allow any smell to ascend from the drain.

PATENT LOOSE-BOX FITTINGS, and every article for the harness-room and stable, kept in stock, plain, galvanised, and enamelled. Iron gates, fencing, hurdles, &c.

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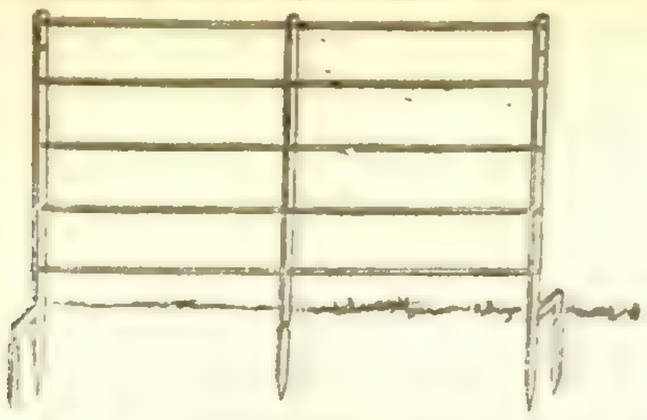

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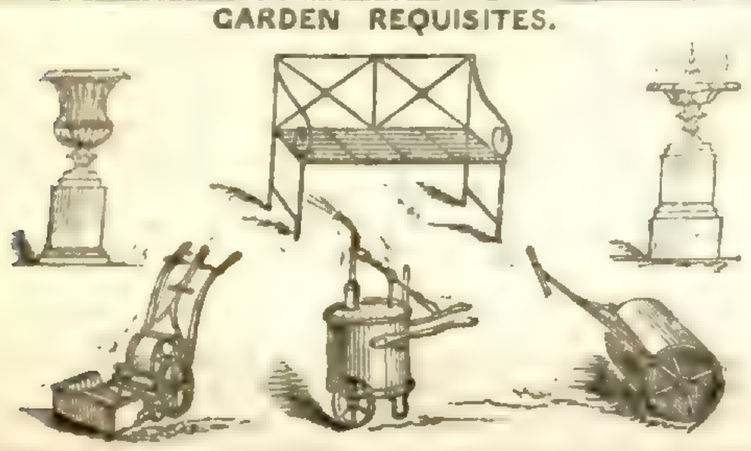

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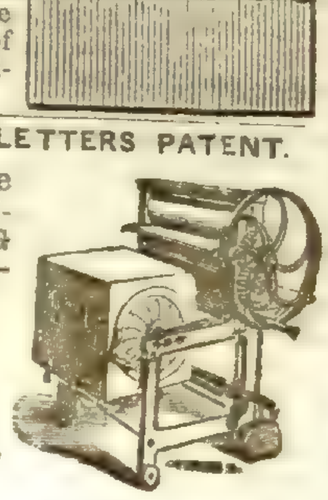

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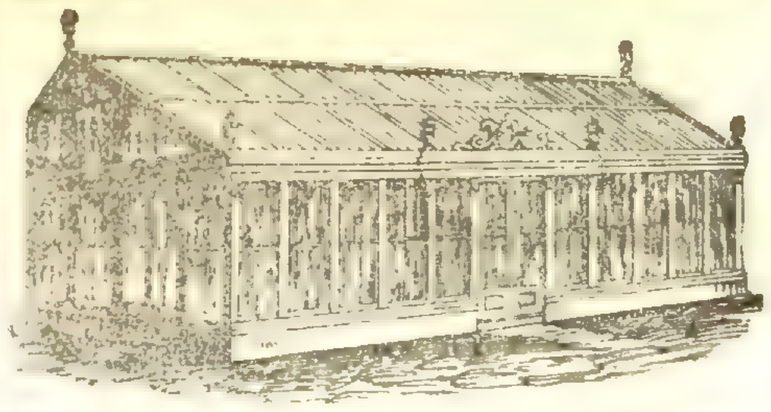

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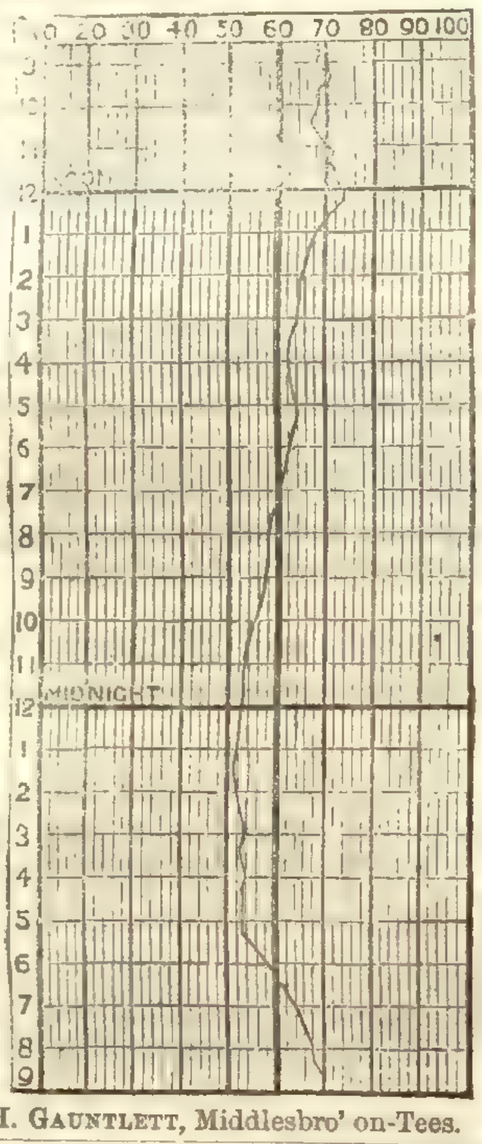
This is the only instrument that registers temperature continuously and writes it down, and no horticulturist should be without it.

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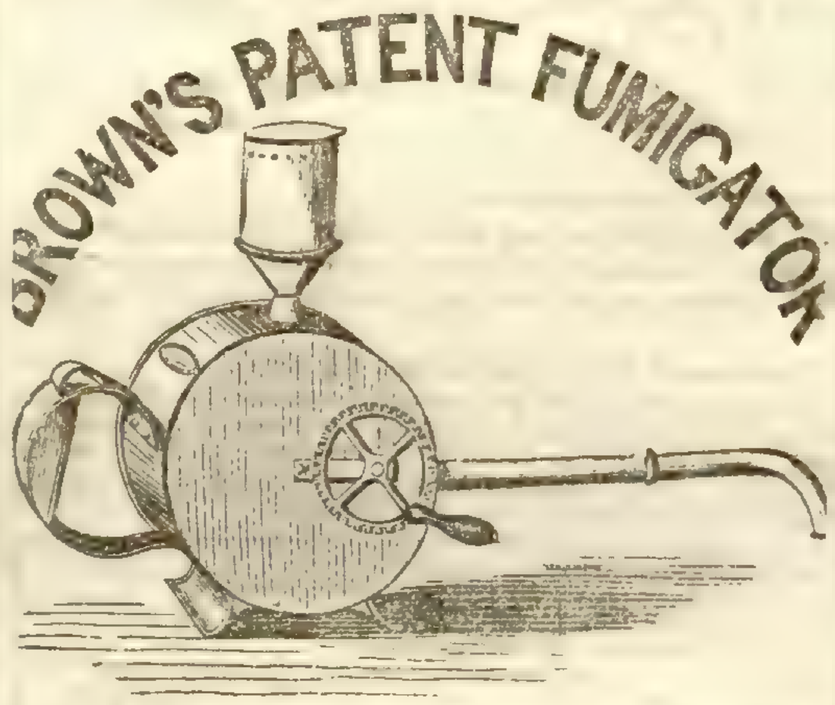


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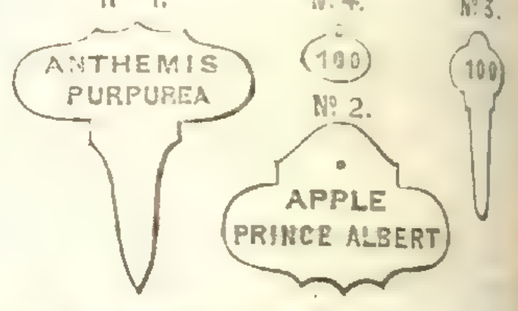


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MR. J. C. STEVENS will sell by Auction at his Great Rooms, 38, King Street, Covent Garden, on TUESDAY, 1st March, at 12 o'Clock precisely, 250 Lots POULTRY AND PIGEONS, very choice, including Black, Buff, and Partridge Cochins; Brahmas, Spanish, Dorkings, Hamburghs, Game Bantams, and other varieties, from the yards of the Hon. Mrs. Colvile; R. W. Fryer, Esq.; Rev. G. Gilbert; T. B. Warwick, Esq.; J. Manning, Esq., and other successful exhibitors. The Pigeons include Pouters, Carriers, Tumblers, Barbs, and other varieties, many of which are first-class Birds.—Catalogues by enclosing a stamped directed envelope to MR. J. C. STEVENS, 38, King Street, Covent Garden, W.C.

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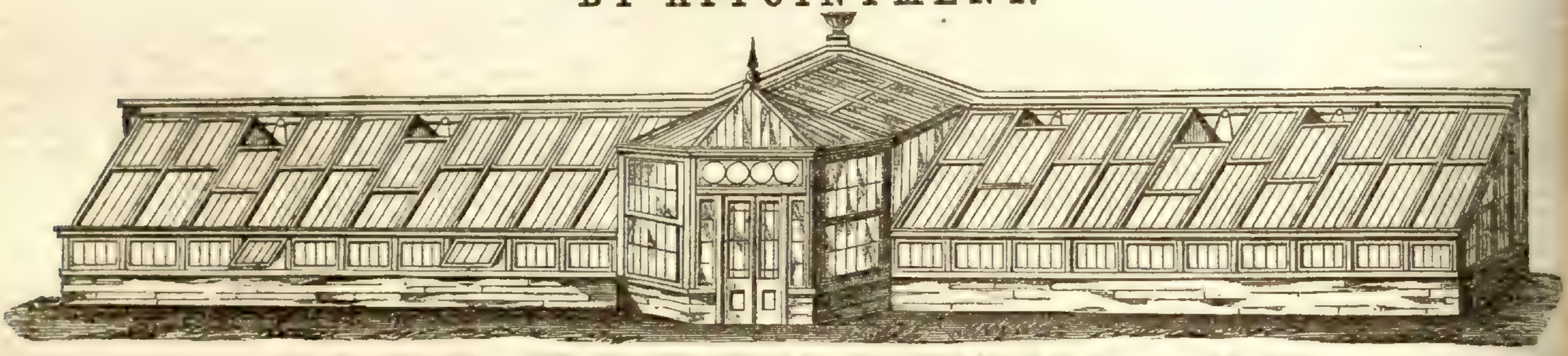

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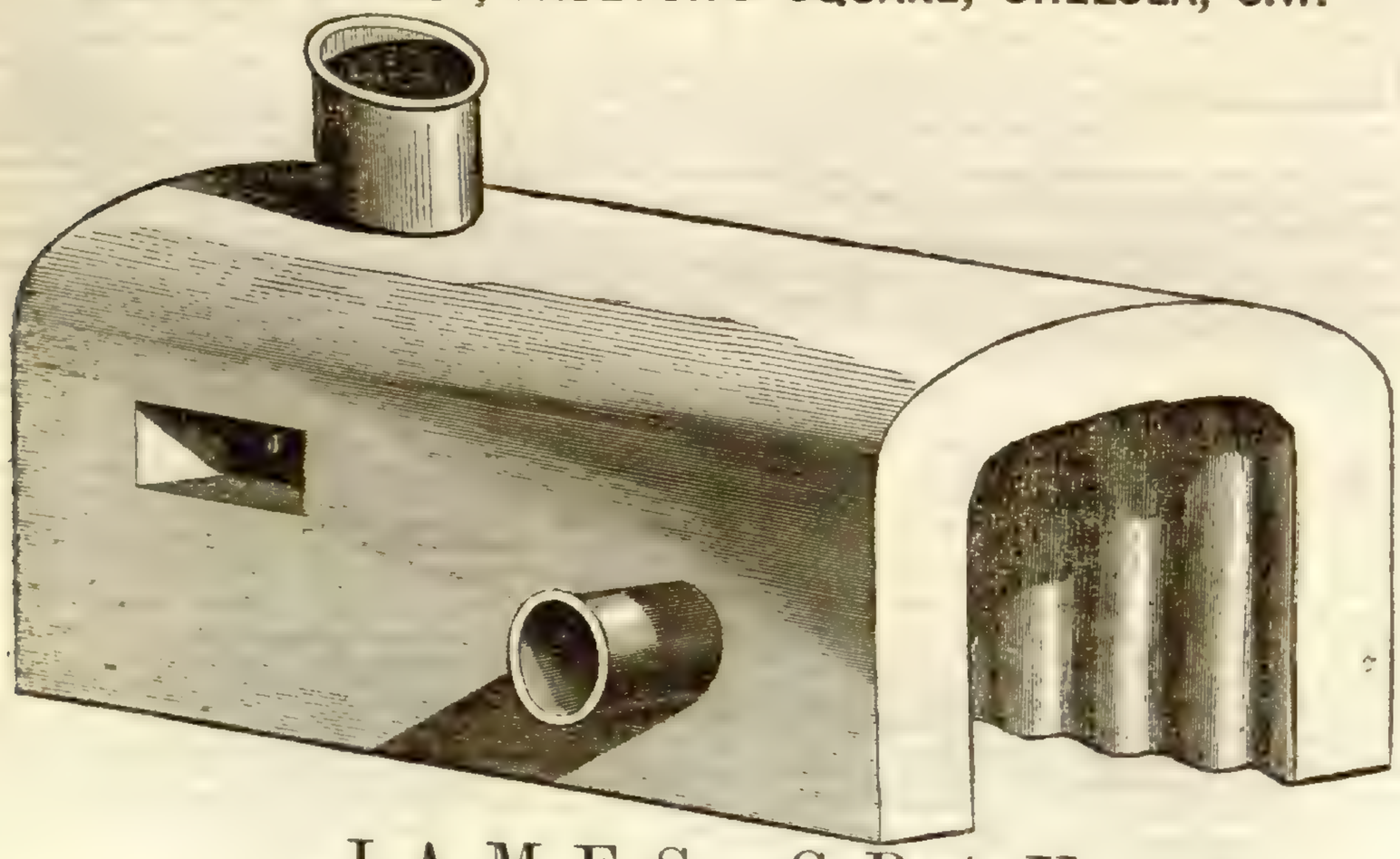

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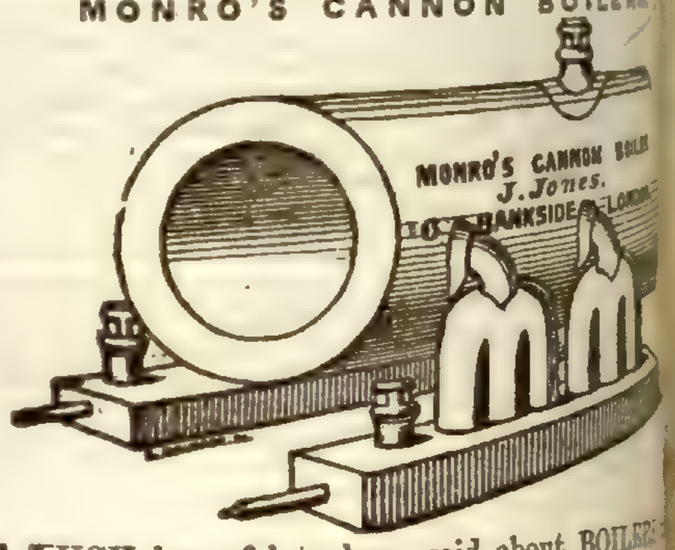


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# THE GARDENERS' CHRONICLE
AND
# AGRICULTURAL GAZETTE.

**A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.**

No. 9.—1859.] SATURDAY, FEBRUARY 26. {Price Fivepence. STAMPED EDITION, 6d.


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HORTICULTURAL SOCIETY OF LONDON.—The next meeting of the Fruit Committee will be held at 21, Regent Street, at 12, noon, on TUESDAY, March 1, when Prizes of 20s. and 10s. will be awarded for the best dishes of Dourd Rance Pears.

N.B. Each dish to contain six fruit, and to be accompanied with a form filled up by the exhibitor. The blank forms for this purpose, and also for other fruits that may be exhibited, can be obtained on application to Mr. ROBERT THOMPSON, Horticultural Society's Garden, Chiswick, London, W.

N B The carriage of packages of Fruit will be paid.

BRITISH POMOLOGICAL SOCIETY, St. JAMES'S HALL.—The next Meetings, with the Premiums offered thereon, for special subjects, are as follows :—

March 3.—2l. 2s. and 1l. 1s., for the best and second best collection of well-kept Apples and Pears, three fruits of each kind, accompanied by careful descriptions of the manner in which they have been kept. (Open to growers only.)

May 5.—1l. 1s., for the best late Seedling Kitchen Apple, to be in dishes of 10 fruit.

Forms, Copies of Rules, Instructions for Packing, or other information, may be obtained upon application to Mr. W. DAVIDSON, Secretary, to whom parcels, &c., should be addressed, at St. James's Hall, 69-71, Regent Street, London, W.; and letters (to avoid delay), at 2, Randolph Road, Maida Hill, London.

THE STOKE NEWINGTON ORIGINAL CHRYSANTHEMUM SOCIETY (instituted 1846) will hold its THIRTEENTH ANNUAL EXHIBITION at the Manor Rooms, on MONDAY and TUESDAY, November 7 and 8, when prizes, including six Silver Cups, will be awarded.

OFFICERS :

JOHN EDWARDS, Esq., F.H.S., *President.*
Mr. HURRELL, *Treasurer.* | JOSEPH PAXTON, *Secretary.*

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| ,, Collins | ,, Merry | ,, Peachey |
| ,, Hutt | ,, Mountain | ,, Scruby |
| ,, Laidlaw | ,, M'Elroy | ,, Ward. |

THE STOKE NEWINGTON ORIGINAL FLORICULTURAL SOCIETY will hold their grand Annual Exhibition of DAHLIAS, HOLLYHOCKS, ASTERS, &c., in the Floral Hall, Hare and Hounds Tavern, Stoke Newington Road, on TUESDAY, August 30, when Prizes will be given to two-thirds of the Exhibitors in each class. A magnificent SILVER CUP will be given for the best stand of 12 Dahlias for Amateurs. Further particulars may be obtained of the

*Chairman*—Mr. J. H. BIRD, F.H.S., Nurseryman, Stoke Newington
*Treasurer*—Mr. HURRELL
*Secretary*—Mr. JOHN NICHOLLS; or of Mr. C. E. ALLEN, at the above Tavern.

BRIGHTON AND SUSSEX FLORICULTURAL AND HORTICULTURAL SOCIETY'S EXHIBITIONS for 1859 are fixed to be held on the following days:—Summer Show, WEDNESDAY and THURSDAY, June 22 and 23; Autumn Show, WEDNESDAY and THURSDAY, Sept. 14 and 15; on the same grand scale as in former years. Schedules will shortly be published, to be obtained of the Secretary, 96, St James's Street; or of E. SPARY, Queen's Graperies, General Superintendent of Exhibition.

EDWARD CARPENTER, Secretary.
THOS. ATTREE, Esq., Chairman of Committee.

Brighton.—February 26.

HORTICULTURAL SOCIETY OF EDINBURGH.—The Exhibition of HYACINTHS and other SPRING FLOWERS and FRUITS (open to the United Kingdom) will be held in the Music Hall, George Street, on TUESDAY, March 22 next, when a Promenade with Military Music will take place from 1 till 4 o'Clock P.M.

Prize Lists of these, as well as those of the Summer and Winter Exhibitions, may be had at the various Seed and Fruit Shops.

Edinburgh, Feb. 26. ROBERT M. STARK, Sec,

HORTICULTURAL VALUATIONS.

MR. ALFRED CHANDLER (of the late firm of Chandler & Sons, Vauxhall), begs to inform his Friends that he is at liberty to undertake the valuation of Collections of Plants, Nursery Stock, Horticultural Buildings, &c.

Mr. A. C. is also open to engagements as Censor at Horticultural Exhibitions, in which capacity he has had long and extensive experience.—28, Priory Road, Wandsworth Road, S.

RED MATCHLESS CELERY. — Jenkins's Red matchless Celery, the best (for years) in Covent Garden Market, 1s. per packet; Shilling's Queen Cabbage, true, 1s. per oz. In[illegible]e White Broccoli, very hardy, 1s. per packet; London [illegible]tte Cos Lettuce, 1s.; Maunders's Pearly Cauliflower, [illegible]ucheren Cauliflower, 1s. The above post free, with [illegible] Vegetable and Flower Seeds, a Catalogue of which [illegible]d on application.—JOSEPH MAY & Co., Seedsmen, [illegible]on Street, Strand, W.C.

SUTTON'S FARM SEED LIST WITH PRICES FOR MARCH AND APRIL will be ready in a few days, and will be sent gratis and post free to Messrs. SUTTON'S customers.—Royal Berkshire Seed Establishment.

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WILLIAM YOUNG'S DESCRIPTIVE CATALOGUE OF NEW HARDY ORNAMENTAL PLANTS, CONIFERÆ, ROSES, RHODODENDRONS, FOREST TREES, &c. Can be had on application.—Milford Nurseries, Godalming.

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JOHN CATTELL begs respectfully to announce that his CATALOGUE of the above may be had free by return of Post. It contains selections of the most approved culinary vegetables in cultivation, nearly the whole of them having been saved under J. C.'s own personal superintendence.—Nursery and Seed Establishment, Westerham, Kent.

FERN CATALOGUE.

ROBERT SIM'S NEW DESCRIPTIVE AND PRICED CATALOGUE, No. 6 (62 pages) of his COLLECTION of BRITISH AND EXOTIC FERNS, can be had, post free, for 8 stamps. Gratis to all previous purchasers of Ferns. Nursery, Foot's Cray, Kent, S.E.

GEORGE BAKER begs to inform the Nobility and Public that his DESCRIPTIVE CATALOGUE OF AMERICAN PLANTS AND GENERAL NURSERY STOCK will be sent free on application.

American Nursery, Windlesham, near Bagshot, Surrey, about 1 mile from Sunningdale Station, South Western Railway.

VEGETABLE, FLOWER, AND AGRICULTURAL SEEDS.

THOMAS HARRISON'S PRICED CATALOGUE of the above is now ready, and may be obtained postage free on application.—Horticultural and Agricultural Seed Warehouse, 33, Market Place, Leicester.

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A. PAUL AND SON beg to inform admirers of the Rose that they will have plants of all the NEW ROSES ready for Sale by the middle of April at the lowest advertised prices.—Nurseries, Cheshunt, Herts.

NEW ROSES.—A full collection of the New Roses for 1859 will be in bloom in the Rose houses at Sawbridgeworth, from the middle to the end of March, and young plants at the usual prices (from 3s. 6d. to 5s. each) will then be fit for delivery.—THOS. RIVERS, Nurseries, Sawbridgeworth, Herts

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HOLCUS SACCHARATUS, or CHINA SUGAR CANE GRASS.—Seed of this lately introduced Fodder plant can be supplied by NUTTING and SONS in any quantity. Price on application.

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HOLCUS SACCHARATUS, or North China Sugar-Cane.—Pamphlet, "A Visit and a Plant;" the only English authority on the Cultivation of the above. Post free 6d. Prices of Seed on application. Samples 6d. Four varieties of Holcus remitted free by post on receipt of 10s.

CHINESE YAMS, 4s. per dozen.
ASPARAGUS plants, 16s. per 1000.

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HUDSON'S GOLDEN MELON BARLEY.—Selected Samples for Seed of this most valuable variety, superior both for produce and malting quality, may be had of RAYNBIRD & HARVEY, of Basingstoke; and 89, Seed Market Mark Lane, E.C.

THE IMPROVED CUSTARD MARROW.—See drawing of this handsome and productive variety in the *Gardeners' Chronicle* of Jan. 29 and Feb. 12. 12 seeds for 13 postage stamps; 9 seeds for 7 stamps. The trade supplied.

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GRAYSON'S GIANT ASPARAGUS.—
Fine 2-year roots, 2s. 6d. per 100; or 21s. per 1000.
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The usual allowance to the trade.

BASS & BROWN, Nurserymen, Sudbury, Suffolk.

NEW ZEALAND RUNNING BEAN.—Packets of 12 Seeds, for 13 stamps.

BASS & BROWN, Seed Growers, &c., Sudbury, Suffolk.

CUTHILL'S NEW ZEALAND RUNNER BEANS, POST FREE.

SUTTON AND SONS can supply the true kind of NEW ZEALAND RUNNERS, as obtained through Mr. Cuthill, at 2s. 6d and 1s. per packet.—Reading, Feb. 26.

THE NEW ZEALAND RUNNER BEAN.

CHARLES TURNER has purchased Mr. Smith's Stock of this remarkable BEAN, which Professor Lindley has pronounced to be identical with the variety named above. In 2s. 6d. packets, containing 20 Beans. The Trade supplied on the usual terms.—The Royal Nurseries, Slough.

NEW DAHLIAS.

JOHN KEYNES'S SELECT CATALOGUE OF DAHLIAS, ROSES, CARNATIONS, PINKS, &c., containing Lists of all the valuable Show Flowers in each class, is now ready and will be sent on application.

Castle Street Nursery, Salisbury.—Feb. 26.

CONIFERÆ.

A. PAUL AND SON have a large stock of the above, very handsome, in fine order for removal, many suited for immediate effect. For particulars see Advertisements in *Gardeners' Chronicle* of November and December last.—Nurseries, Cheshunt, Herts.

CHEAP AND SELECT NURSERY STOCK.—See Advertisement in *Gardeners' Chronicle* of Feb. 12, page 114.

LAURELS, fine transplanted, 1½ to 2½ feet, 70s. per 1000.
Do. twice transplanted, 3 to 5 feet, 120s. ,,

The above are strong plants of good colour.

WILLIAM JACKSON & Co., Bedale, Yorkshire.

LARGE NORWAY SPRUCE, &c.—The subscribers have to offer 500,000 transplanted Norway Spruce of different sizes, from 12 to 24 inches. Also 100,000 GOOSEBERRIES of best Lancashire roots. Prices to the Trade and large buyers on application to

J. MORRISON & SON, Montcoffer Nurseries, near Banff.

HALF A MILLION ONE-YEAR SEEDLING OAKS (STRONG AND STOUT).

JAMES MELDRUM, NURSERYMAN, Kendal, Westmoreland, offers the above in quantities to suit purchasers. Price reasonable, on application.

A VERY LARGE STOCK OF

FINE COMMON LAURELS, 1, 2, and 3 feet high, bushy and a good colour. Also very strong transplanted true Evergreen Privet, 3 to 6 feet.—Prices moderate on application to WILLIAM WOOD & SON, Woodlands Nursery, Maresfield, near Uckfield, Sussex.

THREE MILLIONS OF TRANSPLANTED QUICKS.

GEORGE CHIVAS, Chester, offers the above to the notice of Planters, which for extent and quality he believes are unequalled in the kingdom. A Sample Bale containing 100 of each five sizes forwarded on receipt of a Post-office Order for 15s. Truck loads delivered free at any Railway Station having through communication with Chester.

WILLIAM POWELL, NURSERYMAN, Heath Lane, Hounslow, Middlesex, respectfully informs the Public that he has now on sale a large quantity of CURRANT TREES, Red and Black Naples, cut back every year, at 4s. per 100. Other Fruit Trees upon most reasonable terms.—Apply as above. Cash on delivery.

TO PLANTERS.—Fine stock of Larch, 1½ to 3 feet; Scotch Firs, 1½ to 2 feet; Beech, 1½ to 4 feet; Elms, 3 to 6 feet; Evergreen Privets, Common Hollies, 1 to 1½ foot; fine Healthy Plants, with all other kinds of Nursery Stock. Samples and price on application to JOHN SCHOLEY, Pontefract Nurseries.

DOUBLE ITALIAN TUBEROSES.

JAMES CARTER AND CO. have just received a supply of Extra Strong Flowering Roots of the above which [illegible] can offer at 4s. per dozen.

JA[illegible]RTER & Co., Seedsmen, 238, High Holborn, W.C.

C[illegible] SAINFOIN SEED.—Seed of this excellent ductive Plant may be had of RAYNBIRD & HARVEY, Ba[illegible] and 89, Seed Market, Mark Lane. Samples and pric[illegible]plication.

N[illegible] & H. can also supply Common Sainfoin both of Eng[illegible] French growth at market prices.

TO THE TRADE.—LONG RED WURZEL, 28s. per cwt.; YELLOW AND ORANGE GLOBE, 30s. per cwt. The above seed is warranted, and saved from the best stocks in the country. Terms Cash.

MAXFIELD HONEY, 71, Bank Street, Maidstone

ITALIAN RYE-GRASS SEED.—The Seed trade can be supplied with any quantity of ITALIAN RYE-GRASS SEED, at 24s. per cwt. cash. Early application should be made to J. DIXON, Seedsman, Kendal.

JOHN CULVERWELL, Taunton, begs to call the attention of Agriculturists to his superior selection of GRASS SEEDS, which for PURITY, change of SOIL, and CLIMATE, will bear comparison with any house in the Kingdom. Prices, terms, and samples forwarded on application.

PAMPAS GRASS (GYNERIUM ARGENTEUM).—The beauty of this extraordinary plant has this season been fully appreciated. It can be supplied by the dozen, hundred, or thousand, by CHARLES NOBLE, Bagshot, Surrey.

### EARLIEST WRINKLED PEA.

FAIRHEAD AND SON, SEED GROWERS and MERCHANTS, Lewisham, Kent, beg respectfully to offer their new EXCELSIOR PEA, of robust habit, delicious flavour; much earlier than Napoleon or Bonne Femme. They can confidently recommend it as the earliest and best Wrinkled Marrow Pea in cultivation. Price on application.

### EARLY PEAS.

WAITE'S DANIEL O'ROURKE PEA; the earliest Pea in cultivation.

EARLY NAPOLEON; a Blue Wrinkled Marrow Pea, as early as EMPEROR.

EARLY EUGENE; a White Wrinkled Marrow Pea, as early as EMPEROR.

Prices to be had on application of J. G. WAITE, Seed Establishment, 181, High Holborn, London, W.C.

THE EARLIEST PEA.—DUNNETT'S FIRST EARLY is in every respect superior to "Daniel O'Rourke," being several days earlier, having finer pods, and richer in flavour, height 2½ feet. For an early dish of fine-flavoured Peas we can confidently recommend this; 2s. per quart.

CHAMPION CABBAGE, the earliest and best sort, if sown in succession, may be had fit for table throughout the year, 8d. per ounce, or 1s. post free.

BUTLER & MCCULLOCH, Covent Garden Market, London.

CHAMPION OF SCOTLAND PEA.—A new and first-rate sort, declared by all who grew it last year to be the most distinct and best flavoured Pea in cultivation. To be had only at PETER LAWSON & SON'S, the Queen's Seedsmen, &c., who are also prepared to execute orders for all sorts of Garden and Flower Seeds of the finest quality.

27, Great George Street, Westminster.

NEW ZEALAND RUNNER BEAN, 1s. per doz. 7s. 6d. per 100.

AUSTRALIAN do. do., a great acquisition, pods similar to Dwarf Beans, 1s. per 100.

True COTTAGER'S KALE, 1s. per packet.

DAVIS'S INCOMPARABLE NEW BROCCOLI, 1s. per packet.

CUSTARD VEGETABLE MARROW, 6d. per packet.

PAGE'S IMPERIAL ORANGE GLOBE MANGEL. This variety has superseded all others, 8d. per lb.

PAGE'S IMPROVED SUSSEX SWEDE, withstands mildew, ensuring good results from an early plant, 1s. per lb.

PAGE & TWOGOOD, Seed Growers and Merchants, Southampton.

SEED POTATOES from the North of Scotland.—The following varieties, carefully grown by the Subscriber for several years, and recommended for seed:—

FLUKES.

DALMAROYS.—A variety allied to the Regent, but 3 to 4 weeks earlier in readiness.

PROTESTANTS.—A late White variety; large cropper, and has hitherto escaped disease.

Price of each kind, 12s. per 2-cwt. sack, free to London or Newcastle.

Orders and remittances to be addressed to ALEXANDER SIMPSON, Beauly, Inverness-shire, who refers to the Editor of the *Agricultural Gazette*.

### POTATOES FOR EARLY PLANTING.

MYATT'S PROLIFIC SEEDLING ASH-LEAF KIDNEY.—For description of this valuable variety, which has again given such universal satisfaction, see Dr. Lindley's report in the *Gardeners' Chronicle* of August 1, 1857, at the Horticultural Society's Garden, wherein it is described as a "better cropper than the old Ash-Leaf, and one of the best early kinds." Price per bushel, 7s. To be had of Mr. J. MYATT, Evesham; or of Mr. J. MYATT, Camberwell. A small quantity of Yellow Globe Mangel Seed saved from large selected roots for stock. The trade on application.

### CHOICE COLLECTION OF HOLLIES.

YOUELL AND CO. beg to offer the following collection of 20 very handsome and distinct kinds for two guineas (package included), viz., microcarpa, Tarajo, cornuta, dipyrena, Hendersoni, ovata, heterophylla, new silver striped, Donningtonia, Smithiana, opaca, furcata, latispina, platypetala, latifolia, Maderensis, castanæfolia, Sheppardi, Whittingtonia, crassifolia.—Royal Nursery, Great Yarmouth.

### SUPERB DOUBLE BALSAMS.

F. AND A. SMITH are now sending out seed of their superb BALSAMS, which are unrivalled for size, form, brilliancy of colour, doubleness of flower, and habit of plant.

| | | |
|---|---|---|
| In collections of nine separate colours | .. .. | 2s. 6d. |
| ,, ,, mixed | ,, .. .. | 2 0 |
| ,, ,, ,, | ,, half quantity | 1 0 |

The above are *genuine only* in our sealed packets, and may be had of most respectable Nurserymen and Seedmen in the United Kingdom.—Dulwich, Surrey, S.

### PLANTS IN FLOWER.

F. AND A. SMITH have now in bloom Acacia, Azalea indica, Cinerarias (fine), Cytisus, Dielytra spectabilis, Erica Willmoreana, E. perspicua nana, E. Syndriana, Geraniums, Fairy Roses, Primula sinensis fimbriata, &c.

The above are healthy, strong, and well grown plants, prepared for sending away. Prices on application.

Dulwich, Surrey, S.

### THE BEST MELON IN CULTIVATION FOR TABLE, MARKET, OR EXHIBITION.

WILD'S ORION, the winner of four First Prizes at two Shows—Crystal Palace and Regent Street—Handsome, 4 lbs. to 6 lbs. in weight, thin skin, thick flesh (green), luscious as a melting Peach, fragrant and delicious as a Pine Apple, prolific bearer; six good seeds out of the Prize fruit by post on receipt of 12 penny stamps.

THOMAS WILD, The Primulary, Ipswich.

WILD'S UNRIVALLED PRIMULAS.—Upwards of 100 Testimonials received:—

*Mrs Haig, Dundalk, Ireland.*

"The Primula seed you sent me last year proved most beautiful."

*Mr. J. Parker, Manor Gardens, Worksop.*

"Sir,—Please send me two packets of your Primula seed; the last I had from you was superb."

Sealed packets post free to all parts of the world on receipt of 1s. 6d. in stamps.

THOMAS WILD, The Primulary, Ipswich.

### CALLICARPA PURPUREA.

JOHN STANDISH, the exhibitor of the above (at St. James's Hall), can supply a few good plants at 7s. 6d. each. The following passage from Dr. Lindley's leading article in the *Gardeners' Chronicle* for Nov. 20 will give an idea of its beauty:—"Callicarpa purpurea, quite insignificant when in flower, was beautiful in its winter dress of innumerable rich purple berries, about the size of swan shot." It is easily cultivated, and does well in a cold greenhouse or conservatory planted out, where it will produce thousands of bright purple berries resembling glass beads, and remaining on nearly the whole winter.—Bagshot, Feb. 26.

### FINE HEALTHY ROSES.—

| | | |
|---|---|---|
| STANDARDS | .. .. .. | 18s. per doz. |
| DWARFS (*on the Manetti*) | .. | 12s. ,, ,, |

As the weather still continues mild and favourable for planting, GEORGE CLARKE begs to state he has still a fine stock of all the leading kinds to offer at the above prices, the selection being left to him. The Plants are all healthy and well rooted, therefore calculated to give the greatest satisfaction. Plants carefully packed for any distance. Carriage of all packages paid to London; and in all orders amounting to 20s. plants are added to compensate for distant carriage.

GEORGE CLARKE, The Nursery, Brixton Hill.

NEW ROSES now offered for the first time.

GIULIETTA.—Bourbon; vigorous and without thorns; full of panicles White, slightly tinged with carnation. In the way of Souvenir de Malmaison. Price 15 fr.

PERFECTION.—Hybridised non-climbing Bourbon; flower large and very double, form perfect. Beautiful shaded rose. Price 5 fr. IN THE AUTUMN.

ROSA BONHEUR.—Hybrid Perpetual variegated; nearly full, flattened. Amaranth red, largely streaked with white in the centre of each petal. Price 25 fr.

L'ELEGANTE.—Hybrid Perpetual for espalier; produce of a cross between Rose "Gloire des Rosomènes," and a multiflora; semi-double. Cerise red, blooming in large panicles. This Rose will supersede the non-climbing multiflora varieties. Price 15 fr.

Horticultural Establishment of H. LAURENTIUS, Leipsic, Saxony.

### THE LARGEST STOCK OF

TEA-SCENTED ROSES in the kingdom.—Upwards of 10,000 DWARF TEA ROSES in pots, fine healthy plants now ready for sending out, consisting of all the best leading kinds, and comprising among others—

| | |
|---|---|
| 750 Mélanie Willermoz | 300 Maréchal Bugeaud |
| 500 ,, Oger (yellow) | 300 Madame Bravy |
| 500 Vicomtesse de Cazes (do.) | 300 Le Pactôle, yellow |
| 500 Souvenir d'un Ami | 300 Niphetos, fine white |
| 500 Safrano | 300 Goubault |
| 400 Devoniensis | 300 Canari (yellow) |
| 400 Adam | |

400 Miss Gray or Isabella Gray, TRUE, yellow Rose, &c.

Plants presented to compensate for carriage.—Address WM. WOOD & SON, Woodlands Nursery, Maresfield, near Uckfield, Sussex.

SPECIMEN TEA-SCENTED ROSES, in 8-inch pots. Strong plants for Exhibition, from 3s. 6d. to 5s. each.

The same kinds and many other leading sorts can be supplied as Half-specimen Plants, in 6-inch pots, at 24s. and 30s. per doz.

TEA-SCENTED.—Buret, Blanche de Solville, Bougère, Canaris Clara Sylvain, Comte de Paris, David Pradel, Elize Sauvage, Eugénie Desgaches, Général Tartas, Goubault, Jeannie Deans, La Sylphide, Laurette, Le Cameléon, Le Pactôle, Léontine de Laporte, Madame Bravy, Maréchal Bugeaud, Mélanie Willermoz, Mélanie Oger, Nina, Safrano, &c.

The Subscribers will be happy to furnish extra fine strong plants of the above named Roses adapted for Exhibition.

Early orders are respectfully solicited to ensure the strongest plants.—WM. WOOD & SON, Woodlands Nursery, Maresfield, near Uckfield, Sussex.

### THE BEST NEW ROSES FOR 1859.

WM. WOOD AND SON will be prepared to send out strong healthy plants in pots of the following new ROSES, about the end of April, which are offered as the best of the varieties to be sent out this season:—

HYBRID PERPETUAL.

| | |
|---|---|
| Albert de Stella | Imperatrice Eugénie |
| Anna de Diesbach | Joseph Vernet |
| Anna Alexieff | Lord Elgin |
| Armide | Le Mont Vésuve |
| Ardoisé de Lyon | Mathilde de Moudeville |
| Altesse impériale | Orderic Vital |
| Beauté de Royghem | Oriflamme de St. Louis |
| Bouquet de Marie | Princesse Olympie |
| Comte de Beanfort | Salomon |
| Comtesse Cecile de Chabrillan | Virginal |
| Empereur de Maroc | Madame Bruny |

BOURBON.

| | |
|---|---|
| Aline Pierron | Edith de Murat |
| Comtesse de Barbantanne | Molière |
| Docteur Berthet | Octavie Fontaine |

NOISETTE.

| | |
|---|---|
| Beauty of Greenmount | Cornélie |

TEA-SCENTED.

| | |
|---|---|
| Enfant de Lyon | Madame Joseph Halphen |
| Homère | Ophelia |
| Madame Damaizan | Roi des Pays Bas |
| ,, Darru | Socrate |
| ,, Falcot | |

Good Plants will be supplied at 5s. each, with the usual discount to the Trade.

Woodlands Nursery, Maresfield, near Uckfield, Sussex.

### NEW HYBRID PERPETUAL ROSES FOR 1859.

E. P. FRANCIS offers the following NEW ROSES which he will be prepared to send out on and after the first week in May, at 5s. each. They have been carefully selected from amongst the numerous new French varieties:—

| | |
|---|---|
| Anna Alexieff | Princess Olympic |
| Stephanie Beauharnais | Anna de Diesbach |
| Ambroise Verschaffelt | Beauté de Royghem |
| Imperatrice Eugénie | Comtesse Cecile de Chabrilland |
| Albert de Stella | De la Mothe |
| Virginale | François Arago |
| Altesse Impériale | L'Oriflamme de St. Louis |
| Ardoisée de Lyon | Lord Elgin |
| [These two splendid varieties were awarded the Gold Medal as Seedlings at Lyons.] | Madame Bruny |
| | Orderic Vital |
| Comte de Beaufort | Salomon |
| Docteur Bretonneau | Reine de la Cité |
| Empereur de Maroc | François 1st |
| Armide | Mignard |
| | Madame Jenny |

Hertford Nurseries.

### NEW CINERARIAS, FUCHSIAS, VERBENAS, ETC., OF 1858.

WM. RUMLEY AND SONS beg to offer the following superb new CINERARIAS of 1858, at 7s. to 10s. per dozen, or 9d. to 1s. each, according to size, viz.:—Beauty of Stapleford, Excelsior, John Edwards, Lady Gertrude Vaughan, Lady Jane Peel, Lord Eversley, Lavinia, Lord Palmerston, Mrs. Colman, Mrs. Hoyle, Monarch, Viola, &c.

FUCHSIAS, new of 1858, 7s. to 9s. per dozen

Do good show varieties, 5s. to 6s. per dozen

VERBENAS, new of 1858, 5s. to 6s. per dozen

GERANIUMS, choice show varieties, 4s. to 18s. per dozen

PANSIES extra fine varieties, 4s. to 6s. per dozen

CHRYSANTHEMUMS and PHLOXES, 4s. to 6s. per dozen

DAHLIAS, pot roots, choice, 3s. to 6s. per dozen.

Prepayment or reference required from unknown correspondents.

W. RUMLEY & SONS' New DESCRIPTIVE SPRING CATALOGUE of the above for 1859, is now ready and may be had on application.—Gilling, near Richmond, Yorkshire.

THE ALSIKE CLOVER.—This valuable Clover Seed is included in Messrs. Sutton's Clover and Grass Seeds for permanent pasture, alternate husbandry. It can be supplied in mixture alone if required. Price fluctuating, to be had of

Royal Berks Seed Establishment, Reading.

### IMPROVEMENT OF GRASS LANDS

BY SOWING GOOD SEEDS OF THE MOST SUITABLE KINDS.

SUTTON'S RENOVATING GRASS for improving old Pastures, Parks, and Meadows. Quantity of seed required, 8 to 12 lbs. per acre. Price 60s. or 80s. per cwt., carriage free. Total cost, 6s. to 8s. per acre. These seeds should now be sown.

Royal Berkshire Seed Establishment, Reading.

SUTTON'S ELVETHAN MANGEL and SELECTED YELLOW GLOBE.—These varieties of Mangel are still preferred to all others by the principal growers throughout the kingdom. SUTTON & SONS have some fine seed of each sort, at very moderate prices, which may be had post free.—Royal Berkshire Seed Establishment, Reading.

### TO THE SEED TRADE

THOMAS AYRES, JUN., SEEDSMAN and GROWER, Biggleswade, Beds., can supply every kind of Swede, and common Turnip Seeds, on the most reasonable terms for cash.

N.B. Dealer in Culinary and Flower Seeds, Bulbs, Shrubs, and Flowering Plants.

### VERY SUPERIOR BEET.

CHARLES SOUTHBY (late FAIRBAIRN) begs to inform those who gave the above a trial last year that he can now supply 1 oz. free by Post for 1s. 2d., or ditto 9d.—Clapham, London.

### HENRY'S HYBRID SCOTCH LEEK.

CHARLES ALEXANDER, SEEDSMAN, Edinburgh, offers Seeds of the above unrivalled LEEK at 2s. 6d. per packet.

He exhibited three in December last which weighed and blanched to upwards of 12 inches each.

LAING'S MAMMOTH RED CELERY.—The largest and best flavoured Celery known, and will not run to seed until the second year. (See former advertisement.)

Packets, 1s. each; large trade do., 3s. 6d., per packet. Stamps received in payment.

YOUELL & Co., Royal Nursery, Great Yarmouth.

TURNER'S COTTAGER'S KALE.—Specimens of this new, hardy, prolific, and delicious Vegetable were exhibited in February last, and were found to possess in excellence, the Horticultural Society of London awarded a Certificate of Merit. It was also exhibited at the Crystal Palace Show, St. James's Hall, in November last, and again received a Certificate, Professor Lindley pronouncing it to be "very good and invaluable," being unsurpassed for sweetness and tenderness. Sealed packets, 1s. each. A list of Agents who can supply it true was published Oct. 16, 1858, in the *Gardeners' Chronicle*.—The Royal Nurseries, Slough.

### NEW KINDS OF VEGETABLES.

CHARLES TURNER can supply seed of the following valuable new varieties:—

| | Per packet—s. | d. |
|---|---|---|
| Incomparable Cabbage | 1 | 0 |
| New Zealand Runner Bean | 2 | 6 |
| Perennial Spinach | 1 | 0 |
| Pine-apple Short Top Beet | 1 | 0 |
| Powell's Early Tomato | 1 | 0 |
| Roseberry Brussels Sprouts | 1 | 0 |

| | Per packet |
|---|---|
| Royal Dwarf Pea (Pois nain très hâtif à demi-nain) | per quart |
| Turner's Cottager's Kale | |
| The Frogmore Protector Broccoli | |

The above are strongly recommended. A GENERAL DESCRIPTIVE CATALOGUE of SEEDS may be had on application.

The Royal Nurseries, Slough.

### NEW MELON.

TURNER'S SCARLET GEM MELON.—Is the earliest and most prolific variety, and by far the best flavoured of the scarlet-fleshed Melons, having taken Seven First Prizes during the past season at the great exhibitions. It is also netted and handsome.

Mr. Bailey, the very successful fruit grower, of Syon Gardens, Amersham, having grown this variety for sale, reports that "it is by far the best Melon he has ever grown of either class. Its superior flavour alone entitles it to a first place, besides other good qualities, among which is ease of culture." 2s. 6d. per packet.—The Royal Nurseries, Slough.

### SPECIMEN ERICAS AND GREENHOUSE PLANTS.

R. GLENDINNING has to offer to Exhibitors as well as for private decoration a number of fine well-grown Specimens and Half-Specimens of FRICAS and other HOUSE PLANTS in the healthiest possible condition. He respectfully solicits an inspection of the same; but those who may find it inconvenient names, sizes, and prices will be furnished on application.—Chiswick Nursery, London, W.

### FRUITING VINES.

JOHN AND CHARLES LEE beg to offer strong short-jointed and well-ripened FRUITING VINES of the following kinds:—

| | |
|---|---|
| BLACK HAMBURGH | BLACK PRINCE |
| GOLDEN HAMBURGH | ROYAL MUSCADINE |
| BLACK FRONTIGNAN | BIDWELL'S SEEDLING |
| WHITE FRONTIGNAN | BOWOOD MUSCAT. |

Nursery and Seed Establishment, Hammersmith, London.

### FRUIT TREES IN POTS

JOHN AND CHARLES LEE have now the largest and finest stock of FRUIT TREES IN POTS in the kingdom, in state for FORCING AND ORCHARD HOUSES early and late. They consist of the following kinds, a CATALOGUE of which may be had on application:—

| | | |
|---|---|---|
| APRICOTS | FIGS | PEARS |
| PEACHES | PLUMS | APPLES |
| NECTARINES | CHERRIES | &c. |

VINES AND STRAWBERRIES.

Nursery and Seed Establishment, Hammersmith, London.

### NURSERY STOCK.

THE Subscribers are disposing of their entire stock of Seedling and Transplanted Forest Trees, Ornamental Trees, Evergreen and Deciduous Shrubs, Standard and Dwarf-trained Fruit Trees, Gooseberries and Currants, at prices considerably reduced in consequence of dissolution of partnership.—Priced Lists may be had on application.

FOWLER & TWEED.

Glasgow, Feb. 26.

### SURPLUS STOCK.

JOHN SHARPE is offering to the Trade, on reasonable terms, the following SEEDS of last year's growing, 1858:—

| | |
|---|---|
| Carrot, fine large Altringham | Turnip, Skirving's Swede |
| ,, large White Belgian | ,, Purple-top Swede |
| Mangel, Yellow Globe | ,, Green Globe |
| ,, Long Giant Red | ,, Purple-top Globe |
| Cabbage, Early Enfield | |

Prices of not less than sacks and cwts. on application.

Bardney Hall, near Lincoln.

## SUPERB DOUBLE HOLLYHOCKS.

WILLIAM CHATER can now supply fine healthy plants from his Collection, having a large stock ready for immediate planting.

See DESCRIPTIVE CATALOGUE, to be had on application.

Nurseries, Saffron Walden.

## FIRST-CLASS HOLLYHOCKS.

FINE SEEDLINGS FROM

WILLIAM CHATER'S Celebrated and Newest Varieties that will flower well in September at 30s. per 100

Ditto ditto ditto 20s. ,, 100

Ditto ditto according to colour, also at .. 30s. ,, 100

Seed in 12 separate colours, the Collection .. 10s. 0d

,, ,, ,, ,, .. .. 5 0

From varieties such as Pourpre de Tyre, Memnon, White Rose, Hon. Mrs. H. Ashley, Canary, &c., in 12 separate colours, per Collection .. .. .. .. .. 7s. 6d.

Ditto in 6 separate colours, the Collection .. 4 0

Seed from 20 of the best varieties, mixed, per pkt. 5 0

,, 12 ,, ,, ,, ,, 2 6

,, good mixed, also a single variety ,, 1 0

The above can be procured from the Nurseries, Saffron Walden, Essex.

## HOLLYHOCK SEED FROM NEW VARIETIES.

J. CHATER AND SON offer the above from 12 new varieties, separate packets, the collection, 3s. 6d.

12 varieties, best older sorts, 3s. 6d.

Best mixed, 20 sorts, 200 seeds, 1s. 6d.

J. C. & Son feel confident the above will give satisfaction, having been saved with great care.

Strong seedling plants, 20s. per 100

If sown now will flower by September.

Nurseries, Haverhill.

## NEW HOLLYHOCKS.

A. PAUL AND SON beg to recommend the following NEW HOLLYHOCKS, which have been selected from several thousands of Seedlings. The stock of ordinary kinds is this year greatly extended. The plants are strong, well established, and perfectly healthy:—

| | s. | d. |
|---|---|---|
| BRISEIS (PAUL).—Purple, silvery edges, flower of good form, spike close .. .. .. .. .. .. | 5 | 0 |
| GENERAL HAVELOCK (PAUL).—Bright, ruby scarlet, colour of "Scarlet King," but a close spike and a round smooth flower of perfect shape .. .. .. .. | 10 | 6 |
| IN MEMORIAM (PAUL).—Crimson maroon, large, good substance, first-rate flower, good spike .. .. .. | 10 | 6 |
| OSSIAN (PAUL).—Crimson shaded with salmon, remarkable alike for substance, closeness, and symmetry; spike good .. .. .. .. .. .. .. | 10 | 6 |
| PAINTED LADY (PAUL).—Pink and blush in blotches, a large smooth flower of good substance .. .. .. | 5 | 0 |
| PLUTARCH (PAUL).—Plum colour, of fine shape, and very smooth, guard and spike good .. .. .. | 10 | 6 |
| POURPRE NOIR (PAUL).—Rich purplish maroon, large smooth flower, close spike .. .. .. .. .. | 7 | 6 |
| RED ROVER (PAUL).—Dark fiery scarlet, flower large, spike splendid, very effective .. .. .. .. | 7 | 6 |
| VERITAS (PAUL).—White, lemon base, large full flower, splendid spike .. .. .. .. .. .. .. | 10 | 6 |
| VESTA (PAUL).—Pure white, petals thick, edges smooth, guard good .. .. .. .. .. .. .. | 7 | 6 |
| VITRUVIUS (PAUL).—Pink, large flower, of perfect form and good substance .. .. .. .. .. .. | 5 | 0 |
| ZENO (PAUL).—Rich plum colour, with silvery edges, flower large, spike good; new and distinct .. .. | 5 | 0 |

The Collection of 12 varieties is offered for 4l. 4s.; good named sorts, 9s. to 18s. per dozen: very superior ditto, 24s. to 42s. per dozen; Bloomed Seedlings in separate colours, 30s. to 50s. per 100; mixed Seedlings, 10s. to 21s. per 100.

HOLLYHOCK SEED, 1s. to 5s. per packet free by post.

Also a PRICED DESCRIPTIVE CATALOGUE free by post.

Nurseries, Cheshunt, Herts.

GRIEVE'S NEW DOUBLE PETUNIAS.—The universal satisfaction given by the PETUNIAS sent out last spring, raised by Mr. Grieve, Gardener at Culford Hall, near Bury St. Edmund's, induces the advertisers to offer to the public those raised by that persevering hybridiser last summer, which are considered superior to any yet offered; not in the size of the flowers, but in brilliancy of colour, consistence of petal, and regularity in form—all being very double. The following are the names adopted, which may be respectively taken as an approximate description of their colours:—

CRUENTUM, CANDIDUM, PURPURASCENS. } Large flowers, and most appropriate for pot culture.

ATROCOCCINEUM, ROSEUM STRIATUM, ATROROSEUM. } Medium-size flowers and neat habit; probably useful for bedding.

Plants of the above, 5s. each; or 21s. the set of six, to be sent out the first week in April by OSBORN & SONS, Fulham Nursery, London, S. W.

N.B. The usual allowance to the trade.

ORANGE TREES, with fruit on, from 2s. 6d. to 12s. each; Camellias well set with buds, 18s., 21s., and 24s. per dozen; Azaleas full of flower-buds, 18s., 21s., and 24s. per dozen; Standard Roses of the choicest varieties, 1s. 6d. each, 16s. per dozen, or 5l. per 100; Ash-leaved Kidney Potatoes, warranted true, 7s. per bushel, and every other kind Seeds, Plants, and Nursery Stock considerably cheaper than the usual prices.—ROBERT GREEN, 154, Kingsland Road, 55 doors from Shoreditch Church.

100 GOOD PHLOXES FOR 40s.

50 Ditto Ditto for 25s.

25 Ditto Ditto for 12s. 6d.

12 Ditto Ditto at 6s. and 9s. per doz.

The best and newest continental varieties from 12s. to 18s. per dozen.

CATALOGUES sent free on application, and extra plants presented for distant carriage.

WM. WOOD & SON, having imported all the best and newest PHLOXES from the Continent, will be happy to supply them in collections as stated above, in fine strong plants grown in the open ground.

Woodlands Nursery, Maresfield, near Uckfield, Sussex.

## SEEDLING FOREST TREES.

WOODLANDS NURSERY, MARESFIELD, NEAR UCKFIELD, SUSSEX.

WM. WOOD AND SON have the following Seedlings to offer of first-rate quality. Prices reasonable on application:—

2 years' Larch Fir
1 year Alder
2 and 3 years' Spruce Firs
1 year Ash
2 years' Scotch Firs
1 year Pinaster
2 years' Beech
1 year Pinus Laricio
1 and 2 years' Spanish Chestnuts
1 year Crabs
1 year Mountain Ash

TO PLANTERS.

1,000,000 SEEDLING BEECH, Strong, 10 to 18 inch, 5s. per 1000. Also in large quantities and the finest health, Larch 1½ to 2 ft., 2 to 3 ft., 3 to 4 ft. Scotch Fir, 4 yrs. old; Spruce Fir, 9 to 18 inches, 15 to 24 inches; Privet, 2 to 3 ft.; Alders, Ash, Beech, Sycamore, &c. Free delivery to Liverpool or Belfast.

Prices moderate, and to be learned on application to GARLIES MITCHELL, Nurseryman, Stranraer, N.B.


## HORTICULTURAL SOCIETY OF LONDON.

SCHEDULES OF PRIZES.

EXHIBITION, MAY 12TH AND 13TH, 1859.

| Class. | | Prizes offered. 1st | 2d. | 3d |
|---|---|---|---|---|
| I. | Ten Orchids .. .. (Amateurs) | £7 | £5 | £4 |
| II. | Ten Orchids .. (Nurserymen) | 6 | 4 | 3 |
| III. | Six Chinese Azaleas .. (Amateurs) | 4 | 3 | 2 |
| IV. | Eight Chinese Azaleas (Nurserymen) | 4 | 3 | 2 |
| V. | Three Chinese Azaleas, standards, with at least 30 ins. of clear stem (Amateurs) | 4 | 3 | 2 |
| VI. | Six Chinese Azaleas, standards, with at least 30 inches of clear stem (Nurserymen) | | | |
| VII. | Six Rhododendrons, distinct sorts, in pots .. .. (Amateurs) | 3 | 2 | 1 |
| VIII. | Eight Rhododendrons, distinct sorts, in pots .. .. (Nurserymen) | 3 | 2 | 1 |
| IX. | Eight Roses, distinct sorts, in pots not exceeding 12 inches (Amateurs) | 5 | 4 | 3 |
| X. | Twelve Roses, distinct sorts, in pots not exceeding 12 ins. (Nurserymen) | 5 | 4 | 3 |
| XI. | Six Roses, distinct sorts, in pots of any size .. .. .. .. .. | 4 | 3 | 2 |
| XII. | Eight fine-foliaged Plants, Variegated plants admitted .. .. .. | 4 | 3 | 2 |
| XIII. | New or extremely rare species of Ornamental Plants not introduced by the Society.. .. .. .. | Certificates | | |
| XIV. | Single Specimen of the best Plant introduced within the last ten years, in flower .. .. .. | 2 | | |
| XV. | Single Specimen of the best plant introduced within the last 10 years, not in flower .. .. .. .. | 2 | | |
| XVI. | Miscellaneous .. .. .. .. | Certificates | | |
| | FRUIT. | | | |
| XVII. | The best collection of Fruit (Offered by Wm. Wilson Saunders, Esq., Treasurer of the Society) .. | £5 | | |
| XVIII. | Pine Apples, large sorts, not Providence, single specimens .. .. | 2 | 1 | 1 |
| XIX. | Pine Apples, Queens, sgl. specimens | 2 | 1 | 1 |
| XX. | Grapes, black, three bunches, in baskets .. .. .. .. | 3 | 2 | 1 |
| XXI. | Grapes, white, do. do. | 3 | 2 | 1 |
| XXII. | Cherries, in single dishes .. .. | 2 | 1 | 15s. |
| XXIII. | Strawberries, 2 dishes, distinct sorts | 2 | 1 | 10s. |
| XXIV. | Strawberries, single dishes, of British Queen .. .. .. .. .. | 30s | 20s. | 15s. |
| XXV. | Strawberries, single dishes of any one sort, except British Queen .. .. | 30s. | 20s. | 15s. |
| XXVI. | Miscellaneous .. .. .. .. | Certificates | | |
| | EXHIBITION, JUNE 29TH AND 30TH, 1859. | | | |
| I. | Ten Orchids .. .. (Amateurs) | 7 | 5 | 4 |
| II. | Twelve Orchids .. (Nurserymen) | 7 | 5 | 4 |
| III. | Six Orchids .. .. (Amateurs) | 4 | 3 | 2 |
| IV. | Six Orchids .. (Nurserymen) | 3 | 2 | 1 |
| V. | Six French Spotted Pelargoniums (Amateurs) | 3 | 2 | 1 |
| VI. | Eight French Spotted Pelargoniums (Nurserymen) | 3 | 2 | 1 |
| VII. | Six Fancy Pelargoniums (Amateurs) | 3 | 2 | 1 |
| VIII. | Eight Fancy Pelargoniums (Nrsmen.) | 3 | 2 | 1 |
| IX. | Eight Roses, in pots .. (Amateurs) | 7 | 5 | 4 |
| X. | Twelve Roses, in pots (Nurserymen) | 7 | 5 | 4 |
| XI. | Six Roses, the best new sorts introduced since the Spring of 1856, in pots .. .. (Nurserymen) | Certificates | | |
| XII. | Ten Exotic Ferns, in pots (Amateurs) | 5 | 4 | 3 |
| XIII. | Ten Exotic Ferns, in pots (Nrsmen) | 4 | 3 | 2 |
| XIV. | Three Exotic Ferns, in baskets suspended .. .. .. .. | 2 | 1 | 15s. |
| XV. | Eight Lycopods, in pots .. .. | 3 | 2 | 1 |
| XVI. | Three Lycopods, in baskets suspended | 2 | 1 | 15s. |
| XVII. | Eight fine foliaged Plants .. .. | 4 | 3 | 2 |
| XVIII. | Eight variegated plants .. .. | 4 | 3 | 2 |
| XIX. | Single specimen of the most ornamental plant introduced within the last three years in flower .. .. | 2 | | |
| XX. | Do., do, not in flower .. .. .. | 2 | | |
| XXI. | New or extremely rare species of Ornamental Plants, in flower; not introduced by the Society .. .. | Certificates | | |
| XXII. | Twelve Carnations, cut flowers .. | 20s | 15s. | |
| XXIII. | Twelve Picotees, do. .. | 20s. | 15s. | |
| XXIV. | Twelve Pinks, do. .. .. | 20s. | 15s. | 10s. |
| | FRUIT. | | | |
| XXV. | Fruit and Flowers, baskets in threes for the decoration of the dinner table, offered by C. Wentworth Dilke, Esq, V.P., five prizes, viz.—5l., 4l., 3l., 2l., and 1l. Beautiful arrangement will be the test of merit in this Exhibition; valuable flowers or fruit are therefore not demanded. Each set must consist of three baskets. The prizes will be awarded by a jury of ladies. Patterns of the baskets which must be used may be seen at the Office of the Society. | | | |
| XXVI. | Pine Apples, large sorts, not Providence, single specimen .. .. | £2 | £1 | £1 |
| XXVII. | Pine Apples, Queens, or small kinds, single specimen .. .. .. | 2 | 1 | 1 |
| XXVIII. | Grapes, Black Hamburgh, three bunches, in baskets .. .. .. | 3 | 2 | 1 |
| XXIX. | Grapes, Muscats, 3 bunches, in bkts. | 3 | 2 | 1 |
| XXX. | Grapes, Frontignans, 3 bunches, do. | 3 | 2 | 1 |
| XXXI. | Grapes, Busby's Golden Hamburgh, three bunches in baskets, offered by Mr. Veitch .. .. .. .. | 5 | 0 | 0 |
| XXXII. | Grapes, best three bunches of any one variety, except those included in classes 28, 29, 30, 31 .. .. | 3 | 2 | 1 |
| XXXIII. | Vines in pots; in pairs .. .. | 3 | 2 | 1 |
| XXXIV. | Melons, Green-fleshed .. .. .. | 1 | 15s. | 0 |
| XXXV. | Melons, Scarlet-fleshed .. .. | 1 | 15 | 0 |
| XXXVI. | Peaches, two dishes, distinct sorts, each to contain six fruits .. .. | 3 | 2 | 1 |
| XXXVII. | Peaches, single dishes, in sixes .. | 2 | 1 | 15s. |
| XXXVIII. | Nectarines, two dishes, distinct sorts, in sixes .. .. .. .. | 3 | 2 | 1 |
| XXXIX. | Nectarines, single dishes, in sixes .. | 2 | 1 | 15s. |
| XL. | Cherries, two dishes, distinct sorts.. | 2 | 1 | 1 |
| XLI. | Cherries, black, in single dishes .. | 1 | 1 | 0 |
| XLII. | Cherries, white, ditto .. .. | 1 | 1 | 0 |
| XLIII. | Plums, two dishes, distinct sorts .. | 2 | 1 | 1 |
| XLIV. | Strawberries, the best collection of sorts, one dish of each .. .. | 3 | 2 | 1 |
| XLV. | Strawberries, single dishes of any one sort .. .. .. .. | 30s. | 20s. | 15s. |
| XLVI. | Peaches, Cherries, Pears, Plums, ripe or unripe, in pots, pot of each | 4 | 3 | 2 |
| XLVII. | Miscellaneous .. .. .. .. | Certificates | | |


## FIVE SILVER CUPS

WERE AWARDED TO

A. PAUL AND SON, NURSERYMEN, Cheshunt, Herts, for five Collections of ROSES at the Grand National Rose Show held in St. James's Hall, London, in July. Also FIVE FIRST PRIZES at the Royal Botanic Society's Shows in May and June last. The sorts which won these prizes are now offered at 18s. to 24s. per dozen for standards, 12s. to 18s. per dozen for dwarfs. A PRICED DESCRIPTIVE CATALOGUE forwarded on application, post free.

## THE GREAT VINE AT HAMPTON COURT.

THE SUBSCRIBERS being the holders of the Royal Kitchen Gardens, Hampton Court, are enabled to offer genuine the famous and truly excellent HAMPTON COURT BLACK HAMBURGH GRAPE.

Strong well-ripened plants in 9-inch pots, 42s. and 60s. per doz.

,, ,, fruiting plants in 12-inch pots, 10s. 6d. each.

If purchased in large numbers a considerable reduction will be made in price.—JACKSON & SON, Nurseries, Kingston, S.W.

## THE NEW MUSCAT HAMBURGH VINE.

MESSRS. ARTHUR HENDERSON AND Co. have much pleasure in directing the attention of Grape Growers to the new MUSCAT HAMBURGH, plants of which they are now sending out. In consequence of the extraordinary demand for the large three guinea fruiting plants, they are unable to supply any more of this size, but they still have excellent plants at two guineas, suitable for fruiting next spring in pots, and also good plants at one guinea each.

Pine apple Place, Edgware Road, London, W.

## PLANT THIS MONTH!

CAREY TYSO, FLORIST and SEEDSMAN, Wallingford, Berks, offers healthy flowering roots as under:—

| | | | | |
|---|---|---|---|---|
| RANUNCULI, | 100 splendid named sorts, 40s. to .. | £4 | 0s. | 0d. |
| ,, | 100 fine mixed sorts, 8s., 15s. ,, .. | 1 | 0 | 0 |
| ,, | 25 choice seedlings, 25s. ,, .. | 1 | 15 | 0 |
| DOUBLE ANEMONES, | 50 fine varieties, 10s. 6d. to | 0 | 13 | 0 |

New TREATISE on RANUNCULI, by post for seven labels. Do. ANEMONE for four labels.

GERMAN FLOWER SEEDS.—Choice named Asters, Stocks, Balsams, Wallflowers, Zinnias, &c., in 1s. and 2s. 6d. assortments. These can be sent by post. CATALOGUES free for one label.

## HARDY SCARLET RHODODENDRONS AND AMERICAN PLANTS GENERALLY.

WATERER AND GODFREY'S PRICED and DESCRIPTIVE CATALOGUE of the above beautiful tribe of plants, as exhibited by them in London and Manchester, may now be had on application inclosing one stamp for postage. The Catalogue also furnishes the heights and prices of their unequalled stock of Conifers and Evergreens, &c. Catalogues may also be had of Messrs. J. MAY & Co., Seedsmen, &c., Wellington Street, Strand.

Knap Hill Nursery, Woking, Surrey.

## RHODODENDRONS.

JOHN WATERER'S CATALOGUE OF UNRIVALLED HARDY SCARLET AND OTHER CHOICE RHODENDRONS, as Exhibited by him at the Royal Botanic Gardens, Regent's Park, London, is published, and will be forwarded on application.

☞ This List is recommended as a work of reference, as it contains accurate descriptions of all the esteemed varieties.

The American Nursery, Bagshot, Surrey, near the Sunningdale Station, South Western Railway.

## SEEDS FOR 1859.

HARGRAVE'S SELECTIONS OF KITCHEN GARDEN SEEDS are arranged in quantities and sorts suitable for a succession of Vegetables through the whole year. That adapted for a moderate-sized garden contains 10 pints of the choicest kinds of Peas, 6 pints of superior garden Beans, 3 pints of very fine French or Kidney Beans, and a fair assortment of small Seeds too numerous for specifying here. Cash price, ONE GUINEA, package included.

C. W. HARGRAVE, Nurseryman, Florist, Seed Grower, and Importer.—The Nursery, Winchmore Hill, N.

## NEW SEEDS FOR 1859.

WM. CUTBUSH AND SON beg respectfully to intimate that their PRICED CATALOGUE OF VEGETABLE AND FLOWER SEEDS, &c., is now ready post free on application. WM. C. AND SON devote particular attention to this department of their business, and most of the choicer kinds of culinary seeds and roots are saved under their own inspection, and they can confidently guarantee the quality of all offered.—Highgate Nurseries, London, N. Established A.D. 1695.

## GARDEN SEEDS.

THOMAS KENNEDY AND CO., NURSERYMEN and SEEDSMEN, Dumfries, N.B., beg respectfully to intimate that they have got to hand their VEGETABLE AND FLOWER SEEDS, and are now prepared to execute orders for the same.

Their DESCRIPTIVE PRICED CATALOGUE FOR 1859, "which is of a most practical character, supplying all the information needed by the purchaser," is now ready and will be sent post free on application.

Free delivery. For particulars see Catalogue.

J. GRIFFIN begs to offer the following choice VEGETABLE and FLOWER SEEDS.

GRIFFIN'S ALMA LETTUCE, the most useful variety in cultivation, very hardy, and valuable for standing the drought of summer. 1s. 6d. per packet.

GRIFFIN'S fine RIDGE CUCUMBER, very hardy and productive, 1s. per packet.

Ivery's NONSUCH RED CELERY, 1s. per packet.

BATH DWARF DARK RED BEET, fine colour, 1s. p. pckt.

DELPHINIUM FORMOSUM, 1s. per packet.

LINUM GRANDIFLORUM RUBRUM (true), 1s. p packet.

LOBELIA ERINUS SPECIOSA, the best and most effective variety yet raised, forming a close compact style of growth; reproduced true from seed; fine for bedding, 1s. 6d. per packet.

Truffaut's FRENCH ASTER, imported in 20 varieties, separate, 5s. per packet.

Truffaut's FRENCH ASTER, imported in 20 varieties, mixed, 2s. 6d. per packet.

New CHRYSANTHEMUM-FLOWERED ASTER, 1s. p. pkt.

Choice CALCEOLARIA, from the finest varieties, 2s. 6d. per packet.

Choice CINERARIA, from the finest varieties, 2s. 6d p. pckt.

Weston Road, and 2, New Bond Street, Bath

WANTED, the ADDRESSES of the Principal Market Gardeners who Grow for Covent Garden Market Choice Vegetables and Fruit, such as

| | |
|---|---|
| Asparagus | Pine Apples |
| Cucumbers | Grapes |
| Mushrooms | New Potatoes |
| Brussels Sprouts | Seakale, &c. |

Address Box P. 5, General Post Office, Liverpool.

CHOICE CONIFERÆ, warranted to move well, a great Bargain.—CEDRUS DEODARA and LIBANI, 6 to 10 feet by 8 feet, 7s. 6d. to 30s.; PINUS EXCELSUS, 6 to 8 feet, 5s. to 10s. 6d.; CRYPTOMERIA, 6 to 10 feet, 5s. to 10s. 6d.; CUPRESSUS MACROCARPA, 5 to 7 feet, 7s. to 7s. 6d.; and most other choice sorts from 2 to 10 ft., equally low.

Apply to J. SCOTT, Merriott Nurseries, Crewkerne, Somerset.

## CHOICE SEEDS.

BUTLER AND McCULLOCH, while drawing attention to their general SPRING CATALOGUE of SEEDS, which has elicited such high encomiums both from the scientific botanist and amateur cultivator, avail themselves of the present opportunity to select from its pages the following list:—

(6) ABUTILON MARMORATUM, a charming plant, flowering all the year, and especially in winter, producing large, pure white flowers, veined and marbled with bright rose, foliage silvery haired; the finest of the genus.

(27) ACACIA LONGIFOLIA (magnifica), one of the most splendid Acacias in cultivation, with gorgeous clusters of bright yellow flowers several inches in length; very hardy, rare, and beautiful. Of these graceful and highly ornamental plants our collection embraces no fewer than 47 varieties, all of the most decorative character.

(199) CALLICHROA PEDATA, crimson with white eye; a most beautiful plant, and quite new.

(213) CANNA INDICA SUPERBA, a magnificent plant flowering all the winter, leaves large, fine green. Of this picturesque and most ornamental genus we have a magnificent collection, consisting of 28 kinds, all remarkable both for the beauty of their flowers and foliage.

(270) CASUARINA INDICA, the most singularly picturesque tree of the Australian Flora, with weeping branches jointed like a bamboo, streaked between the joints, and without leaves; very elegant in a conservatory (seeds rare).

(304) CELOSIA (species nova).—A most elegant plant, producing a multitude of long spikes of feathery blossoms, silvery white shaded with bright rose, retaining its colour perfectly when dried, and therefore admirably adapted for winter bouquets; one of the greatest novelties of the season, flowering out of doors or in pots from July to October. Well worth attention. A dried specimen may be seen.

(424) CYCLAMEN AFRICANUM MACROPHYLLUM.—Fine foliage; flowers large, blush, marked white and rose. Very rare. Bulbs of this may be had in the summer.

(451) DATURA HUMILIS FLORE PLENO.—A magnificent Brugmansia-like plant producing a profusion of deep golden yellow flowers; very large, double, and sweet scented. One of the greatest novelties of the season.

(665) HIBISCUS ROSEUS SUPERB.—Flowers large, produced in great abundance.

(677) HIBISCUS THUNBERGII.—Pale yellow, dark eye, free flowering, and pretty.

(956) PAVONIA HASTATA.—A most beautiful little shrub, covered with white flowers, having a rich brown centre; handsome foliage.

(976) PENTAPETES PHŒNICEA.—Bright scarlet; leaves long and serrated, a very handsome plant.

(1001) PHYGELIUS CAPENSIS.—Large red tubular flowers, inside golden yellow, a handsome plant (seeds rare).

(1073) RICINUS ALBIDUS (new), white fruited, stems and leaves silvery and handsome.

(1074) RICINUS SANGUINEUS (new), splendid red fruit, in large bunches, very ornamental, producing a grand effect.

(1096) SALVIA HYBRIDA.—Scarlet, early flowering (new).

(1095) SALVIA SPLENDENS Nova species, scarlet (new).

(1137) SIPHOCAMPYLUS BETULÆFOLIUS.—A handsome plant, with scarlet tubular flowers; suitable for a trellis.

(1140) SOLANUM MELANGERA GRANDISSIMUM (new), striped fruit, weighing from 1 to 4 lbs.

(1149) SOLANUM CAPSICASTRUM.—Miniature Orange tree, covered all winter with a profusion of scarlet fruit; a handsome plant for greenhouse or sitting rooms.

(1161) STATICE HALFORDI, blue; large and handsome, one of the very best for pot culture (seeds rare).

(1165) STATICE PURBERULA.—Purplish violet; a free flowering, extremely ornamental plant of neat habit.

(1179) STATICE BONDUELLI, deep golden yellow; flowers early and profusely, in large rosettes.

(1276) VERONICA ANDERSONI, purple and white, all but hardy; a charming shrub.

(1282) VERONICA MELDENSIS, beautiful rose and white.

(1294) VIRGILIA CAPENSIS, a greenhouse shrub, with drooping racemes of purple and white flowers.

(1351) BIGNONIA GRANDIFLORA, orange and scarlet; flowers large, and in magnificent bunches.

(1335) BIGNONIA RADICANS MULTIFLORA, finer and brighter than radicans; flowers in large panicles producing a splendid effect.

(1354) CUCUMIS PERENNIS.—Very ornamental-foliaged plant, which grows with great rapidity.

(1360) CUCURBITA MELOPEPO CHAPEAU D'EVEQUE.—Orange; of this class of climbers we have a fine collection.

(1370) CYCLANTHERA PEDATA.—Bird-like fruit (new).

(1375) GLYCINE SINENSIS, or WISTARIA.—One of the most valuable climbing trees for out-doors (seeds rare).

(1380) IPOMŒA HYBRIDA MARGINATA.—Large and magnificent; flowers of various colours on the same plant, varying from the richest velvety purple to sky-blue, bordered in the most distinct manner with pure white (new and rare). This and three new varieties of Hederacea grandiflora far surpass the old and deservedly favourite rubro-cærulea for beauty, hardiness, and free flowering; they rank high amongst the novelties of the season, possessing advantages which will render them the grandest ornaments for the greenhouse, conservatory, or for out-door decoration.

(1431) MAURANDYA CRIMSON TINTED PURPLE GRANDIFLORA.—Exquisitely beautiful (new).

(1438) MAURANDYA MAROON GRANDIFLORA.—Superb (new and rare).

(1445) MEDEOLA ASPARAGOIDES, green and white, an elegant plant, flowering in winter, and scented like Orange blossom.

(1457) PASSIFLORA RACEMOSA PRINCEPS, pale scarlet, arranged in racemes, from 14 to 18 inches in length, having a striking and beautiful appearance.

(1468) TACSONIA IGNEA.—This magnificent Passion flower is unequalled for the brillancy and splendour of its scarlet blossoms, far surpassing in this respect any of its class yet known. It flowers most profusely, grows rapidly, and covers a large space in an incredibly short time. It succeeds in a cold greenhouse, and even against a south wall with a little protection in winter (new and rare).

(1469) TACSONIA MOLLISSIMA, rosy pink flowers; remarkable for their long tubes and handsome pink colour.

(1473) TROPÆOLUM FLAMMULUM GRANDIFLORUM, yellow; beautifully streaked with carmine (rare).

(1477) TROPÆOLUM GRACILE, sulphur, spotted with carmine; extremely pretty.

(1479) TROPÆOLUM MINIATUM MACULATUM, superb, striped variety (very rare).

(1488) TROPÆOLUM TRIOMPHE DE GAND FIMBRIATUM, fringed orange scarlet.

(1501) TRYCHOSANTHES COLUBRINA VERA, foliage extremely handsome; singular fruit, resembling a serpent (new and rare).

CARNATIONS and PICOTEES saved from the most choice Collection of English varieties grown on the continent, and which may be expected to produce flowers of the highest merit, sent out in sealed packets as received from our Sardinian correspondent, whose seeds for many years have given such universal satisfaction, and from which varieties of the greatest excellence have been raised.

For prices and further particulars with regard to the above and other novelties, we refer our patrons to the Catalogue itself, which is sent free and post paid on application.

BUTLER & M'CULLOCH, Covent Garden, London.—Feb. 26.

## FRUIT TREES FOR ORCHARD-HOUSES.

HUGH LOW AND CO. have a fine stock of PEACHES in the very best health, grown as bushes and covered with blossom-buds. They are of two sizes; the larger, being from 3 to 4 feet high and as much through, are admirably adapted for planting out in the borders of orchard houses or for growing in tubs. The second size, about 2 to 2½ feet high, and bushy, are for pot culture. The whole having been transplanted last year will move with abundance of fibrous roots. Prices and lists of sorts on application.

Upper Clapton Nursery, London, N.E.

## TANSLEY NURSERY, NEAR MATLOCK.

To GENTLEMEN PLANTING AND THE TRADE.

J. SMITH begs to offer his STOCK OF TREES AND SHRUBS, of various sizes, and in addition to his general stock of the leading kinds, he has this season to offer an Extra Stock of many hundred thousands of fine Larches, Scotch Firs, and Highland Pines; a large quantity of Evergreens, Privets, Mahonia aquifolia, and other plants for planting under cover. Many things are grown in large quantities, and will be sold on advantageous terms to the trade and gentlemen requiring large lots.—Catalogues sent free on application. The Nurseries are on the Mansfield and Nottingham roads, and 2 miles from Matlock Bridge Station on the Midland Railway.

## COMMON LAURELS.

S. PONSFORD begs to announce to the Trade or other extensive planters that he has a large Stock of the above, from 2 to 5 feet high, bushy, which he is prepared to supply on reasonable terms.

Also a fine Stock of Dwarf-trained PEACHES, NECTARINES, APRICOTS, &c., of the leading varieties. Standard APPLES, PLUMS, &c.

S. P. would also call attention to his Standard and Dwarf ROSES, most of the leading kinds of which he can still supply in fine healthy condition. Prices on application.

CATALOGUES of GENERAL NURSERY STOCK forwarded on receipt of one stamp.

Loughborough Park Nurseries, Brixton, S.

## HARDY CONIFERÆ FOR SPRING PLANTING.

J. HENCHMAN, Edmonton, London, begs to offer the following CONIFERS, all Seedling Plants, in pots, and in the most robust health:—

Wellingtonia gigantea, 1 foot, in 32-pots, very fine, 10*s.* 6*d.* each; 7 to 8 inches, in 48-pots, 3*l.* per doz.; stout, 2-year seedlings, 30*s.* per doz.
Pinus Don Pedri, 21*s.* each.
" Buonapartia or Veitchi, 10*s.* 6*d.* each.
" insignis, 15 inches, 15*s.* per doz.
" macrocarpa or Coulteri, 6 inches, fine, 18*s.* per doz.
" tuberculatus, stout 2-year seedlings, 18*s.* per doz.
" Benthamiana, 2-year do. 9*s.* per doz.
Cupressus macrocarpus, 18 inches, fine, 6*s.* per doz.
" MacNabbiana, 2 years, 9*s.* per doz.
Taxodium sempervirens, 15 inches, fine, 24*s.* per doz.

## TO THE TRADE.

THOS. CRIPPS, NURSERYMAN, &C., Tunbridge Wells, Kent, respectfully offers the following fine strong SPANISH CHESNUT PLANTS, 4 feet to 6 feet in height, 40*s.* per 1000; Blush CHINA ROSES, fine strong plants, 15*s.* per 100; Crimson do., very strong, 25*s.* per 100; fine Standard and Half-standard ROSES, 60*s.* per 100; good do., do., 50*s* per 100; Double Yellow PRIMROSE, 20*s.* per 100 or 400 for 3*l.*; PINUS INSIGNIS and P. RADIATA from Seed, 15 inches to 28 inches, 6*l.* per 100; MANETTI STOCKS, 50*s.* per 1000; do. second size, 40*s.* per 1000; IRISH YEWS, 2 feet to 3 feet, 50*s.* per 100; Hardy HEATHS, a fine collection, 25*s.* per 100; large plants, good do., 20*s.* per 100; LARCH FIR, fine stout plants, 2 to 3 feet; LONICERA SHEPHERDI, or new Scarlet-trumpet HONEYSUCKLE, fine strong plants, 4*s.* per dozen; RHODODENDRON MAXIMUM, fine bushy plants, 18 inches to 2 feet, 60*s.* per 100. Orders from unknown correspondents unaccompanied by a remittance will not be noticed.

## FRUIT TREES.

YOUELL AND CO., in offering the following, beg to remark that the greatest care has been observed in working only such kinds as possess sterling merit, all of which may be depended upon as correct to name.

| | Per doz. | £ | s. | d. |
|---|---|---|---|---|
| Apples, Dwarf Maiden | | 0 | 9 | 0 |
| " " two years cut back | | 0 | 12 | 0 |
| " " trained | | 1 | 4 | 0 |
| Apricots, dwarf trained | 1*l.* 16*s.* to | 2 | 2 | 0 |
| Cherries, standard | | 0 | 18 | 0 |
| " dwarf maiden | | 0 | 12 | 0 |
| " " trained | | 1 | 16 | 0 |
| Currants, Black Naples | | 0 | 4 | 0 |
| " Ogden's black | | 0 | 4 | 0 |
| " long-bunched red Dutch | | 0 | 4 | 0 |
| " short-bunched red Dutch | | 0 | 3 | 0 |
| " large red Grape | | 0 | 3 | 0 |
| " large Cherry red | | 0 | 6 | 0 |
| " Victoria or Raby Castle, very fine large red | | 0 | 4 | 0 |
| " Wilmot's white Grape | | 0 | 4 | 0 |
| " large white Dutch | | 0 | 4 | 0 |
| " Fox's red Grape | | 0 | 4 | 0 |
| " Knight's sweet red | | 0 | 6 | 0 |
| " " large red | | 0 | 6 | 0 |
| Figs, of most approved kinds, 2*s.* 6*d.* each. | | | | |
| Gooseberries, 100 of the finest varieties by name (including the best of the Lancashire Prize sorts) selected for size and flavour, 30*s.* per 100 | | 0 | 4 | 0 |
| Medlars, standards, 2*s.* 6*d.* each. | | | | |
| Peaches and Nectarines, dwarf trained | 1*l.* 16*s.* to | 2 | 2 | 0 |
| Pears, dwarf maiden | | 0 | 9 | 0 |
| " " trained | 24*s.* to | 1 | 10 | 0 |
| " pyramidal trees, on Quince stocks | | 0 | 18 | 0 |
| Plums, dwarf maiden | | 0 | 12 | 0 |
| " " trained | 24*s.* to | 1 | 10 | 0 |
| Quinces of sorts | | 0 | 9 | 0 |
| Raspberries, Fastolff "true" (as originally sent out by us) | per 100 | 0 | 10 | 0 |
| " large white | " | 0 | 18 | 0 |
| " Magnum Bonum | " | 1 | 5 | 0 |
| " Carter's Prolific | per doz. | 0 | 6 | 0 |
| " New monthly fruiting | per 100 | 0 | 18 | 0 |
| Strawberries, a collection of all the most approved sorts | per 100 | 0 | 3 | 6 |
| Vines from eyes, in pots, fine, according to age, 3*s.* 6*d.* to 5*s.* each. | | | | |
| Filberts of best kinds, 6*s.* per dozen. | | | | |

### ASPARAGUS AND SEAKALE.

YOUELL & Co. having a large stock of the above growing on the Sea Coast, of the finest quality, beg to offer it at the following prices:—

ASPARAGUS, GIANT, two years .. 2*s.* 6*d.* per 100.
" " three years .. .. 3*s.* 6*d.* "
SEA KALE .. .. .. .. .. 6*s.* 0*d.* "
RHUBARB.—Myatt's Victoria, Myatt's Linnæus, Mitchell's Royal Albert, strong roots, 8*s.* per dozen.
Hawke's Champagne Rhubarb, 9*s.* per dozen.
Artichokes, Globe and Pine-apple shaped, 6*s.* per dozen.
Dioscorea Batatas (Chinese Potato), 6*s.* per dozen.
All orders of 2*l.* and upwards are delivered Carriage Free to London, Manchester, Newcastle, and Hull, as well as to any Railway Station within 150 miles of the Nursery.

Royal Nursery, Great Yarmouth, Norfolk.

## FOREST AND ORNAMENTAL TREES

THOMAS IMRIE AND SONS, NURSERYMEN, beg to inform their Customers and the Trade that they have on hand the following well-grown plants:—

TRANSPLANTED FOREST TREES.

30,000 Alder, 2 to 4 feet
60,000 Ash, 2 to 3½ feet
150,000 Beech, 1½ to 3½ feet
20,000 Elm, 3 to 4 feet
40,000 Oak, 2½ to 3½ feet
20,000 Plane, 2 to 3 feet
20,000 Black Italian Poplar, 4 to 8 feet
10,000 Lombardy do., 3 to 6 ft.
400,000 Larch, 2 year 1 year, 12 to 20 inches
300,000 Larch, 2 year 2½ to 3½ feet
400,000 Scotch Fir, 2 year
200,000 do.
400,000 Spruce Fir, 2 year, 12
200,000 Privet, 2½ to
500,000 Thorns, 2 and (STRONG)
20,000 Laburnum, 3

SEEDLINGS.

100,000 Ash, 2 year
1,000,000 Scotch Fir, 2 year
1,000,000 Norway Spruce, 2 year
500,000 Beech, 2 year
200,000 Oak, 1 year
50,000 Laburnum, 1 yr
20,000 Portugal Laurel, 1 foot
10,000 do. do., 2½ to 4 ft.
20,000 Common Bay, 3 feet
50,000 Rhododendrons, 6 inches to 4 feet, and other Evergreens in great variety

Dwarf-trained Apples, Pears, Peaches, Nectarines, Apricots. Rider-trained Peaches, Nectarines, and Apricots. Gooseberries, Currants, Seakale, Asparagus, &c.

Price Lists on application.

## TO THE TRADE.

JOHN PALMER, NURSERYMAN, Annan, begs to inform his Friends and the Trade generally, that he has on hand the following—all of excellent quality—which he is disposed to offer on very reasonable Terms:—

SEEDLINGS.

4,000,000 1-year Larch
1,000,000 2-year Scotch Fir.
1,000,000 2-year Spruce
200,000 1-year Beech
300,000 1-year Alder
300,000 1-year Oak, drills
100,000 1-year Turkey Oak, drills
100,000 1-year Spanish Chesnuts, drills
100,000 1-year Horse Chesnuts, drills
200,000 2-year Ash, drills
40,000 1-year Larch drills
100,000 2 year Weymouth
100,000 1-year Pear stocks
100,000 1-year Crabstocks
100,000 1-year Wild stocks, drill
100,000 1-year Portugal
200,000 1-year Yew
50,000 1-year bedded Canadian Arbor
20,000 bedded common
20,000 bedded Portugal

TRANSPLANTED.

300,000 2-year tr. Larch
100,000 2-year tr. Scotch Fir
100,000 2-year tr. Spruce
400,000 2-year tr. Thorns

Prices to be had on application, and all orders executed promptly and carefully attended to. Carriage will be paid to London, Liverpool, Birmingham, Newcastle, Glasgow, Edinburgh, and the half thereof charged to the buyer.

MESSRS. WATERER AND GODFREY respectfully invite the attention of parties engaged in planting to the following list of very desirable plants, all of which are seen growing in the open quarters of their Nursery, and are in the finest possible condition for transplanting:—

Araucaria imbricata, 9 to 12 inches, 5*l.* per 100; 40*l.* per 1000
" " 1½, 2, 3, 4, 5, 6, and 8 feet high. Our stock of this plant exceeds 100,000
Wellingtonia gigantea, stout handsome plants from seed, 2*s.* per dozen; 25*l.* per 100. These are all in the open ground, and are believed to be the finest lot of seedling plants in the Trade.
Cedrus Deodara, 1½ to 2 feet, 18*s.* per dozen; 6*l.* per 100
Do. 3, 4, 5, 6, 7, 8, 10 and 12, and 15 feet. Our stock of these at the present moment occupies several acres of ground, and have been constantly removed, and with fair usage not one in a thousand would fail. We offer them on very advantageous terms either in large or small quantities
Cedrus atlantica, 4, 5, 6, and 7 feet
Cupressus macrocarpa, magnificent plants, 7, 8, and 10 feet
" Lawsoniana, stout handsome plants from 18 inches, by the dozen or 100
Abies nobilis, from imported seed, 6*l.* 6*s.* per doz.; 40*l.* per 100
" do. 1, 2, and 3 feet high
" Nordmanniana, a large number of beautiful plants from seed, 2, 3, 4, 5, and 6 feet high
" Pinsapo, do. do.
[We believe we are justified in stating our stock of these three last-mentioned Firs offers a selection to be met with in no other Nursery.]
" Douglasi, 6, 7, 10, and 12 feet
" orientalis, 3, 4, 5, and 6 feet
Pinus Benthamiana, stout seedling plants, about 1 foot, 2*s.* per dozen; 5*l.* per 100; 40*l.* per 1000. Unquestionably the finest of all the long-leaved Californian kinds, and well known to be perfectly hardy. It is the most valuable of all for timber.
Juniper, Chinese, 2, 3, 5, 7, 8, and 10 feet high
Irish Upright, 3, 4, 5, 6, 7, and 8 feet. The Irish and Chinese Junipers are grown by us to a very large extent
Thuja aurea.—This plant originated in our Nursery, and our stock of it offers a choice of many hundred specimens, 1, 1½, 2, 3, 4, and 5 feet high, and measuring from 2 to 15 feet in circumference. Nothing can well exceed the beauty of these plants, and certainly are to be met with in no other Nursery
Thuja gigantea, stout seedling plants, 1½ to feet high
" Wareana, 3, 4, 5, 6, 7, and 8 feet
Thujopsis borealis, handsome plants, in quantity, 1½ to
Taxus, Yew, Common English.—A large quantity, and all sizes up to 5, 6, and 7 feet
" Irish Yew, 4, 5, 6, 7, and 10 feet. Many thousands of these beautifully formed plants grown to one size
" Golden Yews in large quantities and of all sizes, 6, 7, and 8 feet
We also have them worked on the Common and Irish Yew
Standards, with heads from 12 to 15 years' growth
Holly, Variegated, Scottica, laurifolia, &c. We hold perhaps the largest stock of good sized variegated Hollies in the kingdom, especially of the better kinds of silver and striped
Rhododendron ponticum, for cover, stout plants, 1½ to by the 1000. All the well-known proved hardy late kinds, in any quantity, at from 30*s.*, 42*s.*, to 84*s.* per 100
Standard Rhododendrons of all kinds
Azaleas, stout bushy plants, covered with bloom buds, 18 inches to 2 feet high, and of all colours, 9*s.*, 12*s.* per
24*s.* per dozen; 50*s.*, 75*s.*, to 100*s.* per 100
Hardy Heaths, a first-rate collection, at 35*s.* per 100; 18
Roses, fine Standards, of the most popular kinds, at very prices.

As well as the above, we are very large holders of the ordinary kinds of Nursery Stock, which may be judged from the fact that the Nursery far exceeds 100 acres in extent, and such things as Laurels, Box, Lilacs, Limes, Purple Beech, and the commoner descriptions of Evergreens and Deciduous Flowering Shrubs. An enormous stock of Fruit and Forest Trees are also grown extensively.

Goods are delivered free to London, Reading, or Woking. The Nursery is reached in an hour from Waterloo, and conveyances are always to be had at the Woking Station.

CATALOGUES, Priced and Descriptive, will be sent on application, enclosing one postage stamp, to

WATERER AND GODFREY, Knap Hill, Woking, Surrey.

## KITCHEN GARDEN SEEDS.

THOMAS GIBBS AND CO., THE SEEDSMEN TO THE ROYAL AGRICULTURAL SOCIETY OF ENGLAND," beg to [illegible] are now prepared to execute orders for their

COLLECTIONS OF KITCHEN GARDEN SEEDS

for large or small Gardens, containing a proper selection of the best and most approved varieties

PACKETS OF FLOWER SEEDS, containing all the new and choice kinds.

GERMAN IMPORTED FLOWER SEEDS, in the original imported Packets.

DESCRIPTIVE PRICED CATALOGUES forwarded free on application. T. G. & Co.'s PRICED LIST OF AGRICULTURAL AND GRASS SEEDS will be ready early in February

THOMAS GIBBS AND CO.,

[illegible] HALF-MOON STREET, Piccadilly, London, W.

## GRAPE VINES FROM EYES.

JOHN AND CHARLES LEE beg to offer an immense stock of strong well-ripened VINES FROM EYES, of the following kinds:—

Aleppo
Barbarossa
Barwell's Seedling
Black Cluster
Black Constantia
Black Prince
Branche Vigne
Calabrian Raisin
Charlsworth Tokay
Chasselas Frocklaboulay
Chasselas Musqué
Ignetto
Esperione
Frontignan, black
Hamburgh, black
" Dutch
" golden
" Pope's
" Victoria
Hâtif de Jura
Isabella
Lady Down's Seedling
Marchioness of Hastings
" Parsley leaved
Muscat, August
" Bowood
" Cannon Hall
" Hamburgh
" Noir Hâtif
" of Alexandria
" of Fontainebleau
Pitmaston Cluster white
Raisin des Carmes
Syrian
Trebiana
Trentham Black
Tripoli
West's St. Peter's

Nursery and Seed Establishment, Hammersmith, London.

## IGNAME OF CHINA (DIOSCOREA BATATAS)

M. M. PAILLET AND SONS, of Paris, first Growers of the Igname from China, a nutritious root which has been fully appreciated in this country by all those persons who have been able to partake of it in its state of perfection, have decided upon exporting a quantity of it to England at such prices that the English public, as well as amateurs, may be enabled to appreciate its utility and put an end to all the comments that have been made by certain persons incapable of judging its merits. The result of the first crop on a large scale has been most satisfactory (about 30,000 tubs or 60,000 lbs.); this alimentary tubercle may be treated in the same manner as the Potato, with the exception that they should be planted more thickly in order to reduce the expense attendant on the gathering in of the crop.

Messrs PAILLET & SON feel confident that after a fair trial this new Chinese vegetable will be found an agreeable and useful acquisition to the table, and that it will be fully appreciated in England, and increase the number of those vegetables we already possess.

PRICES:—The 100 lbs. weight, 2*l*. Persons desirous of obtaining Choice Roots can have them forwarded in cases of 50 or 100 at the price of 2*l*. 5*s*. or 4*l*. 10*s*. Those wishing to make a plantation more or less considerable can have portions of the Roots fit for planting at the following prices:—One year's growth, per 100, 12*s*.; ditto per 1000, 5*l*. For young bulbs two years' growth, per Quart, 1*s*. 6*d*; ditto per Gallon, 12*s*. 6*d*.

All orders sent free of carriage to London with case and packing included in the above prices. All letters enclosing a Money Order, addressed post free to Mons T. Philipps, agent of Messageries Universal Office, 35, Regent Circus, Piccadilly, London, will be immediately attended to.

## WALTON NURSERY, LIVERPOOL.

To NOBLEMEN AND GENTLEMEN PLANTING NEW PLEASURE GROUNDS, OR IMPROVING PARKS OR DRIVES, AND TO COMPANIES PLANTING PUBLIC PARKS OR CEMETERIES

W. SKIRVING begs to offer his Stock of TREES and SHRUBS, of various sizes, adapted either for immediate effect, or for extensive new Plantations, where smaller sizes and less expensive Plants are required.

In addition to his general Stock of the leading kinds of Trees and Shrubs, which is allowed to be the most extensive in England, he has this season to offer, at reduced prices, several acres of well-grown CEDRUS DEODARA, varying from 2 to 10 feet in height.

Also, a very large stock of ARAUCARIA IMBRICATA, from 1 to 10 feet, and of all the best varieties of Hardy Pines, Cedars, Cryptomeria, Cypress, Yew (Irish and Common), Holly (Green and Variegated), Rhododendrons, &c.

WELLINGTONIA GIGANTEA, a fine stock, all from Seed

Strong transplanted Thorn Quicks for hedge planting, and a most extensive stock of Forest Trees, Underwood, &c., of all ages and sizes, at very moderate prices.

FRUIT TREES, a large collection of all the most approved kinds. CATALOGUES on application.

## SEED CORN FROM THE CHALK.

MESSRS. RAYNBIRD AND HARVEY beg to offer to Agriculturists requiring change of SEED Talavera, Red Nursery, and April WHEAT, the best sorts for Spring sowing.

Chevalier, Thanet, Golden Drop, Long-eared Nottingham, American, Hudson's Golden Melon, Banham's Sprat, and other varieties of BARLEY.

Canadian Potato, Hopetoun, Poland, and Tartarian OATS.

Fine CLUSTER BEANS, weighing 68 lbs. per bushel.

Samples and Prices on application.

Address—Basingstoke, and 89, Seed Market, Mark Lane, London, E.C

JOHN CATTELL respectfully invites the attention of parties requiring very showy HARDY PERENNIALS in large quantities to the following articles, of which J. C. has a large stock in very strong plants.

| | P. doz. s. | P. doz. d. | P. 100. s. | P. 100. d. |
|---|---|---|---|---|
| Delphinium Barlowi | 6 | 0 | 40 | 0 |
| Do. Hendersonia (this is by far the best variety for beds; the stems are more flexible than any other, and it throws out side branches all up the stems, whereas formosum and others only flower at the top, and it will produce double the quantity of bloom during the season) | 8 | 0 | 50 | 0 |
| Delphinium magnificum (true) | 8 | 0 | 50 | 0 |
| " hybrida flore pleno | 8 | 0 | 50 | 0 |
| " grandiflorum maximum | 7 | 6 | 50 | 0 |
| " formosum | 6 | 0 | | |
| Lychnis, Double Scarlet | 6 | 0 | 40 | 0 |
| Œnothera macrocarpa | 6 | 0 | | |
| Aquilegia Whitmani, fine blue, white centre | 6 | 0 | | |
| Wahlenbergia grandiflora, splendid blue, the finest of all Campanulas | 7 | 6 | 50 | 0 |
| Fair Maid of France | 7 | 6 | 50 | 0 |
| Double Yellow Rockets | 4 | 0 | 27 | 6 |
| Lily of the Valley | .. | .. | 5 | 0 |
| Phloxes, extra fine varieties 6*s*., 9*s*., 12*s*., to | 18 | 0 | | |
| " " 40*s*. to | .. | | 100 | 0 |
| And a very large stock of other hardy Perennial and Alpine Plants equally cheap. | | | | |
| Also very strong Standard and Dwarf Roses, which are supplied as follows:— | | | | |
| Standards, extra fine 15*s*., 18*s*. to | 24 | 0 | | |
| " " or 100*s*. to | .. | | 150 | 0 |
| Dwarfs 6*s*., 9*s*., 12*s*., to | 18 | 0 | | |
| " or 40*s*. to | .. | | 100 | 0 |

A remittance or reference from unknown correspondents.

Nursery and Seed Establishment, Westerham, Kent.

# MESSRS. E. G. HENDERSON & SON

RESPECTFULLY ANNOUNCE THAT THEY WILL FORWARD, POST FREE, THEIR

## NEW SEED CATALOGUE FOR 1859,

IN which the following novelties of the season will be introduced, or noticed, with full descriptions of management, cultivation, and adaptation; and only those that are known to be valuable are recommended for cultivation. Much useful information on the cropping of Gardens, Sowing, &c., is also given for the guidance of cultivators. The following NEW FLOWERS and other SEEDS are offered by E. G. HENDERSON & SON for the first season; full descriptions of which, with treatment, are given in the Catalogue:—

THE ROSY CARMINE GIANT EMPEROR ASTER, 1*s*. 6*d*.
NUTTALLIA PEDATA, var., see Catalogue for the description, 2*s*. 6*d*.
CLIANTHUS DAMPIERI, 2*s*. 6*d*., 5*s*., and 10*s*. per packet.
THE LAWTON BLACKBERRY (new American Fruit), 2*s*. 6*d*. each.

### SPERGULA PILIFERA,

A perfect substitute for Grass Lawns, &c., in Villa Gardens, without Mowing.

*See notice of the above at page 145 of this Paper.*

**Seed sent free in 6d., 2s. 6d., 5s., and 10s. Packets.**

A List of 60 ORNAMENTAL GRASSES, a few of which are adapted for margins to Beds, Borders, &c.

*A Descriptive Priced List of that most splendid tribe of Hardy Bulbs, Gladiolus Gandavensis.*

The new Vegetable CHÆROPHYLLUM BULBOSUM, and now well-known DIOSCOREA BATATAS (the Chinese Potato or Yam). Seed of the former and sets of the latter per dozen or 100; large tubers for tasting of both, per lb.

A List of 100 Select ORNAMENTAL GOURDS and MARROWS.

### NEW FUCHSIAS.

The following FUCHSIAS are the Seedling productions of Edward Banks, Esq., whose previous varieties have given so much satisfaction, and are again offered by E. G. HENDERSON AND SON as varieties of sterling quality and excellence in the special objects of Greenhouse decoration and public competition. LE PROPHETE, an improvement upon Fuchsia WONDERFUL, is an important and desirable acquisition, whilst LA CRINOLINE, CROWN JEWEL, and LITTLE DORRIT are each distinguished by features in outline, or colour, which will render them valuable additions and effective ornaments in the Conservatory and Flower Garden for the ensuing season. Plants will be sent out early, 63*s*. the nine varieties.

MAGIC FLUTE.—Crimson sepals, very elegantly reflexed, and unfolding to view a very finely formed corolla.

LEOLINE.—A remarkably free flowering, short-jointed, and dwarf habited variety, with bright crimson sepals, which are short, but beautiful in their ample width, and charmingly contrasted with a rich violet blue corolla.

LE PROPHETE.—After the style in bloom of Fuchsia Wonderful, but superior in all respects, having large, well formed crimson sepaled flowers of noble dimensions, and good habit, in the essential features of form, substance, and colour, combined with a profusion of bloom. Large, beautiful, and attractive.

LITTLE DORRIT.—A neat, dwarf dense habit, with blue corolla, and violet-crimson sepals. A most abundant bloomer, and a charming little plant for pot culture, effective either for Greenhouse decoration, or the Flower Garden.

CROWN JEWEL.—The darkest black-violet corolla yet offered, finely contrasted with rich crimson sepals, and combined with a good habit of growth.

LA CRINOLINE.—A large blue corolla of wonderful expansion, with crimson sepals. Beautiful and effective.

ISA CRAIG.—A fine large-flowered variety, with long crimson sepals and similarly formed corolla; of distinct habit and ornamental outline.

STRADELLA.—Scarlet sepals, and finely recurved violet-tinted black corolla, occasionally striped; unique and beautiful.

FLOWER OF FRANCE.—White sepals, with a rich violet-tinted blue corolla; a good bloomer, with a free habit, and striking flower.

**Wellington Nursery, St. John's Wood, London.**

## CHRYSANTHEMUMS—CHRYSANTHEMUMS.

J. H. BIRD, F.H.S., NURSERYMAN, Stoke Newington, the largest grower and most successful exhibitor of the Chrysanthemum in the British Empire, begs to call the attention of the lovers of the above beautiful autumn flower to his matchless collection, the stock of which amounts to upwards of 50,000 plants. Amongst them will be found the following new and rare varieties:—Admirable, Aimée Ferrière, Augustine, Constantine, Lemoni, Lemo Bonamy, Madame Leo, Norfolk Hero, Progne, Raymond, Beauté de Nord, Dr Maclean, Queen of England, Purpis, Alfred Salter, Stellaris globosa, Beauty, Thenais, Dupont de l'Eure, &c.

J. H. B. can supply strong plants, one dozen for 6*s*.; or five dozen in 30 varieties, containing two of each variety, for 1*l*.; or he can supply 100 plants in 50 varieties, two of each variety, for 1*l*. 10*s*. Also POMPONES in great variety; 50 Pompones in 25 varieties, two of each variety, for 10*s*.; or 100 in 50 varieties, two of each variety 1*l*. 1*l*. Strong plants of the beautiful new Pompone the Golden Celo Nuhi, 5*s*. each, will be ready in March with the usual allowance to the Trade. Every order will be accompanied by a popular work on the Chrysanthemum.

Post-office Orders payable to J. H. BIRD, Stoke Newington, will be immediately attended to.

UNEQUALLED NEW CUCUMBER, DR. LIVINGSTONE.—This is one of the finest long hybrid Cucumbers for exhibition purposes that has ever yet been offered to the public; it is a splendid black spine, length 22 to 26 inches, a very free setter, and an abundant bearer. Price 2*s*. 6*d*. per packet.

QUEEN OF THE WEST MELON, a superb new variety, green flesh, very handsome in appearance, beautifully netted, and excellent in flavour. It obtained several first prizes during the past season. Seeds 2*s*. 6*d*. per packet

NEW MELON GENERAL HAVELOCK, sent out for the first time last season. It is a green-flesh, very handsome shape, and beautifully netted; a very thick substance, thin skin, of a melting and most delicious flavour, and an abundant bearer. Weight from 3 to 4 lbs.; it gave the greatest satisfaction to all purchasers during the past season. Seeds 1*s*. per packet.

Extra fine mixed HOLLYHOCK SEED, saved from all named varieties, 1*s*. per packet.

Early Emperor CELERY, red, the finest ever yet sent out, 1*s*. per packet.

TILLY'S Solid White Celery, 6*d*. per packet.

DELPHINIUM FORMOSUM, 6*d*. per packet.

DIGITALIS, or Fox-glove Seed, 6*d*. per packet.

For further particulars, and list of Cucumbers and Melons, see Advertisement in *Gardeners' Chronicle* of Jan. 29, 1859.

A remittance must accompany every order in cash or penny postage stamps, when the whole or any part, as the case may be, will be immediately sent.

EDWARD TILEY, Nurseryman, Seedsman, and Florist, 14, Abbey Church Yard, Bath.

## CHOICE SARDINIAN FLOWER SEEDS.

MESSRS. HOOPER AND CO., seeing that the writer at page 99 of the *Gardeners' Chronicle* has evidently mistaken the meaning of other advertisers with regard to the transference of an agency for the above, and fearing that others of their extensive connection might also be misled, beg to state that they have this season, as for SEVERAL YEARS past, received their usual consignment of Seeds of PICOTEES, CARNATIONS, and other choice and rare Flowers, ripened in Sardinia, from the same unrivalled collection.

H. & Co. therefore hasten to assure their friends that there is no SOLE AGENCY for the choice seeds collected and saved by the justly celebrated "Sardinian Correspondent" in question.

Seeds of the above-named CARNATIONS and PICOTEES both show flowers and perpetuals, white and yellow grounds, in COLLECTIONS OF 12 VARIETIES. (For detailed list see our Catalogue, page 4.) Ditto in mixture each per packet, 1*s*. 6*d*. and 2*s*. 6*d*. The variety of their colours, with their constancy and doubleness, render these such as cannot be excelled.

A GENERAL COLLECTION, consisting of the most beautiful and useful kind of Shrubs, Perennials, Annuals, and Climbers of every description, well assorted, for Greenhouse or Conservatory, in all 50 varieties, for 20*s*. This collection includes all the novelties of merit, and can be recommended with confidence. All Flower Seeds sent free by Post.

HOOPER & Co.'s Comprehensive and Descriptive Priced CATALOGUE of FLOWER and VEGETABLE SEEDS for 1859 forwarded to all parts of the world post free.

Seed Warehouse, Centre Avenue, Covent Garden Market, London, W.C.

## "JACK OF NEWBURY" SWEDE, ETC.

PETER LAWSON AND SON, THE QUEEN'S SEEDSMEN, &c., 27, Great George Street, Westminster, respectfully request attention to their very genuine Stock of the above excellent Swede; also of the LOTHIAN PURPLE-TOP SWEDE, both of which have been selected with the greatest care. They have also a very fine Stock of the KOHL RABI, or TURNIP-ROOTED CABBAGE, specimens of which were shown at their Stands at Smithfield Club Show. The Kohl Rabi was largely grown last season, and may now be relied on as a substitute for the Turnip and Mangel, where these roots do not succeed, or for filling up blanks where there is a partial failure. Its feeding qualities, hardiness, and weight per acre are equal to the Swede, and all kinds of stock prefer it to other roots.

P. L. & SON have also selected a first-rate Stock of MANGEL WURZEL SEED, which they can confidently recommend. Their natural GRASS SEEDS have been also saved with very great care, and they are ready to supply them separately or in mixture, for laying down Permanent Pastures, Lawns, &c.

P. L. & SON have arranged to deliver Seeds free throughout England and Wales from their London Establishment, for all quantities exceeding 20*s*. in value.

LISTS OF PRICES of the above and all other Seeds, Plants, &c. may be had on application.

27, Great George Street, Westminster.

## AGRICULTURAL, FLOWER AND KITCHEN GARDEN SEEDS.

GARAWAY, MAYES, AND CO. invite attention to their Establishment for the sale of all kinds of AGRICULTURAL, FLOWER AND KITCHEN GARDEN SEEDS, their long connection with the trade and the well-known respectability of their house being a sufficient guarantee that all articles supplied by them will be of the very best quality. All seeds are proved by them before sending out, and their stock being large, and purchased from the first houses in the trade, offers great inducement to purchasers.

Their Stock of AGRICULTURAL SEEDS is produced from the best sources, and all are guaranteed by them to be of the best quality.

GRASS SEEDS of all kinds for Lawns or permanent Pasture; and the high testimonials they have received from their customers warrant them in stating that their quality is unsurpassed.—Catalogues on application.

Durdham Down Nurseries, Bristol.—Feb. 26.

# GRASS SEEDS FOR PERMANENT PASTURES & MEADOWS.

## THOMAS GIBBS & CO., Corner of Half-Moon St.,

### THE SEEDSMEN TO THE "ROYAL AGRICULTURAL SOCIETY OF ENGLAND,"

BEG to inform the Members of the Society and Agriculturists generally that their MIXTURES of GRASS SEEDS for Laying down Land to Permanent Grass are now ready. Each kind of Grass Seed composing these Mixtures is cleaned separately, and the kinds are proportioned to suit different soils.

☞ *Full Directions for Sowing and Management will be sent with the Seeds.*

**MIXTURES for PERMANENT MEADOW and PASTURE** (*to suit different soils*).
**MIXTURES for PARKS, FIELD LAWNS, CEMETERIES, &c.**
**MIXTURES for IRRIGATION MEADOWS, GAME COVERS, and all other purposes.**
**RENOVATING MIXTURES for Improving Old Meadows and Pastures** (8 to 12 lbs. per acre).

| MANGEL WURZEL. | RYE-GRASS. | | |
|---|---|---|---|
| Yellow Globe, Orange Globe (selected) | Italian (selected, very fine) | Carrots | all sorts |
| Long Red | Dickinson's | Clovers | ,, |
| Red Globe | Imported Foreign Seed | Swedes | ,, |
| Long Yellow | Common or Annual | Hybrids | ,, |
| Silesian Sugar Beet | Pacey's Perennial | Common Turnips | ,, |

**ALL KINDS OF AGRICULTURAL SEEDS.**

*Price Lists sent free on application. Reference or Cash required from unknown Correspondents.*

**KITCHEN GARDEN SEEDS in Collections at £1, £2, and £3 each.**

Thomas Gibbs & Co.

CORNER OF
**HALF-MOON St.**
PICCADILLY, LONDON, W.

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MESSRS. R. ROEZL AND CO.'S CATALOGUE OF MEXICAN SEEDS AND PLANTS to be had on application to Messrs. B. A. GRANTOFF & Co., 4, Lime Street Square, London, E.C.

CARTER'S EXCELSIOR MELON.—A green-fleshed variety of delicious flavour, netted; fruit averages 4 lbs., requires scarcely any heating, and is very prolific. R. Hogg, Esq., President of the Pomological Society, and Turner and Spencer's "Florist," pronounce this variety to be one of the finest ever tasted. Seeds 1s. per packet.—JAMES CARTER & Co., Seedsmen, 238, High Holborn, London, W.C.

TO GROWERS OF PINE APPLES AND CUCUMBERS.—The above-mentioned goods are in great demand here at present, and commanding high prices, therefore forward "immediately" to

GEORGE TAYLOR,
CHOICE FRUIT AND VEGETABLE SALESMAN,
St. John's Market, Liverpool.

DOUBLE ITALIAN TUBEROSE ROOTS, 4s. per dozen.—The annual importation of the above named beautiful and fragrant Flower has just been received, and large and well selected Bulbs may be obtained, without disappointment, at A. COBBETT'S Foreign Warehouse, 18, Pall Mall.

N.B. Printed regulations for treatment sent; also, just arrived, very moist and open Parmesan Cheeses

PELARGONIUMS.

CHARLES TURNER'S stock of the above at the present time is most extensive, including large, French, and Fancies. The plants, which were stopped in autumn, have broken very strong, and are ready for an immediate repotting. This is an excellent time for procuring them, the price being moderate.—The Royal Nurseries, Slough.

RASPBERRIES—Fastolf, Autumn Fruited, Fill-basket, and White, 10s per 100; STRAWBERRIES—British Queen, Elton Pine, and Keens' Seedling, 10s. per 1000, 1s. 6d. per 100; Red, White, and Black CURRANTS, 12s. per 100; Large LAURUSTINUS.

GEO. CORNWELL, Market Gardener, Barnet, N.

NEW CHRYSANTHEMUMS.

JOHN SALTER begs to inform the numerous applicants for his NEW CATALOGUE OF CHRYSANTHEMUMS that it will be published at the end of February, in which his splendid Seedlings and other new varieties for 1859 will be fully described, as well as his unrivalled general collection, which is the largest in Europe.—Versailles Nursery, William Street, near Hammersmith Turnpike, W.

MESSRS. PARKER AND WILLIAMS beg to inform their friends and patrons that their PRICED and DESCRIPTIVE CATALOGUE of Exotic Orchids, Stove, Greenhouse, and Hardy Ferns, Miscellaneous Stove, Greenhouse, and Hardy Plants, Variegated and Ornamental foliaged Plants, Conifers, Roses, Rhododendrons, Indian Azaleas, Gloxinias, Fuchsias, Cactuses, &c., is now published, and will be forwarded post free on application.—Paradise Nursery, Seven Sisters' and Hornsey Roads, Holloway, London, N.

GERMAN AND OTHER FLOWER SEEDS, VEGETABLE, AGRICULTURAL SEEDS, ETC.

MESSRS. PARKER AND WILLIAMS beg to inform their friends and patrons that their new PRICED and DESCRIPTIVE CATALOGUE in which is enumerated every novelty of proved merit, also all the best of the older kinds, is now published, and will be forwarded post free on application. Their whole stock has been selected from the best English and Foreign sources, and every kind is warranted true to name, and of the finest possible quality.—Paradise Nursery, Seven Sisters and Hornsey Roads, Holloway, London, N.

POLYANTHUS SEED.

JAMES WOODS begs respectfully to inform the lovers of that early spring flower, the Polyanthus, that his Seed is saved with more than ordinary care this year, from none but named and good laced flowers, which he can recommend with confidence. Having had testimonials from different parts of the kingdom of many valuable flowers being raised from his seed, it needs no further comment. Price 12s. per oz. to the trade, or 1s. per packet, sent free on receipt of 13 postage stamps.—JAMES WOODS, Florist, Harwich, Essex.

GEORGE SMITH can supply fine Bushy Plants of the following NEW GERANIUMS of 1857, at 30s. per doz. G. S.'s Stock of Show, Fancy, and Spotted varieties is now in splendid condition, and is one of the finest Collections in the immediate vicinity of London.

SHOW KINDS:—Viz, Aurelia, Bellona, Candidate, Etna, Hebe, Imperatrice, Lucifer, Minnie, Queen of Scarlets, Rose Celestial, Pet of the Flock, Rosaline, Richard Benyon, Sprightliness, Sir James Outram, Mazeppa, and Vestal.

G. S. can supply older kinds from 9s. to 18s. per dozen. For descriptions see Catalogue just published, and forwarded in exchange for one postage stamp.

Tollington Nursery, Hornsey Road, Islington, London, N.

AZALEA INDICA.

J. IVERY AND SON beg respectfully to invite growers of the above named to an inspection of their unrivalled Stock of Young Specimens of all the newest and best varieties, many of which have been exhibited at the Metropolitan Exhibitions. They are clean and healthy, well set with bloom, and moderate in price. Catalogues forwarded post free upon application.—Dorking Nursery, Feb. 26.

TO PLANTERS OF CONIFERS.

YOUELL AND CO. supply 50 species of RARE and HARDY CONIFERS in good plants for 5l., package included and carriage paid to Manchester, Newcastle-on-Tyne, Hull, London, Peterborough, or to any Railway Station within 150 miles of the Nursery. A LIST of the above can be had on application.—Royal Nursery, Great Yarmouth, Norfolk.

EARLY STRAWBERRIES.—MAY QUEEN: "One of the earliest of all its race, as proved last season at the Chiswick Gardens." Ripe at Egglescliffe, Durham, May 3, 1858. 12s. per doz.; 1l. per 25; 1l. 15s. per 50; 3l. per 100. Good strong plants.

TRIOMPHE.—"A most abundant bearer, Hudson's Big breed." Ripe as above, June 3d. 12s. per 50; 20s. per 100. Good strong plants.

DUC DE MALAKOFF.—"The earliest of the very large varieties, good." 12s. per 50; 20s. per 100; very strong plants. Nearly every other sort known can be supplied at reasonable prices. Many new interesting and excellent varieties can be recommended, all having been well tried. Early orders will oblige.

WILLIAM J. NICHOLSON, Egglescliffe, Yarm, Yorkshire.

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# EXHIBITION OF CAMELLIAS,

## VAUXHALL NURSERY, WANDSWORTH ROAD.

# MILNE, ARNOTT, & CO.,

(SUCCESSORS TO CHANDLER & SONS),

HAVE much pleasure in announcing that the large Collection of CAMELLIAS for which this Nursery has so long been celebrated, is now coming finely into bloom, and will improve daily, and continue in perfection several weeks. Open to visitors every day except Sunday.

**MILNE, ARNOTT, & Co.,**
NURSERYMEN, SEEDSMEN, AND FLORISTS, WANDSWORTH ROAD, LONDON, S.

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## ESTABLISHED FULL HALF A CENTURY.

# SEEDS! SEEDS!!

# LARGE ECONOMY IN THE PURCHASE OF SEEDS.

HAVING upwards of 30 years adopted the practice of testing the character of Vegetables with a careful examination of the new sorts which have from time to time been introduced, it has enabled us to offer such as we have proved of real merit by repeated trials.

### BASS & BROWN'S ASSORTED COLLECTIONS OF VEGETABLE SEEDS.

These assorted Collections will be found of full 25 per cent. more value than other collections offered, and for quality of growth and selection of sorts are not to be surpassed. For names of sorts contained in the three largest collections see Catalogue (free on application).

| | |
|---|---|
| No. 1 Collection contains 20 quarts of Peas, 10 sorts of Broccoli for succession, with all other Vegetables in proportion, of choicest kinds for a large garden | £3 |
| No. 2 Collection | 2 |
| No. 3 Collection | 1 |
| No. 4 Collection | 0 15 |

### FLOWER SEEDS.

The following assortments of Flower Seeds also include a large number of valuable novelties and are very select, with reasonable charges:—

HARDY ANNUALS.—100 varieties, 15s.; 50 vars., 8s. 6d.; 30 vars., 5s. 6d.; 20 vars., 4s.

HALF-HARDY ANNUALS.—50 varieties, 12s. 6d.; 30 vars., 8s.; 20 vars., 6s.

HARDY AND HALF-HARDY ANNUALS.—100 varieties, 20s.; 50 vars., 10s. 6d.; 30 vars., 7s.; 20 vars., 5s.

DWARF HARDY ANNUALS FOR FILLING BEDS.—20 varieties, large packets, 7s. 6d.; 12 vars., 5s.

GREENHOUSE ANNUALS.—20 vars., 7s. 6d.; 12 vars., 5s.

*** Greenhouse Perennials, Hardy Biennials and Perennials, &c., in assortments; also Flower Seeds in cheaper assortments. See Catalogue.

IMPORTED GERMAN SEEDS.—The varieties of German Stock, Aster, Larkspur, Wallflower, &c., are remarkably fine and double. See Catalogue.

SEEDS OF CHOICE FLORISTS' FLOWERS.—These, comprising Calceolaria, Cineraria, Geranium, Fuchsia, Hollyhock, Chinese Primula, and many others, have been saved from very choice and first-rate collections, and almost entirely of our own growth.

### FLOWER ROOTS FOR SPRING PLANTING.

For these, comprising Gladioli, Ranunculi, Anemones, Liliums, Tigridias, Tritoneas, and numerous others, see end of Seed Catalogue.

### CAPE AND OTHER BULBS IN POTS.

These comprise fine varieties of Ixias, Sparaxis, Gladioli, Tropæolums, the superb new Eucharis Amazonica, Tritomas now in flower, Watsonias, Cyclamens, and many others. See Seed Catalogue, page 56.

*Goods* (20s. *and upwards*) *Carriage Free to all the Railway Stations in London, &c. See Catalogue. Post-office Orders payable to* BASS & BROWN, *or to* STEPHEN BROWN. *Remittances required from unknown Correspondents.*

**BASS & BROWN, SEED GROWERS, SUDBURY, SUFFOLK.**

# MEADOW AND PASTURE GRASS SEEDS.

## GEORGE GIBBS & Co., Seedsmen, 26, Down Street,

BEG to announce that their mixtures of GRASS SEEDS are now ready for delivery. These mixtures are made up expressly to suit the various soils and the growth of each variety is fully tested previous to being bulked. G. G. & Co. having supplied the Seeds for *Hyde Park, St. James's, and Regent's Park, Kensington Gardens, Kennington Park*, &c., for many years, feel assured no further testimonials are requisite. The Seeds are made up into two different mixtures, as they do not sow well together; 2 bushels of the light and 12 lbs. of the heavy seeds are allowed per acre.

Mr. GIBBS, giving his personal attention to the assorting of these mixtures assures his friends that every care is taken with regard to the proper proportions.

**MIXTURES FOR PERMANENT MEADOW & PASTURE** (adapted to the different soils) 32s. to 34s. per acre.
**MIXTURES FOR IMPROVING & RENOVATING OLD GRASS LAND** (8 to 12 lbs. per acre) 1s. per lb.
**MIXTURES OF THE FINEST SORTS FOR LAWNS, GRASS PLOTS, BOWLING GREENS, &c, 1s. 3d. per lb.**

SELECT STOCKS OF THE UNDERMENTIONED AGRICULTURAL SEEDS SUPPLIED AT THE PRICES STATED FOR THE PRESENT MONTH:—

| MANGEL WURZEL. Per lb.—s. d. | | CARROTS. Per lb.—s. d. | | SWEDES. Per lb.—s. d. | | RYE-GRASS. Per bushel—s. d. | | CLOVERS. Per lb.—s. d. | | VARIOUS. Per lb.—s. d. | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Long Red | 0 9 | White Belgian | 1 0 | Ashcroft | 0 9 | Gibbs' Improved Italian | 7 0 | English Red | 9*d.* to 0 10 | Holcus saccharatus | 2 0 |
| Intermediate Long Red | 0 10 | Yellow Belgian | 1 3 | Skirving's | 0 9 | Dickenson's Italian | 7 0 | White Dutch | 10*d.* to 1 0 | Lucerne | 1 0 |
| Yellow Globe | 0 9 | Large Altringham | 1 6 | Matson's | 1 0 | Fine Imported do. | 7 0 | Trefoil | 4*d.* to 0 5 | Drumhead Cabbage | 2 0 |
| Red Globe | 0 9 | Long Surrey | 1 6 | Kentish Green Crown | 1 0 | Common English | 6 0 | Alsike Hybrid | 2 0 | Large Cattle Parsnip | 1 6 |
| Long Yellow | 0 9 | James's Scarlet | 1 6 | Marshall's Purple Top | 1 0 | Pacey's Perennial | 6*s.* to 7 0 | True Cow-grass | 1 0 | Kohl Rabi | 5 0 |

*Full Priced Catalogues sent free on application.—Cash or reference required from unknown Correspondents.*

## GEORGE GIBBS & Co., 26, Down Street, Piccadilly, London, W.

## CHOICE FLOWERS.

# BUTLER & McCULLOCH'S SPRING CATALOGUE OF SEEDS,

ARRANGED on a new and original plan, with copious Descriptive and Cultural Notes and containing many new and rare species and varieties not found in any other Catalogue, now ready and may be had free and post paid on application.

FLOWER, SHRUB, TREE, and VEGETABLE SEEDS, the crop of 1858, saved with the greatest care, by the most eminent growers.

We may also state that the Sardinian correspondent of Messrs. JAMES CARTER & Co., whose Seeds, especially Carnations and Picotees, have given such universal satisfaction, has transferred the Agency from that firm and appointed us his representative in this country. To meet the growing demand for first class flowers, particularly FLORISTS' FLOWERS, we have adopted our usual maxim of charging the lowest possible prices.

Professor LINDLEY in the *Gardeners' Chronicle* of February 5th, has the following notice of B. & McC's Catalogue.

"BUTLER & MCCULLOCH'S (Covent Garden) Spring Catalogue of Choice Flower, Shrub, Tree, and Vegetable Seeds. This list fills 84 closely printed 8vo pages, and is remarkably well got up. It appears that the correspondent in Sardinia, who formerly supplied one of the great London houses with seeds raised in that warm part of Europe, has now transferred what he gives to Messrs BUTLER & MCCULLOCH Let us add, that it yields to no Trade List in the abundance of its materials or the excellence of its arrangements."

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| A selection of 44 pkts. of beautiful Annual Flower Seeds | | | | | | 7*s.* | 6*d.* | |
| Ditto | 33 | ditto | ditto | .. | .. | 5 | 6 | |
| Ditto | 21 | ditto | ditto | .. | .. | 3 | 6 | |
| A selection of 40 pkts. of beautiful Biennial and Perennial ditto | | .. | .. | .. | .. | .. | 10 | 6 |
| Ditto | 51 | ditto | ditto | .. | .. | 7 | 6 | |
| Ditto | 24 | ditto | ditto | .. | .. | 5 | 6 | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| An Assortment of Vegetable Seeds, 20 quarts of Peas, and other Seeds in proportion for 1 year's supply | | | | | | £3 | 3*s.* | 0*d.* |
| Ditto | ditto | 12 | quarts of Peas | ditto | .. | 2 | 2 | 0 |
| Ditto | ditto | 6 | ditto | ditto | .. | 1 | 1 | 0 |
| Ditto | ditto | 3 | ditto | ditto | .. | 0 | 15 | 0 |
| Ditto | ditto | 3 | ditto | ditto | .. | 0 | 15 | 0 |

All Flower Seeds sent post paid, and Vegetable or Vegetable and Flower Seeds amounting to 1*l.* 1*s.* Carriage Paid to any principal Railway Station in England, Wales, and Scotland, or any port on the Irish Coast.

**BUTLER & McCULLOCH, Covent Garden Market.**

## SELECT LIST OF NOVELTIES FROM CATALOGUE 1859.

| | | |
|---|---|---|
| Carter's Tom Thumb Nasturtion | Lupinus nanus albus | Fenzlia dianthiflora |
| Lagenaria vittata | Viscaria Dunetti | Gaillardia hybrida grandiflora |
| Œnothera *Drummondi nana* | Laxton's Hybrid Pinks | Lobelia formosa |
| Lupinus Hartwegi cœlestinus | Dwarf spotted Nasturtion | Viscaria cœli rosa alba |
| Œnothera bistorta Veitchi | Nolana paradoxa violacea | Marigold French Orange. |
| Cosmidium Burridgi | | |

J. C. & Co. also wish to call attention to their Splendid Collections of Imported

**GERMAN & FRENCH ASTERS, GERMAN STOCKS, BALSAMS, & WALLFLOWERS,**

UNIVERSALLY ACKNOWLEDGED TO BE UNSURPASSED.

For a Full Description of the above articles they beg to refer to their CATALOGUE, which will be forwarded gratis and post free on application to

**JAMES CARTER & Co., Seedsmen, 238, High Holborn, W.C.**

## SEEDS RIPENED ON THE CONTINENT.

# JAMES CARTER & Co.

HAVING observed their name mentioned in an advertisement in connection with a late correspondent, feel it their duty to state that, preferring to have their Seeds from the Continental growers *direct*, one of the Firm has travelled during the past autumn with that object, *and purposes doing so every season*; the services of the correspondent alluded to are therefore dispensed with. Their Seeds for the present season, having been *personally* selected, are better than any they have hitherto offered.

**JAMES CARTER & CO., Seedsmen, 238, High Holborn, London, W.C.**

## GENUINE KITCHEN GARDEN SEEDS.

# JAMES CARTER & CO.

ARE NOW READY TO SUPPLY SEEDS FOR THE VEGETABLE AND FLOWER GARDEN, WHICH WILL BE FOUND, AS USUAL, OF THE BEST QUALITY ONLY.

# CARTER'S "ENCYCLOPÆDIC CATALOGUE OF SEEDS,

## AND GARDENER'S VADE MECUM."

The Twenty-fourth Annual Issue of the above is now ready, and, in addition to its usual comprehensiveness, has affixed a CALENDAR OF OPERATIONS for each month in the year for the Vegetable and Flower GARDEN, also for the Stove, Conservatory, Greenhouse, Orchid House, Pineries, Vineries, Pits, Frames, &c, forming a complete Gardener's Book of reference, which it is hoped will be found useful alike to the Amateur and professional Gardener. Forwarded free of charge and post paid to all parts of the world upon application.

**JAMES CARTER & CO., Seedsmen, 238, High Holborn, London. W.C.**

ROYAL SOUTH HANTS SEED ESTABLISHMENT.

UNDER THE PATRONAGE OF H.R.H. THE PRINCE CONSORT, THE AGRICULTURAL, HORTICULTURAL SOCIETY OF INDIA, AND THE LEADING AGRICULTURISTS OF THE UNITED KINGDOM.

PAGE AND TOOGOOD can now supply GARDEN AND FARM SEEDS, carriage free; SEED POTATOES, &c. The numerous Prizes gained by their Stocks are convincing proofs of superior quality, and their prices compete with any house in the kingdom. WHOLESALE and RETAIL PRICED CATALOGUES upon application.

Agents for OLAMS' Blood Manure, Superphosphate, &c. Seeds Packed for Exportation to all Parts of the world,

37 and 38, Oxford Street (facing the Railway Terminus); and 58, Above Bar, Southampton.

SUTTON'S GRASS SEEDS AT THE ROYAL FARMS NEAR WINDSOR, AND IN THE ISLE OF WIGHT,

AND AT THE ALDERSHOT CAMPS

SUTTON'S GRASS SEEDS FOR PERMANENT PASTURE, PARKS, AND LAWNS, are now sown at the Royal Farms at Osborne Palace, the Crystal Palace, Sydenham, the Horticultural Society's Gardens, at the People's Park, Halifax, and on most of the largest Estates in the Kingdom.

Messrs. SUTTON'S Grass Seeds being mixed expressly to suit the soil for which they are required, are never known to fail. Cost of Seeds 30s. to 34s. per acre, according to the requirements of the land to be laid down.

SUTTON & SONS, Royal Berkshire Seed Establishment, Reading.

CAMELLIAS AND OTHER CHOICE PLANTS.

LUCOMBE, PINCE, AND CO. beg respectfully to announce that the MAGNIFICENT SPECIMENS in their LARGE CAMELLIA HOUSE are now finely in flower, and will continue so for a considerable length of time; and in order to see them to advantage they should be inspected in their early stage as well as in their maturity. The Show House is also exceedingly beautiful, being filled with a very choice and extensive collection of Ornamental Plants.

Great improvements having during the past year been effected in every department of their Nursery, and every novelty deserving notice introduced, their general Nursery Stock is second to none in the kingdom.

CAMELLIA BLOOMS, CHOICE BOUQUETS, and CUT FLOWERS supplied to order on the shortest notice, and carefully packed to travel any distance with perfect safety.

Terms, which are moderate, can be had on application.
Exeter Nursery, Exeter.—February 26.

**The Gardeners' Chronicle.**

*SATURDAY, FEBRUARY 26, 1859.*

MEETINGS FOR THE FOLLOWING WEEK.

THURSDAY, March 3—Linnean ..... 8 P.M.

WE trust that gardeners will not fail to read with attention Mr. SPARY's excellent account of his experience in VINE GRAFTING, reprinted from the Journal of the Fruit Committee of the Horticultural Society in another column of this week's *Chronicle*. They will there find that the operation of grafting the Vine in which so many fail is as certain of success as grafting an Apple tree, provided it is conducted with intelligence. We are told that a Muscat and Golden Hamburgh, having been put on a Trebbiana stock, grew at such a rate that by the autumn they had each formed shoots of well-ripened wood, the first 18 feet long and the second 14 feet long, "proving," as Mr. SPARY observes, "the great advantage that may be derived from grafting where Vines are established but a substitution of other sorts is desired." The account given by him of the way in which he proceeded is so clear that any one can imitate it. Nevertheless a word or two of comment will not be inopportune.

What will probably be regarded as most remarkable in Mr. SPARY's experiment is his having grafted his Vine in April when in full and early leaf. At that time he cut down a strong Trebbiana to within 2½ feet of the ground, and then he inserted his scions in the common way of cleft

grafting. But Vines bleed when wounded, and some would have expected that the Trebbiana, instead of feeding the scions, would have exhausted itself by pouring out its own vital fluid. Nothing of the kind however happened. Nor in truth could it have happened. For bleeding in the Vine arises from the stem having become distended with sap which has no outlet; if at that term the sap vessels are wounded out gushes the sap just as blood spirts from a man's arm when a vein is opened. But as soon as leaves appear they empty the system of the Vine of all this superfluous sap—sucking as it were the nursing mother which gives them birth—the distension then ceases, and the cause being withdrawn no more bleeding *can* occur. Cutting down a Vine in full and early leaf is a perfectly safe operation. It is more than safe; it is extremely advantageous; and for this simple reason. At an early period, when all the parts are young, the sap of plants contains the vital principle in the greatest intensity; everything is ready for the formation of new wood; leaves expand with rapidity, the stem lengthens fast, new roots are sprouting from every fibre, and wood is forming rapidly beneath the bark. Then is the time for the grafter to seize. He can never before or after have so favourable a combination of circumstances important to success. The instant a scion is inserted into a Vine in this state a callus begins to form between the alburnum of the stock and scion; it is by that callus that the parts are brought into living union; it is through the callus, and by its aid that vital sap must flow from the stock into the scion. Mr. SPARY found the time demanded for effecting this union to be three weeks, "at the end of which time the Muscat began to grow; and in the first week from that time it grew 4 inches, in the second 12, in the third 24, and in the fourth 36." In four weeks from making a start it grew considerably above 2½ inches a day on an average; and actually made more than 5 inches a day when four weeks old. Just think of that; two lines and a half per hour. Who can compute the hourly increase in weight which attended this hourly elongation? And be it remembered that the vital force of the Trebbiana was not all thrown into the Muscat, but was to a great extent appropriated by the Golden Hamburgh.

This experiment will probably lead to Vine grafting in full and early leaf, as the general rule. There is however another way. It is only necessary to graft on old dormant wood dormant scions having a small piece, say one joint, of two-year-old wood at the base; and to take care that the grafting clay is kept constantly damp until union is effected. By this mode certain success is attainable, but we do not remember having seen it attended with results like Mr. SPARY'S. It has been conjectured by Mr. ANDREW KNIGHT that such was the way in which the Romans grafted their Vines—with them a frequent operation. But CATO'S directions for Vine grafting do not, as we think, support this conjecture; he expressly declares indeed that one way of grafting was when the Vine is in full and early leaf; that is to say, in flower. As it may interest some of our readers to see what this ancient writer's directions were, we translate literally such as relate to the Vine. "Grafting the Vine is done either in the spring or else when the flowers appear; the first is the best. Graft the Vine in this way. Cut down the stock; split it in the middle through the pith; then drive in tightly the sharpened scions so that the pith of one fits to the pith of the other. Another way: if the Vine is near another Vine, cut each off slanting when tender, fit their piths together, and tie them with bast." (*Vitis insitio una est per ver, altera est cum uva floret, ea optima est.—Vitem sic inserito. præcidito quam inseres. eam mediam diffindito per medullam. eo surculos præacutos artito. quos inseres, medullam cum medulla componito. Altera insitio est: Si vitis vitem continget, vitem utrinque teneram præacuito oblique, inter sese medullam cum medulla libro colligato.* Cap. xli. edit. SCHNEIDER.) The Romans had even a third way, a rude sort of inarching, which we need not quote. The above is sufficient to show how common a practice Vine grafting was with the ancient husbandmen.

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ARE greenhouses, &c., in nursery gardens rateable to the poor-rate? and, if so, upon what principle? are questions which seem to have puzzled some of our correspondents; and as they present considerations of great interest to a large and important class of our readers, we will attempt to furnish an answer.

Now, without going through the statutes, we may say generally that no one at the present day is liable to the poor-rate who is not "a parson, a vicar, or an occupier of land, houses, tithes impropriate, propriations of tithes, coal mines, or saleable underwood." These classes of occupiers are rateable in respect of their occupation, and in respect of their occupation only. It is obvious how hardly this state of the law presses upon those who, like nursery gardeners, require large and valuable space of land for the exigencies of their trade. The intention of the old Poor-law clearly was that every inhabitant should contribute according to his ability to the necessities of his poorer neighbour. But in 1840 the Legislature itself, baffled and unable to solve the problem of an equally assessed income tax, relieved parish officers from some of the difficulties of their position, and limited the payers of poor-rate, and the property in respect of which it was to be paid, to the classes above-mentioned. Moreover, in the year 1836, Parliament had provided the assessors with a principle of assessment, affirming a principle which, in the case of properties to which it was applicable, had long been recognised in the courts of law. By the 1st section of the Parochial Assessment Act it is enacted that "no rate for the relief of the poor in England or Wales shall be allowed by any justices, or be of any force, which shall not be made upon an estimate of the several hereditaments rated thereunto, that is to say: of the rent which the same might reasonably be expected to let from year to year, free" (*i.e.*, to the landlord) "of all the usual tenant's rates and taxes, and tithe commutation rentcharge (if any), and deducting therefrom the probable average annual cost of the repairs, insurance, and other expenses (if any) necessary to maintain them in a state to command the rent."

Now whether or not greenhouses and similar property are rateable, *per se*, as "houses"—we should say clearly, not—is immaterial. For it is well settled that the word "rent" is used, not according to the strict technical meaning of the term, as defined by the political economists, but in a popular sense, to express the sum which is paid by the occupier to the owner as an equivalent for the advantages of the occupation of the land *as it is*; with all the erections or improvements which may have been built or carried out upon it. Upon this principle it has been often decided that machinery fixed in a house is to be considered in assessing the house; not because it is rateable *as machinery*, but because the house is rendered more valuable to an occupier by the machinery being so fixed in it. So again, to give another familiar instance, the floating piers in the Thames have been held rateable, not as *piers*, but because the first of the barges, of which they are usually constructed, is fastened to the shore; and that part of the shore to which it is fixed is assessed, not at its bare value as mere land, but at the rent at which it would let with the pier affixed to it. In like manner the land occupied by gas-pipes, water-pipes, docks, canals, or manufactories with the machinery in them, although it may be removable at pleasure, is rated not at the bare rent which it would fetch as land, but at its annual value increased by these additions. Nothing can be more evident, therefore, than that the existence of greenhouses in a nursery garden must by law be taken into consideration in estimating the assessment of the occupier.

That mistakes, however, should arise in the application of the principle laid down by the statute need surprise no one. "Rent" and "value" are or have been two of the most fertile sources of controversy among the political economists. Books have been written on these words and their meaning, from the perusal of which practical readers have arisen sadder, although not much wiser men. But in truth these are questions not for theorists, but for men of business. And although, even for them, the application of the statute presents no slight difficulties; as, for example, when they have to rate an isolated mile of railway, gas main, or water pipe, or to fix the rent of a vicarial rentcharge; yet we cannot see that any very serious practical difficulty presents itself in the case of a nursery-garden, with its ranges of greenhouses, hothouses, and forcing pits.

The question proposed is—What would a solvent tenant, desirous of occupying the property for the purposes to which it is adapted, pay as rent, he taking upon himself the burden of the usual tenant's rates and taxes and the payment of the Tithe Commutation rentcharge? This rent being ascertained, a deduction would then have to be made in accordance with the statute, founded on an estimate of the average annual cost of repairs, insurance, and other expenses, if any, of this nature. It is, however, clearly impossible to lay down any general rule by which the rent is to be fixed. It is a question to be determined by practical men acquainted with each locality, and to vary in every case according to the nature and quality of the garden and its accessories, the position of the place, to the demand for such accommodation, to the prospects of the trade, the facilities of access, and the thousand and other circumstances which must enter into such considerations. We will however give one word of warning. In rating property such as that under discussion, viz., land improved by trade fixtures, there is often a tendency in the parish officer, who is anxious to raise the rate, to take the profits of the *particular* tradesman into consideration, and so in effect to assess his profits. This we need not say is both unjust and unlawful. The precarious character of the trade in its general aspect must of course form an element in the calculation; but not so with the profit of the individual tradesman. Personal skill, knowledge, both scientific and practical, business connection, and many other such matters, are at the source of a tradesman's success, and where one man would make a profit of 10*l.*, another would make 500*l.* with the same advantages of locality and establishment. But the difficulties of those who have to decide the conflicting claims of overseers and occupiers, and to apply the law to the facts, is not a little enhanced by the rivalry of witnesses. It is a spectacle not very edifying to the non-professional bystander, to watch the raging of the conflict between competing valuers, who in support of their theory or their client—for so they too often appear to consider the party on whose behalf they are summoned)—seem occasionally to forget that they are under the obligation of an oath, and to exchange the caution of the witness for the zeal of the paid advocate. In the midst of all this discord and confusion the perplexed Chairman of Sessions, who had looked to the production of evidence for his information, is compelled to take refuge in his own personal knowledge and experience, or, as a drowning man catches at a straw, seeks support in the opinion of some one of the witnesses upon whose honesty and skill he may in his own private matters have had occasion to rely. This, and not the state of the law, is frequently the cause of the uncertainty of which some of our correspondents have complained.

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## ON SELF-RENOVATION IN TIMBER TREES.

THERE is a Walnut tree here, the history of which is curious and instructive; and as it tends in some degree to confirm what I have lately stated concerning bark and wood, I beg to say a word or two on the former state and present appearance of the tree. It faces the eastern front of the stables, and is about 8 paces distant from them. More than 80 years ago my father ordered it for execution, as he foresaw that in time it would interfere with a favourite Scotch Fir. A gun-maker who was standing by at the time, offered a price for the bole if it would be allowed to remain upright until it suited his convenience to send a conveyance for its removal. Whereupon, there and then, as the lawyers say, the tree was decapitated just above from the ground. But the gunsmith never returned to take the tree, not having paid for it.

During the following spring, the still standing bole sent out a single solitary bud, just at the place where the upper parts of the tree had been separated from it by the woodman's axe and saw. As no signs of further vegetation appeared, the bole was pronounced to be dead, died, saving the part where it had germinated, and a living remnant of the former tree was somewhere about 9 inches in breadth at the top, gradually widening to 2 feet as it approached the ground. From this small the new bud received life and support, to make a noble tree in times to come. It went prosperously on from year to year, producing vigorous shoots and branches till the year 1810, when, on my return from the West Indies, I took it under my particular care, seeing that it required considerable attention.

Having ordered an adze suitable in size and shape to the work which it had to perform, I began at the top of the bole, just opposite to the new vegetation, and having cut out large pieces of the dead wood, I pared off what remained, so that the new wood and bark might have an uninterrupted progress over it. Whenever I returned from abroad (which was about once in four years) I went adze in hand to the Walnut tree, and cut out more of the useless and projecting former wood. The luxuriance of the new tree, rising from one original bud, was truly astonishing. Its parts at the top of the bole closed in and united; and in course of time they became so perfect, that no traces remained to show that a former head had ever been taken off. In the meantime, renovation from above to below proceeded steadily, every year producing a fresh coat of wood and bark. When at home I was perpetually hewing out little pieces of the ancient tree.

For many years a duck, every season, had her nest on the ground inside of the bole. But now the lower parts of the new tree prohibit her access. In less than years more, the present deficiency will be entirely made up by the renovating aid of Nature, and when that shall have taken place the tree will measure 8 [illegible]

[illegible] at 1 foot from the ground. It regularly [illegible] and ripens an abundant crop of nuts when [illegible] is favourable. The whole of the new bark [illegible] easily distinguished by its comparatively smooth tex[illegible] that the original portion, which kept alive and [illegible] the new bud, is very rough and scaly, bearing [illegible] marks of extreme old age. This year I intend [illegible] a stone in the remaining cavity, with the year [illegible] 1859 cut on it.

The day will come when this stone, and all insects which have taken up their quarters in the bole, will be hermetically sealed, as it were, by the union of the new wood and bark. They will remain imprisoned in their holes, and there they must die, as they can never make their way back again to daylight; nor will even any daring Scolytus attempt a passage through the new and healthy wood in order to reach the old, which still remains in the centre of the tree; and which old wood will remain there untasted by insects and undisturbed until some hurricane or mandate of a future proprietor shall lay this tree level with the ground on which it now stands in renovated youth and beauty. *Charles Waterton, Walton Hall.*

## RHODODENDRONS.—No. III.

A LOCALITY which has an inclination to the north, or approaching that, is highly favourable to the Rhododendron. There the sun lies longer on the Grass, and the sun's rays striking at an acute angle produce a less speedy evaporation than where the surface has a more southern inclination. These conditions tending to preserve, if not to produce a moist and cool atmosphere, should be secured if possible.

There are however numerous localities where shade and moisture need hardly demand consideration, the general climate being naturally all that can be desired. On our S. and S.W. coasts, and in many parts of Scotland, especially on the shores of its numerous bays, lochs, and lakes, the excessive moist and comparatively cool climate demand little artificial aid to Rhododendron culture beyond a suitable soil; but in our inland counties, and especially in dry arid soils, any artificial means that will aid in producing coolness and moisture should be attended to.

Supposing a bed of Rhododendrons to have been planted in an artificially prepared soil, and to have succeeded well. They will, after three or four years' growth, have pretty well filled the soil with roots, and mingled their branches into a mass. In this state, if the plants are to be kept in vigour, a thinning out and replanting becomes necessary. The best season for such replanting, and by the way for making new beds also, is perhaps October; but either may successfully be done at any time (weather permitting) from the ripening of the wood in autumn till commencement of growth in the following spring. Perhaps no plant will bear transplanting so well and at such a diversity of season as the Rhododendron. We have seen them taken from the open ground when in full flower and replanted after a long journey without any apparent damage beyond perhaps a few contingencies consequent on the transit. The plants which have yearly been so attractive at the "American Plant Exhibitions" in London are taken from the nurseries and carted to London but a few weeks—many of them only a few days—before they are presented to the public in full flower. Some large specimens which figured conspicuously at a flower show last year were taken up on the previous evening, and conveyed to the place of exhibition in full bloom. After two days' absence they were returned and replanted, and had not the weather been excessively hot and sunny, which caused the flowers to fade somewhat sooner than those of their neighbours, a casual observer would not have suspected their removal.

But to return to our beds. When any show signs of requiring renovation remove the whole of the plants, and throw out the remaining soil, and well fork up the bottom as in making a new bed. With the old soil well broken up mix a portion of new, and replant as in the first instance, using only sufficient plants to fill the beds without crowding. After this they will be found to push with renewed vigour.

And in addition to these periodical renovations yearly top-dressings will be amply repaid. These may consist of leaf-mould, decayed manure from an old Cucumber bed, or even guano, at the rate of 3 or 4 lbs. to the square rod. Such dressings should be applied in early spring and slightly forked in. In very dry situations it will tend greatly to promote the plants if the beds are occasionally well flooded. By making them below the natural surface this can readily be done without losing any of the water given. If one such flooding can be applied when the flowers are beginning to open, more will, especially if the weather is and has previously been dry, be very much finer and remain for much longer in bloom than they would do without such application.

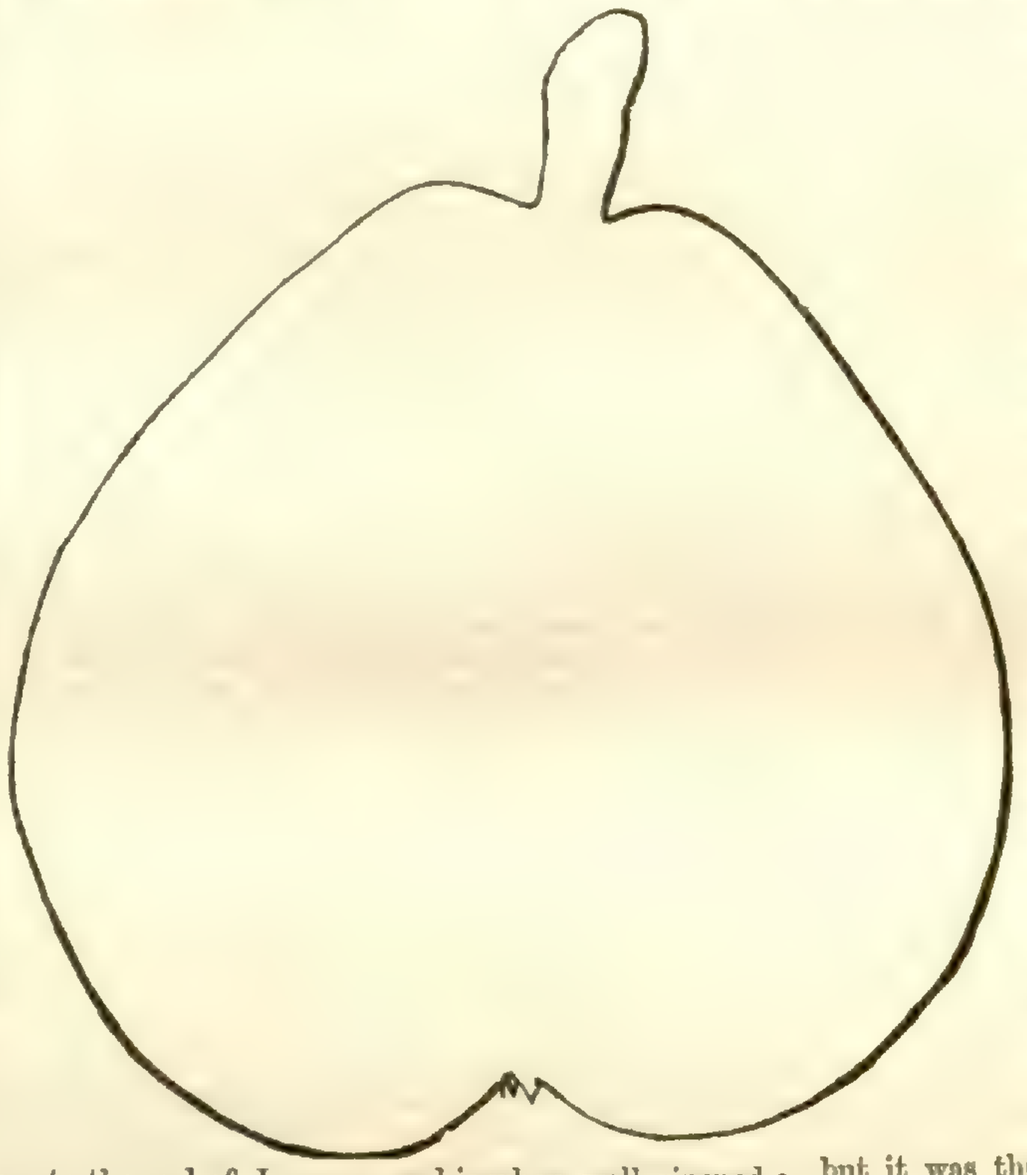
In some localities shelter from prevailing winds during the growth of the plants becomes highly desirable, for the young shoots are very succulent, and easily broken off or damaged, and much injury is frequently experienced from that cause. Our prevailing winds in June, when the Rhododendron is making its growth, are from the south and south-west; but in every garden there are local circumstances which produce or influence certain currents, the remedy for which, like the cause, can only be pointed out on the spot. *G. Lovell, Bagshot.*

(*To be continued.*)

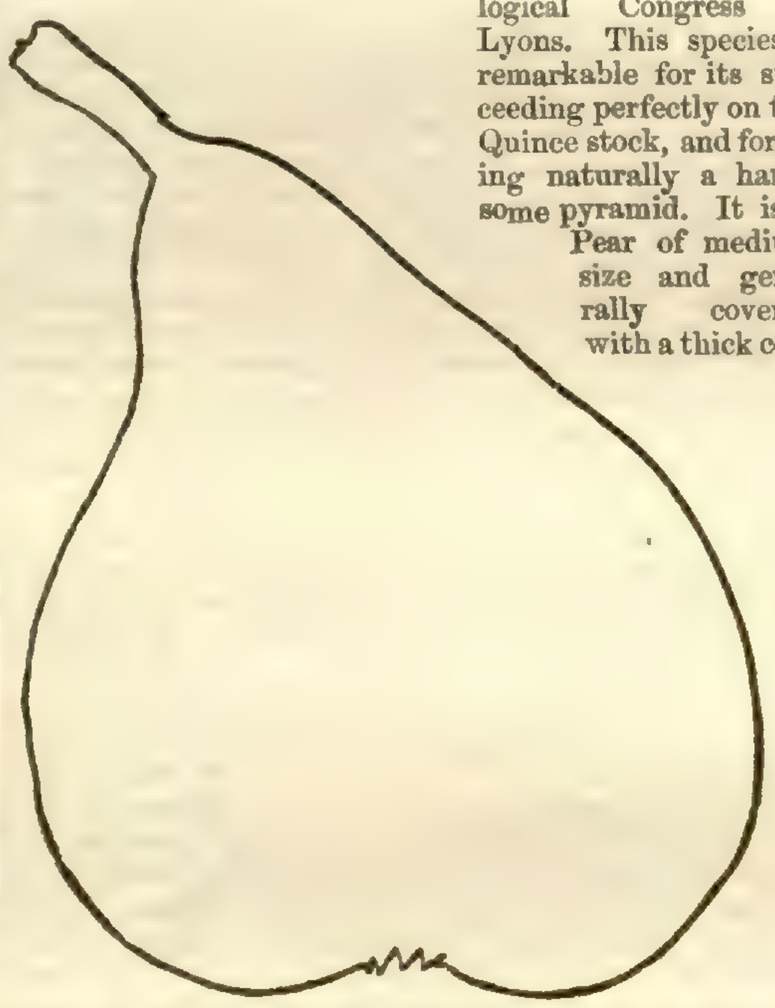
## NEW PEARS.

*Beurré Gris d'Hiver Nouveau*, or *Beurré de Luçon.*—The "Congrès Pomologique," at the meeting at Lyons, September, 1857, fixed on the latter name as its proper appellation for the future.

This is a Pear generally above the medium size, and often very large. Its rind is mostly covered with a dense russet. It succeeds better on the Pear stock than on the Quince, and unless in very warm gardens in the south of England should be planted against a wall with a S. or S.E. aspect. It ripens from the end of December to the end of January, and is when well ripened a Pear of good quality, with a peculiar and rich aroma, melting, and very juicy. It is apt to be what the French call "pierreuse" near the core, or as we say gritty.



*Baronne de Mello; Beurré Van Mons; Adèle de St. Denis.*—The latter is the name given by the Pomological Congress of Lyons. This species is remarkable for its succeeding perfectly on the Quince stock, and forming naturally a handsome pyramid. It is a Pear of medium size and generally covered with a thick coat of russet. It is not a perfumed or high flavoured sort, but is generally melting and remarkably juicy, for in cutting it the juice often streams down the knife. Its flavour is very agreeable, and so refreshing in warm weather that it is difficult to leave off eating it. It is in season during the whole of October, and sometimes keeps well till the middle of November. No Pear can be more hardy and vigorous in its growth. This variety is not new, for Van Mons sent it out under its second name about 25 years since.



## ON THE COILING OF TENDRILS.

As much as 20 years ago, Mohl suggested that the coiling of tendrils "resulted from an irritability excited by contact." In 1850 he remarked that this view has had no particular approval to boast of, yet that nothing better has been put in its place. And in another paragraph of his admirable little treatise on the Vegetable Cell (contributed to Wagner's "Cyclopædia of Physiology"), he briefly says:—"In my opinion, a dull irritability exists in the stems of twining plants and in tendrils." In other words, he suggests that the phenomenon is of the same nature, and owns the same cause (whatever that may be) as the closing of the leaves of the Sensitive plant at the touch, and a variety of similar movements observed in plants. The object of this note is to remark that the correctness of this view may be readily demonstrated.

For the tendrils in several common plants will coil up more or less promptly after being touched, or brought with a slight force into contact with a foreign body, and in some plants the movement of coiling is rapid enough to be directly seen by the eye; indeed, is considerably quicker than is needful for being visible. And, to complete the parallel, as the leaves of the Sensitive plant, and the like, after closing by irritation, resume after a while their ordinary expanded position, so the tendrils in two species of the Cucurbitaceæ, or Squash family, experimented upon, after coiling in consequence of a touch, will uncoil into a straight position in the course of an hour; then they will coil up at a second touch, often more quickly than before; and this may be repeated three or four times in the course of six or seven hours.

My cursory observations have been principally made upon the Bur-Cucumber (Sicyos angulatus). To see the movement well, full-grown and outstretched tendrils, which have not reached any support, should be selected, and a warm day; 77° Fahr. is high enough.

A tendril which was straight, except a slight hook at the tip, on being gently touched once or twice with a piece of wood on the upper side, coiled at the end into 2½-3 turns within a minute and a half. The motion began after an interval of several seconds, and fully half the coiling was quick enough to be very distinctly seen. After a little more than an hour had elapsed, it was found to be straight again. The contact was repeated, timing the result by the second-hand of a watch. The coiling began with four seconds, and made one circle and a quarter in about four seconds.

It had straightened again in an hour and five minutes (perhaps sooner, but it was then observed); and it coiled the third time on being touched rather firmly, but not so quickly as before, viz., 1¼ turns in half a minute.

I have indications of the same movement in the tendrils of the Grape Vine; but a favourable day has not occurred for the experiment since my attention was accidentally directed to the subject.

I have reason to think that the movement is caused by a contraction of the cells on the concave side of the coil, but I have not had an opportunity for making a decisive experiment. *Prof. Asa Gray in the Proceedings of the American Academy of Arts and Sciences, Nov.* 10, 1858.

## Home Correspondence.

*Fluctuation of the Height of Water in Wells.*—I am glad to see that you are calling attention to this subject. In my well here the water now stands at about 160 feet from the surface. I have been obliged to deepen it, and I have made a chamber 10 feet across, where the water now stands, and I have a gauge, so that I can tell exactly what is happening. The well has been dry before, but only for a few days, and the supply has otherwise always been so plentiful that no attempt was made to ascertain the fluctuations until about two months ago, when I caused a gauge to be contrived. During this time, that is for the last two months, the height of the water has continued sensibly the same. When the pump is worked the water sinks gradually, but recovers itself again in a few hours. The well is entirely in chalk. Within the last three years the water has fallen upwards of 30 feet in my well; in the well of a neighbour of mine, also in chalk, whose consumption is considerable, the water has fallen in the same time 62 feet. Wells are dry that have never been known to be so before, and many have been deepened. It was thought by those the best informed on the subject, that the springs (or water in wells) stood at the same height or nearly so, in all the chalk country, and corresponded nearly with the height of water in the pond at Orpington, where the river Cray rises; but this cannot be the case, as while the water in my well has fallen at least 30 feet, and in the other before referred to upwards of 60 feet, there are other wells in the chalk not far distant where the water has only fallen about 10 feet. *J. W. L., High Elms, Farnborough Kent, Feb.* 19.

*Arsenical Paper Hangings.*—The article in your Paper on arsenical paper hangings has created no small alarm in my mind, and in that of some neighbours, as we have rooms with green papers. Mine were from the first London makers and are very ornamental. We naturally wish to ascertain whether these papers contain the deadly poison mentioned, and hope that some of your chemical readers will favour us, and indeed all your friends, with some easy mode of detecting the evil if it exists in our papers, without sending a piece for examination to a chemist. *L.*

*Pear-tree Disease.*—I have just had my attention called to a remarkable form of disease in some shoots of a Pear-tree, of which specimens have been transmitted by Sir Charles Lemon, Bart. The whole of the bark, with the exception of the buds, is completely covered

with a hard black crust as it coated with soot. On placing a portion of the latter under the microscope it appears to be a peculiar kind of fungoid excrescence which cannot fail to be injurious to the fruit spurs and branches that are attacked by it, and if not removed by some application will induce sickness and ultimately lead to the death of the tree. The only disease approaching to it that I can find any account of is one described by Downing in his "Fruits and Fruit Trees of America," which he calls the frozen sap blight, and states that it sometimes becomes so serious as to create great alarm amongst the cultivators of fruit. I am anxious to learn whether this new pest has been noticed by any of your correspondents in other parts of the country. *B.* [The fungus is a species of Capnodium very near to, if not identical with, *C. elongatum*, Berk. and Desm., a common North American species. We shall hope to give some further observations upon it, when we have been able to make a comparative study of the neighbouring species. *M. J. B.*]

*Rainfall at Epping in* 1857 *and* 1858:—

| | 1857. | 1858. |
|---|---|---|
| January | 2.63 Ins. | 0.43 Ins. |
| February | 0.57 | 1.02 |
| March | 0.21 | 0.31 |
| April | 1.17 | 1.91 |
| May | 0.60 | 1.86 |
| June | 0.60 | 1.51 |
| July | 0.98 | 2.08 |
| August | 2.22 | 1.55 |
| September | 3.59 | 0.76 |
| October | 3.60 | 1.19 |
| November | 1.19 | 0.14 |
| December | 0.06 | 1.28 |
| Totals | 17.42 | 13.74 |

The fall last year, as will be seen, was exceedingly small. *H. Doubleday.*

*A Cure for Erysipelas.*—What is the proper name of the enclosed? It is called by the country people here Fire Grass, and mixed with lard is used as an ointment for the cure of erysipelas, and a perfect cure it is; it ought to be better known. *J. Knight, Lancaster.* [It is Alchemilla arvensis.]

## Foreign Correspondence.

NIGER EXPEDITION.—(*Continued from page* 147.)

FROM MR. BARTER TO SIR W. J. HOOKER.

"Encampment near Ketsa, River Kworra,

"Central Africa, Nupe Country, July 3, 1858.

"At the end of the dry season little could be done in botany here. Most of the small rivers here I have explored as far as they could be ascended in a boat. These yielded but few novelties, presenting chiefly the vegetation of the large river, often monotonous enough.

"On the 3d of April, having obtained Dr. Baikie's consent, I left the camp in company with Capt. Mackintosh to visit a large confluent about 100 miles down the river. The result of this trip not producing much in botany we pushed onwards to the confluence of the Kworra and the Tshadda, intending to surprise our camp with news from the people there, provisions and goods which we were much in want of, but we found everything in a deplorable state—most of the people dead—the factory burned down, and the depôt of provisions left for the 'Dayspring's' use as she returned all destroyed. We were now in a difficulty. Our journey back against current for nearly 200 miles would be tedious, and ten men were to be fed. Two sick Europeans were to be removed, besides two coloured seamen who were almost starving. We therefore went down to the next factory, 'Onitsha,' taking Mr. Watts, a clerk, and one seaman, intending to take the others upwards on returning. 'Onitsha,' the first factory on the river in the Eboe district, is distant about 100 miles below the confluence. This place was left entirely in charge of native agents, and the result is good. Trade was well conducted. The Rev. J. Taylor (native) had a mission house built, and all looks very promising. The people, although of the fierce race of the Delta, always had behaved well. We procured as many cowries here as our boat would carry, and leaving the two men reached the confluence in 16 days, took up the remaining engineer and seaman, and reached Jeba again after an absence of about seven weeks. The voyage was difficult. The river had fallen very low, so that often during each day we had to drag the boat over extensive shoals. The rains too had set in, so that at night we were continually drenched to the skin; sleeping in wet clothes is dangerous in any climate, but especially here. My companion had fever badly in the boat. I had ague sharply on my return; nevertheless, the engineer got better, but the seaman died of dysentery soon after we returned, probably produced by the exposure.

"During this trip I collected about 120 species of plants and several new fruits. But all suffered much from wet and a crowded boat. I briefly notice a few of the most interesting from 'Onitsha.' This place from its position is moist; wet and dry seasons are not marked as in the countries further up the river. I find this distinctly shown in the vegetation. First comes the dense forest of the Delta, abounding in lofty trees, Oil Palms, Raphia and Calami, Epiphytal Orchids and Ferns, and such plants as delight in a moist climate. This extends about 100 miles by the river. Then another belt which appears to terminate rather abruptly at Idda, 180 miles. This is marked by a diminution of Orchids, Ferns, and large Scitamineæ. Raphia is seldom seen. Calami disappear. The Cocoa Nut cannot be seen beyond this, and the large grey parret with several aquatic river birds is seen no more as we ascend. The Baobab first appears at Edda. The next line is less clearly defined than the last. But at 80 miles the large-fruited Artocarpus ceases, and a Myrtaceous tree thickly lines the river banks, and Fan Palms become common. No large timber trees are now seen. Shea Butter and similar scrubby trees cover both hills and plains.

"From 'Onitsha' I obtained a native species of Mangifera, the fruit smaller than M. indica, nearly globular, leaf less coriaceous and more acuminated; also a fruit called 'Odara,' Pear-shaped, pulp subacid, containing four flattened hard shining seeds. This is a large tree with shining acuminate leaves. I saw clusters of large purple fruit hanging like Dates from a tree with large pinnate leaves; but this was near the King's residence, and I could not procure it. The Rev. J. Taylor pointed it out to me. Fruit of a large twiner called 'Ebbebe' is much sought after by the people when ripe. It is square in shape, size of the fist; each angle is winged; leaves alternate, pubescent, entire. A Rubiaceous plant grows here, said to be very useful in dysentery. It is powerfully astringent; the flowers are small green on fleshy receptacles, which eventually become hard fruit. I think it is allied to Nauclea, the 'miraculous berry' of S. Leone people. Phrynium Danielli is common about Onitsha; the triangular fruit is produced from the root on short peduncles, which scarcely raise it above the deep humus in which these plants delight. When ripe it is of a fine scarlet colour. Seeds large, black, and shining, enveloped in mucilage; it is this which gives the remarkable sweet liquorice taste which, remaining on the palate so long afterwards, causes everything else which is eaten to possess the same flavour. A handsome Combretum grows here in cleared places. It is very dwarf; its scarlet flowers sometimes rise only a foot from the ground; and as they spring from creeping roots, look like Hæmanthus multiflorus, which is a common plant. I have fruit of a larger Sterculia with leaves; the latter are palmate, nearly 3 feet in diameter. In Orchids I got a Polystachya with inconspicuous flowers; a curious Bolbophyllum, a Sarcanthus-looking plant [probably an Angræcum] with fragrant flowers, and some genus I do not recognise. Angræcum distichum is common; also Eulophia guineensis. Others occur on lofty trees, for the most part difficult to obtain, especially in flying visits like mine.

"The 'Bitter Cola,' not at all allied to common Cola of the interior markets, is, I find, a native at Onitsha. I did not see the tree; but one of the chiefs produced nuts, and promised to secure specimens on my return. Bixa Orellana is very common about villages in fruit at this season. Perhaps it has been introduced, but the people do not appear to use it. I was too late for flowers of Napoleona, but have fruit of a species which is eaten. Of a handsome Tabernæmontana I have several young plants, with specimens of flowers and fruit. The latter is like a green-fleshed Melon in aspect, size of 32-pound shot. Much could be done with Ferns here if time permitted. I gathered some Pterideæ like P. hirsuta; but having reticulated venation; some curious Acrosticha, together with Lastrea, Sitolobium, Nephrolepis, Drynaria, Adiantum, Trichomanes membranaceum, on wet rocks, along with several Lycopodiums, Musci, and Hepaticæ.

"The botany of Nupe since the showers have fallen becomes more interesting. I have not been able to make any extensive journeys since my accident (a poisoned hand), but have picked up among other things seven terrestrial Orchids; one with distinct pseudo-bulbs has flower spikes 3 feet high, and resembles a Zygopetalon, a very good addition to the cultivator. Another, tuberous-rooted and palmate, throws up spikes of purple flowers. The leaves are narrow like those of Bletia, and come up afterwards. This is an ornamental species, but perhaps like other tuberous Orchids may be difficult to cultivate. A large species is now in flower in swamps with branched spikes of yellow flowers 7 feet high; its root a large spongy rhizome. The finest of all is a large Phaius-like plant with small pseudo-bulbs and broad leaves. The spikes rise from 5 to 7 feet, with fine masses of purple flowers. It likes the moist sides of ravines, and is finest in shady places. The others are small plants with curious yellow flowers, but not worth cultivating. Some Gloriosa with dwarf habit is now in flower. It is different from G. superba. The petals are crimson with a yellow stripe up their centre. The native girls wear them on their ears with pretty effect. Tacca sp., perhaps T. involucrata, is common everywhere. A handsome shrub frequenting the margins of swamps has just blossomed. The flowers are 2 inches in diameter, resembling Melastoma in appearance, but not in structure; the leaves have a palmate venation. I have many young plants of this. In the swamps are many novelties—two large Droseras, one with rose-coloured glandular hairs, the other with red ones; both have rose-coloured flowers. A Rubiacea herbaceous with brilliant scarlet flowers. A Menyanthes with yellow blossoms on the leaves. Some beautiful genus like Pinguicula in structure, with fine purple flowers, grows in small pools on the rocks. It has jointed stems; leaves only under water at the base. I find in almost all swampy places a species of Nephrolepis like N. tuberosa, a harsh shining Lastrea, sometimes a Lycopodium of the L. clavatum group, but never any Mosses. Swampy ground is most favourable to the botanist. In such places I always find something new. Such spots yield something more unfortunately, and I cannot resist ague quite so well now as 15 [illegible] find two Ophioglossums here, O. vulgare and [illegible] cum; each has quite a little flat tuberous root [illegible] do not propagate in the ordinary [illegible] form. On a distant rocky plateau I have [illegible] Fernlike Platyloma hastatum, or rather intermediate with it and P. pteridoidum. I am pleased with [illegible] covery. It may lead to better things in the [illegible] which before I was quite despairing of. In the same place grew a tuberous-rooted Oxalis, with [illegible] divided leaves; also some new Liliaceæ, Aloes, &c.

"Shea Butter harvest is now over. The crop [illegible] have been light this year. The nuts are allowed to ripen on the trees, and gathered from the ground in the morning by women and children. The pulp surrounding the nuts is rubbed off, generally eaten. As to taste it resembles an over-ripe Pear; but it is too sweet to be much relished by Europeans. The nut is next steamed by exposing it to a slow heat in large clay cauldrons with perforated bottoms. This, besides carrying off the pulp, causes the nut to shrink in its shell, of which it is afterwards divested in the next operation, viz., threshing. This is done on floors, or sometimes it is slightly broken in large wooden mortars instead. The nut, now [illegible] next thoroughly pounded with pestle and mortar, and then ground between stones; at this stage it looks like [illegible] black mud in paste. This mass is washed [illegible] water, then boiled till the butter rises white and is skimmed from the surface. Shea butter remains [illegible] at a high temperature when well prepared, and does not become rancid with age. It has a slight [illegible] taste, acquired during its preparation. Some of the people dislike it. We have used it in cooking, and have often in the boat lived on it and Yams without inconvenience. From specimens tested at home Shea butter is likely to fetch 5*l.* per ton more than Palm oil. It can be produced here in any quantity, but it is a tree of the interior, and will reach European markets just in proportion as the navigation of the river is extended.

"A missionary teacher has beautifully observed that the Oil Palm is destined to effect an equality of rights and banish slavery. As the wants of civilisation extend I cannot help thinking that Bassia is designed to assist in the same cause.

"The climate is now pleasant here. Showers occasionally; sometimes tornadoes make us apprehensive for our tents' stability. These always come from one quarter, viz., north-east. The river commenced rising yesterday. The entire fall here has been only [illegible] while below the confluence, even when I was down, it measured over 30 feet, proving that the Tshadda pours down the great volume of water during the rains. I have most of my collections in rough state, but all must be rearranged when we go down to Fernando Po. Ants are more troublesome than mosquitoes here. Everything on the ground is honeycombed by these pests.

"We have been in the river one year to-day; at this time nine months in our camp. The steamer we expect now weekly, when it is proposed to go down to Fernando Po, and ascend again while the water is high to complete the work contemplated. The mortality on the Dayspring's crew is unfortunately high—just one in the number, viz., of eight Europeans four are dead, three four American seamen somewhat coloured, three out of two coloured stewards one dead; but of 62 Kroomen natives only three, one of these deaths through accidents. No death has taken place among our own party, six in number; but Mr. Davis has left us, his health not permitting him to stay longer. I trust that in the future vessel few Europeans will be employed. We have abundance of evidence that this is no place for the white. My health is good; I have fits of ague occasionally which readily yield to Quinine. But at the moment I feel as strong as when I left England. I have neither impaired appetite, enlarged spleen, or anything to indicate debility from climate, yet I have worked much harder than I should in England, and traversed in an open boat in all weather some thousand miles of river. I do not mention this otherwise than to show that our health has been well cared for, and that we have the fullest confidence in Dr. Baikie.

"Mr. May is away in the Bassa country; Lieut. [illegible] is coming up the river in the steamer. Dr. Baikie, myself, with Mr. Dalton alone are here. I hope to have time yet for a short trip in the Yomba country for some species of Palm, of which a fine kind of oil is made. *C. Barter.*"

(*To be continued*).

## Societies.

HORTICULTURAL: FRUIT COMMITTEE.—Jan. [illegible] Mr. Edmonds in the chair. The committee have resolved at their Meeting in December last that prizes of 20*s.* and 10*s.* be offered on this occasion for the best Winter Nelis Pears, in dishes of six specimens, accompanied with a schedule of particulars relating to the circumstances under which the fruits were produced, and the announcement of their intention having been responded to, the prizes were accordingly awarded. The exhibitors on this occasion were:—Mr. Tillery, gr. to the Duke of Portland, Welbeck; Mr. Harrison, gr. to [illegible] lands Palace Gardens; Mr. A. Ingram, gr. to [illegible] Blandy, Esq., High Grove, Reading; Mr. Cox, gr. to W. Wells, Esq., Redleaf; Mr. Shoesmith, gr. to [illegible] Moorman, Esq., Bexhill; Mr. W. Ingram, gr. to [illegible]

Duke of Rutland, Belvoir Castle; and Mr. Judd, gr. to Earl Spencer, Althorp Gardens, Northampton.

AWARDS.—First prize to Mr. Cox; second to Mr. A. Ingram.

In Mr. Cox's schedule it was stated that the locality where the fruit exhibited by him was grown is in West Kent, about 40 miles from the sea in a direct line; climate generally humid; exposed to south-west winds, but sheltered from east, north, and south; the soil rich garden earth, 18 inches deep, on a subsoil of yellow clay, inclining to marl, with veins of iron and fine sand, many feet deep; the ground slopes to the south-west, at an angle of about 8°. The fruit was produced on a tree, trained horizontally against a south wall about 12 feet high; the tree, about 30 years old and in good healthy condition, is on the Pear stock; the only pruning it requires is to break off all the breast-wood when in a young state. The fruit exhibited was produced on branches which were grafted up the side of the main stem 12 years ago, and have not failed during the last 10 years to bear a good fair crop. Mr. A. Ingram, the next successful competitor, stated that High Grove, near Reading, is considerably elevated; the soil stiff, inclined to clay; subsoil gravel. The tree, planted in a border sloping a little to the north, is fantrained against a north wall about 13 feet high; but a peculiarity deserving of notice is, that after reaching the top of the wall on the north side, the branches are trained downwards in a perpendicular direction on the south side, and from the portion of branches trained in this aspect the Pears exhibited were gathered on the 19th of October. Mr. Ingram further mentioned that the fruit produced on the south side is always larger than that on the north side, but that the quality of the latter is also good. The tree is old, but healthy and vigorous, and always bears well; it is trained on the spur system. Mr. Tillery's specimens of Winter Nelis were fair-sized and well grown, but being from a west aspect were not equal in richness to those produced from a south wall near London, and nearer the level of the sea than Welbeck, which occupies a high situation in the midland counties. The tree, about 12 years old, was transplanted in 1858; it is on the Pear stock, and is pruned and trained in the ordinary way. The soil, a stiff sandy loam, is on a clay subsoil, but drained; the clay from the drains was burned and put in the bottom of the borders, and some of it was also mixed with the soil in planting; where the burnt clay has been so employed, the transplanted trees thrive well; the ground slopes to the north. Mr. Harrison, Oatlands Palace Gardens, Weybridge, Surrey, near the Thames, reported that the soil is 4 feet deep, with a sandy subsoil; it is early, but the fruit produced is clear, ripening into good colour, and keeping well. The surface is flat. The fruit exhibited was grown on a tree against a wall with a south-east aspect, on an old St. Germain tree, which was grafted with the Winter Nelis about seven years ago; it is trained horizontally, and bears abundantly. The specimens, though good, were not equal to those from the south aspect.

In Mr. Shoesmith's schedule, it was stated that Bexhill, Sussex, is half a mile from the sea, on the south coast; the land gradually slopes towards the south-west. The tree, which is healthy, and about ten years old, is trained horizontally against a south-west wall, about 9 feet high. It was also remarked that the season was late, but with less than an average fall of rain. The fruits exhibited were splendid, well-grown, large specimens of the sort, and finely russeted, but in point of flavour they, like all the others, had to yield the prize to the exhibitions from south aspects. Mr. W. Ingram sent three dishes, respectively from east, west, and south aspect walls. The fruits from the south aspect were not the finest that had been produced upon it, and were found to be too ripe; so that no fair estimate of their quality could be made, comparatively with those from the other aspects. As regards the other two, those from the east were found better than those from the west, later than those from the south, and earlier than those from the west; the lateness of the crop on the latter was supposed to be in consequence of the fruit being rather thin. According to the schedule returned by Mr. Ingram, Belvoir Castle is in the north-midland county Leicestershire, lat. 52° 53′, and 220 feet above the level of the sea. The soil is on the lias clay; the surface slightly inclined to the east. The trees are on the Pear stock; those on the west aspect wall are trained horizontally, the others fan-trained.

The next schedule returned was from a midland county by Mr. Judd, Althorp Gardens, Northampton. It stated that the gardens occupy an elevated situation on a hill, their surface sloping to the south-south-east. The soil is about 2 feet deep, and consists of garden mould, resting on blue clay, generally with veins of sandstone. The tree which bore the fruit exhibited is against a south-west wall and is healthy. It was originally the Swan's-egg variety; but nine years ago every horizontal branch was grafted with the Winter Nelis, and six years ago it was root-pruned to within 3 feet of the stem; it is pruned by shortening the spurs in summer, and reducing them in winter. Mr. Judd remarked that the fruit has ripened early, in consequence of the hot dry summer.

It may be observed that the range, north and south, within which the above exhibitions were obtained was about 220 miles, from Welbeck the most northern locality, to Bexhill the most southern, yet to the fruit from the latter the prize was not awarded. Again, of the exhibitions, two were from west aspects, two from south-west, one from east, and two from south. It was to those from the south aspect that the prizes were awarded. It therefore appears that as regards the richest flavour, the fruit produced on the south aspect proved superior to those from any other.

Messrs. Webber & Co., Covent Garden, exhibited Winter Nelis Pears, but not for competition. They were remarkably fine, large for the sort, and of excellent flavour. From the schedule accompanying them, it appeared that they were grown at Isleworth, the situation rather humid, and sheltered from the north and north-east. The soil is rich mould, 2 to 3 feet deep, gravelly sand below, and well drained; the surface flat. The tree is on the Quince stock, and is fan-trained against a south wall 11 feet high, or nearly so; it has been nearly 10 years in bearing, is vigorous, and has produced excellent crops during several years. By the same firm, and from the same locality, were exhibited large specimens of Ne Plus Meuris Pears, from a south-west wall. The tree, nearly eight years in bearing, is on the Quince stock, and trained horizontally. It is healthy, and a moderate bearer.

Mr. Evans, gr. to Archdeacon Jones, Brynsteddfod, sent some very fine large specimens of the Glou Morceau Pear. From a carefully filled up schedule it appeared that the locality is on the western coast, near Conway; climate moist, of medium temperature, but variable; 170 feet above the level of the sea, which is in sight, and about 5 miles distant; the situation is much exposed to north-west winds; the soil is a good loam, 2 feet in depth, on rock of argillaceous schist. The walled garden in which the Pears exhibited were grown, is flat, on a hill in the midst of a mountainous district, sloping to the west; outside the garden walls the hill falls chiefly down to the river Conway. The tree is against a brick wall 6 feet high on the garden side, with a stone coping having a narrow projection; the aspect a little to the south of east. It was planted in January, 1840, and is in excellent condition; it is on the Quince stock, and pruned in the ordinary way. The border, 7 feet wide, is kept free from garden crops, except a little winter Spinach. On the same wall are trees of Louise Bonne and Marie Louise, equally flourishing. The trees are allowed to bear from six to 12 dozen each, and have never been known to fail, except once, two or three years back, when a severe spring frost cut off the blossoms. Mr. Tillery also exhibited fair specimens of Glou Morceau, from a west wall; but the flavour was not so good as in the above, from an aspect inclining to south-east. Mr. Culverwell, Thorpe Perrow, Bedale, Yorkshire, sent a dish of Marie Louise Pears, to show their keeping qualities; and he stated that he has ripened off fruit of this variety at different periods since October from the same tree. The specimens were very large and fine, but the quality very inferior. Mr. W. Ingram also exhibited a dish of the Orphelin d'Enghien, or Beurré d'Aremberg Pear, more slender near the stalk than the variety usually is; skin pale and smooth, and when that is the case the fruit, as in the present instance, contains too much acidity. The tree bore a heavy crop. Mr. D. Judd exhibited handsome dishes of Beurré Diel and Glou Morceau Pears. The specimens of the former were not melting; those of the latter were large and well-grown, but not equal in quality to fruits of the same variety produced near London. Mr. Whiting brought for trial a fruit of the Vauquelin Pear, being, it is believed, the first of that sort produced in this country. It was found scarcely second-rate. He also exhibited some well-coloured specimens of Adams' Pearmain, and very fine Sweeny Nonpareil Apples, much larger than that productive variety usually becomes. It is a good keeper, and when most other sorts become flat as regards flavour, this retains its briskness. J. Allnutt, Esq., sent three specimens of the Easter Beurré Pear, for an opinion as to their ripening so early, and not possessing the usual good flavour of the sort. The committee were of opinion that the imperfection and premature ripening of the fruit had most probably arisen from the tree having suffered from dryness at the root. Mr. Gillham, Market Gardener, Mogden Lane, exhibited two Black Jamaica Pine Apples; they were of a regular, handsome form, and showed every appearance of having been grown without check. Mr. Newton, East Lodge, Enfield Chase, sent a Seedling Grape, described as a cross between the Muscat of Alexandria and the Syrian. The berries were middle-sized, oval, yellowish white. It had the flavour of the Syrian, with a slight trace of the Muscat. Mr. Melville, gr. to the Earl of Roseberry, Dalmeney Park, Linlithgowshire, sent two stems of Roseberry Brussels Sprouts. They were raised from a sort which Mr. Melville stated he had cultivated for 20 years; and in order to increase the size of the sprouts, he had crossed the variety with the Early Ulm Savoy, which from its small, compact, dwarf habit was, in all probability, the best of the Savoys he could have employed. The stems were furnished down to the ground; but the sprouts, though larger, were not so fine ribbed as those of the true Brussels Sprouts. The Committee were of opinion that if cooked as greens or Savoys, they proved tender and good, the variety would be an acquisition on account of its productiveness.

A communication was read from Mr. Spary, of Brighton, detailing his mode of grafting Vines. It was intended to have accompanied a bunch of Muscat Grapes, produced by the graft, and exhibited at a previous meeting, but arrived too late. The Grapery in which the Vine is growing was built in the spring of 1855, and planted on the 18th of April with Black Hamburgh and one Trebbiana. After two years' growth they produced an excellent crop; but the owner wishing to have a Muscat substituted for the Trebbiana, Mr. Spary grafted its stem with that sort and the Golden Hamburgh, the wood of the latter being much the smaller in size, in consequence of the scarceness of that sort. He stated that on the 1st of April, 1858, the existing Vine or stock, being at that time in full leaf, was cut off 2 feet 4 inches from the ground, and a cleft made in the top, according to the usual mode of cleft grafting. The Muscat scion was inserted on the east side, and on the west a small graft of the Golden Hamburgh, the former being 3 inches long and having one eye, and the latter 2 inches. The junction was bound over with matting, then covered with grafting wax, and over that was put a coating of grafting clay, and a covering of Moss. Proper attention was paid to syringing twice a day with the other Vines. In this state the grafts remained for three weeks, at the end of which time the Muscat began to grow; and in the first week from that time it grew 4 inches, in the second 12, in the third 24, and in the fourth 36. At this stage it was found requisite to remove the Moss, clay, and wax; and a slack bandage coated with clay and covered with Moss, to retain proper moisture, was substituted; all which were taken off a fortnight later. The fifth week the scion grew 36 inches, the sixth week 30, and the two following weeks 5 feet 9 inches; the whole length of the cane being 18 feet 1 inch. In addition to this growth, it threw out 2 or 3 feet of lateral shoot at the top. The girth of the cane is as follows:—at 1 inch from the graft $3\frac{1}{16}$ inches, in the centre $2\frac{3}{8}$ inches, at the top $1\frac{1}{8}$ inch; the whole of the wood is well ripened. In addition to this extraordinary growth, Mr. Spary stated that the laterals showed fruit as high as the 10th or 12th eye from the graft, but all were taken off except two bunches on the ninth eye, those being left as an experiment.

The cane of the Golden Hamburgh grew with the same rapidity as its neighbour, but in consequence of the smallness of the graft it did not reach the same size, the following being its dimensions:—length 14 feet 6 inches, girth at one inch from the graft $2\frac{1}{16}$ inches, in the centre $1\frac{9}{16}$ inch, at the top $1\frac{1}{4}$ inch, the wood throughout being well ripened. The operation having been very successful, proving that great advantages may be derived from grafting where Vines are established, but a substitution of other sorts is desired, Mr. Spary thought a report of it might be interesting.

## Notices of Books.

*Flore des Serres* for December, 1857, has appeared with original figures of the *Tom Thumb Tropæolum*; *the Pompon de Tirlemont Larkspur*, a handsome variety of the Siberian; some superb looking varieties of *Dianthus chinensis*, which, as Mr. Van Houtte observes, would have been regarded as Japanese lying wonders had not the Horticultural Society of St. Petersburgh stamped them with authenticity by giving them a gold medal; moreover M. Regel, a name of weight, declares that he saw hundreds of them in flower with a Mr. Heddewig, and guarantees their being all that has been represented. Imagine flowers, 30 on a plant, of the deepest crimson, or crimson streaked with white, and 3 ins. in diameter. We see that Mr. Van Houtte has seed on sale. Another plate represents what is called *Dianthus sinensis laciniatus*, another variety with enormous flowers, one form of which is single, pale, and lilac, the other smaller, the colour of an Opium Poppy but double; both being cut and slashed into numerous long sub-divisions. It is announced that the arrear of the *Flore* for 1858 will be made up by the end of April, after which the numbers will appear with the same regularity as formerly.

*Journal of the Linnean Society*, Vol. III., No 2, for Feb. 1. The Botanical papers consist of an account of a so-called new Bellevalia from Mt. Ida, a very questionable plant indeed. A valuable enumeration of New Holland Acacias by Dr. Ferdinand Müeller. Contributions to Organographic Botany, by Mr. Dresser, creditable enough as a schoolboy's exercise, but strangely out of place in the Journal of a learned Society. A commencement of a note by Prof. Henfrey on the Morphology of Balsaminaceæ, a curious subject, of which we shall render some account when the remainder of the paper is before us. Also an interesting paper on the vegetation of western tropical Africa by Dr. Welwitch, and a description of three new genera of Australian plants by Dr. Ferd. Müeller. The Zoological division is wholly occupied by two able systematical papers; one by Mr. Walker on the Dipters, and the other by Mr. Smith on the Hymenopters collected by Mr. Wallace on the Aru islands.—Since the above was written a *Supplemental Number* has appeared, entirely occupied by a very valuable account of Indian Mosses, from the pen of Mr. Mitten.

*Transactions of the Linnean Society, Vol. XXIII., Part* 3. 4to. Of the valuable papers contained in this part none relate to the vegetable kingdom, except an elaborate review of the Sphærias of the Hookerian herbarium by Mr. Frederick Currey, in all respects worthy the high reputation of this distinguished mycologist. Of the Zoological papers, those by Prof. Huxley on the reproduction and morphology of Aphis are of the deepest interest; but they are too technical for

extract, with the exception of the following startling paragraph:—

"Time was when the difficulty of the physiologist lay in understanding reproduction without the sexual process. At the present day, it seems to me that the problem is reversed, and that the question before us is, why is sexual union necessary."

TRADE LISTS RECEIVED.—*W. Hall's* (Enfield) *Catalogue of New and Rare Select Seeds.* A useful little list of things suitable to small gardens, and of very good novelties wanted by everybody.—*Vilmorin-Andrieux & Co.'s* (Quai de la Mégisserie, Paris) *Supplément aux Catalogues.* Excellent descriptive priced lists of flower, tree, and vegetable seeds, forming 24 closely printed quarto pages in double columns. Here is to be found all that is new in France, and among other things seeds of Eugenia Ugni and the Chinese Yam, ripened on the continent, and wanted in this country by experimental growers.

## Garden Memoranda.

CHATSWORTH.—We learn that Mr. Foy has at length succeeded in flowering the Amherstia nobilis, not the plant originally introduced by Mr. Gibson, which has been dead some years. The plant at Chatsworth has been there two years, and was 1 foot high when received. At the present time it is 7 feet high, and 10 through, showing several racemes of flowers, one having 13 upon it.

## Miscellaneous.

*The Gouty-stem Tree.*—North-western Australia, participating in the dryness of the climate which characterises the greater portion of this continent, offers in the physiognomy of its landscape few features of peculiarity; although here and there the rivulets of a ravine or the banks of a river may be lined with that gorgeous vegetation, which a combination of heat and moisture generally developes within the topics, yet most of the indigenous trees do not essentially differ from those which we are accustomed to find flourishing in the more southern latitudes of Australia; species of Eucalypti, Acacias, and Melaleucas occasionally intermingled with Casuarinas and proteaceous trees constituting in the north as in the south of Australia the most prominent features of the landscape. There is one striking exception however to this rule. This is the Gouty-stem tree, or the Baobab tree, which has excited therefore the interest of every successive traveller, who has landed on our north-western shores; thence we find scattered notes in reference to this remarkable production of nature in the writings of Capt. P. P. King, Mr. Allan Cunningham, Sir George Grey, Capt. Wickham, and Capt. Stokes. Since however it was reserved to the North Australian expedition, so prudently conducted by Mr. Aug. Gregory, to give the first systematic account of the Australian Baobab, we beg to devote a few lines to its description. We do this with the greater readiness, as the extensive journals and observations, and the beautiful paintings and sketches, which resulted from the Gregorian tropical expedition, are not yet available to the general public. The Gouty-stem tree, although not restricted in its habits to the vicinity of the sea, is seldom found to extend more than 100 miles inland; its range being from Sir George Grey's Glenely river to the western shores of Arnhem's Land. It may possibly also reach the Lower South Alligator river, where, according to Mr. George Winds. Earle, a tree was observed answering to the description of the Baobab. But it evidently is absent in the middle and northern part of Arnhem's Land, there being no record of its existence in Dr. Leichhardt's, journal. The tree delight in sandy clay-plains, or in low and rather barren and stony ridges, forming stems of prodigious thickness, but comparatively of inconsiderable height. Some of these stems frequently assume the character of colossal branches, arising from one root; the circumference of some of the stems, which were measured, was nearly 80 feet. Dr. Mueller has classed it with the African Baobab, or Monkey Bread-tree (Adansonia digitata of Linnæus, for a truthful representation of which we refer our readers to Dr. G. Bennett's wanderings, vol. I. p. 22), to which indeed the Australian species, which is named in honour of the meritorious explorer Adansonia Gregorii, bears perfect resemblance; except when in a state of repose these trees shed their leaves and render thereby the long pendulous fruitstalks, which are characteristic of the African species, conspicuous at a great distance. The winterly appearance of the Adansonias in that state contrasts singularly with the evergreen forest vegetation of Australia. The fruit is smaller in the Australian than in the African kind. It is not Cucumber-shaped, but rather oval and short-stalked, while it is sought for with the same eagerness by the indigenous population and many of the animals of Australia, as the fruit of its prototype in Africa. The acidulous pith of the fruit for which the Dutch boers on the Orange river have called the Adansonia digitata, "Cream of Tartar tree," and the English colonists, "Sour Gourd," is identical in both and may be used as food in cases of emergency. The Australian Baobab, however, is not to be regarded merely as a curiosity; for nature has provided in them a store of aliment, and a reservoir of moisture, gratefully acceptable in the dry tracts which the tree occupies. From the wood, which is singularly soft and which therefore readily yields under the axe of the tired traveller, by pressure a refreshing beverage may be obtained at the season when the sap is rising, and the sheep landed by Mr. Gregory in N. W. Australia greedily devoured the chips of the moist wood. The softness of the stem indicates rapidity of growth, and it seems to be erroneous to ascribe to the Adansonia that longevity for which it has been so famed. Both species are in cultivation at our Botanical Garden. *Polyglot Newsletter of Melbourne.*

## Calendar of Operations.

*(For the ensuing Week.)*

### PLANT DEPARTMENT.

CONSERVATORY, &c.—Orange trees in tubs or pots should be carefully examined in order to ascertain whether or not their roots are in a healthy state, and those requiring more room should be shifted at once; but in many instances it may not be possible to afford large specimens a shift. In this case remove as much of the surface soil as can be done without greatly injuring the roots, and replace it with a mixture of good loamy turf, broken bones, decayed cow dung, and sand, and see that the balls of the plants are in a moist healthy condition. Manure water is of great service to Orange trees, and may be applied freely at all seasons, particularly now when they will be starting into growth. It is quite impossible to use the syringe to advantage in many conservatories, and under such circumstances the flowering plants should be removed to one end of the house, and the twiners, &c., given a liberal washing with the engine, which will also greatly assist in keeping the glass, &c., clean. This should be done before the twiners start into growth, as there will be no danger of injuring the tender foliage while in a dormant state. Be satisfied with a rather low temperature for the present, and give air freely on fine days, endeavouring to avoid cold drying currents as much as possible. Attend to keeping up a supply of Roses, Azaleas, and other things requiring to be brought forward in a gentle heat, and persevere in the destruction of insects. Stove plants in active growth will require much attention in order to properly direct their energies and keep them perfectly clear of insects, &c.

### FORCING DEPARTMENT.

PINERY.—Succession plants should not be allowed to get too dry at the root, as this would probably throw them prematurely into fruit. In re-potting these, if a plant is found too dry it should be set aside and well watered, so as to get the soil in a moist healthy state before shifting. And where the plants are growing in the open bed the soil should be carefully examined to a sufficient depth, and if it is found to be over dry, water as often as necessary with tepid water to thoroughly moisten the mass, allowing two or three days between each application. Maintain a moist atmosphere, and shut up early in the afternoon, allowing the glass to rise to 80°; but do not exceed 60° at night. VINERIES.—Proceed with thinning the berries whenever the crop is sufficiently advanced to allow of this being done. Stop laterals, tie in young shoots, &c., and keep everything neat and orderly. Maintain a steady night temperature as near 65° as possible; give air freely on fine days, taking care to open all the ventilators a little, and endeavour to avoid cold currents. See that the buds in the late house are not excited by the present mild weather; keep the house cool. Watch narrowly for red spider in the early Vinery and in the forcing houses generally, and should it be detected anywhere lose no time in washing the infested leaves and those around them, using a soft sponge and clean water with a little soap. This may appear a tedious process, but if the enemy is taken in time it will be more easily eradicated by these means than any other. FIGS.—Keep the shoots thin so as to expose the foliage to light and air, and persevere in the use of the syringe to prevent red spider. Give air freely on bright days, shutting early in the afternoon after syringing the house. PEACHES.—Proceed gradually with the disbudding of the early house, and where the fruit is very thick a portion of these should be removed as soon as they are fairly set; but the Peach is liable to drop until after stoning, and this must be borne in mind, and plenty left to allow of a few falling. Maintain a steady heat to Cucumbers of 65° or 70° at night, and allow it to rise 10° or 15° with sun heat. Give air on every favourable opportunity.

### FLOWER GARDEN AND SHRUBBERIES.

Bourbon, Tea, and other tender Roses may now be pruned and the beds manured and lightly forked. Roses do not, however, dislike a rather firm soil, and care should be taken not to injure their roots by forking or digging. The best manure for them is well rotted cow dung, which should be applied after carefully loosening the soil, and an inch or two of fresh mould sprinkled over it will obviate any unpleasant appearance it might otherwise present. Get walks edged, gravel rolled, &c., and everything put in the neatest order. Sow seeds of tender annuals on a gentle hotbed, where they can be freely exposed to air when up, to keep them dwarf and "stocky."

### HARDY FRUIT AND KITCHEN GARDEN.

Get pruning and nailing finished with the least possible delay; if any planting still remains to be done let it be completed at once. Do not, as is sometimes done, over-manure the ground about to be planted, for it is a great mistake to induce the production of gross long-jointed wood in any stage of the existence of a fruit tree; wood of this description never gets thoroughly ripened, and in the case of stone fruits, gum, canker, and premature death are sometimes the result, and in the case of Pears anything deserving the name of a crop is never obtained till the gross habit is overcome by planting in over-rich soils is overcome. Ground intended for fruit trees should first be drained where it should be done efficiently, and then trenched to the depth of 2 feet; and if the natural soil is found too poor for the health and growth of the trees a sufficient quantity of fresh turfy loam should be added. Rich stimulating manures should not be used, for they are soon exhausted, and the trees are left to depend upon the natural soil for their support, and trees treated in this way never give satisfaction. Take advantage of the first fine day with the ground in working order to get in the main crop of Onions. The old practice of sowing broadcast must be given up, being too expensive to clean and thin the crop. Select a piece of deep land in good condition, and if the surface is not naturally firm render it so before sowing by treading or rolling.

### COTTAGERS' GARDEN.

Where not already done the main crop of Potatoes should be got in as soon as possible. By planting early and only early kinds, and this on light and not over-rich soil, there will be a good chance of escaping disease. See that a bed is prepared for Onions, which should be sown as mentioned above, and also that every spare bit of ground is manured and turned over.

### STATE OF THE WEATHER AT CHISWICK, NEAR LONDON,
For the Week ending Feb. 24, 1859, as observed at the Horticultural Gardens

| Feb. | Moon's Age. | Barometer. Max. | Barometer. Min. | Temperature of the Air. Max. | Min. | Mean | Temperature of the Earth 1 foot deep | 2 feet deep | Wind |
|---|---|---|---|---|---|---|---|---|---|
| Friday 18 | 15 | 30.276 | 30.209 | 47 | 27 | 37.0 | 48 | 46 | N.W. |
| Satur. 19 | 16 | 30.351 | 30.238 | 48 | 42 | 45.0 | 47 | 45½ | N.W. |
| Sunday 20 | 17 | 30.290 | 30.225 | 52 | 26 | 39.0 | 46 | 45 | W. |
| Mon. 21 | 18 | 30.303 | 30.271 | 58 | 40 | 49.0 | 46½ | 46 | S.W. |
| Tues. 22 | 19 | 30.384 | 30.282 | 53 | 27 | 40.0 | 47 | 46 | S.W. |
| Wed. 23 | 20 | 30.581 | 30.483 | 49 | 26 | 37.5 | 46 | 45½ | W. |
| Thurs. 24 | ( | 30.414 | 30.318 | 52 | 25 | 38.5 | 45 | 45 | W. |
| Average | | 30.371 | 30.289 | 51.3 | 30.4 | 40.8 | 46.7 | 45.6 | |

Feb. 18—Clear; cold and dry; overcast; slight frost.
— 19—Clear; fine; rain; mild at night.
— 20—Overcast; very fine; overcast.
— 21—Fine; very fine; overcast.
— 22—Overcast; very fine; clear at night; slight frost.
— 23—Frosty; clear; very clear at night; frosty.
— 24—Frosty; very fine; clear at night; frosty
Mean temperature of the week, 2 deg. above the average.

### RECORD OF THE WEATHER AT CHISWICK,
During the last 33 years, for the ensuing Week, ending March 5, 1859

| Feb. and March. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Wind N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday 27.. | 47.7 | 34.1 | 40 9 | 16 | 0.40 in. | 3 | 5 | 4 | 2 | 6 | | | |
| Mon. 28.. | 48.8 | 33.5 | 41.1 | 13 | 0.84 | 1 | 7 | 5 | — | 2 | | | |
| Tues. 1.. | 47.2 | 34.5 | 40.8 | 13 | 0.62 | — | 7 | 2 | 1 | 5 | | | |
| Wed. 2.. | 48.6 | 36.0 | 42.3 | 12 | 0.45 | 3 | 5 | 4 | — | 3 | | | |
| Thurs. 3.. | 49.0 | 32.6 | 40.8 | 14 | 0.28 | 2 | 7 | 3 | 1 | 3 | | | |
| Friday 4.. | 48.8 | 31.4 | 40.1 | 10 | 0.48 | 3 | 10 | 1 | 3 | 3 | | | |
| Satur. 5.. | 47 9 | 31.4 | 39.6 | 9 | 0.40 | 2 | 4 | 3 | 2 | 4 | | | |

The highest temperature during the above period occurred on the 5th, 1846,—therm. 64 deg., and the lowest on the 5th, 1855—therm. 13 deg.

## Notices to Correspondents.

ALPINE PLANTS: *G C C.* We have referred your letter to the gentleman who furnished the articles to which you refer.

AMERICAN POTATOES: *Lpool.* If you send a sample to the Horticultural Society, 21, Regent Street, they will be tried and reported on without charge. And we see no reason why the condition with which you propose to couple your present should be objected to.

BOOKS: *B Shearn.* Kemp's How to Lay out a Small Garden, to which you may add Loudon's Villa Gardener.

CHÆROPHYLLUM BULBOSUM: *B H.* This is something like a Carrot, but smaller, and the colour of a Parsnep. We tried it under trial. You will find a good account of it in Messrs. Henderson & Son's great Catalogue, p. 57. It has also been several times noticed in the columns of the *Gardeners' Chronicle.* It is as hardy as a Parsnep.

COCHIN CHINA: *Eager.* We do not advise you to visit the country as a plant collector. It is unhealthy and unsafe, especially now that the French are attacking the country. The latest news is that the troops were suffering much from sickness, that the native government was preparing a resolute defence, and that Bishop Retord had died of starvation.

KIDNEY BEANS: *B & B.* There is no certainty in naming Kidney Beans from their seed alone. As near as we can judge yours is the same as the Haricot Sophie of the French trade.

NAMES OF FRUITS: May we beg our correspondents to send their specimens, *carriage paid*, to our Office, No. 5, Dane's Wellington Street, Covent Garden, London: AND NOT TO ANY OTHER PLACE WHATEVER.—*Old Sub.* Your Pear seems to be the Ne Plus Meuris. It has perhaps been gathered rather early; but the cause of unusual grittiness has doubtless been a severe check from cold when the fruit was in a very young state.—*S C B.* Not known; very coarse.—*J W K, Dean.* We have seen the same variety under the name of Scarlet Pippin, but this name is applied to several varieties.

NAMES OF PLANTS.—We have been so often obliged to reluctantly decline naming heaps of dried or other plants, that we venture to request our correspondents to recollect that we never have or could have undertaken an unlimited task of this kind. Young gardeners, to whom these remarks especially apply, should bear in mind that, before applying to us for assistance, they should exhaust their other means of gaining information. We cannot save them the trouble of examining and thinking for themselves; nor would it be desirable if we could. All we can do is to *help* them—and that most willingly. It is now requested that, in future, not more than four plants may be sent us at one time.—*G T M.* Epidendrum falcatum *alias* E. Parkinsonianum.—*Camden Town.* *Melbury.* Oncidium tetrapetalum.—*Camden Town.* The specimens from S. Leone belong to two or three species of Bophyllum which are quite worthless. No. 4 is a fine Lissochilus roseus, a splendid thing.—*J H L* Garrya elliptica.—*B S A.* It is not possible to name such fragments as you offers—with no cones. Nos. 2 and 3 seem to be both Abies. No 4 is some kind of Abies.—*E N.* Phytolacca decandra. Yours is

NEW ZEALAND RUNNER BEAN: *Page & Toogood.* Yours is the real kind. Give us the history by all means if you are sure of your facts.

RHUBARB: *John Buckley.* Your specimens are very handsome, rich rose, red quite through, and are evidently identical with "Buck's," the true Rheum undulatum. When cooked they were remarkably delicate and free from stringiness. The flavour about which we cannot form an opinion, you might as well ask us the Saltisford crimson Rhubarb, or Buckley's Crimson, if you prefer it.

MISC: *R L.* The list is last year's.

THE PATENT

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|---|---|---|---|---|---|
| TURNIP MANURE .. .. .. | from | £7 | to | £6 | 6 |
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| Diameter of Barrel. | Height. | | £ | *s.* | *d.* |
|---|---|---|---|---|---|
| 2½ in. | short | 1 ft. 7 in. | 1 | 10 | 0 |
| 2½ ,, | long | 3 ,, 3 ,, | 1 | 14 | 0 |
| 3 ,, | ditto | 3 ,, 6 ,, | 2 | 8 | 0 |
| 3½ ,, | ditto | 3 ,, 6 ,, | 2 | 12 | 0 |
| 4 ,, | ditto | 3 ,, 6 ,, | 3 | 3 | 0 |

(Fitted for lead, gutta percha, or cast iron flanged pipe, as required.)

2½ ,, short, with 15 feet of Lead Pipe attached, ready for fixing .... 2 14 0
2½ in. long ditto ditto ditto 2 18 0

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Repayment may be made by the Landowner as successive portions of the Works are completed, or the actual expenditure, with a Commission thereon, may be charged on the property improved by way of rent charge for any term not exceeding 50 years, the instalments to repay principal and interest being thereby kept down nearly to 5 per cent. per annum.

No investigation of title being required, and the charge not being affected by incumbrances, no legal expenses are incurred.

Works of Irrigation, Enclosing, Wood Grubbing, Road Making, and Farm Buildings are executed in a similar manner.

The Company also assist Landowners in executing any of the improvements by their own agents, and charge the amount expended on the property improved.

Applications to be made to WILLIAM CLIFFORD, the Secretary, at the Offices of the Company, 52, Parliament Street, London.

AGRICULTURAL EDUCATION.

HIGHLAND AND AGRICULTURAL SOCIETY OF SCOTLAND.—The Board of Examiners, nominated in terms of the Society's Charter, will meet in the Museum Hall, George IV. Bridge, Edinburgh, on April 6 and 7, between the hours of 11 and 4, to Examine Candidates for the Society's AGRICULTURAL DIPLOMA.

Candidates must intimate their Names to the Secretary not later than March 21. JN. HALL MAXWELL, Secretary.
Edinburgh, February 26.

COLLEGE OF AGRICULTURE AND CHEMISTRY AND OF PRACTICAL and GENERAL SCIENCE, 37 and 38, Lower Kennington Lane, Kennington, near London.
Principal—J. C. NESBIT, F.G.S., F.C.S., &c.

The system of studies pursued in the College comprises every branch requisite to prepare youth for the pursuits of Agriculture, Engineering, Mining, Manufactures, and the Arts; for the Naval and Military Services, and for the Universities.

Analyses and Assays of every description are promptly and accurately executed at the College. The terms and other particulars may be had on application to the Principal.



# The Agricultural Gazette.

*SATURDAY, FEBRUARY* 26, 1859.


MEETINGS FOR THE ENSUING WEEK.
WEDNESDAY, March 2—Agri. Society of England .. Noon.

—— The local committee at Warwick announce that the sum of 4200*l.* has already been collected in furtherance of the ensuing annual meeting of the Agricultural Society of England. It has been resolved to have no pavilion dinner on the occasion, but there seems no lack of public spirit in all the other arrangements which are in progress.

—— The prize system for ensuring an exhibition of agricultural implements at the meetings of national and provincial agricultural societies has been defended during the past week with considerable ability in the columns of the *Oxford Journal*. Mr. T. D. ACLAND has replied to the strictures of that journal on the abandonment of that system by the Bath and West of England Agricultural Society. He says:—

"It is true we no longer give prizes on the award of selected judges, after trials conducted by those judges; but we have made full provision for the trial of implements at work before the public in the open field. We think that the attention of intelligent farmers having been awakened to mechanical questions, the amount of work done, coal and power consumed, &c., those farmers are now the best judges of the gross result as a whole. . . . The expediency of retaining mechanical trials at the shows of the Royal Agricultural Society is quite another question; although I think even then it is much to be regretted that a system of classified awards, on the principle advocated by Mr. HOWARD and Mr. SHUTTLEWORTH, has not been adopted; it can hardly be maintained that the difference between the ploughs, and other implements of the first class makers, is so great that one ought to stand first, another second, and another third; or can so stand with the general consent of all competent judges, and under all ordinary circumstances. If the first prize is only awarded because in such a field, with such a state of the atmosphere, and with such horses and ploughman, and it must be said with such or such judges, one maker beat

another by half a neck, the judgment might be reversed the next day—and if so, what is it worth? It amounts to proving that the winner is a skilful mechanic, with first-rate workmen; but it does not disprove the same conclusion as to his competitor."

—— In connection with the recent interesting paper on arterial drainage by Mr. J. A. CLARKE, read before the London Farmers' Club, it is probable that a deputation to the Premier from that body will be appointed for the purpose of urging upon the Government the appointment of a Commission to visit the principal river valleys, and inquire into the extent and condition of the districts liable to floods and suffering from imperfect drainage, ascertaining from what obstacles this arises, and what measures of relief are possible—what claims have to be satisfied in order that there may be a knowledge of all sorts of the cases to be provided for in a general Act of Parliament on the subject.

—— The "Cental," though almost universally adopted by the corn brokers of Liverpool, is by no means so acceptable to their customers; and a protest on the subject with a large number of signatures has been addressed during the past week to Mr. H. W. BANNER, secretary to the association of the Liverpool corn trade. It is signed by "millers, dealers, and others," rather than by "merchants and brokers;" and has evidently travelled far and wide for the signatures thus received. It declares it to be "impossible to displace, without the utmost confusion and inconvenience, the old system of weights and measures, so long used in this town and so generally known throughout this and foreign countries, and that any alteration in this respect cannot be attended with success unless made general throughout the kingdom by Act of Parliament."

This will probably be found the truth; but in what way is an Act of Parliament for this purpose to be obtained, except by local agitation of the kind which the association of the Liverpool corn trade have inaugurated? Parliament will not interfere for the sake of abstract propriety, nor will any Act be passed except for the purpose of obtaining what is declared to be practically a difficulty and a nuisance. There is not a doubt that strong objections will be generally felt to any change, however much for the better, from any long established system, however faulty it may be. But let a leading market on the ground of obvious utility demand this change as Liverpool has done, and Parliament will act; and when once established the new system will very soon have as many supporters as the old, on that very ground of custom which is all on which the old style can be defended. For we cannot admit the force of the objection to the adoption of the cental that "it is impossible to get a test of quality in any other way than by measure." In Liverpool sales are already effected by weight alone, the units being 70, 60, and 45 lbs. for Wheat, Barley, and Oats respectively; and is not a common weight of 100 lbs. for all preferable to these? Elsewhere measures of various kinds prevail—but no one can trust them for the determination of quantity. Measures of the same denomination can be variously filled; and in fact cannot be otherwise than variously filled. If so they are untrustworthy as much for indicating quality as for indicating quantity. Even admitting however that the guarantee of its really weighing so much per bushel is a test of the quality of grain, it is after all the purchase or sale of a given quantity of that grain which is the transaction that takes place, and every person must admit that weight alone is the only unquestionable test of quantity. In the case of other goods quality is determined by as many tests as the purchaser knows how to apply; and the price per unit being thus agreed upon, the *quantity* which is parted with regulates the sum which is received. And just as with any other sort of goods, dealers in corn must be cheated or must cheat by any other rule than this. The purchaser wants a guarantee that he shall receive the *quantity* agreed upon of the article he is buying: its quality he must ascertain as best he may before offering a price:—by the scales alone can he ascertain if the quantity he has bought has been delivered. We have little doubt that corn, like wool and other agricultural produce, will ultimately be sold by weight alone.

—— A question put by Mr. CAIRD on Friday last in the House of Commons elicited the facts that a proposition to the Peruvian Government to throw open the guano trade had been received with some favour; and that the English Government had made repeated representations, through their representative in Peru, in order to obtain for English agriculturists an ampler supply at a cheaper rate. It appears from Mr. CAIRD's statement that the price in America is 2*l.* per ton less than here.

—— On Thursday the 24th, Mr. CAIRD called the attention of the House to the question of Agricultural Statistics. He proposed that the census of 1861 should be made the opportunity of collecting the average of the cultivated crops. He declared that a knowledge of acreage, without that of crop per acre, was more important to an estimate of the national produce than a knowledge of the latter without that of the former—the extent of our crops, as shown in Scottish and Irish returns, varying more than their productiveness from year to year. The resolution moved by him accordingly was "that it would be for the public interest that the Government should ascertain and publish the agricultural statistics of Great Britain, in so far as they relate to the extent of acres under the several crops." He urged that such returns were especially useful now when we were perhaps on the eve of an European war. The resolution was lost on a division in a House of 315 members by a majority of 11.

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IN the current number of the Journal of the Agricultural Society Dr. VOELCKER has published his researches into the composition and nutritive value of the Cotton-seed cake. A letter in another column proves, as other communications already published have proved before it, that information on this subject is much needed. Losses by death from the use of improperly prepared cake have been frequent, and a notable instance of the kind is related elsewhere by Mr. SEAMAN. When properly prepared from seed which has been deprived of its husk, there is not a more nutritive cake to be had than this new cattle food. Containing 15 per cent. of oil and 40 per cent. of albuminous compounds, it will bear comparison with the best Linseed cake.

But, made as it sometimes is of whole seed, it contains an immense proportion of indigestible woody husks, together with a good deal of equally indigestible cotton fibre, and has in this form proved the death of cattle and sheep to which it has been given in abundance.

The thick "ordinary Cotton-cake made from whole seed" contains about 6 per cent. of oil and 23 per cent. of albuminous compounds, with as much or more of this indigestible woody fibre. A comparison of the two is given by Dr. VOELCKER in the following terms:

"1. The proportion of oil in the common cake is very much smaller than in the decorticated cake. The amount of oil is in reality inconsiderable, since most other oilcakes, such as Linseed, Rape, Poppy, and others, contain more fatty matter.

"2. In decorticated Cotton-cake there is a much higher per centage of albuminous compounds.

"3. On the other hand, the proportion of indigestible fibre in ordinary Cotton-cake is far more considerable than in decorticated cake.

"Common Cotton-cake is sold at a lower price than the decorticated cake, but considering the inferior character of the former its lower price offers little inducement to intending purchasers. A ton of the best decorticated cake, I am inclined to think, is worth quite as much as 2 tons of the inferior cake made of the whole seed. I consider the latter dear at the price at which it is sold."

The fact is that some who have used it, and our correspondents among others, have found them dear at any price. It is the thin cake prepared from the seed deprived of its husk, that is the valuable cattle food which many have found it.

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## THE UTILISATION OF WASTE.

(*Concluded from page* 153).

*Vegetable Substances.*—Mr. F. B. Houghton has recently patented a process for making paper from any description of woody fibre, which is especially applicable to the manufacture of paper from Flax-straw, or Flax refuse. Flax-straw (shoves) can be procured at 50*s.* a ton, about 2½ tons making 1 ton of paper. Waste Flax (the refuse of the scutching mills, from which no profitable results are obtained) can be procured at a mere nominal price, as it is burnt or thrown away. Now, as our imports of rough or undressed Flax amount to 81,000 tons a-year, and our home growth of Flax is extensive, there being 100,000 acres under culture in Ireland, there is plenty of raw material available. Wheat straw, we know, affords a good pulp for paper, straw-paper, both for writing and printing, being now extensively used in France, in England, and the United States; but the Rice straw, which is plentiful in certain districts, would, I think, give a better pulp, as it is a tougher substance. The Twitch or Couch Grass, which has hitherto been such a troublesome weed to the farmer in clearing his land, is now turned to several useful purposes. In Italy it is used as food for horses and cattle. Colonel Maceroni in his memoirs states that upwards of 40,000*l.* sterling worth of this root is annually sold by the peasants to the inhabitants of the city of Naples. In France it has a medicinal repute under the name of Dogs' Tooth. It has been tried as a material for paper, and is collected in large quantities in the fen districts, and sold to he paper-makers at about 12*s.* a [illegible] instead of being dried and burnt as heretofore. The dry residue of the Beet root, after expressing the juice for sugar, consists chiefly of fibre and mucilage, and amounts to about one-fourth of the weight of the clean roots used. It is greedily purchased by the farmers on the continent, with the skimmings of the boilers, which are found to be a powerful manure, and is also useful as food for cattle. Mixed with other substances it makes very good paper. In France pasteboard is also made from the pulp. This fabrication is carried on to some extent in the commune of Fo[illegible] (Haute Marne), and can be employed, it is said, with advantage in ornaments, tea trays, and other such articles. As the Beet-root sugar now made on the continent amounts to about 200,000 tons, the quantity of residue must be considerable. The residue, too, of the molasses after distillation for alcohol can be converted into excellent potash, the proportion obtained being as much as one-sixth of the quantity of sugar extracted from the beet. The pit refuse, or the desiccated ligneous matters of the bark and valonia used in tanning, has been converted into charcoal with some success. Tan or spent bark has also its use in hothouses or bark stoves for forcing plants, and the spent dyewoods are converted into charcoal. The cake or marc of the Olive remaining after the oil is expressed, is used in Sardinia, Italy, and other districts for manure and for cattle food. The poonac or refuse pulp, after pressing Cocoa-nut oil, is also a valuable fertiliser. About 1,200,000 lbs. of Walnut kernels are annually consigned to the oil-press in Somersetshire, yielding about half their weight in oil, and the other half in cake, which is much valued as food for cows in winter, when it is usually exchanged for its weight of rough Rice. The various oil-cakes which are prepared here, or imported from abroad, are a valuable addition of waste substances of a very important character. They enter into commerce for feeding cattle and for manure. Of these Rape, Linseed, and Cotton-seed cakes are the principal, but all the marc or cake from the oil mills, whatever seed is crushed, is useful to some extent. Our imports of oil-cake have largely increased, reaching now 100,000 tons a year! It appears that there is a new article manufactured in the neighbourhood of Liverpool, called shude, of the value of 3*l.* per ton, and supplied to many oil crushers to mix with Linseed-cake to the extent of 30 per cent. and upwards. It is made from the husks of Rice and the refuse of Rice mills. It is perfectly tasteless, and yields no nourishment. Its colour and price make it a favourite article, and is in great demand with dishonest crushers to mix with cake. One grinder of shude has sold to oil crushers during the last nine months nearly 2000 tons. The bran or exterior husk of Wheat in the process of grinding and bolting for flour, besides its nutritious properties for feeding, has commercial uses in tanning, calico printing, for stuffing dolls, filling cushions, &c. Horse Chesnuts, which have hitherto been a waste substance, are now utilised, and by removing the bitter principle, excellent starch, as well as vermicelli and macaroni, are made from them in France. The following is a plan of making flour from Horse Chesnuts. Grind the Horse Chesnuts and mix with the pulp carbonate of soda in the proportion of one or two per cent., and then wash the produce until it is perfectly white. 1 lb. of carbonate of soda will purify 100 lbs. of Horse Chesnuts, and produce 60 lbs. of flour fit for bread, as the salt removes the bitter principle from the nut. In Saxony great care is taken to collect the Horse Chesnuts, which are regarded as a wholesome aliment for sheep, and a specific against the rot, being given to the sheep in autumn, when the green food ceases. The Chesnuts are cut into pieces, and this it is dangerous to omit, as they might otherwise stick in the throat of the animal, and cause its death. Sheep as well as cattle refuse at first to eat this food, but when accustomed to it they seek it with avidity, and even like to eat the prickly husk in which the nut is enveloped."*

*Mineral Substances.*—Professer Crace Calvert, in a valuable paper (Journal, vol. iii., p. 17), went into the various new or residue products of coal, exclusive of coal gas, such as first the coke, next the liquid portion which is bought by chemical manufacturers, who obtain from it sulphate of ammonia for agricultural purposes and sal ammonia for soldering, and which is also used in calico and print works for producing the style of print called "steam goods." Many hundreds of thousands of gallons of ammoniacal liquor are used in the preparation of ammoniacal alum. To obtain this and other refuse products of coal, aluminus shale comes largely into use, and shale oil is applied as manure. Coal tar (of which about 300,000 tons are made yearly) furnishes a chief ingredient of printers' ink, in the shape of lamp black; it is also made into asphalt for pavements, and mixed with red-hot clay forms a charcoal that acts as a powerful disinfectant; with coal-dust it forms, by pressure, an excellent and compact artificial fuel. Soot, again, is largely collected, and sold by the chimney-sweepers at 6*d.* a bushel for transmission into the country as manure.

*Discussion.*—Mr. Warriner said the article Seaweed, which had been alluded to, was very abundant upon our coasts, particularly on those of the west of Scotland and Ireland. After a storm from the north-west it was incredible the quantity of Seaweed that was thrown up, and which probably remained until it was carried away by another storm.

Some kinds of Seaweed formed a valuable food for cattle. The article of buttermilk had not been alluded to. It was

* Lasteyrie on Spanish Sheep.

owing to the want of proper treatment of that ... article of the dairy matter was given to ... Mr. Hall, however, be known, that a very small ... of magnesia put into the milk when ... article of the same substance thrown into the pail ... would enable 5 per cent. more of the buttery ... obtained. Another article alluded to was bones, ... to which great extravagance generally prevailed ... domestic circle. Very few families thought it worth ... that the bones which remained from the joints of ... were the perquisite of the cook, and as such ... their way to the bone-dealer; but by boiling them ... amount of nutritious food could be obtained, and ... bones themselves would still be serviceable as an ... of commerce.—Dr. Lankester, F.R.S., said they ought ... careful how they encouraged the notion that Sea-... was valuable as a substantive article of diet. It ... the starchy matters in considerable quantity—the ... substances; but it was a mistake to suppose that ... substances were really nutritious. They could ... as additions to other descriptions of diet; and in that ... such substances ought to be employed. There was ... error prevalent with regard to the gelatine of bones ... that of Seaweed, for there was no proof that gelatine ... part and parcel of the human body. Milk was the ... food, and contained all the elements essential ... gelatine was found in it, and the same might be ... Gelatine might, however, be utalised with ... results in manufactures; but not, he thought, to any ... as affording an article of diet. With regard to ... it was not until they could separate the fertilising pro-... at a cost which would enable the farmer to use them ... that the utilisation of that substance would be ... out to any great extent. He believed it would never ... accomplished under the present aquatic system of sewage ... was now adopted in London and the other large towns. —Mr. F. B. Houghton described a process for converting Flax ... into half stuff for paper-makers. The Flax refuse is ... in an alkaline solution at 380° Fahrenheit, and, after ... subject to the process for about three hours, is converted ... excellent half-stuff, free from all trace of silica. The refuse ... is not merely that of the mills, but includes that ... which, having been threshed for the seed, is valueless for ... manufacture of linen, and is generally thrown away ... appears from Mr. Houghton's statement, that Flax straw and ... refuse may be purchased for a few shillings per ton, and ... reduced into pulp, equal in quality to that produced from ... best linen rags, which cannot be purchased under 28*l.* to ... per ton. The largest boiler he has at present in use is one ... capable of containing about 3 cwt. of raw material, from ... which 1½ cwt. of half-stuff may be produced. The whole opera-... occupies about four hours. Difficulty was at first ex-... in getting rid of the small particles of unreduced ... matter so constantly seen in ordinary straw paper, but this is ... obstacle that Mr. Houghton states that he has entirely over-... .

## DEATHS OF CATTLE FROM FEEDING ON IMPURE COTTON AND LINSEED CAKE.

In this neighbourhood during the last three months there has been a great mortality amongst calves and sheep from feeding them on impure Cotton and Linseed cake. One gentleman lost six out of 40 fatting shearlings, and the rest of the flock became so much affected that he deemed it prudent to dispose of them at a price much below their value, rather than run the risk of further mortality. When inspecting this flock in November last I found the sheep generally looking very unhealthy; those in which the disorder was most manifest congregated at the corners of the fold with their heads down and backs arched, frequently changing the position of their hind legs, which in some instances were drawn up towards the body, thus plainly indicating abdominal pain. The breathing was much hurried; any movement appeared to increase their sufferings; they staggered in walking, and after going a few yards fell down apparently exhausted. The urine was of a dark colour, approaching to black, and the fæces covered with blood and mucus. I examined the bodies of several of the dead sheep; the stomach and intestines were intensely inflamed, and presented appearances which could only have been produced by some highly irritating agent. The same gentleman shortly afterwards lost three calves which exhibited similar symptoms and presented the like appearances after death. These animals had been fed on Cotton cake. Twenty-two calves belonging to other parties have died apparently from similar causes, but these had been fed on Linseed cake.

I procured portions of each description of cake, and on examining them under a powerful microscope I found the Cotton cake contained a large per centage of fragments of Cotton wool and Cotton husk, quite sufficient to account for the deaths of the animals fed upon it. The Linseed cake also contained a quantity of impure material, consisting partly of seeds which I was unable to identify, but not sufficient in quantity to account for the effects following the use of it, unless the impure matter was of a poisonous character.

The very extensive use to which Cotton and Linseed cakes are applied as articles of food for cattle seemed to me to call for a more complete and scientific investigation than I was myself able to make; I therefore forwarded samples of all the cakes to Dr. Voelcker, the chemist of the Royal Agricultural Society, who, with his usual kindness, forwarded me a very complete and able report of the result of his investigations, which fully confirms my opinion that the deaths of the cattle resulted from the use of them.

I subjoin a copy of the report, and of the Professor's analysis of the Cotton cake, and I trust you will consider the matter of sufficient importance to insert this letter with the report and analysis in your next publication. *Isaac Seaman, North Essex Veterinary Infirmary, Priory House, Saffron Walden.*

COPY OF PROF. VOELCKER'S REPORT, Jan. 18, 1859.—Sir,—I have the pleasure of enclosing a copy of a careful and full analysis of cake No. 1 (Cotton cake), and beg to inform you that I have also examined the two other cakes which you sent to me. As the quantitative determination of the amount of oil and other constituents did not appear to me likely to throw much light on the subject, I have confined my attention to the detection of deleterious ingredients in these two cakes, and may observe at once that I have not been able to detect in either of them any organic or mineral poison, although I have carefully searched for most irritating poisonous substances. However both cakes nevertheless may be prejudicial when eaten in quantity by young stock, for the examination to which I submitted them leads me me to the opinion that both are very inferior, old, badly kept, oil-cakes. Both are very hard pressed, and appear to contain more husk than good cake ought to contain. Moreover, the seed from which the cakes are made was evidently quite impure, for notwithstanding the powdery state of both cakes, especially No. 3, I can find in them a good many foreign seeds. The botanical character of these weed seeds I could not make out; all I can say is there is no Mustard in appreciable quantity in either of the cakes, but amongst the weed seeds there may be other poisonous seeds. We have no means to identify most vegetable poisons. Be this as it may, I am inclined to think that the physical condition of cakes No. 2 and 3 is so bad that young animals that partake of them freely will be the sufferers. Both are evidently foreign cakes. Will you kindly inform me under what name and at what price these cakes were sold?

You will perceive that I am of opinion that the cakes No. 2 and 3 may have done the mischief attributed to them, but that in the absence of any positive proof a reasonable doubt may be entertained whether or not this was really the case. I can speak much more decidedly respecting cake No. 1, for I have not the least doubt but that this cake has been the cause of the death of the sheep.

A similar case has been brought under my notice within the last fortnight; a Cotton cake very similar to the one you sent to me has led to the death of a bullock. The *post mortem* examination plainly showed that the enormous quantity of hard and irritating husks in this cake caused an obstruction in the bowels, which brought on inflammation and led to the death of the animal. The case is reported in the *Gardeners' Chronicle* of the 8th inst.

In addition to the full analysis, which proves the inferior character of your Cotton cake, I have made an approximate mechanical analysis, which demonstrates perhaps still more forcibly the cause of the death of the sheep. Experience has shown that the hard husks of Cotton cake are very indigestible, and accumulate in the stomach to hard stone-like masses, which produce virulent inflammation. Cotton wool I think is quite as bad, if not worse than Cotton husk. Now, in your cake there is no less than 67 per cent. of husk and 4 per cent. of cotton wool, and only 29 per cent. of meal. So large a proportion of useless and rather injurious material mixed with only 29 per cent. of nutritious matter must be highly injurious as a feeding material. In the best shelled or decorticated Cotton cake, which alone should be used for feeding purposes, and which is a highly nutritious substance, there is no appreciable quantity of cotton wool, and only about 10 per cent. of husk. Cake like No. 1 is totally unfit for feeding purposes, and I congratulate myself upon having reported several specimens of Cotton cake, similar to the one you sent to me, as too trashy to be given to an animal.—Believe me, Sir, yours faithfully,

J. Seaman, Esq. AUGUSTUS VOELCKER.

*Copy.*—Composition of sample of Cotton cake marked No. 1, sent by Mr. Seaman, Saffron Walden.

1. CHEMICAL ANALYSIS.

| | |
|---|---|
| Moisture | 15.16 |
| *Oil | 6.81 |
| Albuminous compounds | 18.37 |
| Gum, mucilage, &c. | 23.32 |
| Indigestible woody fibre (pure cellulose) | 29.93 |
| Mineral matters ( ) | 6.41 |
| | 100.00 |
| *containing nitrogen | 2.94 |

2. MECHANICAL ANALYSIS.

| | |
|---|---|
| Husk, with a little cotton wool | 66.99 |
| Meal | 28.98 |
| Cotton wool | 4.03 |
| | 100.00 |

Royal Agricultural College, Cirencester, Jan. 18, 1859. AUGUSTUS VOELCKER.

## SHEEP MANAGEMENT.

THE following are Mr. Bond's replies to the points raised by our correspondents Mr. Mechi and Mr. Beale Browne.

1. *Cost of Keeping a Hampshire Down Ewe.*—I have read with interest Mr. Mechi's sensible letter on the cost of keeping a Hampshire Down ewe for 12 months, including the keep of her lamb till sold as a stock lamb in June or July. I at once reply. The cheapness of the system which I have pursued, in the feeding and management of ewes, and the suitability of the system to clay-land districts producing much straw and a small proportion of roots, were my principal reasons for introducing the subject to the notice of the members of the Central Farmers' Club. I base my entire success, and consequent profit, upon cheapness of management and the large consumption of inferior food. Upon the stiff retentive soils of the corn-growing districts of the eastern counties of England, straw is viewed as a nuisance rather than as an advantage. Its superabundance creates a difficulty to convert it into manure by a profitable process, and my experience and success in consuming straw largely with ewes, has surpassed my most sanguine expectations. A few years since I had no conception ewes would eat straw so freely, thrive so well, or live at so cheap a cost during many months of the year. Independent of the straw consumed, there is other inferior produce eaten; such as the old coarse Grass in autumn, which has been left upon the pastures fed by cattle: also the Mangel Wurzel tops and Swede tops, after the cartage of the roots, which are usually ploughed in for manure, also the chips from the roots cleaned for cattle and horses, and the stubble fed upon the farm generally. Ewes, with myself, are really scavengers; they are never fat or approaching to it, but they are invariably in good medium condition for stock ewes. The following is a detailed account of the food consumed in 12 months. In September, October, and November, the ewes have the general run of 400 acres of corn stubble land, which affords but little food, as the land is clean and free from weeds. The Wheat stubbles are early broken for autumnal cultivation, and the Bean and Barley stubbles are first "shacked" with pigs for the corn remaining in the fields. The ewes also have the feed of 100 acres of root tops after the cartage of the roots, and the pick of 20 acres of old Grass in rough spots left by cattle upon pasture. It is impossible to estimate such food otherwise than slightly above its marketable value as sold to feed upon the land; the usual charge is 2*s.* 6*d.* per score per week, which I have charged for at 3*s.* per score per week. Thus—

| | £ | *s.* | *d.* | £ | *s.* | *d.* |
|---|---|---|---|---|---|---|
| SEPTEMBER, OCTOBER, AND NOVEMBER. | | | | | | |
| 13 weeks, at 3*s.* per score per week | | | | 48 | 15 | 0 |
| DECEMBER, JANUARY, AND FEBRUARY. | | | | | | |
| 200 tons of Mangel Wurzel, at 7*s.* 6*d.* per ton | 75 | 0 | 0 | | | |
| The expense of giving 25 tons of straw, and preparing one moiety as chaff, to the ewes, and the diminution in the value of the straw thus consumed (not trodden into manure), from the assimilation of a portion of the straw by the ewe to its own superstructure, at 5*s.* per ton | 6 | 5 | 0 | | | |
| | | | | 81 | 5 | 0 |
| MARCH, APRIL, AND MAY. | | | | | | |
| Rape-cake, 5 tons, at 6*l.* per ton | 30 | 0 | 0 | | | |
| Oilcake or Beanmeal | 20 | 0 | 0 | | | |
| Expenses on and diminution in value of 21 tons of straw, at 5*s.* per ton, as above | 5 | 5 | 0 | | | |
| 3 acres of cow Cabbage, at 12*l.* per acre | 36 | 0 | 0 | | | |
| 300 tons of Mangel Wurzel, at 7*s.* 6*d.* per ton | 112 | 10 | 0 | | | |
| 50 acres of Aftermath Grass, at 16*s.* per acre | 40 | 0 | 0 | | | |
| | | | | 243 | 15 | 0 |
| JUNE, JULY, AND AUGUST. | | | | | | |
| Expenses on and diminution in value of 10 tons of straw, at 5*s.* per ton, as above | 2 | 10 | 0 | | | |
| 100 tons of Mangel Wurzel, at 7*s.* 6*d.* per ton | 37 | 10 | 0 | | | |
| Oilcake, Rape-cake, and Beanmeal | 30 | 0 | 0 | | | |
| 92½ acres of Grass, at 1*l.* per acre | 92 | 10 | 0 | | | |
| (Rental value 1*l.* 10*s.* per acre per annum.) | | | | 162 | 10 | 0 |
| Total per annum | | | | £536 | 5 | 0 |

In this last quarter it must be remembered the lambs are weaned in June or July, and the ewes from that time are placed upon inferior keep. The lambs are also sold in July or the first week in August; consequently the ewes are but half the time upon a superior scale of feeding, whilst the lambs are but two-thirds of the time upon the occupation. I will anticipate the objections which may be raised, that the straw consumed should be charged at its marketable value; but to this course I object, as the straw is simply rescued from a comparatively yard littering waste, and converted to a more useful purpose as food; and whilst I allow for the animal's extraction and assimilation of a certain portion of the straw to its own superstructure, I place the straw to the same position to the farm, as if trodden into manure. The straw is but slightly reduced in value for manuring purposes, from passing through the animal for which I have duly allowed. Mr. Mechi objects to my proposition relative to two years' Clover. My remarks were—"I believe the system of lamb breeding and rearing may be advantageously carried out where not even one-tenth of the farm is in pasture. Where no pasture exists, and, if necessary, instead of pursuing the four-course system, why not allow the land with Clover to remain two years instead of one, thereby making a five-course system of it, in preference to four-course shift? and with good folding, which the Clover land would receive after the first year's mowing, and then the second year's feed, it would be in excellent heart or preparation for the following crops, and furnish an abundance of feed and space for the ewes." I have not found it necessary to adopt the five-course shift or the two years in Clover; but when I observe in clay-land districts, low in stamina, such poor preparation for the Wheat crop by twice mowing the Clover and no folding, I think I am justified in recommending a change, especially as that change (where short of pasture) embraces and grants the power to keep breeding ewes and a larger proportion of stock generally, and insures by better preparation increased corn crops per acre, whereby I believe as much corn would be grown on the five-course shift as is now grown upon the four-course shift, with the additional advantage of more green food and an increased return for stock. I can plainly perceive that Mr. Mechi adopts the wiser course in his individual case of adhering to one year Clover; and if the clays of the kingdom were in the high condition of "the Tiptree Hall Farm," my recommendation of two years Clover would be pure nonsense; but with clay farms, in many cases low in stamina, and the occupiers disinclined to increase their fertility by pecuniary outlay, I believe my suggestions worthy of consideration, to increase the number of acres in green crops; to reduce the number of acres in corn; and, whilst necessarily increasing the returns in stock produce, not necessarily reducing the returns in corn produce, as improved preparation in sheep feeding and folding insures increased crops of corn per acre.

2. *Sheep Management.*—Sheep are, undoubtedly,

more liable to contract the foot-rot disease in yards than in open fields; but, by common care, I have never been a sufferer beyond the amount of 5*l.* per annum. It must be understood, the ewes, though yarded at night during the winter months, have, notwithstanding, a free ramble each day upon an adjoining pasture, where they receive their daily allowance of roots. Excepting the greater liability of ewes to the foot-rot disease in yards, from which I have not been a sufferer, it has been my experience that increased comfort to the ewe in a dry bed, warmth, and shelter is more conducive to health and well-doing than exposure during the wet and cold season of the year. Mr. Browne objects to the expense of carting the roots from the field to the homestead, and the manure from the homestead to the fields. No objection could be more reasonable. I would gladly avoid the expense thus incurred; but I am the creature of circumstances, and as a farmer of stiff retentive clay land (not sand or mixed soil), I believe the advantages of the system of double cartage greatly counterbalance the disadvantages. The advantages of the winter-yarding system upon clay farms are as follows:—No exposure of the flock to the extremes of wet and cold. Increased comfort and warmth, and consequently a reduced amount of food is necessary to maintain the animal in health. An increased consumption of inferior food (straw and chaff) and a lessened consumption of the more expensive food (roots), with fewer deaths of ewes and lambs at lambing. Enabled thereby to grow all Mangel Wurzel at 35 tons per acre, instead of Swedes and common Turnips at 25 tons or less per acre. No injurious treading the clay land in the wet weather of winter from stock feeding thereon. Land ploughed early in autumn, when dry, after the removal of the root crop; consequently no injurious treading by horses, and the ploughing less labour by one-third than when the land is ploughed wet, as in the winter season. From ploughing early, the land receives the advantages of the winter's frost. The land well-frosted ensures an excellent and very superior seed-bed for the Barley or other grain, and, consequently, greatly reduced labour is the result in harrowing and rolling for a tilth in the spring. The land ploughed early, and well-frosted, allows of early seeding, which insures a very superior quality of Barley, and usually an increased crop. With such advantages as the foregoing, I am convinced the cost of the cartage of the roots to the homestead upon clay soils is a good investment, and a saving instead of a waste of labour. It must be remembered, in the Eastern counties, upon the clay lands, we grow a large amount of straw, and it is necessary to consume or to manufacture the straw into manure upon the most paying process. I know of no system so profitable for such a purpose as growing heavy crops of Mangel Wurzel, breeding and rearing lambs, and adopting the yard-system throughout the inclement and wet season of the year. I, of course, understand that Mr. Browne advocates the feeding the roots with the ewes upon the land where grown; and if farming land upon which I could advantageously do so, I should certainly adopt that course; but treading the clay lands in the wet weather of winter is most injurious to the soil, and I have observed, after such treading, the crops upon the land trodden have been very inferior for two or three succeeding years. In very unfavourable springs I have even seen a total failure of the Barley crop after such feeding. Relative to the attendance: As the food given to the ewes was calculated at the prime cost, including delivery or preparation of the food, Mr. Browne will at once see that 40*l.* per annum for the supervision of 500 ewes is an adequate amount. I shall be happy to answer any further questions Mr. Browne may desire to ask me, and I shall be pleased to receive any suggestion from Mr. Browne or any gentleman which will lead to better management or increased returns. *Robt. Bond, Kentwell, Long Melford, Feb.* 17.

## Home Correspondence.

*Farm Labourers.*—In a tour through the south-western counties a few years ago, I found matters as respects farm labourers to correspond exactly with what a "Wiltshire Clergyman" and a "Wiltshire Labourer" stated, and not one single case as represented by a "Wiltshire Farmer." I was also very much astonished to find that wages were, in many cases, regulated by the number of children the labourer possessed, and not by his expertness. This is just the way to bring about early and improvident marriages and a bad class of labourers, for there is no encouragement given for attaining a proficiency in the performance of their work. Insufficient food from childhood makes puny and weak adults, both in their mental and physical powers. I do not recollect seeing one powerful well-built labourer, such as can be seen upon every farm in these northern counties. The low wages they receive is as much as their labour is worth, so far as the daily and weekly labour, as our best Lancashire labourers will perform nearly double the quantity of work, and he receives nearly double their wages. An ill-fed man, like an ill-fed horse, cannot do much work. This bad system of low wages and poor keep has now continued so long that it will take two generations to remedy the evil, as a more liberal keep must commence with the child. But first the farmers must be made to see that low wages are an evil. There are no doubt many who do see this; but till the great body of farmers see it, individuals can do little good; indeed, from what I was told, such would be scouted from society and the market dinner. The Jewish law says, "Muzzle not the ox that treadeth out the corn;" but the advocates for low wages of the farm labourers muzzle them in the raising of corn, beef, and mutton, and call themselves Christians. There is nothing so disgraceful to a county as seeing the labourers half fed surrounded with the finest beef, mutton, and bread corn of their raising; for it is impossible for capital to raise these without their help. *W. Rothwell, Rainhill, Prescott.*

*Parkes's Steel Digging Forks.*—These implements are not in the general use their excellence deserves. It is true that their value is known to our principal agriculturists, but the misfortune is that they are not sufficiently in the hands of allotment tenants and other occupiers of small holdings. Such persons seldom read advertisements, and when they see the articles in the shops of the neighbouring towns they are suspicious of their strength from their lightness, and are terrified at the cost. I have nearly 100 allotment tenants, and I have induced many to be purchasers, and before the end of the year I expect every occupier of half an acre will be provided with one. My method has been to purchase a quantity and lend them to my tenants. They soon found by experience that the slender prongs were tougher than the massive iron ones they had been accustomed to, and although they had to contend with a stubborn stone brash soil, which made the prongs sometimes bend, yet they never broke. Having afterwards deprived them of the use of the steel fork they had to resume the old-fashioned iron tool, once valued but now despised. They soon called upon me and begged to purchase the very fork they had used and proved. In all cases I sold the articles, allowing them to pay by instalments, which they did with great punctuality. Being established in this parish I have no doubt of their soon becoming common in the neighbourhood. A labourer's day's work with one of these tools is worth at least 6d. more than with the iron forks. Also on account of the proximity of the prongs few Potatoes are left in the ground at the time of digging up. I should say that a bushel per chain more are raised which would otherwise have been left and destroyed by the frost of winter. *Southern.*

## Societies.

ROYAL AGRICULTURAL OF ENGLAND.

WEEKLY COUNCIL, *Feb.* 23.—Sir EDWARD KERRISON, Bart., M.P., in the chair.

Mr. Noah West addressed a letter to the Council on improvements stated to have been made by him in the Reaping Machine, and requesting the Society to assist him in carrying them into operation.—Mr. Kitto transmitted a sample of white Wheat brought by him from California, which was referred, with his letter on the same subject, to the Monthly Council on March 2.

Adjourned to March 2.

## Farmers' Clubs.

LOCKERBY: *Weights of Turnips,* as reported in the *North British Agriculturist.*—[The following are the weights of Turnips raised on farms possessed by members of the Lockerby Farmers' Club, in the middle and upper districts of Annandale, and inspected between November 8th and 20th, 1858.]

| Names of Farms. | Kinds of Turnips. | No. of acres Scot. | Crop per imperial acre. | Manures per Scotch Acre. | | | | Date of sowing. |
|---|---|---|---|---|---|---|---|---|
| | | | | Farm-yard dung. | Peruvian guano | Dissolved bones. | Other Manures. | |
| | | | tns. cwt | yards. | cwt. | cwt. | | |
| Hardgrave .. .. | Skirving's Purple-top Swede | 6½ | 18 18 | 25 | 3 | 2½ | .. | May 12 |
| | do. do. | 2¼ | 20 12 | .. | 3 | 2½ | 25 bushels bones | May 12 |
| | Curwin's Swede | 12¾ | 18 18 | 25 | 2½ | .. | 3¾ cwt. Ich. guano | May 20 to 25 |
| | Grey Sandstone Globe | 8 | 16 13 | 19 | 1¼ | .. | do. do. | June 26 |
| | White Globe | 21 | 14 14 | 19 | 1¼ | .. | do. do. | July 14 |
| | Yellow Bullock | 5½ | 15 5 | 19 | 1¼ | .. | do. do. | July 14 |
| Whitecroft .. .. | Skirving's Purple-top Swede | 7½ | 19 5 | 15 | 1½ | 2 | 3 cwt. ground bones | May 22 |
| Dormont .. .. | Pomeranian White (resown) | 6 | 15 5 | 10 | 1 | .. | 10 bushels bones | June 24 |
| | do. do. | 3 | 17 13 | 10 | 1 | .. | do. do. | June 26 |
| | Dale's Hybrid | 10 | 18 17 | .. | 2 | .. | do. & ½ cwt. b. dust | June 21 to 23 |
| | Pomeranian White | 6 | 17 4 | .. | 2 | .. | do. do. | June 19 and 20 |
| Greenhillhead .. | Skirving's Purple-top Swede | 8 | 21 0 | 30 | 1½ | .. | 1½ cwt. blood manure | May 20 to 23 |
| Highlaw .. .. | Skirving's Purple-top Swede | 16 | 15 11 | 15 | 0½ | 1½ | .. | May 20 |
| | Pomeranian White | 12 | 14 3 | .. | 0½ | 2 | .. | June 1 to 4 |
| | Dale's Hybrid | 3 | 12 11 | 12 | 0½ | 1 | .. | June 15 |
| Mellantae .. .. | Green-top Swede | 3 | 14 2 | .. | 2½ | 2½ | .. | May 29 |
| | Skirving's Purple-top Swede | 3 | 15 16 | 15 | 1½ | 1½ | .. | June 2 |
| | Orkney Yellow | 3 | 13 1 | .. | 2 | 3 | .. | June 8 |
| | Green-top White | 2 | 13 6 | 15 | 1½ | 1½ | .. | June 30 |
| | Pomeranian White | 2 | 18 12 | .. | 2 | 2 | .. | June 8 |
| | Curwin's Swede | 3 | 21 13 | 18 | 2 | .. | .. | May 1 |
| Dixon's .. .. | Skirving's Purple-top Swede | 4 | 16 2 | 15 | 2 | .. | .. | May 24 to 30 |
| | Hardy Green | 3 | 22 4 | 15 | 2 | .. | .. | do. |
| | Red Mangel | 0½ | 16 3 | 18 | 2½ | .. | .. | May 14 |
| Hillside .. .. | Swedes | 2½ | 23 9 | 28 | 1 | 4 | .. | May 12 and 13 |
| | Yellow (resown) | 4 | 16 10 | 20 | 1 | 3 | .. | June 16 and 21 |
| | Red-top Yellow | 0½ | 18 13 | 23 | 1 | 2 | .. | June 8 |
| | Green-top White (resown) | 0½ | 21 15 | 20 | 1 | 3 | .. | June 21 |
| | Pomeranian White | 0½ | 23 9 | 23 | 1 | 2 | .. | June 8 |
| | Common | 2 | 16 4 | 25 | 1 | 2 | .. | June 3 to 5 |
| | Skirving's Purple-top Swede | .. | 13 3 | .. | .. | 9 | .. | May 13 |
| | do. do. | .. | 14 1 | .. | 2½ | 5 | .. | do. |
| | do. do. | .. | 17 1 | .. | 4 | .. | 1½ cwt. vitriol | do. |
| | do. do. | .. | 14 1 | .. | 5½ | .. | .. | do. |
| Kirkburn .. .. | Skirving's Purple-top Swede | 3 | 9 5 | 25 | 2 | .. | .. | May 18 |
| | Yellow Bullock | 3 | 11 9 | 25 | 2 | .. | .. | May 25 |
| | White Globe (resown) | 2 | 16 9 | 25 | 2 | .. | .. | June 10 |
| The Manse .. .. | Skirving's Purple-top Swede | 1½ | 12 13 | 16 | .. | 3 | 3 cwt. blood manure | June 3 |
| | Yellow Bullock | 1½ | 12 4 | 16 | .. | 3 | do. do. | June 15 |
| | White Globe | 0½ | 16 13 | 16 | .. | 3 | do. do. | June 3 |
| | Red Mangel | 0½ | 23 9 | 20 | .. | 3 | do. do. | May 1 |
| Rosebank .. .. | Skirving's Purple-top Swede | 0½ | 18 13 | 12 | 2 | .. | 8 bush. ground bones | May 28 |
| | Aberdeen Yellow | 0½ | 18 1 | 12 | 2 | .. | do. do. | May 28 |
| | Skirving's Purple-top Yellow | 0½ | 15 5 | 12 | 2 | .. | do. do. | June 9 |
| | do. do. | 5 | 20 12 | 12 | 2 | .. | do. do. | June 7 |
| | Pomeranian White | 2 | 25 14 | 12 | 2 | .. | do. do. | June 16 |
| Kirkton .. .. | Skirving's Purple-top Swede | 7 | 17 16 | 20 | 2 | 3 | .. | May 29 to 31 |
| | do. „ Yellow | 4 | 18 17 | 15 | 1½ | 2 | .. | June 5 to 10 |
| | Waite's Eclipse | 3 | 20 16 | 15 | 1½ | 2 | .. | do. |
| | Pomeranian White | 1 | 20 16 | .. | 2 | 3 | .. | do. |
| Muirhead .. .. | Yellow Bullock | 4 | 17 4 | 20 | .. | .. | .. | May 30 |
| | do. do. | 3½ | 8 18 | .. | 2 | .. | .. | June 15 |
| | do. do. | 4 | 17 0 | 20 | .. | .. | .. | June 10 |
| Gillenbie .. .. | Swedes | 0¾ | 10 1 | 30 | 2½ | .. | .. | June 3 |
| | Yellow Bullock | 8 | 16 2 | 25 | 2½ | .. | .. | June 4 to 14 |
| | Pomeranian White | 1½ | 16 13 | 25 | 2½ | .. | .. | June 20 |
| Dalmakedder .. | Green-top Swedes | 17 | 18 11 | 18 | 2½ | .. | .. | May 10 to 15 |
| Dinwoodie Mains .. | Skirving's Purple-top Yellow | 4 | 15 5 | 10 | 2 | .. | .. | June 12 |
| | Yellow Bullock | 16 | 13 5 | 12 | 2 | .. | .. | June 2 to 9 |
| | Pomeranian White | 3 | 11 7 | 10 | 2 | .. | .. | June 18 |
| | Hardy Green | 2 | 16 13 | 10 | 2 | .. | .. | June 12 |
| Brieryhill .. .. | Skirving's Purple-top Swede | 3 | 15 5 | 15 | 2 | .. | .. | May 26 |
| | Yellow Bullock | 9 | 18 1 | 15 | 2 | .. | .. | May 31 |
| | Dale's Hybrid | 3 | 20 10 | 15 | 2 | .. | .. | do. |
| Fourmerkland .. | Crocksford Hybrid Swede | 3 | 12 11 | 15 | .. | .. | 5 cwt. ground bones | June 1 to 8 |
| | Skirving's Purple-top Swede | 7 | 14 14 | 16 | .. | .. | do. do. | May 15 |
| | Fordel's Hybrid | 4 | 12 5 | 15 | .. | .. | do. do. | June 1 to 8 |
| Fishbeck .. .. | Laing's Swede | 1 | 13 12 | 24 | 1½ | .. | .. | June 1 to 5 |
| | Skirving's Purple-top Swede | 9½ | 16 13 | 24 | 1½ | .. | .. | do. |
| | Yellow Bullock | 4 | 13 17 | 22 | 1 | .. | .. | June 13 and 14 |
| Millbank .. .. | Green-top White | 1 | 8 12 | 20 | 2 | .. | .. | June 24 |
| | Yellow Bullock (resown) | 6 | 7 15 | 20 | 2 | .. | .. | July 10 |
| | do. do. | 4½ | 14 14 | 20 | 2 | .. | .. | June 24 |
| | Skirving's Purple-top Yellow | 4 | 10 11 | .. | 2 | .. | 20 bush. ground bones | June 9 to 11 |
| | Yellow Bullock | 5 | 13 12 | .. | 2 | .. | do. do. | June 9 to 11 |
| | do. do. | .. | 12 10 | 15 | 2 | .. | .. | June 22 and 23 |
| Lammonbie .. .. | Green-top Swede | 4 | 9 6 | 25 | 2 | .. | .. | Mar. 25 to June 1 |
| | Skirving's Purple-top Swede | 10 | 11 10 | 25 | 2 | .. | .. | do. do. |
| | Yellow Bullock | 7 | 15 16 | .. | 1½ | 3 | .. | June 8 to 10 |
| | White Globe | 7 | 11 13 | .. | 1½ | 3 | .. | June 10 to 15 |
| Blindhillbush .. | Skirving's Purple-top Swede | 5 | 17 11 | 15 | 3 | 3 | .. | May 27 and 28 |
| | Pomeranian White (resown) | 1 | 23 0 | 15 | 3 | 3 | .. | June 22 |
| | do. | 0½ | 27 13 | 15 | 3 | 3 | .. | May 25 |
| Shaw .. .. .. | Skirving's Purple-top Swede | 4 | 16 8 | 15 | 3 | 3 | .. | May 31 |
| | Yellow Bullock | 1 | 20 9 | 15 | 2 | 2 | .. | June 15 |
| | Scorisbrick Yellow | 1 | 23 18 | 15 | 2 | 2 | .. | June 15 |
| | Skirving's Purple-top Yellow | 2 | 21 12 | 15 | 2 | 2 | .. | June 16 |

| Names of Farms. | Kinds of Turnips. | No. of acres Scot. | Crop per imperial acre. | Manures per Scotch Acre. Farm yard dung. | Peruvian guano | Dissolved bones | Other Manures. | Date of sowing. |
|---|---|---|---|---|---|---|---|---|
| Shaw (continued) .. | Yellow Bullock (resown) | 0½ | 12 7 | .. | 2½ | 2½ | .. | June 23 |
| | do. | 7 | 20 9 | 15 | 2 | 2 | .. | June 8 and 9 |
| | do. | 1 | 18 8 | 15 | 2 | 3 | .. | June 1 |
| | Pomeranian White | 1 | 27 13 | .. | 2½ | 2½ | .. | June 16 |
| | do. | 3 | 20 14 | .. | 2½ | 2½ | .. | June 5 |
| | do. | 1 | 27 7 | 15 | 3 | 3 | .. | June 3 |
| | do. (resown) | 1 | 19 11 | 15 | 3 | 3 | .. | June 21 |
| Kirkhill .. .. | Skirving's Purple-top Swede | 2 | 11 7 | 25 | .. | 2 | 2 cwt. Ichaboe guano | Mar. 31 to June 2 |
| | Yellow Bullock | 1 | 13 17 | 25 | .. | 2 | 2 cwt. do. | June 2 |
| | do. | 1 | 9 9 | .. | .. | 3 | 3 cwt. do. | June 3 |
| | do. | 3½ | 8 17 | 20 | .. | 1½ | .. | June 8 |
| | Imperial Purple-top Yellow | 4 | 11 13 | 20 | .. | 1½ | 3 cwt. do. | June 12 |
| | Pomeranian White | 4 | 15 0 | 20 | .. | .. | .. | June 29 |
| | do. | 1 | 11 13 | 20 | .. | 1½ | 1½ cwt. do. | June 24 and 25 |
| | do. | 1½ | 10 5 | 20 | 2 | 2 | 3 cwt. do. | June 12 |
| Killbrook .. .. | Skirving's Purple-top Swede | 1⅔ | 16 2 | 17 | .. | 2 | .. | June 2 |
| | Skirving's Purple-top Yellow | 3 | 9 12 | 17 | .. | 2 | .. | May 31 |
| | Scorisbrick Yellow | 3 | 13 5 | 17 | .. | 2 | .. | June 9 |
| | Orkney Yellow | 8 | 13 16 | .. | .. | 4 | .. | June 4 |
| | Pomeranian White | 5 | 13 18 | 27 | .. | 3 | 1 cwt. Ichaboe guano | June 22 |
| Wamphraygate .. | Skirving's Purple-top Swede | 12 | 17 10 | 25 | .. | .. | .. | June 7 |
| | Yellow Bullock | 2½ | 13 6 | 25 | .. | .. | .. | June 20 to 25 |
| | Skirving's Purple-top Yellow | 4 | 18 12 | 20 | .. | 3 | .. | June 27 |
| | Pomeranian White | 0½ | 13 6 | 16 | .. | .. | .. | July 1 to 6 |
| The Manse .. .. | Skirving's Purple-top Swede | 0½ | 24 8 | 16 | .. | .. | 4½ r. bones & 1½ cwt. | May 26 |
| | Yellow Bullock | 0½ | 21 18 | 16 | .. | .. | do. do. [I. guano | do. |
| | Skirving's Purple-top Yellow | 5 | 13 6 | 24 | .. | 2 | do. do. | do. |
| Lochwood Mains .. | Green-top Swede | 4 | 13 0 | 18 | .. | 2 | 1¾ cwt. Ichaboe guano | June 2 to 5 |
| | Orkney Yellow | 4 | 17 5 | 18 | .. | 2 | 1½ cwt. do. | June 5 to 7 |
| | Skirving's Purple-top Yellow | 4 | 14 2 | 18 | .. | 2½ | 1½ cwt. do. | June 10 |
| | Scorisbrick Yellow | 4 | 17 10 | 18 | .. | 2½ | .. | July 1 and 2 |
| | Pomeranian White | 4 | 11 10 | 23 | 1½ | 3 | .. | do. |
| Annanbank .. .. | Skirving's Purple-top Swede | 6 | 15 10 | .. | 2 | 2 | .. | May 27 |
| | Yellow Bullock | 6 | 12 13 | 18 | 1½ | 3 | .. | June 27 |
| | do. (resown) | 2½ | 11 6 | 18 | 1½ | 3 | .. | June 25 |
| | do. | 1 | 14 19 | 18 | 1½ | 3 | .. | June 20 |
| | Skirving's Purple-top Yellow | 3 | 17 5 | 18 | 1½ | 3 | .. | June 15 |
| | Pomeranian White | 1½ | 20 7 | 18 | 1½ | 2 | .. | June 4 |
| | do. | 2 | 18 8 | 15 | 1½ | 3 | .. | June 28 |
| | do. | 4 | 20 11 | 36 | 2 | 1 | .. | July 10 to 12 |
| Marchbank .. .. | Sutton's Purple-top Yellow | 1 | 22 4 | 36 | 2 | 1 | 1 ct. g. b. & 1½ ct. b. man. | June 15 |
| | do. Green-top do. | 1½ | 15 16 | 36 | 2 | 1 | do. do. | June 16 |
| | Yellow Bullock | 1 | 13 17 | 36 | 2 | 1 | do. do. | June 26 |
| | Dale's Hybrid | 3 | 20 11 | 36 | 2 | 1 | do. do. | June 18 |
| | Pomeranian White | 1 | 21 2 | 36 | 2 | 1 | do. do. | June 21 |
| | Lincolnshire Red | 0½ | 15 11 | 36 | 2 | 1 | do. do. | June 22 |
| | Red Tankard | 0⅛ | 15 0 | 36 | 2 | 1 | do. do. | June 25 |
| | White do. | 3 | 23 7 | 18 | 2 | 1¼ | do. do. | do. |
| Stiddrig .. .. | Sutton's Purple-top Yellow | 1 | 20 16 | 18 | 2 | 1¼ | 1 ct g. b. & 2 ct. b. man. | June 10 to 14 |
| | Aberdeen Yellow | 1 | 20 11 | 18 | 2 | 1¼ | do. do. | do. |
| | Yellow Tankard | 1 | 24 8 | 18 | 2 | 1¼ | do. do. | do. |
| | Skirving's Purple-top Yellow | 2½ | 20 0 | .. | 2 | .. | de. do. | do. |
| | Sutton's Imperial | 1½ | 17 4 | .. | 2 | 1 | 1 cwt. do. & cwt. do. | June 23 to 27 |
| | Pomeranian White | 30 | 21 12 | 25 | 2 | .. | 1 cwt. blood manure | do. |
| Tindwalk Parks .. | Skirving's Purple-top Swede | 6 | 18 3 | 25 | 2 | .. | 15 bush. rough bones | May 10 to 15 |
| | Purple-top Swede | 6 | 22 9 | 25 | 2 | .. | do. do. | June 9 |
| | Yellow Bullock | 5 | 26 10 | 25 | 2 | .. | do. do. | do. |
| | Pomeranian White | 2 | 19 17 | 25 | 2 | .. | do. do. | June 7 |
| | Dale's Hybrid | 4 | 16 8 | 25 | .. | .. | do. do. | June 11 |
| | Lincolnshire Red | | | | | | | June 15 |

*Average Weight of each of the last Ten Crops per Imperial Acre.*

| | 1849. | 1850. | 1851. | 1852. | 1853. |
|---|---|---|---|---|---|
| | T. Cwt. | T. Cwt. | T. Cwt. | T. Cwt. | T. Cwt. |
| Swedes .. .. | 21 16 | 24 9 | 19 16 | 23 7 | 21 19 |
| Yellow .. .. | 20 10 | 19 14 | 17 0 | 17 7 | 23 4 |
| Common .. | 22 7 | 25 14 | 21 1 | 23 14 | 27 13 |

| | 1854. | 1855. | 1856. | 1857. | 1858. |
|---|---|---|---|---|---|
| | T. Cwt. | T. Cwt. | T. Cwt. | T. Cwt. | T. Cwt. |
| Swedes .. .. | 20 18 | 24 7 | 19 4 | 21 6 | 17 6 |
| Yellow .. .. | 18 13 | 20 17 | 19 7 | 16 14 | 15 10 |
| Common .. | 22 0 | 25 12 | 23 19 | 20 2 | 16 16 |

Mr. John Halliday, who had weighed and reported on the Turnip crop for several previous years, attended the club meeting to-day, and gave in the preceding table. In all cases he weighed the whole Turnips on each farm where not taken up. His inspection began on the 8th and ended on the 20th November. From Mr. Halliday's verbal report to the club meeting, the following observations on the inspection of the present year were made:—

*General Description of the Season and its Effect on the Crop.*—The weather of the early part of May being very favourable for preparing the land, a few farmers availed themselves of it, by sowing Swedes before the 15th of that month. And the temperature being favourable for vegetation there was a strong and regular braird able to resist the fly, which became very virulent about the 25th, and although damaged and retarded there were no blanks in the early sowings, which, as in the case of Tinwald Parks, and others show a very decided superiority over the later sowings of Swedes. Between the 20th of May and the middle of June the braird was more destroyed by the ravages of the fly than has been recollected in this district. The appearance of the Turnip plant in Lanarkshire and the Lothians was early in July healthy, regular, and forward compared with this district, and indeed the whole of Dumfriesshire and the Galloways which suffered equally. With moist and growing weather after the middle of June a considerable portion, perhaps between a third and fourth of the whole extent (of course the most severely injured), was sown over again. But those resown have never attained their full size, and thus between these and the irregularity of those not resown the crop, as a whole, is the smallest one we have had for the last 10 years, as appears by the table, though it may be added that the average of the district would not perhaps exhibit so considerable a deficiency compared with previous years as this table does.

*Time of Sowing.*—As noticed above, the table shows that the Swedes sown from the 10th to the 15th of May are by far the best crop. The yellow about the 8th or 10th of June suffered less from fly, are generally better than those earlier or later. The casualties of this year, however, strengthened the opinion formerly expressed that the sowing of Swedes should commence immediately after the 10th of May, to be followed by yellow whenever a fine tilth can be secured; white sorts can be safely delayed till after the middle of June.

*Width of Hoeing.*—Though the number of Turnips in the 10 yards seems fewer than usual, this appeared to have arisen more from blanks than regular thin hoeing; and Mr. Halliday stated he considered that this year particularly the thicker hoeing of 8 to 10 inches had materially diminished the weight, as from the extraordinary luxuriance of the shaw in September and October, caused by the moist warm weather, the bulb was completely deprived of air and sunshine, and its enlargement prevented; and he specially remarked that it was a great but common error to hoe thicker the later sown Turnips, which ought, on the contrary, from the greater liability to over-luxuriance in September and October, to be allowed more space. The principle of hoeing them not less than 12 inches was most beneficially exhibited by Mr. Elliot's of Hardgrave great crops, and ought not to be departed from. This, and the keeping the width of the drill never under 27 inches, is, as is proved, more indispensable with our mild and moist autumn (at least, with sufficient manuring) than in the drier eastern side of the island.

*Disease.*—Mr. Halliday remarked that although finger-and-toe to a greater or less extent was pretty general, he thought that the damage by it was not greater than usual. He said that inquiry and observation confirmed his opinion that the application of lime lessened, if not prevented it, but that it should always be laid on the stubble in the preceding autumn. Mr. Gillespie of Annanbank had for several years remarked that where Turnips with the least degree of disease had been consumed or laid out for cattle on the stubble land the previous year, the crop of Turnip following was invariably much diseased. Decided facts were stated, fully confirmatory of Mr. Gillespie's observations, and this seemed to elucidate in some degree the reason of the beneficial action of lime. Indeed instances were mentioned where Turnips not so diseased, laid on land even two or three years previously, had caused the disease.

*Climate and Benefit of Fresh Land.*—The large crops on Shaw, above 500 feet, and Stiddrigs, more than 600 feet above sea level, show that in general no depreciating effects arise from elevation, at least up to these heights, and in the latter case, that freshness of land can produce large crops with moderate quantities of manure.

*Manure.*—It will be noticed from the table that the use of bones, either dissolved or ground in addition to guano, is more general than formerly. This arises from the more prevalent opinion of their future benefit to the land, and also from the increased facility given by the new bone mill at Nethercleuch in the centre of the district.

*Seed.*—The only additional observation under this head is that the Lincolnshire Red, or Red-topped White, have turned out a failing crop, from their almost invariably being unhealthy, and in place of a large round, growing this year of a small tankard shape.

*Mangel Wurzel and Cabbage.*—Each year extends the impression that other root crops should be introduced in addition to the Turnip crop—Mangel Wurzel and Cabbage seem the most likely to be tried. The latter in our moist climate seems deserving of a more extended trial than has hitherto been given. Some comparisons of this year show double weight compared with Swedes.

## Reviews.

*Veterinary Medicines: their Actions and Uses, with a copious Appendix on the Diseases of the Domesticated Animals.* By Finlay Dun, V. S. Simpkin, Marshall, & Co.

A second edition of this admirable work has just appeared. It consists of two parts: the first, occupying the larger portion of the volume, is a description of the various medicines, their preparation, use, and effects in veterinary practice; and the second contains short descriptions of animal diseases, their causes, symptoms, and treatment. It is a work as useful to the farmer as to the veterinary practitioner. We give two extracts illustrative respectively of the two sections of the volume.

"*On Draughts or Drenches.*—Drenches are usually extempore preparations. They are occasionally given to horses, especially when a speedy effect is desired, as in colic; are frequently prescribed for dogs; and are almost the only form in which physic is ever given to cattle or sheep. In these ruminants, medicines in the solid state act very tardily and imperfectly, for they get mixed up with the immense bulk of food always found in the rumen, and thus remain unabsorbed often for a long time. Some medicines, too, from prolonged contact with this mass of vegetable matter, probably undergo changes which materially interfere with their action. Medicine in a liquid form, however, comes immediately into intimate contact with a large absorbing surface of mucous membrane, and passes on more speedily towards the second and fourth stomachs. In preparing drenches, care must be taken that the different ingredients are not incompatible, decomposing or injuriously reacting on each other; and further, that their quantity be not too great, as the trouble of administration is thereby much increased. For dogs, 2 to 6 oz., according to the size of the animal, is an average amount; for horses, 1 to 2 pints; for sheep, 4 to 6 ounces; but for cattle it is not so necessary to limit the proportion of fluid. In giving the medicine the head should be slightly raised, which in horses may be conveniently done with the aid of a twitch, the noose of which is placed over the animal's upper jaw within the incisor teeth, and the stick held by an assistant, standing on the left side of the patient. In cattle, the head should always be steadied by an assistant, who holds either the horns or ears; and in dogs, the jaws may be kept sufficiently apart by getting some one to put a loop of tape or string over each jaw, and gently separating them, when the medicine may be readily poured over. In all animals, the nostrils must be left unobstructed, and the tongue loose, or only slightly pressed on by the operator's left thumb. The fluid should always be carefully and slowly given; and if coughing occurs, the operation should be stopped, and the animal set free for a few minutes."

The following are passages from the description of Foot-rot:—

"*Foot-rot in Sheep*, although probably existing from the earliest times, has become more prevalent during the last fifty years, chiefly owing to the greater weight of all varieties of sheep, and to their occupying soft, moist lowland pastures previously unreclaimed, or grazed only by cattle. The horn becomes overgrown, soft, and disposed to crack or tear; it turns inwards upon the sole, or the outer insensible covering of the sole is worn down. Sand and dirt insinuate themselves into the cracks and cavities, and irritation and inflammation of the sensitive laminæ are thus produced, causing swelling, heat, and tenderness of the foot, decided lameness, and the secretion of thin, badly smelling pus. The inflammation sometimes extends to the biflex canal, producing an acrid discharge, and often an unhealthy ulceration, or to the coronary substance, causing irregular growth of faulty horn or sinuses, similar to those of quittor. Although all four feet may be affected, the disease is usually confined to one or both of the fore feet, and occasionally to one digit only. It always leaves the parts weak and prone to a subsequent attack, especially during hard frost or dry hot weather. The same foot or digit frequently suffers at short intervals; whilst the hoofs of those subject to the malady become large and soft, and this altered and weakened structure is transmitted to the progeny. Indeed it is a common observation, that a certain hereditary appearance of the foot predisposes to foot-rot.

"*Causes.*—Foot-rot is liable to be produced in many different ways, and by the most dissimilar causes. It often results from the overgrowth of the hoof, and turning in of the toe, pressing upon and irritating the sensitive laminæ. This is especially apt to occur amongst sheep brought from indifferent upland pastures to rich meadow lands. Hence the notorious prevalence of the disease amongst black-faced Cheviot and Southdown sheep, carried from their native walks into rich arable districts.

On their native grazings the surface of the soil is usually rough and rugged, whilst the Grass is not over-abundant, and the sheep have therefore to stray over considerable distances before they can procure a sufficiency. Under such circumstances, the production and waste of the horn are fairly balanced. When, however, such sheep are transferred to smooth, well rolled, rich lands, or to soft, moist, luxuriant meadows, the abundance of food removes the necessity of much walking; the tear and wear of the hoof is accordingly reduced, the horn shoots out in exuberant quantity, and also becomes of less compact structure; while the sole usually becomes convex, causing much pain and the production of troublesome ulcers. The crust hence becomes liable to laceration, and the sensitive parts of the foot are thus exposed to mechanical irritation, as well as to the injurious influences of cold, heat, and moisture. Again, the overgrown horn and consequent lengthening out of the toe injures the foot in another way, It exposes the sensitive laminæ to unwonted strain, and thus renders them weak and unfit for the secretion of healthy horn. A soft, spongy, and degenerated crust is accordingly produced, which, like that resulting from the constant exposure of the foot to moisture, forms an inadequate protection for the sensitive parts, and permits the insinuation of foreign bodies through its open pores." "Foot-rot occurring in connection with murrain or the vesicular epizootic already noticed is decidedly contagious, but ordinary foot-rot, as above described, is not contagious. The diseased matter from a case of foot-rot is devoid of effect when rubbed into a sound foot, and even when applied to a bare or torn surface has no special action, and produces merely the same effect as the matter of any foul or unhealthy wound, or exposure to cold, filth, and moisture. "In further evidence of the non-contagious character of the desease, it may be remarked, that one foot, or even one digit, is frequently affected without the other feet or digit becoming involved; that sheep with foot-rot may be mixed with perfect impunity amongst a sound flock, provided they be upon good dry pasture, and have their feet properly attended to; that the disease is only produced under conditions which, in themselves, and apart from contagion, are adequate to produce the inflammation of the laminated structures in which foot-rot consists; and, lastly, that the removal of an affected flock to dry, bareish, good pasture, the occasional paring of superfluous horn, and the avoidance of causes which induce irrigation, most certainly arrest the spread foot-rot and could have little influence in staying the progress of a truly infectious disease.

"*Treatment.*—Whenever the first symptoms of lameness are observable, the sheep must be caught, and the feet examined. All filth and dirt must be removed, as well as every loose, ragged, and unsound portion of horn. This is generally effected with a stout pocket-knife, but when the horn is extensively diseased, a fine-pointed drawing-knife is often used in removing, as must be scrupulously done, all portions of horn separated from the laminæ. The subsequent application of tar is of much value in protecting the bared surface from filth and moisture. When the interdigital skin becomes involved, it may be dusted daily with powdered sulphate of zinc or copper, or gently touched with a stick of nitrate of silver. Ulcers on the digital space of the soles or elsewhere should be touched with nitrate of silver, nitric acid, or a little of the old butter of antimony. Where they are tedious and unhealthy a poultice is often useful, and a round of different astringent and caustic applications must be tried until decided amendment supervenes. Frequent changes of the remedies are often of more service than the continuous use of any one, however good. The fungous growths which are often so troublesome in bad cases are best kept down by nitric acid, sulphate of copper, or the gentle application of the red-hot iron, together with constant pressure, which may be applied by rolling the foot tightly up in a linen rag, secured as ingenuity may best suggest. In deeply penetrating sinuses, the carious bone, sloughing cartilage, or other cause of irritation upon which such wounds depend, must be promptly removed, a dependent orifice secured, astringents injected, and every means adopted to preserve cleanliness. The injection of strong caustics, a very common but painful mode of treatment, must only be adopted when other remedies have been tried and failed. To ward off the attacks of flies, which during warm weather are very annoying, the parts should be freely smeared with coal tar, spirits of tar, or naphtha. In all cases of foot-rot, no matter how slight, the appropriate treatment must be promptly and diligently prosecuted, otherwise the case is very apt to pass from bad to worse. The examination of the feet and the suitable dressings should, except in the mildest cases, be performed daily. After the removal of horn or the use of caustics, it is important that the animals should stand for an hour amongst saw-dust, or be driven for a few minutes amongst several inches of quick-lime. The observations already made regarding the causes of the disease, will sufficiently indicate the appropriate means of prevention. The growth of the horn must be kept within moderate limits. Sheep upon soft, moist lands, should have their feet examined every few weeks, and any redundancy of horn removed. They may be driven occasionally along a hard road, which will accelerate the defective wear. Severe over-driving must, however, be avoided, as well as all other causes which induce congestion of the laminæ and injury of their horny covering. Draining very frequently puts a stop to the ravages of foot-rot; for by drying the land it prevents the injurious influence of moisture and cold, and leads, moreover, to the growth of a firmer and better hoof. Liming must also be regarded as a preventive. Like draining, it ameliorates the pasture, and removes especially that soft mossy herbage which is so prone to develop foot-rot." The use of Gutta Percha boots, to which a correspondent lately referred, is not among Mr. Dun's remedies for this disease.

## Miscellaneous.

*Alpacas in Australia.*—Few enterprises of modern times have been marked with more determined energy or greater perseverance under unexampled difficulties than that which Mr. Ledger has at length happily accomplished. Mr. Charles Ledger is an English merchant, established for many years in Tacua, in Peru, the trade in alpaca wool forming a portion of his business; and about six years since he commenced carrying into effect the long cherished idea of introducing into Australia this valuable breed of wool-bearing animals. The difficulties with which he had to contend in carrying out this idea were of the most remarkable character, but after six years of indomitable perseverance, and after undergoing an amount of danger and difficulty to which it has been the lot of few travellers to be subjected, he has succeeded in his object, and the last Australian mail announces the pleasing intelligence of the arrival at Sydney of 280 of these valuable animals. The flock includes sheep of the llama, alpaca, and vicuna breeds, together with some varieties that have been obtained by cross breeding. The animals were, on the departure of the mail, quietly grazing near the city, apparently well contented with the change of climate and scene which they have experienced. The safe arrival at Sydney of the flock of alpacas is a great triumph to Mr. Ledger, and gives an example of intrepidity and prudence which deserves a public acknowledgment. To collect a flock in defiance of a government—to divide it, like Jacob of old, for its bitter security—to conduct it over mountainous regions, exposed to all the vicissitudes of climate, change of feed, the ravages of beasts, and the jealousy and vindictiveness of men, then to embark that flock and convey it over the most distant seas, and finally to conduct it to a new world—to do all this combines a number of feats which, in a more poetic age, would have been the theme of song as well as of history. *Australian and New Zealand Gazette.*

## Calendar of Operations.

### FEBRUARY.

BERWICKSHIRE MERSE FARM, *Feb.* 14.—Up to the present time we have experienced but slightly the seasonable rigour of winter. Weather generally soft, without any heavy fall of rain, has demanded a constant supply of litter for cattle courts, while sheep folded on Turnips have not been incommoded to any serious extent. The Turnip crop has turned out much better than was at one time expected. The feeding quality seems superior, and artificial food is in limited request. That portion of the root crop intended for cattle was stored early and fresh; so with a moderate allowance of Mangels and good Potatoes at less than 40*s.* a ton, the beasts may be fed without much outlay on artificial stuffs, except at reasonable rates. There is a general impression that the number of beasts fattening is below an average, owing to heavy losses on that kind of stock last year. Winter Wheat looks pretty well, but quite the reverse of "winter proud." The experience of late years limits the extent of spring sowing in favour of Barley. Lea ploughing may be said to be completed, and there only remains the Turnip land (where cleared) to be prepared for Barley. A short storm before seed time would be acceptable, to facilitate the necessary carting of dung afield. *J T.*

## Notices to Correspondents.

COLESEED: *Putney.* We have always known it sown in June and July. If sown very early it would run to seed at once.

COUNTY REPORTS: *W R.* The Society has offered 50*l.* for an Essay on the Agriculture of the Channel Islands, to be sent in on March 1, 18 9. The prize in 1853 was offered for an Essay on the Agriculture of Shropshire. The farming of Staffordshire has not yet been described in the Journal.

LAND DRAINAGE: *R K P.* Weale of Holborn publishes a book by Mr. Donald. The chapters on Drainage out of Stephens's Book of the Farm (Blackwood) are published as a separate volume.

MACHINE MAKER: *Old Subscriber.* We cannot name machine makers. On the subject of reaping machines read No. 1 of our Paper this year. There are many good makers of threshing machines Consult the current number of the Journal of the Agricultural Society for their report on the Chester Show.

NITRATE OF SODA. *J P.* Your question has now reached us for the first time. It is sold under guarantee that it shall be within a certain degree of impurity. We were not aware that the term "refraction" was used, nor are we aware of the meaning attached to it. In analysis nitric acid is neutralised with Barytes water—the solution is evaporated to dryness—redissolved and sulphuric acid added to precipitate the Barytes, which is dried, weighed, and then as sulphate of Barytes furnishes a guide to the quality of the nitric acid, with which the base had united.

PASTURE: *Mira.* Your land promises to bear a good sward without further manuring. We would take a thin crop of Barley, say 1 bushel of seed per acre with the Grass seeds.

SULPHATE OF AMMONIA: *A Correspondent* says: "Agriculturists are not sufficiently acquainted with sulphate of ammonia. Hitherto the comparatively little attention devoted to its valuable properties and effects as applied to land has been owing most probably to its scarcity and high price. Now, however, its manufacture is much extended and greatly on the increase; its price as a consequence has become quite moderate, while the result which attends every fair trial of it as a manure fully sustains its superiority. [You will find reports of experiments with it in Professor Johnston's "Experimental Agriculture."]

WAGES NEAR MANSFIELD.—We have received the following from the person who gave the information on the rate of wages near Mansfield:—"Since I furnished the report on the wages of labourers near Mansfield for the paper on 'horse power,' there has been a general reduction, and we are now giving 12*s.* a week to the labourers and 13*s.* 6*d.* to the ploughmen. Please notice this in your columns to prevent misconception."

SEEDS FOR THE FARM.

NEW OVAL-SHAPED YELLOW MANGE[illegible] introduced by us two years ago, has been thoroughly tested and is now recommended with perfect confidence of a remarkably vigorous growth, with finely shaped roots intermediate in length between the Long and the Globe, and has produced from 5 to 10 tons more per acre than any other variety (see *Gardeners' Chronicle* of Jan. 8):—

SWEDE TURNIP.—All the approved sorts.
YELLOW Do. do. do.
WHITE Do. do. do.

In no description of crop raised on the Farm is a good bad one so dependent on the character of the Seed as in the Turnip, and from its great liability to degenerate requires the most scrupulous care and vigilance. Stocks that are every way worthy of confidence. As such, we have for several years past been using every means to keep up or improve the shape, size, and texture of the various kinds; and we believe that what are now offered give the most perfect satisfaction. All the principal sorts are our own growth, raised from large and fully developed Roots or Bulbs, and in the hope of giving a more vigorous growth to the Stock, the strongest clay soil is always selected for a considerable portion of the Swede and Yellows. This mode of raising Turnip Seed materially increases the expense, but is a much more satisfactory system than the one usually adopted, viz., sowing random stocks late in the season, after other crops, and taking the seed from mere plants, which in many cases are not even subjected to the process of thinning. Moreover, we guarantee our Seeds free from any of the adulterations frequently practised to increase profits or cheapen prices, and that a strong healthy "braird" is certain.

PERENNIAL RYE-GRASS.—Finest Ayrshire
Do. do. do. Pacey's, 26lbs. to 32lbs. per bus.
ITALIAN do. Imported
Do. do. Home-grown

NATURAL GRASSES.—All the best varieties

The Stocks of Perennial Rye-grass Seed are the most select growths the country produces, and being all clean and pure the economy of using such in preference to foul chaffy seed, however cheap, is at once apparent. Our imported Italian is from the usual source, and has always given satisfaction, while the home-grown is the direct produce of imported seed cultivated under the most favourable circumstances, and more than ordinary pains having been used in dressing the seed. Both samples of both are unusually clean and fine. In selecting our Natural Grasses care is taken to have them true to name, well ripened, and in all respects good clean samples.

ALSIKE CLOVER, and other varieties.
LARGE BROAD-LEAVED SCOTCH TARES.

With every other description of Seed usually required for the farm, PRICED LISTS of which may be had post free on application.

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BEAUTIFUL FLOWERS—12 Packets, each containing 1000 Seeds, 1*s.* Sent post free, 1*s.* 4*d.* Collection Heliotropium, Hollyhocks to name, Petunias, Verbenas, Fuchsias, Geraniums, and other BEDDING PLANTS, at 1*s.* per dozen. Catalogue on application.

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Globe and Flat Tripoli ONION SEED, 3*s.* per lb., 6*d.* per oz. Warranted new and true.

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FLOUR, Warranted Unadulterated, free to any part of London (not less than 14 lbs.); Whites, for pastry, per bushel (56 lbs.), 8*s.* 4*d.*; households, for bread-making, 7*s.* seconds, 7*s.* 0*d.*; Wheatmeal, for brown bread, 7*s.* 6*d.*; fine and coarse Scotch Oatmeal.—Address, HORSNAIL & CARPOOL, Bullford Mill, near Witham, Essex, or 97, Goswell Road, City Road, E.C. Directions for bread making gratis. Terms cash. Bags lent. German yeast. A half sack (140 lbs.) upwards, free to any railway station within 200 miles.

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"Gentlemen,—I have worn Gutta Percha Soles and Boots these two years, and being so much in a garden as I necessarily am in all weathers, and with the ground in all states, would on no account be without them. As a matter of economy I would recommend Gardeners to use them, for they can repair the worn part at all times by warming the material at the fire, and pressing it from the thick parts to the worn parts as easily as if it were so much dough. I think it the best for persons who must occasionally wet their feet to a job, as that completely defies damp. Many a gardener would escape colds and rheumatism by the use of Gutta Percha Soles.

"Your obedient servant, G. GLENNY."

Every variety of Gutta Percha articles, such as Mill Bands, Tubing, Soles, Goloshes, Sheet, Pump Buckets, Fire Buckets, Bosses, Union Joints, Flasks, Bottles, Bowls, Chamber Vessels, Toilet Trays, Sponge Bags, Curtain Rings, Galvanic Batteries, Talbotype Trays, &c., manufactured by the Gutta Percha Company, and sold by their wholesale dealers in town and country.—The Gutta Percha Company, Patentees, 18, Wharf Road, City Road, London.

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HORTICULTURAL GLASS, STOCK SIZES, in 100 feet boxes.

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| 6 by 4, 9 by 7, 10 by 8, 12 by 9, 13 by 9, 14 by 9 .. | 14s. 6d. | 12s. 6d. |
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SMALL SQUARES.—Per 100 feet.

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| 5 .. 4 | 9 .. 7 | 12 .. 9 | 13½ .. 10½ | 13 .. 11 | | | | |
| 6½ .. 4½ | 9½ .. 7½ | 12½ .. 9½ | 14 .. 10 | 13½ .. 11½ | | | | |
| 7 .. 5 | 10 .. 8 | 13 .. 9 | 14½ .. 10½ | 14 .. 11 | s. d. | s. d. | s. d. | s. d. |
| 7½ .. 5½ | 10½ .. 8½ | 12 .. 10 | 15 .. 10 | 15 .. 10 | 21 6 | 17 9 | 14 4 | 12 6 |
| 8 .. 6 | 11 .. 9 | 12½ .. 10½ | 12 .. 11 | .. .. | | | | |
| 8½ .. 6½ | 11½ .. 9½ | 13 .. 10 | 12½ .. 11½ | .. .. | | | | |
| 10½ .. 11½ | 14 .. 12 | 22 .. 12 | 18 .. 14 | 24 .. 15 | | | | |
| 15 .. 11 | 14½ .. 12½ | 15 .. 13 | 19 .. 14 | 18 .. 16 | | | | |
| 15½ .. 11½ | 15 .. 12 | 16 .. 13 | 20 .. 14 | 20 .. 16 | | | | |
| 16 .. 11 | 15½ .. 12½ | 17 .. 13 | 21 .. 14 | 22 .. 16 | | | | |
| 16½ .. 11½ | 16 .. 12 | 18 .. 13 | 22 .. 14 | 24 .. 16 | 24s. 6d., 20s. 0d., 16s. 6d., 14s. | | | |
| 17 .. 11 | 16½ .. 12½ | 20 .. 13 | 24 .. 14 | 20 .. 17 | | | | |
| 18 .. 11 | 17 .. 12 | 23 .. 13 | 18 .. 15 | 22 .. 17 | | | | |
| 18 .. 12 | 18 .. 12 | 16 .. 14 | 20 .. 15 | 20 .. 18 | | | | |
| 18½ .. 12½ | 20 .. 12 | 17 .. 14 | 22 .. 15 | . .. | | | | |

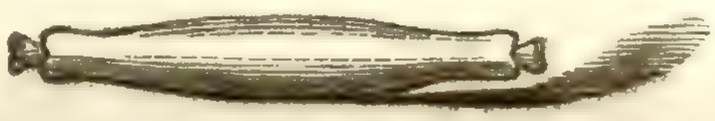
## ORCHARD HOUSE SIZES,

AS SUPPLIED TO MR. RIVERS AND OTHERS.

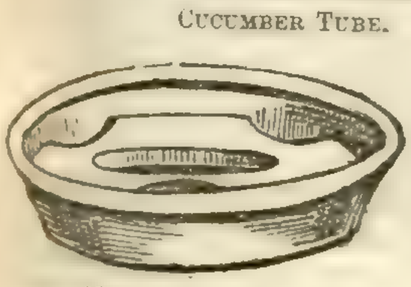
| | | |
|---|---|---|
| 16 .. 12<br>20 .. 13<br>20 .. 14<br>20 .. 15 | 16 oz. Common, per 100 feet, 14s.<br>„ Super „ 16s. 6d. | If 21 oz. Common, per 100 feet, 21s.<br>„ Super „ 25s. |

Quotations for English Sheet are not made, as no one in their senses would pay 20 per Cent. more for an article not equal to our thirds quality.

CUCUMBER TUBE.

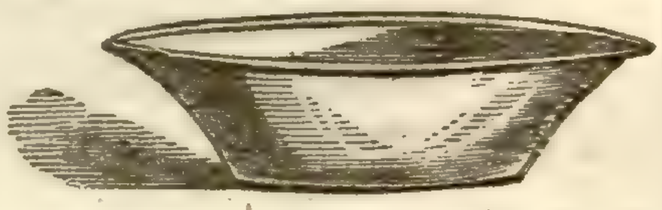


PASTRY PIN.



HYACINTH DISH.

WASP TRAP.

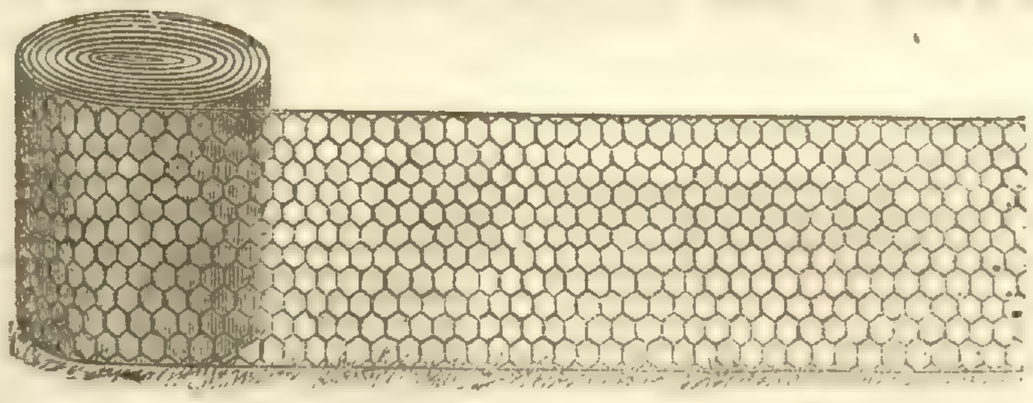


MILK PAN.

LINSEED OIL, PUTTY, GENUINE WHITE LEAD, LINSEED AND BOILED OILS, BRUSHES, &c.

87, Bishopsgate Street Without, London, E. C.

# IMPROVED PREMIUM WIRE NETTING.



| | Size of mesh. | Mostly used for | Light. Japanned. | Light. Galvanized. | Medium. Japanned. | Medium. Galvanized. | Strong. Japanned. | Strong. Galvanized. |
|---|---|---|---|---|---|---|---|---|
| PRICES PER LINEAL YARD, 24 INCHES HIGH:— | 2½ inch | Hares, Dogs, Poultry | 3½d. | 4½d. | 4½d. | 5½d. | 5d. | 6½d. |
| | 2 inch | Game Netting | 4d. | 5d. | 4⅜d. | 6d. | 5½d. | 7d. |
| | 1⅝ inch | Small Rabbits, Hares, &c. | 4½d. | 5½d. | 5¼d. | 6½d. | 6d. | 7½d. |
| | 1½ inch | Smallest Rabbits | 6d. | 7½d. | 7½d. | 9d. | 9d. | 11d. |
| PRICES PER FOOT SUPERFICIAL:— | 1¼ inch | Pigeon Houses, Pheasantries, &c. | 1½d. | 1¾d. | 1⅜d. | 2d. | 2¼d. | 2¾d. |
| | 1⅛ inch | Pigeon Houses, &c. | 1⅜d. | 2d. | 2d. | 2½d. | 2⅛d. | 3d. |
| | 1 inch | Pheasantries and Small Birds | 2d. | 2¼d. | 2¼d. | 2⅞d. | 2⅝d. | 3¼d. |
| | ⅝ inch | Aviaries, Window Guards, &c. | 2¼d. | 2⅛d. | 2¾d. | 3¼d. | 3¼d. | 4d. |

Quantities of 100 yards, or upwards, delivered free at nearly all the principal Railway Stations and Shipping Ports in England; also by special estimate to any part of Scotland or Ireland. Any width of Netting under 8 feet made at proportionate prices.

☞ *Every description of Netting warranted to give satisfaction, and if not approved will be exchanged, or may be returned unconditionally.*

J. B. BROWN & CO., 18, CANNON STREET, LONDON, E.C.

HEATING BY HOT WATER ON HAMMOND'S improved principle, for Horticultural Works, Mansions, Churches, Public Buildings, in fact everywhere that heat is required. Also his improved Ventilating Greenhouses, which can be erected at 1s per foot, and entirely prevent the possibility of scorching the Vines or plants. The Patent Hot-water Register Stove.—Estimates at No. 18, George Street, Portman Square. Workmen sent into the country.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

E. DENCH, KING'S ROAD, CHELSEA, & HAMPSTEAD ROAD, Patentee and Sole Manufacturer of PATENT GALVANISED IRON HOTHOUSES AND CONSERVATORIES, has Two SPAN-ROOFED HOUSES left for Sale, a great Bargain. Patent Hothouses, every way superior to any other material, at 1s. 3d. per foot super, with excellent heavy good quality Glass. Printed Price List sent on application. Heating by Hot Water with efficiency and economy.

VOKINS AND HURD, Seymour House, Jubilee Place, King's Road, Chelsea, BUILDERS OF HOTHOUSES, CONSERVATORIES, GREENHOUSES, PITS, and every description of erections in Glass work, either in Wood or Iron; also Heating the same by hot water on the most approved plans and at the lowest prices consistent with good work. Estimates forwarded.

## GREENHOUSES, ORCHARD HOUSES, AND PITS

OF EVERY DESCRIPTION, MADE BY STEAM MACHINERY, AND HEATED BY HOT WATER ON AN IMPROVED PLAN AT

J. LEWIS'S HORTICULTURAL WORKS, Stamford Hill, Middlesex, established 20 years. These Buildings are warranted of the best materials, and at prices which defy competition. The ventilation is most efficient, and the greatest improvement of the present day. Prices of any size on application. References in all parts of the United Kingdom.

## GREENHOUSES.

HENRY FREEMAN, HOTHOUSE BUILDER and HOT-WATER APPARATUS MANUFACTURER, Triangle, Hackney. Established 20 years. Good substantially built GREENHOUSES, fixed in any part of the kingdom, for cash, 42 ft. long by 13 ft., 90*l.*; 21 ft by 13 ft., 50*l.* 12½ ft. by 10 ft., 30*l.* A first-rate Conservatory, 30 ft. by 16 ft., 130*l.* A large assortment kept. Estimates for heating, or any branch in wood, iron, or Park Fencing.

IMPROVED HOT-WATER PIPE.—The Horticulturist will find herein an inexpensive instrument of new and very important powers. An atmosphere may be produced at will either perfectly dry, partially damp, or saturated with moisture. A space of 10 inches by 12 inches contains the power of 25 feet of 4-inch pipe and other numerous advantages.

The London Warming and Ventilating Company (Limited), 36, Great George Street, Westminster, S.W.

## HORTICULTURAL BUILDINGS AND HEATING BY HOT WATER.

JOHN R. PEILL, 17, New Park Street, Southwark, Manufacturer of every description of Buildings for Horticultural purposes, and Inventor of the Improved Conical Boiler for heating the same, is prepared to undertake works of any magnitude, and refers among others to the celebrated range of FORCING HOUSES at HER MAJESTY'S GARDENS, FROGMORE, and at SIR ROBERT PEEL'S, DRAYTON MANOR, constructed under the superintendence of his Manager, MR. JOHN JONES; and also to his BOILERS fixed at the CRYSTAL PALACE, the ROYAL BOTANIC GARDENS, REGENT'S PARK, and KEW, and at several hundreds of the Nobility's seats, Public Establishments, and Manufactories in London and the provinces. J. R. P. also manufactures every description of Iron Roofs, Iron Houses, and Iron Fencing, plain and ornamental. Strong Iron Hurdles for Sheep (6 feet long, 3 feet high, with 5 bars), 4s. 3d. each; ditto for cattle, 4s. 9d. each.

Prices and other particulars forwarded on receipt of one postage stamp.

HANDS'S PATENT is the only system to circulate Heat, and for WARMING, FUMIGATING, and VENTILATING Hothouses, Greenhouses, Winter Orchards, &c.; to keep vegetation healthy in a humid atmosphere, and can be applied to any kind or shape of Forcing-houses and Conservatories now existing at trifling cost.—For particulars apply at the Office, 10, Charlotte Street, Fitzroy Square, London; or to Mr. JOHNSON HANDS, Epsom.

## HOTHOUSES FOR SALE.

TO BE SOLD CHEAP, two nearly new SPAN-ROOF HOUSES, each 65 feet long by 18 feet wide, price 100*l.* each; also a handsome OCTAGON CONSERVATORY, 22 feet diameter with glass all round, quite new, price 90*l.* All these houses are warranted to be of the best materials and workmanship. The reason of their being now Sold is to make room for an extensive alteration and addition to our Workshops and Steam Machinery.—Apply to Messrs. JOHN WEEKS & Co., King's Road, Chelsea, where the whole of the above can be seen, as also a great variety of other Horticultural Erections.

200 ONE, TWO, and THREE-LIGHT MELON BOXES and LIGHTS, of the best seasoned materials, ready for immediate use.—JAS. WATTS, Hothouse Builder and Hot-water Apparatus Manufacturer, Old Kent Road, London.

NETTING, BUNTING, SCRIMS AND TIFFANY FOR THE PROTECTION OF FRUIT TREES AND TENDER PLANTS.—These articles are found to be the best protection against Frost, Hail, and Wind, also from Wasps and Insects, and good for Shades of Greenhouses, &c. Patterns forwarded free on application to BENJAMIN EDGINGTON, Marquee, Tent, and Rick Cloth manufacturer, 2, Duke Street, Southwark, London Bridge, S.E. West End Establishment, 32, Charing Cross. Temporary Rooms with boarded floor for dancing.

BRITTAIN'S GARDEN NET completely protects Fruit Blossoms from injury by frost, and provides for the circulation of air and admission of light, so essential to healthy growth; 55 inches wide, 5*d.*, 6*d.*, and 8*d.* a yard; good SHADING TIFFANY, yard wide, 2½*d.* do.—Manchester, Feb. 26.

TREES COMING INTO BLOOM will be protected from Frosts, Hail, &c., by using HAYTHORN'S HEXAGON AND CHISWICK GARDEN NETS, now used and recommended by all the principal Gardeners; the Nets will also preserve the Fruit from Wasps, Flies, Birds, &c.—For Patterns, Prices, and Testimonials, direct to Mr. HAYTHORN, Nottingham.

FOR Effectually Protecting the Bloom of Wall Trees from Spring Frosts use SHAW'S No. 3 TIFFANY, DOUBLE STRENGTH. In pieces 18 yards long by 39 inches wide, 7s. 6d. each.—JOHN SHAW & Co., Princess Street, Manchester.

## SHADING.

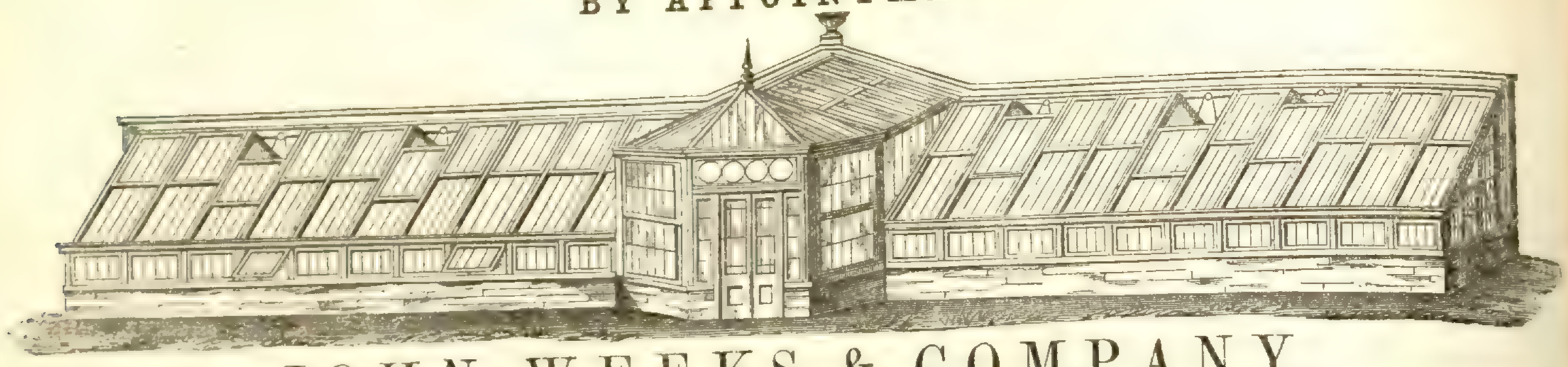
BROWN'S FLORAL SHADING still maintains its superiority for cheapness and efficiency over all other materials used for a similar purpose, viz., shading plants under glass from the scorching rays of the sun, protecting Wall Fruit Trees when in bloom from frost, and preserving the fruit from the attacks of birds, flies, and wasps. Sold in pieces 20 yards long, 38 inches wide:—

No. 1 per piece .. 4s. 0d. | No. 2 per piece .. 4s. 8d.

To be obtained of all the principal Nurserymen and Seedsmen in town and country. Samples sent free on application to the Manufacturer, CHARLES BROWN, Greenheys, Manchester.

HORTICULTURAL BUILDING & HEATING BY HOT WATER.

BY APPOINTMENT.



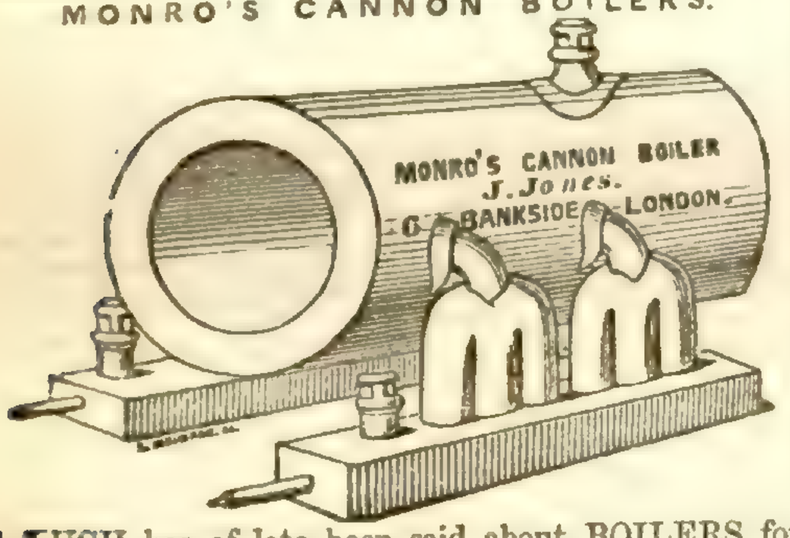
# JOHN WEEKS & COMPANY,

KING'S ROAD, CHELSEA, LONDON.

HORTICULTURAL BUILDERS AND HOT-WATER APPARATUS MANUFACTURERS, ENGINEERS AND IRON FOUNDERS.

PLANS, ESTIMATES, & ILLUSTRATED CATALOGUES FREE ON APPLICATION.

MONRO'S CANNON BOILERS.

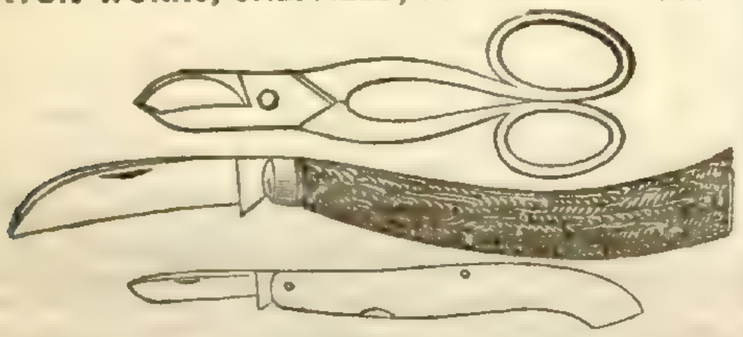



MUCH has of late been said about BOILERS for Heating by Hot Water, but these Boilers have now proved themselves to be the best at present invented. They are adapted for heating every description of building, and are made of various sizes. The Price of the

| | | | |
|---|---|---|---|
| 24 inch Cast Iron is | .. .. | .. £5 10s. 0d. | each |
| 24 inch Wrought ditto | .. .. | .. 6 10 0 | ,, |
| 36 inch Cast ditto .. | .. .. | .. 8 0 0 | ,, |
| 36 inch Wrought ditto | .. .. | .. 8 10 0 | ,, |

References to Gentlemen and Nurserymen where these Boilers are now at work. The Cannon Boilers are now kept in stock, and are to be had only of J. JONES, 6, Bankside. Also, every description of Saddle and Cylinder Boilers. Hot Water Pipes and Connections at prices lower than those of any other house in London. Estimates for Hot-water Apparatus erected complete in any part of the country, and an Illustrated Catalogue on application to J. JONES, 6, Bankside, Southwark, London.

PAXTON WORKS, SHEFFIELD, ESTABLISHED 1738.



SAYNOR AND COOKE'S warranted PRIZE PRUNING and BUDDING KNIVES, SCISSORS, &c.—Sold by all respectable Nurserymen and Seed Merchants in the three Kingdoms.

PRICES REDUCED.

H. J. MORTON AND CO., Galvanised Iron Works, 2, Basinghall Buildings, Leeds.

GALVANISED IRON ROOFING

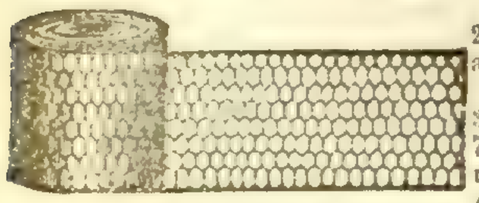
for Farm Buildings and other Roofs; the cheapest, most durable, and neatest Roofing in use; also Spouting at 10½d. per yard.

WIRE STRAND CABLE FENCING

(formed of Twisted Wires like a rope or cable), the strongest cheapest, and neatest fence in use, will resist the largest cattle, and will not bend or get out of form by trespassing upon or over. Price, with five lines of the Galvanised Strand, iron main posts, and pronged Standards, 1s. 2½d. per yard.

This fence is far cheaper than posts and rails, or any kind of iron fencing; and possesses four times the strength of solid bars. Will not rust nor corrode. Upwards of 1200 miles of this Fencing supplied.

GALVANISED GAME AND POULTRY NETTING.



Galvanised, 24 ins. wide, 2-inch mesh, 5d., 6d., 7½d., and 10d. per yard.

Galvanised, 24 ins. wide, 3-inch mesh, 4d., 5d., and 7d. per yard. The Netting made any width, and with openings of any size.

GALVANISED IRON CHAIN CAMP STOOLS & CHAIRS, POULTRY FOUNTAINS & FEEDERS, PRONGED DAHLIA RODS AND ROSE STAKES, &c.

Strong CATTLE HURDLES from 2s. per yard.

PATENT IMPROVED GAS WORKS

of all sizes for the use of Private Houses, Mansions, Railway Stations, Mills, Collieries, Mines, Villages, &c. Works from 10 to 500 lights estimated for. The works can be entrusted to an ordinary labourer.—Apply to

HENRY J. MORTON & Co. 2, Basinghall Buildings, Leeds.

# COTTAM & COMPY., Engineers, Founders, &c.,

2, WINSLEY STREET, LONDON, W.

A SHOW ROOM DEVOTED ENTIRELY TO ARTICLES OF HORTICULTURE

THE NEW ILLUSTRATED CATALOGUE UPON APPLICATION.

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| Conservatories | Mowing Machines | Hand-glass Frames | Garden Engines | Flower Sticks |
| Greenhouses | Fountains | Game Netting | ,, Syringes | Garden Borders |
| Hot-water Apparatus | Ornamental Wire Work | Hurdles | ,, Rollers | Watering Pots |
| Garden Vases | Flower Stands | Garden Chairs | Flower Labels | Garden Arches |

Iron Hurdles, Strained Wire Fencing, Game Netting, &c.

*Every description of Plain, Ornamental, Cast and Wrought Iron, and Wire Work.*

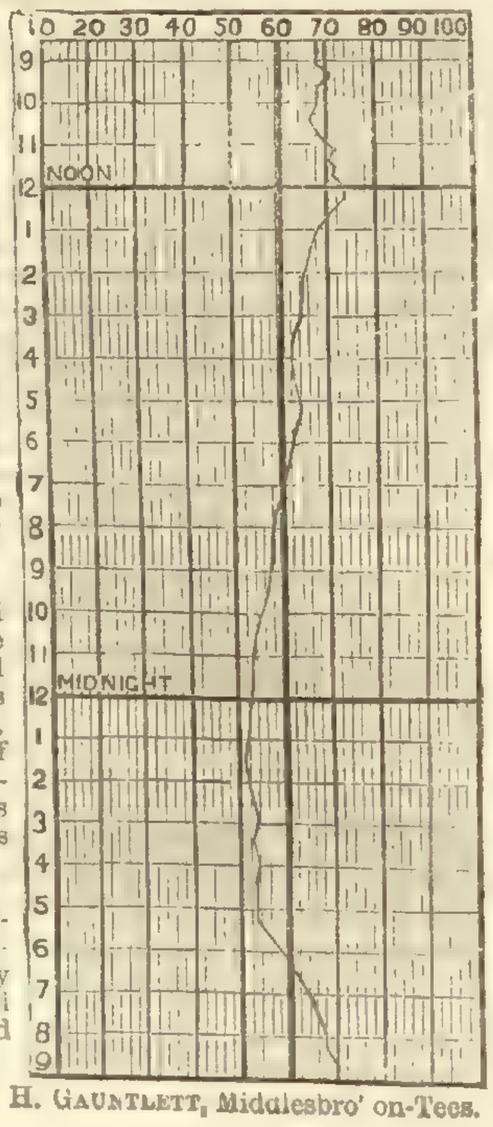
EXHIBITION PRIZE MEDAL GATES AND ENAMELLED MANGERS.

N.B. COTTAM AND COY. beg to make it known that there is no longer an entrance to their establishment from Oxford Street, but that they have made a second entrance from 2, Winsley Street, Oxford Street, W., by the side of the old entrance to the works, opposite the Pantheon.

TO HORTICULTURISTS.

GAUNTLETT'S PATENT CHRONOMETRICAL THERMOMETER.

This instrument, which combines an eight-day clock of the best English make showing time, with a newly-patented Thermometer, wherein glass and quicksilver are dispensed with, writes down the temperature of the atmosphere on a slip of paper, and when placed in a Hothouse, Forcing House, or Conservatory, &c., supplies a valuable record of the temperature, with all its variations, showing the time when any change took place, and how long such change continued.

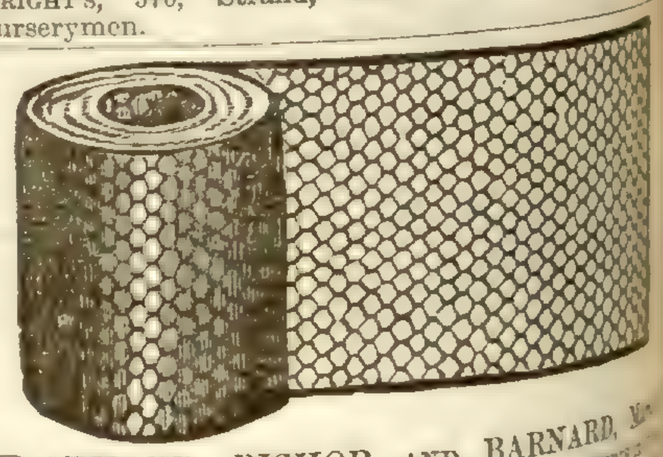



The above slip (reduced in size) exhibits the temperature of the Royal Agricultural Society's show yard at Chester, July 22, 1858, written off by one of these instruments, to which was awarded the Society's SILVER MEDAL.

This is the only instrument that registers temperature continuously and writes it down, and no horticulturist should be without it.

Orders received by W. H. GAUNTLETT, Middlesbro' on-Tees.

TANNED GARDEN NETTING, for preserving Fruit Trees from frost, blight, birds, &c., and as a fence for fowls, &c. One yard wide 1½d., 2 yards 3d., 3 yards 4½d., and 4 yards 6d., per yard, in any quantity, may be had of WRIGHT'S, 376, Strand, W.C.—A liberal allowance to Nurserymen.



BARNARD, BISHOP, AND BARNARD, Norwich Place, Norwich, in consequence of improvements in machinery for the manufacture of the above article, have been enabled to make a great reduction in the prices.

| | | | |
|---|---|---|---|
| | | Galvanised. | |
| | | 5d. per yd. | 4d. per yd. |
| 2-inch mesh, | 24 inches wide .. .. | 6 ,, | 5 ,, |
| 2-inch ,, | strong do. .. .. | 7 ,, | 6 ,, |
| 2-inch ,, | intermediate, do. .. | 9½ ,, | 8 ,, |
| 2-inch ,, | extra strong, do. .. | 5½ ,, | 5 ,, |
| 1⅝-inch ,, | 24 inches wide .. .. | 6½ ,, | 6 ,, |
| 1⅝-inch ,, | strong, do. .. .. | 7½ ,, | 8 ,, |
| 1⅝-inch ,, | intermediate, do. .. | 10 ,, | |
| 1⅝-inch ,, | extra strong, do. .. | | |

All the above kinds can be made of any width (under 24 inches) at proportionate prices. If the upper half is of a coarser mesh than the lower, it will reduce the prices about one-fifth.

Strong Galvanised Poultry Netting, 8½d. per yard, 3 feet wide. Galvanised Sparrow-proof Netting for Pheasantries, 1d. per square foot. Delivered free of expense in London, Middlesborough, Hull, or Newcastle. Manufacturers of Iron Hurdles, Strained Wire Cattle and Deer Fencing, Iron Hurdles, &c.

Illustrated Catalogues and Patterns forwarded by post.

ADDRESS: THE MANAGERS, ST. PANCRAS IRONWORKS.

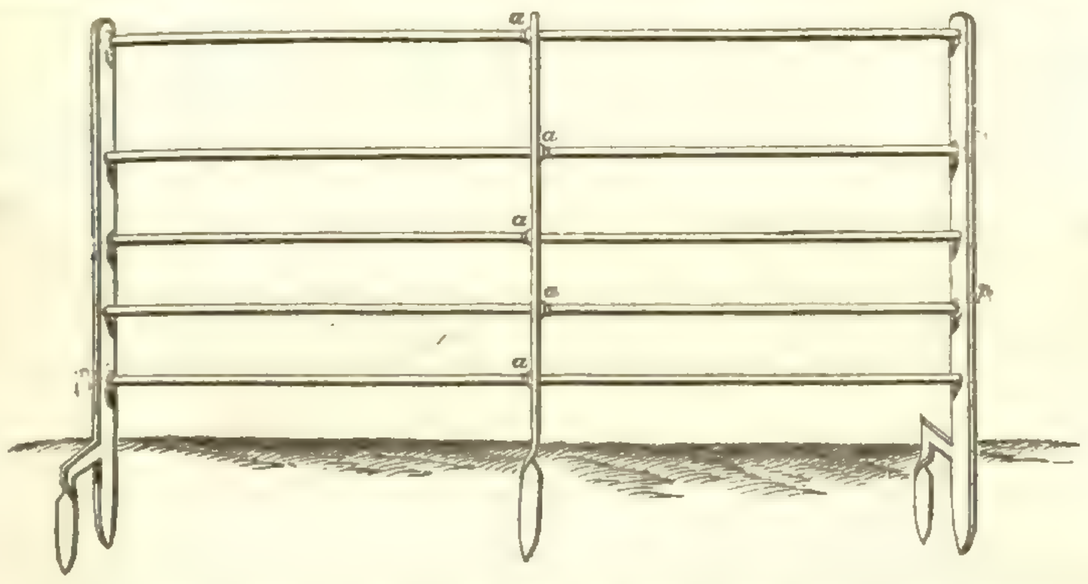
THE ST. PANCRAS IRON WORKS ARE OPPOSITE THE OLD ST. PANCRAS CHURCH,
OLD ST. PANCRAS ROAD, LONDON.

# IRON COLLAR BAR HURDLES.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

**Obtained the Silver Medal of the Royal Agricultural Society.**

ST. PANCRAS IRON WORKS,



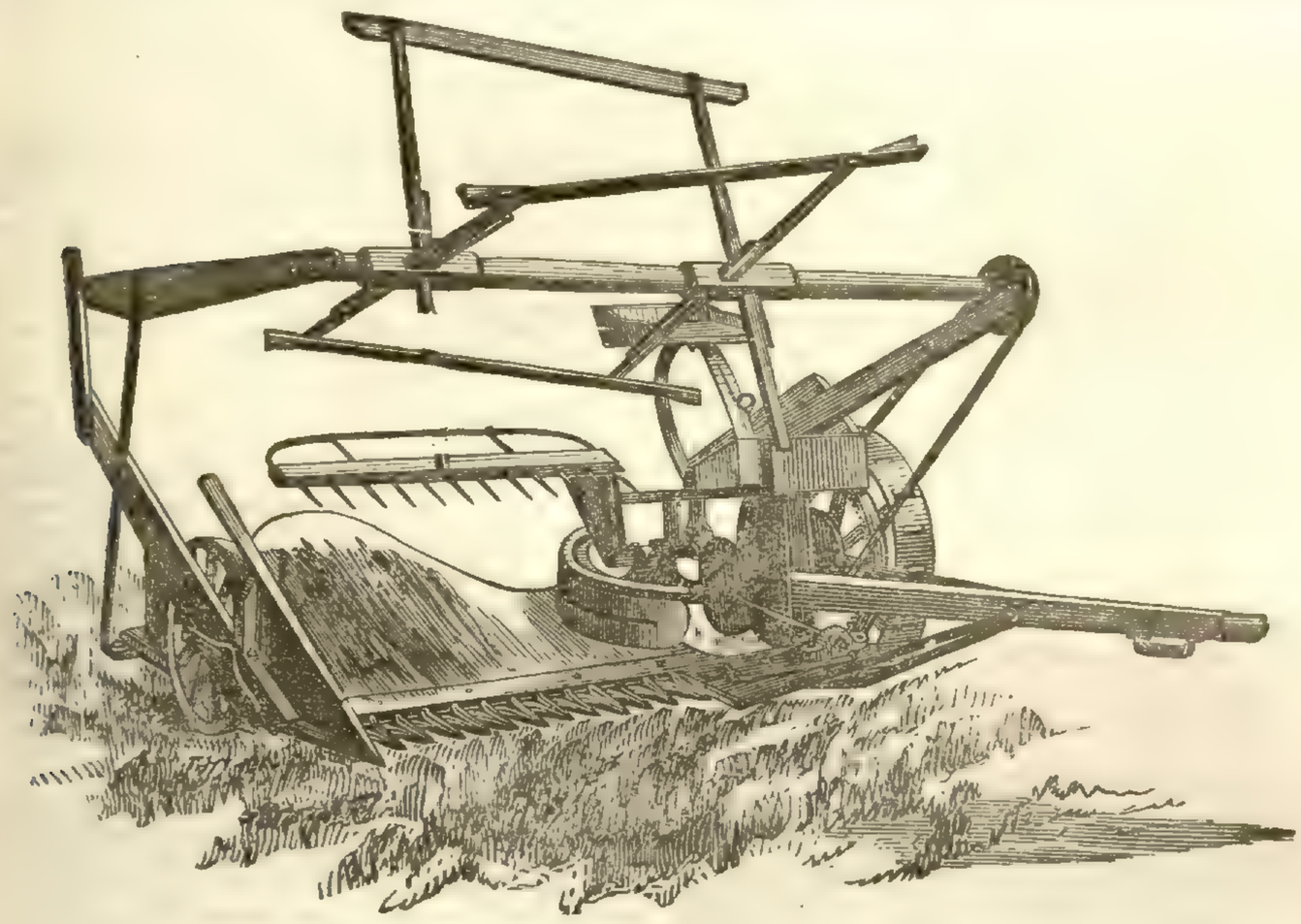
OLD ST. PANCRAS ROAD, LONDON

The improvement by this PATENT consists in the COLLARS on the Bars which, being placed on alternate sides of the centre upright bar, keep it in its position, confine the bars to short bearings, prevent their being strained, and give more than DOUBLE STRENGTH and RIGIDITY to the HURDLE.

**PROFESSOR VARNELL'S MANGERS AND STABLE FITTINGS.**

# B. SAMUELSON,

## AGRICULTURAL ENGINEER AND MACHINIST,



WAREHOUSE, 76, CANNON STREET WEST, LONDON,

**WORKS AT BANBURY,**

INFORMS MERCHANTS, the TRADE, and AGRICULTURISTS, that he has opened the above Warehouses as a depôt for his own manufactures and those of Messrs. Barrett, Clayton, Howard, Hornsby, Nicholson, Richmond, Tuxford, Smith, and all other first-class makers, whose implements he is prepared to offer on makers' terms.

## THE BRITANNIA SELF-RAKING REAPING MACHINE,

With side delivery in sheaf, no rakers or gatherers required; and all the most improved Food-preparing Machines of the season, may be inspected at the above depôt.

**B. SAMUELSON, 76, Cannon Street West, London; and Britannia Works, Banbury.**

THE CHAMPION STEAM PLOUGH can be had by applying at 40, Mark Lane, London. Its recommendation is the valuable work it has done. Orders for this Spring must be sent at once.

Woolston, Bletchley Station.—Feb. 26.

FLOWER POTS, of superior Red Clay, manufactured by the Arley Pottery Company (Limited), equal in appearance to Terra Cotta at the price of the common pots usually sold, say 2s. per cast, delivered in London.—Apply to TAYLOR & PEARS, 8, George Yard, Lombard Street, City, E.C.

TROTMAN'S RUSTIC WORK, a great variety always on view. Thatched Summer Houses, Pagoda-roof Ditto; Yew, Oak, and Swiss Tables, Oak Benches, Yew Seats and Stools, Flower Vases and Baskets, Perambulators, Rustic Chairs, &c., ready for delivery, always on view at TROTMAN'S Manufactory, 12, Alfred Terrace, Upper Holloway. Delivered free to any Railway Station.

**HORTICULTURAL POTTERIES.**

ADJOINING THE STAPLETON ROAD NURSERIES, BRISTOL.

MAULE AND SONS have just completed an extensive enlargement of their Manufactories, which will afford them greater facilities for increasing their supplies of all kinds of GARDEN POTS, VASES, and other ORNAMENTAL POTTERY, suitable both for utility and Horticultural decoration and embellishments.

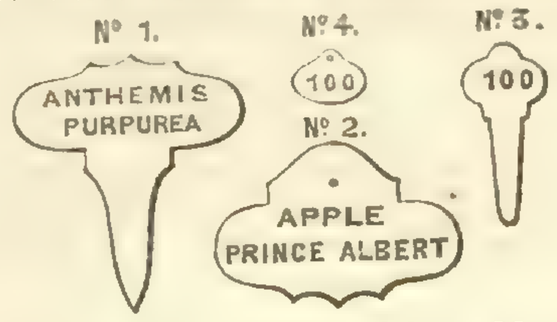
Horticulturists who have not yet favoured this establishment with their patronage will find every advantage both as regards quality and price.

The first workmen are employed, and the whole of their skill and attention is concentrated in the production of Horticultural Pottery alone, an advantage not to be found in the kingdom besides.

ILLUSTRATED CATALOGUES and LISTS of PRICES sent on application.

Nurserymen and the Trade supplied on advantageous terms.

**PATENT ANTI-CORROSIVE MARKED LABELS.**




A. J. BOOT, Lloyd Street, Hulme, Manchester, respectfully calls the attention of the Nobility, Gentry, Nurserymen, and Gardeners to his PATENT ANTI-CORROSIVE MARKED LABELS. The indestructible metal of which they are manufactured, the deep and legibly marked letters, and their neatness of design, render them essential in every well-conducted horticultural building, garden, or orchard, where so much depends upon the preservation of names. The inventor guarantees them to endure for centuries in any climate; neither damp nor heated atmosphere having the slightest effect upon their durability. They need only be cleaned with soap and water to renew their usefulness and neat appearance every year, which qualities will ensure for them a preference to all others now in use. The following descriptions will give an idea of their general utility.

No. 1. Large-tongued Label, 4s. per dozen, suitable for all stove plants, Orchids, greenhouse plants, annual and perennial flowers, and all kinds of bulbous roots.

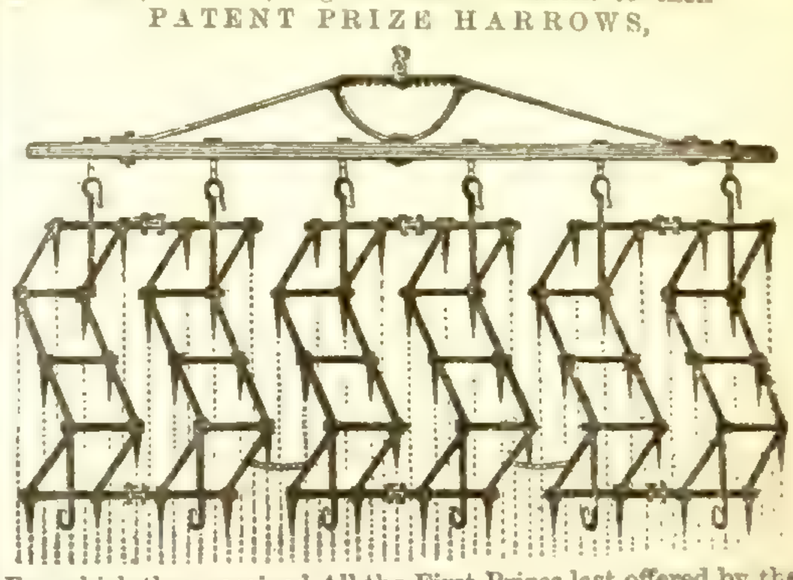
No. 2. Wall Labels, 4s. per dozen, for all kinds of wall trees, standards, Vines, Roses, Dahlias, Hollyhocks, or for fixing on blocks of wood for orchidaceous plants and all kinds of shrubs or ornamental plants and nursery stock in general.

No. 3. Small-tongued Numbered Label, 6s. per 100, for Polyanthus, Auriculas, Tulips, and all descriptions of florists' flowers.

No. 4. Small Numbered Label, 5s. per 100, for numbering every description of choice and tender plants, Rose trees, &c.

**HOWARDS' PRIZE IMPLEMENTS, 1859.**

JAMES AND FREDK. HOWARD, Britannia Iron Works, Bedford, beg to direct attention to their PATENT PRIZE HARROWS,



For which they received All the First Prizes last offered by the Royal Agricultural Society of England, viz.:—

The First Prize for the Best General Purpose Harrows.
The First Prize for the Best Light Harrows.
The First Prize for the Best Drag Harrows.

J. & F. HOWARD have discontinued troubling the Public with a long List of Prizes awarded to their Implements, but they would just state that for PLOUGHS, HARROWS, and HORSE RAKES, they have for several years gained every Prize for which they have competed.

PLOUGHS.

| | |
|---|---|
| P PLOUGH, with two wheels, for light work .. | £4 7 6 |
| PP PLOUGH, ,, for general purposes | 4 12 6 |
| SKIM COULTER .. .. .. .. .. | £0 5 6 |

STEEL BREASTS, 7s. and 7s. 6d. extra.

HARROWS.

| | |
|---|---|
| A Set of Three 4-Beam HARROWS, with Whippletree, recommended as general Seed Harrows, 9½ feet wide, marked No. 12 .. .. .. .. .. .. .. | £3 14 |
| A Set of Three 4-Beam HARROWS, with Whippletree, adapted for 3 Horses, 10 feet wide, marked No. 11 .. | 4 4 |

HORSE RAKES.

| | |
|---|---|
| Price of small size RAKE, marked A, with 24 iron teeth, extreme width 7½ feet .. .. .. .. | £7 10 0 |
| Ditto, with Steel Teeth .. .. .. .. .. | 8 0 0 |
| Price of large size, marked B, with 28 iron teeth, extreme width 8½ feet .. .. .. .. .. | 8 0 0 |
| Price of large size, marked B, with steel teeth .. | £8 10 0 |
| Price of extra large size, marked C, with 24 steel teeth, extreme width, 8½ feet .. .. .. .. | 10 10 0 |
| Price of a Set of 15 Prongs, to be attached to the above when used as Weed Extirpators .. . .. | 1 10 0 |

Free Delivery to Birmingham, Bristol, Derby, Gloucester, Lincoln, Liverpool, London, Manchester, Norwich, Nottingham, Retford, Wisbeach, and Worcester; or to Dublin, Edinburgh, Glasgow, and other parts at fixed rates.

HOWARDS' NEW CATALOGUE, containing prices and description of their Patent Ploughs, Harrows, Horse Rakes, and other Implements, including Smith's Steam Cultivators, for which they received at Chester the Gold Medal of the Royal Agricultural Society of England, sent free on application to

J. & F. HOWARD, Britannia Iron Works, Bedford.

**FERRABEE'S NEW PATENT LAWN-MOWING MACHINES—1859.**

MANUFACTURED BY

JAMES FERRABEE AND CO., PHŒNIX IRON WORKS, Stroud, Gloucestershire.—The valuable improvements recently effected in Mowing Machines by J. FERRABEE & Co., and by which their capabilities are more than doubled, are protected by Her Majesty's Royal Letters Patent; and the manufacturers feel every confidence in commending to the attention of those who have either Lawns or Pleasure Grounds these improved Machines, as the most perfect and serviceable which are produced, and at the most moderate prices.

The peculiar features of FERRABEE'S Patent Mowing Machine are the following, viz.:—

1. All the cutting parts and their adjustments are fitted in an independent carriage, which is bolted to the frame of the Machine, and can readily be detached for the purpose of sharpening the edges or for repairs.

2. A duplicate set of cutting parts may be employed, and can be attached with the greatest ease, and are sure to fit the machine accurately.

3. Combined with the curved blade, invented several years since by J. F. & Co., are new methods of fixing it and of adjusting the revolving cylinder to the blade; these adjustments are easier of access and more secure than those formerly in use.

4. To steady the action of the Machine and regulate the length of cut, two methods are adopted; one consists of guide wheels at the side of the machine, and the other of a roller behind the revolving cylinder; either of them can be quickly removed at the pleasure of the workman, whereby he can adapt the Machine to level or uneven ground or to verges.

5. There is a very simple and effective contrivance for sharpening the edges of the revolving cylinder.

6. The large Machines have each a regulating lever, which gives the attendant instant and perfect control over the Machine, enabling him with the greatest ease to raise the cutting part at starting when turning, or to avoid obstacles.

7. Increased strength and durability, greater steadiness in action, and extreme simplicity of management.

The Patent Machines are made of the following sizes, the letters A, B, &c., being used to facilitate reference to the list. The prices include carriage to the principal railway stations in England, and the terms are net cash.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| A, | cutting 12 | inches wide, | for a boy .. .. | £4 | 10 | 0 |
| B, | ,, 16 | ,, | for one man .. .. | 6 | 0 | 0 |
| C, | ,, 19 | ,, | for a man and a boy .. | 6 | 10 | 0 |
| D, | ,, 22 | ,, | ,, ,, .. | 7 | 0 | 0 |
| E, | ,, 26 | ,, | for two men .. .. | 8 | 10 | 0 |
| F, | ,, 22 | ,, | for a donkey or a pony | 8 | 0 | 0 |
| G, | ,, 26 | ,, | for a pony .. .. | 9 | 0 | 0 |
| H, | ,, 24 | ,, | for a horse .. .. | 14 | 0 | 0 |
| I. | ,, 28 | ,, | ,, .. .. | 16 | 0 | 0 |
| K, | ,, 36 | ,, | ,, .. .. | 18 | 0 | 0 |

Sharpening Apparatus for A, B, C, D, E, F, G, 5s. extra.
,, ,, for H, I, K, 10s. extra.

The Horse Machines, H, I, K, are fitted with cylinders of large diameter, and have all their parts of strength suitable to horse power.

FERRABEE'S Patent Mowing Machines may be obtained of the principal Ironmongers and Seedsmen in the country, and the principal Ironmongers and Seedsmen in the country, and purchasers should see that "FERRABEE'S Patent" is on every machine.

# FOWLER'S PATENT STEAM PLOUGH.

THIS IMPLEMENT OBTAINED
THE FIVE HUNDRED POUNDS PRIZE AT THE ROYAL AGRICULTURAL SOCIETY'S SHOW AT CHESTER,
JULY 1858 (AFTER THREE YEARS' COMPETITION),
AND HAS ALSO OBTAINED
THREE HUNDRED AND SEVENTY-FIVE POUNDS AT VARIOUS OTHER AGRICULTURAL SHOWS
IN THE UNITED KINGDOM.

THE WINDLASS CAN BE FITTED TO ANY AGRICULTURAL ENGINE.

*For further Particulars, Prices, and Catalogues, apply to*

**JOHN FOWLER, Jun., 28, Cornhill, London, E. C.**

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## TO GARDENERS, ETC.

PATENT WATERING ENGINES, PAIL MACHINES, CONSERVATORY PUMPS, and GREENHOUSE SYRINGES, with all the latest improvements, manufactured only by the Patentee,
RICHARD READ, 35, REGENT CIRCUS, PICCADILLY, LONDON.
*** Descriptions sent post free.

---

JOHN WARNER AND SONS, Crescent, Jewin Street, London.—GALVANISED IRON TUB GARDEN ENGINE, with WARNER'S Registered Spreader, is strongly recommended, for durability and low price, viz., 2*l.* 10*s.*, to hold 10 gallons.

Larger sizes in wood or iron, viz., 14 gallons, 24 gallons, and 35 gallons. May be obtained of any Ironmonger or Plumber in town or country, or of the patentees and Manufacturers, as also Machinery of all kinds for raising Water from any depth to any height by Steam, Horse, or Manual Power. Prices sent on application.

Syringes of various constructions and sizes from 9*s.* upwards. Metallic String from 5*d.* to 1*s.* 3*d.* per lb.

---

LOOMES AND CO., Whittlesea, MANUFACTURERS OF BRICKS, TILES, POTTERY, &c., beg to call attention to their new CABLE PATTERN GARDEN BORDER EDGING, which not only surpasses others in appearance and durability, but is free from the dangerous points and sharp edges of most.—Price, delivered on any Railway at Peterborough, 5*d.* per yard.

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## MAPPIN'S PRUNING KNIVES IN EVERY VARIETY.

WARRANTED GOOD BY THE MAKERS.

MAPPIN BROTHERS, Queen's Cutlery Works, Sheffield; and 67 and 68, King William Street, London.

MAPPIN'S "SHILLING" RAZORS Shave well for Twelve Months without Grinding.

MAPPIN'S 2*s.* RAZORS Shave well for Three Years.

MAPPIN'S 3*s.* RAZORS (suitable for Hard or soft Beards,) Shave well for Ten Years.

MAPPIN'S SUPERIOR TABLE-KNIVES maintain their unrivalled Superiority—handles cannot possibly become loose—the blades are all of the very first quality, being their own Sheffield manufacture.

| | Tble. Kns. | Dst. Kns. | Carvers. |
|---|---|---|---|
| Ivory 3½ in. Handle, balanced, | 20*s.* p. doz.; | 16*s.* p. doz.; | 6*s.* p. pair |
| Do. 4 in. do. .. | 25*s.* ,, | 18*s.* ,, | 9*s.* ,, |

MAPPIN'S SILVER-PLATED DESSERT KNIVES and FORKS, in Mahogany Cases.

| | | |
|---|---|---|
| 12 Pairs Knives and Forks, Ivory Handles, in Case.. | | 80*s.* |
| 12 | Do. Pearl Handles, do. .. | 130*s.* |
| 12 | Do. Silver-Plated Handles, do. .. | 80*s.* |

MAPPIN'S ELECTRO-SILVER PLATE.—MAPPIN BROTHERS, Manufacturers by Special Appointment to the Queen, are the only Sheffield makers who supply the consumers in London. Their LONDON SHOW ROOMS, 67 and 68, King William Street, London Bridge, contain by far the largest STOCK of ELECTRO-SILVER PLATE in the World, which is transmitted direct from their Manufactory, Queen's Cutlery Works, Sheffield.

| | Fiddle Pattern. | Double Thread. | King's Pattern. |
|---|---|---|---|
| 12 Table Forks, best quality | £1 16 0 | £2 14 0 | £3 0 |
| 12 Table Spoons, best quality | 1 16 0 | 2 14 0 | 3 0 |
| 12 Dessert Forks, best quality | 1 7 0 | 2 0 0 | 2 |
| 12 Dessert Spoons, best quality | 1 7 0 | 2 0 0 | 2 |
| 12 Tea Spoons, best quality | 0 16 0 | 1 4 0 | 1 7 |

Messrs. MAPPIN BROTHERS respectfully invite buyers to inspect their unprecedented display, which, for beauty of design, exquisite workmanship, and novelty, stands unrivalled. Their illustrated Catalogue, which is continually receiving addition of New Designs, sent per post on receipt of 12 stamps.—MAPPIN BROTHERS, 67 and 68, King William Street, London Bridge; Manufactory, Queen's Cutlery Works, Sheffield.

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## BY HER MAJESTY'S ROYAL LETTERS PATENT.

"NO ONE KNOWING the value of your Patent WASHING, WRINGING, and MANGLING MACHINE, would be without one."—*Vide Mrs. Hall.*

THOMAS BRADFORD, Patentee, Manchester.

Descriptive Pamphlet, with Prices by post.

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## MICROSCOPES.

JOSEPH AMADIO'S Improved Compound MICROSCOPE, 2*l.* 2*s.*; Students', 3*l.* 13*s.* 6*d.*

"Both these are from Amadio, of Throgmorton Street, and are excellent of their kind, the more expensive one especially."—*Household Words*, No. 345.

A large Assortment of ACHROMATIC MICROSCOPES.

Just published, an ILLUSTRATED CATALOGUE, containing the names of 1000 Microscopic objects, post free, for 4 stamps.

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## GENUINE TOBACCO PAPER.

MESSRS. JACKSON AND SONS' WORKMEN are selling their unequalled TOBACCO PAPER at 4*l* per cwt., any less quantity 10*d.* per lb.—Address BEN BAXTER, Messrs. Jackson & Son, Lady Lane, Leeds.

## GENUINE TOBACCO PAPER FOR FUMIGATING.

H. APPLEBY (Foreman to Messrs. Ivery & Son, Nurserymen, Dorking, Surrey), begs to inform his friends and the public that he now offers the above article at a reduced price. Sold in 4 lb. packets, 1*s.* 3*d.* per lb. A great reduction to the trade; price on application. For testimonials that will guarantee its quality, see *Gardeners' Chronicle*, Dec. 11, 1858, page 920.

SHEET IRON POTS FOR FUMIGATING, 3*s.* 6*d.* each.

N.B. All Orders to be accompanied with a Post-office Order, payable to HENRY APPLEBY, Dorking, Surrey.

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## DESTRUCTION OF INSECTS.

CAPELL'S COMPOSITION, price 3*s.* per gallon.—Horticulturists are earnestly invited to make trial of this Composition. It has been extensively used by Gardeners of eminence in the north of England, and found to be more efficacious and economical than any preparation of the kind hitherto brought under the notice of the Public. Red Spider, Scale, Thrip, Mealy Bug, and insects of every description injurious to vegetation are instantly destroyed by it. Carriage free to all parts of England. Manufactured by THOMAS CAPELL, Wortley, near Sheffield, and sold by the following agents:—

J. TURNER, 46, Market Street, Manchester
F. GODWIN, 2, 3, & 4, New Market Hall, Sheffield
JAMES DICKSON & SONS, 102, Eastgate Street, Chester
A. MARTIN & SONS, Junction Street, Hull
JOHN SANDERSON, Grove Place, Worksop
S. HARKER, Wharf Street, Sowerby Bridge
(More Agents required.)

TESTIMONIALS.

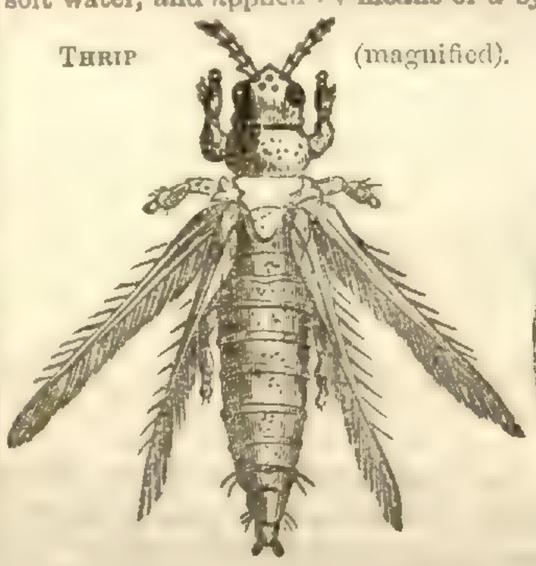
"Capell's Composition for the destruction of insects has for some time been in use here; it is most efficient in its operation, and is, I think, very superior to any other application recommended for that purpose.
"S. BREWIN, Cotefield, near Sheffield."

"It gives me much pleasure to certify that the composition made by Mr. Capell for destroying insects answers the purpose most effectually, and is free from any unpleasant smell, a great drawback to many other remedies I have tried.
"EDWARD LAW, Gardener, Wortley Hall."

---

GISHURST COMPOUND, PATENTED.—For preventing and destroying Red Spider, Scale, Mealy Bug, Thrip, and Green and Brown Fly.—See *Gardeners' Chronicle*, Nov. 6, 1858.—To be dissolved ½ or ¼ lb., or less, in a gallon of soft water, and applied by means of a syringe or a soft brush.

THRIP (magnified).



MEALY BUG (magnified).

On Orchids it may be used in a strong lather, applied by a shaving brush, but on tender young Geranium shoots a solution of 2 oz. to the gallon will be found sufficiently strong.

Sold in boxes at 1*s.*, 6*d.* and 6*s.* each, with directions for use, and printed opinions of Mr. Rucker's Gardener, Lady Dorothy Neville's Gardener, Sir William Hooker, Mr. Rivers, Messrs. Francis & Arthur Dickson & Sons of Chester, and Messrs. Dickson & Brown of Manchester.

For Nurserymen the large size is recommended, but where the consumption is not large the compound will be found to keep its strength best in the small boxes.

Nurserymen and Seedsmen supplied by PRICE'S Patent Candle Company (Limited), Belmont, Vauxhall, London, S.

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## TO PIG AND POULTRY FEEDERS AND MILLERS.

CHICKEN RICE, 7*s.* 9*d.* per cwt., in bags 1½ cwt. each. SCREENED RICE, 10*s.* per cwt., in bags 1¾ cwt. each. RICE MEAL, 6*s.* 9*d.* to 8*s.* 9*d.* per cwt. RICE for grinding. An allowance per Ton. American Oilcake, per ton only, 10*l.* 15*s.* in bags, 11*l.* 5*s.* in barrels.—Sold for Cash by W. & R. JUPP, 6, Cross Lane, St. Mary-at-Hill, Eastcheap, E.C.

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SOMETHING OF CONSEQUENCE TO THOSE WHO DESIRE TO
## FEED GAME, POULTRY, HORSES, & OTHER CATTLE
WELL AND CHEAP.

ROBERT PROCTER, Corn Exchange, Brunswick Street, Liverpool, has always on hand a FEEDING MIXTURE, well screened, of the best Oats, Barley, small Galatz Indian Corn, Wheat, Dari, Peas, and Rice, all in equal proportions of 100 centals, at 7*s.* 6*d.* per cental of 100 lbs, or half cental of 50 lbs at 3*s.* 9*d.*, including a good and strong calico bag (and no porterage or cartage charged), delivered at any of the Railway Stations or other conveyance at Liverpool. A trial only is invited, and manifest economy shall be the result; or if parties visiting or passing through this town will call at Mr. PROCTOR'S room, No. 3, 16, Goree, near George's Dock, they can see and judge for themselves the bulk, and the advantage and cheapness of the article offered. No damaged corn will, on any consideration, be allowed to pass into the bulk, and R. PROCTER'S experience and connection with the corn trade for upwards of 30 years shall be a guarantee of perfectly good faith.

The payment to be net cash, either by Post-office order, postage stamps, or banker's bill, at the time of or before delivery. The goods shall be sent off on the day of payment. Parties buying 100 centals and over will be allowed a reduction of 2*d.* per 100 lbs., and 500 centals and upwards a reduction of 3*d.* per 100 lbs. This Advertisement to hold good as regards price until the 31st March next ensuing.—Liverpool, Feb. 26.

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HANDSOME BRASS AND IRON BEDSTEADS.—HEAL & SON'S Show Rooms contain a large assortment of Brass Bedsteads, suitable both for Home and Tropical Climates; handsome Iron Bedsteads with Brass Mountings and elegantly Japanned; Plain Iron Bedsteads for Servants; every description of Wood Bedsteads manufactured, in Mahogany, Birch, Walnut-tree Wood, Polished Deal and Japanned, all fitted with Bedding and Furniture complete, as well as every description of Bedroom Furniture.

HEAL AND SON'S ILLUSTRATED CATALOGUE, containing Designs and Prices of Iron Bedsteads, as well as of 150 different articles of Bedroom Furniture, sent free by post.—HEAL & SON, Bedstead, Bedding, and Bedroom Furniture Manufacturers, 196, Tottenham Court Road.

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FENDERS, STOVES, AND FIRE-IRONS.—Intending purchasers of the above are requested, before finally deciding, to visit WILLIAM S. BURTON'S SHOW ROOMS. They contain such an assortment of FENDERS, STOVES, RANGES, FIRE-IRONS, and GENERAL IRONMONGERY as cannot be approached elsewhere, either for variety, novelty, beauty of design, or exquisiteness of workmanship. Bright Stoves, with ormolu ornaments and two sets of bars, 3*l.* 15*s.* to 33*l.* Bronzed Fenders, with standards, 7*s.* to 5*l.* 12*s.*; Steel Fenders, 1*l.* to 11*l.*; ditto, with rich ormolu ornaments, 2*l.* 12*s.* to 20*l.* Fire-Irons, from 2*s.* 3*d.* the set to 4*l.* 4*s.* The BURTON and other PATENT STOVES, with radiating hearth-plates.

BEDSTEADS, BATHS, AND LAMPS.—WILLIAM S. BURTON has SIX LARGE SHOW ROOMS devoted exclusively to the SEPARATE DISPLAY of Baths, and Metallic Bedsteads. The stock of each is the largest, newest, and most varied ever submitted to the public, and marked at prices proportionate with those that have long made his establishment the most distinguished in this country.

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|---|---|---|---|---|
| Bedsteads, from .. .. .. | 12*s.* 6*d.* | to | 220 | 0*s.* each |
| Shower Baths, from .. .. | 8 0 | ,, | 6 0 | ,, |
| Lamps (Moderateur), from .. | 6 0 | ,, | 7 7 | ,, |

(All other kinds at the same rate.)

Pure Colza Oil .. .. .. .. 4*s.* 3*d.* per gallon.

DISH COVERS AND HOT-WATER DISHES.—In every material, in great variety, and of the most recherché patterns. Tin Dish Covers, 7*s.* 6*d.* the set of six; Block Tin, 12*s.* 3*d.* to 27*s.* 0*d.* the set of six; Sheffield modern patterns, 35*s.* 6*d.* to 62*s.* 6*d.* the set; Britannia Metal, with or without silver-plated handles, 3*l.* 11*s.* 0*d.* to 6*l.* the set; Sheffield plated, 10*l.* to 16*l.* 10*s.* the set; Hot-water Dishes, with wells for gravy, 12*s.* to 30*s.*; Britannia Metal, 22*s.* to 77*s.*; Electro-plated on Nickel, full size, 1*l.*

WILLIAM S. BURTON'S GENERAL FURNISHING IRONMONGERY CATALOGUE may be had gratis, and free by post. It contains upwards of 400 Illustrations of his illimited Stock of Electro and Sheffield Plate, Nickel Silver and Britannia Metal goods, Dish Covers and Hot-water Dishes, Stoves, Fenders, Marble Chimney pieces, Kitchen Ranges, Lamps, Gaseliers, Tea Urns and Kettles, Tea Trays, Clocks, Table Cutlery, Baths and Toilet Ware, Turnery, Iron and Brass Bedsteads, Bedding, Bed Hangings, &c., with Plans of the 16 large Show Rooms at 39, Oxford Street; 1, 1A, 2, and 3, Newman Street; and 4, 5, and 6, Perry Place, London.—Established 1820.

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## PRIZE MEDAL, PARIS EXHIBITION 1855.

METCALFE, BINGLEY, AND CO.'S New Patent and Penetrating Tooth Brushes, Penetrating unique Hair Brushes, Improved Flesh and Clothes Brushes, and genuine Smyrna Sponges; and every description of Brush, Comb, and Perfumery for the Toilet. The Tooth Brushes search between the divisions of the Teeth and clean them effectually—the hairs never come loose. M., B., and Co. are sole makers of the Oatmeal and Camphor, and Orris Soaps—sold in Tablets (bearing their names and address) each, of METCALFE'S celebrated Alkaline Tooth Powder, in box; and of the New Bouquets.—Sole Establishment, 130 and 131, Oxford St., 2d and 3d doors west from Holles St.

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KNOW THYSELF.—MARIE COUPELLE continues to give her graphic and interesting delineations of character, discoverable from an examination of the writing, in an unique style of description peculiarly her own. All persons desirous of knowing themselves, or any friend in whom they are interested, must send a specimen of their writing, stating the sex and age, and enclosing 14 penny postage stamps, and a directed envelope, to Miss Coupelle, 69, Castle Street, Oxford Street, London, and they will receive in a few days a minute detail of the talents, tastes, virtues, failings of the writer, with many other things hitherto unsuspected. All letters are considered strictly confidential.

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DO YOU WANT LUXURIANT HAIR, WHISKERS, &c.?—COUPELLE'S CRINUTRIA is guaranteed to produce whiskers, moustachios, eyebrows, &c., in two or three weeks with the utmost certainty, strengthen weak hair, prevent its falling off, check greyness at all stages, and reproduce the hair in baldness, from whatever cause, price 2*s.* Sold by all chemists in the world; and sent post free, on receipt of 24 penny postage stamps, by Miss COUPELLE, 69, Castle Street, Newman Street, Oxford Street, London. A toilet guide sent post free for four postage stamps. "It completely restored my hair."—Miss Mary. "My whiskers are now growing freely."—H. Morry, Esq.

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WHITE AND SOUND TEETH are indispensable to personal attraction and to health and long life, the proper mastication of food. ROWLANDS' ODONTO, or Dentifrice, compounded of oriental ingredients, is of inestimable value in improving and beautifying the teeth, strengthening the gums, and in rendering the breath sweet and pure. It eradicates tartar from the teeth, removes spots of incipient decay, and polishes and preserves the enamel, to which it imparts a pearl-like whiteness. As the most efficacious and fragrant aromatic purifier of the breath, teeth, and gums known, ROWLANDS' Odonto has, for a long series of years, occupied a distinguished place at the toilets of the wealthy and the nobility through Europe; while the extensive sale it at once announces the favour in which it is universally held. Price 2*s* 9*d.* per box. CAUTION.—The words "Rowlands' Odonto" are on the Label, and "A. ROWLAND & SONS, 20, Hatton Garden," engraved on the Government stamp affixed.—Sold by the Proprietors, and by Chemists and Perfumers.

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IMPORTANT INFORMATION.—Mrs. [illegible], Queen Street, Kingsland, was for years severely afflicted with a scorbutic eruption, covering the back of her head and spreading up her arms. She was persuaded to try ROBERTS'S POOR MAN'S FRIEND and PILULÆ SCROPHULÆ by a friend who had a large wound healed which baffled her doctor's skill, but was effected by these medicines. She only took one box of the Pills, and one pot of the Ointment, which effected a cure to the delight of her friends, who wish it to be made public for the benefit of suffering fellow creatures. Dr. ROBERTS'S POOR MAN'S FRIEND and PILULÆ ANTISCROPHULÆ are celebrated by 60 years' experience, successful in the cure of scrofula, wounds of every description. Price 1*s* 1½*d.*; 2*s.* 9*d.*, 11*s.*; and 22*s.* each.—Sold wholesale by the Proprietors, [illegible] & BARNICOTT, at their Dispensary, Bridport, and by London Houses; and retail by all respectable Medicine Vendors in the United Kingdom and the Colonies.

CHUBB'S LOCKS, FIREPROOF SAFES, DOOR LATCHES, CASH AND DEED BOXES. Illustrated [illegible] free.—57, St. Paul's Churchyard, London; 28, [illegible], Liverpool; 16, Market Street, Manchester; and at [illegible].

ALLENS' ILLUSTRATED CATALOGUE OF PATENT PORTMANTEAUS, with four compartments and DESPATCH BOXES, WRITING and DRESSING CASES, TRAVELLING BAGS, with square opening; and 500 other articles for travelling. By post for two stamps.
J. W. & T. ALLEN, Manufacturers of PORTABLE BARRACK-ROOM FURNITURE and MILITARY OUTFITTERS.
See separate Catalogue.)—18 and 22, Strand.

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[illegible] CARPETS at the old prices, notwithstanding the [illegible] advanced lists.
A [illegible]nt Collection of AUBUSSON CARPETS.
An [illegible]d display of French and English CHINTZES, in patterns not to be seen in any other house.
SILK DAMASKS, at very reduced prices, and all the new SILK BORDERS for REPS CURTAINS.—Compton House, Soho.

THE ENGLISH MOIRE ANTIQUE, unrivalled in brilliancy, quality, and effect, 4 guineas the Robe [illegible].
[illegible] FEES, New Evening and Ball Dresses, double [illegible] fulness to the waist. Exclusively at [illegible] & Co.'s, Compton House, Frith Street.

GLENFIELD PATENT STARCH USED IN THE ROYAL LAUNDRY,
Announced by HER MAJESTY'S Laundress to be
THE FINEST STARCH SHE EVER USED.
When you ask for Glenfield Patent Starch, see that you get it, as inferior kinds are often substituted. Sold by all Chandlers, Grocers, &c.—WOTHERSPOON & Co., Glasgow and London.

WHISKIES (EQUALISATION OF DUTY). — The choicest Scotch and Irish, from 14s. to 18s. per gallon:—OWEN & Co, 75, Lower Thames Street, London, E.C., opposite the Custom House. Shipping and the Trade supplied.

VINEGAR—Patronised by her Majesty's Government.
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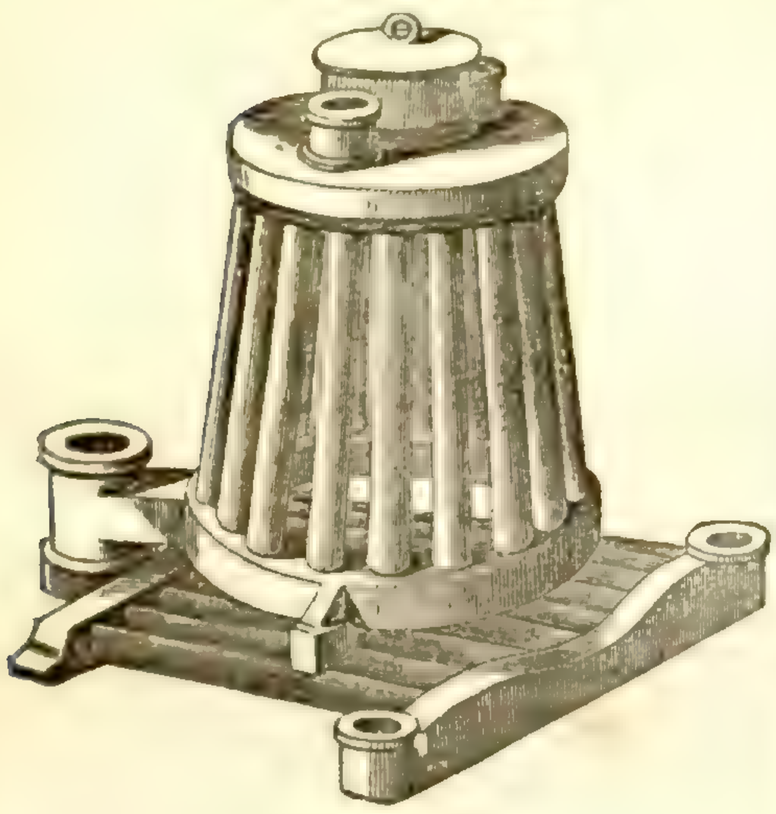

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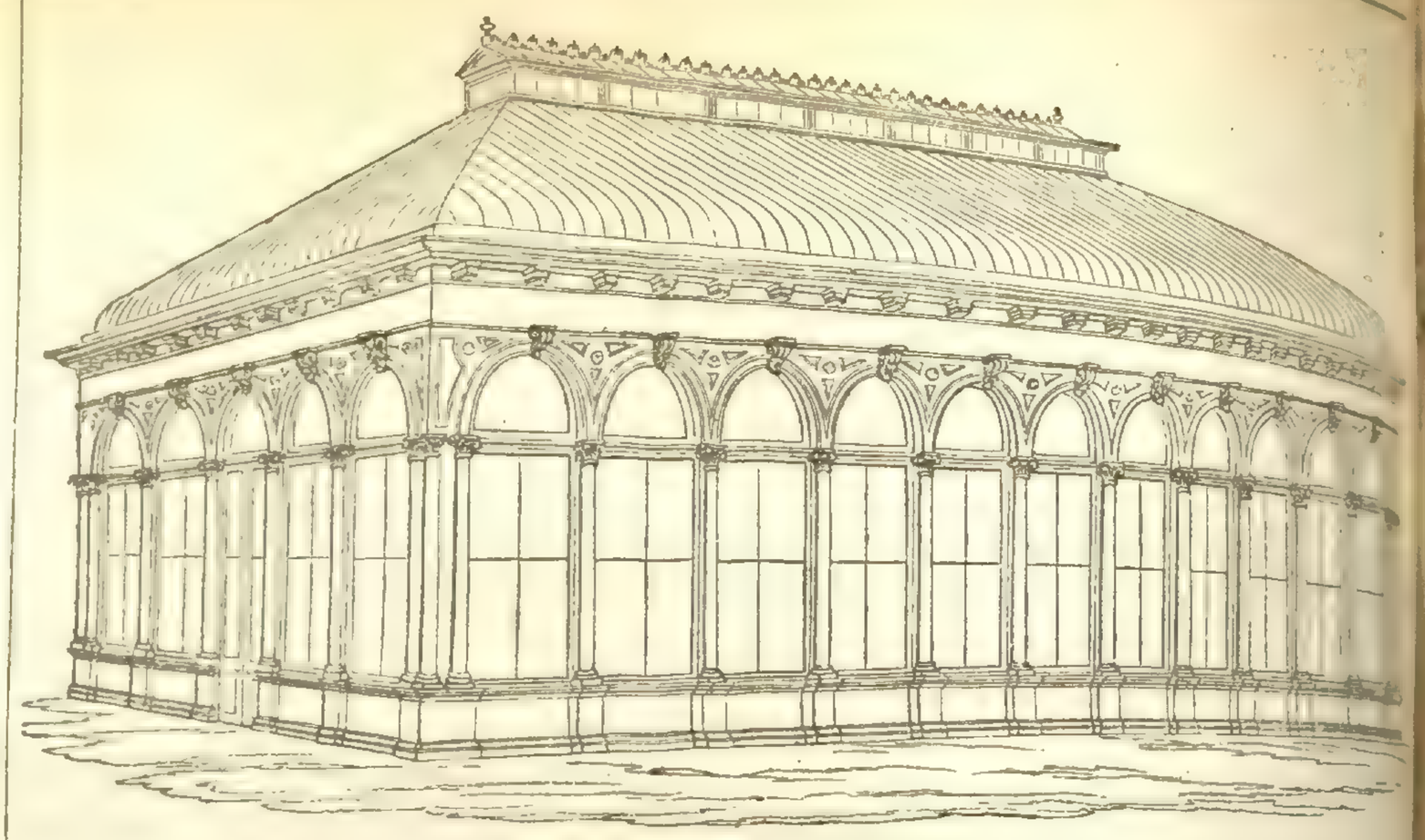

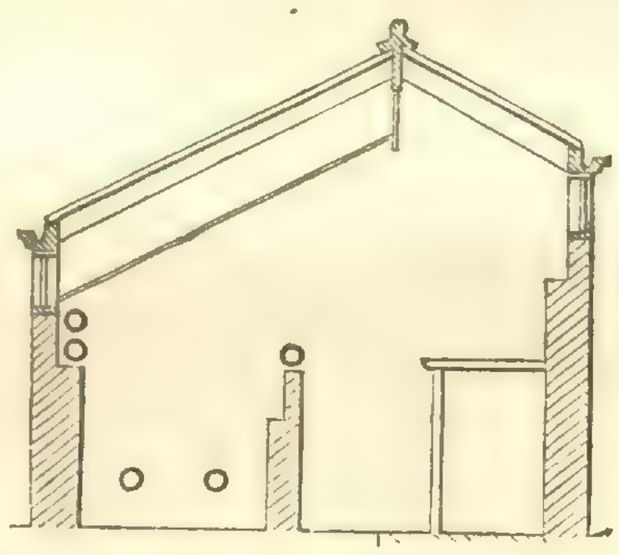

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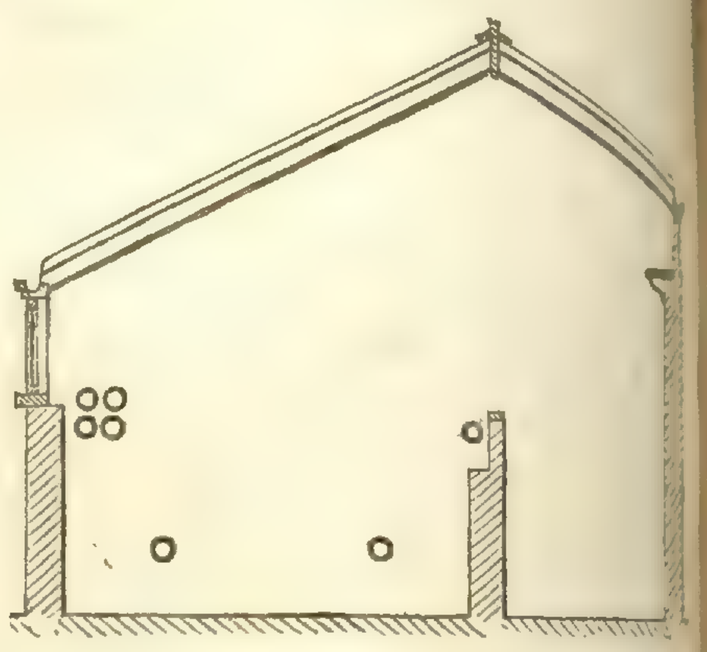

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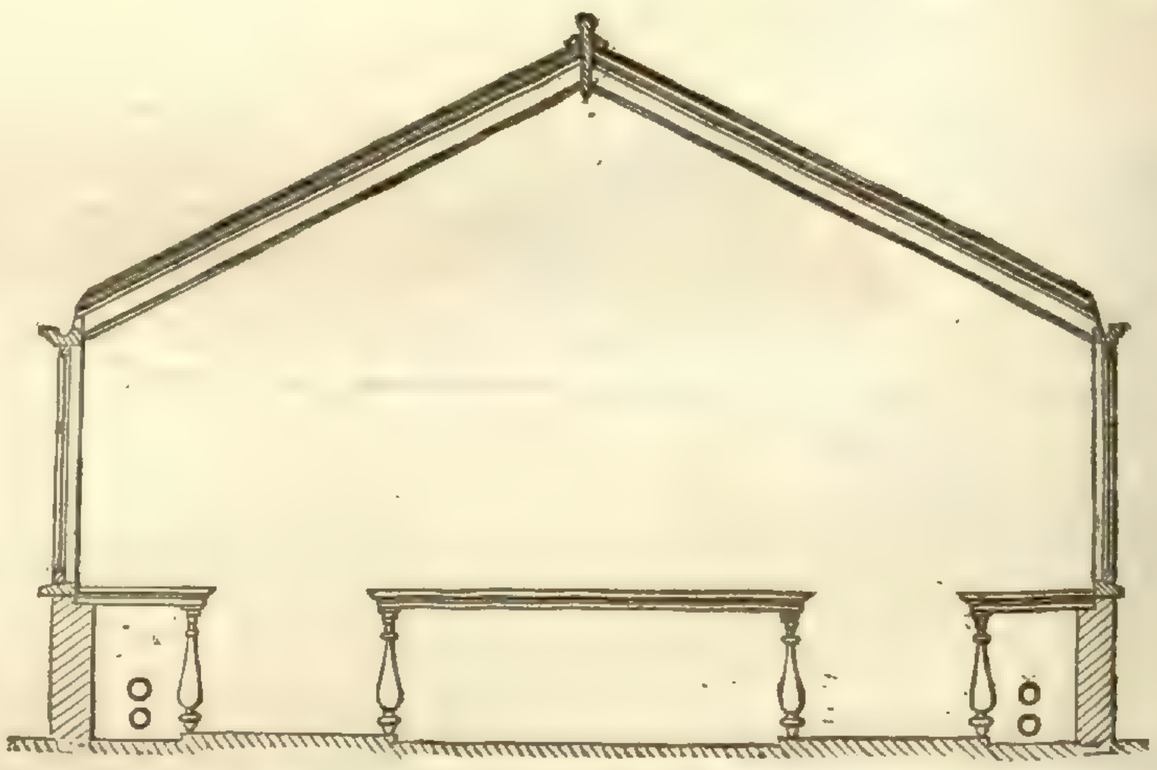

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HORTICULTURAL SOCIETY OF LONDON.—Meetings of the FRUIT COMMITTEE will be held at 21, St Martin's Place, Trafalgar Square, W.C., at 12 noon, on TUESDAY, April 5; on TUESDAY, May 3; and on TUESDAY, June 7.

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May 12 and 13 | June 29 and 30.
December 7, 8 and 9.

The SCHEDULE OF PRIZES for the May and June Meetings will be found on page 163.

ROYAL BOTANIC SOCIETY, REGENT'S PARK.—The THREE EXHIBITIONS during the ensuing Spring will take place on WEDNESDAYS the 23d of March and 6th and 20th of April. In a former Advertisement the 22d of March was incorrectly given.

GRAND YORKSHIRE GALA, FLORAL, AND MUSICAL EXHIBITION, to be held in the Asylum Grounds, Bootham, York, 13th, 14th, and 15th June.

Under distinguished PATRONAGE.

Florists are informed that PRIZES to upwards of 150*l.* will be awarded, and that Schedules are now ready.

By permission of Colonel Lord Frederick Paulet, C.B., the Unrivalled Band of the COLDSTREAM GUARDS will perform a CONCERT to be held in the Festival Concert Room, York, on the evening of the 13th June next, and at the first day's Exhibition.

In addition to the Floral Fête, the second day's Exhibition will include a BRASS BAND CONTEST—1st Prize, 30*l.*; 2d, 15*l.*; 3d, 10*l.*; 4th, 5*l.* Unsuccessful Bands will be allowed 2*l.* each.

Communications to be addressed to the Honorary Secretaries, from whom further particulars can be obtained.

JAS. PRATT, Jun.
THOS. SMITH } Hon. Secretaries.

Committee Room, 13, New Street, Coney Street, York.

TOWCESTER FLORAL AND HORTICULTURAL SOCIETY.

Patrons.—The Right Hon. the Earl Pomfret.
The Right Hon. the Lord Southampton.

The Annual Exhibition of FLOWERS, PLANTS, FRUIT, AND VEGETABLES will be held on THURSDAY, Sept. 8. Schedules are in preparation on the same liberal scale as last year, and will shortly be issued.

SAMUEL COOPER TITE, Secretary.

BRIGHTON AND SUSSEX FLORICULTURAL AND HORTICULTURAL SOCIETY'S EXHIBITIONS for 1859 are fixed to be held on the following days:—Summer Show, WEDNESDAY and THURSDAY, June 22 and 23; Autumn Show, WEDNESDAY and THURSDAY, Sept. 14 and 15, on the same grand scale as in former years. Schedules will shortly be published, to be obtained of the Secretary, 96, Queen's Road Street; or of E. SPARY, Queen's Graperies, General Superintendent of Exhibition.

EDWARD CARPENTER, Secretary.
THOS. ATTREE, Esq., Chairman of Committee.
Brighton.—March 5.

EXHIBITION OF HYACINTHS.—A Grand Exhibition of HYACINTHS, &c., will be held during the week ending March 14, at the Highgate Nurseries, London, N., on the inspection of which WM. CUTBUSH & SON respectfully invite all admirers of these lovely spring flowers. Open each day from 10 o'clock till dusk.

THE IMPROVED CUSTARD MARROW.—See drawing of this handsome and productive variety in the Gardeners' Chronicle of Jan. 29 and Feb. 12. 12 seeds for 13 stamps; 9 seeds for 7 stamps. The trade supplied.

BASS & BROWN, Seed Growers, Sudbury, Suffolk.

GRAYSON'S GIANT ASPARAGUS.—
Fine 2-year roots, 2*s.* 6*d.* per 100; or 21*s.* per 1000.
" 3 year " 3*s.* 6*d.* " 100; or 30*s.* " "
The usual allowance to the trade.

BASS & BROWN, Nurserymen, Sudbury, Suffolk.

CHOICE DAHLIA SEED.

GEORGE RAWLINGS has a small quantity of SEED carefully saved from the very best varieties, which he begs to offer at 2*s.* 6*d.* per packet, containing 50 seeds.

21, Globe Road, Bethnal Green, N.E.

PRESENT PRICES OF FARM SEEDS.

SUTTON'S FARM SEED LIST is now ready, and may be had post free.

Royal Berkshire Seed Establishment, Reading.

NEW FARM SEEDS.—Purchasers of large quantities of FARM SEEDS will be treated liberally on application to SUTTON & SONS, Royal Berkshire Seed Establishment, Reading.

FRESH IMPORTED GERMAN FLOWER SEEDS (post free).

SUTTON AND SONS, Reading, Berks, have just received a choice importation of GERMAN FLOWER SEEDS, a List of which will be sent gratis and post free on application.

NEW DAHLIAS.

JOHN KEYNES'S SELECT CATALOGUE OF DAHLIAS, ROSES, CARNATIONS, PINKS, &c., containing Lists of all the valuable Show Flowers in each class, is now ready and will be sent on application.

Castle Street Nursery, Salisbury.—March 5.

FERN CATALOGUE.

ROBERT SIM'S NEW DESCRIPTIVE AND PRICED CATALOGUE, No. 6 (62 pages) of his COLLECTION of BRITISH AND EXOTIC FERNS, can be had, post free, for 8 stamps. Gratis to all previous purchasers of Ferns.

Nursery, Foot's Cray, Kent, S.E.

GEORGE BAKER begs to inform the Nobility and Public that his DESCRIPTIVE CATALOGUE OF AMERICAN PLANTS AND GENERAL NURSERY STOCK will be sent free on application.

American Nursery, Windlesham, near Bagshot, Surrey, about 1 mile from Sunningdale Station, South Western Railway.

VEGETABLE, FLOWER, AND AGRICULTURAL SEEDS

THOMAS HARRISON'S PRICED CATALOGUE of the above is now ready, and may be obtained postage free on application.—Horticultural and Agricultural Seed Warehouse, 33, Market Place, Leicester.

NEW CATALOGUE OF FLORIST FLOWERS, &c.

DOWNIE AND LAIRD beg to intimate that their DESCRIPTIVE CATALOGUE of FLORIST FLOWERS, New VEGETABLE and FLOWER SEEDS for 1859, is now Ready, and will be sent free on application.

17, South Frederick Street, Edinburgh.

NEW PLANT CATALOGUE.

CHARLES TURNER'S DESCRIPTIVE CATALOGUE is now ready, containing selections of the popular Flowers of the day, including novelties now offered for the first time.—The Royal Nurseries, Slough.

NEW ROSES.

A. PAUL AND SON beg to inform admirers of the Rose that they will have plants of all the NEW ROSES ready for Sale by the middle of April at the lowest advertised prices.—Nurseries, Cheshunt, Herts.

NEW ROSES.—A full collection of the New Roses for 1859 will be in bloom in the Rose houses at Sawbridgeworth, from the middle to the end of March, and young plants at the usual prices (from 3*s.* 6*d.* to 5*s.* each) will then be fit for delivery.—THOS. RIVERS, Nurseries, Sawbridgeworth, Herts

YELLOW ROSES.—Madame William, orange yellow; Isabella Gray, golden yellow. Strong plants, fit for immediate forcing, 8*s.* 6*d.* the pair.

A. PAUL & SON, Nurseries, Cheshunt, Herts.

DESCARTES ROSE STOCKS.—The best dwarf Rose Stock known is the cultivated ROSE DESCARTES, being proved nine years. Price 12*s.* per 100, with trade allowance. STANDARD MANETTIS, 9*s.* per 100; also fine tall LAURELS, with other EVERGREENS, SHRUBS, &c.—Apply to J. J. FOSTER, Edgeware Nurseries.

LADY DOWNE'S GRAPE.

JAS. BACKHOUSE AND SON can still supply good Canes of this distinct and excellent Grape at 10*s.* 6*d.* each. As a long-keeping species it is unsurpassed, the bunches hanging in fine condition 6 to 8 months after ripening.

York Nurseries.—March 5.

HENRY'S HYBRID SCOTCH LEEK.

CHARLES ALEXANDER, SEEDSMAN, Edinburgh, offers Seeds of the above unrivalled LEEK at 1*s.* and 2*s.* 6*d.* per packet.

He exhibited three in December last which weighed 9 lbs., and blanched to upwards of 12 inches each.

CABBAGE PLANTS.—Strong Drumheads for Cattle, 3*s.* 6*d.* per 1000; Red Pickle plants, 9*d.* per 100; 6*s.* per 1000; fine Brown Cos Lettuce, 6*s.* per 100; 5*s.* per 1000. Packed and delivered at the Stations free by THOMAS WELLAND, Surrey Gardens, Godalming, Surrey.

VERY SUPERIOR BEET.

CHARLES SOUTHBY (late FAIRBAIRN) begs to inform those who gave the above a trial last season, that he can now supply 1 oz. free by Post for 1*s.* 3*d.*; ½ oz. ditto 9*d.*—Clapham, London.

GIANT SAINFOIN SEED.—Seed of this excellent and productive Plant may be had of RAYNBIRD & HARVEY, Basingstoke, and 89, Seed Market, Mark Lane. Samples and prices on application.

N.B. R. & H. can also supply Common Sainfoin both of English and French growth at market prices.

JOHN CULVERWELL, Taunton, begs to call the attention of Agriculturists to his superior selection of GRASS SEEDS, which for PURITY, change of SOIL, and CLIMATE, will bear comparison with any house in the kingdom. Prices, terms, and samples forwarded on application.

HOLCUS SACCHARATUS, or CHINA SUGAR CANE GRASS.—Seed of this lately introduced Fodder plant can be supplied by NUTTING and SONS in any quantity. Price on application.

Seed Warehouses, 60, Barbican, London, E.C.

THE NEW ZEALAND RUNNER BEAN.—The above BEAN can still be had for 3*s.* per dozen, with printed account. Also MELON, CUCUMBER, CUSTARD MARROW, &c., 1*s.* per packet each.

JAMES CUTHILL, Camberwell, London.

CUTHILL'S NEW ZEALAND RUNNER BEANS, POST FREE.

SUTTON AND SONS can supply the true kind of NEW ZEALAND RUNNERS, as obtained through Mr. Cuthill, at 2*s.* 6*d.* and 1*s.* per packet.—Reading, March 5.

NEW ZEALAND RUNNER BEAN, as noticed by Dr. LINDLEY to be the true sort, 5*s.* 8*d.* per 100 (post free) to the Trade. Cash.—PAGE & TOOGOOD, Seed Growers and Merchants, Southampton.

NEW ZEALAND RUNNING BEAN.—Packets of 12 Seeds, for 14 stamps.

BASS & BROWN, Seed Growers, &c., Sudbury, Suffolk.

DIOSCOREA BATATAS.—Fine roots, 9 to 12 inches long, 5*s.* per dozen; extra size, 10*s.* per dozen.

BASS & BROWN, Seed Growers, &c., Sudbury, Suffolk.

CONIFERÆ.

A. PAUL AND SON have a large stock of the above, very handsome, in fine order for removal, many suited for immediate effect. For particulars see Advertisements in *Gardeners' Chronicle* of November and December last.—Nurseries, Cheshunt, Herts.

LARGE NORWAY SPRUCE, &c.—The subscribers have to offer 500,000 transplanted Norway Spruce of different sizes, from 12 to 24 inches. Also 100,000 GOOSEBERRIES of best Lancashire roots. Prices to the Trade and large buyers on application to

J. MORRISON & SON, Montcoffer Nurseries, near Banff.

HALF A MILLION ONE-YEAR SEEDLING OAKS (STRONG AND STOUT).

JAMES MELDRUM, NURSERYMAN, Kendal, Westmoreland, offers the above in quantities to suit purchasers. Price reasonable, on application.

STRONG LARCH, OAK, AND THORNS.

JAMES HUDDART, NURSERYMAN and SEEDSMAN, Preston, has on hand a quantity of the above, very strong, at reasonable prices. Also a quantity of two-year Seedling OAK and ASH. Prices on application.—March 5.

TO PLANTERS.—Fine stock of Larch, 1½ to 3 feet; Scotch Firs, 1½ to 2 feet; Beech, 1½ to 4 feet; Elms, 3 to 6 feet; Evergreen Privets, Common Hollies, 1 to 1½ foot; fine Healthy Plants, with all other kinds of Nursery Stock. Samples and price on application to JOHN SCHOLEY, Pontefract Nurseries.

SPECIMEN IRISH YEWS.—Handsome specimens of this very Ornamental Tree of all sizes up to 9 feet in great numbers. Price according to number wanted on application.—THOMAS JACKSON & SON, Nurseries, Kingston, S.W.

TWO-YEAR SEEDLING LARCH.

DOWNIE AND LAIRD have a large quantity of the above, very fine. Price on application.

17, Frederick Street, Edinburgh.

TO THE TRADE.

W. H. ROGERS can offer the following, strong.
500,000 SEEDLING SCOTCH, 2 years, 2*s.* per 1000.
300,000 BEDDED ditto, 5*s.* per 1000.
300,000 PINASTERS, 2 years Seedling, 4*s.* per 1000.
300,000 PINUS MARITIMA, ditto, 4*s.* per 1000.

Red Lodge Nursery and American Grounds, Southampton.

WANTED, in the Trade, Frame CUCUMBER SEED.—Price to A. X., *Gardeners' Chronicle* Office.

TRITONEA AUREA.—Fine strong Roots of this free and most beautiful orange flowering bulb, 1*s.* 6*d.* each, or 15*s.* per dozen.

BASS & BROWN, Sudbury, Suffolk.

PICEA AMABILIS AND CRYPTOMERIA JAPONICA SEED.—1 oz. Cryptomeria Seed and two Seeds of Picea amabilis for 5*s.* Full particulars on addressing W. V., Post Office, Moy, Ireland.—This Advertisement is repeated in consequence of an error in stating the price in a former one.

DICKINSON'S ITALIAN RYE-GRASS SEED will be Sold only by himself. The price the present season is 48*s.* per quarter, 7*s.* per bushel for present payment.

New Park, Lymington, Hants.

PAMPAS GRASS (GYNERIUM ARGENTEUM).—The beauty of this extraordinary plant has this season been fully appreciated. It can be supplied by the dozen, hundred, or thousand, by CHARLES NOBLE, Bagshot, Surrey.

TO THE TRADE.—LONG RED WURZEL, 28*s.* per cwt.; YELLOW AND ORANGE GLOBE, 30*s.* per cwt. The above seed is warranted, and saved from the best stocks in the country. Terms Cash.

MAXFIELD HONEY, 71, Bank Street, Maidstone.

TO THE TRADE.

LONG RED MANGEL WURZEL, 26*s.* per cwt., saved from selected bulbs.

VICTORIA MARROW PEAS, 65*s.* per quarter. The above prices are for cash.

MAXFIELD HONEY, 71, Bank Street, Maidstone.

THE ALSIKE CLOVER.—This valuable but scarce Clover Seed is included in Messrs. SUTTON'S mixtures of Clover and Grass Seeds for permanent pasture and for alternate husbandry. It can be supplied alone if required. Price fluctuating, to be had on application.

Royal Berks Seed Establishment, Reading.

TO THE TRADE.

TO BE SOLD, 200 bushels of GREEN-TOP YELLOW SWEDE SEED, 100 bushels of LIVERPOOL SWEDE Ditto, 60 bushels of DALE'S HYBRID, grown from first-rate stock, warranted to grow well, and free from adulteration. Terms on application.—Address A. B., care of Castle & Lamb, 7, Bull Head Court, Newgate Street, London.

### BEST POTATO IN THE WORLD—IMPERIAL KIDNEY.

MR. WEBB, of Calcot, having succeeded in raising a quantity of the above excellent POTATO, begs to offer it to the public as the Best of its Class in every respect. Its quality cannot be surpassed, its yield most abundant, and its size from 2 inches to 9 inches long. Price 10s. per bushel, and no less quantity than 1 bushel disposed of. Also about 3000 true KENTISH COB NUT Trees from 2 to 4 feet high.—Apply to Messrs. JOSH. MAY & Co., 1, Wellington Street, Strand, or to Mr. WEBB, Calcot, near Reading, Berks.

SEED POTATOES from the North of Scotland.—The following varieties, carefully grown by the Subscriber for several years, and recommended for seed:—

FLUKES.
DALMAHOYS.—A variety allied to the Regent, but 3 to 4 weeks earlier in readiness.
PROTESTANTS.—A late White variety; large cropper, and has hitherto escaped disease.

Price of each kind, 12s. per 2-cwt. sack, free to London or Newcastle.

Orders and remittances to be addressed to ALEXANDER SIMPSON, Beauly, Inverness-shire, who refers to the Editor of the *Agricultural Gazette*.

### EARLY POTATOES, TRANSPLANTED LARCHES, AND NATIVE SCOTCH FIRS.

STUART AND MEIN have to offer a considerable quantity of Myatt's PROLIFIC ASH-LEAF KIDNEY POTATOES, EARLY ASH-LEAF KIDNEY; true and free from disease. Also fine TRANSPLANTED LARCHES, 3 to 3½ feet; NATIVE SCOTCH FIR, 1½ foot; SPRUCE, 1 foot. Prices will be sent free on application.

Nurserymen, Kelso, Roxburghshire.

THE ALLIANCE POTATO.—Patronised by her Most Gracious Majesty the Queen, the Emperor of the French, and the Nobility of England, Scotland, and Wales. One Peck of these celebrated White Potatoes can be obtained of the grower only, Mr. JAMES COPELAND, Thames Street, Windsor, on receipt of Post-office Order for 7s. 6d.

500 BUSHELS of FLUKE and WHITE BLOSSOM SEED POTATOES, true, free from disease, and suitable sizes, at 4s. the bushel of 80 lbs., samples of which may be had on application to Mr. WM. GROSVENOR, Prospect Nursery, Cheddleton, near Leek, Staffordshire.

A remittance or reference from unknown correspondents.

### SEED POTATOES.

JAMES HUDDART, NURSERYMAN and SEEDSMAN, Preston, offers the following varieties:—

| | |
|---|---|
| Runcorn Short Top | Pink Eye Kemp |
| Flukes, true | Ash-leaved Kidney, very true |
| Early Kemp | Preston Early |

The last named kind is a Seedling raised by J. H., and was tested last year with "Handsworth Prolific" and other early sorts, and found to be as early and full one-third heavier cropper. A very dry mealy Potato when half size. Prices reasonable on application.

J. H.'s DESCRIPTIVE SEED CATALOGUE may be had (post free) on application.—March 5.

HOLCUS SACCHARATUS, or North China Sugar-Cane.—Pamphlet, "A Visit and a Plant;" the only English authority on the Cultivation of the above. Post free 6d. Prices of Seed on application. Samples 6d. Four varieties of Holcus remitted free by post on receipt of 10s.

CHINESE YAMS, 4s. per dozen.
ASPARAGUS plants, 16s. per 1000.

JOHN W. CLARKE, Whittlesea, Cambridgeshire.

HANDSOME LARGE FLOWERING SPECIMEN CAMELLIAS, ERICAS, EPACRIS, INDIAN AZALEAS, GENISTAS, Double Chinese Purple and White-fringed PRIMULAS, and FERNS, suitable for the Greenhouse and Conservatory. Will be sold cheap in consequence of getting large for the houses here. List of sorts with prices and sizes on application to JOHN HATHERLY, Scruton, Bedale, Yorkshire. Such an opportunity to purchase specimen plants at a cheap rate seldom offers.

### GERMAN AND OTHER FLOWER SEEDS, VEGETABLE, AGRICULTURAL SEEDS, ETC.

MESSRS. PARKER AND WILLIAMS beg to inform their friends and patrons that their new PRICED and DESCRIPTIVE CATALOGUE in which is enumerated every novelty of proved merit, also all the best of the older kinds, is now published, and will be forwarded post free on application. Their whole stock has been selected from the best English and Foreign sources, and every kind is warranted true to name, and of the finest possible quality.—Paradise Nursery, Seven Sisters and Hornsey Roads, Holloway, London, N.

### TO THE SEED TRADE.

WHITE BELGIAN CARROT.
INTERMEDIATE or JAMES'S CARROT.
BROCCOLI.

| | |
|---|---|
| Ellitson's Mammoth | Tamworth |
| Snow's Spring White | Giant Late White, very fine heads. |
| Adams's Early White | |

Fine and pure stocks of the above. Prices to the trade on application.—BASS & BROWN, Sudbury, Suffolk.

### PRIZE MANGEL WURZEL, SWEDE TURNIPS, ETC.

JAMES GROVE, Great Baddow, Essex, who obtained Prizes at the Chelmsford and Essex Agricultural Shows for nine years in succession, begs to state that his Seeds are grown from selected Roots—not Plants.

| | |
|---|---|
| Long Red, Red Globe and Yellow Globe | 1s. 3d. per lb. |
| Purple Top and Skirving's Swedes .. | 0s. 9d. per pint. |

Reference or cash required from unknown correspondents.

### MANGEL SEED FROM LARGE BULBS.

SUTTON'S YELLOW GLOBE MANGEL is saved exclusively from fully developed roots, the advantages of which have been proved for several years past.

See the following Letters:—

*From the* Right Hon. Lord BERWICK, *Cronkhill, Dec.* 22.—"Let me have the same Globe Mangel as last year, which has given me the best crop I ever grew, good both as to bulk of crop, and also in the fineness of roots, and freedom from fangs and irregular growth. When pulled the roots were nearly as clean, and as free from fibre as a Globe Turnip, and I had 50 loads per acre or more."

*From* Mr. GRAY, Bailiff to G. Rawlins, Esq., *Bullington House*—"I believe we had one of the finest lots of Mangels and Swedes in the country. We had not quite enough of your seed of Mangel, and sent elsewhere for some to finish the field, and though sown the same day, and with exactly similar treatment, we had not so much weight by one-third as on the part sown with your seed."

The First Prizes at Birmingham and other shows throughout the kingdom have been taken by Messrs. SUTTON'S customers both for Mangel and for their "Champion" Swede. The price of Sutton's Large Yellow Globe Mangel Wurzel is 9d. per lb., or 1s. per peck by parcel post.

Priced Lists of other kinds of Mangel, Swedes, Turnips, Grasses, &c., will be sent gratis and post free.

Carriage free to all parts except small parcels.

SUTTON & SONS, Royal Berks Seed Establishment, Reading.

### HEDGE PLANTS.—

TREE FOX, 2, 3, 4, 5 and 6 feet.
GREEN HOLLIES, 1, 2, 3 and 4 feet.
EVERGREEN PRIVET, 2 and 3 feet.
TRANSPLANTED QUICK, 2 to 3 feet.
COMMON YEW, 2, 3, 4, and 5 feet.

Also a few thousand fine transplanted LARCH, 3 to 4 feet. Samples and prices on application.

THOMAS JACKSON & SON, Nurseries, Kingston, S.W.

### 1-year SEEDLING LARCH, fine.

| | |
|---|---|
| 2-year Seedling Larch, fine | 1-year Seedling Common Oak, fine |
| 2-year do. Scotch Fir, native | 1-year ditto Turkey ditto |
| 2-year do. Spruce, Norway, fine | 2-year ditto Red Cedar |
| 3-year ditto ditto | 1-year English Yew |
| 2-year ditto White American ditto | 1-year transplanted Larch, fine |
| 1-year ditto Red ditto | 2-year ditto |
| 1-year ditto Hemlock Spruce | 1-year do. Scotch Fir, native, do. |
| 1-year ditto Evergreen Oak | 2-year ditto |

The Subscribers being extensive holders of the above solicit the particular attention of the Trade. Prices, which are most moderate, may be had on application.

DAVID REID & SON, Nurserymen and Seedsmen, Edinburgh.

### TANSLEY NURSERY, NEAR MATLOCK.

To GENTLEMEN PLANTING AND THE TRADE.

J. SMITH begs to offer his STOCK OF TREES AND SHRUBS, of various sizes, and in addition to his general stock of the leading kinds, he has this season to offer an Extra Stock of many hundred thousands of fine Larches, Scotch Firs, and Highland Pines; a large quantity of Evergreens, Privets, Mahonia aquifolia, and other plants for plantings, and will be sold on advantageous terms to the trade and gentlemen requiring large lots.—Catalogues sent free on application. The Nurseries are on the Mansfield and Nottingham roads, and 2 miles from Matlock Bridge Station on the Midland Railway.

### HARDY CONIFERÆ FOR SPRING PLANTING.

J. HENCHMAN, Edmonton, London, begs to offer the following CONIFERS, all Seedling Plants, in pots, and in the most robust health:—

Wellingtonia gigantea, 1 foot, in 32-pots, very fine, 10s. 6d. each; 7 to 8 inches, in 48-pots, 3l. per doz.; stout, 2-year seedlings, 30s. per doz.
Pinus Don Pedri, 21s. each.
,, Buonapartia or Veitchi, 10s. 6d. each.
,, insignis, 15 inches, 15s. per doz.
,, macrocarpa or Coulteri, 6 inches, fine, 18s. per doz.
,, tuberculatus, stout 2-year seedlings, 18s. per doz.
,, Benthamiana, 2-year do. 9s. per doz.
Cupressus macrocarpus, 18 inches, fine, 6s. per doz.
,, MacNabbiana, 2 years, 9s. per doz.
Taxodium sempervirens, 15 inches, fine, 24s. per doz.

### COMMON LAURELS.

S. PONSFORD begs to announce to the Trade or other extensive planters that he has a large Stock of the above, from 2 to 5 feet high, bushy, which he is prepared to supply on reasonable terms.

Also a fine Stock of Dwarf-trained PEACHES, NECTARINES, APRICOTS, &c., of the leading varieties. Standard APPLES, PLUMS, &c.

S. P. would also call attention to his Standard and Dwarf ROSES, most of the leading kinds of which he can still supply in fine healthy condition. Prices on application.

CATALOGUES of GENERAL NURSERY STOCK forwarded on receipt of one stamp.

Loughborough Park Nurseries, Brixton, S.

### TO THE TRADE.

JOHN PALMER, NURSERYMAN, Annan, begs leave to inform his Friends and the Trade generally, that he has on hand the following—all of excellent quality—which he is disposed to offer on very reasonable Terms:—

SEEDLINGS.

| | |
|---|---|
| 4,000,000 1-year Larch | 40,000 1-year Laburnum drills |
| 1,000,000 2-year Scotch Fir. | 100,000 2 year Weymouth Pine |
| 1,000,000 2-year Spruce | 100,000 1-year Pear stocks, drills |
| 200,000 1-year Beech | 100,000 1-year Crabstocks, drills |
| 300,000 1-year Alder | 100,000 1-year Wild Cherry stocks, drills |
| 300,000 1-year Oak, drills | 100,000 1-year Portugal Laurel |
| 100,000 1-year Turkey Oak, drills | 200,000 1-year Yew |
| 100,000 1-year Spanish Chestnuts, drills | 50,000 1-year bedded American Arbor-vitæ |
| 100,000 1-year Horse Chestnuts, drills | 20,000 bedded common Laurel |
| 200,000 2-year Ash, drills | 20,000 bedded Portugal Laurel |

TRANSPLANTED.

| | |
|---|---|
| 300,000 2-year tr. Larch | 100,000 2-year tr. Spruce |
| 100,000 2-year tr. Scotch Fir | 400,000 2-year tr. Thorns |

Prices to be had on application, and all orders will be promptly and carefully attended to. Carriage will be prepaid to London, Liverpool, Birmingham, Newcastle, Glasgow, and Edinburgh, and the half thereof charged to the buyer.

JOHN CATTELL respectfully invites the attention of parties requiring very showy HARDY PERENNIALS in large quantities to the following articles, of which J. C. has a large stock in very strong plants.

| | P. doz. s. d. | P. 100. s. d. |
|---|---|---|
| Delphinium Barlowi .. .. .. .. .. | 6 0 | 40 0 |
| Do. Hendersonia (this is by far the best variety for beds; the stems are more flexible than any other, and it throws out side branches all up the stems, whereas formosum and others only flower at the top, and it will produce double the quantity of bloom during the season) .. | 8 0 | 50 0 |
| Delphinium magnificum (true) .. .. .. | 8 0 | 50 0 |
| ,, hybrida flore pleno .. .. .. | 8 0 | 50 0 |
| ,, grandiflorum maximum .. .. | 7 6 | 50 0 |
| ,, formosum .. .. .. .. | 6 0 | |
| Lychnis, Double Scarlet .. .. .. .. | 6 0 | 40 0 |
| Œnothera macrocarpa .. .. .. .. . | 6 0 | |
| Aquilegia Whitmani, fine blue, white centre .. | 6 0 | |
| Wahlenbergia grandiflora, splendid blue, the finest of all Campanulas .. .. .. .. | 7 6 | 50 0 |
| Fair Maid of France .. .. .. .. .. | 7 6 | 50 0 |
| Double Yellow Rockets .. .. .. .. | 4 0 | 27 6 |
| Lily of the Valley .. .. .. .. .. | .. | 5 0 |
| Phloxes, extra fine varieties .. 6s., 9s., 12s., to | 18 0 | |
| ,, ,, 40s. to | .. | 100 0 |

And a very large stock of other hardy Perennial and Alpine Plants equally cheap.

Also very strong Standard and Dwarf Roses, which are supplied as follows:—

| | | |
|---|---|---|
| Standards, extra fine .. .. .. 15s., 18s. to | 24 0 | |
| ,, ,, or 100s. to | .. | 150 0 |
| Dwarfs .. .. .. .. 6s., 9s., 12s, to | 18 0 | |
| ,, or 40s. to | .. | 100 0 |

A remittance or reference from unknown correspondents.

Nursery and Seed Establishment, Westerham, Kent.

### HARDY HERBACEOUS PLANTS.

100 select and showy varieties .. .. ..
100 ditto ditto, including new .. ..
Selections, per dozen, 4s., 6s., 9s., 12s., and ..
50 fine varieties for rockwork .. .. ..
or per dozen, 5s. to
Aubrietia Mooreana, fine and early for rockwork, much larger and deeper purple than purpurea, per dozen ..
Chelone barbata coccinea (or mexicana splendens), bright scarlet, per dozen .. .. ..
Delphinium formosum, large roots, per dozen
Dianthus alboni grescens, fine dark, each, 2s. 6d.
,, patens, very fine double crimson, per
Fragaria variegata, silver-blotched Strawberry, handsome for banks or rocks, per dozen
Myosotis azoricus, ditto .. .. .. ..
Œnothera grandiflora, fine large white, ditto ..
,, taraxacifolia, large trailing white, ditto
,, macrocarpa, large yellow .. ..
Pentstemons, 12 varieties, best selection .. ..
,, 12 fine varieties .. ..
Potentilla King of Crimsons, the finest grown of dwarf habit, flowers 2 to 2½ inches across, each ..
,, Negress, rich dark velvet, per dozen ..
,, Shylock, rich dark vivid maroon, do
,, Sudbury Gem, rich orange yellow, deep-shaded and spotted bright red ..
,, fine selections, per dozen, 6s. and ..
Saxifraga, 12 fine varieties for rock for .. ..
Sedum, 10 ,, ,, .. ..
Stipa pinnata (Feather Grass), per dozen .. ..
Trifolium pentaphyllum, dark variegated foliage, handsome for banks or rock .. .. ..
Vinca majorifolia elegantissima, silver-margined foliage Periwinkle .. .. .. .. .. ..
Antirrhinums, fine varieties and well marked, per dozen, 6s. and .. .. .. .. .. ..
Phlox, 50 fine and very superb continental and other varieties .. .. .. .. .. ..
,, 25 varieties, newest selection .. ..
,, selections, per dozen, 6s., 9s., and .. ..
Helianthemum, or Dwarf Rock Cistus, 24 beautiful named varieties for .. .. .. .. ..

### CONIFERÆ.

(These are chiefly in pots, and are all in fine condition.)
50 choice hardy sorts for .. .. .. ..
25 ,, ,, ,, .. .. .. ..

CATALOGUES supplied free on application.

Goods (20s. and upwards) CARRIAGE FREE to all the Railway Stations in London, and all Stations on the Northern Railway to Colchester; and Plants gratis for extra carriage. Terms Cash. Orders payable to BASS & BROWN, or to STEPHEN SMITH. Remittances required from unknown correspondents.

BASS & BROWN, Seedsmen and Nurserymen, Sudbury, Suffolk.

MESSRS. WATERER AND GODFREY respectfully invite the attention of parties engaged in planting to the following list of very desirable plants, all of which are seen growing in the open quarters of their Nursery, and in the finest possible condition for transplanting:—

Araucaria imbricata, 9 to 12 inches, 5l. per 100; 40l. per 1000.
,, ,, 1½, 2, 3, 4, 5, 6, and 8 feet high. Our stock of this plant exceeds 100,000
Wellingtonia gigantea, stout handsome plants from 12 to 15 per dozen; 25l. per 100. These are all in the open ground, and are believed to be the finest lot of seedling plants in the Trade.
Cedrus Deodara, 1½ to 2 feet, 18s. per dozen; 6l. per 100.
Do. 3, 4, 5, 6, 7, 8, 10 and 12, and 15 feet. Our stock at the present moment occupies several acres, and plants have been constantly removed, and with fair usage not one in a thousand would fail. We offer them on very advantageous terms either in large or small quantities
Cedrus atlantica, 4, 5, 6, and 7 feet
Cupressus macrocarpa, magnificent plants, 7, 8, and 10 feet
,, Lawsoniana, stout handsome plants from 18 inches, by the dozen or 100
Abies nobilis, from imported seed, 6l. 6s. per doz.; 40l. per 100
,, do. 1, 2, and 3 feet high
,, Nordmanniana, a large number of beautiful plants from seed, 2, 3, 4, 5, and 6 feet high
,, Pinsapo, do. do.
[We believe we are justified in stating our stock of these three last-mentioned Firs offers a selection to be met with in no other Nursery.]
,, Douglasi, 6, 7, 10, and 12 feet
,, orientalis, 3, 4, 5, and 6 feet
Pinus Benthamiana, stout seedling plants, about 1 foot, 12s. per dozen; 5l. per 100; 40l. per 1000. Unquestionably the finest of all the long-leaved Californian kinds, and well known to be perfectly hardy. It is also the most valuable of all for timber.
Juniper, Chinese, 2, 3, 5, 7, 8, and 10 feet high
Irish Upright, 3, 4, 5, 6, 7, and 8 feet. The Irish Junipers are grown by us to a very large extent
Thuja aurea.—This plant originated in our Nursery, and our stock of it offers a choice of many hundred specimens, 1½, 2, 3, 4, and 5 feet high, and measuring from 12 to 15 feet in circumference. Nothing can well exceed the beauty of these plants, and certainly are to be met with in no other Nursery
Thuja gigantea, stout seedling plants, 1½ to 2 feet high
,, Wareana, 3, 4, 5, 6, 7, and 8 feet
Thujopsis borealis, handsome plants, in quantity
Taxus, Yew, Common English.—A large quantity of sizes up to 5, 6, and 7 feet
,, Irish Yew, 4, 5, 6, 7, and 10 feet. Many of these beautifully formed plants grown
,, Golden Yews in large quantities and of 6, 7, and 8 feet
We also have them worked on the Common and Irish Standards, with heads from 12 to 15 years
Holly, Variegated, Scottica, laurifolia, &c. We have the largest stock of good sized variegated Hollies in the kingdom, especially of the better kinds of silver striped
Rhododendron ponticum, for cover, stout plants by the 1000. All the well-known proved hardy kinds, in any quantity, at from 30s., 42s., to 50s.
Standard Rhododendrons of all kinds
Azaleas, stout bushy plants, covered with bloom, 18 inches to 2 feet high, and of all colours, 9s., 12s., 24s. per dozen; 50s., 75s., to 100s. per 100
Hardy Heaths, a first-rate collection, at 36s. per
Roses, fine Standards, of the most popular kinds at prices.

As well as the above, we are very large holders of every variety kinds of Nursery Stock, which may be the fact that the Nursery far exceeds 100 acres in extent, things as Laurels, Box, Lilacs, Limes, Purple Beech, commoner descriptions of Evergreens and Deciduous Shrubs. An enormous stock of Fruit and Forest Trees grown extensively.

Goods are delivered free to London, Reading, The Nursery is reached in an hour from Waterloo, vegetables are always to be had at the Woking Station.

CATALOGUES, Priced and Descriptive, will be forwarded on application, enclosing one postage stamp, to

WATERER AND GODFREY, Knap Hill, Woking, Surrey.

**SPECIMEN ERICAS AND GREENHOUSE PLANTS.**

R. GLENDINNING has to offer to Exhibitors as ... decoration a number of beautifully-... Half-Specimens of ERICAS and GREEN-... PLANTS in the healthiest possible condition. R. G. ... an inspection of the same; but to those ... inconvenient names, sizes, and prices will be ... application.—Chiswick Nursery, London, W.

TO GROWERS OF PINE APPLES AND CUCUMBERS.—The above-mentioned goods are in great demand ... at present, and commanding high prices, therefore forward "immediately" to

GEORGE TAYLOR,
CHOICE FRUIT AND VEGETABLE SALESMAN,
St. John's Market, Liverpool.

**STAR NURSERY, SLOUGH.**

WM. BRAGG begs to inform the public and ... generally, that his SPRING CATALOGUE can ... had free on application, containing his choice new ... Pinks, Pansies, Pelargoniums, chaste Scarlet ... Blazer and Rosa Bonheur), Dahlia Chieftain, ... New Californian Sunflower, so much admired ... Palace, Botanic Gardens, and other Shows; and ... Seeds from Show varieties only.

STAFFORD'S LIST OF PLANTS AND SEEDS ... with Descriptions and Prices, containing ... and Ornamental Trees, Roses, Herbaceous, ... and Greenhouse Plants, is now ready.

CALCEOLARIA AUREA FLORIBUNDA, sent out by him ... years since, is still by far the best yellow. In April 4*s.* ... 30*s.* per 100.—Nurseries, Hyde, Manchester.

**KITCHEN GARDEN SEEDS.**

JOHN CATTELL begs respectfully to announce that ... CATALOGUE of the above may be had free by return ... It contains selections of the most approved culinary ... in cultivation, nearly the whole of them having ... saved under J. C.'s own personal superintendence.—Nursery and Seed Establishment, Westerham, Kent.

**TO THE SEED TRADE.**

THOMAS AYRES, JUN., SEEDSMAN and GROWER, ... Biggleswade, Beds., can supply every kind of Wurzel, ... and common Turnip Seeds, on the most reasonable terms for cash.

N.B. Dealer in Culinary and Flower Seeds, Fruit Trees, Shrubs, and Flowering Plants.

HUDSON'S GOLDEN MELON BARLEY.—Selected Samples for Seed of this most valuable variety, superior both for produce and malting quality, may be had of RAYNBIRD & HARVEY, of Basingstoke; and 89, Seed Market ... Lane, E.C.

**HOLLYHOCKS.**

WILLIAM PERRY begs to announce that he has ... fine healthy plants of the above for sale, of all the approved sorts, well hardened and fit for planting out immediately, from 9*s.*, 12*s.*, 18*s.*, 24*s.*, and 30*s.* per dozen, if the selection is left to W. P. A Descriptive Catalogue can be had on application, also seed saved from the best sorts, 1*s.*, 2*s.*, and 5*s.* per packet.

Foreman at the Nurseries, Sawbridgeworth, Herts.

**HOLLYHOCK SEED FROM NEW VARIETIES.**

J. CHATER AND SON offer the above from ... 12 new varieties, separate packets, the collection, 3*s.* 6*d.*
24 varieties, best older sorts, 3*s.* 6*d.*
Best mixed, 20 sorts, 200 seeds, 1*s.* 6*d.*
J. C. & Son feel confident the above will give satisfaction, ... having been saved with great care.
Strong seedling plants, 20*s.* per 100.
If sown now will flower by September.
Nurseries, Haverhill.

**SUPERB DOUBLE HOLLYHOCKS.**

WILLIAM CHATER can now supply fine healthy plants from his Collection, having a large stock ready for immediate planting.

DESCRIPTIVE CATALOGUE, to be had on application.
Nurseries, Saffron Walden.

**FIRST-CLASS HOLLYHOCKS.**

FINE SEEDLINGS FROM

WILLIAM CHATER'S Celebrated and Newest Varieties that will flower well in September at 30*s.* per 100

| | | | | |
|---|---|---|---|---|
| ditto | ditto | ditto | 20*s.* | ,, 100 |
| Ground Roots according to colour, also at | | .. | 30*s.* | ,, 100 |
| Seed in 12 separate colours, the Collection | | .. | 10*s.* | 0*d.* |
| ,, 6 | ,, | ,, .. | 5 | 0 |

New varieties such as Pourpre de Tyre, Memnon, White Queen, Hon. Mrs. H. Ashley, Canary, &c., in 12 separate colours, the Collection .. .. .. .. .. .. 7*s.* 6*d.*
Ditto in 6 separate colours, the Collection .. 4 0
Seed from 20 of the best varieties, mixed, per pkt. 5 0
,, 12 ,, ,, ,, 2 6
,, good mixed, also a single variety ,, 1 0

The above can be procured from the Nurseries, Saffron Walden, Essex.

**NEW HOLLYHOCKS.**

A. PAUL AND SON beg to recommend the following NEW HOLLYHOCKS, which have been selected from several thousands of Seedlings. The stock of ordinary sorts is this year greatly extended. The plants are strong, well established, and perfectly healthy:—

| | *s.* | *d.* |
|---|---|---|
| ARIADNE (PAUL).—Purple, silvery edges, flower of good size, spike close .. .. .. .. .. .. | 5 | 0 |
| GENERAL HAVELOCK (PAUL).—Bright, ruby scarlet, colour of "Scarlet King," but a close spike and a round smooth flower of perfect shape .. .. .. .. | 10 | 6 |
| IN MEMORIAM (PAUL).—Crimson maroon, large, good substance, first-rate flower, good spike .. .. .. | 10 | 6 |
| LORIAN (PAUL).—Crimson shaded with salmon, remarkable alike for substance, closeness, and symmetry; ... spike good .. .. .. .. .. .. .. | 10 | 6 |
| PAINTED LADY (PAUL).—Pink and blush in blotches, ... large smooth flower of good substance .. .. .. | 5 | 0 |
| PLUTARCH (PAUL).—Plum colour, of fine shape, and ... smooth, guard and spike good .. .. .. | 10 | 6 |
| POURPRE NOIR (PAUL).—Rich purplish maroon, large ... flower, close spike .. .. .. .. .. | 7 | 6 |
| ROVER (PAUL).—Dark fiery scarlet, flower large, ... spangled, very effective .. .. .. .. | 7 | 6 |
| ... (PAUL).—White, lemon base, large full flower, ... spike .. .. .. .. .. .. .. | 10 | 6 |
| ... (PAUL).—Pure white, petals thick, edges smooth, ... good .. .. .. .. .. .. .. | 7 | 6 |
| ... (PAUL).—Pink, large flower, of perfect form ... substance .. .. .. .. .. .. .. | 5 | 0 |
| ... (PAUL).—Rich plum colour, with silvery edges, ... spike good; new and distinct .. .. | 5 | 0 |

The Collection of 12 varieties is offered for 4*l.* 4*s.*; good ... 18*s.* per dozen; very superior ditto, 24*s.* to ... per dozen, Bloomed Seedlings in separate colours, 30*s.* to ... per 100; mixed Seedlings, 10*s.* to 21*s.* per 100.

HOLLYHOCK SEED, 1*s.* to 5*s.* per packet free by post.

A PRICED DESCRIPTIVE CATALOGUE free by post.
Nurseries, Cheshunt, Herts.

**FIVE SILVER CUPS**
WERE AWARDED TO

A. PAUL AND SON, NURSERYMEN, Cheshunt, Herts, for five Collections of ROSES at the Grand National Rose Show held in St. James's Hall, London, in July. Also FIVE FIRST PRIZES at the Royal Botanic Society's Shows in May and June last. The sorts which won these prizes are now offered at 18*s.* to 24*s.* per dozen for standards, 12*s.* to 18*s.* per dozen for dwarfs. A PRICED DESCRIPTIVE CATALOGUE forwarded on application, post free.

**ROSES.—TO THE TRADE.**

BIRCHAM AND WARD having a surplus stock of the leading kinds of Perpetuals in fine condition, offer them at the following low prices by the 100 or not less than 50.

| | |
|---|---|
| Standards, per 100 .. .. .. | 3*l.* to 3*l.* 10*s.* |
| Dwarfs do .. .. .. | 2*l.* 2*s.* |
| Ditto, on their own roots .. .. | 2*l.* 2*s.* |

Carriage paid to London and Peterborough.
HOLLYHOCK SEED of very superior quality by the oz.
Hedenham Rosary, Bungay, Suffolk.—March 5.

FINE HEALTHY ROSES.—

| | |
|---|---|
| STANDARDS .. .. .. | 18*s.* per doz. |
| DWARFS (on the Manetti) .. | 12*s.* ,, ,, |

As the weather still continues mild and favourable for planting, GEORGE CLARKE begs to state he has still a fine stock of all the leading kinds to offer at the above prices, the selection being left to him. The Plants are all healthy and well rooted, therefore calculated to give the greatest satisfaction. Plants carefully packed for any distance. Carriage of all packages paid to London; and in all orders amounting to 20*s.* plants are added to compensate for distant carriage.

GEORGE CLARKE, The Nursery, Brixton Hill.

NEW ROSE, HYBRID PERPETUAL "LÆLIA."—Colour delicate satin rose, petals very large, perfectly smooth, and well formed; flowers of exquisite shape, large size, and highly scented. JOHN CRANSTON has the pleasure to announce that he will be prepared to supply early in April plants of this superb new Rose. It was exhibited by him in his winning stand of single blooms at the Grand National Rose Show in July last, and was unquestionably the most attractive variety of the Show, and the admiration of all who saw it. Fine healthy plants, 5*s.* each, with the usual discount to the trade.—Nurseries, King's Acre, near Hereford,

**NEW ROSES.**

JOHN CRANSTON will be prepared to supply early in April strong plants of the under-mentioned superb NEW ROSES at 5*s.* each, with the usual discount to the Trade. Purchasers who may prefer leaving the selection to himself will be supplied upon the following terms:—12 choicest varieties for 2*l.* 10*s.*; 24 for 5*l.*; the set of 32 varieties for 6*l.* 6*s.*

Plants of the new varieties presented with each order to compensate for carriage.

TEA-SCENTED.

Enfant de Lyons | Madame Joseph Halphay
Madame Damaisin | Reine des Pays Bas

BOURBON.

Docteur Berthet | Edith de Murat | Octavie Fontaine

HYBRID PERPETUAL.

Altesse Imperial
Ardoisée de Lyon
Anna Alexieff
Armide
Ambroise Verschaffelt
Anna de Diesbach
Bouquet de Marie
Beauté de Rosyghem
Comte de Beaufort
Comtesse Cecile de Chalbrillan
Empereur de Maroc
Eugène Alary
Joseph Vernet
Le Mont Vésuve
L'Oriflamme de St. Louis
Mathilde de Mandeville
Madame Jenny Varin
Madame Octavie Depeyre
Mignard
Orderic Vital
Princesse Olympie
Reine de la Cité
Solomon
Virginal

NOISETTE.—Beauté de Grennemont.

J. CRANSTON, Nurseries, King's Acre, near Hereford.

**FRUITING VINES.**

JOHN AND CHARLES LEE beg to offer extra strong short-jointed and well-ripened FRUITING VINES of the following kinds:—

BLACK HAMBURGH
BLACK FRONTIGNAN
BLACK PRINCE
ROYAL MUSCADINE

Nursery and Seed Establishment, Hammersmith, London.

**GRAPE VINES FROM EYES.**

JOHN AND CHARLES LEE beg to offer an immense stock of strong well-ripened VINES FROM EYES, of the following kinds:—

Alicant
Barbarossa
Bidwell's Seedling
Black Cluster
Black Constantia
Black Prince
Blanche Vigne
Calabrian Raisin
Charlsworth Tokay
Chasselas Frocklaboulay
Chasselas Musqué
Duzetto
Esperione
Frontignan, black
Hamburgh, black
,, Dutch
,, golden
,, Pope's
,, Mill Hill
Hâtif de Jura
Isabella
Lady Downe's Seedling
Marchioness of Hastings
Muscadine Parsley leaved
Muscat, August
,, Cannon Hall
,, Hamburgh
,, Noir Hâtif
,, of Alexandria
,, of Fontainebleau
Pitmaston Cluster white
Raisin des Carmes
Syrian
Trebiana
Trentham Black
Tripoli
West's St. Peter's

Nursery and Seed Establishment, Hammersmith, London.

**CHEAP, SELECT, AND USEFUL NURSERY STOCK.**

WM. JACKSON AND CO., of Bedale, Yorkshire, can supply the following of best quality:—

| | £ | *s.* | *d.* |
|---|---|---|---|
| 12 Dwarf Growing Hardy Rhododendrons, by name, nice bushy plants, scarlet, crimson, blush, &c. .. | 1 | 0 | 0 |
| 12 Roses, Standards, on good stems, best prize varieties (4*l.* per 100), select plants .. .. .. .. | 0 | 12 | 0 |
| 12 Roses, Dwarfs, budded, best show varieties .. | 0 | 8 | 0 |
| 12 Fancy Thorns, Standards, scarlet, &c. 6*s.* to | 0 | 9 | 0 |
| 12 Berberis Darwini, very pretty (2*s.* each) .. .. | 0 | 12 | 0 |
| 12 ,, dulcis, fine plants (1*s.* each) .. .. | 0 | 9 | 0 |
| 100 Roses of sorts, Dwarfs, on own roots, including Yellows .. .. .. .. .. .. .. | 1 | 5 | 0 |
| 100 Evergreen and Flowering Shrubs, two of a sort | 2 | 0 | 0 |
| 100 Laurels, strong, transplanted, 1½ to 2½ feet (70*s.* per 1000) .. .. .. .. .. .. | 0 | 10 | 0 |
| 100 Laurels, strong, twice transplanted, 3 to 5 feet (120*s.* per 1000) .. .. .. .. .. .. | 0 | 15 | 0 |
| 100 Silver Tree Box, 3 to 4 feet, strong plants, twice transplanted .. .. .. .. .. .. | 3 | 0 | 0 |
| 100 Yews, thrice transplanted, 4 to 5 feet, dressed to one stem, perfect trees .. .. .. .. .. | 4 | 0 | 0 |
| 100 Arbor Vitæ, 3 to 4 feet, grown singly, fine plants | 3 | 0 | 0 |
| 100 Best Evergreen Privet for hedges (25*s.* per 1000) | 0 | 3 | 6 |

Good Box for edging, 2*d* per yard.
Asparagus, sound, strong, 2 years' old plants, 2*s.* per 100; 20*s.* per 1000
Sea Kale, sound, strong, do., 4*s.* per 100; 35*s.* per 1000.
do. do. 3 years' old plants, 5*s.* per 100; 40*s.* per 1000.
Transplanted Larch 12*s.* 6*d.*; Scotch Fir, 10*s.*; Norway Spruce, 20*s.* per 1000, can be supplied in large quantities and of first-rate quality.—Further particulars on application.

**DOUBLE ITALIAN TUBEROSES.**

JAMES CARTER AND CO. have just received a supply of Extra Strong Flowering Roots of the above which they can offer at 4*s.* per dozen.

JAMES CARTER & Co., Seedsmen, 238, High Holborn, W.C.

CALCEOLARIAS.—A few hundreds of the finest strain of SEEDLING CALCEOLARIAS in England, at 4*s.* per dozen, at B. WHITHAM'S, Clough Nursery, Mottram, near Manchester.

**TO NURSERYMEN.**

3,000,000 RHODODENDRONS, 2, 3, 4, and 5 years old: small and strong Portugal and Common Laurels, small RedCedar, Chinese Arbor Vitæ, Berberis, &c.; Layers of Erica Alporti, vulgaris, alba carnea, and many other things to be sold very cheap.

For price, apply to JAMES SMITH, Darley Dale Nursery, near Matlock.—March 5.

**"JACK OF NEWBURY" SWEDE, ETC.**

PETER LAWSON AND SON, THE QUEEN'S SEEDSMEN, &c., 27, Great George Street, Westminster, respectfully request attention to their very genuine Stock of the above excellent Swede; also of the LOTHIAN PURPLE-TOP SWEDE, both of which have been selected with the greatest care. They have also a very fine Stock of the KOHL RABI, or TURNIP-ROOTED CABBAGE, specimens of which were shown at their Stands at Smithfield Club Show. The Kohl Rabi was largely grown last season, and may now be relied on as a substitute for the Turnip and Mangel, where these roots do not succeed, or for filling up blanks where there is a partial failure. Its feeding qualities, hardiness, and weight per acre are equal to the Swede, and all kinds of stock prefer it to other roots.

P. L. & SON have also selected a first-rate Stock of MANGEL WURZEL SEED, which they can confidently recommend. Their natural GRASS SEEDS have been also saved with very great care, and they are ready to supply them separately or in mixture, for laying down Permanent Pastures, Lawns, &c.

P. L. & SON have arranged to deliver Seeds free throughout England and Wales from their London Establishment, for all quantities exceeding 20*s.* in value.

LISTS OF PRICES of the above and all other Seeds, Plants, &c., may be had on application.

27, Great George Street, Westminster.

**FARM SEEDS, GROWTH OF 1858.**

THE PLYMOUTH SEED, AGRICULTURAL IMPLEMENT, AND MANURE COMPANY (LIMITED) are prepared to execute orders for all kinds of FARM SEEDS, selected from stocks direct from the growers.

They respectfully invite the attention of Agriculturists to their FARM SEED LIST for 1859, which will be sent free on application to the Secretary.

The two following new sorts of SWEDES can be highly recommended:—

| | lb. | qt. | gall. |
|---|---|---|---|
| THE PLYMOUTH IMPROVED PURPLE TOP SWEDE .. .. | 1*s.* 0*d.* | 1*s.* 6*d.* | 6*s.* 0*d.* |
| GRANT'S PINE-APPLE SWEDE .. | 1 0 | 1 6 | 6 0 |

The following extract taken from the Leading Article in the *Irish Farmers' Gazette* of October 16, 1858, will tend to show the very high character of the two varieties of Swedes here offered:—"We observed several experimental plots of Swedes, &c., amongst which we noticed a new purple-topped variety called the 'Plymouth Swede,' and also a very beautiful green topped Turnip (Grant's Pine-Apple Swede), the name of which we did not learn. These were sown on June 16, and their shapes were the finest we have seen for a long time. The varieties were new to us, but certainly the specimens grown at Rockview left a very favourable impression on our mind, regarding both their beauty and probable value."

Price to the Trade on application.
Address—PLYMOUTH SEED COMPANY, Plymouth.

**SEEDS FOR THE FARM.**

NEW OVAL-SHAPED YELLOW MANGEL, introduced by us two years ago, has been thoroughly tested and is now recommended with perfect confidence. It is of a remarkably vigorous growth, with finely shaped roots, intermediate in length between the Long and the Globe, and has produced from 5 to 10 tons more per acre than any other variety (see *Gardeners' Chronicle* of Jan. 8):—

SWEDE TURNIP.—All the approved sorts.

| | | | |
|---|---|---|---|
| YELLOW | Do. | do. | do. |
| WHITE | Do. | do. | do. |

In no description of crop raised on the Farm is a good or a bad one so dependent on the character of the Seed as in that of the Turnip, and from its great liability to degenerate, it requires the most scrupulous care and vigilance to produce Stocks that are every way worthy of confidence. To attain such, we have for several years past been using every known means to keep up or improve the shape, size, and texture of the various kinds; and we believe that what are now offered will give the most perfect satisfaction. All the principal varieties are our own growth, raised from large and fully developed Roots or Bulbs, and in the hope of giving a more vigorous growth to the Stock, the strongest clay soil is always selected for a considerable portion of the Swede and Yellows. This mode of raising Turnip Seed materially increases the expense, but it is a much more satisfactory system than the one usually adopted, viz., sowing random stocks late in the season, after other crops, and taking the seed from mere plants, which in many cases are not even subjected to the process of thinning. Moreover, we guarantee our Seeds free from any of the adulterations so frequently practised to increase profits or cheapen prices, so that a strong healthy "braird" is certain.

| | | |
|---|---|---|
| PERENNIAL RYE-GRASS.—Finest Ayrshire | | |
| Do. | do. | do. Facey's, 26lbs. to 32lbs. per bushel |
| ITALIAN | do. | Imported |
| Do. | do. | Home-grown |

NATURAL GRASSES.—All the best varieties

The Stocks of Perennial Rye-grass Seed are the most select growths the country produces, and being all clean and heavy the economy of using such in preference to foul chaffy seed, however cheap, is at once apparent. Our imported Italian is from the usual source, and has always given satisfaction: while the home-grown is the direct produce of imported seed, cultivated under the most favourable circumstances, and more than ordinary pains having been used in dressing the seed; the samples of both are unusually clean and fine. In selecting the Natural Grasses care is taken to have them true to name, fully ripened, and in all respects good clean samples.

ALSIKE CLOVER, and other varieties.
LARGE BROAD LEAVED SCOTCH TARES.

With every other description of Seed usually required for the farm, PRICED LISTS of which may be had post free on application.

W. DRUMMOND & SONS, Seedsmen, Stirling, N.B.; also at 58, Dawson Street, Dublin.

*** STIRLING is most favourably placed in point of railway accommodation, there being direct and constant traffic to all the principal stations in England and Scotland, and by steamers (*viâ* Glasgow), almost daily to the chief ports in Ireland, thereby ensuring a speedy delivery of goods, all of which, except grain and Tares, we forward carriage-paid.

GEORGE SMITH can supply fine Bushy Plants of the following NEW GERANIUMS of 1857, at 30*s.* per doz. G. S.'s Stock of Show, Fancy, and Spotted varieties is now in splendid condition, and is one of the finest Collections in the immediate vicinity of London.

SHOW KINDS:—Viz, Aurelia, Bellona, Candidate, Etna, Hebe, Imperatrice, Lucifer, Minnie, Queen of Scarlets, Rose Celestial, Pet of the Flock, Rosaline, Richard Benyon, Sprightliness, Sir James Outram, Mazeppa, and Vestal.

G. S. can supply older kinds from 9*s* to 18*s*. per dozen. For descriptions see Catalogue just published, and forwarded in exchange for one postage stamp.

Tollington Nursery, Hornsey Road, Islington, London, N.

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GRIEVE'S NEW DOUBLE PETUNIAS.—The universal satisfaction given by the PETUNIAS sent out last spring, raised by Mr. Grieve, Gardener at Culford Hall, near Bury St Edmund's, induces the advertisers to offer to the public those raised by that persevering hybridiser last summer, which are considered superior to any yet offered; not in the size of the flowers, but in brilliancy of colour, consistence of petal, and regularity in form—all being very double. The following are the names adopted, which may be respectively taken as an approximate description of their colours:—

CRUENTUM, CANDIDUM, PURPURASCENS. } Large flowers, and most appropriate for pot culture.

ATROCOCCINEUM, ROSEUM STRIATUM, ATROROSEUM } Medium-size flowers and neat habit; probably useful for bedding.

Plants of the above, 5*s*. each; or 21*s*. the set of six, to be sent out the first week in April by OSBORN & SONS, Fulham Nursery, London, S. W.

N.B. The usual allowance to the trade.

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**THE BEST MELON IN CULTIVATION FOR TABLE, MARKET, OR EXHIBITION.**

WILD'S ORION, the winner of four First Prizes at two Shows—Crystal Palace and Regent Street.—Handsome, 4 lbs. to 6 lbs in weight, thin skin, thick flesh (green), luscious as a melting Peach, fragrant and delicious as a Pine Apple, prolific bearer; six good seeds out of the Prize fruit by post on receipt of 12 penny stamps.

WILD'S Unrivalled Primulas, upwards of 100 Testimonials received.

J. P. COLEMAN, Esq., *Wolverhampton*.

"From the packet of seed I had of you last spring I have a splendid plant, the colour beautiful bright scarlet, full fimbrated, and within a nicety of being 3 inches in diameter, and has been pronounced perfection itself."

Sealed packets post free to all parts of the world on receipt of 2*s*. 6*d*. in stamps.—THOMAS WILD, The Primulary, Ipswich.

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UNEQUALLED NEW CUCUMBER, DR. LIVINGSTONE.—This is one of the finest long hybrid Cucumbers for exhibition purposes that has ever yet been offered to the public; it is a splendid black spine, length 22 to 26 inches, a very free setter, and an abundant bearer. Price 2*s*. 6*d*. per packet.

QUEEN OF THE WEST MELON, a superb new variety, green-flesh, very handsome in appearance, beautifully netted, and excellent in flavour. It obtained several first prizes during the past season. Seeds 2*s*. 6*d*. per packet.

NEW MELON GENERAL HAVELOCK, sent out for the first time last season. It is a green-flesh, very handsome shape, and beautifully netted; a very thick substance, thin skin, of a melting and most delicious flavour, and an abundant bearer. Weight from 3 to 4 lbs.; it gave the greatest satisfaction to all purchasers during the past season. Seeds 1*s*. per packet.

Extra fine mixed HOLLYHOCK SEED, saved from all named varieties, 1*s*. per packet.

Early Emperor CELERY, red, the finest ever yet sent out, 1*s*. per packet.

TILEY'S Solid White Celery, 6*d*. per packet

DELPHINIUM FORMOSUM, 6*d*. per packet.

DIGITALIS, or Fox-glove Seed, 6*d*. per packet.

For further particulars, and list of Cucumbers and Melons, see Advertisement in *Gardeners' Chronicle* of Jan. 29, 1859.

A remittance must accompany every order in cash or penny postage stamps, when the whole or any part, as the case may be, will be immediately sent.

EDWARD TILEY, NURSERYMAN, SEEDSMAN, and FLORIST, 14, Abbey Church Yard, Bath.

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**TO THE TRADE.**

THOS. CRIPPS, NURSERYMAN, &C., Tunbridge Wells, Kent, respectfully offers the following fine strong SPANISH CHESNUT PLANTS, 4 feet to 6 feet in height, 40*s*. per 1000; Blush CHINA ROSES, fine strong plants, 15*s*. per 100; Crimson do., very strong, 25*s*. per 100; fine Standard and Half-standard ROSES, 60*s*. per 100; good do., do., 50*s* per 100; Double Yellow PRIMROSE, 20*s*. per 100 or 400 for 3*l*.; PINUS INSIGNIS and P. RADIATA from Seed, 15 inches to 28 inches, 6*l*. per 100; MANETTI STOCKS, 50*s*. per 1000; do. second size, 40*s*. per 1000; IRISH YEWS, 2 feet to 3 feet, 50*s*. per 100; Hardy HEATHS, a fine collection, 25*s*. per 100; large plants, good do., 20*s*. per 100; LARCH FIR, fine stout plants, 2 to 3 feet; LONICERA SHEPHERDI, or new Scarlet-trumpet HONEYSUCKLE, fine strong plants, 4*s*. per dozen; RHODODENDRON MAXIMUM, fine bushy plants, 18 inches to 2 feet, 60*s*. per 100. Orders from unknown correspondents unaccompanied by a remittance will not be noticed.

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**HORTICULTURAL VALUATIONS.**

MR. ALFRED CHANDLER (of the late firm of Chandler & Sons, Vauxhall), begs to inform his Friends that he is at liberty to undertake the valuation of Collections of Plants, Nursery Stock, Horticultural Buildings, &c.

Mr. A. C. is also open to engagements as Censor at Horticultural Exhibitions, in which capacity he has had long and extensive experience.—28, Priory Road, Wandsworth Road, S.

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WANTED, the ADDRESSES of the Principal Market Gardeners who Grow for Covent Garden Market Choice Vegetables and Fruit, such as

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| Asparagus | Pine Apples |
| Cucumbers | Grapes |
| Mushrooms | New Potatoes |
| Brussels Sprouts | Seakale, &c. |

Address Box P. 5, General Post Office, Liverpool.

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BEULAH SPA HYDROPATHIC INSTITUTION AND HOTEL COMPANY (Limited), Upper Norwood.

CONTRACT FOR LAYING OUT AND IMPROVING PLEASURE AND OTHER GROUNDS.

NOTICE is hereby given that the Directors will meet at the above Premises on Monday, March 14, at 2 o'Clock, P.M., to receive Tenders for certain alterations and improvements to be made in the gardens of the above Company, situate at Beulah Spa, and consisting chiefly of draining, making terraces, turfing, and preparing the ground for planting, including the supplying of gravel, turf, peat, and other materials, according to certain plans and specifications to be seen at the Offices of W. Davidson, Esq., 2, Randolph Terrace, Maida Hill, W., or at the residence of Dr. Ritterbandt, Beulah Spa Hotel, S.; of whom copies of the latter may be obtained on and after Monday, March 7. Tenders to be delivered not later than 12 o'Clock on Saturday, March 12, at the Office of George Ogle, Esq., 4, Gt. Winchester Street, City, E. C. The premises also may be seen at any time between the hours of 10 and 4. The Directors do not bind themselves to accept the lowest or any Tender. Persons tendering are requested to be in attendance at the Institution as above at the time before mentioned.

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# CHOICE SEEDS.

## BUTLER & McCULLOCH,

While drawing attention to their general SPRING CATALOGUE of SEEDS, which has elicited such high encomiums both from the scientific botanist and amateur cultivator, avail themselves of the present opportunity to select from its pages the following list:—

(6) ABUTILON MARMORATUM.

A charming plant, flowering all the year, and especially in winter, producing large, pure, white flowers, veined and marbled with bright rose, foliage silvery haired; the finest of the genus.

(37) ACACIA LONGIFOLIA (magnifica).

One of the most splendid Acacias in cultivation, with gorgeous clusters of bright yellow flowers several inches in length; very hardy, rare, and beautiful. Of these graceful and highly ornamental plants our collection embraces no fewer than 47 varieties, all of the most decorative character.

(199) CALLICHROA PEDATA.

Crimson with white eye; a most beautiful plant, and quite new.

(243) CANNA INDICA SUPERBA.

A magnificent plant flowering all the winter; leaves large, fine green. Of this picturesque and most ornamental genus we have a magnificent collection, consisting of 28 kinds, all remarkable both for the beauty of their flowers and foliage.

(279) CASUARINA INDICA.

The most singularly picturesque tree of the Australian Flora, with weeping branches jointed like a Bamboo, streaked between the joints, and without leaves; very elegant in a conservatory (seeds rare).

(304) CELOSIA (species nova).

A most elegant plant, producing a multitude of long spikes of feathery blossoms, silvery white shaded with bright rose, retaining its colour perfectly when dried, and therefore admirably adapted for winter bouquets; one of the greatest novelties of the season, flowering out of doors or in pots from July to October. Well worth attention. A dried specimen may be seen.

(434) CYCLAMEN AFRICANUM MACROPHYLLUM.

Fine foliage; flowers large, blush, marked white and rose. Very rare. Bulbs of this may be had in the summer.

(451) DATURA HUMILIS FLORE PLENO.

A magnificent Brugmansia-like plant producing a profusion of deep golden-yellow flowers; very large, double, and sweet-scented. One of the greatest novelties of the season.

(665) HIBISCUS ROSEUS SUPERB.

Flowers large, produced in great abundance.

(677) HIBISCUS THUNBERGI.

Pale yellow, dark eye, free flowering, and pretty.

(956) PAVONIA HASTATA.

A most beautiful little shrub, covered with white flowers, having a rich brown centre; handsome foliage.

(976) PENTAPETES PHŒNICEA.

Bright scarlet; leaves long and serrated, a very handsome plant.

(1001) PHYGELIUS CAPENSIS.

Large red tubular flowers, inside golden yellow, a handsome plant (seeds rare).

(1073) RICINUS ALBIDUS.

(New), white fruited, stems and leaves silvery and handsome.

(1074) RICINUS SANGUINEUS.

(New), splendid red fruit, in large bunches, very ornamental, producing a grand effect.

(1093) SALVIA HYBRIDA.

Scarlet, early flowering (new).

(1095) SALVIA SPLENDENS Nova.

Species, scarlet (new).

(1137) SIPHOCAMPYLUS BETULÆFOLIUS.

A handsome plant, with scarlet tubular flowers; suitable for a trellis.

(1144) SOLANUM MELANGERA GRANDISSIMUM.

(New), striped fruit, weighing from 1 to 4 lbs.

(1149) SOLANUM CAPSICASTRUM.

Miniature Orange tree, covered all winter with a profusion of scarlet fruit; a handsome plant for greenhouse or sitting rooms.

(1161) STATICE HALFORDI.

Blue; large and handsome, one of the very best for pot culture (seeds rare).

(1165) STATICE PURBERULA.

Purplish violet; a free flowering, extremely ornamental plant of neat habit.

(1170) STATICE BONDUELLI.

Deep golden yellow; flowers early and profusely, in large rosettes.

(1276) VERONICA ANDERSONI.

Purple and white, all but hardy; a charming shrub.

(1282) VERONICA MELDENSIS.

Beautiful rose and white.

(1294) VIRGILIA CAPENSIS.

A greenhouse shrub, with drooping racemes of purple and white flowers.

(1331) BIGNONIA GRANDIFLORA.

Orange and scarlet; flowers large, and in magnificent bunches.

(1335) BIGNONIA RADICANS MULTIFLORA.

Finer and brighter than radicans; flowers in large panicles producing a splendid effect.

(1354) CUCUMIS PERENNIS.

Very ornamental-foliaged plant, which grows with great rapidity.

(1360) CUCURBITA MELOPEPO CHAPEAU D'EVEQUE.

Orange; of this class of climbers we have a fine collection.

(1370) CYCLANTHERA PEDATA.

Bird-like fruit (new).

(1375) GLYCINE SINENSIS, or WISTARIA.

One of the most valuable climbing trees for out-doors (seeds rare).

(1380) IPOMŒA HYBRIDA MARGINATA.

Large and magnificent; flowers of various colours on the same plant, varying from the richest velvety purple to sky-blue, bordered in the most distinct manner with pure white (new and rare). This and three new varieties of Hederacea grandiflora far surpass the old and deservedly favourite rubro-cærulea for beauty, hardiness, and free flowering; they rank high amongst the novelties of the season, possessing advantages which will render them the grandest ornaments for the greenhouse, conservatory, or for out-door decoration.

(1431) MAURANDYA CRIMSON TINTED PURPLE GRANDIFLORA.

Exquisitely beautiful (new).

(1438) MAURANDYA MAROON GRANDIFLORA.

Superb (new and rare).

(1445) MEDEOLA ASPARAGOIDES.

Green and white, an elegant plant, flowering in winter, and scented like Orange blossom.

(1457) PASSIFLORA RACEMOSA PRINCEPS.

Pale scarlet, arranged in racemes, from 14 to 18 inches in length, having a striking and beautiful appearance.

(1468) TACSONIA IGNEA.

This magnificent Passion flower is unequalled for [illegible] lancy and splendour of its scarlet blossoms, far surpassing in this respect any of its class yet known. It flowers profusely, grows rapidly, and covers a large space in incredibly short time. It succeeds in a cold greenhouse, even against a south wall with a little protection (new and rare).

(1469) TACSONIA MOLLISSIMA

Rosy pink flowers; remarkable for their long tube and handsome pink colour.

(1473) TROPÆOLUM FLAMMULUM GRANDIFLORUM.

Yellow; beautifully streaked with carmine [illegible]

(1477) TROPÆOLUM GRACILE.

Sulphur, spotted with carmine; extremely pretty.

(1479) TROPÆOLUM MINIATUM MACULATUM.

Superb, striped variety (very rare)

(1488) TROPÆOLUM TRIOMPHE DE GAND PIMBRIATUM.

Fringed orange scarlet.

(1501) TRYCHOSANTHES COLUBRINA VERA.

Foliage extremely handsome; singular fruit, resembling a serpent (new and rare).

CARNATIONS and PICOTEES saved from the most select Collection of English varieties grown on the continent, and which may be expected to produce flowers of the highest merit, sent out in sealed packets as received from our Sardinian correspondent, whose seeds for many years have given such universal satisfaction, and from which many of the greatest excellence have been raised.

For prices and further particulars with regard to the above and other novelties, we refer our patrons to the Catalogue itself, which is sent free and post paid on application.

BUTLER & M'CULLOCH, Covent Garden, London.—N.

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RICH BOG AND LOAM.—Gentlemen and Nurserymen will do well to apply early for the above for their American beds. To be had in any quantity upon reasonable terms, by land or water carriage.

ROBERT NEAL, Nurseryman, Wandsworth Common, S.

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FLOUR, Warranted Unadulterated, free to any part of London (not less than 14 lbs.); Whites, for pastry, per bushel (56 lbs.), 8*s*.4*d*.; households, for bread-making, seconds, 7*s*. 0*d*.; Wheatmeal, for brown bread, 7*s*. 6*d*.; fine and coarse Scotch Oatmeal.—Address, HORSMAN & POOL, Bullford Mill, near Witham, Essex, or 97, Goswell Road, City Road, E.C. Directions for bread making gratis. Terms cash. Bags lent. German yeast. A half sack (140 lbs.) upwards, free to any railway station within 200 miles.

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**TO PIG AND POULTRY FEEDERS AND MILLERS.**

CHICKEN RICE, 7*s*. 9*d*. per cwt., in bags 1*d*. each. SCREENED RICE, 10*s*. per cwt., in bags 1*d*. each. RICE MEAL, 6*s*. 6*d*. to 8*s*. 6*d*. per cwt. Rice for grinding. An allowance per Ton. American Oilcake, new and bags, per ton only. Locust Beans, per ton.—Sold only by W. & R. JUPP, 6, Cross Lane, St. Mary-at-Hill, E.C.

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TANNED GARDEN NETTING, for protecting Fruit Trees from frost, blight, birds, &c., and nets for fowls, &c. One yard wide 1½*d*., 2 yards 3*d*., 3 yards and 4 yards 6*d*., per yard, in any quantity, may be had of WRIGHT'S, 376, Strand, W.C.—A liberal allowance to Nurserymen.

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BRITTAIN'S GARDEN NET completely protects Fruit Blossoms from injury by frost, and promotes the circulation of air and admission of light, so essential to healthy growth; 55 inches wide, 5*d*., 6*d*., and 8*d*. a yard. SHADING TIFFANY, yard wide, 2½*d*. do.—Manchester.

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SHAW'S TIFFANY.—The best and cheapest material for Shading Conservatories, Protecting Fruit from Birds and Wasps, &c. Sold in pieces 20 yards long, 38 inches wide. No. 1, best quality, 5*s*. per piece. No. 2 quality, 4*s*. per piece. Extra strong and thick (see description sent free by post with samples).

Address JOHN SHAW & Co., Manufacturers and Importers, Princess Street, Manchester.

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**SHADING.**

BROWN'S FLORAL SHADING still maintains its superiority for cheapness and efficiency over all other materials used for a similar purpose, viz., shading plants under glass from the scorching rays of the sun, protecting Fruit Trees when in bloom from frost, and preserving the fruit from the attacks of birds, flies, and wasps. In pieces 20 yards long, 38 inches wide:—

No. 1 per piece .. 4*s*. 0*d*. | No. 2 per piece ..

To be obtained of all the principal Nurserymen and Seedsmen in town and country. Samples sent free on application to the Manufacturer, CHARLES BROWN, Greenheys, Manchester.

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"FRIGI DOMO."—Patronised by her Majesty the Queen, the Duke of Northumberland, at Syon House, His Grace the Duke of Devonshire for Chiswick Gardens, Professor Lindley for the Horticultural Society, Joseph Paxton for the Crystal Palace, Royal Zoological Society, late Mrs. Lawrence, of Ealing Park, and — Collier, Esq., Dartford.

PROTECTION FROM COLD WINDS AND MORNING FROSTS.

"FRIGI DOMO," a Canvas made of patent prepared Felt and Wool, a perfect non-conductor of Heat and Cold, retains wherever it is applied, a fixed temperature. It is admirably all horticultural and floricultural purposes, for protecting Fruits and Flowers from the scorching rays of the sun, cold wind, from attacks of insects, and from morning frosts. To be had in any required lengths. Two yards wide, 1*s*. per yard run; four, 3*s*. per yard. Also, an improved material for Shading Purposes. Three yards wide, 2*s*. 6*d*. per yard.

ELISHA THOMAS ARCHER, whole and sole manufacturer, 7, Trinity Lane, Cannon Street, City, and of all Nurserymen and Seedsmen throughout the kingdom. "It is much more than mats as a covering."

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PATENT GUTTA PERCHA SOLES.—[illegible] TO GARDENERS.—The Gutta Percha Company have pleasure to acknowledge the receipt of the following letter from G. GLENNY, Esq., the celebrated Florist:—

"420, Strand, [illegible]

"Gentlemen,—I have worn Gutta Percha Soles [illegible] these two years, and being so much in a garden as necessarily am in all weathers, and with the ground in all would on no account be without them. As a matter of I would recommend Gardeners to use them, for they repair the worn part at all times by warming the [illegible] the fire, and pressing it from the thick parts to the [illegible] as easily as if it were so much dough. I think it the [illegible] persons who must occasionally wet their feet to adopt [illegible] that completely defies damp. Many a gardener would [illegible] colds and rheumatism by the use of Gutta Percha Soles.

"Your obedient servant, G. G[illegible]

Every variety of Gutta Percha articles, such as Mill [illegible] Tubing, Soles, Goloshes, Sheet, Pump Buckets, Fire [illegible] Bosses, Union Joints, Flasks, Bottles, Bowls, Chamber [illegible] Toilet Trays, Sponge Bags, Curtain Rings, Galvanic [illegible] Talbotype Trays, &c., manufactured by the Gutta Percha Company, and sold by their wholesale dealers in town and country.—The Gutta Percha Company, Patentees, 18 [illegible] Road, City Road, London.

## GREENHOUSES, ORCHARD HOUSES, AND PITS

OF EVERY DESCRIPTION, MADE BY STEAM MACHINERY, AND HEATED BY HOT WATER ON AN IMPROVED PLAN AT

J. LEWIS'S HORTICULTURAL WORKS, Stamford Hill, Middlesex, established 20 years. These Buildings are warranted of the best materials, and at prices which defy competition. The ventilation is most efficient, and the greatest improvement of the present day. Prices of any size on application. References in all parts of the United Kingdom.

## GREENHOUSES.

HENRY FREEMAN, HOTHOUSE BUILDER and HOT-WATER APPARATUS MANUFACTURER, Triangle, Hackney, Established 20 years. Good substantially built GREENHOUSES, fixed in any part of the kingdom, for cash, 42 ft. by 13 ft. 9*l.*; 21 ft by 13 ft., 50*l.* 12½ ft. by 10 ft., 30*l.* A first-rate Conservatory, 30 ft. by 16 ft, 130*l.* A large assortment kept. Estimates for heating, or any branch in wood, iron, or Park Fencing.

IMPROVED HOT-WATER PIPE.—The Horticulturist will find herein an inexpensive instrument of new and very important powers. An atmosphere may be produced at will either perfectly dry, partially damp, or saturated with moisture. A space of 10 inches by 12 inches contains the power of 25 feet of 4-inch pipe and other numerous advantages. The London Warming and Ventilating Company (Limited), 36, Great George Street, Westminster, S.W.

C. STEPHENSON, late STEPHENSON AND SONS, 61, Gracechurch Street, London, Manufacturer of Iron Hurdles, Fencing, &c., Improved Iron and Copper Conical Boilers and Apparatus for Warming Buildings of every description by Hot Water.

Prices and Estimates furnished upon application.

HEATING BY HOT WATER ON HAMMOND'S improved principle, for Horticultural Works, Mansions, Churches, Public Buildings, in fact everywhere that heat is required. Also his improved Ventilating Greenhouses, which can be erected at 1*s.* per foot, and entirely prevent the possibility of scorching the Vines or plants. The Patent Hot-water Register Stove.—Estimates at No. 18, George Street, Portman Square. Workmen sent into the country.

VOKINS AND HURD, Seymour House, Jubilee Place, King's Road, Chelsea, BUILDERS OF HOTHOUSES, CONSERVATORIES, GREENHOUSES, PITS, and every description of erections in Glass work, either in Wood or Iron; also Heating the same by hot water on the most approved plans and at the lowest prices consistent with good work. Estimates forwarded.

HANDS'S PATENT is the only system to circulate Heat, and for WARMING, FUMIGATING, and VENTILATING Hothouses, Greenhouses, Winter Orchards, &c.; to keep vegetation healthy in a humid atmosphere, and can be applied to any kind or shape of Forcing-houses and Conservatories now existing at trifling cost.—For particulars apply at the Office, 10, Charlotte Street, Fitzroy Square, London; or to Mr. JOHNSON HANDS, Epsom.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

E. DENCH, KING'S ROAD, CHELSEA, & HAMPSTEAD ROAD, Patentee and Sole Manufacturer of PATENT GALVANISED IRON HOTHOUSES AND CONSERVATORIES, has Two SPAN-ROOFED HOUSES left for Sale, a great Bargain. Patent Hothouses, every way superior to any other material, at 1*s.* 3*d.* per foot super, with excellent heavy good quality Glass. Printed Price List sent on application. Heating by Hot Water with efficiency and economy.

## HOTHOUSES FOR SALE.

TO BE SOLD CHEAP, two nearly new SPAN-ROOF HOUSES, each 65 feet long by 18 feet wide, price 100*l.* each; also a handsome OCTAGON CONSERVATORY, 22 feet diameter with glass all round, quite new, price 90*l.* All these houses are warranted to be of the best materials and workmanship. The reason of their being now Sold is to make room for an extensive alteration and addition to our Workshops and Steam Machinery.—Apply to Messrs. JOHN WEEKS & Co., King's Road, Chelsea, where the whole of the above can be seen, as also a great variety of other Horticultural Erections.

## HORTICULTURAL BUILDINGS AND HEATING BY HOT WATER.

JOHN R. PEILL, 17, New Park Street, Southwark, Manufacturer of every description of Buildings for Horticultural purposes, and Inventor of the Improved Conical Boiler for heating the same, is prepared to undertake works of any magnitude, and refers among others to the celebrated range of FORCING HOUSES at HER MAJESTY'S GARDENS, FROGMORE, and at SIR ROBERT PEEL'S, DRAYTON MANOR, constructed under the superintendence of his Manager, MR. JOHN JONES; and also to his BOILERS fixed at the CRYSTAL PALACE, the ROYAL BOTANIC GARDENS, REGENT'S PARK, and KEW, and at several hundreds of the Nobility's seats, Public Establishments, and Manufactories in London and the provinces. J. R. P. also manufactures every description of Iron Roofs, Iron Houses, and Iron Fencing, plain and ornamental. Strong Iron Hurdles for Sheep (6 feet long, 3 feet high, with 5 bars), 4*s.* 3*d.* each; ditto for cattle, 4*s.* 9*d.* each.

Prices and other particulars forwarded on receipt of one postage stamp.

POULTRY HOUSES—SUMMER-HOUSES.—Poultry House, 12 ft. by 4 ft., 6 ft. high in lowest part, 5*l.*; consisting of roosting-house, 4 ft. by 4 ft.; roofed run, wired in, 8 ft. by 4 ft. of corrugated iron, fitted with nest-boxes, perch, &c.; House without run, 2*l.* Poultry Wirework, galvanised, 5*d.* per square yard. Corrugated Iron Summer-house, 10 ft. by 6 ft., price 6*l.*—a good retreat and play place for children; larger or smaller, on equally moderate terms, Bath House, 5*l.*, for yard or garden. Tool Houses, Sheds, Roofs &c.—R. RICHARDSON, Portable House Builder, White Horse Factory, Bidborough Street, Judd Street; Office, 99, Euston Road, London. Drawings of Poultry Houses, Summer-houses, and Portable Houses free on application.

## IMPROVED PATENT TURNIP AND MANGEL GRATER,

MANUFACTURED BY

JOHN WARNER AND SONS, No. 8, Crescent, Jewin Street, London, E.C.—J. W. & SONS, in introducing their IMPROVED PATENT TURNIP AND MANGEL GRATER to the notice of Agriculturists, beg to state that they have personally tested its capabilities during the last three seasons, and as such feel that they can, with the greatest confidence, recommend it as a machine that will upon trial, satisfy the requirements of Feeders of Stock generally; one man or strong lad being able with comparative ease to grate 20 bushels of roots in 10 minutes.—Price of the Machine complete, 4*l.* 10*s.* Carriage paid to any Railway Station in England. To be procured of any Ironmonger or Agricultural Machine Agent in Town or Country, or of the Manufacturers.

GEORGE SPILL, ST. GEORGE'S STREET, LONDON DOCKS, E., LEAD, OIL, and COLOUR WORKS; WHITE LEAD, TAR, and TURPENTINE MERCHANT; WHITE ZINC, PAINT, COLOURS, and VARNISHES. To meet the desire of purchasers in the country the following colours are prepared ready for use:—Priming Colour, Red and Yellow Paint, Buff Stone, Lead, and Green Colours. Putty, Painter's Tools and Brushes, Refined Coal and Stockholm Tars; Pure Colza, Olive, Sperm, and Nut Oils.

## TO GARDENERS, ETC.

PATENT WATERING ENGINES, PAIL MACHINES, CONSERVATORY PUMPS, and GREENHOUSE SYRINGES, with all the latest improvements, manufactured only by the Patentee,

RICHARD READ, 35, REGENT CIRCUS, PICCADILLY, LONDON.

*** Descriptions sent post free.

FOR WATERING GARDENS, PLUMBERS, ENGINEERS, MILLS, AND MACHINISTS.

VULCANISED INDIA RUBBER.

- Washers for Hot-water and Steam Joints
- Elastic Packing and Valves for Steam Engines
- Pump Buckets (compound India-rubber)
- Suction Hose for Pumps
- Fire Engine Hose
- Air Beds, Cushions, & Bolsters
- Water Beds, Pillows, and Feet Warmers
- Garden Watering Hose
- Do. fitted with Brass Joints, Taps and Spreaders
- Wheel Tires (noiseless for Trucks, &c.)
- Waterproof Cart, Van, and Waggon Covers
- Mill Bands, much improved for driving all kinds of Machinery
- Door Springs, Gas Bags
- Foot Balls, Cricketting Gloves

N.B. A Stock of the above always on hand, and any modification made to order. Please address all communications to the Manufactory.

JAMES LYNE HANCOCK,

Vulcanised India-rubber Works, Goswell Road, London, E.C.

WARNER'S SWING WATER-BARROW (TO HOLD FORTY GALLONS) MOUNTED ON WHEELS 20 INCHES HIGH. Will save much of the Gardener's time and labour. May be obtained of any Ironmonger for 3*l.* 3*s.*

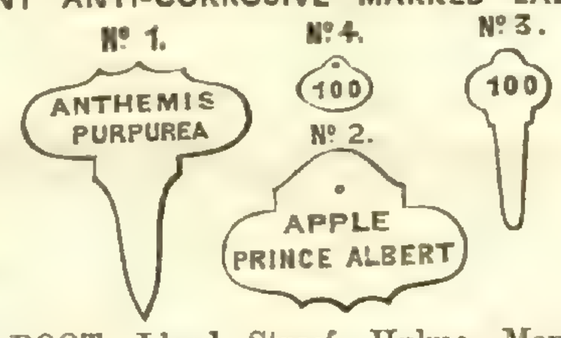
BRASS SYRINGES, 9*s.* to 18*s.*

Also a great variety of effective Machines for Hydraulic purposes, and to supply Gardens, Hothouses, Cottages, Farms, Mansions, or Boards of Health, with every requisite connected with the conveyance and distribution of Liquids.

Fountains suitable for Conservatories, Lawns, &c.

JOHN WARNER & SONS, 8, Crescent, Jewin Street, London.

## PATENT ANTI-CORROSIVE MARKED LABELS.




A. J. BOOT, Lloyd Street, Hulme, Manchester, respectfully calls the attention of the Nobility, Gentry, Nurserymen, and Gardeners to his PATENT ANTI-CORROSIVE MARKED LABELS. The indestructible metal of which they are manufactured, the deep and legibly marked letters, and their neatness of design, render them essential in every well-conducted horticultural building, garden, or orchard, where so much depends upon the preservation of names. The inventor guarantees them to endure for centuries in any climate; neither damp nor heated atmosphere having the slightest effect upon their durability. They need only be cleaned with soap and water to renew their usefulness and neat appearance every year, which qualities will ensure for them a preference to all others now in use. The following descriptions will give an idea of their general utility.

No. 1. Large-tongued Label, 4*s.* per dozen, suitable for all stove plants, Orchids, greenhouse plants, annual and perennial flowers, and all kinds of bulbous roots.

No. 2. Wall Labels, 4*s.* per dozen, for all kinds of wall trees, standards, Vines, Roses, Dahlias, Hollyhocks, or for fixing on blocks of wood for orchidaceous plants and all kinds of shrubs or ornamental plants and nursery stock in general.

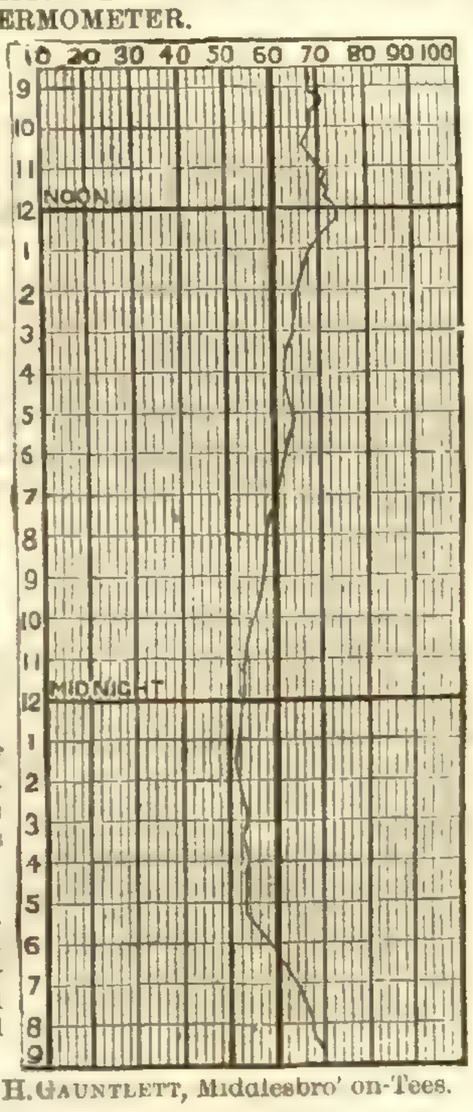
No. 3. Small-tongued Numbered Label, 6*s.* per 100, for Polyanthus, Auriculas, Tulips, and all descriptions of florists' flowers.

No. 4. Small Numbered Label, 5*s.* per 100, for numbering every description of choice and tender plants, Rose trees, &c.

## TO HORTICULTURISTS.

GAUNTLETT'S PATENT CHRONOMETRICAL THERMOMETER.

This instrument, which combines an eight-day clock of the best English make showing time, with a newly-patented Thermometer, wherein glass and quicksilver are dispensed with, writes down the temperature of the atmosphere on a slip of paper, and when placed in a Hothouse, Forcing House, or Conservatory, &c., supplies a valuable record of the temperature, with all its variations, showing the time when any change took place, and how long such change continued.




The above slip (reduced in size) exhibits the temperature of the Royal Agricultural Society's show yard at Chester, July 22, 1858, written off by one of these instruments, to which was awarded the Society's SILVER MEDAL.

This is the only instrument that registers temperature continuously and writes it down, and no horticulturist should be without it.

Orders received by W. H. GAUNTLETT, Middlesbro' on-Tees.

## GENUINE ROLL TOBACCO CLOTH.

WARRANTED EQUAL IN STRENGTH TO TOBACCO.

JOSEPH BAKER, 10, Gough Square, Fleet St. E.C., having dealt upwards of 20 years in the above, can recommend it as the best article for destroying the Fly. 1*s.* 4*d.* per lb., over 10 lbs. 1*s.* Post-office Orders payable Strand Office.

## GENUINE TOBACCO PAPER.

MESSRS. JACKSON AND SONS' WORKMEN are selling their unequalled TOBACCO PAPER at 4*l.* per cwt., any less quantity 10*d.* per lb.—Address BEN BAXTER, Messrs. Jackson & Son, Lady Lane, Leeds.

## GENUINE TOBACCO PAPER FOR FUMIGATING.

H. APPLEBY (Foreman to Messrs. Ivery & Son, Nurserymen, Dorking, Surrey), takes this opportunity of informing his Patrons and the Public that he is now offering the above at a very considerably reduced price. It is now sold in packets of 4 lbs. each, at 1*s.* 3*d.* per lb. A liberal Discount allowed to the Trade. The following Testimonials amongst many others will guarantee its quality:—

"Maresfield, Sussex, Feb. 17, 1858.

"SIR,—It gives us much pleasure to inform you that the Tobacco Paper with which you supplied us has answered admirably. We have not the slightest hesitation in stating that 1 lb. of the Paper we had from you will render more service than 3 lbs. of the paper we have been in the habit of purchasing elsewhere. You will please send us a further supply of 28 lbs. at your convenience.

"WOOD & SON, Nurserymen, Maresfield, Sussex."

"Royal Berkshire Seed Establishment, Reading,
"Dec. 6, 1858.

"SIR,—Our propagator has tried your Tobacco Paper thoroughly, and considers it very good. It is also very convenient to the Public to receive it in 4-lb. packets as you make it up. We should therefore be glad of 1 cwt. for present sale in 4-lb. packets, and will let you know when more is required.

"SUTTON & SONS,
"Nurserymen and Seedsmen, Reading, Berks."

H. APPLEBY'S SHEET IRON FUMIGATING POT, which will be a great saving of Flower Pots, as they are apt to break. The undermentioned Testimonial will guarantee its usefulness.

"The Gardens, Oxton House, near Exeter, Dec. 11, 1858.

"Sir,—I am perfectly satisfied with the little Fumigating Pot, and can strongly recommend it in preference to flower pots, as it is a great saving and much easier managed.

"A. AYSON, Gardener to Major-General Studd, Oxton House, Exeter, Devon."

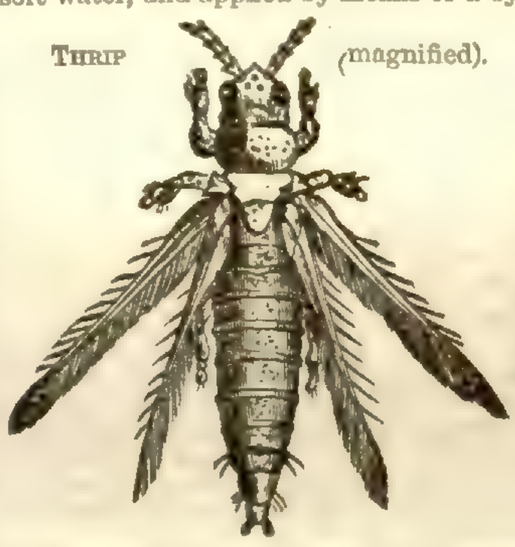
Price, 3*s.* 6*d.* each.

N.B.—All Orders to be accompanied with a Post-office Order, payable to HENRY APPLEBY, Dorking, Surrey.

PAGE'S BLIGHT COMPOSITION (4*s.* per gallon, sufficiently strong to make four fit for use) has stood the test of eight years public trial, and its great success has led to numerous imitations. Dr. Lindley, in his leading article of October 25, 1856, reported 182 cases in its favour, sufficient to convince the most sceptical. Seeds packed for exportation to all parts of the world.—PAGE & TOOGOOD, Royal South Hants Seed Establishment, Southampton.

GISHURST COMPOUND, PATENTED.—For preventing and destroying Red Spider, Scale, Mealy Bug, Thrip, and Green and Brown Fly.—See *Gardeners' Chronicle*, Nov. 6, 1858.—To be dissolved ½ or ¼ lb., or less, in a gallon of soft water, and applied by means of a syringe or a soft brush.

THRIP (magnified).



MEALY BUG (magnified).

On Orchids it may be used in a strong lather, applied by a shaving brush, but on tender young Geranium shoots a solution of 2 oz. to the gallon will be found sufficiently strong.

Sold in boxes at 1*s.* 6*d.* and 6*s.* each, with directions for use, and printed opinions of Mr. Rucker's Gardener, Lady Dorothy Neville's Gardener, Sir William Hooker, Mr. Rivers, Messrs. Francis & Arthur Dickson & Sons of Chester, and Messrs. Dickson & Brown of Manchester.

For Nurserymen the large size is recommended, but where the consumption is not large the compound will be found to keep its strength best in the small boxes.

Nurserymen and Seedsmen supplied by PRICE'S Patent Candle Company (Limited), Belmont, Vauxhall, London, S.

RATS, RATS TAKEN WITHOUT POISON OR TRAPS BY WHOLESALE.—Ships, Barns, Stables, Granaries, Mills, Warehouses, Farmsteads, Houses, &c., cleared at one sweep. ANY PERSON can by this method clear the entire premises of every RAT, however numerous they may be, in one single night. Printed directions how to entice and secure the whole lot alive, sent free by return of post for Two Shillings by WILLIAM GOODWIN, High Halstow, near Rochester.

## MICROSCOPES.

J. AMADIO'S BOTANICAL MICROSCOPES' packed in mahogany case, with three powers, condenser pincers, and two slides, will show the animalculæ in water. Price 18*s.* 6*d.*—Address JOSEPH AMADIO, 7, Throgmorton Street. A large assortment of Achromatic Microscopes.

"It is marvellously cheap, and will do everything which the lover of nature can wish it to accomplish either at home or in the open air."—*The Field*, June 6, 1857.

Just published, an Illustrated Catalogue, containing the names of 1000 Microscopic objects, post free for 4 stamps.

## SMALL GAS APPARATUS, FREE FROM NUISANCE.

THE PATENT NATIONAL COAL-GAS APPARATUS, for private Residences, Farm Buildings, Churches, Chapels, Workshops, Railway Stations, and other places not hitherto lighted with Gas. It is durable, economical, and compact, and supplies the desideratum of cleanliness in the production of a Gas of better quality and purity, and at less cost, than is ordinarily obtained from Public Works. By an entirely new and peculiar process it is easily worked by a boy or inexperienced servant. The cost of Gas, including labour, wear and tear, and interest of capital, is less than one-fourth that of candles or oil. It can be fixed and completed in working order in a few days.—Further particulars, prices, testimonials, &c., on application to the Proprietors and Manufacturers, J. T. B. PORTER & Co., Lincoln.

# GRASS SEEDS FOR PERMANENT PASTURES & MEADOWS.

## THOMAS GIBBS & CO., Corner of Half-Moon St.,

### THE SEEDSMEN TO THE "ROYAL AGRICULTURAL SOCIETY OF ENGLAND,"

BEG to inform the Members of the Society and Agriculturists generally that their MIXTURES of GRASS SEEDS for Laying down Land to Permanent Grass are now ready. Each kind of Grass Seed composing these Mixtures is cleaned separately, and the kinds are proportioned to suit different soils.

☞ *Full Directions for Sowing and Management will be sent with the Seeds.*

**MIXTURES for PERMANENT MEADOW and PASTURE** (*to suit different soils*).
**MIXTURES for PARKS, FIELD LAWNS, CEMETERIES, &c.**
**MIXTURES for IRRIGATION MEADOWS, GAME COVERS, and all other purposes.**
**RENOVATING MIXTURES for Improving Old Meadows and Pastures** (8 to 12 lbs. per acre).

| MANGEL WURZEL. | RYE-GRASS. | | |
|---|---|---|---|
| Yellow Globe, Orange Globe (selected) | Italian (selected, very fine) | Carrots | all sorts |
| Long Red | Dickinson's | Clovers | ,, |
| Red Globe | Imported Foreign Seed | Swedes | ,, |
| Long Yellow | Common or Annual | Hybrids | ,, |
| Silesian Sugar Beet | Pacey's Perennial | Common Turnips | ,, |

**KITCHEN GARDEN SEEDS in Collections at £1, £2, and £3 each.**

Thomas Gibbs & Co.

CORNER OF
**HALF-MOON St.**
PICCADILLY, LONDON, W.

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### RHODODENDRONS.

JOHN WATERER'S CATALOGUE OF UNRIVALLED HARDY SCARLET AND OTHER CHOICE RHODENDRONS, as Exhibited by him at the Royal Botanic Gardens, Regent's Park, London, is published, and will be forwarded on application.

☞ This List is recommended as a work of reference, as it contains accurate descriptions of all the esteemed varieties.

The American Nursery, Bagshot, Surrey, near the Sunninghill Station South Western Railway.

### HARDY SCARLET RHODODENDRONS AND AMERICAN PLANTS GENERALLY.

WATERER AND GODFREY'S PRICED and DESCRIPTIVE CATALOGUE of the above beautiful tribe of plants, as exhibited by them in London and Manchester, may now be had on application inclosing one stamp for postage. The Catalogue also furnishes the heights and prices of their unequalled stock of Conifers and Evergreens, &c. Catalogues may also be had of Messrs. J. MAY & Co., Seedsmen, &c., Wellington Street, Strand.

Knap Hill Nursery, Woking, Surrey.

### NEW SEEDS FOR 1859.

WM. CUTBUSH AND SON beg respectfully to intimate that their PRICED CATALOGUE OF VEGETABLE AND FLOWER SEEDS, &c., is now ready post free on application. WM. C. AND SON devote particular attention to this department of their business, and most of the choicer kinds of culinary seeds and roots are saved under their own inspection, and they can confidently guarantee the quality of all offered.—Highgate Nurseries, London, N. Established A.D. 1695.

### AZALEA INDICA.

J. IVERY AND SON beg respectfully to invite growers of the above named to an inspection of their unrivalled Stock of Young Specimens of all the newest and best varieties, many of which have been exhibited at the Metropolitan Exhibitions. They are clean and healthy, well set with bloom, and moderate in price. Catalogues forwarded post free upon application.—Dorking Nursery, March 5.

### POLYANTHUS SEED.

JAMES WOODS begs respectfully to inform the lovers of that early spring flower, the Polyanthus, that his Seed is saved with more than ordinary care this year, from none but named and good laced flowers, which he can recommend with confidence. Having had testimonials from different parts of the kingdom of many valuable flowers being raised from his seed, it needs no further comment. Price 12*s.* per oz. to the trade, or 1*s.* per packet, sent free on receipt of 13 postage stamps.—JAMES WOODS, Florist, Harwich, Essex.

DOUBLE ITALIAN TUBEROSE ROOTS, 4*s.* per dozen.—The annual importation of the above named beautiful and fragrant Flower has just been received, and large and well selected Bulbs may be obtained, without disappointment, at A. COBBETT'S Foreign Warehouse, 18, Pall Mall.

N.B. Printed regulations for treatment sent; also, just arrived, very moist and open Parmesan Cheeses.

### THE GREAT VINE AT HAMPTON COURT.

THE SUBSCRIBERS being the holders of the Royal Kitchen Gardens, Hampton Court, are enabled to offer genuine the famous and truly excellent HAMPTON COURT BLACK HAMBURGH GRAPE.

Strong well-ripened plants in 9-inch pots, 42*s.* and 60*s.* per doz.
,, ,, fruiting plants in 12-inch pots, 10*s.* 6*d.* each.

If purchased in large numbers a considerable reduction will be made in price.—JACKSON & SON, Nurseries, Kingston, S.W.

### 100 GOOD PHLOXES FOR 40*s.*

| | | | |
|---|---|---|---|
| 50 | Ditto | Ditto | for 25*s.* |
| 25 | Ditto | Ditto | for 12*s.* 6*d.* |
| 12 | Ditto | Ditto at 6*s.* and 9*s.* per doz. | |

The best and newest continental varieties from 12*s.* to 18*s.* per dozen.

CATALOGUES sent free on application, and extra plants presented for distant carriage.

**WM. WOOD & SON, having imported all the best and newest PHLOXES from the Continent, will be happy to supply them in collections as stated above, in fine strong plants grown in the open ground.**

Woodlands Nursery, Maresfield, near Uckfield, Sussex.

### PETUNIAS, SPLENDID NEW DOUBLE SORTS OF 1859.

J. SCOTT, MERRIOTT NURSERIES, Crewkerne, Somerset, begs to offer 30 sorts, many of them 5 inches across, some like large flowers of Gardenia Fortuni; one very like Baronne Prevost Rose, many flaked and striped like large Carnations, and altogether the most beautiful and unique collection ever offered in this or any other country. Strong plants 2*s.* 6*d.* each; or the 30 sorts 63*s.* One set added for every three ordered by the trade.

J. S.'s DESCRIPTIVE CATALOGUE of the above and other cheap BEDDING PLANTS will be ready about the middle of March, and will be sent to all applications, inclosing two stamps; and to former purchasers gratis.

N.B. PETUNIA MAGNA COCCINEA, a splendid single (7 inches diameter) is offered at 3*s.* 6*d.* per dozen for bedding, and J. SCOTT'S new single striped ALCEMENE, 5 inches across, at 30*s.* per dozen, or 3*s.* 6*d.* each.

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CUCUMBERS of the following sorts, packet of 12 seeds in each, 6*d.*:—Lord Kenyon, General Canrobert, Sion House, Sir Colin Campbell, Manchester Improved, Kelly's Defiance, Improved Sion House.

Asparagus Plants, 2 years, 1*s.* 6*d* per 100.
Larch, 3 to 4 ft. 3*s.* per 100.
,, 4 to 5 ft. 4*s.* ,,
Beech, 3 to 4 ft. 4*s.* ,,
Elms, 6 to 8 ft. 5*s.* ,,
Spruce Fir, 2 ft. 4*s.* ,,
Scotch ,, 2½ to 3 ft. 5*s.* pr. 100.
Standard Roses, Mixed, good sorts, 50*s.* per 100.
Dwarf Roses in pots, named, 6*s.* per doz.
Dwarf Trained Peaches and Nectarines, 3*s.* 6*d.* each.

WALTER BIRD, Atherstone Nursery.

### AZALEA INDICA.—

| | *s.* | *d.* |
|---|---|---|
| 25 choice varieties, very strong, and well established for fine bloom | 45 | 0 |
| 12 choice ditto ditto | 24 | 0 |
| 25 choice ditto ditto, including new varieties | 65 | 0 |
| 12 choice ditto ditto ditto | 36 | 0 |
| Fine flowering plants, selections, per doz., 18*s.*, 24*s.*, and | 30 | 0 |

Carriage free for orders of 20*s.* and upwards to all Stations in London, &c. See CATALOGUE.

BASS & BROWN, Seedsmen and Nurserymen, Sudbury, Suffolk.

### FRUIT TREES IN POTS.

JOHN AND CHARLES LEE have now the largest and finest stock of FRUIT TREES IN POTS in a bearing state for FORCING AND ORCHARD HOUSES ever offered. They consist of the following kinds, a CATALOGUE of which may be had on application:—

| | | |
|---|---|---|
| APRICOTS | FIGS | PEARS |
| PEACHES | PLUMS | APPLES. |
| NECTARINES | CHERRIES | ALSO, |

VINES AND STRAWBERRIES.

**Nursery and Seed Establishment, Hammersmith, London.**

### SUPERB DOUBLE BALSAMS.

F. AND A. SMITH are now sending out seed of their superb BALSAMS, which are unrivalled for size, brillancy of colour, doubleness of flower, and habit of plant.

| | |
|---|---|
| In collections of nine separate colours .. .. | 2*s.* 6*d.* |
| ,, ,, mixed ,, .. .. | 1 0 |
| ,, ,, ,, ,, half quantity | 1 6 |

The above are *genuine only* in our sealed packets, and may be had of most respectable Nurserymen and Seedmen in the United Kingdom.—Dulwich, Surrey, S.

### PLANTS IN FLOWER.

F. AND A. SMITH have now in bloom Acacia, Azalea indica, Cinerarias (fine), Cytisus, Dielytra spectabilis, Erica Willmoreana, E. perspicua nana, E. Syndriana, Geraniums, Fairy Roses, Primula sinensis fimbriata, &c.

The above are healthy, strong, and well grown plants prepared for sending away. Prices on application.

Dulwich, Surrey, S.

### GERMAN FLOWER SEEDS.—

| | | | |
|---|---|---|---|
| 24 | varieties | imported German Aster .. .. | 6*s.* 0*d.* |
| 9 | ,, | Ranunculus Aster .. .. .. | 2 6 |
| 12 | ,, | French, or Pæony-flowered .. .. | 2 6 |
| 12 | ,, | German Stocks .. .. .. .. | 3 0 |
| 8 | ,, | large-flowered ditto .. .. | 2 0 |
| 6 | ,, | dwarf-flowered ditto .. .. | 1 6 |
| 6 | ,, | Camellia Balsams .. .. .. | 2 6 |
| 10 | ,, | German Wallflowers .. .. .. | 2 0 |
| 8 | ,, | Phlox Drummondi .. .. .. | 2 6 |
| 8 | ,, | Hyacinth-flowered Larkspurs .. | 1 6 |
| 6 | ,, | Zinnia elegans .. .. .. .. | 1 0 |

The above sent free by post in the original packets as received from Mr. Ernest Benary, of Erfurt, Prussia, whose Seed J. M. has had for the last 16 years; they will be found of the very best quality, and not to be surpassed.

JOSEPH MAY & Co., Seedsmen, &c., 1, Wellington Street, Strand, Waterloo Bridge.

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## EXHIBITION OF CAMELLIAS,

### VAUXHALL NURSERY, WANDSWORTH ROAD.

# MILNE, ARNOTT, & CO.,

(SUCCESSORS TO CHANDLER & SONS),

HAVE much pleasure in announcing that the large Collection of CAMELLIAS for which this Nursery has so long been celebrated, is now coming finely into bloom, and will improve daily, and continue in perfection several weeks. Open to visitors every day except Sunday.

**MILNE, ARNOTT, & Co.,**

NURSERYMEN, SEEDSMEN, AND FLORISTS, WANDSWORTH ROAD, LONDON, S.

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## CHOICE FLOWERS.

# BUTLER & McCULLOCH'S SPRING CATALOGUE OF SEEDS,

UPWARDS OF A CENTURY ESTABLISHED

ARRANGED on a new and original plan, with copious Descriptive and Cultural Notes and containing many new and rare species and varieties not found in any other Catalogue, now ready and may be had free and post paid on application.

FLOWER, SHRUB, TREE, and VEGETABLE SEEDS, the crop of 1858, saved with the greatest care, by the most eminent growers.

We may also state that the Sardinian correspondent of Messrs. JAMES CARTER & Co., whose Seeds, especially Carnations and Picotees, have given such universal satisfaction, has transferred the Agency from that firm and appointed us his representative in this country. To meet the growing demand for first class flowers, particularly FLORISTS' FLOWERS, we have adopted our usual maxim of charging the lowest possible prices.

Professor LINDLEY in the *Gardeners' Chronicle* of February 5th, has the following notice of B. & McC.'s Catalogue:

"BUTLER & McCULLOCH'S (Covent Garden) Spring Catalogue of Choice Flower, Shrub, Tree, and Vegetable Seeds. This fills 84 closely printed 8vo pages, and is remarkably well got up. It appears that the correspondent in Sardinia, who formerly supplied one of the great London houses with seeds raised in that warm part of Europe, has now transferred what he saves to Messrs. BUTLER & McCULLOCH. Let us add, that it yields to no Trade List in the abundance of its materials or the excellence of its arrangements."

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| A selection of 44 pkts. | | of beautiful | Annual Flower | Seeds | .. .. | 7*s.* | 6*d.* |
| Ditto | 33 | ditto | ditto | .. | .. | 5 | 6 |
| Ditto | 21 | ditto | ditto | .. | .. | 3 | 6 |
| A selection of 40 pkts. | | of beautiful | Biennial and Perennial | ditto | .. .. | 10 | 6 |
| Ditto | 31 | ditto | ditto | .. | .. | 7 | 6 |
| Ditto | 24 | ditto | ditto | .. | .. | 5 | 6 |

An Assortment of Vegetable Seeds, 20 quarts of Peas, and other Seeds in proportion for 1 year's supply .. .. .. .. .. .. .. £2 2*s.* 0*d.*

| | | | | | |
|---|---|---|---|---|---|
| Ditto | ditto | 12 | quarts of Peas | ditto | .. 1 1 0 |
| Ditto | ditto | 6 | ditto | ditto | .. 0 15 0 |
| Ditto | ditto | 5 | ditto | ditto | .. |

All Flower Seeds sent post paid, and Vegetable or Vegetable and Flower Seeds amounting to 1*l.* 1*s.* Carriage Paid to any principal Railway Station in England, Wales, and Scotland, or any port on the Irish Coast.

**BUTLER & McCULLOCH, Covent Garden Market.**

## SORGHUM, or HOLCUS SACCHARATUS.

CARRIAGE FREE TO ALL PARTS.

# SUTTON & SONS,

THE largest Importers of this Seed, can supply it wholesale and retail, warranted the true kind, and good growing seed. 8 lbs. per acre is sufficient.

**Present retail price, 2s. per lb., or cheaper in large quantities.**

On the Continent the price is rapidly rising.

☞ *Instructions on Cultivation sent with the Seed.*

**SUTTON & SONS, Royal Berks Seed Establishment, Reading.**

## SELECT LIST OF NOVELTIES FROM CATALOGUE 1859.

Carter's Tom Thumb Nasturtion
Lagenaria vittata
Œnothera Drummondi nana
Lupinus Hartwegi cœlestinus
Œnothera bistorta Veitchi
Cosmidium Burridgi

Lupinus nanus albus
Viscaria Dunetti
Laxton's Hybrid Pinks
Dwarf spotted Nasturtion
Nolana paradoxa violacea

Fenzlia dianthiflora
Gaillardia hybrida grandiflora
Lobelia formosa
Viscaria cœli rosa alba
Marigold French Orange.

J. C. & Co. also wish to call attention to their Splendid Collections of Imported

**GERMAN & FRENCH ASTERS, GERMAN STOCKS, BALSAMS, & WALLFLOWERS,**

UNIVERSALLY ACKNOWLEDGED TO BE UNSURPASSED.

For a Full Description of the above articles they beg to refer to their CATALOGUE, which will be forwarded gratis and post free on application to

**JAMES CARTER & Co., Seedsmen, 238, High Holborn. W.C.**

## SEEDS RIPENED ON THE CONTINENT.

# JAMES CARTER & Co.

HAVING observed their name mentioned in an advertisement in connection with a late correspondent, feel it their duty to state that, preferring to have their Seeds from the Continental growers *direct*, one of the Firm has travelled during the past autumn with that object, *and purposes doing so every season*; the services of the correspondent alluded to therefore dispensed with. Their Seeds for the present season, having been *personally* selected, are better than any they have hitherto offered.

**JAMES CARTER & CO., Seedsmen, 238, High Holborn, London, W.C.**

## GENUINE KITCHEN GARDEN SEEDS.

# JAMES CARTER & CO.

ARE NOW READY TO SUPPLY SEEDS FOR THE VEGETABLE AND FLOWER GARDEN, WHICH WILL BE FOUND, AS USUAL, OF THE BEST QUALITY ONLY.

## CARTER'S "ENCYCLOPÆDIC CATALOGUE OF SEEDS, AND GARDENER'S VADE MECUM."

The Twenty-fourth Annual Issue of the above is now ready, and, in addition to its usual comprehensiveness, has affixed a CALENDAR OF OPERATIONS for each month in the year for the Vegetable and Flower GARDEN, also for the Stove, Conservatory, Greenhouse, Orchid House, Pineries, Vineries, Pits, Frames, &c., forming a complete Gardener's Book of reference, which it is hoped will be found useful alike to the Amateur and professional Gardener. Forwarded free of charge and post paid to all parts of the world upon application.

**JAMES CARTER & CO., Seedsmen, 238, High Holborn, London, W.C.**

# MESSRS. E. G. HENDERSON & SON

RESPECTFULLY ANNOUNCE THAT THEY WILL FORWARD, POST FREE, THEIR

## NEW SEED CATALOGUE FOR 1859,

IN which the following novelties of the season will be introduced, or noticed, with full descriptions of management, cultivation, and adaptation; and only those that are known to be valuable are recommended for cultivation. Much useful information on the cropping of Gardens, Sowing, &c., is also given for the guidance of cultivators. The following NEW FLOWERS and other SEEDS are offered by E. G. HENDERSON & SON for the first season; full descriptions of which, with treatment, are given in the Catalogue:—

THE ROSY CARMINE GIANT EMPEROR ASTER, 1s. 6d.
NUTTALLIA PEDATA, var., see Catalogue for the description, 2s. 6d.

CLIANTHUS DAMPIERI, 2s. 6d., 5s., and 10s. per packet.
THE LAWTON BLACKBERRY (new American Fruit), 2s. 6d. each.

### SPERGULA PILIFERA,

A perfect substitute for Grass Lawns, &c., in Villa Gardens, without Mowing.
*See notice of the above at page* 145 *of this Paper.*

**Seed sent free in 6d., 2s. 6d., 5s., and 10s. Packets.**

A List of 60 ORNAMENTAL GRASSES, a few of which are adapted for margins to Beds, Borders, &c.

*A Descriptive Priced List of that most splendid tribe of Hardy Bulbs, Gladiolus Gandavensis.*

The new Vegetable CHÆROPHYLLUM BULBOSUM, and now well-known DIOSCOREA BATATAS (the Chinese Potato or Yam). Seed of the former and sets of the latter per dozen or 100; large tubers for planting of both, per lb.

A List of 100 Select ORNAMENTAL GOURDS and MARROWS.

### New Dwarf Amaranth Crimson Bedding Dahlia—"GLOIRE DE FRANCE."

A very dwarf, robust, and branching variety, about 1½ foot in height, raised by Mr Anceau, gardener at the Chateau de Neuy, France—its conspicuously beautiful and large purple amaranth crimson flowers, of model form and permanent colour, borne on remarkably firm foot stalks above the growth, and are richly effective as they rise clear above the ample foliage which clothes its low and yet vigorous habit, rich petal tints, chaste outline, and admirable contrast with opposite colours, are features which recommend it for all the general objects of flower garden decoration or pot culture, and it is specially valuable as the dwarfest variety in its colour, uniting a good habit with finely shaped flowers. Those who are acquainted with the new Dahlia *Prince Arthur* in its neat robust character of growth will in "GLOIRE DE FRANCE" recognise a much smaller variety in form, colour, and effect.
A good dried specimen of the plant is preserved at the Wellington Nursery, in which may be seen its natural dimensions.

### NEW WHITE BEDDING DAHLIA.

The best bedding white Dahlia for habit, bloom, and effect, will be found in the "WHITE UNIQUE."—See the Catalogue, p. 82.

**Wellington Nursery, St. John's Wood, London.**

EARLY PEAS.

WAITE'S DANIEL O'ROURKE PEA; the earliest Pea in cultivation.
EARLY NAPOLEON; a Blue Wrinkled Marrow Pea, as early as EMPEROR.
EARLY EUGENE; a White Wrinkled Marrow Pea, as early as EMPEROR.

Prices to be had on application of J. G. WAITE, Seed Establishment, 181, High Holborn, London, W. C.

EXCELSIOR MARROW PEA (KNIGHT'S).—This new Pea is a decided improvement on the well-known Ringwood Marrow, being quite as early, greater cropper, longer pod, larger pea, superior flavour, and greener in colour. A great acquisition either for the amateur or the market gardener. 2s. 6d. per quart. Price to the trade upon application. To be had of NUTTING & SONS, Seedsmen, 60, Barbican, London, E.C.

THE EARLIEST PEA.—DUNNETT'S FIRST EARLY is in every respect superior to "Daniel O'Rourke," being several days earlier, having finer pods, and richer in flavour, height 2½ feet. For an early dish of fine-flavoured Peas we can confidently recommend this; 2s. per quart.

CHAMPION CABBAGE, the earliest and best sort, if sown in succession, may be had fit for table throughout the year, 8d. per ounce, or 1s. post free.

BUTLER & MCCULLOCH, Covent Garden Market, London.

CHAMPION OF SCOTLAND PEA.—A new and first-rate sort, declared by all who grew it last year to be the most distinct and best flavoured Pea in cultivation. To be had only at PETER LAWSON & SON'S, the Queen's Seedsmen, &c., who are also prepared to execute orders for all sorts of Garden and Flower Seeds of the finest quality.

27, Great George Street, Westminster.

MESSRS. PARKER AND WILLIAMS beg to inform their friends and patrons that their PRICED and DESCRIPTIVE CATALOGUE of Exotic Orchids, Stove, Greenhouse, and Hardy Ferns, Miscellaneous Stove, Greenhouse, and Hardy Plants, Variegated and Ornamental foliaged Plants, Conifers, Roses, Rhododendrons, Indian Azaleas, Gloxinias, Fuchsias, Cactuses, &c., is now published, and will be forwarded post free on application.—Paradise Nursery, Seven Sisters' and Hornsey Roads, Holloway, London, N.

CALLICARPA PURPUREA.

JOHN STANDISH, the exhibitor of the above (at St. James's Hall), can supply a few good plants at 7s. 6d. each. The following passage from Dr. Lindley's leading article in the *Gardeners' Chronicle* for Nov. 20 will give an idea of its beauty:—"Callicarpa purpurea, quite insignificant when in flower, was beautiful in its winter dress of innumerable rich purple berries, about the size of swan shot." It is easily cultivated, and does well in a cold greenhouse or conservatory planted out, where it will produce thousands of bright purple berries resembling glass beads, and remaining on nearly the whole winter.—Bagshot, March 5.

ROYAL SOUTH HANTS SEED ESTABLISHMENT.

UNDER THE PATRONAGE OF H.R.H. THE PRINCE CONSORT, THE AGRICULTURAL, HORTICULTURAL SOCIETY OF INDIA, AND THE LEADING AGRICULTURISTS OF THE UNITED KINGDOM.

PAGE AND TOOGOOD can now supply GARDEN AND FARM SEEDS, carriage free; SEED POTATOES, &c. The numerous Prizes gained by their Stocks are convincing proofs of superior quality, and their prices compete with any house in the kingdom. WHOLESALE and RETAIL PRICED CATALOGUES upon application.

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THE ADVANTAGES OF CASH PURCHASES.

ROYAL BERKSHIRE SEED ESTABLISHMENT.

SUTTON AND SONS, SEED GROWERS, Reading, desiring to encourage the practice of purchasing AGRICULTURAL SEEDS for cash payment, afford the full benefit to which such purchasers are entitled.

Applications for cash terms, stating quantities required, will be liberally responded to. GOODS DELIVERED CARRIAGE FREE.



# The Gardeners' Chronicle.

*SATURDAY, MARCH* 5, 1859.


MEETINGS FOR THE FOLLOWING WEEK.

MONDAY, March 7—Entomological ..... 8 P.M.

THE season for preparing dressed gardens is at hand, and attempts are about to be made everywhere to obtain brilliant effects by a skilful arrangement of flower-beds. At Trentham and Chatsworth and Shrubland, and in a hundred other great places, the gardeners are taxing their ingenuity to provide the materials that are demanded by what is called the harmony of colours. Nor is it there alone that such decoration is soon to be attempted. In the thousands of smaller gardens, which render the country places of England so brilliant, similar efforts will be made. This, therefore, is the season in which some discussion of the circumstances that most conduce to success may be expected to be useful.

With us, ever since the appearance of CHEVREUL'S ingenious book, the grand object has been to work upon the rules laid down by that philosopher. His tones and tints, harmonious combinations, binary assortments, and ternary assortments, scales, complementaries, and simultaneous contrasts, have been the anxious study of many a puzzled gardener. And no small vexation has been experienced when infinite pains have ended in vexation of spirit. Not that the views of CHEVREUL have been unproductive of substantial good.

On the contrary, they have drawn attention to the fact that what old-fashioned people call higgledy-piggledy is inconsistent with good taste in decorated ground, and that methodical arrangement is the foundation of all beauty. The fault of CHEVREUIL is that he has a theory, to which everything must be adapted, whether the materials at command be suitable or not. By placing wafers or pieces of linen of various colours side by side he obtained, or thought he obtained, certain results, out of which he constructed his theory of colour. But he forgot that appearances produced by the uniform action of certain colours placed side by side in contact upon a plane surface, such as a piece of silk, must have little in common with the irregular effect of similar colours forming an uneven surface and not in contact, as in flower beds, and hence the failure of attempts to carry out his views. Plants will not submit sufficiently to the demands of the colourist working up to CHEVREUIL'S theory. The necessary colours do not exist, or at least coexist; and when success has resulted, as it often has, from the combinations of colour in modern flower gardens, it has been owing to something wholly independent of CHEVREUIL'S supposed laws. Beautiful arrangements of colour depend upon taste and not upon arbitrary theory. This has been excellently pointed out by Sir GARDNER WILKINSON.*

"It is not by forming a theory on some fanciful basis, that a *perception* of the harmony of colours is to be acquired. Like a correct ear for music, it is a natural gift. Theory will not form it, as theory will not enable any one to detect a false note. The power depends on the perceptive faculty; and unless any one possess this, he will vainly attempt to lay down rules for the guidance of others. Yet we find that some have based their notions of the proper arrangement of colour *solely* on theory; and others, who might have had a proper feeling for it through their own perceptive faculty, or from the study of good models, have occasionally allowed themselves to be led astray by some plausible assertions, founded upon a fanciful basis, and supported by false *reasoning*.

"The same hasty attempts have been made to lay down rules for colour as for form and proportion. These are all dependent on the perceptive faculties: and it is certainly not by *beginning with a theory* that any of the three can be taught. The Italians have a remarkable perception of true proportion, but they did not learn it from a theory, nor do they teach it by rules; and how would it be possible to define every variety of form and make them all amenable to rules? When we hear a false note, it is not to a theory that we have recourse in order to prove it; and we can no more help seeing a discord (if we have a true *perception* of colour) than we can help being struck by a discord in music. If the ear is correct, it will detect the latter; if the eye is so, it will perceive the former. Neither the eye nor the ear can do otherwise. Theory will not supply the place of those organs; and it would be as hopeless to attempt to teach the ear to discriminate between sounds, or the nose to distinguish scents, by rule, as to substitute theory for the perceptive faculty in judging of colour."

It is impossible not to feel the justice of these remarks, the force of which will be most especially appreciated by those who have attempted to form flower beds in strict conformity to CHEVREUIL'S theory. In another place we have the practical objections to *all* theories of colour still more forcibly pointed out.

"From facts and actual experience we may obtain something positive and useful; from theory nothing can be expected, so long as the subject itself is not thoroughly understood, except the most vague and contradictory conclusions. We have constant proofs of this. One lays down as an axiom, that as light is composed of the three primaries, those colours, when used in the proportion necessary to form white light 'neutralise' each other, and should *therefore* be so employed for decorative purposes. But if when so put together they really did *neutralise* each other, they would then be deprived of their real effect, and we should counteract the very object we had in view. To *ornament* with colour and *neutralise* the colour is a contradiction. But it is supposed to accord with a *theory*. Fortunately, however, the three primaries placed in juxtaposition do accord admirably without undergoing this metamorphosis; and it has been found necessary to employ artificial means to obtain any approach (and that too a very *imperfect* one) to the white light they compose, by whirling round before the eye the object on which those three colours have been painted. But besides that the effect consists only of an *approximation* to white, it has no bearing on the question of the effect of colour in ornamentation, which is (fortunately) never whirled round before the eye; and so far from desiring to give to the eye the impression of white, or of colourless light, in placing before it those three colours, our object is directly the reverse; we want to *ornament* with colours, not to *deceive* with colours, nor to place them so that they may 'disappear' or be confounded. And as blue and red in juxtaposition borrow from each other, and assume a purple hue when seen at a short distance, it is found expedient to introduce with them a certain quantity of yellow, or sometimes a small yellow or white line of separation, to keep the two colours *distinct*. The object is to present each colour as it is, and to give it its own power, that red should appear red, and the same with the rest; care being taken at the same time that the whole combination of various hues shall be in harmony, by being properly balanced throughout the composition. It would be a strange recommendation for a piece of music so to have the notes put together that they should 'neutralise' each other, and that 'the constituent' sounds should, like the colours, 'disappear.' Such a theory of sound would be novel; the practice far from entertaining." We heartily commend these common sense remarks to the consideration of the gardening world.

Then it has been said that the arrangements of colour to be found in Nature are unerring guides in its arrangement artificially. So, as we tread upon green, which forms the natural foundation and larger part of all landscapes, we ought to make green the basis of artificial compositions. This notion is happily disposed of by Sir G. WILKINSON:—

"So far, indeed, from adopting the quantities and arrangements of colours in Nature for that purpose, we should generally deviate widely from them; and who could think of using in decoration the same quantity of green with which she covers the large expanse of a landscape, or of introducing in any one part of a building the mass of green we see in a single tree? It is *reposing* to the eye to look upon the great quantity of green in Nature, and there is no other colour on which the eye can dwell continually without fatigue; but in ornamenting with colours we do not seek the same repose which is there required; we seek rather a contrary effect, as in music we are not satisfied with the *melody* of natural sounds, but delight in that *harmony* which is as artificial as the combination of positive colours for decorative purposes. Nor is it our object to have a *repetition* of the least fatiguing colour, or of the least effective piece of music; however soothing green and natural melody may be."

And again—

"Some there are who maintain that because in Nature certain two colours are found in juxtaposition, they must necessarily be concords; and cite those in various flowers to support their argument; but they forget that besides the petals and the leaves, their eye sees at the same time the yellow anthers, the brown stalk, or other coloured objects, even when the flower is plucked, and many more when it is viewed in the bed where it grows. The light and shade, and sometimes the semi-transparency of the petals, also give to the hues in flowers a somewhat different effect from what they would have as flat colours. But whatever may be the *cause* of the difference, there is no doubt of the fact, and this is all that is necessary for us to notice in considering the agreement or disagreement of the colours. If, too, in the great variety of combinations presented to us by Nature, there *must necessarily* be perfect harmony; and if Nature is expected always to supply us with concords, we shall have no choice left but to receive the *most opposite* combinations with equal favour. The same acceptation of the colours of Nature as *necessary concords* must on these conditions be extended to sounds; and we must at least allow her the credit of giving them to the notes of birds, and the voices of other animals; yet every one will admit that the sounds uttered by a parrot and a pig, though quite natural, are far from agreeable. So too with flowers; and as some are most beautiful and harmonious in their colours, others are discordant; and few persons will go so far as to maintain that all Nature's works are equally pleasing, or that the figures of all animals being beautiful, we are to admire the hippopotamus, or other hideous creatures, as well as the most graceful. It might be as reasonable to maintain that every odour in Nature is agreeable, as that every combination of colour in Nature is so."

Let us hope that these remarks by one who has spent his life in the study of high art, in [illegible] countries, under many aspects, and whose [illegible] are universally received with respect, will [illegible] us that time and talent may be better employed than in forlorn attempts to carry out in practical gardening the speculations of even philosophers as eminent as M. CHEVREUIL. We hope soon to return to this subject.

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IT is to be hoped that those who are interested in VILLAGE SCHOOLS will continue to study the progress made by that at Hitcham, under the care of the Rev. Prof. HENSLOW, to which we have so often alluded on previous occasions. In the report before us for 1858 we find the following description of it by the Government Inspector:—

"A very nice village school of intelligent and cheerful children. Reading *good*, *i.e.*, expressive as well as correct. Religious instruction good. Writing fair. Arithmetic pretty fair. Needlework fair. Extra subjects very fair, and among them Botany excellent, this last being taught thoroughly yet simply taught, and by such a system that there can be no Cram. As far as it goes it must *know* what it does. The good moral effect of this study on the minds of the children very apparent."

From the report itself we learn that the general improvement in attendance during the preceding year was shown by the names of 44 children being on the list for the Government capitation grant. The number of prizes awarded for good conduct and proficiency spoke very favourably of the increasing attention paid to school duties. In short the report ought to satisfy both employers and labourers that village schools thus conducted afford advantages which many far more expensive establishments do not possess.

"Experience," says Prof. HENSLOW, "has convinced me that a vast deal more might be done for the benefit of the rising population, if both employers and labourers had the education of their children more thoroughly at heart. Some children after having left the school are anxious to attend the botanical exercise and lecture given every Monday, when much general information is also imparted on various subjects. The quarter of a day's wages for those children who are occasionally employed in stone picking, weeding, dropping, &c., does not amount to 2*d.* and therefore the loss of their services [illegible] perhaps six or eight times during the year cannot be of real importance to their employers. Surely all kind and considerate masters will cheerfully afford such children the opportunity of gratifying their desire for information, as well as of securing the little holiday privileges with which diligence and perseverance is now and then rewarded. The feeblest sentiment of Christian charity would surely prompt to thus much at least. And it is no small proof of the value of these small schools that even the most ignorant of the farmers are renouncing their prejudices against them and withdrawing their hostility.

We observe the name of a boy, MATTHEW GARROD, as standing third among the children who gained botanical prizes, hitherto, we believe, confined to girls. This little fellow, if otherwise fit, should be made into a gardener.

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THE Horticultural Society's Council have decided upon making the Chiswick Garden in future exclusively experimental, a circular letter has been extensively distributed among the trade inviting co-operation, by the transmission for comparative trial of every kind of new, or supposed new, vegetable. The Fruit and Vegetable Committee has undertaken to examine and report upon the result of such trials, and some important evidence will probably be obtained on subjects deeply interesting to cultivators. We understand that a considerable number of varieties has been already received at Chiswick from the principal growers; and we cannot doubt that after this announcement all who have confidence in the sorts of vegetables they recommend will hasten to avail themselves of so excellent an opportunity of laying their real merits before the public.

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EXAMPLE IN
## A POPLAR TREE OF WHAT NATURE WILL EFFECT WHEN ASSISTED BY ART.

ON the 10th of August, 1842, the lightning struck our Lombardy Poplar tree, not far from the house with a crash as though the house itself had fallen in ruins. This tree, at 18 feet from the ground, branched out into three principal leaders. The one which faces the west received the full force of the thunderstroke, and it exhibited an excavation of 26 feet in length and at one part of 22 inches in breadth. Independent of this sad stroke at the western side of the tree, its bole to the north was struck at the same time, as

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* *On Colour, and on the necessity for a general diffusion of taste among all classes. With remarks on laying-out dressed or geometrical gardens.* By Sir J. GARDNER WILKINSON, F.R.S. 8vo. MURRAY; a work of the highest interest, which should be carefully studied by all who desire to know what the true principles of art really are.

stripped of its bark to the extent of 6 feet by 14 inches. Some idea may be formed of the vast injury which this tree received when the reader learns that I picked up fragments of its wood full 50 yards from the spot where it stands.

After a close inspection of the lacerated parts I considered that there was still enough of solid wood remaining to resist the violence of the wintry wind. Having cut out all the shattered parts, assisted by the gamekeeper, I placed a series of thick Elland slates on a solid bed of mortar, quite up to where the tree takes to its three leaders: thus forming a hard and permanent covering of 18 feet in extent. At the edges of the slates we applied Roman cement nicely sloped off; so that the future wood and bark might have an easy passage over them, at each returning season for increase of growth. Thus, all being rendered safe from wind and rain we ceased our work, and left the tree to Nature's healing care. She has not disappointed us, Yesterday I got up into the tree and I inspected minutely the injured parts throughout their whole extent. Their condition was prosperous in every point of view. The new wood and bark have rolled over the slates to a close or joining within 11 inches, binding the slates down in an everlasting prison.

A Spanish proverb says: "Thou art welcome, evil, if thou comest alone." But, in this instance, our poor Poplar could not have such a consolation; for another thunder-storm broke over it, and the lightning struck it on the northern side, riving off the bark for a space of 33 feet in length, and at places of 15 inches in width. Singular to tell, no apparent injury was inflicted on the wood itself. The bark alone had suffered, so that a new supply of slates and mortar was not required. This victim to the lightning's fearful rage is now in health and vigour, whilst its summer foliage is of as rich a hue as that of its surrounding neighbours. Should future tempests spare it the tree will be quite right again in a few years more; and its bole will be as beautiful as I remember it in times long gone by. The day may come when this Lombardy Poplar's history shall be forgotten. Then, should it be felled to serve domestic purposes, woe to the carpenter's axe and saw! They will have hard work when they shall have penetrated into the interior of the tree.

From this brief account, the admirer of trees may learn that it may be in his power to do wonders with them in their hour of accident, provided that he goes the right way to work, and lets Dame Nature have her own wise course. A lofty and majestic tree is a jewel of inestimable beauty on a villa's lawn; and is worthy of the owner's utmost care. *Charles Waterton, Walton Hall, Feb. 26.*

## ENTOMOLOGY.—THE ORCHID ACARUS.

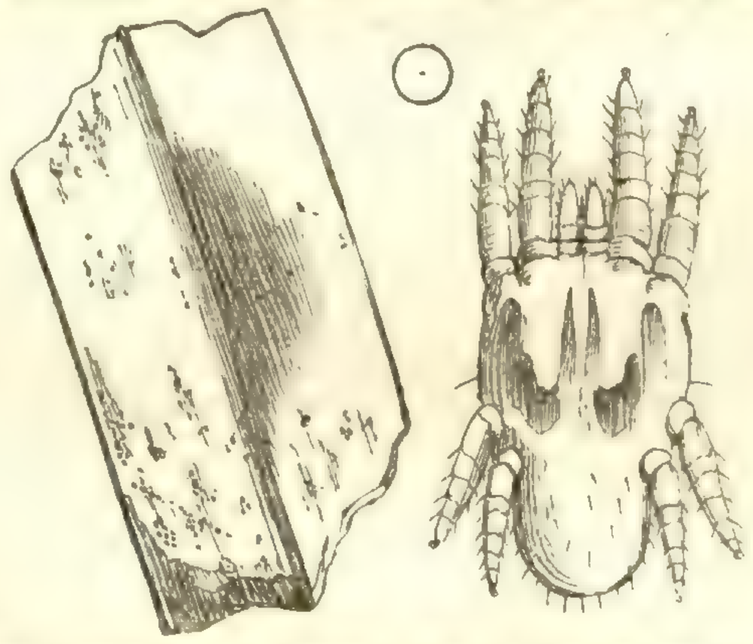
Although the naturalist perhaps more than any one else may and must be constrained to adopt the statement made in the Mosaic account of the Creation that everything proceeding from the hands of the Creator is very good, each as a whole as well as in its various parts being the best fitted, as a piece of mechanism, for the fulfilment of its respective duties in the world, yet the human mind perpetually adopts the idea, which at first sight seems antagonistic to the former—That one animal or plant is inferior to another, man himself being regarded as the most perfect of all created beings. Various are the principles which have been supposed to warrant such assumptions of superiority or to indicate inferiority. A more minute size, a greater number of organs of locomotion, or the power of reproducing offspring in increased numbers have all been looked upon as evidences of degradation by some writers, whereas each of these characteristics ought rather, if the individual be alone considered, to be regarded as exhibiting a more refined and higher degree of design and workmanship.

There are, both in the vegetable and animal world, great numbers of objects to which this idea of degradation is especially attached, and which, notwithstanding their wonderful amount of development, are considered by the generality of persons as simply and spontaneously produced from the objects on which they are found. There is indeed in more respects than one a great analogy between the vegetable moulds and such minute annulose animals as aphides, cocci, and mites, which infest plants often to such an extraordinary degree as to lead to the conclusion that they must have been produced, not in the ordinary mode of development from parents organised like themselves, but in a spontaneous manner from the objects on which they subsist. But nothing can be more gratuitous than such opinions, since the analogy afforded by larger species of Annulosa fully bears out the fact that under favourable circumstances a particular species may be developed to an unprecedented extent. For instance, last autumn witnessed the development of thousands of caterpillars of the gigantic Death's Head Moth, generally so rare, and it has come to our knowledge that an avenue of Lime trees, generally so free from insects, has been nearly destroyed by a moth, otherwise not an abundant species.

Just in the same manner have we recently been made acquainted with a very minute species of mite which has been found in vast numbers upon Orchid plants in hothouses, and which is not improbably often the cause of their destruction.

The Acarus in question is scarcely larger than a grain of sand, and requires to be examined with a lens before its limbs can be seen. It is somewhat square in the front part of its body, the hinder portion being narrowed and rounded; it is sparingly clothed with minute bristles, and is of a pale whitish buff colour, with two patches in the middle of the back of a fleshy hue. The legs are eight in number, short and thick, the two fore pairs directed forwards and the two hind pairs backwards; they are terminated by a minute fleshy lobe. The mouth consists of a very fine point defended by two short three-jointed palpi. The size of the insect is indicated by the minute dot within a circle in the accompanying woodcut, in which is also represented a portion of an Orchid leaf having part of the surface destroyed, together with numbers of dark lines and dots evidently produced by the punctures of the insects, the wounds running together when they are in proximity to each other.

The insect belongs to the genus Tetranychus of Léon Dufour, formed for the reception of various species which are parasitic upon different plants, such as the T. telarium, which lives upon plants in ill-ventilated hothouses, spinning threads over them by which



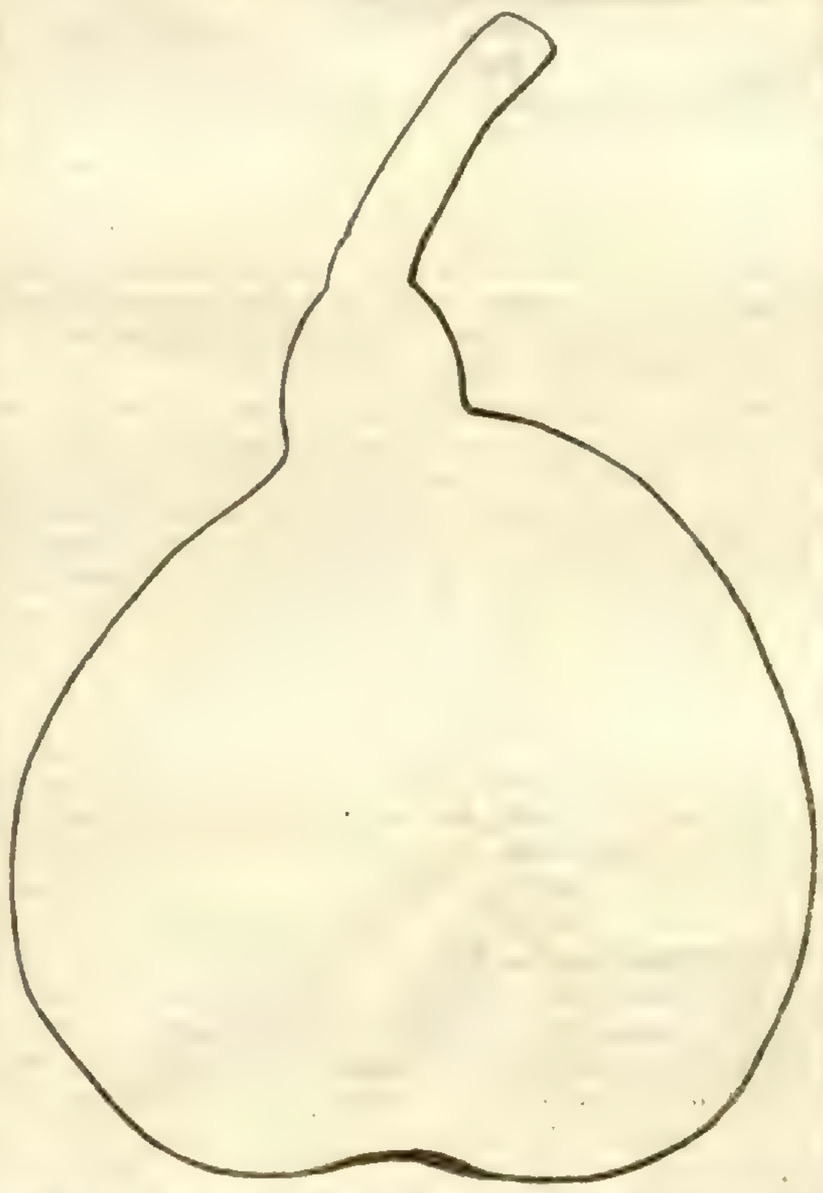
their circulation is injured; the T. tiliarium, another web-spinning species found on the Lime trees, often to such an extent that the webs are to be seen at a distance from the trees. Other species are known from the names of the plants they infest, as the T. Ulmi, T. Urticæ, &c.

I do not know whether fumigation with tobacco smoke is sufficiently powerful to destroy this Acarus without injuring the Orchid plants which it has attacked, but I may perhaps be allowed to mention the great advantage which I have derived from the use of the benzoic fluid in the destruction of insects which attack our entomological collections. A few drops of this fluid in an infected drawer will kill the Anthrem and their larvæ in a few minutes, and it would probably be equally destructive to the Acari. Whether the vapour of the spirit would be injurious to the plant has to be determined by experiment. *J. O. W.*

## THE ZEPHIRIN GRÉGOIRE PEAR.

For a knowledge of this most excellent Pear we are indebted to Mr. De Jonghe, of Brussels, who informs us that the tree is perfect in form and a great bearer. The annexed outline represents very exactly the appearance of the specimens before us; but is we presume smaller than the average, all the best fruit having been blown down by a storm last July.

When ripe, which seems to be late in January, for the fruit before us has been brought forward in a warm



room, this Pear has a fine thin pale yellow green skin slightly enriched by a golden russet here and there. Its flesh is perfectly melting, without grittiness, as sweet and vinous as a Brown Beurré. All our specimens have a large hump between the Pear and its thick strong stalk, by which, if it were a constant character the fruit would be easily identified. We also observe pretty generally a slight furrow or two running from the shallow eye down to the stalk. But specimens are quite as often without those marks, as is seen by the following remark by Mr. Rivers.

Upon this point he observes:—"Last autumn about six out of 12 were gouty; in 1857, when my outline was taken, they were nearly all slender stalked. I have had this sort I think about 10 years; it has always been of high excellence till the past autumn, when it ripened in November and was pasty and worthless. Why, it is impossible to say, for they were nicely ripened."

## RHODODENDRONS—No. IV.

There are many situations where the soil being naturally of an open sandy nature requires only, as far as material is concerned, the addition of sufficient vegetable matter to render it suitable for Rhododendron culture. Such is in great part the case with the Bagshot Nurseries, whence are distributed vast numbers of this plant to all parts of the world.*

But it must not be supposed that the mere breaking up the surface of such soil, and mixing with it a portion of the necessary ingredients is all that is required to ensure success; on the contrary, considerable labour is called for, and no good results can be obtained without thorough trenching. It often happens, in fact it is generally the case, that the surface soil rests upon a hard stone-like stratum technically termed a "pan," and unless this is well broken through all that may be done at the surface is so much labour thrown away; if that is allowed to remain unbroken, wet in winter and drought in summer will neutralise the best endeavours and intentions. In breaking up large areas of such ground the "pan" is generally cast to the surface where the action of the weather soon decomposes it, but in limited operations, as in forming a bed or two for Rhododendrons, it is well to remove it altogether. We have occasionally witnessed the most annoying results in gardens from imperfectly breaking up this pan, or leaving it altogether untouched when the soil was being prepared, and it cannot be urged too strongly on all who may have to deal with such, to be certain that this is effectually done. The labour required at first is comparatively small, but to be obliged to do it after a garden or a bed is finished, involves much trouble and vexation.

The soil in question is in its natural and unreclaimed state almost invariably covered with Heather, beneath which is a layer, more or less thick, of decayed spontaneous vegetation. This is an invaluable ingredient in a soil for Rhododendrons, as well as in that for all plants of like requirements. Thus the surface soil from a "common," where Heather abounds, thrown into a heap and allowed to lie for a year or two, with an occasional chopping and turning, gives a fine compost for our purpose.

We have before strongly insisted on moisture as an indispensable in Rhododendron culture: the effect of a deficiency of this at the root is to produce a complete stagnation in the whole economy of the plant so deprived. The matured stems and branches of a Rhododendron are very hard and woody, and when robbed of their necessary moisture do not readily regain a healthy condition even when the requirements are again supplied. The results of this may often be seen in plants with long bare branches hardly in a vegetative condition, and having at the base a group of young and comparatively vigorous shoots. In general such plants are speedily renovated by cutting away all bare unsightly portions, and giving every encouragement to the young and promising ones. Such plants, being generally strong at root, will with proper care rapidly regain a healthy blooming condition. But here a few precautions are necessary. The instructions given of course refer only to the commoner kinds generally, or to seedling plants, or in a word to such as are on their own roots. For it often happens that a grafted plant becomes from bad management or neglect in a stagnant condition when the stock, naturally endeavouring to obtain supremacy, throws up vigorous shoots. Here a totally opposite course of treatment from that just described becomes obviously necessary. But this with other relative matters will be fully discussed by and bye when we come to treat of propagation. *G. Lovell, Bagshot.*

*(To be continued.)*

* Comparatively small portions of these extensive nurseries are however reclaimed bog, rich natural deposits of vegetable matter. In this the Rhododendron grows more than ordinarily luxuriant. Where such can be found is *par excellence* the situation for an American garden.

## Home Correspondence.

*Araucaria imbricata.*—It is a singular fact that this tree can hardly be made to grow at Cambridge. The cause of this is not apparent. It may be the presence of chalk in the gravelly soil. In the Botanical Garden and also in the walks of St. John's College the young shoots grow tolerably for a time, but towards the autumn become diseased. A quantity of white resinous matter exudes from the base of the young leaves, in such abundance as sometimes to quite surround the shoot. But even when not so plentiful it has the effect of killing the young shoots, or rather shows the existence of the disease which kills it. The end of the shoot ultimately falls off, and attempts are often made to supply its place by new buds from the axils of the

uppermost healthy leaves. These buds usually go through the same course, and so on until the plant is utterly ruined. *C. C. Babington.*

*Moldiness of the Woodwork in the Undercliff of the Isle of Wight.*—As a set-off to your Devonshire correspondent's list of plants in bloom, I beg to state that all the plants he mentions may be found in flower on the Undercliff here, and hundreds more. Not a single bedding plant of equal hardiness with the Heliotrope has been destroyed by frost up to the present time. Geraniums Skeltoni, Boule de Neige, Flower of the Day, and Mountain of Light; Heliotropes; and some of the light blooming varieties of Fuchsias are looking somewhat sickly and disordered, owing to the wind and rain. But I imagine that they are better here than the same varieties are in the wet and windy county of Devon. Camellias and Indian Azaleas grow and bloom as well here in the open air as it is possible for them to do in a house. To-day I cut a most glorious bloom of Magnolia grandiflora from a nice specimen plant (full 10 feet high and 8 feet through), and which has produced a constant succession of blooms since last May up to the 1st of last month, a circumstance not usual I believe in any other part of the kingdom. *T. Gelt, St. Lawrence.*

*Abutilon insigne.*—Can any of your correspondents inform me how to keep the buds of this invaluable winter flowering plant from falling off. Last year I kept my plant in a greenhouse; it had 22 buds upon it, only three of which expanded. This year I have a plant in my stove with 30 buds upon it, and they are falling off just as they did last season in the greenhouse. I may just add that I have inquired of some of my friends who grow the plant, and they all make the same complaint. I should feel extremely obliged by any one who may have flowered it successfully giving me a hint how to do likewise. I am confident that it is a plant which only wants to be seen in flower to be appreciated. *B. F., Manchester.*

*Roses on the Manetti Stock.*—I quite agree with your correspondent "J. M." that the Manetti is unequalled as a stock for Dwarf Roses, adapting itself to the heaviest clay and the lightest loams, by sending out an enormous quantity of fibres. If worked on stems I believe it to be entirely worthless; it does not increase in size, the bark seems to contract, and the head dies a death of starvation. I much prefer grafted to budded plants, as they can be worked very low, and will make strong flowering plants in three or four months. Nearly all my plants for forcing this season were grafted in November 1858, turned out into beds in April, and they made a fine display through the summer. They were taken up the first week in October and potted for forcing, and many of them are now showing bloom. I have now upwards of 300 grafted last November, placed in bottom-heat, and kept dark till united, all of which will form fine strong flowering heads for planting in beds this season. *J. Sheppard, Woolverstone Park.*

*Isabella Gray Rose.*—I got a very small plant of this last March; it was on its own roots. It bloomed in the open air once, but did not open well; the tree is now covered with flower buds. It is in the north end of a cool greenhouse, and has not been forced in any way. *Cork.*

*Capnodium elongatum.*—As this appears to be a disease of the Pear tree hitherto unknown in England, a few particulars respecting its first appearance, &c., may not prove uninteresting. It was first noticed here about the middle of last September, on the upper sides of the leaves of an Autumn Bergamot, and although the leaves were literally covered with it, not a speck was to be seen on the fruit, which was large and handsome. Little notice was taken of the mischief then, as we thought it to have been caused by some insect, and that when the leaves fell from the tree we should get rid of it. Such however was not the case; after all the leaves had fallen the evil was found to have firmly attached itself to the young wood, and was growing fast; and it has continued to do so up to a very recent period, the spurs and young shoots being almost black. Now, however, it seems to have experienced a check, and is in some places dropping off, but whether this is attributable to the fact of the disease having reached perfection and dying, or to a renewed flow of the sap and consequent expansion of the bark, I am entirely unable to say. It is a curious fact that it affects the young wood only, for even where a young shoot comes in contact with a main branch, or the base of an old spur, little or none is to be found on the old wood, even at the point of actual contact. I am not inclined to think that it arises from ill health of the tree, as the latter is vigorous, and fast coming into bloom; but that it is an entirely extraneous disease, and so far not to be attributable to any local cause whatever. How far we are justified in thinking it will disappear time alone must decide. *Francis Symons, Carclew, March* 1.

## Foreign Correspondence.

NIGER EXPEDITION.—(*Continued from page* 170.)

FROM MR. BARTER TO SIR W. J. HOOKER.

"Jeba, River Kworra, Nupe,
"Central Africa, Aug. 13, 1858.

"The river has not risen so early as we expected. After some partial rises the water fell again to its lowest. The permanent rise appears to have commenced about seven days ago. The water has risen about 2 feet since. This indicates the river to be full only for a very brief season. The rain, which at first fell plentifully, ceased about six weeks ago. It has been very hot since, and small plants have become scorched up. Rain fell again yesterday. An interval of fine weather is said to occur during the rainy season; but this year has been drier than usual. Crops have suffered, more especially Yam plantations. I have been disappointed in obtaining flowers of many annuals from the same cause. In some of my recent journeys I have met with two interesting plants, viz., a species of Aristolochia and some Cycad. I am not aware if the first has been met with in Africa. The plant is a moderate sized twiner with cordate leaves 3 inches by 5. The flowers, which are rather small and nearly black, are produced on racemes 6 inches in length. Each flower is on an axis formed by a leaf-like bract about ½ inch in breadth. The fruit is Pear-shaped and about an inch in diameter. I do not know to what genus the Cycad belongs. The stem is a globular mass a foot in diameter, and scarcely rises above the ground. Fronds 5 feet long, pinnæ from 4 to 6 inches in length by ½ inch in breadth entire, with the exception of six or eight sharp depressed spines on the margin. The sexes are on different plants—male cones nearly a foot long and 1½ inch in diameter; female rather shorter and about 4 inches in diameter. Seeds size of Chesnuts, red when ripe.* I have taken up living plants of both sexes. It occurs in a hot valley about 400 feet above the river, and a few miles from it, in an uninhabited part of the Yomba country, latitude 9° 8 north. Some Aloes, Euphorbias, and a species of Crassula grow on the rocks in the same locality. As has been mentioned, this part of the country is not inhabited. Herds of antelopes and deer are often seen. Leopards, hyenas, and a species of civet cat lurk in the deep ravines. Dr. Baikie has just procured a specimen of an elephant from the same part. I had frequently seen traces of this huge animal; but never a living specimen. The immense size of the ear in the African species is remarkable, measuring as it does between 4 and 5 feet across. In the same districts I yesterday came upon some indications of the work of former inhabitants such as I had not seen before in Africa, viz., a stone wall stretching over hill and plain for many miles. This wall had evidently been built for defensive purposes. It is formed like the dykes in Scotland, of large unhewn stones, with a coarse kind of cement on the top. Remains of several towns exist inside of this enclosure. Near one of them great slaughter has at some period taken place. Skeletons of human beings lay thickly, sometimes in a heap, as if several had perished together, small bones being intermingled, evincing that a massacre irrespective of age had taken place. Isolated skeletons extended over a wide area. In one direction lay those of several females with small bones, no doubt mothers endeavouring to escape to the rocks overtaken and butchered by fiends in pursuit. *C. Barter.*"

(*To be continued.*)

* Living plants of this Cycad have been received at Kew. *W. J. H.*

## Societies.

BRITISH POMOLOGICAL: *Feb.* 3.—Mr. Hogg in the chair. Six new members were elected. Mr. Davidson gave notice that his business engagements deprived him of the power of giving to the service of the Society so much time as it required; and that he desired to resign his office of Secretary. It was therefore moved, "That the resignation be accepted from the end of the present financial year." The Secretary reported that he had forwarded to J. G. Graham, Esq., of Cranford, some examples of diseased Apples, which he had received from Mr. Swinerd, gr. to J. Swinford, Esq., of Minster Abbey, Isle of Thanet, Kent, as they exactly resembled many specimens which had, during the past autumn, come before the Society, and he considered it desirable that they should be scientifically examined. Apples diseased in the manner referred to had generally been found, on tasting, to be much softer in texture and less sugary than sound fruit.

"On my first examination of the Apples sent me from Mr. Swinerd, consisting of Margil, Summer Nonpareil, Winter Nonpareil, Spanish Pearmain, Byson Wood, and Golden Drop—all affected in the same manner with indented discoloured spots—I was of opinion that the injury was caused by the presence of the mycelium of some mildew, which was not fully developed, and the rind of the fruit in too sound and tough a state to admit the fructifying stems of the mildew to penetrate through it. In order to ascertain this point I adopted the same method which I applied when I first observed Tomatoes to be spotted, like diseased Potatoes—viz., to thrust my finger-nail through the skin, and thus allow the mildew, if it were there, to come out. As I anticipated, in 24 hours the same species as that which was destroying the Potato (Botrytis infestans), was visible on that part of the Tomato in full fructification. With regard to the Apples the process was slower; and, as they were very dry, no mildew appeared until I put them in a damp place, soon after which two species sprung up—viz., Mucor mucedo, and Aspergillus glaucus, both very common moulds. The first is of a gelatinous colour; the latter is at first white, then grey, and lastly, dirty green. I ought also to state, that when I first received the Apples, I carefully examined the tissue beneath the spots, under the microscope, and found the mycelium of the mildew traversing the cells in all directions; and, in all such cases, the parts thus infested [illegible] brown, being in fact killed by it; some suffering on and exhausting their proper juices. I am of opinion that the threads of these mildews are short-lived, and, dying amongst the cells, cause decay to them. I should also mention that where I made the incision in the spots, I also picked portions of the Apples where there were no spots, on these parts no mildew whatever has appeared to the present time. I can, therefore, but draw the conclusion that the spots are caused by the mycelium or spawn of the mildew above mentioned. It may, however, be objected that as these mildews are not developed until decay sets in, they may be the primary cause of the disease, but an aftergrowth on diseased tissue; but a careful investigation of these minute plants will afford the most conclusive evidence of their mycelium establishing itself in various matrices while in at least an apparently healthy condition, and in a great measure reducing them to a state of decomposition long before the perfect plants bearing the reproductive spores make their appearance. These two mildews are found on some animal and vegetable substances which contain either gum, starch, gluten, &c. The Aspergillus is the well-known cheese mould, the glory of Stilton; pleasant, but believe not wholesome, having a tendency to cause tightness on the chest. The gelatinous mass called 'vinegar fungus,' has been also described by some authorities as the mycelium of this mould, but erroneously. This mass is, in fact, only the pulp of an Apple or piece of cheese might be), on which the true mycelium creeps in fine threads, from which at a time the perfect plants arise in a dense tuft of erect stems, surmounted by heads formed of chains of spores, sometimes in the shape of a broom, at others quite round."

Of fruit exhibited for premiums, in which quality is desired as well as distinctness of kind, many of the dishes were so much below mediocrity, that it became a question if the general merit of the collections sufficiently warranted the award of the premiums. "I regard, therefore, to all future exhibitions of fruit for premiums, excepting those cases in which mere kinds are desired, regardless of quality, for the purposes of comparison and classification; it was resolved that when quality is the point intended to be rewarded, the premiums will be withheld, if one-third of the fruit be considered of decidedly inferior merit."

For premiums of two guineas and one guinea for the best and second best collections of six varieties of Dessert Pears, three collections were exhibited by J. Moorman, Esq., sent from his garden at Ifield, Sussex, situate half a mile from the sea, much exposed to south-west gales—soil, light loam, 3 feet deep, on undrained clay—the following kinds from [illegible] young trees, on Pear stocks, growing against a south-west wall:—Winter Nelis, large and well grown, juicy and melting, sweet and generally excellent flavour; Knight's Monarch, juicy, melting, rich and aromatic, but somewhat depreciated by too early gathering; and Old Colmar, very sugary, promising to be delicious, but scarcely ripe. Also, from his garden in Portland Place, Clapham Road; ground, flat and sheltered; soil, strong rich mould, over undrained clay—the following kinds:—Jean de Witte, from a south-west wall; large for the kind and in excellent condition, very juicy, melting, sweet, and fine flavoured. Beurré d'Aremberg, from an espalier; melting, but small and bitter in flavour; and Ne Plus Meuris, from espalier, melting, but only moderately juicy, and not well flavoured. The first premium was awarded to this collection. Mr. Cox, gr. to W. Wells, Esq., Redleaf, Penshurst, Kent, sent a collection from a garden exposed to south-west; climate damp, soil 20 inches of rich garden mould, over yellow marly clay containing veins of fine ferruginous sand, damp, but not wet. The fruit of all the kinds were large, healthy, and fine in appearance and colour; they were as follows:—Winter Nelis, from south wall, juicy, melting, and excellent; Easter Beurré, from south wall, half melting but mealy; Chaumontel, from west wall, over-ripe and bitter; Passe Colmar, from south wall; juicy, but poor and watery in flavour, deficient in sugar; scarcely ripe. Old Colmar, from west wall; past, appeared to have been good and melting, but not juicy; Vicar of Winkfield, under the name of Léon le Clerc, from a standard, juicy, but not at all melting, though over ripe. This collection excited the discussion mentioned above. Though not fine in quality, it was allowed the benefit of the existing regulations, and was awarded the premium. Mr. Wighton, gr. to Lord Stafford, Hall, Norfolk, sent Knight's Monarch, from wall and espalier, very juicy and rich flavoured, but small from having been gathered prematurely. Also, Crassane, not juicy; Easter Beurré, large, but poor and tasteless; Beurré Rance, unripe, but sweet and promising; Susette de Bavay, half-melting, but harsh in flavour; also, a variety called Winter Bergamot, small, juicy, but of no particular merit; reported to be grown amongst market-gardeners, but not recognised by the members present; and a variety without name, which had every appearance of being Swan's Egg, but not so much out of season. Of other Pears sent for examination, the following were the most interesting:—Beurré Rance, by H. Webb, Esq., Reigate, fine standard, on loamy soil, over fullers' earth, medium-sized for the variety, melting, juicy, rich and high-flavoured. Easter Beurré, by Mr. [illegible]

of the Rectory, Alton, Hants, from a south-east wall; soil strong loam, over tenacious clay. The fruit was very fine in appearance, half-melting, but not high-flavoured. Mr. Brown attributed this to his not having thinned the fruit to the same extent as he had previously done—mentioning that, in the previous season, they were very excellent, and lasted in use from the end of December to the first week in May. Josephine de Malines, by Mr. Rivers, from a pyramid on Quince stock; medium-sized, very juicy, melting, rich, delicious, and aromatic.

*Grapes.*—Mr. Thomson, Dalkeith Palace, sent a bunch of Lady Downe's Seedling, a variety not much known, but considered by the meeting to be worthy of more extended cultivation. It is evidently of the St. Peter's section. Bunch about 8 inches long, shouldered; appears to be a very free setter, and to require much thinning; berry medium sized, nearly round; skin moderately thick; flesh very juicy, sweet, and vinous. Mr. Thomson reported that the bunch sent which did not exhibit the slightest appearance of having keeping, by loss of bloom, or shrivelling in either berry or stalk, "was ripe in August last," and adds that "he finds no Grape hang so long and combine so many good qualities." Messrs. Webber & Co., of Covent Garden, exhibited good samples of retarded Black Hamburgh, which had been ripe since September last; the berries were still plump, although their stalks gave evidence of the long time they had been kept.

*Seedling Apples.*—Mr. Wolsey, of St. Andrew's, Guernsey, again sent specimens of his Seedling, regretting that, as the last of the crop, they were poor examples. Though past its best, it was considered to have maintained the opinion formerly expressed regarding it; its general character approaching that of the Golden Harvey. Mr. Wolsey reports that the original tree is 20 years old, moderate in habit of growth, shape of head rather globose, and thinks it will prove a good dwarf prolific kind for small gardens. Mr. Oxley, gr. to Miss Sitwell, Spondon, near Derby, sent a seedling called Pretty Apple, apparently possessing the properties of a good late kitchen Apple, being large, small-cored, and acid. Reported also to be a great bearer, of healthy constitution, and compact habit. On being baked without sugar, they were found to be pale brown in colour; tender, but not breaking into pulp; not syrupy; sweetish subacid in taste. The fruit, however, had been gathered before it was ripe, as stated by the sender, and was not in condition. Mr. Annandale, gr. to J. R. S. Carnegie, Esq., Seaton House, Forfar, sent a seedling, raised by Mr. John Gowans, market gardener, Arbroath. This was considered a very fine and promising late kitchen Apple. Sound, acid, and heavy, much resembling Minchall Crab.

Of other *Apples*, Dr. Davies brought Flanders Pippin, or Mère de Ménage, considered in Worcestershire the best of all for culinary purposes. Also a sort very nearly resembling it in appearance, but more rubicund and solid, and reported to be more upright in habit, called Scarlet Flanders, and De Neige, under the name of Porter, by which he received it from America. Mr. Curtis, of Ashburton, Devon, sent Grise, or Pomme Grise, under the name of Cinnamon Russet. Mr. Wolsey again sent Pomme de Cire, still apparently in excellent condition, but when boiled, found to have lost much of its briskness of flavour, tending to prove that its season is past. Gros Limon, or Græs Limon, when baked, pale-fleshed, not pulpy, but tender, sweet, and very syrupy; and Maigre Limon, recognised as one of the most favourite varieties for roasting, or using as a Beaufin, in Worcestershire, where it is known as Baken Peg.

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ENTOMOLOGICAL: *Feb.* 7.—The President in the chair. Amongst the donations to the library were Mr. Baly's monograph of the family Hispidæ published by the Trustees of the British Museum, and the accentuated list of British Lepidopterous insects published by the Entomological Societies of Oxford and Cambridge. The President nominated Messrs. F. Smith, Stainton, and G. R. Waterhouse, to act as Vice-Presidents during the ensuing year. A fresh importation of beautiful insects from Amboyna, collected by Mr. Wallace, was exhibited by Mr. S. Stevens, including specimens of the Eucheirus longimanus. Mr. Bates also had recently forwarded a fresh collection from Ega, on the river Amazon, remarkable for the number of Microlepidoptera which it contained. Amongst them were also the nests of several Hymenopterous insects belonging to the family Fossores, but differing from the ordinary manner of fabrication adopted by those insects. One of these, a new species of Larrada, forms an external nest of the scrapings of the woolly texture of certain plants, having the appearance of German tinder or sponge; whilst another species, Sphex Lanierii Guerin, forms a cottony tunnel in a curled-up leaf. Mr. Janson made some remarks on Symbiotes latus, a small British beetle. Mr. A. White read a letter received by him from Mr. Trimen, giving an account of his Entomological researches at the Cape of Good Hope. Mr. Tomkins exhibited three new British species of Psyche. A beautiful series of plates preparing for publication, representing the transformations of various British Lepidoptera or insects, was exhibited by Mr. Logan. Mr. Westwood exhibited a nearly full-grown caterpillar of the Acacia Shades Moth, which had been found feeding on Scotch Fir, Pinus sylvestris, also a number of bookworms, being the larvæ of a species of Anobium. Mr. G. R. Waterhouse read a series of notes on the British species of the genus Heterocerus.

## Notices of Books.

*Mr. Edwin Chadwick* has published a pamphlet (Knight & Co.) on the *Chief Methods of Preparation for Legislation, especially as applicable to the Reform in Parliament.* It is a very able paper, which all should read who are interested in the subject. The following remarks by Sir James Stephen so perfectly describe Mr. Chadwick's argument that we prefer borrowing them to offering any of our own.

"I attach the utmost importance to the moral, the philosophical, and the political questions which he has brought under your review. As a moralist he has denounced one of the most common and culpable, and yet most unheeded, of the sins which prevail amongst us—I mean the sin of falsely pretended knowledge—the sin, that is, of spontaneously undertaking highly responsible duties without the knowledge requisite for the efficient discharge of them. As a philosophical inquirer he has proposed or suggested the question—Why is it that the progress of social science is so slow and imperfect among us, while the progress of physical science is so rapid and effectual? and has answered it by observing that, while they who teach us the laws of the material world never advance to any inference until after the most exhaustive scrutiny into the premises from which it is drawn, they who address us respecting the wellbeing of the commonwealth are continually arriving at practical conclusions under an almost incredible ignorance of the grounds from which alone they could be safely deduced. As a politician also, Mr. Chadwick has laid before us various suggestions, on which, with your leave, I would throw out the following remarks:—Constitutional liberty is doubtless an inestimable advantage, and so it ought to be, for the price we pay for it is incalculable. Such liberty is usually defined as consisting in the subordination of the Legislature and of the Executive Government to public opinion. But what is 'public opinion?' When, and where, and by whom, and in what manner, is it to be discovered and ascertained? and how is it to be distinguished from all spurious imitations? Of the many *idola tribûs* there is none whose shrine is so difficult of access or whose oracles are so ambiguous and so readily confounded with other and meaner voices. The hierophants of this mysterious power can only tell us that public opinion is not the transient impression, but the deliberate judgment, of the great majority of the people on such questions, and on such questions only, as immediately affect the people themselves. On all such subjects, they add, the judgments of Demos must be authoritative and conclusive, or there is no constitutional liberty amongst us."

Sir James Stephen then proceeds to show the extreme absurdity that is involved in the judgments of Demos (the public), how blindly he is led by men blinder than himself, how he swaggers and talks, and foretells and claims for himself the power of judging of every conceivable subject, *in posse* or *in esse*, whether he knows anything about it, which is seldom, or not, which is usual. The process of making Acts of Parliament is not less happily shown up. After describing the way in which the most difficult subjects of legislation are in the first instance "sent upstairs" to a Parliamentary committee for an investigation "necessarily hurried, unsatisfactory, and inconclusive," Sir James Stephen thus proceeds:—

"It is not, however, every Government bill which thus goes upstairs. More often it passes at once from the office of the Minister to the table of the House of Commons, having imprinted on its back the names of the two members by whom it is sportively said to have been prepared. It would be superfluous to speak of the process which follows: of the explanatory statements of its official patron—of the pruning knife rashly applied to it in committee by one critic—of the foreign grefts no less rashly inserted into it by another—of the dislocation perpetrated by the ignorance of a third, or of the compromises wrung from its patron by the party spirit of a fourth; nor how often the royal assent at length sends it forth into the wide world to bring forth such fruits as might seem to be borne in mockery of the glowing prediction which celebrated its first appearance as a parliamentary nursling."

The object of Mr. Chadwick's paper is to show how such a strange process may be amended.

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*The Rose, its Cultivation, Properties and Management*, by Geo. Glenny, is a sixpenny pamphlet (Houlston & Wright) giving practical instructions on a popular subject, and seems to be very well done. The author wisely refrains from introducing debateable questions.

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*Folia Orchidacea*, Part VIII. (Matthews, 5, Upper Wellington Street) has appeared with five genera and the commencement of a sixth. To what extent the knowledge of Orchids has extended may be judged from the following comparison of species before Botanists in 1830 and 1858.

| | 1830. | 1858. |
|---|---|---|
| Stelis ... ... | 9 ... | ... 135 |
| Oberonia ... ... | 13 ... | ... 52 |
| Restrepia ... ... | 1 ... | ... 9 |

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A most useful new *Geological Map of England and Wales* has been published by Mr. Stanford, prepared under the able direction of Prof. Ramsay. It represents with considerable minuteness all the more important kinds of soil in the English and Welsh counties, various colours being used to distinguish the clays-marls, chalks, sands, &c. &c., as is usual in geological representations. There are also excellent sectional views, showing how strata lie with respect to each other. Without meaning in any degree to disparage the many good maps of the kind already before the public, it would be unjust not to say that this is, in our judgment, the best. To all persons engaged in the cultivation of land it is invaluable, and its very moderate price places it within the reach of most people.

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Of *Boswell's Life of Johnson*, edited by Croker, a beautiful edition has begun to be issued by Mr. Murray, to be completed in 10 monthly numbers, at the low price of a shilling each. The first number contains 96 pages of large 8vo in double columns, and has six well executed portraits of the great writer, taken at different periods of his life.

TRADE LISTS RECEIVED.—*Vilmorin-Andrieux & Co.* (Paris) *Catalogue des graines de plantes d'orangerie et de serre.* A highly interesting list of seeds of greenhouse and stove plants, among which are many capital things, such as Canavalia rosea, Solanum volubile, Ipomœa turbinata, Hibiscus radiatus, Bignonia ensiformis, &c.—*Parker & Williams's Select Catalogue of Flower, Vegetable, and Agricultural Seeds*, fills 32 pages 8vo, the flower seeds being briefly described in columns, by means of contractions, such as hhb., sps., spb., hhpb., hha., &c., the meaning of which precedes the list itself.

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## Garden Memoranda.

A. MONGREDIEN'S, Esq., FOREST HILL, SYDENHAM.—The gardens attached to this prettily situated suburban residence, though not extensive, are nevertheless in many respects extremely interesting. To Mr. Mongredien belongs the merit of having first pointed out that Spergula pilifera (of which a full account was given at p. 115) was capable of forming an excellent substitute for Grass in the formation of lawns. A piece of ground planted here four years ago with this pretty little Moss-like Alpine is now, and has been for these three years past closely covered with a carpet of the richest green—soft and elastic to the tread, and forming a turf equal to that of the finest Grass, for which at first sight it might easily be mistaken. Over Grass it however possesses many advantages; in the first place it requires no mowing, and it is reported to withstand the effects of long continued drought better than any Grass, remaining comparatively green when the latter has been burnt up. Another point in its favour is its evenness of surface, provided the ground laid down with it has been made so in the first instance—a matter of great importance—for as the plant itself never grows more than a ¼ or ½ an inch in height any inequalities or other defects of formation are ever afterwards perceptible. After planting the only care that it requires is sweeping and rolling. If left undisturbed it would be one mass of white flowers in July; but as most people prefer a lawn perfectly green to one covered with blossoms, the latter should be removed by frequent sweepings with a fine besom. A birch broom is too rough for it. In forming a lawn with this plant, Mr. Mongredien's gardener, Mr. Summers, recommends the seeds, which are very small, to be sown behind a north wall, and when up to be transplanted where required, placing the plants regularly over the surface, at say 6 inches apart. On strong clay it sometimes assumes a yellow hue; but this has been found to be easily converted into a beautiful green by watering with weak liquid manure. Unforeseen disadvantages may yet arise however in connection with the employment of this as a lawn plant; but at present judging from the little experiment that has been made with it it certainly promises to answer perfectly, and in an economical point of view, seeing that mowing may be dispensed with, it cannot fail to be highly appreciated. A trial of it on a more extensive scale is now being carried out, the result of which we hope to be enabled to report hereafter. The gardens here, except where the glasshouses are, viz., on the top of the hill, slope abruptly to the north, and it is on this aspect that the plant has been tried.

Among glass houses is an orchard house filled with beautiful little fruit trees in pots now in full blossom, with the exception of the Apricot Peach on which fruit is already fairly set. All are in 12-inch pots, not placed on beds of rich soil into which the roots are allowed to pass, but set on wooden stages or shelves and liberally fed with liquid manure. Thus managed they bear abundantly, each Peach and Nectarine having on it from 60 to 70 fruit, and one had as many as 80 on one tree. The fruit too, tasted in comparison with that from walls, proved the better flavoured of the two. Plums bear most abundantly, as do also Pears. The French plan of inserting fruit buds on barren spurs or naked branches has been largely practised here both in and out of doors, but with what result has yet to be proved, the work being only just completed. It may be mentioned that although this house is furnished with a hot-water apparatus, yet it is not used except in very severe winters. It has therefore not been required this season. The pots are mulched with old cloth waste, which costs 3*s.* 6*d.* per sack. It has a clean and neat appearance, keeps the soil from drying too rapidly, and from being washed into holes by repeated waterings. Among the pots in which the trees are growing are placed bedding plants, of which large quantities are required here in summer.

At the end of the house just described is a warm compartment filled with Vines in pots placed on tan. These are grown from eyes one year and fruited the next. They are trained to upright stakes, and are not at present higher than about 4 feet. Among the Vines are grown Cucumbers, consisting of a very prolific variety named "amateur." Of this a plant was shown at the Crystal Palace last year with 33 fruit on it.

Of other houses there are two Vineries, a Fern house and mixed stove, and a large New Holland house 60 feet in length. These contained, especially among Ferns, some beautiful examples of skilful cultivation.

We must not omit to mention that of Prunus sinensis we noticed a charming little plant loaded with large double pure white Cherry-like blossoms. This forces quite as well as Deutzia gracilis itself, and is certainly handsomer.

Out of doors, on the northern exposure already alluded to, many plants succeed here which elsewhere require protection. Among these are Leptospermum lanuginosum. This flowers and fruits abundantly. During severe winters the tips of the young shoots get partially injured; but in seasons like the present nothing of the kind happens to it. Grevillea rosmarinifolia is a fine bush, and blooms freely; Indigofera decora dies down yearly like a Fuchsia, but pushes again in spring, and keeps in flower from June till October; Glyptostrobus heterophyllus has proved quite hardy here and borne cones; it grows very slowly. Euonymus marginatus grows freely in summer, but the unripe wood gets killed by frost; Lardizabala biternata progresses slowly against a wall, and flowers, but not abundantly; Panax horrida appears to be quite hardy, and flowers annually. Of Eurybia Gunniana we noticed a fine bush full of flower buds, which when open look like so many white Daisies. This is an interesting New Holland shrub, and if quite hardy must prove an acquisition. Here it stands the winter without protection, but we have not heard of its doing so elsewhere, except in the West of England.

From Skimmia japonica a fine crop of handsome crimson berries has just been gathered for seeds. This is one of the most useful of comparatively new evergreen flowering shrubs.

At the lower end of the flower garden, and immediately in front of the drawing room windows, which open on to it, is an extremely pretty rockwork, on which are cultivated a fine collection of British Mosses, Ferns, Alpine, and other flowering plants; the latter to give variety and gaiety in summer.

Near the base of the highest part of this rockwork on a detached elevated portion a bog has been formed, through which flows a stream of water that falls into an aquarium over a small cascade. In the moist hollows and elevated parts of this bog, Hypnum scorpioides, H. aduncum, H. molluscum and stellatum, Racomitrium canescens, Dicranum squarrosum, and Lycopodium Selago were conspicuous. The surplus water from the aquarium flows through a rocky valley, the sides of which will soon be gay with Golden Saxifrage and Forget-me-not. At the termination of this valley the stream enters a second bog, through which it flows by a circuitous course to a third bog of smaller dimensions, and thence by forming a little cascade enters a fourth bog. This accomplished it sinks among pebbles and disappears. In and near these miniature bogs may be found such plants as Aulacomnion palustre, A. androgynum, Bartramia fontana, Racomitrium aciculare, R. fasciculare, Omalia trichomanoides, Neckera crispa, N. complanata, Bryum pseudo-triquetrum, B. julaceum, Tetraphis pellucida, Hypnum filicinum, H. rivulare, and H. ruscifolium, &c.; also Drosera anglica and rotundifolia, Anagallis tenella, Hypericum elodes, and Narthecium ossifragum, &c. Here also may be observed a species of Marchantia, which was gathered on the Alps by Mr. Mongredien, whose taste and liberality have enriched this place with many curious and useful plants. On the highest positions next the flower garden stand Yucca gloriosa and Gynerium argenteum, also some Conifers. On banks and sides of little ravines were Azalea procumbens, Dryas octopetala, and Linnæa borealis, as fresh and healthful as if rambling among Heath in its native dells. Goodyera repens and Pyrola secunda were both growing freely. Altogether this must be regarded as one of the most interesting little spots in the neighbourhood of London.

## Calendar of Operations.

(*For the ensuing Week.*)

### PLANT DEPARTMENT.

CONSERVATORY, &c.—At this season watering should be conducted with considerable care, more especially in the case of recently potted plants, which must not be overdosed. Keep them close, and when the weather is favourable syringe frequently, so as to maintain a rather moist atmosphere; but until the growth of the plants shall have indicated that they have taken to the fresh soil apply water very sparingly at the root. Luculias in pots should be encouraged to make free growth, in order to get the wood well ripened and the plants in flower before those planted in the conservatory border, for it is desirable to prolong the blooming season of this charming shrub as much as possible. STOVE.—Some of the Orchids may probably require shading; at all events see that material for the purpose is ready for use, but do without it as long as possible, and with a little care in removing plants likely to be injured to shady positions, it will not be necessary, at least in most cases, to apply it just yet. An increase of night temperature of stoves may now be allowed, more especially if the weather should prove bright, but this should be obtained not by the use of an extra quantity of coal but by shutting up early in the afternoon. Maintain a moist atmosphere, and give no quarter to insects of any kind. Auriculas in pits or frames will now be showing their buds; give them abundance of air during the day. Pot Tuberoses, and expose freely during fine weather autumn sown flowers, such as Mignonette and Stocks; Neapolitan Violets in frames may be forwarded by being closed early in the afternoon and in pots by keeping them in a temperature of 55°. Examine buds of forced Roses for caterpillars, and fumigate occasionally for green fly.

### FORCING DEPARTMENT.

PINERIES.—Young plants growing in open beds that have been some time planted will be benefited by having the soil loosened up as deeply as can be done without injuring the roots, giving it a liberal soaking of tepid water if it be found to be too dry. The water should be applied by means of a rose-pot, and not so fast as to flood the surface, for if this is done the soil will be rendered almost as close as before forking up; indeed, careless watering is the great cause of the surface of the soil becoming close and hard, and should be carefully avoided. Endeavour to afford these a nice regular bottom-heat, with a thoroughly moist atmosphere, and keep them growing as freely as may be consistent with keeping them dwarf and stocky. Have a constant eye to maintaining a succession of fruit, or securing a supply at the season when it may be most wanted, and let the treatment of the plants be regulated in time by your circumstances; for this is a matter which demands considerable forethought, and which can be successfully managed only by careful observation and attention. VINERIES.—Take advantage of favourable opportunities to admit fresh air as freely can be done with safety, and be satisfied with as low a temperature from fire-heat as may be considered safe under the state of the Vines, but shut up early on sunny days, allowing the glass to rise considerably. This will to some extent economise fuel, and will be much more congenial to the Vines than much fire-heat. Except where the Vines are in flower keep the atmosphere moist, but the foliage should always be allowed to become perfectly dry in course of the day. PEACHES.—Where the trees are in bloom admit air freely whenever the weather is mild, and keep the atmosphere rather dry, maintaining a steady night temperature of about 50°. Trees on which the fruit is fairly set should be afforded a moist temperature, syringing them liberally in the afternoon to prevent red spider, and keeping the border in a healthy state as to moisture, &c., to secure a vigorous root action. CUCUMBERS.—These may now be kept at from 65° to 70° by night, and 70° to 80° by day, with a steady bottom-heat of about 85°, which, combined with a thoroughly moist atmosphere, will induce free growth. Keep the shoots thin near the glass, and attend to stopping, &c., as may be necessary. Attend carefully to the early Melon plants, and regulate the temperature according to the state of the plants and the amount of sunshine, taking care not to get the Vines weak and long-jointed through a high close temperature, for a fair crop of fruit need hardly be expected unless the Vines are kept strong and short-jointed. Do not omit putting in seeds of the favourite summer kinds.

### FLOWER GARDEN AND SHRUBBERIES.

If any alterations or planting still remain unfinished, every available hand should be concentrated on that work, so as to get it completed as soon as possible. Planting done after this time will require much attention in watering, and that at the very busiest season of the year, especially if large plants are removed, and it is too common a practice to put off such work to the last. Look over beds planted with bulbs, and where necessary stir the surface, so as to keep the soil open and friable, and also to give it a fresh appearance. See to the propagation of Dahlias and Hollyhocks; the latter when planted skilfully produce an excellent effect, and therefore especial attention should be paid to having a good supply of them. Cuttings slipped off the old plants with a heel, planted in very sandy soil, and afforded a gentle bottom-heat, keeping the leaves as cool as possible, will be found to root perhaps more freely at this than at any other season. Get Calceolarias hardened off by removing them to a cold frame and exposing them freely to air, preparatory to planting them in turf pits to make room under glass for more tender things.

### HARDY FRUIT AND KITCHEN GARDEN.

While favourable weather continues push forward all operations requiring attention here with the least possible delay. See to keeping up a succession of Peas and Beans, also plant out Lettuce on a rich warm piece of ground, and provide a succession of Radishes and other small salads. Manure and dress Asparagus beds. Get Cauliflower plants raised under glass hardened off, and pay every attention to those under hand-glasses in order to forward them as much as possible. Spinach, Early Horn Carrots, and Stone Turnips should be sown at once on a warm rich border, if not yet done; also Leeks, Brussels Sprouts, Savoys, German Greens, Snow's and early sprouting Broccoli, and the main crop of Potatoes should be planted without delay.

### COTTAGERS' GARDEN.

Bush fruit, such as Gooseberries and Currants, should now be pruned; also get the ground amongst them manured and lightly dug, but in doing that take care not to injure the roots. See that early Peas, such as Sangster's No. 1, are not injured by mice or birds. Where they are above ground draw the soil to their stems, raising it on the windy side sufficiently to make a kind of shelter for the plants. Plant Fairbeard's Champion of England for succession, and if a few Fairbeard's Surprise are planted at the same time, they will come in about a week earlier than the Champion. Small patches of annuals may now be sown, and herbaceous perennials, if any, should be divided and replanted.

### STATE OF THE WEATHER AT CHISWICK, NEAR LONDON,

For the Week ending Mar. 3, 1859, as observed at the Horticultural Gardens.

| Feb. and March. | Moon's Age. | Barometer. Max. | Barometer. Min. | Temperature of the Air. Max. | Temperature of the Air. Min. | Temperature of the Air. Mean | Temperature of the Earth. 1 foot deep | Temperature of the Earth. 2 feet deep |
|---|---|---|---|---|---|---|---|---|
| Friday 25 | 22 | 30.314 | 30.182 | 52 | 25 | 38.5 | 45 | 45 |
| Satur. 26 | 23 | 29.923 | 29.616 | 50 | 40 | 45.0 | 45 | 44½ |
| Sunday 27 | 24 | 30.173 | 29.944 | 51 | 23 | 37.0 | 45 | 44½ |
| Mon. 28 | 25 | 30.272 | 30.180 | 52 | 39 | 45.5 | 44½ | 45 |
| Tues. 1 | 26 | 30.265 | 30.225 | 54 | 27 | 40.5 | 45½ | 44½ |
| Wed. 2 | 27 | 30.209 | 30.074 | 55 | 41 | 48.0 | 46 | 45 |
| Thurs. 3 | 28 | 30.188 | 30.126 | 59 | 48 | 53.5 | 46½ | 45 |
| Average | | 30.192 | 30.049 | 53.3 | 34.7 | 44.0 | 45.1 | 44.8 |

Feb. 25—Frosty; clear; fine; slight frost.
— 26—Foggy; cloudy; boisterous with rain.
— 27—Low clouds; fine; cloudy; clear at night.
— 28—Frosty; very fine; quite cloudless; fine at night.
March 1—Fine throughout; slight frost at night.
— 2—Rather foggy; very fine throughout.
— 3—Exceedingly fine; overcast at night.
Mean temperature of the week, 3 deg. above the average.

### RECORD OF THE WEATHER AT CHISWICK,

During the last 33 years, for the ensuing Week, ending March 12, inclusive.

| March. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds. N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday 6.. | 47.9 | 31.6 | 39.7 | 11 | 0.26 in. | 2 | 9 | 3 | 1 | 2 | 4 | 1 | 2 |
| Mon. 7.. | 48.9 | 32.1 | 40.5 | 11 | 0.11 | 4 | 6 | 4 | 1 | 1 | 4 | 1 | 2 |
| Tues. 8.. | 49.4 | 32.0 | 40.7 | 11 | 0.17 | 3 | 7 | 3 | 1 | 1 | 4 | 1 | 2 |
| Wed. 9.. | 50.1 | 32.0 | 41.1 | 9 | 0.47 | 3 | 4 | 3 | 2 | 1 | 4 | 2 | 3 |
| Thurs. 10.. | 49.8 | 31.5 | 40.7 | 12 | 0.69 | 4 | 4 | 1 | 1 | 2 | 5 | 2 | 2 |
| Friday 11.. | 49.3 | 31.7 | 40.5 | 11 | 0.33 | 1 | 5 | 3 | 3 | 3 | 4 | 1 | 2 |
| Satur. 12.. | 50.5 | 32.0 | 41.2 | 14 | 0.24 | 3 | 4 | 3 | 1 | 2 | 5 | 1 | 2 |

The highest temperature during the above period occurred on the 9th, 1826—therm. 68 deg., and the lowest on the 10th, 1847—therm. 7 deg.

## Notices to Correspondents.

BEANS: *J Larkins.* Your Beans have no resemblance to those advertised by Mr. Cuthill.

CRICKETS: *Sub.* Trap them by means of wide-mouthed vials or bottles baited with a little treacle and water; the bottles being so sunk or placed that the crickets can get into them. Penny's paste has also been used for destroying them with complete success. See p. 154 of our volume for 1856.

FRENCH CARNATIONS AND PICOTEES: *A R* is much obliged to "C. A. J." for his offer of a plant and blooms of the Carnations and Picotees, about which he inquired, but will not trouble him, as he has a dozen plants for blooming this season. His object in asking for the information was that he might judge whether it was worth his while to sow a small batch this spring before he had seen blooms.

GLASS: *R H.* You cannot cultivate plants under ribbed glass. But you may preserve them by its aid. Have a rough plate is the most suitable to plants under all circumstances.

GRAPES: *Hortus.* The varieties you mention are tall growing sorts.—*W W.* The Golden Hamburgh is an excellent kind, but of its suitability for market purposes we have as yet no experience. It is only just getting into general cultivation.

NAMES OF PLANTS.—We have been so often obliged to reluctantly decline naming heaps of dried or other plants, that we venture to request our correspondents to recollect that we never have or could have undertaken an unlimited task of this kind. Young gardeners, to whom these remarks especially apply, should bear in mind that, before applying to us for assistance, they should exhaust their other means of gaining information. We cannot save them the trouble of examining and thinking for themselves; nor would it be desirable if we could. All we can do is to *help* them, and that most willingly. It is now requested that, in future, not more than four plants may be sent us at one time.—*H D S.* The plant called Allheal is Valeriana officinalis. Tutsan, which has the same meaning (*panacea*), is Hypericum Androsæmum. Your leaf certainly does not belong to the second, and we think not to the first. It looks like a piece of *mâche* or Lamb's Lettuce, Valerianella olitoria.—*J L.* Vaccinium ovatum. Loudon's Arboretum et Fruticetum will be much the more useful of the two.—*W.* Pinus Parryana and Abies amabilis; both fine things.—*S.* 1, Garrya elliptica; 2, Helleborus olympicus; 3, Hepatica canadensis; 4, Viburnum cotinifolium.—*Silverton.* The plant is not Fremontia californica, nor anything like it.

ORCHARD HOUSES: *X Y Z.* Fumigation properly managed will do no harm to fruit trees in flower. But we have had experience with tobacco, the utility and cheapness of which cannot be questioned when "returns" can be bought for 5*s.* per lb.

PALACE OF THE PEOPLE: *Mayfair.* We have already given a description of this new undertaking, which, as it does from a gentleman perfectly well acquainted with the subject, may doubtless be implicitly relied on. Mr. Jones's design for the proposed building is on view at Colnaghi's, and we think that when you have seen it you will with us regard it as a work of art of admirable beauty.

PLUM TREES: *J O B.* You cannot grow Plums without wood although by more cutting than stone-fruit trees will stand you may have the spurs on comparatively young wood. What is called the rod system of growing Vines is not applicable to the Plum tree. Properly speaking the Plum has no spurs. Its young shoots may proceed from a bud on the last year's shoot, or from a latent eye in an old wood on the stem; and in either case the shoots may bear only leaves, either fruit or tendrils; but such production is immediately from the young growing shoot, whether it be a spring from wood of the last season or from much older. The blossom buds of the Plum, on the contrary, are formed visibly in the previous season, and not on the current shoot.

VASES: *Sub.* You may put round their edges such things as blue Lobelias; some of the newer smaller growing Calceolarias and orange Nasturtiums and Tropæolums; Abronia umbellata, Anagallis, Convolvulus major and minor, Heliotrope Voltaireanum, Petunias, and Lophospermums. Your Fumigator will answer your purpose.

VINE GROWING: *M J B.* There is a small work on the cultivation of Vines suitable to the labouring classes, "Hoare on the Vine," published by Longmans, which is an excellent treatise, but of higher aim, is "Saunders's Vine growing," published at 28, Henrietta Street, Covent Garden.

MISC.: *W N P.* No honest man can sanction such proceedings. If you take the advice that has been given you will expect to hear that you are lodged in York Castle.—*C.* We never purchase back Numbers. Yours would be of little value as they are not consecutive.

THE PATENT

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| | | | | | |
|---|---|---|---|---|---|
| TURNIP MANURE .. .. .. | from | £7 | to | £6 | 6 |
| SUPERPHOSPHATE OF LIME .. | ,, | 7 | to | 6 | 6 |
| MINERAL do. .. | ,, | 6 | to | 5 | 5 |
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Prof. Way and Dr. Voelcker have sampled from a bulk of 5000 tons at his factories, and their report and analyses are given in full in Circular to be obtained on application at his office, 1, Adelaide Place, London Bridge, E.C., or of his local Agents.

N.B. Genuine Peruvian Guano direct from Messrs GIBBS, Nitrate of Soda, Sulphate of Ammonia, and other Chemical Manures American Cotton-seed Cake supplied.

SUCCESS OF THE NEW GUANO; IMPORTED UNDER LEASE FROM THE CROWN.—Though the experiments with KOORIA MOORIA GUANO were made late in the season, and under adverse circumstances, the successful results obtained confirm beyond doubt Professor Voelcker's report—(in No. 41, Part I., vol. xix., Royal Agricultural Society's Journal)—that Ammoniacal manures, applied to Turnips in the experimental field, kept back at first the crop, and had no beneficial effect either alone or in conjunction with phosphates.

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"Greystoke, Cumberland, Dec. 16, 1858.

"Dear Sirs,—I beg to inform you that I applied the Kooria Mooria Guano I had from you for Turnips, on land of a loamy character, incumbent on a stiff clay subsoil, and recently drained. On each side of the plot sown with Kooria Mooria Guano were Turnips manured with best Peruvian Guano. The quantities applied of each sort were of equal weight for weight per acre. The crop—a very good one throughout—is now being eaten off with sheep. Very little perceptible difference can be discovered, but if anything that difference is in favour of the Turnips sown with Kooria Mooria Guano.

(Signed) "JOHN BARKER."

"Messrs J. & J. Graham, Guano Merchants, Penrith."

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ESTABLISHED 1812.

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26, Great George Street, Westminster.

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Repayment may be made by the Landowner as successive portions of the Works are completed, or the actual expenditure, with a Commission thereon, may be charged on the property improved by way of rent charge for any term not exceeding 50 years, the instalments to repay principal and interest being thereby kept down nearly to 5 per cent. per annum.

No investigation of title being required, and the charge not being affected by incumbrances, no legal expenses are incurred.

Works of Irrigation, Enclosing, Wood Grubbing, Road Making, and Farm Buildings are executed in a similar manner.

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Applications to be made to WILLIAM CLIFFORD, the Secretary, at the Offices of the Company, 52, Parliament Street, London.

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2, Old Palace Yard, Westminster, S.W.

To Landowners, the Clergy, Solicitors, Estate Agents, Surveyors, &c.—The Company is incorporated by Special Act of Parliament for England, Wales, and Scotland.—Under the Company's Acts Tenants for Life, Trustees, Mortgagees in possession, Incumbents of Livings, Bodies Corporate, certain Lessees, and other landowners are empowered to charge the inheritance with the cost of improvements, whether the money be borrowed from the Company or advanced by the Landowner out of his own funds.

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Owners in fee may effect improvements on their Estates without incurring the expense and personal responsibilities incident to Mortgages, and without regard to the amount of existing incumbrances. Proprietors may apply jointly for the execution of Improvements mutually beneficial, such as a Common Outfall, Roads through the District, Water Power, &c. For further information and for forms of application apply to the Hon. W. NAPIER, Managing Director, 2, Old Palace Yard, Westminster, S.W.

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SUMMER SHOW.—The Society's Seventh Annual Exhibition of CATTLE—including Ayshire, Short-Horn, West Highland, Polled Angus or Aberdeen, and Galloway Breeds; HORSES, SHEEP, including Leicester, South Down, Cheviot, and Black faced Breeds; SWINE, POULTRY, DAIRY PRODUCE, and IMPLEMENTS and MACHINES—will be held on June 6, 7, and 8.

Premium Lists and Schedules of Entry will be obtained from the Secretary on application.

Competition, except for Implements, &c., is restricted to Members only, but Membership is open to Applicants from all parts of the country. *Terms of Membership.*—Ordinary Entry Money, 10*s.*; and Annual Subscription, 5*s.* Life Tenant Farmers, 3*l.*; all others, 5*l.* Members who have not yet paid their Subscriptions for 1859 are requested to do so to the Secretary without delay.—By order of the Directors,

ROB. M'COWAN, Secretary, 7, Gordon Street, Glasgow
Glasgow, March 5.

COLLEGE OF AGRICULTURE AND CHEMISTRY, AND OF PRACTICAL and GENERAL SCIENCE, 37 and 38, Lower Kennington Lane, Kennington, near London.

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# The Agricultural Gazette.

*SATURDAY, MARCH 5, 1859.*


**MEETINGS FOR THE ENSUING WEEK.**

MONDAY, March 7—Central Farmers' Club . . . 6 P.M.
WEDNESDAY, — 9—Agri. Society of England .. Noon.

THE possibility of an economical displacement of horse power by that of steam depends on several things: not only on the provision of an implement by which steam power can be conveniently and without waste applied to the cultivation of the land, nor only on the possibility by such a machine of working the land more cheaply than is done by horse and man. Steam power would ultimately have been introduced into English agriculture for the work of cultivation even though the steam plough prizes of the national societies had never been awarded. It would have been economical to have employed steam power in cultivation, even though the steam drawn plough had not proved a cheaper tool than that drawn by animals. The fact is that employment for our horses on the farm is more unequally distributed over the seasons than even that for men. And just as the reaping machine, even though the harvest by its help had been none the cheaper than without it, would, by lessening the demand for human labour at its busiest time have proved an immense advantage to the farmer, so the steam plough by taking the work of horses in the laborious autumn and spring times of cultivation, thus diminishing the number needing to be kept throughout the year, would have been an economical assistance to the farmer, even though the fields during those busy seasons should be ploughed by it at a little greater cost than usual. Nevertheless, and notwithstanding the other advantages which can be enumerated on the side of steam—deeper and more thorough tillage, economy of time, and improvement in labourers—it is well to consider what the actual cost of cultivation by horse power is, in order that our mechanics and steam ploughmen may know the limit below which the cost of their work must be reduced, in order to the completeness of the victory which they already have achieved.

It has therefore not been without good reason that THE COST OF HORSE POWER has been made the subject of an elaborate paper in the current number of the English Agricultural Journal—in which an attempt is made by comparison of a great number of methods of stable management, and by collation of the experience of a great many agriculturists, to ascertain the cost by horse power of a hundredweight of draught at a given rate of movement.

The cases enumerated are, some of them, taken from our standard works on agriculture, some from published discussions before Farmers' Clubs, some from past volumes of the Journal, and others ascertained by correspondence with those who actually adopt them. They include 21 different modes of summer feeding, 12 of feeding during the autumn seed time, 68 of winter feeding, and 14 of feeding during the spring seed time. The differences of

cost in the weekly food according to the modes of feeding specified are very considerable:—"More than 100 per cent. in the cost of summer feeding, which averages 8*s.* a week and varies from 5*s.* to 11*s.*: 70 or 80 per cent. in the cases given of autumn feeding, which costs on the average about 9*s.* 6*d.*, and varies from 7*s.* 6*d.* to 12*s.*; more than 100 per cent. in the cost of winter feeding, which averages about 6*s.* 4*d.*, varying from 4*s.* 9*d.* to 12*s.*; and 30 per cent. in the cost of spring feeding, which averages nearly 10*s.* a week, varying from 7*s.* 6*d.* to 12*s.*

It is found that the average cost per week of keeping a horse throughout the year, according to the cases here described, and putting the summer season down as lasting 18 weeks, the autumn six weeks, the spring 12 weeks, and the winter 16 weeks, amounts to about 8*s.* weekly. The annual cost in some of the cases named is, however, brought out more accurately in another table, where the average annual cost of 35 selected instances comes out as equal to 21*l.* 15*s.*, being about 8*s.* 4*d.* weekly throughout the year."

The cost of feeding the horses is however only part of the cost of cultivating by horse-power. To it there must be added the cost of maintaining the value of the horses, of maintaining their health, and besides the farrier's bill, that of the blacksmith and saddler, before even the personal expenses of the horses, so to speak, are ascertained. The annual cost of implements and of horsemen has then to be added, and the number of horses employed being known the means of ascertaining the cost of horse-power per annum on the farm are provided. In the first item, however, the experience of different farmers varies exceedingly. The mere food of the horse varies from 16*l.* 6*s.* per annum to upwards of 30*l.* per annum—the average, as we have said, being about 21*l.* 15*s.* each. The cost of extras, including that of keeping the horse stock "good," and the payment of saddler, blacksmith's, and farrier's bills is generally 5*l.* 10*s.* per annum. The wages of the horsemen varies exceedingly in different districts, as was shown the other week. And the upshot is given in the following figures, where the total cost per annum is compared with the acreage cultivated, so as to bring out the expense of horse-power per acre of the arable land:—

| No. | Total Cost of Horse Labour. | Acreage. Pasture. | Acreage. Arable. | Acreage. Fallow Crops. | Acreage. Grain Crops. | Acreage. Clover, &c. | Acreage. Pulse, &c. | Cost of Horse Power per Acre of Arable Land. |
|---|---|---|---|---|---|---|---|---|
| | £. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | £. *s.* *d.* |
| 1 | 873 0 0 | 400 | 660 | 110 | 330 | 110 | 100 | 1 11 6 |
| 2 | 902 0 0 | 43 | 560 | 140 | 280 | 140 | .. | 1 13 6 |
| 3 | 471 5 6 | 110 | 400 | 91 | 182 | 85 | 42 | 1 11 0 |
| 4 | 441 0 0 | 41 | 310 | 78 | 155 | 57 | 20 | 1 11 0 |
| 5 | 256 16 16 | 128 | 128 | 32 | 54 | 37 | 5 | 2 0 0 |
| 6 | 290 19 0 | 400 | 200 | 50 | 100 | 50 | .. | 1 10 0 |
| 7 | 300 10 0 | 100 | 200 | 50 | 100 | 50 | .. | 1 10 0 |
| 8 | 488 12 0 | 120 | 330 | 77 | 175 | 68 | 10 | 1 11 0 |
| 9 | 346 12 0 | 60 | 250 | 63 | 125 | 42 | 20 | 1 11 0 |
| 10 | 468 12 0 | .. | 300 | 75 | 150 | 75 | .. | 1 11 0 |
| 11 | 561 11 0 | 400 | 340 | 90 | 150 | 45 | 55 | 1 11 3 |
| 12 | 608 18 0 | 400 | 400 | 120 | 185 | 80 | 15 | 1 10 6 |
| 13 | 566 0 0 | 274 | 408 | 60 | 174 | 174 | .. | 1 7 6 |
| 14 | 1151 9 0 | 120 | 900 | 235 | 450 | 150 | 65 | 1 13 3 |
| 15 | 749 15 0 | 75 | 500 | 120 | 240 | 140 | .. | 1 15 5 |
| 16 | 443 16 0 | 6 | 240 | 50 | 120 | 60 | 10 | 1 9 6 |
| 17 | 426 0 0 | .. | 300 | 100 | 150 | 50 | .. | 1 9 6 |
| 18 | 903 12 0 | .. | 600 | 150 | 300 | 150 | .. | 1 8 6 |
| 19 | 981 16 0 | .. | 900 | 200 | 340 | 340 | 20 | 1 8 6 |
| 20 | 1131 10 0 | .. | 675 | 125 | 300 | 200 | 50 | 1 11 0 |
| 21 | 381 10 0 | .. | 240 | 60 | 120 | 30 | 30 | 1 1 0 |

The differences apparent here in the cost of horse-power per acre may be accounted for in some degree by differences in stable management, in some degree by variety, in the character of the soil in the several instances, but most of all by greater or less economy in the number of horses used in drawing the implements employed.

But we have not in these figures any sufficient means of comparing horse and steam-power together. In order to do this we must ascertain what is the whole amount of draught per annum effected by the horses, and so arrive at the cost per cwt. of draught. As the author of this paper says: "If you can enumerate all the operations on your farm, together with the draught incurred in accomplishing them, then you can easily convert the whole into weight lifted through a certain space in a certain time. If you can record the cost of horse food, of extras, of ploughmen, and of keeping up live and dead stock, then against the work done you can place the exact cost of doing it; and the comparison leads, as in the two cases worked out above, to the cost of horse-power 'per cwt. of draught, at a given rate of movement.'"

This accordingly has been done in one or two cases, and the following passage taken from the essay describes the process:—

"The common definition of horse-power is the ability to lift 33,000 lbs. 1 ft. high per minute. This is perfectly consistent with the results of such experiments on the draught of ploughs as have been published. Thus, when two horses pull a plough along at the rate of 2½ miles in an hour, and the tension on the draught chain is equal to a lift of 300 lbs.—no uncommon case—they do in effect lift that 300 lbs. 220 ft. per minute, that being the sixtieth part of 2½ miles; and this is equivalent to a lift of 66,000 lbs., or just the 33,000 lbs. apiece, 1 ft. high per minute, which is the ordinary mechanical expression of one-horse power. This power, however, is not continuously exerted. The plough, though drawn at the rate of 2½ miles per hour, is not drawn 25 miles in a day of 10 hours; it is not often drawn much more than 10 miles in that time, in consequence of loss of time on headlands, &c. In fact, the plough is drawn barely 10 miles in turning over 1 acre in furrow-slices 10 inches wide. In this lies one great difference between animal and steam-power, namely, the persistence of the latter, if only methods of continuously employing it can be devised. The really effective work of a horse per diem thus does not much exceed one-half of that calculated from its work per minute; and its annual performance must be often still further reduced below the theoretical standard by the occurrence of days when it remains idle in the stable.

"In some of the instances described above, I have received such a detailed account of the work done upon the farms, as enables me to estimate with some confidence the total annual draught accomplished during its cultivation. The following, for instance, were the details of cultivation on my father's farm, at Whitfield. On 120 acres of it Wheat was annually grown; the cultivation of this consisted of one ploughing, three harrowings, one drilling, one rolling, the carting of the produce (2 tons per acre) three-quarters of a mile to the homestead, and the carting of some 100 tons of grain perhaps six miles to market. On 60 acres of root-crops there were one deep ploughing, and probably two shallower ploughings, three 'cultivatings,' probably 10 harrowings, two rollings, twice ribbing when covering the manure, one drilling, three horse-hoeings, the carting of 15 tons of dung per acre to the land, and the carting of 25 tons of produce from the land three quarters of a mile. On 30 acres of Clover there was one rolling, and the carting of 15 tons of green food per acre from 10 acres, and the carting of 20 tons of hay off 10 acres three quarters of a mile. On 30 acres of Beans there were two ploughings, two 'cultivatings,' four harrowings, one drilling, two horse-hoeings, 10 tons of dung per acre carried three quarters of a mile, 2½ tons per acre of produce carried home three quarters of a mile. I have the number of miles walked per acre in performing every operation, and I can from experience and experiment pretty nearly estimate the draught in every case. In the case of produce and manure carried I add the weight of the cart going and returning, which just doubles the quantity of cartage; and 10 per cent. is charged upon the weight for draught, this being what seems to me fair, on comparing Mr. Brunel's experiments on this subject with the ordinary character of cartage on the farm.* It is plain that in all these particulars I have the complete history of the labour of cultivating and carrying the crops of the farm, which accordingly is given in the following table:—

HORSE LABOUR ON WHITFIELD FARM.

| Crops. | Acreage. | Ploughed. Deep. | Ploughed. Ordinary. | Cultivated. | Harrowed. | Rolled. | Ribbed. | Drilled. | Horsehoed. | Dung carted. Tons. | Dung carted. Miles. | Produce carted. Tons. | Produce carted. Miles. | Equal to carting 1 mile |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Roots .. .. | 60 | Acres. 60 | Acres. 120 | Acres. 180 | Acres. 600 | Acres. 120 | Acres. 120 | Acres 60 | Acres. 180 | 900 | ¾ | 1500 | ¾ | Tons. 180 |
| Corn .. .. | 120 | .. | 120 | .. | 480 | 120 | .. | 120 | .. | .. | .. | 240 | ¾ | 90 |
| | | | | | | | | | | | | 1 0 | 6 | |
| Clover .. .. | .. | .. | .. | .. | .. | 30 | .. | .. | .. | .. | .. | 150 | ¾ | 112½ |
| Beans .. .. | 30 | .. | 60 | 60 | 120 | .. | .. | 30 | 120 | 300 | ¾ | 20 | ¾ | 25 |
| | | | | | | | | | | | | 75 | ¾ | |
| Total .. .. .. | 60 | 300 | 240 | 1200 | 270 | 120 | 210 | 300 | .. | .. | .. | .. | 227½ |
| Multiply by the miles walked per acre | | 8 | 10 | 3 | 1½ | 2 | 3 | 2 | 3 | Add for weight of carts | | | | 200 |
| Miles walked .. .. | 480 | 3000 | 720 | 1600 | 540 | 360 | 420 | 900 | | | | | | 302½ |
| Multiply by the draught in cwts. | | 5 | 3½ | 4 | 3 | 2 | 3 | 3 | 1½ | 10 per cent. on which is | | | | |
| Cwts. of draught .. | 2200 | 10,500 | 2880 | 4800 | 1080 | 1080 | 1260 | 1350 | | 11,958 cwts. drawn 1 mile | | | | |

"These figures represent the cwts. drawn (= lifted) 1 mile in the several operations; and, adding them together, we have the annual labour of the farm, which amounted, in the case before us, to 37,107 [illegible] (= lifted) one mile per annum. For the [illegible] annum' we may substitute 300 days of 9 h[illegible] the work done will be found on calculation [illegible] equal to the lift of 135,450 lbs., 1 foot high per [illegible] during all that time; which, as seven horses [illegible] ployed, was 16,492 lbs. apiece, or about [illegible] theoretical quantity—a very high average, [illegible] will appear from what I have already said. [illegible] ascertain the cost of horse-power in this case, [illegible] assume a rate of movement natural to the [illegible] animal—say 2½ miles per hour. The work [illegible] 37,106 cwt. drawn (= lifted) 1 mile in 2700 [illegible] this is equivalent to 14,842 cwt. drawn 2½ [illegible] 2700 hours, or 5½ cwt. drawn that distance [illegible] hour. But the cost of horse labour on this farm [illegible] 381*l.* 10*s.* per annum, or 2*s.* 10*d.* per [illegible] —that then was the cost of drawing (= lifting) [illegible] 2½ miles in that time. Horse-power on Wh[illegible] thus cost as nearly as possible 6*d.* per cwt. [illegible] miles at that rate of movement. If the plough[illegible] acre was equal to lifting 3 cwt. 10 miles, then [illegible] power it was done for 6*s.*; if it was equal [illegible] 5 cwt. 8 miles (I name fewer miles, because the [illegible] draught implies greater depth of ploughing, and [illegible] ploughing involves a wider furrow-slice), then [illegible] 8*s.* per acre. And these are the figures with [illegible] engineer would have to compare the performance of [illegible] engine."

Other instances are similarly investigated, [illegible] the results come singularly near in their [illegible] ment with one another. The annual cost of [illegible] power on a farm varies from 5¼*d.* to 6*d.* per [illegible] drawn 2½ miles. The author of the article [illegible] cludes as follows with a comparison between [illegible] and steam-power employed in cultivation:—

"Whether under the most economical and profitable management of the horses of the farm the cost of ploughing done by them at Chester would not have been less than that at which, according to the 'Report,' it was accomplished by Mr. Fowler's steam plough may be questioned. I am inclined to think it would. A fair comparison of the two, to determine a difference of this kind, is, however, quite beside the agricultural bearings of the subject. Mr. Baker, of Writtle, expresses a belief that even threshing can be done as cheaply by horse-power as by locomotive steam engines; but this does not hinder him from employing the latter in order to the speedy accomplishment of the work, and thereby to free his horses for other employment. The superiority of steam power for such purposes is so great that no one now is curious to inquire into the question of its comparative expense. And so it will be with cultivating power applied to cultivation. It will be applicable to the overcrowded seasons of horse labour. A much smaller number of horses kept throughout the year will suffice for the annual work of the farm when a portion of the labour of the spring and autumn months can be thus taken from them. And a direct advantage of this kind, added to the indirect advantages of a deeper and more thorough tillage which steam power can effect, will ensure its ultimate adoption, 'altogether irrespectively of narrow differences of cost per acre.'"

## THE USE AND PURPOSES OF AMMONIA IN VEGETABLE ECONOMY.

NOTWITHSTANDING the importance assigned to nitrogen in agricultural chemistry in the present day, there are occasional indications observable among the leading authorities of something like an incipient dissatisfaction with the nitrogenous theory—I mean with the universally received views of the part borne by nitrogen in the economy of plants, derived, I suppose, from observation of the indisputable use and necessity of ammonia in vegetable nutrition. Hence it seems to have come to be assumed that nitrogen is the one indispensable element of ammoniacal manures on which their intrinsic value depends; and to such an extent has this idea occupied the ground of scientific discussion that the terms, ammoniacal manures and nitrogenous manures, have come to be almost used as convertible terms. But these views are found to be attended with certain awkward and untractable anomalies, and the facts of Nature refuse to accommodate themselves to preconceived opinions of men. One of our ablest agricultural authorities—the late Mr. Pusey, I think—expressed on one occasion in this journal the conviction

* The instances marked with an *asterisk* are those of pasture farms as well as arable. From 3*s.* to 4*s.* 6*d.* per acre for horse labour on the pasture should be deducted on this account; and the remainder, spread over the arable land of the farm, will give figures more correct. For example, Mr. Baker, of Woburn (No 2), whose pasture land costs him 4*s.* 6*d.* an acre for horse labour, would thus have the figures 35*s.* 5*d.* reduced to 32*s.*

* He found that the draught on a dry good road was 3 per cent. of the weight; on a wet good road it was 4 per cent; on hard, compact loam it was 5½ per cent.; on ordinary byeroads it was 10½ per cent.; on a newly-gravelled turnpike-road it was 14½ per cent.; and on a loose sandy road it was more than one-fifth, or 20 per cent. of the weight.

[illegible] him to in these words "Wheat is a [illegible] ammonia." The proposition, no doubt, [illegible] and legitimate consequence of his [illegible] advocate of the nitrogenous theory; for it [illegible] only conclusion he could draw from the [illegible] that the Wheat refused to account for all the [illegible] had somehow made away with; but it [illegible] strangely impugnatory of the wisdom of the divine arrangements, as if Nature, which does nothing in vain, had constituted Wheat, or any other plant, with a strong avidity for ammonia for the useless purpose of wasting it or of taking it in, only to decompose and give out again. More lately Mr. Lawes and his [illegible] in the same field of agricultural science have come forward, and by a precise and philosophical deduction from carefully conducted experiments have helped to confirm and extend the anomalous and inexplicable circumstances connected with the nitrogenous theory; for they tell us, as the result of their experiments, that while some plants failed to account for more than a small portion of the nitrogen that had been consumed, or otherwise disposed of, there were others which returned (in their composition I presume) more nitrogen than had been supplied to them. Facts like these cannot be otherwise than perplexing and inexplicable on the prevailing views of the part borne by nitrogen in vegetable economy; but they are quite in accordance with, and might be legitimately deduced from the opinions I have on several occasions expressed in the *Gardeners' Chronicle and Agricultural Gazette* * on the use and purposes of ammonia in vegetable economy, the purport of which was to prove that the appetence or avidity for ammonia, characteristic of vegetable life, is due, not to the nitrogen so much, as to the hydrogen of the ammonia, which all plants require to form, in conjunction with carbon, the substance of their physical structure—in other words, to form vegetable fibre, or hydro-carbonaceous matter, which is the basis of every part of the vegetable structure, root, stem, leaves, flower, fruit, seeds, and their envelopes of every form or variety; while nitrogen is only a variable and partial element in plants, not entering at all into the chemical composition of vegetable fibre, and scarcely found in some vegetable substances, and more abundant in others; dependent entirely on the idiosyncrasy, so to speak, or physical peculiarities of each class or kind of plants, as bestowed on them by Nature for special purposes. Hence the requirements of plants for nitrogen will be as various as their physical peculiarities, and will be indicated and measured by the amount of nitrogen found in the composition of their substance and products, while all will exhibit pretty nearly an equal avidity or capacity for ammonia; and hence this discrepancy between the universal capacity of plants for ammonia, and their partial, and, generally speaking, very limited requirements of nitrogen, the first showing that there is something in ammonia they cannot do without, and the other that that something is not nitrogen.

It appears to me that nothing more is necessary to arrive at a satisfactory solution of the anomalous circumstances adverted to by Mr. Lawes, and at just views of the *primary* use and purpose of ammonia in vegetable economy, than to compare the chemical constituents of plants with the acknowledged sources or materials of vegetable ailment. These, with phosphorous and mineral substances, are water, carbonic acid, and ammonia, and humic acid containing the four elements of the two latter substances. The following are a few of the most common and abundant substances in plants, with the proportions in which the elements of carbonic acid and ammonia are found in them:—

| | Oxygen. | Carbon. | Hydrogen. | Nitrogen. |
|---|---|---|---|---|
| Lignin, or vegetable fibre .. .. | 42.25 | 52.00 | 5.75 | 00.00 |
| Starch .. .. .. .. .. | 49.68 | 43.55 | 6.77 | 00.00 |
| Gum .. .. .. .. .. | 50.84 | 42.23 | 6.93 | 00.00 |
| Sugar .. .. .. .. .. | 50.63 | 42.57 | 6.90 | 00.00 |
| Wax .. .. .. .. .. | 5.48 | 82.19 | 12.33 | 00.00 |
| Gluten, or vegetable albumen .. | 25.13 | 53.40 | 6.80 | 14.67 |

The first conclusion to be drawn from the above is, that plants require no nitrogen for the formation of vegetable fibre, the substance or basis of their common structure. This then is a very extensive reason, embracing by far the largest portion of vegetable matter, why plants, generally speaking, must fail to return or account for the nitrogen which has disappeared in their consumption of ammonia, and it is irrespective of a large and abounding class of vegetable products, as starch, gum, sugar, wax, oils, &c., which have not a particle of nitrogen in their composition, and therefore do not require it for their production. The next conclusion is suggested by the regular occurrence in certain proportions of hydrogen in all vegetable substances, not excluding gluten itself, the chief storehouse of nitrogen in the vegetable world; and it seems to point out very clearly what use is primarily made of ammonia by plants. When an eminent agriculturist made the observation before adverted to, that Wheat is a great waster of ammonia, was there really any waste of it? A great deal of nitrogen had certainly disappeared, but had the hydro-carbonaceous matter of the entire plant contained in the vegetable fibre, the starch and gluten itself, been estimated, instead of the partial amount of nitrogen in the latter substance, it must have been apparent that the Wheat had made a very good use of the ammonia, though in a different direction from what his mind had been contemplating.

There is a somewhat remarkable circumstance connected with the chemical constitution of vegetable substances, which deserves the attention of those who consider the production of vegetable fibre, sugar, &c., as a chemical combination of carbon and water; from the circumstance of oxygen and hydrogen existing in those substances, in the same, or nearly the same proportions, as in water. I think this view may be disproved by other arguments; but the point to which I now advert is, that a more steady and intimate relation subsists between the proportions of carbon and hydrogen, than between those of any other two constituents of vegetable substances. This will be seen by referring to the above list; and is more particularly exemplified in the case of wax, oils, resin, &c., in which, while the proportion of carbon rises to nearly double of what it is in sugar, starch, and gum, the hydrogen rises along with it in nearly the same proportion, and an equivalent amount of oxygen is displaced. Again, in gluten it will be seen that while the carbon and hydrogen exist in proportions not materially different from what they do in vegetable fibre, the nitrogen is interposed at the expense of the oxygen. Now setting aside the consideration that we have no proof, that plants chemically decompose water, and that they appear merely to absorb it in its natural state, as the solvent and vehicle of those alimentary particles from which their substance and products are formed, should we not expect if vegetable fibre, sugar, &c., be really produced from a chemical combination of water and carbon, that there should be as close and constant a relation between the proportions of oxygen and hydrogen in all other substances of vegetable origin, as in these? Should not the type of relationship in vegetable substances be hydro-oxygenous rather than hydro-carbonaceous, as we see that it is. Or, to avoid this difficulty, must we resort to the still more untenable position, that though vegetable fibre, sugar, &c. are formed by a chemical combination of carbon and water, other vegetable substances are formed in some other way? The hydro-carbonaceous relation, for such it really is, which is characteristic of substances having a vegetable origin, when taken in connection with the admitted requirements of plants for carbonic acid and ammonia, presents a much more natural and satisfactory explanation of the sources and manner of their production, in agreement with their chemical constitution and with known facts in vegetable physiology. In the two substances just mentioned we have the four elements, which enter into the composition of vegetable substances. Two of them, carbon and hydrogen, are universally necessary, and are found combined in proportions varying from 11 to 20 parts of hydrogen to 100 of carbon in different substances. Of the other two, oxygen appears to be universally present in vegetable substances, but in strongly unequal qualities, varying from nearly 12 parts of oxygen to 10 of carbon in sugar, down to one part of oxygen to 14 of carbon in wax. Nitrogen, though stored up in considerable quantities in particular parts of various plants, forms a component part of comparatively few vegetable substances, the chief being gluten, and something very nearly the same, frequently termed in chemical analysis as vegeto-animal matter: in gluten, nitrogen stands in the proportion of about 27 parts to 100 of carbon. If one might draw a distinction between the relative places and functions of these constituent elements, the two former, carbon and hydrogen, might be regarded as the fundamental or constructive elements of vegetable matter, and the two latter, oxygen and nitrogen, as their modifying elements; the diversified qualities of vegetable substances appearing mostly to depend on the extensively varying proportions in which these two elements enter into their composition, and little on variations in the proportions of carbon and hydrogen, which, as we have seen, are limited to a very small range. When carbonic acid and ammonia are presented to plants in conjunction with water, and the presence in the soil of mineral and other substances suited to their nature and requirements, the latter are in a condition to decompose them, and by a new arrangement of their component elements, to convert them into the materials of their own substance and structure, and of the various products, which an all-wise and beneficent Creator has conferred on them the power of elaborating. But they can only do this by combining these elements in certain definite proportions; and both carbonic acid and ammonia contain more oxygen and nitrogen than the requirements of plants, generally speaking, render needful; consequently, while they make use of the entire carbon and hydrogen which these substances contain, there is much of the oxygen of the carbonic acid and of the nitrogen of the ammonia which they cannot usefully appropriate; they therefore reject or give out the excess of these elements, which mix with and form component parts of the atmosphere. This is consistent with what has long been known respecting plants giving out oxygen; and the experiments and researches of M. Ville, commented on at page 739 (December, 1851), of the *Gardeners' Chronicle*, establish the fact that plants also respire or give out nitrogen.

Gluten, or vegeto-animal matter, represents the most common form or combination in which nitrogen occurs in plants; and it exists in them in very variable quantities and in partial states; perhaps entirely wanting in some, in others a mere trace of it, and in others again more or less abundant: not generally found diffused through every part of a plant, but concentrated or stored up in some particular parts orproducts, as in the seeds of Wheat, Peas, Beans, Lentils, Acorns, Chesnuts, &c., in various fruits, and sometimes in the leaves of plants, as Cabbage, Cress, &c.; and it mostly occurs in those plants and their products which constitute the food of man and animals, showing its obvious use and intention. From the partial existence then of nitrogen in plants and vegetable products, and, speaking generally, the very limited capacity they have of appropriating it, it is only to be expected that plants should ordinarily fail to return the amount of nitrogen supplied to them either through the medium of ammonia or in any other form; at the same time, this is not inconsistent with the supposition, that there are plants exceptionally endowed with an unusual capacity for appropriating nitrogen; and in these cases a greater amount of it may be retained in their composition than can be readily accounted for by special experiments, as seems to have been the result in Mr. Lawes's investigations.

The subject is one, not of merely speculative interest, but of practical importance. I believe considerable sums of money have at times been expended and thrown away from erroneous views of the primary use of ammonia in vegetable economy, proceeding on the supposition, that nitrogen is the only or special element in it that renders it useful to plants; hence nitrate of soda, and perhaps other merely nitrogenous substances, have been often applied in agriculture at considerable expense, where at best they must have been useless, if not hurtful. *J. H. H.*

* *Gardeners' Chronicle*, 10th January, 1852; *Agricultural Gazette*, 7th January, 1854; *Agricultural Gazette*, 4th March, 1854; *Agricultural Gazette*, 1st April, 1854; *Gardeners' Chronicle*, 20th September, 1856.

## LOIS-WEEDON.

It surely was no unreasonable expectation that some of those who have followed in the footsteps of the Rev. Mr. Smith should have availed themselves of the invitation in the leading article of this Journal of the 25th December last to give to the public the results of their experiments. The desire to afford information, and to promote agricultural improvement which equally with the search after truth animate inquirers in general, and which we are little disposed to deny to those who would dive into the Lois-Weedon well, might be supposed to render such an expectation realisable. But alas unto this day this expectation has been a hope alone. From whence does this dark silence arise? Is it apathy? Is the plan viewed with cold indifference, and does it share in that neglect—the common lot of all pioneers—that made Columbus a wandering beggar from court to court, and went nigh to lose to him America? Why, the force of steam was ascertained nearly 150 years before it was practically applied? Or has enthusiasm dashed, blundered, failed, and shamed to make its failure known? Is the system impracticable to all but Mr. Smith, and must wait its further development till we build a monument to his fame?

A plan which in availing itself of natural means of fertilisation to those plants, to which they are all sufficient, leaves all others, all the artificial resources of the farm, to those which absolutely require them, which does away with the anomaly of applying one rule, that of the benefit of fallow, to one description of crop and denying it to another.

If we have to deplore the dearth of intelligence from England and Scotland, we can scarcely be surprised that poor Ireland is deficient. Our periodicals give us hardly any intimation of experiments on this system. Some experiments have been made at Glasnevin under the National Board of Education, but of which I have seen no account. A very brilliant attempt was made; but very soon, too soon I think, abandoned by Mr. Callwell, of Belvidere, in the county of Down, and I learn from him, that from his suggestion, another has been made in the county of Kildare, which was also abortive.

Mr. Callwell appears to have gone to work with great spirit, and certainly took a right step at starting by a previous visit to Lois-Weedon. His first experiment, in 1854, is recorded in the Journal of the Chemico-Agricultural Society of Ulster, and is thus stated—

*Cost of 14 acres 0 rood 36 perches of Drilled Wheat.*

| | £ | s. | d. |
|---|---|---|---|
| 4½ cwt. Wheat sown, finished Nov. 19, 1853 .. .. | 3 | 2 | 3 |
| Marking out, 16s.; drilling, 1l. 7s. 6d. .. .. .. | 2 | 5 | 6 |
| Rolling, 6s.; covering with rakes, 8s. .. .. .. | 0 | 14 | 0 |
| Digging one spade deep, 14s. per half acre .. .. | 9 | 19 | 2 |
| Forking, 10s. per acre, March 31, 1854 .. .. .. | 7 | 0 | 0 |
| Forking and weeding between drills of Wheat .. | 6 | 15 | 6 |
| Horse-hoeing between drills, May 6 .. .. .. | 0 | 5 | 2 |
| Scarifying the fallowed intervals, June 10 .. .. | 1 | 18 | 0 |
| Breaking clods, May 8 .. .. .. .. .. | 0 | 10 | 6 |
| Hand wheeling and wheeling off weeds .. .. | 14 | 12 | 7 |
| All cost previous to reaping .. .. .. | 46 | 18 | 8 |
| Scarifying the fallowed intervals after stooks were removed, 2d till 14th October .. .. .. . | 3 | 16 | 0 |
| Forking and taking off stones and weeds from fallowed intervals, to have all clean and fine for drilling .. .. .. .. .. .. .. | 7 | 13 | 0 |
| Interest on cost of implements .. .. .. .. | 1 | 12 | 0 |
| All cost one year .. .. .. .. .. .. | 59 | 19 | 8 |

Leaving ground well prepared for drilling.

Produce bad, only 5 tons 17 cwt. on the 14 acres; Wheat bad quality, heads 1 inch longer than same Wheat broadcast on Potato ground, stooked as thick on ground as broadcast, but being worked too late among, roots were loosened; half of heads consequently did not fill, the pickles of those that did fill were very

large. Crop left 1*l.* 2*s.* for rent per statute acre, straw left for harvesting and threshing expenses.

Mr. Callwell ascribes the defective crop to the late working of the soil and consequent loosening of the roots. The late sowing not finished till the 19th of November, by inducing a spring tillering, must also have been injurious, as Mr. Callwell seems to have been also aware of. The deep spring forking commenced immediately after the finishing of the deep digging we must think was uncalled for and injurious, and although not stated to have been a deep working, yet it apparently was so from the price charged for it, 10*s.* an acre. Miserable as the crop certainly was it appears an undue depreciation of its value to state the net profit for rent at 1*l.* 2*s.* an acre, for some of the expenses charged against it do not appear to belong to it; 11*l.* 9*s.* appears against it as for labour on the ground after harvesting; the working of the intervals ought not certainly to be charged against the existing crop; as it is a preparation of the soil for the succeeding crop, the expense for forking ought not to have been incurred. Again, in all fairness, none of the preparatory expenses necessary for bringing the ground into a fit state for a novel course ought to be charged as annual expenditure, but rather as so much capital invested. If all such deductions from the expenses charged to the crop be made it will bring it to a somewhat more paying one. And again as the crop stooked as thick on the ground as the broadcast crop on the Potato land, unless from unfortunate circumstances some of which may not have been apparent, it ought to have yielded as well as the broadcast crop. *J. M. G., Granard.*

## SHEEP-WASHES.

A CASE of considerable agricultural interest has been tried at Newcastle during the week in which Mr. Black, a large farmer at New Heaton, Northumberland, sued Mr. Elliott, of whom he had purchased a sheep wash, for damages, on the ground that it had poisoned his sheep. On the 7th of August last the plaintiff being at Berwick ordered sufficient of this sheep-wash to wash 700 sheep. The wash was sold in powders, and the defendant's shopman told him he would require 14 of these powders—one powder being sufficient for 50 sheep. The plaintiff ordered 15 powders, and they went to his Burton farm. The direction on the powders was that each powder was to be mixed with 3 or 4 gallons of boiling water, and that then this mixture, with 4 lbs. of soft soap, was to be diluted with 45 gallons of cold water, and this would make a wash for 50 sheep, in which they were to be dipped. The directions were implicitly followed, and on a Saturday in July last 869 sheep were dipped in this wash—60 of them being dipped in it much diluted, as they had been washed before. On the Sunday one of these sheep died. On the Monday several more died, and many were seen to be ill—foaming at the mouth and shaking their heads, and lying down. On the Tuesday a great number died; more still on the Wednesday, until, in the course of a few days, 850 of the sheep had died, 19 only surviving, and these 19 were part of the 60 which had been dipped in the very diluted mixture. It was also found that the hands and arms of the shepherds which had been in the liquor became sore, and mortified and sloughed, and they were ill for some time. It was suggested that the sheep had been allowed to eat the herbage on which they stood after they were washed, and that a shower of rain had washed off them much of the waste and saturated the herbage of the field where they were placed, and thus poisoned them. In answer to this it was proved that seven sheep in one of the fields, which had not been dipped, had nothing amiss with them. On the sheep all dying in this manner, Mr. Black had one of the powders analysed, and it was admitted that it contained 1¼ lb. of arsenic, 1¼ lb. of soda ash, and 2 oz. of sulphur, each powder weighing 2 lbs. 10 oz. The sheep were dissected and found to have been poisoned. They were all much swollen and black. The plaintiff then saw the defendant, who went over to his farm. The defendant then said it was a bad job, that his powders had never poisoned any sheep before, and he knew he was responsible. The defendant then sold the skins of the sheep to a skinner for 2*s.* each, and the carcases were buried. The plaintiff claimed 1737*l.* as the value of his sheep. It was proved that the sheep, on dissection, exhibited traces of arsenic in their intestines, and as much as six grains was found in a sheep, which was quite sufficient to account for the death. The quantity of arsenic in each powder sold by the defendant for the washing of each sheep amounted to 195 grains. The poison of arsenic was dangerous and capricious. It would sometimes poison, and sometimes not. It might be used with impunity, but never without risk.

For the defendant it was proved that the powder had been used by farmers for 10 years with impunity. He had sold in the last three years as much as 500 powders a year, which was sufficient for 25,000 sheep each year, and had sold powders on an average for 20,000 sheep a year during the last 10 years, and had never heard of a case of death from its administration. Several farmers were called to prove that they had used the powders with impunity for washing their sheep, and on the same day as the plaintiff, so that atmospheric influences could not affect the case. It was suggested that the real reason of the wash poisoning the sheep was the hasty manner in which they had been dipped, preventing the liquor being properly squeezed and pressed out of their fleeces. Upwards of 7800 sheep had been dipped in 12 hours, which was at the rate of 75 an hour, or five in every four minutes. This might have caused the poison to be more absorbed than it ought to have been, by being left in their fleece. In addition to that, on dissecting some of the sheep poison was actually found in the food in their stomachs, and must have been taken in at the month. It was suggested that this had arisen from the sheep when in a wet state being placed in the pastures, and the droppings from their fleeces had poisoned the herbage which they had eaten. To substantiate this theory two sods had been cut in a field in which the sheep had pastured, the herbage of which was found to contain soluble arsenic Two sods cut in the adjoining field, in which none of the sheep had been placed, contained none. It was suggested that sheep would not eat this poisoned herbage; but since Saturday, when this was suggested, the experiment had been tried, and some sheep had nibbled and eaten some Grass so poisoned. A number of witnesses were called, scientific and others, who proved these various facts.

The jury found a verdict for the plaintiff—Damages 1400*l.*

## FALLOW CROPS.

THE rapid improvement in the practice of agriculture tends not only to increase the produce but at the same time to diminish the expense of cultivation. The cultivation of the Turnip and other roots as fodder plants have effected this more than that of any other class of plants which the farmer grows.

The system which we adopt has been in practice for many years in various parts of the kingdom, so that it is no new fancy, nor do we present it as a perfect system, for we have found that as our observation and knowledge of Nature increases we become more and more convinced of our own ignorance of the operations of Nature under all the circumstances in which the vegetable world is placed.

Before we enter upon the mode of cultivating the Turnip crop it may be well first to inquire into the nature and habits of the plant itself—the nature and kind of its roots—of its leaves and its bulbs; a knowledge of these may lead us to the kind of cultivation which is best fitted for the healthy development of the perfect plant as well as to the kind of soil in which they grow to the greatest perfection.

The bulb of the Turnip terminates in the roots which spread from its sides all around. The fine silky perfect roots spread out over a great horizontal extent in search of nourishment, and the roots and the whole plant increase in luxuriant growth according to the extent of the nourishment received, but when the plants are close together on the ground their roots cannot extend far, and they intermingle with the roots of their nearest neighbours and are therefore limited in their extent. The fine fibrous roots drink in the nourishment, and the greater the field they have to feed in the greater will be the luxuriance of the plant. But the roots extend in depth as well as horizontally, and the depth to which they go is regulated by the depth to which the soil is cultivated.

The growth of the leaves depends on the growth and extent of the roots, and these on the extent of the field on which they have to pasture, and the quantity and extent of the roots are regulated by the magnitude of the leaves—by the number of square inches of their surface, these two organs working together give to the bulb its weight and magnitude. The dark green colour and luxuriant appearance of the leaves show the thriving condition of the plant, and if we examine the roots by throwing open the soil we shall find the silken fibrous roots forming a net-work occupying the soil over the whole space allotted to it, and to the depth of from 2 to 5 feet, if the soil is drained to that depth.

The size and substance of the leaves of plants is said to indicate the amount of nourishment which they receive from the atmosphere. The broad rounded thick fleshy leaves of the Cabbage, the Turnip, and the Mangel plants receive a greater portion of nourishment from the atmosphere than the narrow thin leaves of the cereal plants; besides, their large broad fleshy leaves cover the whole surface of the ground (even although the plants are from 27 to 36 inches apart), and thus exclude the air from the soil and the immense mass of fine roots interlacing the whole of the active soil leaves the land in a most excellent state of culture for the succeeding crop of Wheat. When a large surface of leaves is developed we reckon on our crop being secured, and that they will now go on of themselves, so that our principal attention is to get all the young plants to start into existence with speed and regularity, and to spread out the greatest surface of leaves.

In preparing the land for the root crop, if there be any Couch in it after the crop of Wheat has been removed, we either cultivate the whole field, harrow and rake the Couch together and burn it, or if there be only small patches of Couch it is dug out with the fork; we then cart out from 15 to 18 cart loads of manure per acre, and spread it over the surface and plough it in to the depth of 7 or 8 inches, and in this way we use up all the manure we have. The land which has not been manured before ploughing it the first time is manured before ploughing it the second time, or put into drills when the land is being sown to Turnip.

In the spring, as early as the weather will permit, the surface is first harrowed to smooth the surface, and the land which was not dunged has now manure carted and spread over it, and the land is ploughed across, and in this state it remains till the seed time, when it is cultivated, harrowed, and well pulverised, preparing for planting; but the land which was manured being ploughed in the autumn is cultivated in the spring instead of ploughing it. This is done across the way it was ploughed, and it is then harrowed and cultivated a second time across the first, and in this state it remains till the time of sowing.

When the land has been properly pulverised, proceed in this way: two ploughs with a pair of horses in each make from eight to ten drills, one plough first goes a "bout," making one open furrow, and then the ploughs go up on the right-hand side of the open furrow, making each a rib or drill 27 inches wide, and they return down the other side of the first furrow, and so proceed, having the ploughed land on the right hand instead of it being on the right hand as in common ploughing, and when there are from eight to ten of these drills made the carts follow with the manure, a horse going down one of the furrows and the wheels the two on either side of it. The manure is dropped, and when it is spread the ploughs make new furrows going up the hill, and as they come down the hill they cover the manure in the first furrow on the outside of the field; this way the ploughs make fresh furrows, going up the hill on one side, and in returning down the hill they cover the manure on the other side, forming a drill with the manure in the centre of it. The carting and spreading of the manure is thus performed; the manure having been carted to a heap in the field during winter, when the land was too hard to plough or cultivate, and the dung heap has been turned over 10 or 14 days previous to its being carted. Three carts are generally employed to take the manure from the heap to the field, and three men fill the carts; one cart is at the dung heap being filled, one is on the road with a load, and the other is being emptied and returning, so that two boys or women are with the carts, and as a loaded cart comes into the field the horse is put into the middle of the three drills which are to receive the manure; the man who empties the cart takes out the back door, and with his muck drag in his hand orders the boy to move the horse down the drill, and as he moves along the man is constantly pulling out the manure in a continuous stream till the cart is emptied, and from practice he can deliver at the rate of either 10, 15, 20, 25, or 30 loads per acre. To do this he must know the length of the drills in an acre, and then dividing the length by the number of loads to be put on the acre he can in a short time get at the thickness required by the number of yards in length which the load has to make. As the manure is being dropped in the drills one man parts the dung from the middle row equally among the three, and there follow at his heels a woman or boy in each of the rows, each with a fork spreading the manure equally in the bottom of the furrow so as to be ready for the return of the ploughs to cover it. Three men will fill 100 cartloads in 10 hours, and three one-horse carts and two ploughs will finish 10 acres a day, drilling up the land, carting 300 loads of manure, spreading it, and covering it by the strength of seven horses, seven men, two boys, and three women. The number of horses required to deliver the manure depends on the quantity of loads per acre and the distance of the field from the dunghill; three horses will do this work where the distance is not above 200 yards, but when the distance is greater more carts and boys to drive them are requisite. As the ploughs cover the manure a boy with a one-horse Turnip drill follows sowing the seed in two rows at a time, and as he can do double the work which is prepared for him, he takes the horse from the Turnip drill and puts him to a common roller and rolls the drills he has sown, so that the field of 10 acres is finished in three days. *J. M.*

*(To be continued.)*

## Home Correspondence.

*Cottages at Withenshaw* (see p. 153).—Their cost being 347*l.* 12*s.* 7*d.* besides the value of the land on which they were built, the rent could not be calculated at less than 6*l.* 10*s.* each, at 5 per cent.; therefore the questions arise—Can the tenant of the farm be responsible to his landlord for so high a rate? Can the labourer afford such a rent? And lastly,—Cannot better accommodation be provided for a less sum? On looking over the details of cost, it appears that two or three items are higher than they need be; for instance, slates are charged 30*l.* 4*s.* 7*d.* If Welsh slates had been used, probably they might have been had for a third of that amount; Welsh slates cost very little to put on a building, so that instead of paying a slater 7*l.* 12*s.* 4½*d.*, I should think 30*s.* would have been sufficient. Again 29*l.* 9*s.* 2*d.* seems a heavy charge for plumber, unless much lead was used behind chimneys, &c., as glass is now very cheap; painting, 24*l.* 2*s.* is too much for three cottages—5*l.* worth of good paint would preserve all necessary wood-work of three cottages for several years. Flags also seem to be a great expense. When we consider the low price of excellent timber, bricks, nails, and other building materials, we ought to get three cottages built of the dimensions specified for less than 100*l.* each, and I must think there is yet room for improved plans and estimates to meet the increasing exigency arising from overcrowding and inadequate house accommodation. From what I have seen of plans of cottages, I have always been struck with a want of simplicity of design; there is too much straining after architectural beauty; never does

[illegible] of appearance is not necessarily ugliness; it is certain that every additional corner or projection not required increases the cost beyond the worth of the novelty or irregularity. If cottages are built in pairs, so as to have the two series of chimney shafts carried up together, lessen the price, I may say that the two chimneys from the lower rooms, and from a bedroom of each house, will cost less than two chimneys would do if separately built to each house. Another advantage of building cottages in pairs is, that a back kitchen and small chamber over may be run up behind the main building under one roof, at right angles to it, as if it were a lean-to for each house. This back kitchen may be extended for the purposes of a pantry or coalshed if the extent of ground will permit. Though I say cottages may be erected in pairs, it is obvious that three or more pairs of cottages may be joined continuously, a common passage being frequently provided either at the end of the series or somewhere between the cottages. I know of several houses being built with many conveniences and large enough for a labourer's family, the total cost of which, including land, has been less than 100*l.* each, and they are in every respect preferable to the old low unwholesome dwellings of the poor, as they are also superior to the cheap contract work of speculators. *J. W., Peterborough.*

*Plymouth Weather.*—While we see such general complaints of drought throughout the country, Plymouth has maintained its old reputation.* Accordingly, wind S., W., N., or S., we have hardly had a rainless day since November, though the barometer has been often above 30 in., and has once reached 30.75. The thermometer has generally ranged between 40° and 50°, and the rain so continuous as to have hindered the progress of the Tavistock Railway. Wet as our winters are, they are rarely so very mild. November was finer than usual here, with a good share of sunshine and a few days' frost, but not two entire days of it in succession. *Jno. Prideaux.*

*Adulteration.*—Much has lately been written and said respecting the adulteration of manures, oilcakes, seeds, &c. in fact of nearly every description of agricultural materials, and perhaps in some cases with good grounds for it, but at the same time farmers have in a great measure to blame themselves for it, by their constantly bartering for lower prices; for instance, a dealer makes an offer of a first class article of one of these materials, price of course in proportion to the quality, and is immediately told by the party to whom the offer is made, that he can buy it at less money without at all looking at the difference of quality, and the upshot is, that the dealer is compelled to sell at a loss, or what is more often the case sends an inferior article, which a little liberality on the part of the purchaser would have rendered unnecessary, and till buyers consider quality rather than a trifling higher price, we may expect to hear of these complaints being made. *A. C., Rutlandshire.*

## Societies.

ROYAL AGRICULTURAL OF ENGLAND.

Monthly Council, *March* 2.—The Duke of Marlborough, President, in the Chair.

Finances.—Mr. Raymond Barker, Chairman of the Finance Committee, presented the monthly report on the accounts; from which it appeared that the current cash-balance in the hands of the bankers was 2571*l.*

Governors' Privileges.—On the motion of Mr. Raymond Barker, seconded by Mr. Milward, it was referred to the Finance Committee to consider, and report upon at the next Monthly Council, the most suitable means by which Governors of the Society may in future have the privilege, on a certain payment, of continued ingress and egress into and out of the Showyard at the Country Meeting.

Veterinary Inspection.—On the motion of Mr. Pain, seconded by Mr. Torr, Professor Spooner, Principal of the Royal Veterinary College, was unanimously requested to accept the appointment of Joint-Veterinary-Inspector, with Professor Simonds, at the annual country meetings of the Society.

Warwick Meeting.—Lord Leigh, Vice-Chairman of the General Warwick Committee, reported the recommendation of the Committee, that the Council should accept the offer of the Local Committee at Warwick to defray the expenses connected with the exhibition of cheese. His lordship also reported that the ground for the site for the show-yard had been drained and levelled at the expense of the authorities at Warwick, and was now in a suitable state for the operations of the Society's contractor.—The Local Committee addressed a letter to the Council, containing a resolution, "not to have a dinner at the Warwick Meeting." Mr. Fisher Hobbs intimated that he should have a proposal to submit to the Council at the next Monthly Meeting, with reference to new arrangements by which he considered that a dinner might advantageously be given. Additional Prizes for Short-horned, Hereford, and Devon cattle were included by the Council in the Live Stock Prize Sheet for the Warwick Meeting, which was then considered to be finally settled, and its publication ordered to be made in the usual manner.

Country Meetings.—Mr. Raymond Barker, Chairman of the Country Meeting's Queries Committee, laid on the table a proof of the amended and more commodious form in which the schedule of queries should in future be arranged. He also suggested seven of the principal towns in the district for 1860, comprising the counties of Kent and Surrey, with the authorities of which the Secretary should enter into communication in reference to the place of the country meetings of next year.

Member of Council.—On the motion of Mr. Hudson, of Castleacre, seconded by Mr. Wren Hoskyns, Lord Leigh was unanimously elected one of the Members of the Council, in the place of Sir A. K. Macdonald, Bart.

Californian Wheat.—Sir Edward Kerrison, Bart., M.P., offered to undertake the trial of the white Californian Wheat placed at the disposal of the Council by Mr. Kitto, who stated that he had himself grown of that Wheat "a hundred bushels to the acre."

The Council then adjourned (for a fortnight) to Wednesday, March 16.

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Highland Society: *Feb.* 16.—At the adjourned general meeting of this Society, among other topics, that of cottage building and improvement came under review, and the following remarks were made by the Right Hon. Mr. Nisbet Hamilton. He said:—

While in England the people were advancing in the right direction by inquiring into the condition and inspecting the cottages of the poorer classes in the agricultural districts, he was sorry to say that from his own observations he not only found that in Scotland there was a great deal too little interest bestowed on the social condition of the labouring poor, but also he regretted to add, a want of desire on the part of the labouring poor themselves to inhabit those cottages which many landed proprietors were willing to place at their disposal. He found from his own observation in England that the larger the occupier was—say those farmers occupying from 1000 to 2000 acres of land—the more satisfactory was the accommodation for the labourers, and the more contented were these classes themselves, than was the case when they were in the service and under the rule of smaller occupiers. This was the case in England; and he attributed it very much to the interest which the wives and daughters of the farmers took in the condition of the labouring classes on the farm, for unless they could train up the female portion of these classes to habits of industry and cleanliness it was in vain to expect that any improvement could be made in the condition of the agricultural labourer, seeing that it was entirely upon the female portion of society that the comforts of the labourers' cottages depended. He thought it would be well that the attention of the Directors were directed to the subject, with the special view of considering whether any means could be adopted, emanating from such a body as the Highland Society, for impressing upon the owners and occupiers of land the necessity of greater attention being paid to the social condition of the labouring classes of this country.

Mr. Hope, of Luffness, said that as a near neighbour of the right hon. gentleman, and as he did not altogether agree with what he said, he felt himself bound to make a few observations.

He quite concurred with him that his endeavours had not been adequately responded to in the matter of cottage competition. The right hon. gentleman had been most liberal in offering premiums, but they had elicited no competition worth speaking of. While he believed with him in the desirability of extending the interest which was taken in it, he at the same time thought that he had underrated the interest which had already been shown in the matter, and the efforts which had hitherto been made in Scotland in this direction. Mr. Hamilton had instituted a comparison between this country and England, and between the modes of proceeding on the part of proprietors in the two countries. Now, one of the greatest points which was looked to in England was the question of parochial relief, and among the encouragements held out for exertions to improve the condition of these classes in England was the keeping of ablebodied labourers from requiring to receive parochial relief. Such a contingency could never arise in Scotland, because we did not recognise the right of such a class of persons to go upon the poor-roll; and therefore it was not fair to take the two classes in the different countries as standing in the same position in regard to remuneration and other matters. The modes of hiring in the two countries were also different; and he thought that the practice of six months' hiring in Scotland was less favourable to the comfort of the labourers than the continuous hiring of England, the effect of the present system being, that in Scotland labourers seldom remained longer than six months in one place. These circumstances required all to be taken into consideration; and they did not admit of an exact comparison between England and this country, and certainly did not justify any observations on the other side of the border, to the extent of decrying the interest and the exertions taken in behalf of the labouring population of Scotland. At the same time he admitted there were a good many shortcomings on the part of Scottish proprietors and occupiers of land, and he trusted more would yet be done in this direction, and he for one was quite willing to second any such endeavours to the utmost of his power.

Mr. Nisbet Hamilton explained that he had not wished to institute a comparison between England and Scotland in regard to the mode of hiring or anything else.

All that he had wished to do was to state the condition of the people; and he was persuaded that he was right in saying, that in districts where wages were not higher than in this country the condition of the labouring agricultural poor was certainly better, and he had instanced this more especially by cases where the occupiers were men of large capital, and where the comfort of the labourers was attended to by the female portion of the farmer's family. He stated it as a broad fact that in certain districts of England, where formerly the people were much neglected, there was now much being done on the part of proprietors, and particularly of occupiers of land, to raise the condition of the agricultural labourers; and he only wished to draw the attention of a meeting like the present to the fact that, while on the one hand the members of the Highland Society had been forward in introducing improvements into agriculture, they should, on the other hand, also use their utmost endeavours to raise and improve the condition of the labouring poor.

Mr. Gulland, Newton-of-Wemyss,

Rose as a tenant-farmer, in consequence of what had fallen from the right hon. gentleman (Mr. Nisbet) with regard to cottages and the condition of the labourers. The cottages, in his opinion, ought to be built by the landlord, and he had no doubt that the tenants would be willing to pay a reasonable percentage for them. With regard to the social condition of the labourers, with the present great competition for land landlords looked for the highest rent without any reference to the social condition of rural labourers, and in short, he (Mr. Gulland) thought that there was a great deal of nonsense talked on this subject.

## Reviews.

*The Journal of Agriculture.* No. 64. March, 1859. Blackwood & Sons.

This Number contains an interesting paper on English and French Agriculture—a review of works connected with the Rural Labourer—a chapter on the Cultivation of the Leech!—Notes by Mr. Scott Burn on Novelties in Agricultural Mechanism—and an unusually interesting section of the "Farmers' Note-book," in which occasional paragraphs on points of agricultural interest are collected. If this portion of the Journal could be extended it would do much to relieve the somewhat heavy character which its contents generally possess. The Transactions of the Highland Society, published in this volume, are chiefly connected with reports and lectures on artificial manures, and with certain official proposals connected with the future management of the Society's shows. We extract from the Farmers' Note-book the following paragraphs:—

*On Feeding Farm Horses.*—"Perhaps one of the greatest improvements in the feeding of horses is the bruising of Oats; they should not be crushed or broken into meal, but only bruised. One of the most conclusive experiments we have on this subject is that which was performed by the London Omnibus Company. So much importance did the members of the Société Imperiale et Centrale d' Agriculture attach to this experiment, that they dispatched M. Renault, the director of the veterinary school at Alford, to London, to report on the method adopted by the Company. M. Renault's report is now before us, from which we extract the following particulars. The Company posseses nearly 6000 horses, the one-half of which were confined to one kind of feeding—viz. that of bruised Oats and cut hay and straw, and the other half to whole Oats and hay. The ration allowed per day to each horse, according to the one system, was—

| | |
|---|---|
| Bruised Oats .. .. .. .. .. | 16 lbs. |
| Cut hay .. .. .. .. .. .. | 7½ ,, |
| Cut straw .. .. .. .. .. .. | 2½ ,, |
| | 26 lbs. |

The quantity allowed according to the old system was—

| | |
|---|---|
| Unbruised Oats .. .. .. .. .. | 19 lbs. |
| Uncut hay .. .. .. .. .. | 13 ,, |
| | 32 lbs. |

There is thus a saving of 6 lbs. on the feeding of each horse; and this saving is not merely in the quantity, but in the value of the articles employed; for we have straw in the former case substituted for hay in the latter. The advantage of the one kind of feeding over the other is far more apparent when we reduce both to the money value. The saving by using the bruised Oats and cut hay is estimated at about 2½*d.* per day for each horse, which is equal to 62*l.* 10*s.* per day for the 6000 horses. And this saving was accomplished without any sacrifice whatever; for all the coachmen, and those having charge of the horses, agreed that the difference, if any, in the condition of the horses, was in favour of those fed on the bruised Oats and cut hay and straw. M. Renault gives also the result of an experiment by Mr. Etherington, one of the most extensive coach hirers in London. He selected two horses which ran in the same carriage. To the one he gave about 17.8 lbs. per day of unbruised Oats—to the other about 14.3 lbs. of bruised Oats. This experiment was continued for a month, when there was little apparent difference in the horses, that little being in favour of the one getting the bruised Oats. The experiment was then reversed: the horse getting the bruised Oats was allowed the same quantity of whole Oats as the other got; and this latter got the same quantity of bruised Oats as its neighbour was getting in the previous month. Any slight difference in the condition of the horses after a month's trial was in favour of the bruised Oats. M. Borie, in the 'Journal d' Agriculture Pratique,' also mentions two cases in which the system of bruised Oats and cut hay has been adopted in France. The waggon-horses, employed for 14 hours per day in the carting traffic of one of the railways in France, used to get 26 lbs. of Oats (whole), 13 lbs. of hay in bunches, 2.2 lbs. of bran, and 15 lbs. of straw—the hay and straw uncut. Now they get 15 lbs. bruised Oats, about 9 lbs. of cut hay, 9 lbs. of bruised Barley, and 15 lbs. of whole straw. So the omnibus horses in the employ of the same railway company, which run about six hours per day, used to get about 20 lbs. of unbruised Oats, 11 lbs. of hay in bunches, 2.2 lbs. of bran, and 13 lbs. of straw. Now they get 11 lbs. of bruised Oats, 6½ lbs. of cut hay, 6½ lbs. of bruised Barley, and 13 lbs. of uncut straw. We could multiply instances on this important subject, but those which we have adduced are, we think, sufficient to show the great advantage of bruising Oats and cutting straw or hay for horses, whether they are employed on the farm or for carting purposes, or for riding and post work in coaches and omnibuses. Many farmers, we have no doubt, have had vague ideas of the profit of feeding on bruised Oats; but we trust that the experiments above detailed have brought before their minds the advantage in a more realisable form, and will induce many to try a system which will produce such a saving at a time when all economy is necessary in farming operations."

*Phospho-Peruvian Guano.*—"What is it? is a question

---

* The heading of an ancient Plymouth Almanack.

"The South wind always brings wet weather,
The North wind, wet and cold together;
The West wind surely blows us rain,
The East wind brings it back again.
If in red the sun doth set,
The next day will be mostly wet;
But if the sun doth set in grey,
The next will be a rainy day."

that is now often put, as experiment after experiment is published, showing results in its favour. Is it a natural guano or an artificial manure? To enable us to answer this question, we are indebted for the information to Dr. Cameron's small work on the 'Chemistry of Agriculture.' 'The base of this valuable manure,' says Dr. Cameron, "is what has been termed a pyro-guanite, found on the surface of a group of trap-rock islets within the tropics.' It occurs as a dense, hard substance, in masses arranged in concentric layers, and consisting principally of a phosphate of lime, containing one equivalent less of base than is found in the phosphate of lime existing in bones, or in other varieties of guano. Hence the facility with which the importers have been able, with a small quantity of sulphuric acid, to convert the phosphate of lime into a soluble super-salt.

"The excellence of Phospho-Peruvian guano, as an artificial manure, will be obvious, if compared with inferior phosphatic guanos and other manures made from bones, coprolites, apatite, &c. For every 10 per cent. of soluble phosphates in these there are found at least 30 per cent. of hydrated sulphate of lime; whilst a considerable quantity of water and other materials of little or no value as fertilisers are necessarily added in the process of manufacture. To obtain from any of these materials an amount of soluble phosphate of lime equal to that yielded by the Phospho-Peruvian guano, nearly 20 per cent. there would be produced about 70 per cent. of hydrated sulphate of lime, in contrast with only 25 per cent. in the other case. Phospho-Peruvian guano is said to contain, in its natural state, from 30 to 35 per cent. of anhydrous phosphoric acid, in combination with from 30 to 40 per cent. lime, magnesia, potash, soda, and ammonia. This is nearly double the quantity of phosphoric acid found in bones and other substances, from which the superphosphates usually sold are prepared.

"Phospho-Peruvian guano is a guano found in some of the West India islands, very rich in phosphoric acid, which is found in it, in a state more available for the use of the plants than it is in bones and other phosphatic manures. When brought to this country, it is subjected to a chemical process with sulphuric acid, after which it is sold as Phospho-Peruvian guano. Professor Voelcker has a very high opinion of it: he says—'Phospho-Peruvian guano being much richer in phosphates, and not containing so much ammonia as to cause too luxuriant a development of leaves at the expense of the bulb, is much superior to Peruvian guano as a manure for Turnips, Swedes, Mangels, and Potatoes; and I have indeed no hesitation in expressing the opinion that for root crops the manure which I analysed is by far the most valuable fertiliser, whether natural or artificial, which as yet has been offered to the public.' It is said 'to sustain, in just proportions, all the ingredients requisite for the rapid and healthy development of all our cultivated plants.'"

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*Sutton's Farm Seed List for* 1859 (Sutton & Sons, Reading), contains a good deal of useful information on Grass land management, the cultivation of Holcus saccharatus and Chinese Yam, in addition to the prices of seeds and instructions for sowing. We extract the paragraph giving the quantities of seed sown per acre:—

"The quantity of seed sown per acre varies greatly in different localities, but the following table may be a guide to gentlemen ordering seeds. If guano is drilled with it the quantity of seed must be increased, as some will probably be destroyed by the guano.

| | Per acre. |
|---|---|
| Swedish Turnips | 2 to 3 lbs. |
| Early Large Turnip | 2 to 3 lbs. |
| Stubble Turnip | 3 to 4 lbs. |
| Rape | 4 lbs. |
| Mustard | 18 to 24 lbs. |
| Mangel Wurzel | 4 to 6 lbs. |
| Carrot | 6 to 8 lbs. |
| Parsnep | 6 lbs. |
| Cow Cabbage (to transplant) | 1 lb. |
| Kohl Rabi ditto | 1 lb. |
| Ditto; drilled | 4 lbs. |
| Trifolium incarnatum | 24 lbs. |
| Lucerne | 16 to 20 lbs. |
| Furze; for feed or cover | 12 lbs. |
| Chicory | 4 lbs. |
| Rye | 2½ bushels. |
| Italian Rye-grass | 3 bushels. |
| Vetches | 2 bushels. |
| Buck Wheat | 3 to 4 pecks. |
| Sainfoin; common | 4 bushels. |
| ,, giant | 5 bushels. |
| Linseed; for Flax | 2½ bushels. |
| ,, for seed | 3 to 4 pecks. |
| Beet | 6 to 8 lbs. |

## Miscellaneous.

*Covered Yards.*—Covered yards are cheaper than the ordinary homesteads, and can be effected completely for 5*l.* to 7*l.* per acre, a profitable investment at 5 per cent. for the tenant. As this system of homesteads is rapidly growing, and as I know it to the best and cheapest, I have asked Messrs. Beadel and Sons and Chancellor, of Chelmsford, Essex, to send me a list of those which they have erected, and their cost. Had the system existed when I commenced farming, I should have preferred it to my detached buildings. Dr. Voelcker's valuable experiments show us that our manure does not suffer by exposure to air, but its washing by rains carries away its most valuable properties. Ever since I commenced farming, I have never lost any portion of my manure from such a cause: hence the improved fertility of my soil. I annex Mr. Chancellor's letter:—

"Chelmsford, October 8, 1858.

"Dear Sir,—I enclose you a schedule of all the covered homesteads I have erected since about 1850. The amount of the various 'costs' are accurate, but I am not able to fill in all the acreages. In some instances, as in Park Hall, Ongar, the covered homestead is an addendum to the other farm buildings and therefore could not be taken as a fair criterion of the proper cost of a homestead per acre: but I think you may very fairly assume that the cost on an average would be from 5*l.* to 7*l.* per acre. Of course, much depends upon locality, price of bricks, timber, slates, stone, &c. I have made numerous calculations upon this subject, as you may imagine, and I have invariably found that the covered homestead does not cost more than the usual mode of erecting farmeries; and, if you take into consideration the number of stock, the price of a covered yard is less per head than the open yards and bullock houses in the old system.—I remain, yours faithfully.

"FRED. CHANCELLOR."

"I. J. Mechi, Esq., 4, Leadenhall Street, London."

| Locality. | Acreage of Farm. | Owners. | Cost | Remarks. |
|---|---|---|---|---|
| Fingrith Hall, Blackmore, Essex | Abt. 500 | Messrs. Smith, Payne & Smith | £900 | There are other buildings. |
| Bloomfield Lodge, Chelmsford, Essex | 25 | James Beadel, Esq. | 250 | |
| Frowicke Farm, St. Osyth, Essex | 238 | Thomas Alexander, Esq. | 350 | This was built principally for fattening bullocks; there are other buildings besides. |
| Hormead Farm, near Buntingford, Herts. | | J. W. Higgins, Esq. | 1100 | |
| Lobb Farm, Tetsworth, Oxon | | Trustees of Sir Charles Flower, Bart. | 700 | The cost is exclusive of some old buildings; there are other farm buildings. |
| Stevens's Farm, Chignal St. James, Essex | | William Crush, Esq. | 2000 | |
| Gilston Park, Herts | 360 | John Hodgson, Esq. | 3000 | There is a 10-horse power fixed steam engine, which works all the machinery. |
| Park Hall, Ongar, Essex | Abt. 500 | Capel Cure, Esq. | 500 | |
| Graffham, Hunts | | Lady O. B. Sparrow | 1700 | |
| Hall's Farm, Bury, Hunts | 400—500 | Lady O. B. Sparrow | 1900 | A portable steam-engine and fixed machinery. |
| Little Bardfield, Essex | Abt. 400 | John Cutts, Esq. | 1800 | Fixed steam engine and machinery. |
| Berwick Hall, White Colne, Essex | Abt. 300 | Rev. W. E. Hume | 900 | |
| Elmington, near Oundle, Northamptonshire | | Corpus Christi College, Cambridge | 1150 | Portable steam-engine and machinery. |
| Hinton Farm, near Twyford, Berks | | T. C. Garth, Esq. | 1600 | |
| Brailes House, near Shipton-on-Stour, Shropshire | Abt. 500 | H. J. Sheldon, Esq. | Abt 1600 | Portable steam-engine and machinery. |
| Haines Hill, near Twyford, Berks | Abt. 150 | T. C. Garth, Esq. | 3000 | Fixed steam-engine with fixed machinery. |
| Rivenhall, Essex | | Mr. W. Porter | 1200 | |
| Edwards' Farm, Eye, near Peterboro', Northamptonshire | | E. S. Knipe, Esq. | 1220 | Portable steam-engine and machinery. |
| Ham Farm, Nutfield, Surrey | About 60 | Rev. H. Hodgson | 700 | |
| The Mill, Wakes Colne, Essex | About 10 | H. Skingley, Esq. | | |
| The Rectory, Debden, Essex | Abt. 400 | H. E. Gurney, Esq. | 2300 | Portable steam-engine and machinery. |
| | | | 360 | This is a small homestead for the accommodation of the mill horses, a few acres of land, &c. |

"FRED. CHANCELLOR, Architect, Chelmsford, Oct. 8, 1858."

*Mechi's How to Farm Profitably.*

## Notices to Correspondents.

GUTTA PERCHA BOOTS FOR SHEEP: *L J P* says, in answer to our correspondent on this subject, "I beg to state from *my* experience they did not answer, as in very tenacious, stiff soil, I found the sheep left their shoes sticking in the mud; and if their feet were very bad, a good part of the hoof as well. If there could be any plan of fastening the shoe to the leg so as to keep the shoes on, they might be useful; but it was beyond my ingenuity to discover anything that would answer this purpose, though I tried."

PLANTATIONS: *Portugal.* Cattle and sheep having the run of plantations where Laurel, Yew, and Box abound, are likely to suffer.

ROLLERS: *Old Reader.* The heaviest roller you can get, smooth, and in three divisions, is the best. Will, however, any of our readers state from their experience the best roller as to weight, &c., for rolling park Grass.

SHEEP MANAGEMENT: *Mr. Beale Browne* thus answers Mr. Bond (see p. 175). "I well know the Kentwell land; some is not so heavy as mine. I have now fed off 20 acres of heavy drained land, as adhesive as birdlime; but by lightly ploughing directly after the sheep, the frosts we may expect, or drying winds, will make it work. I have carted roots, and know the heavy expense, when men, horses, cutting roads, and wear and tear are considered. I have not seen the Kentwell flock since two years last autumn. I then impressed upon Mr. Bond the increased profit of keeping less sheep, and keeping them better. They were in very low condition. Mangels and straw would not be likely to improve them, without oilcake or corn. Mangel is good for milking, and any animal in the spring; but we find it cold, bad winter food. Nearly all young farmers are apt to overstock, and nothing is more ruinous. We should not keep more things than we can keep well. I reduced my flock of ewes 80 this year, and by so doing have been enabled to keep them better. I am convinced I shall have as many lambs; they are coming stronger, and I shall cut as much if not more wool than if I had kept the same as last year. With regard to the 40*l.* for attendance, I have spoken to many practical men, and they all agree with me, if kept in yards in winter, and hurdled on Clover and Vetches in summer, it could not be done economically for double the money. I can only say, *if* they were attended for that sum, it would pay a hundred per cent. to double the attendance."


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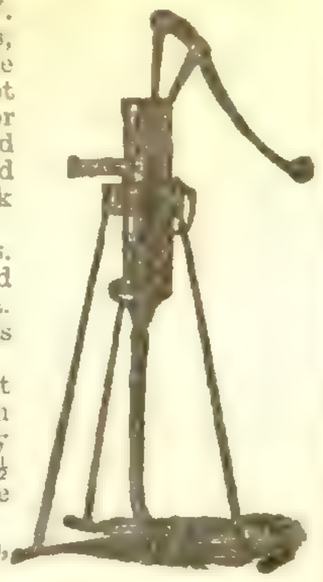

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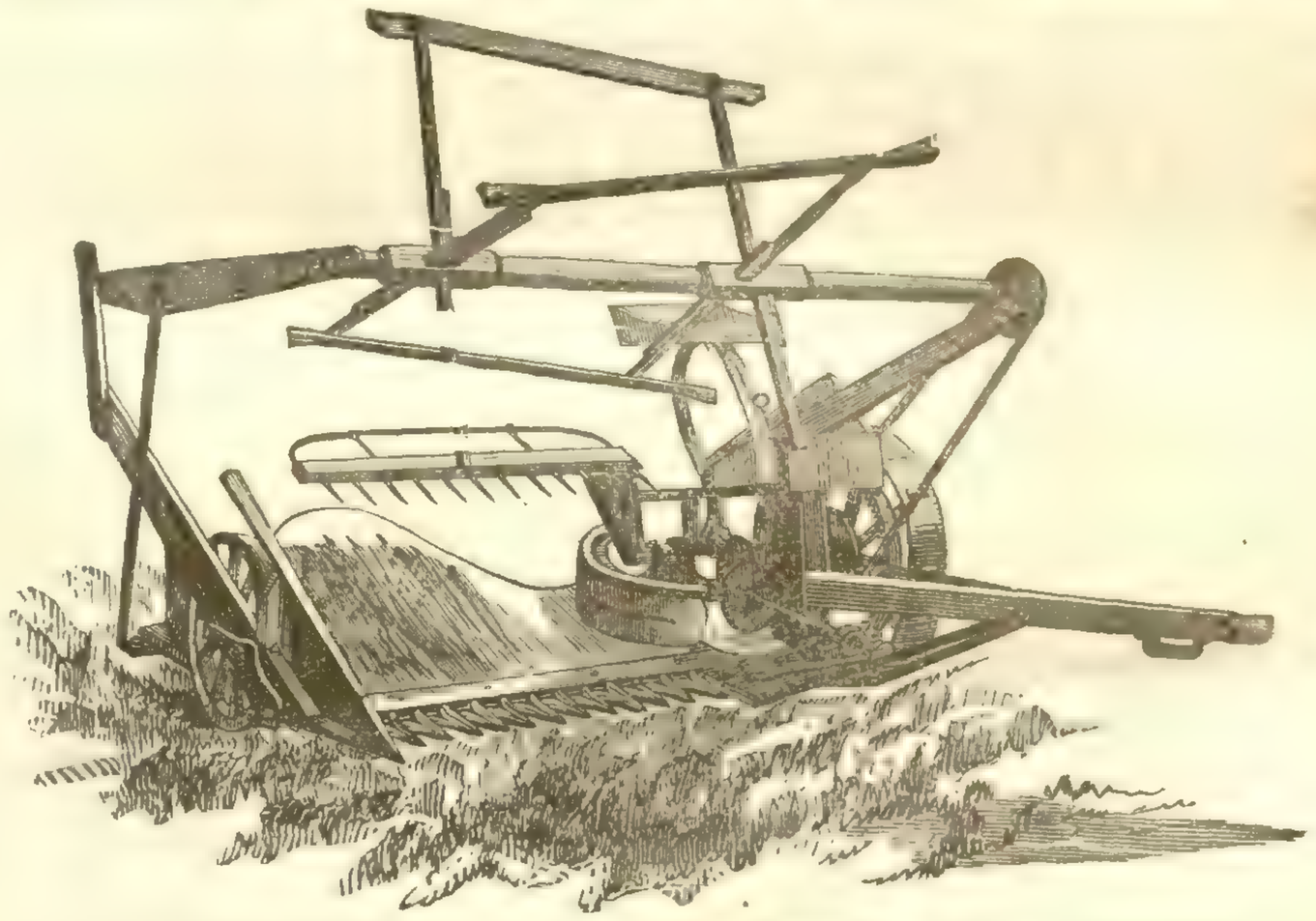


WAREHOUSE, 76, CANNON STREET WEST, LONDON,

WORKS AT BANBURY,

INFORMS MERCHANTS, the TRADE, and AGRICULTURISTS, that he has opened the above Warehouses as a depôt for his own manufactures and those of Messrs. Barrett, Clayton, Howard, Hornsby, Nicholson, Richmond, Tuxford, Smith, and all other first-class makers, whose implements he is prepared to offer on makers' terms.

THE BRITANNIA SELF-RAKING REAPING MACHINE,

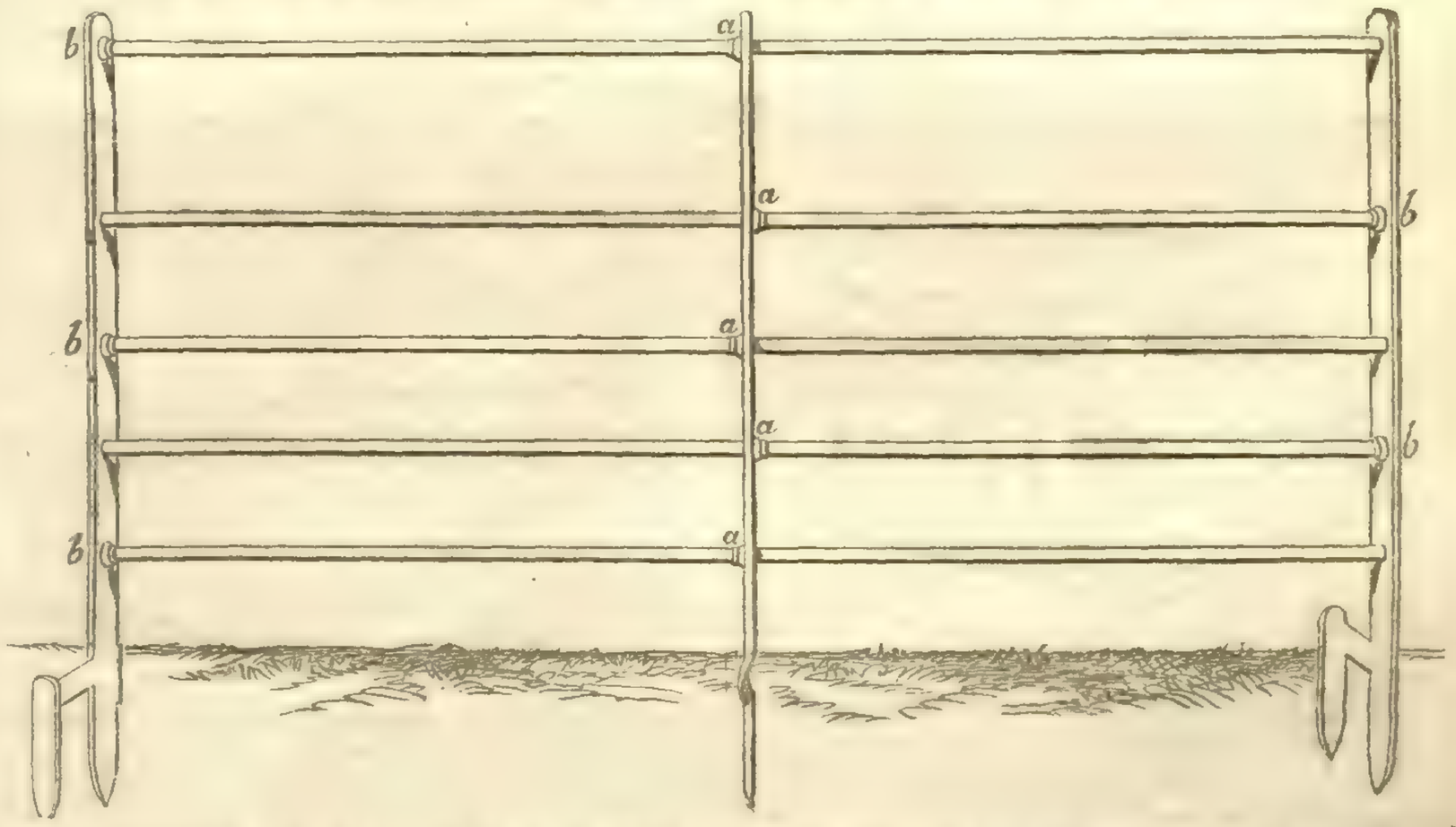
With side delivery in sheaf, no rakers or gatherers required; and all the most improved Food-preparing Machines of the season, may be inspected at the above depôt.

B. SAMUELSON, 76, Cannon Street West, London: and Britannia Works, Banbury.

GREENING & COMPANY'S PATENT WIRE FENCES.

Patronised by His Royal Highness the PRINCE CONSORT.

No. 1a VARIETY.—PROOF AGAINST HORSES, CATTLE, AND SHEEP.



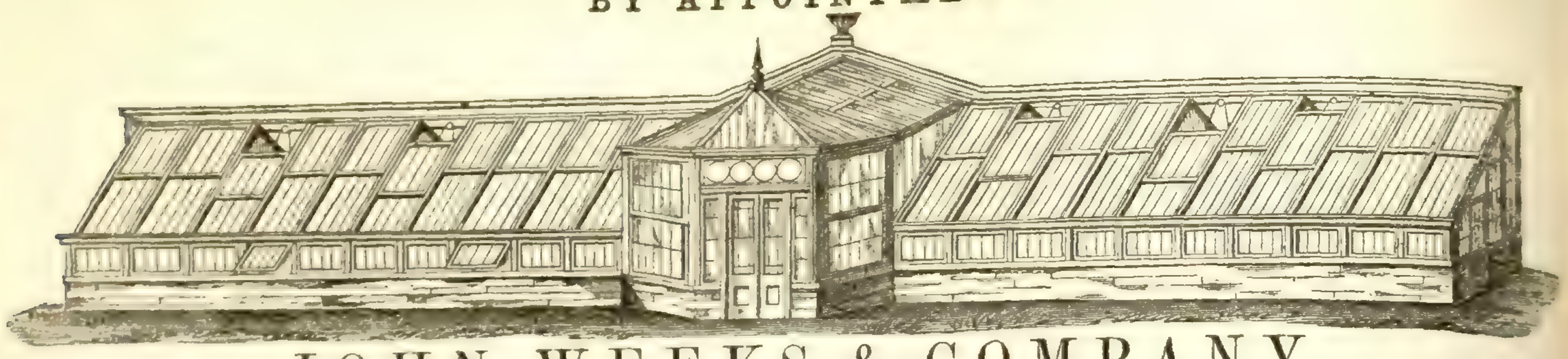

SPECIFICATION.—No 1a Variety, 3 feet 9 inches high, 6 horizontal bars of stout fencing wire, strengthened and supported by vertical bars, at distances of 5 inches. ONE SHILLING per Lineal Yard.

Particulars of the above and other Iron and Wire Fences for Parks, Farms, Gardens, Game Preserves, Poultry Courts, &c., in the Catalogue, sent post free on application to

GREENING & COMPANY, Victoria Iron and Wire Works, 81, Oxford St., Manchester.

## HORTICULTURAL BUILDING & HEATING BY HOT WATER.

BY APPOINTMENT.



# JOHN WEEKS & COMPANY,

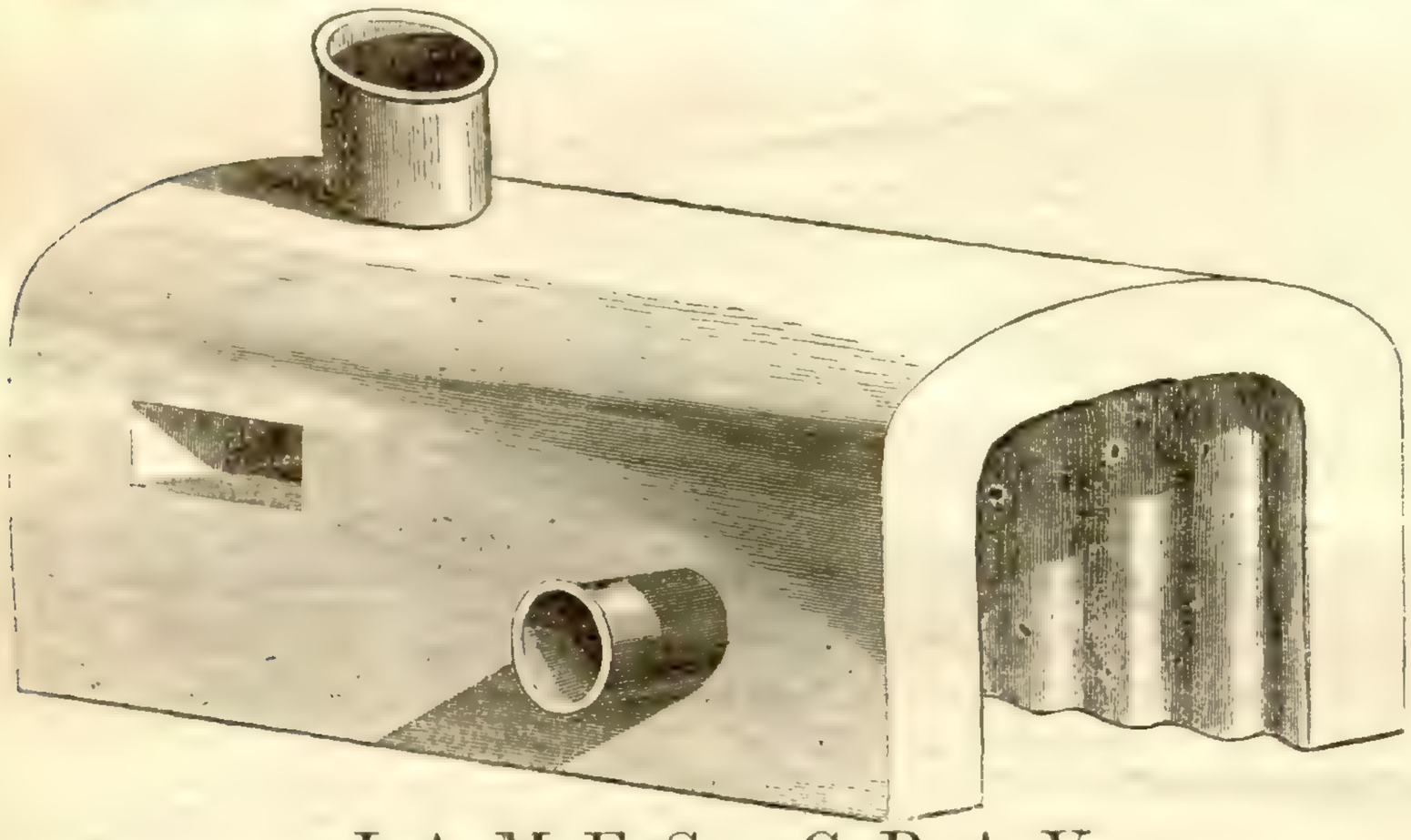
KING'S ROAD, CHELSEA, LONDON.

HORTICULTURAL BUILDERS AND HOT-WATER APPARATUS MANUFACTURERS, ENGINEERS AND IRON FOUNDERS.

PLANS, ESTIMATES, & ILLUSTRATED CATALOGUES FREE ON APPLICATION.

## HORTICULTURAL WORKS,

DANVERS STREET, PAULTON'S SQUARE, CHELSEA, S.W.



# JAMES GRAY

RESPECTFULLY begs to inform the nobility, gentry, Nurserymen, Gardeners, and others, that he continues to carry on the business in all its branches at the above old established premises.

**CONSERVATORIES, GREENHOUSES, FORCING HOUSES, VINERIES, PITS, &c.,**

of every description, erected on the most approved principles.

## HEATING BY HOT WATER.

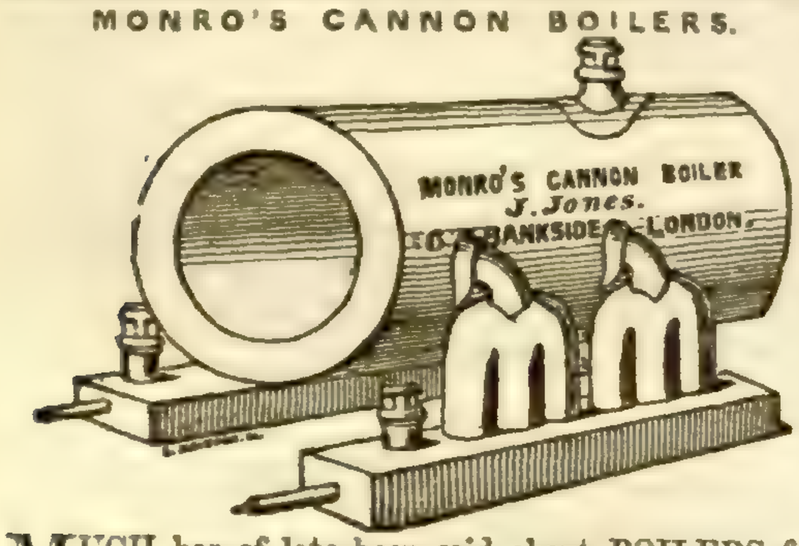
J. G. having specially devoted his attention for many years to this part of the business, is now fully prepared to Heat every description of public and private buildings, viz :—Churches, Mansions, Warehouses, &c., as well as all structures connected with Horticulture, in the most efficient manner. His system is the most simple that can be adopted—which he has found from long experience to be the best—can be constructed at less cost, and is more easily managed than those of a complicated nature which have attracted the notice of the public.

J. G. begs to call attention to his CAST-IRON CORRUGATED ARCH BOILER, which from its simplicity of construction has not the liability to fracture to which those of a more complex design are always subject. They have been extensively used for many years, and have given the greatest satisfaction.

All business is conducted at this establishment on the principle of lowest remunerative profits consistent with best materials and workmanship.

**Plans and Estimates furnished on the shortest notice.**

## MONRO'S CANNON BOILERS.



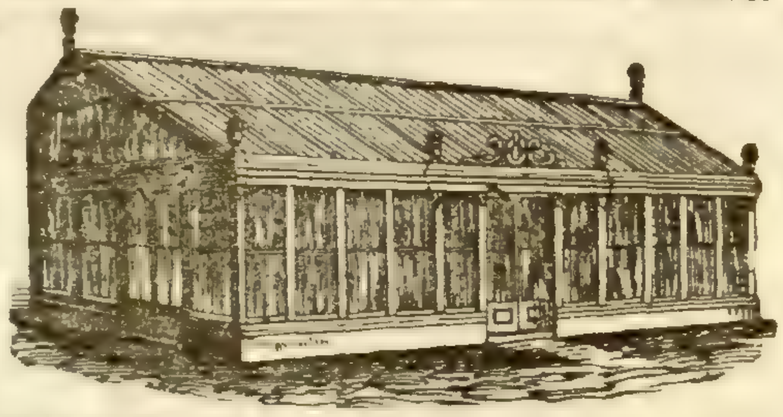

MUCH has of late been said about BOILERS for Heating by Hot Water, but these Boilers have now proved themselves to be the best at present invented. They are adapted for heating every description of building, and are made of various sizes. The Price of the

| | | | | |
|---|---|---|---|---|
| 24-inch Cast Iron is | .. | .. | .. £5 10s. 0d. | each |
| 24-inch Wrought ditto | .. | .. | .. 6 10 0 | ,, |
| 36-inch Cast ditto .. | .. | .. | .. 8 0 0 | ,, |
| 36-inch Wrought ditto | .. | .. | .. 8 10 0 | ,, |

References to Gentlemen and Nurserymen where these Boilers are now at work. The Cannon Boilers are now kept in stock, and are to be had only of J. JONES, 6, Bankside. Also, every description of Saddle and Cylinder Boilers. Hot Water Pipes and Connections at prices lower than those of any other house in London. Estimates for Hot-water Apparatus erected complete in any part of the country, and an Illustrated Catalogue on application to J. JONES, 6, Bankside, Southwark, London.

FLOWER POTS, of superior Red Clay, manufactured by the Arley Pottery Company (Limited), equal in appearance to Terra Cotta at the price of the common pots usually sold, say 2s. per cast, delivered in London.—Apply to TAYLOR & PEARS, 8, George Yard, Lombard Street, City, E.C.

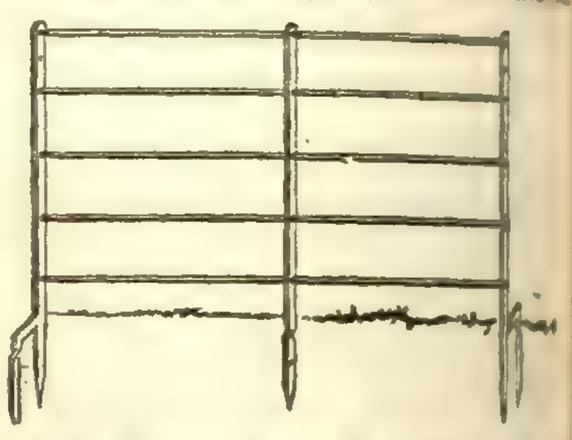
## HOTHOUSES, CONSERVATORIES, FRAMES & LIGHTS OR PITS, CUCUMBER & MELON BOXES & LIGHTS.



JAMES WATTS, HOTHOUSE BUILDER, 8, Claremont Place, Old Kent Road, London.

Green and Hothouses, 9, 10, 11, 12, 13, and 14 feet wide, any length, from 16 to 100 feet. Frames and Lights for Pits, 6ft. 6 in., 7 ft., 7 ft. 6 in., 8 ft., and 8 ft. 6 in. wide, any length, from 12 to 100 feet. Upwards of 200 Cucumber and Melon Boxes and Lights, from 4 ft. by 3 to 10 ft. 6 in. by 5 ft. 6 in., kept ready, glazed with stout sheet glass, painted four times, complete, ready for immediate use, all made of best material, packed and sent to all parts of the kingdom.—References may be had to the Nobility, Gentry, and the Trade in most of the counties in England. Horticultural Buildings of every description heated on the most approved and economical principles.

## IRON HURDLES, FENCING, &c., MADE BY MACHINERY.

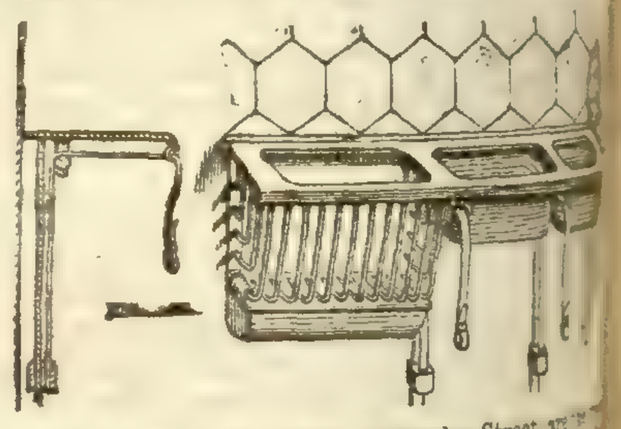


COTTAM AND COMPANY, of Winsley Street, ... invented machinery for making Hurdles, &c., ... instead of being pointed by hand in the old fashion, ... are nipped down by the machine, leaving a shoulder, ... more effectually tighten the standards when riveted. ... are made of superior iron only, and will compete in price ... those made by hand from cinder or common iron, ... frequently break. Iron Fencing, Gates, and Iron Work ... kinds, both Plain and Ornamental, Conservatories, ... Apparatus and Garden Implements.

Illustrated CATALOGUES free on application to ... COMPANY, Ironfounders, 2, Winsley Street, Oxford ...

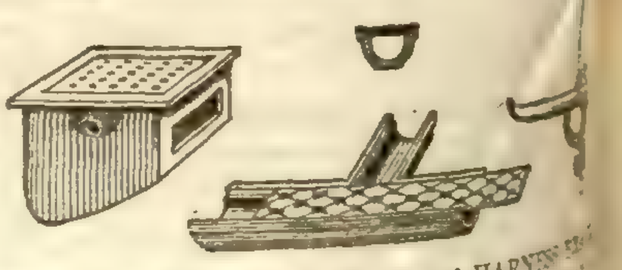
N.B. COTTAM & Co. beg to make it known that ... longer an entrance to their establishment from Oxford ... but that they have made a second entrance from 2 ... Street, Oxford Street, W., by the side of the old ... their works, opposite the Pantheon.

COTTAM'S PATENT INVENTIONS FOR ... REQUISITES, awarded a Prize at the Paris Exhibition ... and patronised by the English and French Governments.



COTTAM AND COMPANY, of Winsley Street, ... inventors of the PATENT ENAMELLED MANGER ... Trough, and Wrought Iron Rack, united to an improved ... and forming one complete and useful fixture, having ... patent noiseless halter guide and collar rein attachment ... taken to the back of the manger, and works with ... freedom up or down the guide-bar.

COTTAM'S NEW PATENT SEED-BOX, an improvement ... tion to the above fittings, being simple in construction, ... durable, promotes cleanliness, and is economical in ...



COTTAM'S PATENT SADDLE and HARNESS ... combined, can be used with great advantage where ... object, as it can be turned up out of the way ...

COTTAM'S IMPROVED SURFACE GUTTER ... rated moveable cover, the use of which prevents ... can be easily cleaned out.

COTTAM'S CAST-IRON SANITARY TRAP, ... proved construction, gives a full water passage, and ... allow any smell to ascend from the drain.

PATENT LOOSE-BOX FITTINGS, and every ... harness-room and stable, kept in stock, plain, ... enamelled. Iron gates, fencing, hurdles, &c.

The New Illustrated Catalogue and Estimates ... application to COTTAM and COMPANY, 2, ... Oxford Street.

N.B. COTTAM & Co. beg to make it known that ... longer an entrance to their establishment from ... but that they have made a second entrance from ... Street, Oxford Street, W., by the side of the ... their works, opposite the Pantheon.

JAMES PHILLIPS AND CO.'S PRICES of GLASS for the present month.

HORTICULTURAL GLASS, Stock Sizes, in 100 feet boxes.

| | | | | 3rds. | 4ths. |
|---|---|---|---|---|---|
| 11 by 8, | 12 by 9, | 13 by 9, | 14 by 9 .. | 14s. 6d. | 12s. 6d. |
| 12 „ 10, | 13 „ 10, | 14 „ 10, | 15 „ 10 .. | | |
| 13 „ 11, | 14 „ 11, | 15 „ 11, | 16 „ 11 .. | | |
| 13 „ 12, | 15 „ 12, | 16 „ 12, | 17 „ 12 .. | 16s. 6d. | 14s. 0d. |
| 14 „ 12, | 15 „ 12, | 16 „ 13, | 17 „ 13 .. | | |
| 15 „ 13, | 19 „ 12, | 20 „ 13, | 21 „ 13 .. | | |
| 15 „ 13, | 19 „ 13, | 20 „ 13, | 21 „ 13 .. | | |
| 16 „ 14, | 17 „ 14, | 18 „ 14 | .. .. | | |
| 16 „ 14, | 20 „ 14, | 21 „ 14 | .. .. | | |

Packed in Cases.

| | | | | |
|---|---|---|---|---|
| 200 feet .. .. .. | £2 | 2 | 0 | 16 oz. |
| 200 feet .. .. .. | 3 | 3 | 0 | 16 oz. |
| 200 feet .. .. .. | 2 | 18 | 0 | 21 oz. |

ORCHARD HOUSE SIZES,
As supplied by us to Mr. Rivers.

| | | 16 oz. | 21 oz. |
|---|---|---|---|
| 20 in. by 12 in. / 20 in. by 13 in. | Common .. .. .. | 14s. 0d. .. | £1 1s. |
| 20 in. by 14 in. | Superior do. .. .. | 16 6 .. | 1 5 |
| 20 in. by 15 in. | English Glass .. .. | 18 0 .. | 1 9 |

SMALL SQUARES.—Per 100 feet.

| | | | | |
|---|---|---|---|---|
| 6 by 4 | 6½ by 4½ | 7 by 5 | 7½ by 5½ | 11 6 |
| 8 „ 6 | 8½ „ 6½ | 9 „ 7 | 9½ „ 7½ | 12 6 |
| 10 „ 8 | 10½ „ 8½ .. | .. .. | .. .. | |

JAMES PHILLIPS AND CO.,
**180, Bishopsgate St. Without, London, E.C.**

FOR Effectually Protecting the Bloom of Wall Trees from Spring Frosts use SHAW'S No. 3 TIFFANY, DOUBLE STRENGTH. In pieces 18 yards long by 39 inches wide, 7s. 6d. each.—JOHN SHAW & Co., Princess Street, Manchester.

GLASS FOR CONSERVATORIES, GREENHOUSES, PIT FRAMES, ETC.

HETLEY AND CO. are supplying 16-oz. Sheet Glass of British Manufacture, packed in boxes, containing 100 square feet each, at the following REDUCED PRICES for cash. A reduction made on 1000 feet.

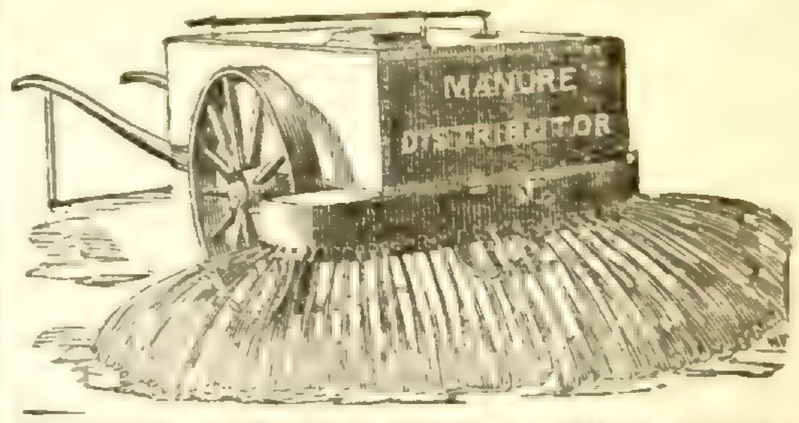
| Sizes.—Inches. | | | Inches. | | Per foot. | | Per 10 feet. |
|---|---|---|---|---|---|---|---|
| | | Under 6 | by 4 | at | 1½d. | is | £0 12 6 |
| From 6 | by 4 | „ 7 | „ 5 | „ | 2d. | „ | 0 16 8 |
| „ 7 | „ 5 | „ 8 | „ 6 | „ | 2½d. | „ | 0 18 9 |
| „ 8 | „ 6 | „ 10 | „ 8 | „ | 2½d. | „ | 1 0 10 |
| „ 10 | „ 8 | „ 12 | „ 9 | „ | 2¾d. | „ | 1 2 11 |

Larger sizes, not exceeding 40 inches long.
16 oz. from 3d. to 3½d. per square foot, according to size.
21 oz. „ 3½d. to 5d. „ „ „
26 oz. „ 3½d. to 7½d. „ „ „

PATENT ROUGH PLATE, THICK CROWN GLASS, and PATENT PLATE GLASS, for Horticultural purposes, at reduced prices, by the 100 square feet.
GLASS TILES AND SLATES made to any size or pattern, either in Sheet or Rough Plate Glass.
Propagating Glasses, Beehive Glasses, Cucumber Tubes, Glass Milk Pans, Glass Water Pipes, and various other articles not hitherto manufactured in Glass.
PATENT PLATE GLASS.—The present extremely moderate price of this superior article should cause it to supersede all other inferior window glass in a gentleman's residence. No alteration connected with the sash is required.
GLASS SHADES, as ornamental to, and for the preservation of every description of goods susceptible of injury by exposure. Prices, since the removal of the excise duty, reduced one-half.
List of Prices and Estimates forwarded on application to
JAMES HETLEY & Co., 35, Soho Square, London.

THE CHAMPION STEAM PLOUGH can be had by applying at 49, Mark Lane, London. Its recommendation is the valuable work it has done. Orders for this Spring must be sent at once.
Wolston, Bletchley Station.—March 5.

LIQUID MANURE.




JAMES'S PATENT LIQUID MANURE DISTRIBUTOR OR WATER-CART, warranted not to choke up or otherwise get out of order. It is thoroughly adapted for Drill Crops, or Pasture Land, or for Watering Streets; has been awarded SIX FIRST PRIZES. Full Particulars and Testimonials may be obtained of the Patentee, ISAAC JAMES, Tivoli Waggon Works, Cheltenham.—Improved LIQUID MANURE PUMPS supplied.

**Important to every man who keeps**

THORLEY'S FOOD FOR CATTLE,
77, NEWGATE STREET, LONDON.
*Beware of spurious imitations.*

## GLASS WAREHOUSE, ESTABLISHED 1750.

# THOMAS MILLINGTON'S REDUCED TARIFF.

PACKED IN BOXES OF 100 FEET EACH, "PACKAGES FREE,"

## FOR HORTICULTURE, PICTURES, AND DWELLINGS.

Common, 11s. 6d.; Super, 12s. 6d.

| Inches by Inches. | Inches by Inches. | Inches by Inches. | Inches by Inches. | Inches by Inches. | 1sts. | 2ds. | 3ds. | 4ths. |
|---|---|---|---|---|---|---|---|---|
| 6 .. 4 | 9 .. 7 | 12 .. 9 | 18½ .. 10½ | 13 .. 11 | | | | |
| 6½ .. 4½ | 9½ .. 7½ | 12½ .. 9½ | 14 .. 10 | 13½ .. 11½ | | | | |
| 7 .. 5 | 10 .. 8 | 13 .. 9 | 14½ .. 10½ | 14 .. 11 | s. d. | s. d. | s. d. | s. d. |
| 7½ .. 5½ | 10½ .. 8½ | 12 .. 10 | 15 .. 10 | 15 .. 10 | 21 6 | 17 9 | 14 4 | 12 6 |
| 8 .. 6 | 11 .. 9 | 12½ .. 10½ | 12 .. 11 | .. .. | | | | |
| 8½ .. 6½ | 11½ .. 9½ | 13 .. 10 | 12½ .. 11½ | .. .. | | | | |
| 14½ .. 11½ | 14 .. 12 | 22 .. 12 | 18 .. 14 | 24 .. 15 | | | | |
| 15 .. 11 | 14½ .. 12½ | 15 .. 13 | 19 .. 14 | 18 .. 16 | | | | |
| 15½ .. 11½ | 15 .. 12 | 16 .. 13 | 20 .. 14 | 20 .. 16 | | | | |
| 16 .. 11 | 15½ .. 12½ | 17 .. 13 | 21 .. 14 | 22 .. 16 | | | | |
| 16½ .. 11½ | 16 .. 12 | 18 .. 13 | 22 .. 14 | 24 .. 16 | 24s. 6d., 20s. 0d., 16s. 6d., 14s. | | | |
| 17 .. 11 | 16½ .. 12½ | 20 .. 13 | 24 .. 14 | 20 .. 17 | | | | |
| 18 .. 11 | 17 .. 12 | 23 .. 13 | 18 .. 15 | 22 .. 17 | | | | |
| 18 .. 12 | 18 .. 12 | 16 .. 14 | 20 .. 15 | 20 .. 18 | | | | |
| 19½ .. 12½ | 20 .. 12 | 17 .. 14 | 22 .. 15 | .. .. | | | | |

## ORCHARD HOUSE SIZES,

AS SUPPLIED TO MR. RIVERS AND OTHERS.

20 .. 12, 20 .. 13, 20 .. 14, 20 .. 15 } 16 oz. Common, per 100 feet, 14s. „ Super „ 16s. 6d. | If 21 oz. Common, per 100 feet, 21s. „ Super „ 25s.

LINSEED OIL, PUTTY, GENUINE WHITE LEAD, LINSEED AND BOILED OILS, BRUSHES, &c.

**87, Bishopsgate Street Without, London, E. C.**

# PATENT LAWN MOWING AND ROLLING MACHINES.

# SAMUELSON'S LAWN MOWING MACHINES,

## WITH BOYD'S PATENT IMPROVEMENTS.

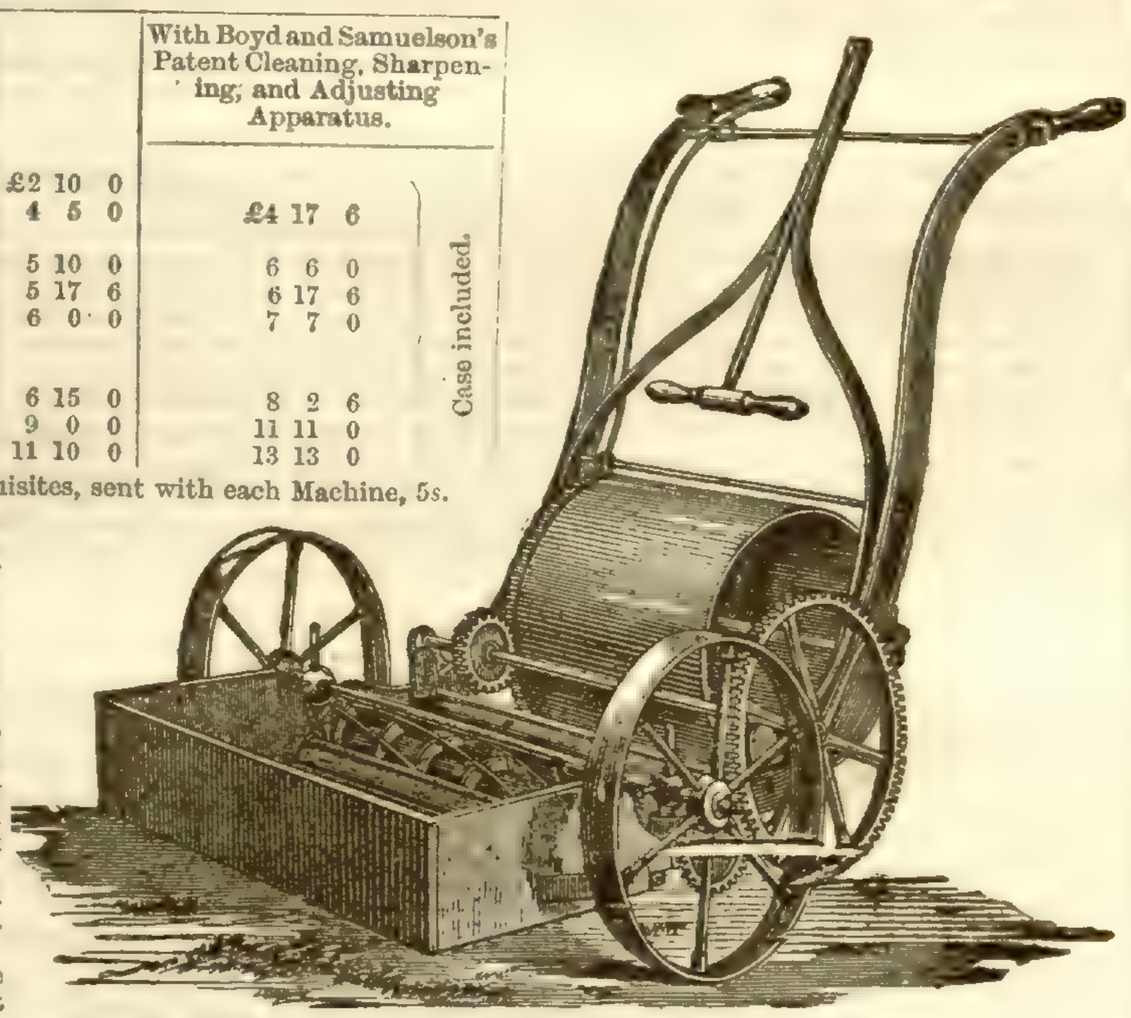
*"Doing the work of five or six men."—The Times, Sept. 20, 1858.*

## PRICES:—

| | | With Boyd and Samuelson's Patent Cleaning, Sharpening, and Adjusting Apparatus. |
|---|---|---|
| 9 inches wide, for very narrow borders, without registered wheels .. .. | £2 10 0 | |
| 12 inches wide .. .. .. .. | 4 5 0 | £4 17 6 |
| 12 inches wide, with registered arrangement (for one man) .. .. .. | 5 10 0 | 6 6 0 |
| 12 inches wide, ditto (for one man) .. | 5 17 6 | 6 17 6 |
| 12 inches wide, ditto (for man and boy) | 6 0 0 | 7 7 0 |
| 12 inches wide, ditto for ditto, and also fitted with draught links for a pony and a man to work it .. .. | 6 15 0 | 8 2 6 |
| 18 inches wide, ditto .. .. .. | 9 0 0 | 11 11 0 |
| 24 inches wide, ditto (for man and pony) | 11 10 0 | 13 13 0 |

Case included.

Box of Tools, Oil Can, and other requisites, sent with each Machine, 5s.



Some thousands of these Machines are now in successful operation on the Lawns of Royalty, the Nobility, and Gentry of the United Kingdom and the Continent of Europe, and are pronounced SUPERIOR to any other for lightness of draught, efficiency, and durability. The demand for them is *yearly increasing—the number* supplied by Mr. SAMUELSON *during the years 1856, 1857, and 1858 being more than* 3,000. Testimonials are continually being received from gentlemen having them in daily use, who speak in the highest terms of their efficiency.

These are the only Machines that will cut wet as well as dry Grass without clogging the knives.

Orders for 1859 should be sent at once to insure certain delivery and to prevent disappointment.

Copies of Testimonials will be forwarded post free on application to

**B. SAMUELSON, 76, Cannon Street West, City, London;**
**to the Manufactory, Britannia Works, Banbury, Oxon;**
or to MESSRS. DEANE AND CO., London Bridge; or any respectable Ironmonger or Seedsman in the Kingdom.

FERRABEE'S NEW PATENT MOWING MACHINES.

MANUFACTURED BY

JAMES FERRABEE AND CO., PHŒNIX IRON WORKS, Stroud.—These improved Machines admit of the use of duplicate sets of cutting parts, can be accurately sharpened by an ordinary workman, are adapted to level and uneven ground and to verges, and their management is much simplified.

In the following List the Letters A, B, &c., are used to facilitate reference, and the distinguishing letter of the Machine required should be given in sending an order.

The prices include carriage to to the principal railway stations in England, terms net cash.

| | | | | | |
|---|---|---|---|---|---|
| A, | cutting 12 inches wide, | for a boy .. .. | £4 | 10 | 0 |
| B, | „ 16 „ | for one man .. .. | 6 | 0 | 0 |
| C, | „ 19 „ | for a man and a boy .. | 6 | 10 | 0 |
| D, | „ 22 „ | „ „ .. | 7 | 0 | 0 |
| E, | „ 26 „ | for two men .. .. | 8 | 10 | 0 |
| F, | „ 22 „ | for a donkey or a pony | 8 | 0 | 0 |
| G, | „ 26 „ | for a pony .. .. | 9 | 0 | 0 |

Sharpening Apparatus for any of the above, 5s. extra.

| | | | | | |
|---|---|---|---|---|---|
| H, | cutting 24 inches wide, | for a horse .. .. | 14 | 0 | 0 |
| I. | „ 28 „ | „ .. .. | 16 | 0 | 0 |
| K, | „ 36 „ | „ .. .. | 18 | 0 | 0 |

Sharpening Apparatus, 10s. extra each.

The Horse Machines H, I, K, have cylinders of large diameter and in their entire construction possess the strength and capacity necessary for horse-power, and the heaviest work of a pleasure ground.

MAPPIN'S PRUNING KNIVES IN EVERY VARIETY.
WARRANTED GOOD BY THE MAKERS.

MAPPIN BROTHERS, Queen's Cutlery Works, Sheffield; and 67 and 68, King William Street, London.

MAPPIN'S "SHILLING" RAZORS Shave well for Twelve Months without Grinding.

MAPPIN'S 2s. RAZORS Shave well for Three Years.

MAPPIN'S 3s. RAZORS (suitable for Hard or soft Beards,) Shave well for Ten Years.

MAPPIN'S SUPERIOR TABLE-KNIVES maintain their unrivalled Superiority—handles cannot possibly become loose—the blades are all of the very first quality, being their own Sheffield manufacture.

| | Tble. Kns. | Dst. Kns. | Carvers. |
|---|---|---|---|
| Ivory 3⅝ in. Handle, balanced, | 20s. p. doz.; | 16s. p. doz.; | 6s. p. pair |
| Do. 4 in. do. .. | 25s. „ | 18s. „ | 9s. „ |

MAPPIN'S SILVER-PLATED DESSERT KNIVES and FORKS, in Mahogany Cases.

| | | |
|---|---|---|
| 12 Pairs Knives and Forks, | Ivory Handles, in Case.. | 80s. |
| 12 Do. | Pearl Handles, do. .. | 130s. |
| 12 Do. | Silver-Plated Handles, do. .. | 80s. |

MAPPIN'S ELECTRO-SILVER PLATE.—MAPPIN BROTHERS, Manufacturers by Special Appointment to the Queen, are the only Sheffield makers who supply the consumers in London. Their LONDON SHOW ROOMS, 67 and 68, King William Street, London Bridge, contain by far the largest STOCK of ELECTRO-SILVER PLATE in the World, which is transmitted direct from their Manufactory, Queen's Cutlery Works, Sheffield.

| | Fiddle Pattern. | Double Thread. | King's Pattern. |
|---|---|---|---|
| 12 Table Forks, best quality | £1 16 0 | £2 14 0 | £3 0 |
| 12 Table Spoons, best quality | 1 16 0 | 2 14 0 | 3 0 |
| 12 Dessert Forks, best quality | 1 7 0 | 2 0 0 | 2 |
| 12 Dessert Spoons, best quality | 1 7 0 | 2 0 0 | 2 |
| 12 Tea Spoons, best quality | 0 16 0 | 1 4 0 | 1 7 |

Messrs. MAPPIN BROTHERS respectfully invite buyers to inspect their unprecedented display, which, for beauty of design, exquisite workmanship, and novelty, stands unrivalled. Their illustrated Catalogue, which is continually receiving addition of New Designs, sent per post on receipt of 12 stamps.—MAPPIN BROTHERS, 67 and 68, King William Street, London Bridge; Manufactory, Queen's Cutlery Works, Sheffield.

**HOWARDS' PRIZE IMPLEMENTS, 1859.**

JAMES AND FREDK. HOWARD, Britannia Iron Works, Bedford, beg to direct attention to their

CHAMPION PLOUGHS,

For which they received All the First Prizes last offered by the Royal Agricultural Society of England, viz.:—

The First Prize for the best Plough for general purposes.
The First Prize for the best Plough for light land.
The First Prize for the best Plough for heavy land.

The only Prize ever offered by the Society for the best Double Breast or Ridging Plough was also awarded to J. & F. HOWARD.

J. & F. HOWARD have discontinued troubling the Public with a long List of Prizes awarded to their Implements, but they would just state that for PLOUGHS, HARROWS, and HORSE RAKES, they have for several years gained every Prize for which they have competed.

PLOUGHS.

| | | | |
|---|---|---|---|
| P PLOUGH, with two wheels, for light work .. | £4 | 7 | 6 |
| PP PLOUGH, ,, for general purposes | 4 | 12 | 6 |
| SKIM COULTER .. .. .. .. .. | 0 | 5 | 6 |

STEEL BREASTS, 7s. and 7s. 6d. extra.

HARROWS.

| | | | |
|---|---|---|---|
| A Set of Three 4-Beam HARROWS, with Whippletree, recommended as general Seed Harrows, 9½ feet wide, marked No. 12 .. .. .. .. .. | 3 | 14 | 0 |
| A Set of Three 4-Beam HARROWS, with Whippletree, adapted for 3 Horses, 10 ft. wide, marked No. 11 | 4 | 4 | 0 |

HORSE RAKES.

| | | | |
|---|---|---|---|
| Price of small size RAKE, marked A, with 24 iron teeth, extreme width 7½ feet .. .. .. .. | 7 | 10 | 0 |
| Ditto, with Steel Teeth .. .. .. .. .. | 8 | 0 | 0 |
| Price of large size, marked B, with 28 iron teeth, extreme width 8½ feet .. .. .. .. .. | 8 | 0 | 0 |
| Price of large size, marked B, with steel teeth .. | 8 | 10 | 0 |
| Price of extra large size, marked C, with 24 steel teeth, extreme width, 8½ feet .. .. .. .. | 10 | 10 | 0 |
| Price of a Set of 15 Prongs, to be attached to the above when used as Weed Extirpators .. . .. | 1 | 10 | 0 |

Free Delivery to Birmingham, Bristol, Derby, Gloucester, Lincoln, Liverpool, London, Manchester, Norwich, Nottingham, Retford, Wisbeach, and Worcester; or to Dublin, Edinburgh, Glasgow, and other parts at fixed rates.

HOWARDS' NEW CATALOGUE, containing prices and description of their Patent Ploughs, Harrows, Horse Rakes, and other Implements, including Smith's Steam Cultivators, for which they received at Chester the Gold Medal of the Royal Agricultural Society of England, sent free on application to

J. & F. HOWARD, Britannia Iron Works, Bedford.

BLOSSOM OF WALL FRUIT TREES most effectually protected by Worsted Net, which is very generally approved, and will last 10 years. All kinds of Garden, Fishing, Sheep and Rabbit Nets. The tanned Fish Nets 6s. 3d. per 100 yards. Samples and plan of fixing the Worsted Net sent free.—R. RICHARDSON, White Horse Factory, Bidborough Street, Judd Street; and office, 99, Euston Road, London.

GARDNER'S £2 2s. DINNER SERVICES complete, best quality; a large selection of patterns of the most choice description. Breakfast, Dessert, and Tea Services in the best taste at the lowest possible prices. Table Glass of brilliant quality and finish. Excellent Cut Wines, 3s. 6d. per dozen. Engravings free by post.

GARDNERS', 63, Strand, adjoining Coutts's Bank.

HANDSOME BRASS AND IRON BEDSTEADS.—HEAL & SON'S Show Rooms contain a large assortment of Brass Bedsteads, suitable both for Home use and for Tropical Climates; handsome Iron Bedsteads with Brass Mountings and elegantly Japanned; Plain Iron Bedsteads for Servants; every description of Wood Bedstead that is manufactured, in Mahogany, Birch, Walnut-tree Woods, Polished Deal and Japanned, all fitted with Bedding and Furniture complete, as well as every description of Bedroom Furniture.

HEAL AND SON'S ILLUSTRATED CATALOGUE, containing Designs and Prices of 100 Bedsteads, as well as of 150 different articles of Bedroom Furniture, sent free by post.—HEAL & SON, Bedstead, Bedding, and Bedroom Furniture Manufacturers, 196, Tottenham Court Road, W.

FENDERS, STOVES, AND FIRE-IRONS.—Buyers of the above are requested, before finally deciding, to visit WILLIAM S. BURTON'S SHOW ROOMS. They contain such an assortment of FENDERS, STOVES, RANGES, FIRE-IRONS, and GENERAL IRONMONGERY as cannot be approached elsewhere, either for variety, novelty, beauty of design, or exquisiteness of workmanship. Bright Stoves, with ormolu ornaments and two sets of bars, 3l. 15s. to 33l. 10s.; Bronzed Fenders, with standards, 7s. to 5l. 12s.; Steel Fenders, 2l. 15s. to 11l.; ditto, with rich ormolu ornaments, 2l. 15s. to 18l.; Fire-Irons, from 2s. 3d. the set to 4l. 4s. The BURTON and all other PATENT STOVES, with radiating hearth-plates.

BEDSTEADS, BATHS, AND LAMPS.—WILLIAM S. BURTON has SIX LARGE SHOW ROOMS devoted exclusively to the SEPARATE DISPLAY of Lamps, Baths, and Metallic Bedsteads. The stock of each is at once the largest, newest, and most varied ever submitted to the public, and marked at prices proportionate with those that have tended to make his establishment the most distinguished in this country.

| | | | | | |
|---|---|---|---|---|---|
| Bedsteads, from .. .. .. | 12s. | 6d. | to £20 | 0s. | each. |
| Shower Baths, from .. .. | 8 | 0 | ,, 6 | 0 | ,, |
| Lamps (Moderateur), from .. | 6 | 0 | ,, 7 | 7 | ,, |

(All other kinds at the same rate.)

Pure Colza Oil .. .. .. .. 4s. 3d. per gallon.

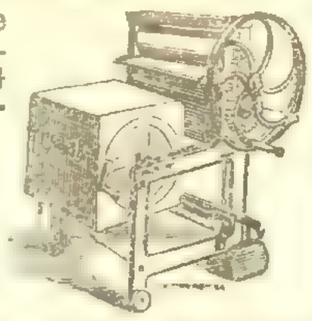
DISH COVERS AND HOT-WATER DISHES.—In every material, in great variety, and of the newest and most recherché patterns. Tin Dish Covers, 7s. 6d. the set of six; Block Tin, 12s. 3d. to 27s. 0d. the set of six; elegant modern patterns, 35s. 6d. to 62s. 6d. the set; Britannia Metal, with or without silver-plated handles, 3l. 11s. 0d. to 6l. 8s. 0d. the set; Sheffield plated, 10l. to 16l. 10s. the set; Block-tin Hot-water Dishes, with wells for gravy, 12s. to 30s.; Britannia Metal, 22s. to 77s.; Electro-plated on Nickel, full size, 11l. 11s.

WILLIAM S. BURTON'S GENERAL FURNISHING IRONMONGERY CATALOGUE may be had gratis, and free by post. It contains upwards of 400 Illustrations of his illimited Stock of Electro and Sheffield Plate, Nickel Silver and Britannia Metal goods, Dish Covers and Hot-water Dishes, Stoves, Fenders, Marble Chimney pieces, Kitchen Ranges, Lamps, Gaseliers, Tea Urns and Kettles, Tea Trays, Clocks, Table Cutlery, Baths and Toilet Ware, Turnery, Iron and Brass Bedsteads, Bedding, Bed Hangings, &c., with Lists of Prices and Plans of the 16 large Show Rooms at 39, Oxford Street; 1, 1A, 2, and 3, Newman Street; and 4, 5, and 6, Perry's Place, London.—Established 1820.

LOOMES AND CO., Whittlesea, MANUFACTURERS OF BRICKS, TILES, POTTERY, &c., beg to call attention to their new CABLE PATTERN GARDEN BORDER EDGING, which not only surpasses others in appearance and durability, but is free from the dangerous points and sharp edges of most.—Price, delivered on any Railway at Peterborough, 5d. per yard.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

"NO ONE KNOWING the value of your Patent WASHING, WRINGING, and MANGLING MACHINE, would be without one."—*Vide Mrs. Hall.*

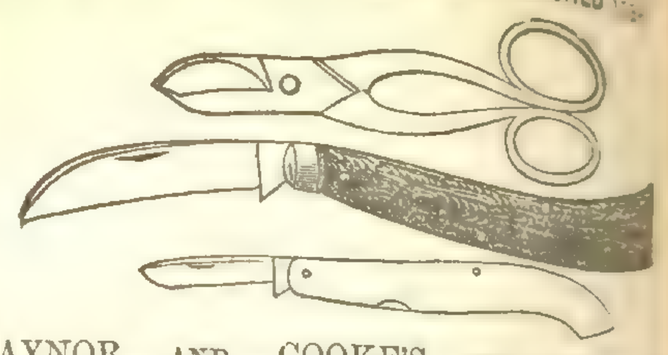


THOMAS BRADFORD, Patentee, Manchester.

Descriptive Pamphlet, with Prices by post.

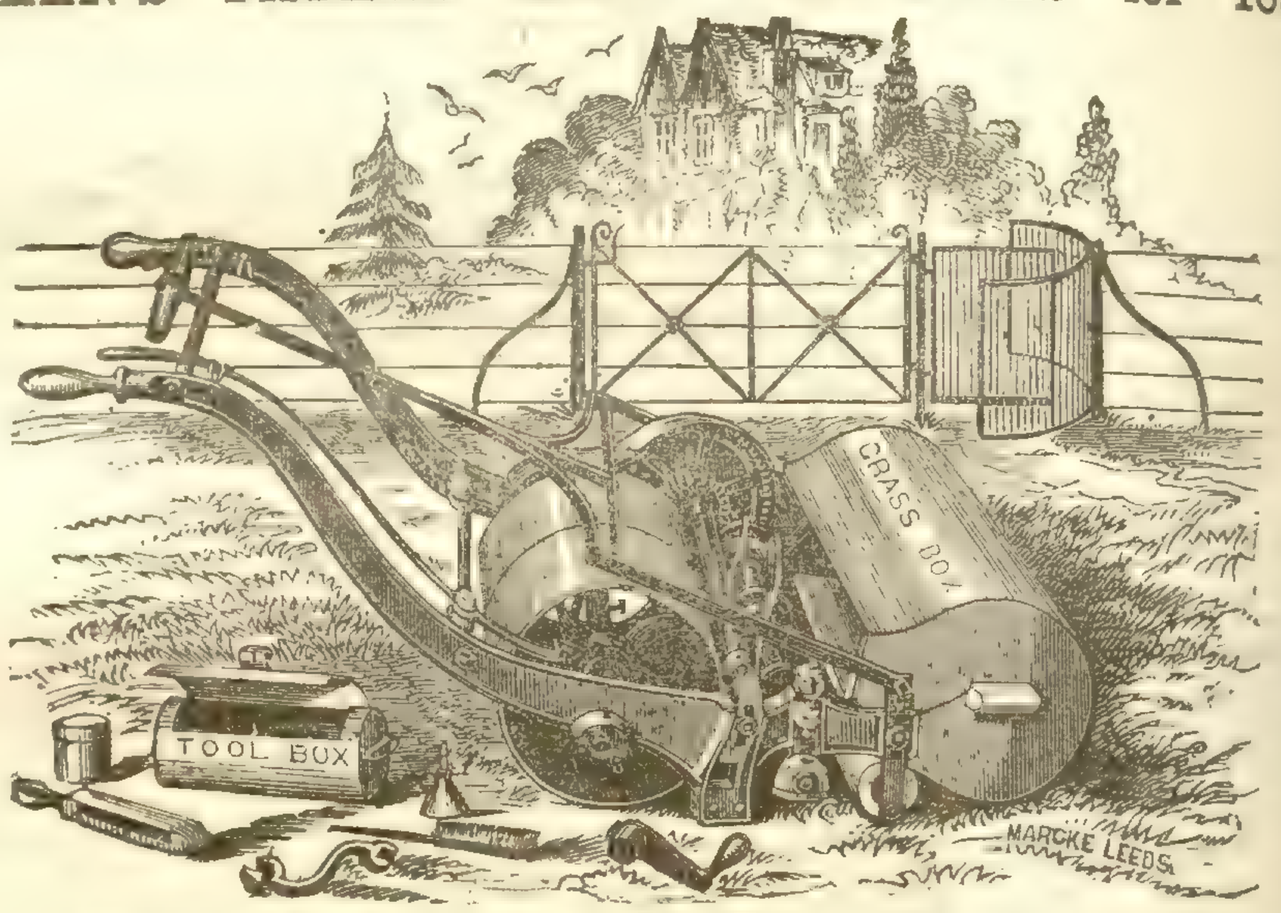
GLAZIERS' DIAMONDS for CUTTING HORTICULTURAL and other GLASS, to be had of the sole Manufacturer, JOHN EDWARDS, 20, Sharp Alley, Smithfield, London, E.C. Prices from 10s. to 25l.

PAXTON WORKS, SHEFFIELD, ESTABLISHED 1760.



SAYNOR AND COOKE'S warranted PRUNING and BUDDING KNIVES, SCISSORS, &c. Sold by all respectable Nurserymen and Seed Merchants in the three Kingdoms.

# GREEN'S PATENT HAND MACHINES for 1859.




# GREEN'S PATENT

## GRASS CUTTING, COLLECTING, & ROLLING MACHINES

MANUFACTORY, LEEDS, YORKSHIRE.

**Trial at the London Horticultural Society's Gardens, Chiswick, June 5, 1858.**

FOUR COMPETITORS.

First trial on level ground; second do. on undulated; third ditto on intricate places around trees, &c., when GREEN'S PATENT was unanimously declared to be the best in each trial by Colonel Challoner, Dr. Lindley, and G. M'Ewen, Esq., the appointed judges.

See the *Gardeners' Chronicle* of May 22, 1858, p. 423, under the heading of "Garden Memoranda."

"LONDON HORTICULTURAL GARDENS, CHISWICK.—The Grass in the Arboretum and elsewhere is in excellent condition, kept in order by means of one of GREEN'S 2-feet Mowing Machines, which does its work very satisfactorily, and, compared with the scythe, effects a saving of at least one half."

Extract from London *Times* of June 8, and *Gardeners' Chronicle* of June 12, 1858.

"TRIAL OF MOWING MACHINES.—A considerable number of machines of various sizes having been brought to the ground, it was agreed that the trial should take place between one Hand Machine of each exhibitor, all selected as nearly as possible of uniform size, and worked by themselves, or their men. The ground to be worked was determined by lot. Pieces having been previously selected of as uniform quality as possible. After trials on level ground and round trees the judges, Colonel Challoner and Mr. Edward Easton, delivered the following award:—

| Name. | Time. | Square feet cut. | Square feet cut per minute. | Points indicating quality, 60 being perfection. | | | | Price |
|---|---|---|---|---|---|---|---|---|
| | | | | Quality of work. | Construction of machine. | Lightness of draught. | Total. | |
| GREEN ..... | 6min. 35sec. | 1600 | 242 | 50 | 50 | 60 | 160 | £8 10 |
| Shanks ..... | 6 35 | 1302 | 197 | 45 | 50 | 40 | 135 | 6 6 |
| Ferrabee ..... | 6 35 | 1503 | 228 | 15 | 45 | 50 | 110 | 6 6 |
| Deane ..... | 6 36 | 1046 | 158 | 25 | 10 | 60 | 95 | 6 6 |

(Signed) "C. B. CHALLONER, EDWARD EASTON, Judges."

Extract from the "Cottage Gardener" of June 15, 1858.

"The decision was just what was anticipated, all present being satisfied of the manifest superiority of GREEN'S MACHINE both in construction, lightness of draught, and superiority of work."

THOMAS GREEN respectfully informs the Nobility, Gentry, Gardeners, Amateurs, and others that upwards of One Hundred of these Machines were sold in 1857, and to show the increasing demand, above 900 were sold the last season. They have proved to be the best in all cases of competition, are entirely remodelled, and all the little defects pointed out by the judges last year are now rectified. The Patentee now considers the Machines as near perfection as possible; although the Machines have been so much improved at a great additional cost, no extra charge will be made except for a neat Guard, which is fixed over the wheels to keep them clean, prevent breakage and accident, which will be 5s. extra to parties requiring them.

THE FOLLOWING IS A LIST OF PRICES:—

Made very strong, suitable for Horse Power, to cut 48 inches, £27; do. 42 inches, £24; do. 36 inches, £21; for a strong Pony, to cut 30 inches, £18; do. do., made lighter, suitable for a small Pony or Donkey, to cut 30 inches. If fitted up with leather traces, hooks, stretcher, &c., which may be attached to the usual harness or chain traces, 7s. extra.

Box of requisites for cleaning and sharpening, with instructions for keeping the Machine in order, 7s. 6d. extra.

Leather Boots, suitable for Horses' feet, to prevent injury to the lawn, will be for a set of four, 24s. extra.

## HAND MACHINES.

To cut 24 inches, £8 10s., suitable for two men.
Do. do., made suitable for a donkey, 20s. extra.
To cut 22 inches, £8 0s., suitable for man, or a man and boy.
To cut 20 inches, £7 10s., suitable for man and boy.

To cut 18 inches, £7 0s., suitable for one man.
To cut 16 inches, £6 10s., suitable for one man.
To cut 14 inches, £6 0s., suitable for a stout lad.

Box and requisites for cleaning and sharpening, with instructions for keeping the Machine in order, 5s. extra.

The above are Nett Cash prices, delivered at any of the principal Railway Stations in England.

*** The Machines are warranted to give satisfaction, or may be at once returned by the party paying the carriage to Leeds. The Patentee has spared neither time nor expense in producing the best and cheapest Mowing, Collecting, and Rolling Machines ever brought before the public.

Hundreds of Testimonials (unsolicited) may be seen, and references given with regard to the superiority of the Machines applying to the Patentee,

## THOMAS GREEN, Smithfield Iron Works, Leeds;

OR 2, VICTORIA STREET, BOTTOM OF HOLBORN HILL.

☞ T. G. *will be glad to receive orders for Machines as early as possible; a great difficulty was last season in supplying the number required.*

N.B. Parties desirous of having their Machines repaired may send them to either the London or Leeds Establishments, where they will have the best attention.

HENRY J. MORTON AND CO.,
2, Basinghall Buildings, Leeds.

CALVANISED IRON WATER CISTERNS

[illegible], &c., to contain 50 gallons, 25*s.*; 80 gallons, 30*s.* each; and 140 gallons, 50*s.*, and fitted with tap, keeping the water perfectly sweet and clean; will not rust or corrode. Cisterns of all sizes.

CALVANISED IRON PUMPS

for Liquid Manure or Domestic Use, 3 inches diameter, 30*s.* and [illegible] each: Tail Pipe for same at from 10*d.* per foot.

CALVANISED IRON SWING WATER BARROWS

for Garden or Farm use, containing about 20 gallons, entirely formed of iron, 32*s.* 6*d.* each.

PARKES' STEEL DIGGING FORKS.

BURGESS AND KEY, 95, Newgate Street, London, being the Wholesale and Retail Agents for these celebrated TOOLS have always a large Stock on hand from which their Customers may select what they may require.

ANTHONY'S PATENT AMERICAN CHURN.—The FIRST PRIZE was again awarded to this Churn in Competition with several others at the Chester Meeting of the Royal Agricultural Society; it has obtained the First Prize given by the Society at every Meeting since 1850.

Messrs. BURGESS & KEY, 95, Newgate Street, strongly recommend it as the most perfect Churn now in use. Full particulars sent on application.

PATRONISED BY

HER MAJESTY QUEEN VICTORIA, HIS MAJESTY THE EMPEROR OF THE FRENCH, AND HIS ROYAL HIGHNESS THE PRINCE OF PRUSSIA.

BY ROYAL LETTERS PATENT.

SHANKS'S PATENT MOWING, ROLLING, COLLECTING, AND DELIVERING MACHINE FOR 1859.

THE ONLY COMPLETE MACHINE FOR HORSE OR PONY POWER.

A. SHANKS AND SON have much pleasure in intimating to the Nobility, Gentry, and Gardeners that they have this season made some most valuable improvements in their HORSE POWER PATENT MOWING AND ROLLING MACHINE for Lawns, Bowling Greens, Grass Walks, Verges, &c. The Improvements consist of—

1.—The Cutter is strengthened, and so constructed that in Mowing the closest and finest Turf there is not the smallest appearance of ribbing.

2.—The Drums are loose on the Shaft, and are made Self-acting by means of two Spiral Springs, so that in turning the Machine will mow as well as when going in a straight line.

3.—From the position of the two Front Pulleys the Machine will mow on the most uneven Lawn, and the Cutter or Plate at the same time is prevented from injuring the Turf. There are no Rollers or anything else to obstruct the Grass in front of the Cutter of the Machine when mowing.

4.—No Machine can turn quicker or more easily than this Machine. The two Front Pulleys swivel, and the Drums on the Shaft are loose, and yet kept in gear by the Patent Spiral Springs, so that the Machine will turn into the most intricate windings of the Flower Garden amongst Trees or Flower Beds, with perfect ease, and without the smallest chance of injuring the shrubs or flowers.

5.—The method of adjusting the cut has been much simplified and improved—so improved that the power of raising or lowering the Machine is applied to both sides of the Machine at once by simply turning a handle. This prevents the possibility of one side of the Machine cutting lower than the other. The Machine may be adjusted to the required cut or raised to the necessary extent for crossing Gravel Walks, &c, in less than a minute.

6.—The Wheels are all protected by Guards, which entirely prevent any particles of Cut Grass or Shrubs, Flowers, &c., from getting into contact with the teeth. A Cast Steel Scraper is introduced to keep the Drums clear of small stones or rubbish in crossing Gravel Walks, &c. The whole Machine is nicely balanced as regards equality of weight in the front and back, and consequently is exceedingly steady in working. Cast steel is used for the Shaft of the Cutter, which makes the Cutter work sweeter and last much longer. Brass Bushes are used for the Cutter and Driving Shafts, and the Handles or Shafts are made of Malleable Iron, rendering them not nearly so liable to break as the usual cast iron ones.

7.—A Tool box is fixed to each machine, so that the necessary Nut Keys, Handles, Oil, &c., are at once in readiness when required. This Tool-box is exceedingly convenient.

8.—One of the most valuable of the Patent Improvements A. S. & SON have effected this season in their Machine is in the method of emptying the Grass-box. The want of a speedy and efficient method for this purpose has been much felt for many years past. In the spring, more especially when the Grass springs up rapidly, nothing is more annoying in working a Mowing Machine than the stopping and almost constant travel from the handles to the box, and *vice versâ*, for the purpose of emptying the grass. A great deal of time is thus lost, independent of the hard work to the man, not only in walking some hundreds of times the length of the Machine in a day, but more especially in the stooping posture which he has so often to endure. Many a Gardener can testify to this. THIS GREAT WANT IN ALL MOWING MACHINES, WHETHER PAST OR PRESENT, IS COMPLETELY OBVIATED IN SHANKS'S PATENT MOWING, ROLLING, COLLECTING AND DELIVERING MACHINE FOR 1859. The improvement consists in the introduction of a simple and efficient apparatus for emptying the box without the man being under the necessity of leaving the handles or stopping the machine. So effective and complete is this valuable improvement, that the box, if it were possible to fill it, could be emptied at the rate of 60 times a minute, without any undue strain being put on the apparatus. The immense advantages of this invention must be at once apparent to the practical Gardener. It will enable the Machine to mow at least a third more work, while the labour and annoyance in working it, as compared with ordinary Machines, is three-fourths lessened. If a Lawn, which formerly took a Machine nine hours to mow can now be done in six hours, with three-fourths less labour to the man who works the Machine, nothing further is necessary to establish the utility and worth of the invention.

The whole Machines are constructed of the best material—the working parts are fitted with the greatest care and nicety—Portable self-acting Machines for Planing, Slotting, Shaping, Screwing, Turning, &c., being constantly used for this purpose. The Machines are consequently exceedingly durable, are easily sharpened, while the execution of the work is unsurpassed. A common labourer can easily manage and work the Machine.

PRICES.

| | | | |
|---|---|---|---|
| No. 1. (*a*) 48-inch Machine (usually drawn by a horse) .. .. | The Horse and Pony Machines are made very strong. | £27 | 0 0 |
| „ 1.—42-inch Machine (usually drawn by a horse) .. .. | | 24 | 0 0 |
| „ 2.—36-inch do. (usually drawn by a horse or pony) .. | | 20 | 10 0 |
| „ 3.—30-inch do. (usually drawn by a pony) .. .. | | 17 | 10 0 |
| „ 4.—25-inch do. (usually drawn by a pony or donkey).. | | 13 | 10 0 |
| „ 5.—25-inch do. (made light for a small pony or donkey | | 9 | 10 0 |

Tool-box, with Sharpening Apparatus, 10*s.* extra.——Boots for Horses' feet, to prevent injury to Soft Lawns, 25*s.* a set.

Machines Nos. 1 (*a*), 1, 2, 3, and 4 have the Patent Delivering Apparatus attached. No. 5 can either be had with or without this improvement; if with it, 30*s.* extra.

A. SHANKS & SON have also introduced into their Patent Hand Mowing and Rolling Machine most of the Improvements they have introduced into the Horse and Pony sizes. No Machine can do better for small Lawns, Flower Gardens, Bowling Greens, Verges, &c. than this one. The Machine is fitted with the loose Rollers and Patent Spiral Springs of the larger sizes, the two small Rollers in front swivel, so that it can be turned in a few square feet of ground. The Cutter is strengthened, one end of which is also made of Cast Steel; the Wheels are protected by a Guard, the two small front Swivel Pulleys are constructed that they may in an instant be placed in the centre when mowing a Verge; the Machine will cut when turning. the same advantages of perfect uniformity of adjustment, of ability to mow on the most uneven Lawns, and of the advantages and convenience of having a Tool-box ever in readiness, all as explained in Improvements, 3, 5, and 7, in the Horse and Pony sizes, apply with equal force to the New Hand Machine. The Machines are strongly made, are fitted with the same care and precision as the larger sizes, so simple in construction that a labourer can work them, and are quite free from all superfluous complicated gear which has only novelty, not improvement, as a recommendation. These Machines are peculiarly well fitted for Cutting and cutting amongst Flower Beds, Verges, Bowling Greens, and for small Lawns. The Patent Improvements effected in these Machines for this season render them complete in every part. The draught is greatly lessened, and the execution of the work is unsurpassed.

PRICES OF MACHINES FOR DRAWING OR PUSHING—SEPARATELY OR TOGETHER.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| No. 6.—22-inch Machine .. .. .. .. | £7 | 17 | 6 | No. 8.—16-inch Machine .. .. .. .. | £6 | 10 | 0 |
| „ 7.—19-inch do. .. .. .. .. | 7 | 5 | 0 | „ 9.—13-inch do. .. .. .. .. | 5 | 15 | 0 |

PRICES OF MACHINES FOR PULLING ONLY.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| No. 10.—22-inch Machine .. .. .. .. | £7 | 0 | 0 | No. 12.—16-inch Machine .. .. .. .. | £6 | 0 | 0 |
| No. 11.—19-inch do. .. .. .. .. | 6 | 10 | 0 | No. 13.—13-inch do. .. .. .. .. | 5 | 10 | 0 |

Extra Cutters, charged at very moderate prices, are sent along with each Machine, if specially ordered.

N.B. The 22-inch Machine is worked by a man and boy; the 19-inch and 16-inch sizes by one man; the 13-inch size by one boy.

Tool-box, with sharpening Apparatus, 5*s.* extra.

The above are Nett Cash prices, and include delivery to any of the principal Railway Stations in England or Scotland. Plain Simple Directions for use are sent along with each Machine.

The Patentees have the greatest confidence in recommending their Patent Mowing, Rolling, Collecting and Delivering Machines for Horse and Pony Power, and their Patent Mowing and Rolling Machine for Hand Power, as the cheapest, the most simple, and the best Machines ever brought before the public. Neither time nor expense have been spared in bringing out a Machine in every way complete. Every Lawn should have at least one of these Machines.

Shanks's Mowing and Rolling Machine is in operation in her Majesty's gardens at Kew, Windsor, Buckingham Palace, and Balmoral, in the gardens of his Majesty Napoleon III., Emperor of the French; in the gardens of his Royal Highness Prince of Prussia; and in many other places throughout the Continent, as well as in the United States and British Colonies, in many of the gardens of the principal nobility, and in hundreds of other gardens in the kingdom, where its merits have been proved, and its success so fully established that to publish testimonials would be quite superfluous.

The Machines are warranted to give ample satisfaction; failing this (which is barely possible), the Machines may be returned Carriage Paid. Nearly 800 Machines were sent out last season.

ALEXANDER SHANKS & SON, Patentees and Sole Manufacturers of Improved Mowing, Rolling, Collecting and Delivering Machines for Lawns, &c.; Agricultural and Horticultural Implement and Machine Makers; Hot-water Apparatus Manufacturers and Iron Founders, &c.—Dens Iron Works, Arbroath, Forfarshire.

N.B. To prevent disappointment in delivery early Orders are particularly requested.

PRIZE MEDAL, PARIS EXHIBITION 1855.

METCALFE, BINGLEY, AND CO.'S New Pattern and Penetrating Tooth Brushes, Penetrating unbleached Hair Brushes, Improved Flesh and Clothes Brushes, and genuine Smyrna Sponges; and every description of Brush, Comb, and Perfumery for the Toilet. The Tooth Brushes search thoroughly between the divisions of the Teeth and clean them most effectually—the hairs never come loose. M., B., and Co. are sole makers of the Oatmeal and Camphor, and ORRIS Root Soaps—sold in Tablets (bearing their names and address) at 6*d.* each, of METCALFE'S celebrated Alkaline Tooth Powder, 2*s.* per box; and of the New Bouquets.—Sole Establishment, 130B and 131, Oxford St., 2d and 3d doors west from Holles St., London.

IMPORTANT INFORMATION.—Mrs. Brown, of Queen Street, Kingsland, was for years severely afflicted with a scorbutic eruption, covering the back of both hands, and spreading up her arms. She was persuaded to try Dr. ROBERTS'S POOR MAN'S FRIEND and PILULÆ ANTI-SCROPHULÆ by a friend who had a large wound in her leg which baffled her doctor's skill, but was effectually cured by these medicines. She only took one box of the Pills, and used one pot of the Ointment, which effected a cure to the surprise of her friends, who wish it to be made public for the benefit of her suffering fellow creatures. Dr. ROBERTS'S POOR MAN'S FRIEND and PILULÆ ANTISCROPHULÆ have been proved, by 60 years' experience, successful in the cure of eruptions and wounds of every description. Price 1*s.* 1½*d.*; 2*s.* 9*d.*; 4*s.* 6*d.*; 11*s.*; and 22*s* each.—Sold wholesale by the Proprietors, BEACH & BARNICOTT, at their Dispensary, Bridport, and by the London Houses; and retail by all respectable Medicine Vendors in the United Kingdom and the Colonies.

KEATING'S COD LIVER OIL FOR THE MILLION. Light Brown, as imported, possessing medicinal qualities equal to any yet introduced, while it is offered at one-third the price, that it may be within the reach of all classes.—Sold at 79, St. Paul's Churchyard. Pints, 1*s.* 8*d.*, Quarts 3*s.*, imperial measure.

TESTIMONIAL FROM DR. URE.

"Having examined a sample of Cod Liver Oil, submitted to me by Mr. KEATING, of St. Paul's Churchyard, I find it of excellent quality, possessing the usual properties of the Oil, and well adapted for medicinal use. (Signed)

"London, Jan. 29, 1855." "ANDREW URE, M.D., F.R.S."

PAINS IN THE BACK, Gravel, Lumbago, Rheumatism, Gout, Indigestion, Flatulency, Nervousness, Debility, &c.—Dr. DE ROOS' COMPOUND RENAL PILLS have been long established as a safe and efficacious remedy for the above complaints, discharges of any kind, retention of urine, and diseases of the kidneys, bladder and urinary organs generally, which, if neglected, frequently end in stone in the bladder and a lingering death. For depression of spirits, incapacity for society, study or business, confusion, giddiness, drowsiness, sleep without refreshment, fear, nervousness, and insanity itself, when arising from or combined with urinary diseases, they are unequalled. By their salutary action in correcting bile and acidity of the stomach, they prevent the formation of stone, and establish the healthy functions of all these organs.—Price 1*s.* 1½*d.*, 2*s.* 9*d.*, 4*s.* 6*d.*, 11*s.*, and 33*s.* per box, through all Medicine Vendors, or sent free on receipt of the amount in postage stamps, by Dr. DE ROOS, 10, Berners Street, Oxford Street.

HOLLOWAY'S OINTMENT AND PILLS.—These remedies are unequalled in their astonishing effects in all painful and serious cases of ulceration, being as penetrating as powerful, exercising a wonderful influence over the diseased system, but one established fact is worth a thousand theories. "Chas. Croft, of Chepstow, was afflicted with an abscess in the side, baffling all medical skill. Despairing of relief, he was persuaded to use HOLLOWAY'S Ointment and Pills. He did so, and in a short time the healing process commenced, and the perfect cure rapidly followed." No abscess would form near the surface of the body if, on the first appearance of pain, swelling, and redness, HOLLOWAY'S Ointment were well rubbed in, and his purifying Pills freely taken.

LAND WANTED on a Lease of not less than 21 years, from 3 to 4 acres of GROUND for Nursery purposes. It must be on one of the principal lines of road, or near to a Railway Station, and not more than 8 miles from town. The North or North Eastern district would be preferred.—Address, stating terms and particulars, Mr. WILLIAM ARCHBOLD, Agent, 129, Great College Street, Camden Town, N.W.

# Sales by Auction.

STANDARD AND OTHER ROSES, DAHLIAS, HERBACEOUS PLANTS, ETC.

MR. HASLAM will Sell as above on TUESDAY, March 8, & THURSDAY, March 17, at the Auction Mart.

CARNATIONS, PICOTEES, PINKS, STANDARD DWARF & CLIMBING ROSES, AMERICAN PLANTS, ETC.

MR. J. WILLMER will Sell as above by Auction, at the Auction Mart, Bartholomew Lane, on THURSDAY, March 10, at 12 o'Clock.—Catalogues at the Mart; and of the Auctioneer, Springfield Nursery, Sunbury, S.W.

FRUIT AND ROSE TREES, HOLLYHOCKS, ETC.

MR. J. C. STEVENS will Sell by Auction at his Great Room, 38, King Street, Covent Garden, on FRIDAY, March 18, at half-past 12 precisely, a large quantity of STANDARD and DWARF ROSES, including H. Perpetuals, Moss, Bourbons, Yellow, and Creeping, &c.; Fruit Trees, including Peach and Nectarine Trees, for Fruit Conservatories and Pots; Standard Lee's Perpetual; Fig Trees, 12 feet, 9 feet, and 6 feet high. 1000 Hollyhocks of good sorts and other Plants.—May be viewed on the morning of Sale and Catalogues had.

TO GENTLEMEN, FLORISTS, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS will Sell by Auction at the Mart, Bartholomew Lane, on FRIDAY, March 11, at 12 o'Clock, a first class Collection of Carnations, Piccotees, and Pinks; about 300 choice Standard and Dwarf Roses, consisting of the most approved kinds; choice Fruit Trees, Double Camellias, Azalea indica, and other Plants in bloom, selected American Plants, Pæonias, Verbenas, Fuchsias, Dahlias in dry roots, &c.—May be viewed the morning of Sale. Catalogues to be had at the Mart, and of the Auctioneers, American Nursery, Leytonstone.

TO GENTLEMEN, GARDENERS, BUILDERS, ARCHITECTS, AND OTHERS.

MR. DEBENHAM is instructed by Mr. Rentmore, who is retiring from the business, to Sell on the premises, 74, Borough Road, on TUESDAY, March 15, at 12 o'Clock, the Stock of ARTIFICIAL STONE, including Statues, Vases, Fountains, Sundials, and Stands; and every description of Garden Ornaments and Architectural Embellishments; also the Moulds connected with the business, Stock-in-Trade, and effects.—May be viewed three days prior to the Sale, and Catalogues had on the premises and of Mr. DEBENHAM, 80, Cheapside, E.C.

# MEADOW AND PASTURE GRASS SEEDS.

## GEORGE GIBBS & Co., Seedsmen, 26, Down Street,

BEG to announce that their mixtures of GRASS SEEDS are now ready for delivery. These mixtures are made up expressly to suit the various soils and the growth of each variety is fully tested previous to being bulked. G. G. & Co. having supplied the Seeds for *Hyde Park, St. James's, and Regent's Park, Kensington Gardens, Kennington Park*, &c., for many years, feel assured no further testimonials are requisite. The Seeds are made up into two different mixtures as they do not sow well together; 2 bushels of the light and 12 lbs. of the heavy sorts are allowed per acre.

Mr. GIBBS, giving his personal attention to the assorting of these mixtures, assures his friends that every care is taken with regard to the proper proportions.

**MIXTURES FOR PERMANENT MEADOW & PASTURE (adapted to the different soils) 32s. to 34s. per acre.**
**MIXTURES FOR IMPROVING & RENOVATING OLD GRASS LAND (8 to 12 lbs. per acre) 1s. per lb.**
**MIXTURES OF THE FINEST SORTS FOR LAWNS, GRASS PLOTS, BOWLING GREENS, &c, 1s. 3d. per lb.**

SELECT STOCKS OF THE UNDERMENTIONED AGRICULTURAL SEEDS SUPPLIED AT THE PRICES STATED FOR THE PRESENT MONTH.

| MANGEL WURZEL. Per lb.—s. d. | | CARROTS. Per lb.—s. d. | | SWEDES. Per lb.—s. d. | | RYE-GRASS. Per bushel—s. d. | | CLOVERS. Per lb.—s. d. | | VARIOUS Per lb.—s. d. | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Long Red | 0 9 | White Belgian | 1 0 | Ashcroft | 0 9 | Gibbs' Improved Italian | 7 0 | English Red | 9d. to 0 10 | Holcus saccharatus | |
| Elvethan Long Red | 0 10 | Yellow Belgian | 1 3 | Skirving's | 0 9 | Dickenson's Italian | 7 0 | White Dutch | 10d. to 1 0 | Lucerne | |
| Yellow Globe | 0 9 | Large Altringham | 1 6 | Matson's | 1 0 | Fine Imported do. | 7 0 | Trefoil | 4d. to 0 5 | Drumhead Cabbage | |
| Red Globe | 0 9 | Long Surrey | 1 6 | Kentish Green Crown | 1 0 | Common English | 6 0 | Alsike Hybrid | 2 0 | Large Cattle Parsnip | |
| Long Yellow | 0 9 | James's Scarlet | 1 6 | Marshall's Purple Top | 1 0 | Pacey's Perennial | 6s. to 7 0 | True Cow-grass | 1 0 | Kohl Rabi | |

*Full Priced Catalogues sent free on application —Cash or reference required from unknown Correspondents.*

## GEORGE GIBBS & Co., 26, Down Street, Piccadilly, London, W.

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EARLY STRAWBERRIES.—MAY QUEEN: "One of the earliest of all its race, as proved last season at the Chiswick Gardens." Ripe at Egglescliffe, Durham, May 28, 1858. 12s. per doz.; 1l. per 25; 1l. 15s. per 50; 3l. per 100. Good strong plants.

TRIOMPHE.—"A most abundant bearer, Hudson's Bay breed." Ripe as above, June 3d. 12s. per 50; 20s. per 100. Good strong plants.

DUC DE MALAKOFF.—"The earliest of the very large varieties, good." 12s. per 50; 20s. per 100; very strong plants. Nearly every other sort known can be supplied at reasonable prices. Many new interesting and excellent varieties can be recommended, all having been well tried. Early orders will oblige.

WILLIAM J. NICHOLSON, Egglescliffe, Yarm, Yorkshire.

---

SEED CORN FROM THE CHALK.

MESSRS. RAYNBIRD AND HARVEY beg to offer to Agriculturists requiring change of SEED Talavera, Red Nursery, and April WHEAT, the best sorts for Spring sowing.

Chevalier, Thanet, Golden Drop, Long-eared Nottingham, American, Hudson's Golden Melon, Banham's Sprat, and other varieties of BARLEY.

Canadian Potato, Hopetoun, Poland, and Tartarian OATS.

Fine CLUSTER BEANS, weighing 68 lbs. per bushel.

Samples and Prices on application.

Address—Basingstoke, and 89, Seed Market, Mark Lane, London, E.C.

---

VERY LARGE ECONOMY IN THE PURCHASE OF SEED.

THE ASSORTED COLLECTIONS OFFERED BY

BASS AND BROWN will be found full 25 per cent more value than other collections offered, and for vigour of growth and selection of sorts are not to be surpassed. The names of sorts contained in the three largest collections in Catalogue, sent free on application.

No. 1 Collection .. £3 0s. 0d. | No. 3 Collection £1 5s. 0d.
No. 2 ,, .. 2 0 0 | No. 4 ,, .. 0 12 6

The assortments of Flower Seeds of their own selection include the novelties of the season and are very select, at reasonable charges.

Goods (20s. and upwards) free to all stations in London. See Catalogue.

BASS & BROWN, Seed Growers, Sudbury, Suffolk.

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## THE ROYAL BERKSHIRE

# SEED ESTABLISHMENT, READING,

**(Under the Patronage of Her Most Gracious Majesty the Queen, his Royal Highness the Prince Consort, and the leading Members of the Royal Agricultural Society of England),**

FOR SUPPLYING

## SUTTON'S HOME GROWN SEEDS TO ALL PARTS OF THE UNITED KINGDOM

CARRIAGE FREE (WITH FEW EXCEPTIONS).

SEEDS grown in Berkshire and the Home Counties having obtained great celebrity, SUTTON AND SONS have annually increased their Stocks of Seeds to meet the increasing demand. The undermentioned articles are of superior quality, being all genuine Home-grown Seeds. Agriculturists residing in the most remote parts of the kingdom can now be supplied with Seeds direct from the Growers, which will be found the most effectual means of preventing disappointment.

**A Priced List may be had post free.**

| | | | |
|---|---|---|---|
| HOLCUS SACCHARATUS | FURZE OR GORSE | SWEDISH TURNIP SEEDS | PERENNIAL WHITE CLOVER |
| ITALIAN RYE-GRASS SEED | CATTLE PARSNIP SEED | YELLOW SCOTCH TURNIPS | COMMON WHITE CLOVER |
| PERENNIAL RYE-GRASS | GARDEN SEEDS & FLOWER SEEDS | HYBRID AND OTHER TURNIPS | PERENNIAL RED CLOVER |
| MANGEL WURZEL | COW CABBAGE | KOHL RABI & LUCERNE | COMMON RED CLOVER |
| CARROT OF SORTS | FLAX OR LINSEED | ALSIKE HYBRID CLOVER | YELLOW TREFOIL |

## SUTTON'S PERMANENT GRASS SEEDS.

GENTLEMEN intending to lay down Land to Permanent Pasture, or for one or two years' lay, are recommended to communicate with us, stating the nature of the soil and situation, that we may advise as to sorts of Grass Seeds most suitable. The Alsike, the Perennial White, and Perennial Red Clover are included in all our mixtures, together with such of the undermentioned as are best adapted to the land to be laid down.

| | | | |
|---|---|---|---|
| Achillea millefolium (Yarrow) | Festuca loliacea (Darnel Fescue) | Lolium perenne (Perennial Rye-grass) | Poa nemoralis (wood Meadow Grass) |
| Agrostis stolonifera (Creeping Bent) | Festuca ovina (Sheep's Fescue) | Lolium perenne sempervirens | Poa pratensis (smooth Meadow Grass) |
| Anthoxanthum odoratum (Sweet Vernal) | Festuca rubra (red Fescue) | Lolium perenne Paceyanum | Poa trivialis (rough Meadow Grass) |
| Alopecurus pratensis (Meadow Foxtail) | Festuca pratensis (Meadow Fescue) | Lolium perenne Stickneyanum | Poa fertilis (fertile Meadow Grass) |
| Avena flavescens (yellow Oat Grass) | Festuca elatior (Tall Fescue) | Lolium perenne tenue | Poa sempervirens (evergreen) |
| Agrostis vulgaris (common Bent Grass) | Festuca heterophylla (various-leaved) | Lolium italicum (Italian Rye-grass) | Trifolium minus (red Suckling) |
| Cynosurus cristatus (Crested Dogstail) | Festuca tenuifolia (fine-leaved Fescue) | Lotus corniculatus (Bird's-foot Trefoil) | Trifolium pratense perenne (Perennial) |
| Dactylis glomerata (round-headed Cocksfoot) | Glyceria aquatica (water-sweet Grass) | Medicago lupulina (black Medick Grass) | Trifolium repens (white Clover) |
| Festuca duriuscula (hard Fescue) | Holcus avenaceus (tall Oat like Grass) | Phleum pratense (Timothy) | Trifolium hybridum (Alsike Clover) |

*The above may be purchased separately at moderate prices as see List. The best of them are included in the undermentioned mixtures.*

**Mixtures for laying down Land to Permanent Meadow or Pasture.**

The sorts contained in these Mixtures are grown in different localities, and gathered separately, by the hand, expressly for this purpose, by which means all noxious weeds are excluded; they consist of the most nutritive kinds of Fescues, Poas, Sweet Vernal, Perennial Clovers, Loliums, &c., and each sort being kept separate, they are subsequently mixed in such sorts and proportions as are most suitable to the soil to be laid down. 28s. to 34s. per acre, according to the sorts which the soil may require.

**Mixtures for Reclaimed Marshes and Heath Lands.**

Many acres of land of this description have been successfully laid down to Permanent Pasture by us, with seeds which we have found invariably to thrive on such soil; and the cost for this purpose will be but 20s. to 24s. per acre.

**Mixtures for laying down Chalky or Gravelly Uplands and Sheep Downs.**

For this purpose Grass Seeds are annually collected from dry and hilly districts, where they are found growing spontaneously; and after many years' experience, we can confidently assure our friends that a good and permanent Sward may be obtained on any upland, from the kinds of Grasses we supply.

**Mixtures for Laying down Water Meadows.**

In this department also we have been very successful, many customers having expressed their great gratification at the effect of these Seeds. Cost of seeds now reduced to 24s. per acre.

**Mixtures to Lay down New Park Lawns.**

For this purpose all coarse growing kinds are carefully excluded, and the sward will at all seasons present a luxuriant verdure so desirable in Parks contiguous to the Mansion.

**Clover and Grasses for Alternate Husbandry.**

Mixtures for one or two years' Lay, at 16s. or 18s. per acre

**Renovating Mixture for Improving Old Pastures (6s. to 9s. per acre).**

Many old Upland Pastures, Parks, and Meadows, are now destitute of Clovers, and the finer and more nutritious Grasses, in which case we are in the practice of furnishing sorts only as are wanting. If these seeds are sown early in Season, the improvement in the pasture will be very considerable and at a small expense. Quantity of seed required, 8 to 10 per acre. Price reduced to 9d. per pound, or 30s. by the bushel.

**Fine Grass Lawns in Flower Gardens, &c.**

The great expense of cutting and carting turves from a distance may be avoided and a superior turf produced in a few months, by sowing Sutton's Lawn Grass Seeds, which consist solely of the finest and shortest growing kinds, perfectly free from moss and other weeds. Price 2s. 6d. per gallon, 30s. per bushel, or 1s. per lb.

N.B. THE ALSIKE CLOVER IS INCLUDED IN MESSRS. SUTTON'S MIXTURES.

*For extra large quantities especial contracts may be made at reduced prices.*—CARRIAGE FREE TO ALL PARTS.

## SUTTON AND SONS, SEED GROWERS, READING, BERKS.

Editorial Communications should be addressed to "The Editor"—Advertisements and Business Letters to "The Publisher"—at the Office, 5, Upper Wellington Street, Covent Garden, London, W.C.
Printed by WILLIAM BRADBURY, of No. 13, Upper Woburn Place, and FREDERICK MULLETT EVANS, of No. 20, Queen's Road West, both in the Parish of St. Pancras, in the Co. of Middlesex, Printers, at their Office, Lombard St., Precinct of Whitefriars, City of London, and published by them at the Office, No. 5, Upper Wellington St., Parish of St. Paul's, Covent Garden, in the said Co.—SATURDAY, March 5, 1859.

# THE GARDENERS' CHRONICLE AND AGRICULTURAL GAZETTE.

**A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.**

No. 11.—1859.] SATURDAY, MARCH 12. {Price Fivepence. STAMPED EDITION, 6d.


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HORTICULTURAL SOCIETY OF LONDON.—DISTRIBUTION OF SEEDS.

The Seeds annually provided for distribution being now ready, Fellows of the Society who have not received them can obtain them upon application at the Society's Office, 8, St. Martin's Place, Trafalgar Square, W.C.

HORTICULTURAL SOCIETY OF LONDON.—Notice is hereby given that the business of the Society will be carried on in future at No. 8, St. Martin's Place, Trafalgar Square, W.C.

TUNBRIDGE WELLS HORTICULTURAL FETE FOR 1859.—Under the patronage of the MARQUIS CAMDEN, THE EARL OF ABERGAVENNY, THE EARL DE LA WARR, THE LORD DE L'ISLE, THE LORD VISCOUNT HARDINGE.

This Fete is fixed to take place on FRIDAY, JUNE 24

A Schedule of Prizes, and other particulars, will be shortly announced.

8, Parade, Tunbridge Wells. E. F. LOOF, Hon. Sec.

EXHIBITION OF HYACINTHS.—A Grand Exhibition of HYACINTHS, &c., will be held during the week commencing March 14, at the Highgate Nurseries, London, N., to an inspection of which WM. CUTBUSH & SON respectfully invite all admirers of these lovely spring flowers. Open each day from 9 o'clock till dusk.

CARNATIONS AND PICCOTEES.

CHARLES TURNER'S plants of the above are unusually fine this season, and are now ready for sending in small pots. The collection is most extensive. See Catalogue, which may be had on application.—Royal Nurseries, Slough.

YELLOW ROSES.—Madame William, orange yellow; Isabella Gray, golden yellow. Strong plants, fit for immediate forcing, 8s. 6d. the pair.

A. PAUL & SON, Nurseries, Cheshunt, Herts.

LADY DOWNE'S GRAPE.

JAS. BACKHOUSE AND SON can still supply good Canes of this distinct and excellent Grape at 10s. 6d. each. As a long-keeping species it is unsurpassed, the bunches hanging in fine condition 6 to 8 months after ripening.

York Nurseries.—March 12.

CALCEOLARIAS.—A few hundreds of the finest strain of SEEDLING CALCEOLARIAS in England, at 4s per dozen, at B. WHITHAM'S, Clough Nursery, Mottram, near Manchester

DIOSCOREA BATATAS.—Fine roots, 9 to 12 inches long, 5s. per dozen; extra size, 10s. per dozen.

BASS & BROWN, Seed Growers, &c., Sudbury, Suffolk.

SEED POTATOES.

| | | | |
|---|---|---|---|
| SODEN'S EARLY OXFORD | | ASH-LEAVED KIDNEY | |
| SHAW | ditto 2d | WALNUT-LEAVED | ditto |
| REGENTS | ditto 3d | FLUKE KIDNEY | |
| | | RED ASH-LEAF | ditto |

and all kinds worth cultivating. The above sorts can be particularly recommended as good croppers, and free from disease.

A good supply of SHILLING'S QUEEN CABBAGE, the best in cultivation

JOSEPH MAY & Co., 1, Wellington Street, Strand, W.C.

THE ALLIANCE POTATO.—Patronised by her Most Gracious Majesty the Queen, the Emperor of the French, and the Nobility of England, Scotland, and Wales. One Peck of these celebrated White Potatoes can be obtained of the grower only, Mr. JAMES COPELAND, Thames Street, Windsor, on receipt of Post-office Order for 7s. 6d.

500 BUSHELS of FLUKE and WHITE BLOSSOM SEED POTATOES, true, free from disease, and suitable sizes, at 4s. the bushel of 80 lbs., samples of which may be had on application to Mr. WM. GROSVENOR, Prospect Nursery, Cheddleton, near Leek, Staffordshire.

A remittance or reference from unknown correspondents.

HUDSON'S GOLDEN MELON BARLEY.—Selected Samples for Seed of this most valuable variety, superior both for produce and malting quality, may be had of RAYNBIRD & HARVEY, of Basingstoke; and 89, Seed Market, Mark Lane, E.C.

HOLCUS SACCHARATUS, or CHINA SUGAR CANE GRASS.—Seed of this lately introduced Fodder Plant can be supplied by NUTTING and SONS in any quantity. Price on application.

Seed Warehouses, 60, Barbican, London, E.C.

HOLCUS SACCHARATUS, or North China Sugar-Cane.—Pamphlet, "A Visit and a Plant;" the only English authority on the Cultivation of the above. Post free 7d. Prices of Seed on application. Samples 6d. Four varieties of Holcus remitted free by post on receipt of 10s.

CHINESE YAMS, 4s. per dozen.

ASPARAGUS plants, 16s. per 1000.

JOHN W. CLARKE, Whittlesea, Cambridgeshire.

PRESENT PRICES OF FARM SEEDS.

SUTTON'S FARM SEED LIST is now ready, and may be had post free.

Royal Berkshire Seed Establishment, Reading.

NEW FARM SEEDS.—Purchasers of large quantities of FARM SEEDS will be treated liberally on application to SUTTON & SONS, Royal Berkshire Seed Establishment, Reading.

NEW PLANT CATALOGUE.

CHARLES TURNER'S DESCRIPTIVE CATALOGUE is now ready, containing selections of the popular Flowers of the day, including novelties now offered for the first time.—The Royal Nurseries, Slough.

FERN CATALOGUE.

ROBERT SIM'S NEW DESCRIPTIVE AND PRICED CATALOGUE, No. 6 (62 pages) of his COLLECTION of BRITISH AND EXOTIC FERNS, can be had, post free, for 8 stamps. Gratis to all previous purchasers of Ferns.

Nursery, Foot's Cray, Kent, S.E.

GEORGE BAKER begs to inform the Nobility and Public that his DESCRIPTIVE CATALOGUE OF AMERICAN PLANTS AND GENERAL NURSERY STOCK will be sent free on application.

American Nursery, Windlesham, near Bagshot, Surrey, about 1 mile from Sunningdale Station, South Western Railway.

KITCHEN GARDEN SEEDS.

JOHN CATTELL begs respectfully to announce that his CATALOGUE of the above may be had free by return of Post. It contains selections of the most approved culinary vegetables in cultivation, nearly the whole of them having been saved under J. C.'s own personal superintendence.—Nursery and Seed Establishment, Westerham, Kent.

NEW DAHLIAS.

JOHN KEYNES'S SELECT CATALOGUE OF DAHLIAS, ROSES, CARNATIONS, PINKS, &c., containing Lists of all the valuable Show Flowers in each class, is now ready and will be sent on application.

Castle Street Nursery, Salisbury.—March 12.

NEW CATALOGUE OF FLORIST FLOWERS, &c.

DOWNIE AND LAIRD beg to intimate that their DESCRIPTIVE CATALOGUE of FLORIST FLOWERS, New VEGETABLE and FLOWER SEEDS for 1859, is now Ready, and will be sent free on application.

17, South Frederick Street, Edinburgh.

STRAWBERRY PLANTS can now be supplied of every kind worth growing, warranted to produce a good crop this year. They are transplanted plants, and will be sent with a ball of earth to each. Price 10s. per 100, or in less quantities 2s. per dozen.—Apply to R. S. YATES, St. Ann's, Manchester.

STRAWBERRY PLANTS, SALE FOR THIS MONTH ONLY.—Very fine strong Plants of the three early sorts advertised last month can still be supplied with 100 other varieties. The price according to sorts and numbers required.—Apply to the Grower, WILLIAM JAMES NICHOLSON, Egglescliffe, near Yarm, Yorkshire.

FRUITING VINES.

JOHN AND CHARLES LEE beg to offer extra strong short-jointed and well-ripened FRUITING VINES of the following kinds:—

| | |
|---|---|
| BLACK HAMBURGH | BLACK PRINCE |
| BLACK FRONTIGNAN | ROYAL MUSCADINE |

Nursery and Seed Establishment, Hammersmith, London.

THE GREAT VINE AT HAMPTON COURT.

THE SUBSCRIBERS being the holders of the Royal Kitchen Gardens, Hampton Court, are enabled to offer genuine the famous and truly excellent HAMPTON COURT BLACK HAMBURGH GRAPE.

Strong well-ripened plants in 9-inch pots, 42s. and 60s. per doz.
" " fruiting plants in 12-inch pots, 10s. 6d. each.

If purchased in large numbers a considerable reduction will be made in price.—JACKSON & SON, Nurseries, Kingston, S.W.

THE IMPROVED CUSTARD MARROW.—See drawing of this handsome and productive variety in the *Gardeners' Chronicle* of Jan. 29 and Feb. 12. 12 seeds for 13 postage stamps; 9 seeds for 7 stamps. The trade supplied.

BASS & BROWN, Seed Growers, Sudbury, Suffolk.

GRAYSON'S GIANT ASPARAGUS.—
Fine 2-year roots, 2s. 6d. per 100; or 21s. per 1000.
" 3-year " 3s. 6d. " 100; or 30s. " "
The usual allowance to the trade.

BASS & BROWN, Nurserymen, Sudbury, Suffolk.

HENRY'S HYBRID SCOTCH LEEK.

CHARLES ALEXANDER, SEEDSMAN, Edinburgh, offers Seeds of the above unrivalled LEEK at 1s. and 2s. 6d. per packet.

He exhibited three in December last which weighed 9 lbs., and blanched to upwards of 12 inches each.

LAING'S MAMMOTH RED CELERY.—The largest and best flavoured Celery known, and will not run to seed until the second year. (See former advertisement.)

Packets, 1s. each; large trade do., 3s. 6d., per post prepaid. Stamps received in payment.

YOUELL & Co., Royal Nursery, Great Yarmouth.

SPERGULA PILIFERA.—An established plant of the above that will blossom during the coming summer, and prove itself a perfect substitute for Grass Lawns without mowing, sent post free on receipt of 2s. 6d. or 30 stamps.—Address JOHN SUMMERS, Gardener, Forest Hill, Sydenham.

DOUBLE ITALIAN TUBEROSE ROOTS, 4s. per dozen.—The annual importation of the above named beautiful and fragrant Flower has just been received, and large and well selected Bulbs may be obtained, without disappointment, at A. COBBETT'S Foreign Warehouse, 18, Pall Mall.

N.B. Printed regulations for treatment sent; also, just arrived, very moist and open Parmesan Cheeses.

NEW ZEALAND RUNNING BEAN.—Packets of 12 Seeds, for 14 stamps.

BASS & BROWN, Seed Growers, &c., Sudbury, Suffolk.

NEW ZEALAND RUNNER BEAN, as noticed by Dr. LINDLEY to be the true sort, 5s. 8d. per 100 (post free) to the Trade. Cash.—PAGE & TOOGOOD, Seed Growers and Merchants, Southampton.

TRITONEA AUREA.—Fine strong Roots of this free and most beautiful orange flowering bulb, 1s. 6d. each, or 15s. per dozen.

BASS & BROWN, Sudbury, Suffolk.

CHEAP, SELECT, AND USEFUL NURSERY STOCK.

WM. JACKSON AND CO., of Bedale, Yorkshire, beg to call attention to their advertisement in the *Gardeners' Chronicle* of March 5, page 187.

HANDSOME LARGE SPECIMEN GREENHOUSE PLANTS.—See Advertisement in *Gardeners' Chronicle*, March 5, page 186.

CONIFERÆ.

A. PAUL AND SON have a large stock of the above, very handsome, in fine order for removal, many suited for immediate effect. For particulars see Advertisements in *Gardeners' Chronicle* of November and December last.—Nurseries, Cheshunt, Herts.

HALF A MILLION ONE-YEAR SEEDLING OAKS (STRONG AND STOUT).

JAMES MELDRUM, NURSERYMAN, Kendal, Westmoreland, offers the above in quantities to suit purchasers. Price reasonable, on application.

SPECIMEN IRISH YEWS.—Handsome specimens of this very Ornamental Tree of all sizes up to 9 feet in great numbers. Price according to number wanted on application.—THOMAS JACKSON & SON, Nurseries, Kingston, S.W.

TO THE TRADE.—Strong Transplanted Ash, Acacia, Mountain Ash, Alder, Birch, Wych and other Elms, Hornbeam, Hazels, Limes, Maples, Poplars of sorts, Sycamore, Huntingdon Willows—3, 4, 5, and 6 feet. On grounds that must be cleared, and will be sold cheap. Prices on application.

JAMES DICKSON & SONS, the Newton Nurseries, near Chester.

STRONG LARCH, OAK, AND THORNS.

JAMES HUDDART, NURSERYMAN and SEEDSMAN, Preston, has on hand a quantity of the above, very strong, at reasonable prices. Also a quantity of two-year Seedling OAK and ASH. Prices on application.—March 12.

TO NURSERYMEN AND CONTRACTORS FOR NEW GROUND WORK.

BOX EDGING FOR SALE in large or small quantities.—800 yards of very good BOX EDGING at 6d. per yard, each yard will plant 5 yards of new edging; delivered at Rugby or Ullesthorpe Stations.—Apply, post paid, to MR. WEST, Newnham Paddox, Lutterworth, Leicestershire.

100 Strong, healthy, SUCCESSION PINE APPLE PLANTS to be sold; about a third of the quantity showing fruit.—Apply to M. P., Mr. Laking, 26, Half Moon Street, Piccadilly.

TO THE SEED TRADE.

THOMAS AYRES, JUN., SEEDSMAN and GROWER, Biggleswade, Beds., can supply every kind of Wurzel, Swede, and common Turnip Seeds, on the most reasonable terms for cash.

N.B. Dealer in Culinary and Flower Seeds, Fruit Trees, Shrubs, and Flowering Plants.

DICKINSON'S ITALIAN RYE-GRASS SEED will be Sold only by himself. The price the present season is 43s. per quarter, 7s. per bushel for present payment.

New Park, Lymington, Hants.

ITALIAN RYE-GRASS SEED.—Buyers of this Seed will please write for samples, present price 24s. per cwt., to J. DIXON, Seedsman, Kendal.

GRASS CROPS.—All descriptions of Grass Land should be dressed with Manure not later than the end of March. CUERO GUANO for this crop, and also for spring corn, is now ready for delivery, price 7l. 10s. per ton for Grass, and 8l. 8s. for Corn.—Manufacturers and Patentees, JOHN CHISHOLME, SON, & Co., 33, Mark Lane, E.C.

PAMPAS GRASS (GYNERIUM ARGENTEUM).—The beauty of this extraordinary plant has this season been fully appreciated. It can be supplied by the dozen, hundred, or thousand, by CHARLES NOBLE, Bagshot, Surrey.

JOHN CULVERWELL, Taunton, begs to call the attention of Agriculturists to his superior selection of GRASS SEEDS, which for PURITY, change of SOIL, and CLIMATE, will bear comparison with any house in the kingdom. Prices, terms, and samples forwarded on application.

GIANT SAINFOIN SEED.—Seed of this excellent and productive Plant may be had of RAYNBIRD & HARVEY, Basingstoke, and 89, Seed Market, Mark Lane. Samples and prices on application.

N.B. R. & H. can also supply Common Sainfoin both of English and French growth at market prices.

THE ALSIKE CLOVER.—This valuable but scarce Clover Seed is included in Messrs. SUTTON'S mixtures of Clover and Grass Seeds for permanent pasture and for alternate husbandry. It can be supplied alone if required. Price fluctuating, to be had on application.

Royal Berks Seed Establishment, Reading.

TO THE TRADE

TO BE SOLD, 200 bushels of GREEN-TOP YELLOW SWEDE SEED, 100 bushels of LANGHOLM SWEDE Ditto, 60 bushels of DALE'S HYBRID, grown from first-rate stock, warranted to grow well, and free from foreign admixture. Terms on application.—Address A. Z., care of Messrs. Castle & Lambe, 7, Bull Head Court, Newgate Street, London.

## ROYAL BOTANIC SOCIETY OF LONDON,
REGENT'S PARK.

SPRING EXHIBITIONS.—In the large Nursery Establishments in the neighbourhood of London and elsewhere, many new and valuable plants are cultivated which come into bloom during the months of March and April, too early in the season for Exhibition at the ordinary Metropolitan Flower Shows. In order to supply an opportunity for displaying to advantage Spring Flowers of this description, the Council of the Royal Botanic Society have resolved to invite Nurserymen and other cultivators to contribute for competition small collections of such plants, to be arranged for that purpose in the Conservatory.

REGULATIONS.—Persons intending to compete on these occasions are required to inform Mr. MARNOCK, by letter, addressed to him at the Garden, not later than the Saturday preceding each of the days of Exhibition, and to state the probable amount of space, in square feet, that their plants will require.

All plants, whether for competition or not, must be staged before 10 o'clock, A.M., on the day of Exhibition, at which hour the Exhibitors will be required to leave the Conservatory (while the Judges are engaged in making the Awards). At 1 o'clock the Awards will be declared, when the Fellows and their friends will be admitted.

Plants contributed for competition are not to be removed before 6 o'clock on the same evening, but they may be left for several days, at the option of the owner.

Should any of the collections comprise individual objects of special merit, the Judges will have the power to select and mark their approval of such plants by extra Medals.

All plants contributed must be accompanied by their names, if known, and the country from whence they have been received.

### SCHEDULE OF PRIZES.

| | Silver Medal. | Small Silver Medal. | Bronze Medal | Certificate. |
|---|---|---|---|---|
| **WEDNESDAY, March 23, 1859.** | | | | |
| New plants, either species or varieties, and whether in bloom or not | | S. S. | B. | C. |
| 12 Miscellaneous plants, 6 at least of the 12 plants must be in bloom | S. | S. S. | B. | C. |
| 6 Azaleas, in pots not larger than 11 ins. across | | S. S. | B. | C. |
| 12 Narcissus Polyanthus | | S. S. | B. | C. |
| 12 Hyacinths | | S. S. | B. | C. |
| **WEDNESDAY, April 6, 1859.** | | | | |
| New plants, either species or varieties, and whether in bloom or not | | S. S. | B. | C. |
| 12 Miscellaneous plants, 6 at least of the 12 plants must be in bloom | S. | S. S. | B. | C. |
| 6 Cinerarias | | S. S. | B. | C. |
| 6 Roses, in pots not larger than 8 inches across | | S. S. | B. | C. |
| 12 Primula chinensis | | S. S. | B. | C. |
| **WEDNESDAY, April 20, 1859.** | | | | |
| New plants, either species or varieties, and whether in bloom or not | | S. S. | B. | C. |
| 12 Miscellaneous plants, 6 at least of the 12 plants must be in bloom | S. | S. S. | B. | C. |
| 6 Azaleas, in pots not larger than 11 ins. across | | S. S. | B. | C. |
| 12 Auriculas | | S. S. | B. | C. |
| 6 Pelargoniums, in bloom, any kind | | S. S. | B. | C. |

By Order of the Council,
J. DE C. SOWERBY, Secretary.

## NATIONAL FLORICULTURAL SOCIETY.—
21, REGENT STREET, LONDON.

At a special General Meeting of Members held on Thursday, March 3, 1859, RICHARD STAINS, Esq., Treasurer, in the Chair. On the motion of Mr. Arthur Henderson, seconded by Mr. John Salter, it was unanimously agreed:—

"That the Royal Botanic Society of London having announced their intention to hold extra meetings for the purpose of awarding Prizes to Seedling Plants, both species and varieties—the sole object for which the National Floricultural Society was established: this meeting is of opinion that as there no longer exists a necessity for its continuance, it be now dissolved, and that the Treasurer be empowered to collect the arrears of subscription and discharge the liabilities of the Society." RICHARD DEAN, Secretary.

## BATH AND WEST OF ENGLAND SOCIETY
FOR THE ENCOURAGEMENT OF AGRICULTURE, ARTS, MANUFACTURES, AND COMMERCE.—An Exhibition of FLOWERS, FLOWERING, and ORNAMENTAL PLANTS, FRUIT, and VEGETABLES, will take place on June 1, 2, and 3, in connexion with the General Exhibition of the above Society, on the occasion of their North Devon Meeting at Barnstaple, when the following Prizes will be offered:—

| | | 1st. | 2d |
|---|---|---|---|
| I.—1. | For the best collection of not less than 20 Stove or Greenhouse Plants (Nurserymen) | £3 | |
| 2. | Do. do. (Amateurs) | 2 | £1 |
| II.—1. | For the best collection of not less than 12 Rhododendrons and Chinese Azaleas (Nurserymen) | 3 | — |
| 2. | For the best collection of not less than 8 do. (Amateurs) | 2 | 1 |
| III.—1. | For the best collection of not less than 8 Roses in pots (Nurserymen) | 3 | — |
| V.—1. | For the best collection of not less than 20 Variegated Plants, or plants remarkable for their fine foliage (Nurserymen) | 3 | — |
| V.—1. | For the best collection of not less than 20 Ferns of any kind (Amateurs) | 2 | 1 |
| VI.—1. | For the best ornamental basket of Flowers, or of Flowers and Foliage (Amateurs) | 2 | 1 |
| VII.—1. | For the best group of specimens of Coniferæ, preference being given to newly introduced kinds (Nurserymen) | 5 | — |
| VIII.—1. | For the best specimen of any newly introduced or extremely rare genus of Ornamental Plant, or object of special merit in the exhibition (Nurserymen) | 1 | — |

In addition to the above, prizes to the amount of 10*l.* will be offered for Fruit and Vegetables. A portion of the Society's ground will be set apart for the present exhibition, and space will be allotted either in a marquee or the promenade, at the discretion of the managing committee, to Nurserymen who may wish to arrange and exhibit their collections in distinct sections, irrespective of competition for prizes. Space will also be allotted for the display of Garden Decorations and works of Ornamental Art associated with Horticulture.

Plants intended for the Exhibition will (on being consigned to the Horticultural Committee) have free transit over the line of railway from Exeter to Barnstaple.

Application for space to be made to the undersigned before May 1 next.

All articles for exhibition must be staged by the evening of Tuesday, May 31, and are not to be removed earlier than the morning of Saturday, June 4.

(Signed) GEORGE BROWN,
Barnstaple. Hon. Sec. Local Committee.


HENRY MAY begs to offer the following, in fine stout plants, as under:—

| | s. | d. |
|---|---|---|
| Calceolaria aurea floribunda, 2*s.* 6*d.* per doz.; per 100 .. | 16 | 0 |
| ,, Phillipsii, deep crimson, 2*s.* 6*d.* per doz.; per 100 | 16 | 0 |
| ,, Stewartii, bright yellow, 2*s.* 6*d.* per doz.; per 100 | 16 | 0 |
| ,, Prince of Orange, 2*s.* 6*d.* per doz.; per 100 .. | 16 | 0 |
| ,, Yellow do., fine yellow, 2*s.* 6*d.* per doz.; per 100 | 16 | 0 |
| 12 fine sorts of Fuchsias of 1858, per doz.. .. .. | 6 | 0 |
| 12 ,, ,, 1857, ,, .. .. .. | 4 | 0 |
| 12 ,, Verbenas, of 1858 ,, .. .. .. | 6 | 0 |
| 12 ,, ,, 1857 ,, .. .. .. | 4 | 0 |
| 12 fine named Phloxes, 6*s.*; 50 fine named Phloxes .. | 20 | 0 |
| 12 fine Scarlet Geraniums, 2*s.* 6*d.*; 50 do. do. .. .. | 8 | 0 |
| 12 double Purple Senecio, 2*s.* 6*d.*; 50 do. .. .. .. | 8 | 0 |
| 12 Salvia patens, 6*s.*; 12 Salvia fulgens .. .. .. | 3 | 0 |
| 12 fine sorts Antirrhinums, 3*s.*; 50 do. .. .. .. | 10 | 0 |
| 12 fine named Hollyhocks .. .. .. .. .. | 6 | 0 |

Hollyhock Seed from finest named sorts, 1*s.* per packet.
Antirrhinum do. do. do. 1*s.* per packet.
Address HENRY MAY, the Hope Nurseries, near Bedale, Yorksh.

GRIEVE'S NEW DOUBLE P... The universal satisfaction given by the P... out last spring, raised by Mr. Grie..., ... Hall, near Bury St. Edmund's, induces the ... to the public those raised by that ... summer, which are considered superior ... in the size of the flowers, but in br... sistence of petal, and regularity in form—a ... The following are the names adopted, which ... taken as an approximate description of their ...
CRUENTUM, CANDIDUM, PURPURASCENS. } Large flowers, ... for pot culture
ATROCOCCINEUM, ROSEUM STRIATUM, ATROROSEUM. } Medium-size flow... probably useful ...
Plants of the above, 5*s.* each; or 21*s.* the ... sent out the first week in April by OSBORN ... Nursery, London, S. W.
N.B. The usual allowance to the trade.

# SELECT LIST OF NOVELTIES FROM CATALOGUE ...

Carter's Tom Thumb Nasturtion
Lagenaria vittata
Œnothera Drummondi nana
Lupinus Hartwegi cœlestinus
Œnothera bistorta Veitchi
Cosmidium Burridgi

Lupinus nanus albus
Viscaria Dunetti
Laxton's Hybrid Pinks
Dwarf spotted Nasturtion
Nolana paradoxa violacea

Fenzlia dianthiflora
Gaillardia hybrida gra...
Lobelia formosa
Viscaria cœli rosa alba
Marigold French Orang...

J. C. & Co. also wish to call attention to their Splendid Collections of Imported
GERMAN & FRENCH ASTERS, GERMAN STOCKS, BALSAMS, & WALLFLOW...
UNIVERSALLY ACKNOWLEDGED TO BE UNSURPASSED.
For a Full Description of the above articles they beg to refer to their CATALOGUE, which will be forwarded ... and post free on application to
JAMES CARTER & Co., Seedsmen, 238, High Holborn, W.C.

# SEEDS RIPENED ON THE CONTINENT.

# JAMES CARTER & Co.

HAVING observed their name mentioned in an advertisement in connection with a late corresponde... it their duty to state that, preferring to have their Seeds from the Continental growers *direct*, one of ... travelled during the past autumn with that object, *and purposes doing so every season*; the services of the correspon... to are therefore dispensed with. Their Seeds for the present season, having been *personally* selected, are better ... have hitherto offered.

JAMES CARTER & CO., Seedsmen, 238, High Holborn, London, W.C.

# GENUINE KITCHEN GARDEN SEEDS

# JAMES CARTER & CO.

ARE NOW READY TO SUPPLY SEEDS FOR THE VEGETABLE AND FLOWER GARDE... WHICH WILL BE FOUND, AS USUAL, OF THE BEST QUALITY ONLY.

# CARTER'S "ENCYCLOPÆDIC CATALOGUE OF SEE...
## AND GARDENER'S VADE MECUM."

The Twenty-fourth Annual Issue of the above is now ready, and, in addition to its usual comprehensiveness, ... a CALENDAR OF OPERATIONS for each month in the year for the Vegetable and Flower GARDEN, also for ... Conservatory, Greenhouse, Orchid House, Pineries, Vineries, Pits, Frames, &c., forming a complete Gardener's Boo... ence, which it is hoped will be found useful alike to the Amateur and professional Gardener. Forwarded free of ... post paid to all parts of the world upon application.

JAMES CARTER & CO., Seedsmen, 238, High Holborn, London, W.C.

## ESTABLISHED FULL HALF A CENTURY.

# SEEDS! SEEDS!!
# LARGE ECONOMY IN THE PURCHASE OF SEED...

HAVING upwards of 30 years adopted the practice of testing the character of Vegetables with a ... examination of the new sorts which have from time to time been introduced, it has enable... offer such as we have proved of real merit by repeated trials.

### BASS & BROWN'S ASSORTED COLLECTIONS OF VEGETABLE SEEDS.

These assorted Collections will be found of full 25 per cent. more value than other collections offered, and for quality of growth and selection of sorts are not to be surpassed. For names of sorts contained in the three largest collections see Catalogue (free on application).

No. 1 Collection contains 20 quarts of Peas, 10 sorts ... Broccoli for succession, with all other Vegetables ... proportion, of choicest kinds for a large garden ...
No. 2 Collection .. .. .. .. ..
No. 3 Collection .. .. .. ..
No. 4 Collection .. .. ..

### FLOWER SEEDS.

The following assortments of Flower Seeds also include a large number of valuable novelties and ... select, with reasonable charges:—

HARDY ANNUALS.—100 varieties, 15*s.*; 50 vars., 8*s.* 6*d.*; 30 vars., 5*s.* 6*d.*; 20 vars., 4*s.*
HALF-HARDY ANNUALS.—50 varieties, 12*s.* 6*d.*; 30 vars., 8*s.*; 20 vars., 6*s.*
HARDY AND HALF-HARDY ANNUALS.—100 varieties, 20*s.*; 50 vars., 10*s.* 6*d.*; 30 vars., 7*s.*; 20 vars., 5*s.*
DWARF HARDY ANNUALS FOR FILLING BEDS.—20 varieties, large packets, 7*s.* 6*d.*; 12 vars., 5*s.*
GREENHOUSE ANNUALS.—20 vars., 7*s.* 6*d.*; 12 vars., 5*s.*
*** Greenhouse Perennials, Hardy Biennials and Perennials, &c., in assortments; also Flower Seeds in ... ments. See Catalogue.
IMPORTED GERMAN SEEDS.—The varieties ... Stock, Aster, Larkspur, Wallflower, &c., are ... fine and double See Catalogue.
SEEDS OF CHOICE FLORISTS' FLOWERS.—Th... prising Calceolaria, Cineraria, Geranium, Pansy, ... hock, Chinese Primula, and many others, have been ... from very choice and first-rate collections, ... entirely of our own growth.

### FLOWER ROOTS FOR SPRING PLANTING.

For these, comprising Gladioli, Ranunculi, Anemones, Liliums, Tigridias, Tritonias, and numerous others, see ... of Seed Catalogue.

### CAPE AND OTHER BULBS IN POTS.

These comprise fine varieties of Ixias, Sparaxis, Gladioli, Tropæolums, the superb new Eucharis Amazonica, ... now in flower, Watsonias, Cyclamens, and many others. See Seed Catalogue, page 56.

*Goods (20s. and upwards) Carriage Free to all the Railway Stations in London, &c. See Catalogue. Post-office Orders payable to* BASS & BROWN, *or to* STEPHEN BROWN. *Remittances required from ... Correspondents.*

BASS & BROWN, SEED GROWERS, SUDBURY, SUFFOLK.

# SELECT
# CULTIVATED GRASSES FOR PERMANENT PASTURE, &c.

## THE PLYMOUTH SEED, AGRICULTURAL IMPLEMENT, AND MANURE COMPANY (LIMITED),

BEG TO ANNOUNCE THAT THEIR MIXTURES OF GRASS SEEDS ARE NOW READY FOR DELIVERY.

THE MIXED GRASSES FOR **PERMANENT PASTURE** are selected according to the best tables, and the various sorts are all carefully saved and free from noxious weeds. The selections will contain several species of Festucas, Loliums, Poas, and Trifoliums in such quantities as will best suit the soil for which the selection is intended. Two bushels of light seed and 12 lbs. of heavy seed per acre, the quantity usually sent, will be found sufficient for most soils.

For **LAWNS or ORNAMENTAL PARKS** it is desirable to have a predominance of EVERGREEN GRASSES. All the coarser kinds are therefore entirely excluded from this Mixture, so that the sward shall present a luxuriant and handsome appearance.

**MIXTURES for PERMANENT MEADOW and PASTURE ... ... ... 30s. to 34s. per acre.**
**MIXTURES for RENOVATING ... ... ... ... ... ... ... ... ... ... ... 10d. per lb.**
**MIXTURES for LAWNS and ORNAMENTAL PARKS ... ... ... ... 1s. 3d. per lb.**

☞ *For large quantities special contracts may be made at reduced prices.*

The following **AGRICULTURAL SEEDS,** saved from selected stocks, can be supplied at the prices quoted during the current month:—

| SWEDES. Per lb.—s. d. | | MANGELS. Per lb.—s. d. | | CARROT. Per lb.—s. d. | | RYE-GRASS. Per bushel.—s. d. | | CLOVERS. Per lb | | MISCELLANEOUS. Per lb.—s. d | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Skirving's Improved | 1 0 | Fisher Hobbs (saved by W. Fisher Hobbs, Esq.) | 2 0 | White Belgian | 1 0 | Improved Italian Rye | 8 0 | English Red | 9d. and 10d. | Large Scotch Drumhead Cabbage | 3 0 |
| Marshall's | 1 0 | Morton's Yellow Globe | 1 6 | Yellow Belgian | 1 6 | Fine imported ditto | 7 0 | Somersetshire Cow Grass, 10d. and 1s. | | Swedenburg Cabbage | 3 0 |
| Skirving's | 0 9 | Elvetham Long Red | 1 0 | Long Surrey | 1 6 | Common English | 6 6 | White Dutch | 1s. 0d. | Dwarf Flatpole | 3 0 |
| Green's Pine Apple | 1 0 | Long Red | 0 9 | Large Altringham | 1 6 | Evergreen Rye, or Devon Eaver | 7 0 | Trefoil | 0 5 | Kohl Rabi, green & purple | 5 0 |
| Matthews | 1 0 | Yellow Globe | 0 9 | Long Orange | 1 6 | Pacey's | 6 6 | Lucerne | 1 0 | Holcus saccharatus | 2 0 |

## FREIGHT AND CARRIAGE.

**All Orders for Seeds above 1*l.* will be delivered free of charge to any Railway Station between Plymouth and Paddington. All Orders above 2*l.* free to any Station on the Broad Gauge Railways, or to Cork, Dublin, and Liverpool by Steamers; and to Guernsey and Jersey by Traders. All Orders above 5*l.* will be delivered free of carriage to any Railway Station in England and Wales; and to any Steam Port in England, Wales, Scotland, Ireland, Guernsey, or Jersey.**

**PRICE CURRENTS and DESCRIPTIVE CATALOGUES sent post free on application.**

## ADDRESS—PLYMOUTH SEED COMPANY, PLYMOUTH.

### CALLICARPA PURPUREA.

JOHN STANDISH, the exhibitor of the above (at St. James's Hall), can supply a few good plants at 7*s.* 6*d.* each. The following passage from Dr. Lindley's leading article in the *Gardeners' Chronicle* for Nov. 20 will give an idea of its beauty:—"Callicarpa purpurea, quite insignificant when in flower, was beautiful in its winter dress of innumerable rich purple berries, about the size of swan shot." It is easily cultivated, and does well in a cold greenhouse or conservatory planted out, where it will produce thousands of bright purple berries resembling glass beads, and remaining on nearly the whole winter.—Bagshot, March 5.

### CHRYSANTHEMUMS—CHRYSANTHEMUMS.

J. H. BIRD, F.H.S., NURSERYMAN, Stoke Newington, the largest grower and most successful exhibitor of the Chrysanthemum in the British Empire, begs to call the attention of the lovers of the above beautiful autumn flower to his matchless collection, the stock of which amounts to upwards of 10,000 plants. Amongst them will be found the following new and rare varieties:—Admirable, Aimée Ferrière, Augustine, Constantine, Louisa, Louis Bonamy, Madame Leo, Norfolk Hero, Progne, Raymond, Beauté de Nord, Dr. Maclean, Queen of England, Pantus, Alfred Salter, Stellaris globosa, Beauty, Themis, Dupont de l'Eure, &c.

J. H. B. can supply strong plants, one dozen for 6*s.*; or five dozen in 30 varieties, containing two of each variety, for 1*l.*; or he can supply 100 plants in 50 varieties, two of each variety, for 1*l.* 10*s.* Also POMPONES in great variety; 50 Pompones in 25 varieties, two of each variety, for 10*s.*; or 100 in 50 varieties, two of each variety for 1*l.* Strong plants of the beautiful new Pompone the Golden Cedo Nulli, 5*s.* each, will be ready in March with the usual allowance to the Trade. Every order will be accompanied by a popular work on the Chrysanthemum.

Post-office Orders payable to J. H. BIRD, Stoke Newington, will be immediately attended to.

### PLOCOSTEMMA LASIANTHUM (BLUME).

Amidst the prevalent scarcity of novelties of sterling merit, it is with pleasure the Subscribers invite attention to the above named plant. It belongs to a new genus closely allied to Hoya; and the present species was received in 1857 from Mr Hugh Low, Jun., by whom it was discovered on the north-western side of the Island of Borneo. The plant, which is not a climber, presents a noble appearance, having exceedingly handsome foliage; and it possesses a very great recommendation in being a most profuse bloomer, the clusters of flowers being produced in great numbers. The flowers are of waxy consistence, like Hoya—colour, orange; the petals when fully expanded they become quite perpendicular, and rest on the flower-stalk; the lower part of the petals is entirely covered with a snow-white velvety pubescence, giving them an unusually beautiful appearance. The flowers are fragrant, and were expanded in one cluster on a newly imported plant, which was submitted to the inspection of Sir W. J. Hooker, of Kew, by whom it is figured and described in the November number of the "Botanical Magazine." It is also figured in the "Florist," Plants in May, price 63*s.* each. Usual discount to the Trade.

HUGH LOW & Co., Clapton Nursery, London, N.E.

### CRIMSON PERFECTION RHUBARB.

ROBERT SALT begs leave to inform the gentry, Nurserymen, Gardeners, &c., that he has now ready for sale a quantity of this valuable variety of RHUBARB, and considers that the great notoriety it has attained from those who have honoured him with their orders is a sufficient guarantee as to its qualities. See *Gardeners' Chronicle*, June 1., 1853:—"Very good, and a most beautiful crimson: compared with others, it is remarkable for the small amount of acidity it contains."—*Ed.* Price 17*s.*; old roots, 9*s* per dozen; 2 year-old do., 15*s.* per dozen; 3 year-old, 24*s.* per doz.

Orders addressed to ROBERT SALT, Longton, Staffordshire; Messrs. HURST & M'MULLEN, 6, Leadenhall Street, London; Messrs. BURGESS & KENT, Penkhull, Staffordshire; Messrs. FRANCIS & ARTHUR DICKSON, Eastgate Street, Chester; Messrs. JAMES DICKSON & Co., Chester; Mr. CHARLES TURNER, Royal Nursery, Slough, will have immediate attention. A remittance from unknown correspondents. The usual discount to the Trade.—Longton, March 12.

### AMERICAN PLANTS, ETC.

MESSRS. J. AND H. BROWN will forward any of the following to any part of the kingdom:—

| | s. | d. |
|---|---|---|
| Andromeda floribunda, strong plants, per doz. | 18 | 0 |
| 25 Azaleas, new hardy Belgian varieties, one of a sort by name, on their own roots, well set | 20 | 0 |
| 25 Azaleas, American varieties, ditto ditto | 15 | 0 |
| Hardy Heaths, Ledums, and Kalmias, per doz. | 6 | 0 |
| 25 Hardy American Plants, one of a sort by name | 10 | 6 |
| 12 Rhododendrons, including scarlet, white, and rose | 12 | 0 |
| Fine hardy scarlet Rhododendrons, 1 to 2 feet, per doz. | 12 | 0 |
| Fine hardy white Rhododendrons, per doz. | 10 | 0 |
| 6 fine hardy Magnolias, one of a sort | 10 | 0 |
| 50 dwarf Roses on their own roots, in variety | 15 | 0 |
| Standard and half-stnd. Roses, superb sorts, per doz. | 12*s.* to 15*s.* | |
| Climbing Roses, fine sorts, strong plants, per doz. | 6 | 0 |
| Greenhouse Azaleas, including best new sorts, per doz. | 9*s.* to 12*s.* | |
| 12 Camellias, well set, first-rate sorts | 30 | 0 |
| 50 choice Greenhouse Plants, one of a sort | 40 | 0 |
| Orchidæa, beautiful species good plants, per doz. | 40 | 0 |
| 24 choice Ericas, one of a sort, in small pots | 16 | 0 |

Choice Fruit Trees of all kinds, see List.

Albion Nursery, Stoke Newington, London.—March 12.

### FOR THE FLOWER AND KITCHEN GARDENS.

GUERO GUANO.—The great demand for this article for Flower and Kitchen Gardens has induced the Manufacturers to put it up in small packages to meet the convenience of those having small gardens. It has no disagreeable smell. Price 1*s.* and 2*s.* 6*d.* per tin; to be had of all Seedsmen, and of the Patentees, Messrs. J. CHISHOLME, SON, & Co., 33, Mark Lane, E.C.

WILLIAM DENYER, SEEDSMAN and FLORIST, 82, Gracechurch Street, London, E.C., near the Spread Eagle, offers **GERMAN SEEDS in collections, from the best Continental Growers. These have always given great satisfaction, and can with confidence be recommended as being of superior quality**

| | s. | d. |
|---|---|---|
| Truffaut's New French Double Asters, or Reine Marguerite, an assortment of 12 of the finest varieties | 3 | 0 |
| Asters, new Pyramidal Bouquet, double German, quilled, 12 new varieties | 3 | 0 |
| Asters, New Double Crown, 6 varieties.—These produce large conical flowers, with white centre, beautifully reflexed, brilliant colours, very pretty for bouquets; as cut flowers they keep a long time in bloom | 2 | 6 |
| Asters New Chrysanthemum-flowered, double dwarf Pæony, or Perfection, 6 new and distinct varieties | 2 | 6 |
| Asters, Ranunculus or Pompone, 6 distinct colours.—These are very double, fine in form, dwarf of growth, the petals are imbricated and lie on a circle of green leaves, which produce a pretty effect | 2 | 0 |
| Asters, New Giant, or Emperor, fine pyramidal form, colour light blue per paper | 1 | 0 |
| Convolvulus major, 6 splendid bright colours | 1 | 6 |
| Helichrysum, or Everlasting flowers, 8 distinct colours | 2 | 6 |
| Larkspur, very double, Hyacinth-flowering, 6 sorts | 1 | 6 |
| Phlox Drummondi, brilliant colours, 6 varieties | 2 | 0 |
| Portulaccas, 6 bright colours | 2 | 0 |
| New large-flowering Dwarf Ten Week Stock. — The flowers of this variety are very large and double, brilliant colours, 8 varieties, 2*s.*; 12 ditto | 3 | 0 |
| Stocks: Cheiranthus annuus nanus, a new dwarf or miniature Ten Week Stock, growing only 4 inches high, 6 brilliant colours, very double | 2 | 0 |
| Ditto Emperor, or Perpetual, 12 varieties, splendid.—These are quite new, and different to any other Stock, being very double and of large growth, lasting and flowering for several years, 4*s.*; 6 ditto | 2 | 0 |
| Ditto Cocardeau or Three Winter Stock, large flowering, 6 splendid colours | 2 | 0 |
| Tagetes, new double dwarf French Marigold, 10 new and beautiful varieties | 3 | 0 |
| Wallflowers, splendid double Gigantic, 12 varieties | 4 | 0 |
| " 6 Gigantic double varieties, bright and singular colours | 2 | 0 |
| Zinnia elegans, 6 best and brightest colours, 1*s.* 6*d.*; 12 ditto | 3 | 0 |

### SHRUBBY CALCEOLARIAS.

JOHN COLE begs respectfully to inform the lovers of these useful flowers that he intends sending out his Matchless Seedlings of 1858 himself. They are considered by many persons to be superior to any he has hitherto raised. Amongst them are some fine Bedding varieties.

CATALOGUES will be shortly ready, and sent (post free) to all applicants.—Keyfield Nursery, St. Albans, Herts.

### PETUNIAS, SPLENDID NEW DOUBLE SORTS OF 1859.

J. SCOTT, MERRIOTT NURSERIES, Crewkerne, Somerset, begs to offer 30 sorts, many of them 5 inches across, some like large flowers of Gardenia Fortuni; one very like Baronne Prevost Rose, many flaked and striped like large Carnations, and altogether the most beautiful and unique collection ever offered in this or any other country. Strong plants 2*s.* 6*d.* each; or the 30 sorts 63*s.* One set added for every three ordered by the trade.

J. S.'s DESCRIPTIVE CATALOGUE of the above and other cheap BEDDING PLANTS will be ready about the middle of March, and will be sent to all applications, inclosing two stamps; and to former purchasers gratis.

N.B. PETUNIA MAGNA COCCINEA, a splendid single (5 inches diameter) is offered at 3*s.* 6*d.* per dozen for bedding, and J. SCOTT's new single striped ALCEMENE, 5 inches across, at 30*s.* per dozen, or 3*s.* 6*d.* each.

"JEYES'S CONQUEROR PEA;" 3*s.* 6*d.* per Quart.—This remarkable Pea was sent out to a few private growers a few years since, and it has established its own reputation so much, that although I have kept on increasing my supply every year, I have always had to deal it out with great caution, lest my regular customers should not be supplied; and long before the season for sowing was over I have been sold out, and had to turn away many scores of customers.

For Testimonials and descriptions see *Gardeners' Chronicle* of Jan 8. The following gentlemen have permitted me to say they consider it the very best Pea in cultivation:—Mr. Mackie, Delapre Abbey, Northampton; Mr. Tanton, Moulton Grange, Northampton; Mr. Judd, Althorp Park, Northampton; Mr. Thos. Watts, Market Gardener, Northampton; Mr. John Moring, Market Gardener, Northampton; and hundreds of others.—It can be had genuine of Messrs. NOBLE & Co., Fleet Street, London; Messrs. FRANAGAN & SON, Mansion House St., London; Messrs. NUTTING & SON, Barbican, London; and all respectable Seed-merchants in the United Kingdom.

18, Sheep Street, Northampton.

UNEQUALLED NEW CUCUMBER, DR. LIVINGSTONE.—This is one of the finest long hybrid Cucumbers for exhibition purposes that has ever yet been offered to the public; it is a splendid black spine, length 22 to 26 inches, a very free setter, and an abundant bearer. Price 2*s.* 6*d.* per packet.

QUEEN OF THE WEST MELON, a superb new variety, green-flesh, very handsome in appearance, beautifully netted, and excellent in flavour. It obtained several first prizes during the past season. Seeds 2*s.* 6*d.* per packet.

NEW MELON GENERAL HAVELOCK, sent out for the first time last season. It is a green-flesh, very handsome shape, and beautifully netted; a very thick substance, thin skin, of a melting and most delicious flavour, and an abundant bearer. Weight from 3 to 4 lbs.; it gave the greatest satisfaction to all purchasers during the past season. Seeds 1*s.* per packet.

Extra fine mixed HOLLYHOCK SEED, saved from all named varieties, 1*s.* per packet.

Early Emperor CELERY, red, the finest ever yet sent out, 1*s.* per packet.

TILEY's Solid White Celery, 6*d.* per packet

DELPHINIUM FORMOSUM, 6*d.* per packet.

DIGITALIS, or Fox-glove Seed, 6*d.* per packet.

For further particulars, and list of Cucumbers and Melons, see Advertisement in *Gardeners' Chronicle* of Jan. 29, 1859.

A remittance must accompany every order in cash or penny postage stamps, when the whole or any part, as the case may be, will be immediately sent.

HOWARD TILEY, NURSERYMAN, SEEDSMAN, and FLORIST,
14, Abbey Church Yard, Bath.

### HARDY SCARLET RHODODENDRONS AND AMERICAN PLANTS GENERALLY.

WATERER AND GODFREY'S PRICED and DESCRIPTIVE CATALOGUE of the above beautiful tribe of plants, as exhibited by them in London and Manchester, may now be had on application inclosing one stamp for postage. The Catalogue also furnishes the heights and prices of their unequalled stock of Conifers and Evergreens, &c. Catalogues may also be had of Messrs. J. MAY & Co., Seedsmen, &c., Wellington Street, Strand.

Knap Hill Nursery, Woking, Surrey.

### RHODODENDRONS.

JOHN WATERER'S CATALOGUE OF UNRIVALLED HARDY SCARLET AND OTHER CHOICE RHODENDRONS, as Exhibited by him at the Royal Botanic Gardens, Regent's Park, London, is published, and will be forwarded on application.

☞ This List is recommended as a work of reference, as it contains accurate descriptions of all the esteemed varieties.

The American Nursery, Bagshot, Surrey, near the Sunningdale Station, South Western Railway.

### STAR NURSERY, SLOUGH.

WM. BRAGG begs to inform the public and Florists generally, that his SPRING CATALOGUE can now be had free on application, containing his choice new Hollyhocks, Pinks, Pansies, Pelargoniums, chaste Scarlet Geraniums (Blazer and Rosa Bonheur), Dahlia Chieftain, yellow Piccotees, New Californian Sunflower, so much admired at the Crystal Palace, Botanic Gardens, and other Shows; and choice Flower Seeds from Show varieties only.

### SURPLUS STOCK.

JOHN SHARPE is offering to the Trade, on very reasonable terms, the following SEEDS of his own growing, 1858:—

| | |
|---|---|
| Carrot, fine large Altringham | Turnip, Skirving's Swede |
| ,, large White Belgian | ,, Purple-topt do. |
| Mangel, Yellow Globe | ,, Green Globe |
| ,, Long Giant Red | ,, Purple-topt Scotch |
| Cabbage, Early Enfield | |

Prices of not less than sacks and cwts. on application.

Bardney Hall, near Lincoln.

PRIMULAS, MELONS, AND CUCUMBERS.—Upwards of 100 Testimonials received.

POWELL WILLIAMS, Esq., *Guernsey.*

"I feel much pleasure in being able to speak in very high terms of the Primula Seed you sent me; certainly I never saw anything to equal the blossoms."

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| Wild's unrivalled Primulas, per packet | .. | 2s. 6d. |
| Wild's celebrated Cucumber ,, | .. | 1 0 |
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Free by post to all parts of the world.

THOMAS WILD, The Primulary, Ipswich.

### HORTICULTURAL VALUATIONS.

MR. ALFRED CHANDLER (of the late firm of Chandler & Sons, Vauxhall), begs to inform his Friends that he is at liberty to undertake the valuation of Collections of Plants, Nursery Stock, Horticultural Buildings, &c.

Mr. A. C. is also open to engagements as Censor at Horticultural Exhibitions, in which capacity he has had long and extensive experience.—28, Priory Road, Wandsworth Road, S.

### THE NEW MUSCAT HAMBURCH VINE

MESSRS. ARTHUR HENDERSON AND [illegible] much pleasure in directing the attention of Growers to the new MUSCAT HAMBURGH, which they are now sending out. In consequence of the ordinary demand for the large three-guinea fruiting plants they are unable to supply any more of this size, but they have excellent plants at two guineas, suitable for fruiting in spring in pots, and also good plants at one guinea each.

Pine-apple Place, Edgware Road, London, W.

### CELOSIA AUREA, VAR. PYRAMIDALIS

DICKSONS AND CO., NURSERYMEN and SEEDSMEN, Waterloo Place, Edinburgh, have now a limited quantity of the above rare and beautiful Annual. Packets sent free by post on receipt either of a Post-office Order or stamps from unknown correspondents. See description in *Gardeners' Chronicle* of December 25, 1858.

D. & Co. have still on hand a few Plants in pots of DOWN'S SEEDLING VINE at 10s. 6d. each.

Waterloo Place, Edinburgh.—March 12

### 100 GOOD PHLOXES

| | | | |
|---|---|---|---|
| 50 | Ditto | Ditto | for [illegible] |
| 25 | Ditto | Ditto | for [illegible] |
| 12 | Ditto | Ditto at 6s. and 5s. per dozen | |

The best and newest continental varieties from [illegible] per dozen.

CATALOGUES sent free on application, and extra plants presented for distant carriage.

WM. WOOD & SON, having imported all the best and new PHLOXES from the Continent, will be happy to supply in collections as stated above, in fine strong plants grown in open ground.

Woodlands Nursery, Maresfield, near Uckfield, Sussex.

### SUPERB DOUBLE BALSAMS.

F. AND A. SMITH are now sending out seed of their superb BALSAMS, which are unrivalled for size and brilliancy of colour, doubleness of flower, and habit of plant.

| | | |
|---|---|---|
| In collections of nine separate colours | .. .. | [illegible] |
| ,, ,, mixed | ,, .. .. | 3 6 |
| ,, ,, ,, | ,, half quantity | 1 6 |

The above are *genuine only* in our sealed packets, and may be had of most respectable Nurserymen and Seedsmen in the United Kingdom.—Dulwich, Surrey, S.

### PLANTS IN FLOWER.

F. AND A. SMITH have now in bloom Acacia, Azalea indica, Cinerarias (fine), Cytisus, Erica ventricosa coccinea minor; E. Cavendishi, E. hybrida, E. propendens, E. perspicua nana, E. Syndriana, Geraniums, Fairy Rose, Primula sinensis fimbriata, &c.

The above are healthy, strong, and well grown plants, prepared for sending away. Prices on application.

Dulwich, Surrey, S.

### HOLLYHOCKS.

WILLIAM PERRY begs to announce that he has fine healthy plants of the above for sale, [illegible] proved sorts, well hardened and fit for planting immediately, from 9s., 12s., 18s., 24s., and 30s. per dozen. A selection is left to W. P. A Descriptive Catalogue can be had on application, also seed saved from the best sorts, 1s., 2s., 3s. per packet.

Foreman at the Nurseries, Sawbridgeworth, Herts.

### HOLLYHOCK SEED FROM NEW VARIETIES.

J. CHATER AND SON offer the above 12 new varieties, separate packets, the collection of 24 varieties, best older sorts, 3s. 6d.

Best mixed, 20 sorts, 200 seeds, 1s. 6d.

J. C. & SON feel confident the above will give satisfaction, having been saved with great care.

Strong seedling plants, 20s. per 100.

If sown now will flower by September.

Nurseries, Haverhill.

### SUPERB DOUBLE HOLLYHOCKS

WILLIAM CHATER can now supply fine healthy plants from his Collection, having a large stock for immediate planting.

See DESCRIPTIVE CATALOGUE, to be had on application.

Nurseries, Saffron Walden.

### FIRST-CLASS HOLLYHOCKS

FINE SEEDLINGS FROM

WILLIAM CHATER'S Celebrated and New Varieties that will flower well in September at 30s. per 100

| | | | |
|---|---|---|---|
| ditto | ditto | ditto | 20s. |
| Ground Roots according to colour, also at | .. | .. | 30s. |
| Seed in 12 separate colours, the Collection | .. | .. | 1s. 6d. |
| ,, 6 ,, | ,, | .. | .. |

From varieties such as Pourpre de Tyre, Memnon, Globe, Hon. Mrs. H. Ashley, Canary, &c., in 12 separate colours, the Collection .. .. .. .. .. .. 4s.

Ditto in 6 separate colours, the Collection .. 2s. 6d.

Seed from 20 of the best varieties, mixed, per pkt. 2s. 6d.

,, 12 ,, ,, ,, ,, 1s.

,, good mixed, also a single variety ,, Nurseries, Walden, Essex.

### NEW HOLLYHOCKS.

A. PAUL AND SON beg to recommend the following NEW HOLLYHOCKS, which have been selected from several thousands of Seedlings. The stock of most kinds is this year greatly extended. The plants are strong, well established, and perfectly healthy:—

BRISEIS (PAUL).—Purple, silvery edges, flower of good form, spike close .. .. .. .. ..

GENERAL HAVELOCK (PAUL).—Bright, ruby scarlet colour of "Scarlet King," but a close spike and a more smooth flower of perfect shape .. .. ..

IN MEMORIAM (PAUL).—Crimson maroon, large, good substance, first-rate flower, good spike .. ..

OSSIAN (PAUL).—Crimson shaded with salmon, remarkable alike for substance, closeness, and symmetry, spike good .. .. .. .. ..

PAINTED LADY (PAUL).—Pink and blush in blotches, a large smooth flower of good substance .. ..

PLUTARCH (PAUL).—Plum colour, of fine shape, very smooth, guard and spike good .. ..

POURPRE NOIR (PAUL).—Rich purplish maroon, large smooth flower, close spike .. .. .. ..

RED ROVER (PAUL).—Dark fiery scarlet, flower large, spike splendid, very effective .. .. ..

VERITAS (PAUL).—White, lemon base, large full flower, splendid spike .. .. .. .. ..

VESTA (PAUL).—Pure white, petals thick, edges smooth, guard good .. .. .. .. ..

VITRUVIUS (PAUL).—Pink, large flower, of perfect form and good substance .. .. .. .. ..

ZENO (PAUL).—Rich plum colour, with silvery edges, flower large, spike good; new and distinct .. ..

The Collection of 12 varieties is offered for [illegible] named sorts, 9s. to 18s. per dozen; very superior [illegible] 42s. per dozen; Bloomed Seedlings in separate colours, 50s. per 100; mixed Seedlings, 10s. to 21s. per 100.

HOLLYHOCK SEED, 1s. to 5s. per packet free by post.

Also a PRICED DESCRIPTIVE CATALOGUE free on application.

Nurseries, Cheshunt, Herts.

## SEEDS AND PLANTS SENT FREE TO LONDON.

# LOUIS VAN HOUTTE,

**NURSERYMAN and SEEDSMAN, Ghent (Belgium),**

BEGS TO ADVERSISE THAT HIS

**NEW CATALOGUES, PRICE LISTS, Nos. 70, 71, 72, 73, 74, and 76,**

ARE TO BE HAD AT HIS AGENT'S OFFICE IN LONDON,

**MR. R. SILBERRAD, 5, Harp Lane, Great Tower Street.**

CAMELLIAS, RHODODENDRONS, AZALEAS, ROSES, PERENNIALS, NEW SHRUBS, HOTHOUSE AND GREENHOUSE PLANTS of every description, Seeds, &c.

EXTRACT FROM No. 76.

Arisæma ringens (see Van Houtte's "Flore"), very curious aroideous plant, fit for the Orchideous house till the flower is past, 10s. 6d.

Ataccia cristata (see Van Houtte's "Flore"), one of the most extraordinary flowering plants, fit for the Orchideous house, 21s.

Barbacenias ("Flore"), hybrids in all shades; per doz., 10s. 6d.

Begonias, the best new kinds, at very moderate prices; and Rex (see Van Houtte's "Flore"), at 1s. each, or 8s. per doz. 12 different Begonias for 8s.

Caladium (see Van Houtte's "Flore"), the new pointed leaves: C. albo-punctatissimum, 20s.; C. argyrospilum, 12s.; C. bicolor picturatum, 1s. 6d.; C. Brongniarti, 12s.; C. Chantini, 20s.; C. Neumanni, 12s.; C. Verschaffelti, 8s.

Clivia cyrtanthiflora (see Imantophyllum).

Cyanophyllum magnificum, 8s.

Dracænopsis indivisa, 16s. to 200s.

Eucharis amazonica ("Flore"), 2s. 6d.; E. grandiflora, 2s. 6d.

Gesneria cinnabarina ("Flore"), 1s., or 7s. 6d. per doz.

,, Van Houttei, 1s. 6d., or 16s. per doz.

,, Leichlini, 4s., quite new, rosy outside, lemon inside.

,, zebrina splendens, 1s. or 7s. 6d. per doz.; Gesnerias in best mixture, 7s. 6d. per doz.

Gloriosa Planti (see Methonica in the "Flore"), 6s. per doz., flowering beautifully in pots (outside) in the summer.

Imantophyllum cyrtanthiflorum, Lindl., first prize at the Ghent exhibition, last Saturday (5th March) as the finest of the plants gained this year by seed.—LOUIS VAN HOUTTE has lately sent the plant in flower to Dr. Lindley's inspection. It is a magnificent mule obtained from Imantophyllum miniatum and I. Aitoni (Clivia nobilis), splendid long leaves, large heads of flowers, like those of a large-flowering Cyrtanthus, shape of the most beautiful Blandfordias, fine colour. Very strong plants at 80s. each. Sent out only now for the first time. Will soon appear in VAN HOUTTE'S "Flore."—I. miniatum (see "Flore"), 20s. to 80s.

Luculia, quite new species, 1s. each, 8s. per doz.; good sized plants.

Maranta Warscewiczi (Calathea), 4s. to 7s. 6d.

Musa zebrina ("Flore"), black-spotted leaves, 10s. 6d.

Pandanus reflexus, 8s. to 240s.

Philodendrons.—Decorative plants for Orchideous house. Great collection.

Rhopalas,—Great assortment. Splendid decorative plants.

Theophrasta imperialis, ditto, 80s. to 320s.

Achimenes.—A collection of 50 kinds for 21s.

Bromeliaceous plants.

Ferns and Lycopods.—One of the most extensive collections of Europe. Good sizes, moderate prices. (See Van Houtte's Price List No. 76, page 13.)

Gloxinias in great variety.

Orchids and Palms.

Greenhouse plants.

Michauxia campanuloïdes, scarce Syrian plant, flowers along the stem like Passionflowers, 1s. to 8s. per dozen.

Musschia Wollastoni (see Illustration), a tall, splendid, Campanulaceous plant from the Canary Islands; the flowers are disposed just as in the Lilium pyramidale, 4s.

Primula erosa ("Flore"), a very fine kind, 6d. each, 5s. per doz.

Azaleas, hardy kinds, double flowers, 12 varieties for 40s., including A. Van Houttei, the finest in existence.

Azalea Van Houttei flore pleno (will appear shortly in the "Flore"), large bouquets of double flowers, red and yellow mixed; the largest and finest flower in existence; as hardy as an Azalea pontica; 12s., if taken alone.

Azalea Diamond (Van Houtte), pure white flowers with a large carmine spot (not quite hardy here; but beautiful in the greenhouse). Grafts with 3 to 4 branches, 8s. Grafts with 6 to 10 branches, 12s.

Azalea indica Alexander II. (Van Houtte), 2s. 6d. to 20s.—A gem for form, size, colour and spots. The petals delicately curled. A true beauty!—Hermine (Van Houtte), snow white, full flower, striped with carmine; fine, 2s. 6d. to 4s. Petuniæflora, extremely fine form, and delicate shaded pink colour; strong plants, flower buds, 3s. 6d. to 7s. Roi Leopold, extra large clear salmon, first rate, with flower buds, 3s. 6d. Salmonea albo-cincta; delicate salmon with a white margin, fine form, 4s. to 8s. Umbellata alba will appear shortly in the "Flore;" from Sardinia, a quite new form in the tribe: the flowers are single, pure white, but they are divided in nine segments as regular and round as a crown; 4s. to 8s.

Vervaene's Seedlings.—Azalea indica Belle Jeannette, Etendard de Flandre, Géante, Gloire de Belgique, Gloire de Ledeberg, Papilionacea, Pelargoniæflora and Rubens, the set of eight, full of flower buds, for 60s.

Camellias.—Very extensive collection. (See Price List No. 72.)

Dianthus sinensis giganteus (see the "Flore,") five seeds, 4s.

,, ,, Heddewigi ,, ,, five ,, 4s.

N.B. Each flower of these Chinese Pinks is 5 inches across. The "Flore des Serres" has published a figure of them; but a double size plate is in hand, and will appear shortly.

| | | | | |
|---|---|---|---|---|
| Flemish Carnation seed, | 100 | seeds | for | 2s. 6d. |
| Bohemian Piccotees | 100 | ,, | ,, | 2s. |
| Fancy ,, | 100 | ,, | ,, | 1s. 6d. |
| Perpetual ,, | 100 | ,, | ,, | 1s. 6d. |

French Spotted Geraniums (see Price List No. 76, pp. 41, 42, and 43).

VAN HOUTTE'S 6 new Petunias; price, the set for 16s.

New Continental Petunias of various growers, 20 vars. for 16s.

Continental Rhododendrons and others (see Price List No. 72, pp. 30 to 38).

Roses.—One of the most extensive collections in the world (see Price Lists Nos. 63, 67, and 72).

New Herbaceous Tropæolums, the set of 12 varieties for 7s. 6d.

New French Verbenas, 12 varieties, 4s.; 25, 8s.

New Perennials:—Chelidonium japonicum, 1s. 6d.; Convallaria multiflora, fol. albo marg., 4s.; new splendid double Delphinium Pompon de Tirlemont (lately figured in the "Flore des Serres," and sold for the first time), 4s.; Epimedium Ikariso, a new Japan kind, with leaves as thick as Holly (the mother plant is in bud), 16s.; Thalictrum anemonæfolium flore pleno ("Flore"), a very scarce Pennsylvanian gem, 2s. 6d.

New Weigelas:—W. amabilis Groenewegenii; W. rosea Desboisii; W. amabilis alba. Price, each, 8s.; the set of three, 20s.

The Japan Black-leaved Maple, Acer polymorphum foliis nigr. (see the "Flore des Serres"), 8s. to 20s.

Æsculus californica (lately figured), 1s. 6d.

Glycine magnifica, extra strong climbing plant, 1s. each; per dozen, 5s.

Large pyramidal variegated Hollies (in pots), 5s.

Quercus nigra, 4s. to 20s.

New and fine forms of the common Locust Tree (Robinia pseud-Acacia), var. coluteoides, fastigiata, glaucescens, patula, revoluta. The set of five for 12s.

Vitis Sieboldi and Thunbergi; two hardy Japan novelties, with fine foliage; the two for 5s.

Pinus paroliniana, quite hardy (2 years' seedlings), 8s. per doz.

,, radiata paroliniana, very strong two-years' seedlings, 10s. the dozen.

Pinus Strobus tabulæformis; table-formed, dwarf plant, for groups in Grass plots, as hardy as the common Weymouth.

## THE "FLORE DES SERRES ET DES JARDINS DE L'EUROPE,"

EDITED BY LOUIS VAN HOUTTE, IS PUBLISHED SINCE 1845.

Twelve volumes of twelve numbers each have been issued, containing together 1289 finely coloured plates, and 2356 miscellaneous matters, numerous woodcuts, &c. The price of the whole work is 18*l.* 8s. (without any discount, but free to London). The subscription price for 12 numbers or one volume is 1*l.* 12s. The first number of Vol. XIII is now in the press; no single numbers are sold; sent free by post.

All LOUIS VAN HOUTTE'S goods (plants and seeds) will be delivered out of the Custom House in London, without any expense whatever for the buyer; but *per contra*, 5s. will be charged for each package.

☞ Persons unknown to LOUIS VAN HOUTTE are respectfully requested to add to their orders a cheque on London for the amount (at Mr. R. SILBERRAD'S order), or reference in London.

All letters must be prepaid 4d. (an unpaid letter is taxed twice as much).

**Agent in London: Mr. R. SILBERRAD, 5, Harp Lane, Great Tower Street,**

But all letters containing orders must be directly sent to LOUIS VAN HOUTTE, Ghent, Belgium.

## GERMAN AND OTHER FLOWER SEEDS, VEGETABLE, AGRICULTURAL SEEDS, ETC.

MESSRS. PARKER AND WILLIAMS beg to inform their friends and patrons that their new PRICED DESCRIPTIVE CATALOGUE in which is enumerated all the varieties of proved merit, also all the best of the older sorts, is now published, and will be forwarded post free on application. Their whole stock has been selected from the best English and Foreign sources, and every kind is warranted true to name, and of the finest possible quality.—Paradise Nursery, Seven Sisters and Hornsey Roads, Holloway, London, N.

## HEDGE PLANTS.—

TREE BOX, 2, 3, 4, 5 and 6 feet.
GREEN HOLLIES, 1, 2, 3 and 4 feet.
EVERGREEN PRIVET, 2 and 3 feet.
TRANSPLANTED QUICK, 2 to 3 feet.
COMMON YEW, 2, 3, 4, and 5 feet.

Also a few thousand fine transplanted LARCH, 3 to 4 feet.

Samples and prices on application.

THOMAS JACKSON & SON, Nurseries, Kingston, S.W.

## 1-year SEEDLING LARCH, fine.

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| 1-year Seedling Larch, fine | 1-year Seedling Common Oak, fine |
| 2-year ditto Scotch Fir, native | 1-year ditto Turkey ditto |
| 2-year ditto Spruce, Norway, fine | 2-year ditto Red Cedar |
| 2-year ditto ditto | 1-year English Yew |
| 2-year ditto White American | 1-year transplanted Larch, fine |
| ditto | 2-year ditto |
| 2-year ditto Red ditto | 1-year do. Scotch Fir, native, do. |
| 2-year ditto Hemlock Spruce | 2-year ditto |
| 2-year ditto Evergreen Oak | |

The Subscribers being extensive holders of the above solicit the particular attention of the Trade. Prices, which are most moderate, may be had on application.

DAVID REID & SON, Nurserymen and Seedsmen, Edinburgh.

## HARDY CONIFERÆ FOR SPRING PLANTING.

J. HENCHMAN, Edmonton, London, begs to offer the following CONIFERS, all Seedling Plants, in pots, and in the most robust health:—

Wellingtonia gigantea, 1 foot, in 32-pots, very fine, 10*s.* 6*d.* each; 7 to 8 inches, in 48-pots, 3*l.* per doz.; stout, 2-year seedlings, 30*s.* per doz.
Abies Don Pedri, 21*s.* each.
" Buonapartia or Veitchi, 10*s.* 6*d.* each.
" insignis, 15 inches, 15*s.* per doz.
" macrocarpa or Coulteri, 6 inches, fine, 18*s.* per doz.
" tuberculatus, stout 2-year seedlings, 18*s.* per doz.
" Benthamiana, 2-year do. 9*s.* per doz.
Cupressus macrocarpus, 18 inches, fine, 6*s.* per doz.
" MacNabbiana, 2 years, 9*s.* per doz.
Taxodium sempervirens, 15 inches, fine, 24*s.* per doz.

MESSRS. WATERER AND GODFREY respectfully invite the attention of parties engaged in planting to their following list of very desirable plants, all of which may be seen growing in the open quarters of their Nursery, and are in the best possible condition for transplanting:—

Abies Menziesii, 9 to 12 inches, 5*l.* per 100; 40*l.* per 1000
" " 1½, 2, 3, 4, 5, 6, and 8 feet high. Our stock of this plant exceeds 100,000
Wellingtonia gigantea, stout handsome plants from seed, 84*s.* per dozen; 25*l.* per 100. These are all in the open ground, and are believed to be the finest lot of seedling plants in the Trade.
Cedrus Deodara, 1½ to 2 feet, 18*s.* per dozen; 6*l.* per 100
Do. 3, 4, 5, 6, 7, 8, 10 and 12, and 15 feet. Our stock of Deodars at the present moment occupies several acres of land; they have been constantly removed, and with fair usage not one in a thousand would fail. We offer them on very advantageous terms either in large or small quantities
Abies Menziesii, 4, 5, 6, and 7 feet
" Douglasii macrocarpa, magnificent plants, 7, 8, and 10 feet high
" Lawsoniana, stout handsome plants from seed, 18 inches, by the dozen or 100
Abies nobilis, from imported seed, 6*l.* 6*s.* per doz.; 40*l.* per 100
" do. 1, 2, and 3 feet high
" Nordmanniana, a large number of beautiful plants, all from seed, 2, 3, 4, 5, and 6 feet high
" Pinsapo, do. do.
[We believe we are justified in stating our stock of the three last-mentioned Firs offers a selection to be met with in no other Nursery.]
" Douglasii, 6, 7, 10, and 12 feet
" orientalis, 3, 4, 5, and 6 feet
Abies Benthamiana, stout seedling plants, about 1 foot, 18*s.* per dozen; 5*l.* per 100; 40*l.* per 1000. Unquestionably the finest of all the long-leaved Californian kinds, and well known to be perfectly hardy. It is the most valuable of all for timber.
Juniper, Chinese, 2, 3, 5, 7, 8, and 10 feet high
" Irish Upright, 3, 4, 5, 6, 7, and 8 feet. The Irish and Chinese Junipers are grown by us to a very large extent
Thuja aurea.—This plant originated in our Nursery, and our stock of it offers a choice of many hundred specimens from 1, 2, 3, 4, and 5 feet high, and measuring from 2 to 10 and 12 in circumference. Nothing can well exceed the beauty of these plants, and certainly are to be met with in no other Nursery
Thuja gigantea, stout seedling plants, 1½ to 2 feet high
" Wareana, 3, 4, 5, 6, 7, and 8 feet
Taxus borealis, handsome plants, in quantity, 1½ & 2 ft. high
Common Yew, Common English.—A large quantity, and of all sizes up to 5, 6, and 7 feet
" Irish Yew, 4, 5, 6, 7, and 10 feet. Many thousands of these beautifully formed plants grown to one stem
" Golden Yews in large quantities and of all sizes up to 6, 7, and 8 feet

We also have them worked on the Common and Irish Yew as standards, with heads from 12 to 15 years' growth
Hollies, Variegated, Scottica, laurifolia, &c. We hold probably the largest stock of good sized variegated Hollies in the kingdom, especially of the better kinds of silver and gold sorts
Rhododendron ponticum, for cover, stout plants, 1½ to 2½ feet, by the 1000. All the well-known proved hardy late blooming kinds, in any quantity, at from 30*s.*, 42*s.*, to 84*s.* per dozen
Standard Rhododendrons of all kinds
Azaleas, stout bushy plants, covered with bloom buds, from 18 inches to 2 feet high, and of all colours, 9*s.*, 12*s.*, 18*s.*, and 24*s.* per dozen; 50*s.*, 75*s.*, to 100*s.* per 100
Hardy Heaths, a first-rate collection, at 35*s.* per 100; 15*l.* p. 1000
Roses, fine Standards, of the most popular kinds, at very low prices.

As well as the above, we are very large holders of the ordinary kinds of Nursery Stock, which may be judged from the fact that the Nursery far exceeds 100 acres in extent of all such things as Laurels, Box, Lilacs, Limes, Purple Beech, and the commoner descriptions of Evergreens and Deciduous Flowering Shrubs. An enormous stock of Fruit and Forest Trees are also grown extensively.

Goods are delivered free to London, Reading, or Reigate. The Nursery is reached in an hour from Waterloo, and conveyances are always to be had at the Woking Station.

CATALOGUES, Priced and Descriptive, will be sent on application, enclosing one postage stamp, to

WATERER AND GODFREY, Knap Hill, Woking, Surrey.

## FRUIT TREES IN POTS.

JOHN AND CHARLES LEE have now the largest and finest stock of FRUIT TREES IN POTS in a bearing state for FORCING AND ORCHARD HOUSES ever offered. They consist of the following kinds, a CATALOGUE of which may be had on application:—

| | | |
|---|---|---|
| APRICOTS | FIGS | PEARS |
| PEACHES | PLUMS | APPLES. |
| NECTARINES | CHERRIES | ALSO, |

VINES AND STRAWBERRIES.

Nursery and Seed Establishment, Hammersmith, London.

## GRAPE VINES FROM EYES.

JOHN AND CHARLES LEE beg to offer an immense stock of strong well-ripened VINES FROM EYES, of the following kinds:—

| | |
|---|---|
| Alicant | Hâtif de Jura |
| Barbarossa | Isabella |
| Bidwell's Seedling | Marchioness of Hastings |
| Black Cluster | Muscadine Parsley leaved |
| Black Constantia | Muscat, August |
| Black Prince | " Cannon Hall |
| Blanche Vigne | " Hamburgh |
| Calabrian Raisin | " Noir Hâtif |
| Charlsworth Tokay | " of Alexandria |
| Chasselas Frocklaboulay | " of Fontainebleau |
| Chasselas Musqué | Pitmaston Cluster white |
| Duzetto | Raisin des Carmes |
| Esperione | Syrian |
| Frontignan, black | Trebiana |
| Hamburgh, Dutch | Trentham Black |
| " golden | Tripoli |
| " Pope's | West's St. Peter's |
| " Mill Hill | |

Nursery and Seed Establishment, Hammersmith, London.

## NEW PLANTS.—1859.

HUGH LOW AND CO. respectfully invite attention to the annexed LIST of novelties, orders for which they will be very happy to receive:—

### NEW GLOXINIAS.

HUGH LOW & Co. have selected the undernamed varieties from a large number of plants raised by themselves from seed carefully and judiciously hybridised, and having flowered them for two seasons, and compared them with the varieties previously in cultivation, H. L. & Co. can with confidence recommend the selection to the notice of their friends as comprising really distinct kinds, worthy of a place in the most select collection of this much admired and easily cultivated flower. Plants in April. Price, 3*s.* 6*d.* each.

ERECT-FLOWERING VARIETIES.

Atroviolacea, very dark violet purple, base of the tube beautifully spotted on a pure white ground.
Bridesmaid, white tube, shaded rose border, lips spotted with white
Lineata superba, rosy carmine tube, towards the lips alternate bands of white and rose.
Perfection, clear white throat, dark blue belt, lips deep violet purple.
Princess Alice, clear white tube, bright rose belt, edges very pale rose.
Princess of Prussia Improved, throat and belt very much brighter crimson than in the old variety.

DROOPING-FLOWERED VARIETIES.

Attraction, base of tube white, finely spotted, lips rosy crimson, outer edge pure white.
Beauty, white tube, inside carmine lake, broad white belt, flowers very large
Meteor, bright crimson with violet throat, carmine blotch on the lip.

### NEW ROSES OF 1859.

| HYBRID PERPETUAL. | HYBRID PERPETUAL. |
|---|---|
| Altesse impériale | Virginale |
| Ardoisé de Lyon | Beauté de Rœyghem |
| Comte de Beaufort | BOURBON. |
| Bouquet de Marie | Docteur Berthet |
| Empereur de Maroc | Madame Marchal |
| Salomon | Octavie Fontaine |
| Oriflamme de St. Louis | TEA-SCENTED. |
| Reine de la Cité | Madame Damaisan |
| Ambroise Verschaffelt | Madame Darru |
| Orderic Vital | Reine des Pays Bas |
| Anna de Diesbach | |

Plants 5*s.* each.

### NEW VERBENAS.

The entire stock of these nine varieties is in the possession of H. L. & Co., and they can with the greatest confidence recommend them to their friends as distinct and first-class flowers.

Bellona, bright cerise, dark centre, good form, very distinct.
Flora, lilac, white eye, large truss, fine form.
Lady Cotton Sheppard, bright rosy purple, white eye, large truss, very distinct.
Mars, bright red, extra large truss, fine form and free flowerer.
Miss Emily Hanmer, ruby, white eye, immense truss, extra fine form, the best of its class.
Mrs. Fowke, rosy purple, fine white eye, extra large truss, fine form, very free.
Mrs. Leslie, bright rose, very large white eye, large truss, and splendid form.
Rubens, ruby red, white centre, good form, very distinct and free bloomer.

VERBENA SNOWFLAKE.—The best white Verbena ever offered for bedding purposes. With a flower equal to Mrs. Holford, it produces a much larger number of trusses on the same space of ground. This variety has been grown in company with the other white kinds at present in cultivation, and has been found to be more effective than any of them. In order that it may be extensively planted the first season, H. L. & Co., have decided on offering it at a cheap rate.

Single plants, 2*s.* 6*d.*; per doz., 18*s.*; per 100, 100*s.* In April.

New Verbenas received from M. Boucharlat of Lyons:—

| | | |
|---|---|---|
| Abondance | Madame Denis Blain | Mons. Denis Blain |
| Bleu magnifique | Madame Hardy | Monsieur Hardy |
| Felix Roland | Madame Hoste | Reine Blanche |
| Gloire de Monplaisir | Madame Large | Souvenir de M. Seringe |
| Kossuth | Manteau d'Evêque | |

Plants 1*s.* 6*d.* each, now ready.

New Verbenas received from M. Rougier-Chauvière, of Paris. These and the preceding collection include the finest varieties offered this season on the Continent.

| | | |
|---|---|---|
| Baccarat | Gitana | Marie Rougier |
| Cendrillon | Ivanhoe | Ne Plus Ultra |
| Cerise \| Clara | La Magicienne | Primulæflora |
| Fatima | Leandre | Rosalinda |
| Figaro | Lucrece | Rosamond |

Plants now ready, 1*s.* 6*d.* each.

LOBELIA TRIGONICAULIS, a new species from Moreton Bay, figured and described by Sir Wm. J. Hooker. A beautiful dense-growing variety, each plant covering a space of ground 12 to 18 inches in diameter, with its ample bright green foliage (in the way of Verbena Maonetti) and large light blue flowers with fine white eye. It will be much in demand for bedding purposes. For further description see "Cottage Gardener." Plants in April, price 2*s.* 6*d.* each, or 21*s.* per dozen.

Usual discount to the Trade on all the above-named plants.

Bedding Plants of older date in large quantities at low prices.

Clapton Nursery, London, N.E.—March 12.

## FIVE SILVER CUPS

WERE AWARDED TO

A. PAUL AND SON, NURSERYMEN, Cheshunt, Herts, for five Collections of ROSES at the Grand National Rose Show held in St. James's Hall, London, in July. Also FIVE FIRST PRIZES at the Royal Botanic Society's Shows in May and June last. The sorts which won these prizes are now offered at 18*s.* to 24*s.* per dozen for standards, 12*s.* to 18*s.* per dozen for dwarfs. A PRICED DESCRIPTIVE CATALOGUE forwarded on application, post free.

## FINE HEALTHY ROSES.—

STANDARDS .. .. .. 18*s.* per doz.
DWARFS (on the Manetti) .. 12*s.* " "

As the weather still continues mild and favourable for planting, GEORGE CLARKE begs to state he has still a fine stock of all the leading kinds to offer at the above prices, the selection being left to him. The Plants are all healthy and well rooted, therefore calculated to give the greatest satisfaction. Plants carefully packed for any distance. Carriage of all packages paid to London; and in all orders amounting to 20*s.* plants are added to compensate for distant carriage.

GEORGE CLARKE, The Nursery, Brixton Hill.

## ROSES.—TO THE TRADE.

BIRCHAM AND WARD having a surplus stock of the leading kinds of Perpetuals in fine condition, offer them at the following low prices by the 100 or not less than 50.

Standards per 100 .. .. .. 3*l.* to 3*l.* 10*s.*
Dwarfs do .. .. .. 2*l.* 2*s.*
Ditto, on their own roots .. .. 2*l.* 2*s.*

Carriage paid to London and Peterborough.

HOLLYHOCK SEED of very superior quality by the oz.

Hedenham Rosary, Bungay, Suffolk.—March 5.

## NEW ROSE, HYBRID PERPETUAL "LÆLIA."

—Colour delicate satin rose, petals very large, perfectly smooth, and well formed; flowers of exquisite shape, large size, and highly scented. JOHN CRANSTON has the pleasure to announce that he will be prepared to supply early in April plants of this superb new Rose. It was exhibited by him in his winning stand of single blooms at the Grand National Rose Show in July last, and was unquestionably the most attractive variety of the Show, and the admiration of all who saw it. Fine healthy plants, 5*s.* each, with the usual discount to the trade.—Nurseries, King's Acre, near Hereford,

## NEW HYBRID PERPETUAL ROSES FOR 1859.

E. P. FRANCIS offers the following NEW ROSES which he will be prepared to send out on and after the first week in May, at 5*s.* each. They have been carefully selected from amongst the numerous new French varieties:—

| | |
|---|---|
| Anna Alexieff | Princess Olympie |
| Stephanie Beauharnais | Anna de Diesbach |
| Ambroise Verschaffelt | Beauté de Royghem |
| Imperatrice Eugénie | Comtesse Cecile de Chabrilland |
| Albert de Stella | De la Mothe |
| Virginale | François Arago |
| Altesse Impériale ) | L'Oriflamme de St. Louis |
| Ardoisée de Lyon ) | Lord Elgin |
| [These two splendid varieties were awarded the Gold Medal as Seedlings at Lyons] | Madame Bruny |
| | Orderic Vital |
| | Salomon |
| Comte de Beaufort | Reine de la Cité |
| Docteur Bretonneau | François 1st |
| Empereur de Maroc | Mignard |
| Armide | Madame Jenny |

Hertford Nurseries.

## NEW ROSES.

JOHN CRANSTON will be prepared to supply early in April strong plants of the under-mentioned superb NEW ROSES at 5*s.* each, with the usual discount to the Trade. Purchasers who may prefer leaving the selection to himself will be supplied upon the following terms:—12 choicest varieties for 2*l.* 10*s.*; 24 for 5*l.*; the set of 32 varieties for 6*l.* 6*s.*

Plants of the new varieties presented with each order to compensate for carriage.

TEA-SCENTED.

| | |
|---|---|
| Enfant de Lyons | Madame Joseph Halphay |
| Madame Damaisin | Reine des Pays Bas |

BOURBON.

Docteur Berthet | Edith de Murat | Octavie Fontaine

HYBRID PERPETUAL.

| | |
|---|---|
| Altesse Imperial | Joseph Vernet |
| Ardoisée de Lyon | Le Mont Vésuve |
| Anna Alexieff | L'Oriflamme de St. Louis |
| Armide | Mathilde de Mandeville |
| Ambroise Verschaffelt | Madame Jenny Varin |
| Anna de Diesbach | Madame Octavie Depeyre |
| Bouquet de Marie | Mignard |
| Beauté de Rœyghem | Orderic Vital |
| Comte de Beaufort | Princesse Olympie |
| Comtesse Cecile de Chalbrillan | Reine de la Cité |
| Empereur de Maroc | Solomon |
| Eugène Alary | Virginal |

NOISETTE.—Beauté de Grennemont.

J. CRANSTON, Nurseries, King's Acre, near Hereford.

## ASPARAGUS AND SEAKALE.

YOUELL AND CO. having a large Stock of the above growing on the Sea Coast, of the finest quality, beg to offer it at the following prices:—

ASPARAGUS, GIANT, two years .. 2*s.* 6*d.* per 100.
" " three years .. .. 3*s.* 6*d.* "
SEA KALE .. .. .. .. .. 6*s.* 0*d.* "

RHUBARB.—Myatt's Victoria, Myatt's Linnæus, Mitchell's Royal Albert, strong roots, 8*s.* per dozen.

Hawke's Champagne Rhubarb, 9*s.* per dozen.

Artichokes, Globe and Pine-apple shaped, 6*s.* per dozen.

Dioscorea Batatas (Chinese Potato), 6*s.* per dozen.

All orders of 2*l.* and upwards are delivered Carriage Free to London, Manchester, Newcastle, and Hull, as well as to any Railway Station within 150 miles of the Nursery.

Royal Nursery, Great Yarmouth, Norfolk.

JUST ARRIVED, a great quantity of double flowering CAMELLIAS, in pots, well set with flower buds, 18*s.*, 21 , and 24*s.* per dozen; Azaleas in pots, full of flower buds, showing colour, 12*s.*, 18*s.*, 21*s.*, and 24*s.* per dozen, and every other kind of Greenhouse Plant, Nursery Stock, &c.—ROBT. GREEN, 154, Kingsland Road, 55 doors from Shoreditch Church.

FINE CARNATIONS AND PICCOTEES.—Very fine Plants of the above, or pair in a pot, and which may be sent either in or out of pots at the option of the purchaser; being thoroughly well rooted, may now be had at 1*s.* 6*d.* per pair, or 12 pairs for 15*s.* They consist of good show flowers. Amongst others may be named—Rachel, Squire Trew, Lord Belper, Poor Tom, Princess Royal, Admiral Curzon, Lord Rancliffe, Flambeau, Major Teesdale, Duncan, John Gair, Sarah Payne, Eugenia, Sultana, Prince Albert, Amy Robsart, Robin Hood, Mrs. May, Mrs. Aitken, Mrs. Gair, &c. &c.—Address WOOD & INGRAM, Huntingdon.

REIGATE SILVER SAND, best quality for Florists 16*s.* per ton; less quantities, 1*s.* 6*d.* per bushel; delivered to any London Wharf or Railway. Peat, Loam, and Leaf-Mould in large or small quantities. Sacks for Sand, 1*s.* 9*d.* each; or on hire, 6*d.* each; five hold a ton.—JOHN KENNARD, Purveyor to her Majesty, Swan Place, Old Kent Road, London, S.E.

# GRASS SEEDS FOR PERMANENT PASTURES & MEADOWS.

## THOMAS GIBBS & CO., Corner of Half-Moon St.,

### THE SEEDSMEN TO THE "ROYAL AGRICULTURAL SOCIETY OF ENGLAND,"

BEG to inform the Members of the Society and Agriculturists generally that their MIXTURES of GRASS SEEDS for Laying down Land to Permanent Pasture are now ready. Each kind of Grass Seed composing these Mixtures is cleaned separately, and the kinds are proportioned to suit different soils.

☞ *Full Directions for Sowing and Management will be sent with the Seeds.*

**MIXTURES for PERMANENT MEADOW and PASTURE** (*to suit different soils*).
**MIXTURES for PARKS, FIELD LAWNS, CEMETERIES, &c.**
**MIXTURES for IRRIGATION MEADOWS, GAME COVERS, and all other purposes.**
**RENOVATING MIXTURES for Improving Old Meadows and Pastures** (8 to 12 lbs. per acre).

| MANGEL WURZEL. | RYE-GRASS. | |
|---|---|---|
| Yellow Globe, Orange Globe (selected) | Italian (selected, very fine) | Carrots all sorts |
| Long Red | Dickinson's | Clovers ,, |
| Red Globe | Improved Foreign Seed | Swedes ,, |
| Long Yellow | Common or Annual | Hybrids ,, |
| Silesian Sugar Beet | Rebey's Perennial | Common Turnips ,, |

**KITCHEN GARDEN SEEDS in Collections at £1, £2, and £3 each.**

**ALL KINDS OF AGRICULTURAL SEEDS.**

*Price Lists sent free on application.* *Reference or Cash required from unknown Correspondents.*

Thomas Gibbs & Co.

CORNER OF
**HALF-MOON St.**
PICCADILLY, LONDON, W.

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**SUTTON'S GRASS SEEDS AT THE ROYAL FARMS NEAR WINDSOR, AND IN THE ISLE OF WIGHT.**

# SUTTON'S GRASS SEEDS
## FOR PERMANENT PASTURE, PARKS, AND LAWNS,

ARE NOW SOWN AT THE ROYAL FARMS, AT OSBORNE PALACE, THE ALDERSHOTT CAMP, THE CRYSTAL PALACE SYDENHAM & HORTICULTURAL SOCIETY'S GARDENS, THE PEOPLE'S PARK, HALIFAX, AND ON MOST OF THE LARGEST ESTATES IN THE KINGDOM.

**These Grass Seeds being mixed expressly to suit the soil for which they are required, are never known to fail.**

SUTTON & SONS having for many years paid especial attention to the Laying down Land to Permanent Pastures, they are well acquainted with the various soils in most parts of the United Kingdom, and the Natural Grasses suitable for each locality.

**The following Sorts may be had separate or mixed, at lowest Market Prices :—**

| | | | | |
|---|---|---|---|---|
| Alopecurus pratensis | Festuca duriuscula | Festuca tenuifolia | Lolium italicum | Poa pratensis |
| Anthoxanthum odoratum | ,, elatior | ,, hordeformis | ,, perenne tenue | ,, trivialis |
| Agrostis stolonifera | ,, gigantea | Glyceria fluitans | ,, ,, Paceyanum | ,, nemoralis |
| Avena flavescens | ,, heterophylla | ,, aquatica | ,, ,, sempervirens | ,, angustifolius |
| Achillea millefolium | ,, pratensis | Holcus lanatus | Lotus corniculatus major | ,, fertilis |
| Cynosurus cristatus | ,, ovina | ,, avenaceus | Medicago Lupulina | ,, sempervirens |
| Dactylis glomerata | ,, rubra | | | |

| | |
|---|---|
| Phleum pratense m[inus] | |
| ,, ,, [typ]e | |
| Petroselinum sativ[um] | |
| Trifolium repens | |
| ,, pratense p[erenne] | |
| ,, minus | |
| ,, hybridum | |

ALSIKE and other CLOVER, and all the most suitable of the above are contained in our Mixtures. Cost of the best Mixtures for Permanent Pasture, 30s. to **34s. per acre,** according to the sorts required for the land.

---

## Fine LAWN GRASS SEEDS for making New or Improving Old Garden Lawns,

**Price 1s. per lb., 2s. 6d. per gallon, or 20s. per bushel.**

## Improvement of Grass Lands by Sowing Good Seeds of the most Suitable Kinds.

## SUTTON'S RENOVATING GRASS SEEDS (6s. to 9s. per Acre)

Consist of the finest GRASSES and PERENNIAL CLOVERS, producing great improvement in the Pasture, and at a small expense. Quantity of Seed required, 8 to 12 lbs. per acre. **Price reduced to 9d. per lb., or 80s. per cwt.** Sow in March and April.

☞ Having greatly reduced the price of our **RENOVATING MIXTURE**, we doubt not that our liberal terms will encourage the more extensive use of the same. Our Grass Seeds have for many years been allowed to be the best, and now we may add that they are the cheapest. Meadows and Upland Pastures may be increased in value 50 per cent. by sowing these Seeds. **Grass Seeds for Laying down Permanent Pasture, 30s. to 34s. per acre.** Seeds Carriage free to all parts, except small parcels. Catalogues post free.

## SUTTON & SONS, Royal Berkshire Seed Establishment, Reading.

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THE EARLIEST PEA.—DUNNETT'S FIRST EARLY is in every respect superior to "Daniel O'Rourke," being several days earlier, having finer pods, and richer in flavour, height 2½ feet. For an early dish of fine-flavoured Peas we can confidently recommend this ; 2s. per quart.

CHAMPION CABBAGE, the earliest and best sort, if sown in succession, may be had fit for table throughout the year, 8d. per ounce, or 1s. post free.

BUTLER & MCCULLOCH, Covent Garden Market, London.

---

CHAMPION OF SCOTLAND PEA.—A new and first-rate sort, declared by all who grew it last year to be the most distinct and best flavoured Pea in cultivation. To be had only at PETER LAWSON & SON'S, the Queen's Seedsmen &c., who are also prepared to execute orders for all sorts of Garden and Flower Seeds of the finest quality.

27, Great George Street, Westminster.

---

EARLY PEAS.

WAITE'S DANIEL O'ROURKE PEA ; the earliest Pea in cultivation.

EARLY NAPOLEON ; a Blue Wrinkled Marrow Pea, as early as EMPEROR.

EARLY EUGENE ; a White Wrinkled Marrow Pea, as early as EMPEROR.

Prices to be had on application of J. G. WAITE, Seed Establishment, 181, High Holborn, London, W. C.

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MESSRS. PARKER AND WILLIAMS beg to inform their friends and patrons that their PRICED and DESCRIPTIVE CATALOGUE of Exotic Orchids, Stove, Greenhouse, and Hardy Ferns, Miscellaneous Stove, Greenhouse, and Hardy Plants, Variegated and Ornamental foliaged Plants, Conifers, Roses, Rhododendrons, Indian Azaleas, Gloxinias, Fuchsias, Cactuses, &c., is now published, and will be forwarded post free on application.—Paradise Nursery, Seven Sisters' and Hornsey Roads, Holloway, London, N.

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# MESSRS. E. G. HENDERSON & SON

RESPECTFULLY ANNOUNCE THAT THEY WILL FORWARD, POST FREE, THEIR

## NEW SEED CATALOGUE FOR 1859,

IN which the following novelties of the season will be introduced, or noticed, with full descriptions of treatment, cultivation, and adaptation ; and only those that are known to be valuable are recommended for preservation. Much useful information on the cropping of Gardens, Sowing, &c., is also given for the guidance of cultivators. The following NEW FLOWERS and other SEEDS are offered by E. G. HENDERSON & SON for the first season ; full descriptions of which, with treatment, are given in the Catalogue :—

THE ROSY CARMINE GIANT EMPEROR ASTER, 1s. 6d.
NUTTALLIA PEDATA, var., see Catalogue for the description, 2s. 6d.
CLIANTHUS DAMPIERI, 2s. 6d., 5s., and 10s per packet each.
THE LAWTON BLACKBERRY (new American Fruit), ...

### SPERGULA PILIFERA,

A perfect substitute for Grass Lawns, &c., in Villa Gardens, without Mowing.

*See notice of the above at page 145 of this Paper.*

**Seed sent free in 6d., 2s. 6d., 5s., and 10s. Packets**

### NEW FLOWER SEEDS FOR 1859.

Price per packet is given in the Catalogue. An assortment of twelve varieties for 6s. from the following novelties.

| | | |
|---|---|---|
| Acroclinium roseum album | Ipomœa hederacea superba lilacina | Pharbites (Convolvulus) hybrida ginata |
| Celosia pyramidalis | ,, atropurpurea | Portulacca caryophylloides |
| Chrysanthemum Burridgeanum | Lupinus Hartwegi cœlestinus | Œnothera bistorta Veitchi |
| ,, venustum | Myosotis azurea grandiflora (Large-flowered Forget-me-Not) | ,, Drummondi nana |
| Datura humilis (flava pleno) | New Double Orange French Marigold | ,, Viscaria cœli rosa alba |
| Dianthus hybridus corymbosis flore pleno | Nasturtium Tom Thumb (dwarf) | ,, Dunnetti |
| Gillardia hybrida grandiflora | Nasturtium Brilliant (not Lobbi Brilliant) | Silene rubella alba |
| Fenzlia dianthæflora | | Solanum capsicastrum |
| Nolana paradoxa violacea | | |

**Wellington Nursery, St. John's Wood, London.**

# MEADOW AND PASTURE GRASS SEEDS.

## GEORGE GIBBS & Co., Seedsmen, 26, Down Street,

BEG to announce that their mixtures of GRASS SEEDS are now ready for delivery. These mixtures are made up expressly to suit the various soils and climates of each variety is fully tested previous to being bulked. G. G. & Co. having supplied the Seeds for *Hyde Park, St. James's, and Regent's Park, Kensington Gardens, Kennington Park*, &c., for many years, feel assured no further testimonials are requisite. The Seeds are made up into two different mixtures, as they do not sow well together; 2 bushels of the light and 12 lbs. of the heavy seeds are allowed per acre.

Mr. GIBBS, giving his personal attention to the assorting of these mixtures assures his friends that every care is taken with regard to the proper proportions.

**MIXTURES FOR PERMANENT MEADOW & PASTURE** (adapted to the different soils) **32s. to 34s. per acre.**
**MIXTURES FOR IMPROVING & RENOVATING OLD GRASS LAND** (8 to 12 lbs. per acre) **1s. per lb.**
**MIXTURES OF THE FINEST SORTS FOR LAWNS, GRASS PLOTS, BOWLING GREENS, &c, 1s. 3d. per lb.**

SELECT STOCKS OF THE UNDERMENTIONED AGRICULTURAL SEEDS SUPPLIED AT THE PRICES STATED FOR THE PRESENT MONTH:—

| MANGEL WURZEL. Per lb.—s. d. | | CARROTS. Per lb.—s. d. | | SWEDES. Per lb.—s. d. | | RYE-GRASS. Per bushel—s. d. | | CLOVERS. Per lb.—s. d. | | VARIOUS Per lb.—s. d. | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| [illegible] | 0 9 | White Belgian | 1 0 | Ashcroft | 0 9 | Gibbs' Improved Italian | 7 0 | English Red | 9d. to 0 10 | Holcus saccharatus | 2 0 |
| Long Red | 0 10 | Yellow Belgian | 1 3 | Skirving's | 0 9 | Dickenson's Italian | 7 0 | White Dutch | 1 d. to 1 0 | Lucerne | 1 0 |
| [illegible] | 0 9 | Large Altringham | 1 6 | Matson's | 1 0 | Fine Imported do. | 7 0 | Trefoil | 4 d. to 0 5 | Drumhead Cabbage | 0 |
| [illegible] | 0 9 | Long Surrey | 1 6 | Kentish Green Crown | 1 0 | Common English | 6 0 | Alsike Hybrid | 2 0 | Large Cattle Parsnip | 1 0 |
| [illegible] | 0 9 | James's Scarlet | 1 6 | Marshall's Purple Top | 1 0 | Pacey's Perennial | 6s. to 7 0 | True Cow-grass | 1 0 | Kohl Rabi | 0 |

*Full Priced Catalogues sent free on application.—Cash or reference required from unknown Correspondents.*

**GEORGE GIBBS & Co., 26, Down Street, Piccadilly, London, W.**

## VEITCH'S PERFECTION PEA.

# MESSRS. VEITCH & SON

BEG to call the attention of Gardeners and Amateurs in Vegetables to the above most excellent Pea, which has been highly approved by all who have hitherto grown it, and respecting which *favourable notices* have on various occasions appeared in the *Gardeners' Chronicle*, and other papers. It is a large Wrinkled Marrow, average height 4 feet, immense cropper, and delicious flavour. A limited quantity can be supplied for this season's growth, at 2s 6d per quart. Messrs. V. & Son intending to grow it in quantity for next season's sale, are desirous that as many parties as possible shall have the opportunity of proving its merits.

## TO THE TRADE.

## VEITCH'S PERFECTION PEA.

THE PEA having been *so favourably* noticed on several occasions in the *Gardeners' Chronicle*, and being so *highly approved* of by those who have already proved it, Messrs. VEITCH & SON have made arrangements for *growing it in quantity* this season for sale by wholesale *next autumn*. That all parties who so desire it may be acquainted with the merits and character of this variety, Messrs V. & S. will be happy to spare a quart or two for trial to any of the Trade who may wish to have it, at the reduced price, 2s. 6d. per quart.

**ROYAL EXOTIC NURSERIES, EXETER & CHELSEA, March 1859.**

# EXHIBITION OF CAMELLIAS,

VAUXHALL NURSERY, WANDSWORTH ROAD.

# MILNE, ARNOTT, & CO.,

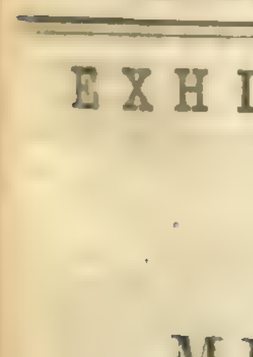
(SUCCESSORS TO CHANDLER & SONS),

HAVE much pleasure in announcing that the large Collection of CAMELLIAS for which this Nursery has long been celebrated, is now coming finely into bloom, and will improve daily, and continue in perfection several weeks. Open to visitors every day except Sunday.

**MILNE, ARNOTT, & Co.,**
NURSERYMEN, SEEDSMEN, AND FLORISTS, WANDSWORTH ROAD, LONDON, S.

# CHOICE FLOWERS.

# BUTLER & McCULLOCH'S SPRING CATALOGUE OF SEEDS,



ARRANGED on a new and original plan, with copious Descriptive and Cultural Notes, and containing many new and rare species and varieties not found in any other Catalogue, now ready and may be had free and post paid on application.

FLOWER, SHRUB, TREE, and VEGETABLE SEEDS, the crop of 1858, saved with the greatest care, by the most eminent growers.

We may also state that the Sardinian correspondent of Messrs. JAMES CARTER & Co., whose Seeds, especially Carnations and Picotees, have given such universal satisfaction, has transferred the Agency from that firm and appointed us his representative in this country. To meet the growing demand for first class flowers, particularly FLORISTS' FLOWERS, we have adopted our usual maxim of charging the lowest possible prices.

Professor LINDLEY in the *Gardeners' Chronicle* of February 5th, has the following notice of B. & McC.'s Catalogue.

"B. & McCULLOCH'S (Covent Garden) Spring Catalogue of Choice Flower, Shrub, Tree, and Vegetable Seeds. This list contains two pages, and is remarkably well got up. It appears that the correspondent in Sardinia, who formerly supplied one of the great London houses with seeds raised in that warm part of Europe, has now transferred what is termed the agency of its arrangements."

| | | | |
|---|---|---|---|
| 12 Sorts of beautiful Annual Flower Seeds | 7s. 6d. | An Assortment of Vegetable Seeds, 20 quarts of Peas, and other Seeds in proportion for 1 year's supply | £3 3s. 0d |
| 24 ditto ditto | 5 5 0 | Ditto ditto 12 quarts of Peas | 2 2 0 |
| 12 ditto ditto | 3 3 0 | Ditto ditto 6 ditto ditto | 1 1 0 |
| 12 Sorts of beautiful Biennial and Perennial | 10 6 | Ditto ditto 5 ditto ditto | 0 15 0 |
| 24 ditto ditto | 7 0 | | |
| 12 ditto ditto | 5 5 0 | | |

Seeds sent post paid, and Vegetable or Vegetable and Flower Seeds amounting to 1*l.* 1s. Carriage Paid to any principal Railway Station in England, Wales, and Scotland, or any port on the Irish Coast.

**BUTLER & McCULLOCH, Covent Garden Market.**

### SPECIMEN ERICAS AND GREENHOUSE PLANTS

R. GLENDINNING has to offer to Exhibitors as well as for private decoration a number of beautifully grown Specimens and Half-Specimens of ERICAS and GREENHOUSE PLANTS in the healthiest possible condition. R. G. respectfully solicits an inspection of the same; but to those who may find it inconvenient names, sizes, and prices will be furnished on application.—Chiswick Nursery, London, W.

### NEW SEEDS FOR 1859.

WM. CUTBUSH AND SON beg respectfully to intimate that their PRICED CATALOGUE OF VEGETABLE AND FLOWER SEEDS, &c., is now ready post free on application. WM. C. AND SON devote particular attention to this department of their business, and most of the choicer kinds of culinary seeds and roots are saved under their own inspection, and they can confidently guarantee the quality of all offered.—Highgate Nurseries, London, N. Established A.D. 1665.

### AZALEA INDICA.

J. IVERY AND SON beg respectfully to invite growers of the above named to an inspection of their unrivalled Stock of Young Specimens of all the newest and best varieties, many of which have been exhibited at the Metropolitan Exhibitions. They are clean and healthy, well set with bloom, and moderate in price. Catalogues forwarded post free upon application.—Dorking Nursery, March 12.

### FLORISTS' FLOWERS, SEEDS, ETC.

CAREY TYSO, FLORIST, &c., Wallingford, Berks, can still supply of the best quality:—

| | £ | s. | d. |
|---|---|---|---|
| *RANUNCULUSES, 50 superb sorts | 1 | 0 | 0 |
| *Ditto, 50 mixed, 5s. to | 0 | 10 | 0 |
| *DOUBLE ANEMONES, 50 fine sorts | 0 | 10 | 6 |
| CARNATIONS and PICOTEES, 12 pairs | 1 | 0 | 0 |
| PINKS, 12 pairs, 7s. 6d. to | 0 | 15 | 0 |
| *PANSIES, 12 plants, 4s. to | 0 | 12 | 0 |

*Imported GERMAN ASTERS, BALSAMS, STOCKS, LARKSPURS, WALLFLOWERS, ZINNIAS, &c., 1s. and 2s. 6d. per assortment.

C. Tyso's FLORAL CATALOGUES for 1859 may be had for one label.

*These articles can be forwarded by post.

### THE ADVANTAGES OF CASH PURCHASES.

ROYAL BERKSHIRE SEED ESTABLISHMENT.

SUTTON AND SONS, SEED GROWERS, Reading, desiring to encourage the practice of purchasing AGRICULTURAL SEEDS for cash payment, afford the full benefit to which such purchasers are entitled.

Applications for cash terms, stating quantities required, will be liberally responded to. GOODS DELIVERED CARRIAGE FREE.

### ROYAL SOUTH HANTS SEED ESTABLISHMENT.

UNDER THE PATRONAGE OF H.R.H. THE PRINCE CONSORT, THE AGRICULTURAL, HORTICULTURAL SOCIETY OF INDIA, AND THE LEADING AGRICULTURISTS OF THE UNITED KINGDOM.

PAGE AND TOOGOOD can now supply GARDEN AND FARM SEEDS, carriage free; SEED POTATOES, &c. The numerous Prizes gained by their Stocks are convincing proofs of superior quality, and their prices compete with any house in the kingdom. WHOLESALE and RETAIL. PRICED CATALOGUES upon application.

Agents for ODAMS's Blood Manure, Superphosphate, &c. Seeds Packed for Exportation to all Parts of the world,

37 and 38, Oxford Street (facing the Railway Terminus); and 58, Above Bar, Southampton.


# The Gardeners' Chronicle.

*SATURDAY, MARCH 12, 1859.*


MEETINGS FOR THE FOLLOWING WEEK.

THURSDAY, March 17—Linnean ..... 8 P.M.

No greater enemy has attacked our hothouses of late years than that alarming DISEASE which has shown itself AMONG ORCHIDS. Plants of great value have by degrees, although under very careful management, become disfigured by lines or blotches of a black colour, caused by the destruction of a portion of their tissue; these dark spaces run together, and so injure the constitution of the plants affected that roots will no longer form, and the attack ends frequently in death. Various

causes have been assigned for the appearances in question. Excessive dryness, excessive wet, want of air, admission of cold air, too high a temperature, too low a temperature—all these have, by one person or another, been supposed to produce the injury. And now we have an entirely new explanation.

In our last Number our learned correspondent "J. O. W." described an Acarus-like insect, which had been detected in large quantities on the diseased Orchids of a celebrated collection in the West of England, by Mr. DOMINY, the intelligent foreman in the nursery of Messrs. VEITCH, of Exeter. To the naked eye it is almost invisible, except when several are collected together, but its white cast-off skins are more conspicuous. It is however, as Mr. PARFITT, of St. Leonard's, near Exeter, mentions in a letter, most common on the healthy part of leaves, the insect appearing not to like the places it has killed, but continually shifting its quarters as the points it attacks begin to decay. The creature is in reality a minute kind of red spider, and is supposed to have been imported with Indian Orchids. Like red spider it will no doubt be easily removed by sulphur applications, or by other means. Indeed Mr. DOMINY believes that he has already found it possible to destroy it without sulphur, by the use of the following composition:—"To each gallon of soft water add three small tablespoonsfull of turpentine, 8 oz. soft soap, and 2 oz. tobacco; let the mixture soak for 24 hours in a warm house, then mix well together and strain through a fine sieve or coarse cloth; the mixture will then be fit for use. It must be kept covered to prevent evaporation, and used at the same temperature as that of the air in which the plants grow; the latter must not be kept in the composition longer than can be helped, say half a second. After dipping allow the composition to remain on for a day or two, then sponge the plants with clean warm water, and keep the house moist and at a tolerably low temperature, but not so low as to engender cold damp. Steaming the plants a little nights and mornings may also be recommended, provided the weather is not dull. Admit a prudent supply of top and side air on fine days, but be careful to avoid cold currents." Thus it would appear that the hour in which the presence of the enemy among us is known is also the hour in which his doom is sealed.

We all know that the red spider can thrive only in a dry atmosphere, and that its presence in hothouses arises from the air not being kept sufficiently moist. We never, for instance, see it in a damp warm Vinery, although in dry ones in autumn it is common enough. So it seems to be with this Acarus: the greatest mischief is done by it when the air is driest. There is for example a Dendrobium Farmeri suspended in the house of a collector of our acquaintance, which is perfectly healthy, although the Acarus-disease is unfortunately too rife among the other plants in the same house. Now this Dendrobium is suspended next an end wall, which is comparatively cool and moist.

The term Acarus-disease has just been used. Let us explain why. Although there seems to be no doubt that the Acarus is in some way connected with one form of disease, it by no means follows that it is always the cause of the deadly spots which Orchid growers so justly dread. On the contrary, while we find on an infested Stanhopea now before us lines of spots which, viewed against the light, are semi-transparent with a dead brown central point, yet in a diseased Cymbidium nothing is to be seen except a brown circular disk commencing in the central tissue of the leaf, and gradually advancing outwards till it reaches the skin, when it spreads rapidly all round its own circumference, unattended from the beginning by any transparent border. Can these appearances arise out of the same cause? Is it not more probable that they have two distinct origins? That the transparent spot belongs to the Acarus, and the opaque one to something else? At present there is no evidence upon the subject, and therefore we merely suggest the possibility of the two appearances having no connection with each other. And this is a point of very great importance, because if it is believed that the Orchid disease is caused by Acari, and their destruction be all that is aimed at, great disappointment will be felt when it is discovered that Orchids continue to be diseased, although Acarus and all his family are extinguished. For ourselves we strongly incline to the belief that no composition or application whatever will prevent the disease unless the plants are kept in thoroughly high condition by attention to their general health. We could point indeed to places where it would be absurd to lay the blame of illness upon Acari, there being most unmistakeable signs of general neglect, which is quite sufficient to destroy plants without the assistance of this new discovery.

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AMONG the irregular deviations from their ordinary form, to which flowers are subject, that of which we here give a sketch is not the least interesting. A seedling Correa, raised by Mr. VAN HOUTTE, to whom we owe the sketch and a dried flower, produces exclusively such blossoms as are here represented; that is to say, instead of forming a tube with four small teeth at the end, the flowers

divide into four spreading narrow petals. At the same time the stamens lose their regular alternation and opposition to the petals, and are reduced in number from eight to six or even five. We do not recollect an analogous case, although it was only to be anticipated in a genus whose quasi-monopetalous corollas are really formed by the adhesion, not strict organic union, of petals. The Correa itself seems to be some form of Correa speciosa.

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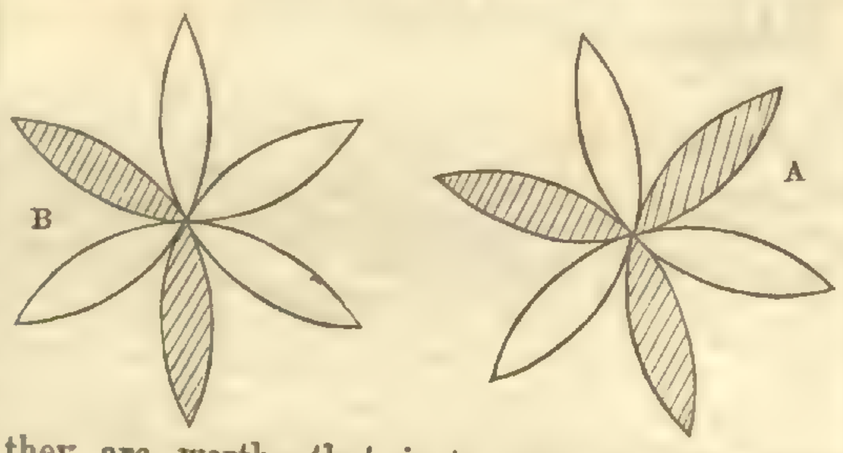
THE opinions of Sir GARDNER WILKINSON upon the subject of COLOUR as a decoration IN HORTICULTURE will doubtless comfort many an honest soul who has puzzled himself with the doctrine of complementaries. That the learned author is right there is no doubt in our own minds. Were he not it would be time to show that even if CHEVREUIL'S maxims were true they cannot be applied in gardens. The truth is that plants do not furnish the means of carrying out his views; either the requisite colours to form CHEVREUIL'S harmonious combinations do not co-exist, or the plants in which they occur are so different in their manner of growth as to render it impossible to use them for purposes of contrast; their flowers are not on the same plane, or they are so mixed with green as to lose the quality belonging to the coloured parts, or some close up while others expand, and many again have one colour on the upper side and quite another on the lower, so that the effect is changed at every instant by the mere action of wind. All this is notorious to gardeners, although we fear not so certain in the minds of their employers, who sometimes demand impossibilities, and blame their gardeners for not performing them.

It is very well for an amateur or a landscape gardener to draw a pattern on paper, and to mix up reds, and blues, and yellows, and greens, and all the other colours of the palette, so as to form a gaudy picture. But it is not very well to require a gardener to execute such a work. It is the merest ignorance of practical matters to propose it. Designs of such a nature ought never to be taken for more than




they are worth—that is to say, as suggestions by men of taste as to the general way in which good effects may be obtained. The consequence of attempting to follow blindly such directions may be seen anywhere in autumn, in the form of ragged flower beds, broken "ribbands," and continuous lines in which there is no continuity. Even Sir GARDNER WILKINSON appears not to appreciate sufficiently the difficulties of such an operation, for in some coloured designs for flower gardens introduced into his interesting volume he demands colours, especially blues and purples, which cannot be found among "bedding out" plants. In this he seems to have been misled by some incompetent adviser, if we are to judge from a list of plants to be used for colour, appended to the chapter on dressed gardens. Take for ... Salvia patens, a beautiful thing, ... whose flowers are extremely fugitive ... ferent kinds of Anagallis, closing their ... under every passing cloud; or Gentiana ... nanthe, not a very cultivable species, with ... more often shut than open; or Scabiosa ... hopelessly shabby; or the Gilias, which ... cannot be concealed; or Helianthemum ... blossoms of a morning; or, to cease ... meration, Martynia diandra, a tender ... to be broken by every wind or nipped by ... chilly night.

General principles are evidently all that ... dener should be required to observe; and ... be only expected to keep as near them as ... rials at his command will permit. If ... direct his operations insist upon a strict ... to the patterns they furnish, they should ... upon to name the plants by which each ... be obtained—and to assume all the responsibility that will attach to the failure which may ... their plans. Among the general principles ... alluded to attention to symmetry, or as Sir ... prefers to call it, "symmetricality," is ... portant. It is the easiest of execution, is ... certain in its effects, and has a permanent ... which remains when the gay summer ... are gone. Correspondence and contrast ... its great features; correspondence in ... position, contrast in colour. How symmetrical arrangements of colour are to be ... out the pages of a newspaper cannot ... This however may be stated, that where ... geometrical gardens skilfully designed every ... is made to answer to some other part in ... magnitude, so in introducing colour every ... yellow, or blue, should answer to some ... red, yellow, or blue in some other part ... design placed in correspondence within the ... of the eye. Perhaps this may be sufficiently illustrated by the comparison of a couple ... pointed stars, of which one is symmetrically coloured, and the other the reverse. (The ... parts represent dark colours, the unshaded ... colours.)

Here A is symmetrically arranged and ... contrary. It would be difficult to spoil the ... of A; it would be impossible to render B ... It is to symmetrical arrangement indeed that ... are called Box gardens chiefly owe their ... of which a specimen is given by Sir GARDNER ... his work now referred to:—

"If," he observes, "some object to Box ... it harbours insects, this grievance is not beyond ... remedy, and the trouble it gives is compensated ... for by the appearance of the Box itself. In ... portion of the dressed garden, with patterns ... out entirely in Box, is by no means unworthy ... commendation, like that beautiful one attached ... the Kasr (or Al Casr) at Seville; where (though ... its present condition it is said to be the work ... Frenchman) I think we may trace some ... taken from Arabic sentences entirely formed ... Box. They have a very pleasing effect. ... valuable hint may be obtained from this ... evergreen design for winter beds. Each ... compartment is marked off by a higher and ... hedge, or barrier, of the same, or of some ... evergreen plant, and within it are the beds ... of patterns and small paths of gravel. ... designs in Box might with advantage form ... portion of a large dressed garden, distinct ... the other geometrical beds; and it is not ... to unite some low Box patterns with these ... though they generally look far better by ... selves, and the flower beds may be sometimes ... having their edgings of Box. Sometimes ... patterns may be laid out in some other part ... garden; or even in the level turf, being ... rounded and marked out by small gravel ... or they may form a small independent parterre ... themselves."

All these are matters deserving the attention of the lovers of decorated gardens, and we trust that Sir GARDNER WILKINSON'S views will find disciples everywhere.

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## RHODODENDRONS.—No. V.

BUT here something may be said of pruning. ... plant ordinarily cultivated will bear the knife ... than the Rhododendron. It matters not how ... stems are, they may be cut with perfect safety ... obtaining a plentiful supply of rapid-growing ... and when plants get old, bare, and straggling, ... natural concomitants—a paucity of and poverty ... flowers—no more speedy means of renovation ... adopted than by cutting them well back. As a ... rule, however, never cut back and transplant ... same time, or in the same year; and no matter ... plants you propose to prune are of any value ...

[illegible] well established before you use the knife to [illegible] to such as are well rooted cut as hard as you please. Of course, as before hinted, discrimination must be exercised in determining the nature of the plants to be operated on—whether on their own roots or grafted. A few years since we saw some large masses of common Rhododendrons 12 or 15 feet high, which had much overgrown the positions intended for them. It was necessary to reduce. A gentleman well acquainted with the growth and habits of the plant recommended the radical measure of cutting back to within a few feet more or less of the ground. This was done with astonishing results. In two years after cutting in place of huge straggling plants were vigorous bushy masses of foliage and flower. And the same results may be obtained by anybody under like conditions.

The best season for pruning the Rhododendron, as indeed it is for all evergreens, is in spring so soon as vegetation becomes active. But if, as will generally be the case, it is desirable to preserve the flowers, cut immediately they are faded; growth is made early, and by taking advantage of that a season's wood is gained. If pruning is effected late in summer, Nature in endeavouring to repair the damage will certainly induce new growths; but they must necessarily be, on the arrival of winter, feeble and immature, a prey to all the contingencies of the season. By allowing the flowers to be removed before pruning, and yet performing the operation soon enough to secure the full amount of the current year's growth, one season's bloom only will be lost, a good share of flower will reward you in the second year, *i. e.*, supposing the plants to be in an ordinary open situation; if under trees in a thick wood these results will not be so speedily attained.

In a late number of the *Gardeners' Chronicle* a correspondent asked if Rhododendrons, the flowers of which were picked off now, would flower in the autumn of 1859, adding that he had been assured such would be the case, but required confirmation. We advise him to try no such experiments; the result must be an absence of flowers this year without attaining his object in 1860. The blossoms will be produced in their natural season then, probably however more abundant and finer than usual, in consequence of the strength of the plants being husbanded from having none to support in the present one. Such advice could only be given as mere conjecture, and without for a moment considering the nature of the plant in question. Rhododendron flowers are often naturally, or rather unnaturally, produced in autumn; but they are generally more or less deformed by immature then, and they are usually abundant when the weather is more than ordinarily moist and warm at that season. And as such are invariably produced at the expense of the ensuing summer's blossom they are by no means to be desired then.

Whenever time and labour will allow, the seed-vessels should be picked off as soon as the flowers fade. The vigour of the plants is much preserved by the practice, and the blossoms in the ensuing year finer and more abundant than when the seeds are allowed to ripen on the branches. They should be removed with caution or many shoots will be destroyed. If children are employed to do this, they should be carefully instructed as much damage will result from more of each branch being taken off than is necessary, carrying with it many nascent shoots. *G. Lovell, Bagshot.*

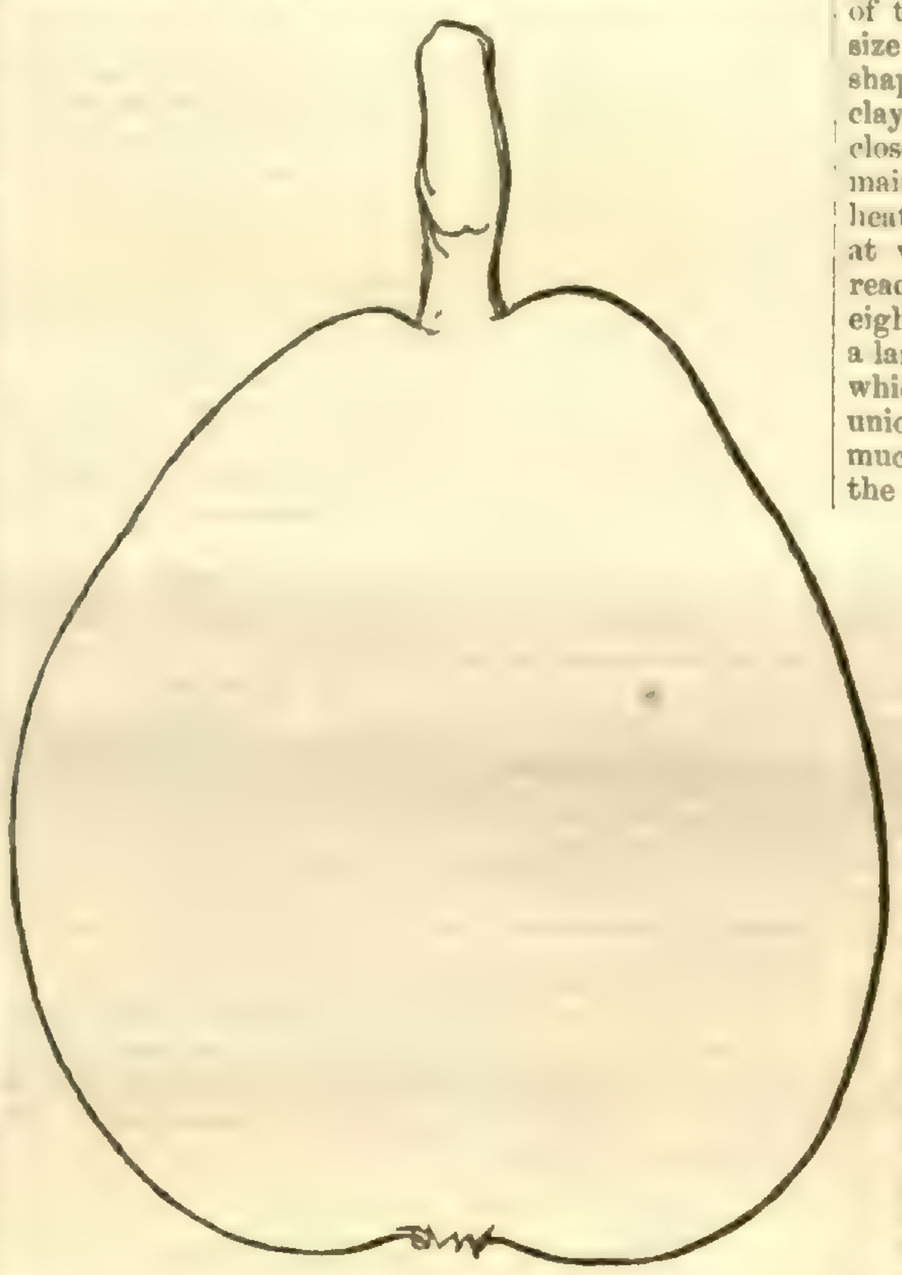
*(To be continued.)*

## HOLLYHOCKS.

They require good old garden soil well trenched over to the depth of 2 feet, with plenty of thoroughly decomposed manure, such as old Cucumber beds, or spent soil mixed with the earth. If the subsoil is wet they will thrive remarkably well in the summer, but in the winter wet is very injurious to them, when old plants are allowed to remain; to prevent which I remove the mould round the neck of the plant, and fill in with white sand, about 6 inches round the stem, level with the surface; it is simply to preserve them from wet and insects, from which, in the winter, they are apt to suffer very much, if not killed. I strongly advocate young plants being planted every year, as you would cuttings, to secure fine flowers. They may be propagated by single eyes in July and August, also by cuttings in the spring, placed on a slight bottom heat. Plants saved in the summer are best preserved by repotting them in October into large pots—the larger the better, in light rich sandy earth, and placed in a cold frame or pit, giving plenty of air on all favourable occasions; they will then grow during the winter. In March or April turn them out into the open ground, and they will bloom as fine and as early as if planted in the autumn. Plants even put out in May will flower the same year. Plant them not less than 4 feet from row to row, and 3 feet apart in the row. If grouped in beds, not nearer than 3 feet each way. They will grow well in the shade of distant trees, but by no means must the roots interfere. In May or June, when the spikes are grown a foot high, thin them out according to the strength of the plant; if well established, and very fine, leave four spikes; if weak, two or three; when they are required for exhibition, only one must be left. The following observations on exhibiting perhaps may not be out of place here, and as I believe the best way of showing the Hollyhocks is in spikes, I give my opinion of what I consider the standard of a perfect spike. In judging, the first point I notice is the floral flower on the spike, the perfection of which consists in the petals being of thick substance, the edges smooth and even. The florets occupying the centre must be full and compact, closely arranged, rising in the middle to a half globular form, with a stiff guard petal extending about half an inch, or in proportion to the size of the centre ball, so that the different parts of the flower present a uniform appearance. Second—the arrangements of the flowers on the spike should be regular, not crowded together into a confused mass; nor loosely hanging with open spaces between each flower, but so disposed that the shape of each may be distinctly seen, and fully blown, the uppermost covering the top: nothing can add more to its beauty than a few small green leaves between the flowers, which give it an elegant and graceful appearance. The third point is colour—the brightest, strongest, and most distinct stand first, but it is desirable to obtain all imaginable shades. Stake them before they get too high, and secure them well by tying, and they will grow erect. The most robust grower does not require a stake higher than 4 feet from the ground, If the weather is dry at this season of the year, they may be watered with a solution of guano, or any other liquid manure, poured carefully round the roots, avoiding to pour it on or too near the stem. To grow the flowers fine, cut off the lateral shoots, thin the flower buds, if crowded together, and take off the top of the spike, according to the height desired, paying attention to the usual height and habit of the plant. Observe, by topping it, you may increase the size of the flower, but at the same time shorten its duration of flowering, and perhaps disfigure its appearance. *Chater's List of Hollyhocks grown for sale in his Nursery, Saffron Walden.*

## NEW PEARS.

*Delices d'Hardenpont d'Angers.*—This is a hardy, good melting Pear, which ripens in November and lasts sometimes till far in December. It succeeds remarkably



well on the Quince stock, and forms naturally and with but little pruning a very handsome pyramid.

## A SINGULAR INSTANCE OF ARBOREOUS VIGOUR.

Trees in walls are always rude intruders, having no business there. Seeds of trees floating down the torrent, or driven by the wind, will enter crevices of walls, and there take root with scanty means of nourishment. And if the superincumbent pressure of the stones be too strong for the new tenant to lift them up, it will gradually elbow itself out at the junction of the stones, and there in time form an excrescence on the face of the wall, holding the stones in its firm embrace. Dyer, the poet, must have witnessed this at Grongar Hill, when he described the Ivy supporting the wall.

> "There both a safety from the wind,
> In mutual dependence find."

But we have here a phenomenon still more striking. It is of a Nut tree supporting a large millstone. About a century ago our watermill of ancient days was destroyed to make way for supposed improvements; and nothing now remains to show the spot where once it stood, save a huge millstone. For years it lay flat on the ground amongst surrounding Cherry trees, till in the autumn of 1811, some animal, possibly a squirrel, deposited a few nuts at the bottom of the hole in the centre of the millstone. During the following spring one of these nuts began to germinate, and then raised its puny head out at the hole in the stone. One day I observed to a naval officer who was standing by, that the diminutive plant before us, if it lived and had good luck, would, in time, lift the millstone from the ground where it lay, and then support it. He doubted this. But time has shown that he was wrong in his surmise.

The young Nut plant improved in health and strength till it entirely filled the cavity of the stone; so that, to the inspecting eye, the wood and stone seemed to form a compact body. It now began to lift the stone. Year after year this massive millstone rose a trifle from earth to sky, and whilst I am writing this, it is now nearly 9 inches in mid air. The Nuts are excellent, and always full grown; whilst the tree itself which bears them sets tempests at defiance; and, notwithstanding its gigantic burden, is never seen even to totter when "the stormy winds do blow."

It goes by the name of old Mr. Bull with the national debt round his neck. Facetious appellation! Nevertheless it seems to offer a lesson to the speculative politician, that this millstone must ultimately be smashed by the hand of man, or the tree itself must die of strangulation. *Charles Waterton, Walton Hall, March 5.*

## Home Correspondence.

*Grafting Vines.*—Having read Mr. Spary's remarks on grafting upon new wood, I venture to describe a somewhat similar operation, except that it was old wood I worked upon instead of new. In January, 1854, a strong plant of West's St. Peter, the only stock that could be spared in an early Vinery, was headed back to within a foot of the front upright sash. At a foot below a strong shoot of the previous year had been left. This was cut back to within 2 inches of the stock; a piece of bark with a small portion of wood was cut clean from the side as in whip grafting, with this difference, that a cut was made on the reverse side much shorter, leaving the top a tapering wedge to receive the grafts, the tongue being cut to fit over the top instead of the side as in whip grafting. This is, I believe, called saddle grafting. A strong shoot of the previous year's growth of the Golden Hamburgh was chosen, and of the same size as the stock, leaving only one eye. This was shaped to fit the stock, the usual method of tying, claying, &c., being resorted to. The house was kept close through January, when sufficient warmth was maintained to keep out frost, gradually increasing the heat through February up to the beginning of March, at which time all the Vines, except the graft, were ready to open their buds. The bud on the graft was eight days before it began to push. In the meantime a large quantity of sap had exuded from the old stump, which had been left a foot long above the union to save the newly-cut parts from too much moisture by the flooding of the sap, while the healing process was going on. As soon as the buds began to grow the bleeding ceased, the growth was most vigorous, and two eyes close to the base broke directly after forming, and contended strongly with the leading shoot for the mastery of growth; another subdivision ensued, and these last two main shoots broke two eyes each at the bottom, and were stopped at the termination of the bottom light. The vigour still increased, and the lateral shoots were equal in size to many of the side branches on ordinary Vines, and fruited the following season. The growth indeed was the most extraordinary from a single eye I had ever seen, covering completely two lights, part of two others, as well as the greater part of the end section. As soon as the growth subsided in autumn foreshortening and thinning were commenced, which would in ordinary cases have been carried on with the growth, but the fear of breaking all the fruiting eyes on the principal shoots induced me to forego the stopping and thinning until the unusual vigour had subsided. At the winter pruning an immense quantity of wood was cut out; the eyes which were thoroughly matured and fit for propagation amounting to some hundreds. Nearly two-thirds of the principal shoots were cut out, the side ones or laterals were spurred into one and two eyes. In 1855 forcing began at the same time as the previous year, but very steadily, allowing plenty of time for the eyes to break; they all broke well, and showed 32 bunches of Grapes. These were reduced to 16, which were large and ripened well, and from this crop were taken the three bunches that were shown at the Horticultural Society's Exhibition in July, 1855, and awarded the large Silver Medal. *M. Busby, F.H.S.*——A Muscat planted in a late house was grafted here with a Black Hamburgh. The operation was not done when the Vine was in full leaf, as Mr. Spary's was, but it was cut down when just breaking the second week in March, 1857. It grew remarkably fast, for it reached the top of the house (25 feet) the first season, and was stopped in its career by closing the top lights, which cut the ends off. It was shortened back to six eyes, when again last season it reached the top of the house, where it was stopped—but this time with the finger and thumb. It was grafted on the cleft or wedge system, in three different places, viz., the leader and two laterals. The three canes appear to have grown very regularly, there being but little difference in the size of any of them. The grafts were taken off in November and kept moist by inserting the ends into the damp soil of the house. All was clayed and mossed in the usual way, and from what I can glean, it bled but very little. The callus formed quickly, and in a little time was scarcely perceptible. *Thos. Smith, Gardener, Great Brickhill Manor, Fenny Stratford, Bucks.*

*Gas Lime for destroying Ants in Meadows and Lawns.*—I have been using this and find it a very good remedy for these pests of our meadows. We have sometimes 20 or 30 hills in the space of a perch of ground, making it nearly impossible to mow; and nothing will eat the coarse Grass that grows on them. My plan is as follows: during cold weather, when the ants are dormant, I take a spade and cut round the outside of the little hills, push the spade under them a little way, raise them up and turn them over; this exposes the greater part of the ants. Then with the point of the spade I remove the crumbs from the bottom of the hole, taking care to get as many of the ants as possible, and scatter them on the surface. I then pare off a little of the under part of the turf and scatter it about; and if the weather is cold or wet, the first night will destroy the enemy. There will still be a few left in the runs; to destroy these make a hole with a crowbar in the middle of each nest about a foot deep, moving it round so as to make the hole as wide as possible; then fill up with strong gas-lime, using half a spadeful to each nest, place the turf in its original position, and stamp it down firmly to its proper level. All the ants that come in contact with the gas-lime will be killed, and the remainder will forsake the nest. I can warrant that they will not work any more in their old nest with a spadeful of strong gas-lime bottled up in the middle of it. It is necessary that the turf should be left 2 or 3 inches thick, otherwise it will be burned through by the lime below. This plan is not very expensive, as the lime can be procured at 1*s.* per ton, and a man will destroy a great many in a day. *George Peden, Pavilion Gardens, Folkestone.*

*Plant Sales.*—During the season now nearly at a close, my attention has been called to various sales by auction of nursery stock in the neighbourhood of London, and on comparing the sale catalogue with what I have known to be the stock on the place (that being supposed to be the object of sale), I have found large quantities of plants and trees which had never been seen on the premises till then; but which had been brought in by the auctioneers just previous to the day or days of sale, either to swell the pages of the catalogue, or to relieve themselves of portions of their own surplus stock. Now, the grievance (as it appears to me) is this. An unreserved sale by auction is announced; buyers attend in the belief that the lots will be sold for what they will fetch, instead of which there is a certain price reserved for the best things, and if the bidding does not reach so high they are "bought in." So much for one side of the grievance. On the other hand (and this is by far the worst feature), tradesmen carrying on business in the immediate neighbourhood of these sales, and who trade in a straightforward manner, are annoyed by the pouring in of stock, similar to that which they may be selling at a fair remunerative price. Now I admit that any one who has goods to dispose of has a perfect right to make the most of them in a fair and honest way; but the above I consider is not fair or honourable, but making money (to sum the matter up in a few words) under false pretences. I hope that the subject may be taken up by abler hands, and be fairly discussed. *Fair Play.* [We print this, but cannot allow it to become a subject of discussion. It is no business of ours to meddle with honest tradesmen and their way of carrying on their business.]

*Dioscorea Batatas.*—Having 12 months ago been favoured with a few cuttings or sets of this vegetable I promised to give a true report as to the produce or result. I planted bits 1½ inch long in small pots and put them in my greenhouse; they all grew well. I turned a few out of the pots into deep mould in my garden, but the majority (the 1st of June) to some rows of Carrots and Parsneps in my tillage field, being a fine sandy good loam on sandy bottom. They went on rightly, but finding rabbits ate them down I put spare wire netting over them, pegged down the runners at some joints, but never found any of them root. Having an open winter (though occasional night-frosts of some 26°), I never took them up till the 1st of March. I found decay of the stalk of from 1 to 4 inches downwards, but all the rest sound and good. I was disappointed with the size when I first got the sets and I am also disappointed in the produce. This Yam never can be worth growing in this country, for it should have deep good soil, yet it only produces one tuber to a plant, and if ever so large would give great trouble and expense to dig up any quantity, the thick end 10 to 12 inches below the top requiring careful digging. On the back of this sheet I give the natural size of what I took up; also of Parsneps in the same rows. There can be no question as to the value of the two relatively. I had hoped better things when I read of this root nearly two years ago, but truth should be told and care taken not to mislead. *Frs. Wailes, Husthwaite, near Easingwold.* [No one has ever pretended to compare the produce of Chinese Yams with Parsneps; or to recommend the former for field cultivation. The specimens obtained by our correspondent were not such as good gardeners raise, as was to be expected from his greenhouse management assisted by rabbits.]

*Trade Catalogues.*—Allow me to suggest that it would be a service both to amateurs and also to a considerable proportion of the gardening profession if nurserymen—the leading ones more particularly—would divide their stove plants into two sections—the tender and the cool or intermediate kinds. There are many who have no opportunity of ascertaining the hardiness of the various stove plants offered for sale, except by personal experience; and by adopting the plan I mention a useful guide would be afforded to buyers, who could then purchase what would suit their structures only, and not what they would in all probability fail to manage. The Messrs. Henderson employ an asterisk to distinguish hardy greenhouse plants from others; this might with equal advantage be extended to stove plants; it would save a deal of disappointment and vexation without materially affecting the seller's returns. *J. M., Hawkchurch, near Axminster, Devon.*

*The Canadian Cotton*, to which "J. M." calls attention in *Gardeners' Chronicle* for Jan. 1, is the seed down of Milk weed or Silk weed, Asclepias Cornuti, very nice-looking Cotton indeed; but, for sufficient reason, it cannot be spun. *G.*

*Garden Expenses.*—The discussion which took place on this subject in your columns last spring induced me to keep a record of the expenses of the different departments under my charge, and also of the market value of the produce of such departments as are expected to yield a return for the labour expended on them, and the following is the result. Subjoined is a tabular statement of the total expenditure for the year ending December, 1858, and also the return for eight months, viz., from May to December:—

| *Expenditure.* | £ | *s.* | *d.* |
|---|---|---|---|
| Ornamental department .. .. .. .. | 150 | 17 | 1½ |
| Vegetable department .. .. .. .. | 21 | 19 | 3 |
| Fruit department .. .. .. .. | 22 | 8 | 4½ |
| Coals .. .. .. .. .. .. | 9 | 0 | 4 |
| Holidays and sickness .. .. .. .. | 4 | 15 | 2 |
| House .. .. .. .. .. .. | 39 | 10 | 5 |
| Fences on farm .. .. .. .. .. | 21 | 2 | 11 |
| Woods .. .. .. .. .. .. | 8 | 15 | 2 |
| Additional farm work .. .. .. .. | 6 | 0 | 0 |
| Total .. .. .. .. | 284 | 8 | 9 |
| *Returns.* | £ | *s.* | *d.* |
| Grapes .. .. .. .. .. .. | 38 | 10 | 0 |
| Orchard-house fruit .. .. .. .. | 8 | 6 | 0 |
| Wall fruit .. .. .. .. .. .. | 12 | 5 | 4 |
| Vegetables, small fruit, &c. .. .. .. | 56 | 3 | 6 |
| Wood .. .. .. .. .. .. | 31 | 13 | 6 |
| Total .. .. .. .. | 146 | 18 | 4 |

The kitchen garden is 2 acres in extent, enclosed with a wall; there are two Vineries (span-roofed), 25 feet by 15 feet; one of them is in full bearing order, the other was built in 1857, the crop in it last year was consequently small (one bunch to a rod). There is an orchard-house, 46 feet in length by 12 feet in width, in which Peaches and Nectarines chiefly are grown. The ornamental department includes greenhouse, flower garden, shrubberies, walks, borders, and drives, &c. *J. D., Fife, N. B.*

*Wellingtonia gigantea.*—The following tabular statement I have compiled from your columns; it will doubtless be interesting to your readers:—

| Locality. | Height. | Breadth. | Girth of stem. |
|---|---|---|---|
| | Ft. ins. | Ft ins. | Ft. ins. |
| Veitch's Nursery, Exeter .. | 9 6 | 6 0 | 1 3 |
| Ditto .. | 8 9 | 6 6 | 1 7 |
| Uffculme Vicarage, Devon .. | 7 10 | 6 0 | 1 4 |
| Tortworth Court .. .. | 7 9 | 6 1 | 1 0 |
| Hillersdon House, Devon .. | 7 8 | 7 0 | 1 0 |
| Congleton, Cheshire .. .. | 7 6 | 6 0 | 1 0 |
| Waterer's Nursery, Bagshot .. | 7 5 | 5 10 | |
| Fairlawn Park, Tunbridge .. | 7 0 | 6 5 | 1 3½ |
| Acton Green, Middlesex .. | 6 9 | 4 9 | 1 0 |
| Basing Park .. .. .. | 5 10½ | 5 2 | |
| Backhouse's Nursery, York .. | 5 9 | 5 0 | |

Perhaps in the ensuing autumn the owners of the above trees would kindly furnish their dimensions at that time, so that a comparison may be made of their relative growth. The above measurements were made last September. *W. C. G.*

## Foreign Correspondence.

Niger Expedition.—(*Concluded from page* 194.)

From Mr. Barter to Sir W. J. Hooker.

"Jeba, River Kworra, Nupe,
"Central Africa, Sept. 18, 1858.

"A messenger having just arrived from Lagos, and who returns to-morrow, enables me to send a few brief lines. Lieut. Glover informs us that the 'Rainbow' has been reported at Lisbon, and that she would not call at Lagos. He was therefore about leaving to proceed to Fernando Po, meet her there, and bring her up the river. As a journey overland takes about 20 days, and presuming the 'Rainbow' to be at Fernando Po on Lieut. Glover's arrival, we may, in the ordinary course of things, expect the steamer to be here in about six or ten days hence. The river has risen already about 10 feet, and will soon be at its highest point. Therefore there is not much time to be lost. We learn from the coast that the 'Sunbeam' entered the river, but soon stuck fast, and that her Kroomen, afraid of the natives, seized the boats and deserted the ship. How this could have happened we cannot tell, unless all the Europeans were sick. Our people here, Kroomen especially, are very anxious to be home, from which they have been kept much longer than was originally intended; but we have had little cause to complain of them. Soon after we came on shore here the Kroomen one morning were all in a state of mutiny. A moment's hesitation would have been fatal. Most of them were dancing about with drawn knives. Lieut. Glover seized the ringleader by the throat, a powerful man; three of us could not put him in irons. Yet out of eight people forming the remainder of the ship's crew, only one, the master, assisted us in the struggle. They [illegible] affected indifference. With such people [illegible] we have gone on so well. Strict [illegible] maintained since, and each trifling [illegible] followed by punishment. The routine [illegible] so monotonous as may be supposed; [illegible] break, I generally make some short [illegible] 9 or 10 o'clock, or we breakfast toge[ther] I lay out or shift my plants, write, or [illegible] job at which the people are kept employed for occupation is undoubtedly the best plan [illegible] from getting discontented. By the middle [illegible] we have a Babel of tongues in the camp [illegible] visitors; but chiefly people bringing pro[visions] the greater part women, who are the trad[ers] We dine at 3 o'clock, afterwards I ride [illegible] till sunset, or accompany Dr. Baikie in the [illegible] some of the little towns on the river near [illegible] seated under a Locust, Baobab, or Tama[rind] rounded by romping groups of little naked [children] who generally manage to pick our pockets [of] cowries, we chat to the people either [about] country (a subject they never tire of listening [to] hear all the gossip of the house. Nupe politics and scandal—the latter as much a subject [of] tion and agreeable comment in Central Africa [as] home. The boys and girls delight to [play] evenings and sometimes half the night in [front] the rude music of a wooden drum, or they [have] amusement when tired by singing songs. [One] this extempore; all the others joining in [chorus] at the end of the verse. They are quick [at] in this form any passing incidents of the [day] By the soft tropical moonlight coming [through] trees, we thread our steps among groups [who] forms asleep in each other's arms on the grass [and] many of them pass the night in this warm [air] Coming home at night anywhere near the [river] low grounds a beautiful scene presents itself. [The sky] though spangled with stars of great brilliancy [in this] climate, is rivalled by the myriads of fire-flies [that] dart their scintillating light over every object. [On the] coast I never saw them either so numerous or [so large] The jarring of the Cicadas, which seem to render the [whole] soil tremulous, is perhaps unpleasant, but one [becomes] accustomed to it that I almost fancy I could not [sleep in] stillness. I am constantly picking up some new [plant] but have nothing especially worth noticing [at present] arranging my whole collection, and in my next [I shall] give a summary of the species collected, which [will] be about 2000. Insects are troublesome; but [the] ture, although it rains now nearly every day; [the heat] is agreeable; sky clouded till noon, after which [the] thermometer seldom rises above 90° in the shade. [Much] less rain has fallen this season than last. [Even] the swamp betwixt our camp and the river, [through] which we waded among Nymphæas nearly [all] last year, is this season quite dry. We have been [so] long detained at Nupe, and it appears that Mr. [Laird's] directions have not been carried out in [regard] to the 'Sunbeam.' She was to ascend the river [Quorra] as Abo, to which place he, on referring to [Beecroft's] Journal, believed she would find a practicable [channel] from thence a large launch which the steamer [carried] was to be fitted out and ascend to our assistance. [So] much for good intentions. The practicability of the [whole] plan was another matter. In my boat from [Lokoja to] Onitsha in April I found the greatest difficulty in [many] passing many broad parts of the river; was [frequently] aground, and in making the ascent with a [strong] we had constantly to get out and drag the boat [sometimes] times half a mile together over the shoals. [Even] where the river was confined in one channel; [but] where it branches off into many, I scarcely [think] ship drawing 9 feet of water could ascend [the river] being a tidal river. I am happy to say my [health] still good, a little ague sometimes excepted. [Mr.] Baikie is also well and strong. Mr. May has been [very] ill, but is now better. The remainder have [enjoyed] health. I may add that the 'Shea Butter' [tree yields] a substance so much like Gutta Percha that I [intend] to collect some, which I will send for [examination]. *C. Barter.*"

## Societies.

Horticultural: Fruit Committee. [illegible] The Rev. L. Vernon Harcourt in the chair. [illegible] mittee at their meeting, December 7th, 1858, [illegible] resolved that prizes of 20*s.* and 10*s.* be offered [illegible] occasion for the best Easter Beurré Pears, in [illegible] six specimens, to be accompanied with a [written] particulars respecting the circumstances under [which] the fruits were produced, the announcement of [this] intention was responded to by nine exhibitors. [The] first prize was awarded to Mr. Cox, gr. to [W. Hale] Esq., Redleaf, Kent; and the second to Mr. [Rivers], T. Lucas, Esq., Lower Grove House, Rochampton. [The] specimens exhibited by Mr. Cox were [grown] stated in his schedule, in the southern [part] of Kent, the locality being about 40 miles [from] the sea, and exposed to the south-west. [The soil] rich garden mould, 2 feet deep, resting on a [bed] yellow clay, with veins of sand, impregnated with [iron]. the surface slopes to the south, at an angle of [about] The tree, about 30 years old, is on the Pear stock, [and] in healthy condition; it was grafted up the stem [with] main stem with the Easter Beurré, and is trained [horizontally] zontally against a south wall, 12 feet high; the [branches]

of pruning does not differ from that of ordinary horizontal training, with the exception that all the foreright shoots are broken clean out when very young. Mr. Cox further remarks that the autumns in that part of Kent are very mild and moist, the winters not very [illegible] but the springs cold, harsh, and drying. In Mr. Hall's schedule it was stated that the specimens sent by him were grown in Roehampton, on the north side of the Thames, on a light sandy soil 1½ foot deep, with gravelly subsoil; the surface a little inclined to the north. The tree, about 14 years old, [illegible] very healthy, is on the Pear stock, and trained against a west wall about 14 feet high. The border is annually dressed every year with vegetable refuse, and receives large quantities of water in the growing season. Under these circumstances the fruit proved equal in point of quality to that exhibited by Mr. Cox. Mr. Evans, gr. to Archdeacon Jones, sent fruit aromatic in flavour, but with flesh not so smooth, buttery, and melting as that of the specimens which obtained the awards. Mr. Tucker, gr. to J. Moorman, Esq., stated in his schedule that his situation is sheltered and level; the soil strong mould 3 feet deep, on a gravelly subsoil. The tree is a half standard, in healthy condition, on the Pear stock, and about 15 years old. It is trained somewhat in the form of an umbrella. As a standard production the fruit was very good. Specimens exhibited by Mr. Masterson, Warwick, were also grown on a standard. The surface of the ground was said to be [illegible] the soil light and sandy; the tree young, and allowed to grow without pruning. The fruit, however, was not equal in appearance and quality to that grown as a standard near London. Mr. Catt, gr. to Colonel Cavendish, St. Lawrence House, near Welwyn, Herts. stated in his schedule that the garden is situated on an elevated table-land; the soil, a strong loam, is 18 inches deep, cool, and moist; the subsoil clay on chalk. The tree, 12 years old, healthy, and extends 12 feet by 8 feet on a south wall, against which it is fan-trained; it is pruned at midsummer and in autumn. Although grown in a south aspect, the fruit was not equal in quality to that from a standard, in deep soil, on a gravelly subsoil, near Clapham, on the south side of the Thames. In the schedule returned by Mr. Clark, gr. to Earl Darnley, Cobham Hall, near Gravesend, Kent, it was stated that the surface of the ground is undulating; the soil a strong loam on the chalk. The fruit was produced by a large old tree, not very vigorous, on an east aspect wall; and was gathered in the first week of October. This exhibition consisted of fair specimens as regards size and appearance; the fruit, having been grown against an east wall, was, however, much inferior as regards quality to that produced, also in Kent, but against a south wall. In Mr. Judd's schedule, it was stated that Barry Gardens, Northampton, are on the side of a hill sloping to the south-east, and tolerably well sheltered from the north. The garden soil is about 2 feet deep, resting upon blue clay, a portion of which has been burnt for top-dressing. The tree which bore the fruit exhibited was reported to be healthy, upwards of 20 years old, and eight years ago it was root-pruned; it is trained against a wall 16 feet high, with a south-east aspect; the shoots are shortened in summer, and pruned back to short spurs in winter. The season was very dry and hot, the fruit ripened earlier than usual. The specimens were well grown, and next in quality to those which gained the second prize. It may be remarked that the wall against which the fruit was produced is 16 feet high, which is considerably above the usual height of garden walls, and doubtless an advantageous circumstance. If the aspect had been due south, instead of south-east, it is probable this exhibition would have obtained one of the awards. Mr. Douglas stated that the garden at Babworth Hall, Retford, Nottinghamshire, has a south exposure; the surface of the locality undulating; the soil light, dry, and early: subsoil gravel or red sand; but the soil of the borders, in which the trees that produced the fruit exhibited are growing, one on a south and the other on a west aspect wall, is mixed with strong soil to the depth of 2½ feet, and the bottom concreted. The trees are about 30 years old, healthy, and make little wood, but well; the diameter of the stock is said to be very small in proportion to that of the trees; and this, Mr. Douglas thinks, may in some measure account for the latter making little wood: it was not stated whether the stock is Pear or Quince. The trees are about 12 feet high, trained horizontally and closely pruned. It is remarked that in the autumn of 1857 the borders were flooded from a heavy fall of rain, and that although 1858 was a hot dry season, yet the fruit ripened about the same time as in ordinary seasons. The specimens of Easter Beurré Pears exhibited from the south wall were considerably larger than those from the west wall; and it was stated that the largest from the former aspect could not be sent in consequence of being too ripe. As regards flavour, the smaller fruit from the west aspect wall were nearly as good as those grown to a larger size against the south wall. It may be observed that the above is the first exhibition of Pears brought before the Committee from a concreted border; but the quality of the fruit was much inferior to that of the same variety produced under ordinary [illegible] 150 miles farther south, near London. Clarke, Esq. again sent, from his garden at Clapham Common, a dish of Easter Beurré Pears, for the opinion of the Committee. This was given to the same effect as before, which was, that the trees had most probably suffered from dryness at the root. The Pears were very mealy and had no flavour. It was remarked by the Committee that on the whole, the Easter Beurré Pears, notwithstanding the heat and great amount of sunshine experienced last summer, were not so buttery and rich as they have usually proved in former tolerably good seasons. Mr. Melville, gr. to the Earl of Roseberry, Dalmeney Park, near Edinburgh, sent a specimen of the Chou de Milan, crossed with the Brussels Sprouts; also a white variety of the latter, and some Roseberry Brussels Sprouts, and a variety obtained from crossing the latter with the New Dwarf Ulm Savoy. The Roseberry Brussels Sprouts were very good; but the crossing did not appear to have improved them. The white variety was curious, some of the leaves being entirely destitute of any green colouring matter, and others prettily variegated. Mr. Turner, Royal Nurseries, Slough, exhibited a plant of Cottagers' Kale, growing in a pot, a representation of which was given in our columns last week; the stem was 4 feet in height, and abundantly furnished, from base to top, with sprouts of a very fresh appearance. This variety, from its hardiness, is well adapted for withstanding severe winters. H. O. Carré, Esq., Val Nord, Guernsey, communicated the results of some experiments which he had made, with regard to improving the flavour of various kinds of Pears, by heat and light under glass. Last autumn he placed on a broad shelf in the warmest part of a greenhouse, near the glass at top, various kinds of Pears, as soon as they were gathered from the trees out-of-doors; and likewise some near the front sashes; the fruit was thus exposed to heat and sunlight, and the improvement in flavour, as regards some varieties, was most remarkable: the following kinds were more especially improved:—Louise Bonne (of Jersey), Beurré d' Amanlis, Eyewood, Glou Morceau, Winter Nelis, Gansel's Bergamot. The Louise Bonne (of Jersey) was growing in a shaded situation, and the fruit, in consequence, was pale and comparatively watery in quality, but placed as above, it became of excellent flavour, although a little shrivelled from the loss of superabundant watery juice. The Winter Nelis, Mr. Carré stated, was improved to a very great degree. He intends to prosecute his experiments; and from his success last season, he is led to believe that in many parts of England, where Pears do not ripen well, they may be rendered much more melting and sugary by adopting the plan of exposing them to light and heat, when gathered, than if kept in the ordinary way. The Committee were of opinion that, as the subject was of great importance, Mr. Carré's plan should be made known, and recommended for trial in this country.

A letter was read from C. Strickland, Esq., in which he expressed his intention of trying at home the qualities of such kinds of Kitchen Apples as he can collect in Yorkshire, and of sending specimens of each, with an account of where they grow, &c., and his remarks as to their quality, to the Committee; he hoped that others of the Committee would do the same in different parts of England. "There is," he observes, "a practical difficulty in the London Committee alone dealing with so extensive a subject as that of Kitchen Apples, but the difficulty will be got over, and the expense much lessened, if the members of the Committee individually will pay attention to it, and furnish the Committee with the results." The Committee commend Mr. Strickland's suggestion to the notice of their fellow members resident in the country.

## Notices of Books.

*Lardner's Chemistry for Schools* (8vo, Walton and Maberly, pp. 243, 3*s.* 6*d.*) is an extremely well compiled volume, amply illustrated with good woodcuts. It forms an excellent successor to the same learned author's "Natural Philosophy for Schools." To teachers it is peculiarly valuable on account of the convenient form in which the table of contents is arranged. Three and sixpence cannot be better expended than in the purchase of it. Although works of this nature do not readily afford readable extracts, yet we pick out a paragraph or two concerning wine as a fair example of the manner in which Dr. Lardner treats his subject.

"Wine is the fermented juice of the Grape. This juice when first expressed has a saccharine savour, which it soon loses, becoming acid and alcoholic.

"All sorts of Grape are not equally suited for the production of wine. The Chasselas Grape of Fontainebleau, so delicious an article of dessert, is quite incapable of yielding potable wine. Grapes, fit for the production of wine, should be ripened in a position which will insure to them a warm, constant, and regular temperature. The soil should have a mixed character, partly silicious and partly argillaceous. Old Vines, cæteris paribus, give better wine than younger ones.

"Many constituents are involved in the composition of the Grape, all of which affect directly or indirectly the quality of the wine it produces. These are principally water, glucose or Grape sugar, pectic acid, tannin, albumen, a peculiar ferment which produces the spontaneous alcholic fermentation of the glucose; several nitrogenous compounds soluble in water, alcohol, essential oils, colouring compounds blue, red, and yellow; which being differently durable cause the colour of the wine to vary with time from violet to red orange and tawny yellow; fatty compounds, one of which forms œnanthic ether, which imparts to the wine its peculiar *bouquet*; pectates and pectinates of lime, soda and potash; tartrates and paratartrates of potash, lime and alumina; chlorides of potassium and sodium, phosphate of lime, oxide of iron and silica.

"The quality of wine depends much on the condition under which the vintage takes place. The fruit should be fully ripe, the weather dry and cloudless. The Grapes collected in baskets are transferred to barrels or troughs, in which they are first pressed by rakes, or trodden by men's feet, but this must not be done subject to a high temperature, since in that case premature fermentation would ensue.

"If it be desired to make white wine, the pulp is immediately submitted to the wine press. If, on the contrary, red wine be desired, the pulp is left to itself for several days, so that fermentation may commence, and that the liquor may dissolve the colouring matter and tannin contained in the skin and stalks. In the fabrication of wines of the finer sorts the Grapes are picked and the coarser parts of the stalks removed, especially in seasons when the bunches are less rich in fruit. The troughs in which the first fermentation takes place are left open for the free escape of the carbonic acid. The duration of this process varies with the temperature of the weather and the nature of the Grape. It is considered to be terminated when the evolution of gas ceases, and when the wine has acquired a suitable colour. In the ordinary wines its duration varies from three to eight days, but it sometimes continues from four to six weeks.

"When the fermentation has ceased the clear liquor is discharged by a cock provided for the purpose, and the marc mixed with a small quantity of water is again submitted to the press, by which a weak wine is obtained which easily sours.

"The wine is then transferred into barrels, which, for a certain time, are left open to allow the escape of the carbonic acid evolved in the process of fermentation, which has not as yet altogether ceased. When it has ceased the wine is again drawn off, and towards the months of March and April it undergoes the process of *clearing*, which is effected by the white of egg, ox's blood, or gelatine. These substances enter into combination with the tannin, with part of the colouring matter, and in their coagulation carry away the matters which, being held in suspension, render the wine turbid.

"*Sparkling wines*, such as champagne, are prepared from the Black Grapes of the best quality, the juice of which is sweeter than that of the White Grape. The fruit collected in warm weather is carefully transferred to the wine-press, where, by a gentle pressure, the first portions of juice are extracted without tearing or bruising the skin or stalks, which would impart a colour to the liquor. This gives wine of the first quality. The marc is then submitted to a more severe pressure, giving a juice by which a pinkish-coloured wine is obtained of less esteemed quality. A third or fourth repetition of this process gives inferior wines, which are usually mixed with common red wines to flavour them.

"The liquors thus produced are then left to a tumultuous fermentation in large barrels, where they disembarrass themselves of a great quantity of their ferment, which collects in froth at the surface. After about 24 hours the liquor is drawn off into other barrels, which are nearly filled and imperfectly closed, so as to leave openings for the escape of the carbonic acid which still continues to be evolved. A month later the liquor is drawn off and cleared. The same process is again twice repeated, at intervals of a month, until, at length, the wine is bottled, in which process from three to five per cent. of sugar-candy, dissolved in its own weight of water, is added to it. The bottles are corked and wired with the greatest care, and laid in rows upon their sides. A part of the sugar-candy undergoes alcoholic fermentation under the influence of the ferment which still exists in the wine; but the carbonic acid evolved in this process not having any means of escape remains in solution in the liquor, and the unfermented part of the sugar-candy imparts to the wine its characteristic sweetness. When the bottles are uncorked the carbonic acid, which is thus dissolved in the wine, being released from the confining pressure, escapes, rising in bubbles through the liquor, and producing the sparkling and foaming effects which are familiar to champagne drinkers."

Two points are, however, open to remark. The first is, that there is no index; for we cannot accept the table of contents, excellent as it is, as a satisfactory substitute. The other relates to some errors which will require correction in another edition; for example, Copal is not obtained from a plant called *Hymen*, but from Hymenæa. The name Siphonia Cahuca, for the tree which yields Caoutchouc in S. America, should be altered to S. elastica, the first name, though not incorrect, being quite obsolete; nor does Siphonia grow in Java, or any other part of Asia, as stated; the Caoutchouc of the Malay Archipelago being derived from a totally different tree. Finally, the Larch tree is a Larix, not a Laryx. These are small matters, but they are important to young people.

*Le Jardin Fruitier du Muséum.* We have before us Nos. 18 to 21, both inclusive, of this handsome work, exclusively occupied by figures and descriptions of Pears. Among the more interesting are the Poire de Pentecôte, with its aliases carefully worked out; the Duchesse d'Angoulême, once called Poire des Eparonnais; the Goulu Morceau, or as we call it, apparently improperly, Glou Morceau, originally brought out in 1759, but long overlooked notwithstanding its rare merit; Poire Tonneau, a stewing kind, we believe unknown in England; Van Mons Léon Leclere, very different from

and far better than the other Léon Leclerc, being indeed of excellent quality; P. Williams, our Williams's Bonchrétien, with more colour than it has in England; and some others of less importance. We may observe that the specimens from which M. Riocreux prepares his beautiful drawings, are in almost every case much smaller than we are accustomed to see in this country.

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TRADE LISTS.—*Avoux et Crozy* (Rue d'Ossaris, 36, Lyons) offer for sale 12 "new" varieties of Tropæolum Lobbianum, 2 of Nierembergia, 16 of Tree Pinks, and 12 of Petunia.—*S. Stafford's* (Hyde, near Manchester), *Catalogue of Forest, Fruit, and Ornamental Trees, &c.* A considerable collection enumerated in 56 closely printed 8vo pages. It is very full of useful practical information.—*Keynes's* (Salisbury) *Catalogue of show and fancy Dahlias, Roses, Carnations, &c.* A florists' list, worthy of the reputation of this well-known grower.—Of *C. Turner's* (Slough) *Catalogue of Florists' Flowers*, we may make the same remark, adding, however, that it is very much more extensive than that of Mr. Keynes.—*John Salter* (Hammersmith) *a Descriptive Catalogue of English and Foreign Novelties, &c.* This is a very extensive list of Dahlias, Pæonies, Phloxes, Fuchsias, Chrysanthemums, Irises, Daisies, Heliotropes, Antirrhinums, &c., with short descriptions of all the new ones. Above 11 columns are occupied by Chrysanthemums alone.—*The Plymouth Seed Company* has issued a Priced Catalogue of Seeds for the Farm, Manure, Tools, &c.

Of singular importance is the new *Catalogue des plantes exotiques, nouvelles, et rares,* cultivated by Mr. Linden of the Royal Zoological and Horticultural Society of Brussels. The skill and enterprise of this indefatigable naturalist have long since placed him among the very highest of those plant *merchants* to whose efforts our gardens have of late become so deeply indebted; and the list now before us completely justifies the European reputation which our estimable correspondent has most deservedly obtained. The list commences by a description of thirteen new stove and greenhouse plants, of great beauty, now offered for the first time, among which Beloperone violacea, Cuphea ocymoides, Centradenia grandifolia, Arachnotrix rosea, Lindenia rivalis, and three superb Begonias called amabilis, argentea, and Victoria, are represented by coloured figures, themselves examples of artistic skill. There are also seven new fine foliaged plants, all from tropical or temperate America. Twenty entirely new and highly decorative plants in one season are in themselves evidence of the vigour with which Mr. Linden prosecutes his system of importation from distant countries. Of plants more or less known the catalogue contains, of fine foliaged species, 164; of variegated plants, 96; of flowering stove plants, 620; of tropical "fruit" trees, 105 (but this does not always mean edible fruit); of exotic useful, including medical plants, about 130, among which are many of great rarity; of Araliads, between 30 and 40; nearly 50 Bromeliads; of Ferns and Lycopods, 343, of which 37 are Tree Ferns, and above 60 quite new, and for the most part extremely handsome. Moreover there are nearly 600 Orchids, some of which are very rare, and we believe quite unknown in this country. We observe an announcement by Mr. Linden that he has now withdrawn his collectors from tropical America, and is receiving consignments from Cochinchina, Celebes, and Mindanão.

## Miscellaneous.

*A new Local Anæsthetic.*—M. A. Claisse, of St Valérien (says the "Gazette Medicale") has been in the habit of using a local anæsthetic, which allows him to draw teeth, open abscesses, and perform other minor operations without the patient's feeling the slightest pain; it is as follows:—Fill a small flask one-third full of powdered camphor, and fill it up with sulphuric ether. With a sponge dipped in this solution, the gum or the part where the bistoury is to be used, is gently rubbed for about one minute previous to the operation. *Pharmaceutical Journal.*

*S. Australian Botany.*—Dr. Mueller, the gifted and enthusiastic botanist, is about to transfer to the Botanical Gardens, adjacent to this city, his extensive and valuable collections, which comprise one of the most important series of Australian plants anywhere in existence, which will probably be consulted centuries hereafter, and which amounts to about 6000 well marked species, in very numerous varieties, and embraces also an herbarium of miscellaneous plants from all parts of the globe, enhanced in value by many authentic specimens from the hands of celebrated botanical authors; the whole forming an accumulation of about 45,000 equally well-preserved and arranged specimens, and exhibiting, in about 15,000 species, nearly one-sixth of the hitherto revealed vegetation of the world. *Polyglot Newsletter of Melbourne.*

*Astrapæa Wallichii.*—But the most magnificent objects were the fine trees of Astrapæa Wallichii, or viscosa. The name of this Malagasy plant was derived from the word for lightning, on account of the brilliancy of its flowers; and Sir Joseph Paxton and Dr. Lindley have thus spoken of A. Wallichii:—"One of the finest plants ever introduced. And when loaded with its magnificent flowers, we think nothing can exceed its grandeur." I had seen a good-sized plant growing freely at Mauritius, but here it was in its native home, luxuriating on the banks of the stream, its trunk a foot in diameter, its broad-leaved branches stretching over the water, and its large, pink, globular, composite flowers, 3 or 4 inches in diameter, suspended at the end of a fine down-covered stalk, 9 inches or a foot in length. These hanging by hundreds along the course of the stream surpassed anything of the kind I had seen, or could possibly have imagined. I frequently met with the Astrapæa afterward, but always growing near the water, and its branches frequently stretching over the lake or river.—*Ellis's Madagascar.*

## Calendar of Operations.

(*For the ensuing Week.*)

—✦—

### PLANT DEPARTMENT.

CONSERVATORY, &c.—Young plants of Allamandas, Clerodendrons, Torenias, &c., and many other things, if encouraged with a brisk bottom heat and other favourable circumstances, will form nice sized specimens in a few months, and large masses of Statices, than which few plants are more useful, will, under kind treatment, be obtained in a short time. Those also who possess Impatiens Jerdoniæ should encourage it by every possible means to make wood and propagate it as quickly and freely as possible, for it is just the plant that is wanted for autumn decoration. The pretty dwarf variety of Heliotropium Voltaireanum, although too delicate for the flower garden, will be found useful for blooming under glass where sweet-scented flowers are in request. In fact, where the stock in hand is deficient not a day should be lost in making every possible effort to provide considerably more than is likely to be wanted, so as to be prepared against any accident or extra demand, should such occur. Push on Camellias that have fairly started their buds with a warm moist atmosphere and plenty of weak manure water. Also get a portion of the Epacrises into a gentle heat as soon as they have sufficiently recruited their energies after flowering, By starting them into growth about this time, and getting their wood ripened early, they will be in full blossom in November, at which season their flowers retain their beauty much longer than after the sun becomes powerful in spring. Proceed as diligently as possible with the repotting of such of the hard-wooded greenhouse plants as require it, so as to afford them every chance to make a vigorous growth. Be careful, however, before potting to have the ball in a nice moist state, and avoid giving large shifts to weakly growers.

### FORCING DEPARTMENT.

PINERIES.—Attend carefully to the bottom-heat, particularly where this is produced by fermenting materials, as tan, &c., and see that it is not allowed to rise too high, which it is exceedingly apt to do after fresh materials have been added, either during bright weather, or where there are pipes under the bed. Where much fire-heat is used it requires some practice and attention to be able to keep the soil in a proper state as regards moisture, but this must be effected at any expense of attention if success is to be insured. Maintain a thoroughly moist atmosphere, but do not push young stock too fast until we may be favoured with more sunshine, when if all is right at the roots there will be no danger of drawing the plants, as might be the case in the present state of the weather. Avoid allowing water to lodge in the hearts of plants showing fruit, and spare the flowers of those in bloom with the syringe. Pot off or plant out suckers as they can be obtained sufficiently strong, and attend to keeping up a regular succession of plants, which is the surest way of providing for a succession of fruit. VINERIES.—See that the houses in which the Vines have not yet started are properly cleaned, the Vines painted with the usual composition of soft soap, sulphur, &c., and everything put into proper working order; also get the rods bent in time to induce the buds to push regularly. Attend to disbudding and stopping, &c., as may be necessary in the succession houses, and see that the inside borders are kept properly moist, giving tepid manure-water as may be necessary to effect this, and do not be afraid of giving too much of this to Vines in pots.

### FLOWER GARDEN AND SHRUBBERIES.

Look over all recently transplanted shrubs and trees, for the purpose of ascertaining whether they are securely staked, for if these are allowed to roll about with the wind the tender roots are often broken off, and the plants are consequently deprived of their only means of obtaining nourishment. Also get the walks edged and otherwise put into proper repair. Attend carefully to the stock of bedding plants, and get rooted cuttings potted off as soon as they are fit, and encourage them with a gentle bottom-heat and careful management to make quick growth, for after this season there is no time to be lost with young stock. Calceolarias, if well established, may soon be planted out in a turf pit on poor sandy soil where they can be protected from frost or cold winds, but they must be prepared for this by previously inuring them to full exposure to sun and air, &c., whenever the weather will permit. Their place under glass can be profitably occupied with recently potted off stuff, and with ordinary care they will do better planted out than stunted in small pots.

### HARDY FRUIT AND KITCHEN GARDEN.

Cauliflowers and Lettuces that have been wintered under glass may soon be planted out, selecting a sheltered deep rich piece of ground. It is a very good practice in planting out things that are at all tender at this uncertain season to throw up the ground in good strong ridges, running east and west, planting on the south side of the ridge. The plants are thus sheltered from the north winds and fully exposed to the sun. Peas, &c., that have been raised under glass [illegible] inured to the weather should be planted [illegible] giving them the most favourable situation [illegible] and it is a very good practice to shelter them [illegible] time after planting out, by placing some [illegible] Spruce Fir or any other suitable evergreen [illegible] rows, so as to break the wind, &c. Take advantage [illegible] dry days to stir the surface of the ground [illegible] growing crops, and to prevent weeds from making [illegible] appearance.

### COTTAGERS' GARDEN.

Follow up sowing the necessary crops, as [illegible] kitchen garden portion of the Calendar, Cabbages [illegible] Onions on trenched ground, the manure in the [illegible] Sow a little Celery on a warm slope; throw [illegible] ashes over the surface to prevent the depredations [illegible] slugs, and cover up with litter. Celery seed [illegible] kept constantly damp, and the bed should be [illegible] Potato planting should be proceeded with, [illegible] the early kinds and the late, although it has [illegible] much the practice to set the late kinds in [illegible] even June; the consequence of which is [illegible] "seed" is never ripened as it ought to be. [illegible] tager should now sow a few hardy annuals [illegible] plant out his Carnation layers, finish planting [illegible] Ranunculus, and attend to his flower beds [illegible] generally.

STATE OF THE WEATHER AT CHISWICK, NEAR [illegible]
For the Week ending Mar. 10, 1859, as observed at the Horticultural [illegible]

| March. | Moon's Age. | Barometer. Max. | Barometer. Min. | Temperature Of the Air. Max. | Temperature Of the Air. Min. | Temperature Of the Air. Mean | Temperature Of the Earth. 1 foot deep | [illegible] |
|---|---|---|---|---|---|---|---|---|
| Friday 4 | ● | 30.226 | 30.201 | 62 | 49 | 55.5 | 48 | [illegible] |
| Satur. 5 | 1 | 30.296 | 30.234 | 62 | 40 | 51.0 | 50 | [illegible] |
| Sunday 6 | 2 | 30.260 | 30.092 | 59 | 45 | 52.0 | 50 | [illegible] |
| Mon. 7 | 3 | 29.823 | 29.652 | 63 | 38 | 50.5 | 51 | [illegible] |
| Tues. 8 | 4 | 30.015 | 29.615 | 49 | 30 | 39.5 | 48 | [illegible] |
| Wed. 9 | 5 | 30.409 | 30.299 | 47 | 21 | 34.0 | 47 | [illegible] |
| Thurs. 10 | 6 | 30.392 | 30.194 | 52 | 24 | 38.0 | 46½ | [illegible] |
| Average | | 30.203 | 30.041 | 56.3 | 35.3 | 45.8 | 48.6 | [illegible] |

March 4—Uniformly overcast; very fine; overcast and mild.
— 5—Overcast; very fine; clear and fine at night.
— 6—Fine; very fine; overcast.
— 7—Overcast; very fine; rain at night.
— 8—Boisterous; slight showers; clear at night.
— 9—Clear; cold with excessively dry air; severe frost at night.
— 10—Frosty; clear and fine; frosty at night.
Mean temperature of the week, 5½ deg. above the average.

RECORD OF THE WEATHER AT CHISWICK.
During the last 33 years, for the ensuing Week, ending Mar. [illegible]

| March. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds [illegible] |
|---|---|---|---|---|---|---|
| Sunday 13.. | 50.6 | 34.5 | 42.5 | 12 | 0.56 in. | [illegible] |
| Mon. 14.. | 51.3 | 35.0 | 43.1 | 15 | 0.70 | [illegible] |
| Tues. 15.. | 51.0 | 34.5 | 42.7 | 16 | 0.37 | [illegible] |
| Wed. 16.. | 51.6 | 34.5 | 43.1 | 12 | 0.68 | [illegible] |
| Thurs. 17.. | 50.0 | 33.3 | 41.6 | 14 | 0.36 | [illegible] |
| Friday 18.. | 50.3 | 33.9 | 42.1 | 8 | 0.24 | [illegible] |
| Satur. 19.. | 51.2 | 34.1 | 42.6 | 10 | 0.33 | [illegible] |

The highest temperature during the above period occurred on [illegible] 1856—therm. 69 deg., and the lowest on the 13th, 1845—therm. [illegible]

## Notices to Correspondents.

AVENUES: *Ballymena.* The longer an avenue the wider it should be, and *vice versâ.* Thus the avenue or Long Walk at Windsor would have looked better had the immense trees not been transferred to the outside of the present enclosure. Something, however, depends on the kind of tree planted. Thus Oaks may be planted nearer than Elms [illegible] In your case it may answer perhaps to plant the trees on the outside the edge of the road, so as to leave room for a footpath between the road and the trees.

BEDDING PLANTS: *T T, Bocking,* will feel obliged by [illegible] our correspondents informing him how the Scarlet Geranium, Variegated Ivy-leaf Geranium, and Leptodactylon californicum have answered as bedding plants. He adds that the latter in particular was much recommended for that purpose last year. With him it was a failure. The former did well, but it seemed to be of very slow growth.

BOOKS: *H L A.* There is no more general book than Loudon's Encyclopædia of Gardening, which treats of all kinds of things. There is no such work as Glasse's Gardener's Assistant. the memoranda with a similar heading appearing [illegible] then in our columns are extracts from Miss [illegible] sion of a correspondent, as was stated in the [illegible] to which we beg to refer you.

CATS: *A Constant Sub.* laments his hard fate to have [illegible] beds frequented by these animals, and he asks for [illegible] of any kind soul who knows how to keep them [illegible] certainly not true that cats dislike Valerian; on the [illegible] they bear it a strong and peculiar affection

CHINESE PRIMROSE: *H S.* It is extremely curious [illegible] flowers are constant the plant should be preserved [illegible] next week have something to say about it

HEATING: *P G F.* Flues are very much more useful [illegible] many supposed, provided they are well managed [illegible] cost little. They are, or were lately, in constant use [illegible] forcing-houses at Chatsworth.

ICE: *Amateur.* Snow rammed hard will answer [illegible] but on no account add salt to it until just [illegible] about to use it.

NAMES OF PLANTS.—We have been so often obliged [illegible] tantly decline naming heaps of dried or other plants [illegible] venture to request our correspondents to remember [illegible] never have or could have undertaken an unlimited [illegible] this kind. Young gardeners, to whom these remarks [illegible] especially apply, should bear in mind that, before [illegible] us for assistance, they should exhaust their [illegible] gaining information. We cannot save them [illegible] examining and thinking for themselves; nor [illegible] desirable if we could. All we can do is to [illegible] that most willingly. It is now requested that [illegible] more than four plants may be sent us at [illegible] *G B S.* You should not expect mere leaves [illegible] No. 1 seems to be Corynocarpus lævigatus: [illegible] some sort of Isopogon.—*Q C.* The pearly seed [illegible] Coix Lachryma, a kind of Grass; the red seed [illegible] some Leguminous plant. They must be raised [illegible] and cultivated in a stove.—*A B.* Celsia cretica—[illegible] Mas.

ONIONS: *Querist.* Nothing will prevent either these [illegible] plants from pushing when warm springs like [illegible] prevail. Our own Cottagers' Kale is beginning [illegible] flowers. The richer the ground the faster all [illegible] grow.

ORANGES: *G K.* Graft your seedling stocks by [illegible]

VINE GRAFTING: *J O.* If you will again read [illegible] account, with attention, you will see that [illegible] broken, although the stock had. If your [illegible] growth it will take nevertheless; but the operation [illegible] perly uniting them demands a good deal of skill [illegible]

THE PATENT

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H. AND T. PROCTOR'S TURNIP MANURE.—Messrs. H. & T. P. draw particular attention to this valuable Manure, which contains all the elements necessary for the full development of the Turnip Crop, so combined, that, from their chemical knowledge and long experience, they feel satisfied is most advantageous to the consumer. It has been very extensively used by most of the eminent Agriculturists of the day, and has attained a high reputation throughout England, Scotland, and Wales, and, they venture to say, is unrivalled for the weight and quality of the Bulbs which it produces. The application of this Manure to the Turnips will be found to benefit considerably the after crops of Barley, Clover, and Wheat.

POTATO, GRASS, BARLEY, CLOVER, AND WHEAT MANURES; also BONE DUST, PERUVIAN GUANO, and SUPERPHOSPHATE of LIME, warranted of the best quality.

Apply to H. & T. Proctor, West of England Depôt for Artificial Manures, Cathay, Bristol; or Proctor & Ryland, Birmingham, and Saltney, near Chester.

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SUCCESS OF THE NEW GUANO; IMPORTED UNDER LEASE FROM THE CROWN.—Though the experiments with KOORIA MOORIA GUANO were made late in the season, and under adverse circumstances, the successful results obtained confirm beyond doubt Professor Voelcker's report—(in No. 41, Part I., vol. xix., Royal Agricultural Society's Journal)—that Ammoniacal manures, applied to Turnips in the experimental field, kept back at first the crop, and had no beneficial effect either alone or in conjunction with phosphates.

The Kooria Mooria Guano is essentially a phosphatic manure, containing sufficient ammonia for roots, and, with a mixture of one-fourth of ammoniacal guano, cannot be excelled for either top-dressing or grain crops. It is a natural deposit, and will be delivered as imported, free from risk of adulteration. Deeply impressed with the necessity of encouraging the import of this valuable manure, her Majesty's Government has given such increased facilities for shipment, that arrangements have been made for a considerable supply. Purchasers can be supplied with suitable quantities from cargoes now on sale, containing from 45 to 66 per cent. phosphates. Present prices, 4*l.* 10*s.* to 6*l.* 10*s.* per ton, on applying to Joseph Hindson, Broker (one of the Lessees under the Crown), 20, North John St., Liverpool. Government Lessees: Ord, Hindson, & Hayes.

"Greystoke, Cumberland, Dec. 16, 1858.

"Dear Sirs,—I beg to inform you that I applied the Kooria Mooria Guano I had from you for Turnips, on land of a loamy character, incumbent on a stiff clay subsoil, and recently drained. On each side of the plot sown with Kooria Mooria Guano were Turnips manured with best Peruvian Guano. The quantities applied of each sort were of equal weight for weight per acre. The crop—a very good one throughout—is now being eaten off with sheep. Very little perceptible difference can be discovered, but if anything that difference is in favour of the Turnips sown with Kooria Mooria Guano.

(Signed) "John Barker."

"Messrs. J. & J. Graham, Guano Merchants, Penrith."

A Pamphlet, "Hints on Guano," containing a large number of reports from well-known agriculturists, and analysis of the cargoes here, may be had of the Broker, at the above address.

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THE NATIONAL FLAX COMPANY (LIMITED).—Capital 200,000*l.*, in shares of 1*l.* each. 5*s.* to be paid on application.

*Directors.*

*President*—Sir John Dorat, Vice-President R.S.L.
John Beddoe, Esq., Lickhill, near Stourport, Worcestershire.
J. T. Croft, Esq., 15, Regent Street, S.W.
Lieut.-Col. G. E. Dering, 47, York Street, Portman Square, W.
Frederick Hamilton, Esq., 32, Gloucester Place.
T. E. Marsland, Esq., 2, Pall Mall, S.W.
Wallace Pedder, Esq., Wadhurst, Sussex.
George Thornton, Esq., C.E., F.G.S., &c.

*Bankers*—Messrs. Heywood, Kennards, and Co.
*Secretary*—Mr. James M'Haldon, F.R.G.S.
Offices: 193, Gresham House, London, E.C.

The imports of foreign Flax fibre having declined to a most serious extent, and the cultivation of the plant decreased at home, a great necessity has arisen for laying the foundation of a system whereby a sufficient supply of raw material may be secured to meet the requirements of a great staple industry of the country, known as the Flax and Linen trade.

It has therefore been determined to form the National Flax Company (Limited), whereby such a system may be initiated.

This will be effected by the introduction of mechanical improvements, whereby a continuous and easy, as well as profitable, preparation of the fibre from the plant can be effected.

Such preparation will be carried on in establishments to be called retteries, and to be erected in suitable localities, where the Flax crop, in its entirety or otherwise, will be purchased from the grower.

By thus creating a market within easy reach of the farmer, and proving to him practically that he can easily produce a good paying crop, needing no further trouble in its preparation, and for which he may regularly receive ready money at harvest time, when the demands on him for labour cost are large, it is considered that a very extensive growth of Flax will be gradually introduced throughout the country generally.

A more perfect cultivation of this plant will also be induced, whereby many existing prejudices in respect to the supposed exhaustive properties of Flax will be removed, and the grower convinced that it is really one of value in districts suitable to it and in fair rotation. It will also be found that land capable of producing any kind of grain is equally available for Flax, and that there is no better preparation for a Wheat crop to follow.

The Company have secured the patents, plans, and services of Mr. G. A. Cator, who has devoted a large sum of money and many years in bringing the matter to its present effective condition.

By a reference to the detailed prospectus, which may be had on application, it will be clearly seen that, with the outlay proposed, a very large dividend may be calculated on with perfect safety, showing that this Company presents unusual features of promise to parties seeking investment in substantial and well-considered enterprises.

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THE ROYAL AGRICULTURAL SOCIETY'S PRIZE CHURN.—This Churn has taken all the prizes offered by the Royal Agricultural Society from 1850 to 1858 inclusive. Price list and testimonials sent free. Illustrated Catalogue on receipt of six postage stamps.

Burgess & Key, Patentees and Manufacturers, 95, Newgat Street, London.

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MR. SMITH will SMASH UP a piece of his Clay Land, Wheat Stubble, about the end of this month. Gentlemen who may be desirous may then see his Apparatus at work.—A Card, stating the day, may be had by applying to him at Woolston; or to Messrs. Howard, of Bedford.

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PATENT GUTTA PERCHA SOLES.—IMPORTANT TO GARDENERS.—The Gutta Percha Company have the pleasure to acknowledge the receipt of the following letter from G. Glenny, Esq., the celebrated Florist:—

"420, Strand, London.

"Gentlemen,—I have worn Gutta Percha Soles and Heels these two years, and being so much in a garden as I necessarily am in all weathers, and with the ground in all states, I would on no account be without them. As a matter of economy I would recommend Gardeners to use them, for they may repair the worn part at all times by warming the material at the fire, and pressing it from the thick parts to the worn parts as easily as if it were so much dough. I think it the duty of all persons who must occasionally wet their feet to adopt a material that completely defies damp. Many a gardener would escape colds and rheumatism by the use of Gutta Percha Soles.

"Your obedient servant, G. Glenny."

Every variety of Gutta Percha articles, such as Mill Bands, Tubing, Soles, Goloshes, Sheet, Pump Buckets, Fire Buckets, Bosses, Union Joints, Flasks, Bottles, Bowls, Chamber Vessels, Toilet Trays, Sponge Bags, Curtain Rings, Galvanic Batteries, Talbotype Trays, &c., manufactured by the Gutta Percha Company, and sold by their wholesale dealers in town or country.—The Gutta Percha Company Patentees, Wharf Road, City Road, London.

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TO LANDOWNERS.

THE PERMANENT WAY COMPANY having been appointed the sole Licensees for the use of Dr. Boucherie's Patent Process for Preserving Timber, beg to inform Landowners and others interested in the use of English Timber that a Pamphlet, with full explanations of this cheap and most effectual process, may be had gratis on application to the undersigned. Landowners having Beech, Elm, Fir, or other Timber fit for Railway Sleepers are requested to communicate particulars of quantity, locality, and prices.

William Howden, Secretary.

26, Great George Street, Westminster.

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LAND DRAINAGE.—Works of Drainage of any extent are executed by the GENERAL LAND DRAINAGE AND IMPROVEMENT COMPANY on all descriptions of Property, whether Freehold, Entailed, Mortgaged, Trust, Ecclesiastical, Corporate, or Collegiate

Repayment may be made by the Landowner as successive portions of the Works are completed, or the actual expenditure, with a Commission thereon, may be charged on the property improved by way of rent charge for any term not exceeding 50 years, the instalments to repay principal and interest being thereby kept down nearly to 5 per cent per annum

No investigation of title being required, and the charge not being affected by incumbrances, no legal expenses are incurred.

Works of Irrigation, Enclosing, Wood Grubbing, Road Making, and Farm Buildings are executed in a similar manner.

The Company also assist Landowners in executing any of the improvements by their own agents, and charge the amount expended on the property improved.

Applications to be made to William Clifford, the Secretary, at the Offices of the Company, 52, Parliament Street, London.

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COLLEGE OF AGRICULTURE AND CHEMISTRY, AND OF PRACTICAL and GENERAL SCIENCE, 37 and 38, Lower Kennington Lane, Kennington, near London.

Principal—J. C. Nesbit, F.G.S., F.C.S., &c.

The system of studies pursued in the College comprises every branch requisite to prepare youth for the pursuits of Agriculture, Engineering, Mining, Manufactures, and the Arts; for the Naval and Military Services, and for the Universities.

Analyses and Assays of every description are promptly and accurately executed at the College. The terms and other particulars may be had on application to the Principal.



# The Agricultural Gazette.

*SATURDAY, MARCH* 12, 1859.


MEETINGS FOR THE ENSUING WEEK.

Wednesday, March 16—Agri. Society of England.. Noon.

In a previous notice of the food department of the Kensington Museum, we compared the composition of Wheat, Maize, and Rice, with that of Peas, Lentils, and Beans, and pointed out their great differences in the amount of flesh-forming ingredients in favour of Pulse. We now proceed to examine the composition of Potatoes, the common food of the majority of our English labourers and the constant meal of the Irish poor, comparing it with that of Oats, so highly valued as food by the Scotch and by the English bordering on Scotland. The following is

*A Table of the per centage Composition of Oats.*

| | | | |
|---|---|---|---|
| Water .. .. | 13.6 | Water .. .. | 13.6 |
| Flesh formers .. | 17.0 | Flesh formers .. | 17.0 |
| Starch .. .. | 39.7 | Heat givers .. | 66.4 |
| Sugar .. .. | 5.4 | Mineral matter .. | 3.0 |
| Gum .. .. | 3.0 | | 100.0 |
| Fat .. .. .. | 5.7 | | |
| Fibre .. .. | 12.6 | | |
| Mineral matter .. | 3.0 | | |
| | 100.0 | | |

Now let us compare these results with those that have been obtained in the analysis of the Potato. The following is

*A Table of the per centage Composition of Potatoes.*

| | | | |
|---|---|---|---|
| Water .. .. | 75.2 | Water .. .. | 75.2 |
| Flesh formers .. | 1.4 | Flesh formers .. | 1.4 |
| Starch .. .. | 15.5 | Heat givers .. | 22.5 |
| Dextrine .. .. | 0.4 | Mineral matters .. | 0.9 |
| Sugar .. .. | 3.2 | | 100.0 |
| Fat .. .. .. | 0.2 | | |
| Fibre .. .. | 3.2 | | |
| Ashes .. .. | 0.9 | | |
| | 100.0 | | |

The per centage of water in Oats, Wheat, Maize, Rice, Peas, Lentils, and Beans varies from

13.6 to 14.8; while Potatoes contain *four times* as much, or 75.2 per cent.

Again, the flesh-forming matter in Peas is 23.4 per cent.; in Oats, 17.0; in Potatoes, only 1.4 per cent. Now, as these flesh-forming matters are the real muscle-making portion of the food, we may see at a glance how unlikely are Potatoes to build up a strong constitution; and if we look at the past and present history of the consumption of Peas, Oats, and Potatoes as human food, we can at once explain how little the poor of many large districts of England and Ireland have profited from agricultural improvement. Time was when in the midland counties of England, especially on the stiff marls of the old and new red sandstones and the lias, some lighter soil capable of growing boiling Peas was a desideratum on every good farm, and a farm increased in value in proportion to the amount of "Siddow land" it possessed; this term being applied to the land producing boiling Peas as well as to the Peas themselves. Thus see WEBSTER's Dictionary:—

"SIDDOW; such as boil freely—applied to Peas."

This desire for land that would grow boiling Peas has now passed away. No one in taking a farm makes his calculations dependent upon Siddow land, for since the introduction of the Potato Peas as food have been but little used. The fine hearty muscle-making Peas pudding of our youth is no longer the staple food of the English farm labourer, and as we are old enough to remember its value, so, too, can we discern the evils in the system which has replaced it. But before contrasting the two let us review the use of Oats and Potatoes as common food.

The meal of Oats is a very general article of every-day food in Scotland and in the border counties. Its general use has not at any period extended far beyond. It is used a little in Lancashire and Cheshire, yet not so much as formerly, the spread of the Potato having superseded it, just as in the midland counties it has gradually caused the discontinuance of the growth of Peas; while in Ireland, as everybody knows, it has come so much to be relied upon that a failure of this crop causes the starvation of thousands of people.

What, now, have been the results of this general substitution of the Potato crop? The labourers of midland, western, and south-western England, are not such powerful men as those of the border counties and the north; and there cannot be a doubt that this is owing to their food. The northman gets higher wages, and he is worth the difference. No wonder he is muscular, for in his Oatmeal he takes the very essence of muscle. The use of the Potato is indeed spreading with him, but fortunately he has a liking for buttermilk with it, which no midland county labourer will touch, prefering the mere stimulant of beer; and as will be seen from the following analysis of milk, he gets in milk and cheese, after the butter is removed, a wholesome percentage of nitrogenous or muscle-making matter.

*Analysis of Milk and Skim Milk Cheese from Sibson's Agricultural Chemistry.*

| | Cow's Milk. | Skim Milk Cheese. |
|---|---|---|
| Water .. .. .. .. .. | 87.02 | 44 |
| Curd or cheesy matter (muscle forming) .. .. .. | 4.48 | 45 |
| Butter .. .. .. .. .. | 3.13 | 6 |
| Sugar .. .. .. .. .. | 4.77 | .. |
| Ash (bone material) .. .. .. | .60 | 5 |
| | 100.00 | 100 |

Are we not right in concluding from this that the labourer in the midland counties is mistaken in wholly renouncing Peas, a muscle-making food, for Potatoes which consist almost entirely of water and starch, whilst the northern labourer still keeps to a muscle-making diet in Oatmeal and buttermilk, neither of which is used by thes outhren? Were there no other cause this is sufficient to explain the difference in the price of their labour.

And the character of the food by which the labouring population is sustained affects their moral as well as their physical development. A man who lives on a quantity of inferior food feels a craving for some stimulant beyond it, which others do not need; and is too often the prey of the beer-house, while his family become its victims.

Agriculturists are becoming acquainted with the principles upon which the greatest development of muscle can be brought about in the inferior animals. Let them remember that the constitution of their labourers is upheld by the same laws of animal development, lest ill fed, and consequently inferior and ill paid, at a comparatively early age the poor man is brought as a pauper to the union, there to be fed upon better food than he could get when able to work, because it is found to be cheaper. For if it be understood—and here again we quote the tables from the Kensington Museum—that "an adult labouring man must have *five ounces* of flesh-formers supplied daily to restore the waste of the organic parts of his body," it becomes a serious inquiry how he can get the things to yield it and their comparative cost. Now to yield this 5 oz. it takes as follows:—

| | lbs. | oz. | | s. | d. |
|---|---|---|---|---|---|
| Wheat flour .. .. | 2 | 1 | average cost .. | 0 | 4½ |
| Oatmeal .. .. | 1 | 13 | ,, ,, .. | 0 | 4½ |
| Rice .. .. .. | 4 | 13 | ,, ,, .. | 1 | 2 |
| Peas (dry) .. .. | 1 | 5 | ,, ,, .. | 0 | 2¾ |
| Potatoes .. .. | 20 | 13 | ,, ,, .. | 0 | 7 |

From these quotations we need not wonder that the labourer on Oatmeal porridge and the poor on a diet of Peas-pudding or Peas-soup should be more hale and hearty than the Potato feeder; and it surely only requires all the facts to be known through the medium of cheap books—of which by the way a good museum is the most readable—to discountenance a too great reliance upon a watery root because we can grow quantity when we see the deplorable results of not inquiring into quality.

——The above remarks, then, indicate a few of the lessons which may be gathered by the visitor of the Kensington Museum. His power to do so, and his thanks accordingly, are in the first place due to Dr. LYON PLAYFAIR, C.B., by whom the arrangement and direct presentation to the eye of all these facts was designed and carried out; and next, as stated in our previous article, to Dr. LANKESTER, the present curator of this department, under whom it is increasing in interest and value.

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THE injurious effect of game and hedgerow timber on the produce of a farm—incapable as we believe it to be of accurate valuation—has been the subject of much discussion latterly before the Dorsetshire Farmers' Clubs.

In another column will be found a temperate and sensible statement on the former subject by a Dorsetshire correspondent; and on the latter we quote a single fact from a paper read by Mr. JACKSON to the Winfrith Club. He says—

"We measured the distance injured by one Ash tree. To the best of my recollection the damage extended 25 yards from the trunk. A friend, on hearing the topic for this evening's discussion, was kind enough to measure the damage caused by three trees on his farm during the last harvest, and found that one Oak, girthing 68 inches, injured the crop from 13 to 14 yards from the trunk—probable age of tree from 160 to 180 years, value from 40s. to 50s.; one Elm, age and value much the same, injuring the crop 15 yards from the trunk; one small Ash, value from 12s. to 15s., extent of damage about the same as the Oak. The crop was Barley, something like 5 quarters to the acre, but not more than one-third of this under the trees; and thus by putting the value of damage at only 4s. per tree for 100 years, and saying nothing of the first 50 or 60, it would amount to 20*l.*, and the value of the trees not more than 50s., making a loss of 17*l.* 10s. for each tree."

This is no doubt an extreme illustration of the evil complained of; and while advocating with Mr. JACKSON the fall of such trees as are a curse and not a blessing, we cordially join him in his exclamation: "God forbid that I should wish to see this beautiful world of ours stripped of all its splendour; but I would say to those who have the power, plant more of your hills and dales, heath and waste land by the road side, which are not calculated for growing corn." It is there that the shelter thus obtained is an unmixed advantage—that the land so employed is turned to the greatest use—and that more useful crops are benefitted without any mixture of injury.

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MR. BOND'S recent paper on stock farming, and especially that part relating to the cost of sheep management, continues to excite some discussion. A Suffolk farmer in the columns of an agricultural contemporary refers to the value of the Mangel Wurzel crop as a great and cheap resource for the maintenance of a flock as well as of a herd, in which we quite agree with him; and to the extraordinary cheapness with which in his locality it has been harvested, exceeding anything we could have imagined possible. In his own neighbourhood he states instances where "26 acres, averaging 30 tons per acre, had been stripped, pulled, and filled into carts for 3*s.* 4½*d.* per acre;" and referring to Mr. BROWNE's letter on the subject (see page 153), he advises him to compare this "fact" with the cost of his own management, and he will then "discontinue the use of italics in writing his '*ifs*' regarding the cost of maintaining sheep."

Now, having grown 40 or 50 acres of Mangel Wurzel and Swedes for many years, and by liberal management reaching 20 tons per acre of the latter and more than 30 acres of the former as an average crop, and having long been accustomed to contract work on the farm, [illegible] in connection with the harvesting of this [illegible] cannot but doubt the possibility of the [illegible] pulling and filling so heavy a crop [illegible] for the price stated, "the men earning 1*s.* [illegible] over day wages."

The following is a detailed statement of [illegible] experience on this point during a single [illegible] when 29 acres of Mangels and 11 acres of [illegible] had to be carted off:—

The following is an account of the [illegible] ployed by the contractor in lifting 40 acres [illegible] gel and Swedes, and the time they took [illegible] this work, and the tons of roots placed [illegible] store. Having a weighing machine we [illegible] several cartloads every day; the cart had [illegible] the cart without the wings measured just a cubic [illegible] the ground was dry, and the work was either [illegible] ground or on a gradual descent, so that the [illegible] weighed 22, 23, and 24 cwt., including the [illegible] about the roots after they were cut off, which [illegible] 2, 3, or 4 cwt. each cart. We therefore took every [illegible] load at a ton.

*The Time and Hands by the Contractors in Harvesting 29 Acres of Mangel and 10 Acres of Swedes.*

| 1850 | | | Men pulling. | Women and Boys cutting Roots. | Filling Carts. Men. | Filling Carts. Women and Boys. |
|---|---|---|---|---|---|---|
| Oct. | | | | | | |
| 17 | Taking up Mangel, | No. 6 field | 5 | 10 | 1 | [illegible] |
| 18 | ,, ,, | No. 6 ,, | 5 | 10 | 1 | [illegible] |
| 19 | ,, ,, | No. 10 ,, | 5 | 10 | 1 | [illegible] |
| 21 | ,, ,, | No. 10 ,, | 5 | 10 | 1 | [illegible] |
| 22 | ,, ,, | No. 2 ,, | 5 | 10 | 1 | [illegible] |
| 23 | ,, Swedes, | No. 2 ,, | 5 | 10 | 1 | [illegible] |
| 24 | ,, ,, | No. 22 ,, | 5 | 10 | 1 | [illegible] |
| | ,, ,, | No. 24 ,, | 5 | 10 | 1 | [illegible] |
| | Including 5 men cutting. | | 40 | 70 | 7 | [illegible] |

The contract was for 29 acres of Mangel at 6*s.* 6*d.* per acre .. .. .. .. .. .. [illegible]
Ditto ditto 11 acres of Swedes at 5*s.* 6*d.* .. [illegible]

Total .. .. .. .. .. .. [illegible]

*The Wages earned by the Contractors and paid by them to the men they employed.*

47 days of a man at 2*s.* a day .. .. .. [illegible]
70 days of a woman at 10*d.* per day .. .. [illegible]
63 days of boys and girls at 9*d.* per day .. .. [illegible]

Total .. .. .. .. .. .. £22 19

Leaving 2*l.* 9*s.* 5*d.* to be divided amongst the contractors more than their daily wages of 2*s.*

*The Expense of Hauling the Roots to the Store.*

| | | | | | | |
|---|---|---|---|---|---|---|
| No. 6. | 2 days of 4½ | horse, | 9 | hours each, | 306 tons from | [illegible] |
| ,, 10. | 1¼ day of 5 | ,, | 7½ | ,, ,, | 242 ,, | ,, [illegible] |
| ,, 2. | 1½ day of 5 | ,, | 7½ | ,, ,, | 190 ,, | ,, [illegible] |
| Nos. 22 and 24. | 2 days of 6 | ,, | 12 | ,, ,, | 192 ,, | ,, [illegible] |
| | 36 days 1 horse 930 | | | | | [illegible] |

930 loads or tons carted by 36 days of 1 horse, is 26 loads per day

*The Expense of Carting 930 tons off 40 acres of Mangel and Swedes.*

36 days of a horse and cart, at 3*s.* per day .. .. [illegible]
7 days of a man to back and tip the carts in the stores, at 2*s.* .. .. .. .. .. [illegible]
7 days of 2½ boys = 17½ days, at 8*d.* .. .. .. [illegible]

Or at the rate of 3*s.* 4*d.* per acre .. [illegible]

*The Expence of Storing the Loads and Thatching them.*

3 men 7 days, 21 days of a man, at 3*s.* per day .. [illegible]
2 boys and 2 women, 7 days each, 25 days, at 10*d.* .. [illegible]

Or 1*s.* 7¼*d.* per acre .. .. .. [illegible]

| | | | | |
|---|---|---|---|---|
| So that the total expense of harvesting our root crop of 40 acres in 1850 was for pulling, &c. &c. .. .. | £12 | 9 | 0 or | 6*s.* 3*d.* per acre |
| For carting 930 tons home .. | 6 | 13 | 8 or | 3 4 ,, |
| For storing them .. .. | 3 | 5 | 4 or | 1 7¼ ,, |
| The expense of harvesting 40 acres of roots .. | £22 | 8 | 0 or | 11 2½ ,, |

## THE THEORY OF AGRICULTURE.

[The following is the first of a series of letters on Agricultural Theory and Practice addressed through Gerard Ralph, Esq., by Dr. Evan Pugh, Harpenden, St. Alban's, to the farmers of the middle States (U. S.), in answer to American inquiries on agricultural subjects.]

THE whole subject may be embraced under the following heads:—

1st. The different capabilities of different soils to produce crops, and the difference in the effect of manures, chemical salts, &c., upon them for the production of the same and different crops.

2d. The effect produced by different kinds of manure and their value compared with barnyard manure and with lime.

3rd. The best means of raising crops so as to insure the greatest profit.

4th. The bearings of science upon agriculture, and the advantages the latter has derived and may be expected to derive from the former.

5th. Agricultural colleges and high schools, and what should constitute the legitimate subjects of education in them.

I shall endeavour to make each letter, as far as possible, complete in itself, and to embrace one of the subjects suggested by each of these headings.

In reflecting upon the first it will appear evident that in order fully to estimate the soil's capabilities to produce a given crop, we must know all the conditions upon which that crop is dependent, and also know what relation the soil's capabilities bear to those conditions

circumstances to which [illegible] soil ... be exposed during the growth of the ...

... conditions were known the scientific agriculturist could calculate the value of an anticipated crop ... it was grown, with as much accuracy as the ... can calculate the time of rising, setting, ... &c. of any of the heavenly bodies. But ... science has not yet been reduced to that ... of mathematical exactness, which is attained in ... science which treats of the motions of stars and ... We do not as yet know all the conditions ... for the growth of maximum crops, nor are ... always to fulfil those conditions so far as we do ... than, nor are we able to predict the different ... circumstances to which a crop will be exposed, ... can we measure the exact effect of these circumstances upon the crop after they have transpired. ... when we come to sum up our knowledge upon ... of agricultural science and to compare it ... what we do not know, or with what is known in ... sciences, we are surprised at our own profound ignorance. This ignorance is the result of the difficulty of our subject.

There is scarcely a single effect in the whole range of observed phenomena that is the result of the operation, ... more complicated series of causes than is that effect which is manifested in the production of a maximum ... of agricultural produce. Many of the causes, as the temperature, rain-fall, state of the wind, intensity of light, &c., are entirely beyond our control. The ... we can do with regard to them is to study their ... and the times of their activity, and then seek to so ... other conditions, as times of sowing, harvesting, ..., as to secure a maximum benefit. Other causes, as the chemical and physical state of the soil, and its relations to different plants, are much more within the control of man; and hence these become the legitimate object of the farmer's study and activity. But it is only ... he looks at his subject in the light of science, ... avails himself of its teachings, that he is enabled to ... the most erroneous conclusions and to explain the most mysterious paradoxes. He will find that a given quantity of manure, chemical salt or guano will ... a certain effect, but double the quantity will ... double the effect—that which for a few years has ... beneficial he will find to lose its virtue after successive applications—that certain manurial agents that ... well upon poor land don't remunerate upon rich land.

All these things are perfectly clear if viewed in the ... of science and philosophy. No effect which is the result of a plurality of causes will vary in the direct ratio of the variation of any particular one, or part of those causes. To be less abstract let us take a familiar illustration. Suppose the annual increase of a man's ... to depend—(1) upon his personal expenditure; (2) upon the expenditure of his family; (3) upon the amount of his labours; (4) upon the value received for the product of that labour; (5) upon the raw material, to the making up of which that labour is devoted.

Now here are five causes operating upon the increase of wealth to which we have alluded; that increase is dependent upon all of them; when any one of them varies it varies, but it does not vary in the same ratio as any one of them. When any one of them is quartered, or halved, or doubled, or trebled, it is not necessarily quartered, halved, doubled, or trebled. Several of them may vary, and yet the increase of wealth may not vary. Raw material may be doubled, the price received for a given quantity of labour may remain the same, but the amount of labour may be so increased, or the amount of personal or family expenditure may be so diminished that the annual increment will remain constant. There may be such a connection between the causes that when the first varies the second varies, and when the second varies the third varies, &c., so that we cannot tell from the variation of any particular cause what will be the final result. I trust this is plain for the simple case I have chosen. Now, we have just such operating causes, and just such complicated relations between them, throughout the whole range of physical cause and effect in the world.

It is most particularly so in agriculture; here the great object to be attained is the maximum crop at a minimum expense. This maximum crop is the effect, the causes of which we wish to control—it is the accumulating wealth yielded by the soil; the causes producing it are not so simple as are those which yield the increment of wealth in the case above, but it should ever be borne in mind that there are causes operating to produce it, and that these are no less definite in the one case than in the other, and it is the work of the scientific agriculturist to develope the knowledge of those causes and trace out their relations to their effects. From the nature, then, of cause and effect, we cannot expect a double quantity of a particular manure to produce a double effect on the crop, and when men say a crop will be proportional to the quantity of any one substance in the soil, or that is added to it in manure, they assert things not necessarily true; indeed the truth of which is highly problematical. The terms proportion and proportional have definite mathematical meanings; but they are too often used in agricultural works when speaking about the relations between crops and the soil's capabilities in a slovenly manner, which either robs them of their exactness or expresses an untruth

When the attention of chemists was first directed to this subject, many sanguine hopes were entertained with regard to what chemistry was about to do for agriculture. It is to be regretted that all these hopes have not been realised. No sooner was it ascertained that the organic part of plants could be obtained from atmospheric sources, and that the ash was derived from the soil, than an idea was propounded that since the atmospheric sources were abundant, the soil constituents found in the ash were, if added in sufficient quantity to the soil, amply sufficient to maintain the soil in a proper condition for agricultural purposes.

It was supposed that chemical analysis was competent to measure the value of the productive powers of the soil, and that this value was expressed by the ratio of the ash constituents in the entire soil to those of a single crop. Thus in 100 bushels of Wheat and its equivalent of straw we have:—

| | Grain. | Straw | Total. |
|---|---|---|---|
| Potash .. .. .. .. | 30.00 | 66.00 | 96.00 |
| Soda .. .. .. .. | 1.29 | 3.00 | 4.29 |
| Lime .. .. .. .. | 3.50 | 31.30 | 35.00 |
| Magnesia .. .. .. | 11.5 | 18.00 | 24.50 |
| Iron .. .. .. .. | 0.79 | 3.98 | 1.09 |
| Chlorine .. .. .. | 0 09 | 1.10 | 1.19 |
| Sulphuric acid .. .. .. | .33 | 16 00 | 16.33 |
| Phosphoric acid .. .. | 50.00 | 25 00 | 75 00 |
| Silica .. .. .. .. | 2.5 | 310.50 | 313.00 |
| | 100.00 | 500 00 | 660 00 |

And hence in removing this much Wheat from the land we remove in grain and straw 96 lbs. of potash, 4.29 lbs. of soda, &c. Nothing was more natural than the suggestion that if these substances were removed by the crop, they must be supplied by manures. The only preliminary question raised was with regard to how much of these several constituents was already present in the soil. And here an appeal was made to the analytical processes of the chemist with a hope of solving the point in question. The following analyses of two barren soils, and one fertile one, will exhibit an attempted solution. The amount in pounds of the several constituents given is that of an acre taken to the depth of 6 inches:—

| | Barren Soils. | | Fertile soil. |
|---|---|---|---|
| | Sandy. | Peaty. | |
| Potash .. .. | Traces. | 266,000 | 3,420,000 |
| Soda .. .. | ,, | | 1,340,000 |
| Lime .. .. | 20,000 | 1,100,000 | 2,780,000 |
| Magnesia .. | 20,000 | 160,000 | 1,500,000 |
| Iron .. .. | 1,200,000 | 240,000 | 9,420,000 |
| Chlorine .. .. | Traces. | Traces. | 20,000 |
| Sulphuric acid .. | ,, | ,, | 200,000 |
| Phosphoric acid .. | ,, | ,, | 280,000 |
| Silicic acid .. | 194,000,000 | 8,000,000 | 150,000,000 |
| Alumina .. .. | 600,000 | 1,260,000 | 11,080,000 |
| Organic matter .. | ,, | 180,880,000 | 12,640,000 |
| Water .. .. | ,, | | 8,820,000 |

At first sight, on comparison of these three analyses with the ash analysis preceding them, nothing seems more clear than the explanation of the cause of barrenness which the analysis affords. While the fertile soil contains over three million lbs. of potash, 280,000 lbs. of phosphoric acid, over one million lbs. of soda, &c., all of which are required by the plant, as shown by analysis, the barren soils contain only traces of these indispensable constituents. Founded on such considerations as are here suggested, in the earlier days of modern agricultural chemistry the most exaggerated notions were formed of what chemical analysis was competent to do. Quack analysts in England, America, and Germany were offering to make soil analyses at prices which would scarcely remunerate a laboratory servant for keeping the floor of the laboratory swept, while a chemist would make a good analysis. Indeed in works written upon the subject, farmers were advised to make their own analyses. An iron spoon might be substituted for a platinum dish, and earthen bowls would serve the purpose of glass beakers, &c. Such advice was not less absurd than that of advising men to perform their own surgical operations—to set their own broken bones and amputate their own mortified limbs, to substitute a broad axe for the scalpel to divide the flesh, and to use a cross-cut-saw to cut off the bone instead of the surgeon's instrument.

No chemist, whose opinion is worth the paper on which it was written, would now pretend to say that his processes are sufficiently delicate to measure those small differences in the amount of nutritive constituent in the soil, which may constitute the difference between a fertile and a barren one. Soil analyses are valuable as affording material from which the student may derive tangible notions about the relation of plants and their ash constituents to soils, and when carefully made may often, when taken in connection with the physical circumstances, as geological position, state of drainage, &c., enable the scientific man to make suggestions with regard to what the soil wants for particular crops. But even then before we can know the value of these suggestions we must appeal to agricultural practice.

Let us examine the meaning of the figures in the preceding analysis. Nothing is easier than to misunderstand a physical fact expressed in figures, especially when they do not express all the circumstances of that fact, as is the case in the present instance.

The 20,000 lbs. of lime in the barren soil is a quantity so small that its estimation reaches the utmost limits of chemical analysis, and no analyst could be positively certain that it should not be 15,000 or 25,000 instead of 20,000. And we might quote two analyses of the same soil made by the highest authorities in which differences equal to the whole quantity of substance found by one of them would occur. Had the lime been present in a very little less quantity it must have been given as traces, that is, too small to determine. Or, conversely, the quantity of substances given as traces may amount to 10,000 or 15,000 lbs. per acre. Now if we propound the question "When a soil is barren for want of substances of which it already has 10,000 to 15,000 lbs. per acre, how much of these substances must be added in manure to make it fertile?" we get a result most disheartening to the farmer. If 10,000 lbs. of a valuable constituent like potash produce almost no crop, how many hundred thousand would be required to produce a good crop? Such a question were well calculated to make an English farmer go to Australia, or a farmer of the Atlantic States go to the alluvial soils of the Mississippi valley and leave his barren soil in despair. Or if we observe the difference between the barren and the fertile soils the case is no less desponding. If we add 3 millions of lbs. to the sandy soil, it will still have less of potash than the fertile soil. To bring the two to the same chemical state would be practically impossible. But let us next see what agricultural practice teaches. It teaches, as every farmer knows, that a few hundredweights per acre of these valuable constituents, as applied in guano for instance, are sufficient to raise barren land to a high state of fertility.

Again, if we look at the apparent capabilities of the fertile soil, we will find them immensely over-rated as expressed by the figures in the analysis. A simple calculation shows that if Wheat were grown in succession, year after year, and all the grain and straw removed from the land, there would be potash in the fertile soil above sufficient to produce 114,000 bushels of Wheat; of soda for 1,038,000 bu.; of lime, 797,000; of magnesia, 139,000; of iron, 11,920,000; of chlorine, 2000 bu.; of sulphuric acid, 603,000; of phosphoric acid, 5000 bu.; of silicic acid, 6,000,000.

Or if we suppose the land to produce 25 bushels per annum the potash would last for 4560 years, the soda for 41,520, the lime for 32,000, the magnesia for 5160, the phosphoric acid for 200, and the silicic acid for 240,000 years, and when these immense periods were gone through with on the soil, the subsoil would if brought up supply a similar set of figures.

But agricultural practice teaches that most productive soils may, by a few years cropping without manure, be reduced very much below that maximum which constitutes good farming.

Again, science would teach that all the several ash constituents were of equal importance, as in a physiological point of view they really are, since the plant cannot grow without all of them are present in an available form; but agricultural practice has affixed very different degrees of importance to different ash constituents, as indicated by their commercial value, as we shall see when speaking of manures.

We may well pause here and ask why is this discrepancy between the teachings of science and the results of agricultural practice? It is undoubtedly due to the fact that science has attempted to solve a question upon data which did not embrace all the conditions upon which the result desired was dependent. Agricultural practice, like the planet Uranus, has not followed the course laid out for it in the tables of science, because those tables have failed to recognise the perturbations produced by some Neptune yet undiscovered beyond. And as the mathematician, confident of the truth of Newton's and Kepler's laws, and of the correctness of his mathematical analysis, might doubt the correctness of the astronomer's observations, so the facts to which we have just alluded are well calculated to create mutual distrust between the purely scientific man and the agriculturist. It is only by embracing a knowledge of both agricultural practice and what science teaches that these anomalies can be explained.

If in agricultural practice we fail to get from the soil those immense quantities of substances which chemistry most assuredly informs us are in the soil, it is simply because they are not present in a state assimilated by plants. A mass of granite rocks and gravel upon which only Lichens can struggle for existence may have the same chemical composition as the most productive soil. A barren peat bog or an unproductive swamp may be far richer in the nutritious constituents of cultivated plants than the cultivated fields that yield the most luxuriant crops. A soil that yields an excellent crop in a dry season may be very unproductive in a wet one, and the converse. In these cases barrenness with an abundance of chemical elements present is easily explicable, but such is not always the case. In some cases we find a substance present in the soil which cannot be assimilated, and yet we cannot tell why it should not be so. To some such point my own efforts have been specially devoted for the last two years. It is only by studying the whole character of the soil in relation to the crops that are to be grown upon it that we can form rational conclusions with regard to its capabilities. Its physical character is no less important than its chemical composition. The farmer must have it properly drained, ploughed, harrowed, subsoiled, &c. Liming, chalking, and marling exert important influence upon its physical constitution. In some cases the use of artificial manures can accomplish the same purpose as these efforts to improve the physical condition; in which case it will simply be a question of expense which to do, use the manure or change the physical condition. The most favourable alternative will vary for different localities, dependent upon the price of labour, of land, and of manure. The principles of this variation should be understood by the farmer that he may know how to adapt them to his own peculiar circumstances. As

an example, here 20 miles north of London land costs 300 dols. per acre. It rents for 10 dols. per acre. Labour costs only 9 dols. per month without board. Manure, chemical salts, &c., are not dear compared with the price of land. Now if this cheap labour, when employed liberally, will but give a slight increase in the products of this dear land, or if the same can be done by artificial manure it is best to get the increase. But in America, where land is cheap and labour and artificial manures dear, an increase of crops would often best be obtained by using more of the cheap land, than to employ an excess of the dear labour.

We must learn from scientific experiments accurately made, and without regard to price, how to produce maximum crops; then in practice it will be a matter of simple calculation with regard to the price of labour, land, and manure how near this maximum it will be profitable to go. The immense capital invested in agricultural implements, in manures, and in labour in order to increase the crop in England, would be most ruinous if followed in America. In this respect England bears some such relation to America as do the productive farms near to large cities in America to those at a great distance from market. When the farmer is at a great distance from market, or, what is the same thing, when the produce of his land is very low in price he must rely more upon the natural resources of the soil. The exact value of these resources is as yet by no means ascertained even for such soils as have been studied most attentively, much less for those of which we know nothing about except a few loose generalities which can have no practicalble bearings. On a great many questions, such as those of the power of soils to condense ammonia from the air; their power to form nitric acid or ammonia from the nitrogen of the air, and oxygen or hydrogen; the influence of ozone in promoting the combinations of nitrogen and oxygen; the formation of nitrogenous products from the nitrogen gas of the air; and the nascent hydrogen of decomposing vegetable matter and the evolution of free nitrogen from decomposing nitrogenous vegetable matters—all these questions are of the very highest importance in agricultural practice, and yet not one of them is satisfactorily settled. It is true certain opinions have gone abroad in our text books upon these questions, but if we follow up the opinions to the original experiments upon which they were founded, we find them totally inadequate to meet the questions they are supposed to solve.

When they are solved we will be better prepared to discuss the soil's natural resources. It was in view of them and others that it was remarked at the commencement of this letter, that in the whole range of observed phenomena, there was scarcely a single effect which was the result of a more complicated series of causes than that exhibited in a maximum crop of agricultural produce.

## IMPEDIMENTS TO AGRICULTURAL IMPROVEMENT IN DORSETSHIRE.—No. II.

*Game.*—In continuation of the article with this heading, which appeared at page 127, we proceed to direct attention to the great source of annoyance and loss consequent on the preservation of rabbits and hares. Where they are preserved in large numbers, as is too often the case, they prove to be a sure veto to agricultural progress, therefore any sane person will not require long or powerful arguments to demonstrate that all landlords who preserve them have no desire to see the land well farmed or that they are gentlemen who have little knowledge of the great injury done by these little animals. It is often one of those vexatious losses which fall on the occupier without any adequate return through the want of experience on the part of the proprietor. But from whatever cause it arises it leaves a rankling sore for which there is no remedy but the removal of the nuisance.

It is a well known physiological fact that the growth of plants is increased or diminished in proportion to the spread of leaf. With the increase of foliage comes an increase in the number of stomata through which the carbonic acid and probably small quantities of nitric acid and ammonia are imbibed from the atmosphere. The former by a wise providence is collected in the plant in quantity proportioned to the wants of the plant and to the power of the plant to assimilate it. In fact, the plant forms a natural laboratory which, if left to itself, would fulfil the wise design of its author. But if a part of that plant is eaten by some animal the laboratory is lessened, there is less matter received into it, and less matter undergoing chemical change. It receives a severe check through being lessened, and it is longer in performing its functions; its means are diminished, and it produces not only less fruit but of an inferior description, through the loss of that time which is the most favourable for the ripening of seeds. This applies to all cereals and to all plants that are cultivated for their seed; but does not the first part apply to all descriptions of plants? If we take the Turnip, we find from experience that this plant, if eaten off when fit to hoe, produces afterwards a luxuriant green that deceives the inexperienced eye. It has a more vigorous head in the autumn than its neighbours, has more vitality through being checked in its early growth, but what of the bulb? If its neighbours are 3 lbs. each, shall we not find this bulb about 2 lbs.? Again in the natural Grasses what do we experience? Do we not charge much higher for the keep of a horse than a cow, because the former bites much closer than the latter? and does not a rabbit or a hare bite closer than any of our domesticated animals. It may be said that eight or 12 rabbits or hares consume as much as one sheep, but where is the comparison all things considered? See the close bite of rabbits and hares, the poisonous droppings, the dislike of other animals to feed after them, the culling of the sweetest and most nutritious herbage, the consumption of the very food left for times of scarcity, the destruction of the Clover plant, the rotting of the Turnips after their bite, the later harvest, the diminished yield, the inferior grain, all these are objections to the comparison drawn by gentlemen between sheep and those wild animals that are running over and injuring every crop on the farm. After this who can say what it costs to keep rabbits and hares?

*The Adulteration of Manures* and the deception practised on the farmers by the manufacturers is another impediment to agricultural improvement. It requires an extensive knowledge of what is going on in the commercial world, and in the manure market in particular, to give anything like a finished picture of the varieties of manures that are now sold under the same name. We have neither time or space for it, and shall therefore confine our remarks to superphosphates, nitrophosphates, and guano, on each of which we shall say little.

The great increase in soluble phosphate which is this year found in superphosphate of lime is a new feature in the manufacture of this manure, and may be accounted for in two ways, first through the soluble phosphate being made from mineral phosphate, and second from the closer union of science with practice. Science has long ago shown us that the phosphates must be made soluble previous to their being taken up by the plant, and that it is not wasted through being soluble, as it combines with lime or some other base, and forms a precipitate phosphate as soon as it is applied to the soil. The more extended use of analysis as a means to find the composition of manures has also led farmers to discover the superiority of those superphosphates that contain the greatest per centage of soluble phosphate, and the results is that they are supplied with what they require. The best superphosphates sold in this county last year contained on an average about 16 per cent. of soluble phosphate—this year they will average about 22 per cent.

The materials of which superphosphates have been and are still made is an impediment through the farmers being misled by some of the manufacturers, and through the former not taking the precaution to have them analysed and reported on by able chemists. When the soluble phosphate was first made from mineral phosphate there ought to have been added a greater quantity of phosphate to supply the deficiency which must have followed the new mode of manufacturing this article. If the soluble phosphate is made from mineral phosphate, there generally remains 7 or 8 per cent. of this substance in the shape of insoluble phosphate, and which, as Dr. Voelcker has remarked, is as worthless as sand. Now this, as we have said, must have impeded the progress of agricultural improvement for the application of a superphosphate made from bones, as the purchasers were led to believe these were, would have added with the usual dressing as much more bone phosphate to the acre as would be derived from ½ cwt. of bones. The loss of ½ cwt. of bones to the acre is a serious matter, and would be supplied in some other form or by an additional quantity of superphosphate were not the farmers deceived as to the materials of which it was made.

Nitrophosphates are generally superphosphates, to which is added nitrogen in some form in which it will, or is supposed, to benefit the plant. If it is thought necessary to supply the plant with more nitrogen than is found in common superphosphates, we use a small quantity of Peruvian guano along with it in preference to paying the manufacturer for making nitrophosphate.

Guano is another manure that is often found to be of little benefit to the crops to which it is applied. This applies especially to those phosphatic guanos which are highly spoken of in this county as being a valuable mixture for the Turnip in the proportion of 1 cwt. of guano to 2 cwt. of superphosphate, which contains a high percentage of soluble phosphate. It especially prolongs the growth of the plant in the autumn. It is the fault of those who buy these manures if they are deceived whilst they bave Dr. Voelcker and other able chemists who can not only show them the composition of these guanos, but show them in what state the phosphates are, whether they are mineralised and of no value, or in that valuable state in which they are found in all real guanos.

*Small Farms.*—Much may be said against small farms, but they are stepping stones to industrious and saving men that are deserving to stand in a higher sphere of life. Farms of 100 acres and less are often occupied by men of this class, therefore we shall find that their education is not better than we could wish to find in our common farm labourer. We scarcely know that these farms are comparatively any impediment to progress, although they are managed in an antiquated style that would probably represent pretty accurately the farming of the beginning of this century. Where these small farms are numerous we are sorry to find that the labourers are not so regularly employed. They are oftener thrown on their own resources, which cause some dissatisfaction and much independence. In such places they have generally other work to fall back on, when not wanted by their petty masters, which results in the want of that fidelity, industry, and honestry of purpose that we find in the well housed, well fed, and regularly employed farm labourer.

The small Grass farm is not so much the object of our attack, but we cannot help noticing as we travel through the county, how deplorably those tenants are behind the times that cultivate small arable farms. These occupiers generally begin with insignificant capital. They are ambitious to become farmers without the means of buying live stock, to cultivate and manure the land. It must again be seen by all that it is next to impossible for them to buy those implements with which labour is now so much cheapened. They will never receive the interest for the capital so employed, did they possess the means of doing it. On these farms they are dependent on some neighbour for a drill, etc. consequently rarely get in the seed in favourable weather, through its being used by the owner at such times. They have no Bentall's broadshare, or Coleman's cultivator, they have no horsehoe or horserake, no heavy or light rollers or clod-crushers. In fact they cannot, even if they possess the knowledge, cultivate the land properly or profitably, and it is to the interest of landlords, tenants, and labourers, that all arable farms should be at least 200 acres.

We have labourers around us of all shades, from the honest, industrious, intelligent and painstaking man, to the unprincipled, ignorant, and prejudiced being, who curses all progress, and whose failing it is to do all he can to thwart the views of the farmer who is unfortunate enough to employ him. It is not education alone that is going to alter this latter class of men, there must be a great revolution in the homes of the labourers. The old cottages have been greatly improved, and new cottages have been constructed on the best principles, but we have still the old habits, the old likes and dislikes. We have not given them in those homes any source of amusement or entertainment that would perhaps remove the present tendency to evil speaking and hostility of feeling to their superiors. In our villages we want schoolmasters, and not schoolmistresses, for the boys; we want night schools for those lads that are in the fields during the day, and a reading room for those that are still more advanced. All this may be attended to by the schoolmasters under the eyes of the clergymen. Give every advantage to the labouring poor by enabling them to help themselves, and let no pains be spared to cultivate a relish for intellectual enjoyments, which will perhaps keep them from the beer shop and make them industrious and prudent, and give them a distaste for those vices which now cause them so much unhappiness. This, with other things that would follow in its train, would slowly but surely remove that ignorance and prejudice of the labourer, which causes so much trouble, and is such a great hurt to the employer. *G. S.*

## LOIS-WEEDON.

WHEN Mr. Callwell announced, in the Journal which contained the balance-sheet of his experiment of 14 acres on Lois-Weedon Wheat tillage, that he was prepared to repeat it on 29 acres, our satisfaction was very high indeed, for we fully expected from the known skill, science, and spirit of Mr. Callwell a magnificent display of practical exposition in Ireland of Mr. Smith's system, at least as to Wheat sowing. That we have been disappointed, and I might almost say incomprehensibly so, is a fact, and it is with much regret we have learned that after 1856 he gave up the scheme altogether, in the persuasion that the northern harvests were too late to get the land, on a large scale, sown in time, and from his inability to keep the land free from weeds; and this regret is much increased by a consideration of the very serious loss he must have sustained by failure in an experiment on so large a scale. He however expresses his conviction that it would succeed where the whole system was properly carried out, and that it should do so in Ireland, but that weeds and late sowing beat him out. He also expresses much admiration of Mr. Smith's beautiful crops, and his delight with all he saw at Lois-Weedon, where not a weed was to be seen, and that he returned from the visit there with a determination to try the plan for some years. The experiment of 14 acres was followed by that of 29 acres, which was succeeded by one of 5½ acres, and then the attempt was abandoned.

The 29 acres of Wheat appears to have succeeded in part a broadcast Wheat crop after manured Potatoes; the ground was ploughed, grubbed, and cleaned before sowing; only the first sown was a fair crop, as most of it was not got in till November. Mr. Callwell supposes one cause of failure was this late sowing; another cause his not being able to get the Chickweed and other annual weeds pulled before the Wheat came into ear. "It would take an army of weeders," he says, "to get all the weeding done in time on a large scale;" and he complains of difficulty in getting women to weed where they are only engaged for a time that they know will not be long. And all the 29 acres, except the 5½ of the following year's tillage, appears to have been given up to its fate in despair.

I now come to these 5½ acres, the crop of 1855-6. It was sown on the 14th September, 1855, with 8 stone of seed; digging of fallowed intervals finished on the 3d of December; forking the intervals (lying exposed to the frost from the time of digging in December)

ed on the 6th of March; rolled on the 15th of March; hand-hoeing between the rows of Wheat, end of April; grubbing and scuffling the intervals as often as required by horse work till the Wheat was 18 inches high. It could not be done afterwards; moulding it on the 14th of June with double mould board; hand weeding going on till now as required. Though at this time left without a weed, the intervals, on the Wheat being cut on the 25th of August, were one entire mass of Chickweed and Coltsfoot (?), in fact quite a hedge in the well cultivated 3-feet intervals.

The produce of the entire 5¾ acres was only 2 tons, sold on the 8th of September, 1856. The straw was smothered by Chickweed, nearly 2 feet high, so no wonder, says Mr. Callwell, the produce was bad. On this 5¾ acre field all was carried out correctly, and it had been under the Lois-Weedon system from 1853. Mr. Callwell gave up the system after this, the expense of weeding eating up the produce.

After the crop was cut he always scarified the intervals with Coleman's grubber, fitted with broad shares, which completely cut up the intervals from stubble to stubble; afterwards this was all forked over by the five-prong steel forks, all weeds gathered and taken off, and immediately sown, if not too dry.

I am sure the English farmer will not be deterred from the Lois-Weedon system by those causes which have discouraged Mr. Callwell, and the more so as the weeds have driven him from row culture as well as from Lois-Weedon; for having abandoned this latter he tried his hand on the former, and in September, 1856, he sowed an acre of Wheat with 28 lbs. of seed drilled in rows 1 foot apart; and in November one acre with 112 lbs. of seed in broadcast, alongside each other after a crop of Potatoes was dug out. The difference in cost of seed paid the hoeing of the drilled crop, which operation the broadcast did not require. When threshed out in September, 1857, the drilled crop gave 17½ cwt., and the broadcast 21 cwt. "Since then I have always sown broadcast," remarks Mr. Callwell.

An experiment on Lois-Weedon Wheat tillage was made for two seasons in Kildare, a dry south-eastern county, but was a total failure from late sowing, accumulation of weeds, and from being altogether conducted without regard to the principles or practice on which success must depend.

Such have been our attempts at Lois-Weedon practice in Ireland. It remains to be seen whether the National Board of Education has been more successful. There is however a Portuguese proverb which gives us some encouragment, "Blundering we learn not to blunder." And failing we may learn not to fail.

The difficulty of weeds bears strongly on an observation I made some time ago, that from the dirty state of our land and the moisture of our climate fostering weeds, it would be advisable to precede the introduction of Lois-Weedon Wheat growing by a well-cleaned fallow crop, this being followed by a spring sown grain crop in Lois-Weedon fashion. If convenient, Barley might be best, as being a shorter time in the ground than Oats. *J. M. G., Granard.*

## Home Correspondence.

*Sheep Management.*—Having been a reader of your Paper for many years, I write now to ask for information of Robert Bond, Kentwell, Long Melford. He says he bases his entire success and consequent profit upon cheap management, and large consumption of inferior food. He next tells us his ewes eat straw freely, thrive well, and live at so cheap a cost. We north country people have no experience of using straw in feeding our ewes, and if Mr. Bond would favour your readers with a detailed plan how he manages this part of the business, because he only states the results not the practical application of his system, he would interest a numerous portion of your readers, and confer a lasting benefit on the agricultural world. At the present period when our countrymen are combining wealth, science, and numbers to obtain increased supplies of raw materials, such as cotton, Flax, wool, &c. every improvement that can be made use of, especially at home, is desirable, nay necessary. What is paying the farmer so well as his mutton and wool? Your readers will fully value all details of practical real improvements, especially in the production of flesh and fibre. Our commercial national character, the superiority of our own fibres, the demand caused by our superior mechanism, the cheap and beautiful fabrics produced, the magnitude of our shipping interest, and the world-wide love for our varied productions call loudly for the greatest extension of sheep keeping and breeding, and any system that can profitably and cheaply increase them ought to be published in every paper and practised by every true Conservative of the British empire. I, along with many other of your regular readers will look into the ensuing numbers of your Paper for the needful details, and if given in such a manner as we can understand and practise, we shall feel indebted both to you and also to Mr. Bond. *Thomas Baines, Stock House, near Bingley, Yorkshire, March* 5.

*The Oxford Tribe of Short-horns.*—In Mr. Smith's very valuable report on the exhibition of live stock at Chester, there is an omission which I am sure is unintentioual on his part. In the account which he gives of the Short-horns of the late Mr. Bates, although he names all the other tribes, he does not mention the "Oxfords." After using "Belvidere" Mr. Bates never crossed his Duchess cows with any bulls except the Oxfords. This plainly shows the high estimation in which he held them. At his sale in 1850 the Oxfords averaged more than any other of his tribes except the Duchesses. At the Tortworth sale in 1853 five Oxfords sold for 1191*l.* 15s.; at the Hendon sale in 1855 one Oxford cow sold for 500, another for 480, and a bull calf for 200 guineas. These prices sufficiently distinguish them; but in addition to this they have been honourably placed at the meetings of the Royal Agricultural Society of England. At the first meeting at Oxford Mr. Bates took the first prize with a cow of this tribe, and at the last meeting at Chester the first prize was taken by an "Oxford" bull. I think you will allow that I have shown cause why they should not be silently passed over in any account of the Short-horns bred by the late Mr. Bates. I am sorry to say very few of them are left in England. The Duke of Devonshire and Mr. A. Maynard are, I believe, the only persons who possess any females of this breed. Mr. Maynard purchased Oxford 9th at the Kirkleavington sale. The Duke of Devonshire purchased Oxford 15th (sister to the two cows sold at Hendon) at the Tortworth sale. His Grace has three bulls and three females from Oxford 15th, and her daughter. Capt. Gunter has some bulls from Oxford 11th, and Lord Feversham's bull is from the same cow. *Kirkleavington.*

## Societies.

Royal Scottish Society of Arts.—At a late meeting of this Society an exposition was given of the different modes of application of steam-power to tillage purposes, by John Wilson, F.R.S.E., Professor of Agiculture in the University of Edinburgh, copiously illustrated by diagrams and models.

Professor Wilson accepted steam power as an accomplished fact. He showed the form of the ancient Egyptian ploughs; of the ploughs in use at Nineveh, which were similar to those now in use in Hindostan. He also mentioned that the ploughs at present in use in the South of France were similar to those which are described by Virgil in his Georgics. Steam ploughs, he went on to state, are not of recent invention. Twelve or 14 years ago a model of one of Mr. Heathcote's was exhibited at the Agricultural Show in Dumfries. In England Lord Willoughby, and in Scotland the Marquis of Tweeddale, had done much to introduce steam ploughs into agriculture. The first in order of merit was that of Mr. Fowler. This was worked by the principle of traction—that is, by an anchoring apparatus at one side of the field, and the engine at the other. A steel wire rope was applied to the plough or rather gang of ploughs—the one travelling upwards and the other downwards—and was balanced by the weight of the man who changed his seat at the end of the furrow. The saving it effected was from 25 to 80 per cent. as compared with horse labour. The next machine he described was that of Mr. Smith. This machine does not only plough, it cultivates. It rips up the sod in two ways, longitudinally and transversely. The cost was about the same as Mr. Fowler's, and the saving it effected was about the same. The next two in the series were those of Ricketts and Romain, the last a Canadian invention. They were both modifications of Usher's, and consisted of a locomotive engine with various inventions for decreasing the weight on the wheels, and distributing it more equally over the surface; and the ploughing apparatus consisting of revolving cutters. The working expense of each was about 30*s.* per acre. The last machine he alluded to was that of Mr. Halkett, a gentleman in Kensington. This consisted of a perfect railway—60 feet between the rails—laid down over the fields, and on this railway was worked a couple of engines, The connecting shaft carried a plough, a sub-soil plough, a watering apparatus, a series of hoes, and lastly, a platform on which a number of people might sit planting or performing other operations with ease. In short, this machine performed all the functions of market gardening simultaneously. The learned professor concluded as follows:—"In this brief and imperfect sketch of the different modes of application of steam-power to tillage purposes, which I believe myself is destined to be the most important of all the advances which have from time to time aided in revolutionising the agriculture of our country, I have not attempted to draw any comparison between the two principal modes of applying the power of steam—that of the stationary traction engine and the locomotive rotary. Each has its strong and its weak points—the power absorbed by the traction in the one is equally absorbed by the locomotion on the other—and although the stationary engine diminishes largely the pressure on tke cultivated soil, the locomotive engine completes in one operation the work which the other requires to pass over the ground twice at least to effect. .Between the plough and the spade—ploughing and cultivating—there is an important difference; and here it is that we ask steam to come to our assistance. What we want is not ploughing so much as cultivation—that process which the farmer by necessity performs in three, four, or five acts, not nearly so efficiently as the gardener accomplishes in one. The plough does not cultivate; other implements are required—the roller, scarifier, harrows—to complete the work. . . . Let us then ask our engineers to give up all ideas of effecting the ill-assorted union between them and the plough, and keep their attention fixed rather on the construction of a machine that shall complete its work in one operation—that shall, in fact, combine the power of steam with the capacity and finish of the spade."

## Farmers' Clubs.

London: *March* 7.—Mr. Bond, of Suffolk, read a paper on *Agricultural Education* in its broadest sense, as including the whole of a young man's antecedents previous to an agricultural life. We can but give a *resumé* of his remarks this week. He referred to agriculture as a purely imitative art as compared with agriculture a science:—

"The British yeoman has been always noted for that sound common sense which, though no science, is fairly worth them all—a common sense which could neither be won by a fallacy nor be deluded by a delusive theory. Profit has justly been his badge of discipleship; but it is necessary now to combine, in the same person, common sense with agricultural science; I advocate a thorough proficiency in the sciences because I believe such knowledge is necessary to prevent mistaken outlays and wrong applications; to insure the placing of the right manure in the right place, the giving the right food to the right animal, and the doing the right thing in the right way; to lessen the cost of production and to increase the annual returns; to win more fully the prize we all have in view, viz., money or money's worth."

On the acquirement of right principles in addition to mere knowledge, Mr. Bond eloquently says:—

"I am a great advocate for the culture of the heart as well as the culture of the head; no man is truly a man without it; and it is especially the duty of parents early to implant, to foster, and to uphold sound Christian principle; to culture in acts of reverence, in feelings of love and affection, and in deeds of unselfish kindness; to insist on obedience and truthfulness. And it has been my observation that without this Christian security the most successful secular life is at best but a mistake, and the most hopeful intellectual attainments a comparative abortion. There must be the ballast of sound principle, of right feeling, and right doing, as well as the sail or the steam-power of ability."

He then referred to the deficiencies of local schools, to the importance of a thorough grounding in the English language, in writing and arithmetic, in history and geography. He urged the importance of agricultural examinations; and especially of continued intellectual discipline after leaving school.

"More than half the young men destined for agriculture in England actually waste, and worse than waste, the first four or five years of their freedom from scholastic restraint Theirs is a thorough desultory life; they throw up all intellectual culture, and they have no intellectual standard of attainment to which to strive to attain. They probably assist in the farm management; but as they have no responsibility, the farm occupies but little of their thoughts; as they feel but little interest, they observe but little; and the rat-hunt, the cricket-match, the run with the harriers or fox-hounds, the quadrille-party, the shooting exploit, with other amusements, combined with a profusion of tobacco, are their real employments—their true business of thought and occupation."

Mr. Bond concluded a most interesting and valuable paper, to which we shall next week refer at greater length, as follows:—

"I lay especial stress upon habits. I look to education to teach a man to use his brains, his eyes, and his ears, to show he has a head upon his shoulders, and to ensure that he does not pass through life half asleep; but I look to habits and discipline to effect much also. If any young man thinks he will succeed in the daily life of agriculture by informing his mind alone, he will find himself mistaken. For success there must be habits of industry and of prudence, of early rising, of thinking nothing of trouble in business. Most thoroughly do I recommend the habit of correct accounts, and of noting down passing business events. I strongly urge that interest and advantage be studied, and not inclination and pleasure—habits of self-denial, and not habits of self-indulgence. Settle it down as a fact that you can do anything if you try, and cultivate the habit of perseverance. Men succeed by sticking. Cultivate the habits of cheerfulness—of a frank, open-hearted, manly manner, combined with politeness. I strongly recommend young men also the habit of manual labour, sufficient to understand what labour really is, and to acquire a practical knowledge of the different operations of the farm. I call that success which is earned by industry, ability, tact, and perseverance; and I had rather have the chances of many a man without a sixpence in the world, possessing these qualifications, than I would the chances of another reared to nonentity and in habits of extravagance, though possessing thousands of pounds. Who has a farm to let, and does not search for the best tenant? The world, from self-interested motives, will befriend the competent, while it throws men of incapacity to the dogs. And who does not know that there are more good situations in life than men qualified to fill them, and more good opportunities than men qualified to embrace them?"

Hexham: *Autumn Cleaning of Fallows.*—Mr. Loraine said the usual plan of commencing to clean the and in this county, is as soon as the harvest is over and a certain quantity of loose work done by the horses, to plough the land with as deep a hold and as broad a furrow as a pair of strong horses can pull—indeed, some farmers even put in three horses for that purpose. The effect of this is to turn over a furrow slice from 8 inches to 10 or 12 wide, and from 6 to 8 deep; consequently, whatever was on the surface becomes buried to a considerable depth below, and most of the annual seeds thus placed are beyond the action of the sun and air, and thereby prevented from vegetating the same year in which they were ripened and shed. The roots of the Couch-grass and other weeds are also buried, and thus irregularly intermixed with the soil at a considerable depth. All this is generally completed before Christmas. In the spring, as soon as the sowing of the Barley and Oat crops is completed, the fallow is again ploughed across, whereby part of the roots besides a quantity of annual seeds are brought to the surface, and the other part becomes more intermixed with the soil. Next follows harrowing, picking, rolling, and scarifying, to get the weeds out; and after the surface when carefully picked appears quite clean, still the next ploughing or scarifying brings up more weeds, or what he called dirt, and thus it has to be gone over several times. And, in fact, with all the pains and care that a good farmer, with good men, women, horses, and implements can take, he seldom can get his land as clean as he could

wish, some dirt being always buried too deep to get out, and the annual seeds thoroughly intermixed in it. What, I will now ask, are the advantages or disadvantages attending this plan? The advantages or supposed advantages are, I believe, usually considered to consist of causing the stubble and part of the weeds to rot, by being turned down to the depth mentioned; of causing the land to work free and mellow in the spring, by admitting the frost and air deeply into it during the winter; of enabling you to drag out the quickings whole in the spring, the same not having been cut or separated into small pieces by shallower ploughing; and lastly, it is supposed to invigorate the land, and enable it to grow good crops. These are the supposed advantages. And now let us look to the other side of the question, namely, the disadvantages. They appear to consist of burying weeds and seeds deeper than they need to be, thereby causing great difficulty, and more trouble and expense than necessary, in endeavouring to get them out the following spring, without being able to do so perfectly, and of causing an extra quantity of work at a time of the year when there is so much to be done of one sort or another that the farmer hardly knows how to get it done fast enough, if at all. Having said thus much upon the old plan, I will now describe to you another mode of going to work to produce the same result. I mean cleaning, or taking the face off the stubbles or fallows in the autumn. To refer back to the plan of cleaning the face off the stubbles:—This is to be done by dragging a cultivator, or any other convenient implement for the purpose, along the surface of the field, at a depth of not more than 3 or 4 inches, so as just to get under the roots of the Couch-grass, and most of the other weeds; after that, to harrow it well with a pair of strong harrows, next the chain harrows, and then to gather and lead off the field all the stubble and weeds, and to put them either into the folds, or into a heap, in some convenient place, for the purpose of mixing with lime, at a future period, for dressing Grass land. By this process, all the annual seeds get covered with soil, and are kept within such a distance of the surface as would in all probability cause them to vegetate the same year; and at the next ploughing or stirring be entirely destroyed; the Couch-grass, and their weeds having a very much smaller quantity of soil mixed with them, are easier and more perfectly cleared off than when buried to a greater depth, and, indeed, in a favourable season for the operation can be quite eradicated; and thus the work of the farm is materially advanced, and the expense of the spring and summer diminished. Whether this plan could or could not be generally adopted in this county I will now proceed to notice, as well as some objections that could be started to it; and first, as to the objections, one of which would probably be, that by employing the men and horses in executing this work, and in taking off such a quantity of stuff as would sometimes come off the stubbles, you would not be able to give the land a deep ploughing in sufficient time to have the advantage of the winter frosts, and in consequence it would not work so well in the spring. To this I would answer that I believe in many seasons both operations might be accomplished, but not in all. That on some lands the action of the frost in winter is not necessary to enable it to be well worked in the spring, and in many instances the importance of it is very much over-rated. On such land it is of far more consequence to get rid of all bad weeds in the easiest, most efficient, and cheapest way possible. On other lands again, such as cold, stiff, wet clays that could not be reduced at all without being exposed to the frosts of winter, this plan would not apply, unless you could both clean the face off in the way described first and give it a deep ploughing in good time afterwards. Some farmers I know consider that a good deep ploughing in the autumn on free land does away with the necessity of any more ploughings in the spring, trusting to the use of the grubber only to work the land with and clean the dirt out afterwards. I would however reverse this order of things, and use the cultivator or grubber shallow first, so as to get all weeds off, and then deep ploughing and harrowing afterwards. And no implement, I believe, has as yet been discovered so efficient as a good and well-made plough in the hands of a skilful ploughman for stirring and working land as it ought to be. It happened to me, a few years ago, when dining with a party of farmers in the county of Durham, to make the remark that every shovel of muck we could raise was another Turnip, when one of the party, an old experienced farmer, said, "It is far more; sir, it is at least three." Now, be it one or more, it only shows of how much consequence it is to raise as much manure as possible. The plan of taking the face off your stubbles, and leading them into the folds, would materially add to your manure heaps, and as such it recommends itself to your notice. And, if a shovel of muck gives you another Turnip, is it not very easy to suppose that a bunch of Quickens or a shovelful of weeds takes one away, or perhaps several? At any rate to come to this fact we will suppose a field so exhausted and foul with weeds, that no farmer could sow the ordinary quantity of seed of either Wheat, Barley, or Oats upon it, with any certainty of the new crop yielding it back again, and most of us have seen some land in this state. If such land were only half as foul as I am supposing, we should then look for half a crop; three-fourths as bad, for three-quarters of a crop, and so on, showing that every quantity of weeds diminished the crop, until we come to show, in theory, at least, though not perhaps visible to the eye, that every single weed diminished the crop, even to one head of corn, or that one not filled so well as every weed on the land diminishes the quantity of corn grown, and that every shovelful of muck increases it, is it not desirable and of the greatest possible consequence to the farmer to reduce the former and enlarge the latter? In olden times the corn was cut so high, and heaped in such a careless manner, that there was food left in the fields sufficient to keep the pigs, geese, and young cattle for several days, if not weeks. But now they are mown so close and raked so clean that there is hardly anything left for a mouse to live upon for a couple of days, much less for the geese, pigs, and cattle which, as I have before said, used to get good pickings for a long time; therefore, no delay on this account need take place in commencing the work; indeed, when the last stook is being brought out, the cultivator might go in, if you could spare the men and horses at the time for the purpose. It is true that the present expense and difficulty of accomplishing this task are glaringly present to the farmer's eye, and the prospective advantage more remote; but so is almost every step in the management of land. The ordinary manure that is annually bred and used on a farm takes some time to prepare, use, and return its profits, but it invariably does come back with profit and advantage to the farmer; and the compact heap which takes more expense and longer time in collecting and making fit for use, will also as certainly return with advantage and profit if properly managed. It is only a question of time and patience. I will now venture to state that if you do attempt to adopt this plan you should do so as to the whole and not as to a part only—that is to say, that the enlargement of your manure heaps should be particularly attended to, and that you should not be satisfied with merely having the face taken off the stubbles, and the weeds and straw either burned or couped into some quarry hole to get rid of them; but that you should have them carefully carried out of the field and made into real good dung by proper care and attention.

## Calendar of Operations.

### MARCH.

ISLE OF ELY, *March* 10.—March has again appeared, and brought with it its "many weathers;" its blowing gales and its clouds of dust. The first few days resembled April rather than March, and we were almost induced to believe that the cold weather was all "past and gone," and spring with all its glories was fully come. But the last few days have quite undeceived us, and we have had March in all its genuineness. Cold winds and storms have prevailed, but we have had no really winter weather, and we are beginning to think that the present will indeed be a winter without frost and snow, its usual characteristics. Vegetation is very forward, and with severely cold weather would be seriously injured, but with a continuance of seasonable weather we may expect a forward Grass season. On all our warm and early growing Grass lands the pastures are very luxuriant, and present all the verdure and beauty we usually witness in May. This is now exerting an influence upon the value of stock, especially of sheep, which are advancing in price every week with an increasing and more active demand. Beef and mutton are also realising high prices with rather limited supplies. Pork, which has been very low, is slightly advancing. On all our gravelly lands the Wheat plant is looking remarkably strong and vigorous, but on some of the lighter black soils it is much weaker, and is evidently suffering for want of more moisture. The weather continues unusually dry, and springs keep very low. Indeed we have scarcely had sufficient rain to affect the springs since October 1857. The shortness of water was severely felt at Chatteris, if we are rightly informed, on the 8th inst., when a fearful fire raged, rendering some 16 families houseless and homeless. Oat seeding is progressing favourably, and most of our farmers are now putting them in on their Fen soils, a practice which has gained favour very much during the last few years. May, not March, was considered the proper time for sowing on fen lands, but the opinion of the whole body of fen farmers has undergone a change on this subject. Several, we have observed, are putting in their Oats with the water-drill and artificial manures. Bean seeding is over, but the lands sown require rain. The corn trade if possible has been more dull and depressed, and prices have slightly given way. The condition of Wheat must now be greatly improved, which may possibly lead to a more extended inquiry ere long. *Your Fen Reporter.*

## Notices to Correspondents.

FOUL LAND: *O C J.* There has been no better season than the past few weeks for clearing land. It must be ploughed or ribbed with the plough, harrowed down, raked, and hand weeded, worked with the scarifier, harrowed, raked, weeded, and burned; again ploughed, harrowed, and weeded, and the process must be repeated until the land is clean. If in addition to being foul it is also poor you had better get a crop of Turnips or Rape by dint of superphosphate or guano, along with such a supply of farm manure as you may have, and feed them on the ground with sheep, putting off the seeding for pasture till next year.

POULTRY: *Fancier.* A valuable and numerous set of prizes are offered for competition at the annual meeting of the Bath and West of England Society, at Barnstaple, 1st, 2d, and 3d June. Entries close on 1st May.

SALT AND LIME: *G S.* It is a very good dressing for Potatoes. You can harrow into the land a broadcast of 20 or 30 bushels of lime with which 2 or 3 cwt. of common salt have been lying mixed for a month or two, before planting the Potatoes.

TREACLE: *Neston.* Treacle is selling wholesale in Liverpool at about 1½d. per lb. Have any of our readers tried how it answers for feeding cattle?

WOOD LICE: *Ellesmere.* Can any of our readers give advice in the following case? A milk house is infested with these, and there are swarms of them to be seen on the walls in the yard. The poor toad on the floor can only look at them with a longing eye. He has cleared pits and frames of them many times, and has no doubt done his best in the milk-house. Wanted some wholesale way of destroying them.

MISC: *L J P.* It is suggested that sowing a little red lead with the Peas in the rows will not only effectually preserve the Peas, but destroy the mice—the same with Beans. "L. J. P." has tried it many years and never found it fail; the cost is very trifling.

FARM SEEDS, GROWTH OF 1858.

THE PLYMOUTH SEED, AGRICULTURAL IMPLEMENT, AND MANURE COMPANY are prepared to execute orders for all kinds of Farm Seeds selected from stocks direct from the growers.

They respectfully invite the attention of Agriculturists to their FARM SEED LIST for 1859, which will be sent on application to the Secretary.

The two following new sorts of SWEDES are highly recommended:—

THE PLYMOUTH IMPROVED PURPLE TOP SWEDE .. .. 1s. 6d. per lb.
GRANT'S PINE-APPLE SWEDE .. .. 1 0 per lb.

The following extract taken from the London and Irish Farmers' Gazette of October 16, 1858, will show the very high character of the two varieties of Swedes:—"We observed several experimental plots of Swedes, amongst which we noticed a new purple-top, resembling the 'Plymouth Swede,' and also a very beautiful White Turnip (Grant's Pine-Apple Swede, the name of which we do not learn. These were sown on June 16, and certainly were the finest we have seen for a long time. The roots were new to us, but certainly the specimens grown on this view left a very favourable impression on our mind, both their beauty and probable value."

Price to the Trade on application.

Address—PLYMOUTH SEED COMPANY, Plymouth.

FARM SEEDS.

THOMAS KENNEDY AND CO., Dumfries, N.B., having completed their Stock of FARM SEEDS, are prepared to execute orders for the same.

The special attention of Agriculturists is directed to their MIXTURES for Laying down Land to PERMANENT GRASS, which they are glad to say continue to give every satisfaction. Interesting notices of the leading varieties of Grasses composing these Mixtures will be found in their PRICED LIST OF FARM SEEDS FOR 1859 (now ready), which will be sent free on application to any address.

The following-named TURNIP SEEDS, the produce of carefully selected stocks, are offered at the prices quoted:—

SWEDES, the leading varieties .. .. .. 8d. per lb.
YELLOWS, the leading varieties .. .. .. 8d. "
WHITES, the leading varieties .. .. .. 8d. "

Seeds delivered Free of Carriage to the chief Railway Stations in England and Scotland, and to the principal Steam Ports in Ireland.

SEEDS FOR THE FARM.

NEW OVAL-SHAPED YELLOW MANGEL, introduced by us two years ago, has been thoroughly tested and is now recommended with perfect confidence as one of a remarkably vigorous growth, with finely shaped roots, intermediate in length between the Long and the Globe sorts, and has produced from 5 to 10 tons more per acre than any other variety (see *Gardeners' Chronicle* of Jan. 8):—

SWEDE TURNIP.—All the approved sorts.
YELLOW. Do. do. do.
WHITE Do. do. do.

In no description of crop raised on the Farm is a good and bad one so dependent on the character of the Seed as in that of the Turnip, and from its great liability to degenerate it requires the most scrupulous care and vigilance to obtain Stocks that are every way worthy of confidence. To obtain such, we have for several years past been using every known means to keep up or improve the shape, size, and texture of the various kinds; and we believe that what are now offered will give the most perfect satisfaction. All the principal varieties are our own growth, raised from large and fully developed Roots or Bulbs, and in the hope of giving a more vigorous growth to the Stock, the strongest clay soil is always selected for a considerable portion of the Swede and Yellows. This method of raising Turnip Seed materially increases the expense, but secures a much more satisfactory system than the one usually followed, viz., sowing random stocks late in the season, after other crops, and taking the seed from mere plants, which in many cases are not even subjected to the process of thinning. Moreover we guarantee our Seeds free from any of the adulterations frequently practised to increase profits or cheapen prices, and that a strong healthy "braird" is certain.

PERENNIAL RYE-GRASS.—Finest Ayrshire
Do. do. do. Pacey's, 26 lbs. to 32 lbs. per bushel
ITALIAN. do. Imported
Do. do. Home-grown

NATURAL GRASSES.—All the best varieties

The Stocks of Perennial Rye-grass Seed are the most valuable growths the country produces, and being all clean and heavy the economy of using such in preference to foul cheap seed, however cheap, is at once apparent. Our imported Italian is from the usual source, and has always given satisfaction, while the home-grown is the direct produce of imported seed, cultivated under the most favourable circumstances, and with more than ordinary pains having been used in dressing the soil. The samples of both are unusually clean and fine. In selecting the Natural Grasses care is taken to have them true to name, and ripened, and in all respects good clean samples.

ALSIKE CLOVER, and other varieties.
LARGE BROAD-LEAVED SCOTCH TARES.

With every other description of Seed usually required for the farm, PRICED LISTS of which may be had post free on application.

W. DRUMMOND & SONS, Seedsmen, Stirling, N.B., also 58, Dawson Street, Dublin.

*** STIRLING is most favourably placed in point of railway accommodation, there being direct and constant trains to all the principal stations in England and Scotland, and by steamers (*via* Glasgow), almost daily to the chief ports in Ireland, thereby insuring a speedy delivery of goods, all of which, except grain and Tares, we forward carriage paid

MANGEL SEED FROM LARGE BULBS.

SUTTON'S YELLOW GLOBE MANGEL is grown exclusively from fully developed roots, the advantages of which have been proved for several years past.

See the following Letters:—

*From the* Right Hon. Lord BERWICK, *Cronkhill, Atcham*.—"Let me have the same Globe Mangel as last year, which gave me the best crop I ever grew, good both as to quality of crop, and also in the fineness of roots, and freedom from side and irregular growth. When pulled the roots were nearly as clean and as free from fibre as a Globe Turnip, and I had 40 loads per acre or more."

*From* MR. GRAY, Bailiff to G. Rawlins, Esq., *Bulmer Hall*.—"I believe we had one of the finest lots of Mangels and Swedes in the country. We had not quite enough of our own of Mangel, and sent elsewhere for some to finish the field, though sown the same day, and with exactly the same treatment, we had not so much weight by one third as on that sown with your seed."

The First Prizes at Birmingham and other shows throughout the kingdom have been taken by Messrs. SUTTON'S Roots both for Mangel and for their "Champion" Swede. The price of SUTTON'S Large Yellow Globe Mangel Wurzel is 6d per lb. or cheaper by the cwt.

Priced Lists of other kinds of Mangel, Swedes, Turnips, Grasses, &c., will be sent gratis and post free.

Carriage free to all parts except small parcels.

SUTTON & SONS, Royal Berks Seed Establishment, Reading.

## TO THE SEED TRADE.

**WHITE BELGIAN CARROT.**
INTERMEDIATE or JAMES'S CARROT.
BROCCOLI.

| | |
|---|---|
| [illegible] White<br>[illegible] White | Tamworth<br>Giant Late White, very fine heads |

[illegible] of the above. Prices to the trade on [illegible], Salisbury, Suffolk.

## MANGEL WURZEL, SWEDE TURNIPS, ETC.

JAMES GROVE, Great Baddow, Essex, who obtained [illegible] at the Chelmsford and Essex Agricultural Shows [illegible], begs to state that his Seeds are [illegible] Roots—not Plants.

| | |
|---|---|
| [illegible] and Yellow Globe | 1*s.* 3*d* per lb. |
| [illegible] Skirving's Swedes .. | 0*s.* 9*d.* per pint. |

[illegible] required from unknown correspondents.

## "JACK OF NEWBURY" SWEDE, ETC.

PETER LAWSON AND SON, THE [illegible] SEEDSMEN, &c., 27, Great George [illegible] Westminster, respectfully request attention to their very genuine Stock of the [illegible] Swede; also of the LOTHIAN IMPROVED SWEDE, both of which have been [illegible] with the greatest care. They have also a new fine Stock of the KOHL RABI or TURNIP-ROOTED CABBAGE, of which were shown at their [illegible] at Smithfield Club Show. The Kohl Rabi was largely grown last season, and may now be relied on as a substitute for the Turnip and Mangel, where these roots do not succeed, or for filling up blanks where there is a partial failure. Its feeding qualities, hardiness, and weight per acre are equal to the Swede, and all kinds of stock prefer it to other roots.

P. L. & Son have also selected a first-rate Stock of MANGEL WURZEL SEED, which they can confidently [illegible]. Their natural GRASS SEEDS have been also saved with very great care, and they are ready to supply them separately or in mixture, for laying down Permanent Pastures, [illegible] &c.

P. L. & Son have arranged to deliver Seeds free throughout England and Wales from their London Establishment, for all [illegible] exceeding 20*s.* in value.

[illegible] OF PRICES of the above and all other Seeds, Plants, [illegible] be had on application.

27, Great George Street, Westminster.

## SEED CORN FROM THE CHALK.

MESSRS. RAYNBIRD AND HARVEY beg to offer to Agriculturists requiring change of SEED Talavera [illegible] Nursery, and April WHEAT, the best sorts for Spring [illegible]:

Chevalier, Thanet, Golden Drop, Long-eared Nottingham, American, Hudson's Golden Melon, Banham's Sprat, and other varieties of BARLEY.

[illegible], Potato, Hopetoun, Poland, and Tartarian OATS.
[illegible] CLUSTER BEANS, weighing 68 lbs. per bushel.
Samples and Prices on application.
Address—Basingstoke, and 89, Seed Market, Mark Lane, London, E.C.

## TO THE TRADE.

THOS. CRIPPS, NURSERYMAN, &c., Tunbridge Wells, Kent, respectfully offers the following fine strong [illegible] CHESNUT PLANTS, 4 feet to 6 feet in height, 40*s.* per [illegible]; Blush CHINA ROSES, fine strong plants, 15*s.* per [illegible] do., very strong, 25*s.* per 100; fine Standard and [illegible] ROSES, 60*s.* per 100; good do., do., 50*s* per 100; [illegible] PRIMROSE, 20*s.* per 100 or 400 for 3*l.*; PINUS [illegible] and P. RADIATA from Seed, 15 inches to [illegible] inches, 6*l.* per 100; MANETTI STOCKS, 50*s.* per 1000; [illegible] per 1000; IRISH YEWS, 2 feet to 3 feet, [illegible] per 100, Hardy HEATHS, a fine collection, 25*s.* per 100; [illegible] plants, good do., 20*s.* per 100; LARCH FIR, fine stout [illegible] to 3 feet; LONICERA SHEPHERDI, or new Scarlet-[illegible] HONEYSUCKLE, fine strong plants, 4*s.* per dozen; [illegible]RHODENDRON MAXIMUM, fine bushy plants, 18 inches [illegible] feet, 60*s* per 100. Orders from unknown correspondents [illegible] by a remittance will not be noticed.

## EARLY POTATOES, TRANSPLANTED LARCHES, AND NATIVE SCOTCH FIRS.

STUART AND MEIN have to offer a considerable [illegible] quantity of Myatt's PROLIFIC ASH-LEAF KIDNEY POTATOES, EARLY ASH-LEAF KIDNEY; true and free from disease. Also fine TRANSPLANTED LARCHES, 3 to [illegible] feet; NATIVE SCOTCH FIR, 1½ foot; SPRUCE, 1 foot. Prices will be sent free on application.

Nurserymen, Kelso, Roxburghshire.

## SEED POTATOES.

JAMES HUDDART, NURSERYMAN and SEEDSMAN, Preston, offers the following varieties:—

| | |
|---|---|
| [illegible] Short Top | Pink Eye Kemp |
| [illegible] Kemp | Ash-leaved Kidney, very true |
| [illegible] Kemp | Preston Early |

The last named kind is a Seedling raised by J. H., and was [illegible] last year with "Handsworth Prolific" and other early [illegible] and found to be as early and full one-third heavier [illegible]. A very dry mealy Potato when half size. Prices [illegible] on application.

J. H.'s DESCRIPTIVE SEED CATALOGUE may be had [illegible] on application.—March 12.

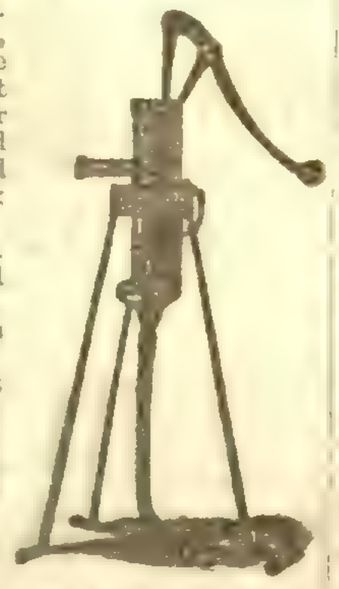
## TO PIG AND POULTRY FEEDERS AND MILLERS.

CHICKEN RICE, 7*s.* 9*d.* per cwt., in bags 1¾ cwt. [illegible] SCREENED RICE, 10*s.* per cwt., in bags 1¾ cwt. RICE MEAL, 6*s.* 6*d.* to 8*s.* 6*d.* per cwt. RICE for [illegible]. An allowance per Ton. American Oilcake, in barrels [illegible] per ton only. Locust Beans, per ton.—Sold for Cash by W. & R. JUPP, 6, Cross Lane, St. Mary-at-Hill, Eastcheap.

TO HORSE PROPRIETORS.—If you wish to have your Horses in high condition with a small allowance of [illegible] CONCENTRATED DRAY and AGRICULTURAL [illegible] manufactured according to the most recent [illegible] study of physiology. Forwarded carriage [illegible] per railway station, in cwt. at 30*s.*, and 15*s.* per half [illegible]. Remittance of Post-office Order, payable to KEMP & SKEY, [illegible], Lancashire.

THORLEY'S FOOD FOR CATTLE.—Every person [illegible] an interest in domestic or farm animals should [illegible] give this celebrated and economical food which [illegible] is invaluable during the approaching season. For [illegible] in good condition, it is unequalled. Pigs fatten [illegible] with surprising rapidity upon it, and their flesh increases in [illegible] and value. Cowkeepers will find great advantage in [illegible] increased quantity and improved quality of the milk during [illegible] animals are benefited by it. A pamphlet on [illegible] interesting subject, accompanied by Testimonials from the [illegible] Nobility, Gentry and Agriculturists forwarded on [illegible]. In casks containing 448 feeds (measures inclosed), [illegible] carriage paid to any Railway Station in the United [illegible]. Post-office Orders payable to JOSEPH THORLEY, [illegible] Street, London.—N.B. The public are cautioned [illegible] being imposed upon by worthless imitations.

## WARNER'S IMPROVED LIQUID MANURE OR GENERAL PORTABLE PUMP.



These Pumps are fitted with J. W. & Son's Patent Buckets and Suckers, and cannot clog in action. The barrel is of galvanised iron, not likely to corrode, and can be raised or lowered at pleasure. The legs will fold together, and the whole may be carried on the shoulder to any pond or tank required.

Price of 4½ in. Pump, with legs, 3*l.* 3*s.* If with planished copper barrel and galvanised iron handle, &c., 14*s.* extra. The barrel is 27½ in. long, and the legs are 5 ft. high.

These Pumps are also made without the legs, with strong wrought-iron straps for screwing on to any ordinary water butt or cart, and fitted with 1½ inch brass union for attaching flexible suction. Price 50*s.*

1¾ inch Gutta Percha Suction Pipe, 1*s.* 11*d.* per foot.

Rubber and Canvas Suction and Delivery Hose, from ½ inch to 4 inches diameter, in lengths of 60 feet to order. Branch Pipes with Cocks, Union Screws, &c., at reduced prices.

May be obtained of any Ironmonger or Plumber in town or country, at the above prices, or of the Patentees and Manufacturers, JOHN WARNER & SONS, 8, Crescent, Jewin St., London.

## WARNER'S PATENT VIBRATING STANDARD PUMPS.

PATENT CAST-IRON PUMPS, fitted with J. W. & Son's Patent Buckets and Suckers, which cannot clog in action, for Farms, Cottages, and Wells, not exceeding 28 feet.

| Diameter of Barrel | Height. | | £ *s.* *d.* |
|---|---|---|---|
| 2 in. | 2 ft. 7 in. | Fitted for lead, gutta percha, or cast iron flanged pipe, as required. | 1 10 0 |
| 2¼ ,, | long 3 ,, 3 ,, | | 1 14 0 |
| 3 ,, | ditto 5 ,, 6 ,, | | 2 8 0 |
| 3½ ,, | ditto 5 ,, 6 ,, | | 2 12 0 |
| 4 ,, | ditto 5 ,, 6 ,, | | 3 3 0 |

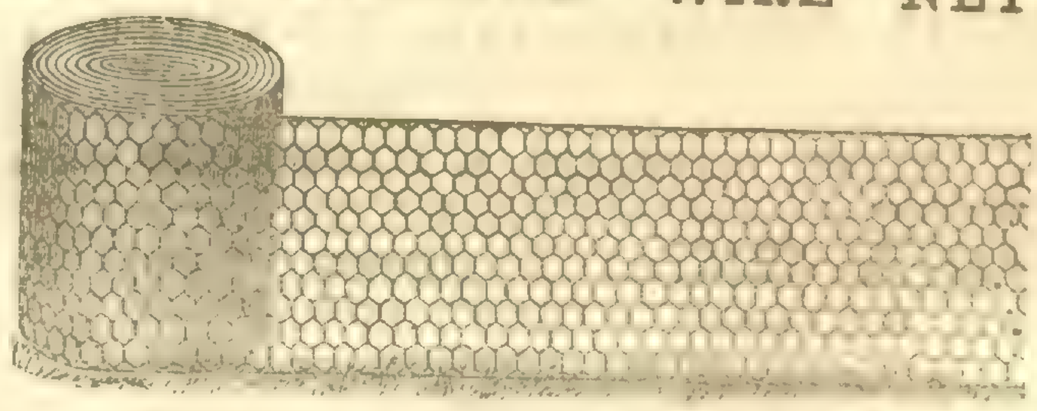
2½ ,, short, with 15 feet of Lead Pipe attached, ready for fixing .... 2 14 0
2½ in. long ditto ditto ditto 2 18 0

The short barrel Pump is very convenient for fixing in situations of limited height and space, for the supply of coppers and sinks in Wash-houses with soft water from underground tanks, or in Hot, Forcing, and Plant Houses; they may be fixed, when desired, under the stage.

May be obtained of any Ironmonger or Plumber in Town or country, at the above prices, or of the Patentees and Manufacturers, JOHN WARNER & SONS, 8, Crescent, Jewin Street, London.

Every description of Machinery for Raising Water by means of Wheels, Rams, Deep Well Pumps, &c.; also Fire and Garden Engines, &c. &c.—Engravings sent on application.

# IMPROVED PREMIUM WIRE NETTING.



**PRICES** PER LINEAL YARD, 21 INCHES HIGH:—

| Size of mesh. | Mostly used for | Light. | | Medium. | | Strong. | | Extra strong. | |
|---|---|---|---|---|---|---|---|---|---|
| | | Japanned. | Galvanized. | Japanned. | Galvanized. | Japanned. | Galvanized. | Japanned. | Galvanized. |
| 2¼ inch | Hares, Dogs, Poultry | 3½*d.* | 4½*d.* | 4½*d.* | 5½*d.* | 5*d.* | 6½*d.* | 6*d.* | 8*d.* |
| 2 inch | Game Netting | 4*d.* | 5*d.* | 4¾*d.* | 6*d.* | 5½*d.* | 7*d.* | 7½*d.* | 9½*d.* |
| 1⅝ inch | Small Rabbits, Hares, &c. | 4½*d.* | 5½*d.* | 5½*d.* | 6½*d.* | 6*d.* | 7½*d.* | 8*d.* | 10*d.* |
| 1½ inch | Smallest Rabbits | 6*d.* | 7½*d.* | 7½*d.* | 9*d.* | 9*d.* | 11*d.* | 11*d.* | 13*d.* |

PRICES PER FOOT SUPERFICIAL:—

| Size of mesh. | Mostly used for | Light. | | Medium. | | Strong. | | Extra strong. | |
|---|---|---|---|---|---|---|---|---|---|
| | | Japanned. | Galvanized. | Japanned. | Galvanized. | Japanned. | Galvanized. | Japanned. | Galvanized. |
| 1¼ inch | Pigeon Houses, Pheasantries, &c. | 1½*d.* | 1⅝*d.* | 1⅞*d.* | 2*d.* | 2¼*d.* | 2⅜*d.* | 2⅔*d.* | 3½*d.* |
| 1⅛ inch | Pigeon Houses, &c. | 1⅝*d.* | 2*d.* | 2*d.* | 2½*d.* | 2½*d.* | 3*d.* | 3*d.* | 3½*d.* |
| 1 inch | Pheasantries and Small Birds | 2*d.* | 2¼*d.* | 2¼*d.* | 2¾*d.* | 2⅝*d.* | 3¼*d.* | 3½*d.* | 4*d.* |
| ⅞ inch | Aviaries, Window Guards, &c. | 2¼*d.* | 2½*d.* | 2⅝*d.* | 3¼*d.* | 3¾*d.* | 4*d.* | 4*d.* | 5*d.* |

Quantities of 100 yards, or upwards, delivered free at nearly all the principal Railway Stations and Shipping Ports in England; also by special estimate to any port of Scotland or Ireland. Any width of Netting under 8 feet made at proportionate prices. Best Improved HAND-MADE HEXAGON MESH NETTING, from ½*d.* to 1½*d.* per yard extra on the above price for 24 inches high.

☞ *Every description of Netting warranted to give satisfaction, and if not approved will be exchanged, or may be returned unconditionally.*

## J. B. BROWN & CO., 18, CANNON STREET, LONDON, E.C.

## ADDRESS: THE MANAGERS, ST. PANCRAS IRONWORKS.

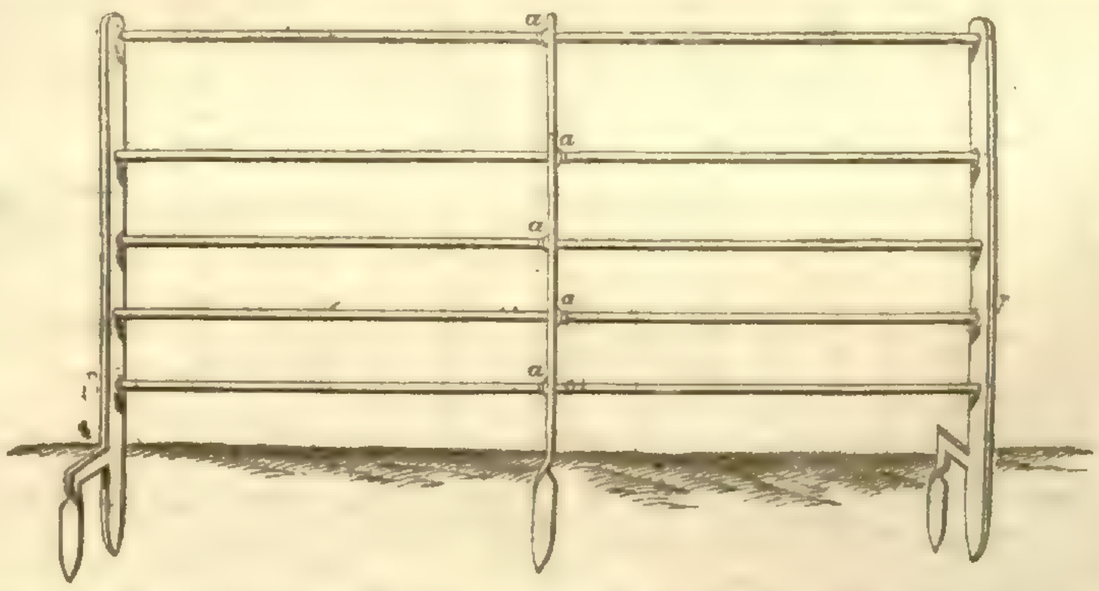
THE ST. PANCRAS IRON WORKS ARE OPPOSITE THE OLD ST. PANCRAS CHURCH,
OLD ST. PANCRAS ROAD, LONDON.

# IRON COLLAR BAR HURDLES.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

**Obtained the Silver Medal of the Royal Agricultural Society.**

ST. PANCRAS IRON WORKS,




OLD ST. PANCRAS ROAD, LONDON

The improvement by this PATENT consists in the COLLARS on the Bars which, being placed on alternate sides of the centre upright bar, keep it in its position, confine the bars to short bearings, prevent their being strained, and give more than DOUBLE STRENGTH and RIGIDITY to the HURDLE.

**PROFESSOR VARNELL'S MANGERS AND STABLE FITTINGS.**

## HORTICULTURAL BUILDING & HEATING BY HOT WATER.

BY APPOINTMENT.

# JOHN WEEKS & COMPANY,

KING'S ROAD, CHELSEA, LONDON.

HORTICULTURAL BUILDERS AND HOT-WATER APPARATUS MANUFACTURERS, ENGINEERS, AND IRON FOUNDERS.

PLANS, ESTIMATES, & ILLUSTRATED CATALOGUES FREE ON APPLICATION.

## COTTAM & COMPY., Engineers, Founders, &c.,

2, WINSLEY STREET, LONDON, W.

A SHOW ROOM DEVOTED ENTIRELY TO ARTICLES OF HORTICULTURE.

THE NEW ILLUSTRATED CATALOGUE UPON APPLICATION.

| | | | | |
|---|---|---|---|---|
| Conservatories | Mowing Machines | Hand-glass Frames | Garden Engines | Flower Sticks |
| Greenhouses | Fountains | Game Netting | ,, Syringes | Garden Bordering |
| Hot-water Apparatus | Ornamental Wire Work | Hurdles | ,, Rollers | Watering Pots |
| Garden Vases | Flower Stands | Garden Chairs | Flower Labels | Garden Arches, &c. |

**Iron Hurdles, Strained Wire Fencing, Game Netting, &c.**

*Every description of Plain, Ornamental, Cast and Wrought Iron, and Wire Work.*

**EXHIBITION PRIZE MEDAL GATES AND ENAMELLED MANGERS.**

N.B. COTTAM AND COY. beg to make it known that there is no longer an entrance to their establishment from Oxford Street, but that they have made a second entrance from 2, Winsley Street, Oxford Street, W., by the side of the old entrance to their works, opposite the Pantheon.

## GLASS WAREHOUSE, ESTABLISHED 1750.

# THOMAS MILLINGTON'S REDUCED TARIFF.

PACKED IN BOXES OF 100 FEET EACH, "PACKAGES FREE,"

**FOR HORTICULTURE, PICTURES, AND DWELLINGS.**

Common, 11s. 6d. ; Super, 12s. 6d.

| Inches by Inches. | Inches by Inches. | Inches by Inches. | Inches by Inches. | Inches by Inches. | 1sts. | 2ds. | 3ds. | 4ths. |
|---|---|---|---|---|---|---|---|---|
| 6 .. 4 | 9 .. 7 | 12 .. 9 | 18½ .. 10½ | 13 .. 11 | | | | |
| 6½ .. 4½ | 9½ .. 7½ | 12½ .. 9½ | 14 .. 10 | 13½ .. 11½ | | | | |
| 7 .. 5 | 10 .. 8 | 13 .. 9 | 14½ .. 10½ | 14 .. 11 | s. d. | s. d. | s. d. | s. d. |
| 7½ .. 5½ | 10½ .. 8½ | 12 .. 10 | 15 .. 10 | 15 .. 10 | 21 6 | 17 9 | 14 4 | 12 6 |
| 8 .. 6 | 11 .. 9 | 12½ .. 10½ | 12 .. 11 | .. .. | | | | |
| 8½ .. 6½ | 11½ .. 9½ | 13 .. 10 | 12½ .. 11½ | .. .. | | | | |
| 14½ .. 11½ | 14 .. 12 | 22 .. 12 | 18 .. 14 | 24 .. 15 | | | | |
| 15 .. 11 | 14½ .. 12½ | 15 .. 13 | 19 .. 14 | 18 .. 16 | | | | |
| 15½ .. 11½ | 15 .. 12 | 16 .. 13 | 20 .. 14 | 20 .. 16 | | | | |
| 16 .. 11 | 15½ .. 12½ | 17 .. 13 | 21 .. 14 | 22 .. 16 | | | | |
| 16½ .. 11½ | 16 .. 12 | 18 .. 13 | 22 .. 14 | 24 .. 16 | 24s. 6d., 20s. 0d., 16s. 6d., 14s. | | | |
| 17 .. 11 | 16½ .. 12½ | 20 .. 13 | 24 .. 14 | 20 .. 17 | | | | |
| 18 .. 11 | 17 .. 12 | 23 .. 13 | 18 .. 15 | 22 .. 17 | | | | |
| 13 .. 12 | 18 .. 12 | 16 .. 14 | 20 .. 15 | 20 .. 18 | | | | |
| 13½ .. 12½ | 20 .. 12 | 17 .. 14 | 22 .. 15 | .. .. | | | | |

## ORCHARD HOUSE SIZES,

AS SUPPLIED TO MR. RIVERS AND OTHERS.

20 .. 12 / 20 .. 13 / 20 .. 14 / 20 .. 15 — 16 oz. Common, per 100 feet, 14s. ; ,, Super ,, 16s. 6d. | If 21 oz. Common, per 100 feet, 21s. ; ,, Super ,, 25s.

LINSEED OIL, PUTTY, GENUINE WHITE LEAD, LINSEED AND BOILED OILS, BRUSHES, &c.

**87, Bishopsgate Street Without, London, E.C.**

## JAMES PHILLIPS AND CO.'S PRICES of GLASS for the present month.

HORTICULTURAL GLASS, STOCK SIZES, in 100 feet cases.

| | | | | |
|---|---|---|---|---|
| 11 by 9, | 12 by 9, | 13 by 9, | 14 by 9 .. | 14s. 6d. |
| 12 ,, 10, | 13 ,, 10, | 14 ,, 10, | 15 ,, 10 .. | |
| 13 ,, 11, | 14 ,, 11, | 15 ,, 11, | 16 ,, 11 .. | |
| 14 ,, 12, | 15 ,, 12, | 16 ,, 12, | 17 ,, 12 .. | |
| 18 ,, 12, | 19 ,, 12, | 16 ,, 13, | 17 ,, 13 .. | 16s. 6d. |
| 18 ,, 13, | 19 ,, 13, | 20 ,, 13, | 21 ,, 13 .. | |
| 16 ,, 14, | 17 ,, 14, | 18 ,, 14 | .. .. | |
| 19 ,, 14, | 20 ,, 14, | 21 ,, 14 | .. .. | |

PACKED IN CASES.

| | | |
|---|---|---|
| 200 feet .. .. .. | £2 2 0 | 16 oz. |
| 300 feet .. .. .. | 3 3 0 | |
| 200 feet .. .. .. | 2 18 0 | 21 oz. |

ORCHARD HOUSE SIZES,

As supplied by us to Mr. Rivers.

| | | | |
|---|---|---|---|
| 20 in. by 12 in. | | 16 oz. | |
| 20 in. by 13 in. | Common .. .. | 14s. 0d. | .. 21 lb. |
| 20 in. by 14 in. | Superior do. .. | 16 6 | .. 15 |
| 20 in. by 15 in. | English Glass .. | 18 0 | .. 10 |

SMALL SQUARES.—Per 100 feet.

| | | | |
|---|---|---|---|
| 6 by 4 | 6½ by 4½ | 7 by 5 | 7½ by 5½ |
| 8 ,, 6 | 8½ ,, 6½ | 9 ,, 7 | 9½ ,, 7½ |
| 10 ,, 8 | 10½ ,, 8½ .. | .. .. | .. .. |

JAMES PHILLIPS AND CO.,

**180, Bishopsgate St. Without, London, E.C.**

## GLASS FOR CONSERVATORIES, ETC.

HETLEY AND CO. supply 16-oz SHEET GLASS of British Manufacture at prices varying from 2d. to 3d. per square foot for the usual sizes required, many sizes which are kept ready packed for immediate delivery.

Lists of Prices and Estimates forwarded on application. PATENT ROUGH PLATE, THICK CROWN GLASS, TILES, and SLATES, WATER-PIPES, PROPAGATING GLASSES, GLASS MILK PANS, PATENT PLATE, ORNAMENTAL WINDOW GLASS, and GLASS SHADES to JAMES HETLEY & Co., 35, Soho Square, London.

See *Gardeners' Chronicle* first Saturday in each month.

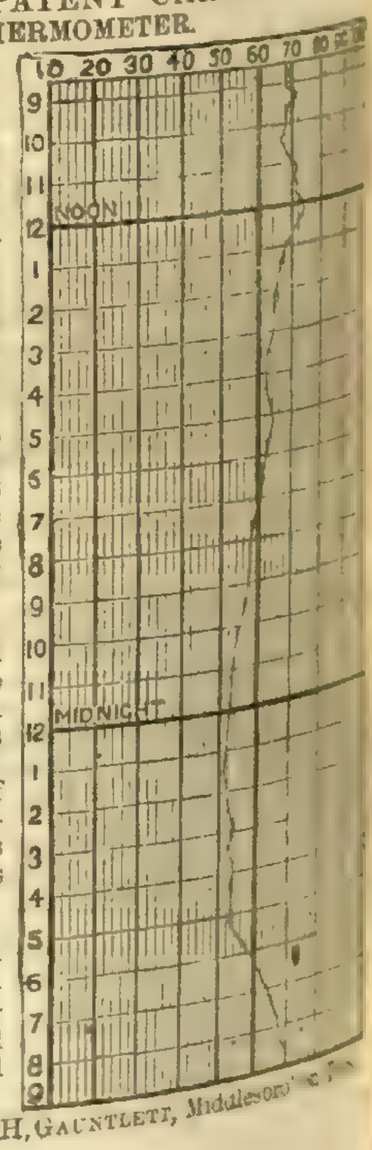
GLAZIERS' DIAMONDS for CUTTING HORTICULTURAL and other GLASS, to be had of the Wholesale Manufacturer, JOHN EDWARDS, 20, Sharp's Alley, West Smithfield, London, E.C. Prices from 10s. to 27s. 6d.

200 ONE, TWO, and THREE-LIGHT MELON BOXES and LIGHTS, of the best seasoned materials, ready for immediate use.—JAS. WATTS, Hothouse Builder and Hot-water Apparatus Manufacturer, Old Kent Road, London.

## TO HORTICULTURISTS.

GAUNTLETT'S PATENT CHRONOMETRICAL THERMOMETER.

This instrument, which combines an eight-day clock of the best English make showing time, with a newly-patented Thermometer, wherein glass and quicksilver are dispensed with, writes down the temperature of the atmosphere on a slip of paper, and when placed in a Hothouse, Forcing House, or Conservatory, &c., supplies a valuable record of the temperature, with all its variations, showing the time when any change took place, and how long such change continued.

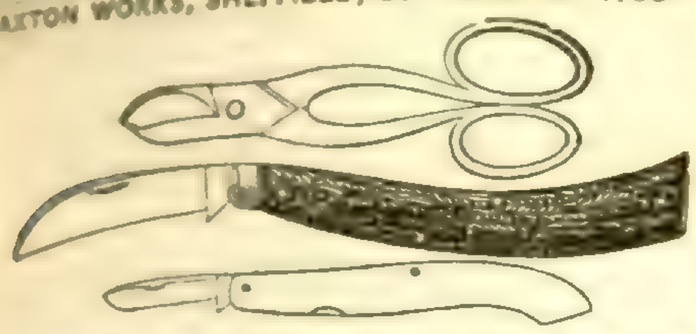



The above slip (reduced in size) exhibits the temperature of the Royal Agricultural Society's show yard at Chester, July 22, 1858, written off by one of these instruments, to which was awarded the Society's SILVER MEDAL.

This is the only instrument that registers temperature continuously and writes it down, and no horticulturist should be without it.

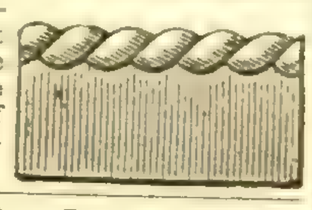
Orders received by W. H. GAUNTLETT, Middlesex [illegible]

PAXTON WORKS, SHEFFIELD, ESTABLISHED 1788.



SAYNOR AND COOKE'S warranted PRIZE PRUNING and BUDDING KNIVES, SCISSORS, &c.—Sold by all respectable Nurserymen and Seed Merchants in the three Kingdoms.

LOOMES AND CO., Whittlesea, MANUFACTURERS OF BRICKS, TILES, POTTERY, &c., beg to call attention to their new CABLE PATTERN GARDEN BORDER EDGING, which not only surpasses others in appearance and durability, but is free from the dangerous points and sharp edges of most.—Price, delivered on any Railway at Peterborough, 5*d.* per yard.



TO GARDENERS, ETC.

PATENT WATERING ENGINES, PAIL MACHINES, CONSERVATORY PUMPS, and GREENHOUSE SYRINGES, with all the latest improvements, manufactured only by the Patentee,

RICHARD READ, 35, REGENT CIRCUS, PICCADILLY, LONDON.

*** Descriptions sent post free.

# PATENT LAWN MOWING AND ROLLING MACHINES.

# SAMUELSON'S LAWN MOWING MACHINES,

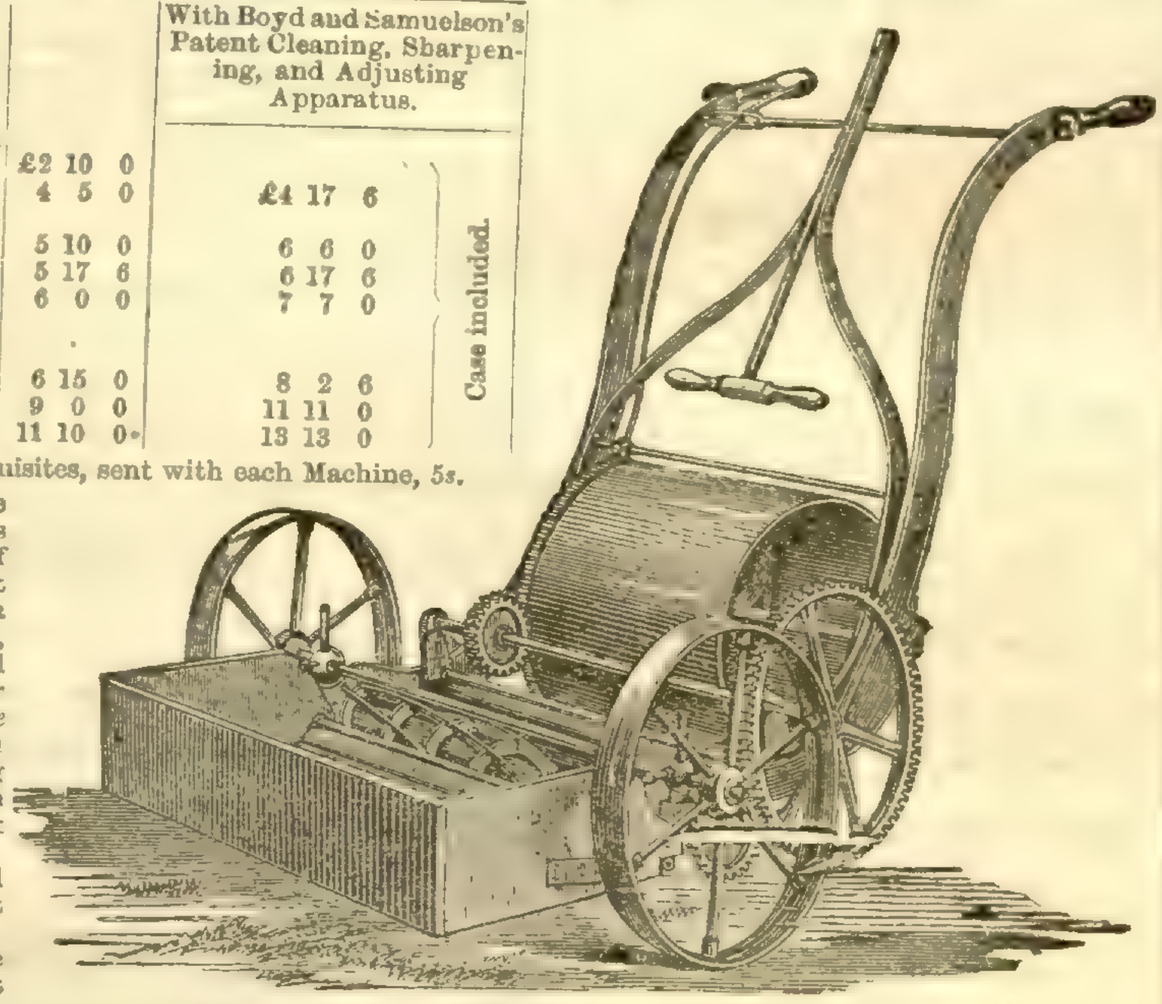
## WITH BOYD'S PATENT IMPROVEMENTS.

*"Doing the work of five or six men."—The Times, Sept.* 20, 1858.

The following PRICES include the Carriage to any Railway Station in England:—

| | | With Boyd and Samuelson's Patent Cleaning, Sharpening, and Adjusting Apparatus. | |
|---|---|---|---|
| inches wide, for very narrow borders, without registered wheels .. .. | £2 10 0 | | |
| inches wide .. .. .. .. | 4 5 0 | £4 17 6 | Case included. |
| inches wide, with registered arrangement (for one man) .. .. .. | 5 10 0 | 6 6 0 | |
| inches wide, ditto (for one man) .. | 5 17 6 | 6 17 6 | |
| inches wide, ditto (for man and boy) | 6 0 0 | 7 7 0 | |
| inches wide, ditto for ditto, and also fitted with draught links for a pony and a man to work it .. .. | 6 15 0 | 8 2 6 | |
| inches wide, ditto .. .. .. | 9 0 0 | 11 11 0 | |
| inches wide, ditto (for man and pony) | 11 10 0 | 13 13 0 | |

Box of Tools, Oil Can, and other requisites, sent with each Machine, 5*s.*



Some thousands of these Machines are now in successful operation on the Lawns of Royalty, the Nobility, and Gentry of the United Kingdom and the Continent of Europe, and are pronounced SUPERIOR to any other for lightness of draught, efficiency, and durability. The demand for them is *yearly increasing—the number* supplied by Mr. SAMUELSON *during the* [illegible] *and* 1858 *being more than* [illegible] orders are continually being [illegible] gentlemen having them in [illegible] speak in the highest [illegible] of their efficiency.

These are the only Machines that will cut wet as well as dry Grass without injuring the knives.

Orders for 1859 should be sent at once to ensure certain delivery and to prevent disappointment.

Copies of Testimonials will be forwarded post free on application to

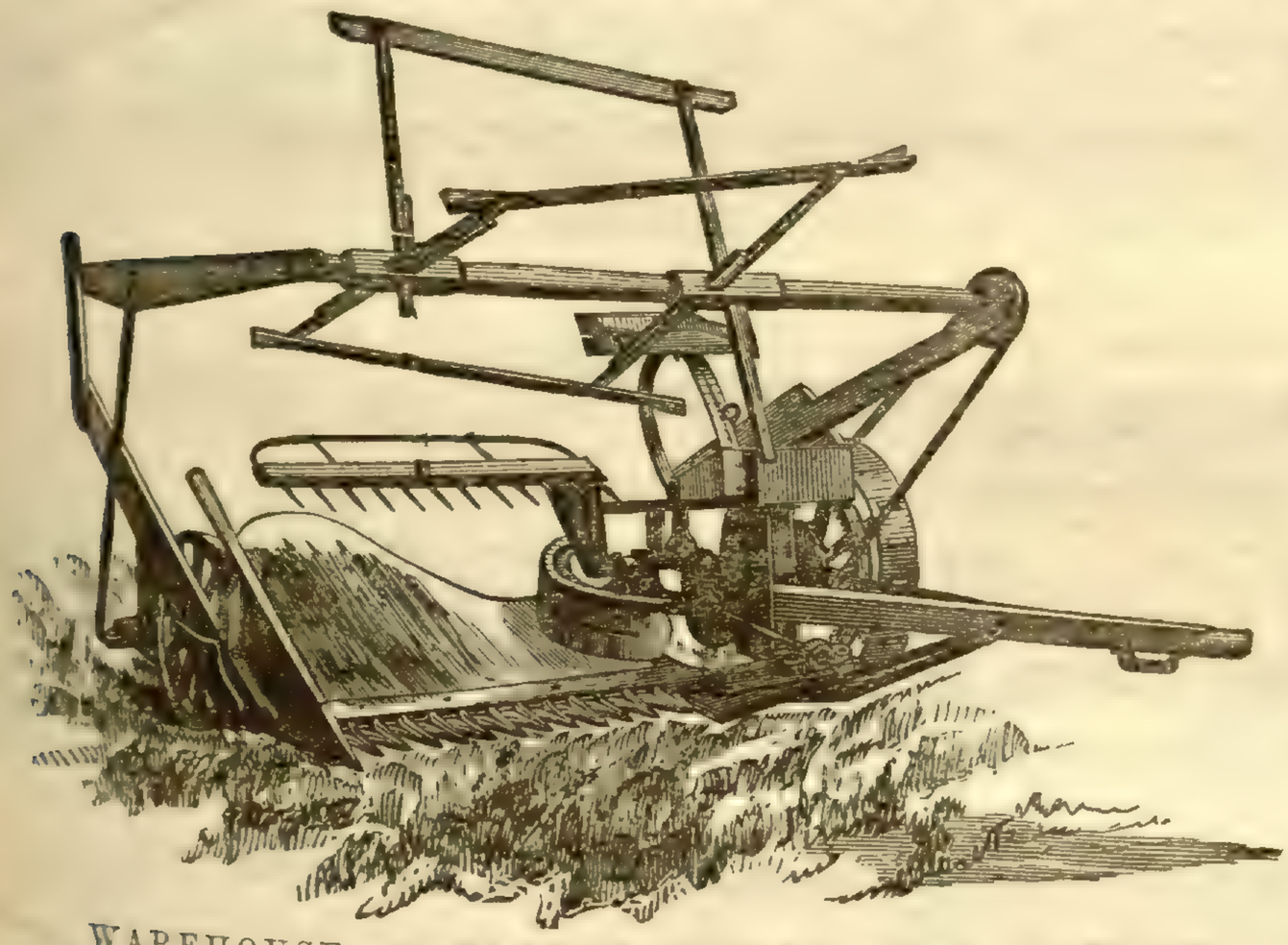
**B. SAMUELSON, 76, Cannon Street West, City, London;**

**to the Manufactory, Britannia Works, Banbury, Oxon;**

Messrs. DEANE AND CO., London Bridge; or any respectable Ironmonger or Seedsman in the Kingdom

# B. SAMUELSON,

## AGRICULTURAL ENGINEER AND MACHINIST,



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INFORMS MERCHANTS, the TRADE, and AGRICULTURISTS, that he has opened the above Warehouse as a depôt for his own manufactures and those of Messrs. Barrett, Clayton, Howard, Hornsby, Nicholson, Richmond, Tuxford, Smith, and all other first-class makers, whose implements he is prepared to offer on makers' terms.

## THE BRITANNIA SELF-RAKING REAPING MACHINE,

With side delivery in sheaf, no rakers or gatherers required; and all the most improved Spring Implements for the season, may be inspected at the above depôt.

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GREEN'S PATENT LAWN MOWERS have proved to be the best by the appointed judges in all cases of competition. Full illustrations, with particulars of improvements for the present season, will appear in this Paper next week.

THOMAS GREEN, Patentee and sole Manufacturer, Smithfield Iron Works, Leeds, Yorkshire; and 2, Victoria Street, Bottom of Holborn, London. Repairs done at either of the establishments, where every information may be obtained.

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MANUFACTURED BY

JAMES FERRABEE AND CO., PHŒNIX IRON WORKS, Stroud.—These improved Machines admit of the use of duplicate sets of cutting parts, can be accurately sharpened by an ordinary workman, are adapted to level and uneven ground and to verges, and their management is much simplified.

In the following List the Letters A, B, &c., are used to facilitate reference, and the distinguishing letter of the Machine required should be given in sending an order.

The prices include carriage to to the principal railway stations in England, terms net cash.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| A, | cutting 12 inches wide, | for a boy | .. .. | £4 | 10 | 0 |
| B, | ,, 16 | ,, | for one man | .. .. | 6 | 0 | 0 |
| C, | ,, 19 | ,, | for a man and a boy | .. | 6 | 10 | 0 |
| D, | ,, 22 | ,, | ,, ,, | .. | 7 | 0 | 0 |
| E, | ,, 26 | ,, | for two men | .. .. | 8 | 10 | 0 |
| F, | ,, 22 | ,, | for a donkey or a pony | | 8 | 0 | 0 |
| G, | ,, 26 | ,, | for a pony | .. .. | 9 | 0 | 0 |

Sharpening Apparatus for any of the above, 5*s.* extra.

| | | | | | | |
|---|---|---|---|---|---|---|
| H, | cutting 24 inches wide, | for a horse | .. .. | 14 | 0 | 0 |
| I. | ,, 28 | ,, | ,, .. | .. 16 | 0 | 0 |
| K, | ,, 36 | ,, | ,, .. | .. 18 | 0 | 0 |

Sharpening Apparatus, 10*s.* extra each.

The Horse Machines H, I, K, have cylinders of large diameter and in their entire construction possess the strength and capacity necessary for horse-power, and the heaviest work of a pleasure ground.

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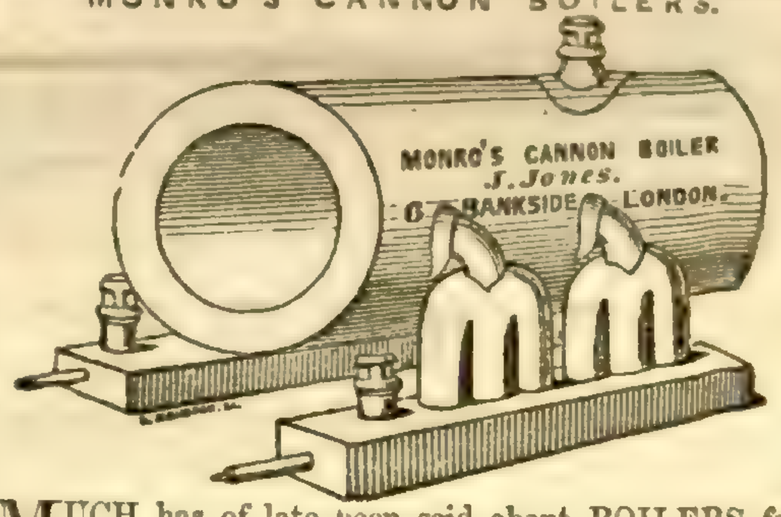
Larger sizes in wood or iron, viz., 14 gallons, 24 gallons, and 35 gallons. May be obtained of any Ironmonger or Plumber in town or country, or of the patentees and Manufacturers, as also Machinery of all kinds for raising Water from any depth to any height by Steam, Horse, or Manual Power. Prices sent on application.

Syringes of various constructions and sizes from 9*s.* upwards. Metallic String from 5*d.* to 1*s.* 3*d.* per lb.

MONRO'S CANNON BOILERS.



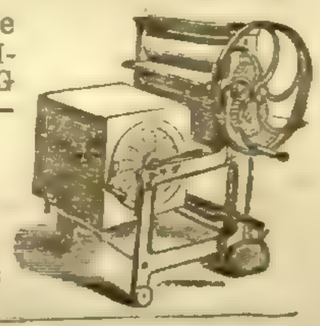

MUCH has of late been said about BOILERS for Heating by Hot Water, but these Boilers have now proved themselves to be the best at present invented. They are adapted for heating every description of building, and are made of various sizes. The Price of the

| | | | | |
|---|---|---|---|---|
| 24-inch Cast Iron is | .. .. | .. | £5 10*s.* 0*d.* | each |
| 24-inch Wrought ditto | .. .. | .. | 6 10 0 | ,, |
| 36-inch Cast ditto .. | .. .. | .. | 8 0 0 | ,, |
| 36-inch Wrought ditto | .. .. | .. | 8 10 0 | ,, |

References to Gentlemen and Nurserymen where these Boilers are now at work. The Cannon Boilers are now kept in stock, and are to be had only of J. JONES, 6, Bankside. Also, every description of Saddle and Cylinder Boilers. Hot Water Pipes and Connections at prices lower than those of any other house in London. Estimates for Hot-water Apparatus erected complete in any part of the country, and an Illustrated Catalogue on application to J. JONES, 6, Bankside, Southwark, London.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

NO ONE KNOWING the value of your Patent WASHING, WRINGING, and MANGLING MACHINE, would be without one."—*Vide Mrs. Hall.*



THOMAS BRADFORD, Patentee, Manchester.

Descriptive Pamphlet, with Prices by post.

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BROWN'S FLORAL SHADING still maintains its superiority for cheapness and efficiency over all other materials used for a similar purpose, viz., shading plants under glass from the scorching rays of the sun, protecting Wall Fruit Trees when in bloom from frost, and preserving the fruit from the attacks of birds, flies, and wasps. Sold in pieces 20 yards long, 38 inches wide:—

No. 1 per piece .. 4*s.* 0*d.* | No. 2 per piece .. 4*s.* 3*d.*
No. 3 .. .. 7*s.* 0*d.*

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GREENHOUSES, ORCHARD HOUSES, AND PITS OF EVERY DESCRIPTION, MADE BY STEAM MACHINERY, AND HEATED BY HOT WATER ON AN IMPROVED PLAN AT

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VOKINS AND HURD, Seymour House, Jubilee Place, King's Road, Chelsea, BUILDERS OF HOTHOUSES, CONSERVATORIES, GREENHOUSES, PITS, and every description of erections in Glass work, either in Wood or Iron; also Heating the same by hot water on the most approved plans and at the lowest prices consistent with good work. Estimates forwarded.

HEATING BY HOT WATER ON HAMMOND'S improved principle, for Horticultural Works, Mansions, Churches, Public Buildings, in fact everywhere that heat is required. Also his improved Ventilating Greenhouses, which can be erected at 1*s*. per foot, and entirely prevent the possibility of scorching the Vines or plants. The Patent Hot-water Register Stove.—Estimates at No. 18, George Street, Portman Square. Workmen sent into the country.

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TANNED GARDEN NETTING, for protecting Fruit Trees from frost, blight, birds, &c., and for fowls, &c. One yard wide 1½*d*., 2 yards 3*d*., and 4 yards 6*d*., per yard, in any quantity. Last year's WRIGHT'S, 376, Strand, W.C.—A liberal allowance to Nurserymen.

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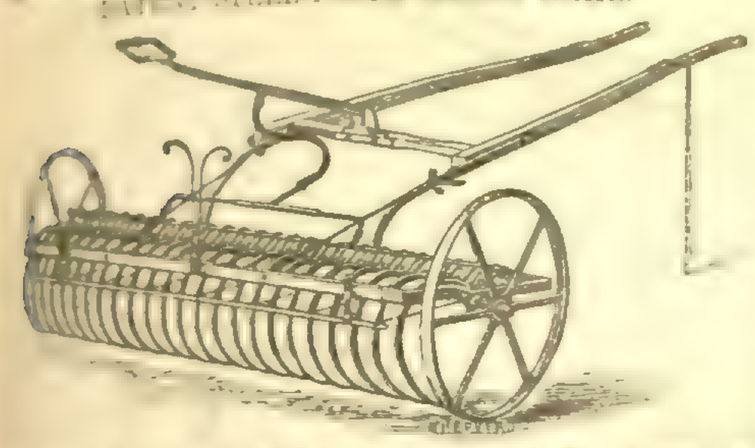

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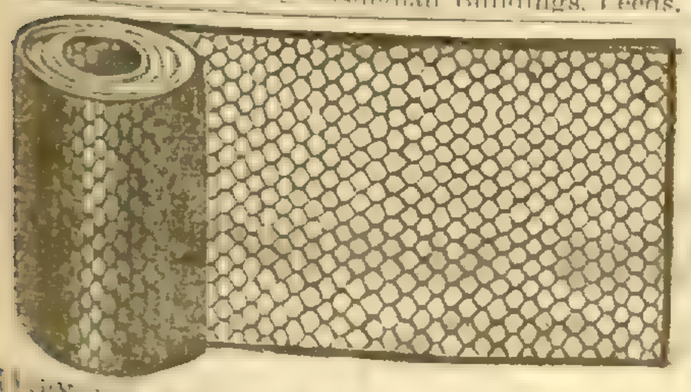

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RATS, RATS TAKEN WITHOUT POISON OR TRAPS BY WHOLESALE.—Ships, Barns, Stables, Granaries, Mills, Warehouses, Farmsteads, Houses, &c., cleared at one sweep. ANY PERSON can by this method clear the entire premises of every RAT, however numerous they may be, in one single night. Printed directions how to entice and secure the whole lot alive, sent free by return of post for Two Shillings by WILLIAM GOODWIN, High Halstow, near Rochester

TO NURSERYMEN, MARKET GARDENERS AND OTHERS.

TO BE DISPOSED OF, with immediate possession (the present proprietor retiring from business), that lucrative NURSERY and MARKET GARDEN BUSINESS, with first class Wholesale and Retail Trade, established upwards of 50 years in the most desirable and prominent part of the Bath Market, together with the whole Stock in Trade, Horticultural Buildings (consisting of upwards of 2000 feet of glass), comfortable good and healthy Dwelling House, Sheds, Outhouses, and every convenience suitable for the trade. The land is situated within a mile from the Bath Market on the road between Bath and Bristol, and is free from all Borough and City rates. The whole of the Land is in a perfect state of cultivation, and would be a most desirable investment for any party wishing to enter into the line of business. The whole of the stock to be taken at a valuation.—For further particulars apply to Mr JAMES SHACKELL, Tiverton, Bath, or at 69, 70, and 80, Market, Bath.

TO BE SOLD, an old established NURSERY and SEED BUSINESS, in the Midland Counties, in a good Market Town, and immediately contiguous to a first-class Railway Station. The STOCK at present is low, but good, and may be taken to at valuation or by private treaty. Is parted with solely on account of the death of the late proprietor.—Apply to Messrs. NOBLE, COOPER, & Co., 152, Fleet Street; or Messrs. Low & Co., 7, Upper Clapton, London.


# Sales by Auction.

POULTRY SALE (EXTRA)

MR. J. C. STEVENS will Sell by Auction, at his Great Room, 38, King Street, Covent Garden, on TUESDAY, March 15, at 12 o'Clock precisely, Poultry and Pigeons of excellent quality, including many prize birds of Dorkings, Spanish, Cochins, Brahmas, Game, Hamburghs, Polands, &c., from breeders of First-class stock; and a capital lot of Pigeons, the entire stock of a gentleman relinquishing the fancy, including many very choice prize birds of all the varieties.—Catalogues by enclosing a stamped directed envelope to Mr J. C. STEVENS, 38, King Street, Covent Garden, London, W.C.

SEEDS AND PINE CONES FROM VANCOUVER'S ISLAND, FRASER RIVER, AND CALIFORNIA.

MR. J. C. STEVENS will Sell by Auction, at his Great Room, 38, King Street, Covent Garden, on WEDNESDAY, March 16, at half past 12 precisely, a valuable and important consignment of PINE CONES AND SEEDS in capital condition, including Thuja gigantea, Abies Menziesi, Williamsoni (?), and Douglasi; Pinus Benthamiana, Jeffreyi Sabiniana, and tuberculata; Cupressus Lawsoniana and MacNabiana, and Wellingtonia gigantea. Also an importation of Araucaria imbricata Seed.—May be viewed on the morning of sale, and Catalogues had.

FRUIT AND ROSE TREES, HOLLYHOCKS, ETC.

MR. J. C. STEVENS will Sell by Auction at his Great Room, 38, King Street, Covent Garden, on FRIDAY, March 18, at half-past 12 precisely, a large quantity of STANDARD and DWARF ROSES, including H. Perpetuals, Moss, Bourbons, Yellow, and Creeping, &c.; Fruit Trees, including Peach and Nectarine Trees, for Fruit Conservatories and Pots; Standard Lee's Perpetual; Fig Trees, 12 feet, 9 feet, and 6 feet high. 1000 Hollyhocks of good sorts and other Plants.—May be viewed on the morning of Sale and Catalogues had.

TO GENTLEMEN, FLORISTS, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS will Sell by Auction at the Mart, Bartholemew Lane, on FRIDAY, March 18, at 12 o'Clock, a first-class Collection of Carnations, Piccotees, and Pinks; about 300 choice Standard and Dwarf Roses, consisting of the most approved kinds; choice Fruit Trees, Double Camellias, Azalea indica, and other Plants in bloom, selected American Plants, Paeonias, Verbenas, Fuchsias, Dahlias in dry roots, &c.—May be viewed the morning of Sale. Catalogues to be had at the Mart, and of the Auctioneers, American Nursery, Leytonstone.

TO GENTLEMEN, GARDENERS, BUILDERS, ARCHITECTS, AND OTHERS.

MR. DEBENHAM is instructed by Mr. Rentmore, who is retiring from the business, to Sell on the premises, 74, Borough Road, on TUESDAY, March 15, at 12 o'Clock, the Stock of ARTIFICIAL STONE, including Statues, Vases, Fountains, Sundials, and Stands, and every description of Garden Ornaments and Architectural Embellishments; also the Moulds connected with the business, Stock-in-Trade, and effects.—May be viewed three days prior to the Sale, and Catalogues had on the premises and of Mr. DEBENHAM, 80, Cheapside, E.C.

PERDISWELL HALL, NEAR WORCESTER.

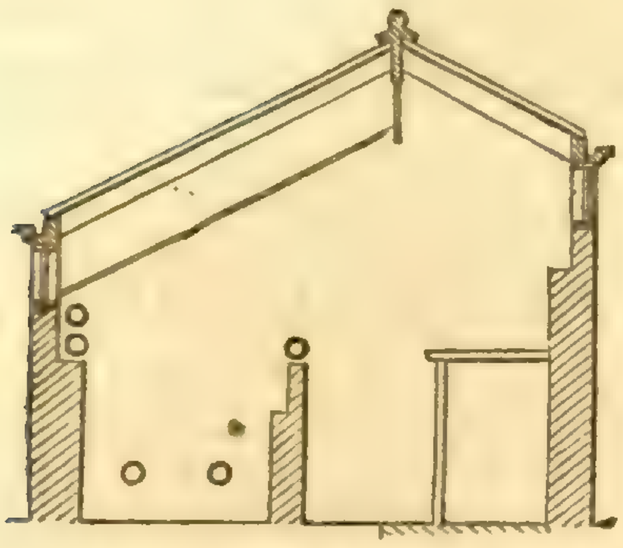
IMPORTANT SALE OF PLANTS.

MR. BENTLEY will Sell by Auction, at Perdiswell Hall, near Worcester, on WEDNESDAY, March 23, at 11 o'Clock, by direction of the Executors of the late Sir Offley Penbury Wakeman, Bart., a splendid Collection of Orchids, in fine health; Apricot, Peach, Nectarine, Plum, Cherry, and Vine Trees, in pots; specimen Stove and Greenhouse Plants, including Azaleas, Heaths, Camellias, &c.; healthy Ferns, about 200 Cinerarias, fine blooming plants; a number of very healthy Fruiting and Succession Pine Plants; Bedding Plants, including fine specimens of Mountain of Light Geranium, &c. &c.; an Excellent Forcing House, 40 ft. by 16 ft., in 4 divisions, heated by hot water; three Brick Pits; six, two, and one-light Cucumber Frames and Lights; a quantity of seed Potatoes, &c.—Catalogues may be had one week prior to the sale at the offices of Mr. MARTIN CURTLER, Solicitor, Sansome Place, or the Auctioneer, Foregate Street, Worcester.

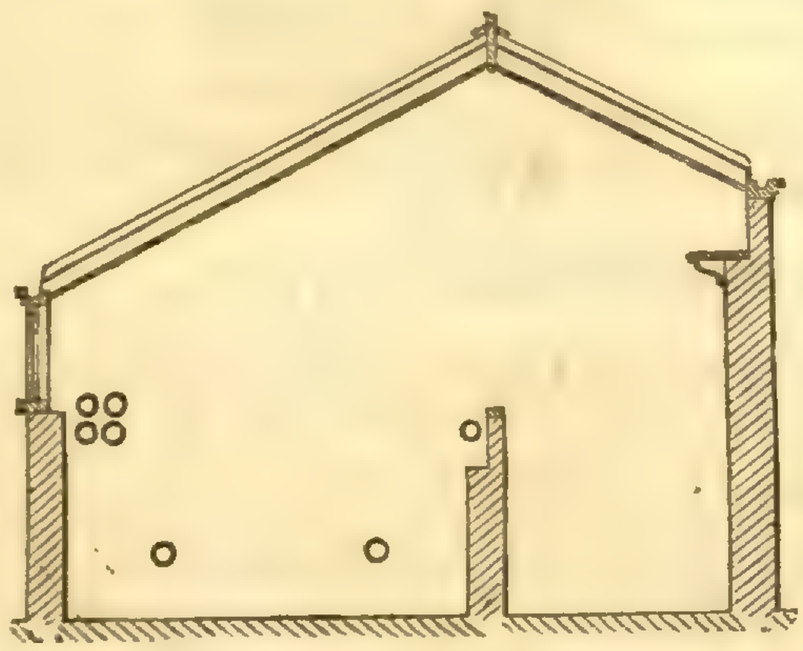
DOWNSIDE FARM, COBHAM PARK, SURREY.

VERY IMPORTANT SALE OF FIRST-CLASS SHORTHORNS.

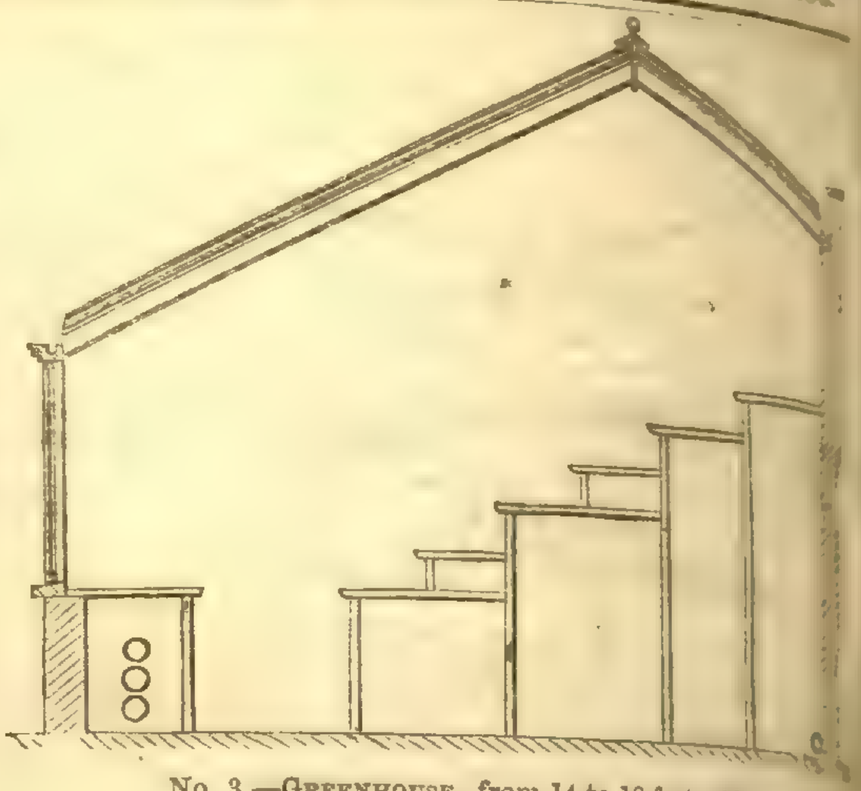
MR. STRAFFORD has received instructions to announce for Sale by Auction, without reserve, on WEDNESDAY, March 23, the entire herd of first-class SHORTHORNED CATTLE, the property of the late Harvey Combe, Esq., of Cobham Park, Surrey, consisting of about 70 Head of Bulls, Cows, and Heifers, which have been bred from the choicest blood that could be procured, no expense having been spared in the original selection of animals of the highest breeding and character. The Cows and Heifers are principally in calf to Marmaduke (14897), for which 500 guineas were given at the Bushey Grove Sale in 1857, and the produce of this animal already dropped fully justify that outlay. This splendid Herd will be offered in its ordinary condition, and are only to be sold in consequence of the decease of their lamented owner.—Catalogues, with pedigrees, may be had on application to Mr STRAFFORD, 18, Euston Square, London; and of Mr. E. KIRBELL, at the Downside Farm, Cobham, Surrey.



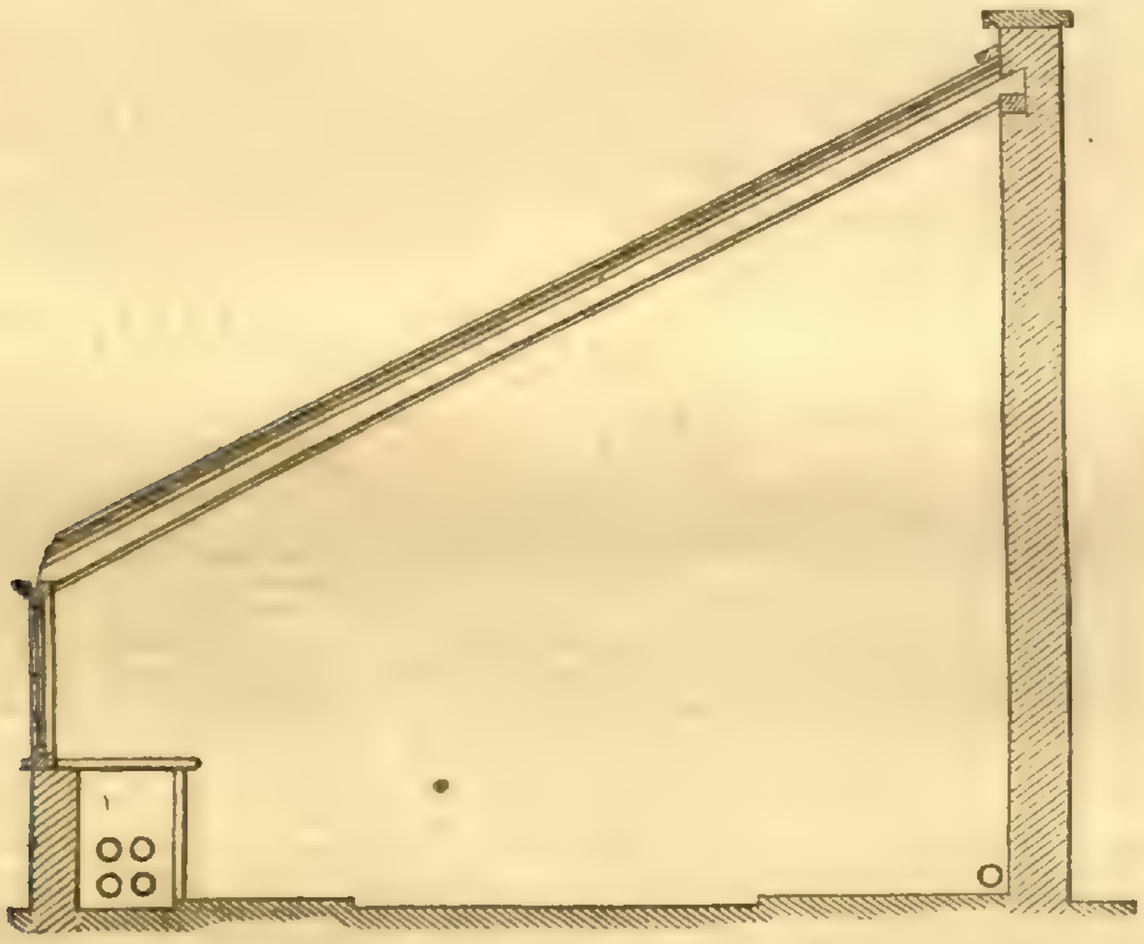
No. 1.—CUCUMBER AND MELON PIT, 10 ft. wide.



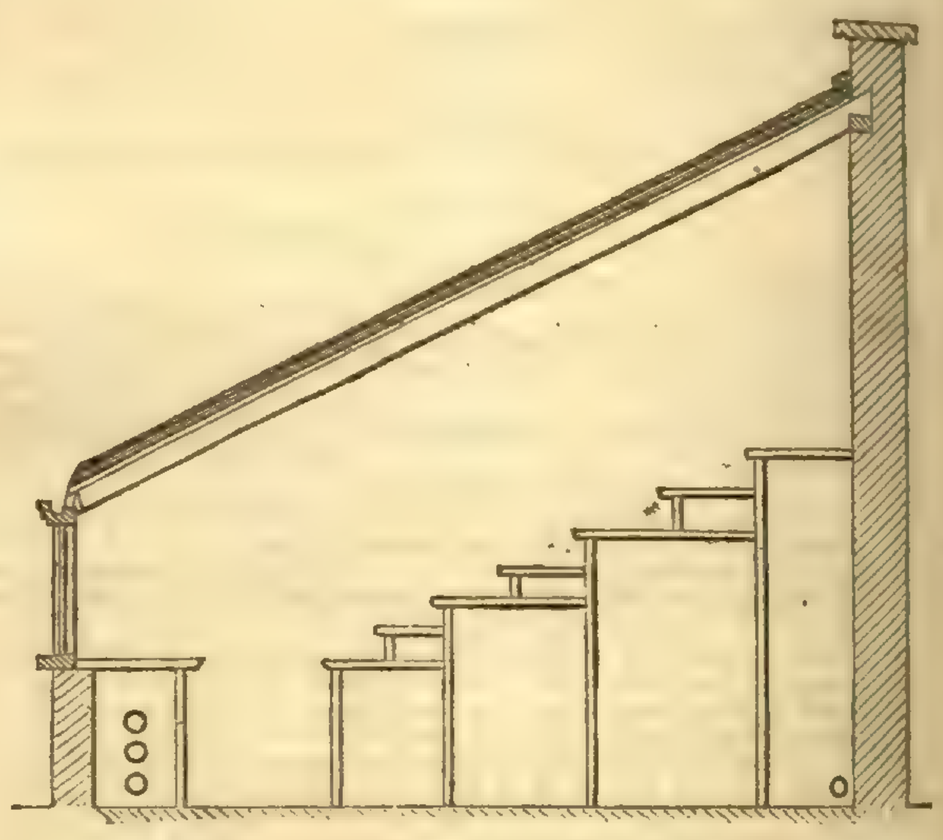
No. 2.—PINE PIT, 14 ft. wide.



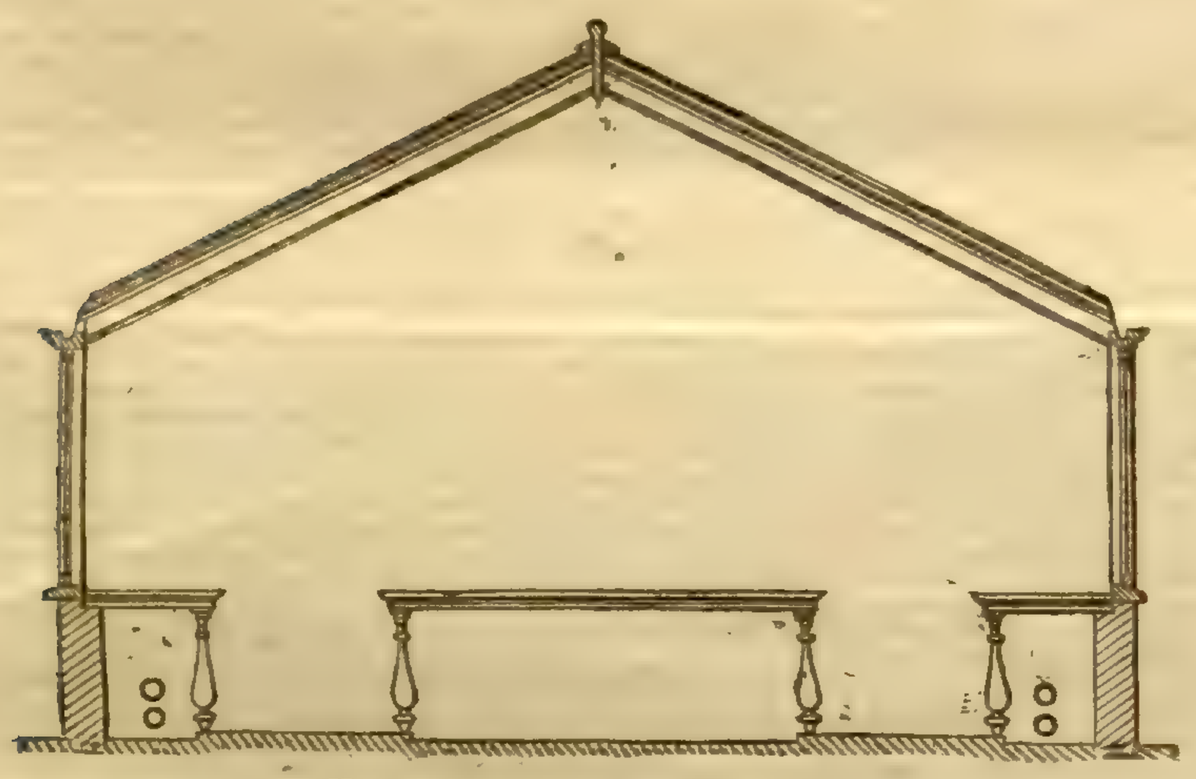
No. 3.—GREENHOUSE, from 14 to 18 feet wide



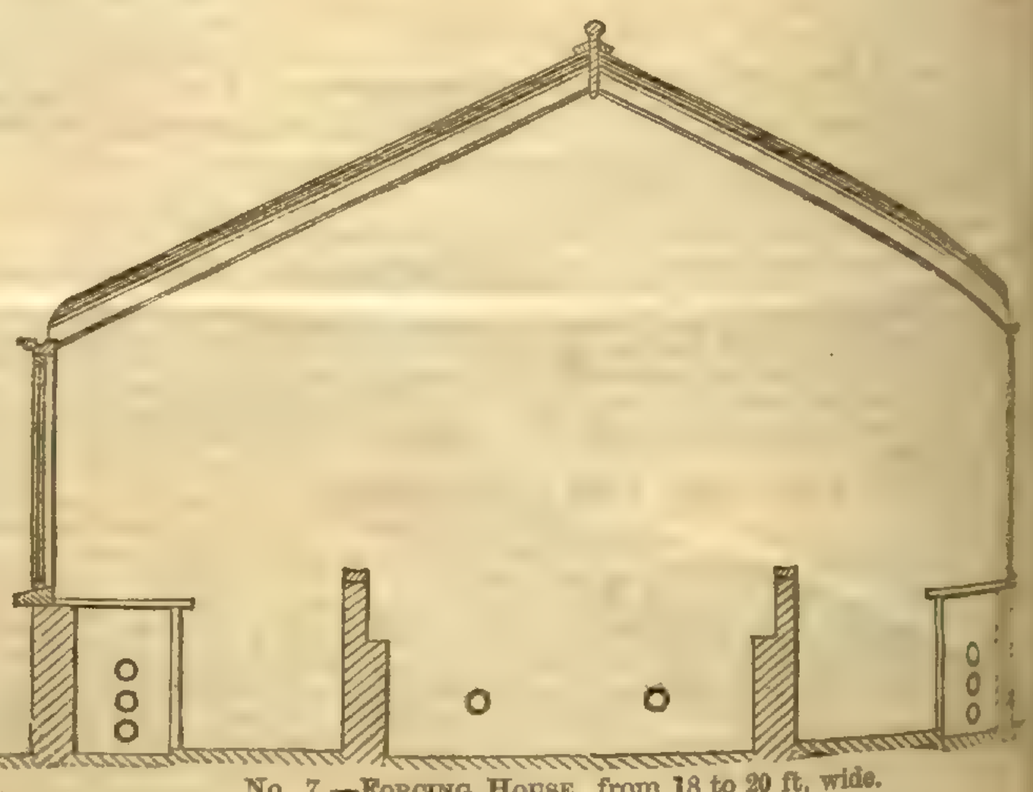
No. 4.—VINERY, from 15 to 18 ft. wide.



No. 9.—GREENHOUSE, from 12 to 20 ft. wide.



No. 6.—GREENHOUSE, from 18 to 20 ft. wide.



No. 7.—FORCING HOUSE, from 18 to 20 ft. wide.


# HORTICULTURAL BUILDINGS MANUFACTURED BY STEAM POWER MACHINERY.

## BEST MATERIALS AND LOWEST PRICES.

# HENRY ORMSON,

## HORTICULTURAL BUILDER & HOT-WATER APPARATUS MANUFACTURER,

### STANLEY BRIDGE, KING'S ROAD, CHELSEA, LONDON,

Deeply grateful for the very liberal and kind patronage bestowed upon him, begs most respectfully to inform the Nobility, Gentry, Nurserymen, that it being his determination to spare no pains to merit a continuance of their favours, and that he may be enabled to execute his extensive increasing orders punctually, and at the lowest possible cost (agreeably with the best Materials and Workmanship), he has erected a most complete set Steam Power Machines, peculiarly adapted for the purposes of his Trade.

PARTIES DESIRING INFORMATION as to prices, &c., will, by referring to the above sections, receive immediate attention.

PLANS, SPECIFICATIONS, and ESTIMATES for plain and inexpensive practical Structures, and for the most elaborate Architectural Erections, either Wood or Iron, forwarded on application.

**N.B. Ormson's Patent Jointless Tubular Boilers may be seen in successful operation at Mr. Veitch's, Royal Exotic Nursery, King's Road, Chelsea, and on view and for sale at**

**THE MANUFACTORY.**


Editorial Communications should be addressed to "The Editor"—Advertisements and Business Letters to "The Publisher"—at the Office, 5, Upper Wellington Street, Covent Garden, London, W.C
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# THE GARDENERS' CHRONICLE
AND
# AGRICULTURAL GAZETTE.

**A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.**

No. 12.—1859.] SATURDAY, MARCH 19. {Price Fivepence. STAMPED EDITION, 6d.


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HORTICULTURAL SOCIETY OF LONDON.—Notice is hereby given that the business of the Society is carried on in future at No. 8, St. Martin's Place, Trafalgar Square, W.C.

HORTICULTURAL SOCIETY OF LONDON.—DISTRIBUTION OF SEEDS.

Seeds annually provided for distribution being now ready, Fellows of the Society who have not received them can obtain them on application at the Society's Office, 8, St. Martin's Place, Trafalgar Square, W.C.

HORTICULTURAL SOCIETY OF LONDON.—FIRST BALLOT FOR PLANTS.

Notice is hereby given that the first ballot for Plants is about to take place at the Society's Offices, 8, St. Martin's Place, Trafalgar Square, W.C., on which occasion the Fellows of the Society will draw for 70 Pinus Don Pedri; 100 Seedling Ferns from Cupressus Lawsoniana; 100 Cupressus Macnabiana; 100 Ferns, from Pichincha, Peru; 30 Hesperomeles, 30 Rhododendron Dalhousianum; 50 Clematis Fortunei; 100 Leptophylla; 100 Bambusa gracilis; 100 Bambusa japonica; 20 Chamæcyparis thurifera; 40 Pinus Lambertiana; 40 Pinus excelsa; 80 Cupressus torulosa; 80 Cupressus, 40 Jasminum nudiflorum; 50 Prostanthera Hookerianus Olympicus; 70 Gynerium argenteum; 50 Florentine Camellias; 40 Forsythia viridissima; 30 Chamærops palmetto; 20, Acacia longifolia.

Fellows to send in their names at the latest two clear days before the Ballot; they need not attend personally; but will be informed of the result after the Lottery shall have been drawn. Lists of the plants to be ballotted for can be had on application at the Office, 8, St. Martin's Place, Trafalgar Square, Fellows paying four guineas a year have two chances at each Ballot. Fellows paying two guineas a year have one chance each Ballot.

The list of the ballot will be announced next week.

ROYAL BOTANIC SOCIETY OF LONDON, REGENT'S PARK.—SPRING EXHIBITIONS of PLANTS and FLOWERS for competition, on WEDNESDAYS, March 23, and April 20.

Applications for admission to the Gardens on these days will be received on ordinary week days, but the Conservatory will necessarily be closed for the arrangement of the Plants, &c.

J. DE C. SOWERBY, Secretary.

ROYAL BOTANIC SOCIETY, REGENT'S PARK.—SPRING EXHIBITIONS OF PLANTS, FLOWERS, AND FRUIT, on WEDNESDAYS, May 25, June 15, and July 6. Tickets of Admission are now being issued, and can be obtained at the Gardens only by orders from Fellows or Members of the Society, price, on or before Wednesday, May 14, 4s.; after that day, 5s.; or on the days of Exhibition, 7s. 6d. each.

EXHIBITION OF HYACINTHS.

W. CUTBUSH AND SON have much pleasure in announcing that from the great success which has attended their GRAND EXHIBITION, and the Blooms being in perfection, they are induced to keep it Open till the 25th inst. Admission from 9 till 6—Free.

NEW ROSES.

PAUL AND SON beg to inform admirers of the Rose that they will have plants of all the NEW ROSES in bloom by the middle of April at the lowest advertised prices.—Nurseries, Cheshunt, Herts.

NEW ROSES.—Madame William, orange yellow. Isabella Gray, golden yellow. Strong plants, fit for flowering this year, 8s. 6d. the pair.

PAUL & SON, Nurseries, Cheshunt, Herts.

NEW PELARGONIUM "THE BRIDE"—Splendid plants of this beautiful new variety sent out at 21s. each. Usual trade discount.

LEE & SON, Woodlands Nursery, Isleworth.

CHOICE PANSIES.

T. AND NICKLIN, FLORISTS, &c., Guildford, have a fine collection named Pansies for 6s., or 50 plants for 20s., strong and healthy. Also fine HOLLYHOCK SEED, in fine varieties, 100 Seeds for 1s.

PANSIES, PINKS, ROCKET, PHLOX, &c., 3s. p. doz.

STRAWBERRY PLANTS, SALE FOR THIS MONTH.—Very fine strong Plants of the three early sorts which we can still be supplied with 100 other varieties, according to sorts and numbers required. Grower, WILLIAM JAMES NICHOLSON, Egglescliffe, Yorkshire.

STRAWBERRY PLANTS can now be supplied of every kind worth growing, warranted to produce a good crop. They are transplanted plants, and will be sent with a ball of earth to each. Price 10s. per 100, or in less quantity per dozen.—R. S. YATES, St. Ann's, Manchester.

NEW FARM SEEDS.—Purchasers of large quantities of FARM SEEDS will be treated liberally on application to SUTTON & SONS, Royal Berkshire Seed Establishment, Reading.

FERN CATALOGUE.

ROBERT SIM'S NEW DESCRIPTIVE AND PRICED CATALOGUE, No. 6 (62 pages) of his COLLECTION of BRITISH AND EXOTIC FERNS, can be had, post free, for 8 stamps. Gratis to all previous purchasers of Ferns.
Nursery, Foot's Cray, Kent, S.E.

GEORGE BAKER begs to inform the Nobility and Public that his DESCRIPTIVE CATALOGUE OF AMERICAN PLANTS AND GENERAL NURSERY STOCK will be sent free on application.

American Nursery, Windlesham, near Bagshot, Surrey, about 1 mile from Sunningdale Station, South Western Railway.

NEW DAHLIAS.

JOHN KEYNES'S SELECT CATALOGUE OF DAHLIAS, ROSES, CARNATIONS, PINKS, &c., containing Lists of all the valuable Show Flowers in each class, is now ready and will be sent on application.
Castle Street Nursery, Salisbury.—March 19.

NEW CATALOGUE OF FLORIST FLOWERS, &c.

DOWNIE AND LAIRD beg to intimate that their DESCRIPTIVE CATALOGUE of FLORIST FLOWERS, New VEGETABLE and FLOWER SEEDS for 1859, is now Ready, and will be sent free on application.
17, South Frederick Street, Edinburgh.

R. M. STARK begs to intimate that his CATALOGUES OF GARDEN, FARM, AND FLOWER SEEDS, FLORISTS' FLOWERS AND BEDDING PLANTS, FERNS, &c., are now ready, and may be had on application.
Some Seeds of rare Flower Seeds to offer to the trade.
Edinburgh: 31, Castle Street; and Edgehill, Dean.—March 19.

CHOICE SEEDS.

J. DOBSON AND SON'S LIST comprises all the leading sorts of VEGETABLE, FLOWER, AND AGRICULTURAL Seeds, which will be sent post free on application.
Woodlands Nursery, Isleworth, W., and High St., Hounslow, W.

SPLENDID IMPORTED SEEDS.

JOHN DOBSON AND SON'S LISTS free on application.
Woodlands Nursery, Isleworth, and High Street, Hounslow.

STAR NURSERY, SLOUGH.

WM. BRAGG begs to inform the public and Florists generally, that his SPRING CATALOGUE can now be had free on application, containing his choice new Hollyhocks, Pinks, Pansies, Pelargoniums, chaste Scarlet Geraniums (Blazer and Rosa Bonheur), Dahlia Chieftain, yellow Piccotees, New Californian Sunflower, so much admired at the Crystal Palace, Botanic Gardens, and other Shows; and choice Flower Seeds from Show varieties only.

NEW ZEALAND RUNNING BEAN.—Packets of 12 Seeds, for 14 stamps.
BASS & BROWN, Seed Growers, &c., Sudbury, Suffolk.

NEW ZEALAND RUNNER BEAN, as noticed by Dr. LINDLEY to be the true sort, 5s. 8d. per 100 (post free) to the Trade. Cash.—PAGE & TOOGOOD, Seed Growers and Merchants, Southampton.

TRITONIA AUREA.—Fine strong Roots of this free and most beautiful orange flowering bulb, 1s. 6d. each, or 15s. per dozen.
BASS & BROWN, Sudbury, Suffolk.

TROPÆOLUM CANARIENSIS.

FAIRHEAD AND SON, SEED GROWERS and MERCHANTS, Lewisham, Kent, have for sale several lbs. of the above of home growth. Price on application.

GERANIUMS! GERANIUMS!

JOHN DOBSON AND SONS have a very fine healthy stock of the above which they can supply at moderate prices. CATALOGUES forwarded free on application.
Woodlands Nursery, Isleworth.

CHOICE GERANIUMS.

JAMES HOLDER can supply the above (including French, Fancy, and Show varieties), at 15s. per dozen. List of names forwarded on application.
N.B. The Trade supplied on liberal terms.
Crown Nursery, Reading, Berks.

500 BUSHELS of FLUKE and WHITE BLOSSOM SEED POTATOES, true, free from disease, and suitable sizes, at 3s. 4d. the bushel of 80 lbs., samples of which may be had on application to Mr. WM. GROSVENOR, Prospect Nursery, Cheddleton, near Leek, Staffordshire.
A remittance or reference from unknown correspondents.

SEED POTATOES.

| | | | |
|---|---|---|---|
| SODEN'S OXFORD EARLY | | ASH-LEAVED KIDNEY | |
| SHAW | ditto 2d | WALNUT-LEAVED ditto | |
| REGENTS | ditto 3d | FLUKE KIDNEY | |
| | | RED ASH-LEAF ditto | |

and all kinds worth cultivating. The above sorts can be particularly recommended as good croppers, and free from disease.
A good supply of SHILLING'S QUEEN CABBAGE, the best in cultivation
JOSEPH MAY & Co., 1, Wellington Street, Strand, W.C.

THE ALLIANCE POTATO.—Patronised by her Most Gracious Majesty the Queen, the Emperor of the French, and the Nobility of England, Scotland, and Wales. One Peck of these celebrated White Potatoes can be obtained of the grower only, Mr. JAMES COPELAND, Thames Street, Windsor, on receipt of Post-office Order for 7s. 6d.

HENRY'S HYBRID SCOTCH LEEK.

CHARLES ALEXANDER, SEEDSMAN, Edinburgh, offers Seeds of the above unrivalled LEEK at 1s. and 2s. 6d. per packet.
He exhibited three in December last which weighed 9 lbs., and blanched to upwards of 12 inches each.

CHEAP, SELECT, AND USEFUL NURSERY STOCK.

WM. JACKSON AND CO., of Bedale, Yorkshire, beg to call attention to their advertisement in the *Gardeners' Chronicle* of March 5, page 187.

HANDSOME LARGE SPECIMEN GREENHOUSE PLANTS.—See Advertisement in *Gardeners' Chronicle*, March 5, page 186.
WM. JACKSON & Co., Bedale, Yorkshire.

CONIFERÆ.

A. PAUL AND SON have a large stock of the above, very handsome, in fine order for removal, many suited for immediate effect. For particulars see Advertisements in *Gardeners' Chronicle* of November and December last.—Nurseries, Cheshunt, Herts.

SPECIMEN IRISH YEWS.—Handsome specimens of this very Ornamental Tree of all sizes up to 9 feet in great numbers. Price according to number wanted on application.—THOMAS JACKSON & SON, Nurseries, Kingston, S.W.

100 Strong, healthy, SUCCESSION PINE APPLE PLANTS to be sold; about a third of the quantity showing fruit.—Apply to M. P., Mr. Laking, 26, Half Moon Street, Piccadilly.

GUERNSEY PIPPIN.—A Seedling Dessert Apple, "possessing considerable merit." See Report of British Pomological Society, Dec 16, 1858.
Three grafts post free for 18 penny stamps.
G. WOLSEY, St. Andrew's, Guernsey.

ORANGE TREES, just arrived, well set with Fruit, from 2s. 6d. to 12s. each; double-flowering Camellias, well set with bloom buds, 18s., 21s., and 24s. per dozen; Azaleas, full of bloom buds, 12s., 18s., 21s., and 24s. per dozen, and every other kind of Greenhouse Plant and Nursery Stock, &c.—ROBT. GREEN, 154, Kingsland Road, 55 doors from Shoreditch Church.

LAING'S MAMMOTH RED CELERY.—The largest and best flavoured Celery known, and will not run to seed until the second year. (See former advertisement.)
Packets, 1s. each; large trade do., 3s. 6d., per post prepaid. Stamps received in payment.
YOUELL & Co., Royal Nursery, Great Yarmouth.

CABBAGE PLANTS.—Strong Drumheads, 3s. 6d. per 1000; Early Garden Sorts, 3s. 9d. per 1000; Red Picklers, 6s.; fine Brown Cos Lettuce, 5s. per 1000; Cauliflowers, 3s per 100. By THOMAS WELLAND, Surrey Gardens, Godalming, Surrey, packed and sent to the stations free.

LARGE GREEN-TOP WHITE BELGIAN CARROT.—Fine new Seed, raised from fresh-imported stock, can be supplied at 1s. per lb., or cheaper in large quantities, by SUTTON & SONS, Seed Growers, Reading.

THE IMPROVED CUSTARD MARROW.—See drawing of this handsome and productive variety in the *Gardeners' Chronicle* of Jan. 29 and Feb. 12. 12 seeds for 13 postage stamps; 9 seeds for 7 stamps. The trade supplied.
BASS & BROWN, Seed Growers, Sudbury, Suffolk.

GRAYSON'S GIANT ASPARAGUS.—
Fine 2-year roots, 2s. 6d. per 100; or 21s. per 1000.
" 3-year " 3s. 6d. " 100; or 30s. " "
The usual allowance to the Trade.
BASS & BROWN, Nurserymen, Sudbury, Suffolk.

DIOSCOREA BATATAS.—Fine roots, 9 to 12 inches long, 5s. per dozen; extra size, 10s per dozen.
BASS & BROWN, Seed Growers, &c., Sudbury, Suffolk.

HOLCUS SACCHARATUS, or CHINA SUGAR CANE GRASS.—Seed of this lately introduced Fodder plant can be supplied by NUTTING and SONS in any quantity. Price on application.—Seed Warehouses, 60, Barbican, London.

SPERGULA PILIFERA.—An established plant of the above that will blossom during the coming summer, and prove itself a perfect substitute for Grass Lawns without mowing, sent post free on receipt of 2s. 6d. or 30 stamps.—Address JOHN SUMMERS, Gardener, Forest Hill, Sydenham.

GRASS CROPS.—All descriptions of Grass Land should be dressed with Manure not later than the end of March. CUERO GUANO for this crop, and also for spring corn, is now ready for delivery, price 7l. 10s. per ton for Grass, and 8l. 8s. for Corn.—Manufacturers and Patentees, JOHN CHISHOLME, SON, & Co., 33, Mark Lane, E.C.

ITALIAN RYE-GRASS SEED.—Buyers of this Seed will please write for samples, present price 24s. per cwt., to J. FIXON, Seedsman, Kendal.

DICKINSON'S ITALIAN RYE-GRASS SEED will be Sold only by himself. The price the present season is 48s. per quarter, 7s per bushel for present payment.
New Park, Lymington, Hants.

PAMPAS GRASS (GYNERIUM ARGENTEUM).—The beauty of this extraordinary plant has this season been fully appreciated. It can be supplied by the dozen, hundred, or thousand, by CHARLES NOBLE, Bagshot, Surrey.

JOHN CULVERWELL, Taunton, begs to call the attention of Agriculturists to his superior selection of GRASS SEEDS, which for PURITY, change of SOIL, and CLIMATE, will bear comparison with any house in the kingdom. Prices, terms, and samples forwarded on application.

GIANT SAINFOIN SEED.—Seed of this excellent and productive Plant may be had of RAYNBIRD & HARVEY, Basingstoke, and 89, Seed Market, Mark Lane. Samples and prices on application.
N.B. R. & H. can also supply Common Sainfoin both of English and French growth at market prices.

THE ALSIKE CLOVER.—This valuable but scarce Clover Seed is included in Messrs. SUTTON'S mixtures of Clover and Grass Seeds for permanent pasture and for alternate husbandry. It can be supplied alone if required. Price fluctuating, to be had on application.
Royal Berks Seed Establishment, Reading.

## EARLY PEAS.

WAITE'S DANIEL O'ROURKE PEA; the earliest Pea in cultivation

EARLY NAPOLEON; a Blue Wrinkled Marrow Pea, as early as EMPEROR.

EARLY EUGENE; a White Wrinkled Marrow Pea, as early as EMPEROR.

Prices to be had on application of J. GOWING, Seed Establishment, 154, High Holborn, London, W. C.

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## CHAMPION OF SCOTLAND PEA.

—A new and first-rate sort, declared by all who grew it last year to be the most distinct and best flavoured Pea in cultivation. **To be had only at PETER LAWSON & SON'S, the Queen's Seedsmen, &c., who are also prepared to execute orders for all sorts of Garden and Flower Seeds of the finest quality.**

27, Great George Street, Westminster.

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THE EARLIEST PEA.—DUNNETT'S FIRST EARLY is in every respect superior to "Daniel O'Rourke," being several days earlier, having finer pods, and richer in flavour, height 2½ feet. For an early dish of fine flavoured **Peas we can confidently recommend this; 2s. per quart.**

**CHAMPION CABBAGE, the earliest and best sort, if sown in succession, may be had fit for table throughout the year,** 8*d.* per ounce, or 1*s.* post free.

BUTLER & M'CULLOCH, Covent Garden Market, London.

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EXCELSIOR MARROW PEA (KNIGHT'S).—This new Pea is a decided improvement on the well-known Ringwood Marrow, being quite as early, greater cropper, longer pod, larger pea, superior flavour, and greener in colour. A great acquisition either for the amateur or the market gardener. 2*s.* 6*d.* per quart. Price to the trade upon application. To be had of

NUTTING & SONS, Seedsmen, 60, Barbican, London, E.C.

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NEW PEA, "COMET."—The above is a white Pea of the early frame kind, growing about 4 feet high, an abundant bearer, large in size, of first-rate flavour, and can be confidently recommended for a general crop.

The Undersigned having had full opportunities for testing the various qualities of this really useful Pea, feels confident that one trial will establish its character among growers as a first-class Pea. He therefore has much pleasure in offering it to the public at the following rates (bag included):—

Per quart, 3*s.* | Per gallon, 10*s.* | Per peck, 15*s.*

Post-office Order payable at Godalming requested from unknown correspondents.

WM. YOUNG, Milford Nurseries, near Godalming.

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## SEED POTATOES.

JAMES HUDDART, NURSERYMAN and SEEDSMAN, **Preston, offers the following varieties:—**

| | |
|---|---|
| **Runcorn Short Top** | **Pink Eye Kemp** |
| **Flukes, true** | **Ash-leaved Kidney, very true** |
| **Early Kemp** | **Preston Early** |

The last named kind is a Seedling raised by J. H., and was tested last year with "Handsworth Prolific" and other early sorts, and found to be as early and full one-third heavier cropper. A very dry mealy Potato when half size. Prices reasonable on application.

**J. H.'s DESCRIPTIVE SEED CATALOGUE may be had** post free) on application.—March 19.

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## SHRUBBY CALCEOLARIAS.

JOHN COLE begs respectfully to inform the lovers of these useful flowers that he intends sending out his Matchless Seedlings of 1858 himself. They are considered by many persons to be superior to any he has hitherto raised. Amongst them are some fine Bedding varieties.

CATALOGUES will be shortly ready, and sent (post free) to all applicants.—Kentfield Nursery, St. Albans, Herts.

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## PETUNIAS, SPLENDID NEW DOUBLE SORTS OF 1859.

J. SCOTT, MERRIOTT NURSERIES, Crewkerne, Somerset, begs to offer 30 sorts, many of them 5 inches across, some like large flowers of Gardenia Fortuni; one very like Baronne Prevost Rose, many flaked and striped like large Carnations, and altogether the most beautiful and unique collection ever offered in this or any other country. Strong plants 2*s.* 6*d.* each; or the 30 sorts 63*s.* The usual allowance to the Trade.

**J. S.'s DESCRIPTIVE CATALOGUE of the above and other** cheap BEDDING PLANTS will be ready about the middle of March, and will be sent to all applications, inclosing two stamps; and to former purchasers gratis.

N.B. PETUNIA MAGNA COCCINEA, a splendid single (5 inches diameter) is offered at 3*s.* 6*d.* per dozen for bedding, and J. SCOTT'S new single striped ALCEMENE, 5 inches across, at 30*s.* per dozen, or 3*s.* 6*d.* each.

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GRIEVE'S NEW DOUBLE PETUNIAS.—The universal satisfaction given by the PETUNIAS sent out last spring, raised by Mr. Grieve, Gardener at Culford Hall, near Bury St. Edmund's, induces the advertisers to offer to the public those raised by that persevering hybridiser last summer, which are considered superior to any yet offered; not **in the size of the flowers, but in brilliancy of colour, consistence of petal, and regularity in form—all being very double.** The following are the names adopted, which may be respectively taken as an approximate description of their colours:—

| | |
|---|---|
| CRUENTUM, CANDIDUM, PURPURASCENS, ATRO-COCCINEUM, | Large flowers, and most appropriate for pot culture. |
| ROSEUM STRIATUM, ATRO-ROSEUM. | Medium size flowers and neat habit; probably useful for bedding. |

**Plants of the above, 5*s.* each; or 21*s.* the set of six, to be sent out the first week in April by OSBORN & SONS, Fulham Nursery, London, S. W.**

**N.B. The usual allowance to the Trade.**

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## NEW DOUBLE PETUNIAS.

C. W. HARGRAVE begs respectfully to announce that he will shortly be prepared with stock of the New Double Petunias advertised by him in the *Gardeners' Chronicle* of September 25, 1858.

They constitute a **unique collection in themselves, being of** exquisite form, firm substance, rich and decided in colour, very fragrant, and of first rate habit, having good guard petals, with the centres well filled, and in fact are superior to the Continental or other varieties hitherto sent out. Their nomenclature is as follows:—

KING OF CRIMSONS.—**Bright crimson, brighter than its** parent "Crimson King." The varieties previously introduced as crimson have all proved themselves to be only purple.

ROSEA ALBA.—Rose clearly mottled with white.

ALBA MAGNIFLORA.—Beautiful form, very fragrant.

CRIMSON GEM.—Bright crimson, with white centre.

PURPLE KING.—Large flower, well formed.

DWARF.—Crimson, very double, dwarf habit.

Plants of any of the above 5*s.* each, or the set of six 25*s.*

It is requested that the Trade forward their commands at their earliest convenience, as all orders will be executed in the rotation in which they are received.

C. W. HARGRAVE, **The Nursery, Winchmore Hill, N.**

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## SEEDLING FUCHSIAS.

GEORGE WHEELER, NURSERYMAN, &c., Warminster, Wilts respectfully announces that strong plants of his SEEDLING FUCHSIAS will be ready to be sent out on **and after the 20th of April.**

SIR COLIN CAMPBELL.—The most beautiful double **Fuchsia ever offered. Flower very large; tube and sepals** dark scarlet. Corolla very prominent, large, full, and regular, and of a beautiful purple colour; a fine variety for exhibition, **possessing the desirable property of holding its blooms much** longer than other varieties; its large blooms makes it a very conspicuous and effective plant in a collection. Price 10*s.* 6*d.* each. Sir Colin was shown in full bloom at the Trowbridge Horticultural Exhibition the 18th August, at Bath on the 25th, Salisbury, 30th; at the National, in London, on the 2d September; and at Devizes on the 3d; at all which places it obtained Prizes or Certificates.

WILTSHIRE LASS.—**Tube and sepals clear waxy white,** corolla rich dark puce; an improvement on the Maid of Kent, the flower being larger, of good habit, a free bloomer, and a good grower. Price 5*s.* each. The usual discount to the Trade.

G. WHEELER **will be enabled to send out with the above the** six new Fuchsias offered by Mr G. Smith, of Tollington Nursery.

G. WHEELER has on hand a large quantity of RHODODENDRONS from 9 inches to 2 feet, at very moderate prices.

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TO GROWERS OF PINE APPLES AND CUCUMBERS.—The above-mentioned [illegible] here at present, and commanding [illegible] ward "immediately" to

GEORGE TAYLOR,
CHOICE FRUIT AND VEGETABLE [illegible]
St. J[illegible]

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## CHRYSANTHEMUMS—CHRYSANTHEMUMS.

J. H. BIRD, F.H.S., NURSERYMAN, [illegible] ton, the largest grower and [illegible] the Chrysanthemum in the British [illegible] attention of the lovers of the above [illegible] his matchless collection, the stock of which [illegible] of 50,000 plants.

J. H. B. can supply strong plants, one dozen in 30 varieties, containing two of each [illegible] he can supply 100 plants in 50 varieties, [illegible] for 1*l.* 10*s.* Also POMPONES in great variety, 25 varieties, two of each variety, for 1*l.* two of each variety for 1*l.* Strong plants. Pompone the Golden Cedo Nulli, 5*s.* each, the usual allowance to the Trade. Every panied by a popular work on the Chrysanthemum.

Post-office Orders payable to J. H. Bird will be immediately attended to. Catalogues [illegible]

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# SEEDS AND PLANTS SENT FREE TO LONDON

# LOUIS VAN HOUTTE,

## NURSERYMAN and SEEDSMAN, Ghent (Belgium),

BEGS TO ADVERTISE THAT HIS

## NEW CATALOGUES, PRICE LISTS, Nos. 70, 71, 72, 73, 74, and 75,

ARE TO BE HAD AT HIS AGENT'S OFFICE IN LONDON,

## MR. R. SILBERRAD, 5, Harp Lane, Great Tower Street.

CAMELLIAS, RHODODENDRONS, AZALEAS, ROSES, PERENNIALS, NEW SHRUBS, HOTHOUSE AND GREENHOUSE PLANTS of every description, Seeds, &c.

EXTRACT FROM No. 76.

Arisæma ringens (see Van Houtte's "Flore"), very curious aroideous plant, fit for the Orchideous house till the flower is past, 10*s.* 6*d.*

Ataccia cristata (see Van Houtte's "Flore"), **one of the most extraordinary flowering plants, fit for the Orchideous house,** 21*s.*

Barbacenias ("Flore"), hybrids in all shades; per doz., 10*s.* 6*d.*

Begonias, the best new kinds, at very moderate prices; and Rex (see Van Houtte's "Flore"), at 1*s.* each, or 8*s.* per doz. 12 different Begonias for 8*s.*

Caladium (see Van Houtte's "Flore"), the new painted leaves: C. albo punctatissimum, 20*s.*; C. argyrospilum, 12*s.*; C. bicolor picturatum, 1*s.* 6*d.*; C. Brongniarti, 12*s.*; C. Chantini, 20*s.*; C. Neumanni, 12*s.*; C. Verschaffelti, 8*s.*

Clivia cyrtanthiflora (see Imantophyllum).

Cyanophyllum magnificum, 8*s.*

Dracænopsis indivisa, 16*s.* to 200*s.*

Eucharis amazonica ("Flore"), 2*s.* 6*d.*; E. grandiflora, 2*s.* 6*d.*

Gesneria cinnabarina ("Flore"), 1*s.*, or 7*s.* 6*d.* per doz.

" Van Houttei, 1*s.* 6*d.*, or 16*s.* per doz.

" Leichlini, 4*s.*, quite new, rosy outside, lemon inside.

" **zebrina splendens, 1*s.* or 7*s.* 6*d.* per doz.; Gesnerias in best mixture, 7*s.* 6*d.* per doz.**

Gloriosa Planti (see Methonica in the "Flore"), 6*s.* per doz., flowering beautifully in pots (outside) in the summer.

Imantophyllum cyrtanthiflorum, Lindl., first prize at the Ghent exhibition, last Saturday (5th March) as the finest of the plants gained this year by seed.—LOUIS VAN HOUTTE has lately sent the plant in flower to Dr. Lindley's inspection. It is a magnificent mule obtained from Imantophyllum miniatum and I. Aitoni (Clivia nobilis), splendid long leaves, large heads of flowers, like those of a large flowering Cyrtanthus, shape of the most beautiful Blandfordias, fine colour. **Very strong plants at 80*s.* each. Sent out only now for the first time.** Will soon appear in VAN HOUTTE'S "Flore."—I. miniatum (see "Flore"), 20*s.* to 80*s.*

Luculia, quite new species, 1*s.* each, 8*s.* per doz.; good sized plants.

Maranta Warscewiczi (Calathea), 4*s.* to 7*s.* 6*d.*

Musa zebrina ("Flore"), black-spotted leaves, 10*s.* 6*d.*

Pandanus reflexus, 8*s.* to 240*s.*

Philodendrons.—**Decorative plants for Orchideous house. Great collection.**

Rhopalas,—**Great assortment. Splendid decorative plants.**

Theophrasta imperialis, ditto, 80*s.* to 320*s.*

Achimenes.—A collection of 50 kinds for 21*s.*

Bromeliaceous plants.

Ferns and Lycopods.—**One of the most extensive collections of Europe. Good sizes, moderate prices. (See Van Houtte's Price List No. 76, page 13.)**

Gloxinias in great variety.

Orchids and Palms.

Greenhouse plants.

Michauxia campanuloides, scarce Syrian plant, flowers along the stem like Passionflowers, 1*s.* to 8*s.* per dozen.

Musschia Wollastoni (see Illustration), a tall, splendid, Campanulaceous plant from the Canary Islands; the flowers are disposed just as in the Lilium **pyramidale, 4*s.***

**Primula erosa ("Flore"), a very fine kind, 6*d.* each, 5*s.* per doz.**

**Azaleas, hardy kinds, double flowers, 12 varieties for 40*s.*,** including A. Van Houttei, the **finest in existence**

Azalea Van Houttei flore pleno (**will appear shortly in the** "Flore"), large bouquets of double flowers, red and yellow mixed; the largest and finest flower in existence; as hardy as an Azalea pontica; 12*s.*, if taken alone.

Azalea Diamond (Van Houtte), pure white flowers with a large carmine spot (not quite hardy here, but beautiful in the greenhouse). **Grafts with 3 to 4 branches, 8*s.* Grafts with 6 to 10 branches, 12*s.***

Azalea indica Alexander II. (Van Houtte), a gem for form, size, colour and spots. The petals curled. A true beauty!—Hermine (Van [illegible]), white, full flower, striped with carmine [illegible] Petuniæflora, extremely fine form, and [illegible] colour; strong plants, flower buds, 3*s.* [illegible] Leopold, extra large clear salmon, first [illegible] buds, 3*s.* 6*d.* Salmonea albo-cincta; **delicate a white margin, fine form, 4*s.* to 8*s.*** [illegible] **appear shortly in the "Flore;" from Sardinia, a** form in the tribe: the flowers are single [illegible] they are divided in nine segments as regular **a crown; 4*s.* to 8*s.***

Vervaene's Seedlings.—Azalea indica Belle Jeune de Flandre, Géante, Gloire de Belgique, Gloire Papilionacea, Pelargoniæflora and Rubens, [illegible] full of flower buds, for 60*s.*

Camellias.—Very extensive collection. (See Price [illegible]

Dianthus sinensis giganteus (see the "Flore, [illegible]

" " Heddewigi " " [illegible]

N.B. Each flower of these Chinese Pinks [illegible] across. The "Flore des Serres" has [illegible] of them; but a double size plate is [illegible] appear shortly.

Flemish Carnation seed, 100 seeds for 2*s.* 6*d.*

Bohemian Piccotees 100 " " 2*s.*

Fancy " 100 " " 1*s.* 6*d.*

Perpetual " 100 " " 1*s.* 6*d.*

French Spotted Geraniums (see Price List Nos. 42 and 43).

VAN HOUTTE'S 6 new Petunias; price, the set [illegible]

New Continental Petunias of various growers. [illegible]

Continental Rhododendrons and others (see Price [illegible] pp. 30 to 38).

Roses.—One of the most extensive collections [illegible] (see Price Lists Nos. 63, 67, and 72).

Roses of 1859.—Winter Grafts. 30 novelties of [illegible] hybrid remontants) raised by the following: Avoux & Crozy, Baudry, Beluze, Duval, Guillot fils, Guillot père, Guinoisseau, Lacharme, Marcot, Margottin, Oger, Pradel, Robert and Turbat, for 30 Novelties, 3*l.* 10*s.* Ile Bourbons (1858) for 7*s.* 6*d.*

New Herbaceous Tropæolums, the set of 3 [illegible] 7*s.* 6*d.*

New French Verbenas, 12 varieties, 4*s.*; 25, 8*s.*

New Perennials:—Chelidonium japonicum, Lysimachia multiflora, fol. albo marg., 4*s.*; new [illegible] Delphinium Pompon de Tirlemont (lately figured in "Flore des Serres," and sold for the first time), Hedysarum Ikariso, a new Japan kind, with large [illegible] Holly (the mother plant is in bud), 1*s.* [illegible] monæfolium flore pleno ("Flore"), a very [illegible] nian gem, 2*s.* 6*d.*

New Weigelas:—W. amabilis Groenewegeni, Desboisii; W. amabilis alba. Price, each three, 20*s.*

The Japan Black-leaved Maple, Acer polymorphum (see the "Flore des Serres"), 8*s.* to 20*s.*

Æsculus californica (lately figured), 1*s.* 6*d.*

Glycine magnifica, extra strong climbing plants, [illegible] dozen, 5*s.*

Large pyramidal variegated Hollies (in pots), [illegible]

Quercus nigra, 4*s.* to 20*s.*

New and fine forms of the common Locust-tree (Robinia pseud-Acacia), var. coluteoides, fastigiata, monophylla, patula, revoluta. The set of five for 12*s.*

Vitis Sieboldi and Thunbergi; two hardy Japan vines with fine foliage; the two for 5*s.*

Pinus paroliniana, quite hardy (2 years' seedlings), [illegible]

" radiata paroliniana, very strong two-years [illegible] 10*s.* the dozen.

Pinus Strobus tabuliformis; table-formed, dwarf [illegible] groups in Grass plots, as hardy as the common [illegible]

All LOUIS VAN HOUTTE'S goods (plants and seeds) will be delivered out of the Custom House in London, without expense whatever for the buyer; but *per contra*, 5*s.* will be charged for each package.

☞ Persons unknown to LOUIS VAN HOUTTE are respectfully requested to add to their orders a cheque for the amount (at Mr. R. SILBERRAD'S order), or reference in London.

All letters must be prepaid 4*d.* (an unpaid letter is taxed twice as much).

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## THE "FLORE DES SERRES ET DES JARDINS DE L'EUROPE"

EDITED BY LOUIS VAN HOUTTE, IS PUBLISHED SINCE 1845.

Twelve volumes of twelve numbers each have been issued, containing together 1289 finely coloured plates and miscellaneous matters, numerous woodcuts, &c. The price of the whole work is 18*l.* 8*s.* (without any discount, London). The subscription price for 12 numbers or one volume is 1*l.* 12*s.* The first number of Vol. XIII is now in [illegible] no single numbers are sold; sent free by post

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**Agent in London: Mr. R. SILBERRAD, 5, Harp Lane, Great Tower Street.**

But all letters containing orders must be directly sent to LOUIS VAN HOUTTE, Ghent, Belgium.

## VEITCH'S PERFECTION PEA.

# MESSRS. VEITCH & SON

Beg to call the attention of Gardeners and Amateurs in Vegetables to the above most excellent Pea, which has been highly approved by all who have hitherto grown it, and respecting which *favourable notices* have on several occasions appeared in the *Gardeners' Chronicle*, and other papers. It is a large Wrinkled Marrow, average height 5 feet, of the finest cropper and delicious flavour. A limited quantity can be supplied for this season's growth, at 2*s.* 6*d.* per quart. Messrs. V. & Son intending to grow it in quantity for next season's sale, are desirous that as many parties as possible may have the opportunity of proving its merits.

## TO THE TRADE.

## VEITCH'S PERFECTION PEA.

The PEA having been *so favourably* noticed on several occasions in the *Gardeners' Chronicle*, and being so *highly approved* by those who have already proved it, Messrs. VEITCH & SON have made arrangements for *growing it in quantity* this season for sale by them wholesale *next autumn*. That all parties who so desire it may be acquainted with the merits and character of this valuable Pea, Messrs. V. & S. will be happy to spare a quart or two for trial to any of the Trade who may wish to have it, at the price of 2*s.* 6*d.* per quart.

**ROYAL EXOTIC NURSERIES, EXETER & CHELSEA, March 1859.**

# EXHIBITION OF CAMELLIAS,

## VAUXHALL NURSERY, WANDSWORTH ROAD.

# MILNE, ARNOTT, & CO.,

(SUCCESSORS TO CHANDLER & SONS),

HAVE much pleasure in announcing that the large Collection of CAMELLIAS for which this Nursery has so long been celebrated is now coming finely into bloom, and will improve daily, and continue in perfection several weeks. Open to visitors every day except Sunday.

**MILNE, ARNOTT, & Co.,**

NURSERYMEN, SEEDSMEN, AND FLORISTS, WANDSWORTH ROAD, LONDON, S.

### HOLLYHOCKS.

WILLIAM PERRY begs to announce that he has fine healthy plants of the above for sale, of all the approved sorts, well hardened and fit for planting out immediately, 6*s.*, 12*s.*, 18*s.*, 24*s.*, and 30*s.* per dozen, if the money be sent to W. P. A Descriptive Catalogue can be had on application, also seed saved from the best sorts, 1*s.*, 2*s.*, and 3*s.* per packet.

Forwarded at the Nurseries, Sawbridgeworth, Herts.

### HOLLYHOCK SEED FROM NEW VARIETIES.

J. CHATER AND SON offer the above from the best new varieties, separate packets, the collection, 3*s.* 6*d.*
Ditto, best older sorts, 3*s.* 6*d.*
Ditto, mixed, 12 sorts, 200 seeds, 1*s.* 6*d.*
J. C. & Son feel confident the above will give satisfaction, as they have been saved with great care.
Ditto, seedling plants, 2*s.* per 100.
If sown now will flower by September.
Nurseries, Haverhill.

### FIRST-CLASS HOLLYHOCKS.

FINE SEEDLINGS FROM

WILLIAM CHATER'S Celebrated and Newest Varieties that will flower well in September at 30*s.* per 100
Ditto ditto ditto 20*s.* ,, 100
Ground Roots according to colour, also at .. 30*s.* ,, 100
Ditto, separate colours, the Collection .. 10*s.* 0*d.*
Ditto ,, ,, .. .. 5 0

Fancy varieties such as Pourpre de Tyre, Memnon, White Queen, Rose Mrs. H. Ashley, Canary, &c., in 12 separate colours, the Collection .. .. .. .. .. .. 7*s.* 6*d.*
Ditto in 6 separate colours, the Collection .. 4 0
Ditto from 20 of the best varieties, mixed, per pkt. 5 0
Ditto 12 ,, ,, ,, 2 6
Ditto good mixed, also a single variety ,, 1 0

The above can be procured from the Nurseries, Saffron Walden, Essex.

### NEW HOLLYHOCKS.

A. PAUL AND SON beg to recommend the following NEW HOLLYHOCKS, which have been selected from several thousands of Seedlings. The stock of ordinary sorts is this year greatly extended. The plants are strong, well established, and perfectly healthy :—

| | s. | d. |
|---|---|---|
| ADMIRAL (Paul).—Purple, silvery edges, flower of good close .. .. .. .. .. .. | 5 | 0 |
| ADMIRAL HAVELOCK (Paul).—Bright, ruby scarlet, similar to "Scarlet King," but a close spike and a round flower of perfect shape .. .. .. .. | 10 | 6 |
| IN MEMORIAM (Paul).—Crimson maroon, large good substance, first-rate flower, good spike .. .. .. | 10 | 6 |
| MILTON (Paul).—Crimson shaded with salmon, remarkable alike for substance, closeness, and symmetry; very good .. .. .. .. .. .. .. | 10 | 6 |
| PINK LADY (Paul).—Pink and blush in blotches, large smooth flower of good substance .. .. .. | 5 | 0 |
| PLUTARCH (Paul).—Plum colour, of fine shape, and good guard and spike good .. .. .. | 10 | 6 |
| PRINCE NOIR (Paul).—Rich purplish maroon, large flower, close spike .. .. .. .. .. | 7 | 6 |
| ROB ROVER (Paul).—Dark fiery scarlet, flower large, splendid, very effective .. .. .. .. | 7 | 6 |
| TITANIA (Paul).—White, lemon base, large full flower, good spike .. .. .. .. .. .. .. | 10 | 6 |
| VESTA (Paul).—Pure white, petals thick, edges smooth, guard good .. .. .. .. .. .. .. | 7 | 6 |
| VITRUVIUS (Paul).—Pink, large flower, of perfect form and good substance .. .. .. .. .. .. | 5 | 0 |
| ZENO (Paul).—Rich plum colour, with silvery edges, flower large, spike good; new and distinct .. .. | 5 | 0 |

The Collection of 12 varieties is offered for 4*l.* 4*s.*; good mixed sorts, 3*s.* to 18*s.* per dozen; very superior ditto, 24*s.* to 36*s.* per 100; Bloomed Seedlings in separate colours, 30*s.* to 50*s.* per 100; mixed Seedlings, 10*s.* to 21*s.* per 100.

HOLLYHOCK SEED, 1*s.* to 5*s.* per packet free by post.

Also a PRICED DESCRIPTIVE CATALOGUE free by post.

Nurseries, Cheshunt, Herts.

### SUPERB DOUBLE HOLLYHOCKS.

WILLIAM CHATER can now supply fine healthy plants from his Collection, having a large stock ready for immediate planting.

See DESCRIPTIVE CATALOGUE, to be had on application.

Nurseries, Saffron Walden.

### FRUIT TREES IN POTS.

JOHN AND CHARLES LEE have now the largest and finest stock of FRUIT TREES IN POTS in a bearing state for FORCING AND ORCHARD HOUSES ever offered. They consist of the following kinds, a CATALOGUE of which may be had on application :—

| | | |
|---|---|---|
| APRICOTS | FIGS | PEARS |
| PEACHES | PLUMS | APPLES. |
| NECTARINES | CHERRIES | Also, |

VINES AND STRAWBERRIES.

Nursery and Seed Establishment, Hammersmith, London.

### GRAPE VINES FROM EYES.

JOHN AND CHARLES LEE beg to offer an immense stock of strong well-ripened VINES FROM EYES, of the following kinds :—

Alicant
Barbarossa
Bidwell's Seedling
Black Cluster
Black Constantia
Black Prince
Blanche Vigne
Calabrian Raisin
Charlsworth Tokay
Chasselas Frocklaboulay
Chasselas Musqué
Duzetto
Esperione
Frontignan, black
Hamburgh, Dutch
,, golden
Hâtif de Jura
Isabella
Marchioness of Hastings
Muscadine Parsley leaved
Muscat, August
,, Cannon Hall
,, Hamburgh
,, Noir Hâtif
,, of Alexandria
,, of Fontainebleau
Pitmaston Cluster white
Raisin des Carmes
Trebiana
Trentham Black
Tripoli
West's St. Peter's

Nursery and Seed Establishment, Hammersmith, London.

### NORTH AMERICAN FERNS.

R. M. STARK having recently imported a supply of the following interesting FERNS, offers them to the Trade at the prices annexed :—

| | Per doz.—s. | d. |
|---|---|---|
| Adiantum pedatum | 12 | 0 |
| Asplenium fontanum | 18 | 0 |
| ,, Michauxi | 18 | 0 |
| Botrychium simplex | 20 | 0 |
| ,, fumariodes | 20 | 0 |
| Dicksonia punctiloba | 12 | 0 |
| Lastrea marginata | 12 | 0 |
| Onoclea sensibilis | 30 | 0 |
| Dodecatheon elegans per 100 | 25 | 0 |
| Primula ciliata purpurea, per doz. | 4 | 0 |
| Osmunda spectabilis | 30 | 0 |
| ,, cinnamomea | 30 | 0 |
| ,, interrupta | 30 | 0 |
| Polystichum acrostichoides | 24 | 0 |
| Woodsia hyperborea | 24 | 0 |
| ,, obtusa | 30 | 0 |
| Ranunculus cortusifolius | 9 | 0 |
| Tritoma Burcheli | 18 | 0 |
| ,, Rooperi, each | 3 | 6 |
| Trillium grandiflorum | 9 | 0 |

A large assortment of British and Exotic species, of which PRICED CATALOGUES may be had on application.

Edinburgh, Edgehill Nursery.—March 19.

### TO THE TRADE.

THOS. CRIPPS, NURSERYMAN, &c., Tunbridge Wells, Kent, respectfully offers the following fine strong SPANISH CHESNUT PLANTS, 4 feet to 6 feet in height, 40*s.* per 1000; Blush CHINA ROSES, fine strong plants, 15*s.* per 100; Crimson do., very strong, 25*s.* per 100; fine Standard and Half-standard ROSES, 60*s.* per 100; good do., do., 50*s* per 100; Double Yellow PRIMROSE, 20*s.* per 100 or 400 for 3*l.*; PINUS INSIGNIS and P. RADIATA from Seed, 15 inches to 28 inches, 6*l.* per 100; MANETTI STOCKS, 50*s.* per 1000; do. second size, 40*s.* per 1000; IRISH YEWS, 2 feet to 3 feet, 50*s.* per 100; Hardy HEATHS, a fine collection, 25*s.* per 100; large plants, good do., 20*s.* per 100; LARCH FIR, fine stout plants, 2 to 3 feet; LONICERA SHEPHERDI, or new Scarlet-trumpet HONEYSUCKLE, fine strong plants, 4*s.* per dozen; RHODODENDRON MAXIMUM, fine bushy plants, 18 inches to 2 feet, 60*s.* per 100. Orders from unknown correspondents unaccompanied by a remittance will not be noticed.

### FIVE SILVER CUPS

WERE AWARDED TO

A. PAUL AND SON, NURSERYMEN, Cheshunt, Herts, for five Collections of ROSES at the Grand National Rose Show held in St. James's Hall, London, in July. Also FIVE FIRST PRIZES at the Royal Botanic Society's Shows in May and June last. The sorts which won these prizes are now offered at 18*s.* to 24*s.* per dozen for standards, 12*s.* to 18*s.* per dozen for dwarfs. A PRICED DESCRIPTIVE CATALOGUE forwarded on application, post free.

FINE HEALTHY ROSES. —

| | |
|---|---|
| STANDARDS .. .. .. | 18*s.* per doz. |
| DWARFS (on the Manetti) .. | 12*s.* ,, ,, |

As the weather still continues mild and favourable for planting, GEORGE CLARKE begs to state he has still a fine stock of all the leading kinds to offer at the above prices, the selection being left to him. The Plants are all healthy and well rooted, therefore calculated to give the greatest satisfaction. Plants carefully packed for any distance. Carriage of all packages paid to London; and in all orders amounting to 20*s.* plants are added to compensate for distant carriage.

GEORGE CLARKE, The Nursery, Brixton Hill.

### ROSES.—TO THE TRADE.

BIRCHAM AND WARD having a surplus stock of the leading kinds of Perpetuals in fine condition, offer them at the following low prices by the 100 or not less than 50.

| | |
|---|---|
| Standards, per 100 .. .. .. | 3*l.* to 3*l.* 10*s.* |
| Dwarfs do .. .. .. .. | 2*l.* 2*s.* |
| Ditto, on their own roots .. .. | 2*l.* 2*s.* |

Carriage paid to London and Peterborough.

HOLLYHOCK SEED of very superior quality by the oz.

Hedenham Rosary, Bungay, Suffolk.—March 19.

NEW ROSE, HYBRID PERPETUAL "LÆLIA." —Colour delicate satin rose, petals very large, perfectly smooth, and well formed; flowers of exquisite shape, large size, and highly scented. JOHN CRANSTON has the pleasure to announce that he will be prepared to supply early in April plants of this superb new Rose. It was exhibited by him in his winning stand of single blooms at the Grand National Rose Show in July last, and was unquestionably the most attractive variety of the Show, and the admiration of all who saw it. Fine healthy plants, 5*s.* each, with the usual discount to the trade.—Nurseries, King's Acre, near Hereford.

### THE LARGEST STOCK OF

TEA-SCENTED ROSES in the kingdom.—Upwards of 10,000 DWARF TEA ROSES in pots, fine healthy plants now ready for sending out, consisting of all the best leading kinds, and comprising among others—

| | |
|---|---|
| 750 Mélanie Willermoz | 500 Maréchal Bugeaud |
| 500 ,, Oger (yellow) | 300 Madame Bravy |
| 500 Vicomtesse de Cazes (do.) | 300 Le Pactôle, yellow |
| 500 Souvenir d'un Ami | 300 Niphetos, fine white |
| 500 Saffrano | 300 Goubault |
| 400 Adam | 300 Canari (yellow) |

400 Miss Gray or Isabella Gray, TRUE, yellow Rose, &c.

Plants presented to compensate for carriage.—Address WM. WOOD & SON, Woodlands Nursery, Maresfield, near Uckfield, Sussex.

### THE BEST NEW ROSES FOR 1859.

WM. WOOD AND SON will be prepared to send out strong healthy plants in pots of the following new ROSES, about the end of April, which are offered as the best of the varieties to be sent out this season :—

HYBRID PERPETUAL.

| | |
|---|---|
| Albert de Stella | Joseph Vernet |
| Anna de Diesbach | Lord Elgin |
| Anna Alexieff | Le Mont Vésuve |
| Armide | Mathilde de Mondeville |
| Ardoisé de Lyon | Orderic Vital |
| Altesse impériale | Oriflamme de St. Louis |
| Beauté de Roygbem | Princesse Olympie |
| Bouquet de Marie | Salomon |
| Comte de Beaufort | Virginal |
| Comtesse Cecile de Chabrillan | Madame Bruny |
| Empereur de Maroc | |

BOURBON.

| | |
|---|---|
| Aline Pierron | Edith de Murat |
| Comtesse de Barbantanne | Molière |
| Docteur Berthet | Octavie Fontaine |

NOISETTE—Cornélie.

TEA-SCENTED.

| | |
|---|---|
| Homère | Ophelia |
| Madame Damaizan | Roi des Pays Bas |
| Madame Joseph Halphen | Socrate |

Good Plants will be supplied at 5*s.* each, with the usual discount to the Trade. Catalogues on application.

Woodlands Nursery, Maresfield, near Uckfield, Sussex.

### NEW ROSES.

JOHN CRANSTON will be prepared to supply early in April strong plants of the undermentioned superb NEW ROSES at 5*s.* each, with the usual discount to the Trade. Purchasers who may prefer leaving the selection to himself will be supplied upon the following terms :—12 choicest varieties for 2*l.* 10*s.*; 24 for 5*l.*; the set of 32 varieties for 6*l.* 6*s.*

Plants of the new varieties presented with each order to compensate for carriage.

TEA-SCENTED.

| | |
|---|---|
| Enfant de Lyons | Madame Joseph Halphay |
| Madame Damaisin | Reine des Pays Bas |

BOURBON.

Docteur Berthet | Edith de Murat | Octavie Fontaine

HYBRID PERPETUAL.

| | |
|---|---|
| Altesse Imperial | Joseph Vernet |
| Ardoisée de Lyon | Le Mont Vésuve |
| Anna Alexieff | L'Oriflamme de St. Louis |
| Armide | Mathilde de Mondeville |
| Ambroise Verschaffelt | Madame Jenny Varin |
| Anna de Diesbach | Madame Octavie Depeyre |
| Bouquet de Marie | Mignard |
| Beauté de Rœyghem | Orderic Vital |
| Comte de Beaufort | Princesse Olympie |
| Comtesse Cecile de Chalbrillan | Reine de la Cité |
| Empereur de Maroc | Solomon |
| Eugène Alary | Virginal |

NOISETTE.—Beauté de Grannemont.

J. CRANSTON, Nurseries, King's Acre, near Hereford.

### NEW FUCHSIAS, VERBENAS, &c., OF 1858.

WM. RUMLEY AND SONS beg to offer fine Plants of the following splendid new FUCHSIAS of 1858 at 6*s.* to 9*s.* per dozen, or 3*d.* to 1*s.* each, according to size, viz., Beatrice, British Sailor, Estelle, Excelsior, Guiding Star, Governor-General, General Havelock, Kitty Tyrrell, Masaniello, Princess of Prussia, Prima Donna, Princess Alice, Prince Frederick William of Prussia, Queen of the Sea, Rose of Castille, Sultan, &c. Orders forwarded immediately on receipt of a Post-office Order or reference.

WM. RUMLEY & SONS' new Descriptive SPRING CATALOGUE of new Fuchsias, Verbenas, Geraniums, Cinerarias, Petunias, Dahlias, Pansies, Chrysanthemums, Calceolarias, Bedding Plants, &c., at very reduced prices, may be had on application.

Gilling, near Richmond, Yorkshire.

## TO THE SEED TRADE.

**WHITE BELGIAN CARROT.**
INTERMEDIATE or JAMES'S CARROT.
BROCCOLI.

| | |
|---|---|
| Ellitson's Mammoth | Tamworth |
| Snow's Spring White | Giant Late White, very |
| Adams's Early White | fine heads. |

Fine and pure stocks of the above. Prices to the trade on application.—BASS & BROWN, Sudbury, Suffolk.

## FARM SEEDS, GROWTH OF 1858.

THE PLYMOUTH SEED, AGRICULTURAL IMPLEMENT, AND MANURE COMPANY (LIMITED) are prepared to execute orders for all kinds of FARM SEEDS, selected from stocks direct from the growers.

They respectfully invite the attention of Agriculturists to their FARM SEED LIST for 1859, which will be sent free on application to the Secretary.

The two following new sorts of SWEDES can be highly recommended:—

| | lb. | qt. | gall. |
|---|---|---|---|
| THE PLYMOUTH IMPROVED PURPLE TOP SWEDE .. .. | 1s. 0d. | 1s. 6d. | 6s. 0d. |
| GRANT'S PINE-APPLE SWEDE .. | 1 0 | 1 6 | 6 0 |

The following extract taken from the Leading Article in the *Irish Farmers' Gazette* of October 16, 1858, will tend to show the very high character of the two varieties of Swedes here offered:—"We observed several experimental plots of Swedes, &c., amongst which we noticed a new purple-topped variety called the 'Plymouth Swede,' and also a very beautiful green-topped Turnip (Grant's Pine-Apple Swede), the name of which we did not learn. These were sown on June 16, and their shapes were the finest we have seen for a long time. The varieties were new to us, but certainly the specimens grown at Rockview left a very favourable impression on our mind, regarding both their beauty and probable value."

Price to the Trade on application.
Address—PLYMOUTH SEED COMPANY, Plymouth.

## FARM SEEDS.

THOMAS KENNEDY AND CO., Dumfries, N.B., having completed their Stock of FARM SEEDS, are now prepared to execute orders for the same.

The special attention of Agriculturists is directed to their MIXTURES for Laying down Land to PERMANENT GRASS, which they are glad to say continue to give every satisfaction. Interesting notices of the leading varieties of Grasses comprising these Mixtures will be found in their PRICED LIST OF FARM SEEDS FOR 1859 (now ready), which will be sent free on application to any address.

The following named TURNIP SEEDS, the produce of carefully selected stocks, are offered at the prices quoted:—

SWEDES, the leading varieties .. .. .. 8*d.* per lb.
YELLOWS, the leading varieties .. .. 8*d.* ,,
WHITES, the leading varieties .. .. .. 8*d.* ,,

Seeds delivered Free of Carriage to the chief Railway Stations in England and Scotland, and to the principal Steam Port in Ireland.

MEADOW AND PASTURE GRASS SEED.—The great difficulty experienced by many Gentlemen and Farmers when about to lay down Land, is the selection of the proper Seeds, having no reliable practical guide as to quantity or kind. JAMES TYNAN is enabled to offer the benefit of such a guide. Speke Estate having become celebrated for its excellent practical Farming and high cultivation, has been for many years under the able management of Mr. M'Farlane. In a conversation the Advertiser had with that gentleman a few weeks ago he said:—"The great fertility of this estate I believe to be owing in a great measure to the attention I have paid to the selection of the Grass Seeds, and which I do not think I can improve. Were I to state the yield of the crops of Wheat and Barley I have obtained after these Grasses last year it would be deemed fabulous by many."

JAMES TYNAN having received orders to supply Seeds to some of the Farms on this estate, offers to send the same to gentlemen upon their giving the number of statute acres to be sown.

Selected GRASS SEEDS for LAWNS.

JAMES TYNAN, Seed Warehouse, 68, Gt. George Street, Liverpool

## SEEDS FOR THE FARM.

NEW OVAL-SHAPED YELLOW MANGEL, introduced by us two years ago, has been thoroughly tested and is now recommended with perfect confidence. It is of a remarkably vigorous growth, with finely shaped roots, intermediate in length between the Long and the Globe, and has produced from 5 to 10 tons more per acre than any other variety (see *Gardeners' Chronicle* of Jan. 8):—

SWEDE TURNIP.—All the approved sorts.
YELLOW Do. do. do.
WHITE Do. do. do.

In no description of crop raised on the Farm is a good or a bad one so dependent on the character of the Seed as in that of the Turnip, and from its great liability to degenerate, it requires the most scrupulous care and vigilance to produce Stocks that are every way worthy of confidence. To attain such, we have for several years past been using every known means to keep up or improve the shape, size, and texture of the various kinds; and we believe that what are now offered will give the most perfect satisfaction. All the principal varieties are our own growth, raised from large and fully developed Roots or Bulbs, and in the hope of giving a more vigorous growth to the Stock, the strongest clay soil is always selected for a considerable portion of the Swede and Yellows. This mode of raising Turnip Seed materially increases the expense, but it is a much more satisfactory system than the one usually adopted, viz., sowing random stocks late in the season, after other crops, and taking the seed from mere plants, which in many cases are not even subjected to the process of thinning. Moreover, we guarantee our Seeds free from any of the adulterations so frequently practised to increase profits or cheapen prices, so that a strong healthy "braird" is certain.

PERENNIAL RYE-GRASS.—Finest Ayrshire
Do. do. do. Pacey's, 26lbs. to 32lbs. per bushel
ITALIAN do. Imported
Do. do. Home-grown
NATURAL GRASSES.—All the best varieties

The Stocks of Perennial Rye-grass Seed are the most select growths the country produces, and being all clean and heavy the economy of using such in preference to foul chaffy seed, however cheap, is at once apparent. Our imported Italian is from the usual source, and has always given satisfaction; while the home-grown is the direct produce of imported seed, cultivated under the most favourable circumstances, and more than ordinary pains having been used in dressing the seed; the samples of both are unusually clean and fine. In selecting the Natural Grasses care is taken to have them true to name, fully ripened, and in all respects good clean samples.

ALSIKE CLOVER, and other varieties.
LARGE BROAD-LEAVED SCOTCH TARES.

With every other description of Seed usually required for the farm, PRICED LISTS of which may be had post free on application.

W. DRUMMOND & SONS, Seedsmen, Stirling, N.B.; also at 58, Dawson Street, Dublin.

*** STIRLING is most favourably placed in point of railway accommodation, there being direct and constant traffic to all the principal stations in England and Scotland, and by steamers (*viâ* Glasgow), almost daily to the chief ports in Ireland, thereby insuring a speedy delivery of goods, all of which except grain and Tares, we forward carriage paid.

## HARDY HERBACEOUS PLANTS.—

| | s. | d. |
|---|---|---|
| 100 select and showy varieties | 30 | 0 |
| 100 ditto ditto, including new | 50 | 0 |
| Selections, per dozen, 4*s.*, 6*s.*, 9*s.*, 12*s.*, and | 18 | 0 |
| 50 fine varieties for rockwork | 20 | 0 |
| or per dozen, 5*s.* to | 9 | 0 |
| Aubrietia Mooreana, fine and early for rockwork, much larger and deeper purple than purpurea, per dozen | 9 | 0 |
| Chelone barbata coccinea (or mexicana splendens) very bright scarlet, per dozen | 7 | 0 |
| Delphinium formosum, large roots, per dozen | 7 | 0 |
| Dianthus alboni grescens, fine dark, each, 2*s.* 6*d.*; per doz. | 24 | 0 |
| ,, patens, very fine double crimson, per dozen | 9 | 0 |
| Fragaria variegata, silver-blotched Strawberry plant, handsome for banks or rocks, per dozen | 12 | 0 |
| Myosotis azoricus, ditto | 5 | 0 |
| Œnothera grandiflora, fine large white, ditto | 6 | 0 |
| ,, taraxacifolia, large trailing white, ditto | 6 | 0 |
| ,, macrocarpa, large yellow | 6 | 0 |
| Pentstemons, 12 varieties, best selection | 9 | 0 |
| ,, 12 fine varieties | 6 | 0 |
| Potentilla King of Crimsons, the finest grown of dwarf habit, flowers 2 to 2½ inches across, each | 2 | 0 |
| ,, Negress, rich dark velvet, per dozen | 9 | 0 |
| ,, Shylock, rich dark vivid maroon, do. | 9 | 0 |
| ,, Sudbury Gem, rich orange yellow, deeply shaded and spotted bright red | 12 | 0 |
| ,, fine selections, per dozen, 6*s.* and | 9 | 0 |
| Saxifraga, 12 fine varieties for rock for | 7 | 6 |
| Sedum, 10 ,, ,, | 5 | 0 |
| Stipa pinnata (Feather Grass), per dozen | 5 | 0 |
| Trifolium pentaphyllum, dark variegated foliage, handsome for banks or rock | 5 | 0 |
| Vinca majorifolia elegantissima, silver-margined foliage Periwinkle | 12 | 0 |
| Antirrhinums, fine varieties and well marked, per dozen, 6*s.* and | 9 | 0 |
| Phlox, 50 fine and very superb continental and other varieties | 25 | 0 |
| ,, 25 varieties, newest selection | 20 | 0 |
| ,, selections, per dozen, 6*s.*, 9*s.*, and | 12 | 0 |
| Helianthemum, or Dwarf Rock Cistus, 24 beautiful named varieties for | 15 | 0 |

CONIFERÆ.
(These are chiefly in pots, and are all in fine condition.)

| | | |
|---|---|---|
| 50 choice hardy sorts for | 100 | 0 |
| 25 ,, ,, ,, | 50 | 0 |

CATALOGUES supplied free on application.

Goods (20*s.* and upwards) CARRIAGE FREE to all the Railway Stations in London, and all Stations on the Norwich line, *viâ* Colchester; and Plants gratis for extra carriage. Post-office Orders payable to BASS & BROWN, or to STEPHEN BROWN. Remittances required from unknown correspondents.

BASS & BROWN, Seedsmen and Nurserymen, Sudbury, Suffolk.

MESSRS. WATERER AND GODFREY respectfully invite the attention of parties engaged in planting to the following list of very desirable plants, all of which may be seen growing in the open quarters of their Nursery, and are in the finest possible condition for transplanting:—

Araucaria imbricata, 9 to 12 inches, 5*l.* per 100; 40*l.* per 1000
,, ,, 1½, 2, 3, 4, 5, 6, and 8 feet high. Our stock of this plant exceeds 100,000
Wellingtonia gigantea, stout handsome plants from seed, 84*s.* per dozen; 25*l.* per 100. These are all in the open ground, and are believed to be the finest lot of seedling plants in the Trade.
Cedrus Deodara, 1½ to 2 feet, 18*s.* per dozen; 6*l.* per 100
Do. 3, 4, 5, 6, 7, 8, 10 and 12, and 15 feet. Our stock of Deodars at the present moment occupies several acres of land; they have been constantly removed, and with fair usage not one in a thousand would fail. We offer them on very advantageous terms either in large or small quantities
Cedrus atlantica, 4, 5, 6, and 7 feet
Cupressus macrocarpa, magnificent plants, 7, 8, and 10 feet high
,, Lawsoniana, stout handsome plants from seed, 18 inches, by the dozen or 100
Abies nobilis, from imported seed, 6*l.* 6*s.* per doz.; 40*l.* per 100
,, do. 1, 2, and 3 feet high
,, Nordmanniana, a large number of beautiful plants, all from seed, 2, 3, 4, 5, and 6 feet high
,, Pinsapo, do. do.
[We believe we are justified in stating our stock of the three last-mentioned Firs offers a selection to be met with in no other Nursery.]
,, Douglasi, 6, 7, 10, and 12 feet
,, orientalis, 3, 4, 5, and 6 feet
Pinus Benthamiana, stout seedling plants, about 1 foot, 18*s.* per dozen; 5*l.* per 100; 40*l.* per 1000. Unquestionably the finest of all the long-leaved Californian kinds, and well known to be perfectly hardy. It is the most valuable of all for timber.
Juniper, Chinese, 2, 3, 5, 7, 8, and 10 feet high
Irish Upright, 3, 4, 5, 6, 7, and 8 feet. The Irish and Chinese Junipers are grown by us to a very large extent
Thuja aurea.—This plant originated in our Nursery, and our stock of it offers a choice of many hundred specimens from 1½, 2, 3, 4, and 5 feet high, and measuring from 2 to 10 and 15 feet in circumference. Nothing can well exceed the beauty of these plants, and certainly are to be met with in no other Nursery
Thuja gigantea, stout seedling plants, 1½ to 2 feet high
,, Wareana, 3, 4, 5, 6, 7, and 8 feet
Thujopsis borealis, handsome plants, in quantity, 1½ & 2 ft. high
Taxus, Yew, Common English.—A large quantity, and of all sizes up to 5, 6, and 7 feet
,, Irish Yew, 4, 5, 6, 7, and 10 feet. Many thousands of these beautifully formed plants grown to one stem
,, Golden Yews in large quantities and of all sizes up to 6, 7, and 8 feet
We also have them worked on the Common and Irish Yew as Standards, with heads from 12 to 15 years' growth
Holly, Variegated, Scottica, laurifolia, &c. We hold probably the largest stock of good sized variegated Hollies in the kingdom, especially of the better kinds of silver and gold striped
Rhododendron ponticum, for cover, stout plants, 1½ to 2½ feet, by the 1000. All the well-known proved hardy late blooming kinds, in any quantity, at from 30*s.*, 42*s.*, to 84*s.* per dozen
Standard Rhododendrons of all kinds
Azaleas, stout bushy plants, covered with bloom buds, from 18 inches to 2 feet high, and of all colours, 9*s.*, 12*s.*, 18*s.*, and 24*s.* per dozen; 50*s.*, 75*s.*, to 100*s.* per 100
Hardy Heaths, a first-rate collection, at 35*s.* per 100; 15*l.* p. 1000
Roses, fine Standards, of the most popular kinds, at very low prices.

As well as the above, we are very large holders of the ordinary kinds of Nursery Stock, which may be judged from the fact that the Nursery far exceeds 100 acres in extent of all such things as Laurels, Box, Lilacs, Limes, Purple Beech, and the commoner descriptions of Evergreens and Deciduous Flowering Shrubs. An enormous stock of Fruit and Forest Trees are also grown extensively.

Goods are delivered free to London, Reading, or Reigate. The Nursery is reached in an hour from Waterloo, and conveyances are always to be had at the Woking Station.

CATALOGUES, Priced and Descriptive, will be sent on application, enclosing one postage stamp, to

WATERER AND GODFREY, Knap Hill, Woking, Surrey.

## HARDY CONIFERÆ FOR SPRING PLANTING.

J. HENCHMAN, Edmonton, London, begs to offer the following CONIFERS, all Seedling Plants, in pots and in the most robust health:—

Wellingtonia gigantea, 1 foot, in 32-pots, very fine, 18*s.* each; 7 to 8 inches, in 48-pots, 3*l.* per doz.; stout, 1*s.* seedlings, 30*s.* per doz.
Pinus Don Pedri, 21*s.* each.
,, Buonapartia or Veitchi, 10*s.* 6*d.* each.
,, insignis, 15 inches, 15*s.* per doz.
,, macrocarpa or Coulteri, 6 inches, fine, 18*s.* per doz.
,, tuberculata, stout 2-year seedlings, 18*s.* per doz.
,, Benthamiana, 2-year do. 9*s.* per doz.
Cupressus macrocarpa, 18 inches, fine, 6*s.* per doz.
,, MacNabbiana, 2 years, 9*s.* per doz.
Taxodium sempervirens, 15 inches, fine, 24*s.* per doz.

## TO NOBLEMEN, GENTLEMEN, PUBLIC COMPANIES AND OTHERS ENGAGED IN PLANTING.

JOHN WATERER having a very great quantity of the undernamed desirable PLANTS in excellent condition (from frequent removal) for transplanting, offers them at a very reduced scale of charges.

*** Intending Planters having the object of immediate effect in view are respectfully informed that in selecting specimens for such purposes they would find a visit of inspection amply repaid, it being our determination to treat on the most liberal terms.

The Nursery is easily reached, being a short distance from Sunningdale Station, South-Western Railway (Reading Branch), where excellent conveyances meet all trains.

Wellingtonia gigantea, handsome plants, about 1 foot, 15*l.* per 100; 1 to 1½ foot, 5*s.* each or 20*l.* per 100; 1½ to 2 feet, 10*s.* to 21*s.* each; larger, up to 5 and 7 feet
Araucaria imbricata, 2 to 3 feet, 10*s.* 6*d.* each; 3 to 4 feet, 30*s.* to 31*s.* 6*d.* each; large beautiful specimens, up to 9 feet
Thuja aurea, good plants, 10*l.* per 100; about 15 inches, globular handsome plants, 42*s.* per dozen, or 15*l.* per 100; 1½ to 2 feet, 5*s.* to 7*s.* 6*d.* each, or 20*l.* per 100; larger, 3 and 4 to 5 feet
Thuja gigantea, 1 to 1½ foot, 5*s.* to 7*s.* 6*d.* each; 1½ to 2 feet, 10*s.* 6*d.* each; 2 to 3 feet, 21*s.* each; large handsome plants, 3 to 4, and 5 to 8 feet
Thuja chilensis, 2 to 3 feet, 3*s.* 6*d.* each; 3 to 4 and 5 feet, 5*s.* to 7*s.* 6*d.* each
Cedrus Deodara, 3 to 4 feet, 5*s.* each, or 20*l.* per 100; 4 to 5 feet, 6 feet, 7*s.* 6*d.* to 10*s.* 6*d.* each; 6 to 8, 10, and 12 to 18 feet
Cedrus Libani, 4 to 5 feet, 5*s.* to 7*s.* 6*d.* each; 5 to 6, 7, and 8 to 10 feet
Cupressus macrocarpa, 2 to 3 feet, 30*s.* per dozen; 3 to 4 feet, 3*s.* 6*d.* each; 4 to 5 feet, 5*s.* each
Cryptomeria japonica, 4 to 6 feet, 5*s.*; 20*l.* per 100; 6 to 8, to 15 feet
Cryptomeria japonica viridis, 3 to 4 feet, 5*s.* each; 4 to 6 feet, 7*s.* 6*d.* each
Juniperus hibernica, 2 to 3 feet, 24*s.* per dozen, or 7*l.* 10*s.* per 100; 3 to 4 feet, 42*s.* per dozen, or 12*l.* 10*s.* per 100; 4 to 5 and 8 to 10 feet
Juniperus chinensis, 3 to 4 feet, 5*s.* each; 4 to 5 feet, 7*s.* 6*d.* each; larger, 5 to 7 and 8 feet
Juniperus virginiana (Red Cedar), 2 to 3 feet, 5*l.* per 100
Thujopsis borealis, about 1½ foot, 42*s.* per dozen, or 15*l.* per 100; larger, 2 to 3 feet
Cephalotaxus Fortuni, 1 to 2 feet, 5*s.* to 7*s.* 6*d.* each; larger, 2 to 3, and 4 feet
Taxus hibernica, 2 to 3 feet, 24*s.* per dozen, or 7*l.* 10*s.* per 100; 3 to 4 feet, 3*s.* 6*d.* each; 4 to 5 feet, 5*s.*; larger, 5 to 10 feet, all trained to a single stem
FitzRoya patagonica, 3 to 4 ft., 42*s.* per doz.; 4 to 5 ft., 5*s.* each
Pinus Beardsleyana, 1 to 1½ foot, 5*s.* each; 2 to 3 feet
,, Benthamiana, 3 to 4 feet, 7*s.* 6*d.* each
,, canadensis, 4 to 6 feet, 3*s.* 6*d.* each
,, Cembra, 2 to 3 feet, 3*s.* 6*d.* each; 3 to 4 feet, 5*s.* each; large, 4 to 6 and 8 feet
,, Craigiana (new, 1 to 1½ foot, 3*s.* 6*d.* each; 1½ to 2 feet, 5*s.*
,, Douglasi, 1 to 1½ foot, 30*s.* per dozen, or 10*l.* per 100; 2 to 3 feet, 42*s.* per dozen, or 15*l.* per 100; 3 to 4 feet, 5*s.* each; 5 to 6, and 8 to 15 feet
,, excelsa, 1½ to 2 feet, 12*s.* per dozen, or 50*s.* per 100
,, insignis, 1½ to 2feet, 10*l.* per 100; 2 to 3 feet, 3*s.* 6*d.* 15*l.* per 100; 3 to 4 feet, 5*s.*, or 20*l.* per 100; 4 to 6 feet, very fine
,, Jefferyana, 1 to 1½ foot, 5*s.* each; 1½ to 2 feet, 7*s.* 6*d.* (a new species allied to Benthamiana but more distinct, and reported to be the most handsome and valuable of the long leaved Californian Conifers.)
,, Lambertiana, 2 to 3 feet, 7*s.* 6*d.* each; 3*l.* 10*s.* per dozen, large, 3 to 4 and 5 to 12 feet
,, Nordmanniana, small plants, 15*l.* per 100; about 1 foot, 10*s.* 6*d.* each; 1 to 1½ ft., 21*s.* each; 1½ to 2 ft., 42*s.* each; 2 to 3 feet, 63*s.* to84*s.* each; 3 to 4 and 5 feet, perfect specimens
,, Pinsapo, 1 to 1½ foot, 5*s.* each; 1½ to 2 feet, 7*s.* 6*d.* each; large, 2 to 4, 6 to 8 feet
,, ponderosa, 1½ to 2 feet, 5*s.* each
,, Sabiniana, 3 to 4 feet, 5*s.* each
,, taxifolia (Jeffery), 1½ to 2 feet, 10*s.* each
(With the single exception of Pinus Lambertiana the whole of the above are Seedlings)
ROSES.—Select Perpetual and Bourbon, do. varieties, Standards, 4*l.* 4*s.* per 100; do. Dwarfs, 2*l.* 10*s.* per 100
RHODODENDRONS, of all the superior kinds of scarlet, crimson, rose, white, &c., such as are annually displayed by us at the Great Exhibition of American Plants at the Royal Botanic Gardens, Regent's Park, London, in good plants, 42*s.* to 63*s.* per dozen
,, Fine varieties, for extensive planting, 24*s.* to 30*s.* per dozen
,, Catawbiense and mixed Hybrids, good plants, 4 to 5 feet, 7*l.* 10*s.* per 100
,, Standards of the superior crimson varieties, good plants, 42*s.* to 63*s.*, to 105*s.* each
,, ponticum (the only evergreen that entirely escapes the ravages of hares and rabbits), good plants, fit for immediate planting into woods for cover, 7*l.* 10*s.* per 100; extra strong, 21*s.* to 25*s.* and 30*s.* per 100
,, Dwarf-growing varieties, 4*l.* 4*s.* to 5*l.* per 100
AZALEAS, good common kinds, consisting of scarlet, crimson, yellow, &c., and for extensive planting, in good plants, 50*s.* per 100
,, superior, 12*s.*, 18*s.*, to 24*s* per doz, or 3*l.* to 7*l.* 10*s.* per 100
,, Standard, in fine sorts, 42*s.* each
KALMIA LATIFOLIA, 1 to 1½ foot, covered with bloom buds, 5*l.* per 100; larger, 18*s.* to 30*s.* per dozen
,, MYRTIFOLIA, fine plants, 30*s.* to 60*s.* per dozen (a superior kind to latifolia).
HARDY HEATHS.—A collection of 25 distinct kinds, 3*s.*; 100, or 12*l.* 10*s.* per 1000
Transplanted FOREST TREES, of which about 100,000 each are in hand. We shall have great pleasure in forwarding samples on application.

| | |
|---|---|
| Ash, 2 to 3 and 4 feet | Beech, 2 to 3 feet |
| Hazel, 2 to 3, and 4 to 5 feet | Birch, 2 to 3 and 4 feet |
| Chesnut, Spanish, 2 to 3, and 4 to 6 feet | Larch, 2 to 3 and 4 feet |
| | Scotch, 1½ to 2 feet |

A large quantity of bushy COMMON LAURELS, 2 to 3, & 4 feet
Also the commoner kinds of Evergreens, such as HOLLIES, kinds; BAYS, ARBUTUS, PHILLYREA, AUCUBAS, PORTUGAL LAURELS, &c.

CATALOGUES containing descriptions of everything relative to Rhododendrons and Conifers forwarded on application to

JOHN WATERER, American Nursery, Bagshot, Surrey

**HENDON PARK NURSERIES, HENDON, N.W.**

SEED LIST, 1859.—A choice selection of the newest and best varieties of PEAS, BEANS, POTATOES, and all Kitchen Garden produce. The best Seeds for the Flower Garden. Forwarded on application.—EDWARD SHENTON.

**HENDON PARK NURSERIES, HENDON, N.W.**

DESCRIPTIVE CATALOGUE OF NEW DAHLIAS, HOLLYHOCKS, PELARGONIUMS, BEDDING AND BORDER PLANTS, and the leading New Flowers of the season 1859. Forwarded on application.
EDWARD SHENTON.

WILD'S UNRIVALLED PRIMULAS.
Upwards of 100 Testimonials received.
Mr. WM. LIDDON, *Gardener, Edgbaston, near Birmingham.*
"The Primula Seed you sent I am happy to say proved first-rate; many of the blooms are 3 inches diameter, and quite semidouble."
Post free to all parts of the world on receipt of 2*s.* 6*d.* stamps.
THOMAS WILD, The Primulary, Ipswich.

DOUBLE ITALIAN TUBEROSE ROOTS, 4*s.* per dozen.—The annual importation of the above named beautiful and fragrant Flower has just been received, and large and well selected Bulbs may be obtained, without dis appointment, at A. COBBETT'S Foreign Warehouse, 18, Pall Mall.
N.B. Printed regulations for treatment sent; also, just arrived, very moist and open Parmesan Cheeses

**SUPERB DOUBLE BALSAMS.**

F. AND A. SMITH are now sending out seed of their superb BALSAMS, which are unrivalled for size, form, brillancy of colour, doubleness of flower, and habit of plant.

| | | |
|---|---|---|
| In collections of nine separate colours .. .. | 2*s.* | 6*d.* |
| ,, ,, mixed ,, .. .. | 2 | 0 |
| ,, ,, ,, ,, half quantity | 1 | 0 |

The above are *genuine only* in our sealed packets, and may be had of most respectable Nurserymen and Seedmen in the United Kingdom.—Dulwich, Surrey, S.

**PLANTS IN FLOWER.**

F. AND A. SMITH have now in bloom Acacia, Azalea indica, Cinerarias (fine), Cytisus, Erica ventricosa coccinea minor; E. Cavendishi, E. hybrida, E. propendens, E. perspicua nana, E. Syndriana, Geraniums, Fairy Roses, Primula sinensis fimbriata, &c.
The above are healthy, strong, and well grown plants, prepared for sending away. Prices on application.
Dulwich, Surrey, S.

**AZALEA INDICA.**

J. IVERY AND SON beg respectfully to invite growers of the above named to an inspection of their unrivalled Stock of Young Specimens of all the newest and best varieties, many of which have been exhibited at the Metropolitan Exhibitions. They are clean and healthy, well set with bloom, and moderate in price. Catalogues forwarded post free upon application.—Dorking Nursery, March 19.

| | | *s.* | *d.* |
|---|---|---|---|
| AZALEA INDICA.— 25 choice varieties, very strong, and well established for fine bloom.. .. .. .. .. .. | | 45 | 0 |
| 12 choice ditto | ditto .. .. .. .. | 24 | 0 |
| 25 choice ditto | ditto, including new varieties | 65 | 0 |
| 12 choice ditto | ditto ditto | 36 | 0 |
| Fine flowering plants, selections, per doz., 18*s.*, 24*s.*, and | | 30 | 0 |

Carriage free for orders of 20*s.* and upwards to all Stations in London, &c. See CATALOGUE.
BASS & BROWN, Seedsmen and Nurserymen, Sudbury, Suffolk.

| | *s.* | *d.* |
|---|---|---|
| HENRY MAY begs to offer the following, in fine stout plants, as under:— | | |
| Calceolaria aurea floribunda, 2*s.* 6*d.* per doz.; per 100 .. | 16 | 0 |
| ,, Phillipsii, deep crimson, 2*s.* 6*d.* per doz ; per 100 | 16 | 0 |
| ,, Stewartii, bright yellow, 2*s.* 6*d.* per doz.; per 100 | 16 | 0 |
| ,, Prince of Orange, 2*s.* 6*d.* per doz. ; per 100 .. | 16 | 0 |
| ,, Yellow do., fine yellow, 2*s.* 6*d.* per doz.; per 100 | 16 | 0 |
| 12 fine sorts of Fuchsias of 1858, per doz... .. .. | 6 | 0 |
| 12 ,, ,, 1857, ,, .. .. .. | 4 | 0 |
| 12 ,, Verbenas, of 1858 ,, .. .. .. | 6 | 0 |
| 12 ,, ,, 1857 ,, .. .. .. | 4 | 0 |
| 12 fine named Phloxes, 6*s.*; 50 fine named Phloxes .. | 20 | 0 |
| 12 fine Scarlet Geraniums, 2*s.* 6*d.*; 50 do. do. .. .. | 8 | 0 |
| 12 double Purple Senecio, 2*s.* 6*d.*; 50 do, .. .. .. | 8 | 0 |
| 12 Salvia patens, 6*s.*; 12 Salvia fulgens .. .. .. | 3 | 0 |
| 12 fine sorts Antirrhinums, 3*s.*; 50 do. .. .. .. | 10 | 0 |
| 12 fine named Hollyhocks .. .. .. .. .. | 6 | 0 |

Hollyhock Seed from finest named sorts, 1*s.* per packet.
Antirrhinum do. do. do. 1*s.* per packet.
Address HENRY MAY, the Hope Nurseries, near Bedale, Yorksh.

**CRIMSON PERFECTION RHUBARB.**

ROBERT SALT begs leave to inform the gentry, Nurserymen, Gardeners, &c., that he has now ready for sale a quantity of this valuable variety of RHUBARB, and considers that the great notoriety it has attained from those who have honoured him with their orders is a sufficient guarantee as to its qualities. See *Gardeners' Chronicle*, June 11, 1853:—"Very good, and a most beautiful crimson; compared with others, it is remarkable for the small amount of acidity it contains."—*Ed.* Price 17*s.*; old roots, 9*s* per dozen; 2 year old do,, 15*s.* per dozen; 3 year-old, 24*s.* per doz
Orders addressed to ROBERT SALT, Longton, Staffordshire; Messrs. HURST & M'MULLEN, 6, Leadenhall Street, London; Messrs. BURGESS & KENT, Penkhull, Staffordshire; Messrs. FRANCIS & ARTHUR DICKSON, Eastgate Street, Chester; Messrs. JAMES DICKSON & Co, Chester; Mr. CHARLES TURNER, Royal Nursery, Slough, will have immediate attention. A remittance from unknown correspondents. The usual discount to the Trade.—Longton, March 19.

**CARNATIONS AND PICOTEES.**

YOUELL AND CO.'S COLLECTION of the above deservedly favourites is probably the most extensive in the Trade, and having for a series of years paid special attention to their cultivation, introducing the best of the newest varieties, they are enabled to offer them at the following prices for fine, strong, well rooted plants.
CARNATIONS, finest first class show varieties by name, 18*s.* and 24*s.* per dozen pairs.
PICOTEES, finest first class show varieties by name, 18*s.* and 24*s.* per dozen pairs.
Ditto, on yellow grounds, 20*s.* and 30*s.* per dozen pairs.
Finest mixed BORDER CARNATIONS & PICOTEES, 9*s.* ditto
True o'd CLOVE CARNATION, 12*s.* per dozen pairs.
Scarlet ditto ditto, 18*s.* ditto
TREE CARNATIONS, flowering summer and winter.—We have now to offer a very choice collection of this beautiful class at 12*s.* per dozen. [pairs.
PINKS.—The finest first class show Pinks, by name, 9*s.* per doz.
Fine mixed border PINKS, 6*s.* per dozen pairs.
HOLLYHOCKS.—Our extensive stock of these, comprising the finest named varieties, is this season very strong and healthy and well established in pots, price of which is 9*s.* to 12*s.* per dozen.
NEW PHLOXES.—An extensive and select collection of the above beautiful showy tribe of Herbaceous Plants, comprising the fine and newly introduced varieties from the Continent. May be obtained at 10*s* per dozen, package included.
☞ All orders of 2*l.* and upwards are delivered Carriage Free to London, Manchester, Liverpool, Peterborough, Hull, and Newcastle, as well as to any Railway Station within 150 miles of the Nursery.
YOUELL & Co., Royal Nursery, Great Yarmouth, Norfolk.

**SPLENDID NEW SEEDLING CAMELLIA "COUNTESS OF DERBY."**

JAS. VEITCH, Jun., has much pleasure in calling the attention of all lovers of this popular flower to the above new and magnificent SEEDLING, a fine specimen of which is now in flower at his nursery.
Feeling that the most satisfactory way of bringing a new plant under public notice is to afford all persons an opportunity of inspecting and personally judging of its merits, J. V., Jun., will be happy to show it to all who may favour him with a visit.—Royal Exotic Nurseries, Chelsea, March 19.

**ROYAL SOUTH HANTS SEED ESTABLISHMENT.**
UNDER THE PATRONAGE OF H.R.H. THE PRINCE CONSORT, THE AGRICULTURAL, HORTICULTURAL SOCIETY OF INDIA, AND THE LEADING AGRICULTURISTS OF THE UNITED KINGDOM.

PAGE AND TOOGOOD can now supply GARDEN AND FARM SEEDS, carriage free; SEED POTATOES, &c. The numerous Prizes gained by their Stocks are convincing proofs of superior quality, and their prices compete with any house in the kingdom. WHOLESALE and RETAIL PRICED CATALOGUES upon application.
Agents for ODAMS'S Blood Manure, Superphosphate, &c. Seeds Packed for Exportation to all Parts of the world,
37 and 38, Oxford Street (facing the Railway Terminus); and 58, Above Bar, Southampton.

**CALLICARPA PURPUREA.**

JOHN STANDISH, the exhibitor of the above (at St. James's Hall), can supply a few good plants at 7*s.* 6*d.* each. The following passage from Dr. Lindley's leading article in the *Gardeners' Chronicle* for Nov. 20 will give an idea of its beauty:—"Callicarpa purpurea, quite insignificant when in flower, was beautiful in its winter dress of innumerable rich purple berries, about the size of swan shot." It is easily cultivated, and does well in a cold greenhouse or conservatory planted out, where it will produce thousands of bright purple berries resembling glass beads. and remaining on nearly the whole winter.—Bagshot, March 19.

J. GRIFFIN begs to offer the following choice VEGETABLE and FLOWER SEEDS.
GRIFFIN'S ALMA LETTUCE, the most useful variety in cultivation, very hardy, and valuable for standing the drought of summer, 1*s.* 6*d.* per packet.
GRIFFIN'S fine RIDGE CUCUMBER, very hardy and productive, 1*s.* per packet.
Ivery's NONSUCH RED CELERY, 1*s.* per packet.
BATH DWARF DARK RED BEET, fine colour, 1*s.* p. pckt.
DELPHINIUM FORMOSUM, 1*s.* per packet.
LINUM GRANDIFLORUM RUBRUM (true), 1*s.* p. packet.
LOBELIA ERINUS SPECIOSA, the best and most effective variety yet raised, forming a close compact style of growth; reproduced true from seed; fine for bedding, 1*s.* 6*d.* per packet.
Truffaut's FRENCH ASTER, imported in 20 varieties, separate, 5*s.* per packet.
Truffaut's FRENCH ASTER, imported in 20 varieties, mixed, 2*s.* 6*d.* per packet.
New CHRYSANTHEMUM-FLOWERED ASTER, 1*s.* p. pkt.
Choice CALCEOLARIA, from the finest varieties, 2*s.* 6*d.* per packet.
Choice CINERARIA, from the finest varieties, 2*s.* 6*d.* p. pckt.
Weston Road, and 2, New Bond Street, Bath.

HEDGE PLANTS.—
TREE BOX, 2, 3, 4, 5 and 6 feet.
GREEN HOLLIES, 1, 2, 3 and 4 feet.
EVERGREEN PRIVET, 2 and 3 feet.
TRANSPLANTED QUICK, 2 to 3 feet.
COMMON YEW, 2, 3, 4, and 5 feet.
Also a few thousand fine transplanted LARCH, 3 to 4 feet. Samples and prices on application.
THOMAS JACKSON & SON, Nurseries, Kingston, S.W.

ROY AND BELCHER, Ferry Hill Nurseries, Aberdeen, have the undermentioned Seedling and Transplanted FOREST TREES to offer, hardy and well grown:—
LARCH FIR: 2-year seedlings, 2*s.* 6*d.* per 1000; or 10*l.* per 100,000.
,, ,, transplanted, 2 to 2½ feet, 12*s.* 6*d.* per 1000.
SCOTCH FIR: 2-year seedlings, 1*s.* 4*d.* per 1000; or 5*l.* per 100,000.
,, ,, 1-year transplanted, fine roots, 2*s.* 3*d.* per 1000; or 10*l.* per 100,000.
,, ,, 12 to 20 inches, 5*s.* per 1000; or 4*l.* for 20,000.
SPRUCE FIR: 2-year seedlings, 1*s* 3*d.* per 1000.
SPANISH CHESNUT: 1-year seedling, fine, 6*s.* 6*d.* per 1000.

1-year SEEDLING LARCH, fine-

| | |
|---|---|
| 2-year Seedling Larch, fine | 1-year Seedling Common Oak, fine |
| 2 year do. Scotch Fir, native | 1-year ditto Turkey ditto |
| 2-year do. Spruce, Norway, fine | 2-year ditto Red Cedar |
| 3-year ditto ditto | 1-year English Yew |
| 2-year ditto White American ditto | 1-year transplanted Larch, fine |
| 1-year ditto Red ditto | 2-year ditto |
| 1-year ditto Hemlock Spruce | 1-year do. Scotch Fir, native, do. |
| 1-year ditto Evergreen Oak | 2-year ditto |

The Subscribers being extensive holders of the above solicit the particular attention of the Trade. Prices, which are most moderate, may be had on application.
DAVID REID & SON, Nurserymen and Seedsmen, Edinburgh.

NEW PLANTS introduced by the establishment of Mr. LINDEN, in the Royal Zoological and Horticultural Garden, Brussels, and ready for sale on the 1st May next. Free to London.

| | *s.* | *d.* | | *s.* | *d.* |
|---|---|---|---|---|---|
| Arachnothrix rosea .. | 12 | 6 | Begonia argentea | 21 | 0 |
| Begonia amabilis .. | 21 | 0 | ,, Victoria | 21 | 0 |

Orders for the two last Begonias have to be directed to Mr. J. Veitch

| | *s.* | *d.* | | *s.* | *d.* |
|---|---|---|---|---|---|
| Beloperone violacea .. | 8 | 0 | Monochætum sericeum | 8 | 0 |
| Centradenia grandifolia | 12 | 0 | Musa glauca .. .. | 8 | 0 |
| Cuphea ocymoides .. | 8 | 0 | Mutisia Clematis .. | 21 | 0 |
| Lindenia rivalis .. | 8 | 0 | Philodendron fenestratum .. .. | 21 | 0 |
| Maranta Porteana .. | 21 | 0 | | | |

One plant over if three are ordered.

DECORATIVE PLANTS.

| | | | |
|---|---|---|---|
| Crescentia regalis.. .. | 42*s.* | Oreopanax peltatum .. | 42*s* |
| Curatella imperialis .. | 63 | Rhopala australis.. .. | 42 |
| Gomphia Theophrasta .. | 42 | ,, glaucophylla .. | 42 |
| Jacquinia smaragdina .. | 21 | | |

And above 60 quite new FERNS of the finest genera.
Mr. LINDEN'S DESCRIPTIVE CATALOGUE, just published, contains also extensive lists of Orchids, Ferns, Bromeliads, Tropical Fruit Trees, Medical and useful Plants, fine foliaged and variegated Plants, Palms, rare Stove and Greenhouse Plants, &c., and may be had on application at his agent's office in London,
Mr. R. SILBERRAD, 5, Harp Lane, Great Tower Street.

**THE GREAT VINE AT HAMPTON COURT.**

THE SUBSCRIBERS being the holders of the Royal Kitchen Gardens, Hampton Court, are enabled to offer genuine the famous and truly excellent HAMPTON COURT BLACK HAMBURGH GRAPE.
Strong well-ripened plants in 9-inch pots, 42*s.* and 60*s.* per doz.
,, ,, fruiting plants in 12-inch pots, 10*s.* 6*d.* each.
If purchased in large numbers a considerable reduction will be made in price.—JACKSON & SON, Nurseries, Kingston, S.W.

**LADY DOWNE'S GRAPE.**

JAS. BACKHOUSE AND SON can still supply good Canes of this distinct and excellent Grape at 10*s.* 6*d.* each. As a long-keeping species it is unsurpassed, the bunches hanging in fine condition 6 to 8 months after ripening.
York Nurseries.—March 19.

**RHODODENDRONS.**

JOHN WATERER'S CATALOGUE OF UNRIVALLED HARDY SCARLET AND OTHER CHOICE RHODENDRONS, as Exhibited by him at the Royal Botanic Gardens, Regent's Park, London, is published, and will be forwarded on application.
☞ This List is recommended as a work of reference, as it contains accurate descriptions of all the esteemed varieties.
The American Nursery, Bagshot, Surrey, near the Sunningdale Station, South Western Railway.

**HARDY SCARLET RHODODENDRONS AND AMERICAN PLANTS GENERALLY.**

WATERER AND GODFREY'S PRICED and DESCRIPTIVE CATALOGUE of the above beautiful tribe of plants, as exhibited by them in London and Manchester, may now be had on application inclosing one stamp for postage. The Catalogue also furnishes the heights and prices of their unequalled stock of Conifers and Evergreens, &c. Catalogues may also be had of Messrs. J. MAY & Co., Seedsmen, &c., Wellington Street, Strand.
Knap Hill Nursery, Woking, Surrey.

**NEW SEEDS FOR 1859.**

WM. CUTBUSH AND SON beg respectfully to intimate that their PRICED CATALOGUE OF VEGETABLE AND FLOWER SEEDS, &c., is now ready post free on application. WM. C. AND SON devote particular attention to this department of their business, and most of the choicer kinds of culinary seeds and roots are saved under their own inspection, and they can confidently guarantee the quality of all offered.—Highgate Nurseries, London, N. Established A.D. 1695.

MESSRS. PARKER AND WILLIAMS beg to inform their friends and patrons that their PRICED and DESCRIPTIVE CATALOGUE of Exotic Orchids, Stove, Greenhouse, and Hardy Ferns, Miscellaneous Stove, Greenhouse, and Hardy Plants, Variegated and Ornamental foliaged Plants, Conifers, Roses, Rhododendrons, Indian Azaleas, Gloxinias, Fuchsias, Cactuses, &c., is now published, and will be forwarded post free on application.—Paradise Nursery, Seven Sisters' and Hornsey Roads, Holloway, London, N.

FINE CARNATIONS AND PICCOTEES.—Very fine Plants of the above, or pair in a pot, and which may be sent either in or out of pots at the option of the purchaser, being thoroughly well rooted, may now be had at 1*s.* 6*d.* per pair, or 12 pairs for 15*s.* They consist of good show flowers. Amongst others may be named—Rachel, Squire Trew, Lord Belper, Poor Tom, Princess Royal, Admiral Curzon, Lord Rancliffe, Flambeau, Major Teesdale, Duncan, John Gair, Sarah Payne, Eugenia, Sultana, Prince Albert, Amy Robsart, Robin Hood, Mrs. May, Mrs. Aitken, Mrs. Gair, &c. &c.—Address WOOD & INGRAM, Huntingdon.

**CELOSIA AUREA, VAR. PYRAMIDALIS.**

DICKSONS AND CO., NURSERYMEN and SEEDSMEN, Waterloo Place, Edinburgh, have now a limited supply of the above rare and beautiful Annual. Packets 5*s.* each, sent free by post on receipt either of a Post office Order, or postage stamps from unknown correspondents. See description in *Gardeners' Chronicle* of December 25, 1858.
D. & Co. have still on hand a few Plants in pots of LADY DOWNE'S SEEDLING VINE at 10*s.* 6*d.* each.
Waterloo Place, Edinburgh.—March 19.

**TO NURSERYMEN.**

3,000,000 RHODODENDRONS, 2, 3, 4, and 5 years old: small and strong Portugal and Common Laurels, small Red Cedar, Chinese Arbor Vitæ, Berberis, &c.; Layers of Erica Alporti, vulgaris, alba carnea, and many other things to be sold very cheap.
For price, apply to JAMES SMITH, Darley Dale Nursery, near Matlock.—March 19.

**DOUBLE INTERMEDIATE STOCKS.**

J. WOOD AND SONS, Old Kent Road, beg to inform the Trade and others that they have a surplus stock of the above, in 60-pots ready for repotting or bedding. Price moderate.

**TURNIP SEED.**

YELLOW SCARISBRICK AND ALTRINGHAM, crop 1858, selected stocks, price 30*s.* per bushel; also a quantity of POMERANIAN WHITE GLOBE, and SKIRVING'S IMPROVED PURPLE-TOP SWEDE SEED, at lowest prices.
JAMES FAIRHEAD & SON, Seed Growers and Merchants, Lewisham, Kent.

**TO THE SEED TRADE.**

THOMAS AYRES, JUN., SEEDSMAN and GROWER, Biggleswade, Beds., can supply every kind of Wurzel, Swede, and common Turnip Seeds, on the most reasonable terms for cash.
N.B. Dealer in Culinary and Flower Seeds, Fruit Trees, Shrubs, and Flowering Plants.

HUDSON'S GOLDEN MELON BARLEY.—Selected Samples for Seed of this most valuable variety, superior both for produce and malting quality, may be had of RAYNBIRD & HARVEY, of Basingstoke; and 89, Seed Market, Mark Lane, E.C.

**SEED CORN FROM THE CHALK.**

MESSRS. RAYNBIRD AND HARVEY beg to offer to Agriculturists requiring change of SEED Talavera, Red Nursery, and April WHEAT, the best sorts for Spring sowing.
Chevalier, Thanet, Golden Drop, Long-eared Nottingham, American, Hudson's Golden Melon, Banham's Sprat, and other varieties of BARLEY.
Canadian Potato, Hopetoun, Poland, and Tartarian OATS.
Fine CLUSTER BEANS, weighing 68 lbs. per bushel.
Samples and Prices on application.
Address—Basingstoke, and 89, Seed Market, Mark Lane, London, E.C.

RICH BOG AND LOAM.—Gentlemen and Nurserymen will do well to apply early for the above to refresh their American beds. To be had in any quantity upon reasonable terms, by land or water carriage.
ROBERT NEAL, Nurseryman, Wandsworth Common, Surrey.

# GRASS SEEDS FOR PERMANENT PASTURES & MEADOWS.

## THOMAS GIBBS & CO., Corner of Half-Moon St.,

### THE SEEDSMEN TO THE "ROYAL AGRICULTURAL SOCIETY OF ENGLAND,"

BEG to inform the Members of the Society and Agriculturists generally that their MIXTURES of GRASS SEEDS for Laying down Land to Permanent Grass are now ready. Each kind of Grass Seed composing these Mixtures is cleaned separately, and the kinds are proportioned to suit different soils.

☞ *Full Directions for Sowing and Management will be sent with the Seeds.*

**MIXTURES for PERMANENT MEADOW and PASTURE** (*to suit different soils*).
**MIXTURES for PARKS, FIELD LAWNS, CEMETERIES, &c.**
**MIXTURES for IRRIGATION MEADOWS, GAME COVERS, and all other purposes.**
**RENOVATING MIXTURES for Improving Old Meadows and Pastures** (8 to 12 lbs. per acre).

| MANGEL WURZEL. | RYE-GRASS. | | |
|---|---|---|---|
| Yellow Globe, Orange Globe (selected) | Italian (selected, very fine) | Carrots | all sorts |
| Long Red | Dickinson's | Clovers | ,, |
| Red Globe | Imported Foreign Seed | Swedes | ,, |
| Long Yellow | Common or Annual | Hybrids | ,, |
| Silesian Sugar Beet | Pacey's Perennial | Common Turnips | ,, |

**KITCHEN GARDEN SEEDS in Collections at £1, £2, and £3 each.**

Thomas Gibbs & Co.

**ALL KINDS OF AGRICULTURAL SEEDS.**

*Price Lists sent free on application. Reference or Cash required from unknown Correspondents.*

CORNER OF
**HALF-MOON St.**
PICCADILLY, LONDON, W.

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## SELECT

# CULTIVATED GRASSES FOR PERMANENT PASTURE, &c.

## THE PLYMOUTH SEED, AGRICULTURAL IMPLEMENT, AND MANURE COMPANY (LIMITED),

BEG TO ANNOUNCE THAT THEIR MIXTURES OF GRASS SEEDS ARE NOW READY FOR DELIVERY.

THE MIXED GRASSES FOR **PERMANENT PASTURE** are selected according to the best tables, and the various sorts are all carefully saved and free from noxious weeds. The selections will contain several species of Festucas, Loliums, Poas, and Trifoliums in such quantities as will best suit the soil for which the selection is intended. Two bushels of light seed and 12 lbs. of heavy seed per acre, the quantity usually sent, will be found sufficient for most soils.

For **LAWNS or ORNAMENTAL PARKS** it is desirable to have a predominance of EVERGREEN GRASSES. All the coarser kinds are therefore entirely excluded from this Mixture, so that the sward shall present a luxuriant and handsome appearance.

**MIXTURES for PERMANENT MEADOW and PASTURE** ... ... ... **30s. to 34s. per acre.**
**MIXTURES for RENOVATING** ... ... ... ... ... ... ... ... ... ... ... **10d. per lb.**
**MIXTURES for LAWNS and ORNAMENTAL PARKS** ... ... ... ... **1s. 3d. per lb.**

☞ *For large quantities special contracts may be made at reduced prices.*

The following **AGRICULTURAL SEEDS**, saved from selected stocks, can be supplied at the prices quoted during the current month:—

| SWEDES. Per lb.—s. d. | | MANGELS. Per lb.—s. d. | | CARROT. Per lb.—s. d. | | RYE-GRASS. Per bushel.—s. d. | | CLOVERS. Per lb. | | MISCELLANEOUS. Per lb.—s. d. | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Plymouth Improved | 1 0 | Fisher Hobbs (saved by W. Fisher Hobbs, Esq.) | 2 0 | White Belgian | 1 0 | Improved Italian Rye | 8 0 | English Red | 9d. and 10d. | Large Scotch Drumhead Cabbage | |
| Marshall's | 1 0 | Morton's Yellow Globe | 1 6 | Yellow Belgian | 1 6 | Fine imported ditto | 7 0 | Somersetshire Cow Grass, 10d. and 1s. | | Swedenburg Cabbage | |
| Skirving's | 0 9 | Elvetham Long Red | 1 0 | Long Surrey | 1 6 | Common English | 6 6 | White Dutch | 1s 0d. | Dwarf Flatpole | |
| Grant's Pine Apple | 1 0 | Long Red | 0 9 | Large Altringham | 1 6 | Evergreen Rye, or Devon Eaver | 7 0 | Trefoil | 0 5 | Kohl Rabi, green & purple | |
| Matson's | 1 0 | Yellow Globe | 0 9 | Long Orange | 1 6 | Pacey's | 6 6 | Lucerne | 1 0 | Holcus saccharatus | |

### FREIGHT AND CARRIAGE.

All Orders for Seeds above 1*l.* will be delivered free of charge to any Railway Station between Plymouth and Paddington. All Orders above 2*l.* free to any Station on the Broad Gauge Railways, or to Cork, Dublin, and Liverpool by Steamers; and to Guernsey and Jersey by Traders. All Orders above 5*l.* will be delivered free of carriage to any Railway Station in England and Wales; and to any Steam Port in England, Wales, Scotland, Ireland, Guernsey, or Jersey.

**PRICE CURRENTS and DESCRIPTIVE CATALOGUES sent post free on application.**

ADDRESS—PLYMOUTH SEED COMPANY, PLYMOUTH.

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## CHOICE FLOWERS.

# BUTLER & McCULLOCH'S SPRING CATALOGUE OF SEEDS,

ARRANGED on a new and original plan, with copious Descriptive and Cultural Notes, and containing many new and rare species and varieties not found in any other Catalogue, now ready and may be had free and post paid on application.

FLOWER, SHRUB, TREE, and VEGETABLE SEEDS, the crop of 1858, saved with the greatest care, by the most eminent growers.

We may also state that the Sardinian correspondent of Messrs. JAMES CARTER & Co., whose Seeds, especially Carnations and Picotees, have given such universal satisfaction, has transferred the Agency from that firm and appointed us his representative in this country. To meet the growing demand for first class flowers, particularly FLORISTS' FLOWERS, we have adopted our usual maxim of charging the lowest possible prices.

Professor LINDLEY in the *Gardeners' Chronicle* of February 5th, has the following notice of B. & McC.'s Catalogue.

"BUTLER & McCULLOCH'S (Covent Garden) Spring Catalogue of Choice Flower, Shrub, Tree, and Vegetable Seeds. This list fills 84 closely printed 8vo pages, and is remarkably well got up. It appears that the correspondent in Sardinia, who formerly supplied one of the great London houses with seeds raised in that warm part of Europe, has now transferred what he saves to Messrs. BUTLER & McCULLOCH. Let us add, that it yields to no Trade List in the abundance of its materials or the excellence of its arrangements."

| | | | | | |
|---|---|---|---|---|---|
| A selection of 44 pkts. of beautiful Annual Flower Seeds | | | | 7s. | 6d. |
| Ditto | 33 | ditto | ditto | 5 | 6 |
| Ditto | 21 | ditto | ditto | 3 | 6 |
| A selection of 40 pkts. of beautiful Biennial and Perennial ditto | | | | 10 | 6 |
| Ditto | 31 | ditto | ditto | 7 | 6 |
| Ditto | 24 | ditto | ditto | 5 | 6 |

An Assortment of Vegetable Seeds, 20 quarts of Peas, and other Seeds in proportion for 1 year's supply ... ... ... ... ... ... £3 8s. 0d.

| | | | | | | |
|---|---|---|---|---|---|---|
| Ditto | ditto | 12 quarts of Peas | ditto | | 2 | 2 0 |
| Ditto | ditto | 6 | ditto | ditto | 1 | 1 0 |
| Ditto | ditto | 5 | ditto | ditto | 0 | 15 0 |

All Flower Seeds sent post paid, and Vegetable or Vegetable and Flower Seeds amounting to 1*l.* 1s. Carriage Paid to any principal Railway Station in England, Wales, and Scotland, or any port on the Irish Coast.

**BUTLER & McCULLOCH, Covent Garden Market.**

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**GERMAN AND OTHER FLOWER SEEDS, VEGETABLE AGRICULTURAL SEEDS, ETC.**

MESSRS. PARKER AND WILLIAMS beg to inform their friends and patrons that their new PRICED and DESCRIPTIVE CATALOGUE in which is enumerated every novelty of proved merit, also all the best of the old kinds, is now published, and will be forwarded post free on application. Their whole stock has been selected from the best English and Foreign sources, and every kind is warranted true to name, and of the finest possible quality.—Paradise Nursery, Seven Sisters and Hornsey Roads, Holloway, London, N.

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**PREMIUM GOLD MEDAL FOR SCOTCH-GROWN SEEDS AT THE GREAT AGRICULTURAL COMPETITION AT PARIS, 1856.**

R. T. MACKINTOSH, SEEDSMAN and NURSERYMAN, Edinburgh, begs to intimate that his PRICED LIST OF AGRICULTURAL SEEDS is now ready, and may be had post free on application. R. T. M. would particularly call attention to his Scotch-grown EVERGREEN RYE-GRASS for pasture, also his TURNIP SEEDS, which for purity and excellence of quality cannot be surpassed. R. T. M's Priced Lists may be had in London of Messrs. J. R. Brown & Co., 36, Cannon Street, City, who will receive orders for R. T. M's. Seeds.

Victoria Street, George IV. Bridge, Edinburgh.

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**IMPORTANT TO FARMERS.**

**TURNIP AND MANGEL WURZEL SEEDS.**

WM. JACKSON AND CO., NURSERYMEN, SEED GROWERS, and MERCHANTS, Bedale, Yorkshire, beg to inform Agriculturists that their DESCRIPTIVE CATALOGUES for this season, with prices very moderate, are now ready, and will be forwarded on application. Farming extensively themselves they have the great advantage of proving all the kinds of Turnips and Mangels; they therefore offer only the varieties which they have found to be the best, and which are approved of by some of the most celebrated farmers of the present day.

Nearly all the Seeds are W. J. & Co.'s own growing from selected transplanted perfect roots, and the quality of the Seed having been tested in their hothouses this spring, they can recommend all of them with confidence. Early application are necessary to secure a supply.

# MEADOW AND PASTURE GRASS SEEDS.

## GEORGE GIBBS & Co., Seedsmen, 26, Down Street,

BEG to announce that their mixtures of GRASS SEEDS are now ready for delivery. These mixtures are made up expressly to suit the various soils and climates of each variety is fully tested previous to being bulked. G. G. & Co. having supplied the Seeds for *Hyde Park, St. James's, and Regent's Park, Kew Gardens, Kensington Park*, &c., for many years, feel assured no further testimonials are requisite. The Seeds are made up into two different mixtures, as they do not sow well together; 2 bushels of the light and 12 lbs. of the heavy seeds are allowed per acre.

Mr. GIBBS, giving his personal attention to the assorting of these mixtures assures his friends that every care is taken with regard to the proper proportions.

**MIXTURES FOR PERMANENT MEADOW & PASTURE** (adapted to the different soils) 32s. to 34s. per acre.
**MIXTURES FOR IMPROVING & RENOVATING OLD GRASS LAND** (6 to 12 lbs. per acre) 1s. per lb.
**MIXTURES OF THE FINEST SORTS FOR LAWNS, GRASS PLOTS, BOWLING GREENS, &c, 1s. 3d. per lb.**

SELECT STOCKS OF THE UNDERMENTIONED AGRICULTURAL SEEDS SUPPLIED AT THE PRICES STATED FOR THE PRESENT MONTH:—

| MANGEL WURZEL. | Per lb.—s. d. | CARROTS. | Per lb.—s. d. | SWEDES. | Per lb.—s. d. | RYE-GRASS | Per bushel—s. d. | CLOVERS. | Per lb.—s. d. | VARIOUS. | Per lb.—s. d. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Red .. .. | 0 9 | White Belgian .. | 1 0 | Ashcroft .. .. | 0 9 | Gibbs' Improved Italian | 7 0 | English Red .. | 9d. to 10 | Helens saccharatus .. | 2 0 |
| Long Red .. .. | 0 10 | Yellow Belgian .. | 1 3 | Skirving's .. .. | 0 9 | Dickenson's Italian .. | 7 0 | White Dutch .. | 1 d. to 1 0 | Lucerne .. .. | 1 0 |
| Globe .. .. | 0 9 | Large Altringham .. | 1 6 | Mitson's .. .. | 1 0 | Fine Imported do. . | 7 0 | Trefoil .. . | 4d. to 0 5 | Drumhead Cabbage .. | 5 0 |
| Globe .. .. | 0 9 | Long Surrey .. .. | 1 6 | Kentish Green Crown . | 1 0 | Common English.. .. | 6 0 | Alsike Hybrid .. .. | 2 6 | Large Cattle Parsnip .. | 1 6 |
| Yellow .. .. | 0 9 | James's Scarlet .. | 1 6 | Marshall's Purple Top .. | 1 0 | Passey's Perennial.. | 6s. to 7 0 | True Cow-grass.. .. | 1 0 | Kohl Rabi .. .. | 5 0 |

***Full Priced Catalogues sent free on application —Cash or reference required from unknown Correspondents.***

GEORGE GIBBS & Co., 26, Down Street, Piccadilly, London, W.

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SUTTON'S GRASS SEEDS AT THE ROYAL FARMS NEAR WINDSOR, AND IN THE ISLE OF WIGHT.

# SUTTON'S GRASS SEEDS
## FOR PERMANENT PASTURE, PARKS, AND LAWNS,

ARE NOW SOWN AT THE ROYAL FARMS, AT OSBORNE PALACE, THE ALDERSHOTT CAMP, THE CRYSTAL PALACE SYDENHAM, THE HORTICULTURAL SOCIETY'S GARDENS, THE PEOPLE'S PARK, HALIFAX, AND OF MOST OF THE LARGEST ESTATES IN THE KINGDOM.

**These Grass Seeds being mixed expressly to suit the soil for which they are required, are never known to fail**

SUTTON & SONS having for many years paid especial attention to the Laying down Land to Permanent Pastures, they are well acquainted with the various soils of most parts of the United Kingdom, and the Natural Grasses suitable for each locality.

**The following Sorts may be had separate or mixed, at lowest Market Prices:—**

| | | | | | |
|---|---|---|---|---|---|
| Alopecurus pratensis | Festuca duriuscula | Festuca tenuifolia | Lolium italicum | Poa pratensis | Phleum pratense major |
| Anthoxanthum odoratum | ,, elatior | ,, hordeformis | ,, perenne tenue | ,, trivialis | ,, ,, minor |
| Agrostis stolonifera | ,, gigantea | Glyceria fluitans | ,, ,, Pacyanum | ,, nemoralis | Petroselinum sativum |
| Avena flavescens | ,, heterophylla | ,, aquatica | ,, ,, sempervirens | ,, angustifolius | Trifolium repens |
| Avena pubescens | ,, pratensis | Holcus lanatus | Lotus corniculatus major | ,, fœtida | ,, pratense perenne |
| Cynosurus cristatus | ,, ovina | ,, avenaceus | Medicago Lupulina | ,, sempervirens | ,, minus |
| Dactylis glomerata | ,, rubra | | | | ,, hybridum |

ALSIKE and other CLOVER, and all the most suitable of the above are contained in our Mixtures. Cost of the best Mixtures for Permanent Pasture, 30s. to 34s. per acre, according to the sorts required for the land.

## Fine LAWN GRASS SEEDS for making New or Improving Old Garden Lawns,

**Price 1s. per lb., 2s. 6d. per gallon, or 20s. per bushel.**

## Improvement of Grass Lands by Sowing Good Seeds of the most Suitable Kinds.

## SUTTON'S RENOVATING GRASS SEEDS (6s. to 9s. per Acre)

Consist of the finest GRASSES and PERENNIAL CLOVERS, producing great improvement in the Pasture, and at a small expense. Quantity of Seed required, 8 to 12 lbs. per acre. Price reduced to **9d. per lb., or 30s. per cwt.** Sow in March and April.

☞ Having greatly reduced the price of our **RENOVATING MIXTURE**, we doubt not that our liberal terms will encourage the more extensive use of the same. Our Grass Seeds have for many years been allowed to be the best, and now we may add that they are the cheapest. Meadows and Upland Pastures may be increased in value 50 per cent. by sowing these Seeds. **Grass Seeds for Laying down Permanent Pasture, 30s. to 34s. per acre.** Seeds Carriage Free to all parts, except small parcels. Catalogues post free.

## SUTTON & SONS, Royal Berkshire Seed Establishment, Reading.

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**PRIZE MANGEL WURZEL, SWEDE TURNIPS, ETC.**

JAMES GROVE, Great Baddow, Essex, who obtained Prizes at the Chelmsford and Essex Agricultural Shows for many years in succession, begs to state that his Seeds are grown from selected Roots—not Plants.

Long Red, Red Globe and Yellow Globe Mangel .. 1s. 3d. per lb.
Purple Top and Skirving's Swedes .. 0s. 9d. per pint.

Reference or cash required from unknown correspondents.

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**MANGEL SEED FROM LARGE BULBS.**

SUTTON'S YELLOW GLOBE MANGEL is saved exclusively from fully developed roots, the advantages of which have been proved for several years past.

See the following Letters:—

*From the* Right Hon. Lord BERWICK, *Cronkhill, Dec. 23.*—"Let me have the same Globe Mangel as last year, which has given me the best crop I ever grew, good both as to bulk of crop, and also in the fineness of roots, and freedom from fangs and irregular growth. When pulled the roots were nearly as clean and as free from fibre as a Globe Turnip, and I had 50 tons per acre or more."

*From* Mr GRAY, Bailiff to G. Rawlins, Esq., *Ballington House.*—"I believe we had one of the finest lots of Mangels and Swedes in the country. We had not quite enough of your seed of Mangel, and sent elsewhere for some to finish the field, and though sown the same day, and with exactly similar treatment, we had not so much weight by one-third as on the part sown with your seed."

The First Prizes at Birmingham and other shows throughout the kingdom have been taken by Messrs. SUTTON'S customers both for Mangel and for their "Champion" Swede. The price of SUTTON'S Large Yellow Globe Mangel Wurzel is 9d. per lb., or 1ls. per cwt.

Priced Lists of other kinds of Mangel, Swedes, Turnips, Grasses, &c., will be sent gratis and post free.

Carriage free to all parts except small parcels.

SUTTON & SONS, Royal Berks Seed Establishment, Reading.

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**TO THE TRADE.**

TO BE SOLD, 200 bushels of GREEN-TOP YELLOW SWEDE SEED, 100 bushels of LIVERPOOL SWEDE Ditto, 60 bushels of DALE'S HYBRID, grown from first-rate stock, warranted to grow well, and free from adulteration. Terms on application.—Address A. B., care Castle and Lamb, 7, Bull Head Court, Newgate Street, London.

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**"JACK OF NEWBURY" SWEDE, ETC.**

PETER LAWSON AND SON, THE QUEEN'S SEEDSMEN, &c., 27, Great George Street, Westminster, respectfully request attention to their very genuine Stock of the above excellent Swede; also of the LOTHIAN PURPLE-TOP SWEDE, both of which have been selected with the greatest care. They have also a very fine Stock of the KOHL RABI, or TURNIP-ROOTED CABBAGE, specimens of which were shown at their Stands at Smithfield Club Show. The Kohl Rabi was largely grown last season, and may now be relied on as a substitute for the Turnip and Mangel, where these roots do not succeed, or for filling up blanks where there is a partial failure. Its feeding qualities, hardiness, and weight per acre are equal to the Swede, and all kinds of stock prefer it to other roots.

P. L. & Son have also selected a first-rate Stock of MANGEL WURZEL SEED, which they can confidently recommend. Their natural GRASS SEEDS have been also saved with very great care, and they are ready to supply them separately or in mixture, for laying down Permanent Pastures, Lawns, &c.

P. L. & Son have arranged to deliver Seeds free throughout England and Wales from their London Establishment, for all quantities exceeding 20s. in value.

LISTS OF PRICES of the above and all other Seeds, Plants, &c., may be had on application.

27, Great George Street, Westminster.

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**TO THE TRADE.**

LONG RED MANGEL WURZEL, 26s. per cwt., saved from selected bulbs.

VICTORIA MARROW PEAS, 65s. per quarter. The above prices are for cash.

MAXFIELD HONEY, 71, Bank Street, Maidstone.

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# The Gardeners' Chronicle.

*SATURDAY, MARCH 19, 1859.*

THAT the LONDON MARKET for fruit and vegetables has now become largely supplied with French produce is well known, a fact which concerns English growers in no small degree. For the warm and early springs of the southern provinces of that country naturally offer advantages without cost which it is impossible for us to gain without expensive artificial means. France and England are therefore so placed that all the advantage is on the side of France, except the cost of sending produce to market, which railways have reduced so low that it has ceased to be important for such high-priced articles as forced vegetables. While we about London are shivering in the months of February and March, piling up fuel on the fires of our hothouses, and whelming long litter over the out-of-door crops, our friends at Marseilles have the climate of a mild English April, and at Bor-

deaux, Tarascon, and similar places are in the enjoyment of the warmth of our May. As for Algiers, now also feeding our markets through the steam-boats, January there is like our early May, February represents the end of that month, and as for March, our worst month, it is as good at Algiers as the June of London.

The commercial arrangements for the importation of French garden produce have hitherto indeed been rather slow, as all such branches of small trade must necessarily be, especially where perishable goods are the subject of traffic. But they are increasing fast, and there is no doubt that we shall be some day driven out of our own markets for all forced articles that will bear carriage. The French are quite alive to this, and their journals are pointing out what crops will pay in the south for sale in the north. Nor is this a danger which threatens English cultivators alone. Paris will feel it like ourselves, and the time cannot be distant when the little market gardeners there will cease to find their spring trade remunerative in the face of the supplies certain to pour in from Lyons, Marseilles, Avignon, Bordeaux, and other great seats of intelligent industry.

The French Asparagus, Salads, Apricots, Cherries, Artichokes, Tomatoes, and similar articles that already feed Covent Garden are merely the heralds of what is coming. In the department of Gers, a district due west of Toulouse, preparations are making for a trade with the north; and a few details, explaining the seasons of out-of-door crops, published by M. DUMAS, the superintendent of the model farm (*Farme-école*) of Bazin in that country, show plainly enough what may be expected from Gers alone. In the first place, at the end of March or beginning of April, winter Cabbages, Lettuces, and the great market Cos Lettuce can already be furnished in abundance; and these articles can only be had in Paris when forced, in consequence of which they fetch a higher price. From the end of May Carrots, both short and long, are to be had in enormous quantity. Early Melons are ready by the 18th or 20th May at the latest; were a steady demand established they might be had in thousands. By June Tomatoes are ripe; in the beginning of August Brinjals (*Aubergines*) are ready; this excellent tropical vegetable it is true finds no favour here, because our ill-taught cooks can make nothing of it; but it serves to show what sort of climate is within railway reach from London.

We do not pretend to offer market gardeners advice on this subject. They are shrewd enough to watch their own interests. It is enough to furnish them with intelligence about what is going on beyond their sphere of observation. We may however add that the foreign difficulty cannot be met by shifting the scene of cultivation, for although mild places may be found, or we should rather say have been found, in the south-west of England and in Ireland, yet it is to be feared that the want of sunshine will be fatal to attempts at rivalling the produce yielded by the warm soil and bright skies on the south.

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MR. RIVERS says that it is 20 years since he communicated to the Horticultural Society his ideas about Root-pruning Pear Trees. Certainly it is a long time ago; but we remember it well. Especially do we recollect the reception his new idea met with; how it was poohpoohed by some of the "great guns" of the day, and ridiculed by some of the "little" ones; how amateurs, whose common sense was their chief horticultural stock in trade, caught eagerly at the idea; and how the really intelligent gardeners, seeing the sound foundation on which Mr. RIVERS's proposal rested, immediately proceeded to test his representations experimentally. Like ground temperature and atmospheric moisture it was treated as the crotchet of an enthusiast, and by the ignorant handed over to the limbo of useless ideas; but like ground temperature and a damp atmosphere it has borne all the tests which experiment has been able to apply, and now stands securely among the fundamental maxims of rational horticulture.

And see to what root-pruning and the increase of ground temperature have led; to what priceless results in the cold clay lands of England, to what a revolution in the very framework of a garden every where. Only 20 years ago half the gardening world believed that walls were so indispensable to fruit growing that no good table Pears could be had without them unless men were contented with Jargonelles, and Swan's Eggs, and Autumn Bergamots, and rugged Chaumontels. Not to have tall walls was to consent to a heavy annual tax in the shape of a fruiterer's bill. So, gardens were surrounded with screens of brick work to the exclusion of the sun and wind, without which crops of the highest excellence are unattainable anywhere. How greatly this is changed may be seen by any one who will stroll into the well-kept garden of an amateur of the present day. The magnates of the land indeed have not pulled down their walls, but the middle class thinks twice before it builds them, beyond what the exigencies of our northern climate imperatively demand for the natives of sunnier days than our own.

When such fruit trees as the Pear are trained to walls they are forced into bearing by cramping their branches. When the roots are cramped the same effect is obtained without the aid of walls. All that a wall can do beyond thus operating on the branches is to give a better climate; but a better climate is gained to little or no useful extent unless the wall faces the south, or looks southerly; and walls of that kind are wanted for tender fruits, to the necessary exclusion of the hardy Pear tree. Moreover closely clipped fences do just as well—or better than walls, except for Peaches and Nectarines. It is no wonder then that the system of so cultivating fruit trees like the Pear as to render walls unnecessary should be studied with such eagerness as to have already carried Mr. RIVERS's little book of instructions into the eighth edition*, which is now before us, and which we again most strongly recommend to all who take a personal interest in the management of their garden. In great places indeed, where everything is on a costly plan, it may not be required; but even in such establishments as those it may be found to give advice or offer suggestions that the most experienced gardener will turn to his advantage, provided he is not eaten up alive by prejudice.

One of the devices which Mr. RIVERS recommends is the employment of *half* Pyramid Pear trees—we say Pears, Apples, Plums, and Apricots—well root-pruned and planted against any sort of close fence in a warm aspect. Nails and shreds and all the misery of hammering at a dead wall in frosty weather, wasting health, time, and materials, are saved. "This method offers a strong contrast to espaliers on Pear stocks, planted in the usual manner, 24 feet apart, and trained horizontally; nearly five trees for one will give so many additional chances to the Pear cultivator; the single tree may fail, or its fruit may become imperfect, owing to an adverse season; but out of his five trees, he will, in every season, stand a good chance of having *some* good Pears. A few words will suffice for their management; summer pinching and root-pruning or biennial removal—like Dr. SANGRADO'S bleeding and warm water—will do all."

We can hardly, as yet, appreciate the advantage of growing fruit trees thus: but we venture to predict that, in a few years, it will have become the universal practice, except in the case of the Peach and Nectarine. Should any one who reads these remarks desire to judge for himself of what may be done in the manner proposed, let him take some common young espalier, and moderately root-prune it in the beginning of next August; in the winter let him cut away all the wood from one side, and then transplant it to the face of a fence, or a wall if he happens to have one, leaving the tree unpruned, unless the shoots are long and wiry, when they must be shortened. Provided he afterwards manages well he will find himself in a year or two in possession of a fruit *bush*, bearing abundantly without trouble, and with fruit by no means inferior in flavour to what his previous practice had procured, or probably better; it may not be so large, but that will depend upon the amount of thinning. "In some few favoured districts, fruit trees without any extra care in planting and after management, will bear good crops, and remain healthy for many years. It is not so in gardens with unfavourable soils; and they are greatly in the majority. It is to those possessing such, and more particularly to the possessors of small gardens, that the directions here given may prove of value. The object constantly had in view is to make fruit trees healthy and fruitful by keeping their roots near the surface. The root-pruning and biennial removal so earnestly recommended are the proper means to bring about these results, as they place the roots within the influence of the sun and air. *The ground over the roots of garden trees as generally cultivated is dug once or twice a year, so that every surface-fibre is destroyed and the larger roots driven downwards; they, consequently, imbibe crude watery sap, which leads to much apparent luxuriance in the trees.* This in the end is fatal to their well-doing, for the vigorous shoots made annually are seldom or never ripened sufficiently to form blossom-buds. [illegible] then comes on, and although the trees do [illegible] they rarely give fruit, and in a few years [illegible] victims of bad culture, existing in a sort [illegible] death." The effects of such a system, or at least [illegible] system that in time must necessarily grow [illegible] Mr. RIVERS's maxims, will not as yet be felt [illegible] time and experience, and the many mistakes [illegible] follow in the train of all experimental gardening [illegible] can alone reduce it to a course of routine. In the meanwhile, for the guidance of those who wish to move forwards, we extract his own account of what put him upon the road he now so strongly recommends to others because he finds it so successful with himself.

"I strongly advocate the culture of pyramidal fruit trees. This is no new idea with me. I have paid many visits to the continental gardens during the greater portion of my active life of business, and have always admired their pyramidal trees when well managed, and I have for many years cultivated them for my amusement; but, owing to a seeming prejudice against them among some English gardeners, I was for some time determined from recommending them, for I thought that men older than myself must know better; and when I heard some of our market-gardeners and large fruit-growers in the neighbourhood of London scoff at Pears grafted on the Quince stock, as giving fruit of very inferior flavour, I concluded, like an Englishman, that the foreigners were very ignorant, and very far behind us in the culture of fruit trees. It was only by repeated visits to foreign gardens that this prejudice was dispelled; and when I saw the beautiful Pear trees in the Jardin des Plantes at Paris, under the management of Monsieur CAPPE, alluded to in *Gardeners' Chronicle*, No. 28, 1847, I felt convinced that we are very far behind our neighbours in the management of fruit trees adapted to the open borders of our gardens. I have, therefore, endeavoured to make the culture of pyramidal trees easy to the uninitiated; and having profited largely by experience in attending to it with my own hands, I trust that my readers will benefit by the result."

* "The Miniature Fruit Garden; or the Culture of Pyramidal and Bush Fruit Trees; with Instructions for Root-Pruning, &c." By THOMAS RIVERS, of the Nurseries, Sawbridgeworth, Herts. Eighth Edition. London: LONGMAN, BROWN, GREEN, & LONGMANS.

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IT is rumoured that measures are in contemplation by the Council of the HORTICULTURAL SOCIETY for immediately appointing a superintendent to manage the Garden at Chiswick as a strictly experimental establishment, and to take charge of the Exhibitions in London. We presume that some official notice of this may be expected in a few days.

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## New Plants.

214. HIBISCUS RADIATUS: flore purpureo.

The *Hibiscus radiatus*, of which the ordinary state is to have sulphur-coloured petals, was first described and figured by Cavanilles in 1780, from plants of which the seeds were sent by Sir Joseph Banks to that distinguished Spanish botanist; but Cavanilles does not state from what country they were received, or where a native. Willdenow gives no locality. Aiton, in his second edition of "Hortus Kewensis," speaks of it as an East Indian species; but Roxburgh seems only to have known it in gardens, observing, "Native place unknown. Common in gardens about Calcutta, where it blossoms during the cold season." Wight and Arnott also, in their "Flora of the Peninsula of India," give no locality, quoting Roxburgh's statement on this subject, and adding, "In Dr. Arnott's herbarium is a specimen from Jamaica." So that some have been led to suppose it was a West Indian plant; and certain it is we have received specimens from Jamaica, but without any special locality; and of late Mr. Wilson, the intelligent superintendent of the late Botanic Garden at Bath, in that island (I say *late*, an awful flood having recently overwhelmed the garden with an avalanche of stones) has sent to us seeds of three varieties, all beautiful, and all distinguished by the colour of the flowers. One is the sulphur-coloured flower above alluded to; the second is the one we figure here, of a fine rose purple, and a third is a full blood purple; but in each of the two last-mentioned kinds the base of the petals is of a still deeper purple tinge, forming an eye-like spot in the centre of the entire flower. The three sorts bloom copiously in the stove, and bear a succession of flowers in the summer months. We are still in ignorance as to whether this species is aboriginal in Jamaica. Certain it is that we do not find it anywhere recorded as a native of the West Indian Islands, nor even noticed in any of the Floras of that quarter of the globe.—*Bot. Mag. t.* 5098. [A beautiful figure of a beautiful shrub.]

215. LÆLIA PRÆSTANS. *Rchb. f.*

This superb plant has just blossomed with Mr. Day of Tottenham. A flower now before us is of one hue of rose, with the exception of the trumpet-shaped lip, which is rich brilliant purple. It measures 4 inches from tip to tip of its petals. Mr. Day states that having been open for a fortnight it has very much faded: what then must it have been when fresh? It was purchased

[illegible] of Stevens's sales among some Cattleya marginata imported from Brazil.

Prof. Reichenbach first described it in the Berlin *Allgemeine Gartenzeitung* for Oct. 11, 1847.

## PLANS

### FOR VILLA AND SUBURBAN GARDENS.

Preparatory.—There are frequent inquiries in the *Gardeners' Chronicle* for garden plans, the inquirers being for the most part owners or occupiers of grounds of limited extent, who do not contemplate any very elaborate arrangements. To such will this series be more especially addressed.

The plans will be all original, and chiefly, if not wholly, selected or adapted from such as have been designed by me and executed under my direction in various parts of the country; for although a design prepared expressly for any given locality can rarely be adopted wholly in another, any arrangement that has been found suitable in one situation will always be usefully and practically suggestive in a similar one.

Plate 1.—The grounds for which this design was prepared form a narrow strip bounded on each side by others of a similar character; at one end by a public road, and on the other by a deep cutting of the South-Western Railway. The residence fronts the road; the surface about it is perfectly flat, and there are no views beyond the grounds to be taken into consideration. The principal apartments and offices may be thus referred to. The entrance door is at 1, 2 the drawing-room, 3 a small conservatory opening into the dining-room 4. At 5 is a range of plant houses, 6 is the kitchen court, 7 the stables, and 8 the stable-yard. The kitchen garden is at 9, extending back to the railway cutting. The residence has no private window open to the carriage ring; a valuable, but unfortunately, rare arrangement in a house of this kind.

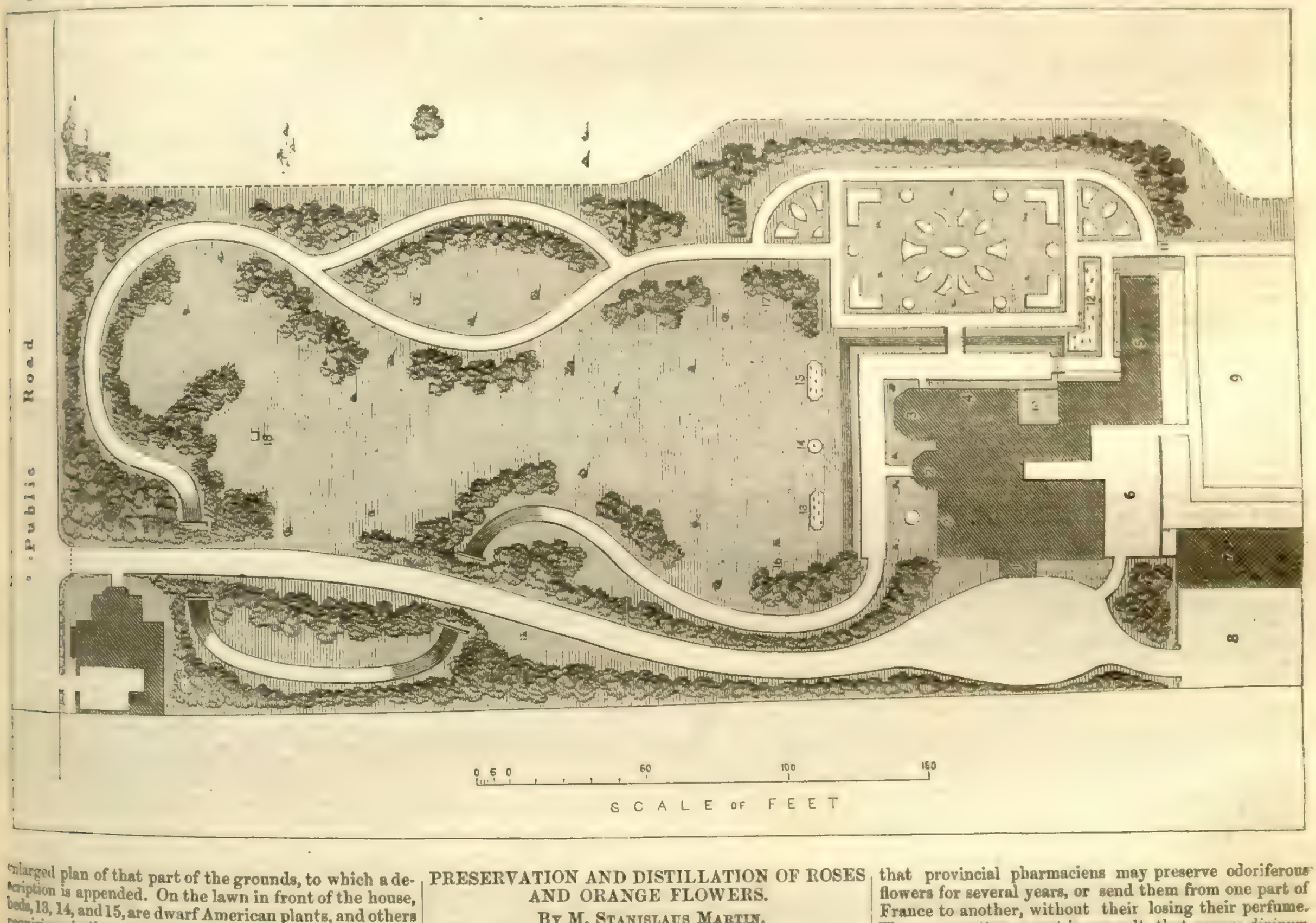
When I made my preliminary visit to the place the residence, stables, and plant-houses were built, the entrance gate erected, and the carriage road formed in a direct line parallel with the front door. In that situation it of course seriously interfered with the arrangement of the lawn in front of the drawing-room windows. I therefore obtained permission to alter the line near the house as much as the confined space would allow. By careful management the road is now effectually screened from the front windows, and the garden in their immediate neighbourhood rendered, as should always be the case, private and isolated from the approach, especially as in this instance, where no back road could be obtained.

The house is surrounded by a broad gravel walk upon a terrace about 2 feet 6 inches high. Stone steps lead down to the flower garden, and also to the plant houses. Passing round the end of these is a walk to the kitchen garden under an archway 11 covered with Roses. It is intended ultimately to connect this walk with the railway bank, which, being of considerable extent, very irregular in surface, and clothed with characteristic vegetation, is susceptible of forming a very picturesque and pleasing addition to the garden.

At the end of the terrace nearest the approach road the walk gradually slopes away, the difference of level being hidden by shrubs. The main walk, it will be observed, is represented as passing twice beneath the carriage road. As the latter very much interferes with the privacy of the garden, I suggested that arrangement to increase the apparent extent of the place, as well as to make it more private in reality. As the peculiar character of the locality and facilities for drainage left nothing to fear from an accumulation of water, the expedient recommended itself the more readily. The bank on either side of the walk through the cutting afforded an admirable situation for root and rockwork. As such interludes in a garden should as a rule always be isolated from the general scenery, no better position could possibly be suggested.

The plant houses having a brick basement about 3 feet high, a narrow border runs along the front and one end for creepers. The space between the walk at the angle of the flower garden, and the one in front of the plant houses, is filled by a bed of low evergreens (12). The recess (10) having windows looking upon the garden which it was desirable to conceal, is screened by a trellis covered with creepers.

The flower garden or parterre is partly surrounded by an arcade of Roses. Plate 2, to be given next, is an




enlarged plan of that part of the grounds, to which a description is appended. On the lawn in front of the house, beds 13, 14, and 15, are dwarf American plants, and others requiring similar soil; 16 and 17 are hybrid Rhododendrons. The specimen plants are chiefly Conifers. Among them are Abies Pinsapo, cephalonica, and Menziesii, all compact, neat growing species, suitable for the lawns of small gardens, the first named especially. There are also two Araucarias, and of course a Deodar, a Chinese Juniper, Libocedrus chilensis, and two or three Rhododendrons.*

At 18 is a site for a vase or similar ornament of good design. If a vase, not for flowers; but to be seen in its own pure outline against the back ground of evergreens.

It was the wish of the proprietor that a strip of paddock should be preserved the whole length of the grounds. No walk passes round it; but its surface is blended with that of the garden as seen from various points of view, to give as much apparent extent as possible. For local reasons, however, it is closed from the garden immediately opposite the house.

At the entrance-gate a lodge is proposed as a residence for the gardener. The gate being at a considerable distance from the house in some degree justifies that appendage in such limited grounds. *George Lovell, Landscape Gardener, Bagshot.*

*(To be continued occasionally.)*

* As a constant repetition of the names of the principal shrubs and trees employed in each of the plans would be tedious and in a great measure useless, I propose to give at the end of the present series classified lists, from which selections may be made for particular purposes.

## PRESERVATION AND DISTILLATION OF ROSES AND ORANGE FLOWERS.

By M. Stanislaus Martin.

The ancient Greeks and Romans, surfeited with the excesses of the table, had recourse to perfumes to stimulate their blunted senses. At Rome, the odour of the Rose was in such request, that Lucullus expended fabulous sums, in order to be able to have it at all seasons. During the past century, the odour of Orange flowers was so much in vogue, that the cultivation of Louis the Fourteenth's Orange trees was a source of considerable expense, for the great king would have one of these favourite shrubs in each of his apartments. In our days too, Fashion, that despotic and capricious queen, who, as Montaigne says, twists and turns the understanding of the French, also demands perfumes. The poor will have them, as well as the rich: and their consumption is such, that the perfumers of large cities, particularly those of Paris, monopolise all the sweet flowers which are brought to market, and leave none to supply the wants of pharmacy; the consequence is, that the commercial value of such flowers almost always attains to a very high price Roses are sold for from 50 to 60 francs the hundredweight; the same quantity of Orange flowers brings from 250 to 300 francs; so that the pharmaciens are obliged to purchase in the south of France distilled waters, which never possess the sweetness of perfume presented by those manufactured in Paris.

I am certain that this inconvenience may be obviated. Five years of trial and experiment have proved to me that provincial pharmaciens may preserve odoriferous flowers for several years, or send them from one part of France to another, without their losing their perfume. The preservative agent is sea-salt, that *corpus divinum* of Homer and Plato.

The Hebrews were acquainted with the antiseptic properties of common salt; they employed it in the preservation of their meats. This substance likewise played an important part in the sacrifices of paganism; it was thrown on the flesh of the victims, to retard their putrefaction.

In the Middle Ages, the alchemists said, *cum sole et sale omnia fiunt.* It was surely this thought that suggested to Wilhelmbulkels the idea of making use of chloride of sodium in the curing of fish. The plan succeeded so well with him that Charles the Fifth, being in the Low Countries, went to Bier-Vliet to see the tomb of the humble fisherman, wishing thereby to honour the memory of one who had rendered so great a service to his country.

The use of kitchen salt has already been applied to the preservation of medicinal plants. Trouvain in his "Apothicaire Charitable," Baumé, Morlot, Lemery, Guibourt, and several other pharmacologists, speak of it—only the directions have been forgotten. However it would be rendering an immense benefit to revive the plan, particularly as the mode of operating is very simple. It is sufficient to arrange the Rose leaves or Orange flowers in vessels of stone ware or glass, interposing a stratum of salt between each layer of flowers until the vessel is quite full. Care must be taken to choose the driest flowers, and to avoid bruising them;

otherwise they would ferment, and the water obtained from them would acidify and would in time acquire a smell of valerianic acid, as M. Omar Dabat has observed.

Waters obtained from salted vegetable matters have an aroma as strong and as sweet as those distilled from plants gathered only a few hours previously; that from the Rose appears to acquire even greater strength. I have kept petals of the Rose for two years; the distilled water yielded by them resembling the Indian attar, or the Athenian essence of Roses spoken of by the Jesuit Rapin.

Salt, which has served for the preservation of undried plants, may be used for fresh distillations; it is sufficient to subject the decoction to strong expression, to evaporate the fluid to a suitable consistence, and to allow it to crystallise by rest. *Pharmaceutical Journal.*

## Home Correspondence.

*Bark of Trees and Deer.*—Can you tell me what makes the bark of the Beech distasteful to deer? A large quantity of timber, felled during the winter, is lying in the park here; and both red and fallow deer have fed zealously on the bark—that is, on some of it. The bark of the Oak, as one would expect, was not approved of. Of that of the Spanish Chesnut the deer nibbled only a little of the smoothest portions. Elm and Lime bark they liked pretty well; but from the Ash trunks they gnawed off a perfect feast. Even the roughest bark is entirely stript from these last wherever the deer could get at it. Meanwhile the Beech stems are all but untouched. Here and there, indeed, there is a toothmark or two; but made, I fancy, by some buck of an enterprising and inquiring turn of mind just by way of experiment. It cannot be tannin that makes this kind of bark disagreeable to the deer, because Elm bark (after Oak) abounds most in that ingredient, if I am not mistaken; and Elm bark they eat. What then is the reason? Another thing that surprises me is that the bark of the Spanish Chesnut is so little gnawed, for in the forest of Marly-le-Roi, near Paris, I have seen many young Chesnuts with several feet of their trunks stript of bark by the deer. *H. J. Moule, Wentworth-Woodhouse, March* 12.

*Cheap Thermometers.*—Some time ago you called the attention of gardeners to a new form of thermometer, which it was then thought would supersede the ordinary kinds for garden purposes. I tried two of these thermometers, and I found them so very incorrect (probably in consequence of being made of metal) that they were wholly useless. The common kinds of garden thermometers are so carelessly made that they are not much better, no two of them agreeing at all temperatures, therefore to purchase such as can be depended upon amounts to rather a serious sum in gardens where a dozen or more are required. This instrument is so indispensable, and the want of a cheap and correct one is so much felt by gardeners, that I am sure it would pay any philosophical instrument maker to manufacture such an article. For pits and frames the scale need not have a great range—say from 20° to 120°—and a length of 9 or 10 inches would allow the degrees or divisions to be set wider apart than they usually are, so that the temperature might be accurately and readily read by candle-light. As no ornamental work is wanted, I should think that such thermometers might be profitably sold at 2*s.* 6*d.* each. *J. B. W.*

*Chichester Elm.*—As encouragement to plant and properly prune this sort of tree, I have to state that in the year 1834, I planted one of them the size of a walking stick; but for alteration of a road I was obliged to cut it down this winter. It measured 72 feet long, had 41 cubic feet in it, and the timber on the saw pit proves of excellent quality. *W. Mason, Necton, Norfolk.*

*Hybridising Gladioli, &c.*—I shall very soon have Gladiolus namaquensis in bloom. As it is not common, I should be glad to know whether by any possibility I could preserve the pollen (and for how long) for the purpose of hybridising the later varieties of Gladioli. Would it cross with Ixia, Tritonia, or Sparaxis? [Possibly.] There is a difficulty in keeping Pelargoniums in bloom for any length of time. It is recommended to exclude flies and bees from the house, but this is almost impossible. Would it not be equally effectual to cut off the top of the pistil? [Probably.] *A. R., Bromley.* [There is no means of keeping pollen alive, except putting it in a dry place. Under such circumstances it will sometimes keep for a few weeks.]

*Hybrid Tropæolums.*—In your 33d Number of last year's volume, Mr. Pettigrew says of the new climbing Tropæolums, "we are trying several varieties as out-door plants, and shall cross them with the old Canary Creeper." Are we to understand from this that the varieties of T. Lobbianum at present known are unsuited to out-door culture? The seed lists describe them as half hardy; and, on their authority, I am depending upon some of the Tropæolums for open air climbers. *H. W. E.*

*New Leek.*—I observe in your advertising columns mention made of a Hybrid Leek. I am a large consumer of this vegetable, as are also most of my friends and relations. We are all anxious to know something of the history of this new variety—as for instance what its parents were, male and female? Will the raiser therefore kindly give us this information? *Taffy.*

*Flax Seed.*—Can you oblige me by naming the enclosed seed? I have not seen the plant from which it was gathered; but it was grown in a field of Flax, from which it was separated, and the produce is nearly 70 bushels. My friend, who gave me the sample, is wishful to know its properties, and if likely to be of any value. He says that the plant is of dwarf habit, and the ends of the shoots twine round the stems of the Flax; the seed is produced in small round pods. I think myself that it must be some variety of "Dodder." Is the seed of this plant of any value? *C.* [You are right. It is the seed of the Flax Dodder, and a pleasant neighbour you have gained! If you soak the seed in water you will be able to pick out the young viper-like embryo, which lies coiled up ready to dart into life at the earliest opportunity. The seeds are of no known use; formerly they were thought to be purgative. We advise you to kill them.]

*Fruit Tree Blight.*—I have been troubled with a kind of blight for several years; it seems to attack all sorts of trees, Peaches, Apricots, Plums, Pears, and Apples without distinction. I first observed it on the Apricot, the leaves of which assumed an appearance as if struck by a shower of red hot hail. I paid little attention to it the first year thinking it some weather accident of only a year's duration, but the following season most of the fruit spurs died; the young wood was sickly and very weak, some of it not thicker than thread, and none of it 3 inches in length; the consequence was I could get no fruit. I examined the old wood and found about the place where the tree had been grafted a rather thick dead bark, which I removed, and continued the process up the thick branches. The following season the trees on which I had practised assumed a healthier appearance. I renewed the processes, and with still more success; and at this period the trees, which were most peeled of the outer hard dead bark, have the largest amount of blossom on them, the latter being also stronger and healthier than where the bark was not so much cleaned off. This season I am going over all the trees in the garden, the standard as well as the wall trees, and in doing so I find many of them as if they were tied up in a piece of hard, dry matting. On removing this I find the inner bark marked with indentations in many places. I can compare it with nothing else than the effects of small-pox. It strikes me that the disease I am describing is very like Capnodium elongatum, and, if so, I would advise the writer of the article on that subject to watch his trees, see if the fruit spurs begin to die, the young wood gets weak and often dead at the points, and the trees showing symptoms of giving up bearing fruit. If so, he had better follow my example. I may mention the case of a Jargonelle, which I acted upon in the way described last winter; on looking over it I saw that the bark had burst longitudinally in various places up the main stem, it being a horizontally-trained tree. This was no doubt owing to the free communication from the root upwards, which hitherto had been retarded. The fruit on it was of an extra size and quality for the Jargonelle. *Peter Loney, Gardener at Fingask Castle, by Errol, Perthshire, N.B.*

*Abutilon insigne.*—I have bloomed this in a stove. I planted out a good strong plant of it in a bed of fibrous loam and leaf-mould last spring. It is now 10 feet high, and would have been much higher had it not been cut back, and it covers a space of 12 feet wide. It is trained near the glass. It began to bloom in September, and there have never been less than 50 large flowers open on it every day. This day I counted no fewer than 60, and there is a large quantity of seed pods on it. The leaves are very handsome, some of them as much as a foot long, and nearly as much in width. It has been well supplied with rain water, and has occasionally received a good soaking of weak liquid manure. This treatment suits it admirably. It likes plenty of good soil, plenty of space and light, with free application of rain water. When grown freely red spider does not attack it nearly so much as it would a starved plant. *W. Haward, Gr. to W. P. Milner, Esq., Dykes Hall, Wadsley, near Sheffield.*

*Cats.*—Your correspondent can only get rid of these by destroying them; an iron spring vermin trap, such as gamekeepers use for rabbits, is the best remedy. A hole should be cut in the ground the size of the trap, so that it may lie somewhat under the level of the surface soil; lay three or four thin leaves, such as those of Dock, over the plate and jaws of the trap, and sprinkle some fine mould over all so as to keep the whole out of sight. If this can be placed in their runs so much the better; if not, a small bird or the fresh paunch of a rabbit hung upon a stick about 2 feet above the trap will answer the purpose of a bait. It is however not fair, I may add, to use Valerian, as it affords a decoy for pet cats of the neighbourhood. *Oudeis.*

*Puff-balls as Food.*—The following extract is from the Rev. S. W. King's "Alpine Tour," and may be acceptable to some of your readers as a culinary wrinkle:—"Few persons are aware what a good delicately-flavoured, as well as wholesome dish, they neglect in the common Puff-ball. The large ones, taken in the fresh growing state and cut into slices and fried, as Badham recommends ('Esculent Funguses of England'), in egg and bread-crumbs, have the flavour of a rich, light omelette. It is most digestible food, and the timid need have no apprehension whatever as to its being the right kind or not, as all the fungi of the Lycoperdon class, which are of a spherical form and have no stalk, are perfectly innocuous."

*Gas Heating.*—Last spring I had a very small greenhouse built at the upper part of the house—where a stove was not admissible—I was therefore obliged to employ gas, and after several alterations, have now an apparatus which answers so well that I think some of your readers may be glad to know of it. It consists of a galvanised iron rectangular trough, 14 inches wide, and 10 inches deep; the bottom is a diaphragm, or false bottom; between the two is filled with water through which runs a 2-inch copper pipe forming the circuit to the burner. The space above is filled with [illegible] forms an admirable hotbed or forcing [illegible] cuttings, &c. A single fishtail burner (turned two-thirds in mild weather) is sufficient to keep the water at about 110° or rather higher, and the [illegible] kept plunged about 2 inches into the sand [illegible] steadily at 80°. The burner is inside the [illegible] and I have found no injury to occur from the slight escape of gas or fumes, but it might be contrived so as to be on the outside. *P. [illegible] Guildford.*

*Grafting Vines.*—I am glad to see attention [illegible] to this subject. It is not only desirable where a substitution of sorts is wished for, but also for growing weaker sorts on such stocks as the Syrian. We should then have Frontignan and other small Grapes with bunches and berries as large as Hamburghs. I [illegible] that the time will come when grafted Vines will be as much in request as worked fruit trees of other kinds, and if the sorts are properly chosen who can [illegible] its importance? *J. Sheppard, Woolverstone Park.*

*Fish.*—Would it not be desirable to endeavour to propagate fish in tanks or docks near the sea, or rivers, including varieties from America, Canada, the Cape, and other places at present unknown in this country, except in books or museums; and to bring various kinds to this country packed in ice or [illegible] and preserved by other processes now in use? At Hastings and many parts of the coast, fish have been extremely scarce lately; and as the limited Fishery system gives opportunities for opening new sources of occupation, the rearing fish in nurseries in this country and the obtaining new varieties as articles of food and a source of commerce, would appear desirable, fish being esteemed healthy and palatable food. *G. W.*

## Societies.

SOUTH METROPOLITAN CHRYSANTHEMUM.—A second general meeting of this Society was held on Monday evening last, March 14, Mr. Mills in the chair. Mr. Morgan, gardener, Lincoln's Inn Fields, introduced the subject of discussion. He said that to show that he was not unmindful of the welfare of working men he begged to give them a little information concerning the growth of the Chrysanthemum as a standard. He stated that the idea originated with him of having a quantity planted out for the purpose of taking up to pot, and that his attention was directed to a plant of Cedo Nulli which had a fine large head upon a single stem, [illegible] what about 17 or 18 inches high. He took it up, potted it, and the shoots being tied down it formed a very compact top, producing about 60 or 70 good blooms. This took place in August. Believing that he could materially improve upon this in the following November he took off a lot of cuttings, taking the eyes carefully out, and potted them singly in a cold frame until April. He then prepared a piece of ground by digging fully two spades deep, supplying a quantity of stone and brick rubbish to the bottom, and covering the whole over to the depth of 2 feet—the compost used being a mixture of loam, road sweepings, and a small quantity of sand; then planting out 2 feet asunder. As they grew he took the eyes out as soon as they appeared, letting the leaves remain upon the stem from the bottom, watering the foliage generally twice every day, and the roots as often as in his opinion they required it. By the middle of June they were nearly 3 feet high, and the nature of the plant being to branch at a certain height, care must be taken to secure eyes sufficient to send out shoots to form the head before it does. He informed the meeting that he left from five to six of the above, then carefully taking off the top of his plants the shoots soon made their appearance, and when about 5 or 6 inches long were stopped; and that he then commenced forming the head by placing a little [illegible] matting round the stem, bringing down the shoots. This process was practised—namely, stopping and tying—till the end of July, when he began to study the best means of getting them into pots. He took his spade, cut straight down about half-way round the plant a little less than the size of the pot intended for its reception, keeping it well watered. In about nine or ten days after he cut round the part remaining, taking it up, carefully potting, and abstaining from injuring the roots. It was kept in the shade for a few days, when judging that it was going on well, he took off all the foliage from the stem, and removed it to a brighter aspect, still regularly watering and attending, and watching, and supplying liquid manure twice a day. By management such as this he had plants 3 feet high, with heads perfectly flat 5 feet in circumference, with 50 shoots full of buds, and handsome green foliage. He then gave a list of some of the best sorts for growing as standards, among which may be mentioned Cedo Nulli, Model, Bob, Mustapha, Helène, Drin Drin, General Canrobert, Durufflet, and Argentine.

After some remarks from Mr. Broome Mr. Taylor, moving a vote of thanks observed that he had a true love for the Chrysanthemum, not because it had of late become so popular, but because it was best adapted for town culture and, no doubt, kept many a man more at home amongst his family, and tended in some degree to that moral improvement which it is desirable to attain.

Mr. Andrews presented the society with some very

prettily executed coloured drawings of the principal varieties, framed and glazed, and intimated his intention of giving still more to decorate the rooms of the Society.

In conclusion it may be remarked that the success in the formation of this Society has been the means of establishing others in Peckham, Mile End, and North London. An interesting paper was read by the chairman (through the kindness of Mr. Broome) furnished by Mr. Wiggins, gardener to Mr. Beck, of Isleworth. From this the following are extracts:—

[illegible]—Take the strongest cuttings from healthy plants, [illegible] cuttings eyes and foliage; place each cutting in a [illegible] compost to consist of rich loam and silver [illegible] the pot in a cold frame filled with ashes and [illegible] keep them in this state till they are well [illegible]

[illegible]—Plants in the same state.

[illegible]—Remove out of 3-inch pots to 48 size. Add to the [illegible] bled oyster shells. Water moderately, and place [illegible] frame as before.

[illegible]—Plants in the same state as previous month. Stop or [illegible] over the crown at the height of from 5 to 6 inches, [illegible] clear stem.

[illegible]—Repot into [illegible] sized pots. Compost composed of rich loam and rotten dry cowdung, silver sand, and pounded oyster shells. Water occasionally with weak liquid manure. Except in very cold weather, keep the plants well exposed to the air and sun. Stop the laterals sufficiently grown, say to 3 or 4 inches as in March

*May.*—All well started plants with 7 or 8 of the best eyes should be selected from each break and the remainder taken off. Continue watering with weak liquid manure and pegging the shoots down regularly all round the pot.

*June.*—Shift into small 24 sized pots; compost as before. Shoots grown from 3 to 4 inches stop again; keep pegging down. Before stopping plunge the pots in a sheltered place in the garden three parts down. Syringe night and morning all over the foliage.

*July.*—Shift plants into 16-sized pots, being the last change. Compost a little stronger by adding more decayed cowdung. Stop for the last time at the end of the month. Bestow great attention to pegging each shoot regularly to fill up all vacant places; let the shoots that are pegged down be clear of mould in case they strike root.

*August.*—Liquid manure to be made of equal portions of rabbit, sheep, and cow dung with a little soot; half a bushel of this mixture to 40 gallons of soft water. Give plain water once a day, and this liquid twice a day, night and morning. Use the syringe freely, and if green fly shows itself, use tobacco water when sprinkling the foliage.

*September.*—Attend strictly to pegging out the branches where they are required to fill up. Keep the circular form as true as possible. Strictly attend to watering and syringing.

*October.*—The plants are now at their full growth, and should be [illegible] across, buds the size of a Pea. If weather cold and indicating frost, take them out of open borders, and put them under glass or some temporary covering. Damp the ground or house where they are, to create moisture. Syringe under the foliage as well as the top. A little tobacco water may be used occasionally; buds showing colour at the end of the month.

*November.*—Tie all plants at the beginning of this month into the form intended for exhibition at least a fortnight before wanted, to allow the blooms to assume their proper position. By thus growing, plants should be produced with from 1000 to 1500 blooms, 4 to 5 feet across, 15 inches high, with good foliage.

After a vote of thanks to the chairman and others the meeting separated.

## Notices of Books.

*Nutrition in Health and Disease*, by J. H. Bennett, M.D. Churchill. After introducing his subject by a brief but lucid amount of the manner in which the body is nourished in a state of perfect health, the author enters at length upon the causes which produce functional derangement, whether connected with deficient vital power, acute disease, insufficient or excessive supply of food, the abuse of spirituous beverages or other circumstances. To us it appears that in all his practical remarks the author shows much good sense, by no means lending himself to the overstrained theories or gratuitous hypotheses with which the world is beset, but showing, on plain intelligible grounds, how far such views may be adopted if they happen to have any foundation at all. Teetotallers and vegetarians would especially do well to consult Dr. James Bennett's pages.

"The mode," he remarks, "in which alcoholic beverages, taken in excess, impair digestion and nutrition may be easily traced and demonstrated. As we have seen alcoholic stimulants, in the shape of beer, wine, spirits, &c., may be ingested in moderation with positive advantage, especially in northern and temperate latitudes, by the healthy members of the community. By their stimulating influence on the nervous system of the stomach and intestines, they increase and promote the powers of digestion; and by the presence in the blood of the hydro-carbon of the alcohol, elements for heat generation are provided without the necessity of loading the stomach with as much hydro-carbonaceous food as would otherwise be required. Moreover, the stimulus afforded to the general nervous system satisfies a craving for nervous stimulation, which all mankind exhibits at the adult period of life, and which may really be considered an instinct. In northern latitudes this instinct is gratified by the alcoholic, stimulating beverages in general use; whilst in tropical climates, where their heat-generating properties are not required, the craving is satisfied by the non-alcoholic stimulants, coffee, tea, maté, tobacco, opium, &c. The fact is singular, but undeniable. There is scarcely a race or tribe under the sun that does not resort instinctively to some nervous stimulant, whereas the animal creation show no such taste—no such instinct. The cause is probably to be sought for in the much greater use made by man than by brutes of the nervous centres, and in the consequent greater exhaustion of nervous force. There can be no doubt that these agents, when taken in moderation, have the power of repairing the nervous energies, and we thus find that, throughout the world, the abstinence from one is made up by the use of another. In our own climate, for instance, those who abstain entirely from alcoholic beverages all but invariably fall back with avidity on coffee and tea, which supply them with the nervous stimulant they require. When alcoholic beverages are taken in excess by healthy persons, and often when they are taken in moderation by persons suffering from disease or from disturbance of the digestive organs, the stimulating effect produced on the stomach is injurious, and the function of digestion is, consequently, improperly performed. The result is the generation of imperfectly elaborated chyle, unfit for the purposes of organic reconstruction."

And again, "In regulating the dietary of those who are suffering from defective digestion and defective nutrition in a confirmed and chronic stage, the question of the advantage or disadvantage of alcoholic beverages occupies a prominent position, and requires careful elucidation. The debility and languor which usually exist in such cases as a painful reality, and which are the immediate result of the defective elaboration of nutritive elements, are, *for the time*, remedied by alcoholic stimulants. Wine, malt liquors, brandy, &c., stimulate the nervous system of the weak or dyspeptic patient, and give for a short period artificial strength. He who could neither think nor act, whose brain was clouded, and whose muscles were powerless, recovers under their influence, temporarily, the deficient mental and bodily energy. No materials, however, for the repair of wasted tissue have been afforded—or, at least, none which the economy can or will use—and once the influence of the nervous stimulation has been exhausted, a collapse generally follows, and the debility and languor are greater than ever. This is a law of nature; all artificial stimulation is followed by a proportionate exhaustion of the function stimulated. Under the influence of the excitation of the brain which accompanies the delirium of fever, the wasted patient summons to his aid muscular power sufficient to try the strength of half a dozen persons. But when the fever and delirium have subsided, collapse follows; he can then scarcely raise his hand from the bed, and a child could hold him. Such strength, however, as that which alcoholic beverages give to the weakened dyspeptic is a mere delusion, which does harm in many ways. On the one hand, it exhausts the remaining vital power of the organisation, without any commensurate advantage; on the other, it deceives both the patient and his medical adviser—the patient, by endowing him for a time with powers which he has not in reality, thus masking his real condition; the physician, by persuading him that he has really given strength, when he has only stimulated the nervous system. In a word, if the patient is exhausted, weak, debilitated, unable to go through the duties of life, it is much better that this, the real state of the economy, should be recognised and accepted, and its causes struggled with conscientiously and scientifically, than that his condition should be obscured by any kind of alcoholic stimulant."

Speaking of the proper supply of food we find the following excellent advice, far too unfrequently taken: "With very many persons it is a matter of creed that from early morn until late at night food should be taken every three or four hours, lest the stomach should remain empty, a state which is supposed to be attended with absolute danger to the organisation. Such fears, I need scarcely say, are perfectly groundless. The stomach is a mere instrument, an organic cooking apparatus, the office of which is to dissolve the food introduced into the system, and to prepare it, by the processes we have described, for the subsequent digestive stages. During the time it is so engaged, it labours very actively, secreting the gastric juice, and vigorously and incessantly contracting on the food it contains. Once, however, stomachal digestion is completed, and the chyme has passed the pylorus, as we have seen, all secretion ceases, the stomach closes on itself, and a period of perfect rest and quiescence ensues, which lasts until food is again introduced, when the 'hard labour' stage again begins. Thus the object of the stomach-labour is merely to prepare the alimentary materials required by the economy at large. If these materials have been elaborated in sufficient quantity and in sufficient perfection to satisfy the wants of the system, the object is attained, the stomach has done its duty, fulfilled its mission, and until the materials it has elaborated have been consumed, or thereabouts, it has no function to perform, and is better empty than full. If left empty for a time it rests, has leisure to recover its nervous, muscular, and organic power; to prepare itself, in a word, for the labours which the next meal will entail upon it. When, on the contrary, it is immediately refilled, its powers are again and again taxed, and unless they are equal to the labour imposed upon them they flag, the gastric secretions become depraved, and digestion and nutrition are defective."

It is much to be regretted that a book of so much merit should have no index. Its absence has prevented our finding a paragraph or two which we had intended to add to the previous extracts.

Trade Lists Received.—*Edward Sheaton's* (Hendon Park) *General Catalogue of Plants, Trees, &c.* This is in reality a list of a considerable collection of florists' flowers and bedding out plants. Of trees there is no catalogue whatever; all that is said about them is that Mr. Shenton has for sale "an extensive stock" of fruit trees.—*Dodwell and Bayly* (Chadderton, near Manchester), *a Descriptive Catalogue* of florists' flowers, bedding out plants, &c. This collection is stated to have been carefully weeded of inferior varieties; and nevertheless occupies 32 closely and carefully printed pages.—*Barba* (Chauré à Vitry le Français) *Plantes nouvelles et arbustes de pleine terre, serre froide, et serre chaude.* A good example of the kind of stock kept in a considerable country nursery in the north-east of France. Although for the most part occupied with descriptive lists of Gloxinias, Pelargoniums, Pinks, Roses, &c., it also includes a certain quantity of stove and greenhouse plants as well as hardy trees and shrubs. Among them we notice some plants with names unknown to us, such as Clematis fulva and glandulosa, Erythrina Pelatgeri, Edgworthia Carthaeea, a "new species" of Statice from the Crimea, the Bignonias atropurpurea and Thunbergii, called hardy shrubs, and several other plants. There is also a new Currant called the Gloire des Sablons, apparently in the way of the old Champagne.—*Van Houtte* (Ghent) *Plantes de Serre et de Pleine terre.* The list of hothouse, greenhouse, and hardy plants this year for sale in the celebrated establishment at Ghent. Everything in the continental trade, most worth growing, is to be found here, with the price, and, which is of no small importance, with we believe the names correctly applied. This Catalogue (No. 76) fills 52 closely printed pages, and after all is in some measure only a supplement to previous catalogues.

## Garden Memoranda.

Messrs. Cutbush & Son's Nursery, Highgate.—A magnificent exhibition of Hyacinths has been held here during the past week, and we observe by an advertisement in another column that it is still to remain open for another week. This nursery, it is well known, has of late years become celebrated not only for the quantity of its Hyacinths, but also for the excellence of their culture, and this season it may be remarked they are in no way inferior to their predecessors. Indeed such a display of these charming spring flowers as is at present to be found here is worth going miles to see. Upwards of 400 varieties of all shades of colours—reds, blues, whites, and yellows—are effectively arranged in a lean-to show house 100 feet in length and 16 feet in width. The roof of this is covered inside with Shaw's Tiffany, and the front sashes, and right and left of the footpath, with green baize, which serves to set off the whole to much advantage. About 300 on a flat table some 60 feet in length have had their pots covered with Moss, from among which the flower spikes issue with excellent effect. Among these are some of the largest and best sorts at present in cultivation, together with the more striking new kinds, some of which appear to be improvements, both in size and colour, on those with which we are already acquainted. The remainder of this fine collection was placed in a line at the back of the stage, supported by Azaleas, Camellias, Cinerarias, early Pelargoniums, forced Roses, Mignonette, and other early blooming plants, which formed an attractive and excellent background. Of Hyacinths the following is a list of such sorts as appeared most worthy of notice:—

Double Red.—Czar Nicholas, late, pale rose, bells large, spike good; Duke of Wellington, very fine pale rose, bells large and beautifully arranged—often on two spikes, excellent; Jenny Lind, new fine red, bells large, spike good: Lieut. Waghorn, new deep red, bells large, distinct; Milton, deep red, bells large, spike good, excellent; Napoleon III., new dark crimson, spike good, bells semi-double; Princess Royal, new fine red, bells and spike good; Susannah Maria, beautiful salmon rose, bells and spike excellent,

Double White.—Comtesse Van Holland, fine blush, bells and spike good; Don Gratuit, pure white, spike good, bells medium sized; Prince of Waterloo, pure white, spike medium sized, but bells large; Tour d'Auvergne, fine white, bells large, spike good, one of the very best.

Double Blue.—Blocksberg, marbled, bells and spike very large; Comte de St. Priest, light blue, bells good, spike large; Laurens Koster, bright indigo blue, bells and spike both very large and finely formed, one of the best of the older kinds; Madame Marmont, azure blue, bells very large, spike moderately so; colour good; Prince Frederick, fine porcelain blue, bells and spike large; Prince von Saxe Weimar, fine dark blue, bells good, spike unusually long; Sir Colin Campbell, new shaded porcelain blue, bells and spike both fine; Sir John Franklin, marbled blue, bells and spike very large. An excellent sort.

Double Black.—In this limited class the best is perhaps Othello, a very dark kind with fine large bells but small spike.

Single Red.—Amy, very bright and beautifully formed, bells and spike large; Aurora rutilans, fine new dark, bells and spike good; Cavaignac, salmon, spike and bells very large, the latter striped with rose; Circe, carmine shaded with salmon, spike very large; Cosmos, new pale pink, bells and spike large and well formed; Diebitz Sabalkansky, bright red, spike good, bells moderate sized; Florence Nightingale, deep pink shaded with orange, spike and bells large; Lady Sale, dark red, bells and spike good; Madame du Lac, rosy pink, bells good, spike large; Madame Hodgson, pale pink, bells and spike finely formed; Mdlle. Rachel, fine

deep red; M. Feasch, fine pale pink striped with crimson, bells and spike good; Norma, beautiful waxy pink, bells and spike very large, one of the very best; Queen Victoria, pale pink striped with red, bells and spike large; Robert Steiger, deep crimson, very fine; Solfaterre, orange scarlet, bells and spike very large.

SINGLE LILAC.—Dandy, dark, good bells and spike; Honneur d'Overeen, fine reddish lilac, bells and spike large; Prince of Wales, purplish lilac, new and good.

SINGLE WHITE.—Cloche magnifique, pure white, large bells and fine spike; Elfrida, large and fine; Grandeur à Merveille, pale blush, bells and spike large and good; Grande Vedette, one of the very best old kinds; La Baleine, deep blush, fine form; Lady Franklin, beautiful blush, a good comparatively new kind; Lamartine, pale blush, striped with pink, bells large, spike good; Lord Granville, creamy white, excellent; Madame Van der Hoop, pure white, bells and spike very large; Miss Burdett Coutts, pure white, large bells, and immense spike; Mont Blanc, beautiful clear white, large bells and spike; tubiflora, beautiful blush, large bells and spike; Victoria Regina, very fine pure white, large waxy bells, and fine spike.

SINGLE BLUE.—Argus, dark blue, with white centre; Baron Van Tuyll, porcelain, large bells, extra fine spike; Charles Dickens, pale blue, large bells, very fine spike; Couronne de Celle, pale blue, large bells, and immense spike; Grand Lilas, delicate azure blue, one of the most beautiful of Hyacinths; Grande Vedette, bells the largest of any Hyacinth; Orondates, fine porcelain blue, large bells and very fine spike; Porcelain Sceptre, fine pale blue, moderate bells, very fine spike.

SINGLE BLACK.—General Havelock, very dark, large bells and immense spikes; remarkably vigorous grower. Messrs. Cutbush exhibited this last spring, with a spike 9 inches long and 10 inches in circumference, bearing upwards of 180 bells; Prince Albert, deep purple, changing to black, large bells, and fine spike.

SINGLE YELLOW.—Anna Carolina, clear yellow, good bells and spike; Heroine, fine pale yellow, good bells and moderate spike, perhaps the best of all yellows.

We recommend all lovers of sweet flowers to visit this exhibition speedily.

## Miscellaneous.

*Death of Weinmann.*—We observe in the *Botanische Zeitung* the announcement of the death of J. A. Weinmann in his 76th year. In the early part of the century he had charge of the Russian garden of Dorpat; but in 1813 he was appointed to that of Pawlowsk, near St. Petersburgh, where he died. Several species of plants have been named after him; but the genus Weinmannia was so called after Wilhelm Weinmann, quite another person.

*Sale of Seeds and Cones of Coniferous Plants.*—A small consignment of these from Vancouver's Island, Fraser River, and California, was sold on Wednesday last by Mr. Stevens, and realised the following remarkable prices, viz.:—Wellingtonia gigantea, a small packet, 13*l.* 13*s.*; ditto of 1857, 5*l.* 10*s.*; Abies Williamsoni of Newberry, small boxes of cones, 5*l.* 5*s.* per box; Thuja gigantea, small boxes of seed, from 2*l.* 10*s.* to 3*l.* 3*s.* per lot; an Abies supposed to be amabilis, from 3*l.* to 3*l.* 15*s.*; Abies Menziesi, small boxes of seed, from 1*l.* 2*s.* to 1*l.* 3*s.* per lot; A. Douglasi, from 2*l.* 2*s.* to 2*l.* 10*s.* per lot; Pinus tuberculata, 10 cones, from 1*l.* 1*s.* to 1*l.* 4*s.* per lot; Pinus Jeffreyi, one small box of seed, 3*l.* 3*s.*; Cupressus Lawsoniana, little boxes, 3*l.* 3*s.* to 3*l.* 10*s.* each; and C. Macnabiana, one box, 1*l.* 12*s.* A consignment of Araucaria imbricata seeds from another source, which had been packed closely in tin boxes, were found upon examination to be apparently quite dead. For these, although they were put up for sale, there were therefore of course no buyers. Ninety-four lots produced upwards of 200*l.*

*Substitute for Tobacco.*—The Jamaica papers speak loudly of the excellence of Allspice or Pimento as a smoking material far superior to Tobacco in every respect. Any person, says a correspondent of the *Colonial Standard*, who knows anything of the fragrance of a Pimento walk when in full blow may form some idea of it by a pipe charged and lighted with the dried berry, simply crushed in coarse bits. Another says that it cannot be well smoked in short pipes, but with the long Cherry stick of a meerschaum he experienced "a treat beyond anything he had known in the use of Tobacco." The same writer adds that already the coolies and native labourers are bringing Pimento into use in the place of Tobacco; and he can see no reason not to prefer it.

## Calendar of Operations.

*(For the ensuing Week.)*

### PLANT DEPARTMENT.

CONSERVATORY, &c.—Many houses of this description are very unfit places for Heaths, being generally too lofty and kept too warm for them; some of the winter flowering varieties are however very ornamental and should be largely employed in their decoration, during the spring months. As soon as they have done flowering let them be pruned back and give them a liberal shift when they start into growth, using good fibry peat for the purpose, and if they are well attended to during the growing season they will overcome any injury they may sustain through occupying an unsuitable position while in bloom. Azaleas, Camellias Roses, early-flowering New Holland plants, and forced bulbs will keep show houses gay for some time yet. Let all plants be placed in the best possible position as regards effect, and aim at maintaining a pleasing uniformity of arrangement and displaying the colours to the greatest advantage. Pick off decaying flowers and leaves, and endeavour to continually replace shabby plants with others in full beauty. Sprinkle the surface of the beds frequently so as to assist in keeping the atmosphere moist, and also see that the subsoil is kept in a uniformly moist condition. Watch for insects and attack them as soon as they are perceived, which is the only way of preventing them from doing mischief. STOVE.—Proceed with the repotting of such plants as require it, and give all necessary attention to those in active growth. To secure strong short-jointed wood keep up a vigorous root action, and let the plants occupy a place as close to the glass as possible. Specimens started early may require rearrangement. Ixoras, Clerodendrons, and Allamandas that have become well rooted will be greatly benefited by a careful supply of manure-water; but see that it is given in a tepid state, and not over strong. Look sharply after mealy bug and thrips, for if these are allowed to establish themselves at this season they will furnish plenty of work for leisure hours during the summer.

### FORCING DEPARTMENT.

PINERIES.—Attend carefully to the bottom-heat, particularly where this is produced by fermenting materials, as tan, &c., and see that it is not allowed to rise too high, which it is exceedingly apt to do after fresh materials have been added, either during bright weather, or where there are pipes under the bed. Where much fire heat is used it requires some practice and attention to be able to keep the soil in a proper state as regards moisture, but this must be effected at any expense of attention if success is to be insured. Maintain a thoroughly moist atmosphere, but do not push young stock too fast until we may be favoured with more sunshine, when if all is right at the roots there will be no danger of drawing the plants, as would be the case in the present state of the weather. Avoid allowing water to lodge in the hearts of plants showing fruit, and spare the flowers of those in bloom with the syringe. Pot off or plant out suckers as they can be obtained sufficiently strong, and attend to keeping up a regular succession of plants, which is the surest way of providing for a succession of fruit. VINERIES.—See that the houses in which the Vines are not yet started are properly cleansed, the Vines painted with the usual composition of soft soap, sulphur, &c., and everything put into proper working order; also get the rods bent in time to induce the buds to push regularly. Attend to disbudding and stopping, &c., as may be necessary in the succession houses, and see that the inside borders are kept properly moist, giving tepid manure-water as may be necessary to effect this, and do not be afraid of giving too much of it to Vines in pots.

### FLOWER GARDEN AND SHRUBBERIES.

With bright sunshine and drying winds it may soon require the utmost care to save recently transplanted evergreens of large size, and no mere surface watering will be of any service. The ground about the roots as well as the ball should be thoroughly soaked. After applying water and allowing the surface to become moderately firm stir it slightly with a blunt fork, which will prevent its cracking, and will also allow the free action of the sun and air to warm the soil and encourage the production of roots. Surface dress with fine soil, and water newly laid turf wherever it is observed to be suffering from the effects of the weather. Take advantage of the present state of the ground to stir the surface soil of shrubbery and herb borders, to prevent the growth of weeds, and give the whole a fresh and clean appearance. Do not neglect to put in plenty of Mignonette, and if not already done hardy annuals should be sown without further loss of time, except in cases where they are not wanted to bloom before autumn.

### HARDY FRUIT AND KITCHEN GARDEN.

Get in the main crop of Carrots the first fine day when the ground is in good working order. Blanch Seakale in the open ground by placing inverted flower-pots over the crowns and covering these with light soil or any material which will effectually exclude light. Prick out on a slight hotbed Cauliflower plants raised in heat. The gentle bottom-heat will greatly assist in pushing them along without their being weakly and drawn, as is the case when they are grown under glass. Also prick out Celery on a gentle bottom heat, and protect it with a frame or hand-glasses till it has become well established, and sow seed for the main crop. Attend to providing succession crops of Spinach, and keep the surface soil regularly stirred among growing crops; also do not forget small salad, as Radishes, &c., and sow sweet herbs for transplanting.

### COTTAGERS' GARDENS.

In all neatly kept small gardens the usual spring work should be by this time completed. Seeds of some the more showy annuals should soon be sown for autumn blooming. Herbaceous plants may be divided and replanted; many of the strong growing ones might be taken up and divided every year; but almost all Alpines suffer from this treatment. They should therefore, be left undisturbed. Plants in frames, if any, will now require attention. Give air freely; but shut up early, in order that a genial temperature may be kept up during the night without fire-heat. Pelargoniums, if any, should occasionally receive a gentle shower over head from a fine-rosed watering pot. Little attentions of that kind keep them clean and healthy.

STATE OF THE WEATHER AT CHISWICK, NEAR [illegible]
For the Week ending Mar. 17, 1859, as observed at the Horticultural [illegible]

| March. | Moon's Age. | Barometer. Max | Barometer. Min. | Temperature Of the Air. Max. | Min. | Mean | Of the Earth 1 Foot deep | Of the Earth 2 Feet deep |
|---|---|---|---|---|---|---|---|---|
| Friday 11 | 6 | 29.960 | 29.709 | 54 | 47 | 50.5 | 46½ | 46 |
| Satur. 12 | ) | 29.705 | 29.654 | 57 | 49 | 53.0 | 48 | 46 |
| Sunday 13 | 8 | 29.675 | 29.598 | 55 | 48 | 51.5 | 49½ | 47 |
| Mon. 14 | 9 | 29.630 | 29.248 | 53 | 45 | 49.0 | 50½ | 48 |
| Tues. 15 | 10 | 29.683 | 29.170 | 54 | 37 | 45.5 | 50 | 48 |
| Wed. 16 | 11 | 29.914 | 29.890 | 53 | 44 | 48.5 | 49 | 48 |
| Thurs. 17 | 12 | 29.760 | 29.510 | 53 | 31 | 42.0 | 49 | 48 |
| Average | | 29.760 | 29.524 | 54.1 | 43.0 | 48.5 | 48.9 | 47.3 |

March 11—Cloudy; rain at night.
— 12—Rain; densely clouded; boisterous.
— 13—Rain; showery; boisterous.
— 14—Rain; fine at night.
— 15—Boisterous throughout.
— 16—Overcast; cloudy; drying wind; overcast.
— 17—Overcast; boisterous; rain at night.
Mean temperature of the week, 6½ deg. above the average.

RECORD OF THE WEATHER AT CHISWICK,
During the last 33 years, for the ensuing Week, ending March 26, 1859

| March. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds |
|---|---|---|---|---|---|---|
| Sunday 20.. | 52.0 | 33.9 | 42.9 | 12 | 0.36 in. | |
| Mon. 21.. | 51.5 | 33.6 | 42.6 | 14 | 0.21 | |
| Tues. 22.. | 50.6 | 35.0 | 42.8 | 16 | 0.44 | |
| Wed. 23.. | 50.3 | 33.8 | 42.1 | 14 | 0.60 | |
| Thurs. 24.. | 50.9 | 31.4 | 40.7 | 10 | 0.11 | |
| Friday 25.. | 50.1 | 31.9 | 41.0 | 12 | 0.50 | |
| Satur. 26 | 51.6 | 32.0 | 41.8 | 12 | 0.17 | |

The highest temperature during the above period occurred on the 24th, 1856, and 24th, 1858—therm. 69 deg.; and the lowest on the 25th, 1844—therm. 14 deg.

## Notices to Correspondents.

AFRICAN OAK: *A H C.* To grow this for timber you must [illegible] a hothouse as high as Westminster Abbey, heated [illegible] average to 75°. Will that pay?

BROCCOLI: *W M.*—Of the specimens sent us two were white, compact, and excellent. The third was past its best. They very much resembled the sort called Knight's Protecting.

DRY ROT: *W W S.* We believe that if the surface of the board attacked by dry rot is well washed with corrosive sublimate dissolved in spirit, methylated if you can get it, the mischief will be stopped—unless it has penetrated too deep—for which there is no remedy.

FLOWER POTS: *Messrs Taylor & Pears.* Your garden pots are excellently manufactured, and deserve to be generally known to those who wish for an article better than the rude and cheap ware employed for the rough purposes of gardening.

GLASS: *R H.* It is not the interception to light that is required in gardening. Quite the contrary. It is its diffusion that is wanted; and that is effected by contrivances such as Hartley uses. His 16 oz. is the cheapest, and quite good enough. As to shades in bright weather, it will depend upon yourself whether you want them or not. No—if ventilation is sufficient; yes—if that is not fully provided. Of course these remarks are general. They do not apply to Fern houses, which always demand shade; nor to propagating pits or houses; or places where it is necessary to keep the air close and damp, and where occasional shades must be provided use what kind of glass you will.

LANDLORD AND TENANT: *T E W.* You must give six months' notice to quit. Your inquiry is too vague. *What* is it you want to know?

MONSTROUS PRIMULA: *H S.* We find some very curious instances of ovarian malformation in addition to the change of colour in the corolla and stamens, which have become fleshy and of an intense green colour. The ovary itself is expanding into a leaf-like dome, and the placenta is not only elevated upon a long purple shaft, but is covered with distorted hairy appendments of leaves bearing ovules on the edge. It is to be hoped that the plant will be preserved, for it throws great light upon some of the more obscure points of Vegetable Comparative Anatomy. Collodion has been recommended as a coating for the bottom end of soft-wooded cuttings, but there are no good experiments on the subject. Such as have been reported were not conducted in a satisfactory manner, and need repetition and verification. We have always anticipated substantial advantage from its judicious employment.

NAMES OF FRUITS: May we beg of our correspondents to send their specimens, *carriage paid*, to our Office, No. 5, Upper Wellington Street, Covent Garden, London: AND TO NO OTHER PLACE WHATEVER.—*J T.* The small flat Apple is Christie's Pippin. A very good dessert sort; but in some sorts the tree is very apt to canker.‖

NAMES OF PLANTS.—We have been so often obliged to reluctantly decline naming heaps of dried or other plants, that we venture to request our correspondents to recollect that we never have or could have undertaken an unlimited duty of this kind. Young gardeners, to whom these remarks more especially apply, should bear in mind that, before applying to us for assistance, they should exhaust their other means of gaining information. We cannot save them the trouble of examining and thinking for themselves; nor would it be desirable if we could. All we can do is to *help* them—and that most willingly. It is now requested that, in future, not more than four plants may be sent us at one time.—*Gloucester.* We shall take an early opportunity of proving that there is no sufficient scientific reason for making Wellingtonia a Sequoia. The matter does not press.—*A Z.* It is not in the least like the Litchi leaf. It may belong to some Dipterocarp.—*G N.* Clematis cirrhosa, the Majorca Clematis.—*D Y.* 1, Asplenium rhizophyllum; 2, Hemionitis palmata; 3, Hardenbergia digitata; 4, Hebeclinium ianthinum.—*O P.* The fragments you have sent do not appear to be either Cupressus Lambertiana or macrocarpa.

NEWSPAPER: The change has been forced on us by the Post Office authorities. The date will show the order of the papers.

ŒNOTHERAS: *Ireland.* The only prostrate hardy Œnotheras worth growing are triloba and macrocarpa, yellow; and tetraptera, speciosa, and cæspitosa, white. All will grow better in peat than in common soil. They are perfectly hardy, and their seeds, if good, come up speedily in the open soil. There is no more difficulty in raising them, indeed, than in raising Mignonette.

RHODODENDRONS: *Dido.* R. davuricum may be propagated by cuttings of the young shoots taken off while in a growing state, by layers, and by seeds. The Amaryllis you name will bloom freely enough provided the bulbs are well ripened and are allowed a proper season of rest. Much also depends upon taking care to keep the foliage healthy till it naturally dies down.‡

VASES: *R N B.* The most effective plants for these are Scarlet Geraniums, intermixed with shrubby Calceolarias, Fuchsias, Petunias, &c. These might be edged round with such trailing plants as were mentioned in p. 196 of our present year's volume.‡

VIRGIL'S PLANTS: *Coivs.* We will endeavour to give you next week the reasons assigned by Du Molin for his new classification of Ligustrum and Vaccinium.

MISC.: *A Beauregard.* The names you send are wholly unknown in both gardening and botany. Travellers should these days, when information is so easily procurable, better than to puzzle their readers with such words. The Plantain tree, if by that you mean Musa, has never been grafted at all, that we know of. As to its taking upon trees in this country, the thing is impossible.

THE PATENT

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**Offices, 109, Fenchurch Street, London.—Manufactory, Plaistow Marshes, Essex.**

THE DIRECTORS beg to inform their Friends and the Agricultural Public that the following Manures are now ready:—

## ODAMS'S BLOOD MANURE FOR CORN AND MANGEL.
## ODAMS'S BLOOD MANURE FOR ROOTS.
## ODAMS'S SUPERPHOSPHATE OF LIME.

Full particulars may be had at the Company's Offices, or of the local Agents.

ARTIFICIAL MANURES, &c.—Manufacturers and others engaged in making ARTIFICIAL MANURES may obtain every necessary instruction for their economical and efficient preparation, by applying to J. C. NESBIT, F.G.S., &c., Principal of the Agricultural and Chemical College, Kennington, London. Analyses of Soils, Guanos, Superphosphate of Lime, Coprolites, &c., and Assays of Gold, Silver, and other Minerals are executed with accuracy and despatch. Gentlemen desirous of receiving instruction in Chemical Analyses and Assaying, will find ample facility and accommodation at the College.

SOLUBLE PHOSPHATE OF LIME.

FREDERIC CORNWELL begs to inform his friends and the Agricultural public that he can now supply a "SUPERPHOSPHATE of LIME" superior to anything yet produced. Each Bag guaranteed to contain from 20 to 25 per cent. of "Soluble Phosphate of Lime." Price 5*l.* 10*s.* per ton delivered free to any Railway or Wharf in London. Dealers and the trade supplied. Linseed-cakes, Cotton-cakes, and all descriptions of Artificial Manures at lowest market prices.

Offices, 7, Great St. Helen's, London, E. C.

LONDON MANURE COMPANY, removed to 116, Fenchurch Street, E. C. (Established 1840), have the following MANURES ready for delivery:—

CORN MANURE for SPRINGTOP DRESSING
URATE
MANGEL MANURE
SUPERPHOSPHATE OF LIME
TURNIP MANURE
} all of guaranteed quality.

In consequence of the reduction in the price of raw material the London Manure Co. are enabled to lower the price of Superphosphate of Lime, and to materially improve the Manure and Urate.

The London Manure Co. also supply PERUVIAN GUANO (direct from Messrs. A. Gibbs and Sons), SULPHATE of AMMONIA, NITRATE OF SODA, CRUSHED BONES, and every other Manure of value. Wholesale dealers supplied.

116, Fenchurch Street E C. EDWARD PURSER, Secretary.

REDUCTION IN PRICE OF LAWES'S MANURES.

MR. LAWES begs to announce that he has this season reduced the price of the Manures manufactured by him, viz.:—

| | | | | | |
|---|---|---|---|---|---|
| TURNIP MANURE .. .. .. | from | £7 | to | £6 | 6 |
| SUPERPHOSPHATE OF LIME .. | ,, | 7 | to | 6 | 6 |
| MINERAL do. .. | ,, | 6 | to | 5 | 5 |
| BARLEY MANURE.. .. .. | .. | .. | | 8 | 0 |

Prof. Way and Dr. Voelcker have sampled from a bulk of 5000 tons at his factories, and their report and analyses are given in Mr. Lawes's Circular to be obtained on application at his office, 1, Mincing Lane Place, London Bridge, E.C., or of his local Agents.

N.B. Genuine Peruvian Guano direct from Messrs. GIBBS, Nitrate of Soda, Sulphate of Ammonia, and other Chemical Manures. American Cotton-seed Cake supplied.

BURNARD, LACK, AND CO.'S CONCENTRATED SUPERPHOSPHATE OF LIME; guaranteed to contain Phosphoric Acid soluble, equivalent to 40 per cent. of Tribasic Phosphate of Lime.

CONCENTRATED TURNIP MANURE, equal in value to 5 cwt. of Peruvian Guano.

Of these Manures Dr. Voelcker says:—"These results must be satisfying to you, and are the best proof of the very great agricultural and commercial value which characterises your concentrated superphosphate."

Testimonials, with opinions of the late and present Chemists to the Royal Agricultural Society, with Testimonials, &c., may be had on application to BURNARD, LACK, & CO., Exeter Road, Plymouth.

ESTABLISHED 1812.

H. AND T. PROCTOR'S TURNIP MANURE.—Messrs. H & T. P. draw particular attention to this Manure, which contains all the elements necessary for the development of the Turnip Crop, so combined, that, with chemical knowledge and long experience, they feel is the most advantageous to the consumer. It has been extensively used by most of the eminent Agriculturists of the day, and has attained a high reputation throughout England, and Wales, and, they venture to say, is unrivalled for the great and quality of the Bulbs which it produces. The application of this Manure to the Turnips will be found to be highly beneficial to the after crops of Barley, Clover, and Wheat.

GRASS, BARLEY, CLOVER, AND WHEAT MANURE, also BONE DUST, PERUVIAN GUANO, and SUPERPHOSPHATE of LIME, warranted of the best quality.

Orders to H & T. PROCTOR, West of England Depôt for Artificial Manures, Cathay, Bristol; or PROCTOR & RYLAND, Birkenhead, and Saltney, near Chester.

SUCCESS OF THE NEW GUANO; IMPORTED UNDER LEASE FROM THE CROWN.—Though the experiments with KOORIA MOORIA GUANO were made late in the season, and under adverse circumstances, the successful results obtained confirm beyond doubt Professor Voelcker's report—(in No. 41, Part I., vol. xix., Royal Agricultural Society's Journal)—that Ammoniacal manures, applied to Turnips in the experimental field, kept back at first the crop, and had no beneficial effect either alone or in conjunction with phosphates.

The KOORIA MOORIA GUANO is essentially a phosphatic manure, containing sufficient ammonia for roots, and, with a mixture of one-fourth of ammoniacal guano, cannot be excelled for either top-dressing or grain crops. It is a natural deposit, and will be delivered as imported, free from risk of adulteration. Deeply impressed with the necessity of encouraging the import of this valuable manure, her Majesty's Government has given such increased facilities for shipment, that arrangements have been made for a considerable supply. Purchasers can be supplied with suitable quantities from cargoes now on sale, containing from 45 to 66 per cent. phosphates. Present prices, 4*l.* 10*s.* to 6*l.* 10*s.* per ton, on applying to JOSEPH HINDSON, Broker (one of the Lessees under the Crown), 20, North John St., Liverpool. Government Lessees: ORD, HINDSON, & HAVES.

"Greystoke, Cumberland, Dec. 16, 1858.

"Dear Sirs,—I beg to inform you that I applied the Kooria Mooria Guano I had from you for Turnips, on land of a loamy character, incumbent on a stiff clay subsoil, and recently drained. On each side of the plot sown with Kooria Mooria Guano were Turnips manured with best Peruvian Guano. The quantities applied of each sort were of equal weight for weight per acre. The crop—a very good one throughout—is now being eaten off with sheep. Very little perceptible difference can be discovered, but if anything that difference is in favour of the Turnips sown with Kooria Mooria Guano.

(Signed) "JOHN BARKER."

"Messrs. J. & J. Graham, Guano Merchants, Penrith."

A Pamphlet, "Hints on Guano," containing a large number of reports from well-known agriculturists, and analysis of the cargoes here, may be had of the Broker, at the above address.

TO LANDOWNERS.

THE PERMANENT WAY COMPANY having been appointed the sole Licensees for the use of Dr. BOUCHERIE'S Patent Process for Preserving Timber, beg to inform Landowners and others interested in the use of English Timber that a Pamphlet, with full explanations of this cheap and most effectual process, may be had gratis on application to the undersigned. Landowners having Beech, Elm, Fir, or other Timber fit for Railway Sleepers are requested to communicate particulars of quantity, locality, and prices.

WILLIAM HOWDEN, Secretary.

26, Great George Street, Westminster.

SIGMA'S BEAN, MANGEL, & CORN PLANTERS (5 Depositors), HOES, &c. The "Multum in Parvo," combining Cultivator, Horse Hoe, Ridge Plough, Subsoiler, Broadshare, and other forms; all expanding. Complete 7*l.* 7*s.* Prospectus sent.—C. POWELL, Hurstgreen, Sussex.

IMPROVED PATENT TURNIP AND MANGEL GRATER, MANUFACTURED BY

JOHN WARNER AND SONS, No. 8, Crescent, Jewin Street, London, E.C.—J. W. & SONS. in introducing their IMPROVED PATENT TURNIP AND MANGEL GRATER to the notice of Agriculturists, beg to state that they have personally tested its capabilities during the last three seasons, and as such feel that they can, with the greatest confidence, recommend it as a machine that will upon trial, satisfy the requirements of Feeders of Stock generally; one man or strong lad being able with comparative ease to grate 20 bushels of roots in 10 minutes.—Price of the Machine complete, 4*l.* 10*s.* Carriage paid to any Railway Station in England. To be procured of any Ironmonger or Agricultural Machine Agent in Town or Country, or of the Manufacturers.

"FRIGI DOMO."—Patronised by her Majesty the Queen, the Duke of Northumberland for Syon House, His Grace the Duke of Devonshire for Chiswick Gardens, Professor Lindley for the Horticultural Society, Sir Joseph Paxton for the Crystal Palace, Royal Zoological Society, late Mrs. Lawrence of Ealing Park, and — Collier, Esq., of Dartford.

PROTECTION FROM COLD WINDS AND MORNING FROSTS.

"FRIGI DOMO," a Canvas made of patent prepared Hair and Wool, a perfect non-conductor of Heat and Cold, keeping, wherever it is applied, a fixed temperature. It is adapted for all horticultural and floricultural purposes, for preserving Fruits and Flowers from the scorching rays of the sun, from wind, from attacks of insects, and from morning frosts. To be had in any required lengths. Two yards wide, 1*s.* 6*d.* per yard run; four, 3*s.* per yard. Also, an improved make for Shading Purposes. Three yards wide, 2*s.* 6*d.* per yard run.

ELISHA THOMAS ARCHER, whole and sole manufacturer, 7, Trinity Lane, Cannon Street, City, and of all Nurserymen and Seedsmen throughout the kingdom. "It is much cheaper than mats as a covering."

MR. SMITH will SMASH UP a piece of his Clay Land, Wheat Stubble, about the end of this month. Gentlemen who may be desirous may then see his Apparatus at work.—A Card, stating the day, may be had by applying to him at Woolston; or to Messrs. HOWARD, of Bedford.

THE LANDS IMPROVEMENT COMPANY
2, Old Palace Yard, Westminster, S.W.

To Landowners, the Clergy, Solicitors, Estate Agents, Surveyors, &c.—The Company is incorporated by Special Act of Parliament for England, Wales, and Scotland.—Under the Company's Acts Tenants for Life, Trustees, Mortgagees in possession, Incumbents of Livings, Bodies Corporate, certain Lessees, and other landowners are empowered to charge the inheritance with the cost of improvements, whether the money be borrowed from the Company or advanced by the Landowner out of his own funds.

The Company advance money, unlimited in amount, for works of Land Improvement, the Loans and incidental expenses being liquidated by a rentcharge for a specified term of years.

No investigation of Title is required, and the Company being of a strictly commercial character do not interfere with the plans and execution of the works, which are controlled only by the Enclosure Commissioners.

The improvements authorised comprise Drainage, Irrigation, Warping, Embanking, Enclosure, Clearing, Reclaiming, Planting, Erecting and Improving Farm Houses and buildings for Farm purposes, Farm Roads, Jetties, Steam Engines, Water Wheels, Tanks, Pipes, &c.

Owners in fee may effect improvements on their Estates without incurring the expense and personal responsibilities incident to Mortgages, and without regard to the amount of existing incumbrances. Proprietors may apply jointly for the execution of Improvements mutually beneficial, such as a Common Outfall, Roads through the District, Water Power, &c. For further information and for forms of application apply to the Hon. W. NAPIER, Managing Director, 2, Old Palace Yard, Westminster S.W.

FARM BUILDINGS.

LOANS MAY BE OBTAINED UNDER THE GENERAL LAND DRAINAGE AND IMPROVEMENT COMPANY'S ACT, for the full amount required by the owners of Settled Estates, Incumbents, Trustees, Bodies Corporate, &c., for the erection of Farm Houses, Farm Buildings, and Labourers' Cottages, designed by their own agents and sanctioned by the Inclosure Commissioners. The Loans are repaid by a rent-charge on the estate for any term the landowner may fix, not exceeding 31 years.

No investigation of title being required, and the charge not being affected by incumbrances, no legal expenses are incurred.

The Company furnish Designs of every description, and undertake the entire responsibility of the works wherever desired by Landowners. No profit however is taken by the Company on any works they execute, the actual expenditure only, approved by the Inclosure Commissioners, with a Commission thereon, being charged in all cases. Applications to be addressed to WILLIAM CLIFFORD, the Secretary, at the Offices of the Company, 52, Parliament Street, London.

HIGHLAND AND AGRICULTURAL SOCIETY.
AGRICULTURAL EDUCATION.

The EXAMINATION for the SOCIETY'S AGRICULTURAL DIPLOMA takes place in the Museum, April 6 and 7. The names of Candidates must be intimated by the 25th inst.

Edinburgh, March 19. JNO. HALL MAXWELL, Sec.

COLLEGE OF AGRICULTURE AND CHEMISTRY, AND OF PRACTICAL and GENERAL SCIENCE, 87 and 88, Lower Kennington Lane, Kennington, near London.

Principal—J. C. NESBIT, F.G.S., F.C.S., &c.

The system of studies pursued in the College comprises every branch requisite to prepare youth for the pursuits of Agriculture, Engineering, Mining, Manufactures, and the Arts; for the Naval and Military Services, and for the Universities.

Analyses and Assays of every description are promptly and accurately executed at the College. The terms and other particulars may be had on application to the Principal.

ROYAL AGRICULTURAL COLLEGE, CIRENCESTER.

Patron—His Royal Highness the PRINCE CONSORT.
President of Council—Earl BATHURST.
Principal—Rev. J. S. HAYGARTH, M.A.

PROFESSORS, &c.

Chemistry—J. A. C. Voelcker, Ph.D., F.C.S. (Consulting Chemist to the Royal Agricultural Society of England).
Zoology, Geology, and Botany—Jas. Buckman, F.G.S., F.L.S.
Veterinary Medicine and Surgery—G. T. Brown, M.R.C.V.S.
Surveying, Civil Engineering, and Mathematics—J. M. Grindrod, C.E.
Practical Agriculture—J. Coleman.
Assistant to Chemical Professor—A. Sibson.

Students are admitted after the Summer and Winter Vacations, also in April and October.

Fees for Boarders:—Under 16 years of age, 55 guineas per annum; between 16 and 18, 70 guineas; above 18, 80 guineas. The fee for Out-students is 40*l.* per annum.

Prospectuses and information can be had on application to the Principal.



# The Agricultural Gazette.

*SATURDAY, MARCH* 19, 1859.


MEETINGS FOR THE ENSUING WEEK.

WEDNESDAY, March 23—Agri. Society of England.. Noon.

THAT "honesty is the best policy" has become so proverbial that we wonder the maxim is not always acted on as a rule of business. One is however reminded that every trade has its tricks comprehended, perhaps, under the apprenticeship phrase of "art and mystery," which the master covenants to teach his pupils. Among the "mysteries" of the seed trade must be named the process of adulterating the genuine sample with dead or cheaper seeds, undistinguishable from it by the eye.

A letter which we published the other day from one who appears to have devoted himself to this particular branch of the profession seems to leave no room for doubt that Indian Rape seed and Radish seed, &c., are to be had in the market for 8*s.* and 9*s.* a bushel for mixing with genuine Turnip and other seeds worth 9*d.* and 1*s.* per lb.

In this accordingly the English farmer has sufficient proof of his liability to all sorts of filth in his Turnip seed. Let him remember too that he usually has to sow so much more seed than is

ecessary "to secure a plant from the ravages of Le fly," and he has often to repeat this process more than once. He thus becomes the victim of extensive and wholesale robbery. There cannot be a doubt that with genuine well saved seed, half the quantity usually sown would be enough to provide both for casualties and for a crop.

But what is this Indian Rape seed above referred to? We have by us at the present moment a sample, in which we recognise besides, it may be, more than one sort of the genus *Brassica*, to which belongs the Rape, several sorts of the genus *Sinapis*, to which are referred the Mustards; and amongst them are—

1st. *Sinapis arvensis*, Charlock, thus characterised by Mr. BENTHAM:—"A native probably of Southern Europe, but now one of the most abundant weeds of cultivation throughout Europe and Russian Asia, and but too common all over Britain."

2d. *Sinapis nigra*—Black Mustard, by the same author mentioned as follows:—"In waste and cultivated places, in central and southern Europe and central Asia, scattered over England, and more rarely in Scotland, but probably introduced only into Britain from or with cultivation." Contrast this again with the following:—

*Brassica campestris* (*B. rapa*) Colza or Rape-seed:—"On borders of fields and waste places throughout Europe and Russian Asia."

Here then our sample consists as nearly as may be of Rape and Mustard (two or three sorts) in equal proportions, which are among the commoner weeds of foreign and especially of Russian Flax seed: and what if our home supply of Charlock and Black Mustard seed, the filth of our own dirty farmer's crops, and for which he finds a sale at from 3*s*. to 4*s*. a bushel, be insufficient for the market, and the system of adulteration be so universal that English farmers pay for the like dirt from foreigners at the rate of from 1*d*. to 1*s*. a lb. Free trade with a vengeance!—and we frankly confess our suspicion of its activity and extent.

However, we must not suppose that all this ill-directed energy is employed in seed-mixing; it finds its way into the cake trade also. The pungent Mustard cake, both of Rape and Linseed, which has proved so disastrous to cattle, inducing inflammation and other disorders, is found to contain more than the so-called accidental supply of the Mustard that belongs even to most careless cultivation of the crop. But whether the farmer buys it in seed for his crop or in food for his cattle, he becomes the victim. And as it is our desire to guard him against such evils, we would seriously recommend all seed buyers to deal only with seedsmen of repute, and to ensure even with them that honesty shall be the best policy by tendering a fair price for their goods. For they may, however well intentioned, have to buy the cheaper article "to meet the wishes of the customer," and content themselves with not warranting it good, for "what can you expect for the price?" If a buyer wilfully sows weeds, and pays for the seed to do it, there is no law to prevent him; but should he wish to avoid it, a mere chewing of a few suspected seeds will detect Mustard if present by its pungency.

Let us again beg our readers to send us samples of their seeds for examination. We shall be glad to receive samples of "India Rape," for experiments upon it, which may result usefully.

We may in this place direct attention to another matter connected with seed adulteration which is especially applicable to Turnip seed, namely, the practice of mixing old seeds with new. To quote from the seed list of a firm of acknowledged reputation:—

"So common is the practice of mixing old or dead seeds with good seeds for sale, that we who conscientiously abstain from conforming to this custom experience occasionally considerable inconvenience when we have to compete with seedsmen who are not so scrupulous. The Editor of the *Gardeners' Chronicle and Agricultural Gazette* took some pains recently to expose this system, but it is probable that the disgraceful transactions described in that publication appeared almost incredible."

We take these remarks to prove that our strictures upon seed adulteration have not been made without foundation. After extensive experiments we can declare as their result that—

| | |
|---|---|
| Turnip seed of one year old will only germinate about .. .. .. .. | 50 per cent. |
| Turnip seed of two years old about .. | 30 ,, |
| Turnip seed of four years about .. .. | 15 ,, |
| Turnip seed of eight years old .. .. | 5 ,, |

On this principle 2 lbs., 3 lbs., 6 lbs., 20 lbs. of the seed of successive past seasons are each now equal in germinating powers to only 1 lb. of good seed. No differences in price which anywhere prevail between good and bad are sufficient to equalise these enormous differences. Besides, in the case of old seed it is not merely of the want of germinating power that we have to complain; those that do grow are mostly of a weakly constitution, and thus in a mixed crop we shall have that irregularity which is sure to result in a return not only bad in quality but deficient in quantity.

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—— AN action for damages lately raised by Mr. LOWE, of Comberford, near Tamworth, against the London and N.W. Railway, for destruction of crops and fences by fire, terminating in a verdict for the plaintiff for all he claimed, is one more added to many recent just decisions which fence about the property of the farmer.

If he buy a lot of cattle apparently sound, under warrantry, and they prove distempered he can recover not only the value given for them but the value of all other stock lost by infection from them. If he buy for seed-grain of superior value a sample which proves to be of another kind he can recover not merely the difference in value of the article he supposed that he had bought, but the difference in value of the crop which would have been produced. If he lose by another's fault a growing crop of young Clover, he can recover not merely his lost labour and seed but the probable value of the crop which he would have had when it should be ripe.*

On all these questions decisions have already been obtained, and we cannot doubt that the seller of adulterated seed or of adulterated manure will, when his case comes before a jury, be no better off than the defendant in any of the other cases. He will have to pay, not merely to repay. It will be not merely a refunding of the sum which he had received as for Turnip seed or guano beyond the value of the article actually delivered—but a payment of damages for the loss of crop incurred by using dead or different seed, or applying a worthless fertiliser.

—— Another action is likely soon to come on, in which it is sought to prove that a chemist and druggist who is charged with the offence has been selling another manufactured food as THORLEY'S cattle food. At the preliminary examination before the magistrate Dr. HASSALL proved that the food supplied consisted of three or at the most four ingredients—Oatmeal, Linseed-meal, and coarsely cut Beans and Peas. In cross-examination he stated that THORLEY'S food contained Oatmeal, Linseed-meal, and cut Beans and Peas, having however previously stated that there were not less than eight ingredients in it, some of them bitters and aromatics; so that this food is not merely an article of nourishment, but acts as a tonic stimulant. "There is a great difference," according to Dr. HASSALL, "between the two articles, not only as regards their composition, but also in their preparation. The spurious article is exceedingly coarse, while THORLEY'S food is reduced to fine powder." We refer to this trial, not that Mr. [illegible] have the advantage of the advertisement [illegible] gives of his manufactured cattle food, [illegible] every tittle of evidence upon the real [illegible] of these costly foods ought to be made known to every man, as Mr. THORLEY says, who [illegible] horse, a cow, a sheep, or a pig." We [illegible] our readers to try "Oatmeal and Linseed and cut Beans and Peas," and mix them themselves, and if their cattle want a "tonic plant" let them consult their veterinary surgeon how best to medicate the cattle food thus made. They will find it a wonderful saving to their pockets.

—— Certain resolutions have been [illegible] we cannot yet say adopted, as the ground-work of a petition to the Government and Parliament for an increased grant of 10,000*l*. to the Royal Agricultural Society. Whether the publication of the kind thus held out be the best [illegible] ceivable of urging the members of the [illegible] and those interested in Irish agriculture to [illegible] efforts which seem necessary to enable the Society efficiently to work out its agricultural [illegible] and objects, is easily determined. We [illegible] hope that neither English nor Irish agricultural improvement will ever or in any degree [illegible] to hinge, as that of France appears to [illegible] amount of Government grants in its behalf.

There is no agricultural or any other [illegible] ment worth having excepting what is [illegible] by a real interest in the matter felt by the [illegible] whose improvement is desired. Let a [illegible] spurred on by public-spirited members [illegible] own body unite for mutual improvement [illegible] prove their interest in it by bearing [illegible] the cost incurred, and improvement is certain ensue. Let 10,000*l*. or more be annually [illegible] from some external source, and it will [illegible] afford an occasional spectacle which cannot [illegible] its object, but is fruitful of good or not [illegible] to other circumstances. If the Dublin [illegible] claim additional funds on the ground of resemblance to the British Museum or National Gallery or other national institution, [illegible] no special right either to advocate or criticise the petition, but if they base it on the need of increased effort after agricultural improvement, then we must declare our only hope of success to rest on the efforts of agriculturists themselves or of societies supported and directed by the farmers of the country.

—— We called attention some weeks ago to the evidence which recent sales of shorthorns gave of the continued high market price of well-bred stock. Within the last fortnight Mr. SPRAGGON'S herd at Nafferton, near Stocksfield, Northumberland, and Mr. TROUTBECK'S [illegible] cow, near Penrith, have been brought to the hammer. In the former case 47 lots [illegible] heifers, bulls, and calves realised 1144*l*. 7*s*., or 24*l*. 7*s*. apiece—the highest prices being from 40 and 50 guineas. In the latter 21 cows [illegible] and calves fetched 1513*l*., or 72*l*. apiece. [illegible] bulls realised 224*l*., or 45*l*. apiece: a two-year-old heifer, Prim Gwynne, fetched 150 [illegible] another of the same tribe, Priscilla [illegible] fetched 125 guineas; others of the same [illegible] fetched very high prices. We have now to [illegible] our readers of the sale on Wednesday next at Cobham of the late Mr. HARVEY COMBE'S first-class herd, which is to be sold by Mr. STEVENS of Euston Square,

—— Probably the majority of agriculturists look with a sort of quiet incredulity upon the revolution which steam power in the field threatens to effect within their business. There are many however who foreseeing it are confidently adapting their proceedings to the new and certain future. Steam ploughs are already at work on many a farm in many a county in England. And those interested in the various forms in which steam culture has already appeared are contending at other meetings, besides those of our great national societies. FOWLER and PIDGEON and RICKETTS and BRAY have had a trial of competition at Teddesley, Lord HATHERTON'S, and of course no occasion of asserting the individual merits is lost by any of them. Much is done by those who offer opportunities of testing the rival schemes in operation side by side, but we believe none of them will be adopted without examination of its merits under many circumstances, and we purpose here to give the first of a series of pictures of the well-cultivated farms in this country, on one or two of which almost all the plans now before the public has been adopted. Meanwhile, it may be remembered there are some plans in addition to those of ROMAINE and FOWLER, RICKETTS, WHITE, BOYDELL, and SMITH, which cannot [illegible]

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* The fire from the engine burned the fence and the cut Barley, and destroyed the young Clover among it. The fire-office repaid the tenant for the Barley, but not being liable for growing crops did not pay him for the Clover, and the question between him and the railway company hinged on the mode of valuing the young crop. "It was arranged that the point to be contested should be confined to the principle on which the value of the Clover-seeds had been estimated. For the plaintiff, Mr. INGLE, the surveyor, was called, who said that he considered the proper mode of estimating the plaintiff's loss was the probable value of the crop when it would be ripe, and this he valued at £5 an acre. The witness was subjected to a rigid cross-examination by Mr. CLEATHER, in order to show that the value of the seed and labour was the true measure of the loss. The plaintiff was then called, and supported Mr. INGLE'S view of the case, and said, on cross-examination, that he had, as an experiment, sown the land again with Rye-grass, but, being sown out of season, in all probability it would be a failure; yet, at any rate, he thought that any benefit which might be derived from it after paying for the seed and labour would be counterbalanced by the deficiency in the yield of next year's Wheat, by reason of the loss of the Clover root, so valuable as a manure for the Wheat crop. Mr. CLEATHER addressed the jury on behalf of the defendants, and contended that the true measure of damage was what an in-coming tenant would have to pay to Mr. LOWE, provided his tenancy had expired on the day the fire occurred. That to look forward to what the crops would be in the ensuing summer was importing into the estimate an element of too uncertain a character to be relied upon. The directors were unwilling at once to pay any exorbitant claim parties might make against them, as they were trustees for the shareholders. The claim for the destruction of the fence he did not object to; and as it was from principle the company resisted this claim, he hoped the jury would give the case that consideration which, as men familiar with agricultural pursuits, they would be especially qualified to do. Mr. MOTTERAM urged that the mode suggested by the defendants was fallacious, as Mr. LOWE'S tenancy could not be considered in the way suggested. If he were really an off-going tenant, he would have no rent and payments to make in respect to the land given up, which in this case, with the seeds and labour, was shown to be within a trifle (taking even the defendants' view as correct) of the amount claimed. The mode suggested for estimating the claim was ingenious but unsound; it put the plaintiff in the position of an off-going tenant with a liability to a twelvemonth's rent and payments for the land, whilst it put the defendants in the position of an in-coming tenant, with possession of the land, with no rent or payments to make in respect of it for the next twelve months. The defendants called no witnesses, and his Honour summed up the case very carefully to the jury, intimating that he did not agree in the mode of calculation suggested by the defendants, but left the whole matter in the hands of the jury, who (he said) were peculiarly well qualified to deal with a case of that description. The jury, after retiring to consider the case, returned a verdict for the plaintiff for 48*l*. 10*s*., the amount claimed; the foreman intimating that the jury considered the claim to be a moderate one."—*Midland Counties' Herald.*

[illegible] competition with all comers. HALKETT's [illegible] cultivation is one of them, BURCHAM's [illegible] Mr THOMPSON's (of Norwich) [illegible] application of steam power, vouched [illegible] first-class names in the agricultural [illegible] of his country, though still unpublished, is a [illegible].

## WHY DO WE WASTE OUR STRAW?

This is a vital question for agriculture. For many [illegible] I have been gradually more and more convinced [illegible] straw has a considerable value for feeding purposes, [illegible] which alone it should be used, in order to [illegible] the largest profit. It is true that, [illegible] ridiculed this notion in the presence of [illegible], their shouts of laughter have testified [illegible], and I have smiled at their prejudice [illegible], in conscious conviction that they [illegible] surrender at discretion. The [illegible] straw removed from an acre of well-[illegible] where the average is 5 qrs. per acre, [illegible] per acre. Science has shown us that, [illegible] considered as manure, its worth is but [illegible]; while, used as food, it will, if properly [illegible], realize a value of 40*s.* per ton. Now what [illegible] would knowingly throw away 2*l.* to 3*l.* per acre, [illegible] a business as farming? and yet this is [illegible] being done over millions of acres. If it be [illegible] straw has a greater value as food than as [illegible] should, by parity of reasoning, be desirable [illegible] the manurial and feeding values of oilcake, [illegible], Peas, hay, and roots.

[illegible] let my farming friends ridicule my dislike to [illegible]ing in straw, they would stand aghast at my [illegible] to them to plough in their Barley meal, [illegible]cake, or other feeding material. But I can see [illegible]ence: the folly or error is in each case equal, [illegible] comparatively as great. Whence does this [illegible] arise? Simply because the straw, [illegible] pure condition, is not in an available condition [illegible] food. I purpose to give a practical illustration [illegible] question, by a statement of my own proceedings; [illegible] one who would understand the question in [illegible] comprehensive view should study Mr. Horsfall's [illegible] papers on dairy management in the [illegible] Journal. The whole feeding question may be [illegible] greatly developed by those papers. The [illegible] converting both our straw and our roots [illegible]geously than we now do is a true breeches-[illegible] question for the British farmer; nor are the [illegible] interested in the more abundant supply of [illegible], which would naturally follow the more economic [illegible] straw and roots. The general appearance of [illegible] animals is unmistakeable. If, after feeding, [illegible] down contentedly, free from restlessness, all [illegible] well. Such is the case with my 10 young [illegible] bullocks, of Irish breed, about 30 months [illegible], which were bought in at 9*l.* each.

They consume daily—

| | £ | s. | d. |
|---|---|---|---|
| [illegible] Wheat straw ..... | | | |
| [illegible] Roots ..... | 0 | 2 | 6 |
| [illegible] ..... | 0 | 0 | 4½ |
| [illegible] ..... | 0 | 0 | 5 |
| Mixed by [illegible] gallons of hot water. Bean straw requires [illegible] twice the quantity ..... | | | |
| [illegible] Mangel Wurzel ..... | 0 | 1 | 4 |

In round numbers they cost at the rate of 3*s.* 6*d.* per week, independent of the Wheat straw. If I valued the Wheat straw at 40*s.* per ton, it would add 3*d.* to their weekly cost. The roots I value at 10*s.* per ton. The animals are in a fattening and growing condition, and evidently are advancing remuneratively. This we can judge of by their appearance, as I have [illegible] like Mr. Horsfall, a weighing machine for cattle. Weighing tests the value or force of food so soon as [illegible] cows. I strictly adhere to Mr. Horsfall's proportions of food for mine; and the result is an ample supply of milk, and an increase in condition.

The food for each cow is as follows: daily, 20 lbs. [illegible] cut, 5 lbs. hay, 5 lbs. Rape-cake, 2 lbs. Bean meal, [illegible] bran, 2 lb. malt combs, 35 lbs. Mangel or Swedes, [illegible] without straw, 7*s.* 7*d.* per week.

The whole question may be said to hinge upon the [illegible] in which the food is administered. It must [illegible] and warm; and the animals must have proper [illegible] and shelter. As a general rule, this is not the [illegible] throughout the kingdom: hence much food is [illegible] or misapplied. Were I to give my bullocks the [illegible] quantity of cut straw in a dry state, they would [illegible] eat one-half of it; and, besides, they would be restless and dissatisfied. This I know from experience. I will now describe my mode of preparation, and then [illegible] the cost. I do not use the ordinary close [illegible] apparatus, but a number of cast-iron pans, or [illegible], each capable of containing 250 gallons. These [illegible] set in brick-work, with a 4-inch space around them, [illegible] space connected with the adjoining one by a 6-inch [illegible] pipe. Into these spaces, and around these [illegible] circulates a portion of the waste steam from [illegible] engine, after having passed through the cylinder.

I should state that a close vessel of water, connected [illegible] the supply tank, is kept in a nearly boiling state [illegible] the waste steam before it passes around the coppers; [illegible] and a vertical 4-inch pipe takes away the steam after [illegible] has passed around the coppers; so that so long as the [illegible] engine is at work, the steam flows around the [illegible] coppers, after heating the close vessel of water, and [illegible] then passes into the atmosphere. The coppers are all [illegible] sunk into the earth, so as to stand level with the floor. By this means, when an extra supply of food is required it may be piled up in a mound, and kept hot for two or three days. The straw chaff, cut fine and sifted, is thrown dry into the copper, 27 gallons at a time, and then the proportion of cut-roots, bean, and Rape-cake strewed over it; then a pail of hot water (drawn from the hot-water vessel close at hand) is thrown over it, and it is all incorporated by mixing with a steel fork, and well trodden down; then another 27 gallons of chaff, with the other materials and hot water; another mixing and another treading down, until the copper is full and solid; and if extra quantities are required, it may be continued in the same way above and around the coppers, but it must be moist and solid (if too wet the animals will not eat it). The larger the mass, the longer it remains hot. Practically, we find we can in winter manage if our engine only goes twice a week; but as a general rule we work it for grinding, irrigating, threshing, &c., more often than that. The mass of subterranean brick-work absorbs the heat from the waste steam, and holds it for several days. The heat so obtained costs you nothing, for it would be wasted in the atmosphere. I think the time will come when farmers will turn it to several useful purposes. Animals will eat Rape-cake abundantly when so mixed and dissolved, but not when dry. This is an admirable food for all sorts of farm animals, and it should be administered, more or less, through the whole year. I should say that our roots are cut either by a Gardner or a Bentall, and mixed in the manger with the warm steamed chaff. There will be no blowing, griping, or scouring with food so prepared, and the animals eat it as hot as they can bear it. In my earlier career I reared first 40 and then 50 calves, and sold them as fat bullocks, so treated, never having been off the boarded floors for 2½ years, and never having had straw under them. The 10 bullocks I am now feeding are on sparred floors. The cost of cutting a ton of straw into chaff, ¼ inch long, may be taken at 3*s.* to 4*s.* The trials of chaff-cutters, as reported by the judges in the Royal Agricultural Society's Journal, show that 112 lbs. or more of hay could be cut in three minutes by steam power. It would be well, however, to double that time or cost, because we know on such occasions that everything is in "competing order," which could not be expected on a farm. Therefore, 2*s.* a ton for hay, or 4*s.* per ton for straw, would be a liberal cutting-up allowance by steam power.

If we are to consume all our Bean, Barley, Wheat, and Oat straw, we must keep our animals on sparred floors, or on burned clay, and we must invest more capital in animals, and shall make much more meat per acre. If a ton of straw will make 40 lbs. of meat, and if 2 tons of straw are grown per acre on our cereal and Pulse crops, it would be four score of meat per acre over the whole of the cereals and Pulse.

Oh! but where is your manure to come from, if you eat your straw? Why your animal, by this mode of feeding, consumes 560 lbs. of Rape-cake with every ton of straw. This is better than littering the yards by cart-loads in wet weather, to sop up the water, and save some of the liquid manure which would otherwise be washed away by rain from untroughed roofs. But what feeding property is their straw? A good deal of hilarity was excited at our London Farmers' Club the other day by my stating that every 100 lbs. of Wheat straw contained the equivalent of 15 lbs. of oil. Since then I find I have understated the case, and that really each 100 lbs. of straw contains—see Morton's admirable Cyclopædia, vol. ii, page 1153 (Voelcker's analysis)—72 per cent.! of muscle, fat, and heat-producing substances, of which 27 per cent. are soluble in potash, and 35 per cent. insoluble. The soluble fattening substances are equal to 18½ lbs. of oil in each 100 lbs. of straw. In conclusion, I would recommend every feeder of stock to study Mr. Horsfall's papers in vol. xvii. page 260, and vol. xviii. page 150 of the Royal Agricultural Society's Journal. They will enlighten his mind, dispel his prejudices, and increase his profit. If by his system of feeding 14 lbs. per week of meat and 3 lbs. of internal fat can be gained by each full-sized animal (and I am sure this can be done as an average), I know of no other system which will exceed it in result, or equal it in economy. The consumption of straw, in the way here suggested, would produce a very great increase of meat, manure, and corn. If supplies of this warm food were conveyed to sheep in our fields in cold and miserable weather, many losses would be avoided, and our Turnips would make more mutton. In order to provoke a discussion and examination of this subject, I send this communication to several papers, and shall probably enlarge upon it in some future papers. *J. J. Mechi, Tiptree Hall, Kelvedon, Essex, Feb.* 28.

By Mr. Horsfall's mode of feeding you may get the manure without cost, and a handsome price for your straw and roots. The following facts, deduced from Mr. Horsfall's paper, will show that 1000 lbs. of Swedish Turnips or 100 lbs. dry are worth 1*s.* 9½*d.* as manure, whilst

| | | | | |
|---|---|---|---|---|
| 100 lbs. of hay are worth | .. | .. | .. | 1*s.* 2½*d.* |
| 100 lbs. of straw | .. | .. | .. | 0 5 |
| 100 lbs. of Bean meal | .. | .. | .. | 2 6 |
| 100 lbs. of oilcake | .. | .. | .. | 3 1½ |
| 100 lbs. of Indian meal | .. | .. | .. | 1 1½ |
| 100 lbs. of Locust Beans | .. | .. | .. | 0 5 |

Here is an instructive and interesting comparison with a vengeance! A ton of Swedish Turnips are worth as manure 4*s.* per ton, or nearly half the manurial value of a ton of straw or Locust Beans. Oilcake or Rape-cake is worth, as manure, 3*l.* 3*s.* per ton.

## HITCHAM ALLOTMENT REPORTS FOR 1858.

[We extract by permission a portion of Professor Henslow's Report to his parishioners on the Hitcham allotments.]

ALLOTMENT REPORT.—The Judges who inspected the allotments did not consider it necessary to add anything to the favourable report they made of them in 1857. But to stand still at what may have been already achieved, should not be our aim! We must be resolved on making progress! I will tell you why. Last year I had to report our decided success at the "Hatcher sweepstakes," over the comparative novices at the Bromborough-Pool Works. This year they have almost as decidedly triumphed over us in regard to our favourite produce the Potato. It is clear they must have attended to the directions of the London judges. Their zeal and diligence has been rewarded by well-merited success. These town manufacturers have wits sharpened by education, and are awake to the importance of attending to what they may be told by qualified teachers. This is not always the case in country parishes. There is no other reason (I believe) why agricultural labourers, who have so much practical experience in cultivation, should be overtaken and surpassed by persons whose daily occupations have nothing to do with digging, sowing, weeding, &c. Let us try whether we can recover our lost ground by improved attention to the means by which not merely a large amount, but produce of superior quality may be secured. By carefully thinking over what the judges have told us, and by comparing our home methods with those of our distant rivals we shall not fail to improve.

In all agricultural pursuits it is becoming hopeless for ill-instructed and prejudiced persons to maintain their ground against those who possess superior information and keep pace with the continued improvements that are going on. I learn this from the best agricultural journals which record the opinions of practical men, who are constantly calling for an improved education and a higher amount of instruction among our agricultural labourers. In our allotments, let us pay increased attention to two very plain but most important points. First, perfect cleanliness from weeds; secondly, the application of approved manures for particular crops, to be applied in approved quantities for each. Mere hap-hazard proceedings are unlikely to secure success. In Onions we have succeeded better than with Potatoes, having carried off the first prize from a new opponent at Tortworth who is acknowledged to be a most successful cultivators of this crop. Although we have obtained all the prizes for Carrots, we have nothing to boast of here, since our opponents were not prepared on the day appointed for showing this produce. In future, it will be better to send the samples to London rather later in the season; for it seems that Carrots are not generally ready so soon in the West of England as with us. We have no desire to carry off prizes without full and fair competition.

I propose in future to keep an account of the allotment culture according to the plan I adopt with my botanical class. It is an excellent way of determining the relative merits of competitors at all kinds of examinations. A certain number of marks (as a full complement) being allowed for each description of produce, a certain number of these will be awarded in proportion to the degree of merit noticed in each case. The whole amount will determine the relative position of the competitors. Some such scale of marks as the following should be adopted. Suppose an allotment is cultivated as the judges have directed, in three equal portions—

| | Marks. |
|---|---|
| One-third Wheat or other grain, highest number | .. 10 |
| One-third Potatoes ditto | .. .. 10 |
| One-third subdivided into spaces, not less than a certain number of feet square, for any one crop; respect will be paid to variety and succession of cropping, allowing 5 marks at most to each crop of Cabbages (and other leaf crops), Beans (and other Pulse crops), Onions (and other bulb crops), Carrots (and other root crops), Gourds (and other miscellaneous crops). | |

In determining the marks for these crops notice will be taken of any foulness from weeds. Negative marks will be deducted according to the kind of weeds allowed to take possession of the ground. For instance—

| | Bad Marks. |
|---|---|
| Brambles (which ought long since to have disappeared from the allotments), Horsetail, Coltsfoot, and other creeping perennials .. | 1 to 4 |
| All other perennials and annuals .. .. .. | 1 to 3 |
| Unclean paths .. .. .. .. .. .. | 1 to 4 |

Prizes awarded for allotment cultivation at the Hitcham Horticultural Show on the 15th of September, 1858:—

| | | | |
|---|---|---|---|
| 1st Prize, No. 44. G. Gardener | | 4th Prize, No. 107. Th. Levett | |
| 1 ,, ,, 1. Jos. Knock (son. Jos. W. R.) | | 5 ,, ,, | 78. Wm. Levett |
| | | 6 ,, ,, | 106. Wm. Baker |
| 3 ,, ,, 49. Jas. Knock (W.R.) | | 7 ,, ,, | 108. Wm. Stiff |
| | | 8 ,, ,, | 104. Is. Procter |

The next 12 are classed, and highly commended.

| | |
|---|---|
| No. 47. Maurice Taylor | No. 69. Rob. Dickerson |
| 3. Wm. Bull | 62 Fred. Rosier |
| 8. Jno. Steff (C. G.) | 61. Geo Gooch (son Rob.) |
| 30. Rob. Gosling | 110. Rob. Barton |
| 40. Dan. Reynolds | 109. Ed. Sewell |
| 130. Rob Baker | 116. Jno. Squirrell |

Four allotments were foul, and all the rest creditable. The four allottees who had neglected their allotments were reminded that the rules require that all who persevere in cultivating them in a discreditable manner are liable to forfeit their tenure, that others desirous of having allotments may make better use of them.

At the Show Meeting of the Hadleigh Agricultural Association, a few samples of produce were forwarded

by some of our allottees on the understanding they might compete for the labourers' prizes. But it was decided that only labourers in the employ of subscribers to the Association were entitled to do so. The judges, however, did award two prizes as follows:—

No. 104, Isaac Procter, First Prize for Basket of Vegetables.

No. 33. John Bull, Second Prize for Potatoes.

REPORT OF THE JUDGES FOR THE HATCHER SWEEPSTAKES: *Battersea, Sept.* 14th, 1858.—Last year we had the pleasure of acting as judges between the Horticultural Societies of Hitcham and Bromborough Pool Works. This year we have been invited to perform the same duties, allottees under the Right Hon. the Earl of Ducie entering into the competition. The samples sent us for adjudication were,—3 samples of Onions from Earl Ducie's allottees, 8 samples of Onions from Hitcham, 5 samples of Carrots from ditto, 10 samples of Potatoes from ditto, 3 samples of Onions from Bromborough Pool, 9 samples of Potatoes from ditto. After a careful consideration of the samples, and of the quality as well as quantity of the crop, we submit the following award:—

*Onions.*—1st prize, No. 44, George Gardner, Hitcham exhibitor—quality especially good, yield large; 2d, No. 131, John Davis, allottee under the Earl of Ducie—quality excellent, yield good; 3d, No. 124, W. Halls, Hitcham exhibitor; 4th, No. 188, T. Burford, allottee under the Earl of Ducie; 5th, No. 3, Mr. Hatcher, Bromborough Pool. In this class some of the samples not obtaining prizes were very superior in yield but not of equal merit in point of quality.

*Carrots.*—1st prize, No. 74, Jas. Knock (s. Jas.), Hitcham (the Orange)—the quality of this sample is very superior; 2d, No. 49, Jas. Knock (B. M.), Hitcham—The yield of this sample large; 3d, No. 48. Wm. Gosling, Hitcham; 4th, No. 41, Jas. Gosling, ditto; 5th, No. 1, Jos. Knock, ditto. Last year we received five samples of Onions and only awarded two prizes. We find that in a case of this kind we are at liberty to adjudicate the whole number of prizes given to the class. Accordingly this year we have endeavoured to range the only five samples of Carrots sent for competition in the order of their merit.

*Potatoes.*—1st prize, No. 1, R. Langley, Bromborough Pool; 2d, No. 26, P. King, ditto; 3d, No. 7, E. Crossley, ditto; 4th, No. 78, W. Levett, Hitcham; 5th, No. 11, J. Ball, Bromborough Pool. Last year we had occasion to remark on the superiority of the Hitcham samples of Potatoes over the Bromborough Pool ones, and our inability to award the latter a prize. This year we have the pleasure of congratulating the Bromborough Pool exhibitors on the great improvement in their Potato samples. We think we may fairly say in conclusion, of all the samples submitted to us, that they are good and superior of their kind, and show careful cultivation. *Henry Ramsey, Manager of Mr. Jas. Veitch's Nursery, Brooklands, Battersea, Surrey. James Steel, Market Gardener, Battersea.*

[We omit an appendix giving a detailed account of the several experimental plots in Cheshire, Gloucestershire, and Essex respectively. It is this detailed superintendance, nevertheless, and the interest shown by influential persons in the proceedings of the allotment tenantry on which their success especially depends.]

## Home Correspondence.

*Barley Sowing in South Essex.*—Thinking perhaps that some of your readers might like to know how we are getting on in South Essex, I beg leave to tell them that I have finished sowing Barley. My first was drilled at 11 inches apart, with 5 pecks of seed an acre, in November; it has been horse-hoed and looks promising. My second was drilled Jan. 10, part looking well, part thinned from grubs, quantity of seed 6 pecks an acre, at 11 inches from row to row; is ready for the horse-hoe. My final sowing was on March 2, with 6 pecks of seed at 11 inches—the distance I drill all my corn, so that once setting the drill and horse-hoe does for the season. I have hand-hoed one piece of Wheat this season, as I was busy with the horses putting in Potatoes; but I promise you that it shall be the last time, as it is folly for a man to fancy he can do it by hand as well as by horse-hoe at one-fourth the cost. In conclusion I must repeat that excellent farmer Hewitt Davis's saying, that I think the farmers generally in the southern counties lose quarters an acre by not sowing their Barley early enough, besides the difference between malting and grinding. *Charles Bates.*

*The Case of the British Labourer; Northumbrian Wages.*—The papers that have appeared in your *Gazette* concerning the wages of agricultural labourers in different counties, since the statement of Mr. Grey of Dilston (page 59), supposing them to be accurate, which there is no reason to doubt, inasmuch as they undesignedly corroborate each other, show clearly how fallacious that statement must be, and how mistaken his belief in the high wages of his district; for he not only omitted to explain at his Farmers' Club, where the omission was consistent, but also in his letter to the *Times* (page 102), where it was inexcusable, that his 16*s.* a week with the food, free cottage and other advantages, included an obligation on the part of the labourer to provide a "bondager" at his own expense, or to pay her out of his earnings, as they do in Scotland; an obligation that appears to reduce the gross wages below the net amount that remains to this Scottish labourer when his "bondager" has been paid. Now that amount was stated by a "Labourer" (page 81) to be in money and in money's worth, about 10*s.* 6*d.* a week, besides a cottage rent free; an amount to which I cannot raise the Dilston wages though I take them at 16*s.* a week, and charge nothing for a cottage. Now, as the verification of the real amount of the Northumbrian wages is essential to the subject of this paper, it is incumbent on somebody who is acquainted with the fact to tell us what it is, or to convert his gross emoluments into net money. That Mr. Grey was totally wrong in attributing the supposed high earnings of his Dilston labourers to their superior energies, must be taken to be proved already, because he makes them to earn more, and fare much better than the labourers of the Scottish lowlands, who are perhaps the most enormously energetic, enduring, and indomitable people of that class in the whole world. The cheapness of fuel in Northumberland is of course a vast addition to the labourer's comfort, but it is an advantage which is wholly due to local circumstances, has nothing to do with his own earnings, and does not come out of the farmer's pocket. I am extremely sorry that I should be compelled to write uncourteously towards Mr. Grey, but my language is the least uncourteous that I can find in which to defend the truth in a most important matter from his carelessness or misrepresentations. *N.* [N. appears to forget that the hind receives wages for his bondager's labour, viz., 1*s.* 6*d.* a day in harvest time, 1*s.* in summer, and 10*d.* in winter. Of course her support is nevertheless often a loss to him, but it is rather as a nuisance than as a loss that the bondager system is objected to. Let us add that our correspondent had better exhaust whatever other means he may possess of answering Mr. Grey before he ventures on charges of carelessness or misrepresentation.]

## Societies.

ROYAL AGRICULTURAL OF ENGLAND.

WEEKLY COUNCIL: *March* 16.—The Hon. W. G. Cavendish, M.P. in the chair. Communications were read from Mr. Thomas Crisp, Baron Nathusius, and the Count de Gourcy, on the advantages of cultivating the Lupines, especially the yellow-flowered variety, on the blowing sands respectively of Suffolk, Prussia, and the north of France, as food for sheep.

The Council referred these communications to the consideration of the Journal Committee. Adjourned to March 23.

## Farmers' Clubs.

LONDON: *Agricultural Education.*—The following is a somewhat fuller report of Mr. Bond's paper on this subject than we were able to give last week.

*The altered Nature of the Business:—*

In this age of change, progress, and improvement, no change has been more marked and decided than the altered position of our British agriculture within the past 50 years. Not half a century since, and the agricultural art was comparatively pure empiricism; it was practice without science, practice without the light of reason; and the standard of agricultural intellectual attainment was necessarily low and meagre. Agriculture, as a purely imitative art, required no depth of knowledge even in its best qualified professors. There was nothing in a simple course of routine to tax the mental powers. But within the present century how marked the change! We have now the widest field and the most extended scope for intellectual exertion; we have now the whole of Nature's laws opened up for our investigation and research. There is scarce a science but bears directly or indirectly upon the art by which we live; and for a rational fulfilment and a thorough comprehension of agricultural practice, I know of no business or profession at the present day requiring a deeper knowledge or a higher degree of intellectual attainment. Agriculture is no longer a mere blind question of ploughing and sowing; but agriculturists now require to understand the object, reason, and result of every mechanical operation. They require to know why ploughing benefits the land; why draining answers; what the plant derives from the soil, what from the air; why one manure as applied to the soil answers, why another fails to answer; how light and heat affect the plant; how they influence the crop; why the animal thrives well upon one kind of food and not upon another—to say nothing of the structure of the plant, the anatomy of the animal, the construction of machinery, and many other subjects requiring the greatest mental application to qualify any man to comprehend the intricacies of Nature's laws and the complications of Nature's operations, which it is the farmer's greatest success to subscribe to, to foster, and promote. Are the youths and young men of the rising generation so educated upon the best principles of instruction that they are thereby best fitted to cope with their future position?

*Education for this Business:—*

I have informed myself, by an extensive correspondence, upon the course of agricultural study generally pursued throughout the kingdom. In the colleges, such as Cirencester, Kensington, and Queenwood, the whole course of study is enlightened, suitable, and satisfactory. In the local schools, generally, the sciences are much neglected; in more than one-half of the prospectuses received from such schools the sciences are not even mentioned, and in many, where alluded to, it is in a foot-note, to state—"taught if required." Now, it is not the fault of the schoolmaster that this is the case: it is for us, as agriculturists, to make up our minds, to have clear views upon this point, and to express our wishes. It is for us to say whether these things ought thus to be. I observe there is the same dunning at Latin and Greek as when I was a schoolboy, and I dare say there is the same plausible reason given for the continuance of the system, viz., discipline. Now there is no one a greater advocate for mental discipline than myself, but why the dead languages are so infinitely superior in their influence I cannot conceive. To me it appears such studies may make boys word-searching mental-memory machines; but what is there to excite the observation, to induce inquiry, to lead to reflection and real thought? Now, where the dead languages so essentially fail, the sciences so eminently succeed. The sciences dwell upon subjects of real utility—subjects which meet us at every turn; and such subjects of every day life are ever suggesting consideration and research. They constantly interest the boy, and teach him to use both his perceptive and reflective faculties. The boy sees a plant, and contemplates its construction; he thinks over the process of vegetation, the works of the roots and rootlets, the ascension of the sap, the functions of the leaves, and the whole busy process of accelerated nature most actively working to manufacture food for man. He sees a steam-engine, and at once examines its manufacture; he understands its mechanism, and contemplates the possibility of some mechanical improvement. All nature and art, to a mind scientifically cultured, are vast fields of interest, of observation, and thought. Surely, then, for those destined for agriculture, a study of the sciences is the course to pursue, to manufacture thinking boys and intelligent thinking men. Give the boy an early bent to understand the why-and-because of all around him; you thus place before him a deep mine of wealth, which it is discipline indeed to comprehend, and a study throughout life fully to acquire; he never lacks a subject for intelligent thought, and you culture the mind by a gradual process to make constant efforts; the knowledge and facts acquired, all bearing upon agriculture, are literally power—power to apply in the manufacture of meat, and the manufacture of corn; and you cultivate at the same time that indispensable guide in all the business transactions of life, viz, a thoroughly well balanced judgment. Upon the scholastic studies generally, I would observe, it is highly desirable ... boy should be able to read clearly and fluently, without ... tion and stammering; it is equally desirable he ... taught to write a good plain legible hand, apart fr... linear flourishes, rectangular excrescences, and the ... ambiguity which characterises the writing of the pres... Let each boy, too, be especially well grounded in ... by some means implant a taste for figures, for the ... good and correct accounts in every matter of busines... the grand secrets of success in life. Of ... are grammar, spelling, and history to be learned ... convinced upon these subjects there is much ... A knowledge of geography is, of course, desirable ... knowledge of mathematics. I believe the plans ... writing and of close verbal questioning, upon every ... most desirable, as ensuring a thorough grounding, ... basis of accuracy, self-reliance, and after self-development ... me it appears, too, most desirable that the parent ... tent, should regularly and carefully examine ... thereby note his progress; but for general, every-... schools to be useful, we require reform. We require ... board of agricultural examiners, who shall duly ... candidate, in the first instance, at 16 years of age, in all ... constitutes a sound agricultural education; we should ... introduce competition and a standard of merit, and ... meritorious, painstaking, competent master would ... largest proportionate number of successful boys.

*Life after School:—*

Further: upon a youth leaving school, the necessity ... obvious for continued intellectual discipline; and how ... it is for a young man to have continually some ... object of attainment before him! I note the present ... a boy leaves school at 16 years of age; he throws up ... and concludes his education finished, when, in reality, ... just commencing. More than half the young men ... agriculture in England actually waste, and worse than ... the first four or five years of their freedom from ... restraint. Theirs is a thorough desultory life; they ... all intellectual culture, and they have no intellectual ... of attainment to which to strive to attain. They ... assist in the farm-management; but as they have ... sponsibility, the farm occupies but little of their ... as they feel but little interest, they observe but ... and the rat-hunt, the cricket-match, the run with the ... or fox-hounds, the quadrille-party, the shooting ... with other amusements, combined with a profusion of ... are their real employments—their true business of ... and occupation. How are the evenings spent? Often ... desultory, do-nothing industry, or in card-playing and ... ing—in colouring a clay or an idolised meerschaum—... literature, in perusing some trashy love-tale novel, in ... "Blaine's Encyclopædia of Rural Sports," or in reading ... last number of the "London Journal." I speak from ... from my own observation; and only in ridicule, I fear, can ... be said that such training will create promising candidates ... future agricultural honours! This is not a desirable course ... discipline: reared in a desultory manner to sport and to ... to study their own pleasure and indulgence rather than ... interest and advantage, it will be no matter of wonder or ... prise if pleasure is their chief engrossment in after-life ... business, at the comencement of their career of respon... bility, finds them deficient in knowledge and judgment. ... I have seen young men make grand mistakes upon the ... first start in life, from absolute incompetency—especially ... clay farms; and I agree with the observation of an ... of mine, that it would well answer the purpose of many ... young man, upon commencing business, to pay an ... superintend and direct him in his management and ... for the first two or three years. I am in no way averse ... reasonable amount of sport and amusement; I have had ... share, and that a large one, of hunting, coursing, shooting ... the like, and I believe too without detriment; but let it ... condition that whilst sport is sport in reality and in earnest ... whilst a young man rides across country with courage ... judgment, and sports as a sportsman—that business and ... are equally pursued with the same spirit of indomitable ... and perseverance. We hear a great deal too much now ... the old tale that "All work and no play makes Jack a dull ... The truth is that more work and less play would make Jack ... bright boy, a business youth, and a thriving, successful ... I am for pleasure in reason, but for business in earnest ... in every case I desire to put aside the dreary, indolent, ... nonentity spirit which characterises young men, both ... intellectual improvement and in their business attainments ... attention. I want to see young men fresh from school, ... breathing, but really living—living for an object—living ... end, and actually using the means to attain that end. ... diligence, and not a passive indifference, to govern their ... duct. I want them to feel that time is a talent not ... wasted and squandered, but a talent to be used and improved ... that they have much to do, and but little time to do it ... Life is a race, and I know well that the idle brain is ... surely, the devil's best workshop.

*Agricultural Examinations:—*

What, then is to be done? As every agricultural society ... England looks to the Royal Agricultural Society as its ... tural father, it is for us to take steps to induce our parent ... act for the better education of her agricultural children. ... believe farmers' clubs generally, and every agricultural ... throughout the kingdom, would gladly combine to ... such a movement; and I know of no course so effectual ... establishment of a public board of Agricultural Examiners. ... strongly recommend two examinations: one for juniors ... dates not exceeding 16 years of age (as before alluded to) ... one for senior candidates not exceeding 21 years of age. ... would certainly throw the examinations open to all candidates ... as the only object would be to excite competition, and ... an agricultural diploma to those competitors having ... to the necessary standard of intellectual acquirement. ... could be a matter of no moment whether the ... of the senior candidates was attained by study ... privacy of their own houses, or by attending a ... agricultural lectures. It would be for the ... examiners to recommend the best works extant ... various subjects and sciences for examination ... senior class; and it is highly necessary so to act ... general competition. The standard of merit may ... too high. Even the young man missing his mark ... his diploma would in reality be a gainer—and a ... gainer, notwithstanding—from the habits of study ... mental discipline to which he had cultured himself ... attempts to secure the distinction of the diploma. ... aware that such a board of examiners would have been ... tial service to me; for though I continued to study ... geology, and some other sciences, after leaving school, ... the slightest incitation from those around me, yet ... the fact of a public examination would have been ... inducement for me to have worked with redoubled ... preventing a foolish waste of time, training me ... mental and physical industry, and resulting in ... cess. I do not think the middle-class Oxford Universities ... minations meet our requirements; the whole matter ... far better in our own hands: the whole scheme ... supporting. We must carefully avoid the error into ... Highland and Agricultural Society of Scotland ... That society required candidates to attend, for ... two years, classes in five or six of the different ... to examination. Such a requirement, of course, ... the general usefulness of the scheme. The mistake ... rectified. In England or Scotland it must take a ...

[illegible] to be great, or for the attendance to be large at [illegible] from the simple fact that the education of [illegible] has been grossly neglected, especially after leaving [illegible] it must take a time to rear any number of young [illegible] intellectually cultured and qualified to come forward for [illegible], or to compete for the honours of the certificate or [illegible]. It is my conviction that in carrying out the system [illegible] agricultural educational examinations lies hid the Royal [illegible] Society's most successful operations and her [illegible] triumphs.

*Entering on Business :—*

I [illegible] every young man to take the judgment of an [illegible] friend upon every point upon entering business, [illegible] only in the hire of the farm, but also in the purchase of [illegible] necessary stock and implements. In the management of [illegible] farm, do everything well and at the cheapest cost, and [illegible] be afraid to calculate the cost to produce a crop, or the [illegible] rear or fatten an animal. I am sure we look at a farm [illegible] in the mass, instead of calculating the items. Scru- [illegible] to judicious and profitable outlay. Cultivate a [illegible] judgment of stock, for purchases 10 per cent. too [illegible] and sales 10 per cent. too cheap are serious mistakes, and [illegible] against success in life. Young men must know by [illegible] what constitutes a day's work: horses are expensive [illegible] and if horses are kept well and worked 20 per cent. [illegible] below par, whereby 20 per cent of horse muscle is necessa- [illegible] beyond the actual requirements of the farm, I say these [illegible] serious losses. The manual labour, too, of a farm is [illegible] a heavy outlay, and a master receiving 20 per cent. [illegible] due in labour is in an unfavourable position. Young [illegible] must learn what constitutes a fair day's work for a fair [illegible] wages, and see too that they get it. Also, in task work, [illegible] may be much imposed upon by paying a heavy [illegible] beyond the value of the work performed. Both [illegible] and men demand serious attention and consideration, [illegible] supervision and direction. The work of the farm [illegible] always be forward, that it may be performed at the [illegible] time and season. Not to make hay when the sun [illegible] is a mistaken economy. A man always just behind- [illegible] is not likely to overtake success. I most strongly recom- [illegible] every young man annually to draw out a correct valua- [illegible] of the live and dead stock, and of the covenants of the [illegible] I do it each year at October, and at the same time I [illegible] out an actual balance-sheet of the annual returns and ex- [illegible]diture, and I urge upon every young man the necessity of [illegible] the same. The more we are men of figures the more [illegible] we be men of sound judgment, of deep research, and cor- [illegible] practice. Groping on in the dark has been the ruin of many [illegible] man. It is investigation which prevents a continuance in [illegible]; and it is always wise to know the worst, and meet our difficulties, not by avoiding them, but by research, by action, and as men. I feel it to be absolutely essential for every young farmer to study the agricultural literature of the day. The Royal Agricultural Society's Journal must be carefully read, also the "Farmer's Magazine;" and it is highly important weekly to peruse the *Mark Lane Express* or *Bell's Weekly Messenger*, or some other good agricultural paper, that young men may keep pace with the practical and intellectual pro- [illegible] of the age. Again, the Royal Agricultural Society's shows, and the other important and local agricultural exhi- [illegible], are excellent opportunities for comparison, informa- [illegible], and improvement. To see other than home systems of farming is decidedly necessary to prevent local prejudices and those narrow notions which grow up under the shade of one's own barn doors.

## Reviews.

*Prairie Farming in America. With Notes by the Way on Canada and the United States.* By James Caird, M.P. (Longmans,) p. 128.

A book that you may read in two or three hours, during which however you are carried at express speed over thousands of miles, beside a chatty, intelligent, and cheerful guide, who takes care you shall lose nothing which so hurried a journey enables you to see or know. You cross the Atlantic in a first-class steamer, traverse the States of New York and Vermont by rail- way, and on the other side of the St. Lawrence again take the line to Montreal and Ottawa, and La Chine, Toronto, and Niagara—talking by the way of scenery and land and crops, of hotel charges, of the timber trade, Canadian settlers, and American manners. Having reached the Great Fall you rest or wander merrily amid its wonders. Take the following as a striking illustration of the powers of description which the guide possesses:—"Standing by the river side above the falls, looking upwards therefore at the rapids, you see nothing whatever between the horizon and yourselves but the great river running and leaping two miles broad, apparently, though that is an illu- sion; but there it comes just as if we had got to the edge of the world and saw the sea come leaping down the gap."

Of course notwithstanding the excitements of such scenes you cannot in such company avoid a conversa- tion on the farming of the neighbourhood. "The man whom you speak is from Aberdeenshire, and had been 30 years here. 'Oh, man,' said he, 'they're remarkable farmers. It would break your heart to see how they just scart the grun'. It's no very guid ony year, but they dinna gie't a chance.'"

However it is not for Niagara nor especially for in- struction in the farming of that neighbourhood that Mr. Caird has brought you across the Atlantic. Re- turning by railway to Hamilton, you continue your journey through Canada West, leaving it at Detroit, cross you again cross the St. Lawrence, entering the State of Michigan, crossing it by 280 miles of dusty country—no passengers however annoyed with dust, "A thick canvass cover is stretched on a frame under the bottom of the whole train, covering the wheels and all the open space between the carriage and the rail, so that the dust as it rises is carried off and left at the end of the train in a constant stream."

At length you reach the first limit of the Great Prairie Country, towards which you have all this time been hurrying, and for the agricultural examination of which you have made this journey. You arrive at "the new capital of 'that Western World,' as Washington described it, which Penn prophesied would yet make a glorious country. The valley of the Mississippi above Cairo, comprising on its eastern bank Illinois and Wisconsin, and on the west Missouri, Iowa, and Minnesota, embraces probably the greatest tract of fertile land on the surface of the globe. In total extent it exceeds England and France together, with the kingdom of the Two Sicilies thrown into the bar- gain—it is more than equal to Prussia and the whole Austrian empire—even Spain and Turkey combined would require the territory of the Ionian Islands to place them on a par with it. And this vast territory is not only intersected by numerous lines of railroad, which give it direct access to Montreal, New York, and Philadelphia, but on the north, by means of the lakes and the St. Lawrence, and on the south by the Mis- sissippi River, it possesses a continuous water commu- nication with the Atlantic. Nothing can illustrate more forcibly the vast natural abundance and resources of this splendid country than the history of the grain- trade of Chicago. An Indian village in 1820, this place has become a great city with upwards of 120,000 people, with wharfs and granaries for miles along the river canal which opens into Lake Michigan, and with streets, public buildings, churches, and private dwellings that may vie with those of London itself. The stores on the principal streets are equal in size and architectural elegance to the new row of fine buildings which leads from Cannon Street into St. Paul's Churchyard. There are numerous stands for hackney-coaches, and various lines of omnibuses ply along the streets. And Chicago is actually the centre of more miles of railway, com- pleted and in operation, than London. Yet it is only 20 years since the first shipment of some 40 bags of Wheat was made from it. In 1837 its exports amounted to about 100 bushels of grain, in 1847 they had reached 2,243,000 bushels, and in 1857 upwards of 18,000,000 bushels. Chicago and all its wealth are in fact a pro- perty created by the profits arising in the mere trans- ference from hand to hand of the surplus produce of but a small part of this wonderful country. Looking to Illinois alone, of which Chicago is the commercial capital and outlet, this surplus, great though it is, is capable of being increased tenfold, as only one-tenth of the fertile lands of this State are believed to be yet brought under cultivation."

It is the character of these fertile lands which you have come so far to ascertain. Accordingly before ex- amining particular localities in the State you seek a bird's-eye view, as it were, of the country first, and therefore with Mr. Caird you "traverse the entire State on the line of the Illinois Central Railway, from north-east to south, and from south to north-west, a total distance of about 700 miles. The State of Illinois extends from 37° to 42° 30′ north latitude, being thus nearly the same length as England, but further south, and on the same parallel with Spain and Italy."

Having accomplished this first object, and received "a general impression of the main features of the country, and an idea of an almost endless extent of fertile soil," Mr. Caird spends a month in making a more minute and detailed examination of farming on the Prairies, and asks the reader to accompany him in his ride before giving the figures and conclusions at which he finally arrived. He says, "the railway shall transport us from point to point on the route, and a very light waggon or carriage invariably drawn by a 'span' (as they are called here) or pair of light active horses, of great spirit and endurance, shall convey us hither and thither over the country in our inspection of the Prairie farms." We cannot give much of the note-book of this Prairie journey. For full details the reader must purchase the little work of which they are the principal feature. Let us however select one or two items of intelligence gleaned at some of the places visited:—

"— Some corn fields are of uncommon magnitude: one vast sweep of 2200 acres was all in new-sown Wheat, a sparkling sheet of verdure in the morning sun. The towns, most of which are not four years old, are grow- ing rapidly."

"— There is a plan of going 'shares,' in which a pru- dent Scotch farm labourer meets with great success. He has a farm given him to cultivate, fenced and broken up, and seeded; he performs the rest of the labour and carries on the farm, and pays his rent by delivering at the nearest station the half of the crop. This is an arrangement by which a steady man is sure to succeed, and the owner of the land is also well paid."

"— The pioneer of the settlement thus told me his story. He came here four years ago, and was so much pleased with the land and situation, that he advised his neighbours in the State of New York to follow his example. He purchased 2500 acres of as fine prairie as can be desired. The first two years everything was successful. He grew more than 30 bushels of Wheat an acre on the newly broken land, and sold it for 5*s.* a bushel. He was thus tempted to lay out the money as fast as he made it, in enclosing and breaking more. The autumn before last he sowed 800 acres with Wheat; 600 of it was killed by frost, the snow that winter being so light as not to cover it. He ploughed this up and sowed with spring Wheat, which succeeded admi- rably. Last autumn he laid down 600 acres with Wheat, but was somewhat late and out of season in getting it sown. The spring proved unprecedentedly wet, the Wheat was late in maturing, extreme hot weather set in, and his Wheat, which till then looked well, was in one week rendered nearly worthless. The long-continued rains in spring had given them no season for Oats, and Indian Corn had for the same cause been planted out of season, with the land in an unfavourable state, and the breadth very limited. This crop, which should be in the ground early in May, could not this year be planted till towards the end of June. Fortunately they had not had early frosts, so that there would be a fair yield. There had been no such unfavourable season for 17 years in Illinois, and he knew that the farmers who had recently settled in the country, and who had had only last year's experi- ence, were much disheartened. But personally he felt no apprehension, as he had the utmost confidence in the natural fertility of the soil, which he did not believe could be exhausted."

"— Of the cattle common to the country there were several specimens exhibited, of enormous size. One red and white ox with wide upturned horns, four and a half years old, measured 2700 lbs. weight. He handled well, though very strong in the bone and limbs. Another of 2000 lbs. gross weight was reckoned on the spot worth only 14*d.* at the current price of beef, viz., about 2*d.* a lb. dead weight."

"— One man here had entered to an 80 acre lot last spring, had built his house, broken about 10 acres and sowed it with Wheat, and had his little crop of 'sod' corn gathered and stacked out of harm's way, close to his dwelling. The first care of an American settler on the prairie is to provide for the first winter. If he starts in May he ploughs a few acres up, and very com- monly plants the Indian Corn on it by making a slit with his axe on the tough upturned sod, into which he drops the seed. Rude though this preparation appears, it is generally followed by a crop, sometimes a very good one. Having thus started his 'sod' corn, he con- structs his house, and spends the rest of the summer in 'breaking' the prairie in preparation for a Wheat crop, and in cutting and making some prairie hay for the winter provender of his live stock. He also plants a few culinary vegetables and Potatoes. In the end of August he sows his Wheat, and when that is completed he harvests his 'sod' corn. This keeps him out of the market the very first winter, as it is often made to suffice for the food both of the family and the live stock. 'Hog and Hominy' is not infrequently the only food that the settler has to set before his guest during the first year of his possession. And though homely it is wholesome. When the crop of Indian Corn is secured, there is time to begin making fences. The neighbours have a mutual interest in this and assist each other. The fences are made of posts and sawn Pine timber; the posts of Cedar, 7 feet long, cost 3*d.* each, and both posts and rails are prepared in the forest, so that the settler buys them ready for his purpose, at either the nearest railway station or grove of timber, whichever happens to be most convenient. The holes for the posts are not dug out as with us, but are bored with an auger made for the purpose, and the work of fencing thus goes on with much neatness and regularity, and the fences, being all made in the same manner and with timber of the same dimensions, are very uniform and substantial. At this settlement we found the owner with four of his neighbours all busy in the work of fencing, one boring, one driving in the posts, and the others sorting and nailing on the rails."

"— The first man we called on was a dairy farmer from the Eastern States, an intelligent practical man, who thoroughly understood his business. He has had the same ill luck in his crop as other people, but knows that risk of seasons is one of those risks which farmers in all countries must more or less reckon upon. He has a dairy stock of 38 cows, and makes the milk into cheese. He can sell his cheese on the spot at 42*s.* a cwt., which is not far short of the average price realised by dairy farmers in Scotland, where the *rent* is higher than the price of land in Illinois. He finds the natural Prairie Grass very pro- ductive of milk till the month of September. His cows yield him 2 lbs. of cheese each, daily, during the period of good Grass; and they can be foddered very cheaply during the winter on prairie hay. He expects to improve his stock and returns materially, as he goes on, by providing succulent food for the autumn and spring."

Towards the end of Mr. Caird's little work he sums up the prospects of intending settlers on the Prairie— speaks of soil and climate, of crops and maintenance and profits. "The Illinois Central Railway Company have still 1,300,000 acres of land to sell. It is situated along their line of railway, chiefly within 5 miles on either side, and affords every variety of soil, climate, and situation to be found in the State of Illinois. They offer their lands at prices which, considering situation, quality, and terms of payment, are the cheapest I met with in America. Every facility for the transport of produce to market is at the command of a settler on their lands. At every 9 or 10 miles there is a station, with an electric telegraph, where the latest news of the markets may be learned; while there is usually a store at the station for the purchase of produce, and the sale of necessaries. Their terms of payment for the land are either cash with a discount of 20 per cent. in the price, or a long credit with a moderate rate of interest for America. So confident do they feel in the increas- ing value of their land, that they readily leave the entire price of it as a mortgage to be repaid by annual instalments out of the produce of the land itself. Pur- chasers from them obtain the further important advan- tage of exemption from all State taxes until the whole instalments of the price have been paid off, and this usually extends over the first seven years. It is an advantage of very great value, which can be obtained nowhere else."

The following is the position of a purchaser of half a square mile of land from this Company:—"He enters

into a contract with this Company for the purchase of 320 acres of clear land, at the price of 50s. an acre. He pays two years' advance interest upon this, but he pays nothing further for two years. His first instalment, one fifth of the price, then becomes payable, and each year thereafter, till all is paid, another fifth. His account will stand thus:—

| | |
|---|---|
| Two years' advance interest on purchase [illegible] | £172 |
| Contract price for fencing [illegible], sowing, and for seed wheat, sowed and harrowed | 500 |
| Cost of building a house, stable, and shed | 110 |
| Price of horses, implements, and harness | |
| | £782 |
| Value of crop | 690 |
| | £172 |
| Second year's contract for fencing another 160 acres, sowing it with Wheat, reaping and thrashing | 150 |
| Wages, keep, and horse keep for cultivating 160 acres | 150 |
| [illegible] | |
| | £472 |

His 200 acres of corn crop will now yield him from 600*l.* to 700*l.*, thus more than recompensing his outlay, and leaving plenty in hand to pay his first instalment, and to proceed with the vigorous cultivation of the land. The same sum which would be needed to start one son as a farmer of another man's high-rented land in England, would thus start three sons as the owners of farms, fenced, stocked, and under crop, on the fine prairie soils of Illinois."

We must not this week occupy our columns longer with the farming of America. We cordially recommend Mr. Caird's little volume on it to our readers. They will find its 128 pages full of interesting matter which will, we are persuaded, make their author's name known where even letters to the *Times* have not been read.

To the book there is attached a useful map of the country.

## Calendar of Operations.

### MARCH.

BORDER OF THE FENS: *March* 16.—The spring seeding goes on rapidly and satisfactorily, many pieces of Barley have sprung up, and as the ploughs have not been interrupted during the winter, but little remains to be done preparatory to the Oat crop. Tares are very forward, and all description of spring feed are ready for ewes and lambs and look as if they would admit to cut for fodder much earlier than usual. Clover and Rye-grass being generally a good plant. We have already begun to roll the Wheat with Cambridge's implement, which in light land works admirably. Some persons have commenced hoeing, but excepting where wireworms or slugs are very it would be as well delayed a week or two until the weeds make their appearance. Wheat seems to be well established and a very level plant, here and there is a thick bunchy bit which might at once be improved by gently driving a few sheep over to eat the rankest of it down a little, but the generality appearance of Wheat may be owing to the greater precision of their sowing, as we frequently hear of less than 2 bushels being sown to the acre, and where the land is clear in good heart, well farmed, and sown early 6 or 7 pecks yield better crops than four to the acre. It is still however deemed advisable to put nearly 4 bushels of Oats into the acre, as a thick plant is held to be necessary to obtain a full produce; it is certain that a thin plant of Oats will not insure a heavy yield unless a wet season supersedes other favourable conditions. The fall of lambs is well spoken of, we observe that those farmers who purchased their tups early in September have been fortunate in the weather of February, the practice with many having been to have no lambs before March 1st, but those produced two or three weeks earlier have got a rare start and with good after treatment will doubtless be sooner ready for the market and worth more for all purposes than those dropped at a later period. There have been many complaints heard of diseased stock, and in some instances considerable loss has been sustained; the best safeguard that we can learn is to take care of young stock, by giving shelter soon enough in winter, and not overdoing a breeding flock, for if fat there is great risk and almost certain loss in yeaning will ensue. The failure in the Turnip crop of last year is now felt in the diminished number of fat sheep brought to market, and the consequent high price of mutton. Beasts will be fed for feeding this year, the cost of cake being not extravagantly [illegible], the price of beef keeping steady at 7*s.* 6*d.* to 8*s.* per stone. The price of corn will hardly bear touching upon; those persons who shared in the great yield which some farmers realised last year do not grumble, but where the Wheats were thin or deficient a sorry tale is heard; more so with Beans and Peas, as some farmers obtained nothing at all, others sold their 2 or 3 sacks an acre at prices varying between 50*s.* and 60*s.* per quarter for Peas and from 40*s.* to 45*s.* for Beans, a few only getting so many as 3 or 4 quarters per acre. Many Peas and Beans are again sown with assuring the hopes of a better harvest. Labourers have not been fully employed this winter, and in some poor villages we have heard lamentable accounts of parish management, which is the worst feature of "bad times," or (as some would have it) of want of capital, of farms too big or too little, of bad management, or some other of the thousand ills "that flesh is heir to." It is painful and disreputable feature in some districts to see how many lessen the number of labourers in winter, as well as to lower the rate of wages. This practice too often sows the seed which should unite a man with those who serve him, or rather prevents any bond of friendship at all, for what but regular employment can produce regular habits and good feeling, and when do we find interrupted labour conducive to civility and sobriety, and what better opportunity of benevolence and kindness as there than to give employment during the dark and desolate days of winter? *J. W., Peterborough.*

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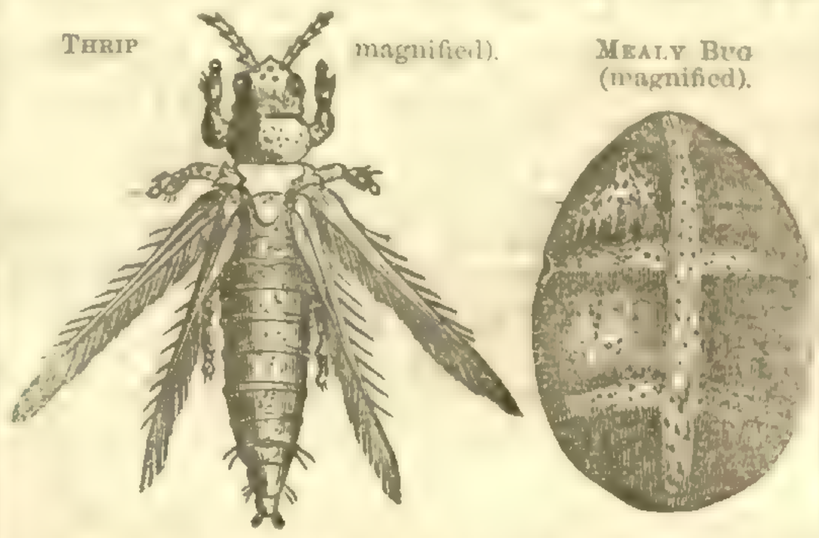


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JOHN R. PEILL, 17, New Park Street, Southwark, Manufacturer of every description of Buildings for Horticultural purposes, and Inventor of the Improved Conical Boiler for heating the same, is prepared to undertake works of any magnitude, and refers among others to the celebrated range of FORCING HOUSES at HER MAJESTY'S GARDENS, FROGMORE, and at SIR ROBERT PEEL'S, DRAYTON MANOR, constructed under the superintendence of his Manager, MR. JOHN JONES; and also to his BOILERS fixed at the CRYSTAL PALACE, the ROYAL BOTANIC GARDENS, REGENT'S PARK, and KEW, and at several hundreds of the Nobility's seats, Public Establishments, and Manufactories in London and the provinces. J. R. P. also manufactures every description of Iron Roofs, Iron Houses, and Iron Fencing, plain and ornamental. Strong Iron Hurdles for Sheep (6 feet long, 3 feet high, with 5 bars), 4s. 3d. each; ditto for cattle, 4s. 9d. each.

Prices and other particulars forwarded on receipt of one postage stamp.

---

JAMES PHILLIPS AND CO.'S PRICES of GLASS for the present month.

HORTICULTURAL GLASS, STOCK SIZES, in [illegible] feet boxes.

| | | |

HORTICULTURAL BUILDING & HEATING BY HOT WATER.

BY APPOINTMENT.

# JOHN WEEKS & COMPANY,

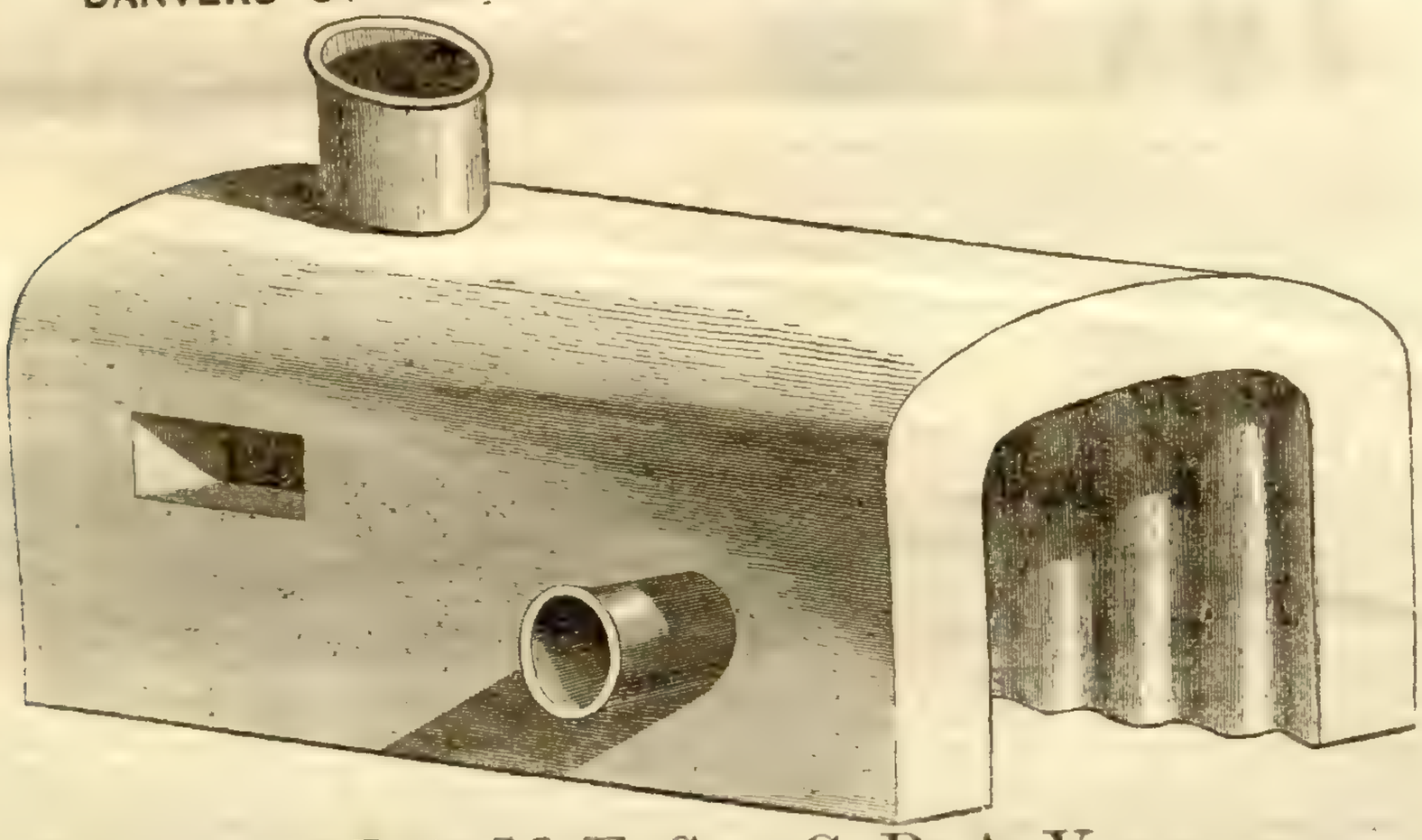
KING'S ROAD, CHELSEA, LONDON.

HORTICULTURAL BUILDERS AND HOT-WATER APPARATUS MANUFACTURERS, ENGINEERS AND IRON FOUNDERS.

PLANS, ESTIMATES, & ILLUSTRATED CATALOGUES FREE ON APPLICATION.

## HORTICULTURAL WORKS,

DANVERS STREET, PAULTON'S SQUARE, CHELSEA, S.W.



# JAMES GRAY

RESPECTFULLY begs to inform the nobility, gentry, Nurserymen, Gardeners, and others, that he continues to carry on the business in all its branches at the above old established premises.

**CONSERVATORIES, GREENHOUSES, FORCING HOUSES, VINERIES, PITS, &c.,**

of every description, erected on the most approved principles.

## HEATING BY HOT WATER.

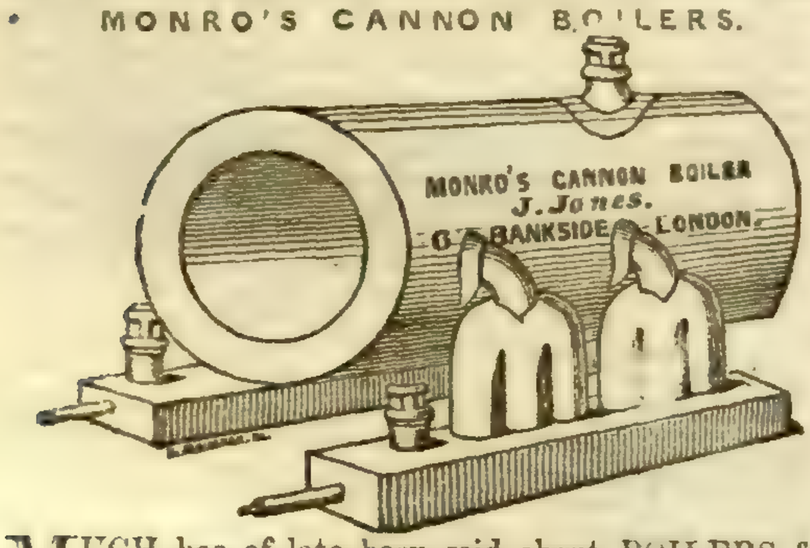
J. G. having specially devoted his attention for many years to this part of the business, is now fully prepared to Heat every description of public and private buildings, viz :—Churches, Mansions, Warehouses, &c., as well as all structures connected with Horticulture, in the most efficient manner. His system is the most simple that can be adopted—which he has found from long experience to be the best—can be constructed at less cost, and is more easily managed than those of a complicated nature which have attracted the notice of the public.

J. G begs to call attention to his CAST-IRON CORRUGATED ARCH BOILER, which from its simplicity of construction has not the liability to fracture to which those of a more complex design are always subject. They have been extensively used for many years, and have given the greatest satisfaction.

All business is conducted at this establishment on the principle of lowest remunerative profits consistent with best materials and workmanship.

**Plans and Estimates furnished on the shortest notice.**

MONRO'S CANNON BOILERS.



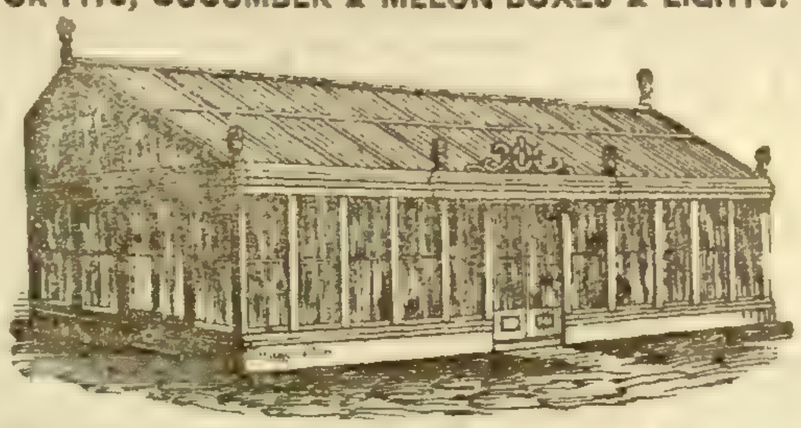

MUCH has of late been said about BOILERS for Heating by Hot Water, but these Boilers have now proved themselves to be the best at present invented. They are adapted for heating every description of building, and are made of various sizes. The Price of the

| | | | | |
|---|---|---|---|---|
| 24-inch Cast Iron is .. .. .. | £5 | 10s. | 0d. | each |
| 24-inch Wrought ditto .. .. .. | 6 | 10 | 0 | ,, |
| 36-inch Cast ditto .. .. .. .. | 8 | 0 | 0 | ,, |
| 36-inch Wrought ditto .. .. .. | 8 | 10 | 0 | ,, |

References to Gentlemen and Nurserymen where these Boilers are now at work. The Cannon Boilers are now kept in stock, and are to be had only of J. JONES, 6, Bankside. Also, every description of Saddle and Cylinder Boilers. Hot Water Pipes and Connections at prices lower than those of any other house in London. Estimates for Hot-water Apparatus erected complete in any part of the country, and an Illustrated Catalogue on application to J. JONES, 6, Bankside, Southwark, London

FLOWER POTS, of superior Red Clay, manufactured by the Arley Pottery Company (Limited), equal in appearance to Terra Cotta at the price of the common pots usually sold, say 2s. per cast, delivered in London.—Apply to TAYLOR & PEARS, 8, George Yard, Lombard Street, City, E.C.

HOTHOUSES, CONSERVATORIES, FRAMES & LIGHTS OR PITS, CUCUMBER & MELON BOXES & LIGHTS.

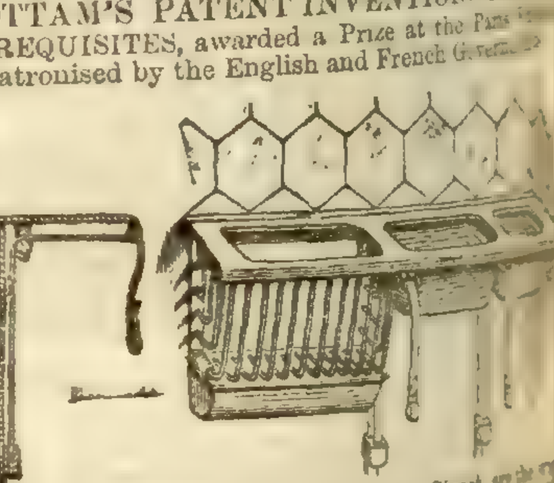


JAMES WATTS, HOTHOUSE BUILDER, 8, Claremont Place, Old Kent Road, London.

Green and Hothouses, 9, 10, 11, 12, 13, and 14 feet wide, any length, from 16 to 100 feet. Frames and Lights for Pits, 6ft. 6 in., 7 ft., 7 ft. 6 in., 8 ft., and 8 ft. 6 in. wide, any length, from 12 to 100 feet. Upwards of 200 Cucumber and Melon Boxes and Lights, from 4 ft. by 3 to 10 ft. 6 in. by 5 ft. 6 in., kept ready, glazed with stout sheet glass, painted four times, complete, ready for immediate use, all made of best material, packed and sent to all parts of the kingdom.—References may be had to the Nobility, Gentry, and the Trade in most of the counties in England. Horticultural Buildings of every description heated on the most approved and economical principles.

TANNED GARDEN NETTING, for protecting Fruit Trees from frost, blight, birds, &c., and for fowls, &c. One yard wide 1½d, 2 yards 3d., 3 yards and 4 yards 6d., per yard, in any quantity, may be had of WRIGHT'S, 376, Strand, W.C.—A liberal allowance to Nurserymen.

IRON HURDLES, FENCING, &c., MADE BY MACHINERY.



COTTAM AND COMPANY, of Winsley Street, have invented machinery for making Hurdles, &c., the rods of which are instead of being pointed by hand in the old fashioned way, are nipped down by the machine, leaving a shoulder which more effectually tighten the standards when rivetted. They are made of superior iron only, and will compete in price with those made by hand from cinder or common iron, which frequently break. Iron Fencing, Gates, and Iron Hurdles of all kinds, both Plain and Ornamental, Conservatories, Horticultural Apparatus and Garden Implements.

Illustrated CATALOGUES free on application to COTTAM AND COMPANY, Ironfounders, 2, Winsley Street, Oxford Street, W.

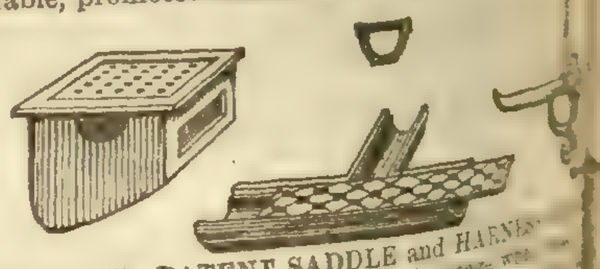
N.B. COTTAM & Co. beg to make it known that they have no longer an entrance to their establishment from Oxford Street, but that they have made a second entrance from Winsley Street, Oxford Street, W., by the side of the old entrance to their works, opposite the Pantheon.

COTTAM'S PATENT INVENTIONS FOR STABLE REQUISITES, awarded a Prize at the Paris Exhibition, and patronised by the English and French Governments.



COTTAM AND COMPANY, of Winsley Street, are the sole inventors of the PATENT ENAMELLED MANGER, with Slate Trough, and Wrought Iron Rack, united to an iron standard, and forming one complete and useful fixture, having strong patent noiseless halter guide and collar rein ring, which is taken to the back of the manger, and works with perfect freedom up or down the guide-bar.

COTTAM'S NEW PATENT SEED-BOX, with improved addition to the above fittings, being simple in construction, economical, durable, promotes cleanliness, and is economical.



COTTAM'S PATENT SADDLE and HARNESS PEGS, when combined, can be used with great advantage for the following object, as it can be turned up out of the way when not in use.

COTTAM'S IMPROVED SURFACE GUTTER, with perforated moveable cover, the use of which prevents the gutter from being choked, and can be easily cleaned out.

COTTAM'S CAST-IRON SANITARY TRAP, on an improved construction, gives a full water passage, and effectually prevents allow any smell to ascend from the drain.

PATENT LOOSE-BOX FITTINGS, and every description for harness-room and stable, kept in stock, plain, and ornamented and enamelled. Iron gates, fencing, hurdles, &c.

The New Illustrated Catalogue and Estimates on application to COTTAM and COMPANY, 2, Winsley Street, Oxford Street.

N.B. COTTAM & Co. beg to make it known that they have no longer an entrance to their establishment in Oxford Street, but that they have made a second entrance in Winsley Street, Oxford Street, W., by the side of the old entrance to their works, opposite the Pantheon.

## WARNER'S IMPROVED LIQUID MANURE OR GENERAL PORTABLE PUMP.

These Pumps are fitted with J. W. & Son's Patent Buckets and Suckers, and cannot clog in action. The barrel is of galvanised iron, not liable to corrode, and can be raised or lowered at pleasure. The legs will fold together, and the whole may be carried on the shoulder to any pond or tank required.

Price of 4½ in Pump, with legs, 3*l.* 3*s.* If with planished copper barrel and galvanised iron handle, &c., 14*s.* extra. The barrel is 27½ in. long, and the legs are 4 ft. high.

These Pumps are also made without the legs, with strong wrought-iron straps for screwing on to any ordinary water butt or cart, and fitted with 1½ inch brass union for attaching flexible suction. Price 50*s.*

1¼ inch Gutta Percha Suction Pipe, 1*s.* 11*d.* per foot.

Rubber and Canvas Suction and Delivery Hose, from ½ inch to 4 inches diameter, in lengths of 60 feet to order. Branch Pipes with Cocks, Union Screws, &c., at reduced prices.

May be obtained of any Ironmonger or Plumber in town or country, at the above prices, or of the Patentees and Manufacturers, John Warner & Sons, 8, Crescent, Jewin St., London.

## WARNER'S PATENT VIBRATING STANDARD PUMPS.

PATENT CAST-IRON PUMPS, fitted with J. W. & Son's Patent Buckets and Suckers, which cannot clog in action, for Farms, Cottages, and Wells, not exceeding 28 feet.

| Diameter of Barrel. | Height. | | £ | s. | d. |
|---|---|---|---|---|---|
| 2½ in. short | 1 ft. 7 in. | Fitted for lead, gutta percha, or cast iron flanged pipe, as required. | 1 | 10 | 0 |
| 2¾ „ long | 3 „ 3 „ | | 1 | 14 | 0 |
| 3 „ ditto | 3 „ 6 „ | | 2 | 8 | 0 |
| 3¼ „ ditto | 3 „ 6 „ | | 2 | 12 | 0 |
| 4 „ ditto | 3 „ 6 „ | | 3 | 8 | 0 |
| 2½ „ short, with 15 feet of Lead Pipe attached, ready for fixing .... | | | 2 | 14 | 0 |
| 2½ in. long | ditto | ditto ditto | 2 | 18 | 0 |

The short barrel Pump is very convenient for fixing in situations of limited height and space, for the supply of coppers and sinks in Wash-houses with soft water from underground tanks, or in Hot, Forcing, and Plant Houses; they may be fixed, when desired, under the stage.

May be obtained of any Ironmonger or Plumber in Town or country, at the above prices, or of the Patentees and Manufacturers, JOHN WARNER & SONS, 8, Crescent, Jewin Street, London.

Every description of Machinery for Raising Water by means of Wheels, Rams, Deep Well Pumps, &c.; also Fire and Garden Engines, &c. &c.—Engravings sent on application.

## WARNER'S SWING WATER-BARROW

(To Hold Forty Gallons) Mounted on Wheels 20 inches high. Will save much of the Gardener's time and labour. May be obtained of any Ironmonger for 3*l.* 3*s.*

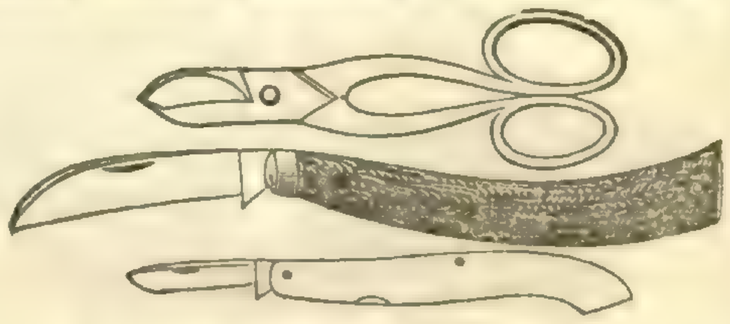
BRASS SYRINGES, 9*s.* to 18*s.*

Also a great variety of effective Machines for Hydraulic purposes, and to supply Gardens, Hothouses, Cottages, Farms, Mansions, or Boards of Health, with every requisite connected with the conveyance and distribution of Liquids.

Fountains suitable for Conservatories, Lawns, &c.

John Warner & Sons, 8, Crescent, Jewin Street, London.

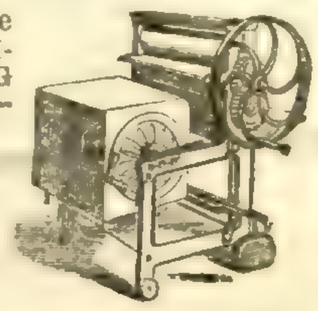
## PAXTON WORKS, SHEFFIELD, ESTABLISHED 1738.



SAYNOR AND COOKE'S warranted PRIZE PRUNING and BUDDING KNIVES, SCISSORS, &c.—Sold by all respectable Nurserymen and Seed Merchants in the three Kingdoms.

## BY HER MAJESTY'S ROYAL LETTERS PATENT.

NO ONE KNOWING the value of your Patent WASHING, WRINGING, and MANGLING MACHINE, would be without one."—*Vide Mrs. Hall.*



Thomas Bradford, Patentee, Manchester.

Descriptive Pamphlet, with Prices free by post.

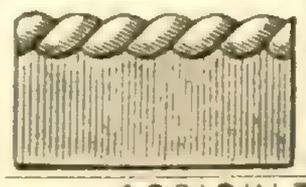
## TO GARDENERS, ETC.

PATENT WATERING ENGINES, PAIL MACHINES, CONSERVATORY PUMPS, and GREENHOUSE SYRINGES, with all the latest improvements, manufactured only by the Patentee,

RICHARD READ, 35, Regent Circus, Piccadilly, London.

*** Descriptions sent post free.

LOOMES AND CO., Whittlesea, Manufacturers of Bricks, Tiles, Pottery, &c., beg to call attention to their new CABLE PATTERN GARDEN BORDER EDGING, which not only surpasses others in appearance and durability, but is free from the dangerous points and sharp edges of most.—Price, delivered on any Railway at Peterborough, 5*d.* per yard.

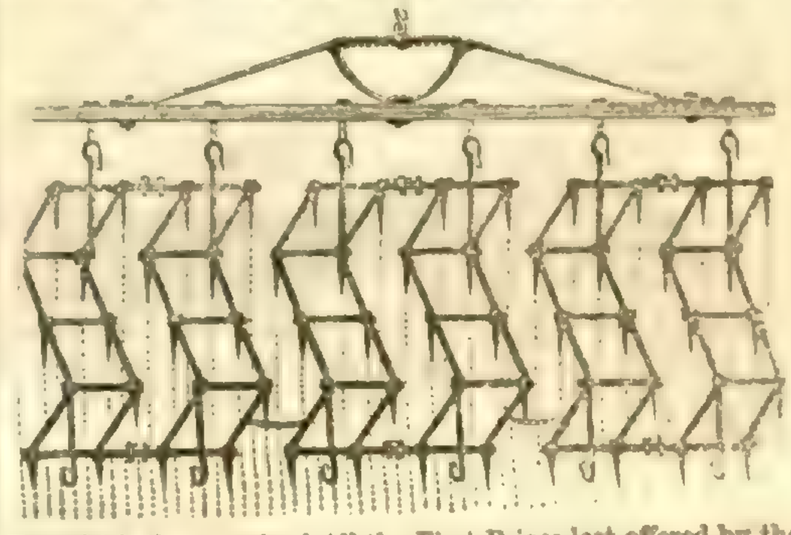


## AGRICULTURAL MACHINERY.

E. R. AND F. TURNER, Ipswich, manufacture Prize Mills for Crushing Corn, Seed, Malt, &c.; Portable Grinding Mills, Steam Engines fixed and portable from 2 horse-power and upwards; Threshing Machines, Chaff Cutter, Oilcake Breakers, Horse Gears, Saw Tables, &c., all of a superior description and adapted for Home, Colonial, and Foreign use. Illustrated Price Lists sent free on application.

## HOWARDS' PRIZE IMPLEMENTS, 1859.

JAMES AND FREDK. HOWARD, Britannia Iron Works, Bedford, beg to direct attention to their PATENT PRIZE HARROWS,



For which they received All the First Prizes last offered by the Royal Agricultural Society of England, viz.:—

The First Prize for the Best General Purpose Harrows.
The First Prize for the Best Light Harrows.
The First Prize for the Best Drag Harrows.

J. & F. Howard have discontinued troubling the Public with a long List of Prizes awarded to their Implements, but they would just state that for PLOUGHS, HARROWS, and HORSE RAKES, they have for several years gained every Prize for which they have competed.

PLOUGHS.

| | | | |
|---|---|---|---|
| P PLOUGH, with two wheels, for light work .. | £4 | 7 | 6 |
| PP PLOUGH, „ for general purposes | 4 | 12 | 6 |
| SKIM COULTER .. .. .. .. .. | 0 | 5 | 6 |

STEEL BREASTS, 7*s.* and 7*s.* 6*d.* extra.

HARROWS.

| | | | |
|---|---|---|---|
| A Set of Three 4-Beam HARROWS, with Whippletree, recommended as general Seed Harrows, 9¼ feet wide, marked No. 12 .. .. .. .. .. | 3 | 14 | 0 |
| A Set of Three 4-Beam HARROWS, with Whippletree, adapted for 3 Horses, 10 ft. wide, marked No. 11 | 4 | 4 | 0 |

HORSE RAKES.

| | | | |
|---|---|---|---|
| Price of small size RAKE, marked A, with 24 iron teeth, extreme width 7½ feet .. .. .. .. | 7 | 10 | 0 |
| Ditto, with Steel Teeth .. .. .. .. .. | 8 | 0 | 0 |
| Price of large size, marked B, with 28 iron teeth, extreme width 8½ feet .. .. .. .. .. | 8 | 0 | 0 |
| Price of large size, marked B, with steel teeth .. | 8 | 10 | 0 |
| Price of extra large size, marked C, with 24 steel teeth, extreme width, 8½ feet .. .. .. .. | 10 | 10 | 0 |
| Price of a Set of 15 Prongs, to be attached to the above when used as Weed Extirpators .. . .. | 1 | 10 | 0 |

Free Delivery to Birmingham, Bristol, Derby, Gloucester, Lincoln, Liverpool, London, Manchester, Norwich, Nottingham, Retford, Wisbeach, and Worcester; or to Dublin, Edinburgh, Glasgow, and other parts at fixed rates.

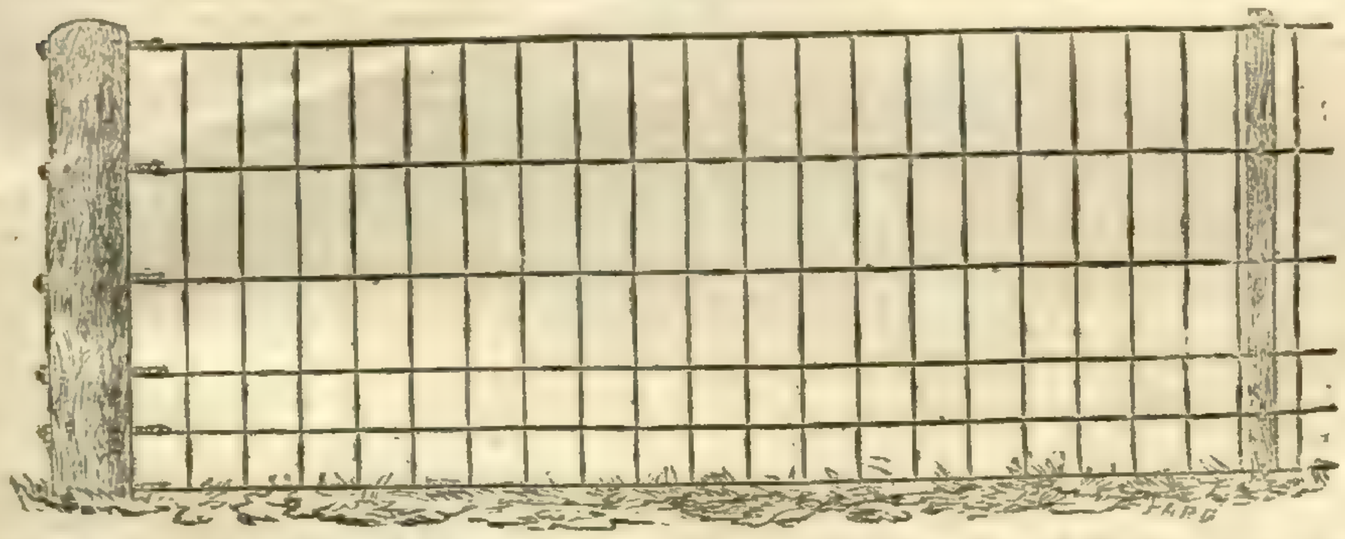
Howards' NEW CATALOGUE, containing prices and description of their Patent Ploughs, Harrows, Horse Rakes, and other Implements, including Smith's Steam Cultivators, for which they received at Chester the Gold Medal of the Royal Agricultural Society of England, sent free on application to

J. & F. Howard, Britannia Iron Works, Bedford.

# GREENING & COMPANY'S PATENT WIRE FENCES.

## Patronised by His Royal Highness the PRINCE CONSORT.

No. 1a VARIETY.—PROOF AGAINST HORSES, CATTLE, AND SHEEP.



Specification.—No 1a Variety, 3 feet 9 inches high, 6 horizontal bars of stout fencing wire, strengthened and supported by vertical bars, at distances of 5 inches. **ONE SHILLING per Lineal Yard.**

Particulars of the above and other Iron and Wire Fences for Parks, Farms, Gardens, Game Preserves, Poultry Courts, &c., in the Catalogue, sent post free on application to

**GREENING & COMPANY, Victoria Iron and Wire Works, 81, Oxford St., Manchester.**

# CARSON'S ORIGINAL ANTI-CORROSION PAINT,

PATRONISED BY

The British Government,
The French Government,
The Russian Government,
H.R.H. the Prince Consort,
Hon. East India Company,
Most of the Nobility and Gentry,
New River Company,
The Dock Companies,
Railway and Canal Companies,
The Principal Collieries,
Mill Owners,
Iron Masters, &c. &c.

**The ANTI-CORROSION PAINT is now used extensively for all kinds of OUT-DOOR WORK,**

Such as Iron, Wood, Stone, Brick, Compo, Cement, &c., and has been proved, after a practical test of 70 years, to surpass any other Paint. It is much lower in Price, and lasts twice as long as the best White Lead, and can be easily applied by any Labourer, being sent in various Colours, requiring simply to be mixed (no grinding is needed). The Anti-Corrosion is a powder, and will keep any length of time.

COLOURS:—

| | | | |
|---|---|---|---|
| White Stone .. .. .. .. .. | 34*s.* per cwt. | | |
| Light do. .. .. .. .. .. | 32*s.* „ | Light and Dark Lead .. .. .. . | 28*s.* per cwt. |
| Drab or Portland .. .. .. .. | | Light and Dark Chocolate .. . .. | |
| Bath do. .. .. .. .. | | Bright Red .. .. .. .. .. | |
| Light and Dark Yellow do. .. .. | | Dark do. (or Brick Colour) .. .. | |
| Copper .. .. .. .. .. | 30*s.* „ | Black .. .. .. .. .. .. | |
| Light and Dark Oak .. .. .. | | Invisible Green .. .. .. .. .. | 42*s.* „ |
| | | Bright and Deep Green .. .. .. | 50*s.* „ |
| | | Blue (for Carts and Waggons) .. .. | 50*s.* „ |

OIL, TURPENTINE, AND BRUSHES,

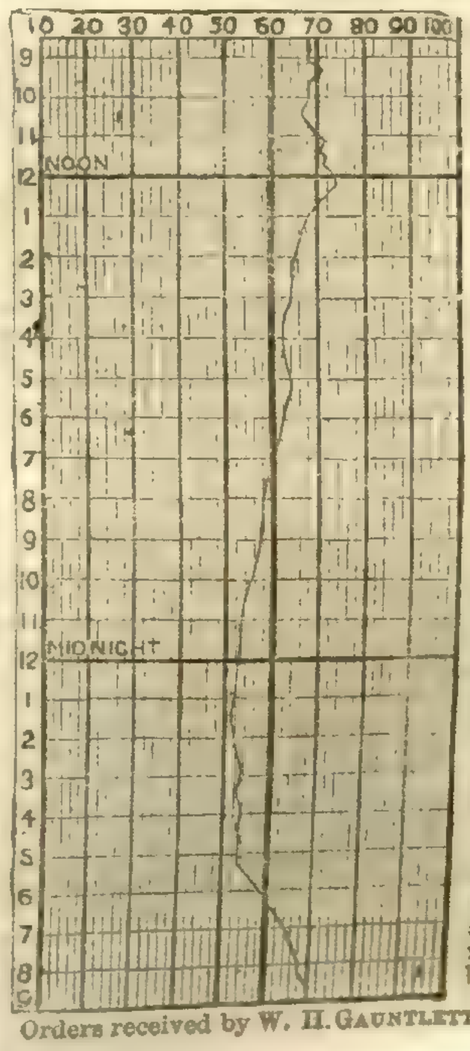
A Copy of Testimonials (700), will be sent upon application to

**WALTER CARSON & SONS, (Successors to the Inventors), 9, Great Winchester Street (near the Royal Exchange), London, E.C.**

NO AGENTS THROUGHOUT THE UNITED KINGDOM.

## TO HORTICULTURISTS.

## GAUNTLETT'S PATENT CHRONOMETRICAL THERMOMETER.




This instrument, which combines an eight-day clock of the best English make showing time, with a newly-patented Thermometer, wherein glass and quicksilver are dispensed with, writes down the temperature of the atmosphere on a slip of paper, and when placed in a Hothouse, Forcing House, or Conservatory, &c., supplies a valuable record of the temperature, with all its variations, showing the time when any change took place, and how long such change continued.

The above slip (reduced in size) exhibits the temperature of the Royal Agricultural Society's show yard at Chester, July 22, 1858, written off by one of these instruments, to which was awarded the Society's Silver Medal.

This is the only instrument that registers temperature continuously and writes it down, and no horticulturist should be without it.

Orders received by W. H. Gauntlett, Middlesbro' on-Tees.

## FERRABEE'S NEW PATENT MOWING MACHINES

MANUFACTURED BY

JAMES FERRABEE AND CO., PHŒNIX IRON WORKS, Stroud.—These improved Machines admit of the use of duplicate sets of cutting parts, can be accurately sharpened by an ordinary workman, are adapted to level and uneven ground and to verges, and their management is much simplified.

In the following List the Letters A, B, &c., are used to facilitate reference, and the distinguishing letter of the Machine required should be given in sending an order.

The prices include carriage to the principal railway stations in England, terms net cash.

| | | | | | | |
|---|---|---|---|---|---|---|
| A, cutting 12 inches wide, | | | for a boy | £4 | 10 | 0 |
| B, | 16 | | for one man | 6 | 0 | 0 |
| C, | 19 | | for a man and a boy | 6 | 10 | 0 |
| D, | 22 | | " " | 7 | 0 | 0 |
| E, | 26 | | for two men | 8 | 10 | 0 |
| F, | 22 | | for a donkey or a pony | 8 | 0 | 0 |
| G, | 26 | | for a pony | 9 | 0 | 0 |
| Sharpening Apparatus for any of the above, 5s. extra. | | | | | | |
| H, cutting 24 inches wide, | | | for a horse | 14 | 0 | 0 |
| I, | 28 | | " | 16 | 0 | 0 |
| K, | 36 | | " | 18 | 0 | 0 |

Sharpening Apparatus, 10s., extra each.

The Horse Machines H, I, K, have cylinders of large diameter and in their entire construction possess the strength and capacity necessary for horse-power, and the heaviest work of a pleasure ground.

## MAPPIN'S PRUNING KNIVES IN EVERY VARIETY.

WARRANTED GOOD BY THE MAKERS.

MAPPIN BROTHERS, Queen's Cutlery Works, Sheffield; and 67 and 68, King William Street, London.

MAPPIN'S "SHILLING" RAZORS Shave well for Twelve Months without Grinding.

MAPPIN'S 2s. RAZORS Shave well for Three Years.

MAPPIN'S 3s. RAZORS (suitable for Hard or soft Beards,) Shave well for Ten Years.

MAPPIN'S SUPERIOR TABLE-KNIVES maintain their unrivalled Superiority—handles cannot possibly become loose—the blades are all of the very first quality, being their own Sheffield manufacture.

| | Tble. Kns. | Dst. Kns. | Carvers. |
|---|---|---|---|
| Ivory 3⅞ in. Handle, balanced, | 20s. p. doz.; | 16s. p. doz.; | 6s. p. pair |
| Do. 4 in. do. | 25s. " | 18s. " | 9s. " |

MAPPIN'S SILVER-PLATED DESSERT KNIVES and FORKS, in Mahogany Cases.

| | | |
|---|---|---|
| 12 Pairs Knives and Forks, | Ivory Handles, in Case | 80s. |
| 12 Do. | Pearl Handles, do. | 130s. |
| 12 Do. | Silver-Plated Handles, do. | 80s. |

MAPPIN'S ELECTRO-SILVER PLATE.—MAPPIN BROTHERS, Manufacturers by Special Appointment to the Queen, are the only Sheffield makers who supply the consumers in London. Their LONDON SHOW ROOMS, 67 and 68, King William Street, London Bridge, contain by far the largest STOCK of ELECTRO-SILVER PLATE in the World, which is transmitted direct from their Manufactory, Queen's Cutlery Works, Sheffield.

| | Fiddle Pattern. | Double Thread. | King's Pattern. |
|---|---|---|---|
| 12 Table Forks, best quality | £1 16 0 | £2 14 0 | £3 0 |
| 12 Table Spoons, best quality | 1 16 0 | 2 14 0 | 3 0 |
| 12 Dessert Forks, best quality | 1 7 0 | 2 0 0 | 2 4 |
| 12 Dessert Spoons, best quality | 1 7 0 | 2 0 0 | 2 4 |
| 12 Tea Spoons, best quality | 0 16 0 | 1 4 0 | 1 7 |

Messrs. MAPPIN BROTHERS respectfully invite buyers to inspect their unprecedented display, which, for beauty of design, exquisite workmanship, and novelty, stands unrivalled. Their illustrated Catalogue, which is continually receiving addition of New Designs, sent per post on receipt of 12 stamps.—MAPPIN BROTHERS, 67 and 68, King William Street, London Bridge; Manufactory, Queen's Cutlery Works, Sheffield

TANNED NETTING, AT REDUCED PRICES.—200 square yards, 12s.; 500 yards, 25s.; 1000 yards, 47s.

SCRIM CANVASS for Wall Fruit, 50 yards, 16s.; 100 yards, 30s. Be particular to address in full, FREDERICK EDGINGTON, Thomas Street, Old Kent Road, London, S.E.

## FOR WATERING GARDENS, PLUMBERS, ENGINEERS, MILLS, AND MACHINISTS.

VULCANISED INDIA RUBBER.

- Washers for Hot-water and Steam Joints
- Elastic Packing and Valves for Steam Engines
- Pump Buckets (compound India-rubber)
- Suction Hose for Pumps
- Fire Engine Hose
- Air Beds, Cushions, & Bolsters
- Water Beds, Pillows, and Feet Warmers
- Garden Watering Hose
- Do. fitted with Brass Joints, Taps and Spreaders
- Wheel Tires (noiseless for Trucks, &c.)
- Waterproof Cart, Van, and Waggon Covers
- Mill Bands, much improved for driving all kinds of Machinery
- Door Springs, Gas Bags
- Foot Balls, Cricketting Gloves

N.B. A Stock of the above always on hand, and any modification made to order. Please address all communications to the Manufactory.

JAMES LYNE HANCOCK,
Vulcanised India-rubber Works, Goswell Road, London, E.C.

PATENT GUTTA PERCHA SOLES.—IMPORTANT TO GARDENERS.—The Gutta Percha Company have the pleasure to acknowledge the receipt of the following letter from G. GLENNY, Esq., the celebrated Florist:—

"420, Strand, London.

"Gentlemen,—I have worn Gutta Percha Soles and Heels these two years, and being so much in a garden as I necessarily am in all weathers, and with the ground in all states, I would on no account be without them. As a matter of economy I would recommend Gardeners to use them, for they may repair the worn part at all times by warming the material at the fire, and pressing it from the thick parts to the worn parts as easily as if it were so much dough. I think it the duty of all persons who must occasionally wet their feet to adopt a material that completely defies damp. Many a gardener would escape colds and rheumatism by the use of Gutta Percha Soles.

"Your obedient servant, G. GLENNY."

Every variety of Gutta Percha articles, such as Mill Bands, Tubing, Soles, Goloshes, Sheet, Pump Buckets, Fire Buckets, Bosses, Union Joints, Flasks, Bottles, Bowls, Chamber Vessels, Toilet Trays, Sponge Bags, Curtain Rings, Galvanic Batteries, Talbotype Trays, &c., manufactured by the Gutta Percha Company, and sold by their wholesale dealers in town or country.—The Gutta Percha Company, Patentees, 18, Wharf Road, City Road, London.

HENRY J. MORTON AND CO.,
2, Basinghall Buildings, Leeds.

GALVANISED IRON WATER CISTERNS for Cottage Houses, &c., to contain 50 gallons, 25s.; 80 gallons, 30s. each; and 140 gallons, 36s., and fitted with tap, keeping the water perfectly sweet and clean; will not rust or corrode. Cisterns of all sizes.

GALVANISED IRON PUMPS for Liquid Manure or Domestic Use, 2 inches diameter, 30s. and 32s. 6d. each; Tail Pipe for same at from 10d. per foot.

GALVANISED IRON SWING WATER BARROWS for Garden or Farm use, containing about 20 gallons, entirely of galvanised iron, 32s. 6d. each.

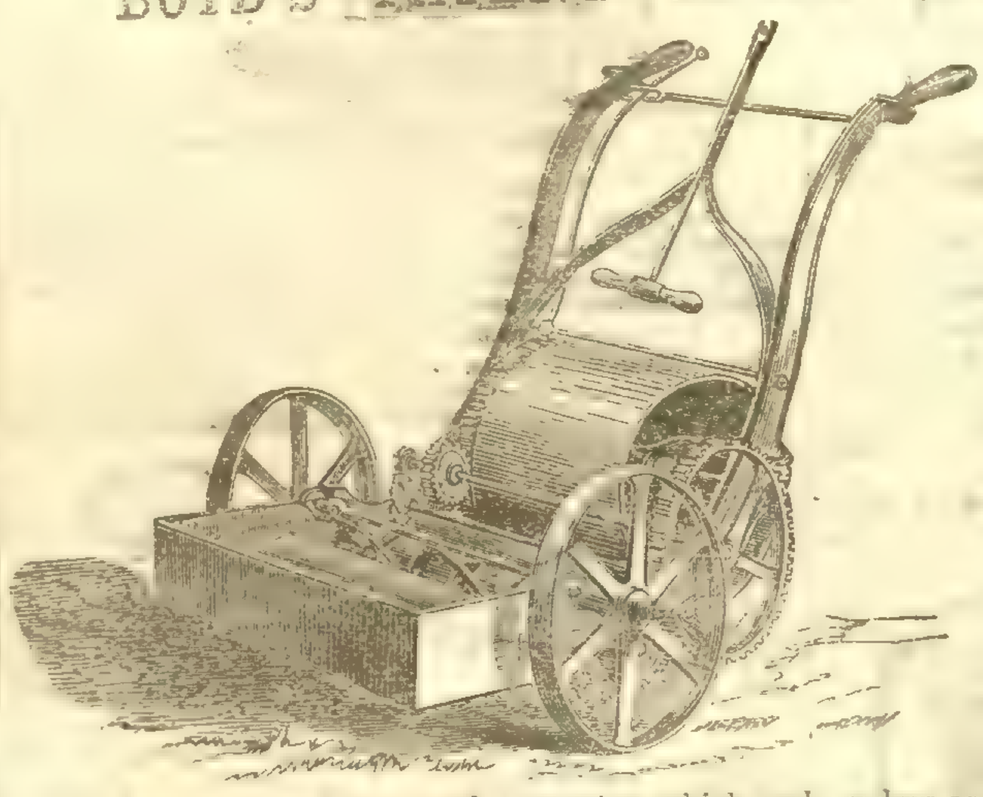
PARKES' STEEL DIGGING FORKS.

BURGESS AND KEY, 95, Newgate Street, London, being the Wholesale and Retail Agents for the celebrated TOOLS have always a large Stock on hand so that their Customers may select what they may require.

ANTHONY'S PATENT AMERICAN CHURN.—The FIRST PRIZE was again awarded to this Churn in Competition with several others at the Chester Meeting of the Royal Agricultural Society; it has obtained the First Prize given by the Society at every Meeting since 1850.

Messrs. BURGESS & KEY, 95, Newgate Street, strongly recommend it as the most perfect Churn now in use. Full particulars sent on application.

## BOYD'S PATENT LAWN MOWING MACHINES



ARE the only Lawn Mowers that have the Self-Cleansing and Sharpening Apparatus attached to the Cutters, and that will cut Wet Grass without clogging the Knives. They are already in successful operation at the Royal Palaces, and on the lawns of hundreds of the Nobility and Gentry. They are pronounced by all practical men as perfection, and are guaranteed for efficiency, excellence, ease and durability.

"Doing the work of five or six men in the same hour."—*Times*, Sept 20, 1858.

Price Lists and Testimonials free on application to—

W. DRAY & Co.,
at their new Agricultural Implement Warehouses, Adelaide Place, London Bridge,

where also may be had every description of Agricultural, Horticultural, and Garden Implement; as also DRAY'S CELEBRATED REAPERS, which are now being manufactured for the forthcoming season, and respecting which early orders are solicited.

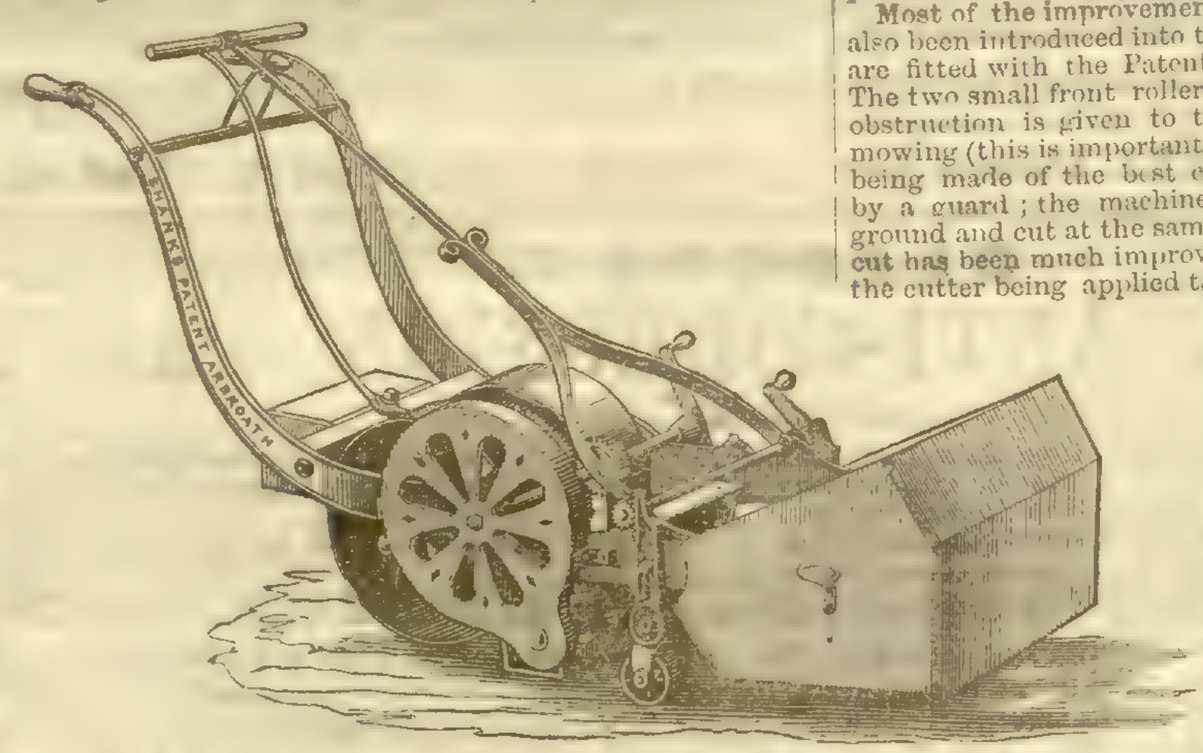
**Patronised by Her Majesty Queen Victoria, His Majesty the Emperor of the French, and His Royal Highness the Prince of Prussia.**

## SHANKS'S PATENT

# MOWING, ROLLING, COLLECTING, AND DELIVERING MACHINE FOR 1859.

### THE ONLY COMPLETE MACHINE FOR HORSE OR PONY POWER.

AMONGST other valuable improvements A. SHANKS & Son have this season made in their PATENT HORSE and PONY MACHINES, as fully described in the "*Gardeners Chronicle*" of March 5, page 207, the method of emptying the Grass Box is not the least important. The want of a speedy and efficient method for this purpose has been much felt for many years past. In the spring more especially, when the Grass springs up rapidly, nothing is more annoying in working a Mowing Machine than the stopping and almost constant travel from the handles to the box, and *vice versâ*, for the purpose of emptying the Grass. A great deal of time is thus lost, independent of the hard work to the man, not only in walking some hundreds of times the length of the Machine in a day, but more especially in the stooping posture which he has so often to endure. Many a Gardener can testify to this. This great want in all Mowing Machines whether past or present is completely obviated in SHANKS'S PATENT MOWING, ROLLING, COLLECTING, AND DELIVERING MACHINE FOR 1859. The improvement consists in the introduction of a simple and efficient apparatus for emptying the Box, without the man being under the necessity of either leaving the handles or stopping the machine. So effective and complete is the valuable improvement that the Box, if it were possible to fill it, could be emptied at the rate of 60 times a minute, without any undue strain being put on the apparatus. The immense advantages of this invention must be at once apparent to the practical Gardener. It will enable the Machine to do a third more work, while the labour and annoyance in doing it, as compared with ordinary Machines, is threefold lessened. If a lawn which formerly took a Machine nine hours to mow, can now be done in six hours, with three-fourths less labour to the man who works the Machine, nothing further is necessary to establish the utility and worth of the invention.




No Machine will turn quicker or work better than this improved Machine; great strength in construction, superiority in workmanship render it exceedingly durable, every conceivable convenience and improvement renders the Machine in every way complete for level as well as uneven lawns, has been introduced at the sacrifice of no time and expense, and the Patentees have great pleasure in seeing their efforts so far successful as to enable them with confidence to offer to the world the cheapest and most complete MOWING, ROLLING, COLLECTING, AND DELIVERING MACHINE extant at the following prices.

No. 1a, 48-inch Machine, 27*l.*; No. 1, 42-inch do., [illegible] 2, 36 inch do., 20*l.* 10*s.*; No. 3, 30 inch do., 17*l.* [illegible] 25-inch do., 13*l.* 10*s.*; No. 5, [illegible]-inch do., 9*l.* 10*s.* [illegible] with Sharpening Apparatus, 10*s.* extra. Boots for Horses feet to prevent injury to soft lawns, 25*s.* a set. Machines Nos. 1 a, 1, 2, 3, and 4, have the Patent Delivery Apparatus attached. No. 5 can be had either with or without the improvement; if with it, 30*s.* extra.

Most of the improvements of the Horse and Pony Machines also been introduced into the new Hand Machine. The Machines are fitted with the Patent Spiral Springs of the Horse Machines. The two small front rollers swivel, and are so placed that no obstruction is given to the Grass in front of the cutters in mowing (this is important). The cutting parts are very strong being made of the best cast steel. The wheels are protected by a guard; the machine will turn in a few square feet of ground and cut at the same time; the method of collecting the cut has been much improved, the power of raising or lowering the cutter being applied to both sides of the Machine at once, thus preventing the possibility of one side cutting lower than the other. A Tool Box is attached to each machine and is of great convenience. The machines will work on the most uneven lawns without injury to the turf; their steering wheels, as made, are fitted with the greatest care and precision of all sizes, so simple in construction that a labourer can work them, and are quite free from all superfluous and useless gear, which is not only novelty, but [illegible] as a recommendation. The Hand Machines are peculiarly well adapted for turning and cutting round Flower Beds, Verges, Bowling Greens, and for small Lawns. The Patent Improvements for this season render the Machines complete in every part. The draught is greatly lessened, and the execution of the work is unsurpassed.

| Prices of Machines for Pushing or Pulling, separately or together:— | |
|---|---|
| No. 6, 22-inch Machine | £7 17 6 |
| No. 7, 19-inch ditto | 7 5 0 |
| No. 8, 16-inch ditto | 6 10 0 |
| No. 9, 13-inch ditto | 5 15 0 |

| For Pulling only— | |
|---|---|
| No. 10, 22-inch Machine | £5 |
| No. 11, 19-inch ditto | 6 |
| No. 12, 16-inch ditto | 5 |
| No. 13, 13-inch ditto | [illegible] |

Tool Box, with sharpening apparatus, 5*s.* extra.

The above are net cash prices, and include delivery to any of the principal Railway Stations in England or Scotland. Machines are warranted to give ample satisfaction; failing this (which is barely possible) they may be at once returned.

FURTHER PARTICULARS MAY BE HAD ON APPLICATION.

**ALEXANDER SHANKS & SON, Patentees and Sole Manufacturers, Dens Iron Works, Arbroath, Forfarshire.**

*N.B. To prevent disappointment in delivery early Orders are particularly requested.*

# FOWLER'S PATENT STEAM PLOUGH.

THIS IMPLEMENT OBTAINED
THE FIVE HUNDRED POUNDS PRIZE AT THE ROYAL AGRICULTURAL SOCIETY'S SHOW AT CHESTER, JULY 1858 (AFTER THREE YEARS' COMPETITION),

AND HAS ALSO OBTAINED
THREE HUNDRED AND SEVENTY-FIVE POUNDS AT VARIOUS OTHER AGRICULTURAL SHOWS IN THE UNITED KINGDOM.

THE WINDLASS CAN BE FITTED TO ANY AGRICULTURAL ENGINE.

*For further Particulars, Prices, and Catalogues, apply to*

JOHN FOWLER, Jun., 23, Cornhill, London, E. C.

# PATENT LAWN MOWING AND ROLLING MACHINES.

# SAMUELSON'S LAWN MOWING MACHINES,

## WITH BOYD'S PATENT IMPROVEMENTS.

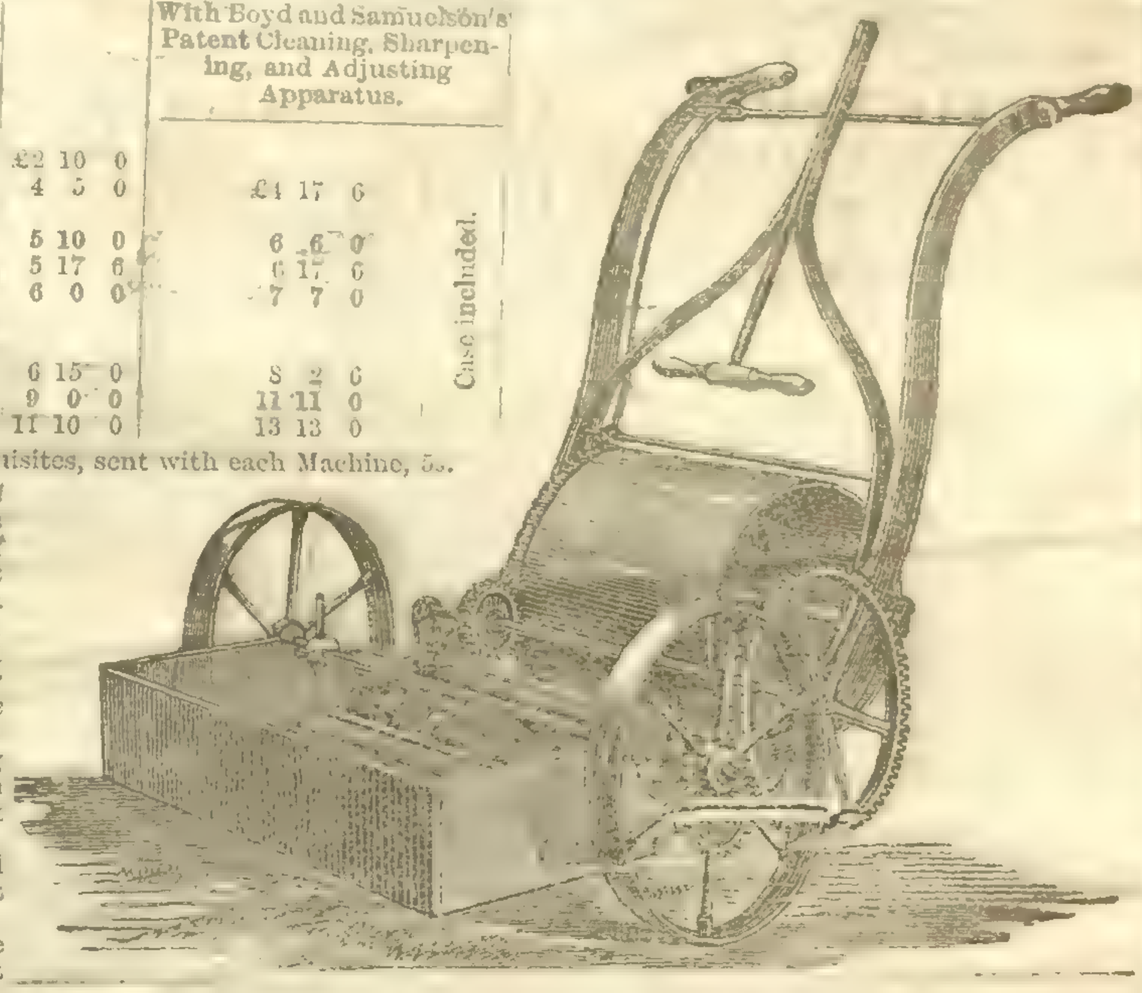
*"Doing the work of five or six men."—The Times, Sept. 20, 1858.*

The following PRICES include the Carriage to any Railway Station in England:—

| | | With Boyd and Samuelson's Patent Cleaning, Sharpening, and Adjusting Apparatus. |
|---|---|---|
| 9 inches wide, for very narrow borders, without registered wheels .. .. | £2 10 0 | |
| 14 inches wide .. .. .. .. | 4 5 0 | £4 17 6 |
| 14 inches wide, with registered arrangement (for one man) .. .. .. | 5 10 0 | 6 6 0 |
| 18 inches wide, ditto (for one man) .. | 5 17 6 | 6 17 6 |
| 22 inches wide, ditto (for man and boy) | 6 0 0 | 7 7 0 |
| 22 inches wide, ditto for ditto, and also fitted with draught links for a pony and a man to work it .. .. | 6 15 0 | 8 2 6 |
| 27 inches wide, ditto .. .. .. | 9 0 0 | 11 11 0 |
| 36 inches wide, ditto (for man and pony) | 11 10 0 | 13 13 0 |

Case included.

Box of Tools, Oil Can, and other requisites, sent with each Machine, 5s.



**Some thousands of these Machines are now in successful operation on the Lawns of Royalty, the Nobility, and Gentry of the United Kingdom and the Continent of Europe, and are pronounced SUPERIOR** *above* for lightness of draught, facility, and durability. The demand [illegible] *nearly one-third—the number supplied by* Mr. SAMUELSON *during the years* 1856, 1857, *and* 1858 *being more than* 1,200. Testimonials are continually being received from gentlemen having them in daily use, who speak in the highest terms of their efficiency.

These are the only Machines that will **cut wet as well as dry Grass without clogging the knives.**

Orders for 1859 should be sent at once to ensure certain delivery and to prevent disappointment.

Copies of Testimonials will be forwarded post free on application to

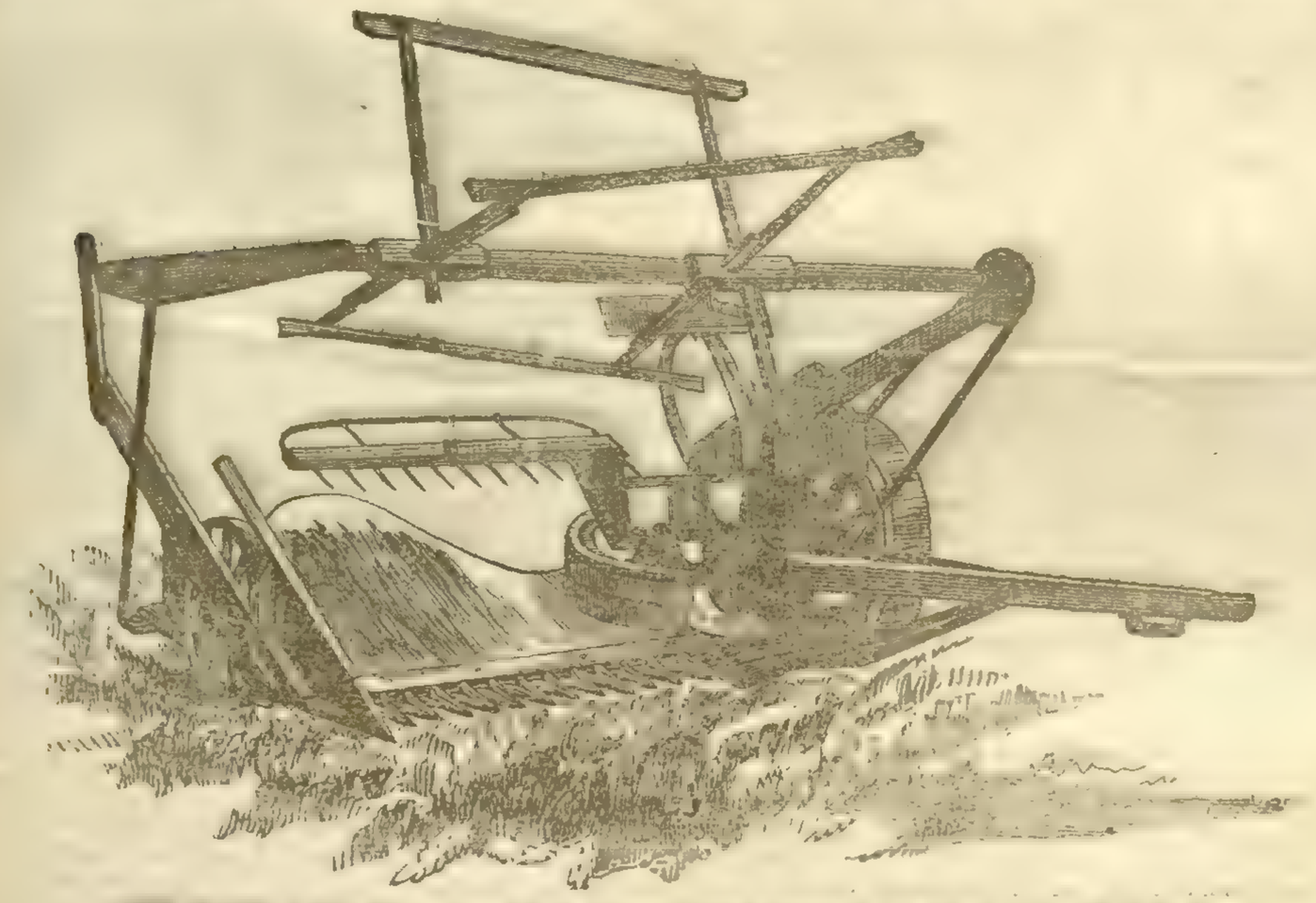
**B. SAMUELSON, 76, Cannon Street West, City, London;**

**to the Manufactory, Britannia Works, Banbury, Oxon;**

or to MESSRS. DEANE AND CO., London Bridge; or any respectable Ironmonger or Seedsman in the Kingdom

# B. SAMUELSON,

## AGRICULTURAL ENGINEER AND MACHINIST,



WAREHOUSE, 76, CANNON STREET WEST, LONDON,

**WORKS AT BANBURY,**

INFORMS MERCHANTS, the TRADE, and AGRICULTURISTS, that he has opened the above Warehouses as a depôt for his own manufactures and those of Messrs. Barrett, Clayton, Howard, Hornsby, Nicholson, Raymond, Tuxford, Smith, and all other first-class makers, whose implements he is prepared to offer on makers' terms.

## THE BRITANNIA SELF-RAKING REAPING MACHINE,

With side delivery in sheaf, no rakers or gatherers required; and all the most improved Spring Implements for the season, may be inspected at the above depôt.

**B. SAMUELSON, 76, Cannon Street West, London, and Britannia Works, Banbury.**

FOR EFFECTUALLY Protecting the Bloom of Wall Trees from Spring Frosts use SHAW'S NETTED TIFFANY, DOUBLE STRENGTH. In pieces 18 yards long by 3 yards wide, 7s. 6d. each.—JOHN SHAW & Co., Princess Street, Manchester.

SHAW'S TIFFANY.—The best and cheapest material for Shading Conservatories, Protecting Fruit from Birds and Wasps, &c. Sold in pieces 20 yards long by 38 inches wide. No. 1, best quality, 5s. per piece; second quality, 4s. per piece. Extra strong and thick (see Circular sent free by post with samples).

Address JOHN SHAW & Co., Manufacturers and Dealers, Princess Street, Manchester.

MICROSCOPES.

J. AMADIO'S BOTANICAL MICROSCOPES, packed in mahogany case, with three powers, condenser, pincers, and two slides, will show the animalcule in water. Price 18s. 6d.—Address JOSEPH AMADIO, 7, Tavistock Street. A large assortment of Achromatic Microscopes.

"It is marvellously cheap, and will do everything which the lover of nature can wish it to accomplish either at home or in the open air."—*The Field*, June 6, 1857.

Just published, an Illustrated Catalogue, containing the names of 1000 Microscopic objects, post free for 4 stamps.

GEORGE SPILL, ST. GEORGE'S STREET, LONDON DOCKS, E., LEAD, OIL, and COLOUR WORKS; WHITE LEAD, TAR, and TURPENTINE MERCHANT; WHITE ZINC, PAINT, COLOURS, and VARNISHES. To meet the desire of purchasers in the country the following colours are prepared ready for use:—Priming Colour, Red and Yellow Paint, Buff Stone, Lead, and Green Colours. Putty, Painter's Tools and Brushes, Refined Coal and Stockholm Tars; Pure Colza, Olive, Sperm, and Nut Oils.


# Sales by Auction.

## TO GENTLEMEN, FLORISTS, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS will Sell by Auction at the Mart, Bartholomew Lane, on FRIDAY, March 25, at 12 o'clock, a first-class Collection of **Carnations, Piccotees, and Pinks; about 300 choice Standard** and Dwarf Roses, consisting of the most approved kinds; **choice Fruit Trees, Azalea indica, Camellias, and other Plants** in bloom, selected American Plants, Pelargoniums, Verbenas, Fuchsias, Dahlias in dry roots, &c.—May be viewed the morning of Sale. Catalogues to be had at the Mart, and of the **Auctioneers, American Nursery, Leytonstone.**

## BLACKHEATH PARK.

11,000 GREENHOUSE PLANTS, 250 AMERICAN AND OTHER SHRUBS, STACK OF PRIME MEADOW HAY, DONKEY, CART AND HARNESS, WATER CART, GARDEN ROLLERS, FRAMES, HAND LIGHTS, TOOLS, PUNT AND CANOE, MANURE, TWO ALDERNEY HEIFERS, AND MISCELLANEOUS EFFECTS.

MR. KIRKMAN is favoured with instructions from James Cook, Esq., whose lease has expired, to Sell by Auction, on the Premises, Brooklands, Blackheath Park, on TUESDAY, March 22, at 12 for 1 o'Clock precisely, about 11,000 Greenhouse, American, and other Plants, comprising 500 Fancy Geraniums, 250 Rhododendrons, Kalmias, Azaleas, Hydrangeas, 10,000 Tom Thumb, Variegated, and other Geraniums, Cinerarias, Verbenas, and Plants for bedding, 3000 Cauliflower, Lettuce, and Cabbage Plants, and about 250 hardy American Shrubs, Stack of prime Meadow Hay (about 10 loads), Donkey, Cart and Harness, Water Cart, three Garden Rollers, 2-light and a 1-light Frame, Hand Lights, Tools, Wheelbarrows, Punt and Canoe, two well-bred Heifers, and Miscellaneous Effects.—May be viewed the Saturday and Monday previous to Sale, and Catalogues obtained of Mr BRIODEN, Arcade, London Bridge Station; and of Mr. KIRKMAN, Auctioneer, Valuer, Surveyor, and Estate Agent, opposite the Railway Station, Blackheath, and 8, Clement's Lane, E.C.

## DOWNSIDE FARM, COBHAM PARK, SURREY.

VERY IMPORTANT SALE OF FIRST-CLASS SHORT-HORNS.

MR. STRAFFORD has received instructions to announce for Sale by Auction, without reserve, on WEDNESDAY, March 23, the entire herd of first-class SHORT-HORNED CATTLE, the property of the late Harvey Combe, Esq., of Cobham Park, Surrey, consisting of about 70 Head of Bulls, Cows, and Heifers, which have been bred from the choicest blood that could be procured, no expense having been spared in the original selection of animals of the highest breeding and character. The Cows and Heifers are principally in calf to Marmaduke (14897), for which 500 guineas were given at the Bushey Grove Sale in 1857, and the produce of this animal already dropped fully justify that outlay. This splendid Herd will be offered in its ordinary condition, and is only to be sold in consequence of the decease of its lamented owner.—Catalogues, with pedigrees, may be had on application to Mr. STRAFFORD, 13, Euston Square, London; or of Mr. E. KIRBELL, at the Downside Farm, Cobham, Surrey.

## PERDISWELL HALL, NEAR WORCESTER.

IMPORTANT SALE OF PLANTS.

MR. BENTLEY will Sell by Auction, at Perdiswell Hall, near Worcester, on WEDNESDAY and THURSDAY, the 23d and 24th days of March, commencing each day at 11 o'Clock, by direction of the Executors of the late Sir Offley Penbury Wakeman, Bart., a splendid Collection of Orchids, in fine health; Apricot, Peach, Nectarine, Plum, Cherry, and Vine Trees, in pots; specimen Stove and Greenhouse Plants, including Azaleas, Heaths, Camellias, &c.; healthy Ferns, about 200 Cinerarias, fine blooming plants; a number of very healthy Fruiting and Succession Pine Plants; Bedding Plants, including fine specimens of Mountain of Light Geranium, &c. &c.; an Excellent Forcing House, 40 ft. by 16 ft., in 4 divisions, heated by hot water; three Brick Pits; six, two, and one-light Cucumber Frames and Lights; a quantity of Seed Potatoes, &c.—Catalogues may be had one week prior to the sale at the offices of Mr. MARTIN CURTLER, Solicitor, Sansome Place, or the Auctioneer, Foregate Street, Worcester.

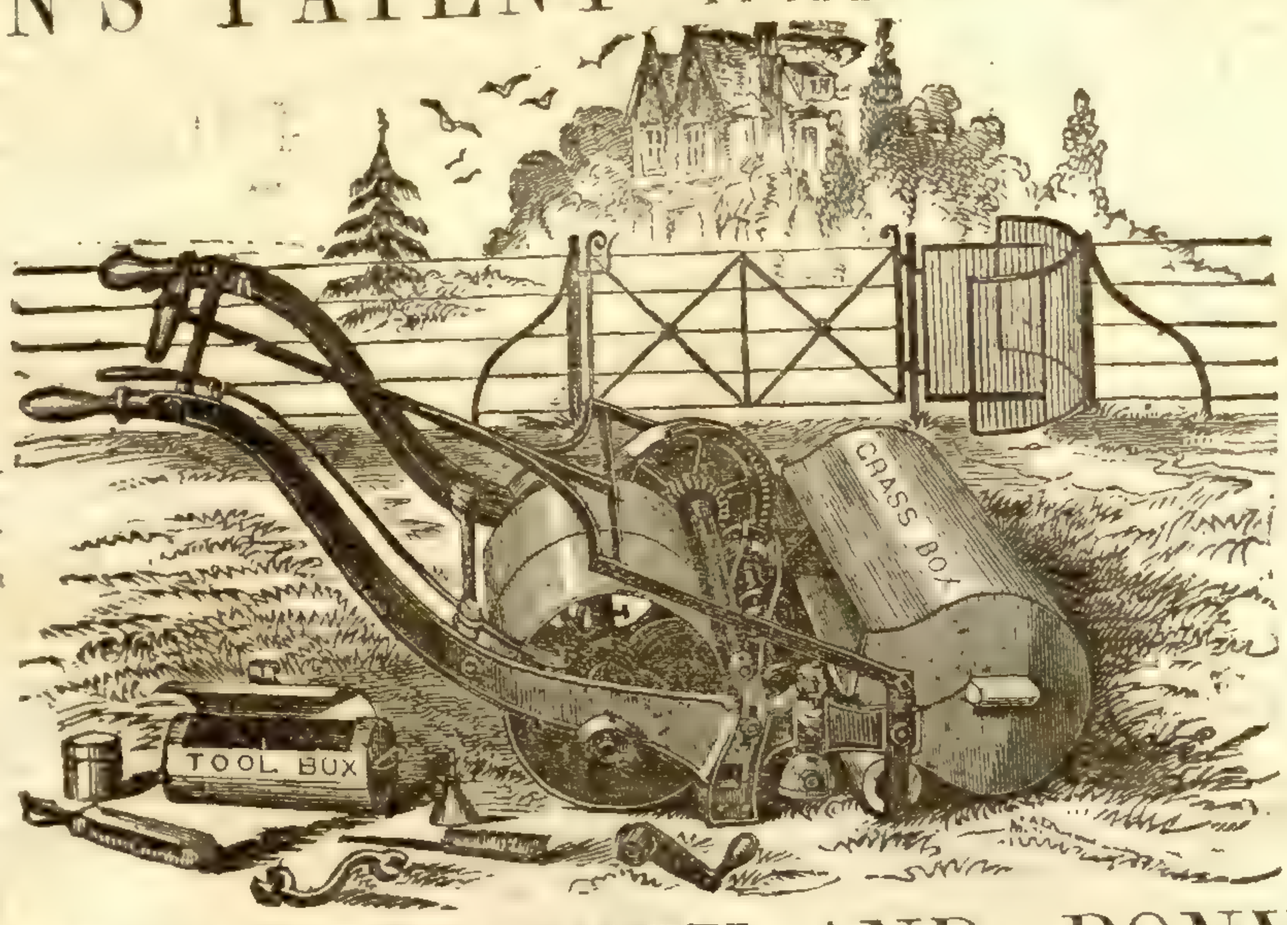
## SURBITON.

TO GENTLEMEN, NURSERYMEN, BUILDERS, AND OTHERS.

MR. J. WILLMER begs to announce that he is instructed to Sell by Auction, on the premises, Woodside Nursery, adjoining Surbiton Hill, on the Ewell Road, on THURSDAY, March 24, at 11 o'Clock, the whole of the NURSERY STOCK, which comprises many choice and valuable specimen Plants, with a variety of EVERGREENS and SHRUBS, comprising:—Common Laurels, from 4 ft. to 6 ft.; Portugal ditto, 2 ft. to 4 ft.; Aucuba, 2 ft.; Bamboo, 2 ft.; Bays, 2 ft.; Box, 2 ft. to 4 ft.; Rhododendrons, of sorts, 2 ft. to 3 ft.; Kalmia latifolia, 2 ft.; Berberis aquifolia, 1 ft. to 2 ft.; Arbor-vitæ, 2 ft. to 4 ft.; Taxus fastigiata, or Irish Yew; Pinus of sorts; Spruce Fir, 4 ft. to 6 ft.; Weymouth Pine, 6 ft. to 8 ft.; Abis canadensis, 4 ft. to 6 ft.; Yews, 4 ft.; Cedrus Deodara, 6 ft.; Taxodiums sempervirens, 6 ft.; Green Hollies, Deodara, 6 ft.; Red Cedar, 3 ft.; Evergreen Oak, 3 ft. to 4 ft.; 2 ft. to 6 ft.; Cotoneaster nigrophylla; Acacia, 6 to 8 ft.; Birch, 8 to 12 ft.; Cotoneaster nigrophylla; Acacia, 6 to 8 ft.; Birch, 8 to 12 ft.; Laburnum; 6 ft. to 8 ft.; &c.—May be viewed three days prior to the Sale, and Catalogues had of Mr. BROWN, Surbiton Pottery; and of the Auctioneer, Springfield Nursery, Sunbury, S.W.

## GREEN'S PATENT GRASS CUTTING, COLLECTING, & ROLLING MACHINES FOR 1859.

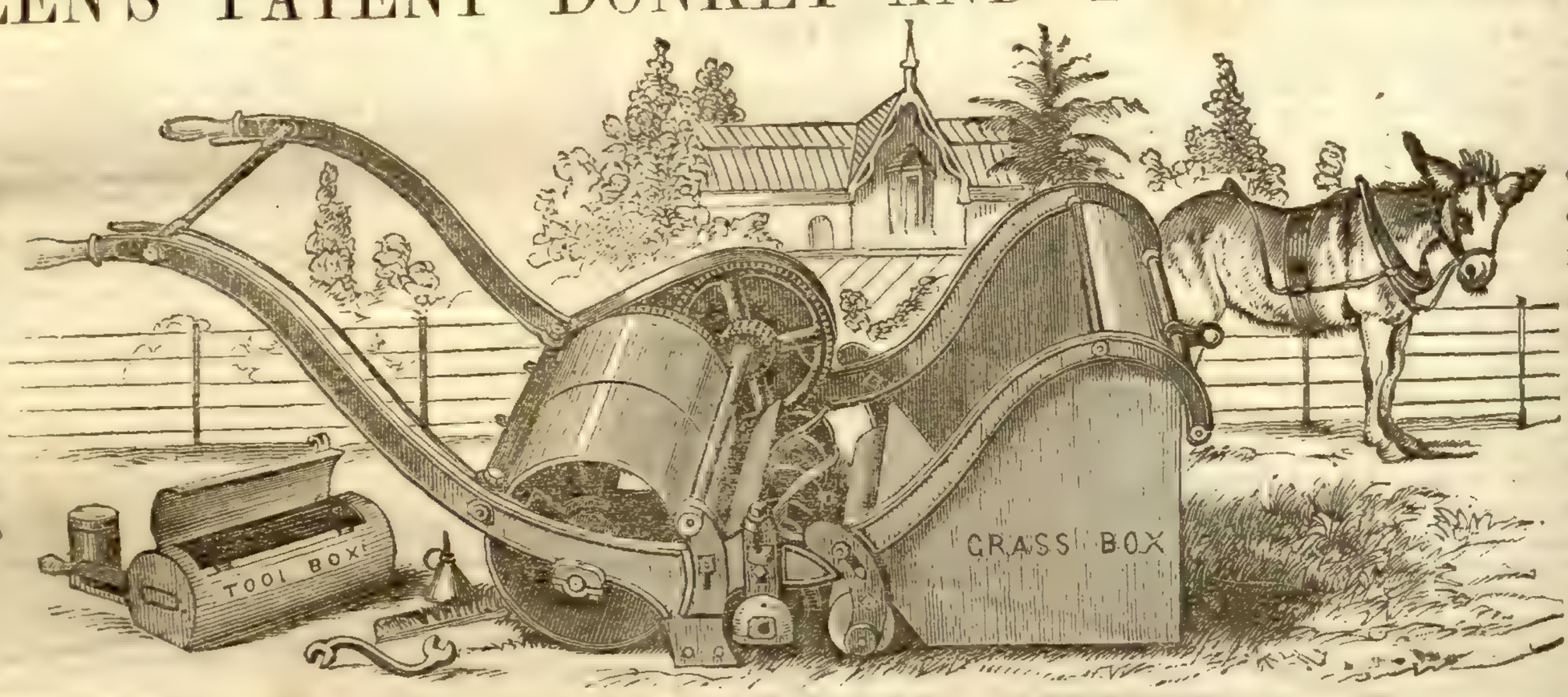
# GREEN'S PATENT HAND MACHINE.




LIST OF PRICES.

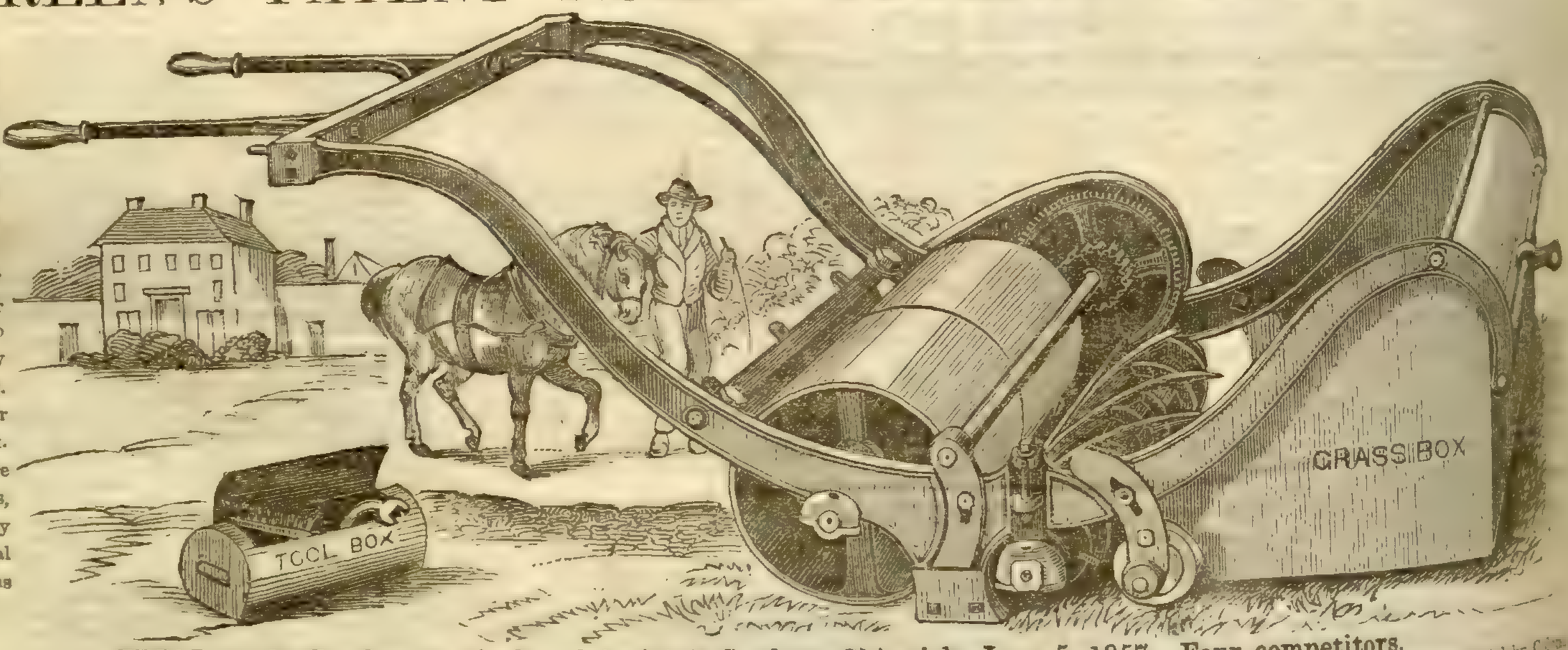
To cut 14 inches, 6*l.*; 16 in. 6*l.* 10*s*; 18 in. 7*l.*—for one person. To cut 20 inches 7*l.* 10*s.*; 22 in. 8*l.*; 24 in. 8*l.* 10*s.*—for two persons. *If* with Box and Too's for sharpening and keep[ing] Machine in order, 5*s.* extra; with Gua[rd] preventing accidents and keeping the w[heels] clean, 5*s.* extra.

# GREEN'S PATENT DONKEY AND PONY MACHINE,




Suitable for a Donkey, to cut 24 inches, 10*l.*; 26 in., 11*l.* For a Pony, 30 in., 15*l.*; box, tools, &c., 6*s.* 6*d.* extra. Leather traces, stretcher, &c., suitable to attach to common harness or chain traces, 7*s.* 6*d.* Leather boots, suitable for donkey's feet, 16*s.*; do. for a pony, 20*s.* per set of four. Guard for covering wheels, 5*s.* extra.

# GREEN'S PATENT HORSE MACHINE (MADE VERY STRONG).




To cut 30 ins., 18*l.*; 36 ins., 21*l.*; 42 ins., 24*l.*; 48 ins., 27*l.* Box of tools, 7*s.* 6*d.* extra. Leather traces, stretcher, &c., 10*s.* Boots per set of four for Horses' feet, to prevent injury to lawns, 24*s.* Guard for wheels, 5*s.* ex.—The above are Net cash prices, delivered at any of the principal Rlway. Stations in England.

**TRIAL at the London Horticultural Society's Gardens, Chiswick, June 5, 1857. Four competitors.**

First trial on level ground, second do. on undulated, third do. on intricate places around trees, &c., when GREEN'S PATENT was unanimously declared to be the best in each trial by Colonel Challoner, Dr. Lindley, and G. M'Ewen, Esq., the appointed Judges.

See the *Gardeners' Chronicle* of May 22, 1858, p. 423, under the heading of "Garden Memoranda."

"LONDON HORTICULTURAL GARDENS, CHISWICK.—The Grass in the Arboretum and elsewhere is in excellent condition; it is kept in order by means of one of GREEN'S 2-feet Mowing Machines, which does its work very satisfactorily, and, compared with the scythe, effects a saving of at least one-half."

Extract from London *Times* of June 8, and *Gardeners' Chronicle* of June 12, 1858.

"TRIAL OF MOWING MACHINES.—A considerable number of various sizes having been brought to the ground it was agreed that the trial should take place between One Hand Machines of each exhibitor, as nearly as possible of uniform size and worked by themselves, or their men. The ground to be worked was determined by lot, the pieces having been previously selected of as uniform quality as possible. After trials on level ground and round trees, the Judges, Colonel Challoner and Mr. Edward Easton, declared GREEN'S Patent to be the best.

(Signed) "C. B. CHALLONER, EDWARD EASTON, Judges

THOS. GREEN respectfully informs the Nobility, Gentry, Gardeners, Amateurs, and others, that upwards of Six Hundred of these Machines were sold in 1857, and to show the increased demand, above Nine Hundred were sold last season—they have proven to be the best in all cases of competition, are entirely remodelled, and all the little defects pointed out by the Judges last Year, are now rectified. The Patentee now considers the Machines as near perfection as possible. Although the Machines have been so much improved, at a great additional cost, no extra charge will be made, excepting for a neat Guard, which is placed over the wheels to keep them clean, and to prevent breakage or accidents, which will be 5*s.* extra to parties requiring them.

☞ The Machines are warranted to give satisfaction, or may be at once returned by the party paying the carriage back to Leeds. The Patentee has spared neither time nor expense in producing the best and cheapest Mowing, Collecting, and Rolling Machines ever brought before the public. Hundreds of Testimonials (unsolicited) may be seen, and references given with regard to the superiority of the machines, by applying to the Patentee,

## THOMAS GREEN, Smithfield Iron Works, Leeds; or, No. 2, Victoria Street, bottom of Holborn, London.

☞ *T. G. will be glad to receive orders for Machines as early as possible, as a great difficulty was found last season in supplying the number required.*

N.B. Parties desirous of having their Machines repaired may forward them to either the London or Leeds establishment, where they will have the best attention.


Printed by WILLIAM BRADBURY, of 13, Upper Woburn Place, and FREDERICK MULLETT EVANS, of No. 20, Queen's Road West, both in the Parish of St. Pancras, in the Co. of Middlesex, Printers, at their Office, Lombard St. Precinct of Whitefriars, City of London, and published by them at the Office, No. 5, Upper Wellington St., Parish of St Paul's, Covent Garden, in the said Co.—SATURDAY, March 19, 1859.

# THE GARDENERS' CHRONICLE AND AGRICULTURAL GAZETTE.

**A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.**

No. 13.—1859.] SATURDAY, MARCH 26. {Price Fivepence. STAMPED EDITION, 6d.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HORTICULTURAL SOCIETY OF LONDON.—Notice is hereby given that the business of the Society will be carried on in future at No. 8, St. Martin's Place, Trafalgar Square, W.C.

HORTICULTURAL SOCIETY OF LONDON.—The next Meeting of the Fruit Committee will be held at 8, St. Martin's Place, Trafalgar Square, W.C., on Tuesday, April 5, at 12 noon; on which occasion the following prizes are offered:—

For the best dish of LATE GRAPES, Two Guineas.
For the second best do., One Guinea.

Each dish to be accompanied by a form filled up by the Exhibitor. The blank forms for this and other fruits that may be exhibited, can be obtained on application to Secretary to the Committee, Mr. ROBERT THOMPSON, Horticultural Society's Garden, Chiswick, London, W.

N.B.—The Carriage of packages of Fruit will be paid.

HORTICULTURAL SOCIETY OF LONDON,
8, ST. MARTIN'S PLACE, W.C.

Notice is hereby given that a MEETING will take place on FRIDAY, April 8, at half-past 10 A.M. The only business that will be transacted is the election of Fellows.

HORTICULTURAL SOCIETY OF LONDON,
8, ST. MARTIN'S PLACE, W.C.

Notice is hereby given that the FIRST BALLOT for PLANTS will take place on April 15, at 11 A.M., in presence of the Council. All Fellows can take part in it, by merely sending in their names to the Secretary; but the arrangements to be made render it absolutely necessary that such names be received two clear days before the day of Ballot.

HORTICULTURAL SOCIETY OF LONDON.—DISTRIBUTION OF SEEDS.

The Seeds annually provided for distribution being now ready, Fellows of the Society who have not received them can obtain them upon application at the Society's Office, 8, St. Martin's Place, Trafalgar Square, W.C.

LAING'S MAMMOTH RED CELERY.—The largest and best flavoured Celery known, and will not run to seed until the second year. (See former advertisement.)

Packets, 1s. each; large trade do., 3s. 6d., per post prepaid. Stamps received in payment.

TOUELL & Co., Royal Nursery, Great Yarmouth.

HENRY'S HYBRID SCOTCH LEEK.

CHARLES ALEXANDER, SEEDSMAN, Edinburgh, offers Seeds of the above unrivalled LEEK at 1s. and 2s. 6d. per packet.

He exhibited three in December last which weighed 9 lbs., and blanched to upwards of 12 inches each.

THE ALLIANCE POTATO.—Patronised by her Most Gracious Majesty the Queen, the Emperor of the French, and the Nobility of England, Scotland, and Wales. One Peck of these celebrated White Potatoes can be obtained of the grower only, Mr. JAMES COPELAND, Thames Street, Windsor, on receipt of Post-office Order for 7s. 6d.

500 BUSHELS of FLUKE and WHITE BLOSSOM SEED POTATOES, true, free from disease, and suitable sizes, at 3s. 4d. the bushel of 80 lbs., samples of which may be had on application to Mr. WM GROSVENOR, Prospect Nursery, Cheddleton, near Leek, Staffordshire.

A remittance or reference from unknown correspondents.

CHINESE POTATOES (DIOSCOREA BATATAS) for planting the ensuing month. Large sets from full-sized, well-matured tubers, some of them weighing over 2½ lbs., grown in this country, 2s. 6d. per dozen.—Apply, WM. LEMON, Knutsford, Cheshire.

DIOSCOREA BATATAS.—Large Roots at 1s. per lb.—Apply to HOOPER & Co., Covent Garden Market.

DIOSCOREA BATATAS.—Fine roots, 9 to 12 inches long, 5s. per dozen; extra size, 10s. per dozen.
BASS & BROWN, Seed Growers, &c., Sudbury, Suffolk.

DIOSCOREAS—FINE LARGE ROOTS CHEAP.

SUTTON AND SONS, Reading, can supply DIOSCOREA BATATAS, 9 inches long, at 5s. per dozen, or 40s. per 100. This vegetable is worthy of all that has been said in its favour, and will thrive in almost any soil and situation.
SUTTON & SONS, Royal Berkshire Seed Establishment, Reading.

SORGHUM, OR HOLCUS SACCHARATUS.

SUTTON AND SONS, Importers of this Seed, can supply it wholesale and retail, warranted the true kind, and good growing Seed. 8 lbs. per acre sufficient.

Present retail price 2s. per lb., or cheaper in large quantities. Instructions on cultivation sent with the Seed.
SUTTON & SONS, Royal Berks Seed Establishment, Reading.

FERN CATALOGUE.

ROBERT SIM'S NEW DESCRIPTIVE AND PRICED CATALOGUE, No. 6 (62 pages) of his COLLECTION of BRITISH AND EXOTIC FERNS, can be had, post free, for 8 stamps. Gratis to all previous purchasers of Ferns.
Nursery, Foot's Cray, Kent, S.E.

GEORGE BAKER begs to inform the Nobility and Public that his DESCRIPTIVE CATALOGUE OF AMERICAN PLANTS AND GENERAL NURSERY STOCK will be sent free on application.

American Nursery, Windlesham, near Bagshot, Surrey, about 1 mile from Sunningdale Station, South Western Railway.

NEW DAHLIAS.

JOHN KEYNES'S SELECT CATALOGUE OF DAHLIAS, ROSES, CARNATIONS, PINKS, &c., containing Lists of all the valuable Show Flowers in each class, is now ready and will be sent on application.
Castle Street Nursery, Salisbury.—March 26.

NEW CATALOGUE OF FLORIST FLOWERS, &c.

DOWNIE AND LAIRD beg to intimate that their DESCRIPTIVE CATALOGUE of FLORIST FLOWERS, New VEGETABLE and FLOWER SEEDS for 1859, is now Ready, and will be sent free on application.
17, South Frederick Street, Edinburgh.

HENDON PARK NURSERIES, HENDON, N.W.

SEED LIST, 1859.—A choice selection of the newest and best varieties of PEAS, BEANS, POTATOES, and all Kitchen Garden produce. The best Seeds for the Flower Garden. Forwarded on application.—EDWARD SHENTON.

HENDON PARK NURSERIES, HENDON, N.W.

DESCRIPTIVE CATALOGUE OF NEW DAHLIAS, HOLLYHOCKS, PELARGONIUMS, BEDDING AND BORDER PLANTS, and the leading New Flowers of the season 1859. Forwarded on application.
EDWARD SHENTON.

BELGIAN DAISIES.—In the finest variety, 4s. per dozen.—DODWELL & BAYLEY, Bradshaw Gardens, Chadderton, Manchester.

CHOICE GERANIUMS.

JAMES HOLDER can supply the above (including French, Fancy, and Show varieties), at 15s. per dozen. List of names forwarded on application.
N.B. The Trade supplied on liberal terms.
Crown Nursery, Reading, Berks.

GERANIUMS! GERANIUMS!

JOHN DOBSON AND SONS have a very fine healthy stock of the above which they can supply at moderate prices. CATALOGUES forwarded free on application.
Woodlands Nursery, Isleworth.

CHOICE SHOW GERANIUMS.—From 100 and upwards of the leading kinds, good Blooming Plants, in 48-size pots, at 8s. per dozen. Warranted true to name. To be had of B. WHITHAM, Clough Nursery, Mottram, nr. Manchester.

CHOICE SEEDS.

J. DOBSON AND SONS' LIST comprises all the leading sorts of VEGETABLE, FLOWER, AND AGRICULTURAL Seeds, which will be sent post free on application. Woodlands Nursery, Isleworth, W., and High St., Hounslow, W.

NEW ROSES.

A. PAUL AND SON beg to inform admirers of the Rose that they will have plants of all the NEW ROSES ready for Sale by the middle of April at the lowest advertised prices.—Nurseries, Cheshunt, Herts.

PANSIES.—The best and most distinct kinds, extra fine show varieties, 6s. per dozen.—DODWELL & BAYLEY, Bradshaw Gardens, Chadderton, Manchester.

CHOICE PANSIES.

HART AND NICKLIN, FLORISTS, &c., Guildford, offer a dozen choice named Pansies for 6s., or 50 plants for 1l., strong and healthy. Also fine HOLLYHOCK SEED, saved from extra varieties, 100 Seeds for 1s.
Border PANSIES, PINKS, ROCKET, PHLOX, &c., 3s. p. doz.

TRENTHAM BLUE BEDDING PANSY.—Strong bushy plants that will give a mass of flower this spring.

ALYSSUM SAXATILE (THE YELLOW ALYSSUM).—Good plants to bloom this spring. Price on application.
WILLIAM DEAN, Bradford Nursery, Yorkshire.

CARNATIONS.—Twenty-five pairs strong, well rooted, and extra fine show varieties, named 1l., packing and hamper included.—DODWELL & BAYLEY, Bradshaw Gardens, Chadderton, Manchester.

PICOTEES.—Twenty-five pairs strong, well-rooted plants, and extra fine show varieties, named, 1l., packing and hamper included.—DODWELL & BAYLEY, Bradshaw Gardens, Chadderton, Manchester.

PINKS.—Twenty-five pairs fine named kinds, in strong healthy plants, 10s., packing and hamper included.—DODWELL & BAYLEY, Bradshaw Gardens, Chadderton, Manchester.

FINEST SHOW CARNATIONS, PICOTEES, PINKS, &c.

CHARLES SCHOFIELD has a fine healthy stock of the above for sale at 6s., 12s., and 20s. per dozen pairs. Also PANSIES, DAHLIAS, VERBENAS, FUCHSIAS, &c. CATALOGUES now ready, sent free on application.—Knowsthorpe, near Leeds, Yorkshire.

GRAYSON'S GIANT ASPARAGUS.—
Fine 2-year roots, 2s. 6d. per 100; or 21s. per 1000.
,, 3-year ,, 3s. 6d. ,, 100; or 30s. ,, ,,
The usual allowance to the Trade.
BASS & BROWN, Nurserymen, Sudbury, Suffolk.

THE IMPROVED CUSTARD MARROW.—See drawing of this handsome and productive variety in the *Gardeners' Chronicle* of Jan. 29 and Feb. 12. 12 seeds for 13 postage stamps; 9 seeds for 7 stamps. The trade supplied.
BASS & BROWN, Seed Growers, Sudbury, Suffolk.

CUTHILL'S NEW ZEALAND RUNNER BEANS, POST FREE.

SUTTON AND SONS can supply the true kind of NEW ZEALAND RUNNERS, as obtained through Mr Cuthill, at 2s. 6d. and 1s. per packet.—Reading, March 26.

NEW ZEALAND RUNNER BEAN.—Price 2s. per quart.—JAS. CARTER & Co., Seedsmen, 238, High Holborn, London, W. C.

NEW ZEALAND RUNNING BEAN.—Packets of 12 Seeds, for 14 stamps.
BASS & BROWN, Seed Growers, &c., Sudbury, Suffolk.

LARGE GREEN-TOP WHITE BELGIAN CARROT.—Fine new Seed, raised from fresh-imported stock, can be supplied at 1s. per lb, or cheaper in large quantities, by
SUTTON & SONS, Seed Growers, Reading.

NEW FARM SEEDS.—Purchasers of large quantities of FARM SEEDS will be treated liberally on application to SUTTON & SONS, Royal Berkshire Seed Establishment, Reading.

GOOD CLOVER SEEDS.

GENUINE NEW CLOVER SEEDS can be had of
SUTTON & SONS, Seed Growers, Reading, Berks.

THE ALSIKE CLOVER.—This valuable but scarce Clover Seed is included in Messrs. SUTTON'S mixtures of Clover and Grass Seeds for permanent pasture and for alternate husbandry. It can be supplied alone if required. Price fluctuating, to be had on application.
Royal Berks Seed Establishment, Reading.

SPERGULA PILIFERA.—An established plant of the above that will blossom during the coming summer, and prove itself a perfect substitute for Grass Lawns without mowing, sent post free on receipt of 2s. 6d. or 30 stamps.—Address JOHN SUMMERS, Gardener, Forest Hill, Sydenham.

ITALIAN RYE-GRASS SEED.—Buyers of this Seed will please write for samples, present price very cheap, to J. DIXON, Seedsman, Kendal.

PAMPAS GRASS (GYNERIUM ARGENTEUM).—The beauty of this extraordinary plant has this season been fully appreciated. It can be supplied by the dozen, hundred, or thousand, by CHARLES NOBLE, Bagshot, Surrey.

JOHN CULVERWELL, Taunton, begs to call the attention of Agriculturists to his superior selection of GRASS SEEDS, which for PURITY, change of SOIL, and CLIMATE, will bear comparison with any house in the kingdom. Prices, terms, and samples forwarded on application.

GIANT SAINFOIN SEED.—Seed of this excellent and productive Plant may be had of RAYNBIRD & HARVEY, Basingstoke, and 89, Seed Market, Mark Lane. Samples and prices on application.

N.B. R. & H. can also supply Common Sainfoin both of English and French growth at market prices.

TROPÆOLUM CANARIENSE.

FAIRHEAD AND SON, SEED GROWERS and MERCHANTS, Lewisham, Kent, have for sale several lbs. of the above of home growth. Price on application.

CHEAP, SELECT, AND USEFUL NURSERY STOCK.

WM. JACKSON AND CO., of Bedale, Yorkshire, beg to call attention to their advertisement in the *Gardeners' Chronicle* of March 5, page 187.

HANDSOME LARGE SPECIMEN GREENHOUSE PLANTS.—See Advertisement in *Gardeners' Chronicle*, March 5, page 186.
WM. JACKSON & Co., Bedale, Yorkshire.

CONIFERÆ.

A. PAUL AND SON have a large stock of the above, very handsome, in fine order for removal, many suited for immediate effect. For particulars see Advertisements in *Gardeners' Chronicle* of November and December last.—Nurseries, Cheshunt, Herts.

HERBACEOUS AND ALPINE PLANTS.

W. HOLCROFT, Upholland, Wigan, begs to offer selections of these beautiful plants, at the following moderate rates:—

| | | | |
|---|---|---|---|
| 100 very superior kinds | £1 15 0 | 100 showy kinds | £1 5 0 |
| 50 ,, ,, | 0 18 0 | 50 ,, ,, | 0 13 0 |

All the choice and rare kinds at moderate prices.

SEEDLING QUICKS.

WANTED, 500,000 Quicks, 1-year Seedlings, good plants.—Price and samples to be sent to
B. WHITHAM, Clough Nursery, Mottram, near Manchester.

BLOOD ORANGE.

WANTED, a fine healthy specimen of the TRUE BLOOD ORANGE.—Any person having such an one to dispose of is requested to forward particulars, stating size, price, &c., to Mr. JAMES VEITCH, jun., Royal Exotic Nursery, Chelsea, S.W.

PHLOXES.—The best and most distinct kinds, strong plants, well established, 8s. per dozen.—DODWELL & BAYLEY, Bradshaw Gardens, Chadderton, Manchester.

THE NEW PELARGONIUM "THE BRIDE" (BECK).—Splendid plants of this beautiful new variety are now being sent out at 21s. each. Blooms sent free on receipt of three stamps.
JOHN DOBSON & SONS, Woodlands Nursery, Isleworth, W.

STRAWBERRY PLANTS can now be supplied of every kind worth growing, warranted to produce a good crop this year. They are transplanted plants, and will be sent with a ball of earth to each. Price 10s. per 100, or in less quantities 2s. per dozen.—R. S. YATES, St. Ann's, Manchester.

STRAWBERRY PLANTS, SALE FOR THIS MONTH ONLY.—Very fine strong Plants of the three early sorts advertised last month can still be supplied with 100 other varieties. The price according to sorts and numbers required.—Apply to the Grower, WILLIAM JAMES NICHOLSON, Eaglescliffe, near Yarm, Yorkshire.

## ROYAL BOTANIC SOCIETY OF LONDON.—SPRING EXHIBITION, MARCH 23.

REPORT OF THE JUDGES.

NEW PLANTS.—FIRST PRIZE: Messrs. Jackson & Son, of Kingston, for Dendrobium Falconeri obtusum, a beautiful variety with richly-marked flowers. SECOND PRIZES: Messrs. A. Henderson & Co., Pine-apple Nursery, Edgware Road, for Gastrolobium ovalifolium, a highly-promising greenhouse shrub with crimson blossoms in terminal heads; Messrs. E. G. Henderson & Son, Wellington Road, for Caladium argyrites, a small and very distinct stove species with variegated heart-shaped leaves elegantly blotched and speckled with pure white. CERTIFICATES: Mr. Glendinning, of Chiswick, for Prunus triloba and the Rose flowered Peach, two gay hardy shrubs, the former with compactly semi double flowers of a delicate rose, the latter with large showy loosely-double flowers of a deep rose colour. Messrs. A. Henderson & Co., for Chamæcyparis thuritera, a fine hardy Conifer. Messrs. E. G. Henderson & Son, for Grevillea elegans, a greenhouse shrub of free growth, with neat oval leaves, and distinct-looking red flowers tipped with pale yellow; Bossiæa paucifolia, a greenhouse shrub of neat habit, with small foliage and bright orange and crimson flowers; Daviesia umbellata, a compact greenhouse shrub, with small lance-shaped leaves, and dense clusters of yellow flowers; Begonia picturata, one of the dwarf variegated section, the leaves silvery between the pale-coloured veins which lie within narrow stripes of dark green, the whole suffused with red, and sanguineous behind; Begonia Miranda, with leaves of a silvery yellowish-green, the border and centre dark olive-green, and marked behind with red as in B. Griffithii. Messrs. Jackson & Son for the curious and rare stove Ataccia cristata. Messrs. Ivery & Son, of Dorking, for a seedling Azalea indica named tricolor, a variety with large flowers of average form, much striped and blotched with light red.—Messrs. Ivery & Son also exhibited striata flore pleno, a variety with indifferent double striped flowers, and Bouquet de Flore, with small rose-coloured flowers. Messrs. E. G. Henderson also showed Stypandra frutescens, a neat shrub with grassy equitant leaves and Dianella-like blue flowers; Grevillea pteriscifolia, forming an entangled mass of slender repeatedly trichotomously-forked leaves, and bearing bunches of small white flowers; Begonia picturata argentea, lighter coloured and less showy than the above B. picturata; Solanum luteo-spinum, a curious plant with stout yellow spines from the ribs of the sinuated leaves; Cardans apus, a whitish elegant spiny-leaved plant in the way of C. Cassabonæ; the neat dwarf sweet-scented, free-blooming Gardenia citriodora; Cassia sophifolia with light pinnate leaves and yellow flowers; the showy Correa cardinalis; Anopterus glandulosus, a good conservatory plant; and Rhododendron camelliæflorum, a distinct but not showy white-flowered Indian species. Mr. Glendinning produced, in addition to his before-named plants, the Carnation flowered Peach, an ornamental semi-double kind, with the flowers delicate rose-colour.

12 MISCELLANEOUS PLANTS.—FIRST PRIZE: Messrs. J. & J. Fraser, Lea Bridge, Essex, for 12 well-bloomed hard-wooded plants consisting of Boronias, Epacrises, Azaleas, Eriostemons, &c. SECOND PRIZE: Messrs. A. Henderson & Co. who had a tall plant of the very elegant Jacaranda filicifolia, the Yucca-like Dracæna indivisa, Rhopala corcovadensis, the yellow blotched leaved hardy Farfugium grande, Clematis azurea grandiflora, &c. THIRD PRIZE: Messrs. E. G. Henderson & Son, who had a nice selection of plants smaller than the foregoing, including Cyanophyllum magnificum, Imantophyllum miniatum, Rhopala corcovadensis, and R. Jonghei, the Princess Frederick William of Prussia Camellia, a compact striped kind, and Jenny Lind Camellia, with finely-formed blush-white flowers, faintly striped.

12 POLYANTHUS NARCISSUS.—FIRST PRIZE: Messrs. W. Cutbush & Son, Highgate, in whose group the well-known Soleil d'Or, Grand Monarque, and gloriosa were conspicuous. SECOND PRIZE: Messrs. A. Henderson & Co.

12 HYACINTHS.—FIRST PRIZE: Messrs. W. Cutbush & Son, whose plants were remarkable for vigour and beauty; among them the following were very attractive:—Elfrida, single white, large bells; Solfaterre, very bright single red; Cosmos, single rosy pink, with pale edges; Florence Nightingale, dense single, deep blush; Prince of Wales, a novel and peculiar dull single rosy lilac; General Havelock, single dark purple; Madame du Lac, single, rose pink. SECOND PRIZE: Messrs. A. Henderson & Co., whose collection, nicely grown, contained two very beautiful sorts—Argus, single deep blue, with bright blue tube and white eye; and Admiral de Coligny, single blue, with very large bells. THIRD PRIZE: Mr. G. M'Intosh, Hammersmith, whose collection, also well grown, was hardly inferior to the last.

MISCELLANEOUS.—Under this head the following awards were made:—SMALL SILVER MEDAL: Messrs. E. G. Henderson, for a large group consisting of Hyacinths, Seedling Amaryllids, and Cyclamens, the latter comprising a series of varied and beautiful forms of C. persicum, among which persicum rubrum the deepest purple-red, persicum sanguineum pale rose, and persicum marginatum blush, all with the usual spotting, but of different shades, and persicum delicatum, almost without colour, were distinct and pretty; many other handsome and distinct kinds were unnamed. Mr. Turner, Slough, for six well-grown Cinerarias, of choice quality. Messrs. A. Henderson & Co., for a fine collection of 36 Hyacinths, among which, of a distinct class corresponding in their large simple bells with Elfrida and Admiral de Coligny, previously mentioned, were Couronne de Belle, pale blue, and tubiflora, blush. CERTIFICATES: Mr. Todman, gardener to R. Hudson, Esq., Clapham, for Seedling Azalea Dr. Livingstone, a large finely-shaped flower, of good substance, bright lively rose colour. Mr. Turner, for Seedling Cineraria Queen Victoria, large and of good properties, rosy-crimson, with a white ring around the purplish disk. Mr. Holland, gardener to R. W. Peak, Esq., Spring Grove, Hounslow, for Seedling Cineraria Hilax, of average properties, white tipped with rosy-purple, remarkable for the dark purple almost black permanent well-defined disk. Mr. Turner, for Seedling Auricula Exhibitor, a grey-edged variety of more than average properties; and also for Seedling variegated Pelargonium Jane, which had white-bordered leaves, and light bright scarlet bold flowers in good trusses. Mr. G. McIntosh, for a group of 30 Hyacinths. Mr. Bragg, Slough, for a stand of 24 Pansies. Messrs. F. & A. Smith, Dulwich, for Seedling Pelargonium floribundum, of which three plants were shown, proving it to be a free blooming good habited forcing variety of the rose-coloured class; and also for six Cinerarias, small plants, among which one called Acme of Perfection, a seedling, was a very prettily formed white tipped with purple, and of good quality. They had in addition a large gay collection of mixed Seedling Cinerarias, among which conspicua, a large crimson with white ring; and Goliath, large white tipped with rosy crimson, were particularly striking as market flowers.—In this Class Messrs. E. G. Henderson & Son also exhibited small plants of three prettily variegated bedding Pelargoniums, which require to be further advanced; and plants of five American and Italian Camellias, among which the crimson Mathotiana was the most striking. Mr. Turner also had several Seedling Cinerarias, which though showy were not considered of sufficient merit to receive awards; together with six Auriculas, of which the best was Dickson's Duke of Wellington; and a variegated Pelargonium, called Flower of Spring, an attractive-looking kind on account of the large size of its well-formed cerise flowers, but considered not sufficiently established for adjudication.

(Signed)
S. M. CARSON, THOMAS MOORE, A. PARSONS, Censors.

## COLCHESTER AND EAST ESSEX HORTICULTURAL SOCIETY.

Exhibitions for 1859: WEDNESDAY, May 18; WEDNESDAY, June 29; WEDNESDAY, September 7.

*** At the Exhibition in June a piece of Plate, value 10*l.* 10*s.*, will be offered by the Members for the Borough for the best collection of CUT ROSES. None but those whose names are entered as Subscribers of 5*s.* and upwards on or before the 31st inst. can compete.

For particulars of the above, and other Extra Prizes, see Prize Lists, which may be obtained of the Secretary, 97, High Street, Colchester.

N.B. This Advertisement will not be repeated.

## BATH AND WEST OF ENGLAND SOCIETY FOR THE ENCOURAGEMENT OF AGRICULTURE, ARTS, MANUFACTURES, AND COMMERCE.

An Exhibition of FLOWERS, FLOWERING, and ORNAMENTAL PLANTS, FRUIT, and VEGETABLES, will take place on June 1, 2, and 3, in connexion with the General Exhibition of the above Society, on the occasion of their North Devon Meeting at Barnstaple, when the following Prizes will be offered:—

| | | 1st. | 2d. |
|---|---|---|---|
| I.—1. | For the best collection of not less than 20 Stove or Greenhouse Plants (Nurserymen) | £3 | — |
| 2. | Do. do. .. .. (Amateurs) | 2 | £1 |
| II.—1. | For the best collection of not less than 12 Rhododendrons and Chinese Azaleas (Nurserymen) | 3 | — |
| 2. | For the best collection of not less than 8 do. .. .. .. .. (Amateurs) | 2 | 1 |
| III.—1. | For the best collection of not less than 8 Roses in pots .. .. (Nurserymen) | 3 | — |
| IV.—1. | For the best collection of not less than 20 Variegated Plants, or plants remarkable for their fine foliage (Nurserymen) | 3 | — |
| V.—1. | For the best collection of not less than 20 Ferns of any kind .. (Amateurs) | 2 | 1 |
| VI.—1. | For the best ornamental basket of Flowers, or of Flowers and Foliage .. (Amateurs) | 2 | 1 |
| VII.—1. | For the best group of specimens of Coniferæ, preference being given to newly introduced kinds .. .. (Nurserymen) | 5 | — |
| VIII.—1. | For the best specimen of any newly introduced or extremely rare genus of Ornamental Plant, or object of special merit in the exhibition .. (Nurserymen) | 1 | — |

In addition to the above, prizes to the amount of 10*l.* will be offered for Fruit and Vegetables. A portion of the Society's ground will be set apart for the present exhibition, and space will be allotted either in a marquee or the promenade, at the discretion of the managing committee, to Nurserymen who may wish to arrange and exhibit their collections in distinct sections, irrespective of competition for prizes. Space will also be allotted for the display of Garden Decorations and works of Ornamental Art associated with Horticulture.

Plants intended for the Exhibition will (on being consigned to the Horticultural Committee) have free transit over the line of railway from Exeter to Barnstaple.

Application for space to be made to the undersigned before May 1 next.

All articles for exhibition must be staged by the evening of Tuesday, May 31, and are not to be removed earlier than the morning of Saturday, June 4.

(Signed) GEORGE BROWN,
Barnstaple. Hon. Sec. Local Committee.

## HOLLYHOCKS.

WILLIAM PERRY begs to announce that he has fine healthy plants of the above for sale, of all the approved sorts, well hardened and fit for planting out immediately, from 9*s.*, 12*s.*, 18*s.*, 24*s.*, and 30*s.* per dozen, if the selection is left to W. P. A Descriptive Catalogue can be had on application, also seed saved from the best sorts, 1*s.*, 2*s.*, and 3*s.* per packet.

Foreman at the Nurseries, Sawbridgeworth, Herts.

## SUPERB DOUBLE HOLLYHOCKS.

WILLIAM CHATER can now supply fine healthy plants from his Collection, having a large stock ready for immediate planting.

See DESCRIPTIVE CATALOGUE, to be had on application.
Nurseries, Saffron Walden.

## FIRST-CLASS HOLLYHOCKS.

FINE SEEDLINGS FROM

WILLIAM CHATER'S Celebrated and Newest Varieties that will flower well in September at 30*s.* per 100

| | | |
|---|---|---|
| ditto ditto ditto | 20*s.* | ,, 100 |
| Ground Roots according to colour, also at .. | 30*s.* | ,, 100 |
| Seed in 12 separate colours, the Collection .. | 10*s.* | 0*d.* |
| ,, 6 ,, ,, ,, .. .. | 5 | 0 |

From varieties such as Pourpre de Tyre, Memnon, White Globe, Hon. Mrs. H. Ashley, Canary, &c., in 12 separate colours, the Collection .. .. .. .. .. .. 7*s.* 6*d.*

| | | |
|---|---|---|
| Ditto in 6 separate colours, the Collection .. | 4 | 0 |
| Seed from 20 of the best varieties, mixed, per pkt. | 5 | 0 |
| ,, 12 ,, ,, ,, ,, | 2 | 6 |
| ,, good mixed, also a single variety ,, | 1 | 0 |

The above can be procured from the Nurseries, Saffron Walden, Essex.

## NEW HOLLYHOCKS.

A. PAUL AND SON beg to recommend the following NEW HOLLYHOCKS, which have been selected from several thousands of Seedlings. The stock of ordinary kinds is this year greatly extended. The plants are strong, well established, and perfectly healthy:—

| | s. | d. |
|---|---|---|
| BRISEIS (PAUL).—Purple, silvery edges, flower of good form, spike close .. .. .. .. .. | 5 | 0 |
| GENERAL HAVELOCK (PAUL).—Bright, ruby scarlet, colour of "Scarlet King," but a close spike and a round smooth flower of perfect shape .. .. .. .. | 10 | 6 |
| IN MEMORIAM (PAUL).—Crimson maroon, large, good substance, first-rate flower, good spike .. .. .. | 10 | 6 |
| OSSIAN (PAUL).—Crimson shaded with salmon, remarkable alike for substance, closeness, and symmetry; spike good .. .. .. .. .. .. | 10 | 6 |
| PAINTED LADY (PAUL).—Pink and blush in blotches, a large smooth flower of good substance .. .. .. | 5 | 0 |
| PLUTARCH (PAUL).—Plum colour, of fine shape, and very smooth, guard and spike good .. .. .. | 10 | 6 |
| POURPRE NOIR (PAUL).—Rich purplish maroon, large smooth flower, close spike .. .. .. .. .. | 7 | 6 |
| RED ROVER (PAUL).—Dark fiery scarlet, flower large, spike splendid, very effective .. .. .. .. | 7 | 6 |
| VERITAS (PAUL).—White, lemon base, large full flower, splendid spike .. .. .. .. .. .. .. | 10 | 6 |
| VESTA (PAUL).—Pure white, petals thick, edges smooth, guard good .. .. .. .. .. .. .. | 7 | 6 |
| VITRUVIUS (PAUL).—Pink, large flower, of perfect form and good substance .. .. .. .. .. .. | 5 | 0 |
| ZENO (PAUL).—Rich plum colour, with silvery edges, flower large, spike good; new and distinct .. .. | 5 | 0 |

The Collection of 12 varieties is offered for 4*l.* 4*s.*; good named sorts, 9*s.* to 18*s.* per dozen; very superior ditto, 24*s.* to 42*s.* per dozen; Bloomed Seedlings in separate colours, 20*s.* 50*s.* per 100; mixed Seedlings, 10*s.* to 21*s.* per 100.

HOLLYHOCK SEED, 1*s.* to 5*s.* per packet free by post.
Also a PRICED DESCRIPTIVE CATALOGUE free by post.
Nurseries, Cheshunt, Herts.

## THE BEST NEW ROSES FOR 1859.

WM. WOOD AND SON will be prepared to send out strong healthy plants in pots of the above ROSES the first week of April, which are offered at the varieties to be sent out this season:—

HYBRID PERPETUAL.

| | |
|---|---|
| Albert de Stella | Joseph Vibert |
| Anna de Diesbach | Lord Elgin |
| Anna Alexieff | Le Mont Viseur |
| Armide | Mathilde de Morny |
| Ardoisé de Lyon | Orderic Vital |
| Altesse impériale | Oriflamme de St. Louis |
| Beauté de Roysghem | Princesse Olympe |
| Bouquet de Marie | Salomon |
| Comte de Beaufort | Virginal |
| Comtesse Cecile de Chabrillan | Madame Bruny |
| Empereur de Maroc | |

BOURBON.

| | |
|---|---|
| Aline Pierron | Edith de Murat |
| Comtesse de Barbantanne | Molière |
| Docteur Berthet | Octavie Fontaine |

NOISETTE—Cornélie.

TEA-SCENTED.

| | |
|---|---|
| Homère | Ophelia |
| Madame Damaizan | Roi des Pays Bas |
| Madame Joseph Halphen | Socrate |

Good Plants will be supplied at 5*s.* each, with the usual discount to the Trade. Descriptive Catalogues on application.
Woodlands Nursery, Maresfield, near Uckfield, Sussex.

## THE LARGEST STOCK OF TEA-SCENTED ROSES in the kingdom.

—Upwards of 10,000 DWARF TEA ROSES in pots, fine healthy plants now ready for sending out, consisting of all the leading kinds, and comprising among others—

| | |
|---|---|
| 750 Melanie Willermoz | 300 Maréchal Bugeaud |
| 500 ,, Oger (yellow) | 300 Madame Bravy |
| 500 Vicomtesse de Cazes (do.) | 300 Le Pactole, yellow |
| 500 Souvenir d'un Ami | 300 Niphetos, fine white |
| 500 Saffrano | 300 Goubault |
| 400 Adam | 300 Canari (yellow) |

400 Miss Gray or Isabella Gray, TRUE, yellow Rose &c.

Plants presented to compensate for carriage.—Address WOOD & SON, Woodlands Nursery, Maresfield, near Uckfield, Sussex.

## ROSES.—TO THE TRADE.

BIRCHAM AND WARD having a surplus stock of the leading kinds of Perpetuals in fine condition offer them at the following low prices by the 100 or not less than 6:

| | |
|---|---|
| Standards, per 100 .. .. .. | 3*l.* to 3*l.* 10*s.* |
| Dwarfs do .. .. .. .. | 2*l.* 2*s.* |
| Ditto, on their own roots .. .. | 2*l.* 2*s.* |

Carriage paid to London and Peterborough.

HOLLYHOCK SEED of very superior quality by the ounce.
Hedenham Rosary, Bungay, Suffolk.—March 19.

## FINE HEALTHY ROSES.

| | |
|---|---|
| STANDARDS .. .. .. | 18*s.* per doz. |
| DWARFS (on the Manetti) .. | 12*s.* ,, ,, |

As the weather still continues mild and favourable for planting, GEORGE CLARKE begs to state he has still a fine stock of the leading kinds to offer at the above prices, the selection being left to him. The Plants are all healthy and well-rooted, and therefore calculated to give the greatest satisfaction. They are carefully packed for any distance. Carriage of all orders paid to London; and in all orders amounting to 20*s.* 10 per cent added to compensate for distant carriage.

GEORGE CLARKE, The Nursery, Brixton Hill.

## NEW ROSE, HYBRID PERPETUAL "LELIA."

—Colour delicate satin rose, petals very large perfectly smooth, and well formed; flowers of exquisite shape and size, and highly scented. JOHN CRANSTON has the pleasure to announce that he will be prepared to supply early in May plants of this superb new Rose. It was exhibited by him in his winning stand of single blooms at the Grand National Rose Show in July last, and was unquestionably the most attractive variety of the Show, and the admiration of all who saw it. Fine healthy plants, 5*s.* each, with the usual discount to the Trade.—Nurseries, King's Acre, near Hereford.

## NEW HYBRID PERPETUAL ROSES FOR 1859.

E. P. FRANCIS offers the following NEW ROSES which he will be prepared to send out on and after the first week in May, at 5*s.* each. They have been carefully selected from amongst the numerous new French varieties:—

| | |
|---|---|
| Anna Alexieff | Princess Olympie |
| Stephanie Beauharnais | Anna de Diesbach |
| Ambroise Verschaffelt | Beauté de Roygheu |
| Imperatrice Eugénie | Comtesse Cecile de Chabrillan |
| Albert de Stella | De la Mothe |
| Virginale | François Arago |
| Altesse Impériale | L'Oriflamme de St. Louis |
| Ardoisée de Lyon | Lord Elgin |
| [These two splendid varieties were awarded the Gold Medal as Seedlings at Lyons.] | Madame Bruny |
| | Orderic Vital |
| | Salomon |
| Comte de Beaufort | Reine de la Cité |
| Docteur Bretonneau | François 1st |
| Empereur de Maroc | Mignard |
| Armide | Madame Jenny |

Hertford Nurseries.

## THE BEST DWARF GERMAN ASTER NOW EVER YET OFFERED TO THE PUBLIC.

SAVED FROM FLOWERS THAT HAVE OBTAINED FIRST PRIZES MANY YEARS PAST AT VARIOUS EXHIBITIONS.

EDWARD TILEY begs to inform the lovers of the above beautiful flower, that he has just purchased the entire stock of Seed, which has been selected from the finest flowers as to shape, colour, and dwarfness of growth. They were inspected by many good judges while in bloom last year, who said they had never seen the Aster brought to such perfection before, and with such a dwarf habit. Seeds 1*s.* per packet, or two packets for 2*s.* 6*d.*

Extra fine mixed Hollyhock seed saved from the named best varieties, 1*s.* per packet.

Antirrhinum seed, saved from spotted and striped sorts, 1*s.* per packet.

Sweet William seed, saved from 24 distinct varieties, the part of which always flower double, 6*d.* per packet.

Delphinium formosum seed, extra fine, 6*d.* per packet.

The Improved Bath Cos Lettuce seed, saved from the best stock ever grown in the west of England; it is very fine and not at all liable to run, 1*s.* 6*d.* per packet.

A small quantity of seed of the Dwarf Incomparable Cabbage. This is a superb variety for windy or cold situations, as it will stand the severest winter and will form good hearts much earlier than any other variety; it is very tender and delicate when cooked, not having any large coarse ribs. If the seed be sown at several different times no person need be without good young Cabbage all the year. 1*s.* 6*d.* per packet. A packet of the Improved Coss Lettuce and packet of Dwarf Incomparable Cabbage, 2*s.* 6*d.*

Digitalis or Foxglove seed, saved from the finest collection ever yet seen; the flowers come to an immense size, and are as handsome if not handsomer than the Gloxinias, 1*s.* per packet.

EDWARD TILEY, Nurseryman, Seedsman, and Florist, 14, Abbey Church Yard, Bath.

A remittance must accompany all orders either in cash or penny postage stamps.

## HOLLYHOCKS.

H. SIROUD begs to announce that he has a fine stock of unblowned Seedlings saved from choice double flowers, which he can supply at 3s. dozen, 1l. per 100. Usual allowance to the Trade.—Queen's Road Nursery, Peckham, S.E.

## GRIEVE'S NEW DOUBLE PETUNIAS.—

The universal satisfaction given by the PETUNIAS sent out last spring, raised by Mr. Grieve, Gardener at Culford Hall, near Bury St. Edmund's, induces the advertisers to offer to the public those raised by that persevering hybridiser last summer, which are considered superior to any yet offered; not only in the size of the flowers, but in brilliancy of colour, consistence of petal, and regularity in form—all being very double. The following are the names adopted, which may be respectively taken as an approximate description of their colours:—

Large flowers, and most appropriate for pot culture.
CRUENTA.
CANDIDA.
PURPURASCENS.

Medium-size flowers and neat habit; probably useful for bedding.
ATROCOCCINEA.
ROSEA STRIATA.
ALBOROSEA.

Plants of the above, 5s. each; or 21s. the set of six, to be sent out the first week in April by OSBORN & SONS, Fulham Nursery, London, S. W.

N.B. The usual allowance to the Trade.

## NEW DOUBLE PETUNIAS.

C. W. HARGRAVE begs respectfully to announce that he will shortly be prepared with STOCK of the NEW DOUBLE PETUNIAS advertised by him in the *Gardeners' Chronicle* of September 25, 1858.

They constitute a unique collection in themselves, being of exquisite form, firm substance, rich and decided in colour, very fragrant, and of first-rate habit, having good guard petals, with the centres well filled, and in fact are superior to the Continental or other varieties hitherto sent out. Their nomenclature is as follows:—

ROSETTE.—Crimson, very double, dwarf habit.
ROSEA ALBA.—Rose clearly mottled with white.
PURPLE KING.—Large flower, well formed.
CRIMSON GEM.—Bright crimson, with white centre.
ALBA MAGNIFLORA.—Beautiful form, very fragrant.
KING OF CRIMSONS.—Bright crimson, brighter than its parent "Crimson King." The varieties previously introduced as crimson have all proved themselves to be only purple.

Plants of any of the above 5s. each, or the set of six 25s.

It is requested that the Trade forward their commands at their earliest convenience, as all orders will be executed in the rotation in which they are received.

C. W. HARGRAVE, THE NURSERY, WINCHMORE HILL, N.

## NEW FUCHSIA "LORD CLYDE" (YOUELL'S).—

It is with much pleasure and satisfaction that we have the opportunity of offering for the present season the above truly novel and probably the most beautiful Fuchsia that has yet been introduced. The tube and sepals (which are of great substance) are of rich glossy scarlet, the latter most perfectly reflexed, exhibiting a large well folded corolla of rosy pink, distinctly flaked, with broad stripes of bright violet purple. The habit of the plant and the profuseness of its blooming properties are all that can be desired. It flowered for the first time in 1857, and proved again in 1858, and has maintained its character in every respect. Strong plants will be ready for sending out on and after the 27th of April, at 10s. 6d. per plant. (Per post free, if required.)

Correct Coloured Engravings, by Mr. Andrews, will be forwarded to any address on receipt of six postage stamps.

YOUELL & Co.'s Royal Nursery, Great Yarmouth.—March 26.

## CARNATIONS AND PICOTEES.

YOUELL AND CO.'S COLLECTION of the above deservedly favourites is probably the most extensive in the Trade, and having for a series of years paid special attention to their cultivation, introducing the best of the newest varieties, they are enabled to offer them at the following prices for fine, strong, well rooted plants.

CARNATIONS, finest first class show varieties by name, 18s and 24s. per dozen pairs.
PICOTEES, finest first class show varieties by name, 18s. and 24s. per dozen pairs.
Ditto, on yellow grounds, 20s. and 30s. per dozen pairs.
Finest mixed BORDER CARNATIONS & PICOTEES, 9s. ditto
True old CLOVE CARNATION, 12s. per dozen pairs.
Scarlet ditto ditto, 18s. ditto
NEW CARNATION "EXTRAVAGANZA."—We have much pleasure in calling attention to the above new and singularly beautiful and striking variety. The habit of the plant is strong and vigorous, and as hardy as the Clove Carnation. The flowers are of a shining or glossy puce colour, regularly striped with bands of intense vivid scarlet, highly perfumed, and the individual flowers are free from bursting. It is the most distinct and attractive variety that has yet been offered, and is admirably adapted for either pots or bedding. Price 3s. 6d. per pair, or 36s. per dozen pairs.
PINKS.—The finest first class show Pinks, by name, 9s. per doz.
Fine mixed border PINKS, 6s. per dozen pairs. [pairs.
HOLLYHOCKS.—Our extensive stock of these, comprising the finest named varieties, is this season very strong and healthy and well established in pots, price of which is 9s. to 12s. per dozen.
NEW PHLOXES.—An extensive and select collection of the above beautiful showy tribe of Herbaceous Plants, comprising the fine and newly introduced varieties from the Continent. May be obtained at 10s. per dozen, package included.
PANSIES.—Finest first-class show varieties, by name, 9s. per dozen
CHRYSANTHEMUMS.—The handsomest of the new large flowering and Pompone kinds, 6s. per dozen.
DAISIES.—18 selected, of the best new Belgian vars. for 9s.
LOBELIAS.—Finest scarlet, adapted for forming magnificent groups, viz:—Feu du Roi, splendens major, Victoria, fulgens superba, fulgens multiflora. L. St. Clare, 9s. per doz; Blue do. Milleri; violacea, 9s. per doz; Red Leopold, 6s. per doz.
OXALIS FLORIBUNDA AND ROSEA.—Quite hardy, producing a fine bed of rich rose colour, 6s. per dozen.
ŒNOTHERA MACROCARPA.—Large yellow, 6s. per dozen.
" TARAXACIFOLIA.—Large white, 6s. "
DELPHINIUM FORMOSUM.—Finest blue, 3s. per dozen; 16s. per 100.
" MOOREANUM.—Dark purple, 4s. per dozen; 25s. per 100
LINUM FLAVUM, 6s. per dozen.
TRITOMA MEDIA.—A handsome winter and spring-flowering hardy herbaceous plant producing large spikes of scarlet-yellow flowers, 9s. per dozen.
PENTSTEMONS.—A fine assortment, 6s. per dozen.
GAZANIA RIGENS.—Large orange yellow, with dark centre, 6s. per dozen.
STATICE MARITIMA ROSEA AND PSEUDO-ARMERIA.—Strong plants of these two beautiful and hardy species, producing throughout the year a profusion of lake-coloured flowers, 4s per dozen.
DIELYTRA SPECTABILIS, fine strong plants, 6s. per dozen.
BERBERIS DARWINI, flowering plants, 6s. per dozen.
PRIMROSE, double yellow, 4s. per dozen.
HERBACEOUS PLANTS.—A choice collection of all the most showy kinds, 6s. per dozen; 40s. per 100.

☞ All orders of 2l. and upwards are delivered Carriage Free to London, Manchester, Liverpool, Peterborough, Hull, and Newcastle, as well as to any Railway Station within 150 miles of the Nursery.

YOUELL & Co., Royal Nursery, Great Yarmouth, Norfolk.

## AMERICAN PLANTS, &c., offered by Messrs. J. & H. BROWN—

25 AZALEAS, New Hardy Belgian varieties, one of a sort, 20s.
25 AZALEAS, American varieties, one of a sort, 15s.
12 RHODODENDRONS, including Scarlet, White & Rose, 10s.
Fine Hardy Scarlet RHODODENDRONS, 1 to 2 feet, per dozen, 12s.
ANDROMEDA FLORIBUNDA, strong plants, per doz. 18s.
Albion Nursery, Stoke Newington, London.—March 26.

## CORNISH BROCCOLIS.

MITCHINSON AND CO., SEED MERCHANTS, Truro, Cornwall, beg to invite attention at this period (the season for sowing), to their superior BROCCOLI SEED, at 1s. 6d. per packet, or 4 packets for 4s. postage free;—

1. Mitchinson's Penzance or Early White Cornish.
2. Thomas's Penzance Dwarf Early ditto.
3. Waters's Penryn or Early Falmouth Market.
4. The Truro extra fine Late White.

These will give a succession from January to May.

## 1-year SEEDLING LARCH, fine.

| | |
|---|---|
| 2-year Seedling Larch, fine | 1-year Seedling Common Oak, fine |
| 2-year do. Scotch Fir, native | 1-year ditto Turkey ditto |
| 2-year do. Spruce, Norway, fine | 2 year ditto Red Cedar |
| 3-year ditto ditto | 1-year English Yew |
| 2-year ditto White American ditto | 1-year transplanted Larch, fine |
| 1-year ditto Red ditto | 2 year ditto |
| 1-year ditto Hemlock Spruce | 1-year do Scotch Fir, native, do. |
| 1-year ditto Evergreen Oak | 2-year ditto |

The Subscribers being extensive holders of the above solicit the particular attention of the Trade. Prices, which are most moderate, may be had on application.

DAVID REID & SON, Nurserymen and Seedsmen, Edinburgh.

## GRAPE VINES FROM EYES.

JOHN AND CHARLES LEE beg to offer an immense stock of strong well-ripened VINES FROM EYES, of the following kinds:—

| | |
|---|---|
| Alicant | Hâtif de Jura |
| Barbarossa | Isabella |
| Bidwell's Seedling | Marchioness of Hastings |
| Black Cluster | Muscadine Parsley leaved |
| Black Constantia | Muscat, August |
| Black Prince | ,, Cannon Hall |
| Blanche Vigne | ,, Hamburgh |
| Calabrian Raisin | ,, Noir Hâtif |
| Charlsworth Tokay | ,, of Alexandria |
| Chasselas Frocklaboulay | ,, of Fontainebleau |
| Chasselas Musqué | Pitmaston Cluster white |
| Duzetto | Raisin des Carmes |
| Esperione | Trebiana |
| Frontignan, black | Trentham Black |
| Hamburgh, Dutch | Tripoli |
| ,, golden | West's St. Peter's |

Nursery and Seed Establishment, Hammersmith, London.

## NEW VERBENAS,

RAISED BY MR. ELPHINSTONE.

1. PICTURATA.—Crimson, large, and fine truss, conspicuous white round eye.
2. COMTE DE MONTALEMBERT.—Light lilac, very large flower of extra substance, with large white eye.
3. ANNIE.—Light rose, large white eye, a very desirable colour and good substance.
4. BOUQUET DE LA REINE.—Peach, large white eye, fine shape, and extra substance, quite a new colour.
5. MAGNUM BONUM.—Bright crimson, fine yellow eye, large flower and a very striking variety.
6. GRANDIFLORA PURPUREA.—Violet purple, large truss, fine white eye.

Plants ready for sending out second week in April.

D. BROWNE has great pleasure in introducing the above Six New VERBENAS, as being a decided improvement on any hitherto produced in form, colour, and extra substance, with fine strong habits so desirable for bedding purposes.

The Stock being limited, early orders are respectfully solicited so that the best Plants may be selected and reserved.

The collection of Six Varieties, package included, 20s., or 2s. 6d. each, sent free of carriage.

Horticultural Grounds, Sprowston; Seed Establishment, 41, London Street, Norwich. The Trade supplied on the usual terms.

## SEED POTATOES.

JAMES HUDDART, NURSERYMAN and SEEDSMAN, Preston, offers the following varieties:—

| | |
|---|---|
| Runcorn Short Top | Pink Eye Kemp |
| Flukes, true | Ash-leaved Kidney, very true |
| Early Kemp | Preston Early |

The last named kind is a Seedling raised by J. H., and was tested last year with "Handsworth Prolific" and other early sorts, and found to be as early and full one-third heavier cropper. A very dry mealy Potato when half size. Prices reasonable on application.

J. H.'s DESCRIPTIVE SEED CATALOGUE may be had post free) on application.—March 26.

## THE EARLIEST PEA.—DUNNETT'S FIRST EARLY

is in every respect superior to "Daniel O'Rourke," being several days earlier, having finer pods, and richer in flavour, height 2½ feet. For an early dish of True Flavoured Peas we can confidently recommend this; 2s. per quart.

CHAMPION CABBAGE, the earliest and best sort, if sown in succession, may be had fit for table throughout the year, 8d. per ounce, or 1s. post free.

BUTLER & MCCULLOCH, Covent Garden Market, London.

## CALLICARPA PURPUREA.

JOHN STANDISH, the exhibitor of the above (at St. James's Hall), can supply a few good plants at 7s. 6d. each. The following passage from Dr. Lindley's leading article in the *Gardeners' Chronicle* for Nov. 20 will give an idea of its beauty:—"Callicarpa purpurea, quite insignificant when in flower, was beautiful in its winter dress of innumerable rich purple berries, about the size of swan shot." It is easily cultivated, and does well in a cold greenhouse or conservatory planted out, where it will produce thousands of bright purple berries resembling glass beads, and remaining on nearly the whole winter.—Bagshot, March 26.

## NEW CHRYSANTHEMUMS.

JOHN SALTER begs to announce that his SPRING CATALOGUE is now published, in which his splendid SEEDLINGS and other new CHRYSANTHEMUMS of 1859 are fully described, as well as the unrivalled general collection, which is the largest in Europe.—Strong plants of "Golden Queen of England," "Prince Albert," and every other variety, will be ready in April.—Versailles Nursery, William Street, near Hammersmith Turnpike, W.

HOLCUS SACCHARATUS, or North China Sugar-Cane.—Pamphlet, "A Visit and a Plant;" the only English authority on the Cultivation of the above. Post free 6d. Prices of Seed on application. Samples 6d. Four varieties of Holcus remitted free by post on receipt of 10s.

CHINESE YAMS, 4s. per dozen.

ASPARAGUS plants, 10s. per 1000.

JOHN W. CLARKE, Whittlesea, Cambridgeshire.

## MEADOW AND PASTURE GRASS SEED.—

The great difficulty experienced by many Gentlemen and Farmers when about to lay down Land, is the selection of the proper Seeds, having no reliable practical guide as to quantity or kind. JAMES TYNAN is enabled to offer the benefit of such a guide. Speke Estate having become celebrated for its excellent practical Farming and high cultivation, has been for many years under the able management of Mr. M'Farlane. In a conversation the Advertiser had with that gentleman a few weeks ago he said:—"The great fertility of this estate I believe to be owing in a great measure to the attention I have paid to the selection of the Grass Seeds, and which I do not think I can improve. Were I to state the yield of the crops of Wheat and Barley I have obtained after these Grasses last year it would be deemed fabulous by many."

JAMES TYNAN having received orders to supply Seeds to some of the Farms on this estate, offers to send the same to gentlemen upon their giving the number of statute acres to be sown.

Selected GRASS SEEDS for LAWNS.

JAMES TYNAN, Seed Warehouse, 68, Gt. George Street, Liverpool.

## PLOCOSTEMMA LASIANTHUM (BLUME).—

Amidst the prevalent scarcity of novelties of sterling merit, it is with pleasure the Subscribers invite attention to the above-named plant. It belongs to a new genus closely allied to Hoya; and the present species was received in 1857 from Mr. HUGH LOW, Jun., by whom it was discovered on the north western side of the Island of Borneo. The plant, which is not a climber, presents a noble appearance, having exceedingly handsome foliage; and it possesses a very great recommendation in being a most profuse bloomer, the clusters of flowers being produced in great numbers. The flowers are of waxy consistence, like Hoya—colour, orange; the petals reflex until they become quite perpendicular, and rest on the flower-stalk; the lower part of the petals is entirely covered with a snow-white velvety pubescence, giving them an unusually beautiful appearance. The flowers are fragrant, and 14 have expanded in one cluster on a newly imported plant, which was submitted to the inspection of Sir W. J. Hooker, of Kew, by whom it is figured and described in the November number of the "Botanical Magazine." It is also figured in the "Florist." Plants in May, price 63s. each. Usual discount to the Trade.

HUGH LOW & Co., Clapton Nursery, London, N.E.

## TO THE TRADE.

THOS. CRIPPS, NURSERYMAN, &c., Tunbridge Wells, Kent, respectfully offers the following fine strong SPANISH CHESNUT PLANTS, 4 feet to 6 feet in height, 40s. per 1000; Blush CHINA ROSES, fine strong plants, 15s. per 100; Crimson do., very strong, 25s. per 100; fine Standard and Half-standard ROSES, 60s per 100; good do., do., 50s per 100; Double Yellow PRIMROSE, 20s. per 100 or 400 for 3l.; PINUS INSIGNIS and P. RADIATA from Seed, 15 inches to 28 inches, 6l. per 100; MANETTI STOCKS, 50s. per 1000; do. second size, 40s. per 1000; IRISH YEWS, 2 feet to 3 feet, 50s. per 100; Hardy HEATHS, a fine collection, 25s. per 100; large plants, good do., 20s per 100; LARCH FIR, fine stout plants, 2 to 3 feet; LONICERA SHEPHERDI, or new Scarlet-trumpet HONEYSUCKLE, fine strong plants, 4s. per dozen; RHODODENDRON MAXIMUM, fine bushy plants, 18 inches to 2 feet, 60s. per 100. Orders from unknown correspondents unaccompanied by a remittance will not be noticed.

# MESSRS. E. G. HENDERSON & SON

RESPECTFULLY ANNOUNCE THAT THEY WILL FORWARD, POST FREE, THEIR

## NEW SEED CATALOGUE FOR 1859.

MESSRS. E. G. HENDERSON AND SON also beg to draw attention to their collection of ALPINE PLANT SEEDS, gathered in the Alps of Switzerland under the superintendence of the Curator of the Botanic Gardens of Zurich. The Collection of 50 species for 10s. contains among others the following rare plants, of which single plants alone would cost from 1s. to 1s. 6d. and 2s. 6d. each.

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|---|---|---|---|
| Aretia glacialis | Gentiana punctata | Pulsatilla alpina sulphurea | Primula latifolia |
| Geum montanum | ,, cruciata | ,, vernalis | Trollius altiacus |
| ,, reptans | ,, nivalis | Pedicularis versicolor | Dianthus alpinus |
| Campanula barbata | ,, purpurea | Azalea procumbens | Silene saxatilis |
| ,, pulcherrima | Dentaria digitata | Thlaspi rotundifolia | Erigeron alpinum |
| ,, petiolata | Glossocoma clematidea | | |

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A perfect substitute for Grass Lawns, &c., in Villa Gardens, without Mowing.

**Seed Packets post free, 6d., 2s. 6d., 5s., and 10s. each.**

*See notice of the above at page 145 of this Paper.*

## THE NEW ZEALAND RUNNING BEAN

is now offered at 2s. the quart.

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WM. CUTBUSH AND SON beg respectfully to intimate that their PRICED CATALOGUE OF VEGETABLE AND FLOWER SEEDS, &c., is now ready post free on application. WM. C. AND SON devote particular attention to this department of their business, and most of the choicer kinds of culinary seeds and roots are saved under their own inspection, and they can confidently guarantee the quality of all offered.—Highgate Nurseries, London, N. Established A.D. 1695.

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☞ This List is recommended as a work of reference, as it contains accurate descriptions of all the esteemed varieties.

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MESSRS. PARKER AND WILLIAMS beg to inform their friends and patrons that their PRICED and DESCRIPTIVE CATALOGUE of Exotic Orchids, Stove, Greenhouse, and Hardy Ferns, Miscellaneous Stove, Greenhouse, and Hardy Plants, Variegated and Ornamental foliaged Plants, Conifers, Roses, Rhododendrons, Indian Azaleas, Gloxinias, Fuchsias, Cactuses, &c., is now published, and will be forwarded post free on application.—Paradise Nursery, Seven Sisters' and Hornsey Roads, Holloway, London, N.

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MESSRS. PARKER AND WILLIAMS beg to inform their friends and patrons that their new PRICED and DESCRIPTIVE CATALOGUE in which is enumerated every novelty of proved merit, also all the best of the older kinds, is now published, and will be forwarded post free on application. Their whole stock has been selected from the best English and Foreign sources, and every kind is warranted true to name, and of the finest possible quality.—Paradise Nursery, Seven Sisters and Hornsey Roads, Holloway, London, N.

A DESCRIPTIVE AND PRICED CATALOGUE of first-class GERANIUMS, Show, Fancy, English, and French Spotted kinds. A List of the best FUCHSIAS grown, including some superb Seedlings. In VERBENAS the List contains all the novelties of the season. A fine collection of DAHLIAS, including all the leading new varieties of both Show and Fancy kinds. Also a fine assortment of PETUNIAS. The above Lists forwarded in exchange for one postage stamp.

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CATALOGUES will be shortly ready, and sent (post free) to all applicants.—Keyfield Nursery, St. Albans, Herts.

**750 BEDDING PLANTS for 7*l.* including basket** and packing, or one half for 3*l.* 15*s.*

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| 20 Anagallis, 2 sorts | 25 Lobelias, 6 sorts |
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| 50 Calceolaria, 6 sorts | 12 Koniga |
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| | s. | d. |
|---|---|---|
| Acacia grandis, abundantly loaded with flower buds, 4 feet in height | | |
| ,, hispidissima, do., do., 4 feet | 10 | 6 |
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| ,, ,, smaller, 2 feet | 7 | 6 |
| Æchinia fulgens longifolia, strong plants with 5 crowns | 5 | 0 |
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| Maranta sanguinea, very strong plants with 7 crowns each | 7 | 6 |
| Metrosideros myrtifolia, beautiful specimens, 2½ feet high by 1½ foot diameter | 10 | 6 |
| Myrtus bullata, full of bud and will be covered with white sweet-scented flowers, height 2½ ft. by 1½ ft. dia. | 10 | 6 |
| Podocarpus andina, a fine specimen 4 feet high | 10 | 6 |
| ,, antarctica, 2 feet high | 50 | 0 |
| Polygala grandiflora, a fine plant 4 feet high in flower | 42 | 0 |
| ,, oppositifolia, do. 4 feet | 7 | 6 |
| Rhynchospermum Jasminoides, trained to a dome trellis, 5 feet high, growing very dense, the plant being covered with bud, and about to open with its delightfully fragrant white flowers—a very beautiful plant | 7 | 6 |
| Rhopala corcovadensis, very handsome and noble specimens, 2½ feet high | 30 | 0 |
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| Arachnothrix rosea | 12*s.* 6*d.* | Begonia argentea | 21*s.* 0*d.* |
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Orders for the two last Begonias have to be directed to Mr. J. Veitch.

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One plant over if three are ordered.

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| Crescentia regalis | 42*s.* | Oreopanax peltatum | 42*s.* |
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| Gomphia Theophrasta | 42 | ,, glaucophylla | 42 |
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And above 60 quite new FERNS of the finest genera.

Mr. LINDEN'S DESCRIPTIVE CATALOGUE, just published, contains also extensive lists of Orchids, Ferns, Bromeliads, Tropical Fruit Trees, Medical and useful Plants, fine foliaged and variegated Plants, Palms, rare Stove and Greenhouse Plants, &c., and may be had on application at his agent's office in London,

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APRICOTS, PEACHES, NECTARINES, FIGS, PLUMS, CHERRIES, PEARS, APPLES, ALSO, VINES AND STRAWBERRIES.

Nursery and Seed Establishment, Hammersmith, London.

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J. H. BIRD, F.H.S., NURSERYMAN, Stoke Newington, the largest grower and most successful exhibitor of the Chrysanthemum in the British Empire, begs to call the attention of the lovers of the above beautiful autumn flower to his matchless collection, the stock of which amounts to upwards of 50,000 plants.

J. H. B. can supply strong plants, one dozen for 6*s.*; or five dozen in 30 varieties, containing two of each variety, for 1*l.*; or he can supply 100 plants in 50 varieties, two of each variety, for 1*l.* 10*s.* Also POMPONES in great variety; 50 Pompones in 25 varieties, two of each variety, for 10*s.*; or 100 in 50 varieties, two of each variety for 1*l.* Strong plants of the beautiful new Pompone the Golden Cedo Nulli, 5*s.* each, are now ready, with the usual allowance to the Trade. Every order will be accompanied by a popular work on the Chrysanthemum.

Post-office Orders payable to J. H. BIRD, Stoke Newington, will be immediately attended to. Catalogues on application.

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Arisæma ringens (see Van Houtte's "Flore"), very curious aroideous plant, fit for the Orchideous house till the flower is past, 10*s.* 6*d.*

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Begonias, the best new kinds, at very moderate prices; and Rex (see Van Houtte's "Flore"), at 1*s.* each, or 8*s.* per doz. 12 different Begonias for 8*s.*

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Clivia cyrtanthiflora (see Imantophyllum).

Cyanophyllum magnificum, 8*s.*

Dracænopsis indivisa, 16*s.* to 200*s.*

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Gesneria cinnabarina ("Flore"), 1*s.*, or 7*s.* 6*d.* per doz.
,, Van Houttei, 1*s.* 6*d.*, or 16*s.* per doz.
,, Leichlini, 4*s.*, quite new, rosy outside, lemon inside.
,, zebrina splendens, 1*s.* or 7*s.* 6*d.* per doz.; Gesnerias in best mixture, 7*s.* 6*d.* per doz.

Gloriosa Planti (see Methonica in the "Flore"), 6*s.* per doz., flowering beautifully in pots (outside) in the summer.

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Pandanus reflexus, 8*s.* to 240*s.*

Philodendrons.—Decorative plants for Orchideous house. Great collection.

Rhopalas,—Great assortment. Splendid decorative plants.

Theophrasta imperialis, ditto, 80*s.* to 320*s.*

Achimenes.—A collection of 50 kinds for 21*s.*

Bromeliaceous plants.

Ferns and Lycopods.—One of the most extensive collections of Europe. Good sizes, moderate prices. (See Van Houtte's Price List No. 76, page 13.)

Gloxinias in great variety.

Orchids and Palms.

Greenhouse plants.

Michauxia campanuloïdes, scarce Syrian plant, flowers along the stem like Passionflowers, 1*s.* to 8*s.* per dozen.

Musschia Wollastoni (see Illustration), a tall, splendid, Campanulaceous plant from the Canary Islands; the flowers are disposed just as in the Lilium pyramidale, 4*s.*

Primula erosa ("Flore"), a very fine kind, 6*d.* each, 5*s.* per doz.

Azaleas, hardy kinds, double flowers, 12 varieties for 40*s.*, including A. Van Houttei, the finest in existence.

Azalea Van Houttei flore pleno (will appear shortly in the "Flore"), large bouquets of double flowers, red and yellow mixed; the largest and finest flower in existence; as hardy as an Azalea pontica; 12*s.*, if taken alone.

Azalea Diamond (Van Houtte), pure white flowers with a large carmine spot (not quite hardy here, but beautiful in the greenhouse). Grafts with 3 to 4 branches, 8*s.* Grafts with 6 to 10 branches, 12*s.*

Azalea indica Alexander II. (Van Houtte), 2*s.* 6*d.* to 20*s.*—A gem for form, size, colour and spots. The petals delicately curled. A true beauty!—Hermine (Van Houtte), snow white, full flower, striped with carmine; fine, 2*s.* 6*d.* to 4*s.* Petuniæflora, extremely fine form, and delicate shaded pink colour; strong plants, flower buds, 3*s.* 6*d.* to 7*s.* Roi Leopold, extra large clear salmon, first rate, with flower buds, 3*s.* 6*d.* Salmonea albo-cincta; delicate salmon with a white margin, fine form, 4*s.* to 8*s.* Umbellata alba will appear shortly in the "Flore;" from Sardinia, a quite new form in the tribe; the flowers are single, pure white, but they are divided in nine segments as regular and round as a crown; 4*s.* to 8*s.*

Vervaene's Seedlings.—Azalea indica Belle Jeannette, Etendard de Flandre, Géante, Gloire de Belgique, Gloire de Ledeberg, Papilionacea, Pelargoniæflora and Rubens, the set of eight, in flower buds, for 60*s.*

Camellias.—Very extensive collection. (See Price List No. 71.)

| | | | | |
|---|---|---|---|---|
| Flemish Carnation seed, | 100 seeds | for | 2*s.* 6*d.* | |
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French Spotted Geraniums (see Price List No. 76, pp. 41, 42, & 43).

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New Continental Petunias of various growers, 20 vars. for 16*s.*

Continental Rhododendrons and others (see Price List No. 72, pp. 30 to 38).

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Pinus Strobus tabulæformis; table-formed, dwarf plant, for groups in Grass plots, as hardy as the common Weymouth. Price, pretty bushes, 4*s.*; the dozen, 42*s.*

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☞ Persons unknown to LOUIS VAN HOUTTE are respectfully requested to add to their orders a cheque on London for the amount (at Mr. R. SILBERRAD'S order), or reference in London.

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It affords us much pleasure to announce the annexed collection of spotted Pelargoniums, the beauty, novelty, and merit of each being such as must give entire satisfaction. They have been obtained by carefully hybridising the attractive French kinds with the best varieties of the most eminent English raisers; so that, while possessing the rich and varied colours of the French sorts, combined with their immensely free-flowering character, they partake of the excellent shape and substance of the English varieties. They have also the advantage of having the spots more clear and purely defined than is usually the case with the French sorts.

*Purchasers of plants can have coloured plates by* ANDREWS, *on application.*

| | s. | d |
|---|---|---|
| AGLAIA.—Crimson upper petals surrounded with bright red, and broadly margined with French white; under petals very clear. French white with bright cherry spots, a pleasing variety | 21 | 0 |
| ASTARTE.—Upper petals maroon, clearly margined with French white; under petals white, clearly and deeply spotted with dark crimson: a novel and pleasing variety | 21 | 0 |
| EUNICE.—Rich crimson upper petals, edged with bright red; under petals fiery salmon, shading off to rose, and richly blotched with deep crimson, a very rich and fine flower | 21 | 0 |
| FANTY.—Upper petals deep maroon, surrounded with bright red, and very broadly belted with white; under petals white, with bright crimson spots; this is a magnificent flower, of great substance, good form, and peculiar silvery texture | 21 | 0 |
| HERSILIA.—Upper petals dark crimson, margined with pink; under petals pink, heavily blotched with dark crimson | 21 | 0 |
| IRENE.—Upper petals rich maroon surrounded with bright red, and margined with salmony pink; under petals light salmon, deeply blotched with dark crimson; immense truss | 21 | 0 |
| JUANITA.—Maroon upper petals, broadly and distinctly margined with rose; under petals very heavily blotched with rich maroon, and edged with rose: a striking variety, all the petals being nearly alike | 21 | 0 |
| JULIA.—Upper petals spotted with deep crimson, and surrounded with a belt of very bright red, broadly margined with French white; under petals delicate blush, spotted with rosy purple; a pretty, silvery, clear, and pleasing flower | 21 | 0 |
| LAMPETIA.—Upper petals crimson, surrounded with bright red, and edged with pink, under petals bright pink with clean crimson spot, light centre: a bold and noble flower | 21 | 0 |
| LOTTIE.—Upper petals dark crimson, surrounded with rosy scarlet, and margined with pink; lower petals rich rosy scarlet, margined with pink, and heavily blotched with dark crimson: this is a superbly rich variety, blossoms of great substance, and splendid forms; the best spotted Geranium yet offered | 21 | 0 |
| LUCY.—Mulberry upper petals, margined with purplish crimson; under petals red, beautifully shaded with violet, and deeply blotched with maroon; superb | 21 | 0 |
| MELPOMENE.—An extraordinary Geranium of quite a new colour, upper petals deep purple maroon, edged with rosy violet: under petals peculiar and striking rosy purple, cleanly spotted with deep crimson | 21 | 0 |
| MENESTHO.—Dark velvety crimson blotch on the upper petals surrounded with fiery scarlet, and edged with rose; under petals bright salmony red, with small clean crimson spots; good form | 21 | 0 |
| METIS.—Upper petals deep crimson, surrounded with bright red, and edged with pink; under petals rose, distinctly spotted with bright red; large trusses | 21 | 0 |
| PARTHENOPE.—Rich maroon upper petals surrounded with fiery crimson, and belted with salmon; under petals salmon, with rich heavy maroon blotch | 21 | 0 |
| SALACIA.—Upper petals very rich maroon, margined with peach colour; under petals heavily blotched with rich maroon, surrounded with bright red, and margined with peach | 21 | 0 |
| SISERA.—Black velvety blotch on the upper petals, surrounded with rosy carmine; under petals rosy carmine, with very large black spots | 21 | 0 |
| TETHYS.—Upper petals deep crimson, distinctly, regularly, and broadly margined with salmony pink; under petals blush with crimson spot: a clean, smooth, and constant flower | 21 | 0 |
| THEODOSIA.—Deep crimson upper petals, with broad belt of fiery scarlet; under petals fiery scarlet, heavily blotched with deep crimson | 21 | 0 |
| VICTORIA.—Purplish maroon top petals, surrounded with violet crimson, and broadly margined with pure white; lower petals pure white, with even and distinct spot of violet crimson: very large truss | 21 | 0 |

### SHOW PELARGONIUMS (NEW VARIETIES).

| | | |
|---|---|---|
| ALCYONE.—Upper petals deep crimson, margined with white; under petals French white, good substance, very clean, and fine | 15 | 0 |
| BELLONA.—Deep crimson upper petals, margined with scarlet; under bright scarlet, violet at the base, white centre: a very handsome variety | 15 | 0 |
| ERATO.—Dark maroon upper petals, margined with rose, under petals bright rose | 15 | 0 |
| HYRIA.—Upper petals deep crimson edged with white, pure white under petals; of the most perfect form, and one of the best Geraniums ever offered | 21 | 0 |
| IPHIS.—Upper petals blotched with maroon, surrounded with salmon, and edged with pink; under petals soft blush, very clean and pretty | 15 | 0 |
| LUTETIA.—Deep crimson upper petals with dark blotch; under petals very bright crimson, shaded with violet to the centre | 15 | 0 |
| MELAMPAS.—Upper petals French white shaded with violet, with dense purplish maroon blotch; under petals French white | 15 | 0 |
| SALMACIS.—Upper petals rich maroon, surrounded with a vivid fiery crimson; under petals bright orangey salmon; white centre, beautiful form, very distinct and fine | 15 | 0 |

### FANCY PELARGONIUMS (NEW VARIETIES).

| | | |
|---|---|---|
| AGNES.—Upper petals rich plum; under petals bright and shaded with violet, pure white throat, all the petals distinctly and evenly margined with white; rich and fine | 15 | 0 |
| CLYMENE.—Upper petals violet crimson, with broad margin of pure white; under petals pure white, with pretty and even marking of light rose: distinct and good | 15 | 0 |
| LATONA.—Upper petals beautiful soft silvery rose; lower petals similar in colour; pure white centre: a pleasing variety | 15 | 0 |
| MEROPE.—Upper petals bright rosy carmine, shaded with violet; lower petals deep rose, light centre: a fine bold flower | 15 | 0 |
| PENELOPE.—Upper petals mulberry, shaded with violet, and edged with white; lower petals violet crimson, margined with white, centre white, smooth, and good form | 15 | 0 |
| SABINA.—Upper petals bright pink, shaded with violet, and cleanly margined with white; under petals bright pink shaded with violet, and edged with white, centre white | 15 | 0 |

### NEW GERANIUMS (ZONALE).

| | | |
|---|---|---|
| AGATHA.—Dazzling scarlet, white centre; fine large compact truss, horse-shoe marked foliage | 5 | 0 |
| CHIONE.—Bright fresh colour, white centre; large flower, handsome horse-shoe marked foliage | 5 | 0 |
| CLARISSA.—Light scarlet, white centre; fine large compact truss, horse-shoe marked foliage | 5 | 0 |
| LEONIE.—Reddish salmon, large flower, handsome horse-shoe marked foliage | 5 | 0 |

### DOUBLE-FLOWERED NEW PETUNIAS.

The undermentioned Petunias, of which we have purchased the entire stock from a celebrated raiser in France, we have proved to be good and desirable; they are quite different and distinct to the many varieties sent out last season.

| | | |
|---|---|---|
| ANTIOPE.—Purple, shaded with crimson: a compact good flower | 3 | 6 |
| COUNTESS.—Bluish purple: a fine bold double flower | 3 | 6 |
| FANTY.—French white, shaded with rosy lilac, very distinct, and a good compact flower | 3 | 6 |
| IDOTHEA.—Purplish lilac: this variety is prettily mottled, very attractive and good | 3 | 6 |
| LATONA.—Deep violet purple, striped with white | 3 | 6 |
| LOTTIE.—Beautiful rosy pink, mottled with French white, and deeply pencilled with red: an exceedingly handsome and attractive variety | 5 | 0 |
| MANDARIN.—Purplish lilac, shaded with deep rose, and striped with white | 3 | 6 |
| SYLVIA.—Lilac, shaded with rosy purple | 3 | 6 |
| PETUNIA ATHAMAS.—Very bright red, regularly striped with white; the most constant and best striped single variety yet offered | 3 | 6 |

### VERBENAS.

| | | |
|---|---|---|
| JOLE.—Beautiful rose, shaded with purple, rich velvety crimson centre, and very large white eye; good habit | 3 | 6 |
| ARACHNE.—Fine rich bright crimson, dark velvety centre, lemon eye, good compact habit | 3 | 6 |

### VARIEGATED NEW BEGONIAS.

| | | | |
|---|---|---|---|
| GRANDIS | 15s. | ROLLISSONII | 15s. |
| ISIS | 15s. | URANIA | 15s. |
| NEBULOSA | 15s. | VIRGINIA | 15s. |

It affords us pleasure to announce that we shall be prepared to supply on and after the first week in May the above beautiful collection of Variegated Begonias, which we have had the good fortune to raise from the two handsome species previously sent out by us, viz., "Splendida" and "Rex." The varieties now offered much surpass the beauty of either parent, from the fact of the character of one being so distinctly blended in the other, and yet they are totally dissimilar; the markings on the foliage being very diversified, the colours of the markings varying from white to crimson, and having intermediate shades of red, purple, olive green, and other tints, so blended as to be quite difficult to describe. Some of the varieties have the leaves prettily blotched and spotted with white, added to which their entire surface is covered with bright crimson hairs, which impart to the plants a distinctive and remarkable appearance. One interesting feature of these hybrids is the peculiar hirsute footstalks, which vary in the different varieties, from white to the most beautiful and brilliant crimson. The blossoms are delightfully fragrant, of a soft pink colour, but individually much larger than in most of the other kinds of this family.

It may confidently be said of these Begonias that they will rank foremost among variegated foliaged plants. We succeeded in raising upwards of twenty kinds, but have selected the six now offered as the most handsome, distinct, and desirable.

### ACACIA ONOIDEA.

A pretty free-flowering species from South Australia, much resembling *A. verticillata* in foliage, but this plant produces its yellow ovate heads of blossom in the greatest abundance, and on plants when only an inch or two high, 7*s.* 6*d.*

### MECONOPSIS SIMPLICIFOLIA.

This is one of the most remarkable and handsome of the many gorgeous plants yet introduced from the Himalaya; the blossoms are of the most beautiful indigo blue, with conspicuous yellow anthers: the foliage is very pretty, being thickly covered with bright golden hairs, 31*s.* 6*d.*

### VERBASCUM MULTIFLORUM.

This is a showy herbaceous species imported from the Crimea, flowers golden yellow, free growth, 5*s.*

### CAMELLIA PEARL.

A really charming variety; the blossoms are of snowy whiteness, exquisite form, petals of great substance, and beautifully imbricated; a perfect gem, 21*s.*

### PIMELEA ELEGANS.

An extremely pretty species introduced from New South Wales. The blossoms are pure white, with very large and conspicuous yellow anthers, which give to the plant a striking appearance. It will be very useful for exhibition purposes, for both the habit and foliage is good, which are most desirable characteristics; the blossoms are also produced in great profusion. This plant will be a companion, and become quite as great a favourite, as P. spectabilis, Hendersoni, and Nieppergiana. As some proof of its merits we may mention that it was awarded a Silver Medal, as a new plant of the first class, when exhibited at the Gardens of the Royal Botanic Society. 21*s.*

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MESSRS. ROLLISSON AND SONS' ADVT.—*Continued.*

### ŒOLANTHUS LIVINGSTONI.

An interesting plant, belonging to the family of Labiatæ. We have succeeded in raising it from seed collected in Eastern Africa by Dr. Livingstone. The blossoms are of a chocolate colour, produced freely in terminal spikes; in habit somewhat resembling Angelonia grandiflora. It is not remarkable for beauty, but extremely interesting, being the first plant that was flowered in this country from the seeds collected by the above explorer. 10*s.* 6*d.*

### NEW PINUS.

The undermentioned, collected by M. Roezl, can now be supplied in 1-year Seedlings, in 12 different species, at 60*s.* per dozen:—

| | | |
|---|---|---|
| Cedrus | Magnifica | Resinosa |
| Comonforti | Nesselrodiana | Soulangeana |
| Don Pedro | Papeleni | Spinosa |
| Elegans | Paxtoni | Veitchi |
| Grandis | Popocatepetli | Vilmoriniana |
| Josti | Rafaelina | Zitænari |
| Lerdoi | | |

*The usual Discount to the Trade.*

A GENERAL CATALOGUE OF PLANTS will be issued shortly.

### SEEDLING FUCHSIAS.

GEORGE WHEELER, NURSERYMAN, &c., Warminster, Wilts. respectfully announces that strong plants of his SEEDLING FUCHSIAS will be ready to be sent out on and after the 20th of April.

SIR COLIN CAMPBELL.—The most beautiful double Fuchsia ever offered. Flower very large; tube and sepals dark scarlet. Corolla very prominent, large, full, and regular, and of a beautiful purple colour; a fine variety for exhibition, possessing the desirable property of holding its blooms much longer than other varieties; its large blooms makes it a very conspicuous and effective plant in a collection. Price 10*s.* 6*d.* each. Sir Colin was shown in full bloom at the Trowbridge Horticultural Exhibition the 18th August, at Bath on the 25th, Salisbury, 30th; at the National, in London, on the 2d September; and at Devizes on the 3d; at all which places it obtained Prizes or Certificates.

WILTSHIRE LASS.—Tube and sepals clear waxy white, corolla rich dark puce; an improvement on the Maid of Kent, the flower being larger, of good habit, a free bloomer, and a good grower. Price 5*s.* each. The usual discount to the Trade.

G. WHEELER will be enabled to send out with the above the six new Fuchsias offered by Mr G. Smith, of Tollington Nursery.

G. WHEELER has on hand a large quantity of RHODODENDRONS from 9 inches to 2 feet, at very moderate prices.

### STAR NURSERY, SLOUGH.

WILLIAM BRAGG begs to offer the following novelties, selected from his Catalogue:—

HOLLYHOCKS, new varieties. A fine stock of healthy Plants now ready for delivery.

Mr. Roake (Bragg).—Pale yellow, fine large smooth close flower, exquisite form, producing a splendid spike. Received first-class Certificate at the National Floricultural Society. 15*s.*

Major Domo (Bragg).—Pink, very large close flower, good form and substance, fine spike. Received first-class Certificate at the National Floricultural Society. 15*s.*

Sir William Jolliffe (Bragg).—Claret, large smooth close flower, first-rate form, splendid spike, entirely distinct. 10*s.* 6*d.*

Flower of the Flock (Bragg).—Primrose, large smooth flower, perfect shape, fine spike, the best of its class, extra fine. 10*s.* 6*d.*

Miss Roake (Bragg).—Beautiful blush with chocolate base, large smooth close flower, producing a handsome spike, extra fine. 10*s.* 6*d.*

Dr. Livingstone (Bragg).—Dark purple, large and good show flower, producing a splendid spike, very fine. 10*s.* 6*d.*

Mrs Roake (Bragg).—Beautiful blush, large smooth close flower, fine form, producing a handsome spike, extra fine. 10*s.* 6*d.*

Disraeli (Bragg).—Crimson maroon, fine large close flower, good spike, first-rate form, extra fine. 10*s.* 6*d.*

Colonel Howard Vyse (Bragg).—Crimson, very smooth close flower, large and fine spike, one of the best. 10*s.* 6*d.*

Village Gem (Bragg).—Apricot, fine close flower, fine spike, perfect form, very fine. 7*s.* 6*d.*

Alliance (Bragg).—Beautiful fawn, fine shape, very close flower, and producing a splendid spike. 7*s.* 6*d.*

Rosa Bonheur (Bragg).—Rose, fine large bold flower, splendid spike. 7*s.* 6*d.*

Master Goldney (Bragg).—Deep rose, fine large show flower, bold spike, very fine. 7*s.* 6*d.*

Bonny Lass (Bragg).—Pink, fine close and full flower, good spike, and first-rate form. 7*s.* 6*d.*

A liberal allowance will be made if the set is taken.

PINKS.—New varieties, per pair.

Crystal Palace (Bragg).—Rosy purple, large, thick, full flower; first class Certificate at Bishopstoke and National Floricultural Society. 5*s.*

Purple King (Bragg).—Dark purple, large full flower, with large white petal; received a first-class Certificate at Staines and Aylesbury. 5*s.*

Blink Bonny (Bragg).—Rose, large and full. 3*s.* 6*d.*

Helen (Bragg).—Rose, fine, large, wide petal, large and full flower. 3*s.* 6*d.*

PELARGONIUM.

Chaste (Bragg).—Pure white, with very neat dark blotch, fine quality, good growth, and fit for exhibition. 15*s.*

SCARLET AND HORSE-SHOE GERANIUMS, new varieties.—Each.

Rosa Bonheur (Bragg).—First-class Certificate at the National Floricultural Society; close habit, and compact, truss large and full, colour bright cerise scarlet with white eye, foliage bold, handsome, and slightly horse-shoe marked. 5*s.*

Blazer (Bragg).—Certificate at the National Floricultural Society; habit very first-rate, truss full size, form about average, colour bright scarlet, foliage neat and short foot stalks, flower stalks erect and of deep crimson colour; a first-rate bedding variety, and peculiarly short-jointed; also received a Certificate at the Crystal Palace Exhibition, and shown in the First Collection at the Royal Botanic Gardens, Regent's Park. Strong plants are now ready. 5*s.*

DAHLIAS, per plant.

Chieftain (Bent).—Bright light orange, full size, very fine form, with compact, close, high centre, very constant; blooms may always be depended on; received Certificates at the Grand National Dahlia Exhibition and at Slough, being the only two places exhibited at, having purchased the stock late in the season, 3 to 4 feet. Price 10*s.* 6*d.*

CHOICE HOLLYHOCK SEED, 1*s.* 6*d.*, 2*s.* 6*d.*, and 5*s.* per packet, the best ever sent out. Also

PINK, PANSY, DAHLIA, ASTER, PHLOX, and other choice flower seeds, from 1*s.* to 5*s.* per packet; all from show varieties.

W. BRAGG will send out in packets of seed, from 1*s.* to 5*s.* (plants in May), new full-blooming CALIFORNIA SUNFLOWER, so much admired at the Crystal Palace, St. James's Hall, and other Shows; also spoken so highly of in the *Gardeners' Chronicle*, and other papers. Colour, deep orange yellow, very large and double, fine dwarf habit, and an abundant bloomer from July to November; first-rate for borders. Height, 3 to 4 feet.

# GRASS SEEDS FOR PERMANENT PASTURES & MEADOWS.

## THOMAS GIBBS & CO., Corner of Half-Moon St.,

### THE SEEDSMEN TO THE "ROYAL AGRICULTURAL SOCIETY OF ENGLAND,"

BEG to inform the Members of the Society and Agriculturists generally that their MIXTURES of GRASS SEEDS for Laying down Land to Permanent Grass are now ready. Each kind of Grass Seed composing these Mixtures is cleaned separately, and the kinds are proportioned to suit different soils.

☞ *Full Directions for Sowing and Management will be sent with the Seeds.*

**MIXTURES for PERMANENT MEADOW and PASTURE** (*to suit different soils*).
**MIXTURES for PARKS, FIELD LAWNS, CEMETERIES, &c.**
**MIXTURES for IRRIGATION MEADOWS, GAME COVERS, and all other purposes.**
**RENOVATING MIXTURES for Improving Old Meadows and Pastures** (8 to 12 lbs. per acre).

MANGEL WURZEL.
Yellow Globe, Orange Globe (selected)
Long Red
Red Globe
Long Yellow
Silesian Sugar Beet

RYE-GRASS.
Italian (selected, very fine)
Dickinson's
Imported Foreign Seed
Common or Annual
Pacey's Perennial

| | |
|---|---|
| Carrots | all sorts |
| Clovers | ,, |
| Swedes | ,, |
| Hybrids | ,, |
| Common Turnips | ,, |

**KITCHEN GARDEN SEEDS in Collections, at £1, £2, and £3 each.**

**ALL KINDS OF AGRICULTURAL SEEDS.**

*Price Lists sent free on application. Reference or Cash required from unknown Correspondents.*

Thomas Gibbs & Co.

CORNER OF
HALF-MOON St.
PICCADILLY, LONDON, W.

JOSEPH MAY AND CO. beg to offer the following:—
*JENKINS'S RED MATCHLESS CELERY*, the best for years in Covent Garden Market, per packet, 1*s.*
SHILLING'S QUEEN CABBAGE (the very best out), true, per oz., 1*s.*
INVISIBLE WHITE BROCCOLI, very hardy, 1*s.*
COTTAGERS' KALE (Turner's), 1*s.*
NEW HEADING (Turner's), an excellent kind, 6*d.*
BRUSSELS SPROUTS, 6*d.*
LONDON WHITE COS LETTUCE, 1*s.*
SAUNDERS' PEARLY CAULIFLOWER, 1*s.*
TRUE WALCHEREN ditto, 1*s.*
The above sent post free. CATALOGUE of VEGETABLE and FLOWER SEEDS forwarded on application.—Wellington Street, Strand, W.C.

ROYAL SOUTH HANTS SEED ESTABLISHMENT.
UNDER THE PATRONAGE OF H.R.H. THE PRINCE CONSORT, THE AGRICULTURAL, HORTICULTURAL SOCIETY OF INDIA, AND THE LEADING AGRICULTURISTS OF THE UNITED KINGDOM.

PAGE AND TOOGOOD can now supply GARDEN AND FARM SEEDS, carriage free; SEED POTATOES, &c. The numerous Prizes gained by their Stocks are convincing proofs of superior quality, and their prices compete with any house in the kingdom. WHOLESALE and RETAIL PRICED CATALOGUES upon application.
Agents for Ohlendorff's Blood Manure, Superphosphate, &c.
Seeds Packed for Exportation to all Parts of the world,
37 and 38, Oxford Street (facing the Railway Terminus); and 58, Above Bar, Southampton.

BEAUTIFUL NEW BEGONIAS
"QUEEN VICTORIA" AND "ARGENTEA."

MONS. J. LINDEN takes this means of informing all lovers of new and beautiful plants that he has placed in the hands of Mr. J. Veitch, jun., Royal Exotic Nurseries, Chelsea, a portion of the Stock of the above novelties for distribution in Great Britain, and requests that all orders may be addressed direct to that gentleman.—Brussels, March.

JAS. VEITCH, JUN., has much pleasure in announcing that he is now taking orders for the above plants which will be ready for delivery on and after the 1st May next, and in the mean time he will be happy to show them to any person who may do him the favour of visiting his Nursery.
J. V., jun., will also be able to supply any of the other new and beautiful plants offered in M. LINDEN'S Catalogue.
Royal Exotic Nurseries, Chelsea.—March 26.

ASPARAGUS AND SEAKALE.

YOUELL AND CO. having a large Stock of the above growing on the Sea Coast, of the finest quality, beg to offer it at the following prices:—

| | | |
|---|---|---|
| ASPARAGUS, GIANT, two years | .. | 2*s.* 6*d.* per 100. |
| ,, ,, three years | .. .. | 3*s.* 6*d.* ,, |
| SEA KALE | .. .. .. .. .. | 6*s.* 0*d.* ,, |

Royal Nursery, Great Yarmouth, Norfolk.

SUPERB DOUBLE BALSAMS.

F. AND A. SMITH are now sending out seed of their superb BALSAMS, which are unrivalled for size, form, brilliancy of colour, doubleness of flower, and habit of plant.

| | | |
|---|---|---|
| In collections of nine separate colours | .. .. | 2*s.* 6*d.* |
| ,, ,, mixed ,, | .. .. | 2 0 |
| ,, ,, ,, ,, half quantity | | 1 0 |

The above are genuine only in our sealed packets, and may be had of most respectable Nurserymen and Seedmen in the United Kingdom.—Dulwich, Surrey, S.

PLANTS IN FLOWER.

F. AND A. SMITH have now in bloom Acacia, Azalea indica, Cinerarias (fine), Cytisus, Erica ventricosa coccinea major; E. Cavendishii, E. hybrida, E. propendens, E. perspicua nana, E. Syndriana, Geraniums, Fairy Roses, Primula sinensis fimbriata, &c.
The above are healthy, strong, and well grown Plants, prepared for sending away. Prices on application.
Dulwich, Surrey, S.

HARDY CONIFERÆ FOR SPRING PLANTING.

J. HENCHMAN, Edmonton, London, begs to offer the following CONIFERS, all Seedling Plants, in pots, and in the most robust health:—
Wellingtonia gigantea, 1 foot, in 32-pots, very fine, 10*s.* 6*d.* each; 7 to 9 inches, in 48-pots, 3*l.* per doz.; stout, 2-year seedlings, 30*s.* per doz.
Pinus Don Pedri, 21*s.* each.
,, Buonaparteæ or Veitchi, 10*s.* 6*d.* each.
,, insignis, 12 inches, 15*s.* per doz.
,, macrocarpa or Coulteri, 6 inches, fine, 18*s.* per doz.
,, tuberculata, stout 2 year seedlings, 18*s.* per doz.
,, Benthamiana, 2-year do. 9*s.* per doz.
Cupressus macrocarpa, 18 inches, fine, 6*s.* per doz.
,, MacNabiana, 2 years, 9*s.* per doz.
Taxodium sempervirens, 15 inches, fine, 24*s.* per doz.

AZALEA INDICA.

J. IVERY AND SON beg respectfully to invite growers of the above named to an inspection of their unrivalled Stock of Young Specimens of all the newest and best varieties, many of which have been exhibited at the Metropolitan Exhibitions. They are clean and healthy, well set with bloom, and moderate in price. Catalogues forwarded post free upon application.—Dorking Nursery, March 19.

DOUBLE ITALIAN TUBEROSE ROOTS, 4*s.* per dozen.—The annual importation of the above named beautiful and fragrant Flower has just been received, and large and well selected Bulbs may be obtained, without disappointment, at A. COBBETT'S Foreign Warehouse, 18, Pall Mall.
N.B. Printed regulations for treatment sent; also, just arrived, very moist and open Parmesan Cheeses.

CHOICE COLLECTION OF HOLLIES.

YOUELL AND CO. beg to offer the following collection of 20 very handsome and distinct kinds for six guineas (package included), viz., microcarpa, Tarajo corrusa, dipyrena, Hendersoni, ovata, heterophylla, new silver striped, Donningtonia, Smithiana, opaca, furcata, latispina, platyphylla, latifolia, Maderensis, castanæfolia, Sheppardi, Whittingtonia, crassifolia.—Royal Nursery, Great Yarmouth.

WILD'S UNRIVALLED PRIMULAS, upwards of 100 Testimonials received.—Mr. S. C. Wakefield, Gardener to the Viscountess Forbes, Castleforbes, Co Longford, Ireland:—"I am directed by Lady Forbes to send to you again for Primula seed, as I am happy to say the last were indeed very fine and greatly admired by all who saw them." Post free to all parts of the world on receipt of 2*s.* 6*d.* in stamps.—THOS. WILD, The Primulary, Ipswich.

# JAMES CARTER & CO., SEEDSMEN,

## 238, HIGH HOLBORN, W.C.,

BEG to call attention to the 24th Annual Issue of their ENCYCLOPÆDIC CATALOGUE and GARDENERS' VADE MECUM, containing upwards of 2000 species and varieties of Flower Seeds, every requisite for the Farm and Kitchen Garden, and a comprehensive Calendar of Operations for each month throughout the year. J. C. & Co. beg to recommend the following selection:—

| | | | | | |
|---|---|---|---|---|---|
| No. 2 | Collection of 12 extra fine varieties of | | Quilled German Asters | . . | 1*s.* 6*d.* |
| ,, 6 | ,, 12 superb | ,, | New Perfection ,, | . . . | 2 6 |
| ,, 13 | ,, 5 beautiful | ,, | Dwarf Perfection ,, | . . | 2 6 |
| ,, 18 | ,, 16 selected | ,, | Dwarf German Stocks | . . . | 2 6 |
| ,, 32 | ,, 10 splendid | ,, | Imperial ,, | . . . | 2 6 |
| ,, 39 | ,, 12 newest | ,, | Camellia-flowered Balsam | . . | 3 0 |
| ,, 40 | ,, 8 finest | ,, | Rose-flowered ,, | . . | 2 0 |
| Unequalled Collections of Carnations and Picotees, 6 vars., 3*s.* 6*d.* | | | | | |
| ,, 47 | Collection of 12 extra fine varieties of | | Dwarf Rocket Larkspur | . . | 2 6 |
| ,, 53 | ,, 12 beautiful | ,, | Phlox Drummondi | . . . | 3 6 |
| ,, 56 | ,, 12 newest | ,, | Salpiglossis | . . . | 3 0 |
| ,, 60 | ,, 12 superb | ,, | Wallflowers | . . . | 2 6 |
| ,, 62 | ,, 12 splendid | ,, | Zinnia elegans | . . . | 3 6 |

| No. | Per packet.—*s. d.* | No. | Per packet.—*s. d.* | No. | Per packet.—*s. d.* |
|---|---|---|---|---|---|
| 64. | Abronia umbellata .. .. 0 6 | 918. | Humea elegans .. .. .. 0 6 | 1457. | Rhodanthe Manglesi .. .. |
| 83. | Acacia suaveolens .. .. 1 0 | 926. | Hypocalyptus obcordatus .. 1 0 | 1467. | Roellia ciliata .. .. |
| 89. | Achimenes .. .. .. 1 0 | 947. | Ipomœa hederacea superba .. 0 6 | 1474. | Salpiglossis sinuata atrococcinea nova .. .. |
| 114. | Alonsoa Warscewiczi .. .. 0 6 | 948. | Ipomœa hederacea superba lilacina 1 0 | 1490. | Salvia patens .. .. |
| 136. | Anagallis grandiflora cœrulea .. 0 6 | 949. | ,, ,, atroviolacea 1 0 | 1490. | ,, splendens .. .. |
| 135. | Anagallis coccinea .. .. 0 6 | 962 | ,, rubro-cœrulea .. 1 0 | 1505. | Saponaria calabrica rosea, new |
| 166. | Antirrhinum, splendid, mixed 0 6 | 998. | Kennedya longiracemosa .. 0 6 | 1519. | Schizopetalon Walkeri .. |
| 190. | Aquilegia Witmanni, fine .. 0 6 | 1032. | Leptosiphon arvense .. .. 0 6 | 1562. | Solanum Balbisi .. .. |
| 195. | Araucaria imbricata .. .. 1 0 | 1046. | Lilium colchicum .. .. 1 0 | 1565. | ,, jasminoides .. .. |
| 197. | Arctotis breviscapa .. .. 0 6 | 1048. | ,, speciosum .. .. 1 0 | 1579. | Spiræa callosa .. .. |
| 229. | Azalea indica, choice .. .. 1 0 | 1067. | Linum kermesinum .. .. 0 6 | 1589. | Statice Bonduelli .. .. |
| 232. | Bambusa spinosa, rare .. .. 0 6 | 1091. | ,, narbonense .. .. 0 6 | 1594. | ,, Fortuni .. .. |
| 264. | Brachycome iberidifolium .. 0 6 | 1092. | Lobelia Erinus speciosa .. .. 1 0 | 1607. | Strelitzia angusta .. |
| 277. | Butea superba, stove, rare .. 2 6 | 1093. | ,, formosa .. .. .. 1 0 | 1614. | Swainsonia Greyana .. |
| 291. | Calceolaria, mixed .. .. 1 0 | 1122. | Lupinus Hartwegii cœlestinus, new .. .. .. 0 6 | 1615. | ,, lessertiefolia |
| 292. | Calceolaria, finest spotted .. 1 0 | 1133. | ,, nanus albus novus, new 0 6 | 1618. | Tacsonia ignea .. .. |
| 310. | Calliopsis Burridgi .. .. 0 6 | 1171. | Marianthus cœruleo-punctatus 0 6 | 1643. | Trichodesma zeylanicum |
| 317. | Camellia japonica .. .. 1 0 | 1181. | Maurandya Barclayana kermesina .. .. .. .. 0 6 | 1644. | Trichosanthes colubrina |
| 345. | Campanula Vidalli .. .. 0 6 | 1204. | Mimulus pl. sp. et var. .. .. 0 6 | 1646. | Tritoma Uvaria .. .. |
| 355. | Canna Warscewiczi .. .. 0 4 | 1217. | Myosotis azorica .. .. .. 0 6 | 1653. | Tropæolum Lobbianum Géant des Batailles |
| 418. | Chamærops humilis .. .. 0 6 | 1222. | Nelumbium speciosum .. .. 1 0 | 1654. | Do. do. glabrum vaneatum |
| 429. | Chloris radiata .. .. .. 0 6 | 1223. | ,, ,, album .. 1 0 | 1658. | Do. do. Schultzi .. |
| 432. | Chorozema Hendersoni .. .. 0 6 | 1242. | Nierembergia gracilis .. .. 1 0 | 1661. | Do. do. Triomphe de Gand |
| 434. | Chorozema Lawrenciana .. 0 6 | 1246. | Nolana paradoxa violacea .. 1 0 | 1662. | Do. do. Victoria Regina |
| 440. | Chrysanthemum indicum .. 1 0 | 1262. | Œnothera bistorta Veitchi .. 1 0 | 1667. | Do. speciosum .. .. |
| 441. | ,, indicum nanum 1 0 | 1265. | ,, Drummondi nana .. 1 0 | 1688. | Verbena hybrida, mixed |
| 444. | Cineraria, finest mixed .. .. 1 0 | 1293. | Oxalis corniculata fol. var. .. 1 0 | 1699. | Victoria Regia .. .. |
| 466. | Clarkia pulchella marginata .. 0 6 | 1296. | ,, tropæoloides .. .. 1 0 | 1708. | Viscaria cœli roses alba .. |
| 547. | Cryptomeria Lobbi .. .. 1 0 | 1315. | Passiflora cinnabarina .. .. 1 0 | 1711. | ,, oculata Dunnetti |
| 575. | Dahlia, finest double .. .. 1 0 | 1320. | Paulownia imperialis .. .. 0 6 | 1720. | Zauschneria californica .. |
| — | Datura humilis fl. pl. .. .. 0 6 | 1331. | Pentstemon Hartwegi atro-cœruleum 0 6 | 1737. | Aster Emperor, new |
| 590. | Datura Wrighti .. .. .. 1 0 | 1332. | ,, coccineum .. .. . 0 6 | 1740. | ,, La Superbe .. |
| 601. | Delphinium magnificum .. 1 0 | 1338. | ,, purpureum .. .. .. 0 6 | 1771. | Carnation, double, finest mixed |
| 648. | Dianthus Veitchi, fine .. .. 1 0 | 1382. | ,, Murrayanum .. .. 1 0 | 1772. | ,, perpetual do. |
| 650. | Didymocarpus polyanthus .. 1 0 | 1353. | Petunia viridicincta .. .. 0 6 | 1775. | Chrysanthemum tricolor Burridgi |
| — | Erica, finest variety, 12 species 5 0 | 1366. | Phlox Drummondi elegans nova 0 6 | 1776. | ,, beautiful |
| 743. | Erythrina Hendersoni .. .. 1 0 | 1372. | ,, zinnabarina .. .. 1 0 | 1828. | Heartsease, extra fine .. |
| 772. | Filices, finest mixed .. .. 1 0 | 1377. | Physalis edulis .. .. .. 0 6 | 1830. | Hollyhock, prize mixed |
| 773. | Fenzlia dianthiflora .. .. 1 0 | 1389 | Pleroma elegans .. .. 1 0 | 1850. | Larkspur tricolor elegans |
| 779. | Fuchsia, finest mixed .. .. 1 0 | 1396. | Pomeiana regia, rare .. .. 1 0 | 1864. | Marigold, French, new orange |
| 786. | Gaillardia hybrida grandiflora .. 0 6 | 1407. | Portulacca Thellusoni caryophylloides .. .. .. 0 6 | 1890. | Nasturtion, dwarf spotted Tom Thumb |
| 805. | Gazania ringens .. .. .. 0 6 | 1432. | Primula sinensis fimbriata .. 1 0 | 1891. | ,, |
| 823. | Gesneria, mixed .. .. .. 0 6 | — | ,, ,, Village Maid, fine 2 6 | 1907. | Picotee, finest double |
| 834. | Gloxinia, finest mixed .. .. 1 0 | 1452. | Quisqualis glabra .. .. 2 6 | 1909. | Polyanthus, extra fine .. |
| 835. | Gloxinia erecta .. .. .. 1 0 | | | 1910. | ,, new large yellow |
| 880. | Gymnogramma ochracea .. 1 0 | | | 1969. | Virginian Stock, new rose |
| 881. | ,, tartarea .. 1 0 | | | | |
| 903. | Hibiscus Cameroni .. .. 1 0 | | | | |
| 917. | Hoya carnosa .. .. .. 1 0 | | | | |

J. C. & Co. beg to state that in ordering from the above the numbers in margin will be sufficient.

*Catalogues forwarded post free upon application.*

**JAMES CARTER & CO., Seedsmen, 238, High Holborn, W.C.**

# MEADOW AND PASTURE GRASS SEEDS.

## GEORGE GIBBS & Co., Seedsmen, 26, Down Street,

BEG to announce that their mixtures of GRASS SEEDS are now ready for delivery. These mixtures are made up expressly to suit the various soils and the growth of each variety is fully tested previous to being bulked. G. G. & Co. having supplied the Seeds for *Hyde Park, St. James's, and Regent's Park, Kensington Gardens, Kennington Park,* &c., for many years, feel assured no further testimonials are requisite. The Seeds are made up into two different mixtures, as they do not sow well together; 2 bushels of the light and 12 lbs. of the heavy seeds are allowed per acre.

Mr. GIBBS, giving his personal attention to the assorting of these mixtures assures his friends that every care is taken with regard to the proper proportions.

**MIXTURES FOR PERMANENT MEADOW & PASTURE** (adapted to the different soils) 32s. to 34s. per acre.
**MIXTURES FOR IMPROVING & RENOVATING OLD GRASS LAND** (8 to 12 lbs. per acre) 1s. per lb.
**MIXTURES OF THE FINEST SORTS FOR LAWNS, GRASS PLOTS, BOWLING GREENS, &c, 1s. 3d. per lb.**

SELECT STOCKS OF THE UNDERMENTIONED AGRICULTURAL SEEDS SUPPLIED AT THE PRICES STATED FOR THE PRESENT MONTH:—

| MANGEL WURZEL. Per lb.—s. d. | | CARROTS. Per lb.—s. d. | | SWEDES. Per lb.—s. d. | | RYE-GRASS. Per bushel—s. d | | CLOVERS. Per lb.—s. d. | | VARIOUS. Per lb.—s. d. | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Long Red .. .. | 0 9 | White Belgian .. | 1 0 | Ashcroft .. .. | 0 9 | Gibbs' Improved Italian | 7 0 | English Red .. | 9d. to 0 10 | Holcus saccharatus .. | 2 0 |
| Leviathan Long Red .. | 0 10 | Yellow Belgian .. | 1 3 | Skirving's .. .. | 0 9 | Dickenson's Italian .. | 7 0 | White Dutch .. | 1 d. to 1 0 | Lucerne .. .. | 1 0 |
| Yellow Globe .. .. | 0 9 | Large Altringham .. | 1 6 | Matson's .. .. | 1 0 | Fine Imported do. .. | 7 0 | Trefoil .. .. | 4d. to 0 5 | Drumhead Cabbage .. | 3 0 |
| Red Globe .. .. | 0 9 | Long Surrey .. .. | 1 6 | Kentish Green Crown | 1 0 | Common English.. .. | 6 0 | Alsike Hybrid .. | 2 6 | Large Cattle Parsnip .. | 1 6 |
| Long Yellow .. .. | 0 9 | James's Scarlet .. | 1 6 | Marshall's Purple Top .. | 1 0 | Pacey's Perennial.. | 6s. to 7 0 | True Cow-grass.. | 1 0 | Kohl Rabi .. .. | 5 0 |

*Full Priced Catalogues sent free on application —Cash or reference required from unknown Correspondents.*

GEORGE GIBBS & Co., 26, Down Street, Piccadilly, London, W.

SUTTON'S GRASS SEEDS AT THE ROYAL FARMS NEAR WINDSOR, AND IN THE ISLE OF WIGHT.

# SUTTON'S GRASS SEEDS
## FOR PERMANENT PASTURE, PARKS, AND LAWNS,

ARE NOW SOWN AT THE ROYAL FARMS, AT OSBORNE PALACE, THE ALDERSHOTT CAMP, THE CRYSTAL PALACE SYDENHAM, THE HORTICULTURAL SOCIETY'S GARDENS, THE PEOPLE'S PARK, HALIFAX, AND ON MOST OF THE LARGEST ESTATES IN THE KINGDOM.

**These Grass Seeds being mixed expressly to suit the soil for which they are required, are never known to fail**

SUTTON & SONS having for many years paid especial attention to the Laying down Land to Permanent Pastures, they are well acquainted with the various soils of most parts of the United Kingdom, and the Natural Grasses suitable for each locality.

**The following Sorts may be had separate or mixed, at lowest Market Prices:—**

| | | | | | | |
|---|---|---|---|---|---|---|
| Alopecurus pratensis | Festuca duriuscula | Festuca tenuifolia | Lolium italicum | Poa pratensis | Phleum pratense major | |
| Anthoxanthum odoratum | ,, elatior | ,, hordeformis | ,, perenne tenue | ,, trivialis | ,, ,, minor | |
| Agrostis stolonifera | ,, gigantea | Glyceria fluitans | ,, ,, Paceyanum | ,, nemoralis | Petroselinum sativum | |
| Avena flavescens | ,, heterophylla | ,, aquatica | ,, ,, sempervirens | ,, angustifolius | Trifolium repens | |
| Achillea millefolium | ,, pratensis | Holcus lanatus | Lotus corniculatus major | ,, fertilis | ,, pratense perenne | |
| Cynosurus cristatus | ,, ovina | ,, avenaceus | Medicago Lupulina | ,, sempervirens | ,, minus | |
| Dactylis glomerata | ,, rubra | | | | ,, hybridum | |

ALSIKE and other CLOVER, and all the most suitable of the above are contained in our Mixtures. Cost of the best Mixtures for Permanent Pasture, **30s. to 34s. per acre,** according to the sorts required for the land.

## Fine LAWN GRASS SEEDS for making New or Improving Old Garden Lawns,

**Price 1s. per lb., 2s. 6d. per gallon, or 20s. per bushel.**

## Improvement of Grass Lands by Sowing Good Seeds of the most Suitable Kinds.

## SUTTON'S RENOVATING GRASS SEEDS (6s. to 9s. per Acre)

Consist of the finest GRASSES and PERENNIAL CLOVERS, producing great improvement in the Pasture, and at a small expense. Quantity of Seed required 8 to 12 lbs. per acre. Price reduced to **9d. per lb, or 80s. per cwt.** Sow in March and April.

☞ Having greatly reduced the price of our **RENOVATING MIXTURE**, we doubt not that our liberal terms will encourage the more extensive use of the same. Our Grass Seeds have for many years been allowed to be the best, and now we may add that they are the cheapest. Meadows and Upland Pastures may be increased in value 50 per cent. by sowing these Seeds. **Grass Seeds for Laying down Permanent Pasture, 30s. to 34s. per acre.** Seeds Carriage Free to all parts, except small parcels. Catalogues post free.

## SUTTON & SONS, Royal Berkshire Seed Establishment, Reading.

# CHOICE FLOWERS.

# BUTLER & McCULLOCH'S SPRING CATALOGUE OF SEEDS,

ARRANGED on a new and original plan, with copious Descriptive and Cultural Notes, and containing many new and rare species and varieties not found in any other Catalogue, now ready and may be had free and post paid on application.

FLOWER, SHRUB, TREE, and VEGETABLE SEEDS, the crop of 1858, saved with the greatest care, by the most eminent growers.

We may also state that the Sardinian correspondent of Messrs. JAMES CARTER & Co., whose Seeds, especially Carnations and Picotees, have given such universal satisfaction, has transferred the Agency from that firm and appointed us his representative in this country. To meet the growing demand for first class flowers, particularly FLORISTS' FLOWERS, we have adopted our usual maxim of charging the lowest possible prices.

Professor LINDLEY in the *Gardeners' Chronicle* of February 5th, has the following notice of B. & McC.'s Catalogue.

"BUTLER & McCULLOCH'S (Covent Garden) Spring Catalogue of Choice Flower, Shrub, Tree, and Vegetable Seeds. This list fills 84 closely printed 8vo pages, and is remarkably well got up. It appears that the correspondent in Sardinia, who formerly supplied one of the great London houses with seeds raised in that warm part of Europe, has now transferred what he saves to Messrs. BUTLER & McCULLOCH. Let us add, that it yields to no Trade List in the abundance of its materials or the excellence of its arrangements."

| | | | | | | |
|---|---|---|---|---|---|---|
| A selection of 44 pkts. of beautiful Annual Flower Seeds | | | | | 7s. | 6d. |
| Ditto | 33 | ditto | ditto | .. .. | 5 | 6 |
| Ditto | 21 | ditto | ditto | .. .. | 3 | 6 |
| A selection of 40 pkts. of beautiful Biennial and Perennial ditto .. .. .. .. .. | | | | | 10 | 6 |
| Ditto | 31 | ditto | ditto | .. .. | 7 | 6 |
| Ditto | 24 | ditto | ditto | .. .. | 5 | 6 |

An Assortment of Vegetable Seeds, 20 quarts of Peas, and other Seeds in proportion for 1 year's supply .. .. .. .. .. .. .. £3 3s. 0d

Ditto ditto 12 quarts of Peas ditto .. 2 2 0
Ditto ditto 6 ditto ditto .. 1 1 0
Ditto ditto 3 ditto ditto .. 0 15 0

All Flower Seeds sent post paid, and Vegetable or Vegetable and Flower Seeds amounting to 1*l.* 1s. Carriage Paid to any principal Railway Station in England, Wales, and Scotland, or any port on the Irish Coast.

## BUTLER & McCULLOCH, Covent Garden Market

THE NEW MUSCAT HAMBURGH VINE.

MESSRS. ARTHUR HENDERSON AND Co. have much pleasure in directing the attention of Grape Growers to the new MUSCAT HAMBURGH, plants of which they are now sending out. In consequence of the extraordinary demand for the large three guinea fruiting plants, they are unable to supply any more of this size, but they still have excellent plants at two guineas, suitable for fruiting next spring in pots, and also good plants at one guinea each.

Pine-apple Place, Edgware Road, London, W.

THE GREAT VINE AT HAMPTON COURT.

THE SUBSCRIBERS being the holders of the Royal Kitchen Gardens, Hampton Court, are enabled to offer genuine the famous and truly excellent HAMPTON COURT BLACK HAMBURGH GRAPE.

Strong well-ripened plants in 9 inch pots, 42s. and 60s. per doz.
" " fruiting plants in 12-inch pots, 10s. 6d. each.

If purchased in large numbers a considerable reduction will be made in price.—JACKSON & SON, Nurseries, Kingston, S.W.



# The Gardeners' Chronicle.

*SATURDAY, MARCH 26, 1859.*

MEETINGS FOR THE FOLLOWING WEEK.

WEDNESDAY, March 30—Microscopical..... 8 P.M.


WE have received from Mr. HANDS, of Epsom, his account of a "New and improved system of heating, ventilating, and fumigating horticultural buildings of every description, such as conservatories, greenhouses, hothouses, forcing-houses, Cucumber and Heath-houses, Pineries, Vineries, and aquariums." With the numerous methods of ascertained excellence now in use for heating

garden buildings we may well be content—at least for the present; nor indeed is there much chance of any real improvement taking place in this description of horticultural requisites until some more satisfactory and innoxious way than we at present possess of employing gas shall have been hit upon. But to ventilating contrivances every gardener is eagerly looking: for it is certain that half the evil consequences attendant upon cultivation under glass are referable to the absence, or inefficiency, of the modes employed for keeping air in active motion and incessantly exchanging the deteriorated atmosphere of a forcing-house for fresh supplies suited to the wants of plants.

Were the many active-minded men who occupy themselves with discovering new forms of boilers, having no merit except that of ingenuity, to turn their attention to ventilation, which is bad, instead of heating, which is good, the gardener would be relieved from the last great impediment to maintaining plants within a glass enclosure in the same robust health as they enjoy under natural circumstances. This is the one great object still to secure. Here is the point in which all talent and energy should be concentrated. It is true that ventilation is improved, that by means of subterranean flues, or pierced openings in contact with heated surfaces (such as ORMSON'S chambers), a great deal has been done. Perhaps, indeed, in *fitting up a new forcing house* the latter may be sufficient. But we want other efficient plans applicable to all sorts of existing buildings, and they are what we have not yet acquired, or if they exist, they are unknown to the public.

It was, therefore, with no small interest that we turned over the pages of Mr. HANDS'S "new and improved system of heating and ventilating," &c., to be effected by certain patent "Utile" furnaces and flues, the fire in which "causes a sufficient supply of humid atmosphere for the purposes of vegetation so as to avoid the necessity of watering." Fine words and captivating to the mind of a gardener! The treatise is introduced by elevations and sectional views of a greenhouse, a conservatory, a forcing-house, a Vinery or Peach-house, and sundry forcing pits, to all which Mr. HANDS'S "system" is applicable. Our surprise then may be easily imagined, when upon turning to the letter-press accompanying the plans we discovered that "the new and improved system" is a system of KILN DRYING! Messrs. BAKER of Cheam, FAULENBACH of Cologne, HURLEY of Farnham, eulogise its kiln-drying powers, and Mr. CLAYTON says it is a capital contrivance for drying bricks. The *Builder* approves of its economy in consuming smoke, and others follow its lead. That being all, absolutely all, that Mr. HANDS says of his "new and improved system," we are driven to the conclusion that in his opinion the perfection of gardening consists in rendering air fit to cure Hops, or malt, or to dry Mr. CLAYTON'S bricks and tiles. But how, "upon this principle," as Mr. HANDS remarks, there is to be a sufficient supply of *humid* atmosphere, it is difficult to comprehend, unless indeed the ingenious inventor uses the word *humid* in the sense of *parched*, as happened to a very worthy and really good gardener, who informed his master that he always called the bottom of a thing its apex!

Such is Mr. HANDS'S new invention, upon his own showing, and it cannot be denied that it is perfectly "new" in Horticulture.

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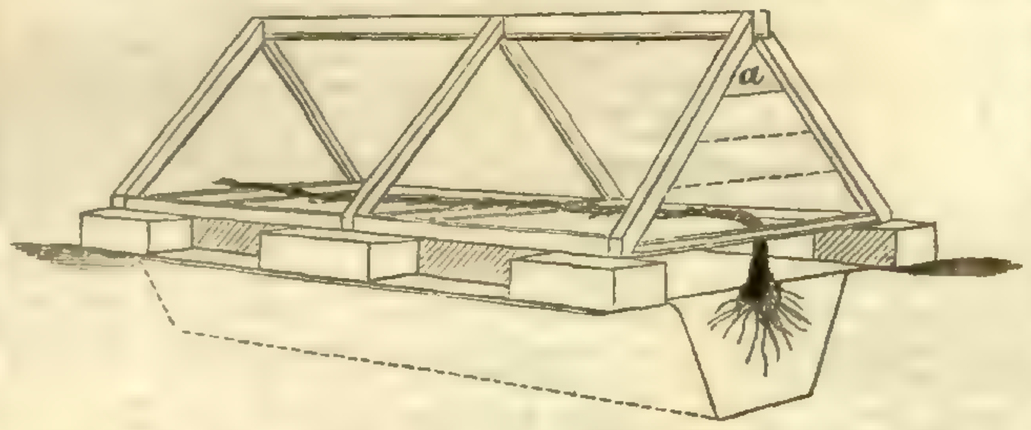
THE CURATE'S VINERY! What may that mean? We had been asked the question two or three times but could give no answer. A guess might indeed have been hazarded; but guessing is the province of children or of those whose minds have never expanded beyond the narrow bounds of childishness. At last the explanation has been found in Mr. RIVERS'S little book mentioned last week, and with his permission we lay it at once before our readers.

"The annexed figure will convey a correct idea of its shape and make. To form a Vinery of this description, some dry place in the garden must be selected; if not naturally so, it must be well drained. A dry gravelly or sandy border, gently sloping to the south or south-west, will be found a favourable site; a flat surface will however do well if fully exposed to the sun.

"When the site is determined on, a trench should be dug 2 feet wide on the surface and 15 inches deep, sloping on each side to the bottom, which should be 6 inches wide; the bottom must be paved with tiles, placed lengthwise, and the sides lined with the slates called Duchesses, also placed lengthwise.

"On each side of this trench, on the surface of the soil, a row of bricks must be placed 2 inches apart end to end, leaving spaces between each brick 2 inches wide—these are for ventilation. On these two rows of bricks the roof is to be placed, which would be a ridge of the following dimensions:—2 feet 6 inches wide at bottom, and 15 inches deep from the centre to the apex. It should be made in lengths of 7 feet, two of which, placed end to end, form one Vinery 14 feet long. Each length should be glazed with four pieces of glass; and as each sloping side of the ridge is 20 inches deep, four pieces of glass, about 20 inches square, for each side will be required. The two outer ends must be closed with board: at one end a notch should be cut in the board to admit the stem of the Vine, which should be planted outside, so that its stem is on a level with the surface of the soil outside; the soil the Vine is planted in should be well stirred, 2 feet deep, over a space 6 feet square, and enriched with rotten manure, and what are called 1-inch bones or 'bone dust.' The Vine, when planted, should be introduced and suffered to grow, as in a common Vinery, till it reaches the end. Pruning on the spur system is the only method to be followed. To support the Vine in the centre, pieces of slight iron rod should be placed across the furrow, 2 feet apart, resting on the surface outside; to these the stem of the Vine should be fastened, so as to be under the centre of the roof. The bunches of Grapes will thus hang in the centre of the furrow, and, owing to the radiation of heat from the slates and tiles, they will ripen well. I need scarcely mention that in pruning, either in winter or summer, the two lengths of ridge forming the roof must be taken off and replaced when the operation is finished. Owing to the moisture from the soil, red spider but rarely makes its appearance; but it will be a sure preventive if flowers of sulphur are kept thickly sprinkled on the slates and tiles during the months of June and July. It is not only for Vines that these, strictly called ridge-and-furrow, Vineries are adapted—Pears on the Quince stock, and Peaches and Nectarines, all cultivated as closely pruned pyramids, may be grown in them; the




latter would require to be lifted annually in November, to keep down excessive vigour. A 7-feet length, closed at one end, should be appropriated to one tree, the open end towards the root.

"Their cost for carpentry, as given by my village builder, is 6*s*. 6*d*. for each 7-feet length; glass, about 4*s*. So that a Vinery for one Vine will cost, including slates and bricks, about 25*s*.

"There are several garden purposes to which these simple structures may be applied. I fill my trench half full of rich mould early in November, and plant in it Endive and Cabbage Lettuces for winter and early spring Salads.

"In gardens where these glazed ridge-roofs are not wanted for Vines or fruit-tree culture, they will be found most useful. They may be placed on any warm border on the surface of the soil, and early Peas, French Beans, and many other early vegetables requiring protection from spring frosts, be grown under them with advantage. In all cases they should be placed on bricks, with spaces between them. Ventilation is then secured; and even Cauliflower plants in winter will do well without the constant attention to 'giving air,' so necessary in the old garden frame culture. In gardens that are confined and very warm, it may be necessary to have the ends not quite closed up, but a small opening left at the top, at *a* in the figure, just under the ridge, to let out the heated air. My Vinery stands in a very exposed place, and has not required it."

We may possibly be informed that a contrivance like this belongs to the cheap and rickety class; that it is only a plaything where people are their own gardeners, and that there is nothing which it can do that a rough greenhouse will not do much better. Very likely. But with half the world their garden is a plaything; it is a place of amusement, not profit, and wo! to the man who is so ill advised as to imagine it anything else, unless indeed he is a market gardener. Half the pleasure of a garden consists in small experiments, little dodges, and pretty novelties, or what promise to be so. The true lovers of their gardens don't weigh the cost of a thing so much as the amusement that can be got out of it. They disregard the question of equivalents, and look only to results. The question they ask themselves is, "Can I afford it?" just as those who take an opera-box ask their pocket whether it can afford that.

There are hundreds of garden lovers who can't afford a Vinery, but who would like to try their hands at growing a few bunches of Grapes. Are they to be deterred because some garden grandee poohpoohs their little glazed ditch? Now, according to Mr. RIVERS'S statement, the thing may be done for five-and-twenty shillings? And then to how many purposes may such a little seven-foot span be applied when the owner is tired of his Vine experiment. Mr. RIVERS mentions some; but there are many more. Bringing forward a row of Strawberries, for instance, or a line of Asparagus, or spring Onions or Radishes, or sheltering small matters in winter such as Endive or Winter Spinach, or LAMB'S Lettuce. For all such purposes the glass roof, taken off its Vine trench, will be found very far better than handglasses or cloches, or such devices. For ourselves we have already set a carpenter to work up some old materials.

Since the above was in type we have received the following communication on the subject from SIGMA himself:—

"It was the intention when the Curate's Vinery was first designed to introduce a plan for growing Grapes and other fruit under glass cheaply and on a large scale, but other things prevented this being carried into execution. I am glad to see Mr. RIVERS has brought it before the public. The system combines sunlight, great heat, perfect ventilation, and moisture—which rises through the brick floor. These we might reasonably presume would insure fruit well coloured and thoroughly ripened, with health in the foliage; and the continued flow of air would prevent scorching. Probably it might be advisable to shut the side of the light exposed to cold winds, and if shut altogether at night, the heat absorbed by the earth during the day might be retained, and the moisture would then condense on the leaves and glass. By making the furrow wider two Vines might be grown, when the structure would be even more economical in proportion, and the ventilation might be arranged accordingly. The estimate given by Mr. RIVERS for a Vinery, 14 feet by 2½, for one Vine is 26*s*. There are various ways of carrying out a similar plan even more economical than the one he describes; and if instead of a furrow in the earth, a trench be dug 1 foot deep on each side of a Vinery, suitable for two Vines, and the earth be thrown up so as to form the sides of a furrow on the surface, the Grapes would then be raised 2 feet from the bottom of the trench, in which the operator might walk when thinning."

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WE are happy to announce that Dr. HARVEY is preparing a "*Thesaurus Capensis*," on the plan of HOOKER'S *Icones Plantarum*, but confined to Cape plants; 16 plates have been already drawn out of 25, which will form the first number, four numbers, 100 plates, forming a volume. The first number will have a large percentage of new species, and two remarkable new genera. It is, however, our learned friend's intention to figure old as well as new things; anything in fact that will be useful to Cape botanophilists. Dr. HARVEY'S Cape Flora, formerly announced, has already gone to press.

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## RHODODENDRONS.—No. VI.

ANY seed, however, required for sowing, must be allowed to ripen before gathering; this may be known by the capsules assuming a warm brown tint. And in the case of any choice kind, or of such as may have been hybridised, occasional examination will be necessary to secure it before any is lost by the sudden expansion of the capsules; the action being generally accompanied by the dispersion of a large portion of the seed. After gathering, place the capsules in coarse brown paper bags, and store in a cool dry place until sowing time. If you have a large quantity of seed of ordinary kinds, the most ready means of preparing it for sowing is to crush the capsules with a rolling-pin, and separate the seeds from the chaff by a fine sieve. A small portion will doubtless be destroyed by crushing, but that will be of little consequence in a large amount, and the expedition of the process will more than compensate the loss. But if the seeds are small in quantity and choice in kind, careful separation by the hand is the more desirable mode. Where there are a large number of plants to collect from much seed may be gathered in spring, as the seed-vessels remaining upright after

spring, have not dispersed the whole of their contents when. A day or two since I saw a large packet recently collected, and at the time of writing this (March 1) the plants in front of my house have I see much good seed remaining on them.

Spring is the season for sowing, but the time must be determined by the means adopted for raising the plants, whether in the open ground, in a cold frame, or in heat. Provided the necessary conditions are given, they may be successfully raised in either; the result to be obtained being merely a question of time. The employment of heat, however, in the infancy of the plants, with a careful attention to all necessary contingents and details, will most speedily produce the wished-for results—seedling blooming plants, or vigorous stocks for the purposes of grafting, as the case may be. But it may be as well to hint here, as a warning and a caution to the amateur and the inexperienced, that in proportion to the complication of the means employed, so is care and skill necessary to insure the full benefit of them. And this is equally true of every other series of operations in which care and forethought are necessary elements to success.

If then the assistance of heat can be obtained, sow in February or March; if in a cold frame or the open ground, in April or early in May. Wide shallow pans or boxes about 4 inches deep, and of a length and width to admit of their being readily moved about, are best to sow in; 3 feet long by 1 foot wide is a convenient size. Nearly fill them with suitable soil thus: sift a portion through a coarse (three-quarter or inch mesh) sieve, place the rough fibrous portions that remain behind, as drainage. Then pass the sifted soil through a finer mesh, placing the rough pieces upon those already put in, repeating the operation with a still finer sieve, filling the box with the coarser pieces to within an inch or so, press firm, and over all put a layer of the fine soil containing a larger proportion of sand; make this firm and smooth, place the boxes on a level surface and give a thorough watering from a pot with a fine rose. A mere sprinkling on the surface is of no use; the whole must be thoroughly wetted. When the superfluous water has drained away a little more soil may be added to receive the seeds, previously making it perfectly level. After sowing, the seeds should be fixed rather than covered with a dust of soil. This is best applied by holding over them a fine sieve containing a little of the compost and gently tapping the side. No water is required then. The soil below being thoroughly moistened, the surface will absorb sufficient by capillary attraction, and which indeed it will continue to do during the germination of the seeds and earliest infancy of the plants, if shading be properly attended to and a sufficiently moist atmosphere supplied. During the earliest stages of the plants, indeed, water could hardly be given directly from a watering pot without considerable derangement and damage, and the same may be said of all very fine seeds.

The boxes are now to be placed in a house or pit having a gentle heat and moist atmosphere, and carefully screened from the sun's rays. Under these conditions germination will rapidly ensue, and then great attention will be necessary to prevent the young plants from damping off; and, subsequently, in hardening them to bear the transition to a cold frame. This last must be effected by very gradually subjecting them to a free circulation of, and a drier air. Some cultivators prick off the seedlings immediately they can be said to have assumed the form of a plant, and establish them in heat; but this practice requires an amount of manual dexterity and refinement of cultural skill which could only be successfully performed by the thoroughly initiated: a novice would be more likely to fail than succeed in attempting it.

Waiving this, then, we will suppose the plants to have been carefully and successfully removed to a cold frame. If sown in February they will be ready to prick out in May.* Presuming them to be so, place in some two or three light garden frames, with a northern aspect, 6 or 8 inches of proper compost—well pulverised leaf mould should predominate in this—and in it prick out the young plants 2 inches apart. Keep close till well established, and gradually harden off to bear full exposure; pay proper attention to moisture during the summer. In winter they will only require protection during rough or severe weather. In the following April they may be bedded out in the open ground, previously however being well inured to exposure. Under ordinary good treatment many of the plants will flower at four years old; with the best management by experienced hands they frequently reach that state in three years. We have known instances of seedlings attaining a height of 6 inches the first year.

When the seedlings are raised in a cold frame they will of course in their early stage be considerably behind those having the advantage of heat. Such may be hardened off and retained in the pans or boxes till the following spring, and then pricked off in frames and treated as above described. In fact this is sometimes adopted with those raised in heat, but the practice is not to be recommended. Independent of the loss of time, the young plants become crowded and matted at root; and, in consequence, are much checked and injured in being removed from the seed pans. That course which occasions the least obstruction to their growth, and on the other hand mostly accelerates their natural progress, is the one to adopt as likely sooner to realise the end in view.

That seedling Rhododendrons can successfully be raised in the open air every one who has examined a wood where there are large plants of some years' standing can verify. Moisture and shade are the great indispensables. And wherever these conditions are present in combination, seeds being scattered, young plants will spring up. We have seen them in thousands on bare sandstone blocks, shaded by vegetation near waterfalls, where the air is always moist, and on the surface of gravel walks in woods where the sun never shines, they often abound. The conditions which in such situations are presented, and which are as indispensable to the vegetation of our ordinary Rhododendrons in their natural habitats as under artificial culture, are equally so to their famous relatives of Sikkim-Himalaya, as is shown by the following passage from Dr. Hooker's valuable article in Vol. 7 of the Journal of the Horticultural Society, an article by the bye which every one who cares for the cultivation of Rhododendrons at all, especially the Sikkim Rhododendrons, should study. "In Dr. Campbell's garden at Darjiling," says the learned author, "there is a perpendicular bank 15 feet high, exposed to the west and partly sheltered from the south-west by the house. R. Dalhousiæ has annually appeared on this, the seeds being imported by winds or birds from the neighbouring forest. The seedlings, however, perished till within the last two years, since which time abundance of Lycopodium clavatum and a Selaginella, with Marchantia, retain so constant a supply of moisture that the plants now flourish and flower in perfection." *G. Lovell, Bagshot.*

*(To be continued.)*

## NEW PEARS.

*Beurré Superfin.*—Scarcely any Pear of recent introduction equals this very fine variety. When ripened with a full exposure to the sun, its skin is generally covered with russet tinted on its sunny side with a dull red. It generally precedes the Marie Louise in ripening, and is perfectly melting with a peculiar and delicious aroma. It succeeds perfectly on the Quince stock, and is a good but not an abundant

bearer while young. In the northern and eastern counties it is quite hardy, and does not seem to require a wall. Like the Marie Louise and Winter Nelis this fine Pear is indispensable in even small collections.

## ON FORMING AVENUES.

I PRIZE an avenue. It is the noblest arboreous ornament in an ornamented English Park. They say a straight one is most orthodox; but, to me, an avenue of serpentine appearance has more attractions, and I prefer it to the other.

In our part of Yorkshire, an avenue has been the chosen resort of multitudes of rooks (those indefatigable destroyers of the wireworm) as a roosting place time out of mind. It is that at Nostell Priory. These birds assemble there in order to enjoy a safe and undisturbed repose, from mid-October to the 12th of March, without the intermission of one single solitary night.

He who can afford to possess an avenue ought not to grudge a few extra sovereigns in the formation of it, nor a trifling expense in taking care of it afterwards. Before he begins to plant the majestic ornament for his grounds, he would do well to call up his trusty housekeeper, and address her nearly as follows:—"Pray, good Mrs. Brushwell, tell me, how do you contrive to keep our house in such Apple-pie order?" Methinks I hear her say, "This, dear sir, has been my plan. I have managed by hook or by crook to annihilate every Hanoverian rat which had possession of the premises—I have suffocated every bug in the bedrooms—and by the help of our tom-cat, I have succeeded in throttling every mouse from the attics to the lowest cellar." Incomparable housekeeper!

Now, in preparing for an avenue, let us have an eye on the exertions of this thrifty dame. Let us, in a word, guard our newly planted trees against the encroachments of cattle, rabbits, hares, and sheep. Not that I would advocate a persecution of these useful animals. No, by no means. I would merely prevent their coming in contact with the trees by a durable, cheap, and effectual mode of fencing; and also by keeping a sharp look-out in case of accidents: for we must not imitate one Ocnus, of ancient days, a lazy old rascal who was condemned by the gods to twist hay-ropes in hell. There was an ass standing by, which ate the ropes as fast as they were made, and the man was too indolent to drive it away.

With these hints and suggestions in mind, let us proceed to the formation of the avenue.

Drainage, effectual drainage is the first thing to be attended to; then the requisite soil; then the choice of trees; and lastly, a word or two on the atmosphere. Where drainage is wanting your young trees will soon begin to show a corrugated and unhealthy bark; and their leaves will appear as though they had caught the yellow fever. You might as well expect to have a hot mutton chop from a panfull of ice as to see healthy trees where drainage is neglected. There ought to be no stagnant water within 5 feet of the surface. In an avenue which I planted with my own hand, some 50 years ago, all went on surprisingly well, till about 14 years from the date of this, one of the trees fell sick, and continued in an unhealthy state. At last, suspecting where the mischief lay, I probed the roots, and found water at them. It was an English Elm, and of course it could bear a considerable and extra accumulation of soil at the foot of the bole. So I ordered forty cartloads of earth to be put on the surface. This did the business most effectually. The half-starved roots soon felt the consolation—and soon they took an upward direction. I had cut off all the branches from the tree in the preceding autumn to within 2 feet of the stem. In due time a happy change took place, new and vigorous shoots struck out in all directions; and now the once declining tree is itself again. Drainage in this instance was impracticable, on account of the Barnsley Canal, which had done the damage. *Charles Waterton, Walton Hall.*

*(To be continued).*

## Home Correspondence.

*Winter flowers.*—We are apt to consider the three winter months as dull and dreary in the out-of-doors garden. But I believe with very little trouble we might render them gay with flowers in most winters, and this without glass or fire-heat; and thus the poor man's garden might become to him a source of pleasure, and that at little expense. A good selection of plants, and a knowledge as to soil and situation required for each, would be all that would be necessary. I add a list of the flowers I have gathered from the open ground since 1st of January to the present time, and many others will be in flower in a week. Others I have had in bloom when living in the north of London. Owing to its wetness, this has not been a very favourable winter here for flowers. The following is the list alluded to:—Winter Aconite, Christmas Rose, Green Hellebore, Snowdrops, two sorts; Scilla siberica, Arbutus, Garrya, Laurustinus, Crocus of various colours, Rhododendrons, Andromeda floribunda, Rhodora canadensis, common China Rose, Cornelian Cherry, Primulas, eight sorts; Cynoglossum omphaloides, Polyanthus of various kinds, Double Daisy, Oxlips, Cowslips, Aubrietia purpurea, Arabis alpina, Geum (scarlet) from seed, Hyacinths of various colours, Grape do., Jonquil, Narcissus, various Periwinkles, Violets of different kinds, Crocus sativus, various plants of Wallflower, Orobus vernus, Adonis vernalis, white and blue Forget-me-Not, Hepaticas, Dogs'-tooth Violets, Ribes, Pear, Peach, Nectarine, Apricot, Almond, two sorts of Dielytra, pink Saxifrage, Anemone apennina, Do. coronaria, Doronicum, Auricula, Corchorus japonica, Pyrus do., two colours; Jasminum nudiflorum, Forsythia viridissima, Coronilla, Veronica Andersoni and Lindleyi, Areopogon (water), Ceanothus americanus, Cerinthe aspera, three kinds of Berberis, Helonias bullata, Oxalis (Wood Sorrel), Heath, four sorts of Pulmonarias. *M. M., Maes y dderwen, Swansea, March* 22.

*Nephrodium molle* v. *corymbiferum.*—Mr. Sim wisely put purchasers on their guard by expressing a hope merely that this lovely variety would prove as hardy as the species. If that hope had not been realised what a disappointment it would have been, for in a collection of the most striking frilled and crested Ferns it stands quite alone in its distinctness and delicate verdure. I planted one in the centre of a Wardian case last July in a room facing north, and it grew as freely as molle itself. During great part of the winter there has been no fire in the room, and corymbiferum dropped its fronds and became deciduous. It is now (March 16) throwing up again quite strong, and in five or six weeks I expect to see its fine Cockscomb-like frills well developed. True, we have had no weather to make the test a severe one, but we may surely class it with the hardy greenhouse Ferns. *Shirley Hibberd.*

*Garden Expenses.*—Your correspondent "J. D." (see p. 218) has favoured us with a Dr. and Cr. account of the different departments of the garden under his charge; to many it must be the reverse of satisfactory, and ought, I think, to be more fully explained. Let

me ask, for instance, how much of the 21*l.* 19*s.* 3*d.* (the outlay per annum on 2 acres of kitchen garden) he spends in labour, in manure, and in seeds, and what wages he pays his men? But as the expenditure is so are the returns. Many will doubtless agree with me when I say that the statement in question is calculated to damp the enthusiasm of persons about building orchard houses when they find that the full value of fruit grown in a house 16 feet long by 12 wide is only 8*l.* 6*s.* per annum; as also of those about building walls to find that 500 yards will grow only 12*l.* 3*s.* 4*d.* worth of fruit, and that their enclosed garden of 2 acres will only yield 36*l.* 3*s.* 6*d.* per annum. I think if the whole sum of 21*l.* 19*s.* 3*d.* had been spent in manure, and a still larger sum in labour, the returns would have been comparatively greater. I am fully convinced of the possibility of making the kitchen and fruit garden remunerative, and for that purpose I would be glad to see the whole items brought fully forward, so that "every herring might hang by its own tail." *A. M. F., Woodlands, Blackheath.*

*Orchid Insects.*—My attention was some time ago directed by a gentleman of this town to the very peculiar disease so often noticed in Orchids, and which had made sad inroads upon his very beautiful collection. I carefully examined many of the diseased leaves under a very fair microscope, but constantly failed in detecting anything that would direct us to the nature of the complaint. Noticing your article last week upon the subject I again examined some of his sadly marred patients under the microscope, and after close examination of a leaf, which, to the eye, appeared beautifully clean, I discovered four of the very singular acari you so faithfully describe, and at once saw the reason why I had before failed in detecting them, and why the sponge and syringe had been so ineffectual in dislodging them. The sharpened head and fore part of the body appeared to be buried beneath the cuticle, where it was firmly held by the four front legs, which were admirably adapted for the purpose, terminating in what appeared to me to be a bunch of hooked bristles, rather than the fleshy lobe as described by you. The four hinder legs were also firmly attached and nearly hidden under the body; hence from the minuteness and partial transparency of the skin it was hardly distinguishable from the little beads of hardened exudations which I found pretty freely scattered over the leaf, and which probably may have oozed from the more recent punctures of the cuticle. I further noticed occasional cells of the cuticle darkened in colour but confined to one cell alone; and then again a mass of cells of every grade of brown, as though destroyed by some caustic application in the various stages of the disease; leading me to suppose that the puncture of the insect was the first cause, and decay ensued from some peculiar property of the wound. The similarity of the insect to the Sarcoptes Scabiei, or itch insect, in some respects, and various others of the Acarus tribe, much struck me—both formed for burrowing and clinging closely to the skin—which I found to my cost, being unable to remove it in the usual way with a bristle, but was compelled to almost scrape it off with a fine needle, thereby much damaging my specimen. If these minute enemies be the cause of the disease, I have no doubt many washes such as you mention will destroy them; but I much question whether fumigation, syringe, or sponge will touch them, lying, as they evidently do, half buried beneath the fleshy cuticle of the leaf. I therefore send you these remarks, thinking that they may tend to direct the attention of others to the subject. *J. H., Trowbridge, Wilts.*

*Walnut Trees.*—I shall be obliged to any of your correspondents who will inform me whether the Walnut is liable to have its bark stripped or its leaves and young shoots browsed upon by sheep, horses, or cattle. I think it not unreasonable that the taste of its sap would be so unpalatable as to protect the tree, when planted in pastures, without any necessity for tree guards or for surrounding the stems with Brambles. But before I expose trees to such dangers unprotected, I should be thankful for any experience that may be kindly communicated. *Dies.*

*Change of Colour in Violets.*—Can any of your correspondents inform me why sweet scented purple Violets turn white? I have many patches in my garden, which 2 or 3 years ago produced nothing but purple flowers, but they have gradually changed, and now the flowers are almost entirely white! I should be glad to know of any treatment which would prevent this change. *Otterwell, March 22.*

*Davallia canariensis.*—An old plant of this has stood out the whole of the winter in my garden. It was hard frozen in November, has been as dry as dust for weeks together, and only four out of about 25 fronds have changed colour. It is now growing beautifully. It will do for the hardy Fernery in places well sheltered, but comes much finer under glass, if the "hare's foot" is allowed to ramble and clutch the outside of the pot. D. pentaphylla, P. dissecta, and P. decora are first-rate for Wardian cases and for suspending. I grow pentaphylla in a Cork basket, and the rhizome is as handsome as the foliage. *Shirley Hibberd, Stamford Hill.*

*Selaginellas.*—I have had stolonifera, Martensii, formosa, Galeotti, cæsia, apoda, denticulata, and Willdenovii in Pascall's cutting pots under bell glasses in the hall, which is not heated, all the winter. They are dust dry, and have not had water since October last, and air only some half-dozen times, to prevent damping by inclosed vapour. They are all in beautiful condition except Galeotti, which has gone altogether, and Martensii, which looks poor about the base of the fronds. Denticulata forms a beautiful tuft of green if planted in chopped Sphagnum in a shallow pan kept immersed in water, and is a capital ornament for the summit of a rockwork in an aquarium. For surfacing a Wardian case nothing beats apoda and cæsia (uncinata). The latter is the hardiest of all the blue-tinted Selaginellas; but its bright metallic lustre is beaten by africana and lævigata, which require heat and careful treatment. *Shirley Hibberd.*

*Egyptian Pea.*—I enclose some Peas which I have recently received from the person who advertises them as the Egyptian Pea. I shall be much gratified by some experienced correspondent saying what this Pea really is. It appears to me to be the old dwarf Branching Marrow Pea. *Pisum.* [The Pea called the Mummy has been *proved* to be the common dwarf Branching Marrow, and this appears to be the same.]

*Mushrooms.*—During the present month (March) these have been gathered in considerable quantity and of excellent quality in the meadows and pastures of Hurstpierpoint, Sussex, and its neighbourhood—a circumstance of unusual occurrence, and strikingly illustrative of the mildness and humidity of the present season. *J. Miles, Hurstpierpoint, Sussex.*

*Hybrid Fuchsia.*—I beg to forward flowers of a seedling raised from serratifolia, crossed by old corymbiflora. It seems to me to be well worth attention, as it has been in bloom since the end of September and the flowers have been much larger and finer in colour than those now inclosed. It is of a fine dwarf bushy habit. My plant is about from 20 to 24 inches high, and as much through; it was planted out in the summer, and did not bloom till September. The flowers sent are the last the plant has on it at present; about Christmas it had at least a dozen flowers open on each shoot. *X. Y. Z., Abergavenny,* [The blooms sent are very handsome indeed; they greatly resemble both in size and colour those of serratifolia.]

## Societies.

LINNEAN, *Feb.* 3.—Prof. Bell, President, in the chair. Dr. W. Eatwell was elected a Fellow. The following papers were read:—1. A memoir "On Henriquezia of Spence, a genus of Bignoniaceæ," by G. Bentham, Esq., V.P. Henriquezia is one of the many interesting new genera found by Mr. Spence, in northern Brazil and Venezuela. The originally discovered species was published some years since by Mr. Bentham in Hooker's Journal of Botany, but more perfect materials now enabled him to complete the characters of the genus. Among the botanical peculiarities of these plants it was stated that the ovary was inferior, the stamens were five in number, perfect, and nearly equal, and the leaves which are large and entire were furnished with stipules. It nevertheless undoubtedly belonged, the author stated, to the family of Bignoniaceæ, having a near affinity with Platycarpum of Humboldt and Bonpland. The genus was dedicated by Mr. Spence to Senhor Henriquez Antony, a native of Leghorn, who for more than 30 years had been settled at the Barra de Rio Negro, where he has constantly rendered every assistance to scientific and other travellers. The four species described on this occasion are stated to be trees of considerable size and of great beauty, the flowers being disposed in large terminal panicles. Admirable drawings of three of the species by Mr. Fitch accompanied the paper. 2. A continuation of Mr. Bentham's "Notes on British Botany," being the section relating to Geographical Distribution. The greater portion of the British Flora, the author observed, appeared to have been originally derived from the continent of Europe. All that he has read and observed, he goes on to remark, has induced him to lean towards the opinion of an original centre for each species, from whence it has spread (or in some instances may still spread) in every direction with great rapidity where no obstacles have been opposed to the wonderful powers of propagation with which plants are endowed, but constantly checked in its progress by insurmountable barriers, by adverse soils and climates, by preoccupation of the soil, and other causes more or less known to us; or repelled in advances already made by terrestrial or meteorological convulsions, by gradual changes in the conditions of soil or climate, by the invasion of hardy species powerful enough to stifle it, or even by the effects of human agency. Taking this view of the question, and considering that the space over which a species extends in Britain is generally but a very small portion of its whole area, in few cases more than one-sixth, and in that of more than half the species not one-sixtieth—that owing to our position at one end of the old continent the British portion lies at one extremity, whether western, northern, or southern of that specific area, the conclusion seemed inevitable that very few species can have had their original centre of creation in or near Britain, and that the great majority have probably spread from a very considerable distance. But the approximate determination of what may be supposed to have been the original centre of any given species, is often, the author acknowledged, a very difficult problem. Comparative abundance and luxuriance of individuals he maintained to be no criterion. "There is," he observed, "no part of the original area of the Cynara cardunculus, even in northern Africa, where it occupies anything like the extent of territory, to the exclusion of so many other plants, as it is said to do in the Pampas of Buenos Ayres, where it is known to be of recent introduction. Nor is a central position with reference to the general area at all decisive as to the original centre, since both of the above circumstances must be taken into consideration. A more important element in the argument is the observation of the country where the species accommodates itself to the greatest variety of soils and exposures, where it sports into the greatest number of more or less permanent varieties or races, passing the most gradually the one into another, or where any peculiarities in the localities it affects are indicative of ancient occupancy of the country, independently of such historic evidences as the meagre records left by ancient botanists may afford." After observing that his object was not to enter into precise details respecting the areas occupied by the British species, the author proceeded:—"Hewett Watson refers the plants of Great Britain to six types of distribution, the Highland, the Scottish, the British, the English, the Atlantic, and the German, an excellent arrangement so far as they are considered with reference to the stations they occupy in Britain. The investigation of these general areas will also in the majority of instances produce results corroborative of these types, but in others will more or less modify them; and the British portion of the specific areas, being as already shown so small, the names of these types become inappropriate when considered generally. With reference to the general Europæo-Asiatic Flora, to that portion of it at least which extends more or less into Britain, it has appeared to me to be more convenient to distribute our indigenous species into five types or classes, which would be slightly but not much modified, were the whole European Flora to be the subject of consideration without special reference to Britain; for there are but few of the great European types of which we have not some outlying representative. I have accordingly arranged the British species comprised in my 'Handbook' under the following heads:—Adventitious Flora: Escapes from cultivation—from America, 4, from Southern or Eastern Europe, 47 = 51; Introduced plants—from America (perhaps 5?), 2; from South Central or Eastern Europe, or from the adjoining continent (near 70?), 39 = 41; weeds of cultivation (near 100?) 61; total, 159. Indigenous Flora: Northern—Arctic plants, 11; Northern and Alpine, 81; Northern and Central, 76 = 168; General Europæo-Asiatic—Reaching the Arctic circle, 225; short of the Arctic circle, 250; European, 65 = 540; Central—Europæo-Asiatic, 204; European, 47 = 251; Southern and Western, 76; Western, 4; Maritime plants not included above 44; total 1126. Of the maritime plants were distributed into the above classes, 37 of them might be added to the general Europæo-Asiatic Flora, and 7 to the Western Flora, raising the former to 577, the latter to 51." These classes or subdivisions were however pointed out as by no means clearly defined or absolutely distinct. The peculiar features of these several groups were then explained at great length; and the author proceeded: "It may be objected that all such speculations are worthless when derived from the consideration of plants alone, without a better acquaintance with the details of zoology and geology than I possess. But the physical history of the changes which the surface of our globe has undergone, can only be drawn up from circumstantial evidence collected from all branches of natural science. In so vast and varied a field no general theorist can personally verify the whole of the facts and propositions of details submitted to him; he must rely more or less on the observations and critical compilations of others. If every botanist who thoroughly investigates the flora of any country would carefully compare it with that of other regions more or less connected with it; if he would in the case of each species search out the direction and extent of its range, and note down any general propositions which such research may have suggested, irrespective of foregone conclusions derived from the speculations of others in sciences of which the observer is himself but little grounded—if entomologists, malacologists, ornithologists, and zoologists would each follow the same course for the faunas of particular countries; if the numerous host of aspiring geologists were to devote more attention to the close comparison of the geology of analogous regions than to the building up general theories based on the study of a mere speck on the surface of the globe—it would then be for those gifted general naturalists, who previously well grounded in the details of some branch of the science, but with minds capable of embracing the whole sphere, have carried their observant eye to distant parts of the globe, and successfully combined and methodised the results of their extended and varied experience—it would be for our Lyells, and Darwins, and Hookers to study and compare the conclusions thus independently formed by the investigators of different branches, to detect the fallacies which may have led astray, to reject all theories founded upon the study of one class only of natural objects, and not confirmed by that of others, and to consider as proved those only in favour of which concurrent testimony can be extracted from all." The portion of the memoir read on this occasion included some observations in detail as to the reasons which led the author to adopt or reject various modern distinctions proposed in the case of particular genera and species. "Notes on Simethis bicolor," by the Rev. J. H. Austen. Mr. Austen stated that the plant grows in a plantation occupying an area of not more than 20 or 30 paces diameter. The exact locality being the only known station for the plant in England is kept comparatively

...r obvious reasons, but has been known to the ... since 1843. He does not agree in the opinion ... had been expressed, that it was "perhaps introduced with the trees from France;" but thinks it far more probable that its origin may be attributed to the smugglers. It is no stretch of the imagination to conceive that a case of wine had been opened here (it was a common practice with them to regale themselves at a little distance inland), and that the bottles may have been packed in the Grassy leaves of the Simethis, amongst which was ripened seed, which so became scattered about. Its restricted area seemed to agree with this idea.

*Feb.* 17.—Prof. Bell, President, in the chair. H. W. Bainstone, Esq., C. W. Harrison, Esq., and Dr. E. Percival Wright, were elected Fellows. The following papers were read:—1. A memoir "On the Structure of the Integuments of Crocodilia," by Prof. Huxley. 2. "On the Anatomical characters of Compound Tunicata;" and 3, "On the Anatomical characters of an Australian species of the genus Perophora," both by J. D. McDonald, Esq. 4. "Catalogue of the Heterocerous Lepidoptera collected at Singapore by Mr. A. R. Wallace, with descriptions of the new species," by F. Walker, Esq.

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Royal Botanic, Regent's Park: *March* 23.—This was the first of three spring meetings which this Society has determined on holding during this month and next, for the purpose of affording an opportunity of showing to its Fellows plants the flowering of which might be over before the summer exhibitions take place. On the present occasion Hyacinths formed a conspicuous feature. They were furnished by Messrs. Cuthbush, Henderson, and Macintosh. Stove and Greenhouse plants were contributed by Messrs. Fraser and others, and a pretty collection of Cyclamens came from Messrs. E. G. Henderson. Cinerarias were sent as usual in beautiful condition from the Royal Nursery, Slough, by Mr. Turner; they consisted of Brilliant, bellissima, Mrs. Hoyle, purpurea, Mrs. Livingstone, and optima. Of Seedling Cinerarias there were several. The best were perhaps Acme of Perfection (Smith), white, tipped with crimson; Queen Victoria (Turner), a very bright coloured kind; and Hilax (Hylas?) (Holland) white and crimson. Of Crimson Selfs the best were Brilliant and Lord Clyde. From Messrs. Ivery, of Dorking, came a prettily striped Azalea, and we noticed a good rosy coloured sort from the neighbourhood of Clapham. A collection was shown of Auriculas by Mr. Turner, and Mr. Bragg had some pretty Pansy blooms. Of Camellias a few were shown; but with the exception of Princess Frederick William, they were not in good condition. Prunus trilobata, and some double-blossomed Chinese Peaches from Mr. Glendinning were greatly admired, more particularly the Camellia-flowered Peach, which all admitted was extremely handsome. A charming variegated Geranium, named Jane, was shown by Mr. Turner; and a new Pelargonium, said to be well adapted for forcing, came from Mr. Smith. Gastrolobium ovalifolium was shown by Messrs. Henderson, of Pine-apple Place.

## Notices of Books.

*Flora of Tasmania.* Part 8. 4to, Reeve. Dr. Hooker's admirable account of the plants of Van Diemen's Land is drawing to a close. The letterpress of the number just out completes the Mosses by Mr. Wilson, and begins Hepaticæ by Mr. Mitten. The plates are wholly confined to Sedges and Grasses, among the latter of which is the celebrated Australian Kangaroo Grass, Anthistiria australis.

*Lectures on the History of England. Lecture First.* (Longmans, price 1*s.*) This is quite a novelty in the instruction of the labouring class. It is really a very good, simple narrative by Mr. William Longman of the more striking events in English history from the earliest period to the death of King John. Of course it includes only such subjects as speak to the imagination, and can be easily remembered by illiterate people. And in that consists its great merit. It may, indeed, be compared to some of the old chronicles, written doubtless for ears not better informed than those of Hertfordshire labourers. There is an excellent coloured map illustrating the early history of England, and some very good woodcuts of interesting objects. And all this for a shilling! The history of Mr. Longman's experiments is told in an account of the proceedings of the Chorleywood (a little place near Watford) Association. Our readers will thank us for giving it without curtailment:—

"The Chorleywood Association for promoting provident and industrious habits among the labouring classes was established in 1855.—The original object was only to provide allotment gardens for the labourers, but it was thought desirable to make this beginning a foundation for other objects. An Association was therefore formed, of which those who had allotment gardens became members; and those who subscribed to the Association also became members.—It was thought that by thus binding the various classes together, union and good feeling would be promoted, and that a machinery for carrying out other objects would also be ready; and so it has proved.—The next step was the giving of prizes for the best grown vegetables and the best cultivated gardens. It was then thought that it would promote good feeling and mutual confidence if all the members of the Association, both gentry and labourers, met together once a year at supper, after the distribution of prizes for the gardens. Labourers' wives were admitted, as it was thought unfair that they should be left out. This experiment succeeded very well.—The next object was this. Employment for the minds of the labouring classes, as well as for their bodies, was considered a necessary object of such an Association. It was therefore determined to give monthly lectures during the evenings of the winter season. These have been well attended. The population of the district is under 1000, but it is very widely distributed, the distance from one end to the other being about three miles. Yet we have frequently had above 200 persons attending these lectures. When the lectures were found to succeed it was thought that an attempt might be made to induce those attending the lectures to write reports of what they heard. Prizes were therefore given. At first these prizes were given in money, but they are now given in books. These reports have been better than could have been expected. There have been as many as 20 reports of some of the lectures, which shows an effort on the part of the people to accomplish this object. It must not be concealed that a considerable proportion of the reports are by children and girls, but yet there are many reports sent in by men, and latterly the men sending reports have increased in number.—The following is a statement of the numbers of the different classes who have sent in reports:—9 men, 7 women, 5 schoolboys, 12 school girls.—The length of the reports has varied from six or eight folio pages to a page of note paper. Among the reporters are some grown men who have only lately learned to read and write.—Among the additional objects intended to be carried out are:—1st, A rent fund; 2d, A savings bank; 3d, A summer show of flowers in pots and nosegays, with a tea-gathering in the evening.—Since the announcement that those labourers who had no allotment gardens might become members on payment of 3*s.* a year, several new members have joined the Association.—To sum up the objects of the Association, they are:—The promotion of good will and mutual confidence between rich and poor.—Employment for mind and body when work is done.—Regularity of conduct and saving habits.—Means to enable the poor to communicate to the rich the difficulties under which they labour, and their own ideas of the best way of helping them.—Manly independence and self-respect combined with respect for those in a higher station.—It is possible that, with a view to provide healthy amusement and recreation for summer evenings, means may be found to encourage cricket and other manly games.—Further information may be obtained of Rev. A. Scrivenor, Incumbent of Chorleywood, and Manager of the Association."

*The Midland Counties Almanac* for 1859 (Simpkin) reached us late, and has laid before us unnoticed. We find it to be an assemblage of proverbs, weather predictions, monthly notices, notes on rural and household matters, tables for farmers and gardeners combined with an almanac and a pretty extensive calendar of work to be done in each month. Although we may not endorse all the statements to be found in the pages of this book, we may say that 6*d.* cannot be ill laid out in the purchase of it.

*The Husbandman's Practical Encyclopædia* [*Encyclopédie pratique de l'Agriculture.* Firmin Didot. Paris; Williams & Norgate, London, 8vo, Vol. I.]. We have received the first volume of the work bearing the above title, which is to be followed at short intervals by 14 more. It consists of 879 pages in double columns, with good wood engravings. The editorship is entrusted to Professor Moll, who is assisted by a staff of writers among whom we recognise such good names as those of Magne, Alibert, Naudin, Millet, Du Breuil, Duchartre, Hardy, Guérin-Méneville, Peligot, Boussingault, and L. Vilmorin, each of whom has communicated one or more articles to this 1st volume, which extends as far as Amidor. It is therefore to be presumed that the work, like the *Maison rustique*, will become useful in this country as a reference when questions arise concerning French husbandry. We must, however, remark that such articles as that on Amelanchier, which occupies a couple of pages, have no obvious relation to practical cultivation; besides which the writer of the article mentions a Sorbus-leaved species, which is quite imaginary. So again Alströmeria, a race of plants belonging to the rarities of gardening, should surely have here found no place; at least if such articles are to be inserted hundreds of others should also come in, the effect of which must be to extend the work to 50 volumes instead of 15. We venture to recommend Prof. Moll to reconsider this part of his plan.

*Ten Thousand Wonderful Things* (Ward & Lock, 12mo). Under this name has appeared a small 8vo. volume of 332 pages, literally crammed with woodcuts, representing all manner of curious customs, things, scenes, and places. Unlike such books as *Wanley's Wonders of the Little World*, a farrago now happily forgotten, this is really a collection of interesting accounts of events that have happened and of objects that do still or have formerly existed. It is intended by Mr. King, who has put the matter together, as a book for young people, "to amuse by the eccentric, to startle by the unexpected, and to astonish by the marvellous." In effecting this object he has been remarkably successful, and let us add that we have not fallen upon a single point that can be considered at all objectionable by even the most fastidious reader.

## Garden Memoranda.

Bank Grove, near Kingston-on-Thames, the Residence of W. Byam Martin, Esq.—The magnificent specimens of Camellias for which this place has long been celebrated are now literally loaded with blossoms of the largest and finest possible description, producing a display much more easy to conceive than describe. In one of the houses situated in the flower garden the bank of blooms of all shades from deep crimson to the purest white which presents itself is certainly striking in the extreme. Here we observed splendid trees of Hallyi, a crimson kind of beautiful shape; Madonna, Pratti, Teutoniana, a delicate pink, of equally fine form and fully as large as imbricata; Duchess of Northumberland, a charming white striped with pink; Sarah Frost, Lowei, Marchioness of Exeter, large and fine; Storeyi, a variety remarkable for its symmetry; candidissima, and noble examples of fimbriata and old Double White. But in addition to the beautiful trees just named, and multitudes more which occupy the centre portion of this house, others are trained on the back wall with excellent effect. Among the latter were Monarch and imbricata, both producing blooms of unusual size and beauty. The trees here are kept closely tied in so as to completely cover the trellis and wall with foliage of the richest green, which serves to set off the flowers which issue from amongst it to excellent advantage.

The immense plant of reticulata, which of itself fills a whole house, and may justly be considered the glory of the place, keeps increasing in size every year. It now measures 15 feet in height and 16 feet in diameter, and has on it many thousands of blooms, which in about 8 or 10 days more, if the weather keeps favourable, may be expected to be in perfection. When we state that upwards of 3000 flower buds have already been removed from this fine tree in order to prevent it from over-flowering itself, some idea may be formed of the kind of display it will make when in full beauty. It is evidently in the most robust health, and judging from the few blooms it had open on it on Monday last, there can be no doubt that they will be even larger and finer this year than ever they have been before. Altheæflora covered a space on the back wall of this house measuring 18 feet in height, and 8 or 9 feet in breadth. This is growing in a slate box, and although occupying only a limited space as to root room, it blooms most profusely.

The back wall of a large Azalea-house is also clothed with Camellias, all of which are at present in full bloom. Among them were Beali, Donkelaari, fimbriata, and Chandleri.

A lean-to conservatory attached to the mansion is also filled with Camellias all planted out. This house is 95 feet in length, and contains some admirable trees, among which Woodsi, Alberti, fimbriata, elegans, imbricata, Monarch, candidissima, and Beali were conspicuous. Some of these measured from 12 to 14 feet in height and were truly magnificent. The front shelf was gay with Azaleas, the yellow Coronilla glauca, Mandarin Oranges in fruit, Deutzia gracilis, than which few plants are more ornamental at this season; Cinerarias, Roses, and Chinese Primulas.

On the lawn are some fine Cedars of Lebanon and other Conifers. Pinus macrocarpa, a noble tree, measures 30 feet in height; P. insignis, a fine plant, between 30 and 40 feet; a beautiful Deodar, 30 feet; Abies Pinsapo, finely formed, 15 feet; Cupressus Lambertiana, 25 feet; Juniperus chinensis, 18 feet; together with Cryptomeria japonica, Cupressus funebris, and Taxodium sempervirens, all of equal beauty. In addition to the above we also observed nice thriving specimens of Cupressus Lawsoniana and Thuja gigantea.

In the American garden dotted here and there among clumps of Azaleas and Rododendrons were fine plants of Cephalotaxus Fortuni and pedunculata, Wellingtonia gigantea 5 feet 8 inches in height, Thuja aurea, and Berberis Darwinii, the latter 7 feet in height and covered with flowers.

A Rose Garden of considerable extent has been formed here. It contains some beautiful trees, which when in bloom must be very handsome. Many of the pyramids are 10 and 12 feet in height, and the beds are occupied with standards and dwarfs.

The glass structures are of the best possible description. In the earliest Vinery, which contains a fine crop, the bunches have just been thinned. A late house is just being started. In the earliest Peach-house the fruit is set and plentiful, and other houses are equally promising.

A Cucumber-pit in the kitchen garden was full of fine fruit, and, indeed, has been so for some time past. On a shelf on the back wall were French Beans. Other houses were occupied with Scarlet and Variegated Geraniums employed in the decoration of the flower garden in summer. Among the former were plants of immense size.

On walls out of doors there is at present every prospect of plenty of fruit of all kinds. Some Plum trees which were over-luxuriant and bore little or no fruit, were root-pruned in October 1857, and had their roots at the same time brought nearer the surface. Since that has been done their growth has been more moderate, and this year they gave indication of producing an abundant crop. The system of root-pruning and bringing the roots nearer the surface has also been largely carried out in regard to other trees, both standards and on walls, and the result in every case has been highly satisfactory. Instead of their

making unfruitful wood 5 and 6 feet in length in a season, as they were wont to do, it is now of moderate strength, well ripened and covered with fruit buds. The only attention they received after the operation were occasional syringings in the evenings of hot dry days. This helped to prevent their experiencing any temporary inconvenience from the check.

Let us add that the excellent condition which everything exhibited was highly creditable to the gardener, Mr. Blair. The Grass had all been mown once and some of it twice; the walks were neatly rolled, and there was not a weed to be seen.

## Miscellaneous.

*The House of the Horticultural Society*, No. 21 Regent Street, so long celebrated as the focus of Horticulture in this country, was sold on Wednesday for 2950*l*., subject to a ground rent of 160*l*. a year.

*Colonial Floras.*—In another column we give insertion to an able article from the *Gardeners' Chronicle* on the subject of "Colonial Floras," which is well worthy of attentive consideration. We concur with the *Chronicle* in thinking that the usefulness of the different local floras referred to will be very much impaired by the want of a systematic plan of arrangement to which all should adhere. So far as possible, one size, one type, one method of classification should be adopted, and when the flora of each colony is completed, a local index might be prepared, to be afterwards merged in a general index of all Great Britain's Eastern dependencies. The advantages of such a plan would be very great. It would simplify such inquiries as are frequently made of the *Chronicle* and other scientific journals; it would help to fix the nomenclature of plants; it would determine their affinities, exhibit the actual state of our botanical resources, and give a great impulse to the promulgation of the natural sciences. We are glad to learn that Hooker and Thomson contemplate resuming their valuable work, the Flora Indica, which began so well, and which appears to be a grand desideratum. Let our Indian naturalists assist them upon some uniform plan, and the result will be very valuable. It would be impossible to secure uniformity of arrangement unless the work were undertaken under the auspices of the British Government, and it might be reasonably expected that as they have founded observatories at Hobart Town, Madras, Bombay, Ootacamund, and other places for meteorological purposes, with what may be termed a centre at Greenwich, so they would encourage botanical researches on an uniform system in all the various colonies and dependencies—the centre of which would naturally be the Royal Garden at Kew. The scientific agency would generally be found; indeed in India it already exists in many places, as at Saharunpore, Dapooree, &c., but many men able and willing to give their assistance are deterred by the expense which they could not themselves afford, and which without Government aid they might see no prospect of having reimbursed. In the mean time let the botanists of India make a beginning, adopting the systematic classification in Dr. Hooker's various works, as is being done by Mr. Thwaites of the Peradenia Gardens, Ceylon, in his "Enumeratio Plantarum Zeylaniæ." It is also absolutely required that an uniform system of orthography in regard to vernacular names should be adopted. Any one consulting for instance the catalogue of the Madras Exhibition will find the native names of products differently spelt by almost every local committee. The *Chronicle* draws a melancholy picture of the India House repositories. It grieves one to think how many valuable collections that have cost unwearied labours and often much expenditure of money have been consigned to the cellars in Leadenhall Street, where they have been allowed to rot and moulder without the slightest effort to preserve them. This fate however, has not been confined to the contributions to the East India House Museum. We hope for better things now, not only from the present head of the Indian Council, but from the whole Government, either under its present or any other Premier. The Cabinets of Lord Palmerston and Lord Derby have both contained so many men of literary and scientific note that assistance in the advancement of the natural sciences may always be confidently looked for. It is especially to be hoped that Lord Stanley will be more disposed than the Court of Directors to patronise English scientific men. And we counsel the botanists of India to take the initiative in the preparation of Floras of their respective Presidencies, following the same plan, printing with the same type, and on the same size of paper, and thus paving the way for a general enumeration of the plants of all British Colonies and ultimately of the world.—*Madras Spectator*.

## Calendar of Operations.

(*For the ensuing Week.*)

### PLANT DEPARTMENT.

CONSERVATORY, &c.—The occasional bright sunshine and cold drying winds which have recently prevailed will soon, unless means are used to counteract their effects, destroy the beauty of some of the finest specimens of plants in this house, particularly if their blooming has been forwarded in a close moist atmosphere, and, although it is yet too early to bring shading into general use it will be difficult without its assistance to preserve blossoms in perfection during such weather as we may now very soon expect. Blinds must therefore be resorted to; but they should be arranged so as to be easily drawn up or let down. Whatever material is used, therefore, should be light and strong; what is wanted is merely to break the force of the sun's rays without darkening the house. A nice light open canvas forms the best shading. A close net is superior in some respects; but is objectionable in the case of lofty houses. It may soon be necessary to admit air freely to keep down the temperature; but in doing this avoid, as far as possible, allowing cold currents of air to blow over the plants.

### FORCING DEPARTMENT.

PINERIES.—Look over young growing stock, occasionally examining and repotting such as is found to be in want of more pot room. The temperature may be slightly advanced as the amount of light increases, but this is a matter in which the state of the plants will be the best guide. Aim at securing strong dwarf plants, with a free habit of growth; and if this is obtained, it is immaterial whether the night temperature is 60° or 70°, and very much will depend upon circumstances as to which will be proper. Plants that may be unhealthy and in an unkind state, if kept near the glass, will be benefited by a considerably higher temperature than would be suitable for others in a free state of growth. These are circumstances, however, which can be properly judged of only by those in care of the plants, but they are easily understood by a little careful observation. Use every means to induce a vigorous root action, and if this is obtained free strong growth will result with otherwise ordinary care only.

VINERIES.—See that Vines starting into growth are tied up in their places before the shoots get so long as to be liable to be broken off in the operation. Syringe frequently until the leaves begin to unfold; but use the syringe sparingly after that is the case, and only on the afternoons of bright days. Where the buds do not promise to break regularly bend the Vines so as to place those that are backward in the most likely position to catch the sap, and this should be done directly any indications of their breaking regularly are observed. If any of the bunches in houses where the berries are stoned look as if they would be improved by a few more berries being cut out, let this be done at once.

### FLOWER GARDEN AND SHRUBBERIES.

If not done previously, the herbaceous ground should now be well cleaned and neatly raked over. Fill up vacancies either from the reserve garden or by sowing annuals in the intermediate spaces. Many plants, as for instance Phloxes, Asters, &c., throw up too many flowering shoots; where such is the case thin them out at once, so as to obtain not only fine heads of bloom but increased strength in the remaining shoots, to enable them to need less assistance from stakes. Hollyhocks for late blooming may still be planted, as it is best where they are grown extensively to plant at two or three times to ensure a succession of bloom. These showy plants are very suitable for long lines, parallel with straight walks, walls, &c., where they produce a grand effect. One of the principal points in pleasure ground scenery is the beauty of turf, which should be kept at all times closely mown, if perfection in keeping is aimed at; but more particularly at this season, when by frequent mowings, cutting the Grass as low as possible, the foundation of a close-bottomed turf will be laid for the season. On poor sandy or rocky soils the verdure must be maintained by occasional waterings with weak liquid manure.

### HARDY FRUIT AND KITCHEN GARDEN.

See that recently transplanted trees are not suffering for want of water, a circumstance, which, however, will hardly happen except on dry porous soils, and in such cases the ground should be mulched with decayed leaves to preserve it in a uniformly moist state. Attend carefully to the preservation of blossoms of fruit trees. Where nothing better or more convenient can be obtained, Yew or Spruce branches will be of service, provided they are so fixed as not to be liable to be blown against the blossoms. Remove the covering as frequently as may be convenient on fine days, so as to fully expose the trees to sun and air. Get a supply of Tobacco water in readiness with which to attack green fly immediately it makes its appearance on Peach trees. Sow Broccoli in beds of light rich soil in an open situation for the main crop, and Cabbages, Cauliflowers, &c., in succession. Attend also to sowing small breadths of Turnips about once a fortnight, so as to secure having a regular supply in a fit state for use. Put in a small breadth of some early French Bean on a warm dry sheltered border, and plant a quantity in small pots to be raised in a cold frame and planted out as soon as all danger of frost is over. Use the hoe freely among growing crops to destroy weeds, and keep the surface soil loose and friable.

### COTTAGERS' GARDENS.

Where a Tulip bed exists, as is not unfrequently the case in small suburban gardens, let the surface soil now receive a gentle stirring, and in the case of hail, which does serious injury to the leaves, mats or some other kind of covering should constantly be kept ready to throw over them. Continue to plant and propagate (if necessary) herbaceous plants. Make beds for Pansies, Dahlias should now be potted, and if possible started on a slight hotbed made up of dung and leaves. This kind of bed will be found useful for propagating Fuchsias, Geraniums, and indeed all kinds of half hardy summer flowering plants, too tender for standing out all winter. Carnations in pots, if any, should now receive attention—some of them may require a shift. For Chrysanthemums see our Paper of last week.

STATE OF THE WEATHER AT CHISWICK, NEAR LONDON
For the Week ending Mar. 24, 1859, as observed at the Horticultural Gardens

| March. | Moon's Age. | Barometer. Max. | Barometer. Min. | Temperature. Of the Air. Max. | Of the Air. Min. | Of the Air. Mean | Of the Earth. 1 foot deep | Of the Earth. 2 feet deep |
|---|---|---|---|---|---|---|---|---|
| Friday 18 | ○ | 29.833 | 29.614 | 53 | 28 | 40.5 | 48½ | 48 |
| Satur. 19 | 15 | 30.301 | 30.166 | 53 | 26 | 39.5 | 48 | 48 |
| Sunday 20 | 16 | 30.328 | 30.069 | 54 | 41 | 47.5 | 48 | 47 |
| Mon. 21 | 17 | 30.002 | 29.864 | 48 | 31 | 39.5 | 49 | 47 |
| Tues 22 | 18 | 30.258 | 30.217 | 47 | 30 | 38.5 | 49 | 47 |
| Wed. 23 | 19 | 30.276 | 30.020 | 51 | 43 | 47.0 | 48 | 47 |
| Thurs. 24 | 20 | 30.016 | 29.991 | 53 | 45 | 49.0 | 48 | 47 |
| Average | | 30.145 | 29.991 | 51.3 | 34.8 | 43.1 | 48.2 | 47.3 |

March 18—Clear; fine; very fine; slight frost.
— 19—Clear; very fine throughout; frosty.
— 20—Fine; very fine; rain at night.
— 21—Rain; showery; very clear at night.
— 22—Clear; fine; overcast and cold.
— 23—Fine; overcast.
— 24—Uniformly overcast; cloudy; densely overcast.
Mean temperature of the week, 1 deg. above the average.

RECORD OF THE WEATHER AT CHISWICK,
During the last 33 years, for the ensuing Week, ending April 2, 1859

| March and April. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Wind. N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday 27.. | 53.6 | 33.6 | 43.6 | 10 | 0.37 in. | 2 | 6 | 3 | 2 | 3 | 6 | 5 | 1 |
| Mon. 28.. | 52.9 | 33.4 | 43.1 | 12 | 0.68 | 4 | 6 | 6 | 2 | 2 | 2 | 1 | 1 |
| Tues. 29.. | 53.6 | 33.0 | 43.3 | 9 | 0.33 | 1 | 1 | 3 | 1 | 1 | 1 | 1 | 1 |
| Wed. 30.. | 53.9 | 34.4 | 44.2 | 13 | 0.50 | 3 | 5 | 5 | 1 | 5 | 5 | 1 | 1 |
| Thurs. 31 . | 55.1 | 34.8 | 45.0 | 14 | 0.30 | 2 | 7 | 2 | 3 | 4 | 6 | 1 | 1 |
| Friday 1.. | 55.0 | 34.4 | 44.7 | 17 | 0.76 | 3 | 7 | 3 | 3 | 4 | 6 | 1 | 1 |
| Satur. 2.. | 55.7 | 36.2 | 45.9 | 16 | 1.19 | 4 | 4 | 4 | 3 | 4 | 6 | 1 | 1 |

The highest temperature during the above period occurred on the 7th, 1850, and 2d 1848—therm. 75 deg.; and the lowest on the 30th, 1848—therm. 15 deg.

## Notices to Correspondents.

BENZINE COLLAS. Have any of your correspondents tried the effect of this fluid, or of Copland's Borneote of Petroline, for the destruction of the larvæ of the Anobium which infest herbariums? All that is necessary is to enclose a few sheets from the herbarium in a *close* box with a few drops of the fluid sprinkled over them. The spirit is colourless, and the insects will be killed in a few minutes. *J. O. W.*

BOTANICAL SOCIETY OF NOTTINGHAM: *J D.* We know nothing about the person or persons sending out pills under the name. We advise you to take care. It is we presume some trade speculation.

BUPHANE TOXICARIA: *L D.* The scape comes before the leaves and bears from 100 to 250 flowers, which form pink stars with 6 narrow divisions shorter than the 6 stamens. The flower stalks are clubshaped and bear at the summit a triangular ovary. The coats of the bulb are brown. The leaves are glaucous, both blunt and acute, and either wavy or straight. There is a figure and full account of it in the 7th vol. of the Botanical Register, where it is called Brunsvigia toxicaria.

FRANKINCENSE: *H.* The drug used by the ancients, when burnt for perfuming the air, was the gum resin of Boswellia serrata, a tree inhabiting the mountains of Coromandel. This is Olibanum, the Λιβανος of the Greeks. Common Frankincense, or Thus, is a resin naturally discharged by the Spruce Fir in Switzerland. The common Frankincense of the London shops is said to be nothing more than common American Turpentine,

FRENCH ADVERTISEMENT: *M A S.* Apply to the Librairie Agricole de la Maison rustique, Rue Jacob, No. 26, Paris. There will gain the information there *if anywhere*. But France is not an advertising country like England.

GLASS: *R H.* The thickness of Hartley's rough plate is important; except that the thicker it is the heavier, a serious matter where iron frames (very bad things by the way) are employed. We said that rough plate secured the diffusion and prevented the concentration of light, which is not quite to exactly the interpretation you have given.

HEDGES: *T.A.M.* We do not advise you to cut your young Laurustinus hedge hard in. Carefully hand-prune it in April, cutting out very strong pieces and leaving all the best young twigs. Of course the side of each Laurustinus where the plants touch, *will* die. You must therefore be satisfied with preserving a good healthy surface.

HONEY DEW: *Old Sub.* This is a natural secretion of sugar caused by peculiar atmospheric conditions; such perhaps as a sudden absorption of water with greater rapidity than it can be parted with by insensible perspiration. We do not believe that it is caused, to any extent, by Aphides although such insects do discharge a sweet fluid—which may be regarded as a sort of honey dew. But they frequently accompany it feeding on the secreted sugar.

INSECTS: *L B N.* The small mass of objects on the Rose-tree is the spiral group of eggs of the lackey moth, Bombyx lanestris, the young from which would have been hatched in May and devoured the foliage of your tree.—*A J.* The [illegible] alluded to is benzine collas. It is much used for cleaning gloves, and is sold at 114, Great Russell Street, London, W.C.; at York, by Raimes & Co.; and at Manchester by Woolley. We believe Copland's borneote of petroline is equally efficacious and rather cheaper. *W.*

NAMES OF PLANTS.—We have been so often obliged to reluctantly decline naming heaps of dried or other plants, that we venture to request our correspondents to recollect that we never have or could have undertaken an unlimited duty of this kind. Young gardeners, to whom these remarks more especially apply, should bear in mind that, before applying to us for assistance, they should exhaust their other means of gaining information. We cannot save them the trouble of examining and thinking for themselves; nor would it be desirable if we could. All we can do is to *help* them—and that most willingly. It is now requested that, in future, not more than four plants may be sent us at one time.—*A Gold spangled blue paper box*, without note, has reached us. It contains a single flower of what seems to be Dendrobium cucullatum.—*J S P.* It is some Peziza, but not the P reticulatum.—*H Rose.* Hardenbergia monophylla of Greville.—*H Rose.* Hardenbergia monophylla—*G P.* 1, Vinca major; 2, the remains of Galanthus plicatus; 3, Borago laxiflora; 4, Nuttallia cerasoides.—*Sub, Reg.* Saxifraga oppositifolia.—*Sub.* Forsythia viridissima.—*Cross Street.* Photinia glabra.—*A Young Gardener.* Carissa Carandas.—*I despair.* Canthium spinosum.—*J N.* 1, Dendrobium aureum; 2, Epidendrum ciliare; 3, Aspleuium [illegible]; 4, a bit of some Elaphoglossum.—*A Lady.* The Arbor-vitæ ruque is the common Venetian Sumach: Rhus Cotinus.—The common Cornus mascula.—*A Y.* Your Fern is a variety of Cystopteris fragilis, called sempervirens, a native of Madeira, and probably not quite hardy. Send the other when in flower.

SPERGULA PILIFERA: *W M.* This little plant is a native of the Alps of Corsica, whence we have dried specimens.

STOVE PLANTS: *H P C.* Sweet's Hothouse and Greenhouse Cultivator is most like what you want. Information may also be gathered from Paxton's Botanical Dictionary. Psychotria and Sesbania are stove genera.

VINE LEAVES: *G P.* The little green excrescences of which you complain do no harm. They however indicate that your house is very close and damp, and not sufficiently ventilated.

MISC.: *L A B.* The alteration has been forced on us by the Post Office.

THE PATENT

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**Offices, 109, Fenchurch Street, London.—Manufactory, Plaistow Marshes, Essex.**

The Directors beg to inform their Friends and the Agricultural Public that the following Manures are now ready:—

## ODAMS'S BLOOD MANURE FOR CORN AND MANGEL.
## ODAMS'S BLOOD MANURE FOR ROOTS.
## ODAMS'S SUPERPHOSPHATE OF LIME.

Full particulars may be had at the Company's Offices, or of the local Agents.

ARTIFICIAL MANURES, &c.—Manufacturers and others engaged in making ARTIFICIAL MANURES may obtain every necessary instruction for their economical and efficient preparation, by applying to J. C. Nesbit, F.G.S., &c., Principal of the Agricultural and Chemical College, Kennington, London. Analyses of Soils, Guanos, Superphosphates of Lime, Coprolites, &c., and Assays of Gold, Silver, and other Minerals are executed with accuracy and despatch. Gentlemen desirous of receiving instruction in Chemical Analyses and Assaying, will find ample facility and accommodation at the College

LONDON MANURE COMPANY, removed to 116, Fenchurch Street, E. C. (Established 1840), have the following MANURES ready for delivery:—

CORN MANURE for SPRINGTOP DRESSING
URATE
MANGEL MANURE
SUPERPHOSPHATE OF LIME
BLOOD MANURE
} all of guaranteed quality.

In consequence of the reduction in the price of raw material the London Manure Co. are enabled to lower the price of their Superphosphate of Lime, and to materially improve the Corn Manure and Urate.

The London Manure Co. also supply PERUVIAN GUANO (direct from Messrs. A. Gibbs and Sons), SULPHATE of AMMONIA, NITRATE OF SODA, CRUSHED BONES, and every other Manure of value. Wholesale dealers supplied.
116, Fenchurch Street E.C. Edward Purser, Secretary.

REDUCTION IN PRICE OF LAWES'S MANURES.

MR. LAWES begs to announce that he has this season reduced the price of the Manures manufactured by him, viz.:—

| | | | |
|---|---|---|---|
| TURNIP MANURE .. .. .. | from £7 | to £6 | 6 |
| SUPERPHOSPHATE OF LIME .. | ,, 7 | to 6 | 6 |
| MINERAL do. .. .. | ,, 6 | to 5 | 5 |
| BARLEY MANURE.. .. .. .. | .. | 8 | 0 |

Prof. Way and Dr Voelcker have sampled from a bulk of 5000 to 6000 tons at his factories, and their report and analyses are given in full in Circular to be obtained on application at his office, 1, Adelaide Place, London Bridge, E C., or of his local Agents.

N B. Genuine Peruvian Guano direct from Messrs Gibbs, Nitrate of Soda. Sulphate of Ammonia, and other Chemical Manures. American Cotton-seed Cake supplied.

SOLUBLE PHOSPHATE OF LIME.

FREDERIC CORNWELL begs to inform his friends and the Agricultural public that he can now supply a "SUPERPHOSPHATE of LIME" superior to anything yet produced Each Bag guaranteed to contain from 20 to 25 per cent. of "Soluble Phosphate of Lime." Price 5*l.* 10*s.* per ton, delivered free to any Railway or Wharf in London. Dealers and the trade supplied. Linseed-cakes, Cotton-cakes, and all descriptions of Artificial Manures at lowest market prices.

Offices, 7, Great St. Helen's, London, E. C

BURNARD, LACK, AND CO.'S CONCENTRATED SUPERPHOSPHATE OF LIME; guaranteed to contain Phosphoric Acid soluble, equivalent to 40 per cent. of Tribasic Phosphate of Lime.

CONCENTRATED TURNIP MANURE, equal in value to the preceding.

Of these Manures Dr. Voelcker says:—"These results must be very gratifying to you, and are the best proof of the very high agricultural and commercial value which characterises your concentrated superphosphate."

Detailed analyses, with opinions of the late and present Chemists to the Royal Agricultural Society, with Testimonials, Prices, &c., may be had on application to Burnard, Lack, & Co., Sutton Road, Plymouth.

ESTABLISHED 1812.

H. AND T. PROCTOR'S TURNIP MANURE.—Messrs. H. & T. P. draw particular attention to this valuable Manure, which contains all the elements necessary for the full development of the Turnip Crop, so combined, that, from their chemical knowledge and long experience, they feel satisfied is most advantageous to the consumer. It has been very extensively used by most of the eminent Agriculturists of the day, and has attained a high reputation throughout England, Scotland, and Wales, and, they venture to say, is unrivalled for the weight and quality of the Bulbs which it produces. The application of this Manure to the Turnips will be found to benefit considerably the after crops of Barley, Clover, and Wheat.

POTATO, GRASS, BARLEY, CLOVER, AND WHEAT MANURES; also BONE DUST, PERUVIAN GUANO, and SUPERPHOSPHATE of LIME, warranted of the best quality.

Apply to H. & T. Proctor, West of England Depôt for Artificial Manures, Cathay, Bristol; or Proctor & Ryland, Birmingham, and Saltney, near Chester.

GRASS CROPS.—All descriptions of Grass Land should be dressed with Manure not later than the end of March. CUERO GUANO for this crop, and also for spring corn, is now ready for delivery, price 7*l.* 10*s.* per ton for Grass, and 8*l.* 8*s.* for Corn.—Manufacturers and Patentees, John Chisholme, Son, & Co., 33, Mark Lane, E.C.

SUCCESS OF THE NEW GUANO; IMPORTED UNDER LEASE FROM THE CROWN.—Though the experiments with KOORIA MOORIA GUANO were made late in the season, and under adverse circumstances, the successful results obtained confirm beyond doubt Professor Voelcker's report—(in No. 41, Part I., vol. xix., Royal Agricultural Society's Journal)—that Ammoniacal manures, applied to Turnips in the experimental field, kept back at first the crop, and had no beneficial effect either alone or in conjunction with phosphates.

The Kooria Mooria Guano is essentially a phosphatic manure, containing sufficient ammonia for roots, and, with a mixture of one-fourth of ammoniacal guano, cannot be excelled for either top-dressing or grain crops. It is a natural deposit, and will be delivered as imported, free from risk of adulteration. Deeply impressed with the necessity of encouraging the import of this valuable manure, her Majesty's Government has given such increased facilities for shipment, that arrangements have been made for a considerable supply. Purchasers can be supplied with suitable quantities from cargoes now on sale, containing from 45 to 66 per cent. phosphates. Present prices, 4*l.* 10*s.* to 6*l.* 10*s.* per ton, on applying to Joseph Hindson, Broker (one of the Lessees under the Crown), 20, North John St., Liverpool. Government Lessees: Ord, Hindson, & Hayes.

"Greystoke, Cumberland, Dec. 16, 1858.

"Dear Sirs,—I beg to inform you that I applied the Kooria Mooria Guano I had from you for Turnips, on land of a loamy character, incumbent on a stiff clay subsoil, and recently drained. On each side of the plot sown with Kooria Mooria Guano were Turnips manured with best Peruvian Guano. The quantities applied of each sort were of equal weight for weight per acre. The crop—a very good one throughout—is now being eaten off with sheep. Very little perceptible difference can be discovered, but if anything that difference is in favour of the Turnips sown with Kooria Mooria Guano.

(Signed) "John Barker."

"Messrs. J. & J. Graham, Guano Merchants, Penrith."

A Pamphlet, "Hints on Guano," containing a large number of reports from well-known agriculturists, and analysis of the cargoes here, may be had of the Broker, at the above address.

200 ONE, TWO, and THREE-LIGHT MELON BOXES and LIGHTS, of the best seasoned materials, ready for immediate use.—Jas. Watts, Hothouse Builder and Hot-water Apparatus Manufacturer, Old Kent Road, London.

SHAW'S TIFFANY.—The best and cheapest material for Shading Conservatories, Protecting Fruit from Birds and Wasps, &c. Sold in pieces 20 yards long by 38 inches wide. No. 1, best quality, 5*s.* per piece; second quality, 4*s.* per piece. Extra strong and thick (see Circular sent free by post with samples).

Address John Shaw & Co., Manufacturers and Dealers, Princess Street, Manchester.

SHADING.

BROWN'S FLORAL SHADING still maintains its superiority for cheapness and efficiency over all other materials used for a similar purpose, viz., shading plants under glass from the scorching rays of the sun, protecting Wall Fruit Trees when in bloom from frost, and preserving the fruit from the attacks of birds, flies, and wasps. Sold in pieces 20 yards long, 38 inches wide:—

No. 1 per piece . 4*s.* 0*d* | No. 2 per piece .. 4*s.* 3*d.*
No. 3, extra stout, 18 yards long, by 30 ins. wide, 7*s.* per piece.

To be obtained of all the principal Nurserymen and Seedsmen in town and country. Samples sent free on application to the Manufacturer, Charles Brown. Greenheys, Manchester

"FRIGI DOMO."—Patronised by her Majesty the Queen, the Duke of Northumberland for Syon House, His Grace the Duke of Devonshire for Chiswick Gardens, Professor Lindley for the Horticultural Society, Sir Joseph Paxton for the Crystal Palace, Royal Zoological Society, late Mrs. Lawrence of Ealing Park, and — Collier, Esq., of Dartford.

PROTECTION FROM COLD WINDS AND MORNING FROSTS.

"FRIGI DOMO," a Canvas made of patent prepared Hair and Wool, a perfect non-conductor of Heat and Cold, keeping, wherever it is applied, a fixed temperature. It is adapted for all horticultural and floricultural purposes, for preserving Fruits and Flowers from the scorching rays of the sun, from wind, from attacks of insects, and from morning frosts. To be had in any required lengths. Two yards wide, 1*s.* 6*d.* per yard run; four, 3*s.* per yard. Also, an improved make for Shading Purposes. Three yards wide, 2*s.* 6*d.* per yard run.

Elisha Thomas Archer, whole and sole manufacturer, 7, Trinity Lane, Cannon Street, City, and of all Nurserymen and Seedsmen throughout the kingdom. "It is much cheaper than mats as a covering."

TO PIG AND POULTRY FEEDERS AND MILLERS.

CHICKEN RICE, 7*s.* 9*d.* per cwt., in bags 1¼ cwt. each. SCREENED RICE, 10*s.* per cwt., in bags 1¼ cwt. each. RICE MEAL, 6*s.* 6*d.* to 8*s.* 6*d.* per cwt. RICE for grinding. An allowance per Ton. American Oilcake, in barrels and bags, per ton only. Locust Beans, per ton — Sold for Cash only by W. & R. Jupp, 6, Cross Lane, St. Mary-at Hill, Eastcheap.

TO HORSE PROPRIETORS.—If you wish to have your Horse in high condition with a small allowance of corn use our CONCENTRATED DRAY and AGRICULTURAL HORSE MEAL, manufactured according to the most recent researches in the study of physiology. Forwarded carriage paid to any railway station, in cwt. at 30*s.*, and 15*s.* per half cwt. on receipt of Post-office Order, payable to Kemp & Skey, The Mills, Louth, Lincolnshire.

THORLEY'S FOOD FOR CATTLE.—Every person having an interest in domestic or farm animals should obtain a supply of this celebrated and economical food which will prove invaluable during the approaching season. For keeping horses in good condition, it is unequalled. Pigs fatten with surprising rapidity upon it, and their flesh increases in flavour and value, Cowkeepers will find great advantage in the increased quantity and improved quality of the milk during its use. All animals are benefited by it. A pamphlet on this interesting subject, accompanied by Testimonials from the principal Nobility, Gentry and Agriculturists forwarded on application, In casks containing 448 feeds (measures inclosed), price 50*s.*, carriage paid to any Railway Station in the United Kingdom. Post-office Orders payable to Joseph Thorley, 77, Newgate Street, London.—N.B. The public are cautioned against being imposed upon by worthless imitations.

AGRICULTURAL MACHINERY.

E. R. AND F. TURNER, Ipswich, manufacture Prize Mills for Crushing Corn, Seed, Malt, &c.; Portable Grinding Mills, Steam Engines fixed and portable from 2 horse-power and upwards; Threshing Machines, Chaff Cutter, Oilcake Breakers, Horse Gears, Saw Tables, &c., all of a superior description and adapted for Home, Colonial, and Foreign use. Illustrated Price Lists sent free on application.

MR. SMITH will SMASH UP a piece of his Clay Land, Wheat Stubble, about the end of this month. Gentlemen who may be desirous may then see his Apparatus at work.—A Card, stating the day, may be had by applying to him at Woolston; or to Messrs. Howard, of Bedford.

SIGMA'S BEAN, MANGEL, & CORN PLANTERS (5 Depositors), HOES, &c. The "Multum in Parvo," combining Cultivator, Horse Hoe, Ridge Plough, Subsoiler, Broadshare, and other forms; all expanding. Complete 7*l.* 7*s.* Prospectus sent.—C. Powell, Hurstgreen, Sussex.

TO LANDOWNERS.

THE PERMANENT WAY COMPANY having been appointed the sole Licensees for the use of Dr. Boucherie's Patent Process for Preserving Timber, beg to inform Landowners and others interested in the use of English Timber that a Pamphlet, with full explanations of this cheap and most effectual process, may be had gratis on application to the undersigned. Landowners having Beech, Elm, Fir, or other Timber fit for Railway Sleepers are requested to communicate particulars of quantity, locality, and prices.

William Howden, Secretary.
26, Great George Street, Westminster.

COLLEGE OF AGRICULTURE AND CHEMISTRY, AND OF PRACTICAL and GENERAL SCIENCE, 37 and 38, Lower Kennington Lane, Kennington, near London.

Principal—J. C. Nesbit, F.G.S., F.C.S., &c.

The system of studies pursued in the College comprises every branch requisite to prepare youth for the pursuits of Agriculture, Engineering, Mining, Manufactures, and the Arts; for the Naval and Military Services, and for the Universities.

Analyses and Assays of every description are promptly and accurately executed at the College. The terms and other particulars may be had on application to the Principal.

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Professors, &c.

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Surveying, Civil Engineering, and Mathematics—J. M. Grindrod, C.E.
Practical Agriculture—J. Coleman.
Assistant to Chemical Professor—A. Sibson.

Students are admitted after the Summer and Winter Vacations, also in April and October.

Fees for Boarders:—Under 16 years of age, 55 guineas per annum; between 16 and 18, 70 guineas; above 18, 80 guineas. The fee for Out-students is 40*l.* per annum.

Prospectuses and information can be had on application to the Principal.



# The Agricultural Gazette.

*SATURDAY, MARCH* 26, 1859.


MEETINGS FOR THE ENSUING WEEK.

Wednesday, March 30—Agri. Society of England.. Noon.

"Mr. Smith will smash up a piece of his clay-land - Wheat - stubble about the end of this month."—Most of our readers have, doubtless, seen his advertisement. The "smashing up" is effected by drawing a three or five-tined cultivator through it, first one way and then another, about 8 inches deep. Of course it ought to be done before winter, and if done then very little additional cultivation is needed in the spring. But it so happens that in the present case the month referred to is the present month of March, and we advise those of our readers who have not already seen it at once to ascertain from Messrs. Howard, of Bedford, the exact date of the operation, and go and witness it.

So laborious a piece of work is enough for ten or a dozen strong horses, the land being an exceedingly stiff clay. In ploughing up a Bean stubble for the Wheat crop in the autumn—turning back the old furrow slice, for that is nearly all that ploughing means—you shall uncover the print of some 16 or 20 shoes belonging to the four or

five horses which left a lasting impression there (visible now as if made yesterday), when last they ploughed the Wheat stubble for the Beans. This impression repeated year after year at a given depth below the surface fairly cuts off the subsoil from its offices of storehouse, drain, &c., for the plant, and leaves the farmer to make what he can of some 5 or 6 inches of clay soil spread as if upon a pavement. The first "smashing" up the land receives is thus work for 12 or 14 horses. But if four horses in a row below the cultivated soil do such mischief, what will not 14 horses struggling along over its surface do? It is true the cultivator follows them, and to some extent obliterates their trampling, but this unavoidable evil of horse-power is a very great one; ultimately fatal, indeed, to the fertilising influence of "smashing up" performed that way.

"Smashing up," if done at all, must be done by steam-power: but you do not gather that from Mr. Smith's advertisement. And herein lies, as we believe, the crowning distinction between Mr. Smith and his competitors in the *practical* prosecution of steam cultivation. Mr. Smith, dissatisfied with his ploughs and other time-honoured tools for clay land cultivation, set himself to construct better implements before the idea of steam-power for their traction had occurred to him. He—a farmer—realised his object first, and afterwards cheapened the process by the substitution of another power for that of horses. Others—mechanicians—have placed before themselves as the problem:—Given steam power—how best to employ its force in cultivation? Mr. Smith had already by his ingenious tool realised by one operation and to his entire satisfaction the object aimed at, and the problem with him was:—Given a thoroughly cultivated soil—how best to yoke the steam engine to the tool by which it has been cultivated? In 1855 accordingly he went to the Carlisle meeting of the Agricultural Society of England to buy a steam engine and commission a windlass. These were supplied to him by Ransome and John Fowler respectively, and he has them still in operation.

It is only latterly that Mr. Smith has commenced making his machinery for others. His object originally was the cultivation of his own small farm of 110 acres of clay land. It has not been, we believe that any one who knows him will say, for reputation or for premiums or for wealth, that he entered on his present course. He has neither sought for patronage nor complained of neglect. While others have been making machines and seeking customers, he has been cultivating his farm and seeking after improvements in the tool by which it is done. The upshot of all this is what might have been expected. He has not gained premiums. The protest against the dilatory decision of the Agricultural Society upon this subject has all along been made in behalf of another, in whose favour indeed the decision has at length been made. Even the distinction won by Mr. Smith's steam cultivator is awarded to Messrs. Howard, who made it, not to Mr, Smith, who invented it. But it is Mr. Smith who is at this moment steam cultivating England.

While others were occupied in striving for an award which would direct the stream of customers in their particular direction, Mr. Smith was quietly cultivating his stiff clay farm, and laying it open for public examination and inspection. The consequence is that Messrs. Howard, to whom he has entrusted the making of his tools, can point to more than 40 occupiers of land in different parts of the country who have purchased Mr. Smith's apparatus and are cultivating their land by steam.

His neighbours, the best of all judges in such a case, are copying his example, and from them alone has he received any testimonial to his merits.

But we must give a short description of his farm. Mr. Smith, of Woolston, near the Bletchley station of the London and North-Western Railway, is a yeoman of the county of Bucks. His small patrimony of 200 acres, 110 arable and 90 pasture, has been in the possession of his family for more than 200 years. It cannot be described in the language of the auctioneer as lying within a ring fence. It lies in detached fragments—in a country of clay land and small fields. A more unlikely district for steam cultivation can hardly be imagined. It has at length, by throwing fields together, been brought into somewhat better shape—but Mr. Smith's plan of steam cultivation allows him to work a five-cornered field with narrower headlands than horse-power requires; and its former awkward form did not prove a hindrance to him. Most of the land is a very fertile clay—some of it a rich loam—a good deal a stiff and comparatively poor soil. It is on the stiffest portion more especially that the "smashing up" by steam is most efficient. This plan of cultivation has proved an exceedingly effective fallow. The land under it is thoroughly clean, which formerly, when it used to be ploughed and repeatedly surface buried, it never was. It is all thoroughly drained.

Mr. Smith's object is to use the 45 available days of September and October in "smashing up" Bean stubbles for Wheat and Wheat stubbles for roots—while his horses are ploughing Clover stubble for Wheat, and harrowing and drilling the steam smashed land. By thus taking the heaviest work at the heaviest season, he calculates on saving one-third the horse-power of a 15-horse power farm by an 8-horse power engine consuming for 45 days about 1 cwt. of coal per horse power per diem. It is no part of his faith that steam power is to do everything for us on a farm. It has displaced horse-power on the road, but it does not take us to our homes even now. We use it so far only as is desirable for the purposes of locomotion, and take horse-power still whenever it is most convenient. So upon the farm; it is chiefly the "smashing up" of the soil and the threshing of the corn to which it is confined. We shall have headlands to cultivate wholly, many other part processes in the work of cultivation to do all over the land, all carriage to perform, and work upon the farm sufficient for two-thirds of our present horse-stock left to be done after steam-power has done all it does at Woolston.

But we have already exceeded our space, and must postpone for a week any further detailed statement of the cultivation of this farm. Enough has been said to prove both the efficiency and practical character of the operations carried on, and the good sense as well as enthusiasm of Mr. Smith, to whom they are due.

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Another great sale of Short-horns took place on Wednesday last. The herd of the late Mr. Harvey Combe, of Cobham Park, Surrey, was then brought to the hammer; and Mr. Strafford has the satisfaction of again connecting his name with another extraordinary illustration of the great value of well-bred cattle. Sixty-three head of cattle, namely 35 cows and heifers, 17 heifer calves all by "Marmaduke," and 11 bulls and bull calves, constituted the herd. The whole sold for 4838 guineas, averaging 80*l.* 12*s.* 4*d.* each, being thus about on a par with the herds of Mr. Ambler, Mr. Majoribanks, and Sir C. Knightley, which sold—50 for 84*l.* each, 59 for 90*l.* each, and 78 for 80*l.* apiece, respectively. The 35 cows and heifers sold for 2719 guineas, averaging 81*l.* 11*s.* 4*d.* each. Among them were "Cambridge Rose 6," purchased at the Kirkleavington sale and sold now at 10 years and 3 months old, to Mr. Fisher for 200 guineas—"The Beauty," her produce by "Puritan," sold to Mr. Jonas Webb at 5½ years old for 160 guineas—"Darlington 8," sold to Colonel Pennant for 120 guineas—"Leila," 3 years old, sold to Captain Spencer for 170 guineas—"Dustie," 2 years and 10 months old, sold to the Duke of Devonshire for 200 guineas; and "Gaiety," 2 years and 8 months old, sold to Mr. Rich, of Didmarton, for 150 guineas. The remarkable feature of the sale was, however, the price reached by the calves, all of them by "Marmaduke." Seventeen heifer calves, *i. e.* reckoning all as such, calved since March 1858, sold for 1253 guineas, averaging 77*l.* 7*s.* 10*d.* each. Among these Mr. Wetherall purchased "Samphire" for 120 guineas; "Looey," the calf of Capt. Spencer's Leila, named above, realised 105 guineas; "Blush," the calf of Mr. Webb's Beauty, was bought by Mr. Hale for 110 guineas; and Ayah, a nine months' calf, was bought by Mr. Crawley for 110 guineas. Much the highest price was however reached by "Moss Rose," the calf of "Cambridge Rose 6," which at 8 months old was sold to Mr. Hale for 260 guineas. She is certainly a beautiful animal, of perfect form and colour and extraordinary pedigree. Her dam "Cambridge Rose 6," with her produce, viz. two bulls and three cows and calf, sold for 841 guineas, *i.e.* 147*l.* 7*s.* each; thus proving the estimation in which the influence of Mr. Bates's breeding on the value of stock is still held.

The bulls were 11 in number, realising 866 guineas, or 82*l.* 13*s.* 3*d.* apiece. The only remarkable price reached was by "Marmaduke," who was bought by Colonel Pennant for 350 guineas. He was in perfect condition, and considering the quality of his stock just sold, he ought to have fetched a higher price. The sum now realised is 150 guineas less than that at which he was bought two years ago. But it must be remembered that his value has already been to a great extent received, and in the quality of his calves and the prices they have reached, Mr. Combe has already been repaid for his former spirited outlay.

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## COST OF HORSE-POWER.

In the *Agricultural Gazette* of March 5 there are some remarks on the cost of horse labour. Reading them has induced me to send you the following memorandum which I drew up lately to arrive at the cost of ploughing an acre of land with horses. I have two farms in my own hands; on each I keep an account of the work done by each horse, not reckoning fractions of a day less than half. I debit the horses with the cost of their food, veterinary attendance, and shoeing. The total charge, divided by the number of days they work, I consider as the cost of a day's work.

Below are the results for two years on one farm, for three on the other:—

| | Horses. | Days. | Cost per head. |
|---|---|---|---|
| | | | *s.* *d.* |
| 1855 .. .. | 6 | 1496 | 1 3 |
| 1866 .. .. | 5 | 1185 | 1 8 |
| 1855 .. .. | 8 | 1606 | 1 4 |
| 1856 .. .. | 8 | 1763 | 1 8 |
| 1857 .. .. | 8 | 1950 | 1 0 |

Average cost of one day's work, 1*s.* 5*d.*

The items omitted in my charge are green food or grazing, and straw. I have hitherto considered that the manure paid for the straw, but this is not strictly correct. Each horse uses about 20 stones of straw in a fortnight; taking average cost of Wheat, Barley, and Oat straw, say at 4*d.*, I get for a fortnight 80*d.*; now 20 stones of straw produce about a cartload of fresh manure, which I put at 36*d.*; the charge for a fortnight is therefore 80*d.*—36*d.* = 44*d.*, or say 3*d.* per day.

I consider the produce of one acre of Grass quite the outside of what each horse gets; this at 60*s.* per acre gives per day 2*d.* The account, therefore, stands—

| | |
|---|---|
| Cost from books .. .. .. .. .. | 1*s.* 5*d.* |
| Straw .. .. .. .. .. .. | 0 3 |
| Grass .. .. .. .. .. .. | 0 2 |
| | 1 10 |
| Or, for two horses .. .. .. | 3 8 |

To determine the cost of ploughing something must be added for wear and tear of animal and tools, as also for man's wages.

| | *s.* *d.* |
|---|---|
| Two horses, plough and harness—say 80*l.* at 20 per cent. gives for daily cost, in round numbers .. .. .. | 1 6 |
| Daily cost of two horses above .. .. .. .. .. | 3 8 |
| Ploughman .. .. .. .. .. .. .. .. | 2 0 |
| | 6 2 |

It may be assumed that two horses can plough an acre a day; but say for a continuance they get over nine-tenths of an acre, therefore cost of ploughing 1 acre is equal to 7*s.* 5*d.*

This account also shows that out of 310 working days, each horse on an average worked 230 days. Probably a little more than is done for pure farming—as the account includes carriage of coals, stone, lime, sand, luggage, &c., all incidental to the work about a country residence. N.B. The farms are in Scotland.

*C. V. B.*, 56, *Westbourne Terrace.*

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## A NEW DRAIN TILE.

[The following is part of Mr. Ferguson's paper on Subsoil Drainage given before the Newcastle Farmers' Club.]

For some years, while I was in business in Glasgow, and often employed in giving advice in draining and other agricultural operations, I was offered a commission for the sale of draining tiles and pipes of all sizes and shapes, by a manufacturer having a tilery and circular kilns, a description of which I have given, about 8 or 10 miles to the south of Glasgow. This led me into a great deal of correspondence with many gentlemen, but chiefly with landed proprietors in the West Highlands, to whom I sent from time to time large quantities of draining pipes. They were put into small vessels, and often sent through the Crinan Canal, sometimes as far as the Island of Mull, and Stornoway, in the Island of Lewes. Being consequently loaded and unloaded so often, as well as carted inland, considerable breakage was unavoidably the result, and a loss in numbers sometimes sustained of from 10 to 15 per cent. The expense, therefore, including railway carriage, loading, and freightage, as well as cartage, made draining to these proprietors a very expensive business, and very often serious complaints were made in consequence. This led me to think that possibly some other material might be found as a substitute for clay pipes in draining, and knowing many of these Highland proprietors had large quantities of peat moss on their estates, I resolved to try if tubes could not be made of it, which although, perhaps, of a rude form, might suffice for conduits, and thereby lessen the expense of draining. I therefore caused a man one day to bring to my office three barrow-loads of good black, decomposed peat earth, to make an experiment, and having got two circular dies made for one of Ainslie's pipe-tile machines, the core of each being 3 inches, I caused the peat to be put through the machine. The pipes were cut only 10 ins. long, for I found that as they were heavy and difficult to handle, they could not with advantage be cut of longer lengths, and it was discovered also that if there were any fibrous matter in the peat, the cutting wire of the machine would not go through it without making a very ragged end, and therefore tubes

could not be made, unless the peat earth was thoroughly decomposed. The next experiment was in drying them, and this was done by the heat of a fire; but it appeared that unless they were constantly turned over, the evaporation being more on one side than another, made them warp and twist very much. After some other trials, and getting two dies made of a hexagon form on the outside, with a projecting nozzle of about 3 inches, the tendency to warp and twist was greatly overcome, especially when the tubes were put on shelves under cover, and supported on each side by brackets. Another difficulty, however, was yet to be surmounted, for it occurred to me that if the pipes were soaked in water for a time in a drain, they might again get into a soft pulpy state, collapse, and ultimately become an obstruction in place of a conduit for the discharge of water. I therefore put one of the dried pipes into a boiler to test them, and boiled it for some days, and when taken out, it was as hard and as inflexible as when I put it in, and as you now see them; for, gentlemen, I have samples of these peat earth tubes here, which you can examine, and pass your opinion upon them. The following year after this matter became generally known, the Highland and Agricultural Society of Scotland, of which I happen to be a member, offered for competition a prize of a gold medal for the best essay or report on the use of peat as a substitute for tiles in draining. Knowing something of this from previous experience, I set about to ascertain the expense at which peat tubes could be made, the number daily, and other particulars, so that if I attempted to write a paper on the subject, I might have a fair chance in competition with others. I therefore looked about for a small piece of land to drain near to a peat moss, where proper material could be got for the experiment. This I found on the farm of Torfin, near to Mid Calder, on the Caledonian Railway, within about 10 or 12 miles of Edinburgh. To that place, I accordingly sent a man with one of Ainslie's tile machines, properly prepared with two hexagon dies. When the peat was thrown out to the side of the machine, he, with the assistance of three boys, made at an average about 2000 each day, and the contract price at which I agreed with him was 5*s*. per thousand, that sum including not only the making, but placing them between brackets upon shelves under cover as the tubes were dried by the atmosphere. The drains were cut in a hard retentive subsoil to the depth of 3 feet 6 inches, and the pipes put in in the usual manner, and I found the expense of the whole to average scarcely 4*l*. per acre, the distance between the drains being 7 yards. After I had completely tested and proved the efficiency of the peat tubes, I wrote my paper, giving all particulars. This I sent under a motto to the secretary of the Highland and Agricultural Society in Edinburgh, and after some time, I am glad to say, the medal was awarded to me. When this new mode of making draining tubes became known, I was led into a great deal of correspondence with many gentlemen in the three kingdoms, and even with gentlemen on the continent, for I remember getting an order for a machine from a party in Frankfort-on-the-Maine, in Germany. Many Highland gentlemen expressed much anxiety on the subject, and I believe some of them ordered machines for the making of peat tubes, but having soon after come to this part of the country, I lost all interest in the business, and consequently I never heard what progress was made.

## DR. VOELCKER ON LIQUID MANURE.

I HAVE been reading Dr. Voelcker's paper on liquid manure in the last number of the Society's Journal, and it seems to me the argument is not so clear against liquid manure as Dr. Voelcker makes it appear.

In the comparison of the muddy liquid from Tiptree Hall, if we make a correction for the specific gravity, which I think ought to be done, we shall find that 50,000 gallons will contain 39·15 lbs. of ammonia. In practice we seldom get guano with a larger proportion of ammonia than 16 per cent.; at this rate, and taking the price as Dr. Voelcker does at 13*s*. per cwt. with 2*s*. per cwt. added for carriage and application to the land, it will require 2·18 cwts. of guano at a cost of 1*l*. 12*s*. 8*d*. to supply the same quantity of ammonia, that is, 2*s*. 8*d*. more than Dr. V. makes it.

The expense of applying the liquid manure is given by Dr. V. as from 1½*d*. to 2*d*. per ton, and the calculation is made at the rate of 2*d*. Mr. Mechi in his book "How to Farm Profitably" says (page 89), that 1*d*. per ton would pay 7½ per cent. interest and all working charges," and he even hints (page 153) that it is not more than ¾*d*. per ton; it is therefore scarcely fair to calculate from the highest estimate he has ever given, but as he puts it (page 102) at 1½*d*. to ½*d*. let us take the medium, 1¼*d*., and we shall find that the cost of applying the 50,000 gallons will be 32*s*. 6¼*d*. instead of 37*s*. 2*d*., showing on the whole calculation a difference of 1¾*d*. in favour of liquid manure instead of 7*s*. 2*d*. against it, that is, my calculation reduces the cost of liquid manure by 7*s*. 3¼*d*. per acre per annum.

But this comparison with guano is made with a sample of liquid manure, which stands lowest but one in the proportion of ammonia among the six samples analysed. The liquid from Westonbirt is 20 times as rich in this important ingredient; but if we take the average of the six samples, which is 34.997 grains of ammonia in a gallon of liquid, and correct it by the average specific gravity, which is 1.0032 on five samples (for it is not given for No. 3), we shall find in 50,000 gallons about 270 lbs. of ammonia. It will therefore require 15.26 cwts. guano at a cost of 11*l*. 8*s*. 10*d*. to supply as much ammonia as may be supplied by liquid manure at a cost, as I have shown, of 1*l*. 12*s*. 6¼*d*., that is, of the average value of these six samples.

While therefore, as Dr. Voelcker says, "It is well to remember that 50,000 gallons may not contain more fertilising matter than 2 cwt. of good Peruvian guano," it is equally important to remember that if the tanks and drains are properly arranged it is far more likely to contain as much fertilising matter as 15 cwt. of the same guano. Indeed if the liquid can be obtained as concentrated as the Westonbirt sample, 50,000 gallons would be as valuable as upwards of 2 tons of the best guano.

My own opinion is that as most farms are at present conducted and stocked, the less tanks are used the better; let the buildings be spouted, and the stock, whether in yards, boxes, or stalls, properly and carefully "bedded," and there will be very little surplus moisture to require a tank; but where a large head of stock is kept and straw is economised, especially if sparred floors are adopted, then there will be plenty of liquid manure, and by all means take care of it. Whether it should be used greatly diluted or in a more concentrated form is another question, and must, I presume, be decided chiefly by the facility you possess for dilution and distribution; where you have only the old water cart for the purpose the carriage is so expensive that most will prefer to apply it pretty strong; but where steam pumps are employed the evidence seems pretty uniform in favour of abundant dilution.

It is to be regretted that Dr. Voelcker has not given us more full information as to the particular instances in which, as he says, "little benefit results from the application of liquid manure to clay soils and fertile friable loams," and especially of the case in which his "remarkably intelligent" friend found the entire waste of his tank liquid the best mode of disposing of it. *Z. A. Z.*

P.S. Ought not the term, excess of straw, to be changed into deficiency of live stock, for does it not sound too much as if the straw was an inconvenience to be got rid of if possible, rather than a valuable material to be turned into manure by the use of cake and corn alone, if roots are not sufficiently abundant.

## FALLOW CROPS.

*(Continued from page 200.)*

THE preparation of the land for Mangel is the same as for Turnips. The seed is, however, in our own case planted by hand, and it is done in this way: as the ploughs cover the manure the land is rolled with the Turnip drill, the last roller of which is 15 inches in diameter, and three strips of Oak are nailed longitudinally on the circumference. As the roller is moved forward the triangular strips make indentations on the top of the drills 15 inches apart. A woman having a quantity of prepared Mangel seed in her apron, takes some in her right hand, and selecting two of the seed vessels between the finger and thumb presses it into the top of the drill, where the mark is made by the roller, and then pushes the earth with her foot over the seed and then steps upon it, and proceeds in this way up the row till the whole is finished. Ten women will plant the ground as fast as the two ploughs prepare the drills for them. The seed is prepared by steeping it in liquid manure from the tank for two days before it is planted. The proper time to plant our fallow or fodder crops is, for Carrots from the 1st of March till the 15th of April, and for Potatoes from the middle of February; for Mangel from the 1st of April till the 10th of May; for the common Turnip during May in Scotland and during June in England; and for the Swedes from the 20th of May till the 1st of July. By planting some of the Globe Turnips early they will be ready by the 1st of September for the lambs, sheep, and other stock.

The common Turnips may be thinned out to their proper distances in the row as soon as their second pair or rough leaves are fully developed, and in doing this with the hoe the singled-out plant may be left lying on its side without receiving any injury from the earth being thus all pushed away from it, and it will soon recover and get strength to stand upright and grow luxuriantly.

The Swedish Turnip is a more delicate plant, and before we single out the plant it should have the second pair of rough leaves fully developed. We therefore cut them out in bunches, each bunch being left at the required distance; the earth being cut out between the bunches, the outside plants fall down, and give more room for the centre ones to grow strong, and as soon as they are ready all the plants are picked out by children, leaving the strongest one in the centre.

*The Quantity of Plants remaining on the Ground to come to Maturity.*—Where the drills are 27 inches apart if the plants are left 8 inches apart in the row, there will be 29,040, and each will have a space of 216 square inches; if 12 inches apart in the row there will be 19,360 plants, and each will have 321 square inches; if 16 inches there will be 14,690 plants, and each will have 432 square inches; and if 20 inches apart in the row there will be 11,616 plants, and each will have 540 square inches of room.

Although we have had Swedes 15 lbs. weight, Mangel at 20 lbs., and Carrots at 12 lbs. weight, yet at all these distances we have never been able to have more than 28 tons of the bulbs of Swedes per acre over 30 acres, nor more than 33 tons of Mangel per acre over the same extent. We have had 28 tons of Carrots over 10 acres.

The implements we use to cultivate the space between the rows of roots are the expanding 5-tine one-horse grubber, the drill harrow, and the common plough having the mould-board taken off. The expanding grubbers have their tines 18 inches long bent in a curve like those of the cultivator, so that they easily enter as deep into the soil as we wish by raising the wheel. The triangular expanding harrow we also use after the plough, when we have occasion to use it between the rows.

*The Modes and Time of Using these Implements.*—If the weather be very dry after the seeds have been sown we use the grubber, expanding it to about 12 inches, and make it go as deep in the bottom of the furrow between the drills as one horse can go with it, which may be 1 or 2 inches deeper than the land was ploughed; this pulverises the bottom and the two sides of the furrow, and raises the earth level with the top of the drills; but if the season is moist this operation may be deferred till the time the plants are bunched out by the hand-hoe or thinned out in single plants. The next time we use it we expand the hoe to 16 or 18 inches, and make it go as deep as one horse can go with it; when the plants have recovered and begun to spread out their leaves on the ground, we again use the horse-hoe, expanding it to 18 to 20 inches, and going with it as deep as we can, and when the weather is dry and the plants seem to want moisture, or do not grow as luxuriant as we wish, we then use the plough with one horse going between the rows. In this way it is used: the mould-board is taken off, the horse goes one bout between the rows, the plough is made to go as near to the plants and as deep as not to injure the plant or push it aside; we send the drill harrow immediately after to harrow down and spread the earth moved up by the plough so as not to let in the draught into the pulverised soil. One horse drill harrow will do this work after two ploughs. The grubber is repeated in dry weather once every 10 or 15 days, but it is never used when the ground is at all damp or sticking to the horses' feet, for then it would consolidate rather than pulverise the soil, which is one of the objects we have in using it, and it is only discontinued when the leaves extend over the space between the rows, so that they get injured by this operation.

The advantage of this moving of the soil, so often repeated between the rows of the roots during their growth, is that a greater extent of the surface of the soil is exposed to the influence of the atmosphere, and this hastens the decomposition of the manure and the degradation of the mineral matter of which the soil is composed, and makes it more friable and porous. The deeper this friable soil is made the more productive will it become; it will more readily drink in the rain and dew of heaven, and retain it for the use of the growing plants. *J. M.*

*(To be concluded next week.)*

## AGRICULTURAL WAGES.

YOUR correspondent "N." appears to think it necessary to use what he himself admits to be uncourteous language in attempting to refute the statement of Mr. Grey, as to the high rate of wages in Northumberland when compared with the southern and south-western counties, and tries to insinuate a charge of wilful misrepresentation against that gentleman. Any one who has the pleasure of Mr. Grey's acquaintance must know that such a charge as this is most absurd, and I am quite surprised that any person having the slightest acquaintance with the north-eastern counties can for a moment doubt the substantial accuracy of Mr. Grey's statement, in so far as relates to the higher rate of wages prevailing there. I happen to have a rather extensive experience in what may be called the agricultural labour market of England and Wales, employing, as I do, large bodies of labourers in land drainage and other operations of agricultural improvement all over the kingdom, and my experience is this—that while I can hire labourers in the southern and western counties at from 10*s*. to 12*s*. per week, I must give 15*s*. or 18*s*. in Yorkshire, Durham, and Northumberland.

Although I cannot altogether agree with Mr. Grey in the reasoning which he founded on his facts, believing as I do that there are other elements such as race, climate, and so forth which ought to be taken into account, yet his theory receives a remarkable confirmation in my own experience that if we except Wales and one or two other districts where peculiar causes operate to the prevention of an uniform result, the price of a piece of labour, measured not by weekly wages but by work performed, is nearly the same in most places.

The unsuccessful experiment of sending labourers from the south to the north proves only, I think, that sending untrained, unselected labourers away to a distance from home does not answer, and in the case quoted by Mr. Grey it is probable that those sent were indifferent specimens, as the worst men, or those least employed by the farmers, and not the best, would no doubt be sent; but no one can look at the Northumberland labourer or "hind" and compare him with the same class, say in Dorset, Berks, Bucks, Somerset, Hereford, or Wales without seeing at once the great superiority of the former, not only as the animal man, but in his habits and social condition.

It is to be hoped that great good will arise from the discussion which Mr. Grey's vigorous and admirable address has provoked. The lot of the agricultural labourer in some of the English counties is about as dreary as can well be imagined in a civilised country. Ill-housed, ill-clad, and ill-fed, if he feeds at home—his family actually always on the verge of star-

vation if he feeds in his master's house—it is high time that some energetic steps were taken for the improvement of his condition, and a great step will be gained if men can only be convinced of the truth that, *cæteris paribus*, the actual work of a well-nurtured, well-fed, well-clad, and cared-for man is as cheap, or cheaper in mere cost, than that of a starveling, even though he be stuffed while in actual service in his employer's house with meat and drink; while his wretched family have to be housed, fed, clothed, and cared-for out of the 5*s.* or 6*s.* a week handed to him as the balance of his wages, his own food and drink counting for the remainder. *J. Girdwood, 49, Pall Mall, March 22.*

## Home Correspondence.

*Bath and West of England Society.*—It is proposed by the Bath and West of England Society to hold their Meeting in 1860 at Dorchester. A most suitable place has been found closely adjoining the town, and a committee formed for the purpose of raising the 900*l.* which the Society require, irrespective of all local expenses. The leading gentlemen and agriculturists in the immediate neighbourhood of the town itself have come forward in a most liberal manner, and it is to be hoped that "their sentiments being so well expressed may influence mightily the rest," so that the appeal of the committee to the Mayors of the other towns and the secretaries of the various agricultural Societies, will not, from the good name of the county, be without effect. Dorsetshire is, I believe, almost the only county in which a large meeting has not been held, a circumstance which I can only attribute to the apathy of the farmers; but let me remind them that it is not an enviable singularity, nor in unison with the character which they bear for hospitality, and which I never yet heard questioned. Let them refute the calumnies of those who, writing without first investigating the truth of their statements, have attempted to re-open wounds which had been for several years healed, by taking this opportunity to say: Come, judge for yourselves, and form your own conclusions of Dorsetshire and the Dorsetshire labourers. *P. P.*

*Hedgerow Timber.*—Will you allow me, a staunch and true friend of the working classes, and at the same time not less lover of the picturesque, to break a lance in your columns with some of the rising advocates of wholesale hedge and tree destruction upon farms. These gentry seem to take it for granted that by a simple calculation of area of trees and hedgerows, and crops growing approximate thereto, or ground gained by the removal of the same, deducting the labour to bring about the alteration, and comparing the worth of the trees with the amount of yearly increase of crop, they bring out before us a correct and flourishing table of profits. Now if the amassing wealth were really the *summum bonum*, these individuals might at first sight appear to have reason on their side; though when we look a little carefully into the matter I think I can disprove their possession of even this stronghold. Of course I do not pretend to deny that in many places trees may be felled and hedgerows removed with undeniable advantage; but the present rabid crusade against timber and hedgerows bids fair, in a short time, to turn our beautiful country into a dreary series of patches of vegetable produce, such as we see in Belgium, in the lowlands of Switzerland, and in some parts of France, between Boulogne and Paris to wit. Now man is not intended "to live by bread alone," and in this improving age we have societies for furnishing the poor with allotment gardens, with cottage flower shows, cricket clubs in our towns, with galleries of pictures and objects of taste, and museums of natural history, cheap and elevating concerts for the people, and every possible means taken to elevate and improve the mind through those organs of sight, hearing, &c., with which it has pleased the Almighty to endow us. Now all this is most right and most meritorious; but when at the same time we ruthlessly destroy the natural beauties of our country, which are the property not of ourselves but of all our poorer neighbours, and shed around a humanising influence that can scarcely be over-valued, are we not open to the charge of inconsistency—with one hand to purchase a painted landscape at a cost of 100 guineas and with the other to destroy a really existent God-created one for the sake of 3*l.* per annum? But I undertook to prove an absolute loss in £ *s. d.* from such a course. Why, sir, if to elevate man's nature tends to draw forth his resources and to diminish crime, must this not be palpably the case? The expenses of our jails, of our workhouses, of our Crown prosecutions for murder, for infanticide, and other crimes only too numerous; horses and cattle maimed and injured by brutes of men who have the charge of them, untaught to govern their own passions, careless of their masters' interests, ignorant, apathetic, and indolent—all this has to be set off against the yearly profit derived from the destruction of the face of our beautiful country. Look at the inhabitants of those flat, dreary, shadeless, treeless, hedgeless, undivided tracts of cultivation in Belgium, Switzerland, and parts of France, and remark the dull, heavy, worn, hideously ugly, stupid peasantry you find there. If any sane man would see England and the English so degraded for the sake of increasing our national or his own individual wealth, he cannot, as it appears to me, take a surer course to effect it than the mad crusade now going on without judgment or reason against our pastoral hedgerows and timbers. Surely to such persons we may apply the words, "Woe unto them that add house to house, and field to field, until there be no place left!" *T. T. S.*

*Wheeled Ploughs.*—As there is a good deal of discussion going on about ploughs, will you allow me to have my say in the business, and as I come "frae 'yont the Tweed," I claim some knowledge of both sides. It is several years since I came to this part of the kingdom, and perhaps I did not then look upon what was common here very favourably, but judged through a Scotch medium. And this I did strongly respecting the wheel ploughs, and I had certainly appearances in my favour at that time, for I had seen better ploughing with the swing plough than was at all common at that time and place with the wheel ones. Howards' ploughs were not then come much into fashion, and deep ploughing was the exception; few knew, and fewer cared about the angle of 45°, which some few amateurs chose to talk about; wheel-ploughs were bad, and no one could make good work with them. And so I preferred the swing plough. But Howard's J. A.'s came out, at last found their way to where I was, and at the same time deeper ploughing became more the order of the day; and though it may read strange, we used a heavier plough, ploughed deeper, and used fewer horses to draw them! Here was a revolution, and then I began to modify my views, for I found now that a plough could be set to go alone, and in good hands to do her work well, and to do fair work in any hands, so I thought this was in advance of the good old swing, and suited a lazy man much better. I liked to hold them, but could not turn them so well at the ends, but that was want of practice. I came to the conclusion that one wheel was an improvement, and that two made them nearly perfect; and yet those ploughs, though said to be fit to be used as swing ploughs, were not anything like equal to the Scotch ploughs. Now I have no doubt that in a few years the wheels will find their way across the border pretty fast, and we may be sure that where once used under anything like favourable circumstances, they will not be discarded again. But in the first introduction, mistakes do often occur that retard success: for instance, the makers say they may be used as a swing, and the ploughman being partial to them tries it so, and finds that with the cast-iron share he is not able to hold at all, so it is laid aside and condemned. With a new share and everything in good order it may be possible to use Howards' as swing ploughs, but it would be much better if the makers would omit saying that they can be used as such. There is no reason why they should be, as any one can make fair work with the wheels, and it takes a good hand to do so with a swing. It has been proved that they are lighter of draught with wheels, are less labour to hold, will make best work with a good ploughman, and will make good work with a very inferior hand. Then why should prejudice stand in the way? But I may notice one or two drawbacks belonging to them, the first and chief of which is that in ploughing across high-backed ridges they do not work at equal depths, as when the wheels take the high part of the ridge the plough is thrown out, and when they get in the furrow the plough gets too deep, so that for this purpose a swing plough is better. And if the ground is very rough on the top there is the same defect, and the draught is unsteady. Again, as they are made in England with cast iron bodies they would not do where the land has large fixed stones in it, as is the case in the greater part of Scotland. But if the English makers wish to introduce them successfully into the north they will make them of wrought iron. In short, I believe all that has to be done is to adjust wheels to the Scotch swing ploughs. One other little defect is that they cannot be entered at the furrow end so suddenly, and about a yard is passed before they get to their proper depth, so that at the best they leave their work a little imperfect at the ends, and the same fault would exist if they have to be (thrown out) lifted over fixed stones, as they often would have to be in rocky land. These, I think, are all the objections that can be urged against them; they may be a little heavier, but that may not make them draw harder. They will, like any other implement, work easier if they bear firmly against their work instead of yielding at all to it. Weight was the objection urged against iron ploughs when first introduced, but that has passed and so will the present. Some that use the swing may object to the expense of changing, but that need not be much, as all that is to do is to fit on the wheels to what they have got; for a swing plough will make a good wheel one, and then the smallest boy employed on a farm will be able to make fair work with them. *Scotus Anglicanus.*

*Horse Keeping.*—Your editorial columns of 5th inst. contain interesting remarks on the cost of feeding horses used in farming. We find they cost vastly more than the maximum rate there quoted from a paper in the English Agricultural Journal.* May we ask the favour of information on the point—Whether the size, and performances required, of horses employed for commercial daught work are such as to account for a large excess? *Employers of Horses for Town Work.*

[You will find all the dietaries given in the paper in question. Of course, as it was agricultural work that was being valued—they are home prices, not town prices that are given. We should be very much obliged to you for details of your experience—giving quantity of food consumed and number of horses employed, and actual haulage performed in a given term of months. We understand that the horses employed by Hanbury & Trueman consume 1 cwt. of hay, 98 lbs. of Oats, and 7 lbs. of Beans per week apiece, costing 13*s.*]

*Oat Hay.*—This has been proved to be a valuable fodder for cattle, when cut and dried before the juices have passed out of the stem into the seed, and as a larger crop can be grown of this than of Clover hay, cattle giving it the preference, I would suggest that a few experiments be made this spring, though now rather late. If liquid manure could be applied to the crop—the Oat being a gross feeder—the growth would be more rapid and the hay more tender. To prevent the stems being coarse it might be sown thickly, either broadcast or by drill. I presume it should be cut just as it is coming into bloom. As it would bear being more highly manured than Oats intended for seed, a great bulk might be grown per acre. It might answer well in a moist climate, Ireland for instance. Turnips or even Mangels would succeed well after this crop, if the land be well prepared; I grew a very heavy crop of Mangels last year, though seeded late in June, but to do this the land should be rich, and the intervals deeply and frequently stirred. I have known White Carrots do very well when late sown, if the seed bed be well prepared. Immediately the crop is off the stubble should be pared in a thin slice or sharing with the expanding blades of the new broadshare, the wings of the ridge plough being attached, so as to throw the stubble and rubbish into ridges, where it can be easily collected. The wings of the ridge plough should be then removed, when the blades should shave off another thin slice, the third operation being completed by the cultivator, when a thoroughly pulverised seed-bed of 6 inches is obtained. It would be found that even in the driest weather the whole of this pounded earth would be moist, the damp arising from below being arrested and absorbed; and the plants, being enabled to extend their roots on all sides in moist earth, grow away rapidly and healthily, mould in Swedes being in a great measure avoided. If 6 inches be not deep enough in some soils, a greater depth might be obtained, but land prepared in this way 6 inches deep is in a better state than if ploughed 8 inches deep, which thick slicings it is almost impossible to reduce to a tilth fine enough for a seed-bed if the soil be stiff and there be no rain, even although much labour be expended and the clodcrusher be used. If the land be thinly shaved there are no round hard clods, and the cultivator and harrow pulverise all in a satisfactory manner. *Sigma.*

*Wythenshawe.*—One or two of your correspondents having criticised the cost, &c., of my cottages, allow me to state that as they are in a conspicuous position, there is much more ornament about them than would otherwise have been desirable. For instance, there is a small gable in the roof over each bedroom window, carved barge boards, pinnacles, &c., all of which tend materially to increase the work of the painter, plumber, and slater. You made a slight error in describing the plans which I forwarded to you. The kitchen and pantry are at the back of the house-room, not alongside of it. *T. W. Tatton.*

*Adulteration of Seed.*—With reference to your remarks on the adulteration of seed, allow me to state a case. I wished to grow some Rape as autumn food for sheep in a district in which it was not known or used to any extent, as an experiment. An eminent and well-known firm supplied me with this seed, as well as all the rest that I required for my green-crop break that spring; the seed was sown in June, the ground in fair order and condition, and tolerably clean; nearly 6 lbs. of seed per acre were sown I think. After a time a few Rape plants made their appearance, but many other plants came up, nearly all Charlock or Wild Mustard. In no other crop on the whole farm did so much of this obnoxious plant make its appearance. The crop was a Charlock crop undoubtedly; the proportion between Rape and it was as one is to 200 at least, and this to the exclusion of any other weed, or nearly so. Now the firm are not to blame from whom I obtained the seed. I never met—setting this case aside—with better seed than they send out of all sorts. Can they have been imposed upon? or how do you account for my evidently having sown more Charlock than Rape? I am sorry that I did not examine the seed previously to its being sown more closely, and that I did not keep a sample by me afterwards. This should now be always done. *Senex.*

* Eleven shillings per week per horse.

## Societies.

### ROYAL AGRICULTURAL OF ENGLAND.

WEEKLY COUNCIL: *March* 23.—Colonel Challoner, Trustee, in the chair. Communications were read: 1. From Mr. Rutherford, detailing his experiments in the cultivation of Potatoes by spreading sea sand over them on light and heavy land, with and without manure. 2. From Mr. Parton, giving the result of his trials in growing Barley on light soil with a sandy gravelly subsoil, ploughed at 6 and subsoiled to 13 inches deep in each respective case, the yield in straw and grain being greater in the land not subsoiled. 3. From Mr. Birnie, suggestions for the collection of results in Turnip-cultivation and its failures. 4. From Mr. Charles Chapman, of Folkestone, details connected with Bray's Traction Engine. Adjourned to March 30.

## Farmers' Clubs.

Eltham: *Autumn Culture.*—In the discussion on [illegible] at a recent meeting of this Club—

[illegible] said it was very obvious that here they had to [illegible] under the disadvantage of a more uncertain climate and [illegible] harvest season than they had in the south, and there [illegible] opportunity of doing the work which Mr. Loraine recommended to be done during autumn; but there was no [illegible] of the great advantage of putting forward that work [illegible]. There was one advantage which Mr. Loraine had not [illegible] which was not only that a certain portion of the work [illegible] ready to their hands in the spring, but it was done [illegible] way that it economised labour in the spring in a very [illegible], because if they had a dry season and could get [illegible] scarified and cleaned, and then laid up with deep [illegible]—but not with the harrow, for he should be against [illegible] in autumn—so that it was thus exposed to the [illegible] winter it would be fine enough without harrowing—[illegible] consolidated it too much—the land then would [illegible] be taken up much drier in spring, and might be in a [illegible] for Turnips. In his small way he had tried this for [illegible] years past. If they had a very late harvest and much [illegible] now, then it was impossible to plough to the extent [illegible] be required; but generally a great deal might be [illegible] a good deal was now being done here and in East [illegible] and even north of that.

[illegible] thought a very great deal might be done in [illegible] forwarding spring work. He did not like to go to [illegible] expense of a great many new implements, and he got [illegible] of 10 inches wide, which he put into Haywood's plough, [illegible] and a pair of horses could do 2 or 2½ acres a day [illegible] broad shares. The first year he tried it he kept the [illegible] in, but this laid it so much over that the grubber [illegible] furrows did not get a good hold of the furrows. This year [illegible] had taken old worn-out mould boards and broken the back [illegible] off about half way along, which set the furrow about half [illegible] its edge, so that they got a much better hold of it with [illegible] grubber afterwards. The land Mr. Loraine had spoken of [illegible] be a good deal lighter than even the Tyneside land, for [illegible] harrows in immediately after having scarified it [illegible] very little impression. He put in a 2-horse grubber [illegible] the plough-furrow, scarified it about 2 or 3 inches [illegible] and then put in a 2-horse grubber, and then the [illegible] and he was sorry he had not a pair of chain harrows, [illegible] they were one of the most efficient implements yet in[illegible] for the purpose; they almost entirely saved the ex[illegible] of raking the first time over. They rolled the [illegible] into rolls, so that they were much more easily [illegible] together and carted off. He had tried, however, not [illegible] deep ploughing and cleaning; he liked to get his [illegible] turned over after it was cleaned as quickly as possible. [illegible] had two crops of Quickens off one field this year; and [illegible] at present a capital crop of annual weeds, which, of [illegible] when he ploughed out again, would be completely [illegible]. He did not see they got much advantage from [illegible] weeds, because they must leave it for some days, or [illegible] week, for the springing of the weeds; and in that damp [illegible] and backward season, if they delayed a week, there [illegible] 10 chances to one they were disappointed in getting [illegible] crop of Couch cut. Whenever he began with a field [illegible] to get right through without waiting for the springing [illegible] annual weeds, but he tried to get out of the Couch, for [illegible] was the great enemy. In one field the ploughing of which [illegible] had not been able to overtake, there was a capital crop of [illegible] weeds, and he had no doubt he would see no more of [illegible] this season; but he would much rather have seen it in [illegible] fallow than in the state it was, even with annual weeds.

## Reviews.

*Journal of the Manchester and Liverpool Agricultural Society.*

We have received a copy of this very useful and interesting annual—interesting and useful not only for the detailed evidence it gives of the progress of an important agricultural district, but also as an example to other provincial societies of the way in which competition and rivalry may be best exchanged and directed. The following is a report of a farm winning the Society's prize of 10*l.* as the best managed dairy and grazing farm in its district. It is in the occupation of Mr. T. Wild.

"Weaverham Wood, near Northwich, Cheshire.—Copy of Claimant's certificate: the farm contains 177 acres:—76a. of which is in pasture; 14a. of upland meadow; 13a. of irrigated meadow; 17a. of Wheat after roots; 17a. of Oats; 3a. of Barley; 9a. of Clover, sown; 14a. of Potatoes; 3a. of Turnips and Carrots: 1a. of Mangels; 1a. of orchard and gardens; and 6a. of plantation, occupation roads, and homestead—total, 177 acres. Rotation: follow a four or five years' course, according to circumstances, but chiefly alternately white and green crop. Live stock consists of four farm horses, 1 hack, 3 colts, 38 dairy cows, 37 heifers and stirks, 8 calves, 90 sheep, and 15 pigs—total at present, 226. Eight or ten extra beasts are fed in the winter; 30 lambs have also been sold within the last month. The cattle and sheep pasture in summer, and in winter the cattle are kept on straw, hay, roots, Oats, Beans, and oil-cake, to cows in milk and feeders. Make annually, on the farm, about 250 tons of manure, which is applied to root crops. Purchase annually about 60 pounds' worth of bones, applied to Clover and Grass land, and Mangels and Swedes. This year have applied a small quantity of bone sawings, from Birmingham, to the Potato crop, which cost 4*l.* 6*s.* 8*d.* per ton, including carriage. Within the last three years 15 acres have been drained. Previous to that, about half of the farm had been drained, landlord finding tiles. (Signed) Thomas Wild, June 18th, 1858.

"*Inspectors' Remarks.*—This farm lies on the banks of a navigable river, and also near a canal, a good road, and a railway. The surface is very much undulated, and the general aspect is N. and N.E., but, notwithstanding this, it is in a good climate, and at no great elevation. The soil varies much, from a rich alluvial to sandy, gravelly, and strong clay loam. The subsoil still more various, strong clay, sand, gravel, fox-bench, and river *débris*. The homestead is central, and the farm buildings mostly well arranged and in a proper state of repair. The same remark will apply to the house and dairy, which are kept in very neat order, as well as the garden and orchard. The house and homestead are very beautifully situated on a knoll, 40 or 50 feet above the river, with a delightful prospect up and down the windings of the river, and of the sloping and undulating country on the opposite side. There is a tank to receive any wash from the house, cattle houses, and piggeries, which is so situated as to enable the manure water to be drawn off into a water cart without pumping. This liquid manure is applied to pasture land. In the yard there is a circular cistern into which runs a copious spring of very cold water, brought from a distance in pipes. This cistern holds the water 2 feet above the level of the yard, which makes it easy for the cattle to drink. This claimant sends the produce of the dairy stock twice a day to Liverpool by rail. In hot weather, this cold water cistern is very useful in cooling the milk before being sent off; not, we presume, by mixing the water with the milk, but by sinking the milk vessels in the water. Claimant has been tenant of the farm upwards of 30 years, and in the course of his tenancy has eradicated a great extent of old fence, and planted also a great length of new ones. These are now well grown thick Thorn fences, kept in proper bounds, but not brushed up every year, as he considers they are more useful for shelter for cattle untrimmed, and can be cut when the fields are under the plough. Since he became tenant, he has laid down 13 acres on the river side for irrigation, and which is done in a proper scientific manner as to levels, &c. This meadow is very productive of good herbage, without any assistance from the dung cart. The feeders, conducts, drains, &c., are regulated, in width and depth, so as to give a regular flow of water over each compartment. Thirty-six acres of the pasture land is old turf, all of which produces good herbage, having been boned more than once. The remainder of the pasture is of various ages, from 1 year to 5 years down, and all boned, and, with the exception of some small portions, producing good pasture. Seven acres of Potatoes planted in drills, on fallowed land, were looking extremely well—healthy, clean, and vigorous. The other 7 acres were planted in beds, on land ploughed one furrow. These were not so promising, but the soil was a stiff clay loam. The Swedes had been resown twice, having been destroyed by the fly. They were clean, but not promising for a full and uniform crop, but it was early, when expected, and much depends on the autumn. The Mangels were an exceeding regular planted, healthy looking crop, and very clean. Head-ridges properly cleaned. Wheat, Barley, and Oats all good clean crops, very promising for a good yield of grain, except about 7 acres of Oats sown on an old lea furrow; the dry weather and the grub had injured them by making them thin and unkindly. Clover of 1st year, in cutting, and a very heavy crop of good clean Clover. Claimant says he can make one-seventh more by selling milk than by cheese making, but there will be a greater expense in winter in keeping the stock. Some years ago he tried soiling his milk stock in summer, but has given it up as being very doubtful as to any profit arising from it. His present milk stock are well selected for the diary, and mostly young cows. The cows are mostly of the Irish Leicesters, which, he says, pay him best. He has a few Shropshire Downs, which he likes well, but are expensive to lay in. Has also a few Cheviots, which have been put to Leicester rams. The farm and stock are altogether under superior management, and in which both skill and industry are united. *Inspected June 18th*, 1858.

## Farm Memoranda.

Mr. M'Connell's Farm in the Prairie.—I drove a few miles out of town to visit the farm of Mr. M'Connell, who was recommended to me by the Governor of the State as a man of great intelligence, integrity, and experience. I walked and drove over his farm, examined his stock, and received from him very clear and distinct information. He is a practical man who has been all his life engaged in farming, and has fought his way up to a very comfortable independance. He left "the old country" in 1811, farmed in a small way for thirty years in the State of New York, where he first settled, and moved thence to Illinois 17 years ago. He had always preferred sheep farming, and brought his small flock of merinos with him. They have been remarkably healthy, increase one-third every year, and his flock now numbers 25,000. His fleeces average 4 to 5 lbs. each, and the wool sells for 1*s.* 8*d.* to 2*s.* a lb. He brought his farm at 1*l.* an acre, and could now sell it at 10*l.*, as it is in a good position near the capital of the State. But he is so firmly persuaded of the rapidly growing wealth of this fine State, that he has no doubt of his farm being worth 20*l.* an acre a few years hence, He consider the land for 100 miles round Springfield to be the best in the world.

Mr. M'Connell sends his flock to the open Prairies in April, places about 1200 under the charge of one shepherd, who tends them and supplies them with salt. They need no other food for six months. He brings them to his enclosed ground in winter, and gives them hay when they need it, and a little corn. His flock has never suffered from any epidemic, but on the contrary have been extremely free from disease. His original flock grew one-fourth in weight and size after being brought from New York State to this better soil. He prefers the merino to the Southdown for this climate and soil, and has found from trial that the merinos yield as much mutton and far better wool. He imports pure merino rams from Germany and Spain to improve his flock.

Mr. M'Connell finds that by feeding Prairie Grass close with sheep, it, in a few years, gives way to blue Grass and white Clover—which come naturally of themselves and without being sown. But the plan he recommends for laying this land down into good meadow and pasture, is to break up the soil some time between the middle of May and middle of July; a few days earlier or later may be tolerated, but not more, as if prairie land is broken out of season the labour is worse than lost. Sow Wheat in end of August, or 1st of September: the following season, after Wheat, take a crop of Indian Corn, which must be kept clean; after the crop is removed, level the ground well, and in February sow one peck of Timothy to the acre,—if on the snow so much the better, as the dark seeds attract the sun's rays, and gradually melt a passage for themselves to the soil below, and the moment the snow disappears, they, being already imbedded in the damp soil, spring up at once, and take the start of all other vegetation. Late in March add two lbs of Clover seed per acre, and a good hay crop will be certain.—I can testify to the success of this management, as I walked over a meadow of many acres on this gentleman's land, on which there was ricked a crop of at least 2 tons an acre of very excellent mixed Clover and Grass hay. The aftermath was rich close luxuriant Clover, on which a flock of lambs were grazing, just such Clover aftermath as we should find in this country on good land after the first crop of hay. I thought it had been the first crop, but learnt to my surprise that the meodow had been sown out twelve years ago, that it had little manure all that time, had borne a crop of hay every year, and been fed close afterwards with sheep, during winter and spring, till the Prairie Grass grew. I have never seen land in Britain that would bear a close Clover aftermath at a period so distant from the time of being seeded, and cannot withhold my belief in the fertile qualities of a soil capable of doing so. Mr. M'Connell has no doubt that the prairie land would benefit by the occasional application of manure, but he never met with any other soil so constantly productive without it. He has known the first Wheat crop pay the price of the land, with the cost of fencing it, and all labour, and leave a small balance over.

With regard to sheep-farming, his opinion is that corn and hay should first be provided by a few years' cultivation, before going largely into a flock. The Prairie Grass will furnish summer keep at little or no cost, but provision must be made for the winter. Good merinos can be bought for 8*s.* to 12*s.* 6*d.* a head in flocks. There is probably no kind of farming on the prairies from which the returns would be so regular and certain.

Mr. M'Connell had tried a timber country before coming here, and was very energetic in expressing his opinion of the superior advantage to a settler on the prairie.

## Miscellaneous.

*Prairie Farming.*—A person last spring bought 640 acres of land in this neighbourhood. He enclosed the whole of it, had it all ploughed by contract, and sowed it with Wheat. Not an acre of his purchase was left idle. It was all sown in good order and in good time, and the chances were that the whole of it would succeed. As every part of the work was done by contract, and would be so completed, I am enabled to show the exact cost of the whole operation, and the probable return.

*Dr.*

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|---|---|
| A ring fence round the whole, of substantial boards and posts, cost .. .. .. .. .. .. .. | £240 |
| Contract price paid for breaking the whole, and putting in the seed .. .. .. .. .. .. .. | 260 |
| Paid for seed Wheat .. .. .. .. .. .. | 160 |
| Contract for harvesting, thrashing, and delivering .. | 500 |
| | £1160 |
| Price of the land, cash, viz., 10 dols. or 2*l.* an acre .. .. | 1280 |
| | £2440 |

*Cr.*

| | | |
|---|---|---|
| Probable crop:— | | |
| 20 bushels an acre=12,800 bushels, worth 75 cents or 3*s.* .. .. .. .. .. | £1920 | |
| Value of the land after being enclosed and broken, viz., 12½ dols. or £2 10*s.* an acre .. | 1600 | 3520 |
| Profit the first year if the crop succeeds .. | | £1080 |

These figures were given to me by a man of knowledge and experience; but the contract prices at present are lower than usual, and the cost of fencing and breaking is thus below the average cost of these operations. Neither is there any charge for buildings, though that would not affect the balance, as the property would be by that amount the more valuable. And it must be remembered that the Wheat crop sometimes fails, while the above satisfactory result makes no allowance for failures. *Mr. Caird.*

## Calendar of Operations.

MARCH.

Cheshire: *March 9.*—We have now entered upon the second week in March and the fine open weather which has characterised the winter months has, up to the present time, enabled the farmers to pursue their field operations almost without interruption excepting on the wet undrained clay land farms, and on these the complaints is that the absence of frost has prevented the cartage of manure from the homesteads. On the generality of farms Wheat sowing was completed before Christmas, and within the last fortnight Bean sowing commenced in good earnest, and on dry land farms the sowing of Oats will

speedy [illegible] early Potato planting [illegible] commenced in favourable [illegible] and in another week, should the weather be fine, a busy scene will present itself in the early Potato districts, great preparations having been made for that crop in the month of February. The Wheat plant is looking healthy and vigorous, having received little or no check during the winter, and the pastures and Clovers are looking green and giving [illegible] appearance, but in this respect [illegible] at this time of the year are not [illegible] the Autumn crops. The working of ground [illegible] in a state of fallow [illegible] years, and generally speaking the land will be in [illegible] for receiving the different crops at the usual period. Swedish Turnips have kept tolerably well, and on many farms have proved a more satisfactory crop than at one time could have been hoped for, and from their known value as a stock farm, are still in high repute amongst some of our best farmers, now that, during the occasional disappointment from unfavourable seasons and short crops. There has been a good stock of Mangel Wurzel to succeed the Turnips, the crops of last year having been unusually great, arising from a combination of causes, more especially a favourable season for their cultivation, an improvement in quality from a more careful selection of seed, and the general management of the crop being much better understood than formerly. This root has of late very much increased in value, from the fact of its being extensively used for horses as well as for cattle and pigs. The "pleuro pneumonia" is not so prevalent as it has been, although there are some dairy farmers who have lately had serious losses in their stocks and are still suffering from its ravages, and it is to be feared that this mysterious and much dreaded disease will continue to be **a source of great anxiety to** Dairy farmers for years to come; and from causes entirely unknown to us the losses in dairy stocks from abortion have this winter been unusually **great.** *W. P.*

WEST SUSSEX, *March* 14.—Spring has fairly come, and one month earlier than **usual. February was dry as March should** be, and up to this time it has been dry, but to-day a fine rain has fallen, which makes all growing crops look fresh. The Wheat has shown great backwardness up to this time, and may now be said to look weakly, though pretty regular on the ground, but we shall no doubt soon find a difference in its appearance. There is not yet much Barley sown, as the roots have stood out so well that the ground is not got cleared very rapidly, but as work is well forward, it will be put in as soon as possible. Last year showed how much safer it is to sow early, for it was not uncommon to have 6 quarters after early sowing, and that good, while 9 quarters was not always got after the late, and its quality much inferior. But it is always safe to sow early, and often not so with late sowing. The roots are running to seed very fast, and various expedients are adopted to stop them, some cutting off the tops, others pulling, trimming, and covering them up in the field, which appears to be the best plan. It will hardly be possible to consume them in time, and as a consequence of this lean sheep are in great demand in our market, and fat ones are brought slowly forward, so that they are dear. Wether mutton now reaches as high as 6*s.* per stone of 8lbs., and this is likely to be the case for at least a month longer, as many will keep them to finish the roots through, they are not likely to pay much for them. Beef is not very plentiful, but though dear, it is not such a ready sale. Corn is a dull sale at any price, but will no doubt rally a little when its condition improves. All kinds of stock are doing well. The Down ewes have nearly all lambed, and the luck has been on the whole good. Cross bred lambs are in the market, but are not a ready sale, though the price is good, from 36*s.* to 40*s.* There have been a few hands out of work, and this will be the case for some time, as this is generally as slack a time as any in the year up to the commencing of haymaking; and were it not that the militia are out, we should have many others, but with all due respect for our army, these are not the men we miss most in the fields. Most of the land intended for root crops has got a second ploughing, and lies in good workable order. Rolling the Wheat and ploughing and sowing after the sheep is our principal work at this time. *G. S.*

## Notices to Correspondents.

CANADA: *Emigrant.* Robert Russell's recent work on America contains some useful information on Canada.

LAND DRAINAGE: *J. Simpson.* If satisfied that your soil would be the better of 4 feet drainage if there had not been the pan you find, we would go to the full depth in question, whether you have to break through the pan or not.

LIQUID MANURE: *Agricola.*—Mr. Mechi's "Sayings and Doings" have been published by Routledge. There is a considerable demand for manuals on different sections of farm practice which ought to be better supplied. The strength of liquid manure is to be ascertained by an analysis for ammonia which it contains.

PIGS: *J. T. B.* The pigs are too much confined, and probably the litter becomes very much heated. We have known the effect complained of where straw chaff at the usual length has been used as litter, fermentation being kept up in the manure by the disturbance of the pigs' feet. The chaff, if cut, should be as long as possible, or, if for other objects cut short, a separate space without litter should be given to the pigs. The litter ought either to be removed daily, or otherwise remain consolidated and undisturbed till the pigs are fatted. The shortest remedy will be to give more space and more exercise. *W. C. S.*

RUTLAND: *A. C.* We shall be glad to hear from you.

THE FASTEST CATTLE FATTENING: *G.* Feed them during summer in loose boxes, giving them fully grown Italian Rye-grass and Clover, with 2 or 3 lbs. of Bean-meal over a little hay-chaff daily. In September and October gradually accustom them to Swedish Turnips, and continue the hay-chaff, adding to the Bean-meal about 1 lb. of Linseed-meal boiled to mucilage and thrown over it. When they take to Swedish Turnips wholly, *i.e.*, not more than ¾ of a cwt. daily apiece—give them in addition 8 or 12 lbs. of this hay-chaff, 1 or 2 lbs. of Linseed meal, and 3 to 5 lbs. of Bean-meal in addition daily, according to their size. In spring gradually displace the Swedes by Mangel Wurzel. And if the food is ever distasteful to them change it—as Linseed and Beans for oil cake, &c.

THE PEST OF BIRDS: *An Oppressed Farmer* says: "Do pray tell us how we can protect ourselves from these pests of birds. The other day on one of the newly ploughed fields, I saw a large flock of larks grubbing away to their entire satisfaction, and soon after I saw a great number of linnets feasting away in a Clover field on Groundsel and Chickweed. Is this not too hard on us in these depressed times?"

WOODLICE: *H. Ellis, Ards Gardens, Co. Donegal,* informs our correspondent (Ellesmere) of a simple, but what he has at all times found an efficient means of destroying them, viz.:—Place some boiled Potatoes broken in small pieces into flower pots, or any other small vessels. Cover the Potatoes lightly with some dry Moss or hay, and place these where the woodlice are most troublesome: they will feed upon the Potatoes during the night, and finding an agreeable hiding-place beneath the Moss will remain there, and can be emptied in the morning into boiling water, and the traps replaced again. He has in this way got rid of many thousands; they could easily be destroyed on the walls in the yard by syringing them with boiling hot water.

*** As usual, many communications have been received too late, and others are detained till the necessary inquiries can be made. We must also beg the indulgence of those correspondents the insertion of whose contributions is still delayed.


### CLOVERS AND RYE-GRASS SEEDS.

SUTTON AND SONS can supply the proper quantities of the best kinds of Clovers and Italian Rye-grass seed, or Clovers and common Rye-grass at 18*s.* per acre, (including Alsike with other Clovers). In ordering, it is only necessary to state that "Clovers and Italian Rye-grass" or "Clovers and common Rye-grass" are required for so many acres, when the proper quantities will be sent.

N.B. ALSIKE CLOVER is included in this mixture, but if not required it will be omitted and a lower price charged.

Royal Berkshire Seed Establishment, Reading.

### GENUINE AGRICULTURAL SEEDS.

MESSRS. DICKSON AND BROWN (late F. and A. Dickson & Co.), 43 and 45, Corporation Street, Manchester, beg to intimate that they are now ready to execute all orders with first-class AGRICULTURAL SEEDS, most of which have been saved by themselves or under their own superintendence.

Special prices for large quantities on application. A PRICED CATALOGUE is published, and may be had post free.

Manchester.—March 26.

### PRIZE MANGEL WURZEL, SWEDE TURNIPS, ETC.

JAMES GROVE, Great Baddow, Essex, who obtained Prizes at the Chelmsford and Essex Agricultural Shows for nine years in succession, begs to state that his Seeds are grown from selected Roots—not Plants.

Long Red, Red Globe and Yellow Globe .. 1*s.* 3*d.* per lb.
Purple Top and Skirving's Swedes .. 0*s.* 9*d* per pint.

Reference or cash required from unknown correspondents.

### TURNIP SEED.

YELLOW SCARISBRICK AND ALTRINGHAM, crop 1858, selected stocks, price 30*s.* per bushel; also a quantity of POMERANIAN WHITE GLOBE, and SKIRVING'S IMPROVED PURPLE-TOP SWEDE SEED, at lowest prices.

JAMES FAIRHEAD & SON, Seed Growers and Merchants, Lewisham, Kent.

### TO THE TRADE.

CHARLES SHARPE has still to offer, of his own growing, saved from the finest selected stocks—

| | |
|---|---|
| LONG RED MANGEL | RED LINCOLNSH. GLOBE TURNIP SEED |
| ,, YELLOW DO. | |
| YELLOW GLOBE DO. | GREEN GLOBE DO. |
| ALTRINGHAM CARROT | YELLOW TANKARD DO. |

Prices given on application.—Wisbeach, Cambridgeshire.

### TO THE SEED TRADE.

THOMAS AYRES, JUN., SEEDSMAN and GROWER, Biggleswade, Beds., can supply every kind of Wurzel, Swede, and common Turnip Seeds, on the most reasonable terms for cash.

N.B. Dealer in Culinary and Flower Seeds, Fruit Trees, Shrubs, and Flowering Plants.

### TO THE TRADE.

TO BE SOLD, 200 bushels of GREEN-TOP YELLOW SWEDE SEED, 100 bushels of LIVERPOOL SWEDE Ditto, 60 bushels of DALE'S HYBRID, grown from first-rate stock, warranted to grow well, and free from adulteration. Terms on application.—Address A. B., care Castle and Lamb, 7, Bull Head Court, Newgate Street, London.

### "JACK OF NEWBURY" SWEDE, ETC.

PETER LAWSON AND SON, THE QUEEN'S SEEDSMEN, &c., 27, Great George Street, Westminster, respectfully request attention to their very genuine Stock of the above excellent Swede: also of the LOTHIAN PURPLE-TOP SWEDE, both of which have been selected with the greatest care. They have also a very fine Stock of the KOHL RABI, or TURNIP-ROOTED CABBAGE, specimens of which were shown at their Stands at Smithfield Club Show. The Kohl Rabi was largely grown last season, and may now be relied on as a substitute for the Turnip and Mangel, where these roots do not succeed, or for filling up blanks where there is a partial failure. Its feeding qualities, hardiness, and weight per acre are equal to the Swede, and all kinds of stock prefer it to other roots.

P. L. & SON have also selected a first-rate Stock of MANGEL WURZEL SEED, which they can confidently recommend. Their natural GRASS SEEDS have been also saved with very great care, and they are ready to supply them separately or in mixture, for laying down Permanent Pastures, Lawns, &c.

P. L. & SON have arranged to deliver Seeds free throughout England and Wales from their London Establishment, for all quantities exceeding 20*s.* in value.

LISTS OF PRICES of the above and all other Seeds, Plants, &c., may be had on application.

27, Great George Street, Westminster.

### IMPORTANT TO FARMERS.
### TURNIP AND MANGEL WURZEL SEEDS.

WM. JACKSON AND CO., NURSERYMEN, SEED GROWERS, and MERCHANTS, Bedale, Yorkshire, beg to inform Agriculturists that their DESCRIPTIVE CATALOGUES for this season, with prices very moderate, are now ready, and will be forwarded on application. Farming extensively themselves they have the great advantage of proving all the kinds of Turnips and Mangels; they therefore offer only the varieties which they have found to be the best, and which are also approved of by some of the most celebrated farmers of the present day.

Nearly all the Seeds are W. J. & Co.'s own growing from selected transplanted perfect roots, and the quality of the Seeds having been tested in their hothouses this spring, they can recommend all of them with confidence. Early applications are necessary to secure a supply.

### MANGEL SEED FROM LARGE BULBS.

SUTTON'S YELLOW GLOBE MANGEL is saved exclusively from fully developed roots, the advantages of which have been proved for several years past.

See the following Letters:—

*From the* Right Hon. Lord BERWICK, *Cronkhill, Dec.* 22.—"Let me have the same Globe Mangel as last year, which has given me the best crop I ever grew, good both as to bulk of crop, and also in the fineness of roots, and freedom from fangs and irregular growth. When pulled the roots were nearly as clean and as free from fibre as a Globe Turnip, and I had 50 loads per acre or more."

*From* Mr. GRAY, Bailiff to G. Rawlins, Esq., *Bullington House.*—"I believe we had one of the finest lots of Mangels and Swedes in the country. We had not quite enough of your seed of Mangel, and sent elsewhere for some to finish the field, and though sown the same day, and with exactly similar treatment, we had not so much weight by one-third as on the part sown with your seed."

The First Prizes at Birmingham and other shows throughout the kingdom have been taken by Messrs. SUTTON'S customers both for Mangel and for their "Champion" Swede. The price of SUTTON'S Large Yellow Globe Mangel Wurzel is 9*d.* per lb., or cheaper by the cwt.

Priced Lists of other kinds of Mangel, Swedes, Turnips, Grasses, &c., will be sent gratis and post free.

Carriage free to all parts except small parcels.

SUTTON & SONS, Royal Berks Seed Establishment, Reading.

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The two following new sorts of SWEDES can be highly recommended:—

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| THE PLYMOUTH IMPROVED PURPLE TOP SWEDE .. .. | lb 1*s.* 0*d.* | oz 1*s.* 6*d.* | qr. lb. 4 0 |
| GRANT'S PINE-APPLE SWEDE .. | 1 0 | 1 6 | 4 0 |

The following extract taken from the Leading Article of the *Irish Farmers' Gazette* of October 16, 1858, will tend to show the very high character of the two varieties of Swedes here offered:—"We observed several experimental plots of swedes, amongst which we noticed a new purple-topped variety of the 'Plymouth Swede,' and also a very beautiful yellow Turnip (Grant's Pine-Apple Swede), the name of which we did not learn. These were sown on June 16, and [illegible] were the finest we have seen for a long time. The roots were new to us, but certainly the specimens grown at Rye left a very favourable impression on our mind regarding both their beauty and probable value."

Price to the Trade on application.

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AT THE GREAT AGRICULTURAL COMPETITION AT PARIS, 1856.

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Victoria Street, George IV. Bridge, Edinburgh.

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YELLOW Do. do. do.
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Messrs Low & Co. have selected the undernamed varieties from a large number of plants raised by themselves from seed carefully and judiciously hybridised, and having flowered them for two seasons, and compared them with the varieties previously in cultivation, H. L. & Co. can with confidence recommend the selection to the notice of their friends as comprising the distinct kinds, worthy of a place in the most select collection of this much admired and easily cultivated flower Plants in April. Price, 3s. 6d. each.

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Incomparable, very dark violet purple, base of the tube beautifully spotted on a pure white ground. [white

Lord Raglan, white tube, shaded rose border, lips spotted with

Lucia superba, rosy carmine tube, towards the lips alternate bands: white and rose. [purple.

Perfection, clear white throat, dark blue belt, lips deep violet

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| Cendrillon | Ivanhoe | Ne Plus Ultra |
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Plants now ready, 1s. 6d. each.

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Wellingtonia gigantea, stout handsome plants from seed, 84s. per dozen; 25l. per 100. These are all in the open ground, and are believed to be the finest lot of seedling plants in the Trade.

Cedrus Deodara, 1½ to 2 feet, 18s. per dozen; 6l. per 100

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Cupressus macrocarpa, magnificent plants, 7, 8, and 10 feet high

" Lawsoniana, stout handsome plants from seed, 18 inches, by the dozen or 100

Abies nobilis, from imported seed, 6l. 6s. per doz.; 40l. per 100

" do. 1, 2, and 3 feet high

" Nordmanniana, a large number of beautiful plants, all from seed, 2, 3, 4, 5, and 6 feet high

" Pinsapo, do. do.

[We believe we are justified in stating our stock of the three last mentioned Firs offers a selection to be met with in no other Nursery.]

" Douglasi, 6, 7, 10, and 12 feet

" orientalis, 3, 4, 5, and 6 feet

Pinus Benthamiana, stout seedling plants, about 1 foot, 18s. per dozen; 5l. per 100; 40l. per 1000. Unquestionably the finest of all the long-leaved Californian kinds, and well known to be perfectly hardy. It is the most valuable of all for timber.

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Thujopsis borealis, handsome plants, in quantity, 1½ & 2 ft. high

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" Irish Yew, 4, 5, 6, 7, and 10 feet. Many thousands of these beautifully formed plants grown to one stem

" Golden Yews in large quantities and of all sizes up to 6, 7, and 8 feet

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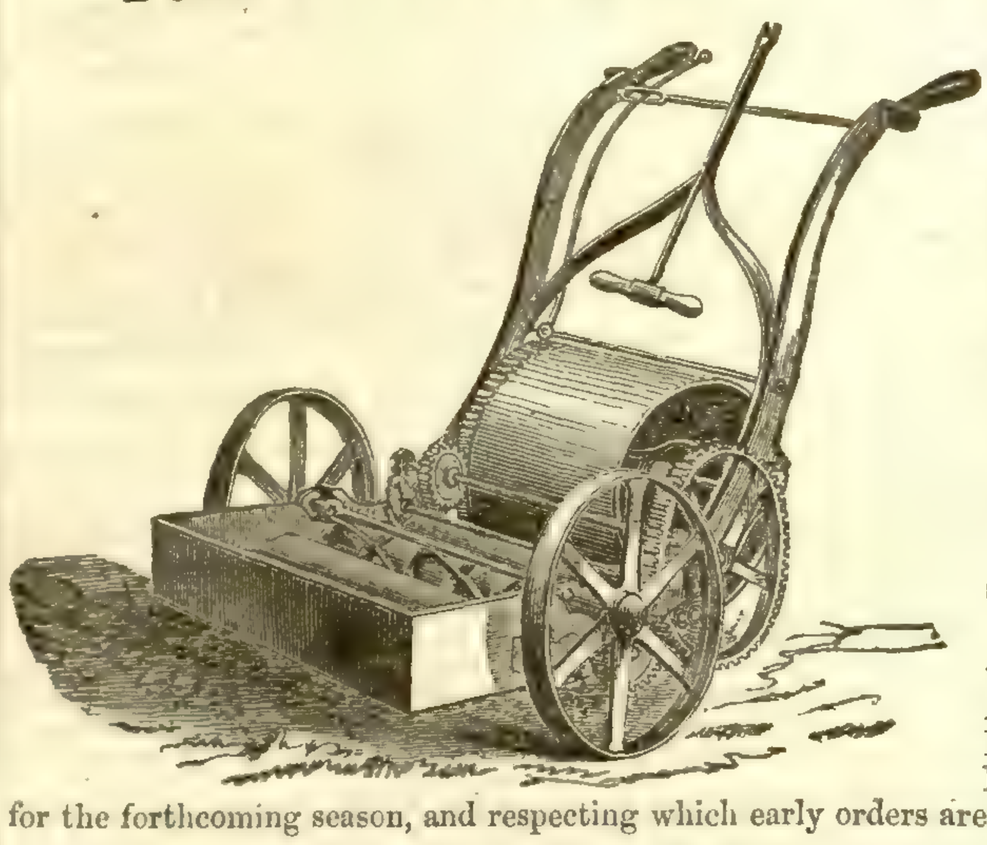

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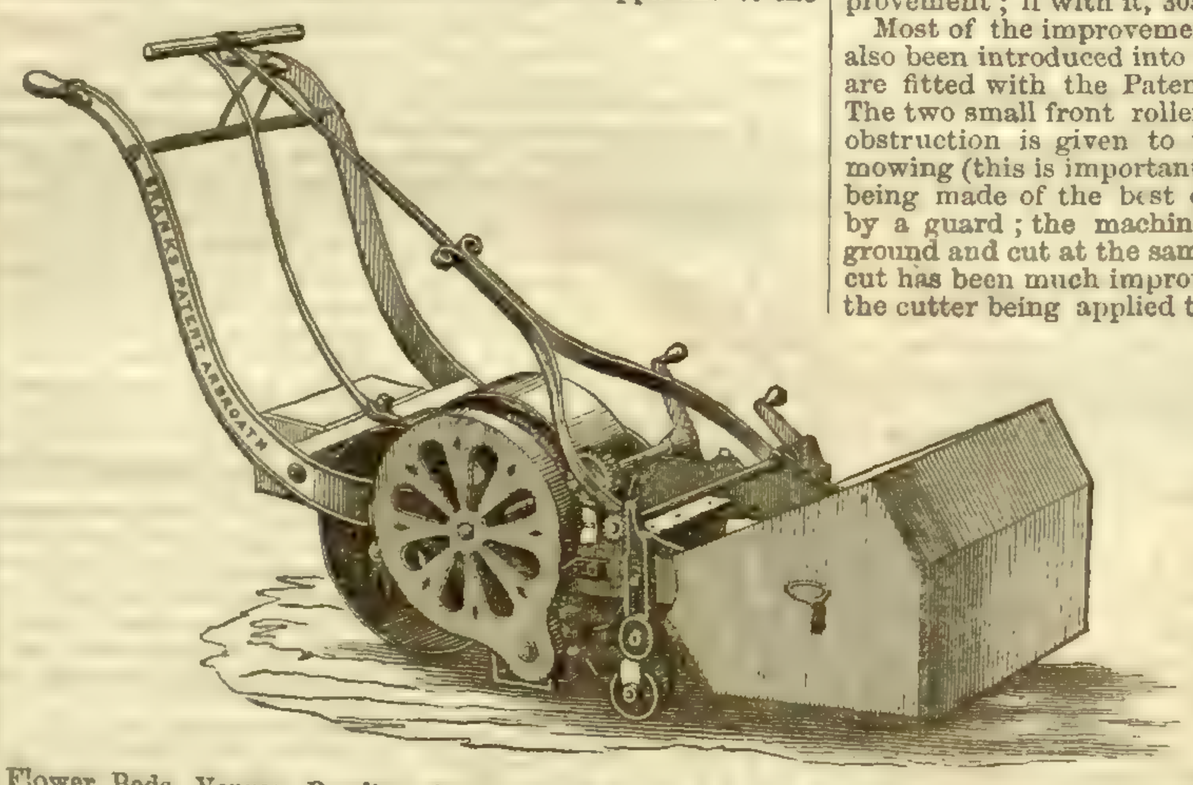


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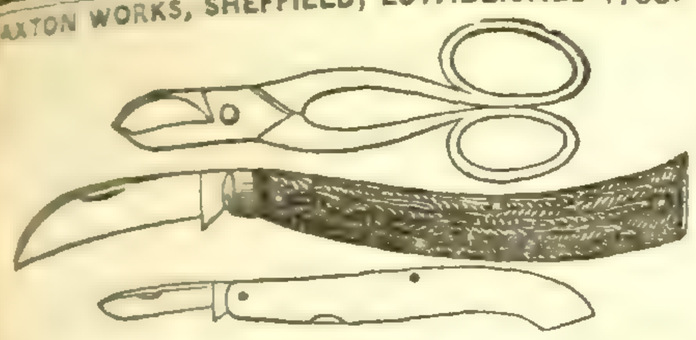

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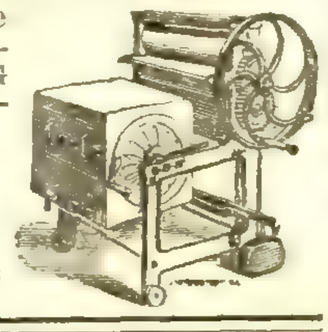

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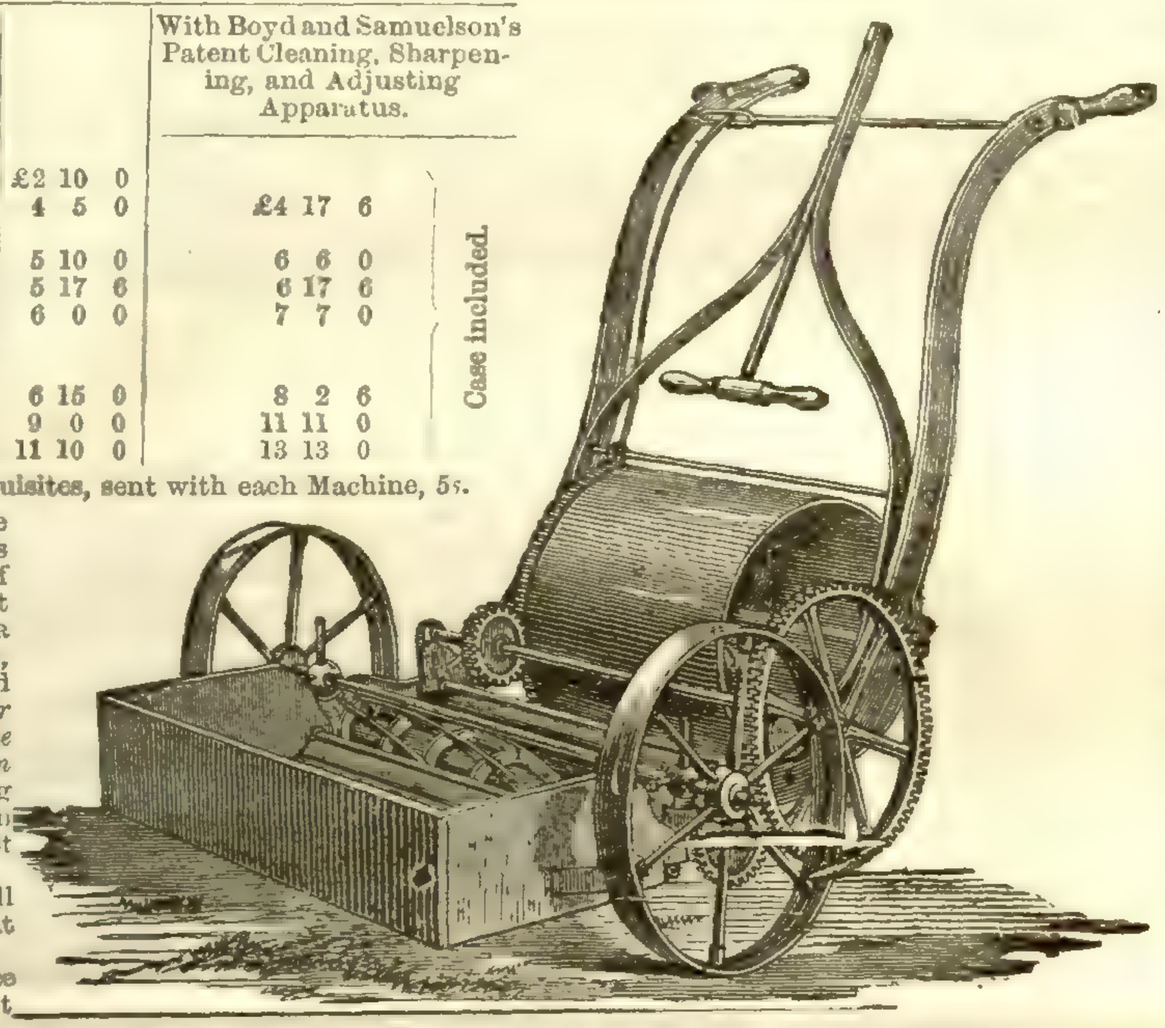

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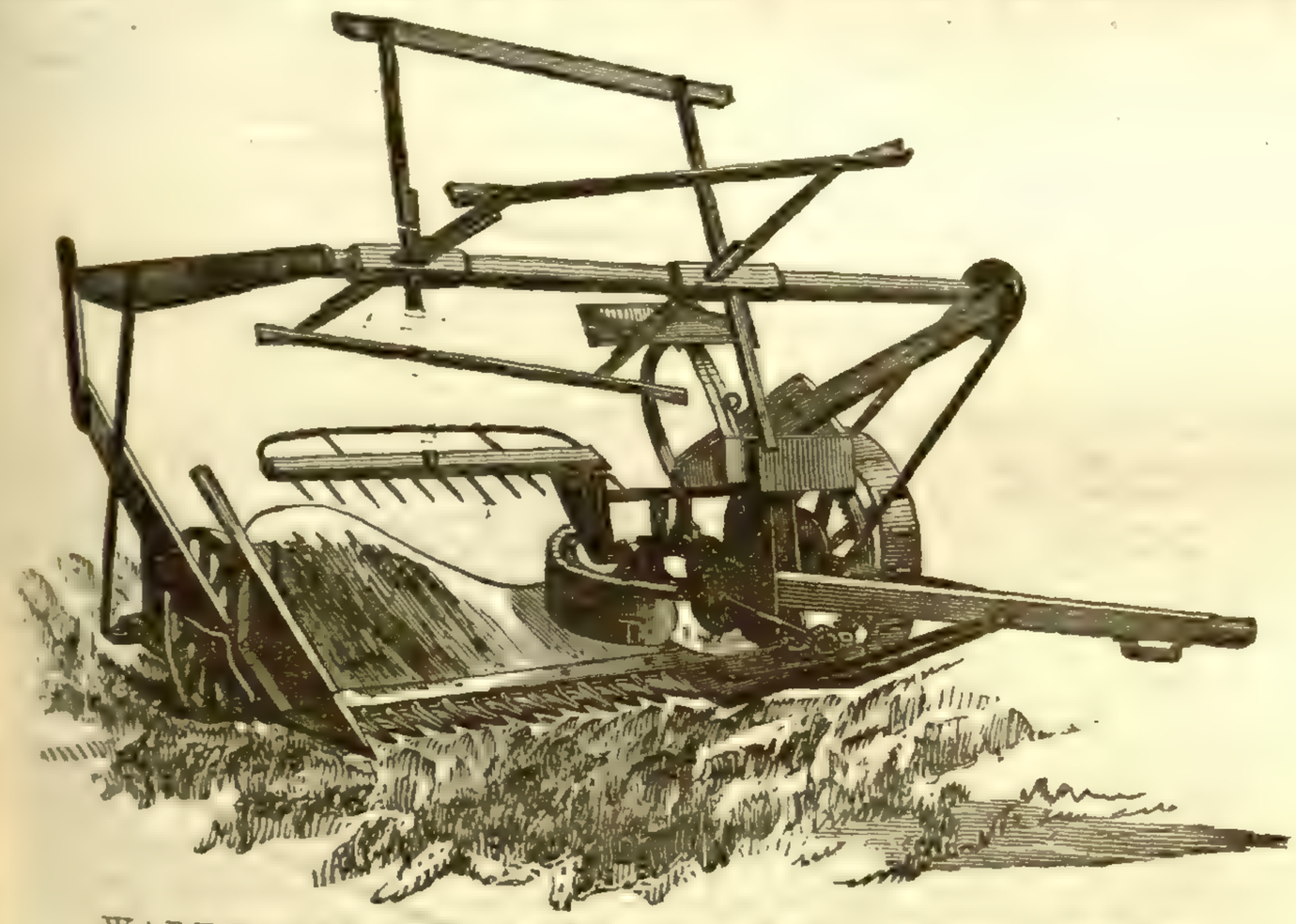

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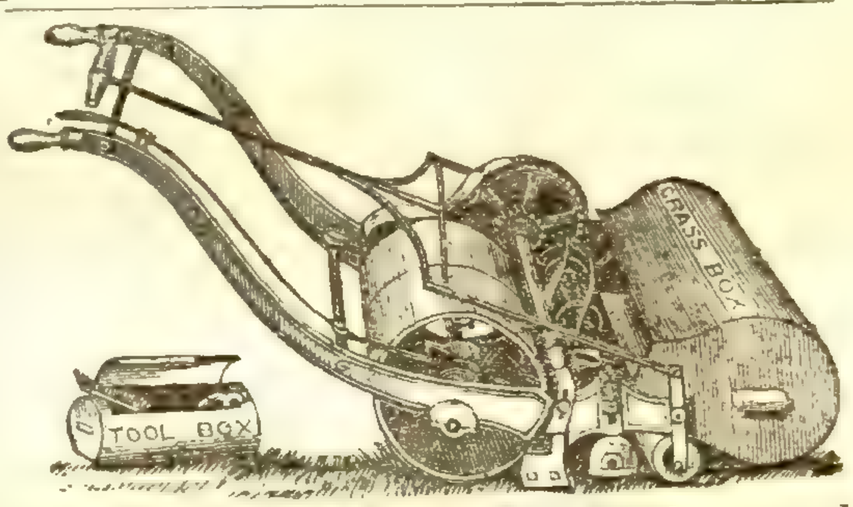


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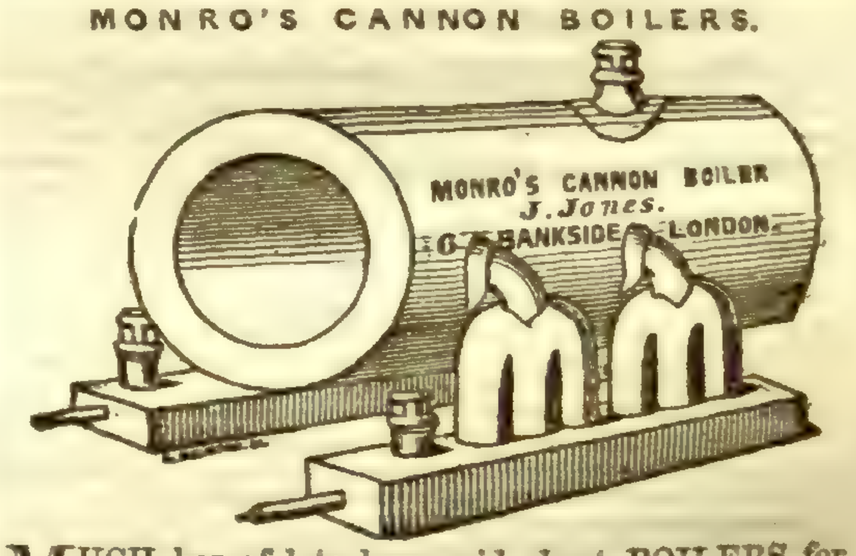


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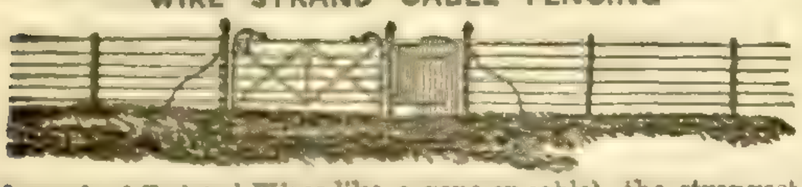

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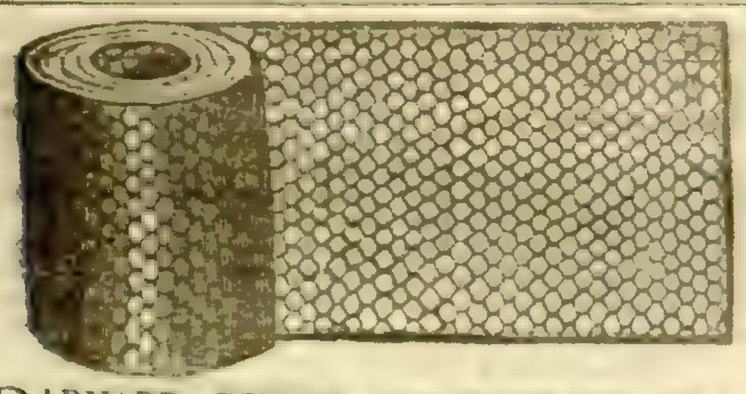

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N.B. COTTAM AND COY. beg to make it known that there is no longer an entrance to their establishment from [illegible] but that they have made a second entrance from 2, Winsley Street, Oxford Street, W., by the side of the old [illegible] works, opposite the Pantheon.

---

# GREENING & COMPANY'S PATENT WIRE FENCES

Patronised by His Royal Highness the PRINCE CONSORT.

No. 1a VARIETY.—PROOF AGAINST HORSES, CATTLE, AND SHEEP.

SPECIFICATION.—No 1a Variety, 3 feet 9 inches high, 6 horizontal bars of stout fencing wire, [illegible] and supported by vertical bars, at distances of 5 inches. ONE SHILLING per Lineal Yard.

Particulars of the above and other Iron and Wire Fences for Parks, Farms, Gardens, Game Preserves, Courts, &c., in the Catalogue, sent post free on application to

GREENING & COMPANY, Victoria Iron and Wire Works, 81, Oxford St., Manchester.

WATKINS AND HURD, Seymour House, Jubilee Place, 5, King's Road, Chelsea, BUILDERS OF HOTHOUSES, GREENHOUSES, PITS, and every description of Horticultural Buildings in Glass work, either in Wood or Iron; also Heating the same by hot water on the most approved plans and at the lowest prices consistent with good work. Estimates forwarded.

HANDS'S PATENT is the only system to circulate Heat and Air for WARMING, FUMIGATING, and VENTILATING Hothouses, Greenhouses, Winter Orchards, &c.; Vegetation healthy in a humid atmosphere, and can be applied to any kind or shape of Forcing-houses and Conservatories existing at trifling cost.—For particulars apply at 2, Charlotte Street, Fitzroy Square, London; or to Mr. HANDS, Epsom.

GREENHOUSES, ORCHARD HOUSES, AND PITS of every DESCRIPTION, MADE BY STEAM MACHINERY, AND HEATED BY HOT WATER ON AN IMPROVED PLAN AT J. LEWIS'S HORTICULTURAL WORKS, Stamford Hill, Middlesex, established 20 years. These Buildings are warranted of the best materials, and at prices which defy competition. The ventilation is most efficient, and the greatest improvement of the present day. Prices of any size on application. References in all parts of the United Kingdom

TO GARDENERS, ETC.

PATENT WATERING ENGINES, PAIL MACHINES, CONSERVATORY PUMPS, and GREENHOUSE SYRINGES, with all the latest improvements, manufactured only by the Patentee,

RICHARD READ, 35, REGENT CIRCUS, PICCADILLY, LONDON.

*** Descriptions sent post free.

WARNER'S IMPROVED LIQUID MANURE OR GENERAL PORTABLE PUMP.

These Pumps are fitted with J. W. WARNER'S Patent Buckets and Suckers, which cannot clog in action. The barrel is of galvanised iron, not likely to corrode, and can be raised or lowered at pleasure. The legs will fold together, and the whole may be carried on the shoulder to any pond or tank required.

Price of 4½ in. Pump, with legs, 3*l.* 3*s.*

If with planished copper barrel and galvanised iron handle, &c., 14*s.* extra. The barrel is 27½ in. long, and the legs are 5 ft. high.

These Pumps are also made without legs, with strong wrought-iron cross for screwing on to any ordinary water butt or cart, and fitted with 1½ brass union for attaching flexible suction. Price 50*s.*

1¼ inch Gutta Percha Suction Pipe, 1*s.* 11*d.* per foot.

Rubber and Canvas Suction and Delivery Hose, from ½ inch to 4 inches diameter, in lengths of 60 feet to order. Branch Pipes with Cocks, Union Screws, &c., at reduced prices.

May be obtained of any Ironmonger or Plumber in town or country, at the above prices, or of the Patentees and Manufacturers, JOHN WARNER & SONS, 8, Crescent, Jewin St., London.

WARNER'S PATENT VIBRATING STANDARD PUMPS.

PATENT CAST-IRON PUMPS, fitted with J. W. & SON'S Patent Buckets and Suckers, which cannot clog in action, for Farms, Cottages, and Wells, not exceeding 28 feet.

| Diameter of Barrel | Height. | | £ | s. | d. |
|---|---|---|---|---|---|
| 4½ in. | Short 1 ft. 7 in. | Fitted for lead, gutta percha, or cast iron flanged pipe, as required. | 1 | 10 | 0 |
| „ long | 3 „ 3 „ | | 1 | 14 | 0 |
| „ ditto | 3 „ 6 „ | | 2 | 8 | 0 |
| „ ditto | 3 „ 6 „ | | 2 | 12 | 0 |
| „ ditto | 3 „ 6 „ | | 3 | 3 | 0 |
| „ short, with 15 feet of Lead Pipe attached, ready for fixing .... | | | 2 | 14 | 0 |
| „ long | ditto | ditto ditto | 2 | 18 | 0 |

The short barrel Pump is very convenient for fixing in situations of limited height and space, for the supply of coppers and sinks in plant-houses with soft water from underground tanks, or in Hot, Forcing, and Plant Houses; they may be fixed, when desired, under the stage.

May be obtained of any Ironmonger or Plumber in Town or country, at the above Warehouse of the Patentees and Manufacturers, JOHN WARNER & SONS, 8, Crescent, Jewin Street, London.

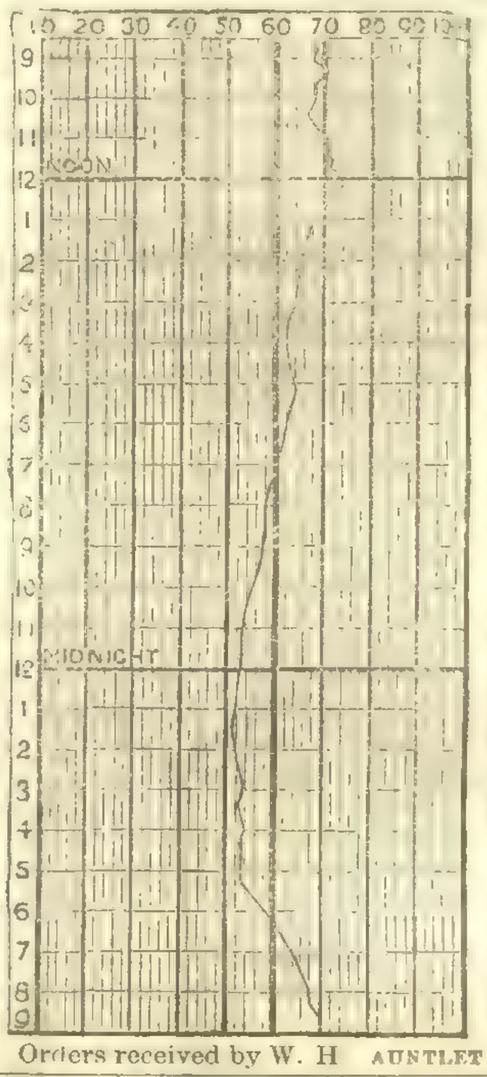
Every description of Machinery for Raising Water by means of Rams, Deep Well Pumps, &c.; also Fire and Garden Engines, &c. &c.—Engravings sent on application.

WILLIAM HOOD, ECONOMIC HOT-WATER ENGINEER, furnishes estimates for Apparatus fixed complete, or for Materials only.—68, Upper Thames Street, London, E.C.

BLOSSOM OF WALL FRUIT TREES effectually PROTECTED by Worsted Net, and which also protects the ripe fruit afterwards from wasps and flies. Sample and plan of fixing it sent free. Much approved, and lasts 10 years. All kinds of Garden, Fishing, Sheep, and Rabbit nets. The Tanned Fish-nets 6*s.* 3*d.* per 100 yards.—R. RICHARDSON, Whitehorse Factory, Bidborough Street, Judd Street; Office: 99, Euston Road, London.

TO HORTICULTURISTS.

GAUNTLETT'S PATENT CHRONOMETRICAL THERMOMETER.




This instrument, which combines an eight-day clock of the best English make showing time, with a newly-patented Thermometer wherein glass and quicksilver are dispensed with, writes down the temperature of the atmosphere on a slip of paper, and when placed in a Hothouse, Forcing House, or Conservatory, &c., supplies a valuable record of the temperature, with all its variations, showing the time when any change took place, and how long such change continued.

The above slip (reduced in size) exhibits the temperature of the Royal Agricultural Society's show yard at Chester, July 22, 1858, written off by one of these instruments, to which was awarded the Society's SILVER MEDAL.

This is the only instrument that registers temperature continuously and writes it down, and no horticulturist should be without it.

Orders received by W. H. GAUNTLETT, Middlesbro' on-Tees.

GISHURST COMPOUND, PATENTED.—For preventing and destroying Red Spider, Scale, Mealy Bug, Thrip, and Green and Brown Fly.—See *Gardeners' Chronicle*, Nov. 6, 1858.—To be dissolved ½ or ¼ lb., or less, in a gallon of soft water, and applied by means of a syringe or a soft brush.

THRIP (magnified).

MEALY BUG (magnified).

On Orchids it may be used in a strong lather, applied by a shaving brush, but on tender young Geranium shoots a solution of 2 oz. to the gallon will be found sufficiently strong.

Sold in boxes at 1*s.* 6*d.* and 6*s.* each, with directions for use, and printed opinions of Mr. Rucker's Gardener, Lady Dorothy Neville's Gardener, Sir William Hooker, Mr. Rivers, Messrs. Francis & Arthur Dickson & Sons of Chester, and Messrs. Dickson & Brown of Manchester.

For Nurserymen the large size is recommended, but where the consumption is not large the compound will be found to keep its strength best in the small boxes.

Nurserymen and Seedsmen supplied by PRICE'S Patent Candle Company Limited), Belmont, Vauxhall, London, S.

TANNED NETTING, AT REDUCED PRICES.—200 square yards, 12*s.*; 500 yards, 25*s*; 1,000 yards, 47*s.* SCRIM CANVASS for Wall Fruit, 50 yards, 16*s*; 100 yards, 30*s.* Be particular to address in full, FREDERICK EDGINGTON, Thomas Street, Old Kent Road, London, S.E.

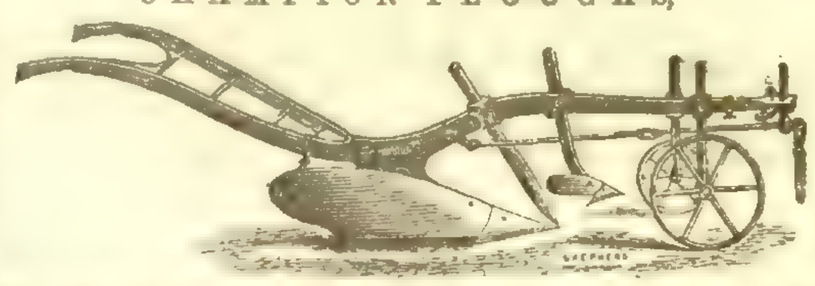
TANNED GARDEN NETTING, for preserving Fruit Trees from frost, blight, birds, &c., and as a fence for fowls, &c. One yard wide 1½*d.*, 2 yards 3*d.*, 3 yards 4½*d.*, and 4 yards 6*d.*, per yard, in any quantity, may be had at C. WRIGHT'S, 376, Strand, W.C.—A liberal allowance to Nurserymen.

BRITTAIN'S GARDEN NET completely protects Fruit Blossoms from injury by frost, and provides for the circulation of air and admission of light, so essential to healthy growth; 55 inches wide, 5*d.*, 6*d.*, and 8*d.* a yard; good SHADING TIFFANY, yard wide, 3*d.* do.—Manchester, Mar. 26.

FOR Effectually Protecting the Bloom of Wall Trees from Spring Frosts use SHAW'S No. 3 TIFFANY, DOUBLE STRENGTH. In pieces 18 yards long by 39 inches wide, 7*s.* 6*d.* each.—JOHN SHAW & Co., Princess Street, Manchester.

HOWARDS' PRIZE IMPLEMENTS, 1859.

JAMES AND FREDK. HOWARD, Britannia Iron Works, Bedford, beg to direct attention to their CHAMPION PLOUGHS,



For which they received All the First Prizes last offered by the Royal Agricultural Society of England, viz.:—

The First Prize for the best Plough for general purposes.
The First Prize for the best Plough for light land.
The First Prize for the best Plough for heavy land.

The only Prize ever offered by the Society for the best Double Breast or Ridging Plough was also awarded to J. & F. HOWARD.

J. & F. HOWARD have discontinued troubling the Public with a long List of Prizes awarded to their Implements, but they would just state that for PLOUGHS, HARROWS, and HORSE RAKES, they have for several years gained every Prize for which they have competed.

PLOUGHS.

| | £ | s. | d. |
|---|---|---|---|
| P PLOUGH, with two wheels, for light work .. | 4 | 7 | 6 |
| PP PLOUGH, „ for general purposes | 4 | 12 | 6 |
| SKIM COULTER .. .. .. .. .. | 0 | 5 | 6 |

STEEL BREASTS, 7*s.* and 7*s.* 6*d.* extra.

HARROWS.

| | | | |
|---|---|---|---|
| A Set of Three 4-Beam HARROWS, with Whippletree, recommended as general Seed Harrows, 9½ feet wide, marked No. 12 .. .. .. .. .. | 3 | 14 | 0 |
| A Set of Three 4-Beam HARROWS, with Whippletree, adapted for 3 Horses, 10 ft. wide, marked No. 11 | 4 | 4 | 0 |

HORSE RAKES.

| | | | |
|---|---|---|---|
| Price of small size RAKE, marked A, with 24 iron teeth, extreme width 7½ feet .. .. .. .. | 7 | 10 | 0 |
| Ditto, with Steel Teeth .. .. .. .. .. | 8 | 6 | 0 |
| Price of large size, marked B, with 28 iron teeth, extreme width 8½ feet .. .. .. .. .. | 8 | 0 | 0 |
| Price of large size, marked B, with steel teeth .. | 8 | 10 | 0 |
| Price of extra large size, marked C, with 24 steel teeth, extreme width, 8½ feet .. .. .. .. | 10 | 10 | 0 |
| Price of a Set of 15 Prongs, to be attached to the above when used as Weed Extirpators .. . .. | 1 | 10 | 0 |

Free Delivery to Birmingham, Bristol, Derby, Gloucester, Lincoln, Liverpool, London, Manchester, Norwich, Nottingham, Retford, Wisbeach, and Worcester; or to Dublin, Edinburgh, Glasgow, and other parts at fixed rates.

HOWARDS' NEW CATALOGUE, containing prices and description of their Patent Ploughs, Harrows, Horse Rakes, and other Implements, including Smith's Steam Cultivators, for which they received at Chester the Gold Medal of the Royal Agricultural Society of England, sent free on application to

J. & F. HOWARD, Britannia Iron Works, Bedford.

ALLENS PATENT PORTMANTEAUS AND TRAVELLING BAGS, with SQUARE OPENING: Ladies' Dress Trunks, Dressing Bags, with Silver Fittings; Despatch Boxes, Writing and Dressing Cases, and 500 other articles for Home or Continental Travelling, illustrated in their New Catalogue for 1859. By post for two stamps. J. W. & T. ALLEN, Manufacturers of Officers' Barrack Furniture and Military Outfitters (see separate Catalogue), 18 and 22, Strand.

PRIZE MEDAL, PARIS EXHIBITION 1855.

METCALFE, BINGLEY, AND CO.'S New Pattern and Penetrating Tooth Brushes, Penetrating unbleached Hair Brushes, Improved Flesh and Clothes Brushes, and genuine Smyrna Sponges; and every description of Brush, Comb, and Perfumery for the Toilet. The Tooth Brushes search thoroughly between the divisions of the Teeth and clean them most effectually—the hairs never come loose. M., B., and Co. are sole makers of the Oatmeal and Camphor, and Orris Root Soaps—sold in Tablets (bearing their names and address) at 6*d.* each, of METCALFE'S celebrated Alkaline Tooth Powder, 2*s.* per box; and of the New Bouquets.—Sole Establishment, 130B and 131, Oxford St., 2d and 3d doors west from Holles St., London.

TO BE LET, BRISTOL NURSERY GROUNDS, Kemp Town, Brighton. These Gardens are now to Let for occupation with immediate possession.—Any person desirous of treating for the same may obtain particulars and permission to view the grounds on application to Mr. R. W. LUCAS, 20, Great Marlborough Street, London, W.

ADDRESS: THE MANAGERS, ST. PANCRAS IRONWORKS.

THE ST. PANCRAS IRON WORKS ARE OPPOSITE THE OLD ST. PANCRAS CHURCH,

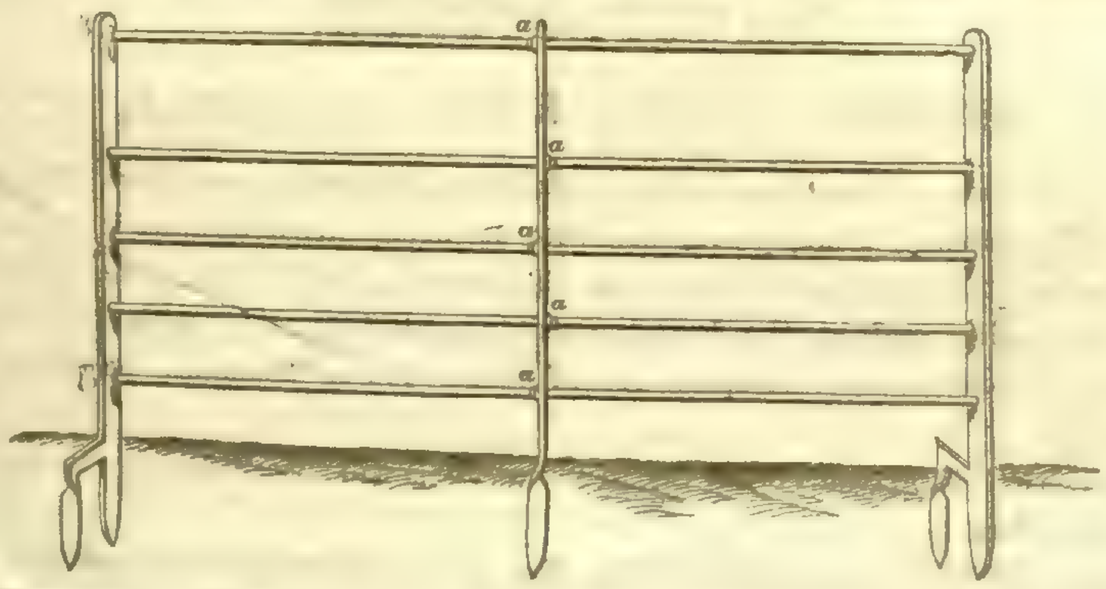
OLD ST. PANCRAS ROAD, LONDON.

IRON COLLAR BAR HURDLES.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

**Obtained the Silver Medal of the Royal Agricultural Society.**

ST. PANCRAS IRON WORKS,




OLD ST. PANCRAS ROAD, LONDON.

The improvement by this PATENT consists in the COLLARS on the Bars which, being placed on alternate sides of the centre bar, keep it in its position, confine the bars to short bearings, prevent their being strained, and give more than WONTED STRENGTH and RIGIDITY to the HURDLE.

PROFESSOR VARNELL'S MANGERS AND STABLE FITTINGS.

# Sales by Auction.

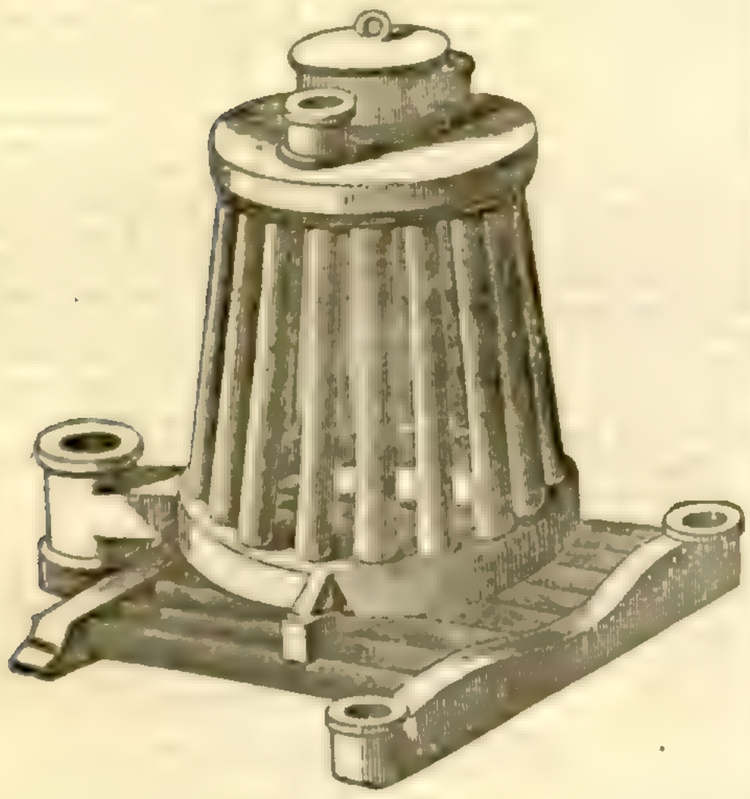
MONTHLY POULTRY SALE.

MR. J. C. STEVENS will Sell by Auction at his Great Room, 38, King Street, Covent Garden, on TUESDAY, April 5, at 12 o'Clock precisely, 250 Lots of POULTRY and PIGEONS, including birds of very superior quality, Cochins, Brahmas, Dorkings, Spanish, Gold and Silver-pencilled, Hamburghs, Game, Bantams, Himalaya Rabbits, &c. The Pigeons comprise Pouters, Carriers, Runts, Tumblers, and other varieties.—Catalogues by enclosing a stamped envelope to Mr. J. C. STEVENS, 38, King Street, Covent Garden, W.C.

TO GENTLEMEN, FLORISTS, AND OTHERS.

MESSRS PROTHEROE AND MORRIS will Sell by Auction at the Mart, Bartholomew Lane, on FRIDAY, April 1, at 12 o'Clock, a first-class Collection of Carnations, Picotees, and Pinks; about 300 choice Standard and Dwarf Roses, consisting of the most approved kinds; choice Fruit Trees, Azalea indica, Camellias, and other Plants in bloom, selected American Plants, Pæonias, Verbenas, Fuchsias, Dahlias in dry roots, &c.—May be viewed the morning of Sale. Catalogues to be had at the Mart, and of the Auctioneers, American Nursery, Leytonstone.

By Her Majesty's Royal Letters Patent.



## ORMSON'S
## PATENT JOINTLESS TUBULAR BOILER.

### TESTIMONIALS.

"Sir,—I feel much pleasure in bearing testimony to the efficiency of your Patent Jointless Tubular Boiler which you have erected for Baron de Rothschild, at Gunnersbury Park, and from the number of hothouses and great extent of pipe you have heated from one boiler, I now feel confident it is decidedly the most powerful, economical, and safe boiler yet invented. Having had the working of the Wrought-iron Arch, and Cast-iron Corrugated Arch Boilers in these gardens, I have no hesitation in stating that your boiler is infinitely superior to either of them in every respect.—Yours truly,

"William Forsyth.

"The Gardens, Gunnersbury Park, Acton, Middlesex."

"Sir,—It is with much satisfaction I give my testimony in favour of your admirable Patent Jointless Tubular Boiler, being attached to upwards of 3000 feet of 4-inch pipe, and doing the work of four fires, and consumes little more fuel than was required for one of the fires previous to the adoption of your boiler. We can command any amount of heat, the boiler being so powerful I am confident it would with ease heat as much more. Altogether we have realised much more economy in fuel and attendance than we at first anticipated. In addition to the great power and economy of your boiler it possesses another most important advantage over all other tubular boilers which have come under my notice, in the fact of its being jointless, consequently quite safe from all danger of leakage. On referring to my coal account I find that I now only use one where I formerly used five waggon loads of coal for the arched boilers which you took out.—I am, Sir, yours respectfully. "J. Fraser.

"The Gardens, Luton Hoo, Bedfordshire.'

"Mr. Henry Ormson, Sir,—I beg to inform you of my entire satisfaction with your Hot-water Apparatus in general, and your Patent Jointless Tubular Boiler in particular, as fitted up in the new range of Hothouses you have recently erected for Lord Powerscourt. The Boilers I admire for three excellent reasons; they are simple in construction, effective in working, and I feel assured, from the calculation I have already made, a very great saving of fuel will be the consequence from using these Boilers. You will permit me to add if I had formed a contrary opinion of the merits of these Boilers I should have been candid enough to have told you so, but in justice to you I must distinctly state I consider them a great boon to the horticultural world.—I am, Sir, yours truly, "Alexander Robertson.

"The Gardens, Powerscourt, Ireland."

"Sir,—I have much pleasure in testifying to the excellent working of your Patent Jointless Tubular Boiler; though a small one it does the work of five fires, and is a great saving of fuel and labour.—I am, Sir, yours respectfully,

"Holland House Gardens, Kensington." "J. Scobie.

"Sir,—In regard to your Patent Jointless Tubular Boiler, it answers admirably the purpose for which it was erected. I consider it the most economical and powerful Boiler ever introduced, and am confident it will not fail to give general satisfaction.—I am, yours most respectfully,

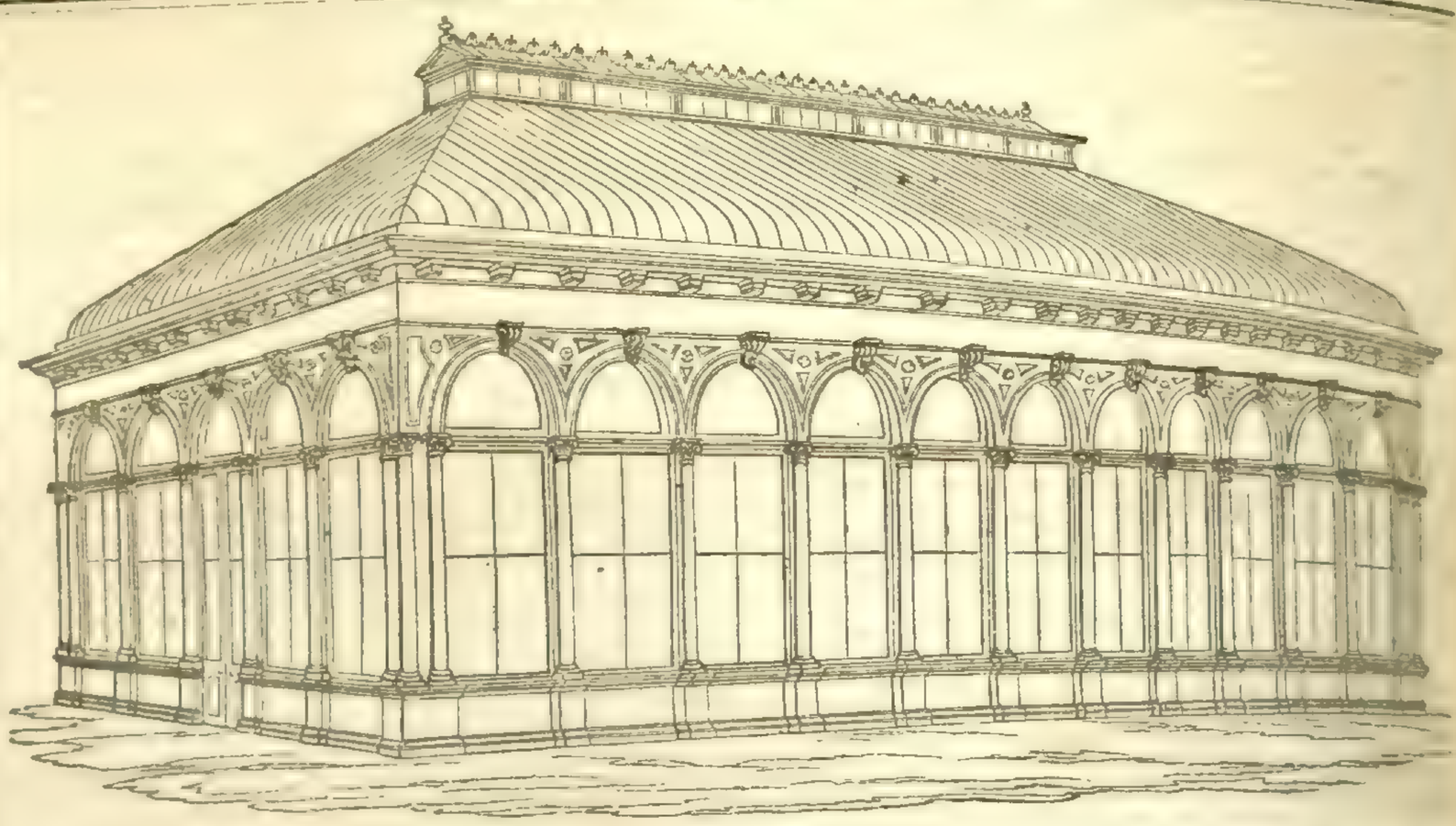
"John Lauder.

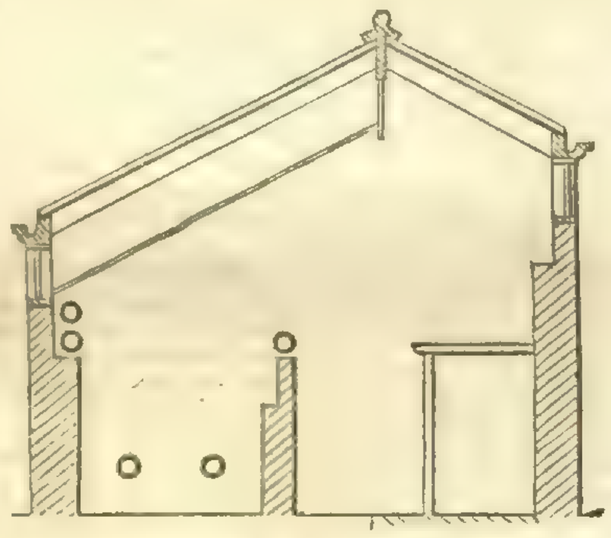
"The Gardens, Witley Court, Worcestershire."

"Sir,—I have much pleasure in testifying to the efficiency of your simple but most powerful Patent Jointless Tubular Boilers. The two small boilers you put up here are doing the work of six fires, with the addition of a range of lofty coach-houses which were afterwards attached. The amount of fuel is little more, and the attention much less, than was required for one fire before these boilers were put up; there is not the least strain on them, and I am confident if required would heat a considerably greater amount of piping. I must also add that the whole of the hot-water apparatus works satisfactory, especially the ventilating boxes you put up in the Fruiting Pine Stove, which I consider a great acquisition, supplying at all seasons a constant stream of pure warm air to the plants, which are in consequence sturdy and in the most robust health.—I am, Sir, yours respectfully, "John Clark.

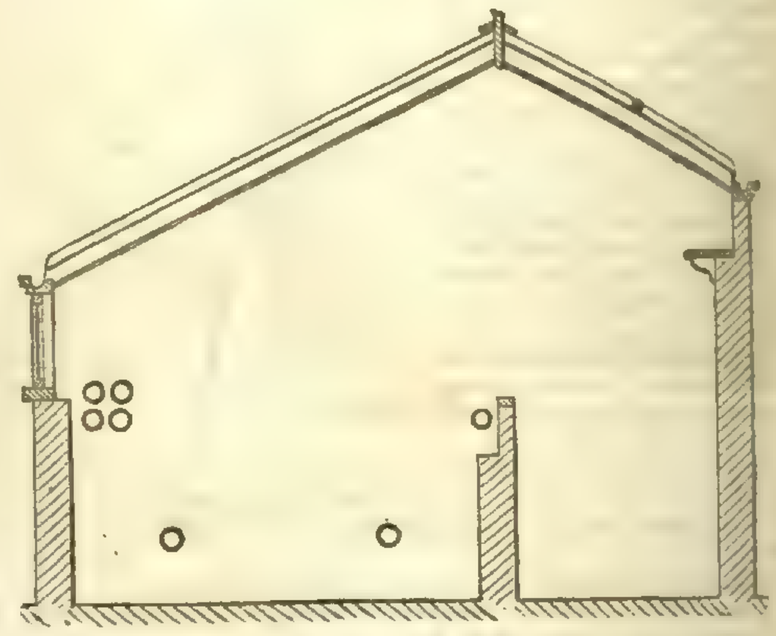
"The Gardens, Cobham Hall, Gravesend, Kent."

**Ormson's Patent Jointless Tubular Boilers may be seen in successful operation at Mr. Veitch's, Royal Exotic Nursery, King's Road, Chelsea.**

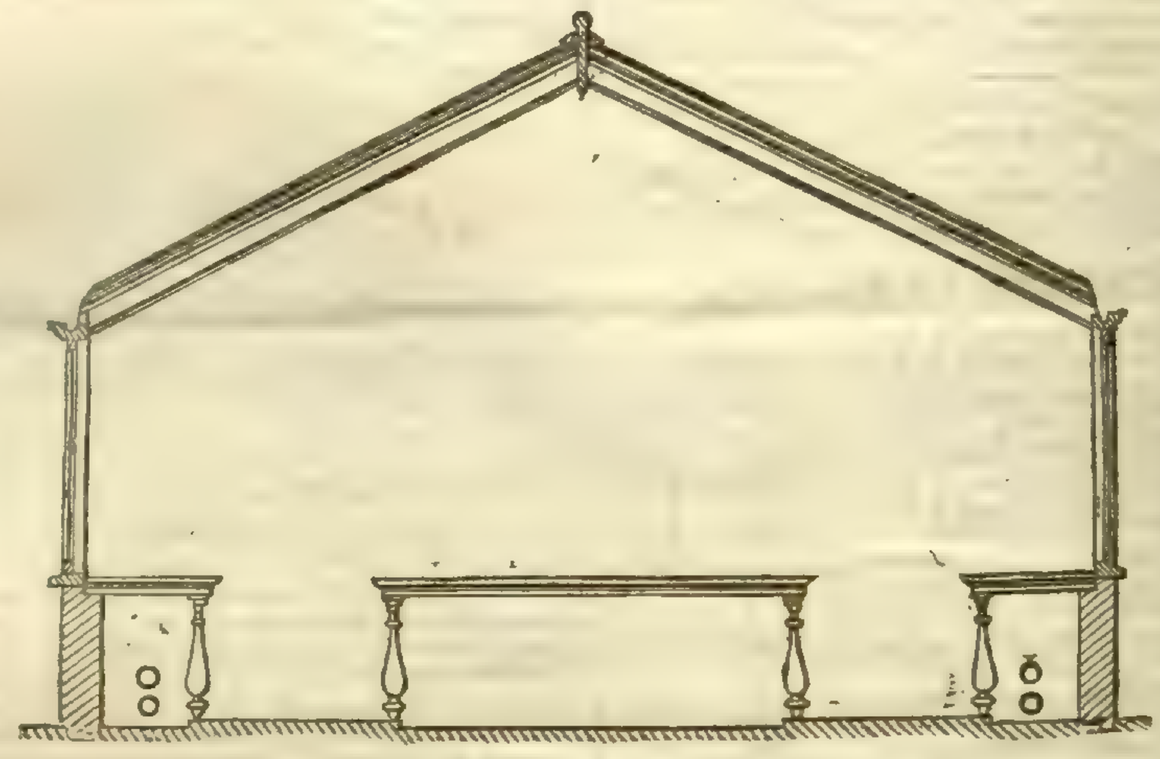




No. 1.—Cucumber and Melon Pit, 10 ft. wide.



No. 2.—Pine Pit, 14 ft. wide.



No. 6.—Greenhouse, from 18 to 20 ft. wide.

## HORTICULTURAL BUILDINGS
## MANUFACTURED BY STEAM POWER MACHINERY.

### BEST MATERIALS AND LOWEST PRICES.

# HENRY ORMSON,

## HORTICULTURAL BUILDER & HOT-WATER APPARATUS MANUFACTURER,

### STANLEY BRIDGE, KING'S ROAD, CHELSEA, LONDON,

Deeply grateful for the very liberal and kind patronage bestowed upon him, begs most respectfully to inform the Nobility, Gentry, Nurserymen, &c., that it being his determination to spare no pains to merit a continuance of their favours, and that he may be enabled to execute his extensive and increasing orders punctually, and at the lowest possible cost (agreeably with the best Materials and Workmanship), he has erected a most complete set of Steam Power Machines, peculiarly adapted for the purposes of his Trade.

PARTIES DESIRING INFORMATION as to prices, &c., will, by referring to the above address, receive immediate attention.

PLANS, SPECIFICATIONS, and ESTIMATES for plain and inexpensive practical Structures, as well as for the most elaborate Architectural Erections, either in Wood or Iron, forwarded on application.


Printed by William Bradbury, of No. 13, Upper Woburn Place, and Frederick Mullett Evans, of No. 20, Queen's Road West, both in the Parish of St. Pancras, in the Co of Middlesex Printers, at thei Office, Lombard St., Precinct of Whitefriars, City of London, and published by them at the Office, No. 5, Upper Wellington St., Parish of St. Paul's, Covent Garden, in the said Co.—Saturday, March 26, 1859.

# THE GARDENERS' CHRONICLE
AND
# AGRICULTURAL GAZETTE.

**A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.**

No. 14.—1859.] SATURDAY, APRIL 2. Price Fivepence. STAMPED EDITION, 6d.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HORTICULTURAL SOCIETY OF LONDON.—Notice is hereby given that the business of the Society will be carried on in future at No. 8, St. Martin's Place, Trafalgar Square, W.C.

HORTICULTURAL SOCIETY OF LONDON.—The next Meeting of the Fruit Committee will be held at 8, St Martin's Place, Trafalgar Square, W.C., on Tuesday, April 5, at 12 noon; on which occasion the following prizes are offered:—

For the best dish of LATE GRAPES, Two Guineas.
For the second best do., One Guinea.

Each dish to be accompanied by a form filled up by the Exhibitor. The blank forms for this and other fruits that may be exhibited, can be obtained on application to the Secretary to the Committee, Mr. ROBERT THOMPSON, Horticultural Society's Garden, Chiswick, London, W.

N.B.—The Carriage of packages of Fruit will be paid

HORTICULTURAL SOCIETY OF LONDON,
8, ST. MARTIN'S PLACE, W.C.

Notice is hereby given that a MEETING will take place on FRIDAY, April 8, at half-past 10 A.M. The only business that will be transacted is the election of Fellows.

HORTICULTURAL SOCIETY OF LONDON.—DISTRIBUTION OF SEEDS.

The Seeds annually provided for distribution being now ready, Fellows of the Society who have not received them can obtain them upon application at the Society's Office, 8, St. Martin's Place, Trafalgar Square, W.C.

HORTICULTURAL SOCIETY OF LONDON.
FIRST BALLOT FOR PLANTS.

Notice is hereby given that the First Ballot for Plants is about to take place at the Society's Offices, 8, St. Martin's Place, Trafalgar Square, W.C., on which occasion the Fellows of the Society can draw for—

| | | | |
|---|---|---|---|
| Pinus Don Pedri | 70 | Chamæcyparis thurifera | 20 |
| Seedling Ferns from Borneo | 100 | Pinus longifolia | 40 |
| Cupressus Lawsoniana | 100 | Pinus excelsa | 80 |
| Cupressus Macnabiana | 100 | Cupressus torulosa | 80 |
| Berberis, from Pichincha, Peru | 40 | Berberis dulcis | 80 |
| Hesperomeles, from Quito | 30 | Jasminum nudiflorum | 40 |
| Rhododendron Dalhousiæ- | | Prostanthera nivea | 50 |
| num | 20 | Helleborus Olympicus | 40 |
| Clematis microphylla, var. | | Gynerium argenteum | 70 |
| leptophylla | 50 | Spiræa callosa | 50 |
| Bambusa gracilis | 100 | Florentine Camellias | 50 |
| Eriobotrya japonica | 100 | Forsythia viridissima | 40 |
| | | Chamærops palmetto | 40 |
| | | Acacia longifolia | 20 |

Fellows must send in their names at the latest two clear days before each Ballot. They need not attend personally, but will be informed of the result after the Lottery shall have been drawn. Lists of the Plants to be Balloted for can be had on application at the Office, 8, St. Martin's Place, Trafalgar Square, W.C. Fellows paying four guineas a year have two chances at each Ballot. Fellows paying two guineas a year have one chance at each Ballot.

The day of Ballot will be announced next week.

ROYAL BOTANIC SOCIETY OF LONDON, REGENT'S PARK.—The SECOND SPRING EXHIBITION of PLANTS and FLOWERS for competition will take place on WEDNESDAY next, April 6. The Regulations for admission to the Gardens on this day are the same as on ordinary week-days, but the Conservatory will necessarily be closed for the arrangement of the Plants, &c, until 1 o'clock.

J. DE C. SOWERBY, Secretary.

ROYAL BOTANIC SOCIETY, REGENT'S PARK.—THE EXHIBITIONS OF PLANTS, FLOWERS, AND FRUIT this season will take place on WEDNESDAYS, May 25, June 15, and July 6. Tickets of Admission are now being issued, and can be obtained at the Gardens only by orders from Fellows or Members of the Society. Price, on or before Saturday, May 14, 4s.; after that day, 5s.; or on the days of Exhibition, 7s. 6d. each.

GRAND NATIONAL ROSE SHOW.—It is proposed to hold a Meeting of the Committee and Subscribers in London on the 13th of April. The time and place will be specified in next week's *Gardeners' Chronicle*.

S. REYNOLDS HOLE, Hon. Secretary.
Caunton Manor, Newark.—April 2.

CHELMSFORD AND ESSEX HORTICULTURAL SOCIETY.—At the First Exhibition of this Society on TUESDAY, June 28, a SILVER CUP, value Five Guineas, will be offered by the Members for the Southern Division of the County for the best collection of 24 CUT ROSES. Open for Competition to all persons whose names shall be upon the books of the Society as subscribers of 5s. and upwards on the 14th April, 1859. There will also be a Sweepstakes for the best 12 BLOOMS of ROSES. Schedules of the Prizes may be obtained of the Secretary, High Street, Chelmsford.


NEW FARM SEEDS.—Purchasers of large quantities of FARM SEEDS will be treated liberally on application to SUTTON & SONS, Royal Berkshire Seed Establishment, Reading.

GOOD CLOVER SEEDS.

GENUINE NEW CLOVER SEEDS can be had of SUTTON & SONS, Seed Growers, Reading, Berks.

THE ALSIKE CLOVER.—This valuable but scarce Clover Seed is included in Messrs. SUTTON'S mixtures of Clover and Grass Seeds for permanent pasture and for alternate husbandry. It can be supplied alone if required. Price fluctuating, to be had on application.

Royal Berks Seed Establishment, Reading.

SPECIMEN GREENHOUSE AND STOVE PLANTS.—See PRICED LIST in *Gardeners' Chronicle* of March 26, page 260, with description of sizes, &c. Also a LIST containing several others sent free by post.—BASS & BROWN, Seed and Nursery Establishment, Sudbury, Suffolk.

GEORGE BAKER begs to inform the Nobility and Public that his DESCRIPTIVE CATALOGUE OF AMERICAN PLANTS AND GENERAL NURSERY STOCK will be sent free on application.

American Nursery, Windlesham, near Bagshot, Surrey, about 1 mile from Sunningdale Station, South Western Railway.

NEW DAHLIAS.

JOHN KEYNES'S SELECT CATALOGUE OF DAHLIAS, ROSES, CARNATIONS, PINKS, &c., containing Lists of all the valuable Show Flowers in each class, is now ready and will be sent on application.

Castle Street Nursery, Salisbury.—April 2.

FERN CATALOGUE.

ROBERT SIM'S NEW DESCRIPTIVE AND PRICED CATALOGUE, No. 6 (62 pages) of his COLLECTION of BRITISH AND EXOTIC FERNS, can be had, post free, for 8 stamps. Gratis to all previous purchasers of Ferns.

Nursery, Foot's Cray, Kent, S E.

HENDON PARK NURSERIES, HENDON, N.W.

SEED LIST, 1859.—A choice selection of the newest and best varieties of PEAS, BEANS, POTATOES, and all Kitchen Garden produce. The best Seeds for the Flower Garden. Forwarded on application.—EDWARD SHENTON.

HENDON PARK NURSERIES, HENDON, N.W.

EDWARD SHENTON'S Descriptive CATALOGUE of new DAHLIAS, HOLLYHOCKS, PELARGONIUMS, BEDDING AND BORDER PLANTS, and the leading New Flowers of the season 1859. Forwarded on application.

WANTED, about 1000 yards of BOX.—Apply, post paid, stating particulars of price, &c., to J. A., Gardener, 16, St. Germain's Place, Blackheath, S E.

LARGE GREEN-TOP WHITE BELGIAN CARROT.—Fine new Seed, raised from fresh-imported stock, can be supplied at 1s. per lb, or cheaper in large quantities, by SUTTON & SONS, Seed Growers, Reading.

NEW ZEALAND RUNNING BEAN.—Packets of 12 Seeds, for 14 stamps.
BASS & BROWN, Seed Growers, &c., Sudbury, Suffolk.

GRAYSON'S GIANT ASPARAGUS.—
Fine 2-year roots, 2s. 6d. per 100; or 21s. per 1000.
" 3-year " 3s. 6d. " 100; or 30s. " "
The usual allowance to the Trade.
BASS & BROWN, Nurserymen, Sudbury, Suffolk.

THE IMPROVED CUSTARD MARROW.—See drawing of this handsome and productive variety in the *Gardeners' Chronicle* of Jan. 29 and Feb. 12. 12 seeds for 13 postage stamps; 9 seeds for 7 stamps. The trade supplied.
BASS & BROWN Seed Growers, Sudbury, Suffolk.

DIOSCOREA BATATAS.—Fine roots, 9 to 12 inches long, 5s. per dozen; extra size, 10s per dozen.
BASS & BROWN, Seed Growers, &c, Sudbury, Suffolk.

DIOSCOREA BATATAS—CHINESE YAM.

WM. CUTBUSH AND SON beg to intimate that now is the best time for planting the above. Good Sets, 21s. per 100; or 4s. per doz.—Highgate Nurseries, London, N.

CHINESE POTATOES (DIOSCOREA BATATAS) for planting this month. Large sets from full-sized, well-matured tubers, some of them weighing over 2½ lbs., grown in this country, 2s. 6d. per dozen.—Apply, WM. LEMON, Sandbach, Cheshire.

DIOSCOREAS—FINE LARGE ROOTS CHEAP.

SUTTON AND SONS, Reading, can supply DIOSCOREA BATATAS, 9 inches long, at 5s. per dozen, or 40s. per 100. This vegetable is worthy of all that has been said in its favour, and will thrive in almost any soil and situation.
SUTTON & SONS, Royal Berkshire Seed Establishment, Reading.

SORGHUM, OR HOLCUS SACCHARATUS.

SUTTON AND SONS, Importers of this Seed, can supply it wholesale and retail, warranted the true kind, and good growing Seed. 8 lbs. per acre sufficient.

Present retail price 2s. per lb, or cheaper in large quantities. Instructions on cultivation sent with the Seed.

SUTTON & SONS, Royal Berks Seed Establishment, Reading.

HOLCUS SACCHARATUS, or North China Sugar-Cane.—Pamphlet, "A Visit and a Plant;" the only English authority on the Cultivation of the above. Post free 6d. Prices of Seed on application. Samples 6d. Four varieties of Holcus remitted free by post on receipt of 10s.

CHINESE YAMS, 4s. per dozen.
ASPARAGUS plants, 16s. per 1000.
JOHN W CLARKE, Whittlesea, Cambridgeshire.

500 BUSHELS of FLUKE and WHITE BLOSSOM SEED POTATOES, true, free from disease, and suitable sizes, at 3s. 4d. the bushel of 80 lbs., samples of which may be had on application to Mr. WM GROSVENOR, Prospect Nursery, Cheddleton, near Leek, Staffordshire.

A remittance or reference from unknown correspondents.

CONIFERÆ.

A. PAUL AND SON have a large stock of the above, very handsome, in fine order for removal, many suited for immediate effect. For particulars see Advertisements in *Gardeners' Chronicle* of November and December last.—Nurseries, Cheshunt, Herts.

DOUBLE SCARLET INTERMEDIATE STOCKS.

J. WOOD AND SONS, Old Kent Road, beg to inform the Trade and others that they have a surplus stock of the above, in 60-pots ready for repotting or bedding. Price per 100 upon application.

SPERGULA PILIFERA.—A perfect substitute for GRASS LAWNS WITHOUT MOWING.—A two years' established Plant, showing its character, sent Post free on receipt of 2s. 6d. or 30 stamps.

Address JOHN SUMMERS, Gardener, Forest Hill, Sydenham.

PAMPAS GRASS (GYNERIUM ARGENTEUM).—The beauty of this extraordinary plant has this season been fully appreciated. It can be supplied by the dozen, hundred, or thousand, by CHARLES NOBLE, Bagshot, Surrey.

JOHN CULVERWELL, Taunton, begs to call the attention of Agriculturists to his superior selection of GRASS SEEDS, which for PURITY, change of SOIL, and CLIMATE, will bear comparison with any house in the kingdom. Prices, terms, and samples forwarded on application.

GIANT SAINFOIN SEED.—Seed of this excellent and productive Plant may be had of RAYNBIRD & HARVEY, Basingstoke, and 89, Seed Market, Mark Lane. Samples and prices on application.

N.B. R. & H. can also supply Common Sainfoin both of English and French growth at market prices.

HUDSON'S GOLDEN MELON BARLEY.—Selected Samples for Seed of this most valuable variety, superior both for produce and malting quality, may be had of RAYNBIRD & HARVEY, of Basingstoke; and 89, Seed Market, Mark Lane, E.C.

THE PRIMULARY.

THOS. WILD respectfully reminds his friends that April and May is the season for sowing CHINESE PRIMROSES. Mixed colours, 2s. 6d. per packet. Separate colours sold out.—THOS. WILD, The Primulary, Ipswich.

NEW ROSES.

A. PAUL AND SON beg to inform admirers of the Rose that they will have plants of all the NEW ROSES ready for Sale by the middle of the month at the lowest advertised prices.—Nurseries, Cheshunt, Herts.

STRAWBERRY PLANTS can now be supplied of every kind worth growing, warranted to produce a good crop this year. They are transplanted plants, and will be sent with a ball of earth to each. Price 10s. per 100, or in less quantities 2s. per dozen.—R. S YATES, St. Ann's, Manchester.

CHOICE GERANIUMS.

JAMES HOLDER can supply the above (including French, Fancy, and Show varieties), at 15s. per dozen. List of names forwarded on application.

N.B. The Trade supplied on liberal terms.
Crown Nursery, Reading, Berks.

FINEST SHOW CARNATIONS, PICOTEES, PINKS, &c.

CHARLES SCHOFIELD has a fine healthy stock of the above for sale at 6s., 12s., and 20s. per dozen pairs. Also PANSIES, DAHLIAS, VERBENAS, FUCHSIAS, &c. CATALOGUES now ready, sent free on application.—Knowsthorpe, near Leeds, Yorkshire.

CHOICE PANSIES.

HART AND NICKLIN, FLORISTS, &c., Guildford, offer a dozen choice named Pansies for 6s., or 50 plants for 1l., strong and healthy. Also fine HOLLYHOCK SEED, saved from extra varieties, 100 Seeds for 1s.

Border PANSIES, PINKS, ROCKET, PHLOX, &c., 3s. p. doz.

WANTED, First-class POLYANTHUS SEED.—Address, stating price, A. D, Ladbroke Nursery, Notting Hill, W.

PANSIES.—The best and most distinct kinds, extra fine show varieties, 6s. per dozen.—DODWELL & BAYLEY, Bradshaw Gardens, Chadderton, Manchester.

BELGIAN DAISIES.—In the finest variety, 4s. per dozen.—DODWELL & BAYLEY, Bradshaw Gardens, Chadderton, Manchester.

CARNATIONS.—Twenty-five pairs strong, well rooted, and extra fine show varieties, named 1l., packing and hamper included.—DODWELL & BAYLEY, Bradshaw Gardens, Chadderton, Manchester.

PICOTEES.—Twenty-five pairs strong, well-rooted plants, and extra fine show varieties, named, 1l., packing and hamper included.—DODWELL & BAYLEY, Bradshaw Gardens, Chadderton, Manchester.

PINKS.—Twenty-five pairs fine named kinds, in strong healthy plants, 10s., packing and hamper included.—DODWELL & BAYLEY, Bradshaw Gardens, Chadderton, Manchester.

PHLOXES.—The best and most distinct kinds, strong plants, well established, 8s. per dozen.—DODWELL & BAYLEY, Bradshaw Gardens, Chadderton, Manchester

THE PLYMOUTH SEED, AGRICULTURAL IMPLEMENT, AND MANURE COMPANY LIMITED supply every requisite for the Farm and the Garden.

Registered Offices, Union Road, Plymouth.

THE GOLDEN CEDO-NULLI POMPONE.

J. H. BIRD is now sending out the above beautiful new POMPONE, in strong plants at 5s. each. Usual allowance to the Trade.

Plants may also be obtained of the following:—HOGGETT & Co., Covent Garden Market; HARRINGTON, Kingsland; J. & J. HAYES, Ponder's End, N.—Stoke Newington, April 2.

NEW FUCHSIA "LORD CLYDE" (YOUELL'S).—It is with much pleasure and satisfaction that we have the opportunity at offering for the **present season the above** truly novel and probably the most beautiful Fuchsia that has yet been introduced. The tube and sepals (which are of great substance) are of rich glossy scarlet, the latter most perfectly reflexed, exhibiting a large well folded corolla of rosy pink, distinctly flaked, with broad stripes of bright violet purple. The habit of the plant and the profuseness of its blooming properties are all that can be desired. It flowered for the first time in 1857, and proved again in 1858, and has maintained its character in every respect. Strong plants will be ready for sending out on and after the 27th of April, at 10s. 6d. per plant. (Per post free, 1s required.)

Correct Coloured Engravings, by Mr Andrews, will be forwarded to any address on receipt of six postage stamps.

YOUELL & Co.'s Royal Nursery, Great Yarmouth.—April 2.

NEW VERBENAS,
RAISED BY MR ELPHINSTONE.

1. PICTURATA.—Crimson, large, and fine truss, conspicuous white round eye.
2. COMTE DE MONTALEMBERT.—Light lilac, very large flower of extra substance, with large white eye.
3. ANNIE.—Light rose, large white eye, a very desirable colour and good substance.
4. BOUQUET DE LA REINE.—Peach, large white eye, fine shape, and extra substance, quite a new colour.
5. MAGNUM BONUM.—Bright crimson, fine yellow eye, large flower and a very striking variety.
6. GRANDIFLORA PURPUREA.—Violet purple, large truss, fine white eye.

Plants ready for sending out second week in April.

D. BROWNE has great pleasure in introducing the above Six New VERBENAS, as being a decided improvement on any hitherto produced in form, colour, and extra substance, with fine strong habits so desirable for bedding purposes.

The Stock being limited, early orders are respectfully solicited so that the best Plants may be selected and reserved.

The collection of Six Varieties, package included, 20s., or 3s. 6d. each, sent free of carriage.

Horticultural Grounds, Sprowston; Seed Establishment, 41, London Street, Norwich. The Trade supplied on the usual terms.

SEEDLING FUCHSIAS.

GEORGE WHEELER, NURSERYMAN, &c., Warminster, Wilts respectfully announces that strong plants of his SEEDLING FUCHSIAS will be ready to be sent out on and after the 20th inst.

SIR COLIN CAMPBELL.—The most beautiful double Fuchsia ever offered. Flower very large; tube and sepals dark scarlet. Corolla very prominent, large, full, and regular, and of a beautiful purple colour; a fine variety for exhibition, possessing the desirable property of holding its blooms much longer than other varieties; its large blooms makes it a very conspicuous and effective plant in a collection. Price 10s. 6d. each. Sir Colin was shown in full bloom at the Trowbridge Horticultural Exhibition the 18th August, at Bath on the 25th, Salisbury, 30th; at the National, in London, on the 2d September; and at Devizes on the 3d; at all which places it obtained Prizes or Certificates.

WILTSHIRE LASS.—Tube and sepals clear waxy white, corolla rich dark puce; an improvement on the Maid of Kent, the flower being larger, of good habit, a free bloomer, and a good grower. Price 5s. each. The usual discount to the Trade.

G. WHEELER will be enabled to send out with the above the six new Fuchsias offered by Mr G. Smith, of Tollington Nursery.

G. WHEELER has on hand a large quantity of RHODODENDRONS from 9 inches to 2 feet, at very moderate prices.

NEW PLANTS introduced by the establishment of Mr LINDEN, in the Royal Zoological and Horticultural Garden, Brussels, and ready for sale on the 1st May next. Free to London.

| | | | | | |
|---|---|---|---|---|---|
| Arachnothrix rosea | .. | 12s. 6d. | Begonia argentea | 21s. | 0d. |
| Begonia amabilis | .. | 21 0 | ,, Victoria | 21 | 0 |

Orders for the two last Begonias have to be directed to Mr J. Veitch.

| | | | | | |
|---|---|---|---|---|---|
| Baloparone violacea | .. | 8s. 0d. | Monochaetum sericeum | 8s. | 0d. |
| Centrolenia grandifolia | | 12 0 | Musa glauca .. .. | 8 | 0 |
| Cuphea ocymoides | .. | 8 0 | Mutisia Clematis .. | 21 | 0 |
| Lindenia rivalis | .. | 8 0 | Philodendron fenestratum .. .. | 21 | 0 |
| Maranta Porteana | .. | 21 0 | | | |

One plant over if three are ordered.

DECORATIVE PLANTS.

| | | | |
|---|---|---|---|
| Crescentia regalis.. .. | 42s. | Oreopanax peltatum .. | 42s. |
| Curatella imperialis .. | 63 | Rhopala australis.. .. | 42 |
| Gomphia Theophrasta .. | 42 | ,, glaucophylla .. | 42 |
| Jacquinia smaragdina .. | 21 | | |

And above 60 quite new FERNS of the finest genera.

Mr LINDEN'S DESCRIPTIVE CATALOGUE, just published, contains also extensive lists of Orchids, Ferns, Bromeliads, Tropical Fruit Trees, Medical and useful Plants, fine foliaged and variegated Plants, Palms, rare Stove and Greenhouse Plants, &c., and may be had on application at his agent's office in London.

Mr. R. SILBERRAD, 5, Harp Lane, Great Tower Street.

THE BEST DWARF GERMAN ASTER SEED
EVER YET OFFERED TO THE PUBLIC.
SAVED FROM FLOWERS THAT HAVE OBTAINED FIRST PRICES FOR MANY YEARS PAST AT VARIOUS EXHIBITIONS.

EDWARD TILEY begs to inform the lovers of the above beautiful flower, that he has just purchased the entire stock of Seed, which has been selected from the finest flowers as to shape, colour, and dwarfness of growth. They were inspected by many good judges while in bloom last season, who said they had never seen the Aster brought to such perfection before, and with such a dwarf habit. Seed is 1s. 6d. per packet, or two packets for 2s. 6d.

Extra fine mixed Hollyhock seed saved from the newest and best varieties, 1s. per packet.

Antirrhinum seed, saved from spotted and striped sorts, 6d. per packet.

Sweet William seed, saved from 24 distinct varieties, the major part of which always flower double, 6d per packet.

Delphinium, formosum seed extra fine, 6d per packet.

The Improved Bath Cos Lettuce seed, saved from the finest stock ever grown in the west of England; it is very crisp and not at all liable to run, 1s. 6d. per packet.

A small quantity of seed of the Dwarf Incomparable Cabbage. This is a superb variety for windy or cold situations; it will stand the severest winter and will form good hearts much earlier than any other variety, it is very tender and soft when cooked, not having any large coarse ribs. If the seed be sown at several different times no person need be without cool young Cabbage all the year. 1s. 6d. per packet. A packet of the Improved Cos Lettuce and packet of the Dwarf Incomparable Cabbage, 2s. 6d.

Digitalis or Foxglove seed, saved from the finest collection ever yet seen; the flowers come to an immense size, and are as handsome if not handsomer than the Gloxinias, 1s. per pkt.

EDWARD TILEY, Nurseryman, Seedsman, and Florist, 14, Abbey Church Yard, Bath.

A remittance must accompany all orders either in cash or penny postage stamps.

# CHOICE SEEDS.

## BUTLER & McCULLOCH,

While drawing attention to their general SPRING CATALOGUE of SEEDS, which has elicited such high encomiums both from the scientific botanist and amateur cultivator, avail themselves of the present opportunity to select from its pages the following list:—

(37) ACACIA LONGIFOLIA (magnifica).

One of the most splendid Acacias in cultivation, with gorgeous clusters of bright yellow flowers several inches in length; very hardy, rare, and beautiful. Of these graceful and highly ornamental plants our collection embraces no fewer than 47 varieties, all of the most decorative character.

(183) BROWALLIA CŒRULEA GRANDIFLORA.

Large sky-blue; quite new; free flowering (very rare).

(199) CALLICHROA PEDATA.

Crimson with white eye; a most beautiful plant, and quite new.

(217 A.) CAMELLIA JAPONICA.

From the newest and finest striped and other varieties of that much admired genus.

(243) CANNA INDICA SUPERBA.

A magnificent plant flowering all the winter; leaves large, fine green. Of this picturesque and most ornamental genus we have a magnificent collection, consisting of 28 kinds, all remarkable both for the beauty of their flowers and foliage.

(271) CANTUA PYRIFOLIA.

A handsome shrub, with bunches of waxy cream-coloured flowers (rare).

(299) CEANOTHUS FONTANESIANUS.

Blue shaded with red, new and handsome. Of this highly ornamental genus we possess nine splendid varieties.

(304) CELOSIA (species nova).

A most elegant plant, producing a multitude of long spikes of feathery blossoms, silvery white shaded with bright rose, retaining its colour perfectly when dried, and therefore admirably adapted for winter bouquets; one of the greatest novelties of the season, flowering out of doors or in pots from July to October. Well worth attention. A dried specimen may be seen.

(319) CESTRUM AURANTIACUM.

One of the finest conservatory plants in cultivation, being covered twice a year with handsome orange tubular blossoms.

(323) CHAMÆROPS HUMILIS.

Very ornamental Fan Palm which will stand ordinary winters out of doors in favoured localities in the South of England with very little protection.

(344) CHRYSOCOMA COMAUREA.

Fine evergreen shrub, bearing a profusion of golden ball-like flowers; one of the handsomest greenhouse plants in cultivation.

(393) CONVOLVULUS MAJOR SPLENDENS.

Brilliant crimson, most beautiful.

(451) DATURA HUMILIS FLORE PLENO.

A magnificent Brugmansia-like plant producing a profusion of deep golden-yellow flowers; very large, double, and sweet-scented. One of the greatest novelties of the season.

(577) GERANIUM NAPOLEON III.

Of this and other splendid varieties, including Scarlets, we have a fine stock, which cannot fail to prove highly satisfactory.

(976) PENTAPETES PHŒNICEA.

Bright scarlet; leaves long and serrated, a very handsome plant.

(1001) PHYGELIUS CAPENSIS.

Large red tubular flowers, inside golden yellow, a handsome plant (seeds rare).

(1095) SALVIA SPLENDENS Nova.

Species, scarlet (new).

(1137) SIPHOCAMPYLUS BETULÆFOLIUS.

A handsome plant, with scarlet tubular flowers; suitable for a trellis.

(1149) SOLANUM CAPSICASTRUM.

Miniature Orange tree, covered all winter with a profusion of scarlet fruit; a handsome plant for greenhouse or sitting rooms.

(1170) STATICE BONDUELLI.

Deep golden yellow; flowers early and profusely, in large rosettes.

(1276) VERONICA ANDERSONI.

Purple and white, all but hardy; a charming shrub.

(1282) VERONICA MELDENSIS.

Beautiful rose and white; a splendid plant.

(1335) BIGNONIA RADICANS MULTIFLORA.

Finer and brighter than radicans; flowers in large panicles producing a splendid effect.

(1375) GLYCINE SINENSIS, or WISTARIA.

One of the most valuable climbing trees for out-doors (seeds rare).

(1380) IPOMŒA HYBRIDA MARGINATA.

Large and magnificent; flowers of various colours on the same plant, varying from the richest velvety purple to sky-blue, bordered in the most distinct manner with pure white (new and rare). This and three new varieties of Hederacea grandiflora far surpass the old and deservedly favourite rubro-coerulea for beauty, hardiness, and free flowering; they rank high amongst the novelties of the season, possessing advantages which will render them the grandest ornaments for the greenhouse, conservatory, or for out-door decoration.

(1431) MAURANDYA CRIMSON-TINTED PURPLE GRANDIFLORA.

Exquisitely beautiful (new).

(1436) MAURANDYA MAROON GRANDIFLORA.

Superb (new and rare).

(1468) TACSONIA IGNEA.

This magnificent Passionflower is unequalled for the brilliancy and splendour of its scarlet blossoms, far surpassing in this respect any of its class yet known. It flowers most profusely, grows rapidly, and covers a large space in an incredibly short time. It succeeds in a cold greenhouse, and even against a south wall with a little protection in winter (new and rare).

(1473) TROPÆOLUM FLAMMULUM GRANDIFLORUM.

Yellow; beautifully streaked with carmine (rare).

(1477) TROPÆOLUM GRACILE.

Sulphur, spotted with carmine; extremely pretty.

(1479) TROPÆOLUM MINIATUM MACULATUM.

Superb, striped variety (very rare).

(1488) TROPÆOLUM TRIOMPHE DE GAND FIMBRIATUM.

Fringed orange scarlet.

CARNATIONS and PICOTEES saved from the most choice Collection of English varieties grown on the continent, and which may be expected to produce flowers of the highest merit, sent out in sealed packets as received from our Sardinian correspondent, whose seeds for many years have given such universal satisfaction, and from which varieties of the greatest excellence have been raised.

For prices and further particulars with regard to the above and other novelties, we refer our patrons to the Catalogue itself, which is sent free and post paid on application.

BUTLER & M'CULLOCH, Covent Garden, London.—April 2.

750 BEDDING PLANTS for 7l. including basket and packing, or one half for 3l. 15s.

| | |
|---|---|
| 20 Anagallis, 2 sorts | 25 Lobelias, 6 sorts |
| 12 Ageratum, 3 sorts | 50 Hollyhocks, Seedlings |
| 50 Calceolaria, 6 sorts | 12 Koniga |
| 12 Celsia, 2 sorts | 12 Nierembergia |
| 50 Chrysanthemums, 50 sorts | 12 Œnotheria riparia |
| 12 Cupheas, 3 sorts | 50 Petunia single, 25 sorts |
| 50 Dahlias, 50 sorts | 50 do. double, 25 sorts |
| 50 Fuchsias, 50 sorts | 20 Salvias, 6 sorts |
| 50 Geraniums, Scarlets &c., 50 sorts | 12 Senecio, double purple |
| | 20 Tropæolum, 6 sorts |
| 50 do. Variegated, 12 sorts | 12 Variegated Mint |
| 20 Heliotropes, 12 sorts | 100 Verbena, 100 sorts |

Apply to J. SCOTT, Merriott Nurseries, Crewkerne, Somerset. Post-Office Order on Crewkerne, or crossed cheques from unknown Correspondents. Catalogues on application, two stamps.

CARNATIONS AND PICOTEES.

YOUELL AND CO.'S COLLECTION of the above deservedly favourites is probably the most extensive in the Trade, and having for a series of years paid special attention to their cultivation, introducing the best of the newest varieties, they are enabled to offer them at the following prices for fine, strong, well rooted plants.

CARNATIONS, finest first class show varieties by name, 18s. and 24s. per dozen pairs.

PICOTEES, finest first class show varieties by name, 18s. to 24s. per dozen pairs.

Ditto, on yellow grounds, 20s. and 30s. per dozen pairs.

Finest mixed BORDER CARNATIONS & PICOTEES, 9s. per doz.

True old CLOVE CARNATION, 12s. per dozen pairs.

Scarlet ditto ditto, 18s. ditto

NEW CARNATION "EXTRAVAGANZA."—For particulars see Advertisement last week. Price 8s. 6d. per pair, or 42s. per dozen pairs.

PINKS.—The finest first class show Pinks, by name, 9s. per doz.

Fine mixed border PINKS, 6s. per dozen pairs.

HOLLYHOCKS, warranted all double flowers, and from the best leading kinds, 20s. per 100.

NEW PHLOXES.—An extensive and select collection of the above beautiful showy tribe of Herbaceous Plants, comprising the fine and newly introduced varieties from the Continent. May be obtained at 10s. per dozen, package included.

PANSIES.—Finest first-class show varieties, by name, 9s. per dozen.

CHRYSANTHEMUMS.—The handsomest of the new large flowering and Pompone kinds, 6s. per dozen.

DAISIES.—18 selected, of the best new Belgian varieties for 9s.

LOBELIAS.—Finest scarlet, adapted for forming magnificent groups, viz.:—Feu du Roi, splendens major, Victoria, fulgens superba, fulgens multiflora. L. St. Clare, 9s. per doz.; Blue do. Milleri; violacea, 9s. per doz.; Red Leopold, 6s. per doz.

OXALIS FLORIBUNDA AND ROSEA.—Quite hardy, producing a fine bed of rich rose colour, 6s. per dozen.

ŒNOTHERA MACROCARPA.—Large yellow, 6s. per dozen.

,, TARAXACIFOLIA.—Large white, 6s. ,,

DELPHINIUM FORMOSUM.—Finest blue, 3s. per dozen, 16s. per 100.

,, MOOREANUM.—Dark purple, 4s. per dozen; 25s. per 100.

LINUM FLAVUM, 6s. per dozen.

TRITOME MEDIA.—A handsome winter and spring-flowering hardy herbaceous plant producing large spikes of scarlet yellow flowers. 9s. per dozen.

PENTSTEMONS.—A fine assortment, 6s. per dozen.

GAZANIA RIGENS.—Large orange yellow, with dark centre 6s. per dozen.

STATICE MARITIMA ROSEA AND PSEUDO-ARMERIA.—Strong plants of these two beautiful and hardy species, producing throughout the year a profusion of lake-coloured flowers, 4s. per dozen.

DIELYTRA SPECTABILIS, fine strong plants, 6s. per dozen.

BERBERIS DARWINI, flowering plants, 6s. per dozen.

PRIMROSE, double yellow, 4s. per dozen.

HERBACEOUS PLANTS.—A choice collection of all the most showy kinds. 6s. per dozen; 40s. per 100.

☞ All orders of 2l. and upwards are delivered Carriage Free to London, Manchester, Liverpool, Peterborough, Hull, and Newcastle, as well as to any Railway Station within 15 miles of the Nursery.

YOUELL & Co., Royal Nursery, Great Yarmouth, Norfolk.

GEORGE SMITH, in offering the following Six Superb SEEDLING FUCHSIAS, warrants them to give satisfaction. They are all of good growth, fine habit, and free bloomers, viz.:—

ECLAT (SMITH).—This beautiful flower obtained a first-class Certificate at the National Floricultural Society; at the same time the Judges gave the following description, in their report of the proceedings of the Society's General Meeting, October 1858:—"First class Certificate to Fuchsia Eclat. Habit good, a free and abundant bloomer, sepals and tube scarlet, inside of sepal delicate rose, corolla clear white, a decided improvement on the white corolla'd varieties." G. S. has only to add that it is a plant of strong growth and fine habit in every way, calculated to please as well as the Princess of Prussia, being quite distinct, 10s. 6d. Figured in the "Florist," Feb. 1859.

CHANCELLOR (SMITH).—See report of the National Floricultural Society, July 22, 1858. Certificate of Merit to Fuchsia Chancellor; character and habit first-rate, form good, size medium, substance fine, scarlet crimson tube and sepals, with violet purple corolla. The tube of this flower was considered rather too short, or it would have received a higher award. 10s. 6d.

SCIPIO (SMITH).—See report of the National Floricultural Society, August 5, 1858. First-class Certificate to Fuchsia Scipio. Habit dwarf, tube short, sepals broad, coral red, good and expanding, colour coral red sepals, with violet purple corolla, a great improvement on existing globosa varieties, and remarkable for its distinctness and boldness in bud. 7s. 6d.

FASCINATION (SMITH).—Tube rather shorter than the Princess of Prussia, the sepals broader, the corolla very large and pure, seen to great advantage by the graceful manner in which the sepals reflex. 7s. 6d.

PERICLES (SMITH).—A brilliant flower of average size, of smooth and good form, sepals crimson scarlet, broad and well reflexed, corolla violet purple, also an abundant bloomer. 7s. 6d.

GOLDEN PLOVER.—A flower in form and colour of the elegant de Chiswick. This is particularly recommended for the elegant foliage, which is of a golden green heavily veined with purple lake, giving the plant a conspicuous and splendid appearance, fine habit. 7s. 6d.

SIR COLIN CAMPBELL (WHEELER).—An extra fine double variety, fine habit and free, particularly recommended. Mr. G. S. having made arrangements with Mr. Wheeler to supply his Sir Colin Campbell at the same time that the collection is sent out—about the 20th of April.

G. S. can confidently recommend the following Three NEW VERBENAS as distinct, and worthy to be added to all good collections, viz.:—

CYRUS (SMITH).—Brilliant rosy purple, primrose eye, fine form, a strong grower. 5s.

MARS (SANKEY).—Brilliant crimson scarlet, constitution lemon eye, particularly recommended as a bedding variety; received a Certificate at the National Floricultural Society.

STRIATA PERFECTA (SMITH).—Bright laver de... broad white stripe, of good form and habit. This is one of the most distinct and beautiful Verbenas that has been offered for years for all purposes. 5s.

Tollington Nursery, Hornsey Road, Islington, near Lo...

### AZALEA INDICA.

J. IVERY AND SON beg respectfully to invite growers of the above named to an inspection of their unrivalled Stock of Young Specimens of all the newest and best varieties, many of which have been exhibited at the Metropolitan Exhibitions. They are clean and healthy, well set with bloom, and moderate in price. Catalogues forwarded post free on application.—Dorking Nursery, April 2.

AZALEA INDICA.—

| | s. | d. |
|---|---|---|
| A choice varieties, very strong, and well established for fine bloom.. .. .. .. .. .. | 45 | 0 |
| Ditto ditto .. .. .. .. | 24 | 0 |
| A choice ditto ditto, including new varieties | 65 | 0 |
| Ditto ditto ditto | 36 | 0 |

Fine flowering plants, selections, per doz., 18s., 24s., and 30 0
Carriage free for orders of 20s. and upwards to all Stations in London, &c. See CATALOGUE.
Peter Brown, Seedsmen and Nurserymen, Sudbury, Suffolk.

MESSRS. B. ROEZL AND CO.'S NEW CATALOGUE OF MEXICAN SEEDS AND PLANTS, to be had on application to Messrs. B. A. GRAUTOFF & Co., 4, Lime Street Square, London.

THE PETUTION GOURD.—This wonderful vegetable which more than realised during the past season our most sanguine anticipations, as shown from the testimonials we are daily receiving, should now be sown. Seed (warranted to be pure) may be had in 1s. packets of E. P. Bean, 17, Queen Street, Hull.

DOWNIE AND LAIRD beg to offer the following, which they warrant all fine show varieties, viz. :—

Fine Pansies, in 25 sorts .. 30s. | 100 Hollyhock seedlings
Fine Hollyhocks, in 25 do. 84s. | from finest named vars. 20s.
100 Phloxes in 30 varieties, 40s.

Selection of the above left to D. & L. A liberal allowance to the Trade.—17, Frederick Street, Edinburgh.

TO BE SOLD, a LARGE quantity of YEW TREE BUTTS, SLABS, and ROOTS; also a fine YEW TREE of great age.
The best Sea Shell and Garden Gravel for Conservatories and Garden Paths, to be had in any quantity at Gravel Wharf, 67, Augustus Street, Regent's Park Basin.
W. HOLLAND, Proprietor.

### DAHLIAS.

W. HOLMES offers the above in fine plants at 4s. per dozen, the new flowers of last year from 6s. to 9s. per dozen in April.

| | | | |
|---|---|---|---|
| Chrysanthemums, 5s. per doz. | | Verbenas, from 2s. 6d. to 4s. p. doz | |
| Pansies, 4s. to 6s. | ,, | Antirrhinums, 4s. to 6s. | ,, |
| Heliotropes, 2s. 6d. | ,, | Cupheas, 2s. 6d. | ,, |
| Petunias, 3s | ,, | Calceolarias, 4s. | ,, |

Geraniums, Senecio, Lobelias, &c., equally cheap. Catalogues upon application free for one stamp.
Frampton Park Nursery, Well Street, Hackney.

CAMELLIAS, double flowering, well set with buds, 18s., 21s., and 24s. per dozen. Worked AZALEAS, full of flower buds, 18s., 21s., and 24s. per dozen. ORANGE TREES, with fruit on, 3s. 6d. each. STANDARD ROSES, from 9s. to 18s. per dozen, or 5l. per 100. ASH-LEAVED KIDNEY POTATOES, warranted true, 7s. per bushel; FLUKE do., 4s. And every other kind of Greenhouse Plant and Nursery Stock, &c.
ROBERT GREEN, 154, Kingsland Road; 55 doors from Shoreditch Church. No connection with any other house.

GERANIUMS. — Fine, well-established flowering plants of showy, free blooming kinds in great variety, may be had at 4s., 6s., and 9s. per dozen, according to size and quality. The following are some of the sorts:—Albira, Alma, Auguste Miellez, Carlos, Colonel Foissy, General Eugene Cavaignac, Gustave Odier, Hortensia, Jacques Duval, Generalissimo, Eugenie Duval, Madame Lemoricière, Mochanna, Mr. Rook, Crimson King, Robert Bruce, &c.
WOOD & INGRAM, Huntingdon.

CHEAP BEDDING PLANTS, 2s. 6d. per dozen.—The advertiser begs to say that his unrivalled collection is this season very fine, much finer than he has ever been able to offer them; and by parties who intend to plant largely, an opportunity to make a selection from one of the most extensive and healthy collection in the country should not be missed.
CATALOGUES sent to all applications, inclosing two stamps, to J. SCOTT, Merriott Nurseries, Crewkerne, Somerset.

### CHRYSANTHEMUMS—CHRYSANTHEMUMS.

J. H. BIRD, F.H.S., NURSERYMAN, Stoke Newington, the largest grower and most successful exhibitor of the Chrysanthemum in the British Empire, begs to call the attention of the lovers of the above beautiful autumn flower to his matchless collection, the stock of which amounts to upwards of 50,000 plants.

J. H. B. can supply strong plants, one dozen for 6s.; or five dozen in 30 varieties, containing two of each variety, for 1l.; or he can supply 100 plants in 50 varieties, two of each variety, for 1l. 10s. Also POMPONES in great variety; 50 Pompones in 25 varieties, two of each variety, for 10s.; or 100 in 50 varieties, four of each variety for 1l. Strong plants of the beautiful new Pompone the Golden Cedo Nulli, 5s. each, are now ready, with the usual allowance to the Trade. Every order will be accompanied by a popular work on the Chrysanthemum.
Post-Office Orders payable to J. H. BIRD, Stoke Newington, will be immediately attended to. Catalogues on application.

GRIEVE'S NEW DOUBLE PETUNIAS.—The universal satisfaction given by the PETUNIAS sent out last spring, raised by Mr. Grieve, Gardener at Culford Hall, near Bury St. Edmund's, induces the advertisers to offer to the public those raised by that persevering hybridiser last summer, which are considered superior to any yet offered; not only in the size of the flowers, but in brilliancy of colour, contrast of petal, and regularity in form—all being very double. Annexed are the names adopted, which may be respectively taken as an approximate description of their colours:—

| | |
|---|---|
| TRIUMPHANTA, | Large flowers, and most appropriate for pot culture. |
| CANDIDA, | |
| PURPURASCENS, | |
| ATRO-COCCINEA, | |
| ROSEA STRIATA, | Medium-size flowers and neat habit; probably useful for bedding. |
| ALBO-ROSEA. | |

Plants of the above, 5s. each; or 21s. the set of six, to be sent out the first week in April by OSBORN & SONS, Fulham Nursery, London, S. W.
N.B. The usual allowance to the Trade.

### FIRST PRIZE HYACINTHS.

JAMES DICKSON & SONS, 32, South Hanover Street, Edinburgh, have much pleasure in informing their friends and the public that they have again been awarded the Silver Prize for the Finest Collection of HYACINTHS. Also, First Prize for the Finest Single and the Finest Double individual Hyacinths in the room. They would also call attention to the fact that the Hyacinths which have taken most of the Prizes at the Show were supplied by them.
J. D. & Sons are now receiving orders for the collection of 18 Price Roots in packages at 1l. 1s. each.
N.B. Parties ordering now will have their Roots specially selected and delivered from the first importation of the season.

### NEW ROSES FOR 1859.

WILLIAM WOOD AND SON are now executing their orders for all the best NEW ROSES of the present season. The plants are well grown, vigorous, and healthy, and are supplied at the lowest advertised prices
DESCRIPTIVE LISTS of the above will be sent free on application. Early orders will command the strongest plants.
Woodlands Nursery, Maresfield near Uckfield Sussex

### ROSES FOR BEDDING,

BY THE DOZEN, THE HUNDRED, OR THE THOUSAND.

WILLIAM WOOD AND SON have now to offer many thousands of well grown healthy plants of ROSES, in 60 pots, which will be ready to plant out about the end of April, consisting of an immense number of the best Hybrid Perpetual, Bourbon, Tea, and Noisette Roses, Catalogues of which may be had free on application.
Early orders are most earnestly solicited, as the unsold portion of the stock will be planted out the first week in May. Extra plants presented with each order to compensate for distant carriage.
Woodlands Nursery, Maresfield, near Uckfield, Sussex.

FINE HEALTHY ROSES.—
STANDARDS .. .. .. 18s. per doz.
DWARFS (on the Manetti) .. 12s. ,, ,,
As the weather still continues mild and favourable for planting, GEORGE CLARKE begs to state he has still a fine stock of all the leading kinds to offer at the above prices, the selection being left to him. The Plants are all healthy and well rooted, therefore calculated to give the greatest satisfaction. Plants carefully packed for any distance. Carriage of all packages paid to London; and in all orders amounting to 20s. plants are added to compensate for distant carriage.
GEORGE CLARKE, The Nursery, Brixton Hill.

NEW ROSE, HYBRID PERPETUAL "LÆLIA."—Colour delicate satin rose, petals very large, perfectly smooth, and well formed; flowers of exquisite shape, large size, and highly scented. JOHN CRANSTON has the pleasure to announce that he will be prepared to supply early in April plants of this superb new Rose. It was exhibited by him in his winning stand of single blooms at the Grand National Rose Show in July last, and was unquestionably the most attractive variety of the Show, and the admiration of all who saw it. Fine healthy plants, 5s. each, with the usual discount to the Trade.—Nurseries, King's Acre, near Hereford.

### NEW ROSES.

JOHN CRANSTON will be prepared to supply early in April strong plants of the under-mentioned superb NEW ROSES at 5s. each, with the usual discount to the Trade. Purchasers who may prefer leaving the selection to himself will be supplied upon the following terms:—12 choicest varieties for 2l. 10s.; 24 for 5l.; the set of 32 varieties for 6l. 6s.
Plants of the new varieties presented with each order to compensate for carriage.

TEA-SCENTED.
Enfant de Lyons | Madame Joseph Halphay
Madame Damaisin | Reine des Pays Bas

BOURBON.
Docteur Berthet | Edith de Murat | Octavie Fontaine

HYBRID PERPETUAL.
Altesse Imperial
Ardoisée de Lyon
Anna Alexieff
Armide
Ambroise Verschaffelt
Anna de Diesbach
Bouquet de Marie
Beauté de Rœyghem
Comte de Beaufort
Comtesse Cecile de Chabrillan
Empereur de Maroc
Eugène Alary
Joseph Vernet
Le Mont Vésuve
L'Oriflamme de St. Louis
Mathilde de Mandeville
Madame Jenny Varin
Madame Octavie Depeyre
Mignard
Orderic Vital
Princesse Olympie
Reine de la Cité
Solomon
Virginal

NOISETTE.—Beauté de Grennemont.
J. CRANSTON, Nurseries, King's Acre, near Hereford.

### SUPERB DOUBLE HOLLYHOCKS.

WILLIAM CHATER can now supply fine healthy plants from his Collection, having a large stock ready for immediate planting.
See DESCRIPTIVE CATALOGUE, to be had on application.
Nurseries, Saffron Walden.

### FIRST-CLASS HOLLYHOCKS.

FINE SEEDLINGS FROM

WILLIAM CHATER'S Celebrated and Newest Varieties that will flower well in September at 30s. per 100
ditto ditto ditto 20s. ,, 100
Ground Roots according to colour, also at .. 30s. ,, 100
Seed in 12 separate colours, the Collection .. 10s. 0d.
,, 6 ,, ,, .. .. 5 0
From varieties such as Pourpre de Tyre, Memnon, White Globe, Hon. Mrs. H. Ashley, Canary, &c., in 12 separate colours, the Collection .. .. .. .. .. 7s. 6d.
Ditto in 6 separate colours, the Collection .. 4 0
Seed from 20 of the best varieties, mixed, per pkt. 5 0
,, 12 ,, ,, ,, ,, 2 6
,, good mixed, also a single variety ,, 1 0
The above can be procured from the Nurseries, Saffron Walden, Essex.

### NEW HOLLYHOCKS.

A. PAUL AND SON beg to recommend the following NEW HOLLYHOCKS, which have been selected from several thousands of Seedlings. The stock of ordinary kinds is this year greatly extended. The plants are strong, well established, and perfectly healthy:—

| | s. | d. |
|---|---|---|
| BRISEIS (PAUL).—Purple, silvery edges, flower of good form, spike close .. .. .. .. .. .. | 5 | 0 |
| GENERAL HAVELOCK (PAUL).—Bright, ruby scarlet, colour of "Scarlet King," but a close spike and a round smooth flower of perfect shape .. .. .. .. | 10 | 6 |
| IN MEMORIAM (PAUL).—Crimson maroon, large, good substance, first-rate flower, good spike .. .. .. | 10 | 6 |
| OSSIAN (PAUL).—Crimson shaded with salmon, remarkable alike for substance, closeness, and symmetry; spike good .. .. .. .. .. .. | 10 | 6 |
| PAINTED LADY (PAUL).—Pink and blush in blotches, a large smooth flower of good substance .. .. .. | 5 | 0 |
| PLUTARCH (PAUL).—Plum colour, of fine shape, and very smooth, guard and spike good .. .. .. | 10 | 6 |
| POURPRE NOIR (PAUL).—Rich purplish maroon, large smooth flower, close spike .. .. .. .. .. | 7 | 6 |
| RED ROVER (PAUL).—Dark fiery scarlet, flower large, spike splendid, very effective .. .. .. .. | 7 | 6 |
| VERITAS (PAUL).—White, lemon base, large full flower, splendid spike .. .. .. .. .. .. .. | 10 | 6 |
| VESTA (PAUL).—Pure white, petals thick, edges smooth, guard good .. .. .. .. .. .. .. | 7 | 6 |
| VITRUVIUS (PAUL).—Pink, large flower, of perfect form and good substance .. .. .. .. .. .. | 5 | 0 |
| ZENO (PAUL).—Rich plum colour, with silvery edges, flower large, spike good; new and distinct .. .. | 5 | 0 |

The Collection of 12 varieties is offered for 4l. 4s.; good named sorts, 9s. to 18s. per dozen; very superior ditto, 24s. to 42s. per dozen; Bloomed Seedlings in separate colours, 30s. to 50s. per 100; mixed Seedlings, 10s. to 21s. per 100.
HOLLYHOCK SEED, 1s. to 5s. per packet free by post.
Also a PRICED DESCRIPTIVE CATALOGUE free by post.
Nurseries, Cheshunt, Herts.

### NEW SEEDS FOR 1859.

WM. CUTBUSH AND SON beg respectfully to intimate that their PRICED CATALOGUE OF VEGETABLE AND FLOWER SEEDS, &c., is now ready post free on application. WM. C. AND SON devote particular attention to this department of their business, and most of the choicer kinds of culinary seeds and roots are saved under their own inspection, and they can confidently guarantee the quality of all offered.—Highgate Nurseries, London, N. Established A.D. 1695.

A DESCRIPTIVE AND PRICED CATALOGUE of first class GERANIUMS, Show, Fancy, English, and French Spotted kinds. A List of the best FUCHSIAS grown, including some superb Seedlings. In VERBENAS the List contains all the novelties of the season. A fine collection of DAHLIAS, including all the leading new varieties of both Show and Fancy kinds. Also a fine assortment of PETUNIAS. The above Lists forwarded in exchange for one postage stamp.
GEORGE SMITH, Tollington Nursery, Hornsey Road, Islington, London.

MESSRS. PARKER AND WILLIAMS beg to inform their friends and patrons that their PRICED and DESCRIPTIVE CATALOGUE of Exotic Orchids, Stove, Greenhouse, and Hardy Ferns, Miscellaneous Stove, Greenhouse, and Hardy Plants, Variegated and Ornamental foliaged Plants, Conifers, Roses, Rhododendrons, Indian Azaleas, Gloxinias, Fuchsias, Cactuses, &c., is now published, and will be forwarded post free on application.—Paradise Nursery, Seven Sisters' and Hornsey Roads, Holloway, London, N.

### GERMAN AND OTHER FLOWER SEEDS, VEGETABLE, AGRICULTURAL SEEDS, ETC.

MESSRS. PARKER AND WILLIAMS beg to inform their friends and patrons that their new PRICED and DESCRIPTIVE CATALOGUE in which is enumerated every novelty of proved merit, also all the best of the older kinds, is now published, and will be forwarded post free on application. Their whole stock has been selected from the best English and Foreign sources, and every kind is warranted true to name, and of the finest possible quality.—Paradise Nursery, Seven Sisters and Hornsey Roads, Holloway, London, N.

### RHODODENDRONS.

JOHN WATERER'S CATALOGUE OF UNRIVALLED HARDY SCARLET AND OTHER CHOICE RHODENDRONS, as Exhibited by him at the Royal Botanic Gardens, Regent's Park, London, is published, and will be forwarded on application.
☞ This List is recommended as a work of reference, as it contains accurate descriptions of all the esteemed varieties.
The American Nursery, Bagshot, Surrey, near the Sunningdale Station, South Western Railway.

### TO NURSERYMEN.

3,000,000 RHODODENDRONS, 2, 3, 4, and 5 years old: small and strong Portugal and Common Laurels, small Red Cedar, Chinese Arbor Vitæ, Berberis, &c.; Layers of Erica Alporti, vulgaris, alba carnea, and many other things to be sold very cheap.
For price, apply to JAMES SMITH, Darley Dale Nursery, near Matlock.—April 2.

### NATURAL GRASS SEEDS.

PETER LAWSON AND SON, THE QUEEN'S SEEDSMEN, can supply genuine Seed of all the valuable kinds of the NATURAL GRASSES suitable for Lowland and Upland Pastures; also for Laying-down Lawns, Bowling Greens, Cricket Grounds, Cemeteries, Railway Banks, &c.
PRICED LISTS may be had free on application.—PETER LAWSON & SON, 27, Great George Street, Westminster.

### NEW PHLOX AND PENTSTEMONS.

PHLOX COUNTESS OF HADDINGTON.—Light puce, dark violet eye, perfect form, distinct and fine.
PENTSTEMON TYNNINGHAMI. — Bright scarlet, bold flowers, close pyramidal spike, first-rate.
PENTSTEMON MRS. LEES. — Crimson purple, pure white throat, large spike, distinct and striking.
THOMAS METHVEN has much pleasure in offering the above first-class flowers, raised by Mr. Thomas Lees, gardener to the Earl of Haddington, Tynninghame, and allowed by all who have seen them to be decided acquisitions as show flowers. Strong plants 5s. each. Usual discount to the Trade.
Stanwell and Leith Walk Nurseries, Edinburgh.—April 2.

### NEW DOUBLE PETUNIAS.

C. W. HARGRAVE begs respectfully to announce that he will shortly be prepared with STOCK of the NEW DOUBLE PETUNIAS advertised by him in the *Gardeners' Chronicle* of September 25, 1858.
They constitute a unique collection in themselves, being of exquisite form, firm substance, rich and decided in colour, very fragrant, and of first rate habit, having good guard petals, with the centres well filled, and in fact are superior to the Continental or other varieties hitherto sent out. Their nomenclature is as follows:—
ROSETTE.—Crimson, very double, dwarf habit.
ROSEA ALBA.—Rose clearly mottled with white.
PURPLE KING.—Large flower, well formed.
CRIMSON GEM.—Bright crimson, with white centre.
ALBA MAGNIFLORA.—Beautiful form, very fragrant.
KING OF CRIMSONS.—Bright crimson, brighter than its parent "Crimson King." The varieties previously introduced as crimson have all proved themselves to be only purple.
Plants of any of the above 5s. each, or the set of six 25s.
It is requested that the Trade forward their commands at their earliest convenience, as all orders will be executed in the rotation in which they are received.
C. W. HARGRAVE, THE NURSERY, WISCHMORE HILL, N.

PLOCOSTEMMA LASIANTHUM (BLUME). — Amidst the prevalent scarcity of novelties of sterling merit, it is with pleasure the Subscribers invite attention to the above named plant. It belongs to a new genus closely allied to Hoya; and the present species was received in 1857 from Mr. HUGH LOW, Jun., by whom it was discovered on the north-western side of the Island of Borneo. The plant, which is not a climber, presents a noble appearance, having exceedingly handsome foliage; and it possesses a very great recommendation in being a most profuse bloomer, the clusters of flowers being produced in great numbers. The flowers are of waxy consistence, like Hoya—colour, orange; the petals reflex until they become quite perpendicular, and rest on the flower-stalk; the lower part of the petals is entirely covered with a snow-white velvety pubescence, giving them an unusually beautiful appearance. The flowers are fragrant, and 11 have expanded in one cluster on a newly imported plant, which was submitted to the inspection of Sir W. J. Hooker, of Kew, by whom it is figured and described in the November number of the "Botanical Magazine." It is also figured in the "Florist." Plants in May, price 63s. each. Usual discount to the Trade.
HUGH LOW & Co., Clapton Nursery, London, N.E.

## CHEAP AND USEFUL PLANTS SENT FREE TO LONDON.

A. VAN GEERT, NURSERYMAN, Ghent (Belgium), begs to inform amateurs and the Trade that a SUPPLEMENT to his GENERAL CATALOGUE is just published which may be had on application from his agent, Mr. R. Silberrad, 5, Harp Lane, Great Tower Street, London.

| | s. | d. |
|---|---|---|
| Ghent Azaleas, with flower-buds, 50 varieties for | 42 | 0 |
| Ghent Hardy Rhododendrons, 25 varieties for | 30 | 0 |
| Pæonia sinensis, 25 fine varieties for | 25 | 0 |
| Asclepias tuberosa, per hundred | 10 | 6 |
| Magnolia macrophylla, per dozen | 6 | 0 |
| ,, ,, strong, each | 5s. to 10 | 6 |
| Ginkgo biloba, per 50 | 21 | 0 |
| Glycine sinensis, strong per doz. | 9 | 0 |
| Robinia mermis pyramidalis | 5s. to 10 | 6 |
| Pæonia arborea, 12 fine varieties | 30 | 0 |
| Clematis azurea grandiflora, per dozen | 9 | 0 |
| Viburnum macrocephalum, strong plants | 5 | 0 |
| Chilian Alstrœmeria, per hundred | 12 | 0 |
| Pinus macrophylla, per dozen | 9 | 0 |
| Erythrina Crista galli, per dozen | 12 | 0 |
| Chamærops humilis, per doz. | 18 | 0 |
| Citrus sinensis (Otaheite Oranges) per hundred | 84 | 0 |
| Agave filifera, fine | 21s. to 42 | 0 |
| ,, americana variegata | 3s. 6d. to 5 | 0 |
| Bonaparten gracilis, very strong | 84 | 0 |
| Camellias, 100 varieties for | 84 | 0 |
| Indian Azaleas, 25 varieties for | 21 | 0 |
| ,, ,, eight new varieties (Vervaene) small | 30 | 0 |
| Canna, 15 varieties for planting out | 12 | 0 |

N B On payment of 5s extra for package, I undertake to deliver the Plants free out of the Custom House in London. A reference is respectfully requested from unknown correspondents.

## NEW PLANTS.—1859.

HUGH LOW AND CO. respectfully invite attention to the annexed LIST of novelties, orders for which they will be very happy to receive :—

### NEW GLOXINIAS.

HUGH LOW & Co. have selected the undernamed varieties from a large number of plants raised by themselves from seed carefully and judiciously hybridised, and having flowered them for two seasons, and compared them with the varieties previously in cultivation, H. L. & Co. can with confidence recommend the selection to the notice of their friends as comprising really distinct kinds, worthy of a place in the most select collection of this much admired and easily cultivated flower Plants in April. Price, 3s. 6d. each.

### ERECT-FLOWERING VARIETIES.

Atroviolacea, very dark violet purple, base of the tube beautifully spotted on a pure white ground.
Bridesmaid, white tube, shaded rose border, lips spotted with white
Lineata superba, rosy carmine tube, towards the lips alternate bands of white and rose.
Perfection, clear white throat, dark blue belt, lips deep violet purple.
Princess Alice, clear white tube, bright rose belt, edges very pale rose.
Princess of Prussia Improved, throat and belt very much brighter crimson than in the old variety.

### DROOPING-FLOWERED VARIETIES.

Attraction, base of tube white, finely spotted, lips rosy crimson, outer edge pure white.
Beauty, white tube, inside carmine lake, broad white belt, flowers very large
Meteor, bright crimson with violet throat, carmine blotch on the lip.

### NEW ROSES OF 1859.

| HYBRID PERPETUAL. | HYBRID PERPETUAL. |
|---|---|
| Altesse impériale | Virginale |
| Ardoisé de Lyon | Beauté de Rœyghem |
| Comte de Beaufort | |
| Bouquet de Marie | BOURBON. |
| Empereur de Maroc | Docteur Berthet |
| Salomon | Madame Marchal |
| Oriflamme de St. Louis | Octavie Fontaine |
| Reine de la Cité | |
| Ambroise Verschaffelt | TEA-SCENTED. |
| Orderic Vital | Madame Damaizan |
| Anna de Diesbach | Madame Darru |
| | Reine des Pays Bas |

Plants 5s. each.

### NEW VERBENAS.

The entire stock of these nine varieties is in the possession of H. L. & Co., and they can with the greatest confidence recommend them to their friends as distinct and first-class flowers.
Bellona, bright cerise, dark centre, good form, very distinct.
Flora, lilac, white eye, large truss, fine form.
Lady Cotton Sheppard, bright rosy purple, white eye, large truss, very distinct.
Mars, bright red, extra large truss, fine form and free flowerer.
Miss Emily Hammer, ruby, white eye, immense truss, extra fine form, the best of its class.
Mrs Fowke, rosy purple, fine white eye, extra large truss, fine form, very free.
Mrs. Leslie, bright rose, very large white eye, large truss, and splendid form.
Rubens, ruby red, white centre, good form, very distinct and free bloomer, from 2s. 6d. each.

VERBENA SNOWFLAKE.—The best white Verbena ever offered for bedding purposes With a flower equal to Mrs. Holford, it produces a much larger number of trusses on the same space of ground. This variety has been grown in company with the other white kinds at present in cultivation, and has been found to be more effective than any of them. In order that it may be extensively planted the first season, H L. & Co , have decided on offering it at a cheap rate.

Single plants, 2s. 6d. ; per doz., 18s. ; per 100, 100s. In April.

New Verbenas received from M. Boucharlat of Lyons :—

| | | |
|---|---|---|
| Abondance | Madame Denis Blain | Mons. Denis Blain |
| Bleu magnifique | Madame Hardy | Monsieur Hardy |
| Felix Roland | Madame Hoste | Reine Blanche |
| Gloire de Monplaisir | Madame Large | Souvenir de M. Seringe |
| Kossuth | Manteau d'Evêque | |

Plants 1s. 6d. each, now ready.

New Verbenas received from M. Rougier-Chauvière, of Paris. These and the preceding collection include the finest varieties offered this season on the Continent.

| | | |
|---|---|---|
| Baccarat | Gitana | Marie Rougier |
| Cendrillon | Ivanhoe | Ne Plus Ultra |
| Cerise \| Clara | La Magicienne | Primulæflora |
| Fatima | Leandre | Rosalinda |
| Figaro | Lucrece | Rosamond |

Plants now ready, 1s. 6d. each.

Verbena Madame Jourdin, the most distinct and beautiful of all the striped varieties, per dozen, 12s.

LOBELIA TRIGONICAULIS, a new species from Moreton Bay, figured and described by Sir Wm. J. Hooker. A beautiful dense growing variety, each plant covering a space of ground 12 to 18 inches in diameter, with its ample bright green foliage (in the way of Verbena Maonetti) and large light blue flowers with fine white eye. It will be much in demand for bedding purposes For further description see "Cottage Gardener." Plants in April, price 2s. 6d. each, or 21s. per dozen.

Usual discount to the Trade on all the above-named plants.
Bedding Plants of older date in large quantities at low prices
Clapton Nursery, London, N.E.—April 2.

JOHN KERNAN, SEEDSMAN, 4, Great Russell Street, Covent Garden, W.C., recommends the following FLOWER SEEDS (selected from his general List) to be sown during the present month and up to the middle of May.

| Per packet— | s. | d. |
|---|---|---|
| Abronia umbellata | 0 | 3 |
| Acroclinium roseum | 0 | 3 |
| Ageratum, of sorts | 0 | 6 |
| Alonsoa Warcewiczi | 0 | 6 |
| ,, grandiflora | 0 | 3 |
| Alyssum, in sorts | 0 | 3 |
| Amaranthus (greenhouse) | 0 | 6 |
| Anagallis, in sorts | | |
| Asters, Truffaut's new :— | | |
| ,, German, splendid, in sealed packets as imported | 4 | 0 |
| ,, Giant Emperor, imported seed | 0 | 6 |
| ,, a mixture of the above, 24 vars. as imported | 0 | 6 |
| ,, distinct tall and distinct dwarf ditto mixed | 0 | 6 |
| ,, English | 0 | 3 |
| Balsam, in 12 varieties :— | | |
| ,, Foreign in sealed packets | 4 | 0 |
| ,, Camellia flowered, 12 varieties | 4 | 0 |
| ,, Mixture from the above | 0 | 6 |
| Brachycome, 4 best sorts | 0 | 3 |
| Browallia Czerniakowski, a beautiful new species | 0 | 6 |
| ,, elata, white or blue | 0 | 3 |
| Calceolaria from the finest named collection in existence, upwards of 300 sorts | 1 | 0 |
| Calendrinia Burridgii, and all the other best vars. | 0 | 6 |
| Calliopsis nigra speciosa | 0 | 3 |
| ,, new marble and other varieties | 0 | 3 |
| Carnation and Piccotee, all the finest varieties, as cultivated by an eminent amateur in the south of France, with whom J. K. is in contract to have the entire product. Sow in pots in greenhouse and plant out in July | 1 | 0 |
| Cheiranthus or Stocks. The finest imported distinct varieties, of 12 or 24 | 4s. to 6 | 0 |
| A mixture of the above | 0 | 6 |
| Chrysanthemum tricolor Burridgianum, quite new | 0 | 6 |
| ,, venustum | 0 | 6 |
| Cineraria, fine mixed, to be raised like Carnations | 0 | 6 |
| Clarkia, of sorts | 0 | 3 |
| Climbers, all varieties. | | |
| Cosmidium Burridgianum | 0 | 3 |
| Delphinium Ajacis, and other vars. of annual and perennial Larkspurs | 0 | 3 |
| Dianthus, of sorts | 0 | 3 |
| Fuchsia, from the finest named sorts | 1 | 0 |
| Gaillardia, of sorts | 0 | 3 |
| Geranium, all the best varieties | 1 | 0 |
| Heartsease, all the choicest varieties | 0 | 6 |
| Heliotropium, of sorts | 0 | 3 |
| Hollyhock, named and mixed | 0 | 3 |
| Ipomœa, in every variety | 0 | 3 |
| Larkspurs, of sorts | 0 | 3 |
| Linum grandiflorum coccineum, and other choice varieties | 0 | 6 |

| Per packet— | s. | d. |
|---|---|---|
| Lobelia speciosa, new and beautiful for bedding out, and other varieties | 0 | 6 |
| Lupinus, all the new varieties | 0 | 3 |
| Marigold, all the varieties | 0 | 3 |
| Mesembryanthemum tricolor, and other vars. | 0 | 3 |
| Mimulus, mixed | 0 | 6 |
| Myosotis, or Forget-me-not, several varieties | 0 | 3 |
| Nasturtium, all the new and beautiful varieties | 0 | 3 |
| Nemesia, of sorts | 0 | 3 |
| Nemophila, all the sorts | 0 | 3 |
| Nierembergia, very fine mixed | 0 | 3 |
| Œnotbera, all the new varieties | 0 | 3 |
| Oxalis rosea, and others | 0 | 6 |
| Pæonia, all the new vars. | 0 | 3 |
| Peas, Sweet and Everlasting, all colours | 0 | 3 |
| Phlox, new scarlet and other annuals and perennials, embracing all the recent varieties | 0 | 3 |
| Portulacca, of sorts | 0 | 3 |
| Reseda grandiflora, new, large, and other vars. of Mignonette | 0 | 3 |
| Salvia Rœmeriana, and others | 0 | 6 |
| Saponaria, of sorts | 0 | 3 |
| Schizopetalum Walkeri | 0 | 3 |
| Senecio elegans and other varieties | 0 | 3 |
| Sorghum saccharatum p.lb. | 2 | 0 |
| Spiræa Lindleyana, callosa, and others | 0 | 6 |
| Stocks, a selection of the finest named varieties, as imported in sealed packets, 12 and 24 varieties | 4s. to 6 | 0 |
| Stocks, autumn-flowering varieties | 4 | 0 |
| Stocks, Buck's Intermediate | 0 | 3 |
| ,, Brompton, separate or mixed | 0 | 3 |
| Sultan, of sorts | 0 | 3 |
| Tropæolum, all the new varieties of Nasturtium | 3d. to 0 | 6 |
| Verbena, a selection from the choicest varieties of every hue | 0 | 6 |
| Veronica syriaca, a new and charming dwarf annual, brilliant blue, for pots or open ground | 0 | 6 |
| Veronica Lindleyana and other varieties | 0 | 6 |
| Violet, Russian, or Everflowering, the sweetest | 0 | 3 |
| Viscaria, of sorts | 0 | 3 |
| Wallflower, all the choicest varieties, foreign and English | 0 | 3 |
| Zinnia (half hardy), mixture from 20 separate varieties | 0 | 3 |
| 30 vars. of named showy hardy annuals | 5 | 0 |
| Half the above quantity | 2 | 6 |
| All the finer varieties of keeping Potatoes, early and late. | | |
| Red and White Clover. | | |
| Sainfoin, Trefoil, Lucerne, and Tares. | | |

Parcels to any amount may be ordered, leaving the selection to J. K. whether for Garden, Vegetable or Flower Seeds. Agricultural seeds from the choicest stocks on the most reasonable terms, a list of which may be had on application. Turnip, Mangel, and Carrot (for cattle) 6d. per lb. Sorghum saccharatum, an invaluable fodder in fattening sheep and cattle, and especially for improving the milk in cows, 2s. per lb., 2 lbs. being sufficient for an acre, and not eight as is constantly advertised. A Treatise on the Advantages and Culture, with full directions, of this Plant, price 1s.

LODGE'S NEW HYBRID RHODODENDRON, "COUNTESS OF WILTON," the best and hardiest Rhododendron in cultivation.—This splendid Hybrid Rhododendron was raised from seed by the late William Lodge. The habit of this variety is entirely distinct from any other, and is the most vigorous of its class. The foliage is a beautiful olive green, of a large size, and a thick leathery appearance. The flower is a rich crimson, good form, being well cupped, of large size, and a very large truss, standing out boldly from the foliage. It is the hardiest variety of its class, having stood in an exposed situation the severest winters, without the slightest injury, with no protection whatever, while other varieties have been killed.

It possesses a very great advantage in flowering late, a desideratum much wanted in the high coloured Rhododendrons, as the other kinds are always injured by the late frosts and cold winds.

It has been exhibited at the Manchester Botanical Exhibition, and obtained a first-class certificate of merit, also a label of commendation by the judges.

The Executors of the late William Lodge have great confidence in introducing this variety to the public, and feel assured it will become a general favourite.

Strong bushy plants are now ready, from 2 to 4 feet high at One and a Half, Two, and Three Guineas each, in proportion to the size. A considerable reduction when a quantity is taken.

As the demand is great, early orders are necessary to ensure well-budded plants.

The following Nurserymen are Agents for the sale of it :— and from whom plants may now be had.

Messrs. WILLIAM ROLLISSON & SONS, Tooting, near London ;
Messrs. E. G. HENDERSON & SON, St. John's Wood, London ;
Mr. JOHN WATERER, Bagshot, Surrey ;
Messrs. WILLIAM WOOD & SON, Maresfield, Sussex ;
Messrs. THOMAS JACKSON & SON, Kingston, Surrey ;
Messrs. BENJAMIN REID & Co., Aberdeen ;
Mr. JOHN KEYNES, Salisbury.

A remittance or reference is required from unknown correspondents. Post-office Orders made payable to JAMES LODGE, Park Nurseries, Singleton Brook, Broughton, Manchester.

## NORTH AMERICAN FERNS.

R. M. STARK having recently imported a supply of the following interesting FERNS, offers them to the Trade at the prices annexed :—

| Per doz.— | s. | d. |
|---|---|---|
| Adiantum pedatum | 12 | 0 |
| Asplenium fontanum | 18 | 0 |
| ,, Michauxi | 18 | 0 |
| Botrychium simplex | 20 | 0 |
| ,, fumariodes | 20 | 0 |
| Dicksonia punctiloba | 12 | 0 |
| Lastrea marginata | 12 | 0 |
| Onoclea sensibilis | 9 | 0 |
| Dodecatheon elegans per 100 | 25 | 0 |
| Primula ciliata purpurea, per doz. | 4 | 0 |

| Per doz.— | s. | d. |
|---|---|---|
| Osmunda spectabilis | | |
| ,, cinnamomea | | |
| ,, interrupta | | |
| Polystichum acrostichoides | | |
| Woodsia hyperborea | | |
| ,, obtusa | | |
| Ranunculus cortusifolius | | |
| Tritoma Burchelli | | |
| ,, Rooperi, each | | |
| Trillium grandiflorum | | |

A large assortment of British and Exotic species, of which PRICED CATALOGUES may be had on application.
Edinburgh, Edgehill Nursery.—April 2

## CHOICE FLOWER SEEDS.

BASS AND BROWN'S Catalogue for 1859 (28th Annual Edition) sent free on application. The lists of Flower Seeds give colours, heights, month of flowering, hardiness, duration, and other descriptive and useful information. Printed instructions for raising and culture of Flower Seeds are furnished with each order.

FLOWER SEEDS FREE BY POST.

A FEW NEW AND SELECT FLOWER SEEDS.

### HARDY ANNUALS.

| Per packet— | s. | d. |
|---|---|---|
| Calliopsis nigra nana | 0 | 4 |
| ,, filiforme | 0 | 3 |
| ,, Barridgeanum | 0 | 4 |
| Centaurea depressa rosea | 0 | 3 |
| Clarkia pulchella marginata | 0 | 6 |
| Collinsia bicolor albiflora | 0 | 3 |
| Escholtzia tenuifolia | 0 | 4 |
| Eutoca viscida alba striata | 0 | 6 |
| Larkspur, new branching tricolor | 0 | 6 |
| Leptosiphon aureum | 0 | 4 |
| Lupinus hybridus insignis | 0 | 6 |
| ,, nanus albus | 0 | 6 |
| ,, tricolor elegans | 0 | 3 |
| Nemophila marginata | 0 | 3 |
| Scabiosa, new dwarf | 0 | 6 |
| Silene pseudo-atocion | 0 | 6 |
| ,, rubella alba | 0 | 6 |
| Viscaria cela rosa alba | 0 | 6 |
| ,, Dunnetti | 1 | 0 |
| Whitlavia grandiflora | 0 | 3 |

### HALF-HARDY ANNUALS.

| | | |
|---|---|---|
| Acroclinium roseum | 0 | 4 |
| Aster, new Crown | 0 | 6 |
| ,, pæoniflora, fine vars. | | 3 |
| ,, Bishop's Prize, superb | 0 | 3 |
| Helichrysum brachyrhynchium | 0 | 6 |
| Helichrysum compositum | 0 | 6 |
| Linum grandiflorum rubrum | 0 | 6 |
| Marigold, extra selected French | 0 | 6 |
| Marigold, new tall orange African, ex. | 0 | 6 |
| Nasturtium, new dwf. scarlet | 0 | 6 |
| ,, new dwarf crimson | 0 | 6 |
| ,, new dwarf spotted | 0 | 6 |
| Nemesia bicolor compacta | 0 | 3 |
| Œnothera Drummondi nana | 0 | 6 |
| Phlox Drummondi, hybrid of Leopoldi | 0 | 6 |
| Phlox Drummondi, fine scarlet | 0 | 4 |
| Phlox Drummondi alba oculata | 0 | 6 |
| Phlox Drummondi alba marmorata | 0 | 6 |
| Pink, Indian Imperial, dark blood | 0 | 4 |
| Pink, Indian, new white margin | 0 | 6 |
| Polycalymna Stewarti | 0 | 6 |
| Ricinus tumicensis | 0 | 6 |
| ,, purpureus | 0 | 6 |
| Salpiglossis atrosanguinea | 0 | 3 |
| Stock, German, fine mixed | 0 | 6 |
| ,, Wall-leaved, fine mixed | 0 | 6 |
| Zinnia elegans, choicest mixed from imported | 0 | 6 |

### GREENHOUSE ANNUALS.

| | | |
|---|---|---|
| Balsam, very choice | 0 | 6 |
| ,, French Camellia fl. | 0 | 6 |
| ,, Glenny's Improved, 8 vars., separate | 3 | 0 |
| ,, Glenny's mixed, 6d. & | 1 | 0 |
| Clintonia atroviolacea | 0 | 4 |
| Gomphrena aurantiaca | 0 | 4 |
| Ipomœa violacea vera | 1 | 0 |
| Rhodanthe Manglesi | 0 | 6 |
| Thunbergia, fine mixed | 0 | 4 |

### HARDY BIENNIALS and PERENNIALS.

| Per packet— | s. | d. |
|---|---|---|
| Abronia umbellata | | |
| Antirrhinum, from finest new | | |
| Aquilegia, 4 vars. separate | | |
| Carnation and Picotee, ex. | | |
| Dianthus Garneriana | | |
| Digitalis, 4 fine vars. sep. | | |
| Gladiolus, ex. choice early | | |
| ,, floribundus | | |
| ,, Gandavensis | | |
| ,, new hybrids | | |
| Hollyhock, choice | | |
| ,, extra | | |
| ,, 12 choice named sep. | | |
| Iris, finest mixed English | | |
| ,, fine German mixed | | |
| Linum Lewisi | | |
| Mimulus, mixed choice | | |
| ,, ,, cardinalis hybrid | | |
| Obeliscaria pulcherrima | | |
| Œnothera taraxifolia | | |
| Pansy, ex. choice | | |
| Papaver nudicaule aureum | | |
| Phlox, of choicest hardy | | |
| Potentilla, ex. choice | | |
| Sweet William, fine from imported | | |
| Sweet William, from double varieties | | |
| Verbascum phœniceum, 3 vars. separate | | |
| Wallflower, fine mixed | | |

### GREENHOUSE, &c., PERENNIALS.

Acacia Lophantha
Anomatheca cruenta
Calceolaria, very choice
,, ex choice
Calampelis miniata
Calendrinia umbellata
Chorozema, vars. 6d. to
Cineraria, choice
,, extra choice
Fuchsia, from new and choice
Gaillardia picta nana
Geranium, ex. show flowers
,, finest Scarlets
,, rose and white Horseshoe
,, finest Fancy
Gloxinia, choice
,, ex. choice
Heliotropium, mixed
Humea elegans
Ipomœa Horsfalli
Kennedya, 6 varieties sep.
Lobelia Erinus cœrul. alba
,, ,, Lindleyana
,, ,, ramosoides
,, Limbergensis
,, Roi Leopoldi
Lychnis fulgens
Nycterinia fuliginoides
Oxalis Napoleonoides
Passiflora angustifolia
Petunia grandifl. alba ex. choice
Primula sinensis fimbriata choice
Verbena, mixed choice
,, ex. choice
Veronica Andersoni

FLOWER SEEDS—BEST ASSORTMENTS. (Free by Post.

A large number of the above are included in these assortments.

Hardy Annuals, 100 varieties, 15s. ; 50 for 8s. 6d. ; 25 for 5s. 6d. ; 20 for 4s.

Half-hardy Annuals, 50 varieties, 12s. 6d. ; 30 for 8s. ; 20 for 6s.

Hardy and Half-hardy Annuals, 100 varieties, 20s. ; 50 for 10s. 6d. ; 30 for 7s. ; 20 for 5s.

Dwarf-hardy Annuals for filling Beds, 20 varieties, 2 packets, 7s. 6d. ; 12 for 5s.

Greenhouse Annuals, 20 varieties, 7s. 6d. ; 12 for 5s. For other assortments see Catalogue.

Imported German Seeds.—The varieties of German Stocks, Asters, Balsams, Larkspurs, Wallflowers, &c., are remarkably fine and double. See Catalogue.

Seeds of choice Florists' Flowers.—These, comprising Calceolaria, Cineraria, Geranium, Fuchsia, Carnation, Pansy, Hollyhock, &c., have been saved from very choice and first-rate collections, and are nearly all our own saving.

FINEST LAWN GRASSES.—In mixture of the best sorts (these are excellent), 1s. 3d. per lb., or 18s. per bushel.

Holcus saccharatus, an abundant cropper for cattle, 1s. 6d. per lb.

DIOSCOREA BATATAS (CHINESE YAM). — Strong roots, 9 to 12 inches long, 5s. per doz. ; extra large, 10s. per doz.

The No. V. Catalogue for the season contains lists of Pelargoniums, Gloxinias, and Bedding Plants ; also General Lists Catalogues No. I. to V., and is now ready for distribution.

Post-office Orders payable to BASS & BROWN, or to be remitted. BROWN. Remittances required from unknown Correspondents.

BASS AND BROWN, SEED GROWERS, &c., Sudbury, Suffolk.

### SKIRVING'S SWEDE—SUTTON'S SELECTED STOCK.

SUTTON AND SONS have a choice stock of SKIRVING'S SWEDE SEED, growth of 1858, which they can strongly recommend. Price 9*d.* per lb., or cheaper by the bushel. Also a few bushels left of SUTTON'S Champion Swede, Improved Gloucestershire White Swede, Russian Hardy Green-Top Swede, Grant's Pine Apple Swede, Jack of Newbury, and others, prices of which may be had on application, post free.

Royal Berks Seed Establishment, Reading.

### CLOVERS AND RYE-GRASS SEEDS.

SUTTON AND SONS can supply the proper quantities of the best kinds of Clovers and Italian Rye-grass seed, or Clovers and common Rye-grass at 18*s.* per acre, (including Alsike with other Clovers). In ordering, it is only necessary to state that "Clovers and Italian Rye-grass" or "Clovers and common Rye-grass" are required for so many acres, when the proper quantities will be sent.

N.B ALSIKE CLOVER is included in this mixture, but if not required it will be omitted and a lower price charged.

Royal Berkshire Seed Establishment, Reading.

### MANGEL SEED FROM LARGE BULBS.

SUTTON'S YELLOW GLOBE MANGEL is saved exclusively from fully developed roots, the advantages of which have been proved for several years past.

See the following Letters :—

*From the* Right Hon. Lord BERWICK, *Cronkhill, Dec.* 22.—"Let me have the same Globe Mangel as last year, which has given me the best crop I ever grew, good both as to bulk of crop, and also in the fineness of roots, and freedom from fangs and irregular growth. When pulled the roots were nearly as clean and as free from fibre as a Globe Turnip, and I had 50 loads per acre or more."

*From* Mr. GRAY, Bailiff to G. Rawlins, Esq., *Bullington House.*—"I believe we had one of the finest lots of Mangels and Swedes in the country. We had not quite enough of your seed of Mangel, and sent elsewhere for some to finish the field, and though sown the same day, and with exactly similar treatment, we had not so much weight by one-third as on the part sown with your seed."

The First Prizes at Birmingham and other shows throughout the kingdom have been taken by Messrs. SUTTON'S customers both for Mangel and for their "Champion" Swede. The price of SUTTON'S Large Yellow Globe Mangel Wurzel is 9*d.* per lb., or cheaper by the cwt.

Priced Lists of other kinds of Mangel, Swedes, Turnips, Grasses, &c., will be sent gratis and post free.

Carriage free to all parts except small parcels.

SUTTON & SONS, Royal Berks Seed Establishment, Reading.

TO GROWERS OF MANGEL WURZEL.—The public are respectfully informed that the TEN GUINEA CUP at the Great Birmingham Root Show, for the six best roots of Long Red and Orange Globe Mangel Wurzel and Belgian Carrots; and also the FIRST PRIZE in Class III. for Long Mangel Wurzel, were awarded to J. B. Starky, Esq., of Spye Park; and that the seed which produced the prize roots was grown and supplied by Mr. ALFRED HALL, Seed Grower, Westbury Farm, Westbury, Wilts, of whom any quantity of the same seed may be had by agriculturists or others wishing to purchase it.

### PREMIUM GOLD MEDAL FOR SCOTCH-GROWN SEEDS

AT THE GREAT AGRICULTURAL COMPETITION AT PARIS, 1856.

R. T. MACKINTOSH, SEEDSMAN and NURSERYMAN, Edinburgh, begs to intimate that his PRICED LIST OF AGRICULTURAL SEEDS is now ready, and may be had post free on application. R. T. M. would particularly call attention to his Scotch-grown EVERGREEN RYE-GRASS for pasture, also his TURNIP SEEDS, which for purity and excellence of quality cannot be surpassed. R. T. M's. Priced Lists may be had in London of Messrs. J. B. BROWN & Co., 36, Cannon Street, City, who will receive orders for R. T. M's. Seeds.

Victoria Street, George IV. Bridge, Edinburgh.

### SEEDS FOR THE FARM.

NEW OVAL-SHAPED YELLOW MANGEL, introduced by us two years ago, has been thoroughly tested and is now recommended with perfect confidence. It is of a remarkably vigorous growth, with finely shaped roots, intermediate in length between the Long and the Globe, and has produced from 5 to 10 tons more per acre than any other variety (see *Gardeners' Chronicle* of Jan. 8) :—

SWEDE TURNIP.—All the approved sorts.
YELLOW Do. do. do.
WHITE Do. do. do.

In no description of crop raised on the Farm is a good or a bad one so dependent on the character of the Seed as in that of the Turnip, and from its great liability to degenerate, it requires the most scrupulous care and vigilance to produce Stocks that are every way worthy of confidence. To attain such, we have for several years past been using every known means to keep up or improve the shape, size, and texture of the various kinds; and we believe that what are now offered will give the most perfect satisfaction. All the principal varieties are our own growth, raised from large and fully developed Roots or Bulbs, and in the hope of giving a more vigorous growth to the Stock, the strongest clay soil is always selected for a considerable portion of the Swede and Yellows. This mode of raising Turnip Seed materially increases the expense, but it is a much more satisfactory system than the one usually adopted, viz., sowing random stocks late in the season, after other crops, and taking the seed from mere plants, which in many cases are not even subjected to the process of thinning. Moreover, we guarantee our Seeds free from any of the adulterations so frequently practised to increase profits or cheapen prices, so that a strong healthy "braird" is certain.

PERENNIAL RYE-GRASS.—Finest Ayrshire
Do. do. do. Pacey's, 26 lbs. to 32 lbs. per bushel
ITALIAN do. Imported
Do. do. Home-grown

NATURAL GRASSES.—All the best varieties

The Stocks of Perennial Rye-grass Seed are the most select growths the country produces, and being all clean and heavy the economy of using such in preference to foul chaffy seed, however cheap, is at once apparent. Our imported Italian is from the usual source, and has always given satisfaction; while the home-grown is the direct produce of imported seed, cultivated under the most favourable circumstances, and more than ordinary pains having been used in dressing the seed; the samples of both are unusually clean and fine. In selecting the Natural Grasses care is taken to have them true to name, fully ripened, and in all respects good clean samples.

ALSIKE CLOVER, and other varieties.
LARGE BROAD-LEAVED SCOTCH TARES.

With every other description of Seed usually required for the farm, PRICED LISTS of which may be had post free on application.

W. DRUMMOND & SONS, Seedsmen, Stirling, N.B.; also at 8, Dawson Street, Dublin.

*** STIRLING is most favourably placed in point of railway accommodation, there being direct and constant traffic to all the principal stations in England and Scotland, and by steamers (*via* Glasgow), almost daily to the chief ports in Ireland, thereby insuring a speedy delivery of goods, all of which except grain and Tares, we forward carriage paid.

### AGRICULTURAL SEEDS.

WM. SKIRVING, Queen Square, Liverpool, begs to recommend to the Farmers of the United Kingdom his select stock of the most approved sorts of English, Welsh, Dutch, and Swedish CLOVER SEEDS, and of the best varieties of WURZEL, CARROT, and TURNIP SEEDS, all either grown by himself, or selected from the most reputed growers. A short practical list, with reasonable prices affixed, may be had on application.

In addition to his general collection of Turnip Seeds, W. S. has, this season, to offer three distinct varieties of the SWEDE, all of which he can strongly recommend as likely to be of great service in such critical Turnip-growing seasons as the last two.

The 1st is a new PURPLE SWEDE, with short top, broad entire leaf, stands dry weather well, ripens early, very good for early winter use.

The 2d, a new GREEN-BRONZE SWEDE, medium-sized top, of excellent quality, fit for the table, keeps well.

The 3d, a PURPLE SWEDE, stronger top, is the largest, heaviest cropper, and longest keeper of any sort known.

The Seed of these sorts can be had only from the Advertiser. Price 1*s.* per lb.

For laying down Land for Permanent Pasture W. S. begs to offer his selection of the most useful PERENNIAL GRASS SEEDS. The sorts selected from personal observation of the growth and habits of the different Grasses grown in his experimental ground. On this system he has supplied, within a few years, seeds for many thousand acres, which have given every satisfaction. Orders, stating quantity and quality of Land to be laid down, will be correctly executed with a suitable mixture.

### TO THE SEED TRADE.

THOMAS AYRES, JUN., SEEDSMAN and GROWER, Biggleswade, Beds., can supply every kind of Wurzel, Swede, and common Turnip Seeds, on the most reasonable terms for cash.

N.B. Dealer in Culinary and Flower Seeds, Fruit Trees, Shrubs, and Flowering Plants.

J. GRIFFIN begs to offer the following choice VEGETABLE and FLOWER SEEDS.

GRIFFIN'S ALMA LETTUCE, the most useful variety in cultivation, very hardy, and valuable for standing the drought of summer, 1*s.* 6*d.* per packet.

GRIFFIN'S fine RIDGE CUCUMBER, very hardy and productive, 1*s.* per packet.

Ivery's NONSUCH RED CELERY, 1*s.* per packet.

BATH DWARF DARK RED BEET, fine colour, 1*s.* p. pckt.

DELPHINIUM FORMOSUM, 1*s.* per packet.

LINUM GRANDIFLORUM RUBRUM (true), 1*s.* p. packet.

LOBELIA ERINUS SPECIOSA, the best and most effective variety yet raised, forming a close compact style of growth; reproduced true from seed; fine for bedding, 1*s.* 6*d.* per packet.

Truffaut's FRENCH ASTER, imported in 20 varieties, separate, 5*s.* per packet.

Truffaut's FRENCH ASTER, imported in 20 varieties, mixed, 2*s.* 6*d.* per packet.

New CHRYSANTHEMUM-FLOWERED ASTER, 1*s.* p. pkt.

Choice CALCEOLARIA, from the finest varieties, 2*s.* 6*d.* per packet.

Choice CINERARIA, from the finest varieties, 2*s.* 6*d.* p. pckt.

Weston Road, and 2, New Bond Street, Bath

MEADOW AND PASTURE GRASS SEED.—The great difficulty experienced by many Gentlemen and Farmers when about to lay down Land, is the selection of the proper Seeds, having no reliable practical guide as to quantity or kind. JAMES TYNAN is enabled to offer the benefit of such a guide. Speke Estate having become celebrated for its excellent practical Farming and high cultivation, has been for many years under the able management of Mr. M'Farlane. In a conversation the Advertiser had with that gentleman a few weeks ago he said:—"The great fertility of this estate I believe to be owing in a great measure to the attention I have paid to the selection of the Grass Seeds, and which I do not think I can improve. Were I to state the yield of the crops of Wheat and Barley I have obtained after these Grasses last year it would be deemed fabulous by many."

JAMES TYNAN having received orders to supply Seeds to some of the Farms on this estate, offers to send the same to gentlemen upon their giving the number of statute acres to be sown.

Selected GRASS SEEDS for LAWNS.

JAMES TYNAN, Seed Warehouse, 68, Gt. George Street, Liverpool.

HARDY HERBACEOUS PLANTS.—

| | s. | d. |
|---|---|---|
| 100 select and showy varieties | 30 | 0 |
| 100 ditto ditto, including new | 50 | 0 |
| Selections, per dozen, 4*s.*, 6*s.*, 9*s.*, 12*s.*, and | 18 | 0 |
| 50 fine varieties for rockwork | 20 | 0 |
| or per dozen, 5*s.* to | 9 | 0 |
| Aubrietia Mooreana, fine and early for rockwork, much larger and deeper purple than purpurea, per dozen | 9 | 0 |
| Chelone barbata coccinea (or mexicana splendens) very bright scarlet, per dozen | 7 | 0 |
| Delphinium formosum, large roots, per dozen | 7 | 0 |
| Dianthus albo nigrescens, fine dark, each, 2*s.* 6*d.*; per doz. | 24 | 0 |
| ,, patens, very fine double crimson, per dozen | 9 | 0 |
| Fragaria variegata, silver-blotched Strawberry plant, handsome for banks or rocks, per dozen | 12 | 0 |
| Myosotis azoricus, ditto | 5 | 0 |
| Œnothera grandiflora, fine large white, ditto | 6 | 0 |
| ,, taraxacifolia, large trailing white, ditto | 6 | 0 |
| ,, macrocarpa, large yellow | 6 | 0 |
| Pentstemons, 12 varieties, best selection | 9 | 0 |
| ,, 12 fine varieties | 6 | 0 |
| Potentilla King of Crimsons, the finest grown of dwarf habit, flowers 2 to 2½ inches across, each | 2 | 0 |
| ,, Negress, rich dark velvet, per dozen | 9 | 0 |
| ,, Shylock, rich dark vivid maroon, do. | 9 | 0 |
| ,, Sudbury Gem, rich orange yellow, deeply shaded and spotted bright red | 12 | 0 |
| ,, fine selections, per dozen, 6*s.* and | 9 | 0 |
| Saxifraga, 12 fine varieties for rock for | 7 | 6 |
| Sedum, 10 ,, ,, | 5 | 0 |
| Stipa pinnata (Feather Grass), per dozen | 5 | 0 |
| Trifolium pentaphyllum, dark variegated foliage, handsome for banks or rock | 5 | 0 |
| Vinca majorifolia elegantissima, silver-margined foliage Periwinkle | 12 | 0 |
| Antirrhinums, fine varieties and well marked, per dozen, 6*s.* and | 9 | 0 |
| Phlox, 50 fine and very superb continental and other varieties | 25 | 0 |
| ,, 25 varieties, newest selection | 20 | 0 |
| ,, selections, per dozen, 6*s.*, 9*s.*, and | 12 | 0 |
| Helianthemum, or Dwarf Rock Cistus, 24 beautiful named varieties for | 15 | 0 |

CONIFERÆ.

(These are chiefly in pots, and are all in fine condition.)

| | | |
|---|---|---|
| 50 choice hardy sorts for | 100 | 0 |
| 25 ,, ,, ,, | 50 | 0 |

CATALOGUES supplied free on application.

Goods (20*s.* and upwards) CARRIAGE FREE to all the Railway Stations in London, and all Stations on the Norwich line, *viâ* Colchester; and Plants gratis for extra carriage. Post-office Orders payable to BASS & BROWN, or to STEPHEN BROWN. Remittances required from unknown correspondents.

BASS & BROWN, Seedsmen and Nurserymen, Sudbury, Suffolk.

### CALLICARPA PURPUREA.

JOHN STANDISH, the exhibitor of the above (at St. James's Hall), can supply a few good plants at 7*s.* 6*d.* each. The following passage from Dr. Lindley's leading article in the *Gardeners' Chronicle* for Nov. 20 will give an idea of its beauty:—"Callicarpa purpurea, quite insignificant when in flower, was beautiful in its winter dress of innumerable rich purple berries, about the size of swan shot." It is easily cultivated, and does well in a cold greenhouse or conservatory planted out, where it will produce thousands of bright purple berries resembling glass beads, and remaining on nearly the whole winter.—Bagshot, April 2.

PLANTS FOR THE FLOWER GARDEN.—The following may be had at the prices attached, and the plants are all fine and thoroughly established in single pots :—

| Per dozen.— | s. | d. |
|---|---|---|
| Scarlet Geraniums, Tom Thumb, Frogmore and others, cut down plants, that were struck last spring | 3 | 0 |
| Ditto, struck last autumn | 2 | 6 |
| Verbenas, all the best varieties | 2 | 6 |
| Antirrhinums | 3 | 0 |
| Ageratums | 2 | 6 |
| Calceolarias, shrubby 2*s.* 6*d.* to | 3 | 0 |
| Cuphea platycentra, extra large | 3 | 0 |
| Dahlias, best sorts 4*s.* to | 9 | 0 |
| Carnations and Piccotees ditto per pair 1*s.* to | 1 | 6 |
| Pinks, ditto ,, 6*d.* to | 1 | 0 |
| Fuchsias, best sorts 3*s.* to | 4 | 0 |
| Gaillardia picta | 2 | 6 |
| Heliotropes | 2 | 6 |
| Lobelia speciosa and ramosoides | 2 | 6 |
| Alyssum variegatum | 2 | 6 |
| Hollyhocks, fine named flowers | 9 | 0 |
| Lantanas | 2 | 6 |
| Nierembergia gracilis | 2 | 6 |
| Petunias, fine sorts | 2 | 6 |
| Senecio (double dark Groundsel) | 2 | 6 |
| Salvia fulgens | 2 | 6 |
| Variegated Geraniums, Flower of the Day, fine cut down plants | 4 | 0 |
| Osborne's Brilliant | 3 | 6 |

WOOD & INGRAM, Huntingdon.

### HOLLY HEDGING.

EDWARD SANG AND SONS, Kirkaldy, N.B., beg to offer a quantity of fine twice transplanted HOLLIES, 15 to 18 inches high, at 15*s.* per 100, and 9 to 15 inches at 10*s.* per 100. These are just recovering from the second transplanting in 1857, and are therefore in good condition for removal. E. S. and S. have also a lot of once transplanted of the same heights, at 50*s.* and 40*s.* per 1000. The last are finer looking than the twice transplanted, but have of course inferior roots. Also a few hundreds of very fine twice transplanted, 18 to 30 inches, at 20*s.* per 100. Carriage paid to Edinburgh.

### HARDY CONIFERÆ FOR SPRING PLANTING.

J. HENCHMAN, Edmonton, London, begs to offer the following CONIFERS, all Seedling Plants, in pots, and in the most robust health :—

Wellingtonia gigantea, 1 foot, in 32-pots, very fine, 10*s.* 6*d.* each; 7 to 8 inches, in 48-pots, 3*l.* per doz.; stout, 2-year seedlings, 30*s.* per doz.
Pinus Don Pedri, 21*s.* each.
,, Buonapartia or Veitchi, 10*s.* 6*d.* each.
,, insignis, 15 inches, 15*s.* per doz.
,, macrocarpa or Coulteri, 6 inches, fine, 18*s.* per doz.
,, tuberculata, stout 2-year seedlings, 18*s.* per doz.
,, Benthamiana, 2-year do. 9*s.* per doz.
Cupressus macrocarpa, 18 inches, fine, 6*s.* per doz.
,, MacNabbiana, 2 years, 9*s.* per doz.
Taxodium sempervirens, 15 inches, fine, 24*s.* per doz

### SEED CORN FROM THE CHALK.

MESSRS. RAYNBIRD AND HARVEY beg to offer to Agriculturists requiring change of SEED Talavera, Red Nursery, and April WHEAT, the best sorts for Spring sowing.

Chevalier, Thanet, Golden Drop, Long-eared Nottingham, American, Hudson's Golden Melon, Banham's Sprat, and other varieties of BARLEY.

Canadian Potato, Hopetoun, Poland, and Tartarian OATS.

Fine CLUSTER BEANS, weighing 68 lbs. per bushel.

Samples and Prices on application.

Address—Basingstoke, and 89, Seed Market, Mark Lane, London, E.C.

REIGATE SILVER SAND DEPOT.—JOHN BRYAN & Co., Nine Elms Wharf, Vauxhall, S., adjoining the South Western Railway. Delivered to any part of London. Carts Loaded.—N.B. References to the first Nurserymen both in Town and Country.

### HORTICULTURAL VALUATIONS.

MR. ALFRED CHANDLER (of the late firm of Chandler & Sons, Vauxhall), begs to inform his Friends that he is at liberty to undertake the valuation of Collections of Plants, Nursery Stock, Horticultural Buildings, &c.

Mr. A. C. is also open to engagements as Censor at Horticultural Exhibitions, in which capacity he has had long and extensive experience.—28, Priory Road, Wandsworth Road, S.

### GENUINE ROLL TOBACCO CLOTH.

WARRANTED EQUAL IN STRENGTH TO TOBACCO.

JOSEPH BAKER, 10, Gough Square, Fleet St., E.C., having dealt upwards of 20 years in the above, can recommend it as the best article for destroying the Fly. 1*s.* 4*d.* per lb.; over 10 lbs, 1*s.* Post office Orders payable Strand Office

GENUINE TOBACCO PAPER.—Parties fumigating can be supplied with the best Genuine Tobacco Paper at 4*l.* per cwt.; any less than 56 lbs., 10*d.* per lb.—BEN BAXTER, Messrs Jackson & Sons, Lady Lane, Leeds.

### GENUINE TOBACCO PAPER FOR FUMIGATING.

H. APPLEBY (Foreman to Messrs. Ivery & Son, Surrey), takes this opportunity of informing his patrons and the public that he is now offering the above at a very considerably reduced price. It is now sold in packets of 4 lbs. each, at 1*s.* 3*d.* per lb. A liberal discount allowed to the Trade. For testimonials that will guarantee its quality, see *Gardeners' Chronicle*, March 5, p. 189.

Sheet Iron Pots for fumigating, 3*s.* 6*d.* each.

N.B. All orders to be accompanied with a Post-office Order, payable to HENRY APPLEBY, Dorking, Surrey.

PAGE'S BLIGHT COMPOSITION (4*s.* per gallon, sufficiently strong to make four fit for use) has stood the test of eight years public trial, and its great success has led to numerous imitations. Dr. Lindley, in his leading article of October 25, 1856, reported 182 cases in its favour, sufficient to convince the most sceptical. Seeds packed for exportation to all parts of the world.—PAGE & TOOGOOD, Royal South Hants Seed Establishment, Southampton

POULTRY—DOGS—PLANTS can be kept free from Insects of every description by using the PERSIAN INSECT DESTROYING POWDER, unrivalled in killing Fleas, Flies, Beetles, and every species of Insect—harmless to animal life. Sold in packets 1*s.* and 2*s.* 6*d.* A shilling packet sent free by post for 14 stamps—THOMAS KEATING, Chemist, 79, St. Paul's Churchyard, London, E.C.

# GRASS SEEDS FOR PERMANENT PASTURES & MEADOWS.

## THOMAS GIBBS & CO., Corner of Half-Moon St.,

### THE SEEDSMEN TO THE "ROYAL AGRICULTURAL SOCIETY OF ENGLAND,"

BEG to inform the Members of the Society and Agriculturists generally that their MIXTURES of GRASS SEEDS for Laying down Land to Permanent Grass are now ready. Each kind of Grass Seed composing these Mixtures is cleaned separately, and the kinds are proportioned to suit different soils.

☞ *Full Directions for Sowing and Management will be sent with the Seeds.*

**MIXTURES for PERMANENT MEADOW and PASTURE** (*to suit different soils*).
**MIXTURES for PARKS, FIELD LAWNS, CEMETERIES, &c.**
**MIXTURES for IRRIGATION MEADOWS, GAME COVERS, and all other purposes.**
**RENOVATING MIXTURES for Improving Old Meadows and Pastures** (8 to 12 lbs. per acre).

MANGEL WURZEL.
Yellow Globe, Orange Globe (selected)
Long Red
Red Globe
Long Yellow
Silesian Sugar Beet

RYE-GRASS.
Italian (selected, very fine)
Dickinson's
Imported Foreign Seed
Common or Annual
Pacey's Perennial

| | |
|---|---|
| Carrots | all sorts |
| Clovers | ,, |
| Swedes | ,, |
| Hybrids | ,, |
| Common Turnips | ,, |

**KITCHEN GARDEN SEEDS in Collections, at £1, £2, and £3 each.**

**ALL KINDS OF AGRICULTURAL SEEDS.**

*Price Lists sent free on application. Reference or Cash required from unknown Correspondents.*

Thomas Gibbs & Co.

CORNER OF
**HALF-MOON St.**
PICCADILLY, LONDON, W.

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SUTTON'S GRASS SEEDS AT THE ROYAL FARMS NEAR WINDSOR, AND IN THE ISLE OF WIGHT.

# SUTTON'S GRASS SEEDS
## FOR PERMANENT PASTURE, PARKS, AND LAWNS,

ARE NOW SOWN AT THE ROYAL FARMS, AT OSBORNE PALACE, THE ALDERSHOTT CAMP, THE CRYSTAL PALACE SYDENHAM, THE HORTICULTURAL SOCIETY'S GARDENS, THE PEOPLE'S PARK, HALIFAX, AND ON MOST OF THE LARGEST ESTATES IN THE KINGDOM.

**These Grass Seeds being mixed expressly to suit the soil for which they are required, are never known to fail.**

SUTTON & SONS having for many years paid especial attention to the Laying down Land to Permanent Pastures, they are well acquainted with the various soils of most parts of the United Kingdom, and the Natural Grasses suitable for each locality.

**The following Sorts may be had separate or mixed, at lowest Market Prices :—**

Alopecurus pratensis
Anthoxanthum odoratum
Agrostis stolonifera
Avena flavescens
Achillea millefolium
Cynosurus cristatus
Dactylis glomerata

Festuca duriuscula
,, elatior
,, gigantea
,, heterophylla
,, pratensis
,, ovina
,, rubra

Festuca tenuifolia
,, hordeformis
Glyceria fluitans
,, aquatica
Holcus lanatus
,, avenaceus

Lolium italicum
,, perenne tenue
,, ,, Paceyanum
,, ,, sempervirens
Lotus corniculatus major
Medicago Lupulina

Poa pratensis
,, trivialis
,, nemoralis
,, angustifolius
,, fertilis
,, sempervirens

Phleum pratense major
,, ,, minor
Petroselinum sativum
Trifolium repens
,, pratense perenne
,, minus
,, hybridum

ALSIKE and other CLOVER, and all the most suitable of the above are contained in our Mixtures. Cost of the best Mixtures for Permanent Pasture, **30s. to 34s. per acre,** according to the sorts required for the land.

---

## Fine LAWN GRASS SEEDS for making New or Improving Old Garden Lawns,

**Price 1s. per lb., 2s. 6d. per gallon, or 20s. per bushel.**

## Improvement of Grass Lands by Sowing Good Seeds of the most Suitable Kinds.

## SUTTON'S RENOVATING GRASS SEEDS (6s. to 9s. per Acre)

Consist of the finest GRASSES and PERENNIAL CLOVERS, producing great improvement in the Pasture, and at a small expense. Quantity of Seed required 8 to 12 lbs. per acre. Price reduced to **9d. per lb., or 80s. per cwt.** Sow in March and April.

☞ Having greatly reduced the price of our **RENOVATING MIXTURE**, we doubt not that our liberal terms will encourage the more extensive use of the same. Our Grass Seeds have for many years been allowed to be the best, and now we may add that they are the cheapest. Meadows and Upland Pastures may be increased in value 50 per cent. by sowing these Seeds. **Grass Seeds for Laying down Permanent Pasture, 30s. to 34s. per acre.** Seeds Carriage Free to all parts, except small parcels. Catalogues post free.

**SUTTON & SONS, Royal Berkshire Seed Establishment, Reading.**

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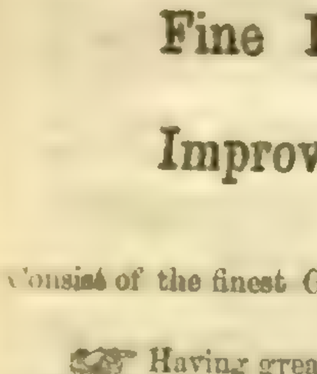
## CHOICE FLOWERS.

# BUTLER & McCULLOCH'S SPRING CATALOGUE OF SEEDS,



ARRANGED on a new and original plan, with copious Descriptive and Cultural Notes, and containing many new and rare species and varieties not found in any other Catalogue, now ready and may be had free and post paid on application.

FLOWER, SHRUB, TREE, and VEGETABLE SEEDS, the crop of 1858, saved with the greatest care, by the most eminent growers.

We may also state that the Sardinian correspondent of Messrs. JAMES CARTER & Co., whose Seeds, especially Carnations and Picotees, have given such universal satisfaction, has transferred the Agency from that firm and appointed us his representative in this country. To meet the growing demand for first class flowers, particularly FLORISTS' FLOWERS, we have adopted our usual maxim of charging the lowest possible prices.

Professor LINDLEY in the *Gardeners' Chronicle* of February 5th, has the following notice of B. & McC.'s Catalogue.

"BUTLER & McCULLOCH'S (Covent Garden) Spring Catalogue of Choice Flower, Shrub, Tree, and Vegetable Seeds. This list fills 44 closely printed 8vo pages, and is remarkably well got up. It appears that the correspondent in Sardinia, who formerly supplied one of the great London houses with seeds raised in that warm part of Europe, has now transferred what he saves to Messrs. BUTLER & McCULLOCH. Let us add, that it yields to no Trade List in the abundance of its materials or the excellence of its arrangements."

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| A selection of 44 pkts. of beautiful Annual Flower Seeds | | | | | | 7s. | 6d. |
| Ditto | 33 | ditto | ditto | .. | .. | 5 | 6 |
| Ditto | 21 | ditto | ditto | .. | .. | 3 | 6 |
| A selection of 10 pkts. of beautiful Biennial and Perennial ditto .. .. .. .. .. .. | | | | | | 10 | 6 |
| Ditto | 31 | ditto | ditto | .. | .. | 7 | 6 |
| Ditto | 24 | ditto | ditto | .. | .. | 5 | 6 |

An Assortment of Vegetable Seeds, 20 quarts of Peas, and other Seeds in proportion for 1 year's supply .. .. .. .. .. .. .. £3 3s. 0d.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Ditto | ditto | 12 | quarts of Peas | ditto | .. | 2 | 2 0 |
| Ditto | ditto | 6 | ditto | ditto | .. | 1 | 1 0 |
| Ditto | ditto | 5 | ditto | ditto | .. | 0 | 15 0 |

All Flower Seeds sent post paid, and Vegetable or Vegetable and Flower Seeds amounting to 1l. 1s. Carriage Paid to any principal Railway Station in England, Wales, and Scotland, or any port on the Irish Coast.

**BUTLER & McCULLOCH, Covent Garden Market.**

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GENUINE AGRICULTURAL SEEDS.

MESSRS. DICKSON AND BROWN (late F. and A. Dickson & Co.), 43 and 45, Corporation Street, Manchester, beg to intimate that they are now ready to execute all orders with first-class AGRICULTURAL SEEDS, most of which have been saved by themselves or under their own superintendence.

Special prices for large quantities on application. A PRICED CATALOGUE is published, and may be had post free.

Manchester.—April 2.

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"JACK OF NEWBURY" SWEDE, ETC.

PETER LAWSON AND SON, THE QUEEN'S SEEDSMEN, &c., 27, Great George Street, Westminster, respectfully request attention to their very genuine Stock of the above excellent Swede; also of the LOTHIAN PURPLE-TOP SWEDE, both of which have been selected with the greatest care. They have also a very fine Stock of the KOHL RABI, or TURNIP-ROOTED CABBAGE, specimens of which were shown at their Stands at Smithfield Club Show. The Kohl Rabi was largely grown last season, and may now be relied on as a substitute for the Turnip and Mangel, where these roots do not succeed, or for filling up blanks where there is a partial failure. Its feeding qualities, hardiness, and weight per acre are equal to the Swede, and all kinds of stock prefer it to other roots.

P. L. & SON have also selected a first-rate Stock of MANGEL WURZEL SEED, which they can confidently recommend. Their natural GRASS SEEDS have been also saved with very great care, and they are ready to supply them separately or in mixture, for laying down Permanent Pastures, Lawns, &c.

P. L. & SON have arranged to deliver Seeds free throughout England and Wales from their London Establishment, for all quantities exceeding 20s. in value.

LISTS OF PRICES of the above and all other Seeds, Plants, &c., may be had on application.

27, Great George Street, Westminster.

# MANGEL WURZEL SEED,

WARRANTED NEW AND TRUE, BY

# SUTTON & SONS, Seed Growers, Reading.

| | | | |
|---|---|---|---|
| YELLOW GLOBE ... ... | 8d. per lb. | LONG RED ... ... ... ... | 8d. per lb. |
| RED GLOBE ... ... ... ... | 9d. ,, | LONG YELLOW ... ... ... | 9d. ,, |

Cheaper by the Cwt.

## NEW SORTS OF MANGEL WURZEL.

**The Stocks of Seeds of the following new sorts being limited and in great demand, orders should be sent in good time:—**

Per lb.—*s. d.*

**SUTTON'S NEW LARGE YELLOW GLOBE.**—This seed is saved from large roots selected, and will produce the heaviest crop of all the Mangels 0 9

[Presuming that this superior Yellow Globe Mangel will generally be preferred for the main crop, we invariably send this sort, unless the Common Yellow Globe (see above) or the more expensive kinds described below, are mentioned.]

**SUTTON'S Improved ORANGE GLOBE,** remarkably fine shaped roots, with small Greens. Judges generally award the First Prize to this sort.. 0 9

**FISHER HOBBS'S YELLOW GLOBE.**—Deep yellow, fine shape .. .. .. .. .. 1 0

*MORTON'S YELLOW GLOBE.—Introduced by J. C. Morton, Esq., Editor of the *Agricultural Gazette* .. .. .. .. .. .. .. 1 0

**SUTTON'S ELVETHAM LONG RED.**—A heavy cropper and very full of saccharine matter. All kinds of stock thrive remarkably well on it. This sort is much in demand by the London cow-keepers.. 0 9

[Presuming that this superior sort of Long Red will be preferred, we invariably send this unless the "Common" Long Red, entered above, is distinctly ordered.]

*SUTTON'S LONG WHITE.—Some of these roots weighed 40 lbs. each .. .. .. .. 1 0

*STRATTON'S Improved RED GLOBE. Beautiful shape .. .. .. .. .. .. 1 0

*The Sorts marked thus * are recommended to be sown in moderate quantities only for trial.*

N.B. The "Sutton's Large Yellow Globe," and "Improved Orange Globe," are fast growing kinds, and should not be sown till the last week in April or the first week in May.

**SUTTON & SONS, Royal Berkshire Seed Establishment, Reading.**

# JAMES CARTER & CO., Seedsmen,

## 238, HIGH HOLBORN, W.C.,

BEG to call attention to the 24th Annual Issue of their ENCYCLOPÆDIC CATALOGUE and GARDENERS' VADE MECUM, containing upwards of 2000 species and varieties of Flower Seeds, every requisite for the Farm and Kitchen Garden, and a comprehensive Calendar of Operations for each month throughout the year. J. C. & Co. beg to recommend the following selection:—

| | | | | | |
|---|---|---|---|---|---|
| No. 2 | Collection of 12 | extra fine varieties of | Quilled German Asters | . . | 1s. 6d. |
| ,, 6 | ,, 12 | superb ,, | New Perfection ,, | . . . | 2 6 |
| ,, 13 | ,, 5 | beautiful ,, | Dwarf Perfection ,, | . . . | 2 6 |
| ,, 18 | ,, 16 | selected ,, | Dwarf German Stocks | . . . | 2 6 |
| ,, 32 | ,, 10 | splendid ,, | Imperial ,, | . . . | 2 6 |
| ,, 39 | ,, 12 | newest ,, | Camellia-flowered Balsam | . . | 3 0 |
| ,, 40 | ,, 8 | finest ,, | Rose-flowered ,, | . . | 2 0 |
| Unequalled Collections of Carnations and Picotees, 6 vars., 3s. 6d. | | | | | |
| ,, 47 | Collection of 12 | extra fine varieties of | Dwarf Rocket Larkspur | . . | 2 6 |
| ,, 53 | ,, 12 | beautiful ,, | Phlox Drummondi | . . . . | 3 6 |
| ,, 56 | ,, 12 | newest ,, | Salpiglossis | . . . . | 3 0 |
| ,, 60 | ,, 12 | superb ,, | Wallflowers | . . . . | 2 6 |
| ,, 62 | ,, 12 | splendid ,, | Zinnia elegans | . . . . | 3 6 |
| Alpine Plants in collections, 12 varieties, 2s. 6d.; 25 do., 5s.; 50 do., 10s. | | | | | |

| No. | Per packet.—*s. d.* |
|---|---|
| 64. | Abronia umbellata .. .. 0 6 |
| 83. | Acacia suaveolens .. .. 1 0 |
| 89. | Achimenes .. .. .. 1 0 |
| 114. | Alonsoa Warscewiczi .. .. 0 4 |
| 136. | Anagallis grandiflora cœrulea .. 0 6 |
| 135. | Anagallis coccinea .. .. 0 6 |
| 166. | Antirrhinum, splendid, mixed 0 6 |
| 190. | Aquilegia Witmanni, fine .. 0 6 |
| 195. | Araucaria imbricata .. .. 1 0 |
| 197. | Arctotis breviscapa .. .. 0 6 |
| 229. | Azalea indica, choice .. .. 1 0 |
| 232. | Bambusa spinosa, rare .. .. 0 6 |
| 264. | Brachycome iberidifolium .. 0 6 |
| 277. | Butea superba, stove, rare .. 2 6 |
| 291. | Calceolaria, mixed .. .. 1 0 |
| 292 | Calceolaria, finest spotted .. 1 0 |
| 310. | Calliopsis Burridgi .. .. 0 6 |
| 317. | Camellia japonica .. .. 1 0 |
| 345. | Campanula Vidalli .. .. 0 6 |
| 355. | Canna Warscewiczi .. .. 0 4 |
| 418. | Chamærops humilis .. .. 0 6 |
| 429 | Chloris radiata .. .. .. 0 6 |
| 482. | Chorozema Hendersoni .. .. 0 6 |
| 434. | Chorozema Lawrenciana .. 0 6 |
| 440. | Chrysanthemum indicum .. 1 0 |
| 441. | ,, indicum nanum 1 0 |
| 444. | Cineraria, finest mixed .. .. 1 0 |
| 466 | Clarkia pulchella marginata .. 0 6 |
| 547. | Cryptomeria Lobbi .. .. 1 0 |
| 575. | Dahlia, finest double .. .. 1 0 |
| — | Datura humilis fl. pl. .. .. 0 6 |
| 590. | Datura Wrighti .. .. .. 1 0 |
| 601. | Delphinium magnificum .. 1 0 |
| 646. | Diantinus Veitchi, fine .. .. 1 0 |
| 650. | Didymocarpus polyanthus .. 1 0 |
| — | Erica, finest variety, 12 species 5 0 |
| 743 | Erythrina Hendersoni .. .. 1 0 |
| 772. | Filices, finest mixed .. .. 1 0 |
| 773. | Fenzlia dianthiflora .. .. 1 0 |
| 779. | Fuchsia, finest mixed .. .. 1 0 |
| 785. | Gaillardia hybrida grandiflora .. 0 6 |
| 806. | Gazania ringens .. .. .. 0 6 |
| 823. | Gesneria, mixed .. .. .. 0 6 |
| 824. | Gloxinia, finest mixed .. .. 1 0 |
| 825. | Gloxinia erecta .. .. .. 1 0 |
| 860. | Gymnogramma ochracea .. 1 0 |
| 861 | ,, tartarea .. 1 0 |
| 902. | Hibiscus Cameroni .. .. 0 6 |
| 917 | Hoya carnosa .. .. .. 1 0 |

| No. | Per packet.—*s. d.* |
|---|---|
| 918. | Humea elegans .. .. .. 0 6 |
| 926. | Hypocalyptus obcordatus .. 1 0 |
| 947. | Ipomœa hederacea superba .. 0 6 |
| 948. | Ipomœa hederacea superba lilacina 1 0 |
| 949. | ,, ,, atroviolacea 1 0 |
| 962 | ,, rubro-cœrulea .. 1 0 |
| 998. | Kennedya longiracemosa .. 0 6 |
| 1032. | Leptosiphon arvense .. .. 0 6 |
| 1046. | Lilium colchicum .. .. 1 0 |
| 1048. | ,, speciosum .. .. 1 0 |
| 1067. | Linum kermesinum .. .. 0 6 |
| 1091. | ,, narbonense .. .. 0 6 |
| 1092. | Lobelia Erinus speciosa .. .. 1 0 |
| 1093. | ,, formosa .. .. .. 1 0 |
| 1122. | Lupinus Hartwegii cœlestinus, new .. .. .. 0 6 |
| 1133. | ,, nanus albus novus, new 0 6 |
| 1171. | Marianthus cœruleo-punctatus 0 6 |
| 1181. | Maurandya Barclayana kermesina .. .. .. 0 6 |
| 1204. | Mimulus pl. sp. et var. .. .. 0 6 |
| 1217. | Myosotis azorica .. .. 0 6 |
| 1222. | Nelumbium speciosum .. .. 1 0 |
| 1223. | ,, ,, album .. 1 0 |
| 1242. | Nierembergia gracilis .. .. 1 0 |
| 1246. | Nolana paradoxa violacea .. 1 0 |
| 1262. | Œnothera bisterta Veitchi .. 1 0 |
| 1265. | ,, Drummondi nana .. 1 0 |
| 1293. | Oxalis corniculata fol. var. .. 1 0 |
| 1296. | ,, tropæoloides .. .. 1 0 |
| 1315. | Passiflora cinnabarina .. .. 1 0 |
| 1320. | Paulownia imperialis .. .. 0 6 |
| 1331. | Pentstemon Hartwegi atro-cœruleum 0 6 |
| 1332. | ,, coccineum .. .. .. 0 6 |
| 1339. | ,, purpureum .. .. .. 0 6 |
| 1342. | ,, Murrayanum .. .. 1 0 |
| 1353. | Petunia viridicincta .. .. 0 6 |
| 1366. | Phlox Drummondi elegans nova 0 6 |
| 1372. | ,, cinnabarina .. .. 1 0 |
| 1377. | Physalis edulis .. .. .. 0 6 |
| 1389. | Pleroma elegans .. .. 1 0 |
| 1396. | Poinciana regia, rare .. .. 1 0 |
| 1407. | Portulacca Thellusoni caryophylloides .. .. .. 0 6 |
| 1432. | Primula sinensis fimbriata .. 1 0 |
| — | ,, ,, Village Maid, fine 2 6 |
| 1452. | Quisqualis glabra .. .. 1 6 |

| No. | Per packet.—*s. d.* |
|---|---|
| 1457. | Rhodanthe Manglesi .. .. 0 6 |
| 1467. | Roellia ciliata .. .. .. 0 6 |
| 1474. | Salpiglossis sinuata atrococcinea nova .. .. .. 0 6 |
| 1490. | Salvia patens .. .. .. 1 0 |
| 1490. | ,, splendens .. .. 0 6 |
| 1505. | Saponaria calabrica rosea, new 1 0 |
| 1519. | Schizopetalon Walkeri .. .. 0 6 |
| 1562. | Solanum Balbisi .. .. .. 0 6 |
| 1565. | ,, jasminoides .. .. 0 6 |
| 1579. | Spiræa callosa .. .. .. 0 6 |
| 1589. | Statice Bonduelli .. . 0 4 |
| 1594. | ,, Fortuni .. .. .. 0 4 |
| 1607. | Strelitzia angusta .. .. 2 6 |
| 1614. | Swainsonia Greyana .. .. 0 6 |
| 1615. | ,, lessertiæfolia .. 0 6 |
| 1618. | Tacsonia ignea .. .. .. 1 0 |
| 1643. | Trichodesma zeylanicum .. 0 6 |
| 1644. | Trichosanthes colubrina .. 0 6 |
| 1646. | Tritoma Uvaria .. .. .. 0 6 |
| 1653. | Tropæolum Lobbianum Géant des Batailles .. 1 0 |
| 1654. | Do. do. glabrum variegatum 1 0 |
| 1658. | Do. do. Schultzi .. .. 1 0 |
| 1661. | Do. do. Triomphe de Gand .. 1 0 |
| 1662. | Do. do Victoria Regina .. 1 0 |
| 1667. | Do. speciosum .. . .. 1 0 |
| 1688. | Verbena hybrida, mixed .. 1 0 |
| 1699 | Victoria Regia .. .. .. 5 0 |
| 1708. | Viscaria cœli rosea alba .. .. 0 6 |
| 1711. | ,, oculata Dunnetti .. 0 6 |
| 1720. | Zauschneria californica .. .. 0 6 |
| 1737. | Aster Emperor, new .. .. 1 0 |
| 1740. | ,, La Superbe .. .. 1 0 |
| 1771. | Carnation, double, finest mixed 2 6 |
| 1772. | ,, perpetual do. do. 2 6 |
| 1775. | Chrysanthemum tricolor Burridgi 0 6 |
| 1776. | ,, beautiful . 0 0 |
| 1828. | Heartsease, extra fine .. .. 1 0 |
| 1880. | Hollyhock, prize mixed .. 1 6 |
| 1850. | Larkspur tricolor elegans .. 0 0 |
| 1864. | Marigold, French, new orange 1 6 |
| 1890. | Nasturtion, dwarf spotted .. 0 0 |
| 1891. | ,, Tom Thumb .. 1 6 |
| 1907 | Pinetee, finest double .. . 2 0 |
| 1909. | Polyanthus, extra fine .. .. 1 0 |
| 1910. | ,, new large yellow 1 6 |
| 1969. | Virginian Stock, new rose .. 0 0 |

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F. AND A. SMITH are now sending out seed of their superb BALSAMS, which are unrivalled for size, form, brillancy of colour, doubleness of flower, and habit of plant.

| | |
|---|---|
| In collections of nine separate colours .. .. | 2s. 6d. |
| ,, ,, mixed ,, .. .. | 2 0 |
| ,, ,, ,, ,, half quantity | 1 0 |

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# The Gardeners' Chronicle.

*SATURDAY, APRIL 2, 1859.*


**MEETINGS FOR THE FOLLOWING WEEK.**

Monday, April 4—Entomological ..... 8 P.M.
Thursday, — 7—Linnean ..... 8 P.M.

The continued absence of rain from the metropolis is becoming a subject of very serious uneasiness. Last year the autumn supply was so short as to compel the inhabitants of all the valley of the Thames to open their wells and deepen them, and it seems as if matters were about to become worse.

On referring to p. 143 of this year's *Chronicle* it will be seen that the arrear of the fall of rain in the neighbourhood of London was 11.84 inches at the commencement of the present year. Since then we have had—

| | | | | |
|---|---|---|---|---|
| In January .. .. | 0.61 inch.— | Usual quantity | | 1.69 |
| February .. .. | 1.51 ,, | ,, | ,, | 1.51 |
| March to 28th .. | 0.71 ,, | ,, | ,, | 1.32 |
| | 2.63 | | | 4.52 |

It is therefore plain that very nearly 2 inches have now to be added to the deficiency, which,

making allowance for the proportion due to the three days of March still to run at the time when these remarks were written, may be set down at 13½ inches.

Towards the middle of February, as we announced at the time, the springs were slightly on the rise in consequence of an average quantity of rain having fallen in the beginning of that month; but they are again receding, as will be seen from the following observations made on the depth from the surface at which the water stood in a well in the gravelly stratum near London at the following dates:—

| | Feet. | Ins. |
|---|---|---|
| August 17th, 1858, depth of water from surface | 8 | 3 |
| September 9 ,, ,, ,, | 8 | 6 |
| September 23 ,, ,, ,, | 8 | 8 |
| October 15 ,, ,, ,, | 8 | 9 |
| December 13 ,, ,, ,, | 8 | 10 |
| January 1st, 1859 ,, ,, | 9 | 1 |
| January 27 ,, ,, ,, | 9 | 1 |
| February 12 ,, ,, ,, | 8 | 11¼ |
| March 8 ,, ,, ,, | 8 | 11 |
| March 28 ,, ,, ,, | 9 | 0½ |

It will thus be found that during the three last weeks the underground water level has been lowering at the rate of half an inch per week.

Now it has been clearly ascertained by Mr. DICKINSON that the summer flow of water is invariably responsive to the rainfall of the preceding winter, and that spring and summer rains add little or nothing to the great subterranean reservoir of water which fills our wells and ditches, and feeds our deep rooted crops. And this for the obvious reason that when rain descends in spring and summer it is intercepted before it can reach the subterranean reservoir, owing partly to mere evaporation, but much more to the enormous demand made upon it by vegetation as it passes downwards. HALES ascertained experimentally that a Sunflower plant, 3½ feet high, sometimes consumed as much as 1 lb. 14 oz. of water in a day. That fact alone points out how vast the drain must be upon the ordinary summer rain and the subterranean reservoir, by growing vegetation. "The records of the DALTON gauge," says Mr. DICKINSON, "prove that the whole of the summer rain is evaporated or required for vegetation, and that the rain of winter is made available for a great hydraulic system of most admirable contrivance, and productive of inestimable advantages in the districts of country supplied throughout the year by this formation of springs and rivers."

Among the other important facts recorded by Mr. DICKINSON in the valuable paper to which we have been referring is this. He found that the annual quantity of water not evaporated or carried off, and which therefore went to supply the great subterranean reservoir, varied in 14 years between 19.28 inches in 1842 and 3.10 inches in 1841. We have no means of ascertaining what a DALTON gauge has indicated for the last 12 months, but it seems as if the percolation has amounted to *nil*. At least when we see that in a well there is actually at the present moment 8½ inches less water than there was last August that inference seems inevitable.

This is a most important matter, and it opens a very great question. It seems as if the climate of England has been gradually growing drier for some years past. If so, to what possible cause is that circumstance to be ascribed? It has been suggested that the effect of deep railway cuttings may have something to do with it. That they have produced great local inconvenience by laying dry the wells in their neighbourhood is undoubted; and it has been argued that the railways draw off water to the rivers, and the rivers send it to the ocean, where it is lost. But we do not ourselves think such an explanation satisfactory. May it not rather be the extensive destruction of hedgerow timber that is beginning to tell on the atmosphere? If, as it has been seen, trees carry off vast quantities of water from the earth, they merely discharge it into the atmosphere, where it forms clouds, condenses, and comes back in the state of rain; so that there is really no loss of moisture in wooded countries; to say nothing of another point of the highest importance, the hindrance of evaporation by shade. But when the prodigious hydraulic power of vegetation is withdrawn or diminished, much of the water in the earth finds out subterranean channels for itself, and passes away through rivers and their feeders till it is lost in the sea, while another portion is removed by constant surface evaporation.

That the effect of felling large quantities of timber is to diminish atmospheric moisture is notorious. To say nothing of the altered climate of these islands, consequent upon the removal of our superfluous ancient forests, there are other and more recent cases which may be safely quoted.

On the 27th February, 1836, the subject was brought before the *Chambre des Deputés* by M. LADOUCETTE, deputy for the Moselle, who adduced numerous modern instances of humid countries having become arid in consequence of the immoderate clearing of forests. He cited Fontenay and Provence as places where it has led notoriously to wells and pits becoming dry, and called as evidence to the same effect the Prefect of the Haute Garonne, who asserted that in the whole of the Eastern Pyrenees and the Herault the destruction of timber had been calamitous, temperature became higher, wells and water-courses diminished, while the dryness of the climate was greatly increased. Similar evidence was collected by Prof. LAURENT, of Nancy, of whose numerous statements the following may be taken as a specimen. After referring to the desolation brought upon so many of the nations of the East by the loss of their forests, upon Babylon and Niniveh, Thebes, Memphis, Carthage, Palestine, and the Troad, he concludes by quoting similar examples in the recent history of France. In the Vosges, the destruction of forests has gone too far; so that the humid vapours so necessary to plants have diminished, while the soil has become arid and inundations frequent. In the department of the Gard it did not rain in 1837 for nine months; such a dryness was not in the memory of man; the people ascribed it to the successive destruction of the mountain forests. The town of Nismes, whose name is derived from the forests that surrounded it, exhibits little except sterile wastes (*garrigues*). At Béziers 300 members of the Agricultural Society reported in 1797 that the vast forests which once sheltered that place having disappeared the loss of the Olive crop is the inevitable consequence. The authorities of the Ière represented, in 1793, that the destruction of forests had altered the temperature, augmented dryness, and seriously affected the crops. As to wells and pits, their supply too had, before 1838, been most seriously diminished. Violent storms and torrents of rain indeed fell from time to time, but they ran off the land without soaking into it, and the subterranean reservoir gained nothing. In short, ancient mill streams were gone, or flowed only in winter; and the old head waters of the river affluents had disappeared in places where the woods had been grubbed up. The general conclusion of this well informed writer is expressed in the following words:—"By the destruction in France of a great extent of forests, in order to replace them by cultivated fields, the temperature has become very irregular. Heavy rains, storms, and dryness have each done their work upon the soil, and made crops every year more and more uncertain." (*De l'influence de la culture sur l'atmosphère et de celle des déboisements*. Nancy, 1838.)

If we prefer quoting cases at our own door, to those which are recorded in totally different climates such as Central America and the Mauritius, it is because the former are more obviously analogous to what may be anticipated in these islands, should the destruction of our timber go too far. We do not by any means say that we have yet done mischief; for there is not satisfactory evidence upon the subject. But we do say that the present dryness is a most serious matter, that it may arise out of a senseless application of very sound advice, and that it is full time to investigate a question which may be pregnant with direful consequences to all cultivators of the soil. Had we had any rational agricultural statistics the inquiry might have at once received an answer; but since Parliament, in its collective wisdom, is pleased to declare that detailed information respecting the circumstances that affect the production of our daily bread, and the value of all territorial property, is beneath its notice, the public must be content to elucidate subjects of inquiry like the present as it best may.

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THE world has much to learn before it shall be able to distinguish good from evil, in even the commonest things. This is especially manifested in the case of poisonous plants wild or everywhere cultivated. How few persons know that the flowers of the Daffodil, the seeds of the Laburnum, the roots of the Scarlet Runner, the leaves of Fool's Parsley, the spray of the Cypress and Yew, the berries of Belladonna, and many another familiar plant are extremely dangerous; how many a child has been poisoned by such things while the cause remained unsuspected.

To the catalogue of surrounding dangers we have now to add the common Acacia tree; a plant which a well-informed naturalist would take care to avoid, but which the public believes to be harmless. In the last Number of the *Botanische Zeitung* we read as follows:—

"Dr. J. MOLLER in the *Zeitschrift für Natur- und Heilkunde in Ungarn* relates the case of a little girl, eight years old, who was made seriously ill by eating a fresh root of the Acacia tree which she mistook for liquorice. The appearances of the disorder were extremely similar to those which result from eating the berries of Belladonna. A strong emetic of sulphate of copper removed the danger: lemonade and black coffee being afterwards administered. The next day all symptoms of indisposition disappeared, and only the depression consequent upon such attacks remained behind. The physician who was called in considered the following circumstances worthy of remark—before being poisoned the child was suffering from intermittent fever, which did not reappear after the attack. It is however uncertain whether the fever was removed by the emetic or by the eating of the Acacia roots; if by the latter, the action of Acacia would resemble that of Belladonna. Dr. MOLLER adds that a similar case of poisoning had occurred to himself in the instance of two children chewing fresh dug up roots of this Acacia (Robinia Pseud-acacia), but that also terminated favourably."

We think it the more necessary to put this fact on record in our columns because in truth the fresh root of the Acacia or Locust tree does smell very like Liquorice root, and is almost certain to be mistaken for it by persons who chance to be present when a tree is grubbed up. We ourselves happened some years ago to witness the removal of a Sophora japonica, a near relation of the Locust tree, whose roots smelt so agreeably that one of the workmen was greatly inclined "to have a suck," and it was not without some difficulty that he was persuaded to refrain, from fear of being poisoned.

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LET us add a word or two to what was said a fortnight since upon the probable fate of ENGLISH MARKET GARDENING. Considering the general bad quality of the Continental Melons which come here, it was to be hoped that this fruit at least would remain in the hands of ourselves. But a report now before us dispels this illusion. It appears that Melons of the highest excellence, grown on beds in the open air, may be had in any quantity at Bordeaux by the beginning of August.

On the ground of a M. ARCHAMBEAU, on about three-quarters of an acre, in a low damp situation having no advantage of soil, the ground was completely covered with magnificent Paris Cantaloup Melons, whose flavour was all that could be desired (*d'un gout irréprochable*). The number of such fruit was ascertained to be as follows:—

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 7 | beds | bearing | 36 | Melons | each | .. | .. had | 252 |
| 86 | ,, | ,, | 66 | ,, | ,, | .. | .. ,, | 2376 |
| 12 | ,, | ,, | 18 | ,, | ,, | .. | .. ,, | 216 |
| 45 | plants | with 3 fruit | each | | | .. | .. ,, | 135 |
| 2 | plants | in another place | with 15 | | each | .. | .. ,, | 30 |
| | | | | | | | | 3009 |
| | To which had to be added for fruit not then ripe | | | | | | | 150 |

Giving a total of 3159 Melons on less than ¾ of an acre.

Be it remembered, moreover, that Bordeaux is within a few hours' steam of England.

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## New Plants.

216. VANILLA LUTESCENS. *Moquin Tandon in Ber. Hortic.* 4, *ser.* 5, 1856, *p.* 121, *f.* 21. *Duchartre in Journal de la Soc. Imp. Hort.* 5, 97, *t.* xi. 1859.

Orchid growers are not very eager to occupy space with Vanillas, whose green or watery white flowers, however curious, have nothing to strike the eye. The species however now mentioned is a great exception, for its flowers are golden yellow, measure 6 inches across, and appear in clusters of as many as 12 when the plant is in full vigour. There is an admirable figure of it in the second of the horticultural works above quoted. Whether its fruit possesses the fragrance of commercial Vanilla (V. planifolia) appears uncertain, the pods not having ripened sufficiently.

The plant described by M. Duchartre was obtained from the Garden of the Faculty of Medicine of Paris, having been imported from La Guayra by M. Coudert, of Bordeaux. We ourselves possess a wild specimen collected in French Guayana, by Martin. The living plant does not appear to have reached England as yet.

The subject being now before us we may as well add that the learned botanist who brought *V. lutescens* under the notice of the Horticultural Society of Paris is mistaken in supposing that the original Vanilla aromatica of Plumier has not been seen by any recent traveller or botanist. If he will refer to No. 632 of Gardner's Brazilian herbarium he will find excellent specimens collected in the Organ Mountains by that lamented botanical traveller.

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## ON FORMING AVENUES.

(*Continued from page 266*).

A WORD on soil adapted to the trees. I consider it an axiom that the richer the soil is, so much the better for the tree. Oaks thrive well in clay, but Sycamores abhor it. Beeches and Elms and Limes, and both

kinds of Chesnuts, are fond of level or of rising ground; and they will grow magnificently either in rocky or in sandy places. The Spanish Chesnut is a charming tree, well suited to an avenue. Its growth is rapid, its timber useful, and its fruit nutritious. Were I superintendant in the formation of an avenue, I would have every plant stand just 20 yards apart. In forming the holes for each particular plant I would dig each hole 3 feet deep and 5 feet in extent, every way from the centre. The reason is obvious. The plant having no hard ground to encounter would push its roots with astonishing rapidity. An English Elm, which was only 18 inches high, when I planted it with my own hand in the year 1806, now measures more than 10 feet in circumference at 1 foot from the ground.

A plant for an avenue will answer well if it be about half as thick as your wrist; but cut off its head, I pray you. If left on it will catch every wind that blows, and the agitation above will affect the roots below. This will retard the thriving of the tree by lessening the required support. Never mind the temporary loss of the leading shoot by the act of decapitation. In due time another will push forth and soon repair the loss. Let your young trees be planted in first-rate puddle, just stiff enough to support them in an upright position. This is a sure way to effect a prosperous issue, which will crown your labours with complete success. The delicate roots will find comfort in the puddle, and they will adhere as firmly to it as Whig and Tory do to office. Whereas, on the contrary, if you use soil in its dry state many of the delicate fibres will be crushed, and others will be so interlocked that it will require the reproducing aid of Nature to furnish a new supply ere the plant can perform its expected duty. This is not all. The use of puddle not only helps to encourage the young tree, but it renders the daily operation of the watering-pan unnecessary for many weeks.

So much for the putting of the trees into their respective holes. Let us now see how we can secure our rising hopes from the injury which they are exposed to receive through sheep and cattle, hares and rabbits, all of which are a bane to the trees, but a treasure to the table. Indeed, without them royalty itself would languish in despair, whilst our aldermen would loiter through the streets of London like phantoms from the grave, putting us in mind of Ovid's description of Famine. She was so emaciated, that you might see through her skin into her bowels—

"Dura cutis, per quam spectari viscera possent."

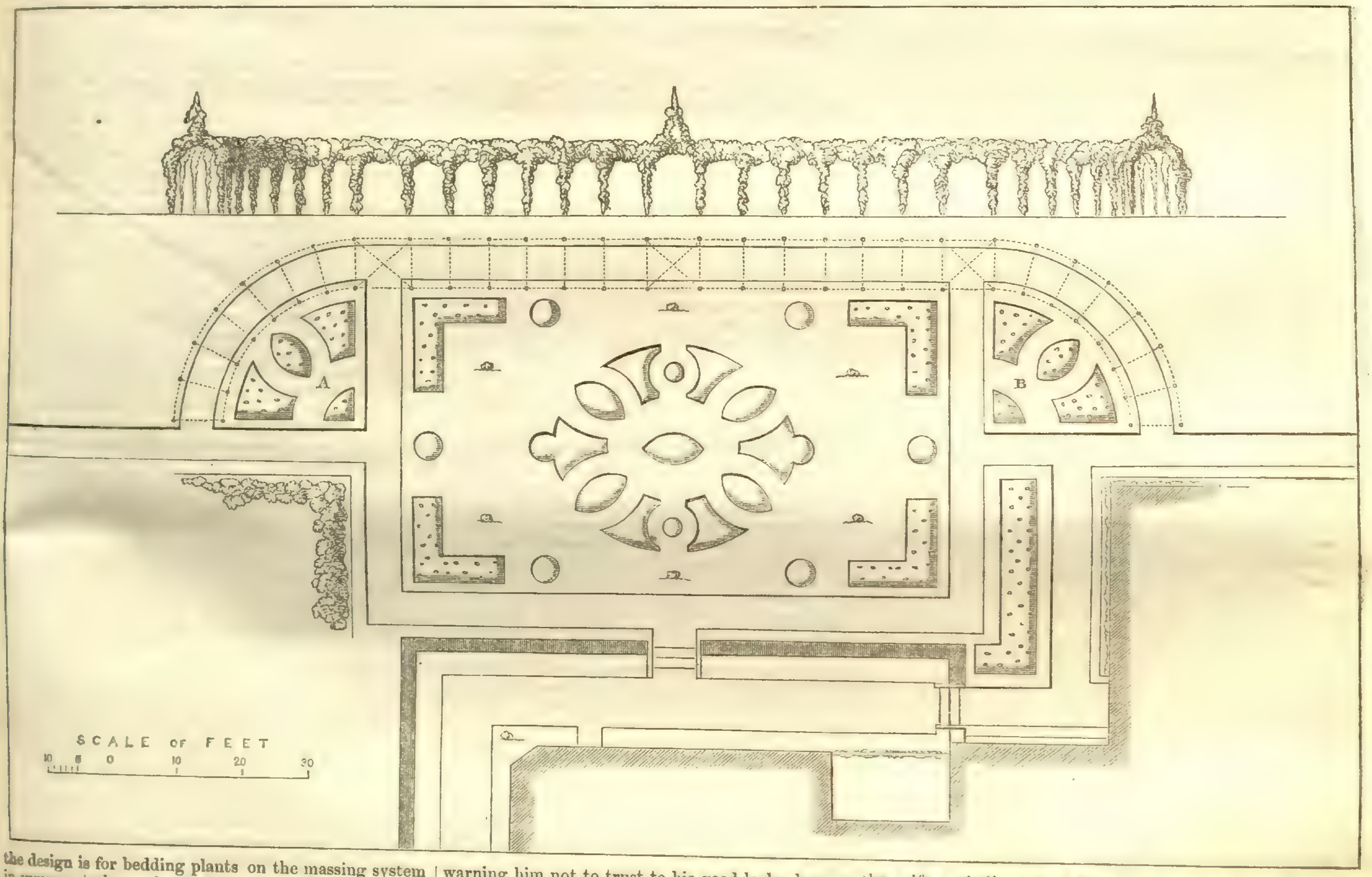
Each avenue tree will require four corner posts, each to be 4 feet 6 inches out of the ground. Also four rails split from Oaken poles. They must be 9 feet long, each pole being sufficiently strong to make four good rails. The stoops themselves may be riven out of old and knotty Oak trees, not much fit for other purposes.

Having fixed the stoops in the ground prepared for them, then drive the rails through the holes into these stoops sufficiently far to enable you to peg them at the outside of the posts; so that both rails and posts may be held firmly together. Be mindful, at the same time, to fit the rails with their sharp edge uppermost, in which position the rain cannot lodge on them. Such a fence as this will endure for 20 years, and it will prove a most effectual barrier against the pressure of cows and horses. It will even be a comfort to them, as the Duke of Argyle's milestones were occasionally to our northern brethren who labour under irritating affections of the skin. Rabbits, sheep, and hares are easily prevented from doing harm by the following process at a very trifling cost of labour and of money.

Take your wheelbarrow into the pasture, and fill it with *fresh* cow-dung. Add soot to this until the dung requires the consistency of mortar fit for use. Do not add any water to it. Then place the whole under cover for about three weeks; after which it will be quite ready. With a mason's trowel, or with your bare hand, apply it "judgematically" (as we boors in Yorkshire say) to the boles of your newly planted trees, high enough up to protect them in case of a snow-drift. This will require to be renewed only once in three years. *Charles Waterton, Walton Hall.*

## PLANS FOR VILLA AND SUBURBAN GARDENS.

Plate 2 is a portion of the preceding (p. 241) plan on an enlarged scale, with a geometric elevation of Rose arcade. The group of 13 beds forming the centre of




the design is for bedding plants on the massing system in summer, to be replaced in winter with dwarf evergreens, grown in the reserve garden for that purpose. There is no necessity for keeping them in pots. Constant removal enables them to be transplanted without risk, as well as effectually checks any over luxuriance of growth. The six small circular beds are to be filled on the same principle: but the four rectangular corner beds are dwarf permanent evergreens, to form a kind of frame work to the more richly coloured centre. Six single specimen plants are shown: they are dwarf standard variegated Hollies with symmetrical heads. In the four beds of each of the quarter circles A and B are dwarf Roses. *George Lovell.*

## LIGUSTRA—VACCINIA.

Alba *Ligustra* cadunt, *Vaccinia* nigra leguntur. (*Ecl.* II, v. 18.)

Every schoolboy knows this Virgilian line. "The snow-white Ligustra fall; but the dark Vaccinia are gathered." What, however, was the Ligustrum and what Vaccinium? Privet and Bilberries, cries the fourth-form boy, proud of his acquaintance with Ainsworth. Privet and Whortleberries, says Dr. Smith in his modern Latin-English dictionary, but with some hesitation. Ligustrum album and Vaccinium Myrtillus, adds the systematical botanist. But M. Du Molin interposes with "Gentlemen, you are wholly wrong; they were neither the one nor the other; nor at all like them. Let us consider each separately." I will endeavour to condense his argument.

And first of Ligustrum: Is it to be believed that when Corydon, the shepherd, addressed this line to young Alexis, warning him not to trust to his good looks, because the Ligustra, fair as they are, drop away and perish, he would have alluded to so sorry a flower as the Privet. Surely he would have selected something striking and admired on every hand. And it is only in that way that the name was used by other Roman poets. "O! Galatea, thou art fairer than the white blossom of Ligustrum," says Ovid,

Candidior nivei folio, Galatea, *Ligustri*. (*Metam.* XIII v. 789.)

Martial talks of a maiden "fairer than the unsullied swan, than silver, snow, or Lilies or Ligustrum."

Loto candidior puella cycno,
Argento, nive, Lilio, *Ligustro*. (*Epig.* I, 116, v. 2 et 3.)

And again: "You surpass the Lily, and Ligustra before they fall."

Lilia tu vincis nec adhuc delapsa *Ligustra*. (*Id.*, VIII, 28, v. 11.)

And in another place, describing the folly of addressing verses to so eloquent a man as Nerva, he says: "You might as well send Violets and White Ligustra to the farmer at Pæstum, or Corsican honey to the bees of Hybla."

Pæstano Violas et cana *Ligustra* colono,
Hyblæis apibus Corsica mella dabit. (*Id.*, IX, 27, v. 3 et 4.)

In no one circumstance are these passages, or the remarkable expression of Claudian in his Rape of Proserpine, applicable to the Privet. "This one advances sparkling with Roses, the other snow-white with Ligustra."

Hæc graditur stellata Rosis, hæc alba *Ligustris*.
(*De rapt. Pros.*, lib. II, v. 130.)

What then can this favourite Ligustrum have been?

What does the word itself mean? Does it not signify a winding plant, from *ligo*, to tie or wind round; for to derive it from Liguria as if that were its native country is absurd, when speaking of a common European bush; and no tying, winding, or binding property does the Privet possess. That Ligustrum was really a twining plant seems clear from the passage in Claudian just quoted. It is easy to imagine a figure decorated with festoons of some climbing plant; but how the Privet could have produced that effect is incomprehensible. Upon the whole Du Molin is of the opinion of those who believe the Ligustrum to have been our beautiful larger Bindweed, Convolvulus (or Calystegia) sepium, a plant which for whiteness, gracefulness, brilliancy of surface, and fugitiveness, exactly suits all the passages here quoted.

His difficulty lies in some passages to be found in Sidonius Apollinaris, who dwells on the fragrance of the Violet, Cytisus, Serpyllum, and Ligustrum, even comparing it for sweetness to Violets and Thyme, and classing it among the materials for making fragrant garlands.

Fragrat odor Violam, Cytisum, Serpylla, *Ligustrum*. (*Panegyr. Anthem.*, v. 443.)
Inter Violas, Thymum. (*Propempt. ad libell.*, v. 59.)
Gerat orbis atque Lauris
Viridantibus tegatur,
Casias, *Ligustra*, Calthas
Redolentibusque sertis. (*Epist.*, lib. IX, 13, v. 81 84.)

But Du Molin is of opinion that Sidonius, who lived at a period long posterior to the great classical age, may have himself not known what Ligustrum was.

This is in brief the main argument of the ingenious French critic in proof of Ligustrum having been Con-

volvulus. Many other points are also insisted on, for which these columns have no space. It is however remarkable that Du Molin nowhere adverts to the explicit statement of Pliny that Ligustrum was a tree. Vaccinium will be the subject of another communication from *Jael*.

## MR. GLASSE'S GARDENING BOOK.—No. VI.

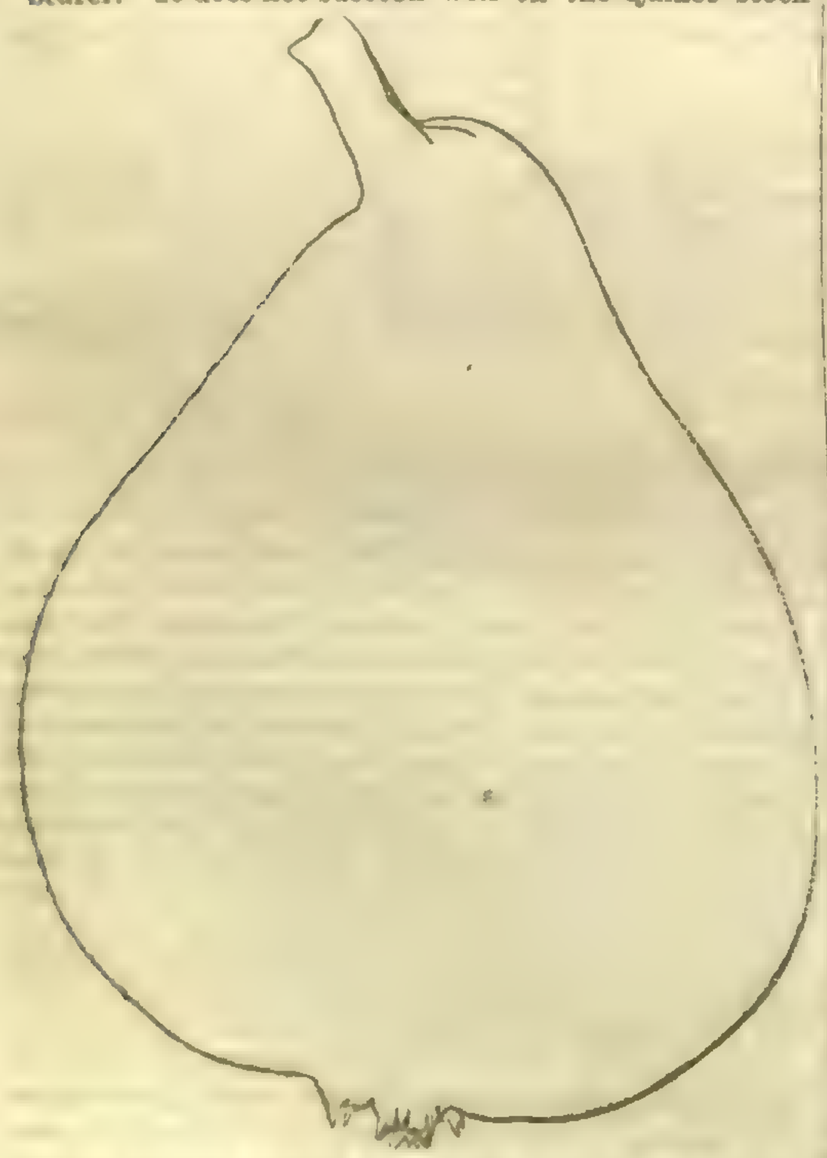
### 26. *About Hyacinths, and what to do with them after Flowering in Glasses.*

I NEVER could bear to see things wasted. Waste not, want not, was my mother's saying; and a right good one it is. People would be better off if they had sense enough to do accordingly; but they haven't. So it always went to my heart to see heaps of things that once were handsome thrown alive on the rubbish heap because their beauty was gone. I often wondered how the young ladies that treated poor Hyacinths so would feel if they were pushed out of doors in the days when their soft cheeks, sparkling eyes, and ivory teeth have departed. Ah me! they wouldn't like that, I warrant you.

What's the matter with a Hyacinth when its flowers have dropped off in my lady's chamber? It isn't dead. By no means. There is plenty of life in it yet, though it is sick; and if taken care of will bloom again and again. So when the housekeeper used to tell me "to take them things away," I always had a fancy for seeing whether I couldn't bring them round; and sure enough that was easy enough to do, for they only wanted to be planted in the border and to have their delicate leaves sheltered from cold at night, and the sleety storms of spring; and then they went on growing, and got greener and greener, and stiffer and stiffer, till the time came for them to wither, as their nature is. Well, next year they'd peep up again in the month of March, pretty strongish, a good many at least, and some would flower, weakly to be sure, but still they showed that their lives were safe. Next year they were all right, and to my mind finer than ever. "Glasse!" says my lady to me one day, "Glasse! where did you get that beautiful row of Hyacinths from? I am afraid you have been extravagant, and I shall have a long bill to pay." (My lady need not have said that, for I never was extravagant; waste not, want not, for me.) "If you please ma'am," says I, "I got 'em out of the rubbish." And then I told her how. And wasn't my lady pleased, for uncommonly handsome they were, not a bit like the long-legged spindling puling things in the drawing-room, that wanted three supports for every one to keep 'em upright. These were as stiff, and sweet, and fresh, and bright coloured as they could anyhow be where they grow wild, wherever that is. And so they were for many a long year after.

## NEW PEARS.

*Comte de Flandres.*—This is a large and very handsome Pear; when fully ripe it is of a fine red and yellow. It is perfectly hardy, and a most abundant bearer. It does not succeed well on the Quince stock



unless double worked; but it does not require it as it bears well even when young on the Pear stock. Its leaves are remarkable, for when young they are of a silvery white. Its season is December; and although not so melting as some, it is very juicy and good.

## Home Correspondence.

*Origin of the famous Chasselas de Fontainebleau Grape.*—I find a history of this in the *Annales de la Soc. Hort. de la Gironde*:—"The following passage occurs in the book of the commune of Cahors (Lot) called the *Livre tanné*. In the year 1534, in the reign of Francis the first, in the month of June, were presented certain missive letters from the King, our Sovereign Lord, addressed to my Lord Seneschal of Cahors, in which the said Lord commanded that a Vine-dresser of Cahors should be sent him in order to manage the plantation of a close of Vines at Fontainebleau. And after sirs, the Consuls, had assembled most of the Vine-dressers of the city, it was determined to send Jean Rivol, called Prince, a Vine-dresser of Cahors, who went; and afterwards, in November, under the care of a clerk of the latter, were collected a great number of the Vine plants of Cahors and taken to the said Fontainebleau, near Paris. And the said Rivol, called Prince, who had come back, returned once more with the said clerk, carrying 20 great casks *(barriques)* of wine for the King, and 30 mules were loaded therewith." *Jael.*

*Wall Trees; Important to Gardeners.*—Owing to a deficient supply of rain last season, trees in many situations made only stunted growths. Those on a loamy subsoil have their lower roots at present in a very dry state, and this must be their condition for some time even if heavy rains should commence to fall, unless recourse be had to artificial means, for it has been proved by Mr. Dickinson with a Dalton gauge that under ordinary circumstances, from April and during the summer months, a great deal of rain must fall before the moisture reaches a depth of 3 feet. Such being the case, now is the time to inquire more especially into the condition of wall trees, for if their lower roots are in a dry stratum the trees will not obtain a sufficient supply of sap and then red spider will set to work, and it is not an easy task to keep it down by syringing when the tree is dry at the root. The condition of the latter should therefore be seen to, in order that the vegetation of the trees may progress favourably, and without a check on its first starting. Besides there are other reasons why the present time is the best for thoroughly moistening fruit tree borders. The mean temperature of the air, the soil, and that of spring water are at this season nearly equal; therefore the soil and subsoil may be well soaked without chilling the roots or checking the vegetation of the tree, as would certainly be the case if the operation were deferred till the temperature of the air and soil becomes much higher than that of pump water. If water can be obtained as warm as the soil of the border, no bad consequences will result from a full supply being afforded to the roots of wall trees in the heat of summer; but as spring water has generally to be depended on, now is the time for employing it with the greatest safety. We have observed that the fruit of a Nectarine tree did not swell for more than a week after the roots had been watered in hot weather with cold water, and then the fruit cracked after it did begin to swell. *R. T.*

*Walnut Trees and Cattle.*—Your correspondent "Diss" inquires "whether Walnut trees are liable to have their bark stripped, and their leaves and young shoots browsed upon by sheep, horses, or cattle." I can give him no positive answer; but I can state from my own experience that Walnut trees and all other trees require when young to be protected from the rubbing of sheep, horses, and cattle. *D. C. L.*

*Marvellous Literary Intelligence.*—It is not long since a correspondent introduced to your notice a wonderful piece of information conveyed to his readers by Mr. Dickens in "Household Words." Allow me to add another. He has just illustrated the "beautiful adaptability" of Nature by such "most useful and life-giving forms of vegetation—as the giant Cactus of Mexico, whose juicy leaves quench the thirst of man and mule." What do you say to that? *Gradgrind.* [We say that since such leaves as the Mexican Cacti bear are more like poniards or stilettos than anything else, Mexican men and mules must have a very extraordinary way of quenching their thirst.]

*Material for Muslin Dresses.*—I enclose a small piece of a dress received from a friend who is resident at "Mhow," in the Bombay Presidency, where it was manufactured. It is called "Pine Apple Silk," and is made entirely of the fibre of the leaf of the Pine Apple; the texture is exquisitely fine and the pattern not so grotesque as other materials adapted for ladies' wear I have seen of Indian manufacture. Could we import or purchase such in this country it would be found a neat and agreeable substitute for barège or muslin dresses. *A Dublin Correspondent.* [It is a well-known beautiful article, but we are not informed whether our manufacturers employ it or not. Very large quantities of the fibre are prepared in the Philippines.]

*Orchid Acarus.*—I observe that growers of Orchids are plagued by an acarus which seems from its habit of partly burying itself under the cuticle of the leaf to be difficult to destroy by the usual methods. Permit me, therefore, to suggest a new one which at all events has the merit of being simple and easily tried, and which is infallible for common red spider; of course the plan is not applicable to plants in bloom. Make a thin starch, say about a tablespoonful of Sago-flour or Potato-starch to a quart of water; set the water on the fire, making at the same time a littery (?) of the farina and a small quantity of water, and when the water boils pour in the littery (?) and stir with the spoon until it boils again; then take it off, and it is ready to syringe the plants as soon as it is cool enough for the purpose. The proper strength of the starch will be best ascertained by experiment. If this description of starch making is not understood, or if Sago-flour or farina are not readily obtainable, get your laundry maid to make you some thin starch (not patent), and apply it or thin gum water if starch is not to be readily had; then set open the door and slides of the house, and allow the starch to dry on the leaves as quickly as it can. The consequence is that it shrivels in drying, and all the acari are carried off along with it. The plants look unsightly for a day or two, but this is immediately compensated by the total destruction of every spider and ovum on the plant, and the healthy vigorous look it assumes immediately afterwards. This plan may not be so successful with the acarus in question, seeing it partially buries itself under the cuticle, but I think it deserves a trial, for I believe the starch as it dries will draw every one that it touches. Should any Orchid grower try this plan I hope he will report on the success of the experiment. It does not answer for destroying aphides—the rosin size is best for them. *T. G., Clitheroe.*

*Violets.*—I never knew them to change colour. Perhaps white varieties have been grown, and those that now bloom white are seedlings which have obtained the mastery over the purple ones. I am certain that Violets never change colour. Many complain of Pansies changing colour, which they never do. The old plant sheds its seed and dies from the heat of summer, and young ones spring up something like the old kind, but generally they are inferior to it. *R. Shackell.*

*Checking over-luxuriance in Fruit Trees.*—I happened to call some time ago at a rather extensive place not a hundred miles from Nottingham. I there saw a plan quite new to me of checking over-luxuriant growth in young Peach and Nectarine trees. This was by boring through the stem at the part where the bud had been inserted one hole, and in some cases two, about ¼ of an inch in diameter. I could easily push a lead pencil through the aperture. What think you of the operation? The gardener who had done it had left the place about three months before I called. *A. B.*

*Covers for Vine Borders.*—Have any of your readers used zinc sheeting for covering Vine borders? If so, will they say if it answers the purpose or if wooden shutters are better? What is the price of zinc per superficial yard? Which of the two should a person who can have either use? If boards are recommended, what length, breadth, and thickness should they be, and should they be painted with mineral paint, or hot gas-tar? Would that preserve them better than having them well planed and without paint? *A. B.*

*Sigma's Aphis Powder.*—Last year I purchased some of this powder, and having kept it in a bottle closely corked in a dry room all winter, to-day I dressed a Peach tree on an open wall with it. The aspect is south and the tree covered with aphis. In about three hours I examined it, and the flies are all dead. A good syringing will make the tree perfectly clean. It appears that this powder is always efficacious when used perfectly dry, but the plants or trees dressed with it must be dry also. For applying this powder I used a *Bouffe à Houppe*, a capital invention. *H. Bowler, Ipswich.*

*Waltonian Cases.*—This admirable invention for striking cuttings and starting seeds by bottom-heat has always been attended with one serious inconvenience arising out of the necessity for using an oil lamp to heat the boiler, except where a jet of gas is available. In experienced hands the lamp will burn from 12 to 20 hours; but a very slight variation in the method of trimming, which may occur if one is in a hurry, may cause it to smoke terribly or go out in an hour or two, when of course the heat goes down and mischief follows unless the mishap is discovered in time. And if ever so well managed the lamp is a dirty affair, so there are few who would venture to use the apparatus in a decent room or even in a well-kept greenhouse. I stated this case to Mr. G. Wilson, the talented director of Price's Patent Candle Company, and he at once turned his attention to the providing of a remedy. This is now at our command in the form of a candle which burns 12 hours in a lamp which stands 8 inches high. The Waltonian case may now be placed beside the bed of an invalid to relieve the monotony of a sick chamber, and the most delicate hands may manage it without fear of contamination by oil or soot, and the source of heat is certain. It has proved the best of contrivances for propagation on a small scale; it will now prove the cleanest. *Shirley Hibberd.*

*Leafless Pear Tree living two years without putting forth a leaf.*—The following is a remarkable instance of a Pear tree living two years without putting forth a leaf. A young rider tree of the sort called Poire Belge (?) a kind very much resembling the Beurré Rance, was planted early in January, 1857, against a south aspect of a 12-feet high brick wall. Its roots were carefully mulched and with short stable litter, and they were frequently supplied with water during the warm summer months. The tree had been growing vigorously the previous year, supported apparently principally by two roots which had penetrated into the ground and had been cut rather too short in removal, leaving but a few small fibres round the collar of the plant. No perceptible attempt was made during that warm summer to put forth a leaf, and it was removed the following winter to be replaced by another, the bark being still green. I had it planted against a wall with an east aspect, where it remained through the second summer in the same inactive state. A graft taken of it on the 19th of June last is now putting forth vigorous buds, and a graft taken from it last week will, I feel confident, be attended with the same success. I had it replanted against the same wall a short time since, and it has now more the appearance of swelling its buds and still growing than it has had for the two past seasons. Instances of plants living through one season and growing the second are not unfrequent, but I have never heard of one surviving a second year with a chance of growing. *J. W.*

## Societies.

LINNEAN: *March* 3.—The President in the chair. Professor Blunt was elected a Fellow. A valuable collection of beautifully preserved specimens of British Sea-weeds, in three folio volumes, collected by Dr. Cocks of Plymouth, was presented on behalf of 31 Fellows of the Society, who had subscribed for their purchase. The following communications were read:—1. Letter from Mr. C. Barter, of the Niger expedition, dated Jan. 2, 1859, addressed to Sir W. J. Hooker, and containing an account of the vegetation of Fernando Po and Prince's Island, as well as of sundry collections transmitted to England. Among the plants referred to by Mr. Barter as being sent in a living state, were two kinds of Sterculiaceæ, producing fruits known in Africa as Cola nuts. Immense quantities of these nuts, it was stated, pass during the dry season from the coast to the interior. During half the year caravans pass Rabba on the Kworra, and about 1000 donkeys monthly are laden with Cola nuts. These are carried pannier-fashion, two baskets by each animal, the baskets containing each about 50 lbs. weight. Cola nuts are not very often carried in the pod, being in this form too cumbersome, but as it is necessary that they should be kept moist, the baskets are well protected with leaves of a species of Phrynium, which keeps moist, and does not readily decay. Steamers running up the river, Mr. Barter observed, might take some tons of Colas from the Lower Niger, and dispose of them with advantage at Rabba. The variety of Cola called Gonja in the Nupe country is the most prized, being worth about 100 cowries each; the value of cowries at Rabba being 2500 for the dollar of 4*s.* 4*d.* The Bitter Cola, also sent home, is prized by the native people for its medicinal qualities; these nuts are intensely bitter, but not astringent as is the common Cola, and they command a higher price; the fruit is about the size of a Peach, rose-coloured, and very pretty. Prince's Island, unlike Fernando Po, has no very elevated land, but presents from the sea a number of rocky peaks, some conical, others flat-topped, with beetling cliffs or perpendicular walls of sheer precipice more than 1000 feet high, bare of vegetation, and white and dazzling in the tropical sun. The island is celebrated for producing good Coffee; Chocolate is also much grown, and traces of Sugar plantations exist. The soil is rich, composed principally of decomposed trap. Ginger, Arrowroot, Yams, and all the fruits of the coast are grown in abundance for the supply of ships. Some small islets which lie detached were visited—mere rocks rising 20 to 30 feet above the water; some were covered almost exclusively with an Oleander (called O. nodosa by Mr. Barter, but described as being 3 or 4 feet high, quite shrub-like, and consequently not that species); these, growing fully exposed to the sun and sea-breeze, were beautifully in fructification, and covered with Lichens. A large Orchid resembling a Vanda, but, like too many of the African Orchideæ, with insignificant flowers, which here were of a yellow colour, grew in abundance on the steep sides of the larger rocks. Melastomaceæ were plentiful: one species growing 12 to 16 feet high, with magnificent red flowers. A species of Mussænda with conspicuous white bracts was common; also a shrub with spikes of purple flowers like a Veronica, having a singular pair of white leaves at the base of each spike, rendering it very showy. Drynarias, Aspleniums, Elaphoglossums were there, and Polytrichum commune, occupying the moist hollows, along with which and almost buried in it, grew Trichomanes crispum. Mr. Barter particularly alluded to the exquisite beauty of the water in the quiet nooks of the bays about these islets, the eye penetrating 50 or 60 feet with ease, and discovering an irregular rocky bottom, the boat at one moment gliding over masses of coral-bound rock on which beautiful sponges and corallines might be seen, and at the next passing over a cavernous depth of blue water in which nothing was visible, unless a shoal of the beautiful fishes of the tropics might by chance dart across. The rocks exposed to the fluctuations of the tides were covered with the small mangrove oyster, below which, seldom exposed, occurred a pretty crimson coral, and a large Flustra, while gorgeous Actinia, and the common Echinia and star fishes of more northern climes, abounded in all the salt pools. The waters were stated to be almost destitute of Algæ, one species of Fucus, and that not attached, and a small plant of confervoid growth being the only representatives of the family which were met with. At Prince's Island some 10 or 12 species of Begonia were seen, while at Fernando Po only one species, and that with yellow flowers, was observed; they were stated to be semi-epiphytal, growing on the black soil which collects on old forest trees. An Elais met with while at Prince's Island was thought distinct from E. guineensis, the nuts being three times the size of those of the latter; the tree was found to be scattered along the shore, and was distinguishable by the pinnæ of the leaves being uniformly pendulous, whereas in E. guineensis they stand irregular; some being pendulous and others erect. Of the Ferns noticed the most common were Platycerium Stemmaria, very large, Drynaria coronans, D. vulgaris, D. irioides, Asplenium crenulatum and a species like lucidum, Mertensia gigantea, Lygodium scandens, Gymnogramma calomelanos, Angiopteris evecta, Acrostichum conseum, Nephrodium molle, and Lastrea invisa. Tæniopteris, Lastrea, Asplenium, Adiantum, Diplazium, Gymnopsis, and Trichomanes are largely represented. An Acrosticheæ, resembling Stenochlæna scandens, was found very abundant, adhering to the trunks of the trees like Ivy. Lycopodiums were also abundant, L. dendroideum especially so, in loamy soil; and L. Phlegmaria epiphytal, and hanging down a yard in length, was very beautiful. Mr. Barter mentioned that some very good Cabbages are grown both at Fernando Po and Prince's Island without going to elevated ground; Water-cresses abundant, but of course introduced. Dr. Hooker observed that the collections recently received at Kew from Mr. Barter, and referred to in the earlier part of this communication, were the finest both as to condition and variety, and in regard to the information accompanying them, which had ever reached England from Tropical Africa. 2. Letter from M. Bourgeau, botanist to Capt. Pallisser's Expedition, dated Fort Garry, Saskatchewan, June 7, 1858, addressed to Sir W. J. Hooker. This was a brief account of M. Bourgeau's herborisations, and was accompanied by some interesting observations in a tabular form, undertaken at the request of Dr. Hooker, in order to ascertain the relation of the temperature of the earth, and that of the trunks of the forest trees, during the severe and almost arctic winters of that region. 3. "Observations on the growth and time of appearance of some of the Marine Algæ," by J. Cocks, Esq., M.D. Dr. Cocks had observed, during the many years he had devoted to the collecting of these plants, that many species did not invariably reappear in the locality where they had been previously met with, either disappearing altogether, or remaining for several seasons in abeyance, meanwhile however appearing in new and different localities. He had also observed that a few species were never found but in particular spots, where they appeared year after year. Some instances were cited; and the author inquired how these irregularities of appearance and disappearance were to be explained. He accounted for it, he said, in this way: For the last few years he had observed in various places on the shore a gradual advance towards low-water mark of the common Fucus serratus and vesiculosus, while the Laminariæ, whose growth is usually in deep water, had been encroaching on the shore, and were now to be met with in much shallower water. The growth of these plants from two opposite portions towards one common mutual ground, had left little or no intermediate space for the growth of other Algæ. It was in this space, namely between the tidal limits, that many of the filamentous species previously referred to are usually found, and this encroachment of the coarser species, the author thought, might account for the disappearance, in certain cases, of the more delicate kinds from their original habitats. 4. "On five new Plants from Eastern Peru," by Mr. R. Spruce.

ENTOMOLOGICAL: *March* 7.—The President in the chair. Fine specimens of Petasia nubeculosa, reared by Mr. Foxcroft, from Loch Rannoch, were exhibited, some of which had remained two years in the pupa state. A box of insects received from Mr. Diggles, resident at Moreton Bay, Australia, including a number of Microlepidoptera, and also a number of butterflies collected in Siam by M. Mouat, were exhibited. Mr. Douglas exhibited a number of small Coleoptera, with a very large kind of flea, collected in damp Grass at the sides of a pond of water; also the larva of Trinodes hirtus, resembling a hedgehog in miniature. Mr. Westwood exhibited several species of insects which had been forwarded to him by Mr. Neitner, from Ramboddo, in Ceylon, injurious to the Coffee plant. These consist of a species of Coccidæ (Lecanum Coffeæ) which infests the surface of the leaves in vast numbers; a minute moth belonging to the genus Gracilaria, and a minute fly (Agromyza, sp.); the larvæ of both of which reside within the leaves, forming blotches upon them. He also exhibited several species of insects which have been found in some of the ancient manuscripts in the Bodleian library, including two species of Anobium, A. striatum and A. paniceum, the larvæ of which are known as bookworms. He also exhibited the larvæ of a dipterous insect Thereva, remarkable for the apparent duplication of the abdominal segments, also on account of its very predacious habits, feeding upon the chrysalids of moths. Mr. White read extracts from a letter received from Mr. Gloyne, giving an account of the habits of the curious genus of beetles, Omophron. Specimens of the larvæ of a species of Anobium which feeds on Poppy seed were received from Sir Jamsetjee Jejeebhoy. A letter from Mr. Wallace giving an account of the discovery of several new and splendid species of insects in one of the islands of the New Guinea group, also of a new genus of birds of Paradise, was read. Mr. Janson mentioned the publication of a new Catalogue of European Coleoptera. A box of caterpillars preserved by a new silicate process was exhibited; they were not, however, considered successful. Captain Cox exhibited a number of drawings of the larvæ of Lepidopterous insects, and made some observations on the destruction of Scolytus destructor on Elm trees, in answer to Mr. Newman's remarks in the "Zoologist." He had calculated that one young tree had been infested with 280,000 of the larvæ of this destructive insect. The President announced that in future the Transactions should be given to members instead of being sold to them at a reduced price.

## Notices of Books.

*Illustrated Natural History.* By the Rev. J. G. Wood. Large 8vo, Routledge, Part I. Under this title it is proposed to issue in shilling numbers a popular account of all the known races of the animal kingdom from monkeys down to sponges; the letterpress to be copiously illustrated by woodcuts from designs by artists of known reputation. Let us hope that the mistakes which creep into so many of the publications called popular will be avoided by the author of this work; an observation already called for by his statement that the savage gorilla ape of Southern Africa inhabits the same country as Bushmen, a race of men found only in the Cape Colony. We would also remark that the attack which he makes upon the technical language of science is far too unmeasured. "It is not enough," Mr. Wood says, "to accumulate facts as misers gather coins, and then to put them away on our bookshelves, guarded by the bars and bolts of technical phraseology. As coins, the facts must be circulated, and given to the public for their use. It is no matter of wonder that the generality of readers recoil from works on the natural sciences, and look upon them as mere collections of tedious names, irksome to read, unmanageable of utterance, and impossible to remember. Our scientific libraries are filled with facts, dead, hard, dry, and material as the fossil bones that fill the sealed and caverned libraries of the past. But true science will breathe life into that dead mass, and fill the study of zoology *with poetry and spirit.*" No one has more constantly than ourselves objected to the needless employment of technical language. But surely Mr. Wood cannot mean to say that science is to be stripped of it altogether. When usual words cannot be found for the facts of science, the unusual become indispensable, and are then called technical. Or when words are employed vaguely in common parlance, then technical terms which have one meaning and no more, must also be provided. Otherwise all natural history must sink back into chaos. The passage we have quoted would seem indeed to have been penned without much consideration, for our author is no more able than his neighbours to dispense with technicalities. What else are his Vertebrates and Invertebrates, Molluscs, Articulates, Radiates, Protozoa, and Crustaceans? What else than technical are such words as corpuscles, capillaries, pleura, diaphragm, trachea, solar plexus, ganglia, epigastrium, Haversian canals, Quadrumana, and the like? "Poets of spirit" may dispense with accurate language, but when the man of science abandons all technical phraseology he deserts his cause, hauls down his flag, and surrenders like a coward, frightened at the frothy declamation of the silly and the ignorant.

*Lindley's Synopsis of the British Flora.* A reprint of the Third Edition has been issued by Messrs. Longmans. It differs in no respect from the third edition itself, the letterpress having been stereotyped.

TRADE LISTS RECEIVED.—*John Scott's* (Crewkerne and Yeovil) *Catalogue of Bedding Plants and Descriptive Catalogue of Fruits, &c.* The first includes a good assortment of really useful kinds with the usual succinct memoranda; the second is in like manner a list of such fruit trees as are most worth planting, with short notes for the inexperienced. Among the Peaches are some novelties which Mr. Scott recommends to his customers.—*John Morse's* (Dursley) *Catalogue of Cuttings.* It seems that Mr. Morse deals in cuttings only, which he sends by post at the expense of purchasers; a necessary precaution considering that he executes orders to so small a value as 1*s.*—*Johnstone, W. W.*, (Panmure Nursery, Broughty Ferry, Dundee) *Catalogue of Florists' Flowers, &c.* In addition to the usual stock of bedding plants, this catalogue includes the names of a good many desirable and not common greenhouse plants, as well as Conifers.

## Garden Memoranda.

MESSRS. MILNE, ARNOTT, & CO.'S NURSERY, VAUXHALL.—The fine collection of Camellias for which this nursery has long been celebrated has bloomed this year finer even than ever we remember to have seen it, and during the last fortnight has been greatly admired. With the exception of elegans, corallina, and Chandleri, its beauty is however now nearly over. These and one or two others are still in perfection, and being fine trees, each of which has on it some 100 blooms, the display they make is particularly striking. Double Whites have produced flowers of unusual size this season; Woodsi has been loaded with blossoms, and so have Beali and many others of smaller dimensions. Mathotiana is a crimson scarlet of unusual brilliancy, and seldom has it been finer than it has been this year. To Carnation kinds must be added a charming sort called Chandler's gloriosa, white, perfectly striped and mottled all over with rosy pink. This, when better known, cannot fail to find a place in every collection. Among other sorts Teutoniana, a pink kind on which however the flowers sometimes come white, was conspicuous. All were in most excellent health and pushing young wood freely.

To the raising of young stock great attention is paid here. More than 100 seedlings in the shape of young plants occupy pits, and in the propagating house were some very thriving grafted plants. Concerning the latter it may be worthy of notice that those worked in February last are quite as forward as plants grafted last autumn. Inarching has just been completed.

In the show-house flowering plants have been mixed with Ferns with excellent effect, and in a house adjoining store pots full of cuttings have been equally judiciously intermixed with plants in blossom, which are

set off to much advantage by the green ground colour; thus situated the cuttings too get properly hardened off preparatory to their being planted out.

The flower garden portion of the grounds along the new frontage has been completed, and when filled with bedding plants cannot fail to be highly attractive.

## Miscellaneous.

*Madagascar Snakes.*—There are also serpents in the island, of various kinds; but the largest are not poisonous, though they will bite severely if assailed or irritated. M. Provint told me that on one occasion, when he was travelling in the country, having risen from the mat on which he had slept during the night, he went a short distance, and having directed his servant to prepare the mats for resuming the journey, was called back by the man, who, on rolling up the mats, discovered an immense serpent 7 or 8 feet long, and as thick in the body as an ordinary wine bottle. It was coiled up in a circle exactly in the spot where he had been lying; to which it had probably been attracted by the warmth. He said he was startled at the sight of such a monster, and called to the natives to destroy it; but instead of this the people took a piece of stick, and just guided its head towards the long Grass and bushes, saying, "Go you away, go." They seemed to regard with a sort of superstition, almost amounting to dread, all serpents, crocodiles, and other dangerous reptiles, which they scrupulously avoid injuring, under an apprehension of experiencing retaliation, either from that identical reptile or from some other of its species, at a future time. The only serpent which I saw was a small one between 3 and 4 feet long, of a light yellow or straw colour, and beautifully marked with transverse stripes of brown; but I was told the reptile was not venomous. The gentleman under whose mats the immense serpent had coiled itself while he was sleeping also told me that, when passing through the dense unfrequented parts of the forest in the interior, he met with large serpents which, when he has come suddenly upon them, had appeared irritated and had reared themselves up several feet as if to resist his progress, till he attacked them with a spear.—*Ellis's Madagascar.*

*The Manchester Botanical and Horticultural Society* has announced an exhibition on Wednesday, August 24th, when productions may be exhibited either for sale or competition. We observe with regret, but without surprise, that here, too, the Council of the Society find themselves in difficulty on account of the "unavoidable deficiency caused by the Flower Shows."

*The Horticultural Society of Nantes* has also circulated a prospectus of an exhibition of horticultural produce and objects of garden art and industry, to take place on the 12th, 13th, and 14th May. Among the subjects for which prizes are offered are wax or other artificial fruit and flowers, garden tools, and pottery or objects intended for garden decoration.

## Calendar of Operations.

(*For the ensuing Week.*)

### PLANT DEPARTMENT.

CONSERVATORY, &c.—All kinds of climbers should after this time be frequently examined to prevent a confused growth. Kennedyas, &c., if crowded should have their shoots thinned. The different Ipomœas and Thunbergias being subject to red spider should be well syringed to prevent that pest gaining ground. Where a large quantity of hardy shrubs is annually forced, either to decorate the drawing-room or the conservatory, it is not desirable to pot a fresh stock each season, as a number of the deciduous things, such as Roses, Lilacs, Thorns, Honeysuckles, &c., may, by proper treatment, be made to bloom for several successive seasons. Select therefore the most suitable plants when removed from the houses, and give them some kind of temporary shelter to gradually harden their foliage; those cramped for pot room shift into a size larger pot in rich turfy loam, towards the end of the month plunge them in an open situation in order that the wood may get ripe early. These plants from having been previously forced will bloom earlier than the new stock, of which a portion should each year be potted to replace such as become useless for further work. Cut down and place in a cold frame the most choice kinds of Cinerarias for suckers after they have done flowering, and put in a stock of Chrysanthemum cuttings for autumn display. As spring-flowering plants for the stove and for cutting we know of none more useful than the Begonias. Now will be a good time to commence with a stock for next season's display; as they go out of bloom allow them a short rest in a rather dry house, when they may be partially disrooted and repotted, pruning in any straggling shoots. Keep them close, and syringe frequently, when they will soon commence growing. Abundance of light and a tolerable share of pot room are necessary to ensure fine plants. Above all keep them a good distance apart that the fine foliage of some of the species may have full room to expand. As the plants advance liquid manure may now and then be given. Their period of blooming is from January to May.

### FLOWER GARDEN AND SHRUBBERIES.

Look well to recently transplanted trees and shrubs. Do not allow anything to suffer for want of water at the root, but one good soaking after planting to settle the soil will be sufficient in most cases until we have more sunshine to warm and dry the ground. The soil should be kept moist but not saturated and run together by over watering, as is sometimes done. A sprinkling over head with the engine on the evening of drying days will be of more service to large evergreens than over watering them at the root. See that all recently planted things, whether large or small, are well secured against wind. The best way of effecting this in the case of large plants is to use three strong tarred cords for each specimen, fixing them to the plant by means of a collar made of strong metallic wire and thickly wrapped round with canvas to prevent its injuring the bark, and then tying them to strong pieces of Oak driven into the ground at proper distances from the stem of the tree. For specimens in prominent situations metallic wires should be employed instead of cords, being neater in appearance; and although somewhat expensive in the first instance they will last a lifetime. Take advantage of the present state of the ground to stir and rake the surface soil of shrubbery and herbaceous borders to prevent the growth of weeds and give a fresh neat appearance. Also plant out Wallflowers, double Rockets, and young stock of herbaceous plants generally. Delphinium formosum is one of the finest plants we possess in this way, and should have a place in every garden.

### FORCING DEPARTMENT.

VINERIES.—Give air as freely as the state of the weather will permit, using a little extra fire heat, and leaving a little air on at night so as to prevent the bloom being injured by damp settling on the berries, as is apt to be the case where the house is shut up. FIGS.—Where the early crop is approaching maturity the borders should be well watered, so as to avoid the necessity of having to water the soil after the fruit begins to ripen, which is injurious to the flavour, and is also apt to cause the fruit to burst prematurely, particularly if the trees have been rather dry at the root previously. So far as the present crop is concerned the trees can, perhaps, hardly be too dry at the root while the fruit is ripening, but where a second crop is expected care must be exercised to keep the trees in health, and to prevent the foliage becoming a prey to red spider, otherwise the second crop can hardly be expected to be good for much. Use the syringe vigorously and maintain a moist atmosphere as long as this can be done without risk of injuring the fruit. Also keep the young wood thin and regularly tied in, stopping before the fourth or fifth leaf, according to the strength of the shoots, &c. MELONS.—Encourage those newly planted out with a moist warm atmosphere, so as to get them into full growth as quickly as possible; but plants that are fairly established should be kept cooler, admitting air on every favourable opportunity, in order to secure short-jointed fruitful wood. Keep the shoots thin and regular, pinching out any not wanted, but avoid stopping the main shoots until they reach the sides of the pit, when by pinching out the points the laterals will start into growth and show fruit abundantly; and by this time the plants will have gained sufficient strength to set and carry a fair crop. Do not exceed 65° at night, and admit air when the glass rises to 75°, but do this very carefully on cold days. Endeavour to maintain a steady bottom heat of about 80° or 85°, and keep the soil in a healthy state as to moisture. See to providing plenty of young plants for succession crops. CHERRY-HOUSE.—Syringe the trees daily with water at the same temperature as that of the house. Loosen the surface soil in the pots or borders with a hand fork, and supply the plants liberally with water until the fruit begins to change colour, after which gradually decrease the quantity and cease syringing; give abundance of air on all favourable opportunities. STRAWBERRIES.—Plants ripening their fruit should be placed by themselves and kept moderately dry. Those in later stages of growth should however be well supplied with moisture both over head and at the root. FRAMES.—All crops in these, such as Carrots, Potatoes, Radishes, and Cauliflowers, should have free exposure in fine weather, and be regularly supplied with water. Repot Tomatoes and Capsicums.

### HARDY FRUIT AND KITCHEN GARDEN.

Seedling plants of Cauliflowers, Cabbage, &c., raised this present spring should be pricked off when large enough to get stocky for final transplanting. As the future growth of the Brassica tribe depends much on not being drawn when young; some attention should be paid to this point when they are in the seedling state, for the best after culture barely compensates for the first neglect. As the time for sowing the principal crops of winter and spring Broccoli and Greens is now at hand, select if possible an open piece of ground rather poor than rich; let the seed be sown thinly, and when large enough to handle prick them out on a similar soil. A crop of the Globe Artichokes should now be planted for producing a late supply of heads. We have in former Calendars given directions for preparing ground for these and other permanent plants; on this the young side shoots taken from the old stools may be planted in lines 4 feet apart and 18 inches between the plants, or trenches may be dug 18 inches wide, and the same in depth, in which some well-rotted manure should be dug and the plants put out as above.

### COTTAGERS' GARDENS.

Let all Potato planting be finished as soon as possible. Potatoes and Onions should on no account be intermixed or shaded by other crops; there are however many things such as Carrots, Parsnips, Turnips, and all the Cabbage family which will not only bear being slightly shaded, but in warm summers like the past will enjoy it. Mixed cropping therefore is a point to which the cottager should pay especial attention. The mixture must however be arranged, so as not to interfere with soiling or gathering. Tulips, if any, will now require care. Protect and shelter them from cold winds and hailstorms. In sowing annuals do not omit Nemophila insignis and the beautiful Phlox Drummondi.

### STATE OF THE WEATHER AT CHISWICK, NEAR LONDON,

For the Week ending Mar. 31, 1859, as observed at the Horticultural Gardens

| March. | Moon's Age. | Barometer. Max. | Barometer. Min. | Temperature of the Air. Max. | Min. | Mean | Temperature of the Earth. 1 foot deep | 2 feet deep | Wind. | Rain. |
|---|---|---|---|---|---|---|---|---|---|---|
| Friday 25 | 21 | 29.986 | 29.960 | 58 | 44 | 51.0 | 48 | 47 | N.W | |
| Satur. 26 | 0 | 29.887 | 29.863 | 55 | 42 | 48.5 | 50 | 48 | W. | |
| Sunday 27 | 23 | 29.923 | 29.270 | 55 | 45 | 50.0 | 50 | 48 | S.W | |
| Mon. 28 | 24 | 29.698 | 29.340 | 55 | 45 | 50.0 | 50 | 48 | S.W | |
| Tues. 29 | 25 | 29.179 | 29.120 | 53 | 42 | 47.5 | 50 | 48½ | W. | |
| Wed. 30 | 26 | 29.588 | 29.229 | 37 | 25 | 31.0 | 49 | 48 | W. | |
| Thurs. 31 | 27 | 30.159 | 29.983 | 41 | 19 | 30.0 | 47 | 47 | N. | |
| Average | | 29.774 | 29.538 | 50.6 | 37.4 | 44.0 | 49.1 | 47.8 | | |

March 25—Uniformly overcast; fine; overcast.
— 26—Cloudy; fine; overcast.
— 27—Cloudy and fine; overcast and mild.
— 28—Overcast; rain; drizzly; mild at night.
— 29—Fine; low white clouds; rain at night.
— 30—Overcast, heavy and continuous fall of sleet and snow; frosty.
— 31—Frosty; clear, severe frost at night.
Mean temperature of the week, 3¾ deg. above the average.

### RECORD OF THE WEATHER AT CHISWICK,

During the last 33 years, for the ensuing Week, ending April 9, 1859.

| April. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds. N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday 3.. | 56.3 | 35.2 | 45.2 | 11 | 0.30 in. | 5 | 3 | 3 | 1 | 2 | 9 | 0 | |
| Mon. 4.. | 56.0 | 36.3 | 46.2 | 14 | 0.48 | 4 | 7 | 2 | 3 | 6 | 5 | 0 | |
| Tues. 5.. | 56.8 | 36.3 | 46.5 | 15 | 0.65 | — | 5 | 4 | 2 | 3 | 6 | 11 | |
| Wed. 6.. | 56.6 | 36.3 | 46.4 | 12 | 0.30 | 3 | 8 | 3 | 2 | 4 | 10 | 2 | |
| Thurs. 7.. | 57.0 | 37.0 | 47.0 | 16 | 0.50 | 2 | 7 | 3 | 3 | 1 | 11 | 6 | |
| Friday 8.. | 55.9 | 35.4 | 45.6 | 17 | 0.46 | 2 | 6 | 1 | 5 | 6 | 5 | 4 | |
| Satur. 9 | 54.8 | 35.3 | 45.0 | 16 | 0.0 | 4 | 5 | 6 | 1 | 4 | 6 | 6 | |

The highest temperature during the above period occurred on the 3d, 1848,—therm. 78 deg.; and the lowest on the 6th, 1851—therm. 21 deg.

## Notices to Correspondents.

AUSTRALIAN VINEYARDS: A settler in Victoria should obtain Chaptal's *Traité sur le Vin*, 2 vols. small 8vo, or Thiéband de Bernéaud's Vigneron Français, or some other work published in the countries where the Vine is a field crop. Our English books, some of them excellent for this country, have no relation to Vineyard management. The late Mr. Busby and Sir Thomas Mitchell also each published on the subject at Sidney, where their treatises may we suppose be still had, and there is a small volume "On the Culture of the Grape Vine, &c., in Australia and New Zealand," by Suttor, published by Smith & Elder; but we advise you to study the original authorities. There are no doubt useful treatises in German, and certainly in Spanish, which would be worth reading; but you had better not procure any Italian work, the Vineyards in that country having little reputation for good management. That Australia will some day become a great wine country we entertain no doubt.

BAD GARDENING: *C Y T.* We condole with you on the misfortune of having engaged a gardener who cannot keep such things as Azaleas and Camellias in health. But no opinion can be formed of the precise nature of his mismanagement without being on the spot.

DIOSCOREA BATATAS: *J Luff.* You are right, and your correspondent is entirely wrong. His head must be in a state of delicious confusion.

HEATING: *Dido.* It is impossible to answer your inquiry without seeing a correct intelligible plan of your apparatus. The description you have sent is far from clear. It is very likely that the pipe which refuses to heat is filled with air. Mind what you are about with gas in a greenhouse.

NAMES OF FRUITS: May we beg of our correspondents to send their specimens, *carriage paid*, to our Office, No. 5, Upper Wellington Street, Covent Garden, London: AND TO NO OTHER PLACE WHATEVER.—*J W, Alton.* 2, Reinette du Canada; 3, Wyken Pippin; 4, Hughes's Golden Pippin

NAMES OF PLANTS.—We have been so often obliged to reluctantly decline naming heaps of dried or other plants, that we venture to request our correspondents to recollect that we never have or could have undertaken an unlimited duty of this kind. Young gardeners, to whom these remarks more especially apply, should bear in mind that, before applying to us for assistance, they should exhaust their other means of gaining information. We cannot save them the trouble of examining and thinking for themselves; nor would it be desirable if we could. All we can do is to *help* them—and that most willingly. It is now requested that, in future, not more than four plants may be sent us at one time.—*M D.* Andromeda floribunda.—*Enquirer.* 1, Some Leguminous plant, not to be named without flowers; 2, Orobus vernus.—*J G.* 1 looks like pieces of Cupressus funebris in their last state; and 2 seems to be the same, with both the first and second sort of leaves; 3, Euonymus japonicus; 4, Aster argophyllus. It is impossible to name with certainty fragments of such Conifers as 1 and 2 without seeing their cones, or fruit.—*F F.* Daphne pontica.—*Sub.* The seeds you have sent, and which you say are used in cookery in Italy, are the Haricot riz.

PITS: *Quite a Beginner.* The plan of an unequal span-roof is good; the relative length of front and back sashes is unimportant. You will find it most convenient to have a short upright glass side next the south. Your lower ventilating openings must be nearly in contact with your flue, in order that the indraught may be warmed in cold weather. You should also have the back sashes so hinged that they may be opened much or little as occasion requires.

SISYRINCHIUM GRANDIFLORUM: *P L.* Your white seedling is very inferior to the old purple, that we should say it was not worth growing. We never saw it before.

SPERGULA PILIFERA: *C J W.* We are not in possession of any information concerning this plant except what is given at pp. 145, 195, and 268 of this year's *Chronicle*. There is no doubt that it will be best sown broadcast; because, owing to its dwarfness, the ground must be made *perfectly* free, a result not easily arrived at if plants are to be dibbled in. We shall soon know more about it. It is under trial in our own garden. Should it really render mowing needless it will be invaluable. Time alone will discover how that is.

TRADESMEN'S CHARGES: *N Z* We are unable to throw any light upon your inquiry. It is no business of ours to say why one person charges more than another for the same article.

VINERY: *J R.* You have kept your house much too hot; and we presume you have forgotten to provide sufficient ventilation. Consider too whether the air has not been far too dry. There must have been some very bad management. There is nothing to show that the border, covered with leaves, ails anything.

VINES: *K L V.* It is impossible for us to say with any degree of certainty what has caused your leaves to spot like those you have sent. They look as if they had been burned either by hot steam from an over warm heating apparatus or by bright sunshine acting on partially wetted leaves. In either case the effect would be that represented. But the evil may belong to other causes which careful examination on the spot alone can discover.

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MR. LAWES begs to announce that he has this season reduced the price of the Manures manufactured by him, viz.:—

| | | | | |
|---|---|---|---|---|
| TURNIP MANURE .. .. .. | from £7 | to £6 | 6 |
| SUPERPHOSPHATE OF LIME .. | ,, | 7 | to | 6 | 6 |
| MINERAL do. .. | ,, | 6 | to | 5 | 5 |
| BARLEY MANURE.. .. .. .. | | | .. | 8 | 0 |

Prof. Way and Dr. Voelcker have sampled from a bulk of 5000 to 6000 tons at his factories, and their report and analyses are given in full in Circular to be obtained on application at his office, 1, Adelaide Place, London Bridge, E.C., or of his local Agents.

N.B. Genuine Peruvian Guano direct from Messrs. GIBBS, Nitrate of Soda, Sulphate of Ammonia, and other Chemical Manures. American Cotton-seed Cake supplied.

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LONDON MANURE COMPANY, removed to 116, Fenchurch Street, E. C. (Established 1840), have the following MANURES ready for delivery:—

CORN MANURE for SPRINGTOP DRESSING
URATE
MANGEL MANURE
SUPERPHOSPHATE OF LIME
BLOOD MANURE
} all of guaranteed quality.

In consequence of the reduction in the price of raw material the London Manure Co. are enabled to lower the price of their Superphosphate of Lime, and to materially improve the Corn Manure and Urate.

The London Manure Co. also supply PERUVIAN GUANO (direct from Messrs. A. Gibbs and Sons), SULPHATE of AMMONIA, NITRATE OF SODA, CRUSHED BONES, and every other Manure of value. Wholesale dealers supplied.
116, Fenchurch Street E.C. EDWARD PURSER, Secretary.

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ESTABLISHED 1812.

H. AND T. PROCTOR'S TURNIP MANURE.—Messrs. H. & T. P. draw particular attention to this valuable Manure, which contains all the elements necessary for the full development of the Turnip Crop, so combined, that, from their chemical knowledge and long experience, they feel satisfied is most advantageous to the consumer. It has been very extensively used by most of the eminent Agriculturists of the day, and has attained a high reputation throughout England, Scotland, and Wales, and, they venture to say, is unrivalled for the weight and quality of the Bulbs which it produces. The application of this Manure to the Turnips will be found to benefit considerably the after crops of Barley, Clover, and Wheat.

POTATO, GRASS, BARLEY, CLOVER, AND WHEAT MANURES; also BONE DUST, PERUVIAN GUANO, and SUPERPHOSPHATE of LIME, warranted of the best quality.

Apply to H. & T. PROCTOR, West of England Depôt for Artificial Manures, Cathay, Bristol; or PROCTOR & RYLAND, Birmingham, and Saltney, near Chester.

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PERUVIAN GUANO

The present price of this valuable Manure is—
12*l.* per Ton for 30 Tons and upwards,
13*l.* 5*s.* per Ton for 1 Ton up to 30 Tons.

And, to guard against the purchase of adulterated mixtures and of inferior Guanos purporting to produce results equal to Peruvian, consumers are recommended to apply either to ourselves, to our agents, Messrs. Gibbs, Bright, & Co., of Liverpool and Bristol, or to dealers of established character, in whose honesty and fair dealing they may place implicit confidence.
ANTONY GIBBS & SONS.

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SUCCESS OF THE NEW GUANO; IMPORTED UNDER LEASE FROM THE CROWN.—Though the experiments with KOORIA MOORIA GUANO were made late in the season, and under adverse circumstances, the successful results obtained confirm beyond doubt Professor Voelcker's report—(in No. 41, Part I., vol. xix., Royal Agricultural Society's Journal)—that Ammoniacal manures, applied to Turnips in the experimental field, kept back at first the crop, and had no beneficial effect either alone or in conjunction with phosphates.

The KOORIA MOORIA GUANO is essentially a phosphatic manure, containing sufficient ammonia for roots, and, with a mixture of one-fourth of ammoniacal guano, cannot be excelled for either top-dressing or grain crops. It is a natural deposit, and will be delivered as imported, free from risk of adulteration. Deeply impressed with the necessity of encouraging the import of this valuable manure, her Majesty's Government has given such increased facilities for shipment, that arrangements have been made for a considerable supply. Purchasers can be supplied with suitable quantities from cargoes now on sale, containing from 45 to 66 per cent. phosphates. Present prices, 4*l.* 10*s.* to 6*l.* 10*s.* per ton, on applying to JOSEPH HINDSON, Broker (one of the Lessees under the Crown), 20, North John St., Liverpool. Government Lessees: ORD, HINDSON, & HAYES.

"Greystoke, Cumberland, Dec. 16, 1858.

"Dear Sirs,—I beg to inform you that I applied the Kooria Mooria Guano I had from you for Turnips, on land of a loamy character, incumbent on a stiff clay subsoil, and recently drained. On each side of the plot sown with Kooria Mooria Guano were Turnips manured with best Peruvian Guano. The quantities applied of each sort were of equal weight for weight per acre. The crop—a very good one throughout—is now being eaten off with sheep. Very little perceptible difference can be discovered, but if anything that difference is in favour of the Turnips sown with Kooria Mooria Guano.

(Signed) "JOHN BARKER."

"Messrs. J. & J. Graham, Guano Merchants, Penrith."

A Pamphlet, "Hints on Guano," containing a large number of reports from well-known agriculturists, and analysis of the cargoes here, may be had of the Broker, at the above address.

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AYRSHIRE HEIFERS IN FIRST CALF.—Twenty very carefully selected pure bred 3-year old HEIFERS of this celebrated Milking Breed are for Sale in one lot, or singly. Ten may be seen 20 miles from London. A good 2-year old BULL also for Sale.—Apply to John Herriot, J. Lockhart Morton's, 8, Finch Lane, London, E.C.

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TO HORSE PROPRIETORS.—If you wish to have your Horse in high condition with a small allowance of corn use our CONCENTRATED DRAY and AGRICULTURAL HORSE MEAL, manufactured according to the most recent researches in the study of physiology. Forwarded carriage paid to any railway station, in cwt. at 30*s*, and 15*s.* per half cwt. on receipt of Post-office Order, payable to KEMP & SKEY, The Mills, Louth, Lincolnshire.

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Important to every man who keeps

THORLEY'S FOOD FOR CATTLE,
77, NEWGATE STREET, LONDON.
*Beware of spurious imitations.*

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RATS.—RATS TAKEN WITHOUT POISON OR TRAPS BY WHOLESALE.—Ships, Barns, Stables, Granaries, Mills, Warehouses, Farmsteads, Houses, &c., cleared at one sweep. ANY PERSON can by this method clear the entire premises of every RAT, however numerous they may be, in one single night. Printed directions how to entice and secure the whole lot alive sent free by return of post for Two Shillings by WILLIAM GOODWIN, High Halstow, near Rochester.

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AGRICULTURAL MACHINERY.

E. R. AND F. TURNER, Ipswich, manufacture Prize Mills for Crushing Corn, Seed, Malt, &c.; Portable Grinding Mills, Steam Engines fixed and portable from 2 horse-power and upwards; Threshing Machines, Chaff Cutter, Oilcake Breakers, Horse Gears, Saw Tables, &c., all of a superior description and adapted for Home, Colonial, and Foreign use. Illustrated Price Lists sent free on application.

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MR. SMITH will SMASH UP a piece of his Clay Land, Wheat Stubble, the beginning of this month. Gentlemen who may be desirous may then see his Apparatus at work.—A Card, stating the day, may be had by applying to him at Woolston; or to Messrs. HOWARD, of Bedford.

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SIGMA'S BEAN, MANGEL, & CORN PLANTERS (5 Depositors), HOES, &c. The "Multum in Parvo," combining Cultivator, Horse Hoe, Ridge Plough, Subsoiler, Broadshare, and other forms; all expanding. Complete 7*l.* 7*s.* Prospectus sent.—C. POWELL, Hurstgreen, Sussex.

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FARM BUILDINGS.

LOANS MAY BE OBTAINED UNDER THE GENERAL LAND DRAINAGE AND IMPROVEMENT COMPANY'S ACT, for the full amount required by the owners of Settled Estates, Incumbents, Trustees, Bodies Corporate, &c., for the erection of Farm Houses, Farm Buildings, and Labourers' Cottages, designed by their own agents and sanctioned by the Inclosure Commissioners. The Loans are repaid by a rent-charge on the estate for any term the landowner may fix, not exceeding 31 years.

No investigation of title being required, and the charge not being affected by incumbrances, no legal expenses are incurred.

The Company furnish Designs of every description, and undertake the entire responsibility of the works wherever desired by Landowners. No profit however is taken by the Company on any works they execute, the actual expenditure only, approved by the Inclosure Commissioners, with a Commission thereon, being charged in all cases. Applications to be addressed to WILLIAM CLIFFORD, the Secretary, at the Offices of the Company, 52, Parliament Street, London.

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THE LANDS IMPROVEMENT COMPANY
2, Old Palace Yard, Westminster, S.W.

To Landowners, the Clergy, Solicitors, Estate Agents, Surveyors, &c.—The Company is incorporated by Special Act of Parliament for England, Wales, and Scotland.—Under the Company's Acts Tenants for Life, Trustees, Mortgagees in possession, Incumbents of Livings, Bodies Corporate, certain Lessees, and other landowners are empowered to charge the inheritance with the cost of improvements, whether the money be borrowed from the Company or advanced by the Landowner out of his own funds.

The Company advance money, unlimited in amount, for works of Land Improvement, the Loans and incidental expenses being liquidated by a rentcharge for a specified term of years.

No investigation of Title is required, and the Company being of a strictly commercial character do not interfere with the plans and execution of the works, which are controlled only by the Enclosure Commissioners.

The improvements authorised comprise Drainage, Irrigation, Warping, Embanking, Enclosure, Clearing, Reclaiming, Planting, Erecting and Improving Farm Houses and buildings for Farm purposes, Farm Roads, Jetties, Steam Engines, Water Wheels, Tanks, Pipes, &c.

Owners in fee may effect improvements on their Estates without incurring the expense and personal responsibilities incident to Mortgages, and without regard to the amount of existing incumbrances. Proprietors may apply jointly for the execution of Improvements mutually beneficial, such as a Common Outfall, Roads through the District, Water Power, &c. For further information and for forms of application apply to the Hon. W. NAPIER, Managing Director, 2, Old Palace Yard, Westminster S.W.

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COLLEGE OF AGRICULTURE AND CHEMISTRY, AND OF PRACTICAL and GENERAL SCIENCE, 87 and 88, Lower Kennington Lane, Kennington, near London.
Principal—J. C. NESBIT, F.G.S., F.C.S., &c.

The system of studies pursued in the College comprises every branch requisite to prepare youth for the pursuits of Agriculture, Engineering, Mining, Manufactures, and the Arts; for the Naval and Military Services, and for the Universities.

Analyses and Assays of every description are promptly and accurately executed at the College. The terms and other particulars may be had on application to the Principal.

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ROYAL AGRICULTURAL SOCIETY OF ENGLAND.—WARWICK MEETING.

Entries for IMPLEMENTS, CHEESE, WOOL, FARM-GATES, and DRAINING PIPES, must be made on or before May 1.

Entries for LIVE STOCK must be made on or before June 1.

*** All Entries received in each case after those respective dates will, without any exception, be disqualified, and returned to the senders.

PRIZE SHEETS may be had on application at the Offices of the Society, 12, Hanover Square, London


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# The Agricultural Gazette.

*SATURDAY, APRIL 2, 1859.*


MEETINGS FOR THE ENSUING WEEK.

| | | | |
|---|---|---|---|
| MONDAY, | April 4 | —London Farmers' Club. ... | 6 P.M. |
| WEDNESDAY, | — 6 | —Agri. Society of England .. | Noon. |

WE have received several letters on the subject of a recent leading article, in some cases calling attention to the cost of horse-power in the experience of the writer, and in others indicating errors in the calculation in the Journal of the Agricultural Society to which allusion was originally made. Our correspondent "W. G.," whose letter appears in another column, seeks a popular explanation of the definition of a horse-power as being the ability to lift 33,000 lbs. 1 foot high per minute. Without giving any history of the actual process by which that valuation or estimation of the power in question was arrived at, it is plain that the question is one to be answered simply by experiment: and the answer to it which should be obtained by striking the average performance of a number of horses engaged in pumping water from a given depth, would, it is believed, correspond pretty accurately with the commonly received datum on this subject. In the case of ploughing a strain upon the draught chain of 300 lbs. is a common enough case; and when the plough is drawn along at the rate of 2½ miles an

hour by two horses, it is as if a weight of 300 lbs. had been pulled up that height over a pulley. But 300 lbs. lifted 13,200 feet are equal to 3,960,000 lbs. lifted 1 foot, and as this is done in 60 minutes it is equal to a sixtieth part or 66,000 feet raised 1 foot high per minute, which for the work of two horses corresponds exactly with the horse-power as defined in books.

The calculations in the essay referred to by our correspondent ascertain the cost of horse-power to the farmer for every working hour of the agricultural year. They also ascertain in the same way as in the case of ploughing above described what the quantity of labour done upon the farm per annum in ploughing, harrowing, rolling, cultivating, sowing, carrying, amounts to in the form of hundredweights lifted 2½ miles per hour during all that time. If you find in the case of half a dozen farms that the horse labour of the farm is per annum or per hour as represented in columns 2 and 3 of the following table, and that the cost of horse labour in food and wages, tear and wear of horses and implements, saddler's, blacksmith's, and farrier's bills, &c., is as it is represented to be in columns 4 and 5—then it is plain that the cost of horse labour per cwt. drawn (= lifted) 2½ miles in an hour is ascertained by a simple calculation, and given in column 6.

| 1. | 2. | 3. | 4. | | 5. | | 6. |
|---|---|---|---|---|---|---|---|
| | Annual Labour. | | Cost of Horse Labour. | | | | Cost of Horse-power per cwt. drawn 2½ miles. |
| No. | Cwts. drawn 1 mile per Annum. | Cwts. drawn 2½ miles per Hour. | Per Annum. | | Per Hour. | | |
| | Cwts. | Cwts. | £ | s. | s. | d. | s. d. |
| 1 | 100,000 | 14.8 | 873 | 0 | 6 | 5¾ | 0 5¼ |
| 2 | 44,000 | 6.5 | 471 | 5 | 3 | 6 | 0 6½ |
| 3 | 30,800 | 4 5 | 346 | 12 | 2 | 6¾ | 0 6¾ |
| 4 | 93,800 | 13 88 | 981 | 16 | 7 | 3½ | 0 6¼ |
| 5 | 107,900 | 15 98 | 1131 | 10 | 8 | 4½ | 0 6 |
| 6 | 37,106 | 5.5 | 381 | 10 | 2 | 10 | 0 6 |

As another example of the way in which the results in column 2 of the above table were ascertained, we give the detailed analysis of the labour of another farm; that of Mr. MELVIN, at Bonnington, near Ratho.

| Crops. | Acreage. | Ploughed. Deep. | Ploughed. Ordinary. | Cultivated. | Harrowed. | Rolled. | Ribbed. | Drilled. | Horsehoed. | Dung carted. | Produce carted. | Equal to carting 1 mile. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Potatoes | 30 | Acres. 30 | Acres. 60 | Acres. .. | Acres. 180 | Acres. 30 | Acres. 90 | Acres .. | Acres. 60 | Tons. 660 | Tons. 180 | Tons. 1545 |
| Turnips | 90 | 95 | 95 | 95 | 950 | 190 | 190 | 95 | 285 | 1615 | 1800 | 2920 |
| Beans | 50 | .. | 50 | 50 | 400 | 50 | 100 | .. | 50 | 850 | 125 | 1620 |
| Corn | 50 | .. | 300 | .. | 1800 | 300 | .. | .. | .. | 90 | 36 | |
| Clover, &c. | 150 | .. | .. | .. | .. | 50 | .. | .. | .. | 12 | 225 | 987 |
| Pasture | 80 | .. | .. | .. | .. | .. | .. | .. | .. | 11 | 150 | |
| Total | 450 | | | | | | | | | 2 | 80 | 2870 |
| Multiply by the draught in cwts. | 5 | | | | | | | | | 11 | 10 | |
| Miles walked | 1000 | 125 | 505 | 175 | 3300 | 620 | 380 | 95 | 895 | 12 | 4 | 3200 |
| Multiply by the miles walked per acre | 5 | 8 | 10 | 3 | 14 | 2 | 3 | 8 | 3 | Tons. Miles. | 14 | 1320 |
| Cwts. of draught | 5000 | 1000 | 5050 | 525 | 4102 | 1240 | 1140 | 285 | 1185 | 660 14 | 34 | 576 |
| | 20,200 | 8 | 10 | 3 | 14 | 2 | 3 | 1 | 1½ | 1615 14 | 10 | |
| | | 1000 | 5050 | 525 | 4102 | 1240 | 1140 | 285 | 1185 | 850 14 | 34 | 987 |
| | | 5 | 4* | 4 | 8 | 2 | 3 | 1 | 1½ | 90 12 | 10 | |
| | | 5000 | 20200 | 2100 | 12480 | 2480 | 3420 | 285 | 1777 | 11 | 14 | 2870 |
| | | | | | | | | | | 12 | 10 | |
| | | | | | | | | | | Add for weight of carts .. | | 1620 |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | |

inquirers who seek them out, or pry into them. And the more we pry into and discover of them, the greater and more glorious we find them to be, the more worthy of, and the more expressly to proclaim their great Creator."—*Derham's Astro & Physico Theology.*—*Boyle's Sermons.*

"If one train of thinking be more desirable than another, it is that which regards the phenomena of nature with a constant reference to a supreme intelligent author. To have made this the ruling, the habitual sentiment of our minds is to have laid the foundation of everything which is religious. The world from thenceforth becomes a temple, and life itself one continuous course of adoration."—*Paley's Natural Theology.*

"The works of God, and the word of God may be called the two doors which open into the temple of Truth: and as both proceed from the same Almighty and Omniscient Author, they cannot, if rightly interpreted, contradict each other; but must, mutually, illustrate and confirm, 'though each in different sort and manner,' the same truth." *Motto, Kirby's Bridgewater Treatise.*

Mr. —— will, with the kind permission of Mr. ——, at his Barn Yard in Littleton Lane, give a few Lessons on Sunday Evenings, at half-past five, to Farmers' Men and Boys who have previously attended Divine Service at church or chapel, on the animals which come under their care; and the corn and vegetables which they have to cultivate, particularly the corn bearing plants, as tending to show the power, wisdom, and goodness of God, as manifested in his works; as also carrying the subjects treated of into their common practical working details. In connection with these forms of instruction there will be a "Farmers' Boy's Book Club;" consisting of books on farming affairs, the natural history of the animals and vegetables chiefly coming under their notice; in the hope of inducing them to open their eyes and their ears; to awaken their intelligence and their observation of the numerous beautiful productions to be seen in field, and wood, and lane: with which there will be other books on the duties and obligations, moral, relative, and social, to which they are subjected, and being founded on Holy Scripture, are of divine authority. The subscription for the perusal of these books will be 6*d.* a quarter, paid in advance; with which also will be connected the sale of Bibles and Testaments, the former at 10*d.*, the latter at 4½*d.* The Husbandman's Museum is usually at the end of the barn, upon which he nails the stoats and polecats, and other vermin which cross his path; and sometimes other animals which ought not wantonly or thoughtlessly to be destroyed. Perhaps means may be found to prepare for preservation subjects worthy of a better position than the end of the barn.

Heads of the First Lesson.—*Preliminary Observations*: The Horse. His history. The Cart Horse. His conformation. His adaptation to the purposes of man as a beast of burthen and of draught. His intelligence and docility. His general treatment to be gentle and humane. Grooming. Feeding. The Stable. Early rising essential to all having the care of horses, as well as for all other persons engaged in farm labour. Labour the law of God, the lot of man, and his reward.

*The Ball Team.*—Balls recommended as cheering the horses at their work. "Smiler," "Tipler," and "Ball," perfectly well know that the music is a march in quick time, and step accordingly. Horses should never go out as a team but with a musical set of bells.

*Tobacco Smoking.*—A dangerous practice for all persons engaged about farm buildings; incurring the risk of setting fire to the litter in the stable, or the straw in the yard. This idle and useless habit is more or less injurious to health, and more especially to the healthy condition of the stomach; the essential oil of Tobacco being one of the most virulent poisons in nature. Moreover, it is an expensive habit. The money wasted, or worse than wasted, on this noxious weed, if invested in the savings bank, would, with other savings, thereby indeed, lead to affluence, or at least to competence in old age, with the enjoyment of those comforts which are so essential to an advanced period of life. Useful purposes to which the various parts of the horse may be applied when dead. The skin, the flesh, the bones, the bowels, the ligaments, the hoofs, the hair of the mane and tail, the teeth.

Mr. —— begs, therefore, to invite all persons engaged in farm labour to give him their attendance at Mr. ——'s Barn Yard, as aforesaid, on Sunday Evening, at half-past 5 o'clock. The subjects of the Bullock, the Cow, the Sheep, the Pig, &c., will follow in succession.

## FALLOW CROPS.

*(Concluded from last week.)*

*Harvesting and Storing our Root Crop.*—Whenever the Turnip or any other root has become ripe (has come to full maturity), they should be removed and placed in a dry place, and here they may be kept till the spring; but if left in the ground they begin to get soft, spongy, and rot. They are, however, generally taken up and placed in heaps of about a cartload in the field where they are pulled, and they are carted from the field as they are wanted. This we consider as an expensive mode of proceeding, besides the injury which is done to the land by the carts going over it every day or two during all weathers.

It is a great economy of labour to have all our winter food for the stock stored as near as possible to where they are to be consumed before winter. The harvesting of our roots by taking them off the land when it is dry, in October or November, is done at little expense, and the land is left in an excellent state to receive the next crop. If we make the taking up of our root crop a necessary part of our harvest work we economise our labour and save the heavy expense in winter of carting roots daily from the field.

Self-interest is the mainspring of all productive and economical labour, and it comes forth most prominently in piece-work. "In the estimation of every labourer the wages are better than the work." The labourer on piece-work not only gets value for the additional work he performs, but he also reaps the advantage of his ingenuity and skill, as well as for the additional strength he puts forth to perform a much greater hourly result than he does when working by the day. Hard work is easily performed with good will when the men know the more work they perform the more will be their earnings. Piece or task-work is greatly to his advantage; but it is also greatly to the advantage of the master, for he also partakes of the profit of piece-work, for the hands and horses which he must employ in connection with the taskers must move on more quickly, and of course more work is performed by them in the same time than would have been done if all were at work by the day either with or without the master's eye on them.

The mode of harvesting our root crops, which we have adopted for several years, is this: we let the lifting of the roots, the cutting off the leaves and the roots, putting the bulbs into the cart, and afterwards to put the leaves into the cart, at so much per acre to one man who gets other men to join with him in the work and to share in the profits; and the arrangement I require to be adopted is, that the one-horse carts employed to haul the bulbs shall be constantly employed, and they require from 16 to 18 tons of roots to be filled hourly. The number of carts required is according to the distance of the field to the store; thus, if the distance from the middle of the field to the store be 15 chains, four carts are required; if 22 chains, five carts will be required; and 30 chains require seven carts.

*The Mode of Lifting the Roots.*—Five men are employed to pull up the roots; each man takes two rows; standing between them he takes with his left hand a root from the row on his left side, and with his right hand a root from the row on his right side, and pulling both up at the same time, places them side by side across the row where he pulled up the roots with his right hand, so as to have the tops lying in the space between the two rows he has pulled up; the next man takes the two rows at the right hand of the last two rows we have just described, and he with each of his hands pulls up roots and places them on the line of the row which he has pulled up with his left hand, with the root end lying towards the root end of the first row, so that we have now four rows of roots lying close together in two rows side by side, with their leaves on the outside of each of these rows, and the roots of each row nearly touching each other; and every four rows when growing are thus, when pulled, laid in two rows root to root, occupying not more than 27 inches. Now as the next four rows are lifted in the same way, and placed in like manner, we have a space unoccupied of three times 27 inches or 6 feet 9 inches between each double row of roots for the cart to go between them to carry off the bulbs. After the five men pulling the roots there follow women or boys with knives, made of pieces of old scythes, who by repeated blows cut off the leaves and roots without moving one of them with their hands. This is constant work, and it requires 10 active women to keep up with the five men pulling.

Immediately on the heels of the cutters follow the carts between the two double rows of bulbs as they lie, having their leaves and roots cut off, and one of the contractors and nine active boys and girls throw up the bulbs as far as they can into the cart, the man speaking to the horse to move forward or stop, as they clear the ground. When one cart is full an empty one has been brought by one of the boys who drive the carts, and placed immediately behind the full one; so that as the boy moves off with the full cart the man calls the horse with the empty cart to move forward, and they proceed to throw the roots into the cart as fast as they did into the one that is just gone off the field.

The pulling of the roots and the filling of the carts being the principal work one of the contractors are in each of these departments, and the work proceeds with the utmost regularity and despatch; 20 cartloads have been filled hourly in the field and delivered in the store; 182 loads of a ton weight each have been pulled, in a day of nine hours, by 6 men, 10 women, and 9 boys and girls.

The stores are made of posts and rails inclosing a space 9 feet apart, 4½ feet high, and of any length the space will admit, and as near to where they are to be consumed as possible. The posts are 5 feet apart, let into the ground 18 inches, with five rails 5 inches wide nailed to the inside of the posts; and each of these stores are 3 feet apart. I have 14 of these 70 feet long, which is sufficient to store from 1000 to 1200 tons of bulbs.

In placing the roots in the store we put straw inside the rails of some thickness, to keep out the frost and wet from the side. As the store is being filled, the end of the store being railed off as the sides are, straw is placed against it and against the sides for 8 or 10 feet from the end; the carts are backed to the end, the tail-board of the cart being taken out, the load is tipped and the horse walks out of the store, when a boy who by this time has brought another loaded cart, walks off with the empty one to the field; two stores are being filled at the same time, so that each gets the alternate loads. There is one man who places the straw and thatches the stores as they are filled, one man to back the cart and empty them in the store, and two men, two boys, and two women throwing up the roots level with the other rails, and raising them in the middle, so as to form them into such an angle as will do for thatching. *J. M.*

## ON SUBSOIL DRAINAGE.

[A useful practical paper on this subject was lately read by Mr. Ferguson, land-agent, before the Newcastle Farmers' Club, from which we make the following extracts.]

I know of no business so discouraging as that of a farmer of wet land. His crops are necessarily late in being sown, and consequently late in being reaped. His cattle starve on a scanty herbage, and the manure and lime which from time to time he lays on his fields are discovered to have done little or no good, and when too late, he finds that he has been feeding an ungrateful farm on one hand, and unfortunately gaining nothing but a loss on the other. But if the water is drawn off by effectual drainage, and the soil of average quality afterwards well treated and managed by an enterprising man, it will, depend upon it, very soon prove grateful by the production of abundant crops. I believe there are in draining one or two important matters which ought to be known, and which have either been entirely overlooked, or if understood by drainers, not prominently adverted to by them in any publication which I have seen. That I may point out some of these and endeavouring to make my paper somewhat intelligible, I shall divide it into three divisions or sections.

1. The proper method, in my opinion, of draining a wet soil, and the depth and distance apart the drains should generally be to effect that object. 2. The materials generally employed for conduits of drains, and the proper method of employing them. And 3. A mode of draining in districts where clay pipes cannot be obtained without great expense. I shall now first endeavour to state the proper method in my opinion of draining a wet soil, and the depth and distances apart the drains should generally be to effect that object. The first thing to be attended to in commencing to drain a field is to see where there can be a good outfall for the water, in order that a main drain may be made, into which all the smaller drains are to be discharged. This should be made at the lowest part of the field, if the water can be conveyed away by a channel on a lower level. As a general rule (if the subsoil is of a retentive or tilly nature) the main drain should be cut 4 feet 3 inches deep, and as narrow as a man can stand in it to work. In every case all main drains should be cut 4 yards from open ditches, and particularly that distance from hedge fences, in order that the roots of the hedge plants and trees (if any) may not grow into the drain and choke them. The other, or as they are called, the frequent drains, should in every case be made parallel, and directly up and down the slope; and everything depends upon the depth they are made and the distance they are apart from each other. This should be regulated not only by the nature of the subsoil but also by keeping in view the importance of drawing from the land the surface as well as the spring or under water. Many intelligent writers on draining insist on going always a certain depth, whatever the substratum of the subsoil may be, but of this theory I cannot approve. My experience, which has been considerable, leads me to say that in all soils of a stiff, retentive nature, where there is under water, the drains will, I believe, give entire satisfaction if cut 4 feet deep, and from 15 to 24 feet apart, according to the nature of the subsoil. When the subsoil is at all inclined to a porous or gravelly nature, then the drains may be cut with equal effect 4 feet 6 inches or even 5 feet deep, and from 30 to 60 feet apart, for there can be no definite rule laid down to regulate exactly either the one or the other, but in every system of draining more certainly depends on the number and frequency of the parallel drains to procure effectual drainage, than on the depth, provided they are cut 4 feet deep, which in my opinion where there is much under water ought generally to be the minimum depth. All drains ought to be cut, if possible, when the fields are in Grass, for a more clean, tidy job is made than when they are in tillage, and the proper time for draining is during the months of October and November, before frost and snow set in, which obstruct operations, and do much injury. When the fields are in Grass, a little thin turf is easily procured for the purpose of laying over the pipes with the grassy side downwards; but if a field to be drained should happen to be in stubble, and turf cannot readily be got, then a little clay, or retentive soil carefully laid over the joint of each pipe with a mason's trowel, will seal them up and prevent the entrance of any sand or sediment. The following is the specification which I have frequently used, when the soil to be drained was of a stiff, retentive nature with under water:—

The parallel drains to be cut 4 feet deep from the surface where pointed out, and each drain to be 21 feet apart. The main drains shall be cut 4 feet 3 inches deep where pointed out, so that the drains leading into them may have a drop of 3 inches. Every drain shall be carefully cleaned out at the proper depth immediately before the pipes are laid, and none of the parallel drains to be less in breadth at the bottom than 4 inches, and the main drain less in breadth than 7 inches. The drains shall be filled with the soil that is taken out of them; the inferior or bottom soil to be put in again to the bottom, and the good on the top, after the pipes laid in the drains have been carefully covered up with a Grassy turf (the Grass side to be put downwards), which must be put over the joint of each pipe. All the pipes to be carefully laid from the top of the slope downwards on a hard and uniformly level surface, so that the water running through the pipes may not convey sand or sediment to silt them up. The contractor to be paid for this part of the work by day's wages, at the rate of per day. The drains to be cut, laid with pipes, and again filled up under the inspection of or other Inspector, whom shall appoint, and who shall certify and report to him

from time to time their efficiency, and who will give a note in respect to this as the work proceeds: so that the party contracting for the drains may be paid by instalments as the work is completed. No money to be paid until the drains are inspected and reported upon.

As to the depth drains ought to be cut, it was the opinion of many scientific gentlemen in former days that 2 feet 6 inches was generally sufficient, and now many writers on draining recommend that they should be cut not less than 5 and 6 feet in every soil. My opinion is, that both are extreme, the first too shallow, and the second (except in very porous open subsoils) too deep, for if there is no under water, and although the soil may be of a hard retentive nature, the drains will prove effectual if cut only 3 feet 6 inches deep, and from 18 to 24 feet apart. Depth, however, ought partly to be regulated by the power certain soils have to draw water upwards by capillary attraction. This, I believe, many drainers have not adverted to as it deserves. It has been said, and generally believed, that if drains are cut and pipe tiles put in 3 feet or 4 feet deep, a dry soil to that depth is the result, and the inference is invariably drawn, that good drainage has been effected; but in every soil where there is much under water that is not the fact, however near to each other the parallel drains may be, just from the power certain soils have to draw water upwards by capillary attraction, which by many drainers is not, I fear, well understood or attended to. This fact being ascertained, how are we to find out the depth of soil made dry by drainage, or, in other words, the depth of soil above the level of the pipes made damp by capillary attraction, where considerable quantities of under water are discovered to be in the soil?

(2.) I now come to the 2d division of my paper, which is—The materials generally employed for the conduits of drains, and the proper method of employing them. All materials used formerly for the bottoms of drains have now generally given way to the clay pipe tile, which undoubtedly is the cheapest and most efficient conduit for the purpose we at present are acquainted with. In my opinion, no pipes for parallel drains should be used less in bore than 1¾ to 2 inches, and they should be laid when practicable from the top of the slope downwards, by a man who should stand in the drain, and who should be employed for this work at day's wages. This is better than when the pipes are laid by contract, because the person laying them has no interest in hurrying over the work and doing it imperfectly. When a commencement is made at the top of the slope the pipes are laid on a uniformly level surface, the man going backwards clearing the seat of each pipe with his hand, and the water running through the pipe does not convey any sand or sediment to silt it up. If there is a likelihood of the drain slipping in, as is sometimes the case, then of necessity the pipes must be laid from the bottom upwards in sections as the drain is cut. If the bottoms of the main or parallel drains should happen to be soft, then the pipe tiles, to prevent them from sinking, should be laid on soles made either of clay or narrow pieces of slate, taking care that the ends of the pipes meet exactly in the middle of such soles. In places where the subsoil should happen to be of a running sand, and of a soft and spongy nature, it would be advisable that in such places the drain should be laid with circular pipes, each end inserted into a collar so that there may be less chance of the pipes getting silted up by sand, or the ends getting past each other. Main drains, generally, should be laid with 4-inch oval pipes, or sometimes of larger capacity, for of course much will depend on the quantity of water to be discharged, which should regulate the size. Each pipe opposite the ends of the parallel drains should have a hole cut in it near the top, large enough to admit the end of a 2-inch circular pipe, so that a neat junction may be made for the discharge of the water; and the parallel drains, when they meet the main drain, should have a slight bend or turn within a yard or two of the end in the direction the water is to flow, so that it may enter the main drain in an oblique direction in place of at right angles, which would partially obstruct the passage of the water downwards and perhaps derange the seat of the pipe. The mouths or outlets of main drains where they discharge into open ditches or streams, are generally large iron pipes with gratings on the outlet end, to prevent the ingress of rats or vermin into the drain, which do much injury; but as these are expensive, I have sometimes caused square wooden boxes to be used, with a valve on the outside end, which being always shut except where there is a flow of water along the drain, I have found to answer admirably.

With reference to fields which are beneath the level of rivers, or are very flat with scarcely any declivity, there is always considerable difficulty in effecting thorough drainage, from the impossibility of getting a proper outfall. In that case, the only plan is to excavate at some convenient spot a tank or pond of considerable depth, into which all the drains are discharged, and then, by the power of a windmill or horse gin, pump the water from time to time to a higher elevation to be run off. The price per acre for draining varies of course according to the nature of the soil and the wages paid in the district. Generally from 4*l*. to 6*l*. per acre in most places will suffice to defray the expense, unless smaller pipes are used than 2 inches in bore, but expense should not always be so much considered as permanent and complete drainage. Sometimes a small pipe of 1½-inch bore where there is not much under water may suffice for the top of a field, for perhaps the first 100 yards, and then increase in size towards the main drain; but, on the whole, I believe it is better generally that no pipes less in size than 2 inches in bore should be used where expense is less an object than efficient and permanent drainage. The number of pipes necessary to drain an acre, if they are 14 inches in length, and the drains

| | | | | | |
|---|---|---|---|---|---|
| 15 feet apart, are | .. | .. | .. | .. | 2400 |
| 18 do. | .. | .. | .. | .. | 2076 |
| 24 do. | .. | .. | .. | .. | 1560 |
| 30 do. | .. | .. | .. | .. | 1250 |

and the price in most places, where coals to burn them can be got at a reasonable price, is as follows, viz., 1½ inch in bore, and 14 inches in length,

| | | | |
|---|---|---|---|
| From | .. .. .. .. .. | 15*s*. to 18*s*. | per thousand. |
| 2 inches in bore, from | .. .. | 18*s*. to 22*s*. | ,, |
| 2½ inches in bore, from | .. .. | 22*s*. to 27*s*. | ,, |
| 3 inches in bore, from | .. .. | 25*s*. to 32*s*. | ,, |
| 2-inch circular pipes with collars, from | .. .. .. .. .. | 20*s*. to 27*s*. | ,, |
| 4-inch oval main drain pipes, from | | 40*s*. to 45*s*. | ,, |

and others of larger size in proportion.

Before I close this part of my subject in reference to drains, I believe that I shall be justified in saying, that unless they are cut in a porous open subsoil, they will be found to act generally in a much more effective manner, if about a year after they are completed the subsoil plough is used directly across them, as may be practicable, to the depth of 10 or 11 inches under the furrow of a common plough. In this way the surface or rain water percolates more rapidly to the drains, and consequently operations in ploughing or sowing can be sooner proceeded with than when such a useful implement as the subsoil plough is unemployed.

*(To be continued.)*

## Home Correspondence.

*Northumbrian Wages.*—When we have put ourselves by any means into a wrong position towards any other person it is always right to recover ourselves entirely, which we do by considering ourselves to be entirely in the wrong, and making a full apology. I beg therefore to make such an apology to Mr. Grey, and to do so without adding a word in explanation of the circumstances under which I was induced to say what I did concerning that gentleman in my letter on the above subject a fortnight ago. *N.*

*Cost of Horse Power.*—There is no part of your Paper which gives so much information or to which I look with so much interest as a statement of accounts or an arithmetical calculation. When the statement is one of facts, it is of course doubly instructive. I have been waiting in the hopes that some discussion would have been raised by your leading article in the *Gazette* of March 7, which I will call "Mr. Morton's Essay on Horse Power." It is doubtless a most laboured, able, and interesting article; but I fear scarcely intelligible to many of your readers. There seems a little confusion sometimes between cwts. of draught and cwts drawn, though on a close inspection of the tabulated statement this can be cleared up and made intelligible in the text. I would, however, ask if there is not a mistake in the table? 480 miles multiplied by 5 cwt. in draughts would surely give 2400, and not 2200 as stated. Also a lift of 135,450 lbs. per minute, divided by seven horses, would give 19,350 lbs. to each, and not 16,492 as stated. I should like to see a little more popular explanation of the meaning of the definition of horse power being the ability to lift 33,000 lbs. 1 foot high per minute, and the way in which this definition is applicable to Mr. Morton's calculations. Were I not satisfied that many of your readers are at least as ignorant as myself, I would not have asked for this explanation, which I have no doubt can be made simple and easy to every capacity by a few words from Mr. Morton. *W. G.* [Many thanks for pointing out these errors of calculation; both of them go to diminish the result which was really obtained on Mr. Morton's farm. The labour on that farm was equal to 37,306 cwts. drawn (= lifted) 1 mile per annum, or substituting 300 days of 9 hours each, it was equal to 136,180 lbs. lifted 1 foot high per minute all that time; which as seven horses were employed was 19,454 lbs. apiece, more than half the theoretical quantity, and curiously near the result obtained in Mr. Melvin's case.]

*Utilisation of Sewage Manure.*—I beg to recommend the plan of placing reservoirs at certain distances along the line of the proposed new London sewers to receive the solid matter, so that it may be available for the localities through which it passes; and I have also to suggest that the manure may be deodorised, formed into cakes, dried like Mushroom bricks which contain the spawn, and so become a valuable article of commerce as in China. *An Economist.*

*Straw Feeding, &c.*—Many public writers of the present day are very apt to highly praise the letters of those who agree with them, but it is better to let the public judge, as the question arises: is the individual competent to give an opinion? But all will agree as to the importance and value of your leading article on the adulteration of seeds, and that of my friend Mechi on Straw. The loss I have sustained from bad seeds the last 17 years from various leading merchants is enormous, and I generally with many others search out the growers. Only last year I wanted to lay down 16 acres to Gorse for winter food. I bought of two leading merchants and not more than 5 per cent grew. I refused to pay for either lot, but the loss and disappointment was great. I have now bought a quantity of Spring Vetches from Messrs. Page and Toogood of Southampton. They looked like winter Vetches. I wrote to say if they proved winter Vetches, I should lose from one to two hundred pounds and should count upon them for it. They had a warranty from the grower and gave me one. Now this is the way to do business. I sincerely wish all seedsmen would never buy without a warranty, and then we should have no trouble or loss. With regard to the subject of straw, I greatly thank Mr. Mechi for raising a "friendly" discussion upon it; though when I tried to do the same on sheep management, I was met by an anonymous scribbler, who outraged common sense by his exaggerated statements. Such letters should not be printed in respectable papers, where people are ashamed to give their names. I never knew any farm where so much straw is used as on mine; we cut it nearly all into chaff and feed near 30 horses and about 120 head of store cattle with it, mixed either with a small portion of meal or else oilcake; never giving the cake with the chaff, but always wetting the chaff. I cannot think it of the value my friend Mechi puts it at, as a two-year-old bullock is kept in good growing condition with straw chaff and 2 or 3 lbs. of cake per day. It has often struck me where the profitable line is to be drawn between men like myself who consume nearly all the straw, and Hampshire or Wiltshire farmers who do not keep cattle enough to tread it into dung. I think it is very profitable to give straw chaff to cows with Turnips and Swedes in the early part of the winter, and Mangels in the spring with a little cake. If no cake is given, a large quantity of Swedes and Turnips would be required. I have tried Mangel with a fatting cow this winter and was obliged to discontinue it owing to its laxative nature. Now it does very well, thus proving the truth of what eminent writers such as Messrs. Purdon, of the *Irish Farmers' Gazette*, Dr. Voelcker, and Mr. Baker have taught. I want to draw out some practical farmers on the subject of 500 ewes and lambs being attended for 40*l*. per annum—being in yards in the winter and hurdled on Clover and Vetches in the summer, and on keeping them in condition during the winter on straw and Mangel alone. What says Mr. Hudson, of Castleacre; Mr. Twynam, of Winchester, and men of like undoubted experience? *T. Beale Browne, Salperton Park.*

## Societies.

ROYAL AGRICULTURAL OF ENGLAND.

Weekly Council: *March* 30.—Colonel Challoner, Trustee, in the chair.

Mangel Wurzel.—Mr. Edward Farmer called the attention of the Council to the importance of storing of Mangel Wurzel, and to a fact which had occurred within his own experience, which led him to believe that the root in question might be kept good for food in the winter, 12 months after having been stored from the ground.

Polish Agriculture.—The Agricultural Society of the kingdom of Poland having decided to hold an annual agricultural meeting, at which a leading feature should be the trial of implements, applied to the Council for a statement of the principles on which the trials of the Royal Agricultural Society of England had been carried on. The Council ordered copies of the several reports on the trial of implements at the Society's country meetings, along with Prize Sheets for the current year, and a statement of the prospective arrangement for the trials during the ensuing four years, with an explanatory letter from the Secretary, to be forwarded to the Agricultural Society of Poland.

Adjourned to April 6.

## Farmers' Clubs.

Hexham, *March* 15: *Harvest Work.*—Mr. W. Trotter, Bywell, said he had had the management of harvest work for 20 years. At the beginning of this period, no operation on the farms in this neighbourhood was worse managed than that of reaping. I early fell upon the plan of giving a small prize to the best shorn ridge in each landing: the influence of which was so great, especially amongst the learners, that in two or three years the work would have satisfied the most fastidious. As there are, perhaps, none in the room but those who have had more experience with the scythe than I have had, I shall not attempt to describe the various ways of cutting corn with it; but I will merely mention, that on our farm we approve of the plan of mowing to the standing corn, for the following reasons: viz., because the labour of lifting the corn is lighter, two women being able to band from 1 to 2 acres per day, according to the bulk of the crop, because the heads do not strap so much as when mown from the corn, because we think the corn safer in the stook than when on the ground, and because we have all hands under our eye. But as I never observe the use of the scythe with satisfaction, I shall not dwell longer upon it, but proceed by remarking that, during the 20 years to which I have alluded, other revolutions have taken place than that caused by steam; the foremost of which, as affecting our subject, is that which arose out of the Irish famine in 1847. The exhibition of 1851 came and brought out the American reaping machines at the very time when the country was ripe for their introduction. Crosskill's Bell's is pushed by the horses; it can, therefore cut its way in any desired direction amongst the standing corn; the cut corn is laid off in swathes either to the right or to the left, an advantage which only those who have had anything to do with reaping machines can sufficiently estimate. Unfortunately,

some difficulty has been experienced in steering this machine; but I have unlimited faith in man's capabilities to master such things when he sets determinedly to work. I shall not, therefore, be surprised if the machine in question attains to the position of being the best amongst those with side delivery in swathe. Burgess & Key's M'Cormick's is pulled; the horses, in commencing a field, consequently require a way cut for them. This machine has also a side delivery, incessously accomplished by three coarse screws upon which the cut corn falls, and which carry it to the side and leave it in a regular swathe. We have also Lord Kinnaird's M'Cormick's, which likewise leaves the cut corn in swathes by means of belts. To bring the uncut corn up to the knives these machines have reels that move at a velocity which, in my opinion, is likely to shed the grain. I ought to mention that M'Cormick's cutters consist of a series of thin steel triangular plates with serrated edges rivetted to a bar at their points. Crosskill has also adopted this cutter. Bell's was nothing else than double-edged scissors. Gray's Hussey's, like M'Cormick's, requires a way made for it. The cut corn falls upon a tilting board, the application of which to reaping machines constitutes, in my opinion, although a simple yet the most valuable improvement that has been effected in them since the exhibition. The man who rides on the machine holds the fore part of the board down with his foot, and as soon as sufficient corn has been collected for a sheaf he allows the back part to fall, when the bundle slides off. These bundles, when taken up with ordinary care, have the heads all one way, and not being rolled up like mown corn are much more effectually threshed by machines with rollers, and require less labour in feeding. I need scarcely say that the sheaves left by this reaper require to be lifted out of the way before it can pass round again. This is thought by some to be an inconvenience, and much ingenuity has been exercised to obviate it; however, it is, in my opinion, one of the very best features of a good reaper. And I advocate it for the following reasons:—1st. Because the work is better done at a less price; the machine, travelling round amongst the binders, keeps every one to his place and at his work, and lends a charm to the proceedings that relieves the dull monotony of the labour—an advantage seldom sufficiently taken into account. 2d. Because reapers with back delivery can easily and readily be converted into Grass cutting machines. 3d. Because they are less complicated, less liable to get out of order, less expensive, and, with the exception of Bell's, are more readily removed from field to field. The first successful reaper to lay the corn off in bundles out of the way of the next "beat" of the horses was the production of Mr. Palmer, but the sheaves left by it were not tidy enough to meet the views of reaping. The next machine of the kind is Mr. Samuelson's Britannia, a model of which is on the table, and from which you will see the novel manner in which the machine, life-like, handles its own rake; and I am sure you will agree with me that such mechanism is highly creditable to its inventor. Not having seen the reaper in the field, I shall not venture to give an opinion of its work; but as Mr. Samuelson has been so kind as to send us this model, let us hope that he will confer an additional favour on us by sending his reaper to compete for our next prize. The cost of cutting an acre of an average crop of Wheat (say 28 bushels) by the various methods of reaping, is pretty nearly as follows. If I am wrong in any of the items I shall be glad to be corrected.

| | s. | d. |
|---|---|---|
| By sickle—Cutting, 10*s.*; binding and stooking, 2*s.* .. | 12 | 0 |
| By scythe—Cutting, 4*s.*; lifting, 3*s.*; binding and stooking, 2*s.* .. .. .. .. .. .. .. | 9 | 0 |
| By machine, with side delivery in swathe, allowing the machine to cut 12 acres per day, and charging man and horses at 8*s.*, and allowing a woman to rake 2½ acres per day at 2*s.*, and a band maker 1*s.*, binding and stooking, 2*s.* .. .. .. .. .. .. | 3 | 10 |
| By machine with best delivery, allowing 9 acres per day, man and horses, 8*s.*; sheafer, 4*s.*; binding and stooking, 2*s.* 5*d.* per acre, making altogether .. | 3 | 9 |

But the advantages which reaping machines with back delivery possess over other methods of reaping are much more than expressed by these figures. The heads, as I before intimated, are laid straight, in one way, and the work is so clean that no raking of stubbles is necessary. In conclusion, I beg to say that it is desirable to roll and to stone the crops which are intended to be cut by machinery, and that it is also desirable to have the land with as few furrows as possible—another good reason why draining should be persevered in. And, I will add, that rabbit holes very much impede the progress of machines—another good reason against an excess of game. Thus we see that the application of science—the developing of Nature's laws—promotes the growth of that which is good, and roots out that which is evil.

Mr. Lee asked Mr. Trotter how he calculated the machines to reaping so cheap. Mr. Trotter said that eight women would keep up and follow a machine and bind 9 acres per day. They could cut an acre per hour, and there were testimonials that other persons had done the same. Mr. Stephenson said they could cut 9 acres day after day.

## Notices of Books.

*A Fruit and a Plant: or Hints on the successful cultivation in England of the North China Sugar Cane as a Forage Plant*, By John Willding Clarke, Whittlesea, Cambridgeshire.

Mr. Clarke enumerates the many illustrations which modern agriculture affords of the great progress made in farming during the present century, showing how each step both suggested and necessitated future progress in order to the full development of its advantages.

"The year 1798 saw the establishment of the Smithfield Club Cattle Show, by the Duke of Bedford and others, which may be said to have effected a revolution in estimating the value of different breeds. A little egg-shaped beast now bears the palm from the former long legged elephantine ox, because it bears on its carcase more 9*d.* than 3*d.* beef. Through the agency of good Turnip culture, a full fold and a full bullock yard have made a full granary. Sliced Turnips and purchased oilcake followed, and we have the testimony of Mr. Morgan that 20 years ago the majority of the sheep brought to Smithfield Market were three or four years old, and it was difficult to find a score under two. Now a 3-year old sheep is scarcely to be met with, and fat sheep only twelve months old are plentiful. The great starting point in the new era may be dated from 1837 and 1838, which was signalised by the formation of the Royal Agricultural Society of England. It is a remarkable fact that when this Society was founded not one of its promoters foresaw the importance of the implement department. In 1841 there were exhibited at Liverpool 300 implements, in 1853 at Gloucester there were 2000. A great assistant to carrying out the object of this Society has been the locomotive; indeed the locomotive has undoubtedly proved itself the better friend to agriculture, in having held out the most money rewards to breeding, corn-growing, and feeding. The results of its establishment are astounding. The Eastern Counties alone, in the course of twelve months, has conveyed 24,000 tons of guano and other portable manures, 700,000 quarters of grain, 550 sacks of flour, 71,000 beasts, 380,000 sheep, 13,000 tons of meat and poultry, and 43,000,000 quarts of milk."

"At every stage of progress the modern English farm becomes more like a manufactory, producing on a limited surface enormous quantities of food for man; turning Peruvian guano into corn, bones from the Pampas into roots; Russian oilcake, Egyptian Beans, and Syrian Locust-pods into beef and mutton. The gain to the farmer and landlord is the most insignificent part of the benefit. The agriculturist is the manufacturer of food for the nation, and upon his skill, under Providence, it depends whether plenty or scarcity prevails in the land. Such are the thoughts attending the visit of a scientific observer to our agricultural exhibitions."

His pamphlet is however especially devoted to a description of the merits of Holcus saccharatus as a forage plant, on which we give his testimony as follows:—Those who have not watched these improved conditions have heard with surprise and incredulous wonder of the enormous amount of highly nutritious fodder, grown in this country, by a plant hitherto considered as almost exclusively tropical, but now incontestibly proved to be hardy and to afford upwards of 100 tons per acre of highly nutritious food, eaten with avidity by every description of stock. I allude to the Holcus saccharatus, or North China Sugar Cane. The trials, made under my cognisance, have in this year A.D. 1858, on every variety of soil, and in different parts of our island, been so carefully made, and faithfully recorded, that its value no longer remains a question of doubt."

The following is his account of its cultivation:—"Should the intention be to mature the canes, or not use the crop until it has attained two-thirds of its growth, the quantity of seed per acre should be 6 lbs., drilled 16 to 18 inches apart, 2 inches deep, to be afterwards singled, or set out, 12 inches apart in the drill. But should the crop be intended for hay or successive cuttings, a less distance will suffice, and more seed should be used, say 10 or 12 lbs., drills 10 inches apart; this will not require setting out. There are few plants which delight more in a liberal use of the hoe than this, for I know of no plant having such a dense mat of rootlets interlacing the surface soil: the more these spread below, the more vigorous the growth of foliage and canes. It is therefore absolutely necessary to the successful cultivation of the plant that the seed bed should be friable at the time of sowing, and be maintained so afterwards by the use of the hoe, until the young plant is firmly rooted. Not only is this essential condition maintained by its use, but the weeds are kept down—a very important matter—and for this reason: the Sorgho is eight to twelve days before it is through the surface, it then grows very slowly for the first three weeks it is above, which is the transitional period of the germ, from the exhausted store-house of food in the seed, till the rootlets are furnished in sufficient strength and number to afford nourishment to the plant from the soil, and furnish it with leaves. At this critical period it is more dependent on favourable conditions for its growth than at any other; and at no season of the year is the soil making greater efforts to let free the hitherto cold-imprisoned weeds, which if not unsparingly extirpated on their first introduction to the Sorgho, will soon maintain an undisputed possession of the land. The more valuable plant, with this treatment, will at five or six weeks old most effectually choke in the birth all weeds seriously thinking of growing. The best time for sowing will be, in favourable seasons, at the earliest, the last week in April: sow at this period or any time in May for a full crop of 100 tons. Any time in June will suffice for a crop of 40 to 50 tons (green). From seed sown third week in June, I cut 31 lbs. weight to the square yard; this will yield upwards of 60 tons per acre: the plants averaged 3½ lbs., there were nine plants to the yard, height of plants from crown of root to tip of highest leaf 6 feet, the plants very little more than half grown. When a sufficient breadth of land has not been prepared in time for early sowing, the Sorgho will amply repay transplanting; that sown in April or May can be transplanted with great advantage in the month of June or July; it will produce a crop double the weight of that produced by seed sown at the date of transplanting. When it has attained a height of 2 to 3 feet, you may mow it for the cows, beasts, horses, or pigs. Of the early sown, the first cutting will be ready the latter end of June or early in July, and as the stock eat it as well dry as green, this will be the proper time for making it into hay. The second cutting will be ready by the middle of August, and if got off the land quickly the shoots will again break vigorously, and furnish another mowing, in a favourable season, by the latter end of September. The quantity given to a beast will be 60 lbs. weight daily of the green fodder; it is eaten by them with great avidity, so much so, that while the Sorgho lasts, they will eat nothing else. Given to milch cows, it will be found to increase the produce of milk, both in quality and quantity; each cow, in full profit, giving two pints more milk daily, affording more cream, and butter of a better quality. In the last week of October the matured canes are cut, and carried contiguous to the chaff-house; on being passed through the chaff-cutter, and mixed with cut straw, they will be found to add such a condiment to the straw that the best fed horses will not refuse."

## Farm Memoranda.

Woolston, near Bletchley Station, Bucks.—The farm here of Mr. William Smith, to which reference was made last week, is about 200 acres in extent, 110 of which are arable. The greater part of it is a stiff soil, varying from a comparatively poor and very stiff clay to a rich clayey loam of the highest value for the growth of Wheat, Beans, or Mangel Wurzel. One outlying patch of several fields, now laid in one, consists of nearly 40 acres, 30 of which are now in Wheat and Beans, and the remainder lies for steam cultivation for a root crop. Taking the portion of this plot, about 20 acres, which is now in Wheat, the cropping for the last 10 years runs thus:—1, Wheat; 2, Beans; 3, Wheat; 4, Clover; 5, Wheat; 6, Beans; 7, Oats; 8, Peas; 9, Barley; 10, Beans; 11 (1859), Wheat. Since the Oat crop in 1855 it has been cultivated by steam. All the 30 acres now in crop were cultivated 8 or 9 inches deep by steam in one week last autumn. It lay a month, and the Wheat was then drilled 13 inches apart, 1 bushel to the acre, and now looks exceedingly well. Eight acres of this plot were ridged up by horses in ridgelets 30 inches wide, and Beans, dibbled along the line of each ridge, are now up and promising well.

Of the whole 110 arable acres 76 are this year in corn, viz., the above 20 in Wheat, and 24 on the richer loam nearer the farmstead, than which nothing can promise better; 20 acres in Oats, which are just coming up, and 12 in Barley about to be sown. The steam cultivator is employed to break up Wheat stubble for Beans and Bean stubble for Wheat; and Mr. Smith saves more than one-third of his horses by the employment of his seven-horse engine and cultivator for about 45 days in autumn.

Mr. Smith's neighbours are adopting his system, and six or seven steam cultivators are in operation around him. It has not hitherto been supposed that Buckinghamshire agriculture is ahead of that of other counties, but in this particular it certainly is; and we do not know of any history so illustrative of energy and enterprise as that of one of these neighbours of Mr. Smith. He owned a drill and used to contract for the sowing of corn per acre—he then purchased a horse threshing machine, and ultimately owned more than one: these he sold when steam power in locomotive engines was employed for this purpose—and he became the purchaser of a locomotive engine and threshing machine: this on its first starting he hawked from one end of the county to the other without finding a customer—to find indeed on his return that his neighbours in his absence had voted him unworthy of their confidence as not knowing when to let well alone: he now owns several steam threshing machines, and has at length adopted Mr. Smith's cultivating apparatus, and would not return to the ordinary system on any account.

## Calendar of Operations.

### MARCH.

Wester Ross, *March* 21.—It is somewhat tantalising to read reports from all parts of the country of the peculiar fineness of the season, and of the rapid and satisfactory down-laying of all spring seeds, whilst we in the north are fairly weather-bound. For several weeks we have not had one day that did not bring us at least a sufficiency of rain or snow, and such a redundance has fallen that the land is now nearly as thoroughly soaked as it was at any time throughout the winter. Two or three fields in this neighbourhood have been sown with Oats, which were very unsatisfactorily harrowed at the time, and which are now partially covered with pools of water. On the higher and dryer portions the rooks are as busily occupied as though they had been instructed that the seed was of no use save for immediate consumption. And all the more annoying is this state of things from the fact that, as sowing cannot be proceeded with, very little besides remains to be done. The winter was so open that ploughing was further advanced than usual, and every one was calculating upon, and well prepared for, an early seed time; but here we are at the end of our

usual Oat-sowing season without having a right commencement made; and whilst I write the snow falls thick as ever. Neither can anything be done to any good purpose in the way of preparing the ground for Potatoes or Turnips. The better thing, peradventure, meanwhile is to exercise patience—an article of which farmers are somewhat scant. On well-drained land Wheat looks well, although by no means far advanced for the season; whilst the continuous rain has been hurtful to the young plants on low-lying or ill-drained lands. Dullness still characterises the grain markets. Wheat now sells at 40*s.*; Barley, 28*s.*; and Oats, from 23*s.* to 25*s.* per qr. The low prices we have had for years, with damaged grain and high rents, have been telling disastrously on the farmers in the north, and not a few are now willing to give over their farms to the proprietors. Already has part of the winter stock—both cattle and sheep—been disposed of, and greatly to the advantage of the seller. Three hundred wethers were bought at 27*s.* per head, and put on Turnips in October last; they were sold a few days ago at 47*s* per head. The keep and expenses altogether being under 10*s.* per head, the clear profit realised was about 150*l.* In August last a lot of stirks were bought at 10*l.* per head, and after being wintered on Turnips and straw were sold, a short time ago, at 18*l.* each. We hope that the price will continue such as will make these only fair specimens of the profits for winter keep this year.

## Notices to Correspondents.

FOREIGN SUPPLIES: *R.* The following figures are from a paper just obtained by Mr. Caird, M.P., being a return to an order of the House of Commons:—"An account showing in imperial quarters the quantities of Wheat and Wheat flour, Barley and Barley meal, Oats and Oatmeal, Rye and Rye-meal, Peas and Pea-meal, Beans and Bean meal, and of Indian Corn and meal, entered for consumption in the United Kingdom during each of the 6 years ending with 1858."

Quantities of Foreign and Colonial Corn, Grain, Meal, and Flour retained for Consumption in the United Kingdom in the Years

| | 1853 | 1854 | 1855 | 1856 | 1857 | 1858 |
|---|---|---|---|---|---|---|
| | Qrs. | Qrs. | Qrs. | Qrs. | Qrs. | Qrs. |
| Wheat and Wheat Flour | 6,112,016 | 4,370,852 | 3,145,282 | 5,089,453 | 3,969,743 | 5,393,936 |
| Barley and Barley-meal | 824,053 | 548,948 | 339,351 | 722,944 | 1,691,435 | 1,661,081 |
| Oats and Oatmeal | 1,612,160 | 1,007,897 | 1,005,543 | 1,146,864 | 1,702,399 | 1,848,247 |
| Rye and Ryemeal | 70,869 | 2388 | 247 | 29,148 | 77,056 | 101,343 |
| Peas and Pea-meal | 100,967 | 108,526 | 113,357 | 84,560 | 159,740 | 157,121 |
| Beans and Bean-meal | 849,440 | 885,031 | 341,808 | 862,480 | 304,972 | 411,648 |
| Indian Corn and Meal | 1,846,791 | 1,845,313 | 1,216,795 | 1,758,151 | 1,077,472 | 1,748,854 |
| Other kinds (consisting of Buck Wheat Meal, and Beans or Bigg) | 9051 | 913 | 2926 | 1011 | 2793 | 4560 |
| Aggregate Consumption | 10,024,347 | 7,799,808 | 6,165,959 | 9,184,611 | 8,985,610 | 11,366,660 |

Note.—The quantities of imported corn and meal retained for consumption in the United Kingdom, as exhibited above, are ascertained by deducting the quantities over-entered, and the quantities exported after payment of duty, from the gross quantities charged with duty on importation.

IRISH AGRICULTURAL STATISTICS: *X.* In 1858 there were in—

| | | | |
|---|---|---|---|
| Wheat | 551,386 acres | Potatoes | 1,170,256 acres |
| Oats | 1,976,929 ,, | Turnips | 337,877 ,, |
| Barley, Rye, Pulse, &c. | 220,086 ,, | Other green crops | 120,025 ,, |
| | | Flax | 91,555 ,, |

This last crop has dwindled during the past 6 years as follows:

| | | | |
|---|---|---|---|
| 1852 | 137,008 acres | 1855 | 97,606 acres |
| 1853 | 174,579 ,, | 1856 | 106,311 ,, |
| 1854 | 151,403 ,, | 1857 | 97,721 ,, |
| | 1858 | 91,555 | |

KILNS: *N C.* The writer of the article to which you refer says:—"When I wrote the article I remember I had lately visited some large lime works near Birmingham, and there they used the kind of ovens I described, and the results appeared to me most satisfactory, especially in the consumption of coal. I tried an oven of this kind at Yate, and so far as my experiments went they fully bore out the favourable opinions I had formed of the plan. Since I left the Yate works however I see the oven has fallen into disuse, but for what reason I do not know. I also had an oven tried of this kind in Buckinghamshire, with the chalk, and it answered admirably. Your correspondent is wrong in supposing my experiments were tried on the Oolitic formation. They were tried upon the hard beds of the mountain limestone, and the ovens in Birmingham were burning the still harder beds of the Wenlock limestones from the Silurian formation of Dudley in Staffordshire. My own opinion is still most entirely in favour of burning in ovens (something like you burn bricks). The only advantage of the running kiln is that you can keep on both charging and drawing, but the want of economy is most striking. Your correspondent is right relative to the loss in weight by burning being chiefly (though not entirely) caused by the loss of carbonic acid and water."

POULTRY: *Cor.* You may hinder birds from acquiring the habit of eating their eggs by giving them access to chalk; but if they have already acquired the habit you cannot cure them.

*** As usual, many communications have been received too late, and others are detained till the necessary inquiries can be made. We must also beg the indulgence of these correspondents the insertion of whose contributions is still delayed.


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The pleasing relief which tasteful and well executed Vases properly disposed impart to Pleasure Grounds is universally acknowledged. Among the most beautiful may be mentioned the Medici and Warwick Vases. The most perfect copies of these and other Vases are now produced in the most durable and permanent and as specimens of Iron Casting are unequalled for the sharpness, delicacy, and perfect beauty of outline which they display, the figures standing out in bold numerous relief, and conveying the very spirit of the famed originals.

### MEDICI VASE.

inches diameter, 19 inches high, with figures, £2 7s. 6d.

23 inches diameter, 30 inches high, with Figures, £4 4s. 0d.

### THE TAZZA VASE.

15½ inches diameter, 9 inches high, £1 5s. 0d.

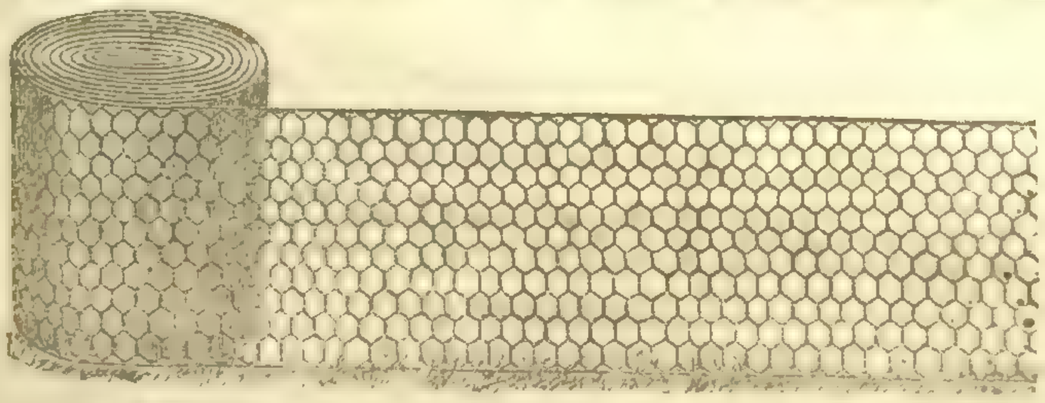
30 inches diameter, 18 inches high, £2 10s. 0d.

Drawings, with prices, of a variety of Vases, Pedestals and Fountains, forwarded free on application.

*All these Vases and Fountains are warranted to give satisfaction, and if not approved will be exchanged or may be returned unconditionally.*

MESSRS. J. B. BROWN & CO., 18, CANNON STREET, LONDON, E.C.

# IMPROVED PREMIUM WIRE NETTING.



PRICES PER LINEAL YARD, 24 INCHES HIGH:—

| Mostly used for | Light. Japanned. | Light. Galvanized. | Medium. Japanned. | Medium. Galvanized. | Strong. Japanned. | Strong. Galvanized. | Extra strong. Japanned. | Extra strong. Galvanized. |
|---|---|---|---|---|---|---|---|---|
| Hares, Dogs, Poultry | 3½d. | 4½d. | 4½d. | 5½d. | 5d. | 6½d. | 6d. | 8d. |
| Frame Netting | 4d. | 5d. | 4¾d. | 6d. | 5½d. | 7d. | 7½d. | 9½d. |
| Small Rabbits, Hares, &c. | 4½d. | 5½d. | 5¼d. | 6½d. | 6d. | 7½d. | 8d. | 10d. |
| Smallest Rabbits | 6d. | 7½d. | 7½d. | 9d. | 9d. | 11d. | 11d. | 13d. |

PRICES PER FOOT SUPERFICIAL:—

| Mostly used for | Light. Japanned. | Light. Galvanized. | Medium. Japanned. | Medium. Galvanized. | Strong. Japanned. | Strong. Galvanized. | Extra strong. Japan ned. | Extra strong. Galvanized. |
|---|---|---|---|---|---|---|---|---|
| Pigeon Houses, Pheasantries, &c. | 1½d. | 1⅞d. | 1¾d. | 2d. | 2¼d. | 2⅞d. | 2⅞d. | 3½d. |
| Pigeon Houses, &c. | 1⅞d. | 2d. | 2d. | 2½d. | 2½d. | 3d. | 3d. | 3½d. |
| Pheasantries and Small Birds | 2d. | 2¼d. | 2¼d. | 2⅞d. | 2⅞d. | 3¼d. | 3½d. | 4d. |
| Aviaries, Window Guards, &c. | 2¼d. | 2½d. | 2¾d. | 3¼d. | 3⅜d. | 4d. | 4d. | 5d. |

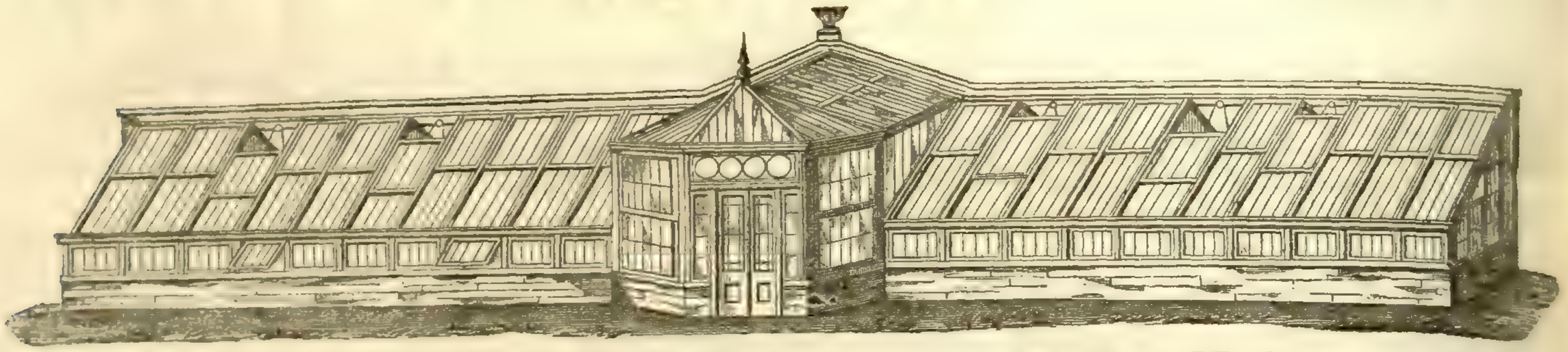
Quantities of 100 yards, or upwards, delivered free at any Railway Station or Shipping Port in England. 200 yards or upwards delivered free in Glasgow, Edinburgh, Dundee, Aberdeen, and other chief towns in Scotland; also at Belfast, Dublin, Cork, Limerick, and other chief towns in Ireland. Tying Wire or Staples for fixing the Wire Netting:—Plain Tying Wire, 6d. per lb.; Galvanized, 8d. per lb.; Plain Staples, 1s. per 100; Galvanized, 1s. 3d. per 100. Any width of Netting under 8 feet made at proportionate prices.

☞ *Every description of Netting warranted to give satisfaction, and if not approved will be exchanged, or may be returned unconditionally.*

MESSRS. J. B. BROWN & CO., 18, CANNON STREET, LONDON, E.C.

# HORTICULTURAL BUILDING & HEATING BY HOT WATER.

BY APPOINTMENT.



## JOHN WEEKS & COMPANY,

KING'S ROAD, CHELSEA, LONDON.

HORTICULTURAL BUILDERS AND HOT-WATER APPARATUS MANUFACTURERS, ENGINEERS, AND IRON FOUNDERS.

PLANS, ESTIMATES, & ILLUSTRATED CATALOGUES FREE ON APPLICATION.

---

VOKINS AND HURD, Seymour House, Jubilee Place, King's Road, Chelsea, BUILDERS OF HOTHOUSES, CONSERVATORIES, GREENHOUSES, PITS, and every description of erections in Glass work, either in Wood or Iron; also Heating the same by hot water on the most approved plans and at the lowest prices consistent with good work. Estimates forwarded.

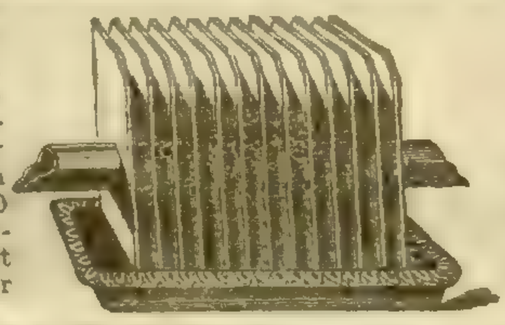
HOTHOUSES, CONSERVATORIES, FRAMES & LIGHTS OR PITS, CUCUMBER & MELON BOXES & LIGHTS.

JAMES WATTS, HOTHOUSE BUILDER, 8, Claremont Place, Old Kent Road, London.

Green and Hothouses, 9, 10, 11, 12, 13, and 14 feet wide, any length, from 16 to 100 feet. Frames and Lights for Pits, 6ft. 6in., 7 ft., 7 ft. 6 in., 8 ft., and 8 ft. 6 in. wide, any length, from 12 to 100 feet. Upwards of 200 Cucumber and Melon Boxes and Lights, from 4 ft. by 3 to 10 ft. 6 in. by 5 ft. 6 in., kept ready, glazed with stout sheet glass, painted four times, complete, ready for immediate use, all made of best material, packed and sent to all parts of the kingdom.—References may be had to the Nobility, Gentry, and the Trade in most of the counties in England. Horticultural Buildings of every description heated on the most approved and economical principles.

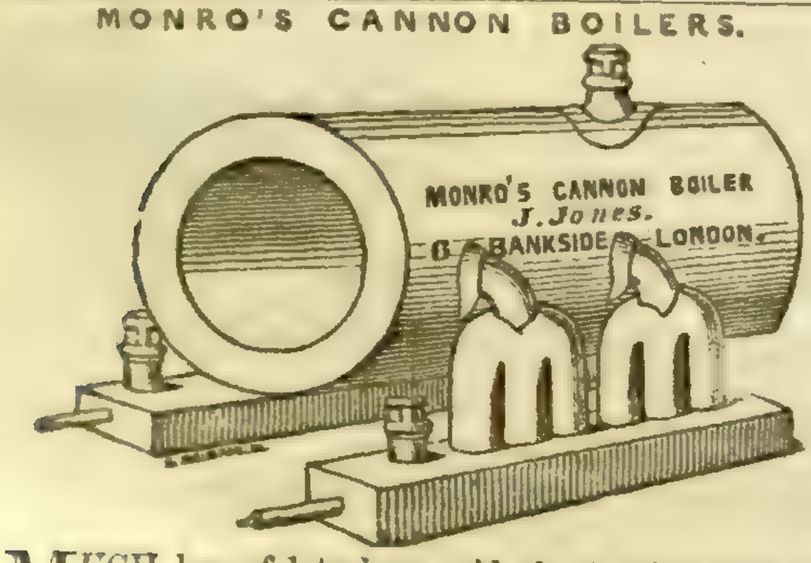
IMPROVED HOT-WATER PIPE.

THE HORTICULTURIST will find herein an inexpensive instrument of new and very important powers. An atmosphere may be produced at will either perfectly dry, partially damp, or saturated with moisture. A space of 10 inches by 12 inches contains the power of 25 feet of 4 inch pipe and other numerous advantages.



The London Warming and Ventilating Company (Limited), 26, Great George Street, Westminster, S.W.

MONRO'S CANNON BOILERS.

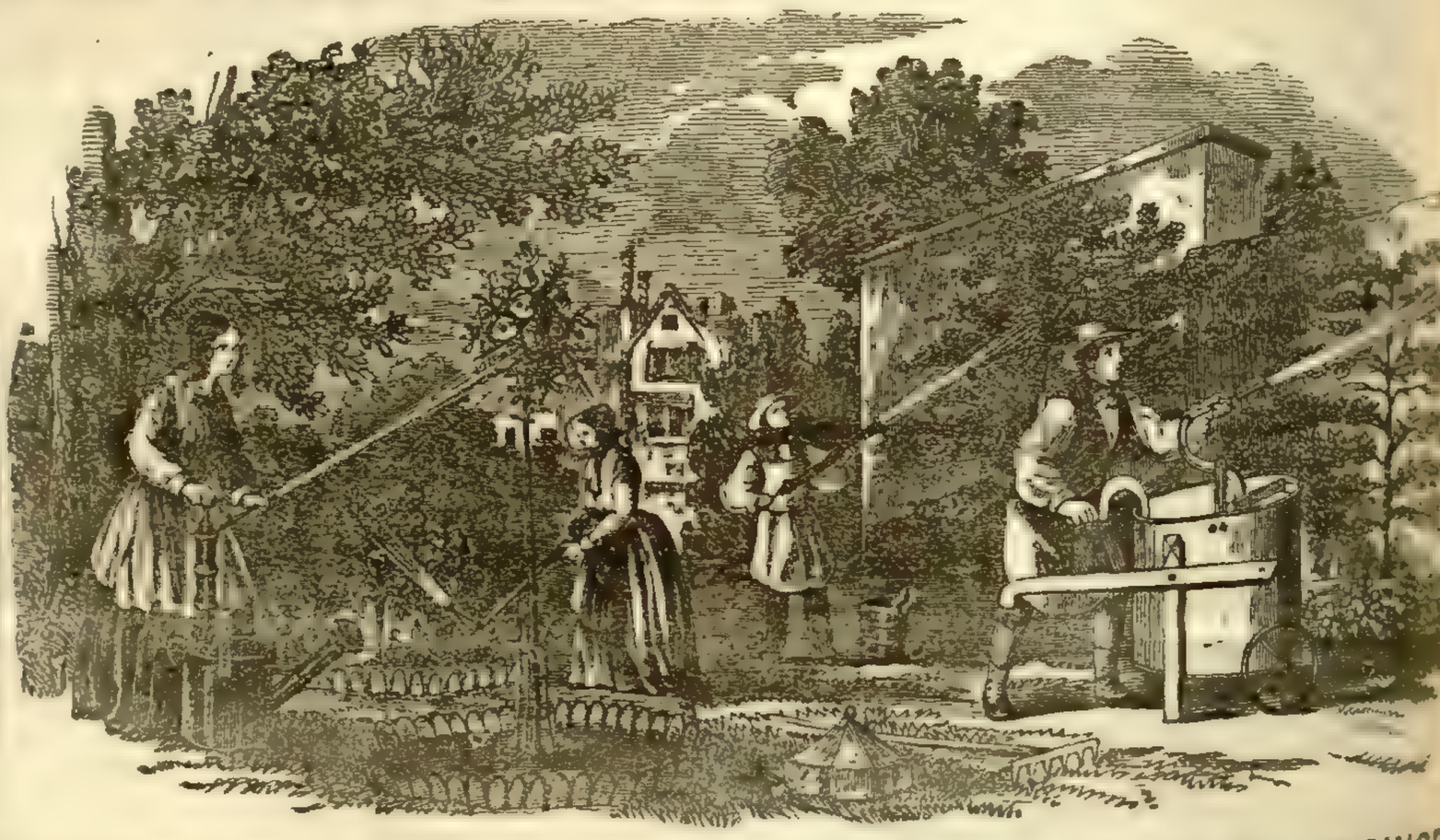



MUCH has of late been said about BOILERS for Heating by Hot Water, but these Boilers have now proved themselves to be the best at present invented. They are adapted for heating every description of building, and are made of various sizes. The Price of the

| | | | |
|---|---|---|---|
| 24-inch Cast Iron is | £5 | 10s. | 0d. each |
| 24-inch Wrought ditto | 6 | 10 | 0 ,, |
| 36-inch Cast ditto | 8 | 0 | 0 ,, |
| 36-inch Wrought ditto | 8 | 10 | 0 ,, |

References to Gentlemen and Nurserymen where these Boilers are now at work. The Cannon Boilers are now kept in stock, and are to be had only of J. JONES, 6, Bankside. Also, every description of Saddle and Cylinder Boilers. Hot Water Pipes and Connections at prices lower than those of any other house in London. Estimates for Hot-water Apparatus erected complete in any part of the country, and an Illustrated Catalogue on application to J. JONES, 6, Bankside, Southwark, London.

Garden Engines, Syringes, &c., upon the most approved principle



GARDEN ENGINES, MACHINES, AND GREENHOUSE SYRINGES

WITH ALL THE LATEST IMPROVEMENTS, MANUFACTURED BY THE PATENTEE,

RICHARD READ, Instrument Maker (by Special Appointment) to Her Majesty,

35, REGENT CIRCUS, PICCADILLY, LONDON.

CAUTION.—Syringes of the commonest description being extensively circulated throughout the Kingdom, and as READ'S," the Public are respectfully informed that READ'S Instruments have the Royal Arms, and Address,

"35, Regent Circus, London." *Descriptions sent post free.*

CARSON'S

# ORIGINAL ANTI-CORROSION PAINT

PATRONISED BY

THE BRITISH GOVERNMENT,
THE FRENCH GOVERNMENT,
THE RUSSIAN GOVERNMENT,
H.R.H. THE PRINCE CONSORT,
HON. EAST INDIA COMPANY,
MOST OF THE NOBILITY AND GENTRY,
NEW RIVER COMPANY,
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RAILWAY AND CANAL COMPANIES,
THE PRINCIPAL COLLIERIES,
MILL OWNERS,
IRON MASTERS, &c. &c.

The ANTI-CORROSION PAINT is now used extensively for all kinds of

OUT-DOOR WORK,

Such as Iron, Wood, Stone, Brick, Compo, Cement, &c., and has been proved, after a practical test of 70 years, to surpass any other Paint. It is much lower in Price, and lasts twice as long as the best White Lead, and can be easily applied by any Labourer, being sent in various Colours, requiring simply to be mixed (no grinding is needed). The Anti-Corrosion is a powder, and will keep any length of time.

COLOURS:—

| | | | |
|---|---|---|---|
| White Stone | 34s. | per cwt. | |
| Light do. | 32s. | ,, | |
| Drab or Portland | | | |
| Bath do. | | | |
| Light and Dark Yellow do. | | | |
| Copper | 30s. | ,, | |
| Light and Dark Oak | | | |
| Light and Dark Lead | 28s. | per cwt. | |
| Light and Dark Chocolate | | | |
| Bright Red | | | |
| Dark do. (or Brick Colour) | 42s. | ,, | |
| Black | 50s. | ,, | |
| Invisible Green | 50s | ,, | |
| Bright and Deep Green | | | |
| Blue (for Carts and Waggons) | | | |

OIL, TURPENTINE, AND BRUSHES,

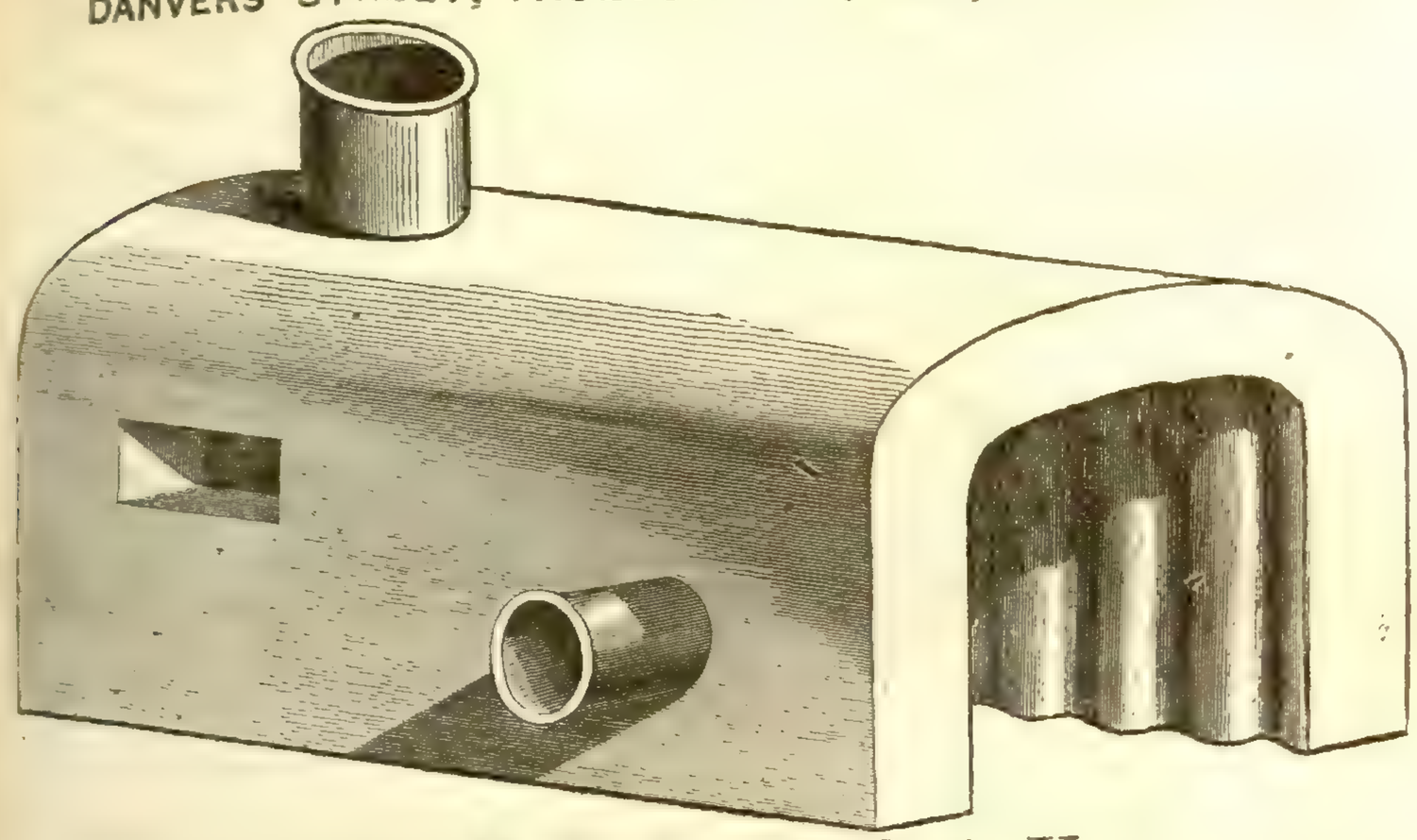
A Copy of Testimonials (700), will be sent upon application to

WALTER CARSON & SONS, (Successors to the Inventors), 9, Great Winchester S near the Royal Exchange), London, E.C.

NO AGENTS THROUGHOUT THE UNITED KINGDOM.

# HORTICULTURAL WORKS,

## DANVERS STREET, PAULTON'S SQUARE, CHELSEA, S.W.



## JAMES GRAY

RESPECTFULLY begs to inform the nobility, gentry, Nurserymen, Gardeners, and others, that he continues to carry on the business in all its branches at the above old established premises.

**CONSERVATORIES, GREENHOUSES, FORCING HOUSES, VINERIES, PITS, &c.,**
of every description, erected on the most approved principles.

### HEATING BY HOT WATER.

J. G. having specially devoted his attention for many years to this part of the business, is now fully prepared to Heat every description of public and private buildings, viz :—Churches, Mansions, Warehouses, &c., as well as all structures connected with Horticulture, in the most efficient manner. His system is the most simple that can be adopted—which he has found from long experience to be the best—can be constructed at less cost, and is more easily managed than those of a complicated nature which have attracted the notice of the public.

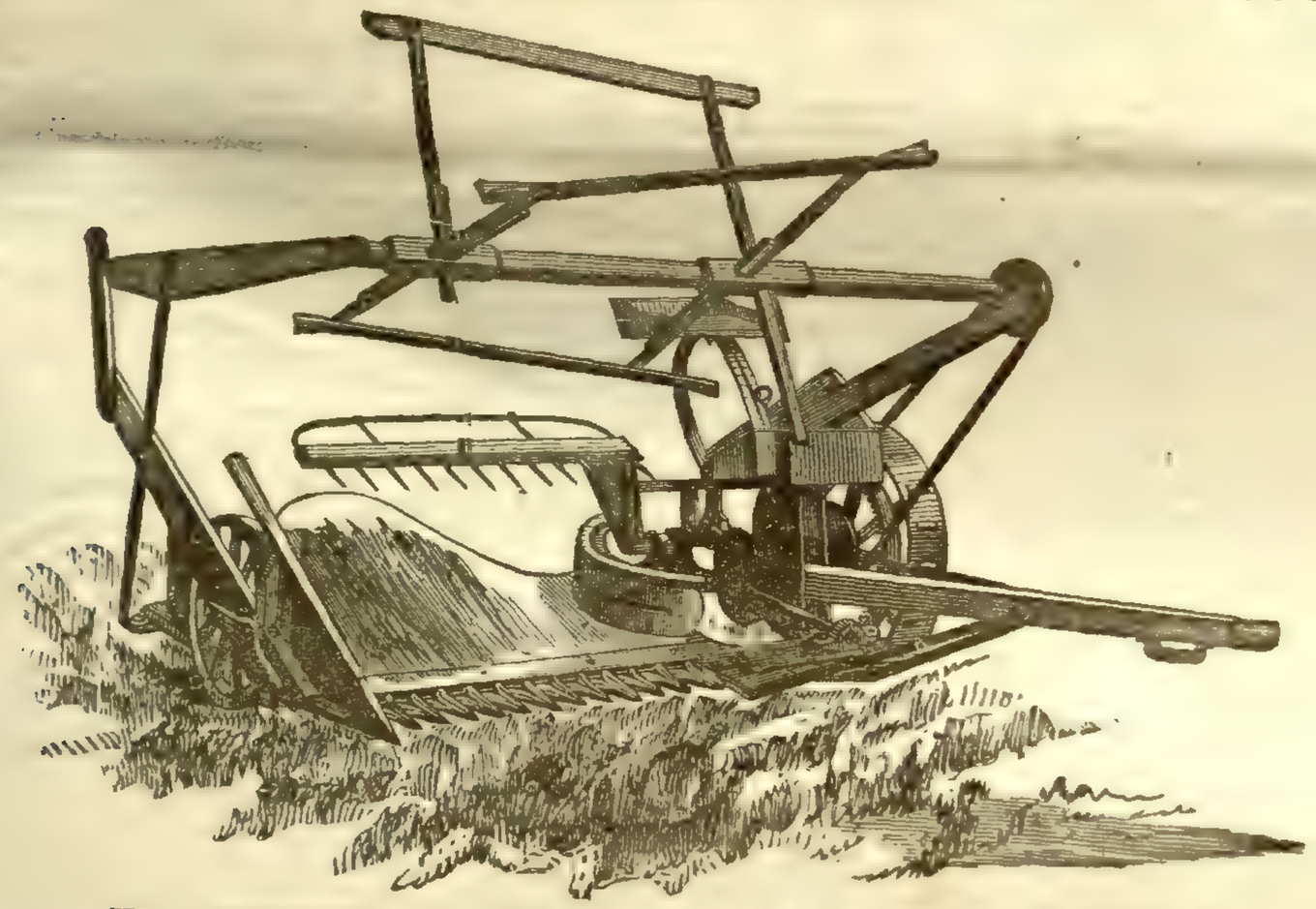
J. G. begs to call attention to his CAST-IRON CORRUGATED ARCH BOILER, which from its simplicity of construction has not the liability to fracture to which those of a more complex design are always subject. They have been extensively used for many years, and have given the greatest satisfaction.

All business is conducted at this establishment on the principle of lowest remunerative profits consistent with best materials and workmanship.

**Plans and Estimates furnished on the shortest notice.**

# B. SAMUELSON,

## AGRICULTURAL ENGINEER AND MACHINIST,



WAREHOUSE, 76, CANNON STREET WEST, LONDON,

**WORKS AT BANBURY,**

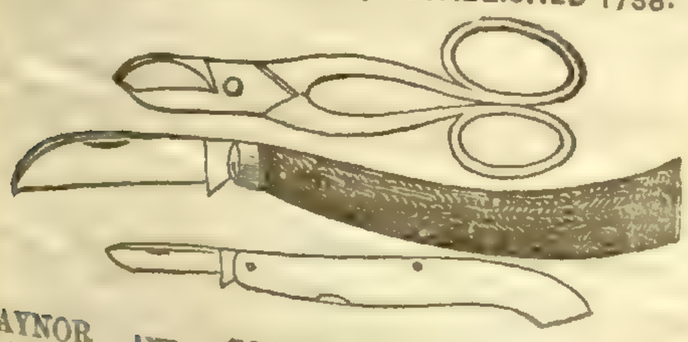
INFORMS MERCHANTS, the TRADE, and AGRICULTURISTS, that he has opened the above Warehouses as a depôt for his own manufactures and those of Messrs. Barrett, Clayton, Howard, Hornsby, Nicholson, Richmond, Tuxford, Smith, and all other first-class makers, whose implements he is prepared to offer on makers' terms.

## THE BRITANNIA SELF-RAKING REAPING MACHINE,

With side delivery in sheaf, no rakers or gatherers required; and all the most improved Spring Implements for the season, may be inspected at the above depôt.

**B. SAMUELSON, 76, Cannon Street West, London: and Britannia Works, Banbury.**

PAXTON WORKS, SHEFFIELD, ESTABLISHED 1738.

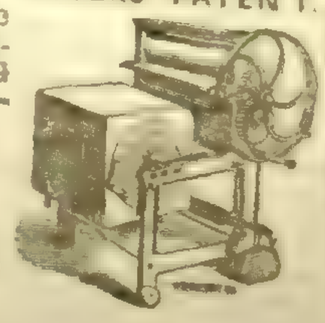


SAYNOR AND COOKE'S warranted PRIZE PRUNING and BUDDING KNIVES, SCISSORS, &c.—Sold by all respectable Nurserymen and Seed Merchants in the three Kingdoms.

FLOWER POTS, of superior Red Clay, manufactured by the Arley Pottery Company (Limited), equal in appearance to Terra Cotta at the price of the common pots usually sold, say 2s. per cast, delivered in London.—Apply to TAYLOR & PEARS, 8, George Yard, Lombard Street, City, E.C.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

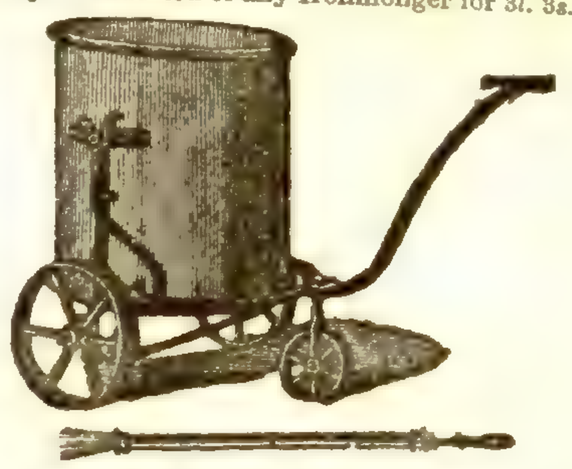
NO ONE KNOWING the value of your Patent WASHING, WRINGING, and MANGLING MACHINE, would be without one."—*Vide Mrs. Hall.*



THOMAS BRADFORD, Patentee,
Manchester.

Descriptive Pamphlet, with Prices free by post.

WARNER'S SWING WATER-BARROW (To Hold Forty Gallons) Mounted on Wheels 20 inches high. Will save much of the Gardener's time and labour. May be obtained of any Ironmonger for 3*l.* 3*s.*



BRASS SYRINGES, 9*s.* to 18*s.*

Also a great variety of effective Machines for Hydraulic purposes, and to supply Gardens, Hothouses, Cottages, Farms, Mansions, or Boards of Health, with every requisite connected with the conveyance and distribution of Liquids.

Fountains suitable for Conservatories, Lawns, &c.

JOHN WARNER & SONS, 8, Crescent, Jewin Street, London.

GARDEN ENGINES AND SYRINGES.

J. TYLOR AND SONS, Warwick Lane, Newgate Street, London, E.C., beg to call attention to their very superior manufacture of GARDEN ENGINES and SYRINGES

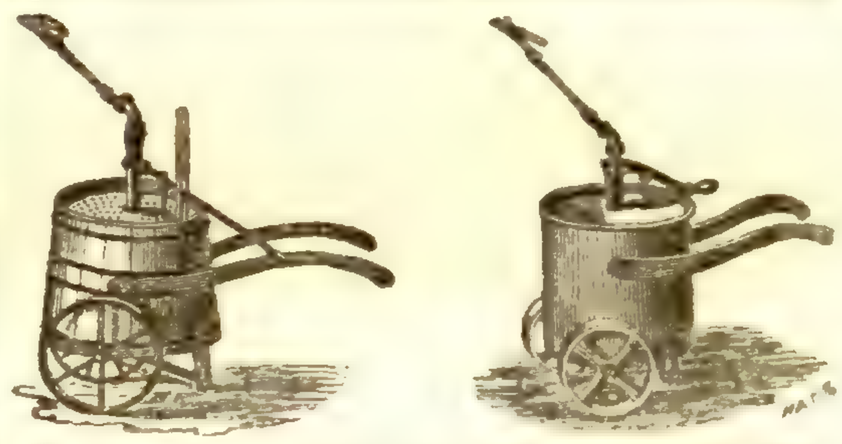


Fig. 598. J. TYLOR & SONS' BARROW GARDEN ENGINE in best well painted Oak tub, fitted with J. TYLOR & SONS' Improved Brass Pump, Universal Joint, and Registered Spreader, which answers the purpose of the separate rose, fan, and jet

CONTENTS OF TUB :—

| 10 gallons | 15 gallons | 28 gallons |
|---|---|---|
| £4 10 0 | £5 10 0 | £6 18 0 |

Fig. 599. do. TINNED IRON TUB.

CONTENTS OF TUB :—

| 8 gallons | 12 gallons | 16 gallons | 24 gallons | 30 gallons |
|---|---|---|---|---|
| £2 15 | £3 5 | £4 | £5 | £5 18 |

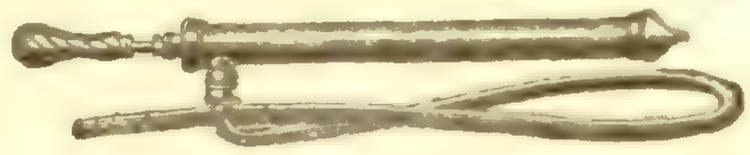


Fig. 618. No. 1. REGISTERED SYRINGE, with India-rubber suction tube, one rose and jet .. .. £1 6 each.
No. 2. Ditto ditto 1 1 ,,
Telescope Branch Pipe for ditto .. .. 0 10 ,,

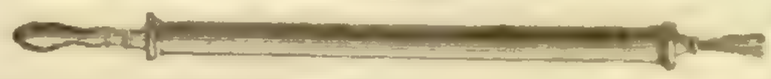


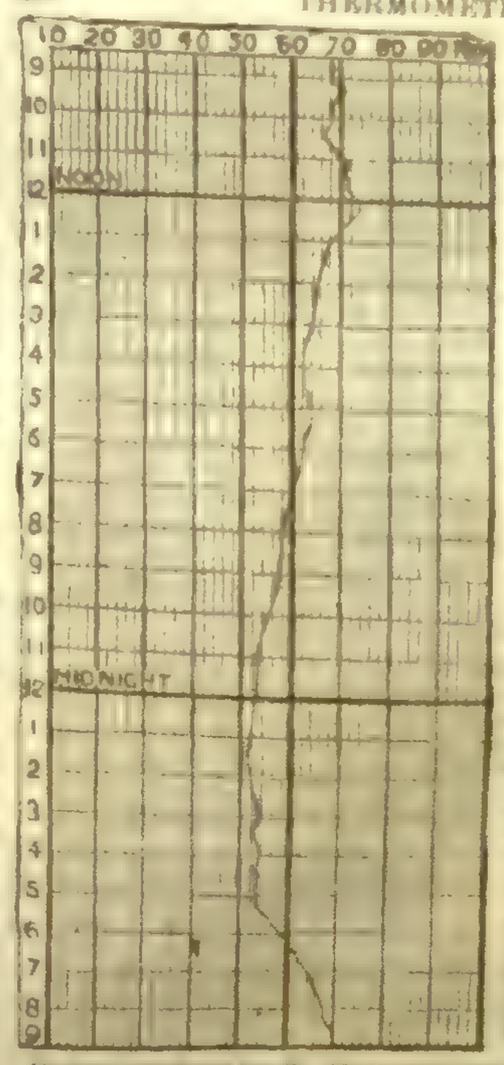
Fig. 619. GARDEN SYRINGE, with one rose and jet, 12*s.* 6*d.* each
,, 620. Ditto ditto 11*s.* 6*d.* ,,
,, 621. Ditto ditto 10*s.* 6*d.* ,,
,, 622. LADIES' GARDEN SYRINGE, without rose & jet, 4*s.*

Fig. 623. READ'S SYRINGE, with two roses and one jet, 18*s.* 6*d.*
,, 624. READ'S SYRINGE, with one rose and jet .. 10 6
,, 625. Improved ditto ditto
,, 626. Ditto ditto ditto

Manufacturers of Pumps and Well Engines (for shallow or deep Wells), Plumbers' Brass Foundry of every description, High Pressure Cocks and Closets, Copper and Tinned iron Baths, Garden and Fire Engines, Lamps of every description, Copper Goods, &c. Estimates given for Hot-water and Bath Apparatus.

TO HORTICULTURISTS.

GAUNTLETT'S PATENT CHRONOMETRICAL THERMOMETER.




This instrument, which combines in one 7-day clock of the usual English make, showing time with a self-registering Thermometer wherein glass and quicksilver are dispensed with, writes down the temperature of the atmosphere on a slip of paper, and when placed in a Hothouse, Living Room, or Conservatory, &c., supplies a valuable record of the temperature, with all its variations, showing the time when any change took place, and how long such change continued.

The above slip (reduced in size) exhibits the temperature of the Royal Agricultural Society's show yard at Chester, July 21, 1858, written off by one of these instruments, to which was awarded the Society's SILVER MEDAL.

This is the only instrument that registers temperature continuously and writes it down, and no horticulturist should be without it.

Orders received by W. H. GAUNTLETT, Middlesbro' on Tees.

## GREAT REDUCTION IN THE PRICE OF

# FOWLER'S PATENT STEAM PLOUGH.

FROM the great Improvements recently made, JOHN FOWLER is prepared to execute Orders at the following prices:—

| | | | |
|---|---|---|---|
| Windlass to 8-horse Engine, with Patent Self-moving Anchor, Headland Ropes, Rope | £160 | 0 | 0 |
| Porters, and all necessary Tools | 25 | 0 | 0 |
| Cultivator, fitted with Three, Five, or Seven Tines | | | |
| 700 yards Iron Wire Rope, 1¼ inch circumference, which is a sufficient length, on this plan of working, for a 350 yards furrow | 22 | 10 | 0 |
| | £207 | 10 | 0 |

Steel Rope, £7 10s. extra.

The advantages to be derived in the working of this Tackle over others are, no belt is used, consequently no delay is caused from its slipping in showery weather; it can be efficiently worked by two men and two boys; and it is not confined to scarifying only, but a two-furrow balance plough can be worked by it. From the direct action of the draught, a small engine will effect a larger quantity of work than the same engine on the "roundabout system;" only half the rope is required for the same length of furrow, and a whole field can be done without shifting. The windlass can be attached to any agricultural engine, and the weight added would only be 12 cwt. The Tackle can be set at work within an hour of entering the field intended to be cultivated. The Drums on which the Rope is worked are 4 feet in diameter, and from its being wound in grooves all CRUSHING is avoided, and by these means a great saving in wire rope is effected.

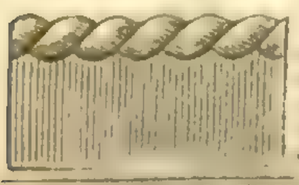
LARGER POWER ENGINES AT COMPARATIVE PRICES.

*Illustrated Catalogues with new Prices will be ready shortly. For further particulars apply to*

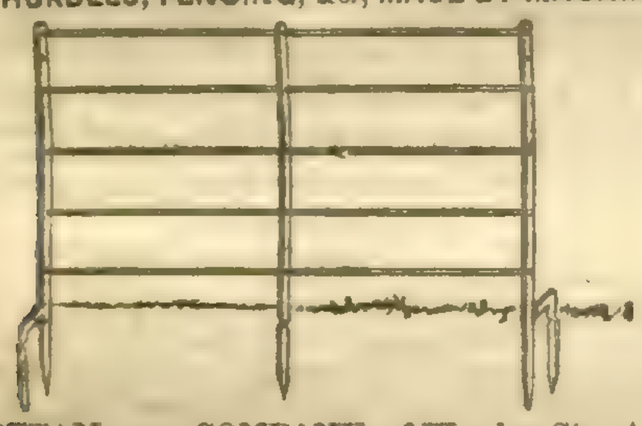
**JOHN FOWLER, Jun., 28, Cornhill, London. E. C.**

---

LOOMES AND CO., Whittlesea, MANUFACTURERS OF BRICKS, TILES, POTTERY, &c., beg to call attention to their new CABLE PATTERN GARDEN BORDER EDGING, which not only surpasses others in appearance and durability, but is free from the dangerous points and sharp edges of most.—Price, delivered on any Railway at Peterborough, 5*d.* per yard.



IRON HURDLES, FENCING, &c., MADE BY MACHINERY.



COTTAM AND COMPANY, of Winsley Street, have invented machinery for making Hurdles, &c.; the bars, instead of being pointed by hand in the old fashioned style, are nipped down by the machine, leaving a shoulder so as to more effectually tighten the standards when rivetted. They are made of superior iron only, and will compete in price with those made by hand from cinder or common iron which so frequently break. Iron Fencing, Gates, and Iron Work of all kinds, both Plain and Ornamental, Conservatories, Hot Water Apparatus and Garden Implements.

Illustrated CATALOGUES free on application to COTTAM & COMPANY, Ironfounders, 2, Winsley Street, Oxford Street, W.

N.B. COTTAM & Co. beg to make it known that there is no longer an entrance to their establishment from Oxford Street, but that they have made a second entrance from 2, Winsley Street, Oxford Street, W., by the side of the old entrance to their works, opposite the Pantheon.

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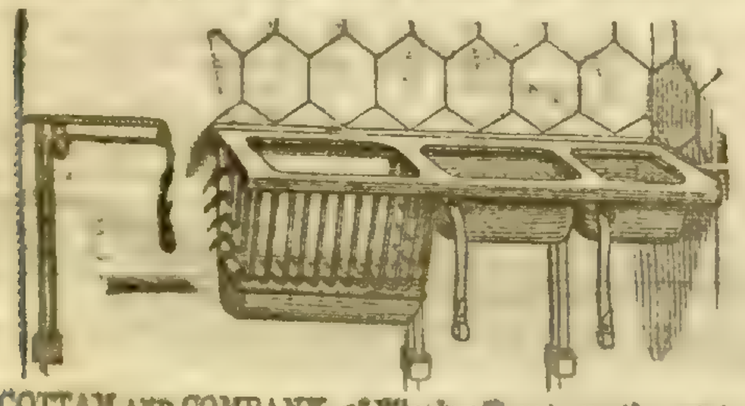
COTTAM'S PATENT INVENTIONS FOR STABLE REQUISITES, awarded a Prize at the Paris Exhibition, and patronised by the English and French Governments.



COTTAM AND COMPANY, of Winsley Street, are the original inventors of the PATENT ENAMELLED MANGER, Water Trough, and Wrought Iron Rack, united to an iron top-plate, and forming one complete and useful fixture, having COTTAM'S patent noiseless halter guide and collar rein attached, which is taken to the back of the manger, and works with ease and freedom up or down the guide-bar.

COTTAM'S NEW PATENT SEED-BOX, an important addition to the above fittings, being simple in construction, light, and durable, promotes cleanliness, and is economical in its results.

COTTAM'S PATENT SADDLE and HARNESS BRACKET combined, can be used with great advantage where space is an object, as it can be turned up out of the way when not in use.

COTTAM'S IMPROVED SURFACE GUTTER, with perforated moveable cover, the use of which prevents accidents, and can be easily cleaned out.

COTTAM'S CAST-IRON SANITARY TRAP, from its improved construction, gives a full water passage, and does not allow any smell to ascend from the drain.

PATENT LOOSE-BOX FITTINGS, and every article for the harness room and stable, kept in stock, plain, galvanised, and enamelled. Iron gates, fencing, hurdles, &c.

The New Illustrated Catalogue and Estimates, gratis, upon application to COTTAM and COMPANY, 2, Winsley Street, Oxford Street.

N.B. COTTAM & Co. beg to make it known that there is no longer an entrance to their establishment from Oxford Street, but that they have made a second entrance from 2, Winsley Street, Oxford Street, W., by the side of the old entrance to their works, opposite the Pantheon.

---

SPEED AND ECONOMY for Farmers, Gentlemen, and Market Gardeners, in the use of HOARE'S REGISTERED HAND SEED PLANTING MACHINE, which from its capabilities, combined with strength, lightness, and simplicity, places it beyond a parallel. Its operative powers in planting the seeds of Mangel, Carrot, Turnip, Parsnip, and all small seeds in patches of equal depth and different distances, from 6, 7, 12, 14, 18, 21, 24, to 28 inches apart, raking in and rolling complete, render it an invaluable invention. It will act as a drill when required. Price 5*l.* 15*s.*

London Agent, Mr. B. SAMUELSON, 76, Cannon Street, West. Sold also by the inventor, J. HOARE, Old Fishbourne, Chichester, Sussex.

---

LIQUID MANURE.

JAMES'S PATENT LIQUID MANURE DISTRIBUTOR OR WATER-CART, warranted not to choke up or otherwise get out of order. It is thoroughly adapted for Drill Crops, or Pasture Land, or for Watering Streets; has been awarded SIX FIRST PRIZES. Full Particulars and Testimonials may be obtained of the Patentee, ISAAC JAMES, Tivoli Waggon Works, Cheltenham.—Improved LIQUID MANURE PUMPS supplied.

---

WARNER'S IMPROVED LIQUID MANURE OR GENERAL PORTABLE PUMP.

These Pumps are fitted with J. W. & Son's Patent Buckets and Suckers, and cannot clog in action. The barrel is of galvanised iron, not likely to corrode, and can be raised or lowered at pleasure. The legs will fold together, and the whole may be carried on the shoulder to any pond or tank required.

Price of 4½ in. Pump, with legs, 3*l.* 3*s.* If with planished copper barrel and galvanised iron handle, &c., 14*s.* extra. The barrel is 27½ in. long, and the legs are 5 ft. high.

These Pumps are also made without the legs, with strong wrought-iron straps for screwing on to any ordinary water butt or cart, and fitted with 1½ inch brass union for attaching flexible suction. Price 50*s.*

1¾ inch Gutta Percha Suction Pipe, 1*s.* 11*d.* per foot.

Rubber and Canvas Suction and Delivery Hose, from ½ inch to 4 inches diameter, in lengths of 60 feet to order. Branch Pipes with Cocks, Union Screws, &c., at reduced prices.

May be obtained of any Ironmonger or Plumber in town or country, at the above prices, or of the Patentees and Manufacturers, JOHN WARNER & SONS, 8, Crescent, Jewin St., London.

---

WARNER'S PATENT VIBRATING STANDARD PUMPS.

PATENT CAST-IRON PUMPS, fitted with J. W. & SON'S Patent Buckets and Suckers, which cannot clog in action, for Farms, Cottages, and Wells, not exceeding 28 feet.

| Diameter of Barrel. | Height. | | £ | s. | d. |
|---|---|---|---|---|---|
| 2¼ in. short | 1 ft. 7 in. | Fitted for lead, | 1 | 10 | 0 |
| 2½ „ long | 3 „ 3 „ | gutta percha, | 1 | 14 | 0 |
| 3 „ ditto | 3 „ 6 „ | or cast iron | 2 | 8 | 0 |
| 3½ „ ditto | 3 „ 6 „ | flanged pipe, | 2 | 12 | 0 |
| 4 „ ditto | 3 „ 6 „ | as required. | 3 | 3 | 0 |
| 2¼ „ short, with 15 feet of Lead Pipe attached, ready for fixing .... | | | 2 | 14 | 0 |
| 2½ in. long ditto | | ditto | 2 | 18 | 0 |

The short barrel Pump is very convenient for fixing in situations of limited height and space, for the supply of coppers and sinks in Wash-houses with soft water from underground tanks, or in Hot, Forcing, and Plant Houses; they may be fixed, when desired, under the stage.

May be obtained of any Ironmonger or Plumber in Town or country, at the above prices, or of the Patentees and Manufacturers, JOHN WARNER & SONS, 8, Crescent, Jewin Street, London.

Every description of Machinery for Raising Water by means of Wheels, Rams, Deep Well Pumps, &c.; also Fire and Garden Engines, &c. &c.—Engravings sent on application.

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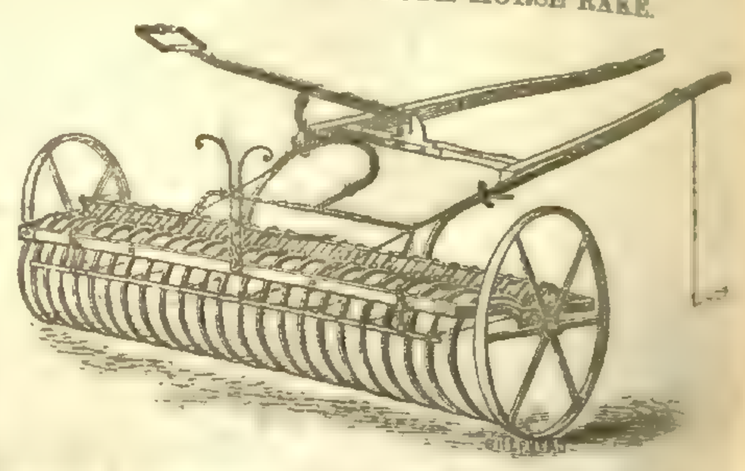
HOWARDS' PRIZE IMPLEMENTS, 1859.

JAMES AND FREDK. HOWARD, Britannia Iron Works, Bedford, beg to direct attention to their PATENT STEEL-TOOTH HORSE RAKE.



For which they received the Three First Prizes last offered by the Royal Agricultural Society of England.

J. & F. HOWARD have discontinued troubling the Public with a long List of Prizes awarded to their Implements, but they would just state that for PLOUGHS, HARROWS, HORSE RAKES, they have for several years gained every Prize for which they have competed.

PLOUGHS.

| | | | |
|---|---|---|---|
| P PLOUGH, with two wheels, for light work .. | £1 | 7 | 0 |
| PP PLOUGH, „ for general purposes | 4 | 12 | 6 |
| SKIM COULTER .. .. .. .. .. | 0 | 3 | 6 |

STEEL BREASTS, 7*s.* and 7*s.* 6*d.* extra.

HARROWS.

| | | | |
|---|---|---|---|
| A Set of Three 4-Beam HARROWS, with Whippletree, recommended as general Seed Harrows, 9½ feet wide, marked No. 12 .. .. .. .. .. | 3 | 15 | 0 |
| A Set of Three 4-Beam HARROWS, with Whippletree, adapted for 3 Horses, 10 ft. wide, marked No. 11 | 4 | 4 | 0 |

HORSE RAKES.

| | | | |
|---|---|---|---|
| Price of small size RAKE, marked A, with 24 iron teeth, extreme width 7½ feet .. .. .. .. | 7 | 10 | 0 |
| Ditto, with Steel Teeth .. .. .. .. .. | 8 | 0 | 0 |
| Price of large size, marked B, with 23 iron teeth, extreme width 8½ feet .. .. .. .. .. | 8 | 0 | 0 |
| Price of large size, marked B, with steel teeth .. | 8 | 10 | 0 |
| Price of extra large size, marked C, with 24 steel teeth, extreme width, 8½ feet .. .. .. .. | 10 | 10 | 0 |
| Price of a Set of 15 Prongs, to be attached to the above when used as Weed Extirpators .. . .. | 1 | 10 | 0 |

Free Delivery to Birmingham, Bristol, Derby, Gloucester, Lincoln, Liverpool, London, Manchester, Norwich, Nottingham, Retford, Wisbeach, and Worcester; or to Dublin, Edinburgh, Glasgow, and other parts at fixed rates.

HOWARDS' NEW CATALOGUE, containing prices and description of their Patent Ploughs, Harrows, Horse Rakes, and other Implements, including Smith's Steam Cultivators, for which they received at Chester the Gold Medal of the Royal Agricultural Society of England, sent free on application to

J. & F. HOWARD, Britannia Iron Works, Bedford.

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FERRABEE'S NEW PATENT MOWING MACHINES

MANUFACTURED BY

JAMES FERRABEE AND CO., PHŒNIX IRON WORKS, Stroud.—These improved Machines admit of the use of duplicate sets of cutting parts, can be accurately sharpened by an ordinary workman. are adapted to level and uneven ground and to verges, and their management is much simplified

In the following List the Letters A, B, &c., are used to facilitate reference, and the distinguishing letter of the Machine required should be given in sending an order.

The prices include carriage to the principal railway station in England, terms net cash.

| | | | | | |
|---|---|---|---|---|---|
| A, cutting 12 inches wide, | | | for a boy .. .. | £4 | 10 0 |
| B, „ | 16 | „ | for one man .. .. | 6 | 0 0 |
| C, „ | 19 | „ | for a man and a boy .. | 6 | 10 0 |
| D, „ | 22 | „ | „ „ .. | 7 | 0 0 |
| E, „ | 26 | „ | for two men .. .. | 8 | 10 0 |
| F, „ | 22 | „ | for a donkey or a pony | 8 | 0 0 |
| G, „ | 26 | „ | for a pony .. .. | 9 | 0 0 |

Sharpening Apparatus for any of the above, 5*s.* extra.

| | | | | | |
|---|---|---|---|---|---|
| H, cutting 24 inches wide, | | | for a horse .. . | 14 | 0 0 |
| I, „ | 28 | „ | „ .. .. | 16 | 0 0 |
| K, „ | 36 | „ | „ .. .. | 18 | 0 0 |

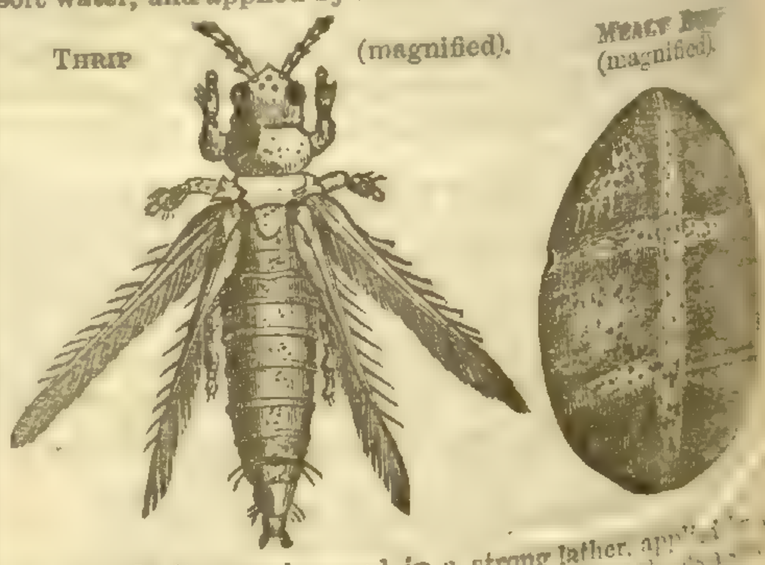
Sharpening Apparatus, 10*s.* extra each.

The Horse Machines H, I, K, have cylinders of large diameter and in their entire construction possess the strength and capacity necessary for horse-power, and the heaviest work of the pleasure ground.

---

GISHURST COMPOUND, PATENTED.—For preventing and destroying Red Spider, Scale, Mealy Bug, Thrip, and Green and Brown Fly.—See *Gardeners' Chronicle*, Nov. 6, 1858.—To be dissolved ½ or ¼ lb., or less, in a gallon of soft water, and applied by means of a syringe or a soft brush.

THRIP (magnified). MEALY BUG (magnified).



On Orchids it may be used in a strong lather, applied with a shaving brush, but on tender young Geranium shoots a solution of 2 oz. to the gallon will be found sufficiently strong.

Sold in boxes at 1*s.* 6*d.* and 6*s.* each, with directions for use, and printed opinions of Mr. Rucker's Gardener, Lady Dacre's Gardener, Sir William Hooker, Mr. Rivers, Mr. Neville's Gardener, Messrs. Francis & Arthur Dickson & Sons of Chester, and Messrs. Dickson & Brown of Manchester.

For Nurserymen the large size is recommended, but where the consumption is not large the compound will be found to keep its strength best in the small boxes.

Nurserymen and Seedsmen supplied by PRICE'S Patent Candle Company Limited), Belmont, Vauxhall, London. S.

GREENHOUSES, ORCHARD HOUSES, AND PITS of every Description, made by Steam Machinery, and Heated by Hot Water on an Improved Plan at J. LEWIS'S Horticultural Works, Stamford Hill, Middlesex, established 20 years. These Buildings are warranted of the best materials, and at prices which defy competition. The ventilation is most efficient, and the greatest improvement of the present day. Prices of any size on application. References in all parts of the United Kingdom

WILLIAM HOOD, Economic Hot-water Engineer, furnishes estimates for Apparatus fixed complete, or for Materials only.—68, Upper Thames Street, London, E.C.

HANDS'S PATENT is the only system to circulate Heat and for WARMING, FUMIGATING, and VENTILATING Hothouses, Greenhouses, Winter Orchards, &c.; to keep vegetation healthy in a humid atmosphere, and can be applied to any kind or shape of Forcing-houses and Conservatories now existing at trifling cost.—For particulars apply at the Office, 10, Charlotte Street, Fitzroy Square, London; or to Mr Johnson Hands, Epsom.

C. STEPHENSON, late STEPHENSON AND SONS, 61, Gracechurch Street, London, Manufacturer of Iron Hurdles, Fencing, &c., Improved Iron and Copper Conical Boilers and Apparatus for Warming Buildings of every description by Hot Water.
Prices and Estimates furnished upon application.

FOR Effectually Protecting the Bloom of Wall Trees from Spring Frosts use Shaw's No. 3 TIFFANY, double strength. In pieces 18 yards long by 39 inches wide, 1s. 6d. each.—John Shaw & Co., Princess Street, Manchester.

BRITTAIN'S GARDEN NET completely protects Fruit Blossoms from injury by frost, and provides for the circulation of air and admission of light, so essential to healthy growth; 55 inches wide, 5d., 6d., and 8d. a yard; good SHADING TIFFANY, yard wide, 3d. do.—Manchester, April 2.

TANNED GARDEN NETTING, for preserving Fruit Trees from frost, blight, birds, &c., and as a fence for fowls, &c. One yard wide 1½d., 2 yards 3d., 3 yards 4½d., and 4 yards 6d., per yard, in any quantity, may be had at C. Wright's, 376, Strand, W.C.—A liberal allowance to Nurserymen.

TANNED NETTING, at Reduced Prices.—200 square yards, 12s.; 500 yards, 25s.; 1000 yards, 47s. SCRIM CANVASS for Wall Fruit, 50 yards, 16s.; 100 yards, 30s. Be particular to address in full, Frederick Edgington, Thomas Street, Old Kent Road, London, S.E.

BOOT'S PATENT ANTI-CORROSIVE ENGRAVED LABEL, suitable for every description of plant. See Circular, free by post.
John Shaw, Princess Street, Manchester, Agent.

HENRY J. MORTON AND CO.,
2, Basinghall Buildings, Leeds.
GALVANISED IRON WATER CISTERNS
for Cottage Houses, &c., to contain 50 gallons, 25s.; 80 gallons, 30s. each; and 140 gallons, 36s., and fitted with tap, keeping the water perfectly sweet and clean; will not rust or corrode. Cisterns of all sizes.
GALVANISED IRON PUMPS
for Liquid Manure or Domestic Use, 3 inches diameter, 30s. and 40s. 6d. each; Tail Pipe for same at from 10d. per foot.
GALVANISED IRON SWING WATER BARROWS
for Garden or Farm use, containing about 20 gallons, entirely formed of iron, 32s. 6d. each.

SHAW'S TIFFANY.—The best and cheapest material for Shading Conservatories, Protecting Fruit from Birds and Wasps, &c. Sold in pieces 20 yards long by 36 inches wide. No. 1, best quality, 5s. per piece; second quality, 4s. per piece. Extra strong and thick (see Circular sent free by post with samples).
Address John Shaw & Co., Manufacturers and Dealers, Princess Street, Manchester.

SHADING.
BROWN'S FLORAL SHADING still maintains its superiority for cheapness and efficiency over all other materials used for a similar purpose, viz., shading plants under glass from the scorching rays of the sun, protecting Wall Fruit Trees when in bloom from frost, and preserving the fruit from the attacks of birds, flies, and wasps. Sold in pieces 20 yards long, 38 inches wide:—
No. 1 per piece .. 4s. 0d. | No. 2 per piece .. 4s. 3d.
No. 3, extra stout, 18 yards long, by 39 ins. wide, 7s. per piece. To be obtained of all the principal Nurserymen and Seedsmen in town and country. Samples sent free on application to the Manufacturer, Charles Brown, Greenheys, Manchester

LAWNS—IN USE IN THE ROYAL GARDENS.
SAMUELSON'S PATENT BOYD LAWN MOWING and ROLLING MACHINE, the only one that will cut wet as well as dry Grass, is guaranteed efficient in use, easily handled, and readily kept in working order. Doing the work of four or six men. Prices, including case and carriage to any railway station in England, from 4l. 17s. 6d. and upwards. Copies of testimonials post free on application to Mr. Samuelson's London Warehouse 76, Cannon Street West, City; Messrs. Grant's, London Bridge; or the Works, Banbury, Oxon.

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BURGESS AND KEY, 95, Newgate Street, London, being the Wholesale and Retail Agents for these celebrated TOOLS have always a large Stock on hand from which Customers may select what they may require
ANTHONY'S PATENT AMERICAN CHURN.—The FIRST PRIZE was again awarded to this Churn in Competition with others at the Chester Meeting of the Royal Agricultural Society; it has obtained the First Prize given by the Society at every Meeting since 1850.
Messrs. Burgess & Key, 95, Newgate Street, strongly recommend it as the most perfect Churn now in use. Full particulars sent on application.

VASES, PEDESTALS, SUNDIALS, FOUNTAINS FLOWER BOXES, JARDINETS, FERN CASES, BALUSTRADES, EDGINGS AND CURBS FOR FLOWER BORDERS SEATS, &c., in Imperishable Siliceous Stone, at reduced prices, for the adornment of the Villa Garden, the Mansion Grounds, or the private or public Park
For Priced Illustrations apply to Frederick Ransome, at the Show Rooms, Cannon Row, Westminster, S.W., or Patent Stone Works, Ipswich.

DUCK CLOTHS, with POLES, PULLEYS, and LINES complete, both New and Second-hand.
COTTON, BUNTING, SCRIMS, and TIFFANY, for the Protection of Fruit Trees and tender Plants, Shades for Greenhouses, &c.
Application should be made for Second hand Rick Cloths.
A large variety of TENTS may be seen erected on the Premises. A quantity of Second-hand MARQUEES and TENTS from the Crimea.
Address, Benjamin Edgington, 2, Duke Street, London Bridge, S.E. FIRE ESCAPES, 25s. each, may be seen at the West End Establishment, 32, Charing Cross.
An ILLUSTRATED CATALOGUE sent free by post.

PROPAGATING GLASSES.—

| | | s. | d. | | | | s. | d. | |
|---|---|---|---|---|---|---|---|---|---|
| 2 ins. | diameter | 0 | 3½ | each | 12 ins. | diameter | 1 | 9 | each |
| 3 ,, | ,, | 0 | 4½ | ,, | 13 ,, | ,, | 2 | 0 | ,, |
| 4 ,, | ,, | 0 | 5½ | ,, | 14 ,, | ,, | 2 | 6 | ,, |
| 5 ,, | ,, | 0 | 6½ | ,, | 15 ,, | ,, | 3 | 0 | ,, |
| 6 ,, | ,, | 0 | 8 | ,, | 16 ,, | ,, | 3 | 6 | ,, |
| 7 ,, | ,, | 0 | 10 | ,, | 17 ,, | ,, | 4 | 0 | ,, |
| 8 ,, | ,, | 1 | 0 | ,, | 18 ,, | ,, | 5 | 0 | ,, |
| 9 ,, | ,, | 1 | 2 | ,, | 19 ,, | ,, | 6 | 0 | ,, |
| 10 ,, | ,, | 1 | 4 | ,, | 20 ,, | ,, | 7 | 0 | ,, |
| 11 ,, | ,, | 1 | 6 | ,, | | | | | |

CUCUMBER GLASSES.

| | | s. | d. | | | s. | d. |
|---|---|---|---|---|---|---|---|
| 24 inches long | .. | 2 | 0 | 16 inches long | .. | 1 | 4 |
| 22 ,, | .. | 1 | 10 | 14 ,, | .. | 1 | 2 |
| 20 ,, | .. | 1 | 8 | 12 ,, | .. | 1 | 0 |
| 18 ,, | .. | 1 | 6 | Made to any length. | | | |

HAND GLASSES.

| | | s. | d. | | | | s. | d. | |
|---|---|---|---|---|---|---|---|---|---|
| 12 inches | .. .. | 6 | 0 | each | 18 inches | .. .. | 9 | 0 | each |
| 14 ,, | .. .. | 7 | 0 | ,, | 20 ,, | .. .. | 10 | 0 | ,, |
| 16 ,, | .. .. | 8 | 0 | ,, | 24 ,, | .. .. | 12 | 0 | ,, |

Painted and glazed with 16 oz. Sheet Glass.
If open at top, 1s. extra.
WASP TRAPS, 3s. 6d. per dozen.
Agents for
HARTLEY'S PATENT ROUGH PLATE GLASS.
PAINTS.
Genuine White Lead, Linseed Oil, Boiled Oil, Turpentine, Putty, Colours, Varnishes, Brushes, &c.
JAMES PHILLIPS AND CO.,
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HORTICULTURAL GLASS—JUNE TARIFF.
THOMAS MILLINGTON'S reduced Tariff of GLASS, &c.

| | |
|---|---|
| 6 by 4, 7 by 5, 8 by 6, 9 by 7 / 6½ by 4½, 7½ by 5½, 8½ by 6½, 9½ by 7½ | 16 oz. to the foot, 11s. 6d. per 100 feet. |

In 100 boxes,—4ths quality, 12s. 6d.; 3ds do., 14s. 4d.
10 by 8, 12 by 9, 12½ by 10½, 14½ by 10½, 13 by 11
10½ by 8½, 12½ by 9½, 13 by 10, 15 by 10, 13½ by 11½
11 by 9, 13 by 9, 13½ by 10½, 12 by 11, 14 by 11
11½ by 9½, 12 by 10, 14 by 10, 12½ by 11½ .. ..

| | 16 oz. | 21 oz. |
|---|---|---|
| 20 by 12 / 20 by 13 / 20 by 14 / 20 by 15 — per 100 feet | | |
| Common .. | 16s. | 24s. |
| Superior . | 18s. | 27s. |

All Boxes included.
Orchard House sizes as supplied to Mr. Rivers.
Hartley's improved Rough Plate Glass from ⅛ to ¾ in thickness.
Coloured Glass in great variety, at 9d. and 1s. per foot.
Paints, Genuine White Lead, Linseed Oil, Boiled Oil, Turpentine, Putty, Colours, Varnishes, Brushes, Lamp Glasses, &c.
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GLASS FOR CONSERVATORIES, GREENHOUSES, PIT FRAMES, ETC.
HETLEY AND CO. are supplying 16-oz. Sheet Glass of British Manufacture, packed in boxes, containing 100 square feet each, at the following REDUCED PRICES for cash. A reduction made on 1000 feet.

| Sizes.—Inches. | | Inches. | | Per foot. | Per 10 feet. |
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| | | Under 6 by 4 | at | 1½d. is | £0 12 6 |
| From 6 by 4 | ,, | 7 ,, 5 | ,, | 2d. ,, | 0 16 8 |
| ,, 7 ,, 5 | ,, | 8 ,, 6 | ,, | 2½d. ,, | 0 18 9 |
| ,, 8 ,, 6 | ,, | 10 ,, 8 | ,, | 2½d. ,, | 1 0 10 |
| ,, 10 ,, 8 | ,, | 12 ,, 9 | ,, | 2¾d. ,, | 1 2 11 |

Larger sizes, not exceeding 40 inches long.
16 oz. from 3d. to 3½d. per square foot, according to size.
21 oz. ,, 3½d. to 5d. ,, ,, ,,
26 oz. ,, 3½d. to 7½d. ,, ,, ,,
PATENT ROUGH PLATE, THICK CROWN GLASS, and PATENT PLATE GLASS, for Horticultural purposes, at reduced prices, by the 100 square feet.
GLASS TILES AND SLATES made to any size or pattern, either in Sheet or Rough Plate Glass.
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PATENT PLATE GLASS.—The present extremely moderate price of this superior article should cause it to supersede all other inferior window glass in a gentleman's residence. No alteration connected with the sash is required.
GLASS SHADES, as ornamental to, and for the preservation of every description of goods susceptible of injury by exposure. Prices, since the removal of the excise duty, reduced one half. List of Prices and Estimates forwarded on application to
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FOR WATERING GARDENS, PLUMBERS, ENGINEERS, MILLS, AND MACHINISTS.
Vulcanised India Rubber.

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| Washers for Hot-water and Steam Joints | Garden Watering Hose |
| Elastic Packing and Valves for Steam Engines | Do. fitted with Brass Joints, Taps and Spreaders |
| Pump Buckets (compound India-rubber) | Wheel Tires (noiseless for Trucks, &c.) |
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| Water Beds, Pillows, and Feet Warmers | Foot Balls, Cricketting Gloves |

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THE best and cheapest PAINT for PARK FENCING all outside Wood and Iron Work, is MITCHELL'S ANTISEPTIC MINERAL BLACK PAINT. Sold ready for use, 17s. 6d. per cwt. Used largely now and for many years past by the West India Dock Company, for Fencing, Barges, &c. Recommended to the nobility and gentry, stewards, land agents, &c. A liberal allowance to the Trade, &c.
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J. AMADIO'S BOTANICAL MICROSCOPES, packed in mahogany case, with three powers, condenser, pincers, and two slides, will show the animalcule in water. Price 18s. 6d.—Address Joseph Amadio, 7, Throgmorton Street. A large assortment of Achromatic Microscopes.
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Just published, an Illustrated Catalogue, containing the names of 1000 Microscopic objects, post free for 4 stamps.

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JOHN R. PEILL, 17, New Park Street, Southwark Manufacturer of every description of Buildings for Horticultural purposes, and Inventor of the Improved Conical Boiler for heating the same, is prepared to undertake works of any magnitude, and refers among others to the celebrated range of FORCING HOUSES at HER MAJESTY'S GARDENS, FROGMORE, and at SIR ROBERT PEEL'S, DRAYTON MANOR, constructed under the superintendence of his Manager, MR JOHN JONES; and also to his BOILERS fixed at the CRYSTAL PALACE, the ROYAL BOTANIC GARDENS, REGENT'S PARK, and KEW, and at several hundreds of the Nobility's seats, Public Establishments, and Manufactories in London and the provinces. J. R. P. also manufactures every description of Iron Roofs, Iron Houses, and Iron Fencing, plain and ornamental. Strong Iron Hurdles for Sheep (6 feet long, 3 feet high, with 5 bars), 4s. 3d. each; ditto for cattle, 4s. 9d. each.
Prices and other particulars forwarded on receipt of one postage stamp.

IMPROVED PATENT TURNIP AND MANGEL GRATER
MANUFACTURED BY
JOHN WARNER AND SONS, No. 8, Crescent Jewin Street, London, E.C.—J. W. & Sons, in introducing their IMPROVED PATENT TURNIP AND MANGEL GRATER to the notice of Agriculturists, beg to state that they have personally tested its capabilities during the last three seasons, and as such feel that they can, with the greatest confidence, recommend it as a machine that will upon trial satisfy the requirements of Feeders of Stock generally; one man or strong lad being able with comparative ease to grate 20 bushels of roots in 10 minutes.—Price of the Machine complete, 4l. 10s. Carriage paid to any Railway Station in England. To be procured of any Ironmonger or Agricultural Machine Agent in Town or Country, or of the Manufacturers.

SMALL GAS APPARATUS, FREE FROM NUISANCE.
THE PATENT NATIONAL COAL-GAS APPARATUS, for private Residences, Farm Buildings, Churches, Chapels, Workshops, Railway Stations, and other places not hitherto lighted with Gas. It is durable, economical, and compact, and supplies the desideratum of cleanliness in the production of a Gas of better quality and purity, and at less cost, than is ordinarily obtained from Public Works. By an entirely new and peculiar process it is easily worked by a boy or inexperienced servant. The cost of Gas, including labour, wear and tear, and interest of capital, is less than one-fourth that of candles or oil. It can be fixed and completed in working order in a few days.—Further particulars, prices, testimonials, &c, on application to the Proprietors and Manufacturers, J. T. B. Porter & Co., Lincoln.

HANDSOME BRASS AND IRON BEDSTEADS.—Heal & Son's Show Rooms contain a large assortment of Brass Bedsteads, suitable both for Home use and for Tropical Climates; handsome Iron Bedsteads with Brass Mountings and elegantly Japanned; Plain Iron Bedsteads for Servants; every description of Wood Bedstead that is manufactured, in Mahogany, Birch, Walnut-tree Woods, Polished Deal and Japanned, all fitted with Bedding and Furniture complete, as well as every description of Bedroom Furniture.
HEAL AND SON'S ILLUSTRATED CATALOGUE, containing Designs and Prices of 100 Bedsteads, as well as of 150 different articles of Bedroom Furniture, sent free by post.—Heal & Son, Bedstead, Bedding, and Bedroom Furniture Manufacturers, 196, Tottenham Court Road, W.

VINEGAR.—Patronised by her Majesty's Government.
CONDY'S PATENT PURE CONCENTRATED MALT VINEGAR.—Families, by using this delicious Vinegar, insure purity, and effect a saving of 50 per cent. See Report of Dr. Letheby, City Officer of Health; Dr. Hassall of the *Lancet* Commission, and others. Six Quart Sample sent free to any Railway for 3s. 6d.—Sold by the Trade, in bottles, labelled and capsuled; wholesale, 63, King William Street, London Bridge, E.C.

TO SEEDSMEN, FRUITERERS, AND GREENGROCERS.
TO BE SOLD, AN OLD ESTABLISHED BUSINESS in the above line in one of the leading thoroughfares, in the City of Bath. To persons with small capital the above offers an excellent opportunity; half the rent is paid by permanent lodgers.—For further particulars apply to D. E. F., Post Office, Bath.

TO BE LET, BRISTOL NURSERY GROUNDS, Kemp Town, Brighton. These Gardens are now to Let for occupation with immediate possession.—Any person desirous of treating for the same may obtain particulars and permission to view the grounds on application to Mr. R. W. Lucas, 20, Great Marlborough Street, London, W.; and of Mr A. Chandler, Horticultural Valuer, 28, Priory Road, Wandsworth Road, S.

# Sales by Auction.

TO GENTLEMEN, FLORISTS, AND OTHERS.
MESSRS. PROTHEROE AND MORRIS will Sell by Auction at the Mart, Bartholomew Lane, on FRIDAY, April 8, at 12 o'Clock, a first-class Collection of Carnations, Picotees, and Pinks; about 200 choice Standard and Dwarf Roses, consisting of the most approved kinds; choice Ornamental Trees, Azalea indica, Camellias, and other Plants in bloom, selected American Plants, Pæonias, Verbenas, Fuchsias, Dahlias in dry roots, &c.—May be viewed the morning of Sale. Catalogues to be had at the Mart, and of the Auctioneers, American Nursery, Leytonstone.

UNIQUE PLANT.
MR. J. C. STEVENS is directed by the Council of the Horticultural Society of London to include in the Sale at his Great Room, 38, King Street, Covent Garden, on TUESDAY, April 12, the unique Shrub "FREMONTIA CALIFORNICA" (*vide* description in *Gardeners' Chronicle*, Jan. 22, 1859).—May be viewed on the Morning of Sale, and Catalogues had

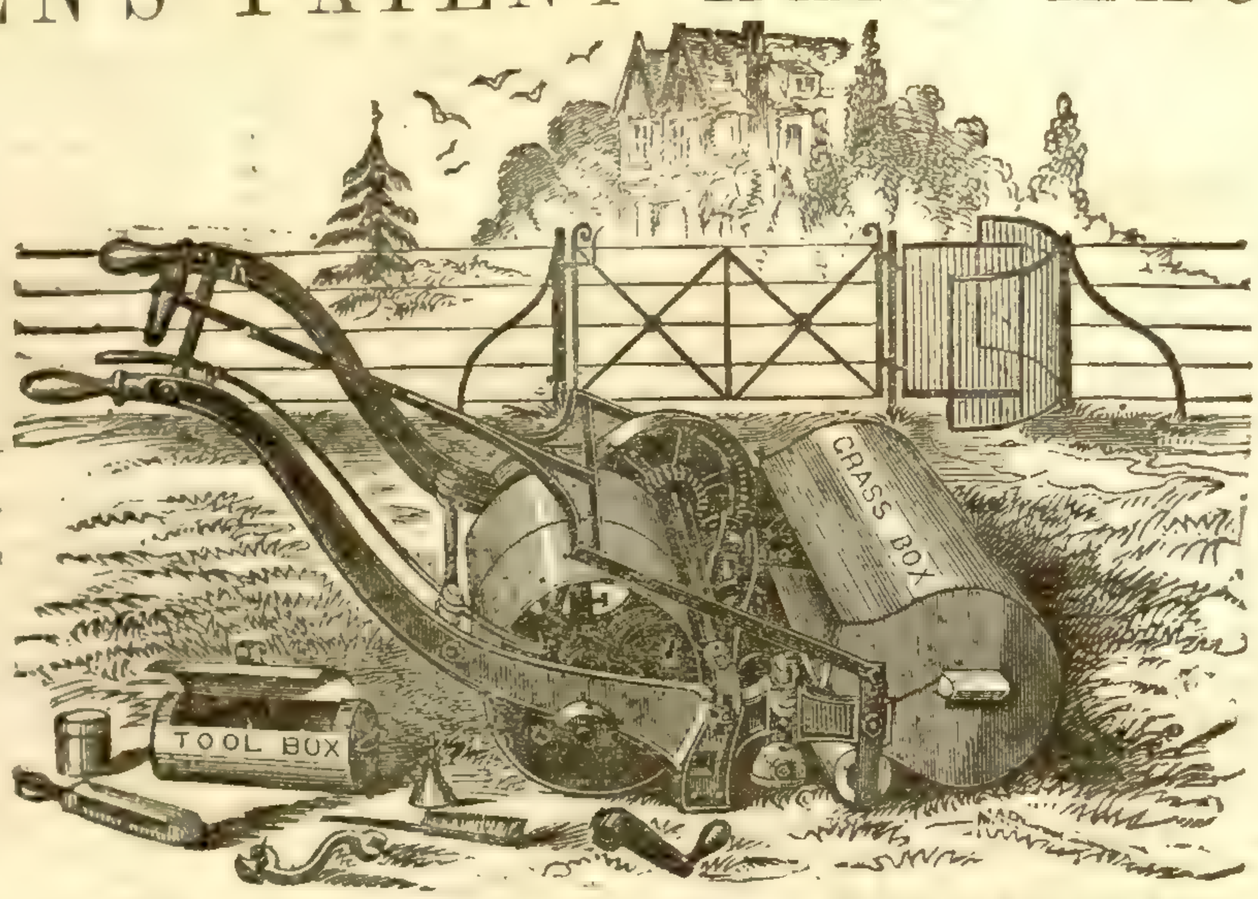
ORCHIDS AND FERNS.
MR. J. C. STEVENS will Sell by Auction, at his Great Room, 38, King Street, Covent Garden, on TUESDAY, April 12, at half-past 12 o'Clock precisely, ORCHIDS of very superior quality, the duplicate specimens from a well-known Collection, including admirably grown Plants of the following select varieties, viz.:—

| | |
|---|---|
| Aërides Lindleyi | Galeandra devoniana |
| ,, Larpentæ | Paphinia cristata |
| ,, Schroderi | ,, tigrina |
| ,, nobile | Phalænopsis grandiflora |
| ,, quinquevulnerum | Saccolabium guttatum |
| ,, maculosum major | ,, retusum |
| Angulo a Ruckeri | Uropedium Lindeni |
| Cymbidium eburneum | Vanda suavis (Veitch) |
| Cœlogyne ocellata | ,, ,, aurea |
| ,, Lowi | &c., &c. |

Also a few rare FERNS—Gleichenias, Alsophilas, Cyatheas, &c.—May be viewed on the morning of Sale, and Catalogues had of Mr. J. C. Stevens, 38, King Street, Covent Garden.

## GREEN'S PATENT GRASS CUTTING, COLLECTING, & ROLLING MACHINES FOR 1859.

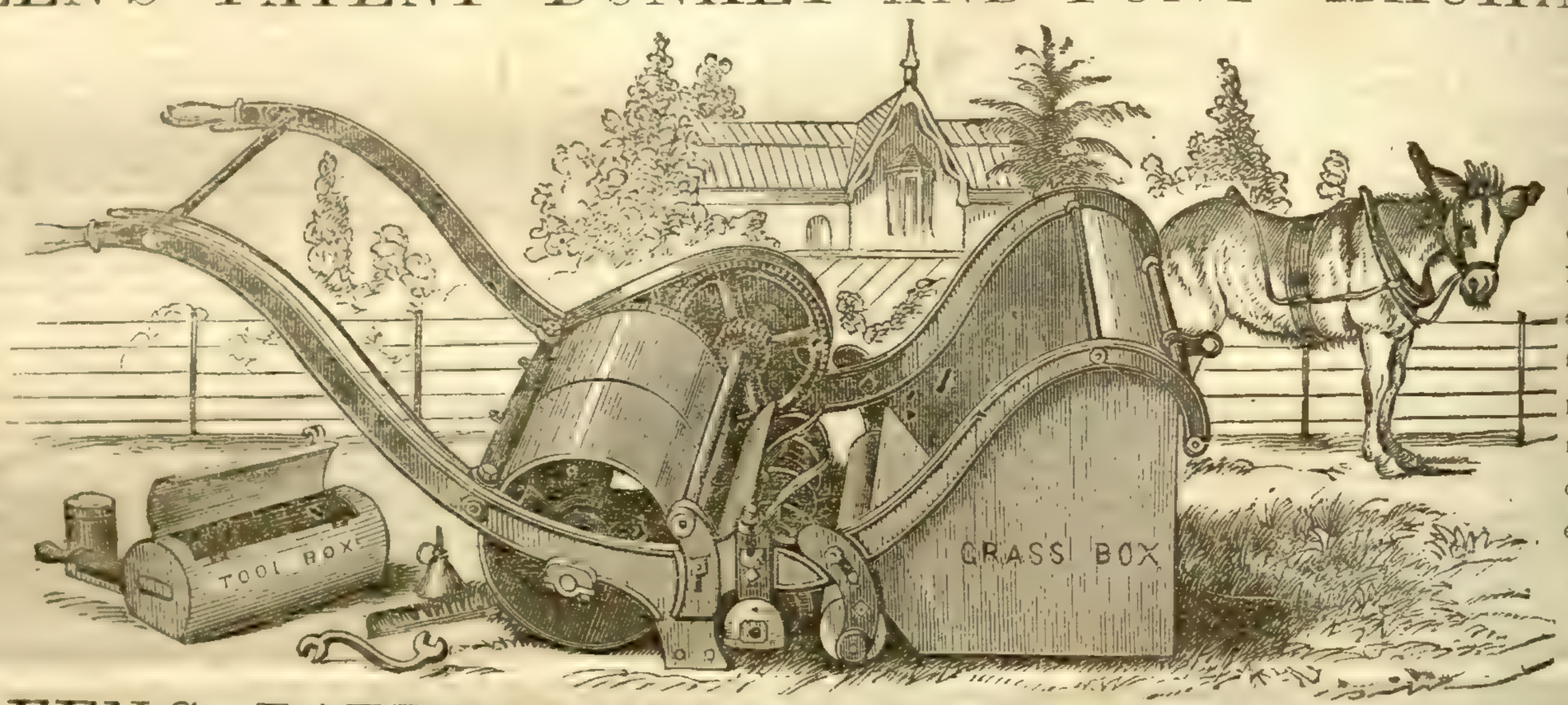
# GREEN'S PATENT HAND MACHINE.




LIST OF PRICES.

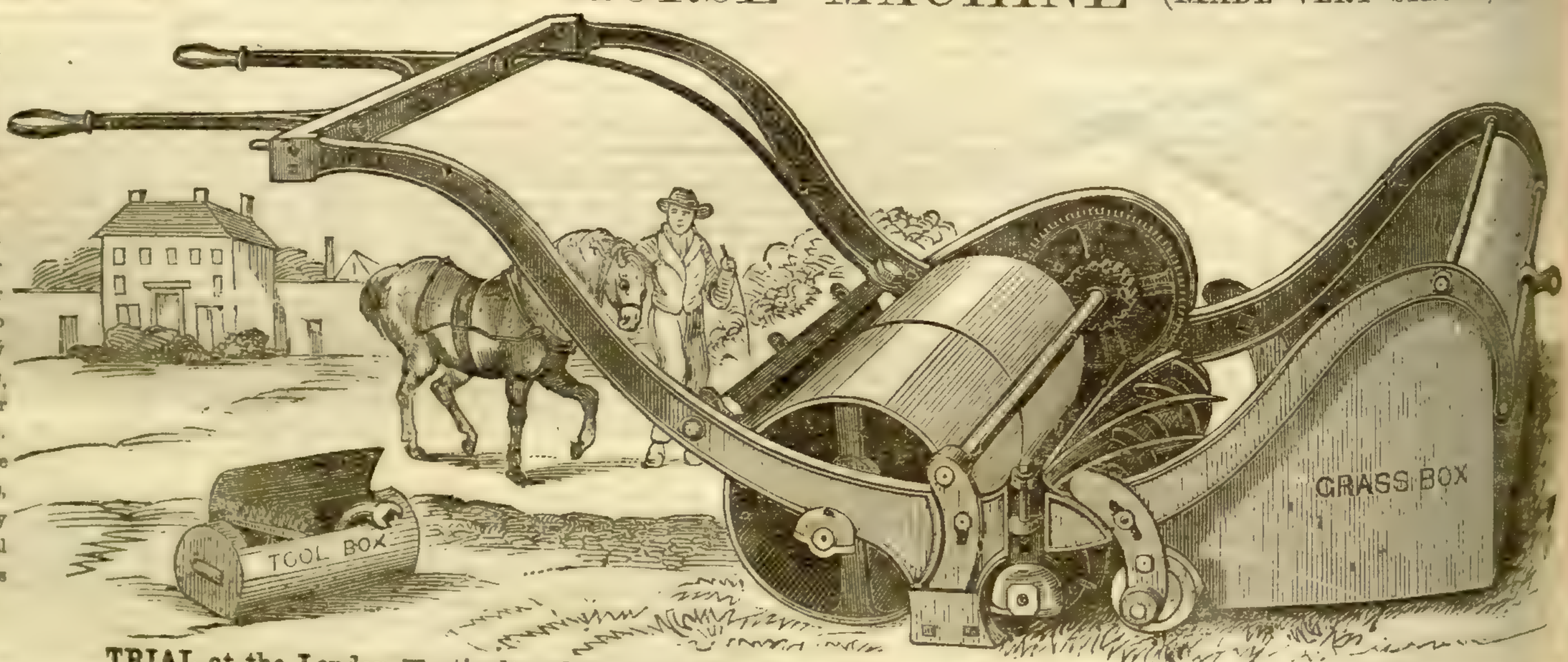
To cut 14 inches, 6*l.*; 16 in. 6*l.* 10*s.*; 18 in. 7*l.*—for one person. To cut 20 inches 7*l.* 10*s.*; 22 in. 8*l.*; 24 in. 8*l.* 10*s.*—for two persons. If with Box and Tools for sharpening and keeping the Machine in order, 5*s.* extra; with Guard for preventing accidents and keeping the wheels clean, 5*s.* extra.

# GREEN'S PATENT DONKEY AND PONY MACHINE,




Suitable for a Donkey, to cut 24 inches, 10*l.*; 26 in., 11*l.* For a Pony, 30 in., 15*l.*; box, tools, &c., 6*s.* 6*d.* extra. Leather traces, stretcher, &c., suitable to attach to common harness chain traces, 7*s.* 6*d.* Leather boots, suitable for donkey feet, 10*s.*; do. for pony, 20*s.* per set of four. Guard for covering wheels 5*s.* extra.

# GREEN'S PATENT HORSE MACHINE (MADE VERY STRONG).




To cut 30 ins. 18*l.*; 36 ins., 21*l.*; 42 ins. 24*l.*; 48 ins., 27*l.* Box of tools 7*s.* 6*d.* extra. Leather traces' stretcher, &c., 10*s.* Boots per set of four for Horses' feet, to prevent injury to lawns, 24*s.* Guard for wheels, 5*s.* ex.—The above are Net cash prices, delivered at any of the principal Rlway. Stations in England.

**TRIAL at the London Horticultural Society's Gardens, Chiswick, June 5, 1857. Four competitors.**

First trial on level ground, second do. on undulated, third do. on intricate places around trees, &c., when GREEN'S PATENT was unanimously declared to be the best in each trial by Colonel Challoner, Dr. Lindley, and G. M'Ewen, Esq., the appointed Judges.

See the *Gardeners' Chronicle* of May 22, 1858, p. 423, under the heading of "Garden Memoranda."

"LONDON HORTICULTURAL GARDENS, CHISWICK.—The Grass in the Arboretum and elsewhere is in excellent condition; it is kept in order by means of one of GREEN'S 2-feet Mowing Machines, which does its work very satisfactorily, and, compared with the scythe, effects a saving of at least one-half."

Extract from London *Times* of June 8, and *Gardeners' Chronicle* of June 12, 1858.

"TRIAL OF MOWING MACHINES.—A considerable number of various sizes having been brought to the ground it was agreed that the trial should take place between One Hand Machines each exhibitor, as nearly as possible of uniform size and worked by themselves, or their men. The ground to be worked was determined by lot, the pieces having been previously selected of as uniform quality as possible. After trials on level ground and round trees, the Judges, Colonel Challoner and Mr. Edward Easton, declared GREEN'S Patent to be the best.

(Signed) "C. B. CHALLONER, EDWARD EASTON, Judges

THOS. GREEN respectfully informs the Nobility, Gentry, Gardeners, Amateurs, and others, that upwards of Six Hundred of these Machines were sold in 1857, and to show the increased demand, above Nine Hundred were sold last season—they have proven to be the best in all cases of competition, are entirely remodelled, and all the little defects pointed out by the trials last Year, are now rectified. The Patentee now considers the Machines as near perfection as possible. Although the Machines have been so much improved, at a great additional cost, no extra charge will be made, excepting for a neat Guard, which is placed over the wheels to keep them clean, and to prevent breakage or accidents, which will be 5*s.* extra to parties requiring them.

☞ The Machines are warranted to give satisfaction, or may be at once returned by the party paying the carriage back to Leeds. The Patentee has spared neither time nor expense in producing the best and cheapest Mowing, Collecting, and Rolling Machines ever brought before the public. Hundreds of Testimonials (unsolicited) may be seen, and references given with regard to the superiority of the machines, by applying to the Patentee,

## T. GREEN, Smithfield Iron Works, Leeds; or, No. 2, Victoria Street, bottom of Holborn, London.

To either of which places all Cheques and Post-office Orders may be made payable.

☞ *T. G. will be glad to receive orders for Machines as early as possible, as a great difficulty was found last season in supplying the number required.*

N.B. Parties desirous of having their Machines repaired may forward them to either the London or Leeds establishment, where they will have the best attention.


Printed by WILLIAM BRADBURY, of 13, Upper Woburn Place, and FREDERICK MULLETT EVANS, of No. 20, Queen's Road West, both in the Parish of St. Pancras, in the Co. of Middlesex, Printers, at their Office, Lombard St. Precinct of Whitefriars, City of London, and published by them at the Office, No. 5, Upper Wellington St., Parish of St. Paul's Covent Garden, in the said Co.—SATURDAY, April 2, 1859

# THE GARDENERS' CHRONICLE AND AGRICULTURAL GAZETTE.

**A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.**

No. 15.—1859.] SATURDAY, APRIL 9. {Price Fivepence. STAMPED EDITION, 6d.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HORTICULTURAL SOCIETY OF LONDON.—Notice is hereby given that the business of the Society will be carried on in future at No. 8, St. Martin's Place, Trafalgar Square, W.C.

HORTICULTURAL SOCIETY OF LONDON.—DISTRIBUTION OF SEEDS.

The Seeds annually provided for distribution being now ready, Fellows of the Society who have not received them can obtain them upon application at the Society's Office, 8, St. Martin's Place, Trafalgar Square, W.C.

HORTICULTURAL SOCIETY OF LONDON.—BEDDING-OUT PLANTS.

In consequence of the conversion of the Garden at Chiswick into one of Experiment only, the Bedding-out Plants which had been provided for the ensuing summer will be given away to the Fellows in quantities not exceeding five dozen each.—Application to be made to the Assistant-Secretary, 8, St. Martin's Place, W. C., before APRIL 23, after which the Plants not wanted by the Fellows will be sold to the Trade.

HORTICULTURAL SOCIETY.—At a meeting held yesterday, at 8, St. Martin's Place, Trafalgar Square, the following candidates were proposed and duly elected FELLOWS of this Society, viz.:—

S B Potter, Esq.
Clayton de Windt, Esq.
Samuel Reynolds Solly, Esq., F.R.S.
J Gunton Chillingworth, Esq.
Joan Bailey, Esq.
Mrs. George A. Stretton
Miss Sarah Reeves
Mr. Bennett Hooper
Mr. David Maurigy
Mr. Wm. Dunsford
Mr. Fisher G. Godwin
Mr. Arch. Henderson
and others

ROYAL BOTANIC SOCIETY, REGENT'S PARK.—THE EXHIBITIONS OF PLANTS, FLOWERS, AND FRUIT this season will take place on WEDNESDAYS, May 25, June 15, and July 6. Tickets of Admission are now being issued, and can be obtained at the Gardens only by orders from Fellows or Members of the Society. Price, on or before Saturday, May 14, 4s.; after that day, 5s.; or on the days of Exhibition, 7s. 6d. each.

GRAND NATIONAL ROSE SHOW.—The Meeting of the Committee and Subscribers, previously advertised, will be held at ST. JAMES'S HALL on WEDNESDAY, April 13, at 2 o'clock P.M.

S. REYNOLDS HOLE, Hon. Secretary.

Caunton Manor, Newark.—April 9.

THE GRAND NATIONAL DAHLIA SHOW FOR 1859.—This Exhibition will take place on the 20th and 21st of September next, at Aston Hall, Birmingham. Lists of Prizes will shortly be ready.

CHARLES TURNER, JOHN KEYNES, } Hon. Secs.

THE ROYAL NATIONAL ANNUAL EXHIBITION OF TULIPS.—The Meeting for 1859 will be held on FRIDAY, May 20, at the Royal Nursery, Slough. Lists of prizes and full particulars may be had of CHARLES TURNER, Hon. Sec., Royal Nurseries, Slough.

DIOSCOREA BATATAS.—Fine roots, 9 to 12 inches long, 5s. per dozen; extra size, 10s. per dozen.

BASS & BROWN, Seed Growers, &c., Sudbury, Suffolk.

DIOSCOREA BATATAS—CHINESE YAM.

WM. CUTBUSH AND SON beg to intimate that now is the best time for planting the above. Good Sets, 2s. per 100; or 4s. per doz.—Highgate Nurseries, London, N.

CHINESE POTATOES (DIOSCOREA BATATAS) for planting this month. Large sets (from full-sized, well-matured tubers, in this country) of them weighing over 2½ lbs., grown Sandbach, Cheshire, 6d. per dozen.—Apply, WM. LEMON,

DIOSCOREA ROOTS AND SETS.

MESSRS. S[UTTON] are sending out at 5s. per doz., contain six or more sets each.

Instructions for planting are sent with the roots. Early orders necessary, strong roots.

Royal Berks Seed Establishment, Reading.

SORGHUM OR HOLCUS SACCHARATUS.

SUTTON & SONS, Importers of this Seed, can supply it wholesale and retail, warranted the true kind, and good growing seed. 8 lbs. per acre sufficient.

Present retail price 2s. per lb., or cheaper in large quantities. Instructions for cultivation sent with the Seed.

SUTTON & SONS, Royal Berks Seed Establishment, Reading.

500 BUSHELS of FLUKE and WHITE BLOSSOM SEED POTATOES, true, free from disease, and suitable sizes, at 3s. 4d. the bushel of 80 lbs., samples of which may be had on application to Mr. WM. GROSVENOR, Prospect Nursery, Cheddleton, near Leek, Staffordshire.

A remittance or reference from unknown correspondents.

GOOD CLOVER SEEDS.

GENUINE NEW CLOVER SEEDS can be had of SUTTON & SONS, Seed Growers, Reading, Berks.

THE ALSIKE CLOVER.—This valuable but scarce Clover Seed is included in Messrs. SUTTON'S mixtures of Clover and Grass Seeds for permanent pasture and for alternate husbandry. It can be supplied alone if required. Price fluctuating, to be had on application.

Royal Berks Seed Establishment, Reading.

THE PLYMOUTH SEED, AGRICULTURAL IMPLEMENT, AND MANURE COMPANY LIMITED supply every requisite for the Farm and the Garden.

Registered Offices, Union Road, Plymouth.

SPECIMEN GREENHOUSE AND STOVE PLANTS.—See PRICED LIST in *Gardeners' Chronicle* of March 26, page 260, with description of sizes, &c. Also a LIST containing several others sent free by post.—BASS & BROWN, Seed and Nursery Establishment, Sudbury, Suffolk.

GEORGE BAKER begs to inform the Nobility and Public that his DESCRIPTIVE CATALOGUE OF AMERICAN PLANTS AND GENERAL NURSERY STOCK will be sent free on application.

American Nursery, Windlesham, near Bagshot, Surrey, about 1 mile from Sunningdale Station, South Western Railway.

NEW DAHLIAS.

JOHN KEYNES'S SELECT CATALOGUE OF DAHLIAS, ROSES, CARNATIONS, PINKS, &c., containing Lists of all the valuable Show Flowers in each class, is now ready and will be sent on application.

Castle Street Nursery, Salisbury.—April 9.

FERN CATALOGUE.

ROBERT SIM'S NEW DESCRIPTIVE AND PRICED CATALOGUE, No. 6 (62 pages) of his COLLECTION of BRITISH AND EXOTIC FERNS, can be had, post free, for 8 stamps. Gratis to all previous purchasers of Ferns.

Nursery, Foot's Cray, Kent, S.E.

HENDON PARK NURSERIES, HENDON, N.W.

EDWARD SHENTON'S Descriptive CATALOGUE of new DAHLIAS, HOLLYHOCKS, PELARGONIUMS, BEDDING AND BORDER PLANTS, and the leading New Flowers of the season 1859. Forwarded on application.

TO THE READERS OF THE "GARDENERS' CHRONICLE."

CHEAP GREENHOUSE AND BEDDING PLANTS.

J. SLIPPER'S CATALOGUE is now ready, and may be had for a postage stamp.

Villa Nursery, Camden Town, London, N.W.

FINEST SHOW CARNATIONS, PICOTEES, PINKS, &c.

CHARLES SCHOFIELD has a fine healthy stock of the above for sale at 6s., 12s., and 20s. per dozen pairs. Also PANSIES, DAHLIAS, VERBENAS, FUCHSIAS, &c. CATALOGUES now ready, sent free on application.—Knowsthorpe, near Leeds, Yorkshire.

JOSEPH MAY AND CO., SEEDSMEN, will send the following FLOWER SEEDS post free to any part on receipt of stamps or order:—

| | | | | s. | d. |
|---|---|---|---|---|---|
| 50 packets good showy FLOWER SEEDS | .. | .. | .. | 7 | 6 |
| 30 packets ditto | ditto | .. | .. | 5 | 0 |
| 15 packets ditto | ditto | .. | .. | 2 | 6 |
| 12 packets of useful and ornamental Gourds | | .. | .. | 3 | 0 |

1, Wellington Street, Strand, Waterloo Bridge.

THE PRIMULARY.

THOS. WILD respectfully reminds his friends that April and May is the season for sowing CHINESE PRIMROSES. Mixed colours, 2s. 6d. per packet. Separate colours sold out.—THOS. WILD, The Primulary, Ipswich.

NEW YELLOW ROSE, "MADAME WILLIAM."—This beautiful new Rose was exhibited by A. PAUL & SON, at the Royal Botanic Society's Gardens, in the Regent's Park, on Wednesday, the 6th inst., and awarded a Certificate of Merit. Price 7s. 6d. the pair, package and carriage to London included.—A. PAUL & SON, Nurseries, Cheshunt, Herts.

LILIES OF THE VALLEY.—A few thousand roots to be sold, 1s. per 100, or 8s. per 1000.—Apply to Mr. HARRISON, Oatlands Palace Garden, Weybridge. Applications per Post-office Order or stamps will only be attended to.

NEW VERBENAS.

CHARLES TURNER is now sending out Edmonds's fine new varieties. For particulars, see Catalogue.

The Royal Nurseries, Slough.

NEW PANSY, "ELLEN."—Fine dark self, strong plants at 5s.; also NEW SUNFLOWER "CALIFORNIA," the finest yet raised; strong plants, 5s. each.

EDWARD SHENTON, Hendon Park Nurseries.

PANSIES.—The best and most distinct kinds, extra fine show varieties, 6s. per dozen.—DODWELL & BAYLEY, Bradshaw Gardens, Chadderton, Manchester.

BELGIAN DAISIES.—In the finest variety, 4s. per dozen.—DODWELL & BAYLEY, Bradshaw Gardens, Chadderton, Manchester.

CARNATIONS.—Twenty-five pairs strong, well rooted, and extra fine show varieties, named 1l., packing and hamper included.—DODWELL & BAYLEY, Bradshaw Gardens, Chadderton, Manchester.

PICOTEES.—Twenty-five pairs strong, well-rooted plants, and extra fine show varieties, named, 1l., packing and hamper included.—DODWELL & BAYLEY, Bradshaw Gardens, Chadderton, Manchester.

PINKS.—Twenty-five pairs fine named kinds, in strong healthy plants, 10s., packing and hamper included.—DODWELL & BAYLEY, Bradshaw Gardens, Chadderton, Manchester.

PHLOXES.—The best and most distinct kinds, strong plants, well established, 8s. per dozen.—DODWELL & BAYLEY, Bradshaw Gardens, Chadderton, Manchester.

FIVE FIRST-RATE BROCCOLIS FOR SUCCESSION.

| | s. | d. | |
|---|---|---|---|
| WALCHEREN, for Aug. to October produce | 3 | 0 | per oz. |
| HAMMOND'S WHITE CAPE, Sept. to Nov. | 2 | 6 | ,, |
| MITCHINSON'S PENZANCE, Feb. and March | 5 | 0 | ,, |
| DILCOCK'S BRIDE, for April | 1 | 0 | ,, |
| THE GIANT, late white, for May and June | 2 | 0 | ,, |

A ½ oz. packet of each free by post for 3s. 6d. in postage stamps.

BASS & BROWN, Seed Growers, Sudbury, Suffolk.

CONIFERÆ.

A. PAUL AND SON have a large stock of the above, very handsome, in fine order for removal, many suited for immediate effect. For particulars see Advertisements in *Gardeners' Chronicle* of November and December last.—Nurseries, Cheshunt, Herts.

JOHN GRIGOR AND CO., NURSERIES, Forres, beg to offer true Native Highland SCOTCH FIR SEED, grown in the celebrated Natural Forests of Strathspey, at 2s. 6d. per packet, post free, or for stamps of that value.

The Trade supplied at Wholesale Prices.

TO BE SOLD, a LARGE quantity of YEW TREE BUTTS, SLABS, and ROOTS; also a fine YEW TREE of great age. The best SEA SHELL and GARDEN GRAVEL for Conservatories and Garden Paths, to be had in any quantity at Gravel Wharf, 67, Augustus Street, Regent's Park Basin.

W. HOLLAND, Proprietor.

TO BE SOLD, OAK PLANTS of one year's growth, price 2s. per 1000. Franco, Antwerp.—For further particulars apply to GEORGE TRIMBEY & Co., 41, Queen Street, Cheapside, London.

CLIMBING PLANTS.

F. AND A. SMITH have now ready strong plants of Cobea scandens, Maurandyas, blue, white, and rose; Lophospermum, Eccremocarpus, and Tropæolums, in large quantities. Prices on application.—Dulwich, Surrey.

BEDDING PLANTS.

F. AND A. SMITH beg to offer the usual varieties of plants for bedding purposes, strong and healthy, including most of the novelties of the season, at moderate prices.

Dulwich, Surrey.

100,000 BEDDING PLANTS, the cheapest place in England. Catalogue sent for one stamp.—J. PYLE, St. John's Nursery, Upper Holloway, London.

SPERGULA PILIFERA.—A perfect substitute for GRASS LAWNS WITHOUT MOWING.—A two years' established Plant, showing its character, sent Post free on receipt of 2s. 6d. or 30 stamps.

Address JOHN SUMMERS, Gardener, Forest Hill, Sydenham.

PAMPAS GRASS (GYNERIUM ARGENTEUM).—The beauty of this extraordinary plant has this season been fully appreciated. It can be supplied by the dozen, hundred, or thousand, by CHARLES NOBLE, Bagshot, Surrey.

JOHN CULVERWELL, Taunton, begs to call the attention of Agriculturists to his superior selection of GRASS SEEDS, which for PURITY, change of SOIL, and CLIMATE, will bear comparison with any house in the kingdom. Prices, terms, and samples forwarded on application.

GIANT SAINFOIN SEED.—Seed of this excellent and productive Plant may be had of RAYNBIRD & HARVEY, Basingstoke, and 89, Seed Market, Mark Lane. Samples and prices on application.

N.B. R. & H. can also supply Common Sainfoin both of English and French growth at market prices.

HUDSON'S GOLDEN MELON BARLEY.—Selected Samples for Seed of this most valuable variety, superior both for produce and malting quality, may be had of RAYNBIRD & HARVEY, of Basingstoke; and 89, Seed Market, Mark Lane, E.C.

NEW ZEALAND RUNNER BEAN.—Price 2s. per quart.—JAS. CARTER & Co., Seedsmen, 238, High Holborn, London, W.C.

NEW ZEALAND RUNNING BEAN.—Packets of 12 Seeds, for 14 stamps.

BASS & BROWN, Seed Growers, &c., Sudbury, Suffolk.

CABBAGE PLANTS.—Drumheads for Cattle, fine and true; packed and delivered to the Stations, 3s. 6d. per 1000.—THOMAS WELLAND, Surrey Gardens, Godalming, Surrey.

CUSTARD MARROW.—The improved variety, 18 Seeds for 13 stamps, or nine Seeds for seven stamps, free by post. See drawing of this productive and handsome variety in *Gardeners' Chronicle*, Jan. 29 and Feb. 12.

BASS & BROWN, Seed Growers, Sudbury, Suffolk.

GRAYSON'S GIANT ASPARAGUS.—

Fine 2-year roots, 2s. 6d. per 100; or 21s. per 1000.
,, 3-year ,, 3s. 6d. ,, 100; or 30s. ,, ,,

The usual allowance to the Trade.

BASS & BROWN, Nurserymen, Sudbury, Suffolk.

THE BEST TIME FOR PLANTING ASPARAGUS AND SEAKALE.

YOUELL AND CO. having a large Stock of the above growing on the Sea Coast, of the finest quality, beg to offer it at the following prices:—

| | | |
|---|---|---|
| ASPARAGUS, GIANT, two years | .. | 2s. 6d. per 100. |
| ,, ,, three years | .. .. | 3s. 6d. ,, |
| SEA KALE | .. .. .. .. .. | 6s. 0d. ,, |

Royal Nursery, Great Yarmouth, Norfolk.

THE EARLIEST PEA.—DUNNETT'S FIRST EARLY is in every respect superior to "Daniel O'Rourke," being several days earlier, having finer pods, and richer in flavour, height 2½ feet. For an early dish of fine flavoured Peas we can confidently recommend this; 2s. per quart.

CHAMPION CABBAGE, the earliest and best sort, if sown in succession, may be had fit for table throughout the year. 3d. per ounce, or 1s. post free.

BUTLER & MCCULLOCH, Covent Garden Market, London.

**ROYAL BOTANIC SOCIETY OF LONDON.**—At the SPRING EXHIBITION, April 6, the following Awards were made:—

NEW PLANTS.—1st Prize to Messrs. J. & J. Fraser, Lea Bridge Road, for Muschia Wollastoni; 2d, to Messrs E. G. Henderson & Son, Wellington Road Nursery, for Gastrolobium spectabile; 3d, to the same, for Aucuba himalaica—and to Messrs, A. Henderson & Co., Pine Apple Nursery, for Griffinia Liboniana.

TWELVE MISCELLANEOUS PLANTS.—1st Prize to Mr. Cutbush, of Barnet; 2d, to Messrs. J. & J. Fraser; 3d, to Messrs. Cutbush & Son, Highgate; 4th, to Messrs. A. Henderson & Co.

SIX CINERARIAS.—1st Prize to Messrs. Dobson & Son, of Isleworth; 2d, to Mr C. Turner.

SIX ROSES IN POTS.—1st Prize to Mr. C. Turner.

TWELVE AMARYLLISES.—1st Prize to Messrs. E. G. Henderson & Son.

MISCELLANEOUS.—Silver Medal to Messrs. E. G. Henderson & Son for a collection of Plants, including Camellia de la Reine; Small Silver Medal to Mr. C. Turner for 12 Auriculas; Bronze Medal to Messrs. E. G. Henderson & Son for three Standard Azaleas. Certificate to Mr. Turner for Seedling Cinerarias—Brilliant, Duchess of Sutherland, and Highland Mary—and for Seedling Camellia Eleanor; to Mr G. M'Intosh, of Hammersmith, for a collection of Tulips; to Messrs. Paul & Son, of Cheshunt, for Madame William Tea Rose; to Mr. Bragg, of Slough, for 36 Pansies; to Mr James, of Isleworth, for 24 Pansies; to Messrs A. Henderson & Co. for Australian Cress; to Messrs. F. & A. Smith for Seedling Cineraria Lord Clyde.

Signed—S. M CARSON, T. MOORE, A. PARSONS, Censors.

**BRIGHTON AND SUSSEX FLORICULTURAL AND HORTICULTURAL SOCIETY'S EXHIBITIONS** for 1859 are fixed to be held on the following days:—Summer Show, WEDNESDAY and THURSDAY, June 22 and 23; Autumn Show, WEDNESDAY and THURSDAY, Sept. 14 and 15; on the same grand scale as in former years. Schedules are now ready, and may be obtained of the Secretary, 96, St. James's Street; or of E. SPARY, Queen's Graperies, General Superintendent of Exhibition.

EDWARD CARPENTER, Secretary.
THOS. ATTREE, Esq., Chairman of Committee.

Brighton.—April 9

**STAMFORD HORTICULTURAL SOCIETY.**—The EXHIBITIONS for the present year will be held on the same grand scale as in former years. The SUMMER FETE will take place on WEDNESDAY, July 6, when three Silver Cups will be awarded for Cut Roses and Stove and Greenhouse Plants, and other prizes for various productions to the amount of 100*l*.

The AUTUMN SHOW is fixed for September 7, at which a Silver Cup for Dahlias, and other liberal prizes are offered. At each Exhibition important prizes are open to all England without subscription or entrance fee. The Schedule, with Rules, &c, will be forwarded post free on application to

Stamford, April 9. H. JOHNSON, Hon. Sec.

**BATH AND WEST OF ENGLAND SOCIETY FOR THE ENCOURAGEMENT OF AGRICULTURE, ARTS, MANUFACTURES, AND COMMERCE.**—An Exhibition of FLOWERS, FLOWERING, and ORNAMENTAL PLANTS, FRUIT, and VEGETABLES, will take place on June 1, 2, and 3, in connexion with the General Exhibition of the above Society, on the occasion of their North Devon Meeting at Barnstaple, when the following Prizes will be offered:—

| | | 1st. | 2d. |
|---|---|---|---|
| I.—1. | For the best collection of not less than 20 Stove or Greenhouse Plants (Nurserymen) | £3 | — |
| 2. | Do. do. .. .. (Amateurs) | 2 | £1 |
| II.—1. | For the best collection of not less than 12 Rhododendrons and Chinese Azaleas (Nurserymen) | 3 | — |
| 2. | For the best collection of not less than 8 do. .. .. .. (Amateurs) | 2 | 1 |
| III.—1. | For the best collection of not less than 8 Roses in pots .. .. (Nurserymen) | 3 | — |
| IV.—1. | For the best collection of not less than 20 Variegated Plants, or plants remarkable for their fine foliage (Nurserymen) | 3 | — |
| V.—1. | For the best collection of not less than 20 Ferns of any kind .. (Amateurs) | 2 | 1 |
| VI.—1. | For the best ornamental basket of Flowers, or of Flowers and Foliage .. (Amateurs) | 2 | 1 |
| VII.—1. | For the best group of specimens of Coniferæ, preference being given to newly introduced kinds .. .. (Nurserymen) | 5 | — |
| VIII.—1. | For the best specimen of any newly introduced or extremely rare genus of Ornamental Plant, or object of special merit in the exhibition .. (Nurserymen) | 1 | — |

In addition to the above, prizes to the amount of 10*l*. will be offered for Fruit and Vegetables. A portion of the Society's ground will be set apart for the present exhibition, and space will be allotted either in a marquee or the promenade, at the discretion of the managing committee, to Nurserymen who may wish to arrange and exhibit their collections in distinct sections, irrespective of competition for prizes. Space will also be allotted for the display of Garden Decorations and works of Ornamental Art associated with Horticulture.

Plants intended for the Exhibition will (on being consigned to the Horticultural Committee) have free transit over the line of railway from Exeter to Barnstaple.

Application for space to be made to the undersigned before May 1 next.

All articles for exhibition must be staged by the evening of Tuesday, May 31; and are not to be removed earlier than the morning of Saturday, June 4.

(Signed) GEORGE BROWN,
Barnstaple. Hon. Sec. Local Committee.

**THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.**—Notice is hereby given that an ELECTION of PENSIONERS will take place on WEDNESDAY, the 6th July next. All persons desirous of becoming Candidates are requested to send in their testimonials, &c., to the Committee on or before the 9th May next, after which time they will not be received.—By order, EDW. R. CUTLER, Sec.

14, Tavistock Row, Covent Garden, April 9.

Printed Forms of Petition may be had upon application to the Secretary.

**750 BEDDING PLANTS** for 7*l*. including basket and packing, or one half for 3*l*. 15*s*.

| | |
|---|---|
| 20 Anagallis, 2 sorts | 25 Lobelias, 6 sorts |
| 12 Ageratum, 3 sorts | 50 Hollyhocks, Seedlings |
| 50 Calceolaria, 6 sorts | 12 Koniga |
| 12 Celsia, 2 sorts | 12 Nierembergia |
| 50 Chrysanthemums, 50 sorts | 12 Œnotheria riparia |
| 12 Cuphæas, 3 sorts | 50 Petunia single, 25 sorts |
| 50 Dahlias, 50 sorts | 50 do. double, 25 sorts |
| 50 Fuchsias, 50 sorts | 20 Salvias, 6 sorts |
| 50 Geraniums, Scarlets &c, 50 sorts | 12 Senecio, double purple |
| | 20 Tropæolum, 6 sorts |
| 50 do. Variegated, 12 sorts | 12 Variegated Mint |
| 20 Heliotropes, 12 sorts | 100 Verbena, 100 sorts |

Apply to J. SCOTT, Merriott Nurseries, Crewkerne, Somerset. Post-Office Order on Crewkerne, or crossed cheques from unknown Correspondents. Catalogues on application, for two stamps.

# THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.

## INSTITUTED 1838.

**Patroness—Her Most Gracious Majesty the QUEEN.**

**Patron—His Royal Highness the PRINCE CONSORT, K.G.**

THE FOLLOWING SUBSCRIPTIONS HAVE BEEN RECEIVED SINCE THE FORMER LIST WAS MADE UP:—

| | | | |
|---|---|---|---|
| Allen, William, Gr. to Wm. Langton, Esq. | .. | .. £1 | 1 |
| Babington, C. C., Esq., Cambridge | £10 10 | | |
| Baker, William, Gr., Cholmondely Castle | .. .. | 1 | 1 |
| Bragg, William, Nurseryman, Slough | .. .. | 1 | 1 |
| Black, J., Gr. to Sir Wm. Jolliffe | .. .. | 1 | 1 |
| Brown, William, Gr. to Earl of Chesterfield | .. .. | 1 | 1 |
| Bruce, John, Gr. to J. Chapman, Esq. | .. .. | 1 | 1 |
| Bundy, Thomas, Gr., North Stoneham | .. .. | 1 | 1 |
| Cames, John, Gr. to General Cole | .. .. .. | 1 | 1 |
| Cames, Thomas, Gr. to Colonel Greenwood | .. .. | 1 | 1 |
| Cramond, Alexander, Gr. to J. C. Wyndham, Esq. | .. | 1 | 1 |
| Cobden, John, Esq., Tortworth Court | .. .. | 1 | 1 |
| Colman, J. J., Esq., Norwich | .. .. .. .. | 1 | 1 |
| Cook, William, Gr. to F. Izant, Esq. | .. .. .. | 1 | 1 |
| Cook, William, Sheffield | .. .. .. .. | 1 | 1 |
| Cornwell, Charles, Nursery, Barnet | .. .. .. .. | 1 | 1 |
| Edmonds, Joseph, Gr. to Colonel Buck | .. .. .. | 1 | 1 |
| Edwards, John, Wellington Nursery | .. .. .. | 1 | 1 |
| Erskine, The Right Hon. Thomas | .. .. .. . | 1 | 1 |
| *Gardeners' Chronicle*, Proprietors of (2d Donation) | £10 10 | | |
| Green, John, Esq., Kensington | .. .. .. .. | 2 | 2 |
| Griffin, J., Nursery, Bath | .. .. .. .. .. | 1 | 1 |
| Henderson, A., Trentham Gardens | .. .. .. .. | 1 | 1 |
| Holmes, J., Hackney | .. .. .. .. | | |
| Hutchinson, J., Gr. to General Murray | .. .. .. | | |
| Kemp, Edward, Birkenhead | .. .. .. .. | | |
| Kershaw, Henry, Gr. to J. Howell, Esq. | .. .. | | |
| Kitson, George, Gr. to John Noble, Esq. | .. .. | | |
| Laing, Robert, Nursery, Twickenham | .. .. | | |
| M'Donald, J., Esq., Wellstead, Bedford | .. .. | | |
| M'Kenzie, Alexander, Charlton, Kent | .. .. | | |
| Monk, Jas., Gardener, Dulwich | .. .. .. | | |
| Randall, A., Gr. to C. Hole, Esq. | .. .. .. | | |
| Reed, Bery, Nursery, Aberdeen | .. .. .. | | |
| Richard, John, Gr. to Lord Londesborough | .. | | |
| Roberts, James, Gr., Stoke Hall, Exeter | .. .. | | |
| Rolfe, John, Gr. to H. Schmidt | .. .. .. | | |
| Shakespear, Wm., Hothouse Manufacturer, Birmingham | | | |
| Smith, Mrs, Blendon Hall, Bexley | .. .. .. .. | | |
| Spire, Thomas, Gr. to Thomas Lee, Esq. | .. .. .. | | |
| Squibb, J., Gr. to Mrs. Turner | .. .. .. | | |
| Squibb, Rob., Gr. to the Marquis of Bristol | .. | | |
| Stewart, A., The Gardens, Chatsworth | .. .. | | |
| Veitch, Henry J., Exotic Nursery, Chelsea | .. | | |
| Vogan, James, Esq., Swavely, Dartford | .. .. | | |
| Videon, G. F., Clarendon Place, Edgeware Road | .. | | |
| Welch, James, Gr. to H. J. Mulcock, Esq. | .. .. | | |

(Signed) E. R. CUTLER, Secretary, 14, Tavistock Row, Covent Garden.

# HORTICULTURAL SOCIETY OF LONDON.

## SCHEDULE OF PRIZES.

### EXHIBITIONS May 12 & 13, at St. James's Hall, Regent Street.

| Class. | | Prizes offered. 1st. | 2d. | 3d. |
|---|---|---|---|---|
| I. | Ten Orchids .. .. (Amateurs) | £7 | £5 | £4 |
| II. | Ten Orchids .. (Nurserymen) | 6 | 4 | 3 |
| III. | Six Chinese Azaleas .. (Amateurs) | 4 | 3 | 2 |
| IV. | Eight Chinese Azaleas (Nurserymen) | 4 | 3 | 2 |
| V. | Three Chinese Azaleas, standards, with at least 30 inches of clear stem (Amateurs) | 4 | 3 | 2 |
| VI. | Six Chinese Azaleas, standards, with at least 30 inches of clear stem (Nurserymen) | 4 | 3 | 2 |
| VII. | Six Rhododendrons, distinct sorts, in pots .. .. (Amateurs) | 3 | 2 | 1 |
| VIII. | Eight Rhododendrons, distinct sorts, in pots .. .. (Nurserymen) | 3 | 2 | 1 |
| IX. | Eight Roses, distinct sorts, in pots not exceeding 13 inches (Amateurs) | 5 | 4 | 3 |
| X. | Twelve Roses, distinct sorts, in pots not exceeding 13 ins. (Nurserymen) | 5 | 4 | 3 |
| XI. | Six Roses, distinct sorts, in pots of any size .. .. .. .. | 4 | 3 | 2 |
| XII. | Eight fine-foliaged Plants. Variegated plants admitted .. .. .. | 4 | 3 | 2 |
| XIII. | New or extremely rare species of Ornamental Plants not introduced by the Society .. .. .. | Certificates | | |
| XIV. | Single Specimen of the best Plant introduced within the last ten years, in flower .. .. .. | 2 | | |
| XV. | Single Specimen of the best plant introduced within the last 10 years, not in flower .. .. .. .. | 2 | | |
| XVI. | Miscellaneous .. .. .. .. | Certificates | | |
| | FRUIT. | | | |
| XVII. | The best collection of Fruit (Offered by Wm. Wilson Saunders, Esq., Treasurer of the Society) .. | £5 | | |
| XVIII. | Pine Apples, large sorts, not Providence, single specimens .. .. | 2 | 1 | |
| XIX. | Pine Apples, Queens, sgl. specimens | 2 | 1 | |
| XX. | Grapes, black, three bunches, in baskets .. .. .. .. | 3 | 2 | |
| XXI. | Grapes, white, do. do. | 3 | 2 | 1 |
| XXII. | Cherries, in single dishes .. | 2 | 1 | |
| XXIII. | Strawberries, 2 dishes, distinct sorts | 2 | 1 | |
| XXIV. | Strawberries, single dishes, of British Queen .. .. .. .. .. | 30s. | 20s. | |
| XXV. | Strawberries, single dishes of any one sort, except British Queen .. | 20s. | 10s. | Certificates |
| XXVI. | Miscellaneous .. .. .. | | | |

### EXHIBITION June 29 & 30, at St. James's Hall.

| | | | | |
|---|---|---|---|---|
| I. | Ten Orchids .. .. (Amateurs) | 7 | 5 | 4 |
| II. | Twelve Orchids .. (Nurserymen) | 7 | 5 | 4 |
| III. | Six Orchids .. .. (Amateurs) | 4 | 3 | 2 |
| IV. | Six Orchids .. (Nurserymen) | 3 | 2 | 1 |
| V. | Six French Spotted Pelargoniums (Amateurs) | 3 | 2 | 1 |
| VI. | Eight French Spotted Pelargoniums (Nurserymen) | 3 | 2 | 1 |
| VII. | Six Fancy Pelargoniums (Amateurs) | 3 | 2 | 1 |
| VIII. | Eight Fancy Pelargoniums (Nrsmen.) | 3 | 2 | 1 |
| IX. | Eight Roses, in pots .. (Amateurs) | 7 | 5 | 4 |
| X. | Twelve Roses, in pots (Nurserymen) | 7 | 5 | 4 |
| XI. | Six Roses, the best new sorts introduced since the Spring of 1856, in pots .. .. (Nurserymen) | Certificates | | |
| XII. | Ten Exotic Ferns, in pots (Amateurs) | 5 | 4 | 3 |
| XIII. | Ten Exotic Ferns, in pots (Nrsmen) | 4 | 3 | 2 |
| XIV. | Three Exotic Ferns, in baskets suspended .. .. .. .. | 2 | 1 | 15s. |
| XV. | Eight Lycopods, in pots .. .. | 3 | 2 | 1 |
| XVI. | Three Lycopods, in baskets suspended | 2 | 1 | 15s. |
| XVII. | Eight fine foliaged Plants .. .. | 4 | 3 | 2 |
| XVIII. | Eight variegated plants .. .. | 4 | 3 | 2 |
| XIX. | Single specimen of the most ornamental plant introduced within the last three years in flower .. .. | 2 | | |
| XX. | Do., do, not in flower .. .. .. | 2 | | |
| XXI. | New or extremely rare species of Ornamental Plants, in flower; not introduced by the Society .. .. | Certificates | | |
| XXII. | Twelve Carnations, cut flowers .. | 20s. | 15s. | |
| XXIII. | Twelve Picotees, do. .. | 20s. | 15s. | |
| XXIV. | Twelve Pinks, do. .. .. | 20s. | 15s. | 10s. |
| | FRUIT. | | | |
| XXV. | Fruit and Flowers, baskets in threes for the decoration of the dinner table, offered by C Wentworth Dilke, Esq., V.P., five prizes, viz.—5*l*., 4*l*., 3*l*., 2*l*., and 1*l*. Beautiful arrangement will be the test of merit in this Exhibition; valuable flowers or fruit are therefore not demanded. Each set must consist of three baskets. The prizes will be awarded by a jury of ladies. Patterns of the baskets which must be used may be seen at the Office of the Society. | | | |
| XXVI. | Pine Apples, large sorts, not Providence, single specimen .. .. | £2 | £1 | |
| XXVII. | Pine Apples, Queens, or small kinds, single specimen .. .. | £1 | | |
| XXVIII. | Grapes, Black Hamburgh, three bunches, in baskets .. .. .. | 3 | 2 | 1 |
| XXIX. | Grapes, Muscats, 3 bunches, in bkts. | 3 | 2 | 1 |
| XXX. | Grapes, Frontignans, 3 bunches, do. | | | |
| XXXI. | Grapes, Busby's Golden Hamburgh, three bunches in baskets, offered by Mr. Veitch .. .. .. | 3 | 2 | 1 |
| XXXII. | Grapes, best three bunches of any one variety, except those included in classes 28, 29, 30, 31 .. .. | 3 | 2 | 1 |
| XXXIII. | Vines in pots; in pairs .. .. | 1 | 15s. | |
| XXXIV. | Melons, Green-fleshed .. .. .. | 1 | 10s. | |
| XXXV. | Melons, Scarlet-fleshed .. .. | | | |
| XXXVI. | Peaches, two dishes, distinct sorts, each to contain six fruits .. .. | 3 | 2 | 1 |
| XXXVII. | Peaches, single dishes, in sixes .. | 3 | 2 | 1 |
| XXXVIII. | Nectarines, two dishes, distinct sorts, in sixes .. .. .. .. | 2 | 1 | |
| XXXIX. | Nectarines, single dishes, in sixes .. | 2 | 1 | |
| XL. | Cherries, two dishes, distinct sorts .. | 1 | 1 | |
| XLI. | Cherries, black, in single dishes .. | 2 | 1 | |
| XLII. | Cherries, white, ditto .. .. | | | |
| XLIII. | Plums, two dishes, distinct sorts .. | 3 | 2 | 1 |
| XLIV. | Strawberries, the best collection of sorts, one dish of each .. .. | 30s. | 20s. | |
| XLV. | Strawberries, single dishes of any one sort .. .. .. .. | 4 | 3 | |
| XLVI. | Peaches, Cherries, Pears, Plums, ripe or unripe, in pots, pot of each .. | Certificates | | |
| XLVII. | Miscellaneous .. .. | | | |

## NEW VERBENAS,
RAISED BY MR. ELPHINSTONE.

1. PICTURATA.—Crimson, large, and fine truss, conspicuous white round eye.
2. QUEEN DE MONTALEMBERT.—Light lilac, very large flower of extra substance, with large white eye.
3. ANNIE.—Light rose, large white eye, a very desirable colour and good substance.
4. BOUQUET DE LA REINE.—Peach, large white eye, fine shape, and extra substance, quite a new colour.
5. MAGNUM BONUM.—Bright crimson, fine yellow eye, large flower and a very striking variety.
6. GRANDIFLORA PURPUREA.—Violet purple, large truss, fine white eye.

Plants ready for sending out second week in April.

D. BROWNE has great pleasure in introducing the above Six New VERBENAS, as being a decided improvement on any hitherto produced in form, colour, and extra substance, with fine strong habits so desirable for bedding purposes.

The Stock being limited, early orders are respectfully solicited so that the best Plants may be selected and reserved.

The collection of Six Varieties, package included, 20*s.*, or 4*d.* each, sent free of carriage,

Horticultural Grounds, Sprowston; Seed Establishment, 41, London Street, Norwich. The Trade supplied on the usual terms.

## NEW DOUBLE PETUNIAS.

C. W. HARGRAVE begs respectfully to announce that he will shortly be prepared with STOCK of the NEW DOUBLE PETUNIAS advertised by him in the *Gardeners' Chronicle* of September 25, 1858.

They constitute a unique collection in themselves, being of exquisite form, firm substance, rich and decided in colour, very fragrant, and of first-rate habit, having good guard petals, with the centres well filled, and in fact are superior to the Continental or other varieties hitherto sent out. Their nomenclature is as follows:—

ROSETTE.—Crimson, very double, dwarf habit.
ROSEA ALBA.—Rose clearly mottled with white.
PURPLE KING.—Large flower, well formed.
CRIMSON GEM.—Bright crimson, with white centre.
ALBA MAGNIFLORA.—Beautiful form, very fragrant.
KING OF CRIMSONS.—Bright crimson, brighter than its parent "Crimson King." The varieties previously introduced as crimson have all proved themselves to be only purple.

Plants of any of the above 5*s.* each, or the set of six 25*s.*

It is requested that the Trade forward their commands at their earliest convenience, as all orders will be executed in the rotation in which they are received.

C. W. HARGRAVE, The Nursery, Winchmore Hill, N.

PLOCOSTEMMA LASIANTHUM (Blume). — Amidst the prevalent scarcity of novelties of sterling merit, it is with pleasure the Subscribers invite attention to the above-named plant. It belongs to a new genus closely allied to Hoya; and the present species was received in 1857 from Mr. Hugh Low, Jun., by whom it was discovered on the north western side of the Island of Borneo. The plant, which is not a climber, presents a noble appearance, having exceedingly handsome foliage; and it possesses a very great recommendation in being a most profuse bloomer, the clusters of flowers being produced in great numbers. The flowers are of waxy consistence, like Hoya—colour, orange; the petals reflex until they become quite perpendicular, and rest on the flower-stalk; the lower part of the petals is entirely covered with a snow-white velvety pubescence, giving them an unusually beautiful appearance. The flowers are fragrant, and 14 have expanded in one cluster on a newly imported plant, which was submitted to the inspection of Sir W. J. Hooker, of Kew, by whom it is figured and described in the November number of the "Botanical Magazine." It is also figured in the "Florist." Plants in May, price 63*s.* each. Usual discount to the Trade.

Hugh Low & Co., Clapton Nursery, London, N.E.

## AZALEA INDICA.

J. IVERY AND SON beg respectfully to invite growers of the above named to an inspection of their unrivalled Stock of Young Specimens of all the newest and best varieties, many of which have been exhibited at the Metropolitan Exhibitions. They are clean and healthy, well set with bloom, and moderate in price. Catalogues forwarded post free upon application.—Dorking Nursery, April 9.

PLANTS FOR THE FLOWER GARDEN.—The following may be had at the prices attached, and the plants are all fine and thoroughly established in single pots:—

| | Per dozen.—*s.* | *d.* |
|---|---|---|
| Scarlet Geraniums, Tom Thumb, Frogmore and others, cut down plants, that were struck last spring | 3 | 0 |
| Ditto, struck last autumn | 2 | 6 |
| Verbenas, all the best varieties | 2 | 6 |
| Antirrhinums | 3 | 0 |
| Ageratums | 2 | 6 |
| Calceolarias, shrubby 2*s.* 6*d.* to | 3 | 0 |
| Cuphea platycentra, extra large | 3 | 6 |
| Dahlias, best sorts 4*s.* to | 9 | 0 |
| Carnations and Piccotees ditto per pair 1*s.* to | 1 | 6 |
| Pinks, ditto „ 6*d.* to | 1 | 0 |
| Fuchsias, best sorts 3*s.* to | 4 | 0 |
| Gaillardia picta | 2 | 6 |
| Heliotropes | 2 | 6 |
| Lobelia speciosa and ramosoides | 2 | 6 |
| Alyssum variegatum | 2 | 6 |
| Hollyhocks, fine named flowers | 9 | 0 |
| Lantanas | 2 | 6 |
| Nierembergia gracilis | 2 | 6 |
| Petunias, fine sorts | 2 | 6 |
| Senecio (double dark Groundsel) | 2 | 6 |
| Salvia fulgens | 2 | 6 |
| Variegated Geraniums, Flower of the Day, fine cut down plants | 4 | 0 |
| Osborne's Brilliant | 3 | 6 |

Wood & Ingram, Huntingdon.

## CHEAP AND USEFUL PLANTS SENT FREE TO LONDON.

A. VAN GEERT, Nurseryman, Ghent (Belgium), begs to inform amateurs and the Trade that a SUPPLEMENT to his GENERAL CATALOGUE is just published which may be had on application from his agent, Mr. R. Silberrad, 5, Harp Lane, Great Tower Street, London.

| | *s.* | *d.* |
|---|---|---|
| Ghent Azaleas, with flower-buds, 50 varieties for | 42 | 0 |
| Ghent Hardy Rhododendrons, 25 varieties for | 30 | 0 |
| Pæonia sinensis, 25 fine varieties for | 25 | 0 |
| Asclepias tuberosa, per hundred | 10 | 6 |
| Magnolia macrophylla, per dozen | 6 | 0 |
| „ „ strong, each 5*s.* to | 10 | 6 |
| Ginkgo biloba, per 50 | 21 | 0 |
| Glycine sinensis, strong per doz. | 9 | 0 |
| Robinia inermis pyramidalis 5*s.* to | 10 | 6 |
| Pæonia arborea, 12 fine varieties | 30 | 0 |
| Clematis azurea grandiflora, per dozen | 9 | 0 |
| Viburnum macrocephalum, strong plants | 5 | 0 |
| Chilian Alstrœmeria, per hundred | 12 | 0 |
| Pinus macrophylla, per dozen | 9 | 0 |
| Erythrina Crista galli, per dozen | 12 | 0 |
| Chamærops humilis, per doz. | 18 | 0 |
| Citrus sinensis (Otaheite Oranges) per hundred | 84 | 0 |
| Agave filifera, fine 21*s.* to | 42 | 0 |
| „ americana variegata 3*s.* 6*d.* to | 5 | 0 |
| Bonapartea gracilis, very strong | 84 | 0 |
| Camellias, 100 varieties for | 84 | 0 |
| Indian Azaleas, 25 varieties for | 21 | 0 |
| „ „ eight new varieties (Vervaene) small | 30 | 0 |
| Canna, 15 varieties for planting out | 12 | 0 |

N.B. On payment of 5*s.* extra per package, I undertake to deliver the Plants free out of the Custom House in London. A reference is respectfully requested from unknown correspondents.

## NEW ROSES FOR 1859.

WILLIAM WOOD AND SON are now executing their orders for all the best NEW ROSES of the present season. The plants are well grown, vigorous, and healthy, and are supplied at the lowest advertised prices.

DESCRIPTIVE LISTS of the above will be sent free on application. Early orders will command the strongest plants.

Woodlands Nursery, Maresfield, near Uckfield, Sussex.

## ROSES FOR BEDDING,
By the Dozen, the Hundred, or the Thousand.

WILLIAM WOOD AND SON have now to offer many thousands of well grown healthy plants of ROSES, in 60 pots, which will be ready to plant out about the end of April, consisting of an immense number of the best Hybrid Perpetual, Bourbon, Tea, and Noisette Roses, Catalogues of which may be had free on application.

Early orders are most earnestly solicited, as the unsold portion of the stock will be planted out the first week in May. Extra plants presented with each order to compensate for distant carriage.

Woodlands Nursery, Maresfield, near Uckfield, Sussex.

## THE BEST SEASON FOR BEDDING OUT ROSES.
Woodlands Nursery, Maresfield, near Uckfield, Sussex.

WM. WOOD AND SON respectfully submit that the months of April and May are the most eligible for planting out Roses from pots, for the purpose of forming groups in the Parterre and Rose Garden.

W. W. & Sons having on hand an immense Stock of many thousands, in pots, will be happy to supply them on the following reasonable terms.

| | |
|---|---|
| Hybrid Perpetual Roses | 9*s.* to 12*s.* per dozen. |
| Isle de Bourbon ditto | 12*s.* to 18*s.* „ |
| Tea-scented | 12*s.* to 18*s.* „ |
| China, Climbing and Noisette ditto | 9*s.* to 12*s.* „ |

CATALOGUES sent post free on application.

Plants added to each order to compensate for distant carriage

FINE HEALTHY ROSES.—

| | |
|---|---|
| STANDARDS | 18*s.* per doz. |
| DWARFS (on the Manetti) | 12*s.* „ „ |

As the weather still continues mild and favourable for planting, George Clarke begs to state he has still a fine stock of all the leading kinds to offer at the above prices, the selection being left to him. The Plants are all healthy and well rooted, therefore calculated to give the greatest satisfaction. Plants carefully packed for any distance. Carriage of all packages paid to London; and in all orders amounting to 20*s.* plants are added to compensate for distant carriage.

George Clarke, The Nursery, Brixton Hill.

NEW ROSE, HYBRID PERPETUAL "LÆLIA." —Colour delicate satin rose, petals very large, perfectly smooth, and well formed; flowers of exquisite shape, large size, and highly scented. John Cranston has the pleasure to announce that he will be prepared to supply early in April plants of this superb new Rose. It was exhibited by him in his winning stand of single blooms at the Grand National Rose Show in July last, and was unquestionably the most attractive variety of the Show, and the admiration of all who saw it. Fine healthy plants, 5*s.* each, with the usual discount to the Trade.—Nurseries, King's Acre, near Hereford,

## NEW ROSES.

JOHN CRANSTON will be prepared to supply early in April strong plants of the under-mentioned superb NEW ROSES at 5*s.* each, with the usual discount to the Trade. Purchasers who may prefer leaving the selection to himself will be supplied upon the following terms:—12 choicest varieties for 2*l.* 10*s.*; 24 for 5*l.*; the set of 32 varieties for 6*l.* 6*s.*

Plants of the new varieties presented with each order to compensate for carriage.

TEA-SCENTED.
Enfant de Lyons | Madame Joseph Halphay
Madame Damaizin | Reine des Pays Bas

BOURBON.
Docteur Berthet | Reine de Murat | Octavie Fontaine

HYBRID PERPETUAL.

| | |
|---|---|
| Altesse Imperial | Joseph Vernet |
| Ardoisée de Lyon | Le Mont Vésuve |
| Anna Alexieff | L'Oriflamme de St. Louis |
| Armide | Mathilde de Mandeville |
| Ambroise Verschaffelt | Madame Jenny Varin |
| Anna de Diesbach | Madame Octavie Depeyre |
| Bouquet de Marie | Mignard |
| Beauté de Rœyghem | Orderic Vital |
| Comte de Beaufort | Princesse Olympie |
| Comtesse Cecile de Chalbrillan | Reine de la Cité |
| Empereur de Maroc | Solomon |
| Eugène Alary | Virginal |

NOISETTE.—Beauté de Grennemont.

J. Cranston, Nurseries, King's Acre, near Hereford.

## CHOICE ROSES IN POTS.

BIRCHAM AND WARD beg respectfully to inform the admirers of the Rose that they have a large stock of the following fine varieties, which enables them to offer as under (when a fair selection is made):—

15*s.* per dozen.

| | |
|---|---|
| Alphonse Karr | La Belle Egarée |
| Belle Anglaise | Madame Damet |
| Baronne de Wassenaer (Moss). | Madame Charlet (B.) |
| Berceau Impérial | Madame Comtesse |
| Clemence Delarue | Madame Schmidt |
| Cardinal Patrizzi | Madame Vidot |
| Docteur Ruschpler | Miss Gray |
| Ernest Bergmann | Standard of Sebastopol |
| Gustave Coraux | Victor Trouillard |
| Lord Raglan | |

20*s.* per dozen.

| | |
|---|---|
| Abbé Feytel | Mademoiselle Claremont |
| Adelaide Pavie | Mademoiselle Nancy Dubor |
| Bernard Nantais | Mademoiselle Zoe Mayrel |
| Comte de Morny | Mademoiselle Alice Leroy |
| Candide | Mademoiselle Anais Lorette |
| Claudia Augustin | Monsieur Jard |
| Comtesse de Labarthe | Ma Ponctuée (Moss) |
| Duc de Malakoff | Philemène Crozy |
| Felix Peretti | Reine de Denmark |
| General Blanchard | Souvenir d'Elize |
| Lord Palmerston | Souvenir de Beranger |
| Madame Debeese | Triomphe de Rennes |
| Madame Vigneron | Thomas Rivers |
| Madame Herand | Triomphe de Montrouge |
| Madame de St. Genet | Triomphe des Beaux Arts |
| Madame Elize de Chanier | Vallide (Moss) |
| Mademoiselle Josephine | |

30*s.* per dozen.

| | |
|---|---|
| Duke of Cambridge | Monsieur de Montigny |
| Evêque de Nimes | Madame Van Houtte |
| Gloire de Lyon | Marie Portemer |
| Louise d'Autriche | Mademoiselle Goddard |
| Leelia | Marie Thierry |
| Maximilian II. | Reine Blanche (Moss) |

A Descriptive List of the above may be had on application Carriage paid to London and Peterborough.

Hedenham Rosary, Bungay, Suffolk.—April 9.

# EXHIBITION OF EARLY TULIPS.
## WELLINGTON NURSERY, ST. JOHN'S WOOD, LONDON.

# MESSRS. E. G. HENDERSON & SON

RESPECTFULLY announce that a very splendid display of these extremely gay and effective early spring-flowering BULBS may now be seen at their Nursery Establishment. The collection consists of nearly 3000 Bulbs in 400 named varieties, and differing from the late-flowering Tulips in their remarkably dwarf growth—from 6 to 9 or 12 inches in height, including vase-like flower-cups of the most chaste and brilliant self-colours, varying from snow-white to all the intermediate shades of rose, cerise, carmine, scarlet, crimson, rich bronze, and golden-yellow, and in other varieties showing rich marginal flukes, feathers, or belts of the same colours upon pure white, purple, or golden-yellow grounds.

A PERFECT SUBSTITUTE FOR GRASS WITHOUT MOWING!

## SPERGULA PILIFERA,

Forms an admirable Moss-like Plant, with a dense low growth, of the easiest culture, and uniform rich verdure throughout the year. It is a charming substitute for Grass-lawns, Verges, &c., is perfectly uninjured by cold or drought; bears any degree of pressure by rolling or walking upon; is studded over in July with myriads of snow-white starry blossoms; is softer in its structure and equally level as a Turkey carpet, and

## REQUIRES NO MOWING!

A further description of it is given, with directions where a beautiful Lawn may be seen, of four years' duration, in

## E. G. HENDERSON & SON'S SEED CATALOGUE FOR 1859.

*Offered in Seed Packets of* 6*d.*, 2*s.* 6*d.*, 5*s.*, *and* 10*s. each.*

## ORNAMENTAL FIRST-CLASS BEDDING STOCK,
AND OTHER ORNAMENTAL PLANTS.

Strong Plants, including last year's first class introductions, in the following sections, are offered in selections of 12 kinds (one each) as follows:—

VERBENAS, 6*s.* to 9*s.*
PETUNIAS, single and double, 6*s.*, 9*s.*, 12*s.*
FUCHSIAS, 9*s.* 12*s.*, 18*s.*
DAHLIAS, 6*s.*, 9*s.*, 12*s.*, 18*s.*
ACHIMENES, 9*s.*, 12*s.*, 18*s.*
GLOXINIAS, 12*s.*, 18*s.*, 30*s.*
ANTIRRHINUMS, 6*s.*, 9*s.*
CALCEOLARIAS, Bedding, 6*s.*, 9*s.*, 12*s.*
„ spotted flowers for exhibition, 12*s.*, 18*s.*
CARNATIONS, per 12 pairs, 18*s.*
PICOTEES, 12 pairs, 18*s.*
PINKS, 12 pairs, 9*s.*, 12*s.*
CLOVES, distinct, 12*s.*
PHLOXES, 6*s.*, 9*s.*, 12*s.*
PANSIES, 6*s.*, 9*s.*
MIMULUS, 6*s.*, 9*s.*, 12*s.*

## NEW CONTINENTAL VERBENAS AND PETUNIAS OF 1859,
## 18*s.* Per Dozen.

## GERANIUMS.

STRONG PLANTS FOR THE PRESENT SEASON'S BLOOMING:—

LARGE SHOW VARIETIES, 12*s.*, 18*s.*, per dozen.
FRENCH SPOTTED do., 12*s.*, 18*s.* p. doz.
FANCY do., 12*s.*, 18*s.* per dozen.
VARIEGATED do., 9*s.*, 12*s.*, 18*s.*
SCARLET or ZONALE do., 6*s.*, 9*s.* 12*s.*

Wellington Nursery, St. John's Wood, London.

## THE BEST DWARF GERMAN ASTER SEED

EVER YET OFFERED TO THE PUBLIC.

SAVED FROM FLOWERS THAT HAVE OBTAINED FIRST PRICES FOR MANY YEARS PAST AT VARIOUS EXHIBITIONS.

EDWARD TILEY begs to inform the lovers of the above beautiful flower, that he has just purchased the entire stock of Seed, which has been selected from the finest flowers as to shape, colour, and dwarfness of growth. They were inspected by many good judges while in bloom last season, who said they had never seen the Aster brought to such perfection before, and with such a dwarf habit. Seeds 1*s.* 6*d.* per packet, or two packets for 2*s.* 6*d.*

Extra fine mixed Hollyhock seed saved from the newest and best varieties, 1*s.* per packet.

Antirrhinum seed, saved from spotted and striped sorts, 6*d.* per packet.

Sweet William seed, saved from 24 distinct varieties, the major part of which always flower double, 6*d.* per packet.

Delphinium formosum seed, extra fine, 6*d.* per packet.

The Improved Bath Cos Lettuce seed, saved from the finest stock ever grown in the west of England; it is very crisp and not at all liable to run, 1*s.* 6*d.* per packet.

A small quantity of seed of the Dwarf Incomparable Cabbage. This is a superb variety for windy or cold situations; it will stand the severest winter and will form good hearts much earlier than any other variety; it is very tender and soft when cooked, not having any large coarse ribs. If the seed be sown at several different times no person need be without good young Cabbage all the year. 1*s.* 6*d.* per packet. A packet of the Improved Coss Lettuce and packet of the Dwarf Incomparable Cabbage, 2*s.* 6*d.*

Digitalis or Foxglove seed, saved from the finest collection ever yet seen; the flowers come to an immense size, and are as handsome if not handsomer than the Gloxinias, 1*s.* per pkt.

EDWARD TILEY, Nurseryman, Seedsman, and Florist, 14, Abbey Church Yard, Bath.

A remittance must accompany all orders either in cash or penny postage stamps.

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LODGE'S NEW HYBRID RHODODENDRON, "COUNTESS OF WILTON," the best and hardiest Rhododendron in cultivation.—This splendid Hybrid Rhododendron was raised from seed by the late William Lodge. The habit of this variety is entirely distinct from any other, and is the most vigorous of its class. The foliage is a beautiful olive green, of a large size, and a thick leathery appearance. The flower is a rich crimson, good form, being well cupped, of large size, and a very large truss, standing out boldly from the foliage. It is the hardiest variety of its class, having stood in an exposed situation the severest winters, without the slightest injury, with no protection whatever, while other varieties have been killed.

It possesses a very great advantage in flowering late, a desideratum much wanted in the high coloured Rhododendrons, as the other kinds are always injured by the late frosts and cold winds.

It has been exhibited at the Manchester Botanical Exhibition, and obtained a first-class certificate of merit, also a label of commendation by the judges.

The Executors of the late William Lodge have great confidence in introducing this variety to the public, and feel assured it will become a general favourite.

Strong bushy plants are now ready, from 2 to 4 feet high at One and a Half, Two, and Three Guineas each, in proportion to the size. A considerable reduction when a quantity is taken.

As the demand is great, early orders are necessary to ensure well-budded plants.

The following Nurserymen are Agents for the sale of it:—and from whom plants may now be had.

Messrs. WILLIAM ROLLISSON & SONS, Tooting, near London;
Messrs. E. G. HENDERSON & SON, St. John's Wood, London;
Mr. JOHN WATERER, Bagshot, Surrey;
Messrs. WILLIAM WOOD & SON, Maresfield, Sussex;
Messrs. THOMAS JACKSON & SON, Kingston, Surrey;
Messrs. BENJAMIN REID & Co., Aberdeen;
Mr. JOHN KEYNES, Salisbury.

A remittance or reference is required from unknown correspondents. Post-office Orders made payable to JAMES LODGE, Park Nurseries, Singleton Brook, Broughton, Manchester.

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GEORGE SMITH, in offering the following Six Superb SEEDLING FUCHSIAS, warrants them to give satisfaction. They are all of good growth, fine habit, and free bloomers, viz.:—

ECLAT (SMITH).—This beautiful flower obtained a first-class Certificate at the National Floricultural Society; at the same time the Judges gave the following description, in their report of the proceedings of the Society's General Meeting, October 7, 1858:—"First-class Certificate to Fuchsia Eclat. Habit good, a free and abundant bloomer, sepals and tube scarlet, inside of sepal delicate rose, corolla clear white, a decided improvement on the white corolla'd varieties." G. S. has only to add that it is a plant of strong growth and fine habit, in every way calculated to please as well as the Princess of Prussia, being quite distinct, 10*s.* 6*d.* Figured in the "Florist," Feb. 1859.

CHANCELLOR (SMITH).—See report of the National Floricultural Society, July 22, 1858. Certificate of Merit to Fuchsia Chancellor; character and habit first-rate, form good, size medium, substance fine, scarlet crimson tube and sepals, with violet purple corolla. The tube of this flower was considered rather too short, or it would have received a higher award. 10*s.* 6*d.*

SCIPIO (SMITH).—See report of the National Floricultural Society, August 5, 1858. First-class Certificate to Fuchsia Scipio. Habit dwarf, tube short, sepals broad, corolla bold and expanding, colour coral red sepals, with violet purple corolla, a great improvement on existing globosa varieties, and remarkable for its distinctness and boldness in bud. 10*s.* 6*d.*

FASCINATION (SMITH).—Tube rather shorter than the Princess of Prussia, the sepals broader, the corolla very large and pure, seen to great advantage by the graceful manner in which the sepals reflex. 7*s.* 6*d.*

PERICLES (SMITH).—A brilliant flower of average size, very smooth and good form, sepals crimson scarlet, broad and well reflexed, corolla violet purple, also an abundant bloomer. 7*s.* 6*d.*

GOLDEN PLOVER.—A flower in form and colour of Souvenir de Chiswick. This is particularly recommended for the elegant foliage, which is of a golden green heavily veined with purple lake, giving the plant a conspicuous and splendid appearance; fine habit. 7*s.* 6*d.*

SIR COLIN CAMPBELL (WHEELER).—An extra fine double variety, fine habit and free, particularly recommended. 10*s.* 6*d.* G. S. having made arrangements with Mr. Wheeler, can supply his Sir Colin Campbell at the same time that the collection is sent out—about the 20th of April.

G. S. can confidently recommend the following Three NEW VERBENAS as distinct, and worthy to be added to all good collections, viz.:—

CYRUS (SMITH).—Brilliant rosy purple, primrose eye, fine form, a strong grower. 5*s.*

MARS (SANKEY).—Brilliant crimson scarlet, conspicuous lemon eye, particularly recommended as a bedding variety, received a Certificate at the National Floricultural Society. 5*s.*

STRIATA PERFECTA (SMITH).—Bright lavender, with broad white stripe, of good form and habit. This is one of the most distinct and beautiful Verbenas that has been offered for years for all purposes. 5*s.*

Tollington Nursery, Hornsey Road, Islington, near London.

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## SPRING CATALOGUE.

MESSRS. ARTHUR HENDERSON AND CO.'S CATALOGUE OF SOFT-WOODED PLANTS (including all the leading useful novelties for this year), can now be had of them post free, on application.

Pine-apple Place, Edgware Road, London, W.

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## SEEDLING FUCHSIAS.

GEORGE WHEELER, NURSERYMAN, &c., Warminster, Wilts, respectfully announces that strong plants of his SEEDLING FUCHSIAS will be ready to be sent out on and after the 20th inst.

SIR COLIN CAMPBELL.—The most beautiful double Fuchsia ever offered. Flower very large; tube and sepals dark scarlet. Corolla very prominent, large, full, and regular, and of a beautiful purple colour; a fine variety for exhibition, possessing the desirable property of holding its blooms much longer than other varieties; its large blooms makes it a very conspicuous and effective plant in a collection. Price 10*s.* 6*d.* each. Sir Colin was shown in full bloom at the Trowbridge Horticultural Exhibition the 18th August, at Bath on the 25th, Salisbury, 30th; at the National, in London, on the 2d September; and at Devizes on the 3d; at all which places it obtained Prizes or Certificates.

WILTSHIRE LASS.—Tube and sepals clear waxy white, corolla rich dark puce; an improvement on the Maid of Kent, the flower being larger, of good habit, a free bloomer, and a good grower. Price 5*s.* each. The usual discount to the Trade.

G. WHEELER will be enabled to send out with the above the six new Fuchsias offered by Mr. G. Smith, of Tollington Nursery.

G. WHEELER has on hand a large quantity of RHODODENDRONS from 9 inches to 2 feet, at very moderate prices.

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## NEW PLANTS.—1859.

HUGH LOW AND CO. respectfully invite attention to the annexed LIST of novelties, orders for which they will be very happy to receive:—

### NEW GLOXINIAS.

HUGH LOW & Co. have selected the undernamed varieties from a large number of plants raised by themselves from seed carefully and judiciously hybridised, and having flowered them for two seasons, and compared them with the varieties previously in cultivation, H. L. & Co. can with confidence recommend the selection to the notice of their friends as comprising really distinct kinds, worthy of a place in the most select collection of this much admired and easily cultivated flower Plants in April. Price, 3*s.* 6*d.* each.

ERECT-FLOWERING VARIETIES.

Atroviolacea, very dark violet purple, base of the tube beautifully spotted on a pure white ground.
Bridesmaid, white tube, shaded rose border, lips spotted with white
Lineata superba, rosy carmine tube, towards the lips alternate bands of white and rose.
Perfection, clear white throat, dark blue belt, lips deep violet purple.
Princess Alice, clear white tube, bright rose belt, edges very pale rose.
Princess of Prussia Improved, throat and belt very much brighter crimson than in the old variety.

DROOPING-FLOWERED VARIETIES.

Attraction, base of tube white, finely spotted, lips rosy crimson, outer edge pure white.
Beauty, white tube, inside carmine lake, broad white belt, flowers very large
Meteor, bright crimson with violet throat, carmine blotch on the lip.

### NEW ROSES OF 1859.

| HYBRID PERPETUAL. | HYBRID PERPETUAL. |
|---|---|
| Altesse impériale | Virginale |
| Ardoisé de Lyon | Beauté de Rœyghem |
| Comte de Beaufort, | |
| Bouquet de Marie | BOURBON. |
| Empereur de Maroc | Docteur Berthet |
| Salomon | Madame Marchal |
| Oriflamme de St. Louis | Octavie Fontaine |
| Reine de la Cité | |
| Ambroise Verschaffelt | TEA-SCENTED. |
| Orderic Vital | Madame Damaizan |
| Anna de Diesbach | Madame Darru |
| | Reine des Pays Bas |

Plants 5*s.* each.

### NEW VERBENAS.

The entire stock of these nine varieties is in the possession of H. L. & Co., and they can with the greatest confidence recommend them to their friends as distinct and first-class flowers.
Bellona, bright cerise, dark centre, good form, very distinct.
Flora, lilac, white eye, large truss, fine form.
Lady Cotton Sheppard, bright rosy purple, white eye, large truss, very distinct.
Mars, bright red, extra large truss, fine form and free flowerer.
Miss Emily Hanmer, ruby, white eye, immense truss, extra fine form, the best of its class.
Mrs. Fowke, rosy purple, fine white eye, extra large truss, fine form, very free.
Mrs. Leslie, bright rose, very large white eye, large truss, and splendid form.
Rubens, ruby red, white centre, good form, very distinct and free bloomer, from 2*s.* 6*d.* each.

VERBENA SNOWFLAKE.—The best white Verbena ever offered for bedding purposes. With a flower equal to Mrs. Holford, it produces a much larger number of trusses on the same space of ground. This variety has been grown in company with the other white kinds at present in cultivation, and has been found to be more effective than any of them. In order that it may be extensively planted the first season, H. L. & Co., have decided on offering it at a cheap rate.

Single plants, 2*s.* 6*d.*; per doz., 18*s.*; per 100, 100*s.* In April.

New Verbenas received from M. Boucharlat of Lyons:—

| | | |
|---|---|---|
| Abondance | Madame Denis Blain | Mons. Denis Blain |
| Bleu magnifique | Madame Hardy | Monsieur Hardy |
| Felix Roland | Madame Hoste | Reine Blanche |
| Gloire de Monplaisir | Madame Large | Souvenir de M. Seringe |
| Kossuth | Manteau d'Evêque | |

Plants 1*s.* 6*d.* each, now ready.

New Verbenas received from M. Rougier-Chauvière, of Paris. These and the preceding collection include the finest varieties offered this season on the Continent.

| | | |
|---|---|---|
| Baccarat | Gitana | Marie Rougier |
| Cendrillon | Ivanhoe | Ne Plus Ultra |
| Cerise \| Clara | La Magicienne | Primulæflora |
| Fatima | Leandre | Rosalinda |
| Figaro | Lucrece | Rosamond |

Plants now ready, 1*s.* 6*d.* each.

Verbena Madame Jourdin, the most distinct and beautiful of all the striped varieties, per dozen, 12*s.*

LOBELIA TRIGONICAULIS, a new species from Moreton Bay, figured and described by Sir Wm. J. Hooker. A beautiful dense growing variety, each plant covering a space of ground 12 to 18 inches in diameter, with its ample bright green foliage (in the way of Verbena Maonetti) and large light blue flowers with fine white eye. It will be much in demand for bedding purposes. For further description see "Cottage Gardener." Plants in April, price 2*s.* 6*d.* each, or 21*s.* per dozen.

Usual discount to the Trade on all the above-named plants.

Bedding Plants of older date in large quantities at low prices.

Clapton Nursery, London, N.E.—April 9.

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## DAHLIAS.

W. HOLMES offers the above in fine plants at 4*s.* per dozen, the new flowers of last year from 6*s.* to 9*s.* per dozen in April.

| | | | |
|---|---|---|---|
| Chrysanthemums, 5*s.* per doz. | | Verbenas, from 2*s.* 6*d.* to 4*s.* p. doz. | |
| Fuchsias, 4*s.* to 6*s.* | ,, | Antirrhinums, 4*s.* to 6*s.* | ,, |
| Heliotropes, 2*s.* 6*d.* | ,, | Cupheas, 2*s.* 6*d.* | ,, |
| Petunias, 3*s.* | ,, | Calceolarias, 4*s.* | ,, |

Geraniums, Senecio, Lobelias, &c., equally cheap. Catalogues upon application free for one stamp.

Frampton Park Nursery, Well Street, Hackney.

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CHOICE SHOW AND FANCY GERANIUMS 6*s.* to 9*s.* per dozen. Also FUCHSIAS, CALCEOLARIAS, VERBENAS, PANSIES, &c. Catalogues on application to GEORGE SMITH, Florist, Seedsman, &c., Common Side, Hurdsfield, Macclesfield.

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## NEW PETUNIAS.

JOHN SEALEY can now supply the Seven Beautiful New Striped PETUNIAS, to which was awarded the first prize at the Bristol and Clifton Horticultural Society. J. S. has no hesitation in saying that they are the finest varieties in cultivation. The seven for 1*l.*

SPRING CATALOGUE OF DAHLIAS, HOLLYHOCKS, ROSES, &c., and of GARDEN AND AGRICULTURAL SEEDS may be had on application.—St. George's, near Bristol.

---

HOLCUS SACCHARATUS, or North China Sugar-Cane.—Pamphlet, "A Visit and a Plant;" the only English authority on the Cultivation of the above. Post free 6*d.* Prices of Seed on application. Samples 6*d.* Four varieties of Holcus remitted free by post on receipt of 16*s.*

CHINESE YAMS, 4*s.* per dozen.

ASPARAGUS plants, 16*s.* per 1000.

JOHN W. CLARKE, Whittlesea, Cambridgeshire.

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NEW FUCHSIAS (English and Continental).—Strong established Plants, fit to grow as Specimens of the best and leading kinds:—Princess of Prussia, Prima Donna, Governor-General, cheiranthiflora, tricolor, Agnes Sorel, Prince Frederick, Wonderful, Guiding Star, &c.

NEW FRENCH SPOTTED GERANIUMS.—Fine plants set with flower buds and coming into flower, 12*s.*, 18*s.*, & 21*s.* p. doz.

SEEDLING SPOTTED AND STRIPED CALCEOLARIAS, in 6-inch pots, 12*s.* and 18*s.* per dozen.

NEW VERBENAS.—Nearly all those sent out last year and the best of the previously established plants, 4*s.*, 6*s.*, and 9*s.* per dozen.—EPPS'S Nurseries, Maidstone and Ashford.

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GREENHOUSE PLANTS, 12*s.*, 18*s.*, 21*s.* per doz.—Fine bushy grown plants, consisting of the best kinds such as Pimeleas, Polygalas, Chorozemas, Aphelexis, Tremandras, Boronias, Leschenaultia, Gompholobium, &c.; also all the leading Creepers.

STOVE PLANTS, 12*s.*, 18*s.*, 21*s.* per doz.—The best kinds, Begonias of sorts (Rex), Francisceas, Ixoras, Aphelandras, Gesneras, Gloxinias, Medinillas, Vincas, Allamandas, Stephanotis, Rhynchospermums, Dipladeniums, Hoyas, Gardenias and variegated plants.

AZALEAS, consisting of the new and leading kinds, with flower-buds, 12*s.*, 18*s.*, 21*s.*, and 30*s.* per doz.—A large quantity of young specimens of various sizes.

ERICAS, fine grown stuff of the leading sorts, 12*s.*, 18*s.*, 21*s.*, 30*s.* per doz., in 48 and 32-size pots. A quantity of half and full-grown specimens.

TO THE TRADE.

20,000 of young stuff just potted off, in 60-size pots, 5*s.* per 100; pretty plants and very bushy.

ACHIMENES, TYDEAS, AND GLOXINIAS.—All the new and leading kinds (strong bulbs and tubers), of Messrs. Van Houtte, Verschaffelt, Parker, &c., 6*s.*, 9*s.*, 12*s.* per doz.

EPPS'S Nurseries, Maidstone.

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## CARNATIONS AND PICOTEES.

YOUELL AND CO.'S COLLECTION of the above deservedly favourites is probably the most extensive in the Trade, and having for a series of years paid special attention to their cultivation, introducing the best of the newest varieties, they are enabled to offer them at the following prices for fine, strong, well rooted plants.

CARNATIONS, finest first class show varieties by name, 18*s.* and 24*s.* per dozen pairs.

PICOTEES, finest first class show varieties by name, 18*s.* and 24*s.* per dozen pairs.

Ditto, on yellow grounds, 20*s.* and 30*s.* per dozen pairs.

Finest mixed BORDER CARNATIONS & PICOTEES, 9*s.* ditto

True old CLOVE CARNATION, 12*s.* per dozen pairs.

Scarlet ditto ditto, 18*s.* ditto

NEW CARNATION "EXTRAVAGANZA."—For particulars see Advertisement, March 26. Price 3*s.* 6*d.* per pair.

PINKS.—The finest first class show Pinks, by name, 9*s.* per doz.

Fine mixed border PINKS, 6*s.* per dozen pairs.

HOLLYHOCKS.—Our extensive stock of these, comprising the first-named varieties, is this season very strong and healthy, and well established in pots, price of which is 9*s.* to 12*s.* per dozen.

HOLLYHOCKS, warranted all double flowers, and from the best leading kinds, 20*s.* per 100.

NEW PHLOXES.—An extensive and select collection of the above beautiful showy tribe of Herbaceous Plants, comprising the fine and newly introduced varieties from the Continent. May be obtained at 10*s.* per dozen, package included.

PANSIES.—Finest first-class show varieties, by name, 9*s.* per dozen.

CHRYSANTHEMUMS.—The handsomest of the new large flowering and Pompone kinds, 6*s.* per dozen.

DAISIES.—18 selected, of the best new Belgian vars. for 6*s.*

LOBELIAS.—Finest scarlet, adapted for forming magnificent groups, viz.:—Feu du Roi, splendens major, Victoria, fulgens superba, fulgens multiflora. L. St. Clare, 9*s.* per doz.; Blue do. Milleri; violacea, 9*s.* per doz.; Red Leopold, 6*s.* per doz.

OXALIS FLORIBUNDA AND ROSEA.—Quite hardy, producing a fine bed of rich rose colour, 6*s.* per dozen.

ŒNOTHERA MACROCARPA.—Large yellow, 6*s.* per dozen.

,, TARAXACIFOLIA.—Large white, 6*s.* ,,

DELPHINIUM FORMOSUM.—Finest blue, 3*s.* per dozen; 16*s.* per 100.

,, MOOREANUM.—Dark purple, 4*s.* per dozen; 25*s.* per 100

AUBRIETIA MOOREANA.—A handsome hardy herbaceous plant, of dwarf growth, producing at this period a dense mass of large flowers of the brightest lilac, 6*s.* per dozen.

LINUM FLAVUM, 6*s.* per dozen.

TRITOMA MEDIA.—A handsome winter and spring-flowering hardy herbaceous plant, producing large spikes of scarlet-yellow flowers, 9*s.* per dozen.

PENTSTEMONS.—A fine assortment, 6*s.* per dozen.

GAZANIA RIGENS.—Large orange yellow, with dark centre, 6*s.* per dozen.

STATICE MARITIMA ROSEA AND PSEUDO-ARMERIA.—Strong plants of these two beautiful and hardy species, producing throughout the year a profusion of lake-coloured flowers, 4*s.* per dozen.

DIELYTRA SPECTABILIS, fine strong plants, 6*s.* per dozen.

BERBERIS DARWINI, flowering plants, 6*s.* per dozen.

PRIMROSE, double yellow, 4*s.* per dozen.

HERBACEOUS PLANTS.—A choice collection of all the most showy kinds, 6*s.* per dozen; 40*s.* per 100.

☞ All orders of 2*l.* and upwards are delivered Carriage Free to London, Manchester, Liverpool, Peterborough, Hull, and Newcastle, as well as to any Railway Station within 150 miles of the Nursery.

YOUELL & Co., Royal Nursery, Great Yarmouth, Norfolk.

**MANGEL SEED FROM LARGE BULBS.**

SUTTON'S YELLOW GLOBE MANGEL is saved exclusively from fully-developed roots, the advantages of which have been proved for several years past. Price of Seed 9*d.* per lb., or cheaper by the cwt. Carriage free to all parts, except small parcels. Remittances requested with orders from unknown correspondents.

Sutton & Sons, Seed Growers, Reading.

**SKIRVING'S SWEDE—SUTTON'S SELECTED STOCK.**

SUTTON AND SONS have a choice stock of SKIRVING'S SWEDE SEED, growth of 1858, which they can strongly recommend. Price 9*d.* per lb., or cheaper by the bushel. Also a few bushels left of Sutton's Champion Swede, Improved Gloucestershire White Swede, Russian Hardy Green-Top Swede, Grant's Pine Apple Swede, Jack of Newbury, and others, prices of which may be had on application, post free.

Royal Berks Seed Establishment, Reading.

NEW HARDY WHITE SWEDE.—This Swede is hardier than any other kind, grows to a large size, is adapted for sowing upon poor land, is not affected by frost, and keeps good in the ground or in store till the end of May. New and genuine Seed of this excellent Swede, price 1*s.* per lb. (carriage free for orders of 30 lbs. and upwards) may be had of Raynbird & Harvey, Seedsmen, Basingstoke; and 89, Seed Market, Mark Lane, London, E.C.

**SELECTED SWEDES.**

BROWNE'S WHITE SWEDE, Green-topped, is the hardiest known, and by far the best keeper, while for size, solidity, and nutritious matter it is unsurpassed. The seed is from the stock of T. Beale Browne, Esq., of Salperton Park, Gloucestershire, to whose assiduous care and attention during a series of years we owe the perfection of this invaluable root. 1*s.* per lb.

MARSHALL'S IMPROVED SKIRVING'S SWEDE. A very superior Swede, being large, almost globular, and of extraordinary firmness. The seed cannot be too strongly recommended, as every bulb it was saved from has been selected carefully. 1*s.* per lb. and other varieties 9*d.* to 1*s* per lb.

MANGEL WURZEL, all kinds, 9*d.* per lb. and all kinds of seeds requisite for the Farm, Prices and Catalogues of which may be had on application.

Charles Turner, The Royal Nurseries, Slough.

**"JACK OF NEWBURY" SWEDE, ETC.**

PETER LAWSON AND SON, THE QUEEN'S SEEDSMEN, &c., 27, Great George Street, Westminster, respectfully request attention to their very genuine Stock of the above excellent Swede; also of the LOTHIAN PURPLE-TOP SWEDE, both of which have been selected with the greatest care. They have also a very fine Stock of the KOHL RABI, or TURNIP-ROOTED CABBAGE, specimens of which were shown at their Stands at Smithfield Club Show. The Kohl Rabi was largely grown last season, and may now be relied on as a substitute for the Turnip and Mangel, where these roots do not succeed, or for filling up blanks where there is a partial failure. Its feeding qualities, hardiness, and weight per acre are equal to the Swede, and all kinds of stock prefer it to other roots.

P. L. & Son have also selected a first-rate Stock of MANGEL WURZEL SEED, which they can confidently recommend. Their natural GRASS SEEDS have been also saved with very great care, and they are ready to supply them separately or in mixture, for laying down Permanent Pastures, Lawns, &c.

P. L. & Son have arranged to deliver Seeds free throughout England and Wales from their London Establishment, for all quantities exceeding 20*s.* in value.

LISTS OF PRICES of the above and all other Seeds, Plants, &c., may be had on application.

27, Great George Street, Westminster.

**NATURAL GRASS SEEDS.**

PETER LAWSON AND SON, THE QUEEN'S SEEDSMEN, can supply genuine Seed of all the valuable kinds of the NATURAL GRASSES suitable for Lowland and Upland Pastures; also for Laying-down Lawns, Bowling Greens, Cricket Grounds, Cemeteries, Railway Banks, &c.

PRICED LISTS may be had free on application.—Peter Lawson & Son, 27, Great George Street, Westminster.

**TO THE SEED TRADE.**

THOMAS AYRES, Jun., Seedsman and Grower, Biggleswade, Beds., can supply every kind of Wurzel, Swede, and common Turnip Seeds, on the most reasonable terms for cash.

N.B. Dealer in Culinary and Flower Seeds, Fruit Trees, Shrubs, and Flowering Plants.

**TO THE TRADE.**

CHARLES SHARPE has still to offer, of his own growing, saved from the finest selected stocks—

| | |
|---|---|
| LONG RED MANGEL | RED LINCOLNSH. GLOBE TURNIP SEED |
| ,, YELLOW DO. | GREEN GLOBE DO. |
| YELLOW GLOBE DO. | YELLOW TANKARD DO. |
| ALTRINGHAM CARROT | |

Prices given on application.—Wisbeach, Cambridgeshire.

H. AND R. STIRZAKER have again to offer several millions of extra fine CABBAGE PLANTS:—Drumhead Cattle, 2*s.*; Early, of sorts, 3*s.*; Red, for pickling, 5*s.*; Cauliflower, Early London, 25*s.* per 1000. They have also a very large stock of the following extra fine rooted well-grown plants:—

| | |
|---|---|
| Holly, Common, 1 to 1½ foot, 10*s.* per 100 | Berberis aquifolia, 2ft. 10*s.* p. 100 |
| Laurustinus, flowering, 15 in., 25*s.* per 100 | Yew, English, 1 to 1½ foot, 10*s.* 6*d.* per 100 |
| Laurel, Common, 2 ft., 9*s.* per 100; 80*s.* per 1000 | Do. 2 feet, 12*s.* 6*d.* ,, |
| | Do. 3 feet, 40*s.* ,, |
| | Do. 4 feet, 60*s.* ,, |

Lancaster Nurseries.

MR. ROBT. BAKER, Writtle, Essex, informs his Agricultural friends that his Seeds are now ready for delivery, and consist of MANGEL WURZEL, LONG and GLOBE RED, LONG and RED ORANGE, all grown in 1858, from carefully selected full-sized roots; LOTHIAN and Improved SKIRVING'S SWEDE TURNIP SEED, and DRUMHEAD CATTLE CABBAGE SEED. The Mangel Wurzel 14*d.* per lb.; Swede Turnip 10*d.*, and Cabbage 4*s.* per lb., packages included. A reference expected from unknown correspondents.

**HOLLY HEDGING.**

EDWARD SANG AND SONS, Kirkaldy, N.B., beg to offer a quantity of fine twice transplanted HOLLIES, 15 to 18 inches high, at 15*s.* per 100, and 9 to 15 inches at 10*s.* per 100. These are just recovering from the second transplanting in 1857, and are therefore in good condition for removal. E. S. and S. have also a lot of once transplanted of the same heights, at 50*s.* and 40*s.* per 1000. The last are finer looking than the twice transplanted, but have of course inferior roots. Also a few hundreds of very fine twice transplanted, 18 to 30 inches, at 20*s.* per 100. Carriage paid to Edinburgh.

**GENUINE AGRICULTURAL SEEDS.**

MESSRS. DICKSON AND BROWN (late F. and A. Dickson & Co.), 43 and 45, Corporation Street, Manchester, beg to intimate that they are now ready to execute all orders with first-class AGRICULTURAL SEEDS, most of which have been saved by themselves or under their own superintendence.

Special prices for large quantities on application. A PRICED CATALOGUE is published, and may be had post free.

Manchester.—April 9.

**AGRICULTURAL SEEDS.**

WM. SKIRVING, Queen Square, Liverpool, begs to recommend to the Farmers of the United Kingdom his select stock of the most approved sorts of English, Welsh, Dutch, and Swedish CLOVER SEEDS, and of the best varieties of WURZEL, CARROT, and TURNIP SEEDS, all either grown by himself, or selected from the most reputed growers. A short practical list, with reasonable prices affixed, may be had on application.

In addition to his general collection of Turnip Seeds, W. S. has, this season, to offer three distinct varieties of the SWEDE, all of which he can strongly recommend as likely to be of great service in such critical Turnip-growing seasons as the last two.

The 1st is a new PURPLE SWEDE, with short top, broad entire leaf, stands dry weather well, ripens early, very good for early winter use.

The 2d, a new GREEN-BRONZE SWEDE, medium-sized top, of excellent quality, fit for the table, keeps well.

The 3d, a PURPLE SWEDE, stronger top, is the largest, heaviest cropper, and longest keeper of any sort known.

The Seed of these sorts can be had only from the Advertiser. Price 1*s.* per lb.

For laying down Land for Permanent Pasture W. S. begs to offer his selection of the most useful PERENNIAL GRASS SEEDS. The sorts selected from personal observation of the growth and habits of the different Grasses grown in his experimental ground. On this system he has supplied, within a few years, seeds for many thousand acres, which have given every satisfaction. Orders, stating quantity and quality of Land to be laid down, will be correctly executed with a suitable mixture.

**SEEDS FOR THE FARM.**

NEW OVAL-SHAPED YELLOW MANGEL, introduced by us two years ago, has been thoroughly tested and is now recommended with perfect confidence. It is of a remarkably vigorous growth, with finely shaped roots, intermediate in length between the Long and the Globe, and has produced from 5 to 10 tons more per acre than any other variety (see *Gardeners' Chronicle* of Jan. 8):—

SWEDE TURNIP.—All the approved sorts.
YELLOW Do. do. do.
WHITE Do. do. do.

In no description of crop raised on the Farm is a good or a bad one so dependent on the character of the Seed as in that of the Turnip, and from its great liability to degenerate, it requires the most scrupulous care and vigilance to produce Stocks that are every way worthy of confidence. To attain such, we have for several years past been using every known means to keep up or improve the shape, size, and texture of the various kinds; and we believe that what are now offered will give the most perfect satisfaction. All the principal varieties are our own growth, raised from large and fully developed Roots or Bulbs, and in the hope of giving a more vigorous growth to the Stock, the strongest clay soil is always selected for a considerable portion of the Swede and Yellows. This mode of raising Turnip Seed materially increases the expense, but it is a much more satisfactory system than the one usually adopted, viz., sowing random stocks late in the season, after other crops, and taking the seed from mere plants, which in many cases are not even subjected to the process of thinning. Moreover, we guarantee our Seeds free from any of the adulterations so frequently practised to increase profits or cheapen prices, so that a strong healthy "braird" is certain.

PERENNIAL RYE-GRASS.—Finest Ayrshire
Do. do. do. Pacey's, 26 lbs. to 32 lbs. per bushel
ITALIAN do. Imported
Do. do. Home-grown
NATURAL GRASSES.—All the best varieties

The Stocks of Perennial Rye-grass Seed are the most select growths the country produces, and being all clean and heavy the economy of using such in preference to foul chaffy seed, however cheap, is at once apparent. Our imported Italian is from the usual source, and has always given satisfaction; while the home-grown is the direct produce of imported seed, cultivated under the most favourable circumstances, and more than ordinary pains having been used in dressing the seed; the samples of both are unusually clean and fine. In selecting the Natural Grasses care is taken to have them true to name, fully ripened, and in all respects good clean samples.

ALSIKE CLOVER, and other varieties.
LARGE BROAD-LEAVED SCOTCH TARES.

With every other description of Seed usually required for the farm, PRICED LISTS of which may be had post free on application.

W. Drummond & Sons, Seedsmen, Stirling, N.B.; also at 6, Dawson Street, Dublin.

*** Stirling is most favourably placed in point of railway accommodation, there being direct and constant traffic to all the principal stations in England and Scotland, and by steamers (*via* Glasgow), almost daily to the chief ports in Ireland, thereby insuring a speedy delivery of goods, all of which except grain and Tares, we forward carriage paid.

MEADOW AND PASTURE GRASS SEED.—The great difficulty experienced by many Gentlemen and Farmers when about to lay down Land, is the selection of the proper Seeds, having no reliable practical guide as to quantity or kind. JAMES TYNAN is enabled to offer the benefit of such a guide. Speke Estate having become celebrated for its excellent practical Farming and high cultivation, has been for many years under the able management of Mr. M'Farlane. In a conversation the Advertiser had with that gentleman a few weeks ago he said:—"The great fertility of this estate I believe to be owing in a great measure to the attention I have paid to the selection of the Grass Seeds, and which I do not think I can improve. Were I to state the yield of the crops of Wheat and Barley I have obtained after these Grasses last year it would be deemed fabulous by many."

James Tynan having received orders to supply Seeds to some of the Farms on this estate, offers to send the same to gentlemen upon their giving the number of statute acres to be sown.

Selected GRASS SEEDS for LAWNS.

James Tynan, Seed Warehouse, 68, Gt. George Street, Liverpool.

**SEED CORN FROM THE CHALK.**

MESSRS. RAYNBIRD AND HARVEY beg to offer to Agriculturists requiring change of SEED Talavera, Red Nursery, and Ap [illegible] WHEAT the best sorts for Spring sowing.

Chevalier, Thanet, Golden Drop, Long-eared Nottingham, American, Hudson's Golden Melon, Banham's Sprat, and other varieties of BARLEY.

Canadian Potato, Hopetoun, Poland, and Tartarian OATS.

Fine CLUSTER BEANS, weighing 68 lbs. per bushel.

Samples and Prices on application.

Address—Basingstoke, and 89, Seed Market, Mark Lane, London, E.C.

CHOICE STOVE AND GREENHOUSE PLANTS AT LOW PRICES.

The following 30 CHOICE STOVE PLANTS, fine, strong, and in vigorous condition, are offered together for 55*s.*, viz.:—Æchmia fulgens longifolia, Æschynanthus splendens, Aphelandra variegata, A. Leopoldi, A. squarrosa citrina, Barbacenia Rogieri, Begonia manicata, B. albo-coccinea, Cyrtanthera magnifica, Dracæna nobilis, Eschites Pelleri, Eucharis amazonica, Franciscea confertifolia, Gardenia Fortuni, Gesneria Geraldiana, G. zebrina, G. Suttoni sub-alba, Gloriosa Planti, Hexacentris mysorensis, Hoya bella, H. cinnamomifolia, H. carnosa, H. picta, Maranta sanguinea, Meyenia erecta, Passiflora alba nigra, Stephanotis floribunda, S. Thouarsi, Thyrsicanthus rutilans, and Vinca alba. Any 20 of the above may be selected for 45*s.*, or any 12 for 35*s.*

The following 50 CHOICE GREENHOUSE PLANTS, very strong and fine plants, are offered together for 65*s.*, and 25 may be selected for 45*s.*, or any 12 for 25*s.*, viz.:—Acacia hispidissima, A. verticillata, A. armata, Boronia macrophylla, Bossiæa Hendersoni, Brachysema acuminata, Cereus Macdonaldi, Chorozema cordatum splendens, C. varium] rotundifolium, Chironia glutinosa, Chorozema Chandleri, Coronilla glauca, Correa brilliant, Daphne indica rubra, D. Van Houtti, D. Fimiæna, Dillwynia cinnabarina, D. Henchmanni, Dracophyllum gracile, Diosma fragans vera, D. uniflora, Eriostemon intermedium, E. buxifolium, E scabrum latifolium, Eugenia Ugni, Gaultheria coccinea, Hibbertia Reedi, Indigofera decora, Isolepis gracilis, Kennedya ovata alba, K. monophylla, K. Marryattæ, K. nigricans, Mandevilla suaveolens, Metrosideros laxifolius, Mitraria coccinea, Nerium Tangle, Platylobium triangulare, Pimelea decussata, P. Nieppergana, Pernettya mucronata major, Pultenæa Hendersoni, Scutellaria scarletina, Solanum jasminoides, Stylidium graminifolium, Stauntonia latifolia, Swainsoni Osbornl, Tecoma jasminoides, Telopea speciosa, and Tetratheca verticillata

Selections from the foregoing, when left to B. & B., will be charged as follows:—

| | | | |
|---|---|---|---|
| Stove plants, | 20 varieties | .. .. | 40*s.* |
| ,, | 12 varieties | .. .. | 24*s.* to 35*s.* |
| Greenhouse plants, | 25 varieties | .. | 35*s.* |
| ,, | 12 varieties | .. | 18*s.* to 25*s.* |

BRITTAIN'S NETTING and SHAW'S TIFFANY at the manufacturers' prices; also the GISHURST COMPOUND for the destruction of Red Spider, Thrip, Mealy Bug, Scale, &c.

Goods (20*s.* and upwards) free to all Stations in London, or all Stations between London and Norwich, on the Colchester Line.

BASS AND BROWN, Seed and Nursery Establishment, Sudbury, Suffolk.

REIGATE SILVER SAND, best quality for Florists, 16*s.* per ton; less quantities, 1*s.* 6*d.* per bushel; delivered to any London Wharf or Railway. Peat, Loam, and Leaf-Mould in large or small quantities. Sacks for Sand, 1*s.* 9*d.* each; or on hire, 6*d.* each; five hold a ton.—John Kennard, Purveyor to her Majesty, Swan Place, Old Kent Road, London, S.E.

**GENUINE ROLL TOBACCO CLOTH.**

Warranted equal in Strength to Tobacco.

JOSEPH BAKER, 10, Gough Square, Fleet St., E.C., having dealt upwards of 20 years in the above, can recommend it as the best article for destroying the Fly. 1*s.* 4*d.* per lb.; over 10 lbs, 1*s.* Post-office Orders payable Strand Office.

**GENUINE TOBACCO PAPER FOR FUMIGATING.**

H. APPLEBY (Foreman to Messrs. Ivery & Son, Surrey), takes this opportunity of informing his patrons and the public that he is now offering the above at a very considerably reduced price. It is now sold in packets of 4 lbs. each, at 1*s.* 3*d.* per lb. A liberal discount allowed to the Trade. For testimonials that will guarantee its quality, see *Gardeners' Chronicle*, March 5, p. 189.

Sheet Iron Pots for fumigating, 3*s.* 6*d.* each.

N.B. All orders to be accompanied with a Post-office Order, payable to Henry Appleby, Dorking, Surrey.

WHY NOT PRESERVE YOUR HAY?

RICK CLOTHS, New and Second hand,
At BENJAMIN EDGINGTON'S,
2, Duke Street, London Bridge, S.E., and West End,
32, Charing Cross, S.W.
MARQUEES, TENTS, &c.
Illustrated Catalogues free.

BENJAMIN EDGINGTON, 2, Duke Street, London Bridge, S.E.

MONSTER TENTS for large parties.
PRETTY TENTS for Lawns.
RICK CLOTHS, Second-hand, very cheap.
NETTING for Fruit Trees, &c.
West End Establishment, 32, Charing Cross, S.W.

"FRIGI DOMO."—Patronised by her Majesty, the Queen, the Duke of Northumberland for Syon House, His Grace the Duke of Devonshire for Chiswick Gardens, Professor Lindley for the Horticultural Society, Sir Joseph Paxton for the Crystal Palace, Royal Zoological Society, late Mrs. Lawrence of Ealing Park, and —Collier, Esq., of Dartford.

PROTECTION FROM COLD WINDS AND MORNING FROSTS.

"FRIGI DOMO," a Canvas made of patent prepared Hair and Wool, a perfect non-conductor of Heat and Cold, keeping, wherever it is applied, a fixed temperature. It is adapted for all horticultural and floricultural purposes, for preserving Fruits and Flowers from the scorching rays of the sun, from wind, from attacks of insects, and from morning frosts. To be had in any required lengths. Two yards wide, 1*s.* 6*d.* per yard run; four, 3*s.* per yard. Also, an improved make for Shading Purposes. Three yards wide, 2*s.* 6*d.* per yard run.

Elisha Thomas Archer, whole and sole manufacturer, 7, Trinity Lane, Cannon Street, City, and of all Nurserymen and Seedsmen throughout the kingdom. "It is much cheaper than mats as a covering."

PATENT GUTTA PERCHA SOLES.—Important to Gardeners.—The Gutta Percha Company have the pleasure to acknowledge the receipt of the following letter from G. Glenny, Esq., the celebrated Florist:—

"420, Strand, London.

"Gentlemen,—I have worn Gutta Percha Soles and Heels these two years, and being so much in a garden as I necessarily am in all weathers, and with the ground in all states, I would on no account be without them. As a matter of economy I would recommend Gardeners to use them, for they may repair the worn part at all times by warming the material at the fire, and pressing it from the thick parts to the worn parts as easily as if it were so much dough. I think it the duty of all persons who must occasionally wet their feet to adopt a material that completely defies damp. Many a gardener would escape colds and rheumatism by the use of Gutta Percha Soles.

"Your obedient servant, G. Glenny."

Every variety of Gutta Percha articles, such as Mill Bands, Tubing, Soles, Goloshes, Sheet, Pump Buckets, Fire Buckets, Bosses, Union Joints, Flasks, Bottles, Bowls, Chamber Vessels, Toilet Trays, Sponge Bags, Curtain Rings, Galvanic Batteries, Talbotype Trays, &c., manufactured by the Gutta Percha Company, and sold by their wholesale dealers in town or country.—The Gutta Percha Company, Patentees, 18, Wharf Road, City Road, London.

# GRASS SEEDS FOR PERMANENT PASTURES & MEADOWS.

## THOMAS GIBBS & CO., Corner of Half-Moon St.,

### THE SEEDSMEN TO THE "ROYAL AGRICULTURAL SOCIETY OF ENGLAND,"

BEG to inform the Members of the Society and Agriculturists generally that their MIXTURES of GRASS SEEDS for Laying down Land to Permanent Grass are now ready. Each kind of Grass Seed composing these Mixtures is cleaned separately, and the kinds are proportioned to suit different soils.

☞ *Full Directions for Sowing and Management will be sent with the Seeds.*

**MIXTURES for PERMANENT MEADOW and PASTURE** (*to suit different soils*).
**MIXTURES for PARKS, FIELD LAWNS, CEMETERIES, &c.**
**MIXTURES for IRRIGATION MEADOWS, GAME COVERS, and all other purposes.**
**RENOVATING MIXTURES for Improving Old Meadows and Pastures** (8 to 12 lbs. per acre).

| MANGEL WURZEL. | RYE-GRASS. | | |
|---|---|---|---|
| Yellow Globe, Orange Globe (selected) | Italian (selected, very fine) | Carrots | all sorts |
| Long Red | Dickinson's | Clovers | ,, |
| Red Globe | Imported Foreign Seed | Swedes | ,, |
| Long Yellow | Common or Annual | Hybrids | ,, |
| Silesian Sugar Beet | Pacey's Perennial | Common Turnips | ,, |

**KITCHEN GARDEN SEEDS in Collections, at £1, £2, and £3 each.**

Thomas Gibbs & Co.

CORNER OF
**HALF-MOON St.**
PICCADILLY, LONDON, W.

**ALL KINDS OF AGRICULTURAL SEEDS.**

*Price Lists sent free on application.* *Reference or Cash required from unknown Correspondents.*

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### THE GREAT VINE AT HAMPTON COURT.

THE SUBSCRIBERS being the holders of the Royal Kitchen Gardens, Hampton Court, are enabled to offer genuine the famous and truly excellent HAMPTON COURT BLACK HAMBURGH GRAPE.

Strong well-ripened plants in 9-inch pots, 42*s.* and 60*s.* per doz.

If purchased in large numbers a considerable reduction will be made in price.—JACKSON & SON, Nurseries, Kingston, S.W.

### STRONG BLACK HAMBURGH VINES.

THOMAS METHVEN has on hand a large stock of strong well ripened BLACK HAMBURGH VINES, which he begs to offer at 3*s.* 6*d.* each or 36*s.* per dozen. The usual discount to the Trade.

Stanwell and Leith Walk Nurseries, Edinburgh.—April 9.

### PLANTS IN FLOWER.

F. AND A. SMITH have now in bloom Acacia, Cineraria (fine), Cytisus, Erica ventricosa coccinea minor; v. superbiens, v. breviflora, E. intermedia, Fuchsias, Calceolarias, Heliotrope, Hydrangea, E. Cavendishi, E. hybrida, E. perspicua nana, Geraniums, Fairy Roses, &c.

The above are healthy, strong, and well-grown plants, prepared for sending away. Prices on application.

Dulwich, Surrey, S.

### SUPERB DOUBLE BALSAMS.

F. AND A. SMITH are now sending out seed of their superb BALSAMS, which are unrivalled for size, form, brilliancy of colour, doubleness of flower, and habit of plant.

| | | | |
|---|---|---|---|
| In collections of nine separate colours | .. | .. | 2*s.* 6*d.* |
| ,, ,, mixed ,, | .. | .. | 2 0 |
| ,, ,, ,, ,, half quantity | | | 1 0 |

The above are *genuine only* in our sealed packets, and may be had of most respectable Nurserymen and Seedmen in the United Kingdom.—Dulwich, Surrey, S.

### CHOICE GERANIUMS.

WILLIAM HUSSEY begs to offer the undernamed collection for 22*s.*, package included, viz.—Lucifer, Wonderful, Phaeton, Saracen, Sanspareil, Seraph, Empress, Zeno, Ducy, King of Scarlets, Arab, Evangeline, Roweanum, Cynthia, Enchantress, Queen of May, Floretta, Mary, optimum, Una, Attraction, Governor-General, Petruchio, Mochanna, Standard, Agnes, Eugene, Rose Celestial, serenum, Fair Ellen.

Horticultural Gardens, Norwich.

GERANIUMS.—Fine, well-established flowering plants of showy, free blooming kinds in great variety, may be had at 4*s.*, 6*s.*, and 9*s* per dozen, according to size and quality. The following are some of the sorts:—Albira, Alma, Auguste Miellez, Carlos, Colonel Foissy, General Eugene Cavaignac, Gustave Odier, Hortensia, Jacques Duval, Generalissimo, Eugenie Duval, Madame Lamoriclere, Mochanna, Mr. Beck, Crimson King, Robert Bruce, &c.

WOOD & INGRAM, Huntingdon.

CHEAP BEDDING PLANTS, 2*s.* 6*d.* per dozen.—The advertiser begs to say that his unrivalled collection is this season very fine, much finer than he has ever been able to offer them; and by parties who intend to plant largely, an opportunity to make a selection from one of the most extensive and healthy collection in the country should not be missed.

CATALOGUES sent to all applications, inclosing two stamps, to J. SCOTT, Merriott Nurseries, Crewkerne, Somerset.

### CALLICARPA PURPUREA.

JOHN STANDISH, the exhibitor of the above (at St. James's Hall), can supply a few good plants at 7*s.* 6*d.* each. The following passage from Dr. Lindley's leading article in the *Gardeners' Chronicle* for Nov. 20 will give an idea of its beauty:—"Callicarpa purpurea, quite insignificant when in flower, was beautiful in its winter dress of innumerable rich purple berries, about the size of swan shot." It is easily cultivated, and does well in a cold greenhouse or conservatory planted out, where it will produce thousands of bright purple berries resembling glass beads, and remaining on nearly the whole winter.—Bagshot, April 9.

### NEW CHRYSANTHEMUMS.

JOHN SALTER begs to announce that his SPRING CATALOGUE is now published, in which his splendid SEEDLINGS and other new CHRYSANTHEMUMS of 1859 are fully described, as well as the unrivalled general collection, which is the largest in Europe.—Strong plants of "Golden Queen of England," "Prince Albert," and every other variety, will be ready in the course of the month.—Versailles Nursery, William Street, near Hammersmith Turnpike, W.

### CHRYSANTHEMUMS—CHRYSANTHEMUMS.

J. H. BIRD, F.H.S., NURSERYMAN, Stoke Newington, the largest grower and most successful exhibitor of the Chrysanthemum in the British Empire, begs to call the attention of the lovers of the above beautiful autumn flower to his matchless collection, the stock of which amounts to upwards of 50,000 plants.

J. H. B can supply strong plants, one dozen for 6*s.*; or five dozen in 30 varieties, containing two of each variety, for 1*l.*; or he can supply 100 plants in 50 varieties, two of each variety, for 1*l.* 10*s.* Also POMPONES in great variety; 50 Pompones in 25 varieties, two of each variety, for 10*s.*; or 100 in 50 varieties, two of each variety for 1*l.* Strong plants of the beautiful new Pompone the Golden Celo Nulli, 5*s.* each, are now ready, with the usual allowance to the Trade. Every order will be accompanied by a popular work on the Chrysanthemum.

Post-office Orders payable to J. H. BIRD, Stoke Newington, will be immediately attended to. Catalogues on application.

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WM. CUTBUSH AND SON beg respectfully to intimate that their PRICED CATALOGUE OF VEGETABLE AND FLOWER SEEDS, &c., is now ready post free on application. WM. C. AND SON devote particular attention to this department of their business, and most of the choicer kinds of culinary seeds and roots are saved under their own inspection, and they can confidently guarantee the quality of all offered.—Highgate Nurseries, London, N. Established A.D. 1695.

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| 100 Pansies, in 25 sorts .. 30*s.* | 100 Hollyhock seedlings from finest named vars. 20*s.* |
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100 Phloxes in 30 varieties, 40*s.*

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FLOWER, SHRUB, TREE, and VEGETABLE SEEDS, the crop of 1858, saved with the greatest care, by the most eminent growers.

We may also state that the Sardinian correspondent of Messrs. JAMES CARTER & Co., whose Seeds, especially Carnations and Picotees, have given such universal satisfaction, has transferred the Agency from that firm and appointed us his representative in this country. To meet the growing demand for first class flowers, particularly FLORISTS' FLOWERS, we have adopted our usual maxim of charging the lowest possible prices.

Professor LINDLEY in the *Gardeners' Chronicle* of February 5th, has the following notice of B. & McC.'s Catalogue.

"BUTLER & MCCULLOCH'S (Covent Garden) Spring Catalogue of Choice Flower, Shrub, Tree, and Vegetable Seeds. This list fills 84 closely printed 8vo pages, and is remarkably well got up. It appears that the correspondent in Sardinia, who formerly supplied one of the great London houses with seeds raised in that warm part of Europe, has now transferred what he saves to Messrs. BUTLER & MCCULLOCH. Let us add, that it yields to no Trade List in the abundance of its materials or the excellence of its arrangements."

| | | | | | | |
|---|---|---|---|---|---|---|
| A selection of 44 pkts. of beautiful Annual Flower Seeds | | | | | 7*s.* | 6*d.* |
| Ditto | 33 | ditto | ditto | .. .. | 5 | 6 |
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| An Assortment of Vegetable Seeds, 20 quarts of Peas, and other Seeds in proportion for 1 year's supply .. . .. .. .. .. .. | | | | | £3 | 3*s.* 0*d.* |
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All Flower Seeds sent post paid, and Vegetable or Vegetable and Flower Seeds amounting to 1*l.* 1*s.* Carriage Paid to any principal Railway Station in England, Wales, and Scotland, or any port on the Irish Coast.

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WARRANTED NEW AND TRUE, BY

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| | | | |
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| YELLOW GLOBE ... ... | 8d. per lb. | LONG RED ... ... ... ... | 8d. per lb. |
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Cheaper by the Cwt.

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The Stocks of Seeds of the following new sorts being limited and in great demand, orders should be sent in good time:—

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[Presuming that this superior Yellow Globe Mangel will generally be preferred for the main crop, we invariably send this sort, unless the Common Yellow Globe (see above) or the more expensive kinds described below, are mentioned.]

**SUTTON'S Improved ORANGE GLOBE,**

remarkably fine shaped roots, with small Greens. Judges generally award the First Prize to this sort.. 0 9

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—Deep yellow, fine shape .. .. .. .. .. 1 0

Per lb.—*s. d.*

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A heavy cropper and very full of saccharine matter. All kinds of stock thrive remarkably well on it. This sort is much in demand by the London cow-keepers.. 0 9

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Beautiful shape .. .. .. .. .. .. 1 0

*The Sorts marked thus * are recommended to be sown in moderate quantities only for trial.*

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|---|---|---|---|---|---|---|
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Unequalled Collections of Carnations and Picotees, 6 vars., 3s. 6d.

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| ,, 56 | ,, | 12 | newest | ,, Salpiglossis | | 3 0 |
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Alpine Plants in collections, 12 varieties, 2s. 6d.; 25 do., 5s.; 50 do., 10s.

| No. | Per packet.—*s. d.* |
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| 94. | Abronia umbellata .. .. 0 6 |
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| 14. | Alonsoa Warscewiczi .. .. 0 4 |
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| 15. | Anagallis coccinea .. .. 0 6 |
| 196. | Anarrhinum, splendid, mixed 0 6 |
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| 195. | Araucaria imbricata .. .. 1 0 |
| 1. | Arctotis breviscapa .. .. 0 6 |
| 25. | Azalea indica, choice .. .. 1 0 |
| 52. | Bambusa spinosa, rare .. .. 0 6 |
| 54. | Brachycome iberidifolium .. 0 6 |
| 57. | Butea superba, stove, rare .. 2 6 |
| 91. | Calceolaria, mixed .. .. 1 0 |
| 92. | Calceolaria, finest spotted .. 1 0 |
| 58. | Calliopsis Burridgi .. .. 0 6 |
| 97. | Camellia japonica .. .. 1 0 |
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| 55. | Canna Warscewiczi .. .. 0 4 |
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| 62. | Chloris radiata .. .. .. 0 6 |
| 62. | Chorozema Hendersoni .. .. 0 6 |
| 64. | Chorozema Lawrenciana .. 0 6 |
| 469. | Chrysanthemum indicum .. 1 0 |
| 41 | ,, indicum nanum 1 0 |
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| 59. | Dahlia, finest double .. .. 1 0 |
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| 59. | Datura Wrighti .. .. .. 1 0 |
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| 59. | Gloxinia erecta .. .. .. 1 0 |
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| 59. | ,, tartarea .. 1 0 |
| 59. | Hibiscus Cameroni .. .. 0 6 |
| 59. | Hoya carnosa .. .. .. 1 0 |

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| 962 | ,, rubro-cœrulea .. 1 0 |
| 998. | Kennedya longiracemosa .. 0 6 |
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| 1046. | Lilium colchicum .. .. 1 0 |
| 1048. | ,, speciosum .. .. 1 0 |
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| 1133. | ,, nanus albus novus, new 0 6 |
| 1171. | Marianthus cœruleo-punctatus 0 6 |
| 1181. | Maurandya Barclayana kermesina .. .. .. 0 6 |
| 1204. | Mimulus pl. sp. et var. .. .. 0 6 |
| 1217. | Myosotis azorica .. .. 0 6 |
| 1222. | Nelumbium speciosum .. .. 1 0 |
| 1223. | ,, ,, album .. 1 0 |
| 1242. | Nierembergia gracilis .. .. 1 0 |
| 1246. | Nolana paradoxa violacea .. 1 0 |
| 1262. | Œnothera bistorta Veitchi .. 1 6 |
| 1265. | ,, Drummondi nana .. 1 0 |
| 1293. | Oxalis corniculata fol. var. .. 1 0 |
| 1296. | ,, tropæoloides .. .. 1 0 |
| 1315. | Passiflora cinnabarina .. .. 1 0 |
| 1320. | Paulownia imperialis .. .. 0 6 |
| 1331. | Pentstemon Hartwegi atro-cœruleum 0 6 |
| 1332. | ,, coccineum .. .. .. 0 6 |
| 1333. | ,, purpureum .. .. .. 0 6 |
| 1332. | ,, Murrayanum .. .. 1 0 |
| 1353. | Petunia viridicincta .. .. 0 6 |
| 1366. | Phlox Drummondi elegans nova 0 6 |
| 1372. | ,, zinnabarina .. .. 1 0 |
| 1377. | Physalis edulis .. .. .. 0 6 |
| 1389. | Pleroma elegans .. .. 1 0 |
| 1396. | Poinciana regia, rare .. .. 1 6 |
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| 1432. | Primula sinensis fimbriata .. 1 0 |
| —— | ,, ,, Village Maid, fine 2 6 |
| 1452. | Quisqualis glabra .. .. 2 6 |

| No. | Per packet.—*s. d.* |
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| 1589. | Statice Bonduelli .. .. 0 4 |
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| 1662. | Do. do. Victoria Regina .. 1 0 |
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J. C. & Co. beg to state that in ordering from the above the numbers in margin will be sufficient.

*Catalogues forwarded post free upon application.*

**JAMES CARTER & CO., Seedsmen, 238, High Holborn, W.C.**

SUPERB DOUBLE HOLLYHOCKS.

WILLIAM CHATER can now supply fine healthy plants from his Collection, having a large stock ready for immediate planting.

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Nurseries, Saffron Walden.

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FINE SEEDLINGS FROM

WILLIAM CHATER'S Celebrated and Newest Varieties that will flower well in September at 30s. per 100

| | | | | | |
|---|---|---|---|---|---|
| ditto | ditto | ditto | 20s. | ,, | 100 |
| Ground Roots according to colour, also at | | .. | 30s. | ,, | 100 |
| Seed in 12 separate colours, the Collection | | .. | 10s. | 0d | |
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From varieties such as Pourpre de Tyre, Memnon, White Globe, Hon. Mrs. H. Ashley, Canary, &c., in 12 separate colours, the Collection .. .. .. .. .. .. Ys. 6d.

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| Seed from 20 of the best varieties, mixed, per pkt. | 5 | 0 |
| ,, 12 ,, ,, ,, ,, | 2 | 6 |
| ,, good mixed, also a single variety .. ,, | 1 | 0 |

The above can be procured from the Nurseries, Saffron Walden, Essex.

NEW HOLLYHOCKS.

A. PAUL AND SON beg to recommend the following NEW HOLLYHOCKS, which have been selected from several thousands of Seedlings. The stock of ordinary kinds is this year greatly extended. The plants are strong, well established, and perfectly healthy:—

| | *s. d.* |
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| BRISEIS (PAUL).—Purple, silvery edges, flower of good form, spike close .. .. .. .. .. | 5 0 |
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| PLUTARCH (PAUL).—Plum colour, of fine shape, and very smooth, guard and spike good .. .. .. | 10 6 |
| POURPRE NOIR (PAUL).—Rich purplish maroon, large smooth flower, close spike .. .. .. .. .. | 7 6 |
| RED ROVER (PAUL).—Dark fiery scarlet, flower large, spike splendid, very effective .. .. .. .. | 7 6 |
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| VESTA (PAUL).—Pure white, petals thick, edges smooth, guard good .. .. .. .. .. .. .. | 7 6 |
| VITRUVIUS (PAUL).—Pink, large flower, of perfect form and good substance .. .. .. .. .. .. | 5 0 |
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The Collection of 12 varieties is offered for 4*l.* 4*s.*; good named sorts, 9*s* to 18*s.* per dozen; very superior ditto, 24*s.* to 42*s.* per dozen; Bloomed Seedlings in separate colours, 30*s.* 50*s.* per 100; mixed Seedlings, 10*s.* to 21*s.* per 100.

HOLLYHOCK SEED, 1*s.* to 5*s.* per packet free by post.

Also a PRICED DESCRIPTIVE CATALOGUE free by post.

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NEW PHLOX AND PENTSTEMONS.

PHLOX COUNTESS OF HADDINGTON.—Light puce, dark violet eye, perfect form, distinct and fine.

PENTSTEMON TYNNINGHAMI.—Bright scarlet, bold flowers, close pyramidal spike, first-rate.

PENTSTEMON MRS. LEES.—Crimson purple, pure white throat, large spike, distinct and striking.

THOMAS METHVEN has much pleasure in offering the above first-class flowers, raised by Mr. Thomas Lees, gardener to the Earl of Haddington, Tynninghame, and allowed by all who have seen them to be decided acquisitions as show flowers. Strong plants 5*s.* each. Usual discount to the Trade.

Stanwell and Leith Walk Nurseries, Edinburgh.—April 9.

NEW DESCRIPTIVE CATALOGUE FOR 1859.

WM. RUMLEY AND SONS' NEW DESCRIPTIVE SPRING CATALOGUE for 1859, of new and choice Fuchsias, Verbenas, Geraniums, Cinerarias, Petunias, Dahlias, Pansies, Chrysanthemums, Hollyhocks, Phloxes, Calceolarias, Heliotropes, Stove, Greenhouse, Bedding, and Hardy Plants, at very reduced prices, may be had on application.

It also contains descriptions of their splendid new Seedling Hollyhocks, Fuchsias, Calceolarias, Verbenas, and Heliotropes, to be sent out in April and May, and are unsurpassed.

Gilling, near Richmond, Yorkshire.

ROYAL SOUTH HANTS SEED ESTABLISHMENT.

UNDER THE PATRONAGE OF H.R.H. THE PRINCE CONSORT, THE AGRICULTURAL, HORTICULTURAL SOCIETY OF INDIA, AND THE LEADING AGRICULTURISTS OF THE UNITED KINGDOM.

PAGE AND TOOGOOD can now supply GARDEN AND FARM SEEDS, carriage free; SEED POTATOES, &c. The numerous Prizes gained by their Stocks are convincing proofs of superior quality, and their prices compete with any house in the kingdom. WHOLESALE and RETAIL PRICED CATALOGUES upon application.

Agents for ODAMS'S Blood Manure, Superphosphate, &c. Seeds Packed for Exportation to all Parts of the world,

37 and 38, Oxford Street (facing the Railway Terminus); and 58, Above Bar, Southampton.



# The Gardeners' Chronicle.

*SATURDAY, APRIL 9, 1859.*


SOMEWHERE about the year 1843 we drew the attention of gardeners to the evil consequences of an unnatural practice to which the ill-informed were then addicted. Although condemned by men who knew how to enlist science on the side of practice, yet the horticultural crowd, blindly following blind leaders, persevered in maintaining in forcing houses a night temperature never, under usual circumstances, occurring in nature. The mere fact that ice will form at night in Bengal upon wet straw exposed to the heavens ought to have been a sufficient sign and warning that artificial heat must never be permitted to exercise its baneful influence in forcing houses during the night (of course we use the word heat in its common gardening acceptation as something much beyond mere warmth). There is no part of the world, not even the black burning rocks of Aden, in which, during the night, there is not a con-

siderable fall of temperature; and unless men are so conceited as to fancy that they know better than Nature herself what is beneficial to plants, their common sense ought to tell them that in forcing houses there should be a great difference between the temperature of night and day. Alas! that common sense should be so uncommon an article.

Some observations made in the garden of the Horticultural Society a few years since place this in a striking light. Certain plants were placed for several weeks in a stove, with a high night temperature—supposed to average 69°: the following were the rates of growth in inches:—

| | Night. | Day. |
|---|---|---|
| Fig .. .. .. | 9.60 | 9.92 |
| Willow .. .. .. | 19.08 | 21.55 |
| Passionflower .. .. | 36.20 | 35.85 |
| Vine .. .. .. | 34.15 | 34.45 |
| | 99.03 | 101.77 |

That is to say, they grew as fast by night as by day: for the apparent difference is obviously unimportant. But when these and other plants were grown in the open air, exposed to the low night temperature of England, the result was wholly different, as will be seen by the following table:—

| | Night. | Day. |
|---|---|---|
| Fig .. .. .. | 1.63 | 6.80 |
| Willow .. .. .. | 3.77 | 9.94 |
| Hop .. .. .. | 42.02 | 100.53 |
| Vine .. .. .. | 2.34 | 4.20 |
| Scarlet Runner .. | 23.11 | 97.72 |
| Jerusalem Artichoke .. | 8.23 | 22.25 |
| Gourd .. .. .. | 21.23 | 48.05 |
| | 102.33 | 289.49 |

The last experiment being carried still further, by observations continued during a part of another month, the result remained the same, the total growth by night being 119.07, and by day 337.16. Thus we see that plants exposed to natural circumstances only made 1 inch of growth by night while they made 3 by day; but that, on the contrary, under bad artificial treatment, they grew *equally day and night*. The inevitable consequence of this inversion of natural growth is immature or unripe wood, with imperfect ill-constructed buds, and a feeble constitution, incapable of bearing the shock of great falls in temperature. More especially, water accumulates in the system, and is never decomposed or removed by perspiration, in the requisite degree. In short, plants growing fast by night can neither ripen their wood nor form their inner structure well. And therefore they are incapable of developing their natural beauty, or of resisting those extremes of temperature which are natural to them, or of bearing the fruit for which they are cultivated.

We quote the abridgment of a paper in the Horticultural Transactions, as given in the *Theory and practice of Horticulture*, p. 518. It was founded upon a long series of observations made by Mr. Donald, the present intelligent gardener at Hampton Court. If indeed we consider a little what the natural habits of plants really are we find that, like animals, they *must* have their constant periods of repose. Winter to them is an annual rest; night is to them, as to ourselves, a period of daily rest; and we cannot with impunity break in upon these natural habits. When we attempt it we see Vines yielding watery wood and colourless fruit, stone fruit refusing to stone, Cucumbers flabby, emaciated, gummy and barren: and so with all other plants according to their kind. In fact, when gardeners say that plants under such circumstances are "drawn," they express the truth. The firm organisation of a plant is only secured by day, and the growth at night is merely a sort of stretching, as happens when a wire is drawn out—you gain in length, but you lose in strength, and you add nothing worth having.

What has led to these remarks is an excellent practical paper by Mr. W. P. Ayres, which appears in another column. The successful management of winter Cucumbers by this experienced cultivator is well known to his horticultural brethren. His treatise *On the Cultivation of the Cucumber in pots*, &c., published in 1841, is among the best that have ever appeared; and in that little work, p. 13, is the following important warning: "We have shown that the Cucumber will sustain no injury at a temperature of 55° during the night, *and we are certain the plants will be more vigorous and continue longer in a bearing state in a low, than if a high night temperature was maintained.*" Let us recommend the present paper by Mr. Ayres to the serious consideration of all Cucumber growers, especially to those who try to grow Cucumbers in the winter. They may possibly learn from its perusal the history of their own failures, or at all events will know what is the road to certain success in an operation in which failure seems to be the rule. The specimen of his cultivation to which Mr. Ayres alludes was unsurpassable. The fruit was excellent, but the foliage, which always predetermines whether either fruit or flowers are to be in perfection, was extremely striking. The leaves were much alike, and measured on an average *seventeen inches* from the top of the leafstalk to the point, *fifteen inches* across, and *four feet four inches* in circumference. They were as firm and green and solid as in August, and so full of good rich sap that they laid about for some hours in a dry room without flagging. Let us hope that this demonstration of the effect of a cool night temperature will make the impression upon the minds of young gardeners which its vast practical importance demands. Let them remember, too, that it is equally applicable to all kinds of plants.

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Now that mildew, green fly, and all sorts of other pests are about to visit us, the time seems to have arrived for once more drawing attention to the substance called Gishurst Compound. The preparation thus named is a soap of unknown composition, capable of being readily dissolved in water, in which state it is applied with a syringe or sponge to the plants infested. Although the winter is far from being the best season in which to test the merits of such a composition, yet it appears from many testimonials before us that it has already acquired a very high value in the estimation of practical gardeners. That it really kills red spider, aphides, mealy bug, thrips and scale, it is impossible to doubt in the face of the reports of practical men, among whom we may mention Mr. D. Judd, of Althorp Gardens, a man who we all know is the last to endorse anybody's statements, unless he is satisfied of their exact truth. That being now to all appearance an established truth, the other question is whether it has no disadvantages—that is to say, whether it does not substitute injury of its own for the injury of others.

The very fact of its being so speedily fatal to animal life is calculated to raise a suspicion that it may kill plants as well; and this appears to be the fact, *if incautiously applied*, but only then. In our original notice (Nov. 6, 1858) we stated that the soft ends of Rose branches had been killed, and we find from later experience that not only Roses but Ferns and tender-leaved things are apt to suffer *if the solution is too strong*, just as vitriol when swallowed pure is fatal to ourselves, although a few drops in a glass of water are beneficial to the constitution. Upon this subject we print by permission of Mr. Wentworth Buller the following letter from that gentleman, in which he gives the result of his own experience:—

"As I have been trying the new invention called Gishurst Compound, lately referred to in your columns, perhaps the results of my experience may prove useful to other gardeners. Although I by no means wish to disparage what I have no doubt will prove a very valuable invention, I recommend gardeners to be very careful in applying this soap to plants with tender foliage. I have tried it with excellent effect on Gardenias and Ixoras to cure mealy bug, and on Oranges, Dracænas, and Camellias for scale. I do not think that it is cheaper or better than the old remedy of soft soap with a little turpentine for mealy bug, but it is certainly more efficient in curing scale than anything that I have ever tried. I found 2 oz. in a gallon of water an efficient cure for green fly on forced Roses; it is unnecessary and useless to use it stronger for this purpose. I cannot recommend its use for Ferns. I applied it to several species to destroy thrip, and I think with the exception of Dicksonia antarctica they are all more or less injured. Fronds of Platyloma hastatum were turned quite yellow, and I doubt if one rather weak plant of this species is not altogether killed. I am told it is a good remedy for red spider, but have not had an opportunity of trying it myself for this purpose.

"Strete Ralegh, Exeter, April 1."

The question to answer then is, what is the safe strength of the Gishurst Compound? Upon this point we subjoin such other opinions as the correspondence before us furnishes.

They are scanty enough, it must be owned, but valuable considering from whom they come.

Mildew. 6 oz. to 1 gallon of water; 8 oz. is too much.—*Rivers.*

Ferns. A piece the size of a small hen's egg dissolved in a quart of water, applied with a brush, and afterwards cleaned with a syringe.—*Pilcher.* ½ lb. to a gallon is too strong.—*Judd.*

Hard-wooded Plants. 1 lb. to a gallon.—*Lady Dorothy Nevill.* ½ lb. to a gallon.—*Judd.* 9 oz. to gallon.—*Bellis, Horton Hall Gardens, Chester.*

Soft-wooded Plants. ¼ lb to a gallon.—*Lady Dorothy Nevill.*—6 oz. to the gallon for the most tender foliage.—*Bellis, Horton Hall Gardens, Chester.*

Orchids. As with Ferns.—*Pilcher.*

The ensuing summer will doubtless supply all the further evidence we require. Gardeners should however be very particular in ascertaining exactly how weak the Gishurst solution may be, and this they can only do in a manner to be useful to others by *weighing* the quantity of compound which they mix with a gallon of water, and *not guessing at the weight*, like bad cooks who direct a pinch of this and a pinch of that condiment to be employed without considering that the pinch of a broad-fingered woman is equal to two pinches of the taper fingers of another.

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It may interest some of our readers to know that some Kidney Beans just forwarded by Messrs. Haage of Erfurt, under the name of the "Large Egg Runner Kidney Bean," appear to be identical with the New Zealand Kidney Bean that has made so much noise; thus confirming our original opinion that this "novelty" was only some continental sort not cultivated in England. Let us add that a sample from the same eminent seedsmen of their "Ervum monanthes or Provence Lentil" is much like a bad sample of Dr. Rauch's supposed hybrid between Pea and Lentil.

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## THE NIGHT TEMPERATURE OF FORCING HOUSES.

In the early part of February I had the pleasure of forwarding for your inspection a brace of Cucumbers, and also some leaves and branches to show the sort of luxuriance which the plants attain under what many would regard as very adverse circumstances. Nearly 20 years ago, in my little pamphlet on "Cucumbers in Pots," I pointed out the absurdity of a high night temperature; it was therefore with some surprise that I saw it laid down as a rule that to grow Cucumbers properly in January it was necessary to maintain a temperature of 65° to 75° by night. I say I read the directions with surprise, because at that time my plants were luxuriating in a temperature rarely exceeding 65° by fire-heat in the day, and more frequently below 55° than above it during the night, while on more than one occasion the night heat was below 50°. I will not subject myself to the charge of egotism by stating the size of the leaves and the girth of the branches; but I will say I have seen less vigour in plants on dung beds and open ridges in the dog days. I did not consider the leaves so remarkable for their size as for the quantity of life-invigorating sap which they contained. There was no hurry-skurrying to shade the plants when the sun peeped out, nor did we run with equal alacrity to give the "benefit of light" when it was overcast, but to the best of my knowledge the house was never shaded, neither did the plants ever flag except for the want of water.

As perhaps some may be disposed to think the plants derived advantage from the construction of the house or from modern glass, I will describe the house and the management it received. It is one of a set of span-roofed structures built for general purposes, and suitable for growing anything from bedding plants to Pines or Orchids. The house is 14 feet wide, facing north and south, with 9 feet of glass on the south and about 7 feet on the north side. A brick in cement tank 3 feet wide passes along the back or north side, and through it are two 2-inch pipes for bottom-heat. There there is a pathway 3 feet wide, and the remaining space is devoted to Pines. Bottom-heat for the Pines is obtained by fermenting materials on the Meudon principle, and atmospheric heat is obtained from three 4-inch pipes which pass close to the front wall. This wall is perforated for the admission of air, and by means of a similarly perforated board which slides in a groove, and can on the "hit and miss" principle give by a simple lateral movement from a quarter of an inch to nearly 1 foot square at each opening. These openings it will be observed are directly opposite to the pipes, and therefore whatever air passes into the house must be heated before it gets near the plants. Air can also be admitted by the top lights, but these are rarely touched in the winter season, a small swinging sash in the end close to the vitiated atmosphere being sufficient for the escape of the vitiated. Of the glass, I may say, part of the sashes have been in use a quarter of a century, and the quarries vary in size from 3 inches by 6 inches to 11 by 6 inches. The width of the house and the length of the sashes employed to cover it show that there is nothing peculiar in its arrangement. It is a good plain useful house and nothing more. Well, in the early part of November the brick tank was filled to about 4 inches deep with ballast (not clay), then a turf wall was built longitudinally to divide the border, the front part being retained for propagating, and the back part was filled in with good yellow loam intermixed with about one-half of rotten dung and loam which had been previously prepared for a Mushroom bed. As soon as the compost had attained sufficient heat some very poor plants were put in, which received nothing more than ordinary attention, as I scarcely gave a direction respecting them, the management being left to my foreman and the head man in charge of the "houses." The rule which I always insisted upon in the management of Cucumbers and Melons, viz., never to stop the leading shoot until it had attained the utmost limit assigned to it, was strictly adhered to, and the result you have seen in the vigour of the shoots I sent to you. The encouragement of the leader I regard as of the first importance

and if I am going to cover a rafter 20 feet long I always adhere to it. I may have to wait a few days longer for my first fruit than those who encourage premature fruitfulness; but I get such an accumulation of vigour in the plant as will sustain it in a fruitful state for full 12 months without ceasing, and I have kept the same plant in a bearing state for three years. I have before stated that the plants were put out in November; on the 23d January the first fruit was cut, and since that time I have had a regular succession of beautiful fruit; not long, for I do not grow the long kinds, but of my own perpetual Black Spine, which is quite long enough for table use, and of greater daily importance than an occasional 2-foot fruit.

It will thus be seen there has been nothing particular in the management of the plants; they have had a comfortable bottom heat from water around the pipes in the tank into which the roots soon introduced themselves, and I have found that a pot of dung-water put occasionally into the tank did not do any injury. As to light they have been trained on the northern slope of the house, and of heat I have already spoken.

The treatment under which these plants have been more than usually vigorous and fruitful would be regarded as heretical by most cultivators; but the result shows there is a shorter and cheaper way to success in Cucumber growing, even in the winter season, than most people imagine.

So much for a low night temperature as connected with the growth of Cucumbers, but are the benefits confined to that class of plants only? I opine not, but extend through the whole range of the vegetable kingdom, for even with plants that are natives of countries where the nights in the growing season are close and warm, I believe our slavish attempts at imitation of natural conditions are noxious, and not warranted by inductive philosophy, for until we can command the brilliant and continued sunlight of the tropics, it is perfect nonsense to insist upon a corresponding night temperature. True that reasoning by analogy, and considering the night temperature of those countries where the Grape ripens to the greatest perfection, we may say the Grape ought to have a night temperature of 70° to 80° in our hot-houses. But what says experience? I will answer the question by an anecdote—A gardener who prided himself upon richly fed borders and large bunches of Grapes, but who never coloured them, thus addressed a brother culturist: "Mr. Darkbloom, I cannot tell how it is, but I can grow and do grow bunches of Grapes five times the size of yours, but you beat me in colour! How is it?"—"Cease your fires and give night air," was the curt reply, and this certainly was not advising a high night temperature.

In the house in which my Cucumbers are growing there are a few Pine plants, small suckers given me in the autumn of 1857 and planted out in October of that year Through the summer of last year they were entirely without bottom heat, indeed the chamber for dung was quite empty until the end of September. At that time several of the plants had showed fruit, and I have since cut several small but excellently swelled specimens, one, an Enville, in January weighing about 5 lbs. and equal both in swelling, colour and flavour to the best Enville I ever saw. Frontignan Vines in the same house have set their fruit as well as could be desired, and French Beans sown in January were fit to pick the first week in March.

This I think is proof sufficient that a much lower night temperature than is usual may be indulged in, and it is also a proof that young gardeners need not be harrassed out of their night's rest to maintain a temperature which is quite unnecessary and in all cases answers no good purpose except that of increasing the coal merchant's bill. I have thus detailed the circumstances under which my fruit were produced; I have I trust supplied material for thought, and I leave it to each man to decide for himself whether he will "go and do likewise." *W. P. Ayres, Orchardleigh Park, March 29.*

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## —RHODODENDRONS.—No. VII.

WHILE the ordinary kinds of Rhododendrons are, numerically speaking, most readily increased, and new varieties can only be raised, by seed, grafting is in some form or other the means most generally chosen for propagating these varieties when once obtained. True, layering is sometimes practised, but in the case of choice or rare kinds, that can only be of limited application; a plant must have attained a comparatively large size before it can be increased to any extent by that means. From this circumstance, and the tardiness of the process, it never has been, nor is it likely ever to be popular as a means of propagation. In all the large nurseries where Rhododendron culture is an especial feature, grafting is the principal, if not the only means employed for increasing and perpetuating the numerous hardy hybrid varieties. Occasionally, however, a few species, some of those from Sikkim for example, are increased by cuttings of the half-ripened wood, placed in very sandy soil under a bell or handglass, and plunged in a gentle bottom-heat. But, as in layering, the slowness of the process in producing established plants, compared with grafting, and having no compensating advantages, does not recommend it for general adoption.

Some few years since an attempt was made by one or two amateurs and echoed by a few others, to prove that grafted Rhododendrons were, as a rule, short lived, unhealthy, and in every way undesirable. It would lead us away from the professed object of these papers to discuss the subject in all its bearings, even if it were worth while to do so. But we may fearlessly assert that this was an entire misconception, and that no good cultivator who has bestowed his care on plants worthy of it, will be found to endorse the theory. To show the kind of horticultural knowledge sometimes coupled with an objection to grafted plants, we may mention having heard of instances where orders for collections of the best known hybrids have been given under the conditions that all the plants should be seedlings. It would be too much to assert that unhealthy, or otherwise unsatisfactory grafted plants are not sometimes found: but this usually arises from accidental and known circumstances, and has nothing whatever to do with the principles of the system. The chief cause of such unhealthiness arises from stunted or diseased stocks. If such be unfortunately employed, and even supposing an union to be effected with the scion, we believe it to be past the art of man to produce a healthy and vigorous plant with the combination. As much care is necessary, and is by the best cultivators given to the raising of and preparing the stock, as to the subsequent stages of the plants progress.

The advantages of grafting are important: its disadvantages, if any, nominal. It affords a ready and abundant means for increasing any given variety, it induces an early (as regards the life of the plant) period of flowering, and what is perhaps of equal if not of more importance, it tends to increase the profusion of flowers which even in their seedling state characterise the best hybrids. And these advantages are as manifest and as useful in the cultivation of species as they are necessary in the increase of varieties. But for the precocity induced by grafting, comparatively few of the Sikkim Rhododendrons which have flowered under artificial treatment would so soon have rewarded their cultivators. Many of those which have so flowered were while in a very young state transferred entire (*minus* their roots) as grafts to stocks of common species or hybrids; in some instances the wished for results were speedy, in a few they are yet waited for.

Since the above was written we have seen the February number of the "Journal de la Société Impériale et Centrale d'Horticulture" of France, in which is a paper from a German periodical reiterating these objections to grafted Rhododendrons, and in addition to which the writer endeavours to show that plants from cuttings ought to supersede those from grafts, as being easily produced and far more desirable. Grafted plants, he considers, present various objections; they do not, he says, always unite well, and they are moreover often ill-formed and short-lived. Upon these data M. Regel, the author, condemns grafted Rhododendrons altogether. If his objections were founded on facts the verdict would be just and reasonable enough, but they are not. With an imperfect knowledge of the nature of the Sikkim Rhododendrons when first introduced, some of them were grafted on stocks which proved unsuitable; but subsequent practice and observation have in a great measure enabled cultivators to obviate the evil. Ultimately it will no doubt be removed altogether. Grafted hybrid Rhododendrons of 30 or 40 years' standing, still handsome and vigorous, and in which the union between scion and stock can hardly be perceived, may surely plead successfully against the accusation of imperfect unions, short lives, and stunted growth. And many of the finest grafted plants of those from Sikkim present equally satisfactory results, although, of course, as yet of much briefer duration; but there is no reason whatever to fear any falling off in that respect. Another of M. Regel's objections is that no stock at all can be found for some of the small dwarf species recently introduced, an objection however hardly tenable, and, if it were, not of sufficient moment to weigh against a principle so widely and usefully applicable as grafting is known to be. With reference to the stocks most suitable for the various Sikkim Rhododendrons, we shall make special allusion to that subject in the next article.

The best season for grafting the Rhododendron is early spring—February, if the command of heat can be had. It will, however, be perfectly successful in autumn as soon as the shoots of the current season are matured. There are, however, no advantages in autumn grafting, but, on the contrary, many disadvantages, the chief of which is the necessity for protecting the plants through the winter; while those grafted in spring will be sufficiently established to be removed to the open ground the same year, *i.e.*, supposing all necessary treatment has been timely and skilfully performed. The indispensables are healthy stocks and a close warm moist atmosphere while the union between stock and scion is in progress; and when this is accomplished great care is necessary in enabling the plants to bear exposure to the open air. If the transition be too rapidly or carelessly effected, the young leaves become scorched and otherwise disfigured, and as a natural consequence the health and progress of the plants are considerably damaged. For convenience of treatment and removal the stocks are usually potted. In extensive operations exceptions are sometimes made; but for all ordinary purposes the former is the more advisable. Potting however is not necessary until the stocks are wanted.

FIG. 1. FIG. 2. FIG. 3. FIG. 4.

There are three principal modes of grafting, either of which is to be chosen as circumstances may seem to require; if the scion is merely a small point, as for instance, a young seedling plant, choose Fig. 1 (wedge grafting). When a shoot or two of a rare kind is to be made into as many plants as possible, Fig. 2 (side grafting) will exemplify the best method; but when plenty of good shoots can be had, adopt that illustrated in Fig 3 (saddle grafting). In Fig. 1 it will be observed that a part of the cut surface of the scion, *a*, appears above the stock. It is of importance to attend to this in practice. The stock produces a large amount of cellular matter in the progress of its union with the scion, and if the latter exactly fitted the incised part of the stock this matter would exude beyond, and result in a comparatively imperfect union with the addition of an unsightly scar. For the same purpose a portion of the stock, *b*, Fig. 2, and *c*, Fig. 3, is left uncovered by the scion. This is perhaps not strictly in accordance with the received teaching of vegetable physiology as bearing upon this branch of garden art; but it is not the less practically true, and may be classed with other minute but important matters which practice in conjunction with theory can alone reveal or teach the value of.

Nor is it necessary to cover with a bandage the whole point of union between scion and stock. To keep the former firmly in its position is all that is required, and the simpler that can be done the better. Fig. 4 shows all that is necessary. The best material is Cotton yarn. As soon as the graft is fixed, the stock should be at once placed where the union is to be effected. A close pit in which the other necessary conditions, heat and moisture, can be secured is the best structure for the purpose.

The grafts should not be inserted on a part of the stock which has acquired its hard woody nature. The union will be much more satisfactory, and be effected

in less time on the greener and more succulent portions. And moreover while grafts so inserted will form an union in a cold frame, if kept close and moist, they will rarely unite under those circumstances if the graf is attached to a hardy woody portion of the stem. But when grafting is to be effected in the absence of artificial heat altogether, the operation should be deferred for a month or six weeks after the time previously named. If February be chosen a temperature of from 60° to 65° should be at command.—*G. Lovell.*

*(To be continued).*

## ON FORMING AVENUES.

*(Concluded from page 289.)*

AND now a word on the selection of the trees; and another on the atmosphere. Before your plants are bought pay a short visit to the nursery where they grow. If their last year's shoots are of sufficient length, admit them; if not, reject them.

The consciences of nurserymen to the south may be straight enough, for aught I know to the contrary, but here in the north, occasionally they take a curve. Thus, when the annual sale of their plants has not realised their expectations, the remainder are said to undergo a retarding process by means of a three-pronged fork applied to their roots. This disturbs them just enough to stint their growth during the ensuing season. Whilst I was abroad, many thousands of Spruce Firs, some of them 6 feet high, were obtained from a nursery. The man who brought them in waggon-loads said inconsiderately to my labourer, who received them, "I pity your master: for my master has so lifted and shifted these poor Fir trees from year to year that they are not worth the carriage from our nursery." On my return home, seeing what trash had been pawned upon me, I ordered the greater part of the trees to be pulled up for fire wood. As 13*l.* were still due in the nurseryman's exorbitant account, I offered him his choice, either to forego his claim against me for 13*l.*, or to undergo a public exposure. He was too glad to forego the money.

Always go yourself in person to a nursery. Make your own selection, and see it put into your own cart. Then pay your bill: leave half a crown for beer money to the men, and order your man to depart.

Lastly, the atmosphere must be considered. If vitriol works are in the neighbourhood never think of planting an avenue. Let me add, that I consider soaperies and compost establishments and gas works as first cousins to vitriol works. They are all of them replete with mischief to vegetation. The climate of England (just except at the sea side) has always been favourable to the growth of trees. But now a most unfavourable change has taken place in certain districts. Long chimnies—the towering dischargers of smoke and soot—in what are termed the manufacturing districts, are now the boast and the bane of some of the most lovely and most fertile lands that ever the rising sun has shone upon. Steam, the grim promoter of eagle-speed and sudden death, of palaces and poor-houses, may be styled Lord Paramount of England.

Wherever his fiery chariot appears, Flora and Pomona turn ghastly pale. Their condition is little better than that of poor old Mother Earth, when Phaëton, rash coachman, set the world on fire by furious driving. She called aloud to Jupiter for help, and said she was nearly suffocated—

> ——"Ulterius tolerare vaporem,
> Non possum."

In fact, wherever steam's monster-chimnies raise their unhallowed heads, there vegetation pulls off her lovely green mantle, and puts on one of black; following the advice of Ovid:

> "Infelix, habitum temporis hujus habe."

Unless some favourable change takes place, the lands in our manufacturing districts will soon be like unto that province in Scythia, so well described by the same poet:—

> "Triste solum, sterilis, sine fruge, sine arbore tellus."
> A ruined soil,—a barren land of woe,
> Where trees have perished, and no fruit will grow.

Such localities as these are not fit sites for avenues. He who doubts this let him recollect that Flora and Vulcan, Ceres and Famine have never yet been known to travel hand in hand: and never will. *Charles Waterton, Walton Hall, March 2.*

## MR. GLASSE'S GARDENING BOOK.—No. VII.

27. *More about faded Hyacinths.*

My Lady called to me about a year after I told her how to cure faded Hyacinths. "Glasse," said she, "I have been on a visit to the Marquis of Silverspoon, where you know there is a very fine garden, and a very great gardener. And one day I told Mr. Figg, the gardener, how very successful you had been with the Hyacinths; but he said he had tried your plan and it would not answer, and that it was much better to buy fresh roots every year." Says I to my Lady, "Ma'am, waste not want not, is my opinion; and the proof of the pudding is in the eating on't. Your Ladyship knows whether my Hyacinths are good or bad, and I think Mr. Figg had better try again; if it answers in our little place (it wasn't little though) it might in my Lord's big one; unless Mr. Figg holds his head so high that he can't see such small matters as a row of Hyacinths." "That's very true, Glasse," said my Lady, and she walked into the great Yew walk, where 'twas a rule not to follow her.

Thinks I to myself, thinks I, that Mr. Figg is the great gardener whose Grapes are always a shanking, and whose Cherries won't stone in his Cherry-house, and whose Camellia blooms somehow or another will tumble off before they are half open. I wonder what he did with his Hyacinths. Now it happened soon afterwards that a chap who had worked under Mr. Figg came to our place, to see if I could give him work. He was a sort of relation of mine, by name Reuben Hardhand, for his aunt was Mrs. G.'s third cousin, and being an industrious young man, I asked my Lady if I might take him on for a few weeks; and my Lady kindly said "Oh, yes, Glasse, and if he is not afraid of work you may keep him on, for I'm afraid that poor Robert—that was a young man who chopped his foot with an axe—will never be fit for garden work any more." My Lady was always good to the people about her. So one day I asked Reuben whether he knew what Mr. Figg did with the Hyacinths when he turned them out; and he told me that he made in the ground holes with a dibble, shoved them in and stamped the earth hard round 'em. "Didn't he put anything over them to keep them from frost at night?" "No," says Reuben, "he said they were hardy enough, and didn't want; and when the foreman mentioned one day that the roots were all doubled up in the holes he told him that it didn't signify, for such roots were no good." So I asked Reuben what he thought about it; and the young man answered that he didn't know, but he thought it a rummish way.

"Well Reuben," says I, "when you have to turn out Hyacinths don't do like Mr. Figg. You draw a straight line on a border of good mould; it needn't be very light if it has been well worked; and then make a cut as deep as your spade, drawing the mould well forward, so as to leave a nice smooth back to the cut, slanting a little towards you. Have ready some silver sand, mixed with a little leaf-mould. Then go down on your right knee, and with your left hand lay the Hyacinth against the back, pressing it gently into the mould so as to give it a little hold; then don't leave go, but with your right hand put all the roots straight and comfortable, and put over them a good double handful of the sand and mould; then put over that enough of the mould of the border till everything is placed firm, so that the Hyacinth can't slip. Go on in this manner till your roots are all planted. Then lay gently, gently, over the whole line the mould of the border, minding to keep the top of the Hyacinth 3 inches below the surface. Don't tread them down by no manner of means; but give them a good watering with milk-warm water till the soil is a puddle; then draw a little loose mould over the puddle and the job is done. Afterwards you must employ something to keep off frost, hoops covered with canvas do very well, if the canvas is taken off every day; or a Reed mat made to slope forwards well over the roots, or anything of that sort. Only mind to give all the air and sun you possibly can; after a fortnight a little frost won't do harm." When Reuben got a place he did as I told him, and his Hyacinths were very near as good as mine.

## Home Correspondence.

*Rainfall.*—As I have been favoured with the records of Dalton's gauge up to Dec., 1858, I venture to send an abstract. The result is curious:—

| | | | | | |
|---|---|---|---|---|---|
| Total mean rainfall for 24 years .. | | | 26.01 | Percolation, | 8.06 |
| ,, | ,, | 3 years, 1835 to 1839 .. | 26.82 | ,, | 11.20 |
| ,, | ,, | 5 years, 1840 to 1844 .. | 26.00 | ,, | 10.06 |
| ,, | ,, | 5 years, 1845 to 1849 .. | 25.72 | ,, | 6.88 |
| ,, | ,, | 5 years, 1850 to 1854 .. | 20.11 | ,, | 3.86 |
| ,, | ,, | 4 years, 1855 to 1858 .. | 25.28 | ,, | 5.88 |

The minimum rainfall in the period and the minimum percolation, 1854:—Rainfall, 18.27; percolation, 1.40. The maximum, 1852: Rainfall, 41.14. Maximum percolation (1836), 17.75; last year rainfall, 20.50; percolation, 3.21. As for what you say of railway cuttings any one who knows anything of subterranean water must see that the effects in such a case must be local and permanent. There can be no doubt that at this time the stock of subterranean water is very low: an autumn like that of 1852 would replace it all. *J. C. Clutterbuck, Long Wittenham.*

*Lithing.*—I have been amused at your stumbling over my good north country word Lithing, which has however a place in one Dictionary at least (Bailey's), and has besides this the merit of describing in one word what would otherwise require a dozen. I give you Bailey's definition of the word: Lithing—"thickening, spoken of a pot of broth, as, 'lithe the pot,' *i.e.*, put oatmeal into it." But it is not simply the putting oatmeal or flour into a pot that constitutes a lithing, it is the manner of doing it; take for instance the following recipe for making milk porridge, which every man, woman, and child who can take milk, and who lives so far north as not to turn up their noses at the idea of eating oatmeal will find the most luxurious and nutritious breakfast that can be prepared, and which has more real nutriment in it than the same weight of beef or mutton, and to a northern palate the most grateful flavour. To make milk porridge: Set a quart of good new milk upon the fire in a brass pan, and whilst it is heating we will prepare our lithing in the following manner:—Take a dessert spoonful of finely sifted fresh oatmeal, add to it a spoonful of cold milk with which it must be thoroughly incorporated; then add a little more milk and a pinch of salt, gradually and carefully stirring until you have about a teacup full of the mixture, which, if properly managed, will be perfectly smooth and free from all lumps. By this time the milk on the fire will be ready to boil; as soon as it does so, pour in the lithing carefully, stirring it with the spoon until it boils up again. When it does so hang it on a crook and let it simmer for an hour, or until it is reduced to a pint, after which it must be carefully strained, so as to free it from the scum. It is then ready, and is not at all the worse for a tablespoonful of cream being added. It may be eaten with toast, crisp and well browned. It is essential to success that these remarks should be attended to. If too much oatmeal be put in it is quite spoilt, and so it is also if the simmering is not continuous, but when well managed it is a dish fit for an emperor. *T. G., Clitheroe.*

*The late Snowfall and Frost.*—The frost of Wednesday and Thursday last, March 30th and 31st, was singularly damaging, and it may be interesting to record what early plants suffered and what escaped. A fall of between 2 and 3 inches of snow on the evening of the 30th ended in a partial thaw or rain, and was followed by at least 6° of frost. The following morning brilliant and powerful sunshine fell on the plants from sunrise to noon, whilst many things were bowed to the ground by ice and half-frozen snow, which was not quite melted by noon. Dielytra spectabilis was crushed to the ground and pretty much destroyed, having been 2 feet high and just in bloom. Forsythia viridissima, in full bloom, was perfectly uninjured; its flowers must be among the hardiest known. Early hybrid Rhododendrons, where fully or even partially expanded, were killed; unexpanded buds not injured. Rhododendron glaucum, buds much injured, though not expanded; R. ciliatum, in full bloom, flowers all destroyed; Moutans in full growth were crushed to the ground, and some large limbs broken by the weight of snow; but I cannot discover that a single bud was injured, though they were absolutely so encased in ice that it was pulled off with some difficulty from each individual bud. This applies to all Fortune's rarer varieties, as well as to the old Moutans, and I think it important to note it, because from their appearance the morning after the frost I thought their recovery impossible. One called Ida by Standish & Noble, a very early white one, is the most tender, but even this is uninjured. The buds of all were very forward, nearly an inch in diameter. Had they not been so forward I suspect they would have suffered more. Apricots as big as Walnuts were totally destroyed, and the Plum blossom apparently much injured, becoming perfectly brown. Magnolia Yulan (conspicua) in bloom, flowers destroyed; M. Soulangeana, flowers just expanding, somewhat injured, but not destroyed; Laurustinus in full flower, somewhat injured. *J. R., Sevenoaks, April 6.*

——You will probably receive from various parts of the country notes of the effects of the late severe frost, and many a heavy sigh will accompany the records of fruit trees shorn of promising crops, walls stripped bare by the "untimely frost," and Roses put back to mid-winter at the very moment when their "blushing honours" were coming "thick upon them." Having been shut up for 10 days by illness, I have this morning made my first stroll over the garden, anxious to ascertain what mischief has been done. My garden lies exposed to the north, and when the wind is in that quarter, a horrible draught sweeps up it and past the house, and the only good wall for Peaches is just where this draught is fiercest, and without a weather board and Haythorn's netting we should never get a fruit. A minimum thermometer (one of Cox's) which hangs in front of the potting shed shows that the temperature has been as low as 20° since I last adjusted it. That must have been on Thursday night, March 31, when it froze as sharp as on the memorable 9th of November last, which settled the Chrysanthemums in a night. Among the plants in my collection which were exposed to 12° of frost on the 31st, I have made notes of the following, as marking the comparative degrees of hardiness (at this season) of a few things specially interesting. The soil is a rich yellow loam, rather moist but well drained. Andromeda floribunda, in peat and in a sheltered spot; the new growth killed back as if by long drought. Arbutus Unedo, exposed, unhurt; A. Croomii, new growth, shrivelled to powder, as if burnt by a blast from a furnace. Azalea amœna, brought into bloom in greenhouse, put out in a warm corner, a pair of fine old plants unhurt, as fresh as when they left the house. Berberis asiatica, fully exposed, as fresh as if nothing had happened; B. Bealii, the purple shoots slightly touched; B. Darwinii, shoots in full growth, very much blackened; buds just breaking, unhurt; B. dulcis, in splendid bloom, unhurt; B. japonica, pushing splendidly, and unhurt, though exposed to the north; B. Fortuni, new growth unhurt. Cephalotaxus Fortuni, new shoots a little shrivelled. Dielytra spectabilis in bloom since middle of February, cut down to the ground as if crushed with the foot. Eugenia Ugni, in open border under a warm wall, not a leaf hurt. Garrya elliptica, shrivelled and discoloured. Griselinia littoralis, under warm wall, unhurt; also in a cold damp corner, planted last February, not a leaf hurt. Kalmia latifolia in peat, top shoots shrivelled as if scorched. Ligustrum japonicum in a sheltered spot, new growth shrivelled. L. lucidum sempervirens, very much exposed; not a leaf hurt, and the new growth as beautiful as the

foliage of Camellias. Libocedrus chilensis: top shoots shrivelled. Pavia macrocarpa, much exposed; the young shoots slightly killed back; P. californica, ditto; P. rubra, exposed; unhurt. Prinos lucidus, in loam; the beautiful tint of the foliage gone, but not seriously damaged. Roses:—Noisettes shrivelled, especially Cloth'rie, the new shoots of which look scorched; H.P. General Jacqueminot unhurt; but H.P. Jules Margottin in the same bed, very much cut up; pruned about the 15th of March, and new shoots 2 to 3 inches long; H. P.'s generally very little the worse; Chinas as hearty as ever. Taxus adpressa, in sheltered spot, the top shoots slightly touched. Taxus canadensis pushing beautifully; not a bud injured. Weigela rosea in a very exposed spot; a few of the top leaves touched, but very slightly. Among the fruit trees, Nectarines and Apricots on a warm close boarded fence without netting have escaped injury; a pyramid Beurré Diel Pear exposed to the north is loaded with bloom, and apparently as safe as ever; Brown Beurré, standard, looks queer; Thompson's on a north wall scarcely begun to push. But we must wait a bit to know what amount of injury has been done to fruits. Cherries seem as safe as ever, but I doubt if we shall have any Plums near London. *Shirley Hibberd, Stoke Newington.*

*Veitch's Early White Broccoli.*—I feel sure that when this excellent variety shall have become more generally known its merits cannot fail to render it a favourite. Its season is mid-winter and early spring. For the last two years I have grown this, together with others of acknowledged excellence, and in my opinion it is unequalled by any of them, certainly not surpassed. It produces fine close compact heads, of good colour and fine flavour. If sown the last week in March it is fit to cut the first week in January, and will continue in use till April. *J. F. Coollattin, Wicklow.*

*Waltonian Cases.*—I shall, with many others, feel grateful to Mr Hibberd for information respecting these: 1st, where best to be procured; 2d, cost and expense in using; 3d, how they are managed. Any advice on these points will much oblige *A Constant Subscriber, Kew.*

*Gall of Cynips Quercus-petioli.*—As this gall has as yet been confined to our southern and western counties, it is desirable to record its appearance in the Cambridge Botanical Garden in the autumn of 1858. It occurred upon one young Oak tree, planted eight or ten years since, in some quantity; and as I had been looking for it in former years it is not likely that there can have been much of it in the garden before 1858. As this is not a country of Oaks it will probably do very little harm here. *C. C. Babington.*

*Andromeda polifolia.*—I enclose a slip of a plant with flower attached which I first discovered growing in a field of peat in this locality. It is a dwarf, slender, branching, hardy evergreen shrub. It bloomed very early in the house this spring, and pot culture improves it much, for its pearl-like blossoms were larger, whiter, and more globular than those of the enclosed specimen, which bloomed in the field where it grew. So pleased was I with the plants when in flower that I resolved to obtain more of them if possible. With that end in view I took an excursion to the place where I discovered my pet, and very fortunately met with several others distributed here and there, except one patch of about a dozen plants all in flower, and beautifully they looked. That it is a native of this locality is certain, and if it be Andromeda polifolia, as I suspect it is, is it not new its being indigenous to Britain? *Michael Westcott, Wells.* [The plant in question is Andromeda polifolia.]

*Decortication of Trees.*—Allow me to call attention to the following:—"The system of stripping the bark off the trunks of trees, for the purpose of destroying the insects which infest them, has now been generally applied to a large number in the Champs Elysées and elsewhere in Paris, and has led to the discovery of a curious fact, recently communicated to the Imperial Horticultural Society by M. Robert. It appears that trees may be deprived of the whole of their bark, not only without experiencing any injury, but even with considerable advantage, the operation tending to increase their power of vegetation. Elms, for example, which before the operation did not increase more than one or two millimetres in diameter each year, have been found to increase four or five when stripped of their bark. Trees having a very thin bark, such as the Birch and others, need not be stripped to obtain a similar result; it is sufficient for the purpose to make longitudinal incisions in the bark by means of a kind of three-bladed scarificator. It is now intended to subject all the young Elms in a languishing state to this treatment throughout Paris, it having answered perfectly with those planted on the fortifications. In a commercial point of view the discovery is of some importance." The above, if correct, promises most valuable results. *W. C. M., Court Lodge, Lamberhurst.*

## Societies.

Royal Botanic, Regent's Park: *April* 6.—The second of the three spring exhibitions took place this day. In the class of New Plants Messrs. Fraser sent a fine example of the handsome Madeira Musschia Wollastoni, not however yet in bloom; Messrs. E. G. Henderson had Gastrolobium spectabile, a neat shrub, with good foliage, and gay orange and crimson flowers; the same exhibitors likewise sent Aucuba himalaïca, a distinct hardy shrub, with shining green leaves, having distant white-tipped teeth; Messrs. A. Henderson & Co. furnished Griffinia Liboniana, a rare plant, with prettily-spotted leaves and flowers tipped with blueish-lilac; Messrs. Ivery & Son, of Dorking, exhibited a small blue-flowered Hardenbergia; Messrs. E. G. Henderson also had Rhododendron Blumei, a species with small creamy-yellow flowers; and Pentapterygium flavum, with axillary racemes of white vacciniaceous flowers. Of Miscellaneous Plants Mr. Cutbush, of Barnet, had a collection in which a fine mass of Begonia Rex was conspicuous; Messrs. Fraser, Cutbush, of Highgate, and Messrs. A. Henderson, also showed in this class. Cinerarias came from Messrs. Dobson and Turner, and the latter also sent Roses in pots. Of Amaryllises Messrs. E. G. Henderson had a collection which contained one kind (No. 64) of a rich light scarlet, with a white central star, and of superior form; it was shown without name. Messrs. E. G. Henderson contributed a mixed collection of plants, both in and out of flower, containing many novelties, some of which were reported on at the meeting on March 23. Of the more striking, not already noticed, were Camellia De la Reine, a fine large delicate rose-coloured flower of excellent form and slightly cupped; Rhododendron jasminiflorum; Lomatia silaifolia and heteromorpha, two extremely elegant Fern-leaved plants, Araucaria glauca, &c. Mr. Turner had a well-grown collection of 12 Auriculas, among which was a new kind called Imperator, a green-edged variety of first-rate properties. Messrs. E. G. Henderson received an award for three standard Azalea indica; and Mr. Turner for Seedling Cineraria Brilliant, a free-blooming variety of medium quality, remarkable for its rich dark purple-crimson flower heads; also for the following:—Seedling Cineraria Duchess of Sutherland, a large bold variety, the florets white in the lower half, rose purple in the upper; for Seedling Cineraria Highland Mary, pure white, bold florets, purple disk; for Seedling Camellia Eleanor, a fine bold cupped, smooth-petalled, bright rose-coloured variety; and for 12 Hyacinths, shown in good variety and well grown. Mr. G. McIntosh furnished a collection of Tulips in considerable variety of form and colour. To Messrs. Paul a prize was given for two plants of Madame William, a Tea-scented Rose, with beautiful yellow flowers. This it will be remembered was shown in excellent condition at a meeting of the Horticultural Society, in St. James's Hall last year, where it was greatly admired. Mr. Bragg had a stand of Pansies, as had also Mr. James of Isleworth, and Messrs. A. Henderson sent a dish of their new Australian Cress. From Messrs. Smith of Dulwich came Seedling Cineraria Lord Clyde, a dwarf free-blooming variety, with bold nicely cupped florets of a deep purple crimson. Cineraria Acme of Perfection from Messrs. Smith, previously shown, proved to keep its good character, as did another variety named Hilax, shown by Mr. Holland of Hounslow. In addition to the foregoing, Messrs. Milne Arnott and Co., of Vauxhall, had Azalea Duchess of Wellington, a loose white; Mr. Turner Variegated Pelargonium picturatum, a white-edged grey-blotched kind with a broad pink horse-shoe mark, and Seedling Camellia Lady Mary Labouchere, a veiny light rose with a tendency to be blotched, a cupped variety but with ragged petals as shown; and Mr. W. Ivery of Peckham, Seedling Azalea Queen Victoria, a free-flowering kind, white striped with purple. Some other seedling Cinerarias, Fuchsias, Pelargoniums, &c. of inferior quality were exhibited.

## Notices of Books.

*British Wild Flowers*, Parts 2 to 8 (Sowerby). This serial has now advanced so far that we can form a more correct opinion of its value than when the first number appeared (see p. 543, 1858). It is an account of our wild flowers illustrated by miniature figures, coloured or uncoloured, at the option of the purchaser. The figures are reduced with all possible skill from the old plates of English Botany, and to such an extent that each new plate represents 20 different species. These species being arranged according to natural affinities, the plates give the young botanist capital means of comparing one thing with another. It is announced that the volume when complete will contain 80 plates, and thus will represent 1600 different species. What would not the writer of this have given when a boy for such a charming volume of natural history! But in those days 36 volumes 8vo were required to show what in the present instance is collected into one volume only. We have seen no abridgment so thoroughly useful as this, except Calwer's wonderful *Käferbuch*, of which it is a very worthy rival. In Part VIII., the last published, the difficult order of Umbelliferous plants is brought to a close.

*The Principles and Practice of Harmonious Colouring, &c.* 12mo, Newman, Soho Square. Pp. 88. The object of this little treatise is not merely to point out to the student how oil colours and water colours can be most advantageously employed in art, but also to show how photographic pictures are to be dealt with. The author is of opinion that photographs are of themselves hopelessly inaccurate; wrinkles become furrows under the action of "the one Cyclopæan eye of the camera," and freckles blotches; one thing is exaggerated, another is diminished; and for these defects there is no remedy except skilful touching up and colouring. How this is best done his little book is written to show, and although we cannot praise its style we may give it credit for conveying good useful practical advice to beginners, not only in the manner of working but also in the choice of their tools.

Messrs. Chambers have announced a new *Encyclopædia of Universal Knowledge* for the people, to appear in weekly sheets at 1½*d.* or monthly, price 7*d.* It will, doubtless, be worthy the reputation of the authors. We would, however, suggest that the common practice of referring to some future article for the meaning of a familiar word is more honoured in the breach than the observance. Why should Abele be explained by "see Poplar?" It would be quite as easy and much more convenient to the reader to say at once what the Abele is. So of Abelmoschus, which, moreover, is not a Hebiscus, but a Hibiscus.

Messrs. Bradbury & Evans have announced their intention of extending the application of the *Nature-printing* process to *Seaweeds and Mosses*, and of also producing a *Fern Book* in 8vo. Specimens of the pages of the proposed works have been put into circulation. The first volume of the Seaweed book is to come out on May 31; and of the Fern book on July 30; the Mosses, which will occupy only a single volume, are we believe nearly ready. These will form a beautiful set of illustrations for amateurs.

Trade Lists Received.—*Thomas Barnes* (Danecroft, Stowmarket), *a list of Dahlias, Roses, and various bedding-out plants.* A good trade collection of really useful things. Six of the Dahlias appear to be new.—*S. Sims's* (Foot's Cray) *Catalogue of Stove, Greenhouse, and hardy Ferns.* From a very small beginning Mr. Sims's catalogue has almost advanced to the dignity of a volume, 62 pages being occupied by a descriptive account of what he now has to offer. It is prefaced by very useful instructions for cultivation.—*Bass & Brown's* (Sudbury) *Spring Catalogue* No. 5. This is a list of Achimenes, Gloxinias, half-hardy and hardy bedding-out plants, hardy bulbs, Roses in pots, &c. Among more common things we remark such rarities as Arum crinitum, Calliprora lutea, Gloriosa Planti, and Leucocoryneixioides—to which may be added an apocryphal Cyclamen africanus macrophyllum, whatever that may be.

## Garden Memoranda.

The Grove, Roehampton, the Residence of S. L. Stephens, Esq.—The extensive range of forcing-houses, for which this place is remarkable, being now in full operation, some account of their contents, together with a few other incidental remarks, may not be uninteresting.

Under Cucumbers, which are trained on trellises, are grown Tomatoes and Figs. Both are covered with fruit, which will be ripe in May. Being in pots they are allowed to root into the bed on which they are placed; when therefore they appear to be growing over-luxuriantly, their progress is readily checked by lifting up the pots and removing all roots that protrude beyond them. The Figs are usually placed in heat in November, and as soon as the young shoots have made three leaves their points are pinched and the shoots are tied down. This induces them to form fruit instead of wood, and thus a crop is obtained from the present year's growth. A second supply of fruit is also got from the same plants in one season by the same practice. In the Peach houses are excellent crops, the earliest of which is just stoning. Than the condition of the Vineries, too, nothing could possibly be more satisfactory. A rod is trained to each rafter and they are loaded with bunches, some of which, especially those of Barbarossa, promise to be of unusually large size. Inarching with green wood has been practised here with success in the case of pot Vines on which it was desirable to work better sorts. This was done last year, and this season they are bearing from three to five bunches on each Vine. Some large Orange trees, which had got into ill health through having been watered with bad water, are placed under the shade of the Vines in a bed of leaves. The first step taken with a view to improve them was to prune in their heads, then to shake away all soil from their roots, which were washed perfectly clean, and lastly to remove everything that appeared to be decaying. The trees were then retubbed in fresh soil, placed under the conditions just named, and now they are pushing vigorously, and will evidently soon make good heads. The Vines which over-canopy them have been planted five years; they have borne four crops consisting of 30 bunches to each Vine. In the earliest house the Grapes will be ripe in May.

Strawberries are cultivated largely here, and Mr. Drummond, the gardener, treats them somewhat differently from plans usually adopted. He brings them forward in pots in the ordinary way till they are in full flower, after which he plants them out as follows:—A bed of dung and leaves is made up in the Strawberry-house, and when it has attained a moderate degree of warmth the plants are carefully turned out of their pots and set in rows on the bed. Mould previously warmed is then placed round the balls till they are nicely covered, and the surface being neatly smoothed the whole is finished. Tiles to keep the fruit clean are then placed round the plants, and thus circumstanced they bear enormous crops of fine fruit. After the latter is all gathered the plants are turned out into beds in the open ground, where they fruit well the following season.

Out-of-doors there has been every prospect of fine

crops of fruit up to Wednesday the 30th ult., when a snowfall of from 2 to 3 inches in depth and the frost of the following night did great damage, the snow in the evening of Wednesday having partially thawed. On pyramidal Pears covered with blossom there will apparently be little fruit, many of the flowers having got killed; Plums are in little better condition. On walls Apricots, which are unusually forward, although protected by double fishing nets with branches of evergreens under them, have suffered greatly; the fruit, which is about the size of Hazel Nuts, becoming leathery, turning black in the centre, and dropping off. The thermometer on the morning of the 31st indicated here 18°; but in other places 22° is the least that has been registered. It should be remarked, however, that the garden here is open and much exposed to cold north-west winds. Early Peas have been saved; but in some places we learn that they have been somewhat damaged, as have also been several kinds of half hardy plants. Apples, Pears, and bush fruit will probably be saved.

Bedding Plants, such as Verbenas, Calceolarias, &c., as spring approaches are planted out here in cold pits, in which they are allowed to remain till they are nearly in flower. They are then transferred to the flower garden, in which a good effect is thus produced at once, and others are placed in the pits to succeed them. Thus treated the plants not only acquire additional strength, but the pots out of which they are turned can be applied to other purposes, and that at a season when pots are usually in great demand.

Mignonette, in the form of pyramids, some 4 feet in height, is grown here for the summer decoration of the conservatory. For this purpose it is sown in June, and as it progresses the side shoots are constantly kept pinched in—the under ones the least, the upper ones the most, so as to give to the plants the pyramidal shape. This kind of attention is all that is required to have fine specimens of this kind, which are greatly admired; they bloom profusely, and last longer in beauty than Mignonette usually does in its ordinary state.

## Miscellaneous.

*Vegetables in the Markets of the Mauritius.*—This market, which occupies two large squares, is well fitted up, and is covered in with the exception of a wide thoroughfare through the centre of each square. In the eastern bazaar were arranged, in separate localities, fancy birds in cages, with poultry, including fowls, ducks, geese, and turkeys; different kinds of vegetables, many European as well as tropical; an abundant supply of good Potatoes, with Cabbages, Beans, fine Stone Turnips, Onions, Garlic, Tomatoes, and Capsicums or Chilis, Yams, Manioc, Bananas, Tamarinds, Custard Apples, and Pine Apples. Then there were Cocoa nuts, Pistache nuts, Areca nuts, Betel leaf, and many other vegetable productions new to me, all spread out upon the ground, with the kinds of fruit then in seasons. Besides these, there were seeds and grains in almost endless variety, Lentils, Rice, Barley, Millet, Maize, French Beans, turmeric, saffron, and numerous kinds of Indian grain.—*Ellis's Madagascar.*

*Gigantic Poplar.*—Before Mr. Gladieux's house, the trunk of an immense Liard (Populus ****) lay ready for splitting into firewood; the size appeared to be so unusual that I measured it carefully, and found it to be 4 feet 10 inches in diameter 6 feet from the base, and 4 feet 8 inches in diameter 10 feet from the base; at the base it measured 16.5 feet in circumference, and showed 150 well defined rings. *Official Report on Lake Superior and Red River.*

## Calendar of Operations.

(*For the ensuing Week.*)

### PLANT DEPARTMENT.

CONSERVATORY, &c.—See that no plant suffers from drought here. Planted out things will require thorough waterings. The larger specimens in tubs or pots, if any, must also have a liberal supply, provided the drainage is complete. This is the period for free use of liquid manure, but take care that it is perfectly clear and not over strong. Large Orange trees are very fond of it. Where these trees produce gross wood, disbud or remove it altogether, and let the lower shoots take its place; this will induce fruitfulness by moderating the growth. Pay due attention to watering, shifting, stopping, &c., of stove plants in general. Make cuttings, as they can be obtained in a young state, of Geisomerias, Plumbagos, Eranthemums, Justicias, Clerodendrons, Vincas, Euphorbias, Brugmansias, Begonias, and Thunbergias, &c., in order to keep up a succession of clean young stock. See that growing Orchids have abundance of atmospheric moisture with a liberal circulation of air early in the morning, shutting up close betimes, and take care to observe moderation in the use of fire heat in order that a pure atmosphere for the night may be ensured. Growing Dendrobiums will now require liberal supplies of water; and let plants on blocks be frequently syringed. Most stove plants will succeed in the mixed greenhouse, where a medium between the cold greenhouse and the stove is observed. See to securing cuttings of Heaths as soon as the wood is fit for the purpose. Fumigate the moment an insect appears; this is best done in a moderate way two evenings in succession. Some of the hard-wooded things of no particular importance might be removed at this period to furnish more room for growing young stock and fine specimens in flower. Some protection, will, however, be necessary for them.

### FORCING DEPARTMENT.

PINERIES.—Plants swelling their fruit should be carefully attended to with water at the root; for, if allowed to get too dry, there is great danger of checking the fruit and preventing its attaining the size which it would do under proper treatment. It is, however, easy to err in the opposite extreme, and considerable care and practice are necessary to enable one to properly water plants having their pots plunged; therefore this should not be intrusted to inexperienced hands, who would probably water every plant if the surface soil indicated dryness. Use weak milk-warm manure water for plants that are well rooted, whether fruiters or growing stock and keep the atmosphere thoroughly moist, giving air very sparingly on cold, drying, gleamy days. Black Jamaicas and Montserrats expected to supply ripe fruit at Christmas should soon be ready for shifting into their fruiting pots, and care should be exercised to avoid checking their growth by any means, as this might lead to their fruiting prematurely. See to having the balls in a rather moist state at the time of repotting, and keep the bottom-heat regular and the atmosphere moist and rather close until the plants appear to have taken to the fresh soil. The same attention will be necessary in regard to watering and bottom-heat, &c., in the case of those growing in the open bed, for plants that are any size are apt to show fruit at this season if at all checked in their growth. VINERIES.—Directly the fruit in succession houses is sufficiently advanced for thinning get this done, the laterals stopped, and the shoots regulated without loss of time, for allowing the berries to get so thick that the scissors can hardly be got amongst them renders thinning tedious, and also robs the Vines. Give inside borders a liberal supply of manure water, using that from the stable-yard tank where it can be obtained, and mixing with it a sufficient quantity of warm water to render it about milk warm. In all cases, give every possible attention to the state of the roots, securing a little artificial warmth where circumstances allow of doing so, for the ground is cold and very unfavourable for the roots of Vines. Where fermenting materials have been used on the border of the early house, the heat should not be allowed to decline until the fruit is fairly ripe, for it is easier to secure a heavy crop of well swelled fruit than to perfectly colour and ripen even a moderate crop, and a healthy root action is perhaps more important while the fruit is colouring than at any other period. Therefore let the fermenting materials be turned occasionally, adding fresh as may be requisite to keep the temperature of the border at about 70°. In cases where red spider threatens to be troublesome, in succession-houses, rendering syringing necessary, rain-water should be provided for syringing with, as if water containing lime is used, the berries are apt to be disfigured by an incrustation of it. CHERRY-HOUSE.—When the fruit begins to colour syringing overhead must be discontinued, and a less degree of moisture maintained in the house, decreasing this and the quantity of water given to the plants gradually. Give abundance of air on all favourable opportunities. Strawberries ripening fruit it would be well to remove here or to a similar situation. MUSHROOMS.—Maintain a humid atmosphere. The old beds should be preserved for mixing in compost used for French Beans. PITS AND FRAMES.—Geraniums and other plants in these attacked with greenfly must be fumigated. Syringe frequently overhead in mild weather.

### FLOWER GARDEN AND SHRUBBERIES.

A thorough re-arrangement of all herbaceous plants should take place every spring; if this has not been done no time should be lost. Some of the grosser kinds get into too large masses, and thereby destroy all proportion in the mixed beds. Sow annuals wherever required. Early struck Verbenas, Calceolarias, &c., may be planted out 2 or 3 inches apart in beds; with proper protection they will make nice plants by the middle of May, and may be removed either to masses or borders where they will bloom at once, and soon produce a striking effect.

### HARDY FRUIT AND KITCHEN GARDEN.

This is an excellent time to plant a full crop of Potatoes; Kidneys with well protected sprouts or any other early kinds planted now will be little later than those planted in February. This, however, requires a little care; the sets should be placed in baskets a single layer thick on damp litter, and carefully handled; they should by no means be planted during either sunshine or wind. Those with sprouts 2 or 3 inches long, if managed thus and covered at night until the second week in May, will closely succeed those in frames. Let a sowing of all the winter and spring Broccoli be made forthwith. Cape Broccoli and Cauliflower for Michaelmas may, however, be sown a week or two later. See that plenty of Green Kale, Savoys, Brussels Sprouts, Leeks, Scorzonera, Salsify, Beet, &c., is got in without delay. Continue successions of Horn Carrots; indeed sow a bed every month from January to September. This is the best way to be independent of the grub. Ridge Cucumbers should now be got forward, also Tomatoes and Vegetable Marrows. As soon as young Asparagus is from 3 to 6 inches high, let new plantations be made. Put in successional crops of Peas, and earth up and stake those above ground. Protect seeds appearing above ground from birds and slugs. Prick out Celery for succession crops, and attend well to the early plants with water; and if they are under glass see that sufficient air is given to keep them stocky. Seed should also be sown for the late crop. Attend to keeping up a supply of all kinds of small salads by sowing frequently. Stir the surface of the ground among all growing crops with the view of preventing the growth of weeds and keeping the soil open.

### COTTAGERS' GARDENS.

Prepare a bed for a few February sown Cabbages; they will succeed the autumn plants as well as give the latter time after the head is cut to make bold sprouts. A bed of Swede Turnips or Mangel may also be sown; if Potatoes should miss (and we learn that disease has already made its appearance among early sorts in frames) these will do to fill up blanks.

### STATE OF THE WEATHER AT CHISWICK, NEAR LONDON

For the Week ending April 7, 1859, as observed at the Horticultural Gardens.

| April. | | Moon's Age. | Barometer. Max. | Barometer. Min. | Temperature of the Air. Max. | Temperature of the Air. Min. | Temperature of the Air. Mean | Temperature of the Earth 1 foot deep. | Temperature of the Earth 2 feet deep. | Wind | Rain in inches. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Friday | 1 | 27 | 30.260 | 30.033 | 46 | 38 | 42.0 | 46 | 46½ | | |
| Satur. | 2 | 28 | 30.018 | 29.876 | 52 | 42 | 47.0 | 46½ | 46 | S.W. | |
| Sunday | 3 | ○ | 30.092 | 30.058 | 65 | 41 | 53.0 | 47½ | 47 | S.W. | |
| Mon. | 4 | 1 | 30.097 | 30.079 | 68 | 36 | 52.0 | 49 | 48 | W. | |
| Tues. | 5 | 2 | 30.104 | 30.059 | 69 | 33 | 51.0 | 50½ | 48 | W. | |
| Wed. | 6 | 3 | 30.137 | 30.029 | 77 | 36 | 56.5 | 51½ | 49 | S.W. | |
| Thurs. | 7 | 4 | 29.931 | 29.749 | 79 | 46 | 62.5 | 53 | 50 | S. | |
| Average | | | 30.091 | 29.983 | 65.1 | 38.9 | 52.0 | 49.1 | 47.8 | | |

April 1—Frosty; fine; overcast; rain.
— 2—Overcast; cloudy; densely overcast.
— 3—Overcast; fine; overcast.
— 4—Fine; very fine throughout.
— 5—Very fine; clear at night.
— 6—Fine; clear and fine; cloudless and hot; clear at night.
— 7—Clear and fine; exceedingly fine; quite clear; overcast at night.

Mean temperature of the week, 6 deg. above the average.

### RECORD OF THE WEATHER AT CHISWICK,

During the last 33 years, for the ensuing Week, ending April 16, 1859.

| April. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday 10.. | 55.3 | 33.7 | 44 5 | 13 | 0.27 in. | 2 | 6 | 7 | 3 | 4 | 5 | 5 | |
| Mon. 11.. | 55.5 | 36.0 | 45.7 | 17 | 0.51 | 2 | 8 | 3 | 1 | 5 | 6 | 3 | |
| Tues. 12.. | 55.8 | 37.4 | 46.6 | 22 | 0.56 | 2 | 6 | 5 | — | 2 | 12 | 1 | |
| Wed. 13.. | 56.0 | 34.4 | 45.2 | 14 | 0.45 | 2 | 5 | 2 | 4 | 4 | | | |
| Thurs. 14.. | 57.8 | 37.1 | 47.5 | 12 | 0 31 | 2 | 6 | 6 | 2 | 4 | 6 | 3 | |
| Friday 15.. | 58.2 | 38 6 | 48.4 | 18 | 0.47 | 6 | 8 | 5 | 1 | 3 | 5 | 3 | |
| Satur. 16.. | 57 1 | 36.8 | 47.0 | 14 | 0.63 | 6 | 7 | 5 | 2 | 3 | 4 | 3 | |

The highest temperature during the above period occurred on the 16th, 1858—therm. 75 deg.; and the lowest on the 16th, 1847—therm. 20 deg.

## Notices to Correspondents.

AUSTRALIAN SALAD CRESS: *Eyripo.* This is a very nice article, and good to eat, but quite different from common Cress. We hope to say next week what it is. The seed is sold by Hendersons, of Pine-apple Place.

BOOKS: *Monos.* 1, Standish on American Plants; Barron's British Winter Garden; Sweet's Hothouse and Greenhouse Cultivator; Paxton's Botanical Dictionary. 2, Crawfurd's History of the Malay Archipelago, and his Descriptive Dictionary of the Indian Islands; and a Paper in the Transactions of the Horticultural Society published in 1822. 3, Loudon's Encyclopædia of Gardening.—*Joachim.* Prof. Lindley's Descriptive Botany will teach you how to meet one branch of public examinations.

CHINESE PRIMULAS: *H P.* Your seedlings are large, of good colour and substance, and apparently well worth taking care of.‡

CUCUMBERS: *An old Sub.* Your leaves are, it must be owned, in a miserable state; but the only insects we find are a few straggling specimens of thrips. The plants are suffering from bad cultivation. As to the Gishurst Compound, we refer you to a leading article in another column.

EUGENIA UGNI: *C C.* Treat it exactly like a common Myrtle, than which it is rather more hardy. The best fruit is produced by unprotected bushes in the open air.

HARTLEY'S ROUGH PLATE GLASS: *W H.* Plants will not burn under this kind of glass because it renders any concentration of solar rays impossible. But we cannot say that it will render shading unnecessary. When ventilation is perfect shading is useless to trees or other plants in health; but when it is insufficient or badly managed shades must be occasionally used, not to prevent burning, but to keep down sunheat. There can be no doubt that glass made under Hartley's patent is the best for glazing all kinds of forcing-houses.

KILN DRYING. We have a letter from Mr. Hands who complains of our "severe criticism" of his new invention, and he requests us to "insert a few lines in explanation." This we would willingly have done had his explanation explained anything.

MOWING MACHINES: *W C W.* We cannot recommend one maker more than another. A very small one would probably suit you. Read the Advertisements.

NAMES OF PLANTS.—We have been so often obliged to reluctantly decline naming heaps of dried or other plants, that we venture to request our correspondents to recollect that we never have or could have undertaken an unlimited duty of this kind. Young gardeners, to whom these remarks more especially apply, should bear in mind that, before applying to us for assistance, they should exhaust their other means of gaining information. We cannot save them the trouble of examining and thinking for themselves; nor would it be desirable if we could. All we can do is to *help* them—and that most willingly. It is now requested that, in future, not more than four plants may be sent us at one time—*A D.* 1, Narcissus major; 2, N. moschatus; 3, N. odorus, 4. N. fœtidus.

OLD VINES; *C W.* You may remove them of much larger size than you describe, as soon as the leaves have fallen; and with skill they will not miss the moving. If you distrust your skill you had better not try the experiment.

PINE APPLES: *A Young Gardener.* There is no one thing wrong in your management, as you describe it. No one can tell how your leaves have come to such a pass; but it looks as if they had been excessively over-watered, with no sufficient ventilation to counteract the effects of the watering.

SILVER SAND: *G.* It is quite immaterial whether this comes from Reigate or the Isle of Wight, provided it is silver sand; that is to say, free from salt, iron, or other impurity.

VINES: *V S.* The shoot sent looks as if its soft top had been killed by injudicious exposure to frosty winds. If this is not the cause of the mischief it must be looked for in the border; but the fact of the evil being confined to your early house, while later ones escape, favours the supposition that it may be your mode of ventilating which is at fault.‡

WIREWORMS: *Chester.* The waste lime of gas works is said to kill them, or drive them away. But we have no personal experience.

MISC.: Full price will be given for the undermentioned numbers: 4, 5, 11, 26, 36, 46, for 1858.

*** As usual, many communications have been received too late, and others are detained till the necessary inquiries can be made. We must also beg the indulgence of those correspondents the insertion of whose contributions is still delayed.

THE PATENT

# NITROPHOSPHATE OR BLOOD MANURE COMPANY (LIMITED),

CONSISTING OF TENANT FARMERS, OCCUPYING UPWARDS OF 30,000 ACRES OF LAND.

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**Offices, 109, Fenchurch Street, London.—Manufactory, Plaistow Marshes, Essex.**

The Directors beg to inform their Friends and the Agricultural Public that the following Manures are now ready:—

**ODAMS'S BLOOD MANURE FOR CORN AND MANGEL.**
**ODAMS'S BLOOD MANURE FOR ROOTS.**
**ODAMS'S SUPERPHOSPHATE OF LIME.**

Full particulars may be had at the Company's Offices, or of the local Agents.

ARTIFICIAL MANURES, &c.—Manufacturers and others engaged in making ARTIFICIAL MANURES may obtain every necessary instruction for their economical and efficient preparation, by applying to J. C. Nesbit, F.G.S., &c., Principal of the Agricultural and Chemical College, Kennington, London. Analyses of Soils, Guanos, Superphosphates of Lime, Coprolites, &c., and Assays of Gold, Silver, and other Minerals are executed with accuracy and despatch. Gentlemen desirous of receiving instruction in Chemical Analyses and Assaying, will find ample facility and accommodation at the College.

LONDON MANURE COMPANY, removed to 116, Fenchurch Street, E. C. (Established 1840), have the following MANURES ready for delivery:—

CORN MANURE for SPRINGTOP DRESSING
URATE
MANGEL MANURE
SUPERPHOSPHATE OF LIME
BLOOD MANURE
} all of guaranteed quality.

**In consequence of the reduction in the price of raw material the London Manure Co. are enabled to lower the price of their Superphosphate of Lime, and to materially improve the Corn Manure and Urate.**

The London Manure Co. also supply PERUVIAN GUANO (direct from Messrs. A. Gibbs and Sons), SULPHATE of AMMONIA, NITRATE OF SODA, CRUSHED BONES, and every other Manure of value. Wholesale dealers supplied.
116, Fenchurch Street E.C. Edward Purser, Secretary.

**ARTIFICIAL MANURES.**

FREDERIC CORNWELL begs to inform his friends and the Agricultural public that he can now supply a "SUPERPHOSPHATE of LIME" superior toanything yet produced Each Bag guaranteed to contain from 20 to 25 per cent. of "Soluble Phosphate of Lime." Price 5*l.* 10*s.* per ton, delivered free to any Railway or Wharf in London. Dealers and the trade supplied. Linseed-cakes, Cotton-cakes, and all descriptions of Artificial Manures at lowest market prices.
Offices, 7, Great St. Helen's, London, E. C

**REDUCTION IN PRICE OF LAWES'S MANURES.**

MR. LAWES begs to announce that he has this season reduced the price of the Manures manufactured by him, viz.:—

| | | | |
|---|---|---|---|
| TURNIP MANURE .. .. .. | from £7 | to £6 | 6 |
| SUPERPHOSPHATE OF LIME .. | ,, 7 | to 6 | 6 |
| MINERAL do. .. | ,, 6 | to 5 | 5 |
| BARLEY MANURE.. .. .. .. | .. | .. | 8 0 |

Prof. Way and Dr. Voelcker have sampled from a bulk of 5000 to 6000 tons at his factories, and their report and analyses are given in full in Circular to be obtained on application at his office, 1, Adelaide Place, London Bridge, E.C., or of his local Agents.

N.B. Genuine Peruvian Guano direct from Messrs Gibbs, Nitrate of Soda, Sulphate of Ammonia, and other Chemical Manures. American Cotton-seed Cake supplied.

**ESTABLISHED 1812.**

H. AND T. PROCTOR'S TURNIP MANURE.—Messrs. H. & T. P. draw particular attention to this valuable Manure, which contains all the elements necessary for the full development of the Turnip Crop, so combined, that, from their chemical knowledge and long experience, they feel satisfied is most advantageous to the consumer. It has been very extensively used by most of the eminent Agriculturists of the day, and has attained a high reputation throughout England, Scotland, and Wales, and, they venture to say, is unrivalled for the weight and quality of the Bulbs which it produces. The application of this Manure to the Turnips will be found to benefit considerably the after crops of Barley, Clover, and Wheat.

POTATO, GRASS, BARLEY, CLOVER, AND WHEAT MANURES; also BONE DUST, PERUVIAN GUANO, and SUPERPHOSPHATE of LIME, warranted of the best quality.

Apply to H. & T. Proctor, West of England Depôt for Artificial Manures, Cathay, Bristol; or Proctor & Ryland, Birmingham, and Saltney, near Chester.

BURNARD, LACK, AND CO.'S CONCENTRATED SUPERPHOSPHATE OF LIME; guaranteed to contain Phosphoric Acid soluble, equivalent to 40 per cent. of Tribasic Phosphate of Lime.

CONCENTRATED TURNIP MANURE, equal in value to the preceding

Of these Manures Dr. Voelcker says:—"These results must be very gratifying to you, and are the best proof of the very high agricultural and commercial value which characterises your concentrated superphosphate."

Detailed analyses, with opinions of the late and present Analysts to the Royal Agricultural Society, with Testimonials, Prices, &c., may be had on application to Burnard, Lack, & Co., Sutton Road, Plymouth.

PERUVIAN GUANO.

The present price of this valuable Manure is—
12*l.* per Ton for 30 Tons and upwards,
13*l.* 5*s.* per Ton for 1 Ton up to 30 Tons.

And, to guard against the purchase of adulterated mixtures and of inferior Guanos purporting to produce results equal to Peruvian, consumers are recommended to apply either to ourselves, to our agents, Messrs. Gibbs, Bright. & Co., of Liverpool and Bristol, or to dealers of established character, in whose honesty and fair dealing they may place implicit confidence.

Antony Gibbs & Sons.

SUCCESS OF THE NEW GUANO; Imported under Lease from the Crown.—Though the experiments with KOORIA MOORIA GUANO were made late in the season, and under adverse circumstances, the successful results obtained confirm beyond doubt Professor Voelcker's report—(in No. 41, Part I., vol. xix., Royal Agricultural Society's Journal)—that Ammoniacal manures, applied to Turnips in the experimental field, kept back at first the crop, and had no beneficial effect either alone or in conjunction with phosphates.

The Kooria Mooria Guano is essentially a phosphatic manure, containing sufficient ammonia for roots, and, with a mixture of one-fourth of ammoniacal guano, cannot be excelled for either top-dressing or grain crops. It is a natural deposit, and will be delivered as imported, free from risk of adulteration. Deeply impressed with the necessity of encouraging the import of this valuable manure, her Majesty's Government has given such increased facilities for shipment, that arrangements have been made for a considerable supply. Purchasers can be supplied with suitable quantities from cargoes now on sale, containing from 45 to 66 per cent. phosphates. Present prices, 4*l.* 10*s.* to 6*l.* 10*s.* per ton, on applying to Joseph Hindson, Broker (one of the Lessees under the Crown), 20, North John St., Liverpool. Government Lessees: Ord, Hindson, & Hayes.

"Greystoke, Cumberland, Dec. 16, 1858.

"Dear Sirs,—I beg to inform you that I applied the Kooria Mooria Guano I had from you for Turnips, on land of a loamy character, incumbent on a stiff clay subsoil, and recently drained. On each side of the plot sown with Kooria Mooria Guano were Turnips manured with best Peruvian Guano. The quantities applied of each sort were of equal weight for weight per acre. The crop—a very good one throughout—is now being eaten off with sheep. Very little perceptible difference can be discovered, but if anything that difference is in favour of the Turnips sown with Kooria Mooria Guano.

(Signed) "John Barker."

"Messrs. J. & J. Graham, Guano Merchants, Penrith."

A Pamphlet, "Hints on Guano," containing a large number of reports from well-known agriculturists, and analysis of the cargoes here, may be had of the Broker, at the above address.

AYRSHIRE HEIFERS IN FIRST CALF.—Twenty very carefully selected pure bred 3-year old HEIFERS of this celebrated Milking Breed are for Sale in one lot, or singly. Ten may be seen 20 miles from London. A good 2-year old BULL also for Sale.—Apply to John Herriot, J. Lockhart Morton's, 8, Finch Lane, London, E.C.

THORLEY'S FOOD FOR CATTLE.—Every person having an interest in domestic or farm animals should obtain a supply of this celebrated and economical food which will prove invaluable during the approaching season. For keeping horses in good condition, it is unequalled. Pigs fatten with surprising rapidity upon it, and their flesh increases in flavour and value. Cowkeepers will find great advantage in the increased quantity and improved quality of the milk during its use. All animals are benefited by it. A pamphlet on this interesting subject, accompanied by Testimonials from the principal Nobility, Gentry and Agriculturists forwarded on application, In casks containing 448 feeds (measures inclosed), price 50*s.*, carriage paid to any Railway Station in the United Kingdom. Post-office Orders payable to Joseph Thorley, 77, Newgate Street, London.—N.B. The public are cautioned against being imposed upon by worthless imitations

**TO PIG AND POULTRY FEEDERS AND MILLERS.**

CHICKEN RICE, 7*s.* 9*d.* per cwt., in bags 1¾ cwt. each. SCREENED RICE, 10*s.* per cwt, in bags 1¾ cwt. each. RICE MEAL, 6*s.* 6*d.* to 8*s.* 6*d.* per cwt. RICE for grinding. An allowance per Ton. American Oilcake, in barrels and bags, per ton only. Locust Beans, per ton.—Sold for Cash only by W. & R Jupp, 6, Cross Lane, St. Mary-at-Hill, Eastcheap

RATS.—RATS Taken without Poison or Traps by Wholesale.—Ships, Barns, Stables, Granaries, Mills, Warehouses. Farmsteads, Houses, &c., cleared at one sweep. Any Person can by this method clear the entire premises of every RAT, however numerous they may be, in one single night. Printed directions how to entice and secure the whole lot alive sent free by return of post for Two Shillings by William Goodwin, High Halstow, near Rochester.

**AGRICULTURAL MACHINERY.**

E. R. AND F. TURNER, Ipswich, manufacture Prize Mills for Crushing Corn, Seed, Malt, &c.; Portable Grinding Mills, Steam Engines fixed and portable from 2 horse-power and upwards; Threshing Machines, Chaff Cutter, Oilcake Breakers, Horse Gears, Saw Tables, &c., all of a superior description and adapted for Home, Colonial, and Foreign use. Illustrated Price Lists sent free on application.

SPEED AND ECONOMY for Farmers, Gentlemen, and Market Gardeners, in the use of HOARE'S REGISTERED HAND SEED PLANTING MACHINE, which from its capabilities, combined with strength, lightness, and simplicity, places it beyond a parallel. Its operative powers in planting the seeds of Mangel, Carrot, Turnip, Parsnip, and all small seeds in patches of equal depth and different distances, from 6, 7, 12, 14, 18, 21, 24, to 28 inches apart, raking in and rolling complete, render it an invaluable invention. It will act as a drill when required. Price 5*l.* 15*s.*

London Agent, Mr. B. Samuelson, 76, Cannon Street, West. Sold also by the inventor, J. Hoare, Old Fishbourne, Chichester, Sussex.

MR. SMITH will SMASH UP a piece of his Clay Land, Wheat Stubble, the beginning of this month. Gentlemen who may be desirous may then see his Apparatus at work.—A Card, stating the day, may be had by applying to him at Woolston; or to Messrs. Howard, of Bedford.

SIGMA'S BEAN, MANGEL, & CORN PLANTERS (5 Depositors), HOES, &c. The "Multum in Parvo," combining Cultivator, Horse Hoe, Ridge Plough, Subsoiler, Broadshare, and other forms; all expanding. Complete 7*l.* 7*s.* Prospectus sent.—C. Powell, Hurstgreen, Sussex.

VASES, PEDESTALS, SUNDIALS, FOUNTAINS FLOWER BOXES, JARDINETS, FERN CASES, BALUSTRADES, EDGINGS AND CURBS FOR FLOWER BORDERS, SEATS, &c., in Imperishable Siliceous Stone, at reduced prices, for the adornment of the Villa Garden, the Mansion Grounds, or the private or public Park.

For Priced Illustrations apply to Frederick Ransome, at the Show Rooms, Cannon Row, Westminster, S.W., or Patent Stone Works, Ipswich.

**SLATE WORKS, ISLEWORTH, MIDDLESEX.**

EDWARD BECK Manufactures in Slate a variety of articles for Horticultural purposes, all of which may be seen in use at Worton Cottage, on application to the Gardener, Sundays excepted. PRICED LISTS of PLANT TUBS and BOXES forwarded on application.

THE GENERAL LAND DRAINAGE AND IMPROVEMENT COMPANY: Offices, 52, Parliament Street.
Henry Ker Seymer, Esq., M.P., Chairman.

1. This Company is incorporated by Act of Parliament to facilitate the Drainage of Land, the Making of Roads, the Erection of Farm Houses, Farm Buildings, and Labourers' Cottages, and other Improvements on all descriptions of Property, whether held in fee, or under entail, mortgage, in trust, or as ecclesiastical or Collegiate Property.
2. In no case is any investigation of Title necessary.
3. The Works may be designed and executed by the Landowner or his Agents, or the Company will undertake the entire improvement by their experienced staff, and advance the money required for the works. Equal facilities will be afforded in either case.
4. The whole cost of the works and expenses may, in all cases, be charged on the Lands improved, to be repaid by half-yearly instalments.
5. The term of such charge may be fixed by the Landowner, and extended to 50 years for Land Improvements, and 31 years for Farm Buildings, whereby the instalments will be kept within such a fair per-centage as the occupiers of the improved Lands can afford to pay.
6. No profit is taken on any Works executed by the Company, the actual expenditure only, approved by the Inclosure Commissioners, being charged in all cases.

William Clifford, Secretary.

COLLEGE OF AGRICULTURE AND CHEMISTRY, AND OF PRACTICAL and GENERAL SCIENCE, 37 and 38, Lower Kennington Lane, Kennington, near London.
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The system of studies pursued in the College comprises every branch requisite to prepare youth for the pursuits of Agriculture, Engineering, Mining, Manufactures, and the Arts; for the Naval and Military Services, and for the Universities.

Analyses and Assays of every description are promptly and accurately executed at the College. The terms and other particulars may be had on application to the Principal.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.—WARWICK MEETING.
Entries for IMPLEMENTS, CHEESE, WOOL, FARM-GATES, and DRAINING PIPES, must be made on or before May 1.

Entries for LIVE STOCK must be made on or before June 1.

*** All Entries received in each case after those respective dates will, without any exception, be disqualified, and returned to the senders.

PRIZE SHEETS may be had on application at the Offices o the Society, 12, Hanover Square, London.



# The Agricultural Gazette.

*SATURDAY, APRIL 9, 1859.*


**MEETINGS FOR THE ENSUING WEEK.**

Wednesday, April 13 { Agri. Society of England .. Noon. / Dublin Agri. Society.

Mr. Smith has just issued "A few Words to the Farmers of Great Britain," on his system of steam culture, from which we extract a passage explanatory of the merits of his method, notwithstanding that the letter is necessarily for the most part a trade advertisement. He states "that 5 acres on heavy, and 7 on light land, have been found to be an average day's work; that September, October, and March are the best months for applying steam power to the cultivation of the soil; that, after deducting Sundays and a few days for threshing and stoppage by rain, the *working* days for September and October may be put down at 45, this multiplied by 5 for heavy land, and 7 for light, gives 225 acres and 315 acres as the quantity of land that can be cultivated once over with a set of apparatus within those months." By this it is clearly seen that if steam power is to be generally applied to the cultivation of the soil, every large farmer must possess a set of apparatus of *his own*. His

own experience convinces him that one operation of the cultivator in these two months does, on clay lands, produce as good an effect as two ploughings.

He divides his clay farm into eight fields—roots, Barley, Beans, Wheat, Clover, Wheat, Beans, and Wheat, respectively. which he designates, as in the following diagram, by the first

| | | | |
|---|---|---|---|
| A Roots. | B Barley. | C Beans. | D Wheat. |
| E Clover. | F Wheat. | G Beans. | H Wheat. |

eight letters of the alphabet; and the following characteristic instructions at once become intelligible:—"The harvest in, bring out the steam tackle; smash up C, G, H; if you wish for further expedition, cross-cultivate H by steam, then pack up for the winter, for the horses you *must* keep can do the rest; they can plough E, cross-cultivate C and G, and drill E, C, and G, better and cheaper than steam can. This done let the horses *bout* or *stitch* up H, manure it, split the stitches, and subsoil between them t this will lie well for the winter, and ready for drilling in the spring for roots. When they have done H, if the manure is ready they may draw it on to F, and plough F and B for Beans in the ordinary way. Having thus sketched out the work, both for horses and steam, I may state that the former will not with this arrangement have full employ during the winter, so that if more is done by steam than I have shown, the horses will be kept in idleness at the cost of your steam tackle, for D will have been sown with Clover, and A will not require much of their assistance until the spring, and then, if the land is at all adhesive and has been fed off by sheep, the steam implement will produce a much better tilth for the Barley than if ploughed in the ordinary way. If you have any spare manure the horses may take it to D, it will do the Clover good, and the Wheat crop after it. In this way your farm may be kept as clean as a garden, and with at least one-third fewer horses than are necessary where steam is not adopted; therefore, if you are keeping and working 15 horses, or two neighbours working that number between them, five may be sold, and with what they realise, and the saving in the cost of keep, an engine and apparatus may be purchased; the cost of coal, and wear and tear of apparatus being a small item compared with horse keep."

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THE season of the year is fast approaching, and indeed now is, when the important crop distintinguished by the farmer as "seeds" is well forward with its spring growth, and its summer yield can be predicted with more or less of accuracy.

As regards the prospect of the present year's crop our own observations would lead to the conclusion that seldom have the injuries which early frost inflicted been more thoroughly repaired than during the past month, Clovers especially tillering remarkablywell, and Rye-grasses showing the good effects of a mild season. There is however one circumstance in the "seeds" of this year which more than in any previous season that we can recollect has been productive of much mischief. We refer to the quantity of cereal Grasses, with which they are everywhere intermixed, and which, possessing leaves so much larger and growing so much taller, is in "seeds" a weed of a very destructive kind. We have this week observed some Barley, the remains of last year's crop, more than a foot high, with unusually broad flags overshadowing the Clover crop, and it is needless to say that where this is the case to any great extent the crop is much injured.

If we inquire into the causes that have led to this to a greater extent this year than usual, we shall doubtless find that the good crops of corn of last season, and the circumstance that Wheat and Barley were ripened almost together, had caused much grain to be shed in the hurry of getting it together, and the subsequent mild weather has augmented a growth which a harder winter than the one we have experienced would almost have prevented. This question is interesting as showing how one crop may become a weed to its successor, and therefore how much care should be exercised in harvesting the previous crop, so that as little shed seeds should be left as possible. It is not perhaps very easy to point to a remedy for cases of this kind, though its necessity must be evident, still even now much may be done by the scythe to destroy the interloper.

While upon this subject let us offer a few remarks upon the cultivation of "seeds," if indeed they can be said to be cultivated at all. Clover and Grass seeds are sown with the Barley that has succeeded the Turnip crop, so that it is usually thought that they succeed to a soil tolerably free from weeds; but it should be remembered that Barley is not hoed, and few farmers have not a pretty good weed admixture to separate from the grain at threshing. And besides, it must be remembered that before the Barley is ripe, and even in its cutting, enough weeds are usually sown to ensure their continuance. Supposing, however, the *seeds* to have escaped this source of contamination we are able to assert, from an examination of 30 samples of seeds, consisting of Rye-grasses and Clovers tabulated below, that as many as *eight hundred or nine hundred thousand weed seeds are often sown with each bushel of the crop seed!* A sum so wonderfully large that it is not astonishing the crop should be usually so foul.

The following Table gives the number of weed seeds contained in a bushel of six samples of each of the crops named, from which is calculated the average in round numbers of the six samples of each set:—

TABLE OF WEED SEEDS IN A BUSHEL.

| | Amount per bushel | Average. |
|---|---|---|
| Perennial Rye-grass | 20,480 | 242,346 |
| Ditto | 102,400 | |
| Ditto | 184,320 | |
| Ditto | 204,800 | |
| Ditto | 430,080 | |
| Ditto | 512,000 | |
| Italian Rye-grass | 20,480 | 181,760 |
| Ditto | 61,440 | |
| Ditto | 92,160 | |
| Ditto | 204,800 | |
| Ditto | 261,120 | |
| Ditto | 450,560 | |
| Red Clover | 66,560 | 728,333 |
| Ditto | 140,880 | |
| Ditto | 245,760 | |
| Ditto | 307,200 | |
| Ditto | 1,085,440 | |
| Ditto | 2,524,160 | |
| Cow Grass | 40,960 | 401,066 |
| Ditto | 102,400 | |
| Ditto | 307,200 | |
| Ditto | 409,600 | |
| Ditto | 768,000 | |
| Ditto | 778,240 | |
| White Dutch Clover | 256,000 | 2,768,106 |
| Ditto | 1,024,000 | |
| Ditto | 1,299,840 | |
| Ditto | 1,843,200 | |
| Ditto | 4,505,600 | |
| Ditto | 7,680,000 | |

This is indeed a fearful array of figures, and from them we may expect the result which we know usually occurs, but which is not sufficiently attended to, viz., that Clover and Grass are very greatly injured by weeds. We say little attended to, as we doubt whether on an average so much as 6*d.* an acre is spent upon the weeding of this crop. The report from a good farmer may probably run thus:—"Spudding out Thistles, pulling up Docks, &c., say 1*s.* per acre." And from this it may be safely gathered that little besides Docks or Thistles are looked after; indeed, many other weeds are almost considered as a good part of the crop. Who troubles about—

*Plantago media*—Broad-leaved Plantain.
" *lanceolata*—Narrow-leaved ditto.
*Ranunculus repens*—Creeping Buttercup.
*Geranium molle*—Soft Cranesbill.
*Sherardia arvensis*—Field Madder.
*Stellaria media*—Chickweed; and a host of others, and yet where they grow the Clover or Grass plant is destroyed, and injury to the general crop is an increasing quantity.

If a crop be worth cultivating at all it is worth looking after well, and if we see weeds come up with the seed crop, we are as anxious to have them removed therefrom as from any other crop; and from practice and experience we can assure those whom it may concern that, *if need be*, from 2*s.* 6*d.* to 5*s.* per acre for this is not thrown away; for if such seeds be intended for hay, from 1 cwt. to 5 cwt., or even more, will result from an efficient use of the hoe and occasionally even the fork in a Clover field; and the good we may thereby do is not altogether confined to the occasion, but if set about at the proper time, namely the open days in early spring, all chance of seeding is prevented, and future work will thus become much less onerous and expensive.

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## LARGE AND SMALL FARMS.

HAVING been employed on farms varying from a few hundreds to 2000 acres in extent, I expected an edifying discussion between some experienced, practical agriculturist and "F. L., Land Steward, Norfolk," respecting his statements in an old impression of the *Agricultural Gazette*.

A tenant farmer of a large or small farm ought to clear as much off his farm as will defray his working expenses, and pay interest and principal for what h has judiciously invested for permanent improvements and the purchase of implements and horses which will wear out during the lease, besides what he is entitled to for his superintendance and risk. Those farmers who cannot, with good management, realise such profits pay too high rents for their farms. Farming has now become such a fashionable pursuit that a good many people of independent means, who prefer residing in the country, rent a farm in a locality congenial to their tastes, more for the sake of healthful recreation than for pecuniary gain, rather than purchase a small estate in an outlandish isolated district. Hence to some extent the cause of farms being for some time back relet at the expiration of the lease at such an advance of rent.

The habits and tastes of a tenant farmer of a 1000-acre farm may make such a farm either a profit or a loss to the country. For instance, it is generally admitted that tenant farmers ought to possess 10*l.* for each acre of their farms to enable them to farm profitably. Too many have not more than 4*l.* and 5*l.* per acre to purchase stock and implements, and for working expenses. Farms rented by such poor tenants must be a loss to the country, and the tenants are too often verging on bankruptcy. Some wealthy farmers keep up their position in society in accordance with their means; others live in a style little above their labourers. Some of the former class keep their carriage and a first-class saddle-horse; others content themselves with a second-hand gig and a draught horse or a shaggy pony, which is groomed by the cattle man, for riding to market. The former give their families a liberal education; some of the latter just give their families an elementary education at the parish school. A 1000-acre farm which is rented by a tenant of such primitive habits is a positive loss to the country, as he and his wife do not in general circulate their money amongst those who purchase the choice articles of farm produce. Common labourers, the country blacksmith, carpenters, saddlers, grocers, and drapers, are the class of people amongst whom such farmers circulate their money. Wealthy enterprising farmers of gentlemanly habits not only give such people their respective share of employment, but they also support labour in other and higher walks of life.

Since a farm which will employ one pair of horses is what Mr. Grey of Dilston appropriately styles a "stepping-stone to the industrious labourer to benefit himself in society," small farms are necessary to suit the money qualifications of such a class of people; but a great many tenants of 100-acre and of 200-acre rack-rented farms who do not possess more than 4*l.* per acre for purchasing stock and implements, and for working expenses, would be much more comfortable were they occupying the position of a servant in some situation suitable to their experience and abilities. than occupying the apparently elevated but unenviable position of a poor embarrassed farmer.

I am at a loss to know how a small farm can produce more corn than a compact 1000-acre farm, with a suitable farm steading placed in a central position, will produce. There are still farmers who believe that "basting the joint of meat with its own dripping," i.e., purchasing no artificial food nor artificial manure, is the most profitable mode of farming. If "F. L." means the small farmer to manure and crop like a market gardener, and the extensive farmer to crop and manure the land, and feed the cattle and sheep on the old jog-trot system, he may substantiate his statements; but since the deriving of pecuniary gain, pleasure, and personal comfort are the principal inducements to giving employment, how can a working tenant farmer of a 200-acre farm "employ more labour, produce more corn and more stock, and pay a much higher rent than the 1000-acre farmer," and the small farmer have the requisite percentage of clear profit for his own household expenses, the working expenses of the farm, and interest for the tear and wear of horses and implements which will wear out during the lease?

If "F. L." will show working tenant-farmers of rack-rented 200-acre farms how to accomplish such a desirable object, he would confer a great benefit upon that portion of the agricultural community. I am surprised that he should keep such valuable information to himself. Since a farmer of 500 acres ought to possess 5000*l.*, the interest of that money, judiciously invested, ought to support a family very comfortably; nevertheless I am yet to convince that few compact 1000-acre farms, with a suitable farm steading in a central position on each farm, "are a loss to the country."

It being the root crop that has so enhanced the value of arable farms, any one who is acquainted with the routine of labour connected with a mixed rotation of cropping, must know that it requires a greater number of labourers and horses for carrying on all the divisions of labour connected with the sowing of Turnips than a farmer of 100 or 200 acres regularly employs. Your extracts from Mr. Grey's address show how small farmers get the Turnips sown.

The comparative condition of farm labourers in different parts of the United Kingdom is now frequently described and discussed at public meetings, and through the medium of the press, but a great many men, at least Scotchmen, apparently cannot give a verbal or a written description of the labourers in their respective localities without jumbling up their statements with an incoherent mass of illogical humbug respecting large farms being at the root of all the existing evils.

The landed proprietor, farmer, and labourer are

... a well organised system of rural economy, at ... each according to his sphere ought to be so. The ... proprietor must erect suitable buildings on each farm ... both man and beast. How many landed proprietors ... say they have performed such an incumbent duty? ... having resided in several English counties, I have often ... thought how unsuitable it must be for both farmer and ... labourer for so many labourers having to reside at too ... great a distance from the farm steadings. Scotch ... farmers who have not cottages for their ploughmen ... to see that want to themselves by giving the men ... land and lodgings. Some farmers study to make their ... servants comfortable; but too many do not. What ... is it than the want of a diffusion of general know-... ledge, the want of suitable cottages on each farm, and ... the low wages in some districts, that prevents high ... farming and the domestic and social condition of rural ... labourers from being equally alike objects of admira-...tion?

There is a sufficient number of cottages for a competent staff of labourers on mostly every farm in several of the south-eastern counties of Scotland, and in some districts in the north of England. I have already shown you how the bondage system affects farm servants in a domestic, social, and pecuniary point of view. I observe my statements are borne out in Stephens's "Book of the Farm." I may state that there are, in that district, generally three stewards on a 1000-acre farm which is rented by a gentleman farmer—a land steward who superintends everything on the farm; a woman steward who superintends the female labourers; and a ploughman's steward, who drives a pair of horses, acts as time-keeper, and sees that the ploughmen plough the land to the specified depth.

The majority of the ploughmen in that district each having a cow, the ploughman's wife or some other member of each household gets up in time to prepare the breakfast and milk the cow before 6 o'clock. The ploughman goes to the stable to water, groom, and feed the horses he drives, and cleans out their stalls. He returns to his cottage for breakfast, and commences his work, at least leaves the stable, with his horses, at 6 o'clock. Some portions of a gentleman's estate are not adapted for large farms, owing to portions of it being nearly detached by other gentlemen's estates which surround it, or by its lying in the form of an oval or an oblong square. There is a great waste of time in walking to and from the extreme points of such a farm 1000 acres in extent.

I know of an extensive landed proprietor who 20 years ago built on an extensive farm a requisite number of labourers' cottages with separate apartments in each cottage. Allow me to ask your correspondent, "A Friend to the Labourer," who is residing in Morayshire, if his statements respecting the labourers in the district in which he resides were applicable to the labourers on that farm to which I refer, which is more than 1000 acres in extent. Would the proprietors be responsible for such a state of things? What inherent demoralising influence is there inseparably connected with a 1000-acre farm upon which there is a well organised system of management, and a sufficient number of cottages, each of which contains the requisite number of apartments to enable a family to cultivate habits of decency and self-respect? *A Labourer.*

## THE THEORY OF AGRICULTURE.

By Dr. Evan Pugh.

(*Continued from p.* 224.)

Letter II.—On the Agricultural Importance of the Elementary Constituents of Artificial Manures and their Value compared with Lime.

So indispensable did the great philosophers of ancient Greece consider a clear conception of mathematical truth to a power to grasp the subtle doctrines they taught, that they are said to have engraved upon the portal of the academy, in the groves of Academus, the following inscription,

"Let no one enter who is not a geometrician."

As regards the subject we are about to consider, with still greater force than did the Athenian philosophers urge the importance of mathematical training, may we urge the importance of the study of chemistry.

If over the threshold of agricultural science had been written the inscription,

"Let no one enter who is ignorant of chemistry,"

and some modern Plato had stood by to enforce the conditions that the inscription implied, much that has been said and written upon the question we are considering never would have been expressed.

The relation between mathematical studies and that of those practical applications of mathematical principles to which the terms Navigation, Land Surveying, Mechanics, &c., have been applied, is not more intimate than is that of the study of chemistry to scientific agriculture.

Nor would the ill success of the navigator, the astronomer, or the land surveyor, who is ignorant of the mathematical principles involved in his efforts, be more marked than must that of the agricultural community, the practice of which is involved in total ignorance of chemical principles. To no other science is this practice equally indebted for the explanations afforded of the phenomena that it presents, from no other source can it hope for more as the result of future investigation, and due to no other cause are more erroneous ideas disseminated in Agricultural Journals, not even excepting those of the highest standing than to an ignorance of what chemistry teaches.

In speaking of the resources of the soil it was maintained that the analytical processes of the chemist were inadequate to determine those small differences in the composition of a soil which may constitute the difference between a fertile and a barren one. These processes do not stand in a similar relation to the differences between valuable and worthless manures. Chemistry is almost as competent to measure the value of a manure, by measuring the quantity of certain substances that it contains, as it is competent to measure the value of Californian gold sand by measuring the amount of precious metal it contains. It is not the province of this science to settle what is the value of these substances, but to measure their quantity, and in concert with agricultural practice to point out the source of the value attached to them by the latter. Arrogating to itself the prerogative of fixing this value from certain theoretical considerations, founded upon ash analysis of questionable exactitude, as also upon certain assumed analogies with regard to the relation of the vital forces to chemical elements, chemistry (or rather the chemist) has in times past been led into some grave errors, the subsequent discussion of which has sometimes assumed a personal character, derogatory to the dignity of science upon the one hand, and presenting painful instances on the other, of how very difficult it sometimes is for even great men to get at truth by a candid acknowledgment of error.

Had we a soil composed entirely of a single substance, as silica, there would be no question as to the necessity of our adding to that soil all the other substances which chemistry informed us were in the ash of the plant we wish to grow upon it. Had we extensive tracts of land upon which such soil was found, then all the ash constituents of plants would have an agricultural as well as a physiological value. This value would depend (1), upon the labour required to get each in a condition assimilable by plants to the soil; (2), upon the abundance of each in positions accessible to man; (3), upon the amount required by the plant to be assimilated; (4), upon the excess which must exist in the soil above that required by the plant, in order that the latter may get what it wants with sufficient rapidity; (5), upon the ease with which that which is once removed from the soil can be restored to it again in farm-yard manure, sewage, &c.; (6), upon the readiness with which each may be removed from the soil and lost in drain water, or may enter into combinations inaccessible to the plant in the soil; (7), and finally upon its influence in operating as a secondary agent in giving proper physical condition to the soil, of rendering other substances available, &c. Had we such an extensive tract of land, and did we know the value of all these seven conditions, the farmer might calculate for the same the minimum cost, so far as these were concerned, required to bring it to a state of fertility, or when once in that state he might have upon the account books of the farm a debtor and credit sheet, which would at any time enable him to see the amount of available capital present in his soil. To complete the sum of conditions, with regard to vegetable nutrition, upon terms required by agricultural practice, he would only have yet to consider the organic and nitrogenous food of plants; if experience proved that these were supplied in sufficient quantity for the purposes of agriculture from natural sources (rain, dew, the atmosphere, &c.,) then they could have no agricultural value; if such were not the case they would assume a value dependent upon the several conditions specified above. A little reflection upon the considerations suggested in this paragraph will render evident how very complicated must be the question of fixing the value of manurial constituents, from a consideration of the sources of their value, even in the simple case of the soil we have chosen, with the value of the resources of which we are entirely familiar. The subject requires, not only all that science and agricultural practice combined can bestow, but it also involves the consideration of important principles of political economy.

But we have no soils with the resources of which we are so familiar as we are supposed to be with the one we have just been considering. Our ignorance upon this subject was dwelt upon in my last letter. Unable by logical analyses to develope the agricultural importance of the several manurial constituents required by plants, from a consideration of the data afforded by chemistry, we are obliged to appeal to agricultural practice to see what value has been attached by the laws of the equilibrium of trade to these constituents.

In America, England, and on the continent practical agriculture has established the fact that certain kinds of artificial manures have a great agricultural importance, and chemistry has enabled us to decide that this importance is mainly due to the presence of three substances which they contain—phosphoric acid, potash, and nitrogenous compounds, the importance of which is due to the following considerations:—

1*st. To their scarcity in the soil.*—It was long before the processes of the chemist enabled him to detect the presence of phosphoric acid in many soils at all, and now that our test for this substance is most exceedingly delicate, it still requires all the skill of the practised operator to get indubitable evidence of the presence of "traces" of this substance in many soils, and very few soils contain a sufficient quantity of phosphate to exempt them very long from the necessity of a new supply. The quantity of potash present in soils, in a state assimilable by plants, is generally very limited, but not so much so as to give this substance for ordinary cereal, leguminous, and root crop rotations, the importance that is attached to phosphoric acid. The exhausted gneiss and mica slate soils of Virginia and Maryland that have grown Tobacco, doubtless owe their "dreary barrenness" principally to a want of potash, or rather its nitrate. Although most soils contain a percentage of nitrogen, which, when calculated, gives an enormous acreage amount, compared with what would be practicable to add in manures, yet we have the most positive evidence that this is often in a state inaccessible to many plants. The large quantity of nitrogen in soils has led some chemists astray as to the demands of the soil for this element. Supposing that a few hundredweights added per acre of a substance of which tons already existed in the soil could not be the direct cause of the increase of crop that followed its use, they have attributed that increase to the accidental impurities that accompanied it, or to its secondary action in making other substances already in the soil assimilable by plants. But all minds, that are not unable to become extricated from the unfortunate bias of preconceived opinions, are now able clearly to see, that the increase of cereal crops, which follows the use of the salts of ammonia or nitric acid, is due to the fact that they bring to the plant material from which to form its nitrogenous compounds.

2*d. To the quantity of each available for commercial purposes.*—The supply of phosphoric acid in bones and mineral phosphates is inexhaustible. Almost every year brings to our knowledge some new source of this substance. Potash, though not so abundant as an article of commerce, is nevertheless so widely diffused that fears of exhaustion need not be entertained. Our supplies of nitrogen alone are limited. The richly nitrogenous guanos are fast being exhausted, and the time is not very far distant when the farmer's only resources for this element will be the refuse of our manufactories, and the residual products (straw, excrement, &c.) of his own produce. It is true that about one ten-millionth part of the atmosphere is ammonia, and this is slowly absorbed by some soils, but not with sufficient rapidity for the demand of cereal crops, while on the other hand such are the laws of diffusion that the ammonia in many soils is dissipated in the air.

3*d. To the labour required to get them from their several sources of supply, and convey them to the roots of the plant in a condition capable of being assimilated by the latter.*—The labour of collecting bones and importing mineral phosphates, and grinding them, and of bringing together the materials, &c. for the manufacture of sulphuric acid to dissolve them, together with that of transporting the superphosphate formed into all parts of the country, constitute the most serious element in the conditions that make phosphoric acid important to the farmer. Potash is no less important as regards the labour required to bring it within reach of cultivated crops, from its various sources of supply. And when we contemplate the distance of our deposits of guano, and take into consideration the labour required to collect, ship, transport, unship, and distribute over the country, we see that with regard to our supplies of nitrogen from this source, labour is a most serious element amongst the causes that render nitrogen important to the agriculturist.

4*th. To the quantity required by the plant.* Whatever might be the absolute value of the three conditions just considered, that value would have no agricultural importance if this fourth condition did not possess a value, but analysis shows the presence of a very large percentage of phosphoric acid, potash, and nitrogen in cultivated crops. Chemical analysis is competent to give an exact knowledge of what the plant has received and retained at the time of analysis, but it has not yet made clear all points in connection with what the plant receives and evolves or excretes. It has not yet solved the question as to the excess that must be in the soil in order that the rootlets may get a full supply at the period of the maximum activity of the growth of the plant, nor has it measured the capabilities of the latter to get its constituents from natural sources. Therefore we are incompetent from a simple chemical view of the subject to decide what is the value of the quantity of the several manurial constituents required by cultivated crops at the hand of the agriculturist. Some chemists, who were labouring under an unfortunate bias from pre-conceived opinions, have been unwilling to admit that the substances found in plants by analysis do not correctly express the value of the demand, in the soil, for those substances by the plant. But those whose judgment is not thus unhappily affected, and who are aware of the facts now presented by agricultural practice, are obliged to admit, however anomalous in our ignorance of causes it may seem, that the quantities given by chemical analysis do not correctly express the demands of the plant for those substances in the soil. Thus, land may refuse to produce more than half a crop of Wheat, the application of an abundance of all the mineral constituents found in the ash will not give a full crop, but the addition of a nitrogenous manure will do so. Yet this same land may give a good crop of Beans, although the latter requires much more nitrogen than the Wheat. And, what is still more anomalous, a full crop of Wheat may be grown after the Beans. These facts have received no satisfactory explanation.

5*th. To the difficulty of returning the manurial constituents removed by crops back to the land again.*—This is not serious for such parts of the produce as find their way into the manure heap of the barn yard, but for those constituents which are exported from a country in grain, and the bones and flesh of live stock, the case is different. This condition involves the consideration

of the question of town sewage—a theme about which a great deal has lately been said in England; it is too extensive for our consideration here. Suffice it to say that as yet very generally the sewage is allowed to run to waste, the farmer finding it cheaper to purchase his phosphoric acid in superphosphates, and his potash and nitrogen in the corresponding commercial sources of supply than to get it from this source.

The foregoing considerations will indicate why phosphoric acid, potash, and nitrogen should have so high an agricultural importance. Several of the same causes tend to give other elements an importance, but since they do not all combine in a like degree, the sum total of that importance is inferior to what it is for these. Thus sulphuric acid often fails in soils; but since it comes to the soil as an accidental element in superphosphates, and even when applied directly as in gypsum, it costs so little, it loses the agricultural importance it would otherwise have. The same might be said of lime so far as the direct supplies of this substance to the plant are concerned. Of lime as a secondary agent we shall speak presently. The very high percentage of silica in all our cereal crops would render this a substance of very high agricultural importance, did not all soils contain enough of this substance already.

We may therefore concentrate our attention upon phosphoric acid, potash, and nitrogenous substances, as the three principal sources of value in artificial manures. Agricultural commerce, wherever it is governed by a proper intelligence in regulating its prices, has attached values to each of these substances. And then the value of any artificial manure is made to depend simply upon the quantity of these substances in it. This is a fact that cannot be too forcibly impressed upon the mind of the American farmer. The agricultural value of a manure does not more entirely depend upon the quantity of a few simple elements which it contains, than does the value of sand from the gold washings of California upon the amount of precious metal it contains. And if farmers would learn to look upon the cheap manures which quack manure manufacturers too often send into the market, with that distrust with which they would view "a very cheap gold sand," there would be fewer instances of people being cheated and disgusted as the result of having expended money in artificial manures. It is not easier to manufacture coins from spurious metal than it is to add a hundredweight of valuable manure to 19 cwt. of worthless rubbish, and then to sell the same as a "new and cheap guano." The farmer who imagines he has bought the "cheap ton" has in reality bought only a very dear hundredweight. However "cheap" it may have been, he may rest assured that he has paid a price which allowed a good profit for all the labour of adulteration, as also for the cost of transportation of this 19 cwt. of rubbish; add to this the cost of transportation from where he buys it till he gets it upon the soil, and he will see how very dearly his hundredweight of manure in his "very cheap" ton has cost him.*

Here, in Great Britain, where the Royal Agricultural Society, the Bath and West of England Society, the Highland Society of Scotland, and the Irish Agricultural Societies have salaried professors of established reputation to attend to the chemical part of the agricultural interest, the truth of the above remarks is very generally appreciated. And the very great demand for artificial manures here has induced large capitalists of known reputation and acknowledged responsibility, to erect extensive manufactories for the purpose of preparing immense quantities of superphosphate of lime and other manures, which are sent into the market at values fixed by the analyses of chemists whose veracity the farmer can trust.

The division of labour, the power to employ the best machinery, and to purchase raw material on the most advantageous terms, together with that of being able to allow a reasonable credit to the farmer, which this large capital allows, is gradually driving the smaller and less responsible manufacturers out of the market. Until a somewhat similar state of things is brought about in America, and the American farmer learns to appeal to the analyses of competent and conscientious chemists, we may expect to meet with people very much dissatisfied with the results obtained from artificial manures. There will be instances enough, as was the case with some of those who propounded the questions to which I am now replying, of persons who believe after a number of years' trial that had they expended all the money for lime which they have laid out for artificial manures, they would have been better remunerated.

I am fully aware of the prestige which lime has acquired in the minds of the farmers of the gneiss and mica slate-fields of Maryland and Eastern Pennsylvania. In no other place in the world has lime had a fuller and fairer trial, and in none has it yielded better results. Were we to tell the farmer of old England that the use of lime in America had "paid" when used at a cost per bushel nearly equal to that of Oats, he would not believe it possible. And yet much of the barren land between the cities of Philadelphia and Baltimore has been rendered fertile with lime alone on just such conditions. But until the chemist is confident that the farmer has not been cheated in the artificial manures he has used—in other words until he knows that the farmer has not paid too dearly for his phosphoric acid, and potash, and nitrogen in those manures—he cannot form any opinion as to what were their real value compared with lime or with barn-yard manure. As a rule the agriculturist may rest assured that if he has bought a very "cheap" artificial manure, he has paid very dearly for all the valuable material that it contains. He may rest assured that a "very cheap gold" is not a greater absurdity than a "very cheap manure," if by very cheap is meant a very low price for a large quantity.

With regard to lime much might be said, but we must be brief. Of itself it can supply only one of 10 to 12 substances required by plants. If all these substances are not present in the soil, the addition of lime alone will not render it fertile. But all cultivated soils, indeed all soils, do contain all these substances, but they are bound up in insoluble combinations, inaccessible to the plant; lime helps to break up these combinations, and set at liberty the valuable elements for the use of the plants. Yet it may often become a question, to be settled by a knowledge of all the circumstances of the case, as to whether it would not be better to buy these valuable elements in artificial manures than to use the lime. Again, the use of lime cannot go on for an indefinite period of time, and give good results upon all soils, since, as it only enables the plant to use what the soil already contains without supplying it with any of the ash constituents of plants, the latter must ultimately become exhausted. On many points connected with the action of lime on land we are as yet ignorant; the question is worthy of profound scientific investigation, and it is to be hoped that America will not long be behind Europe in erecting institutions for agricultural investigations, and placing at the disposal of scientific men the means of making them, in order to do her part towards solving these and other obscure points in questions so pre-eminently important to her as are all those connected with scientific and practical agriculture.

* A short time since I examined an American guano, which did not contain enough of valuable material to pay for the transportation, in waggons, of the rubbish with which it was mixed, to a distance of 10 miles. Indeed I have examined garden soils that were quite as good, and yet this was shipped across the Atlantic to sell to English and French farmers. It was "highly recommended by persons who had used it," and doubtless many may be induced to buy it owing to its low price. And after having used it they will feel thankful that they didn't try a dearer article, since even this cheap one did not pay. The sale of such rubbish is criminal, not only because of the cheat it involves, but because it destroys the confidence of the farmer in a valuable article in the hands of honest and skilful manufacturers.

## Home Correspondence.

*Steam Culture.*—The enclosed is extracted from a letter just received. It shows the energetic spirit of my brother farmers in the sister country, and that the honour of the introduction of steam cultivation to that country belong to Mr. Gaggin, jun., in conjunction with his father. P.S. Mr. Gaggin started it himself without any one from England to assist him. *William Smith, Woolston, Bletchley Station, March* 24.

"Your cultivator, &c., has arrived here safely, and for the last two days is doing good work on my land, and though anxious (until we could get it into good order and trim) that it should not be much visited by the public in general, yet we found it impossible to stem the tide of curiosity any longer, and now from all parts of this neighbourhood we have 'streets' of visitors witnessing its performance. *John Gaggin, Bally Richard, Middleton, Co. Cork.*"

*Oat Hay.*—I agree with "Sigma" in the value of "Oat hay," especially when cut into chaff. I have been in the habit of growing Oats but with Tares sown along with them for several years. I make my sowing about this time of the year or earlier if the weather will permit; the soil should be in good heart. When the Tares begin to show their bloom I begin to mow and give them green to the cattle, and when it becomes too coarse I make the remainder into hay. This will be about the beginning of July; then I plough, harrow, and roll the land until it is brought into the best possible tilth. After the rolling I give the land one even turn of the harrow to form seed beds, and sow 4 bushels of the best Italian Rye-grass (which I take care to riddle well) and 4 lbs. Trifolium incarnatum to the acre: it is sown lengthways and crossways so that it may be truly done; then bush harrow and roll. In about 8 or 10 weeks I have a fine crop 2 or 3 feet high, which I cut daily for the cattle. At this time (March) the Grass is 18 inches high, and has been all winter as conspicuous a sight as an oasis in the desert. In the month of May I expect to mow it 4 feet tall and have it stacked, although my location is 300 miles north of London and 400 feet above the sea level. You must excuse my prolixity on this subject, but so important and inconceivably valuable is Italian Rye-grass that I wish all farmers would grow it, when they would find it, as I do, the most lucrative crop that the ground can produce. Allow me to enter into the detail of last year. On referring to my journal I see that on the 20th May I had my first mowing—a very heavy crop, 4½ feet long; on the 24th June mowed the second crop, 4 feet tall; on the 5th August mowed the third crop, 3½ feet; on the 28th August mowed the fourth crop, 3½ feet. I made hay four times, and on the 11th October I began to mow the fifth crop 3 feet long, as it was needed daily for the cattle, and the 6th crop, about a foot high, was buried, for it became time to plough before the frost. Now, you must not suppose that these heavy yields of Grass can be obtained without good rich feeding any more than we can get fat pigs without, so I must tell you what the food *alias* manure is which I give, and the times of feeding. I presume that the land is drained, deeply cultivated, and in high condition. Early in the year I top dress with about 4 cwt. of Peruvian guano well mixed with three times its bulk of cinder ashes or soil to the acre; then when the first crop is removed in May or June I apply the like quantity the first rainy day, then after each succeeding crop about 1½ cwt. of nitrate of soda. "Oh! but," say you, "this costs so much money." To be sure it does, but who ever hopes to get a new suit of clothes without paying for them? This I have assured myself of, that for every 5*s.* laid out in manure I have a return of 20*s.* Oh, that I could persuade farmers to follow the above course which I pursue on the banks of *Ullswater*. [What is your rainfall?]

*Accidental Fires.*—In your Journal of the 19th inst. you very properly call attention to an "action for damages lately raised by Mr. Lowe, of Comberford, near Tamworth, against the London and N.W. Railway, for destruction of crops and fences, terminating in a verdict for the plaintiff." Permit me to ask for your comments upon a matter which, by the mere substitution of private property and private parties for public works and large corporations, seems to me to be strictly analogous. In the northern coal-fields, and I dare say in all mineral districts, it has of late years become the practice to make use of steam instead of horse-power in the working of the collieries; and accordingly, you see the locomotive careering with its dingy load across our corn fields, and threatening ruin to our crops. In case of accident by fire, is the farmer's remedy against his landlord or the coal-owner? Has the latter any right to substitute engine for horse-power under leases granted long before the use of the locomotive was for such purposes introduced into the district? And will the nature of the remedy be the same as in the case cited by yourself? But if so, how to prove your case? Coal-owners are not usually so magnanimous in acknowledging their offences as great railway companies; and if they put you to the proof, live coals cannot testify before the court like living passengers, nor is it probable that careless engine-drivers will care to testify against their own and their masters' interests. Betwixt the two stools what becomes of the property of, sir, *One of the Aggrieved.*

*Germination of Seeds.*—In your Paper of the 19th March you refer to results of experiments on the germination of Turnip seeds of various ages, stating that at eight years old, 5 per cent. is the average of germination. I beg to relate a different result from my experiments. In April, 1858, I requested my gardener to sow in the greenhouse three different kinds of Swede seeds (of my own growth), 1850, 1855, and 1857. He counted 100 seeds from each kind promiscuously, and 100 plants from each vegetated, and the only difference to be observed was that the seed of eight years old was two days longer in the ground and were weaker plants. The remainder of the eight year old seed was sown in the garden, and became good-sized Turnips, and were transplanted for seed, and are now as healthy in appearance as those of other kinds in my possession. *George John Serjeantson, Camphill, Bedale, March* 28.

*Hedgerow Timber.*—What does "T. T. S." want? Does he see anything worth retaining in a tangled and crooked fence, a stagnant ditch, a preserve of weeds, and a blighter of crops? Is a self-sown crop more beautiful than a man-sown one? Would he stop improvements where carried out with taste? And, lastly, does he think that an unimproved county or district contains a higher class of inhabitants than an improved one? If so, I will endeavour to show that this is quite a mistake. The statements I may make are the results of observations in nearly half the counties in England, most, I am sorry to say, only progressing towards improvement. I do not see this "rabid crusade against timber and hedgerows" that your correspondent deprecates so bitterly; it is notorious that hedgerow timber is retained by landlords, in many instances to the detriment of their own pockets; if they let farms accordingly who can blame, or rather who would wish to blame them? They like many others do good indirectly in their generation, and in their own way. As an advocate for all judicious improvements, I cannot allow your readers to be carried away with the idea that an improved property does not in nearly every case presume an improvement amongst the labourers on that property. Neglected land and neglected poor are to be found together; the same spirit that leads either landlord or tenant to bestir themselves infects their poorer neighbours and gives them some better notions and feelings than they had before. Beer, or what is sold for such, is consumed in larger quantities by labourers in an ill farmed, backward, and low wage-paying county, than in a high-farmed county or neighbourhood paying a higher wage and requiring a higher class of labourers. Drunkenness leads to nearly every crime, and this comes in England to the labourer *viâ* beer in excess. I maintain (and my opinion has been acquiesced in by many employers of labour) that a man who can earn 15*s.* a week, and who is worth that wage, is better worth his salt than two men who can only earn 7*s.* or 8*s.* a week; for now that heads as well as hands are in request on farms the man of intelligence is worth more in every way than the mere machine. I ask "T. T. S." to tell me candidly where I am to find the intelligent respectable man most prevalent. I met a short time since an old man who said he did not whether a king or a queen ruled over us; that was not in a high-farmed county. Now we will return to the trees and hedgerows. Taking a farm part arable and part Grass as distinct from an estate, let us ask the question, and answer it fairly, what is this farm ostensibly for? Undoubtedly for the production of the largest quantity of food for man and beast that it is capable of—

a most pleasant and pleasing manufactory assuredly, but still a manufactory that none of us can do without. Allowing that this is the proper answer, can any man be blamed for felling or wishing to have felled that unsightly row of hedge timber that robs one-half a field of sun-light, air, moisture, and manure, and cost their own value over, and over, and over again during any named rotation? Hedgerow timber is not natural; much of it looks like rows of bottle brushes and all of it formal. I admire, I enjoy, I sketch fine, really fine trees; it cuts me to the heart to see the stately Oak or Elm fall in full majesty merely to "raise the wind," and I hope men may sleep again and again on any project that destroys so much that is irreplaceable; but I still hold that few hedgerow trees are worth retaining, perhaps not one in 15: these may remain without doing much material harm, even on an arable farm. Let every man think of cutting timber in fear and trembling; but when he has made up his mind, let him cut boldly. "T. T. S." seems to connect crime in the population of a neighbourhood with the "yearly profits derived from the destruction of the face of our beautiful country." Setting aside the term destruction—which I cannot agree is a proper one—I can refute his statement as to demoralisation of the people by pointing to nearly every amelioration of a property in England being, as I have before said, followed by an ameliorated condition of the labourer. He points to the condition of the peasants in some foreign countries, and connects their condition and aspect with skilful cultivation; few would do this, I think, but would be more inclined to connect it with other causes unconnected with agriculture, causes not affecting or likely to affect an English population. Let me assure your correspondent he need not be in any material alarm as to the degradation of our Englishman in the way he speaks of. Let him take a trip this summer and judge for himself. I feel sure he will not be disappointed in what he sees. *Senex.*

## Societies.

ROYAL AGRICULTURAL OF ENGLAND.

Monthly Council, *April* 6.—His Grace the Duke of Marlborough, President, in the chair.

Finance.—Mr. Raymond Barker, Chairman of the Finance Committee, laid before the Council the Monthly Report on the accounts of the Society, from which it appeared that the current cash-balance in the hands of the bankers was 2206*l*.

Journal.—Mr. Thompson, Chairman of the Journal Committee, made the following report:

1. The Committee recommend that the spare copies of the Implement report should be sold at 2*s*. 6*d*. each.
2. That the paper on Potatoes by Dr. Lang, ordered to be reprinted should be reduced so as to be published at a very cheap rate for the use of cottagers.
3. The result of the reprint of the article on Horse-shoeing is as follows:

| | | | £ | *s*. | *d*. |
|---|---|---|---|---|---|
| Printed | 5000 copies (cost) | .. .. | 37 | 10 | 0 |
| Sold | 3300 | .. .. | 43 | 16 | 10 |
| On hand | 1700 | Profit .. .. | 6 | 6 | 10 |

Warwick.—Lord Berners, Chairman of the General Warwick Committee, reported to the Council the satisfactory progress made in the preparations for the Society's ensuing country meeting, to be held at Warwick in the week commencing Monday the 11th of July.

Dinner.—Mr. Fisher Hobbs brought forward the motion, of which he had given notice at the last monthly meeting, to rescind the resolution of the 5th of May last year, in reference to the conditions under which a dinner should take place in future at the county meetings of the Society, in order that he might be enabled to submit to the Council a plan by which the dinner in his opinion might be arranged without the interference of former difficulties. A very full discussion then ensued on this subject, in which the whole bearings of the question, founded on past experience, were reviewed; and Mr. Fisher Hobbs having replied to the various points of objection to his motion, the Council divided, when it was found that the Council by a large majority adhered to their resolution of last year, on which the Local Committee at Warwick had already recommended that there should be no dinner at the Warwick Meeting, and which stands as follows.

"That, in future if any dinner be held at the country meetings under the patronage of the Society, the entire management shall be vested in the Local Committee: but the Council shall have the option and power of reserving and taking such a number of tickets as it shall think fit; and this Society shall nominate the chairman, and supply the list of toasts, but shall have no other liability connected with it."

Country Meeting of 1859.—Memorials were received from Canterbury, Croydon, Guildford, and Reigate on the subject of the country meeting to be held next year in a district comprising Kent and Surrey. An Inspection Committee was appointed, consisting of Mr. Raymond Barker, Mr. Brandreth Gibbs, the Hon. W. G. Cavendish, M.P., Mr. Fisher Hobbs, and Mr. Milward, with a request that they would visit the proposed sites, and report on their suitableness or otherwise for the purposes of the Society, by the next monthly council. M. de Tréhonnais presented a copy of his new serial work published in France, on the results and progress of agricultural improvement in England.

The Council adjourned to the 13th of April.

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Bath and West of England.—Mr. Acland has addressed the following letter to the members of the Society:—

"The facts that H.R.H. the Prince Consort has become a member of the 'Bath and West of England Society for the Encouragement of Agriculture, Arts, Manufactures, and Commerce, founded 1777, A.D.,' and that the Committee of Council on Education have made a special exception in favour of the Society, in order to allow the selection of decorative works of art from South Kensington Museum to be exhibited at the North Devon meeting at Barnstaple, may justify me in asking you to allow me again to invite the attention of the members of the Society of Arts to the objects of that meeting. The Council of the Society, building on the steady progress of their agricultural gatherings, on the increased business done in the sale of agricultural implements, on the improved demand for education and scientific instruction, which has arisen in the west of England, and on the complete organisation and harmonious action of the Society, have opened a new department of 'Arts and Manufactures' for exhibition and sale. A special fund has been raised for a moveable building, to be used next year at Dorchester; an admirable plan has been furnished by Mr. Nicholson, Agricultural Engineer of Newark; and the support of the principal local dealers and manufacturers has been obtained. The idea of the Exhibition, confessedly a novel one, gains ground in public estimation. It is recognised as not only good, but practicable. The idea is this, that the summer gatherings of thousands of persons attracted by the sight of live animals, steam ploughs, poultry, and music may be made to minister to improvement in taste, if good and beautiful objects are placed before the visitors. The migratory meetings of the British Association for the Advancement of Science, of the Royal Agricultural Society, the local examinations of the Universities and of the Society of Arts, have all tended to show that the civilising action of railways must, in order to produce full results, be centrifugal as well as centripetal, and that a pleasant holiday in the country is appreciated by many hard working townsmen, who are not directly interested in the business of the meeting. All that is wanted is a little energy, a little common sense, and a pervading spirit of harmony and goodwill among the managers of the first experiment. If the plan is a good one, and well worked out on a moderate scale, it is sure to be supported, and will be followed elsewhere. Encouraging replies and promises of articles for exhibition and sale have been received from the metropolis, from the Midlands, and from the North of England. The arrangements for protection and the charges for space appear to give satisfaction, being met on the part of exhibitors by a candid and liberal appreciation of the facts of the case. Pottery, glass, metal work, and wood work, in their most attractive forms, will be well represented. The same may be said, so far as patterns are concerned, of textile fabrics; but the scale of the Exhibition hardly admits of the exhibition of pieces of cloth or prints, nor is there, perhaps, the same need for special efforts in these departments. There will be an exquisite exhibition of water-colour drawings and sketches; the artists of the West of England need not fear comparison with all England. But in addition to the works of living artists, collections of the most precious kind, including works of Turner and other eminent artists, such as few have an opportunity of seeing, will be opened to the public in a manner which reflects the highest credit on their possessors. The Exhibition will open on the 30th of May, and last for the week. Alas! it is the week of the Derby, but we have entered, and now we must run. The entries close on the 16th April. Forms of entry may be had on application to Mr. George Down, honorary secretary, Cathedral Yard, Exeter. *Thomas Dyke Acland, Jun., Chairman of the Arts and Manufactures Committee, Sprydoncote, Exeter, March* 29, 1859.

## Farmers' Clubs.

London: *April* 4.—*The Progress of Agriculture.*—Mr. R. Smith, of South Molton, read a paper on this subject, from which we extract the following passages. The first part of the lecture was occupied with a history of agriculture from the earliest times. The more detailed treatment of the subject commenced with the date of the Agricultural Society of England.

Before this period of our history, who ever heard of a steam threshing-machine, a reaping machine, or a steam plough? How many parts of England had never seen specimens of our established herds and flocks? What breeders anticipated a foreign trade for their produce? Who had manured his lands with portable manures from a guano bag, the produce of foreign birds? Who had thought of reducing a hard, bony substance to a soluble food for the immediate use of the root crops? Who had anticipated the publication of such an agricultural work as the Journal of this Society? But in the field of our progress we have had another handmaid at work for us—I mean the press and agricultural literature of the present day. I would ask who in this room would now relinquish his paper? Who, indeed, could keep pace with the progress of agriculture without the *Mark Lane Express*, *Bell's Weekly Messenger*, and other journals now directly devoted to the cause of agriculture?

Mr. Smith then reviewed the history of the London Farmers' Club:—

The happy formation of this Club on the 28th June, 1843, at once announced a new era in the annals of our agriculture, inasmuch as Mr. Baker, of Writtle, was invited at the outset to introduce the subject of "Artificial Manures," for the free discussion of the members. Since that period this interesting topic has been discussed 10 different times, and there have been up to this date no less than 110 subjects discussed by the members, each of them relating to agriculture. The question of "Tenant Right" has been before the members 10 times; the agricultural labourer and his education seven times; and draining and root crops five times each. The important subjects of geology, diseases of cattle, agricultural statistics, agricultural machinery, waste lands, food of cattle, farm leases, sewage manures, the breaking-up of Grass land, carts and waggons, deep cultivation, the influence of science, the rotation of crops, weights and measures, allotment system, and the education of the farmer's son, have also shared the attention of the Club. This is a result which may be written upon the broad pages of our history, in the book of agricultural progress.

The following is a short history of the extension of our resources as to manures:—

Liebig gave the greatest scientific stimulus to agriculture by suggesting the use of vitriol or other acids to render the phosphates soluble, and therefore more quickly available for the nourishment of the plant, which result was immediately acknowledged from its first trials in 1840 and 1841: the effect of this solubility being to bring the Turnip quickly past the fly. About 1840 guano was first introduced into England. It has, undoubtedly, been a great boon to agriculturists: for, besides a large amount of nitrogen (the active principle of horn, soot, and other ammoniacal manures), it contains phosphate of lime, a manuring principle of bones, some being in a soluble state, and having therefore the properties of dissolved phosphetes. Coprolites were discovered to be manure about the same time (that is, about 1840); and, though their phosphate of lime is in a condition unadapted for solution by natural causes, by reducing them to a fine powder and treatment with acid it is dissolved. Thus we have opened up to us an amount of mineral manure of vast extent, the discovery of which has, happily, been simultaneous with that of a process necessary for its proper utilisation.

The following is a reference to the progress of inclosure:—

It is to deeper cultivation and the improvement of our waste lands that we have now to look for the extension of our acreage produce. The earliest records of substantial inclosures date from the earliest period of the reign of George the Third, in 1760. The passing of more than 3000 bills of inclosure in a reign of 60 years is a proof how rapidly the cultivation of new land proceeded in that period. A committee of the House of Commons, which sat in 1797, computed the total quantity of land enclosed during that century at about four millions of acres. We have in "Spackman's Analysis of the Occupations of the People" a complete record of the progress of inclosure from the commencement of the present century to the year 1840, viz.—

| | |
|---|---|
| From 1800 to 1810 .. .. .. | 1,657,980 acres |
| From 1810 to 1820 .. .. .. | 1,410,930 ,, |
| Total .. .. .. .. | 3,068,910 ,, |

Thus, during the first 20 years the inclosures amounted to upwards of three millions of acres. But while these 20 years present to our view the phenomenon of immense inclosure, it must be stated that this took place under the stimulant of the highest range of prices for food ever known, except in cases of famine. At the close of the war in 1815 the average price of Wheat had been during the preceding 15 years 84*s*. 9*d*. per qr., and during the succeeding five years it was 78*s*. 4*d*. From 1820 the whole scene changed, and the most trying period commenced, the causes of which are now apparent. Three million acres of moderate land had been taken in hand, and a metallic currency was resorted to. The inclosure from the year 1820 to 1830 only reached 340,380 acres, thus gradually bringing round the natural remedy for the over doses of inclosure which the war had prescribed. From 1830 to 1840 only 236,070 acres were inclosed, showing that supply and demand had not yet righted themselves. Thus during the 40 years we have an addition of three and a half millions of acres to the cultivated lands, against an increase of upwards of 8,000,000 in the population. By the census of 1801 the population of Great Britain was shown to be 10,472,048: in the year 1841 it had increased to 18,664,761. Spackman then tells us that in the year 1800 we had under cultivation 42,000,000 of acres, which produced food for 10½ millions of people. The General Inclosure Act was passed in 1845. The 14th report, which has just been presented to Parliament, gives the following figures:—

| | |
|---|---|
| Applications for inclosures since the passing of the Act | 809 |
| Exchanges .. .. .. .. .. .. .. | 1697 |
| Partitions, &c. .. .. .. .. .. .. | 161 |
| Total .. .. .. .. .. | 2667 |

Of this number 316 have taken place in the last year.

| | |
|---|---|
| Acreage of inclosures confirmed .. .. | 281,949 |
| Ditto ditto in progress .. .. | 208,687 |
| Total .. .. .. .. | 490,636 |

or in round numbers half a million of acres. These returns embrace a period of five years, which were included in the last decennial period from 1830 to 1840, but I have no power of separating them. It is estimated that there are still 15,000,000 acres of waste lands capable of improvement, 6,000,000 of which would make arable land, and the remained improved pasture.

Mr. Smith concluded with a review of our progress in drainage, farm buildings, rotation of crops, green cropping, manual and horse labour, and the application of steam-power.

## Reviews.

*Results of an Experiment on the Half-time system of Education in Rural Districts as carried on at Ruddington, Nottinghamshire.* By C. Paget, Esq. M.P. Bell & Daldy, 186, Fleet Street.

This pamphlet publishes a paper read at the Liverpool meeting of the Association of Social Science. The following is the most of it; we have no doubt we carry out the author's intention by giving it republication here.

"In November, 1854, I determined to employ eight boys on my farm, to do the work hitherto performed by four, each boy spending half his day at work, and half at school—relieving each other, so that I should always have four on the farm and four at school. I found an inconvenience in this arrangement; when the boys' clothes were wet and dirty, from their morning's work, they were unfit for school. I therefore changed my method, and the boys now work on alternate days. After four years' experience, I speak confidently of the satisfactory working of this system. As an employer of labour, I have every reason to be satisfied with it. The boys, having an alternate day of rest, work with more pleasure and spirit; and I have no difficulty in finding as many willing to accept employment, on these conditions, as I want. The parent, who might feel the entire loss of his son's wages to be too great a sacrifice, is willing to forego one-half the amount to secure to him the advantages of an education, which does not interfere with the acquisition of the knowledge which is essential to his power of maintaining himself at an early age. The great advantage, however, is to the children themselves. They are never weary, either of school or of work. Their progress is found to be very nearly equal to that of those whose sole business is attending school. At 14 years they have received not only a very fair amount of the rudiments of school-learning, but they have also acquired a knowledge of the business of life, and are ready to enter into service with all that skill arising from habits of labour, combined with hardihood from exposure in out-of-doors work, which the farmer who hires them has a right to expect. They are much better servants than the mere school-boy could be. Their school life being compared, not with a holiday, but with a day of labour, they look upon it as a rest, and their associations with books are not irksome, but agreeable; so that, as a rule, they will retain what they have acquired. The schoolmaster also feels the advantage of this system. The boys attend more regularly than the average of children—and, remaining to a later age, their attainments are higher, and they give a higher tone to the school. Mr. Spencer, the master of our Free School,

declares that any master who has once experienced the benefits of the system will be very unwilling to forego them. In the first week of October, 1858, I examined three of the boys now working on my farm, who have been upon this system a considerable time, and who are about to leave school; two being 13, and one just 14 years of age. I found that they all read intelligently and well. They wrote from dictation, from a book which they had not previously seen, in a clear hand and with few mistakes. In arithmetic I dictated sums, which satisfied me as to their knowledge of numeration. I found them quite familiar with the first four rules of arithmetic, and reduction, and compound multiplication. The best evidence I can give of the value entertained by the labouring classes for this system, is the statement that they voluntarily adopt it in their own arrangements. In addition to 16, who are working as pairs in agricultural labour, there are several pairs employed in the winding and seaming, belonging to the stocking manufactory, and several girls, who assist the mother in her domestic duties alternately; and I have good reason to believe that in both these cases the system works very satisfactorily. If every parish were blessed with a schoolmaster as benevolent, zealous, and intelligent as the master of our Free School, I do not believe there would be any difficulty in the wide extension of this system. Where, in close parishes, the possessors of estates compel the labourers to live in adjoining villages, in order that they may keep down their poor rates, no doubt there may be difficulty in providing pairs, in sufficient number for the convenience of the farmers; but this is only one of the many evils arising from the existing law of rating, which are so serious in their effect upon the moral and sanitary condition of the people that they must ere long attract the attention of the legislature. This alternate system of labour and rest appears to be indicated by our nature, in which the activity of the body is a good preparation for the activity of the mind, and every hard-working professional man has found that the best rest for his over-tasked mind is in bodily exertion. Much more than satisfied with the result of my experiment, I would earnestly request that any of the friends of education who may have it in their power will repeat it. The principle is one which admits of a very wide application. Already has a manufacturer in Nottingham adopted it with satisfactory results to the 40 boys in his employ; and I believe that our middle classes might give their sons, up to the age of 20, an alternation of a day of college and gymnastic exercises, with a day in the counting-house; and thus, with God's blessing, confer upon them that inestimable boon, a sound mind, embodied in a healthy frame."

## Calendar of Operations.

### APRIL.

SOUTH DORSETSHIRE: *April* 4.—March went out here more "like a lion" than a lamb, cold winds prevailed from the north and north west, and there was even an attempt at snow, at least the Purbeck hills appeared one morning covered with it. The weather consequently being dry and open has enabled farm operations to proceed satisfactorily. Drilling Peas and Oats, planting Potatoes and hoeing Wheat, has been the chief work for the past two or three weeks. Our Swedes are nearly all finished, land being ploughed for Barley, and sheep sent on the Clovers, which with Grass of all kinds (including water meadows) look well. Some of the Wheats on the light lands were so washed down by the heavy rain in February, that their growth was more retarded than accelerated, but the harrows and hoes will fetch them up again.

TYNESIDE: *April* 4.—From the date of our last report the weather continued excessively dry in this immediate district, with high W. and N.W. winds; till on the 12th March it changed to variable showery weather, and this has continued its character, with the exception of two frosty mornings last week. We commenced Oat-sowing on the last day of February, and in spite of last week's frosts, the whole breadth sown is remarkably green and vigorous, and our Barley, which was all sown in good order by the middle of March, looks growthy and promising. Wheat and Winter Beans, though not remarkably forward, have stood the winter well. A considerable portion of the fallow break has been cross-ploughed, and in some few instances Potato planting has been proceeded with, though this is by no means general. We hear complaints of great losses among ewes and lambs this season, and have shared in the common calamity. We have unfortunately for the ewes very little old Grass to serve as a winter run for them, and consequently when the one year seeds are getting bare, they have to depend in a great measure on what is laid down to them, such as small Turnips, &c. We find our flat alluvial soil does not agree with their constitutions, they bite too close to the ground; and the result is that we invariably have a large proportion of lambs, which—though strong and well developed in frame—are quite weak in the spine, and never get the length of standing erect, or drawing any supply of nourishment from their dam. Turnips are plentiful, and by shortening supplies keep up the price of beef and mutton. From the great abundance of Grass and other keep, lean stock are selling at unprecedented prices, holding out a poor prospect to the feeder for the ensuing season. *W. C. T.*

## Notices to Correspondents.

CLOVER SICKNESS: *F H.* It is due to a frequent repetition of the crop upon the land, especially when the land is light and loose.

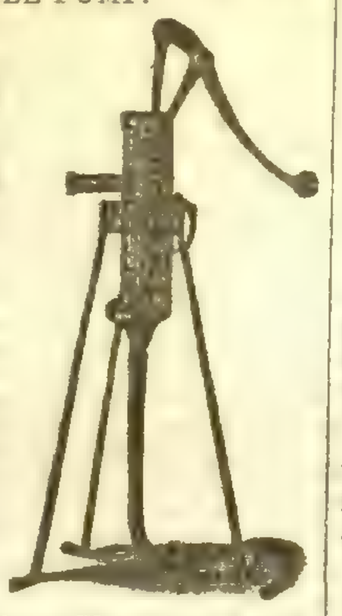
HARLEY *v.* WOODCOCK: *Sub.* This was a case in which the quality of Mangel Wurzel seed was in question. The jury gave a verdict for the defendant notwithstanding that his seed would not grow, the defence being that its failure was owing to the dryness of the season, not to the badness of the seed.

MR. WETHERALL'S HERD: *F R S.* It takes place at High Grange Farm, near Richmond, Yorkshire, on the 19th of this month.

RABBITS: *Alex.* We are informed that a good recipe for preventing rabbits and hares from barking trees is to take as much thoroughly skimmed milk as required, and mix it up with soot till about as thick as paint. With this paint over the tree with a whitewash brush. It lasts well one season. A correspondent says his garden is open—full of Apples and Pears, and unless they are annually painted over, they are sure to be destroyed, but this fully preserves them.

TURNIP SEED: *Cor.* Your seeds will be examined and reported on.


WARNER'S IMPROVED LIQUID MANURE OR GENERAL PORTABLE PUMP.



These Pumps are fitted with J. W. & Son's Patent Buckets and Suckers, and cannot clog in action. The barrel is of galvanised iron, not likely to corrode, and can be raised or lowered at pleasure. The legs will fold together, and the whole may be carried on the shoulder to any pond or tank required.

Price of 4½ in. Pump, with legs, 3*l.* 3*s.* If with planished copper barrel and galvanised iron handle, &c., 14*s.* extra. The barrel is 27½ in. long, and the legs are 5 ft. high.

These Pumps are also made without the legs, with strong wrought-iron straps for screwing on to any ordinary water butt or cart, and fitted with 1½ inch brass union for attaching flexible suction. Price 50*s.*

1¾ inch Gutta Percha Suction Pipe, 1*s.* 11*d.* per foot.

Rubber and Canvas Suction and Delivery Hose, from ½ inch to 4 inches diameter, in lengths of 60 feet to order. Branch Pipes with Cocks, Union Screws, &c., at reduced prices.

May be obtained of any Ironmonger or Plumber in town or country, at the above prices, or of the Patentees and Manufacturers. JOHN WARNER & SONS, 8, Crescent, Jewin St., London.

WARNER'S PATENT VIBRATING STANDARD PUMPS.

PATENT CAST-IRON PUMPS, fitted with J. W. & SON'S Patent Buckets and Suckers, which cannot clog in action, for Farms, Cottages, and Wells, not exceeding 28 feet.

| Diameter of Barrel. | Height. | | £ | s. | d. |
|---|---|---|---|---|---|
| 2½ in. | short | Fitted for lead, | 1 | 10 | 0 |
| 2½ ,, | long 3 ft. 7 in. | gutta percha, | 1 | 14 | 0 |
| 3 ,, | ditto 3 ,, 3 ,, | or cast iron | 2 | 8 | 0 |
| 3½ ,, | ditto 3 ,, 6 ,, | flanged pipe, | 2 | 12 | 0 |
| 4 ,, | ditto 3 ,, 6 ,, | as required. | 3 | 3 | 0 |
| 2½ ,, | short, with 15 feet of Lead Pipe attached, ready for fixing .... | | 2 | 14 | 0 |
| 2½ in. | long ditto ditto | ditto | 2 | 18 | 0 |

The short barrel Pump is very convenient for fixing in situations of limited height and space, for the supply of coppers and sinks in Wash-houses with soft water from underground tanks, or in Hot, Forcing, and Plant Houses; they may be fixed, when desired, under the stage.

May be obtained of any Ironmonger or Plumber in Town or country, at the above prices, or of the Patentees and Manufacturers, JOHN WARNER & SONS, 8, Crescent, Jewin Street, London.

Every description of Machinery for Raising Water by means of Wheels, Rams, Deep Well Pumps, &c.; also Fire and Garden Engines, &c. &c.—Engravings sent on application.

PRICES REDUCED.

H. J. MORTON AND CO., Galvanised Iron Works, 2, Basinghall Buildings, Leeds.

GALVANISED IRON ROOFING

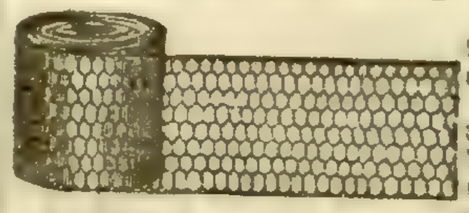
for Farm Buildings and other Roofs; the cheapest, most durable, and neatest Roofing in use; also Spouting at 10½*d.* per yard.

WIRE STRAND CABLE FENCING

formed of Twisted Wires like a rope or cable), the strongest cheapest, and neatest fence in use, will resist the largest cattle, and will not bend or get out of form by trespassing upon or over. Price, with five lines of the Galvanised Strand, iron main posts, and pronged Standards, 1*s.* 2½*d.* per yard.

This fence is far cheaper than posts and rails, or any kind of iron fencing; and possesses four times the strength of solid bars. Will not rust nor corrode. Upwards of 1200 miles of this Fencing supplied.

GALVANISED GAME AND POULTRY NETTING.



Galvanised, 24 ins. wide, 2-inch mesh, 5*d.*, 6*d.*, 7½*d.*, and 10*d* per yard.

Galvanised, 24 ins. wide, 3-inch mesh, 4*d.*, 5*d.*, and 7*d.* per yard. The Netting made any width, and with openings of any size.

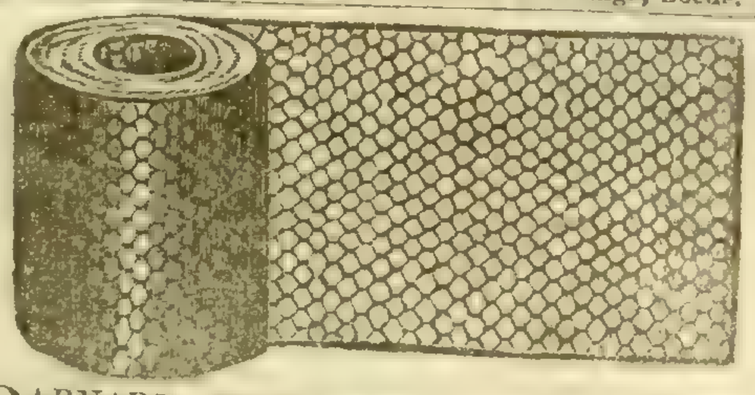
GALVANISED IRON CHAIN CAMP STOOLS & CHAIRS, POULTRY FOUNTAINS & FEEDERS, PRONGED DAHLIA RODS AND ROSE STAKES, &c.

Strong CATTLE HURDLES from 2*s.* per yard.

PATENT IMPROVED GAS WORKS

of all sizes for the use of Private Houses, Mansions, Railway Stations, Mills, Collieries, Mines, Villages, &c. Works from 10 to 500 lights estimated for. The works can be entrusted to an ordinary labourer.—Apply to

HENRY J. MORTON & Co. 2, Basinghall Buildings, Leeds.



BARNARD, BISHOP, AND BARNARD, Market Place, Norwich, in consequence of improvements in their machinery for the manufacture of the above article, have been enabled to make a great reduction in the prices.

| | | Galvanised. | Japanned Iron. |
|---|---|---|---|
| 2-inch mesh, | 24 inches wide .. .. | 5*d.* per yd. | 4*d.* per yd. |
| 2-inch ,, | strong do. .. .. | 6 ,, | 4½ ,, |
| 2-inch ,, | intermediate, do. .. | 7 ,, | 5½ ,, |
| 2-inch ,, | extra strong, do. .. | 9½ ,, | 7½ ,, |
| 1⅝-inch ,, | 24 inches wide .. .. | 5½ ,, | 4½ ,, |
| 1⅝-inch ,, | strong, do. .. .. | 6½ ,, | 5½ ,, |
| 1⅝-inch ,, | intermediate, do. .. | 7½ ,, | 6 ,, |
| 1⅜-inch ,, | extra strong, do. .. | 10 ,, | 8 ,, |

All the above kinds can be made of any width (under 8 feet at proportionate prices. If the upper half is of a coarser mesh than the lower, it will reduce the prices about one-fifth.

Strong Galvanised Poultry Netting, 8½*d.* per yard, 3 feet wide Galvanised Sparrow-proof Netting for Pheasantries, 2½*d.* per square foot. Delivered free of expense in London, Peterborough, Hull, or Newcastle. Manufacturers of Improved Strained Wire Cattle and Deer Fencing, Iron Hurdles, &c.

Illustrated Catalogues and Patterns forwarded by post.

PROPAGATING GLASSES.

| | | s. | d. | | | s. | d. |
|---|---|---|---|---|---|---|---|
| 2 ins. | diameter | 0 | 3½ each | 12 ins. | diameter | 1 | 6 |
| 3 ,, | ,, | 0 | 4½ ,, | 13 ,, | ,, | 2 | 0 |
| 4 ,, | ,, | 0 | 5½ ,, | 14 ,, | ,, | 2 | 6 |
| 5 ,, | ,, | 0 | 6½ ,, | 15 ,, | ,, | 3 | 0 |
| 6 ,, | ,, | 0 | 8 ,, | 16 ,, | ,, | 3 | 6 |
| 7 ,, | ,, | 0 | 10 ,, | 17 ,, | ,, | 4 | 0 |
| 8 ,, | ,, | 1 | 0 ,, | 18 ,, | ,, | 5 | 0 |
| 9 ,, | ,, | 1 | 2 ,, | 19 ,, | ,, | 6 | 0 |
| 10 ,, | ,, | 1 | 4 ,, | 20 ,, | ,, | 7 | 6 |
| 11 ,, | ,, | 1 | 6 ,, | | | | |

CUCUMBER GLASSES.

| | | | | | |
|---|---|---|---|---|---|
| 24 inches long | .. | 2*s* 0*d.* | 16 inches long | .. | 1*s* 6*d* |
| 22 ,, | .. | 1 10 | 14 ,, | .. | 1 4 |
| 20 ,, | .. | 1 8 | 12 ,, | .. | 1 1 |
| 18 ,, | .. | 1 6 | Made to any length. | | |

HAND GLASSES.

| | | | | |
|---|---|---|---|---|
| 12 inches .. .. | 6*s.* 0*d.* each | 18 inches .. .. | 9*s.* 6*d* | each |
| 14 ,, .. .. | 7 0 ,, | 20 ,, .. .. | 10 6 | ,, |
| 16 ,, .. .. | 8 0 ,, | 24 ,, .. .. | 12 0 | ,, |

Painted and glazed with 16 oz. Sheet Glass.

If open at top, 1*s.* extra.

WASP TRAPS, 3*s.* 6*d.* per dozen.

AGENTS FOR

HARTLEY'S PATENT ROUGH PLATE GLASS.

PAINTS.

Genuine White Lead, Linseed Oil, Boiled Oil, Turpentine, Putty, Colours, Varnishes, Brushes, &c.

JAMES PHILLIPS AND CO.,

180, Bishopsgate St. Without, London, E.C.

GLASS FOR CONSERVATORIES, ETC.

HETLEY AND CO. supply 16-oz SHEET GLASS of British Manufacture at prices varying from 2*d.* to 1*s.* per square foot for the usual sizes required, many thousands which are kept ready packed for immediate delivery.

Lists of Prices and Estimates forwarded on application, for PATENT ROUGH PLATE, THICK CROWN GLASS, GLASS TILES, and SLATES, WATER-PIPES, PROPAGATING GLASSES, GLASS MILK PANS, PATENT PLATE GLASS, ORNAMENTAL WINDOW GLASS, and GLASS SHADES, to JAMES HETLEY & Co., 35, Soho Square, London.

See *Gardeners' Chronicle* first Saturday in each month.

HORTICULTURAL GLASS—JUNE TARIFF.

THOMAS MILLINGTON'S reduced Tariff of GLASS, &c.

6 by 4, 7 by 5, 8 by 6, 9 by 7 } 16 oz. to the foot, 11*s.* 6*d.*
6½ by 4½, 7½ by 5½, 8½ by 6½, 9½ by 7½ } per 100 feet.

In 100 boxes,—4ths quality, 12*s.* 6*d.*; 3ds do., 14*s.* 4*d.*

10 by 8, 12 by 9, 12½ by 10½, 14½ by 10½, 13 by 11
10½ by 8½, 12½ by 9½, 13 by 10, 15 by 10, 13½ by 11½
11 by 9, 13 by 9, 13½ by 10½, 12 by 11, 14 by 11
11½ by 9½, 12 by 10, 14 by 10, 12½ by 11½ .. ..

| | per 100 feet | 16 oz. | 21 oz. |
|---|---|---|---|
| 20 by 12 / 20 by 13 / 20 by 14 / 20 by 15 | Common .. | 16*s.* .. | 24*s.* |
| | Superior . | 18*s.* .. | 27*s.* |

All Boxes included.

Orchard House sizes as supplied to Mr. Rivers.

Hartley's improved Rough Plate Glass from ⅛ to ¾ in thickness.

Coloured Glass in great variety, at 9*d.* and 1*s.* per foot.

Paints, Genuine White Lead, Linseed Oil, Boiled Oil, Turpentine, Putty, Colours, Varnishes, Brushes, Lamp Glasses, &c.

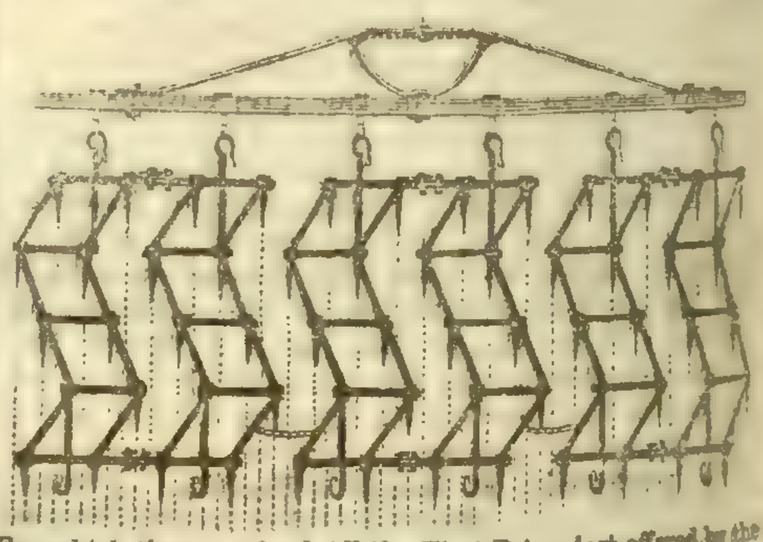
87, Bishopsgate Street Without, same side as Eastern Counties Railway.

GLAZIERS' DIAMONDS for CUTTING HORTICULTURAL and other GLASS, to be had of the Wholesale Manufacturer, JOHN EDWARDS, 20, Sharp's Alley, West Smithfield, London, E.C. Prices from 10*s.* to 27*s.* 6*d.*

HOWARDS' PRIZE IMPLEMENTS, 1859.

JAMES AND FREDK. HOWARD, Britannia Iron Works, Bedford, beg to direct attention to their

PATENT PRIZE HARROWS,



For which they received All the First Prizes last offered by the Royal Agricultural Society of England, viz.:—

The First Prize for the Best General Purpose Harrows.
The First Prize for the Best Light Harrows.
The First Prize for the Best Drag Harrows.

J. & F. HOWARD have discontinued troubling the Public with a long List of Prizes awarded to their Implements, but they would just state that for PLOUGHS, HARROWS, and HORSE RAKES, they have for several years gained every Prize for which they have competed.

PLOUGHS.

| | | £ | s. | d. |
|---|---|---|---|---|
| P PLOUGH, | with two wheels, for light work .. | 4 | 7 | 6 |
| PP PLOUGH, | ,, for general purposes | 4 | 12 | 6 |
| SKIM COULTER | .. .. .. .. .. | 0 | 5 | 6 |

STEEL BREASTS, 7*s.* and 7*s.* 6*d.* extra.

HARROWS.

| | | | |
|---|---|---|---|
| A Set of Three 4-Beam HARROWS, with Whippletree, recommended as general Seed Harrows, 9½ feet wide, marked No. 12 .. .. .. .. .. | 3 | 14 | |
| A Set of Three 4-Beam HARROWS, with Whippletree, adapted for 3 Horses, 10 ft. wide, marked No. 11 | 4 | 4 | 0 |

HORSE RAKES.

| | | | |
|---|---|---|---|
| Price of small size RAKE, marked A, with 24 iron teeth, extreme width 7½ feet .. .. .. .. | 7 | 10 | 0 |
| Ditto, with Steel Teeth .. .. .. .. .. | 8 | 0 | 0 |
| Price of large size, marked B, with 28 iron teeth, extreme width 8½ feet .. .. .. .. .. | 8 | 0 | 0 |
| Price of large size, marked B, with steel teeth .. | 8 | 10 | 0 |
| Price of extra large size, marked C, with 24 steel teeth, extreme width, 8½ feet .. .. .. .. | 10 | 10 | 0 |
| Price of a Set of 15 Prongs, to be attached to the above when used as Weed Extirpators .. .. .. | 1 | 10 | 0 |

Free Delivery to Birmingham, Bristol, Derby, Gloucester, Lincoln, Liverpool, London, Manchester, Norwich, Nottingham, Retford, Wisbeach, and Worcester; or to Dublin, Edinburgh, Glasgow, and other parts at fixed rates.

HOWARDS' NEW CATALOGUE, containing prices and description of their Patent Ploughs, Harrows, Horse Rakes, and other Implements, including Smith's Steam Cultivators, for which they received at Chester the Gold Medal of the Royal Agricultural Society of England, sent free on application to

J. & F. HOWARD, Britannia Iron Works, Bedford.

## Garden Engines, Syringes, &c., upon the most approved principle.

## GARDEN ENGINES, MACHINES, AND GREENHOUSE SYRINGES,

WITH ALL THE LATEST IMPROVEMENTS, MANUFACTURED BY THE PATENTEE,

**RICHARD READ, Instrument Maker (by Special Appointment) to Her Majesty,**

35, REGENT CIRCUS, PICCADILLY, LONDON.

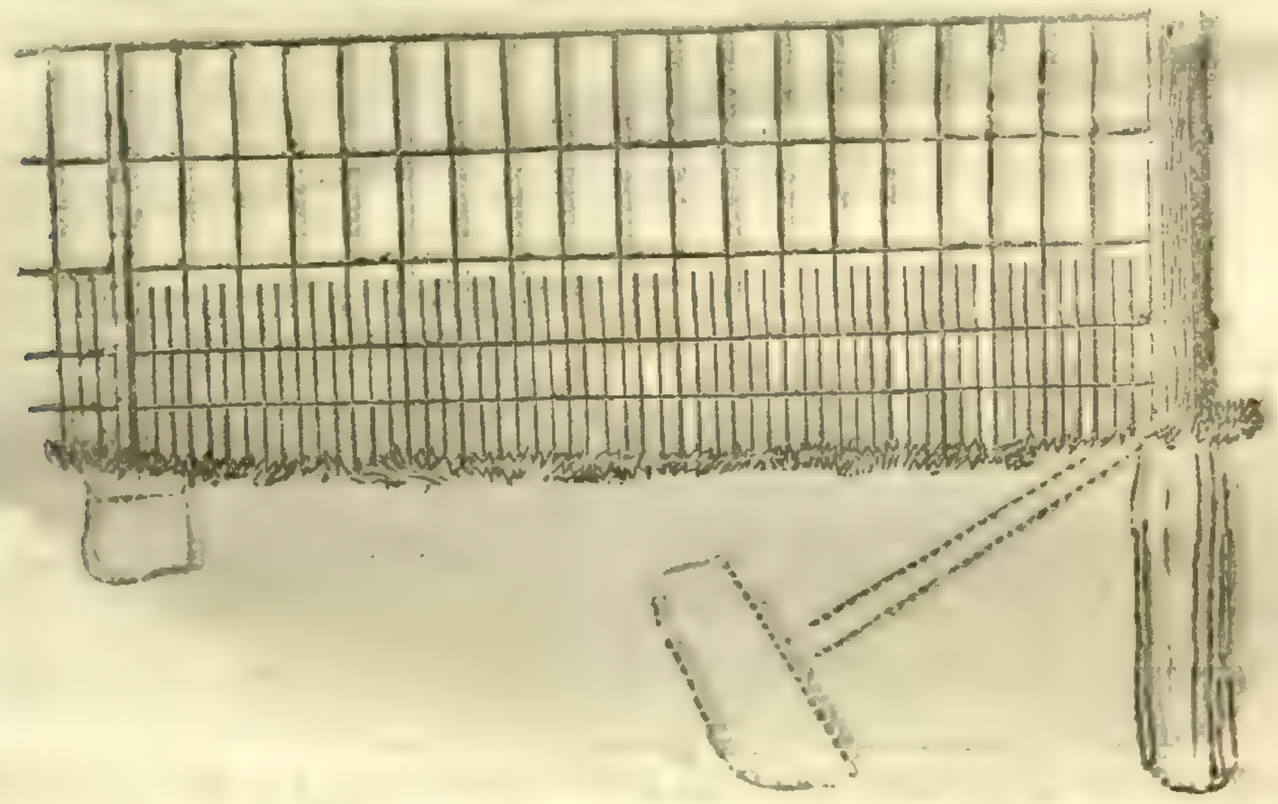
CAUTION.—R. READ begs respectfully to assure the Public that the Syringes advertised weekly by a London Firm as READ'S are not his make, but are mere imitations; and on trial many of them will be found defective and useless. All Syringes made by READ are marked with the Royal Arms, and Address,

**"35, Regent Circus, London."** ☞ *Descriptions, with drawings, sent post free.*

## GREENING & COMPANY'S PATENT WIRE FENCES.

**Patronised by His Royal Highness the PRINCE CONSORT.**

No. 10 c VARIETY.—PROOF AGAINST HORSES, CATTLE, SHEEP, HARES, RABBITS, &c.



SPECIFICATION.—No. 10 c Variety, 3 feet 9 inches high, 6 horizontal bars of stout fencing wire, meshes 3 inches apart at upper, and 1¼ inches apart at lower half of fence. **1s. 6d. per Lineal Yard.**

G. & Co. forward (post free) on application their ILLUSTRATED CATALOGUE, containing particulars of the above and other Iron and Wire Fences for Parks, Farms, Gardens, Game Preserves, Poultry Courts, &c.

**GREENING & COMPANY, Victoria Iron and Wire Works, 81, Oxford St., Manchester.**

## ADDRESS: THE MANAGERS, ST. PANCRAS IRONWORKS.

THE ST. PANCRAS IRON WORKS ARE OPPOSITE THE OLD ST. PANCRAS CHURCH,

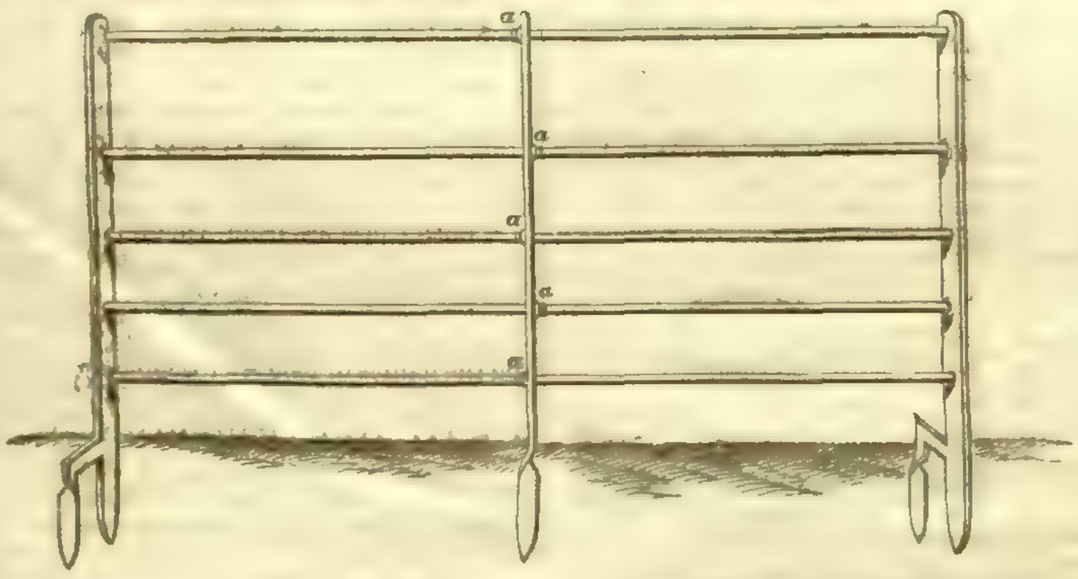
OLD ST. PANCRAS ROAD, LONDON.

## IRON COLLAR BAR HURDLES.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

**Obtained the Silver Medal of the Royal Agricultural Society.**

ST. PANCRAS IRON WORKS,

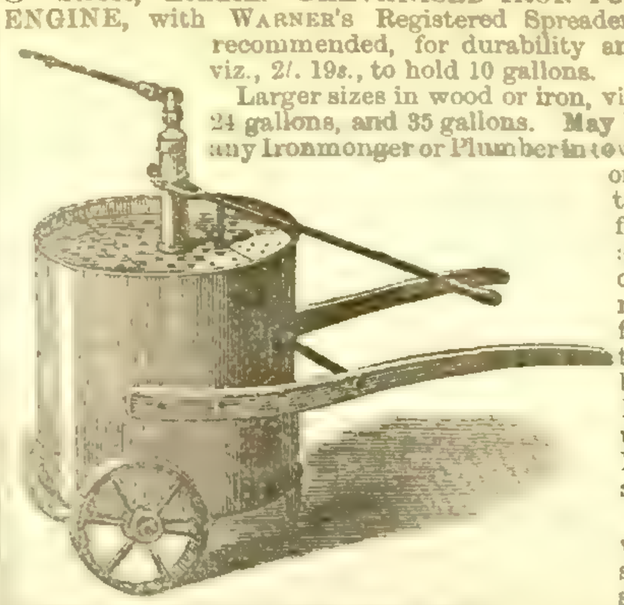



OLD ST. PANCRAS ROAD, LONDON.

The improvement by this PATENT consists in the COLLARS on the Bars which, being placed on alternate sides of the centre upright bar, keep it in its position, confine the bars to short bearings, prevent their being strained, and give more than DOUBLE STRENGTH and RIGIDITY to the HURDLE.

**PROFESSOR VARNELL'S MANGERS AND STABLE FITTINGS.**

JOHN WARNER AND SONS, Crescent, Jewin Street, London.—GALVANISED IRON TUB GARDEN ENGINE, with WARNER'S Registered Spreader, is strongly recommended, for durability and low price, viz., 2*l.* 19*s.*, to hold 10 gallons.



Larger sizes in wood or iron, viz., 14 gallons, 24 gallons, and 35 gallons. May be obtained of any Ironmonger or Plumber in town or country, or of the patentees and Manufacturers, as also Machinery of all kinds for raising Water from any depth to any height by Steam, Horse, or Manual Power. Prices sent on application.

Syringes of various constructions and sizes from 9*s.* upwards. Metallic String from 5*d.* to 1*s.* 3*d.* per lb.

### GARDEN ENGINES AND SYRINGES.

J. TYLOR AND SONS, Warwick Lane, Newgate Street, London, E.C., beg to call attention to their very superior manufacture of GARDEN ENGINES and SYRINGES.

Fig. 598. J. TYLOR & SONS' BARROW GARDEN ENGINE in best well painted Oak tub, fitted with J. TYLOR & SONS' Improved Brass Pump, Universal Joint, and Registered Spreader, which answers the purpose of the separate rose, fan, and jet

CONTENTS OF TUB:—

| 10 gallons | 15 gallons | 20 gallons |
|---|---|---|
| £4 10 0 | £5 10 0 | £6 18 0 |

Fig. 599. do. TINNED IRON TUB.

CONTENTS OF TUB:—

| 8 gallons | 12 gallons | 16 gallons | 24 gallons | 30 gallons |
|---|---|---|---|---|
| £2 15 | £3 5 | £4 | £5 | £5 15 |

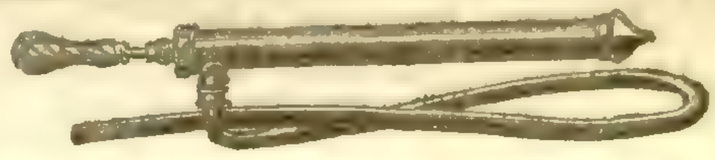


Fig. 618. No. 1. REGISTERED SYRINGE, with India rubber suction tube, one rose and jet .. .. £1 5 each.
No. 2. Ditto ditto 1 1 ,,
Telescope Branch Pipe for ditto .. .. 0 10 ,,

Fig. 619. GARDEN SYRINGE, with one rose and jet, 12*s.* 6*d.* each
,, 620. Ditto ditto 11*s.* 6*d.* ,,
,, 621. Ditto ditto 10*s.* 6*d.* ,,
,, 622. LADIES' GARDEN SYRINGE, without rose & jet, 8*s.*

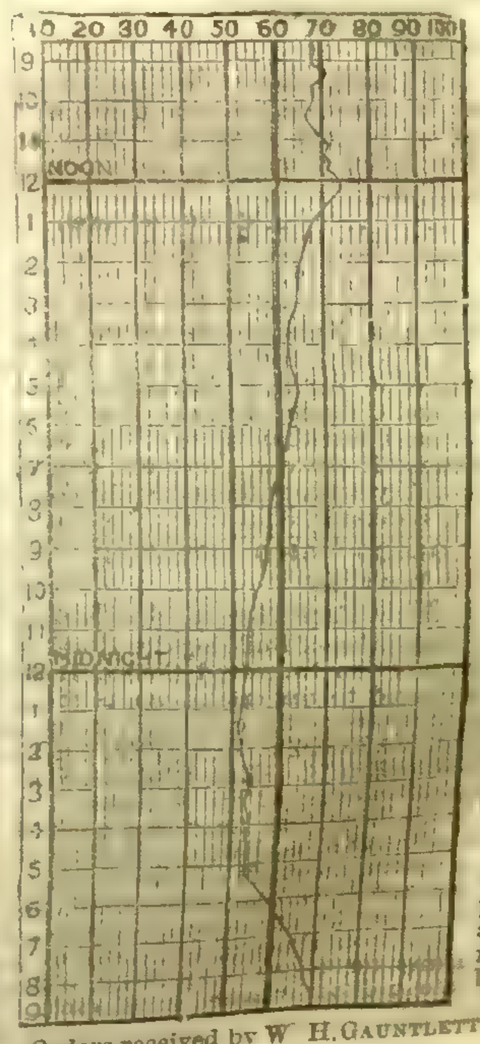
Fig. 623. READ'S SYRINGE, with two roses and one jet, 18*s.* 6*d.*
,, 624. READ'S SYRINGE, with one rose and jet .. 16 6
,, 625. Improved ditto ditto
,, 626. Ditto ditto ditto

Manufacturers of Pumps and Well Engines (for shallow or deep Wells), Plumbers' Brass Foundry of every description, High Pressure Cocks and Closets, Copper and Tinned-iron Baths, Garden and Fire Engines, Lamps of every description, Copper Goods, &c. Estimates given for Hot-water and Bath Apparatus.

200 ONE, TWO, and THREE-LIGHT MELON BOXES and LIGHTS, of the best seasoned materials, ready for immediate use.—JAS. WATTS, Hothouse Builder and Hot-water Apparatus Manufacturer, Old Kent Road, London.

### TO HORTICULTURISTS.

## GAUNTLETT'S PATENT CHRONOMETRICAL THERMOMETER.




This instrument, which combines an eight-day clock of the best English make showing time, with a newly-patented Thermometer, wherein glass and quicksilver are dispensed with, writes down the temperature of the atmosphere on a slip of paper, and when placed in a Hothouse, Forcing House, or Conservatory, &c., supplies a valuable record of the temperature, with all its variations, showing the time when any change took place, and how long such change continued.

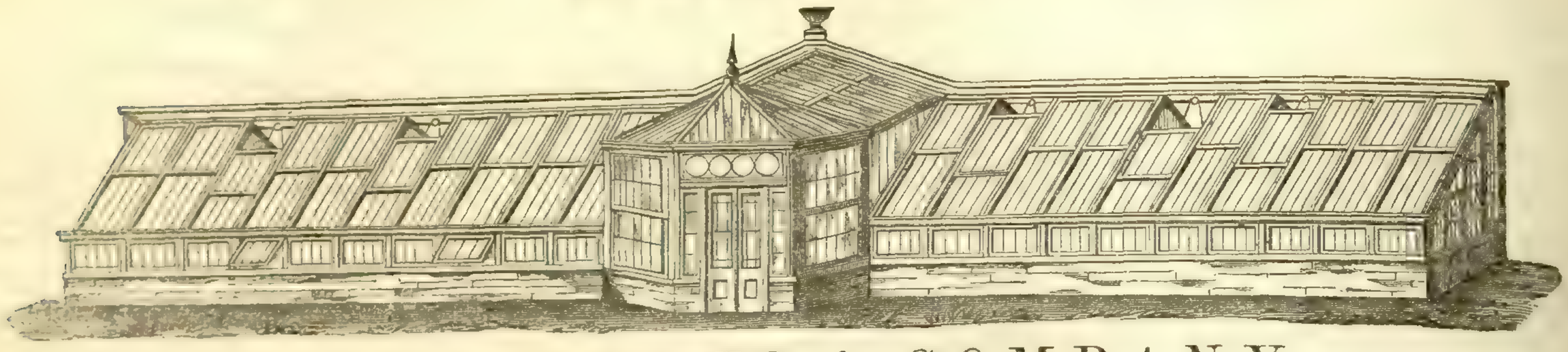
The above slip (reduced in size) exhibits the temperature of the Royal Agricultural Society's show yard at Chester, July 22, 1858, written off by one of these instruments, to which was awarded the Society's SILVER MEDAL.

This is the only instrument that registers temperature continuously and writes it down, and no horticulturist should be without it.

Orders received by W. H. GAUNTLETT, Middlesbro' on-Tees.

## HORTICULTURAL BUILDING & HEATING BY HOT WATER.

BY APPOINTMENT.



# JOHN WEEKS & COMPANY,

KING'S ROAD, CHELSEA, LONDON.

HORTICULTURAL BUILDERS AND HOT-WATER APPARATUS MANUFACTURERS, ENGINEERS, AND IRON FOUNDERS.

PLANS, ESTIMATES, & ILLUSTRATED CATALOGUES FREE ON APPLICATION.

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**GREENHOUSES, ORCHARD HOUSES, AND PITS**
OF EVERY DESCRIPTION, MADE BY STEAM MACHINERY, AND HEATED BY HOT WATER ON AN IMPROVED PLAN AT

J. LEWIS'S HORTICULTURAL WORKS, Stamford Hill, Middlesex, established 20 years. These Buildings are warranted of the best materials, and at prices which defy competition. The ventilation is most efficient, and the greatest improvement of the present day. Prices of any size on application. References in all parts of the United Kingdom

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HANDS'S PATENT is the only system to circulate Heat, and for WARMING, FUMIGATING, and VENTILATING Hothouses, Greenhouses, Winter Orchards, &c.; to keep vegetation healthy in a humid atmosphere, and can be applied to any kind or shape of Forcing-houses and Conservatories now existing at trifling cost.—For particulars apply at the Office, 10, Charlotte Street, Fitzroy Square, London; or to Mr. JOHNSON HANDS, Epsom.

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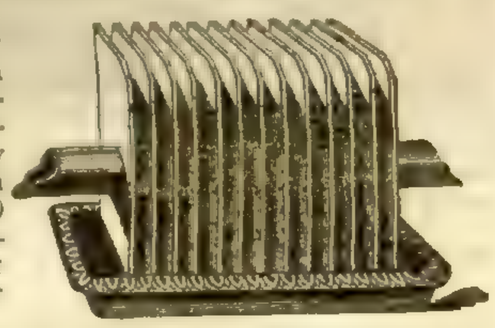
**IMPROVED HOT-WATER PIPE.**

THE HORTICULTURIST will find herein an inexpensive instrument of new and very important powers. An atmosphere may be produced at will either perfectly dry, partially damp, or saturated with moisture. A space of 10 inches by 12 inches contains the power of 25 feet of 4-inch pipe and other numerous advantages.



The London Warming and Ventilating Company (Limited), 26, Great George Street, Westminster, S.W.

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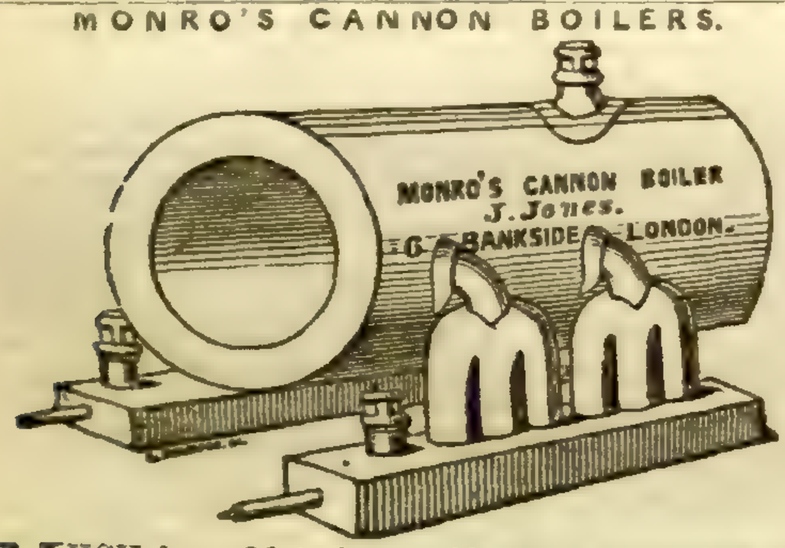
**MONRO'S CANNON BOILERS.**




MUCH has of late been said about BOILERS for Heating by Hot Water, but these Boilers have now proved themselves to be the best at present invented. They are adapted for heating every description of building, and are made of various sizes. The Price of the

| | | | | |
|---|---|---|---|---|
| 24-inch Cast Iron is | .. .. | .. £5 | 10s. 0d. | each |
| 24-inch Wrought ditto | .. .. | .. 6 | 10 0 | ,, |
| 36-inch Cast ditto | .. .. | .. 8 | 0 0 | ,, |
| 36-inch Wrought ditto | .. .. | .. 8 | 10 0 | ,, |

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JOHN R. PEILL, 17, New Park Street, Southwark Manufacturer of every description of Buildings for Horticultural purposes, and Inventor of the Improved Conical Boiler for heating the same, is prepared to undertake works of any magnitude, and refers among others to the celebrated range of FORCING HOUSES at HER MAJESTY'S GARDENS, FROGMORE, and at SIR ROBERT PEEL'S, DRAYTON MANOR, constructed under the superintendence of his Manager, MR. JOHN JONES; and also to his BOILERS fixed at the CRYSTAL PALACE, the ROYAL BOTANIC GARDENS, REGENT'S PARK, and KEW, and at several hundreds of the Nobility's seats, Public Establishments, and Manufactories in London and the provinces. J. R. P. also manufactures every description of Iron Roofs, Iron Houses, and Iron Fencing, plain and ornamental. Strong Iron Hurdles for Sheep (6 feet long, 3 feet high, with 5 bars), 4s. 3d. each; ditto for cattle, 4s. 9d. each.

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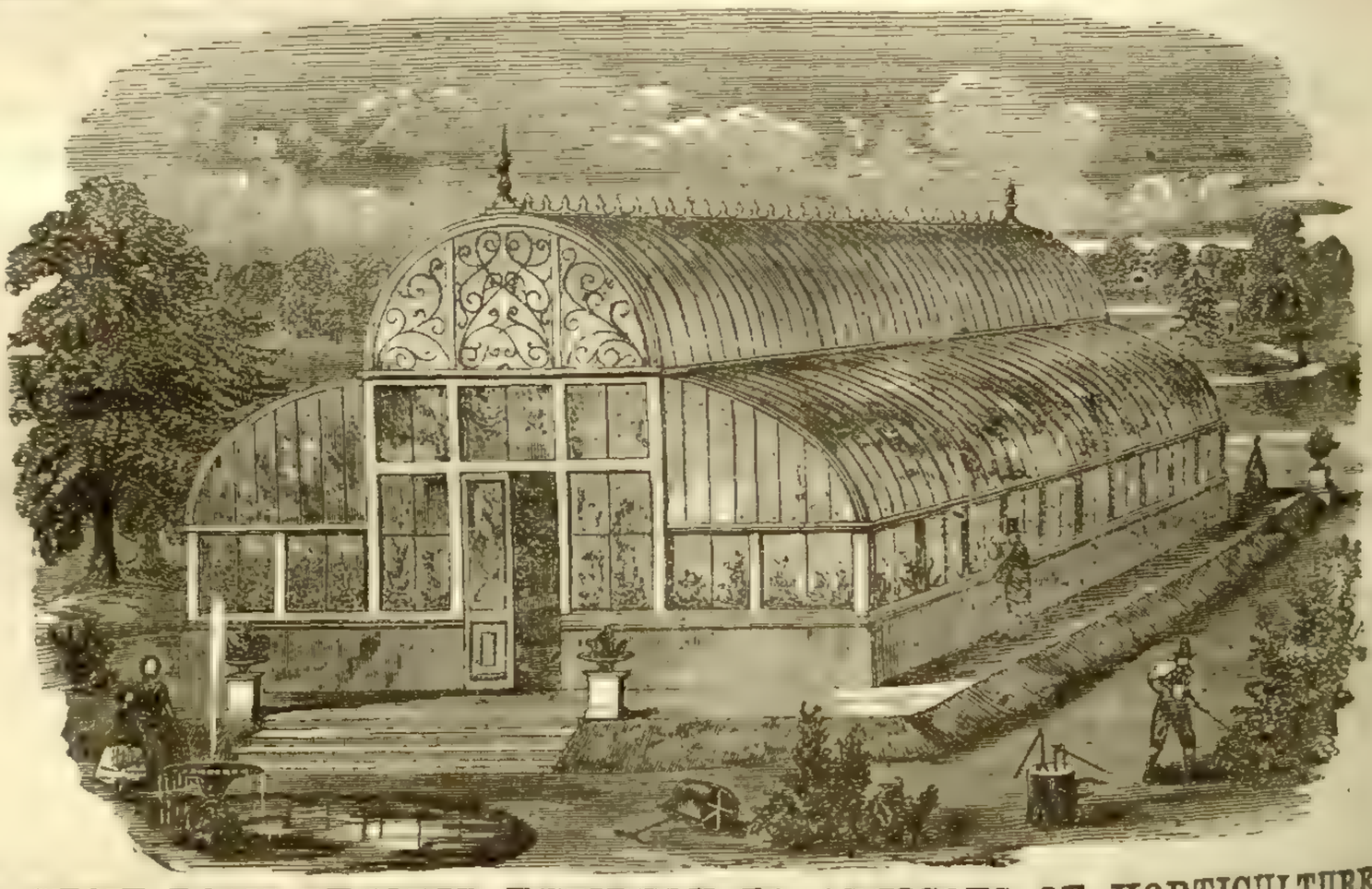

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*Every description of Plain, Ornamental, Cast and Wrought Iron, and Wire Work.*

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N.B. COTTAM AND COY. beg to make it known that there is no longer an entrance to their establishment from Oxford Street but that they have made a second entrance from 2, Winsley Street, Oxford Street, W., by the side of the old entrance to their works, opposite the Pantheon.

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THE best and cheapest PAINT for PARK FENCING, all outside Wood and Iron Work, is MITCHELL'S ANTISEPTIC MINERAL BLACK PAINT. Sold ready for use, 17s. 6d. per cwt. Used largely now and for many years past by the West India Dock Company, for Fencing, Barges, &c. Recommended to the nobility and gentry, stewards, land agents, &c. A liberal allowance to the Trade, &c.

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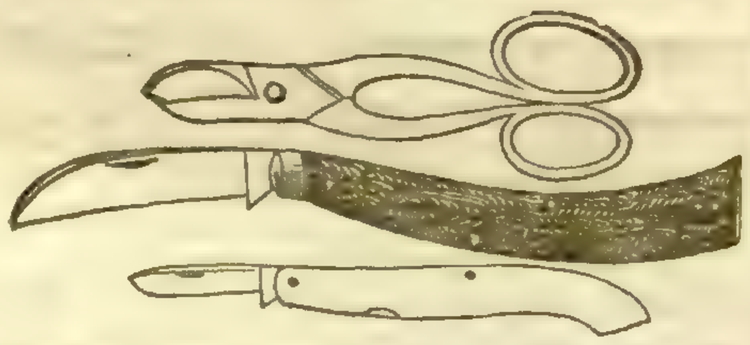

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FLOWER POTS, of superior Red Clay, manufactured by the Arley Pottery Company (Limited), equal in appearance to Terra Cotta at the price of the common pots usually sold, say 2s. per cast, delivered in London.—Apply to TAYLOR & PEARS, 8, George Yard, Lombard Street, City, E.C.

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BOOT'S PATENT ANTI-CORROSIVE ENGRAVED LABEL, suitable for every description of plant. See Circular, free by post.

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JOSEPH AMADIO'S Improved Compound MICROSCOPE, 2l. 2s.; Students', 3l. 13s. 6d.

"Both these are from Amadio, of Throgmorton Street, and are excellent of their kind, the more expensive one especially."—*Household Words*, No. 345.

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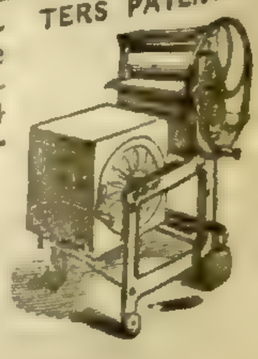
"NO ONE KNOWING the value of your Patent WASHING, WRINGING, and MANGLING MACHINE, would be without one."—*Vide Mrs. Hall.*



THOMAS BRADFORD, Patentee, Manchester.

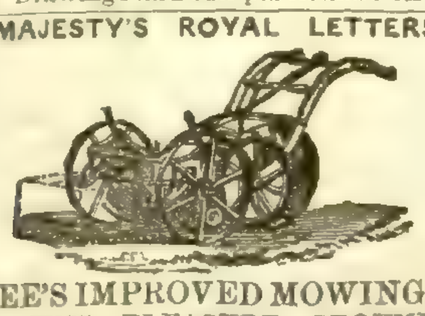
Descriptive Pamphlet, with Prices free by post.

LAWNS—IN USE IN THE ROYAL GARDENS.

SAMUELSON'S PATENT BOYD LAWN MOWING and ROLLING MACHINE, the only one that will cut wet as well as dry Grass, is guaranteed efficient in use, easily guided, and readily kept in working order. Doing the work of five or six men. Prices, including case and carriage to any railway station in England, from 4*l.* 17*s.* 6*d.* and upwards. Copies of testimonials post free on application to Mr. SAMUELSON'S London Warehouse, 76, Cannon Street West, City; Messrs. DEANE'S, London Bridge; or the Works, Banbury, Oxon.

MOWING MACHINES.—BUDDING'S, SHANKS'S, and GREEN'S, with all the recent improvements.—MAPPLEBECK & LOWE, Machinists and Manufacturers, Birmingham. Drawings and full particulars on application.

BY HER MAJESTY'S ROYAL LETTERS PATENT.



FERRABEE'S IMPROVED MOWING MACHINES FOR LAWNS, PLEASURE GROUNDS, CRICKET FIELDS, CEMETERIES, &c.—Those who wish to obtain the most useful MOWING MACHINES for any situation, at the most moderate prices, are respectfully invited to read JAMES FERRABEE & CO'S ILLUSTRATED DESCRIPTIVE CIRCULAR, which will be sent free by post on application.

The following is an extract from the letter of a gentleman ordering a Machine:—

"T——n. April 6, 1859.

"Sirs,—The recommendations of different friends who have used different Mowing Machines have been puzzling me for several weeks as to my own selection. Your explanatory particulars, received to-day, removed all wavering from my mind on the point, and determined me to have a Machine from you."

"To Messrs. Ferrabee & Co."

JAMES FERRABEE & Co., Phœnix Iron Works, Stroud, Gloucestershire.

PATENT PRIZE SCYTHES, Price 11*s.* AND 11*s.* 6*d.*

JAMES PAYNE, Kirkcudbright, invites the attention of Gardeners and others to his newly improved Patent Adjustable Sythes, which can be set to any angle in one minute's time; are light and easily managed, warranted strong, and unequalled for finish by any in the Kingdom.—Circulars on application.

THE SIR JOSEPH PAXTON PATENT FILTERING WATERING POT.—Instead of this Watering Pot

having the nozzle or rose merely slipped on, as in the old way, it is affixed by a thread-screw, so that it cannot fall off; and the spout is not liable to leak, break, or bend.

The section shows the interior, in which is a cone for the purpose of filtration. As the perforations in this cone are only half the size of the holes in the rose it is impossible for the spout to choke up. These simple improvements render the "Sir Joseph Paxton" Watering Can the best yet introduced.

To be had of all respectable Ironmongers, and Wholesale only of Messrs. B. PERKINS & SON, 2 and 3, Bell Court, Cannon Street, E.C.

MAPPIN'S PRUNING KNIVES IN EVERY VARIETY.
WARRANTED GOOD BY THE MAKERS.

MAPPIN BROTHERS, Queen's Cutlery Works, Sheffield; and 67 and 68, King William Street, London.

MAPPIN'S "SHILLING" RAZORS Shave well for Twelve Months without Grinding.

MAPPIN'S 2*s.* RAZORS Shave well for Three Years.

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MAPPIN'S SUPERIOR TABLE-KNIVES maintain their unrivalled Superiority—handles cannot possibly become loose—the blades are all of the very first quality, being their own Sheffield manufacture.

| | Tble. Kns. | Dst. Kns. | Carvers. |
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| Ivory 3½ in. Handle, balanced, | 20*s.* p. doz.; | 16*s.* p. doz.; | 6*s.* p. pair |
| Do. 4 in. do. .. | 25*s.* ,, | 18*s.* ,, | 9*s.* ,, |

MAPPIN'S SILVER-PLATED DESSERT KNIVES and FORKS, in Mahogany Cases.

12 Pairs Knives and Forks, Ivory Handles, in Case.. 80*s.*
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12 Do. Silver-Plated Handles, do. .. 80*s.*

MAPPIN'S ELECTRO-SILVER PLATE.—MAPPIN BROTHERS, Manufacturers by Special Appointment to the Queen, are the only Sheffield makers who supply the consumers in London. Their LONDON SHOW ROOMS, 67 and 68, King William Street, London Bridge, contain by far the largest STOCK of ELECTRO-SILVER PLATE in the World, which is transmitted direct from their Manufactory, Queen's Cutlery Works, Sheffield.

| | Fiddle Pattern. | Double Thread. | King's Pattern. |
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| 12 Table Forks, best quality | £1 16 0 | £2 14 0 | £3 0 |
| 12 Table Spoons, best quality | 1 16 0 | 2 14 0 | 3 0 |
| 12 Dessert Forks, best quality | 1 7 0 | 2 0 0 | 2 4 |
| 12 Dessert Spoons, best quality | 1 7 0 | 2 0 0 | 2 4 |
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Messrs. MAPPIN BROTHERS respectfully invite buyers to inspect their unprecedented display, which, for beauty of design, exquisite workmanship, and novelty, stands unrivalled. Their illustrated Catalogue, which is continually receiving addition of New Designs, sent per post on receipt of 12 stamps.—MAPPIN BROTHERS, 67 and 68, King William Street, London Bridge; Manufactory, Queen's Cutlery Works, Sheffield

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METCALFE, BINGLEY, AND CO.'S New Pattern and Penetrating Tooth Brushes, Penetrating unbleached Hair Brushes, Improved Flesh and Clothes Brushes, and genuine Smyrna Sponges; and every description of Brush, Comb, and Perfumery for the Toilet. The Tooth Brushes search thoroughly between the divisions of the Teeth and clean them most effectually—the hairs never come loose. M., B., and Co. are sole makers of the Oatmeal and Camphor, and Orris Root Soaps—sold in Tablets (bearing their names and address) at 6*d.* each, of METCALFE'S celebrated Alkaline Tooth Powder, 2*s.* per box; and of the New Bouquets.—Sole Establishment, 130B and 131, Oxford St., 2d and 3d doors west from Holles St., London.

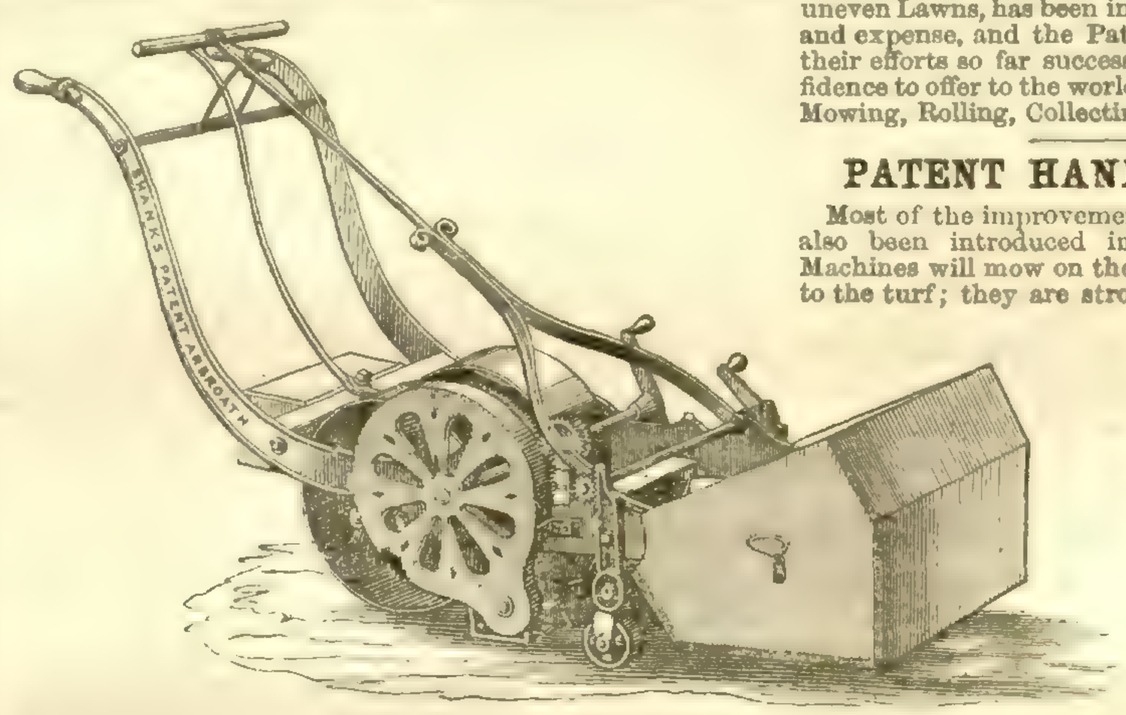
Patronised by Her Majesty QUEEN VICTORIA, His Majesty the EMPEROR of the FRENCH, and his Royal Highness the PRINCE of PRUSSIA.

# SHANKS'S PATENT MOWING, ROLLING, COLLECTING, AND DELIVERING MACHINE FOR 1859.

THE ONLY COMPLETE MACHINE FOR HORSE OR PONY POWER.

AMONGST other valuable improvements, A. SHANKS AND SON have this season made in their Patent Horse and Pony Machines, as fully described in the *Gardeners' Chronicle* of March 5, page 207; particular attention is requested to the new Patent method of emptying the Grass Box, which consists in the introduction of a simple and efficient apparatus for emptying it, without the man being under the necessity of leaving the handles or stopping the machine. So effective and complete is the improvement that the Box, if it were possible to fill it, could be emptied at the rate of 60 times a minute, without any undue strain being put on the apparatus. The immense advantages of this invention must be at once apparent to the practical Gardener. It will enable the machine to do at least a third more work, while the labour and annoyance in working it, as compared with ordinary machines, is three-fourths lessened. If a Lawn which formerly took a machine nine hours to mow, can now be done in six hours, with three-fourths less labour to the man who works the machine, nothing further is necessary to establish the utility and worth of the invention.

Every conceivable convenience and improvement tending to make the Machine in every way complete for level as well as uneven Lawns, has been introduced at the sacrifice of much time and expense, and the Patentees have great pleasure in seeing their efforts so far successful as to enable them with all confidence to offer to the world the cheapest and the most complete Mowing, Rolling, Collecting, and Delivering Machine extant.




## PATENT HAND MACHINE for 1859.

Most of the improvements of the Horse and Pony sizes have also been introduced into the new Hand Machine. The Machines will mow on the most uneven Lawns without injury to the turf; they are strongly made, are fitted with the same care and precision of the larger sizes, so simple in construction that a labourer can work them, and are quite free from all superfluous and useless gear, which has only novelty, not improvement, as a recommendation. These Machines are peculiarly well fitted for turning and cutting amongst Flower Beds, Verges, Bowling Greens, and for small Lawns. The Patent improvements for this season render them complete in every part. The draught is greatly lessened, and the execution of the work is unsurpassed.

The Machines are warranted to give ample satisfaction; failing this (which is barely possible), they may be at once returned.

FURTHER PARTICULARS MAY BE HAD ON APPLICATION.

**ALEXANDER SHANKS & SON, Patentees and Sole Manufacturers, Dens Iron Works, Arbroath, Forfarshire.**

*N.B. To prevent disappointment in delivery early Orders are particularly requested.*

# PATENT LAWN MOWING AND ROLLING MACHINES.

# SAMUELSON'S LAWN MOWING MACHINES,

## WITH BOYD'S PATENT IMPROVEMENTS.

*"Doing the work of five or six men."—The Times, Sept. 20, 1858.*

The following PRICES include the Carriage to any Railway Station in England:—

| | | With Boyd and Samuelson's Patent Cleaning, Sharpening, and Adjusting Apparatus. |
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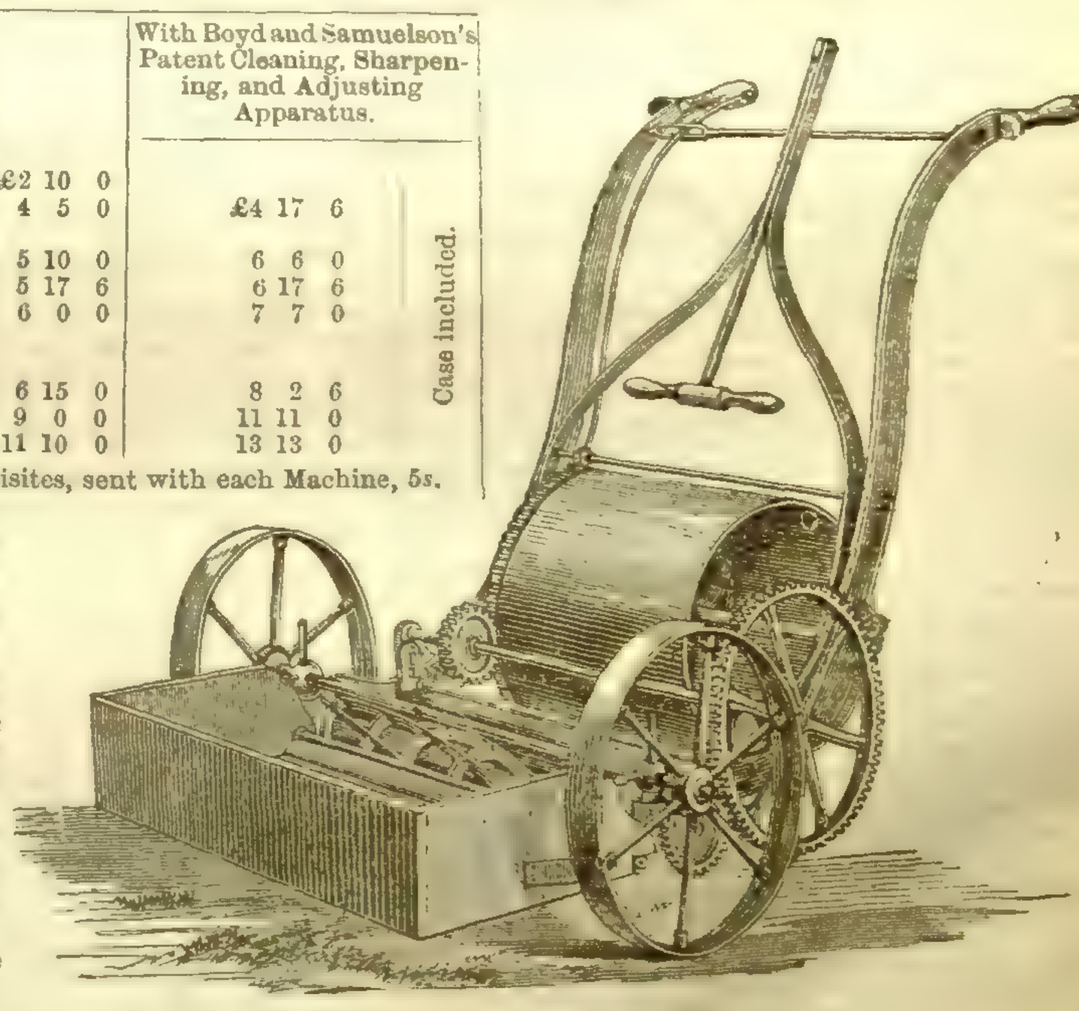
| 9 inches wide, for very narrow borders, without registered wheels .. .. | £2 10 0 | |
| 12 inches wide .. .. .. .. | 4 5 0 | £4 17 6 |
| 16 inches wide, with registered arrangement (for one man) .. .. .. | 5 10 0 | 6 6 0 |
| 19 inches wide, ditto (for one man) .. | 5 17 6 | 6 17 6 |
| 22 inches wide, ditto (for man and boy) | 6 0 0 | 7 7 0 |
| 22 inches wide, ditto for ditto, and also fitted with draught links for a pony and a man to work it .. .. | 6 15 0 | 8 2 6 |
| 25 inches wide, ditto .. .. .. | 9 0 0 | 11 11 0 |
| 30 inches wide, ditto (for man and pony) | 11 10 0 | 13 13 0 |

Case included.

Box of Tools, Oil Can, and other requisites, sent with each Machine, 5*s.*



Some thousands of these Machines are now in successful operation on the Lawns of Royalty, the Nobility, and Gentry of the United Kingdom and the Continent of Europe, and are pronounced SUPERIOR to *any other* for lightness of draught, efficiency, and durability. The demand for them is *yearly increasing—the number supplied by* Mr. SAMUELSON *during the years* 1856, 1857, *and* 1858 *being more than* 2100. Testimonials are continually being received from gentlemen having them in daily use, who speak in the highest terms of their efficiency.

These are the only Machines that will cut wet as well as dry Grass without clogging the knives.

Orders for 1859 should be sent at once to insure certain delivery and to prevent disappointment.

Copies of Testimonials will be forwarded post free on application to

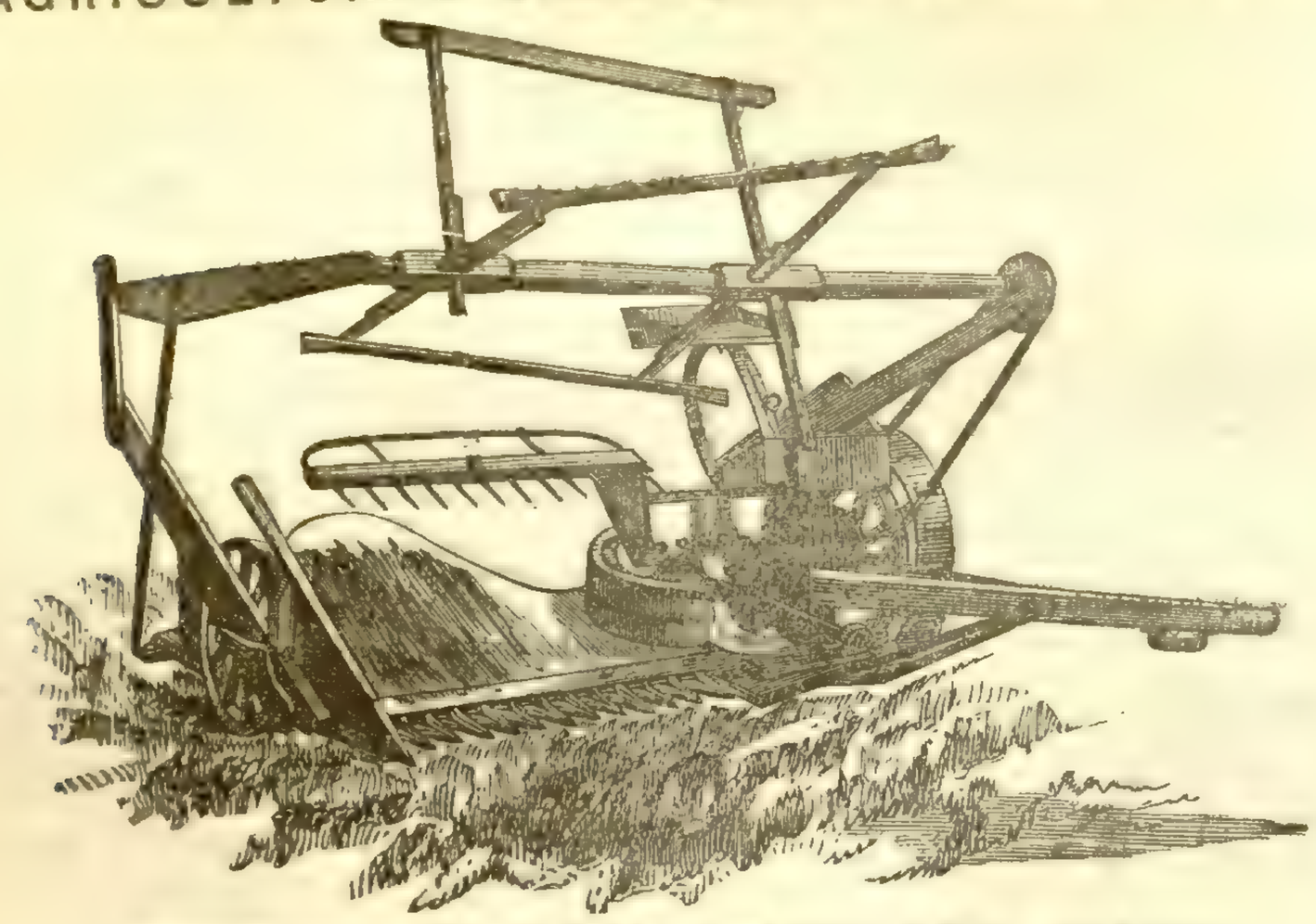
**B. SAMUELSON, 76, Cannon Street West, City, London;**

**to the Manufactory, Britannia Works, Banbury, Oxon;**

or to MESSRS. DEANE AND CO., London Bridge; or any respectable Ironmonger or Seedsman in the Kingdom

# B. SAMUELSON,

## AGRICULTURAL ENGINEER AND MACHINIST,



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**WORKS AT BANBURY,**

INFORMS MERCHANTS, the TRADE, and AGRICULTURISTS, that he has opened the above Warehouses as a depôt for his own manufactures and those of Messrs. Barrett, Clayton, Howard, Hornsby, Nicholson, Richmond, Tuxford, Smith, and all other first-class makers, whose implements he is prepared to offer on makers' terms.

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With side delivery in sheaf, no rakers or gatherers required; and all the most improved Spring Implements for the season, may be inspected at the above depôt.

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BRITTAIN'S GARDEN NET completely protects Fruit Blossoms from injury by frost, and provides for the circulation of air and admission of light, so essential to healthy growth; 55 inches wide, 5*d*., 6*d*., and 8*d*. a yard; good SHADING TIFFANY, yard wide, 3*d*. do.—Manchester, April 9.

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Peel Street, Manchester.

TANNED GARDEN NETTING, for preserving Fruit Trees from frost, blight, birds, &c., and as a fence for fowls, &c. One yard wide 1½*d*., 2 yards 3*d*., 3 yards 4½*d*., and 4 yards 6*d*., per yard, in any quantity, may be had at C. WRIGHT'S, 376, Strand, W.C.—A liberal allowance to Nurserymen.

TANNED NETTING, AT REDUCED PRICES.—200 square yards, 12*s*.; 500 yards, 25*s*.; 1000 yards, 47*s*. SCRIM CANVASS for Wall Fruit, 50 yards, 16*s*.; 100 yards, 30*s*. Be particular to address in full, FREDERICK EDDINGTON, Thomas Street, Old Kent Road, London, S.E.

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Address JOHN SHAW & Co., Manufacturers and Dealers, Princess Street, Manchester.

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WHITE AND SOUND TEETH are indispensable to personal attraction and to health, and longevity by the proper mastication of food. ROWLANDS' ODONTO, or Pearl Dentifrice, compounded of oriental ingredients, is of inestimable value in improving and beautifying the teeth, strengthening the gums, and in rendering the breath sweet and pure. It eradicates tartar from the teeth, removes spots of incipient decay, and polishes and preserves the enamel, to which it imparts a pearl-like whiteness. As the most efficient and fragrant aromatic purifier of the breath, teeth, and gums ever known, ROWLANDS' Odonto has for a long series of years occupied a distinguished place at the toilets of the sovereigns and the nobility through Europe: while the general demand for it at once announces the favour in which it is universally held.—Price 2*s*. 9*d*. per box. CAUTION.—The words "ROWLANDS' Odonto" are on the Label and "A ROWLAND & SONS, 20, Hatton Garden," engraved on the Government stamp affixed on each box.—Sold by the Proprietors, and by Chemists and Perfumers.

HANDSOME BRASS AND IRON BEDSTEADS.—HEAL & SON'S Show Rooms contain a large assortment of Brass Bedsteads, suitable both for Home use and for Tropical Climates; handsome Iron Bedsteads with Brass Mountings and elegantly Japanned; Plain Iron Bedsteads for Servants; every description of Wood Bedstead that is manufactured, in Mahogany, Birch, Walnut-tree Woods, Polished Deal and Japanned, all fitted with Bedding and Furniture complete, as well as every description of Bedroom Furniture.

HEAL AND SON'S ILLUSTRATED CATALOGUE, containing Designs and Prices of 100 Bedsteads, as well as of 150 different articles of Bedroom Furniture, sent free by post.—HEAL & SON, Bedstead, Bedding, and Bedroom Furniture Manufacturers, 196, Tottenham Court Road, W.

FENDERS, STOVES, FIRE-IRONS, AND CHIMNEY PIECES.—Buyers of the above are requested, before finally deciding, to visit WILLIAM S. BURTON'S SHOW ROOMS. They contain such an assortment of FENDERS, STOVES, RANGES, CHIMNEY PIECES, FIRE-IRONS, and GENERAL IRONMONGERY as cannot be approached elsewhere, either for variety, novelty, beauty of design, or exquisiteness of workmanship. Bright Stoves, with ormolu ornaments and two sets of bars, 3*l*. 15*s*. to 33*l*. 10*s*.; Bronzed Fenders, with standards, 7*s*. to 5*l*. 12*s*.; Steel Fenders, 2*l*. 15*s*. to 11*l*.; ditto, with rich ormolu ornaments, 2*l*. 15*s*. to 18*l*.; Chimney Pieces, from 1*l*. 8*s*. to 80*l*.; Fire-Irons, from 2*s*. 3*d*. the set to 4*l*. 4*s*. The BURTON and all other PATENT STOVES, with radiating hearth-plates.

BEDSTEADS, BATHS, AND LAMPS.—WILLIAM S. BURTON has SIX LARGE SHOW ROOMS devoted exclusively to the SEPARATE DISPLAY of Lamps, Baths, and Metallic Bedsteads. The stock of each is at once the largest, newest, and most varied ever submitted to the public, and marked at prices proportionate with those that have tended to make his establishment the most distinguished in this country.

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| Bedsteads, from .. .. | .. | 12*s*. 6*d*. | to £20 | 0*s*. | each. |
| Shower Baths, from .. | .. | 8 0 | ,, 6 | 0 | ,, |
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(All other kinds at the same rate.)

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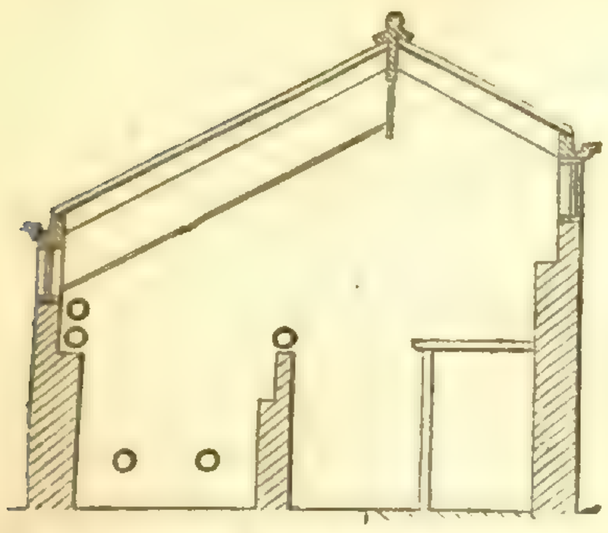
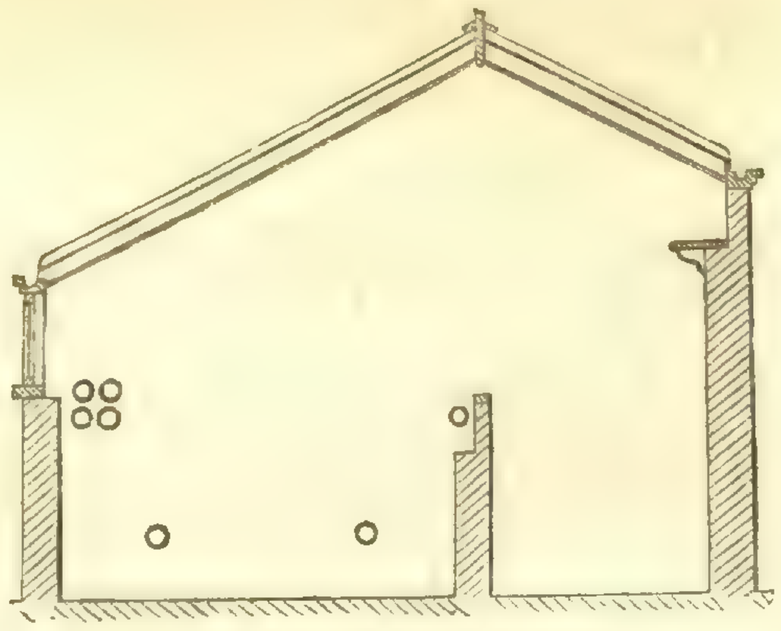
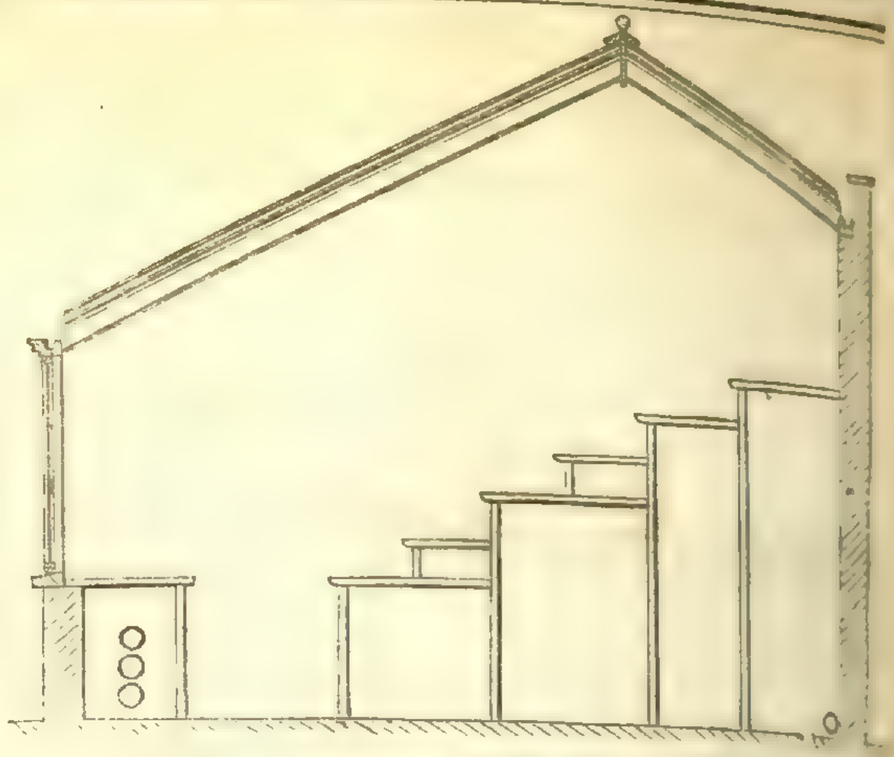


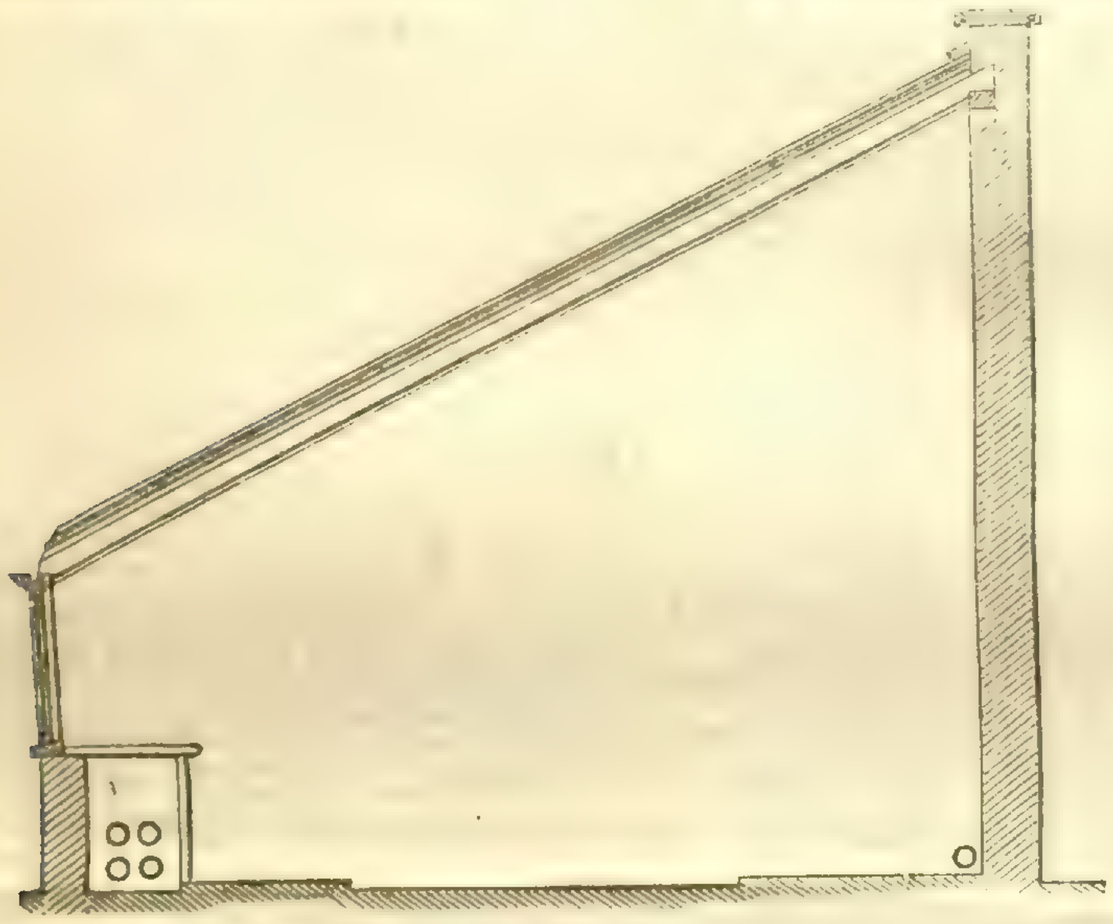
No. 1.—CUCUMBER AND MELON PIT, 10 ft. wide.



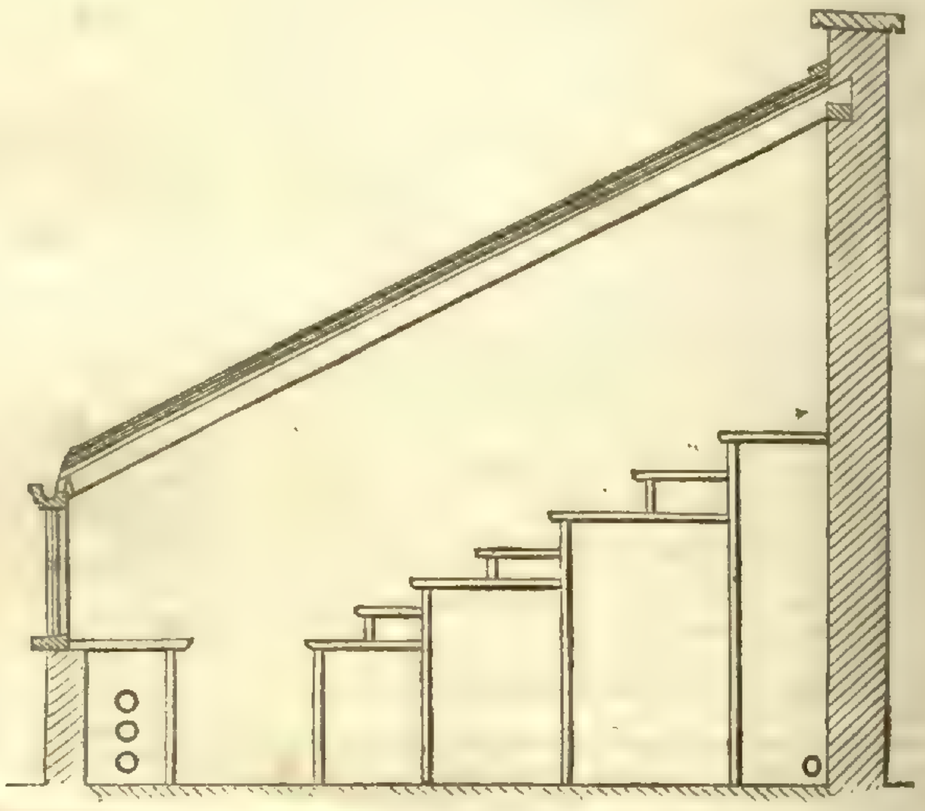
No. 2.—PINE PIT, 14 ft. wide



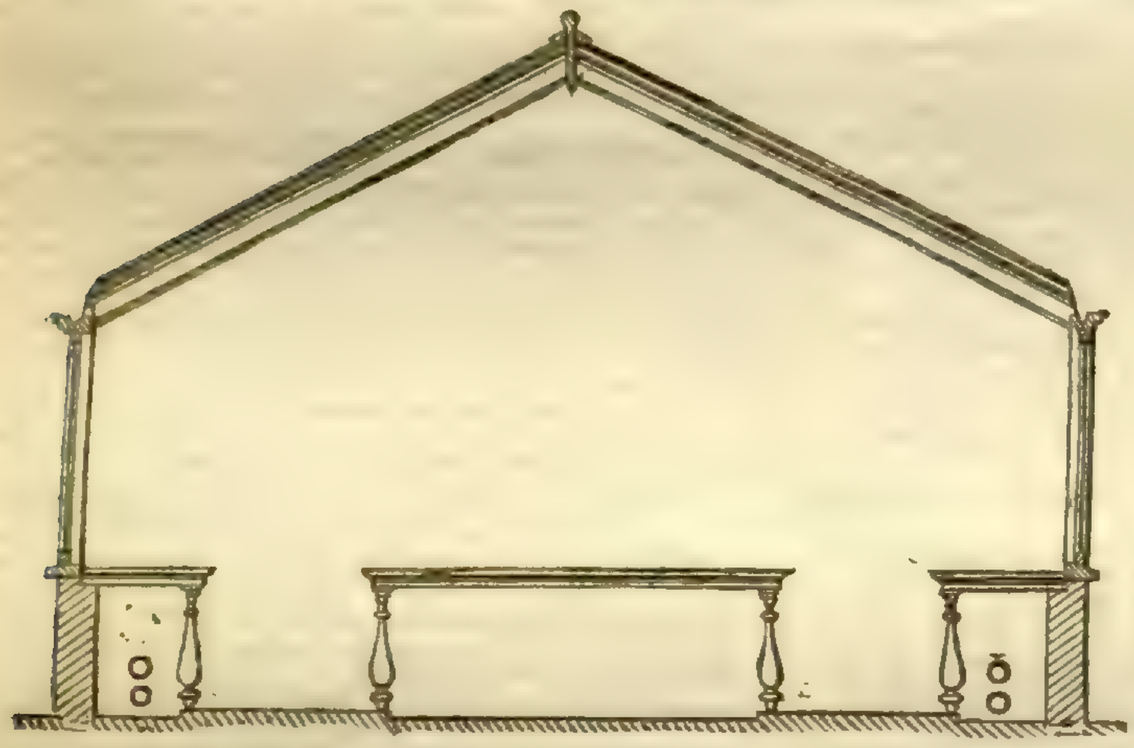
No. 3.—GREENHOUSE, from 14 to 18 feet wide.



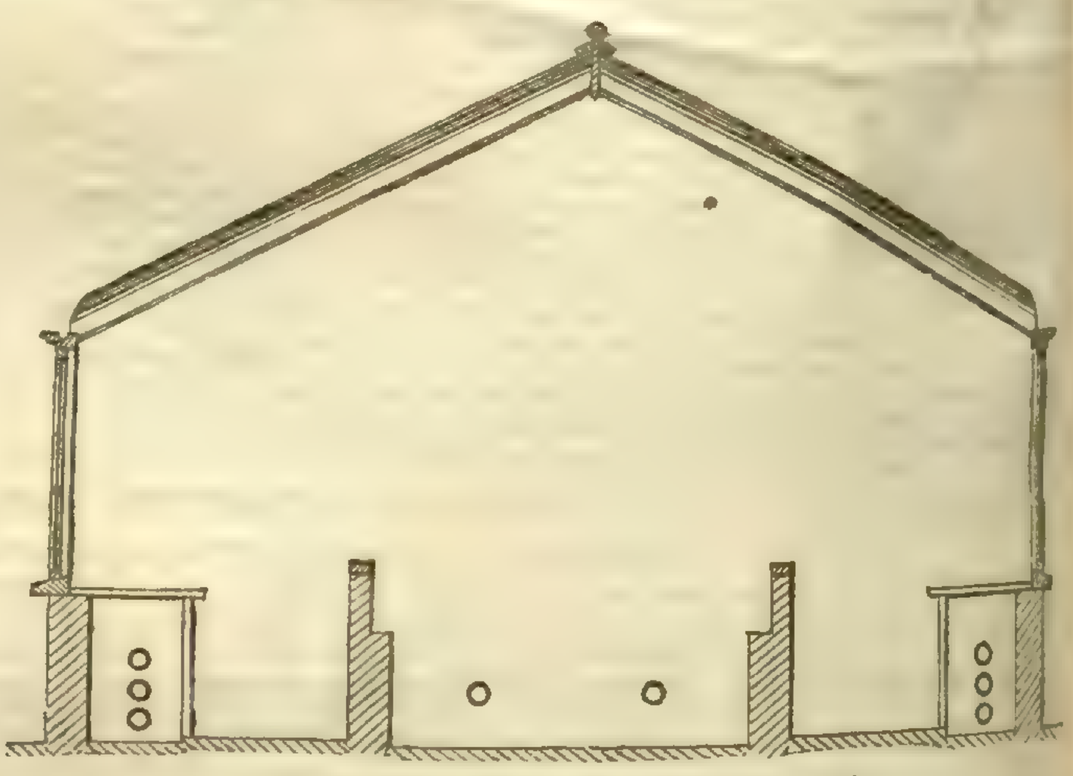
No. 4.—VINERY, from 15 to 18 ft. wide.



No. 9.—GREENHOUSE, from 12 to 20 ft. wide.



No. 6.—GREENHOUSE, from 18 to 20 ft. wide.



No. 7.—FORCING HOUSE, from 18 to 20 ft. wide.


## HORTICULTURAL BUILDINGS MANUFACTURED BY STEAM POWER MACHINERY.

BEST MATERIALS AND LOWEST PRICES.

# HENRY ORMSON,

## HORTICULTURAL BUILDER & HOT-WATER APPARATUS MANUFACTURER.

STANLEY BRIDGE, KING'S ROAD, CHELSEA, LONDON,

Deeply grateful for the very liberal and kind patronage bestowed upon him, begs most respectfully to inform the Nobility, Gentry, Nurserymen, &c. that it being his determination to spare no pains to merit a continuance of their favours, and that he may be enabled to execute his extensive and increasing orders punctually, and at the lowest possible cost (agreeably with the best Materials and Workmanship), he has erected a most complete set of Steam Power Machines, peculiarly adapted for the purposes of his Trade.

PARTIES DESIRING INFORMATION as to prices, &c., will, by referring to any of the above sections, receive immediate attention.

PLANS, SPECIFICATIONS, and ESTIMATES for plain and inexpensive practical Structures, and for the most elaborate Architectural Erections, either in Wood or Iron, forwarded on application.

## ORMSON'S PATENT JOINTLESS TUBULAR BOILERS

May be seen in successful operation at Mr. VEITCH's, Royal Exotic Nursery, King's Road, Chelsea, and on view and for sale at

## THE MANUFACTORY.


Printed by WILLIAM BRADBURY, of 13, Upper Woburn Place, and FREDERICK MULLETT EVANS, of No. 20, Queen's Road West, both in the Parish of St. Pancras, in the Co. of Middlesex, Printers, at their Office, Lombard St. Precinct of Whitefriars, City of London, and published by them at the Office, No. 5, Upper Wellington St., Parish of St. Paul's, Covent Garden, in the said Co.—SATURDAY, April 9, 1859.

# THE GARDENERS' CHRONICLE
AND
# AGRICULTURAL GAZETTE.

**A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.**

No. 16.—1859.] SATURDAY, APRIL 16. {Price Fivepence. STAMPED EDITION, 6d.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HORTICULTURAL SOCIETY OF LONDON.—Notice is hereby given that the business of the Society will be carried on in future at **No. 8, St. Martin's Place**, Trafalgar Square, W.C.

HORTICULTURAL SOCIETY OF LONDON.—BEDDING-OUT PLANTS.

In consequence of the conversion of the **Garden at Chiswick** into one of Experiment only, the Bedding-out Plants which had been provided for the ensuing summer will be given away to the Fellows in quantities not exceeding **five dozen each.**—Application to be made to the **Assistant-Secretary, 8, St. Martin's Place, W. C., before APRIL 23, after which the** Plants not wanted by the Fellows will be sold to the Trade.

ROYAL BOTANIC SOCIETY, REGENT'S PARK.—THE EXHIBITIONS OF PLANTS, FLOWERS, AND FRUIT this season will take place on WEDNESDAYS, May 25, June 15, and July 6. Tickets of Admission are now being issued, and can be obtained at the Gardens only by orders from Fellows or Members of the Society. Price, on or before Saturday, May 14, **4s.**; after that day, **5s.**; or on the days of Exhibition, **7s. 6d** each.

THE ROYAL NATIONAL ANNUAL EXHIBITION OF TULIPS.—**The Meeting for 1859 will be held on** FRIDAY, May 20, at the Royal Nursery, Slough. Lists of sizes and full particulars may be had of CHARLES TURNER, Hon. Sec., Royal Nursery, Slough.

THE GRAND NATIONAL DAHLIA SHOW FOR 1859.—This Exhibition will take place on the 20th and 21st of September next, at Aston Hall, Birmingham. Lists of Prices will shortly be ready.

CHARLES TURNER, JOHN KEYNES, } Hon. Secs.

THE PLYMOUTH SEED, AGRICULTURAL IMPLEMENT, AND MANURE COMPANY LIMITED supply every requisite for the Farm and the Garden.
Registered Offices, Union Road, Plymouth.

TO DISTILLERS AND AGRICULTURISTS.

FRESH IMPORTED WHITE SILESIAN SUGAR BEET SEED may be had genuine (if ordered early) of Messrs. SUTTON & SONS, Seed Growers and Importers, Reading, Berks.—Price reduced to **9d.** per lb., or cheaper by the cwt.

DIOSCOREA BATATAS.—Fine roots, 9 to 12 inches long, **5s.** per dozen; extra size, **10s.** per dozen.
BASS & BROWN, Seed Growers, &c., Sudbury, Suffolk.

DIOSCOREA BATATAS—CHINESE YAM.

WM. CUTBUSH AND SON beg to intimate that now is the best time for planting the above. Good Sets, 2s. per 100; or 4s. per doz.—Highgate Nurseries, London, N.

CHINESE POTATOES (DIOSCOREA BATATAS) for planting this month. Large sets (from full-sized, well-matured tubers, some of them weighing over 2½ lbs., grown in this country) **2s. 6d.** per dozen.—Apply, WM. LEMON, Sandbach, Cheshire.

DIOSCOREA ROOTS AND SETS.

MESSRS. SUTTON'S DIOSCOREAS, which they are sending out at **5s.** per doz., contain six or more sets each.

Instructions for planting are sent with the roots. Early sets necessary for strong roots.
Royal Berkshire Seed Establishment, Reading.

SORGHUM, OR HOLCUS SACCHARATUS.

SUTTON AND SONS, Importers of this Seed, can supply it wholesale and retail, warranted the true kind, and good growing Seed, at reduced price, according to quantity required. 5 lbs. per acre sufficient. Instructions on cultivation sent with the Seed.
SUTTON & SONS, Royal Berks Seed Establishment, Reading.

HOLCUS SACCHARATUS, or North China Sugar-Cane.—Pamphlet, "A Visit and a Plant;" the only English authority on the Cultivation of the above. Post free 6d. Prices of Seed on application. Samples 6d. Four varieties of Holcus remitted free by post on receipt of 10s.
CHINESE YAMS, 4s. per dozen.
ASPARAGUS plants, 16s. per 1000.
JOHN W. CLARKE, Whittlesea, Cambridgeshire.

500 BUSHELS of FLUKE and WHITE BLOSSOM SEED POTATOES, true, free from disease, and suitable sizes, at 3s. 4d. the bushel of 80 lbs., samples of which may be had on application to Mr. WM. GROSVENOR, Prospect Nursery, Cheddleton, near Leek, Staffordshire.
A reference or reference from unknown correspondents.

100,000 BEDDING PLANTS, the cheapest place in England. Catalogue sent for one stamp.—J. PYLE, St. John's Nursery, Upper Holloway, London.

DOWNIE AND LAIRD beg to offer the following, which they warrant all fine show varieties, viz.:—
100 Pansies, in 25 sorts .. 30s.
100 Hollyhocks, in 25 do. 24s.
100 Hollyhock seedlings from finest named vars. 20s.
100 Phloxes in 30 varieties, 40s.
Selection of the above left to D. & L. A liberal allowance to the Trade.—17, Frederick Street, Edinburgh.

SKIRVING'S SWEDE—SUTTON'S SELECTED STOCK.

SUTTON AND SONS have a choice stock of SKIRVING'S SWEDE SEED, growth of 1858, which they can strongly recommend. Price **9d.** per lb., or cheaper by the bushel.—Royal Berks Seed Establishment, Reading.

THE ALSIKE CLOVER.—This valuable but scarce Clover Seed is included in Messrs. SUTTON'S mixtures of Clover and Grass Seeds for permanent pasture and for alternate husbandry. It can be supplied alone if required. Price fluctuating, to be had on application.
Royal Berks Seed Establishment, Reading.

TROPÆOLUM CANARIENSE.

CHARLES ALEXANDER, SEEDSMAN, Edinburgh, offers New Seed of the above at **20s.** per lb., and **1s. 6d.** per ounce.

NEW ZEALAND RUNNER BEAN. — Price **2s.** per quart.—JAS. CARTER & Co., Seedsmen, 238, High Holborn, London, W. C.

NEW ZEALAND RUNNING BEAN.—Packets of 12 Seeds, for 14 stamps.
BASS & BROWN, Seed Growers, &c., Sudbury, Suffolk.

GRAYSON'S GIANT ASPARAGUS.—Fine 2-year roots, **2s. 6d.** per 100; or **21s.** per 1000.
,, 3-year ,, **3s. 6d.** ,, 100; or **30s.** ,, ,,
The usual allowance to the Trade.
BASS & BROWN, Nurserymen, Sudbury, Suffolk.

CUSTARD MARROW.—The improved variety, 18 Seeds for 13 stamps, or nine Seeds for seven stamps, free by post. See drawing of this productive and handsome variety in *Gardeners' Chronicle*, Jan. 29 and Feb. 12.
BASS & BROWN, Seed Growers, Sudbury, Suffolk.

CAULIFLOWER PLANTS for Pricking out, **5s.** per 1000; ASPARAGUS, 2 years, **15s.** per 1000; LETTUCE, **2s. 6d.** per 1000; and BEDDING PLANTS, **2s.** per doz.
WALTER BIRD, Atherstone Nursery.

SPECIMEN GREENHOUSE AND STOVE PLANTS—See PRICED LIST in *Gardeners' Chronicle* of March 26, page 260, with description of sizes, &c. Also a LIST containing several others sent free by post.—BASS & BROWN, Seed and Nursery Establishment, Sudbury, Suffolk.

FERN CATALOGUE.

ROBERT SIM'S NEW DESCRIPTIVE AND PRICED CATALOGUE, No. 6 (62 pages) of his COLLECTION of BRITISH AND EXOTIC FERNS, can be had, post free, for 8 stamps. Gratis to all previous purchasers of Ferns.
Nursery, Foot's Cray, Kent, S.E.

NEW DAHLIAS.

JOHN KEYNES'S SELECT CATALOGUE OF DAHLIAS, ROSES, CARNATIONS, PINKS, &c., containing Lists of all the valuable Show Flowers in each class, is now ready and will be sent on application.
Castle Street Nursery, Salisbury.—April 16.

HENDON PARK NURSERIES, HENDON, N.W.

EDWARD SHENTON'S Descriptive CATALOGUE of new DAHLIAS, HOLLYHOCKS, PELARGONIUMS, BEDDING AND BORDER PLANTS, and the leading New Flowers of the season 1859. Forwarded on application.

TO THE READERS OF THE "GARDENERS' CHRONICLE."

CHEAP GREENHOUSE AND BEDDING PLANTS.

J. SLIPPER'S CATALOGUE is now ready, and may be had for a postage stamp.
Villa Nursery, Camden Town, London, N.W.

FINEST SHOW CARNATIONS, PICOTEES, PINKS, &c.

CHARLES SCHOFIELD has a fine healthy stock of the above for sale at 6s., 12s., and 20s. per dozen pairs. Also PANSIES, DAHLIAS, VERBENAS, FUCHSIAS, &c. CATALOGUES now ready, sent free on application.—Knowsthorpe, near Leeds, Yorkshire.

GOLDEN CHAIN GERANIUMS.

WILLIAM HUSSEY begs to offer the above at **4s.** per doz., or **30s.** per 100. Also several thousand Seedling HOLLYHOCKS, raised from a fine named Collection, at **2s.** per doz., or **12s.** per 100.—Horticultural Gardens, Norwich.

CHOICE SHOW AND FANCY GERANIUMS **6s.** to **9s.** per dozen. Also FUCHSIAS, CALCEOLARIAS, VERBENAS, PANSIES, &c. Catalogues on application to GEORGE SMITH, Florist, Seedsman, &c., Common Side, Hurdsfield, Macclesfield.

NEW VERBENAS.

CHARLES TURNER is now sending out Edmonds's fine new varieties. For particulars, see Catalogue.
The Royal Nurseries, Slough.

PANSIES.—The best and most distinct kinds, extra fine show varieties, **6s.** per dozen.—DODWELL & BAYLEY, Bradshaw Gardens, Chadderton, Manchester.

BELGIAN DAISIES.—In the finest variety, **4s.** per dozen.—DODWELL & BAYLEY, Bradshaw Gardens, Chadderton, Manchester.

CARNATIONS.—Twenty-five pairs strong, well rooted, and extra fine show varieties, named **1l.**, packing and hamper included. — DODWELL & BAYLEY, Bradshaw Gardens, Chadderton, Manchester.

PICOTEES.—Twenty-five pairs strong, well-rooted plants, and extra fine show varieties, named, **1l.**, packing and hamper included. — DODWELL & BAYLEY, Bradshaw Gardens, Chadderton, Manchester.

PINKS.—Twenty-five pairs fine named kinds, in strong healthy plants, **10s.**, packing and hamper included.—DODWELL & BAYLEY, Bradshaw Gardens, Chadderton, Manchester.

PHLOXES.—The best and most distinct kinds, strong plants, well established, **8s.** per dozen.—DODWELL & BAYLEY, Bradshaw Gardens, Chadderton, Manchester.

FIVE FIRST-RATE BROCCOLIS FOR SUCCESSION.

| | s. | d. | |
|---|---|---|---|
| WALCHEREN, for Aug. to October produce .. | 3 | 0 | per oz. |
| HAMMOND'S WHITE CAPE, Sept. to Nov. .. | 2 | 6 | ,, |
| MITCHINSON'S PENZANCE, Feb. and March | 5 | 0 | ,, |
| DILCOCK'S BRIDE, for April .. .. .. | 1 | 0 | ,, |
| THE GIANT, late white, for May and June .. | 2 | 0 | ,, |

A ¼ oz. packet of each free by post for 3s. 6d. in postage stamps.
BASS & BROWN, Seed Growers, Sudbury, Suffolk.

THE PRIMULARY.

THOS. WILD respectfully reminds his friends that April and May is the season for sowing CHINESE PRIMROSES. Mixed colours, **2s. 6d.** per packet. Separate colours sold out.—THOS. WILD, The Primulary, Ipswich.

LILIES OF THE VALLEY. — A few thousand roots to be sold, **1s.** per 100, or **8s.** per 1000.—Apply to Mr. HARRISON, Oatlands Palace Garden, Weybridge. Applications per Post-office Order or stamps will only be attended to.

NEW BLACK WALLFLOWERS.

J. LOCKHART, FLORIST and SEEDSMAN, Parson's Green, Fulham, near London, is sending out Seed of his new Single BLACK WALLFLOWER, in sealed packets, containing 50 Seeds each for 13 stamps, and Cuttings of his new Double Black Wallflower 30 stamps each, free by post.

THE BEST TIME FOR PLANTING ASPARAGUS AND SEAKALE.

YOUELL AND CO. having a large Stock of the above growing on the Sea Coast, of the finest quality, beg to offer it at the following prices:—
ASPARAGUS, GIANT, two years .. **2s. 6d.** per 100.
,, ,, three years .. .. **3s. 6d.** ,,
SEA KALE .. .. .. .. .. **6s. 0d.** ,,
Royal Nursery, Great Yarmouth Norfolk.

H. AND R. STIRZAKER have again to offer several millions of extra fine CABBAGE PLANTS:—Drumhead Cattle, **2s.**; Early, of sorts, **3s.**; Red, for pickling, **5s.**; Cauliflower, Early London, **25s** per 1000.—Lancaster Nurseries.

NEW YELLOW ROSE, "MADAME WILLIAM."—This beautiful new Rose was exhibited by A. PAUL & SON, at the Royal Botanic Society's Gardens, in the Regent's Park, on Wednesday, the 6th inst., and awarded a Certificate of Merit. Price **7s. 6d.** the pair, package and carriage to London included.—A. PAUL & SON, Nurseries, Cheshunt, Herts.

CONIFERÆ.

A. PAUL AND SON have a large stock of the above, very handsome, in fine order for removal, many suited for immediate effect. For particulars see Advertisements in *Gardeners' Chronicle* of November and December last.—Nurseries, Cheshunt, Herts.

JOHN GRIGOR AND CO., NURSERIES, Forres, beg to offer true Native Highland SCOTCH FIR SEED, grown in the celebrated Natural Forests of Strathspey, at **2s. 6d.** per packet, post free, or for stamps of that value.
The Trade supplied at Wholesale Prices.

TO BE SOLD, a LARGE quantity of YEW TREE BUTTS, SLABS, and ROOTS; also a fine YEW TREE of great age. The best SEA SHELL and GARDEN GRAVEL for Conservatories and Garden Paths, to be had in any quantity at Gravel Wharf, 67, Augustus Street, Regent's Park Basin.
W. HOLLAND, Proprietor.

SEEDS! GENUINE SEEDS.—For the RIGHT SEEDS at the RIGHT PRICE, go to the RIGHT PLACE, which is G. W. DIXON'S New Seed Warehouse, 48 A, Moorgate Street, London, E.C. All sorts of Garden, Grass, Agricultural, and Flower Seeds, wholesale, retail, and for exportation.

TO THE SEED TRADE.

THOMAS AYRES, JUN., SEEDSMAN and GROWER, Biggleswade, Beds., can supply every kind of Wurzel, Swede, and common Turnip Seeds, on the most reasonable terms for cash.
N.B. Dealer in Culinary and Flower Seeds, Fruit Trees, Shrubs, and Flowering Plants.

SPERGULA PILIFERA.—A perfect substitute for GRASS LAWNS WITHOUT MOWING. — A two years' established Plant, showing its character, sent Post free on receipt of **2s. 6d.** or 30 stamps.
Address JOHN SUMMERS, Gardener, Forest Hill, Sydenham.

PAMPAS GRASS (GYNERIUM ARGENTEUM).—The beauty of this extraordinary plant has this season been fully appreciated. It can be supplied by the dozen, hundred, or thousand, by CHARLES NOBLE, Bagshot, Surrey.

JOHN CULVERWELL, Taunton, begs to call the attention of Agriculturists to his superior selection of GRASS SEEDS, which for PURITY, change of SOIL, and CLIMATE, will bear comparison with any house in the kingdom. Prices, terms and samples forwarded on application.

GIANT SAINFOIN SEED.—Seed of this excellent and productive Plant may be had of RAYNBIRD & HARVEY, Basingstoke; and 89, Seed Market, Mark Lane. Samples and prices on application.
N.B. R. & H. can also supply Common Sainfoin both of English and French growth at market prices.

HUDSON'S GOLDEN MELON BARLEY.—Selected Samples for Seed of this most valuable variety, superior both for produce and malting quality, may be had of RAYNBIRD & HARVEY, of Basingstoke; and 89, Seed Market, Mark Lane, E.C.

THE EARLIEST PEA.—DUNNETT'S FIRST EARLY is in every respect superior to "Daniel O'Rourke," being several days earlier, having finer pods, and richer in flavour, height 2½ feet. For an early dish of fine-flavoured Peas we can confidently recommend this; **2s.** per quart.
CHAMPION CABBAGE, the earliest and best sort, if sown in succession, may be had fit for table throughout the year, **8d.** per ounce, or **1s.** post free.
BUTLER & MCCULLOCH, Covent Garden Market, London.

### THE GREAT VINE AT HAMPTON COURT.

THE SUBSCRIBERS being the holders of the Royal Kitchen Gardens, Hampton Court, are enabled to offer genuine the famous and truly excellent HAMPTON COURT BLACK HAMBURGH GRAPE.

Strong well-ripened plants in 9-inch pots, 42*s.* and 60*s.* per doz.

If purchased in large numbers a considerable reduction will be made in price.—JACKSON & SON, Nurseries, Kingston, S.W.

### STRONG BLACK HAMBURGH VINES.

THOMAS METHVEN has on hand a large stock of strong well ripened BLACK HAMBURGH VINES, which he begs to offer at 3*s.* 6*d.* each or 36*s.* per dozen. The usual discount to the Trade.

Stanwell and Leith Walk Nurseries, Edinburgh.—April 16.

### AZALEA INDICA.

J. IVERY AND SON beg respectfully to invite growers of the above named to an inspection of their unrivalled Stock of Young Specimens of all the newest and best varieties, many of which have been exhibited at the Metropolitan Exhibitions. They are clean and healthy, well set with bloom, and moderate in price. Catalogues forwarded post free upon application.—Dorking Nursery, April 16.

### SEEDLING FUCHSIAS.

GEORGE WHEELER, NURSERYMAN, &c., Warminster, Wilts. respectfully announces that strong plants of his SEEDLING FUCHSIAS will be ready to be sent out on and after the 20th inst.

SIR COLIN CAMPBELL.—The most beautiful double Fuchsia ever offered. Flower very large; tube and sepals dark scarlet. Corolla very prominent, large, full, and regular, and of a beautiful purple colour; a fine variety for exhibition, possessing the desirable property of holding its blooms much longer than other varieties; its large blooms makes it a very conspicuous and effective plant in a collection. Price 10*s.* 6*d.* each. Sir Colin was shown in full bloom at the Trowbridge Horticultural Exhibition the 18th August, at Bath on the 25th, Salisbury, 30th; at the National, in London, on the 2d September; and at Devizes on the 3d; at all which places it obtained Prizes or Certificates.

WILTSHIRE LASS.—Tube and sepals clear waxy white, corolla rich dark puce; an improvement on the Maid of Kent, the flower being larger, of good habit, a free bloomer, and a good grower. Price 5*s.* each. The usual discount to the Trade.

G. WHEELER will be enabled to send out with the above the six new Fuchsias offered by Mr. G. Smith, of Tollington Nursery.

G. WHEELER has on hand a large quantity of RHODODENDRONS from 9 inches to 2 feet, at very moderate prices.

### LODGE'S NEW HYBRID RHODODENDRON, "COUNTESS OF WILTON,"

the best and hardiest Rhododendron in cultivation.—This splendid Hybrid Rhododendron was raised from seed by the late William Lodge. The habit of this variety is entirely distinct from any other, and is the most vigorous of its class. The foliage is a beautiful olive green, of a large size, and a thick leathery appearance. The flower is a rich crimson, good form, being well cupped, of large size, and a very large truss, standing out boldly from the foliage. It is the hardiest variety of its class, having stood in an exposed situation the severest winters, without the slightest injury, with no protection whatever, while other varieties have been killed.

It possesses a very great advantage in flowering late, a desideratum much wanted in the high coloured Rhododendrons, as the other kinds are always injured by the late frosts and cold winds.

It has been exhibited at the Manchester Botanical Exhibition, and obtained a first-class certificate of merit, also a label of commendation by the judges.

The Executors of the late William Lodge have great confidence in introducing this variety to the public, and feel assured it will become a general favourite.

Strong bushy plants are now ready, from 2 to 4 feet high at One and a Half, Two, and Three Guineas each, in proportion to the size. A considerable reduction when a quantity is taken.

As the demand is great, early orders are necessary to ensure well-budded plants.

The following Nurserymen are Agents for the sale of it:—and from whom plants may now be had.

Messrs. WILLIAM ROLLISSON & SONS, Tooting, near London;
Messrs. E. G. HENDERSON & SON, St. John's Wood, London;
Mr. JOHN WATERER, Bagshot, Surrey;
Messrs. WILLIAM WOOD & SON, Maresfield, Sussex;
Messrs. THOMAS JACKSON & SON, Kingston, Surrey;
Messrs. BENJAMIN REID & Co., Aberdeen;
Mr. JOHN KEYNES, Salisbury.

A remittance or reference is required from unknown correspondents. Post-office Orders made payable to JAMES LODGE, Park Nurseries, Singleton Brook, Broughton, Manchester.

### CHOICE STOVE AND GREENHOUSE PLANTS AT LOW PRICES.

The following 30 CHOICE STOVE PLANTS, fine, strong, and in vigorous condition, are offered together for 55*s.*, viz.:—Æchmia fulgens longifolia, Æschynanthus splendens, Aphelandra variegata, A. Leopoldi, A. squarrosa citrina, Barbacenia Rogieri, Begonia manicata, B. albo-coccinea, Cyrtanthera magnifica, Dracæna nobilis, Eschites Pelleri, Eucharis amazonica, Franciscea confertifolia, Gardenia Fortuni, Gesneria Geraldiana, G. zebrina, G. Suttoni sub-alba, Gloriosa Planti, Hexacentris mysorensis, Hoya bella, H. cinnamomifolia, H. carnosa, H. picta, Maranta sanguinea, Meyenia erecta, Passiflora alba nigra, Stephanotis floribunda, S. Thouarsi, Thyrsicanthus rutilans, and Vinca alba. Any 20 of the above may be selected for 45*s.*, or any 12 for 35*s.*

The following 50 CHOICE GREENHOUSE PLANTS, very strong and fine plants, are offered together for 65*s.*, and 25 may be selected for 45*s.*, or any 12 for 25*s.*, viz.:—Acacia hispidissima, A. verticillata, A. armata, Boronia macrophylla, Bossiæa Hendersoni, Brachysema acuminata, Cereus Macdonaldi, Chorozema cordatum splendens, C. varium rotundifolium, Chironia glutinosa, Chorozema Chandleri, Coronilla glauca, Correa brilliant, Daphne indica rubra, D. Van Houtti, D. Fimiæna, Dillwynia cinnabarina, D. Henchmanni, Dracophyllum gracile, Diosma fragans vera, D. uniflora, Eriostemon intermedium, E. buxifolium, E scabrum latifolium, Eugenia Ugni, Gaultheria coccinea, Hibbertia Reedi, Indigofera decora, Isolepis gracilis, Kennedya ovata alba, K. monophylla, K. Marryattæ, K. nigricans, Mandevilla suaveolens, Metrosideros laxifolius, Mitraria coccinea, Nerium Tangle, Platylobium triangulare, Pimelea decussata, P. Nieppergana, Pernettya mucronata major, Pultenæa Hendersoni, Scutellaria scarletina, Solanum jasminoides, Stylidium graminifolium, Stauntonia latifolia, Swainsoni Osborni, Tecoma jasminoides, Telopea speciosa, and Tetratheca verticillata.

Selections from the foregoing, when left to B. & B., will be charged as follows:—

| | | |
|---|---|---|
| Stove plants, 20 varieties | .. .. | 40*s.* |
| ,, 12 varieties | .. .. | 24*s.* to 35*s.* |
| Greenhouse plants, 25 varieties | .. | 35*s.* |
| ,, 12 varieties | .. | 18*s.* to 25*s.* |

BRITTAIN'S NETTING and SHAW'S TIFFANY at the manufacturers' prices; also the GISHURST COMPOUND for the destruction of Red Spider, Thrip, Mealy Bug, Scale, &c.

Goods (20*s.* and upwards) free to all Stations in London, or all Stations between London and Norwich, on the Colchester Line.

BASS AND BROWN, SEED and NURSERY ESTABLISHMENT, Sudbury, Suffolk.

### UNBLOOMED SEEDLING CALCEOLARIAS.

MR. HENRY MAJOR, Knosthorpe, near Leeds, begs to announce that his Unbloomed SEEDLING CALCEOLARIAS will be ready to send out the last week of this month, at 6*s.* a parcel of 20, or three parcels for 15*s.*, post free. They are the produce of his unrivalled collection, and will bloom this year. Postage stamps in payment, or Post-office Order when the amount is 15*s.*

Choice CALCEOLARIA SEED, 2*s.* 6*d.* per packet.

### SEED CORN FROM THE CHALK.

MESSRS. RAYNBIRD AND HARVEY beg to offer to Agriculturists requiring change of SEED Talavera, Red Nursery, and April WHEAT the best sorts for Spring sowing.

Chevalier, Thanet, Golden Drop, Long-eared Nottingham, American, Hudson's Golden Melon, Banham's Sprat, and other varieties of BARLEY.

Canadian Potato, Hopetoun, Poland, and Tartarian OATS.

Fine CLUSTER BEANS, weighing 68 lbs. per bushel.

Samples and Prices on application.

Address—Basingstoke, and 89, Seed Market, Mark Lane, London, E.C.

### HOLLY HEDGING.

EDWARD SANG AND SONS, Kirkaldy, N.B., beg to offer a quantity of fine twice transplanted HOLLIES, 15 to 18 inches high, at 15*s.* per 100, and 9 to 15 inches at 10*s.* per 100. These are just recovering from the second transplanting in 1857, and are therefore in good condition for removal. E. S. and S. have also a lot of once transplanted of the same heights, at 50*s.* and 40*s.* per 1000. The last are finer looking than the twice transplanted, but have of course inferior roots. Also a few hundreds of very fine twice transplanted, 18 to 30 inches at 20*s.* per 100. Carriage paid to Edinburgh.

### CYNERIUM ARGENTEUM, OR PAMPAS GRASS.

JOHN CATTELL has the gratification of offering two distinct and superb varieties of this highly ornamental Grass, raised from proved specimens; he is now sending them out, numbered 1 and 2. The number of plants is very limited.

No. 1 has a majestic habit, sending up its flower stems 8 to 11 feet. A good quantity of the centre leaves rise to a considerable height among the flower stems before recurving, while the outer leaves gracefully bend to the ground in great abundance, giving the whole a most noble appearance.

No. 2 in habit is altogether different; the leaves all recurve at about the same distance, so that the flower stems, which rise from 5 to 7 feet, are free from leaves at about 3 feet from the ground. The heads of flower are larger and more feathery, and about a fortnight earlier than No. 1.

Strong plants, in pots, of both, 3*s.* 6*d.* to 5*s.* each.
Strong plants of improved seedlings, 1*s.* 6*d.* to 2*s.* 6*d.* each.

ALSO,

Gladiolus brenchliensis, extra fine deep scarlet, sound bulbs, to flower this season, 1*s.* each, 10*s.* 6*d.* per dozen, or free by post, 12*s.* per dozen.

New Gladiolus, for open ground culture, in 12 magnificent varieties, fine flowering bulbs, 18*s.*

Tigridia conchiflora, 2*s.* per dozen.

| | | | | | |
|---|---|---|---|---|---|
| Geranium, new variegated, Bijou, each, | 2*s.*; | per dozen, | 21*s.* |
| ,, | new Perfection | ,, | 2*s.* | ,, | 21*s.* |
| ,, | new Shottesham Pet | ,, | 2*s.* | ,, | 18*s.* |
| ,, | new St. Clair .. | ,, | 1*s.* 6*d.* | ,, | 12*s.* |

SEEDS OF RARE PLANTS. Per pckt.—*s.* *d.*

| | | |
|---|---|---|
| Aquilegia Whitmanni, hardy, height and colours the same as glandulosa, and grows very freely .. .. | 0 | 3 |
| Amaryllis (hippeastrum), fine, mixed .. .. .. | 1 | 0 |
| Alstrœmeria acutifolia, scarlet, greenhouse climber .. | 1 | 0 |
| Calceolaria, from large flowered varieties, of the richest colours .. .. .. .. .. .. | 2 | 6 |
| ,, second quality .. .. .. .. .. | 1 | 6 |
| Cineraria, from extra fine new varieties .. .. .. | 2 | 6 |
| ,, from extra fine older varieties .. .. .. | 1 | 6 |
| Campanula grandiflora, hardy, the finest of all Campanulas | 0 | 3 |
| Geranium, from finest new French and Florist vars., mixed | 1 | 0 |
| Gaillardia grandiflora, extra fine .. .. .. .. | 1 | 0 |
| Hovea Celsi .. .. .. .. .. .. .. | 1 | 0 |
| Lilium giganteum .. .. .. .. .. .. | 1 | 0 |
| Linum grandiflorum, or rubrum .. .. .. .. | 0 | 6 |
| Maurandya Barclayana major .. .. .. .. .. | 1 | 0 |
| Nasturtium Scheuermannianum, with crimson marks .. | 0 | 6 |
| ,, ,, with scarlet marks .. | 1 | 0 |
| Poppy, new tall Carnation striped .. .. .. .. | 0 | 6 |

A remittance or reference is expected from unknown correspondents.

Nursery and Seed Establishment, Westerham, Kent.

PLOCOSTEMMA LASIANTHUM (BLUME).—Amidst the prevalent scarcity of novelties of sterling merit, it is with pleasure the Subscribers invite attention to the above-named plant. It belongs to a new genus closely allied to Hoya; and the present species was received in 1857 from Mr. HUGH LOW, Jun., by whom it was discovered on the north western side of the Island of Borneo. The plant, which is not a climber, presents a noble appearance, having exceedingly handsome foliage; and it possesses a very great recommendation in being a most profuse bloomer, the clusters of flowers being produced in great numbers. The flowers are of waxy consistence, like Hoya—colour, orange; the petals reflex until they become quite perpendicular, and rest on the flower-stalk; the lower part of the petals is entirely covered with a snow-white velvety pubescence, giving them an unusually beautiful appearance. The flowers are fragrant, and 14 have expanded in one cluster on a newly imported plant, which was submitted to the inspection of Sir W. J. Hooker, of Kew, by whom it is figured and described in the November number of the "Botanical Magazine." It is also figured in the "Florist." Plants in May, price 63*s.* each. Usual discount to the Trade.

HUGH LOW & Co., Clapton Nursery, London, N.E.

### NEW DOUBLE PETUNIAS.

C. W. HARGRAVE begs respectfully to announce that he will shortly be prepared with STOCK of the NEW DOUBLE PETUNIAS advertised by him in the *'Gardeners' Chronicle* of September 25, 1858.

They constitute a unique collection in themselves, being of exquisite form, firm substance, rich and decided in colour, very fragrant, and of first-rate habit, having good guard petals, with the centres well filled, and in fact are superior to the Continental or other varieties hitherto sent out. Their nomenclature is as follows:—

ROSETTE.—Crimson, very double, dwarf habit.
ROSEA ALBA.—Rose clearly mottled with white.
PURPLE KING.—Large flower, well formed.
CRIMSON GEM.—Bright crimson, with white centre.
ALBA MAGNIFLORA.—Beautiful form, very fragrant.
KING OF CRIMSONS.—Bright crimson, brighter than its parent "Crimson King." The varieties previously introduced as crimson have all proved themselves to be only purple.

Plants of any of the above 5*s.* each, or the set of six 25*s.*

It is requested that the Trade forward their commands at their earliest convenience, as all orders will be executed in the rotation in which they are received.

C. W. HARGRAVE, THE NURSERY, WINCHMORE HILL, N.

### FARM SEEDS.

JOSEPH MAY AND CC. beg to offer the following which have been selected from the best growers:—

| | Per lb.—*s.* *d.* |
|---|---|
| SKIRVING'S SWEDE TURNIP .. | |
| GREEN-TOP Do. .. .. .. | 1 0 |
| RED-GLOBE TURNIP .. .. .. | 1 0 |
| GREEN ROUND Do. .. .. .. | 1 0 |
| LONG RED MANGEL .. .. .. | 1 0 |
| YELLOW GLOBE Do. .. .. .. | 0 9 |

A General LIST of SEEDS for the Farm, Flower, and Kitchen Gardens forwarded on application.

1, Wellington Street, Strand, Waterloo Bridge.

### GENUINE AGRICULTURAL SEEDS.

MESSRS. DICKSON AND BROWN (late F. and A. Dickson & Co.), 43 and 45, Corporation Street, Manchester, beg to intimate that they are now ready to execute all orders with first-class AGRICULTURAL SEEDS, many of which have been saved by themselves or under their superintendence.

Special prices for large quantities on application. A PRICED CATALOGUE is published, and may be had post free.

Manchester.—April 16.

### TO THE TRADE.

CHARLES SHARPE has still to offer, of his own growing, saved from the finest selected stocks—

| | |
|---|---|
| LONG RED MANGEL | RED LINCOLNSH. GLOBE TURNIP SEED |
| ,, YELLOW DO. | |
| YELLOW GLOBE DO. | GREEN GLOBE DO |
| ALTRINGHAM CARROT | YELLOW TANKARD DO |

Prices given on application.—Wisbeach, Cambridgeshire.

NEW HARDY WHITE SWEDE.—This variety is hardier than any other kind, grows to a large size, adapted for sowing upon poor land, is not affected by mildew, keeps good in the ground or in store till the end of May; and genuine Seed of this excellent Swede, price 1*s.* per lb. (carriage free for orders of 30 lbs. and upwards) may be had of RAYNBIRD & HARVEY, Seedsmen, Basingstoke; and 89, Seed Market, Mark Lane, London, E.C.

### SELECTED SWEDES.

BROWNE'S WHITE SWEDE, Green-topped, the hardiest known, and by far the best keeper, of large size, solidity, and nutritious matter it is unsurpassed. The seed is from the stock of T. Beale Browne, Esq., of Salperton Park, Gloucestershire, to whose assiduous care and attention during a series of years we owe the perfection of this invaluable root. 1*s.* per lb.

MARSHALL'S IMPROVED SKIRVING'S SWEDE, a very superior Swede, being large, almost globular, of extraordinary firmness. The seed cannot be too strongly recommended, as every bulb it was saved from has been selected carefully. 1*s.* per lb. and other varieties 9*d.* per lb.

MANGEL WURZEL, all kinds, 9*d.* per lb. and all kinds of seeds requisite for the Farm, Prices and Catalogues of same may be had on application.

CHARLES TURNER, The Royal Nurseries, Slough.

### SUTTON'S PRIZE MANGEL AND SWEDE SEED. THE BIRMINGHAM PRIZES.

At the Great Root Show at Birmingham in December (as in former years), the principal Prizes for Swedes, Mangel and other Roots were awarded to Messrs. SUTTON'S Customers, viz.:—

| | |
|---|---|
| The Rev. THOMAS STEVENS | RICHARD BENYON, Esq. |
| JOHN B. STARKEY, Esq. | Mr. WM. HORSBURGH |
| GEORGE B. MORLAND, Esq. | Mr. GEORGE MANGLES |

GEORGE MACKENZIE KETTLE, Esq.

Also EIGHT 25 GUINEA CUPS from H.R.H. the PRINCE CONSORT for the best 5 acres of Swedes at each of Eight Agricultural Meetings in East Berks and South Bucks. At all these there was great competition, and in every instance a SUTTON'S CHAMPION SWEDE was awarded to SUTTON'S CHAMPION SWEDE A CUP was awarded to SUTTON'S CHAMPION SWEDE A many other distinguished Prizes in Berkshire and other Counties. SUTTON & SONS are now sending out the Seed at 1*s.* per lb. for Champion Swede, and 9*d.* for their choice Mangel Wurzel, or cheaper by the bushel and cwt. Early orders necessary.—Royal Berkshire Seed Establishment, Reading.

### THE SWEDE WHICH NEVER MILDEWS.

SUTTON'S CHAMPION SWEDE has again gained the TWO 25 GUINEA CUPS presented by H.R.H. the PRINCE CONSORT to the Royal East Berks and the Royal South Bucks Agricultural Associations, making Eight Two-and-five Guinea Cups at these two Societies.

This is the heaviest cropper and most certain, as it rarely (*if ever*) suffers from mildew, and has entirely escaped the ravages of the fly during the last two years in which these pests were so prevalent. Price 1*s.* per lb., or cheaper by the bushel.

SUTTON & SONS, Seed Growers, Reading, Berks, have at present a good stock of seed of the above. Early orders are requested to prevent disappointment.

Royal Berkshire Seed Establishment, Reading.

### TO MANGEL GROWERS.

SUTTON'S ELVETHAM MANGEL WURZEL AND SELECTED YELLOW GLOBE.—These two sorts of Mangel are still preferred to all others by the principal growers throughout the kingdom.

SUTTON & SONS have some fine SEED of each sort saved from large Roots, price 9*d.* per lb., or cheaper by the cwt.

Royal Berkshire Seed Establishment, Reading.

### 750 BEDDING PLANTS for 7*l.* including hamper and packing, or one half for 3*l.* 15*s.*

| | |
|---|---|
| 20 Anagallis, 2 sorts | 25 Lobelias, 6 sorts |
| 12 Ageratum, 3 sorts | 50 Hollyhocks, Seedlings |
| 60 Calceolaria, 6 sorts | 12 Koniga |
| 12 Celsia, 2 sorts | 12 Nierembergia |
| 50 Chrysanthemums, 50 sorts | 12 Œnotheria riparia |
| 12 Cupheas, 3 sorts | 50 Petunia single, 25 sorts |
| 50 Dahlias, 50 sorts | 50 do. double, 25 sorts |
| 50 Fuchsias, 50 sorts | 20 Salvias, 6 sorts |
| 50 Geraniums, Scarlets &c., 50 sorts | 12 Senecio, double pur. |
| 50 do. Variegated, 12 sorts | 20 Tropœolum, 6 sorts |
| 20 Heliotropes, 12 sorts | 12 Variegated Mint |
| | 100 Verbena, 100 sorts |

Apply to J. SCOTT, Merriott Nurseries, Crewkerne. Stamps, Post-Office Order on Crewkerne, or crossed cheques for unknown Correspondents. Catalogues on application for two stamps.

GOLD AND SILVER FISH.—Upwards of 1,000 always on hand at from 4*s.* to 9*s.* per doz., an 120 pair coming into full beauty, others not so forward, at 18*s.* and 24*s.* per dozen; Camellias, 18*s.*, 21*s.*, and 24*s.* per dozen; Orange Trees coming into bloom, and some with fruit, bloom, 2*s.* 6*d.*, 3*s.* 6*d.*, and 6*s.* each; a large collection Foreign and British Ferns, and every other kind of Greenhouse Plants, Nursery Stock, &c., at reasonable prices. Ash-leaf Kidney Potatoes, 7*s.* per bushel; Dwarf Kidney Beans, Scarlet Runners, 1*s.* per quart; Virginian Stock, Candytuft, Mignonette, 3*s.* per lb., or 4*d.* per oz.; Nemophila, &c., 1*s.* per lb. or 4*d.* per oz., and every other sort at light prices.

Illustrated Catalogues may be had on sending 6 stamps. The 6*d.* will be returned to purchasers of not less than 5*s.* worth.

ROBT. GREEN, 154, Kingsland Road, 55 doors from Shoreditch Church.

## NEW SEEDS FOR 1859.

WM. CUTBUSH AND SON beg respectfully to intimate that their PRICED CATALOGUE OF VEGETABLE AND FLOWER SEEDS, &c., is now ready post free on application. WM. C. AND SON devote particular attention to this department of their business, and most of the choicer kinds of culinary seeds and roots are saved under their own inspection, and they can confidently guarantee the quality of all offered.—Highgate Nurseries, London, N. Established A.D. 1695.

## RHODODENDRONS.

JOHN WATERER'S CATALOGUE OF UNRIVALLED HARDY SCARLET AND OTHER CHOICE RHODENDRONS, as Exhibited by him at the Royal Botanic Gardens, Regent's Park, London, is published, and will be forwarded on application.

☞ This List is recommended as a work of reference, as it contains accurate descriptions of all the esteemed varieties.

The American Nursery, Bagshot, Surrey, near the Sunninghill Station, South Western Railway.

MESSRS. PARKER AND WILLIAMS beg to inform their friends and patrons that their PRICED and DESCRIPTIVE CATALOGUE of Exotic Orchids, Stove, Greenhouse, and Hardy Ferns, Miscellaneous Stove, Greenhouse, and Hardy Plants, Variegated and Ornamental foliaged Plants, Conifers, Roses, Rhododendrons, Indian Azaleas, Gloxinias, Fuchsias, Cactuses, &c., is now published, and will be forwarded post free on application.—Paradise Nursery, Seven Sisters' and Hornsey Roads, Holloway, London, N.

## GERMAN AND OTHER FLOWER SEEDS, VEGETABLE, AGRICULTURAL SEEDS, ETC.

MESSRS. PARKER AND WILLIAMS beg to inform their friends and patrons that their new PRICED and DESCRIPTIVE CATALOGUE in which is enumerated every novelty of proved merit, also all the best of the older kinds, is now published, and will be forwarded post free on application. Their whole stock has been selected from the best English and Foreign sources, and every kind is warranted true to name, and of the finest possible quality.—Paradise Nursery, Seven Sisters and Hornsey Roads, Holloway, London, N.

GERANIUMS. — Fine, well-established flowering plants of showy, free blooming kinds in great variety, may be had at 4s., 6s., and 9s. per dozen, according to size and quality. The following are some of the sorts:—Albira, Alma, Auguste Miellez, Carlos, Colonel Foissy, General Eugene, Cavaignac, Gustave Odier, Hortensia, Jacques Duval, Generalissimo, Eugenie Duval, Madame Lamoriciere, Mochanna, Mr. Beck, Crimson King, Robert Bruce, &c.

WOOD & INGRAM, Huntingdon.

NEW VARIEGATED GERANIUMS.

JANE (LENNOX).—This has an equal and fine variegation, with a profusion of fine deep scarlet flowers; the truss is large, and the flower of good shape and substance; a free growing variety. It has been exhibited this spring at the first meeting of the Royal Botanic Society, and received a Certificate of Merit. The plants are now full of bloom. 7s. 6d.

PICTURATA (CONSTANTINE).—Foliage novel and remarkable. It has white edges with a broad ring or zone of shaded crimson and pink, the centre of each leaf being green, with small scarlet trusses of bloom. 7s. 6d.

CHARLES TURNER, Royal Nursery, Slough.

## DAHLIAS.

W. HOLMES offers the above in fine plants at 4s. per dozen, the new flowers of last year from 6s. to 9s. per dozen in April.

| | | | |
|---|---|---|---|
| Chrysanthemums, 5s. per doz. | | Verbenas, from 2s. 6d. to 4s. p. doz | |
| Fuchsias, 4s. to 6s. | ,, | Antirrhinums, 4s. to 6s. | ,, |
| Heliotropes, 2s. 6d. | ,, | Cupheas, 2s. 6d. | ,, |
| Petunias, 3s. | ,, | Calceolarias, 4s. | ,, |

Geraniums, Senecio, Lobelias, &c., equally cheap. Catalogues upon application free for one stamp.

Frampton Park Nursery, Well Street, Hackney.

## NEW PHLOX AND PENTSTEMONS.

PHLOX COUNTESS OF HADDINGTON.—Light puce, dark violet eye, perfect form, distinct and fine.

PENTSTEMON TYNNINGHAMI. — Bright scarlet, bold flowers, close pyramidal spike, first-rate.

PENTSTEMON MRS. LEES. — Crimson purple, pure white throat, large spike, distinct and striking.

THOMAS METHVEN has much pleasure in offering the above first-class flowers, raised by Mr. Thomas Lees, gardener to the Earl of Haddington, Tynninghame, and allowed by all who have seen them to be decided acquisitions as show flowers. Strong plants 5s. each. Usual discount to the Trade.

Stanwell and Leith Walk Nurseries, Edinburgh.—April 16.

## NEW PETUNIAS.

JOHN SEALEY can now supply the Seven Beautiful New Striped PETUNIAS, to which was awarded the first prize at the Bristol and Clifton Horticultural Society. J. S. has no hesitation in saying that they are the finest varieties in cultivation. The seven for 1l.

SPRING CATALOGUE OF DAHLIAS, HOLLYHOCKS, ROSES, &c., and of GARDEN AND AGRICULTURAL SEEDS may be had on application.—St. George's, near Bristol.

## THE BEST DWARF GERMAN ASTER SEED

EVER YET OFFERED TO THE PUBLIC.

SAVED FROM FLOWERS THAT HAVE OBTAINED FIRST PRICES FOR MANY YEARS PAST AT VARIOUS EXHIBITIONS.

EDWARD TILEY begs to inform the lovers of the above beautiful flower, that he has just purchased the entire stock of Seed, which has been selected from the finest flowers as to shape, colour, and dwarfness of growth. They were inspected by many good judges while in bloom last season, who said they had never seen the Aster brought to such perfection before, and with such a dwarf habit. Seeds 1s. 6d. per packet, or two packets for 2s. 6d.

Extra fine mixed HOLLYHOCK SEED, saved from the newest and best varieties, 1s. per packet.

ANTIRRHINUM SEED, saved from spotted and striped sorts, 6d. per packet.

SWEET WILLIAM SEED, saved from 24 distinct varieties, the major part of which always flower double, 6d. per packet.

DELPHINIUM FORMOSUM SEED, extra fine, 6d. per pckt.

The IMPROVED BATH COS LETTUCE SEED, saved from the finest stock ever grown in the west of England; it is very crisp and not at all liable to run, 1s. 6d. per packet.

A small quantity of seed of the DWARF INCOMPARABLE CABBAGE.—This is a superb variety for windy or cold situations; it will stand the severest winter and will form good hearts much earlier than any other variety; it is very tender and soft when cooked, not having any large coarse ribs. If the seed be sown at several different times no person need be without good young Cabbage all the year. 1s. 6d. per packet. A packet of the Improved Cos Lettuce and packet of the Dwarf Incomparable Cabbage, 2s. 6d.

DIGITALIS OR FOXGLOVE SEED, saved from the finest collection ever yet seen; the flowers come to an immense size, and are as handsome if not handsomer than the Gloxinias, 1s. per packet.

EDWARD TILEY, Nurseryman, Seedsman, and Florist, 14, Abbey Church Yard, Bath.

A remittance must accompany all orders either in cash or penny postage stamps.

## NEW ROSES FOR 1859.

WILLIAM WOOD AND SON are now executing their orders for all the best NEW ROSES of the present season. The plants are well grown, vigorous, and healthy, and are supplied at the lowest advertised prices.

DESCRIPTIVE LISTS of the above will be sent free on application. Early orders will command the strongest plants.

Woodlands Nursery, Maresfield, near Uckfield, Sussex.

## ROSES FOR BEDDING,

BY THE DOZEN, THE HUNDRED, OR THE THOUSAND.

WILLIAM WOOD AND SON have now to offer many thousands of well grown healthy plants of ROSES, in 60 pots, which will be ready to plant out about the end of April, consisting of an immense number of the best Hybrid Perpetual, Bourbon, Tea, and Noisette Roses, Catalogues of which may be had free on application.

Early orders are most earnestly solicited, as the unsold portion of the stock will be planted out the first week in May. Extra plants presented with each order to compensate for distant carriage.

Woodlands Nursery, Maresfield, near Uckfield, Sussex.

## THE BEST SEASON FOR BEDDING OUT ROSES.

WOODLANDS NURSERY, MARESFIELD, NEAR UCKFIELD, SUSSEX.

WM. WOOD AND SON respectfully submit that the months of April and May are the most eligible for planting out Roses from pots, for the purpose of forming groups in the Parterre and Rose Garden.

W. W. & Sons having on hand an immense Stock of many thousands, in pots, will be happy to supply them on the following reasonable terms.

| | |
|---|---|
| Hybrid Perpetual Roses .. .. | 9s. to 12s. per dozen. |
| Isle de Bourbon ditto .. .. .. | 12s. to 18s. ,, |
| Tea-scented .. .. .. .. | 12s. to 18s. ,, |
| China, Climbing and Noisette ditto .. | 9s. to 12s. ,, |

CATALOGUES sent post free on application.

Plants added to each order to compensate for distant carriage.

## NEW HYBRID PERPETUAL ROSES FOR 1859.

E. P. FRANCIS offers the following NEW ROSES which he will be prepared to send out on and after the first week in May, at 5s. each. They have been carefully selected from amongst the numerous new French varieties:—

Anna Alexieff
Stephanie Beauharnais
Ambroise Verschaffelt
Imperatrice Eugénie
Albert de Stella
Virginale
Altesse Impériale
Ardoisée de Lyon
[These two splendid varieties were awarded the Gold Medal as Seedlings at Lyons.]
Comte de Beaufort
Docteur Bretonneau
Empereur de Maroc
Armide
Princess Olympie
Anna de Diesbach
Beauté de Royghem
Comtesse Cecile de Chabrillan
De la Mothe
François Arago
L'Oriflamme de St. Louis
Lord Elgin
Madame Bruny
Orderic Vital
Salomon
Reine de la Cité
François 1st
Mignard
Madame Jenny

Hertford Nurseries.

## CHOICE ROSES IN POTS.

BIRCHAM AND WARD beg respectfully to inform the admirers of the Rose that they have a large stock of the following fine varieties, which enables them to offer as under (when a fair selection is made):—

15s. per dozen.

Alphonse Karr
Belle Anglaise
Baronne de Wassenaer (Moss)
Berceau Imperial
Clemence Delarue
Cardinal Patrizzi
Docteur Ruschpler
Ernest Bergmann
Gustave Coraux
Lord Raglan
La Belle Egarée
Madame Damet
Madame Charlet (B.)
Madame Comtesse
Madame Schmidt
Madame Vidot
Miss Gray
Standard of Sebastopol
Victor Trouillard

20s. per dozen.

Abbé Feytel
Adelaide Pavie
Bernard Nantais
Comte de Morny
Candide
Claudia Augustin
Comtesse de Labarthe
Duc de Malakoff
Felix Peretti
General Blanchard
Lord Palmerston
Madame Debesse
Madame Vigneron
Madame Heraud
Madame de St. Genet
Madame Elize de Chenier
Mademoiselle Josephine
Mademoiselle Claremont
Mademoiselle Nancy Dubor
Mademoiselle Zoe Mayrel
Mademoiselle Alice Leroy
Mademoiselle Anais Lorette
Monsieur Jard
Ma Ponctuée (Moss)
Philomène Crozy
Reine de Denmark
Souvenir d'Elize
Souvenir de Beranger
Triomphe de Rennes
Thomas Rivers
Triomphe de Montrouge
Triomphe des Beaux Arts
Vallide (Moss)

30s. per dozen.

Duke of Cambridge
Evêque de Nîmes
Gloire de Lyon
Louise d'Autriche
Lœlia
Maximilian II.
Monsieur de Montigny
Madame Van Houtte
Marie Portemer
Mademoiselle Goddard
Marie Thierry
Reine Blanche (Moss)

A Descriptive List of the above may be had on application. Carriage paid to London and Peterborough.

Hedenham Rosary, Bungay, Suffolk.—April 16.

PLANTS FOR THE FLOWER GARDEN.—The following may be had at the prices attached, and the plants are all fine and thoroughly established in single pots:—

| | Per dozen.—s. | d. |
|---|---|---|
| Scarlet Geraniums, Tom Thumb, Frogmore and others, cut down plants, that were struck last spring .. | 3 | 0 |
| Ditto, struck last autumn .. .. .. .. .. | 2 | 6 |
| Verbenas, all the best varieties .. .. .. .. | 2 | 6 |
| Antirrhinums .. .. .. .. .. .. .. | 3 | 0 |
| Ageratums .. .. .. .. .. .. .. | 2 | 6 |
| Calceolarias, shrubby .. .. .. .. 2s. 6d. to | 3 | 0 |
| Cuphea platycentra, extra large .. .. .. .. | 3 | 0 |
| Dahlias, best sorts .. .. .. .. .. 4s. to | 9 | 0 |
| Carnations and Piccotees ditto .. per pair 1s. to | 1 | 6 |
| Pinks, ditto .. .. .. .. .. ,, 6d. to | 1 | 0 |
| Fuchsias, best sorts .. .. .. . .. 3s. to | 4 | 0 |
| Gaillardia picta .. .. .. .. .. .. .. | 2 | 6 |
| Heliotropes .. .. .. .. .. .. .. | 2 | 6 |
| Lobelia speciosa and ramosoides .. .. .. .. | 2 | 6 |
| Alyssum variegatum .. .. . .. .. .. | 2 | 6 |
| Hollyhocks, fine named flowers .. .. .. .. | 9 | 0 |
| Lantanas .. .. .. .. .. .. .. .. | 2 | 6 |
| Nierembergia gracilis .. .. .. .. .. .. | 2 | 6 |
| Petunias, fine sorts .. .. .. .. .. .. | 2 | 6 |
| Senecio (double dark Groundsel) .. .. .. .. | 2 | 6 |
| Salvia fulgens .. .. .. .. .. .. .. | 2 | 6 |
| Variegated Geraniums, Flower of the Day, fine cut down plants .. .. .. .. .. .. .. .. | 4 | 0 |
| Osborne's Brilliant .. .. .. .. .. .. | 3 | 6 |

WOOD & INGRAM, Huntingdon.

## SUPERB DOUBLE HOLLYHOCKS.

WILLIAM CHATER can now supply fine healthy plants from his Collection, having a large stock ready for immediate planting.

See DESCRIPTIVE CATALOGUE, to be had on application.

Nurseries, Saffron Walden.

## FIRST-CLASS HOLLYHOCKS.

FINE SEEDLINGS FROM

WILLIAM CHATER'S Celebrated and Newest Varieties that will flower well in September at 30s. per 100

| | | | | |
|---|---|---|---|---|
| ditto | ditto | ditto | 20s. | ,, 100 |
| Ground Roots according to colour, also at | .. | | 30s. | ,, 100 |
| Seed in 12 separate colours, the Collection | .. | | 10s. | 0d |
| ,, 6 ,, ,, ,, | .. | .. | 5 | 0 |

From varieties such as Pourpre de Tyre, Memnon, White Globe, Hon. Mrs. H. Ashley, Canary, &c., in 12 separate colours, the Collection .. .. .. .. .. .. 7s. 6d.

| | | |
|---|---|---|
| Ditto in 6 separate colours, the Collection .. | 4 | 0 |
| Seed from 20 of the best varieties, mixed, per pkt. | 5 | 0 |
| ,, 12 ,, ,, ,, ,, | 2 | 6 |
| ,, good mixed, also a single variety ,, | 1 | 0 |

The above can be procured from the Nurseries, Saffron Walden, Essex.

## CHOICE HOLLYHOCKS.

WILLIAM HUSSEY begs to offer the undernamed collection for 15s., package included, viz.:—Criterion, Duchess of Sutherland, Hon. Mrs. Ashley, Jenny Lind, Omar Pacha, Black Prince, Pourpre de Tyre, Beauty of Cheshunt, Lilac Model, Walden Gem, Miss Ashley, Purple Perfection, Lemonade, Pillar of Beauty, Mrs. Oakes, Solfaterre improved, Memnon, Queen of Whites.

Horticultural Gardens, Norwich.

## NEW HOLLYHOCKS.

A. PAUL AND SON beg to recommend the following NEW HOLLYHOCKS, which have been selected from several thousands of Seedlings. The stock of ordinary kinds is this year greatly extended. The plants are strong, well established, and perfectly healthy:—

| | s. | d. |
|---|---|---|
| BRISEIS (PAUL).—Purple, silvery edges, flower of good form, spike close .. .. .. .. .. | 5 | 0 |
| GENERAL HAVELOCK (PAUL).—Bright, ruby scarlet, colour of "Scarlet King," but a close spike and a round smooth flower of perfect shape .. .. .. .. | 10 | 6 |
| IN MEMORIAM (PAUL).—Crimson maroon, large, good substance, first-rate flower, good spike .. .. .. | 10 | 6 |
| OSSIAN (PAUL).—Crimson shaded with salmon, remarkable alike for substance, closeness, and symmetry; spike good .. .. .. .. .. .. .. | 10 | 6 |
| PAINTED LADY (PAUL).—Pink and blush in blotches, a large smooth flower of good substance .. .. .. | 5 | 0 |
| PLUTARCH (PAUL).—Plum colour, of fine shape, and very smooth, guard and spike good .. .. .. | 10 | 6 |
| POURPRE NOIR (PAUL).—Rich purplish maroon, large smooth flower, close spike .. .. .. .. .. | 7 | 6 |
| RED ROVER (PAUL).—Dark fiery scarlet, flower large, spike splendid, very effective .. .. .. .. | 7 | 6 |
| VERITAS (PAUL).—White, lemon base, large full flower, splendid spike .. .. .. .. .. .. .. | 10 | 6 |
| VESTA (PAUL).—Pure white, petals thick, edges smooth, guard good .. .. .. .. .. .. .. | 7 | 6 |
| VITRUVIUS (PAUL).—Pink, large flower, of perfect form and good substance .. .. .. .. .. .. | 5 | 0 |
| ZENO (PAUL).—Rich plum colour, with silvery edges, flower large, spike good; new and distinct .. .. | 5 | 0 |

The Collection of 12 varieties is offered for 4l. 4s.; good named sorts, 9s. to 18s. per dozen; very superior ditto, 24s. to 42s. per dozen; Bloomed Seedlings in separate colours, 30s. 50s. per 100; mixed Seedlings, 10s. to 21s. per 100.

HOLLYHOCK SEED, 1s. to 5s. per packet free by post.

Also a PRICED DESCRIPTIVE CATALOGUE free by post.

Nurseries, Cheshunt, Herts.

## CALLICARPA PURPUREA.

JOHN STANDISH, the exhibitor of the above (at St. James's Hall), can supply a few good plants at 7s. 6d. each. The following passage from Dr. Lindley's leading article in the *Gardeners' Chronicle* for Nov. 20 will give an idea of its beauty:—"Callicarpa purpurea, quite insignificant when in flower, was beautiful in its winter dress of innumerable rich purple berries, about the size of swan shot." It is easily cultivated, and does well in a cold greenhouse or conservatory planted out, where it will produce thousands of bright purple berries resembling glass beads, and remaining on nearly the whole winter.—Bagshot, April 16.

## NEW CHRYSANTHEMUMS.

JOHN SALTER begs to announce that his SPRING CATALOGUE is now published, in which his splendid SEEDLINGS and other new CHRYSANTHEMUMS of 1859 are fully described, as well as the unrivalled general collection, which is the largest in Europe.—Strong plants of "Golden Queen of England," "Prince Albert," and every other variety, will be ready in the course of the month.—Versailles Nursery, William Street, near Hammersmith Turnpike, W.

## CHRYSANTHEMUMS—CHRYSANTHEMUMS.

J. H. BIRD, F.H.S., NURSERYMAN, Stoke Newington, the largest grower and most successful exhibitor of the Chrysanthemum in the British Empire, begs to call the attention of the lovers of the above beautiful autumn flower to his matchless collection, the stock of which amounts to upwards of 50,000 plants.

J. H. B. can supply strong plants, one dozen for 6s.; or five dozen in 30 varieties, containing two of each variety, for 1l.; or he can supply 100 plants in 50 varieties, two of each variety, for 1l. 10s. Also POMPONES in great variety; 50 Pompones in 25 varieties, two of each variety, for 10s.; or 100 in 50 varieties, two of each variety for 1l. Strong plants of the beautiful new Pompone the Golden Cedo Nulli, 5s. each, are now ready, with the usual allowance to the Trade. Every order will be accompanied by a popular work on the Chrysanthemum.

Post-office Orders payable to J. H. BIRD, Stoke Newington, will be immediately attended to. Catalogues on application.

## NEW VERBENAS,

RAISED BY MR. ELPHINSTONE.

1. PICTURATA.—Crimson, large, and fine truss, conspicuous white round eye.
2. COMTE DE MONTALEMBERT.—Light lilac, very large flower of extra substance, with large white eye.
3. ANNIE.—Light rose, large white eye, a very desirable colour and good substance.
4. BOUQUET DE LA REINE.—Peach, large white eye, fine shape, and extra substance, quite a new colour.
5. MAGNUM BONUM.—Bright crimson, fine yellow eye, large flower and a very striking variety.
6. GRANDIFLORA PURPUREA.—Violet purple, large truss, fine white eye.

Plants ready for sending out second week in April.

D. BROWNE has great pleasure in introducing the above Six New VERBENAS, as being a decided improvement on any hitherto produced in form, colour, and extra substance, with fine strong habits so desirable for bedding purposes.

The Stock being limited, early orders are respectfully solicited so that the best Plants may be selected and reserved.

The collection of Six Varieties, package included, 20s., or 3s. 6d. each, sent free of carriage.

Horticultural Grounds, Sprowston; Seed Establishment, 41, London Street, Norwich. The Trade supplied on the usual terms.

NEW FUCHSIAS (English and Continental).—Strong established Plants, fit to grow as Specimens of the best and leading kinds:—Princess of Prussia, Prima Donna, Governor-General, cheiranthiflora, tricolor, Agnes Sorel, Prince Frederick, Wonderful, Guiding Star, &c.

NEW FRENCH SPOTTED GERANIUMS.—Fine plants set with flower buds and coming into flower, 12*s.*, 18*s.*, & 21*s.* p. doz.

SEEDLING SPOTTED AND STRIPED CALCEOLARIAS, in 6-inch pots, 12*s.* and 18*s.* per dozen.

NEW VERBENAS.—Nearly all those sent out last year and the best of the previously established plants, 4*s*, 6*s.*, and 9*s.* per dozen.—EPPS's Nurseries, Maidstone and Ashford.

GREENHOUSE PLANTS, 12*s.*, 18*s.*, 21*s.* per doz.—Fine bushy grown plants, consisting of the best kinds such as Pimeleas, Polygalas, Chorozemas, Aphelexis, Tremandras, Boronias, Leschenaultia, Gompholobium, &c.; also all the leading Creepers.

STOVE PLANTS, 12*s.*, 18*s.*, 21*s.* per doz.—The best kinds, Begonias of sorts (Rex), Francisceas, Ixoras, Aphelandras, Gesneras, Gloxinias, Medinillas, Vincas, Allamandas, Stephanotis, Rhynchospermums, Dipladeniums, Hoyas, Gardenias, and variegated plants.

AZALEAS, consisting of the new and leading kinds, with flower-buds, 12*s.*, 18*s.*, 21*s.*, and 30*s.* per doz.—A large quantity of young specimens of various sizes.

ERICAS, fine grown stuff of the leading sorts, 12*s.*, 18*s.*, 21*s.*, 30*s.* per doz., in 48 and 32-size pots. A quantity of half and full-grown specimens.

TO THE TRADE.

20,000 of young stuff just potted off, in 60-size pots, 50*s.* per 100; pretty plants and very bushy.

ACHIMENES, TYDEAS, AND GLOXINIAS.—All the new and leading kinds (strong bulbs and tubers), of Messrs. Van Houtte, Verschaffelt, Parker, &c., 6*s.*, 9*s.*, 12*s.* per doz.

EPPS's Nurseries, Maidstone.

NEW PLANTS.—1859.

HUGH LOW AND CO. respectfully invite attention to the annexed LIST of novelties, orders for which they will be very happy to receive:—

NEW GLOXINIAS.

HUGH LOW & Co. have selected the undernamed varieties from a large number of plants raised by themselves from seed carefully and judiciously hybridised, and having flowered them for two seasons, and compared them with the varieties previously in cultivation, H. L. & Co. can with confidence recommend the selection to the notice of their friends as comprising really distinct kinds, worthy of a place in the most select collection of this much admired and easily cultivated flower Plants in April. Price, 3*s.* 6*d.* each.

ERECT-FLOWERING VARIETIES.

Atroviolacea, very dark violet purple, base of the tube beautifully spotted on a pure white ground.
Bridesmaid, white tube, shaded rose border, lips spotted with white
Lineata superba, rosy carmine tube, towards the lips alternate bands of white and rose.
Perfection, clear white throat, dark blue belt, lips deep violet purple.
Princess Alice, clear white tube, bright rose belt, edges very pale rose.
Princess of Prussia Improved, throat and belt very much brighter crimson than in the old variety.

DROOPING-FLOWERED VARIETIES.

Attraction, base of tube white, finely spotted, lips rosy crimson, outer edge pure white.
Beauty, white tube, inside carmine lake, broad white belt, flowers very large
Meteor, bright crimson with violet throat, carmine blotch on the lip.

NEW ROSES OF 1859.

| HYBRID PERPETUAL. | HYBRID PERPETUAL. |
|---|---|
| Altesse impériale | Virginale |
| Ardoisé de Lyon | Beauté de Rœyghem |
| Comte de Beaufort | |
| Bouquet de Marie | BOURBON. |
| Empereur de Maroc | Docteur Berthet |
| Salomon | Madame Marchal |
| Oriflamme de St. Louis | Octavie Fontaine |
| Reine de la Cité | |
| Ambroise Verschaffelt | TEA-SCENTED. |
| Orderic Vital | Madame Damaizan |
| Anna de Diesbach | Madame Darru |
| | Reine des Pays Bas |

Plants 5*s.* each.

NEW VERBENAS.

The entire stock of these nine varieties is in the possession of H. L. & Co., and they can with the greatest confidence recommend them to their friends as distinct and first-class flowers.
Bellona, bright cerise, dark centre, good form, very distinct.
Flora, lilac, white eye, large truss, fine form.
Lady Cotton Sheppard, bright rosy purple, white eye, large truss, very distinct.
Mars, bright red, extra large truss, fine form and free flowerer.
Miss Emily Hanmer, ruby, white eye, immense truss, extra fine form, the best of its class.
Mrs. Fowke, rosy purple, fine white eye, extra large truss, fine form, very free.
Mrs. Leslie, bright rose, very large white eye, large truss, and splendid form.
Rubens, ruby red, white centre, good form, very distinct and free bloomer, from 2*s.* 6*d.* each.

VERBENA SNOWFLAKE.—The best white Verbena ever offered for bedding purposes. With a flower equal to Mrs. Holford, it produces a much larger number of trusses on the same space of ground. This variety has been grown in company with the other white kinds at present in cultivation, and has been found to be more effective than any of them. In order that it may be extensively planted the first season, H. L. & Co., have decided on offering it at a cheap rate.

Single plants, 2*s.* 6*d.*; per doz., 18*s.*; per 100, 100*s.* In April.

New Verbenas received from M. Boucharlat of Lyons:—

| | | |
|---|---|---|
| Abondance | Madame Denis Blain | Mons. Denis Blain |
| Bleu magnifique | Madame Hardy | Monsieur Hardy |
| Felix Roland | Madame Hoste | Reine Blanche |
| Gloire de Monplaisir | Madame Large | Souvenir de M. Seringe |
| Kossuth | Manteau d'Evêque | |

Plants 1*s.* 6*d.* each, now ready.

New Verbenas received from M. Rougier-Chauvière, of Paris. These and the preceding collection include the finest varieties offered this season on the Continent.

| | | |
|---|---|---|
| Baccarat | Gitana | Marie Rougier |
| Cendrillon | Ivanhoe | Ne Plus Ultra |
| Cerise \| Clara | La Magicienne | Primulæflora |
| Fatima | Leandre | Rosalinda |
| Figaro | Lucrece | Rosamond |

Plants now ready, 1*s.* 6*d.* each.

Verbena Madame Jourdin, the most distinct and beautiful of all the striped varieties, per dozen, 12*s.*

LOBELIA TRIGONICAULIS, a new species from Moreton Bay, figured and described by Sir Wm. J. Hooker. A beautiful dense growing variety, each plant covering a space of ground 12 to 18 inches in diameter, with its ample bright green foliage (in the way of Verbena Maonetti) and large light blue flowers with fine white eye. It will be much in demand for bedding purposes. For further description see "Cottage Gardener." Plants in April, price 2*s.* 6*d.* each, or 21*s.* per dozen.

Usual discount to the Trade on all the above-named plants.

Bedding Plants of older date in large quantities at low prices.

Clapton Nursery, London, N.E.—April 16.

# CHOICE SEEDS.

## BUTLER & McCULLOCH,

While drawing attention to their general SPRING CATALOGUE of SEEDS, which has elicited such high encomiums both from the scientific botanist and amateur cultivator, avail themselves of the present opportunity to select from its pages the following list:—

(37) ACACIA LONGIFOLIA (magnifica).

One of the most splendid Acacias in cultivation, with gorgeous clusters of bright yellow flowers several inches in length; very hardy, rare, and beautiful. Of these graceful and highly ornamental plants our collection embraces no fewer than 47 varieties, all of the most decorative character.

(183) BROWALLIA CŒRULEA GRANDIFLORA.

Large sky-blue; quite new; free flowering (very rare).

(199) CALLICHROA PEDATA.

Crimson with white eye; a most beautiful plant, and quite new.

(217 A.) CAMELLIA JAPONICA.

From the newest and finest striped and other varieties of that much admired genus.

(243) CANNA INDICA SUPERBA.

A magnificent plant flowering all the winter; leaves large, fine green. Of this picturesque and most ornamental genus we have a magnificent collection, consisting of 28 kinds, all remarkable both for the beauty of their flowers and foliage.

(271) CANTUA PYRIFOLIA.

A handsome shrub, with bunches of waxy cream-coloured flowers (rare).

(299) CEANOTHUS FONTANESIANUS.

Blue shaded with red, new and handsome. Of this highly ornamental genus we possess nine splendid varieties.

(304) CELOSIA (species nova).

A most elegant plant, producing a multitude of long spikes of feathery blossoms, silvery white shaded with bright rose, retaining its colour perfectly when dried, and therefore admirably adapted for winter bouquets; one of the greatest novelties of the season, flowering out of doors or in pots from July to October. Well worth attention. A dried specimen may be seen.

(319) CESTRUM AURANTIACUM.

One of the finest conservatory plants in cultivation, being covered twice a year with handsome orange tubular blossoms.

(323) CHAMÆROPS HUMILIS.

Very ornamental Fan Palm which will stand ordinary winters out of doors in favoured localities in the South of England with very little protection.

(344) CHRYSOCOMA COMAUREA.

Fine evergreen shrub, bearing a profusion of golden ball-like flowers; one of the handsomest greenhouse plants in cultivation.

(393) CONVOLVULUS MAJOR SPLENDENS.

Brilliant crimson, most beautiful.

(451) DATURA HUMILIS FLORE PLENO.

A magnificent Brugmansia-like plant producing a profusion of deep golden-yellow flowers; very large, double, and sweet-scented. One of the greatest novelties of the season.

(577) GERANIUM NAPOLEON III.

Of this and other splendid varieties, including Scarlets, we have a fine stock, which cannot fail to prove highly satisfactory.

(976) PENTAPETES PHŒNICEA.

Bright scarlet; leaves long and serrated, a very handsome plant.

(1001) PHYGELIUS CAPENSIS.

Large red tubular flowers, inside golden yellow, a handsome plant (seeds rare).

(1095) SALVIA SPLENDENS Nova.

Species, scarlet (new).

(1137) SIPHOCAMPYLUS BETULÆFOLIUS

A handsome plant, with scarlet tubular flowers; suitable for a trellis.

(1149) SOLANUM CAPSICASTRUM.

Miniature Orange tree, covered all winter with a profusion of scarlet fruit; a handsome plant for greenhouse or sitting rooms.

(1170) STATICE BONDUELLI.

Deep golden yellow; flowers early and profusely, in large rosettes.

(1276) VERONICA ANDERSONI.

Purple and white, all but hardy; a charming shrub.

(1282) VERONICA MELDENSIS.

Beautiful rose and white; a splendid plant.

(1335) BIGNONIA RADICANS MULTIFLORA.

Finer and brighter than radicans; flowers in large panicles producing a splendid effect.

(1375) GLYCINE SINENSIS, or WISTARIA.

One of the most valuable climbing trees for out-doors (seeds rare).

(1380) IPOMŒA HYBRIDA MARGINATA.

Large and magnificent; flowers of various colours on the same plant, varying from the richest velvety purple to sky-blue, bordered in the most distinct manner with pure white (new and rare). This and three new varieties of Hederacea grandiflora far surpass the old and deservedly favourite rubro-cœrulea for beauty, hardiness, and free flowering; they rank high amongst the novelties of the season, possessing advantages which will render them the grandest ornaments for the greenhouse, conservatory, or for out-door decoration.

(1431) MAURANDYA CRIMSON-TINTED PURPLE GRANDIFLORA.

Exquisitely beautiful (new).

(1438) MAURANDYA MAROON GRANDIFLORA.

Superb (new and rare).

(1468) TACSONIA IGNEA.

This magnificent Passionflower is unequalled for the brilliancy and splendour of its scarlet blossoms, far surpassing in this respect any of its class yet known. It flowers most profusely, grows rapidly, and covers a large space in an incredibly short time. It succeeds in a cold greenhouse, and even against a south wall with a little protection in winter (new and rare).

(1473) TROPÆOLUM FLAMMULUM GRANDIFLORUM.

Yellow; beautifully streaked with carmine (rare).

(1477) TROPÆOLUM GRACILE.

Sulphur, spotted with carmine; extremely pretty.

(1479) TROPÆOLUM MINIATUM MACULATUM.

Superb, striped variety (very rare).

(1488) TROPÆOLUM TRIOMPHE DE GAND FIMBRIATUM.

Fringed orange scarlet.

CARNATIONS and PICOTEES saved from the most choice Collection of English varieties grown on the continent, and which may be expected to produce flowers of the highest merit, sent out in sealed packets as received from our Sardinian correspondent, whose seeds for many years have given such universal satisfaction, and from which varieties of the greatest excellence have been raised.

For prices and further particulars with regard to the above and other novelties, we refer our patrons to the Catalogue itself, which is sent free and post paid on application.

BUTLER & McCULLOCH,
COVENT GARDEN, LONDON.—APRIL 16.

JOHN KERNAN, SEEDSMAN, 4, Great Russell Street, Covent Garden, respectfully announces that he is now fully prepared to supply in any quantity the best varieties of AGRICULTURAL TURNIPS, that is, Laing's, Mu[rdoch]'s, Marshall's Purple-topped Swede, Skirving's do., Purple and Green-topped Scotch, &c., at 6*d.* per lb.; Cattle and other Cabbages for early lambs, Yellow Globe, Long Red and Red Globe Mangel, 6*d.* per lb.; Red, White, and Alsike Clover, Trefoil and Lucerne; Sainfoin and Tares; separate and mixed Grasses; Sorghum saccharatum, the new and invaluable fodder for fattening sheep and cattle, and especially useful for improving the quantity and quality of milk in milch cows. a Treatise on the advantages and culture of which is now ready, price 1*s.* Two lbs., at 2*s.* per lb., are sufficient for an acre, and not eight, as is constantly advertised. Guano in any quantity, from 1 lb. to 1 ton, or upwards. All the best sorts of Potatoes, early and late. The Trade supplied on the most liberal terms. Horticultural, Vegetable, and Flower Seeds, including all the recent introductions, on sale as usual. Plants of the Tussac Grass. Catalogues may be had on application.

PLANTS IN FLOWER.

F. AND A. SMITH have now in bloom Acacia, Cinerarias (fine), Cytisus, Erica ventricosa coccinea major, v. superbiens, v. breviflora, E. intermedia, Fuchsias, Calceolarias, Heliotrope, Hydrangea, E. Cavendishi, E. byanthera, E. perspicua nana, Geraniums, Fairy Roses, &c.

The above are healthy, strong, and well-grown Plants, prepared for sending away. Prices on application.

Dulwich, Surrey, S.

SUPERB DOUBLE BALSAMS.

F. AND A. SMITH are now sending out seed of their superb BALSAMS, which are unrivalled for size, form, brillancy of colour, doubleness of flower, and habit of plant.

| | | |
|---|---|---|
| In collections of nine separate colours | .. .. | 2*s.* 6*d.* |
| ,, ,, mixed ,, | .. .. | 2 0 |
| ,, ,, ,, ,, half quantity | | 1 0 |

The above are *genuine only* in our sealed packets, and may be had of most respectable Nurserymen and Seedmen in the United Kingdom.—Dulwich, Surrey, S.

AZALEA INDICA.—The following 25 choice varieties, all fine and handsome blooming plants, may be had together for 45*s.*; or any 12 of the same may be selected for 21*s.*, viz.:—blanda, Broughtonii, Bianca, coronata, crispica purpurea, decora, Dawsonii, Frostii, Glory of Sunning Hill, Iveryana, leucomajestica, magnifica, magnifica alba, Minerva, Mrs. Fry, phœnicia, præstantissima, Rawsonii, Reddingii, Rosalia, Smithii coccinea, splendens, Stanleyana, triumphans, Vesta. For 12 varieties of the above left to our selection, 21*s.*

CATALOGUES, with descriptions of the above, free.

Carriage free to all stations in London, or on the E. C. Colchester Line.—BASS & BROWN, Sudbury, Suffolk.

REIGATE SILVER SAND, best quality for Florists, 16*s.* per ton; less quantities, 1*s.* 6*d.* per bushel; delivered to any London Wharf or Railway. Peat, Loam, and Leaf Mould in large or small quantities. Sacks for Sand, 1*s.* each; or on hire, 6*d.* each; five hold a ton.—JOHN KENNARD, Purveyor to her Majesty, Swan Place, Old Kent Road, London, S.E.

HORTICULTURAL VALUATIONS.

MR. ALFRED CHANDLER (of the late firm of Chandler & Sons, Vauxhall), begs to inform his friends that he is at liberty to undertake the valuation of Collections of Plants, Nursery Stock, Horticultural Buildings, &c.

Mr. A. C. is also open to engagements as Censor at Horticultural Exhibitions, in which capacity he has had long and extensive experience.—28, Priory Road, Wandsworth Road, S.

CARNATIONS AND PICOTEES.

YOUELL AND CO.'S COLLECTION of the above deservedly favourites is probably the most extensive in the Trade, and having for a series of years paid special attention to their cultivation, introducing the best of the newer varieties, they are enabled to offer them at the following prices for fine, strong, well rooted plants.

CARNATIONS, finest first class show varieties by name, 16*s.* and 24*s.* per dozen pairs.

PICOTEES, finest first class show varieties by name, 18*s.* and 24*s.* per dozen pairs.

Ditto, on yellow grounds, 20*s.* and 30*s.* per dozen pairs.

Finest mixed BORDER CARNATIONS & PICOTEES, 9*s.* ditto

True old CLOVE CARNATION, 12*s.* per dozen pairs.

Scarlet ditto ditto, 18*s.* ditto

NEW CARNATION "EXTRAVAGANZA."—For particulars see Advertisement, March 26. Price 3*s.* 6*d.* per pair.

PINKS.—The finest first class show Pinks, by name, 9*s.* per doz. pairs.

Fine mixed border PINKS, 6*s.* per dozen pairs.

HOLLYHOCKS.—Our extensive stock of these, comprising the first-named varieties, is this season very strong and healthy, and well established in pots, price of which is 9*s.* to 12*s.* per dozen.

HOLLYHOCKS, warranted all double flowers, and from the best leading kinds, 20*s.* per 100.

NEW PHLOXES.—An extensive and select collection of the above beautiful showy tribe of Herbaceous Plants, comprising the fine and newly introduced varieties from the Continent. May be obtained at 10*s.* per dozen, package included.

PANSIES.—Finest first-class show varieties, by name, 9*s.* per dozen.

CHRYSANTHEMUMS.—The handsomest of the new large flowering and Pompone kinds, 6*s.* per dozen.

DAISIES.—18 selected, of the best new Belgian vars. for 9*s*

LOBELIAS.—Finest scarlet, adapted for forming magnificent groups, viz.:—Blue do. Milleri; violacea, 9*s.* per dozen; Red Leopold, 6*s.* per dozen.

OXALIS FLORIBUNDA AND ROSEA.—Quite hardy, producing a fine bed of rich rose colour, 6*s.* per dozen.

ŒNOTHERA MACROCARPA.—Large yellow, 6*s.* per dozen.

,, TARAXACIFOLIA.—Large white, 6*s.* ,,

DELPHINIUM FORMOSUM.—Finest blue, 3*s.* per doz.; 16*s.* per 100.

,, MOOREANUM.—Dark purple, 4*s.* per dozen; 25*s.* per 100

AUBRIETIA MOOREANA.—A handsome hardy herbaceous plant, of dwarf growth, producing at this period a dense mass of large flowers of the brightest lilac, 6*s.* per dozen.

LINUM FLAVUM, 6*s.* per dozen.

TRITOMA MEDIA.—A handsome winter and spring-flowering hardy herbaceous plant, producing large spikes of scarlet-yellow flowers, 9*s.* per dozen.

PENTSTEMONS.—A fine assortment, 6*s.* per dozen.

GAZANIA RIGENS.—Large orange yellow, with dark centre, 6*s.* per dozen.

STATICE MARITIMA ROSEA AND PSEUDO-ARMERIA.—Strong plants of these two beautiful and hardy species, producing throughout the year a profusion of lake-coloured flowers, 4*s.* per dozen.

DIELYTRA SPECTABILIS, fine strong plants, 6*s.* per dozen.

BERBERIS DARWINI, flowering plants, 6*s.* per dozen.

PRIMROSE, double yellow, 4*s.* per dozen.

HERBACEOUS PLANTS.—A choice collection of all the most showy kinds, 6*s.* per dozen; 40*s.* per 100.

☞ All orders of 2*l.* and upwards are delivered Carriage Free to London, Manchester, Liverpool, Peterborough, Hull, and Newcastle, as well as to any Railway Station within 100 miles of the Nursery.

YOUELL & Co., Royal Nursery, Great Yarmouth, Norfolk.

ARTIFICIAL MANURES, &c.—Manufacturers and others engaged in making ARTIFICIAL MANURES may obtain every necessary instruction for their economical and efficient preparation, by applying to J. C. NESBIT, F.G.S., &c., Principal of the Agricultural and Chemical College, Kennington, London. Analyses of Soils, Guanos, Superphosphates of Lime, Coprolites, &c., and Assays of Gold, Silver, and other Minerals are executed with accuracy and despatch. Gentlemen desirous of receiving instruction in Chemical Analyses and Assaying, will find ample facility and accommodation at the College.

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LONDON MANURE COMPANY, removed to 116, Fenchurch Street, E. C. (Established 1840), have the following MANURES ready for delivery:—

CORN MANURE for SPRINGTOP DRESSING
URATE
MANGEL MANURE
SUPERPHOSPHATE OF LIME
BLOOD MANURE
} all of guaranteed quality.

In consequence of the reduction in the price of raw material the London Manure Co. are enabled to lower the price of their Superphosphate of Lime, and to materially improve the Corn Manure and Urate.

The London Manure Co. also supply PERUVIAN GUANO (direct from Messrs. A. Gibbs and Sons), SULPHATE of AMMONIA, NITRATE OF SODA, CRUSHED BONES, and every other Manure of value. Wholesale dealers supplied.

116, Fenchurch Street E.C. EDWARD PURSER, Secretary.

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REDUCTION IN PRICE OF LAWES'S MANURES.

MR. LAWES begs to announce that he has this season reduced the price of the Manures manufactured by him, viz.:—

| | | | | | |
|---|---|---|---|---|---|
| TURNIP MANURE .. .. .. | from | £7 | to | £6 | 6 |
| SUPERPHOSPHATE OF LIME .. | ,, | 7 | to | 6 | 6 |
| MINERAL do. .. | ,, | 6 | to | 5 | 5 |
| BARLEY MANURE.. .. .. | .. | .. | | 8 | 0 |

Prof. Way and Dr. Voelcker have sampled from a bulk of 5000 to 6000 tons at his factories, and their report and analyses are given in full in Circular to be obtained on application at his office, 1, Adelaide Place, London Bridge, E.C., or of his local Agents.

N B. Genuine Peruvian Guano direct from Messrs GIBBS, Nitrate of Soda, Sulphate of Ammonia, and other Chemical Manures. American Cotton-seed Cake supplied.

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ESTABLISHED 1812.

H. AND T. PROCTOR'S TURNIP MANURE.—Messrs. H. & T. P. draw particular attention to this valuable Manure, which contains all the elements necessary for the full development of the Turnip Crop, so combined, that, from their chemical knowledge and long experience, they feel satisfied is most advantageous to the consumer. It has been very extensively used by most of the eminent Agriculturists of the day, and has attained a high reputation throughout England, Scotland, and Wales, and, they venture to say, is unrivalled for the weight and quality of the Bulbs which it produces. The application of this Manure to the Turnips will be found to benefit considerably the after crops of Barley, Clover, and Wheat.

POTATO, GRASS, BARLEY, CLOVER, AND WHEAT MANURES; also BONE DUST, PERUVIAN GUANO, and SUPERPHOSPHATE of LIME, warranted of the best quality.

Apply to H. & T. PROCTOR, West of England Depôt for Artificial Manures, Cathay, Bristol; or PROCTOR & RYLAND, Birmingham, and Saltney, near Chester.

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BURNARD, LACK, AND CO.'S CONCENTRATED SUPERPHOSPHATE OF LIME; guaranteed to contain Phosphoric Acid soluble, equivalent to 40 per cent. of Tribasic Phosphate of Lime.

CONCENTRATED TURNIP MANURE, equal in value to the preceding.

Of these Manures Dr. Voelcker says:—"These results must be very gratifying to you, and are the best proof of the very high agricultural and commercial value which characterises your concentrated superphosphate."

Detailed analyses, with opinions of the late and present Chemists to the Royal Agricultural Society, with Testimonials, Prices, &c., may be had on application to BURNARD, LACK, & Co., Sutton Road, Plymouth.

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PERUVIAN GUANO.

The present price of this valuable Manure is—

12*l.* per Ton for 30 Tons and upwards,
13*l.* 5*s.* per Ton for 1 Ton up to 30 Tons.

And, to guard against the purchase of adulterated mixtures and of inferior Guanos purporting to produce results equal to Peruvian, consumers are recommended to apply either to ourselves, to our agents, Messrs. Gibbs, Bright, & Co., of Liverpool and Bristol, or to dealers of established character, in whose honesty and fair dealing they may place implicit confidence.

ANTONY GIBBS & SONS.

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SUCCESS OF THE NEW GUANO; IMPORTED UNDER LEASE FROM THE CROWN.—Though the experiments with KOORIA MOORIA GUANO were made late in the season, and under adverse circumstances, the successful results obtained confirm beyond doubt Professor Voelcker's report—(in No. 41, Part I., vol. xix., Royal Agricultural Society's Journal)—that Ammoniacal manures, applied to Turnips in the experimental field, kept back at first the crop, and had no beneficial effect either alone or in conjunction with phosphates.

The KOORIA MOORIA GUANO is essentially a phosphatic manure, containing sufficient ammonia for roots, and, with a mixture of one-fourth of ammoniacal guano, cannot be excelled for either top-dressing or grain crops. It is a natural deposit, and will be delivered as imported, free from risk of adulteration. Deeply impressed with the necessity of encouraging the import of this valuable manure, her Majesty's Government has given such increased facilities for shipment, that arrangements have been made for a considerable supply. Purchasers can be supplied with suitable quantities from cargoes now on sale, containing from 45 to 66 per cent. phosphates. Present prices, 4*l.* 10*s.* to 6*l.* 10*s.* per ton, on applying to JOSEPH HINDSON, Broker (one of the Lessees under the Crown), 20, North John St., Liverpool. Government Lessees: ORD, HINDSON, & HAYES.

"Greystoke, Cumberland, Dec. 16, 1858.

"Dear Sirs,—I beg to inform you that I applied the Kooria Mooria Guano I had from you for Turnips, on land of a loamy character, incumbent on a stiff clay subsoil, and recently drained. On each side of the plot sown with Kooria Mooria Guano were Turnips manured with best Peruvian Guano. The quantities applied of each sort were of equal weight for weight per acre. The crop—a very good one throughout—is now being eaten off with sheep. Very little perceptible difference can be discovered, but if anything that difference is in favour of the Turnips sown with Kooria Mooria Guano.

(Signed) "JOHN BARKER."

"Messrs. J. & J. Graham, Guano Merchants, Penrith."

A Pamphlet, "Hints on Guano," containing a large number of reports from well-known agriculturists, and analysis of the cargoes here, may be had of the Broker, at the above address.

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GENUINE ROLL TOBACCO CLOTH.

WARRANTED EQUAL IN STRENGTH TO TOBACCO.

JOSEPH BAKER, 10, Gough Square, Fleet St., E.C., having dealt upwards of 20 years in the above, can recommend it as the best article for destroying the Fly. 1*s.* 4*d.* per lb.; over 10 lbs, 1*s.* Post-office Orders payable Strand Office

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GENUINE TOBACCO PAPER.—Parties fumigating can be supplied with the best Genuine Tobacco Paper at 4*d.* per cwt.; any less than 56 lbs., 10*d.* per lb.—BEN BAXTER, Messrs. Jackson & Sons, Lady Lane, Leeds.

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GENUINE TOBACCO PAPER FOR FUMIGATING.

H. APPLEBY (Foreman to Messrs. Ivery & Son, Nurserymen, Dorking, Surrey), takes this opportunity of informing his Patrons and the Public that he is now offering the above at a very considerably reduced price. It is now sold in packets of 4 lbs. each, at 1*s.* 3*d.* per lb. A liberal Discount allowed to the Trade. The following Testimonials amongst **many others will guarantee its quality:—**

**"Maresfield, Sussex, Feb. 17, 1858.**

"SIR,—It gives us much pleasure to inform you that the Tobacco Paper with which you supplied us has answered admirably. We have not the slightest hesitation in stating **that 1 lb. of the Paper we had from you will render more** service than 3 lbs. of the paper we have been in the habit of purchasing elsewhere. You will please send us a further supply of 28 lbs. at your convenience.

"WOOD & SON, Nurserymen, Maresfield, Sussex."

"Royal Berkshire Seed Establishment, Reading, Dec 6, 1858

"SIR,—Our propagator has tried your Tobacco Paper thoroughly, and considers it very good. It is also very convenient to the Public to receive it in 4-lb. packets as you make it up. We should therefore be glad of 1 cwt for present sale in 4-lb. packets, and will let you know when more is required.

"SUTTON & SONS,

"Nurserymen and Seedsmen, Reading, Berks."

**"Norwood Grove, March 28, 1859.**

"SIR,—After trying your Tobacco Paper to all the different houses from the tender Vines to the hardy Azaleas, I am pleased to say it answers admirably, and will thank you to send me as early as possible the same quantity as before.

"CHARLES SMITH,

"Gardener to A. Anderson, Esq., Norwood, Surrey."

H. APPLEBY'S SHEET IRON FUMIGATING POT (price 3*s.* 6*d.* each), which will be a great saving of Flower Pots, as **they are apt to break. The undermentioned Testimonial will guarantee its usefulness:—**

"The Gardens, Oxton House, near Exeter. Dec. 11, 1858.

"SIR,—I am perfectly satisfied with the little Fumigating Pot, and can strongly recommend it in preference to flower pots, as it is a great saving and much easier managed.

"A. AYSON,

"Gr. to Major-Gen. Studd, Oxton House, Exeter, Devon."

N.B. All orders to be accompanied with a Post-office Order, payable to HENRY APPLEBY, Dorking, Surrey.

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PAGE'S BLIGHT COMPOSITION (4*s.* per gallon, **sufficiently strong to make four fit for use**) has stood the test of eight years public trial, and its great success has led to numerous imitations. Dr. Lindley, in his leading article of October 25, 1856, reported 182 cases in its favour, sufficient to convince the most sceptical. Seeds packed for exportation to all parts of the world.—PAGE & TOOGOOD, Royal South Hants Seed Establishment, Southampton.

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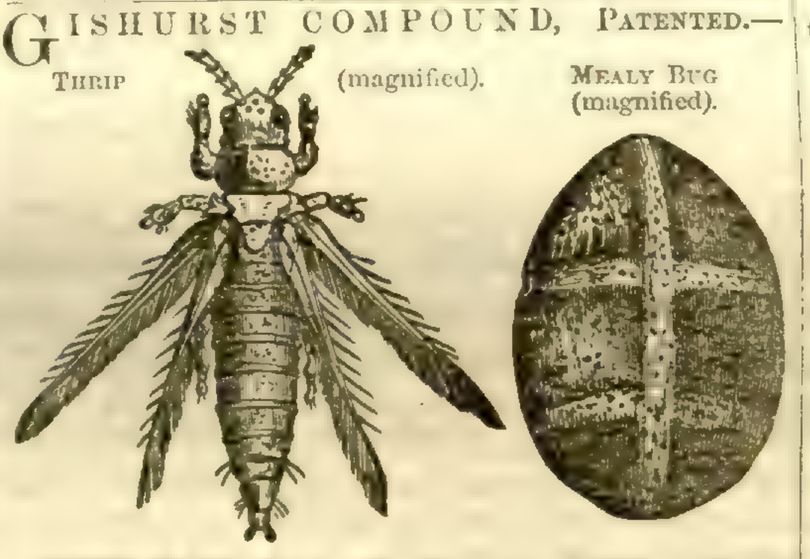
GISHURST COMPOUND, PATENTED.—



THRIP (magnified). MEALY BUG (magnified).

GREEN FLY on Roses and Greenhouse Plants safely got rid of by syringing with PATENT GISHURST COMPOUND, 2 oz. to the gallon of water.

Extract from leading article in *Gardeners' Chronicle*, April 9, '59.

"That it really kills red spider, aphides, mealy bug, thrips, and scale, it is impossible to doubt in the face of reports of practical men, among whom we may mention Mr. D. Judd, of Althorp Gardens"—then follows a caution against the use of a too strong solution.

The Gishurst Compound is sold in boxes at 1*s.* 6*d.* and 6*s.* each, with directions for use, and printed opinions of Mr. Rucker's gardener, Lady Dorothy Nevill's gardener, Sir William Hooker, Mr. Rivers, and other eminent authorities. For Nurserymen the large size is recommended, but where the consumption is not large the compound keeps its strength best in the small. The undermentioned Seed Merchants, Nurserymen, &c., having taken in supplies are prepared to sell single boxes:

Barratt, Bury St. Edmunds
Bass & Brown, Sudbury
Bell & Co., Newcastle-on-Tyne
Brown, D., Norwich
Cattell, J., Westerham
Cripps, T., Tunbridge Wells
Deane & Co., London Bridge
Dickson, Francis & Arthur and Sons, Chester
Dickson & Brown, Manchester
**Dickson, Hogg, & Robertson, Dublin**
Dickson & Sons, Edinburgh
Epps, F., Ashford, Kent
Epps, Maidstone
Hawkins, R. T., Weymouth
Henderson, E. G. & Son, St. John's Wood, London
Henderson, A. & Co., Pine-apple Place, Edgeware Rd.
Hooper & Co., Covent Garden
Jefferies, W. B., Ipswich
Kennedy & Co., Dumfries
Mackie & Stuart, Norwich
Mann, J., Brentwood
Matheson, R. C., Gloucester
May, J. & Co., 1, Wellington St.
Pattinson & Son, Hexham
Perkins, J., Northampton

Nurserymen and Seedsmen supplied by PRICE'S PATENT CANDLE COMPANY (Limited), Belmont, Vauxhall, London, S

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POULTRY—DOGS—PLANTS can be kept free from Insects of every description by using the PERSIAN INSECT DESTROYING POWDER, unrivalled in killing Fleas, Flies, Beetles, and every species of Insect—harmless to animal life. Sold in packets 1*s.* and 2*s.* 6*d.* A shilling packet sent free by post for 14 stamps.—THOMAS KEATING, Chemist, 79, St. Paul's Churchyard, London, E.C.

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RATS.—RATS TAKEN WITHOUT POISON OR TRAPS BY WHOLESALE.—Ships, Barns, Stables, Granaries, Mills, Warehouses, Farmsteads, Houses, &c., cleared at one sweep. ANY PERSON can by this method clear the entire premises of every RAT, however numerous they may be, in one single night. Printed directions how to entice and secure the whole lot alive sent free by return of post for Two Shillings by WILLIAM GOODWIN, High Halstow, near Rochester.

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PROPAGATING GLASSES.—

| | | s. | d. | | | s. | d. |
|---|---|---|---|---|---|---|---|
| 2 ins. | diameter | 0 | 3½ | each | 12 ins. diameter | 1 | 9 each |
| 3 ,, | ,, | 0 | 4½ | ,, | 13 ,, ,, | 2 | 0 ,, |
| 4 ,, | ,, | 0 | 5½ | ,, | 14 ,, ,, | 2 | 6 ,, |
| 5 ,, | ,, | 0 | 6½ | ,, | 15 ,, ,, | 3 | 0 ,, |
| 6 ,, | ,, | 0 | 8 | ,, | 16 ,, ,, | 3 | 6 ,, |
| 7 ,, | ,, | 0 | 10 | ,, | 17 ,, ,, | 4 | 0 ,, |
| 8 ,, | ,, | 1 | 0 | ,, | 18 ,, ,, | 5 | 0 ,, |
| 9 ,, | ,, | 1 | 2 | ,, | 19 ,, ,, | 6 | 0 ,, |
| 10 ,, | ,, | 1 | 4 | ,, | 20 ,, ,, | 7 | 0 ,, |
| 11 ,, | ,, | 1 | 6 | ,, | | | |

CUCUMBER GLASSES.

| | | | | | |
|---|---|---|---|---|---|
| 24 inches long .. | 2*s* 0*d*. | 16 inches long .. | 1*s*. | 4*d*. |
| 22 ,, .. | 1 10 | 14 ,, .. | 1 | 2 |
| 20 ,, .. | 1 8 | 12 ,, .. | 1 | 0 |
| 18 ,, .. | 1 6 | Made to any length. | | |

HAND GLASSES.

| | | | | | |
|---|---|---|---|---|---|
| 12 inches .. .. | 6*s*. 0*d*. each | 18 inches .. .. | 9*s*. 0*d*. each. |
| 14 ,, .. .. | 7 0 ,, | 20 ,, .. .. | 10 0 ,, |
| 16 ,, .. .. | 8 0 ,, | 24 ,, .. .. | 12 0 ,, |

**Painted and glazed with 16 oz. Sheet Glass.**

If open at top, 1*s.* extra.

WASP TRAPS, 3*s.* 6*d.* per dozen.

AGENTS FOR

HARTLEY'S PATENT ROUGH PLATE GLASS.

PAINTS.

Genuine White Lead, Linseed Oil, Boiled Oil, Turpentine, Putty, Colours, Varnishes, Brushes, &c.

**JAMES PHILLIPS AND CO.,**

**180, Bishopsgate St. Without, London, E.C.**

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GLASS FOR CONSERVATORIES, ETC.

HETLEY AND CO. supply 16-oz SHEET GLASS of British Manufacture at prices varying from 2*d.* to 8*d.* per square foot for the usual sizes required, many thousands of which are kept ready packed for immediate delivery.

Lists of Prices and Estimates forwarded on application, for **PATENT ROUGH PLATE, THICK CROWN GLASS, GLASS TILES, and SLATES, WATER-PIPES, PROPAGATING GLASSES, GLASS MILK PANS, PATENT PLATE GLASS, ORNAMENTAL WINDOW GLASS, and GLASS SHADES,** to JAMES HETLEY & Co., 35, Soho Square, London.

See *Gardeners' Chronicle* first Saturday in each month.

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HORTICULTURAL GLASS—JUNE TARIFF.

THOMAS MILLINGTON'S reduced Tariff of GLASS, &c.

**6 by 4, 7 by 5, 8 by 6, 9 by 7, 6½ by 4½, 7½ by 5½, 8½ by 6½, 9½ by 7½ } 16 oz. to the foot, 11*s.* 6*d.* per 100 feet.**

In 100 boxes,—4ths quality, 12*s.* 6*d.*; 3ds do., 14*s* 4*d.*

10 by 8, 12 by 9, 12½ by 10½, 14½ by 10½, 13 by 11
10½ by 8½, 12½ by 9½, 13 by 10, 15 by 10, 13½ by 11½
11 by 9, 13 by 9, 13½ by 10½, 12 by 11, 14 by 11
11½ by 9½, 12 by 10, 14 by 10, 12½ by 11½ .. ..

| | | 16 oz. | 21 oz. |
|---|---|---|---|
| 20 by 12, 20 by 13, 20 by 14, 20 by 15 | per 100 feet Common .. | 16*s*. | 24*s*. |
| | Superior . | 18*s*. | 27*s*. |

All Boxes included.

Orchard House sizes as supplied to Mr. Rivers.

Hartley's Improved Rough Plate Glass from ⅛ to ⅜ in thickness.

Coloured Glass in great variety, at 9*d.* and 1*s.* per foot.

Paints, Genuine White Lead, Linseed Oil, Boiled Oil, Turpentine, Putty, Colours, Varnishes, Brushes, Lamp Glasses, &c.

87, Bishopsgate Street Without, same side as Eastern Counties Railway

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GLAZIERS' DIAMONDS for CUTTING HORTICULTURAL and other GLASS, to be had of the Wholesale Manufacturer, JOHN EDWARDS, 20, Sharp's Alley, West Smithfield, London, E.C. Prices from 10*s.* to 27*s.* 6*d.*

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WHY NOT PRESERVE YOUR HAY?

RICK CLOTHS, New and Second hand,
At BENJAMIN EDGINGTON'S,
2, Duke Street, London Bridge, S.E., and West End,
32, Charing Cross, S.W.
MARQUEES, TENTS, &c.
Illustrated Catalogues free.

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BENJAMIN EDGINGTON, 2, Duke Street, London Bridge, S.E.

MONSTER TENTS for large parties.
PRETTY TENTS for Lawns.
RICK CLOTHS, Second-hand, very cheap.
NETTING for Fruit Trees, &c.
West End Establishment, 32, Charing Cross, S.W.

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HENRY J. MORTON AND CO.,
2, Basinghall Buildings, Leeds.

GALVANISED IRON WATER CISTERNS

for Cottage Houses, &c., to contain 50 gallons, 25*s.*; 80 gallons, 30*s.* each; and 140 gallons, 36*s.*, and fitted with tap, keeping the water perfectly sweet and clean; will not rust or corrode. Cisterns of all sizes.

GALVANISED IRON PUMPS

for Liquid Manure or Domestic Use, 3 inches diameter, 30*s.* and 32*s.* 6*d.* each; Tail Pipe for same at from 10*d.* per foot.

GALVANISED IRON SWING WATER BARROWS

for Garden or Farm use, containing about 20 gallons, entirely formed of iron, 32*s.* 6*d.* each.

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SHADING.

BROWN'S FLORAL SHADING still maintains its superiority for cheapness and efficiency over all other materials used for a similar purpose, viz., shading plants under glass from the scorching rays of the sun, protecting Wall Fruit Trees when in bloom from frost, and preserving the fruit from the attacks of birds, flies, and wasps. Sold in pieces 20 yards long, 38 inches wide:—

No. 1 per piece .. 4*s.* 0*d.* | No. 2 per piece .. 4*s.* 3*d.*

No. 3, extra stout, 18 yards long, by 39 ins. wide, 7*s.* per piece.

To be obtained of all the principal Nurserymen and Seedsmen in town and country. Samples sent free on application to the Manufacturer, CHARLES BROWN, Greenheys, Manchester.

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"FRIGI DOMO."—Patronised by her Majesty, the Queen, the Duke of Northumberland for Syon House, His Grace the Duke of Devonshire for Chiswick Gardens, Professor Lindley for the Horticultural Society, Sir Joseph Paxton for the Crystal Palace, Royal Zoological Society, late Mrs. Lawrence of Ealing Park, and — Collier, Esq., of Dartford.

PROTECTION FROM COLD WINDS AND MORNING FROSTS.

"FRIGI DOMO," a Canvas made of patent prepared Hair and Wool, a perfect non-conductor of Heat and Cold, keeping, wherever it is applied, a fixed temperature. It is adapted for all horticultural and floricultural purposes, for preserving Fruits and Flowers from the scorching rays of the sun, from wind, from attacks of insects, and from morning frosts. To be had in any required lengths. Two yards wide, 1*s.* 6*d.* per yard run; four, 3*s.* per yard. Also, an improved make for Shading Purposes. Three yards wide, 2*s.* 6*d.* per yard run.

ELISHA THOMAS ARCHER, whole and sole manufacturer, 7, Trinity Lane, Cannon Street, City, and of all Nurserymen and Seedsmen throughout the kingdom. "It is much cheaper than mats as a covering."

# GRASS SEEDS FOR PERMANENT PASTURES & MEADOWS.

## THOMAS GIBBS & CO., Corner of Half-Moon St.,

### THE SEEDSMEN TO THE "ROYAL AGRICULTURAL SOCIETY OF ENGLAND,"

BEG to inform the Members of the Society and Agriculturists generally that their MIXTURES of GRASS SEEDS for Laying down Land to Permanent Grass are now ready. Each kind of Grass Seed composing these Mixtures is cleaned separately, and the kinds are proportioned to suit different soils.

☞ *Full Directions for Sowing and Management will be sent with the Seeds.*

**MIXTURES for PERMANENT MEADOW and PASTURE** (*to suit different soils*).
**MIXTURES for PARKS, FIELD LAWNS, CEMETERIES, &c.**
**MIXTURES for IRRIGATION MEADOWS, GAME COVERS, and all other purposes.**
**RENOVATING MIXTURES for Improving Old Meadows and Pastures** (8 to 12 lbs. per acre).

MANGEL WURZEL.
Yellow Globe, Orange Globe (selected)
Long Red
Red Globe
Long Yellow
Silesian Sugar Beet

RYE-GRASS.
Italian (selected, very fine)
Dickinson's
Imported Foreign Seed
Common or Annual
Pacey's Perennial

| | |
|---|---|
| Carrots | all sorts |
| Clovers | ,, |
| Swedes | ,, |
| Hybrids | ,, |
| Common Turnips | ,, |

**KITCHEN GARDEN SEEDS in Collections, at £1, £2, and £3 each.**

**ALL KINDS OF AGRICULTURAL SEEDS.**

*Price Lists sent free on application. Reference or Cash required from unknown Correspondents.*

Thomas Gibbs & Co.

CORNER OF
HALF-MOON St.
PICCADILLY, LONDON, W.

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SUTTON'S GRASS SEEDS AT THE ROYAL FARMS NEAR WINDSOR, AND IN THE ISLE OF WIGHT.

# SUTTON'S GRASS SEEDS
## FOR PERMANENT PASTURE, PARKS, AND LAWNS,

ARE NOW SOWN AT THE ROYAL FARMS, AT OSBORNE PALACE, THE ALDERSHOTT CAMP, THE CRYSTAL PALACE SYDENHAM, THE HORTICULTURAL SOCIETY'S GARDENS, THE PEOPLE'S PARK, HALIFAX, AND ON MOST OF THE LARGEST ESTATES IN THE KINGDOM.

**These Grass Seeds being mixed expressly to suit the soil for which they are required, are never known to fail.**

SUTTON & SONS having for many years paid especial attention to the Laying down Land to Permanent Pastures, they are well acquainted with the various soils of most parts of the United Kingdom, and the Natural Grasses suitable for each locality.

**The following Sorts may be had separate or mixed, at lowest Market Prices:—**

Alopecurus pratensis
Anthoxanthum odoratum
Agrostis stolonifera
Avena flavescens
Achillea millefolium
Cynosurus cristatus
Dactylis glomerata

Festuca duriuscula
,, elatior
,, gigantea
,, heterophylla
,, pratensis
,, ovina
,, rubra

Festuca tenuifolia
,, hordeformis
Glyceria fluitans
,, aquatica
Holcus lanatus
,, avenaceus

Lolium italicum
,, perenne tenue
,, ,, Paceyanum
,, ,, sempervirens
Lotus corniculatus major
Medicago Lupulina

Poa pratensis
,, trivialis
,, nemoralis
,, angustifolia
,, fertilis
,, sempervirens

Phleum pratense majus
,, ,, minus
Petroselinum sativum
Trifolium repens
,, pratense perenne
,, minus
,, hybridum

ALSIKE and other CLOVER, and all the most suitable of the above are contained in our Mixtures. Cost of the best Mixtures for Permanent Pasture, **30s. to 34s. per acre**, according to the sorts required for the land.

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## Fine LAWN GRASS SEEDS for making New or Improving Old Garden Lawns,

**Price 1s. per lb., 2s. 6d. per gallon, or 20s. per bushel.**

## Improvement of Grass Lands by Sowing Good Seeds of the most Suitable Kinds.

## SUTTON'S RENOVATING GRASS SEEDS (6s. to 9s. per Acre)

Consist of the finest GRASSES and PERENNIAL CLOVERS, producing great improvement in the Pasture, and at a small expense. Quantity of Seed required 8 to 12 lbs. per acre. Price reduced to **9d. per lb., or 80s. per cwt.** Sow in March and April.

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We may also state that the Sardinian correspondent of Messrs. JAMES CARTER & Co., whose Seeds, especially Carnations and Picotees, have given such universal satisfaction, has transferred the Agency from that firm and appointed us his representative in this country. To meet the growing demand for first class flowers, particularly FLORISTS' FLOWERS, we have adopted our usual maxim of charging the lowest possible prices.

Professor LINDLEY in the *Gardeners' Chronicle* of February 5th, has the following notice of B. & McC.'s Catalogue.

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# The Gardeners' Chronicle.

*SATURDAY, APRIL* 16, 1859.


MEETINGS FOR THE FOLLOWING WEEK.

THURSDAY, April 21—Linnean ..... 8 P.M.

THE future of the NATURAL HISTORY COLLECTIONS OF THE BRITISH MUSEUM is now fairly before Parliament; and will probably be brought under final consideration as soon as possible when the House of Commons shall have reassembled after the impending dissolution. The case indeed has become desperate; human ingenuity has exhausted itself in temporary devices to find space where space there is none; and either natural history or antiquities and art collections must be consigned to the open street unless some new building for the one or the other is provided. That the treasures of art and antiquity which can bear the London atmosphere should stir is, we presume, out of the question. It is natural history which will have to find a new lodging.

A return to an order of the House of Commons, dated the eleventh of last March, and just published, contains information upon this important subject, of the highest interest. It shows among other things that during the past year a sub-committee on natural history, consisting of certain Trustees of the Museum, have been seriously occupied in taking evidence and considering what measures they should recommend for adoption. On the 16th June they examined Sir WM. HOOKER, Dr. HOOKER, Mr. BENNETT, Dr. LINDLEY, and Prof. OWEN; on the 21st the evidence was taken of Mr. BENTHAM, Prof. HENFREY, and Dr. FALCONER; after which letters from Sir CHARLES LYELL and Mr. DARWIN were made subjects of consideration. The following are extracts from the report made by the sub-committee to the General Board of Trustees. In the first place they state:—

"That while all the botanists they have examined are of opinion that it would be advantageous to form a botanical establishment at Kew, comprising an extensive herbarium and a good library, as an addition to the garden of living plants, there are differences of opinion respecting the desirableness of also keeping up in the metropolis such a herbarium in connection

with the extensive library of the British Museum. Sir WILLIAM HOOKER, Dr. J. HOOKER, and Dr. LINDLEY have given reasons in favour of the removal of the Collections from the British Museum to Kew, with the view of rendering that establishment more complete, but Dr. H. FALCONER, long at the head of the Botanical Garden of Calcutta, and Professor HENFREY, support the opinion of the late eminent botanist, Mr. ROBERT BROWN, and believe that such a removal would be of great disservice to science by depriving the consulting botanists of ready access to a central Metropolitan Herbarium and Library. In this view Mr. BENTHAM coincides, with this exception, that he wishes the herbarium bequeathed by Sir JOSEPH BANKS to be removed to Kew.

"The herbaria at Kew, and the library there, are, by far the greatest part of them, private property, and only accessible to the public under certain conditions; there are no buildings belonging to the gardens in which the united collections could be deposited, and no staff sufficient for its care, and the arrangement of necessary accessions. It is also stated that the number of specimens common to the collections at the British Museum and Kew is very large. In addition to the above considerations, it is clear that such a transfer as above alluded to cannot be made at present, nor, as it appears to your sub-committee, can the question be seriously entertained until the Government has decided upon erecting the necessary buildings at Kew, and providing a sufficient establishment in that locality."

*For these reasons* the sub-committee were unanimously of opinion that it is not desirable to remove the botanical collection from the British Museum to Kew. We have little doubt that when the reasons which influenced the sub-committee shall have ceased to exist their opinion will be modified accordingly. At all events it is clear from what follows that neither the botanical nor any other part of the natural history collections can remain in Great Russell Street, whatever may be their destination; and we hardly suppose it to be intended that the British Museum should change its site. We also remark that on the 26th June the General Board of Trustees postponed considering the report of the sub-committee till an answer should have been received to a letter addressed to the Treasury by order of the Trustees; to which letter it appeared that no answer had been received at the end of last February. It would therefore seem that the Treasury is deliberating—as well it may.

It is a matter of public notoriety that even last spring the Trustees had been for some time unable to find space for a large quantity of valuable objects of all kinds, which were therefore stowed away in cellars and vaults. By this time their embarrassment has become very much greater. On the 8th Oct. they were informed by Mr. PANIZZI that a ship load of most interesting antiquities was on its way from Budrum, Cnidus, Geronta, and Carthage, among which was a marble lion alone weighing 11 tons, for none of which could even shelter be found. In October and November Prof. OWEN, Dr. GRAY, and Prof. MASKELYNE were urgently pressing for more room. On the 19th Nov. the memorial from Zoologists and Botanists printed at p. 861 of our last volume was received. On the 4th Dec. the arrival of the Cnidian and Carthaginian antiquities calculated to occupy 4000 cubic feet was announced; with a report from Mr. BIRCH, representing that the provisional space provided for their reception was not adequate for the reception, unpacking, and arrangement. Then, on the 11th Dec., came before the Trustees another memorial from 36 eminent archæologists, earnestly addressing "her Majesty's Government upon the importance of providing adequately for the reception of this valuable addition to our national collection of antiquities. It is obvious, say the memorialists, from the expedients to which the authorities of the British Museum have lately been driven, in order to find room for other important works of the kind, that the means of accommodating such monuments are lamentably deficient; and they declare that the manner of disposing of many of those remains is *alike injurious to the works and discreditable to the country.*"

Early in January Prof. MASKELYNE reports that "a commencement has been made in the grouping of the minerals with a view to their final classification. * * * But the exact and definite arrangement of a large number of minerals will be impracticable until the means are furnished to the department for instituting investigations, and examining the minerals by those chemical, crystallographic, and optical methods, which, in the present advanced state of mineralogy, are quite necessary, indeed indispensable, for their exact discrimination. Until there is a proper room for chemical, as well as one for crystallographic and optical researches, the arrangement of the minerals can only be provisional. Some days have been given to the arrangement of the garnet case; but such an arrangement can only be provisional and inaccurate, in the absence of all exact means of examining a mineral either chemically or crystallographically." And this representation is backed by Prof. OWEN who has "only to remark that the reference by Prof. MASKELYNE to the 'Garnet Series' exemplifies the inconvenience of the continued want of a small laboratory, and of a room with a proper light for goniometrical work, *specified amongst the requirements of the keeper of mineralogy at the time of his appointment.*" Next day the Trustees are informed by Mr. PANIZZI that "the antiquities from Halicarnassus, Cnidus, Santorin, Geronta, and Cos sent by Mr. NEWTON, as well as those from Carthage, transmitted by Mr. DAVIS, have arrived, together with the 160 blocks of marble forwarded by the former gentleman. The preservation of these remains of ancient art is an object of great importance, *as no other country possesses any of them*, and archæologists in foreign lands as well as artists, speak of them with admiration and envy. The antiquities from Carthage *are in some parts of the basement;* the cases are *one on the other* at present. Endeavours are being made to find room for unpacking and temporarily displaying them."

And shortly afterwards the Trustees learn that more antiquities may be expected from Cnidus. As nearly the whole of the space under the colonnade is already enclosed and occupied, it *will be difficult to find room for their reception.* The mosaics and other antiquities from Carthage have not been all unpacked; *they are deposited in the basement for want of room* elsewhere. The Rev. N. DAVIS reports that he has made farther discoveries, so that *fresh arrivals may be expected* from Carthage.

Finally, as if to complete the difficulties of the position, Prof. OWEN lays before the board his views of what is required for the public display of the natural history collections. According to the views of this high authority, above 11 acres of ground are required for Natural History alone; in order to receive about two miles and a quarter of galleries each 50 feet wide and about 60 feet high, together with libraries, a theatre, store rooms, arranging rooms, offices, and residences for the officers.

Such is the present state of the Natural History collections and the British Museum.

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SOME weeks since we received from a correspondent in Kent two PINE APPLES WHICH EXHIBITED A VERY CURIOUS FORM OF DISEASE. We contented ourselves at the time with giving the communication such a notice only as the urgency of the case required, as we were anxious to have some further information on the subject. This we have now obtained, and though unfortunately we have little to say as to the cause, the case is too important to be passed over in silence.

The disease commences when the fruit is just formed. Up to this period all seems to have gone on perfectly well, when a portion of the centre of the fruit becomes discoloured and dies. The affection gradually extends upwards and downwards, till the greater part becomes a mass of corruption. At a late stage of the disease fungi make their appearance, but they are evidently the consequence and not in any sense the cause of the affection. The first point in all such cases is to ascertain the state of the roots. Some of these indeed are dead, but the younger ones are perfectly healthy, and the plants before the disease makes its appearance are of such a healthy green as to lead to the conclusion that there is nothing materially wrong about them. The soil moreover is not such as would be likely to lead to evil; the plants, though not free from scale, are by no means infested with that troublesome insect in a degree likely to be injurious, and as far as we have heard, the mode of cultivation appears to be good. It is quite certain moreover that where the tissues of the plant are diseased, the evil has not spread from the roots upwards, but on the contrary from the diseased external organs.

It should seem then that the malady is due to some peculiar local cause, which can only be discovered on the spot. There is some defect in the ventilation, the surface of the fruit gets chilled after syringing, from draughts of air, from nocturnal radiation, or from some other cause which may possibly be ascertained by an accurate examination of the circumstances under which the plants are grown. We do not therefore believe that it is any constitutional malady, or one which can admit of any palliation from external applications. We have had other instances of disease in Pine Apples where the leaves and not the fruit were affected, and the same considerations which affect the disease of late so prevalent amongst Orchids, are applicable here.

As regards the latter plants it is worthy of observation that precisely the same appearances which present themselves on the cultivated plants, appear in specimens gathered in their native place of growth. The combined effect of moisture and depressed temperature is we believe in a multitude of instances the real cause of mischief, though other external agents may occasionally produce similar effects. *M. J. B.*

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THE PRESENT SPRING and LATE WINTER seem to have been as remarkable in France as with ourselves, according to the Revue Horticole, as will be seen by the following extract from the number for April 1. "We have (in Paris) before our eyes an Almond tree which had expanded its flowers by the 28th of February, an Apricot tree in bloom by the 3d of March, and a Pear tree by the 21st of the same month. By the 29th March the fruit garden of the Luxembourg looked like fairy-land. Every branch of every tree was white or rose-coloured. A Peach tree used by M. HARDY for his demonstrations had opened its flowers by the 26th March."——— There is nothing, however, so unusual in this as the world imagines, as is shown by some curious instances of mild winters quoted by M. BARRAL, the writer of the article before us. "Thus we read in Dom Bouquet that in the year 1258 the season was so mild and soft that in all the winter it froze on two days only. In the month of January there were Violets and Strawberry flowers, and the Apple trees were white with bloom. So again PEIGNOT relates that in 1289 the temperature was so high that at Cologne on Christmas Day and Twelfth Night young maidens were decorated with Violets, Bluebells" (*Bluets*—surely not Centaurea Cyanus, or Bluebottles), "and Primroses, and that in 1421 the winter was so mild that Cherries were ripe in April and Grapes in May." There is also an account by MARALDI of the winter of 1719, which seems to have been still more extraordinary. "Most trees, in February and March, were covered with flowers which were cut off by the frosts of the end of March and beginning of April. At Marseilles fruit trees were in flower in the preceding October, and produced fruit which though small was ripened. On the 18th Dec. Cherries and Apples were gathered perfectly ripe. In several parts of the province of Genoa, the same thing happened with Plums, Cherries, Figs, and Peaches. Orange and Lemon trees in the open ground began to flower in November and produced their fruit. In Provence the Olive trees were as forward in January as they usually are in April and May." We need not cry "a miracle" then, adds M. BARRAL, because we have already seen a few Vines in flower, and some stone fruit set.

Have any of our correspondents information respecting the vegetation of England in the extraordinary seasons of the years 1258, 1289, 1421, and 1719? It would be interesting to compare the state of England and of the Continent on those four remarkable occasions.

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## New Plants.

217. HOWARDIA CARACASENSIS, *Weddell; aliàs* Calycophyllum tubulosum, *Seemann; aliàs* Pinckneya ionantha *of the Belgian gardens.*

"This is indeed a very lovely stove plant, with gracefully drooping panicles of flowers, whose beauty is very much increased by the remarkable enlargement of one of the minute teeth of the calyx into a heart-shaped, petiolated, deep rose-coloured, foliaceous *lobe*, similar to what takes place (except in respect of colour) in the well-known *Mussænda* of our stoves. It is a plant, too, interesting in another point of view, as one of a new genus of which the typical species, *Howardia febrifuga*, Weddell, of Bolivia, has been detected as one of the medicinal barks of commerce, and much used by the Bolivians in intermittent fevers. To this plant Dr. Weddell has assigned the generic name *Howardia*. 'Parmi les genres,' says Dr. Weddell, 'que j'ai fait connaître dans ma Monographie des Quinquinas, il en est un auquel j'appliquai, par mégarde, un nom (*Chrysoxylon*) appartenant à une plante d'une autre famille. Pour mettre fin à ce double emploi, je vais aujourd'hui donner à ma Rubiacée un nom nouveau; et je ne fais, ce me semble, qu'un acte de justice en laissant tomber mon choix sur celui de l'excellent quinologiste qui vient de publier, en Angleterre, un mémoire aussi judicieux qu'approfondi, sur la collection de Quinquinas de José Pavon, léguée par Lambert au Musée Britannique.' No compliment could be better deserved."—*Botanical Magazine, t.* 5110.

We understand that Mr. Howard has commissioned Mr. Fitch, the eminent botanical draughtsman, to proceed to Madrid for the purpose of making drawings of some of the authentic specimens of Peruvian barks preserved in that city.

This Howardia Caracasensis is from the Caraccas, as its name implies.

## CLUMBER.

This noble demesne, containing as it does the beautiful and classic residence of his Grace the Duke of Newcastle, is situated in the centre of the "Dukeries," 12 miles from Mansfield, 8 miles from Retford, and 4 miles from Worksop, market towns, at each of which there are railway stations. It is bounded on the west by the Duke of Portland's famous park at Welbeck, and on the northern side by Worksop Manor, the residence of the former Dukes of Norfolk, an immense property which of late years has been added to this already vast estate.

The park comprises an area of 3500 acres of excellent land, which little more than a century ago was one of the wildest tracts on Sherwood Forest. The surface is of a bold and irregular character, richly adorned with beautiful timber, in well disposed groups and masses, to an extent of 1400 acres, and here on the light sandy loam the Fir tribe thrives most luxuriantly. Silvers and Larches of from 80 to 90 years' growth contain on an average about 80 cubic feet; others of from 50 to 60 years planted average in measure 50 cubic feet; and possibly but few estates, more especially in the midland counties, possess such an excellent growth of this particular description of useful timber. The principal approach is from Retford; it enters the park at Appleyhead, under a lofty freestone arch, with iron gates and palisading, having handsome lodges in the classic style on either side. From this a 14-feet road sweeps over hill and dale for a distance of 3 miles before it reaches the mansion, 2 of which are between wide double rows of thriving Lime trees, some 30 years planted—a noble avenue, which now begins to wear an air of much grandeur; that portion of it, however, which is farthest from the lodge, already requires to undergo the operation of what is technically called breaking an avenue, and ought unquestionably to be cut into groups, in order that the excellent views over the rich sylvan scenery of the magnificent park might be less interrupted. Nor would this operation interfere much with the noble avenue character of this admirable drive. There are five other carriage approaches from different points, whose lodges and gates are generally in the classic style, and the roads in the aggregate 14 miles in length, and generally of the width already indicated. The green drives through the magnificent woods are also of great extent; they are wide and well directed, so as at once to obtain the best views not only of the beautiful park but also of the surrounding country. When I first knew Clumber the carriage drives were in such a condition as to be almost unsafe to travel over. They have, however, of late years been placed under the intelligent management of Mr. Spary, his Grace's forester, and have been gradually brought into a creditable condition, alike in regard to formation and keeping, and even this latter operation continued over such an extended surface is of itself a gigantic undertaking, which is now accomplished by a liberal use of salt applied at occasional periods. But not only do these roads wear a more improved and unexceptionable appearance, but all about seemed to evince unmistakeable evidence of greater painstaking and care.

The mansion is a noble pile of white freestone in the classic style of Venetian-Italian architecture, considerably enriched on three sides, and having an open colonnade terminating in a conservatory at the eastern end, conferring much dignity and elegance on the whole mass. It was built by Henry, the first Duke of Newcastle of the present family, after the year 1770. The principal apartments are of noble proportions and superbly furnished, containing a vast assemblage of articles of *vertù* and many exquisite paintings by the best masters. But the glory of Clumber are its state dining and drawing-rooms and magnificent library; the former is sufficiently large to accommodate 150 guests at table, and the latter contains, in superb mahogany cases, an extensive and well chosen collection of English, foreign, and classic literature. It occupies a central, although a somewhat low situation in the park, on the north bank of the river Woolen, a considerable stream which flows in close proximity, spreading out in its course to the east into a large expanse of more than 100 acres of water, studded with beautiful green islands. A superb frigate, which measures over all 53 feet by 15 feet, the main cabin of which is sufficiently capacious for some 20 persons to dine at its table, is a noble object. The south or garden front was laid out by the late Duke of Newcastle about 30 years ago in beautiful and richly adorned terraces, separated from the park and lawn by open balustrade fences. The lower terrace has for a centre-piece a fountain of white marble, well supported by numerous vases and other works of art. An open balustrade separates this garden from the river, and it is also divided from the upper terrace by a similar line of rail surmounted by vases well filled with beautiful flowers. These terraces are continued to the eastern side in front of the colonnade and conservatory, and the whole is laid out with much judgment and good taste, and at the period of my visit was very gay with flowers; it is an admirable garden for an effective display—the form of every bed being seen distinctly not only from the windows of the state rooms, but also from the descending steps and upper terrace. All in consequence require to be kept clean and artistically treated in order that the contrasts of colour may be well brought out, and that the view over the surface of the river, which is at this part somewhat confined, may be altogether uninterrupted. The conservatory is a very pretty structure of moderate size, and was exceedingly gay and well filled with nice specimens of plants in flower.

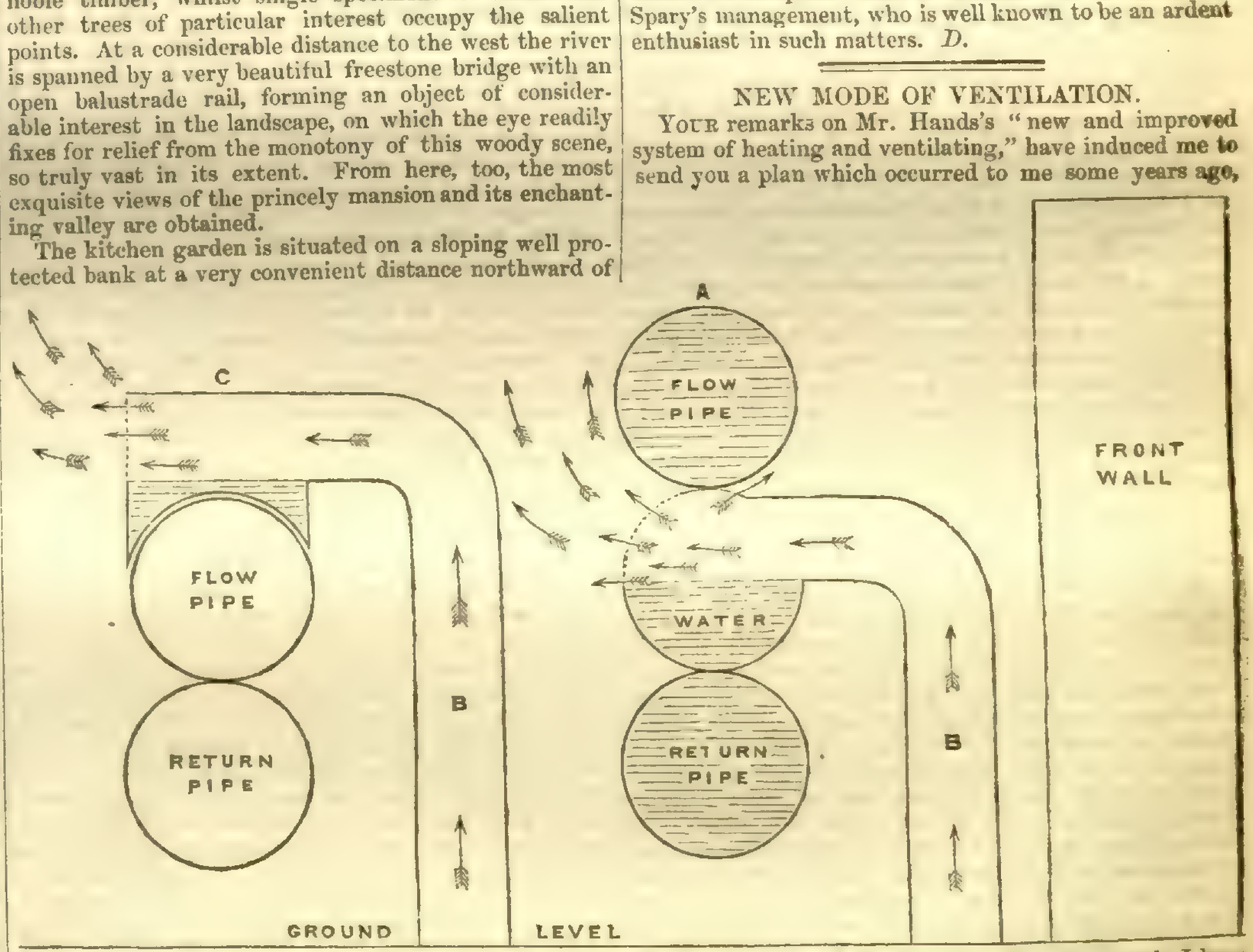
The lawn and pleasure grounds are of large and irregular form, extending onwards a considerable distance by the margin of the water; the surface is somewhat varied, and contains many remarkable specimens of fine trees, more particularly of Larch, Spruce, and Silver Firs, relieved at intervals by some unique forms of Deciduous Cypress, Tulip Trees, Purple Beech, &c.; the foreground is blended with some noble Cedars of Lebanon. One in particular of a decidedly glaucous and silvery hue is an object of great attraction—it is 60 feet in height, and contains 160 cubic feet of timber; its beautiful branches weep to the turf, and cover an area of many yards in circumference. These grounds are further interspersed with many fine specimens of Hollies, Thujas, Cupressus, &c., together with well disposed masses of Rhododendrons and other evergreens intermixed with early flowering deciduous shrubs, possessing all the charms and comforts of a winter garden. Broad and firm walks are judiciously led through these magnificent grounds, and the whole is further ornamented by colossal vases of white marble, which confer an air of grandeur and classic interest on the whole scene; these beautiful lawns and Grassy slopes, with their excellent traversing walks, were altogether faultless in regard to keeping and management. The view everywhere, and more especially from the terrace, is of the most sublime and cheering character—the large and beautiful lake with its bright and silvery surface merging as it were into the foliage of the distant woods, its well clothed verdant islands jutting out like gems on its bosom. In the middle distance the splendid frigate rides majestically at anchor—a noble object in this lovely scene, on which the eye at once fixes with delight. Near at hand stately swans glide proudly along, and multitudes of wild fowl disport on the surface of the waters, or congregate on the shores; and these moving objects in the foreground confer an exquisite degree of pleasure which a tame and inanimate scene could never by any possibility impart. On the north side the beautiful lawn interspersed with its noble forms of stately Cedars, Acacia, Purple Beech, Cupressus, &c., relieved by the more airy forms of Silver and Spruce Fir towering over all, whilst the undergrowths of Rhododendron and other kindred subjects kiss, as it were, the water along its extended margin, the whole being further adorned by beautiful objects of art, presents an excellent effect. The opposing hill to the south is backed by a vast range of stately timber, and is continued onwards across the western valley, through which the river flows, the whole of the foreground being well broken into groups and masses of noble timber, whilst single specimens of Cedars and other trees of particular interest occupy the salient points. At a considerable distance to the west the river is spanned by a very beautiful freestone bridge with an open balustrade rail, forming an object of considerable interest in the landscape, on which the eye readily fixes for relief from the monotony of this woody scene, so truly vast in its extent. From here, too, the most exquisite views of the princely mansion and its enchanting valley are obtained.

The kitchen garden is situated on a sloping well protected bank at a very convenient distance northward of the mansion. It contains some 12 acres of excellent land of a deep sandy loam, admirably adapted for fruit and vegetable culture. The interior is inclosed by lofty substantially built brick walls, of which 800 yards in length are devoted to the training of fruit trees. They are well covered with healthy trees, and I observed some very remarkable specimens of Leon le Clerc and other Pears then ungathered. The main range of forcing houses, occupying the greater portion of the northern wall, is 450 feet in length, and is divided into nine compartments of various sizes: several of these houses are very wide and somewhat lofty. There are also nine other detached forcing houses of considerable dimensions, and the whole is of the best construction; these recent erections are used for the production of Pines, Grapes, Peaches, Figs, Nectarines, Cherries, and Strawberries; and they are further available during the winter and spring months for the protection of Geraniums and other bedding plants from the inclemency of the weather, and of which enormous quantities are required for the summer decoration of the beautiful terrace gardens. These houses have long been famous for the vast quantities of fine fruit they have annually produced, and one occasionally observes some of the more select specimens on the metropolitan exhibition tables. The Melon ground is contained in an enclosed square on the western side, and consists of several ranges of nicely constructed pits, to the extent of fully 100 lights, which are used in the production of such forced vegetables and fruits as are necessary for the use of a first-rate establishment. The walks are well-proportioned, dry and firm on the surface, and their course is indicated by espalier trees in a most healthful and fruitful condition. The whole of these gardens at the period of my visit were in the best possible condition, whether as regards keeping or management, and they contained not only some excellent Grapes, but also some noble examples of Providence Pine Apples, reflecting much credit on Mr. Moffat, the worthy superintendent, whose excellent management for a long series of years has constantly been the subject of much commendation.

The Home Farm is situated within the limits of the park, and is an object of much interest to the present Duke; it contains an area of 1000 acres, a very considerable portion of which is of a free sandy loam and well adapted for the production of Barley. Root crops and this description of land are much sought after by agriculturists in the district, by reason of its free working qualities. About 30 acres of water meadow have lately been broken up and thoroughly drained; it was again laid down on the most improved principles, and is now producing four crops of green fodder annually, and this too on ground that hitherto produced but little if anything but coarse Grass and Rushes. Forty acres more of this same description of land are now undergoing the same process of renovation, and which will doubtless be attended with the same favourable result. Hitherto the farm labourers had to walk several miles to their work; it has, however, been one of the Duke of Newcastle's first considerations to improve their condition by the erection of suitable dwellings for their accommodation in a more convenient locality, and this has been accomplished in the most munificent manner, by building three groups of ornamental cottages, containing 13 separate dwellings, and also a lodging house in the same beautiful style of architecture, for the accommodation of 20 single men. These buildings are situated on a well defined platform on rising ground, at no great distance from the farm steading, and this extended terrace is laid out ornamentally, and in the latter days of September I found it a complete blaze of flowers. It is under Mr. Spary's management, who is well known to be an ardent enthusiast in such matters. *D.*

## NEW MODE OF VENTILATION.

Your remarks on Mr. Hands's "new and improved system of heating and ventilating," have induced me to send you a plan which occurred to me some years ago, but fearing that better modes already existed, I have hitherto been deterred from making it known. Section A is what I would recommend to those who are about building new forcing houses. Between the flow and return pipe is a pipe of the same size, the length of the building, having one quarter of its upper surface pierced, each hole being about $\frac{1}{4}$ or $\frac{3}{8}$ inch in diameter, and $\frac{3}{4}$ inch apart. This pipe is intended to be kept half full of water, which will become warmed from its being in contact with the flow and return. This warm air pipe would be supplied with fresh air through the cold air pipes B, which should be placed at intervals of about 3 feet, these cold air pipes to communicate with underground air-drains, and if for Vines, air-drains could not be in a better position than under the borders. Section C is applicable to existing buildings. A slight casting perforated on the inner side, and 4 or 5 inches deep, made to any convenient length, and to fit close on the flow-pipe with the cold air pipe attached,



is all that is required. Either of these plans, with ventilators in the back wall to allow the deteriorated air to escape, will furnish a constant supply of fresh air without fear of its being too cold or parched. I also consider that houses ventilated in this way would be very good for keeping late Grapes, especially in a damp climate, and as a dry atmosphere is indispensable for keeping the bunches plump and good no water should then be kept in the air pipe. *W. Hutchison, Castle Malgwyn.*

TRADE MEMORANDA.

WHO is Wm. Samson, who sends large orders from 2, Somerset Square, New Allen Street, Rochdale Road, Manchester, a place which the police report to be only a common court, of little cottages, where, at No. 2, Mr. Samson cannot be heard of?

## Home Correspondence.

*On Trees thriving without their Bark.*—"It appears (see p. 315) that trees may be deprived of the whole of their bark, not only without experiencing any injury, but even with considerable advantage, the operation tending to increase their power of vegetation." I cannot stomach this. The dose is too potent. In times gone by, Dame Nature knew the absolute necessity of trees being furnished with bark; for Ovid, that correct field naturalist, expressly tells us that, when the Heliades were turned into Poplar trees, on account of their excessive sorrow for the untimely death of Phaeton, they were supplied with a comfortable jacket of bark, just when their voices were heard for the last time. "Cortex," says Ovid, "in verba novissima venit." And, in our days, in the year 1811, three deer escaped from the park at Nostell Priory. Having found their way into my plantations, they completely tore off the bark from many hundreds of healthy young Elms. Every Elm died down to the ground; and new shoots sprung forth at the bottom where the bark had escaped from being destroyed by the marauders. Trees, no doubt, will live for a considerable time after they have lost a large portion of their bark. Thus, in the year 1814, my neighbour at Chevet had in his pleasure-grounds one of the largest and healthiest Variegated Hollies I ever saw. One morning, some plundering vagabonds in quest of Holly bark for bird lime deprived this fine tree of its bark for fully 2 feet in circumference, so effectually that not a vestige of bark remained at the place. That same summer the tree bore leaves, blossom, and fruit. The next year, it did the same; but its produce was inferior to that of the foregoing summer. In the third year it barely vegetated; and by the close of autumn all that portion of it above the part where the mischief had been perpetrated died outright. *Charles Waterton, Walton Hall.* [Neither can *we* stomach the French story to which our much valued correspondent alludes. On the contrary, we have been assured that all the trees that have been barked have died.]

*Night Temperature of Forcing Houses.*—I have read Mr. Ayres's paper on this subject with much interest. If I understand him rightly, he attributes his success in growing Cucumbers during winter, chiefly if not entirely to keeping a comparatively low night temperature. I am as fully sensible as most people of the injurious effects of maintaining a high night temperature, and have during the whole of my practice insisted on having a comparatively low temperature at night. But fully impressed as I am of the advantages of the system, I cannot agree in opinion with Mr. Ayres in attributing his success mainly to keeping a low night temperature. Mr. A. does not think the plants derived any great advantages from the construction of the house nor from modern glass—for he is very minute in describing the house and management—so that people may not think his success was owing to anything superior in these. After describing the house and management, Mr. A. says—"It will thus be seen that there has been nothing particular in the management of the plants; they had a comfortable bottom-heat from water around the pipes in the tank into which the roots soon introduce themselves, and I have found that a pot of dung-water put occasionally into the tank did not do any injury. As to light, they have been trained on the northern slope of the house, and of heat I have already spoken." Here we have the subject of bottom heat merely incidentally touched upon—no remarks as to its advantages. Now in my opinion, given in all deference to that of Mr. Ayres, his success has been principally owing to his plants having "a comfortable bottom-heat." Suppose there had been no bottom heat, the result would show that even Mr. Ayres—no matter in what compost the plant may be growing, no matter how trained, no matter how treated as to temperature—could not successfully grow Cucumbers in the winter season. "In the house," observes Mr. Ayres, "in which my Cucumbers are growing there are a few Pine plants, small suckers given me in the autumn of 1857, and planted out in October of that year. Through the summer of that year they were entirely without bottom-heat, indeed the chamber for dung was quite empty until the end of September. At that time several of the plants had showed fruit, and I have since cut several small but excellently swelled specimens." Now had these Pine plants had "a comfortable bottom-heat" from the time they were planted up to now the results would be more satisfactory. Had there been no bottom-heat during the last autumn and winter, the fruit in addition to being "small" would have been badly swelled; their being "excellently swelled" was owing to the healthy root action induced by the bottom-heat applied. Some 18 or 20 years ago I grew a lot of Cucumber plants in the back of a Pine stove. Some of the plants were planted out without any bottom-heat, others were growing in pots which were plunged in the bark bed; the plants were trained and treated in every other respect alike, and what was the result? Those without bottom-heat scarcely made any growth from the middle of December until the middle of February; while the others in bottom-heat grew well and bore an abundance of fruit. Now, here were plants that had the same night temperature, the same training, received the same amount of light and air; the only difference was, the one lot had bottom-heat, and the other none. See how different the result. If a gardener has, we will suppose for instance, an Orange tree in ill health, how does he proceed to bring it round. He has all the soil removed from the roots, has it carefully potted or put in a tub, using fresh soil; he moderately prunes the head, and then plunges it where it can have "a comfortable bottom-heat." If the night temperature be kept low and the atmosphere moist, as soon as the pot or tub begins to get full of roots the tree will push away vigorously. But, I ask, would such be the immediate result if there had not been a comfortable "bottom-heat?" In the growth of Cucumbers, Melons, Pines, &c., a regular "comfortable bottom-heat" is one of the most essential points to be attended to. When that is secured, all other conditions being attended to, the results are always satisfactory. Without it, no matter how assiduously every other point is attended to, the results will be unsatisfactory. As Mr. Ayres is a great authority in practical matters, and as the whole drift of his paper goes to show that his great success in growing Cucumbers in winter has been owing chiefly if not entirely to his keeping a tolerably low night temperature, I have been induced to offer the foregoing in order that those inexperienced in such matters may not commit a great mistake. *M. S.*

*Rainfall in Cumberland.*—The following was taken at Silloth by the incumbent of St. Paul's Church, Holm Cultram. It may be interesting to some of your readers to compare the quantity of rain which has fallen since the commencement of this year with the rainfall of the corresponding period in the four preceding years:—

| | 1855. | 1856. | 1857. | 1858. | 1859. |
|---|---|---|---|---|---|
| | Ins. | Ins. | Ins. | Ins. | Ins. |
| January .. .. | 0.340 | 1.720 | 2.166 | 2.241 | 4.968 |
| February .. .. | 0.270 | 2.770 | 1.207 | 0.219 | 2.379 |
| March .. .. | 1.701 | 0.020 | 2.185 | 1.547 | 5.074 |
| April, 5 days .. | 0.010 | 0.470 | 0.202 | 0.334 | 2.055 |
| | 2.321 | 4.980 | 5.760 | 4.341 | 14.476 |

Silloth is situated on the Solway, on the north-west of Cumberland, but I have no doubt that the above will hold good for any part of the county, from the unexampled continuance of wet weather which has prevailed since the 1st of January, 1859. *R., Carlisle.*——From your Paper of the 2d inst., you, in the neighbourhood of London, appear apprehensive of evil from a want of rain, whilst here, in Cumberland, we fear injury from having too much. You report the fall of rain to be in January, 0.71; in February, 1.31; in March, 0.71; together a little more than 2½ inches. At the residence of Thomas Ainsworth, Esq., near Whitehaven, the readings are—in January, 5.41; in February, 4.47; in March, 4.49; together nearly 14 inches. At Silloth, a seaport on our coast, the fall (see above) during 16 days in March was 5.074. In this town 16 inches have fallen during the last three months. *Box* 35, *Post Office, Whitehaven, April* 13.

*The Frost on the Morning of the 1st inst.*—The effects of this severe frost in this neighbourhood, 20 miles N.E. of London, are most disastrous. The heavy snow showers on Wednesday, the 30th ult., were followed at night by a slight wind frost, the thermometer registering 28°, or 4° of frost, Thursday, the 31st, was dry and cold, and the frost at night terribly severe, the thermometer on Friday morning standing at 20°, showing 12° of frost. Apricots were a most abundant crop on the walls, and as large as Damsons. On trees unprotected, or protected only with nets, every fruit is destroyed; on trees protected with tiffany, even double, some few are left, perhaps one in a 1000, but these, although green and apparently sound, have their kernels brown and dead. Peaches and Nectarines under the same circumstances seem all destroyed; they had set an immense crop. I never remember them blooming more kindly or setting their fruit better, owing to their shoots being so well ripened by the warmth of the summer and autumn last year. Some few kinds of Plums were in full bloom on Thursday, *i.e.*, nearly all their blossoms were expanded; the germs of all the expanded blossoms are destroyed. Several kinds had not however unfolded their blossoms, and such is the remarkable protecting power of the petals when closed—these are now in beautiful bloom with all the parts of fructification perfect. A sort called the Early Prolific seems to have withstood the frost better than any other. On Thursday the trees of this kind were covered with their beautiful pearly blossoms, but all closed; on Friday morning a single upper petal of many blossoms was brown as if mischief was done, but the trees to-day are beautiful, with stamens, pistils, and germs all perfect. Pear trees here had not unfolded their blossoms, but they seem to have suffered much; still there may be found a few in the centre of each cluster that promise fairly. And now for my orchard house. At 7 P.M. I had two pans of ignited charcoal placed in it; at 10 P.M. the thermometer in the house stood at 49°, out of doors about 26°. On Friday morning the thermometer in the house registered 29°, or 3° of frost, and my fruit was safe. I assure you I looked at my abundant crop of Apricots, as large as small nutmegs, with great satisfaction. My Peaches and Nectarines are also an abundant crop and swelling off nicely. The severity of this frost may be imagined when in spite of two large flat iron pans of charcoal in a house 95 feet long and 14 feet wide, the thermometer descended to 3° below freezing. *Hortulanus.*

*Arundinaria macrosperma.*—Have any of your readers in cultivation this Arundinaria, the great Cane Brake of North America, which, by the description given by botanists, for size, beauty, and hardiness seems to rival the Pampas Grass itself? Some time ago you recommended the more general cultivation of these upright forms and spoke in favour of the introduction of novelties of this class, but as yet your suggestion does not appear to have been acted upon. North America I believe is rich in robust and tall Grasses; why cannot we add some of these to our at present meagre stock of these strikingly beautiful plants? As a pecuniary consideration I need only point to the popularity which the few we have of that description possess. *J. M., Hawkchurch, near Axminster, Devon.*

*Dioscorea* (see p. 218).—Having read in your Paper a little time since some rather disparaging reports of the "Dioscorea japonica," you may perhaps feel disposed to insert the following account of the experience of another grower of the root in question. I planted in February of last year a single row of about 50 feet in length, and the crop proved very satisfactory, producing about 110 lbs. weight of tubers. Some of these are very fine, the largest one measured nearly 3 feet in length (inclusive of the tapering upper end), and 10 inches in circumference round the thickest part, and weighed above 3 lbs. The length of about half the crop is upwards of a foot, the other half being of smaller dimensions and more irregular shape. This crop was planted in ordinary open garden ground without manure, which had been trenched 18 inches deep. Many of the finest roots had forced their way for several inches lower down into a stiff clay, so that had the soil been dug to a greater depth and treated with manure there is good reason for believing that the produce would have been considerably increased. *S. S.* [The former report, to which our correspondent alludes, was an account of an experiment most unskilfully conducted. There is no doubt that a good crop may always be had, when proper means are employed.]

*Double Peaches.*—I enclose a Double Peach taken from a tree in an orchard house. I do not know whether such things are uncommon, but I have never met with an instance before. The tree from which it was taken has now upon it more than a score of similar ones, and I should consider it a great favour if you would tell me whether I had better leave them on to form part of the crop, or whether it would be more proper to take them off, and trust to the common single ones. *W. M. A.* [We should prefer trusting to the single ones, but should allow a few of the twin fruits to remain by way of experiment.]

*Cucumbers.*—I had some beautifully vigorous Cucumber plants with eight or ten leaves, nearly as large as my hand, in raised mounds in a pit heated by manure, the brick-walls having holes to admit fresh heat when required by outside linings. Perceiving some insects I instantly fumigated with tobacco paper and bellows in the usual way; next morning by 8 o'clock, I found the plants shrivelled, drooping, and dying. The tobacco paper was good, having used it various times in my greenhouse and hot-water pits. The thermometer was 65° in the morning. *Gratis.*

## Societies.

BRITISH POMOLOGICAL: *March* 3.—Mr. Hogg in the chair.

It was announced that Mr. Newton, of Enfield Chase, desired to offer a prize of half a guinea for the best dish of six Cornish Gilliflower Apples, to be competed for at the Meeting of November 17. Mr. Newton, at the same time, announced that he should not himself compete. Premiums had been offered by advertisement at this Meeting as follows:—Two guineas, and one guinea, for the best and second best collection of well-kept Apples and Pears, three fruits of each kind, accompanied by careful descriptions of the manner in which they have been kept. The result of this advertisement was one of the largest displays of fruit the Society had ever received—and probably, for the time of year, the most interesting that had ever been exhibited in Pears and Apples; 250 dishes were sent of the kinds then in season; and some of them were accompanied by such descriptions of the manner in which they had been kept as satisfied the meeting that the experiment (originally suggested by Mr. Busby at the Committee Meeting on the 19th of August) was a very successful one. The largest and most interesting collection, sent by Mr. Rivers, of Sawbridgeworth, contained 15 varieties of Pears and 34 of Apples. All were good and sound—not over-kept, as was the case with some of the other collections. Unfortunately, however, for its consideration in regard to the premiums, it was not accompanied by the information required in the advertisement. A letter from Mr. Rivers (which had been delayed in the Post Office) arrived during the meeting, and was read by the Secretary, containing the following general information concerning the mode of cultivation:—

*Apples and Pears* grown on bushes in the open air in the nursery at Sawbridgeworth. Soil, clayey loam mixed with calcareous sand resting on hard white clay, with numerous chalk stones. Site, about 60 feet above

the level of the Stort, a tributary of the sea. Pruning: very slight summer pinching in June and July, and shortening leading shoots towards the end of August. Management: taking up the trees biennially in November and replanting them; cutting off the ends of straggling roots. Manure: a quarter of a peck of soot is given to each tree in March, on the surface, in a circle 3 feet in diameter.

*Pears.*—Manure: in replanting, some leaf mould or rotten manure, and the calcareous sand common to this district, are given to each tree; two shovelsful of the former and one of the latter, well mixed. In March the same quantity of soot, as to Apples, is given in the same manner. The Pears are all on the Quince stock, and the Apples on the English Paradise.

The day after the Meeting, the Secretary received the following letter from Mr. Rivers, which he copies in this place, as it supplies the information which was desired at the Meeting:—

I forgot to add to my notes on Apples sent, that they have been kept in a very old, dry, arched cellar, under my packing-shed, the average winter temperature of which is about 50°. Air is constantly admitted at one end, through a wire grating, and flows gently through by the crevices in a very old, ill-fitting door at the end opposite to the wire grating. I dare say you observed the remarkably fresh state of the Apples. I have kept Hawthornden Apples quite sound till May, in this cellar. The fruit is gathered, and, without any preparation, placed in small wooden compartments, in double and single layers, and never touched till wanted. The Pears were kept in a greenhouse (with Camellias) in new flower pots, covered with pieces of slate.

The Pears were firm, handsome, and well coloured, but generally unripe, excepting Bon Chrétien d'Auch, which was sweet, half melting, but astringent. Bergamot d'Esperen, just ripening, and promising to be very delicious. The other kinds sent, or some of them, would probably have been improved if they had been ripened in a higher temperature. They were as follows:—Léon le Clerc de Laval, Colmar des Invalides, Bellissime d'Hiver, Bezi de Caissoy, Bergamot des Paynes, Coulen de St. Marc, Duc de Brabant, Beurré de Bretonneau, Beurré de Rance, Prevost, Morel, Fortunee Parmentier, and March Bergamot. The Apples were also very firm, handsome, and in good condition, and were generally more ripe than the Pears. A few, such as Spring Ribston Pippin and Golden Harvey, were shrivelled, though good in flavour. The best dessert kinds were:—Golden Russet, Reinette Franche des Côtes, Baxter's Pearmain, Boston Reinette, Court-pendu Plat (very good), Claygate Pearmain, Braddick's Nonpareil (rather flat, and Dutch Mignonne. The remaining kinds in this collection, and which were chiefly kitchen Apples, were in good state for use, and were as follows:—Caldwell's Keeper, Northern Greening, White Stone Pippin, Norfolk Bearer, Reinette de Canterbury, Calville Blanche, Calville Malingre, Beauty of Kent, Lady Apple, Ladies' Sweeting, Dumelow's Seedling, Gooseberry Apple, Bedfordshire Foundling, Sturmer Pippin, De Barberie, Winter Peach, Cuisse Madame, Reinette Grise, New Baldwins, Trevizand, Reinette Diel, London Pippin, Winter Colmar.

The first premium was awarded to a collection by Mr. John Cox (gr. to William Wells, Esq.), Redleaf, Kent, comprising 11 kinds of Pears and 20 of Apples. These were also very fine in condition, generally large, and not over ripe. The circumstances of soil, &c, at Redleaf have been detailed in former reports. The Pears were generally from walls, and the Apples from standards of from 15 to 30 years old; very little pruned save by occasionally thinning the branches; great attention, however, being paid to keeping the trees free from Moss, by the use of quicklime in spring. With regard to their mode of keeping, the following information accompanied the fruit:—

"The Pears were laid out singly on the floor of an upper chamber when gathered, and the windows kept open, so as to afford a thorough ventilation, for two months; they were then sorted over, the best selected, and wrapped separately in paper, and placed in layers, in deep boxes, the lids of which were laid on, but not fastened. The layers were separated from each other by very dry old Brakes (Pteris aquilina). They were not disturbed until required for use, and have kept better than I could ever keep them before on the shelves of the fruit-room. The Apples were laid in heaps on the shelves of the fruit-room and ventilation—to which I ascribe great importance—secured by leaving the door open, as well as a window at the opposite end, until the sweating process was over, when both were partially closed. Nothing more has since been done except to sort them over frequently, and pick out such as showed signs of decay. The fruit-room is a mere shed at the back of a greenhouse; but its coolness is very much increased by a strong growth of Ivy all over the roof."

Of the Pears:—Bezi (or Bergamot) d'Esperen was very sweet, juicy, melting, and high flavour, with delicious aroma—the best Pear tasted at the Meeting; Beurré Rance and Old Colmar, melting and very juicy, but not rich; Ne Plus Meuris, sweet, half melting; Easter Beurré, half melting, but flavourless; Passe Colmar and a Seedling from it (very like the parent), juicy, half melting, and tolerably sweet; and Flemish Bon Chrétien, not ripe. This collection included also a handsome dish of Catillac, and some magnificent specimens of Uvedale's St. Germain, 7 inches long and 12 inches in diameter.

Of Dessert Apples, the following are the most interesting sorts:—Old Nonpareil, firm, juicy, and delicious: Flanders Pippin (true), ovate, conoid, colour pale lemon, scattered over with minute round spots of russet; flesh tender, sweet, and juicy; Reinette Grise, under the name of Pomme Royale; Sam Young, very nice and juicy, with delicious flavour; Claude, an Apple not heretofore described, but worthy of being more extensively cultivated. Fruit oblate: generally irregular in form; greatest diameter, from apex to base, 2½ inches; transversely, 3 inches; eye smooth, clean and wax-like; stalk deeply inserted, medium length and thickness; colour greenish yellow, irregularly scattered over with minute specks of russet, rosy scarlet on sunny side, and semi transparent; flesh firm and juicy; flavour rich and sugary. It was reported, also, to remain good till May. (Grafts hereof are requested for distribution on the 1st of February, 1860, and application for a share of them, or any other kind, must be made not later than January 25th): Blenheim Orange, large, juicy, sweet, and good, exceedingly well kept; Golden Knob, firm, and good-flavoured, but not juicy.

Of Kitchen Apples were Gooseberry Pippin, King of Pippins (flat), Yorkshire Greening, Dumelow's Seedling (under both its synonyms, Wellington and Normanton Wonder), Royal Russet, Norfolk Beaufin, and, apparently, good late-keeping Apples—probably local varieties, sent erroneously under the names of Northern Greening, Winter Queening, Winter Pearmain, and Kirk's Scarlet Admirable. This collection also contained two valuable kitchen varieties, not hitherto described in catalogues—Castle Major, a medium sized oblately spherical Apple, average diameter about 3 inches; eye open, clean; stalk long, rather slender, deeply inserted; colour pale greenish yellow, rather densely covered with whitish spots, tipped with brown-russety specks; flesh firm, juicy, and briskly acid. Poor Man's Profit, a large, handsome, oblately conoid fruit; colour pale lemon, much striped with red on sunny side; average diameter 3½ inches. Evidently a first-class late kitchen Apple. The second prize was awarded to Mr. M'Laren (gardener to S. C. Whitbread, Esq.), Cardington, near Bedford, whose collection contained two varieties of Pears and 23 of Apples. No particular pains had been taken with the keeping; the fruit having been thinly spread in a loft, with a little Wheat-straw under some of the best of them. (It may be here mentioned, that it was quite easy to distinguish which kinds had been kept on the straw. Fruit-growers do not appear to be aware that choice fruits absorb the flavour of straw, moss, hay, or any strong-smelling vegetable matters which they are laid upon, or even packed in, for a very short time.) Mr. M'Laren's Pears were Easter Beurré, melting, juicy, and sweet, the best dish of the kind which had come under the Society's notice during the season; and Beurré Rance, large, very melting, and good flavoured. Some of the Apples in this collection were evidently over-ripe, and far beyond their possible season—such as Ribston Pippin, and other late autumn and early winter varieties. Of kinds in season, however, some were very good, especially the following:—Barcelona Pearmain, described in a former report, and now recognised as a synonym of Speckled Golden Reinette; Golden Nonpareil under the name of Scarlet Nonpareil, firm, juicy, and very rich; as also was Golden Reinette, which was sent under the name of Golden Russet; Court of Wick and Wyken Pippin were good, juicy, and well kept; the rest of the varieties were kitchen Apples, in good condition, but of the same kinds as those mentioned in the previous collections. Mr. Holder, of Reading, contributed a large and interesting collection, containing upwards of 30 varieties, generally in very good state of preservation. They had been kept in round hampers, in an open airy barn, and covered over with sacks, or a little straw, in cold weather. Amongst the Pears, Ne Plus Meuris was very juicy and melting, but not high-flavoured; Beurré Rance, very fine, and promising to be good, but not ripe. Of the Apples, the best were the Old Nonpareil, and a variety very nearly identical, called Brown Nonpareil; both were in excellent condition, juicy, tender fleshed, and good in flavour; Scarlet Nonpareil, misnamed Golden Russet, in excellent order for the season; and the true Golden Russet, under the name of Orange Russet, good in flavour, but dry. Amongst Kitchen Apples were very good dishes of the Royal Russet, under the synonymes of Buff Russet and Silver Russet. The remaining dishes were of the same leading varieties as are enumerated in some of the other collections, and not sufficiently remarkable to be specially detailed. Mr. Newton (gardener to G. J. Graham, Esq.) brought a collection of 15 varieties of Apples, which exhibited the results of some experiments he had made in different methods of keeping. Most of the examples were remarkably plump and fresh in appearance; and even such varieties as Golden Pippin and Ribston Pippin were barely past condition. Mr. Newton stated that, after gathering, the fruit was laid on shelves in the fruit-room for about a month, to allow of a partial evaporation; and then the best were selected and packed in layers, with Reigate sand amongst them, in old butter-tubs. Some of the kinds were packed in sand, just as it was dug out of the pit, and containing its natural moisture; others were packed in similar sand from which the moisture had been expelled by baking. Those in the naturally damp sand had kept in excellent condition and flavour, and were rich and juicy; but those in the dried sand had lost all their flavour and part of their juiciness. Mr. Newton mentioned, however, that last season he made a similar experiment with dried sand, but enveloped each fruit in a piece of thin tissue paper, and that they had kept their flavour much better. He proposes, however, next season to take equal samples of fruit of the certain kinds, and preserve them in each of the three ways above-mentioned, that the Society may estimate exactly the results of each. The varieties he exhibited in best condition were Screveten's Golden Pippin, firm, juicy, and rich in flavour; Pearson's Plate, nice, brisk, and very juicy; Dutch Mignonne, good, but rather shrivelled, as if gathered too early; and a very good and little-known variety called Holland Pippin, which, with one or two others, were specially asked for on another occasion for better identification. Josiah Moorman, Esq., of No. 1, Portland Place, Clapham, sent a nice collection, comprising five dishes of Pears—Old Colmar and Easter Beurré, melting and juicy, but not high flavoured; Jean de Witte, very melting, sugary, and delicious; Knight's Monarch, promising to be melting and very good, but barely ripe; Ne Plus Meuris, melting, juicy, and very rich. They had been carefully placed upon open lath shelves in a fruit-room. Mr. Swinerd (gardener to John Swinford, Esq.), Minster Abbey, Isle of Thanet, Kent, sent an interesting collection of about 20 kinds, including four Pears, of which Passe Colmar and Beurré Rance were good, but not high flavoured; Easter Beurré, under ripe; and Winter Crassane, past. The Apples were plump and tender-fleshed, but not juicy or high flavoured; the best were Court-pendu Plat, under the name of Du Corfu, and Sam Young, under the name of Russet Nonpareil. Mr. Swinerd sent the following particulars concerning the mode in which they had been kept:—

"The room that the Apples and Pears have been kept in is part of the old Abbey, the walls of which are 2 feet thick, and 14 feet from the ground. The north and east walls are exposed, and the south and west are built against with other buildings. The window is in the east wall, and has got an air-tight shutter to keep the frost out. The top is covered in with a tank that holds 16 butts of water, so that it is impossible for the frost to come through at the top (?) The room is entered by a trap hatch, which shuts down air-tight. The room is fitted all round with shelves, and I never use anything but old newspapers to lay the fruit on. A stoke-hole and boiler for Vinery are fitted up under the room: and by opening the trap-door of the Apple room, and shutting the door of the stoke-hole, I can keep the frost out, and have the room at what temperature I please."

Mr. Wighton (gr. to Lord Stafford, Cossey Hall, Norfolk) sent a collection of seven Pears and 10 Apples—generally as examples of fruit kept in the long Grass under the fruit trees, where they had remained since they fell off naturally. The fruit was all firm and sound, though the skins of some were damaged and bruised.

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Horticultural of Edinburgh.—This spring exhibition of flowers, fruit, and vegetables took place on the 22d ult. Though for two previous years the displays of garden produce had been fine, and the attendance by all classes showed that they were thoroughly appreciated by the public, yet on no former occasion has more taste in decoration been exhibited than has been shown this year, and the quality of the objects was on all hands admitted to be superior to any brought forward before at this early season.

Hyacinths, as usual, formed the principal feature, and a larger number was shown than on any former occasion. These, whether for competition or exhibition, were of decidedly superior quality, and called forth the admiration of the most fastidious. Next to these were placed pots filled with spikes or clusters of the flowers of allied families, amid which Narcissus, Scilla, Tulips, &c., were conspicuous. After these may be mentioned, as the prominent character of the exhibition, the noble specimens of Rhododendrons and Azaleas; the former covered with trusses of flower, presenting, besides pure white, every variety of crimson and rose, sometimes beautifully spotted and streaked; the latter, formed of compact pyramidal or hemispherical masses, composed of equally bright-tinted blooms, which in some cases almost entirely concealed stem and foliage from view. The Cineraria was another interesting flower sent for exhibition, presenting, in its heads of Daisy-shaped blossoms of richest purple and lilac, an agreeable contrast to the brighter hues of the Rhododendrons. With these plants were interspersed trays or stands with blooms of Camellias and trusses of Rhododendrons, bouquets of choicest house plants, Wardian cases with Ferns, fruit, and on a separate table samples of kitchen vegetables, the produce of gentlemen's gardens, or from market gardeners in the neighbourhood.

Among the articles for exhibition were the following:—From Isaac Anderson, Esq., Rhododendron barbatum, a variety without beard; a Sikkim species, from Dr. Hooker's collection, with purple flowers; a hybrid between R. caucasicum and R. cinnamomeum, a fine white. From Mr. Handasyde were also sent two nice small specimens of Rhododendrons, viz., campylocarpum and Keysi, the first time which these have been exhibited in Edinburgh. Messrs. Cunningham contributed almost entirely the collection of rare hybrid Rhododendrons which decorated the space in front of the platform, including a very fine scarlet in the centre. Messrs. Dickson and Co. exhibited various rare and interesting plants. A fine specimen of Farfugium grande and several choice greenhouse plants were sent by Messrs. Lawson. Mrs. Carstairs occupied a large space with greenhouse and other plants, including Geraniums, Heaths, Epacris, Lily of the Valley, Cytisus, &c., and a "Bride's" Bouquet, which was much admired. A fine row of Hyacinths, eight in number we believe, which decorated the front of the platform, were furnished by Mr. T. H. Douglas. From the same exhibitor were some fine variegated plants, among which was the interesting Pavetta Borbonica, and several new Begonias. Mr. T. Methven exhibited a fine collection of Rhododendrons in flower, Epacris, and other hard-wooded plants. Mr. C. Alexander occupied also a considerable space with greenhouse plants of various kinds, Ferns, and other interesting productions. Mr. R. M. Stark had several rare and interesting Ferns, assortments of new and variegated foliaged plants, and under the gallery an extensive assortment of Apples in fine preservation. Messrs. Downie & Laird exhibited some fine Rhododendrons and Azaleas, along with a specimen of Farfugium grande, and Camellia Spofforthiana. From Mr. A. Lauder were sent for exhibition some elegant Jardinières, Aquarium Stands, and "What-nots." W. M. Ellis, Esq., sent twelve new and finely flowered specimens of Hyacinths in pots. These having been grown in a room without application of particular aid, show how much may be accomplished in this way, the trusses being remarkably large.

## Notices of Books.

*O'Byrne's Pocket Post-office Directory* (O'Byrne Brothers) is a kind of guide through London for the use of strangers. All such publications are more or less useful in the modern Babylon, and this will probably find favour in the eyes of country visitors. One of its peculiarities is singling out certain shops in each street, but upon what principle the selection is made we have failed to discover.

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Trade Lists Received.—*George Smith's* (Macclesfield) *Descriptive Catalogue of Plants* is a little pamphlet of 16 pages wholly occupied with florists' and bedding-out plants. The prices are moderate.—*Vilmorin & Co.'s* (Paris) *Supplément, &c.* (*Supplement to their List of Tree Seeds*). This is an important addition to the list formerly issued by this great house, containing not only many rare and valuable articles from Chili and California, but the following novelties from the little known country about the Amour river, of which some account was given by us in a recent number of the *Gardeners' Chronicle* (see p. 144), viz., Acer tegmentosum, A. Cinnala, A. Mono, Corylus heterophylla, Fraxinus mandschurica, Maximoviezia amurensis, Maakia amurensis, Phellodendron amurense, Syringa pinnatifida, Tilia mandschurica, Vitis amurensis, Lilium pulchellum, L. spectabile.—*Alexander Campbell & Sons'* (Glasnevin, Dublin) *Catalogue of Dahlias and other Fancy Flowers*: a large collection showing that Horticulture is making great strides in Ireland. It would have been difficult to find such a list in 1845. "They particularly wish to draw the attention of purchasers to their superb collection of Dahlias, a few hints on the successful cultivation of which they hope to be acceptable to most of their customers. When first received from the nursery they

should be kept close and shaded for a few days to recover from the effects of travelling, after which they should be repotted into larger pots, using a rich, porous compost. They should then be kept in a pit or frame, and gradually exposed to light and air until they are about 9 inches high, giving water regularly, as required. When they have arrived at this stage of their growth, they should be exposed to the full influence of light and air, by removing the sashes altogether; by this treatment they become well established before being planted out, on which mainly depends their future success. Previous to this time the ground in which they are intended to be grown should be deeply trenched and thoroughly exposed to the atmosphere. Let it then be levelled, and a dose of quick lime spread over the surface. This we have found to be an excellent means of destroying the immense quantities of vermin which assail the Dahlia in its early growth. This done, mark off the position of each plant, allowing from 4 to 6 feet apart every way; next open holes 12 inches deep, and the same in width; fill these with prepared compost, the best that can be had, avoiding the use of too much manure at this stage of their growth. In this compost, turn out the plants with care, planting them so deep that the top of the ball containing the roots is covered about 2 inches under the level of the bed. This done, secure each plant with a good stake, and supply them liberally with water until they have taken to the soil. It is a good practice to put a 3-inch pot, with a small quantity of Moss inside, reversed, on the top of each stake, in order to entrap the earwigs, which are most destructive to the young plants. These traps should be examined every morning, and the insects concealed in them killed; by continuing this practice for some time they will soon be destroyed, and the health and beauty of the plants will amply repay the trouble taken. The last point to which attention is directed is the staking out of the branches in all directions, so as to encourage a stout healthy growth, by giving plenty of light and air. A top-dressing of old rotten manure, where it can be had, will materially assist them at this stage of their growth. They will now be coming into bloom (about the end of July), when all useless branches should be cut out; also thin out the bloom according to the habit of each variety. In the case of weak growing and abundant bloomers this should be done to a very considerable extent, especially if the blooms are required for exhibition. The neglect of the above precautions has heretofore materially prevented the more general cultivation of this gorgeous autumn flower."

## Miscellaneous.

*Orchids and Ferns.*—An important sale of these took place on Tuesday last, at Stevens's. The Orchids more especially consisted chiefly of magnificent specimens stated to be "duplicates from a well-known collection." Smaller plants from another source were however also added. Some idea of the kind of prices they fetched may be gleaned from the following:—Aerides Schröderi, a very fine specimen, realised 31*l.*, another of the same sort 27*l.*, and a third 15*l.* 10*s.*; A. maculosum majus, 18*l.*; A. Lobbi, 17*l.* 10*s.*; A. Larpentæ, 9*l.* 10*s.*; A. nobile, 9*l.*; A. Lindleyi, 8*l.* 10*s.*; a smaller plant of the same, 6*l.* 10*s.*; A. virens, 6*l.* 10*s.*; A. quinquevulnera, 5*l.* 15*s.*; A. crispum, a similar sum, and A. affine, 5*l.* 5*s.*; other Aerides fetched from 1*l.* 6*s.* to 4*l.* per lot. A fine specimen of the large-flowered variety of Vanda suavis realised 13*l.* 10*s.*; V. suavis aurea, 7*l.* 10*s.*; V. tricolor, a plant 4 ft. in height, 5*l.* 10*s.*; a good plant of the ivory white Cymbidium eburneum, 14*l.*; a smaller specimen of the same, 5*l.* 5*s.*; Phalænopsis amabilis, 12*l.* 10*s.*; two plants in a pot of the large-flowered variety, 8*l.*; another of the same sort, 6*l.* 10*s.*; beautiful specimen of the charming Cattleya marginata, 9*l.*; C. maxima, 3*l.* 5*s.*; a splendid plant of the true Saccolabium præmorsum, 8*l.* 10*s.*; S. guttatum, 4*l.* 10*s.*; another of the same, 3*l.* 5*s.*; S. furcatum, 5*l.* 5*s.*; S. ampullaceum, 3*l.*; S. retusum, 4*l.* 10*s.*; the singular looking Uropedium Lindeni, 4*l.* 4*s.*; Miltonia candida major, 4*l.* 10*s.*; Cœlogyne Lowi, 3*l.* 10*s.*; Epidendrum bicornutum, 3*l.* 5*s.*; Camerotis purpurea, 2*l.* 5*s.*; Angræcum eburneum, 4*l.*; A. caudatum, 2*l.* 6*s.*; Paphinia cristata, 5*l.*; P. tigrina, 4*l.* 10*s.*; Galeandra Baueri, 2*l.* 10*s.*; Dendrobium Dalhousieanum, 2*l.* 5*s.*; and the scarce Eria hirsuta, 3*l.* Other lots, of which there were upwards of 100, fetched from 1*l.* to 3*l.* per lot. For Ferns the sale was heavy. They consisted of some 40 lots, among which were Gleichenias, Todeas, Gymnogrammas, Cheilanthes, Diplazium, Marattia microphylla, and Cyathea arborea. They fetched from 1*l.* to 3*l.* 5*s.* per lot. Fremontia californica, of which a full account was given in our pages on January 22d, was put up for sale on this occasion by order of the Council of the Horticultural Society, and was knocked down to Messrs. E. G. Henderson for 37*l.* 16*s.* The whole proceeds of the sale, including the sum received for the last-named plant, amounted to upwards of 500*l.*

## Calendar of Operations.

*(For the ensuing Week.)*

### PLANT DEPARTMENT.

CONSERVATORY, &c.—Heat and moisture may now be more liberally supplied to tropical plants. As the season advances these should be gradually increased, but in all cases avoid a high night temperature. That must be principally obtained by closing early, and so retaining the heat derived from the sun; when fires are required they must not be so strong as to render it necessary to admit currents of cold air to keep the thermometer down. Give proper attention to Achimenes, Gloxinias, and other summer and autumn flowering plants. The last succession of Achimenes, to flower late in autumn, should now be placed in heat. Some of those formerly started may be potted for hanging vases, for which A. longiflora and cupreata are particularly well adapted. Prefer pans or broad shallow pots for their general cultivation, and as they require an abundant supply of moisture when they are in flower, let the drainage be as efficient as possible, in order that they may be freely watered without stagnating the soil. Let Fuchsias for summer and autumn display have due attention, repotting them as may be required in rich compost, and occasionally watering them with liquid manure. Much however of their beauty depends on the shape of the plant. Nearly all the varieties have a natural tendency to form pyramidal bushes, and by a little attention they may be guided into that very appropriate form; only one shoot should be allowed to take the lead; this should be trained perfectly upright, and the side branches regulated by stopping any exuberant ones which are outstripping their neighbours.

### FORCING DEPARTMENT.

VINERIES.—Where it is desirable to retard breaking in the late house as long as possible, and the glass cannot be removed nor the Vines exposed to the open air, they should be let down as far from the glass as can be done, shading the roof, and giving all the air possible. We are not quite certain, however, that there is any decided advantage in retarding Vines by artificial means after this season. We would almost invariably allow the buds to start at the bidding of the weather after this time, merely giving all the air possible, and take chance as to the fruit keeping until next March, preferring the certainty of a crop of prime fruit to being able to furnish a very late supply. Weakly or overcropped Vines ought to be very carefully examined for red spider, which may be expected to make its appearance on these, particularly if the weather becomes bright, and means should be used to thoroughly eradicate it the moment it is perceived. Probably the best method is to well wash every affected leaf with a sponge, for it is useless trying to overcome it in such cases by syringing, which only serves to keep it in check, and when the fruit begins to colour, and syringing must be laid aside, it will increase with fearful rapidity. Keep the atmosphere moist, sprinkling the floors, &c., frequently on bright days, and take care that inside borders are well supplied with water. PEACH HOUSE.—The fruit in the earliest house will now be swelling fast; use water liberally until they begin to colour. In thinning later crops be guided by the vigour of the trees as to the quantity they may be allowed to bear. Syringe regularly and give air liberally on all favourable opportunities. CHERRY HOUSE.—Where the leaves are thickly clustered together and shading the fruit a few may be removed to let in sunlight. Fumigate if necessary before the fruit gets so near ripe as to be affected by the necessary washing afterwards. FIG HOUSE.—Maintain steady treatment, as any check is apt to make the trees cast their fruit. Aim at preserving uniform growth. CUCUMBERS AND MELONS.—Thin and stop Vines and leaves and set the fruit. Let the night temperature be regulated according to Mr. Ayres's directions (see p. 312). MUSHROOM HOUSE.—Trap woodlice by means of flower pots laid on their sides, placing in the bottoms of them a Mushroom, a cut Potato or a little dry Moss. Watering occasionally round the sides of the bed with boiling water will also effectually thin their numbers. STRAWBERRIES.—Water regularly and give abundance of air. Those which have ripened their fruit may be planted on a rich border to make runners; they may possibly also produce some late fruit if the autumn prove favourable. Re-pot Capsicums and Tomatoes.

### FLOWER GARDEN AND SHRUBBERIES.

Lose no time in potting off bedding plants or pricking them out into frames or boxes. As the potted plants become established they should be hardened off by gradually inuring them to the open air. The hardier kinds may soon be set upon a bed of coal ashes or plunged in old tan, ashes, or some other light material. Much of the labour of watering will thus be saved, many deaths avoided, and the plants will altogether be in a better state when planting out season arrive. Patches of showy hardy annuals should now be sown in vacant places which usually exist in herbaceous beds and in the edges of clumps and borders in the shrubbery. Double Poppies, of various colours; Lupins, Sunflowers, African and French Marigolds, Erysimum, Clarkias, Gilias, Collinsias, Silene, and Nemophila are excellent for that purpose. A sufficient quantity of cuttings and seedlings of half hardy climbers should now be potted for planting out in May. With such plants as Cobæas, Maurandyas, Lophospermums, Calampelis, Loasa, Tropæolum canariense, &c., many bare places on the walls and trellises may be covered and made ornamental which would otherwise be unsightly blemishes.

### HARDY FRUIT AND KITCHEN GARDEN.

Commence disbudding Peaches and Nectarines; remove a portion of the superfluous shoots now, and in a week or 10 days go over them and regulate them finally. Advantage should be taken of a fine morning to wash the trees well with the engine. The superfluous shoots of Apricots should also be removed, and the remaining ones carefully examined in search of a green caterpillar, which not only injures them but also eats holes in the young fruit, thereby causing it to gum, grow deformed, or fall off before it is stoned. As regards vegetables, continue to make periodical sowings of Spinach once a fortnight, and Peas, Beans, and Turnips once in three weeks. Successional sowing of all salads should be made with strict regularity, and strict regularity and proper attention should be paid to preserving them from the ravages of birds and insects. If the crops of Onions, Leeks, Parsnips, Beets, Salsify, Scorzonera, and Skirret are not yet sown no time should be lost, and the latest period for sowing the main crop of Carrots is near at hand. A sowing of tall Kidney Beans may now be made in early localities; the early sowing of this useful vegetable not unfrequently gets cut off by late spring frosts, but when this happens the ground should be left undisturbed, as shoots will be produced from beneath the surface.

### COTTAGERS' GARDENS.

Let Broad Beans be planted between lines of Cabbages; a little late spring Broccoli may also be sown, and take care to have plenty of winter Greens to succeed the summer crops. Perhaps these may be obtained from the nearest gentleman's gardener, if he happens to have more than he wants, which is almost always the case. Scarlet Runners should be sown without delay. A few Cucumbers for Gherkins may also be raised in some warm sheltered corner. How best to manage them afterwards will be given in a future number.

### STATE OF THE WEATHER AT CHISWICK, NEAR LONDON.

For the Week ending April 14, 1859, as observed at the Horticultural Gardens

| April. | Moon's Age. | Barometer. Max. | Barometer. Min. | Temperature of the Air. Max. | Min. | Mean | Of the Earth 1 foot deep | 2 feet deep. | Wind. | Rain. |
|---|---|---|---|---|---|---|---|---|---|---|
| Friday 8 | 5 | 29.836 | 29.632 | 60 | 50 | 55.0 | 53½ | 50½ | S.W. | [illegible] |
| Satur. 9 | 6 | 29.595 | 29.510 | 58 | 46 | 52.0 | 53 | 51 | S.W. | .02 |
| Sunday 10 | ) | 29.323 | 29.222 | 59 | 36 | 47.5 | 53 | 51 | S.W | .01 |
| Mon. 11 | 8 | 29.403 | 29.211 | 54 | 37 | 45.5 | 52 | 51 | S.W | [illegible] |
| Tues. 12 | 9 | 29.622 | 29.281 | 51 | 37 | 44.0 | 52 | 51 | W. | .51 |
| Wed. 13 | 10 | 29.404 | 29.308 | 47 | 26 | 36.5 | 51 | 50 | N.W | .10 |
| Thurs. 14 | 11 | 29.470 | 28.944 | 52 | 35 | 43.5 | 50½ | 50 | S.W. | .36 |
| Average | | 29.522 | 29.301 | 54.4 | 38.1 | 46.3 | 52.1 | 50.9 | | .24 |

April 8—Fine; rain; drizzly at night.
— 9—Rain; cloudy; fine; overcast.
— 10—Rather boisterous; cloudy and fine.
— 11—Fine; rain, thunder, cloudy and fine at night.
— 12—Overcast; fine; constant rain at night.
— 13—Overcast; cloudy; fine; frosty.
— 14—Fine; cloudy; boisterous with heavy rain.
Mean temperature of the week, ½ deg. above the average.

### RECORD OF THE WEATHER AT CHISWICK,

During the last 33 years, for the ensuing Week, ending April 23, 1859.

| April. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds. N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday 17.. | 57.3 | 36.1 | 46.7 | 14 | 0.32 in. | 5 | 6 | 4 | 1 | 3 | 5 | 6 | 3 |
| Mon. 18.. | 58.5 | 36.3 | 47.4 | 14 | 0.49 | 4 | 6 | 6 | 1 | 4 | 3 | 5 | 4 |
| Tues. 19.. | 58.8 | 35.2 | 47.0 | 7 | 0.45 | 6 | 9 | 3 | 3 | 1 | 6 | 5 | — |
| Wed. 20.. | 60.2 | 35.7 | 48.0 | 14 | 0.39 | 4 | 7 | 4 | 1 | — | 9 | 5 | 3 |
| Thurs. 21.. | 59.0 | 38.4 | 48.7 | 13 | 0.28 | 2 | 6 | 6 | 3 | 2 | 4 | 8 | 3 |
| Friday 22.. | 58.6 | 38.3 | 48.4 | 17 | 0.32 | 4 | 8 | 5 | 3 | 1 | 4 | 6 | 3 |
| Satur. 23.. | 58.6 | 37.3 | 48.0 | 16 | 0.52 | 1 | 7 | 5 | 1 | 4 | 4 | 5 | 5 |

The highest temperature during the above period occurred on the 19th, 1854, and 22d, 1858—therm. 77 deg.; and the lowest on the 19th, 1852—therm. 20 deg.

## Notices to Correspondents.

ASAGRÆA OFFICINALIS: *C.* This is a deadly poison; it is one of the plants which yield Sabadilla, from which Veratria is prepared.

BOOKS: *Y S.* Sweet's Hothouse and Greenhouse Cultivator will give you useful information; but, remember that although books are invaluable as aids to a gardener, no one was ever made a gardener by them. Careful continued observation and much experience are indispensable to success.

HOLLIES: *N.* Always prune these evergreens in April.

INSECTS; *T A.* The grubs you have sent are those of a small two-winged fly (Musca pumilionis), which eat the leading shoot of the Wheat plant; but as they are full grown no fear need be entertained that the plants will not throw up side shoots. *W.*

MELONS: *J O.* You cannot grow these *well* without a nice bottom-heat; and Cucumbers should also have it. If you do not make up your bed till the end of May you will require no other heat; and if you make it up now the sun will do all you want, provided you throw mats on the sashes at night, and have a good warm hot bed for ground heat.

NAMES OF PLANTS.—*Y Z.* Fuchsia cordifolia; a very handsome Oncidium to us unknown; Hermannia cuneifolia.—*W S.* 1. Saxifraga sarmentosa; 2, Corydalis bulbosa.—*A B.* Saxifraga hypnoides—not in the least like Spergula pilifera.—*A K.* 1. Begonia roseo-coccinea; 2, broken to pieces and not examinable; 3, Euphorbia splendens; 4, Cestrum aurantiacum.—*W K.* 1, Lastrea spinulosa; 2, Athyrium Filix-fœmina v. rhæticum; 3, Lastrea dilatata, lax.; 4, Lastrea Oreopteris.—*W J* Omphalodes verna.—*Edgbaston.* 1, Epimedium pinnatum; 2, Scopolina atropoides.—*Salford.* Lonicera fragrans, a delicious shrub, in the way of L. tatarica.—*Reader.* 1, not in flower; 2, Teucrium Polium; 3, Lonicera involucrata.

NEW GARDEN NETTING: We have received from *Messrs. Britten & Co.*, of Manchester, a sample of the Zebra netting, which they are manufacturing for the purpose of shading. It is a strong good article, made of a stout cotton thread in square meshes ¼ in. × ⅛ in. It is dyed with dark and light indigo in bands 6 inches wide, with white bands interposed, and thus has a pretty effect in a garden. The advantage of the indigo blues is not only that they look well when fresh, but that being fast colours they will not fade with time and become unsightly.

STEPHANOTIS: *Q C.* The fruit is acrid and poisonous.

THE NEW AUSTRALIAN SALAD CRESS advertised by Messrs. Henderson, of Pine-apple Place, is a very nice, delicate, broad leaved plant, which we recommend to notice. As far as can be judged without seeing more of it than the leaves and seeds, it will probably turn out to be the Lepidium crispum of botanists. We understand that it has stood the late mild winter extremely well.

VINE LEAVES: *J F.* They are in very good health, and there is nothing to show what has been eating them. It is probably some night-feeding insect, for which you should watch—certainly not a spider. The enemy may no doubt be discovered with patience, although not by persons who have no access to the Vinery.

ZINC LABELS: *G S.* The best ink is the nitromuriate of platinum, which may be had of dealers in chemicals.

THE PATENT

# NITROPHOSPHATE OR BLOOD MANURE COMPANY (Limited),

CONSISTING OF TENANT FARMERS, OCCUPYING UPWARDS OF 30,000 ACRES OF LAND.

**TRUSTEES.**

Abel Smith, Jun., Esq., Walton House, Ware, Herts.
Charles Dimsdale, Esq., Essendon Place, Herts.
Edward Ball, Esq., M.P., 8, Belgrave Road, Pimlico
Major-General Hall, M.P., Western Colville, Linton, Cambridge
John Brady, Esq., M.P., Warwick Terrace, Belgrave Sq.

**DIRECTORS.**

*Chairman.*—Jonas Webb, Esq., Babraham, Cambridgeshire.

*Deputy-Chairman.*—John Collins, Esq., Myddleton Square, Pentonville.

Edward Bell, Esq., Tottenham, Middlesex
John Clayden, Esq., Littlebury, Essex
Richard Hunt, Esq., Stanstead Abbot, Herts.
Thomas Knight, Esq., Edmonton, Middlesex.
Robert Leeds, Esq., West Lexham, Norfolk.
Robert Morgan, Esq., 72, Camden Villas, Camden Town.
George Savill, Esq., Ingthorpe, near Stamford.
William Collins, Esq., 105, St. John Street Road.

*Bankers.*—Messrs. Barnett, Hoare & Co., Lombard Street.

*Solicitors.*—Messrs. Kingsford & Dorman, 23, Essex Street, Strand.

*Auditor.*—G. W. Brown, Esq., 28, Parliament Street.

*Manager.*—Mr. James Odams. | *Secretary.*—Mr. C. T. Macadam.

**Offices, 109, Fenchurch Street, London.—Manufactory, Plaistow Marshes, Essex.**

The Directors beg to inform their Friends and the Agricultural Public that the following Manures are now ready:—

**ODAMS'S BLOOD MANURE FOR CORN AND MANGEL.**
**ODAMS'S BLOOD MANURE FOR ROOTS.**
**ODAMS'S SUPERPHOSPHATE OF LIME.**

Full particulars may be had at the Company's Offices, or of the local Agents.

# NATIONAL FLAX COMPANY (Limited.)

**Capital—£200,000, in 200,000 Shares of £1 each, 5s. to be paid on application, 5s. within three months from Allotment, and the remainder as the Directors may require it, in Two Payments of 5s. each.**

**TRUSTEES.**

Henry Fenton Jadis, Esq., Comptroller of Corn Returns, Board of Trade.
J. T. Croft, Esq., 15, Regent Street, S.W.

**DIRECTORS.**

*President*—Sir John Dorat, Vice-President R.S.L.

John Boddoc, Esq., Lickhill, near Stourport, Worcestershire.
J. T. Croft, Esq., 15, Regent Street, S.W.
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George Thornton, Esq., C.E., F.G.S., &c., 25, Queen's Road, Regent's Park, N.W.

*Standing Counsel.*—P. MacChombaich de Colquhoun, Esq., LL.D., &c., 3, Hare Court, Temple.

*Bankers*—Messrs. Heywood, Kennards, and Co., 4, Lombard Street, E.C.

*Solicitor.*—Mr. Vaughan Prance, 37, New Bridge Street, E.C.

*Engineer.*—Mr. G. L. Fuller, C.E., 69, Lombard Street, E.C. | *Auditors.*—(To be appointed by the Shareholders.)

*Secretary*—Mr. James M. Haldon, F.R.G.S.

**Offices.—193, Gresham House, Old Broad Street, London, E.C.**

## ABSTRACT OF PROSPECTUS.

It has been for some years past a matter of notoriety that British and Irish linen manufacturers, and also manufacturers of hempen goods, have materially suffered from a deficient supply of Flax and Hemp. This state of deficient supply arises from the fact that the cultivation of Flax in Great Britain has materially decreased instead of increased with the growing requirements of our linen manufactures. Our national commercial statistics show that, out of 150,000 tons of Flax annually consumed in the United Kingdom, not more than 50,000 tons are of home growth. In addition to this enormous importation of Flax for our linen manufactures, we have also imported hundreds of thousands of quarters of Linseed every year for home consumption.

The linen manufacturers of the United Kingdom have declared that they are ready to take any quantity which can be grown at home, and at such prices as will be more remunerative to the agriculturist than the usual produce of his lands.

The promoters of the National Flax Company are prepared to prove to the agriculturists of this country that no more profitable crop can be cultivated than that of Flax, whenever their system of rettories, and improved mechanical treatment of Flax fibre, shall be adopted in the localities of its growth. The main feature of the Company's plan is, that it will take the trouble of preparing the Flax for market entirely off the hands of the grower, by becoming the purchasers of the crop, and thus leaving the grower entirely free from the hazards of bad harvesting weather, and at the same time insuring him a certain handsome profitable return for all the Flax he can produce and deliver to the Company's depôts and rettories. The Company's operations will also embrace the whole of the requisite process of preparing the Flax and similar fibrous substances ready for the spinner.

The system of preparation adopted by this Company is the subject of a patent, the invention of Mr. George Abemarle Cator, a gentleman who has made the cultivation of Flax and its preparation for the spinner his especial study for many years past, he having fully demonstrated the great economy of labour and the very great improvement in the quality of the Flax fibre, which is the result of his improved system of Flax preparation. The system will be found fully detailed in the "Explanatory Pamphlet on Flax Cultivation and Preparation," to be had free from the Secretary of the Company and its agents; in which will also be found an exposition of the great importance of the home cultivation of Flax, as insuring a regular supply of raw material to the very important national manufactures of linen and hempen goods; half-stuff for paper makers, and also of the importance of the seed for Linseed oil and oilcake.

As an example of the intended operations of the Company, the following is quoted from the full Prospectus of the Company:—

By rettories will be understood establishments where the preparation of Flax-fibre from the raw plant for the spinner and manufacturer will be carried out through all its stages.

It is estimated that two rettories, on the scale proposed as the base of operations, will require eight patent machines, and, if constantly at work for (say) 309 days in the year will produce annually 1200 tons of Flax-fibre, 7500 quarters of Linseed, and 900 tons of tows; and allowing 50*l.* per ton to be obtained for the Flax-fibre, 56*s.* per quarter for the Linseed, and 5*l.* per ton for the tows, there is a gross yield of 85,500*l.*

Assuming that it will take as much as 10 tons of Flax-straw unseeded to produce one ton of Flax-fibre, at a cost of 4*l.* per ton, and 18*l.* per ton of fibre for all expenses, the total outlay will be 69,000*l.* leaving a balance to be divided of 15,900*l.* or nearly 30 per cent. upon 55,000*l.* (the cost of the buildings, plant, and machinery, together with sufficient working capital for two rettories), which is wholly irrespective of the dividend that may be expected from licence dues from other rettories; and as the operations of the Company are extended, the dividends will be in proportion.

The peculiar advantages of Selby, in Yorkshire, and the surrounding Flax-growing districts, have decided the Company on establishing their first rettory in that neighbourhood.

A prospective enterprise of this Company being the cultivation of Flax on reclaimable lands, of which in the United Kingdom there are some millions of acres, it is considered the Company may beneficially turn its attention to the acquirement, in due course, of an available property in such lands.

The National Flax Company will, by increasing the cultivation of Flax in the present growing districts, tend to encourage the population of other parts of the country to acquire the requisite knowledge of an industrial resource by which their local labour will become more profitable, and land of greater value. Again, the fast-extending application of the power-loom to Flax-fibre will greatly increase the demand for Flax. All considered, the circumstances of the times combine to establish the present enterprise as the nucleus of a new branch of business, and a most valuable auxiliary to the farming and manufacturing producers of the United Kingdom, and one which is well calculated to still further develop her prosperity.

**Copies of the Prospectus, and all further information, may be obtained at the Offices of the Company, 193, Gresham House, City.**

COLLEGE OF AGRICULTURE AND CHEMISTRY, AND OF PRACTICAL and GENERAL SCIENCE, 37 and 38, Lower Kennington Lane, Kennington, near London.

Principal—J. C. Nesbit, F.G.S., F.C.S., &c.

The system of studies pursued in the College comprises every branch requisite to prepare youth for the pursuits of Agriculture, Engineering, Mining, Manufactures, and the Arts; for the Naval and Military Services, and for the Universities.

Analyses and Assays of every description are promptly and accurately executed at the College. The terms and other particulars may be had on application to the Principal.

FARM BUILDINGS.

LOANS MAY BE OBTAINED UNDER THE GENERAL LAND DRAINAGE AND IMPROVEMENT COMPANY'S ACT, for the full amount required by the owners of Settled Estates, Incumbents, Trustees, Bodies Corporate, &c., for the erection of Farm Houses, Farm Buildings, and Labourers' Cottages, designed by their own agents and sanctioned by the Inclosure Commissioners. The Loans are repaid by a rent-charge on the estate for any term the landowner may fix, not exceeding 31 years.

No investigation of title being required, and the charge not being affected by incumbrances, no legal expenses are incurred.

The Company furnish Designs of every description, and undertake the entire responsibility of the works wherever desired by Landowners. No profit however is taken by the Company on any works they execute, the actual expenditure only, approved by the Inclosure Commissioners, with a Commission thereon, being charged in all cases. Applications to be addressed to William Clifford, the Secretary, at the Offices of the Company, 52, Parliament Street, London.

THE LANDS IMPROVEMENT COMPANY
2, Old Palace Yard, Westminster, S.W.

To Landowners, the Clergy, Solicitors, Estate Agents, Surveyors, &c.—The Company is incorporated by Special Act of Parliament for England, Wales, and Scotland.—Under the Company's Acts Tenants for Life, Trustees, Mortgagees in possession, Incumbents of Livings, Bodies Corporate, certain Lessees, and other landowners are empowered to charge the inheritance with the cost of improvements, whether the money be borrowed from the Company or advanced by the Landowner out of his own funds.

The Company advance money, unlimited in amount, for works of Land Improvement, the Loans and incidental expenses being liquidated by a rentcharge for a specified term of years.

No investigation of Title is required, and the Company being of a strictly commercial character do not interfere with the plans and execution of the works, which are controlled only by the Enclosure Commissioners.

The improvements authorised comprise Drainage, Irrigation, Warping, Embanking, Enclosure, Clearing, Reclaiming, Planting, Erecting and Improving Farm Houses and buildings for Farm purposes, Farm Roads, Jetties, Steam Engines, Water Wheels, Tanks, Pipes, &c.

Owners in fee may effect improvements on their Estates without incurring the expense and personal responsibilities incident to Mortgages, and without regard to the amount of existing incumbrances. Proprietors may apply jointly for the execution of Improvements mutually beneficial, such as a Common Outfall, Roads through the District, Water Power, &c. For further information and for forms of application apply to the Hon. W. Napier, Managing Director, 2, Old Palace Yard, Westminster S.W.

ESSEX AGRICULTURAL ASSOCIATION.—
Thomas Burch Western, Esq., *President.*

The ANNUAL EXHIBITION of this Association will be held at Colchester, on JUNE 16. The following special Prizes are offered by the Association.*

1st. For the best Entire Horses for agicultural purposes, open to all England, the proprietor being a member, or paying an entrance fee of One Guinea.—25*l.*

* The Horse obtaining the above prize must either have covered regularly in the county the preceding season, or the owner must sign an undertaking that such horse shall do so the following season, and the prize will be withheld until the completion of the contract,

2d. For the best thorough-bred Entire Horse open to all England, the proprietor being a member, or paying an entrance fee of One Guinea —25*l.*

The Horse obtaining the above prize, &c. (see above *)

3d. For the best Bull of any age of a pure breed, open to all England, the proprietor being a member, or paying an entrance fee of one guinea.—15*l.*

4th. For the best Ram of any age of a pure breed, open to all England, the proprietor being a member, or paying an entrance fee of one guinea.—10*l.*

N.B. All Sheep must be barely and fairly shorn, and any animal shorn previously to the 1st of May to be disqualified from Exhibition.

The Poultry Show is open to all England. Entrance fee 3*s.* for each pen to non-members.

By order of the Committee.—Robert Emson, Secretary.

Slough House, Halsted, April 16.

BATH AND WEST OF ENGLAND POULTRY EXHIBITION.—Entries close May 1.—In addition to the ordinary Money Prizes there will be awarded 22 handsome SILVER CUPS, open to all England.

Prize Sheets and Certificates to be obtained of the Honorary Secretary, Mr Kingsbury, Hammett Street, Taunton.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.
SHOW-YARD REFRESHMENTS.

Persons desirous of having the privilege of supplying either First or Second-class REFRESHMENTS for the Visitors in the Society's Show-yard at Warwick, in July next, can obtain the particulars and Forms of Tender, on application at 12, Hanover Square, London, W.

Tenders must be delivered in, as above, on or before the 30th April. By Order of the Council,

James Hudson, Secretary.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.—WARWICK MEETING.

Entries for IMPLEMENTS, CHEESE, WOOL, FARM-GATES, and DRAINING PIPES, must be made on or before May 1.

Entries for LIVE STOCK must be made on or before June 1.

*** All Entries received in each case after those respective dates will, without any exception, be disqualified, and returned to the senders.

PRIZE SHEETS may be had on application at the Offices of the Society, 12, Hanover Square, London.


# The Agricultural Gazette.

*SATURDAY, APRIL* 16, 1859.


The detailed account given by Dr. Macadam and Mr. John Gamgee of the composition, use, and action of sheep-dipping mixtures is the principal feature of the current number of the *Edinburgh Veterinary Review.*

The case which has directed so much attention to

this subject has been already stated in the *Agricultural Gazette*.

Mr. BLACK, a Northumberland farmer, procured last August 15 packages of a mixture for bathing 750 sheep from Mr. ELLIOT, a chemist and druggist of Berwick-on-Tweed. He used 14 out of 15 packages, each of which was prepared for 50 sheep; 869 animals were bathed—of these 850 died. The symptoms preceding death were those of poisoning by arsenic. The jury who had ultimately to decide the case between Messrs. ELLIOT and BLACK gave a verdict for the latter, carrying damages 1400*l.* and cost.

"Two theories were at once started to account for the death of the sheep. The first was, that the dip was too strong, and that the poison had been absorbed by the skin, and thereby caused the death of the sheep. The second theory was, that the animals had been hastily dipped, the wool had been imperfectly pressed, thereby leaving much liquid in the fleece; the animals were then sent to a Grass field, the poison dripped on or was washed by rain on to the Grass, the sheep ate the Grass, and were thereby poisoned. In the absence of direct experiment, either of the two theories might have been thought probable, or at least possible. Whenever the chemist was told of the calamity which had befallen the flock of sheep, and was informed that one of the 15 packages which he had supplied to dip the sheep still remained entire, he at once said that he never knew of the dip acting so before, and would not believe that the mixture could have been used according to directions; but he stated to the farmer that he was quite willing to purchase 25 sheep, and, at his own risk, dip them in the wash obtained by dissolving the remaining package, and whether the animals lived, or suffered, or died under the ordeal, that he (the chemist) would stand or fall by the result. The farmer refused to settle the point by experiment. He was told by scientific men that the arsenic had passed in by the skin and poisoned the animal. He adhered to death by absorption, and repudiated the idea of any experiment to support or negative this view. It was otherwise on the part of the chemist. He was anxious that mere opinion or theory, without the basement of experiment, should not rule the evidence on his side, and he was desirous of experiment. He could have remained satisfied by proving that his dip had been in use for 14 years without a single casualty; that, during the last 10 years about 200,000 sheep had been dipped in his bath, and had been the better for it; that 20,000 sheep had this year been immersed in solutions of mixtures the very same as those from which the packages sent to the farmer had been selected, and no injury or loss had been sustained. The chemist had more than 200,000 witnesses as to the excellence of his bath against the 750 supposed to have been hurt by it, viz., 300 witnesses against 1, but still he offered to stand or fall by experiment. He states this offer was not accepted."

His experiments were nevertheless made, and their results are reported in this paper by gentlemen whose evidence on the trial must have been disregarded by the jury before whom the trial took place. It seems from them that Mr. ELLIOT's bath used as he directs contains only 176 grains of arsenic in the liquid carried off on the fleece of each sheep bathed, while in the case of two other sheep-dipping mixtures in the market, the quantity is upwards of 330 grains per sheep.

In order then to test the effect of the materials of which these baths are compounded, a number of experiments were performed in which sheep were dipped for various lengths of time and in liquids of various strengths without any injury being done, and in which sheep infected with the scab, and therefore with unsound skin, were dipped and no harm followed.

The conclusion to which Dr. MACADAM is led by these experiments is "that ELLIOT's mixture was and is a *reasonably fit, safe, and proper* bath for the dipping of sheep, when used according to the directions affixed to each package."

Mr. JOHN GAMGEE's contribution to this subject states that with reference to sheep dipping, the "precautions which have especially been insisted on, and are universally known to farmers, are—1st, Keeping the sheep's head out of the bath. 2d, Pressing the wool on drainers so as to allow the sheep to carry away as small a quantity as possible of the arsenical solution. 3d, Allowing the sheep to drain on a large area deprived of food."

"If sheep be scattered, as they should be, over an extensive surface immediately after being dipped, they will eat the Grass which is no doubt charged with arsenical solution to a certain extent, but they fail to pick up sufficient to injure them."

He adds:—"It is a remarkable fact that accidents should be so rare, considering the enormous amount of arsenic sold for dipping purposes. GERLACH, who is one of the ablest veterinary authorities opposed to the use of arsenical baths, is opposed to them on the ground that they can be superseded, which I think is doubtful, and on the ground that danger is to be apprehended from the dissemination of arsenical solutions over farms, a common cause, he believes, of chronic poisoning in poultry, or any other animal whose food may thus accidentally be poisoned. Professor HIMLY supports this view, and in speaking of Schleswig-Holstein, he says that in these two Duchies 5000 pounds of arsenic are annually consumed for the destruction of parasites of different kinds, and that such a quantity of poison cannot be disseminated about the country with impunity."

The conclusions which he draws from the experiments made in concert with Dr. MACADAM are as follows:—

"1st. That the immersion of sheep, *whether sound or suffering from scab, with extensive eruption, or 'foot rot,' with free exposure of the vascular structure of the feet*, in arsenical solutions, varying in strength, is unattended by prejudicial effects, and proves salutary to the diseased animals.

"2d. That the congregation of sheep, after dipping, where food is not allowed them, is unattended with danger.

"3d. That all the sheep having remained damp from 24 to 36 hours after being dipped, cutaneous absorption of arsenical solution might have been going on rapidly during the prolonged period that the sheep continued wet; but no unfavourable symptoms ensued, indeed the reverse.

"4th. The absence of the slightest change in health, or of the manifestation of symptoms which usually ensue on the administration of arsenic to the lower animals, even in medicinal doses by the mouth, leads me to infer, that if a minute quantity of arsenic, in solution, can penetrate the system of a sheep by absorption by the skin, it is quite insufficient to develop the physiological action of the compound.

"5th. A solution of arsenic is not more readily absorbed from limited abraded surfaces than from the healthy skin, owing probably to the arsenic acting as an astringent on the sores, and rendering the latter as impermeable, *probably*, as the uninjured skin. This remark does not apply to large wounds.

"6th. It appears *impossible to poison sheep by bathing them* in arsenical solutions, provided the liquid is not introduced *directly* or *indirectly* into the stomach by the mouth.

"7th. Arsenical solutions, whether *weaker* than ordinary dipping mixtures or *much stronger*, are likewise incapable of being absorbed by the skin of sheep or man.

"8th. Sheep will partake of Grass and other food which has been smeared or soaked with an arsenical solution, notwithstanding the presence of soft soap and soda."

Mr. GAMGEE, who is clearly of opinion that Mr. BLACK's sheep died by having eaten of Grass on which the arsenical fluid had dropped from their fleeces, thus sums up the case:—

"Here are facts to prove impregnation of the Grass by poison—introduction of arsenic into the alimentary canal—the existence of that arsenic in the contents of the stomach and intestines of the sheep—and lastly, that arsenical solution cannot be absorbed by the skin; and in face of that Mr. ELLIOT, of Berwick, is to be mulcted to the amount of 1400*l.* and costs, because his mixture was, on the ground of *mere hypothesis, unsupported by a single experiment*, declared to be not reasonably fit to be used according to the printed directions supplied with it."

He adds:—"It is my firm belief that arsenic is by far the best destroyer of parasites which farmers can employ for their sheep. Of all the poisons it is perhaps the safest, when employed in the shape of a bath. Farmers cannot and will not do without it, but whenever they can claim damages for their own neglect, or for accident after bathing, such as happened most unfortunately at Burton, how can they expect a respectable chemist and druggist to supply them with any of the dipping mixtures they so constantly and gladly make use of? It is to the interest of agriculturists throughout Great Britain, more than to the interest of the chemist, that if there be any mystery about the manner in which the sheep were destroyed at Burton, that mystery should be cleared up. Further investigation must prove that ELLIOT was not only innocent, but could in no way be held responsible for the loss of 850 sheep by Mr. BLACK last August, and that farmers must employ that which they know to be poisonous with all the precautions known to be requisite in dealing with poisons by any person of common sense. . . . The evidence in favour of the view that carelessness on the part of the farmer and his men at Burton, during and after dipping, aided by the inclemency of the weather, were the causes of the poisoning of the sheep, is so patent, that we cannot see how any other opinion of the wholesale poisoning can be for a moment entertained."

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IT is with very great regret that we announce the death last week of the Rev. J. S. HAYGARTH, M.A., the late principal of the Royal Agricultural College, at Cirencester. The present high standing of the college is greatly due to his energetic and judicious management; and it sustains a most severe loss by his death. Mr. HAYGARTH, then curate of the neighbouring parish of Rodmarton, was, we believe, appointed eight years ago to establish and carry on a school on the foundation, or rather in the place of the Agricultural College, which had at that time fallen into disrepute—the students being then only 10 in number—but recalling the dismissed staff of professors around him, he was soon convinced that its failure up till then was no unavoidable result of the institution being uncalled for and unneeded. The staff were re-engaged—that session opened with 15 pupils on the rolls, and in a few years the number has increased to as many as the institution can comfortably accommodate, while the out-students are so numerous as to be with difficulty accommodated in the town of Cirencester.

So great a success has been owing not more to the personal ability and energy of the late principal, than to the unvarying cordiality and unanimity which characterised his relations to the professors of the college and their relations under him to one another. While they all mourn him as a brother, it is the best illustration of his success in the complete organisation of the establishment, that the whole machinery of the college continues in full and harmonious action, though its revered head has been thus suddenly removed.

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—— The "smashing up" of the clay land Wheat stubble referred to in a recent advertisement of Mr. SMITH, of Woolston, was successfully effected last Friday. Six acres of the field were cultivated across the slope, two having been already cultivated last autumn; the whole eight were then "grubbed" or cultivated up and down; and the whole 14 acres were completed in 17 hours—the soil being moved 9 or 10 inches deep, and thoroughly disintegrated.

The engine worked at between 4 and 5-horse power; and it was plain that no amount of horse power exerted by the animals themselves could have left the land in such a condition as the steam-driven operation of last Friday brought about.

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## ON THE WINTER ACCOMMODATION FOR STOCK.

[The following paper was read at a late meeting of the Elmscote (Gloucestershire) Farmers' Club, by J. T. Harrison, Esq., Frocester Court.]

IN some of the districts in Gloucestershire the accommodation for stock is nearly the same as it was 80 years ago, and the description of it given by a very intelligent writer in 1787 stands true to the present day.* He says—"The farmeries are very simple; and in general very mean. A small, old, timber-built dwelling house, with a calf stage, a hovel to hold a cow occasionally, and a stable for two or three horses, are considered the only requisites. If a cowshed be added, the farmery is complete." The same writer says (page 18, Vol. I.): "I found nothing strikingly new in the buildings and farmyards of the Cotswold Hills."

There have however been many improvements made since then, but they are by no means general. Even so lately as 1850, Mr. Caird, the present member for Dartmouth, thus describes a Gloucestershire dairy farm in January†:—

"An inconvenient road conducted me to the entrance gate of a dilapidated farmyard, one side of which was occupied by a huge barn and waggon shed, and the other by the farmhouse, dairy, and piggeries. The farmyard was divided by a wall into two lots of milch cows were accommodated in the separate divisions. On one side of the first division was a temporary shed, covered with bushes and straw. Beneath this shed there was a comparatively dry lair for the stock; the yard itself was wet, dirty, and uncomfortable. The other yard was the exact counterpart of this, except that it wanted even the shed. In these two yards are confined the dairy stock of the farm during the winter months; they are supplied with hay in antique square hayracks, ingeniously capped over to keep the hay, with a thatched roof very much resembling in pictures of Robinson Crusoe's hat. In each yard two of these are placed, round which the shivering animals station themselves as soon as the feeder gives them their morning portion, and there they patiently ruminate the scanty contents, while dripping rain fell as we looked at them, from which they were sheltered by the thatched roof of the hayrack, their backs have it poured in a heavier stream on their necks and shoulders. In the other yard the cows had finished their provender, and showed their dissatisfaction with its meagre character by butting each other round the rack."

* Marshall's "Rural Economy of Gloucestershire," page [illegible] Vol. II.

† Caird's "British Agriculture," page 12.

Probably every one of us could endorse this as a true description of some dairy farms.

This state of things is not, however, confined to the dairy district of Gloucester, but is in a more or less flagrant degree to be found generally throughout the kingdom, and as pointed out by Mr. Grey, of Dilston, in a paper on Farm Buildings, published by the Royal Agricultural Society in 1843, the consequence is a much greater demand for farms that are well supplied with every convenience for man and beast.

The buildings have been well called "the meat and manure factory of the farm" (Caird, p. 67), and the constant improvements in the other departments of agriculture are forcing attention to this, which admits more than any other of the introduction of systematic and factory-like arrangements. And no more can a farm be called in a proper state for a tenant to turn it to the best account without suitable buildings than a windmill without stores would be for its profitable occupation by a miller.

It becomes then a most important question what description of buildings are most suited for the purpose, and cheapest in their construction, for I fear that in many cases the outlay expended on the home farm has deterred landlords from extending the benefit of suitable and well-arranged buildings to their tenants generally. Let us then consider the subject more in detail.

1. And first, as to the health and improvement of the stock, the economy of food, and the manufacture of manure, when the cattle are wintered in the open fields. During a winter, such as that now passing away, stock may do very well in the open fields; and I can instance one case in which, although the farmer has some accommodation in the shape of yards and sheds, he has kept all his stock in the fields. I cannot, however, believe that this is good management either as regards the stock, or the fields in which they are kept—whilst it is not economical in respect of food, and I question much if the manure is so useful as it might be—the animal selecting sheltered spots to lie upon where they give the ground an overdose, causing sour rank Grass to grow, which the cattle reject the following summer.

As I am obliged to keep some stock in the fields during the winter, I have lately erected two sheds in which I find the cattle lie every night, and by keeping them littered there is a considerable quantity of useful manure accumulating at distant parts of the farm, and I am inclined to think that for young stock, and where the land is thoroughly drained, it may be advantageous to pursue this system at a distance from the homestead, as it saves the cartage of the hay home and makes some manure where it is generally much wanted.

I may mention that the sheds I have put up are very simple. The area of each of them is about 500 square feet, affording accommodation for 16 young beasts coming two years old, at a cost of 13*l*. each shed, including all the materials (excepting the straw) and labour.

This part of the subject opens the question of the effect of the droppings of the cattle in the open field. It appears from the analysis of Dr. Voelcker that fresh manure contains very little soluble fertilising matter, and that it is only as decomposition takes place that it becomes soluble and fitted for the food of plants. Now droppings lying on the ground exposed to drying winds are not favourably placed for inducing decomposition, and I believe that even when well beaten about the effect will not be nearly so advantageous to the farmer as if the manure was collected into heaps mixed with earth, which retains the soluble nitrogenised and other substances induced by fermentation, and after being spread the first rain carries them to the roots of the Grass. It may have occurred to you that we do not require to treat our Grass grounds to any great extent after the cattle have been running in them all the season—how is this? Observe the customers we then have for this part of our farm produce. Sometimes the droppings are instantly covered by innumerable flies, at others rooks and other birds pecking away at them show that they have become the food of various worms and insects, by which, on turning it over, we find it to be thoroughly honeycombed and reduced to a mere skeleton. Here is evidently a great waste of fertilising matter. I have seen persons employed collecting the manure and carting it off in the Vale of Berkeley, and I find the practice thus recommended by Mr. Thompson in the Royal Agricultural Society's Journal for last year:—

(No. 41, page 255.)—"One of the cheapest and most effective means to employ an old man with a donkey-cart to go round the pastures collecting the droppings of the cattle, and making them into compost with road-scrapings, ditch-cleanings, &c. If a manure collector be once appointed, numerous odds and ends of fertilising substances will be found available which are daily wasted, and which usually be worth little and which are now wasted. But the collection of manure should be incessant. The droppings of horses and cattle, especially if collected fresh, are a very important source of compost, and the improvement in two-fold—1st, in the saving of that which is otherwise to a great extent wasted; 2dly, by the cleansing of the pastures and the much more uniform grazing of the cattle when the droppings are not allowed to remain and produce coarse tufts for some months after."

He recommends the turning of the compost heap once at least.

2. I shall next proceed to the consideration of the effects on the stock, food, and manure when the cattle are wintered in open yards without sheds. In such if there is a warm comfortable spot well littered the animals will soon select their bed, but there is really no one point to recommend such a mode of wintering stock; it cannot be healthy for them to be subjected to all the changes of our varying climate. Animals so exposed must require more food, and as to the manure made by them it is impossible to devise a more effectual system for its extravagant waste. It may be as well to discuss here generally the question of yard-made manure, as it will apply equally, perhaps, with greater force to that made in yards with sheds attached. Straw and droppings from cattle, did they remain in their primitive condition, would be of little use in fertilising the land, because a very small proportion of them is soluble; by degrees, however, a slow fermentation ensues, the particles re-arrange themselves, and very valuable fertilising products are formed, which are soluble, so that were the process carried far enough the whole of the valuable part of the manure might be washed out and what Mr. Wren Hoskyns calls the dead body, whose spirit is departed, alone be left to be carried to the field by neighbour Drychaff's creaking hearse. Now, consider the manure left exposed in a yard is favourably placed for undergoing rapid decomposition (unless it is literally covered with water); it is well exposed, occasionally wetted by genial showers, not too hard compressed by the treading cattle as it is spread over an extensive surface, everything is promising for a good brewing, and in due course down comes the pelting storm, and the rich porter-coloured stream flowing from the yards and down the adjoining stream but too truly tells of the efficiency of the decomposition and the value of departed worth. I feel confident that there is no satisfactory argument for manufacturing manure in exposed yards where it is subjected to be thus robbed of its most valuable constituents. It may be asked, what are we to do with our straw in cases when we have so much, and our live stock being principally sheep; it is only by exposing it in yards that we can convert it into manure at all? I question much whether we have by any means arrived at the maximum use of straw as fodder for sheep as well as cattle. The late Sir George Sinclair in his work on Husbandry (vol. 1, page 378), in 1814, mentions a saying of Dr. Keith's, "Take care of the straw, the corn will take care of itself;" and he mentions a remark of Marshall's, "that if a Yorkshire and a Norfolk farmer got equal quantities of straw, the Yorkshireman would make his cattle eat every particle, and would scarcely leave any to litter their stalls with, whilst the Norfolk man would convert the whole into muck. The Yorkshire man would keep more cattle, and would carry out his dung at less expense, whilst the Norfolk man would make more muck. Others would prefer a middle course, that of eating one-half and converting the rest into dung."

In a letter written a few weeks ago by Mr. Bond to the Editor of the *Agricultural Gazette*, explaining the means by which his sheep are maintained at so cheap a rate, it is shown that for three months in the winter they are fed on straw and Mangel alone, and during the three spring months, March, April, and May, on straw, Mangel, Cow Cabbage, and Grass, with the addition of oilcake and Bean-meal, no hay being given to them throughout the year. I should notice that his farm is a clay soil and not suitable for folding sheep on the land. Still there does not seem any decided objection to feeding them similarly in the fold as he does in the yard. I shall close my observations on open yards by heartily expressing my agreement with the following observation in Morton's Cyclopædia, that "all manures should be made under cover, either in stalls, boxes, or sheds."

(*To be concluded next week.*)

## THE CAKE MANUFACTURE.

The official returns of the imports of Linseed into the United Kingdom show a large and yearly increase, as appears by the following Table, viz.:—

| Year. | Quarters Imported. | Year. | Quarters Imported. |
|---|---|---|---|
| 1841 .. .. .. | 363,461 | 1850 .. .. .. | 608,984 |
| 1842 .. .. .. | 367,700 | 1851 .. .. .. | 630,471 |
| 1843 .. .. .. | 470,539 | 1852 .. .. .. | 799,402 |
| 1844 .. .. .. | 616,947 | 1853 .. .. .. | 1,035,335 |
| 1845 .. .. .. | 656,793 | 1854 .. .. .. | 828,513 |
| 1846 .. .. .. | 506,141 | 1855 .. .. .. | 756,950 |
| 1847 .. .. .. | 439,512 | 1856 .. .. .. | 1,150,179 |
| 1848 .. .. .. | 799,650 | 1857 .. .. .. | 1,100,000 |
| 1849 .. .. .. | 626,495 | | |

In 1857 the supply was derived from the following sources: viz. from Calcutta 90,000 quarters, Bombay 120,000, St. Petersburg 190,000 quarters, Archangel 60,000, Riga 75,000, Memel and other places in the Baltic about 80,000 quarters; the Black Sea 410,000, Alexandria and various other ports 60,000 quarters. It will, therefore, be observed that the largest portion of the Linseed is drawn from Russia, and a plentiful or an indifferent harvest of Linseed throughout that empire is felt by the consumer of Linseed-cakes here in a higher or lower range of prices consequent thereon. He also suffers from the inferiority of quality caused by the admixture of seeds other than Linseed, so that he has to pay for an indifferent article at a higher price. The 1,100,000 quarters of Linseed imported in 1857 would produce 137,500 tons of Linseed-cake (worth at 10*l*. per ton 1,375,000*l*.); and this is in addition to the foreign cake annually imported, amounting to about 100,000 tons. The total value of Linseed-cake consumed in this country may, therefore, be estimated at about 2,000,000*l*. annually. The East Indian qualities in general are tolerably even, seldom varying to any appreciable extent at the respective ports of shipment. They yield the greatest quantity of oil, and after pressure the cake is no doubt more nourishing and valuable than any other. But the bulk of the supplies is furnished by other countries more subject to variation of climate, and uniformity of quality in different seasons is not obtainable. Inferiority in quality is usually accompanied by adulteration, a variety of seeds being found mixed with the Linseed, such as wild Rape (Brassica campestris), wild Mustard or Charlock (Sinapis arvensis), seeds of Lolium perenne, of Dodder (Cuscuta epilinum), and of Willow-weed and Millet (Panicum miliaceum). The bulk of the Linseed being imported from the Black Sea, the standard of quality and price is chiefly regulated by the importation from thence. In good seasons the Black Sea Linseed is bold and pure, with only a small admixture of other seeds; and if the Greeks, in whose hands this article is now to a great extent centred, were not to tamper with it, the importation would leave little if any room for objection. But during the late Russian war, and indeed down to the present time, adulteration has been carried to such an extent, that a deputation of seed-crushers, appointed at a general meeting of that body with a view to redress this evil, waited upon the principal Greek houses in London. The interview, however, resulted in a total failure of the object desired to be brought about, for the deputation, on being shown a sample of pure Linseed, and also one containing the admixture complained of, and being requested to state their opinion what price such Linseed, on arrival here, would command in the market, were forced to admit that competition for seed amongst the crushers had much influence over the quality of the article supplied, and that the ready sale which could be found for an inferior quality removed all inducement from the seller to ship a genuine article. To the high price attained during the last two or three years, coupled with inferior quality and quantity arising from bad harvests, may be attributed the deterioration of quality in Linseed. The crusher, aiming at uniformity in his manufacture, but more especially to suit the tastes of his customers, has no doubt in some instances been induced to add to the already large accumulation of extraneous matter, so that, when the cake is crushed and ready for use, it cannot always be said to be *Linseed*-cake.

Our brethren across the Atlantic have studied the art of manufacturing Linseed-cake. What they produce is faultless to the eye, and, if not always perfection to the taste, it is thin, tender, flaky, and finds a ready sale in this country at the highest market price of the day, the question of genuineness being left entirely for subsequent determination. The cake pleases the eye and is always in good demand; and what more is required? Farmers have only themselves to blame in this respect. A considerable quantity of cake is now used for feeding sheep, and for this purpose cake of a tender kind, such as this, is preferred: it is produced by the addition of bran in its manufacture. Thus the farmer has to pay 10*l*. or 11*l*. per ton for cake which pleases the eye in this country, but omits to consider that for this he has to pay dearly for the admixture of bran, which costs 4*l*. or 5*l*. per ton, and in the United States probably about half that price. The intrinsic value of Linseed-cake is not sufficiently dwelt upon; hard-pressed cake, or cake which is closely ground, although genuine, is invariably refused by the farmer, and preference given to the more tender-looking but adulterated kinds. My own bailiff I have observed is inclined to the latter-mentioned quality of cake, especially for sheep. It, however, requires little if any consideration to decide where the preference should be shown. The difference may be discovered by the greater amount of mucilage which a given quantity will produce, which may be quickly and easily tested. If a ton of cake contain one-third of bran, it may be readily detected. Crushers are not always in fault; I have no hesitation in saying that they have, in some instances, received directions from their customers to mix bran in the cake, "as they preferred its being done, alleging that it made it more free." The temptation, therefore, under which the crusher finds himself does not always spring from self-interest on his part, or self-protection against those who adulterate to a much larger extent, but often from the extensive demand and ready sale for the spurious article. The intelligent farmer will, however, be found testing his sample by the simple method above named, and valuing it by its intrinsic worth, before he makes his purchase. The still greater adulteration practised by some crushers, who gather up everything that can be made to pass as Linseed-cake, is one which requires less exposure, for the farmers who purchase such an article must do it with their eyes open, and cannot complain if they have to suffer for their folly.

I am indebted to a correspondent in whom I have the greatest confidence, for the following information respecting the different qualities of Linseed-cake. He states that the finest quality is made as follows:—300 lbs. of ground Linseed are mixed with 28 lbs. of Ground Nut-cake, 28 lbs. of Rape-cake (also ground), and 28 lbs. of coarse bran. The second qualities are made of a small admixture of Linseed with a considerable part of the undermentioned articles; and the third qualities are made wholly of the last named of the following articles, without any Linseed at all:—

| | |
|---|---|
| Foreign Linseed cakes, | Castor-oil Nut-cakes, |
| Dodder-seed cakes, | Rice husks, |
| Poppy-seed cakes, | Cotton-seed cakes, |
| African Ground Nut-cakes, | Rape-cakes. |

Sometimes the whole of the above are mixed and worked together; but a supply of each is not always on hand; and some or all, according to circumstances, are introduced to make up the desired quality.

I am as unwilling as I am unable to attach to the fair and honest manufacturer of Linseed-cakes any participation in such practices. He has nothing to fear

from exposure, and therefore the following Table of calculation of the money value of a ton of Linseed-cakes made to suit a cheap customer will not affect him, but, on the contrary, will prove to consumers what competition the crusher who makes cakes from Linseed has to contend against, and will, I trust, be the means of inducing the purchaser to give a fair price for an honest article. I will premise that the articles named are at the relative values at which they usually stand to each other, so that, if Linseed-cakes are lower in price, the others are likewise lower in proportion, and *vice versâ* :—

| | | | |
|---|---|---|---|
| Cost of 1 ton of cake composed of the following articles :— | | | |
| 5 cwt. of soft green Rape-cake at 6*l.* per ton . | 1*l.* | 10*s.* | 0*d.* |
| 5 cwt. of bran, large flaky quality, at 4*l.* 10*s.* per ton | 1 | 2 | 6 |
| 5 cwt. of Nut-cake at 6*l.* per ton .. .. .. | 1 | 10 | 0 |
| cwt. of fine Linseed equivalent to a like quantity of genuine cake, and worth 10*l.* per ton .. | 2 | 10 | 0 |
| | 6 | 12 | 6 |
| Market value of 1 ton of genuine Linseed-cakes made from Bombay, Black Sea, or Baltic seed is | 10 | 0 | 0 |
| Difference in value .. .. | 3 | 7 | 6 |

The temptation, therefore, to manufacture a compound similar to the above finds greater inducement when cakes are high in price; but the growing disposition to purchase such a quality must also be taken into consideration. If the price of Linseed falls, as it probably will do, to a level with former averages, the inducement will be less; and the quality of the new crop is so very superior as to render adulteration less profitable. The samples of the new crop are fine and clean, so that it may be reasonably hoped that the supply henceforward, especially from Russia, will be both abundant and good. The value of Linseed-cake as food for cattle has been so often set forth in this Journal, that it is unnecessary for me to say anything in recommendation of it; it enters so much into the economy of almost every farm, that to obtain a cheap and ample supply of the genuine article should be the desire of every farmer who wishes to improve and sustain his farm. The increasing imports from the East Indies afford room for hope that the wants of the grazier will to some extent be met thereby. The vast regions in that portion of her Majesty's dominions capable, when opened out, of yielding Linseed, leave no room for doubt that a large and annually increasing supply of seed will find its way into this country from thence, and thus enable the agriculturist to manufacture his own manure, feed his cattle, and ultimately improve the condition and quality of his land, to the profit and advantage both of himself and his landlord.

In closing my remarks on this subject, I will add that it has been my endeavour throughout to show, in a spirit of fairness, how the question stands between the crusher and his customer. That he is in no way answerable for deficient harvests or defective quality will be readily admitted; and if the demand for a spurious article supports and encourages its manufacture the blame does not rest with him entirely. On the other hand, is it honest or consistent with the infallible principles of right and wrong that such a state of things should continue? The growing importance of the article to the feeder of cattle, and its yearly increasing extent, forbid it: there is no plea either of present profit or expediency that can justify it. It is as unfair to the crusher who does not adulterate, as to the consumer; and the sooner it is abandoned the better for all parties concerned. There is a wide spread belief that no crusher is an "honest miller." This I need scarcely say is far from being true: but unfortunately the odium is shared alike by the honest and dishonest trader. There are undoubtedly many who have suffered severe losses in contending against unfair competition rather than manufacture a dishonest article, and others who have begun well, but have been unable to resist strong temptation; and before I conclude I will mention an amusing anecdote illustrative of this point. An honest or rather once honest miller, living near to a neighbouring crusher, had for some time sold him all his bran, but he saw and envied the crusher's thriving trade, and resolved upon turning his refuse to a more profitable account, and accordingly erected presses adjoining his flour mill that he also might manufacture Linseed cake out of bran! I dare say when they meet they can afford a mutual smile. *William Wight, Esq., of Sigglesthorne Hall, Holderness, Yorkshire, in the Journal of the English Agricultural Society.*

## Home Correspondence.

*Labour in Manuring Turnip Land on the Drills.*—"J. M." states at p. 200 in his remarks on fallow crops, that "three men will fill 100 cartloads in 10 hours and three one-horse carts and two ploughs will finish 10 acres in a day, drilling up the land, carting 300 loads of manure, spreading it, and covering it by the strength of seven horses, seven men, two boys, and three women." [The time specified should have been three days.] The drilling up of 10 acres of land into 27-inch drills as "J. M." describes, with only one plough, requires the ploughman to walk more than 73 miles, which is, exclusive of the time occupied in walking on the headlands and turning the horses into the drills at each end of the field, a little more than 3½ miles per hour for each of the two ploughmen. Ploughmen who have young active horses which are in good working condition will traverse such an extent of land which is pulverised to a suitable tilth and requisite depth, and is free of ground-fast boulders within the reach of the plough, as they walk quicker than when they are ploughing stubble; nevertheless it is above the average speed that the majority of plough horses travel throughout the day. According to "J. M.'s" mode of distributing his labourers, each of the three spreaders of the manure must distribute 33⅓ cartloads of manure over a little more than 12 miles of a drill. An ordinary workman ought to and can fill 10 cartloads of manure as fast as two women will spread it in an acre of 27-inch drills. Some farmers in my native district allow one man for filling the manure, and two women for spreading it to each plough, and one woman for dividing the manure heaps which the man pulls out of the cart at regular distances into the centre drill equally into the three drills for every three women; others allow only one woman for dividing the manure for every six women, but it is oppressive work for a delicate female to keep six spreaders employed. Each competent female labourer divides the manure half a day at a time. Some farmers who can yoke three ploughs when applying about 10 cartloads of manure per acre allow three fillers at the manure heap, one man to empty the carts, and seven or eight women for dividing and spreading the manure in the drills. When applying a larger quantity of manure than one man can empty to keep three ploughs employed, and four one-horse carts are required to forward the manure, two men sometimes each empty every alternate cart, and only one boy is required for driving the horses in the cart. Those farmers who have seven or eight horses and require only three for the manure carts, who allow a boy for leading the horse in the drills, distribute their labourers thus: two ploughmen making up the drills, two men filling the manure, one boy driving the carts between the heap and the drills, a boy driving and a man emptying the carts, five women, one dividing and four spreading the manure in the drills—in all, five men, five women, two boys, and seven horses. Some farmers who have not a manure drill when applying a small quantity of guano, weigh a bushel of guano and mix it with 1 or 2 bushels of sifted ashes, which enables those who sow it to distribute it more regularly in the furrows. By weighing a bushel of guano and measuring the length of the drills, the application of a specified quantity of farm-yard or artificial manure to an acre of land is not a difficult task to those who can reduce 4840 yards to square inches, divide 6,272,640 inches by the width of the drills, and divide the length of the drills of a given width in an acre of land thus obtained by the whole length of the field, exclusive of the headlands. *A Labourer.*

## Foreign Correspondence.

BRUGES, BELGIUM, *April.*—To the casual observer whirled along in a railway car, or surveying the country from the elevated canal banks which environ the town in which we write; the rich and smiling cultivation which everywhere surrounds him would convey the idea that the people were blessed with a soil eminently fertile, and that from the scrupulously neat garden-like appearance of the fields, they were aided by all the dicta of science and all the powers of mechanism, and great doubtless would be his surprise when informed that both his surmises were altogether wrong. With a soil generally poor—*sol ingrat* as it has been termed—in many districts, and these of large extent, consisting of nothing but sand, with no knowledge of what is called agricultural or chemical science, with implements few in number and rude in construction, it has been but by the exercise of an industry which never tires, and aided only by the lessons derived from a long experience, that the farmers of Flanders have succeeded in making tracts wild with bleak sterility yield rich harvests of a wide variety of plants and produce. And if stimulated by these statements into a desire to know the secret of such cultural success, our supposed observer made inquiries from those around him acquainted with Flemish practice, he would find that in the exercise of two modes of procedure lay chiefly the whole secret. These two grand features are the careful practice of deep and repeated working of the soil, and the careful sowing and lavish yet prudent distribution of manure; and of these two mutually dependent upon each other, the second may be said to be the most important. The whole pith indeed of the practice of Flanders may be gathered from their maxim, freely translated, "no forage, no cattle; no cattle, no manure; no manure, no harvest;" paraphrased in England by the rough but expressive proverb, "muck makes meal." The more thoroughly we investigate the peculiarities of Flemish practice, the more do we become convinced that this maxim is not merely held as a matter of belief simply, but that with the force of a living faith it influences all their procedures. Take a walk in the country, you see it in the lavish expenditure of the field, and in the careful saving of the farm-yard. The term manure has with us but a limited acceptation; in Flanders it has a very wide one. "Muck," with many of our farmers, includes all the material used as a fertiliser; in Flanders, under the name of "fumier," it comprises only one, the term "engrais" including a wide range of materials, of the use of which many of our farmers would never dream. To give here a list merely of those substances would occupy too much of our allotted space; we content ourselves with naming one only, human excretion. The substance of this, to us a continual source of annoyance, the terror of the sanitary reformer, and the object of the waste of the engineer, who pollutes our streams with its presence, is to the Flemish farmer an object of the greatest solicitude, and to obtain which he goes to great expense, and spares no trouble. Take a walk in the country towards the afternoon, and you will meet conveyance after conveyance making their way to the town to purchase and take back to their various districts loads of this favourite engrais. This substance yields a large revenue to towns in the provinces of east and west Flanders and of Hainault. As to the agricultural value of this engrais, Girardin, an acknowledged authority on the subject of manures, gives the following, which may be interesting to our readers. Supposing a piece of soil to yield without any manure a return of three times of any given seed, it will yield by the use of the following manures, thus—

| | |
|---|---|
| With vegetable manures .. .. .. .. | 5 returns. |
| Cow-house manure .. .. .. .. | 7 ,, |
| Manure of colombine (pigeon's dung) .. | 9 ,, |
| Horse manure .. .. .. .. .. | 10 ,, |
| Human urine .. .. .. .. .. | 12 ,, |
| Human excrements .. .. .. .. | 14 ,, |

But a very limited tour in Flanders would suffice to show numerous and striking proofs of the power of this fertilising substance, and induce many, we believe, to give it a trial; the result of which we doubt not would be their looking upon it as do the Flemish, as a material deserving of the most careful economisation rather than of the wanton waste which characterises its treatment in our country. To the agriculturist one of the greatest advantages which this manure possesses is the rapidity with which it is dissolved, and the energy with which it acts, giving in comparatively short time its full fertilising effects. Nor is the shortness of the time in which it acts considered by the Flemish, as it is by some, a defect; on the contrary, it is looked upon by them as one of its most valuable characteristics. Neither should another advantage possessed by this manure be overlooked, namely, that it is unmixed with the seeds of weeds and plants, introduced so often and so prejudicially into our arable land through the medium of solid farm-yard manure. One disadvantage undoubtedly possessed by this substance is the difficulty of its transport. In the district immediately surrounding Bruges it is conveyed from the town in covered carts to the liquid manure tank; it being almost invariably applied in the liquid form. The people engaged in its distribution give little evidence of their disgust at the bad odour which it suffuses around; this odour however being its only disadvantage, for no sanitary evil arises from the produce. The words used above, liquid manure tank, bring us to another point very noticeable in the practice of Flemish husbandry. How is it that every farmyard has its tank, the holder of the tiniest plot of land in this country, where there are few large occupations, thinking as highly of its value as the farmer of a large holding? While there is discussion—fierce almost and uncompromising in its vehemence—going on in our country year after year as to the value of liquid manure for all crops, many among us doubting whether it is worth the expense of its distribution, the Flemish farmer will may say from time immemorial has relied upon the contents of his liquid manure tank for his ablest ally in reducing the sterility of the unpromising soil upon which he has to operate. Liquid manure in Flanders is so highly esteemed that the term applied to it by a distinguished agriculturist to whom we were talking on the subject, the "soul of agriculture," does not savour of exaggeration. Applied to the land often two or three times after sowing to the growing crops, green and cereals alike, and always with an unsparing hand, the unbeliever in its valuable properties if spending but a few weeks here will have ample opportunities of seeing much that will tend to give him new ideas on the subject, and arouse suspicions in his mind that he has been too hasty in deciding against it. Under the term "engrais liquides," the Flemish agriculturist comprises human urine and that of cattle, either pure or mixed with solid excrements; other materials, as Rape-cake, are also frequently mixed in the tank. The liquid manure known as "engrais flamande" is formed of human excretæ. When this is brought from the towns, it is deposited in the tanks, situated in the immediate neighbourhood of the farm-house, or at the sides of the roads leading to and intersecting the fields. These tanks contain from 2000 to 3000 hectolitres. they are built of brickwork, arched overhead, provided with a man-hole through which to introduce and extract the liquid, and with an aperture of less dimensions, the one of which is to give access to the air. The material—termed vidanges—is usually allowed to remain in the tanks for a period of several months, and allowed to ferment, a process which is considered to be advantageous to the quality of the "engrais." The bad odour arising when it is placed on the land is sometimes reduced by mixing with it sulphate of chalk or sulphate of iron. The engrais is applied to the industrial plants as Colza, Hops, Tobacco, Flax; these absorb it in great quantities; it is also applied to the cereals. It is not however applied much before the seed is put in, as its action is immediate, and loss is sustained by its infiltration through the soil. It is not used to the plants while in full vegetation, unless they have been previously treated with a dose of cow urine or of water; or after rain, as its action on the leaves is prejudicial, causing them to be burnt. If during wet weather they wish to apply it to any plant requiring its stimulating effect, as the Tobacco, they run it in the furrows between the lines of plants, so that it goes to the roots, avoiding the leaves of the plants. The quantity applied per hectare varies from 50 to 200 hectolitres according to circumstances of soil, &c. Used as a supplementary manure the dose

is regulated according to the fertility already possessed by the land. The industrial plants, as Colza, Hops, &c., are those which take the greatest quantities; much however depends upon the degree of purity and of concentration of the manure. Sometimes it is used without any mixture; at other times water or cow urine is added, or oilcakes dissolved in it. From the tanks the manure is generally taken to the fields in a barrel or semicircular vessel placed on a three-wheeled cart, and which contains from 9 to 10 hectolitres, sufficient quantity for a horse to pull over the arable land. Arrived at its destination, the plug at the hinder end of the vessel is withdrawn, and the liquid emptied into a barrel, which contains about a hectolitre and a half, and which is provided with a handle at each side. Under these two poles are passed, and two men walking between their extremities carry the barrel to the place where the manure is to be spread. From this barrel—sometimes however it is emptied into a third receiver, the men returning with the barrel for another supply from the cart—it is taken out by means of a scoop furnished with a long handle, and by means of which it is thrown over the land. It is amusing to see with what dexterity this is performed, how regularly each plot receives its share, and this more in the form of a gentle shower over all than that of a heavy plash at one point and little or none at another. This, as we have previously noted, throwing of the liquid over the land is not admissible during the hot weather, when it is desirable to avoid touching the leaves of the plants with it. The method of application here described takes three men to carry it out, one to spread and two to carry manure from the cart. In small occupations another method is employed necessitating only one man. The manure is placed in a barrel which is secured to his back by strong straps; a flexible tube is provided to the lower part of the barrel, and furnished with a stop-cock; as the man walks along he can direct the issuing stream to any point desirable.

The same care which we have shown to be given to the products of the population of the towns is also extended to the excretal products of the stables and the cow-houses of Flemish farms. Tanks are provided, carefully constructed to prevent either the passage of water from the surrounding soil, or the absorption of the liquid which they contain. Into these tanks the liquid from the cow-houses and the stables is conducted by means of drains; the knowing agriculturist being careful to lead also the liquid contents of the solid dung heap and the privy, as also to add to the contents of the tanks the waste water from household operations, the daily cleansings of the cow-houses: with the liquid escaping from the litter there passes a certain quantity of the solid manure. For the Flax crop, and also for the Tobacco crop, oilcakes are dissolved in the liquid. In its ordinary condition it is applied to the Colza, the Turnips, Flax, and to the cereals, although to the latter it is used with prudence, as it is considered to weaken the straw. Before using it for Clover it is advisable to allow it to ferment for five or six weeks. Although using the manure at the time of and before seeding, it is nevertheless used while the plants are in full vegetation, as to the Beet-root, Turnips, and to the Colza. It does not exert the burning influence on the leaves which is shown by the "engrais flamand," but it is generally employed in rainy weather: if the tanks get filled before there is occasion to use the liquid, the surplus is pumped on to the solid manure, or on to the compost heap. In large occupations it is transported to outlying tanks in various parts of the farm. Before extracting the contents of the cistern, the whole are well stirred so as to mix the deposited matter with the liquid; in which condition it is pumped up into the liquid manure cart, which transports it to the field where it is to be used. For arable land it is spread over the surface by the same means as already described when treating of the "engrais flamand." When employed for manuring meadow land the usual method of distributing it is by means of an apparatus resembling that used for watering the streets.

Although in Belgium, and very markedly in the provinces of East and West Flanders, the value of manure is fully estimated, nevertheless it must not be supposed that the practice of the farmers is in all departments commendable; on the contrary, in their management of the solid manures of the farm, there is much to be deprecated; and it were to be wished that the farmers generally were alive to the importance of a more economical because more scientific mode of saving and storing it. But of this subject more in another communication, which we hope to make before leaving this province of West Flanders.

## Societies.

ROYAL AGRICULTURAL OF ENGLAND.

Weekly Council: *Wednesday, April* 13. — Mr. Raymond Barker, V.P., in the chair.

The names of nine candidates for election were read.

Also a communication from Miss Banister on the Festuca Ovina, of the present state of growth of which she transmitted a specimen.

The Council then adjourned over Passion and Easter week to the Monthly Council on the 4th of May.

## Farmers' Clubs.

Wenlock: *Principles of Cattle Breeding.*—Mr. Griffith Evans, M.R.C.V.S., &c., of Bridgnorth, delivered a lecture upon this subject, from which, as reported in the *Shrewsbury Chronicle*, we make the following extracts:—The lecturer said that horse-breeding is very much neglected throughout the country, especially hunters and carriage horses; nor has the draught horse had the attention he deserves. He (Mr. Evans) should, therefore, more especially point out how to apply the principles of breeding to horses than to other animals.

Our fairs are overstocked with horses, but so shapeless that it is difficult to say for what purposes most of them are adapted. He thought he might safely say that the average value of four-fifths of our four-year-old horses, of all sorts that we see in the fairs, is hardly 20*l.* to 25*l.*, and it is difficult to sell many of them at any price. Now, taking into consideration their cost of breeding and rearing, with all risks and so on, no wonder breeders say they do not pay. The average value of the remaining one-fifth it is difficult to say; but they sell readily for from 40*l.* up to almost any amount you can reasonably conceive. Now, I ask those breeders who complain—why do they breed horses at all? "Oh," they say, "to consume the Grass properly we must have cattle, sheep, and horses, too; they all differ in their bite so." Very well, then, if you breed horses of some sort, why won't you breed good ones? Does an ill-shaped horse consume less food than a good one? Is it cheaper to breed poor than good horses? Some of you may perhaps say, as I have heard others say, that in breeding cattle and sheep you are seldom disappointed; the progeny is always what you expected; while in breeding horses you have no idea what the colour or shape of the colt will be until you see it; it is quite a lottery.

The first great law of nature in breeding is, that like should produce like; but it must be accompanied in our mind with another law, the law of variation.

One of the causes of variation is what is called "breeding back." It is often a source of disappointment to the breeder that when he puts a well-formed female and a well-formed male, he gets an ill-formed colt or calf, and of quite a different colour to what he expected. If you inquire into the pedigree of the parents you will find the child answering in every respect to the description of an ancestor. It is this that makes many say that horse-breeding is a lottery. However, if you breed properly you have little to fear. Pure and thorough-bred animals comparatively seldom breed back, or disappoint their owners in doing so. By thorough-bred is meant those whose ancestors were for a long time of the same shape, and adapted for the same purpose as themselves. The more the animals have been crossed the more subject are they to breed back, and the more the difference of shape in crossing the more likely is breeding back to prove a disappointment. This should make you very careful in breeding stock, and to ascertain that not only the sire and dam are free from spavin curbs, &c., but that their ancestors were not subject to any hereditary affection, and not only that they were free from hereditary evils, but that they possess the same good qualities, and are adapted for the same purpose as themselves.

Now comes the vexed question, "Which has the predominating influence on the progeny, the male or the female parent? If both parents join to form the child, does one parent give one group of organs and the other parent another group; or do both give all?"

Mr. Evans related many very beautiful and interesting facts in support of each theory, which seemed conclusive in themselves; but he maintained it was not fair to look at one set of facts alone, and shut our eyes to others. It was by an impartial survey of them all that we get the truth. There was an able article upon this subject in the "Westminster Review," with which he fully agreed, which says "That both parents are always represented in the offspring; and although the male influence is sometimes seen to predominate in one direction, and the female influence in another, yet this direction is by no means constant, is often reversed, and admits of no absolute reduction to a known formula."

It is a common but silly question, "Which breed of animals is the best for the farmer?" Some advocate short-horns, others advocate the long-horns.

A particular kind is sometimes advocated under all circumstances to the exclusion of all others. Such persons remind me of those disputants about the true colour of the chamelion; all are right, and all are wrong, depending upon the point from which the object is examined. That breed of animals is the most profitable which is better adapted for that particular locality. One class do better on upland, others on lowland; some do better grassing, others do better housed. It also depends upon the demand of the neighbouring markets. In some parts cheese-making pays best; in other parts milk; in other parts meat, &c. In some districts it pays better to breed draught horses, in others hackneys and hunters, in others racehorses, in others ponies, &c. What I wish to impress deeply upon your mind is this: Every breed has its own peculiar conformation, and that conformation you will find upon close investigation to be peculiarly well adapted for a particular purpose; and when you adopt and cultivate a certain breed, you must always keep that purpose and that conformation steadily in view. If you lose the conformation, you will soon lose the purpose. For instance, we may divide cattle into two primary classes: 1, for fattening and arriving at early maturity; 2, for dairy purposes. We may also divide horses into two primary classes: to carry weights on the back, and go fast; and to draw weights after them. It is evident that they are destined for very different purposes, and must set to work in a very different manner. I now merely draw your attention to the fact that there is a peculiar shape adapted to perform any particular work, and it is essential that the young man should make himself thoroughly acquainted with those before he can be expected to be a successful breeder. Starting then upon the great law of nature, that like produces like, and being prepared to guard against variations by breeding from animals of the same sort, &c., breeding good stock becomes a simple matter of course. First ascertain what animals your land is best adapted for. Secondly, what have the readiest sale in your markets. Thirdly, having decided upon the purpose of your animal, study the best shape and conformation calculated to attain your object in a most perfect manner; if you wish to breed fat stock, study the shape most disposed to lay on fat with the least food, and to arrive at early maturity; if you wish to breed milk cows, study the proper shapes for them; if you breed horses, study the proper shapes to perform their various duties. Fourthly, don't breed from an animal, whether male or female, whose shape is not well adapted to perform the work it is intended for: let them be of the most perfect shape you can get of their kind. Fifthly, being acquainted with the law of breeding back, you will not be satisfied unless their ancestors were also of the same sort, and equally good; in fact, thorough-bred, and free from hereditary evils. Remember that I do not confine the term thorough-bred to the race-horse. It may be equally well applied to the cart-horse, or hunter, or pony, or carriage-horse, &c. It means those whose pedigree for a considerable time back were of the same class, and adapted for the same purpose as themselves. Unless you commence to establish a new breed, you should never breed from a half-bred animal. Let them all be castrated. There is too much risk connected with it; it is based upon a wrong principle; you should carry the right principle out thoroughly. Why should you breed from a half-bred mare more than from a half-bred cow? I know many excellent horses bred from half-bred mares, but there are many more failures. Some of you may say that you have no pure or thorough breeds, except racers; therefore you ask how can you avoid crossing. Well, "It is never too late to mend." Suppose Messrs. Bakewell, Adney, Smith, and other eminent breeders, had listened to such an excuse? The present system of breeding hunters and coach-horses is a bad one; because by putting a race-horse to a half-bred mare you may get a good hunter, and you often fail; you may get a hack, you may get a useless one. By putting a hunting-horse to a Clevelan l mare, you may get a carriage-horse, or you may often get a good-for-nothing. You have no law to depend upon. By breeding exclusively from animals of the same shape, and, therefore, adapted for the same purpose, with careful attention to pedigree, you may easily establish a breed for any purpose whatever.

As to the qualities of the brood mare, there are some peculiarities essential for all breeds.

She must be what is called roomy, allowing sufficient space to carry a foal, and for its passage into the world. For this purpose the carcase should be long, and the back ribs deep, the pelvis or hips should be wide and deep. The forehand is usually lower in the mare than in horses of the same kind. This, as Stonehenge observes, "gives the whole framework of the trunk a larger proportion than is always desirable in the race-horse, which may easily be overtopped; and here many good runners have failed as brood mares, whilst a good number of bad runners have been dams of good race-horses. Beyond this roomy frame necessary as the eggshell of the foal, the mare only requires such a shape and make as is well adapted for the peculiar purpose she is intended for. It is better to breed from animals of a medium size of their kind, whether male or female, not too big, nor too small." To ensure the mare being stinted she should be perfectly healthy, and living as much as possible in a state of nature; not overfed with corn, but rather have cooling diet, unless she is poor. Fattened animals often prove barren. The best time for covering is when the heat commences. If convenient it is often recommended to do so a second time when the heat passes off. "Like the brood mare," says Stonehenge, "the stallion requires several essentials, commencing also, like her, 1st with his blood; 2ndly, his individual shape; 3rdly, his health, 4thly, his temper. But there is this difficulty in selecting the stallion, that he must not only be suitable, but he must also be adapted to the particular mare which he is to serve. Thus it will be manifest that the task is more difficult than the fixing upon a brood mare, because (leaving out of consideration all other points but blood) in the one case a mare only has to be chosen, which is of good blood, for her particular work; while in the other there must be the same attention paid to this particular, and also to the stallion's suitability to the mare, or to "hit" with her blood. It is a remarkable fact that the first male put to a female, especially if he be potent, influences more or less the progeny of that female by subsequent males. In explanation of this phenomenon that eminent physiologist, Professor Carpenter, in his celebrated work upon "Human Physiology," writes: "Some of these cases appear referable to the strong mental impressions left by the first male parent upon the female; but there are others which seem to render it more likely that the blood of the female has imbibed from that of the fœtus, through the placental circulation, some of the attributes which the latter has derived from its male parent; and that the female may communicate these, with those proper to herself, to the subsequent offspring of a different male parentage."

In conclusion, allow me to say that agricultural societies are to be blamed very much for the little attention they pay to horses as compared with other stock, especially poultry. They ought to give liberal prizes to the best brood mares and stallions of all breeds, and pay as much attention to them—they deserve more—as to cattle, &c. The best stallion should have to travel within the district of the society during next session, and not to receive the prize until the end of that time. I must add that our great landlords generally overlook the interest of their tenants, and consequently their own also, in not keeping good thorough-bred stallions, of different breeds, for the use of their tenants at a nominal charge. Farmers themselves also overlook their own interest too often by being "penny wise and pound foolish," in looking more at the fee of the horse, when they engage him, than at his shape.

Mr. H. Smith said: I can truly sympathise with Mr. Evans in his regret on the breed of our hunters, for the hounds frequently pass over my farm, and although my hedges are very low the hunters make horrid gaps. I have had some little experience with sheep, and in my opinion both male and female have considerable influence on their progeny; and I am of opinion that if we are to maintain our superiority in sheep we must stick to the Shropshire breed. Any admixture with another blood will be sure to deteriorate the flock. The Chairman: Have you such a distinct breed that you can go on without having recourse to the Southdown? Mr. Samuel Meire: There is not a doubt of it. If I could ensure my life for 100 years, I could keep my flock up to its standard without going to any other flock for aid. It is very easy to do it when you know how. There is no doubt but that the Shropshire sheep is a cross-bred sheep, and what breed is not? I should like to ask those who boast of the purity of the Southdown as if that was the sheep that came out of the ark.

## Reviews.

*On the History, Cultivation, Composition, &c., of Italian Rye-grass.* By W. Tweed, Pupil of the Albert National Agricultural Institution. W. Robertson, 23, Upper Sackville Street, Dublin.

This, like a former publication on the cultivation of Mangel Wurzel, is a prize essay of the Glasnevin Agricultural College. Dr. Kirkpatrick, the principal of the college, gives the following introductory notice of the present publication:—

"In the autumn of 1857 I was induced, for the purpose of supplying a distinguished American agriculturist with full particulars relating to the preparation of the land for Mangel Wurzel, and the after-management of the crop, to offer one or two prizes for the best Essays on the History, &c., of the root, to be competed for by the pupils then in training at the Albert Institu-

tion and Model Farm. The result was so satisfactory that in the autumn of 1858 I was further induced to offer a prize for the best Essay on the 'History, Cultivation, Composition, &c., of Italian Rye-grass.' There were several competitors for the prize, which, after careful examination and deliberation, was awarded to the writer of the annexed Essay; and it is to be hoped that its publication may be productive of results as gratifying as those which have arisen from the paper on Mangel Wurzel,"—which was, it appears, re-published in America, and of considerable service to the introduction of the crop to American agriculture.

Mr. Tweed's essay refers to the natural history of the plant, and to the history of its introduction to English agriculture; and describes its cultivation in a detailed and intelligible manner. The following is an account of its growth under liquid manure on the Albert Model Farm, Glasnevin:—

The application of liquid manure to the Italian Ryegrass, has, at all times, given highly satisfactory results on this farm. "In order to economise the very large quantity of liquid manure which is carefully collected at the Albert Farm, from the cattle-houses, piggeries, and also from the pupils' dormitories, water-closets, lavatories, &c., underground iron pipes, with hydrants, have been laid for its distribution by means of steam-power on about 50 acres of the farm. Its application heretofore has been chiefly directed to the production of Italian Rye-grass, and, although the results have not equalled those which have been reported as having been realised in other places, yet they have been highly satisfactory, and have made a good return for the outlay on the necessary works.

"The following is a return of the several cuttings during the past season, and the weight of each per statute acre. Each cartload of the Grass, as it was cut for soiling, was accurately weighed, so that the very objectionable and inaccurate mode which is usually adopted for ascertaining the amount of produce by measuring a small portion of ground where the crop is supposed to be a fair average of the whole, and weighing the crop raised upon it, and from this calculating the acreable return, was effectually obviated. Thus, and thus only, can a reliable return of the acreable produce of Grass or root crops be obtained:—

| Time of cutting. | Produce of each Cutting, per Statute Acre. | Amount of Liquid to each Cutting.* |
|---|---|---|
| | Tons cwt. | Gallons |
| 1st Cutting, April 14th .. | 6 15 | 9561 |
| 2d ,, June 4th .. | 9 13 | 9030 |
| 3d ,, July 19th .. | 7 14 | 11,221 |
| 4th ,, Sept. 1st .. | 7 10 | 14,276 |
| 5th ,, Nov. 22d .. | 6 15 | 6308 |
| Total .. .. | 38 7 | 50,396 |

*Revue Agricole de l'Angleterre.* Par M. F. Robiou de la Trehonnais, Paris. Librairie de Firmin Didot frères. Rue Jacob, 56.

This first number of a periodical intended to make English agriculture known to French farmers is conducted by a gentleman probably unrivalled in his acquaintance with the farming of the two countries. It contains articles on the agricultural influence of free trade in this country, on the history of the Smithfield Club, on Lois-Weedon culture, on reaping machines, and on cross-breeding. There is also a biography and capital portrait of Mr. Jonas Webb. The Review will no doubt obtain a considerable circulation in England as well as France.

## Calendar of Operations.

APRIL.

DORSETSHIRE.—In consequence of the fine weather and indications of an early spring, the farmer has been unusually busy. The Barley and Oat sowing is therefore almost finished, the exception being where a few straggling patches of Swedes, or what once were worthy of the name, still remain. Many and curious have been the devices to retard the roots from "running to green," such as ploughing in, pulling up, collecting in heaps, mowing off the tops, and in one instance I observed a large field roller going over a 20-acre piece. Could not some of those who read the *Agricultural Gazette* mention a plan quite as likely to answer the desired effect without causing the like detriment to the root? Growing crops look well, in fact their present appearance can tend but little to improve the very low prices which Wheat at present commands. Those who sow Flax are on the "look-out" for a storm; the land is usually either let at a sum varying from 7*l.* to 8*l.* per acre to a man who finds and sows the seed, the farmer being responsible for horse labour only, or the standing crop is sold by auction. Vetches and Trifolium appear luxuriant; the pastures green, and almost as "early" as they have been on the 1st of May in several preceding years. The water meadows about this time are stocked with the dairies, consequently the yield of butter great and of a very superior quality; it for the most part finds its way to the London market, being sold to country factors for the quarter or whole year, and by them consigned to their agents in town. Sheep realise high prices, and are not too plentiful. Good mutton scarce, and worth from 8*d.* to 9*d.* per lb., and low prices not to be expected, the lambing season not having proved a favourable one. *P. P.*

## Notices to Correspondents.

GRASS: *A Sub.* If it is well eaten off in the autumn, the earlier it is shut up for hay in the spring the earlier and probably the better will be the crop.

LIBRARY OF AGRICULTURAL WORKS: *G A.* There is no circulating library of agricultural works to our knowledge. And we would recommend such a thing to the bookselling trade, for we are convinced it would be a lucrative speculation.

TICKS IN LAMBS: *Isaac Markham.* They are very difficult to get rid of without injuring the wool. Linseed oil may be rubbed into the parts most infested. *W C S.*

* The liquid was very much diluted with water.

AYRSHIRE HEIFERS IN FIRST CALF.—Twenty very carefully selected pure bred 3-year old HEIFERS of this celebrated Milking Breed are for Sale in one lot, or singly. Ten may be seen 20 miles from London. A good 2-year old BULL also for Sale.—Apply to John Herriot, J. Lockhart Morton's, 8, Finch Lane, London, E.C.

IMPROVED PATENT TURNIP AND MANGEL GRATER, MANUFACTURED BY JOHN WARNER AND SONS, No. 8, Crescent, Jewin Street, London, E.C.—J. W. & Sons, in introducing their IMPROVED PATENT TURNIP AND MANGEL GRATER to the notice of Agriculturists, beg to state that they have personally tested its capabilities during the last three seasons, and as such feel that they can, with the greatest confidence, recommend it as a machine that will upon trial, satisfy the requirements of Feeders of Stock generally; one man or strong lad being able with comparative ease to grate 20 bushels of roots in 10 minutes.—Price of the Machine complete, 4*l.* 10*s.* Carriage paid to any Railway Station in England. To be procured of any Ironmonger or Agricultural Machine Agent in Town or Country, or of the Manufacturers.

AGRICULTURAL MACHINERY. E. R. AND F. TURNER, Ipswich, manufacturers of Prize Mills for Crushing Corn, Seed, Malt, &c.; Portable Grinding Mills, Steam Engines fixed and portable from 2 horse-power and upwards; Threshing Machines, Chaff Cutter, Oilcake Breakers, Horse Gears, Saw Tables, &c., all of a superior description and adapted for Home, Colonial, and Foreign use. Illustrated Price Lists sent free on application.

SPEED AND ECONOMY for Farmers, Gentlemen, and Market Gardeners, in the use of HOARE'S REGISTERED HAND SEED PLANTING MACHINE, which in its capabilities, combined with strength, lightness, and simplicity, places it beyond a parallel. Its operative powers in planting the seeds of Mangel, Carrot, Turnip, Parsnip, and all small seeds in patches of equal depth and different distances, from 6, 7, 12, 14, 18, 21, 24, to 28 inches apart, raising and rolling complete, render it an invaluable invention. It will act as a drill when required. Price 5*l.* 15*s.*

London Agent, Mr. B. SAMUELSON, 76, Cannon Street, West. Sold also by the inventor, J. HOARE, Old Fishbourne, Chichester, Sussex.

GREAT REDUCTION IN THE PRICE OF

# FOWLER'S PATENT STEAM PLOUGH.

FROM the great Improvements recently made, JOHN FOWLER, Jun., is prepared to execute Orders at the following prices:—

| | |
|---|---|
| **Windlass to 8-horse Engine, with Patent Self-moving Anchor, Headland Ropes, Rope Porters, and all necessary Tools** | **£160 0 0** |
| **Cultivator, fitted with Three, Five, or Seven Tines** | **25 0 0** |
| **700 yards Iron Wire Rope, 1¾ inch circumference, which is a sufficient length, on this plan of working, for a 350 yards furrow** | **22 10 0** |
| | **£207 10 0** |

**Steel Rope, £7 10s. extra.**

The advantages to be derived in the working of this Tackle over others are, no belt is used, consequently no delay is caused from its slipping in showery weather; it can be efficiently worked by two men and two boys; and it is not confined to scarifying only, but a two-furrow balance plough can be worked by it. From the direct action of the draught, a small engine will effect a larger quantity of work than the same engine on the "roundabout system;" only half the rope is required for the same length of furrow, and a whole field can be done without shifting. The windlass can be attached to any agricultural engine, and the weight added would only be 12 cwt. The Tackle can be set at work within an hour of entering the field intended to be cultivated. The Drums on which the Rope is worked are 4 feet in diameter, and from its being wound in grooves all CRUSHING is avoided, and by these means a great saving in wire rope is effected.

The following TESTIMONIALS have been handed to JOHN FOWLER by some of the parties using his Steam Plough and Cultivator:—

"Sanden Lodge Farm, Chipping Norton, March 31, 1859.

"Dear Sir,—I am pleased to give you a most favourable report of your Steam Plough sent to Mr. Langston. It has been used daily for the last three weeks without the slightest accident or breakage, and has more than answered our expectations. We have ploughed with it the most varied and uneven field upon the estate, and have found the work perfect. The grubbing with plough heads and shares effects an excellent tillage. This is accomplished by removing the turn furrows; the same ploughs answer either for turning the soil or for breaking it up. We have for some years had an excellent scarifier, which is easily attached to each end of your plough beams, and this constitutes a simple and effectual cultivator, with this special recommendation, that it will work over ridge and furrow and in the roughest land without clogging. The above is the testimony of my own experience, and during the time mentioned I have given exclusive attention to the working of the plough, but it has been likewise witnessed and approved by almost every practical farmer in the neighbourhood. A large party came from Oxford on Monday last, and I feel sure that if additional evidence should be wanted to confirm my statement I could procure it from a long list of signatures well known to the agricultural public.

"I remain, sir, yours truly, "MATTHEW SAVIDGE.

"Mr. John Fowler, Jun., 28, Cornhill."

"Boyton Hall, near Chelmsford, March 2, 1859.

"My dear Sir,—Your Steam Cultivator has finished the 16-acre field to my entire satisfaction. The land was ploughed soon after harvest, and had not been moved since. The Scarifier was driven across the stetches and completely stirred the ground from 6 to 8 inches deep, in many places deeper than the previous ploughing, leaving it in a finely pulverised state. I am convinced the work could not have been done so well even with a large amount of horse labour, as the land is a stiff marl, and the treading of the horses would to a great extent have counterbalanced the benefit of the scarifying.—I am, sir, yours faithfully, "J. CHRISTY, Jun.

"John Fowler, Jun., 28, Cornhill."

"Kinnersley, Reigate, April 4, 1859.

"In reply to your favour of the 29th ult., requesting me to state my opinion of your Steam Plough, I beg to say that I had every reason to be pleased with its performance on my land during the month of November and the greater part of December in last year, when your plough turned up about 35 acres of my heavy clay land to a depth of 8 to 9 inches in a manner so satisfactory that I hope to arrange with Mr. Gurney's agent, Mr. Brooks, to bring the plough here again immediately after harvest, when he shall have the greater part of my farm to plough if he likes to undertake it.—I am, dear sir, yours truly, "J. T. SHERRARD.

"John Fowler, Jun."

"Hilton, Burton-on Trent, April 1, 1859.

"I am decidedly of opinion that ploughing done by Fowler's Steam Plough is far superior than it is possible for horses to do it, as the treading of the horses is a decided drawback to them, whilst there is nothing of the sort when done by steam, and it is in every other respect quite equal to that done by horses, and this was the universal opinion of my friends. I am now ploughing across a mixed soil, or more properly speaking a field of different sorts of land—viz., gravel, sand, clay, and even some rocky parts, and it keeps a regular depth of about 11 inches, and leaves the land much lighter than when done by horses.—I am, &c., yours truly, "W. BRADBURN.

"John Fowler, Jun."

"Littywood, near Penkridge, April 8, 1859.

"Dear Sir,—In reply to your letter of the 29th March, I have great pleasure in certifying to the efficient working of your Steam Plough upon my farm. In the autumn of 1858 I ploughed by it 70 acres, 8 inches deep, in 15 days, part for Wheat and part for root crops, and am convinced the work could not have been done so well by horses; the Wheat is looking well, and I consider that land ploughed by steam has many advantages over that ploughed by horses, inasmuch as there is a greater tilth for the grain to grow in, and it is worked for root crops much easier. I find in riding across the land ploughed by steam my horse sinks fully 3 inches deeper in the soil than upon that ploughed by animal power, which is a proof of the good condition in which the land is left for working after the plough. You are at liberty to use my name to what I have stated in this if it will be to your service in any way.

"I am, &c. CHARLES BYE.

"John Fowler, Jun."

"Esher, April 14, 1859.

"Dear Sir,—As manager of the Steam Plough supplied by you to Mr. Gurney last autumn, I may inform you that we ploughed with it up to the end of December last about 70 acres of land in a most efficient manner. Most of the work was deep ploughing; and on Mr. Sherrard's farm, near Reigate, unprecedently so in my experience of such soils, his being strong land on a yellow clay bed, some of which was brought to the top to increase the depth in cultivation. On the lighter land at Mr. Maniago's farm, at Nutfield, when ploughing for Wheat about 6 inches deep, we repeatedly got well over an acre in the hour without any particular effort being made for speed. Universal satisfaction was given by the quality of the work performed, and I am satisfied that with your recent improvements, which render the engine and windlass self-moving from field to field, of the value of which I am fully convinced, and the other alterations which experience has suggested, the tackle is now such as must well answer the purpose of every large occupier to possess, being simple, durable, and easily managed. "I am, &c. E. W. BROOKS.

"John Fowler, Jun."

"London, April 13, 1859.

"Dear Sir,—In reply to your inquiries respecting the working and general value of the Steam Plough you supplied me with in November last, I beg to inform you that I have every reason to be fully satisfied with it. The farm in East Lothian on which it has been used is very badly laid out, and not at all adapted for steam culture, many of the fields being small and of every supposable shape; still it is a fact that with the exception of the cornered pieces, and some of the shorter ridges, the whole ground that has been ploughed, since I purchased the Steam Plough, has been so by it. The result has been that on a farm of 320 acres I have not required during the winter to keep more than six horses, and yet I believe the spring work is as well forward as it could be under any circumstances however favourable. I may mention that I have fitted on to your subsoiling plough frame: I find it a cultivating apparatus of great value in preparing the soil for root crops, and in autumn I expect it will be found of still greater use in scarifying stubble and foul land. On the whole I am well pleased with your Plough. I know very well that any one who adopts a piece of machinery like it, before it has assumed the exact state in which it is likely to come into general use, must be prepared to pay for the experience he is acquiring in the working out. But I believe your Plough is now very near in that state which it requires to be, in order that the farmer may adopt and employ it on his land with profit, and I have therefore no hesitation in giving my recommendation in its favour. "I am, &c. J. L. MOAT.

"P.S.—The farm I ought to add is all arable, and when I took possession shortly before I purchased your Plough, scarcely any of the work was done. Now, as I have said, it is well forward; this certainly could not have been the case but for the Steam Plough.

"John Fowler, Jun."

"Mouldham Lodge, Chelmsford, April 6, 1859.

"Dear Sir,—I feel it is only due to you to state, that from the time your Steam Plough was at work on my farm it performed its work remarkably well, ploughing the soil to a good depth, and casting the furrow even and well over. In the hands of a practical ploughman I have but little doubt the results will eventually be highly satisfactory. I make this remark because we all know the poor work a bad ploughman will make holding either a Bentall or a Howard.—I am, &c. JOHN MAY.

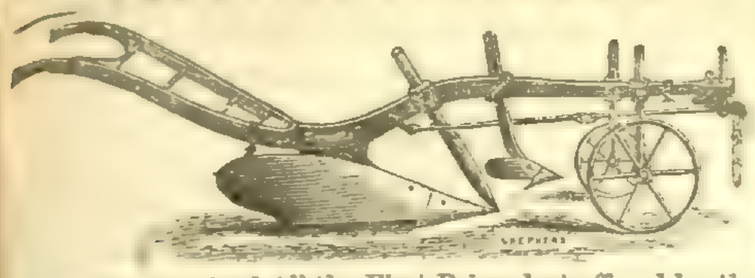
LARGER POWER ENGINES AT COMPARATIVE PRICES.

*Illustrated Catalogues with new Prices will be ready shortly. For further particulars apply to*

JOHN FOWLER, Jun., 28, Cornhill, London, E. C.

## HOWARDS' PRIZE IMPLEMENTS, 1859.

JAMES AND FREDK. HOWARD, Britannia Iron Works, Bedford, beg to direct attention to their CHAMPION PLOUGHS,



for which they received All the First Prizes last offered by the Royal Agricultural Society of England, viz.:—

The First Prize for the best Plough for general purposes.
The First Prize for the best Plough for light land.
The First Prize for the best Plough for heavy land.
The only Prize ever offered by the Society for the best Double Furrow or Ridging Plough was also awarded to J. & F. HOWARD.

J. & F. HOWARD have discontinued troubling the Public with a long List of Prizes awarded to their Implements, but would just state that for PLOUGHS, HARROWS, and HORSE RAKES, they have for several years gained every Prize for which they have competed.

PLOUGHS.

| | | | |
|---|---|---|---|
| PP PLOUGH, with two wheels, for light work .. | £4 | 7 | 6 |
| PP PLOUGH, ,, for general purposes | 4 | 12 | 6 |
| SKIM COULTER .. .. .. .. .. | 0 | 5 | 6 |

STEEL BREASTS, 7s. and 7s. 6d. extra.

HARROWS.

| | | | |
|---|---|---|---|
| A Set of Three 4-Beam HARROWS, with Whippletree, recommended as general Seed Harrows, 9½ feet wide, marked No. 12 .. .. .. .. .. | 3 | 14 | 0 |
| A Set of Three 4-Beam HARROWS, with Whippletree, adapted for 3 Horses, 10 ft. wide, marked No. 11 | 4 | 4 | 0 |

HORSE RAKES.

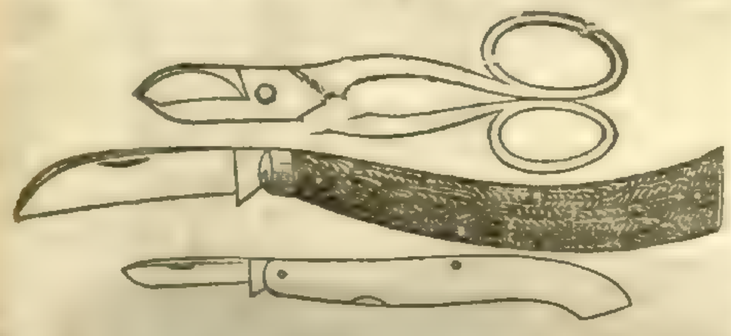
| | | | |
|---|---|---|---|
| Price of small size RAKE, marked A, with 24 iron teeth, extreme width 7½ feet .. .. .. .. | 7 | 10 | 0 |
| Ditto, with Steel Teeth .. .. .. .. .. | 8 | 0 | 0 |
| Price of large size, marked B, with 28 iron teeth, extreme width 8½ feet .. .. .. .. .. | 8 | 0 | 0 |
| Price of large size, marked B, with steel teeth .. | 8 | 10 | 0 |
| Price of extra large size, marked C, with 24 steel teeth, extreme width, 8½ feet .. .. .. .. | 10 | 10 | 0 |
| Price of a Set of 15 Prongs, to be attached to the above when used as Weed Extirpators .. . .. | 1 | 10 | 0 |

Free Delivery to Birmingham, Bristol, Derby, Gloucester, Lincoln, Liverpool, London, Manchester, Norwich, Nottingham, Retford, Wisbeach, and Worcester; or to Dublin, Edinburgh, Glasgow, and other parts at fixed rates.

HOWARDS' NEW CATALOGUE, containing prices and description of their Patent Ploughs, Harrows, Horse Rakes, and other Implements, including Smith's Steam Cultivators, for which they received at Chester the Gold Medal of the Royal Agricultural Society of England, sent free on application to

J. & F. HOWARD, Britannia Iron Works, Bedford.

## PAXTON WORKS, SHEFFIELD, ESTABLISHED 1738.



GAYNOR AND COOKE'S warranted PRIZE PRUNING and BUDDING KNIVES, SCISSORS, &c.—Sold by all respectable Nurserymen and Seed Merchants in the three Kingdoms.

## WARNER'S IMPROVED LIQUID MANURE OR GENERAL PORTABLE PUMP.

These Pumps are fitted with J. W. & Son's Patent Buckets and Suckers, and cannot clog in action. The barrel is of galvanised iron, not likely to corrode, and can be raised or lowered at pleasure. The legs will fold together, and the whole may be carried on the shoulder to any pond or tank required.

Price of 4½ in. Pump, with legs, 3l. 3s. With planished copper barrel and galvanised iron handle, &c., 14s. extra. The barrel is 27½ in. long, and the legs are 5 ft. high.

These Pumps are also made without the legs, with strong wrought-iron clamps for screwing on to any ordinary water butt or cart, and fitted with 1½ inch brass union for attaching flexible suction. Price 50s.

½ inch Gutta Percha Suction Pipe, 1s. 2d. per foot.

Rubber and Canvas Suction and Delivery Hose, from ¼ inch to 4 inches diameter, in lengths of 60 feet to order. Branch Pipes with Cocks. Union Screws, &c., at reduced prices.

Large size obtained of any Ironmonger or Plumber in town or country, at the above prices, or of the Patentees and Manufacturers, JOHN WARNER & SONS, 8, Crescent, Jewin St., London.

## WARNER'S PATENT VIBRATING STANDARD PUMPS.

PATENT CAST-IRON PUMPS, fitted with J. W. & SON'S Patent Buckets and Suckers, which cannot clog in action, for Farms, Cottages, and Wells, not exceeding 28 feet.

| Barrel. | Height. | | £ | s. | d. |
|---|---|---|---|---|---|
| Short | 1 ft. 7 in. | Fitted for lead, gutta percha, or cast iron flanged pipe, as required. | 1 | 10 | 0 |
| Long | 3 ,, 3 ,, | | 1 | 14 | 0 |
| Ditto | 3 ,, 6 ,, | | 2 | 8 | 0 |
| Ditto | 3 ,, 6 ,, | | 2 | 12 | 0 |
| Ditto | 3 ,, 6 ,, | | 3 | 3 | 0 |
| Short, with 15 feet of Lead Pipe attached, ready for fixing .... | | | 2 | 14 | 0 |
| Long ditto | | ditto ditto | 2 | 18 | 0 |

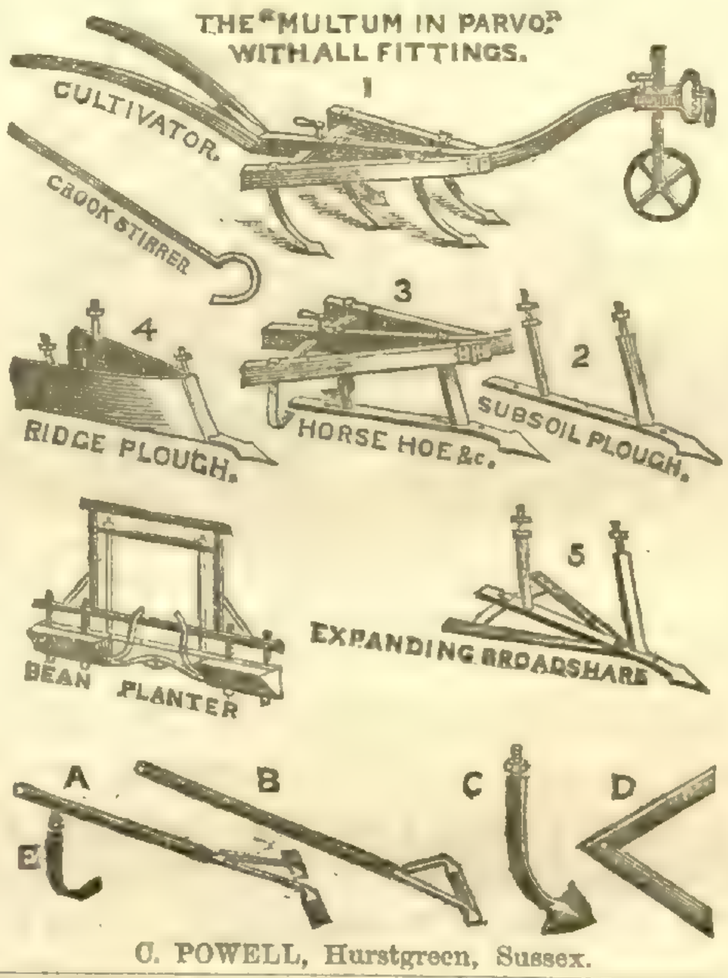
The short barrel Pump is very convenient for fixing in situations of limited height and space, for the supply of coppers and sinks in Wash-houses with soft water from underground tanks, or in Hot, Forcing, and Plant Houses; they may be fixed, when desired, under the stage.

May be obtained of any Ironmonger or Plumber in Town or country, at the above prices, or of the Patentees and Manufacturers, JOHN WARNER & SONS, 8, Crescent, Jewin Street, London. Every description of Machinery for Raising Water by means of Wheels, Rams, Deep Well Pumps, &c.; also Fire and Garden Engines, &c. &c.—Engravings sent on application.

## PATENT PRIZE SCYTHES, Price 11s. AND 11s. 6d.

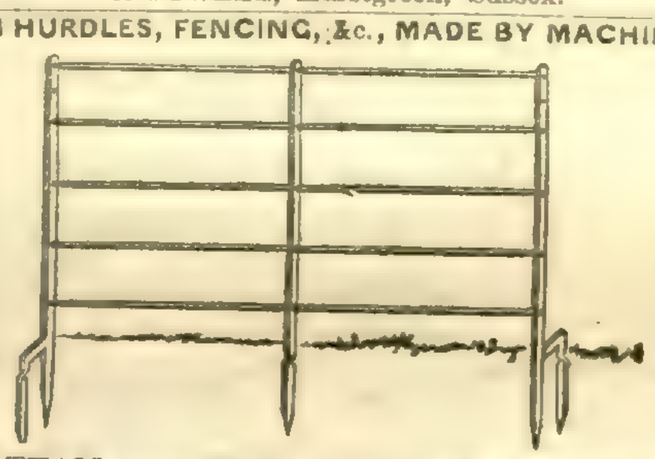
JAMES PAYNE, Kirkcudbright, invites the attention of Gardeners and others to his newly improved Patent Adjustable Scythes, which can be set to any angle in one minute's time; are light and easily managed, warranted strong, and unequalled for finish by any in the Kingdom.—Circulars on application.

## SIGMA'S BEAN, MANGEL, and CORN PLANTERS.—A Prospectus sent.




C. POWELL, Hurstgreen, Sussex.

## IRON HURDLES, FENCING, &c., MADE BY MACHINERY.

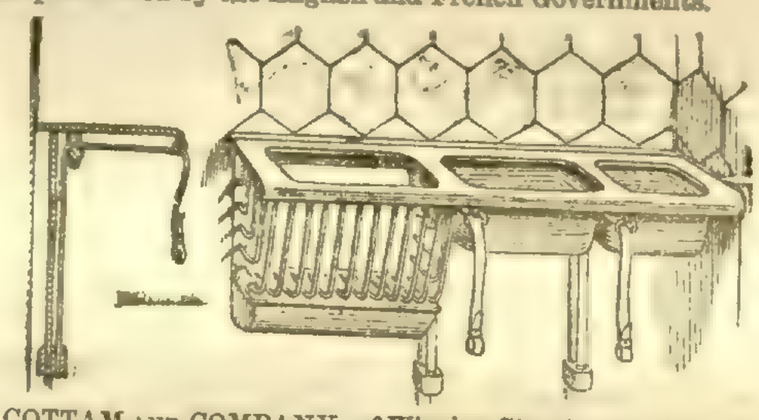


COTTAM AND COMPANY, of Winsley Street, have invented machinery for making Hurdles, &c.; the bars, instead of being pointed by hand in the old fashioned style, are nipped down by the machine, leaving a shoulder so as to more effectually tighten the standards when rivetted. They are made of superior iron only, and will compete in price with those made by hand from cinder or common iron which so frequently break. Iron Fencing, Gates, and Iron Work of all kinds, both Plain and Ornamental, Conservatories, Hot Water Apparatus and Garden Implements.

Illustrated CATALOGUES free on application to COTTAM & COMPANY, Ironfounders, 2, Winsley Street, Oxford Street, W.

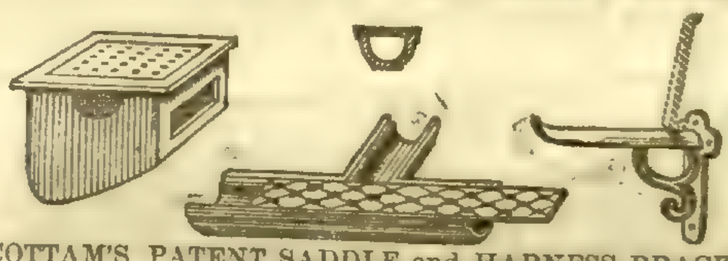
N.B. COTTAM & Co. beg to make it known that there is no longer an entrance to their establishment from Oxford Street, but that they have made a second entrance from 2, Winsley Street, Oxford Street, W., by the side of the old entrance to their works, opposite the Pantheon.

## COTTAM'S PATENT INVENTIONS FOR STABLE REQUISITES, awarded a Prize at the Paris Exhibition, and patronised by the English and French Governments.



COTTAM AND COMPANY, of Winsley Street, are the original inventors of the PATENT ENAMELLED MANGER, Water Trough, and Wrought Iron Rack, united to an iron top-plate, and forming one complete and useful fixture, having COTTAM'S patent noiseless halter guide and collar rein attached, which is taken to the back of the manger, and works with ease and freedom up or down the guide-bar.

COTTAM'S NEW PATENT SEED-BOX, an important addition to the above fittings, being simple in construction, light, and durable, promotes cleanliness, and is economical in its results.



COTTAM'S PATENT SADDLE and HARNESS BRACKET combined, can be used with great advantage where space is an object, as it can be turned up out of the way when not in use.

COTTAM'S IMPROVED SURFACE GUTTER, with perforated moveable cover, the use of which prevents accidents, and can be easily cleaned out.

COTTAM'S CAST-IRON SANITARY TRAP, from its improved construction, gives a full water passage, and does not allow any smell to ascend from the drain.

PATENT LOOSE-BOX FITTINGS, and every article for the harness-room and stable, kept in stock, plain, galvanised, and enamelled. Iron gates, fencing, hurdles, &c.

The New Illustrated Catalogue and Estimates, gratis, upon application to COTTAM and COMPANY, 2, Winsley Street, Oxford Street.

N.B. COTTAM & Co. beg to make it known that there is no longer an entrance to their establishment from Oxford Street, but that they have made a second entrance from 2, Winsley Street, Oxford Street, W., by the side of the old entrance to their works, opposite the Pantheon.

## WARNER'S SWING WATER-BARROW

(To Hold Forty Gallons) Mounted on Wheels 20 inches high. Will save much of the Gardener's time and labour. May be obtained of any Ironmonger for 3l. 3s.

BRASS SYRINGES, 9s. to 18s.

Also a great variety of effective Machines for Hydraulic purposes, and to supply Gardens, Hothouses, Cottages, Farms, Mansions, or Boards of Health, with every requisite connected with the conveyance and distribution of Liquids.

Fountains suitable for Conservatories, Lawns, &c.

JOHN WARNER & SONS, 8, Crescent, Jewin Street, London.

## GARDEN ENGINES AND SYRINGES.

J. TYLOR AND SONS, Warwick Lane, Newgate Street, London, E.C., beg to call attention to their very superior manufacture of GARDEN ENGINES and SYRINGES.

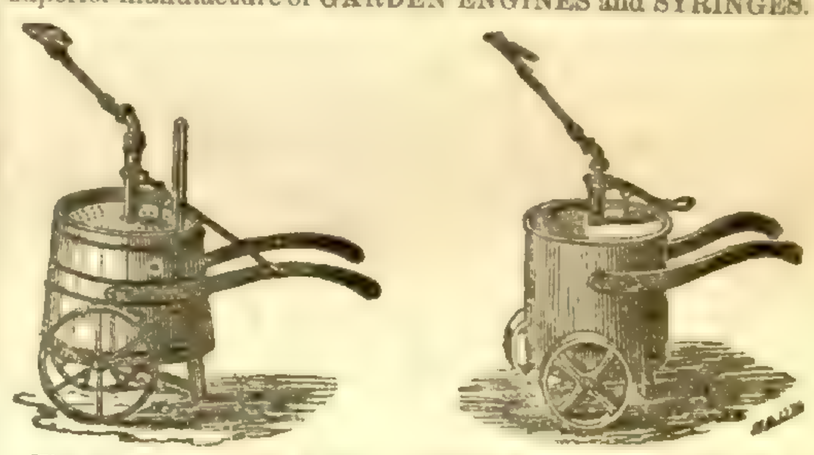


Fig. 598. J. TYLOR & SONS' BARROW GARDEN ENGINE in best well painted Oak tub, fitted with J. TYLOR & SONS' Improved Brass Pump, Universal Joint, and Registered Spreader, which answers the purpose of the separate rose, fan, and jet.

CONTENTS OF TUB:—

| 10 gallons | 15 gallons | 28 gallons |
|---|---|---|
| £4 10 0 | £5 10 0 | £6 18 0 |

Fig. 599. do. TINNED IRON TUB.

CONTENTS OF TUB:—

| 8 gallons | 12 gallons | 16 gallons | 24 gallons | 30 gallons |
|---|---|---|---|---|
| £2 15 | £3 5 | £4 | £5 | £5 18 |

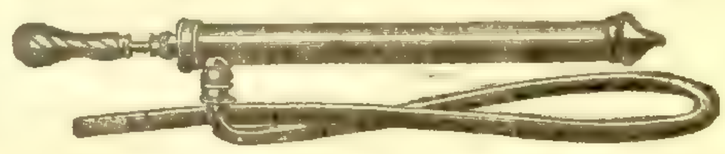


Fig. 618. No. 1. REGISTERED SYRINGE, with India-rubber suction tube, one rose and jet .. .. £1 5 each.
No. 2. Ditto ditto 1 1 ,,
Telescope Branch Pipe for ditto .. .. 0 19 ,,

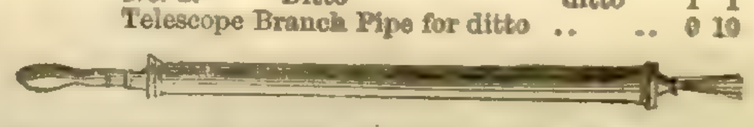


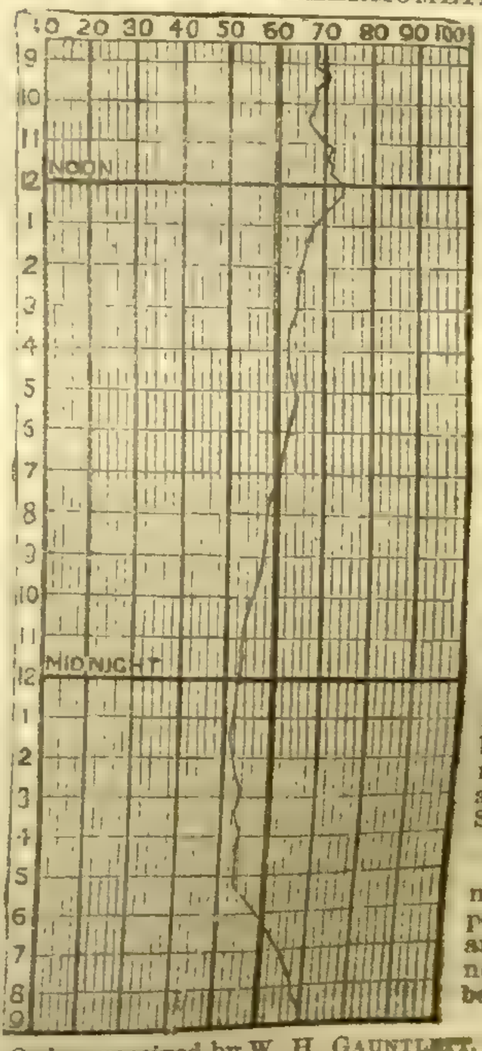
Fig. 619. GARDEN SYRINGE, with one rose and jet, 12s. 6d. each
,, 620. Ditto ditto 11s. 6d. ,,
,, 621. Ditto ditto 10s. 6d. ,,
,, 622. LADIES' GARDEN SYRINGE, without rose & jet, 8s.

Fig. 623. READ'S SYRINGE, with two roses and one jet, 18s. 6d.
,, 624. READ'S SYRINGE, with one rose and jet .. 16 6
,, 625. Improved ditto ditto .. 14 6
,, 626. Ditto ditto ditto .. 13 0

Manufacturers of Pumps and Well Engines (for shallow or deep Wells), Plumbers' Brass Foundry of every description, High Pressure Cocks and Closets, Copper and Tinned-iron Baths. Garden and Fire Engines, Lamps of every description, Copper Goods, &c. Estimates given for Hot-water and Bath Apparatus.

## TO HORTICULTURISTS.

## GAUNTLETT'S PATENT CHRONOMETRICAL THERMOMETER.




This instrument, which combines an eight-day clock of the best English make showing time, with a newly-patented Thermometer, wherein glass and quicksilver are dispensed with, writes down the temperature of the atmosphere on a slip of paper, and when placed in a Hothouse, Forcing House, or Conservatory, &c., supplies a valuable record of the temperature, with all its variations, showing the time when any change took place, and how long such change continued.

The above slip (reduced in size) exhibits the temperature of the Royal Agricultural Society's show yard at Chester, July 22, 1858, written off by one of these instruments, to which was awarded the Society's SILVER MEDAL.

This is the only instrument that registers temperature continuously and writes it down, and no horticulturist should be without it.

Orders received by W. H. GAUNTLETT, Middlesbro' on-Tees.

LAWNS—IN USE IN THE ROYAL GARDENS.

SAMUELSON'S PATENT BOYD LAWN MOWING and ROLLING MACHINE, the only one that will cut wet as well as dry Grass, is guaranteed efficient in use, easily handled, and readily kept in working order. Doing the work of five or six men. Prices, including case and carriage to any railway station in England, from 4*l.* 17*s.* 6*d.* and upwards. Copies of testimonials post free on application to Mr. SAMUELSON'S London Warehouse, 76, Cannon Street West, City; Messrs. DEANE'S, London Bridge; or the Works, Banbury, Oxon.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

FERRABEE'S IMPROVED MOWING MACHINES FOR LAWNS, PLEASURE GROUNDS, CRICKET FIELDS, CEMETERIES, &c.—Those who wish to obtain the most useful MOWING MACHINES for any situation, at the most moderate prices, are respectfully invited to read JAMES FERRABEE & CO'S ILLUSTRATED DESCRIPTIVE CIRCULAR, which will be sent free by post on application.

The following is an extract from the letter of a gentleman ordering a Machine:—

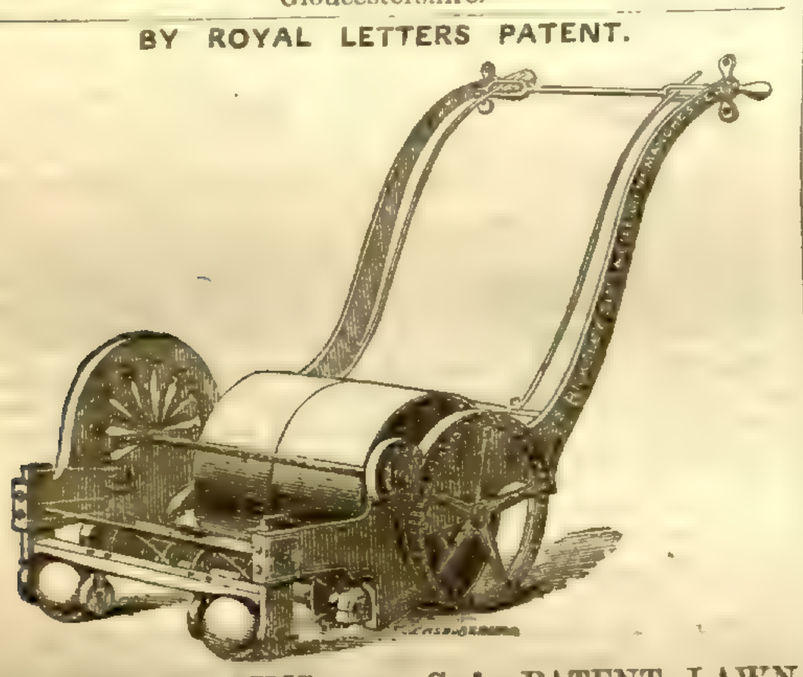
"T——n. April 6, 1859.

"Sirs,—The recommendations of different friends who have tried different Mowing Machines have been puzzling me for several weeks as to my own selection. Your explanatory particulars, received to-day, removed all wavering from my mind on the point, and determined me to have a Machine from you."

"To Messrs. Ferrabee & Co."

JAMES FERRABEE & Co., Phœnix Iron Works, Stroud, Gloucestershire.

BY ROYAL LETTERS PATENT.



PICKSLEY, SIMS, AND Co.'s PATENT LAWN MOWING MACHINE, for Pleasure Grounds, Bowling Greens, Verges, &c., manufactured solely by the Patentees, at their Works, Leigh, Lancashire.

P., S., & Co., in introducing this very effective Lawn Mowing Machine to the attention of the public, particularly request a strict examination, or comparison and trial with any other machine made. For simplicity of construction, lightness, regularity of draught, adaptability for mowing every kind of plain, circular, and verge work, this machine has no rival, and it has commanded and gained the unbiassed approbation of every practical mechanic who has inspected it. Some of the peculiar merits of this machine we beg to enumerate:—

Firstly, we have encased the wheels of this machine so as completely to protect from injury flower borders, shrubs, &c., whilst working the machine for cutting the Grass close to them; the machine at the same time not being liable to obstruction or damage. This improvement remedies a just and general complaint.

Secondly, this machine works easily and effectively on undulated and sloping ground; it can be thrust forward or be drawn from behind, the latter being the easiest, or the larger machines may be worked both ways at the same time; the smaller machines never, under any circumstances, require more than one person to work them.

Thirdly, this is the only machine made that will work round quick curves; it will work easily and effectively round circular borders so small as 12 inches in diameter; all other machines when put to such very particular Grass-cutting entirely fail; they either tear up the Grass, drag without cutting, or they choke themselves. This very desirable improvement has been obtained by fixing to the front part of the machine, and immediately in advance of the knives, our newly-invented universal action, and self-cleaning, anti-friction spherical guiding balls; being assisted by the double gearing motion attached to the driving roller. The continual revolving of these spherical guiding balls, under the most trying circumstances, never fails; their novelty and simplicity of construction merit especial attention.

Fourthly, we have attached to this machine a rack and pinion motion, for adjusting the cutting parts of it for different lengths of Grass. There being a rack and pinion on each side of the machine, and so arranged as to act conjointly and more equally, acting at the same time upon the full length of the knives. By this simple arrangement we have converted that which is in all other machines a slow, tedious, and uncertain operation, into one of quickness, ease, and certainty.

Fifthly, the parts of this machine which have not been altered in principle have been entirely re-arranged upon a true mechanical basis. Indeed, we may say with confidence, that this machine for general and special uses stands unrivalled.

PRICES:—

| | | | | £ | *s.* | *d.* |
|---|---|---|---|---|---|---|
| Economic Patent Lawn Mowing Machine, including Packing Case .. .. .. | 13 inches | .. | | 5 | 10 | 0 |
| Ditto ditto ditto | 16 ,, | .. | | 6 | 0 | 0 |
| Ditto ditto ditto | 19 ,, | .. | | 6 | 10 | 0 |
| Ditto ditto ditto | 22 ,, | .. | | 7 | 0 | 0 |
| For Pony ditto ditto | 26 ,, | .. | | 10 | 0 | 0 |
| Ditto ditto ditto | 30 ,, | .. | | 13 | 0 | 0 |

If the rollers be made the full width of the cutters, 13, 16, 19, and 22 in., each 6*s.*; 26 and 30 in., each 12*s.* extra.

PARKES' STEEL DIGGING FORKS.

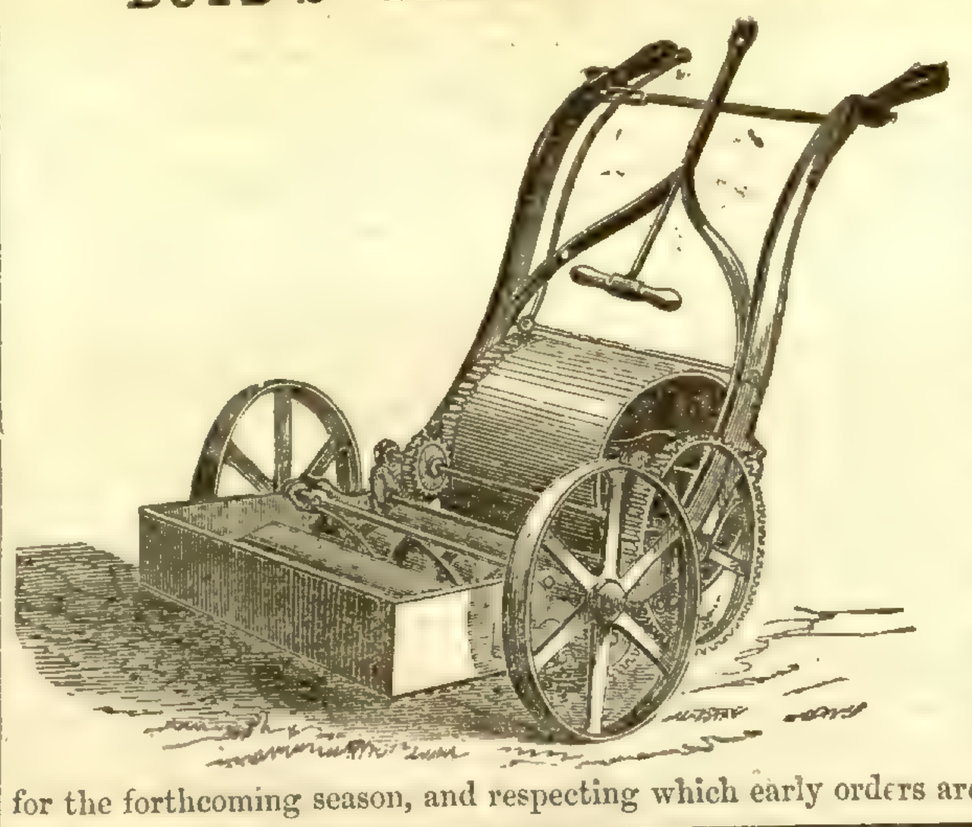
BURGESS AND KEY, 95, Newgate Street, London, being the Wholesale and Retail Agents for these celebrated TOOLS have always a large Stock on hand from which their Customers may select what they may require.

ANTHONY'S PATENT AMERICAN CHURN.—The FIRST PRIZE was again awarded to this Churn in Competition with several others at the Chester Meeting of the Royal Agricultural Society; it has obtained the First Prize given by the Society at every Meeting since 1850.

Messrs. BURGESS & KEY, 95, Newgate Street, strongly recommend it as the most perfect Churn now in use. Full particulars sent on application.

NOTICE OF REMOVAL.

BOYD'S PATENT LAWN MOWING MACHINES



ARE the only Lawn Mowers that have Self-Cleansing and Sharpening Apparatus attached to the Cutters, and that will cut wet Grass without clogging the Knives. They are already in successful operation at the Royal Palaces, and on the lawns of hundreds of the Nobility and Gentry. They are pronounced by all practical men as perfection, and are guaranteed for efficiency, excellence, economy and durability.

"Doing the work of five or six men in a single hour."—*Times*, Sept. 20, 1858.

Price Lists and Testimonials free on application to—

W. DRAY & Co.,

at their new Agricultural Implement Warehouses, Adelaide Place, London Bridge,

where also may be had every description of Agricultural, Horticultural, and Gardening Implement; as also DRAY'S CELEBRATED REAPERS, which are now being manufactured for the forthcoming season, and respecting which early orders are solicited.

PATENT LAWN MOWING AND ROLLING MACHINES.

SAMUELSON'S LAWN MOWING MACHINES,

WITH BOYD'S PATENT IMPROVEMENTS.

"*Doing the work of five or six men.*"—*The Times, Sept.* 20, 1858.

The following PRICES include the Carriage to any Railway Station in England:—

| | | With Boyd and Samuelson's Patent Cleaning, Sharpening, and Adjusting Apparatus. |
|---|---|---|
| 9 inches wide, for very narrow borders, without registered wheels .. .. | £2 10 0 | |
| 12 inches wide .. .. .. .. | 4 5 0 | £4 17 6 |
| 16 inches wide, with registered arrangement (for one man) .. .. .. | 5 10 0 | 6 6 0 |
| 19 inches wide, ditto (for one man) .. | 5 17 6 | 6 17 6 |
| 22 inches wide, ditto (for man and boy) | 6 0 0 | 7 7 0 |
| 22 inches wide, ditto for ditto, and also fitted with draught links for a pony and a man to work it .. .. .. | 6 15 0 | 8 2 6 |
| 25 inches wide, ditto .. .. .. | 9 0 0 | 11 11 0 |
| 30 inches wide, ditto (for man and pony) | 11 10 0 | 13 13 0 |

Case included.

Box of Tools, Oil Can, and other requisites, sent with each Machine, 5*s.*

Some thousands of these Machines are now in successful operation on the Lawns of Royalty, the Nobility, and Gentry of the United Kingdom and the Continent of Europe, and are pronounced SUPERIOR to *any other* for lightness of draught, efficiency, and durability. The demand for them is *yearly increasing—the number supplied by* Mr. SAMUELSON *during the years* 1856, 1857, *and* 1858 *being more than* 2100. Testimonials are continually being received from gentlemen having them in daily use, who speak in the highest terms of their efficiency.

These are the only Machines that will cut wet as well as dry Grass without clogging the knives.

Orders for 1859 should be sent at once to insure certain delivery and to prevent disappointment.

Copies of Testimonials will be forwarded post free on application to

B. SAMUELSON, 76, Cannon Street West, City, London;

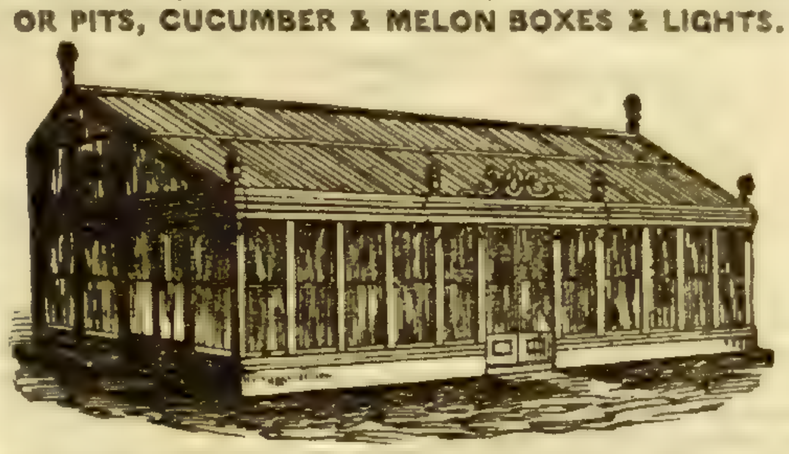
to the Manufactory, Britannia Works, Banbury, Oxon;

or to MESSRS. DEANE AND CO. London Bridge; or any respectable Ironmonger or Seedsman in the Kingdom.

BOOT'S PATENT ANTI-CORROSIVE ENGRAVED LABEL, suitable for every description of plant. See Circular, free by post.

JOHN SHAW, Princess Street, Manchester, Agent.

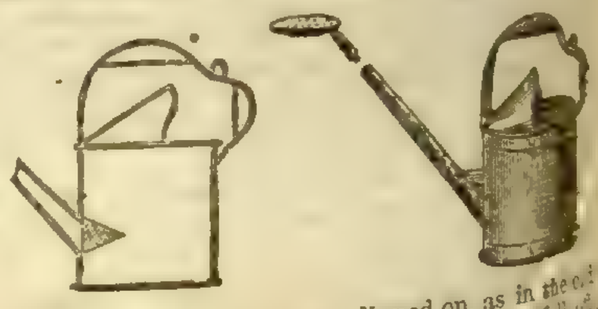
HOTHOUSES, CONSERVATORIES, FRAMES & LIGHTS OR PITS, CUCUMBER & MELON BOXES & LIGHTS.



JAMES WATTS, HOTHOUSE BUILDER, 8, Claremont Place, Old Kent Road, London.

Green and Hothouses, 9, 10, 11, 12, 13, and 14 feet wide, any length, from 16 to 100 feet. Frames and Lights for Pits, 6ft. 6in., 7 ft., 7 ft. 6 in., 8 ft., and 8 ft. 6 in. wide, any length, from 12 to 100 feet. Upwards of 200 Cucumber and Melon Boxes and Lights, from 4 ft. by 3 to 10 ft. 6 in. by 5 ft. 6 in., kept ready, glazed with stout sheet glass, painted four times, complete, ready for immediate use, all made of best material, packed and sent to all parts of the kingdom.—References may be had to the Nobility, Gentry, and the Trade in most of the counties in England. Horticultural Buildings of every description heated on the most approved and economical principles.

THE SIR JOSEPH PAXTON PATENT FILTERING WATERING POT.—Instead of this Watering Pot



having the nozzle or rose merely slipped on, as in the old sort, it is affixed by a thread-screw, so that it cannot fall off. The spout is not liable to leak, break, or bend.

The section shows the interior, in which is a cone for the purpose of filtration. As the perforations in this cone are half the size of the holes in the rose it is impossible for the spout to choke up. These simple improvements render the "Sir Joseph Paxton" Watering Can the best yet introduced.

To be had of all respectable Ironmongers, and Wholesale of Messrs. B. PERKINS & SON,

2 and 3, Bell Court, Cannon Street, E.C.

MICROSCOPES.

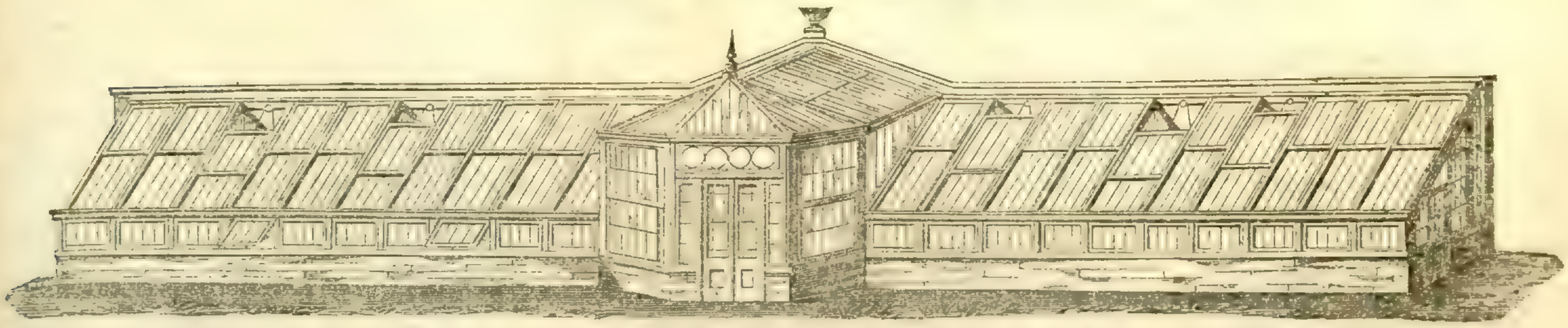
J. AMADIO'S BOTANICAL MICROSCOPE packed in mahogany case, with three powers, condenser, pincers, and two slides, will show the animalcule in water. Price 18*s.* 6*d.*—Address JOSEPH AMADIO, 7, Throgmorton Street. A large assortment of Achromatic Microscopes.

"It is marvellously cheap, and will do everything which a lover of nature can wish it to accomplish either at home or in the open air."—*The Field*, June 6, 1857.

Just published, an Illustrated Catalogue, containing the names of 1000 Microscopic objects, post free for 4 stamps.

HORTICULTURAL BUILDING & HEATING BY HOT WATER.

BY APPOINTMENT.



# JOHN WEEKS & COMPANY,

KING'S ROAD, CHELSEA, LONDON.

HORTICULTURAL BUILDERS AND HOT-WATER APPARATUS MANUFACTURERS, ENGINEERS, AND IRON FOUNDERS.

PLANS, ESTIMATES, & ILLUSTRATED CATALOGUES FREE ON APPLICATION.

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GREENHOUSES, ORCHARD HOUSES, AND PITS

Of every Description, made by Steam Machinery, and Heated by Hot Water on an Improved Plan at

J. LEWIS'S Horticultural Works, Stamford Hill, Middlesex, established 20 years. These Buildings are warranted of the best materials, and at prices which defy competition. The ventilation is most efficient, and the greatest improvement of the present day. Prices of any size on application. References in all parts of the United Kingdom.

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HANDS'S PATENT is the only system to circulate Heat, and for WARMING, FUMIGATING, and VENTILATING Hothouses, Greenhouses, Winter Orchards, &c.; to keep vegetation healthy in a humid atmosphere, and can be applied to any kind or shape of Forcing-houses and Conservatories now existing at trifling cost.—For particulars apply at the Office, 10, Charlotte Street, Fitzroy Square, London; or to Mr Johnson Hands, Epsom.

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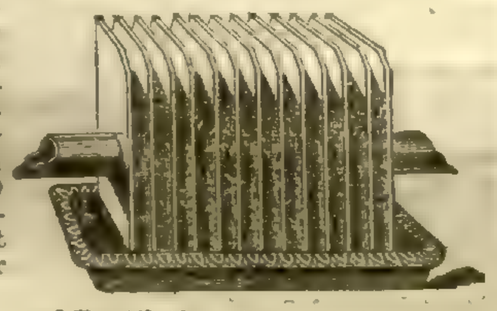
IMPROVED HOT-WATER PIPE.

THE HORTICULTURIST will find herein an inexpensive instrument of new and very important powers. An atmosphere may be produced at will either perfectly dry, partially damp, or saturated with moisture. A space of 10 inches by 12 inches contains the power of 25 feet of 4-inch pipe and other numerous advantages.



The London Warming and Ventilating Company (Limited), 26, Great George Street, Westminster, S.W.

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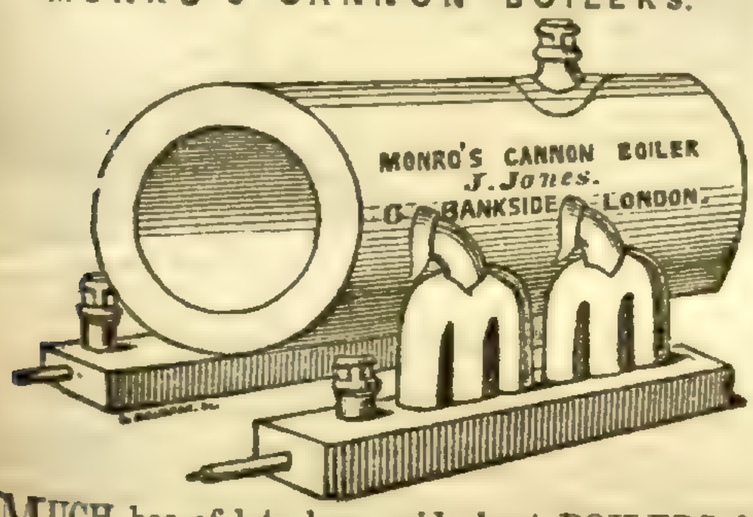
MONRO'S CANNON BOILERS.




MUCH has of late been said about BOILERS for Heating by Hot Water, but these Boilers have now proved themselves to be the best at present invented. They are adapted for heating every description of building, and are made of various sizes. The Price of the

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| 24-inch Cast Iron is | .. .. | .. £5 10s. 0d. | each |
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| 36-inch Wrought ditto | .. .. | .. 8 10 0 | ,, |

References to Gentlemen and Nurserymen where these Boilers are now at work. The Cannon Boilers are now kept in stock, and are to be had only of J. Jones, 6, Bankside. Also, every description of Saddle and Cylinder Boilers. Hot Water Pipes and Connections at prices lower than those of any other house in London. Estimates for Hot-water Apparatus erected complete in any part of the country, and an Illustrated Catalogue on application to J. Jones, 6, Bankside, Southwark, London.

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JOHN R. PEILL, 17, New Park Street, Southwark, Manufacturer of every description of Buildings for Horticultural purposes, and Inventor of the Improved Conical Boiler for heating the same, is prepared to undertake works of any magnitude, and refers among others to the celebrated range of FORCING HOUSES at HER MAJESTY'S GARDENS, FROGMORE, and at SIR ROBERT PEEL'S, DRAYTON MANOR, constructed under the superintendence of his Manager MR. JOHN JONES; and also to his BOILERS fixed at the CRYSTAL PALACE, the ROYAL BOTANIC GARDENS, REGENT'S PARK, and KEW, and at several hundreds of the Nobility's seats, Public Establishments, and Manufactories in London and the provinces. J. R. P. also manufactures every description of Iron Roofs, Iron Houses, and Iron Fencing, plain and ornamental. Strong Iron Hurdles for Sheep (6 feet long, 3 feet high, with 5 bars), 4s. 3d. each; ditto for cattle, 4s. 9d. each.

Prices and other particulars forwarded on receipt of one postage stamp.

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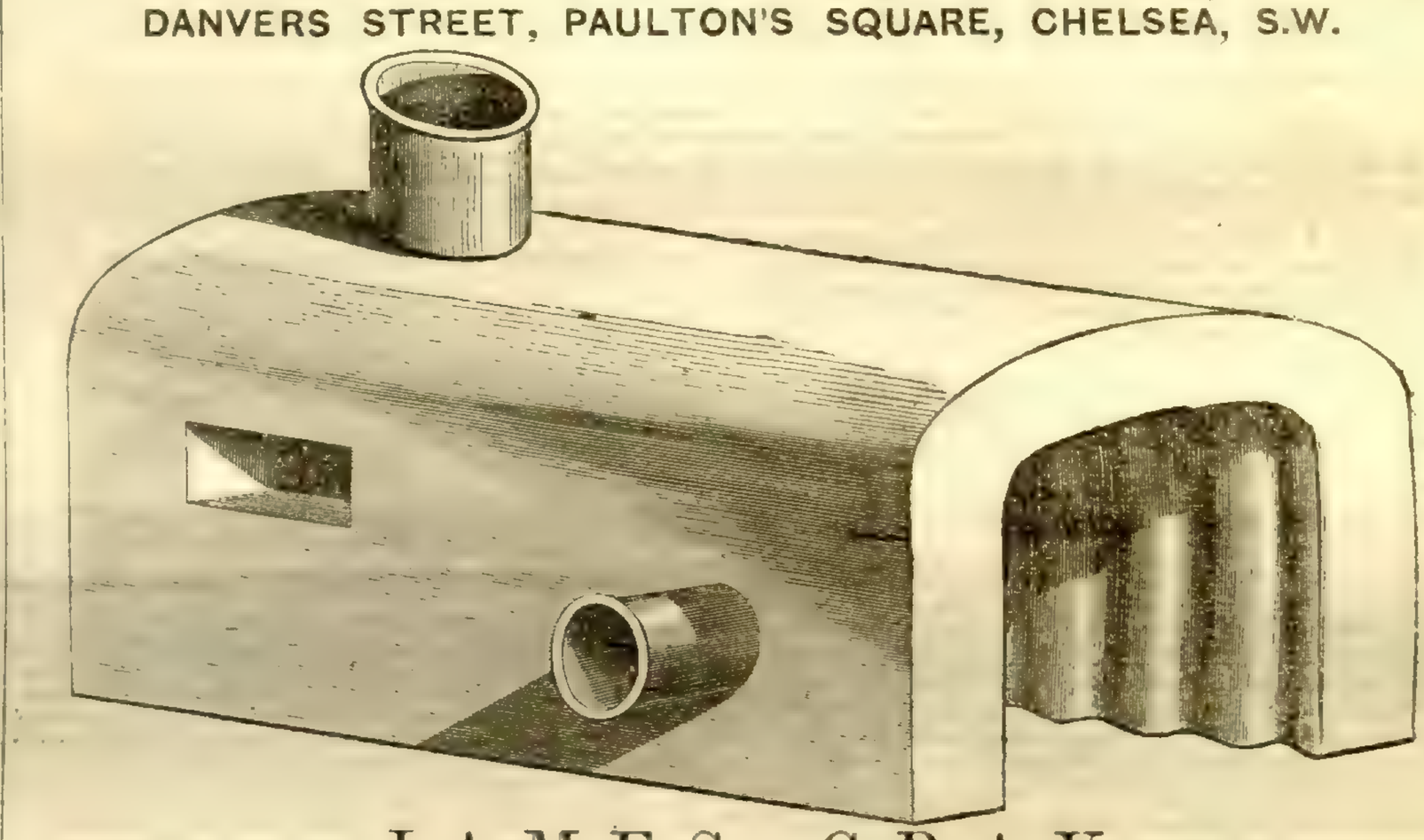
# HORTICULTURAL WORKS,

DANVERS STREET, PAULTON'S SQUARE, CHELSEA, S.W.



# JAMES GRAY

RESPECTFULLY begs to inform the nobility, gentry, Nurserymen, Gardeners, and others, that he continues to carry on the business in all its branches at the above old established premises.

CONSERVATORIES, GREENHOUSES, FORCING HOUSES, VINERIES, PITS, &c.,

of every description, erected on the most approved principles.

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J. G. having specially devoted his attention for many years to this part of the business, is now fully prepared to Heat every description of public and private buildings, viz :—Churches, Mansions, Warehouses, &c., as well as all structures connected with Horticulture, in the most efficient manner. His system is the most simple that can be adopted—which he has found from long experience to be the best—can be constructed at less cost, and is more easily managed than those of a complicated nature which have attracted the notice of the public.

J. G. begs to call attention to his CAST-IRON CORRUGATED ARCH BOILER, which from its simplicity of construction has not the liability to fracture to which those of a more complex design are always subject. They have been extensively used for many years, and have given the greatest satisfaction.

All business is conducted at this establishment on the principle of lowest remunerative profits consistent with best materials and workmanship.

Plans and Estimates furnished on the shortest notice.

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VOKINS and HURD, Seymour House, Jubilee Place, King's Road, Chelsea, Builders of Hothouses, Conservatories, Greenhouses, Pits, and every description of erections in Glass work, either in Wood or Iron; also Heating the same by hot water on the most approved plans and at the lowest prices consistent with good work. Estimates forwarded.

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SMALL GAS APPARATUS, FREE FROM NUISANCE.

THE PATENT NATIONAL COAL-GAS APPARATUS, for private Residences, Farm Buildings, Churches, Chapels, Workshops, Railway Stations, and other places not hitherto lighted with Gas. It is durable, economical, and compact, and supplies the desideratum of cleanliness in the production of a Gas of better quality and purity, and at less cost, than is ordinarily obtained from Public Works. By an entirely new and peculiar process it is easily worked by a boy or inexperienced servant. The cost of Gas, including labour, wear and tear, and interest of capital, is less than one-fourth that of candles or oil. It can be fixed and completed in working order in a few days.—Further particulars, prices, testimonials, &c., on application to the Proprietors and Manufacturers, J. T. B. Porter & Co., Lincoln.

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FOR WATERING GARDENS, PLUMBERS, ENGINEERS, MILLS, and MACHINISTS.

Vulcanised India Rubber.

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| Washers for Hot-water and Steam Joints | Garden Watering Hose |
| Elastic Packing and Valves for Steam Engines | Do. fitted with Brass Joints, Taps and Spreaders |
| Pump Buckets (compound India-rubber) | Wheel Tires (noiseless for Trucks, &c.) |
| Suction Hose for Pumps | Waterproof Cart, Van, and Waggon Covers |
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| Air Beds, Cushions, & Bolsters | Door Springs, Gas Bags |
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N.B. A Stock of the above always on hand, and any modification made to order. Please address all communications to the Manufactory.

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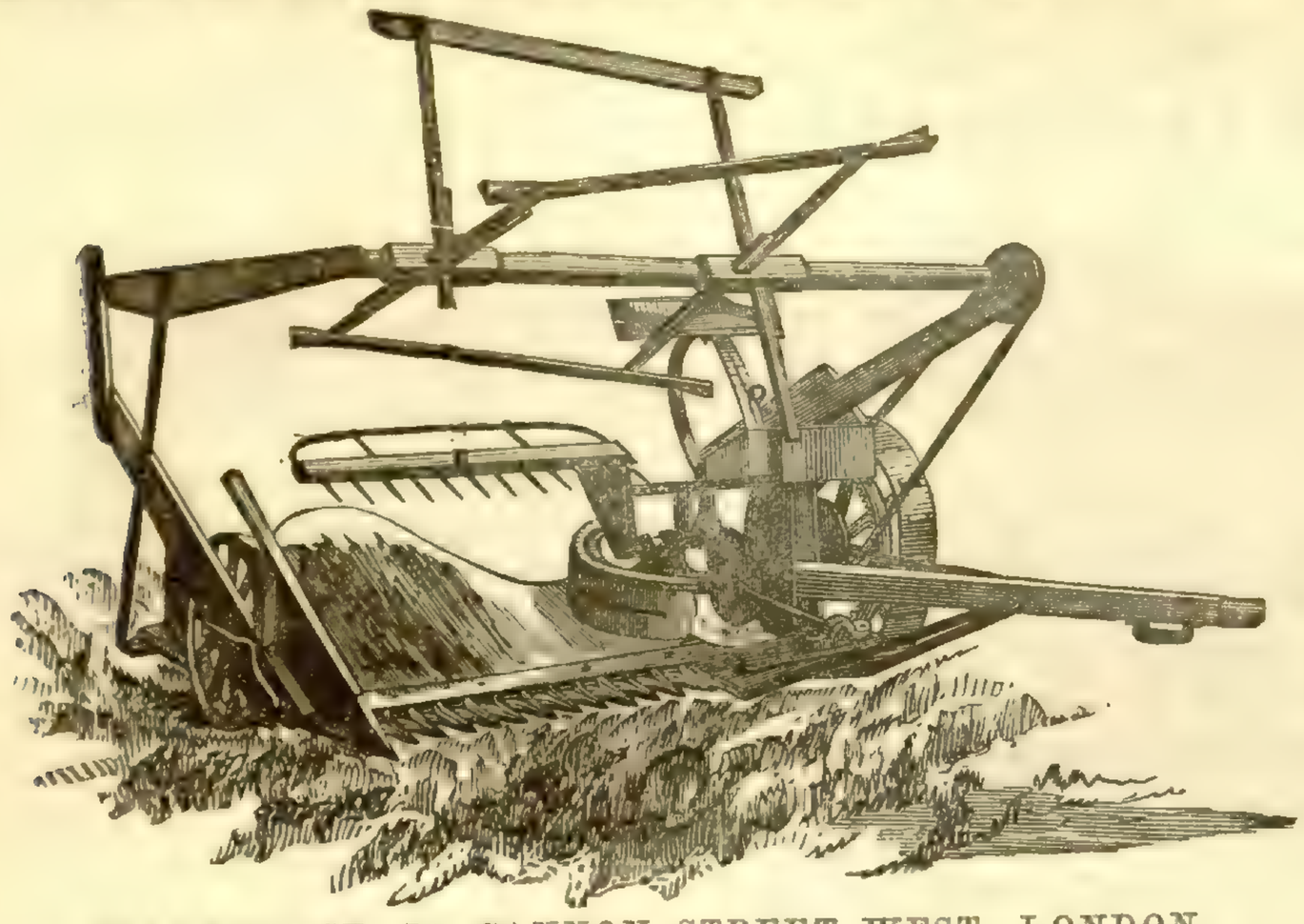
THE best and cheapest PAINT for PARK FENCING, all outside Wood and Iron Work, is MITCHELL'S ANTISEPTIC MINERAL BLACK PAINT. Sold ready for use, 17s. 6d. per cwt. Used largely now and for many years past by the West India Dock Company, for Fencing, Barges, &c. Recommended to the nobility and gentry, stewards, land agents, &c. A liberal allowance to the Trade, &c.

Manufactory, Kennington Lane, Lambeth.

# B. SAMUELSON,

## AGRICULTURAL ENGINEER AND MACHINIST,



WAREHOUSE, 76, CANNON STREET WEST, LONDON,

**WORKS AT BANBURY,**

INFORMS MERCHANTS, the TRADE, and AGRICULTURISTS, that he has opened the above Warehouses as a depôt for his own manufactures and those of Messrs. Barrett, Clayton, Howard, Hornsby, Nicholson, Richmond, Tuxford, Smith, and all other first-class makers, whose implements he is prepared to offer on makers' terms.

## THE BRITANNIA SELF-RAKING REAPING MACHINE,

With side delivery in sheaf, no rakers or gatherers required; and all the most improved Spring Implements for the season, may be inspected at the above depôt.

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TANNED GARDEN NETTING, for preserving Fruit Trees from frost, blight, birds, &c., and as a fence for fowls, &c. One yard wide 1½*d.*, 2 yards 3*d.*, 3 yards 4½*d.*, and 4 yards 6*d.*, per yard, in any quantity, may be had at C. WRIGHT'S, 376, Strand, W.C.—A liberal allowance to Nurserymen.

TANNED NETTING, AT REDUCED PRICES.—200 square yards, 10*s.*; 500 yards, 24*s.*; 1000 yards, 47*s.*

SCRIM CANVASS for Wall Fruit, 50 yards, 16*s.*; 100 yards, 30*s.* Be particular to address in full, FREDERICK EDGINGTON, Thomas Street, Old Kent Road, London, S.E.

TANNED NETTING, for the Protection of Fruit Trees from Frost, Blight, and Birds; also, for the security of fresh sown seeds, at 1*d.* per square yard; 200 yards, 12*s.*; 500 yards, 25*s.*; Scrim Canvas, for wall fruit; Garden Mats.—At EDGINGTON & Co's., Rick Cloth, Tent, and Waterproof Cloth Manufacturers, 17, Smithfield Bars, City, & Old Kent Rd.

FOR Effectually Protecting the Bloom of Wall Trees from Spring Frosts use SHAW'S No. 3 TIFFANY, DOUBLE STRENGTH. In pieces 18 yards long by 39 inches wide, 7*s.* 6*d.* each.—JOHN SHAW & Co., Princess Street, Manchester.

BRITTAIN'S GARDEN NET completely protects Fruit Blossoms from injury by frost, and provides for the circulation of air and admission of light, so essential to healthy growth; 55 inches wide, 5*d.*, 6*d.*, and 8*d.* a yard; good SHADING TIFFANY, yard wide, 3*d.* do.—Manchester, April 16.

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SHAW'S TIFFANY.—The best and cheapest material for Shading Conservatories, Protecting Fruit from Birds and Wasps, &c. Sold in pieces 20 yards long by 38 inches wide. No. 1, best quality, 5*s.* per piece; second quality, 4*s.* per piece. Extra strong and thick (see Circular sent free by post with samples).

Address JOHN SHAW & Co., Manufacturers and Dealers, Princess Street, Manchester.

MARQUEES, TENTS, AND RICK CLOTHS FOR SALE, OR HIRE.—H. PIGGOTT, 115, Fore Street, E.C.

VASES, PEDESTALS, SUNDIALS, FOUNTAINS FLOWER BOXES, JARDINETS, FERN CASES, BALUSTRADES, EDGINGS AND CURBS FOR FLOWER BORDERS, SEATS, &c, in Imperishable Siliceous Stone, at reduced prices, for the adornment of the Villa Garden, the Mansion Grounds, or the private or public Park.

For Priced Illustrations apply to FREDERICK RANSOME, at the Show Rooms, Cannon Row, Westminster, S.W., or Patent Stone Works, Ipswich.

PATENT GUTTA PERCHA SOLES.—IMPORTANT TO GARDENERS.—The Gutta Percha Company have the pleasure to acknowledge the receipt of the following letter from G. GLENNY, Esq., the celebrated Florist:—

"Gentlemen,—I have worn Gutta Percha Soles and Heels these two years, and being so much in a garden as I necessarily am in all weathers, and with the ground in all states, I would on no account be without them. As a matter of economy I would recommend Gardeners to use them, for they may repair the worn part at all times by warming the material at the fire, and pressing it from the thick parts to the worn parts as easily as if it were so much dough. I think it the duty of all persons who must occasionally wet their feet to adopt a material that completely defies damp. Many a gardener would escape colds and rheumatism by the use of Gutta Percha Soles.

"Your obedient servant, G. GLENNY."

Every variety of Gutta Percha articles, such as Mill Bands, Tubing, Soles, Goloshes, Sheet, Pump Buckets, Fire Buckets, Bosses, Union Joints, Flasks, Bottles, Bowls, Chamber Vessels, Toilet Trays, Sponge Bags, Curtain Rings, Galvanic Batteries, Talbotype Trays, &c., manufactured by the Gutta Percha Company, and sold by their wholesale dealers in town or country.—The Gutta Percha Company, Patentees, 18, Wharf Road, City Road, London.

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**Important to every man who keeps**

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FLOWER POTS, of superior Red Clay, manufactured by the Arley Pottery Company (Limited), equal in appearance to Terra Cotta at the price of the common pots usually sold, say 2*s.* per cast, delivered in London.—Apply to TAYLOR & PEARS, 8, George Yard, Lombard Street, City, E.C.

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**MAPPIN'S PRUNING KNIVES IN EVERY VARIETY.**
WARRANTED GOOD BY THE MAKERS.

MAPPIN BROTHERS, Queen's Cutlery Works, Sheffield; and 67 and 68, King William Street, London.

MAPPIN'S "SHILLING" RAZORS Shave well for Twelve Months without Grinding.

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MAPPIN'S SUPERIOR TABLE-KNIVES maintain their unrivalled Superiority—handles cannot possibly become loose—the blades are all of the very first quality, being their own Sheffield manufacture.

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| Ivory 3⅞ in. Handle, balanced, | 20*s.* p. doz.; | 16*s.* p. doz.; | 6*s.* p. pair |
| Do. 4 in. do. .. | 25*s.* „ | 18*s.* „ | 9*s.* „ |

MAPPIN'S SILVER-PLATED DESSERT KNIVES and FORKS, in Mahogany Cases.

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| 12 Pairs Knives and Forks, Ivory Handles, in Case.. | | 80*s.* |
| 12 | Do. Pearl Handles, do. .. | 130*s.* |
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MAPPIN'S ELECTRO-SILVER PLATE.—MAPPIN BROTHERS, Manufacturers by Special Appointment to the Queen, are the only Sheffield makers who supply the consumers in London. Their LONDON SHOW ROOMS, 67 and 68, King William Street, London Bridge, contain by far the largest STOCK of ELECTRO-SILVER PLATE in the World, which is transmitted direct from their Manufactory, Queen's Cutlery Works, Sheffield.

| | Fiddle Pattern. | Double Thread. | King's Pattern. |
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| 12 Table Forks, best quality | £1 16 0 | £2 14 0 | £3 0 |
| 12 Table Spoons, best quality | 1 16 0 | 2 14 0 | 3 0 |
| 12 Dessert Forks, best quality | 1 7 0 | 2 0 0 | 2 4 |
| 12 Dessert Spoons, best quality | 1 7 0 | 2 0 0 | 2 4 |
| 12 Tea Spoons, best quality | 0 16 0 | 1 4 0 | 1 7 |

Messrs. MAPPIN BROTHERS respectfully invite buyers to inspect their unprecedented display, which, for beauty of design, exquisite workmanship, and novelty, stands unrivalled. Their illustrated Catalogue, which is continually receiving addition of New Designs, sent per post on receipt of 12 stamps.—MAPPIN BROTHERS, 67 and 68, King William Street, London Bridge; Manufactory, Queen's Cutlery Works, Sheffield

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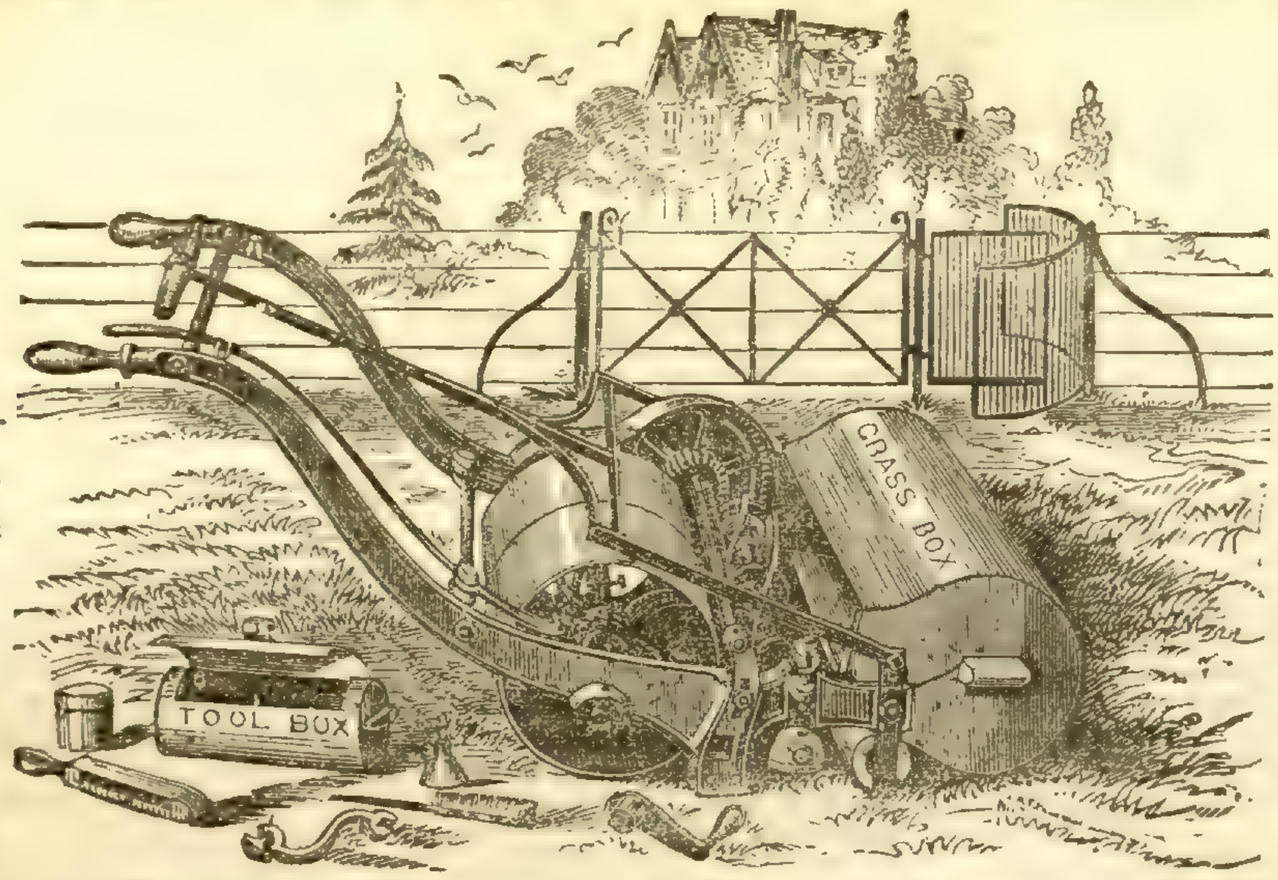
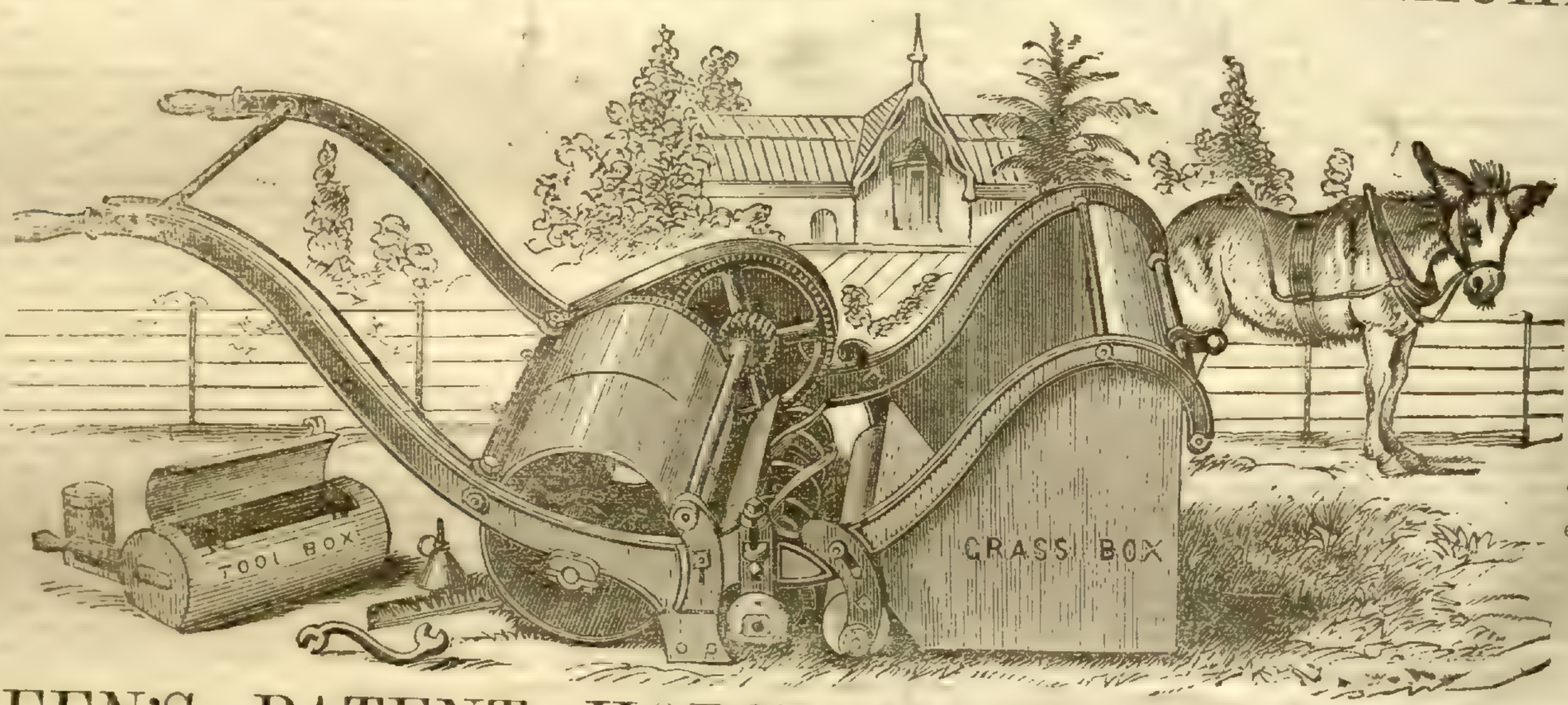
To cut 14 inches, 6*l.*; 16 in. 6*l.* 10*s.*; 18 in. 7*l.*—for one person. To cut 20 inches 7*l.* 10*s.*; 22 in. 8*l.*; 24 in. 8*l.* 10*s.*—for two persons. If with Box and Tools for sharpening and keeping the Machine in order, 5*s.* extra; with Guard for preventing accidents and keeping the wheels clean, 5*s.* extra.



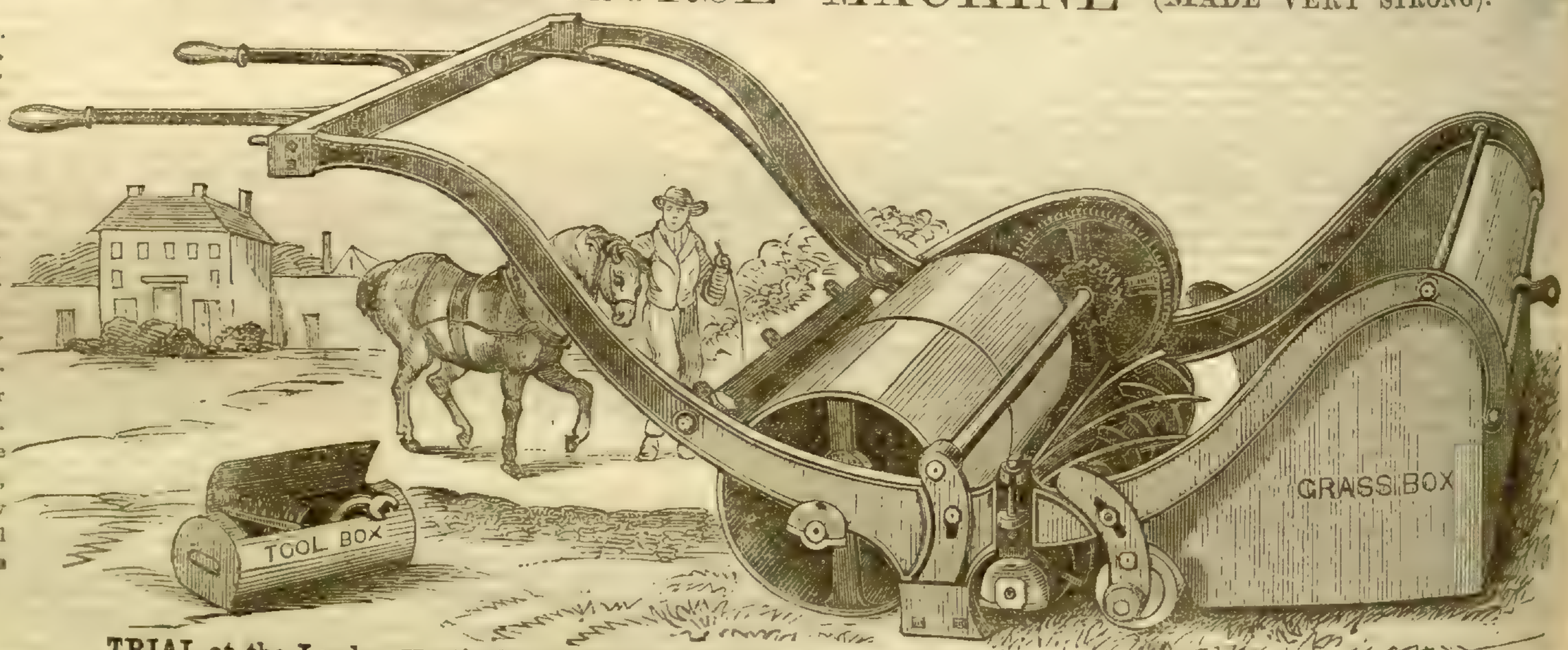

# GREEN'S PATENT DONKEY AND PONY MACHINE,

Suitable for a Donkey, to cut 24 inches, 10*l.*; 26 in., 11*l.* For a Pony, 30 in., 15*l.*; box, tools, &c., 6*s.* 6*d.* extra. Leather traces, stretcher, &c., suitable to attach to common harness or chain traces, 7*s.* 6*d.* Leather boots, suitable for donkey's feet, 16*s.*; do. for a pony, 20*s.* per set of four. Guard for covering wheels, 5*s.* extra.




# GREEN'S PATENT HORSE MACHINE (MADE VERY STRONG).

To cut 30 ins., 18*l.*; 36 ins., 21*l.*; 42 ins., 24*l.*; 48 ins., 27*l.* Box of tools, 7*s.* 6*d.* extra, Leather traces, stretcher, &c., 10*s.* Boots per set of four for Horses' feet, to prevent injury to lawns, 24*s.* Guard for wheels, 5*s.* ex.—The above are Net cash prices, delivered at any of the principal Rlway. Stations in England.




**TRIAL at the London Horticultural Society's Gardens, Chiswick, June 5, 1857. Four competitors.**

First trial on level ground, second do. on undulated, third do. on intricate places around trees, &c., when GREEN'S PATENT was unanimously declared to be the best in each trial by Colonel Challoner, Dr. Lindley, and G. M'Ewen, Esq., the appointed Judges.

See the *Gardeners' Chronicle* of May 22, 1858, p. 423, under the heading of "Garden Memoranda."

"LONDON HORTICULTURAL GARDENS, CHISWICK.—The Grass in the Arboretum and elsewhere is in excellent condition; it is kept in order by means of one of GREEN'S 2-feet Mowing Machines, which does its work very satisfactorily, and, compared with the scythe, effects a saving of at least one-half."

Extract from London *Times* of June 8, and *Gardeners' Chronicle* of June 12, 1858.

"TRIAL OF MOWING MACHINES.—A considerable number of various sizes having been brought to the ground it was agreed that the trial should take place between One Hand Machines of as uniform quality as possible. After trials on level ground and round trees, the Judges, Colonel Challoner and Mr. Edward Easton, declared GREEN'S Patent to be the best.

(Signed) "C. B. CHALLONER, EDWARD EASTON, Judges."

each exhibitor, as nearly as possible of uniform size and worked by themselves, or their men. The ground to be worked was determined by lot, the pieces having been previously selected

THOS. GREEN respectfully informs the Nobility, Gentry, Gardeners, Amateurs, and others, that upwards of Six Hundred of these Machines were sold in 1857, and to show the increasing demand, above Nine Hundred were sold last season—they have proven to be the best in all cases of competition, are entirely remodelled, and all the little defects pointed out by the Judges last Year, are now rectified. The Patentee now considers the Machines as near perfection as possible. Although the Machines have been so much improved, at a great additional cost, no extra charge will be made, excepting for a neat Guard, which is placed over the wheels to keep them clean, and to prevent breakage or accidents, which will be 5*s.* extra to parties requiring them.

☞ The Machines are warranted to give satisfaction, or may be at once returned by the party paying the carriage back to Leeds. The Patentee has spared neither time nor expense in producing the best and cheapest Mowing, Collecting, and Rolling Machines ever brought before the public. Hundreds of Testimonials (unsolicited) may be seen, and references given with regard to the superiority of the machines, by applying to the Patentee,

## T. GREEN, Smithfield Iron Works, Leeds; or, No. 2, Victoria Street, bottom of Holborn, London,

To either of which places all Cheques and Post-office Orders may be made payable.

☞ *T. G. will be glad to receive orders for Machines as early as possible, as a great difficulty was found last season in supplying the number required.*

N.B. Parties desirous of having their Machines repaired may forward them to either the London or Leeds establishment, where they will have the best attention.


Printed by WILLIAM BRADBURY, of 13, Upper Woburn Place, and FREDERICK MULLETT EVANS, of No. 20, Queen's Road West, both in the Parish of St. Pancras, in the Co. of Middlesex, Printers, at their Office, Lombard St., Precinct of Whitefriars, City of London, and published by them at the Office, No. 5, Upper Wellington St., Parish of St. Paul's, Covent Garden, in the said Co.—SATURDAY, April 16, 1859.

# THE GARDENERS' CHRONICLE
AND
# AGRICULTURAL GAZETTE.

**A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.**

No. 17.—1859.] SATURDAY, APRIL 23. {Price Fivepence. STAMPED EDITION, 6d.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HORTICULTURAL SOCIETY OF LONDON.—Notice is hereby given that the business of the Society will be carried on in future at No. 8, St. Martin's Place, Trafalgar Square, W.C.

HORTICULTURAL SOCIETY OF LONDON.—Notice is hereby given that the ANNIVERSARY MEETING of this Society for the ELECTION of COUNCIL, OFFICERS, and AUDITORS for the ensuing year will be held on MONDAY, May 2, in the Rooms of the Society of Arts, John Street, Adelphi, by permission of the Council of that Society. The chair will be taken precisely at 1 o'clock, P.M.
8, St. Martin's Place, April 23.

ROYAL BOTANIC SOCIETY, REGENT'S PARK.—THE EXHIBITIONS OF PLANTS, FLOWERS, AND FRUIT this season will take place on WEDNESDAYS, May 25, June 15, and July 6. Tickets of Admission are now being issued, and can be obtained at the Gardens only by orders from Fellows or Members of the Society. Price, on or before Saturday, May 14, 4s.; after that day, 5s.; or on the days of Exhibition, 7s. 6d. each.

THE SECOND GRAND NATIONAL ROSE SHOW will be held in the Hanover Square Rooms, London, on THURSDAY, June 23.
Caunton Manor, Newark. S. REYNOLDS HOLE, Hon. Sec.

THE ROYAL NATIONAL TULIP SOCIETY.—The ELEVENTH ANNUAL EXHIBITION of this Society will take place at the Royal Nursery, Slough, on FRIDAY, May 20.

*Committee.*

| | |
|---|---|
| R. Headley, Esq. | S. M. Sanders, Esq. |
| J. Hunt, Esq. | R. H. Betteridge, Esq. |
| Mr. N. Norman | Mr. C. Turner |

Thirty-one Prizes will be awarded, amounting to upwards of 50*l*. Lists of Prizes, with full particulars, may be had of
The Royal Nursery, Slough. CHARLES TURNER, Hon. Sec.

LEYTON AND WALTHAMSTOW AMATEUR FLORICULTURAL SOCIETY.—The Exhibitions of the above Society will take place on THURSDAY, June 9, and WEDNESDAY, September 14. Schedules and Rules of the Society can be obtained by enclosing one stamp to E. GOAD, Hon. Secretary, Mark House Common, Walthamstow, N.E.

THE GRAND NATIONAL DAHLIA SHOW FOR 1859.—This Exhibition will take place on the 20th and 21st of September next, at Aston Hall, Birmingham. Lists of Prizes will shortly be ready.
CHARLES TURNER, JOHN KEYNES, } Hon. Secs.

FERN CATALOGUE.
ROBERT SIM'S NEW DESCRIPTIVE AND PRICED CATALOGUE, No. 6 (62 pages) of his COLLECTION of BRITISH AND EXOTIC FERNS can be had, post free, for 8 stamps. Gratis to all previous purchasers of Ferns.
Nursery, Foot's Cray, Kent, S.E.

NEW DAHLIAS.
JOHN KEYNES'S SELECT CATALOGUE OF DAHLIAS, ROSES, CARNATIONS, PINKS, &c., containing Lists of all the valuable Show Flowers in each class, is now ready and will be sent on application.
Castle Street Nursery, Salisbury.—April 23.

HENDON PARK NURSERIES, HENDON, N.W.
EDWARD SHENTON'S Descriptive CATALOGUE of new DAHLIAS, HOLLYHOCKS, PELARGONIUMS, BEDDING AND BORDER PLANTS, and the leading New Flowers of the season 1859. Forwarded on application.

MESSRS. B. ROEZL AND CO.'S NEW CATALOGUE OF MEXICAN SEEDS AND PLANTS, to be had on application to Messrs B. A. GRAUTOFF & Co., 4, Lime Street Square, London.

TO THE READERS OF THE "GARDENERS' CHRONICLE."
CHEAP GREENHOUSE AND BEDDING PLANTS.
J. SLIPPER'S CATALOGUE is now ready, and may be had for a postage stamp.
Villa Nursery, Camden Town, London, N.W.

CARNATIONS AND PICOTEES.—Fifty pairs strong, well rooted, and extra fine show varieties, named, 2*s.*; 25 pairs, 1*l*. Packing and hamper included.—DODWELL & HAYLEY, Bradshaw Gardens, Chadderton, Manchester.

LARGE CAMELLIAS AND AZALEAS.
J. AND R. THYNE, NURSERYMEN, Glasgow, have a dozen large CAMELLIA plants, 6 to 10 feet high, well furnished, mostly double white; also a fine lot of specimen AZALEAS, 3 to 5 feet high. Prices moderate.

SEEDS! GENUINE SEEDS.—For the RIGHT SEEDS at the RIGHT PRICE, go to the RIGHT PLACE, which is G. W. DIXON'S New Seed Warehouse, 48 A, Moorgate Street, London, E.C. All sorts of Garden, Grass, Agricultural, and Flower Seeds, wholesale, retail, and for exportation.

SKIRVING'S SWEDE—SUTTON'S SELECTED STOCK.
SUTTON AND SONS have a choice stock of SKIRVING'S SWEDE SEED, growth of 1858, which they can strongly recommend. Price 9*d*. per lb., or cheaper by the bushel.—Royal Berks Seed Establishment, Reading.

THE ALSIKE CLOVER.—This valuable but scarce Clover Seed is included in Messrs. SUTTON'S mixtures of Clover and Grass Seeds for permanent pasture and for alternate husbandry. It can be supplied alone if required. Price fluctuating, to be had on application.
Royal Berks Seed Establishment, Reading.

PAMPAS GRASS (GYNERIUM ARGENTEUM).—The beauty of this extraordinary plant has this season been fully appreciated. It can be supplied by the dozen, hundred, or thousand, by CHARLES NOBLE, Bagshot, Surrey.

JOHN CULVERWELL, Taunton, begs to call the attention of Agriculturists to his superior selection of GRASS SEEDS, which for PURITY, change of SOIL, and CLIMATE, will bear comparison with any house in the kingdom. Prices, terms, and samples forwarded on application.

TO THE SEED TRADE.
THOMAS AYRES, JUN., SEEDSMAN and GROWER, Biggleswade, Beds., can supply every kind of Wurzel, Swede, and common Turnip Seeds, on the most reasonable terms for cash.
N.B. Dealer in Culinary and Flower Seeds, Fruit Trees, Shrubs, and Flowering Plants.

TO THE TRADE.
CHARLES SHARPE has still to offer, of his own growing, saved from the finest selected stocks—

| | |
|---|---|
| LONG RED MANGEL | RED LINCOLNSH. GLOBE TURNIP SEED |
| YELLOW DO. | GREEN GLOBE DO. |
| YELLOW GLOBE DO. | YELLOW TANKARD DO. |
| ALTRINGHAM CARROT | |

Prices given on application.—Wisbeach, Cambridgeshire.

NEW ZEALAND RUNNER BEAN.—Price 2*s*. per quart.—JAS. CARTER & Co., Seedsmen, 238, High Holborn, London, W. C.

NEW ZEALAND RUNNING BEAN.—Packets of 12 Seeds, for 14 stamps.
BASS & BROWN, Seed Growers, &c., Sudbury, Suffolk.

TO DISTILLERS AND AGRICULTURISTS.
FRESH IMPORTED WHITE SILESIAN SUGAR BEET SEED may be had genuine (if ordered early) of Messrs. SUTTON & SONS, Seed Growers and Importers, Reading, Berks.—Price reduced to 9*d*. per lb., or cheaper by the cwt.

DIOSCOREA ROOTS AND SETS.
MESSRS. SUTTON'S DIOSCOREAS, which they are sending out at 5*s*. per doz., contain six or more sets each.
Instructions for planting are sent with the roots. Early orders necessary for strong roots.
Royal Berkshire Seed Establishment, Reading.

DIOSCOREA BATATAS—CHINESE YAM.
WM. CUTBUSH AND SON beg to intimate that now is the best time for planting the above. Good Sets, 21*s*. per 100; or 4*s*. per doz.—Highgate Nurseries, London, N.

SORGHUM, OR HOLCUS SACCHARATUS.
SUTTON AND SONS, Importers of this Seed, can supply it wholesale and retail, warranted the true kind, and good growing Seed, at reduced price, according to quantity required. 8 lbs. per acre sufficient. Instructions on cultivation sent with the Seed.
SUTTON & SONS, Royal Berks Seed Establishment, Reading.

HOLCUS SACCHARATUS, OR CHINA SUGAR-CANE GRASS.—Seed of this lately introduced Fodder plant can be supplied by NUTTING & SONS in any quantity. Price on application.—Seed Warehouse, 60, Barbican, London.

HOLCUS SACCHARATUS, or North China Sugar-Cane.—Pamphlet, "A Visit and a Plant;" the only English authority on the Cultivation of the above. Post free 6*d*. Prices of Seed on application. Samples 6*d*. Four varieties of Holcus remitted free by post on receipt of 10*s*.
CHINESE YAMS, 4*s*. per dozen.
ASPARAGUS plants, 16*s*. per 1000.
JOHN W. CLARKE, Whittlesea, Cambridgeshire.

YORK REGENTS.—For Sale, about 4 tons of Middlings, of first quality.—Apply to G. W., 4, Wells Road, New Road. Hammersmith.

FARM SEEDS.
JOSEPH MAY AND CO. beg to offer the following, which have been selected from the best growers:—

| | Per lb.—1*s*. 0*d*. |
|---|---|
| SKIRVING'S SWEDE TURNIP | |
| GREEN-TOP Do. | 1 0 |
| RED GLOBE TURNIP | 1 0 |
| GREEN ROUND Do. | 1 0 |
| LONG RED MANGEL | 0 9 |
| YELLOW GLOBE Do. | 0 9 |

A General LIST of SEEDS for the Farm, Flower, and Kitchen Gardens forwarded on application.
1, Wellington Street, Strand, Waterloo Bridge.

NEW BLACK WALLFLOWERS.
J. LOCKHART, FLORIST and SEEDSMAN, Parson's Green, Fulham, near London, is sending out Seed of his new Single BLACK WALLFLOWER, in sealed packets, containing 50 Seeds each for 13 stamps, and Cuttings of his new Double Black Wallflower 30 stamps each, free by post.

UNBLOOMED SEEDLING CALCEOLARIAS.
MR. HENRY MAJOR, Knosthorpe, near Leeds, begs to announce that his Unbloomed SEEDLING CALCEOLARIAS will be ready to send out the last week of this month, at 6*s*. a parcel of 20, or three parcels for 15*s*., post free. They are the produce of his unrivalled collection, and will bloom this year. Postage stamps in payment, or Post-office Order when the amount is 15*s*.
Choice CALCEOLARIA SEED, 2*s*. 6*d*. per packet.

THE PLYMOUTH SEED, AGRICULTURAL IMPLEMENT, AND MANURE COMPANY LIMITED supply every requisite for the Farm and the Garden.
Registered Offices, Union Road, Plymouth.

JOHN GRIGOR AND CO., NURSERIES, Forres, beg to offer true Native Highland SCOTCH FIR SEED, grown in the celebrated Natural Forests of Strathspey, at 2*s*. 6*d*. per packet, post free, or for stamps of that value.
The Trade supplied at Wholesale Prices

TO BE SOLD, a LARGE quantity of YEW TREE BUTTS, SLABS, and ROOTS; also a fine YEW TREE of great age. The best SEA SHELL and GARDEN GRAVEL for Conservatories and Garden Paths, to be had in any quantity at Gravel Wharf, 67, Augustus Street, Regent's Park Basin.
W. HOLLAND, Proprietor.

GREEN HOLLIES, from 12 to 18 and 18 to 24 inches.
WHITEHOUSE AND WHITTAKER having an immense stock of the above, fine bushy plants, with good roots, can supply them at very moderate prices, which will be forwarded on application. The Trade and large purchasers very liberally dealt with.—Brereton Nursery and Seed Establishment, Rugeley, Staffordshire.

FOR SALE, 2-year Seedling SCOTCH, strong, in any quantity, 2*s*. per 1000: 2-year Seedling PINASTER and PINUS MARITIMA, 4*s*. per 1000; ANDROMEDA FORMOSA, 50*s*. per 100; RHODODENDRON STOCKS, 10*s*. per 1000.
W. H. ROGERS, Red Lodge Nursery, Southampton.

FINE MELON SEED (TRUE).—Trentham Hybrid and Orion Green-flesh forwarded in packets of 12 Seeds on receipt of 12 postage stamps for each packet.
W. H. ROGERS, 130, High Street, and Red Lodge Nursery. Southampton.

CAULIFLOWER PLANTS for Pricking out, 5*s*. per 1000; ASPARAGUS, 2 years, 15*s*. per 1000; LETTUCE, 2*s*. 6*d*. per 1000; and BEDDING PLANTS, 2*s*. per doz.
WALTER BIRD, Atherstone Nursery.

TROPÆOLUM CANARIENSE.
CHARLES ALEXANDER, SEEDSMAN, Edinburgh, offers New Seed of the above at 20*s*. per lb., and 1*s*. 6*d*. per ounce.

CHOICE SHOW AND FANCY GERANIUMS, 6*s*. to 9*s*. per dozen. Also FUCHSIAS, CALCEOLARIAS, VERBENAS, PANSIES, &c. Catalogues on application to GEORGE SMITH, Florist, Seedsman, &c., Common Side, Hurdsfield, Macclesfield.

CHEAP DAHLIAS, NOW READY.—One dozen of last year's New Dahlias for 6*s*., two dozen for 10*s*.; older varieties—one dozen for 4*s*., two dozen for 7*s*. Free by post. Strong well-rooted plants. No charge for boxes or packing. CATALOGUES free on application to JOHN MORSE, Nurseryman, Dursley, Gloucestershire.

100,000 BEDDING PLANTS, the cheapest place in England. Catalogue sent for one stamp.—J. PYLE, St. John's Nursery, Upper Holloway, London.

BEDDING PLANTS.
F. AND A. SMITH beg to offer the usual varieties of plants for bedding purposes, strong and healthy, including Carter's TOM THUMB, NASTURTIUM true, Carter's dwarf crimson and several double varieties, with most of the novelties of the season, at moderate prices.
Dulwich, Surrey.

CLIMBING PLANTS.
F. AND A. SMITH have now ready strong plants of COBEA SCANDENS, MAURANDYAS, blue, white, and rose; LOPHOSPERMUM, ECCREMOCARPUS, and TROPÆOLUMS, in large quantities. Prices on application.
Dulwich, Surrey.

THE GREAT VINE AT HAMPTON COURT.
THE SUBSCRIBERS being the holders of the Royal Kitchen Gardens, Hampton Court, are enabled to offer genuine the famous and truly excellent HAMPTON COURT BLACK HAMBURGH GRAPE.
Strong well-ripened plants in 9-inch pots, 42*s*. and 60*s*. per doz.
If purchased in large numbers a considerable reduction will be made in price.—JACKSON & SON, Nurseries, Kingston, S.W.

AZALEA INDICA.
J. IVERY AND SON beg respectfully to invite growers of the above named to an inspection of their unrivalled Stock of Young Specimens of all the newest and best varieties, many of which have been exhibited at the Metropolitan Exhibitions. They are clean and healthy, well set with bloom, and moderate in price. Catalogues forwarded post free upon application.—Dorking Nursery, April 23.

NEW SEEDS FOR 1859.
WM. CUTBUSH AND SON beg respectfully to intimate that their PRICED CATALOGUE OF VEGETABLE AND FLOWER SEEDS, &c., is now ready post free on application. WM. C. AND SON devote particular attention to this department of their business, and most of the choicer kinds of culinary seeds and roots are saved under their own inspection, and they can confidently guarantee the quality of all offered.—Highgate Nurseries, London, N. Established A.D. 1695

PETURION GOURD.—This wonderful Vegetable attains the incredible weight of 130 to 135 lbs. in 36 days. It is perfectly edible, and makes an important addition to the kitchen garden. Seed may be had in packets at 7*d*. and 1*s*., post free, from E. S. DIXON, Seed Establisament, 57, Queen Street, Hull.

THE EARLIEST PEA.—DUNNETT'S EARLY is in every respect superior to "Daniel O'Rourke," being several days earlier, having finer pods, and larger in flavour, height 2½ feet. For an early dish of fine flavoured Peas we can confidently recommend this; 2*s*. per quart.
CHAMPION CABBAGE, the earliest and best sort, in succession, may be had fit for table throughout the year, 8*d*. per ounce, or 1*s*. post free.
BUTLER & MCCULLOCH, Covent Garden Market.

## ROYAL BOTANIC SOCIETY OF LONDON.—SPRING EXHIBITION, APRIL 20TH.

REPORT OF THE JUDGES.

NEW PLANTS.—FIRST PRIZE: Messrs. E. G. Henderson & Son, Wellington Road, St. John's Wood, for Fremontia californica, a reputed hardy shrub of the Sterculiaceous family, with large showy yellow flowers, a distinct and ornamental plant. SECOND PRIZES: Messrs. A. Henderson & Co., Pine-apple Nursery, for Cyanophyllum magnificum, a rare plant with beautiful-tinted leaves; and for a fine double-flowered creamy yellow Datura, of the habit of D. arborea. CERTIFICATES: Mr. C. Turner, of Slough, for Azalea Perfection, a bright rose-coloured variety of first-rate properties. Messrs. Ivery & Son, Dorking, for Azalea Leviathan, a fine semidouble white of good substance, and likely to prove a useful decorative plant. Messrs. E. G. Henderson & Son, for Lomatia Bidwilli, a distinct and elegant plant, with pinnate leaves, made up of spiny-margined curiously-auricled leaflets; for Bejaria microphylla, a pretty greenhouse shrub, with pale-rose flowers; and for Arthrotaxus Doniana. Messrs. A. Henderson & Co. for the rare and beautiful Todea hymenophylloides. Messrs. J. & J. Fraser, of Lea Bridge Road, showed the following fine plants but less novel than the foregoing:—Clematis lanuginosa, and its variety pallida, and Labichea diversifolia, together with a large rose-coloured coarse Azalea, called Benno, and a salmony-scarlet variety of good properties, named Roi Leopold. Messrs. E. G. Henderson also had an orange-yellow small-flowered species of Sedum, with Sparmannia-like leaves; and an ornamental-leaved Ferula-like plant, apparently an Umbellifer, named Monezia edulis.

12 MISCELLANEOUS PLANTS.—FIRST PRIZE: Messrs. J. & J. Fraser, Lea Bridge Road. SECOND PRIZE: Mr. Cutbush, Barnet, who showed several fine-foliaged plants, including a good specimen of Pavetta borbonica, and a finely coloured Croton.

6 AZALEAS.—FIRST PRIZE: Mr. Cutbush, for small well-grown plants of new varieties. SECOND PRIZE: Messrs. Fraser, whose plants, though larger, were less effective.

12 AURICULAS.—FIRST PRIZE: Mr. Turner, of Slough; among the varieties exhibited Dickson's Matilda was pre-eminent from its fine form and chaste markings.

6 PELARGONIUMS.—FIRST PRIZE: Mr, Turner; well-bloomed plants of moderate size.

MISCELLANEOUS.—The following awards were made:—SILVER MEDAL: Mr. Turner, for a large group of French Spotted Pelargoniums, exhibiting much variety and brilliancy of colour; among those shown, Comet was conspicuous for its rich brilliant scarlet flowers clouded with maroon, Virgine for its bright carmine colour, and Raphael for its dense shaded crimson. SMALL SILVER MEDAL: Mr. Turner, for six well grown Cinerarias of choice kinds. BRONZE MEDAL: Messrs. Dobson & Son, Isleworth, for six well-bloomed Cinerarias. CERTIFICATES: Mr. Holland, gardener to W. Peake, Esq., Spring Grove, for six Cinerarias. Mr. Cutbush, of Highgate, for Variegated Pelargonium Beauty, a variety of spreading habit, with white-edged leaves, and large light-scarlet flowers, in good trusses. Mr. Turner, for Seedling Cineraria Incomparable, a rich looking variety, with the florets rose-crimson, having a ring of white surrounding the dark rosy disk, and forming a full flat circle; also for Seedling Cineraria Slough Rival, a variety of good habit, the disk dark and the florets white at the base, and of a purple-shaded crimson above. Mr. Turner also exhibted a dwarf variety called beauty, with rose-crimson tipped florets, but a grey disk; Acme, a small rose-crimson, scarcely white around the disk; and some others. Mr. Wiggins, gardener to E. Beck, Esq., had three Seedling Cinerarias, Clara, Lisette, and Admiral, of inferior quality; and the same remark applies to another named Lord Clyde, from Mr. Bragg, of Slough. Mr. Bragg and Mr. James, of Isleworth, exhibited stands of Pansies. Some inferior kinds of Polyanthus came from Mr. Cutbush.

A Collection of Plants not for competition were exhibited by Messrs A Henderson & Co.; it contained among others Cupressus Lawsoniana, a fine variety of Cattleya Skinneri, called superba, a variety of Rhododendron aureum, Heaths, Aerides, &c Another, from Messrs. E. G. Henderson, contained Rhododendron Dalhousiæ, R. Edgeworthi, Arthrotaxus cupressiformis, &c. Mr. Standish, of Bagshot, showed several cut branches of Exochorda *alias* Spiræa grandiflora, laden with racemes of its conspicuous white flowers; this very ornamental shrub, introduced a few years since by Mr. Fortune, is so thoroughly hardy that it was stated to have recently withstood 12° of frost without injury. Messrs. Ivery & Son exhibited some well-grown samples of the new esculent Dioscorea Batatas. A collection of vegetables, consisting of Peas, Asparagus, Artichokes, Cauliflowers, and Strawberries, grown in the South of France (transported by railway to Paris, and forwarded by steamer to London), were exhibited by Mr. Keeling; the Cauliflower heads were remarkably fine; the Peas and Strawberries indifferent. (Signed)

THOMAS MOORE, A. PARSONS, S. M. CARSON, Censors.

## BATH AND WEST OF ENGLAND SOCIETY FOR THE ENCOURAGEMENT OF AGRICULTURE, ARTS, MANUFACTURES, AND COMMERCE.

—An Exhibition of FLOWERS, FLOWERING, and ORNAMENTAL PLANTS, FRUIT, and VEGETABLES, will take place on June 1, 2, and 3, in connexion with the General Exhibition of the above Society, on the occasion of their North Devon Meeting at Barnstaple, when the following Prizes will be offered:—

| | | | | |
|---|---|---|---|---|
| I.—1. | For the best collection of not less than 20 Stove or Greenhouse Plants (Nurserymen) | 1st. £3 | 2d. — |
| 2. | Do. do. .. .. (Amateurs) | 2 | £1 |
| II.—1. | For the best collection of not less than 12 Rhododendrons and Chinese Azaleas (Nurserymen) | 3 | — |
| 2. | For the best collection of not less than 8 do. .. .. .. .. (Amateurs) | 2 | 1 |
| III.—1. | For the best collection of not less than 8 Roses in pots .. .. (Nurserymen) | 3 | — |
| IV.—1. | For the best collection of not less than 20 Variegated Plants, or plants remarkable for their fine foliage (Nurserymen) | 3 | — |
| V.—1. | For the best collection of not less than 20 Ferns of any kind .. (Amateurs) | 2 | 1 |
| VI.—1. | For the best ornamental basket of Flowers, or of Flowers and Foliage .. (Amateurs) | 2 | 1 |
| VII.—1. | For the best group of specimens of Coniferæ, preference being given to newly introduced kinds .. .. (Nurserymen) | 5 | — |
| VIII.—1. | For the best specimen of any newly introduced or extremely rare genus of Ornamental Plant, or object of special merit in the exhibition .. (Nurserymen) | 1 | — |

In addition to the above, prizes to the amount of 10*l.* will be offered for Fruit and Vegetables. A portion of the Society's ground will be set apart for the present exhibition, and space will be allotted either in a marquee or the promenade, at the discretion of the managing committee, to Nurserymen who may wish to arrange and exhibit their collections in distinct sections, irrespective of competition for prizes. Space will also be allotted for the display of Garden Decorations and works of Ornamental Art associated with Horticulture.

Plants intended for the Exhibition will (on being consigned to the Horticultural Committee) have free transit over the line of railway from Exeter to Barnstaple. Application for space to be made to the undersigned before May 1 next.

All articles for exhibition must be staged by the evening of Tuesday, May 31, and are not to be removed earlier than the morning of Saturday, June 4.

GEORGE BROWN,
Barnstaple. Hon. Sec. Local Committee.


## NEW ROSES FOR 1859.

WILLIAM WOOD AND SON are now executing their orders for all the best NEW ROSES of the present season. The plants are well grown, vigorous, and healthy, and are supplied at the lowest advertised prices.

DESCRIPTIVE LISTS of the above will be sent free on application. Early orders will command the strongest plants.

Woodlands Nursery, Maresfield, near Uckfield, Sussex.

## ROSES FOR BEDDING,

BY THE DOZEN, THE HUNDRED, OR THE THOUSAND.

WILLIAM WOOD AND SON have now to offer many thousands of well grown healthy plants of ROSES, in 60 pots, which will be ready to plant out about the end of April, consisting of an immense number of the best Hybrid Perpetual, Bourbon, Tea, and Noisette Roses, Catalogues of which may be had free on application.

Early orders are most earnestly solicited, as the unsold portion of the stock will be planted out the first week in May. Extra plants presented with each order to compensate for distant carriage.

Woodlands Nursery, Maresfield, near Uckfield, Sussex.

## THE BEST SEASON FOR BEDDING OUT ROSES.

WOODLANDS NURSERY, MARESFIELD, NEAR UCKFIELD, SUSSEX.

WM. WOOD AND SON respectfully submit that the months of April and May are the most eligible for planting out Roses from pots, for the purpose of forming groups in the Parterre and Rose Garden.

W. W. & Sons having on hand an immense Stock of many thousands, in pots, will be happy to supply them on the following reasonable terms.

| | |
|---|---|
| Hybrid Perpetual Roses .. .. .. | 9*s.* to 12*s.* per dozen. |
| Isle de Bourbon ditto .. .. .. | 12*s.* to 18*s.* ,, |
| Tea-scented .. .. .. .. | 12*s.* to 18*s.* ,, |
| China, Climbing and Noisette ditto .. | 9*s.* to 12*s.* ,, |

CATALOGUES sent post free on application.

Plants added to each order to compensate for distant carriage.

## CHOICE ROSES IN POTS.

BIRCHAM AND WARD beg respectfully to inform the admirers of the Rose that they have a large stock of the following fine varieties, which enables them to offer as under (when a fair selection is made):—

15*s.* per dozen.

| | |
|---|---|
| Alphonse Karr | La Belle Egarée |
| Belle Anglaise | Madame Damet |
| Baronne de Wassenaer (Moss) | Madame Charlet (B.) |
| Berceau Imperial | Madame Comtesse |
| Clemence Delarue | Madame Schmidt |
| Cardinal Patrizzi | Madame Vidot |
| Docteur Ruschpler | Miss Gray |
| Ernest Bergmann | Standard of Sebastopol |
| Gustave Coraux | Victor Trouillard |
| Lord Raglan | |

20*s.* per dozen.

| | |
|---|---|
| Abbé Feytel | Mademoiselle Claremont |
| Adelaide Pavic | Mademoiselle Nancy Dubor |
| Bernard Nantais | Mademoiselle Zoe Mayrel |
| Comte de Morny | Mademoiselle Alice Leroy |
| Candide | Mademoiselle Anais Lorette |
| Claudia Augustin | Monsieur Jard |
| Comtesse de Labarthe | Ma Ponctuée (Moss) |
| Duc de Malakoff | Philomène Crozy |
| Felix Peretti | Reine de Denmark |
| General Blanchard | Souvenir d'Elize |
| Lord Palmerston | Souvenir de Beranger |
| Madame Debesse | Triomphe de Rennes |
| Madame Vigneron | Thomas Rivers |
| Madame Heraud | Triomphe de Montrouge |
| Madame de St. Genet | Triomphe des Beaux Arts |
| Madame Elize de Chenier | Vallide (Moss) |
| Mademoiselle Josephine | |

30*s.* per dozen.

| | |
|---|---|
| Duke of Cambridge | Monsieur de Montigny |
| Evêque de Nîmes | Madame Van Houtte |
| Gloire de Lyon | Marie Portemer |
| Louise d'Autriche | Mademoiselle Goddard |
| Lælia | Marie Thierry |
| Maximilian II. | Reine Blanche (Moss) |

A Descriptive List of the above may be had on application. Carriage paid to London and Peterborough.

Hedenham Rosary, Bungay, Suffolk.—April 23.

## FIVE FIRST-RATE BROCCOLIS FOR SUCCESSION.

| | *s.* | *d.* | |
|---|---|---|---|
| WALCHEREN, for Aug. to October produce .. | 3 | 0 | per oz. |
| HAMMOND'S WHITE CAPE, Sept. to Nov... | 2 | 6 | ,, |
| MITCHINSON'S PENZANCE, Feb. and March | 5 | 0 | ,, |
| DILCOCK'S BRIDE, for April .. .. .. | 1 | 0 | ,, |
| THE GIANT, late white, for May and June .. | 2 | 0 | ,, |

A ¼ oz. packet of each free by post for 3*s.* 6*d.* in postage stamps

BASS & BROWN, Seed Growers, Sudbury, Suffolk.

## CHOICE STOVE AND GREENHOUSE PLANTS AT LOW PRICES.

—See names in the *Gardeners' Chronicle* of April 9, page 309, and April 16, page 330.

THIRTY CHOICE STOVE PLANTS, very strong and very fine, for 55*s.*; or, per dozen, 24*s.* to 35*s.*

FIFTY CHOICE GREENHOUSE PLANTS, very strong and fine, for 65*s.*; or 18*s.* to 25*s.* per dozen.

FIFTY FINE GREENHOUSE PLANTS, selection left to us from the Catalogue, 45*s.*

BRITTAIN'S GARDEN NETTING of 1½ yard, with 5*d.*, 6*d.*, and 8*d.* per yard.

SHAW'S TIFFANY of best quality, No. 1, 5*s.* per piece of 20 yards; also stouter qualities.

THE GISHURST COMPOUND.—Boxes 1*s.* 6*d.* each with instructions.

Goods 20*s.* and upwards free to all stations in London, or on the London and Norwich, (Colchester) line.

BASS AND BROWN,
Seed and Nursery Establishment, Sudbury, Suffolk.

## NEW DOUBLE PETUNIAS.

C. W. HARGRAVE begs respectfully to announce that he will shortly be prepared with STOCK of the NEW DOUBLE PETUNIAS advertised by him in the *Gardeners' Chronicle* of September 25, 1858.

They constitute a unique collection in themselves, being of exquisite form, firm substance, rich and decided in colour, very fragrant, and of first-rate habit, having good guard petals, with the centres well filled, and in fact are superior to the Continental or other varieties hitherto sent out. Their nomenclature is as follows:—

ROSETTE.—Crimson, very double, dwarf habit.
ROSEA ALBA.—Rose clearly mottled with white.
PURPLE KING.—Large flower, well formed.
CRIMSON GEM.—Bright crimson, with white centre.
ALBA MAGNIFLORA.—Beautiful form, very fragrant.
KING OF CRIMSONS.—Bright crimson, brighter than its parent "Crimson King." The varieties previously introduced as crimson have all proved themselves to be only purple.

Plants of any of the above 5*s.* each, or the set of six 25*s.*

It is requested that the Trade forward their commands at their earliest convenience, as all orders will be executed in the rotation in which they are received.

C. W. HARGRAVE, THE NURSERY, WINCHMORE HILL, N.

H. WILLIAMS is now prepared to execute orders for Seedling PENTSTEMON GLOXINIFLORA. Received a Label of Commendation at the National Floricultural Society in August last. Large bold flower, of good form, 7*s.* 6*d.* each.

All orders from unknown correspondents must be accompanied by a remittance or reference. Orders to be made payable to HENRY WILLIAMS, on Finchley.

HENRY WILLIAMS, Nursery and Seedsman, Foster Green, Muswell Hill, Finchley.

## NEW PHLOXES.

DODWELL AND BAYLEY have much pleasure in announcing to their Patrons and the Public that they are now prepared to supply the undernoted extra fine NEW PHLOXES, which they offer with confidence as indispensable additions to the most select collections.

COUNTESS OF DERBY.—Colour rosy purple with carmine eye; flowers large, flat, smooth, and of great substance, forming a compact spike; habit dwarf. An extra fine variety. 5*s.*

COUNTESS OF ELLESMERE.—White, with delicate lilac eye, strikingly chaste and beautiful; habit dwarf, truss compact and finely formed. Especially excellent for pot culture. An exquisite variety. 5*s.*

CLAYTONI.—White, with blush eye; in the height of summer pure white. A superb sort. Flowers large, of great substance, smooth and very circular; spike large, compact, and admirably shaped; habit dwarf. 5*s.*

HOLLANDI.—White, with rosy carmine centre; fine spike; flowers finely shaped, of great substance, and very smooth; habit in the style of, but more vigorous than Countess of Home. 5*s.*

The set of four, 15*s.* One over will be added for every three ordered. Terms to the Trade on application.

The best older varieties, 8*s.* and 12*s.* per dozen.

Bradshaw Gardens, Chadderton, Manchester.

## NEW PLANTS.—1859.

HUGH LOW AND CO. respectfully invite attention to the annexed LIST of novelties, orders for which they will be very happy to receive:—

### NEW GLOXINIAS.

HUGH LOW & Co. have selected the undernamed varieties from a large number of plants raised by themselves from seed carefully and judiciously hybridised, and having flowered them for two seasons, and compared them with the varieties previously in cultivation, H. L. & Co. can with confidence recommend the selection to the notice of their friends as comprising really distinct kinds, worthy of a place in the most select collection of this much admired and easily cultivated flower Plants in April. Price, 3*s.* 6*d.* each.

ERECT-FLOWERING VARIETIES.

Atroviolacea, very dark violet purple, base of the tube beautifully spotted on a pure white ground. [white
Bridesmaid, white tube, shaded rose border, lips spotted with
Lineata superba, rosy carmine tube, towards the lips alternate bands of white and rose. [purple.
Perfection, clear white throat, dark blue belt, lips deep violet
Princess Alice, clear white tube, bright rose belt, edges very pale rose.
Princess of Prussia Improved, throat and belt very much brighter crimson than in the old variety.

DROOPING-FLOWERED VARIETIES.

Attraction, base of tube white, finely spotted, lips rosy crimson, outer edge pure white.
Beauty, white tube, inside carmine lake, broad white belt, flowers very large
Meteor, bright crimson with violet throat, carmine blotch on the lip.

### NEW ROSES OF 1859.

| HYBRID PERPETUAL. | HYBRID PERPETUAL. |
|---|---|
| Altesse impériale | Virginale |
| Ardoisé de Lyon | Beauté de Roeyghem |
| Comte de Beaufort | BOURBON. |
| Bouquet de Marie | Docteur Berthet |
| Empereur de Maroc | Madame Marchal |
| Salomon | Octavie Fontaine |
| Oriflamme de St. Louis | TEA-SCENTED. |
| Reine de la Cité | Madame Damaisan |
| Ambroise Verschaffelt | Madame Darru |
| Orderic Vital | Reine des Pays Bas |
| Anna de Diesbach | |

Plants 5*s.* each.

### NEW VERBENAS.

The entire stock of these nine varieties is in the possession of H. L. & Co., and they can with the greatest confidence recommend them to their friends as distinct and first-class flowers.
Bellona, bright cerise, dark centre, good form, very distinct.
Flora, lilac, white eye, large truss, fine form.
Lady Cotton Sheppard, bright rosy purple, white eye, large truss, very distinct.
Mars, bright red, extra large truss, fine form and free flowerer.
Miss Emily Hanmer, ruby, white eye, immense truss, extra fine form, the best of its class.
Mrs. Fowke, rosy purple, fine white eye, extra large truss, fine form, very free.
Mrs. Leslie, bright rose, very large white eye, large truss, and splendid form.
Rubens, ruby red, white centre, good form, very distinct and free bloomer, from 2*s.* 6*d.* each.

VERBENA SNOWFLAKE.—The best white Verbena ever offered for bedding purposes. With a flower equal to Mrs. Holford, it produces a much larger number of trusses on the same space of ground. This variety has been grown in company with the other white kinds at present in cultivation, and has been found to be more effective than any of them. In order that it may be extensively planted the first season, H. L. & Co., have decided on offering it at a cheap rate.

Single plants, 2*s.* 6*d.*; per doz., 18*s.*; per 100, 100*s.* In April.

New Verbenas received from M. Boucharlat of Lyons:—

| | | |
|---|---|---|
| Abondance | Madame Denis Blain | Mons. Denis Blain |
| Bleu magnifique | Madame Hardy | Monsieur Hardy |
| Felix Roland | Madame Hoste | Reine Blanche |
| Gloire de Monplaisir | Madame Large | Souvenir de M. Seringe |
| Kossuth | Manteau d'Evêque | |

Plants 1*s.* 6*d.* each, now ready.

New Verbenas received from M. Rougier-Chauvière, of Paris. These and the preceding collection include the finest varieties offered this season on the Continent.

| | | |
|---|---|---|
| Baccarat | Gitana | Marie Rougier |
| Cendrillon | Ivanhoe | Ne Plus Ultra |
| Cerise \| Clara | La Magicienne | Primuleflora |
| Fatima | Leandre | Rosalinda |
| Figaro | Lucrece | Rosamond |

Plants now ready, 1*s.* 6*d.* each.

Verbena Madame Jourdin, the most distinct and beautiful of all the striped varieties, per dozen, 12*s.*

LOBELIA TRIGONICAULIS, a new species from Moreton Bay, figured and described by Sir Wm. J. Hooker. A beautiful dense growing variety, each plant covering a space of ground 12 to 18 inches in diameter, with its ample bright green foliage (in the way of Verbena Maonetti) and large light blue flowers with fine white eye. It will be much in demand for bedding purposes. For further description see "Cottage Gardener."

Plants in April, price 2*s.* 6*d.* each, or 21*s.* per dozen.

Usual discount to the Trade on all the above-named plants.

Bedding Plants of older date in large quantities at low prices.

Clapton Nursery, London, N.E.—April 23.

### RHODODENDRONS.

JOHN WATERER'S CATALOGUE OF UNRIVALLED HARDY SCARLET AND OTHER CHOICE RHODENDRONS, as Exhibited by him at the Royal Botanic Gardens, Regent's Park, London, is published, and will be forwarded on application.

☞ This List is recommended as a work of reference, as it contains accurate descriptions of all the esteemed varieties.

The American Nursery, Bagshot, Surrey, near the Sunningdale Station, South Western Railway.

MESSRS. PARKER AND WILLIAMS beg to inform their friends and patrons that their PRICED and DESCRIPTIVE CATALOGUE of Exotic Orchids, Stove, Greenhouse, and Hardy Ferns, Miscellaneous Stove, Greenhouse, and Hardy Plants, Variegated and Ornamental foliaged Plants, Conifers, Roses, Rhododendrons, Indian Azaleas, Gloxinias, Fuchsias, Cactuses, &c., is now published, and will be forwarded post free on application.—Paradise Nursery, Seven Sisters' and Hornsey Roads, Holloway, London, N.

### GERMAN AND OTHER FLOWER SEEDS, VEGETABLE, AGRICULTURAL SEEDS, ETC.

MESSRS. PARKER AND WILLIAMS beg to inform their friends and patrons that their new PRICED and DESCRIPTIVE CATALOGUE in which is enumerated every novelty of proved merit, also all the best of the older kinds, is now published, and will be forwarded post free on application. Their whole stock has been selected from the best English and Foreign sources, and every kind is warranted true to name, and of the finest possible quality.—Paradise Nursery, Seven Sisters and Hornsey Roads, Holloway, London, N.

WILD'S UNRIVALLED PRIMULAS.—

NOTICES TO CORRESPONDENTS.

Edinburgh post mark, stamps enclosed, but no letter.

B. Smith, W. Hooper, and many others, 3d Edition of Treatise, Testimonials, &c., will be published and sent to all subscribers.

Will your Primula seed hold out this season? Doubtful; order immediately.

W. C. James. Separate colours sold out; mixed, 2*s.* 6*d.* p. pkt. No more blooms can be sent out this season.

Two fancy varieties will be introduced next season if possible

THOMAS WILD, The Primulary, Ipswich.

### NEW PETUNIAS.

JOHN SEALEY can now supply the Seven Beautiful New Striped PETUNIAS, to which was awarded the first prize at the Bristol and Clifton Horticultural Society. J. S. has no hesitation in saying that they are the finest varieties in cultivation. The seven for 1*l.*

SPRING CATALOGUE OF DAHLIAS, HOLLYHOCKS, ROSES, &c., and of GARDEN AND AGRICULTURAL SEEDS may be had on application.—St. George's, near Bristol.

NEW VARIEGATED GERANIUMS.

JANE (LENNOX).—This has an equal and fine variegation, with a profusion of fine deep scarlet flowers; the truss is large, and the flower of good shape and substance; a free growing variety. It has been exhibited this spring at the first meeting of the Royal Botanic Society, and received a Certificate of Merit. The plants are now full of bloom. 7*s.* 6*d.*

PICTURATA (CONSTANTINE).—Foliage novel and remarkable. It has white edges with a broad ring or zone of shaded crimson and pink, the centre of each leaf being green, with small scarlet trusses of bloom. 7*s.* 6*d.*

CHARLES TURNER, Royal Nursery, Slough.

CHEAP BEDDING PLANTS, 2*s.* 6*d.* per dozen.—Apply for Catalogues, enclosing two stamps, to J. SCOTT, Merriott Nurseries, Crewkerne, Somerset.

The Catalogue comprises everything suitable for Flower Garden decoration, and full descriptions of J. S.'s unrivalled collection of new DOUBLE PETUNIAS, now ready for delivery, at 6*s.*, 9*s.*, and 12*s.* per dozen. Fine new single sorts, 2*s.* 6*d.* to 3*s.* 6*d.* per dozen; Magna coccinea, the most splendid of all Bedding Petunias, 5 inches across, beautiful light crimson, 3*s.* 6*d.* per dozen.

LEPTODACTYLON CALIFORNICUM, in quantity; also PHLOX CRITERION, two lovely Bedding Plants.

PLANTS FOR THE FLOWER GARDEN.—The following may be had at the prices attached, and the plants are all fine and thoroughly established in single pots:—

| | Per dozen.—*s.* | *d.* |
|---|---|---|
| Scarlet Geraniums, Tom Thumb, Frogmore and others, cut down plants, that were struck last spring | 3 | 0 |
| Ditto, struck last autumn | 2 | 6 |
| Verbenas, all the best varieties | 2 | 6 |
| Antirrhinums | 3 | 0 |
| Ageratums | 2 | 6 |
| Calceolarias, shrubby | 2*s.* 6*d.* to 3 | 0 |
| Cuphea platycentra, extra large | 3 | 0 |
| Dahlias, best sorts | 4*s.* to 9 | 0 |
| Carnations and Piccotees ditto | per pair 1*s.* to 1 | 6 |
| Pinks, ditto | ,, 6*d.* to 1 | 0 |
| Fuchsias, best sorts | 3*s.* to 4 | 0 |
| Gaillardia picta | 2 | 6 |
| Heliotropes | 2 | 6 |
| Lobelia speciosa and ramosoides | 2 | 6 |
| Alyssum variegatum | 2 | 6 |
| Hollyhocks, fine named flowers | 9 | 0 |
| Lantanas | 2 | 6 |
| Nierembergia gracilis | 2 | 6 |
| Petunias, fine sorts | 2 | 6 |
| Senecio (double dark Groundsel) | 2 | 6 |
| Salvia fulgens | 2 | 6 |
| Variegated Geraniums, Flower of the Day, fine cut down plants | 4 | 0 |
| Osborne's Brilliant | 3 | 6 |

WOOD & INGRAM, Huntingdon.

### NEW CHRYSANTHEMUMS.

JOHN SALTER begs to announce that his SPRING CATALOGUE is now published in which his splendid SEEDLINGS and other new CHRYSANTHEMUMS of 1859 are fully described, as well as the unrivalled general collection, which is the largest in Europe.—Strong plants of "Golden Queen of England," "Prince Albert," and every other variety, will be ready in the course of the month.—Versailles Nursery, William Street, near Hammersmith Turnpike, W.

### CHRYSANTHEMUMS—CHRYSANTHEMUMS.

J. H. BIRD, F.H.S., NURSERYMAN, Stoke Newington, the largest grower and most successful exhibitor of the Chrysanthemum in the British Empire, begs to call the attention of the lovers of the above beautiful autumn flower to his matchless collection, the stock of which amounts to upwards of 50,000 plants.

J. H. B can supply strong plants, one dozen for 6*s.*; or five dozen in 30 varieties, containing two of each variety, for 1*l.*; or he can supply 100 plants in 50 varieties, two of each variety, for 1*l.* 10*s.* Also POMPONES in great variety; 50 Pompones in 25 varieties, two of each variety, for 10*s.*; or 100 in 50 varieties, two of each variety for 1*l.* Strong plants of the beautiful new Pompone the Golden Cedo Nulli, 5*s.* each, are now ready, with the usual allowance to the Trade. Every order will be accompanied by a popular work on the Chrysanthemum.

Post-office Orders payable to J. H. BIRD, Stoke Newington, will be immediately attended to. Catalogues on application.

## NEW PLANTS FOR 1859.

# MESSRS. E. G. HENDERSON & SON

WILL OFFER FOR SALE THE FOLLOWING NEW PLANTS IN MAY, BY WHICH TIME THEIR

**NEW GENERAL CATALOGUE and SPRING LIST of ORNAMENTAL BEDDING and SUMMER FLOWERING PLANTS**

Will be ready for distribution, wherein will be found full descriptions of all the following and other New Plants worthy of general cultivation in private collections, and for public competition:—

### ALLAMANDA VIOLACEA.

THE VIOLET-BLUE FLOWERED ALLAMANDA.

The plants now offered constitute the whole of those originally in the possession of Mr. Low, who received them from a tropical collector, and are now our sole property.

The late Mr. Gardner, Director of the Royal Botanic Gardens, Ceylon, in his papers on the Vegetation of Brazil, contributed to the Quarterly Journal of the London Horticultural Society (vol. ii.), thus alludes to it:—"On my return to Crato, I again made a few excursions in that neighbourhood, and added considerably to my herbarium. One of the finest plants met with at this time was a beautiful new species of Allamanda (A. violacea, Gardn.), a shrub from 4 to 6 feet high, bearing numerous large flowers not unlike in colour those of Gloxinia speciosa. This is by far the most beautiful species belonging to the genus, all of which, with this exception, bear yellow flowers."

As a competition plant in collections, A. violacea, in its violet-blue tint, offers a new and essential feature in colour, there being none other to associate with the golden-yellow of A. Schotti, and the delicate rosy-blush of Echites and Dipladenia. 63*s.* each.

### AGAPETES BUXIFOLIA (NUTT.).

Sir William Hooker thus alludes to it in connection with the figure given of it:—"This very beautiful plant was imported by Mr. Nuttall from the Dupla Hills on the eastern frontier of Bhotan, bordering upon Assam, where it forms an evergreen-leaved bush, from 4 to 5 feet high, with cylindric, smooth bright red corollas," or flower-tubes. As a plant of free healthy growth and evergreen aspect, it will be found a desirable acquisition for Greenhouse culture, accommodating itself by a compact habit to all limited collections, and only requiring the general treatment of similar growing plants.

### PETROPHILA PULCHELLA.

An ornamental-leaved Greenhouse Shrub, of neat and compact growth, with elegantly pectinated or winged foliage. Remarkably distinct in habit.

### NEW INDIAN AZALEAS.

| | |
|---|---|
| ETOILE DE GAND (M. SPAE) | LEOPOLD I. (C. VAN LOO) |
| DUC DE BRABANT (C. VAN LOO) | REINE DES PANACHEES (DE WITTE) |

The above are figured in Plate XXIII. "Illustrated Bouquet."

### NEW ACHIMENES.

GIGANTEA IGNEA—LONGIFLORA FLORE PLENO
LADY DIGBY (TYDÆA)
LADY CAROLINE KERRISON (TYDÆA)
The above are seedlings raised by Mr. Breeze and Mr. Elliot.

### NEW HYBRID BEGONIAS.

Seedlings raised by Mr. Strange, gardener to Herrn Consul Schiller, of Hamburg:—

| | |
|---|---|
| PICTURATA. | SPLENDIDA BULLATA. |
| VITTATA. | ,, ARGENTEA. |
| SPLENDIDA SANGUINEA ATROPURPUREA. | PUNCTATA. |
| | SPLENDIDA IMPERIALIS. |

### PHLOX

| | |
|---|---|
| EVENING STAR—(LIERVAL). | VICTORIA—(BURRIDGE). |
| DRUMMONDI. | ALBERT—(BURRIDGE). |

### CALCEOLARIA

AMPLEXICAULE ALBA.

For June.] **NEW BOUVARDIA.**

DELICATA. | BRILLIANT.

### BEDDING DAHLIAS.

GLOIRE DE FRANCE (ANCEAU)
WHITE UNIQUE (GRANT)

### New Bedding Shrubby CALCEOLARIAS.

| | |
|---|---|
| COCCINEA FLORIBUNDA (GRANT) | RED PRINCE OF ORANGE (GRANT) |
| GOLDEN PRINCE (GRANT) | YELLOW GEM (GRANT) |

The above possess the habit and continued blooming properties as C. aurantia multiflora, and C. Yellow Prince of Orange, with improved colours and truss.

### NEW FUCHSIAS.

(Seedling productions of Edward Banks, Esq.

| | |
|---|---|
| CROWN JEWEL | MAGIC FLUTE |
| ISA CRAIG | LEOLINE |
| LA CRINOLINE | LE PROPHETE |
| FLOWER OF FRANCE | LITTLE DORRIT |
| STRADELLA | |

### NEW CHRYSANTHEMUM.

(Seedling productions of M. Pelé, of Paris.)

| | |
|---|---|
| MASANIELLO | MISS TOWERS |
| SATANELLA | MAGIC FLUTE |
| SUNSET | KENILWORTH |
| QUEEN OF BEAUTIES | ST. JUSTIA |

### NEW VERBENAS.

(Seedling productions of Messrs. Breeze & Banks.)

This collection possess the greatest advance in colours, form, and size of truss, with fine habits, that we ever had the opportunity of introducing.

### NEW GLOXINIAS.

| | |
|---|---|
| SEBASTIANO. | MADONNA. |
| SPAGNOLETTI. | HEROYI. |

SCHOLASTICE.

### VARIEGATED-LEAVED GERANIUMS.

| | |
|---|---|
| MISS EMMA DOMVILE. | SILVER CHAIN. |
| GOLDEN TOM THUMB. | RAINBOW. |
| GOLDEN CERISE UNIQUE. | ST. CLOUD. |

### ZONALE, OR HORSE-SHOE GERANIUMS.

| | |
|---|---|
| AMY ROBSART. | LADY EMMA STANLEY. |
| LADY CHARLES COOTE. | WHITE NOSEGAY. |

### NEW BEDDING GERANIUMS.

THE NOSEGAY SECTION.

The two following hybrid Geraniums (allied to the Nosegay Section) have been raised by Mr. D. Beaton of Kingston, the indefatigable horticulturist, after some years of practical experiment and cross hybridisation, with a view to obtain a neat, dwarf, and compact growth upon the otherwise thinly branched and lanky style of the old "Nosegay." These endeavours have resulted in the production of those now offered, which are, with respect to habit of growth, all that need be desired, and strikingly adapted for all the objects of decorative gardening, in beds, groups, vases, and boxes, combining in a very high degree every essential feature of growth for varied effect, with the distinctively picturesque and beautiful shades of light crimson and lake so long desired as medium tints between the inordinate profusion of scarlets, and the opposites of rosy-pink and salmon, thus presenting to the eye a charming relief from the dense scarlet trusses of the scarlet Zonale tribe, to the open and gracefully curved flower lobes of softer carmine and lake crimsons peculiar to the Imperial crimson and Model Nosegay. Having no rivals in habit and colour combined, they may be regarded as new features in decorative gardening, and from their long-continued and long-enduring bloom are worthy of a place in every flower garden where a classical arrangement in colours is united with a brilliant and prolonged effect or display. A progressive knowledge of the true theory and harmony of colours in the grouping of plants and flowers will eventually lead to a practical recognition of the relative influence of light and shade, as certainly as that a correct knowledge in the sister arts of painting and music implies a just recognition of all these minute and relative harmonies in colour and sound, which constitute beauty to the eye, or music to the ear.

IMPERIAL CRIMSON (BEATON.)—In habit this variety is neat, dwarf, close and compact, with a short-jointed style of growth; and in these features it differs from the generality of the Zonale or scarlet section, by its constitutional tendency to retain these features through the whole season. Its foliage is also readily distinguished from the well known bedding varieties by its comparatively smaller and remarkably neat well expanded leaves, of a healthy rich green thin texture, showing a faint darker zone in the centre, and in the mass forming a fine sheet-like leaf surface, above which the profusion of ample, yet compactly open and well arranged conspicuous trusses of brilliant light carmine-crimson flowers are effective and distinct from all others, in their rich yet graceful combination of flower heads, with narrower petals (thus presenting a very desirable and distinct feature from the close, heavy clusters of the Zonale scarlet section), which are produced in long continued succession throughout the whole season, without any premature dropping of their flower-lobes, as in some varieties. This very ornamental kind is admirably adapted for villa gardens of medium or larger size, but especially for beds and groups in extensive flower gardens, where it offers a beautiful relief in colour to the too prevalent uniform and monotonous dazzle of scarlet—the whole outline of the growth and bloom in this variety being less heavy, yet equally conspicuous above the leaf-surface, and apart from the absence of all stiffness in feature, and heaviness in effect, which is too much characteristic of the scarlet section, the present variety is one of the first and finest productions of an intermediate character in growth and colour, whose aggregate excellencies of habit, leaf, and flower, have resulted in producing a most valuable and decorative plant, without a single detractive feature from its merit. For the avenue or ribbon style of decoration in parallel lines it will be found uniquely-valuable as a third row plant in back contrast to the Golden Chain, or in front contrast to any other suitable scarlet at the back. For vases and terrace pedestals it will add a beautiful variety for alternate effect with the violet crimson and scarlets, its chastened brilliancy relieving the higher tints. To sum up the unique and useful qualities of this variety it may be affirmed that ere long it will, in its class and colour, be regarded as indispensable for the correct harmony or disposition of colours in the grouping of plants for the flower garden as the well-known Tom Thumb and Golden Chain have been, and are at present. 3*s.* 6*d.* each; four plants for three; ten plants for six; 20 plants for 12.

THE MODEL NOSEGAY (BEATON).—This is also a fine habited variety of the Nosegay section, of which it is the first true and thoroughly adapted bedder, and in all respects an invaluable object for the flower-garden arrangement, wherever the true theory or harmony of colours is consulted, in the grouping of ornamental flowering plants in masses. It is a free, yet neat and vigorous growing plant, somewhat taller than the Imperial crimson, of a slender, branching, and compact style of growth, with comparatively medium-sized, thin, well expanded, dark green leaves, showing a zone of subdued darker tint. Its bloom is displayed in a profusion of compact, yet elegantly arranged, open trusses of spreading-petaled flowers, narrower-lobed than the Zonale scarlet section, of a richly blended pink and lake colour, presenting a chastened contrast to any higher or lower colours, and finely adapted for a middle avenue-row between lower and higher lines of the same colour—in other words, between two scarlets of higher and lower growth; it is less brilliant than the highest tint, but extremely elegant in its adaptation for contrast with darker and lighter shades. In its own softened brilliancy, it forms a beautiful medium bed or group, satisfying the eye without tiring it, and adding a charming relief to the higher-coloured masses around it. Its compact growth fits it for alternate effect with scarlets in classic vases, or detached smaller groups on terrace borders, where appropriately subordinate in colour, it is beautiful in effect, and above its many other essential features for decoration, may be named its long continued succession of bloom and endurance upon the plant. 2*s.* 6*d.* each. Four plants for three.

### SPERGULA PILIFERA

AN ADMIRABLE SUBSTITUTE FOR GRASS LAWNS WITHOUT MOWING.

*(See E. G. Henderson & Son's Seed Catalogue.)*

**Wellington Nursery, St. John's Wood, London.**

NEW FUCHSIAS (English and Continental).—Strong established Plants, fit to grow as Specimens of the best and leading kinds:—Princess of Prussia, Prima Donna, Governor-General, cheiranthiflora, tricolor, Agnes Sorel, Prince Frederick, Wonderful, Guiding Star, &c., 9*s*., 12*s*., and 18*s*. per dozen.

NEW FRENCH SPOTTED GERANIUMS.—Fine plants set with flower buds and coming into flower, 12*s*., 18*s*., & 21*s*. p. doz.

SEEDLING SPOTTED AND STRIPED CALCEOLARIAS, in 6-inch pots, 12*s*. and 18*s*. per dozen.

NEW VERBENAS.—Nearly all those sent out last year and the best of the previously established plants, 4*s*., 6*s*., and 9*s*. per dozen.—EPPS's Nurseries, Maidstone and Ashford.

PLOCOSTEMMA LASIANTHUM (BLUME). — Amidst the prevalent scarcity of novelties of sterling merit, it is with pleasure the Subscribers invite attention to the above-named plant. It belongs to a new genus closely allied to Hoya; and the present species was received in 1857 from Mr. HUGH LOW, Jun., by whom it was discovered on the north-western side of the Island of Borneo. The plant, which is not a climber, presents a noble appearance, having exceedingly handsome foliage; and it possesses a very great recommendation in being a most profuse bloomer, the clusters of flowers being produced in great numbers. The flowers are of waxy consistence, like Hoya—colour, orange; the petals reflex until they become quite perpendicular, and rest on the flower-stalk; the lower part of the petals is entirely covered with a snow-white velvety pubescence, giving them an unusually beautiful appearance. The flowers are fragrant, and 14 have expanded in one cluster on a newly imported plant, which was submitted to the inspection of Sir W. J. Hooker, of Kew, by whom it is figured and described in the November number of the "Botanical Magazine." It is also figured in the "Florist." Plants in May, price 63*s*. each. Usual discount to the Trade.

HUGH LOW & Co., Clapton Nursery, London, N.E.

GOLD AND SILVER FISH.—Upwards of 100,000 on hand, from 4*s*. to 9*s*. per doz., 2*l*. per 100, or 18*l*. per 1000.

ORANGE TREES.—Otaheite, Myrtle-leaved, St. Michael's, with fruit and bloom, 2*s*. 6*d*., 3*s*. 6*d*., 6*s*., and 10*s*. 6*d*. each; Azaleas and Camellias, 18*s*., 21*s*., and 24*s*. per doz.; a large collection of Foreign and British Ferns, and every other kind of Greenhouse and Stove Plants; Dwarf Kidney Beans and Scarlet Runners, 1*s*. per quart; Virginian Stock, Candytuft, Mignonette, 3*s*. per lb., or 4*d*. per oz.; Nemophila, 3*s*. 6*d*. per lb. or 4*d*. per oz., and every other sort.

Illustrated Catalogues for 7 postage stamps. The 6*d*. will be returned to purchasers of not less than 5*s*. worth.

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REIGATE SILVER SAND, best quality for Florists, 16*s*. per ton; less quantities, 1*s*. 6*d*. per bushel; delivered to any London Wharf or Railway. Peat, Loam, and Leaf-Mould in large or small quantities. Sacks for Sand, 1*s*. 9*d*. each; or on hire, 6*d*. each; five hold a ton.—JOHN KENNARD, Purveyor to her Majesty, Swan Place, Old Kent Road, London, S.E.

HORTICULTURAL VALUATIONS.

MR. ALFRED CHANDLER (of the late firm of Chandler & Sons, Vauxhall), begs to inform his friends that he is at liberty to undertake the valuation of Collections of Plants, Nursery Stock, Horticultural Buildings, &c.

Mr. A. C. is also open to engagements as Censor at Horticultural Exhibitions, in which capacity he has had long and extensive experience.—28, Priory Road, Wandsworth Road, S.

TO PIG AND POULTRY FEEDERS AND MILLERS.

CHICKEN RICE, 7*s*. 9*d*. per cwt., in bags 1¾ cwt. each. SCREENED RICE, 10*s*. per cwt., in bags 1¾ cwt. each. RICE MEAL, 6*s*. 6*d*. to 8*s*. 6*d*. per cwt. RICE for grinding. An allowance per Ton. American Oilcake, in barrels and bags, per ton only. Locust Beans, per ton.—Sold for Cash only by W. & R. JUPP, 6, Cross Lane, St. Mary-at-Hill, Eastcheap.

THORLEY'S FOOD FOR CATTLE.—Every person having an interest in domestic or farm animals should obtain a supply of this celebrated and economical food which will prove invaluable during the approaching season. For keeping horses in good condition, it is unequalled. Pigs fatten with surprising rapidity upon it, and their flesh increases in flavour and value. Cowkeepers will find great advantage in the increased quantity and improved quality of the milk during its use. All animals are benefited by it. A pamphlet on this interesting subject, accompanied by Testimonials from the principal Nobility, Gentry and Agriculturists forwarded on application. In casks containing 448 feeds (measures inclosed), price 50*s*., carriage paid to any Railway Station in the United Kingdom. Post-office Orders payable to JOSEPH THORLEY, 77, Newgate Street, London.—N.B. The public are cautioned against being imposed upon by worthless imitations.

"FRIGI DOMO."—Patronised by her Majesty, the Queen, the Duke of Northumberland for Syon House, His Grace the Duke of Devonshire for Chiswick Gardens, Professor Lindley for the Horticultural Society, Sir Joseph Paxton for the Crystal Palace, Royal Zoological Society, late Mrs. Lawrence of Ealing Park, and — Collier, Esq., of Dartford.

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"FRIGI DOMO," a Canvas made of patent prepared Hair and Wool, a perfect non-conductor of Heat and Cold, keeping, wherever it is applied, a fixed temperature. It is adapted for all horticultural and floricultural purposes, for preserving Fruits and Flowers from the scorching rays of the sun, from wind, from attacks of insects, and from morning frosts. To be had in any required lengths. Two yards wide, 1*s*. 6*d*. per yard run; four, 3*s*. per yard. Also, an improved make for Shading Purposes. Three yards wide, 2*s*. 6*d*. per yard run.

ELISHA THOMAS ARCHER, whole and sole manufacturer, 7, Trinity Lane, Cannon Street, City, and of all Nurserymen and Seedsmen throughout the kingdom. "It is much cheaper than mats as a covering."

PATENT GUTTA PERCHA SOLES.—IMPORTANT TO GARDENERS.—The Gutta Percha Company have the pleasure to acknowledge the receipt of the following letter from G. GLENNY, Esq., the celebrated Florist:—

"420, Strand, London

"Gentlemen,—I have worn Gutta Percha Soles and Heels these two years, and being so much in a garden as I necessarily am in all weathers, and with the ground in all states, I would on no account be without them. As a matter of economy I would recommend Gardeners to use them, for they may repair the worn part at all times by warming the material at the fire, and pressing it from the thick parts to the worn parts as easily as if it were so much dough. I think it the duty of all persons who must occasionally wet their feet to adopt a material that completely defies damp. Many a gardener would escape colds and rheumatism by the use of Gutta Percha Soles.

"Your obedient servant, G. GLENNY."

Every variety of Gutta Percha articles, such as Mill Bands, Tubing, Soles, Goloshes, Sheet, Pump Buckets, Fire Buckets, Bosses, Union Joints, Flasks, Bottles, Bowls, Chamber Vessels, Toilet Trays, Sponge Bags, Curtain Rings, Galvanic Batteries, Talbotype Trays, &c., manufactured by the Gutta Percha Company, and sold by their wholesale dealers in town or country.—The Gutta Percha Company, Patentees, 18, Wharf Road, City Road, London.

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LONDON MANURE COMPANY, removed to 116, Fenchurch Street, E. C. (Established 1840), have the following MANURES ready for delivery:—

CORN MANURE for SPRINGTOP DRESSING
URATE
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} all of guaranteed quality.

In consequence of the reduction in the price of raw material the London Manure Co. are enabled to lower the price of their Superphosphate of Lime, and to materially improve the Corn Manure and Urate.

The London Manure Co. also supply PERUVIAN GUANO (direct from Messrs. A. Gibbs and Sons), SULPHATE of AMMONIA, NITRATE OF SODA, CRUSHED BONES, and every other Manure of value. Wholesale dealers supplied.

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MR. LAWES begs to announce that he has this season reduced the price of the Manures manufactured by him, viz.:—

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| TURNIP MANURE .. .. .. | from | £7 | to | £6 | 6 |
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Prof. Way and Dr. Voelcker have sampled from a bulk of 5000 to 6000 tons at his factories, and their report and analyses are given in full in Circular to be obtained on application at his office, 1, Adelaide Place, London Bridge, E.C., or of his local Agents.

N.B. Genuine Peruvian Guano direct from Messrs. GIBBS, Nitrate of Soda, Sulphate of Ammonia, and other Chemical Manures. American Cotton-seed Cake supplied.

ESTABLISHED 1812.

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POTATO, GRASS, BARLEY, CLOVER, AND WHEAT MANURES; also BONE DUST, PERUVIAN GUANO, and SUPERPHOSPHATE of LIME, warranted of the best quality.

Apply to H. & T. PROCTOR, West of England Depôt for Artificial Manures, Cathay, Bristol; or PROCTOR & RYLAND, Birmingham, and Saltney, near Chester.

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CONCENTRATED TURNIP MANURE, equal in value to the preceding.

Of these Manures Dr. Voelcker says:—"These results must be very gratifying to you, and are the best proof of the very high agricultural and commercial value which characterises your concentrated superphosphate."

Detailed analyses, with opinions of the late and present Chemists to the Royal Agricultural Society, with Testimonials, Prices, &c., may be had on application to BURNARD, LACK, & Co., Sutton Road, Plymouth.

PERUVIAN GUANO.

The present price of this valuable Manure is—

12*l*. per Ton for 30 Tons and upwards,
13*l*. 5*s*. per Ton for 1 Ton up to 30 Tons.

And, to guard against the purchase of adulterated mixtures and of inferior Guanos purporting to produce results equal to Peruvian, consumers are recommended to apply either to ourselves, to our agents, Messrs. Gibbs, Bright, & Co., of Liverpool and Bristol, or to dealers of established character, in whose honesty and fair dealing they may place implicit confidence.

ANTONY GIBBS & SONS.

SUCCESS OF THE NEW GUANO; IMPORTED UNDER LEASE FROM THE CROWN.—Though the experiments with KOORIA MOORIA GUANO were made late in the season, and under adverse circumstances, the successful results obtained confirm beyond doubt Professor Voelcker's report—(in No. 41, Part I., vol. xix., Royal Agricultural Society's Journal)—that Ammoniacal manures, applied to Turnips in the experimental field, kept back at first the crop, and had no beneficial effect either alone or in conjunction with phosphates.

The KOORIA MOORIA GUANO is essentially a phosphatic manure, containing sufficient ammonia for roots, and, with a mixture of one-fourth of ammoniacal guano, cannot be excelled for either top-dressing or grain crops. It is a natural deposit, and will be delivered as imported, free from risk of adulteration. Deeply impressed with the necessity of encouraging the import of this valuable manure, her Majesty's Government has given such increased facilities for shipment, that arrangements have been made for a considerable supply. Purchasers can be supplied with suitable quantities from cargoes now on sale, containing from 45 to 66 per cent. phosphates. Present prices, 4*l*. 10*s*. to 6*l*. 10*s*. per ton, on applying to JOSEPH HINDSON, Broker (one of the Lessees under the Crown), 20, North John St., Liverpool. Government Lessees: ORD, HINDSON, & HAYES.

"Greystoke, Cumberland, Dec. 16, 1858.

"Dear Sirs,—I beg to inform you that I applied the Kooria Mooria Guano I had from you for Turnips, on land of a loamy character, incumbent on a stiff clay subsoil, and recently drained. On each side of the plot sown with Kooria Mooria Guano were Turnips manured with best Peruvian Guano. The quantities applied of each sort were of equal weight for weight per acre. The crop—a very good one throughout—is now being eaten off with sheep. Very little perceptible difference can be discovered, but if anything that difference is in favour of the Turnips sown with Kooria Mooria Guano.

(Signed) "JOHN BARKER."

"Messrs. J. & J. Graham, Guano Merchants, Penrith."

A Pamphlet, "Hints on Guano," containing a large number of reports from well-known agriculturists, and analysis of the cargoes here, may be had of the Broker, at the above address.

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DEALEY AND DAWES'S highly CONCENTRATED FERTILISING MANURE, manufactured expressly for Stove and Greenhouse Plants, Vegetables, Trees, &c.

Messrs. DEALEY & DAWES draw particular attention to this valuable Manure, which they guarantee contains all the elements necessary for the development of Soft and Hard-wooded Plants, Vegetables, &c.

Retailed by most respectable Seedsmen, in 1 lb. packets, with full directions for use; and sold Wholesale at the Manufactory, in boxes containing 112 packets, also loose in boxes of 28 lbs. each. Samples and testimonials free by post on application.—Oldbury, near Birmingnam.

GENUINE ROLL TOBACCO CLOTH.
WARRANTED EQUAL IN STRENGTH TO TOBACCO.

JOSEPH BAKER, 10, Gough Square, Fleet St., E.C., having dealt upwards of 20 years in the above, can recommend it as the best article for destroying the Fly. 1*s*. 4*d*. per lb.; over 10 lbs., 1*s*. Post-office Orders payable Strand Office

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Sheet Iron Pots for fumigating, 3*s*. 6*d*. each.

N.B. All orders to be accompanied with a Post-office Order, payable to HENRY APPLEBY, Dorking, Surrey.

RATS.—RATS TAKEN WITHOUT POISON OR TRAPS BY WHOLESALE.—Ships, Barns, Stables, Granaries, Mills, Warehouses, Farmsteads, Houses, &c., cleared at one sweep. ANY PERSON can by this method clear the entire premises of every RAT, however numerous they may be, in one single night. Printed directions how to entice and secure the whole lot alive sent free by return of post for Two Shillings by WILLIAM GOODWIN, High Halstow, near Rochester.

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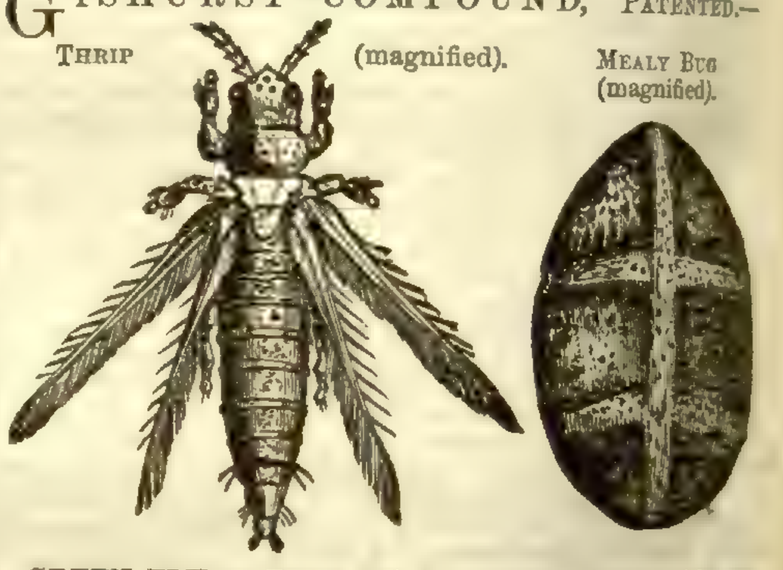
THRIP (magnified). MEALY BUG (magnified).



GREEN FLY on Roses and Greenhouse Plants safely get rid of by syringing with PATENT GISHURST COMPOUND, 2 oz. to the gallon of water.

Extract from leading article in *Gardeners' Chronicle*, April 9, '59.

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The Gishurst Compound is sold in boxes at 1*s*. 6*d*. and 5*s*. each, with directions for use, and printed opinions of Mr. Rucker's gardener, Lady Dorothy Nevill's gardener, Sir William Hooker, Mr. Rivers, and other eminent authorities. For Nurserymen the large size is recommended, but where the consumption is not large the compound keeps its strength best in the small. The undermentioned Seed Merchants, Nurserymen, &c., having taken in supplies are prepared to sell single boxes:

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Bass & Brown, Sudbury
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Brown, D., Norwich
Cattell, J., Westerham
Cripps, T., Tunbridge Wells
Deane & Co., London Bridge
Dickson, Francis & Arthur and Sons, Chester
Dickson & Brown, Manchester
Dickson, Hogg, & Robertson, Dublin
Dickson & Sons, Edinburgh
Epps, F., Ashford, Kent
Epps, Maidstone
Hawkins, R. T., Weymouth
Henderson, E. G. & Son, St. John's Wood, London
Henderson, A. & Co., Pine-apple Place, Edgeware Rd.
Hooper & Co., Covent Garden
Jefferies, W. B., Ipswich
Kennedy & Co., Dumfries
Mackie & Stuart, Norwich
Mann, J., Brentwood
Matheson, R. C., Gloucester
May, J. & Co., 1, Wellington St.
Pattinson & Son, Hexham
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Nurserymen and Seedsmen supplied by PRICE'S PATENT CANDLE COMPANY (Limited), Belmont, Vauxhall, London, S.

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THE best and cheapest PAINT for PARK FENCING, all outside Wood and Iron Work, is MITCHELL'S ANTISEPTIC MINERAL BLACK PAINT. Sold ready for use, 17*s*. 6*d*. per cwt. Used largely now and for many years past by the West India Dock Company, for Fencing, Barges, &c. Recommended to the nobility and gentry, stewards, land agents, &c. A liberal allowance to the Trade, &c.

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RICK CLOTHS, New and Second-hand,
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2, Duke Street, London Bridge, S.E., and West End,
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MARQUEES, TENTS, &c.
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BENJAMIN EDGINGTON, 2, Duke Street, London Bridge, S.E.
MONSTER TENTS for large parties.
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SPEED AND ECONOMY for Farmers, Gentlemen, and Market Gardeners, in the use of HOARE'S REGISTERED HAND SEED PLANTING MACHINE, which from its capabilities, combined with strength, lightness, and simplicity, places it beyond a parallel. Its operative powers in planting the seeds of Mangel, Carrot, Turnip, Parsnip, and all small seeds in patches of equal depth and different distances, from 6, 7, 12, 14, 18, 21, 24, to 28 inches apart, raking in and rolling complete, render it an invaluable invention. It will act as a drill when required. Price 5*l*. 15*s*.

London Agent, Mr. B. SAMUELSON, 76, Cannon Street, West. Sold also by the inventor, J. HOARE, Old Fishbourne, Chichester, Sussex.

# SHEET GLASS FOR GREENHOUSES, ORCHARD HOUSES,

&c. &c.

PACKED IN BOXES, CONTAINING 100 FEET EACH, AT THE FOLLOWING PRICES:—

| | 3rds. | 4ths. |
|---|---|---|
| 11 by 9, 12 by 9, 13 by 9, 14 by 9 .. / 12 by 10, 13 ,, 10, 14 ,, 10, 15 ,, 10 .. / 13 ,, 11, 14 ,, 11, 15 ,, 11, 16 ,, 11 .. | 14s. 6d. | 12s. 6d. |
| 14 ,, 12, 15 ,, 12, 16 ,, 12, 17 ,, 12 .. / 18 ,, 12, 19 ,, 12 .. .. .. .. / 16 ,, 13, 17 ,, 13, 18 ,, 13 .. .. / 19 ,, 13, 20 ,, 13, 21 ,, 13 .. .. / 16 ,, 14, 17 ,, 14, 18 ,, 14 .. .. | 16s. 6d. | 14s. |

SMALL SQUARES.—Per 100 feet.

| | | | | s. | d. |
|---|---|---|---|---|---|
| 6 by 4 | 6½ by 4½ | 7 by 5 | 7½ by 5½ | 11 | 6 |
| 8 ,, 6 | 8½ ,, 6½ | 9 ,, 7 | 9½ ,, 7½ | | |
| 10 ,, 8 | 10½ ,, 8½ .. | .. .. | .. .. | 12 | 6 |

ORCHARD HOUSE sizes, as supplied by us to Mr. Rivers.

| | | 16 oz. | 21 oz. |
|---|---|---|---|
| 20 in. by 12 in. / 20 in. by 13 in. / 20 in. by 14 in. / 20 in. by 15 in. | Common .. .. | 14s. 0d. .. | £1 1s. |
| | Superior do. .. | 16 6 .. | 1 5 |
| | English Glass .. | 18 0 .. | 1 9 |

FOREIGN SHEET, packed in 200 feet cases, 26*s.* 6*d.* and 30s. SUPERIOR QUALITY, 34*s.* 6*d.* and 40*s.*

*English Sheet of very superior quality, in Cases of* 300 *feet,* £3 3*s. per case.*

HARTLEY'S IMPROVED ROUGH PLATE GLASS, as per List, from ⅛ to ⅝ in thickness.

CUCUMBER TUBES, PROPAGATING AND BEE GLASSES, PRESERVE JARS, MILK PANS, ETC.

AQUARIA on EBONY STANDS, 12 inches, 14 inches, 16 inches, 18 inches, and 20 inches.

*Paints, Genuine White Lead, Linseed Oil, Boiled Oil, Turpentine, Putty, Colours, Varnishes, Brushes, &c., &c.*

**JAMES PHILLIPS & Co., 180, Bishopsgate Street Without, E. C.**

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### GLASS FOR CONSERVATORIES, ETC.

HETLEY AND CO. supply 16-oz SHEET GLASS of British Manufacture at prices varying from 2*d.* to 3*d.* per square foot for the usual sizes required, many thousands of which are kept ready packed for immediate delivery.

Lists of Prices and Estimates forwarded on application, for PATENT ROUGH PLATE, THICK CROWN GLASS, GLASS TILES, and SLATES, WATER-PIPES, PROPAGATING GLASSES, GLASS MILK PANS, PATENT PLATE GLASS, ORNAMENTAL WINDOW GLASS, and GLASS SHADES, to JAMES HETLEY & Co., 35, Soho Square, London.

See *Gardeners' Chronicle* first Saturday in each month.

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### HORTICULTURAL GLASS—JUNE TARIFF.

THOMAS MILLINGTON'S reduced Tariff of GLASS, &c.

6 by 4, 7 by 5, 8 by 6, 9 by 7 } 16 oz. to the foot, 11*s.* 6*d.*
6½ by 4½, 7½ by 5½, 8½ by 6½, 9½ by 7½ } per 100 feet.

In 100 boxes,—4ths quality, 12*s.* 6*d.*; 3ds do., 14*s.* 4*d.*

10 by 8, 12 by 9, 12½ by 10½, 14½ by 10½, 13 by 11
10½ by 8½, 12½ by 9½, 13 by 10, 15 by 10, 13½ by 11½
11 by 9, 13 by 9, 13½ by 10½, 12 by 11, 14 by 11
11½ by 9½, 12 by 10, 14 by 10, 12½ by 11½ .. ..

| | per 100 feet | 16 oz. | 21 oz. |
|---|---|---|---|
| 20 by 12 / 20 by 13 / 20 by 14 / 20 by 15 | Common .. | 16*s.* .. | 24*s.* |
| | Superior . | 18*s.* .. | 27*s.* |

All Boxes included.

Orchard House sizes as supplied to Mr. Rivers.

Hartley's improved Rough Plate Glass from ⅛ to ⅝ in thickness.

Coloured Glass in great variety, at 9*d.* and 1*s.* per foot.

Paints, Genuine White Lead, Linseed Oil, Boiled Oil, Turpentine, Putty, Colours, Varnishes, Brushes, Lamp Glasses, &c.

87, Bishopsgate Street Without, same side as Eastern Counties Railway.

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GLAZIERS' DIAMONDS for CUTTING HORTICULTURAL and other GLASS, to be had of the Wholesale Manufacturer, JOHN EDWARDS, 20, Sharp's Alley, West Smithfield, London, E.C. Prices from 10*s.* to 27*s.* 6*d.*

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200 ONE, TWO, and THREE-LIGHT MELON BOXES and LIGHTS, of the best seasoned materials, ready for immediate use.—JAS. WATTS, Hothouse Builder and Hot-water Apparatus Manufacturer, Old Kent Road, London.

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FLOWER POTS, of superior Red Clay, manufactured by the Arley Pottery Company (Limited), equal in appearance to Terra Cotta at the price of the common pots usually sold, say 2*s.* per cast, delivered in London.—Apply to TAYLOR & PEARS, 8, George Yard, Lombard Street, City, E.C.

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### SLATE WORKS, ISLEWORTH, MIDDLESEX.

EDWARD BECK MANUFACTURES in SLATE a variety of articles for Horticultural purposes, all of which may be seen in use at Worton Cottage, on application to the Gardener, Sundays excepted. PRICED LISTS of PLANT TUBS and BOXES forwarded on application.

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VASES, PEDESTALS, SUNDIALS, FOUNTAINS, FLOWER BOXES, JARDINETS, FERN CASES, BALUSTRADES, EDGINGS AND CURBS FOR FLOWER BORDERS, SEATS, &c., in Imperishable Siliceous Stone, at reduced prices, for the adornment of the Villa Garden, the Mansion Grounds, or the private or public Park.

For Priced Illustrations apply to FREDERICK RANSOME, at the Show Rooms, Cannon Row, Westminster, S.W., or Patent Stone Works, Ipswich.

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IRON AND WIRE FENCING, AT GREATLY REDUCED PRICES, for Deer, Horses, Cattle, and Sheep. Gates, &c. Clearing Sale of the above in consequence of Alteration of Premises and removal of Works.—Catalogues of Sale with prices forwarded post free on application to Messrs. YOUNG & Co., 19, Great George Street, Westminster, London; or Britannia Iron Works, Edinburgh.

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TANNED NETTING, for the Protection of Fruit Trees from Frost, Blight, and Birds: also, for the security of fresh sown seeds, at 1*d.* per square yard; 200 yards, 12*s.*; 500 yards, 25*s.*; Scrim Canvas, for wall fruit; Garden Mats.—At EDGINGTON & Co's., Rick Cloth, Tent, and Waterproof Cloth Manufacturers, 17, Smithfield Bars, City, & Old Kent Rd.

---

TANNED GARDEN NETTING, for preserving Fruit Trees from frost, blight, birds, &c., and as a fence for fowls, &c. One yard wide 1½*d.*, 2 yards 3*d.*, 3 yards 4½*d.*, and 4 yards 6*d.*, per yard, in any quantity, may be had at C. WRIGHT'S, 376, Strand, W.C.—A liberal allowance to Nurserymen.

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FOR Effectually Protecting the Bloom of Wall Trees from Spring Frosts use SHAW'S No. 3 TIFFANY, DOUBLE STRENGTH. In pieces 18 yards long by 39 inches wide, 7*s.* 6*d.* each.—JOHN SHAW & Co., Princess Street, Manchester.

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BRITTAIN'S SUMMER SHADINGS.—Strong Tiffany, 34 inches, 3*d.* a yard; No. 3 do. 39 inches, 7*s.* a piece, 18 yards each. Nets, Nos. 1, 2, and 3, 5*d.*, 6*d.*, and 8*d.* a yard, 55 inches wide. ZEBRA ORNAMENTAL SHADING, 9½*d.* a yard; yard wide linen shading, 5*d.* to 5½*d.*

Peel Street, Manchester.

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SHAW'S TIFFANY.—The best and cheapest material for Shading Conservatories, Protecting Fruit from Birds and Wasps, &c. Sold in pieces 20 yards long by 38 inches wide. No. 1, best quality, 5*s.* per piece; second quality, 4*s.* per piece. Extra strong and thick (see Circular sent free by post with samples).

Address JOHN SHAW & Co., Manufacturers and Dealers, Princess Street, Manchester.

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MARQUEES, TENTS, AND RICK CLOTHS FOR SALE, OR HIRE.—H. PIGGOTT, 115, Fore Street, E.C.

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BOOT'S PATENT ANTI-CORROSIVE ENGRAVED LABEL, suitable for every description of plant. See Circular, free by post.

JOHN SHAW, Princess Street, Manchester, Agent.

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SIGMA'S BEAN, MANGEL, AND CORN PLANTERS (5 Depositors), HOES, &c. The "Multum in Parvo," combining Cultivator, Horse Hoe, Ridge Plough, Subsoiler, Broadshare, and other forms; all expanding. Complete, 7*l.* 7*s.* Prospectus sent.—C. POWELL, Hurstgreen, Sussex.

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### AGRICULTURAL MACHINERY.

E. R. AND F. TURNER, Ipswich, manufacture Prize Mills for Crushing Corn, Seed, Malt, &c.; Portable Grinding Mills, Steam Engines fixed and portable from 2 horse-power and upwards; Threshing Machines, Chaff Cutter, Oilcake Breakers, Horse Gears, Saw Tables, &c., all of a superior description and adapted for Home, Colonial, and Foreign use. Illustrated Price Lists sent free on application.

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### MICROSCOPES.

JOSEPH AMADIO'S Improved Compound MICROSCOPE, 2*l.* 2*s.*; Students', 3*l.* 13*s.* 6*d.*

"Both these are from Amadio, of Throgmorton Street, and are excellent of their kind, the more expensive one especially."—*Household Words*, No. 345.

A large Assortment of ACHROMATIC MICROSCOPES.

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### BEE-HIVES.

PRIZE MEDAL AWARDED TO G. N. & SONS, FOR BEE-HIVES AND HONEY, AT THE PARIS EXPOSITION OF 1855.

NEIGHBOUR'S IMPROVED COTTAGE BEE-HIVE, as originally introduced by GEORGE NEIGHBOUR & SONS, with all the recent improvements, glasses, and thermometer, price 35*s.*, securely packed for the country.

This unique Hive has met with universal commendation, and may be worked with safety, humanity, and profit by the most timid; its arrangements are so perfect that the Honey may be taken at any time of the gathering season without at all injuring the Bees.

Early applications addressed to GEORGE NEIGHBOUR & SONS, 127, High Holborn, or 149, Regent Street, London, will receive prompt attention.

Their newly arranged CATALOGUE of other Improved Hives with Drawings and Prices, sent on receipt of two stamps.

AGENTS.—Liverpool: JAMES CUTHBERT, 12, Clayton Square. Manchester: W. WILSON, 50, King Street. Glasgow: AUSTIN & M'ASLEN, 186, Trongate. Dublin: J. EDMONDSON & Co., 61, Dame Street.

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### GREENHOUSES, ORCHARD HOUSES, AND PITS

OF EVERY DESCRIPTION, MADE BY STEAM MACHINERY, AND HEATED BY HOT WATER ON AN IMPROVED PLAN AT

J. LEWIS'S HORTICULTURAL WORKS, Stamford Hill, Middlesex, established 20 years. These Buildings are warranted of the best materials, and at prices which defy competition. The ventilation is most efficient, and the greatest improvement of the present day. Prices of any size on application. References in all parts of the United Kingdom.

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HANDS'S PATENT is the only system to circulate Heat, and for WARMING, FUMIGATING, and VENTILATING Hothouses, Greenhouses, Winter Orchards, &c.; to keep vegetation healthy in a humid atmosphere, and can be applied to any kind or shape of Forcing-houses and Conservatories now existing at trifling cost.—For particulars apply to Mr. JOHNSON HANDS, Epsom.

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VOKINS AND HURD, Seymour House, Jubilee Place, King's Road, Chelsea, BUILDERS OF HOTHOUSES, CONSERVATORIES, GREENHOUSES, PITS, and every description of erections in Glass work, either in Wood or Iron; also Heating the same by hot water on the most approved plans and at the lowest prices consistent with good work. Estimates forwarded.

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### HORTICULTURAL BUILDINGS AND HEATING BY HOT WATER.

JOHN R. PEILL, 17, New Park Street, Southwark, Manufacturer of every description of Buildings for Horticultural purposes, and Inventor of the Improved Conical Boiler for heating the same, is prepared to undertake works of any magnitude, and refers among others to the celebrated range of FORCING HOUSES at HER MAJESTY'S GARDENS, FROGMORE, and at SIR ROBERT PEEL'S, DRAYTON MANOR, constructed under the superintendence of his Manager, MR. JOHN JONES; and also to his BOILERS fixed at the CRYSTAL PALACE, the ROYAL BOTANIC GARDENS, REGENT'S PARK, and KEW, and at several hundreds of the Nobility's seats, Public Establishments, and Manufactories in London and the provinces. J. R. P. also manufactures every description of Iron Roofs, Iron Houses, and Iron Fencing, plain and ornamental. Strong Iron Hurdles for Sheep (6 feet long, 3 feet high, with 5 bars), 4*s.* 3*d.* each; ditto for cattle, 4*s.* 9*d.* each.

Prices and other particulars forwarded on receipt of one postage stamp.

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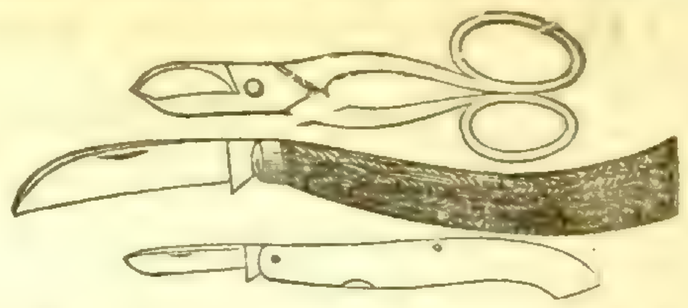
PAXTON WORKS, SHEFFIELD, ESTABLISHED 1738.



SAYNOR AND COOKE'S warranted PRIZE PRUNING and BUDDING KNIVES, SCISSORS, &c.—Sold by all respectable Nurserymen and Seed Merchants in the three Kingdoms.

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THE SIR JOSEPH PAXTON PATENT FILTERING WATERING POT.—Instead of this Watering Pot

having the nozzle or rose merely slipped on, as in the old way it is affixed by a thread-screw, so that it cannot fall off; and the spout is not liable to leak, break, or bend.

The section shows the interior, in which is a cone for the purpose of filtration. As the perforations in this cone are only half the size of the holes in the rose it is impossible for the spout to choke up. These simple improvements render the "Sir Joseph Paxton" Watering Can the best yet introduced.

To be had of all respectable Ironmongers, and Wholesale only of

Messrs. B. PERKINS & SON,
2 and 3, Bell Court, Cannon Street, E.C.

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JOHN WARNER AND SONS, Crescent, Jewin Street, London.—GALVANISED IRON TUB GARDEN ENGINE, with WARNER'S Registered Spreader, is strongly recommended, for durability and low price, viz., 2*l.* 19*s.*, to hold 10 gallons.

Larger sizes in wood or iron, viz., 14 gallons, 24 gallons and 35 gallons. May be obtained of any Ironmonger or Plumber in town or country, or of the patentees and Manufacturers, as also Machinery of all kinds for raising Water from any depth to any height by Steam, Horse, or Manual Power. Prices sent on application.

Syringes of various constructions and sizes from 9*s.* upwards. Metallic String from 5*d.* to 1*s.* 3*d.* per lb.

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### GARDEN ENGINES AND SYRINGES.

J. TYLOR AND SONS, Warwick Lane, Newgate Street, London, E.C., beg to call attention to their very superior manufacture of GARDEN ENGINES and SYRINGES.

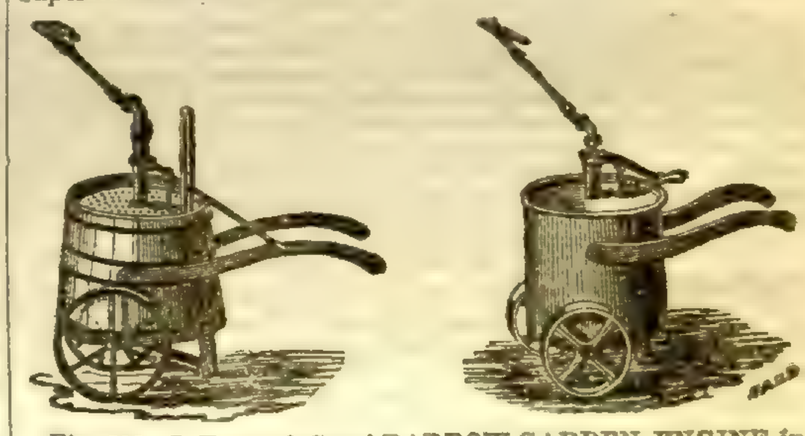

Fig. 598. J. TYLOR & SONS' BARROW GARDEN ENGINE in best well painted Oak tub, fitted with J. TYLOR & SONS' Improved Brass Pump, Universal Joint, and Registered Spreader, which answers the purpose of the separate rose, fan, and jet.

CONTENTS OF TUB:—

| 10 gallons | 15 gallons | 28 gallons |
|---|---|---|
| £4 10 0 | £5 10 0 | £6 18 0 |

Fig. 599. do. TINNED IRON TUB.

CONTENTS OF TUB:—

| 8 gallons | 12 gallons | 16 gallons | 24 gallons | 30 gallons |
|---|---|---|---|---|
| £2 15 | £3 5 | £4 | £5 | £5 18 |

Fig. 618. No. 1. REGISTERED SYRINGE, with India-rubber suction tube, one rose and jet .. .. £1 5 each.
No. 2. Ditto ditto 1 1 ,,
Telescope Branch Pipe for ditto .. .. 0 10 ,,

Fig. 619. GARDEN SYRINGE, with one rose and jet, 12*s.* 6*d.* each
,, 620. Ditto ditto 11*s.* 6*d.* ,,
,, 621. Ditto ditto 10*s.* 6*d.* ,,
,, 622. LADIES' GARDEN SYRINGE, without rose & jet, 8*s.*

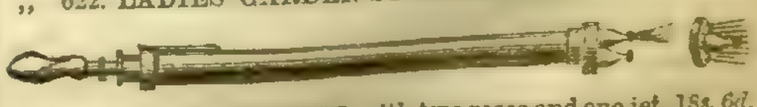

Fig. 623. READ'S SYRINGE, with two roses and one jet, 18*s.* 6*d.*
,, 624. READ'S SYRINGE, with one rose and jet .. 16 6
,, 625. Improved ditto ditto .. 14 6
,, 626. Ditto ditto ditto .. 13 0

Manufacturers of Pumps and Well Engines (for shallow or deep Wells), Plumbers' Brass Foundry of every description, High Pressure Cocks and Closets, Copper and Tinned-iron Baths, Garden and Fire Engines, Lamps of every description, Copper Goods, &c. Estimates given for Hot-water and Bath Apparatus.

# GRASS SEEDS FOR PERMANENT PASTURES & MEADOWS.

## THOMAS GIBBS & CO., Corner of Half-Moon St.,

### THE SEEDSMEN TO THE "ROYAL AGRICULTURAL SOCIETY OF ENGLAND,"

BEG to inform the Members of the Society and Agriculturists generally that their MIXTURES of GRASS SEEDS for Laying down Land to Permanent Grass are now ready. Each kind of Grass Seed composing these Mixtures is cleaned separately, and the kinds are proportioned to suit different soils.

☞ *Full Directions for Sowing and Management will be sent with the Seeds.*

**MIXTURES for PERMANENT MEADOW and PASTURE** (*to suit different soils*).
**MIXTURES for PARKS, FIELD LAWNS, CEMETERIES, &c.**
**MIXTURES for IRRIGATION MEADOWS, GAME COVERS, and all other purposes.**
**RENOVATING MIXTURES for Improving Old Meadows and Pastures** (8 to 12 lbs. per acre).

| MANGEL WURZEL. | RYE-GRASS. | | |
|---|---|---|---|
| Yellow Globe, Orange Globe (selected) | Italian (selected, very fine) | Carrots | all sorts |
| Long Red | Dickinson's | Clovers | ,, |
| Red Globe | Imported Foreign Seed | Swedes | ,, |
| Long Yellow | Common or Annual | Hybrids | ,, |
| Silesian Sugar Beet | Pacey's Perennial | Common Turnips | ,, |

**KITCHEN GARDEN SEEDS in Collections, at £1, £2, and £3 each.**

Thomas Gibbs & Co.

CORNER OF
**HALF-MOON St.**
PICCADILLY, LONDON, W.

## ALL KINDS OF AGRICULTURAL SEEDS.

*Price Lists sent free on application.* *Reference or Cash required from unknown Correspondents.*

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### NATURAL GRASS SEEDS.

PETER LAWSON AND SON, THE QUEEN'S SEEDSMEN, can supply genuine Seed of all the valuable kinds of the NATURAL GRASSES suitable for Lowland and Upland Pastures; also for Laying-down Lawns, Bowling Greens, Cricket Grounds, Cemeteries, Railway Banks, &c.

PRICED LISTS may be had free on application.—PETER LAWSON & SON, 27, Great George Street, Westminster.

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### "JACK OF NEWBURY" SWEDE, ETC.

PETER LAWSON AND SON, THE QUEEN'S SEEDSMEN, &c., 27, Great George Street, Westminster, respectfully request attention to their very genuine Stock of the above excellent Swede; also of the LOTHIAN PURPLE-TOP SWEDE, both of which have been selected with the greatest care. They have also a very fine Stock of the KOHL RABI, or TURNIP-ROOTED CABBAGE, specimens of which were shown at their Stands at Smithfield Club Show. The Kohl Rabi was largely grown last season, and may now be relied on as a substitute for the Turnip and Mangel, where these roots do not succeed, or for filling up blanks where there is a partial failure. Its feeding qualities, hardiness, and weight per acre are equal to the Swede, and all kinds of stock prefer it to other roots.

P. L. & SON have also selected a first-rate Stock of MANGEL WURZEL SEED, which they can confidently recommend. Their natural GRASS SEEDS have been also saved with very great care, and they are ready to supply them separately or in mixture, for laying down Permanent Pastures, Lawns, &c.

P. L. & SON have arranged to deliver Seeds free throughout England and Wales from their London Establishment, for all quantities exceeding 20*s.* in value.

LISTS OF PRICES of the above and all other Seeds, Plants, &c., may be had on application.

27, Great George Street, Westminster.

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NEW HARDY WHITE SWEDE.—This Swede is hardier than any other kind, grows to a large size, is adapted for sowing upon poor land, is not affected by frost, and keeps good in the ground or in store till the end of May. New and genuine Seed of this excellent Swede, price 1*s.* per lb. (carriage free for orders of 30 lbs. and upwards) may be had of RAYNBIRD & HARVEY, Seedsmen, Basingstoke; and 89, Seed Market, Mark Lane, London, E.C.

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### IMPROVED WHITE SWEDE.

WHITE SWEDES are much preferred for late feeding, as they are extremely hardy, juicy, and late in sprouting; but the white Swedes in common cultivation are coarse and rooty.

SUTTON & SONS, Seed Growers, Reading, have however now succeeded in raising a choice stock of IMPROVED WHITE SWEDE, containing all the merits of the old kind without its faults. Some of these fine Swedes were exhibited on their stand at the Smithfield Club Show, and attracted great attention. Present price of Seed, 10*d.* per lb., 5*s.* per gallon. Early orders will be necessary, as a considerable portion of the stock is already bespoke.

Royal Berkshire Seed Establishment, Reading.

---

### SUTTON'S PRIZE MANGEL AND SWEDE SEED.
### THE BIRMINGHAM PRIZES.

At the Great Root Show at Birmingham in December last (as in former years), the principal Prizes for Swedes, Mangels, and other Roots were awarded to Messrs. SUTTON'S Customers, viz.:—

| | |
|---|---|
| The Rev. THOMAS STEVENS | RICHARD BENYON, Esq. |
| JOHN B. STARKEY, Esq. | Mr. WM. HORSBURGH |
| GEORGE B. MORLAND, Esq. | Mr. GEORGE MANGLES |

GEORGE MACKENZIE KETTLE, Esq.

**Also EIGHT 25 GUINEA CUPS from H.R.H. the PRINCE CONSORT for the best 5 acres of Swedes at each of Eight Agricultural Meetings in East Berks and South Bucks.** At all of these there was great competition, and in every instance the CUP was awarded to SUTTON'S CHAMPION SWEDE. Also many other distinguished Prizes in Berkshire and other Counties. SUTTON & SONS are now sending out the Seed at 1*s.* per lb. for Champion Swede, and 9*d.* for their choice Mangel Wurzel, or cheaper by the bushel and cwt. Early orders necessary.—Royal Berkshire Seed Establishment, Reading.

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### THE SWEDE WHICH NEVER MILDEWS.

SUTTON'S CHAMPION SWEDE has again gained the TWO 25 GUINEA CUPS presented by H.R.H. The PRINCE CONSORT to the Royal East Berks and the Royal South Bucks Agricultural Associations, making Eight Twenty-five Guinea Cups at these two Societies.

This is the heaviest cropper and most certain, as it rarely (*if ever*) suffers from mildew, and has entirely escaped the ravages of the fly during the last two years in which these pests were so prevalent. Price 1*s.* per lb, or cheaper by the bushel.

SUTTON & SONS, Seed Growers, Reading, Berks, have at present a good stock of seed of the above. **Early orders are requested to prevent disappointment.**

Royal Berkshire Seed Establishment, Reading.

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### NURSERYMEN, SEEDSMEN, & FLORISTS TO HER MAJESTY THE QUEEN.

### NEW FUCHSIA,

# "LORD CLYDE" (YOUELL'S).

IT is with much pleasure and satisfaction that we have the opportunity of offering for the present season the above truly novel and probably the most beautiful Fuchsia that has yet been introduced. The tube and sepals (which are of great substance) are of rich glossy scarlet, the latter most perfectly reflexed, exhibiting a large well-folded corolla of rosy pink, distinctly flaked, with broad stripes of bright violet purple. The habit of the plant and the profuseness of its blooming properties are all that can be desired. It flowered for the first time in 1857, and proved again in 1858, and has maintained its character in every respect. Strong plants will be ready for sending out on and after April 27, at 10*s.* 6*d.* per plant. (Per post free, if required.)

*Correct Coloured Engravings, by* Mr. ANDREWS, *will be forwarded to any address on receipt of 6 postage stamps.*

**YOUELL & Co.'S ROYAL NURSERY, GREAT YARMOUTH.**

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### TO MANGEL GROWERS.

SUTTON'S ELVETHAM MANGEL WURZEL AND SELECTED YELLOW GLOBE.—These two sorts of Mangel are still preferred to all others by the principal root growers throughout the kingdom.

SUTTON & SONS have some fine SEED of each sort saved from large Roots, price 9*d.* per lb., or cheaper by the cwt.

Royal Berkshire Seed Establishment, Reading.

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### EARLY SHEEP FEED.

SUTTON'S IMPROVED ITALIAN RYE-GRASS has proved the best kind for general cultivation, being the most productive and hardy, growing freely in all soils.

*From* JOHN BALDWIN, Esq, *Luddington, April* 11, 1859.

"It is certainly delightful to stroll about and witness the sheep up to their knees in your beautiful Italian Rye-grass."

*From* FREDERICK F. HALLETT, Esq., *The Manor House, Brighton, March* 15, 1858.

"I mowed your Italian Rye-grass at Christmas, 1856, within three months after sowing; again April 12, 1857; three times since, and am mowing it again now (March 15). The cut on April 12 was 4 feet high, and a perfect mass of Grass."

Messrs. SUTTON have some Seed of this sort now on sale, price 7*s.* per bushel. Quantity to be sown per acre, 3 bushels.

PRICED LISTS post free.—Address SUTTON & SONS, Royal Berkshire Seed Establishment, Reading.

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750 BEDDING PLANTS for 7*l.* including basket and packing, or one half for 3*l.* 15*s.*

| | |
|---|---|
| 20 Anagallis, 2 sorts | 25 Lobelias, 6 sorts |
| 12 Ageratum, 3 sorts | 50 Hollyhocks, Seedlings |
| 50 Calceolaria, 6 sorts | 12 Koniga |
| 12 Celsia, 2 sorts | 12 Nierembergia |
| 50 Chrysanthemums, 50 sorts | 12 Œnotheria riparia |
| 12 Cupheas, 3 sorts | 50 Petunia single, 25 sorts |
| 50 Dahlias, 50 sorts | 50 do. double, 25 sorts |
| 50 Fuchsias, 50 sorts | 20 Salvias, 6 sorts |
| 50 Geraniums, Scarlets &c., 50 sorts | 12 Senecio, double purple |
| 50 do. Variegated, 12 sorts | 20 Tropæolum, 6 sorts |
| 20 Heliotropes, 12 sorts | 12 Variegated Mint |
| | 100 Verbena, 100 sorts |

Apply to J. SCOTT, Merriott Nurseries, Crewkerne, Somerset. Post-Office Order on Crewkerne, or crossed cheques from unknown Correspondents. Catalogues on application, for two stamps.

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GREENHOUSE PLANTS, 12*s.*, 18*s.*, 21*s.* per doz.—Fine bushy grown plants, consisting of the best kinds such as Pimeleas, Polygalas, Chorozemas, Aphelexis, Tremandras, Boronias, Leschenaultia, Gompholobium, &c.; also all the leading Creepers.

STOVE PLANTS, 12*s.*, 18*s*, 21*s.* per doz.—The best kinds, Begonias of sorts (Rex), Francisceas, Ixoras, Aphelandras, Gesneras, Gloxinias, Medinillas, Vincas, Allamandas, Stephanotis, Rhynchospermums, Dipladeniums, Hoyas, Gardenias, and variegated plants.

AZALEAS, consisting of the new and leading kinds, with flower buds, 12*s.*, 18*s.*, 21*s.*, and 30*s.* per doz.—A large quantity of young specimens of various sizes.

ERICAS, fine grown stuff of the leading sorts, 12*s.*, 18*s.*, 21*s.*, 30*s.* per doz., in 48 and 32-size pots. A quantity of half and full-grown specimens.

TO THE TRADE.

20,000 of young stuff just potted off, in 60-size pots, 5*s.* per 100; pretty plants and very bushy.

ACHIMENES, TYDEAS, AND GLOXINIAS.—All the new and leading kinds (strong bulbs and tubers), of Messrs. Van Houtte, Verschaffelt, Parker, &c., 6*s.*, 9*s.*, 12*s.* per doz.

EPPS's Nurseries, Maidstone.

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### SPLENDID BEDDING PLANT,
### TRITONIA AUREA,
### THE GOLDEN TRITONIA.

LUCOMBE, PINCE, AND Co. having a very large stock of this most beautiful hardy bulb can offer it well established in pots, fit for immediate planting out, at the undermentioned exceedingly moderate prices.

Nothing can surpass the brilliancy of its rich golden orange-coloured flowers, which are produced in the greatest profusion upon graceful slender stems, and stand unblemished the heaviest showers and most fervent sun. They strongly recommend the Golden Tritonia as one of the most effective plants for masses ever introduced. It cannot fail to give satisfaction; indeed, as that excellent authority Donald Beaton truly remarks in the "Cottage Gardener" "IT IS ESTABLISHED AS A FIRST-RATE AUTUMNAL ORNAMENT TO THE FLOWER GARDEN."

| | | | |
|---|---|---|---|
| 100 Strong Bulbs.. | £3 0*s.* 0*d* | 25 Strong Bulbs.. | £1 0*s.* 0*d.* |
| 50 do. do. .. | 1 15 0 | 12 do. do. .. | 0 12 0 |
| Single Bulbs .. .. .. .. | | 1*s.* 6*d.* each. | |

Exeter Nursery, Exeter. Established 1720.

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DOWNIE AND LAIRD beg to offer the following, which they warrant all fine show varieties, viz.:—

| | |
|---|---|
| 100 Pansies, in 25 sorts .. 30*s.* | 100 Hollyhock seedlings from finest named vars. 20*s.* |
| 100 Hollyhocks, in 25 do. 84*s.* | |

100 Phloxes in 30 varieties, 40*s.*

Selection of the above left to D. & L. A liberal allowance to the Trade.—17, Frederick Street, Edinburgh.

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### PLANTS IN FLOWER.

F. AND A. SMITH have now in bloom Acacia, Cactus (fine), Cytisus; Erica ventricosa coccinea minor, v. superbiens, v. breviflora, E. intermedia, E. Cavendishi, E. hybrida, E. perspicua nana; Fuchsias, Calceolarias, Heliotrope, Hydrangea, Geraniums, Fairy Roses, &c.

The above are healthy, strong, and well-grown plants, prepared for sending away. Prices on application.

Dulwich, Surrey, S.

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### SUPERB DOUBLE BALSAMS.

F. AND A. SMITH are now sending out seed of their superb BALSAMS, which are unrivalled for size, form, brillancy of colour, doubleness of flower, and habit of plant.

| | |
|---|---|
| In collections of nine separate colours .. .. | 2*s.* 6*d.* |
| ,, ,, mixed ,, .. .. | 2 0 |
| ,, ,, ,, ,, half quantity | 1 0 |

The above are *genuine only* in our sealed packets, and may be had of most respectable Nurserymen and Seedmen in the United Kingdom.—Dulwich, Surrey, S.

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### DAHLIAS.

W. HOLMES offers the above in fine plants at 4*s.* per dozen, the new flowers of last year from 6*s.* to 9*s.* per dozen in April.

| | | | |
|---|---|---|---|
| Chrysanthemums, 5*s.* per doz. | | Verbenas, from 2*s.* 6*d.* to 4*s.* p. doz | |
| Fuchsias, 4*s.* to 6*s* | ,, | Antirrhinums, 4*s.* to 6*s.* | ,, |
| Heliotropes, 2*s.* 6*d.* | ,, | Cupheas, 2*s.* 6*d.* | ,, |
| Petunias, 3*s.* | ,, | Calceolarias, 4*s.* | ,, |

Geraniums, Senecio, Lobelias, &c., equally cheap. Catalogues upon application free for one stamp.

Frampton Park Nursery, Well Street, Hackney.

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### CALLICARPA PURPUREA.

JOHN STANDISH, the exhibitor of the above (at St. James's Hall), can supply a few good plants at 7*s.* 6*d.* each. The following passage from Dr. Lindley's leading article in the *Gardeners' Chronicle* for Nov. 20 will give an idea of its beauty:—"Callicarpa purpurea, quite insignificant when in flower, was beautiful in its winter dress of innumerable rich purple berries, about the size of swan shot." It is easily cultivated, and does well in a cold greenhouse or conservatory planted out, where it will produce thousands of bright purple berries resembling glass beads, and remaining on nearly the whole winter.—Bagshot, April 23.

# CHOICE FLOWERS.

# BUTLER & McCULLOCH'S SPRING CATALOGUE OF SEEDS,

ARRANGED on a new and original plan, with copious Descriptive and Cultural Notes and containing many new and rare species and varieties not found in any other Catalogue, now ready and may be had free and post paid on application.

FLOWER, SHRUB, TREE, and VEGETABLE SEEDS, the crop of 1858, saved with the greatest care, by the most eminent growers.

We may also state that the Sardinian correspondent of Messrs. James Carter & Co., whose Seeds, especially Carnations and Picotees, have given such universal satisfaction, has transferred the Agency from that firm and appointed us his representative in this country. To meet the growing demand for first class flowers, particularly FLORISTS' FLOWERS, we have adopted our usual maxim of charging the lowest possible prices.

Professor Lindley in the *Gardeners' Chronicle* of February 5th, has the following notice of B. & McC.'s Catalogue.

"Butler & McCulloch's (Covent Garden) Spring Catalogue of Choice Flower, Shrub, Tree, and Vegetable Seeds. This list fills 84 closely printed 8vo pages, and is remarkably well got up. It appears that the correspondent in Sardinia, who formerly supplied one of the great London houses with seeds raised in that warm part of Europe, has now transferred what he saves to Messrs. Butler & McCulloch. Let us add, that it yields to no Trade List in the abundance of its materials or the excellence of its arrangements."

BUTLER and McCULLOCH, while drawing attention to their general SPRING CATALOGUE which has elicited such high encomiums both from the scientific botanist and amateur cultivator, avail themselves of the present opportunity to select from its pages the following list:—

(37) ACACIA LONGIFOLIA (magnifica).
One of the most splendid Acacias in cultivation, with gorgeous clusters of bright yellow flowers several inches in length; very hardy, rare, and beautiful. Of these graceful and highly ornamental plants our collection embraces no fewer than 47 varieties, all of the most decorative character.

(65) AILANTUS GLANDULOSA.
This may be compared to a gigantic Stag's-horn Sumach. It grows fast even on thin poor soil, is invaluable for avenues, and highly ornamental in shrubberies; sometimes called Tree of Heaven.

ALPINES.
Of these beautiful little plants we have a splendid collection, embracing all the most admired kinds, collected and arranged for us last autumn by M. Ortgies, the Curator of the Zurich Botanic Gardens. The value of Alpine plants for rock-work is too well known to require comment. These collections we can confidently recommend, containing, as they do, species only of highest merit.

(154) BALSAM.
New Indian variety, very ornamental, mixed colours, more robust and hardy than the other varieties.

(217 A.) CAMELLIA JAPONICA.
From the newest and finest striped and other varieties of that much admired genus.

(243) CANNA INDICA SUPERBA.
A magnificent plant flowering all the winter; leaves large, fine green. Of this picturesque and most ornamental genus we have a magnificent collection, consisting of 28 kinds, all remarkable both for the beauty of their flowers and foliage.

(304) CELOSIA (species nova).
A most elegant plant, producing a multitude of long spikes of feathery blossoms, silvery white shaded with bright rose, retaining its colour perfectly when dried, and therefore admirably adapted for winter bouquets; one of the greatest novelties of the season, flowering out of doors or in pots from July to October. Well worth attention. A dried specimen may be seen.

(337) CHRYSANTHEMUM (New Golden).
An exceedingly beautiful bedding plant. Of Chrysanthemums we have a splendid collection, embracing all that is new or rare in that fine class of plants.

(344) CHRYSOCOMA COMAUREA.
Fine evergreen shrub, bearing a profusion of golden ball-like flowers; one of the handsomest greenhouse plants in cultivation.

(451) DATURA HUMILIS FLORE PLENO.
A magnificent Brugmansia-like plant producing a profusion of deep golden-yellow flowers; very large, double, and sweet-scented. One of the greatest novelties of the season.

(553) GAILLARDIA GRANDIFLORA.
The finest of the species, flowers very large (new). Of this useful and showy genus we have several other handsome vars.

(972) PELARGONIUMS.
Of these both large flowered and fancy, very choice, and of other splendid varieties, including Scarlets, we have a fine stock, which cannot fail to prove highly satisfactory.

(1149) SOLANUM CAPSICASTRUM.
Miniature Orange tree, covered all winter with a profusion of scarlet fruit; a handsome plant for greenhouse or sitting rooms.

(1335) BIGNONIA RADICANS MULTIFLORA.
Finer and brighter than radicans; flowers in large panicles producing a splendid effect.

(1380) IPOMŒA HYBRIDA MARGINATA.
Large and magnificent; flowers of various colours on the same plant, varying from the richest velvety purple to sky-blue, bordered in the most distinct manner with pure white (new and rare). This and three new varieties of Hederacea grandiflora far surpass the old and deservedly favourite rubro-cœrulea for beauty, hardiness, and free flowering; they rank high amongst the novelties of the season, possessing advantages which will render them the grandest ornaments for the greenhouse, conservatory, or for out-door decoration.

(1468) TACSONIA IGNEA.
This magnificent Passionflower is unequalled for the brilliancy and splendour of its scarlet blossoms, far surpassing in this respect any of its class yet known. It flowers most profusely, grows rapidly, and covers a large space in an incredibly short time. It succeeds in a cold greenhouse, and even against a south wall with a little protection in winter (new and rare).

(1488) TROPÆOLUM TRIOMPHE DE GAND FIMBRIATUM.
Fringed orange scarlet.

CARNATIONS and PICOTEES saved from the most choice Collection of English varieties grown on the continent, and which may be expected to produce flowers of the highest merit, sent out in sealed packets as received from our Sardinian correspondent, whose seeds for many years have given such universal satisfaction, and from which varieties of the greatest excellence have been raised.

For prices and further particulars with regard to the above and other novelties, we refer our patrons to the Catalogue itself, which is sent free and post paid on application.

**BUTLER & McCULLOCH, Covent Garden Market.**

SPRING CATALOGUE.

MESSRS. ARTHUR HENDERSON and CO.'S CATALOGUE of SOFT-WOODED PLANTS (including all the leading useful novelties for this year), can now be had of them post free, on application.

Pine-apple Place, Edgware Road, London, W.

ROYAL SOUTH HANTS SEED ESTABLISHMENT,
Under the Patronage of H.R.H. the Prince Consort, The Agricultural Society of India, and the leading Agriculturists of the United Kingdom.

PAGE and TOOGOOD'S STOCKS have produced the finest specimens exhibited at Smithfield, and are so well known and appreciated that comment on their part is unnecessary. Their prices compete with any house in the trade.

Present prices, Carriage Free to all parts of England:—

| | Per lb.—s. d. | | Per lb.—s. d. |
|---|---|---|---|
| Skirving's Swede | 0 6 | Hardy Green Round | 0 6 |
| Page's Improved | 0 8 | Early Six Weeks | 0 6 |
| Ashcroft | 0 6 | Kohl Rabi | 2 6 |
| Greentop | 0 6 | Yellow Globe Mangel | 0 6 |
| Sussex, or Jeffery's Tankard | 0 9 | Page's Impl. Orange Globe* | 0 8 |
| Red Round Turnip | 0 7 | Red Globe | 0 7 |
| Page's Improved Red Globe | 0 6 | Elvetham Long Red | 0 7 |
| Scotch or Bullock | 0 8 | Long Red | 0 6 |
| Pomeranian White Globe | 0 7 | Long Yellow | 0 7 |
| Early Green Globe | 0 6 | White Belgian Carrot | 1 0 |
| ,, White Tankard | 0 7 | New Red | 1 3 |
| Red Tankard | 0 7 | Long Altringham | 1 3 |
| Green ditto | 0 7 | Cattle Cabbage | 2 6 |
| Yellow ditto | 0 7 | Cattle Parsnip | 1 0 |
| | | Dwarf Essex Rape | 0 4 |

* Bulbs of this variety have acquired the enormous weight of 44 lbs., as shown at Smithfield Club.

BUCKWHEAT, MUSTARD, LINSEED, TARES, SAINFOIN, HOLCUS SACCHARATUS, 1s. per lb.
Fine PERMANENT PASTURE GRASS, ITALIAN RYE-GRASS, CLOVER, &c., at lowest market prices.
Special contracts for large quantities. Seeds packed for exportation to all parts of the world.

Oxford Street and Above Bar, Southampton.

TWO HUNDRED GUINEAS IN EIGHT PRIZES.

For Four Years Successively His Royal Highness the Prince Consort's Prize Cups have been Awarded to

SUTTON'S CHAMPION SWEDES at the East Berks and South Bucks Agricultural Societies in 1855, 1856, 1857, and 1858. New Seed now ready, 1s. per lb., or cheaper by the bushel, carriage free.

Royal Berkshire Seed Establishment, Reading.



# The Gardeners' Chronicle.

*SATURDAY, APRIL 23, 1859.*


MEETINGS FOR THE FOLLOWING WEEK.
Wednesday, April 27—Microscopical..... 8 P.M.

The possibility of IMPROVING THE SIZE AND QUALITY OF GRAPES by ringing the branches continues to excite interest in France. The nature of the process having been explained at pp. 399 and 780 of our last volume, we have now only to add a statement of the results that were exhibited last autumn at a meeting of the Paris Horticultural Society, as published in the Annals of the Society of the Gironde.

A small lot of Grapes, says M. Glady, the Bordeaux reporter, exhibited by M. Rose Charmeux, a grower at Thomery, surpassed all the rest in beauty; one could not tire of admiring his magnificent bunches with golden transparent amber-coloured berries, far more luscious in appearance than the best coloured Grapes of our (Bordeaux) vineyards. Chasselas de Fontainebleau and Gros Damas were piled in elegant pyramids, supported by charming wicker baskets. The Gromier du Cantal, Superbe De Candolle, Valencia, Grosse Perle blanc, and Gros Ribier du Maroc, all sorts with enormous berries, excited the admiration of everybody. They readily sold at 4 fr. the kilo, although it was already the end of September.

Those who wish to know how such admirable results were obtained should well consider what follows. The Vines of Thomery are trained against walls, in such a manner as not to lose a single yard of surface; there are no vacancies, but Grapes over the whole surface. In the spring the wall is protected by screens, glass sashes, straw mats, linen blinds, or anything at hand that will keep off frost, and the low temperature of spring. Sulphuring is applied whenever necessary. The young shoots are constantly pinched or laid in during the whole season of growth; tendrils are removed, the bunches themselves are thinned out wherever there are too many; the berries are also thinned by the Grape scissers, and when summer comes with its long dry weather the night dews are imitated by a good syringing every evening. The vigour of the Vines is also kept up by a good supply of manure every three years. Such management is the secret of the delicious Chasselas de Fontainebleau Grapes with their European reputation.

Among those who have been most successful in Vine ringing is M. Bourgeois, of Perrey, near Rambouillet. This gentleman's Chasselas were in the following condition:—He had several pieces of bearing wood each with two or three shoots whose Grapes were extremely unequal in size. The shoots left to themselves had only bunches in the common condition, while the contiguous ringed shoot bore a superb bunch with magnificent berries, each twice as large as the other. This was the case with every piece of bearing wood in which one shoot had been ringed and the other not. In the opinion of M. Bourgeois these advantages belong to the ringing system, namely, a fortnight's earliness, finer berries, and better quality. When the Vine is about to flower he removes a ring of bark something less than half an inch wide just below the insertion of the bunch to be experimented on. That is all he does, taking care however that as the shoot is eventually destroyed by the operation, such shoots only are selected as would have to be cut out at the next year's pruning.

The only difficulty in the operation consists in removing the ring neatly, and not cutting too deep. For this purpose a little instrument has been contrived by M. Creusan Jouet, a cutler in the Rue des Epiciers at Bordeaux, which may be easily obtained through any Paris nurseryman or seedsman.

It is now pretty generally known that the Council of the Horticultural Society have decided upon employing the method of Ballot, or lottery if the word is preferred, for distributing plants among the Fellows, a measure to which they have been led by the extreme difficulty of making a satisfactory allotment by other means. Last Friday the first ballot of the season took place in presence of the Council; and the general result may not be without interest.

Two hundred and ninety-four Fellows, each having two chances, and 95 Fellows, each having one chance, had entered their names. There were 250 prizes, and consequently 433 blanks. The issue of the drawing was this:—

| | | | Prizes. |
|---|---|---|---|
| Of Fellows having each two chances | 43 | obtained | .. 2= 86 |
| ,, ,, ,, | 119 | ,, | .. 1=119 |
| ,, ,, ,, | 132 | ,, | .. 0 |
| Of Fellows having each one chance | 45 | obtained | .. 1= 45 |
| ,, ,, ,, | 50 | ,, | .. 0 |
| | | | 250 |

Among the prizes were 70 plants of the new and very curious Pinus Don Pedri, 20 of Rhododendron Dalhousieanum, 100 of Ferns from Borneo, 100 Cupressus Lawsoniana, 100 C. Macnabiana, 40 Berberis from Pichincha, 50 Clematis leptophylla, 100 Bambusa gracilis, 20 Chamæcyparis thurifera, 50 Prostanthera nivea, and 40 Helleborus olympicus. Another and more extensive ballot is expected to take place in the month of June.

After the disheartening ravages which were inflicted last year in one of our first-rate nurseries by a little fungus, which baffled every attempt to suppress it, we are not surprised at any anomalous appearance in the stove or conservatory creating considerable alarm. Accordingly we received some anxious inquiries respecting a very curious appearance which presented itself on the leaves of Orchids and some other plants in the same stove. These leaves, but more especially their under surface, were studded with brown globular bodies as large as a grain of Mustard seed, firmly attached by a few very short mucous threads. We confess that we were at first greatly puzzled by them. It

appeared, however, that they were equally abundant on the walls of the house, therefore there was no question as to any intimate connection with the Orchids. It appeared on examination under the microscope that they were not seeds, there was not a trace of starch, and the cellular tissue and its reaction under the usual chemical agents indicated that the bodies certainly were of fungous origin.

Now there is a pretty little Fungus known under the name of *Sphærobolus stellatus*, which has the curious property of shooting out its single, globose, shot-like sporangium by the inversion of its inner membrane. The force with which this takes place must, in proportion to the size of the sporangium and the membrane in which it is contained, equal that of a shell projected from a mortar. The sporangia accordingly are sent to a considerable distance, and as the surface is sticky they adhere to the substances on which they impinge. It struck us, therefore, that the bodies on the Orchid leaves might possibly be these sporangia, and we desired the intelligent cultivator who had sent us the specimens to examine the Orchid baskets and see if he could find any traces of the *Sphærobolus*. The result of the inquiry is that we received this morning abundant specimens of the fungus, which seems to be developed upon every fragment of *Sphagnum* in the Orchid pots. All alarm has of course subsided, and the case may teach an important lesson to cultivators, who can find out many a matter for themselves upon the spot which the most experienced can only guess at without an opportunity of personal examination. We wish that all questions of Vegetable Pathology might meet with so satisfactory a solution. *M. J. B.*

## RHODODENDRONS—No. VIII.

THE preceding papers under this head have referred more especially to hardy hybrid Rhododendrons. We come now to speak directly of those from Sikkim and Bootan: for although the general principles for the successful treatment of all are in the main identical, the latter present some specialities for separate consideration.

As was hinted in our introductory paper, the direct garden value of these fine plants has hitherto been and will continue to be found, not as occupants of the "American garden," but as ornaments to our greenhouses and conservatories. Considered as such they can hardly be over-estimated; but with one or two exceptions they are entirely unsuited for open air culture in this country. The protection they require however is so slight as to render their successful cultivation attainable by almost every one who possesses a greenhouse or pit. Where however a structure can be devoted entirely to them as a collection, it will be found highly advantageous, for under no other circumstances can they be so successfully grown, and as any protection from cold beyond actual exclusion of frost is unnecessary, a suitable building need only be of very simple construction. Of course they may be all cultivated with more or less success in company with other plants, demanding and receiving a higher temperature than is implied by the slight protection alluded to, but, as we shall presently see, the greater the amount of warmth and confinement they are subjected to at particular periods of their growth, the greater the care required for their successful culture.

Although found growing naturally on widely different elevations and in various habitats, implying a great diversity of temperature and local influence, they, in general, associate well together under artificial treatment. The fears expressed by Dr. Hooker on their first introduction, that such would not be the practical results, have happily not been realised. Even in a natural state, they, like plants in general, readily adapt themselves to accidental circumstances, and under the opposite conditions of cultivation they are equally docile. Is not Dalhousiæ on its native hills at once an Epiphyte and a terrestrial plant? And does it not here at once settle down quietly in a pot of red clay and an artificial compost? Edgeworthii too is equally an Epiphyte, and as readily forgets the Pine branches on which it flourished in the humid forests of the Himalaya to become humbled on a greenhouse stage in England. And glaucum and setosum too from elevations of 12,000 to 16,000 feet in Nepal or Sikkim, descend to luxuriate in a peat bed at Clapham or Hounslow! And equally ready are the other kinds to adapt themselves to artificial treatment, under which aspect alone we must here consider them.

Perhaps no point in their culture is of greater importance than the necessity for preventing the scorching of the leaves. And in unskilful hands or under injudicious treatment this is very likely to be, as it often is, the result. The remedy, or rather the preventative, is a free circulation and an abundance of fresh air about the plants when growing, accompanied of course by ample root moisture. At the growing season cultivation must be liberal, any approach to a system of coddling * will assuredly be fatal. A slight shading when the sun is powerful will then often be found necessary, or at least beneficial, but even that assistance must be cautiously resorted to. If the shoots be made and matured (imperfectly of course) under conditions which have prevented the tissues of the leaves from acquiring their proper solidity, or if during their formation they be allowed either from a deficiency of moisture or from an over-heated atmosphere, or from both in combination, to become flaccid to any considerable extent, the edges at least of such leaves will rarely regain a healthy tone, but will in a short time assume the appearance of brown paper, to the destruction of the present beauty of the plant so damaged, as well as a certain hindrance to its future progress. Coddling in any garden operation in which plants are concerned is a mistaken kindness, and sooner or later defeats its own purpose; but in the cultivation of Sikkim Rhododendrons it is absolute destruction. In this respect they very much resemble Heaths, and he who can grow those plants well need not despair with the Sikkim Rhododendrons. A close atmosphere and drought at root are alike fatal to both. And though we have as yet but cursorily alluded to the importance of root moisture in connexion with the subjects of this paper, it is an equally essential condition in their success, as in that of their relatives previously treated on. Rhododendrons in pots or tubs especially demand great vigilance to prevent dryness at root, and it cannot be urged too forcibly on all who cultivate such, that if a Rhododendron so situated become once thoroughly root dried, it receives an amount of damage that years of subsequent care will hardly compensate.

Where convenience and space will allow some of the finer species to be planted out in the conservatory border, they should certainly be so treated. Careful culture would enable them to develope their true characters under such conditions; and, apart from their flowers, which would of course be their chief decorative features, the foliage would form no mean attraction, as all will readily testify who have seen large, healthy, vigorous plants of Falconeri, Hodgsonii, argenteum, or Nuttallii.

In choosing plants as permanent occupants of the conservatory or other structure devoted to a mixed collection of plants, it will of course be advisable to select such as will best sustain the greatest amount of heat; and fortunately these are among the most attractive kinds. Edgworthii, Dalhousiæ, Maddeni, Jenkinsii, calophyllum, and Nuttallii may be especially selected.

As regards soil their requirements are almost identical with those of the ordinary and hybrid varieties. A mixture of leaf mould, sand, and fibrous loam suits them admirably. And, like the hardy kinds, they, with one or two exceptions, graft well. I lately examined a collection of some hundreds of grafted plants, which were among the earliest of those "worked," and consequently are now at least 6 or 7 years old. In most of them the union between scion and stock could hardly be detected, and their general health left nothing to be wished for. It is clear therefore that objections to grafted Sikkim Rhododendrons are equally unfounded as with those of the hardy kinds. But of the stocks:—All the free-growing kinds, as Dalhousiæ, Edgeworthii, and Nuttallii, succeed best on the common ponticum, in fact Dalhousiæ refuses to unite well with any other; while fulgens, Wighti, Thomsoni, and all those which have affinity with campanulatum, are best grafted on hybrid catawbiense stocks. The process of grafting and the necessary conditions are identical with those previously detailed and illustrated.

The small free-flowering species, as setosum, ciliatum, and glaucum, may readily be increased by cuttings and seeds, and other free-growing kinds which throw plenty of wood are also easily propagated by cuttings; but for the species in general, and for quickly obtaining blooming plants, grafting offers by far the greater advantages, and to this, as we have seen, there are no valid objections. The only species which has hitherto not grafted successfully is lanatum; why, it is difficult to determine, seeing that its close allies are among the readiest to succeed, nor indeed is it more tractable on its own roots, and there is at least the satisfaction of knowing that grafted plants, indifferent though they may be, are always superior. When any of the kinds assume a straggling habit of growth as some of them naturally do, Edgworthii and Dalhousiæ for example, the knife may be fearlessly resorted to as a remedy. Cut as much as may be necessary to form well-shaped plants; plenty of new shoots will result, provided always however that the plants so pruned are strong at root and well established.

Here these papers may be brought to a close. They have run to a greater length than was originally contemplated, but as they were written to meet the inquiries of several correspondents, one of whom requested such information as should "guide those who have had no experience in the matter," it was necessary to treat the various subjects in an elementary manner, it is hoped sufficiently so. If however any topic should have been inadvertently overlooked, or too cursorily treated, and intimation of such should reach the writer it shall be amply treated in a supplementary paper. *G. Lovell, Bagshot, Surrey.*

* I use this term for lack of a better. It is at least expressive, and will be well understood by all good cultivators.

## THE WALTONIAN CASE.

THIS contrivance takes its name from Mr. Walton, a gentleman residing at Surbiton, at whose suggestion the first case was made by Mr. West, also of Surbiton. It is, as now made, a two-light portable box, designed expressly for propagating plants by bottom-heat obtained from a tank of hot water. Imagine a common Cucumber-frame, with a wooden bottom, mounted on four legs, and you have a picture of the case in its general external aspect. Then suppose a hole to be cut in the wooden bottom and a shallow tin boiler to be dropped into it, and over the boiler a shallow zinc tray, and you have an idea of the adaptation of the frame to the work of propagating by means of hot water. Place a lighted lamp under the hole in the wooden bottom and the tank becomes heated, and you have a clear theoretical idea of the internal as well as external economies of the case. In its practical working form, as the result of a long course of experiment and observation, it is by no means so simple. I will therefore describe the case in detail, as ordinarily constructed.

The measurements inside are 34 inches by 17 inches, which gives a superficial area of 568 square inches, or sufficient for 32 4-inch pots. I have had one in use four years, and when starting seeds usually place a board over the first lot of pots, and then 32 more pots on the board. By shutting the lights close the heat is confined, and on this plan 64 pots of seeds may be set to work at once. The zinc tray on which the pots stand is 1 inch deep, and is filled with silver sand kept very wet. Attached to the under side of this tray is the boiler, which holds about two quarts of water, and is filled by means of an upright tube which passes through the tray in the centre of the bed of silver sand. When lowered into the frame, an orifice on the under side of the boiler fits over a hole in the wooden bottom, and under this is placed the lamp, candle, or gas jet, used as a source of heat. Mr. West's ingenuity has been sorely taxed to devise means for rendering effective the very small amount of heat which the lamp produces, and in the result lies the chief merit of the invention. The hot air from the flame enters a chamber between the bottom of the boiler and the proper exterior of the metal work to which it is attached, and pursues a tortuous course, so that the whole of the heat is appropriated, and the burnt air escapes by means of a small funnel at the back of the case, and cannot possibly come in contact with the plants. On the ordinary plan of a lamp for heating, which by Mr. Wilson's help I have now displaced by means of a candle, a bottom-heat of from 80° to 100° is easily obtained. The proper range is 80° bottom-heat, 60° top-heat, sufficient for all ordinary purposes. Many ingenious people have set themselves to make cases of this kind, but have always failed to get a draught sufficient to keep the lamp burning steadily and to obviate smoke. The secret of the thing is in the construction of the chambers: all the rest is as simple as an ordinary frame mounted on legs and finished neatly.

The value of such a contrivance is obvious. To the nurseryman or the superintendent of a large establishment it would be but a toy; but to the thousands of persons who seek recreation in the propagation of plants for the decoration of their moderate-sized gardens, it is invaluable for several reasons:—1. The heat is certain, a jet of gas will burn night and day, and the candle now made for the purpose burns 12 hours. 2. The mess and litter of a dung-pit are obviated, and the most delicate fingers may be employed in plant propagation without the necessity of their ever being soiled. 3. It will strike cuttings of all kinds, stove, greenhouse, and hardy plants, with the greatest certainty, because it can be made to give a fierce heat with abundant moisture, or a very moderate dry heat, at pleasure. 4. The case can be placed in a sitting-room where it would be impossible to tolerate any other kind of horticultural machinery, and is an elegant as well as an amusing object. I shall never forget the pleasure it gave me during a season of illness two years since to have the case at work in the bed-room and to see its cheerful flame burning all night long. 5. While serving as a plant factory, it will suffice to keep frost out of a small greenhouse, and so render any other heating apparatus unnecessary. I know of a lean-to facing the north-west, 12 feet by 8, which is heated by means of one, and a good greenhouse temperature secured.

As to what may be done with one by a practical hand, let the dimensions of the case give the data. Begin in February with 64 4-inch pots. On an average of subjects, those at the bottom will want light in a fortnight, say 32 are taken out every 14 days, and by the end of April, you have at least 224 pots in which the seeds or cuttings have been fairly started, say only 10 seeds or cuttings to a pot all round, and the result is 2240 plants, and your house heated sufficiently for growing them on. This is no statistical fancy. I have a house full of Fuchsias, Geraniums, Calceolarias, and other bedding plants; and a very good collection of general greenhouse and stove plants, raised from seeds and cuttings in the Waltonian case, which combines all the advantages of dung heat, and is entirely free from the possibility of accident, every detail of management being perfectly under control.

The case has been figured in the "National Magazine," June 1857; "Rustic Adornments for Homes of Taste," p. 170; "Floral World and Garden Guide," Feb. 1859. The maker is Mr. West, Victoria Road, Surbiton, Middlesex, and the price from 48*s.* to 60*s.* The cost of working with Colza oil is 1*s.* 1*d.* per week; the new candle will cost a little more, but how much more I cannot at present say. *Shirley Hibberd, Stoke Newington.*

## A RETURN OF SUMS VOTED BY THE COLONIAL GOVERNMENT OF VICTORIA, N.S.W., FOR THE PROMOTION OF NATURAL HISTORY.

I. Expense of publishing reports on and illustrations of natural history—

| | |
|---|---|
| Scientific board .. .. .. .. .. | £500 |

II. Comparative expense of the Botanical and Zoological Gardens for 1858 and 1859—

| | 1858. | 1859. |
|---|---|---|
| Government botanist, with quarters .. .. | £600 | £600 |
| Clerk .. .. .. .. .. .. | 300 | 300 |
| Curator, with quarters .. .. .. .. | — | 300 |
| Superintendent, with quarters .. .. .. | 300 | — |
| Overseer, with quarters .. .. .. .. | — | 200 |
| Wages of gardeners, labourers, &c. .. .. | 3000 | 4800 |
| | 4200 | 6200 |
| Purchase of plants .. .. .. .. .. | 500 | 150 |
| Purchase of animals .. .. .. .. .. | — | 3000 |
| Tools, &c., and apparatus .. .. .. .. | 400 | 370 |
| Forage and food for animals .. .. .. | 75 | 570 |
| Stores .. .. .. .. .. .. .. | 150 | 750 |
| Incidental expenses .. .. .. .. | 100 | 100 |
| Expense of publishing works on Indigenous Plants of Victoria .. .. .. .. | — | 320 |
| Buildings and materials .. .. .. .. | 1325 | — |
| | 2550 | 5260 |

## RAINFALL, EAST AND WEST.—REMARKABLE CONTRAST.

[We extract the following from the columns of our able contemporary the *Whitehaven Herald*.]

By a recent paper in the *Gardeners' Chronicle* we learn that the fall of rain in the neighbourhood of London during the first quarter of the year has been as follows:—

| | | | |
|---|---|---|---|
| January..... | 0.61 | inch.—Usual quantity | 1.69 |
| February ..... | 1.31 | ,, ,, ,, | 1.51 |
| March to 28th..... | 0.71 | ,, ,, ,, | 1.32 |
| | 2.63 | | 4.52 |

This gives a deficiency of nearly 2 inches, which, added to 11.84 inches—the arrear at the commencement of the present year—shows a total deficiency making allowance for the proportion due to the three days of March still to run when the measurement was taken, that is set down at 13¾ inches. Last year the autumn supply was so short as to compel the inhabitants of all the valley of the Thames to deepen their wells; and so far from having gained by the winter rains, the water in these, at the end of March, stood 8½ inches lower than in August last, and the reduction was progressing at the rate of half an inch a week.

In remarkable contrast with the above is our experience in West Cumberland. The fall in this town, for the first three months of the year, as indicated by the gauge in the garden of Mr. William Miller, High Street, and the number of days in each month upon which rain fell, are as follow:—

| | | | |
|---|---|---|---|
| January ..... | 5.179 inches | .. 20 | days on which rain fell |
| February..... | 3.703 ,, | .. 20 | ,, |
| March ..... | 3.512 ,, | .. 20 | ,, |
| | 12.394 ,, | 60 | ,, |

In a note from Mr. Miller, accompanying the above report, we are further obliged with the following memorandum:—"So far as the present month has gone (April 13th), it exceeds in wetness anything we have known for a number of years. Eleven of the thirteen days of April have been wet; and the rain already measures in excess of the total amount registered in either February or March, being 3.715 inches, making a grand total, up to the present moment, of 16.109 inches. It is a little singular that in the past quarter the number of wet days should be precisely the same for each month." Again, at Cleator, in the valley of the Ehen—some four miles nearer the Ennerdale range of fells—the fall during the same quarter has been even greater. Mr. Ainsworth supplies the following return:—

Fall of rain in January, February, and March of the years 1857, 1858, and 1859, as per reading of register at the Flosh, Cleator, near Whitehaven:

| | 1857. | 1858. | 1859. |
|---|---|---|---|
| January .... | 4.92 in. | 3.49 in. | 5.41 in. |
| February ... | 3.76 ,, | 0.46 ,, | 4.47 ,, |
| March..... | 3.58 ,, | 3.66 ,, | 4.49 ,, |
| | 12.26 ,, | 7.61 ,, | 14.37 ,, |

Showing for the last three months a fall very nearly double that of the corresponding period in 1858; and, as compared with the present year, seven times greater than in the neighbourhod of London! Wet, however, as the season in West Cumberland has been, it is not the wettest on record. Turning up the synoptical tables of the late lamented Dr. Miller, (Transactions of the Royal Society of Ed., vol. xxi., part 1,) we find that in the corresponding quarter of 1851 the results given by the same pluviometers, with the wet days in each month, were as follows:—

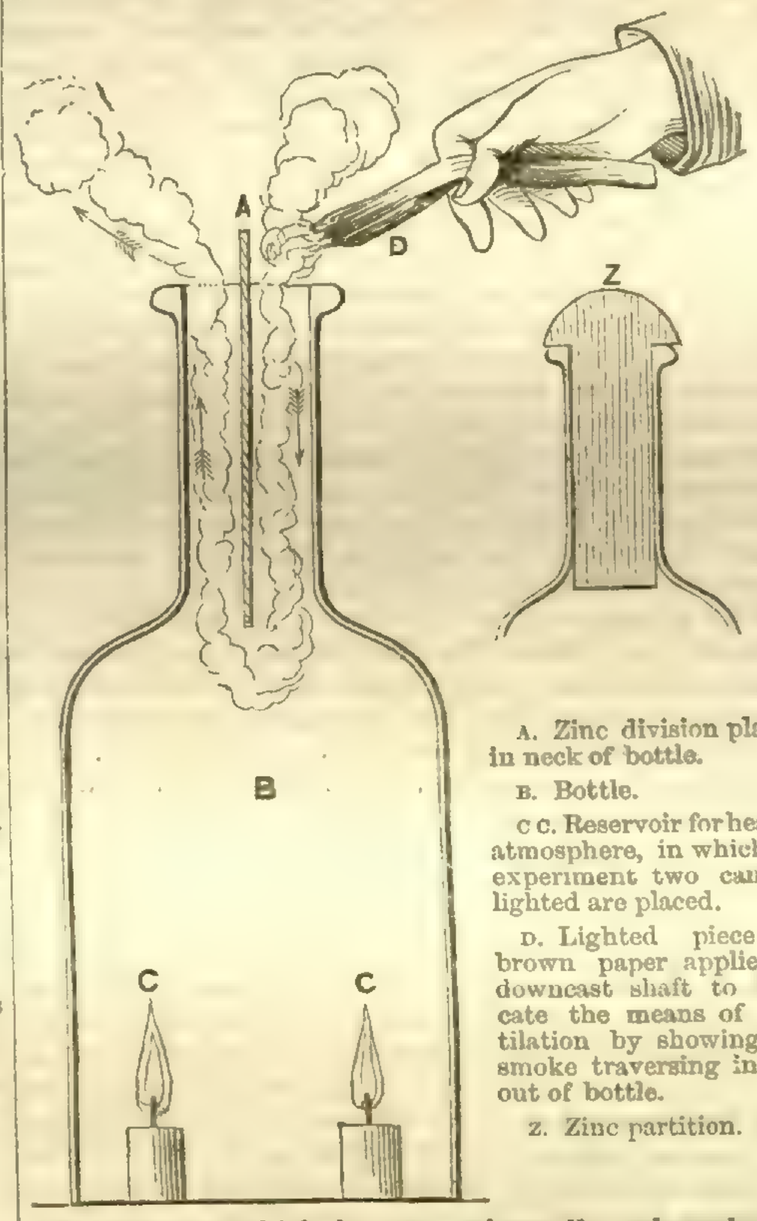
| | Whitehaven. Inches. | Wet days. | The Flosh. Inches. | Wet days. |
|---|---|---|---|---|
| January..... | 9.412 | 26 | 10.09 | 26 |
| February ... | 3.775 | 15 | 4.56 | 15 |
| March ..... | 3.458 | 17 | 4.88 | 22 |
| | 16.645 | 58 | 19.03 | 63 |

The mean fall of the first quarters in the years 1851, 1852, and 1853—(we regret we have not at hand the data for a wider quarterly averge)—was—at Whitehaven, 12.599 inches; and at the Flosh, 13.64 inches. It may be added that the mean *annual* fall, on an average of 10 years ending with 1853, was, at Whitehaven 43.535 inches, and at the Flosh 50.07 inches.

The *Gardeners' Chronicle* seems inclined to assume that the climate of England has been gradually growing drier for some years past, and raises the question,—If so, to what possible cause is that circumstance to be ascribed? It admits that the effect of deep railway cuttings, in (we presume) drawing off water from the great subterranean reservoirs, may have something to do with it; but it rejects the suggestion as not being a sufficient explanation, and asks if the extensive destruction of hedgerow and other timber may not rather be beginning to tell on our atmosphere. We might reply by asking how, on that theory, the present heavy and continuous rains in this part of the country are to be accounted for; but we refrain, for we feel that without a wider induction of facts than we are in possession of, we are not in a position to draw conclusions. That additional facts, gathered from a wider range, may possibly lead to another and less alarming theory our contemporary may perceive if he read a letter from Lieut. Colonel H. E. Austen, in *The Illustrated London News* of the 26th ult. In answer to the question, why has the weather of late been so unusually mild, Colonel Austen appeals to the truth, now axiomatically established, that all storm winds, though they seemingly blow at a right angle upon us, in reality move along parallels, in circles, whose diameter vary from 700 to 1000 miles. In our hemisphere, these wind circles, or cyclones, invariably come Europewards from intertropical regions in the direction of from S.W. to N.E.; and they bring to us heat and moisture, or cold and siccidity, according as they gyrate and impinge upon us from a western or eastern parallel. The frequent gales of this winter, says Colonel Austen, have all proceeded from cyclones moving on a western parallel, and have consequently brought us the heat and moisture overlying the areas of the Gulf Stream and Caribbean Sea. How it is that we in Cumberland have got all the moisture and a fair share of the heat, and London and its neighbourhood a due proportion of the heat with less than their wonted part of the moisture is a problem the solution of which it might be edifying to hear. Certainly it is not owing to any extension of either hedgerow or forest timber in our dales or fells.

## Home Correspondence.

*Ventilation.*—You have lately touched upon the important question of ventilation as applied to various structures, and thus reminded me that this great




A. Zinc division placed in neck of bottle.

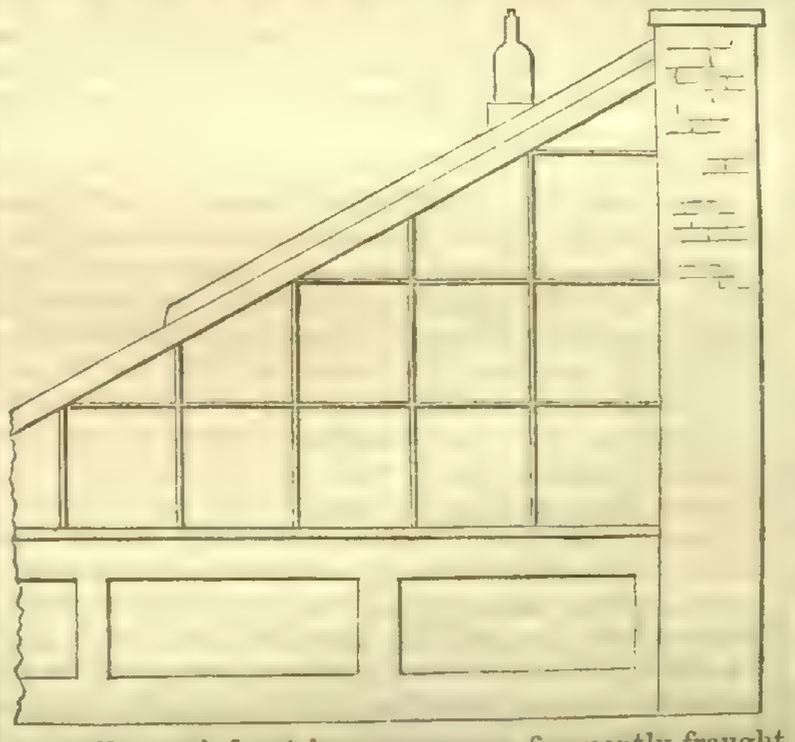
B. Bottle.

C C. Reservoir for heated atmosphere, in which for experiment two candles lighted are placed.

D. Lighted piece of brown paper applied to downcast shaft to indicate the means of ventilation by showing the smoke traversing in and out of bottle.

Z. Zinc partition.

desideratum—which is now universally acknowledged in the growth of plants and fruit in glass houses—is



generally carried out in a manner as frequently fraught with evil as good results, by admitting too great a circulation of air or of cooling to too great a degree the heated atmosphere within our glass structures. I am quite satisfied that if the plan (or similar to it) adopted in our north country collieries could be (as I have no doubt it can) applied to glass structures, that is to say, the system of ventilation on the up-cast and down-cast shaft principle, that the evils attending other modes of ventilation, especially strong currents of cold air, would be obviated, and an incessant change of air obtained without any appreciable diminution of heat within the glass house or pit. To this end I would simply apply an apparatus, invented I believe by a Mr. Watson, of Sheffield, to the highest point of a greenhouse, and which I will describe as follows:—It is a bottle-shaped cylinder, 6 to 10 inches diameter by the same in height, with a neck (similar to a bottle) of the same length, but not more than 2 or 3 inches broad (similar in fact to the diagram annexed); the neck of this glass is divided by the placing within it a piece of zinc or other metal, which has the effect of causing one half of the shaft to act as a down draught, this admitting fresh air into the glass structure above which it is placed, whilst the other shaft pumps out the heated and vitiated air of the greenhouse. The experiment of placing one or two bits of candle alight (to raise the temperature within the apparatus) would explain fully the use of this simple principle—the heat within would cause a draught down one side of the shaft, and the heated atmosphere would escape by the other, as would be seen if a piece of brown paper with the flame extinguished but still incandescent was placed over the top of the shaft, when the smoke would descend into the bottle by one shaft and ascend immediately by the other. An apparatus made of zinc or tin, applied to the top of sashes of greenhouses, would be of immense benefit in a ventilating point of view. If you are of the same opinion perhaps you will be kind enough, in a more lucid form, to give your readers the benefit of the suggestion. *J. R. S., F. H. S., Crouch End, Hornsey.*

*Brazil Nuts.*—Will you kindly favour me with the botanical name of the tree producing the Brazil Nuts of the shops? I find it stated in Loudon's "Hortus Brittanicus" and his "Encyclopedia of Plants," as Bertholletia excelsa; but as it is also in both of these marked as poisonous, it cannot be the Nut I mean. I believe the Nut of which I speak is called Cow-Nut in some places also, about the size and shape of one of the divisions of an Orange with a rough hard shell. *L. C.* [We cannot find the statement to which you allude. Loudon's Indexes are so ingeniously contrived as to be worse than no indexes. At all events Brazil Nuts are produced by Bertholletia, which is *not* poisonous.]

*Pears.*—Can you inform me what variety of Pear will answer the following description of a tree said to be a Jargonelle, growing on the wall of a house in a small town in this county (Perthshire)? It has for many years borne three crops, of which the last however is always injured by the frost. When the fruit of the first crop is about the size of a Prune the tree blossoms again, and the third blossoming succeeds when the second crop is at the same stage. If the first crop fails the second is always good, but should the second fail the third will appear in greater numbers, though from the lateness of the season always small. Is this peculiarity merely owing to local circumstances, or is it a peculiar variety? *L. C.* [We cannot answer this question.]

*Ligustrum.*—May I suggest in reference to an article in the *Gardeners' Chronicle* of April 2, that perhaps the Ligustrum of the Romans was the Catalonian Jasmine, J. grandiflorum. It is delightfully sweet, and any one who has seen it in Italy twining its graceful branches round an old sarcophagus or statue would not doubt of its applicability to festive garlands, while its white colour fulfils another of the conditions of the classic Ligustrum. Its congener, the Arabian Jasmine, is habitually used to this day at the native courts in India, to make fragrant chains (of the flowers threaded), which are thrown over the necks of guests whom the princes wish to honour. *L. C.*

*Cheirostemon platanoides.*—Has this ever flowered in this country? I have a plant of it in the greenhouse (intermediate house), which is now showing several large buds for the first time. I have a vague recollection of having heard its flowers are red and handsome, like a Magnolia. It is very rare, I believe, and if this is the first to flower it ought to be figured. Can you tell me anything more about it? I obtained my plant years ago from the Horticultural Society, of which I am a fellow. *Charles Dorrien, Ashdean, near Chichester, April* 14. [We believe it has never before flowered. Probably Sir W. Hooker would figure it in the Botanical Magazine, and we would suggest the propriety of applying to him (at the Royal Botanic Garden, Kew) on the subject.]

*Night Growth.*—In your leading article (p. 311) as to the injurious consequences of keeping a high night temperature in our forcing houses, you illustrate your theory by the evidence furnished by facts you there adduce to show that the night growth of plants exposed to natural circumstances was only from half to one-third of the growth by day. Now this is so opposed to a fact I lately observed closely, that I am induced to furnish you with particulars:—I planted about two years ago a "Gloire de Dijon" Rose against a south front of my residence; the first year it made but little progress, but I was glad to observe in the autumn of last year that it had produced two very vigorous shoots, which were making rapid progress. As a matter of curiosity, I each morning made a pencil mark on the wall at the extremity of each branch; on observing it again in the even-

ing progress was rarely perceptible, but the following morning a growth of an inch had taken place, and this was continued day after day—scarcely any progress during the day, but each night a growth of an inch; indeed, I almost thought I would write to you to ask you to enlighten my ignorance by informing me whether it were a recognised law in vegetable physiology, that the growth of plants occurred only at night. This, however, is so opposed to the facts now stated by you, that it appeared to me desirable to communicate the above result of my experience. *Ignoramus.* [You will find a long and very fully detailed account of the rate of growth of plants both under glass and in the open air by day and night in the Hort. Trans. 2d series, Vol. III., upon which our statement is founded.]

*The Zoological Collections of the British Museum.*—I see that they are now going to take earnest measures in forming a new museum for objects of natural history. Let us hope they will obtain some instructions ere they commence their work. It is rather an astounding declaration, when I say that in none of our museums are the specimens preserved in a proper manner. In making this assertion, far be it from me to condemn any individual who works in those establishments. Those whom I have the pleasure of knowing both here and abroad are clever, honest, and indefatigable men. But they all proceed upon false principles, and, of course, their labours must end in abortion. As well might we expect to give swiftness to the tortoise by cogent flogging, as to see beautiful and correct specimens turned out of their hands by means of the antiquated and faulty process of preparation which they uniformly pursue. Forty years of attention to the subject have enabled a neighbour of mine to strike out into a new and hitherto totally unknown path, embracing the four great departments of quadrupeds, birds, serpents, and insects. If any member of the Government committee, which is to decide upon a new museum, should favour your admirable correspondent Mr. Waterton with a visit, and inspect his collection, I feel quite certain that he would return to London with new ideas, and with a conviction in his own mind that the old process must be entirely laid aside, and the new one adopted, before any real good can be effected. *Deirigenus.*

*Tobacco Paper.*—At p. 338 there is an account of injury done to Cucumber plants which had been fumigated with this paper. When tobacco paper is burnt in the confined atmosphere of a Cucumber light the delicate structure of early leaves is apt to suffer. The reason is that tobacco paper is a sort of touch-paper, made by soaking in a strong decoction of tobacco, in which nitre or saltpetre is dissolved, and while the paper is slowly burning out the nitre is decomposed and its acid set free in the shape of gas, which at once poisons the plants, being inhaled by the pores on the surface of the leaves. I once made a canopy of muslin over a Peach tree in a pot, and burnt some of the paper to destroy those marvellously reproductive insects the aphides. The fumes of the tobacco stupified or destroyed the lice, but the fumes of the acid shrivelled and discoloured the leaves very injuriously. *W. S., Buckingham.* [We have never encouraged the use of tobacco paper, which, though low priced, is neither cheap nor safe. Many an unsuspected mischief has arisen from its use.]

*Garden Expenses.*—I admit that my statement (see p. 265) requires explanation. The extent of kitchen garden is stated to be 2 acres, whereas I should have deducted a considerable portion for flower-borders, walks, &c., which would leave for fruit and vegetables little more than 1¼ acre; this I can assure your correspondent is both well cropped and cultivated, so much so that generally the supply exceeds the demand, and no charge is made for what goes to the pigs or the dung-heap, nor what I use myself or give to my workmen. It must also be kept in mind that the returns from a gentleman's garden and from a market garden bear little relation to each other; the market gardener grows what will yield him the largest profits; the gentleman's gardener grows what his employer has most relish for, and moreover he is required to have all sorts of things that may be wanted on extraordinary occasions, but which at ordinary times are never asked for. I have 500 yards of wall, so says your correspondent "A. M. V.;" he may be right, I have never measured them; one thing I know is, that it is the trees which produce the fruit, not the walls, and in this as in most other gardens, part of the walls are occupied with glass structures, and part of the trees are too young to bear; and if "A. M. V." has ever seen a garden wall of any extent covered with trees, all producing even a moderate crop the same season, with no barren exceptions, he has seen what I never saw either here or elsewhere. As to the orchard-house, I need only remind "A. M. V." that these structures are of recent introduction, and that however quickly people may jump at great results in the south, here we are contented "to creep before we walk." In other words, I stocked two-thirds of my house with what are called "maiden trees," and must wait patiently for very promising results; and though the returns seem small in the eyes of your correspondent, when I tell him that the house cost less than 20*l.*, he will, I think, see little to damp enthusiasm. *J. D., Fife, N.B.*

## Societies.

ROYAL BOTANIC, REGENT'S PARK: *April* 20.—This was the last of the three spring meetings. Messrs. Henderson & Son, St. John's Wood, obtained the first prize in the class of New Plants, with the Fremontia californica formerly in the possession of the Horticultural Society, and fully noticed at p. 52; it was on this occasion nicely in flower. The same firm sent a fine Lomatia called Bidwillii, with handsome pinnated leaves, of which the long, narrow, spiny-margined leaflets were singularly enriched behind at the base; it is a distinct and handsome addition to the class of fine-foliaged plants. They had also a pretty Bejaria called microphylla, Arthrotaxus Doniana, a small-flowered orange-yellow Sedum, and a Ferula-like plant named Monezia (?) edulis. Messrs. A. Henderson & Co., Pine-apple Nursery, had a nice plant of the handsome Cyanophyllum magnificum, and a very fine double-flowered Datura, said to be from Australia, having the habit of arborea, and fine creamy yellow flowers. They also had the beautiful New Zealand Todea hymenophylloides, one of the most charming of all. Messrs. Fraser, of Lea Bridge Road, had nice plants of the fine Clematis lanuginosa and C. lanuginosa pallida; Labichea diversifolia nicely grown; an Azalea called Benno, with very large but coarse-looking flowers, rose-coloured, the upper half purple; and another Azalea called Roi Leopold, a well formed handsome flower of a salmony scarlet. Mr. C. Turner, of Slough, had a seedling Azalea, called Perfection; it is a bold and striking flower of excellent properties, and of a bright rose or purplish-tinted rose, spotted distinctly on the upper segments. Messrs. Ivery & Son, of Dorking, had a seedling Azalea, a semidouble white, with flowers of fine substance and of good size, a fine decorative variety. Miscellaneous collections of 12 plants were contributed by Messrs. Fraser and Mr. Cutbush; Azaleas in sixes by the same exhibitors; Pelargoniums in sixes by Mr. Turner; these call for no special remark. Mr. Turner showed 12 Auriculas, the best among which was Dickson's Matilda. There was a large and brilliant group of the new class of spotted French Pelargoniums contributed by Mr. Turner, among which Raphael, a dense shaded crimson, Comet, brilliant scarlet, and Virgine, bright carmine, were conspicuous from their intense colouring. Mr. Turner had also six well-grown Cinerarias of the newer varieties; and collections of Cinerarias were shown by Messrs. Dobson & Son, of Isleworth, and by Mr. Holland, of Spring Grove. Mr. Bragg, of Slough, and Mr. James, of Isleworth, exhibited stands of Pansies. A mixed collection of plants from the Pine-apple Nursery contained among others some Orchids, Heaths, the variegated Pine Apple, Cupressus Lawsoniana, a variety of Rhododendron aureum, &c. A group from the Wellington Road Nursery, contained Rhododendron Dalhousiæ and Edgeworthii, Arthrotaxus cupressiformis, &c. Mr. Standish, of Bagshot, showed cut branches of the Exochordia grandiflora (noticed in a former volume) laden with its snowy white flowers, and it was stated to have recently withstood 12° of frost without injury. [The flowers of our own plant are killed.]

Some seedling Cinerarias were contributed by Mr. Turner and others. Mr. Turner obtained certificates for Incomparable, a fine variety, rosy crimson with a basal white ring around the dark eye, the florets numerous, forming a full flat circle; also for Slough Rival, a purple-shaded crimson with white basal ring and dark disc, and of good habit. In addition to these he showed Beauty, a dwarf variety with rose crimson tipped florets and a grey disc; and Acme, a small rose crimson, indistinctly marked with white around the disc. Mr. Wiggins, gr. to E. Beck, Esq., had Clara a white, Admiral a purple, and Lisette a shaded blue, but all of inferior quality; as was also Lord Clyde, from Mr. Bragg.

Some fine samples of vegetables from the south of France were sent for inspection by Messrs. Keeling and Hunt. Among these the Cauliflowers were particularly fine, Asparagus and Artichokes good, Peas and Strawberries indifferent. Messrs. Ivery & Son, of Dorking, sent some of their fine samples of Dioscorea Batatas. In our report of the first of these meetings an error we find has been committed, which we now take an opportunity of correcting. Mr. Glendinning is there stated to have exhibited the "Camellia-flowered Peach" and "Prunus triloba." Now he exhibited, he says, neither; the same error is committed in the Society's official advertisement, which Mr. Glendinning says has led to his receiving a number of letters, especially foreign, on the subject of Prunus triloba, which up to this time has never yet been exhibited at all. We hasten to set this matter right.

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BOTANICAL OF EDINBURGH: *Jan.* 13.—Professor Balfour in the chair. The following communications were read:—I. "Remarks on Abies bracteata." By A. Murray, Esq. This species of Spruce was first discovered by Dr. Coulter, who spent 10 years of his life in exploring the wilds of California and Mexico. It was described by Don, in the 17th volume of the Linnean Transactions. The tree reaches a height of 120 feet. Its cones exhibit long recurved bracts, but little changed from ordinary leaves, which give them a singular appearance. Hartweg, in 1847, saw this Fir in his tour in California; but the cones and seeds were in such a state as to preclude the hope of introducing the tree into Europe. Mr. Beardsley, in 1856, visited the locality in which Abies bracteata grows, but he was unable to procure perfect seeds; the cones having been injured by frost. He noticed that the tree grew in a calcareous soil. In 1857 Lobb visited the locality, but was scarcely more successful. The seeds were found almost all injured by insects, and useless for germination. In 1858 Mr. Peebles attempted to get seeds, but he, too, has only been partially successful. The cones are produced high up on the trees, and it is not easy to reach them, and the seeds seem to be very often injured. The resin of the tree is used for incense.—II. Prof. Balfour read the following communications:—1. "List of Plants found at Tayport, Fife, in September, 1858." By Prof. Lawson. 2. "Extracts from Dr. Lawson's Account of his Voyage to America in October last."—III. "On the Growth of the Bamboo Cane in the new Palm-House at the Royal Botanic Garden." In this notice Mr. M'Nab gave a detailed account of the growth of the Bamboo, taken every third day until the plant attained the height of 15 feet, with the mean temperature of the external air during each successive three days from 3d July to 14th August 1858. The average temperature of the internal air during the period of growth ranged from 65° to 70°.

| Date. | Mean temperature open air. | Growth during 3 days. |
|---|---|---|
| July 3 to 6 | 54 deg. | 1½ inches. |
| 6 .. 9 | 46 ,, | 2¼ ,, |
| 9 .. 12 | 43 ,, | 3¼ ,, |
| 12 .. 15 | 48 ,, | 7 ,, |
| 15 .. 18 | 50 ,, | 9¼ ,, |
| 18 .. 21 | 45 ,, | 10¼ ,, |
| 21 .. 24 | 44 ,, | 13¾ ,, |
| 24 .. 27 | 51 ,, | 17 ,, |
| 27 .. 30 | 54 ,, | 18¼ ,, |
| 30 .. 2 Aug. | 52 ,, | 19¾ ,, |
| Aug. 2 .. 5 | 47 ,, | 17½ ,, |
| 5 .. 8 | 47 ,, | 18¼ ,, |
| 8 . 11 | 43 ,, | 19½ ,, |
| 11 .. 14 | 45 ,, | 20½ ,, |

From the 14th of August to the 24th of September the extra height reached was 25 feet, being an average of 2 feet for every three days. On the 24th of September, the extreme height of the shoot was 40 feet, the growth of 81 days. The plant was shifted into its present tub during the spring of 1858. The soil used was turfy loam, about 4 inches of bruised bones covered the drainage previous to the plant being retubbed.—IV. "Measurement of certain Coniferous trees, taken at St. Font, Fife, by G. Patton, Esq." Communicated by Mr. M'Nab. Cryptomeria japonica (in cone)—height, 21 feet; circumference of stem, 14½ inches. Taxodium sempervirens—height, 13½ feet; circumference of stem, 10 inches. Abies cephalonica—height, 14½ feet, circumference of stem, 20 inches.—V. "On the Uses of the Bamboo, with illustrations." By Dr. Hunter. After alluding to the characteristics of the Bamboo and the various species described, the author remarked, "the Bamboo varies prodigiously in size in proportion to the supply of water and the richness of the soil. In dry hilly localities it grows only to 8 or 10 feet, while in moist jungles and in swamps, particularly on the banks of sluggish rivers, it attains the height of 90 to 100 feet. It has been known to grow as much as 18 inches in 24 hours. The largest Bamboos are probably those found in Burmah, where they occasionally grow to 10 inches in diameter, each joint being from 20 to 24 inches in length. The plant is often cultivated in clumps, and to form ornamental archways for avenues and gardens; also as a hedge, being bent over and interwoven so as to combine the qualities of both a hedge and a paling. There is probably no plant with which we are acquainted that is put to so many and such opposite and diversified uses as the Bamboo. The leaves when young and tender are eaten by animals. The grain is given in the form of a decoction as a remedy for fever in cattle. The young shoots of the female or hollow plant are used for making arrows, those of the male or solid plant are largely exported to Europe for making the tips of fishing-rods. The pointed lateral shoots are used when young as pins. The stems are employed for props, palings, roofing, flooring, doors, and blinds. Some houses are built entirely of Bamboo. Paper and cloth are manufactured from the plant. The tender shoots are used for pickles, and they form one of the ingredients of the celebrated preserve called Chow-chow. Baskets and boxes of various kinds are made from the Bamboo. The lac quered boxes and cups of Burmah are peculiarly beautiful. Among the other uses of the plant were noticed the following:—Poles for palanquins, for carrying water, and for pushing boats, floating rafts, swinging poles at feasts, light bullock-carts, ladders and fire-escapes, fishing-rods, boat-poles, spear-shafts, garden-chairs, plant-stands, distilling tubes, hookahs, bows and arrows. The joints are employed for water-pails and bottles, also for holding letters, for musical instruments, and blow-pipes."—VI. "On the Economical Uses of the Roots of Coniferous Plants." By Mr. M'Nab. The donations of Mrs. Millar, prepared from the roots of the Abies nigra, received from the Hudson's Bay territory, and presented at the last meeting of the Botanical Society; also the donations of Mr. Jeffrey, prepared from the Abies Menziesii, from the Oregon territory, suggest the idea that something might be done in this country by a more extensive cultivation of these trees. Both species delight in open brown peat soil. Perhaps the finest specimen in Great Britain of the Abies Menziesii is to be seen on Keillar Moor, Perthshire, where it is growing vigorously in good brown peat. This species differs from most of the other Conifers in being easily propaged by cuttings, which, if stuck into the spongy peat, root and form trees. The Abies nigra, like A. Menziesii, also rejoices in peat soil. I have not as yet been able to ascertain the state of the roots of these trees when grown in peat, but I have no hesitation in saying that from the appearance of the roots now exhibited (grown in loam and clay) they must run freely amongst open brown sponge peat. Judging

from the strength and durability of the articles now shown, I would venture to suggest that the roots of thinnings, of these as well as other Coniferous trees, might, if found suitable, afford employment to the labouring population in the upland districts of Scotland, who might prepare these roots for baskets, hats, and other useful articles. and thus turn to profitable account soils at present wholly unproductive. The object of the foregoing remarks is to induce as much as possible the turning to account the roots of the various Coniferæ (Scotch Fir, Spruce, and Larch) annually cut down for railway sleepers, and other economic purposes. The roots of these trees are either allowed to rot in the ground, or if grubbed up, burned to get them out of the way. When we see the uses to which coniferous roots are put by the American Indians, we are entitled to conclude that something may yet be done with them in this country. Several interesting species of Gentiana, including G. cernua, were contributed by Mr. I. Anderson. They had been sent by Professor Jameson of Quito. Mr. Anderson, in his note accompanying the specimens says, "I beg to send dried specimens of three Gentians sent to me by Dr. Jameson of Quito, and gathered by him on Antisana, to which he had made an excursion on the 2d of November last. The tallest, G. cernua of Humboldt, was gathered at the place where that great naturalist found it, at 13,000 to 14,000 feet of elevation. The next tallest, about 1½ inch high, is described as scarlet-flowered, and also found at 14,000 feet. The smallest, with largest flower, is described as purple-flowered. This is the one about 1 inch high, flower included." Three gentlemen were elected Fellows.

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Entomological: *April* 4.—Dr. J. E. Gray, F.R.S., President, in the chair. Mr. Samuel Stevens exhibited a number of new and remarkable insects just received from Mr. Wallace, being natives of New Guinea (near Dorey). Amongst them were a splendid new genus of Buprestidæ, some magnificent Curculionidæ of the genus Eupholus, some strange cornuted Dipterous insects, and a singular grasshopper. Mr. Janson exhibited a number of new British species of minute beetles of different genera, taken near London. Mr. W. W. Saunders exhibited a large species of centipede which had been found alive in a chest of tea from China; also specimens of the curious crustaceous insect, Branchipus stagnalis, taken in small ruts filled with water near Reigate, but which in summer are dried up. This species is interesting from being the largest British species of the Entomostraca. He also exhibited some of the Oak-galls which have recently become so numerous in different parts of the west and south of England, which led to some discussion as to the possible advantage of using them in the manufacture of ink, as had already been done, although the amount of tannin which they contained was much less than in the ink-galls of commerce. Mr. Westwood exhibited some case-bearing larvæ of a small moth (Coleophora gryphipennella), taken on Roses grown in pots in greenhouses. Mr. White read the description of one of the new species of Buprestidæ received from Mr. Wallace, forming a new genus, to which he gave the name of Demochroa carinata. Some new British Coleopterous insects of small size were also exhibited by Mr. George R. Waterhouse.

## Notices of Books.

*New Zealand and the Canterbury Colony.* By Lord Lyttelton. Stanford. (A pamphlet.)

Under this title we have a singularly interesting and trustworthy account of one of those great English settlements which some day may become powerful Anglo-Saxon nations, the allies, not the colonies of their parent. That New Zealand offers an excellent field to industrious settlers is now a fact beyond question. There are few counties indeed between the Land's End and John o' Groat's that have not contributed their quota of emigrants, all the well-to-do of whom are known to be doing well. Any information therefore communicated by one who is himself both a landowner and a fundholder in the colony is important. Our own trustworthy correspondents indeed have thrown no small light upon the subject, but the noble lord who at Hagley delivered the lecture before us in January last, is in a position to throw more. His purpose was to show his audience what New Zealand is, how it was acquired, with whom it is now peopled, what difficulties it has surmounted, and what are its future prospects. All this is done, briefly but sufficiently, in one of the most agreeable discourses we remember to have read, which will certainly be perused with pleasure even by those who care nothing about New Zealand and its future.

On one point only do we differ from the noble lecturer. Lord Lyttelton thinks it a misfortune that New Zealand should have the name it bears: —"New Zealand implies an Old Zealand, as we know there is, in Holland; but what have we to do with that country? and why are we to suggest to the half-informed emigrant that he may be going to a land of dykes and baggy trowsers, inhabited by men born with skates on their feet, and talking Low Dutch? The truth is, the name is a misfortune, and we should be glad even now if we could alter it." But surely the essential consideration in settling a place is to give it a *name by which it may be certainly known from all other places*. There is no other *New* Zealand, which is all that is required. When our gentlemen of the Colonial Office proposed to retain the old and forgotten name of New Caledonia, for what is now British Colombia, they committed a discreditable blunder, ignoring as they did the existence of a well-known French possession also called New Caledonia, and although they were shamed into correcting this extraordinary oversight, they after all contrived to confound confusion itself by calling the capital of Vancouver's Island Victoria; for now it is hard to say of what Victoria men are talking, whether that of China or Australia, Spain, or Vancouver, or the United States. If some gentleman would call the Colonial Minister to account, in his place in Parliament, for this outrage upon common sense and the general convenience, he would be doing a public service. But we must produce a few specimens of the manner in which Lord Lyttelton has dealt with his subject:—

Its Climate.—"It is, as I suppose, in great measure from this corresponding position of New Zealand, that it resembles England so much as it does in climate. The temperature is of a higher average, and the winds are often more violent; so that of one part of the colony, called Wellington, it is said that you may know a Wellington man by his habit of holding his hat on with his hand. A few earthquakes, rarely serious ones, have been known in some parts; none hitherto, be it observed, in Canterbury. But on the whole the climates are not very unlike, and it is probable that anything, animate or inanimate, that thrives in England would do as well in New Zealand."

Land Titles.—"This right to the country, however, acquired by taking possession, is of course only good as against other civilised nations. It is not good, except by the law of unjust force, against the native inhabitants of the place themselves, who are the natural lords of it, or at least of so much of it as they actually occupy, and are understood by their own usages to claim and hold. There have been endless questions and disputes, sometimes unhappily causing wars and massacres, connected with this matter in New Zealand: but into these I shall not enter now. They have been long since, it may be hoped, set at rest; and it is enough to observe that the above rule of natural justice was observed as far, perhaps, as it well could be, on our part, by the conclusion of a treaty with some of the leading chieftains of the country, soon after our occupation of it, called the treaty of Waitangi: by which the sovereignty of the land was made over to the Crown of England. Suppose a land occupied by natives, of which the Queen of England becomes Sovereign. One might think, at first sight, that it would be the simplest and best way for the English Government to say to English people, who might wish to colonise that country—Go and make your own bargains with the natives for any land of theirs which you may wish to buy. But that is just what it does not do. On the contrary, the law of England is that no one can acquire land, in a newly-occupied country, direct from the natives. The Crown reserves to itself the right to deal with the natives. The Crown gets the land from them: the English settlers get the land from the Crown. As soon as the Crown, acting by the governor appointed over the new colony, has bargained with the natives and got from them, by purchase, as much of the land as it can, or as is wanted for colonising, it disposes of it to its subjects, just as in the former cases of conquered or vacant land, on such terms as it sees fit. The opposite plan, that of letting private persons deal direct with the natives for their land, has been tried, and was given up because it led to great abuses, as may easily be explained."

Land-sharking.—"The main object in making colonists pay for their land, instead of the Government giving it to them, is to prevent what is called the land-sharking system. Now what do you suppose a land-shark is? A shark, as you know, is a very inhospitable and evil-minded fish, who is as fond of eating mankind as our friends the New Zealanders used to be. But a land-shark is not therefore one of what some one called 'the amphibilious animals, who die in the sea and cannot live on the land:' it means a man, who makes it his business to get possession of large tracts of waste land, not in order to cultivate it, but to hold it and keep it waste till in the course of civilisation around him it has acquired a considerable value; and then he sells it. It is obvious that this is an utterly bad thing, and contrary to all the views with which any civilised and enterprising nation like England sets about the work of colonisation. The object of that great work is not to put money into the pockets of idle speculators—drones in what ought to be a busy hive of men—but to occupy, improve, and adorn new homes for the ever-teeming races of the old world. The simple way to prevent all this land-sharking system, as you will have perceived, is to *put* a price on the waste land. The Government, as I said before, does this according to its discretion. It makes every one who wants land pay a sum for it; which must not be too large, but such as he will *feel*. He will of course want a return for the money he has so spent, which he can only get by cultivating and stocking the land. A land-purchaser therefore in a colony takes care, besides his purchase-money for the land, to have capital enough for those further purposes."

Why Native Races wear out.—"It may be feared that this decay of native races has often arisen from their becoming familiar with the vices and excesses habitual with too many of their civilised neighbours, such as spirit-drinking. In New Zealand I hope it may not have been so, lately at least, to so great an extent as elsewhere. I once asked the Bishop of New Zealand whether he could account for it. He told me it was easy to see the *seat* of the evil, which was in the death of so many young native children; that so few large families grew up. And he said it was in great measure from the imperfect adoption, by the native mothers, of some of our nursery practices, which are very good when *fully* used. As one instance, if I remember right, he told me that those worthy mammas formerly never used to wash their babies at all, thinking it something monstrous to do; and that when they began to think it a good thing they saw no necessity for rubbing them dry, but would simply wrap them in flannel, of which they had just learned the use from us, and leave them lying about exposed to cold draughts and everything that might happen."

What Emigrants should do.—"One of the first and chief lessons to be inculcated on emigrants from this country is that of self-reliance. They must go out meaning to provide for themselves, to take care of themselves, to make their own way; we say to them, 'Don't look to us 12,000 miles off; look to yourselves, make your own laws, your own combinations, your own institutions.' In particular they must trust, under Providence, to their own sinews for their own defence. In English wars, indeed, with the causes of which they have had no concern, we should always be ready to give them protection; but against their own domestic enemies, as for their own purposes of internal police, they must establish their own militia and any other local force they may need. It is true that colonial wars against native tribes have sometimes in former days been carried on with a cruelty that could not be tolerated now. All that can be said is that our colonists in these days must learn, in homely phrase, to 'get out of that.' They must learn both to defend themselves, and to do so according to the laws of civilised warfare; as indeed they have for the most part done. They have, however, in most of our colonies been rather slow to learn this lesson of independence. I remember seeing a memorial of the people of New Plymouth, which I read with some humiliation, setting forth that they were men of peace, knew nothing of war, and were really quite unable to defend themselves. No doubt this comes from the habits of their mother country, where, as in all other advanced and highly civilised lands these things are done for us. If a row is apprehended, men look round the corner of the street and call out for one of those decorous and tightly-buttoned persons who walk about for that purpose; or if it is anything more serious, the magistrates besiege the unfortunate Lord-Lieutenant of the county for yeomanry, or soldiers of one kind or another. But such was not the ancient law of England."

Present State of the Colony.—"Of the material prosperity of the colony I will only say a word or two. Of course in all new countries there is much roughness and hardness to be undergone; and gentlemen and ladies should especially be warned to expect what has hitherto proved quite inevitable, that they must often learn to be their own servants. From causes like these a few, and but a few, have been disappointed and left the colony. But I believe hardly a single settler from the first has been compelled by distress or ruin to do so—a fact, perhaps, not to be paralleled in colonial history. And one striking fact may be stated, concerning the proportion between the public revenue and the population of the colony. The revenue of Great Britain and Ireland, I suppose, is in the gross somewhere near 70,000,000*l*., on a population of 28,000,000, or about 2*l*. 10*s*. per head. In new colonies the proportion is greater; but I believe no colony has yet approached what has been attained in Canterbury. There the population, I think, is about 7000, and the annual public revenue 100,000*l*., being upwards of 14*l*. per head."

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*Hortus Lindenianus* for April, 1859, Part I. (Brussels, Huyez), is a new periodical in 8vo, illustrated with coloured figures, entirely consecrated to the publication of the numerous fine novelties introduced to cultivation by the collectors of M. Linden of Brussels, the Veitch of Belgium. Each plate is accompanied by horticultural information and botanical characters; the former by Mr. Linden himself, the latter by (we presume) Prof. Planchon, than whom few are more capable of such a task. Since none but handsome garden plants will be introduced, this will undoubtedly prove a work extremely acceptable to all lovers of fine new flowers. Let us add that the plates, which are extremely well executed, are also useful studies for young artists. The number before us contains Arachnothrix rosea, Begonia amabilis, argentea, and Victoria, Beloperone violacea, Centradenia grandifolia, Cuphea ocymoides, and Lindenia rivalis.

*Flore des Serres*, Nos. 25 and 26, contain, in addition to much good miscellaneous matter, original figures of nine new varieties of Achimenes, Nolana paradoxa violacea, Camellia Bonomiana, more of the huge Heddewigian Indian Pinks formerly noticed (p. 171), the very handsome hardy Azalea van Houttei fl. pl., the two superb Double Peaches sent out by Mr. Glendinning under the names of camelliæflora and dianthiflora, and three Azaleas indica, each white with red streaks, viz., Gloire de Belgique, Le Géant, and Etendard de Flandre, the first with too much green in the flower for our taste.

*That's It, or Plain Teaching* (Houlston & Wright). Ninety-six pages 12mo and 300 woodcuts for ninepence are cheap; and praise by Sir Roderick Murchison, Dr Cumming, and others, whose eulogiums are duly set

forth immediately after the author's preface, appears to guarantee the excellence of this book. For ourselves we also think that the plan on which it is written is good, chiefly because it does not attempt to teach too much; but we regret to add that our approbation goes no further. The simple eyes of insects are called by the author stemnata instead of stemmata; the gnat is Culex pipens instead of pipiens; the Deathwatch is tesselated instead of tessellated; and it is a strange piece of information to tell young people that the fossil resin called amber "is said to be formed by a large species of ant"! The exploded error of supposing that the so-called Pampas Grass (Gynerium argenteum) is the great Grass that covers the vast S. American plains or Pampas is duly perpetuated; Victoria regia is called V. regina; Rice is described as being more like Barley than any other corn plant, which is something like saying that a horse is more like a dog than any other animal; Humboldt is represented as describing Tasmanian forests of Tree Ferns, which he never saw; the Australian Grass tree is called hastalis instead of hastilis, and so on. It may be said that such blemishes as these are small and unimportant, and that our remarks are hypercritical. We cannot think so. Books for young people should be exact in orthography as well as in facts; otherwise they teach error; and unfortunately it is too well known how difficult it is to forget the misinformation conveyed to the young by those charged with the business of education. The testimonials above alluded to certainly justify the publishers in saying that their work is recommended by eminent clergymen, ministers, professors, &c.; but we regret to add that the book only offers a new instance of the worthlessness of such endorsements.

TRADE LISTS RECEIVED.—*Arthur Henderson & Co.'s* (Pine-apple Place) *Spring Catalogue for* 1859. Sixty-three pages of a descriptive priced list of soft-wooded plants fit for bedding out and of other things. We believe it contains all novelties of the kind that are worth having.

## Garden Memoranda.

HAMPTON COURT PALACE GARDENS.—A bed of Hyacinths still in bloom here has been for the last week or two the admiration of all who have seen it. The sorts appeared to be Vainqueur and Baron Van Thuyll, single white and blue, forming a mass about 12 feet in length and 13 feet in width, and containing some 64 bulbs planted in rows, each colour alternating with the other. Between the rows had been stuck small branches of evergreens, which while they served to break the force of the cold winds we have lately been experiencing, at the same time formed a green ground colour with which the gorgeous heads of flowers formed an admirable contrast. We learned that the bulbs had been potted in ordinary garden soil in autumn, and plunged in the bed as soon as the beauty of the Verbenas with which it had been decorated was over. The plan of plunging in pots was adopted in order that the bulbs might not be disturbed in lifting, when the bed came again to be planted with its summer occupants. Nothing could be handsomer than a bed such as that just described, and the varieties of which it is composed being limited, and their cost but little, all having gardens might possess one.

Much has been written respecting the culture of Hyacinths in the open ground, the greater portion of which has, however, been calculated to deter persons, dependent upon such sources of information, from attempting their growth. It is usual to state that to grow a Hyacinth successfully, a very rich soil is absolutely necessary; but it has just been shown that any well-drained garden soil is easily rendered suitable for its growth. If the soil is of a strong adhesive nature, and the plunging in pots not resorted to, add two inches of sharp sand, and as much well-decayed manure; then dig the soil 2 feet deep with a steel fork, taking care to mix the sand and manure with the mould as the work proceeds. Friable loamy soils will require merely a liberal dressing of manure and deep digging; and it will be found that the Hyacinth will produce equally fine spikes of blossom grown in soil prepared thus, as when planted in more expensive compost.

The season for planting Hyacinths in beds, in the open air, is from September onwards. Select a dry day for putting in the bulbs; and if the same can be chosen for the preparation of the soil, it will be in much better condition for the growth of the plant than if worked when wet. Plant in lines, 9 inches by 12 inches apart, which will afford space between the plants, when up, to work a hoe for the destruction of weeds, and keeping the surface friable, to prevent the escape of moisture in dry weather.

## Calendar of Operations.

*(For the ensuing Week.)*

### PLANT DEPARTMENT.

CONSERVATORY, &c.—See that climbers and all plants of rambling habits have due attention in regard to stopping, water, &c. Camellias forced to make wood should have a trifling check as soon as the young leaves have attained their full size; this is best effected by diminishing the supply of water at the root. Continue, however, to shade and syringe morning and evening. Take care that Orchids in a growing state are properly shaded on bright days, and have sufficient atmospheric moisture. Do not use the syringe too freely among those starting into growth, but keep the atmosphere thoroughly moist. See that specimens on blocks and in baskets are not allowed to suffer from want of water, for when the soil in baskets is once allowed to get thoroughly dry water is apt to run off. When this is found to be the case the baskets should be immersed in tepid water until the soil gets thoroughly soaked. Attend to training the shoots of stove twiners as they advance, and do not allow these to get entangled before giving them attention. Also attend to the stopping and training of other plants and afford free growing subjects plenty of pot room. Achimenes and Gloxinias, filling their pots with roots, will enjoy an occasional watering with weak manure water. Repot and propagate Begonias. This is one of the most useful families of plants that can be grown. Keep up a cleanly system of cultivation by means of sweet and healthful soils and improved modes of potting, together with the most complete drainage and the constant use of weak and clear liquid manure during the growing season. Persevere in keeping down insects, which if allowed will now progress with great rapidity.

### FORCING DEPARTMENT.

PINERIES.—Where there are not sufficient means of maintaining a thoroughly moist night temperature the growing stock may be dewed with the syringe in the morning, but where plenty of evaporation can be obtained from tanks or evaporating pans the syringe should be used over the foliage only in the afternoon, and then but lightly. Heavy syringing tends to render the soil about the collar of the plant too wet, and makes it difficult to judge of the state of the ball as to moisture, and keeping the axils of the leaves constantly full of water is not favourable to compact sturdy growth. See that none of the young stock is allowed to suffer for want of pot room or to get too dry at the root, for a short time's neglect at this season may end in a great many of the plants fruiting prematurely. Maintain a brisk bottom-heat, as near 90° as can be managed, but on no account exceed this, and keep the atmosphere as warm as the plants will bear without growing weakly. Succession, if all right at the root and near the glass, may safely be kept at from 65° to 70° at night and 75° to 85° with sun-heat, and plants swelling their fruit, if afforded a thoroughly moist atmosphere, will enjoy a night temperature of 70°. Give these plenty of manure water at the root. VINERIES.—As soon as the fruit is ripe in the early house discontinue the use of fire-heat as far as the state of the weather will admit, and keep the atmosphere cool in order to prevent the increase of spider and preserve the foliage in a healthy state as long as possible. Where the borders have been covered with fermenting materials this should not be removed in the present state of the weather where the fruit is colouring, but where the fruit is ripe the border should be uncovered so as to expose it to the sun and air and prevent the growth of laterals, &c. See that Vines in pots and boxes are well supplied with manure-water at the root. Give timely attention to the work of disbudding, stopping, and tying in the shoots in succession houses, and endeavour to get the fruit thinned directly the berries are sufficiently large. PEACH-HOUSE.—Fumigate frequently to keep down greenfly. In early houses, as the fruit approaches maturity, be rather more sparing of water. CHERRY-HOUSE.—Give abundance of air and liberal supplies of water to trees not yet ripening their fruit. FIG-HOUSE.—Give air and water as before, but do not syringe trees over head whose first crop is ripening off, or use cold water. CUCUMBERS AND MELONS.—Although in clear days the frames may get hot, yet be cautious in admitting much air while the wind keeps so cold. Stop shoots and thin out the leaves. If the plants are shy in setting a moderately high temperature will rather be beneficial than otherwise. Water in the mornings, as before, and cover up according to the state of the weather and the heat of the beds. Sow long green prickly Cucumbers for handglass, if not already done, and the short green prickly for small ones for pickling. In the case of Melons keep the beds regular in point of heat, and always aim at setting the fruit as near the main stem as possible. STRAWBERRIES.—Give abundance of air and water to the latest crops.

### FLOWER GARDEN AND SHRUBBERIES.

Thorough dress all beds and borders; prepare stations on lawns for fine specimens of ornamental plants, such as large Fuchsias, &c. It is still dangerous to risk even the hardier kinds of bedding plants from under the protection of glass. All that can be safely done until the nights have become warmer, in the way of hardening the stock preparatory to its being planted out, is to give as much air as circumstances will admit without injuring the plants, and to place Calceolarias and the stronger Verbenas in turf pits where they can be protected at nights and sheltered from drying winds. Such things when removed to cold pits should be planted out in fine very sandy soil, which will save trouble in watering, and be much better for the plants than keeping them confined in small pots. Tender annuals that have been raised in heat should be pricked out in light soil under hand-glasses in order to get them strong before planting-out time.

### HARDY FRUIT AND KITCHEN GARDEN.

A sloping bank should now be prepared and planted with runners of Alpine Strawberry for fruiting in September and October; plant three in a patch, at intervals of 15 inches; the ground between should be covered with slates when the plants have become established. Sow successions of round Spinach in a cool aspect, and let all Beet, Scorzonera, Salsafy, &c., be got in if not done. Secure plenty of good Parsley in highly manured beds at the nearest end of the kitchen garden. Sow a bed or two of herbs for next year's planting; this should be done every second year, as old plants are liable to wear out. Thin suckers from Raspberries, leaving four or five to each stool. Take care to thoroughly clean all Strawberry plantations before the runners come out. Disbud Peach trees, &c., as soon as the young shoots will admit of it; but do this carefully at first, going over them two or three times, so as to prevent a too sudden check to the flow of sap, and afford the fruit the protection of the leaves, &c., as long as it can be done without injury. Look sharply after green fly, and apply tobacco-water the moment it is perceived; on light sandy soils, however, it may be kept in check by frequent washings with the engine. But whatever method is preferred, see that it is applied before the pests get established. After the blossoms are fairly set, advantage should be taken of a fine morning to wash the trees with the engine, for the purpose of removing decayed blossoms and destroying the green fly. The superfluous shoots of Apricots should also be removed, and the remaining shoots carefully examined in search of the green caterpillar.

### COTTAGERS' GARDENS.

Now that seeds should for the most part be sown and planting done, little else will be required for some time, except keeping down weeds and stirring the surface among growing crops. Straighten if necessary, and improve the appearance of paths. For edgings for these nothing is more profitable than Parsley or a line of Keens' Seedling Strawberry.

STATE OF THE WEATHER AT CHISWICK, NEAR LONDON.
For the Week ending April 21, 1859, as observed at the Horticultural Gardens

| April. | Moon's Age. | Barometer. Max. | Barometer. Min. | Temperature of the Air. Max. | Min. | Mean | Of the Earth 1 foot deep. | Of the Earth 2 feet deep. | Wind. | Rain. |
|---|---|---|---|---|---|---|---|---|---|---|
| Friday 15 | 12 | 29.468 | 29.141 | 50 | 27 | 38.5 | 50 | 49 | N.W. | .08 |
| Satur. 16 | 13 | 29.651 | 29.590 | 46 | 27 | 36.5 | 48 | 48½ | N.W. | .07 |
| Sunday 17 | ○ | 29.803 | 29.741 | 50 | 24 | 37.0 | 48 | 48 | N.W. | .00 |
| Mon. 18 | 15 | 29.808 | 29.710 | 47 | 22 | 34.5 | 48 | 48 | W. | .00 |
| Tues. 19 | 16 | 29.656 | 29.512 | 51 | 25 | 38.0 | 47½ | 47½ | N.E. | .00 |
| Wed. 20 | 17 | 29.509 | 29.430 | 54 | 27 | 40.5 | 47 | 47 | E. | .00 |
| Thurs. 21 | 18 | 29.630 | 29.518 | 53 | 21 | 37.0 | 47 | 47 | N.W. | .00 |
| Average | | 29.646 | 29.520 | 50.1 | 24.7 | 37.4 | 47.9 | 47.8 | | .15 |

April 15—Cloudy and cold; low white clouds; hail showers; frosty.
— 16—Cloudy and cold; partially clouded; very clear; frosty.
— 17—Clear and cold; fine; clear; frosty at night.
— 18—Fine; cloudy; clear; sharp frost.
— 19—Partially overcast; slight haze; clear and frosty.
— 20—Fine; cold dry air; overcast; frosty.
— 21—Fine; very dry air; low white clouds; clear; Aurora borealis in the evening; severe frost at night.
Mean temperature of the week, 10 1-5th deg. below the average.

RECORD OF THE WEATHER AT CHISWICK.
During the last 33 years, for the ensuing Week, ending April 30, 1859.

| April. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds. N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday 24.. | 58.4 | 35.6 | 47 0 | 11 | 0.60 in. | 5 | 4 | 6 | 4 | 1 | 8 | 3 | 2 |
| Mon. 25.. | 58.6 | 37.7 | 48.1 | 15 | 1.40 | 5 | 6 | 4 | 5 | 6 | 3 | 2 | 2 |
| Tues. 26.. | 59.0 | 36.0 | 47.5 | 14 | 0.53 | 3 | 8 | 5 | 1 | 1 | 4 | 9 | 2 |
| Wed. 27.. | 58.7 | 35.9 | 47.3 | 15 | 0.14 | 11 | 1 | 6 | 2 | 5 | 5 | 2 | 1 |
| Thurs. 28.. | 60.3 | 36.3 | 48.3 | 13 | 0.64 | 4 | 5 | 6 | 4 | 5 | 5 | 2 | 2 |
| Friday 29.. | 60.7 | 38.4 | 49.5 | 12 | 0.75 | 4 | 3 | 6 | 2 | 4 | 6 | 2 | 6 |
| Satur. 30.. | 61.7 | 37.3 | 49.5 | 13 | 0.31 | 5 | 3 | 6 | 1 | 3 | 7 | 3 | 5 |

The highest temperature during the above period occurred on the 28th, 1840—therm. 81 deg.; and the lowest on the 24th, 1854—therm. 18 deg.

## Notices to Correspondents.

BIRDS: *Avis.* Next week.

BOOKS: *Subscribers.* All books on general gardening contain instructions for kitchen gardening; and we hardly know which to recommend in preference. But there is no book on market gardening. You will, however, find some useful practical information by Mr. Cuthill in a small treatise on the subject published by himself at Denmark Hill, Camberwell.—*T H.* For timber measurement consult Monteith's Foresters' Guide. What is "the best work on forest trees" is a question that cannot be answered because of its vagueness. What is it you want to know?—*W C.* Ayres on the Cucumber was published by one of the city houses, and may be had of any bookseller, if not out of print.

CALTHA PALUSTRIS: *O R C.* Although a subacrid plant, its leaves become eatable after having been boiled, especially if the water is changed. Asa Gray, in his Genera of the Plants of the United States, says that the *vernal herbage* is largely used as a potherb under the name of Cowslips.

COLCHESTER CHURCH INSECT. We shall have something to say next week of this strange story.

GENTIANA ACAULIS: *Spade.* Sow the seeds as soon as ripe in a damp shaded loamy border, covering with a handglass until the young plants are making a little progress. Do not cover the seeds with earth, but merely rake them in with a very fine rake. Winter Aconite may be treated in the same way.

INSECTS: *Anon.* There is no such insect as Acolytus. Scolytus destructor is an *alias* of Hylesinus destructor. Mr. Wm. Macleay (not Dr.) published a paper upon its ravages in St. James's Park, concerning which you will find a full account in the *Gardeners' Chronicle* for 1857, p. 342.—*C W S.* We believe they are the eggs of the moth called Bombyx dispar

MEYENIA ERECTA: *Reader.* It is a handsome greenhouse shrub, which under ordinary circumstances flowers during June and July. It requires about the same treatment as an Epacris or Cape Heath. The great point is to get its wood well ripened in autumn.‡

NAMES OF PLANTS: We have been so often obliged to reluctantly decline naming heaps of dried or other plants, that we venture to request our correspondents to recollect that we never have or could have undertaken an unlimited duty of this kind. Young gardeners, to whom these remarks more especially apply, should bear in mind that, before applying to us for assistance, they should exhaust their other means of gaining information. We cannot save them the trouble of examining and thinking for themselves; nor would it be desirable if we could. All we can do is to *help* them—and that most willingly. It is now requested that, in future, not more than four plants may be sent us at one time.—*J P.* Rhamnus latifolius.

ORANGE-TREE BOXES: *Zeta.* Any conservatory builder would doubtless supply them. Slate ones may be had of Mr. Beck, Slate Works, Isleworth, near Loudon.

RHODODENDRON: *N R.* Very handsome, but not more so than Blandyanum and many others. Its flowering so early detracts from its value.‡

VENTILATION: *Dalkeith.* The drawing is sent to the wood engraver.

MISC.: *Wilcebe.* Thanks for your letter about the Cottagers' Calendar, which has been communicated to Sir Joseph

THE PATENT

# NITROPHOSPHATE OR BLOOD MANURE COMPANY (LIMITED),

CONSISTING OF TENANT FARMERS, OCCUPYING UPWARDS OF 30,000 ACRES OF LAND.

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**Offices, 109, Fenchurch Street, London.—Manufactory, Plaistow Marshes, Essex.**

THE Directors beg to inform their Friends and the Agricultural Public that the following Manures are now ready:—

**ODAMS'S BLOOD MANURE FOR CORN AND MANGEL.**

**ODAMS'S BLOOD MANURE FOR ROOTS.**

**ODAMS'S SUPERPHOSPHATE OF LIME.**

Full particulars may be had at the Company's Offices, or of the local Agents.

# NATIONAL FLAX COMPANY (LIMITED.)

**Capital—£200,000, in 200,000 Shares of £1 each, 5s. to be paid on application, 5s. within three months from Allotment, and the remainder as the Directors may require it, in Two Payments of 5s. each.**

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*Engineer.*—Mr. G. L. Fuller, C.E., 69, Lombard Street, E.C. | *Auditors.*—(To be appointed by the Shareholders.)

*Secretary*—Mr. James M. Haldon, F.R.G.S.

**Offices.—193, Gresham House, Old Broad Street, London, E.C.**

## ABSTRACT OF PROSPECTUS.

It has been for some years past a matter of notoriety that British and Irish linen manufacturers, and also manufacturers of hempen goods, have materially suffered from a deficient supply of Flax and Hemp. This state of deficient supply arises from the fact that the cultivation of Flax in Great Britain has materially decreased instead of increased with the growing requirements of our linen manufactures. Our national commercial statistics show that, out of 150,000 tons of Flax annually consumed in the United Kingdom, not more than 50,000 tons are of home growth. In addition to this enormous importation of Flax for our linen manufactures, we have also imported hundreds of thousands of quarters of Linseed every year for home consumption.

The linen manufacturers of the United Kingdom have declared that they are ready to take any quantity which can be grown at home, and at such prices as will be more remunerative to the agriculturist than the usual produce of his lands.

The promoters of the National Flax Company are prepared to prove to the agriculturists of this country that no more profitable crop can be cultivated than that of Flax, whenever their system of rettories, and improved mechanical treatment of Flax fibre, shall be adopted in the localities of its growth. The main feature of the Company's plan is, that it will take the trouble of preparing the Flax for market entirely off the hands of the grower, by becoming the purchasers of the crop, and thus leaving the grower entirely free from the hazards of bad harvesting weather, and at the same time insuring him a certain handsome profitable return for all the Flax he can produce and deliver to the Company's depôts and rettories. The Company's operations will also embrace the whole of the requisite process of preparing the Flax and similar fibrous substances ready for the spinner.

**The system of preparation adopted by this Company is the subject of a patent, the invention of Mr. George Abemarle Cater, a gentleman who has made the cultivation of Flax and its preparation for the spinner his especial study for many years past, he having fully demonstrated the great economy of labour and the very great improvement in the quality of the Flax fibre, which is the result of his improved system of Flax preparation. The system will be found fully detailed in the "Explanatory Pamphlet on Flax Cultivation and Preparation," to be had free from the Secretary of the Company and its agents; in which will also be found an exposition of the great importance of the home cultivation of Flax, as insuring a regular supply of raw material to the very important national manufactures of linen and hempen goods; half-stuff for paper makers, and also of the importance of the seed for Linseed oil and oilcake.**

As an example of the intended operations of the Company, the following is quoted from the full Prospectus of the Company:—

By rettories will be understood establishments where the preparation of Flax-fibre from the raw plant for the spinner and manufacturer will be carried out through all its stages.

It is estimated that two rettories, on the scale proposed as the base of operations, will require eight patent machines, and, if constantly at work for (say) 309 days in the year will produce annually 1200 tons of Flax-fibre, 7500 quarters of Linseed, and 900 tons of tows; and allowing 50*l.* per ton to be obtained for the Flax-fibre, 56*s.* per quarter for the Linseed, and 5*l.* per ton for the tows, there is a gross yield of 85,500*l.*

Assuming that it will take as much as 10 tons of Flax-straw unseeded to produce one ton of Flax-fibre, at a cost of 4*l.* per ton, and 18*l.* per ton of fibre for all expenses, the total outlay will be 69,000*l.* leaving a balance to be divided of 15,900*l.* or nearly 30 per cent. upon 55,000*l.* (the cost of the buildings, plant, and machinery, together with sufficient working capital for two rettories), which is wholly irrespective of the dividend that may be expected from licence dues from other rettories; and as the operations of the Company are extended, the dividends will be in proportion.

The peculiar advantages of Selby, in Yorkshire, and the surrounding Flax-growing districts, have decided the Company on establishing their first rettory in that neighbourhood.

A prospective enterprise of this Company being the cultivation of Flax on reclaimable lands, of which in the United Kingdom there are some millions of acres, it is considered the Company may beneficially turn its attention to the acquirement, in due course, of an available property in such lands.

The National Flax Company will, by increasing the cultivation of Flax in the present growing districts, tend to encourage the population of other parts of the country to acquire the requisite knowledge of an industrial resource by which their local labour will become more profitable, and land of greater value. Again, the fast extending application of the power-loom to Flax-fibre will greatly increase the demand for Flax. **All considered, the circumstances of the times combine to establish the present enterprise as the nucleus of a new branch of business, and a most valuable auxiliary to the farming and manufacturing producers of the United Kingdom, and one which is well calculated to still further develop her prosperity.**

**Copies of the Prospectus, and all further information, may be obtained at the Offices of the Company, 193, Gresham House, City.**

COLLEGE OF AGRICULTURE AND CHEMISTRY, AND OF PRACTICAL and GENERAL SCIENCE, 37 and 38, Lower Kennington Lane, Kennington, near London.
Principal—J. C. NESBIT, F.G.S., F.C.S., &c.

The system of studies pursued in the College comprises every branch requisite to prepare youth for the pursuits of Agriculture, Engineering, Mining, Manufactures, and the Arts; for the Naval and Military Services, and for the Universities.

Analyses and Assays of every description are promptly and accurately executed at the College. The terms and other particulars may be had on application to the Principal.

THE GENERAL LAND DRAINAGE AND IMPROVEMENT COMPANY: Offices, 52, Parliament Street.
HENRY KER SEYMER, Esq., M.P., Chairman.

1. This Company is incorporated by Act of Parliament to facilitate the Drainage of Land, the Making of Roads, the Erection of Farm Houses, Farm Buildings, and Labourers' Cottages, and other Improvements on all descriptions of Property, whether held in fee, or under entail, mortgage, in trust, or as ecclesiastical or Collegiate Property.
2. In no case is any investigation of Title necessary.
3. The Works may be designed and executed by the Landowner or his Agents, or the Company will undertake the entire improvement by their experienced staff, and advance the money required for the works. Equal facilities will be afforded in either case.
4. The whole cost of the works and expenses may, in all cases, be charged on the Lands improved, to be repaid by half-yearly instalments.
5. The term of such charge may be fixed by the Landowner, and extended to 50 years for Land Improvements, and 31 years for Farm Buildings, whereby the instalments will be kept within such a fair per-centage as the occupiers of the improved Lands can afford to pay.
6. No profit is taken on any Works executed by the Company, the actual expenditure only, approved by the Inclosure Commissioners, being charged in all cases.

WILLIAM CLIFFORD, Secretary.

BATH AND WEST OF ENGLAND POULTRY EXHIBITION.—Entries close May 1.—In addition to the ordinary Money Prizes there will be awarded 22 handsome SILVER CUPS, open to all England.

Prize Sheets and Certificates to be obtained of the Honorary Secretary, Mr. KINGSBURY, Hammett Street, Taunton.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

SHOW-YARD REFRESHMENTS.

Persons desirous of having the privilege of supplying either First or Second-class REFRESHMENTS for the Visitors in the Society's Show-yard at Warwick, in July next, can obtain the particulars and Forms of Tender, on application at 12, Hanover Square, London, W.

Tenders must be delivered in, as above, on or before the 30th April. By Order of the Council,

JAMES HUDSON, Secretary.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND—WARWICK MEETING.

Entries for IMPLEMENTS, CHEESE, WOOL, FARM-GATES, and DRAINING PIPES, must be made on or before May 1.

Entries for LIVE STOCK must be made on or before June 1.

*** All Entries received in each case after those respective dates will, without any exception, be disqualified, and returned to the senders.

PRIZE SHEETS may be had on application at the Offices of the Society, 12, Hanover Square, London.



# The Agricultural Gazette.

*SATURDAY, APRIL* 23, 1859.


DURING last week the second annual examination in agriculture and the allied sciences took place under the supplementary charter of the Highland and Agricultural Society. This charter it will be remembered authorises the Society to appoint a committee to be called "the Council of the Highland and Agricultural Society on Education." The committee has been constituted as directed now for upwards of two years. After due deliberation it appointed a board of examiners, published a curriculum of study both in classes and on a farm, and authorised the grant of a diploma to such students as should pass an examination as to their agricultural and scientific knowledge and experience. During the first two years—1858 and 1859—the residence on a farm and attendence upon lectures, which will hereafter be required, have been dispensed with; and all of the required age who have presented themselves before the board of examination on the present and the first occasion of their meeting have been eligible for the Society's diploma without certificate of attendance upon classes or residence on a farm. We take from the columns of the *Scotsman* newspaper the following report of the examination just held:—

Two examinations of students coming within the scope of the scheme propounded by the Council have been held. At the examination in April last year, *three* candidates offered themslves, and *one* (Mr. Jacob Wilson, Manor House, Morpeth) received the diploma. This year *eight* gentlemen enrolled themselves. *Two* were prevented from appearing by illness or other causes. *Six* were examined. *One* was rejected. *One* was proficient in all the branches but one—namely, Practical Agriculture, and was remitted for a year to re-study that—a subject of cardinal importance. *One* had not reached the statutory age of twenty-one, and accordingly was not formally examined on Agriculture, for which he will come up next year. On all the other branches he passed with the highest distinction. *Three* candidates received the diploma, the first place in honour being assigned to a Scotchman. The classified list was as follows:—

1. John Milne, Mains of Laithers, Turriff.
2. William Henry Eley, Cobham, Kent.
3. Thomas Rome, Groundslow, Staffordshire.
4. Hewens Walton, Fenny Compton, Warwickshire,

passed in the scientific branches, but, being too young

to receive a diploma, comes up next year on Agriculture.

The subjects of examination and the several examiners were as follows :—

*Science and Practice of Agriculture, Mechanics, and Architecture of the Farm*—Professor John Wilson; John Finnie, Swanston; Robert Russell, Kilwhiss; and John Wilson, Edington Mains.

*Botany*—Professor Balfour.

*Chemistry*—Professor Thomas Anderson.

*Natural History*—Professor Allman.

*Technology*—Professor George Wilson.

*Veterinary Surgery*—Professor Dick.

*Field Engineering and Surveying*—John Miller of Leithen, C.E., and James Stirling, C.E.

*Book-keeping and Accounts*—Kenneth Mackenzie, accountant, and Peter M'Lagan, yr. of Pumpherston.

The names of the examiners given above is sufficient guarantee of their capacity and impartiality, and few, we suppose, will question that a candidate who passes creditably an examination on the subjects required is entitled to an agricultural diploma. Students are left a very wide choice as to the schools or farms they may attend. The examiners are unpaid, and examine in groups, so as to act as assessors to each other. Altogether, we cannot but regard the Highland Society scheme as an important step in the right direction, and as we are confident that the candidates who have appeared before the Board of Examiners can testify to the examinations having been conducted in a fair and kindly spirit towards them, we trust that next April, when the formal regulations come into operation, there will be no lack of new applicants. There can be no question that, *ceteris paribus*, agricultural appointments will be given to holders of the diploma in preference to others.

---

AT this season of the year, when hoeings and top-dressings remain the only means left by which we can influence the future harvest, it is well to recollect how great their influence is. We read in the current number of the English Agricultural Society's Journal of an experience on the latter of these subjects extending over a great many years, to which we propose to direct attention now.

They were confined to the two substances, nitrate of soda and common salt, and to the one crop of Wheat; but for extent and duration, and for the care and ability with which the experiments have been conducted they have seldom been excelled. In the words of the reporter :—

"Notwithstanding the varied results of these dressings, all are satisfactory, for there is hardly one of moderate cost that has not answered. The results of these trials must nevertheless be received with some degree of caution, and nitrate of soda must not be expected to produce an equal effect on all lands. The soil of Holkham Park is particularly adapted for this system of high farming. The surface soil is a light sandy loam, which requires much stimulant, and the subsoil is a chalk sufficiently dry, cool, and grateful to prevent the forced straw from lodging. Some soils do not want such assistance, and other barren lands lie on such poor and weak substrata that they cannot bear any extra forcing. The experiments show that Holkham is not the *natural soil for Wheat*. In those wet seasons when there was so poor a Wheat crop throughout the kingdom, the nitrate of soda produced the greatest results. Last year was too hot and dry for West Norfolk; and although the general crop of Wheat in England was abundant, at Holkham it was poor, and the soda did the least good. The practical result of these experiments is, that on the Holkham Park Farm from 6 to 8 stone (1 cwt.) of nitrate of soda, mixed with double the quantity of salt, is applied to all the Wheats; the quantity used being varied according to the strength of the plant, or condition of the land. The soda and salt are best applied in two dressings: the first half when the Wheat takes its early start in February or March, the rest some time in April, when the Wheat is growing vigorously."

The following are the results. We give first the experience of a wet season :—

| Year. | No. of Experiments. | Nitrate of Soda. | Salt. | Cost of the Top-dressing. | Yield of Corn per Acre. | Increase in Corn over Experiment No. 2. | Weight of Straw grown per Acre. | Increase in Straw over Experiment No. 2. |
|---|---|---|---|---|---|---|---|---|
| | | | | £ s. d. | Bush. pks. | Bush. pks. | Cwt. st. lbs. | Cwt. st. lbs. |
| 1858. | 1 | 6 | 12 | 0 15 2 | 39 0 | 14 3 | 30 4 8 | 7 5 10 |
| | 2 | Nil | Nil | .. | 24 1 | .. | 22 6 12 | .... |
| | 3 | 8 | 16 | 1 0 3 | 33 3 | 9 2 | 30 0 0 | 7 1 2 |
| | 4 | 4 | 8 | 0 10 1½ | 32 2 | 8 1 | 27 3 6 | 4 4 8 |
| | 5 | 10 | 20 | 1 5 4 | 36 0 | 11 3 | 29 1 2 | 6 2 4 |
| | 6 | 8 | Nil | 0 18 0 | 35 0 | 10 3 | 32 2 4 | 9 3 6 |

In the years 1855, 1856, and 1857, which were comparatively dry seasons, the produce has not been so greatly increased by the top-dressing, and in one instance, as will be seen from the note, the application was a failure :—

| Year. | No. of Experiments. | Nitrate of Soda. | Salt. | Cost of Top-dressing. | Yield per Acre. Head Corn. | Yield per Acre. Tail Corn. | Total Yield. | Excess over No. 2. | Weight per Bushel. | Straw per Acre. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Stones. | Stones. | £ s. d. | Bush. pks. | Bush. pks. | Bush. pks. | Bush. pks. | lbs. | Cwt. lbs. |
| 1855. | 1 | 6 | 12 | 0 15 9 | 39 3 | 1 0 | 40 3 | 5 3 | 61 | 30 21 |
| | 2 | Nil. | Nil. | .. | 64 1 | 0 3 | 35 0 | .. | 61 | 27 6 |
| | 3 | 4 | 8 | 0 10 6 | 38 0 | 0 3 | 38 3 | 3 3 | 61 | 29 19 |
| | 4 | 8 | 16 | 1 1 0 | 41 1 | 1 0 | 42 1 | 7 1 | 61 | 32 80 |
| | 5 | 10 | 20 | 1 6 3 | 42 2 | 1 0 | 43 2 | 8 2 | 61¼ | 34 11 |
| | 6 | 12 | 24 | 1 11 6 | 41 2 | 1 1 | 42 3 | 7 3 | 61 | 35 28 |
| | 7 | saltpetre 8 | Nil. | 0 18 0 | 42 0 | 0 3 | 42 3 | 7 3 | 62 | 32 16 |
| | 8 | 8 | 16 | 1 3 0 | 41 3 | 1 0 | 42 3 | 7 3 | 63 | 31 4 |
| | 9 | cwt. 3 | .. | 1 1 0 | 35 2 | 1 0 | 36 2 | 1 2 | 62½ | 26 0 |
| | 10 | ,, 3 | .. | 1 4 0 | 34 1 | 0 3 | 35 0 | .. | 62½ | 26 40 |
| 1856 | 1 | 6 | 12 | 0 16 0 | 47 3 | 1 2 | 49 1 | 4 3 | 63 | 46 14 |
| | 2 | Nil | Nil | .. | 42 2 | 2 0 | 44 2 | .. | 62 | 36 68 |
| | 3 | 8 | 16 | 1 1 6 | 49 3 | 2 0 | 51 3 | 7 1 | 63 | 45 79 |
| | 4 | 10 | 20 | 1 7 0 | 50 2 | 2 0 | 52 2 | 8 0 | 62 | 43 98 |
| | 5 | 4 | 8 | 0 10 9 | 48 1 | 2 2 | 50 3 | 6 1 | 62½ | 45 86 |
| | 6 | 12 | 24 | 1 12 3 | 47 0 | 2 2 | 49 2 | 5 0 | 62½ | 40 24 |
| | 7 | 8 | Nil | 0 18 6 | 48 1 | 2 2 | 50 3 | 6 1 | 62½ | 41 48 |
| | 8 | saltpetre 8 | 16 | 1 3 0 | 49 2 | 1 2 | 51 0 | 7 0 | 62¼ | 40 28 |

MEM.—Sown in two dressings in April.

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1857 | 1 | 6 | 6 | 0 14 6 | 31 0 | 1 0 | 32 0 | 4 2 | 61½ | 18 44 |
| | 2 | Nil | Nil | .. | 26 2 | 1 0 | 27 2 | .. | 60½ | 17 28 |
| | 3 | 8 | 8 | 0 19 4 | 24 0 | 1 0 | 35 0 | 7 2 | 61 | 20 110 |
| | 4 | 10 | 10 | 1 4 2 | 35 2 | 1 0 | 36 2 | 9 0 | 60½ | 22 60 |
| | 5 | 4 | 4 | 0 9 8 | 28 0 | 0 2 | 28 2 | 1 0 | 60½ | 17 22 |
| | 6 | 12 | 12 | 1 9 0 | 30 0 | 1 0 | 31 0 | 3 2 | 61 | 17 96 |
| | *7 | 8 | .. | 0 18 0 | 25 0 | 1 0 | 26 0 | .. | 61 | 15 46 |
| | 8 | saltpetre 8 | 8 | 1 4 0 | 21 3 | 0 3 | 22 2 | .. | 61 | 13 20 |
| | 9 | .. | 36 | 0 6 6 | 23 2 | 1 0 | 24 2 | .. | 61 | 13 38 |

The preliminary remarks by the reporter, already quoted, must be taken as a guide to the meaning of these experiments. They are to be understood as giving entire encouragement to the practice of top-dressing Wheat with moderate applications of nitrate of soda, especially on light and comparatively poor soils—and in rainy seasons.

* This is the only experiment, out of more than 50, in which nitrate of soda has not produced an increase, and usually a paying increase, of Wheat; it will be observed that there was no salt used in this instance. The saltpetre diminished the yield 5 bushels per acre, and the salt, when applied alone, at the rate of 3½ cwt. per acre, also knocked off 3 bushels. The singular results of these three closing experiments appear very unaccountable, being quite at variance with all the preceding.

## DR. VOELCKER ON LIQUID MANURE.

THE impression I received on reading Dr. Voelcker's papers on Liquid Manure, in the last number of the Royal Agricultural Society's Journal, was that in him it had not met with a very friendly advocate. The sample made use of for comparison stands among the lowest in its proportion of ammonia, while the expense of distribution is reckoned at fully double what it can be done for under ordinarily favourable circumstances. The economical management of the liquid manure of a farm involves many considerations. The Professor has treated the subject in its application to various soils, as well as its analytical value, but my own experience and what I have seen lead me to differ on the point of its unfitness for clay soils. I have produced large crops of Italian Rye-grass on heavy clay with the aid of liquid manure, the whole field having been drained, deeply ploughed and limed; but that extra luxuriance of the Grass was due to the application (and not to the previous processes drainage, subsoiling, liming, &c., as suggested by Professor) was unmistakeably evident by the contrast it afforded to that portion of the field not so treated. I have applied liquid manure on a black loam, as well as on a very light soil on a subsoil of gravel; the latter requires more frequent applications, and those of a more diluted character, to produce the same result as may be obtained by a more concentrated dressing on a heavier soil. It is clear that if liquid manure did not possess a greater value practically than it appears to do theoretically, few men would trouble themselves about it, and like the Professor's "remarkably intelligent friend would allow it to escape as best it could." In the long run the high price of guano and other manures will prevent this. I have tried 2, 3, and 4 cwt. of guano per acre on Italian Rye-grass, at each application washed in with 5000 or 6000 gallons of water, and none of the above quantities produced a crop either as thick in the ground or so high, as 2000 gallons of liquid, spec. grav. 1.018, diluted with three times its quantity of water. Comparing in this instance the superiority of the liquid manure over the guano appears only to be accounted for on the supposition that the constituents are in a more perfect state of assimilation in the one fertiliser than in the other. My liquid is derived from cows and feeding cattle, with the addition of an occasional quadruped reduced to a fluid state, and about 2000 gallons of gas liquor through the season, all of which is collected in covered tanks, cheaply constructed. Mr. Mechi's 50,000 gallons of diluted liquid per acre may perhaps be applied in five dressings, or 10,000 gallons at each time; as the theoretical equivalent in guano would according to Professor Voelcker amount to 44⅘ lbs. of guano—a quantity which, if applied and left to the mercy of sunshine, drought, and wind, would be nowhere in producing a crop of Grass. The expense of conveying liquid manure by pipes and pumps driven by water power provided the water for dilution is not procured at extravagant expense, does not exceed ¾d. per ton. The assumed cost of 2*d.* per ton is the price at which it may be managed by the water-cart; this I think was stated by Mr. Caird some time ago, as the result of his experiments. One great advantage in collecting the liquid manure apart from the solid is the economy of litter, the use of sparred floors and the carrying away of the liquid in drains enabling a greater number of cattle to be house-fed summer and winter, than by the old plan of making straw the absorbent. To supply the increasing demand for beef a man must economise his straw to the utmost, now that its value as an article of food is becoming appreciated, for steaming and mixing with cake, meal, or pulped roots. Mr. Horsfall has shown in his paper on Dairy Management that it is four times more valuable as a feeding material than for converting into manure. Professor Voelcker in his previous writings acknowledges that cows will extract a great deal of nourishment from cut straw, while now he seems to treat a plentiful supply as a matter of considerable inconvenience, and of no other use than to be trodden under foot. No man is likely to be troubled with an "excess of straw" except from a deficiency of stock; the high price of meat and the low price of grain will make farmers avail themselves of every means they possess of increasing their quantity of live stock. As to the best means of disposing of liquid manure, underground pipes are more economical than open channels, even where land can be irrigated by gravitation. There may be localities in which liquid manure cannot be applied with advantage, owing to a deficiency or the great cost of obtaining water, and in such situations some other absorbent must be found, but let it be a cheaper one than straw. But where farms are so fortunately situated as to command a good supply of water, the greatest attention should be paid so as to ensure the collection of every particle of the liquid in covered tanks, and with the aid of gravitation, water-wheel, or steam-engine, it should be conveyed to the soil in underground pipes. The land intended for its application should be as near the farm steading as possible, and where there is motive power, let not the economy in the first outlay delude any one into selecting ground at a distance that may be available for gravitation, as the carriage of some 60 tons of Grass per acre up hill is a serious item of expense. Five or 10 acres laid down in Italian Rye-grass, and under pipe irrigation, will yield more food for summer soiling and at a cheaper rate than any other plan at present known, and from its enormous addition to the manure heap, will in its turn prove the commencement of a reproductive system. The growth of a uniform supply of Grass through the summer is invaluable: towards the end of the season when the pastures become bare a plentiful supply of food is ensured, so that stock are always kept thriving, and free from the many diseases engendered by young animals being stinted, quarter ill among the number. In these days of railroads with an increasing demand for garden produce, within a considerable area of large towns, vegetables may be produced to great perfection and with tolerable certainty under the liquid manure system, the application of the liquid, or even water, being so inexpensive, and at the same time so valuable. On looking over many farms managed on the pipe system, an error appears to have been committed in laying down a

greater extent of piping than can always be kept at work through the season; the interest of money on the unused portion having to be added, makes the cost of distribution much larger than it otherwise would be. This mistake, with the disadvantages in point of profit always attendant on those who step out of the beaten track, may in some way account for the partial success which the Professor has attributed to its application, but at any rate let us be cautious in adopting the practice of his "remarkably intelligent and practical friend." *James T. Blackburn, Mill of Forest, Kincardineshire.*

## ON THE WINTER ACCOMMODATION FOR STOCK.

(*Concluded from page* 343.)

3. Let us now proceed to the consideration of covered accommodation for stock. Here a new feature presents itself—a new element of serious moment; viz., the expense; and it may be well to consider it a little separately. Simply as a matter of expense there is no system so economical as stalls. A shed 16 feet wide is sufficient for a pathway 3 feet wide, a manger, and standing room for the animals, whilst 4 feet in the length of the shed is ample for each, so that 64 square feet only are occupied by stall-fed cattle. And Mr. Caird (page 343) mentions some stalls erected on Lord Londonderry's estate, where 20 head of cattle are housed in a wooden shed at a cost of 30*l.*, or 30*s.* per head, the shed being 70 feet long and 15 feet wide, only 7 feet in width being allowed for each pair of animals, each animal thus occupying only 52 square feet.

Now on the box system it is usual to allow 10 feet by 9 feet for the box, and the gangway cannot be taken at less than 2 feet more, making 110 square feet for each animal. These boxes will certainly take in two younger animals, but each full sized fatting beast requires a separate box. As a question of first cost in the erection of the buildings the boxes may be taken at nearly double of the stalls.

As to the expense of the sheds with yards attached, much depends upon the variety. I think it is never desirable to keep more than six animals together in one yard. For this number a shed 36 feet long and 10 feet wide affords comfortable accommodation. This is 60 square feet for each animal, and is as cheap as anything; but if it is considered desirable to keep each in a separate yard it requires a shed 10 feet wide divided into lengths of 8 feet 6 ins., each animal thus occupying 85 square feet. Such sheds would, however, hold two small animals, whereas no animals could well be placed closer together in the stalls than as mentioned above.

Considering the simplicity and cheapness of a 10-feet compared to a 15-feet roof, I think I may place the order of cheapness as follows:—

1. Sheds and yards to hold six animals.
2. Stalls.
3. Sheds and yards to hold one.

And, dearest of all—4. Boxes.

But although this question of first cost is one of very material importance, I cannot think that it is one that should decide the question of selection; for I believe that the other points involved, viz., the health of the stock, the economy of food, and the manufacture of manure, should far outweigh it in the consideration of the owner as well as the occupier of the soil, for upon them in a great measure depends the improvement of the estate.

Let us first, then, consider the benefits, &c., of stalls. As to the health, &c., of the animal, however well it may be suited for fattening stock, I cannot believe that it is by any means desirable for store stock; to preserve which from the inclemency of the weather I believe to be most important, but at the same time it is equally necessary to keep them healthy and hardy, which, I conceive, can only be done by giving free access to the open air. This observation applies equally to box-feeding store stock. Mr. Huxtable, who keeps about 100 head of cattle on his Hill farm, was a great advocate for entirely housing his stock, and Mr. Caird says (p. 67), in 1851—"The whole stock of the farm, except the breeding ewes, are kept constantly housed night and day, summer and winter, and no particle of their food or manure is suffered to be wasted." It appears that Mr. Huxtable persevered in the system for six or seven years, but at last gave it up as Mr. Ruegg states in his Essay on the Farming of Dorsetshire, in the Journal of the Royal Agricultural Society for 1855 (vol. 34, p. 412):—

"Mr. Huxtable mentioned the result of an experiment which seems important. He carried on for six or seven years the practice of keeping his dairy beasts in houses, only turning them out once a day for exercise. This at first was found profitable in many respects; but ultimately the constitution of the cows and of their progeny became so enfeebled, and the development of tubercles in the lungs of the calves so marked, that two years ago the practice was altogether abandoned, and now his breeding stock and cows are kept principally in yards with sheds attached, their food being taken to them. This practice has been found to answer so well, that in future it will be wholly followed."

Mr. Grey, of Dilston, a well-known agriculturist (Journal of the Royal Agricultural Society, Part 1, vol. 4, 1843, p. 1), calls stall-feeding "the unnatural practice of tying up cattle to stakes, denying them the natural use of their limbs, the choice of their position in lying down, and the means of varying the atmosphere in which they are confined—a matter in which cattle are peculiarly discriminating and sensitive."

As to food, I believe there is little to choose between box and stall-feeding, they both admit of its most economical use; and upon this point the only difference between them and feeding in yards with sheds attached is on the point of the warmth afforded by them, and the consequently smaller quantity of food required by animals fed in them. This is of importance; but I believe it to be less so than that of health. More upon this point, however, presently.

As to the manure made in stalls, I do not think there is much to recommend them—the ordinary practice is to clean out the stalls twice a day, forming opposite the stalls a heap of manure which is generally exposed to the action of the rain, and being thrown loosely into a heap is in the very best state to encourage rapid decomposition, and I know from experience that there is an enormous loss during wet weather, and even if the precaution of a tank to receive the drainings is adopted, still I believe it entails unnecessary expenditure of labour. The system is sometimes modified by allowing the manure to remain under the animals for several weeks; it is however but a poor approximation to the box system, and as the dung gets only partially trodden it is by no means unobjectionable.

The box system next calls for attention. The same remarks apply to it as to stalls, on the health of the animals and the economy of food. It has the advantage over stalls of giving the animals greater freedom of action, and is no doubt good as to economising the food. As a manufactory for manure I believe there is no system to be compared to it. And here it may be well to make some remarks upon the subject of the manure made by farmers. We talk in our discussions upon the growth of roots, corn, &c., of applying so many tons or loads of manure to the acre, little taking into account the difference of its value per load. I will call your attention to some experiments made by Lord Kinnaird, and reported in the Royal Agricultural Society's Journal for 1853 (No. 32, page 336). The comparison was instituted between manure made by bullocks fattening in a covered yard, and that made by another lot, stall fed, which was thrown out into an open yard occupied by well-fed young animals. He considered that the manure from the circumstances under which it was made should have been about equal. The experiment was tried on a field of 20 acres, of very equal quality, a rich loam, &c., divided into two equal portions; 20 loads of manure per acre were applied, and the field planted with the same kind of Potatoes. Two acres on each half were measured and the crop weighed. The result was—

*Uncovered Dung.*

| | Tons | cwt. | lbs. | |
|---|---|---|---|---|
| 1st acre produced .. .. | 7 | 6 | 8 | of Potatoes. |
| 2d " .. .. | 7 | 18 | 99 | " |

*Covered Dung.*

| | Tons | cwt. | lbs. | |
|---|---|---|---|---|
| 1st acre produced .. .. | 11 | 17 | 56 | of Potatoes. |
| 2d " .. .. | 11 | 12 | 26 | " |

The field was afterward sown with Wheat, and the result was—

*Wheat on Uncovered Dung.*

| | Produce in grain bushels | lbs. | Weight per bushel lbs. | Produce of straw lbs. |
|---|---|---|---|---|
| 1st acre .. .. | 41 | 19 | 61½ | 3344 |
| 2d " .. .. | 42 | 38 | 61½ | 3520 |

*Wheat on Covered Dung.*

| | Produce in grain bushels | lbs. | Weight per bushel lbs. | Produce of straw lbs. |
|---|---|---|---|---|
| 1st acre .. .. | 55 | 5 | 61 | 4840 |
| 2d " .. .. | 53 | 47 | 61 | 4620 |

These figures speak for themselves, and leave a broad margin for errors of observation, &c.

Taking the Potatoes at 3*l.* a ton, and the Wheat at 5*s.* a bushel, the straw at 1*l.* a ton, the loss on the 10 acres in the two years from the injury done to the manure by exposure amounted to the sum of 157*l.*, or nearly 16*l.* an acre. The question may fairly be asked, Can this be true? Let us refer to Dr. Voelcker's valuable papers in the late Journals of the Royal Agricultural Society. We shall see—among the conclusions he comes to after a careful investigation into the condition and value of farm-yard manure under different circumstances—that the soluble constituents of dung are much more valuable fertilisers than the insoluble. That farm-yard dung, even quite in a fresh state, contains phosphate of lime, which is much more soluble than was suspected. That the drainings from dung heaps are very valuable. That well rotted dung contains a much larger proportion of soluble matters, and is richer in nitrogen than fresh; and so, weight for weight, is more valuable than fresh; it is, however, much more liable to loss from exposure to rain, whilst practically speaking all the essentially valuable manuring constituents are preserved by keeping farm-yard manure under cover. He says, however, that when there is a superabundance of straw it may be advisable to expose it. The worst method of making manure is to produce it by animals kept in open yards, since a large proportion of valuable fertilising matters is wasted in a short time; and after a lapse of 12 months at least two thirds of the substance of the manure is wasted, and only one-third, inferior in quality to an equal weight of fresh dung, is left behind.

Professor Johnson also found that well rotted dung had lost more than half of its weight, and he remarks that "a part of this loss may no doubt be ascribed to the evaporation of a portion of the water of the recent dung; but the larger part is due to an actual escape of the substance of the manure itself."

This all goes to show the very great importance of properly manufacturing manure, and when it is manufactured of properly preserving it. On this point the best system seems to be that recommended by Mr. C. Lawrence, viz., forming the heap of manure very much like our Mangel heaps, and covering or rather plastering it over with a coating of road drift or mould. The earth covering prevents the escape of ammonia, &c., and from the form of the heap the water is thrown off.

Returning, then, to box feeding, its superiority as a system for the management of manure must be admitted; as economising food also it is excellent, but I think it is very questionable as to its superiority for wintering store stock. My own impression is that sheds with yards attached are best suited for maintaining the stock in health, that there is not necesarily any great difference in the economy of the food, and that if properly managed the manure made in them may approximate very nearly to that made in boxes, whilst they have decided advantages in this respect over stalls. The following are the opinions of persons in different parts of the country.

A friend of Mr. Burnett's, in Kincardineshire, says:—"A few years ago nothing was thought so suitable for accommodation of stock as covered yards, now people are more anxious to have small sheds and yards for all store and fatting cattle." Another in Forfarshire says:—"I much prefer keeping all my store and fatting cattle in small yards and sheds, say from three to six in a yard, finding them do better than when tied up or in loose close boxes."

A friend of mine now farming in Wales who comes from Kincardineshire, also says:—"Store cattle should be in yards, with sheds to go into when they like. Avoid draughts, and do not keep too many together."

An excellent farmer in the county of Durham, a breeder of prize Short-horn stock, says he prefers box-feeding to any other method, and better still with a small yard for exercise. He says such are decidedly the best for feeding prize animals; but he recommends only two beasts being together when not tied up.

Stephens, in his "Book of the Farm" (Vol. 1, p. 293), says "Mr. Boswell's testimony in favour of hammels* (that is, small sheds and yards) is most conclusive; and it is this:—

"From the result of my own experiments as well as the unanimous opinion of every agriculturist with whom I have conversed on the subject, I feel convinced that there is no point more clearly established than that cattle improve quicker, or, in other words, thrive better in open hammels than in close byres."

Mr. Ellman, of Sussex, recommends sheds and yards for young stock, as nothing contributes more to their health and strength than giving them their liberty and suffering them to range while young.

I think these opinions are sufficient to prove that as regards the health, &c., of the stock, and the economy of food, sheds and yards are preferable to boxes.

Then as regards the manure made in them. In Morton's Cyclopædia (Vol. 1, p. 790), I find them thus objected to:—"In the system of shed and yard feeding there is the objection that the more valuable parts of the manure are exhaled into the atmosphere or washed away by every shower." Now to this I reply that it is not at all necessarily the case that either of these results should follow. All that is required is to litter the sheds which may even be slightly sunk as in the box system, and keep your yards clean, which when not littered I know is not very difficult. I do not see any objection to putting the scrapings from the yards under the sheds, covering it with straw so as to maintain a nice comfortable lair for the cattle; and I know that the manure thus made under the shed will be very similar to box-made manure. Stephens, in his Book of the Farm (Vol. 1, p. 293), who advocates sheds and yards in preference to boxes, says—"The manure would be equally as well compressed and good in sheds as in boxes." I observe sometimes the directly contrary management to that I am here advocating, viz., the practice of clearing out the sheds frequently, and exposing the manure to the action of the rain, &c. I am sure this is wrong.

But I shall be met with an objection to this by those farmers who have more straw than they know what to do with; whose great trouble, in fact, is to get their straw rotted. I have previously combatted this argument, and pointed out the necessity for the more extensive use of straw as food for our stock; but I shall be again met with the objection that the straw grown in our southern climate is by no means so good as that in the north of England and Scotland; but if Mr. Bond is able to feed and do his sheep well on straw, surely we may expect it will prove good food for cattle also.

Let me now draw your attention to some remarks of Marshall, who in writing on the farming of Gloucestershire, in 1789, thus highly speaks of the sheds and yards peculiar to it:—

"What characterises the bullock sheds of this district, and distinguishes them from those of every other I have observed in, is the circumstance of each bullock having a house and yard to himself, in which he goes loose, occupying them by turns, as appetite or amusement directs him; having a manger and a drinking trough to go to at pleasure. He of course eats when he is hungry, and drinks when he is thirsty. He is also at liberty to rub or to lick himself, as well as to keep his body in a degree of temperature as to heat or cold. Theory could not readily suggest more rational principles."

Marshall goes on to describe the dimensions, &c., of the sheds, and then adds—

"The partitions of the pens are gates, reaching from the pillars to the boundary wall, and likewise from pillar to pillar—when they are fixed in that position each bullock has his stall and his little yard. When in this each is shut up in his stall; the yards forming a lane or driftway, for taking in or turning out any individual."

A modification of this old Gloucestershire system may be seen at Colonel Kingscote's home farm; the altera-

* Prize Essay, Highland and Agricultural Society.

tion is, I think, very important, the manger and drinking trough at Kingscote is in the yard, protected by a small roof, leaving the shed simply as the bed for the animal and a manure factory.

In conclusion I beg to suggest the following propositions for discussion:—

1. That for the benefit of the land, the health of the stock, the economy of food, and preservation of the manure, it is desirable that all the stock of a farm should be housed during winter.

2. That on small farms such accommodation as is required should be provided at the homestead or on large farms at a few well selected spots, so as to economise labour and ensure efficient supervision.

3. That although yards are desirable for admitting the animals to the enjoyment of the fresh air and sunshine, and even occasionally of a good shower of rain as well as for exercise, yet that as a rule they should not be made the receptacles for or the place of manufacture of the manure in consequence of its exposure in them to the deteriorating effects of rain, &c.

4. That when it is necessary to remove manure to the fields it should either be applied immediately to the land or be so stacked as to expose the least surface to the action of the rain, and should be further protected by a covering of road drift, or earth sloping like the roof of a house so as to throw off the rain, the earthy covering intercepting the ammoniacal and other gases arising from the decomposition of the manure.

5. That the old Gloucestershire system of small yards and sheds, with a covered feeding trough in the yard, holding one full-grown animal, or the Scotch hammel system of a yard and shed adjoining, accommodating from two to six full-grown oxen, are preferable as respects the health of the stock to either stalls or boxes; that they are on an equality with them as respects economy of food in fine weather, and if free from draughts in most weather; that they are preferable to stalls, and very little if at all inferior to boxes, if properly managed, as a means of making and preserving manure.

6. That although stalls may be erected at the cheapest rate per head, the difference is not greatly in their favour.

7. That boxes are more expensive in their first construction than sheds with open yards.

8. That sheds on the Gloucestershire plan, to accommodate one animal in each compartment, should be 10 feet wide by 9 feet, with a yard of double the size.

9. That sheds on the Scotch system, to hold six animals, should be 10 feet wide and 36 feet long, with a yard 36 feet by 36 feet.

10. That in this neighbourhood the sheds should be placed facing the south or south east, avoiding a south westerly aspect, in consequence of the prevailing winds and heavy rains coming from that quarter, and that great care should be taken to prevent draughts.

11. That no farm is properly furnished for the occupation of a tenant without sufficient winter accommodation for the stock the farm will carry being provided.

12. And that as the cutting of the straw, &c., into chaff is of very important assistance in economising the food of the farm, it is highly desirable that advantage should be taken of the streams of water which abound in the neighbouring valleys as a simple, ever ready, and most steady motive power.

I shall conclude with the following opinion of Sir John Sinclair in his "British Husbandry" (Vol. 1, p. 24) in 1814. After examining the systems of feeding in open yards, feeding house, and hammels, he says, "On the whole, the third plan, that of hammels, though the most expensive, is certainly to be preferred. The advantages of it are described by Mr. Robertson in the following terms: 'I have found these hammels or cattle sheds much better than any large or open court and yard. Cattle kept in great numbers waste more straw, they fight and hurt one another with their horns; all this is prevented when they are kept in separate divisions; and above all, in these hammels we can give them what meat we choose, and in what proportion we think proper, and can separate those of different ages, which ought not to be associated together.'" He goes on to observe that they are equally suited for horses, and are much more healthy for them, in which I quite agree.

## Home Correspondence.

*Steam Cultivation.*—Mr. Mechi early next month is to introduce the subject of steam cultivation before the Central Farmers' Club, and the *Agricultural Gazette* every week contains much information upon the subject. In fact it is now looked to by most farmers as likely to cause a revolution in farming. I must therefore confess my surprise that no one has hitherto insisted on the great importance of having our steam engines (with or without Boydell's wheels) capable of drawing their own implements, whether cultivators, ploughs, threshing machines, or whatever may be required. One great object is cheapness of first cost; not at present supplied by either Boydell or Fowler. Still customers will most willingly pay the extra percentage upon an engine which will save seven or eight horses and two men from carrying the whole machinery from place to place, arriving possibly too soon and losing much valuable time; small farmers too with only two or three horses must be in a great measure prevented from using steam at all. Mr. Fowler a year or two ago spoke in favour of applying his windlass, &c., to a small Boydell's engine. The additional expense would be nothing, for the engine having finished its day's work would have the steam ready to take itself and belongings at once to where it is next wanted. *W. H. S.*

*Autumn Culture.*—I am an amateur farmer and constantly read the *Agricultural Gazette*, the Royal Agricultural Society's Journal, and anything else I can get on the subject. I there learn that deep autumn cultivation is a most important preliminary in the growth of roots; autumn manuring is also strongly recommended; so I go to my bailiff direct. "You must plough this — inches deep."—"Oh," says he, "we shall bury the Twitch and never get it out again."—"Well, at any rate manure it directly."—"Well, sir, of course I can do as you like, but we shall not be able to rake off the Twitch in the spring." Accordingly he ploughs once in autumn, perhaps just a little deeper than formerly, and he ploughs three times in spring, adding greatly to the expenses of the farm, and all on account of this same Twitch. I go to my club like Hercules, for we farmers in this neighbourhood have a club, with which we give blows to our enemies in war, and on which we rest in peace. (This simile is not mine, but is taken from an old Farmer's Magazine.) The talk at the club is on Turnips, and I hear that in this dry climate we must not invert the soil for some time before sowing; but this man is always inverting, and always with the same "auld sang" about Twitch. This Hercules, by-the-bye, destroyed a monster with many heads, and when each was destroyed two sprung up in its place; why, this monster must have been Twitch. Dr. Voelcker says, "burn it and turn the ashes into Turnips;" the paper maker says, "sell it to me for paper." Very simple and easy indeed; they are welcome to it all if they will only get it out of the ground. Pray tell me how I am to get rid of this pickpocket, this thief of moisture, this strangler of crops, this many-fanged hydra, Twitch, and you will confer a lasting benefit upon your obedient servant, *W. H. S.*

*Utilisation of Waste.*—The interesting extract on the utilisation of waste which appears in the agricultural pages of your Journal of February 19 must have startled, as well as amused, certain of your numerous readers; more especially the remark that as small a quantity as 2½ lbs. of shoddy are equal to 100 lbs. of farmyard manure; which, it is well known, contains, besides ammonia and phosphate of lime, most of the minor constituents essential to the growth and perfecting of field and garden produce. Permit me however, to say that I have used an article similar to the above—the refuse or sweepings of a wool manufactory—for two successive years, with such results as to fully verify the assertion contained in Mr. Simmonds's statement. The writer has seen an analysis of that description of woollen waste called stercus, by J. T. Way, Esq., from which it appears that this particular variety, composed of wool and cotton refuse, chiefly the former, contains an amount of nitrogen equal to 5½ per cent. of ammonia, the other constituents not being stated. This kind of waste, however, labours under the disadvantage of being too adhesive for drilling by machine; a serious obstacle to its adoption on the farm, however suitable it may be for garden purposes. This is a subject of regret to many who have applied it by hand sowing or dibbling to Potatoes, Turnips, Mangel, &c.; a quality which, however it may militate against its more general adoption, would prove of manifest advantage could some means be devised for its ready application to field culture in high and dry localities, more especially during the two most critical and hottest months of the year. I hope that the interesting extract which has led to these observations, the results attending the application of this valuable manure upon the Hitcham allotments, according to Prof. Henslow's report of last autumn—not only as regards their favourite crop, Potatoes, but more particularly upon Grass—added to these few remarks, may lead to the discovery or invention of some ready method of shoddy appliance to agricultural purposes. *An Old Subscriber.*

*Potato Culture.*—Under the head "Potato Culture" in your last Number there are some remarks on my little treatise on that subject by "Arator," on which I beg to make an observation or two. "Arator" finds fault chiefly with the shortness and the literary faults of my little work. I admit that I am merely a practical gardener and not a practised writer. I hope "Arator" will forgive me for suspecting from some of his remarks that he is more a practised writer than a practical gardener. That my treatise is short is quite true; there are many I believe much longer with less matter. I could easily have spun it out to greater length if I had thought it would have been the better, not the worse for it. Whatever its faults of style may be it gives I hope all I wish to say very clearly. It contains, if not many words, the result of many years of thought and actual experiment, and if as "Arator" handsomely allows "advantage may be gained from it," that is as much as can often be said of many works of greater pretension. If it shows how Potatoes may be grown, as I have experimentally proved, free from disease, there are few but would think it well worth 1*s.* 6*d.*, though it may be short. "Arator" asks only one question, "Does our experienced gardener mean to tell us he has obtained any one of his monster crops from tubers which had been left under tan without the usual earthing up with the soil?" I certainly mean to tell "Arator" that the heaviest crop of round Potatoes I ever grew had nothing whatever but tan over them. He does not seem to be aware that Potatoes will grow well in tan even with nothing else either over or under them. He means, however, to try the tan, at which he sneers. That is right. But I hope he will allow me to say without offence that instead of sneering first and trying after, it would have been better to have tried first and sneered after—if necessary. As there are some things mentioned in which he allows that his own experience has shown that I am right, it may be possible I may be right also in things of which he has obviously had as yet no experience and I have. If "Arator," or indeed any other purchaser of my treatise thinks further explanation desirable, I shall be happy to give it him on application accompanied by a postage stamp. I could wish that the price of which he complains had enabled me to dispense with this condition. When "Arator" sends the result of his experience with tan to your Journal no one will be more happy to read it than *R. B., Bamford, Hathersage, Derbyshire.*

*Hedgerow Timber.*—Will you allow me a short space for reply to "Senex" on this question? He commences by expressing his ignorance of what "T. T. S." means (an ignorance by the bye that from the context appears to be perfectly genuine), and then proceeds to demonstrate that what he wants is foolish and unnecessary. No one word in my former letter could surely be construed into a deprecation of high farming in its real and highest senses; nor am I one whit less an advocate for "judicious improvements" than "Senex" himself. Nature makes no "bottle-brushes," or anything half so imperfect; those of which "Senex" complains are produced by the farmer mauling them about to suit his land, and the fine trees which alone are worthy of "Senex's" pencil are the very ones which the farmer would be the first to fell. As I started with attacking the "rabid crusade" which "Senex" has not, but which I have seen, it is a necessary consequence that his arguments, brought to bear from such a point, pass by mine on the other side without ever coming really in contact with them. Many men cut down trees and uproot hedges just now simply to produce the ready money, but at the same time take refuge in the notion that what they are doing is high farming, though this is the sole part of that system in which they indulge, and they do so without reason or judgment. Others, again, considering that you cannot have too much of a good thing, boldly declare that had they a farm of 1000 acres (which, thank Heaven, they have not and I trust never may), they would not have a tree or a hedgerow on the whole farm. This would reduce us at once to the condition of Belgium and Lowlands of Switzerland, and for which I consider the reduction of our taxes half a million a year would be no compensation. "Senex" advises me to take a trip this summer; I probably shall do so long before as is my custom; but I would strongly advise him to visit Belgium and the lower parts of Switzerland that he may have a true and healthy idea of the beauty of the scenery there. As it is plain that I and "Senex" agree in all our main notions on the subject, I should not have troubled you with this further communication but that I fear that those against whom my first attack was levelled, will fancy that "Senex" approves their conduct and has ably defended them and utterly annihilated me and my arguments, such not being the case in any single particular; I wish to deprive them of such an imaginary stronghold. Through an oversight of your printers the initials which appeared as *T. T. S.* should have been *J. J. S.*

*The Reaping Machine.*—Having seen several accounts of reaping machine performances, I beg leave to send you an account of a Crosskill's Bell's reaper which I have used the last two harvests with great satisfaction. The first season I cut 80 acres of Wheat (a heavy crop) in eight days, averaging 10 acres per day, all of which was more than one mile from home. Had 10 men to tie up, none beginning until there was a swathe cut for each man, the machine leaving work about 6 o'clock, the binders finishing shocking, setting up, &c., by 8 o'clock. My expenses were as follows:—

| | | |
|---|---|---|
| 4 horses (working a pair two hours) .. .. .. | £0 | 12 0 |
| 1 man .. .. .. .. .. .. .. | 0 | 4 0 |
| 2 boys .. .. .. .. .. .. .. | 0 | 3 0 |
| Beer .. .. .. .. .. .. .. | 0 | 1 0 |
| 1 horse and 1 boy raking between shocks, half a day each .. .. .. .. .. .. | 0 | 2 6 |
| No. of acres cut per day .. 10) | 1 | 2 6 |
| Per acre .. .. .. | 0 | 2 3 |
| Binding, including horse raking and stooking .. | 0 | 6 0 |
| Interest on 40*l.* at 5 per cent., wear and tear at 5 per cent. .. .. .. 40*s.* 0*d.* | | |
| Say 100 acres cut in a season .. 100) 40 0 | | |
| 0 4¾ or | 0 | 5 |
| Total cost per acre .. .. | 0 | 8 |

This last season I have pursued the same plan, but cut a good deal of Barley, which it did very nicely indeed. This machine requires two very good strong active horses to work it well, and as a third cannot be voked in would advise it being made 6 inches less in width. *T. B., Stapleford.*

*Smith's Steam Tackle.*—Seeing a statement in your Paper of April the 9th of Mr. Smith's plan of using his steam tackle, I should be glad to be informed how such a system could be carried out upon a farm like my own of 400 acres of heavy land under tillage. Upon looking into Mr. Smith's statement and adopting his plan of cropping I find that my horses would have to plough 50 acres Clover for Wheat, 100 acres for Beans and Peas, they would have to bout, split, and subsoil 30 acres for roots, and to cross cultivate 100 acres for Wheat. Thus reckoning three horses to plough ¾ acre per day, bout up 1¼ acre, and four horses to cross cultivate 5 acres, and split and subsoil 1 acre per day, I should have 980 days' work for one horse, or to finish the work by the end of November, reckoning 21 working days to a month (by which time I fully expect to complete it by steam) I should require to keep above five teams constantly employed for this work only, making no allowance for drilling and extra labour. I commenced ploughing with steam on my farm the 29th of last September, since which time no horses have done any ploughing or other cultivating work on it, with the exception of headlands and four small pieces, to which it was not worth while to take the tackle. The quantity of land ploughed by steam in the autumn was 220 acres, of which 110 acres were fallowed for roots, Beans and Peas; the total cost, inclusive of all the expenses of a first start and incidental repairs, were 112*l.* 10*s.* 6*d.*, and I have no doubt the average expenses will be greatly

reduced this autumn. The ploughing was well done, deeper than it had been ploughed before, and required great power, often as much as 8 cwt. to a furrow. I have dispensed with 13 oxen, and reduced my staff of horses from 13 to 10, which number are required to do the drilling, harrowing, dung-cart, and casual work of the farm, which includes nearly 200 acres of pasture. I have this spring ploughed between 40 and 50 acres for a neighbour, and last week commenced cultivating the land for my root crop and summer tillage by steam. With such a system as Mr. Smith advocates much of my land must still have been poached by horses, which on this tenacious soil it often takes a season to recover, instead of which the land is in a healthy state, the rain percolating through the soil instead of lying on the surface or running off, and how could I have reduced my strength to its present number? As steam cultivation is deservedly becoming a subject of such great interest, I venture to trouble you with this inquiry. *T. H. Redman, Overtown, near Swindon, April* 13.

*Rye.*—I send you an ear of Rye gathered to-day. It seems very early. The seed was sown here on the 16th of September. *N., Parkham, North Devon, April* 13.

*Temperance in the Harvest Field.* — A few days' since I found myself enjoying the hospitality of a gentleman in Bedfordshire, a county magistrate and landed proprietor, who was desirous of influencing the farmers in the neighbourhood to abandon the practice of paying part of the harvest wages of their labourers in malt liquor instead of money. There were gathered together about 15 Bedfordshire farmers, the Chairman of Quarter Sessions, a retired captain in the army, a neighbouring clergyman, besides some visitors from a distance, one a well-known London minister, and four farmers from various parts of the country, who, having tried the proposed innovation themselves, were invited to meet their brother farmers in this way for discussion upon it. After a pleasant social meal, the question for the evening was introduced by our host's saying that he hoped this would not be considered as an ordinary temperance meeting, but he wished to have a friendly conversation on the advantages, in a business point of view merely, of abandoning the use of malt liquors in harvest, or at all events of giving them as part payment for labour done. Then a Gloucestershire farmer, a tried and trusty advocate of this reform, gave his opinion that not only were these drinks useless, but pernicious to a hard-worked harvest-man; he had worked when a younger man as much as any one, he knew both sides of the case, and he had no hesitation in declaring that the labours of the harvest-field and the stack-yard could not be conducted to the best advantage unless all intoxicating beverages were abandoned, and this statement he supported by numerous facts, arguments, and anecdotes of his own experience. His advice was that the men should be paid in money only, and left to provide themselves with such beverages as they chose; his own men used cocoa principally. An animated discussion followed, questions were asked, objections started and replied to, difficulties removed, and the evidence of the other farmers from a distance candidly considered, but in the language of the police reports it tended only to corroborate that of the first witness. Some further particulars were however elicited, showing that modifications may be advantageously introduced according to the special circumstances of a case, as where the men are working a great distance from their own homes it is an advantage to have tea or something similar provided for them by the farmer on the spot, or at the least to have a facility afforded for obtaining hot water. As to the finance of the subject, it appeared that by the adoption of this plan a saving of from 8*d.* to 1*s.* 2*d.* a day might be effected, which it was agreed the men ought to receive the full benefit of. The most important testimony, however, was that given by two of the Bedfordshire farmers, who stated they had seen the experiment tried to a limited extent during the past year by one or two men in their employment, who, they admitted, did their work as efficiently without beer as with it, saving more money for the use of their families, proving more valuable servants to their masters, and more respectable and worthy members of the community. More than three hours having been spent in this way, we again surrounded a well-spread table, and soon after separated, an impression having evidently been made in favour of this new doctrine on many minds, and in some cases the determination to give it a fair trial was fully expressed. It is to be hoped, that, for the first year at least, some special effort will be made by those who adopt the plan to remove any prejudices that may exist in the men's minds with regard to it. The great point is to let them clearly see that it is intended for their advantage even more than for that of their masters. Trusting that you will think this to be a matter of interest to your readers, and that it may encourage others to "go and do likewise." *Y. H. N.*

## Societies.

Agricultural Improvement of Ireland: *April* 11.—The following letter was read:—

"Athelstaneford, March 28.

"My dear Sir,—The heifer I showed at Londonderry, which was awarded the first prize in two years old class, also the Purcell Challenge Cup, was sold by me to a Mr. Barret, of Henderson, Kentucky, at a very long price, and warranted in calf; she sailed from Londonderry in November last for New Orleans, but along with a number of others died on the passage, from the severity of the voyage. Mr. Black (brother-in-law to Mr. Barret), of Lislass, Omagh, Co. Tyrone, was intrusted with carrying out the arrangements of the shipment, &c., and I can testify to the fact as I have stated. I can give you my word and honour the 'Queen of Trumps' was in calf to the bull 'Sir James the Rose,' and can afford certificate from the herdsman that such was the case. I believe this information will be satisfactory to you, and will feel obliged by your forwarding me the premium. 'Venus de Medici' has not qualified herself. Mr. Black will be at the Royal Dublin spring show, and you can see him there, I shall not be present.—Yours truly,

"J. M. Royse, Esq." "James Douglas."

Resolved—"That the secretary do write to Mr. James Douglas, and express the regret of the council that as Mr. J. D.'s heifer did not produce a live calf as required by the condition in the premium sheet, the prize cannot be paid to him."

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Royal Dublin Spring Cattle Show. — The following is the list of Prizes at the Show of this Society during the past week, taken from the report in the *Irish Farmers' Gazette*:—

The *Farmers' Gazette* Challenge Cup is awarded to Richard Eastwood, Burnley, England, for Short-horned Heifer "Rosette."

RREEDING STOCK.

Division A.—Short-horned Breed.

Class I.—*Short-horned.*—Section 1—Best bull, calved in 1858 (1) Henry Ambler, 5*l.* and large Silver Medal. (2) Allan Pollok, Ballinasloe, 3*l.* (3) Colonel C. P. Leslie, M.P., Glasslough. Section 2—Best, calved in 1857, (1) Thomas Barnes, 5*l.* (2) Jaffray Barcroft, Kilbogget, 2*l.* Section 3—Best, calved in 1856, (1) Captain W. B. M'C. Bunbury, 5*l.*; (2) Jaffray Barcroft, 3*l.* Section 4—Best, calved prior to 1856, (1) Lord Talbot de Malahide, 3*l.*; (2) George Roe, Nutley, large Silver Medal. Best of all the prize bulls, Lord Talbot de Malahide, Gold Medal; Henry Ambler, large Silver Medal. Section 5—Best heifer, calved in 1858, (1) Henry Ambler, Halifax, 3*l.*; (2) Thomas Lee Norman, Ardee, large Silver Medal. Section 6—Best heifer, calved in 1857, in calf, or producing a live calf within 12 months subsequent to the date of the show, Lord Clarina, 3*l.*; 2d, Fitzwilliam Welsh, Limerick, Large Silver Medal. Section 7—Best cow, calved in 1856, giving milk or in calf, Richard Eastwood, Burnley, Lancashire, 3*l.*; 2d, Fitzwilliam Welsh, Limerick, Large Silver Medal. Best of all the prize breeding heifers, giving milk or in calf, Richard Eastwood, the Gold Medal. Best 3 heifers under 4 years old, in calf, or having had live calves within 12 months preceding the date of show, and *bonâ fide* the property of the exhibitor, Fitzwilliam Welsh, Limerick, the Gold Medal. Section 8—Best cow of any age, in calf, or having had a live calf within 12 months preceding the date of show, Henry Ambler, 3*l.*; 2d, Fitzwilliam Welsh, Large Silver Medal. Best of all the prize milch cows, Henry Ambler, the Gold Medal.

Division B.—Miscellaneous Pure Breeds.

Class II.—*Herefords.*—Section 11—Best bull, calved in 1856, Allan Pollok, 3*l.*

Class III.—*Devons.*—Section 18—Best bull, calved in 1856, Earl of Charlemont, 3*l.* Section 21—Best heifer, calved in 1856, giving milk or in calf, Charles Toole, Bray, Large Medal. Section 22—Best cow of any age, in calf or having had a live calf within 12 months preceding the date of the show, Earl of Charlemont, Large Medal.

Class IV.—*West Highlands.*—Section 23—Best bull of any age, C. L. Ellison, Large Medal. Section 26—Best heifer, calved in 1856, giving milk or in calf, Allan Pollok, Large Medal. Section 27—Best cow of any age, in calf, or having had a live calf within 10 months preceding the date of the show, Chas. L. Ellison, Large Medal.

Class V.—*Scotch Polled*—Section 28—Best bull of any age, Lord Talbot de Malahide, Large Medal.—Section 29—Best heifer, calved in 1858, Lord Talbot de Malahide, Large Medal. Section 30—Best heifer, calved in 1857, in calf, or producing a live calf within 12 months subsequent to the date of the show, Allan Pollok, Large Medal. Section 31—Best heifer, calved in 1856, giving milk, or in calf, Edward Atkinson, Large Medal. Section 32—Best cow of any age, in calf, or having had a live calf within 12 months preceding the date of the show, Lord Talbot de Malahide, Large Medal.

Class VI.—*Ayrshires.*—Section 33—Best bull of any age, Hon. Thomas Preston, Large Medal. Section 35—Best heifer calved in 1857, in calf, or producing a live calf within 12 months subsequent to the date of the show, William Boyle, Glasnevin, Large Medal. Section 37—Best cow of any age, in calf, or having had a live calf within 12 months preceding the date of the show, Hon. Thomas Preston, Large Medal.

Class VII.—*Alderneys.*—Section 38—Best bull of any age, Robert Collins, M.D., Navan, Large Medal. Section 39—Best heifer, calved in 1858, Right Hon. Judge Keogh, Large Medal. Section 41—Best heifer, calved in 1858, giving milk, or in calf, James B. Kennedy, Large Medal. Section 42—Best cow of any age, in calf, or having had a live calf within 12 months preceding the date of show, Ponsonby Moore, Large Medal.

Class VIII.—*Kerries.*—Section 43—Best bull of any age, Sir Edward M'Donnel, Large Medal. Section 44—Best heifer, calved in 1858, Earl of Charlemont, Large Medal. Section 45—Best heifer, calved in 1857, in calf, or producing a live calf within 12 months subsequent to the date of the show, Wm. Boyle, Glasnevin, Large Medal. Section 46—Best heifer, calved in 1856, giving milk, or in calf, Sir Edward M'Donnel, Large Medal. Section 47—Best cow of any age, in calf, or having had a live calf within 12 months preceding the date of the show, Sir Edward M'Donnel, Large Medal.

Sheep.

Class XXIII.—*Leicesters.*—Section 64—Best 1-shear ram, William Owen, Blesinton, 3*l.*; 2d, William Owen. Section 65—Best 2-shear ram, or ram of any other age, not exceeding 4 years, William Owen, Blesinton, 3*l.* Section 66—Best 3 hogget rams, never clipped, George Thunder, 2*l.*; 2d, George Thunder. Section 67—For the best 5 ewes, with their lambs yeaned in 1859, or in lamb, William Owen, 2*l.*; 2d, Phineas Riall. Section 68—Best 5 ewe hoggets, never clipped, William Owen, 2*l.*; 2d, George Thunder.

Class XXIV.—*Long-woolled* (not qualified to compete as Leicesters).—Section 69—Best 1-shear ram, Thomas B. Browne, 3*l.*; 2d, D. Kerr. Section 70—Best 2-shear ram, or ram of any other age, not exceeding 4 years, T. B. Browne, 3*l.* Section 71—Best 3 hogget rams, never clipped, T. B. Browne, 2*l.*; 2d, David Kerr. Section 73—Best 5 ewe hoggets, never clipped, T. B. Browne, 2*l.*; 2d, A. Bole.

Class XXV.—*Short-woolled.*—Section 76—Best 3 hogget rams, never clipped, Peter Broughton, 2*l.* Section 77—Best 5 ewes, with their lambs yeaned in 1859, C. W. Hamilton, 2*l.* Section 78—Best 5 ewe hoggets, never clipped, P. Broughton, 2*l.*

Class XXVI.—*Cheviots.*—Section 79—Best 1-shear ram, Lord Clermont, 2*l.*; best 2-shear ram, or ram of any other age, not exceeding 4 years, Lord Clermont, 2*l.*; 2d, Marquis of Conyngham. Section 81—Best 3 hogget rams, never clipped, Marquis of Conyngham, 2*l.*; 2d, Lord Clermont. Section 82—Best 5 ewes, with their lambs yeaned in 1859, or in lamb, Marquis of Conyngham, 2*l.*; 2d, Lord Clermont. Section 83—Best 5 ewe hoggets, never clipped, Lord Clermont, 2*l.*; 2d, Marquis of Conyngham.

Swine.

Class XXVIII.—*Coloured Breeds.*—Section 88—Best boar, 6 months, and not exceeding 12 months old, Lord Clermont, 3*l.*; 2d, Thomas Rutherfoord, 2*l.* Section 89—Best boar, exceeding 12, and not exceeding 24 months old, Lord Clermont, 5*l.*; 2d, Joseph Radcliffe, 3*l.* Section 90—Best boar, exceeding 24 months old, James R Taylor, M.D., 5*l.*; 2d, Robert Collins, M.D., 3*l.* Section 91—Best breeding sow, in pig, or having had a litter within 6 months, James Macken 3*l.*; 2d, Henry Sugden, 2*l.* Section 92—Best 3 breeding pigs of the same litter, under 10 months old, William Joyce, 3*l.*; 2d, F. W. Tomkinson, 2*l.* Section 93—Best litter of pigs not exceeding 5 months old, accompanied by the sow, J. C. Metge, 2*l.*, 2d, Hill Wilson, 2*l.*

Class XXIX.—*White Breeds.*—Section 94—Best boar, six months, and not exceeding 12 months old, Lord Lurgan, 3*l.*; 2d, C. L. Ellison, 2*l.* Section 95—Best boar, exceeding 12, and not exceeding 24 months old, Joseph Wilkinson, 5*l.*; 2d, J. H. Peart, 3*l.* Section 96—Best boar, exceeding 24 months old, R. Pattison, 5*l.*; 2d, Joseph Wilkinson, 3*l.* Section 97—Best breeding sow in pig, or having had a litter within six months, Lord Lurgan; 2d, J. H. Peart, 2*l.* Section 98—Best three breeding pigs of the same litter under 10 months old, Allan Pollok, 3*l.*; 2d, Duke of Leinster, 2*l.* Section 99—Best litter of pigs, not exceeding five months old, accompanied by the sow, C. J. Ellison, 3*l.*; 2d, Allan Pollok, 2*l.* Best fat pig of any age or breed, J. C. Metge, Large Medal; 2d, Thomas Rutherfoord, small Medal.

At the public meeting when the above prize list was read, Sir E. M'Donnel made the following remarks on the effects of competition on the agricultural progress of the country:—

"He would read a return to show the immense increase that had taken place in the number of cattle produced. It was connected with the railway in which he was most interested; but he was sure the Midland Company could furnish a still larger return. In the year 1847 there were carried on the Great Southern and Western Railway 48,000 head of cattle. In 1850, when the line was open to Cork, 108,000; and in 1858, 332,000. These figures, he thought, showed some of the satisfactory results of the agricultural shows; and they owed a deep debt of gratitude to the Royal Dublin Society for the successful efforts it had made to promote them."

The Lord Chancellor spoke on the advantages of resident proprietors to all classes in the country:—

"The old plan in Ireland was to cry, 'What is government going to do for us? What are you going to do for us in parliament?' My notion was, 'What are we going to do for ourselves.' One night in the House of Commons a great many theories were started, and I thought that one had not been tried yet, and I said, 'Will you just let us alone for 10 years.' That was in the year 1849. Well, I stand here in the year 1859, and when I look back on that period I own I entertain great hopes of the future prosperity of Ireland. I allude to the progress of its agriculture, and how it has been improved by the application of science; and, after all, science dignifies the meanest process. I sometimes object to the phrase I hear of 'the working classes,' or 'working men,' as applied merely to operatives and mechanics, and others occupied in the lower departments of human labour. For myself, I say that I am proud of having been always a 'working' man. There are various modes of working. The good work of the influence of a resident landlord is one on which much of the moral life and health of the community depended. Oftentimes, owing to the absence of their natural proprietors, properties in this country came under my hand; and in such instances those moral influences which, in properties naturally circumstanced, contribute so much to social progress, are all removed, and in place of that a kind of very coarse machinery is substituted, which I am afraid produces very bad effects in many places. There was one particular district of the country to which the attention of the House of Commons was directed as supplying the counties of Louth, Armagh, and Monaghan with a large proportion of the crime committed in them; and the matter underwent investigation by a committee. What were the peculiarities of that district? There was the small cotter population—the miserable two-acre farm, and the inhabitant living on the Potato—there was the absence of all the proprietors—the presence of the Court of Chancery and its receiver (laughter), and the secret society—all these things heaped together in that locality. Remove the causes and you get rid of the effects; and give me the good resident landlord discharging his duties faithfully as a worthy man, and availing himself of the position and influence that God has entrusted him with in order to promote the happiness of those around him. I would say this of the Irish people—and I say it heartily and sincerely of them—that I do not think there are on this earth a people more susceptible of justice and kindness; and I think they especially appreciate the kindness of their gentry. They respect the gentry. Master Brooke was once asked by Sir James Graham how he got the people to do certain things in connection with a particular estate. 'Oh,' said he, 'the Irish will do anything for a gentleman.' Like a true Irishman, I forgot the principal thing which I was to call attention to—namely, the memory of a nobleman who used to attend our meetings, and whose loss I think we ought all to regret as a great national calamity—I allude to the late Marquis of Waterford. I have a little memorandum about him which shows the value of a resident nobleman such as he was. In giving an account of his establishment it states that he had a regularly organised school, in which his grooms were all taught by a master, and their minds improved, and a Sunday school was kept for them; and that the farm, including Grass, &c., extended over 4600 acres. The day before he died he audited his account of expenditure upon labourers' houses, stables, dairy, and garden for the past year, which amounted to 11,000*l.*; and within the last few years he had expended, besides this, 12,000*l.* on farm buildings. He had more than 300 head of cattle, and 1500 sheep; and his weekly payment to labourers was upwards of 100*l.* During the last year he employed more than 300 labourers daily. During the years of distress, consequent on the famine, he employed daily upwards of 600 labourers. Not relying upon his own judgment as to the breed of cattle, his practice was to purchase prize animals at the shows in England and Ireland, and these were given for the use of the country and the tenantry. In order to afford employment to the people, a factory was established by him at Kilmacthomas for making Irish frieze, the whole profits of which went to the augmenting of the factory. 5000*l.* was expended yearly on the county of Waterford estate, and 3000*l.* yearly on the county of Derry estate. I think it right to allude to the memory of such a nobleman, and to say that while we honour the living we should not be forgetful of the memory of the dead."

## Reviews.

*Agricultural Science applied in Practice, forming at once a text book and concise course of Scientific and Progressive Instruction.* By W. Wallace Fyfe, F.R.S.E. Groombridge & Sons, 5, Paternoster Row. There is a great deal of information given here within very narrow compass. In his first lecture Mr. Fyfe refers to the sciences of geology, chemistry, vegetable and animal physiology, botany, meteorology, hydrostatics, mechanics, pneumatics, and he concludes with a

short account of the different schools of agriculture in this and other countries.

In his second lecture he speaks of the manipulation of the soil, of tillage, drainage, implements of cultivation, and the cultivation of a course of crops.

The third lecture discusses the germination of the seed and the growth of the plant; and in the fourth, the operation of manures and the laws of animal nutrition are considered.

It is impossible that so small a work can completely satisfy the expectations which its title-page may raise; but we may say that its 150 little pages are as full of useful and substantial information as they can hold.

The following passage may be given in illustration of the author's style, descriptive of agricultural schools:—

"The first model for an agricultural school was that of De Fellenberg, at Hofwyl, in Switzerland. It was both a school and a farm on the self-supporting principle, or rather on two principles; one establishment being self-supporting, to which De Fellenberg devoted his large fortune, being for poor boys; whilst the sons of the better classes were received as boarders at another under the same management. The Prussian State School of Agriculture at Mogelin had, under the famous agricultural writer Von Thaer, in 1820, a college and model farm of 1200 acres; a professor of mathematics, chemistry, and geology; another of the veterinary art, and a third of botany, materia medica, and entomology, who all lived upon the spot; whilst a practical agriculturist communicated the mode of applying the sciences in husbandry. Many similar institutions, erected under royal patronage, have appeared in Prussia, and throughout Germany—even in Russia, in Holland, and in France—such as that at Hohenheim, near Stuttgard, in Wurtemberg, where an old palace has been converted into a college for the reception of agricultural students, and possesses, within a ring fence, a farm of 1000 acres. Two classes attend this seminary. To one class the fees charged are equal to 37*l.* sterling, and with extras amount to 50*l.*; but the natives of Wurtemberg are admitted at a lower rate. Here the students merely inspect and superintend the operations of husbandry. Twelve professors lecture to them on mathematics, physics, chemistry, botany, tillage, rural economy, forestry (always a great leading object in the rural schools of Germany, and gaining importance in our own country), and veterinary science. There are agricultural training schools at Eldna, near the University of Griefswold, and also near Frankfort-on-the-Oder, similar to the school of Hohenheim. The Emperor of Russia, 12 years ago, established a school on the north bank of the Neva, not far from St. Petersburg, where his serfs are sent for five years to be educated in practical farming and the use of the most improved modern implements. Sixty of these serfs are sent out every year to carry the skill and knowledge thus acquired by them throughout the different provinces of the empire. There is, besides, an agricultural college at Moscow. Even in France, a model establishment—Grignon—formerly one of the Royal demesnes with a farm of 1100 acres, was founded in 1827, on a capital of 600,000 francs, raised in 1200 franc shares. The pupils of two classes actually aid in working the farm, receiving diplomas on passing a public examination. At Rennes, in Brittany, at Limours, near Rambouillet, and at Grandjouan, near Nantes, there are schools of agriculture; that at Limours is a normal school, and that at Grandjouan for training the youth of the labouring poor is described as an institute of agriculture, model farm, agricultural implement factory, and agricultural colony for the reclamation of 500 hectares (equal to 1200 acres) of land. The Dutch Agricultural School at Groningen has attached to it a farm at Floren—but the half-yearly commencements divide the year into a summer and winter period: the agricultural course of winter study being without charge to the pupils in town, who board themselves and pay about 4*l.* for the extra branches of science, including natural history, chemistry, botany, natural philosophy, mathematics, and the united application of chemistry and mechanics. The cost of the whole year's instruction, including, if requisite, French and German, is 33*l.* sterling."

## Miscellaneous.

*Straw, employed as litter*, forms the principal ingredient of our home-made manures; being trodden into dung by the weight of the animals, and acquiring value by the absorption of urine, as well as by combining with dung in various stages of decomposition; it also imparts consistence to the mass, and carries it more evenly through the processes of fermentation and putrefaction. But for the dung, the straw, on the other hand, would rot imperfectly and with difficulty. Thus both components are advantaged and the manure adapted for all description of land, by the proportions of either that may be introduced, and the states in which they are. Bakewell's grand theory of converting the whole of the straw into food for his stock, believing that, digested and passed through their bodies, it became a much more highly enriched manure, is now exploded in the principal feeding districts. Of late years much straw has indeed been chopped down, steamed, and otherwise prepared for food, or rather for admixture with food; for while a small bulk of nutritive equivalent will satisfy a large animal the means of filling and distending the stomach must also be provided. But in Berwickshire, which is supposed to stand first in feeding practice, although perhaps too exclusive a reliance on Turnips is manifested in that county, the straw is not consumed to any extent as food, but almost all broken down. It is to be observed that steamed food, even Potatoes, oilcake, &c., given to cattle, produces costiveness, and the dung heap being free of urine, it would be good practice, though seldom or never done, to moisten it by bringing the dry outward parts into the middle of the pile and drenching it with the drainage of the yard, carefully turning it over, breaking and mixing the lumps, and finally wetting the surface and patting it close and smooth with the shovel to keep in the heat. Excess of wet is equally, however, to be guarded against; as any part suffered to remain drenched with rain would be prevented from rotting; to prevent this the heap must not be drained but spread out openly. Another reason for doing which is to prevent fire-fang from the too highly heaped-up parts contracting excessive heat, as stable dung is particularly apt to do, when it becomes mouldy, and loses value, estimated at not less than from 50 to 75 per cent. *W. W. Fyfe, in a lecture at Shroton.*

## Notices to Correspondents.

GREEN VITRIOL: *A Subscriber*. It is nothing but a vegetable poison. There is many another better fixer of ammonia. The iron will lay hold of phosphoric acid and lock it up past recall. We would not allow it a place in any manure on any account.

PRICKLY COMFREY AND INDIAN MILLET: *Inquirer* will find information on Prickly Comfrey (Symphytum asperrimum) in Blackie's "Cyclopædia of Agriculture." In an American work on agriculture there is an article on the growing of Indian Millet (Holcus Sorghum), or Dourah-Corn, as follows:—"It is a native of India. There are two distinct varieties of this corn cultivated with us, the white and reddish brown; the brown is preferred; it is more prolific, yields four times as much, and matures earlier. This plant grows on the poorest soils; sandy loam is the best for it; the land ploughed into 4-feet ridges just before planting. In March, April, May, and sometimes in June and July, these ridges are opened with a 'scooter plough,' and the seed sown and covered with a harrow from 1 to 1½ inch deep; from one peck to a bushel of seed to the acre. When it comes up it will grow in spite of frost, drought, or rain, it being a very hardy plant. It is singled out with hoes and ploughed once, unless drilled for soiling, when it is not thinned out. It needs but little culture. It is sometimes cut green for soiling cattle, and if done properly so as not to injure the buds near the ground it may be cut several times in a season. It is also cured and made into hay. The ears are cut as they ripen and preserved for seed, or fed to stock; the stalks are eaten entire by cattle and hogs, and other animals. They remain green for months. Taking into consideration the fact that it will yield more stalks, fodder, and grain on a greater variety of soils and with less labour in any season, and return more litter to the land than any other grain, it may be considered valuable. Turned under with the plough if previously limed it will make a good manure." The above is a copy from the American publication. We must refer you to any good seedsman for a supply of seed.

PRIZES AT WARWICK: *F R S*. The prize list of the ensuing agricultural meeting at Warwick may be had at 12, Hanover Square. The amount offered this year for live stock is 1502*l.*, and for implements (including medals), 211*l.*; while the prizes added by the local committee amount to 695*l.*, making a total of 2408*l.* to be distributed In the three great divisions of cattle—Short-horns, Herefords, and Devons—the prizes are of equal amount, the following being the order of classification in each case:—For bulls under six years old, 30*l.*, 15*l.*, 5*l.*; yearling bulls, 25*l.*, 15*l.*, 5*l.*; bull calves, 10*l.*, 5*l.*; cows, 20*l.*, 10*l.*, 5*l.*; heifers, 15*l.*, 10*l.*, 5*l.*; and yearling heifers, 15*l.*, 10*l.*, 5*l.* For other established breeds there are five prizes of 10*l.* In the prizes for horses, second prizes are offered in all the classes for dray horses, and in the classes for hunting and hackney mares. The sheep are arranged under Leicesters, South Downs, long-woolled sheep not Leicesters, and short-woolled sheep not South Downs—third prizes having been added in each case, and the amounts are now 20*l.*, 10*l.*, 5*l.* The special prizes offered by the local committee are for cattle best adapted for dairy purposes, for bulls of any pure breed, for pairs of cows, for pairs of heifers, for pairs of yearling heifers of a pure breed, for long-horned cattle, for Shropshire sheep, for stallions and other horses and mares for agricultural and hunting purposes, and for stallion poneys; for Berkshire boars, for sows, for pens of five breeding pigs of the Berkshire breed of the same litter, for pens of five breeding pigs of any other large breed, and for pens of five breeding pigs of any small breed. There are four prizes of 10*l.* each offered for teg wool, to be grown by the exhibitors; for the best six fleeces of Leicester, South Down, Gloucester, and Shropshire, or mixed wool respectively. 150*l.* is appropriated as prizes for cheese. 10*l.* is offered by the County of Warwick for the best farm gate, composed entirely of wood, with suitable hangings and fastenings, not to exceed 1*l.* 4*s.* in value; and the last prize on the special list is one also of 10*l.* for the best six draining pipes of 2, 4, and 6-inches bore each, manufactured by a machine the property of the exhibitor. The prizes offered for implements this year are as follows:—For the best application of steam power to the cultivation of the soil, 50*l.*; for ploughs, 40*l.*; for harrows, 20*l.*; for cultivators, 20*l.*; for rollers, 10*l.*; for clod-crushers, 10*l.*; for tile and brick machines, 20*l.*; for draining machines and implements, 20*l.*; miscellaneous awards and essential improvements, 10 silver medals, not exceeding in value 21*l.*; for the invention of any new implement, such sum as the Council may think proper to award.

RAT CATCHING: *J G N*. We have only one report to make, and that of only one of the methods proposed by the advertiser. The result was failure, although every precaution to ensure success was taken; it is, however, only fair to mention, that the less troublesome method was tried, notwithstanding the caution of the advertiser that the other "is the safest, most certain, and effectual way of clearing the premises."

SEEDS: *Burbage*. Your Turnip seed, though of good weight, is variable in size and colour. We consider it a genuine Turnip seed, but its crop would, we think, be irregular in size and trueness to sort.—*W C M*. Your seed of Skirving's Swede appears to be very good. The Purple-topped Swede is light in weight, in consequence of having been much worm-eaten. It is a very inferior sample. "The Red Clover and Rye Grass mixed" contains upwards of 100,000 weeds to the bushel, consisting principally of Alopecurus agrestis, Bromus mollis, and Ranunculus repens. "Grass seeds to renovate old pasture" is bad for the purpose, as it contains a lot of Italian Rye-grass, which is not perennial, Holcus mollis, and weeds. "Perennial Red Clover" we compute to contain 10 times as many weeds to the bushel as the Red Clover and Rye-grass mixed referred to above. These weeds, though principally Plantain, are evidently an impurity in Clover seed. *B*.

WARNER'S IMPROVED LIQUID MANURE OR GENERAL PORTABLE PUMP.

These Pumps are fitted with J. W. & SON'S Patent Buckets and Suckers, and cannot clog in action. The barrel is of galvanised iron, not likely to corrode, and can be raised or lowered at pleasure. The legs will fold together, and the whole may be carried on the shoulder to any pond or tank required.

Price of 4½ in. Pump, with legs, 3*l.* 3*s.* If with planished copper barrel and galvanised iron handle, &c., 14*s.* extra. The barrel is 27½ in. long, and the legs are 5 ft. high.

These Pumps are also made without the legs, with strong wrought-iron straps for screwing on to any ordinary water butt or cart, and fitted with 1½ inch brass union for attaching flexible suction. Price 50*s.*

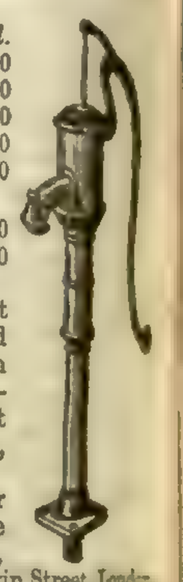
1¾ inch Gutta Percha Suction Pipe, 1*s.* 11*d.* per foot.

Rubber and Canvas Suction and Delivery Hose, from 2 to 4 inches diameter, in lengths of 60 feet to order Brass Pipes with Cocks, Union Screws, &c., at reduced prices.

May be obtained of any Ironmonger or Plumber in town or country, at the above prices, or of the Patentees and Manufacturers, JOHN WARNER & SONS, 8, Crescent, Jewin St., London.

WARNER'S PATENT VIBRATING STANDARD PUMPS.

PATENT CAST-IRON PUMPS, fitted with J. W. & Son's Patent Buckets and Suckers, which cannot clog in action, for Farms, Cottages, and Wells, not exceeding 28 feet.



| Diameter of Barrel. | Height. | | £ s. d. |
|---|---|---|---|
| 2½ in. | short 1 ft. 7 in. | Fitted for lead, gutta percha, or cast iron flanged pipe, as required. | 1 10 0 |
| 2½ ,, | long 3 ,, 3 ,, | | 1 14 0 |
| 3 ,, | ditto 3 ,, 6 ,, | | 2 8 0 |
| 3½ ,, | ditto 3 ,, 6 ,, | | 2 12 0 |
| 4 ,, | ditto 3 ,, 6 ,, | | 3 3 0 |
| 2½ ,, | short, with 15 feet of Lead Pipe attached, ready for fixing .... | | 2 14 0 |
| 2½ in. | long ditto ditto | ditto | 2 18 0 |

The short barrel Pump is very convenient for fixing in situations of limited height and space, for the supply of coppers and sinks in Wash-houses with soft water from underground tanks, or in Hot, Forcing, and Plant Houses; they may be fixed, when desired, under the stage.

May be obtained of any Ironmonger or Plumber in Town or country, at the above prices, or of the Patentees and Manufacturers, JOHN WARNER & SONS, 8, Crescent, Jewin Street, London.

Every description of Machinery for Raising Water by means of Wheels, Rams, Deep Well Pumps, &c.; also Fire and Garden Engines, &c. &c.—Engravings sent on application.

PRICES REDUCED.

H. J. MORTON AND CO., Galvanised Iron Works, 2, Basinghall Buildings, Leeds.

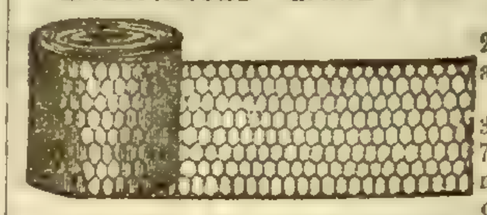
GALVANISED IRON ROOFING for Farm Buildings and other Roofs; the cheapest, most durable, and neatest Roofing in use; also Spouting at 10½*d.* per yd.

WIRE STRAND CABLE FENCING

(formed of Twisted Wires like a rope or cable), the strongest, cheapest, and neatest fence in use, will resist the largest cattle, and will not bend or get out of form by trespassing upon or over. Price, with five lines of the Galvanised Strand, iron standard posts, and pronged Standards, 1*s.* 2½*d.* per yard.

This fence is far cheaper than posts and rails, or any kind of iron fencing; and possesses four times the strength of solid bars. Will not rust nor corrode. Upwards of 1200 miles of this Fencing supplied.

GALVANISED GAME AND POULTRY NETTING.



Galvanised, 24 ins. wide, 2-inch mesh, 5*d.*, 6*d.*, 7½*d.*, and 10*d.* per yard.

Galvanised, 24 ins. wide, 3-inch mesh, 4*d.*, 5*d.*, and 7*d.* per yard. The Netting made any width, and with openings of any size.

GALVANISED IRON CHAIN CAMP STOOLS & CHAIRS, POULTRY FOUNTAINS & FEEDERS, PRONGED DAHLIA RODS AND ROSE STAKES, &c.

Strong CATTLE HURDLES from 2*s.* per yard.

PATENT IMPROVED GAS WORKS of all sizes for the use of Private Houses, Mansions, Railway Stations, Mills, Collieries, Mines, Villages, &c. Works from 10 to 500 lights estimated for. The works can be entrusted to an ordinary labourer.—Apply to HENRY J. MORTON & Co. 2, Basinghall Buildings, Leeds.

BARNARD, BISHOP, AND BARNARD, Market Place, Norwich, in consequence of improvements in their machinery for the manufacture of the above article, have been enabled to make a great reduction in the prices.

| | | Galvanised. | Japanned Iron. |
|---|---|---|---|
| 2-inch mesh, | 24 inches wide .. .. | 5*d.* per yd. | 4½ ,, |
| 2-inch ,, | strong do. .. .. | 6 ,, | 5½ ,, |
| 2-inch ,, | intermediate, do. .. | 7 ,, | 7½ ,, |
| 2-inch ,, | extra strong, do. .. | 9½ ,, | 4½ ,, |
| 1⅝-inch ,, | 24 inches wide .. .. | 5½ ,, | 5½ ,, |
| 1⅝-inch ,, | strong, do. .. .. | 6½ ,, | 6 ,, |
| 1⅝-inch ,, | intermediate, do. .. | 7½ ,, | 8 ,, |
| 1⅝-inch ,, | extra strong, do. .. | 10 ,, | ,, |

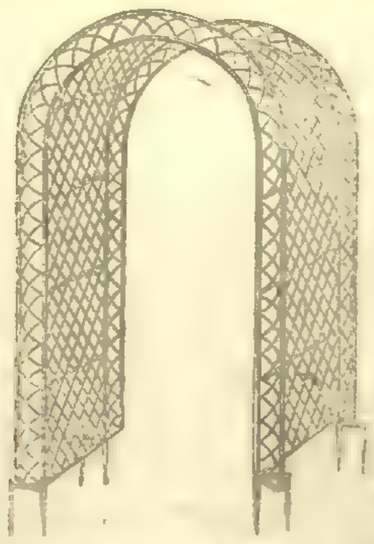
All the above kinds can be made of any width (under 8 feet) at proportionate prices. If the upper half is of a coarser mesh than the lower, it will reduce the prices about one-fifth.

Strong Galvanised Poultry Netting, 8½*d.* per yard, 3 feet wide. Galvanised Sparrow-proof Netting for Pheasantries, 2½*d.* per square foot. Delivered free of expense in London, Peterborough, Hull, or Newcastle. Manufacturers of Improved Strained Wire Cattle and Deer Fencing, Iron Hurdles, &c.

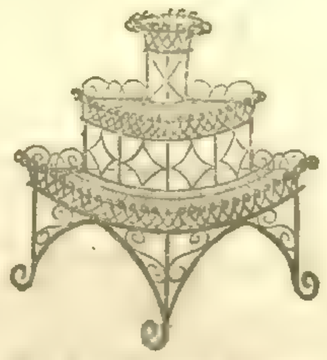
Illustrated Catalogues and Patterns forwarded by post.

# ORNAMENTAL WIRE WORK FOR FLOWER GARDENS, CONSERVATORIES, ETC.

No. 1.—Flower Basket.



No. 2.—Garden Archway.



No. 3.—Flower Stand.

No. 4.—Flower Basket.

SUSPENDING FLOWER BASKETS.—No. 1, as shown above, 2*s.* 6*d.*; No. 4, 5*s.* 6*d.*; larger, 22 to 27 inches wide, with inside basket, 10*s.* 6*d.* to 13*s.* 6*d.*
GARDEN ARCHWAYS.—No. 2, as shown above, 3½ ft. wide by 7 feet high, 45*s.*; 4 feet by 8 feet, 55*s.* Other designs of Archways, 21*s.* to 58*s.*
FLOWER STANDS.—No. 3, as shown above, 2 feet 6 inches wide, 9*s.* 6*d.*; 3 feet, 10*s.* 6*d.*; 3½ feet, 13*s.* 6*d.* Tripods, 3 feet high, with top basket 10 inches wide, 4*s.* 6*d.* Other designs, very elegant, 7*s.* 6*d.* to 28*s.* 6*d.* Very tasteful Oval Flower Stand, 3 feet wide, 2 feet 8 inches high, 13*s.* 6*d.* Three Tier Step Stand for Conservatory or Hall, 3 feet wide and about the same height, 19*s.* 6*d.*
FLOWER TRAINERS.—Umbrella design with column 2½ feet to 7 feet high, 6*s.* 6*d.* to 18*s.* 6*d.* Balloon Trainers, 12 inches to 36 inches high, 2*s.* 6*d.* to 7*s.* Variety of approved designs of Pot Trainers, 7*s.* 6*d.* per dozen.
GARDEN BORDERING.—8 inches to 12 inches high, 8*d.* to 13*d.* per foot.
GARDEN CHAIRS.—Folding Stool with galvanised spiral and flexible seat and frame, japanned green or cane colour as may be desired, 4*s.* 6*d.* Folding and other chairs, 8*s.* 6*d.* to 13*s.* 6*d.*

*** The whole of the above descriptions of Wire Work painted green or cane colour as may be desired.

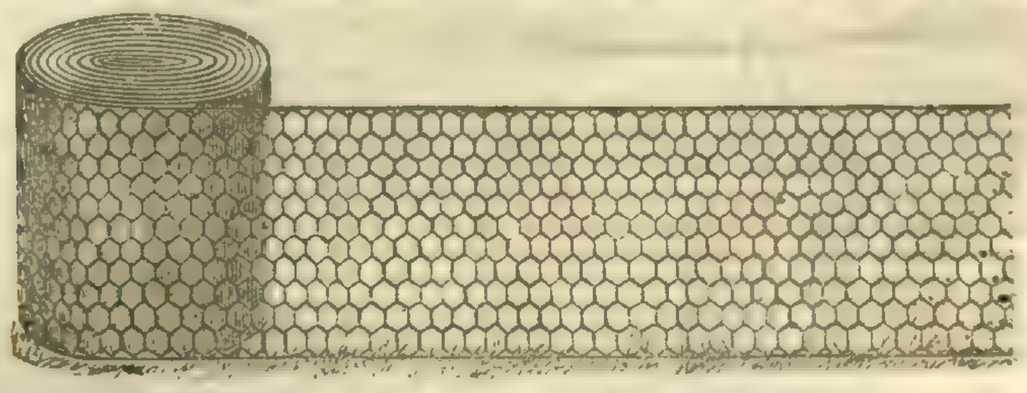
DIAMOND WIRE TRELLIS WORK for training Flowers, Plants, and Vines, and for other purposes, from ¼ inch to 6 inch mesh, japanned or galvanised. Trellis Work for fronts or sides of mansions or for walls, made to any required dimensions or design, at fixed uniform prices.

Every description of Plain or Ornamental Iron and Wire Work made to order at fixed uniform rates. Drawings with printed prices free on application.

*** *Every Article warranted to give satisfaction, and if not approved will be exchanged, or may be returned unconditionally.*

**J. B. BROWN & CO., 18, CANNON STREET, CITY, LONDON, E.C.**

# IMPROVED PREMIUM WIRE NETTING.



**PRICES** PER LINEAL YARD, 24 INCHES HIGH:—

| Size of Mesh. | Mostly used for | Light. | | Medium. | | Strong. | | Extra strong. | |
|---|---|---|---|---|---|---|---|---|---|
| | | Japanned. | Galvanized. | Japanned. | Galvanized. | Japanned. | Galvanized. | Japanned. | Galvanized. |
| ½ inch | Hares, Dogs, Poultry | 3½*d.* | 4½*d.* | 4½*d.* | 5½*d.* | 5*d.* | 6½*d.* | 6*d.* | 8*d.* |
| ¾ inch | Game Netting | 4*d.* | 5*d.* | 4¾*d.* | 6*d.* | 5½*d.* | 7*d.* | 7½*d.* | 9½*d.* |
| 1 inch | Small Rabbits, Hares, &c. | 4½*d.* | 5½*d.* | 5½*d.* | 6½*d.* | 6*d.* | 7½*d.* | 8*d.* | 10*d.* |
| 1½ inch | Smallest Rabbits | 6*d.* | 7½*d.* | 7½*d.* | 9*d.* | 9*d.* | 11*d.* | 11*d.* | 13*d.* |

Quantities of 100 yards, or upwards, *delivered free* at any Railway Station or Shipping Port in England. 200 yards or upwards *delivered free* in Glasgow, Edinburgh, Dundee, Aberdeen, and other chief towns in Scotland; also at Belfast, Dublin, Cork, Limerick, and other chief towns in Ireland. Tying Wire and Staples for fixing the Wire Netting.

Any width of Netting under 8 feet made at proportionate prices.

☞ *Every description of Netting warranted to give satisfaction, and if not approved will be exchanged, or may be returned unconditionally.*

**J. B. BROWN & CO., 18, CANNON STREET, CITY, LONDON, E.C.**

# SHANKS'S PATENT LAWN MOWING MACHINES,

AS NOW USED IN

**THE ROYAL GARDENS AT KEW, WINDSOR, BUCKINGHAM PALACE, OSBORNE, AND BALMORAL,**

AND IN A LARGE NUMBER OF THE PRINCIPAL GARDENS IN ENGLAND AND ABROAD.

## NEW AND IMPORTANT IMPROVEMENTS FOR 1859, FOR MOWING, ROLLING, COLLECTING, AND DELIVERING.

THE Machine mows the closest and finest Turf without the slightest appearance of ribbing. It is self-acting, so that in turning the Machine will mow as well as when going in a straight line. It mows on the most uneven Lawn without injuring the Turf. It turns quick and easily—turning into the most intricate windings of the Flower Garden, amongst Trees or Flower Beds, with perfect ease, and without the smallest chance of injuring the shrubs or flowers. The method of adjusting the cut has been simplified and improved. The whole Machine is nicely balanced, and consequently steady in working.

One of the most important Patent Improvements effected this season is the introduction of a simple and efficient apparatus for emptying the Grass-box without the necessity of the person working it either leaving the handles or stopping the Machine. The great want in all Mowing Machines hitherto is thus completely obviated in Shanks's Improved Patent Machine of this season. This Machine will now perform at least a *third more work*, while *the labour in working it*, compared with ordinary Machines, *is three-fourths lessened*. A Lawn which formerly took a Machine *nine hours* to mow can now be done in *six hours*, with *three-fourths less labour* to the man working it. The Improved Patent Machine for 1859 is on these and other accounts therefore the most complete and satisfactory MOWING, ROLLING, COLLECTING, and DELIVERING MACHINE possible to be made.

### PRICES OF THE HAND MOWING AND ROLLING MACHINE:—

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| No. 6.—22-inch Machine | ... | ... | ... | ... | £7 | 17*s.* | 6*d.* | No. 8.—16-inch Machine | ... | ... | ... | ... | £6 | 10*s.* | 0*d.* |
| No. 7.—19-inch Machine | ... | ... | ... | ... | 7 | 5 | 0 | No. 9.—13-inch Machine | ... | ... | ... | ... | 5 | 15 | 0 |

### PRICES OF THE HORSE POWER MACHINE:—

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| No. 1 (*a*) 48-inch Machine—(usually drawn by a Horse) | £27 | 0*s.* | 0*d.* | No. 3.—30-inch Machine—(usually drawn by a Pony) ... | £17 | 10*s.* | |
| No. 1.—42-inch Machine—(usually drawn by a Horse) | 24 | 0 | 0 | No. 4.—25-inch do.—(usually drawn by a Pony or Donkey) | 13 | 10 | |
| No. 2.—36-inch do.—(usually drawn by a Horse or Pony) | 20 | 10 | 0 | No. 5.—25-inch do.—(made light for a small Pony or Donkey) | 9 | 10 | |

Machines Nos. 1 (*a*), 1, 2, 3, & 4 have the Patent Delivering Apparatus attached. No. 5 can either be had with or without this improvement; if with it, 30*s.* extra.

*Extract from Note received from* J. Yorke, Esq., Forthampton Court, near Tewkesbury, *addressed to* Messrs. J. B. Brown & Co., *London, April* 4, 1859.

"I have had one of Shanks's Horse Machines in use for 10 years, which answers very well. It cuts the Grass very fairly even when wet. I believe you do not at all overstate the matter when you say that the avoidance of stoppages [in the new machine of this year] would save one-third the time."

**LONDON AGENTS:—**

**MESSRS. J. B. BROWN & CO., 18, CANNON STREET, CITY, LONDON, E.C.**

## HORTICULTURAL BUILDING & HEATING BY HOT WATER.

BY APPOINTMENT.

# JOHN WEEKS & COMPANY,

KING'S ROAD, CHELSEA, LONDON.

HORTICULTURAL BUILDERS AND HOT-WATER APPARATUS MANUFACTURERS, ENGINEERS AND IRON FOUNDERS.

PLANS, ESTIMATES, & ILLUSTRATED CATALOGUES FREE ON APPLICATION.

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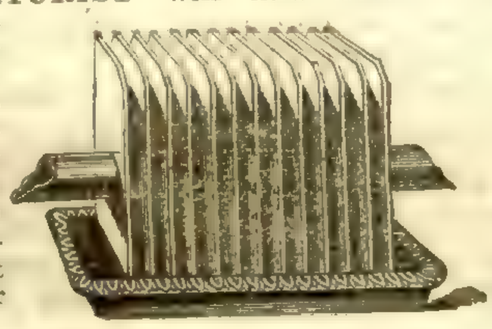
IMPROVED HOT-WATER PIPE.

THE HORTICULTURIST will find herein an inexpensive instrument of new and very important powers. An atmosphere may be produced at will either perfectly dry, partially damp, or saturated with moisture. A space of 10 inches by 12 inches contains the power of 25 feet of 4-inch pipe and other numerous advantages.



The London Warming and Ventilating Company (Limited), 26, Great George Street, Westminster, S.W.

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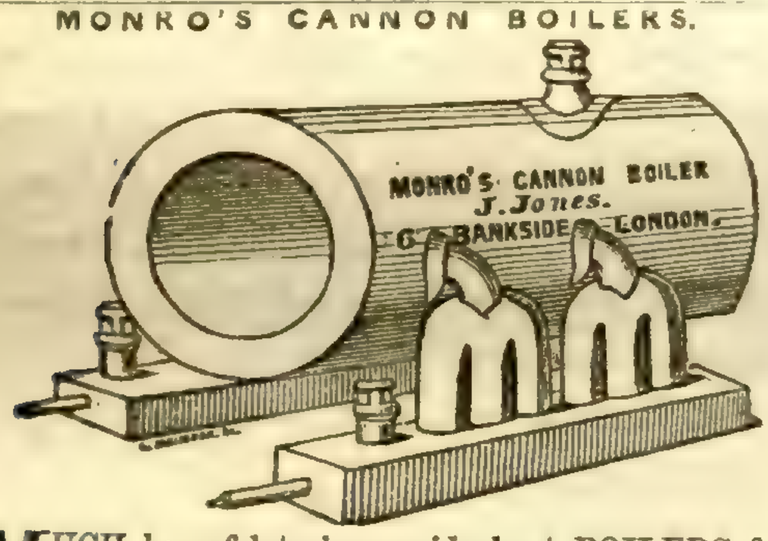
MONRO'S CANNON BOILERS.




MUCH has of late been said about BOILERS for Heating by Hot Water, but these Boilers have now proved themselves to be the best at present invented. They are adapted for heating every description of building, and are made of various sizes. The Price of the

| | | | | |
|---|---|---|---|---|
| 24-inch Cast Iron is | .. .. | .. | £5 10s. 0d. | each |
| 24-inch Wrought ditto | .. .. | .. | 6 10 0 | ,, |
| 36-inch Cast ditto | .. .. | .. | 8 0 0 | ,, |
| 36-inch Wrought ditto | .. .. | .. | 8 10 0 | ,, |

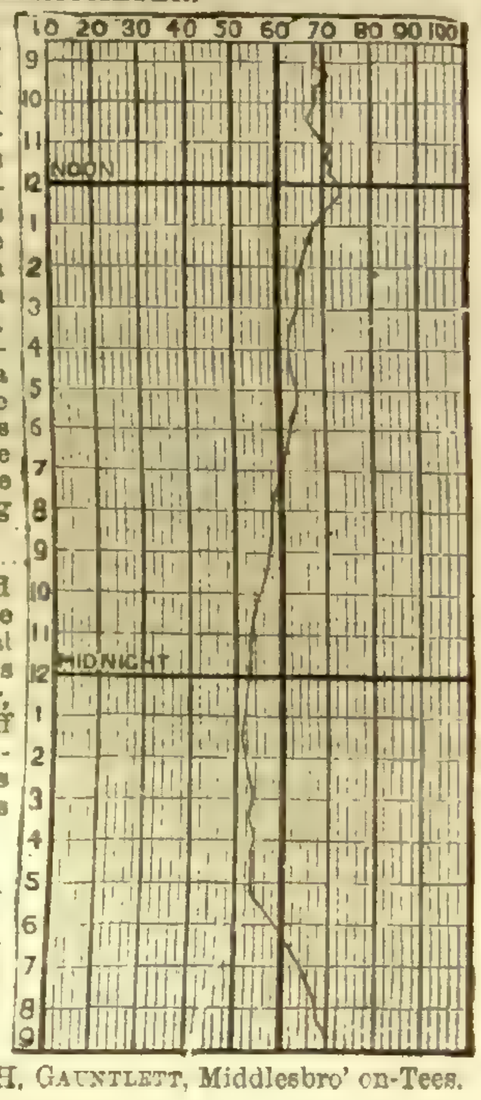
References to Gentlemen and Nurserymen where these Boilers are now at work. The Cannon Boilers are now kept in stock, and are to be had only of J. JONES, 6, Bankside. Also, every description of Saddle and Cylinder Boilers. Hot Water Pipes and Connections at prices lower than those of any other house in London. Estimates for Hot-water Apparatus erected complete in any part of the country, and an Illustrated Catalogue on application to J. JONES, 6, Bankside, Southwark, London.

---

TO HORTICULTURISTS.

GAUNTLETT'S PATENT CHRONOMETRICAL THERMOMETER.

This instrument, which combines an eight-day clock of the best English make showing time, with a newly-patented Thermometer, wherein glass and quicksilver are dispensed with, writes down the temperature of the atmosphere on a slip of paper, and when placed in a Hothouse, Forcing House, or Conservatory, &c., supplies a valuable record of the temperature, with all its variations, showing the time when any change took place, and how long such change continued.




The above slip (reduced in size) exhibits the temperature of the Royal Agricultural Society's show yard at Chester, July 22, 1858, written off by one of these instruments, to which was awarded the Society's SILVER MEDAL.

This is the only instrument that registers temperature continuously and writes it down, and no horticulturist should be without it.

Orders received by W. H. GAUNTLETT, Middlesbro' on-Tees.

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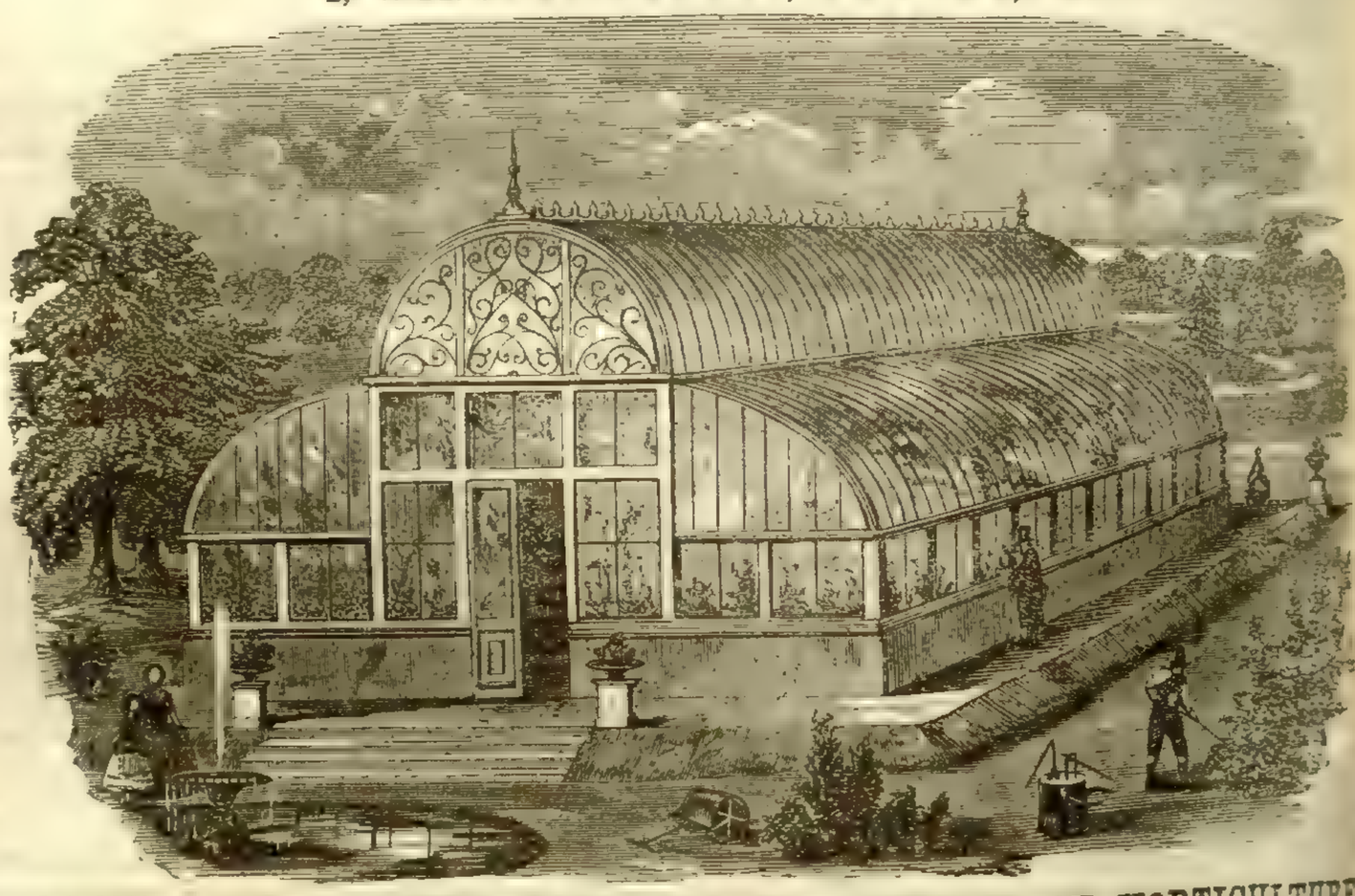
## COTTAM & COMPY., Engineers, Founders, &c.,

2, WINSLEY STREET, LONDON, W.



A SHOW ROOM DEVOTED ENTIRELY TO ARTICLES OF HORTICULTURE.

THE NEW ILLUSTRATED CATALOGUE UPON APPLICATION.

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| Conservatories | Mowing Machines | Hand-glass Frames | Garden Engines | Flower Sticks |
| Greenhouses | Fountains | Game Netting | ,, Syringes | Garden Bordering |
| Hot-water Apparatus | Ornamental Wire Work | Hurdles | ,, Rollers | Watering Pots |
| Garden Vases | Flower Stands | Garden Chairs | Flower Labels | Garden Archer, &c. |

Iron Hurdles, Strained Wire Fencing, Game Netting, &c.

*Every description of Plain, Ornamental, Cast and Wrought Iron, and Wire Work.*

EXHIBITION PRIZE MEDAL GATES AND ENAMELLED MANGERS.

N.B. COTTAM AND COY. beg to make it known that there is no longer an entrance to their establishment from Oxford Street, but that they have made a second entrance from 2, Winsley Street, Oxford Street, W., by the side of the old entrance to the works, opposite the Pantheon.

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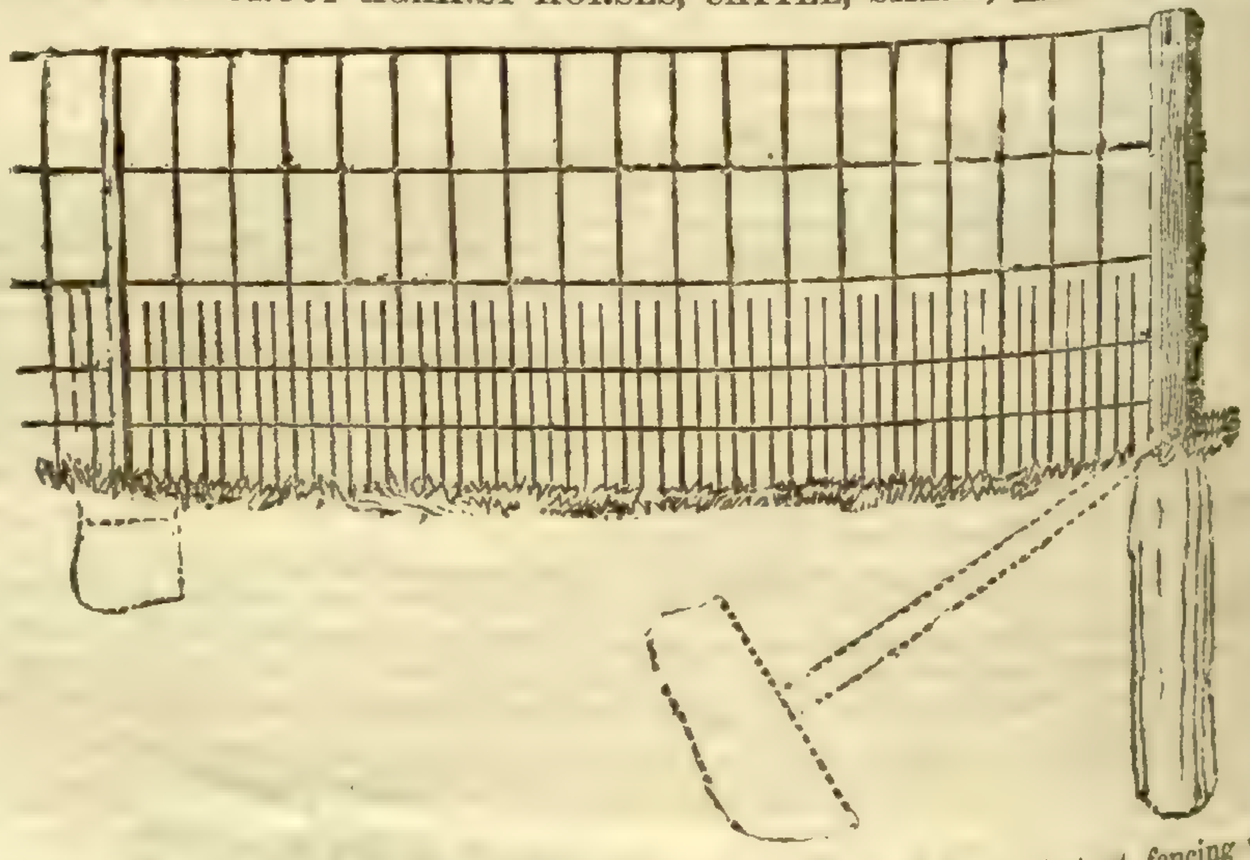
## GREENING & COMPANY'S PATENT WIRE FENCES.

Patronised by His Royal Highness the PRINCE CONSORT.

No. 10 c VARIETY.—PROOF AGAINST HORSES, CATTLE, SHEEP, HARES, RABBITS, &c.



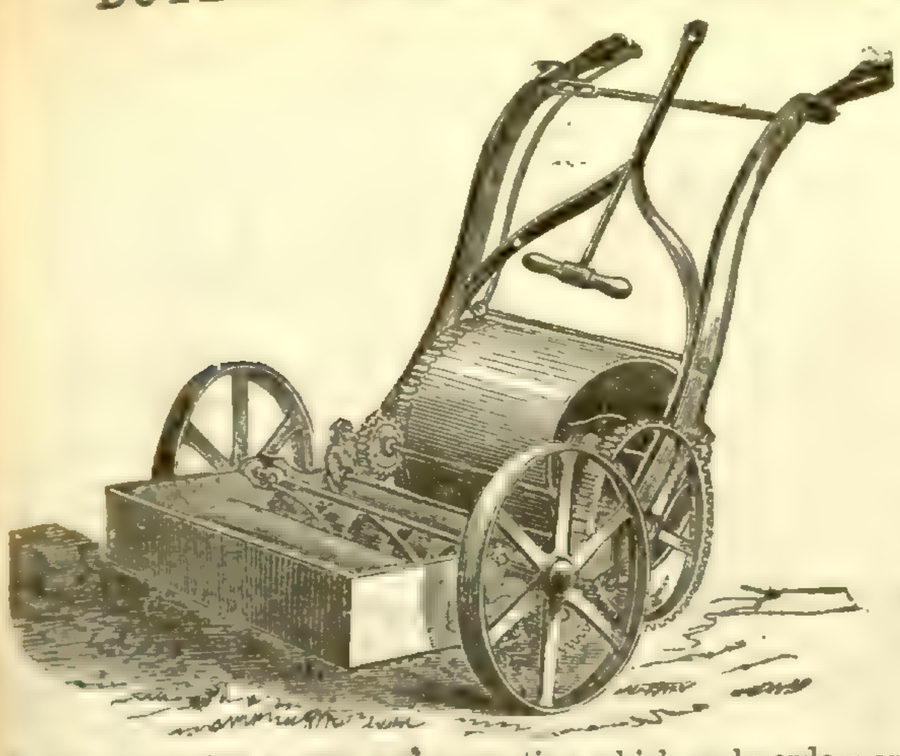
SPECIFICATION.—No. 10 c Variety, 3 feet 9 inches high, 6 horizontal bars of stout fencing wire, 5 inches apart at upper, and 1¼ inches apart at lower half of fence. **1s. 6d. per Lineal Yard.**

G. & Co. forward (post free) on application their ILLUSTRATED CATALOGUE, containing particulars of the above and other Iron and Wire Fences for Parks, Farms, Gardens, Game Preserves, Poultry Courts, &c.

GREENING & COMPANY, Victoria Iron and Wire Works, 81, Oxford St., Manchester.

NOTICE OF REMOVAL.

## BOYD'S PATENT LAWN MOWING MACHINES



ARE the only Lawn Mowers that have a Self-Cleansing and Sharpening Apparatus attached to the Cutters, and that will cut wet Grass without clogging the Knives. They are already in successful operation at the Royal Palaces, and on the lawns of hundreds of the Nobility and Gentry. They are pronounced by all practical men as perfection, and are guaranteed for efficiency, excellence, economy and durability.

"Doing the work of five or six men in a single hour."—*Times*, Sept. 20, 1858.

Price Lists and Testimonials free on application to—

**W. DRAY & Co.,**

at their new Agricultural Implement Warehouses, Adelaide Place, London Bridge,

where also may be had every description of Agricultural, Horticultural, and Gardening Implement; as also DRAY'S CELEBRATED REAPERS, which are now being manufactured for the forthcoming season, and respecting which early orders are solicited.

## PATENT LAWN MOWING AND ROLLING MACHINES.

# SAMUELSON'S LAWN MOWING MACHINES,

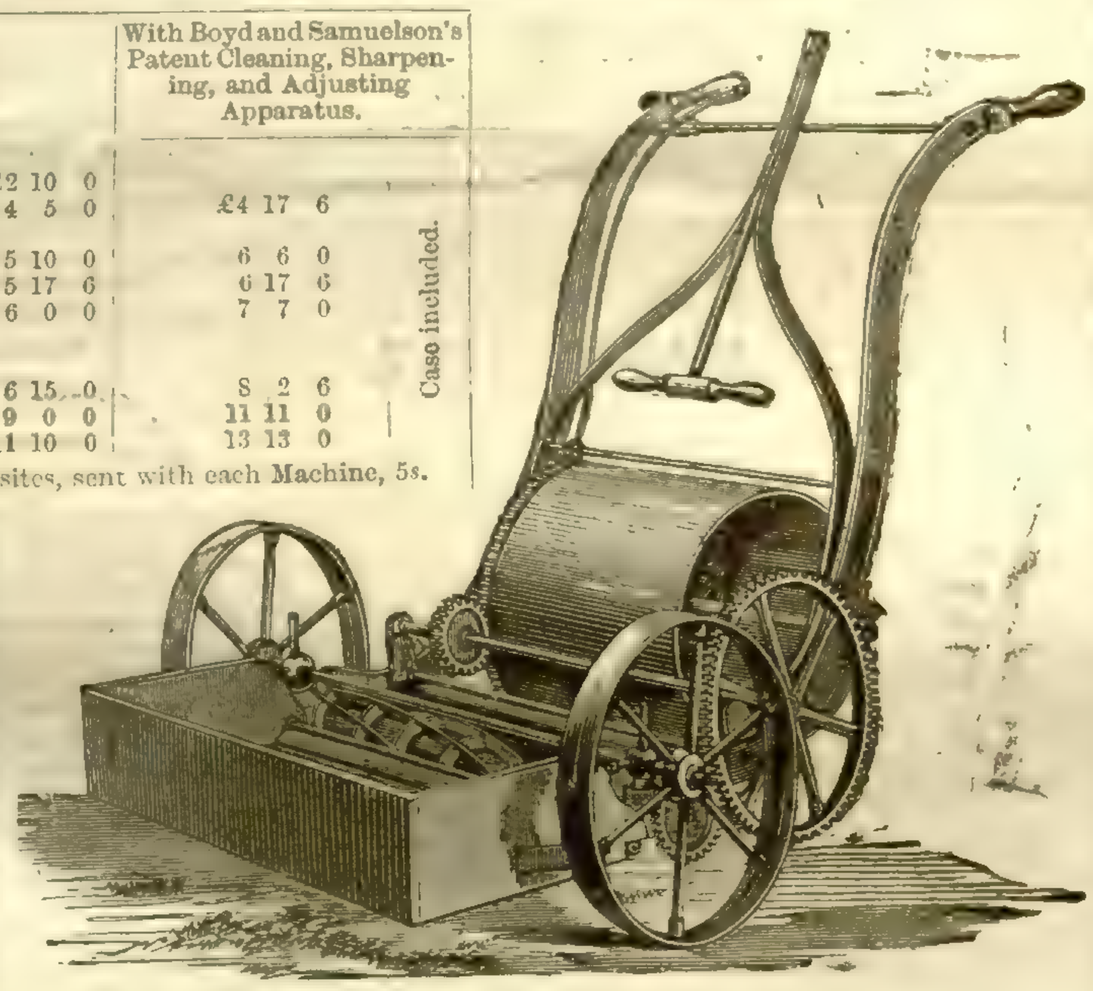
## WITH BOYD'S PATENT IMPROVEMENTS.

*"Doing the work of five or six men."—The Times, Sept. 20, 1858.*

The following PRICES include the Carriage to any Railway Station in England:—

| | | With Boyd and Samuelson's Patent Cleaning, Sharpening, and Adjusting Apparatus. | |
|---|---|---|---|
| 9 inches wide, for very narrow borders, without registered wheels .. .. | £2 10 0 | | |
| 12 inches wide .. .. .. .. | 4 5 0 | £4 17 6 | |
| 16 inches wide, with registered arrangement (for one man) .. .. .. | 5 10 0 | 6 6 0 | Case included. |
| 19 inches wide, ditto (for one man) .. | 5 17 6 | 6 17 6 | |
| 22 inches wide, ditto (for man and boy) | 6 0 0 | 7 7 0 | |
| 22 inches wide, ditto for ditto, and also fitted with draught links for a pony and a man to work it .. .. .. | 6 15 0 | 8 2 6 | |
| 25 inches wide, ditto .. .. .. | 9 0 0 | 11 11 0 | |
| 30 inches wide, ditto (for man and pony) | 11 10 0 | 13 13 0 | |

Box of Tools, Oil Can, and other requisites, sent with each Machine, 5s.



Some thousands of these Machines are now in successful operation on the Lawns of Royalty, the Nobility, and Gentry of the United Kingdom and the Continent of Europe, and are pronounced SUPERIOR to *any other* for lightness of draught, efficiency, and durability. The demand for them is *yearly increasing—the number supplied by* Mr. SAMUELSON *during the years* 1856, 1857, *and* 1858 *being more than* 2100. Testimonials are continually being received from gentlemen having them in daily use, who speak in the highest terms of their efficiency.

These are the only Machines that will cut wet as well as dry Grass without clogging the knives.

Orders for 1859 should be sent at once to insure certain delivery and to prevent disappointment.

Copies of Testimonials will be forwarded post free on application to

**B. SAMUELSON, 76, Cannon Street West, City, London;**

**to the Manufactory, Britannia Works, Banbury, Oxon;**

or to MESSRS. DEANE AND CO. London Bridge; or any respectable Ironmonger or Seedsman in the Kingdom.

## ADDRESS: THE MANAGERS, ST. PANCRAS IRONWORKS.

THE ST. PANCRAS IRON WORKS ARE OPPOSITE THE OLD ST. PANCRAS CHURCH,
OLD ST. PANCRAS ROAD, LONDON.

# IRON COLLAR BAR HURDLES.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

**Obtained the Silver Medal of the Royal Agricultural Society.**

ST. PANCRAS IRON WORKS,




OLD ST. PANCRAS ROAD, LONDON.

The improvement by this PATENT consists in the COLLARS on the Bars which, being placed on alternate sides of the centre upright bar, keep it in its position, confine the bars to short bearings, prevent their being strained, and give more than DOUBLE STRENGTH and RIGIDITY to the HURDLE.

**PROFESSOR VARNELL'S MANGERS AND STABLE FITTINGS.**

LAWNS—IN USE IN THE ROYAL GARDENS.

SAMUELSON'S PATENT BOYD LAWN MOWING and ROLLING MACHINE, the only one that will cut wet as well as dry Grass, is guaranteed efficient in use, easily handled, and readily kept in working order. Doing the work of five or six men. Prices, including case and carriage to any railway station in England, from 4*l.* 17*s.* 6*d.* and upwards. Copies of testimonials post free on application to Mr. SAMUELSON'S London Warehouse, 76, Cannon Street West, City; Messrs. DEANE'S, London Bridge; or the Works, Banbury, Oxon

THE NEW PATENT MOWING MACHINES may be used anywhere at any time, are self-sharpening, and admit of the use of duplicate sets of cutting parts. Prices from 4*l.* 10*s.* upwards. Illustrated Circulars free by post.—Manufactured and Sold by JAMES FERRABEE & Co., the original introducers of Mowing Machines.

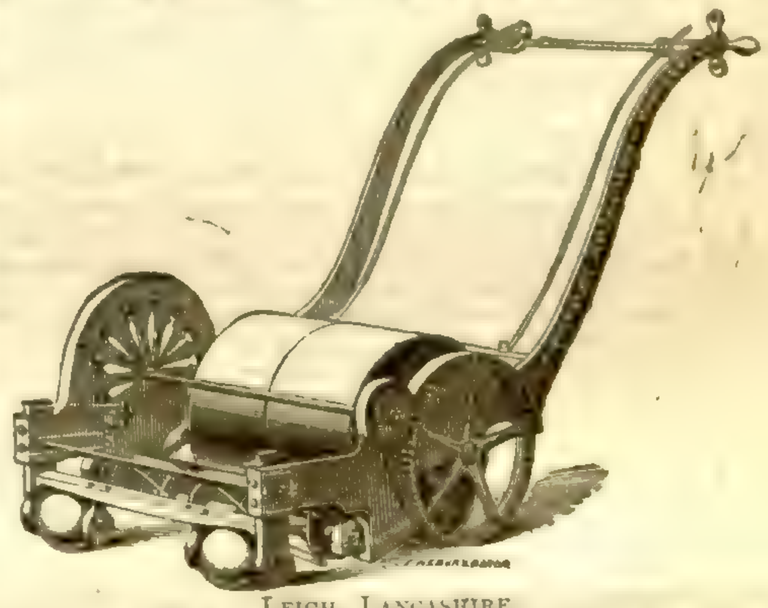
Several infringements of their patent having taken place, the Makers respectfully caution the public to see that the words "FERRABEE'S Patent" are cast on every Machine.

JAMES FERRABEE & Co., Phœnix Iron Works, Stroud.

GREEN'S PATENT LAWN MOWERS have proved to be the best by the appointed judges in all cases of competition. Full illustrations, with particulars of improvements for the present season, will appear in this Paper next week.

THOMAS GREEN, Patentee and Sole Manufacturer, Smithfield Iron Works, Leeds, Yorkshire; and 2, Victoria Street, bottom of Holborn, London. Repairs done at either of the Establishments, where every information may be obtained.

PICKSLEY, SIMS, AND CO.'S (by ROYAL LETTERS) PATENT LAWN MOWING MACHINE.



LEIGH, LANCASHIRE.

P., S., & Co., in introducing this Lawn Mowing Machine, particularly request a strict examination, or comparison and trial, for simplicity of construction, lightness, regularity of draught, adaptability for mowing every kind of plain, circular, and verge work.

Firstly, we have encased the wheels so as completely to protect from injury flower borders, shrubs, &c., whilst working the machine, at the same time not being liable to obstruction or damage.

Secondly, this machine works easily on undulated and sloping ground; it can be thrust forward or be drawn from behind, the latter being the easiest.

Thirdly, this is the only machine made that will work round quick curves; it will work easily and effectively round circular borders so small as 12 inches in diameter. This very desirable improvement has been obtained by fixing to the front part of the machine our newly-invented universal action, and self-cleaning, anti-friction spherical guiding balls. The continual revolving of these spherical guiding balls, under the most trying circumstances, never fails.

Fourthly, we have attached to this machine a rack and pinion motion, for adjusting the cutting parts (there being a rack and pinion on each side of the machine to act conjointly at the same time upon the full length of the knives), in other machines a slow, tedious, and uncertain operation, into one of quickness, ease, and certainty.

| PRICES:— | | £ | s. |
|---|---|---|---|
| Patent Lawn Mowing Machine | 13 inches .. | 5 | 10 |
| Ditto ditto ditto | 16 ,, .. | 6 | 0 |
| Ditto ditto ditto | 19 ,, .. | 6 | 10 |
| Ditto ditto ditto | 22 ,, .. | 7 | 0 |
| Patent Chaff and Gorse Cutters from .. .. | £2 5 to | 22 | 0 |
| ,, Bean, Oat, and Malt Mills .. .. | 3 10 to | 10 | 10 |
| ,, Gorse and Grain Bruisers .. .. | 10 10 to | 21 | 0 |
| ,, Bone Mills .. .. .. .. .. | 27 10 to | 150 | 0 |
| ,, Mangles, various .. .. .. | 2 10 to | 12 | 10 |

ILLUSTRATED CATALOGUES can be had gratis.

PATENT PRIZE SCYTHES, Price 11*s.* AND 11*s.* 6*d.*

JAMES PAYNE, Kirkcudbright, invites the attention of Gardeners and others to his newly improved Patent Adjustable Scythes, which can be set to any angle in one minute's time; are light and easily managed, warranted strong, and unequalled for finish by any in the Kingdom.—Circulars on application.

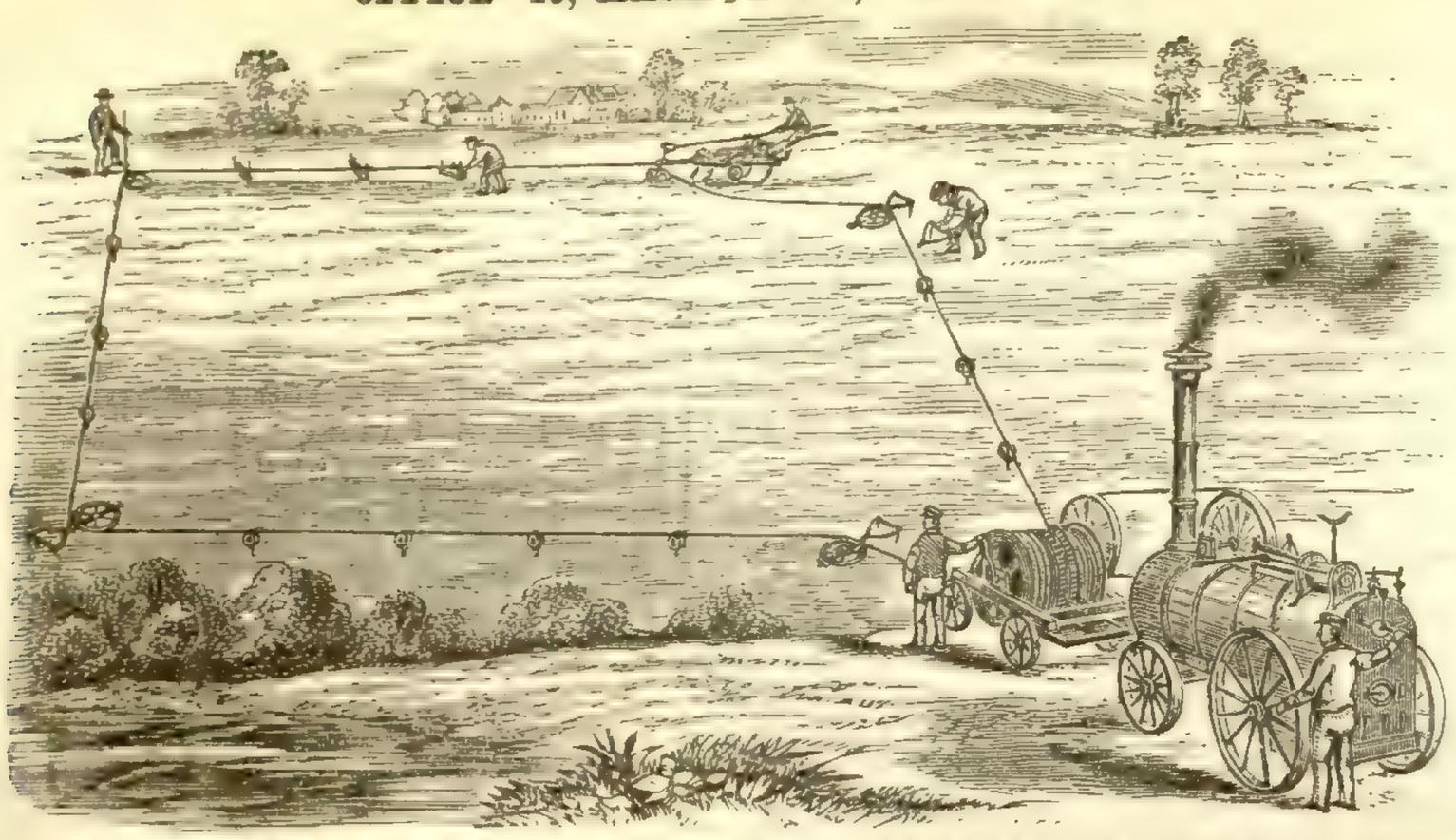
BOYD'S SELF-ADJUSTING SCYTHES are the cheapest and best, and being sold adjusted are ready for immediate use. They can be regulated in an instant to suit any person, and to cut any crop without change of Scythes. To Amateur Gardeners they are very desirable, as they afford a healthy and interesting exercise. They have stood the test of public opinion for seven years, and for excellence, ease, economy, and durability are highly recommended. Upwards of 50,000 of them have been sold. To be had of every Ironmonger, Hardwareman, and Seedsman in the United Kingdom; and Wholesale of the Sole Licensed Makers, WM. DRAY & Co., at their New Agricultural Implement Warehouses, Adelaide Place, London Bridge.

PRIZE MEDAL, PARIS EXHIBITION 1855.

METCALFE, BINGLEY, AND CO.'S New Pattern and Penetrating Tooth Brushes, Penetrating unbleached Hair Brushes, Improved Flesh and Clothes Brushes, and genuine Smyrna Sponges; and every description of Brush, Comb, and Perfumery for the Toilet. The Tooth Brushes search thoroughly between the divisions of the Teeth and clean them most effectually—the hairs never come loose. M., B., and Co. are sole makers of the Oatmeal and Camphor, and Orris Root Soaps—sold in Tablets (bearing their names and address) at 6*d.* each, of METCALFE'S celebrated Alkaline Tooth Powder, 2*s.* per box; and of the New Bouquets.—Sole Establishment, 130B and 131, Oxford St., 2d and 3d doors west from Holles St., London.

# SMITH'S STEAM CULTIVATOR, 1859.

**OFFICE—40, MARK LANE, LONDON.**



## J. & F. HOWARD, BEDFORD, MANUFACTURERS.

PRICE OF A SET OF TACKLE COMPLETE, EXCLUSIVE OF ENGINE:—

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| Windlass, complete, together with 8 Iron Anchors, 2 Wood ditto, 6 Snatch Blocks, 30 Rollers, 3 Wood Levers, 2 Beetles, and 2 Crow Bars | £110 | 0 | 0 |
| 1400 yards of Iron Wire Rope (1¾ inch circumference) | 45 | 0 | 0 |
| No. 3 Implement | 16 | 0 | 0 |
| Turning Bow | 21 | 0 | 0 |
| | £192 | 0 | 0 |

1400 yards of Steel Wire Rope (1½ inch circumference) 15*l.* more than Iron.

SMITH'S APPARATUS CAN BE DRIVEN BY AN ORDINARY SEVEN OR EIGHT-HORSE PORTABLE ENGINE.

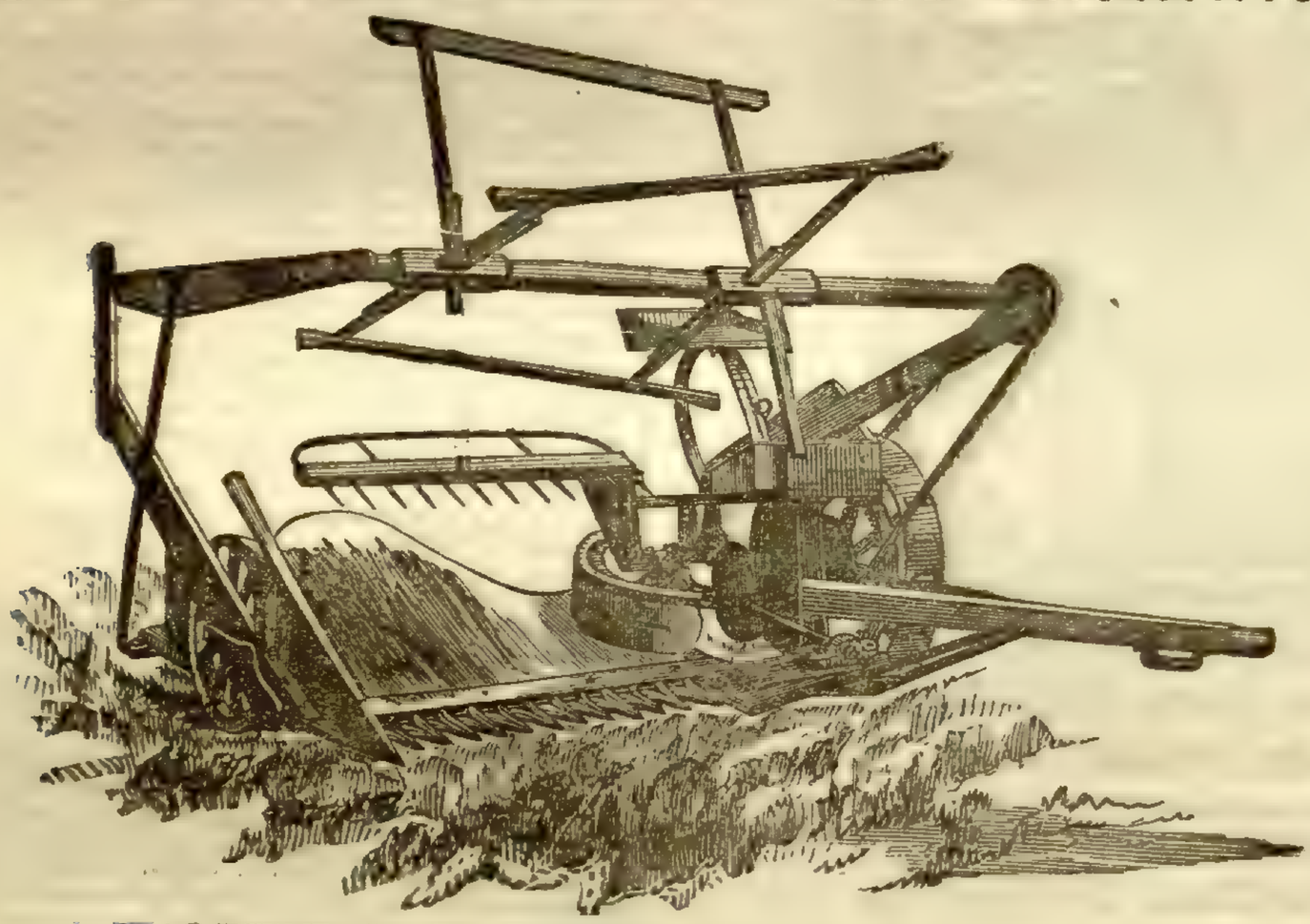
Nearly Fifty Sets are now in use, about Forty of which have been purchased by Tenant Farmers.

*Catalogues, with full particulars, may be had at the Office, 40, Mark Lane, London; of*

**J. & F. HOWARD, Britannia Iron Works, Bedford, or of WILLIAM SMITH, Woolston, Bucks, Patentee.**

# B. SAMUELSON,

## AGRICULTURAL ENGINEER AND MACHINIST,



WAREHOUSE, 76, CANNON STREET WEST, LONDON,

**WORKS AT BANBURY,**

INFORMS MERCHANTS, the TRADE, and AGRICULTURISTS, that he has opened the above Warehouses as a depôt for his own manufactures and those of Messrs. Barrett, Clayton, Howard, Hornsby, Nicholson, Richmond, Tuxford, Smith, and all other first-class makers, whose implements he is prepared to offer on makers' terms.

## THE BRITANNIA SELF-RAKING REAPING MACHINE,

With side delivery in sheaf, no rakers or gatherers required; and all the most improved Spring Implements for the season, may be inspected at the above depôt.

**B. SAMUELSON, 76, Cannon Street West, London; and Britannia Works, Banbury.**

DRESSING CASES, DRESSING BAGS, and highly finished elegancies for presentation in great variety; Ivory-handled Table Cutlery; every requisite for the Toilet and Work Tables.—MECHI & BAZIN, 112, Regent Street; 4, Leadenhall Street; and Crystal Palace, Sydenham.

HANDSOME BRASS AND IRON BEDSTEADS.—HEAL & SON'S Show Rooms contain a large assortment of Brass Bedsteads, suitable both for Home use and for Tropical Climates; handsome Iron Bedsteads with Brass Mountings and elegantly Japanned; Plain Iron Bedsteads for Servants; every description of Wood Bedstead that is manufactured, in Mahogany, Birch, Walnut-tree Woods, Polished Deal and Japanned, all fitted with Bedding and Furniture complete, as well as every description of Bedroom Furniture.

HEAL AND SON'S ILLUSTRATED CATALOGUE, containing Designs and Prices of 100 Bedsteads, as well as of 150 different articles of Bedroom Furniture, sent free by post.—HEAL & SON, Bedstead, Bedding, and Bedroom Furniture Manufacturers, 196, Tottenham Court Road, W.

EWEN'S GRAISSE D'ENFLEURAGE; OR POMATUM BODY, indispensable to all who wish to make their Pomades from the Flowers in their gardens, by the French principle of Enfleurage.

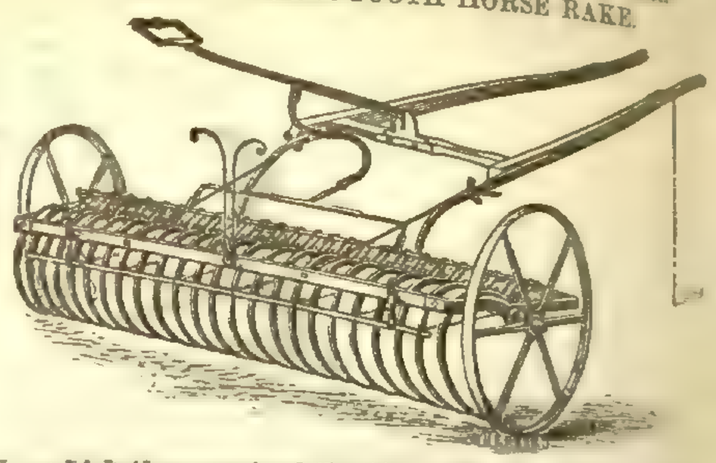
In Jars (of not less than 3 lbs.) with directions for use, at 2*s.* per lb., ex Jars. Cash on delivery.

EWEN'S CLARIFIED FAT WORKS,
AND TOILET SOAP MANUFACTORY,
17, Garlick Hill, E. C., London.

FOR THE TOILETTE.—OLDRIDGE'S BALM OF COLUMBIA, which has for more than 30 years been celebrated for its peculiar properties in restoring, cleansing, and beautifying the hair, promoting its growth, as well as preventing it falling off or turning grey.—C. & A. OLDRIDGE, 13, Wellington Street, North, seven doors from the Strand. Sold wholesale and retail in bottles at 3*s.* 6*d.*, 6*s.*, and 11*s.*; and by all Chemists and Perfumers. Its use for whiskers and moustache is invaluable.

HOWARDS' PRIZE IMPLEMENTS, 1859.

JAMES AND FREDK. HOWARD, Britannia Iron Works, Bedford, beg to direct attention to their PATENT STEEL-TOOTH HORSE RAKE.



For which they received the Three First Prizes last offered by the Royal Agricultural Society of England.

J. & F. HOWARD have discontinued troubling the Public with a long List of Prizes awarded to their Implements, but they would just state that for PLOUGHS, HARROWS, and HORSE RAKES, they have for several years gained every Prize for which they have competed.

PLOUGHS.

| | |
|---|---|
| D PLOUGH, for a Pony | £2 |
| DD ditto for one Horse | 3 |
| P ditto for two Horses | 4 |
| PP ditto for general purposes | 4 15 |
| SKIM COULTER for P or PP Plough | 0 5 |

HARROWS.

| | |
|---|---|
| A Set of Three 4-Beam HARROWS, with Whippletree, recommended as general Seed Harrows, 9¼ feet wide, marked No. 12 | £14 |
| A Set of Three 4-Beam HARROWS, with Whippletree, adapted for 3 Horses, 10 ft. wide, marked No. 11 | 4 4 |
| If with Patent Joints, 6*s.* per set extra. | |

HORSE RAKES.

| | |
|---|---|
| Small size, 7½ feet wide, marked A, with 24 iron teeth | £7 10 |
| Ditto, with Steel Teeth | 8 |
| Large size, 8½ feet wide, marked B, with 28 iron teeth | 8 0 |
| Ditto, with steel teeth | 8 10 |
| Extra large size, 8½ feet wide, marked C, with 24 steel teeth | 10 10 |
| A Set of 15 Prongs, to be attached to the above when used as Weed Extirpators | 1 10 |

Free Delivery to Birmingham, Bristol, Colchester, Derby, Gloucester, Hull, Lincoln, Liverpool, London, Manchester, Norwich, Nottingham, Retford, Shrewsbury, Wisbeach, Worcester, and York; or to Dublin, Edinburgh, Glasgow, and other parts at fixed rates.

HOWARDS' NEW CATALOGUE, containing prices and description of their Patent Ploughs, Harrows, Horse Rakes, and other Implements, including Smith's Steam Cultivators, for which they received at Chester the Gold Medal of the Royal Agricultural Society of England, sent free on application to

J. & F. HOWARD, Britannia Iron Works, Bedford.

MAPPIN'S PRUNING KNIVES IN EVERY VARIETY.
WARRANTED GOOD BY THE MAKERS.

MAPPIN BROTHERS, Queen's Cutlery Works, Sheffield; and 67 and 68, King William Street, London.

MAPPIN'S "SHILLING" RAZORS Shave well for Twelve Months without Grinding.

MAPPIN'S 2*s.* RAZORS Shave well for Three Years.

MAPPIN'S 3*s.* RAZORS (suitable for Hard or soft Beards) Shave well for Ten Years.

MAPPIN'S SUPERIOR TABLE-KNIVES maintain their unrivalled Superiority—handles cannot possibly become loose—the blades are all of the very first quality, being their own Sheffield manufacture.

| | Tble. Kns. | Dst. Kns. | Carvers |
|---|---|---|---|
| Ivory 3¾ in. Handle, balanced, | 20*s.* p. doz.; | 16*s.* p. doz.; | 6*s.* p. pair |
| Do. 4 in. do. | 25*s.* „ | 18*s.* „ | 8*s.* „ |

MAPPIN'S SILVER-PLATED DESSERT KNIVES and FORKS, in Mahogany Cases.

| | | |
|---|---|---|
| 12 Pairs Knives and Forks, Ivory Handles, in Case | .. | £9 |
| 12 Do. | Pearl Handles, do. | .. 13 |
| 12 Do. | Silver-Plated Handles, do. | .. 8 |

MAPPIN'S ELECTRO-SILVER PLATE—MAPPIN BROTHERS, Manufacturers by Special Appointment to the Queen, are the only Sheffield makers who supply the consumers in London. Their LONDON SHOW ROOMS, 67 and 68, King William Street, London Bridge, contain by far the largest STOCK of ELECTRO-SILVER PLATE in the World, which is transmitted direct from their Manufactory, Queen's Cutlery Works, Sheffield.

| | Fiddle Pattern. | Double Thread. | King's Pattern. |
|---|---|---|---|
| 12 Table Forks, best quality | £1 16 0 | £2 14 0 | £3 |
| 12 Table Spoons, best quality | 1 16 0 | 2 14 0 | 3 |
| 12 Dessert Forks, best quality | 1 7 0 | 2 0 0 | 2 |
| 12 Dessert Spoons, best quality | 1 7 0 | 2 0 0 | 2 |
| 12 Tea Spoons, best quality | 0 16 0 | 1 4 0 | 1 |

Messrs. MAPPIN BROTHERS respectfully invite buyers to inspect their unprecedented display, which, for beauty of design, exquisite workmanship, and novelty, stands unrivalled. The illustrated Catalogue, which is continually receiving additions of New Designs, sent per post on receipt of 12 stamps.—MAPPIN BROTHERS, 67 and 68, King William Street, London Bridge. Manufactory, Queen's Cutlery Works, Sheffield.

KNOW THYSELF.—MARIE COUPELLE continues to give her graphic and interesting delineations of character, discoverable from an examination of the handwriting, in an unique style of description peculiarly her own. All persons desirous of knowing themselves, or any friend in whom they are interested, must send a specimen of their writing, stating the sex and age, and enclosing 13 postage stamps, and a directed envelope, to Miss C., 69, Castle Street, Oxford Street, London, and they will receive in a few days a minute detail of the talents, tastes, virtues, and failings of the writer, with many other things hitherto unsuspected. All letters are considered strictly confidential.

DO YOU WANT LUXURIANT HAIR, WHISKERS, &c.?—COUPELLE'S CRINUTRIA is guaranteed to produce whiskers, moustachios, eyebrows, and in two or three weeks with the utmost certainty, stops the weak hair, prevent its falling off, check greyness at all stages, and reproduce the hair in baldness, from what cause, price 2*s.* Sold by all chemists in the world; or will be sent post free, on receipt of 24 penny postage stamps, by Miss COUPELLE, 69, Castle Street, Newman Street, Oxford Street, London. A toilet guide sent post free for four penny postage stamps. "It completely restored my hair."—Miss D——. "My whiskers are now growing freely."—H. Merry, Esq.

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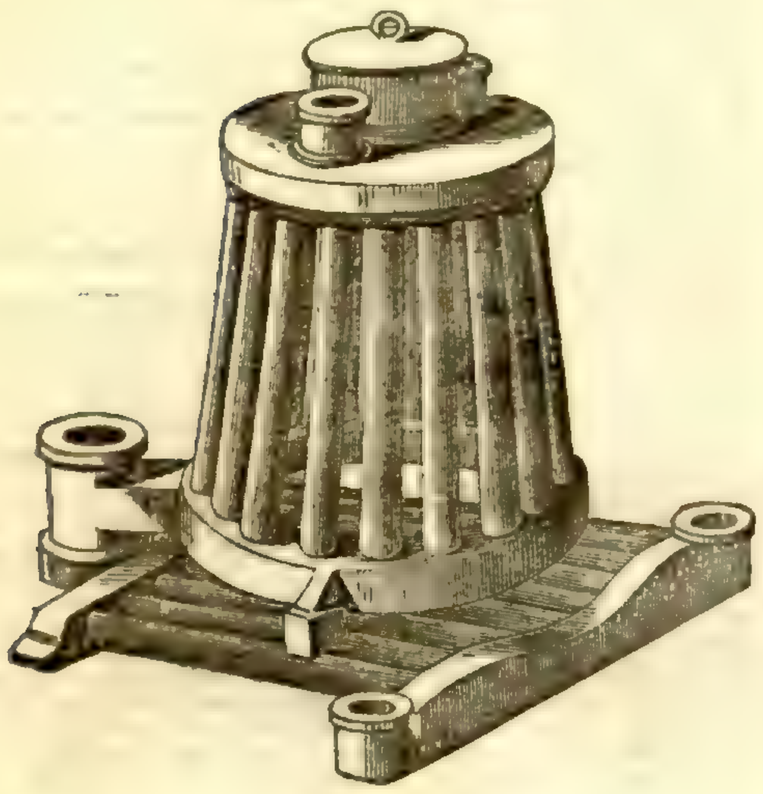

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"WILLIAM FORSYTH.

"The Gardens, Gunnersbury Park, Acton, Middlesex."

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"Holland House Gardens, Kensington." "J. SCOBIE.

"SIR,—In regard to your Patent Jointless Tubular Boiler, it answers admirably the purpose for which it was erected. I consider it the most economical and powerful Boiler ever introduced, and am confident it will not fail to give general satisfaction.—I am, yours most respectfully,

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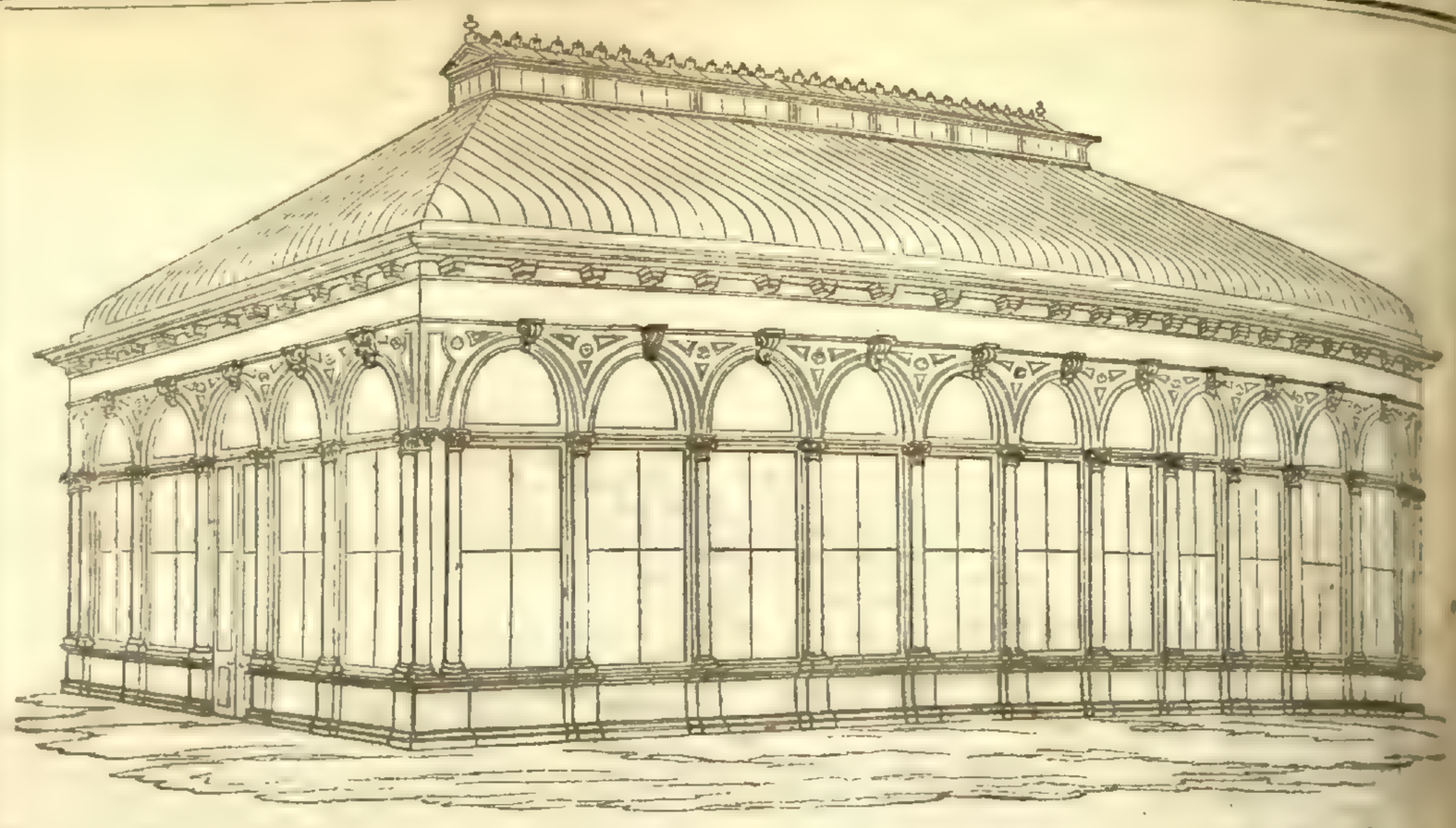
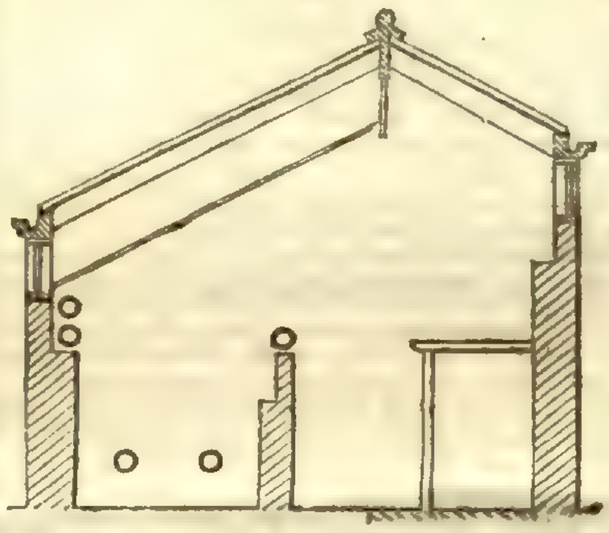
**Ormson's Patent Jointless Tubular Boilers may be seen in successful operation at Mr. Veitch's, Royal Exotic Nursery, King's Road, Chelsea.**





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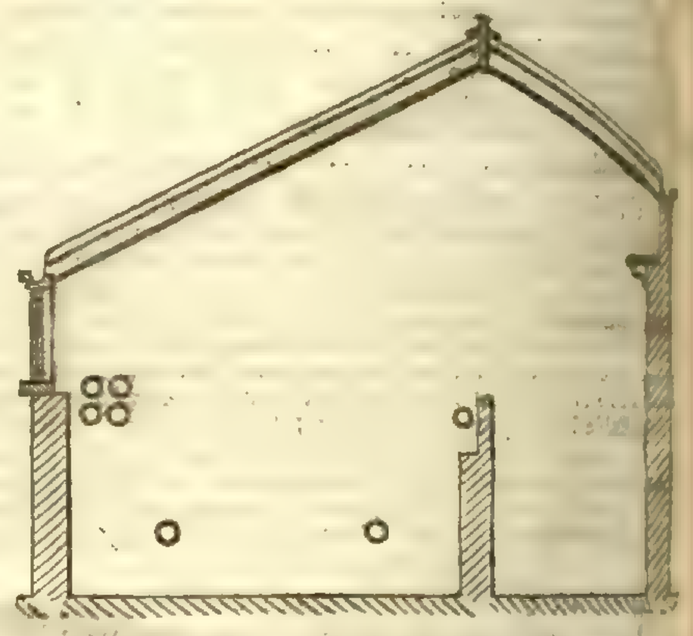
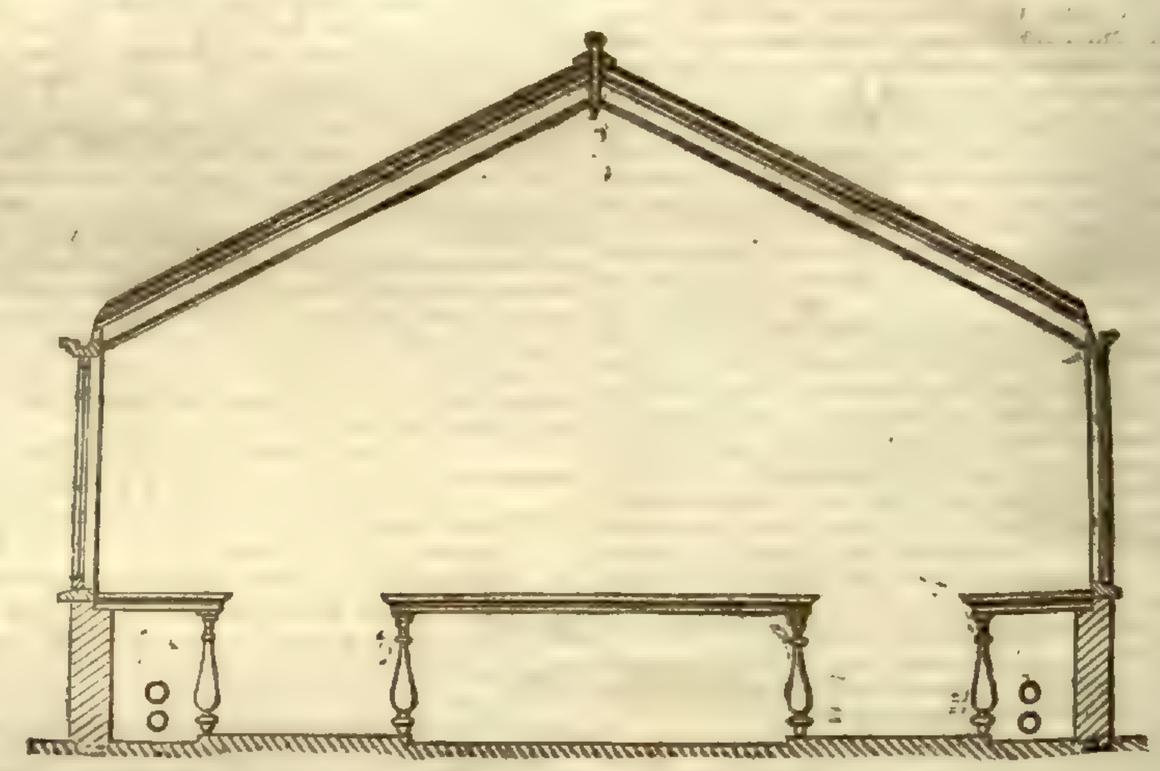


No. 2.—PINE PIT, 14 ft. wide.



No. 6.—GREENHOUSE, from 18 to 20 ft. wide.

## HORTICULTURAL BUILDINGS
## MANUFACTURED BY STEAM POWER MACHINERY.

### BEST MATERIALS AND LOWEST PRICES.

# HENRY ORMSON,

## HORTICULTURAL BUILDER & HOT-WATER APPARATUS MANUFACTURER,

### STANLEY BRIDGE, KING'S ROAD, CHELSEA, LONDON.

Deeply grateful for the very liberal and kind patronage bestowed upon him, begs most respectfully to inform the Nobility, Gentry, Nurserymen, &c., that it being his determination to spare no pains to merit a continuance of their favours, and that he may be enabled to execute his extensive and increasing orders punctually, and at the lowest possible cost (agreeably with the best Materials and Workmanship), he has erected a most complete set of Steam Power Machines, peculiarly adapted for the purposes of his Trade.

PARTIES DESIRING INFORMATION as to prices, &c., will, by referring to the above section, receive immediate attention.

PLANS, SPECIFICATIONS, and ESTIMATES for plain and inexpensive practical Structures, and for the most elaborate Architectural Erections, either in Wood or Iron, forwarded on application.

Printed by WILLIAM BRADBURY, of No. 13, Upper Woburn Place, and FREDERICK MULLETT EVANS, of No. 20, Queen's Road West, both in the Parish of St. Pancras, in the Co of Middlesex Printers, at their Office, Lombard St., Precinct of Whitefriars, City of London, and published by them at the Office, No. 5, Upper Wellington St., Parish of St. Paul's, Covent Garden, in the said Co.—SATURDAY, April 23, 1859.

# THE GARDENERS' CHRONICLE
AND
# AGRICULTURAL GAZETTE.

**A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.**

**No. 18.—1859.]** SATURDAY, APRIL 30. {**Price Fivepence.** STAMPED EDITION, 6*d*.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HORTICULTURAL SOCIETY OF LONDON.—The next MEETING of the FRUIT COMMITTEE will be held at 8, St. Martin's Place, Trafalgar Square, on TUESDAY, May 3, at 12 Noon.

N.B. The Carriage of Packages of Fruit will be paid.

ROYAL BOTANIC SOCIETY, REGENT'S PARK.—THE EXHIBITIONS OF PLANTS, FLOWERS, AND FRUIT this season will take place on WEDNESDAYS, May 25, June 15, and July 6. Tickets of Admission are now being issued, and can be obtained at the Gardens only by orders from Fellows or Members of the Society. Price, on or before Saturday, May 14, 4*s*.; after that day, 5*s*.; or on the days of Exhibition, 7*s*. 6*d*. each.

BRITISH POMOLOGICAL SOCIETY, ST JAMES'S HALL, REGENT STREET, LONDON.

The next Meeting will be held on THURSDAY, May 5, for the examination of General Fruits in season; on which occasion a Premium of One Guinea for the best Late Seedling Kitchen Apple will be offered. The following Meeting will be held on THURSDAY, June 23. For further particulars apply to the Secretary.

CRYSTAL PALACE.—FLOWER SHOWS for 1859 will be held as follows:—

WEDNESDAY, May 18 | WEDNESDAY, Sept. 7
WEDNESDAY, June 8 | THURSDAY, Sept. 8

And CHRYSANTHEMUM SHOW on WEDNESDAY, Nov. 9, and THURSDAY, Nov. 10.

Schedules of Prizes may now be had on application.

By Order,
Crystal Palace, April 30. GEO. GROVE, Secretary.

THE SECOND GRAND NATIONAL ROSE SHOW will be held in the Hanover Square Rooms, London, on THURSDAY, June 23.

Caunton Manor, Newark. S. REYNOLDS HOLE, Hon. Sec.

THE GRAND NATIONAL DAHLIA SHOW FOR 1859.—This Exhibition will take place on the 20th and 21st of September next, at Aston Hall, Birmingham. Lists of Prizes will shortly be ready. CHARLES TURNER, JOHN KEYNES, } Hon. Secs.

LEYTON AND WALTHAMSTOW AMATEUR FLORICULTURAL SOCIETY.—The Exhibitions of the above Society will take place on THURSDAY, June 9, and WEDNESDAY, September 14. Schedules and Rules of the Society can be obtained by enclosing one stamp to E. GOAD, Hon. Secretary, Mark House Common, Walthamstow, N.E.

ENVILLE HALL GARDENS.

THE EARL OF STAMFORD AND WARRINGTON will allow the PUBLIC to visit the GARDENS and GROUNDS of ENVILLE HALL upon MONDAYS, TUESDAYS, and THURSDAYS, commencing Monday, May 2.

FERN CATALOGUE.

ROBERT SIM'S NEW DESCRIPTIVE AND PRICED CATALOGUE, No. 6 (62 pages) of his COLLECTION of BRITISH AND EXOTIC FERNS, can be had, post free, for 8 stamps. Gratis to all previous purchasers of Ferns.
Nursery, Foot's Cray, Kent, S.E.

C. E. ALLEN'S CATALOGUE of DAHLIAS, VERBENAS, FUCHSIAS, VARIEGATED and SCARLET GERANIUMS, &c., is now ready, and can be had gratis.
Shacklewell, near London, N.E.

NEW DAHLIAS.

JOHN KEYNES'S SELECT CATALOGUE OF DAHLIAS, ROSES, CARNATIONS, PINKS, &c., containing Lists of all the valuable Show Flowers in each class, is now ready and will be sent on application.
Castle Street Nursery, Salisbury.—April 30.

NEW DAHLIA FIRE KING.

H. LEGGE is now sending out his superb DAHLIA, bright scarlet tipped with white, the best fancy of the year, 10*s*. 6*d*. per plant. Also all the new varieties of last season, at 9*s*. per dozen; older sorts, 3*s*. per dozen.
Catalogues can be had by pre-paid application to H. LEGGE, Marsh Side, Lower Edmonton, Middlesex.

SHOW, FANCY, AND FRENCH SPOTTED PELARGONIUMS.

WM. CUTBUSH AND SON have a large stock of remarkably fine plants of the above in 48-pots of all the leading sorts, at 12*s*., 18*s*., and 24*s*. per dozen; or 5*l*. and 7*l*. 10*s*. per 100. Catalogues free on application.
Highgate Nurseries, London, N.

TO THE TRADE.

J. AND J. FRASER having a large stock of PIMELEAS, AZALEAS, DILLWYNIAS, APHELEXIS, ACACIAS, TRITONIA AUREA, and other plants of the same description, beg to offer them at very low prices. The plants are well grown in about 48-sized pots, and showing well for flower. The price may be had on application.
Lea Bridge Road Nurseries, Leyton, Essex, N.E.

SUPERB DOUBLE HOLLYHOCKS.—The present is yet a good time for planting out this noble flower for autumn blooming. W. CHATER can still supply plants fine and perfectly healthy at reasonable prices.
Apply to WILLIAM CHATER, Grove Nurseries, Saffron Walden.

CHOICE HOLLYHOCKS.

WILLIAM HUSSEY begs to offer extra strong Plants of all the newest and best sorts for exhibition, from 9*s*. to 12*s*. per dozen.—Horticultural Gardens, Norwich.

SUPERB NAMED HOLLYHOCKS.

WILLIAM PERRY has a fine healthy Stock of the above for Sale, comprising all the best sorts, from 6*s*. to 18*s*. per doz. If planted now they will make a good display through the months of July, August, September, and October. Catalogues sent free on application.
Wisemans, Sawbridgeworth, Herts.

CHOICE ROSES IN POTS.

BIRCHAM AND WARD having a large Stock of the Newest and Best ROSES in fine condition, are enabled to supply them at very reduced prices.
See CATALOGUE, which may be had on application.
Carriage paid to London and Peterborough.
Hedenham Rosary, Bungay, Suffolk.—April 30.

NEW ROSE HYBRID PERPETUAL EVÊQUE DE NÎMES.

BENJAMIN R. CANT has much pleasure in offering the above most beautiful Rose; it is quite a gem and ought to be in every good collection. Colour deep vivid crimson, of exquisite shape; the petals are disposed in the form of a rosette, which gives it a distinct and unique appearance; flower medium size, foliage and habit of growth excellent. Fine plants in pots are now ready at 3*s*. 6*d*. each, with the usual discount to the trade.
St. John's Street Nursery, Colchester.

THOMAS WILD has only a few packets of his PRIMULA SEED left, at 2*s*. 6*d*. per packet.
The Primulary, Ipswich.

CARNATIONS AND PICOTEES.—Fifty pairs strong, well rooted, and extra fine show varieties, named, 2*l*.; 25 pairs, 1*l*. Packing and hamper included.—DODWELL & BAYLEY, Bradshaw Gardens, Chadderton, Manchester.

GOLDEN CHAIN GERANIUMS.—Per dozen, 6*s*. | Per 100, 2*l*. 5*s*. | Per 500, 10*l*.
The above are offered in good strong plants by ROBERT REA, Ipswich Nursery, Ipswich, Suffolk.

UNRIVALLED BEDDING GERANIUM "CHRISTINA" (KINGHORN).—Deep rosy pink, large trusses, an abundant bloomer, small foliage, of compact and robust habit; without exception the most perfect Bedder yet raised, having such an effective colour and a continuous bloomer. 2*s*. 6*d*. each; six plants for four.
F. R. KINGHORN, Sheen Nursery, Richmond, S.W.

NEW VARIEGATED GERANIUM "BEAUTY."

WM. CUTBUSH AND SON can strongly recommend the above, which has bright green foliage, with a broad margin of pure white, flowers light scarlet of good shape in large trusses in great abundance, and very robust habit. We tested it last year with a dozen other kinds, and found it superior to any for bedding purposes. It was exhibited at the late meeting of the Royal Botanic Society, and received a Certificate of Merit. 2*s*. 6*d*. each; or 21*s*. per dozen.
Highgate Nurseries, London, N.

LARGE CAMELLIAS AND AZALEAS.

J. AND R. THYNE, NURSERYMEN, Glasgow, have a dozen large CAMELLIA plants, 6 to 10 feet high, well furnished, mostly double white; also a fine lot of specimen AZALEAS, 3 to 5 feet high. Prices moderate

NEW BLACK WALLFLOWERS.

J. LOCKHART, FLORIST and SEEDSMAN, Parson's Green, Fulham, near London, is sending out Seed of his new Single BLACK WALLFLOWER, in sealed packets, containing 50 Seeds each for 13 stamps, and Cuttings of his new Double Black Wallflower 30 stamps each, free by post.

TO PINE GROWERS.

WANTED, clean healthy SUCCESSION [illegible]'S of the undernamed kinds:—

| | |
|---|---|
| 6 MOSCOW QUEEN. | 40 SMOOTI[illegible] |
| 44 RIPLEY QUEEN. | CAYI[illegible] |
| 50 BLACK JAMAICA. | 20 WHITE R[illegible]E. |

Apply, stating cash price to HUGH LOW & [illegible] on Nursery, London, N.E.

CLIMBING PLANTS.

F. AND A. SMITH have now ready strong plants of COBEA SCANDENS, MAURANDYAS, blue, white, and rose; LOPHOSPERMUM, ECCREMOCARPUS, and TROPÆOLUMS, in large quantities. Prices on application.
Dulwich, Surrey.

BEDDING PLANTS.

F. AND A. SMITH beg to offer the usual varieties of plants for bedding purposes, strong and healthy, including Carter's TOM THUMB, NASTURTIUM true, Cattell's dwarf crimson and several double varieties, with most of the novelties of the season, at moderate prices.
Dulwich, Surrey.

100,000 BEDDING PLANTS, the cheapest place in England. Catalogue sent for one stamp.—J. PYLE, St. John's Nursery, Upper Holloway, London.

TROPÆOLUM CANARIENSE.

CHARLES ALEXANDER, SEEDSMAN, Edinburgh, offers New Seed of the above at 20*s*. per lb., and 1*s*. 6*d*. per ounce.

GREEN HOLLIES, from 12 to 18 and 18 to 24 inches.

WHITEHOUSE AND WHITTAKER having an immense stock of the above, fine bushy plants, with good roots, can supply them at very moderate prices, which will be forwarded on application. The Trade and large purchasers very liberally dealt with.—Brereton Nursery and Seed Establishment, Rugeley, Staffordshire.

SKIRVING'S SWEDE—SUTTON'S SELECTED STOCK.

SUTTON AND SONS have a choice stock of SKIRVING'S SWEDE SEED, growth of 1858, which they can strongly recommend. Price 9*d*. per lb., or cheaper by the bushel.—Royal Berks Seed Establishment, Reading.

FARM SEEDS.

JOSEPH MAY AND CO. beg to offer the following, which have been selected from the best growers:—

| | Per lb. |
|---|---|
| SKIRVING'S SWEDE TURNIP | 1*s*. 0*d*. |
| GREEN-TOP Do. | 1 0 |
| RED GLOBE TURNIP | 1 0 |
| GREEN ROUND Do. | 1 0 |
| LONG RED MANGEL | 0 9 |
| YELLOW GLOBE Do. | 0 9 |

A General LIST of SEEDS for the Farm, Flower, and Kitchen Gardens forwarded on application.
1, Wellington Street, Strand, Waterloo Bridge.

THE PLYMOUTH SEED, AGRICULTURAL IMPLEMENT, AND MANURE COMPANY LIMITED supply every requisite for the Farm and the Garden.
Registered Offices, Union Road, Plymouth.

NEW HARDY WHITE SWEDE.—This Swede is hardier than any other kind, grows to a large size, is adapted for sowing upon poor land, is not affected by frost, and keeps good in the ground or in store till the end of May. New and genuine Seed of this excellent Swede, price 1*s*. per lb. (carriage free for orders of 30 lbs. and upwards) may be had of RAYNBIRD & HARVEY, Seedsmen, Basingstoke; and 89, Seed Market, Mark Lane, London, E.C.

PETURION GOURD.—This wonderful Vegetable attains the incredible weight of 130 to 135 lbs. in 36 days. It is perfectly edible, and makes an important addition to the kitchen garden. Seed may be had in packets at 7*d*. and 1*s*., post free, from E. P. DIXON, Seed Establishment, 57, Queen Street, Hull.

KEMP'S INCOMPARABLE EARLY CABBAGE.—This is quite a distinct variety, and superior to any other known kind, of delicious flavour, dwarf habit, extra early, attains a good size, will not run to seed, and every plant warranted to Cabbage. Seed may be had in sealed packets for 13 postage stamps, post free, at EDMUND P. DIXON'S, 57, Queen Street, Hull.

CABBAGE PLANTS.—True and strong Drumheads for Cattle, packed and delivered at the stations, 3*s*. 6*d*. per 1000; fine Red Pickle Plants, 4*s*. 6*d*. per 1000.—THOMAS WELLAND, Surrey Gardens, Godalming, Surrey.

CAULIFLOWER PLANTS for Pricking out, 5*s*. per 1000; ASPARAGUS, 2 years, 15*s*. per 1000; LETTUCE, 2*s*. 6*d*. per 1000; and BEDDING PLANTS, 2*s*. per doz.
WALTER BIRD, Atherstone Nursery.

YOUELL'S "NORFOLK HERO" CUCUMBER.—Without exception the very best Cucumber for open ground cultivation that has yet been offered. It is a most prolific bearer, as handsome as any frame variety, and is as delicate in point of texture, the fruit measuring from 16 to 20 inches in length. Packets containing 6 seeds, 1*s*.; 18 seeds, 2*s*.
YOUELL & Co., Royal Nursery, Great Yarmouth.

NEW ZEALAND RUNNER BEAN.—Price 2*s*. per quart.—JAS. CARTER & Co., Seedsmen, 238, High Holborn, London, W.C.

NEW ZEALAND RUNNING BEAN.—Packets of 12 Seeds, for 14 stamps.
BASS & BROWN, Seed Growers, &c., Sudbury, Suffolk.

EARLY HANDSWORTH AND MARTIN'S POTATOES.
TO THE TRADE.

WOOD AND INGRAM have a few bushels of the above left more than they require for their own planting, which they will sell at 3*s*. per bushel of 56 lbs. They will only be kept out one week.—Huntingdon, April 30.

HOLCUS SACCHARATUS, OR CHINA SUGAR-CANE GRASS.—Seed of this lately introduced Fodder plant can be supplied by NUTTING & SONS in any quantity. Price on application.—Seed Warehouse, 60, Barbican, London.

PAMPAS GRASS (GYNERIUM ARGENTEUM).—The beauty of this extraordinary plant has this season been fully appreciated. It can be supplied by the dozen, hundred, or thousand, by CHARLES NOBLE, Bagshot, Surrey.

LISIANTHUS RUSSELLIANUS.

WM. CUTBUSH AND SON beg to intimate that they can supply strong plants of the above elegant Conservatory Plants in 48-pots, at 2*s*. 6*d*. each; or 24*s*. per doz.
Highgate Nurseries, London, N.

TO THE TRADE.

CHARLES SHARPE has still to offer, of his own growing, saved from the finest selected stocks—

| | |
|---|---|
| LONG RED MANGEL | RED LINCOLNSH. GLOBE TURNIP SEED |
| YELLOW DO. | GREEN GLOBE DO. |
| YELLOW GLOBE DO. | YELLOW TANKARD DO. |
| ALTRINGHAM CARROT | |

Prices given on application.—Wisbeach, Cambridgeshire.

TO THE SEED TRADE.

THOMAS AYRES, JUN., SEEDSMAN and GROWER, Biggleswade, Beds., can supply every kind of Wurzel, Swede, and common Turnip Seeds, on the most reasonable terms for cash.
N.B. Dealer in Culinary and Flower Seeds, Fruit Trees, Shrubs, and Flowering Plants.

SEEDS! GENUINE SEEDS.—For the RIGHT SEEDS at the RIGHT PRICE, go to the RIGHT PLACE, which is G. W. DIXON'S New Seed Warehouse, 48 A, Moorgate Street, London, E.C. All sorts of Garden, Grass, Agricultural, and Flower Seeds, wholesale, retail, and for exportation.

JOHN GRIGOR AND CO., NURSERIES, Forres, beg to offer true Native Highland SCOTCH FIR SEED, grown in the celebrated Natural Forests of Strathspey, at 2*s*. 6*d*. per packet, post free, or for stamps of that value.
The Trade supplied at Wholesale Prices.

## NEW PHLOXES.

DODWELL AND BAYLEY have much pleasure in announcing to their Patrons and the Public that they are now prepared to supply the undernoted extra fine NEW PHLOXES, which they offer with confidence as indispensable additions to the most select collections.

COUNTESS OF DERBY.—Colour rosy purple with carmine eye; flowers large, flat, smooth, and of great substance, forming a compact spike; habit dwarf. An extra fine variety. 5*s.*

COUNTESS OF ELLESMERE.—White, with delicate lilac eye, strikingly chaste and beautiful; habit dwarf, truss compact and finely formed. Especially excellent for pot culture. An exquisite variety. 5*s.*

CLAYTONI.—White, with blush eye; in the height of summer pure white. A superb sort. Flowers large, of great substance, smooth and very circular; spike large, compact, and admirably shaped; habit dwarf. 5*s.*

HOLLANDI.—White, with rosy carmine centre; fine spike; flowers finely shaped, of great substance, and very smooth; habit in the style of, but more vigorous than Countess of Home. 5*s.*

The set of four, 15*s.* One over will be added for every three ordered. Terms to the Trade on application.

The best older varieties, 8*s.* and 12*s.* per dozen.

Bradshaw Gardens, Chadderton, Manchester.

## NEW FRENCH PHLOXES.

JOHN STANDISH can recommend the following as the best that were sent out last year, he having seen them in bloom, and selected those he thought the best. They are very beautiful dwarf, and continue flowering from June until October, or until the frost destroys them in the autumn, and are admirably adapted for bedding, being now classed as perpetual bloomers, many of them growing not more than 16 to 18 inches high:—

Empereur de toutes les Russies, shaded violet purple centre
Julie Roussel, white, with purple centre, superb
L'Enfant Prodigue, violet rose, shot with scarlet
Louis Guerard, large deep amaranth, magnificent
La Volupté, smooth rose, shot with scarlet
Madame Suer, white purple centre, very dwarf
Mademoiselle Orelly Duriez, white violet centre
Monsieur Forest, large lively amaranth, very effective
Souvenir d'un Ami, large rosy red, very fine
Surpasse Madame Rendatler, white purple centre, very dwarf.

The above 2*s.* 6*d.* each, or the lot 21*s.*; besides the above J. S. can supply the finest old sorts from 6*s.* to 12*s.* per dozen.

ROSES for bedding on their own roots, strong plants:—

TEA: Souvenir d'Elise, the most beautiful of all Tea Roses, 2*s.* each, or 18*s.* per dozen, or 7*l.* per 100
,, Safrano, 1*s.* each, or 9*s.* per dozen
,, Gloire de Dijon, 1*s.* each, or 9*s.* per dozen

HYBRID PERPETUAL ROSES.

General Jacqueminot, 1*s.* each, or 9*s.* per dozen
Louis Chaix, 2*s.* 6*d.* each, or 24*s.* per dozen
Madame Vigneron, 2*s.* 6*d.* each, or 24*s.* per dozen
Pauline Lansezeur, 1*s.* 6*d.* each, or 12*s.* per dozen. (Of all the Hybrid Perpetual Roses this is the best adapted for bedding purposes, from its dwarf bushy habit and being always healthy and always in bloom)
Victor Trouillard, 1*s.* 6*d.* each, or 12*s.* per dozen
NOISETTE: Triomphe de Rennes, 2*s.* each, or 18*s.* per dozen.

NEW ROSES of 1858, on their own roots.

HYBRID PERPETUAL ROSES, 2*s.* 6*d.* each, or 24*s.* per dozen:—

| | |
|---|---|
| Duc de Cambridge | L'Evêque de Nîmes |
| Lord Palmerston | Louise d'Autriche |
| Marie Portimer | Reine de Denmark |
| Thomas Rivers | Triomphe des Beaux Arts |

NEW ROSES for 1859, grafted on the Manetti Stock, strong plants, 4*s.* each, or 2*l.* 12*s.* 6*d.* the lot.

HYBRID PERPETUAL ROSES.

| | |
|---|---|
| Ambroise Verschaffelt | Beauté de Royghem |
| Comte de Beauford | Celine Forestier |
| Docteur Brettoneau | François Ier |
| Empereur de Maroc | François Arago |
| Impératrice Eugenie | Oriflamme de St. Louis |
| Princesse Olympie | Stephanie Beauharnais |
| Virginal | Vicomtesse Laure de Giraud |
| TEA: Madame Damaisin | BOURBON: Octavie Fontaine |

All the above plants are now ready to send out, and J. S. will have the above New Roses on their own roots ready to send out the first week in June.—Bagshot, April 30.

FINE EXHIBITION DAHLIAS in strong plants, viz., Admiral Dundas, Amazon, Annie, Airedale Beauty, Beauty of Slough, Cherub, Colonel Windham, Cossack, Dr. Gully, Deutsche Würde, Duchess of Wellington, Duke of Wellington, Duchess of Beaufort, Empress, Fanny Keynes, Grand Sultan, Incomparable, Lady Folkestone, Lady Popham, Lord Bath, Lord Palmerston, Lollipop, Miss Caroline, Mrs. Turner, Miss B. Coutts, Mrs. Edwards, Mrs. Wheeler, Mrs. Seldon, Nigger, Pandora, Perfection, Pre-eminent, Princess, Ruby Queen, Rachel Rawlings, Robert Bruce, Royal Scarlet, Sir R. Whittington, Sir J. Franklin, Touchstone, Yellow Beauty. Selections of any 12 of the above for 3*s.*

HENRY MAY, The Hope Nurseries, near Bedale, Yorkshire.

CHARLES KIMBERLEY has much pleasure in offering the following novelties for the spring of 1859, plants of which will be ready the first week in May:—

DAHLIA HOPE (KIMBERLEY).—Orange yellow, flaked and spotted with crimson and purple, and tipped with white, petals short and close set, with good centre, constant and good habit, one of the best fancy Dahlias of the season. Height, 3 feet. Plants 7*s.* 6*d.* each.

DAHLIA FAITH (KIMBERLEY).—Deep lilac, flaked with purple, close light centre and good habit. Height, 3 feet. Plants 7*s* 6*d.* each.

FUCHSIA GLORY OF STOKE (KIMBERLEY).—Tube and sepals bright crimson, very stout, with fine broad sepals of great length and nicely reflexed, corolla fine purple, the flower altogether well proportioned, of excellent habit, either for pots or the garden, and as an exhibition plant one of the best ever offered. Plants 10*s.* 6*d.* each.

FUCHSIA PREMIER (KIMBERLEY).—Tube and sepals bright crimson, the sepals are of great width up to the points, with a fine large rich purple corolla, which is very double and sometimes flaked with rose, habit dwarf and a very free bloomer. As a double corolla'd flower it is quite at the head of its class, and will become a general favourite. Plants 7*s.* 6*d.* each.

PETUNIA BRILLIANT (KIMBERLEY).—Rosy crimson, very bright and stout, with white centre. This will be a great acquisition either for beds or pot culture, and for bouquets it will be found very useful. Plants 5*s.* each.

CALCEOLARIA CANARY (KIMBERLEY).—Beautiful canary yellow, flowers about the size of aurea floribunda, very stout habit. A very fine variety either for pots or beds and for bouquets; one of the best ever offered. Plants 5*s.* each.

PHLOX ALBA ROSEA (KIMBERLEY).—White centre, the white extending nearly half over the flower, the other part rose colour, of fine form and large truss, a very distinct variety. Plants 5*s.* each.

PHLOX SNOWFLAKE (KIMBERLEY).—A beautiful white, good truss and fine shaped flower, of the omniflora class. Plants 5*s.* each.

Stoke Nursery, near Coventry.

## THE BEST SEASON FOR BEDDING OUT ROSES.

WOODLANDS NURSERY, MARESFIELD, NEAR UCKFIELD, SUSSEX.

WM. WOOD AND SON respectfully submit that the months of April and May are the most eligible for planting out Roses from pots, for the purpose of forming groups in the Parterre and Rose Garden.

W. W. & Sons having on hand an immense Stock of many thousands, in pots, will be happy to supply them on the following reasonable terms.

| | |
|---|---|
| Hybrid Perpetual Roses .. .. | 9*s.* to 12*s.* per dozen. |
| Isle de Bourbon ditto .. .. .. | 12*s.* to 18*s.* ,, |
| Tea-scented .. .. .. .. | 12*s.* to 18*s.* ,, |
| China, Climbing and Noisette ditto .. | 9*s.* to 12*s.* ,, |

CATALOGUES sent post free on application.

Plants added to each order to compensate for distant carriage.

## NEW ROSES IN POTS.

BENJAMIN R. CANT offers the undermentioned NEW ROSES. The plants are now ready, and are remarkably fine and healthy; many of them have strong shoots from 1 to 2 feet in length. Purchasers of 1 dozen and upwards will be supplied at a reduced rate. The trade allowed the usual discount.

NEW ROSES FOR 1859 at 5*s.* each:—

| | |
|---|---|
| TEA: Madame Damaisin | HYBRID PERPETUALS:— |
| BOURBON: Docteur Berthet | Comtesse Cecile de Chabrillan |
| ,, Edith de Murat | Imperatrice Eugénie |
| HYBRID PERPETUALS:— | L'Oriflamme de St. Louis |
| Altesse Impériale | Le Mont Vésuve |
| Ardoisée de Lyon | Orderic Vital |
| Anna Alexieff | Princesse Olympie |
| Anna de Diesbach | Salomon |
| Beauté de Royghem | Virginal |

Also the following CHOICE ROSES at 2*s.* 6*d.* each, or 25*s.* per dozen:—

| | |
|---|---|
| TEA: Souvenir d'Elise | HYBRID PERPETUALS:— |
| BOURBON: Caroline Riquet | Louis Chaix |
| ,, Josephine Clermont | Louise d'Autriche |
| ,, Madame Contesse | Lord Palmerston |
| ,, Monsieur Jard | Marie Thierry |
| HYBRID PERPETUALS:— | Monsieur de Montigny |
| Abbé Feytel | Philomène Crozy |
| Evêque de Nîmes. 3*s.* 6*d.* | Reine de Denmark |
| Gloire de Lyon | Triomphe de Mont Rouge |
| General MacMahon | ,, des Beaux Arts |

At 15*s.* per dozen:—

HYBRID PERPETUALS.—Adelaide Fontaine, Bacchus, Belle Anglaise, Cardinal Patrizzi, Etendard de Sebastopol, Lord Raglan, Madame Vidot, Mathurin Regnier, Pauline Lansezeur, Prince Leon, Prince de la Moskwa, Rebecca, Souvenir de la Reine d'Angleterre, Souvenir de Leveson Gower, Sir J. Franklin, Victor Trouillard.

BOURBON: Glorietta, Omer Pacha,

NOISETTE: Miss Gray, Narcisse

TEA: Devoniensis, Elise Sauvage, Gloire de Dijon, Madame Bravy, Souvenir d'un Ami, Vicomtesse de Cazes.

A fine collection of the most esteemed older varieties, such as Caroline de Sansal, Comte de Nanteuil, Colonel de Rougemont, General Jacqueminot, Jules Margottin, Souvenir de la Malmaison, at 12*s.* per dozen.

St. John's Street Nursery, Colchester.

AN immense quantity of WORKED AZALEAS, just arrived, coming into full beauty, others not so forward, at 18*s.*, 21*s.*, and 24*s.* per dozen; CAMELLIAS, 18*s.*, 21*s.*, and 24*s.* per dozen. ORANGE TREES coming into bloom, and some with fruit and bloom, 2*s.* 6*d.*, 3*s.* 6*d.*, and 6*s.*, 7*s.* 6*d.*, and 10*s.* 6*d.* each; a large collection of FOREIGN and BRITISH FERNS, and every other kind of Greenhouse Plants and Nursery Stock at reasonable prices. Ash-leaf Kidney Potatoes, 7*s.* per bushel; Dwarf Kidney Beans and Scarlet Runners, 1*s.* per quart; Virginian Stock, Mignonette, Candytuft, 3*s.* per lb., or 4*d.* per oz.; Nemophila, 3*s.* 6*d.*, or 4*d.* per oz., and every other sort at light prices. Illustrated Catalogues may be had on sending 7 stamps. The 6*d.* will be returned to purchasers of not less than 5*s.* worth.—ROBT. GREEN, 154, Kingsland Road, 55 doors from Shoreditch Church.

## NEW ANTIRRHINUMS.

HENRY MAY has now ready for delivery his fine SEEDLING ANTIRRHINUMS, selected from a collection of very superior Seedlings, and he can recommend them as a most beautiful set and improvement on former kinds, viz.:—

STANDARD BEARER (MAY's).—White throat, rosy lip, with yellow centre, very fine and distinct.

LORD JOHN RUSSELL (MAY's).—Pure lilac self, very fine form and habit.

LORD DERBY (MAY's).—Creamy white, with yellow eye, beautifully striped and veined with bright purple.

PURPLE KING (MAY's).—Deep rich purple self, fine spike extra.

SURPRISE (MAY's).—Bright rosy crimson gold lip, very fine form good.

ORLANDO (MAY's).—White tube, bright crimson lip, an improvement on Firefly, very fine.

GALATEA IMPROVED (MAY's).—Pure white tube, bright crimson lip, fine habit and large spike good.

GITANA (MAY's).—Bright rosy purple, white lip, fine spike extra.

The above set of eight for 25*s.*, or 3*s.* 6*d.* each separate. The usual discount to the Trade.

HENRY MAY, The Hope Nurseries, near Bedale, Yorkshire.

NEW VERBENAS, raised by Mr. ELPHINSTONE—

1. PICTURATA.—Crimson, large, and fine truss, conspicuous white round eye.
2. COMTE DE MONTALEMBERT.—Light lilac, very large flower of extra substance, with large white eye.
3. ANNIE.—Light rose, large white eye, a very desirable colour and good substance.
4. BOUQUET DE LA REINE.—Peach, large white eye, fine shape, and extra substance, quite a new colour.
5. MAGNUM BONUM.—Bright crimson, fine yellow eye, large flower, and a very striking variety.
6. GRANDIFLORA PURPUREA.—Violet purple, large truss, fine white eye.

Plants now ready for sending out.

D. BROWNE has great pleasure in introducing the above Six New VERBENAS, as being a decided improvement on any hitherto produced in form, colour, and extra substance, with fine strong habits so desirable for bedding purposes. The collection of Six Varieties, package included, 20*s.*, or 3*s.* 6*d.* each, sent free of carriage. The Trade supplied on the usual terms.

D. B. begs to say that in consequence of having extensive orders from the Trade his stock is now rather limited, therefore early orders will oblige.

Horticultural Grounds, Sprowston;
Seed Establishment, 41, London Street, Norwich.

## NEW DOUBLE PETUNIAS.

C. W. HARGRAVE begs respectfully to announce that he is now prepared with STOCK of the NEW DOUBLE PETUNIAS advertised by him in the *Gardeners' Chronicle* of September 25, 1858.

They constitute a unique collection in themselves, being of exquisite form, firm substance, rich and decided in colour, very fragrant, and of first-rate habit, having good guard petals with the centres well filled, and in fact are superior to the Continental or other varieties hitherto sent out. Their nomenclature is as follows:—

ROSETTE.—Crimson, very double, dwarf habit.
ROSEA ALBA.—Rose clearly mottled with white.
PURPLE KING.—Large flower, well formed.
CRIMSON GEM.—Bright crimson, with white centre.
ALBA MAGNIFLORA.—Beautiful form, very fragrant.
KING OF CRIMSONS.—Bright crimson, brighter than its parent "Crimson King." The varieties previously introduced as crimson have all proved themselves to be only purple.

Plants of any of the above 5*s.* each, or the set of six 25*s.*

It is requested that the Trade forward their commands in their earliest convenience, as all orders will be executed in the rotation in which they are received.

C. W. HARGRAVE, THE NURSERY, WINCHMORE HILL, N.

# MESSRS. E. G. HENDERSON & SON

WILL OFFER THE FOLLOWING NEW PLANTS IN MAY, AND THE

## NEW GENERAL CATALOGUE and SPRING LIST of ORNAMENTAL BEDDING and SUMMER FLOWERING PLANTS

WILL IN A FEW DAYS BE READY FOR DISTRIBUTION, WHEREIN WILL BE DESCRIBED

### ALLAMANDA VIOLACEA.

This plant so long looked for, and much needed by all English competing competitors, we have much pleasure in introducing for the first time to the public, and no doubt it will be for years the great feature at the leading Exhibitions. The late Mr. Gardner, Director of the Royal Botanic Gardens in Ceylon, speaks of it in his papers, published in the second volume of the London Horticultural Society's Quarterly Journal, as one of the finest shrubs he met with, and "by far the most beautiful species in the genus, bearing numerous large flowers not unlike in colour those of Gloxinia speciosa."

As a competition plant in collections, A. violacea, in its violet-blue tint, offers a new and essential feature in colour, there being none other in the same style to associate with the golden-yellow of A. Schotti, and the delicate rosy-blush of Echites and Dipladenia. 63*s.* each.

AGAPETES BUXIFOLIA, a neat-habited plant with good evergreen foliage, and large bright red tubular flowers, resembling the Mitraria and Epacris intermediately.

NEW INDIAN AZALEAS, fine competing kinds raised by M. Spae, M. C. Van Loo, and M. De Witte.

The scarlet-flowered variety of TYDÆA GIGANTEA, and the double-flowered ACHIMENES LONGIFLORA.

The TYDÆA LADY DIGBY, and LADY CAROLINE KERRISON (syn. Achimenes), with large brilliant rosy-crimson flowers throughout winter, free flowering habits.

The HYBRID BEGONIAS raised by Mr. Stange, Gardener to Herrn Consul Schiller, of Hamburgh, including B. PICTURATA and others from B. SPLENDIDA ARGENTEA.

LIERVAL'S NEW PHLOX EVENING STAR.

BURRIDGE'S TWO NEW PHLOX DRUMMONDI, VICTORIA AND ALBERT.

CALCEOLARIA AMPLEXICAULE ALBA, Splendid bedder.

BOUVARDIA "BRILLIANT" AND "DELICATA," with large flower tubes, and profusion of bloom.

NEW BEDDING DAHLIAS, GLOIRE DE FRANCE, ANY WHITE UNIQUE.—The best white variety out, and the finest as the most noble formed and richly coloured flower of any other Dahlia for beddings, a dried plant showing the dwarf and profuse blooming habit may be seen at the Wellington Nursery.

BANKS'S NEW FUCHSIAS (9 varieties, 63*s.*).

NEW CHRYSANTHEMUMS (8 varieties), see Plate XI. in the "Illustrated Bouquet."

BREEZE & BANKS'S COLLECTION OF NEW VERBENAS will include the finest blue out, the best rose, the finest purple, the best peach, and maroon black, with large white eyes or centres, the Géant des Batailles far surpassed; the Holford in truss and habit, but suffused with a beautiful tint. The entire collection includes a full complement of colours, as the finest ever sent out by us, and surpasses in but few exceptions any that we have cultivated under name.

### FINE BEDDING GERANIUMS.

NEW NOSEGAY SECTION.

THE IMPERIAL CRIMSON, AND MODEL NOSEGAY GERANIUMS. See descriptions at page 355, and in Catalogue.

Among Variegated Geraniums, MISS EMILY DOMVILLE prove a first-class Bedding Plant (see description in Catalogue).

The two GOLDEN-LEAVED varieties with large flowers.

THE RAINBOW, with the finest red-zoned foliage yet.

THE ST. CLOUD, a beautiful accompaniment to FONTAINEBLEAU.

THE SILVER CHAIN, with deep margin of pure white, a fitting companion to the GOLDEN CHAIN.

NEW CALCEOLARIAS, scarlet, crimson, and yellow, proved and true bedding, shrubby, branching growth, half shrubby, as the majority are.

THE WHITE NOSEGAY GERANIUM (for beds).

### SPERGULA PILIFERA,

AN ADMIRABLE SUBSTITUTE FOR GRASS LAWNS WITHOUT MOWING!

Permanent for years, with the most beautiful verdure through the year.

N.B. *The quotations of Price to Geraniums Imperial Crimson and Model Nosegay, at page 355, should be appeared as 3s. 6d. and 2s. 6d. each only.*

**Wellington Nursery, St. John's Wood, London.**

**AZALEA INDICA.**

J. IVERY AND SON beg respectfully to invite growers of the above named to an inspection of their unrivalled Stock of Young Specimens of all the newest and best varieties, many of which have been exhibited at the Metropolitan Exhibitions. They are clean and healthy, well set with bloom, and moderate in price. Catalogues forwarded post free upon application.—Dorking Nursery, April 30.

THE EARLIEST PEA.—DUNNETT'S FIRST EARLY is in every respect superior to "Daniel O'Rourke," being several days earlier, having finer pods, and richer in flavour, height 2½ feet. For an early dish of fine-flavoured Peas we can confidently recommend this; 2*s.* per quart.

CHAMPION CABBAGE, the earliest and best sort, if sown in succession, may be had fit for table throughout the year, 3*d.* per ounce, or 1*s.* post free.

Butler & McCulloch, Covent Garden Market, London.

HOLCUS SACCHARATUS, or North China Sugar-Cane.—Pamphlet, "A Visit and a Plant;" the only English authority on the Cultivation of the above. Post free 6*d.* Prices of Seed on application. Samples 6*d.* Four varieties of Holcus remitted free by post on receipt of 10*s.*

CHINESE YAMS, 4*s.* per dozen.

ASPARAGUS plants, 16*s.* per 1000.

John W. Clarke, Whittlesea, Cambridgeshire.

CHOICE STOVE AND GREENHOUSE PLANTS AT LOW PRICES.—See names in the *Gardeners' Chronicle* of April 9, page 309, and April 16, page 330.

THIRTY CHOICE STOVE PLANTS, very strong and very fine, for 55*s.*; or, per dozen, 24*s.* to 35*s.*

FIFTY CHOICE GREENHOUSE PLANTS, very strong and fine, for 65*s.*; or 18*s.* to 25*s.* per dozen.

FIFTY FINE GREENHOUSE PLANTS, selection left to us from the Catalogue, 45*s.*

BRITTAIN'S GARDEN NETTING of 1½ yard, with 5*d.*, 6*d.*, and 8*d.* per yard.

SHAW'S TIFFANY of best quality, No. 1, 5*s.* per piece of 20 yards; also stouter qualities.

THE GISHURST COMPOUND.—Boxes 1*s.* 6*d.* each with instructions.

Goods 20*s.* and upwards free to all stations in London, or on the London and Norwich, (Colchester) line.

BASS AND BROWN,
Seed and Nursery Establishment, Sudbury, Suffolk.

MESSRS. PARKER AND WILLIAMS beg to inform their friends and patrons that their PRICED and DESCRIPTIVE CATALOGUE of Exotic Orchids, Stove, Greenhouse, and Hardy Ferns, Miscellaneous Stove, Greenhouse, and Hardy Plants, Variegated and Ornamental foliaged Plants, Conifers, Roses, Rhododendrons, Indian Azaleas, Gloxinias, Fuchsias, Cactuses, &c., is now published, and will be forwarded post free on application.—Paradise Nursery, Seven Sisters' and Hornsey Roads, Holloway, London, N.

PLANTS FOR THE FLOWER GARDEN, 100,000.—100 strong, well hardened plants, composed of the following:—Yellow, crimson, and orange Calceolarias, Scarlet Geraniums, Antirrhinums, Cupheas, Heliotropes, Pentstemons, Phloxes, Verbenas, Salvias, Senecio, Dahlias, &c., all properly named, basket and packing included, for 12*s.* 6*d.*

New Fuchsias, of last season, at 6*s.* per dozen; new Verbenas, of ditto, at 4*s.* per dozen.

Henry May, The Hope Nurseries, near Bedale, Yorkshire.

**FIRST PRIZE HYACINTHS.**

JAMES DICKSON AND SONS, 32, South Hanover Street, Edinburgh, have much pleasure in informing their Friends and the Public that they have again been awarded the FIRST PRIZE for the Finest Collection of HYACINTHS. Also the FIRST PRIZE for the Finest Single and the Finest Double individual HYACINTHS in the room. They would also call attention to the fact that the Hyacinths which have taken most of the Prizes at the Show were supplied by them.

J. D. & Sons are now receiving orders for the collection of 18 PRIZE ROOTS in packages at 1*l.* 1*s.* each.

N.B. Parties ordering now will have their Roots specially ordered and delivered from the first importation of the season.

**BEDDING PLANTS.**

WM. CUTBUSH AND SON beg to state that they can supply any quantity of extra fine plants of the following at the prices annexed:—

| | *s.* | *d.* |
|---|---|---|
| Ageratum, per doz. | 4 | 0 |
| Chrysanthemum regalium flore pleno, golden yellow, an excellent plant for large beds, per doz. | 6 | 0 |
| Calceolaria, yellow, per doz. | 4 | 0 |
| Cuphæa platycentra, per doz. | 4 | 0 |
| Dahlias, of sorts, per doz. | 6*s.* to 9 | 0 |
| Fuchsias, of all the best varieties, per doz. | 4*s.*, 6*s.*, and 9 | 0 |
| Geraniums, Tom Thumb and other Scarlets, per doz. | 4 | 0 |
| Variegated, of sorts, per doz. | 6*s.* to 9 | 0 |
| Heliotrope, per doz. | 4 | 0 |
| Lobelia speciosa (from cuttings true) the best of the class, per doz. | 4 | 0 |
| Lobelia ramosioides, per doz. | 4 | 0 |
| Nasturtium Tom Thumb, per doz. | 4 | 0 |
| Petunias, of sorts, per doz. | 4*s.* to 6 | 0 |
| Pyrethrum per doz. | 4 | 0 |
| Salvia, of sorts, per doz. | 4 | 0 |
| Tropæolum elegans (Crystal Palace variety), a free flowering bright orange-scarlet dwarf plant, well adapted for flower gardens, per doz. | 6 | 0 |
| Verbenas, of the best sorts, per doz. | 4 | 0 |
| " Edmonds' New, of 1859 | 18 | 0 |

A DESCRIPTIVE CATALOGUE of the above and general Nursery Stock can be obtained free per post on application.

Highgate Nurseries, London, N.

PLANTS FOR THE FLOWER GARDEN.—The following may be had at the prices attached, and the plants are all fine and thoroughly established in single pots:—

| Per dozen.— | *s.* | *d.* |
|---|---|---|
| Scarlet Geraniums, Tom Thumb, Frogmore and others, cut down plants, that were struck last spring | 3 | 0 |
| Ditto, struck last autumn | 2 | 6 |
| Verbenas, all the best varieties | 2 | 6 |
| Antirrhinums | 3 | 0 |
| Ageratums | 2 | 6 |
| Calceolarias, shrubby | 2*s.* 6*d.* to 3 | 0 |
| Cuphea platycentra, extra large | 3 | 0 |
| Dahlias, best sorts | 4*s.* to 9 | 0 |
| Carnations and Piccotees ditto | per pair 1*s.* to 1 | 6 |
| Pinks, ditto | " 6*d.* to 1 | 0 |
| Fuchsias, best sorts | 3*s.* to 4 | 0 |
| Gaillardia picta | 2 | 6 |
| Heliotropes | 2 | 6 |
| Lobelia speciosa and ramosoides | 2 | 6 |
| Alyssum variegatum | 2 | 6 |
| Hollyhocks, fine named flowers | 9 | 0 |
| Lantanas | 2 | 6 |
| Nierembergia gracilis | 2 | 6 |
| Petunias, fine sorts | 2 | 6 |
| Senecio (double dark Groundsel) | 2 | 6 |
| Salvia fulgens | 2 | 6 |
| Variegated Geraniums, Flower of the Day, fine cut down plants | 4 | 0 |
| Osborne's Brilliant | 3 | 6 |

Wood & Ingram, Huntingdon.

THE PATENT

# NITROPHOSPHATE OR BLOOD MANURE COMPANY (LIMITED),

CONSISTING OF TENANT FARMERS, OCCUPYING UPWARDS OF 30,000 ACRES OF LAND.

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Major-General Hall, M.P., Western Colville, Linton, Cambridge
John Brady, Esq., M.P., Warwick Terrace, Belgrave Sq.

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*Manager.*—Mr. James Odams. | *Secretary.*—Mr. C. T. Macadam.

**Offices, 109, Fenchurch Street, London.—Manufactory, Plaistow Marshes, Essex.**

The Directors beg to inform their Friends and the Agricultural Public that the following Manures are now ready:—

**ODAMS'S BLOOD MANURE FOR CORN AND MANGEL.**

**ODAMS'S BLOOD MANURE FOR ROOTS.**

**ODAMS'S SUPERPHOSPHATE OF LIME.**

Full particulars may be had at the Company's Offices, or of the local Agents.

# NATIONAL FLAX COMPANY (LIMITED).

**Capital—£200,000, in 200,000 Shares of £1 each, 5s. to be paid on application, 5s. within three months from Allotment, and the remainder as the Directors may require it, in Two Payments of 5s. each.**

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*Solicitor.*—Mr. Vaughan Prance, 37, New Bridge Street, E.C.

*Engineer.*—Mr. G. L. Fuller, C.E., 69, Lombard Street, E.C. | *Auditors.*—(To be appointed by the Shareholders.)

*Secretary*—Mr. James M. Haldon, F.R.G.S.

**Offices.—193, Gresham House, Old Broad Street, London, E.C.**

## ABSTRACT OF PROSPECTUS.

It has been for some years past a matter of notoriety that British and Irish linen manufacturers, and also manufacturers of hempen goods, have materially suffered from a deficient supply of Flax and Hemp. This state of deficient supply arises from the fact that the cultivation of Flax in Great Britain has materially decreased instead of increased with the growing requirements of our linen manufactures. Our national commercial statistics show that, out of 150,000 tons of Flax annually consumed in the United Kingdom, not more than 50,000 tons are of home growth. In addition to this enormous importation of Flax for our linen manufactures, we have also imported hundreds of thousands of quarters of Linseed every year for home consumption.

The linen manufacturers of the United Kingdom have declared that they are ready to take any quantity which can be grown at home, and at such prices as will be more remunerative to the agriculturist than the usual produce of his lands.

The promoters of the National Flax Company are prepared to prove to the agriculturists of this country that no more profitable crop can be cultivated than that of Flax, whenever their system of rettories, and improved mechanical treatment of Flax fibre, shall be adopted in the localities of its growth. The main feature of the Company's plan is, that it will take the trouble of preparing the Flax for market entirely off the hands of the grower, by becoming the purchasers of the crop, and thus leaving the grower entirely free from the hazards of bad harvesting weather, and at the same time insuring him a certain handsome profitable return for all the Flax he can produce and deliver to the Company's depôts and rettories. The Company's operations will also embrace the whole of the requisite process of preparing the Flax and similar fibrous substances ready for the spinner.

The system of preparation adopted by this Company is the subject of a patent, the invention of Mr. George Abemarle Cator, a gentleman who has made the cultivation of Flax and its preparation for the spinner his especial study for many years past, he having fully demonstrated the great economy of labour and the very great improvement in the quality of the Flax fibre, which is the result of his improved system of Flax preparation. The system will be found fully detailed in the "Explanatory Pamphlet on Flax Cultivation and Preparation," to be had free from the Secretary of the Company and its agents; in which will also be found an exposition of the great importance of the home cultivation of Flax, as insuring a regular supply of raw material to the very important national manufactures of linen and hempen goods; half-stuff for paper makers, and also of the importance of the seed for Linseed oil and oilcake.

As an example of the intended operations of the Company, the following is quoted from the full Prospectus of the Company:—

By rettories will be understood establishments where the preparation of Flax-fibre from the raw plant for the spinner and manufacturer will be carried out through all its stages.

It is estimated that two rettories, on the scale proposed as the base of operations, will require eight patent machines, and, if constantly at work for (say) 309 days in the year will produce annually 1200 tons of Flax-fibre, 7500 quarters of Linseed, and 900 tons of tows; and allowing 50*l.* per ton to be obtained for the Flax-fibre, 56*s.* per quarter for the Linseed, and 5*l.* per ton for the tows, there is a gross yield of 85,500*l.*

Assuming that it will take as much as 10 tons of Flax-straw unseeded to produce one ton of Flax-fibre, at a cost of 4*l.* per ton, and 18*l.* per ton of fibre for all expenses, the total outlay will be 69,000*l.* leaving a balance to be divided of 15,900*l.* or nearly 30 per cent. upon 55,000*l.* (the cost of the buildings, plant, and machinery, together with sufficient working capital for two rettories), which is wholly irrespective of the dividend that may be expected from licence dues from other rettories; and as the operations of the Company are extended, the dividends will be in proportion.

The peculiar advantages of Selby, in Yorkshire, and the surrounding Flax-growing districts, have decided the Company on establishing their first rettory in that neighbourhood.

A prospective enterprise of this Company being the cultivation of Flax on reclaimable lands, of which in the United Kingdom there are some millions of acres, it is considered the Company may beneficially turn its attention to the acquirement, in due course, of an available property in such lands.

The National Flax Company will, by increasing the cultivation of Flax in the present growing districts, tend to encourage the population of other parts of the country to acquire the requisite knowledge of an industrial resource by which their local labour will become more profitable, and land of greater value. Again, the fast-extending application of the power-loom to Flax-fibre will greatly increase the demand for Flax. All considered, the circumstances of the times combine to establish the present enterprise as the nucleus of a new branch of business, and a most valuable auxiliary to the farming and manufacturing producers of the United Kingdom, and one which is well calculated to still further develop her prosperity.

**Copies of the Prospectus, and all further information, may be obtained at the Offices of the Company, 193, Gresham House, City.**

**GENUINE ROLL TOBACCO CLOTH.**
WARRANTED EQUAL IN STRENGTH TO TOBACCO.

JOSEPH BAKER, 10, Gough Square, Fleet St., E.C., having dealt upwards of 20 years in the above, can recommend it as the best article for destroying the Fly. 1*s.* 4*d.* per lb.; over 10 lbs., 1*s.* Post-office Orders payable Strand Office.

GENUINE TOBACCO PAPER.—Parties fumigating can be supplied with the best Genuine Tobacco Paper at 4*l.* per cwt.; any less than 56 lbs., 10*d.* per lb.—BEN BAXTER, Messrs. Jackson & Sons, Lady Lane, Leeds.

**GENUINE TOBACCO PAPER FOR FUMIGATING.**

H. APPLEBY (Foreman to Messrs. Ivery & Son, Surrey), takes this opportunity of informing his patrons and the public that he is now offering the above at a very considerably reduced price. It is now sold in packets of 4 lbs. each, at 1*s.* 3*d.* per lb. A liberal discount allowed to the Trade. For testimonials that will guarantee its quality, see *Gardeners' Chronicle*, April 16, p. 333.

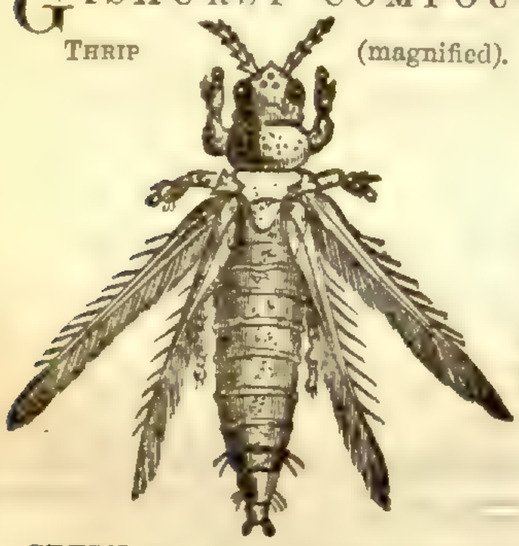
Sheet Iron Pots for fumigating, 3*s.* 6*d.* each.

N.B. All orders to be accompanied with a Post-office Order, payable to HENRY APPLEBY, Dorking, Surrey.

PAGE'S BLIGHT COMPOSITION (4*s.* per gallon, sufficiently strong to make four fit for use) has stood the test of eight years public trial, and its great success has led to numerous imitations. Dr. Lindley, in his leading article of October 25, 1856, reported 182 cases in its favour, sufficient to convince the most sceptical. Seeds packed for exportation to all parts of the world.—PAGE & TOOGOOD, Royal South Hants Seed Establishment, Southampton.

GISHURST COMPOUND, PATENTED.—

THRIP (magnified).



MEALY BUG (magnified).

GREEN FLY on Roses and Greenhouse Plants safely got rid of by syringing with PATENT GISHURST COMPOUND, 2 oz. to the gallon of water.

Extract from leading article in *Gardeners' Chronicle*, April 9, '59.

"That it really kills red spider, aphides, mealy bug, thrips, and scale, it is impossible to doubt in the face of reports of practical men, among whom we may mention Mr. D. Judd, of Althorp Gardens"—then follows a caution against the use of a too strong solution.

The Gishurst Compound is sold in boxes at 1*s.* 6*d.* and 6*s.* each, with directions for use, and printed opinions of Mr. Rucker's gardener, Lady Dorothy Nevill's gardener, Sir William Hooker, Mr. Rivers, and other eminent authorities. For Nurserymen the large size is recommended, but where the consumption is not large the compound keeps its strength best in the small. The undermentioned Seed Merchants, Nurserymen, &c., having taken in supplies are prepared to sell single boxes:

Barnes, Thos., Thirsk.
Barratt, Bury St. Edmunds
Bass & Brown, Sudbury
Bell & Co., Newcastle-on-Tyne
Bell, John, Norwich
Brigden, T., Railway Arcade, London Bridge
Brown, D., Norwich
Chater, W., Saffron Walden
Cattell, J., Westerham
Cripps, T., Tunbridge Wells
Deane & Co., London Bridge
Dickson, Francis & Arthur and Sons, Chester
Dickson & Brown, Manchester
Dickson, Hogg, & Robertson, Dublin
Dickson & Co., Edinburgh
Epps, F., Ashford, Kent
Epps, Maidstone
Fisher, Holmes & Co., Sheffield.
Hawkins, R. T., Weymouth
Henderson, E. G. & Son, St. John's Wood, London
Henderson, A. & Co., Pineapple Place, Edgeware Rd.
Hooper & Co., Covent Garden
Jackson, Thos. & Son, Kingston
Jefferies, W. B., Ipswich
Kennedy & Co., Dumfries
King, Wm., Lincoln
Low, Hugh & Co., Clapton
Mackie & Stuart, Norwich
Mann, J., Brentwood
Matheson, R. C., Gloucester
May, J. & Co., 1, Wellington St.
Parsons, G., Brighton
Pattinson & Son, Hexham
Perkins, J., Northampton
Pope, H., Gib Heath, near Birmingham
Reid, B. & Co, Aberdeen
Smart & Mein, Kelso
Thyne, J. & R., Glasgow
Whallery, T., Liverpool
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Nurserymen and Seedsmen supplied by PRICE'S PATENT CANDLE COMPANY (Limited), Belmont, Vauxhall, London, S.

FLEMING'S SALTING MACHINE FOR DESTROYING WEEDS ON GRAVEL WALKS, &c.—This most useful Machine has given the greatest satisfaction wherever it has been introduced; it is the only effectual means of keeping Drives and Walks completely clear of Weeds.

Extract from article "Trentham" in *Gardeners' Chronicle* of January 22.

"And I would observe in passing from these grounds that the whole of the Grass and Gravel are kept in the most perfect order by the aid of Machinery; the former by a Horse Machine wherever it can be worked, a small hand instrument being used in places of difficult access; the latter is kept in order by a SALTING MACHINE, the invention of Mr. Fleming, and judging from the beautiful condition of the Gravel in every direction, I should say that it was altogether most efficient."

(The Mowing Machines here referred to are SHANKS's).

From the *Field* of April 2.

"The Salting Machine will effectually destroy the Weeds on Gravel Walks and Drives."

Testimonials, with full particulars and prices, may be had on application to ALEXANDER SHANKS & SON, Dens Iron Works, Arbroath, Patentees of Improved Mowing, Rolling, Collecting and Delivering Machine for Lawns, Hot-water Apparatus Manufacturers, &c.

BOOT'S PATENT ANTI-CORROSIVE ENGRAVED LABEL, suitable for every description of plant. See Circular, free by post.

JOHN SHAW, Princess Street, Manchester, Agent.

HENRY J. MORTON AND CO.,
2, Basinghall Buildings, Leeds.

**CALVANISED IRON WATER CISTERNS**

for Cottage Houses, &c., to contain 50 gallons, 25*s.*; 80 gallons 30*s.* each; and 140 gallons, 36*s.*, and fitted with tap, keeping the water perfectly sweet and clean; will not rust or corrod Cisterns of all sizes.

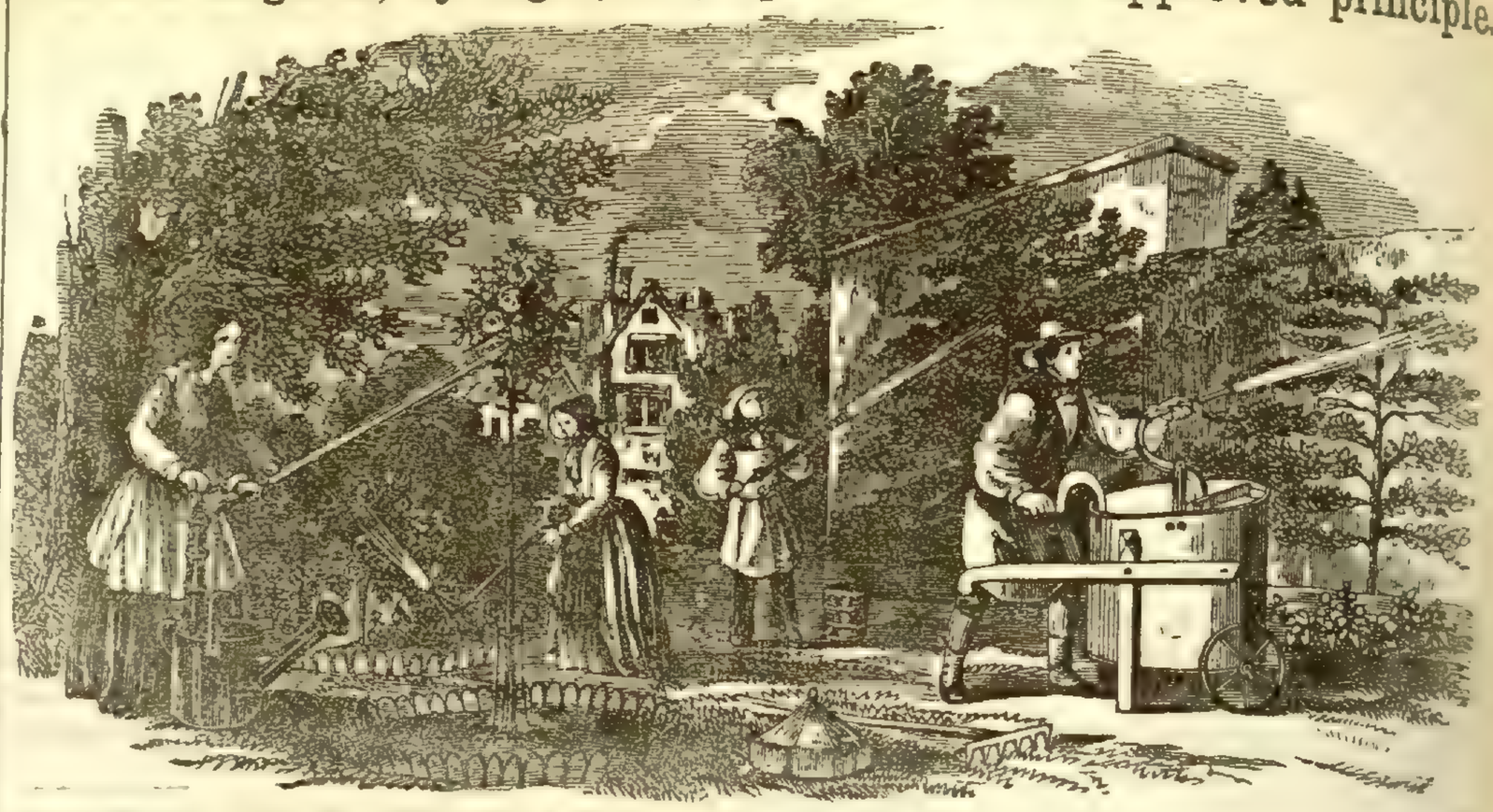
**CALVANISED IRON PUMPS**

for Liquid Manure or Domestic Use, 3 inches diameter, 30*s.* and 32*s.* 6*d.* each; Tail Pipe for same at from 10*d.* per foot.

**CALVANISED IRON SWING WATER BARROWS**

for Garden or Farm use, containing about 20 gallons, entirely formed of iron, 32*s.* 6*d.* each.

## Garden Engines, Syringes, &c., upon the most approved principle.



## GARDEN ENGINES, MACHINES, AND GREENHOUSE SYRINGES

WITH ALL THE LATEST IMPROVEMENTS, MANUFACTURED BY THE PATENTEE,

**RICHARD READ, Instrument Maker (by Special Appointment) to Her Majesty,**
35, REGENT CIRCUS, PICCADILLY, LONDON.

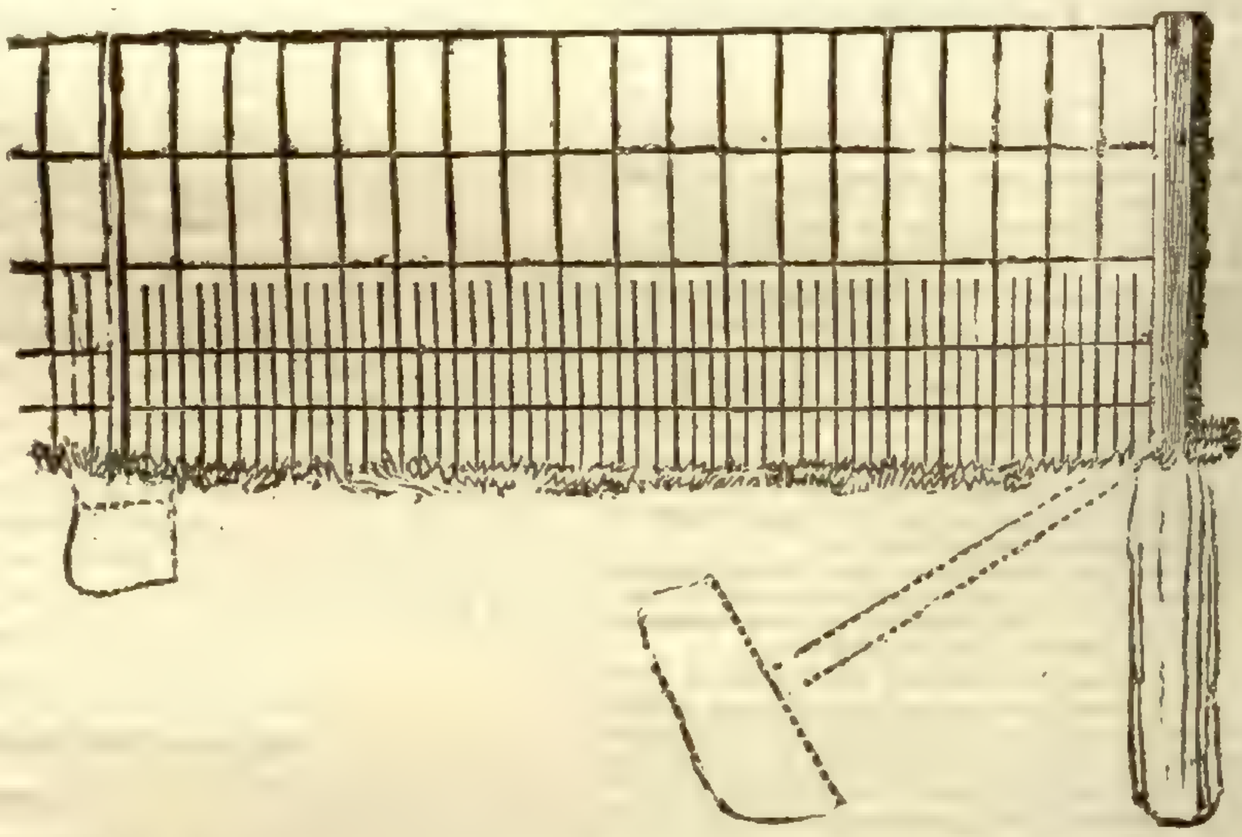
CAUTION.—R. READ begs respectfully to assure the Public that the Syringes advertised weekly by a London Firm as READ's are not his make, but are mere imitations; and on trial many of them will be found defective and useless. All Syringes made by READ are marked with the Royal Arms, and Address,

**"35, Regent Circus, London."** *Descriptions, with drawings, sent post free.*

## GREENING & COMPANY'S PATENT WIRE FENCES.

**Patronised by His Royal Highness the PRINCE CONSORT.**

No. 10 c VARIETY.—PROOF AGAINST HORSES, CATTLE, SHEEP, HARES, RABBITS, &c.



SPECIFICATION.—No. 10 c Variety, 3 feet 9 inches high, 6 horizontal bars of stout fencing wire, meshes 5 inches apart at upper, and 1¼ inches apart at lower half of fence. **1s. 6d. per Lineal Yard.**

G. & Co. forward (post free) on application their ILLUSTRATED CATALOGUE, containing particulars of the above and other Iron and Wire Fences for Parks, Farms, Gardens, Game Preserves, Poultry Courts, &c.

**GREENING & COMPANY, Victoria Iron and Wire Works, 81, Oxford St., Manchester.**

## CARSON'S
# ORIGINAL ANTI-CORROSION PAINT,

PATRONISED BY

THE BRITISH GOVERNMENT,
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H.R.H. THE PRINCE CONSORT,
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THE PRINCIPAL COLLIERIES,
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IRON MASTERS, &c. &c.

**The ANTI-CORROSION PAINT is now used extensively for all kinds of OUT-DOOR WORK,**

Such as Iron, Wood, Stone, Brick, Compo, Cement, &c., and has been proved, after a practical test of 70 years, to surpass any other Paint; *and being peculiarly adapted for Conservatories, Hothouses, and Frames of all descriptions, is constantly used by Noblemen, Gentlemen, as also many eminent Horticulturists, for such purposes.* It is much lower in Price, and lasts twice as long as the best White Lead, and can be easily applied by any Labourer, being sent in various Colours, requiring simply to be mixed (no grinding is needed). The Anti-Corrosion is a powder, and will keep any length of time.

COLOURS:—

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| White Stone | 34*s.* per cwt. | Light and Dark Lead | 28*s.* per cwt. |
| Light do. | 32*s.* ,, | Light and Dark Chocolate | |
| Drab or Portland | | Bright Red | |
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| Copper | 30*s.* ,, | Invisible Green | 50*s.* ,, |
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OIL, TURPENTINE, AND BRUSHES,

A Copy of Testimonials (700), will be sent upon application to

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**NO AGENTS THROUGHOUT THE UNITED KINGDOM.**

## HORTICULTURAL BUILDING & HEATING BY HOT WATER.

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HORTICULTURAL BUILDERS AND HOT-WATER APPARATUS MANUFACTURERS, ENGINEERS, AND IRON FOUNDERS.

PLANS, ESTIMATES, & ILLUSTRATED CATALOGUES FREE ON APPLICATION.

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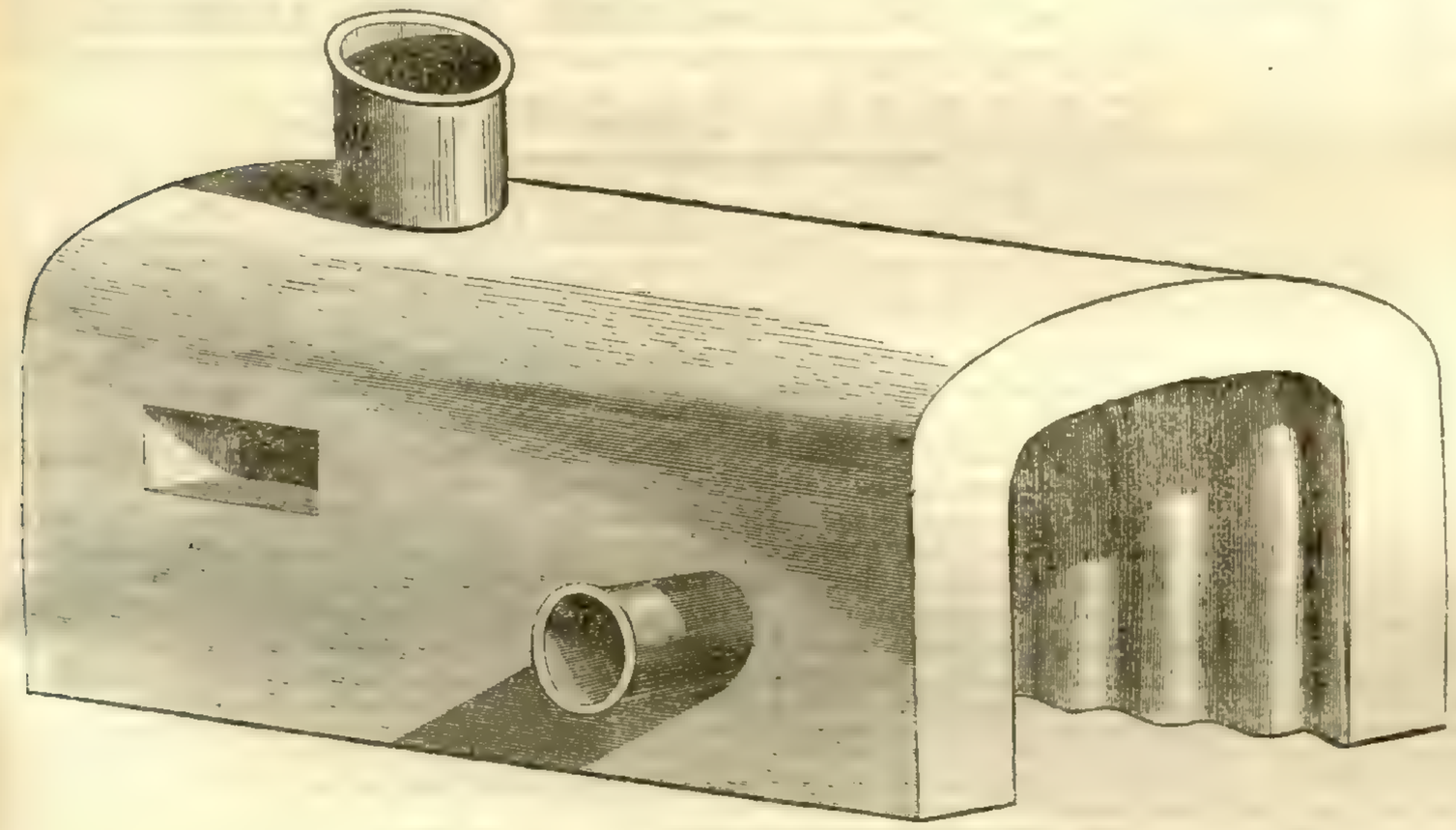
DANVERS STREET, PAULTON'S SQUARE CHELSEA S.W.



# JAMES GRAY

RESPECTFULLY begs to inform the nobility, gentry, Nurserymen, Gardeners, and others, that he continues to carry on the business in all its branches at the above old established premises.

**CONSERVATORIES, GREENHOUSES, FORCING HOUSES, VINERIES, PITS, &c.,**

of every description, erected on the most approved principles.

## HEATING BY HOT WATER.

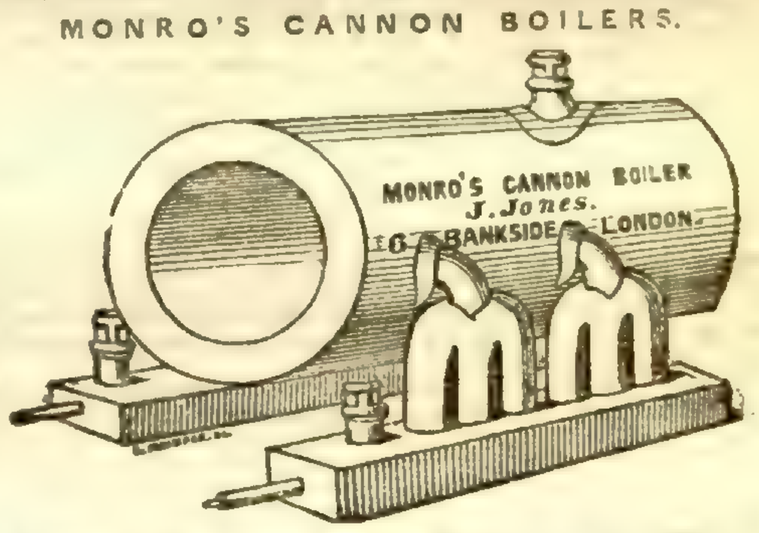
J. G. having specially devoted his attention for many years to this part of the business, is now fully prepared to Heat every description of public and private buildings, viz :—Churches, Mansions, Warehouses, &c., as well as all structures connected with Horticulture, in the most efficient manner. His system is the most simple that can be adopted—which he has found from long experience to be the best—can be constructed at less cost, and is more easily managed than those of a complicated nature which have attracted the notice of the public.

J. G. begs to call attention to his CAST-IRON CORRUGATED ARCH BOILER, which from its simplicity of construction has not the liability to fracture to which those of a more complex design are always subject. They have been extensively used for many years, and have given the greatest satisfaction.

All business is conducted at this establishment on the principle of lowest remunerative profits consistent with best materials and workmanship.

**Plans and Estimates furnished on the shortest notice.**

MONRO'S CANNON BOILERS.




MUCH has of late been said about BOILERS for Heating by Hot Water, but these Boilers have now proved themselves to be the best at present invented. They are adapted for heating every description of building, and are made of various sizes. The Price of the

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| 24-inch Cast Iron is | .. .. | .. £5 10s. 0d. | each |
| 24-inch Wrought ditto | .. .. | .. 6 10 0 | ,, |
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| 36-inch Wrought ditto | .. .. | .. 8 10 0 | ,, |

References to Gentlemen and Nurserymen where these Boilers are now at work. The Cannon Boilers are now kept in stock, and are to be had only of J. JONES, 6, Bankside. Also, every description of Saddle and Cylinder Boilers. Hot Water Pipes and Connections at prices lower than those of any other house in London. Estimates for Hot-water Apparatus erected complete in any part of the country, and an Illustrated Catalogue on application to J. JONES, 6, Bankside, Southwark, London.

BEE-HIVES.

PRIZE MEDAL AWARDED TO G. N. & SONS, FOR BEE-HIVES AND HONEY, AT THE PARIS EXPOSITION OF 1855.

NEIGHBOUR'S IMPROVED COTTAGE BEE-HIVE, as originally introduced by GEORGE NEIGHBOUR & SONS, with all the recent improvements, glasses, and thermometer, price 35s., securely packed for the country.

This unique Hive has met with universal commendation, and may be worked with safety, humanity, and profit by the most timid; its arrangements are so perfect that the Honey may be taken at any time of the gathering season without at all injuring the Bees.

Early applications addressed to GEORGE NEIGHBOUR & SONS, 127, High Holborn, or 149, Regent Street, London, will receive prompt attention.

Their newly-arranged CATALOGUE of other Improved Hives with Drawings and Prices, sent on receipt of two stamps.

AGENTS.—Liverpool: JAMES CUTHBERT, 12, Clayton Square. Manchester: W. WILSON, 50, King Street. Glasgow: AUSTIN & M'ASLEN, 186, Trongate. Dublin: J. EDMONDSON & Co., 61, Dame Street.

HOTHOUSES, CONSERVATORIES, FRAMES & LIGHTS OR PITS, CUCUMBER & MELON BOXES & LIGHTS.

JAMES WATTS, HOTHOUSE BUILDER, 8, Claremont Place, Old Kent Road, London.

Green and Hothouses, 9, 10, 11, 12, 13, and 14 feet wide, any length, from 16 to 100 feet. Frames and Lights for Pits, 6ft. 6in., 7 ft., 7 ft. 6 in., 8 ft., and 8 ft. 6 in. wide, any length, from 12 to 100 feet. Upwards of 200 Cucumber and Melon Boxes and Lights, from 4 ft. by 3 to 10 ft. 6 in. by 5 ft. 6 in., kept ready, glazed with stout sheet glass, painted four times, complete, ready for immediate use, all made of best material, packed and sent to all parts of the kingdom.—References may be had to the Nobility, Gentry, and the Trade in most of the counties in England. Horticultural Buildings of every description heated on the most approved and economical principles.

WARNER'S SWING WATER-BARROW (TO HOLD FORTY GALLONS). MOUNTED ON WHEELS 20 INCHES HIGH. Will save much of the Gardener's time and labour. May be obtained of any Ironmonger for 3*l.* 3*s.*

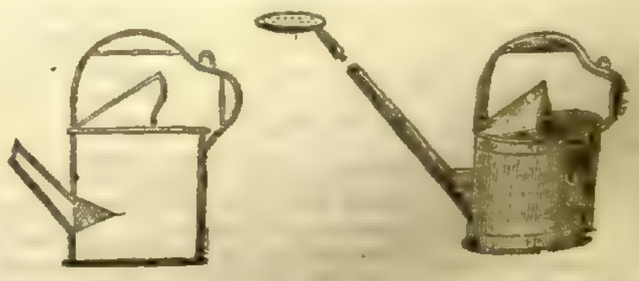
BRASS SYRINGES, 9*s.* to 18*s.*

Also a great variety of effective Machines for Hydraulic purposes, and to supply Gardens, Hothouses, Cottages, Farms, Mansions, or Boards of Health, with every requisite connected with the conveyance and distribution of Liquids.

Fountains suitable for Conservatories, Lawns, &c.

JOHN WARNER & SONS, 8, Crescent, Jewin Street, London.

THE SIR JOSEPH PAXTON PATENT FILTERING WATERING POT.—Instead of this Watering Pot



having the nozzle or rose merely slipped on, as in the old way it is affixed by a thread-screw, so that it cannot fall off; and the spout is not liable to leak, break, or bend.

The section shows the interior, in which is a cone for the purpose of filtration. As the perforations in this cone are only half the size of the holes in the rose it is impossible for the spout to choke up. These simple improvements render the "Sir Joseph Paxton" Watering Can the best yet introduced.

To be had of all respectable Ironmongers, and Wholesale only of

Messrs. B. PERKINS & SON,
2 and 3, Bell Court, Cannon Street, E.C.

## GRASS SEEDS FOR ALL SOILS.

# SUTTON'S GRASS SEEDS FOR PERMANENT PASTURES, PARKS, CEMETERIES, ETC.

SUTTON AND SONS have yet on hand some of every kind of Grass Seeds as offered in their Priced Lists, and in former advertisements. Prices moderate according to quantities and sorts required by the soil.

## MANGEL WURZEL SEED FROM LARGE BULBS.

THE great celebrity of "SUTTON'S Mangel Wurzel" is the result of saving seed only from large picked roots of good shape and solidity. Price 9d. per lb. or cheaper by the cwt. HOLCUS SACCHARATUS (or Sorghum) at reduced price, according to quantity required.

## TURNIP SEEDS FROM SELECTED BULBS.

SUTTON AND SONS having for many years tested the comparative merits of all the known varieties of Turnips and Swedes, and selected the best for m... have introduced several new kinds which are generally allowed to be superior to all others. SUTTON'S "Champion Swede," "Improved White Swede," SUTT... 'Green-top Hybrid," "Purple-top Hybrid," "Lincolnshire Red Globe," and "Yellow Tankard," are particularly recommended. Many other good sorts are kept stock, all of home growth and new seed. Prices varying from 6*d.* to 1*s.* per lb.

*Priced Lists post free. Goods delivered Carriage Free to all parts. Five per cent discount allowed for Cash Payment.*

**ROYAL BERKSHIRE SEED ESTABLISHMENT, READING, May 1859.**

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**GERMAN AND OTHER FLOWER SEEDS, VEGETABLE, AGRICULTURAL SEEDS, ETC.**

MESSRS. PARKER AND WILLIAMS beg to inform their friends and patrons that their new PRICED and DESCRIPTIVE CATALOGUE in which is enumerated every novelty of proved merit, also all the best of the older kinds, is now published, and will be forwarded post free on application. Their whole stock has been selected from the best English and Foreign sources, and every kind is warranted true to name, and of the finest possible quality.—Paradise Nursery, Seven Sisters and Hornsey Roads, Holloway, London.

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CHEAP BEDDING PLANTS, 2*s.* 6*d.* per dozen.—Apply for Catalogues, enclosing two stamps, to J. SCOTT, Merriott Nurseries, Crewkerne, Somerset.

The Catalogue comprises everything suitable for Flower Garden decoration, and full descriptions of J. S.'s unrivalled collection of new DOUBLE PETUNIAS, now ready for delivery, at 6*s.*, 9*s.*, and 12*s.* per dozen. Fine new single sorts, 2*s.* 6*d.* to 3*s.* 6*d.* per dozen; Magna coccinea, the most splendid of all Bedding Petunias, 5 inches across, beautiful light crimson, 3*s.* 6*d.* per dozen.

LEPTODACTYLON CALIFORNICUM, in quantity; also PHLOX CRITERION, two lovely Bedding Plants.

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JOHN CULVERWELL, Taunton, begs to call the attention of Agriculturists to his superior selection of GRASS SEEDS, which for PURITY, change of SOIL, and CLIMATE, will bear comparison with any house in the kingdom. Prices, terms, and samples forwarded on application.

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**NATURAL GRASS SEEDS.**

PETER LAWSON AND SON, THE QUEEN'S SEEDSMEN, can supply genuine Seed of all the valuable kinds of the NATURAL GRASSES suitable for Lowland and Upland Pastures; also for Laying-down Lawns, Bowling Greens, Cricket Grounds, Cemeteries, Railway Banks, &c.

PRICED LISTS may be had free on application.—PETER LAWSON & SON, 27, Great George Street, Westminster.

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**"JACK OF NEWBURY" SWEDE, ETC.**

PETER LAWSON AND SON, THE QUEEN'S SEEDSMEN, &c., 27, Great George Street, Westminster, respectfully request attention to their very genuine Stock of the above excellent Swede; also of the LOTHIAN PURPLE-TOP SWEDE, both of which have been selected with the greatest care. They have also a very fine Stock of the KOHL RABI, or TURNIP-ROOTED CABBAGE, specimens of which were shown at their Stands at Smithfield Club Show. The Kohl Rabi was largely grown last season, and may now be relied on as a substitute for the Turnip and Mangel, where these roots do not succeed, or for filling up blanks where there is a partial failure. Its feeding qualities, hardiness, and weight per acre are equal to the Swede, and all kinds of stock prefer it to other roots.

P. L. & SON have also selected a first-rate Stock of MANGEL WURZEL SEED, which they can confidently recommend. Their natural GRASS SEEDS have been also saved with very great care, and they are ready to supply them separately or in mixture, for laying down Permanent Pastures, Lawns, &c.

P. L. & SON have arranged to deliver Seeds free throughout England and Wales from their London Establishment, for all quantities exceeding 20*s.* in value.

LISTS OF PRICES of the above and all other Seeds, Plants, &c., may be had on application.

27, Great George Street, Westminster.

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AMBROISE VERSCHAFFELT, NURSERYMAN, Ghent (Belgium), will now send out the following NEW PLANTS:—

| | *s.* | *d.* |
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| BEGONIA LEOPOLDII, one of the finest Begonias yet sent out .. .. .. .. .. .. .. | 3 | 0 |
| TYDÆA PRINCESS TROUBETZKOY } | | |
| ,, GRANDIS .. .. .. } three splendid hybrids; the set | 16 | 0 |
| ,, SANGUINEA .. .. .. } | | |
| TORENIA PULCHERRIMA .. .. .. .. .. | 2 | 6 |
| CLEMATIS SOPHIA FLORE PLENO .. .. .. | 3 | 0 |
| LYCHNIS HAAGEANA .. .. .. .. .. | 4 | 0 |

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**CARNATIONS AND PICOTEES.**

YOUELL AND CO.'S COLLECTION of the above deservedly favourites is probably the most extensive in the Trade, and having for a series of years paid special attention to their cultivation, introducing the best of the newest varieties, they are enabled to offer them at the following prices for fine, strong, well rooted plants.

CARNATIONS, finest first class show varieties by name, 18*s.* and 24*s.* per dozen pairs.

PICOTEES, finest first class show varieties by name, 18*s.* and 24*s.* per dozen pairs.

Ditto, on yellow grounds, 20*s.* and 30*s.* per dozen pairs.

Finest mixed BORDER CARNATIONS & PICOTEES, 9*s.* ditto

True old CLOVE CARNATION, 12*s.* per dozen pairs.

Scarlet ditto ditto, 18*s.* ditto

PINKS.—The finest first class show Pinks, by name, 9*s.* per doz.

Fine mixed border PINKS, 6*s.* per dozen pairs.

YOUELL & Co., Royal Nursery, Great Yarmouth, Norfolk.

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**NOW SENDING OUT—NEW FUCHSIA,**

# "LORD CLYDE" (YOUELL'S).

For particulars see Advertisements of last and previous *Gardeners' Chronicle.*

**Strong Plants, 10s. 6d. Each.**

**YOUELL & Co.'S ROYAL NURSERY, GREAT YARMOUTH.**

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## CHOICE FLOWERS.

# BUTLER & McCULLOCH'S SPRING CATALOGUE OF SEEDS,

ESTABLISHED UPWARDS OF A CENTURY

ARRANGED on a new and original plan, with copious Descriptive and Cultural Notes and containing many new and rare species and varieties not found in any other Catalogue, now ready and may be had free and post paid on application.

FLOWER, SHRUB, TREE, and VEGETABLE SEEDS, the crop of 1858, saved with the greatest care, by the most eminent growers.

We may also state that the Sardinian correspondent of Messrs. JAMES CARTER & Co., whose Seeds, especially Carnations and Picotees, have given such universal satisfaction, has transferred the Agency from that firm and appointed us his representative in this country. To meet the growing demand for first class flowers, particularly FLORISTS' FLOWERS, we have adopted our usual maxim of charging the lowest possible prices.

Professor LINDLEY in the *Gardeners' Chronicle* of February 5th, has the following notice of B. & McC.'s Catalogue.

"BUTLER & MCCULLOCH'S (Covent Garden) Spring Catalogue of Choice Flower, Shrub, Tree, and Vegetable Seeds. This ... fills 84 closely printed 8vo pages, and is remarkably well got up. It appears that the correspondent in Sardinia, who ... merly supplied one of the great London houses with seeds raised in that warm part of Europe, has now transferred ... he saves to Messrs. BUTLER & MCCULLOCH. Let us add, that it yields to no Trade List in the abundance of its materials or the excellence of its arrangements."

---

BUTLER AND MCCULLOCH, while drawing attention to their general SPRING CATALOGUE which has elicited such high encomiums both from the scientific botanist and amateur cultivator, avail themselves of the present opportunity to select from its pages the following list:—

(37) ACACIA LONGIFOLIA (magnifica).
One of the most splendid Acacias in cultivation, with gorgeous clusters of bright yellow flowers several inches in length; very hardy, rare, and beautiful. Of these graceful and highly ornamental plants our collection embraces no fewer than 47 varieties, all of the most decorative character.

(65) AILANTUS GLANDULOSA.
This may be compared to a gigantic Stag's-horn Sumach. It grows fast even on thin poor soil, is invaluable for avenues, and highly ornamental in shrubberies; sometimes called Tree of Heaven.

ALPINES.
Of these beautiful little plants we have a splendid collection, embracing all the most admired kinds, collected and arranged for us last autumn by M. Ortgies, the Curator of the Zurich Botanic Gardens. The value of Alpine plants for rock-work is too well known to require comment. These collections we can confidently recommend, containing, as they do, species only of highest merit.

(199) CALLICHROA PEDATA.
A new crimson annual with white eye, very beautiful.

(217 A.) CAMELLIA JAPONICA.
From the newest and finest striped and other varieties of that much admired genus.

(243) CANNA INDICA SUPERBA.
A magnificent plant flowering all the winter; leaves large, fine green. Of this picturesque and most ornamental genus we have a magnificent collection, consisting of 28 kinds, all remarkable both for the beauty of their flowers and foliage.

(304) CELOSIA (species nova).
A most elegant plant, producing a multitude of long spikes of feathery blossoms, silvery white shaded with bright rose, retaining its colour perfectly when dried, and therefore admirably adapted for winter bouquets; one of the greatest novelties of the season, flowering out of doors or in pots from July to October. Well worth attention. A dried specimen may be seen.

(337) CHRYSANTHEMUM (indicum and nanum).
Of these dwarf and tall varieties we have a fine stock, nearly all of which may be depended upon to produce double flowers, the seeds having been saved from the finest named varieties. We have a splendid collection, embracing all that is new or rare in that fine class of plants.

(344) CHRYSOCOMA COMAUREA.
Fine evergreen shrub, bearing a profusion of golden ball-like flowers; one of the handsomest greenhouse plants in cultivation.

(451) DATURA HUMILIS FLORE PLENO.
A magnificent Brugmansia-like plant producing a profusion of deep golden-yellow flowers; very large, double, and sweet scented. One of the greatest novelties of the season.

(680 to 688) HOLCUS OR SORGHUM (Chinese Sugar Cane).
Of this important class we have nine new and improved varieties from Africa, said to be more ornamental and to contain more saccharine matter, Holcus saccharatus.

(972) PELARGONIUMS.
Of these both large flowered and fancy, very choice, and other splendid varieties, including Scarlets, we have a fine stock, which cannot fail to prove highly satisfactory.

(1149) SOLANUM CAPSICASTRUM.
Miniature Orange tree, covered all winter with a profusion of scarlet fruit; a handsome plant for greenhouse or sitting rooms.

(1335) BIGNONIA RADICANS MULTIFLORA.
Finer and brighter than radicans; flowers in large panicles producing a splendid effect.

(1380) IPOMŒA HYBRIDA MARGINATA.
Large and magnificent; flowers of various colours on the same plant, varying from the richest velvety purple to sky-blue, bordered in the most distinct manner with pure white (new and rare). This and three new varieties of Hederacea grandiflora far surpass the old and deservedly favourite ... cœrulea for beauty, hardiness, and free flowering; they ... high amongst the novelties of the season, possessing advantages which will render them the grandest ornaments for ... greenhouse, conservatory, or for out-door decoration.

(1468) TACSONIA IGNEA.
This magnificent Passionflower is unequalled for the ... liancy and splendour of its scarlet blossoms, far surpassing in this respect any of its class yet known. It flowers ... profusely, grows rapidly, and covers a large space in ... incredibly short time. It succeeds in a cold greenhouse, ... even against a south wall with a little protection in winter (new and rare).

(1488) TROPÆOLUM TRIOMPHE DE GAND FIMBRIATUM.
Fringed orange scarlet.

CARNATIONS and PICOTEES saved from the most choice Collection of English varieties grown on the continent, and which may be expected to produce flowers of the highest merit, sent out in sealed packets as received from our Sardinian correspondent, whose seeds for many years have given such universal satisfaction, and from which varieties of the greatest excellence have been raised.

For prices and further particulars with regard to the above and other novelties, we refer our patrons to the Catalogue itself, which is sent free and post paid on application.

---

**BUTLER & McCULLOCH, Covent Garden Market.**

**TWO HUNDRED GUINEAS IN EIGHT PRIZES.**

FOR FOUR YEARS SUCCESSIVELY HIS ROYAL HIGHNESS THE PRINCE CONSORT'S PRIZE CUPS HAVE BEEN AWARDED TO SUTTON'S CHAMPION SWEDES at the East Bucks and South Bucks Agricultural Societies in 1855, 1856, 1857, and 1858. New Seed now ready, 1s. per lb., or 10s. per bushel, carriage free.

Royal Berkshire Seed Establishment, Reading.

**SPRING CATALOGUE.**

MESSRS. ARTHUR HENDERSON AND CO.'S CATALOGUE OF SOFT-WOODED PLANTS (including all the leading useful novelties for this year), can now be had of them post free, on application.

Pine-apple Place, Edgware Road, London, W.

**ROYAL SOUTH HANTS SEED ESTABLISHMENT,**

UNDER THE PATRONAGE OF H.R.H. THE PRINCE CONSORT, THE AGRICULTURAL SOCIETY OF INDIA, AND THE LEADING AGRICULTURISTS OF THE UNITED KINGDOM.

PAGE AND TOOGOOD'S STOCKS have produced the finest specimens exhibited at Smithfield, and are so well known and appreciated that comment on their part is unnecessary. Their prices compete with any house in the trade.

PRESENT PRICES, Carriage Free to all parts of England :—

| | Per lb.—s. d. | | Per lb.—s. d. |
|---|---|---|---|
| Skirving's Swede | 0 6 | Hardy Green Round | 0 6 |
| Page's Improved | 0 8 | Early Six Weeks | 0 6 |
| Ashcroft | 0 6 | Kohl Rabi | 2 6 |
| Greentop | 0 6 | Yellow Globe Mangel | 0 6 |
| Sussex, or Jeffery's | 0 9 | Page's Impl. Orange Globe* | 0 8 |
| Tankard | 0 7 | Red Globe | 0 7 |
| Red Round Turnip | 0 6 | Elvetham Long Red | 0 6 |
| Page's Improved Red Globe | 0 8 | Long Red | 0 6 |
| Scotch or Bullock | 0 7 | Long Yellow | 0 7 |
| Pomeranian White Globe | 0 6 | White Belgian Carrot | 1 0 |
| Early Green Globe | 0 6 | New Red | 1 3 |
| " White Tankard | 0 7 | Long Altringham | 1 3 |
| Red Tankard | 0 7 | Cattle Cabbage | 2 6 |
| Green ditto | 0 7 | Cattle Parsnip | 1 0 |
| Yellow ditto | 0 7 | Dwarf Essex Rape | 0 4 |

* Bulbs of this variety have acquired the enormous weight of 44 lbs., as shown at Smithfield Club.

BUCKWHEAT, MUSTARD, LINSEED, TARES, SAINFOIN, HOLCUS SACCHARATUS, 1s. per lb.

Fine PERMANENT PASTURE GRASS, ITALIAN RYE-GRASS, CLOVER, &c., at lowest market prices.

Special contracts for large quantities. Seeds packed for exportation to all parts of the world.

Oxford Street and Above Bar, Southampton.

**SPLENDID NEW BEGONIAS.**

JAMES VEITCH, JUN., has much pleasure in having to offer the two following most beautiful and really distinct BEGONIAS. They have been placed in his hands for distribution in England, by Mr. J. LINDEN, of Brussels. Plants are now ready for delivery.

BEGONIA "QUEEN VICTORIA."—The foliage of this lovely species is most distinct and remarkable. The leaves are of medium size, their ground colour being a greenish brown, beautifully marked and spangled with silver, large bands of the same colour running between the principal nerves.

BEGONIA ARGENTEA.—This is certainly one of the most distinct and beautiful Begonias ever introduced. The leaves have almost the appearance of being silvered over, their upper surface being studded with faint green points, whilst the principal nerves, which radiate from the centre of each leaf, are of a pale straw colour.

BEGONIA AMABILIS (LINDEN).—New and very beautiful.

J. V., JUN., can with every confidence recommend these desirable novelties, feeling sure that their great beauty and distinctness will be appreciated by all lovers of fine stove plants. Price if taken separately 21s. each, or one plant of each of the three species for 50s. The usual allowance to the trade.

All the other new Plants offered in M. LINDEN'S Catalogue, can also be supplied at the published prices.

Royal Exotic Nurseries, Chelsea, S.W.—April 30.

**BOX EDGING.**

MR. JAMES VEITCH, JUN., of the Royal Exotic Nursery, Chelsea, S.W., being again in want of two or three thousand yards of BOX EDGING, will be glad to receive offers stating quantity and price from such persons as have any to part with. It must be dwarf and good, and warranted to plant at least 3 yards for 1. The terms to include delivery into a Railway truck at the nearest station. To expedite the transaction, parties replying to this advertisement may send 1 yard as sample, carriage paid to London, to be forwarded by Parcels Delivery.—April 30.

**NEW CHRYSANTHEMUMS.**

JOHN SALTER begs to announce that his SPRING CATALOGUE is now published, in which his splendid SEEDLINGS and other new CHRYSANTHEMUMS of 1859 are fully described, as well as the unrivalled general collection, which is the largest in Europe.—Strong plants of "Golden Queen of England," "Prince Albert," and every other variety, will be ready in the course of the month.—Versailles Nursery, William Street, near Hammersmith Turnpike, W.

**CHRYSANTHEMUMS—CHRYSANTHEMUMS.**

J. H. BIRD, F.H.S., NURSERYMAN, Stoke Newington, the largest grower and most successful exhibitor of the Chrysanthemum in the British Empire, begs to call the attention of the lovers of the above beautiful autumn flower to his matchless collection, the stock of which amounts to upwards of 50,000 plants.

J. H. B. can supply strong plants, one dozen for 6s.; or five dozen in 30 varieties, containing two of each variety, for 1l.; or he can supply 100 plants in 50 varieties, two of each variety, for 1l. 10s. Also POMPONES in great variety; 50 Pompones in 25 varieties, two of each variety, for 10s.; or 100 in 50 varieties, two of each variety for 1l. Strong plants of the beautiful new Pompone the Golden Cedo Nulli, 5s. each, are now ready, with the usual allowance to the Trade. Every order will be accompanied by a popular work on the Chrysanthemum.

Post-office Orders payable to J. H. BIRD, Stoke Newington, will be immediately attended to. Catalogues on application.

**PLANTS IN FLOWER.**

F. AND A. SMITH have now in bloom Acacia, Cactus (fine), Cytisus; Erica ventricosa coccinea minor, v. superbiens, v. breviflora, E. intermedia, E Cavendishi, E. hybrida, E. perspicua nana; Fuchsias, Calceolarias, Heliotrope, Hydrangea, Geraniums, Fairy Roses, &c.

The above are healthy, strong, and well-grown plants, prepared for sending away. Prices on application.

Dulwich, Surrey, S.

**SUPERB DOUBLE BALSAMS.**

F. AND A. SMITH are now sending out seed of their superb BALSAMS, which are unrivalled for size, form, brillancy of colour, doubleness of flower, and habit of plant.

| | |
|---|---|
| In collections of nine separate colours | 2s. 6d. |
| " " mixed " | 2 0 |
| " " " half quantity | 1 0 |

The above are *genuine only* in our sealed packets, and may be had of most respectable Nurserymen and Seedmen in the United Kingdom.—Dulwich, Surrey, S.

**VERBENA EMPRESS OF INDIA.**

WILLIAM WHITE begs to offer the above, which he strongly recommends as a bedding variety. It was exhibited at the National Floricultural Society, Sept. 1858, and their report is, "Judging from the flowers only, it was considered to be a very showy bedding variety, the vivid crimson scarlet and the fine yellow eye making it appear very conspicuous." In order that it may be extensively planted the first season W. W. has decided on offering it at a cheap rate. Single plants, 2s. 6d.; per dozen, 18s. The usual discount to the Trade.—Thorpe Nursery, near Norwich.

SPLENDID BEDDING PLANT,

**TRITONIA AUREA,**

**THE GOLDEN TRITONIA.**

LUCOMBE, PINCE, AND Co. having a very large stock of this most beautiful hardy bulb can offer it well established in pots, fit for immediate planting out, at the undermentioned exceedingly moderate prices.

Nothing can surpass the brilliancy of its rich golden orange-coloured flowers, which are produced in the greatest profusion upon graceful slender stems, and stand unblemished the heaviest showers and most fervent sun. They strongly recommend the Golden Tritonia as one of the most effective plants for masses ever introduced. It cannot fail to give satisfaction; indeed, as that excellent authority Donald Beaton truly remarks in the "Cottage Gardener" "IT IS ESTABLISHED AS A FIRST-RATE AUTUMNAL ORNAMENT TO THE FLOWER GARDEN." It is also perfectly hardy.

| | | | |
|---|---|---|---|
| 100 Strong Bulbs | £3 0s. 0d | 25 Strong Bulbs | £1 0s. 0d. |
| 50 do. do. | 1 15 0 | 12 do. do. | 0 12 0 |
| Single Bulbs | | | 1s. 6d. each. |

Exeter Nursery, Exeter. Established 1720.


# The Gardeners' Chronicle.

*SATURDAY, APRIL* 30, 1859.

MEETINGS FOR THE FOLLOWING WEEK.

MONDAY, May 2—Entomological ..... 8 P.M.
THURSDAY, — 5—Linnean ..... 8 P.M.

WE lately took occasion in an article upon a species of Acarus infesting Orchid plants, to allude to the remarkable analogy existing between some of the lower forms of vegetables such as mould and fungi, and some of the minute tribes of insects, such as mites, lice, &c., which are occasionally developed in extraordinary numbers in places where they have never been seen before, and where no one would have ever expected them to occur. That the powers of propagation of these minute animals must be extraordinarily great, when a congenial position is met with, is beyond a doubt; and, indeed, like the Aphides, they, or at least the most common of them, the mite of cheese, have been ascertained to be viviparous at certain seasons of the year. That their eggs at other times must possess a vast power of resistance, so as to retard their development for long periods until they are brought into situations suitable to the welfare of the young animal when hatched, would also seem necessary, and it is apparently on such a supposition that the development of these creatures in certain situations must often be accounted for.

We have been led to make these observations in consequence of a remarkable circumstance which has recently occurred at Colchester, of which the particulars are detailed in the following extract from the *Ipswich Express*:—

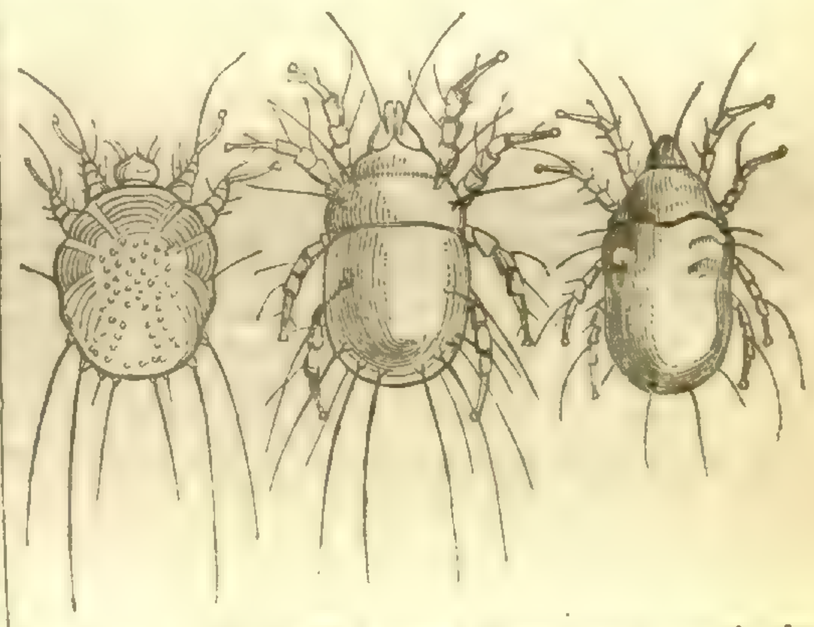
"A FACT FOR ENTOMOLOGISTS.—During the past week various reports of a strange nature have been current respecting a curious fact in connection with St. Peter's Church, Colchester. The good folks of the parish have been shocked from their propriety by a report that St. Peter's was swarming with vermin, and rumour with her thousand tongues magnified the disagreeable fact until it attained the proportions of one of the plagues of Egypt. We have inquired into the matter and find that the church is certainly infested with myriads of extremely minute insects, which our local entomologists have been unable yet to classify, and for whose origin they can only assign the hypothesis of spontaneous generation. The insects are infinitesimal, and when subjected to a powerful microscope seem to have an organisation similar to the common beetle. As they swarm on the pews they resemble particles of fine dust. It is only on close examination that their vitality can be ascertained. Dr. Becker and others are of opinion that they resemble those connected with cutaneous diseases—like the tick in sheep, and that other, unknown to cars polite, the itch insect, with which our Scotch neighbours are popularly supposed to be fully acquainted; but the *savans* have not arrived at any satisfactory conclusions. It is surmised that they proceeded from the vaults underneath the church, which were opened when the recent alterations were carried out, and that they have been generated from the corruption of the crumbling remains, or from the malaria arising therefrom. It is now under consideration to remove all the new pews and fittings, and cover the floor with a layer of asphalte or concrete, as well as to fumigate the building, in order to get rid of the disagreeable visitants. Divine service is at present suspended, and the congregation will in future meet at St. Mary-at-the-Walls on Sunday evenings."

We have also been furnished with the following particulars from the architect employed in the alterations lately made in the church:—

"These insects did not appear in our church till six weeks after I had completed the works; and it seems as if we should not have seen them then had not a few days of warm weather appeared, for on the colder weather succeeding these warm days, they nearly disappeared. However, as soon as the hot-water apparatus was used to warm the church, they reappeared in swarms upon the *tops of the seats* of the centre of the church and in one aisle, not in the other; on the reading desk, not on the pulpit, though within 3 feet of it. From these partial developments we infer that it cannot be the wood which produces these insects, and we cannot trace them to the earth in any way. In fact, we are fairly puzzled to say what these animals are—how they came, and how to get rid of them. One fact I should mention, viz., that similar insects, though in very small numbers, have been found in a neighbouring church, much to the annoyance of the incumbent, who is immediately going to close the church for cleansing."

We further learn that at the commencement of the present week the insects were more numerous than ever, and that turpentine does not appear to kill them. The Curate moreover writes, "The earth is full of them; they come up and lay eggs in the crevices of the woodwork, and the heat hatches them. I took off the capping of a pew, cleaned it, and applied to it gentle heat—half an hour produced two—cleaned it well again, and in 20 minutes produced 45, and so on for several times, till I saturated it with Benzine Collas, and then no more came out."

Specimens of the insects have been obligingly furnished to us by the architect as well as by Mr. H. T. STAINTON, and we are thus able to state that they are a species of Acarus very closely allied to the cheese mite. They are quite white, furnished with numerous long bristles, especially at the hind part of the body, and



with four pairs of jointed legs also sparingly furnished with shorter hairs. The head is triangular, opening with a longitudinal slit in the middle, within which a pair of short points may be seen at work under a very high power. The general appearance of the insect will be seen in the middle figure in the accompanying illustration: it is shorter and more robust than the cheese and flour mites, and with longer hairs, and its average length is about one-fiftieth of an inch. From the situation in which found, we may propose to name it Acarus (Tyroglyphus) ecclesiasticus.

What however is the origin of these myriads of insects? We are informed of the fact that the vaults underneath the church have been recently opened, but that they have been generated from the corruption of the crumbling remains or from the malaria arising therefrom, is about as philosophical a suggestion as it would be to expect them to be created by electricity or that a chalk egg should produce a chicken. That there might indeed have been a quantity of decaying wood and dust in the vaults is probable, and this will perhaps enable us to solve the question, aided by an inquiry into the habits of various closely allied species. Acarus setosus occurs in houses and stables, in dust and old straw; A. farinæ in old flour; A. hyalinus and cubicularius in dust, and in bran and Wheat dust, in stables and barns: but on the other hand Acarus domesticus (or Siro) abounds in badly made cheese; A. lactis in dirty vessels where cream is kept; A. destructor does much damage in ill kept collections of insects; and A. bicaudatus was found,

in myriads in the plumes and skin of an African ostrich which died at the Jardin des Plantes.

Hence we may fairly consider either that these insects were developed in the straw and dust of the vaults, or even upon the dead bodies within; or supposing the church or pews to have been plentifully furnished with old matting, they may not even have travelled so far as from the vaults.

We may quiet the alarm of the parishioners, as they are doubtless entirely harmless to living bodies of man, being quite distinct from the Acarus Scabiei, of which a figure is added on the left side of our cut; whilst in order to show their similarity to the cheese mite, a representation of that insect is also given on the right side.

We would recommend for the destruction of these insects the fumigation of the church with brimstone and the washing of the seats and divisions of the pews with hot water and soft soap, and gas-tar water, with a subsequent rubbing with oil. *W.*

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THE Paris *Société d'Acclimatation* has awarded to Mr. FORTUNE one of their first-class medals in consideration of his having introduced to England so many useful and beautiful plants.

—— M. CARRIÈRE states that he has succeeded in grafting GARRYA ELLIPTICA on Aucuba japonica. He employs ordinary cleft grafting, keeps his plants in a propagating-house under a close hand-glass until the scions have taken, works very low so as to give the scion a chance of rooting into the soil, and in two months the grafts are safe. By gradually hardening his plants, daily syringing, and shading them carefully, he gets by the end of the year much better plants than from cuttings.

—— A French Gardener, named BUTTÉ, reports his having healed a very bad cut with the leaves of VALERIAN (probably V. officinalis). He says that having accidentally made a gash in his left hand below the thumb and having no means of preventing the lips of the wound from gaping, he applied about 15 leaves to the cut, and in a week it was healed. To prepare the leaves shave the midrib close down on the under side, slap them two or three times on the knee or between the hands, and apply their under side to the wound.

—— The famous OAK OF AUTRAGE has been cut down and sold to the carpenter; an Oak that dates from at least the reign of King Pepin le Bref, or as some think from the days of the Druids. From some notices in the Flore des Serres we learn that this forest patriarch grew at a place called Autrage-Eschêne, near Belfort on the Lower Rhine, that it was 5 yards in diameter, and nearly 15 yards round at the ground level. One of its limbs was 5 yards in girth, and another 3 yards and a half. The hollow of the trunk was nearly 2 yards across. Assuredly this must have been one of the noblest trees in Europe, and yet, as our able contemporary observes, there was not a man in all enlightened Alsace with public spirit enough to save the old monarch from firewood for the honour of his province. Not one rich Alsacien could be found who would follow the example of a poor parish priest in the department of the Aube, which statisticians class among the most stand-still parts of the south of France. There, says M. NAUDIN, I have seen the tree which Father L'HUILLIER saved from the Vandals of the Revolution who wanted to cut it down. It was an Elm, still in full health and vigour, whose trunk measured next the ground 35 feet in circumference, and 24 feet a yard above the ground. The tree still stands in the village of Rouvenac, near the little town of Limoux. The good priest bought the tree and bequeathed it to his *commune* upon condition that it should be allowed to die a natural death. All honour to good old Father L'HUILLIER!

—— M. DUBREUIL recommends training the PEACH TREE so as to form spurs instead of laying in the wood in the usual way. This is done by repeatedly pinching the young laterals. There is a long account of the method in the *Revue Horticole*.

—— A NEW PEA has been introduced from China into France; the produce of the plant called Soja hispida, the common Chinese Soy Bean. This kind of Pulse is said to do very well on poor sandy Rye land near Paris, and to possess the following good qualities. Sowed in the middle of April it is ripe in the middle of October. The Beans contain, according to M. LOUIS VILMORIN, whose accuracy is unimpeachable, as much as 21 per cent. of oil. They are also made into an excellent cheese if boiled and pounded in a mortar. A white liquid is the result, which easily sets when pressed; the paste so obtained, with the addition of a little salt, is afterwards forced into moulds. We fear this Pea will be too tender for England; but it deserves a trial, and if it should ripen we may make our own "Soy."

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IT is not surprising that the common Araucaria which is now so widely distributed in England, and subjected to every variety of soil and treatment, should not flourish equally in every locality. Frequently the roots are so cramped for two or three years in pots, that the trees when planted out can never make any healthy growth; the soil or situation are from the first altogether ungenial; and we have seen instances in which the plants have failed, from the roots being attacked by mycelium from decayed matter in the ground. Independently of such causes, there is, however, frequently a more or less disastrous affection to which the plant is subject, the cause of which at present has not met with a satisfactory solution. The beauty of the foliage indeed is often defaced by a partial perishing of the leaves, while the base remains perfectly healthy. This we believe is the effect of cold during some period of growth, and therefore does not admit of remedy. The affection, however, which we have especially in view is very different. The tips of the branches acquire an unhealthy yellow tinge, the leaves and ultimately the shoots themselves pour out resin in greater or less abundance; and after a time the whole separates like a gangrened limb. The yellow tinge is not indeed always apparent. We have seen instances in which death takes place so rapidly as not to be preceded by the previous chlorosis, but the ultimate effect is essentially the same.

The disease then very closely resembles the well-known gumming of Apricots, but it does not seem to arise like that from unfavourable conditions of climate. Certainly it is no direct effect of cold, for it is not the tenderest tips which give way, which would be the case if frost were the agent. It should seem rather to be something inherent either in the soil or in the individual constitution, and if so it is either irremediable or it would require long experience and multiplied observations to arrive at any just conclusion. It would however be interesting if persons who cultivate the Araucaria largely would record the peculiar circumstances under which the disease arises, and under which in the same locality the plant is exempt. A record of isolated facts is comparatively of little use in such inquiries. *M. J. B.*

## THE GORILLA.

HAVING treated somewhat largely on the habits of the monkey-family in the 3d Series of Essays in Natural History, and having given a lesson of prudence to my reviewer in "Fraser's Magazine," in the Introduction to a second edition of that Series, I will now venture a remark or two on the given habits of an ape, huge, black, and calculating, the skin of which is said to have been imported into England from the far-distant shores of Western Africa. It is named Gorilla.

The public prints have lately been replete with its astounding endowments. It walks constantly on its hind feet. It carries ivory until it drops down, and even dies from fatigue. It builds huts nearly in the shape of those of men, but lives on the outside of them! Nothing can exceed its ferocity. With one blow of its paw it can kill a man. It supports its dead young in its arms until the carcass drops in pieces. When a man is passing under a tree on which the Gorilla is lying in ambush, such is its giant strength and dexterity that it will seize the man's head with its terrible hind foot, furnished with an enormous thumb, grasp its victim round the throat, lift him from the earth, and finally drop him on the ground dead. I would willingly travel "over all Lombardy without money, and through the flinty roads of Savoy without shoes," to witness such a sight as this. The whole account of this Gorilla appears to me as a fabrication of some facetious knave for his own amusement.

Apes are stronger in their arms, if anything, than in their legs. Their arms act as pioneers. They secure their food, and help the animals on surprisingly in their journeys through the trees. The legs, if we may judge by their form and connection with the body, are given to them by Nature more for steadiness than for aggression. Supposing for a moment that a Gorilla could really seize a man by the throat with its hind foot, and lift him from the ground as described above, why the enormous weight of a man's body struggling and dangling from that foot would instantly throw the ape out of its equilibrium (having only three limbs to support its body on the branch), and immediately bring both the man and his tormentor to the ground. The claws of apes are not retractile like those of cats. Having no muscles to work them, they are as useless in the act of grasping as those of a dog. An ape with only three limbs at its disposal could no more lift up a man with the fourth limb, and still retain its position on the branch, than I myself could carry a dromedary on my back.

Bequeathing these stupendous performances of the Gorilla to my old grandmother's library, I will now attempt to place the Gorilla on a proper footing—taking analogy for my guide. Some time ago I had a most favourable opportunity of inspecting the great orang-outang in the London Zoological Gardens (see 3d Series of Essays in Natural History, 2d edition), and through the kindness of Mrs. Wombwell's family I now possess two of the smaller orang-outangs or chimpanzees; and I played with them many an hour before they died. See same Essays.

Supposing then that a living Gorilla were to make its appearance amongst us, my life on it, if its economy would not be pretty nearly as follows. We should recognise in its habits and disposition a very close resemblance to those of the late huge red orang-outang. It would be gentle in its deportment, an abstainer from carnal food, amusing in its frolics, a quadruped in position, and a beast in propensity. By its name I should fancy that the Gorilla must be known to the Portuguese inhabitants of Western Africa.

In the Museum at Brussels, just as you enter, you will see on the right hand a vast collection of stuffed monkeys. Amongst them you will observe a large red orang-outang, and a black one of similar dimensions. This last I take to be a Gorilla, but possibly I may err. I will place its identity beyond doubt in my next visit to the Belgian capital. *Charles Waterton, Walton Hall, April* 23.

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## ABRIDGED DESCRIPTIONS OF PEARS ACKNOWLEDGED TO BE GOOD.

By CHARLES BALTET, Troyes. (Condensed from *Les Bonnes Poires, leur description abrégée, et la manière de les cultiver.* Troyes, 1859.)

THIS monograph is stated to contain descriptions of the best sorts of Pears, as proved at Troyes, in the department of Aube, about 86 miles south-east of Paris, in a direct line. As many of the kinds are new and but little known in this country, and as information respecting them is much required, the list of varieties as it is arranged by the author may prove acceptable. It exhibits what are considered the best sorts, in the order of their becoming fit for use, and this is an important point to know. Those marked thus * are considered second-rate, but good for orchards.

JULY.
Doyenné de Juillet
Citron des Carmes

JULY—AUGUST.
Epargne (Jargonelle)
Beurré Giffard

AUGUST.
Monseigneur des Hons
Poire Pêche
*Des Vergers

AUGUST—SEPTEMBER.
Duchesse de Berry d'Eté
Bergamotte d'Eté
Ravu [chrétien
William (Williams's Bon-
Doyenné Boussoch

SEPTEMBER.
Beurré d'Amanlis
*Beurré Goubault
Bonne des Zees
*Ferdinand de Meester
*Beurré de Nantes
Beurré Superfin
Jalousie de Fontenay
Rousselet de Rheims
Fondante des Bois (Beurré
Doyenné Blanc [Davy)
*Beurré Benoist
Beurré Hardy
Beurré D'Albret

SEPTEMBER—OCTOBER.
*Cumberland
Beurré Dumortier
Beurré d'Angleterre
Seigneur (Espéren)
Frédéric de Wurtemberg
Beurré St. Nicolas

JANUARY—MARCH.
Broom Park
Beurré d'Hardenpont
Chaumontel
Josephine de Malines
Saint Germain
Doyenné d'Hiver
Doyenné d'Alençon

FEBRUARY—APRIL.
*Bon Chrétien de Rans (Beurré
*Suzette de Bavay [Rance)
Colmar de Mars
Prince Albert
Bergamotte Espéren

MARCH—MAY.
Mme. Milet
Fortunée
Catillac
*Beurré Bretonneau
Bon Chrétien d'Hiver
Sarasin

ORNAMENTAL PEARS.
AUGUST—SEPTEMBER.
Beau Présent d'Artois

SEPTEMBER—OCTOBER.
KnightEdward(KingEdward)

OCTOBER.
Van Marum

OCTOBER—NOVEMBER.
Alexandrine Douillard
Colmar d'Aremberg

NOVEMBER.
Forelle

DECEMBER.
Curé (Vicar of Winkfield)
Bon Chrétien d'Espagne

MARCH—MAY.
Colmar Van Mons
Belle Angevine (Uvedale's St. Germain)
Tavernier de Boulogne

SEPTEMBER—OCTOBER.
*Seckel
St. Michel-Archange
Théodore Van Mons
Louise Bonne d'Avranches (Louise Bonne of Jersey)
Beurré d'Apremont (Beurré Bosc)

OCTOBER.
De Tongres
Urbaniste
Duvernoy
Fondante de Charneu
Beurré Curtet (Comte de Lamy)
Beurré Gris
Arbre Courbé
Beurré Capiaumont
Baronne de Mello
Swan's Orange
Howel
Madame Elisa
Marie Louise
Deux Sœurs

OCTOBER—NOVEMBER.
Beurré Bachelier
Doyenné d'Automne
Duchesse d'Angoulême
*Messire Jean
*Sylvange
Nouveau Poiteau
*Délices de Lovenjoul
Napoléon
Soldat Laboureur

NOVEMBER.
Graslin
*Epine Dumas
Beurré Clairgeau
Doyenné du Comice
Van Mons
Doyenné Depais
Crassane
Princesse Charlotte
Doyen Dillen
Délices d'Hardenpont

NOVEMBER—DECEMBER.
Figue d'Alençon
Nec plus Meuris (fruit "Nec bosselé," therefore not the Ne plus Meuris)
Beurré Langelier
Beurré Six
Grand Soleil
Nélis d'Hiver
Comte de Flandre
Columbia
Fondante de Noël
Triomphe de Jodoigne
Beurré Diel

DECEMBER—JANUARY.
Zéphirin Grégoire
Beurré Millet
Beurré Sterkmans
*Martin Sec
Bezi de Saint Vaast
Beurré de Luçon
Beurré d'Aremberg
*Jaminette
Passe Colmar

Some extracts from M. Baltet's descriptions of new or but little known sorts may prove useful.

*Beurré Giffard.*—Fruit middle-sized, pyriform; skin light yellow, striped with bright red, dotted with green.

Flesh fine, soft, melting, with sweet perfumed juice. The tree is very productive, somewhat delicate, and does not live long on the Quince stock. July—August.

*Monseigneur des Hons.*—Fruit below middle size, pyriform, greenish yellow, marbled with red, speckled with nut brown. Flesh tolerably fine grained, melting, juicy, with a musky Rousselet flavour; ripens in succession. The tree is of a fine habit of growth, vigorous, productive, and appears to accommodate itself to any form of training. August. A quite new and good sort raised at Troyes, by M. Gibey-Lorne.

*Raru.*—Fruit middle-sized, turbinate; skin pale yellow, dotted with russet. Flesh fine, melting, sugary, remaining sound when ripe. Tree moderately vigorous and very productive. August—September. A new variety obtained by M. F. Gaillard at Brignais.

*Doyenné Boussoch.*—Fruit large, sometimes very large, oval, truncated, with a regular outline; skin thick, green, dotted with brown, becoming yellow when the fruit is fully ripe, occasionally crimson next the sun. Flesh tolerably smooth, melting and juicy. August—September. The tree is vigorous and productive, but grows rather weakly on the Quince stock.

*William.*—(Williams's Bon Chrétien. This is stated to bear very abundantly at Troyes, but does not like a hot soil and south exposure. It appears however that it is not gathered, as it ought to be, before it parts readily from the tree, for in August the fruit being large, is tied to the branch for support, and is only commenced to be gathered at the end of that month; then it must be disagreeably musky.)

*Beurré Superfin.*—Fruit rather large, obovate, with a swelling at the stalk; skin shining, reddish yellow next the sun. Flesh fine melting, with an abundance of delicious slightly acidulated juice. The tree is vigorous and should not be pruned too short.

*Beurré Hardy.*—Fruit rather large, oblong oval, truncated at the stalk, outline; skin reddish brown, with russet dots. Flesh fine, melting, and aromatic. September. The tree is very vigorous, succeeding in any aspect, and an abundant bearer as a standard on the Pear stock, and as a pyramid or against a wall on the Quince.

*Beurré D'Albret.*—Fruit very large, pyriform; skin Isabella red on a green ground. Flesh fine, buttery, and melting; apt to lose its flavour if the fruit is not gathered before it parts readily from the tree. September. The tree is moderately vigorous, and very productive. It is apt to become weak on the Quince stock, in which case the swelling at the graft may be earthed over, some notches being cut longitudinally in it to facilitate the emission of roots. In this way the tree will be supported by its own roots, and become stronger.

*Beurré Dumortier.*—Fruit middle-sized, roundish oval; skin greenish, becoming yellow towards its period of maturity. Flesh fine, melting, delicious, not apt to give way at the core. September and October. The tree is moderately vigorous and productive.

*Seigneur.*—(Espéren.) Fruit middle-sized, round; skin bright green, changing to yellow, spotted with grey. Flesh fine, melting, and so sugary, that after having tasted several our palates found them sickly. One of the very best Pears. September—October. The tree is of ordinary vigour and very productive, bearing in clusters.

*Baronne de Mello.*—Fruit middle-sized, short turbinate; skin brownish grey, on a green ground colour, which however is little perceptible. Flesh fine, very melting and good. October. The tree is vigorous and fertile.

*Beurré Bachelier.*—Fruit large, oblong-oval, skin green, becoming brighter towards maturity. Flesh fine, melting with an agreeable juice. October—November.

*Duchesse d'Angoulême.*—[M. Baltet states that some amateur members of the *Société d'Horticulture de l'Aube* assured him that this Pear was very good for stewing.]

*Doyenné du Comice.*—Fruit very large, nearly round; skin pale yellow, slightly tinged with carmine, and spotted with light brown. Flesh fine, tender, and melting, with an abundance of rich sugary juice. November. The tree is vigorous and bears abundantly on the Quince stock.

*Beurré Six.*—Fruit large, pyramidal; skin of a uniform green, sprinkled with olive green dots. Flesh very fine and close grained, sea-green under the skin, melting, very juicy and buttery. November—December. The tree is of moderate vigour; but on the Quince stock, in soil not very good, it soon becomes weak. It is suitable for standards, because its fruit is not apt to be blown down. In 1857 we gathered two fruits of this variety which measured 14 inches in circumference and weighed each 26 oz.

*Beurré Millet.*—Fruit small or middle-sized, short, slightly ribbed towards the eye; skin brown, strongly marbled with russet red. Flesh fine, juicy, excellent. December—January. Tree moderately vigorous on the Pear, but weakly on the Quince stock.

*Beurré de Luçon.*—Fruit rather large with a somewhat irregular outline, short ovate; at full maturity the skin, which is gritty beneath, peels off with the hand. Flesh tolerably fine, melting with an agreeable aroma; it is, however, frequently gritty near the core. December—January. Tree moderately vigorous and very productive, but does not take on the Quince stock.

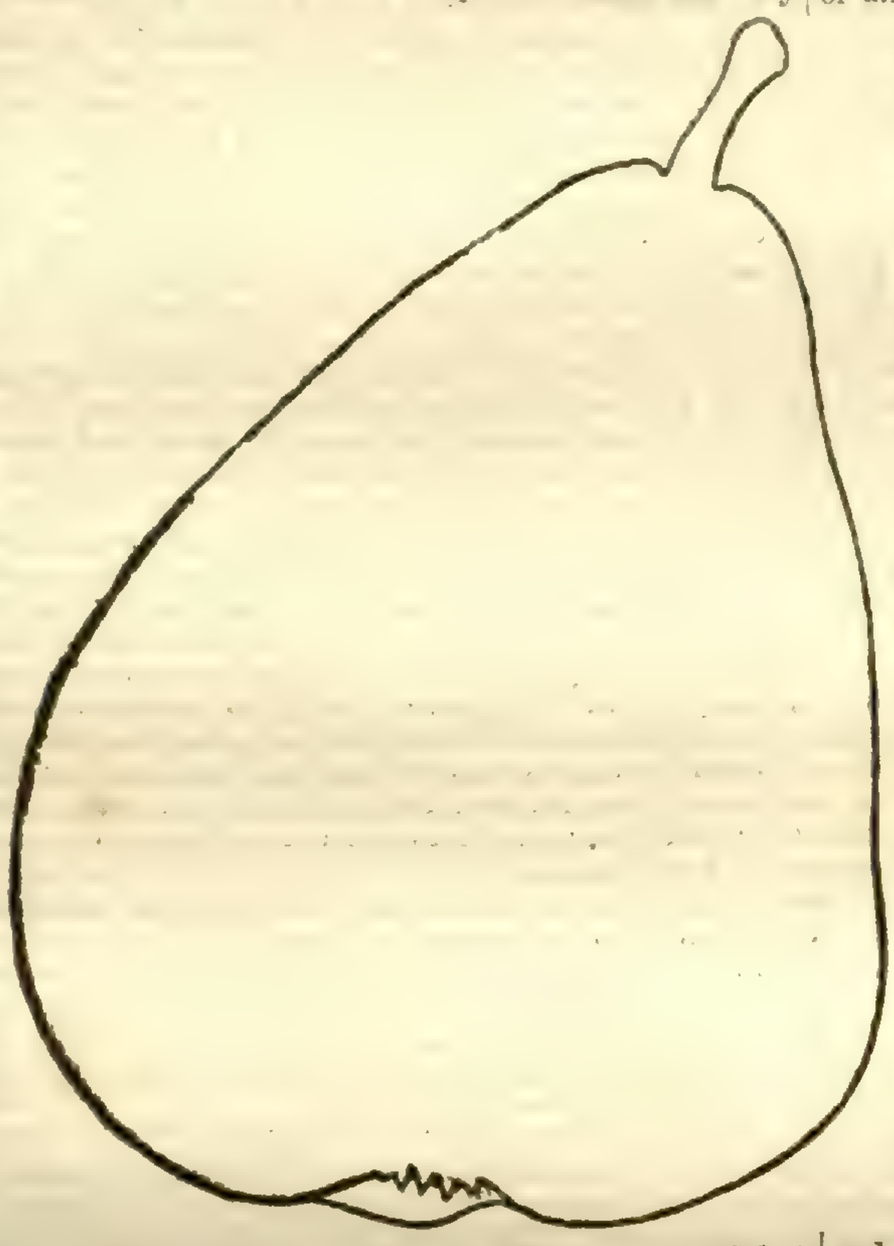
*Doyenné d'Alençon.*—Fruit rather large, round; skin rough to the touch, green, with fawn-coloured dots. Flesh tinted throughout, fine, melting, and juicy. January—March. As the fruit hangs on well in windy weather, the tree may be grown as a standard although of only moderate vigour. It succeeds best on the Pear stock.

*Bergamotte Esperen.*—Fruit middle-sized, round; skin green, changing to yellow, dotted with green. Flesh pale yellow, fine, melting with a brisk aroma. Ripens in succession throughout the winter till April. The tree is vigorous and productive.

*Tavernier de Boulogne.*—Fruit large, pyramidal, ventricose, stalk long and curved; skin thick, shining, green, sprinkled with ocellated green and red. Flesh coarse, crisp, juicy, but stewed in the simplest way I found it delicious. Keeps a whole year. This variety is either little known or confused with the *Tarquin des Pyrénées*.

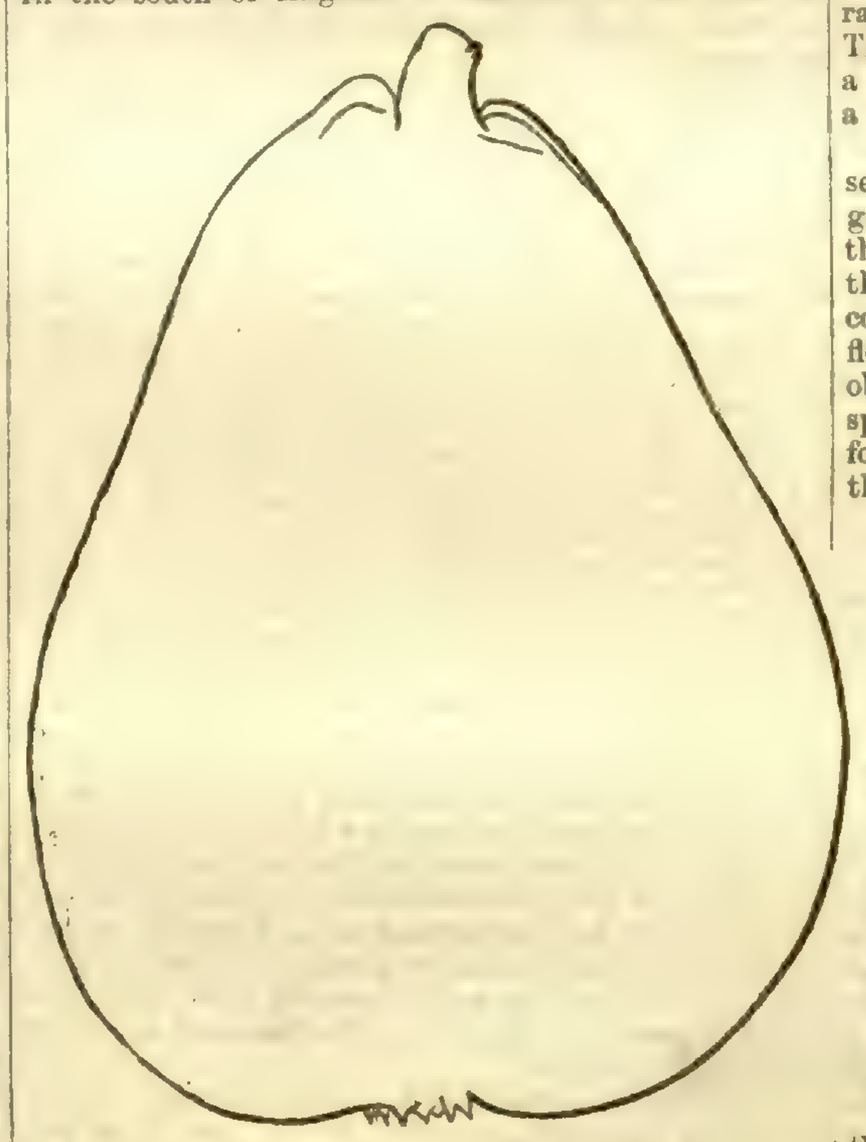
## NEW PEARS.

***Poire d'Avril.***—A large handsome stewing Pear, which in March and April becomes fit for the dessert. Its flesh is then crisp, but tender and very



juicy. It is hardy and bears well as a standard, but should be cultivated as a pyramid on the Quince, on which it succeeds well, and commences to bear when very young.

***Beurré d'Anjou.***—This is the "Nec Plus Meuris" of French cultivators. A handsome and most excellent dessert Pear of medium size, ripening in December. In the south of England it succeeds on the Quince,



and bears well as a pyramid or bush. In the north it would probably require to be cultivated on walls with a warm aspect. It is a very popular variety in France and Belgium, where the Ne Plus Meuris of our collections seems entirely unknown.

*Conseiller de la Cour, or Maréchal de la Cour.*—A large and good dessert Pear, ripening in October. Van Mons, the raiser of it, had the highest opinion of its excellence. It is not, however, always good, in common with many of our finer kinds of Pears. In some seasons it is of the most exquisite flavour; indeed generally so. It is hardy, bears well as a pyramid, and does not require a wall. There is perhaps no kind of Pear that equals this in luxuriant growth when grafted or budded on the Quince stock, for it often makes shoots in the season from 7 to 8 feet in length and stout in proportion.

## MITRARIA COCCINEA.

I am surprised that this plant is not oftener met with on our exhibition tables than it is, and still more so to find that many gardeners have given up growing it altogether, on account, as they say, of its being a shy bloomer; for from experience I can state that when properly treated it is nothing of the kind. I have seen specimens quite 7 feet in height in 13-inch pots, supported by a single stake in the centre of each plant. They formed beautiful pyramids of scarlet flowers from bottom to top, and were for a long period the admiration of all who had seen them. They had been standing in a conservatory from the third week in May, till July; for summer decoration no plants are better adapted or more easily cultivated.

The propagation of the Mitraria is exceedingly simple; half-ripened shoots of the current season placed in sandy peat in bottom-heat under a bell glass will root with certainty in a short time. They should then be gradually exposed to the air of the house, and when well established in 3-inch pots, then plunge them into bottom-heat with partial shade, and promote their growth in a rather high temperature, keeping up a good supply of moisture.

By pursuing this system fine bushy plants may be obtained the second season; but the cultivation of this lovely plant must not rest here. We ought not to content ourselves with merely producing plants in 6-inch pots; for there is scarcely anything more attractive or more desirable than well grown large specimens of this fine shrub. The soil most suitable for it is a point of some importance; for to the want of due attention to this may be ascribed many of the failures that have been experienced with this plant. A suitable compost may be made of the following materials, viz., one-third turfy peat, one-third leaf-mould, and a little silver sand. Let these be well mixed together, but not sifted; and take care that the pots are thoroughly drained. Let us suppose that a well-grown plant is required: place the plant in a close pit early in spring after being potted and plunge it in a bottom-heat of 70°; maintain a temperature of 50° in the pit by night; keep up a moderate but constant supply of moisture, as this plant delights in a warm humid atmosphere while growing, and with such encouragement the growth will be kindly and luxuriant. As the season advances increase the temperature of the pit a few degrees until it reaches 75° or so by night, and increase the size of pot should such appear to be necessary. Keep the soil moderately moist, but as vapour will be constantly rising the supply of water to the roots must be carefully administered. A little weak liquid manure may also be applied with advantage during the period of rapid growth, and until flowers make their appearance. This will be the time to expose the plant gradually to a lower temperature, for it is only in the climate of a greenhouse or conservatory that this plant succeeds.

When flowering is over it should be followed by a season of rest; the supply of moisture should be gradually withheld, and this partial check will hasten the ripening and hardening of the young wood. When that has been effected let the plants be wintered in a cool place—say in an intermediate house. They will flower beautifully the following summer. Should the object, however, be to have them in beauty early in spring, commence forcing them in November, and use for the purpose those plants which were earliest excited the previous season. *M.*

## New Plants.

218. Stephanophysum Baikiei, *Hooker in Bot. Mag.*, t. 5111.

A very handsome crimson-flowered stove Acanthaceous shrub, of which Sir W. Hooker gives the following account:—

"One of the many highly interesting plants lately sent home from the present Niger Expedition by its successful commander, Dr. Baikie, and collected by the indefatigable naturalist, Mr. Barter. Seeds accompanied the dried specimens, and these have germinated, and the plants flowered in great beauty during the winter months of 1858-9. The structure is in every essential particular so much of that of *Stephanophysum*, Pohl (of which however the 13 species described by Nees are all South American), that I can have no hesitation in referring the plants to that genus.

"*Descr.*—Our plant is between 2 and 3 feet high, herbaceous at present, but will probably prove to be suffruticose, erect, branched with opposite, square, or tetragonous, erecto-patent *branches*. *Leaves* in opposite pairs, sometimes nearly a span long, including the petiole, ovato-lanceolate, submembranaceous, entire,

penniveined, acuminate, attenuated at the base. *Panicle* terminal, with copious *bracts* and *bracteoles*, and composed of many-flowered opposite *racemes* or *spikes*. *Flowers* opposite, sessile. *Calyx* cut nearly to the base into five narrow, erect, linear-subulate, glanduloso-pilose segments. *Corolla* more than 2 inches long, scarlet, tubuloso-infundibuliform, curved, very slender and much tapering at the base, inflated or ventricose in the middle, the five triangular lobes of the limb patent and even recurved."

## Home Correspondence.

*Cucumber Growing.*—My views do not coincide with those of Mr. Ayres on this subject, well knowing as I do, from close observation and practical experience that the growing of Cucumbers in winter at the temperature mentioned is not quite so easy a matter as might be imagined, and I am well assured that hundreds of men of really good practical standing whom I might name concur with me in emphatically denying that they can be so grown with any degree of certainty, or that his advice will bear the test of sound practice. I am conscious of the fact that it is not necessary to maintain so high a night temperature as many do, when all nature as it were is wrapt in repose, but to assert that Cucumbers will luxuriate at a temperature of 50° and below at night and 60° by day is more than I can subscribe to. Believe me, I have worked hard in the management of good contrivances as well as bad ones for the production of things in season and out of season, and have used every kind of fuel and fermenting material during my practice. I may instance one case as illustrative of my experience: this occurred in mid-winter. My plants were planted out in the ordinary way in a small Cucumber house, and trained to a trellis; the heat maintained was from 75° to 85° by day, and 65° and never lower than 60° at night, and no plants could possibly do better than they did; but having changed the fuel I found I could not command — and that with great difficulty — more than 60° in the day and 50° by night. The consequence was that instead of the plants growing as they previously had done they scarcely moved at all, and got into a state which by some was considered to be not worth the keeping; being convinced however of the "why and the wherefore," I obtained the fuel formerly used, which induced a difference in temperature of from 20° to 30°, when in the course of a week or two the plants assumed as vigorous and healthy an appearance as they had before. I submit at once that where one has a good tank, &c., beneath the bed in which the plants are growing so as to retain a regular warmth for some time should the fires go out, or a change take place in the external temperature, the plants will not suffer much, although the thermometer may only register 50° during the night; but for my part I should not like such to occur too often. The principal secrets in Cucumber culture are a good open porous soil with plenty of peat in it, and well drained throughout, abundance of heat, air, and moisture. Let the amount of the latter be regulated in proportion to that of the temperature and by all means secure an active bottom heat, and if ordinary skill and attention be not wanting Cucumbers may be thus grown with ease and satisfaction. An active healthy atmosphere is the life of plants. I can show Mr. Ayres in more than one place in this neighbourhood Cucumbers growing and that in the greatest perfection possible, but not on the low temperature system; neither have I conversed with one gardener upon the subject of Cucumber growing who has any pretentions to skilful practice (and I know several) who does not entertain an opinion directly opposite to that promulgated by Mr. Ayres. One acquaintance of mine who does things well and has grown extensively for market (I should like Mr. Ayres to see his house at the present time) never thinks of ventilating till the house stands at 90°. *George Fry, Manor House Gardens, Lee, Kent.* [Well, but what do you say to the *result* obtained by Mr. Ayres? The dimensions of his leaves we ourselves determined by actual measurement. There may be something unexplained by him; but we really must believe our own eyes.]

*Decorticated Trees.*—My friend Mr. Waterton mentions the Holly tree at Chevet being killed by being barked for birdlime. Several Holly trees here have shared the same fate; but there are also two or three instances of trees which have been barked entirely round and have not died. They have saved themselves by forming an entirely new bark over the whole of the part stripped; and I have no donbt if a piece of oilsilk had been wrapped over that at Chevet to exclude the air, the tree would have been kept alive, and have formed for itself a new bark. I suspect that the Holly is rather peculiarly apt to form new bark in this manner, and I mean to try some experiments on some of those in the woods here to test this. I wonder whether Mr. Waterton remembers the remarkable instance of a young Spanish Chesnut in the park at Nostel Priory, near the church, which was barked some years ago by the deer, all round the stem, except a narrow strip about ½ inch wide. That narrow strip saved the life of the tree, but as new wood formed under it, the bare part of the stem died, and at last became quite detached from the new living stem that had formed by its side. For some years it helped, like a stake, to support the loss of the tree, but at last became tender, broke in two in the middle, and then for some years the two pieces stuck out from the tree like two dead branches 2 or 3 feet apart; the tree is now very vigorous, and all traces of the wound have disappeared. I read the account of the Elm trees at Paris, and took it for granted that if any of the trees had survived the operation there described, the "bark" removed could only have been the outer bark, which in the Elm during some months in the year separates very readily from the inner bark. *C. W. Strickland, Hildenley, near Malton, April* 17.—I have just cut down a fine young Elm of about 25 years of age, completely destroyed by a white maggot still in the bark. Some years ago my cows entirely stripped the bark from a vigorous growing young Sorbus, and I concluded it would die next year; however it did not appear to have suffered, as it came out as fresh and green as ever. The following season it made some stunted growth, but it died outright the year after that, viz., the third year. I send you this, as the public cannot be too much warned against the adoption of so fatal a practice as barking trees; ringing near the bottom, if done in time, might perhaps however stop the progress of maggots, as they appear to ascend. *T. H., Stoke Newington.*

*Horse Chesnut Blight.*—My trees are suffering from a severe blight, of which several are dead and dying. I therefore venture to ask some of your correspondents for advice as to how best to stop the evil. The blight appears in black spots in the lower part of the tree, from which, as they increase in extent, exudes a dark-coloured, gummy substance, forming into masses of sores and blotches, and, gradually reducing the bark to a knotty, dried-up state, kills the tree. *An Old Subscriber.*

*Woodlice.*—With these every gardener is more or less annoyed. Owing to the fact that our Melon grounds are generally close to the wood yard, I am sure to have an unlimited number every spring, and this season they threatened to eat every Melon and Cucumber plant I had got. Dahlias which were starting, and cuttings of all kinds (for nothing comes amiss to them), shared the same fate. After trying various traps for them, I have now succeeded most effectually in clearing my frames by catching them in hundreds every night. My plan is simply to plunge a lot of flower-pot saucers, glazed inside, up to the rims, fill them three-parts full of water, and next morning will reveal the secret that during the night they tumbled in, and being unable to get out again, got drowned. *J. Rust, Fulham.*

*Rainfall.*—All sorts of speculations seem to be indulged in as to the moisture in past and future seasons. From a register kept 33 miles due south of London, and nearly accurately the same longitude as Greenwich, the rain in 1858 was 25 inches and 34-hundredths of an inch, and to the present time in the years 1858 and 1859 as under:—

| | January. | February. | March. | April. |
|---|---|---|---|---|
| | Inches. | Inches. | Inches. | Inches. |
| 1858 .. | 1.59 | 1.20 | 1.88 | 3.29 |
| 1859 .. | 2.37 | 3.14 | 2.09 | 3.38 |

With all the rain we have had both last year and this the springs are still low. *A Constant Reader, Sussex.*

*The Weather in North Devon in* 1858.—The following is a condensed summary of the observations taken at the Meteorological Observatory at Barnstaple in 1858. The observatory is 31 feet above the level of the sea:—

| Months. | Temperature of Air. | | | | Rain. | |
|---|---|---|---|---|---|---|
| | Highest. | Lowest. | Range. | Mean. | No. of days Rainfall. | Amount collected. |
| | Deg. | Deg. | Deg. | Deg. | | Inches |
| January .. .. | 54. | 23. | 31. | 42. | 14 | 1.57 |
| February .. | 55.5 | 26.5 | 29 | 40.4 | 11 | 0.84 |
| March .. .. | 69. | 26. | 13 6 | 43.9 | 12 | 1.17 |
| April .. .. | 69. | 31.5 | 37.5 | 49. | 14 | 4.58 |
| May .. .. | 75. | 34.5 | 40.5 | 52.1 | 15 | 3.31 |
| June .. .. | 79.1 | 45. | 34.1 | 61.3 | 8 | 1.67 |
| July .. .. | 75.5 | 47.7 | 29 8 | 59.2 | 18 | 3.26 |
| August .. .. | 80.1 | 45.7 | 34.4 | 61.7 | 8 | 1.88 |
| September .. | 82. | 44.2 | 37.8 | 61.3 | 19 | 0.39 |
| October .. .. | 65. | 32.5 | 32.5 | 52.4 | 21 | 3.87 |
| November .. | 57.2 | 24.5 | 32.7 | 42 3 | 11 | 2.34 |
| December .. | 55. | 31.5 | 23.5 | 45.2 | 21 | 4.46 |
| Means of the Year. | 68.0 | 34 3 | 31.3 | 50.9 | 172 | 29.34 |

—*R. W. Cotton.*

*Rent Beech Tree.*—In front of my windows is a Beech tree in which there is a rent open to wind and weather from the ground to the height of 7 feet. At the ground it is 22 inches wide. The tree is sound and dry inside, and is growing fast. I should be much obliged by the information whether it is best to leave it as it is or to brick up the opening? *R. F., Polesden Lacey, Dorking, April* 18. [We should let it alone if it is really sound.].

*New Mode of Causing Seeds to Germinate.*—One of the seeds, that of a Cassabar Melon, I vegetated in less than 24 hours by my "patent" process, which I have found eminently successful in a variety of instances when all other plans have failed. It is simply by enclosing them in a small piece of flannel soaked in a weak warm solution of oxalic acid and squeezed out nearly to dryness; this is enveloped in two or three folds of oil-silk tied up and suspended by a string hung over the neck, so that the little packet may descend just to the pit of the stomach, where the heat of that part in an incredibly short space of time induces germination. The seed to-day, after 38 hours' confinement in this situation, has a rootlet of 1 inch in length. And thus have I had seeds sent me from good hands who could do nothing with them, commence growing from 24 to 48 hours after being put to nurse in the above-mentioned mode and position. *Thomas Ingle, The Villetta, Emsworth, Hants, April* 25.

*Spotted Grapes.*—I have some very fine Grapes just ripe, but discoloured by either the water being hard or impregnated with oxide of iron from the iron pipes. Is there any way of getting this off the berries? I have tried lime water and sulphuric acid and water without removing it. If the Grapes be of the finest quality would this discoloration prevent a first prize being awarded them? *A Constant Reader.* [We should say yes.]

*Orchard Houses.*—I quite agree with your correspondent "J. D.," Fife, N.B., in reference to his remarks as to orchard houses, which, as he says, are still in their infancy in the north. I have erected a small one some 21 feet long by 8 feet wide, and whatever others may say as to the system recommended by Mr. Rivers, I must confess that I am perfectly satisfied with the results of my small experiment. I see and hear on all sides that everything is spoiled by the severe frosts within the last four or five weeks, and I am quite aware that all fruit in the open air is destroyed in my neighbourhood; but in my little orchard house I have the pleasure of looking at Peaches, Nectarines, Apricots, Pears, Cherries, Plums, Figs, and Grapes, in perfect health and vigour, the fruit setting beautifully, and in no case touched by frost though almost everything outside in the same garden is destroyed. I am of opinion that the system of orchard house cultivation, introduced by Mr. Rivers, deserves the notice of every man who wishes to have a secure crop of fruit, especially if, like me, he is situated in a northern county where he may expect such frosts as have fallen to our lot within the last month. I may mention that my orchard house, the length and breadth of which I have given, is 7 feet high, and that it cost something under 15*l. A Constant Reader, R., Roxburghshire, N. B.*

*Double or Twice-fruited Peaches.*—I quite concur in your remarks with reference to these in your Paper of April 16. I have frequently observed monstrosities of similar character in a Peach house at this place, but more especially this season. My practice is never to allow any of them to remain on the tree for a permanent crop; for a time they often look promising, but when the process of stoning commences they invariably drop—and if they do stand, one portion of the fruit assumes a sickly hue—the remaining half appropriating to itself all the support. It is seldom that a good and perfect fruit is the result. If your correspondent has removed such fruit according to your advice he has acted rightly, but if he has allowed any to remain I for one would be glad to learn through your pages whether such twin-fruits equal the single ones when ripe. *John Ealington, Winch House, Seacombe.*

*Prunus triloba.*—It is stated at p. 362 that Mr. Glendinning exhibited neither Prunus triloba nor the Camellia-flowered Peach at the first spring meeting of the Royal Botanic Society, as stated both in your own report and the Society's official advertisement. Mr. Glendinning will perhaps inform us correctly what he did exhibit on that occasion. The official report alluded to was drawn up by me as one of the judges, and I have before me an extract from the Society's entry book, according to which and the official cards Mr. Glendinning exhibited Prunus triloba, the Rose-flowered Peach, and the Carnation-flowered Peach. These names could not have been invented by the entry clerk. There were certainly three kinds shown under Mr. Glendinning's name, two of which were double-flowered Peaches, and the third a very distinct and I may add very handsome Prunus-like plant, quite agreeing with the general features ascribed to Prunus triloba (*Gard. Chron.*, 1857, pp. 216, 268). They were all beautiful things, and the Prunus for its distinctness, and the Rose-flowered as the best of the two double Peaches were without hesitation awarded prizes. *T. M.* P.S. In the report of the third of these meetings (p. 354) a misprint of "Sedum" for "Sida" occurs.

*Artificial Birds' Eggs.*—As objects of natural history are now much sought after and appreciated by almost all classes, it has often struck me that to render Museums interesting to the many, it would be well to append a short and plain description of the habits, whether of birds or animals, at the foot of each, as three parties out of four go into such places and gaze about them, interested in many things no doubt for the moment, but not having books on the spot to refer to, and indeed if they had, many would be too lazy to take the trouble, so they come away just as wise as they went. If however a plain condensed description were given to each specimen, how infinitely more instructive such places would be to the community at large, but I am wandering from the point. In our pretty little town we have a capital Museum, and among other things a goodly collection of British birds and their eggs. We contemplate, beside appending a short description of the habits of the first, to suspend an egg belonging to each variety at the foot of the bird itself, and that the male and female shall be invariably for the future grouped on the same stand, to show the difference in plumage (which is often

very great), and to enlighten the public at large on the subject, more especially the young people at school; but to attach a frail egg to the specimens would render sound eggs very liable to be broken when specimens were being dusted, which they sometimes require, even when in glass cases. Could the British Museum be induced to take the matter in hand and have a regular series of the British birds' eggs coloured strictly after Nature from specimens in their possession, and made of a light, solid, and durable material, what a boon it would be both to museums and schools, as the charge of cruelty for taking the nests would be done away with, and we could then be in possession of at least the semblance of many rare specimens of eggs, which the British Museum undoubtedly possesses, but which others have little or no chance of getting. How many poor and distressed ladies in London could do such light and delicate work as this colouring after Nature, and be glad of the chance so to earn money. The materials composing the series should be light, and yet not easily to be broken; the colours should be exactly studied from the natural eggs, as well as the size and shape. If they were issued bearing the stamp of the British Museum, we should be certain that they would be correct to nature, and the series, whether attached to the birds (each its own) or kept together, would be durable, perfect, and we should have an idea of many of the eggs that we can now only get when in London. Each could be named. I merely throw out these suggestions; may I hope that they will be thought feasible? And as an old subscriber to the *Gardeners' Chronicle*, if Mr. Waterton would do the public at large the great favour to give a description of how the specimens mentioned in the last Number of that excellent paper are preserved, he would be conferring a great favour on all who are interested in such matters. Of course the British Museum would charge so much for the specimens of eggs to repay the trouble and expense of having them manufactured, and it is to be hoped the price could be made moderate. *F. N., Ludlow.*

## Societies.

Linnean: *March* 17.—Prof. Bell, President, in the chair. The Rev. G. W. Braickenridge, H. B. Brady, Esq., and S. Gurney, Esq., were elected fellows. Cones of Pinus Lambertiana, and of Araucaria Bidwillii, and a capsule of the curious Uncaria procumbens, the Grapple plant, were presented by the secretary. The following papers were read:—1. "On Vegetable Affinities," by T. C. Hilgard, M.D., of St. Louis. This was a very abstruse essay on a very abstruse subject. Treating on what he called the empiric peculiarities of organic life, the author observed:—"Organic forms and individuals have been discriminated from inert or inorganic ones, such as crystallisation, and the individual crystals. Striking and impressive though the difference be, yet it is very difficult to elicit what is the essential or fundamental between the constituted organic and inert forms. Both grow originally; both require the presence of atomal substance to become embodied; both have a definite chemic and morphic constitution. Where are we to look for the distinction or essential of either constituted thing? One great distinctive feature is, that organic beings live, or develop and generate. Material development is described (not definable) as a self-caused change of form and chemic substance: self-caused implying that the peculiar cause concerned proceeds from the theory in question and not from those surroundings whose powers are inalienable and definite. As to the chemic, we find that inasmuch as organic substance has other powers of chemic action than correspond to the weight and constitution of inert matter concerned, it follows that chemism is a theory above and beyond, or usually prior to chemic inert substance, being imparted in one way on inert matter, in another on living matter. We know empirically that galvanism is more powerful than any amount of chemic affinity inherent to matter; nay, that it stands in the place of superlative affinity itself; and that affinities are apparently in inorganic matter directly dependent on their galvanic exponents." The chemical and physical power of inert matter, the author proceeded to say, was in direct proportion to its weight. The organic germ, on the contrary, does not "persist" in the amounts of chemic, physical, and dynamic powers with which it is endowed. If placed in contact with certain other substances to react upon, it will not act out a given change of circumstances in direct proportion to its weight, as sulphur, iron, or carbon would; it excites a greater amount of power, multiplying chemic potency with the assumption of more matter into its peculiarity, instead of being saturated or neutralised as in the other case. It would appear, the author inferred from these and other premises, "that generation is a most distinctive mark or apparent peculiarity of living beings; persistence of inherent power that of dead matter." The author's "vegetable series," which he next proceeded to develope, consisted of three principal groups, the Cryptogameæ, the Monocotyledoneæ, and the Dicotyledoneæ, for the details of which the botanist must consult the original. A diagram of affinities accompanied the paper.—2. "On a monstrous form of wild Carrot, Daucus Carota." By M. T. Masters, Esq. This monster was picked by the author at Olten in Switzerland in July last. The whole of the flowers of the umbel presented some abnormal condition, but in those particularly described, the tube of the calyx was adherent to the prolonged foliaceous carpels, the limb was non-adherent and divided into five small subulate teeth; five nerves corresponding with the usual primary ridges were present, but destitute of spines. The carpels were prolonged into two detached widely spreading lanceolate leaves, adherent to the tube of the calyx in their lower part; the margins of the carpels were infolded at their upper part, but there was no trace of ovules or of stylopod. The author also noticed a form of Trifolium pratense found in Blenheim Park, in which the flower-bearing axis was prolonged beyond the pistil. Sketches of the structure of both monstrosities accompanied the paper.—3. "Descriptions of some new species of Musci from New Zealand, and other parts of the Southern Hemisphere; together with an enumeration of those species collected in Tasmania by Wm. Archer, Esq., arranged upon the plan proposed in the 'Bryologiæ Indiæ Precursor,'" by William Nutten, Esq., a long paper of technical muscology.

*April* 7.—Prof. Bell, President, in the chair. Edward Sheppard, Esq., was elected a Fellow. Among the donations announced was a miniature of Hedwig, presented by the treasurer, Dr. Boott, and a portrait by Wageman of the late James Dickson, F.L.S. The following papers were read:—1. "On the cranial characters of a species of Rat, new to the British Fauna," by J. A. Salter, M.D. 2. "On the Moulting of the Common Lobster and Shore Crab," by Dr. J. A. Salter. 3. "A note on the Habits of the Aye-Aye, Cheiromys madagascariensis," by H. Sandwith, M.D., C.B., Colonial Secretary of the Mauritius, in a letter to Prof. Owen, V.P.L.S. Some observations were made on the cultivation in England of Cicer arietinum, Linn., the Gram of India.

## Notices of Books.

*Die Blattskelete der Apetalen* (*Skeleton Leaves of Apetalous Plants*). By Dr. Constantin Ritter von Ettinghausen. 4to. Vienna. Williams & Norgate, London.

A quarto volume illustrated by 51 admirably nature-printed plates of the leaves of such plants as the learned author thinks most likely to elucidate the history of the vegetation of tertiary formations. The letter-press consists of a dissertation upon the types of venation to which the leaves themselves appear referable; but it contains no attempt to connect such modern forms with those of extinct vegetation.

*The Portrait of a Christian Gentleman. A Memoir of Patrick Fraser Tytler.* By his friend Rev. J. Burgon, 8vo. Murray, pp. 356.

The History of Scotland by the subject of the memoir before us is one of those monuments of intelligent industry which mark the character of this author. Possessing without brilliancy the far more important qualities of impartiality and accuracy, combined with moral courage to tell truth when truth is not always acceptable, it proclaimed the conscientious student and the fearless chronicler. Mr. Burgon's narrative, founded upon long personal acquaintance and ample correspondence, confirms the opinion that would have been formed from the mere perusal of the historian's writings.

Mr. Tytler, a son of Lord Woodhouselee, an eminent Scotch judge, was educated for the bar, but soon quitted the legal profession for the pursuit of literature, which he never afterwards deserted. The best part of his life, during which he became a widower, having been spent in the composition of his History, he married a second time, fell into deplorable ill health, took up his residence in Germany, and returned to England after two years' absence to die at Malvern. He appears to have been remarkable for the strong religious feelings which accompanied him through life, not less in the crowded drawing rooms of London, or the whirl of foreign travel, or the excitement of field sports in which he excelled, than in the retirement of his home and in the bosom of his family. Mr. Burgon's object has been to represent his departed friend in all the stages of his career; writing with the pencil of the miniature painter, and the hand of the panegyrist; and he has succeeded in producing a volume which will be read with pleasure by all who are interested in the details of an industrious and pious domestic life.

*The Italian Valleys of the Pennine Alps.* By the Rev. S. W. King. 8vo, pp. 558. Murray.

Numerous as are the excursions made every year to Switzerland and the Alps, the tour of which the present volume gives an account is not often attempted even by the more adventurous of our countrymen. Although the glaciers of Monte Rosa and Monte Moro have attracted considerable attention of late years, the Italian valleys of the Pennine Alps are by no means so well known as they deserve to be, and the tour made through them by Mr. and Mrs. King will be found to be well worthy repetition, even by persons familiar with the magnificent scenery of the Bernese Oberland and the Swiss side of the range of Mont Blanc.

Starting from the Great St. Bernard, the author visited the Val de Bosses, Val d' Entrèves, Val d'Aosta, Val Pellina, Val d'Ollomont, Val de Biona, Val St. Barthélemy, Val Toumanche, Val d'Ayas, Val de Lys, Val de Champorcher, Val de Cogne, Val Challant, Val Sesier, Val di Bours, Val Sermenta, Val Ollocia, Val Arzasca, Val Macugnaga, Val Strona, Val Mastalone, and the Val d'Ossola. In each one of these valleys, and especially in the passes over which it was necessary to climb to go from one to the other, objects of the highest interest are to be met with not only by those who are merely in the pursuit of health and pleasure, but also by persons who travel for something more than amusement, and who take an interest in the geology or natural history of the places through which they pass. To these latter no less than to the former the present volume will prove acceptable, for Mr. King travelled with his eyes open, and has noted many particulars, botanical, zoological, and geological, respecting the places visited by him. He also made sketches of the more remarkable objects, and has introduced into his work some clever drawings of, amongst other things, Monte Rosa, the Convent of Great St. Bernard, the Glacier of La Breuva, the Breithorn, Gressoney St. Jean, Pic de la Grivola, &c. Last, but not least, we find three well executed maps of Mont Blanc and its environs, Monte Rosa and its environs, and of the Italian valleys of the Pennine Alps. These maps exhibit the glaciers and passes very distinctly, and will prove invaluable to the wanderer through these little frequented regions.

It must not be supposed that because a lady accompanied the author throughout his rambles their route was easy or devoid of danger. Still less must it be imagined that our travellers met with such accommodation as is to be found in the splendid hotels of Switzerland. They had to rough it in the true sense of the word, by night as well as by day, and to encounter many obstacles, and even dangers of no slight magnitude. But for the details of these and other matters we must refer our readers to the work itself, which amongst its other recommendations has an index and full table of contents.

*Beeton's Dictionary of Universal Information* (18, Bouverie Street), a new serial, is a wonder. For threepence monthly it gives 32 closely printed 8vo pages, on good paper, illustrated with good maps and good woodcuts. The lowness of the price, combined with the goodness of the matter, is marvellous; and we trust it may prove a successful speculation. The repeal of the paper duties, now we fear adjourned indefinitely, would be a great help to the enterprise. The articles are written in the usual encyclopædic form, tersely, clearly, and as far as we have remarked correctly. They chiefly relate to biography and geography, other subjects being sparingly introduced. We should have thought that the low price would have been inducement enough to purchasers, but prizes are also offered to subscribers, for the nature of which we refer to the work itself.

Trade Lists. — *Supplement, &c.* (*supplement and extract from the 65th Catalogue of A. Verschaffelt, Ghent*), is a sheet of post letter paper containing the prices of some of the most select plants in the publisher's collection, which is well known to be rich in the more valuable species. Palms and Palm-like plants are offered at from 3 francs to 600 francs each. There is also a new Pear called General Todtleben, which is to be sent out next autumn at 10 francs each.

## Miscellaneous.

*Sale of Coniferous Seeds.*—Consignments of these from Mexico, India, California, and Vancouver's Island were sold on Wednesday last by Mr. Stevens. Among them were 10 packets of the rare Pinus Don Pedri, which fetched from 5*l.* to 5*l.* 5*s.* per lot of 100 seeds each. Of Cedrus Deodara there were many canvas bagfulls apparently in tolerably good condition. Lots in 10 bags each weighing about 8 lbs. fetched from 3*l.* to 4*l.* per lot; small boxes of Picea amabilis 3*l.* 3*s.* each; Cupressus Lawsoniana from 3*l.* to 4*l.* per box; C. torulosa in bags not weighing more than 1 lb. from 1*l.* to 2*l.* per lot; a small box of cones of Abies Williamsoni sold for 5*l.*; a boxfull of Pinus Benthamiana fetched 2*l.* 8*s.*; and Juniperus excelsa 10 lots, in 8 oz. bags, from 1*l.* to 1*l.* 3*s.* per lot. Other lots, of which there were in all 211, fetched from 10*s.* to 1*l.* 1*s.* per lot.

*Australian Medicinal Plants.*—At a meeting of the Pharmaceutical Society of Victoria, held at Melbourne, Sept. 3, 1859, Dr. Mueller exhibited a series of such indigenous plants as he deemed of interest to the pharmaceutical profession; inviting attention to the important fact, that medicine and chemistry had often aided in revealing the true affinity of plants, inasmuch as frequently in genera and species of one tribe a similar or an analogous principle exists, although such medicinally and economically allied plants might occur in countries widely separated and under very different climates. He stated, for instance, that the European Daphne mezereum, from which the well-known mezereum bark originated, is characterised by a certain acrid principle, which is also found to be present in the closely allied Pimeleas, abounding in Australia: the same acridity has been observed in almost all the known species, and is found to be of remarkable intensity in Pimelea stricta and several others. He explained, also, how vastly superior the natural system had proved in this regard for arranging plants; because, notwithstanding the close relationship between Daphne, Wickstroemia, Pimelea, and other thymelaceous genera, not only in structure and form, but also in their medicinal properties, these plants stood widely apart and in different classes of the Linnean system. It was consequently of the utmost importance to medical and pharmaceutical students to become thoroughly acquainted

with that classification which has earned the name of "natural system," according to which not a solitary or a few marks are employed for associating or distinguishing plants, but which draws from the total of their form, organisation, structure, and elements, a complex of characters for discrimination or diagnosis. Amongst Malvaceæ, of which sixty Australian species were exhibited, many were found to be demulcent, emollient, and mucilaginous, as might be expected from their natural alliance. A few Hibisci were acidulous, and could be used as antiscorbutic vegetables, whilst the root of Lavatera plebeja Sims (Malva Behriana Schl.), which is obtainable in most parts of our colony, shows equal value with that of Althæa officinalis, and might thus often be conveniently substituted for its use. Numerous Lobeliaceæ, some of great variety and beauty, were then exhibited, nearly all, more or less, to be compared in virtue to Lobelia inflata, and readily to be gathered in any part of Australia. Amongst the specimens occurred the Laurentia platycalyx, a herb hitherto noticed only in the vicinity of our bay, and which seemed remarkable for the absence of the milky fluid which forms one of the cardinal characters of the order to which it belongs. Dr. Mueller explained how by these intermediate forms nature had established a harmony in the types of the creation, and he thought we might assume that forms hitherto standing isolated —paradoxical to us—would, by future discoveries in untrodden parts of the globe, probably be brought into contact with those which received already a settled position in the botanical system. Specimens of Sebæa ovata Br. (Erythræa chloræfolia Lehm.), of Canscora diffusa Br. (Orthostemon erectus Br.), of Sebæa albidiflora Muell., and of several handsome Gentianas of this continent, were laid before the members, and particular attention was directed to the former as a most agreeable tonic, easily and abundantly obtainable, since it covers nearly every Grassy plain of extratropical Australia during the spring season. Dr. Mueller invited the Pharmaceutical Society likewise to a trial of the medicinal properties of the numerous and almost exclusively Australian Goodeniaceous plants, of which many had only become known by his last journeys. He demonstrated how the unexpected discovery of a bitter tonic principle, at first in his Goodenia or Picrophyta calcarata, and afterwards in most of the Goodenias, Velleyas, and Calogynes, had pointed out to him the near systematic relation between the Goodeniaceous and Gentianaceous orders. By means of phytochemistry, therefore, a connecting link had suddenly been established between the group called Contortæ and the Campanulaceous alliance, the former offering in the sub-order Menyantheæ, with alternate often toothed or divided leaves, with flowers of induplicate æstivation, and provided with membraneous margins, and with very similar seeds and valves of the capsules, —a close approach to the true Goodenias and Velleyas, to which indeed, also, some Villarsias bear in habit quite a striking, almost deceptive resemblance, although, on the other hand, a clear affinity is manifested by other Goodeniaceous genera towards Lobeliaceæ. *Quarterly Journal of Pharmaceutical Society of Victoria.*

*How to Cook Locusts.*—The locusts generally fly within 2 or 3 feet of the ground, and, as soon as their approach is perceived, the people rush out, and with great clamour endeavour to strike them down, or enclose them in their lambas, while the women and children gather them up in baskets from the ground, and detach their legs and wings, by shaking them from one end to the other of a long sack, in the same way that grocers clean their raisins. The legs and wings are then winnowed away, and the bodies dried in the sun, or sometimes fried in fat, and then kept in sacks for food, or sent to the markets for sale. In some parts of Ankova and in the provinces of the Betsileo to the southward, grasshoppers and silkworms, in the chrysalis state, are collected in large quantities, cooked and eaten as food, or offered for sale.—*Ellis's Madagascar.*

## Calendar of Operations.

*(For the ensuing Week.)*

### PLANT DEPARTMENT.

CONSERVATORY, &c.—While cold drying winds and occasional bright sunshine prevail considerable attention will be necessary to maintain a moist healthy atmosphere in this house, and no effort necessary to secure this should be spared, for it is needless to expect flowers to last in a dry warm atmosphere. A thin shade should be used to break the force of the sun, and in giving air every care should be taken to avoid drying currents, opening the top ventilator only as long as these will suffice to prevent too high a temperature, and every available surface of bed or border should be kept constantly moist, in order to secure plenty of evaporation to counteract the drying effects of the external atmosphere. Give frequent attention to climbers in free growth, regulating the young wood before it gets entangled, and see that Hardenbergias, &c., in bloom, are properly supplied with water at the root. At this busy season there is great danger of neglecting the winter-blooming favourites, such as Epacrises, Daphnes, &c., but if these are to be had in anything like perfection next season they must be properly cared for now. Show houses are generally kept too close and warm for Epacrises and such plants, and in this case they should be removed to the greenhouse as soon as out of bloom, affording them a rather damp and shady situation for a few weeks. Attend to repotting such as have started after being cut back, and keep them moist and rather close until the roots get hold of the fresh soil. Shift and attend to tree Mignonette, for flowering the ensuing season, and see that tree Violets are not infested with red spider. STOVE.—The stock here will now be growing freely, and every possible care should be exercised to secure strong vigorous wood. Attend to repotting young stock before the plants sustain any check from want of pot-room and see that everything is well supplied with water at the root.

### FORCING DEPARTMENT.

PINERIES.—In cases where a regular supply of fruit is required at all seasons of the year, it will be necessary to examine the stock of plants frequently, marking those considered the most likely for fruiting, so as to be able to keep them rather dry at the root for a month or so, which will in most instances have the desired effect of checking growth and throwing the plants into fruit. The only effectual method, however, of securing a supply of fruit at any particular time is foresight in the management of the stock, taking care to get the growth well matured in sufficient time to allow of affording the plants a short period of comparative rest, which is the only certain means of inducing them to fruit at any desired season. With plenty of convenience this is easily enough managed, but where the accommodation is limited, it is by far the most difficult part of the culture of the Pine. And in cases where a regular supply of fruit has to be furnished from limited accommodation, it is safer to grow the plants in pots, so as to secure perfect command over the roots, and also be able to move the plants to a cooler pit or otherwise, as may be necessary. Black Jamaicas and Cayennes are the best varieties for winter fruiting, and the stock of these should receive every attention at this season so as to induce them to make free growth, and a portion of them should be shifted into their fruiting pots as soon as possible. Use every means to afford growing stock a moist atmosphere, which in the present state of the weather is a work that requires much attention, but must be done if the plants are to be kept in first-rate condition. Give air freely, but avoid draughts of cold drying air, and use shading to assist in keeping down the temperature without being under the necessity of admitting cold drying air too freely. VINERIES.—In cases where Muscats are grown in the same house with Hamburghs and other free setting varieties the temperature must be kept sufficiently high during bloom, and until the berries are fairly set, to suit the Muscats; for a crop of these cannot be depended upon from the most healthy Vines, unless they can be afforded a brisk temperature while in bloom and setting their fruit. It will be better, however, to risk having the Muscat bunches somewhat thin than to injure other varieties by maintaining a night temperature of 75°, which is the practice of some good growers; 68° or 70° will be found quite sufficient. Get the borders prepared for planting out young Vines, and if these are started into growth before planting do not keep them too warm, or it will be difficult to prevent their sustaining a check after planting out. MELONS.—Encourage those newly planted out with a moist warm atmosphere, so as to get them into full growth as quickly as possible; but plants that are fairly established should be kept cooler, admitting air on every favourable opportunity, in order to secure short-jointed fruitful wood.

### FLOWER GARDEN AND SHRUBBERIES.

The cold weather which we have for some time past been and are now experiencing, renders the management of bedding plants somewhat difficult; it is dangerous to risk even the hardier kinds from under the protection of glass. All that can safely be done until the weather becomes warmer, in the way of hardening stock preparatory to its being planted out, is to give as much air as circumstances will admit without injuring the plants, and to place Calceolarias and the strongest Verbenas in turf pits, where they can be securely protected at nights and sheltered from drying winds. Such things, when removed to cold pits, should be planted out in light soil, which will save trouble in watering and be much better for the plants than keeping them confined in small pots. Tender annuals that have been raised in heat should be pricked out in light soil under glass in order to get them strong before planting out time. If not already done, hardy annuals should be sown after the first shower, and do not forget plenty of Mignonette and Stocks, the fragrance of which will always render them favourites. Look over plants at present in flower and mark the most admired for propagation at the proper season.

### HARDY FRUIT AND KITCHEN GARDEN.

Recently transplanted trees must be carefully attended to with water, giving the ground where it may be found necessary a liberal soaking, so as to thoroughly moisten it, and lightening up the surface with a blunt fork when it has become firm. Be prepared with a supply of Tobacco water with which to attack Aphides the moment they are perceived upon Peach trees. Clean and loosen the surface about Strawberries; go over plantations made late last autumn, and replant places where the plants have failed. Take advantage of the dry state of the ground to get manure wheeled upon quarters where it may soon be wanted, and see that there is a good supply being prepared for the Celery crop, for without plenty of old rich manure large crisp Celery can hardly be obtained. As soon as the weather shall have become more favourable, get spring-raised Cauliflowers and Lettuces planted out, if not yet done, selecting for them a sheltered situation and light rich soil. A few branches of evergreens stuck amongst such things after planting so as to screen them from the sun is a great protection, and prevents their being dried up until the roots get hold of the ground. Get Scarlet Runners planted, also French Beans, if not yet done, and give the former an open situation and good deep rich soil, of which they are well deserving. Attend to ridge Cucumbers, Vegetable Marrows, Tomatoes, &c., and endeavour to get strong stocky plants, keeping them where they can be placed near the glass, and freely exposed to air on fine days; avoid getting them leggy and tender by too close treatment.

### STATE OF THE WEATHER AT CHISWICK, NEAR LONDON.

For the Week ending April 28, 1859, as observed at the Horticultural Gardens

| April. | Moon's Age. | Barometer. Max. | Barometer. Min. | Temperature of the Air. Max. | Min. | Mean | Of the Earth 1 foot deep. | 2 feet deep. | Wind. | Rain. |
|---|---|---|---|---|---|---|---|---|---|---|
| Friday 22 | 19 | 29.725 | 29.667 | 58 | 23 | 40.5 | 47 | 47 | N.W | |
| Satur. 23 | 20 | 29.818 | 29.752 | 54 | 39 | 46.5 | 47½ | 47 | N.E. | |
| Sunday 24 | 21 | 29.669 | 29.611 | 55 | 42 | 48.5 | 47½ | 47 | S.E. | |
| Mon. 25 | | 29.855 | 29.673 | 56 | 36 | 46.0 | 49 | 47½ | E. | |
| Tues. 26 | 23 | 30.067 | 30.045 | 67 | 44 | 55.5 | 50½ | 48 | S.W | |
| Wed. 27 | 24 | 30.025 | 29.704 | 52 | 43 | 47.5 | 51 | 48½ | E. | |
| Thurs. 28 | 25 | 29.545 | 29.494 | 55 | 46 | 50.5 | 50 | 49 | E. | |
| Average | | 29.812 | 29.706 | 56.7 | 39.0 | 47.8 | 48.9 | 47.7 | | |

April 22—Sharp frost; fine; very clear; frosty.
— 23—Slight haze; cold dry air; overcast; rain.
— 24—Stormy and wet; cloudy; showery; overcast.
— 25—Rain; showery; overcast; rain at night.
— 26—Overcast; mild and fine; low white clouds; overcast.
— 27—Cold haze; overcast; very boisterous at night.
— 28—Hazy and windy; rain; overcast; drizzly.
Mean temperature of the week, equal to the average.

### RECORD OF THE WEATHER AT CHISWICK.

During the last 33 years, for the ensuing Week, ending May 7, 1859.

| April. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday 1.. | 61.0 | 40.0 | 50.5 | 12 | 0.51 in. | 3 | 5 | 6 | 3 | 3 | 7 | 4 | — |
| Mon. 2.. | 62.5 | 39.4 | 50.9 | 12 | 0.72 | 3 | 3 | 7 | 1 | 3 | 6 | 3 | |
| Tues. 3.. | 61.4 | 40.4 | 50.9 | 16 | 0.58 | 2 | 6 | 8 | 1 | 4 | 6 | 1 | |
| Wed. 4.. | 61.9 | 38.6 | 50.2 | 11 | 0.70 | 5 | 8 | 8 | — | 5 | 4 | 2 | |
| Thurs. 5.. | 62.1 | 39.4 | 50.7 | 19 | 1.25 | 5 | 9 | 3 | 3 | 7 | 4 | 1 | |
| Friday 6.. | 60.4 | 39.4 | 49.9 | 13 | 0.68 | — | 10 | 4 | 3 | 4 | 6 | 4 | |
| Satur. 7.. | 61.5 | 40.0 | 50.7 | 12 | 0.39 | 4 | 6 | 5 | 2 | 3 | 6 | 3 | |

The highest temperature during the above period occurred on the 4th, 1833, and 6th, 1830—therm. 81 deg.; and the lowest on the 2d, 1853 therm. 20 deg.

## Notices to Correspondents.

BIRDS: *Ars* would be obliged by some advice about her Canaries. She has (or had) 30 birds in an aviary outside the house. They have "flourished" for the last 6 years, but latterly (about 3 months ago) they have been attacked by a disease which renders them blind; they lose the use of their wings, and gradually become weaker until they die. It is spreading fast among them, and she will feel greatly obliged if some correspondent will suggest some remedy. The London bird fanciers are unacquainted with such a case.

BOOKS: *Exeter.* We have Liebig's new Letters on Agriculture before us; and they will be reviewed hereafter, when we have *studied* them sufficiently. The great German chemist has a right to expect that his views are understood before they are criticised, and such works as that in question can only be understood by diligent study.—*A Young Gardener.* Lindley's Introduction to Botany is much too difficult a book for a beginner. Study that author's School Botany, last edition, and nothing else for the present. You will not find anywhere the pronunciation of such terms as you mention.—*Constant Reader.* We should recommend for the use of your Under-gardeners the following:—Sowerby's Wild Flowers, now appearing in numbers; Lindley's School Botany; Loudon's Self-instruction for Young Gardeners; Neill's Fruit, Flower, and Kitchen Garden; Kemp's How to Lay-out a Garden; Lindley's Theory and Practice of Horticulture for Vegetable Physiology; for birds and animals, White's History of Selborne; Jenyns's Observations on Natural History; Waterton's Three Essays on Natural History. For insects, Kirby and Spence's Introduction to Entomology, the small edition in one volume; we are sorry to add that no other work on common insects is well suited to Gardeners' purposes. Kollar On the Insects injurious to Gardeners, translated by Loudon, is the best, but very, very incomplete; it is good however as far as it goes.

INSECTS: *A B C.* The insects you have sent found on your Cucumber plants after dark are a small species of rove beetle (Oxytelus carinatus) usually supposed to prey on mites and other soft-bodied insects. Pray look again carefully at the leaves after dark. If they be the real enemies, you may trap them by sticking slices of Turnip or Potato into your hot-bed.—*H T.* Your little scarlet insects found upon Vines are Acarideans named Trombidium holosericeum. We believe they are quite harmless, and that they do no injury to vegetation. *W.*

MEXICAN PINES. We have received from *Messrs. Roezl & Co.* specimens of three Pines for which they desire names. That from Durango is P. Wincesteriana; a three-leaved species from Michuacan, forming a tree 60 to 80 feet high, we do not recognise; another three-leaved kind from the same province is like a long-leaved Teocote with the cones of P. oocarpa; we do not identify it.

NAMES OF PLANTS: We have been so often obliged to reluctantly decline naming heaps of dried or other plants, that we venture to request our correspondents to recollect that we never have or could have undertaken an unlimited duty of this kind. Young gardeners, to whom these remarks more especially apply, should bear in mind that, before applying to us for assistance, they should exhaust their other means of gaining information. We cannot save them the trouble of examining and thinking for themselves; nor would it be desirable if we could. All we can do is to *help* them—and that most willingly. It is now requested that, in future, not more than four plants may be sent us at one time.—*W K.* 1, Lastrea dilatata; 2, Polystichum angulare; 3, Lastrea æmula (fœnisecii)—probably, but the specimens are sent in a bad state; 4, Asplenium lanceolatum.—*D. C.* Pittosporum Tobira.—*Davy.* 1, Phlebodium areolatum.—*Dens.* Athyrum Filix-fœmina; 3, Lastrea Filix-mas; 4, Dennstædtia, *alias* Dicksonia davallioides.—*J H L.* Lycium afrum *John Day.* Be so good as mention its habit. Are the stems erect or pendulous? round or angular? are the leaves broad or narrow? do the flowers grow from the side or the end of the stem? We shall then be able to answer the question.—*A W.* Your "Parlour Ivy" is Senecio Mikaniæ

SOY: *R P.* The sauce so named should be a Chinese preparation of a kind of Bean fermented and improved by certain unknown ingredients. What is commonly sold is a mixture of treacle and salt; sold at 2s. a pound instead of 6d.

WOODLICE: *New Sub.* Trap them by means of flower pots laid on their sides baited with a cold boiled Potato covered with dry Moss. A toad or two put into your frames will also tend to thin their numbers, as will also watering round the sides inside with boiling water. In the latter case, however, care must be taken not to injure the plants. See also p. 380, in to-day's Paper. ‡

ARTIFICIAL MANURES, &c.—Manufacturers and others engaged in making ARTIFICIAL MANURES may obtain every necessary instruction for their economical and efficient preparation, by applying to J. C. Nesbit, F.G.S., &c., Principal of the Agricultural and Chemical College, Kennington, London. Analyses of Soils, Guanos, Superphosphate of Lime, Coprolites, &c., and Assays of Gold, Silver, and other Minerals are executed with accuracy and despatch. Gentlemen desirous of receiving instruction in Chemical Analyses and Assaying, will find ample facility and accommodation at the College.

LONDON MANURE COMPANY, removed to 116, Fenchurch Street, E. C. (Established 1840), have the following MANURES ready for delivery:—

CORN MANURE for SPRINGTOP DRESSING
URATE
MANGEL MANURE
SUPERPHOSPHATE OF LIME
BLOOD MANURE
} all of guaranteed quality.

In consequence of the reduction in the price of raw material the London Manure Co. are enabled to lower the price of their Superphosphate of Lime, and to materially improve the Corn Manure and Urate.

The London Manure Co. also supply PERUVIAN GUANO (direct from Messrs. A. Gibbs and Sons), SULPHATE of AMMONIA, NITRATE OF SODA, CRUSHED BONES, and every other Manure of value. Wholesale dealers supplied.

116, Fenchurch Street E.C. Edward Purser, Secretary.

REDUCTION IN PRICE OF LAWES'S MANURES.

MR. LAWES begs to announce that he has this season reduced the price of the Manures manufactured by him, viz.:—

| | | | |
|---|---|---|---|
| TURNIP MANURE .. .. .. | from £7 | to £6 | 6 |
| SUPERPHOSPHATE OF LIME .. | „ 7 | to 6 | 6 |
| MINERAL do. .. | „ 6 | to 5 | 5 |
| BARLEY MANURE.. .. .. .. | .. | 8 | 0 |

Prof. Way and Dr. Voelcker have sampled from a bulk of 5000 to 6000 tons at his factories, and their report and analyses are given in full in Circular to be obtained on application at his office, 1, Adelaide Place, London Bridge, E.C., or of his local Agents.

N B. Genuine Peruvian Guano direct from Messrs Gibbs, Nitrate of Soda, Sulphate of Ammonia, and other Chemical Manures. American Cotton-seed Cake supplied.

ESTABLISHED 1812.

H. and T. PROCTOR'S TURNIP MANURE.—Messrs. H. & T. P. draw particular attention to this valuable Manure, which contains all the elements necessary for the full development of the Turnip Crop, so combined, that, from their chemical knowledge and long experience, they feel satisfied is most advantageous to the consumer. It has been very extensively used by most of the eminent Agriculturists of the day, and has attained a high reputation throughout England, Scotland, and Wales, and, they venture to say, is unrivalled for the weight and quality of the Bulbs which it produces. The application of this Manure to the Turnips will be found to benefit considerably the after crops of Barley, Clover, and Wheat.

POTATO, GRASS, BARLEY, CLOVER, AND WHEAT MANURES; also BONE DUST, PERUVIAN GUANO, and SUPERPHOSPHATE of LIME, warranted of the best quality.

Apply to H. & T. Proctor, West of England Depôt for Artificial Manures, Cathay, Bristol; or Proctor & Ryland, Birmingham, and Saltney, near Chester.

BURNARD, LACK, and CO.'S CONCENTRATED SUPERPHOSPHATE OF LIME; guaranteed to contain Phosphoric Acid soluble, equivalent to 40 per cent. of Tribasic Phosphate of Lime.

CONCENTRATED TURNIP MANURE, equal in value to the preceding.

Of these Manures Dr. Voelcker says:—"These results must be very gratifying to you, and are the best proof of the very high agricultural and commercial value which characterises your concentrated superphosphate."

Detailed analyses, with opinions of the late and present Chemists to the Royal Agricultural Society, with Testimonials, Prices, &c., may be had on application to Burnard, Lack, & Co., Sutton Road, Plymouth.

PERUVIAN GUANO.

The present price of this valuable Manure is—

12*l.* per Ton for 30 Tons and upwards,
13*l.* 5*s.* per Ton for 1 Ton up to 30 Tons.

And, to guard against the purchase of adulterated mixtures and of inferior Guanos purporting to produce results equal to Peruvian, consumers are recommended to apply either to ourselves, to our agents, Messrs. Gibbs, Bright, & Co., of Liverpool and Bristol, or to dealers of established character, in whose honesty and fair dealing they may place implicit confidence.

Antony Gibbs & Sons.

SUCCESS OF THE NEW GUANO; Imported under Lease from the Crown.—Though the experiments with KOORIA MOORIA GUANO were made late in the season, and under adverse circumstances, the successful results obtained confirm beyond doubt Professor Voelcker's report—(in No. 41, Part I., vol. xix., Royal Agricultural Society's Journal)—that Ammoniacal manures, applied to Turnips in the experimental field, kept back at first the crop, and had no beneficial effect either alone or in conjunction with phosphates.

The Kooria Mooria Guano is essentially a phosphatic manure, containing sufficient ammonia for roots, and, with a mixture of one-fourth of ammoniacal guano, cannot be excelled for either top-dressing or grain crops. It is a natural deposit, and will be delivered as imported, free from risk of adulteration. Deeply impressed with the necessity of encouraging the import of this valuable manure, her Majesty's Government has given such increased facilities for shipment, that arrangements have been made for a considerable supply. Purchasers can be supplied with suitable quantities from cargoes now on sale, containing from 45 to 66 per cent. phosphates. Present prices, 4*l.* 10*s.* to 6*l.* 10*s.* per ton, on applying to Joseph Hindson, Broker (one of the Lessees under the Crown), 20, North John St., Liverpool. Government Lessees: Ord, Hindson, & Hayes.

"Greystoke, Cumberland, Dec. 16, 1858.

"Dear Sirs,—I beg to inform you that I applied the Kooria Mooria Guano I had from you for Turnips, on land of a loamy character, incumbent on a stiff clay subsoil, and recently drained. On each side of the plot sown with Kooria Mooria Guano were Turnips manured with best Peruvian Guano. The quantities applied of each sort were of equal weight for weight per acre. The crop—a very good one throughout—is now being eaten off with sheep. Very little perceptible difference can be discovered, but if anything that difference is in favour of the Turnips sown with Kooria Mooria Guano.

(Signed) "John Barker."

"Messrs. J. & J. Graham, Guano Merchants, Penrith."

A Pamphlet, "Hints on Guano," containing a large number of reports from well-known agriculturists, and analysis of the cargoes here, may be had of the Broker, at the above address.

ARTIFICIAL MANURES.

FREDERICK CORNWELL begs to inform his friends and the Agricultural public that he can now supply a "SUPERPHOSPHATE of LIME" superior to anything yet produced. Each Bag guaranteed to contain from 20 to 25 per cent. of "Soluble Phosphate of Lime." Price 5*l.* 10*s.* per ton, delivered free to any Railway or Wharf in London. Dealers and the trade supplied. LINSEED-CAKES, COTTON-CAKES, and all descriptions of ARTIFICIAL MANURES at lowest market prices.—Offices, 7, Great St. Helen's, London, E. C.

IMPORTANT TO FLORISTS AND GARDENERS.

DEALEY and DAWES'S highly CONCENTRATED FERTILISING MANURE, manufactured expressly for Stove and Greenhouse Plants, Vegetables, Trees, &c.

Messrs. Dealey & Dawes draw particular attention to this valuable Manure, which they guarantee contains all the elements necessary for the development of Soft and Hard-wooded Plants, Vegetables, &c.

Retailed by most respectable Seedsmen, in 1 lb. packets, with full directions for use; and sold Wholesale at the Manufactory, in boxes containing 112 packets, also loose in boxes of 28 lbs. each. Samples and testimonials free by post on application.—Oldbury, near Birmingham.

COLLEGE of AGRICULTURE and CHEMISTRY, and of PRACTICAL and GENERAL SCIENCE, 37 and 38, Lower Kennington Lane, Kennington, near London.

Principal—J. C. Nesbit, F.G.S., F.C.S., &c.

The system of studies pursued in the College comprises every branch requisite to prepare youth for the pursuits of Agriculture, Engineering, Mining, Manufactures, and the Arts; for the Naval and Military Services, and for the Universities.

Analyses and Assays of every description are promptly and accurately executed at the College. The terms and other particulars may be had on application to the Principal.

BATH AND WEST OF ENGLAND POULTRY EXHIBITION.—Entries close May 1.—In addition to the ordinary Money Prizes there will be awarded 22 handsome SILVER CUPS, open to all England.

Prize Sheets and Certificates to be obtained of the Honorary Secretary, Mr. Kingsbury, Hammett Street, Taunton.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.—WARWICK MEETING.

Entries for IMPLEMENTS, CHEESE, WOOL, FARM-GATES, and DRAINING PIPES, must be made on or before May 1.

Entries for LIVE STOCK must be made on or before June 1.

**** All Entries received in each case after those respective dates will, without any exception, be disqualified, and returned to the senders.

PRIZE SHEETS may be had on application at the Offices of the Society, 12, Hanover Square, London.

# The Agricultural Gazette.

*SATURDAY, APRIL* 30, 1859.

MEETINGS FOR THE ENSUING WEEK.

Monday, May 2—London Farmers' Club. .... 6 P.M.
Wednesday, — 4—Agri. Society of England .. Noon.

If Woolston farm, near Bletchley, presents the longest experience and oldest example of steam culture in this country, that of Overtown, near Swindon, is probably the completest instance of the kind. Mr. Redman, the tenant of this farm, has not been many months a steam ploughman. The instrument which we saw at work upon his land last Saturday is the very one which gained the Society's prize for Mr. Fowler at the late Chester Show. But in this short time, that is since October 1, it has displaced 13 oxen and 3 horses from a farm requiring 13 oxen and 13 horses for cultivation, and it has done all the winter cultivation of the land. With the exception of a small and somewhat awkward field ploughed by horses for Mangel Wurzel, it has done all the ploughing and grubbing of a farm of 410 acres of stiff arable land, besides turning over 40 acres for a neighbour.

Overtown lies four or five miles south of the Swindon station. The farm is laid out in large and open fields presenting great facilities for the long draught and regular working of Fowler's engines, ploughs, and anchorage. It is for the most part a stiff soil on chalk marl, liable to great injury from the trampling of horses if ploughed at an unsuitable time. In every respect, therefore, it presents the conditions under which steam culture is likely to be most efficient and profitable, and Mr. Redman with comparatively little enthusiasm apparent in his enterprise, but as a matter of sober calculation on business principles, has adopted Fowler's apparatus with every probability of its proving just the substitute for horse-power which the soil requires.

We saw 11 acres of Beans which had been put in after steam ploughing, 13 acres ploughed for Peas, nearly 100 acres of Wheat, 28 acres of Vetches, and upwards of 50 acres ploughed for roots—all by the steam plough.

The cultivation proceeding last Saturday was grubbing for Swedish Turnips of land previously ploughed by steam in the autumn. The grubbing was most effectually done by the shares and frames of Fowler's system of ploughs, the mould-boards having been removed. Nothing could be more satisfactory than this work, which under the circumstances was greatly preferable to a turning over of the soil by ploughs, as the soil was very foul with Thistle, Crowfoot, and other perennial weeds, all of which it was well to keep upon the surface to be dragged out by harrows. This harrowing and the hauling of the manure and produce is almost the whole of the work which will be left for horse power upon the farm. Probably there are seasons when the 10 horses remaining in the stables will be insufficient for the work of this kind to be done. At harvest time, however, when this need is most likely to arise, it will be possible to hire additional force from the vale farms, and so avoid the need of keeping a stock of horses all the year to meet the necessities of a single month.

The impression left upon the mind by an inspection of Mr. Redman's crops at present is, that the ploughing for some of the Wheat was too deeply done; an inch or two of the subsoil was brought up, and the land is somewhat loose in places. This is especially the case in one field where farm manure was ploughed in by steam, and where the land now treads somewhat loosely. On the other hand a ridge or two of the land under Peas, which had been ploughed by horses, did not promise so well as the rest of the field which had been worked by steam power. In the cultivation of fallow crops, as Turnips, Mangels, &c., there can be no doubt that steam power as acting under Smith's or Fowler's patents is unrivalled.

No other could accomplish such work as some of Mr. Redman's farm presented. The dynamometer, we are assured, exhibited a strain on one occasion of 10 cwt. per plough when turning a furrow about 7 inches deep. The horses needed for such a strain as this would have done more harm than good in trampling as they turned it.

That Mr. Redman's experience of one of the first of Fowler's apparatus—for it was used at Salisbury as well as Chester—should not be altogether without a drawback was to be expected. He is quite aware of his responsibility as one of our pioneers in the work of steam cultivation, and does not hide any of the difficulties he has overcome.

The following diary of two months' work which he has given us is a true account of breakages and stoppages as well as of work accomplished. We transcribe it as a truthful account of steam ploughing on land exceedingly well suited to it, by men however to whom it was entirely new. It should however be added that since Nov. 13 last, when the new rope was provided, not a single casualty of any kind has happened.

1858.

Sept. 29. Sent 10 horses to the station (four miles) for the steam plough—half a day.
„ 30.
Oct. 1. and half a day on } Ploughed about 15 acres for Vetches.
„ 2.
„ 4. Moved to the "Nine and Thirteen Acres."
„ 5. Ploughing for Wheat.
„ 6. Wet afternoon.
„ 7. Half a day's work.
„ 8. Propelling wheel of anchor broke; sent a man to Ipswich for a new one.
„ 10. Arrived, and got in order for work. Wet morning.
„ 11. Very heavy work, only three furrows at once.
„ 12. Finished and shifted to "Heathy Ground Field."
„ 13. Three furrows at work. Ploughed for Wheat 4½ acres of very heavy work; land in a wet state.
„ 14. Broke furrow-arm at 11 o'clock; sent it to be repaired.
„ 15. Three furrows at once, all day.
„ 16. Four furrows at once, all day; fine weather; lighter soil; seven acres done during to day.
„ 18. Wet. Only two hours at work.
„ 19. Wet. No work.
„ 20. Began at 9 o'clock. At 12 o'clock a neglect to "signal" caused plough to run into anchor, breaking the large sheave; telegraphed for another.
„ 22. Sheave arrived.
„ 23. Finished "Heathy Ground Field," 25 acres—half was a bare fallow, and half a worked Clover lea, both for Wheat. Moved to "Middle Furlong Ruddles Field" at 6 o'clock.
„ 25. Worked three furrows, in very sticky, bare fallow; rope (an old one) gave way twice; a strand broke twice.
„ 26. } Three furrows, exceedingly heavy work.
„ 27. }
„ 28. Ploughing Clover lea, four furrows at once; broke strands of rope.
„ 29. Ploughing Clover lea, four furrows at once; rope gave way once; one strand broken twice.
Nov. 1. Obliged to remove one plough, and finished with three furrows, because of the ground being so stiff; rope gave way twice, and broke a strand twice; 29 acres done in the last six days. Moved to "Common Field," 11 acres, at half-past 6 o'clock.
„ 2. At 9 o'clock broke a strand; worked three furrows in very heavy soil. (Draught of a Howard's iron plough, 3 feet 6 inches long, is here 10 cwt. for a furrow 10 by 7 inches.)
„ 3. Rope gave way; joined at 11 o'clock. About 3½ acres done during to-day.
„ 4. Rope yielded twice, and strand broke twice.
„ 5. Moved to "Long Eleven Acres Field."
„ 6. Finished the piece, 8 acres with three furrows.
„ 8. Moved to the top of "Marlborough Way Field;" waited for new rope.
„ 9. Began work at 2 o'clock, with three furrows; the long stubble choked the ploughs very much.
„ 11. Delayed three hours in altering the plough, trying a new method of raising it.
„ 12. Received a new steel wire rope, 800 yards long.
„ 13. Old rope gave way: put on 450 yards of the new.
„ 15 Finished the piece, about 24 acres.
„ 16. Began at 11 o'clock to plough another part of the field with three furrows, 7 inches deep. The whole field is about 155 acres, and the engine traversed across the middle and back again, thus embracing many days' work, without a removal, except of the anchorage and rope.
„ 17. }
„ 18. } All day at work.
„ 19. }

Nov. 20. Broke propelling wheel of windlass at 1 o'clock.
" 22. Wheel repaired and home again at 9 o'clock.
" 23. Wheel fitted on at 10 o'clock; sharp frost.
" 24. Hard frost; no work.
" 25. Change of weather; at work at half-past 9 o'clock.
" 26. Finished the piece, 54 acres for fallow. (Draught of Howard's plough, 6 cwt. for 10 by 6 inches furrow.)

We must not extend our remarks on Mr. REDMAN'S farm at present. He has himself given us the gross result of a winter's experience at p. 368. Two hundred and ten acres have been ploughed for 112*l.* 10*s.* 6*d.*—the draught being often 8 cwt. to a furrow—13 oxen have been dispensed with—the horses have been reduced from 13 to 10. These are results sufficiently encouraging to any one who is balancing the alternative of steam cultivation with the existing method by horse-power alone.

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WHAT IS MEADOW BALDNESS?—From the advertisements one sees in agricultural prints of "Grass seeds to renovate old pastures," a novice might almost be induced to believe that bare spots in a meadow were so easily cured that, as for ringworm, every one has a quack remedy which is certain in its operation. In order to a due estimation of this matter, we now direct our readers' attention to the following inquiries:—

1st. The nature and causes of meadow baldness.
2d. The nature of the advertised remedies.
3d. The principles which should guide a choice of remedial measures.

1. If we examine the best old pastures in the country we shall find that the age of a meadow instead of necessarily leading to decay is, on the contrary, a guarantee for its luxuriance, old pastures indeed being usually too well attended to to need renovating seeds. But occasionally from taking hay crops too frequently, from want of rolling and harrowing and other cultivative processes, the Grass begins to die in patches and the jungle bushy method of growth of what is left behind is further aggravated by insect attacks, as the eating away of patches of Grass by caterpillars, especially those of the *Melolontha vulgaris*, cockchaffer, which caused such mischief last year, or the smaller species *M. communis*, locally so abundant, whilst another kind of injury results especially in certain soils from the formation of ant hills.

The primary cause of bald patches, however, in turf, will ever be the mistaken plan on which haymaking is too often conducted. The farmer wants as heavy a crop of hay as he can get; or if not influenced by this, he lets the Grass get too old before cutting, either from want of hands or due appreciation of the results; and thus, as the natural end aimed at in seeding has been attained, we may soon see how readily the old stems die away, and in proportion to the goodness of the crop, that is to the quantity of flowering culms, so will the mischief from this cause be increased. The true causes which lead to the need of "renovation" may be briefly described as:—(1) *Mechanical*, including unevennesses of surface (which are in a few years injured by neglect of cattle droppings) the growth of large weeds, such as Thistles and Nettles, and want of firmness from neglect of rolling.—(2) *Botanical*.—Thinness of Grass, arising from allowing the individual plants to exhaust themselves by too great a development of woody culms and seeding, a condition which is of course aided by the exhaustion of chemical principles which such growth necessarily induces, and thus leading to the most important cause, viz.—(3) *Chemical*.—If too much be taken from a meadow in the shape of hay, however rich it may be, exhaustion of its chemical or fertilising principles must at some time be the result. Thus the rich meadows on the alluvial flats of Cheshire had for years been getting poorer, a decadence which showed itself by a growth of Rushes, Sedges, and Reedy Grasses, the luxuriance of which was at one time an indication to the farmer that his meadow wanted renovating, and his plan was to apply a thick dressing of salt which had the effect of killing not only the Grasses but the weeds, and indeed the whole herbage, and of course these as dead plants soon decayed into plant elements, which were thus brought into the condition of manure to grow fresh plants, and as the seeds of these were still in the soil such manuring would cause their active germination, and the thus renovated land would for a time produce good Grasses as a rule, and bad ones as an exception, but as the former became again exhausted, the exceptional examples would increase and ultimately obtain possession and mastery.

Again, farmers often try to renovate poor pastures by years of depasturing, and with great success, but it will be seen that with this plan as with the former, nothing is brought to the soil. Sheep feeding or salting cannot make phosphatic matter for example, and thus this important fertilising principle must become less and less with every portion of bone and muscle that is made from it, and we need not wonder therefore that with the kinds of renovation mentioned, though the ruin would be retarded, and that too for a lengthened period, yet it must come some time unless chemical renovation be brought about, as indeed is now most successfully done by the application of bones, superphosphate, and guano.

2. Let us now look at the advertised remedies for these defects.—Of course those of the seedsmen will be of a botanical kind. Formerly the farmer would collect the seeds and rubbish from his hayloft to produce the desired effect, but fortunately farmers in general are now so early with their hay and really have become so much aware of the exhausting nature of growing Grass culms too old that few seeds are ripened, and so any renovation from the hayloft will be exceedingly uncertain: hence, then, the seedsman offers to supply the remedy in "Grass seeds to renovate old pastures," in which we have no doubt honest men try to get a good recipe, and to make it up in the prescribed proportions with genuine articles. Testimonials are never wanting in recommendation of the results; but as to the value of these, we must nevertheless give an opinion that the case is just a parallel to those of universal remedies in general.

But now as to the actual nature of the remedies sold for worn-out meadows. As we have fortunately a more ready method of analysing these than even that possessed by the chemist in compounded medicines, we shall give our results in as far as such examination warrants a conclusion, and they lead to this, that "seeds to renovate old pasture" *consist mostly of the dregs and refuse of the seed market*, such as seeds from a dirty patch full of weeds of all kinds, and old seeds which will not germinate. Take for example the following analysis of a sample of the kind:—

*Contents of sample of Renovating Mixture.*
Italian Rye-grass, *Lolium italicum.*
Black Bent, *Alopecurus agrestis.*
Soft Brome, *Bromus mollis.*
Soft Grass, *Holcus lanatus.*
Creeping Crowfoot, *Ranunculus repens.*
Narrow-leaved Plantain, *Plantago lanceolata.*

The last five were no doubt weeds which were mixed with the Clovers and other meadow Grasses of the compound; but that the bulk should be Italian Rye-grass, which is not perennial, is an evidence of great ignorance of what is required for the renovation of *permanent pasture*, or rather shows a belief that any drug is deemed good enough for a quack nostrum.

3. The principles which should guide us in remedying decayed pasture should have more immediate reference to the soil than to the plant, for it cannot be too strongly urged that Grass and meadow herbage is natural to our fields, and its decay arises from exhaustion of some useful material in the soil; *renovation* must therefore be sought for in the land. Without this it would be almost as efficacious to sow bad seeds as good, for if Grass has decayed from natural causes, such as poverty, the sowing of Grass seed is not likely to be of great use. It is just probable that a neglected pasture may have in it sufficient seeds for every purpose, if merely manure be applied capable of stimulating them into existence; in reference to which every farmer will recollect the sudden appearance of Clover in meadows in which it before only existed as an exceptional part of the pasture, on the application of lime or superphosphate.

Hence then drainage, liberal manuring where required, rest from hay-making, depasturing instead, are all so many agents in renovating pasture, without which seeds for the purpose may almost as well be bad as good, just as in restoring loss of hair arising from a change of constitution hogs' lard will be quite as efficient as bears' grease.

When however conditions are so altered as that seeds can be made grow, we should not only seek the best of their kinds, but at the same time we should make choice of the species according to the nature of the soil, both in Grasses proper, and in the Clovers and other fodder plants; for as what will flourish in sandy soils will not succeed in heavy lands, it follows as a matter of course that the notion of an invariable mixture for all cases is founded in error; and though so many certificates can be adduced in favour of very worthless mixtures, we must look upon this not as an evidence of the success of the mixture itself, but rather as showing that the result has depended upon attention to the other important principles to which we have adverted.

## TEN ACRES OF LOIS-WEEDON WHEAT

GROWN BY HORSE-TILLAGE WITHOUT MANUAL DIGGING.

YOU are aware that I am conducting this experiment upon a piece of flat alluvial land, a clayey loam, resting at considerable depth upon "silt," or the tidal sand, underlying all our Lincolnshire salt marshes. Being low and wet compared with the rest of the farm, this field has never had a very good character; it has been partially under-drained, and in arable culture for a great many years. The rotation of late has been as follows:—1850, fallowed and manured for red round Turnips, fed off; 1851, Oats; 1852, Clover, mown for hay, and grazed afterwards; 1853, Wheat; 1854, manured for Beans; 1855, very heavy and laid crop of Wheat; 1856, Barley, half of it a good crop, half rather light; 1857, Wheat, on the Lois-Weedon or striped system; 1858, Wheat, on the same plan grown in the fallowed intervals of the last crop; 1859; Wheat on the same method. The last application of any kind of manure was for the Beans in 1854, since which have thus been taken four crops of Wheat and one of Barley in the 5 years, including the present.

I cannot enter just now upon a description of my mode of ploughing, subsoiling, scarifying, &c. which constitute the fallowing and preparation of the intervals in lieu of Mr. Smith's digging and forking. I do not attain to a greater depth than 9 or at most 10 inches at present, that is to about three-quarters of the depth that the light land 4-acre piece is worked at Lois-Weedon; my horse work is not so complete and effectual as hand labour would be, but it costs me less, and therefore I can afford to realise a smaller return than is obtained in the magnificent yields of Mr. Smith. According to the last "Word in Season," the average expenses of cultivation for the "clay piece" are 4*l.* 19*s.* 6*d.*; add rent, 40*s.*; rates and taxes, 4*s.* 3*d.*; and the total outlay is 7*l.* 3*s.* 9*d.*; and 5 per cent. interest on this brings the whole amount to 7*l.* 11*s.* per acre. The average produce of 35 bushels per acre (though greater of late years) makes the cost of growing the Wheat 4*s.* 3*d.* per bushel, without reckoning anything for the straw, which is so much profit in addition. On the light land clayed the expenses are rather less, I believe; and the average yield of 34 bushels makes the cost of growth 4*s.* per bushel, saying nothing about the straw. What is the expenditure in my case? Having kept an accurate account of all labour done, and putting down 2*s.* 6*d.* for each day's work of a horse, I find that the working expenses, seed, &c., come to 3*l.* 4*s.*; that is, about one-third less than Mr. Smith's expenses. Adding rent, 40*s.*; tithe, rates and taxes, 9*s.* 10*d.*; the total outlay is 5*l.* 13*s.* 10*d.*; and interest at 5 per cent. swells the whole to 5*l.* 19*s.* 6*d.* per acre. So that if I get 28 bushels yield, the cost will be 4*s.* 3*d.*, the same as on the Lois-Weedon clay piece; and if I get 30 bushels per acre, the cost will be 4*s.* per bushel, as on the Lois-Weedon light land 4-acre field, and the straw will be a + quantity into the bargain. Mr. Smith gets a very handsome profit; and if I produce corn of equal value per quarter for the same cost per quarter that he does, I shall evidently get as much profit upon every quarter I grow, and as large a per centage upon the capital engaged. But my produce being less per acre than his, of course the profit per acre will be also less—precisely in proportion as my outlay is less. Do I, and can I, obtain this requisite yield of 28 to 30 bushels? Well, my second crop (harvest of 1858) yielded precisely 300 bushels of marketable corn, which divided by 10, the exact number of acres, gives a produce of 30 bushels per acre. I received of the merchant for this 300 bushels of corn, 71*l.* 3*s.* 6*d.* (or only 39*s.* per quarter for the best, and 32*s.* per quarter for the portion of second quality); add to this 1*l.* 4*s.* for 8 bushels of "tailing," and the total value of the grain comes to 72*l.* 7*s.* 6*d.*, or 7*l.* 4*s.* 9*d.* per acre. Surely the straw, about 25 to 30 cwts. per acre, may be reckoned as worth 10*s.*, although I cannot dispose of it except by conversion into manure and use as litter and cattle fodder; and this will make a total return of 7*l.* 14*s.* 9*d.* per acre. Deduct the expenses, 5*l.* 19*s.* 6*d.*, and there remains a clear profit of 1*l.* 15*s.* 3*d.* per acre. Now, observe that this is in spite of a wretchedly bad market. With a yield of 30 bushels, a rise of 8*s.* per quarter in price gives an increase of 30*s.* per acre in the profit made. Had the price been 46*s.* per quarter, the clear profit would have been 3*l.* 5*s.* per acre; had the price been 54*s.*, the profit would have been 4*l.* 15*s.* per acre; had the price been up as high as 62*s.*, the profit would have reached to 6*l.* 5*s.* per acre. And at any rate the 46*s.* and the 54*s.* are not at all excessive prices for good red Wheat in a course of years; whereas an average of 39*s.* for red Wheat, weighing 60 lbs. the imperial bushel, is exceedingly low.

May I reasonably expect a produce of 30 bushels per acre, not for perpetuity but for a series of years? I must confess that I neglected last year's crop (the 30-bushel one) in some important particulars. I did not stir the intervals as deeply as I might have done; I only horse-hoed them once instead of two or three times, and I never pulverised them sufficiently well to admit of earthing up the Wheat rows; besides which my scarifier was so badly contrived that its side wheels crushed and injured a vast deal of the Wheat plant, which never recovered the damage. All these matters will be rectified in the case of the third crop now growing and looking extremely healthy and well. And the Wheat crops in this neighbourhood were all deficient in yield and quality,

the harvest in fact having been the worst for several years. I may therefore confidently look for more than 30 bushels, rather than less at the ensuing harvest. My first crop of 1857 was only 24 bushels per acre, but it was after Barley; it was very badly got in, the land was in a foul state, the season much too late when the preparations for sowing began, and the tillage operations were very imperfectly done during the growth of the crop. I am happy to say that the land is now pretty clear from Couch, the Buttercups and Thistles which infested it are getting tired of the repeated tillage, and the Chickweed and choking annuals are only so far troublesome as to need frequent hoeing and watchful weeding.

In conclusion let me ask why may not farmers adopt this system of Wheat growing for two years in succession, without trying (if they feel timid) to make a perpetual thing of it? On 300 acres arable, say 100 acres are Wheat every year in the ordinary method of cultivation; if my practice were adopted these acres would be in Wheat for two years, so that there would be 200 acres of Wheat every year upon all the land in rotation, the remaining 100 acres to bring enormous crops of Mangel and other roots, and grain and green crops for which the soil may be adapted, there being such a large amount of straw to assist in manuring it.

When corn made 46*s*. per quarter there would be a clear profit or income of 650*l*. per annum from the 200 acres yielding 30 bushels per acre, and the other 100 acres could hardly fail to yield profit in as ample a proportion when replenished by all the straw from the 200 acres. But if I get 30 bushels yield for the fourth white straw crop without manure, the produce from the 200 acres in the case supposed would doubtless be very much greater. Occupier of 300 acres of Wheat soil, is it possible for you to realise (with your landlord's consent) 1000*l*. per annum clear income from your farm without excessive outlay, and when Wheat is under 50*s*. per quarter? *I. A. C.*

## THE EXHIBITION OF INVENTIONS AT THE SOCIETY OF ARTS, ADELPHI.

[We extract from the Catalogue published by the Society of Arts the following particulars of such of these inventions as are interesting to agricultural readers.]

*Patent Aerated Bread; Peek, Frean, and Co., Dockhead.*—In this bread, as in the ordinary fermented bread, the vesicular structure is imparted by the expansion of carbonic acid gas within the substance of the dough; but, whereas in fermented bread the carbonic acid is derived from the fermentation or degradation of a portion of the flour itself, in this bread the pure carbonic acid gas is superadded to the flour, which does not undergo any degradation whatever. The vessel in which the flour, water, and salt are mixed together (A) consists of a very strong iron globe, 3 feet in diameter, capable of bearing a pressure of 300 lbs. on the square inch; it has an opening at the top, to which an air-tight cover is fitted, and an opening at the bottom also capable of being closed air-tight. Through its centre a shaft or rod passes, on which are fitted iron mixing arms; this shaft or rod has a wheel fitted to one end, in which a smaller wheel works, which smaller wheel is moved by a pulley, which in its turn receives motion from a steam engine. The bottom of the water vessel (L) made of copper, and tinned inside, communicates with the vessel A by a pipe in which there is a stopcock, the top communicates by a descending pipe, in which is a stopcock. To this copper vessel is attached a water gauge which marks the number of gallons drawn in or out of it. Through the bottom a pipe *k* enters, and terminates within by a rose. To work this apparatus, flour and salt are put into the vessel A, which is afterwards closed air-tight, and after exhaustion of the air contained in the vessels A and L, water is drawn into L. Carbonic acid gas is then forced into it through the pipe *k*, and being discharged from the rose, bubbles through the water, rises to the top, and passes down into the vessel A. By this means the vessels are filled with a condensed atmosphere, and the water is saturated at the same time. When sufficient fixed air has been forced into the vessels the stopcock is opened, and the proper quantity of water is run into the flour. The mixing arms are then set going, and in from four to six minutes the dough is perfectly mixed. It is then drawn into pans or moulding baskets in the same way as soda water is drawn into bottles, &c., and is passed into the oven without being touched by the hands. During the drawing the carbonic acid gas, dissolved by the water while under pressure, is evolved, and by its expansion raises the bread.

*Bread-Making Machinery; John Miller, Upper George Street, Edgeware Road, W.*—The machine exhibited is that portion of the machinery which forms the dough into loaves. It consists of a sloping platform, which delivers the dough into a pair of steel rollers working horizontally at the end of it, capable of adjustment at any suitable distance. After passing through these rollers the sheet of dough falls on an endless web revolving horizontally, which, by means of a simple mechanical arrangement, is carried step by step the exact space required for the cutter, which stamps out the loaves in succession as it is carried along the web. The pieces of dough thus cut, which are not more than ¾ of an inch thick, are set side by side on flat tins, and placed in a warm atmosphere for about 30 or 40 minutes, until the dough has risen somewhat, when they are put into the oven. The other machinery used by Mr. Miller comprises a mixing machine and a kneading machine. The mixing machine consists of an iron cylinder, through which a horizontal axis passes, having a series of beaters, or blunt knives, fixed at right angles to it. Each knife or beater is bent round, in the form of an oblong parallelogram, which extends from the axis to within a short distance of the inner surface of the cylinder. The cylinder is stedfast, while the axis carrying the beaters revolves inside. The materials for making the bread are placed inside the cylinder, and in a very short time, by the action of the machine, they are thoroughly mixed. The kneading is performed by passing masses of the mixed material, after it has stood a sufficient time, through a pair of steel rollers several times, and thus it becomes kneaded and thoroughly amalgamated into a uniform dough, suited for passing into the machine exhibited, which forms it into loaves. (See "Journal of the Society of Arts," vol. vii., p. 236.)

*Patent Bread-Making Machine; E. Stevens*, 5, 6, & 7, *Cambridge Road, N.E.*—This machine has a double bottom for containing hot water in cold weather, to regulate and force if you wish the sponges and doughs, avoiding the necessity of using so much hot liquor, which is injurious to the bread. In very hot weather this chamber can also be used for cold water, to keep the sponges and dough cool, which always generate heat in fermentation, (particularly in hot weather); this application of cold water will cause the fermentation to work gently, producing better bread. The mixer is kept in its place by means of the pawl, which has only to be raised, when the mixer is taken out of the machine; by this means the trough is perfectly even and smooth inside in every part.

*Patent Carrot Seed Bearding and Dressing Machine; J. Scott*, 111, *Drummond Street, Euston Square. N.W.*—This machine removes the hirsute covering from Carrot seed, without, as is stated, in the slightest degree injuriously affecting it; but on the contrary, it is asserted that the vegetative properties of seed so dressed are improved from 25 to 30 per cent. The operation is effected by the use of cylinders or cones, covered with wire card metallic brushes, perforated metal, or other suitable rough surface enclosed in wire gauze casing, and capable of being regulated to suit the description of seed required to be operated on. By a slight modification it may be adapted for milling Clover or Trefoil, and other such like purposes.

*Patent Britannia Self-raking Reaping Machine; B. Samuelson, Banbury, and 76, Cannon Street, West, E.C.*—This machine is made to cut 5 or 6 feet in width and is drawn by two horses in advance of the near side. The action of the knife is reciprocating, the same as McCormack's, Hussey's, &c. The peculiarity in this machine is the self-acting apparatus for raking the sheaf off the platform; this is effected by means of very simple mechanism, communicating from the driving wheel to a rake-head fitted on a crank. As the cut corn falls upon the platform the rake descends upon it near the knife, sweeps it with a circular movement to the rear of the near side of the machine, and drops it in a clean bundle ready for the binder; the rake then ascends, by a turn of the crank, and traverses towards the knife again for the next sheaf. It leaves a clear space for the horses to come the next bout. The rake is completely under the control of the driver, who by placing his foot on a lever can suspend its action, to make large or small sheaves, or to suit the crop. The travelling wheels are large in diameter, and strongly constructed, enabling the machine to cross water courses or run on rough bye roads with facility and without danger of breakage. It is stated that a boy old enough to drive a pair of horses can manage it, and do from 12 to 15 acres a day.

*Patent Horse and Cattle Fastening; G. W. Baker, Park-farm, Woburn.*—The object of this invention is to facilitate the release of cattle in case of fire. By its means, a single person, without even entering the building, has the power of releasing a whole shed of animals at one and the same time. This is done by means of a lever at the end of the building outside, which, when pulled, opens all the fastenings simultaneously, being connected with each one continuously by ordinary iron gas piping of ¾-in. diameter. The animals are thus released with their ties on, which is a great advantage, as they can then be led away to any convenient place and tied up, instead of being turned loose into the country. The fastenings intended for horses are made shorter.

*Patent Fish Manure; Samuel Osler*, 12, *Brighton Terrace, Great Yarmouth.*—In the preparation of this manure, fish is subjected to a prolonged heat of about the temperature of boiling water, the watery portion separating from the fibre with the gelatine and oil; the whole substance of the fish being resolved into three parts, the fibre and bone, which remain in a comminuted solid, constituting the manure, and containing the ammoniacal constituents of phosphates; the gelatine being dissolved in the water, and the oil floating on the surface. This is skimmed off; and the water, with the gelatine in solution, is separated, and the fibre that remains is dried for manure. The water, with the gelatine of the fish, may be evaporated for fish glue, or inferior isinglass; otherwise it may be used for liquid manure.

## ON SELF-MAINTAINING AGRICULTURE.

Is it a sound agricultural economy that rests on extraneous supplies for its success?

This is a question which, what is called, high farming tempts us to raise. The requisitions of high farming evidently render it exclusive and incapable of general application, for they require and appropriate more feeding and fertilising matters than would fall to the share of such highly farmed lands in a system capable of general adoption. To farm high must therefore imply also to farm low. Now it has been said that the happiest and most prosperous and perfect state is one in which there are neither too rich nor too poor: the truth of this maxim we must think equally applies to agriculture. It must be inferred that the consumption of an undue proportion of feeding and fertilising matters by some farms, although increasing the productive powers of a few, will by the deterioration of the many diminish the general supply of the food of the country and that, in a greater proportion than is made up by the superior produce of the favoured lands. But the supply of such matters to these lands is also an uncertainty, depending as it does on various contingencies. They may be exhausted, and that in an increasing ratio should the low farmed lands either change occupiers, or should the present occupiers by an improved economy be enabled to enter the field against them. Or the foreign supply may be cut off. A time may come, and come it must, for all things mundane are transitory, when the proud dominion of the seas shall no longer be ours, when we may have to ask our neighbours or perhaps our estranged children for leave to import. Surely the bread of the people ought not to depend on contingencies.

Would it not be a sounder policy so to regulate our agricultural economy that we may free it from a reliance on what may become failing sources, and give it a dependance on self by rendering each farm capable of sustaining a high fertility from its own internal resources, using up only a fair share of extraneous matters and allowing only an unlimited use of such mineral substances as are inexhaustible?

Desirable as may be independence in manurial properties, it is yet more so in the production of a sufficiency of food for our people; it is most unsafe that we should have to trust to foreign countries for our daily bread. Is this independency in food to be attained from the high productive powers of a few farms? Is it not more likely to be obtained by increasing the productiveness of all, even though it reach not to that of the more favoured? Now it appears to us that we may arrive at this end.

By the practice of Lois-Weedon we are assured that the demands of the cereals on manure may be satisfied, on all lands naturally fitted to produce them, from natural sources alone, thus leaving the whole of the manure produced on the farm unappropriated, and, therefore free to be applied to those grosser feeding plants cultivated for leaf or root, and for which at Lois-Weedon they are, I believe, found sufficient without the use of other help.

Were all our land cultivated on the Lois-Weedon plan all would be as productive as our vaunted high farmed lands, and probably more food would be produced than sufficient for our consumption. We should thus become independent of foreign supplies both of manure and food.

It is really time, after twelve years' experience, that this plan of Mr. Smith's should either be generally adopted or generally repudiated. How long do we halt between two opinions!

On further experience of the Lois-Weedon practice should it be found that after a lapse of years any components of the soil have been too much used up, or that the natural aerial supplies have become insufficient for the fertilising of the inorganic matters of the soil with sufficient activity for the continuous demands of the corn crops, we have still the husbanded foreign manures to recur to: and a little hand manure, with Mr. Piper, has been found sufficient to make up the loss of the soil from the recurrence of continuous crops of Wheat.

There cannot be a doubt that were the whole manure of a farm confined to only one-half of the land instead of being spread over the whole, that half being deeply drained and deeply worked, a much larger amount of leaf and root plant would be raised than where it sustained a deterioration from cereals interposed between these crops. This increased amount of cattle food would produce a corresponding increase of manure and a consequent increase of crop; thus the increase of manure and cattle food would go on until we realised the almost fabulous accounts we have of immense production, and the exception would become the rule. If the principle of rotation is still permitted to hold with regard to these crops, there is a sufficient variety in root leaf and legume to afford any desirable change. *J. M. G., Granard.*

## AGRICULTURE OF BRITISH COLUMBIA.

Here is the experience of a gentleman who was for years a farmer in Essex, in England, and who has farmed a track of land about 2 miles from Victoria for the last six years. The notes which I have taken of his operations will convey to the agricultural mind abroad an idea of the quality of the soil, the character of the seasons, and the results of farming operations conducted with skill in Vancouver's Island.

This farmer has not established as yet any fixed rotation. His general course has been, when he first breaks up the land, to sow it with Peas, which tend to "clean" and "open" the ground; next year Wheat, next Oats, and the fourth year Peas again, or Turnips. The virgin soil is too rich to require or to bear manure for a few years, unless on poor stoney spots not yet

cultivated. The essential point is to keep the land clean, free from Brakes and weeds, In a state of nature the best of the land is covered with a thick crop of Ferns, which attain an enormous size, 5, 6, and 7 feet in height, strong in stem and tough in roots. This is the system, and its results :—

*Wheat.*—Sown after Turnips fed off by sheep, or after Potatoes; sows 1½ bushel to the acre, broadcast. Return, 28 to 35 bushels to the acre, according to quality of soil; but the produce depends chiefly on the freedom of the soil from weeds. Cleaning makes the heavy crop. His Wheat averages 64 lbs. to the bushel. Considers the quality very good. Wheat may of course be sown after Potatoes; but after Turnips gives the best crop.

*Oats.*—Sows 2 bushels, broadcast, to the acre. Return, from 50 to 70 bushels to the acre; not heavy; grain rather small. None yet made into meal. An oatmeal mill is on the way out for the use of the farmers in the neighbourhood.

*Barley.*—Sows very little. Market hitherto limited; now increasing, with the advent of troops of mules and horses for "packing" in the adjacent mining country of British Columbia. The soil is well adapted for growing Barley.

*Peas.*—Sows 2 bushels to the acre. Return 30 to 40 bushels to the acre from the dun Pea and the scimitar (blue) Pea; seeds sent from England. They grow larger than in the old country, but he can't give the weight.

*Potatoes.*—The ground prepared by two or three ploughings and well cleaned, and (such fields as have been already cropped) manured by about 20 cartloads of farmyard dung to an acre; plants about ¾ ton to the acre in rows, 3 feet apart. Return, 8 to 10 tons an acre; the produce large in size, mealy, and well-flavoured; the quality of all kinds good, but the white oval shaped Kidney excellent. This last fact I can vouch for. They are smaller in size, but superior in flavour to the California Potato. In some few instances the produce is enormous—56 tubers from one seedling, of which number 40 were large-sized Potatoes, choice, and fit for market.

Talking of Potatoes, let a successor worthy of the immortal Soyer, ambitious of fame in culinary science, come out here and learn from the Indians their method of cooking them, carry home the art, and his fortune is made. Considering that the savages have neither pot nor pan nor oven, the result is marvellous. It is attained by steam, generated by heated stones from a little water in a wooden box, sewed (or held together) by Withes. But to resume my friend's story of his Turnips, which he sows in fallowed land, sometimes manured and sometimes not. Gets good crops from a variety of seeds, hybrids, &c. Cannot give the produce per acre; but the crops are quite as good as he ever saw in England. I saw very large ones the other day grown in rather a thin soil on a hill close to Victoria.

*Clover* does well. Not much land yet laid down in Clover. The land, when freed from growing timber, is laid down often in Timothy for pasture, to save the great labour and expense of clearing out the stumps of the trees—an arduous task, until machinery is had to wrench them out of the earth. I hear of such a machine being in use in America, and it is to be hoped it will travel to Vancouver's Island.

The sowing and reaping seasons are, for Wheat, the latter part of October and in November; also, in spring, as soon after February as the weather permits; all to be in the ground before the end of March, harvested in August. Oats, Barley, and Peas sown in March and April, harvested about August to middle of September. Potatoes planted as early in May as can be. None should be put in later than May, and they would do better if planted earlier, so as to be ripe before the early frosts set in; taken up in October. Turnips sown in June, July, and August—the Swedes in June; the white sorts will do to be sown down to the end of August.

The soil of this farm I should take to be a fair sample of that of the island generally, although I do know some much better soil, scattered about, within a few miles of Victoria, than any yet cultivated on this farm.

A writer in a Californian paper, who visited several portions of this island, reports that "the soil throughout consists of a warm vegetable mould, resting on a substratum of sandy or gravelly clay. This mould is generally not more than 3 or 4 inches deep, except on the bottoms, where the depth is much greater." He is mistaken as to the depth of the mould. In all the land thought worth the trouble of being cultivated the mould is deeper than 3 or 4 inches. It is deeper than the depth of an ordinary furrow; but in some situations is thin, as he says. The writer proceeds to describe the quality :—"This soil is very quick and fertile, but not durable, as after a few ploughings the land begins to show signs of impoverishment, the upper and more productive stratum of earth becoming mixed with the poorer material below; hence, after three or four crops the yield is sensibly diminished, unless manure be meantime applied." As to productiveness, from actual results, he says, "Wheat, Barley, and Oats generally give what would be considered two-thirds of an average crop in California," but "Peas do even better here than there." The comparison with California may be correct, for, except the delta of the Nile, I have not heard of any soil yielding such large returns of grain as that of California.

The quality of the crops pleased him better than the quantity. "The straw, which generally looks clean and healthy, is short and slender, and stands thin on the ground; but the berry of the grain is much larger and heavier than with us; in truth, I have in no part of the United States seen such plumpness of kernel as the Wheat and Oats here exhibit, and I doubt not most excellent crops of these cereals will always be grown on the alluvial bottoms, and also on the wood and uplands, when the latter shall receive the benefits of careful husbandry." I think this gentleman is correct in his conclusions. He has travelled over a considerable portion of the south and easterly districts, and made good use of his time. The only drawback to the cultivation of the soil is the scarcity and high price of labour. There is a ready market for all produce.

I may here remark that I find from several letters which I have of late received from England there is great misconception abroad on the subject of the climate of this island, which it is as well to remove. The farmer whose report of his farming operations I have given above tells me—"The seasons are very much the same as in England as to general character, wet in winter, but decidedly milder." The fact is, there is no better or healthier climate in the world. It is just an English climate tempered, modified, and improved; the east wind being soft and genial, instead of cold and cutting as in England. The only cold winds here are the northerly winds, and they are merely bracing—a little sharp, but without the sting so trying in England and in Scotland. They only prevail in the winter season.

The summer is drier and more steady, only a few showers of rain falling during the hot season, and the winter milder. The climate, in short, is safe for the delicate and invigorating for the robust in health. These remarks apply more strictly to the southern portion of the island. At the north, about Fort Rupert, the climate is moister, and somewhat colder.

As a proof of the genial effect of the climate, I may mention that the rains which fell occasionally during the last month have caused the Grass to spring up with such vigour that at present the meadows are fresher and greener than they were in June and July. In fact, a lawn or Grass field preserved from cattle is now, on the 11th of November, just as green as our best kept lawns in England are at any season. This is seen under the walls of the fort at Victoria, in an enclosed paddock, and in confirmation of my own assertions I may quote the experience of a Californian gentleman—a hostile critic too—writing of this place for a publication in San Francisco, who, in speaking of the climate of Victoria, reports that—"This year we have had one entire rainy day in July, and two thus far in August, besides several showers. These rains keep the Grass green, and all kinds of vegetation fresh and growing throughout the summer. The meadows and pastures now look as verdant here as in California. From May until the middle of July the wind blows fresh every day. After this it ceases, and until the winter rains set in the weather is delightfully calm, and the temperature subject to very little variation, the thermometer not changing more than 15 or 16 degrees night or day during this period. From April to November it rarely ever falls below 50 or goes above 75. In this respect it is the most even climate I have ever seen." To this testimony I will only add that Apple and Peach trees are at present partially in blossom, after having delivered themselves of abundant crops of fruit within the few past weeks. I prefer this climate myself to that of California, simply because it is not so enervating. With more streams meandering through the meadows and prairies than they have, the country could be cultivated into one grand garden for many miles all round Victoria.

On the other hand, the climate of British Columbia, the new colony, on the mainland, is hotter in summer and much colder in winter than that of this island. The climate of the mainland, as I learn from old residents in the Hudson's Bay Company's service is, however, quite healthy, and certainly, from my experience of it during the month of September last, the whole of which I passed in the open air and under canvass, nothing can be more delightful. Among the thousands of miners and others, all exposed by day and by night, with whom I forgathered, I did not meet a sick person, and only one man who complained of a headache. The winter is cold and frosty, but the air is clear and bracing. *The Times Correspondent.*

## SUBTERRANEAN WATER.

We have received from the Rev. J. Clutterbuck, of Long Wittenham, Abingdon, the following report of a lecture on this subject lately addressed by him to the Oxford Farmers' Club :—

I will first say a few words on the element of water—the quantity which falls on the surface of the ground—the amount which sinks into the earth—the condition in which it is found in the earth—and its discharge therefrom by natural or additional outlets.

1. The element of water is well-nigh all-pervading: it enters into, and forms a large part of, animal and vegetable substances. If we abstract all the water from any vegetable, especially in its growing state, a very small proportion of its original bulk remains. If the human frame were deprived of the water it contains, it would be reduced to less than one third of its weight. Water exists as vapour in the air, is found in suspension in every soil, and is essential to sustain animal and vegetable existence; it supplies motive power to machinery, either by its weight, or as converted into steam by the agency of heat; it is sung by the poet, supplies the painter with his choicest subjects, and is sanctified to the highest purposes in the imagery of Holy writ.

2. The quantity of water which falls upon the surface of the ground. Water evaporated from the surface of land or sea is taken up by the atmosphere, is condensed, and returns to the earth either as dew, rain, or snow. The quantity falling as rain or snow is measured in gauges constructed for the purpose of registering the amount: there is a remarkable difference in the quantity registered by a gauge placed on the ground and another at an elevation of rather more than 20 feet above the ground, being an excess of about one-fifth in favour of that upon the ground. The variation from year to year varies very much, though the average of a number of years is wonderfully steady, amounting in this neighbourhood to 23 or 24 inches.

3. We have, thirdly, to consider the amount which sinks into the earth, which will lead us to the more immediate subject before us, namely, 'subterraneous water.' Common observation leads us to the conclusion, that only a portion of the rain falling on the surface finds its way into the lower depths of the earth. We know how soon all trace of a summer disappears after we speak of showers which scarcely lay the dust, by which we describe partial restoration to the soil of the water evaporated, and which, in its turn, is quickly evaporated again. A good ground rain is an expression denoting the fall of such a quantity as thoroughly soaks the soil; and it is worthy of observation that the greater the quantity falling, very often the less the trace it leaves behind it; there is, perhaps, nothing in which the common observer is more deceived than the amount of rain which falls.

The term 'free water' is used to describe the surplus after the water evaporated has been replaced. The free water goes to replenish the subterranean reservoirs in permeable soils, or, in tenacious soils, fills up every crack, cranny, or fissure, and then shows itself above ground, when it is called, in common language, top water.

There are two ways in which the quantity of water percolating the soil may be estimated:—by an instrument I will proceed to describe, and by measuring wells. Some years since a gauge of a peculiar construction was invented by the celebrated Dr. Dalton for the purpose. It consists of a cylinder or tub of wood 3 feet deep, and of a given diameter at the top. The cylinder is filled with the ordinary soil of the country where the experiment is made; it is buried to the brim, and covered with turf, a receiver is fitted to the bottom, whence it flows by a small pipe into another vessel in which it is measured.

It is estimated that all that sinks through this 3 feet of soil to the lower receptacle will represent the amount of free water, which in porous soils finds its way into the earth. Mr. Dickenson, the well-known manufacturer of paper, is wont by this instrument, which he has used for more than 25 years, to calculate the amount of water to be reckoned on from the streams on which his mills are placed, and he thereby regulates his contracts. The quantity percolating the gauge is ruled not only by the quantity, but by the season at which it falls. Thus the summer months usually show no percolation; it is during the period from October to March inclusive that any quantity finds its way to the lower receptacle. The mean average of rain registered by Mr. Dickenson, for the last 10 years, is about 25½ inches—the quantity percolating Dalton's gauge about 5¾ inches. During the year ending December last, only 3.21 in. February, March, and April, was recorded. If a very considerable quantity of rain does not fall before the 1st of May, at latest, there will be an almost unexampled lack of water in our springs and rivers in the ensuing summer and autumn. There is another method of estimating the quantity of subterraneous water, which I have myself practised for many years, namely, the periodical measurement of wells.

This will lead me to another, and, as it seems to me, the most important point of this subject, the natural adjustment of water in the soil, by which the perennial supply of rivers and springs is regulated, and which also rules the discharge of water from soils by artificial drainage. First, then, the water in wells does not indicate the supply from isolated springs, as water flowing into them is usually called, but the local surface of subterranean sheets or beds of water found in porous soils. By porous or permeable soils, or strata, I mean those soils or strata into which free water will sink, until it meets with a retentive or impervious stratum, or body of water already existing in the earth. Take as the best illustration, a chalk district, such as we find it on the southern slopes of the Chiltern Hills. Through solid chalk water will not filtrate, but chalk will absorb, by capillary attraction, a quantity equal to about one-third of its bulk, and one-quarter of its weight. This is ruled by one of those invariable laws which govern all things in nature. The chalk is almost always fissured, or has small cracks in various directions, especially in the upper chalk, beneath the beds or bands of flint; these the free water fills, and from them it will also escape, leaving behind it that amount in the chalk which is held by capillary attraction, and from which the chalk will not part by evaporation. Now, as it is known that water finds its level, and assumes a level surface when allowed to accumulate, so it is generally supposed that the water in these fissures will stand on a level;

it would do so if there were no outlets; but, as there are always some outlets, in consequence of the undulating surface of the earth, the water finds a vent at some point, and flows out in springs; the whole body of free subterraneous water will, of course, rush to the same, or such like outlets, driven there by the irresistible force of hydrostatic pressure. As the particles of the water rub against the sides of the fissures, the rapidity of the exit is retarded, hence the surface of the subterraneous sheet of water assumes an inclination, most beautifully regulated by the two opposing forces of hydrostatic pressure and friction; the angle of inclination being the mean between the highest point at which the water accumulates and the nearest vent or outfall.

*(To be concluded next week.)*

## STABLE MANAGEMENT.

Let us take an everyday illustration. On some of the lighter, as well as on the stiffer soils of this county, three or four horses may often be seen slowly dragging a plough, at less than 2½ miles per hour; the draught of a good implement probably not showing more than 8½ cwt. on the dynamometer, at the same dimensions of furrow slice, and under the like circumstances. In fact, the next quarter of an hour's ride shows at least equally heavy work being accomplished with a couple of horses yoked abreast. In the latter case, a bushel of Oats and another of Beans, per week, are as much needed for each horse, as the Beans without the Oats would be in the former. It was but the other day that we witnessed the delivery of 35 cwt. of straw, which was loaded on two common 6-inch waggons—one being drawn by three horses, and the other by a couple. This brought the load to average only 7 cwt. for each animal, exclusive of the weight of the waggons. Contrast this with another case. Some fifteen years ago, the drummer's horse of a cavalry regiment passing through the country was drafted out as unserviceable. He was purchased at a nominal figure, and put to dray work, in carrying goods to and from the adjacent railway station. And up till lately has the old grey most nobly fulfilled his allotted labours. Many times over has he drawn behind him a load of some 3 tons, independent of the vehicle; continuing his journeys from early morn till dewy eve. It is worthy of remark that this horse actually became of aldermanic proportions, and grew in strength as he grew in years. Need it be wondered at, then, that he could consume an almost illimitable quantity of corn? In the well-known carriers' establishment of which he formed an equine ornament, the amount of feed is rarely restricted; the plan being to add Oats, Beans, bran, or chaff at all hours of the day, and according to the full appetite of the horse.

But with the majority of rent-paying farmers such a system could not long hold good. The largest amount of available power has to be got at the least outlay in money or money's-worth. Yet no sensible man will uphold the doctrine that the starve-all system is the right way to attain such a desirable end. We have tried it in several ways, and our firm conviction is, that liberal feeding, combined with what may be called if not hard work at least closely akin thereto, is the most profitable plan. With such management they will ask for few holidays, whether the weather be wet or dry; they will be well up to the mark for a stiff pull when required; and there is far less likelihood of the veterinary surgeon's presence being often needed. Only, in order to make the most of them, a fuller staff of carters or ploughmen is requisite than many Warwickshire farmers consider needful. Let us be explicit on this point. The humble judgment of the writer is that in general it is more economical to have only a couple of horses under the care of one able-bodied man, who knows how to manage them, and is fairly paid for the extra time that he ought to be in attendance, as compared with the day labourers. At least, we find that we can accomplish as much work, and do it as well, with seven pairs of horses, under this system, as with 17 or 18 horses, under a system well-known in the midland counties. And what is the present mode of management? The men enter the stable at 5 in the morning, feed, water, and groom the horses; get their own breakfasts, and turn out at 7 to the minute; work till 12, then one hour in the stable; and return from work at 5; groom, feed, litter them down, and leave at half-past 6. At 8 o'clock a resident hind gives a suppering feed, and sees that all is right, for which he receives 10*s.* extra for the winter season. As the spring advances, the horses turn out a half-hour earlier in the morning, which they receive at midday, when they are entirely unharnessed, and well rubbed down. If working at a distance of more than a mile from the stable, they are not brought home to dinner; but have the dinner-time shortened, and enter the stable as much earlier in the afternoon.

Now for the feeding. The weekly allowance for each horse in full work being as under:—

1 bush. Oats, weighing 42 to 44 lbs.
1 bush. Beans, ,, 64 to 66 lbs.
1½ cwt. Clover (for chaff, rack, and net).
½ cwt. Carrots (grated and mixed with chaff).

Taking the above at fair local value, we are not surprised to find that it is more costly than the series given by Mr. J. C. Morton, in his article on "The Cost of Horse Power," in the last issue of the "Journal." But the instance given by him refers to teams engaged in purely agricultural operations; whereas those we refer to have always lying ahead of them an unending allowance of roadwork, and other haulages. With respect to giving out the corn, it is better to have a separate lock-up bin for each team, which imparts a greater sense of responsibility to the carter than can be the case where the feeding lies to one man, or even where a horse-feeder is appointed, and the carters have only to groom and work their respective horses. The latter system is practised on the farm of the Royal Agricultural College at Cirencester, and also in various parts of the country.

In the winter of 1855 the writer adopted a more economical system of rations, but without practical advantage. It is given below, and also the cost thereof:

| | | |
|---|---|---|
| Oats, 1 bushel .. .. .. .. .. | 3*s.* | 9*d.* |
| Beans, ½ bushel .. .. .. .. .. | 3 | 0 |
| Linseed, 7 lbs. (boiled) .. .. .. .. | 1 | 0 |
| Clover, ¾ cwt. (cut to chaff and moistened with the Linseed) .. .. .. .. | 3 | 3 |
| Oat or Peas straw, *ad lib.* .. .. . | 0 | 0 |
| | 11 | 0 |

They were allowed to remain in the pastures over night till the end of November, and from these combined causes it was next Midsummer ere they again showed in full flesh and bloom. Looking at the condition of various well-kept teams of horses in the county, we believe that there is no profit derived from allowing them to lie out overnight more than five months out of the 12. If you keep them out long in autumn, the coats get long and shaggy, the hair on the legs (which in many Warwickshire horses is quite long enough otherwise), becomes still more rank and tangled, so that when they come to stand in the stable pulmonary diseases are engendered by the change. And who that knows what a touch of influenza is, when it makes the course of a stable, and compels you to lie still when you want to be actively engaged, has any desire for a return of the complaint? Its ultimate effects, too, especially on young horses, can hardly be reckoned by the simple cost of the immediate ailment. If "prevention is better than cure," let us strongly recommend the free use of boiled Linseed for moistening the food, and lubricating dry matter which would otherwise be of an irritating nature. This applies particularly to the time when the change is made from green food; and 1 lb. or 1¼ lb. per day will not be found too opening in its nature with the generality of horses.

As to the preparation of the food. The common practice decides that Beans ought to be split, and well split, too. But we have not found, except in the case of aged animals, that there is any special advantage in being able to give an affirmative answer to the oft-repeated inquiry of Mary Wedlake & Co., "Do you bruise your Oats yet?" Of course we only speak of farm horses; for the detailed trials of the London Omnibus Company have demonstrated the fact that fast working horses do more good with bruised than with whole Oats. And even on the farm you occasionally find an animal disposed to bolt his feed, in which case crushing is desirable. But there are old horses which masticate their corn as completely as horses of younger years and more robust constitution. We have repeatedly noted this fact in the case of a lively two-and-twenty years old favourite, which has probably seen as much hard work, both fast and slow, as any horse in the county. Up to this day "Jack" does his work freely, and masticates a feed of corn with the youngest in the team—whether given "neat" or mixed with cut chaff. Under any circumstances, there are few good horse feeders that give the corn without the chaff; although it is true that in Scotland there are whole districts where a chaff-cutter was till late years unknown, and where, therefore, the feed was given in the unmixed state. It probably is so still, and, as compared with southern practices, the horses undoubtedly work longer hours, and do their work as well. We are not partial to giving horses Barley-meal, feeding with Wheat, or consuming large quantities of bran—varieties of feeding here and there to be met with.

Millers' teams are favoured with large quantities of the latter commodity, and their sleek coats and full-flesh condition is well known. No doubt there are other good things added into the bargain. And they are often thus kept in a state of unnaturally high condition. But, strange to say, and "not less strange than true," many mill teams are noted for their liability to liver complaints, and other attendant evils of excessive corpulence. Bran, however, is an excellent addition to other food, although we grudge paying two-thirds the price per ton that is obtained for good Wheat in the neighbouring Corn Exchange. This sounds very much like "buying gold too dear." A piece of rock salt for each horse to lick at, as a condiment, must not be forgotten. *Mr. T. Bowick in Leamington Courier.*

## Home Correspondence.

*Farm Labour on Tweed-side.*—The greater part of the manual labour which is connected with the threshing and dressing of corn by machinery, the filling the manure into the carts when cleaning out the cattle pens, the turning the manure heaps and spreading the manure in the Turnip drills, the singling, hoeing, pulling, rooting, and topping the Turnips is executed by women in the neighbourhood of both sides of the Tweed. The land is ploughed mostly into 14, 14½, and 15 feet ridges for corn crops. One man and one woman generally reap upon one ridge, and one man binds and sets up the corn which four reapers cut. Each reaper cuts about half an acre per day. I have known each reaper of an extensive farm cut a fractional part more than half an acre per day during the harvest. Part of the Wheat crop averaged 54 bushels per acre, and weighed from 60 to 65 lbs. per bushel; and part of the Potato-Oat crop averaged 72 bushels per acre, and weighed 45½ lbs. per bushel. The circular corn stacks are generally about 15 feet in diameter at the base, 15 feet high from the base to the eaves, and the slope of the roof more than 45°. A good many farmers' threshing machines will thresh a stack of such dimensions in three hours. A good many farmers' labourers, whose stackyard is on a higher level than the threshing machine, wheel the corn into the barn with wheelbarrows; others carry the corn into the barn on their backs. Where two carts are required for carting the corn from the stackyard to the barn, a man or woman forks the sheaves from the stack to the cart, and two men or stout lads are required for carting the sheaves to the barn. A man feeds the machine, and two women, boys or girls untie the sheaves, lay them on the board, and keep the doorway clear; one or two women carry the corn from the spout and riddles it in a heap, *i. e.*, in barns where there is still the common threshing machine; and three or four women pack the straw in the straw barn or carry it into the cattle pens. An experienced female labourer will, according to the nature of the soil, the quantity of Turnip seed sown, and the regularity of the braird, single an acre of Turnips sown in 27 or 28 inch drills in 25 hours on some farms, on others in 30 hours or three days, with an 8-inch hoe. Much misunderstanding has been caused amongst a good many farmers by confusing the present general rate of wages paid to two distinct classes of labourers in Northumberland who may be regarded as no way connected with each other—those who in some parts of England are termed farmers' men, and waggoners, who are termed ploughmen or hinds in Northumberland and in the south of Scotland, who in that district are furnished with a cottage at a convenient nearness to the farm steading, and agree to a specified form of payment in cash or in kind; and jobbing labourers, who reside in provincial towns, villages, and cottages on farms which are not required for the ploughmen. The ploughman receives his wages in full for the time he is engaged irrespective of the state of the weather, or his having been unable to work for a few weeks through sickness; but the jobbing labourer not only is not paid for the days or weeks he does not work during a storm or a course of showery weather, but sometimes he has difficulty to get remunerative employment in good weather, has sometimes either to walk several miles to and from his work morning and evening, or take lodgings, which is like paying two house rents, and also keep a set of tools in working order. Presuming that you have a copy of "Stephens's Book of the Farm," you will observe in the second volume (p. 742) that 36 bushels of Oats, 24 bushels of Barley, 12 bushels of Peas, 3 bushels of Wheat, 3 bushels of Rye, and 40 bushels of Potatoes, the market prices of which in 1850 were respectively 2*s.*, 2*s.* 9*d.*, 3*s.* 6*d.*, 5*s.*, 3*s.* and 1*s.* per bushel; also 24 lbs. of wool, at 1*s.* per lb.; a cow's keep for the year which is estimated at 9*l.*; carriage of coals, 2*l.*; cottage and garden, 3*l.*; the liberty to keep a pig, but no value is put against that privilege; and 2*s.* 6*d.* per day for 30 days in harvest, all of which is calculated as equal to 12*s.* per week; but all the above items cannot be charged to the hind's account, since what the farmer allows the hind for the bondager's work does not amount to as much as pays her board and wages. The question that is yet unexplained is this—is the above form of payment in kind still the prevailing form of payment in Northumberland, and how far south from the Tweed does it prevail; or is that form of payment now abolished, and 15*s.* per week the general prevailing mode of paying Northumbrian ploughmen who are engaged for a twelvemonth's service? Since the bondager performs such laborious work, some of which would task the energies of men of ordinary strength, you will agree with me that 6*s.* per week is a small enough allowance to the hind for the bondager's board, lodgings, and washing, which amount to 15*l.* 12*s.* per annum, and 11*l.* being the general rate of bondager's wages, 26*l.* 12*s.* must be deducted from what the farmer pays the hind for the bondager's work. Reckoning the farmer to pay the hind 39*l.* 2*s.* 6*d.* for his own wages, and 15*l.* 12*s.* as about the maximum that the hind receives for his bondager's work—1*l.* 16*s.* for 24 days during harvest at 1*s.* 6*d.* per day, 10*l.* 11*s.* for 211 days at 1*s.* per day, 3*l.* 5*s.* for 78 days at 10*d.* per day, 54*l.* 14*s.* 6*d.* is, according to the above calculation, all that a Northumbrian hind receives in a twelvemonth for his own and his bondager's work. Hence, a Northumbrian hind's wages cannot be regarded as exceeding 28*l.* 2*s.* 6*d.* per annum, which is 10*s.* 9*d.* per week instead of 15*s.* per week. Laying aside the price of labour connected with the executing of permanent improvements in Northumberland, the above details respecting the amount of labour that bondagers perform will show you that those English farmers' working expenses who employ men for singling, hoeing, and pulling Turnips, who give such men and their ploughmen 12*s.* per week, are greater than the ordinary working expenses in the Scotch and Northumbrian districts where the bondage system prevails. *A Labourer.*

*Fertility from Cultivation.*—What may be the cost to a farmer of maintaining the corn producing powers of his land by means of cattle crops and home raised manure, I never could arrive at in my farming. I was conscious in my own practice that the chief profit from

stock was to be found in the increased growth of corn that resulted from keeping it, and that fertility from this source was dearly bought. It was, therefore, with much interest that 8 years ago I gave to your readers some account of the success of the Rev. Mr. Smith of Lois-Weedon in growing Wheat, year after year, upon the same land without the application of manure, and the profit that resulted from so simple a system of farming. I have again after an absence of 8 years had the pleasure of visiting Mr. Smith, and seeing his farm, and can but feebly express my astonishment at finding the same land, under the same system, carrying the same crop with the same success. Such, I assure your readers, is the fact. The thirteenth crop of Wheat without manure in 13 years is now on the ground, looking as luxuriant as can be desired, and following one that yielded 5 qrs. to the acre. The return having for 13 years been 4 and 5 qrs. per acre, and the annual profit, with Wheat at 40*s.* per qr., being upwards of 4*l.* an acre. Strange to say the land shows no exhaustion, and the only difficulty has been to keep the growth moderate, the crop having latterly often been too luxuriant, and when the yield has been reduced below 5 qrs. it has been from its being laid. I have had sent me the result of the cultivation of 2 acres on the Lois-Weedon principle by the Tiffield Reformatory School, the land having been taken in 1856, in a very foul state. In 1856 it was Potatoes; 1857, Beans, rather a foul crop, but fair in produce; 1858, Wheat, drilled three rows, and then an interval of 3 feet; the intervals forked three times during the growth of the crop and moulded up once. The produce 9 qrs., the head corn weighing 63 lbs. per bushel. It is again Wheat, and looking remarkably well. Does not all this go far to prove the improvement that is to be made by deeper cultivation, greater disintegration of the soil, and keeping the land clean. One would suppose that a practice so simple, so agreeable to reason, and so developed in every day's gardening, and carrying with it the attraction of extraordinary profit, would long since have gained the attention of farmers, but strange to say it has not done so, notwithstanding that it was shown to be the successful practice of Jethro Tull 130 years ago (the father of the drill and horse hoe) and Mr. Smith has published his "Word in Season" 11 or 12 years. I have warmly recommended it to attention because I owed much of my success in farming of poor land to the deeper tillage, wider drilling, thinner seeding, and the free use of the horse hoe that I practised, and I believe much more has yet to be done in this way. Those farmers who may not have read Jethro Tull's work I would strongly advise to see what he says on the subject. Cobbett's edition, published about 40 years ago, is to be preferred as a more readable book, and has the advantage of detailing Cobbett's own experiments in the same line; and Mr. Smith's works "A Word in Season," and "Lois-Weedon Husbandry" are recommended by his motto—

"By this mode of husbandry, compared with the ordinary, the moiety of an acre yields more than the whole."—*A free translation from Hesiod.*

*Hewitt Davis, 3, Frederick Place, Old Jewry, London.*

*Oat-hay.*—We would caution any person who is disposed to rely on this fodder for horses, not to cut it too soon or stock it too early, as a few years since we saw a field cut before the flower appeared, the stock sunk into a very small rotten heap of black useless stuff, and was literally good for nothing. The Oats should be "in bell" and cut before the grain is fully formed, then mowed and tied as if the corn had ripened and after having had sufficient "field room" stacked in the ordinary way, and cut up as chaff for horses or stock, as it should be borne in mind that good Oat straw makes an excellent food for horses, but the straw of unripened Oats is the best. *J. W., Peterborough.*

## Foreign Correspondence.

BRUGES, BELGIUM, *April.*—A brief account of a visit which we recently paid to the Government Reformatory at Ruysselede may interest our readers; all the more from the fact that the principal feature of the establishment is the agricultural school, in the management of which many of the peculiarities of Flemish husbandry—always an interesting subject to agriculturists—are practically illustrated. The Ecole Agricole de Réforme at Ruysselede owes its existence to the law passed in April, 1848, authorising the Government to establish it specially for young indigent children, beggars, and vagabonds, under 18 years of age, the principal aim being to employ the boys in the work of agriculture; other occupations likely to be useful to the boys in after life not, however, being excluded. The establishment at Beernem, about a mile from that of Ruysselede, is exclusively devoted to girls; the object of having it at this distance from the boys' school being to establish a complete separation of the sexes, yet to have the two schools within such easy distance as to facilitate the agricultural operations, having for their aim the raising of a sufficiency of food for the maintenance of the inmates of both schools. It is to the boys' school that we shall direct the attention of our readers.

Ruysselede is about 2½ to 3 leagues from Bruges, and the easiest mode of access to it is to take a ticket for Blaemandel station on the Bruges and Ghent Railway. A walk of an hour either along the high road or through the woods brings you to the establishment. We took the way through the woods, as it afforded us an opportunity to witness the operations of cutting down the trees (*déboisement*) of little value and of bringing the land into cultivation, or replanting (*reboisement*) the space with more valuable trees as the Beech, the Larch, and a tree bearing a species of small Cherry. The district surrounding the establishment not many years ago was entirely under-wood, and that chiefly of the lowest value. The soil is almost a pure sand, and to many would present an almost hopeless aspect for improvement, so unlikely does it appear capable of being brought into that condition fitting it to bear crops. Yet such is the practical nature of the operations put in force by the Flemish farmer, that in a marvellously short space of time its occupations are covered with rich harvests of Rye, Potatoes, and Buckwheat, these forming the base of the agricultural operations suited for the soil of this character now under consideration, and to the thoughtful observer surveying the fields such as presented themselves to our gaze as we walked along—in which in one place you saw a plot of sterile sand in close contiguity to one green with the promise of harvest—there was much to gratify the mind, and to show what patient industry could do in making the desert to bloom and blossom like the Rose. Every now and then we came upon a small charred plot which was gradually being put under cultivation, with its tiny house and cow-house, its dung pit and its liquid manure tank, the contents of which form the farmer's firmest friend in bringing the sandy soil into a condition fit to bear a wider range of crops than those we have mentioned, such as Colza, Flax, Turnips, Carrots, and the forage plants, of which the Clover is the principal and the pride and glory of Flemish farming As indicative of the garden-like care and precision with which farming operations are carried on throughout Flanders, we saw in passing one occupation, a field of Colza bordered with a fence of Black Currant trees. *En passant,* we may remark that the plant known here as Spergula (Spurry), is found to be exceedingly useful in bringing pure sandy soils into good condition. From the rapidity of its growth three sowings may be obtained in a year. The first crop is saved for seed which is sufficient for the two following crops; as these arrive at the flowering stage they are ploughed in; the Rye crop succeds. For seed the quantity of seed put in is 25 kilogrammes per hectare, for ploughing in double the quantity. The seed is sown towards the middle of April after all frosts are over; towards the end of June the first harvest is obtained. The second crop is then put in, this flowers towards the end of August, when it is ploughed in and the third crop sown, which in its turn is ploughed in towards the end of November. We may here note that in addition to its value as a manure employed in the way we have indicated, it is highly esteemed as a forage for cows, as it is saidgreatly to increase the yield of milk.

To return to the establishment of Ruysselede, we give short notes on the history of its agricultural progress. In 1849 the extent of land belonging to the establishment was 127 hectares—a hectare being equal to 2 acres 2 roods. The land thus appropriated was of the poorest order, and gave but little promise of being able to bear produce for the wants of the establishment. Manure was lavishly applied, this being chiefly the excretal products of the inmates of the "maison de force," at Ghent, these being brought from thence by canal; and in a brief space of time the land was capable of bearing a wide range of products. Of the 127 hectares above alluded to, 63 hectares 12 ares—one are being equal to 3 poles 28 square yards—were put under the following crops:—Rye, 18 hectares; Potatoes, 7; Oats, 6; Flax, 4; Vetches, 1; Peas, 3; Carrots, 1; Buckwheat, 8; Turnips and Rutabagas, 2; Clover 4. The stock department was made up as follows:—4 horses, 2 draught oxen, 14 milch cows, 3 heifers, 9 young cattle, heifers and bulls, 1 ass, 5 sheep (Southdown), 50 hogs (Essex breed, and that of the country), 40 fowls, 2 turkey hens, and a lot of pigeons. In spite of the poorness of the soil and the difficulties and embarrassments connected with the establishment of an institution so vast and so complicated, the produce of the first year exceeded in value all expectation. At the exposition of agricultural products, held at Ghent in the year 1849, a silver medal was awarded for a sample of Flax grown on the lands of the school, and remarkable for its fine quality. The total value of produce raised was 20,860 francs, the rate of valuation being lower than the average. The rotation of crops, &c., was based on the system generally adopted in Flanders, some idea of which may be formed from the following plan of culture adopted for the year 1850, the extent of land under culture being increased this year to 98 hectares. Excluding minor quantities the crops were as follows:—Rye, 37 hectares; Oats, 8; Potatoes, 14; Flax, 3; Peas, 2; Carrots, 3; Buckwheat, 4; Chicory, 1; Froment and early Barley, 82 ares or 2 acres; Colza, 2; Rutabagas, 1; Vetches, 1; Clover, 6; vegetables, 4; Lucerne, 1; orchard, 3. This year an experimental field was established, in which to test the value of various grains and plants, with a view to the adoption of those which adapted to the soil gave the best chance of meeting the wants of the establishment. At this period in the history of the establishment the number of children admitted was 350. It was interesting to watch the eagerness with which the great majority of the pupils entered into all the operations of the farm. Five years' industrious labour of the little workers—aided at intervals only by men whose greater strength was required for the heavy duties, as ploughing, &c.—sufficed to bring the sandy soil fit only at one time to bear the Fir tree and the Broom into land capable of bearing good harvests of a wide variety of produce. Rotation was carefully attended to, and manure unsparingly applied. Artificial meadows were also successfully introduced—a real triumph, for the sandy soil is rarely attempted to be put under meadows. The expenses of the farm for this year (1853) amounted to 48,007 francs, and the value of the produce to 66,130 francs; leaving a balance of 18,122 francs, a result which gave ample proof of what could be done by patient industry and a good system, notwithstanding the inferiority of the soil and the inexperience of the workers employed. The stock at this period was as follows:—10 horses, 1 ass, 8 draught oxen, 1 bull, 28 milch cows, 11 heifers and young bulls, 54 hogs (Essex and Berkshire), 23 sheep, 139 fowls, &c., of the court-yard. The number of inmates, 688.

The gradual increase in the fertility of the soil and the experience of workers enabled the extent of land under cultivation to be increased to 168 hectares in 1855. Of this in 1856, 95 acres were put under cultivation for produce for the house consumption, as follows:—Rye, 55 hectares; Potatoes, 29; Flax, 1; Peas, 1; vegetables, 7. For the consumption of the cattle 71 hectares, thus—Oats, 19; Buckwheat, 8; Turnips and Rutabagas, 6; Carrots, 1; Jerusalem Artichokes, 1; Clover and Rye-grass, 21; meadow, 9; orchard, 1. Thus in four years the extent of land appropriated to produce for the stock was increased from 29 to 71 hectares, or in the proportion of 3 to 7. This great increase was made to afford nourishment for a larger number of cattle; and by consequence to increase the quantity of manure. For the Flemish farmer always bears in mind the importance of this department, and that without cattle he can obtain no manure, and without manure no crops. The stock in 1855 had increased to 14 horses, 5 draught oxen, 1 ass, 44 milch cows, 37 heifers, young bulls and oxen, 30 hogs, 38 sheep—156 denizens of the court-yard. According to the last report which we have received, the plan of culture for 1858 embraced the following:—Rye, 33 hectares; Potatoes, 13; Oats, 8; Buckwheat, 3; Turnips, 3; Carrots, 1; Beetroot, 3; Rye-grass, 12; Clover, 4; Chicory, 1; prairie, 5; Haricots, 1; Jerusalem Artichokes, 1; vegetables, 6. The stock being—horses, 14; draught oxen, 6; 1 ass, 4 bulls; milch cows and heifers purchased, 39; milch cows bred on the establishment, 4; heifers do., 26; oxen do., 22; hogs, 29; pigs, 76; sheep, 39; lambs, 13; poultry, 94; turkeys, 5; ducks, 10; pigeons, 80; watch dogs, 3; sheep dog, 1. The value of the animals being, in the stables, 10,225 francs; cow-houses, 19,655 francs; piggery, 3680 francs; sheep, 1300; court-yard fowls, 159 francs; in all, 35,109 francs.

Having furnished a brief account of the agricultural progress of the establishment, we hasten to detail as briefly its internal arrangement and management. The main building, in which are the dormitories, the schools, and the dining saloons, forms one side of a large quadrangle, the other three sides of which are formed by the ranges of workshops, contained in buildings of one story in height. The offices, the board-room, and the residences of the various employés form, as it were, the enclosure of a second or outer quadrangle, the centre of which is neatly filled up with flowers and shrubbery. The centre of the inner quadrangle serves as a play-ground for the boys, and is fitted up with the usual gymnastic apparatus.

Passing from an inspection of the dormitories and the dining saloons, all of which are distinguished by scrupulous cleanliness—the result of the labour of the boys themselves—we enter the various apartments devoted to the teaching of the boys. We here see in the drawings and sketches of agricultural and mechanical subjects which adorn the walls the prominence given to the agricultural aim of the institution. Passing through the kitchen or room in which the soup was being cooked by steam in two huge caldrons, and of the nourishing nature of the contents of which the grateful odour gave ample proof, we entered the apartment in which the steam-engine was at work. This gives motion to the mill which prepares the flour for the bakery; to the corn-crushing machine and root-cutter for the cattle food; and to the machines which are employed in the labours of the mechanics' workshops. The power of the engine will shortly be employed for a purpose novel in the practice of Flemish husbandry; namely, pumping liquid manure at high pressure through a congeries of pipes leading underground to fields in the neighbourhood of the establishment. The pipes and various castings have been ordered from England for this service. Much curiosity is being excited by this attempt at using, by steam power, the favourite manure of the Flemish farmer, and the results of the trial are being looked for with anxiety by all interested in discovering a more economical mode of distributing liquid manure than any hitherto introduced. Passing through the mechanics' workshops we observed with pleasure lads of various ages busily employed, some at the forge, some at the vice, and all labouring with energy and a workmanlike aptitude, which, considering their age, was almost amusing. The way in which one little fellow was finishing a spade and another forging a fork would have done honour to many adult workmen. All the work required to keep the implements in good repair, and even to add to their number, is done by the little workmen under the superintendance of the overseer of

this department. Although the labours of the field and the garden constitute the principal features of the establishment, still there are other occupations provided at once for those lads who may prefer them, and for the employment of the lads who, engaged during the summer in the fields, cannot follow it during the winter. The labour of the boys is thus constantly changing, according to the season, these circumstances, or their own inclinations. This succession of occupations stimulates activity and awakens intelligence. There is no constraint employed, each lad may follow the bent of his inclination; the great desire being not to bring up a lad to a thorough knowledge of any branch of industry, not to lead him through a regular apprenticeship, but to induce habits of industry, and to introduce him to such a calling as may be useful to him in after life. To aid in this, then, various workshops have been added to the establishment in which the operations of carpentry, joinery, and carriage-making, weaving, shoemaking, tailoring, &c., are regularly carried on. It is curious to note the numbers of the lads engaged in the various departments. Thus, while there are 12 (in the summer months) carpenters and joiners, there are 20 tailors and a like number of shoemakers, and only two bookbinders, while there are 50 employed in the gardens, 35 in the various departments of the farmyard, and 250 in the fields. This latter is the base of all the operations of the establishment, and in spite of the tender age of the cultivators, all the work required is well performed by them, with the exception only of the work of deep ploughing, &c., which is performed by strangers.

The buildings of the farmyard are very complete. The cow-houses are kept carefully clean, this labour being performed with admirable precision by little boys. The condition of the animals as regards health, both in this, the stabling, and in the stock-feeding departments, has left little to be desired during the whole period of the history of the establishment. The system of ventilation adopted has been found admirably efficient; it consists in the application of zinc pipes opening in the ceiling above the animals and leading to the external atmosphere. The system of box-feeding has been introduced, and with decided advantages. Indeed nothing which can serve to keep up at once the health of the animals and to increase the quantity of manure has been neglected. A brewery has been recently commenced, not merely with the view of supplying beer for the establishment but to help this increase of manure, by aiding in the feeding of the animals. A covered manure pit—has also been recently erected. This step owes its existence to the efforts of Baron Peers, a distinguished agriculturist, who has long been directing the attention of Flemish farmers to the wasteful methods in use of treating farm-yard manure, and to the importance of introducing means of preserving it from the action of the showers and the sun. The plan introduced by Baron Peers is to erect a covered shed (un hangar), the outline of which is by preference an oblong, and the dimensions of which are regulated by the capabilities of the farm. The under part of the structure is built of brickwork to the depth of 2 yards; the upper ledge of which is carried a little above the ground level. The lower part is made water-tight, so as to preserve the liquid portion of the manure. The length of this tank, as it may be termed, is 20 yards long by 8 broad, or thereabouts. The upper part of the structure is entirely of wood, upright posts being inserted in the brickwork which support the roof. The sides are entirely open, with the exception of a slight railing, so that free passage is allowed to the air. This, distributing freely, is found to contribute to the desiccation of matters impregnated with a certain degree of humidity. Two gates are provided at each side of the shed, and in order to facilitate the removal of the manure an additional gate is provided at each end; the carts enter empty at one end, are filled while in the interior, and pass out full at the other. In a former communication we have given a few remarks upon the treatment of liquid manure in this country: we propose again to take up the subject, and shall then return to the subject of the treatment of farm-yard manure, to one department of which we have to some extent here adverted.

An apartment is provided for the threshing machine, which is of simple construction, its office being only to thresh, the cleaning being performed by a separate winnowing machine. In the same room the straw cutter is placed; this, like nearly all machines of this class which we have seen in Flanders, has the knives placed round an inclosed cylinder. The machines with uncovered knives attached to the fly-wheel are by no means favourites with the Flemish farmers. We have extended our communication beyond our proposed limits; but we have indeed little more to add. Everything we saw tended to convince us more and more of the thoroughly practical and valuable nature of the system of cultivation adopted in Flanders, a system which has derived little aid in its working out from the indications of science, but which is, nevertheless, admirably illustrative of the truth of its deductions. The Flemish farmers through a long course of untiring industry have discovered a mode of operation in the field which science, working in the closet, proves to be in its main principles correct—a mode of operation which, with wonderful promptitude and precision, creates out of sterile sands and bleak heaths plots covered with the richest possible verdure and the most productive of plants.

## Calendar of Operations.

APRIL.

Isle of Ely, *April* 26.—March "many weathers" has become quite a hackneyed phrase; but this year the expression will better become April, for the present month has been unusually variable, embracing the cold of mid-winter and the heat of mid-summer. The month opened upon us with all the intensity of frost and cold which we usually experience in January, the thermometer early in the morning of the 1st having receded to 24°, and in less than a week we were thrown into the full heat of June, for on the 6th the thermometer stood at 77° in the shade, and on the 7th at 78°. Since then we have again experienced a return to winter with severe ice frosts every night, and cold winds during the days, and on the 16th we had some heavy snowstorms; the only time we have seen the ground thoroughly white all the winter. The wind has veered chiefly from the north-west to the north-east; but the last few days have been much less cold, and the wind has blown from the east and has brought with it some good heavy showers of rain, which were much needed. We need scarcely say that vegetation has suffered much by these sudden and severe changes. Most of the early fruit is wholly destroyed. The Wheat plant, however, has borne the cold better than could have been expected. On some of the weakest fen soils the plant is thin and looks sickly, and promises badly; but on most of our best fen soils it looks well, and bids fair to make a full crop. The Oats, also, where early sown, and where the land was well farmed, have kept their plant well; and where sown with the water drill and artificial manure, look strong and healthy, although unable to grow much; but with the present beautiful showers they will soon get a start, and should we get mild nights will quickly assume a vigorous and fruitful appearance. Beans and Peas are looking strong and healthy, and have planted well. The weather has been very favourable for working the fallows, and these are unusually forward. Mangel sowing has already commenced, but most of our farmers have found it advantageous to sow this crop later than they did some few years since, and many decline sowing until May is in. The pastures have suffered from the frosty nights, especially where stocked, and have lost much of their luxuriant appearance. Grass is however plentiful, and with mild weather will soon wear a different hue. The trade for store stock has been influenced by the cold weather; both beasts and sheep have been slow to sell at slightly lower prices. Meat is also rather dull, but prices are high. The corn trade has been affected by the threatening influences of the continent. We now seem on the eve of war, and should our worst fears be realised we shall doubtless have corn dearer. But we still hope that Providence will graciously interpose to avert such a dire calamity as an European war. *Your Fen Reporter.*

## Notices to Correspondents.

Farm Accounts: *Constant Reader.* Read Mr. Morton on the subject in the Cyclopedia of Agriculture or Mr. Coleman in the last volume of the Journal of the English Agricultural Society. The latter publishes a set of books—address the College, Cirencester. The former has had a set announced for publication by Messrs. Blackie of Glasgow. Mr. Stephens too has published a set of books (Blackwood, Edinburgh).

Sale of Shorthorns: *R.* Mr. Wetherall's herd brought to the hammer last week sold as follows:—

| | Purchaser. | Price Gns. |
|---|---|---|
| Cows and Heifers. | | |
| 1. Young Jenny Lind, 1848 .. | Mr. Barclay .. .. | 40 |
| 2. Cosy, June 4, 1850 .. .. | Duke of Devonshire | 53 |
| 3. Passion Flower, 1852 .. .. | Col. Gandy .. .. | 55 |
| 4. Edith, 1853.. .. .. .. | Mr. Parrington .. | 25 |
| 5. Lady Scarbro', April 18, 1851 .. | Mr. H. Smith .. | 200 |
| 6. Duchess of Northumberland, May 26, 1851 .. .. .. | Mr. Gamble .. .. | 100 |
| 7. Moss Rose, April 22, 1853 .. | Col. Pennant .. | 200 |
| 8. Young Magic Flower, Nov. 22, 1853 .. .. .. .. | Mr. Neesham .. | 75 |
| 9. Oak Leaf, July, 1852 .. .. | Mr. Carr .. .. | 23 |
| 10. Wallflower, Sep. 15, 1854 .. | Mr. Gell .. .. | 34 |
| 11. Venus, May 31, 1854 .. .. | Mr. Pole .. .. | 80 |
| 12. Oak Apple, July, 1854 .. .. | Hon. W. Duncombe | 50 |
| 13. Lucy, Aug. 8, 1855 .. .. | Lady Pigot .. .. | 150 |
| 14. Countess, Feb. 20, 1856 .. .. | Mr. Ivens .. .. | 36 |
| 15. Crocus, April 27, 1856 .. .. | Col. Gandy .. .. | 83 |
| 16. Cobweb, Aug. 17, 1856 .. .. | Mr. Worsey .. .. | 31 |
| 17. Cowslip, Sep. 1, 1856 .. .. | Mr. Marley .. .. | 36 |
| 18. Acorn, May, 1856.. .. .. | Mr. James .. .. | 52 |
| 19. Rose-leaf, March 11, 1856 .. | Mr. Aylmer .. .. | 43 |
| 20. Ayrshire Rose, Feb. 11, 1856 .. | Col. Pennant .. | 165 |
| 21. Lady Stanley, Jan. 27, 1857 .. | Mr. Scott .. .. | 56 |
| 22. Miss Lumley, May 16, 1857 .. | Mr. Sheldon .. .. | 60 |
| 23. Orange Blossom, June 14, 1857 | Mr. Neesham .. | 42 |
| 24. Stanley Rose, Sep. 27, 1857 .. | Lady Pigot .. .. | 300 |
| 25. Fairy Queen, Oct. 16, 1857 .. | Mr. Worsey .. .. | 30 |
| 26. Maid of the Mountain, Nov. 27, 1857 .. .. .. .. | Mr. Blakey .. .. | 24 |
| 27. Bell Flower, April 8, 1858 .. | Mr. Campbell .. | 38 |
| 28. Governess, May 16, 1858 .. | Mr. Taylor .. .. | 110 |
| 29. Comfort, Sep. 24, 1858 .. .. | Duke of Devonshire | 44 |
| 30. Bloom, Sep. 12, 1858 .. .. | Capt. Spencer .. | 105 |
| 31. Lady, Sep. 11, 1858 .. .. | Mr. Lascelles .. | 43 |
| 32. Perfume, Nov. 3, 1858 .. .. | Mr. Ivens .. .. | 20 |
| 33. Primrose, Feb., 1859 .. .. | Mr. Morrill .. .. | 22 |
| 34. Alice, March 11, 1859 .. .. | Mr. Hopper .. .. | 18 |
| 35. Roan Heifer, March 12, 1859 .. | Mr. Pole .. .. | 150 |
| Bulls. | | |
| 1. Lord Scarbro', Oct. 15, 1854 .. | Mr. Campbell .. | 40 |
| 2. Statesman, Nov. 20, 1855 .. | Mr. W. B. Cox .. | 82 |
| 3. General Havelock, May 9, 1856 | Mr. Denchfield .. | 27 |
| 4. Wisetonian, 1857 .. .. .. | Sir J. Crewe.. .. | 55 |
| 5. Alderman, April 23, 1857 .. | Mr. Wilson .. .. | 70 |
| 8. Pilot, Sep. 25, 1857 .. .. | Mr. Denchfield .. | 22 |
| 9. Prince William, Feb. 20, 1858 .. | Mons. Von Volsen .. | 23 |
| 10. Lumley, March 6, 1858 .. .. | Mr. Surtees .. .. | 125 |
| 11. Stanley, March 6, 1858 .. .. | Mr. Packe .. .. | 92 |
| 12. Catton, March 26, 1858 .. .. | Mr. Peacock.. .. | 21 |
| 13. Traveller, May, 1858 .. .. | Sir J. Paxton .. | 27 |
| 14. Royal Oak, Aug. 19, 1853 .. | Mr. Fawkes .. .. | 70 |
| 15. Lord Aberdeen, Sep. 17, 1858 .. | Mr. Pole .. .. | 91 |

The 35 cows and heifers averaged 77*l.* 15*s.* 9*d.*, realising 2722*l.* 13*s.* The 13 bulls and calves fetched 60*l.* 3*s.* 6*d.* each, or 782*l.* 5*s.* in all. The whole 48 animals of all ages fetched 3504*l.* 18*s.*, or 73*l.* 4*s.* 6*d.* Among the prices it will be seen that some very long ones were given, as 91 gs. for a 7 months bull calf, 150 gs. for a 5 weeks heifer calf, and 300 gs. for a yearling heifer.

Weight of Chaff: *Correspondent.* It may be packed as close as you like; the following, however, is a memorandum of the quantity and weight of one of our "caving" baskets of (hay and straw) chaff:—Measure, 6 bushels; weight, 33 lbs., or 5½ lbs. per bushel.

*** As usual, many communications have been received too late, and others are detained till the necessary inquiries can be made. We must also beg the indulgence of those correspondents the insertion of whose contributions is still delayed.


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E. R. and F. TURNER, Ipswich, manufacture Prize Mills for Crushing Corn, Seed, Malt, &c.; Portable Grinding Mills, Steam Engines fixed and portable from 2 horse-power and upwards; Threshing Machines, Chaff Cutter, Oilcake Breakers, Horse Gears, Saw Tables, &c., all of a superior description and adapted for Home, Colonial, and Foreign use. Illustrated Price Lists sent free on application.

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|---|---|---|---|---|---|---|---|
| 2 ins. diameter | 0 | 3½ | each | 12 ins. diameter | 1 | 9 | each |
| 3 ,, ,, | 0 | 4½ | ,, | 13 ,, ,, | 2 | 0 | ,, |
| 4 ,, ,, | 0 | 5½ | ,, | 14 ,, ,, | 2 | 6 | ,, |
| 5 ,, ,, | 0 | 6½ | ,, | 15 ,, ,, | 3 | 0 | ,, |
| 6 ,, ,, | 0 | 8 | ,, | 16 ,, ,, | 3 | 6 | ,, |
| 7 ,, ,, | 0 | 10 | ,, | 17 ,, ,, | 4 | 0 | ,, |
| 8 ,, ,, | 1 | 0 | ,, | 18 ,, ,, | 5 | 0 | ,, |
| 9 ,, ,, | 1 | 2 | ,, | 19 ,, ,, | 6 | 0 | ,, |
| 10 ,, ,, | 1 | 4 | ,, | 20 ,, ,, | 7 | 0 | ,, |
| 11 ,, ,, | 1 | 6 | ,, | | | | |

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| 22 ,, .. | 1 10 | 14 ,, .. | 1 2 |
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| 18 ,, .. | 1 6 | Made to any length. | |

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11 by 9, 13 by 9, 13½ by 10½, 12 by 11, 14 by 11
11½ by 9½, 12 by 10, 14 by 10, 12½ by 11½ .. ..

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87, Bishopsgate Street Without, same side as Eastern Counties Railway.

PARKES' STEEL DIGGING FORKS.

BURGESS and KEY, 95, Newgate Street, London being the Wholesale and Retail Agents for these celebrated TOOLS have always a large Stock on hand from which their Customers may select what they may require.

ANTHONY'S PATENT AMERICAN CHURN.—The FIRST PRIZE was again awarded to this Churn in Competition with several others at the Chester Meeting of the Royal Agricultural Society; it has obtained the First Prize given by the Society at every Meeting since 1850.

Messrs. Burgess & Key, 95, Newgate Street, strongly recommend it as the most perfect Churn now in use. Full particulars sent on application.

GLAZIERS' DIAMONDS for CUTTING HORTICULTURAL and other GLASS, to be had of the Wholesale Manufacturer, John Edwards, 20, Sharp's Alley, West Smithfield, London, E.C. Prices from 10*s.* to 27*s.* 6*d.*

FOR WATERING GARDENS, PLUMBERS, ENGINEERS, MILLS, and MACHINISTS.
Vulcanised India Rubber.

Washers for Hot-water and Steam Joints
Elastic Packing and Valves for Steam Engines
Pump Buckets (compound India-rubber)
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Do. fitted with Brass Joints, Taps and Spreaders
Wheel Tires (noiseless for Trucks, &c.)
Waterproof Cart, Van, and Waggon Covers
Mill Bands, much improved for driving all kinds of Machinery
Door Springs, Gas Bags
Foot Balls, Cricketting Gloves

N.B. A Stock of the above always on hand, and any modification made to order. Please address all communications to the Manufactory.

JAMES LYNE HANCOCK,
Vulcanised India-rubber Works, Goswell Road, London, E.C.

LAWNS—IN USE IN THE ROYAL GARDENS.

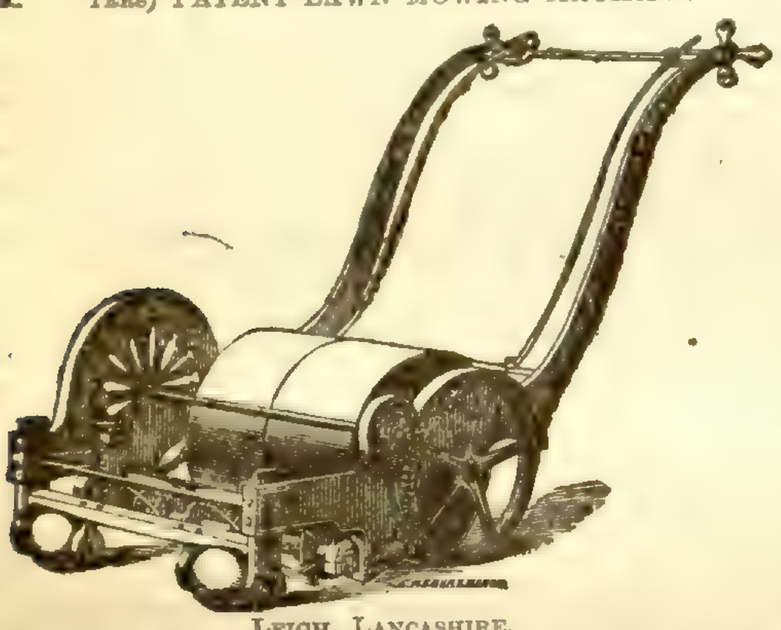
SAMUELSON'S PATENT BOYD LAWN MOWING and ROLLING MACHINE, the only one that will cut wet as well as dry Grass, is guaranteed efficient in use, easily handled, and readily kept in working order. Doing the work of five or six men. Prices, including case and carriage to any railway station in England, from 4*l.* 17*s.* 6*d.* and upwards. Copies of testimonials post free on application to Mr. SAMUELSON'S London Warehouse, 76, Cannon Street West, City; Messrs. DEANE'S, London Bridge; or the Works, Banbury, Oxon.

THE NEW PATENT MOWING MACHINES may be used anywhere at any time, are self-sharpening, and admit of the use of duplicate sets of cutting parts. Prices from 4*l.* 10*s.* upwards. Illustrated Circulars free by post.—Manufactured and Sold by JAMES FERRABEE & Co., the original introducers of Mowing Machines.

Several infringements of their patent having taken place, the Makers respectfully caution the public to see that the words "FERRABEE'S Patent" are cast on every Machine.

JAMES FERRABEE & Co., Phœnix Iron Works, Stroud.

PICKSLEY, SIMS, AND CO.'S (by ROYAL LETTERS) PATENT LAWN MOWING MACHINE.



LEIGH, LANCASHIRE.

P., S., & Co., in introducing this Lawn Mowing Machine, particularly request a strict examination, or comparison and trial, for simplicity of construction, lightness, regularity of draught, adaptability for mowing every kind of plain, circular, and verge work.

Firstly, we have encased the wheels so as completely to protect from injury flower borders, shrubs, &c., whilst working the machine, at the same time not being liable to obstruction or damage.

Secondly, this machine works easily on undulated and sloping ground; it can be thrust forward or be drawn from behind, the latter being the easiest.

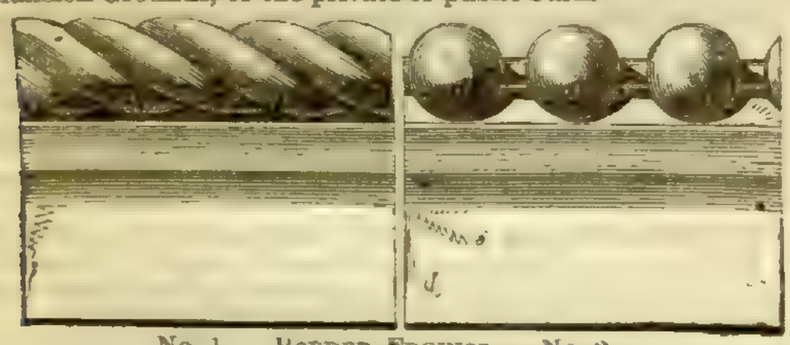
Thirdly, this is the only machine made that will work round quick curves; it will work easily and effectively round circular borders so small as 12 inches in diameter. This very desirable improvement has been obtained by fixing to the front part of the machine our newly-invented universal action, and self-cleaning, anti-friction spherical guiding balls. The continual revolving of these spherical guiding balls, under the most trying circumstances, never fails.

Fourthly, we have attached to this machine a rack and pinion motion, for adjusting the cutting parts (there being a rack and pinion on each side of the machine to act conjointly at the same time upon the full length of the knives), in other machines a slow, tedious, and uncertain operation, into one of quickness, ease, and certainty.

| PRICES:— | | | £ | s. |
|---|---|---|---|---|
| Patent Lawn Mowing Machine | 13 inches | .. | 5 | 10 |
| Ditto ditto ditto | 16 ,, | .. | 6 | 0 |
| Ditto ditto ditto | 19 ,, | .. | 6 | 10 |
| Ditto ditto ditto | 22 ,, | .. | 7 | 0 |
| Patent Chaff and Gorse Cutters from | .. .. | £2 5 to | 22 | 0 |
| ,, Bean, Oat, and Malt Mills | .. .. | 3 10 to | 10 | 10 |
| ,, Gorse and Grain Bruisers | .. .. | 10 10 to | 21 | 0 |
| ,, Bone Mills | .. .. .. .. | 27 10 to | 150 | 0 |
| ,, Mangles, various | .. .. .. | 2 10 to | 12 | 10 |

ILLUSTRATED CATALOGUES can be had gratis.

VASES, PEDESTALS, SUNDIALS, FOUNTAINS, FLOWER BOXES, JARDINETS, FERN CASES, BALUSTRADES, EDGINGS AND CURBS FOR FLOWER BORDERS, SEATS, &c., in Imperishable Siliceous Stone, at reduced prices, for the adornment of the Villa Garden, the Mansion Grounds, or the private or public Park.

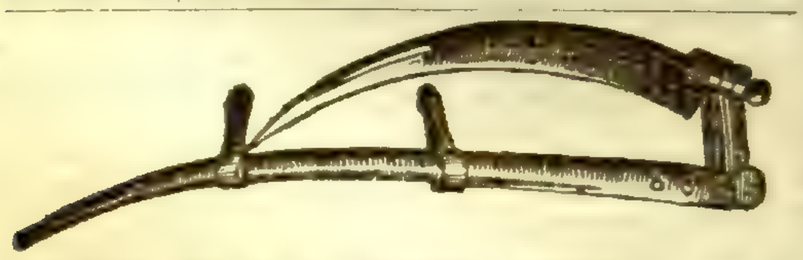


No. 1. BORDER EDGINGS. No. 2.

For Priced Illustrations apply to FREDERICK RANSOME, at the Show Rooms, Cannon Row, Westminster, S.W., or Patent Stone Works, Ipswich.

PATENT PRIZE SCYTHES, Price 11*s.* AND 11*s.* 6*d.*

JAMES PAYNE, Kirkcudbright, invites the attention of Gardeners and others to his newly improved Patent Adjustable Scythes, which can be set to any angle in one minute's time; are light and easily managed, warranted strong, and unequalled for finish by any in the Kingdom.—Circulars on application.



BOYD'S SELF-ADJUSTING SCYTHES are the cheapest and best, and being sold adjusted are ready for immediate use. They can be regulated in an instant to suit any person, and to cut any crop without change of Scythes. To Amateur Gardeners they are very desirable, as they afford a healthy and interesting exercise. They have stood the test of public opinion for seven years, and for excellence, ease, economy, and durability are highly recommended. Upwards of 50,000 of them have been sold. To be had of every Ironmonger, Hardwareman, and Seedsman in the United Kingdom; and Wholesale of the Sole Licensed Makers, WM. DRAY & Co., at their New Agricultural Implement Warehouses, Adelaide Place, London Bridge.

PATENT LAWN MOWING AND ROLLING MACHINES.

SAMUELSON'S LAWN MOWING MACHINES,

WITH BOYD'S PATENT IMPROVEMENTS.

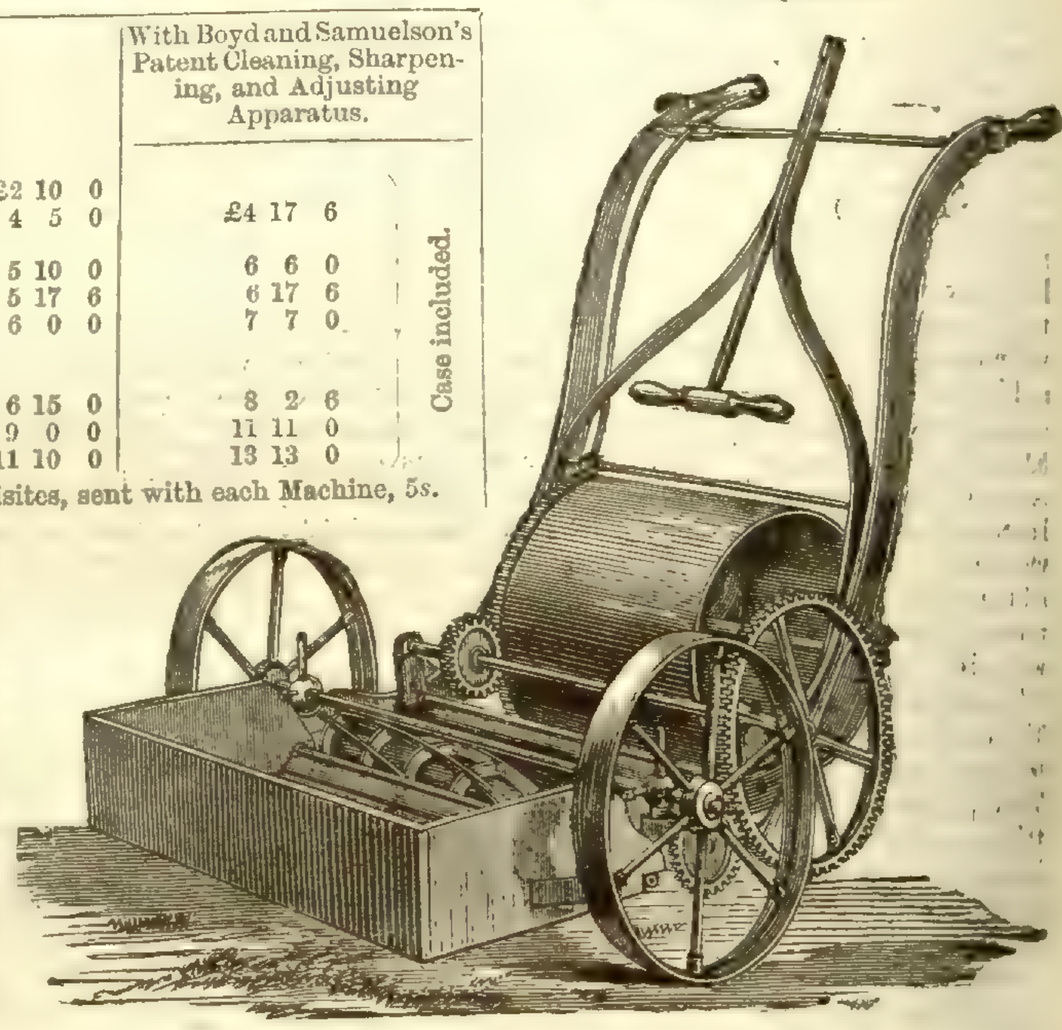
*"Doing the work of five or six men."—The Times, Sept.* 20, 1858.

The following PRICES include the Carriage to any Railway Station in England:—

| | | With Boyd and Samuelson's Patent Cleaning, Sharpening, and Adjusting Apparatus. |
|---|---|---|
| 9 inches wide, for very narrow borders, without registered wheels .. .. | £2 10 0 | |
| 12 inches wide .. .. .. .. | 4 5 0 | £4 17 6 |
| 16 inches wide, with registered arrangement (for one man) .. .. .. | 5 10 0 | 6 6 0 |
| 19 inches wide, ditto (for one man) .. | 5 17 6 | 6 17 6 |
| 22 inches wide, ditto (for man and boy) | 6 0 0 | 7 7 0 |
| 22 inches wide, ditto for ditto, and also fitted with draught links for a pony and a man to work it .. .. | 6 15 0 | 8 2 6 |
| 25 inches wide, ditto .. .. .. | 9 0 0 | 11 11 0 |
| 30 inches wide, ditto (for man and pony) | 11 10 0 | 13 13 0 |

Case included.

Box of Tools, Oil Can, and other requisites, sent with each Machine, 5*s.*



Some thousands of these Machines are now in successful operation on the Lawns of Royalty, the Nobility, and Gentry of the United Kingdom and the Continent of Europe, and are pronounced SUPERIOR to *any other* for lightness of draught, efficiency, and durability. The demand for them is *yearly increasing—the number supplied by* Mr. SAMUELSON *during the years* 1856, 1857, *and* 1858 *being more than* 2100. Testimonials are continually being received from gentlemen having them in daily use, who speak in the highest terms of their efficiency.

These are the only Machines that will cut wet as well as dry Grass without clogging the knives.

Orders for 1859 should be sent at once to insure certain delivery and to prevent disappointment.

Copies of Testimonials will be forwarded post free on application to

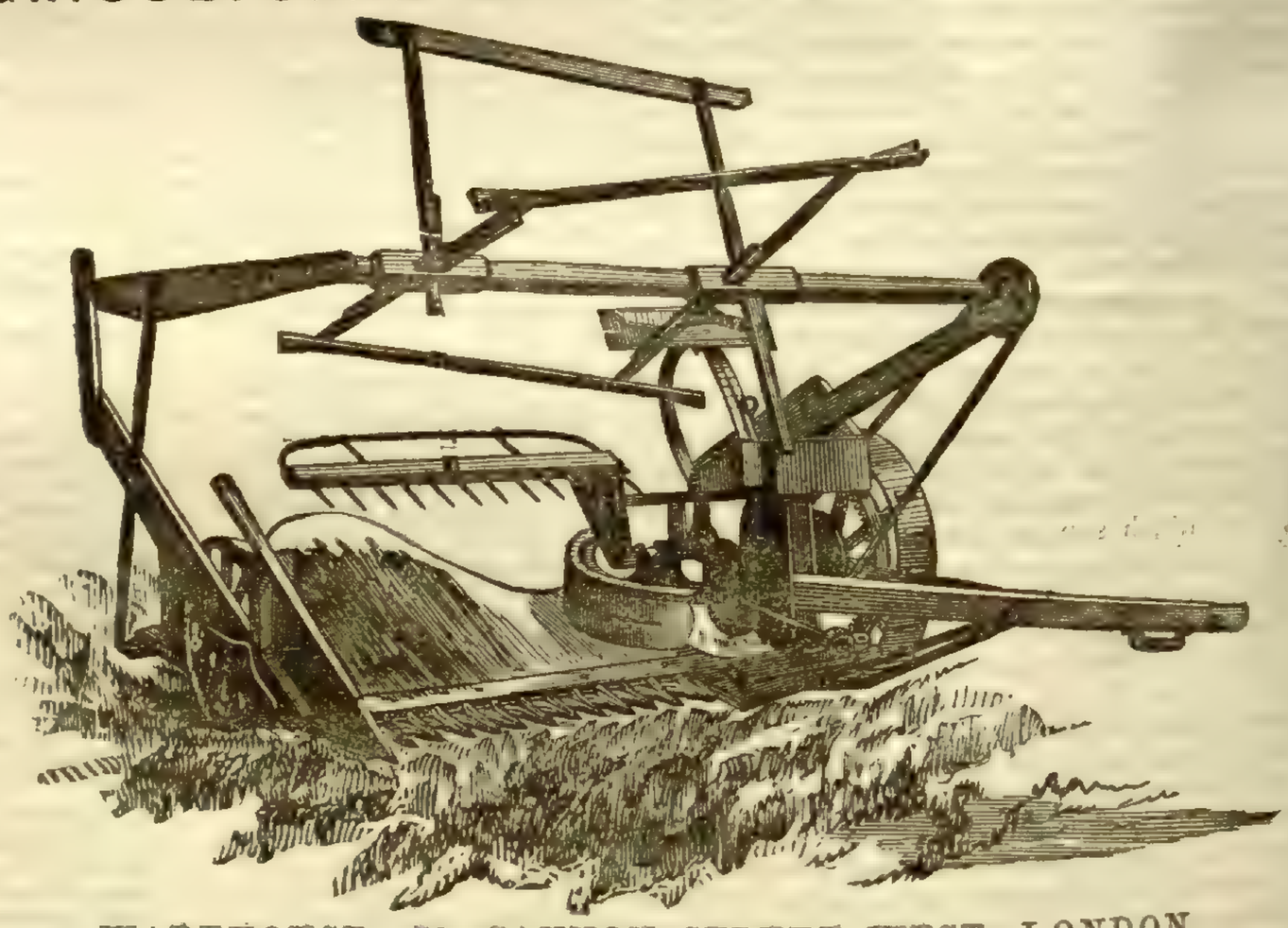
B. SAMUELSON, 76, Cannon Street West, City, London;

to the Manufactory, Britannia Works, Banbury, Oxon;

or to MESSRS. DEANE AND CO. London Bridge; or any respectable Ironmonger or Seedsman in the Kingdom

B. SAMUELSON,

AGRICULTURAL ENGINEER AND MACHINIST,



WAREHOUSE, 76, CANNON STREET WEST, LONDON,

WORKS AT BANBURY,

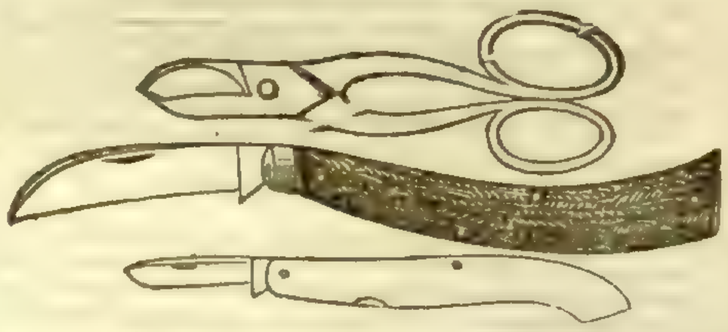
INFORMS MERCHANTS, the TRADE, and AGRICULTURISTS, that he has opened the above Warehouses as a depôt for his own manufactures and those of Messrs. Barrett, Clayton, Howard, Hornsby, Nicholson, Richmond, Tuxford, Smith, and all other first-class makers, whose implements he is prepared to offer on makers' terms.

THE BRITANNIA SELF-RAKING REAPING MACHINE,

With side delivery in sheaf, no rakers or gatherers required; and all the most improved Spring Implements for the season, may be inspected at the above depôt.

B. SAMUELSON, 76, Cannon Street West, London; and Britannia Works, Banbury.

PAXTON WORKS, SHEFFIELD, ESTABLISHED 1738.



SAYNOR AND COOKE'S warranted PRIZE PRUNING and BUDDING KNIVES, SCISSORS, &c.—Sold by all respectable Nurserymen and Seed Merchants in the three Kingdoms.

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RICK CLOTHS, New and Second hand,

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MONSTER TENTS for large parties.

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RICK CLOTHS, Second-hand, very cheap.

NETTING for Fruit Trees, &c.

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# FOWLER'S PATENT STEAM PLOUGH.

**THIS IMPLEMENT HAS GAINED THE FOLLOWING PRIZES:—**

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| AT STIRLING, 1857 ... ... ... | £200 | AT NORTHALLERTON (Lord Bolton's Prize), 1858 | £25 |
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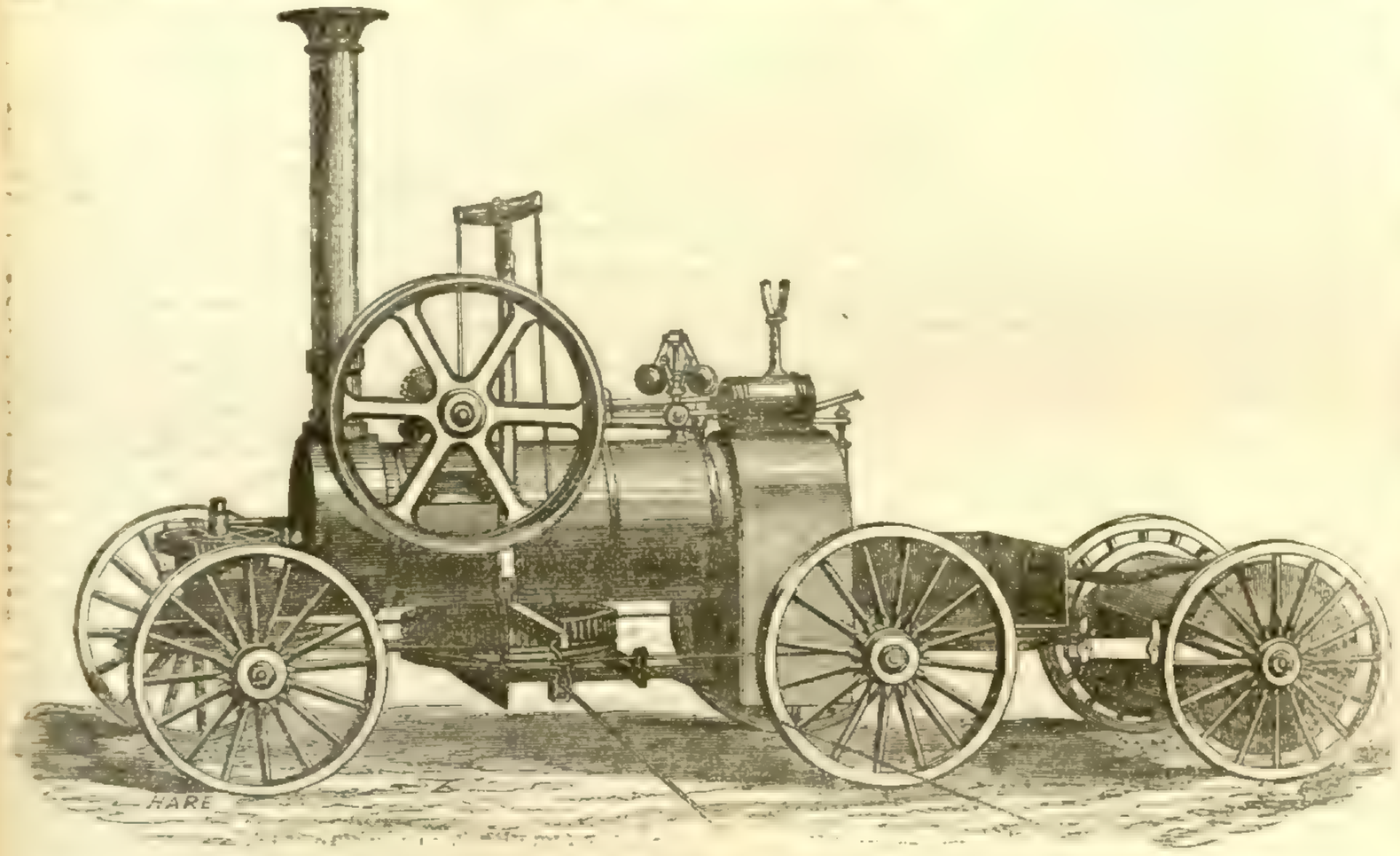


A CUT OF FOWLER'S STANDARD ENGINE, WINDLASS, AND WATER CART.

*Illustrated Catalogues, with reduced prices of Ploughs, will be ready shortly. For further particulars apply to*

**JOHN FOWLER, Jun., 28, Cornhill, London, E. C.**

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**IMPROVED PATENT TURNIP AND MANGEL GRATER,**
MANUFACTURED BY

JOHN WARNER AND SONS, No. 8, Crescent, Jewin Street, London, E.C.—J. W. & Sons, in introducing their IMPROVED PATENT TURNIP AND MANGEL GRATER to the notice of Agriculturists, beg to state that they have personally tested its capabilities during the last three seasons, and as such feel that they can, with the greatest confidence, recommend it as a machine that will upon trial, satisfy the requirements of Feeders of Stock generally; one man or strong lad being able with comparative ease to grate 20 bushels of roots in 10 minutes.—Price of the Machine complete, 4*l.* 10*s.* Carriage paid to any Railway Station in England. To be procured of any Ironmonger or Agricultural Machine Agent in Town or Country, or of the Manufacturers.

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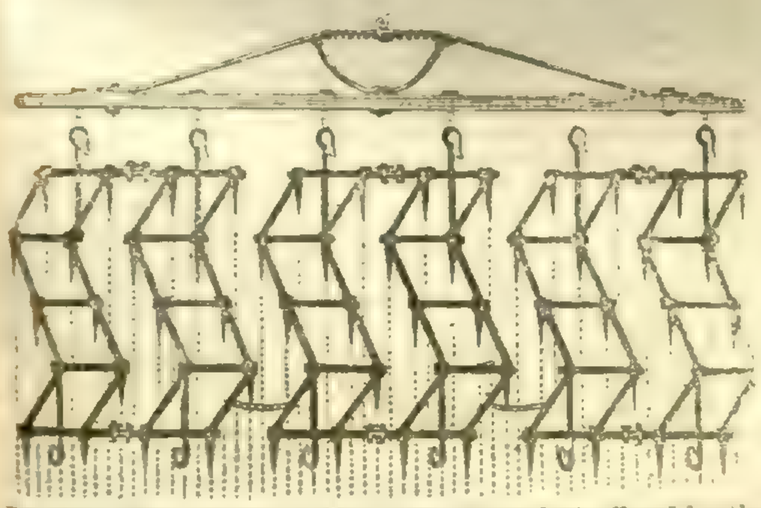
**HOWARDS' PRIZE IMPLEMENTS, 1859.**

JAMES AND FREDK. HOWARD, Britannia Iron Works, Bedford, beg to direct attention to their PATENT PRIZE HARROWS,



For which they received All the First Prizes last offered by the Royal Agricultural Society of England, viz.:—

The First Prize for the Best General Purpose Harrows.
The First Prize for the Best Light Harrows.
The First Prize for the Best Drag Harrows.

J. & F. HOWARD have discontinued troubling the Public with a long List of Prizes awarded to their Implements, but they would just state that for PLOUGHS, HARROWS, and HORSE RAKES, they have for several years gained every Prize for which they have competed.

PLOUGHS.

| | |
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| D PLOUGH, for a Pony .. .. .. .. .. | £2 5 0 |
| DD ditto for one Horse .. .. .. .. .. | 3 5 0 |
| P ditto for two Horses .. .. .. .. .. | 4 7 6 |
| PP ditto for general purposes .. .. .. .. | 4 12 6 |
| SKIM COULTER for P or PP Plough .. .. | 0 5 6 |

HARROWS.

| | |
|---|---|
| A Set of Three 4-Beam HARROWS, with Whippletree, recommended as general Seed Harrows, 9¼ feet wide, marked No. 12 .. .. .. .. .. | 3 14 0 |
| A Set of Three 4-Beam HARROWS, with Whippletree, adapted for 3 Horses, 10 ft. wide, marked No. 11 | 4 4 0 |

If with Patent Joints, 6*s.* per set extra.

HORSE RAKES.

| | |
|---|---|
| Small size, 7½ feet wide, marked A, with 24 iron teeth | 7 10 0 |
| Ditto, with Steel Teeth .. .. .. .. .. | 8 0 0 |
| Large size, 8½ feet wide, marked B, with 28 iron teeth | 8 0 0 |
| Ditto, with steel teeth .. .. .. .. .. | 8 10 0 |
| Extra large size, 8½ feet wide, marked C, with 24 steel teeth .. .. .. .. .. .. .. .. | 10 10 0 |
| A Set of 15 Prongs, to be attached to the above when used as Weed Extirpators .. . .. .. | 1 10 0 |

Free Delivery to Birmingham, Bristol, Colchester, Derby, Gloucester, Hull, Lincoln, Liverpool, London, Manchester, Norwich, Nottingham, Retford, Shrewsbury, Wisbeach, Worcester, and York; or to Dublin, Edinburgh, Glasgow, and other parts at fixed rates.

HOWARDS' NEW CATALOGUE, containing prices and description of their Patent Ploughs, Harrows, Horse Rakes, and other Implements, including Smith's Steam Cultivators, for which they received at Chester the Gold Medal of the Royal Agricultural Society of England, sent free on application to

J. & F. HOWARD, Britannia Iron Works, Bedford.

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WARNER'S IMPROVED LIQUID MANURE OR GENERAL PORTABLE PUMP.

These Pumps are fitted with J. W. & Son's Patent Buckets and Suckers, and cannot clog in action. The barrel is of galvanised iron, not likely to corrode, and can be raised or lowered at pleasure. The legs will fold together, and the whole may be carried on the shoulder to any pond or tank required.

Price of 4½ in. Pump, with legs, 3*l.* 3*s.* If with planished copper barrel and galvanised iron handle, &c., 14*s.* extra. The barrel is 27½ in. long, and the legs are 5 ft. high.

These Pumps are also made without the legs, with strong wrought-iron straps for screwing on to any ordinary water butt or cart, and fitted with 1½ inch brass union for attaching flexible suction. Price 50*s.*

1¾ inch Gutta Percha Suction Pipe, 1*s.* 11*d.* per foot.

Rubber and Canvas Suction and Delivery Hose, from ¾ inch to 4 inches diameter, in lengths of 60 feet to order. Branch Pipes with Cocks, Union Screws, &c., at reduced prices.

May be obtained of any Ironmonger or Plumber in town or country, at the above prices, or of the Patentees and Manufacturers, JOHN WARNER & SONS, 8, Crescent, Jewin St., London

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WARNER'S PATENT VIBRATING STANDARD PUMPS.

PATENT CAST-IRON PUMPS, fitted with J. W. & Son's Patent Buckets and Suckers, which cannot clog in action, for Farms, Cottages, and Wells, not exceeding 28 feet.

| Diameter of Barrel. | Height. | | £ *s.* *d.* |
|---|---|---|---|
| 2½ in. | short | 1 ft. 7 in. Fitted for lead, | 1 10 0 |
| 2½ ,, | long | 3 ,, 3 ,, gutta percha, | 1 14 0 |
| 3 ,, | ditto | 3 ,, 6 ,, or cast iron | 2 8 0 |
| 3½ ,, | ditto | 3 ,, 6 ,, flanged pipe, | 2 12 0 |
| 4 ,, | ditto | 3 ,, 6 ,, as required. | 3 8 0 |
| 2½ ,, | short, with 15 feet of Lead Pipe attached, ready for fixing .... | | 2 14 0 |
| 2½ in. | long ditto | ditto ditto | 2 18 0 |

The short barrel Pump is very convenient for fixing in situations of limited height and space, for the supply of coppers and sinks in Wash-houses with soft water from underground tanks, or in Hot, Forcing, and Plant Houses; they may be fixed, when desired, under the stage.

May be obtained of any Ironmonger or Plumber in Town or country, at the above prices, or of the Patentees and Manufacturers, JOHN WARNER & SONS, 8, Crescent, Jewin Street, London.

Every description of Machinery for Raising Water by means of Wheels, Rams, Deep Well Pumps, &c.; also Fire and Garden Engines, &c. &c.—Engravings sent on application.

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"FRIGI DOMO."—Patronised by her Majesty, the Queen, the Duke of Northumberland for Syon House, His Grace the Duke of Devonshire for Chiswick Gardens, Professor Lindley for the Horticultural Society, Sir Joseph Paxton for the Crystal Palace, Royal Zoological Society, late Mrs. Lawrence of Ealing Park, and — Collier, Esq., of Dartford.

PROTECTION FROM COLD WINDS AND MORNING FROSTS.

"FRIGI DOMO," a Canvas made of patent prepared Hair and Wool, a perfect non-conductor of Heat and Cold, keeping, wherever it is applied, a fixed temperature. It is adapted for all horticultural and floricultural purposes, for preserving Fruits and Flowers from the scorching rays of the sun, from wind, from attacks of insects, and from morning frosts. To be had in any required lengths. Two yards wide, 1*s.* 6*d.* per yard run; four, 3*s.* per yard. Also, an improved make for Shading Purposes. Three yards wide, 2*s.* 6*d.* per yard run.

ELISHA THOMAS ARCHER, whole and sole manufacturer, 7, Trinity Lane, Cannon Street, City, and of all Nurserymen and Seedsmen throughout the kingdom. "It is much cheaper than mats as a covering."

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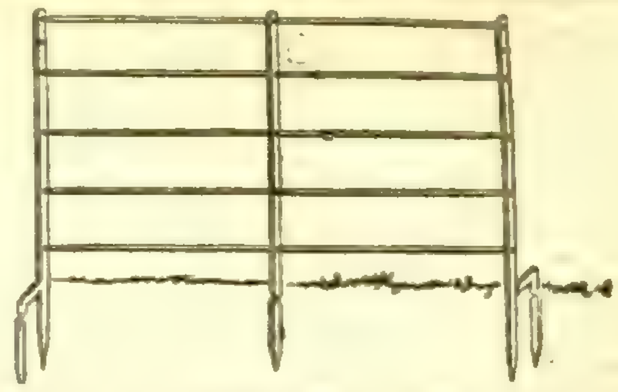
IRON HURDLES, FENCING, &c., MADE BY MACHINERY



COTTAM AND COMPANY, of Winsley Street, have invented machinery for making Hurdles, &c.; the bars, instead of being pointed by hand in the old fashioned style, are nippled down by the machine, leaving a shoulder so as to more effectually tighten the standards when rivetted. They are made of superior iron only, and will compete in price with those made by hand from cinder or common iron which so frequently break. Iron Fencing, Gates, and Iron Work of all kinds, both Plain and Ornamental, Conservatories, Hot Water Apparatus and Garden Implements.

Illustrated CATALOGUES free on application to COTTAM & COMPANY, Ironfounders, 2, Winsley Street, Oxford Street, W.

N.B. COTTAM & Co. beg to make it known that there is no longer an entrance to their establishment from Oxford Street, but that they have made a second entrance from 2, Winsley Street, Oxford Street, W., by the side of the old entrance to their works, opposite the Pantheon.

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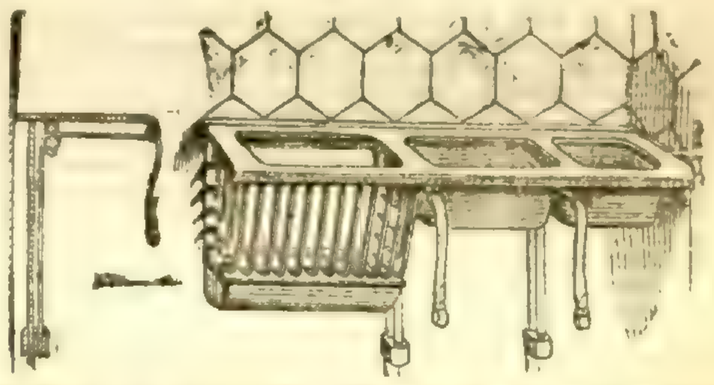
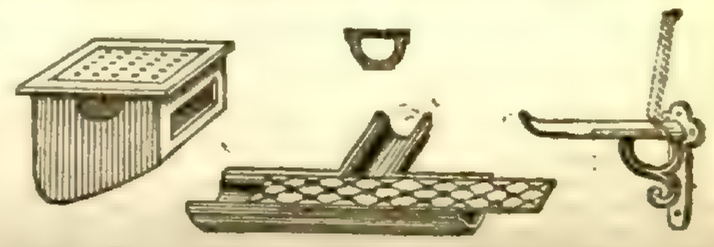
COTTAM'S PATENT INVENTIONS FOR STABLE REQUISITES, awarded a Prize at the Paris Exhibition, and patronised by the English and French Governments.



COTTAM AND COMPANY, of Winsley Street, are the original inventors of the PATENT ENAMELLED MANGER, Water Trough, and Wrought Iron Rack, united to an iron top-plate, and forming one complete and useful fixture, having COTTAM'S patent noiseless halter guide and collar rein attached, which is taken to the back of the manger, and works with ease and freedom up or down the guide-bar.

COTTAM'S NEW PATENT SEED-BOX, an important addition to the above fittings, being simple in construction, light, and durable, promotes cleanliness, and is economical in its results.



COTTAM'S PATENT SADDLE and HARNESS BRACKET combined, can be used with great advantage where space is an object, as it can be turned up out of the way when not in use.

COTTAM'S IMPROVED SURFACE GUTTER, with perforated moveable cover, the use of which prevents accidents, and can be easily cleaned out.

COTTAM'S CAST-IRON SANITARY TRAP, from its improved construction, gives a full water passage, and does not allow any smell to ascend from the drain.

PATENT LOOSE-BOX FITTINGS, and every article for the harness-room and stable, kept in stock, plain, galvanised, and enamelled. Iron gates, fencing, hurdles, &c.

The New Illustrated Catalogue and Estimates, gratis, upon application to COTTAM and COMPANY, 2, Winsley Street, Oxford Street.

N.B. COTTAM & Co. beg to make it known that there is no longer an entrance to their establishment from Oxford Street, but that they have made a second entrance from 2, Winsley Street, Oxford Street, W., by the side of the old entrance to their works, opposite the Pantheon.

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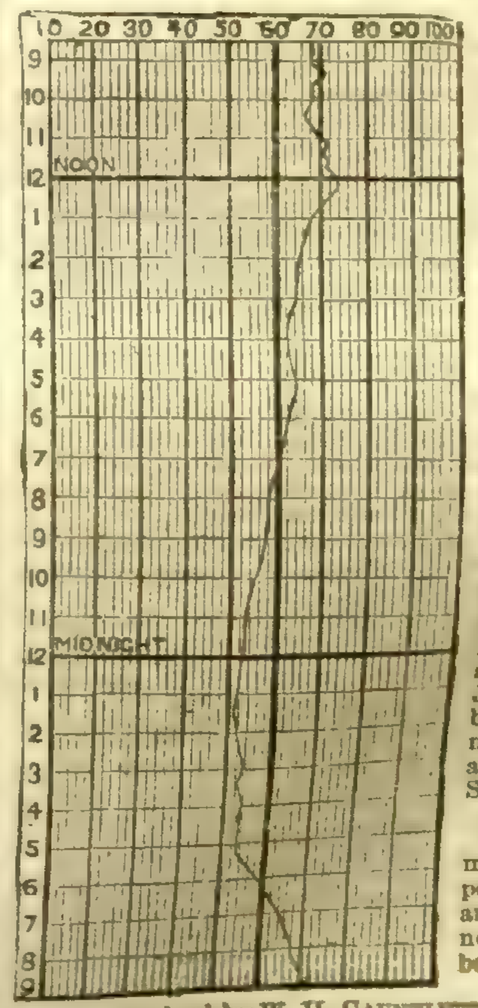
TO HORTICULTURISTS.

GAUNTLETT'S PATENT CHRONOMETRICAL THERMOMETER.




This instrument, which combines an eight-day clock of the best English make showing time, with a newly-patented Thermometer, wherein glass and quicksilver are dispensed with, writes down the temperature of the atmosphere on a slip of paper, and when placed in a Hothouse, Forcing House, or Conservatory, &c., supplies a valuable record of the temperature, with all its variations, showing the time when any change took place, and how long such change continued.

The above slip (reduced in size) exhibits the temperature of the Royal Agricultural Society's show yard at Chester, July 22, 1858, written off by one of these instruments, to which was awarded the Society's SILVER MEDAL.

This is the only instrument that registers temperature continuously and writes it down, and no horticulturist should be without it.

Orders received by W. H. GAUNTLETT, Middlesbro' on-Tees.

## GREENHOUSES, ORCHARD HOUSES, AND PITS

OF EVERY DESCRIPTION, MADE BY STEAM MACHINERY, AND HEATED BY HOT WATER ON AN IMPROVED PLAN AT

J. LEWIS'S HORTICULTURAL WORKS, Stamford Hill, Middlesex, established 20 years. These Buildings are warranted of the best materials, and at prices which defy competition. The ventilation is most efficient, and the greatest improvement of the present day. Prices of any size on application. References in all parts of the United Kingdom.

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"Gentlemen,—I have worn Gutta Percha Soles and Heels these two years, and being so much in a garden as I necessarily am in all weathers, and with the ground in all states, I would on no account be without them. As a matter of economy I would recommend Gardeners to use them, for they may repair the worn part at all times by warming the material at the fire, and pressing it from the thick parts to the worn parts as easily as if it were so much dough. I think it the duty of all persons who must occasionally wet their feet to adopt a material that completely defies damp. Many a gardener would escape colds and rheumatism by the use of Gutta Percha Soles.

"Your obedient servant, G. GLENNY."

Every variety of Gutta Percha articles, such as Mill Bands, Tubing, Soles, Goloshes, Sheet, Pump Buckets, Fire Buckets, Bosses, Union Joints, Flasks, Bottles, Bowls, Chamber Vessels, Toilet Trays, Sponge Bags, Curtain Rings, Galvanic Batteries, Talbotype Trays, &c., manufactured by the Gutta Percha Company, and sold by their wholesale dealers in town or country.—The Gutta Percha Company, Patentees, 18, Wharf Road, City Road, London.

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J. AMADIO'S BOTANICAL MICROSCOPES, packed in mahogany case, with three powers, condenser, pincers, and two slides, will show the animalculæ in water. Price 18*s*. 6*d*.—Address JOSEPH AMADIO, 7, Throgmorton Street. A large assortment of Achromatic Microscopes.

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THE PATENT NATIONAL COAL-GAS APPARATUS, for private Residences, Farm Buildings, Churches, Chapels, Workshops, Railway Stations, and other places not hitherto lighted with Gas. It is durable, economical, and compact, and supplies the desideratum of cleanliness in the production of a Gas of better quality and purity, and at less cost, than is ordinarily obtained from Public Works. By an entirely new and peculiar process it is easily worked by a boy or inexperienced servant. The cost of Gas, including labour, wear and tear, and interest of capital, is less than one-fourth that of candles or oil. It can be fixed and completed in working order in a few days.—Further particulars, prices, testimonials, &c., on application to the Proprietors and Manufacturers, J. T. B. PORTER & Co., Lincoln.

## GARDEN ENGINES AND SYRINGES.

J. TYLOR AND SONS, Warwick Lane, Newgate Street, London, E.C., beg to call attention to their very superior manufacture of GARDEN ENGINES and SYRINGES.

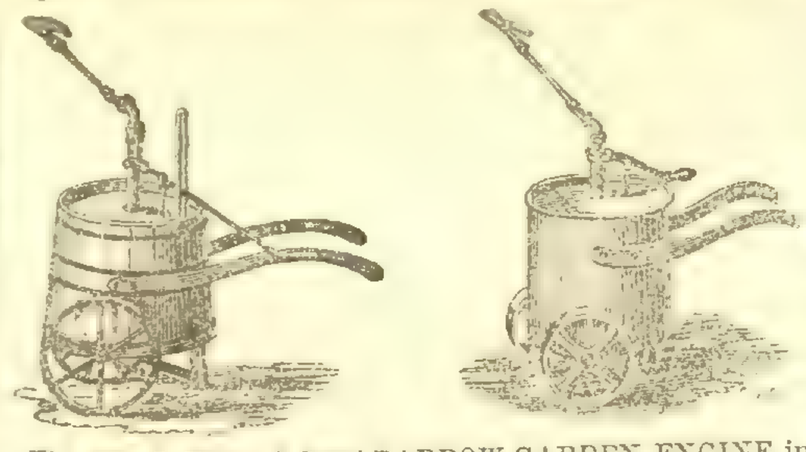

Fig. 598. J. TYLOR & SONS' BARROW GARDEN ENGINE in best well painted Oak tub, fitted with J. TYLOR & SONS' Improved Brass Pump, Universal Joint, and Registered Spreader, which answers the purpose of the separate rose, fan, and jet

CONTENTS OF TUB:—

| 10 gallons | 15 gallons | 28 gallons |
|---|---|---|
| £4 10 0 | £5 10 0 | £6 18 0 |

Fig. 599. do. TINNED IRON TUB.

CONTENTS OF TUB:—

| 8 gallons | 12 gallons | 16 gallons | 24 gallons | 30 gallons |
|---|---|---|---|---|
| £2 15 | £3 5 | £4 | £5 | £5 18 |

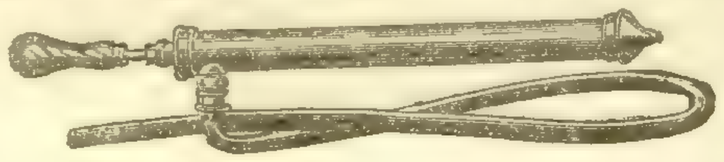

Fig. 618. No. 1. REGISTERED SYRINGE, with India-rubber suction tube, one rose and jet .. .. £1 5 each.
No. 2. Ditto ditto 1 1 ,,
Telescope Branch Pipe for ditto .. .. 0 10 ,,

Fig. 619. GARDEN SYRINGE, with one rose and jet, 12*s*.6*d*. each
,, 620. Ditto ditto 11*s*.6*d*. ,,
,, 621. Ditto ditto 10*s*.6*d*. ,,
,, 622. LADIES' GARDEN SYRINGE, without rose & jet, 8*s*.

Fig. 623. READ'S SYRINGE, with two roses and one jet, 18*s*. 6*d*.
,, 624. READ'S SYRINGE, with one rose and jet .. 16 6
,, 625. Improved ditto ditto .. 14 6
,, 626. Ditto ditto ditto .. 13 0

Manufacturers of Pumps and Well Engines (for shallow or deep Wells), Plumbers' Brass Foundry of every description, High Pressure Cocks and Closets, Copper and Tinned-iron Baths. Garden and Fire Engines, Lamps of every description, Copper Goods, &c. Estimates given for Hot-water and Bath Apparatus.

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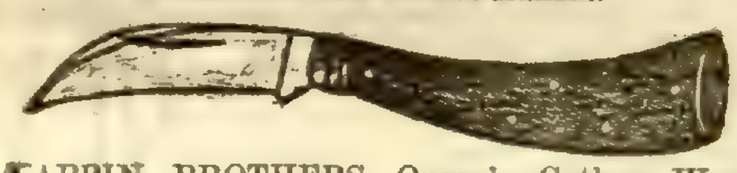
WARRANTED GOOD BY THE MAKERS.



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MAPPIN'S SUPERIOR TABLE-KNIVES maintain their unrivalled Superiority—handles cannot possibly become loose—the blades are all of the very first quality, being their own Sheffield manufacture.

| | Tble. Kns. | Dst. Kns. | Carvers. |
|---|---|---|---|
| Ivory 3⅝ in. Handle, balanced, | 20*s*. p. doz.; | 16*s*. p. doz.; | 6*s*. p. pair |
| Do. 4 in. do. .. | 25*s*. ,, | 18*s*. ,, | 9*s*. ,, |

MAPPIN'S SILVER-PLATED DESSERT KNIVES and FORKS, in Mahogany Cases.

| | | |
|---|---|---|
| 12 Pairs Knives and Forks, Ivory Handles, in Case.. | | 80*s*. |
| 12 | Do. Pearl Handles, do. .. | 130*s*. |
| 12 | Do. Silver-Plated Handles, do. .. | 80*s*. |

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| | Fiddle Pattern. | Double Thread. | King's Pattern. |
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| 12 Table Spoons, best quality | 1 16 0 | 2 14 0 | 3 0 |
| 12 Dessert Forks, best quality | 1 7 0 | 2 0 0 | 2 4 |
| 12 Dessert Spoons, best quality | 1 7 0 | 2 0 0 | 2 4 |
| 12 Tea Spoons, best quality | 0 16 0 | 1 4 0 | 1 7 |

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HAVE PROVED BEYOND QUESTION THAT

ROWLANDS' MACASSAR OIL possesses extraordinary properties for promoting the growth and improving and beautifying the human hair. It prevents it from falling off or turning grey, strengthens weak hair, cleanses it from scurf and dandriff, and makes it beautifully supple, pliable, and glossy. In the growth of the beard, whiskers, mustachios, it is unfailing in its stimulative operation. For children it is especially recommended as forming the basis of a beautiful head of hair, while its introduction into the Nurseries of Royalty, and the numerous testimonials constantly received of its efficacy, afford the best and surest proofs of its merits.—Price 3*s*. 6*d*. and 7*s*.; Family bottles (equal to four small) 10*s*. 6*d*.; and double that size, 21*s*.—CAUTION. On the wrapper of each bottle are the words, "ROWLANDS' MACASSAR OIL," &c., in white letters, and their signature, "A. ROWLAND & SONS," in red ink.—Sold at 20, Hatton Garden, London, and by Chemists and Perfumers.

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|---|---|
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With 5 stops, ditto .. .. .. .. .. .. 22
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The tones of the latter can be produced either softer or louder than other harmoniums that cost double the price. Prize Medalist, 1851. An extensive assortment of French Harmoniums, with all the latest improvements, from the Six Guinea School-room Harmonium to the Sixty Guinea one for the Drawing Room, by Alexandre.

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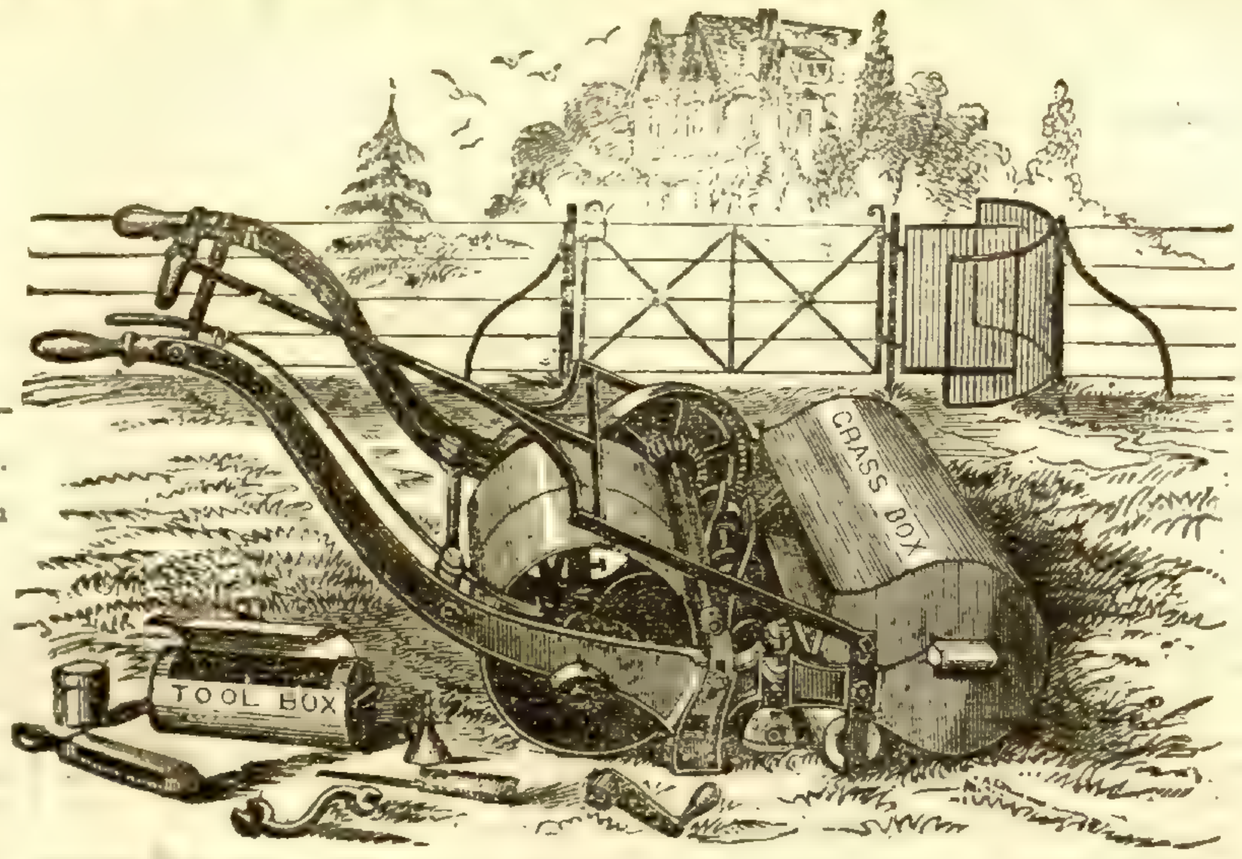


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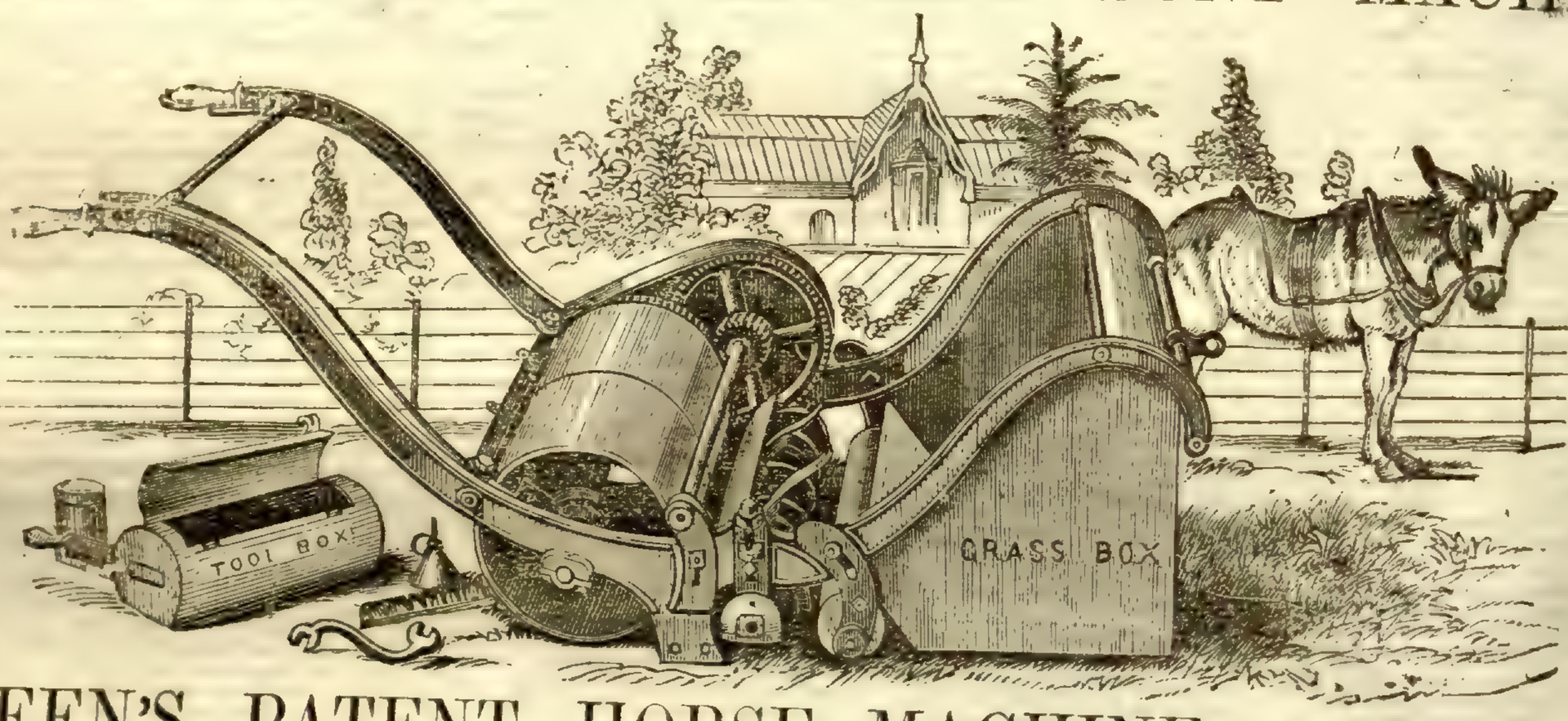


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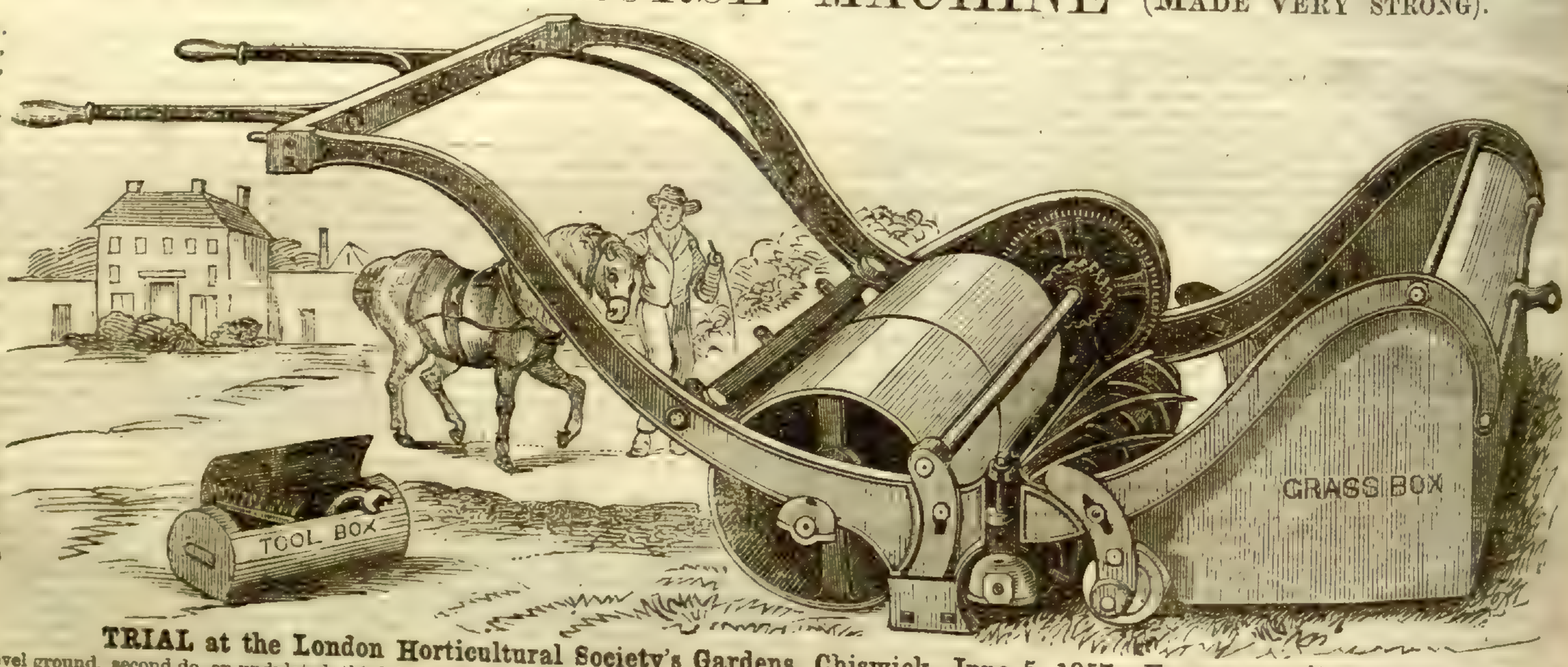


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See the *Gardeners' Chronicle* of May 22, 1858, p. 423, under the heading of "Garden Memoranda."

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# THE GARDENERS' CHRONICLE
AND
# AGRICULTURAL GAZETTE.

**A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.**

**No. 19.—1859.]** SATURDAY, MAY 7. **Price Fivepence. STAMPED EDITION, 6d.**


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ST. JAMES'S HALL.

THE FIRST GRAND FLOWER SHOW of the HORTICULTURAL SOCIETY will take place on THURSDAY and FRIDAY next.

ROYAL BOTANIC SOCIETY, REGENT'S PARK.—THE EXHIBITIONS OF PLANTS, FLOWERS, AND FRUIT this season will take place on WEDNESDAYS, May 25, June 15, and July 6. Tickets of Admission are now being issued, and can be obtained at the Gardens only by orders from Fellows or Members of the Society. Price, on or before Saturday, May 14, 4s.; after that day, 5s.; or on the days of Exhibition, 7s. 6d. each

CRYSTAL PALACE.—FLOWER SHOWS for 1859 will be held as follows:—

WEDNESDAY, May 18 | WEDNESDAY, Sept. 7
WEDNESDAY, June 8 | THURSDAY, Sept. 8

And CHRYSANTHEMUM SHOW on WEDNESDAY, Nov. 9, and THURSDAY, Nov. 10.

Schedules of Prizes may now be had on application.
Gardeners' Tickets at 3s. 6d. each can be obtained on application to the Secretary. By Order,
Crystal Palace, May 7. GEO. GROVE, Secretary.

EXHIBITION OF TULIPS.

CHARLES TURNER'S COLLECTION is now in fine bloom, which may be viewed, Sundays excepted, till the end of the month. On the 20th the NATIONAL TULIP SOCIETY will hold their annual Exhibition at the Nursery, when a military band will attend.
The Royal Nurseries, Slough.—May 7.

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A SPLENDID COLLECTION of TULIPS grown and selected by an Amateur for the last 40 years, may be viewed Gratis, Sundays excepted, by applying to Mr. J. HARDSTONE, St Mary Cray, Kent, S E.

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" show flowers, 24s. to 42s. per doz.
HOLLYHOCK SEED, 1s. to 5s. per packet.
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SUPERB NAMED HOLLYHOCKS.

WILLIAM PERRY has a fine healthy Stock of the above for Sale, comprising all the best sorts, from 6s. to 18s. per doz. If planted now they will make a good display through the months of July, August, September, and October. Catalogues sent free on application.
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Apply to WILLIAM CHATER, Grove Nurseries, Saffron Walden.

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CHOICE ROSES IN POTS.

BIRCHAM AND WARD having a large Stock of the Newest and Best ROSES in fine condition, are enabled to supply them at very reduced prices.
See CATALOGUE, which may be had on application.
Carriage paid to London and Peterborough.
Hedenham Rosary, Bungay, Suffolk.—May 7.

THE BEST SEASON FOR BEDDING OUT ROSES.
WOODLANDS NURSERY, MARESFIELD, NEAR UCKFIELD, SUSSEX.

WM. WOOD AND SON respectfully submit that the months of April and May are the most eligible for planting out Roses from pots, for the purpose of forming groups in the Parterre and Rose Garden.
W. W. & Sons having on hand an immense Stock of many thousands, in pots, will be happy to supply them on the following reasonable terms.

| | | |
|---|---|---|
| Hybrid Perpetual Roses | 9s. to 12s. | per dozen. |
| Isle de Bourbon ditto | 12s. to 18s. | ,, |
| Tea-scented | 12s. to 18s. | ,, |
| China, Climbing and Noisette ditto | 9s. to 12s. | ,, |

CATALOGUES sent post free on application.
Plants added to each order to compensate for distant carriage.

SKIRVING'S SWEDE—SUTTON'S SELECTED STOCK.

SUTTON AND SONS have a choice stock of SKIRVING'S SWEDE SEED, growth of 1858, which they can strongly recommend. Price 9d. per lb., or cheaper by the bushel.—Royal Berks Seed Establishment, Reading.

NEW HARDY WHITE SWEDE.—This Swede is hardier than any other kind, grows to a large size, is adapted for sowing upon poor land, is not affected by frost, and keeps good in the ground or in store till the end of May. New and genuine Seed of this excellent Swede, price 1s. per lb. (carriage free for orders of 30 lbs. and upwards) may be had of RAYNBIRD & HARVEY, Seedsmen, Basingstoke; and 89, Seed Market, Mark Lane, London, E.C.

NEW ZEALAND RUNNER BEAN. — Price 2s. per quart.—JAS. CARTER & Co., Seedsmen, 238, High Holborn, London, W. C.

NEW ZEALAND RUNNING BEAN.—Packets of 12 Seeds, for 14 stamps.
BASS & BROWN, Seed Growers, &c., Sudbury, Suffolk.

HOLCUS SACCHARATUS, OR CHINA SUGAR-CANE GRASS.—Seed of this lately introduced Fodder plant can be supplied by NUTTING & SONS in any quantity Price on application.—Seed Warehouse, 60, Barbican, London.

HOLCUS SACCHARATUS, or North China Sugar-Cane.—Pamphlet, "A Visit and a Plant;" the only English authority on the Cultivation of the above. Post free 6d. Prices of Seed on application. Samples 6d. Four varieties of Holcus remitted free by post on receipt of 10s.
CHINESE YAMS, 4s. per dozen.
ASPARAGUS plants, 16s. per 1000.
JOHN W. CLARKE, Whittlesea, Cambridgeshire.

CAULIFLOWER PLANTS for Pricking out, 5s. per 1000; ASPARAGUS, 2 years, 15s. per 1000; LETTUCE, 2s. 6d. per 1000; and BEDDING PLANTS, 2s. per doz.
WALTER BIRD, Atherstone Nursery.

YOUELL'S "NORFOLK HERO" CUCUMBER.—Without exception the very best Cucumber for open ground cultivation that has yet been offered. It is a most prolific bearer, as handsome as any frame variety, and is as delicate in point of texture, the fruit measuring from 16 to 20 inches in length. Packets containing 6 seeds, 1s.; 18 seeds, 2s.
YOUELL & Co., Royal Nursery, Great Yarmouth.

PETURION GOURD.—This wonderful Vegetable attains the incredible weight of 130 to 135 lbs. in 36 days It is perfectly edible, and makes an important addition to the kitchen garden. Seed may be had in packets at 7d. and 1s., post free, from E. P. DIXON, Seed Establishment, 57, Queen Street. Hull.

H. AND R. STIRZAKER have still to offer the finest DRUMHEAD CATTLE, CABBAGE PLANTS at 2s.; EARLY, of sorts, 3s. 6d.; CURLED SAVOY, 4s.; CAULIFLOWER, strong, 25s. per 1000.—Lancaster Nurseries.

KEMP'S INCOMPARABLE EARLY CABBAGE.—This is quite a distinct variety, and superior to any other known kind, of delicious flavour, dwarf habit, extra early, attains a good size, will not run to seed, and every plant warranted to Cabbage. Seed may be had in sealed packets for 13 postage stamps, post free, at EDMUND P. DIXON'S, 57, Queen Street, Hull.

TO THE SEED TRADE.

THOMAS AYRES, JUN., SEEDSMAN and GROWER, Biggleswade, Beds., can supply every kind of Wurzel, Swede, and common Turnip Seeds, on the most reasonable terms for cash.
N.B. Dealer in Culinary and Flower Seeds, Fruit Trees, Shrubs, and Flowering Plants.

TO THE TRADE.

CHARLES SHARPE has still to offer, of his own growing, saved from the finest selected stocks—

| | |
|---|---|
| LONG RED MANGEL | RED LINCOLNSH. GLOBE TURNIP SEED |
| YELLOW DO. | GREEN GLOBE DO. |
| YELLOW GLOBE DO. | YELLOW TANKARD DO. |
| ALTRINGHAM CARROT | |

Prices given on application.—Wisbeach, Cambridgeshire.

SEEDS! GENUINE SEEDS.—For the RIGHT SEEDS at the RIGHT PRICE, go to the RIGHT PLACE, which is G. W. DIXON'S New Seed Warehouse, 48 A, Moorgate Street, London, E.C. All sorts of Garden, Grass, Agricultural, and Flower Seeds, wholesale, retail, and for exportation.

PAMPAS GRASS (GYNERIUM ARGENTEUM).—The beauty of this extraordinary plant has this season been fully appreciated. It can be supplied by the dozen, hundred, or thousand, by CHARLES NOBLE, Bagshot, Surrey.

JOHN CULVERWELL, Taunton, begs to call the attention of Agriculturists to his superior selection of GRASS SEEDS, which for PURITY, change of SOIL, and CLIMATE, will bear comparison with any house in the kingdom. Prices, terms, and samples forwarded on application.

PALM FOR SALE, a fine specimen, 7 feet high. Has not been accustomed to very much heat.—Address X., 5, Brompton Place, S W.

GREEN HOLLIES, from 12 to 18 and 18 to 24 inches.

WHITEHOUSE AND WHITTAKER having an immense stock of the above, fine bushy plants, with good roots, can supply them at very moderate prices, which will be forwarded on application. The Trade and large purchasers very liberally dealt with.—Brereton Nursery and Seed Establishment, Rugeley, Staffordshire.

TO THE TRADE.

T. AND G. SWAILES offer several thousands as under, at 10s. per 1000:—

| | |
|---|---|
| CUPRESSUS SEMPERVIRENS | THUJA ORIENTALIS |
| ,, TOURNEFORTI | ,, PYRAMIDALIS |

The above are 6 to 9 inches in 8-inch pots, about 150 in each pot.—Beverley, Yorkshire, May 7.

THE PLYMOUTH SEED, AGRICULTURAL IMPLEMENT, AND MANURE COMPANY LIMITED supply every requisite for the Farm and the Garden.
Registered Offices, Union Road, Plymouth.

FERN CATALOGUE.

ROBERT SIM'S NEW DESCRIPTIVE AND PRICED CATALOGUE, No. 6 (62 pages) of his COLLECTION of BRITISH AND EXOTIC FERNS, can be had, post free, for 8 stamps Gratis to all previous purchasers of Ferns.
Nursery, Foot's Cray, Kent, S E.

NEW DAHLIAS.

JOHN KEYNES'S SELECT CATALOGUE OF DAHLIAS, ROSES, CARNATIONS, PINKS, &c., containing Lists of all the valuable Show Flowers in each class, is now ready and will be sent on application.
Castle Street Nursery, Salisbury.—May 7.

DAHLIAS.—The finest selections, strong healthy plants, well established, 4s., 6s., 8s., and 12s. per dozen.—DODWELL & BAYLEY, Bradshaw Gardens, Chadderton, Manchester

NEW DAHLIA FIRE KING.

H. LEGGE is now sending out his superb DAHLIA, bright scarlet tipped with white, the best fancy of the year, 10s. 6d. per plant. Also all the new varieties of last season, at 9s per dozen; older sorts, 3s. per dozen.
Catalogues can be had by pre-paid application to H. LEGGE, Marsh Side, Lower Edmonton, Middlesex.

DAHLIAS, FUCHSIAS, VERBENAS, &c.

GEORGE SMITH, FLORIST, &c., Lorrimore Road, Walworth, begs to offer the following, in extra strong plants, true to name, his stock containing the new flowers of last year (per dozen):—

| | | | |
|---|---|---|---|
| Dahlias | 3s. 6d. to 8s. | Double Petunias | 4s. |
| Verbenas | 3s. to 6s. | Fine dry bulbs of Cyclamen persicum & Coum, per dozen roots | 8s. to 12s. |
| Chrysanthemums | 4s. to 6s. | | |
| Fuchsias | 4s. to 8s | | |

EXOTIC NURSERY, AIR STREET, SCULCOATES, HULL.

BEDDING PLANTS, ETC.

E. P. DIXON begs to inform his patrons that his Abridged CATALOGUE OF STOVE, GREENHOUSE, AND BEDDING PLANTS, &c., is now ready for distribution, and may be had GRATIS on application.
The General Catalogue is now in the press.
Seed Establishment, 57, Queen Street, Hull.

100,000 BEDDING PLANTS, the cheapest place in England. Catalogue sent for one stamp. — J. PYLE, St John's Nursery, Upper Holloway, London.

BEDDING PLANTS

F. AND A. SMITH beg to offer the usual varieties of plants for bedding purposes, strong and healthy, including Carter's TOM THUMB, NASTURTIUM true, Cattell's dwarf crimson and several double varieties, with most of the novelties of the season, at moderate prices.
Dulwich, Surrey

CLIMBING PLANTS.

F. AND A. SMITH have now ready strong plants of COBEA SCANDENS, MAURANDYAS, blue, white, and rose; LOPHOSPERMUM, ECCREMOCARPUS, and TROPÆOLUMS, in large quantities. Prices on application.
Dulwich, Surrey.

LARGE CAMELLIAS AND AZALEAS.

J. AND R. THYNE, NURSERYMEN, Glasgow, have a dozen large CAMELLIA plants, 6 to 10 feet high, well furnished, mostly double white; also a fine lot of specimen AZALEAS, 3 to 5 feet high. Prices moderate

THOMAS WILD has only a few packets of his PRIMULA SEED left, at 2s. 6d. per packet.
The Primulary, Ipswich.

TROPÆOLUM CANARIENSE.

CHARLES ALEXANDER, SEEDSMAN, Edinburgh, offers New Seed of the above at 20s. per lb., and 1s. 6d. per ounce.

PANSIES.—The best and most distinct kinds, extra fine show varieties, 6s. per dozen.—DODWELL & BAYLEY, Bradshaw Gardens. Chadderton Manchester.

BELGIAN DAISIES.—In the finest variety, 4s. per dozen.—DODWELL & BAYLEY, Bradshaw Gardens, Chadderton, Manchester.

CARNATIONS AND PICOTEES.—Twenty-five pairs strong, well rooted, and extra fine show varieties, named, 1l., packing and hamper included.—DODWELL & BAYLEY, Bradshaw Gardens, Chadderton, Manchester.

PINKS.—Twelve pairs fine named kinds in strong healthy plants, 5s.; 25 pairs, 10s., packing and hamper included.—DODWELL & BAYLEY, Bradshaw Gardens, Chadderton, Manchester.

GOLDEN CHAIN GERANIUMS.—Per dozen, 6s. | Per 100, 2l. 5s. | Per 500, 10l.
The above are offered in good strong plants by ROBERT REA, Ipswich Nursery, Ipswich, Suffolk.

UNRIVALLED BEDDING GERANIUM "CHRISTINA" (KINGHORN).—Deep rosy pink, large trusses an abundant bloomer, small foliage of compact and robust habit; without exception the most perfect Bedder yet raised, having such an effective colour and a continuous bloomer 2s. 6d. each; six plants for four
F. R KINGHORN Sheen Nursery, Richmond, S. W.

THE EARLIEST PEA.—DUNNETT'S FIRST EARLY is in every respect superior to Daniel O'Rourke,—being several days earlier, having finer pods, and richer in flavour, height 3½ feet For an early dish of fine-flavoured Peas we can confidently recommend this; 2s. per quart.
CHAMPION CABBAGE, the earliest and best sort, if sown in succession, may be had fit for table throughout the year, 8d. per ounce, or 1s. post free.
BUTLER & MCCULLOCH, Covent Garden Market, London.

## NEW ANTIRRHINUMS.

HENRY MAY has now ready for delivery his fine SEEDLING ANTIRRHINUMS, selected from an immense collection of very superior Seedlings, and he can recommend them as a most beautiful set and improvement on existing kinds, viz.:—

STANDARD BEARER (MAY's).—White throat, bright rose lip, with yellow centre, very fine and distinct.

LORD JOHN RUSSELL (MAY's).—Pure lilac self, buff lip, very fine form and habit.

LORD DERBY (MAY's).—Creamy white, with yellow lip, beautifully striped and veined with bright purple.

PURPLE KING (MAY's). — Deep rich purple self, fine spike extra

SURPRISE (MAY's) —Bright rosy crimson gold lip, very fine, form good.

ORLANDO (MAY's) — White tube, bright crimson lip, an improvement on Firefly, very fine.

GALATEA IMPROVED (MAY's).—Pure white tube, bright crimson lip, fine habit and large spike good.

GITANA (MAY's). — Bright rosy purple, white lip, fine spike extra

The above set of eight for 25*s.*, or 3*s.* 6*d.* each separate. The usual discount to the Trade

HENRY MAY, The Hope Nurseries, near Bedale, Yorkshire.

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NEW VERBENAS, raised by Mr. ELPHINSTONE.—

1. PICTURATA.—Crimson, large, and fine truss, conspicuous white round eye.
2. COMTE DE MONTALEMBERT.—Light lilac, very large flower of extra substance, with large white eye.
3. ANNIE.—Light rose, large white eye, a very desirable colour and good substance.
4. BOUQUET DE LA REINE.—Peach, large white eye, fine shape, and extra substance, quite a new colour.
5. MAGNUM BONUM.—Bright crimson, fine yellow eye, large flower, and a very striking variety.
6. GRANDIFLORA PURPUREA.—Violet purple, large truss, fine white eye.

Plants now ready for sending out.

D. BROWNE has great pleasure in introducing the above Six New VERBENAS, as being a decided improvement on any hitherto produced in form, colour, and extra substance, with fine strong habits so desirable for bedding purposes. The collection of Six Varieties, package included, 20*s.*, or 3*s.* 6*d.* each, sent free of carriage. The Trade supplied on the usual terms.

D. B. begs to say that in consequence of having extensive orders from the Trade his stock is now rather limited, therefore early orders will oblige.

Horticultural Grounds, Sprowston;
Seed Establishment, 41, London Street, Norwich.

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PLANTS FOR THE FLOWER GARDEN.—The following may be had at the prices attached, and the plants are all fine and thoroughly established in single pots:—

| | Per dozen.—*s.* | *d.* |
|---|---|---|
| Scarlet Geraniums, Tom Thumb, Frogmore and others, cut down plants, that were struck last spring | 3 | 0 |
| Ditto, struck last autumn | 2 | 6 |
| Verbenas, all the best varieties | 2 | 6 |
| Antirrhinums | 3 | 0 |
| Ageratums | 2 | 6 |
| Calceolarias, shrubby | 2*s.* 6*d.* to 3 | 0 |
| Cuphea platycentra, extra large | 3 | 0 |
| Dahlias, best sorts | 4*s.* to 9 | 0 |
| Carnations and Piccotees ditto | per pair 1*s.* to 1 | 6 |
| Pinks, ditto | 6*d.* to 1 | 0 |
| Fuchsias, best sorts | 3*s.* to 4 | 0 |
| Gaillardia picta | 2 | 6 |
| Heliotropes | 2 | 6 |
| Lobelia speciosa and ramosoides | 2 | 6 |
| Alyssum variegatum | 2 | 6 |
| Hollyhocks, fine named flowers | 9 | 0 |
| Lantanas | 2 | 6 |
| Nierembergia gracilis | 2 | 6 |
| Petunias, fine sorts | 2 | 6 |
| Senecio (double dark Groundsel) | 2 | 6 |
| Salvia fulgens | 2 | 6 |
| Variegated Geraniums, Flower of the Day, fine cut down plants | 4 | 0 |
| Osborne's Brilliant | 3 | 6 |

WOOD & INGRAM, Huntingdon.

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## NEW DAHLIAS.

CHARLES TURNER is prepared to supply plants of the following fine new varieties:—

| | | | |
|---|---|---|---|
| Brentford Hero (Hopkins) | 10*s.* 6*d.* | Orb of Day (Church) | 10*s.* 6*d.* |
| Chairman (Turner) | 10 6 | Pioneer (Turner) | 7 6 |
| Disraeli (Noel) | 10 6 | Piccolomini (Turner) | 10 6 |
| Emperor (Fellowes) | 10 6 | Rosebud (Alexander) | 10 6 |
| John Dory (Holmes) | 10 6 | Rosa Bonheur (Fellowes) | 10 6 |
| Lord Eversley (Green) | 7 6 | Wallace (Blush) | 10 6 |
| Mentor (Briggs) | 7 6 | | |

FANCY DAHLIAS.

| | | | |
|---|---|---|---|
| Bacchus (Wheeler) | 10*s.* 6*d.* | Mrs. C. Kean (Edmonds) | 7*s.* 6*d.* |
| Leonard (Wheeler) | 10 6 | The Flirt (Holmes) | 10 6 |

With a full Collection of established varieties at moderate prices. For descriptions, see Catalogue.

The Royal Nursery, Slough.

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## DWARF BEDDING DAHLIAS.

CHARLES TURNER can supply strong Plants of the following which are especially adapted for decorative purposes in the Flower Garden, either for masses, ribboning, or single specimens in mixed borders, 1*s.* each, or 9*s.* per doz.:—

ALBA FLORIBUNDA NANA (DODDS).—Pure white, dwarf, erect habit. 2 feet.

BEAUTY DE MASSIFFS. — Bright scarlet, excellent habit, and very free flowering. 2½ feet.

EMPRESS OF WHITES.—Recently sent out as White Zelinda (HEALE), pure white, of excellent habit. 2½ feet.

GOLDEN BALL (PERRY), requires no stakes, the plant being wider than it is high, colour deep yellow. 2 feet

PRINCE FREDERICK WILLIAM (TURNER).—Crimson, small flowers, but very free flowering. 2½ feet.

PRINCE ARTHUR. — Bright crimson, erect habit, large flowers. 2 feet.

QUEEN OF WHITES.—Pure white, full-sized flowers, free bloomer. 2½ feet.

RANUNCULÆFLORA.—Recently sent out under the name of "Crystal Palace Scarlet," blooms late; if required very dwarf must be pegged down. 2½ feet.

ROYAL PURPLE.—Purple, of very free habit. The best of its class. 2½ feet.

SIR JAMES WATTS (TURNER).—Rich deep scarlet, of excellent shape and habit. 2½ feet.

TITIAN.—Bright pure yellow, full size, loose flowers, very free blooming, showy. 2½ feet.

ZELINDA, purple. 2 feet.

The Royal Nurseries, Slough.

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## NEW AND CHEAP PLANTS.

C. E. ALLEN has now ready for delivery the following in fine condition:—

DAHLIAS, including Alice Downie, Commander, Hon. Mrs. Trotter, King, Loveliness, Marion, Miss Pressley, Mrs. Church, Mr. Critchett, Sir H. Havelock, Standard Bearer, Venus, Village Gem, Oliver Twist, Mrs. Boshell, Marc Anthony, Lady Lacon, Favourite, &c., 9*s.* per dozen.

FUCHSIAS, including Governor-General, Princess of Prussia, Prince Frederick William of Prussia, Rose of Castile, Guiding Star, &c., 6*s.* to 9*s.* per dozen.

VERBENAS, varieties of 1858, such as Beauty of Castile, Celestial, Caractacus, Carlos, Cyclops, Eastern Beauty, Earl of Shaftesbury, Leviathan, Mrs. Ebrington, 4*s.* per dozen; older varieties, 21*s.* per 100.

VARIEGATED GERANIUMS, such as Alma, Annie, Bijou, Brilliant, Countess of Warwick, Flower of the Day, Mountain of Snow, Perfection, &c.; fine plants from 9*s* to 24*s.* per dozen.

C. E. A. has also some fine plants of POMPON CHRYSANTHEMUMS, suitable for specimens.

DESCRIPTIVE CATALOGUES can be had gratis.

C. E. ALLEN, Shacklewell, near London.

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PLANTS FOR THE FLOWER GARDEN, 100,000.—100 strong, well hardened plants, composed of the following:—Yellow, crimson, and orange Calceolarias, Scarlet Geraniums, Antirrhinums, Cupheas Heliotropes, Penstemons, Phloxes, Verbenas, Salvias, Senecio, Dahlias, &c, all properly named, basket and packing included, for 12*s.* 6*d.*

New Fuchsias, of last season, at 6*s.* per dozen; new Verbenas, of ditto, at 4*s.* per dozen.

HENRY MAY, The Hope Nurseries, near Bedale, Yorkshire.

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PHLOXES.—The best and most distinct kinds strong plants, well established, 8*s.* per dozen.—DOWNIE & BAYLEY, Bradshaw Gardens, Chadderton, Manchester.

For particulars of New Phloxes see Advertisements April 23 and April 30.

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FINE EXHIBITION DAHLIAS in strong plants, viz., Admiral Dundas, Amazon, Annie, Airedale Beauty, Beauty of Slough, Cherub, Colonel Windham, Cossack, Dr. Gully, Deutsche Würde, Duchess of Wellington, Duke of Wellington, Duchess of Beaufort, Empress, Fanny Kemble, Grand Sultan, Incomparable, Lady Folkestone, Lady Popham, Lord Bath, Lord Palmerston, Lollipop, Miss Caroline, Miss Turner, Miss B. Coutts, Mrs Edwards, Mrs. Wheeler, Mrs. Seldon, Nigger, Pandora, Perfection, Pre-eminent, Princess Ruby Queen, Rachel Rawlings, Robert Bruce, Royal Scarlet, Sir R. Whittington, Sir J. Franklin, Touchstone, Venus Beauty. Selections of any 12 of the above for 3*s.*

HENRY MAY, The Hope Nurseries, near Bedale, Yorkshire.

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## NEW ROSES IN POTS.

BENJAMIN R. CANT offers the undermentioned NEW ROSES. The plants are now ready, and are remarkably fine and healthy; many of them have strong shoots from 1 to 2 feet in length. Purchasers of 1 dozen and upwards will be supplied at a reduced rate. The trade allowed the usual discount.

NEW ROSES FOR 1859 at 5*s.* each:—

TEA: Madame Damaisin
BOURBON: Docteur Berthet
" Edith de Murat
HYBRID PERPETUALS:—
Altesse Impériale
Ardoisée de Lyon
Anna Alexieff
Anna de Diesbach
Beauté de Royghem
HYBRID PERPETUALS:—
Comtesse Cecile de Chabrillan
Imperatrice Eugénie
L'Oriflamme de St. Louis
Le Mont Vésuve
Orderic Vital
Princesse Olympie
Salomon
Virginal

Also the following CHOICE ROSES at 2*s.* 6*d.* each, or 25*s.* per dozen:—

TEA: Souvenir d'Elise
BOURBON: Caroline Riquet
" Josephine Clermont
" Madame Contesse
" Monsieur Jard
HYBRID PERPETUALS:—
Abbé Feytel
Evêque de Nîmes. 3*s.* 6*d.*
Gloire de Lyon
General MacMahon
HYBRID PERPETUALS:—
Louis Chaix
Louise d'Autriche
Lord Palmerston
Marie Thierry
Monsieur de Montigny
Philomène Crozy
Reine de Denmark
Triomphe de Mont Rouge
" des Beaux Arts

At 15*s.* per dozen:—

HYBRID PERPETUALS.—Adelaide Fontaine, Bacchus, Belle Anglaise, Cardinal Patrizzi, Etendard de Sebastopol, Lord Raglan, Madame Vidot, Mathurin Regnier, Pauline Lansezeur, Prince Leon, Prince de la Moskwa, Rebecca, Souvenir de la Reine d'Angleterre, Souvenir de Leveson Gower, Sir J. Franklin, Victor Trouillard.

BOURBON: Glorietta, Omer Pacha,

NOISETTE: Miss Gray, Narcisse

TEA: Devoniensis, Elise Sauvage, Gloire de Dijon, Madame Bravy, Souvenir d'un Ami, Vicomtesse de Cazes.

A fine collection of the most esteemed older varieties, such as Caroline de Sansal, Comte de Nanteuil, Colonel de Rougemont, General Jacqueminot, Jules Margottin, Souvenir de la Malmaison, at 12*s.* per dozen.

St. John's Street Nursery, Colchester.

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## NEW FRENCH PHLOXES.

JOHN STANDISH can recommend the following as the best that were sent out last year, he having seen them in bloom, and selected those he thought the best. They are very beautiful dwarf, and continue flowering from June until October, or until the frost destroys them in the autumn, and are admirably adapted for bedding, being now classed as perpetual bloomers, many of them growing not more than 16 to 18 inches high:—

Empereur de toutes les Russies, shaded violet purple centre
Julio Roussel, white, with purple centre, superb
L'Enfant Prodigue, violet rose, shot with scarlet
Louis Guerard, large deep amaranth, magnificent
La Volupté, smooth rose, shot with scarlet
Madame Suer, white purple centre, very dwarf
Mademoiselle Orelly Duriez, white violet centre
Monsieur Forest, large lively amaranth, very effective
Souvenir d'un Ami large rosy red, very fine
Surpasse Madame Rendatler, white purple centre, very dwarf

The above 2*s* 6*d*. each, or the lot 21*s*.; besides the above J. S. can supply the finest old sorts from 6*s*. to 12*s*. per dozen.

ROSES for bedding on their own roots, strong plants:—

TEA: Souvenir d'Elise, the most beautiful of all Tea Roses, 2*s*. each, or 18*s*. per dozen, or 7*l*. per 100
" Safrano, 1*s* each, or 9*s*. per dozen
" Gloire de Dijon, 1*s* each, or 9*s*. per dozen

HYBRID PERPETUAL ROSES.

General Jacqueminot, 1*s* each, or 9*s* per dozen
Louis Chaix, 2*s*. 6*d*. each, or 24*s*. per dozen
Madame Vigneron, 2*s* 6*d*. each, or 24*s*. per dozen
Pauline Lansezeur, 1*s* 6*d* each, or 12*s*. per dozen. (Of all the Hybrid Perpetual Roses this is the best adapted for bedding purposes, from its dwarf bushy habit and being always healthy and always in bloom)
Victor Trouillard, 1*s* 6*d*. each, or 12*s* per dozen
NOISETTE: Triomphe de Rennes, 2*s*. each, or 18*s*. per dozen.

NEW ROSES of 1858, on their own roots.

HYBRID PERPETUAL ROSES, 2*s*. 6*d*. each, or 24*s*. per dozen:—

Duc de Cambridge
Lord Palmerston
Marie Portemer
Thomas Rivers
L'Evêque de Nîmes
Louise d'Autriche
Reine de Denmark
Triomphe des Beaux Arts

NEW ROSES for 1859, grafted on the Manetti Stock, strong plants, 4*s*. each, or 2*l*. 12*s*. 6*d*. the lot.

HYBRID PERPETUAL ROSES.

Ambroise Verschaffelt
Comte de Beauford
Docteur Bretonneau
Empereur de Maroc
Impératrice Eugenie
Princesse Olympie
Virginal
TEA: Madame Damaisin
Beauté de Royghem
Celin Forestier
François Ier
François Arago
Oriflamme de St. Louis
Stephanie Beauharnais
Vicomtesse Laure de Girand
BOURBON: Octavie Fontaine

All the above plants are now ready to send out, and J. S. will have the above New Roses on their own roots ready to send out the first week in June.—Bagshot, May 7.

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GOLD AND SILVER FISH.—Upwards of 100,000 on hand, at 1*s* to 9*s*. per dozen, 2*l*. per 100, or 18*l*. per 1000.

ORANGE TREES, full of bloom, and some with fruit and bloom, 3*s*. 6*d*. each; larger size, with very large fruit and bloom, 6*s*., 7*s*. 6*d*., and 10*s*. 6*d*. each. AZALEAS and CAMELLIAS, 18*s*., 21*s*., and 24*s*. per dozen; and every other kind of Greenhouse and Stove Plants, and Nursery Stock of the best quality at lowest prices for cash.—ROBT. GREEN, 151, Kingsland Road, 55 doors from Shoreditch Church.

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## HORTICULTURAL VALUATIONS.

MR. ALFRED CHANDLER (of the late firm of Chandler & Sons, Vauxhall), begs to inform his friends that he is at liberty to undertake the valuation of Collections of Plants, Nursery Stock, Horticultural Buildings, &c

Mr. A. C. is also open to engagements as Censor at Horticultural Exhibitions, in which capacity he has had long and extensive experience.—28, Priory Road, Wandsworth Road, S

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# MESSRS. E. G. HENDERSON & SON

WILL OFFER THE FOLLOWING NEW PLANTS IN MAY, AND THE

## NEW GENERAL CATALOGUE and SPRING LIST of ORNAMENTAL BEDDING and SUMMER FLOWERING PLANTS

WILL IN A FEW DAYS BE READY FOR DISTRIBUTION, WHEREIN WILL BE DESCRIBED

### ALLAMANDA VIOLACEA.

This plant so long looked for, and much needed by all English competing competitors, we have much pleasure in introducing for the first time to the public, and no doubt it will be for years the great feature at the leading Exhibitions. The late Mr. Gardner, Director of the Royal Botanic Gardens in Ceylon, speaks of it in his papers, published in the second volume of the London Horticultural Society's Quarterly Journal, as one of the finest shrubs he met with, and "by far the most beautiful species in the genus, bearing numerous large flowers not unlike in colour those of Gloxinia speciosa."

As a competitive plant in collections, A. violacea, in its violet-blue tint, offers a new and essential feature in colour, there being none other in the same style to associate with the golden-yellow of A. Schotti, and the delicate rosy-blush of Echites and Dipladenia. 63*s*. each.

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AGAPETES BUXIFOLIA, a neat-habited plant with good evergreen foliage, and large bright red tubular flowers, resembling the Manettia and Epacris intermediately.

NEW INDIAN AZALEAS, fine competing kinds raised by M. Spae, M. C. Van Eooe, and M. De Witte

The scarlet-flowered variety of TYDÆA GIGANTEA, and the double-flowered ACHIMENES LONGIFLORA.

The TYDÆA LADY DIGBY, and LADY CAROLINE KERRISON (syn. Achimenes), with large brilliant rosy-crimson flowers throughout winter, free flowering habits.

The HYBRID BEGONIAS raised by Mr. Stange, Gardener to Herrn Consul Schiller, of Hamburgh, including B. PICTURATA and others from B. SPLENDIDA ARGENTEA.

LIERVAL'S NEW PHLOX EVENING STAR

BURRIDGE'S TWO NEW PHLOX DRUMMONDI, VICTORIA AND ALBERT.

CALCEOLARIA AMPLEXICAULE ALBA, Splendid bedder.

BOUVARDIA "BRILLIANT" AND "DELICATA," with large flower tubes, and profusion of bloom.

NEW BEDDING DAHLIAS, GLOIRE DE FRANCE, AND WHITE UNIQUE.—The best white variety out, and the former as the most noble formed and richly coloured flower of any other Dahlia for beddings, a dried plant showing the dwarf and profuse blooming habit may be seen at the Wellington Nursery.

BANKS'S NEW FUCHSIAS (9 varieties, 63*s*.).

NEW CHRYSANTHEMUMS (8 varieties), see Plate XXVI. in the "Illustrated Bouquet."

BREEZE & BANKS'S COLLECTION OF NEW VERBENAS will include the finest blue out, the best rose, the finest violet-purple, the best peach, and maroon black, with large white eyes or centres, the Grand des Batailles far surpassed; a Mrs. Holford in truss and habit, but suffused with a beautiful pink tint. The entire collection includes a full complement of colours, as the finest ever sent out by us, and surpasses with but few exceptions any that we have cultivated under name.

### FINE BEDDING GERANIUMS.

NEW NOSEGAY SECTION.

THE IMPERIAL CRIMSON, AND MODEL NOSEGAY GERANIUMS. See descriptions at page 355, and also the Catalogue

Among Variegated Geraniums, MISS EMILY DOMVILE will prove a first-class Bedding Plant (see description in Catalogue).

The two GOLDEN-LEAVED varieties with large-petalled flowers.

THE RAINBOW, with the finest red-zoned foliage yet seen.

THE ST. CLOUD, a beautiful accompaniment to FONTAINBLEAU.

THE SILVER CHAIN, with deep margin of pure white; a fitting companion to the GOLDEN CHAIN.

NEW CALCEOLARIAS, scarlet, crimson, and yellow, of proved and true bedding, shrubby, branching growth; not half shrubby, as the majority are.

THE WHITE NOSEGAY GERANIUM (for beds).

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## SPERGULA PILIFERA,

AN ADMIRABLE SUBSTITUTE FOR GRASS LAWNS WITHOUT MOWING!

Permanent for years, with the most beautiful verdure through the year.

N.B. *The quotations of Price to Geraniums Imperial Crimson and Model Nosegay, at page 355, should have appeared as 3s. 6d. and 2s. 6d. each only.*

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**Wellington Nursery, St. John's Wood, London.**

CHOICE STOVE AND GREENHOUSE PLANTS AT LOW PRICES.—See names in the *Gardeners' Chronicle* of April 9, page 230, and April 16, page 330.
THIRTY CHOICE STOVE PLANTS, very strong and very fine, for 25s.; or, per dozen, 24s. to 35s.
FIFTY CHOICE GREENHOUSE PLANTS, very strong and fine, for 25s.; or less to 25s. per dozen.
FIFTY FINE GREENHOUSE PLANTS, selection left to us from the Catalogue, 45s.
BRITTAIN'S GARDEN NETTING of 1½ yard, with 5d., 6d., and 8d. per yard.
SHAW'S TIFFANY of best quality, No. 1, 5s. per piece of 20 yards; also stouter qualities.
THE GISHURST COMPOUND.—Boxes 1s. 6d. each with instructions.
Goods 20s. and upwards free to all stations in London, or on the London and Norwich, (Colchester) line.
BASS AND BROWN,
Seed and Nursery Establishment, Sudbury, Suffolk.

AZALEA INDICA.

J. IVERY AND SON beg respectfully to invite growers of the above named to an inspection of their unrivalled Stock of Young Specimens of all the newest and best varieties, many of which have been exhibited at the Metropolitan Exhibitions. They are clean and healthy, well set with bloom, and moderate in price. Catalogues forwarded post free upon application.—Dorking Nursery, May 7.

AMBROISE VERSCHAFFELT, NURSERYMAN, Ghent (Belgium), will now send out the following NEW PLANTS:—

| | | s. | d. |
|---|---|---|---|
| BEGONIA LEOPOLDII, one of the finest Begonias yet sent out | | 8 | 0 |
| TYDÆA PRINCESS TROUBETZKOY | three splendid hybrids; the set | 16 | 0 |
| " GRANDIS | | | |
| " SANGUINEA | | | |
| TORENIA PULCHERRIMA | | 2 | 6 |
| CLEMATIS SOPHIA FLORE PLENO | | 8 | 0 |
| LYCHNIS HAAGEANA | | 4 | 0 |

MESSRS. PARKER AND WILLIAMS beg to inform their friends and patrons that their PRICED and DESCRIPTIVE CATALOGUE of Exotic Orchids, Stove, Greenhouse, and Hardy Ferns, Miscellaneous Stove, Greenhouse, and Hardy Plants, Variegated and Ornamental foliaged Plants, Conifers, Roses, Rhododendrons, Indian Azaleas, Gloxinias, Fuchsias, Cactuses, &c., is now published, and will be forwarded post free on application.—Paradise Nursery, Seven Sisters' and Hornsey Roads, Holloway, London, N.

GERMAN AND OTHER FLOWER SEEDS, VEGETABLE, AGRICULTURAL SEEDS, ETC.

MESSRS. PARKER AND WILLIAMS beg to inform their friends and patrons that their new PRICED and DESCRIPTIVE CATALOGUE in which is enumerated every novelty of proved merit, also all the best of the older kinds, is now published, and will be forwarded post free on application. Their whole stock has been selected from the best English and Foreign sources, and every kind is warranted true to name, and of the finest possible quality.—Paradise Nursery, Seven Sisters and Hornsey Roads, Holloway, London.

PLANTS IN FLOWER.

F. AND A. SMITH have now in bloom Acacia, Cactus (fine), Cytisus; Erica ventricosa coccinea minor, v. superbiens, v. brevifiora, E. intermedia, E. Cavendishii, E. hybrida, E. perspicua nana; Fuchsias, Calceolarias, Heliotrope, Hydrangea, Geraniums, Fairy Roses, &c.
The above are healthy, strong, and well-grown plants, prepared for sending away. Prices on application.
Dulwich, Surrey, S.

SUPERB DOUBLE BALSAMS.

F. AND A. SMITH are now sending out seed of their superb BALSAMS, which are unrivalled for size, form, brilliancy of colour, doubleness of flower, and habit of plant.

| | | |
|---|---|---|
| In collections of nine separate colours | 2s. 6d. | |
| " " mixed " | 2 | 0 |
| " " " half quantity | 1 | 0 |

The above are *genuine only* in our sealed packets, and may be had of most respectable Nurserymen and Seedmen in the United Kingdom.—Dulwich, Surrey, S.

CHEAP BEDDING PLANTS, 2s. 6d. per dozen.—Apply for Catalogues, enclosing two stamps, to J. SCOTT, Merriott Nurseries, Crewkerne, Somerset.
The Catalogue comprises everything suitable for Flower Garden decoration, and full descriptions of J. S.'s unrivalled collection of new DOUBLE PETUNIAS, now ready for delivery, at 6s., 9s., and 12s. per dozen. Fine new single sorts, 2s. 6d. to 3s. 6d. per dozen; Magna coccinea, the most splendid of all Bedding Petunias, 5 inches across, beautiful light crimson, 3s. 6d. per dozen.
LEPTODACTYLON CALIFORNICUM, in quantity; also PHLOX CRITERION, two lovely Bedding Plants.

WM. CUTBUSH AND SON beg to state that they can supply the following BEDDING PLANTS. Any quantity of extra fine plants at the prices annexed:—

| | Per dozen.—s. d. | | Per dozen.—s. d. |
|---|---|---|---|
| Ageratum | 4 0 | Lobelia speciosa (from cuttings true) the best of the class | 4 0 |
| Chrysanthemum regalium flore pleno, golden yellow, an excellent plant for large beds | 6 0 | Nasturtium Tom Thumb | 4 0 |
| Calceolaria, yellow | 4 0 | Petunias, of sorts 4s. to | 6 0 |
| Cuphæa platycentra | 4 0 | Pyrethrum | 4 0 |
| Dahlias, of sorts 6s. to | 9 0 | Salvia, of sorts | 4 0 |
| Fuchsias, of all the best varieties 4s., 6s., and | 9 0 | Tropæolum elegans (Crystal Palace variety), a free flowering bright orange-scarlet dwarf plant, well adapted for flower gardens | 6 0 |
| Geraniums, Tom Thumb and other Scarlets | 4 0 | Verbenas, of the best sorts | 4 0 |
| Variegated, of sorts, 6s. to | 9 0 | " Edmonds' New, of 1859, 1S | 0 |
| Heliotrope | 4 0 | | |
| Lobelia ramosioides | 4 0 | | |

A DESCRIPTIVE CATALOGUE of the above and general Nursery Stock can be obtained free per post on application.
NEW VARIEGATED GERANIUM "BEAUTY."
WM. C. & SON can strongly recommend the above, which has bright green foliage, with a broad margin of pure white, flowers light scarlet of good shape in large trusses in great abundance, and very robust habit. We tested it last year with a dozen other kinds, and found it superior to any for bedding purposes. It was exhibited at the late meeting of the Royal Botanic Society, and received a Certificate of Merit.
2s. 6d. each; or 21s. per dozen.
SHOW, FANCY, & FRENCH-SPOTTED PELARGONIUMS.—A large stock of remarkably fine plants of the above in 48 pots of all the leading sorts, at 12s., 18s., and 24s. per dozen; or 5l. and 7l. 10s. per 100.
LISIANTHUS RUSSELLIANUS.
WM. C. & SON beg to intimate that they can supply strong plants of the above elegant Conservatory Plants in 48-pots, at 2s. 6d. each; or 24s. per dozen.
Highgate Nurseries, London, N.

REIGATE SILVER SAND, best quality for Florists, 16s. per ton; less quantities, 1s 6d. per bushel; delivered to any London Wharf or Railway. Peat, Loam, and Leaf-Mould in large or small quantities. Sacks for Sand, 1s. 9d. each; or on hire, 6d. each; five hold a ton.—JOHN KENNARD, Purveyor to her Majesty, Swan Place, Old Kent Road, London, S.E.

TWO HUNDRED GUINEAS IN EIGHT PRIZES.

FOR FOUR YEARS SUCCESSIVELY HIS ROYAL HIGHNESS THE PRINCE CONSORT'S PRIZE CUPS HAVE BEEN AWARDED TO
SUTTON'S CHAMPION SWEDES at the East Berks and South Bucks Agricultural Societies in 1855, 1856, 1857, and 1858. New Seed now ready, 1s. per lb., or cheaper by the bushel, carriage free.
Royal Berkshire Seed Establishment, Reading.

SPRING CATALOGUE.

MESSRS. ARTHUR HENDERSON AND CO.'S CATALOGUE OF SOFT-WOODED PLANTS (including all the leading useful novelties for this year), can now be had of them post free, on application.
Pine-apple Place, Edgware Road, London, W.

ROYAL SOUTH HANTS SEED ESTABLISHMENT,
UNDER THE PATRONAGE OF H.R.H. THE PRINCE CONSORT, THE AGRICULTURAL SOCIETY OF INDIA, AND THE LEADING AGRICULTURISTS OF THE UNITED KINGDOM.

PAGE AND TOOGOOD'S STOCKS have produced the finest specimens exhibited at Smithfield, and are so well known and appreciated that comment on their part is unnecessary. Their prices compete with any house in the trade.

PRESENT PRICES, Carriage Free to all parts of England:—

| | Per lb.—s. d. | | Per lb.—s. d. |
|---|---|---|---|
| Skirving's Swede | 0 6 | Hardy Green Round | 0 6 |
| Page's Improved | 0 8 | Early Six Weeks | 0 6 |
| Ashcroft | 0 6 | Kohl Rabi | 2 6 |
| Greentop | 0 6 | Yellow Globe Mangel | 0 6 |
| Sussex, or Jeffery's | 0 9 | Page's Impl. Orange Globe* | 0 8 |
| Tankard | 0 7 | Red Globe | 0 7 |
| Red Round Turnip | 0 6 | Elvetham Long Red | 0 7 |
| Page's Improved Red Globe | 0 8 | Long Red | 0 6 |
| Scotch or Bullock | 0 7 | Long Yellow | 0 7 |
| Pomeranian White Globe | 0 6 | White Belgian Carrot | 1 0 |
| Early Green Globe | 0 6 | New Red | 1 3 |
| " White Tankard | 0 7 | Long Altringham | 1 3 |
| Red Tankard | 0 7 | Cattle Cabbage | 2 6 |
| Green ditto | 0 7 | Cattle Parsnip | 1 0 |
| Yellow ditto | 0 7 | Dwarf Essex Rape | 0 4 |

* Bulbs of this variety have acquired the enormous weight of 44lbs, as shown at Smithfield Club.

BUCKWHEAT, MUSTARD, LINSEED, TARES, SAINFOIN, HOLCUS SACCHARATUS, 1s. per lb.
Fine PERMANENT PASTURE GRASS, ITALIAN RYE-GRASS, CLOVER, &c., at lowest market prices.
Special contracts for large quantities. Seeds packed for exportation to all parts of the world.
Oxford Street and Above Bar, Southampton.

TURNIPS AND MANGEL WURZEL SEEDS, ETC.

THOMAS GIBBS AND CO., Corner of Half-Moon Street, the Seedsmen to the "Royal Agricultural Society of England," beg to announce to the members of the Society and agriculturists generally that they have still on hand a supply of the different kinds of MANGEL WURZELS; also selected stocks of HYBRIDS, SWEDES, and other TURNIPS, &c.

MANGEL WURZEL:—
Yellow or Orange Globe, Long Red, and other kinds.
TURNIPS:—
Green-top Yellow Hybrid, strongly recommended, and bears late sowing.

| | |
|---|---|
| Purple-top Swedes | Skirving's Swedes |
| Globe sorts | Tankard's sorts |

GRASS SEEDS for Permanent Pastures, Cemeteries, and Church Yards, Lawns, and Grass plots, &c.
RENOVATING MIXTURES for old Swards.
PRICED LISTS sent free on application.

Thomas Gibbs

CORNER OF
HALF-MOON St.
PICCADILLY, LONDON, W.

NATURAL GRASS SEEDS.

PETER LAWSON AND SON, THE QUEEN'S SEEDSMEN, can supply genuine Seed of all the valuable kinds of the NATURAL GRASSES suitable for Lowland and Upland Pastures; also for Laying down Lawns, Bowling Greens, Cricket Grounds, Cemeteries, Railway Banks, &c.
PRICED LISTS may be had free on application.—PETER LAWSON & SON, 27, Great George Street, Westminster.

"JACK OF NEWBURY" SWEDE, ETC.

PETER LAWSON AND SON, THE QUEEN'S SEEDSMEN, &c., 27, Great George Street, Westminster, respectfully request attention to their very genuine Stock of the above excellent Swede; also of the LOTHIAN PURPLE-TOP SWEDE, both of which have been selected with the greatest care. They have also a very fine Stock of the KOHL RABI, or TURNIP-ROOTED CABBAGE, specimens of which were shown at their Stands at Smithfield Club Show. The Kohl Rabi was largely grown last season, and may now be relied on as a substitute for the Turnip and Mangel, where these roots do not succeed, or for filling up blanks where there is a partial failure. Its feeding qualities, hardiness, and weight per acre are equal to the Swede, and all kinds of stock prefer it to other roots.
P. L. & SON have also selected a first-rate Stock of MANGEL WURZEL SEED, which they can confidently recommend. Their natural GRASS SEEDS have been also saved with very great care, and they are ready to supply them separately or in mixture, for laying down Permanent Pastures, Lawns, &c.
P. L. & SON have arranged to deliver Seeds free throughout England and Wales from their London Establishment, for all quantities exceeding 20s. in value.
LISTS OF PRICES of the above and all other Seeds, Plants, &c., may be had on application.
27, Great George Street, Westminster.

BATH AND WEST OF ENGLAND SOCIETY FOR THE ENCOURAGEMENT OF AGRICULTURE, ARTS, MANUFACTURES AND COMMERCE.—An Exhibition of FLOWERS, FLOWERING, and ORNAMENTAL PLANTS, FRUIT, and VEGETABLES, will take place on June 1, 2, and 3, in connexion with the General Exhibition of the above Society, on the occasion of their North Devon Meeting at Barnstaple, when the following Prizes will be offered:—

| | | | |
|---|---|---|---|
| I.—1. | For the best collection of not less than 20 1st Stove or Greenhouse Plants (Nurserymen) | £3 | — |
| 2. | Do. do. (Amateurs) | 2 | £1 |
| II.—1. | For the best collection of not less than 12 Rhododendrons and Chinese Azaleas (Nurserymen) | 3 | — |
| 2. | For the best collection of not less than 8 do. (Amateurs) | 2 | 1 |
| III.—1. | For the best collection of not less than 8 Roses in pots (Nurserymen) | 3 | — |
| IV.—1. | For the best collection of not less than 20 Variegated Plants, or plants remarkable for their fine foliage (Nurserymen) | 3 | — |
| V.—1. | For the best collection of not less than 20 Ferns of any kind (Amateurs) | 2 | 1 |
| VI.—1. | For the best ornamental basket of Flowers, or of Flowers and Foliage (Amateurs) | 2 | 1 |
| VII.—1. | For the best group of specimens of Coniferæ, preference being given to newly introduced kinds (Nurserymen) | 5 | — |
| VIII.—1. | For the best specimen of any newly introduced or extremely rare genus of Ornamental Plant, or object of special merit in the exhibition (Nurseryman) | 1 | — |

In addition to the above, prizes to the amount of 10l. will be offered for Fruit and Vegetables. A portion of the Society's ground will be set apart for the present exhibition, and space will be allotted either in a marquee or the promenade, at the discretion of the managing committee, to Nurserymen who may wish to arrange and exhibit their collections in distinct sections, irrespective of competition for prizes. Space will also be allotted for the display of Garden Decorations and works of Ornamental Art associated with Horticulture.
Plants intended for the Exhibition will (on being consigned to the Horticultural Committee) have free transit over the line of railway from Exeter to Barnstaple.
All articles for exhibition must be staged by the evening of Tuesday, May 31, and are not to be removed earlier than the morning of Saturday, June 4.
GEORGE BROWN,
Barnstaple. Hon. Sec. Local Committee.

HORTICULTURAL SOCIETY OF LONDON.—THE GRAND SPRING EXHIBITION will be held on THURSDAY and FRIDAY, May 12 and 13, ST. JAMES'S HALL, REGENT STREET. Open FREE to Fellows and the holders of Ivory Tickets, at 12 o'clock on May 12. They may be each accompanied by two Visitors presenting 2s. 6d. tickets, or on payment of 2s. 6d. each at the door. Open to the public on payment of 2s. 6d. from 1 till 7 P.M. After that hour until 10 P.M., admission 1s.; and the same on the following day from 10 A.M. till 6 P.M.

ANNEXED IS THE SCHEDULE OF PRIZES.

| Class. | | Prizes offered. 1st. | 2d. | 3d. |
|---|---|---|---|---|
| I | Ten Orchids (Amateurs) | £7 | £5 | £4 |
| II. | Ten Orchids (Nurserymen) | 6 | 4 | 3 |
| III. | Six Chinese Azaleas (Amateurs) | 4 | 3 | 2 |
| IV. | Eight Chinese Azaleas (Nurserymen) | 4 | 3 | 2 |
| V. | Three Chinese Azaleas, standards, with at least 30 inches of clear stem (Amateurs) | 4 | 3 | 2 |
| VI. | Six Chinese Azaleas, standards, with at least 30 inches of clear stem (Nurserymen) | 4 | 3 | 2 |
| VII. | Six Rhododendrons, distinct sorts, in pots (Amateurs) | 3 | 2 | 1 |
| VIII. | Eight Rhododendrons, distinct sorts, in pots (Nurserymen) | 3 | 2 | 1 |
| IX. | Eight Roses, distinct sorts, in pots not exceeding 13 inches (Amateurs) | 5 | 4 | 3 |
| X. | Twelve Roses, distinct sorts, in pots not exceeding 13 ins. (Nurserymen) | 5 | 4 | 3 |
| XI. | Six Roses, distinct sorts, in pots of any size | 4 | 3 | 2 |
| XII. | Eight fine-foliaged Plants. Variegated plants admitted | 4 | 3 | 2 |
| XIII. | New or extremely rare species of Ornamental Plants not introduced by the Society | Certificates | | |
| XIV. | Single Specimen of the most ornamental Plant introduced within the last ten years, in flower | 2 | | |
| XV. | Single Specimen of the most ornamental plant introduced within the last 10 years, not in flower | 2 | | |
| XVI. | Miscellaneous | Certificates | | |
| | FRUIT. | | | |
| XVII. | The best collection of Fruit (Offered by Wm. Wilson Saunders, Esq., Treasurer of the Society) | £5 | | |
| XVIII. | Pine Apples, large sorts, not Providence, single specimens | 2 | 1 | 1 |
| XIX. | Pine Apples, Queens, sgl. specimens | 2 | 1 | 1 |
| XX. | Grapes, black, three bunches, in baskets | 3 | 2 | 1 |
| XXI. | Grapes, white, do. do. | 3 | 2 | 1 |
| XXII. | Cherries, in single dishes | 2 | 1 | 15s. |
| XXIII. | Strawberries, 2 dishes, distinct sorts | 2 | 1 | 10s. |
| XXIV. | Strawberries, single dishes, of British Queen | 30s | 20s. | 15s. |
| XXV. | Strawberries, single dishes of any one sort, except British Queen | 30s | 20s. | 15s. |
| XXVI. | Miscellaneous | Certificates | | |


# The Gardeners' Chronicle.

*SATURDAY, MAY 7, 1859.*


MEETINGS FOR THE FOLLOWING WEEK.
THURSDAY, May 12 } Horticultural St. James's Hall.
FRIDAY, 13 }

THE mischief produced by a little beetle called SCOLYTUS DESTRUCTOR, which attacks and ultimately destroys old Elm trees, has of late excited much interest; as may well be the case when it is considered that some of our most ancient and highly valued avenues, the glory of the old country homes of England, are disappearing before it. What this enemy is we have fully explained at p. 342 of the *Gardeners' Chronicle* for 1857, and elsewhere, and in what way it carries on its operations. That which has again brought it promi-

nently before the public is the statement of a correspondent at p. 315, that M. Robert, a well-known French forester, has discovered "*that trees may be deprived of the whole of their bark*, not only without experiencing any injury, but even with considerable advantage, *the operation tending to increase their power of vegetation*." This discovery is said to have grown out of attempts to extirpate the Scolytus, which seems to be as mischievous in the Champs Elysées, Paris, as in the parks of London, or St. Giles's at Oxford.

We have been unable to find the report on so important a subject which M. Robert is said to have made to the Horticultural Society of Paris; but we do not hesitate to affirm that the naked statement, as it has come before us, must have been founded on some misapprehension. Not that trees must necessarily die because of being stripped of bark, but because the processes required to keep trees alive are not such as are likely to be employed except experimentally.

We learn indeed from the *Histoire de l'Academie Royale des Sciences* for the year 1709 that a M. Dupuis observed an Elm tree in the garden of the Tuileries, covering itself with leaves in the spring, although it had been barked up to the beginning of its branches. This observation was repeated by Duhamel, the great experimental French physiologist, who decorticated several trees of different dimensions, and he found that the length of time which they survived was in proportion to their size; so that some of the largest did not die till the fourth year. But, he adds, unless the drying up of the wounded surface was prevented the trees always died sooner or later. The question is, can this drying up be hindered by any method capable of practical application? The thing has been done no doubt, and at Paris a century ago, as is well known to vegetable physiologists; but the method employed is, as will be seen, not likely to be applied on a large scale. For the purpose of settling the point Duhamel tried the following experiment, in which a tree recovered perfectly after having been stripped of its bark:—"One spring when the Cherry trees were in full sap I caused a large tree to be barked from top to bottom of the trunk, as if it had been stripped for tan. Immediately afterwards I surrounded the trunk with long straw held together by little hoops, but in such a manner that the straw was kept a few inches off the tree. In order still better to guard the wound from the effect of sun a straw screen was placed before the south side. In this condition the tree flowered rather later than its neighbours, and stoned its fruit, notwithstanding that it cast a part of its leaves and many of its smaller twigs. The next year it appeared to be out of health, but in the third year, the tree having recovered, the straw was taken off, and I found the trunk again covered with new bark." Similar instances are also recorded by Frisch in the Berlin Journals for 1727. But can these precautions be taken in the midst of a great city, and would it not be better to let the Elms perish than to convert them into straw bundles for three or four years, to the imminent risk of their destruction by fire, and to the temporary annihilation of their beauty. If M. Robert has managed to keep them alive after being barked it must have been by other means than that described by his great countryman. It was reported indeed two years ago, that the barked surfaces had been varnished over, and that it was only a partial operation that had been employed, pieces and strips of bark being left here and there—a very different matter from depriving trees of the whole of their bark. It is also now reported that so far from M. Robert's operations having been successful they have signally failed.

We have only to look into any of our wooded country places where Oak trees have been barked, to see how impossible it is that life should be long maintained in the absence of that thick covering of their trunk which is provided by nature. And what purpose does the bark of a tree serve? Without going into a formal description of its manifold uses, it is sufficient to point out one. In all our common trees the outside of the bark is in course of perpetual destruction; it is forced asunder and rifted by the new matter that is forming beneath it. That new matter is wood on the outside of wood, and bark in the inside of bark. Where the two come into contact all the renovation and augmentation of both structures takes place. The matter out of which such augmentation arises, technically called Cambium, is at first excessively delicate, and immediately perishes if exposed to dryness. Bark keeps it always moist; and when Duhamel induced his Cherry tree to form new bark he did so by substituting for the natural bark an artificial and constantly moist covering of another kind. In the absence of that the Cherry tree would have perished. If M. Robert has really kept his Scolytus-eaten Elms alive in Paris without their bark he must have employed some method analogous to that of Duhamel. That such is the case will be evident from the following description of the method taken by that ingenious physiologist in order to ascertain in what way the bark of trees is restored. He knew that its reappearance was preceded by the production of a matter resembling mucilage which oozed out from the surface of the wood; but the question remained whether the exuded matter was mere mucilage or nascent tissue gorged with sap. To determine that point he removed in the first days of April a ring of bark from a young Elm tree, and adapted to it a glass tube which he kept filled with water. If the exudations alluded to were mere mucilage they would dissolve in the water and not be converted into bark. Up to the 18th of the month he remarked no change; but a few days after a kind of flocculent matter began to appear here and there, and bubbles of air, apparently derived from the longitudinal fibres of the wood, began to rise to the surface of the water; this was succeeded by the formation of a white gelatinous substance, which by degrees spread irregularly and unevenly over the wound, and ultimately covered it with new bark. It is to preserve the vitality of this gelatinous matter, which is the Cambium, that perpetual moisture is indispensable. Possibly a coating of collodion or some harmless insoluble varnish might answer instead of water, or straw bandages, but of that we have at present no intelligence. In the mean while we caution gardeners to try no wild experiments in barking trees. In time M. Robert's report will doubtless be published, and when we receive it they shall be fully informed as to the nature of its contents.

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The first Exhibition of the year by the Horticultural Society takes place at St. James's Hall on Thursday and Friday next. The old system of purchasing tickets of admission having been abandoned, visitors, who are not Fellows, enter by payment at the door. The season is favourable for the display of the subjects enumerated in the Schedules that have been circulated, and a very grand display of spring flowers may be anticipated. It is to be hoped that there will be such an attendance as will secure the Society against any material loss, while thus providing for the gratification of the Fellows and their friends.

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## SOME FUNGI ARE ANIMALS!

There is a peculiar tribe of Fungi, known from all others by their soft, pulpy, or creamy consistence when young, and the multitude of dusty, sootlike spores into which they break up when old. The common puffball indeed has the last-mentioned character; but then when it is young it is of a firm consistence, resembling somewhat the crumb of bread, and can be handled without collapsing into a shapeless mass incapable of any farther growth. The yellow, froth-like fungus (*Æthalium septicum*), so common upon tan in stoves, filled with myriads of spores, which pollute everything with which they come in contact is a good example, and there are many allied species which occur plentifully in woods and other situations where there is sufficient moisture.

Till a late period no one had supposed that these productions were members of the animal kingdom, but such a view has lately been advanced by De Bary in the *Botanische Zeitung*, and his contributions to the history of the development of Algæ and of those parasitic Fungi more especially which are so detrimental to our corn crops, are of such value, that any views which he may broach, however heterodox, demand a careful consideration.

He founds his opinion upon certain appearances presented by their spawn and germinating spores. We do not say that these observations are incorrect, though a friend has attempted to repeat them, but without success. It is, however, fair to state that experiments on the germination of the spores of Fungi succeed in general far better in summer than in spring or winter.

The spawn of *Æthalium septicum* consists of yellow pulpy threads, which run about in every direction, branching and forming an irregular net-work. De Bary observes that the threads of which the spawn is composed change their position and some of them vanish altogether, as if they were withdrawn into the threads from which they spring. They become brown when treated with iodine, and exhibit the constant motion which is the property of the substance discovered in some of the lower animals by Dujardin, to which he has given the name of Sarcodes. The threads when suffered to grow upon a piece of glass under the microscope, exhibit all the peculiar qualities of that substance as observed in *Amœba* and some other *Infusoria* and the shell-like *Polythalamia* of our seashores. The substance, for instance, sends out shoots, which are again frequently retracted into the mother thread. Two branches are thrown out and coalesce ultimately into one, while on the contrary, a constriction takes place occasionally in the middle of another anastomosing branch, and the two parts are completely retracted. In some genera the threads creep amongst the tissues of the wood on which the plants are developed, exhibiting however the same properties as before.

When perfectly ripe spores are sown upon any substance on which they can conveniently germinate, and have become completely saturated with water, so as to get altogether free from the pellicle of air which frequently adheres to them for hours after they have been immersed, the outer membrane bursts and the contents protrude, still covered by the inner membrane in the shape of a little globule. Elongated processes are sent forth from this, which are frequently retracted and replaced by new processes. Meanwhile the germinating globule elongates and bears at its tip one or two delicate flagelliform processes which undulate with great rapidity. The thread itself exhibits various motions, and from its flexibility undulates like a little worm.

Other appearances after a time present themselves. Lateral processes of various kinds are given off, the base of the threads contracts and swells out again, the threads themselves shrink up, and instead of their former lively motion creep slowly along, while their flagelliform processes vanish or are retracted; and then these same bodies resume their original form. Others appear which do not undergo these changes, and larger individuals occur, arising from a gradual transformation of the smaller. The ultimate form closely resembles *Amœba radiosa*, of Ehrenberg and Dujardin. These bodies De Bary believes are ultimately transformed into the spawn threads whose peculiarities we have described above. De Bary believes moreover that the *Amœba*-like bodies actually eat other bodies which fall in their way, though he does not profess to have observed the process.

Now, even allowing all De Bary's personal observations to be correct, it by no means follows that these productions belong to the animal kingdom. The existence of *Sarcodes* in vegetables is not a more certain proof that they are animals than the occurrence of Cellulose in the eggs of Rhipignathus, and some other undoubted animal productions, proves that they are vegetables. The ultimate movement of the spores with their germinating threads is no more sure indication of their belonging to the animal kingdom than that which is so common amongst Algæ justifies the propriety of denying their title to a place amongst vegetables. The existence of spiral vessels in *Trichia* seems to set the question completely at rest, and the mode of development of the spores in some species of *Badhamia* is almost equally conclusive.

Though we differ from De Bary as to the conclusions at which he arrives, we do not in the least wish to detract from the merit of his observations. *M. J. B.*

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## SIR W. J. HOOKER'S PRELIMINARY REPORT ON KEW GARDENS, &c. (*Just Published*).

Royal Gardens, Kew, W., December, 1858.

My Lord,—Aware that brevity is desirable in reports prepared for the House of Commons, I confine myself to the principal improvements, &c., effected in the past year. A leading feature in the Garden, and which much concerns the country, is the increase of visitors ever since it has so liberally been daily opened to the public; also the generally good conduct of the people, not excepting the inferior classes, and the gratification and instruction here received. This free access was first granted by her Gracious Majesty Queen Victoria, in

| | | | | |
|---|---|---|---|---|
| 1841, | when the number of visitors was | .. | . | 9174 |
| 1842 | ,, | ,, | .. | .. 11,400 |
| 1843 | ,, | ,, | .. | .. 13,492 |
| 1844 | ,, | ,, | .. | .. 16,114 |
| 1845 | ,, | ,, | .. | .. 28,139 |
| 1846 | ,, | ,, | .. | .. 46,578 |
| 1847 | ,, | ,, | .. | .. 64,282 |
| 1848 | ,, | ,, | .. | .. 91,706 |
| 1849 | ,, | ,, | .. | .. 137,365 |
| 1850 | ,, | ,, | .. | .. 179,627 |
| *1851 | ,, | ,, | .. | .. 327,993 |
| 1852 | ,, | ,, | .. | .. 231,210 |
| 1853 | ,, | ,, | .. | .. 331,920 |
| 1854 | ,, | ,, | .. | .. [illegible] |
| 1855 | ,, | ,, | .. | .. 313,818 |
| 1856 | ,, | ,, | .. | .. 344,140 |
| 1857 | ,, | ,, | .. | .. 361,978 |
| 1858 | ,, | ,, | .. | .. 405,876 |

It may be interesting to observe that the best attended months were—

June .. .. 82,455 | July .. .. 88,965
August .. .. 95,802

The worst attended months were—

February .. .. 1815 | November .. .. 1421
December .. .. 1443

The largest number on week days was—

April 2 (Good Friday) .. 4948 | May 24 (Whit-Monday) .. 8[illegible]
July 19 (Monday) .. .. 4842

The largest number on Sundays was—

July 4 .. .. 11,729 | August 1 .. .. 13,761
August 8 .. .. 12,763

November stands lowest on the list, the average number of visitors on its week days being a fraction above 36, and the average of its four Sundays a fraction above 119. The maximum of any day was on August 1 (Sunday), 13,761.

The Botanic Gardens, including the Plant Houses.—The late as well as the present First Commissioner having judiciously recommended greater attention to ornamental gardening, the flower beds have been augmented and intermingled with numerous deciduous flowering trees and shrubs; the evergreens are dispersed upon the lawns; and the well-kept lawns themselves and the walks are extended and constantly improving. Higher wages have been allowed to the superior and well-conducted gardeners, and a provision is now made for the sick. The staff of liveried attendants works well, in preventing the many petty misdemeanors of which we had formerly to complain. The several Plant Houses are in excellent condition and much enriched by accessions from friends

* The year of the Great Exhibition.

and our own collectors abroad; indeed, some of these buildings begin to be too crowded, and as it is impossible, as well as undesirable, to cultivate everything, we confine ourselves (as suggested in a former Report) to the preservation and increase of those plants which are the most beautiful, curious, or interesting, commercially and economically as well as horticulturally considered. The Palm House and its rarities excite the admiration of every visitor, and the Orchideous Houses and Ferneries are scarcely less attractive.

Urgent Need of a New Conservatory.—In mentioning the excellent condition of the Plant Houses I must be understood as confining myself exclusively to those destined for plants of hot climates—and in them we stand unrivalled. But ever since my appointment in 1841, greenhouse accommodation has been annually more and more wanted. Whereas an ample provision has been made in the erection of the noble Palm Stove, and of some lesser but very useful houses for the reception of tropical productions, nothing whatever has been granted for the shelter of our existing collection of large tender trees and shrubs, Coniferæ, &c., &c., from temperate climates (South Africa, Australia, Mexico, &c). Eighteen years ago they were the glory of this Garden. Many of them, the noble Araucarias especially, had in 1841 reached to the very top of our loftiest greenhouses, and consequently had to be mutilated to keep them within bounds. Nor was it for want of inclination on the part of the heads of this establishment that the deficiency was not long ago supplied. The costly Palm Stove and various other expenses connected with the enlargement and good keep of the collections and grounds, demanded a pause before the construction of another equally spacious edifice for plants of temperate climes. But ever since 1848, when one of the largest and oldest and most dilapidated houses (another such still remains an eye-sore to the establishment) was condemned and pulled down, with the expectation that the long-desired conservatory would be commenced, our accommodation has been literally lessened. The trees and shrubs have in consequence suffered awfully. Many have perished for want of sufficiently large tubs and the necessary pabulum of light and air; many are now past redemption, and persons who were familiar with these magnificent specimens 18 years ago hardly recognise them now. I have felt it to be my imperative duty as Conservator of this property to say, that unless we can commence the needful structure during the forthcoming year, 1859, I cannot answer for the preservation of the remains of this noble collection. We dare not give them larger tubs and more soil, for we should but encourage their growth. Indeed the largest and finest specimens ought to be planted in the ground in the conservatory. An admirable site has been chosen and approved by the Board for such an edifice, and I sincerely hope that my pleading for it this year will not be in vain.

Herbarium and Library (or Scientific Department), and Museum of Economic Botany.—It is difficult to separate the above, as they are all intimately connected with educational instruction, both of old and young, and with a scientific knowledge of the structure and uses of plants; and in extent and importance they have each steadily increased ever since their first foundation.

*Herbarium.*—Whatever may be the result of the Commission appointed to inquire into the state of the British Museum, and especially of its herbarium, there can be no doubt that the one thrown open for public use at Kew (which includes the collection belonging to the Director and that presented to Government by Mr. Bentham), does hold the first rank in Europe for magnitude and utility. But I must reserve the particulars for our own Garden Report, when the special advantages derived from the herbarium by scientific foreigners as well as English naturalists will be noted.

*The Library* stands in the same favourable condition, if not for extent, for its usefulness as a working library, and it is consequently much used.

*The Museum.*—This establishment must be inspected to be fully comprehended. The details of its continued increase, chiefly from the liberality of merchants and travellers, will be explained elsewhere.

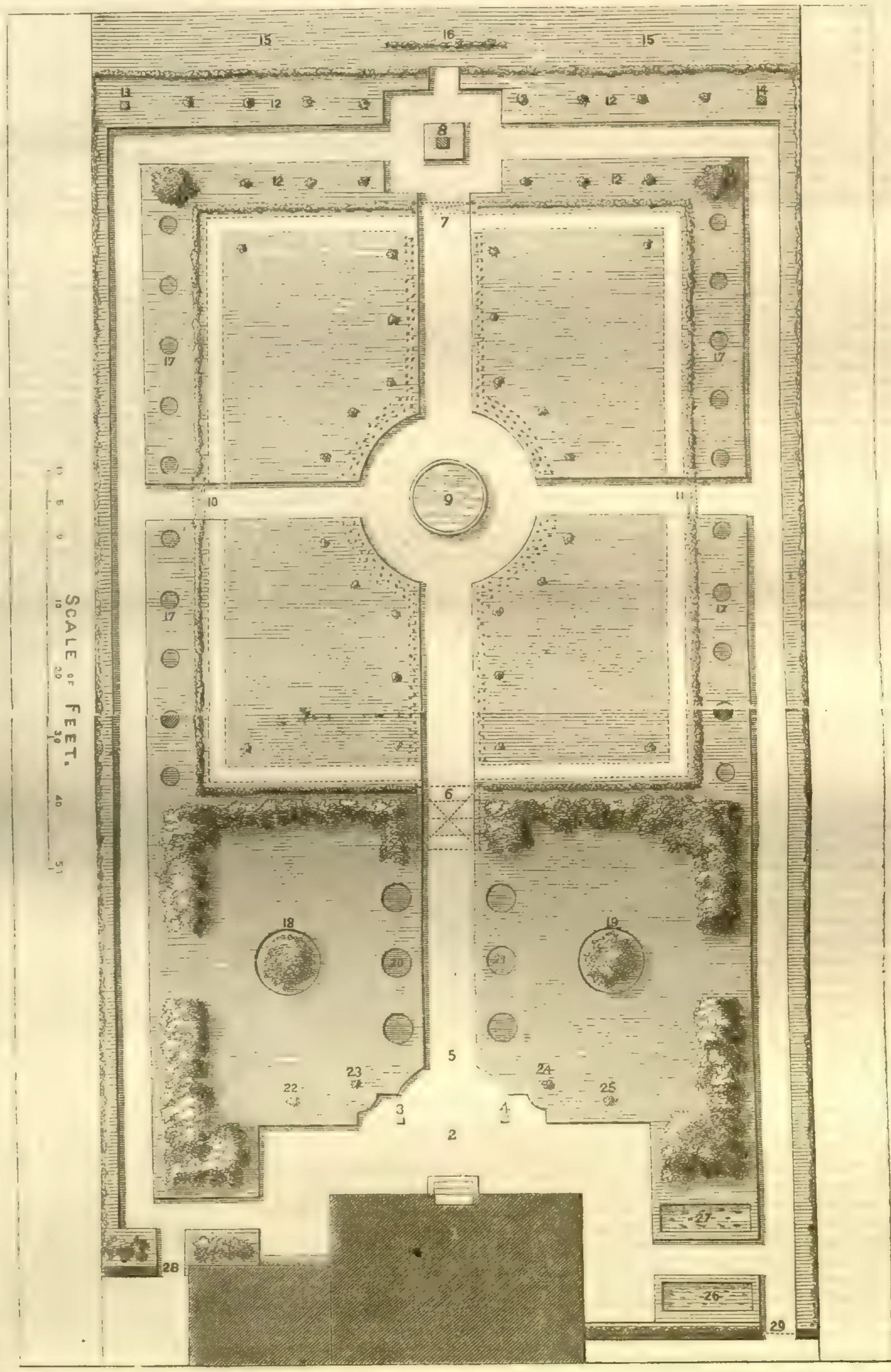
The Royal Pleasure Grounds.—No particular alteration has taken place since that of enlarging the ornamental portion of the Arboretum. The lake progresses by the needful excavation for the water. The adjacent portion of 30 acres, including the Queen's Cottage, assigned by the then First Commissioner, Lord Seymour, with the approbation of H R H. the Prince Consort, has been much improved by new walks and plantations of trees and shrubs. Our nursery (in the pleasure grounds) has afforded nearly 18,000 trees for the ornamenting of this ground (and I may add that we have had the satisfaction of supplying the Victoria and Battersea Parks with 2814 miscellaneous trees and shrubs from the same source, in all 20,559); and lastly, in regard to the—

Nursery expressly for Furnishing Planes and Elms to the Metropolitan Parks.—This recent establishment has not only fully met the requirements of the parks in question, but an excellent stock of trees of different ages is provided for future years. Our books show that we have during the past year supplied to—

| | | | |
|---|---|---|---|
| 1. Hyde Park .. | Planes, 6—14 feet .. .. | 1000 | |
| | English Elms, 6—12 feet .. | 500 | |
| | | | 1500 |
| 2. Battersea Park.. | Planes, 5—8 feet .. .. | 300 | |
| | Elms, 12—15 feet .. .. | 200 | |
| | | | 500 |
| 3. Victoria Park .. | Planes, 5—10 feet .. .. | 300 | |
| | Elms, 6—10 feet .. .. | 175 | |
| | | | 475 |
| | | | 2475 |

I have, &c., W. J. Hooker.

To the Right Honourable the First Commissioner of Works, &c., &c.




## PLANS FOR VILLA AND SUBURBAN GARDENS.

Plate 3.—Occupiers of small suburban residences are often desirous of devoting a portion of the limited extent of ground usually allotted to them to the cultivation of vegetables as a source of amusement. This design suggests a mode of laying-out a small garden with that view, upon a principle not generally adopted—the kitchen garden being entirely surrounded by the ornamental ground. The whole extent is little more than half an acre—the portion represented in the plan is something less. The garden front of the house, 1, is on a gravel platform 2; 3 and 4 are vases to be filled with suitable plants. A broad gravel walk, 5, extends down the middle of the garden through its whole length. There are wire arches at 6 and 7, to be covered with creepers, forming a vista, through which is seen a sundial 8, standing on a square of Grass at the junction of the several walks. The middle walk where it passes through the kitchen garden has, on either side, pyramid Apple and Pear trees, in the front of which flowers are to be cultivated, to give apparent extent to the garden immediately in front of the house. In the centre of the vegetable plot is a basin of water, 9; a simple fountain may be added with very good effect.

The wall which surrounds the garden is to be covered with Ivy and other creepers; but portions may advantageously be devoted to fruit trees. An American Arbor-vitæ hedge separates the portion devoted to vegetables from the remainder of the garden. The two side entrances to it, like those from the main walk, are under arches to be covered with Roses. On the wide margins of turf 12, bordering the walk at the end of the garden, are indicated situations for specimens of choice shrubs or small trees. The two side walks are terminated by vases 13 and 14, but their places might be occupied by other specimen plants or pillar Roses. At 15 is a space to be variously occupied, viz., as a frame ground, a compost and rubbish yard, and reserve garden. A door opening to a lane enables manure or soil to be brought in without deranging the garden. The short hedge 16 effectually screens this part of the ground without occupying much space. The small circular beds 17, by the boundary walk, are for Hollyhocks; backed by the Arbor-vitæ hedge they will have a fine effect, and form pleasing interludes in the garden. On the lawn are two beds 18 and 19 for Rhododendrons or other dwarf evergreen shrubs. The six smaller circular beds, 20 and 21, are for bedding plants. These may be filled in winter as described in a previous article. Four low growing compact plants, 22 to 25, are shown on the lawn immediately in front of the house. The two oblong beds, 26 and 27, are for dwarf Roses. At 28 a door gives admission to the offices, and at 29 is a private entrance communicating with the carriage drive. No conservatory or greenhouse is yet attached to this residence, but there is an admirable situation for one on the side opposite that of the offices. The drawing room being there they could open into each other. *George Lovell, Bagshot.*

## Home Correspondence.

*The Horticultural Society*—I wish as a very old member to express the satisfaction I felt at the proceedings last Monday at the anniversary. We had a thoroughly good business report, the future plans of the Council were well received as they deserved to be, and as for the generous act of those gentlemen who at one stroke relieved the Society from a demand of 2000*l*., it appeared to me and others near me to be unprecedented in the history of such associations; I regret that their names were not given, or at least that I did not hear them, for they ought to be known through the length and breadth of the land. The only circumstance that I regretted was the language of a loquacious gentleman who seemed anxious to force the Society back into the old groove from which it has escaped; but I hope the Council will pay no more attention to him than he received at the meeting on Monday. *Fletanus.*

*The Gardeners' Royal Benevolent Institution.*—The next anniversary festival of this excellent charity will take place at the Crystal Palace on the 8th of June, the day of the flower show. I observe with much satisfaction that on this occasion ladies as well as gentlemen are invited to meet at dinner, an arrangement which I cannot doubt will prove popular. As Sir B. Haliburton will preside we may expect some good speaking, which cannot fail to add much to the enjoyment of the evening as well as to the funds of the charity. *Jael.*

*Electricity and its Effects.*—In your Paper of Saturday last you have the following passage in reference to the origin of the insects found in a church at

Colchester,—"is about as philosophical a suggestion as it would be to expect them to be created by electricity." Now if the influence of electricity acting upon certain forms of matter produce vegetable life, would not that circumstance in some degree favour the assumption that certain forms and orders of animals may be attributed to the same cause? *A Gardener.* [Yes; *if* a plant can be produced by electricity so may an animal. But the *if* is everything.]

*Cucumber Disease.*—Having read with interest the articles by Mr. Ayres and Mr. Fry on the culture of the Cucumber, I was induced to write to ask could some of your able correspondents inform me as to the cause or cure of a disease which has taken my plants. I have a 4-light dung frame with linings back and front and a nice gentle bottom heat; the plants were growing most luxuriantly, the leaves many of them measuring 12 inches each way, and the roots all over the frame like packthreads, and great attention paid to them as to air, water, and such like. About three or four days ago I noticed some brown specks in the stems; thinking it might be too much moisture I have kept them rather dry since. Again, a quantity of young fruit just coming, about 2 inches in length, are gumming and dropping off, and some of the fine leaves are turning brown. There are three or four good sorts of Cucumbers in the frame, such as Cuthill's Black Spine, Lord Kenyon's Favourite, Lynch's Star of the West, &c. I have likewise another frame of equal dimensions, at present looking healthy, but I am afraid showing symptoms of the same complaint, and likewise a quantity of young plants, all of which look to be going in the same state. *Young Gardener.*

*Spergula pilifera.*—Having had frequent opportunities of seeing Mr. Mongredien's lawn of Spergula pilifera during the last three years, I may perhaps be permitted to offer some remarks upon the plant. Highly as it has been spoken of as a substitute for Grass, its merits have not in my opinion been at all overrated. I have been kindly permitted to take many friends to see the lawn, some of whom have gone with a conviction that the published accounts of it were more fanciful than accurate; and of all the varied questions that have been asked respecting it, I know of but one which has not been satisfactorily answered, and that is, "In how short a time can a lawn be made?" Experiments are in progress for the determination of this point. Last Christmas patches of Spergula, averaging in size about 6 by 2 inches, were planted over a large piece of ground in Mr. Mongredien's garden at distances of 12 to 15 inches apart; and at the present time, the middle part of each patch is being removed, cut up into smaller pieces, and planted in the vacant intervals; and the Gardener expects the lawn will be covered before the end of the year. I apprehend that the quickest way of making a lawn would be, to prick out seedlings at 2 inches apart upon a carefully prepared surface of loam, a troublesome job doubtless, yet one that would well repay the labour; for it might be done by mere boys, under occasional supervision. The question of the time taken to form a lawn ought not, it seems to me, to be allowed to prejudice the merits of the plant at all; we do not discard many perennials because they refuse to bloom the first year; we are content to wait a season or two for Wistaria sinensis to establish itself before it gives us its lovely racemes; and we may rest assured that if Spergula pilifera does not make a lawn the first year, it will the second, and such a lawn as no Grass can equal. Like most good things, it will be liable to have an inferior article substituted for it; and as I have already noticed, in two good gardens near London, instances of Sagina procumbens being confounded with the Spergula, my chief object in writing is to call attention to the mode of distinguishing the two plants. When in bloom this is easily done, all the parts of the flower being arranged in fours in Sagina and in fives in Spergula. The foliage however requires closer inspection; and as plants are likely to be purchasable soon, it is particularly to be noticed that the apex of the leaves of Spergula pilifera is terminated by an erect bristle, which is wanting (or reduced to a blunt point) in Sagina procumbens. But in case these differential characters should be deemed unsatisfactory from their microscopic nature, I would mention other modes of separating them. Both plants in the open ground are procumbent; but if potted and placed under glass, Spergula quickly becomes attenuated and exhibits slender erect shoots, while Sagina preserves its procumbency. The roots also differ materially; those of Sagina branch immediately below the surface of the ground, while Spergula sends down a strong tap-root; I cannot find any plants of Sagina with roots more than four inches long, while the roots of a patch of Spergula two years old have been traced more than 3 feet down into the stiff clay subsoil of Mr. Mongredien's garden. Upon this extraordinary depth of root mainly depends the value of the plant for lawn purposes; first, because the greatest extremes of atmospheric changes will never affect the soil deep enough to injure it (while Sagina from its limited roothold will not bear heat or draught); and secondly, because this characteristic secures (as has been proved) a beautiful lawn, perfectly free from cracks in the hottest weather, upon a soil fit for nothing better than making bricks. Sagina procumbens is such a common weed in garden walks that it is very likely to be mistaken for, and even planted with Spergula pilifera; and as a lawn made of the former will probably be brown instead of green during the summer months, and thus earn for Spergula an undeservedly bad name, I trust you will not deem these observations out of place at the present time. *William Thomson, F. L. S.*

*Pottery-ware Coffins.*—It may not be uninteresting to many of your readers to know that the invention of earthenware coffins is now being carried into effect at Mr. Thorniley's Tile and Pot Works, Heaton-Mersey, near Manchester. I had lately occasion to go there to order some flower-pots, when I saw some beautiful coffins fresh from the kiln—so complete in every point that it was hardly possible to find fault with them. The shape is admirable, quite equal to the Oak and Elm coffins of our best makers. The lid falls within well-formed ledges, and, I was told, is fastened down with Roman cement before being consigned to the grave. Mr. Thorniley told me he has orders for a thousand, and hopes to be able to make at his own works from 500 to 1000 a week when his arrangements are completed. Mr. Parkinson, a Manchester gentleman and patentee of these coffins, tried many other plastic materials; but found none answerable in every way except those made of the best common clay. After many trials and diligent research, he has discovered a chemical substance or solution, which when applied renders the hardest materials and substances capable of being beautifully and enduringly "flocked." Well, these coffins when finished are exceedingly pretty, just like a piece of rich velvet without seam. Crimson flock is to be used for soldiers, blue for sailors, white for paupers, and black or Oak for private families who buy their own. When I first heard of them it struck me that they would be too heavy for general use; but those I saw for children six or eight years of age were not too heavy. After seeing these coffins it forcibly struck me that it only required an effort or two to produce good earthenware pipes for heating hot-houses with corresponding elbows, syphons, and T's. Coffins can be made 6 feet long. Surely pipes 6 inches wide and 6 feet and upwards in length can be made. The jointing could be effected by Portland or Roman cement, which answers very well for cast metal pipes. I am not at liberty to state how cheaply the coffins can be produced; but if pipes can be made at the rate of the coffins our hot-houses could be heated for one-half the cost of iron pipes. The present system of heating is good, but the materials used are expensive. *A. Pettigrew.*

*Waltonian Cases.*—I have been much pleased with Mr. Hibberd's satisfactory account of propagating plants in a small way in these cases. That gentleman clearly explains the facility of propagating by the means described, but if the plants are to be turned out of their comfortable quarters at 80° to the usual temperature of a dwelling-house in February and March, I fear they will die immediately. May I venture to ask what plan he suggests to those not enjoying a warm greenhouse to enable them to nurse these tender and barely-rooted plants or seeds after their time of two or three weeks in their hotbed has expired? I have this winter raised several seeds in a box filled with dung, but they shot up very weakly and sickly, and rapidly died away: such I should imagine would be the fate of the nurslings of the Waltonian cases to those who could not secure an equal day and night temperature to these tender plants for the three following months. Mr. Hibberd will perhaps be so obliging as to favour us with some information on this subject. I shall also feel obliged by being informed the best place to procure tropical fruit trees. I am anxious to send the new plants of South America and the Straits near Penang to another warm climate. In our establishments here they seem not to cultivate tropical plants. *An Old Subscriber, Kew.*

## Societies.

HORTICULTURAL: *May* 2.—ANNIVERSARY MEETING for the election of Council and officers for the ensuing year, the Rev. L. Vernon Harcourt, V.P., in the Chair. The following report from the Council was read:—

The address of the Council, issued on the 29th of January last (1859), has afforded the Fellows of the Society such full information concerning the measures which it has been found necessary to take during the year that little now remains beyond giving some further explanation of the causes that have led to the course which has been taken, and producing the customary report upon the Society's financial position. The Society has been annually informed of the difficulty of making the expenditure and income balance each other, owing to the heavy expenses of London and Chiswick, and the continual losses sustained by the Exhibitions. The Fellows are also aware, that in the opinion of many zealous friends of horticulture it was thought possible to make Chiswick once more a source of income instead of embarrassment, provided certain changes were made in the arrangements there. In pursuance of this idea, a voluntary subscription was opened for the purpose of giving the experiment a trial. A gardener, most strongly recommended as a man of great intelligence and experience, was appointed, with a liberal salary, and the entire management of the establishment was entrusted to him. Considerable and costly alterations were made in the Garden, for the purpose of rendering it more productive, more useful, and more ornamental. The Exhibitions were continued, with the addition of a class of manufactured articles required for horticultural purposes. Nurserymen, Gardeners, and Manufacturers readily contributed their productions; and with their assistance, collections unsurpassed for beauty, utility, and interest were brought together. They, however, failed to attract visitors in sufficient number to save the Society's finances from renewed loss, the Exhibitions of 1857 having cost more than 800*l.* beyond the receipts, exclusive of a very considerable expenditure upon permanent alterations made in order to increase the convenience of visitors and the facilities of exhibitors. In like manner, the Exhibitions in the year 1858-9 have again cost the Society above 500*l.* beyond the receipts, the principal part of which loss is chargeable to the Garden. Had this deficiency been assignable to any circumstance likely to be removed by time, or over which the Council could exercise control, they might have still endeavoured to struggle with the difficulties of their position, and to carry out the views of those who are favourable to the maintenance of the Garden in its integrity, in the hope that, if direct loss was sustained by the Garden Shows, an equivalent indirect advantage might be derived from the interest taken in the Garden by the Public. But such was not the case; the returns of visitors showed that although the sum of 3074*l.* 18*s.*, which had been raised by voluntary subscription, and a considerable further sum taken from the income of the Society had been expended in maintaining the Garden and rendering it more attractive, yet the number of persons visiting it was not only continually decreasing, but had arrived at so low a point as to render its preservation in its previous state no longer advisable. The number of ordinary visitors, which in 184 was 8726, and in 1854, 5140, has sunk in the past year to 2585, of which a large proportion consisted of residents in the immediate neighbourhood, passing the gates over and over again during the year. It was clear that the Garden could be no longer regarded as a place of resort sufficiently attractive to compensate for what is now considered inaccessibility, arising from the absence of useful railway conveyance; and the Council therefore arrived at the conclusion that the whole of the ornamental part must be abandoned. Measures have already been taken to reduce it to the condition of an establishment where experments can be conducted, the true qualities of all new varieties of fruit trees and esculent plants be ascertained, fruit trees of ascertained merit be preserved, and plants propagated for distribution among the Fellows of the Society. These measures are all in active operation; very large numbers of esculent vegetables are under trial, and will be reported on by the Fruit and Vegetable Committee of the Society, several parts of whose Proceedings are already in the hands of the Fellows. And the Council take this opportunity of expressing the great obligation they are under to the gentlemen composing this Committee, for the able and zealous manner in which their interesting investigations have been conducted. The losses sustained by the circumstances just adverted to, and by a continued deficiency of income, had at the last anniversary raised the debt of the Society from 9488*l.* 10*s.* 4*d.* in 1856, to 9986*l.* 18*s.* 11*d.*, and the Council felt that unless some final stop was put to this augmentation the financial position of the Society would become serious. They have therefore, while maintaining the efficiency of the Society, and carrying out the objects for which it was incorporated to the utmost of their power, given directions on the one hand to cut down all heads of expenditure to the lowest possible point, and on the other to realise some part of the Society's property. After the Garden, the great item of expense has been the House in Regent Street, which cost 233*l.* per annum for ground rent, land tax, and rates alone, exclusive of the interest of money borrowed on its security, and the charges incident to so large a residence. They found, moreover, that there was urgent need of extensive repairs. It was therefore resolved once more to submit it to sale by public auction, and the Council have now to report that it has been disposed of for 2500*l.*, to which has to be added 50*l.* 5*s.* for fixtures, and 50*l.* 19*s.* 6*d.* for fittings and useless furniture; making in all 3061*l.* 4*s.* 6*d.* In exchange for this expensive house, chambers at No. 8, ST. MARTIN'S PLACE, TRAFALGAR SQUARE, have been taken at a total rent of 80*l.* a year, including taxes; and on the present occasion we assemble in the house of the Society of Arts, by permission of the Council of that great institution. The inevitable consequence of quitting the extensive premises in Regent Street and hiring a mere office for business, was the sale of the principal part of the large and valuable Library which had been forming during a period of 40 years. The Council do not attempt to conceal their regret at this measure having become inevitable; but they had no alternative. They moreover considered that it would produce a further considerable sum, applicable to the extinction of debt, and that, after all, it was more in the nature of a possession to be proud of than of a property of real utility to the Fellows, for, in the opinion of the officers of the Society, scarcely more than 20 Fellows ever consulted it during the year. The sale has been entrusted to Messrs. Sotheby & Co., and commences this day. It is with no little satisfaction that the Council have to add that the measures now described appear to have met with the general approbation of the Society, if an opinion is to be formed from the number of withdrawals that have been notified since the issue of the circular letter of January 29th. The number of withdrawals between January 1st and April 1st, 1855, was 8; ditto 1856, 11; ditto 1857, 8; ditto 1858, 7; ditto 1859, 12. While divesting the Garden of its ornamental character, and reducing it to one of mere utility, abandoning the Exhibitions there, and quitting the House in Regent Street, the Council trust essentially to improve the real utility of the Society. For meetings at the Garden, and at Regent Street, they have substituted Exhibitions in St James's Hall; and by Ballots for Plants, and more extensive distributions than formerly both of Plants and Seeds, they expect that the Fellows will receive a more substantial return than hitherto for their subscriptions. As to the Ballots for Plants, which seem calculated to render the distributions more satisfactory than heretofore, and are evidently popular, nearly 400 names having been entered for that held on the 15th ult., the Council regard them as being quite experimental; they fully expect that experience will show how to render them very much more useful, and of that experience, as well as of any suggestions on the subject, they are prepared at once to take advantage. In the Appendix to this Report will be found the usual accountant's details of income and expenditure, together with the annual balance-sheet, and estimates for the coming year. A reference to these documents will show that while the ordinary expenditure for 1858-9 has been about 120*l.* below its estimate, the ordinary income for the same period fell short of the estimate stated in the last annual report; still it was upwards of 400*l.* in excess of the previous year. And such will be the effect of the retrenchments carried out by the Council, that they feel justified in at length anticipating in the coming year a surplus of more than 1300*l.* available for the reduction of debt or for meeting contingencies. In forming this estimate they have fixed the London expenditure at 500*l.* a year, and that of the Garden at 1300*l.*, sums within which the expenses will, if possible, be confined. The year now reported on has been so entirely transitional, that no considerable increase in the numbers of the Society could have been anticipated. It is found, however, that while the total number of Fellows of all classes at the last anniversary amounted to 978, the number on our list on the present occasion is 985, the number of elections having been 62, of resignations 30, and of deaths 25. Small as this increase may be considered, the Council trust that it may be taken to indicate a determination on the part of the public to sustain this valuable association which, during more than half a century, has been conferring signal benefits upon the all-important art of cultivation; and they confidently rely upon a very considerable accession of strength as soon as the public shall have had an opportunity of seeing the effect of the measures now announced. For themselves they can only add that it is their most anxious desire to consider fully all suggestions, and to adopt every measure within their means tending to infuse new activity into the administration of its affairs, and to increase its utility in every direction, with a view to maintain the Society in the proud position it has so long occupied among the useful institutions of Europe.

The report having been read a conversation ensued of some length, in the course of which it transpired that five members of the Council (the Rev. L. Vernon

Harcourt, the Treasurer, Mr. Godson, Mr. Blandy, and Mr. Wentworth Dilke), in order to enable the Society to meet two thousand pounds' worth of old promissory notes, had guaranteed their payment by instalments, thus relieving the Society from a serious temporary embarrassment. So liberal an act on the part of these gentlemen, which showed how much they are in earnest in their support of the Society, was regarded as deserving the warmest acknowledgments. Several Fellows expressed a wish that the Journal, or some equivalent, should be revived, and it was understood that steps would be taken for the issue of a monthly sheet, which all Fellows might receive through the post. The future arrangements in contemplation respecting the Garden at Chiswick were discussed, but as no definite conclusion had been arrived at by the Council, the consideration of this subject was postponed to some future general meeting.

The Chairman then announced that H.R.H the Prince Consort had been unanimously re-elected President; W. Wilson Saunders, Esq., Treasurer; and Professor Lindley, Secretary; the Rt. Hon. the Earl of Ducie, Professor Henfrey, and Mr. C. Edmonds, new members of Council; and Jonathan Clarke, Esq., and Mr. James Fraser, Auditors.

## Notices of Books.

*Invasion invited by the Defenceless State of England.*
By T. H. Key, M.A., and A. Williamson, F.R.S.
Bell & Daldy. 2d edition.

This important pamphlet, costing only threepence, should be in the hands of every one who has even the smallest influence over members of the House of Commons. Although written by two civilians, the first of whom however is the near relation of one of our most distinguished naval officers, it bears upon its face unmistakeable marks of a thorough acquaintance with the subject of which it treats. The authors point out with great force, but without a word of exaggeration, to how dangerously low a condition the navy of England has fallen; and how great is our peril unless an instant change is introduced into the action of the Admiralty. We have ships and naval stores in abundance; but where are the gallant hearts to man the former? We have admirable naval officers, but they have no men to command. There is not an officer in the service who will not endorse every statement that these pages contain, and that being so it seems impossible to doubt that we run a most serious risk of being wrapped in the conflagration just about to rage over the continent. For years past we have managed our naval affairs like madmen, and if our rulers do not put an immediate stop to our miserable *laissez faire* system we shall undergo the fate of madmen.

The 2d part of *Routledge's Illustrated Natural History* continues the history of Monkeys, with excellently drawn figures of which it is enriched. These cuts have not been yet surpassed by the draughtsmen or wood-engravers of any country, and they receive full justice from the printer—a very important circumstance. The letterpress, which is chiefly anecdotical, supplies us with a paragraph or two for quotation.

*A Jealous Mandrill.*—"Sometimes they are so jealous in their disposition that they throw themselves into a transport of rage if any attentions be paid to a lady within their sight. This curious propensity was once made the means of re-capturing a large baboon—a chacma—that had escaped from its cage in the Jardin des Plantes, in Paris. It had already baffled many attempts to entice it to its home, and, when force was tried, repelled the assailants, severely wounding several of the keepers. At last, a ready-witted keeper hit upon a plan which proved eminently successful. There was a little window at the back of the cage, and when the keeper saw the baboon in front of the open door, he brought a young lady to the window, and pretended to kiss her. The sight of this proceeding was too much for the jealous feeling of the baboon, which flew into the cage for the purpose of exterminating the offending keeper. Another keeper was stationed in ambush near the cage, and the moment the infuriated animal entered the den, he shut and fastened the door."

*Monkeys and Sugar-canes.*—"One ready-witted Englishman succeeded in keeping the monkeys away from his plantation for more than two years, and that without using any violence, or offending the prejudices of the natives. He had planted a patch of Sugar-canes, and had seen his growing crops eaten by elephants, swine, deer, monkeys, and other animals, without being able to guard the ground from the robbers. The heavier animals he excluded by means of a deep trench surrounding the cane patch, and a strong palisading of Bamboos just within the ditch. But the monkeys cared nothing for moat or wall, and carried off whole Canes in their hands, eating them complacently as they proceeded to the shelter of the trees. For a long time this state of things continued, and the planter was doomed to see the ripening Canes devoured in his very presence, and the chewed fragments spit in his face by the robbers. This last insult proved too great a strain for his patience to endure, and, after some thought, he hit upon a stratagem which answered even beyond his expectation. He chased a flock of the monkeys into a tree, which he then felled; and, by the help of his assistants, captured a number of the young, which he conveyed home. He then mixed some treacle with as much tartar emetic as could be spared from the store, and, after painting all the young monkeys with this treacherous mixture, set them free. Their anxious parents had been watching for their offspring, and carried them away out of danger. The liberated captives were then surrounded by the whole troop, who commenced licking the treacle from their fur. Before very long, the expected effects made their appearance, and the poor monkeys presented a most pitiful appearance. The result of the affair was, that the monkeys were so terrified at the internal anguish which their depredations had caused them to suffer, that they fled the place, and not a monkey was seen in that locality until long afterwards."

Trade Lists Received.—*Fisher, Holmes, & Co.'s* (Handsworth, near Sheffield) *Catalogue of Stove, Greenhouse, and other Plants*, a very good collection of useful plants, and rich in Ferns; but the names are terribly misspelt.

## Garden Memoranda.

[We extract the following account of a first-class French country-garden from the Revue Horticole.]

The Fruit Garden of the Chateau de Vervaine.—Our readers know what a great impulse an important branch of horticulture—the scientific management of dessert fruits—has received of late years through M. Du Breuil; this active and able professor, besides the courses which he gives in Paris at the Conservatoire des Arts et Métiers, is extending his teaching over all parts of France to numerous hearers who could not otherwise have the opportunity of listening to him. The success which attends the lessons of this eminent arboriculturist, and the constantly increasing number of his pupils, has induced him this year to make a new attempt.

M. Du Breuil has long since found that lessons given in the theatre, however clear they may be, require to be accompanied by an examination of results on the ground. In fact, however great the attention of the hearers, the ability of the professor to describe, and his skill to illustrate by sketching, there is in natural science a means of teaching more rapid and more certain by the inspection of the objects themselves, especially if these are living things, taken in their ordinary state of existence, and in the different phases of their growth? Excellent for those who know nothing of the subject, a lesson in the open air is beneficial to those who already understand it. One may have made great improvements at home, looked closely at that which has been done by his neighbours, and believe himself far advanced; but let him go beyond two or three departments, he will see new and ingenious methods, and will find that he has much to acquire. Every lover of botany will recall with pleasure and regret the rural excursions directed by the last of the Jussieus; the science became a hundred times more attractive when it was mingled with the pleasures of a walk, and the botanist in his study, working microscope in hand, found there an agreeable recreation from his toil?

Struck with the utility of placing before the eyes of his pupils the results of the improved method which he teaches, and to make up for the want of a model fruit garden at Paris, M. Du Breuil got up an excursion, on the 22d of March last, to the Chateau de Vervaine, situated near Alençon, and belonging to the family of Rattier. His invitation received a warm response, and each one hastened to provide himself with a ticket at single fare, a reduction which the Western Railway Company of France had generously conceded on this occasion. Unfortunately the weather at Paris on the evening before starting cooled the enthusiasm, and the number of amateurs was considerably diminished. Those who feared to accompany M. Du Breuil on this visit will doubtless regret it, for their anticipations were happily not realised, and the lecture, in which the party took a lively interest, was given in favourable weather. We were present, and are glad to be able to give an account of it to our readers.

The Chateau de Vervaine, about 2½ miles from Alençon, on the road to Brittany, besides possessing the finest orchard in France, has a park of at least 120 acres. We will not stop however to give a detailed description of this park, kept up in good style, and affording, with its pieces of water, cascades, and varied surface, a great variety of views. We will merely remark on the number and beauty of the evergreen trees, such as Araucarias and many of Conifers; together with Taxodium distichum and American Oaks, which occurred at frequent intervals.

The fruit garden which was the object of our visit consists of four inclosures, adjoining each other, and surrounded by walls; the area of the whole is nearly 3½ acres. It contained four years ago a number of wall trees, the greater part of which were in bad condition, trees in the open ground, trained in the conical form, and planted in the borders round each of the vegetable quarters. By this bad management, which is still too much adopted, the trees injured the crops, which they almost entirely overshaded, and were also prejudicial to the wall trees, to which they were too closely planted. Moreover, owing to the moisture of the climate, they soon became covered with Moss, which besides giving them a melancholy aspect, affected their production and longevity to a considerable extent.

M. Du Breuil was then employed to remedy this state of things, but to avoid at the same time any diminution, however temporary, in the produce of fruit. This condition, sufficiently embarrassing, was strictly fulfilled by the application of the new system of the learned arboriculturist, the principal advantage of which consists in inducing a full state of bearing eight years sooner than by the old mode of culture.

To obtain this result, M. Du Breuil commenced by planting afresh, *en cordon oblique* (in oblique lines), the greater part of the walls where the produce of the trees had become almost insignificant.

The next thing was to replace the trees in the open ground distributed round the kitchen garden quarters. It is here that the method of M. Du Breuil presents the greatest innovation. He distributed over a third of one of the enclosures double espaliers, with perpendicular arms (*en cordon vertical*), disposed in the middle of four parallel beds, running north and south. These beds were 6½ feet wide and 138 feet long, and separated by footpaths 3 feet 3 inches wide. The trellises were formed of upright laths, about 1 foot apart, with a strong post 5½ inches diameter, and 9 feet 9 inches high, at every 19½ feet. The entire system was kept in its place by strong iron wires having their extremities fixed in the walls, and which crossed each other at the top of the posts. Each line bears two rows of trees trained against it *en cordon vertical*.

When the espalier trees which have been planted two years bear fruit all the conical trees will be cut down, and the ground which they occupy cropped with vegetables to make up for the space taken up by the new arrangement. We will now follow M. Du Breuil in the examination of the different kinds of trees, some of which have been reserved for a practical demonstration of his new mode of short pruning.

*Pears.*—Wall trees, in oblique lines, against a south aspect, are composed of varieties of winter fruit; the trees are planted at 16 inches apart along a wall 410 feet long. Two-thirds of this length have been planted three years. They cover two-thirds the height of the wall, and have already borne fruit.

Double perpendicular espaliers: the trees are planted about a foot apart along 344 feet, or we may say 688 of single espalier. These trees, which occupy two lines and a half of the new plantation above-mentioned, have been planted two years; they consist of summer and autumn varieties. Old trees, trained horizontally against a north wall, are the only ones of the old plantation which will be preserved.

*Peaches* are planted 16 inches apart against an east aspect wall, 180 feet long, and trained in oblique lines. The trees have been planted three years, and have almost reached the top of the wall. The short pinching has succeeded perfectly. The stems were almost hid by the number of flowers borne on the spurs. Along 75 feet of the same aspect the trees were trained in the same manner, but planted 2½ feet apart, and the shoots pinched at greater length. The trees, three years old, and very fine, have reached the top of the wall.

*Cherries.*—Against 144 feet of south wall the trees were planted 16 inches apart. They are three years old and had nearly reached the top of the wall; they were covered with flower buds. Others were planted about a foot apart, along 138 feet of double espalier.

*Plums.*—Against a south wall, 98 feet long, with a south aspect, the trees were planted 16 inches apart, and trained in oblique lines; and against 69 feet of double espalier the trees were about a foot apart and trained upright.

*Apricots.*—Planted 16 inches apart as a single espalier, and trained in oblique lines. The espalier, 138 feet long, is sheltered on the west side by straw mats from top to bottom, and by a straw coping projecting 23 ins. This shelter is necessary from the middle of February until the end of May; they are then removed, and by this means Apricots ripened in the open air are obtained of much better quality than from a wall.

*Vines.*—A wall 108 feet long is planted with Vines about 14 inches apart. They are trained with single perpendicular and opposite laterals. Another wall, 98 feet long, is planted with Vines 27 inches apart, trained with a single perpendicular and alternate laterals. These walls have an east aspect, and are covered with glass, the humidity of the climate being unfavourable for the ripening of Grapes.

*Apples.*—These are trained horizontally along the sides of the wall and espalier borders; their total extent is 2348 feet. The trees are planted 6½ feet apart, and about a foot from the edge of the walks.

*Currants.*—These are trained vertically against a dwarf wall facing the west, length 98 feet. Also against an espalier 4 feet high and 138 feet in length. They are planted 8 inches apart.

*Gooseberries.*—Eighteen plants of these are trained in the form of goblets on wire framework.

*Raspberries.*—Cultivated in line against a dwarf wall 164 feet long, facing the west.

The total extent of walls and espaliers is thus described:—

| | Feet. |
|---|---|
| Pears on walls | 876 |
| ,, on espaliers | 688 |
| Peaches on walls | 265 |
| Cherries on walls | 144 |
| ,, on espaliers | 275 |
| Plums on walls | 98 |
| ,, on espaliers | 138 |
| Apricots on espaliers | 138 |
| Vines on glazed wall | 206 |
| ,, in pits | 301 |
| Currants on walls | 98 |
| ,, on espalier | 138 |
| Raspberries in line | 164 |
| Apples trained horizontally | 2348 |
| | 5907 |

The crop of stone-fruits is secured by straw coping projecting nearly 2 feet, and by thin canvas attached

to the edge of the coping, and standing to meet 10 inches from the bottom of the wall. The espaliers, owing to the manner in which the wires that steady the posts are placed, may easily be protected by thin canvas, which is left on for a longer or shorter time according to the state of the weather.

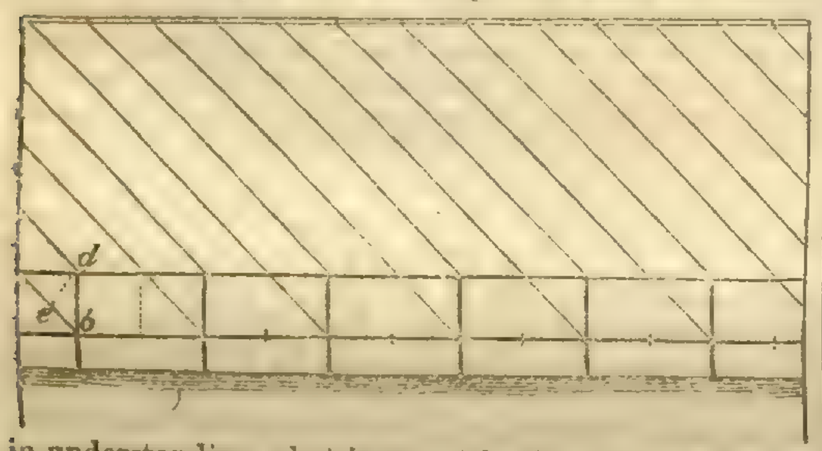
We have already stated that by the new method adopted by M. Du Breuil there is a considerable decrease in the time required for the formation of the trees. Indeed, the wall trees at Vervaine, although only three and four years old, are already in bearing. In other three years they will have reached the top of the wall, and will be in full bearing. The perpendicular espaliers, planted last year, will be completely formed in five years; while by the old mode it required on the average 16 years for the complete formation of wall trees, and 14 years for standards or pyramids.

This early bearing has no prejudicial effect on the quantity of fruit produced. On calculation it will be found that on equal surfaces of wall the length of fruit-bearing wood trained in oblique lines will be just as much as if trained horizontally; and the perpendicular espaliers will yield on the same extent of ground a crop greater by one-half than trees in the conical form.

Such are the results of the transformation directed by M. Du Breuil, and carried out with rare skill by the active and intelligent gardener at the Chateau de Vervaine, M. Chouquet.

The transformation is now complete, and the result is the finest fruit garden established in modern times. Its extraordinary extent, the attention paid to keeping the ground and the trees, the good arrangement of the shelters, the elegance and strength of the espaliers, and above all the application of the improved practice of modern arboriculture render it a complete model garden which one cannot behold without the greatest admiration.

[The following cut, representing what the French call double oblique line training, will assist the reader




in understanding what is meant in the above article by similar expressions.]

## Calendar of Operations.

*(For the ensuing Week.)*

### PLANT DEPARTMENT.

Conservatory, &c.—When this house contains a mixed collection of plants, which it generally does, aphides are usually very troublesome at this season, and it is always desirable to avoid smoking here, for besides the expense and annoyance, it is no pleasant job to fill a large house with tobacco-smoke. Things in pots that require fumigating may be removed to a close room or put under a frame covered with calico or canvas rendered air-tight either by means of a coat of boiled oil or put where the remedy can be much more conveniently and cheaply applied than in a lofty house, and therisk of injuring the blossoms of things which do not require fumigation will be avoided. But if the enemy is to be kept under by these means suspected plants should be frequently examined, and immediate steps taken with those that are found to be in the least infected, otherwise the pest will spread to an inconvenient extent to allow of its being eradicated, without smoking the house. Should twiners or specimens planted out in the beds get infested, these should be syringed with the following mixture; viz., ½ lb. of soft soap, 1 gallon of tobacco water, and 6 gallons rain water, properly dissolving the soft soap in a portion of the water. But as there is some uncertainty about the strength of this mixture, and its action on different plants, it should not be used without first making sure that it will not injure the foliage or young shoots, and also that it is sufficiently strong to destroy the insects. The beauty of Azaleas and many other hard-wooded plants, which are now the principal ornaments here, will soon be fading, and every effort should be used to be prepared to supply their places with others in full flower.

### FORCING DEPARTMENT.

Pineries.—In cases where a regular supply of fruit is required, we may repeat that it will be necessary to examine the stock of plants, frequently marking those considered the most likely for fruiting, so as to be able to keep them rather dry at the root for a month or so, which will, in most instances, have the desired effect of checking growth and throwing the plants into fruit. The only effectual method, however, of securing a supply of fruit at any particular time is foresight in the management of the stock, taking care to get the growth well matured in sufficient time to allow of affording the plants a short period of comparative rest, which is the only certain means of inducing them to fruit at any desired season. With plenty of convenience this is easily enough managed, but where the accommodation is limited, it is by far the most difficult part of the culture of the Pine. And in cases where a regular supply of fruit has to be furnished from limited accommodation, it is safer to grow the plants in pots, so as to secure perfect command over the roots, and also to be able to move the plants to a cooler pit or otherwise, as may be necessary. Black Jamaicas and Cayennes are the best varieties for winter fruiting, and the stock of these should receive every attention at this season so as to induce them to make free growth, and a portion of them should be shifted into their fruiting pots as soon as possible. Use every means to afford growing stock a moist atmosphere, which in the present state of the weather is a work that requires much attention, but must be done if the plants are to be kept in first-rate condition. Give air when favourable, but avoid cold draughts and use shading to assist in keeping down the temperature without being under the necessity of admitting cold drying air too freely.

Vineries.—In cases where Muscats are grown in the same house with Hamburghs and other free setting varieties the temperature must be kept sufficiently high during bloom, and until the berries are fairly set, to suit the Muscats; for a crop of these cannot be depended upon from the most healthy Vines, unless they can be afforded a brisk temperature while in bloom and setting their fruit. It will be better, however, to risk having the Muscat bunches somewhat thin than to injure other varieties by maintaining a night temperature of 75°, which is the practice of some good growers; 68° or 70° will be found quite sufficient. Get the borders prepared for planting out young Vines, and if these are started into growth before planting do not keep them too warm, or it will be difficult to prevent their sustaining a check after planting out.

Melons.—Encourage those newly planted out with a moist warm atmosphere, so as to get them into full growth as quickly as possible; but plants that are fairly established should be kept cooler, admitting air on every favourable opportunity, in order to secure short-jointed fruitful wood.

Fig-house.—Give air and water as before, but do not syringe trees over head whose first crop is ripening off, or use cold water.

Strawberries.—Give abundance of air and water to the latest crops.

### FLOWER GARDEN AND SHRUBBERIES.

Notwithstanding that the weather has become somewhat more promising than it has lately been, it will be wise to defer planting out the bedding stock, save in very favoured localities, until we experience a more decided change. Meantime take every opportunity of exposing the plants to the open air, so as to get them well hardened off, and see that everything is perfectly free from insects, and also have the whole of the stock nicely arranged, so that when planting-out is commenced everything may be in readiness. Push forward late propagated stock, and endeavour to keep the whole growing slowly in their pots. It is a common and very bad practice to allow bedding stock to stand in small pots exposed to bright sunshine and drying winds and but scantily supplied with water until they get almost dried up, and this with the view of preparing them for planting out. The plants should be exposed to the weather as freely as circumstances will admit; but this should be done by degrees, and never to the extent of browning the foliage and drying up the tissues, and they should never be allowed to suffer for the want of water, for unless the plants are in good health when planted out they require endless care afterwards if the beds are to be covered in any reasonable time, and despite every attention are long in getting into free growth. Take advantage of showery days to give the Grass and gravel a thorough rolling.

### HARDY FRUIT AND KITCHEN GARDEN.

Proceed gradually with the disbudding of Peach and Nectarine trees, but remove only a portion of the buds at once, selecting the strongest first and going over the trees two or three times at intervals of about a week. This will avoid checking the trees to the same extent as when disbudding is done all at once. Look carefully over the Apricot trees and destroy the caterpillar wherever it is found. This is sometimes very destructive to the foliage, and also the fruit when neglected but for a few days. Be in no haste to remove the protecting materials, unless where the crop is found to be destroyed, and then they might be removed for use on trees where there is still a chance of a crop. Take advantage of showery weather to plant out Lettuce, Cauliflower, &c., and see to getting Tomatoes, Cucumbers, Vegetable Marrows, &c., prepared for planting out. Make a sowing of Sweet Basil, Marjoram, Savory, &c., on a light, rich, warm border; also get the early Celery prepared for planting out as speedily as possible, and attend to the plants for succession crops, keeping them at all times well supplied with water.

### COTTAGERS' GARDENS.

The destruction of weeds is of the utmost importance at the present time; the thinning of young crops also demands timely attention. Manure and dig all vacant ground for Brussels Sprouts, a little Broccoli, Winter Greens, &c. Plant a few Lettuces under walls and in other sheltered situations, also Leeks in trenches, similarly prepared as for Celery. Sow Radishes and a little Spinach for successional crops. Keep early Potatoes well earthed up; it will save them from frost if there happens to be any. Attend to the staking of Peas. If the weather continues dry many things will require to be watered. Attend to other routine matters.

STATE OF THE WEATHER AT CHISWICK, NEAR LONDON.
For the Week ending May 5, 1859, as observed at the Horticultural Gardens.

| April and May. | Moon's Age. | Barometer. Max. | Barometer. Min. | Temperature of the Air. Max. | Min | Mean | Of the Earth 1 foot deep | Of the Earth 2 feet deep | Wind. | Rain. |
|---|---|---|---|---|---|---|---|---|---|---|
| Friday 29 | 26 | 29.787 | 29.688 | 67 | 42 | 54.5 | 51 | 49 | S.W | |
| Satur. 30 | 27 | 29.843 | 29.770 | 47 | 40 | 43.5 | 52 | 49½ | E. | |
| Sunday 1 | 28 | 29.798 | 29.745 | 56 | 36 | 46.0 | 51 | 49 | E. | |
| Mon. 2 | ● | 29.901 | 29.861 | 53 | 39 | 46.0 | 50½ | 49 | E. | |
| Tues. 3 | 1 | 29.894 | 29.806 | 62 | 37 | 49.5 | 50 | 49 | E. | |
| Wed. 4 | 2 | 29.783 | 29.712 | 60 | 30 | 45.0 | 50½ | 49 | N.E. | |
| Thurs. 5 | 3 | 29.952 | 29.858 | 62 | 26 | 44.0 | 51 | 49 | N.E. | |
| Average | | 29.851 | 29.777 | 58.1 | 35.7 | 46.9 | 50.8 | 49.0 | | |

April 29—Light clouds, and fine; overcast at night.
— 30—Hazy; rain; overcast.
May 1—Overcast; fine throughout.
— 2—Cloudy and cold, with brisk easterly wind; overcast.
— 3—Overcast; fine; clear and cold at night.
— 4—Cloudy and cold; fine but cold; frosty.
— 5—Clear, cold, and dry; fine; clear, frosty at night.
Mean temperature of the week, 3½ deg. below the average.

RECORD OF THE WEATHER AT CHISWICK,
During the last 33 years, for the ensuing Week, ending May 14, 1859.

| May. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday 8.. | 61.4 | 39.7 | 50.6 | 13 | 0.62 in. | 1 | 5 | 7 | — | 5 | 5 | 1 | — |
| Mon. 9.. | 61.6 | 40.2 | 50.9 | 13 | 0.60 | 3 | 8 | 6 | 1 | 4 | 9 | 2 | — |
| Tues. 10.. | 62.0 | 39.8 | 50.9 | 13 | 0.10 | 4 | 6 | 6 | 1 | 2 | 7 | 3 | — |
| Wed. 11.. | 62.7 | 40.3 | 51.5 | 12 | 0.36 | 6 | 7 | 4 | 1 | 5 | 5 | 2 | — |
| Thurs. 12 | 63.5 | 41.2 | 52.3 | 15 | 0.70 | 5 | 7 | 8 | 1 | 4 | 3 | 1 | — |
| Friday 13.. | 63.6 | 39.7 | 51.6 | 16 | 1.10 | 3 | 8 | 4 | 2 | 3 | 7 | 3 | — |
| Satur 14.. | 63.3 | 40.9 | 52.1 | 13 | 0.66 | 3 | 7 | 7 | 1 | 4 | 6 | 4 | — |

The highest temperature during the above period occurred on the 12th, 1833—therm. 81 deg.; and the lowest on the 8th, 1855—therm. 21 deg.

## Notices to Correspondents.

Books: *W B J.* We are not acquainted with any work entitled "Book of the Orchard." Mr. George Lindley's Guide to the Orchard and Kitchen Garden is not out of print.—*A Young Gardener* who wishes to learn the names of plants in general should begin by studying the rudiments of classification which he will find explained in Prof. Lindley's School Botany. He will thus become acquainted with common plants and their names. When he has made himself master of that subject we will advise him further. If he now wants a Catalogue of the names of plants he should procure London's Hortus Britannicus, or Donn's Catalogue, the last edition.—*T H.* For the ordinary operations in forestry we prefer Brown's "Forester." But he says nothing about raising seedlings, probably because he thinks it a simple sort of work which every gardener understands, or should understand without book-teaching.—*Ghent.* You do not understand us English. If such books are not noticed by journals of high standing it is because they are beneath contempt. They only circulate among ladies' maids and petty tradesmen, who are too ignorant to distinguish sense from nonsense.

Cucumber Growing: *Novice.* You seem to be going on as well as possible; if you can maintain your night temperature at 55° it is enough. Would it not be better to cover your pit at night with mats, in case of need, rather than make an addition to your heating power?

Habitats: *A Subscriber.* Lælia purpurata and grandis come from Brazil; Chysis Limminghi from Central America. Saccolabium curvifolium and Cypripedium villosum from Continental India. We do not know such a plant as Lælia elegans.

Insects: *A R.* Your quill, enclosing an insect which had attacked your bulbs, got smashed in the post and the insect escaped. *W.*

Manures: *Messrs. Dely & Dawes.* We must decline making experiments upon what are called new manures.

Mildewed Vinery: *J B.* If all your leaves are like that which you have sent you can have no fruit fit to send to table. But we much doubt whether your enemy is mildew. All that you describe rather points to the roots being away from the surface in a cold bottom, and if so no amount of mere protection will enable the Vines to be in health. All the symptoms you describe are such as might be expected from roots that cannot act, if indeed you have any young roots. Look to it. We also suspect your means of ventilation are very insufficient; the drops you speak of point to that.

Names of Plants: We have been so often obliged to reluctantly decline naming heaps of dried or other plants, that we venture to request our correspondents to recollect that we never have or could have undertaken an unlimited duty of this kind. Young gardeners, to whom these remarks more especially apply, should bear in mind that, before applying to us for assistance, they should exhaust their other means of gaining information. We cannot save them the trouble of examining and thinking for themselves; nor would it be desirable if we could. All we can do is to *help* them—and that most willingly. It is now requested that, in future, not more than four plants may be sent us at one time.—*John Day.* After a careful examination of your flowers, &c., we have arrived at the conclusion that the Dendrobium is D. Falconeri as you have suspected. The flowers are smaller than usual, but they will probably be larger as the plants become stronger.—*A Y.* The Grass brought from Bombay is Eragrostis amabilis. We doubt whether it will grow in England in the open air. The variegated plant got from a London nursery where they could not tell you the name is the variegated Euonymus japonicus.—*H A.* 3, Asplenium flaccidum; 4, Pleopeltis pustulata; 5, Adiantum Cunninghami; or more properly. A. affine; 6, Hypolepis distans. Can you send us a small living piece of the last?—*J G, Clonmel.* Epimedium alpinum.—*B A.* Phlox stolonifera, a nice old-fashioned herbaceous plant now seldom seen.—*O P.* 1, Thomasia solanacea, not Lasiopetalum quercifolium; 2 seems to be a leaf of some pinnate Potentilla; 3 looks like a bit of Cupressus Goveniana; we have no recollection of what you sent before.—*Pitsford.* Cymbidium pendulum.

Peaches: *T K.* We will have woodcuts prepared and a translation made of the matter you mention.

The "New Zealand" Running Kidney Bean: *Fair Play.* This may be as good as you are told that it is; but we must have some proof that it is so. You have no personal knowledge upon the subject, and the statement of "the gentleman who knows for a certainty that it is a native of New Zealand," because somebody brought it thence, does not give us confidence in his recommendation. As to the Custard Marrow Gourd, since you "were the first to eat such vegetable in this country, now some 10 years ago when nothing but its abstract growth (what is that?) was known to its growers," we venture to inquire why you did not make its merits known?

Tulips: *Matcham.* The kind you have sent is the famous Rex Rubrorum, or King of the Reds, a magnificent kind, unequalled among the ornaments of this season. Its superb red double flowers have withstood perfectly every night frost, and now form, when the Tulip is planted in masses, a blaze of colour, which nothing can surpass.

*** As usual, many communications have been received too late, and others are detained till the necessary inquiries can be made. We must also beg the indulgence of those correspondents the insertion of whose contributions is still delayed

THE PATENT

# NITROPHOSPHATE OR BLOOD MANURE COMPANY (LIMITED),

CONSISTING OF TENANT FARMERS, OCCUPYING UPWARDS OF 30,000 ACRES OF LAND.

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**Offices, 109, Fenchurch Street, London.—Manufactory, Plaistow Marshes, Essex.**

The Directors beg to inform their Friends and the Agricultural Public that the following Manures are now ready:—

**ODAMS'S BLOOD MANURE FOR CORN AND MANGEL.**
**ODAMS'S BLOOD MANURE FOR ROOTS.**
**ODAMS'S SUPERPHOSPHATE OF LIME.**

Full particulars may be had at the Company's Offices, or of the local Agents.

ARTIFICIAL MANURES, &c.—Manufacturers and others engaged in making ARTIFICIAL MANURES may obtain every necessary instruction for their economical and efficient preparation, by applying to J. C. Nesbit, F.G.S., &c., Principal of the Agricultural and Chemical College, Kennington, London. Analyses of Soils, Guanos, Superphosphates of Lime, Coprolites, &c., and Assays of Gold, Silver, and other Minerals are executed with accuracy and despatch. Gentlemen desirous of receiving instruction in Chemical Analyses and Assaying, will find ample facility and accommodation at the College.

LONDON MANURE COMPANY, removed to 116, Fenchurch Street, E. C. (Established 1840), have the following MANURES ready for delivery:—

CORN MANURE for SPRING TOP-DRESSING
URATE
MANGEL MANURE
SUPERPHOSPHATE OF LIME
BLOOD MANURE
} all of guaranteed quality.

In consequence of the reduction in the price of raw material the London Manure Co. are enabled to lower the price of their Superphosphate of Lime, and to materially improve the Corn Manure and Urate.

The London Manure Co. also supply PERUVIAN GUANO (direct from Messrs. A. Gibbs and Sons), SULPHATE of AMMONIA, NITRATE OF SODA, CRUSHED BONES, and every other Manure of value. Wholesale dealers supplied.
116, Fenchurch Street, E C. Edward Purser, Secretary.

REDUCTION IN PRICE OF LAWES'S MANURES.

MR. LAWES begs to announce that he has this season reduced the price of the Manures manufactured by him, viz.:—

| | | | |
|---|---|---|---|
| TURNIP MANURE .. .. .. | from £7 | to £6 | 6 |
| SUPERPHOSPHATE OF LIME .. | „ 7 | to 6 | 6 |
| MINERAL do. .. | „ 6 | to 5 | 5 |
| BARLEY MANURE.. .. .. .. | .. | .. | 8 | 0 |

Prof. Way and Dr. Voelcker have sampled from a bulk of 5000 to 6000 tons at his factories, and their report and analyses are given in full in Circular to be obtained on application at his office, 1, Adelaide Place, London Bridge, E.C., or of his local Agents.

N.B. Genuine Peruvian Guano direct from Messrs Gibbs, Nitrate of Soda, Sulphate of Ammonia, and other Chemical Manures. American Cotton-seed Cake supplied.

ESTABLISHED 1812.

H. AND T. PROCTOR'S TURNIP MANURE.—Messrs. H. & T. P. draw particular attention to this valuable Manure, which contains all the elements necessary for the full development of the Turnip Crop, so combined, that, from their chemical knowledge and long experience, they feel satisfied is most advantageous to the consumer. It has been very extensively used by most of the eminent Agriculturists of the day, and has attained a high reputation throughout England, Scotland, and Wales, and, they venture to say, is unrivalled for the weight and quality of the Bulbs which it produces. The application of this Manure to the Turnips will be found to benefit considerably the after crops of Barley, Clover, and Wheat.

POTATO, GRASS, BARLEY, CLOVER, AND WHEAT MANURES; also BONE DUST, PERUVIAN GUANO, and SUPERPHOSPHATE of LIME, warranted of the best quality.

Apply to H. & T. Proctor, West of England Depôt for Artificial Manures, Cathay, Bristol; or Proctor & Ryland, Birmingham, and Saltney, near Chester.

BURNARD, LACK, AND CO.'S CONCENTRATED SUPERPHOSPHATE OF LIME; guaranteed to contain Phosphoric Acid soluble, equivalent to 40 per cent. of Tribasic Phosphate of Lime.

CONCENTRATED TURNIP MANURE, equal in value to the preceding.

Of these Manures Dr. Voelcker says:—"These results must be very gratifying to you, and are the best proof of the very high agricultural and commercial value which characterises your concentrated superphosphate."

Detailed analyses, with opinions of the late and present Chemists to the Royal Agricultural Society, with Testimonials, Prices, &c., may be had on application to Burnard, Lack, & Co., Sutton Road, Plymouth.

IMPORTANT TO FLORISTS AND GARDENERS.

DEALEY AND DAWES'S highly CONCENTRATED FERTILISING MANURE, manufactured expressly for Stove and Greenhouse Plants, Vegetables, Trees, &c.

Messrs. Dealey & Dawes draw particular attention to this valuable Manure, which they guarantee contains all the elements necessary for the development of Soft and Hard-wooded Plants, Vegetables, &c.

Retailed by most respectable Seedsmen, in 1 lb. packets, with full directions for use; and sold Wholesale at the Manufactory, in boxes containing 112 packets, also loose in boxes of 28 lbs. each. Samples and testimonials free by post on application.—Oldbury, near Birmingham.

MANURE FOR ROOT CROPS, of first-rate quality with Analysis guaranteed, manufactured by WILLIAMS & Co., 47, Mark Lane, London (Established 1847), at 6*l.* per ton, including bags. Free to Wharf or Rail in London. The Trade supplied.

ARTIFICIAL MANURES.

FREDERICK CORNWELL begs to inform his friends and the Agricultural public that he can now supply a "SUPERPHOSPHATE of LIME" superior to anything yet produced. Each Bag guaranteed to contain from 20 to 25 per cent. of "Soluble Phosphate of Lime." Price 5*l.* 10*s.* per ton, delivered free to any Railway or Wharf in London. Dealers and the trade supplied. LINSEED-CAKES, COTTON-CAKES, and all descriptions of ARTIFICIAL MANURES at lowest market prices.—Offices, 7, Great St. Helen's, London, E. C.

PERUVIAN GUANO.

The present price of this valuable Manure is—
12*l.* per Ton for 30 Tons and upwards,
13*l.* 5*s.* per Ton for 1 Ton up to 30 Tons.

And, to guard against the purchase of adulterated mixtures and of inferior Guanos purporting to produce results equal to Peruvian, consumers are recommended to apply either to ourselves, to our agents, Messrs. Gibbs, Bright, & Co., of Liverpool and Bristol, or to dealers of established character, in whose honesty and fair dealing they may place implicit confidence.

Antony Gibbs & Sons.

PRICES REDUCED.

H. J. MORTON AND CO., Galvanised Iron Works, 2, Basinghall Buildings, Leeds.

GALVANISED IRON ROOFING

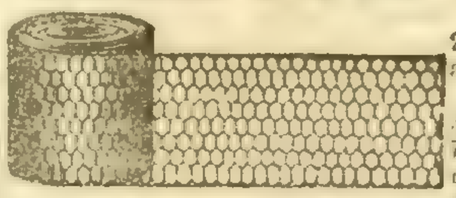
for Farm Buildings and other Roofs; the cheapest, most durable, and neatest Roofing in use; also Spouting at 10½*d.* per yard.

WIRE STRAND CABLE FENCING

(formed of Twisted Wires like a rope or cable), the strongest, cheapest, and neatest fence in use, will resist the largest cattle, and will not bend or get out of form by trespassing upon or over. Price, with five lines of the Galvanised Strand, iron main posts, and pronged Standards, 1*s.* 2½*d.* per yard.

This fence is far cheaper than posts and rails, or any kind of iron fencing; and possesses four times the strength of solid bars. Will not rust nor corrode. Upwards of 1200 miles of this Fencing supplied.

GALVANISED GAME AND POULTRY NETTING.



Galvanised, 24 ins. wide, 2-inch mesh, 5*d.*, 6*d.*, 7½*d.*, and 10*d* per yard.

Galvanised, 24 ins. wide, 1-inch mesh, 4*d.*, 5*d.*, and 7*d.* per yard. The Netting made any width, and with openings of any size.

GALVANISED IRON CHAIN CAMP STOOLS & CHAIRS, POULTRY FOUNTAINS & FEEDERS, PRONGED DAHLIA RODS AND ROSE STAKES, &c.

Strong CATTLE HURDLES from 2*s.* per yard.

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of all sizes for the use of Private Houses, Mansions, Railway Stations, Mills, Collieries, Mines, Villages, &c. Works from 10 to 500 lights estimated for. The works can be entrusted to an ordinary labourer.—Apply to

Henry J. Morton & Co. 2, Basinghall Buildings, Leeds.

"FRIGI DOMO."—Patronised by her Majesty, the Queen, the Duke of Northumberland for Syon House, His Grace the Duke of Devonshire for Chiswick Gardens, Professor Lindley for the Horticultural Society, Sir Joseph Paxton for the Crystal Palace, Royal Zoological Society, late Mrs. Lawrence of Ealing Park, and — Collier, Esq., of Dartford.

PROTECTION FROM COLD WINDS AND MORNING FROSTS.

"FRIGI DOMO," a Canvas made of patent prepared Hair and Wool, a perfect non-conductor of Heat and Cold, keeping, wherever it is applied, a fixed temperature. It is adapted for all horticultural and floricultural purposes, for preserving Fruits and Flowers from the scorching rays of the sun, from wind, from attacks of insects, and from morning frosts. To be had in any required lengths. Two yards wide, 1*s.* 6*d.* per yard run; four, 3*s* per yard. Also, an improved make for Shading Purposes. Three yards wide, 2*s.* 6*d.* per yard run.

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AGRICULTURAL MACHINERY.

E. R. AND F. TURNER, Ipswich, manufacture Prize Mills for Crushing Corn, Seed, Malt, &c; Portable Grinding Mills, Steam Engines fixed and portable from 2 horse-power and upwards; Threshing Machines, Chaff Cutter, Oilcake Breakers, Horse Gears, Saw Tables, &c., all of a superior description and adapted for Home, Colonial, and Foreign use. Illustrated Price Lists sent free on application.

SIGMA'S BEAN, MANGEL, & CORN PLANTERS (5 Depositors), HOES, &c. The "Multum in Parvo," combining Cultivator, Horse Hoe, Ridge Plough, Subsoiler, Broadshare, and other forms; all expanding. Complete, 7*l.* 7*s.* Prospectus sent.—C. Powell, Hurstgreen, Sussex.

SPEED AND ECONOMY for Farmers, Gentlemen, and Market Gardeners, in the use of HOARE'S REGISTERED HAND SEED PLANTING MACHINE, which from its capabilities, combined with strength, lightness, and simplicity, places it beyond a parallel. Its operative powers in planting the seeds of Mangel, Carrot, Turnip, Parsnip, and all small seeds in patches of equal depth and different distances, from 6, 7, 12, 14, 18, 21, 24, to 28 inches apart, raising and rolling complete, render it an invaluable invention. It will act as a drill when required. Price 5*l.* 15*s.*

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TO AMATEUR GARDENERS, NURSERYMEN, AGRICULTURISTS, AND OTHERS.

GUTTA PERCHA TUBING FOR WATERING GARDENS, from 2½*d.* per foot; Vulcanised India Rubber Tubing for Watering Gardens, from 4*d.* per foot; Brass Hand Branches, with Stopcock and Rose, and every description of Garden Tubing Fittings, sold Wholesale and Retail by W. R. Woods, 94, Goswell Road, near the "Angel," Islington, London, E.C. Priced Lists can be had on application.
Please notice the Address—94, Goswell Road.

FLEMING'S SALTING MACHINE FOR DESTROYING WEEDS ON GRAVEL WALKS, &c.—This most useful Machine has given the greatest satisfaction wherever it has been introduced; it is the only effectual means of keeping Drives and Walks completely clear of Weeds.

Extract from article "Trentham" in *Gardeners' Chronicle* of January 22.

"And I would observe in passing from these grounds that the whole of the Grass and Gravel are kept in the most perfect order by the aid of Machinery; the former by a Horse Machine wherever it can be worked, a small hand instrument being used in places of difficult access; the latter is kept in order by a Salting Machine, the invention of Mr. Fleming, and judging from the beautiful condition of the Gravel in every direction, I should say that it was altogether most efficient."

(The Mowing Machines here referred to are Shanks's).

From the *Field* of April 2.

"The Salting Machine will effectually destroy the Weeds on Gravel Walks and Drives."

Testimonials, with full particulars and prices, may be had on application to Alexander Shanks & Son, Dens Iron Works, Arbroath, Patentees of Improved Mowing, Rolling, Collecting and Delivering Machine for Lawns, Hot-water Apparatus Manufacturers, &c.

THE GENERAL LAND DRAINAGE AND IMPROVEMENT COMPANY: Offices, 52, Parliament Street.

Henry Ker Seymer, Esq., M.P., Chairman.

1. This Company is incorporated by Act of Parliament to facilitate the Drainage of Land, the Making of Roads, the Erection of Farm Houses, Farm Buildings, and Labourers' Cottages, and other Improvements on all descriptions of Property, whether held in fee, or under entail, mortgage, in trust, or as ecclesiastical or Collegiate Property.

2. In no case is any investigation of Title necessary.

3. The Works may be designed and executed by the Landowner or his Agents, or the Company will undertake the entire improvement by their experienced staff, and advance the money required for the works. Equal facilities will be afforded in either case.

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6. No profit is taken on any Works executed by the Company, the actual expenditure only, approved by the Inclosure Commissioners, being charged in all cases.

William Clifford, Secretary.

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Analyses and Assays of every description are promptly and accurately executed at the College. The terms and other particulars may be had on application to the Principal.



# The Agricultural Gazette.

*SATURDAY, MAY* 7, 1859.


MEETINGS FOR THE ENSUING WEEK.

Wednesday, May 11—Agri. Society of England .. Noon.

—— An almost unparallelled rise in the value of Wheat has of course created great excitement in all the corn markets of the country. Wheats worth barely 45*s.* per quarter a month ago have been sold for 68*s.* and 70*s.* during the past week—a difference this, enough on many a farm to pay the rent. More than 3*s.* per cental—let us quote the only intelligible market report of the country—has been added to the current value of all our bread corn, and all other kinds of grain have been, if not proportionably, largely enhanced in price. That the previous probability of war should not before, to a great extent, have discounted the effect of its actual proclamation, is exceedingly remarkable—proving how great an influence is exerted by a knowledge of facts as compared with a knowledge of mere risk and likelihood. The

publication of the agricultural statistics of this country, and an accurate knowledge of its last year's agricultural produce would not have hindered this sudden rise in price, though, now that we are likely to be more dependent on our home supply, it would at any rate have proved a guidance to us through the present excitement in the market. There is however one illustration, though it be of a self-evident truth, which may be drawn as perfectly from the history of the recent rise of price as it is from all other sudden changes in the market. Knowledge of our actual circumstances is better than ignorance of them, and whether it be by a sudden failure of foreign sources of supply, which could not have been foreseen, or by a sudden revelation of deficiency at home, which ought never to take any one by surprise, we are taught in the market reports from day to day how great is the importance to the country of a knowledge of the truth on such a subject as its food supply, if it can anyhow be ascertained.

—— At a time when getting in the Mangel Wurzel crop is one of the chief occupations of the arable farmer in most of our English counties, we may usefully call attention to the need of a largely extended growth of this root as compared with the Swedish or common Turnip. The difficulties which are increasing in the way of these latter crops, whether they be constitutional and resident in the plant itself, or external and attributable to deficiencies in the soil or to the virulence of insect attacks, seem as likely to drive the farmer to a substitute as the merits of the Mangel Wurzel as that substitute are to draw him. A crop of 30 tons, which is more easily obtained than another is of 20—which is as useful for either cattle food or sheep, and which remains good for 10 months after harvesting, while that other spoils in four or five, ought surely to command a more rapidly increasing cultivation than judging from localities known to us it seems to be obtaining. No doubt the difficulty in its way is the need of a somewhat more liberal manuring, if the subsequent crop of corn is not to suffer from its removal from the land. But it would be better to apply all the farm manure that may be fit in April to the growth of Mangel Wurzel, and depend entirely on superphosphate for the Turnip crop, rather than run the risk as Turnip cultivators in the south and midland counties always do of losing the root crop altogether, however liberal the dressing from the dung cart.

Another difficulty in the way of an extended growth of Mangel Wurzel is the labour and the risk of securing it through winter. The harvesting of this crop is no doubt an addition to the labour-bill of October and November—but it is a most profitable outlay considering what security it affords all feeders and breeders of stock of ample stores of food in spring and early summer. There is no root more easily kept from frost than Mangel Wurzel. Lay them in heaps, however large, and cover up the sides, leaving the tops exposed or barely covered with a little straw for a month after piling them together, and a very slight covering over all will then serve as a protection all the winter. We are informed that in those districts on the continent where Beet is collected in quantity for the distilleries, enormous quantities are piled together 6 and 7 feet high—the sides only being covered well from the frost—and a very slight sprinkling of straw at top is all that is depended on for safety from the severity of a German winter. If a thicker covering is used the roots are less likely to remain uninjured.

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A CIRCULAR has been issued by Mr. MECHI with reference to the establishment of a benevolent agricultural college, seeking encouragement and promises of support. A list of names, headed by Lord RAYLEIGH, is published as sanctioning the undertaking, and under the energetic management of the warm-hearted man who has initiated it, we do not doubt of its success. The following is Mr. MECHI's address:—

"In a country like England, teeming with philanthropy, and exhibiting such evidence of her greatness in the profusion of her charity, where science, the arts, commerce in all its extended ramifications, the church, the naval and military professions can each point with pride to its palatial asylum, erected and supported by the bounty of those whose hearts and purses are ever open to assuage and relieve the wants and necessities of their suffering fellow-creatures; where, by their charity, the infant is nurtured, the orphan clothed and educated, the invalid relieved and cared for, and the aged, whose only sin was poverty, and whose only crime was misfortune, is enabled to end his days in comfort. While in this holy cause millions are annually dispensed, wide-spread through every class and creed, agriculture, employing the largest invested capital, representing as she does the most important interest of the country, stands out—made as it were more conspicuous by its very absence—unrepresented, unable in such a glorious list to point to any refuge for the unfortunate British farmer, to any asylum where his orphan can find a home, or his widow a resting-place. To remove this blot from the agricultural escutcheon is my object in addressing you. Why should agriculture, when a whole nation is brimful with charity, be in the rear of good works? Why should not we, as agriculturists, have our college for the reception of those of our poorer and less fortunate brethren, and our school where the poor orphan can be fed, clothed, and educated? Such not only can, but must be done, if we are to maintain our position as an enlightened and advancing section of the community. If we reflect for one moment, wherein can we discover a reason why the plodding and industrious farmer should be specially screened from the frowns of fortune, or those vicissitudes which are the painful lot of every other class? Why should he expect to be exempt from that stern misfortune and bitter poverty which we see so frequently too painfully illustrated in every other department of daily life? None can say that his risks are less frequent, or his chances of success more certain. Why, then, should he in his suffering and his tribulation be shut out and excluded from the enjoyment of that support and sympathy which are diffused so profusely throughout the length and breadth of the land, for the benefit and solace of every suffering class but his own? Let us remove this reproach. Let us assume that place in so noble and charitable a list, which the influence and the dignity of agriculture demand, and I am assured the bare mention of such a project for the amelioration and relief of those who, while suffering, complain not, will speedily realise such a happy and much-needed consummation. Towards the fulfilment of such an object I have received promises of hearty and zealous support from some of the leading agriculturists and implement manufacturers in the kingdom, who most cordially sympathise with the suggestion, and I now solicit from you a promise of support and assistance.

"As soon as sufficient replies are received, a public meeting will be held, a committee appointed, and then I have good reason for hoping to secure the recognition and the patronage of the consort of our much-loved Queen."

Mr. MECHI's benevolent object needs no words from us to commend it to the good will of agriculturists and their friends. We therefore only add that any who are disposed to join the movement should address themselves to him at Tiptree Hall, Kelvedon, Essex.

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## SUBTERRANEAN WATER.

(*Concluded from p. 393.*)

IN the year 1840 I designated this inclined line the "water level;" objections have been taken to this term; my answer is, give me a better term and I will use it. This law regulates the discharge of all subterraneous water, the surface of which is never level. Innumerable proofs could be brought forward to show the value of this provision of nature as applied to drainage on a large scale. If the waters in the earth were not so retarded in their exit, springs would fail when their waters are most wanted, and our rivers would be like mountain torrents, and cease to be perennial, because their waters would be exhausted before the replenishment could take place.

The actual inclination of the water level is best ascertained by the measurement of wells; the level at which water will be found may in many cases be calculated to the greatest nicety, not only where water is found in porous strata, but those cases in which it arises in artesian wells through impermeable strata overlying those in which the water is found. There is another proof of the inclined water line in the occasional bursting of brooks or bourns at high levels, especially in chalk districts. Though many strange theories have been started, such as subterraneous syphons, &c., it will be found on ascertaining the relative levels that these bourns burst out where the surface of the soil falls below the line of the angle at which the water line rises from its vent or out-fall. This is the case at Lambourne in Berkshire, Assenden in this county, and in many other places; and, morever, the bursting of these bourns may be predicted by noting the rise of wells even at a distance, and by the records of the rain gauge.

I have spoken of the condition under which water is found in the earth on a large scale. The same will be the case on a small scale. Subterraneous beds of water are found in chalk, some oolite rocks, large sand strata, &c.; gravels overlying clays also contain beds of water. As the exit of water from the larger strata are called main springs, so the issue of water from small or isolated patches of sand or gravel are called land springs, the one is only a smaller form of the other. It is obvious that if artificial vents are made in any stratum containing water, the water level will adjust itself to them: if they are made at lower levels than the natural springs, those springs will cease to flow. I have spoken generally of the natural adjustment of water in the earth. A few words as to the variation in level at various seasons: we may speak of them generally as seasons of exhaustion and replenishment; when replenishment by rainfall takes place the level will gradually rise in a greater proportion as the distance from the vent or outfall increases; this is marked by a very remarkable regularity; the same process will take place even with more regularity during the exhaustion, so that after some years' experience, a line of wells periodically measured would show with the greatest accuracy the quantity of water in the stratum, and the probable amount to be delivered by springs and rivers. My own opinion is, that no instrument could be so accurately constructed as to give the results that might be obtained by this simple method.

I observed that the same law that rules the discharge of subterraneous water on a large scale will also regulate the discharge of water from soils by artificial drainage. In 1845 I wrote a short paper, which appeared in the "Royal Agricultural Journal," vol. vi., part 2, on the theory of deep draining; in describing the way in which the water enters, and is discharged from the soil, I said—"In flat unbroken ground (speaking of ordinary clay soils), as the soil is saturated with the rain, the water will rise gradually on a level throughout; should there be any depression in the surface it will form pools, the level of whose surface will coincide with the subterranean level. If a drain be dug, the level will assume an inclination to that drain, the angle at which it declines being greater or less in proportion as the soil is pervious to or retentive of water: thus the inclination will represent the amount of friction or resistance which the water encounters in its passage through the soil," and it is with reference to this angle of inclination that all draining operations must be conducted, and the width between and the depth of drains determined. The practice of ridging land is but to place a portion of the soil above the subterranean level, which shows itself above ground at every furrow; the difference between the partially drained ridge and the undrained furrow is too well known to need any comment. My object, in the remainder of the paper, was to show the superior efficacy of deep over shallow drains, at a time when the point had not been decided in favour of the former; my argument was founded on the theory of the declining water line. There is another condition of soil very frequently found in this neighbourhood which ought to be noticed. There are three extensive beds or strata of clay to the north of the Chalk or Chiltern Hills, which form a large portion of the counties of Berks, Oxford, and Buckingham—they are known as the Gault, Kimmeridge, and Oxford clays, and alternate with the lower green sand and oolitic strata. In many parts, as here in Oxford and its neighbourhood, these clays are covered with a drift or gravel, which contains water, and consequently requires to be drained. It is found that the surface of these clays undulates in certain directions; hence if drains be cut the lengthway of these undulations the water is stanked back by the ridge on either side, so that even a deep drain will draw only a short distance, whereas if the drain be cut across the undulations, the water flows freely down these subterranean furrows, so that one drain will be more effectual than many in the opposite direction.

The late Mr. Joshua Trimmer, a well-known geologist, conceived that this undulating condition of the surface of clays was so universal that all drainage operations should have reference to it, and a system of drainage, known as the Keythorpe system, was recommended by him as fitted for universal application; as far as my own experience and observation goes it cannot be so supplied; he was quite right in recommending that the draining conditions of the soil should be tested by experimental drains and trial holes, but there is no reason to believe that in clay soils, except when covered by beds of drift or gravel, there is any reason for cutting drains in any direction, except that favourable to secure the best outfall for the water. In speaking of the escape of subterraneous water, there is another point to be borne in mind, namely, evaporation from the surface. Every observer cannot, I think, fail to be struck with the rapidity with which clay soils part with their free water by evaporation; this does not at all prove that drainage is unnecessary; some persons may doubt this rapidity, but let them examine the most tenacious soils, say the end of May, and judge for themselves. How is it that the soil, saturated with water in March, contains none in June; it may be said by evaporation; evaporation extends but a very small depth into the earth; the reason I believe to be that the water rises by capillary attraction to replace that evaporated from the surface. The whole process of the dessiccation of the soil is usually attributed to evaporation; what I contend for is that evaporation is fed by capillary attraction. I notice this because it has been stated that one of the evils of undrained soils is the coldness caused by evaporation, but carefully conducted experiments have shown that often at the season of the greatest evaporation the drained soil is colder than the undrained, the fact really being that evaporation never reaches those depths where the thermometers are placed 18 inches or 2 feet beneath the surface. The real mischief of undrained land to the growth and maturity of plants is the presence of free water in the soil. There is a fact proving the action of capillary attraction, as ministering to evaporation, which I have never yet seen noticed, and which I mention rather as a subject for thought than information, namely, that water rising by capillary attraction brings again to the surface those substances which have been carried down in solution by the descending water; this may be proved by the simple experiment of placing a piece of earth on the surface of water containing carbonate of lime, such as ordinary spring water, and may be seen in nature during the heat of summer, by a white deposit on the surface of the soil.

## Home Correspondence.

*Twitch.*—I have more than once committed the error of ploughing too deep to get rid of this pest, my idea being that I would bottom it, and so even if extra labour was required I would clear it all out, but in practice I found that my men knew better than I did, for unless you can move the whole of the till (after ploughing) with the "scuffler" "grubber" or great harrow, there would be deposited enough Twitch to renew one's labour another year. So I now plough at a moderate depth and scuffle immediately, then ditto crossways, followed by a great harrow, then a pair of harrows, and lastly a set of light harrows. If the weather and other work will permit these operations to be completed, all the Twitch that has been distributed will be seen on the land, and can be raked and picked. After gathering all we can, it is advisable to let one or two children follow each plough, and if such a process should be persisted in two or three seasons, the Twitch will be no more trouble than any other common weed; if neglected, and Clover or seeds follow the corn without getting the Twitch out, it will multiply incredibly and seriously deteriorate the soil, besides seeding, and providing a succession that will every year add to the difficulty of subduing it. Twitch is an assiduous enemy, with which we should wage constant war; we must make no terms with it, or it will plunder us; we must banish it from our fields or it will disgrace us. Twitch, Hairiff, Docks, and Thistles fly before good farming, but with bad farming they flourish and supersede corn; they add to the cost of cultivation, while the produce is diminished. *J. W., Peterborough.*

*Couch Grass: Autumn Culture.*—In answer to "W. H. S." I beg leave to say if he will direct his bailiff directly the corn is cut to put four horses abreast on to one of Coleman's scarifiers, and break up the stubble, no matter how Grassy or foul, four horses will do 4 acres in eight hours. It must then be well harrowed, the stubble and Twitch collected with one of Howard's horse-rakes into rows, then carted home into the yard to make a bottom for the manure from the stables; the pigs to be allowed to run on it, no matter how full of seeds. When it has laid all winter in the bottom of the yard there will be plenty of time for all kinds of seeds to swell, and after it has been thrown up into a hill in the field requiring it, it will undergo such a fermentation that no Twitch or seeds of any kind can possibly grow. I would then advise, if you have nothing better to do, to put your dung on the land; the carts will run on nicely now the land is firm and dry. You can then strike or plough the dung in at your leisure, any time before Christmas. In the spring, when the land is dry and will bear the horses well, give it another turn with the Coleman, and then harrow it again. The Twitch will not die as fast in the spring as autumn, so that you had better pick it off. By this time your land will be as clean as a garden; if not, you must scarify it until it is. The time to kill Twitch is when the sun shines. Your land is now ready for Wurzel or Swedes. There is nothing to do but drill plenty of seed and good, say 8 lbs. Wurzel and 3 or 4 lbs. Swede to the acre. You are sure of a plant, as the land will be full of moisture. No matter how dry the weather, but don't sow in wet; if you do the chances are that you have it dry when the plant has its rough leaves coming. Rainy weather soon makes them fit for the hoe. Now let us have a look at the expense. The following is an estimate of the expense of making a thorough good job and a clean one. There will be no weeds among the Turnips or Wurzel, but nevertheless, as soon as the crop is visible, put the horse-hoe to work, and don't let it stand still until the crop is too big to get cut, and then we will be sure to have one.

| | s. | d. |
|---|---|---|
| 1 scarifying .. .. .. .. .. .. | 2 | 6 |
| 2 heavy harrowings .. .. .. .. .. | 2 | 0 |
| 1 light ditto .. .. .. .. .. .. | 0 | 6 |
| 1 raking .. .. .. .. .. .. .. | 0 | 4 |
| Clearing and carting stubble into yards .. .. | 3 | 0 |
| 1 striking, three horses .. .. .. .. | 9 | 0 |
| 1 scarifying in spring .. .. .. .. | 2 | 6 |
| 1 heavy harrowing .. .. .. .. .. | 1 | 0 |
| 1 light ditto .. .. .. .. .. .. | 0 | 6 |
| | £1 | 1 4 |

Carting manure the same expense as heretofore.

Now pay attention if by any chance you see a piece of Twitch in the land after this; leave your hat to mark the place, as this is your *game;* and send your bailiff with a fork to take it up, and then cook it! *Charles Bates, Stanford-le-Hope, Essex.* [Mr. Bates's figures are too low.]

*Veterinary Surgeon.*—I shall feel obliged if you will inform me through the *Gazette* what is the best course to secure a clever veterinary surgeon for this neighbourhood. There is not one within 10 miles who can be relied upon. The man we have is rarely sober, and at the best ignorant, and from the conversation I have had with gentlemen and large farmers, I feel confident that a persevering man would be able to employ one, if not two assistants. This is both a manufacturing and agricultural district, and very populous, and is an opportunity which rarely occurs without purchase. *J. G., Yorkshire.* [You should apply to Professor Spooner, Dick, or Gamgee, at the London, the Old and the New Edinburgh Veterinary colleges respectively.]

## Societies.

ROYAL AGRICULTURAL OF ENGLAND.

MONTHLY COUNCIL: *Wednesday, May 4.*—His Grace the Duke of Marlborough, President, in the chair.

FINANCES.—Mr. Raymond Barker, chairman of the Finance Committee, presented the report on the accounts of the Society, by which it appeared that the current cash balance in the hands of the bankers was 1583*l.* 1*s.* 8*d.*

COUNTRY MEETING OF 1860.—The report of the Inspection Committee having been read and deputations received from Canterbury, Croydon, Guildford, and Reigate, the Council decided that the Country Meeting in 1860 should be held at Canterbury, on condition that the Mayor of that city entered into the usual agreement with the Secretary of the Society by the next Monthly Council on the 1st of June. These deputations consisted of the following members:—

*Croydon Deputation.*—Thomas Byron, Esq., President of the East Surrey Agricultural Society; Thomas Kemp, Esq; Richard Northey, Esq; John Wm. Sutherland, Esq.; The Rev. E. F. Bryron; Wm. Goldsmith, Esq; Thomas Farley, Esq.; Wm. Castledine, Esq.; Mr. John Wood.—H. Richards, Hon Sec.

*Canterbury Deputation.*—Lord Sondes; Sir Walter James, Bart.; Sir Norton Knatchbull, Bart.; William Deedes, Esq., M.P; Sir Brook W. Bridges, Bart, M.P.; Hon. B. Johnstone, M.P.; E. H. Knatchbull Hugesson, M.P.; the Mayor of Canterbury; the ex Mayor of Canterbury; Major Munn; S. M. Hilton, Esq.; Robert Lake, Esq.; Thomas Cooper, Esq.; Thomas Philpott.

*Reigate Deputation.*—J. C. Sherrard, of Kinnersley; J. G. Marriage, Nutfield; F. Mellersh, Reigate; C. Goldsmith, ditto; J. Lees, ditto; C. W. Eborall, Manager of South Eastern Railway.

*Guildford Deputation.*—Earl of Lovelace (Lord Lieutenant of Surrey), Mr Drummond, M.P., Mr. H. Currie, Mr. Coussmaker, Mr. Elkins, Mr. Finney, Mr. Smallpiece, Mr. Scott.

AGRICULTURAL CHEMISTRY.—Mr. Wren Hoskyns, chairman of the Chemical Committee, presented the report recommending that the wording of the rule regulating the members' privilege of analysis be altered so as to meet the intention of the Council—viz., so as to exclude all but analyses "required for the *bonâ fide* personal use of farmers." The following subjects of investigation by the Society's Consulting Chemist were recommended:—

1. The changes that take place in liquid manure in passing through different soils.
2. Experiments on top-dressings for Wheat and Barley.
3. The continuation of his experiments on the nature and physiology of cultivated Turnips.
4. The different modes of applying manure in autumn and in spring.

HOUSE COMMITTEE.—Mr. Raymond Barker, chairman of the House Committee, presented the report as to the repairs required in the drainage of the house.

WARWICK MEETING.—Lord Leigh, vice-chairman of the General Warwick Committee, reported the following recommendation of the Committee—

1. That Mr. Bishop, of the Regent Hotel, Leamington, should supply the first class refreshments for the public in the show yard; and that Mr. Cole, of the Horse and Hounds Inn, Warwick, should supply the second class refreshments, subject to arrangements with the honorary Director of the Show.
2. That the date of entry for cheese, wool, and farm gates (being local prizes), be extended to the 1st of June, in compliance with the request of the local committee at Warwick.

The Committee further reported the arrangements that had been made for the supply of green fodder for the live stock, and the commencement of the show yard by the Society's contractor.

STEWARD OF IMPLEMENTS.—On the motion of Mr. Torr, seconded by Mr. John Hudson (of Castleacre), Mr. Edward Pope was elected one of the Stewards of Implements, in the place of Lieut.-Colonel Towneley, who had conveyed to the Council his regret that he would not be able to act in consequence of absence from England.

STEWARD OF LIVE STOCK.—On the motion of Mr. Brandreth Gibbs, seconded by Mr. George Turner, Mr. Fisher Hobbs was elected to that office.

COUNTRY MEETING OF 1861.—On the motion of Mr. Brandreth Gibbs, a communication from the Secretary of the Crystal Palace, inquiring relative to the Society's proposed Metropolitan Meeting in the year 1861, was referred to the "Metropolitan Sites Committee."

HOUSE LIST.—Agreeably with the Bye-laws, the Council arranged by ballot an election list, to be recommended by them for adoption at the ensuing General Meeting.

The Council then adjourned to its Weekly Meeting on the 11th inst.

## Farmers' Clubs.

LONDON: *May 2.—The Advantages of Steam in Agriculture.*—The following is the greater portion of the paper read by Mr. Alderman Mechi:—

While the agricultural community is congratulating itself on its rapid progress, and while our talented friend Monsieur de la Tréhonnais is holding us up to his countrymen in France as models of agricultural progress, your humble servant is lamenting our agricultural backwardness and imperfection. This discrepancy of sentiment may be readily accounted for. They compare the present with the past. With them the extensive back-ground of non-improvement throws up in pleasant relief the bright spots of progress. With them the exceptions excuse the rule. With me they do but condemn it, and point to its amendment. We may admit that much of our light and self-drained land is very much improved, and in many districts very highly farmed; but that extensive portion of our island called cold, stiff, tenacious clay, 15-16ths of which are still undrained, is to my certain knowledge in a most unsatisfactory and unprofitable condition, as regards the interests of landlord, tenant, and the country at large.

Now, it is in my opinion precisely these soils which, when improved, are the most dependable for a result, containing, as they do, an undeveloped treasure of ammoniacal and phosphatic fertility. Those gifts have not yet been availed of, and it is steam cultivation alone, after drainage, that can place those subterranean treasures at our disposal. My observation of the present cultivation of our stiff clays would give an average depth of about 4 to 5 inches—all below this may be considered an unknown and unimproved territory. It is true that after drainage the filtration or percolation of water and manure will gradually and certainly aerate and improve the subsoil, but the process is too slow for these quick-moving times. You want rapidly to dry these dead and saturated masses by atmospheric exposure. The dense and closely packed mass of infinitesimal granules must be separated by pulverisation, so that the millions of almost imperceptible tubes may introduce themselves without difficulty to the hitherto unapproachable but fertilising ingredients of the subsoil. Liebig, and our other great chemical lights, have proved to us that every breath of air that passes over newly exposed clay abstracts from it its moisture, and in exchange blesses it with ammoniacal and fertilising gases. As you follow the steam cultivator on a dry day instantaneous exhalations strike your nostrils, and convince you that the earth is a great apothecary's shop full of chemical compounds. The rough and lightly laid fallow absorbs the fructifying sunbeams, and imparts to the air in contact with it an expansive heat, which causes it to rise in wavy playfulness in its struggle through the superincumbent but colder atmosphere. The rusty-looking iron of our so-called poor clay subsoils makes greedy claim upon the passing ammonia. A volume might be written by our chemists upon the advantages of evaporation, percolation, dews, frosts, fogs, and sunshine. Jethro Tull was the prince of cultivators, but the want of artificial drainage defeated all his calculations. The Rev. Mr. Smith, of Lois-Weedon, is the great Jethro Tull of the present day. Fifteen years ago I was convinced that on our stiff yellow clays cultivation was more important than manure: acting on that conviction, after I had drained my land, I broke it up with three horses, six other horses following in the same track, with Smith of Deanston's great subsoil plough. Our labourers called it a little earthquake, and my crops have never forgotten it; but for all that I saw how costly was horse-power when deep cultivation was attempted, and how necessary it was that we should apply steam to get a yard deep of cultivation, instead of 10 or 12 inches.

*Agricultural Doubts about Steam.*—I confess I was very much astonished that our progressive friend, Mr. R. Smith, in his recent lecture to this Club on agricultural progress, should describe steam culture as "yet a venture." I consider steam cultivation an accomplished fact: profitably accomplished, and therefore practically attained.

It is impossible to deny with truthfulness that both Mr. Fowler's and Mr. Smith's plans are practically proven and sealed with the stamp of superiority over horse power, both in cost and effect, by the award and medal of the Royal Agricultural Society of England. For my own observation of both these plans, I am sure it will pay to use them. Had I not my fixed steam engine I should at once adopt the practice, although my land has all been already very deeply disturbed, but I suppose I must hire a portable engine. *As a proof of the advantages of steam cultivation,* let me mention the following fact: at my great gathering, in July, 1856, Mr. Fowler's steam plough, with the subsoiler attached, cultivated two stetches of Clover lea, being part of a field on which Wheat was to be sown in October. Although that field had been formerly subsoiled, and forked by manual labour, Fowler's subsoil brought up and exposed to view some undisturbed nasty ochrey and rusty subsoil. Some of our agricultural friends would shrug their shoulders and say nothing would grow on it, but mark the result. In October or November the Wheat was duly drilled over the whole field; as soon as it came up, and in every stage of its growth, these two stetches showed their superiority. After harvest the field was all manured and dug with the fork, and produced a fine crop of Mangel in 1858. It is now (April, 1859) in Wheat again, and in this early stage of growth, the two stetches—steam-ploughed in 1856—still show a superiority! My men called my attention to this only on Saturday last. But who can seriously doubt the benefits of deep cultivation on strong clays after drainage? After the recent showers, I could see the deeply-moved soil, over drains, showing light-coloured and dry, whilst the intermediate spaces were dark and damp. It was deep cultivation that did this, producing facile aëration, powerful capillarity, and rapid evaporation. It proves that a yard or 4 feet deep of cultivation is not a bit too deep; and when I remember that at my friend Dixon's, near Witham, a Parsnip was pulled up whose roots were 13 feet 6 inches long, and then broke off, I seriously believe that we have no present idea as to what depth of cultivation and drainage we shall ultimately arrive at with steam power. Why did that Parsnip go so deep? Because the earth had all been moved to the depth of 14 feet. It had been a brick-earth pit, filled up with soil from the adjoining land, when it was necessary to open a new pit; air and water had circulated freely to the depth of 14 feet. It is not what an operation costs, but what profit it pays, that must guide us. The shilling flail is superseded by one that costs 300*l.*, as a matter of economy and profit. Who is to say that we shall not have scarifiers or grubbers whose tines will gradually go 4, 5, or 6 feet deep, drawn by a 100 horse-power engine? Am I visionary in anticipating such a result? Is it more astounding than Fowler's draining-plough, drawing, as it were by magic, its lines of pipes, like ropes of sausages, deep into the bowels of the most obstinate clays? And here I should consider myself ungrateful indeed did I not record my admiration of, and gratitude to, that spirited and far-seeing man, who has devoted his fortune and his mind to the successful realisation of what agriculture once considered a romantic and chimerical idea. If my anticipations are to be realised, let our shallow drainers deepen their ideas and spare their pockets.

*Our Present Plans of Steam Cultivation.*—My public position, as an agriculturist, brings to me many an anxious and intelligent inventor, whose sleepless mind is worn and absorbed by the great one idea, and who languishes for the wherewithal to develop and give a practical bearing to his thoughts. I often feel, as I listen to the anxious and confidential communication, how much must be done and suffered ere the practical public will avail of, and pay for the inventor's genius. We ought to feel grateful to those who I know have devoted their money and time to the improvements in machinery.

It is not my intention to make invidious comparisons between the various means for steam culture. Let each one consult the judges' decision, as given in the last number of the Royal Agricultural Society's Journal. Let him spend a little time and money in watching the practical operations which are now so extensively going on, to which access is so liberally granted, and which are so accurately described by the various agricultural publications of the day. Years ago I ventured to predict that we should soon have 40 different modes of steam cultivation. Such an idea is rapidly approaching realisation. We have now—1. Fowler's Draining and Trenching Ploughs. 2. Smith's Scarifiers. 3. Williams's ditto. 4. Boydell's Traction Engine. 5. Bray's ditto. 6. Romaine's Cultivator. 7. Fisken's Plough. 8. Rickett's Archimedean Cultivator. 9. Hallett's Railway system of Steam Culture; and I know of others which are yet to meet the public eye. I rejoice in the pungent and gladiatorial rivalry on this subject which fills the columns

of our agricultural newspapers. The steam-press is developing steam cultivation—drawing the attention of even the lag-behinds of agriculture, and making them progress in spite of their prejudices. I have no fear but that each claimant for public steam favour will meet his reward according to his merits. Agriculture is a fine open field of comparison, if people will but look at it. I recently saw Mr. Smith's Steam Cultivator (made by Messrs. Howard) at work on a farm of stiff soil in Hertfordshire Its work appeared to be simple and perfect. It was smashing-up or grubbing the land 4½ to 5 inches deep at the cost of 1*s.* an acre for coal, 2*s.* 6*d.* an acre for manual labour, and something for the wear and tear of the steam-engine and steel-wire rope, &c. The rope was much smaller than one's little finger, say nine-sixteenths of an inch diameter. I have often heard heavy land farmers say that they should like to have horses without feet; this is actually the case with steam, which cultivates without pressure or consolidation.

*Halkett's Guideway Steam Cultivator.*—I cannot pass by, in silence, Mr. Halkett's noble efforts to effect the operations of the farm on a grand scale by an entirely novel process. Having witnessed the operation, I was struck with the simplicity and unerring accuracy of the work done, as well as by the application of the whole power of the engine without rope, and with a mere fractional friction. Every one who heard Mr. Halkett's paper read before the Society of Arts must have retired with a conviction that the subject was worthy of the most profound consideration, and of a fair national trial on a large scale.

Who is to do this and find the means is another question. I have never yet heard any one dispute Mr. Halkett's calculations. When I see that 240 tons weight can be drawn on a railway at a speed of 20 miles an hour, a whole mile for twopennyworth of coal, I feel that the whole question hinges on the calculation of what sum would be sufficient interest for wear and tear, and first cost of his proposed railway. I exhibit a photograph of the machine in operation, performing various farm labours. If our unduly costly railways pay the shareholders an interest equal to consols, and yet take us as cheaply as the old coach, saving three-fourths of our time, is it so utopian to imagine that similar causes should produce equal effects in agriculture? Is not time, in horse and manual labour, as much money as time on the rail?

By-the-bye I have just heard that Boydell's traction engine is drawing coals into Manchester, from a colliery, at 1*d.* per ton per mile, on the high road. It always surprised me that railway buffers and springs were not attached to the machine when it had to draw ploughs or scarifiers. But for these buffers and springs, our railway-engines would be breaking their chains, and doing much mischief by sudden concussion. I hear that as much as 10,000*l.* has been expended on Romaine's cultivator since I lent my aid to its introduction. The inventor is still sanguine of success, judging from its operations in Yorkshire, but a large expenditure is yet required for its full development; it is intended, I believe, to fit with Boydell's wheels, or something on the same principle. I deeply regret Mr. Boydell's severe indisposition, arising from his anxious and unwearied exertions about his traction engine. I have received the following from Mr. Hall, who has used Fowler's plough for some time. It will be seen that he works at very high pressure:—

"Navestock, Essex, April 26, 1859.

"Dear Sir,—I find in practice that my portable engine, working at 320 lbs. pressure, consumes 850 lbs. of coal, worth 8*s.* 6*d.*, per each day's work of 10 hours, while drawing Fowler's four furrow plough, by the wire-rope system; and six acres is a fair day's work at present, and which requires three men and two boys, and one horse for water.

"This same engine was worked by Boydell's wheels as a direct traction, drawing Fowler's (same) ploughs. To work 10 hours, and plough six acres she required 1100 lbs. to 1200 lbs. of coal.

"She therefore consumed about a quarter of her fuel to propel herself, besides the damage done to the land by her wheels, which was fatal to that principle for cultivation—but to be enabled to proceed into any field, without horses, is a most valuable acquisition. My fixed engine, working at 120 lbs. pressure, consumes 5 cwt. of coal in 12 hours, driving one pair of Barley-stones, grinding 8 bushels per hour; and two pairs of Wheat-stones, grinding 4 bushels per hour each.—I remain, Sir,—Yours very truly,

"COLLINSON HALL.

"We worked this engine at 200 lbs. pressure, and then 4 cwt. of coal performed the same quantity of work as the 5 cwt. at 120 lbs. now does.

"Since the mill was burned down, in 1845, I have thought it prudent to reduce the pressure."

*Comparative Value of Horse and Steam-Power.*—We are much indebted to Mr. John C. Morton for his able paper on the cost of horse power in the Royal Agricultural Society's last Journal, but, if I had any doubt before, that paper has convinced me that horse-power is at least from 50 to 100 per cent. dearer than steam, where the latter can be brought to bear. If manufacturers were asked even to make the comparison, they would ridicule the idea, and tell you that but for steam you could be neither clothed, housed, nor fed. What a manufacturer wants and uses is "power," cheap, untiring, power, and is this not exactly what the agricultural cultivator requires?

Now, you can never get combined or continued power with horses in any number. When first the mole plough was tried on a stiff clay in Essex, before the introduction of the capstan, upwards of 30 horses were attached to it, and a very Babel of confusion ensued. In their struggling attempts at uniform draught the outsiders compressed those in the centre until a cloud of steam arose from the excited and oppressed animals. Compare this with the tranquil grandeur of a 20, 50, or 500 horse-power engine. In comparing horses with steam, we could only allow a horse to work full collar, without intermission or rest, for 4½ hours—that would be an ample day's work, and it would cost 2*s.*, because a large well fed draught horse cannot be kept for less than 30*l.* per annum. Let us see what my own steam horse costs working 10 clear hours per day, full collar, and my engine is not of the latest improvement, having been in use 10 years. The exact measure of one strong horse power in steam is the evaporation of six gallons, or 60 lbs. of water per hour My own engine evaporates 54 gallons per hour, and, therefore, gives 9 horse power, working 10 hours per day, which is equal to 18 real horses working five hours per day.

| | |
|---|---|
| I burn half a ton of dust coal, at 9*s.* .. .. | 4*s.* 6*d.* |
| Cartage .. .. .. .. .. .. .. | 1 6 |
| | 6 0 |

Horse-power would cost 1*l.* 7*s.*

One labourer at 2*s.* per day manages my engine, feeds it, and cleans it. How much more would it cost to attend on 18 horses? I could enlarge upon this comparison *in extenso*, but in these days it is only in agriculture that such a question would be entertained, and I must say I feel humiliated that my friend Morton in his recent excellent paper has taken so favourable a view of the endurance and availability of horse-power as compared with steam In the great Cornish pumping engines, which are considered as the most economic in combustion, coal being dear there, 3 lbs. of coal per hour will produce one horse-power, so that assuming that four hours' incessant work would exhaust a horse for 24 hours, 12 lbs. of coal costing five farthings (or 20*s.* per ton) would do as much work as a horse which costs 2*s.*; this is no exaggeration—even the common portable agricultural engines, which are far less economical in fuel than the fixed condensing engines, will, when in perfect order, produce a day's work equal to one horse-power for 24 lbs. of coal, or 2½*d.* The trials of these engines by the Royal Agricultural Society, as reported by the judges, show a consumption of about 5 lbs. of coal per horse-power per hour. A very respectable miller assured me that he once, for a wager, ground 200 quarters of corn with 14*s.* 6*d.* worth of coal, which would be under 2*d.* per quarter, or about ¼*d.* per bushel, and I know that with the common Cornish boiler, and non condensing high pressure engines, the ordinary fuel for grinding is only 1*d.* per bushel. How the increased population of this country could be fed had we to depend on wind, water, or horses is beyond my comprehension. We see, in fact, that almost everywhere a steam-engine is attached to the wind or water-mill, and in addition we have great steam mills at many of the railway stations. Considering that a vast number of steam engines are worked night and day, it may be fairly estimated that one-horse power worked 24 hours is equal to the labour of six real horses for the same period. Take an Atlantic steamer that steams unceasingly night and day, and suppose her power to be 1000 steam horses, you would require 6000 real horses to do the work. To imagine what space so many animals would require, their food, water, attendants, bedding, harness, and shoeing, seems an impossible absurdity, and yet practically when a farmer uses a horse where he might use steam, he is in an equally ludicrous and unprofitable embarrassment.

*On how small a Farm will a Steam-engine pay, and what is a Steam-engine to do on a Farm?*—When I speak of the general application of steam power in agriculture, I assume an improved and profitable condition of agriculture, very different from that which unfortunately generally exists; but let me take a well-regulated and well-drained farm of 200 acres or less, making five score of meat per acre (I make more than 10 score, the labourer makes 32 score), there will be plenty to do to grind corn, crush Oats, break Rape-cake, cut and steam chaff, thresh and dress corn, pump water, and, if opportunity offers, work irrigation pumps, and if you add to this the cultivation of the soil, an 8 horse-power engine will not have many holidays. It is a great convenience to your neighbours to send in their corn to you to be ground. I find that in this way the money I receive in grinding for others pays for all my coals, so that my engine only costs the wear and tear and attendance, and still does all my work, irrigation included. Since harvest I have ground more than 300 quarters of corn for my pigs. When your engine rests it eats nothing. I find that by treading down the chaff, cake, &c, when steamed, and thus preventing the access of air, it will keep sweet and hot for a week or more, according to the bulk of the mass, and the animals like it better. On a farm of 200 acres there ought to be at least 200 tons of straw, to cut into chaff, and to be steamed by the waste steam from the engine. The time will come when we shall warm our bullock sheds with steam in cold weather, as the manufacturers warm their mills, and in summer it would pay well to drive a circulation of air by a fanner through the cattle houses, and not a fly will be seen there, nor any disease. There is no doubt that during summer much beef could be and should be made by bullocks comfortably warm, but untormented by flies or excess of sunshine; but then all this implies a manufacturing adaptation of means to an end, which will involve a system of intelligent reconstruction in our farmeries. All this will come when our doubled or tripled population will demand twice or three times the amount of meat now produced on our little island.

*Gain in Time and Opportunity by Steam Culture.*—Although, irrespective of the above consideration, steam is much cheaper than horse-power, the question of cost becomes insignificant in comparison with opportunity.

Nothing can illustrate this better than the words of Mr. Smith, of Woolston, in one of his recent letters on the use of his steam cultivator. He says, "I have shown that 225 acres of heavy clay require the work of an 8 horse-power engine 45 days. I find from practice it would require 35 horses to perform this work in the same time, *i. e.*, five horses for 315 days, the whole of a year; this of course does not include what can be done by the apparatus in the spring and summer." In other words, as a farmer of 225 acres would only have eight or nine horses, three-fourths of his stubble land would be unbroken during the 45 fine days of August, September, and October. It is only the chemist of agriculture who can sufficiently appreciate the enormity of this loss of aëration, evaporation, filtration, and consequent fructification. If the consolidation of stiff clays in damp weather by pressure renders them infertile by the exclusion of air, which I practically know to be the fact, the opposite of this, by steam cultivation in dry weather, must be a great gain. Mr. Smith's comparison of horse and steam-power confirms my own calculation, that four hours of unremitting draught without a rest is an ample day's work for a horse. In the midland counties, where the barbarous practice of four horses in a line and two drivers still exists, the ceremony of turning at the headlands, the alternate coaxing and threatening to get the horses into working condition, consumes no end of time. Even in our own well-ploughed pair-horse county I have on a fine May tranquil morning been highly amused by the colloquy, if I may so term it, between a pair of knowing fat horses and a good-natured but indignant ploughman, as the ejaculations of "Boxer and Wiolet," "Worree," and "Hike, come hither," came ringing on the morning air, the horses taking especial care to reserve their effort to pull for the ploughman's last burst of indignant excitement, sometimes accompanied by a small clod—stern, untiring steam will destroy much of the poetry of agriculture, and give it a Manchester character.

*The Great Economy of Steam-Power* is proved by the Judges' report of comparative trials at the Chester Show:—

| | | |
|---|---|---|
| Hay cut into chaff .. .. | 128 lbs. | in three minutes |
| Roots cut for sheep .. .. | 314 | " " |
| Do. for bullocks .. .. | 620 | " " |
| Do. for do. .. .. | 1278 | " " |
| Roots pulped .. .. | 490 | " " |
| Thick oilcake, broken .. | 165 | " " |
| Corn winnowed .. .. | 761 | " " |
| Corn dressed .. .. .. | 400 | " " |
| Wheat threshed and dressed | 200 sheaves | in 13 minutes. |
| Barley threshed and dressed | 100 sheaves | in five " |

I know that such results as these could not be obtained by ordinary farm labourers, because in these trials the machines and men are well "up to the mark," every energy strained to the utmost; and the engines in first-rate order; but even making an allowance for these circumstances, steam is, indeed, a wonderful economy. Every farmer ought to study the Judges' reports in the Royal Agricultural Society's Journals. The trials of steam cultivation are as follows:—Fowler ploughed 6 inches by 9 (equal to three-horse work), 1 acre per hour at a cost of 9*s.* 2*d.* per acre, and trench-ploughed an acre 12 inches deep and 14 inches wide, at 18*s.* 4*d.* per acre. The gain over horse-power in the latter case was enormous, as I know practically. Messrs. Howards', of Bedfords', Smiths' steam cultivator for the two operations of cultivating and cross-cultivating, or smashing up to the depth of from 6 to 7 inches, gave a charge of 14*s.* per acre, which was considerably cheaper than horse-power. I have reason to believe that both these implements have since been working even more effectively and economically on ordinary heavy land farms. On our railways 240 tons can be carried one mile for twopennyworth of coal, and three minutes' time of the stoker, guard, and engine-driver. Compare this with horses on the common road at 7*d.* per ton per mile! which would amount to 7*l.*

*Saving of Food by Steam Culture.*—A diminution of one-third or more of our horse-power would set free for the food of man a vast extent of our soil.

If the horses of agriculture consume the produce of one-fifth of its available area, it follows that something like 2,500,000 of acres would be gained for food for the population. Spackman estimates the farm horses at 1,500,000—in my opinion far too large an estimate, seeing, on arable farms, that we have only one horse to 25 acres. Every 100 acres of arable land require four horses, and each horse consumes the produce of 5 acres, or the food of seven men. I consider that steam for cultivation, grinding, threshing, chaff-cutting, pumping, &c., would economise two-fifths of the horse power of the farm.

*Town Sewage applied by Steam.*—I have so often enlarged upon the vital importance to this country of sewage-irrigation from our towns, that I will only say to my brother farmers—

Consider the value of a daily folding on the land of 28,000,000 of well-fed human beings (or sheep), and add to this all the animal deposits in our towns, and various other waste products, and you may then fairly estimate how much you lose by permitting these treasures to flow away to the sea. Let it be "willed" by agriculture, and the engineering difficulties will vanish. Thirteen-fourteenths of the excrement of human beings and animals are the urine; so that it is in a condition to flow away, even without the addition of water. Watford, Rugby, and other towns, will bear witness to the facility with which this operation may be effected, but it must be done by steam-power; and that is why I mention it in this paper. A single engine, consuming 15*s.* worth of coals every 24 hours, raises 1,000,000 gallons of water, and then forces it through a 12-inch pipe to a tank a mile distant, and 150 feet above the engine. Now it is quite clear that about the same power and the same size pipe would re-distribute subterraneously to certain hydrants on the fields, the same quantity of water when enriched with all the good things of Croydon.

*Agriculture compared with Manufactures.*—Spackman, in his "Occupations of the People," estimates the agricultural interest in land and tenants' capital for the United Kingdom as 2,000,000,000*l.*, or 25 times as large as the manufacturing interest, which he estimates at 78,000,000*l.*

Although I think this is exaggerated, there can be no doubt that agriculture is by far the largest interest in the kingdom. But is it the most intelligent and unprejudiced? I think not. If I were to test this comparatively, I should estimate it by the amount of steam-power which it employs relatively to the other great producing interests of the country. Let us see how the matter stands. So far as I am able to obtain approximate estimates—

| | Horse-power. |
|---|---|
| Manufactures employ 150,000 steam-engines of an average power of 20 horses ..... | 3,000,000 |
| Railway Locomotives, 7550, 100 horse-power | 755,000 |
| Marine Engines, 2000, of 100 horse-power.... | 200,000 |
| Our Armed Steam Navy, 450 ships..... | 100,000 |
| Agriculture only 6000, 8 horse-power..... | 48,000 |

Now, if Mr. Spackman is right, agriculture should employ millions of horse-power, instead of only 48,000. In these days I take the use of steam to be the measure of progression, intelligence, and profit. What is there in agriculture so complicated or difficult that steam could not master. I saw in Manchester, the other day, two 18 horse-power engines, which cost 1000*l*, employed entirely in packing bales, and working the hoists or lifts which carried the men and cotton goods from floor to floor. The hydraulic squeeze, given by steam-power, caused a bale to be packed in three minutes, which, by manual labour, used to require 15 minutes. Time, surely, is money, as much in agriculture as in any other industrial occupation. Taking the average of farms at the ordinary depth of cultivation, the number of steam-engines required would be enormous for cultivation alone; but if our clays are (as they ought to be) moved to a depth of 2 or 3 feet, then, indeed, great will be the requirement of steam power. As our ordinary depth of cultivation is under 5 inches, and as our little island is sea-girt, tripling or quadrupling our depth of cultivation would be equal to an immense extension of territory, without additional rent, tithes, or taxes. At present, in our stiff undrained clays, all below five inches is a *terra incognita*, unseen and unavailed of, as is shown by the "going off" of the crops in April and May.

*Steam Estimates.*—In estimating the probable amount of steam-power used generally in our various industrial manufacturing and commercial operations, I have to tender my thanks to my official and other friends for the kindness with which they have placed statistical facts at my disposal, and for the information which they have otherwise afforded to me.

I have been assured that in a circle of 20 miles, in and around Manchester, there are 50,000 steam-engines—if so, agriculture owes a deep debt of gratitude to Manchester, which I hope she will repay by similar means. I find that every 50 miles of passenger railway employs forty locomotives. The number of miles travelled on our railways in 1857 was over 74 millions; the average consumption of coke, 34 lbs. per mile. A very great economy has lately been effected by the use of coal: the furnace-door is left open, and the air rushing in, strikes against a deflecting-plate, which throws it on the surface of the fire, and causes perfect combustion without smoke. This is a hint which might be availed of in our agricultural portable engines. The air has much the effect of being blown on the coals by a bellows. Flame gives much more heat than red-hot coke.

*Conclusion.*—Apologising for the length of these remarks, I hope you will think with me that I have proved that steam is not only an advantage but a necessity for agriculture, and that it has not been sufficiently availed of. A great responsibility attaches in this matter to those in high places who have large estates. We know, especially where there is only annual tenure, that the landowner is much looked up to by his tenantry, and that there is somewhat of a patriarchal character in their relations. So long as that exists, a heavy responsibility rests with the lord of the soil; his example and encouragement are required, and almost demanded in this matter of steam. It may be necessary for men to exercise a gentle despotism in the removal of prejudices, which are often very strong in agriculture. How all this may be done is easily explained by a reference to the late great Mr. Coke, of

Norfolk, who converted a poor tenantry, and a miserable estate, into the opposites of farming wealth and greatly increased rentals. We have modern examples of this, such as Lord Lonsdale, the Duke of Bedford, and many others, who combine investment, improvement, and encouragement, with honour, profit, and progression to themselves, to their tenantry, and to their country. There is plenty of room for such examples to be followed in our, at present, half-farmed country. The mere value of steam to agriculture, in the sawing and preparing of the timber of an estate is considerable, and I remember to have been delighted thirteen years ago with the workshops and machinery of the Duke of Bedford, at Woburn, whose farmeries, cottages, and hedge-rows are a standing censure on the general agricultural non-improvement of this kingdom. In conclusion, agriculture has been, in the matter of steam, backward, miscalculating, and ungrateful. The statistical comparisons which I have made are humiliating for British agriculture, and when I say agriculture, I mean landlord as well as tenant, for property has its duties as well as its rights. When I see that landlord, tenant, and labourer are indebted to steam manufacture for cheapness and abundance in almost every necessary they possess, both mental and physical, I do consider that common gratitude should induce them to adopt similar means to feed abundantly and cheaply the enlightened manufacturing population to whom they are indebted for those benefits. My agricultural friends may think me somewhat severe in these my observations, but they are our best friends who tell us of our faults, and I only enforce what I practise, and practise profitably too. I shall therefore hope to receive their forgiveness for this my contribution to their agricultural literature. Pleased, indeed, should I be to see agriculture so perfect that "Othello's occupation would be gone."

## Calendar of Operations.

### APRIL AND MAY.

Rutlandshire, *April* 22.—Wheat generally looking well. Spring crops very yellow, and require rain and warm weather; land in fine condition for root crops. Artificial manures continue to be used to a considerable extent, notwithstanding the observation made about this time last year at the London Farmers' Club, that a good farm like a good joint of meat only requires basting with its own dripping; but had the Solon who made the remark only considered that artificial manures are in reality the bastings of the meat, that is, the production of the land returned to it in a condensed form, we question if we should have ever read or heard of such an observation as the one alluded to. *A. C.*

West Sussex: *May 4th.*—We appear to have got more into winter than we were at Christmas; it is now very cold, and vegetation is very much checked. The feeding off Swedes and Turnips is nearly over, and without a change to milder weather keep will soon be short. The Dutch and Trefoil on which the sheep depend after the Turnips are fed were forward and are now strong, but when once eaten make little progress; the meadows are but poorly covered with Grass, and all kinds of stock are now dull and nearly unsaleable, a month will also pass of favourable weather before there is likely to be much demand, which will be rather against the dealers who have lately stocked very heavily. A month ago the price was very high, and the demand active, as many hardly knew how to get rid of their roots. The cold east winds that we have had frequently have checked the Wheat a little; but still where the land is good it looks well. A good deal of it was sown when the land was very dry and light, and perhaps on that account although we had a mild winter it kept rather backward; but now it has got good hold of the ground, and with mild weather will do well, and promises to be a fair crop. I speak of the low-lying rich lands; on the high light land it is said to look sickly, and rather unpromising; but as far as we can judge there is plant enough, and so we may look for a fair crop. The sowing of Barley and Oats is over, they are mostly up, and the earlier sown look well. Clover, though stationary, is strong, and there are fewer failures than usual in it; and as there is a good deal of old hay left, we have a good prospect for food another year. Our market is not supplied so well with Wheat at present, but there are a good many ricks yet to thresh out, and the rise in price will set the machines to work again, especially as there is little other work pressing at this time. All kinds of fat stock are dear, and the supply is good, especially lambs, which have been rather too plentiful for the seller, but such is always the case at Easter, that being the time when they are supposed to be wanted, but a few can always be sold long before then and at higher prices, and we do not expect that the price will get lower. Mangel sowing is now the principal work, and Rape for summer feeding to make way for Wheat. *G. S.*

## Notices to Correspondents.

Cream Cheese: *Alex.*—The following are two recipes.—Take a quart of cream, or, if not desired very rich, add thereto one pint of new milk; warm it in hot water till it is about the heat of milk from the cow, add a small quantity of rennet (a tablespoonful is sufficient), let it stand till thick, then break it slightly with a spoon, and place it in the frame in which you have previously put a fine canvas cloth; press it slightly with a weight; let it stand a few hours, then put a finer cloth in the frame: a little powdered salt may be put over the cloth. It will be fit for use in a day or two.—*Another Method.* If cream is scarce, so that a sufficient quantity cannot be had at once, take a fine canvas bag, and pour as much cream as you may happen to have into it, adding additional small quantities of ice a day, and from its becoming naturally sour, the thin part will drain through the canvas, and the remainder will prove an excellent cheese. If one quart of cream can be had at once, and poured into a fine canvas bag, it will make a nice sized cheese, and of course equally good as those made by several small quantities added at convenient intervals. The cheeses made in this way are not fit for use so soon as those made with rennet.

Substitutes for Guano: *H W P.* Superphosphate along with farm-yard manure is quite a sufficient substitute for guano for Swedes. Apply 3 cwt. per acre along with 10 or 12 tons of dung. Nitrate of soda, 1 or 1½ cwt., is better applied to corn crops, if used in place of guano.

Sulphate of Ammonia: *T H.* One cwt. and a half or 2 cwt. of sulphate of ammonia per acre is a good dressing for an acre of Wheat. We would not apply superphosphate to grain crops; apply it to Swedes.

Top Dressing: *J F.* If you can buy good soot at 6*d.* to 8*d.* a bushel, you can find no cheaper dressing than 40 bushels of that per acre. If you cannot get that, apply ½ cwt. of nitrate of soda and 1 cwt. of Peruvian guano per acre broadcast—in showery weather if possible.


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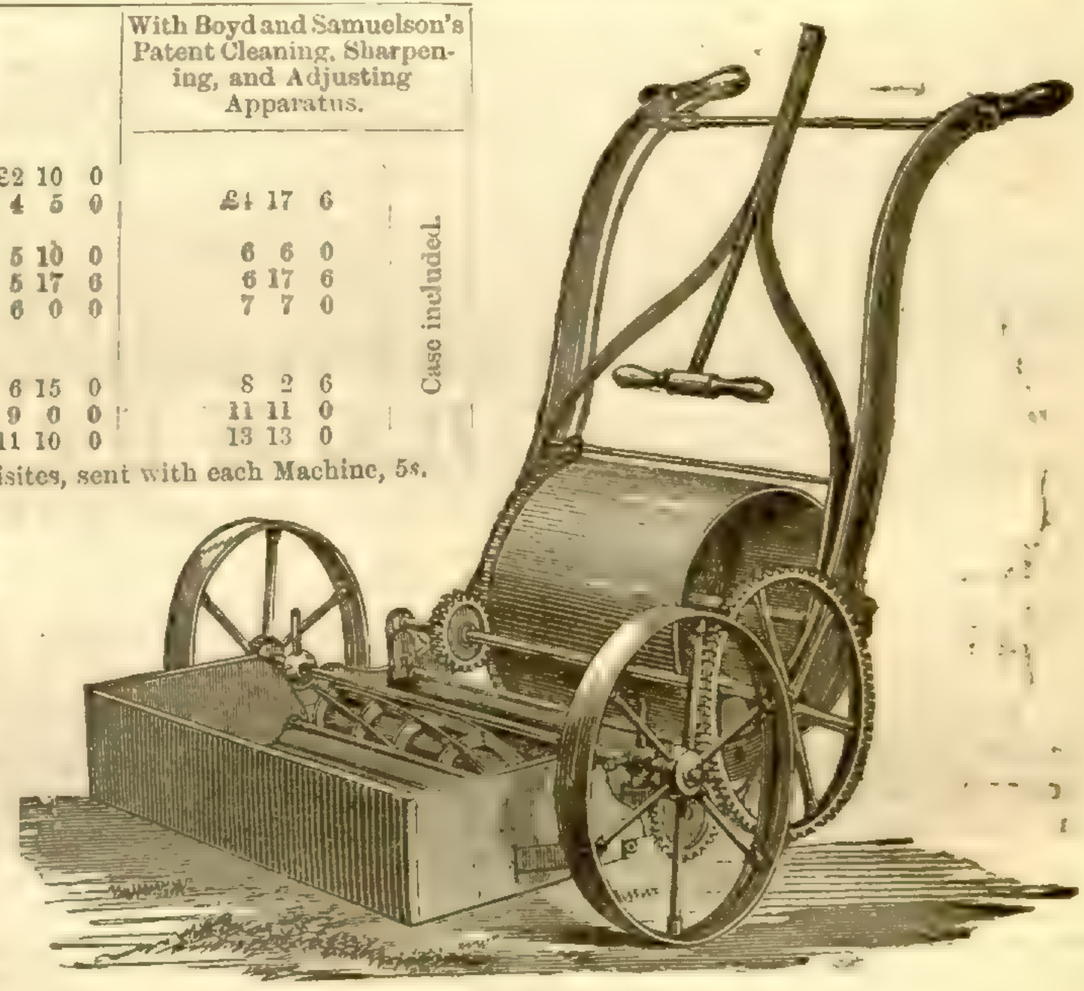

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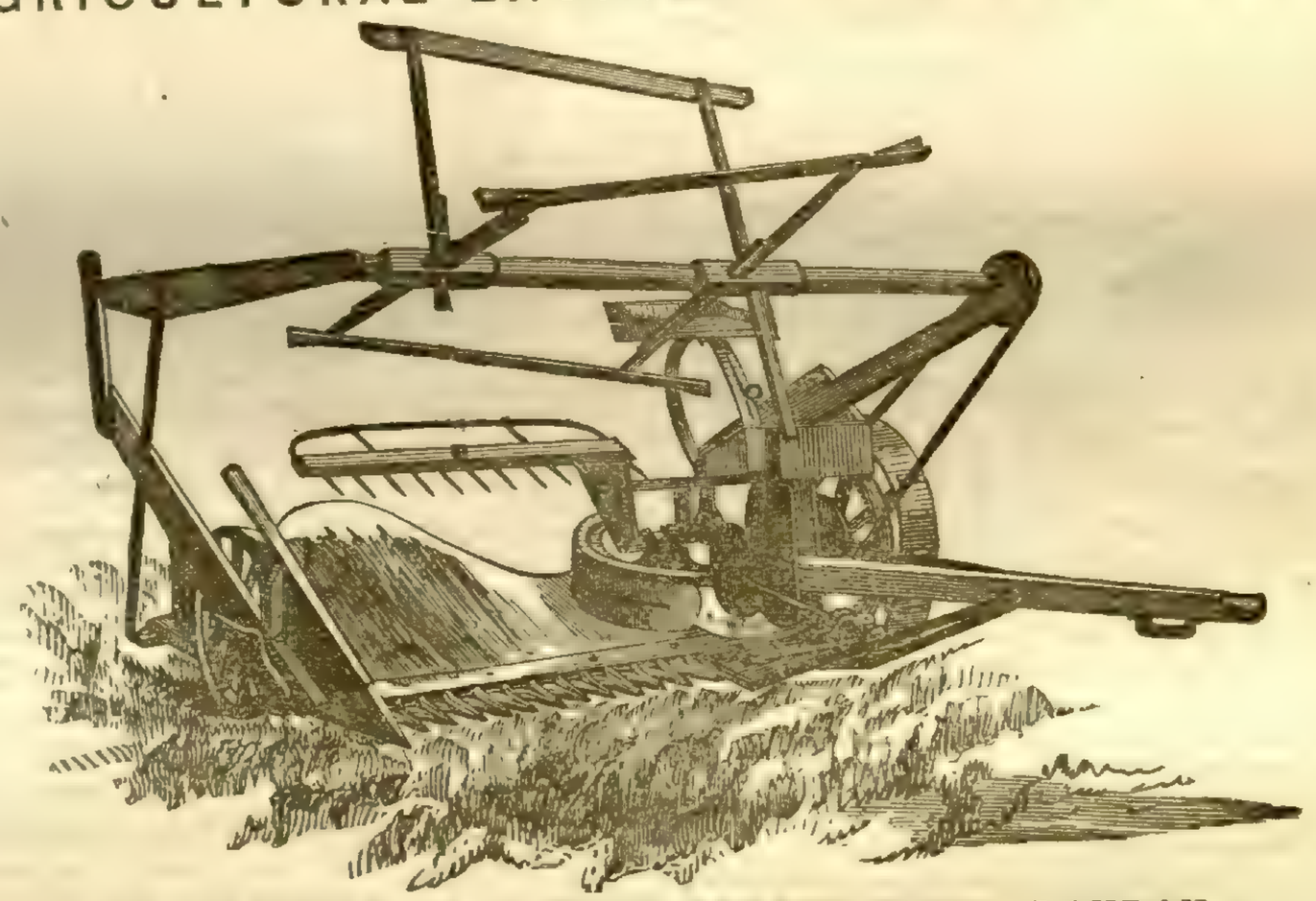

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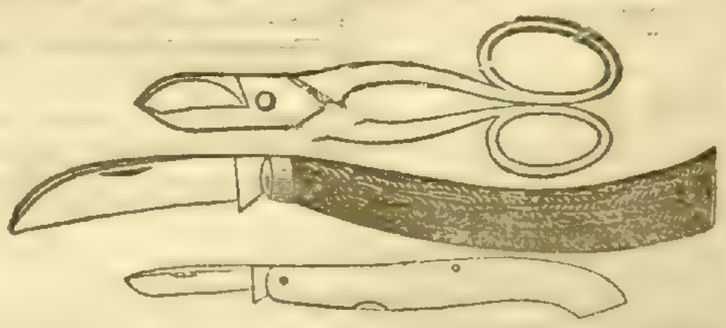

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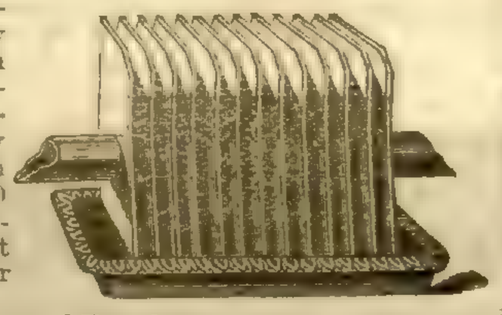
J. LEWIS'S Horticultural Works, Stamford Hill, Middlesex, established 20 years. These Buildings are warranted of the best materials, and at prices which defy competition. The ventilation is most efficient, and the greatest improvement of the present day. Prices of any size on application. References in all parts of the United Kingdom

---

IMPROVED HOT-WATER PIPE.

THE HORTICULTURIST will find herein an inexpensive instrument of new and very important powers. An atmosphere may be produced at will either perfectly dry, partially damp, or saturated with moisture. A space of 10 inches by 12 inches contains the power of 25 feet of 4-inch pipe and other numerous advantages.



The London Warming and Ventilating Company (Limited), 26, Great George Street, Westminster, S.W.

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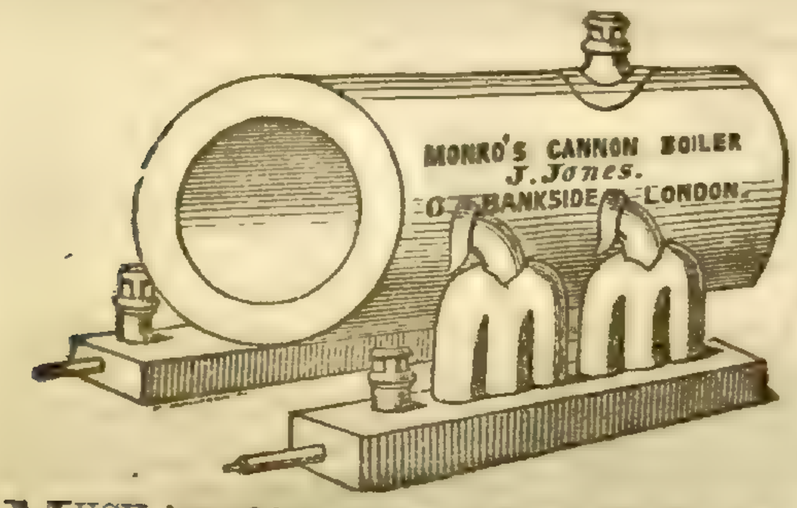
MONRO'S CANNON BOILERS.




MUCH has of late been said about BOILERS for Heating by Hot Water, but these Boilers have now proved themselves to be the best at present invented. They are adapted for heating every description of building, and are made of various sizes. The Price of the

| | | | | |
|---|---|---|---|---|
| 24-inch Cast Iron is | .. .. | .. £5 | 10s. | 0d. each |
| 24-inch Wrought ditto | .. .. | .. 6 | 10 | 0 ,, |
| 36-inch Cast ditto | .. .. | .. 8 | 0 | 0 ,, |
| 36-inch Wrought ditto | .. .. | .. 8 | 10 | 0 ,, |

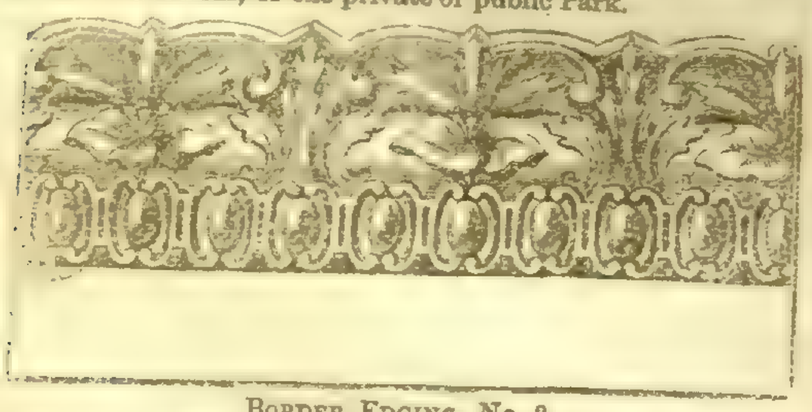
References to Gentlemen and Nurserymen where these Boilers are now at work. The Cannon Boilers are now kept in stock, and are to be had only of J. Jones, 6, Bankside. Also, every description of Saddle and Cylinder Boilers. Hot Water Pipes and Connections at prices lower than those of any other house in London. Estimates for Hot-water Apparatus erected complete in any part of the country, and an Illustrated Catalogue on application to J. Jones, 6, Bankside, Southwark, London

---

200 ONE, TWO, and THREE LIGHT MELON BOXES and LIGHTS, of the best seasoned materials, ready for immediate use.—Jas Watts, Hothouse Builder and Hot-water Apparatus Manufacturer, Old Kent Road, London.

---

VASES, PEDESTALS, SUNDIALS, FOUNTAINS, FLOWER BOXES, JARDINETS, FERN CASES, BALUSTRADES, EDGINGS AND CURBS FOR FLOWER BORDERS, SEATS, &c., in Imperishable Siliceous Stone, at reduced prices, for the adornment of the Villa Garden, the Mansion Grounds, or the private or public Park.



Border Edging, No. 3.

For Priced Illustrations apply to Frederick Ransome, at the Show Rooms, Cannon Row, Westminster, S.W., or Patent Stone Works, Ipswich.

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## COTTAM & COMPy., Engineers, Founders, &c.,

2, WINSLEY STREET, LONDON, W.

A SHOW ROOM DEVOTED ENTIRELY TO ARTICLES OF HORTICULTURE.

THE NEW ILLUSTRATED CATALOGUE UPON APPLICATION.

| | | | | |
|---|---|---|---|---|
| Conservatories | Mowing Machines | Hand-glass Frames | Garden Engines | Flower Sticks |
| Greenhouses | Fountains | Game Netting | ,, Syringes | Garden Bordering |
| Hot-water Apparatus | Ornamental Wire Work | Hurdles | ,, Rollers | Watering Pots |
| Garden Vases | Flower Stands | Garden Chairs | Flower Labels | Garden Arches, &c. |

Iron Hurdles, Strained Wire Fencing, Game Netting, &c.

*Every description of Plain, Ornamental, Cast and Wrought Iron, and Wire Work.*

EXHIBITION PRIZE MEDAL GATES AND ENAMELLED MANGERS.

N.B. COTTAM and COy. beg to make it known that there is no longer an entrance to their establishment from Oxford Street, but that they have made a second entrance from 2, Winsley Street, Oxford Street, W., by the side of the old entrance to their works, opposite the Pantheon.

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ADDRESS: THE MANAGERS, ST. PANCRAS IRONWORKS.

The St. Pancras Iron Works are opposite the OLD St. PANCRAS CHURCH,

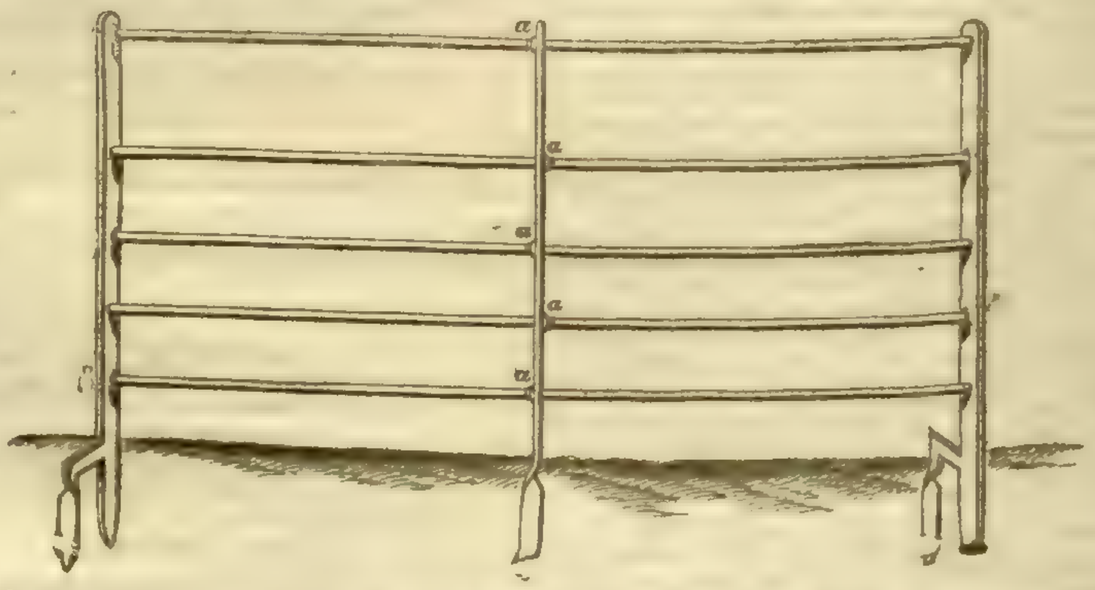
OLD St. PANCRAS ROAD, LONDON.

# IRON COLLAR BAR HURDLES.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

Obtained the Silver Medal of the Royal Agricultural Society.

ST. PANCRAS IRON WORKS,



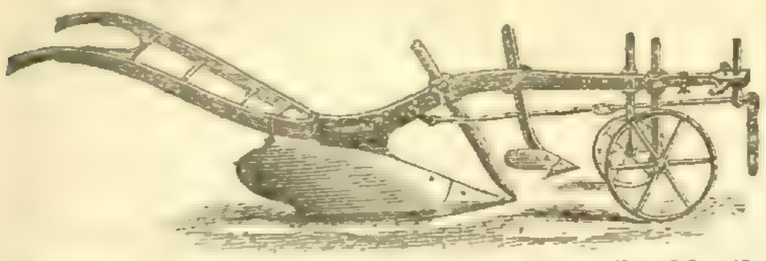
OLD ST. PANCRAS ROAD, LONDON.

The improvement by this Patent consists in the COLLARS on the Bars which, being placed on alternate sides of the centre upright bar, keep it in its position, confine the bars to short bearings, prevent their being strained, and give more than DOUBLE STRENGTH and RIGIDITY to the HURDLE.

PROFESSOR VARNELL'S MANGERS AND STABLE FITTINGS.

HOWARDS' PRIZE IMPLEMENTS, 1859.

JAMES AND FREDK. HOWARD, Britannia Iron Works, Bedford, beg to direct attention to their CHAMPION PLOUGHS,



For which they received All the First Prizes last offered by the Royal Agricultural Society of England, viz.:—

The First Prize for the best Plough for general purposes.
The First Prize for the best Plough for light land.
The First Prize for the best Plough for heavy land.

The only Prize ever offered by the Society for the best Double Breast or Ridging Plough was also awarded to J. & F. HOWARD.

J. & F. HOWARD have discontinued troubling the Public with a long List of Prizes awarded to their Implements, but they would just state that for PLOUGHS, HARROWS, and HORSE RAKES, they have for several years gained every Prize for which they have competed.

PLOUGHS.

| | | | |
|---|---|---|---|
| D PLOUGH, for a Pony | £2 | 5 | 0 |
| DD ditto for one Horse | 3 | 5 | 0 |
| P ditto for two Horses | 4 | 7 | 6 |
| PP ditto for general purposes | 4 | 12 | 6 |
| SKIM COULTER for P or PP Plough | 0 | 5 | 6 |

HARROWS.

| | | | |
|---|---|---|---|
| A Set of Three 4-Beam HARROWS, with Whippletree, recommended as general Seed Harrows, 9½ feet wide, marked No. 12 | 3 | 14 | 0 |
| A Set of Three 4-Beam HARROWS, with Whippletree, adapted for 3 Horses, 10 ft. wide, marked No. 11 | 4 | 4 | 0 |
| If with Patent Joints, 6s. per set extra. | | | |

HORSE RAKES.

| | | | |
|---|---|---|---|
| Small size, 7½ feet wide, marked A, with 24 iron teeth | 7 | 10 | 0 |
| Ditto, with Steel Teeth | 8 | 0 | 0 |
| Large size, 8½ feet wide, marked B, with 28 iron teeth | 8 | 0 | 0 |
| Ditto, with steel teeth | 8 | 10 | 0 |
| Extra large size, 8½ feet wide, marked C, with 24 steel teeth | 10 | 10 | 0 |
| A Set of 15 Prongs, to be attached to the above when used as Weed Extirpators | 1 | 10 | 0 |

Free Delivery to Birmingham, Bristol, Colchester, Derby, Gloucester, Hull, Lincoln, Liverpool, London, Manchester, Norwich, Nottingham, Retford, Shrewsbury, Wisbeach, Worcester, and York; or to Dublin, Edinburgh, Glasgow, and other parts at fixed rates.

HOWARDS' NEW CATALOGUE, containing prices and description of their Patent Ploughs, Harrows, Horse Rakes, and other Implements, including Smith's Steam Cultivators, for which they received at Chester the Gold Medal of the Royal Agricultural Society of England, sent free on application to

J. & F. HOWARD, Britannia Iron Works, Bedford

GLAZIERS' DIAMONDS for CUTTING HORTICULTURAL and other GLASS, to be had of the Wholesale Manufacturer, JOHN EDWARDS, 20, Sharp's Alley, West Smithfield, London, E.C. Prices from 10s. to 27s. 6d.

STRONG-BUILT GREENHOUSES sent to any part of the kingdom, glass included, 12 ft. long by 8 wide, 10l.; 21 ft. by 12, 20l.; 44 ft. by 15, 60l.; 52 ft. by 16. 70; 60 ft. by 17, 90l. Plans and particulars sent by addressing a letter to Mr. A. SMITH, Greenhouse Builder, 233, Pentonville Road, London. SMITH'S Patent Hot-water Apparatus, from 6l., warranted.

IMPERIAL WIRE WORKS AND WINDOW BLIND MANUFACTORY (late Copelands), 370, Oxford Street, London, opposite Wells Street, W.

A variety of FLOWER STANDS AND SUSPENDING FLOWER BASKETS, of new and elegant designs for the present season, made under the personal superintendence of MR. RICHARDS, 370, Oxford Street, and at the CRYSTAL PALACE.

Garden Arches, Borders, Temples, Trainers, Garden Seats, Folding Chairs, Fencing, Espaliering, and every description of Wire Work for Gardens. Bird Cages, &c. Conservatories and Aviaries fitting in the best style and taste. Sun Shades and Window Blinds, &c.

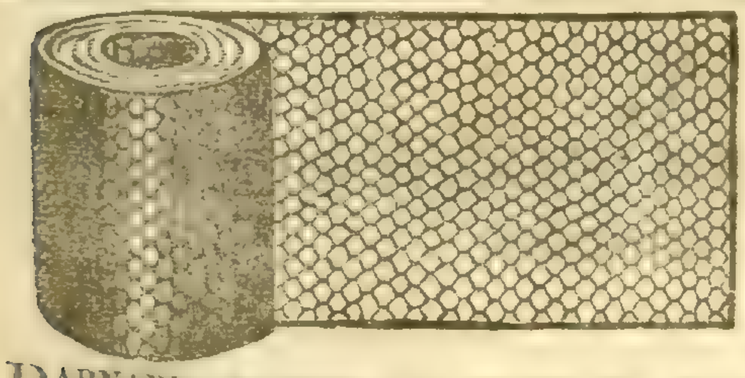
FLOWER POTS, of superior Red Clay, manufactured by the Ailey Pottery Company (Limited), equal in appearance to Terra Cotta at the price of the common pots usually sold, say 1s. 6d. per cast, at Kidderminster.—Apply to TAYLOR & PEARS, 8, George Yard, Lombard Street, City, E.C.

SLATE WORKS, ISLEWORTH, MIDDLESEX.

EDWARD BECK MANUFACTURES in SLATE a variety of articles for Horticultural purposes, all of which may be seen in use at Worton Cottage, on application to the Gardener. Sundays excepted. PRICED LISTS of PLANT TUBS and BOXES forwarded on application.

BRITTAIN'S SUMMER SHADINGS.—Strong Tiffany, 34 inches, 3d. a yard; No. 3 do 39 inches, 7s. a piece, 18 yards each. Nets, Nos 1, 2, and 3, 5d., 6d., and 8d. a yard, 55 inches wide. ZEBRA ORNAMENTAL SHADING, 9½d. a yard; yard wide linen shading, 5d. to 5½d.

Peel Street, Manchester.



BARNARD, BISHOP, AND BARNARD, Market Place, Norwich, in consequence of improvements in their machinery for the manufacture of the above article, have been enabled to make a great reduction in the prices.

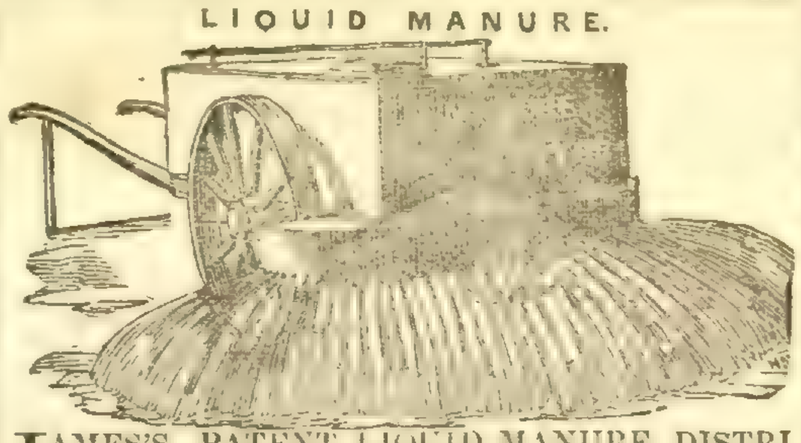
| | | | Galvanised. | | Japanned Iron. | |
|---|---|---|---|---|---|---|
| 2-inch mesh, | 24 inches wide | .. | 5d. | per yd. | 4d. | per yd. |
| 2-inch | strong do. | .. | 6 | ,, | 4½ | ,, |
| 2-inch | intermediate, do. | .. | 7 | ,, | 5½ | ,, |
| 2-inch | extra strong, do. | .. | 9½ | ,, | 7½ | ,, |
| 1½-inch | 24 inches wide | .. | 5½ | ,, | 4½ | ,, |
| 1½-inch | strong, do. | .. | 6½ | ,, | 5¼ | ,, |
| 1½-inch | intermediate, do. | .. | 7½ | ,, | 6 | ,, |
| 1½-inch | extra strong, do. | .. | 10 | ,, | 8 | ,, |

All the above kinds can be made of any width (under 8 feet at proportionate prices. If the upper half is of a coarser mesh than the lower, it will reduce the prices about one-fifth.

Strong Galvanised Poultry Netting, 8½d. per yard, 3 feet wide. Galvanised Sparrow-proof Netting for Pheasantries, 2½d. per square foot. Delivered free of expense in London, Peterborough, Hull, or Newcastle. Manufacturers of Improved Strained Wire Cattle and Deer Fencing, Iron Hurdles, &c.

Illustrated Catalogues and Patterns forwarded by post.

LIQUID MANURE.



JAMES'S PATENT LIQUID MANURE DISTRIBUTOR OR WATER-CART, warranted not to choke up or otherwise get out of order. It is thoroughly adapted for Drill Crops, or Pasture Land, or for Watering Streets; has been awarded SIX FIRST PRIZES.

Full Particulars and Testimonials may be obtained of the Patentee, ISAAC JAMES, Tivoli Waggon Works, Cheltenham.

Improved LIQUID MANURE PUMPS supplied.

WARNER'S IMPROVED LIQUID MANURE OR GENERAL PORTABLE PUMP.

These Pumps are fitted with J. W. & SON'S Patent Buckets and Suckers, and cannot clog in action. The barrel is of galvanised iron, not likely to corrode, and can be raised or lowered at pleasure. The legs will fold together, and the whole may be carried on the shoulder to any pond or tank required.

Price of 4½ in Pump, with legs, 3l. 3s. If with planished copper barrel and galvanised iron handle, &c., 14s. extra. The barrel is 27½ in. long, and the legs are 5 ft. high.

These Pumps are also made without the legs, with strong wrought-iron straps for screwing on to any ordinary water butt or cart, and fitted with 1½ inch brass union for attaching flexible suction. Price 50s.

1½ inch Gutta Percha Suction Pipe, 1s. 11d. per foot.

Rubber and Canvas Suction and Delivery Hose, from ½ inch to 4 inches diameter, in lengths of 60 feet to order. Branch Pipes with Cocks, Union Screws, &c., at reduced prices.

May be obtained of any Ironmonger or Plumber in town or country, at the above prices, or of the Patentees and Manufacturers, JOHN WARNER & SONS, 8, Crescent, Jewin St., London.

WARNER'S PATENT VIBRATING STANDARD PUMPS.

PATENT CAST-IRON PUMPS, fitted with J. W. & SON'S Patent Buckets and Suckers, which cannot clog in action, for Farms, Cottages, and Wells, not exceeding 28 feet.

| Diameter of Barrel. | Height. | | £ | s. | d. |
|---|---|---|---|---|---|
| 2½ in. | short 1 ft. 7 in. | Fitted for lead, | 1 | 10 | 0 |
| 2¾ ,, | long 3 ,, 3 ,, | gutta percha, | 1 | 14 | 0 |
| 3 ,, | ditto 3 ,, 6 ,, | or cast iron | 2 | 8 | 0 |
| 3½ ,, | ditto 3 ,, 6 ,, | flanged pipe, | 2 | 12 | 0 |
| 4 ,, | ditto 3 ,, 6 ,, | as required. | 3 | 3 | 0 |
| 2½ ,, | short, with 15 feet of Lead Pipe attached, ready for fixing .... | | 2 | 14 | 0 |
| 2½ in. | long ditto ditto ditto | | 2 | 18 | 0 |

The short barrel Pump is very convenient for fixing in situations of limited height and space, for the supply of coppers and sinks in Wash-houses with soft water from underground tanks, or in Hot, Forcing, and Plant Houses; they may be fixed, when desired, under the stage.

May be obtained of any Ironmonger or Plumber in Town or country, at the above prices, or of the Patentees and Manufacturers, JOHN WARNER & SONS, 8, Crescent, Jewin Street, London

Every description of Machinery for Raising Water by means of Wheels, Rams, Deep Well Pumps, &c.; also Fire and Garden Engines, &c. &c.—Engravings sent on application.

HANDSOME BRASS AND IRON BEDSTEADS.—HEAL & SON'S Show Rooms contain a large assortment of Brass Bedsteads, suitable both for Home use and for Tropical Climates; handsome Iron Bedsteads with Brass Mountings and elegantly Japanned; Plain Iron Bedsteads for Servants; every description of Wood Bedstead that is manufactured, in Mahogany, Birch, Walnut-tree Woods, Polished Deal and Japanned, all fitted with Bedding and Furniture complete, as well as every description of Bedroom Furniture.

HEAL AND SON'S ILLUSTRATED CATALOGUE, containing Designs and Prices of 100 Bedsteads, as well as of 150 different articles of Bedroom Furniture, sent free by post.—HEAL & SON, Bedstead, Bedding, and Bedroom Furniture Manufacturers, 196, Tottenham Court Road, W.

BEDSTEADS, BATHS, AND LAMPS.—WILLIAM S. BURTON has SIX LARGE SHOW ROOMS devoted exclusively to the SEPARATE DISPLAY of Lamps, Baths, and Metallic Bedsteads. The stock of each is at once the largest, newest, and most varied ever submitted to the public, and marked at prices proportionate with those that have tended to make his establishment the most distinguished in this country.

| | | | | | |
|---|---|---|---|---|---|
| Bedsteads, from | .. | .. | 12s. 6d. | to £20 | 0s. each. |
| Shower Baths, from | .. | .. | 8 0 | ,, 6 0 | ,, |
| Lamps (Moderateur), from | .. | .. | 6 0 | ,, 7 7 | ,, |

(All other kinds at the same rate.)

Pure Colza Oil .. .. .. .. 4s. 9d. per gallon.

WILLIAM S. BURTON'S GENERAL FURNISHING IRONMONGERY CATALOGUE may be had gratis, and free by post. It contains upwards of 450 Illustrations of his illimited Stock of Electro and Sheffield Plate, Nickel Silver and Britannia Metal goods, Dish Covers and Hot-water Dishes, Stoves, Fenders, Marble Chimney pieces, Kitchen Ranges, Lamps, Gaseliers, Tea Urns and Kettles, Tea Trays, Clocks, Table Cutlery, Baths and Toilet Ware, Turnery, Iron and Brass Bedsteads, Bedding, Bed Hangings, &c., with Lists of Prices and Plans of the 16 large Show Rooms at 39, Oxford Street; 1, 1A, 2, and 3, Newman Street; and 4, 5, and 6, Perry's Place, London.—Established 1820.

NURSERY GROUND.

TO BE LET, WHITTINGTON NURSERY, Upper Holloway, to be entered upon immediately.—For particulars apply to J. F. MARSON, Esq., Small Pox Hospital; or to Mr. BUNNEY, Nurseryman, Stratford, Essex.

TO BE LET, BRISTOL NURSERY GROUNDS, Kemp Town, Brighton. These Gardens are now to Let for occupation with immediate possession.—Any person desirous of treating for the same may obtain particulars and permission to view the grounds on application to Mr. R. W. LUCAS, 20, Great Marlborough Street, London, W.; and of Mr. A. CHANDLER, Horticultural Valuer, 28, Priory Road, Wandsworth Road, S.

TO GARDENERS, FLORISTS, AND OTHERS.

TO BE SOLD, A FIFTY-FIVE YEARS' LEASE, with the option of purchasing the Freehold of a WALLED-IN GARDEN, in a highly respectable neighbourhood within three miles of Covent Garden, a newly-erected GREENHOUSE, 100 feet long, with PROPAGATING-HOUSE, PITS, &c., and GARDENERS' ROOM, STABLE, &c.; from 4000 to 5000 Greenhouse Plants and Crops in the Garden, lowest price 500l., part of which may remain on mortgage if required. Ground rent low.—For further particulars apply by letter only to D. W. J., *Gardeners' Chronicle* Office.


# Sales by Auction.

BEDDING PLANTS, ORANGE TREES, CAMELLIAS, ETC.

MR. HASLAM will Sell as above at 1 o'Clock each day during the month of May, at the following places, viz.—May 7 and 17, Nag's Head, Walthamstow; May 10 and 21, White Hart, Woodford; May 14 and 24, Crown, Loughton; May 12, 19, and 26, at Auction Mart, London

HAMPTON, MIDDLESEX.

MR. J. WILLMER begs to announce that he has received instructions from Mr. Holmes to submit to public Auction on the Premises, Hampton, Middlesex, a portion of his costly collection of TULIPS, on SATURDAY, May 14. May be viewed two days prior to the Sale, and Catalogues had on the Premises and of Mr. J. WILLMER, Auctioneer, Surveyor and Valuer, Springfield Nursery, Sunbury.

TO TULIP GROWERS.

MR. J. WILLMER begs to announce that he has received instructions from GEO. F. DELAFORCE, Esq., to submit his costly Collection of TULIPS to Public Auction, without the least reserve, on the premises, 362, Albany Road, Camberwell, on WEDNESDAY, May 18, at 12 o'clock.—Catalogues are now ready, and may be had on the premises; and of Mr. J. WILLMER, Auctioneer, Surveyor, and Valuer, Springfield Nursery, Sunbury, S.W

LEA BRIDGE, ESSEX.

MR. J. WILLMER has received instructions to Sell by Auction without reserve, on MONDAY, May 23, at Hendries' Gardens, Lea Bridge, the remaining portion of the late Mr. George Dunn's COLLECTION OF TULIPS, Tulip Stage Irons, Rollers, &c.—Catalogues may be had of Mr. DUNN, 1, Jewin Court, Jewin Street; or of Mr. WILLMER, Auctioneer, Surveyor, and Valuer, Springfield Nursery, Sunbury, S.W.

TO ENTOMOLOGISTS

MR. J. C. STEVENS will Sell by Auction at his Great Room, 38, King Street, Covent Garden, on FRIDAY, May 13, at half-past 12 o'Clock precisely, the Extensive Collection of BRITISH INSECTS, formed by the late J. C. Heysham, Esq., of Carlisle, and the four very excellent Mahogany Cabinets in which it is contained. The Collection comprises all the orders, including many great varieties.—May be viewed on the day prior and morning of Sale, and Catalogues had.

BIRDS' EGGS.

MR. J. C. STEVENS will Sell by Auction at his Great Room, 38, King Street, Covent Garden, on MONDAY, May 16, at half past 12 o'Clock precisely, the valuable collection of BRITISH BIRDS' EGGS, formed by the late J. C. Heysham, Esq., of Carlisle, all well authenticated, and the greater part taken by himself.—May be viewed on Saturday, and morning of Sale, and Catalogues had.

IMPORTANT AND EXTENSIVE SALE AT THE BRISTOL NURSERY, KEMP TOWN, BRIGHTON.

MESSRS. PROTHEROE AND MORRIS have received instructions to Sell by Auction, on the Premises, Bristol Nursery, Kemp Town, Brighton, Sussex (formerly in the occupation of the late Mr. Edward Mitchell), on MONDAY, May 9, and following day, at 11 o'Clock each day, the whole of the valuable collection of GREENHOUSE, STOVE, and other plants, including about 1000 choice Double Camellias, ranging all sizes and in the finest state of cultivation; fine specimen plants of Chinese Azaleas, Ericas, Epacris, a quantity of Orange Trees; 2000 Show and Fancy Pelargoniums; 5000 Scarlet and Variegated Geraniums; Double Purple and White Primulas, Cyclamens, Dahlias, Cinerarias, Crassulas, Gloxinias, Chrysanthemums, Begonias, New Fuchsias, &c.; also a large assortment of Bedding Plants, Herbaceous Plants in pots, a bed of first-rate Tulips all named; Ivies, Jasmines, Honeysuckles, Vines, Carnations, Picotees, Pinks, Cloves, &c.—May be viewed three days prior to the sale. Catalogues may be obtained 6d. each, returnable to purchasers on the premises; of Mr. A. Chandler, Horticultural Valuer, 28, Priory Road, Wandsworth Road, S.; of the principal Seedsmen in London; and of the Auctioneers, American Nursery, Leytonstone, Essex.

N.B.—The Premises to be LET. Inquire of Mr. A. CHANDLER, as above; or Mr. HAWARD, 82, Oakley Street, Chelsea.

TO GENTLEMEN, FLORISTS, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS will Sell by Auction, at the Mart, on FRIDAY, May 13, at 12 o'Clock, a first class collection of CARNATIONS and PICOTEES, handsome AZALEA INDICA, ERICAS, EPACRIS, and other Plants in bloom; Fuchsias, Verbenas, Dahlias, &c., with a large assortment of Ornamental Plants for Bedding. On view the morning of sale.—Catalogues had at the Mart, and of the Auctioneers, American Nursery, Leytonstone, Essex.

CAMBERWELL.—8000 BEDDING PLANTS.

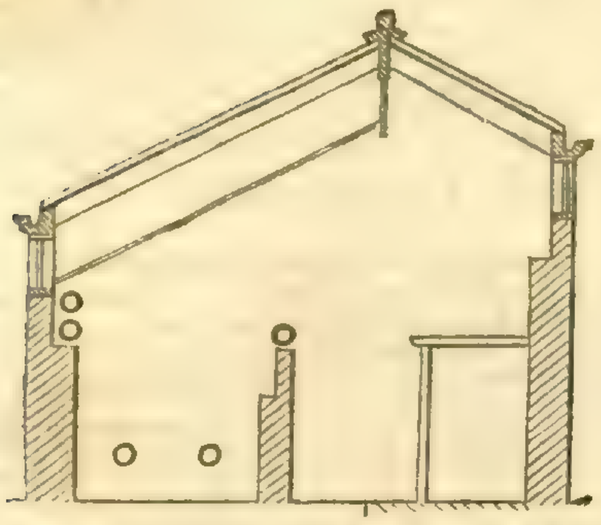
MESSRS. PROTHEROE AND MORRIS are directed by Mr. Isaac Steward to Sell by Auction, on the Premises, Beehive Nursery, Picton Street, George Street, Camberwell, on MONDAY, May 16, at 12 o'Clock, about 8000 BEDDING and other GREENHOUSE PLANTS, several Store Pots, Lilium lancifolium of sorts, an American Aloe, &c.—May be viewed prior to the Sale. Catalogues had on the premises, of the principal Seedsmen, and of the Auctioneers, American Nursery, Leytonstone, Essex.

10,000 BEDDING AND OTHER GREENHOUSE PLANTS.

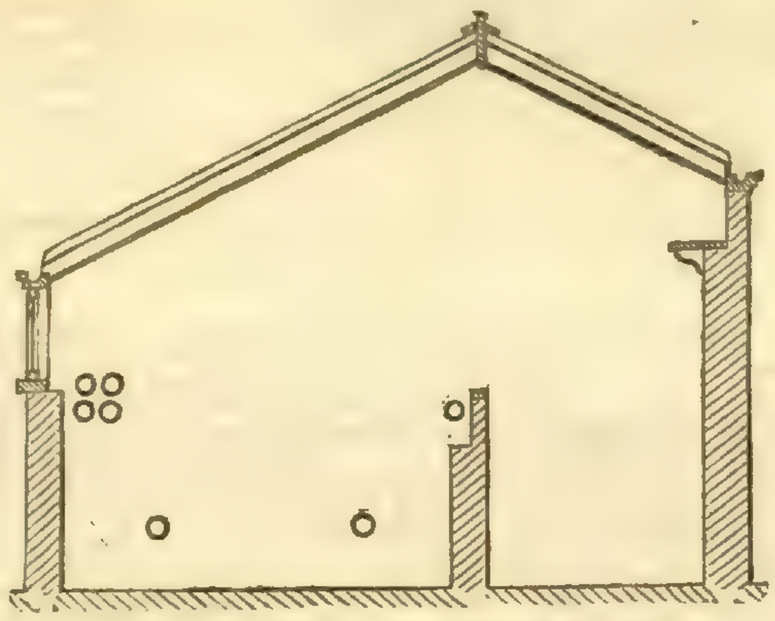
MESSRS. PROTHEROE AND MORRIS will submit to public competition by Auction, on the Premises, Mile End Nursery, Bow Road, Middlesex, near the Railway Station, on WEDNESDAY, May 18, at 12 o'Clock, about 10,000 BEDDING and other GREENHOUSE PLANTS, including the usual varieties; also Hybrid, Perpetual, China, and other Roses in pots, Dahlias Tropæolum, Cobæa, Eccremocarpus, Maurandya, Lophospermum, &c.—May be viewed three days prior to the Sale. Catalogues may be had on the premises, of the principal Seedsmen in London, and of the Auctioneers, American Nursery, Leytonstone, Essex.

TULIPS.

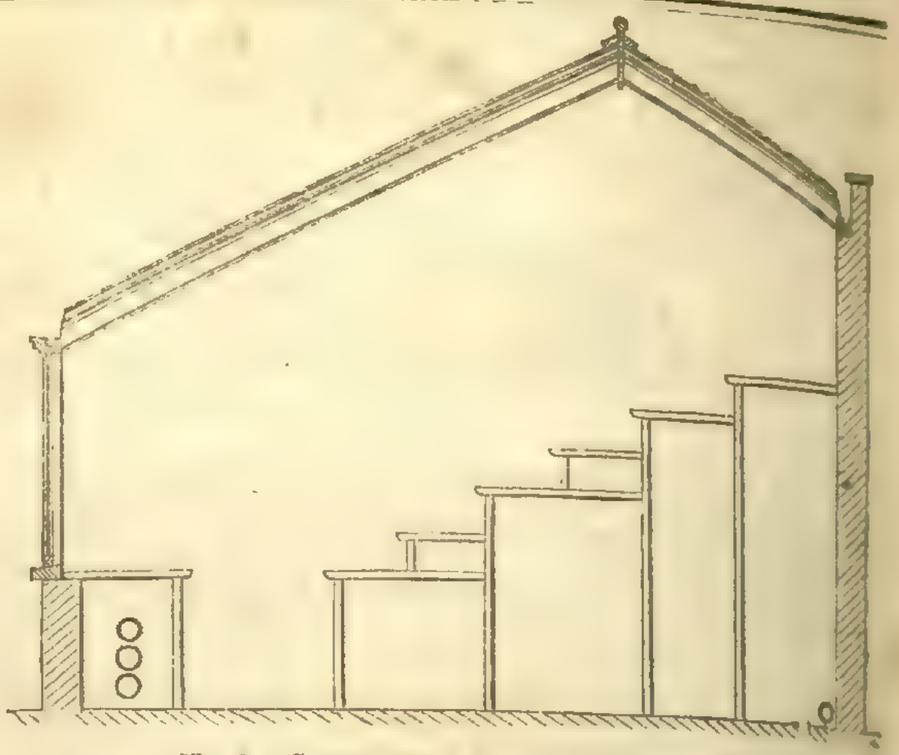
MESSRS PROTHEROE AND MORRIS have received instructions to submit to public competition, by Auction, without reserve, on SATURDAY, May 21, at 2 o'Clock, on the Premises, Rose Lodge, Mitcham, Surrey, a portion of the collection of TULIPS of Mr. Henry Goldham. Many new varieties (Seedlings) will be offered at this Sale, which have not hitherto been parted with, besides all those kinds which have previously been sent out from this collection.—May be viewed three days prior to the Sale. Catalogues may be had on the premises, of the principal Seedsmen in London, and of the Auctioneers, American Nursery, Leytonstone, Essex.



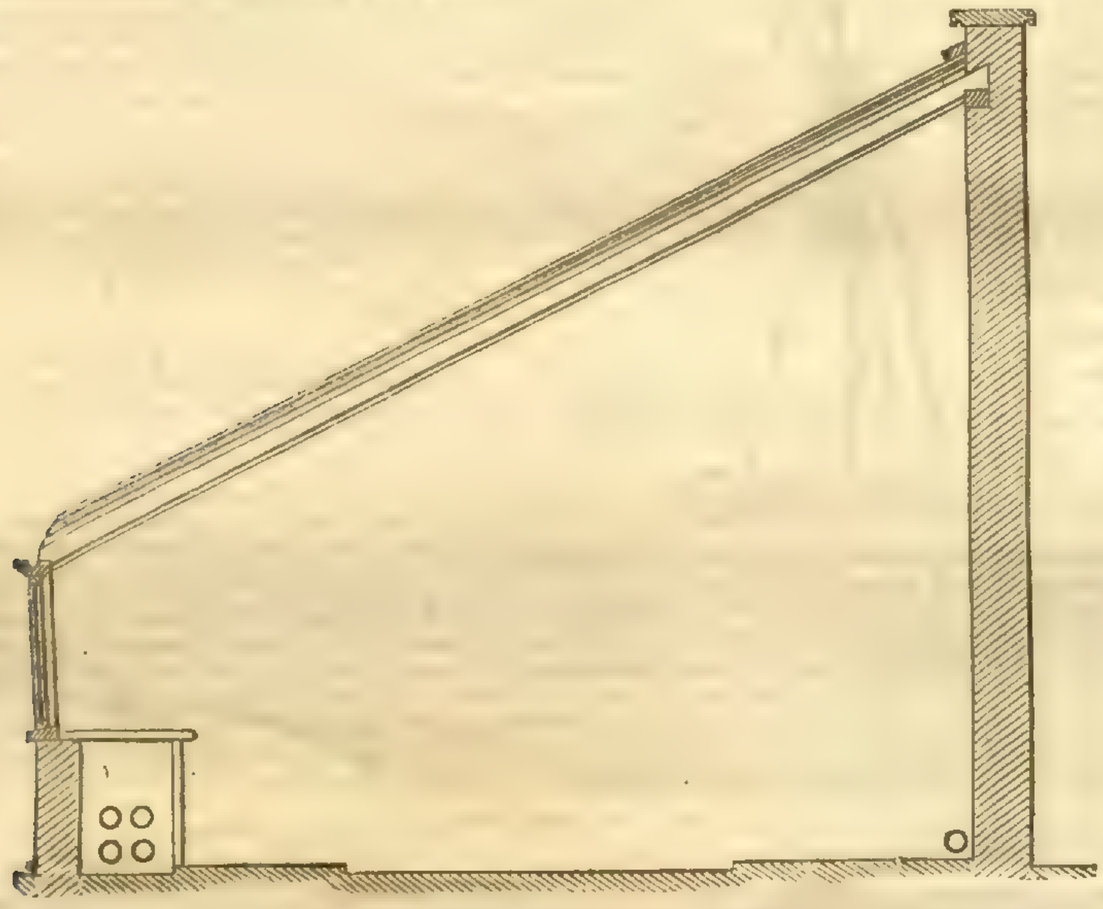
No. 1.—Cucumber and Melon Pit, 10 ft. wide.



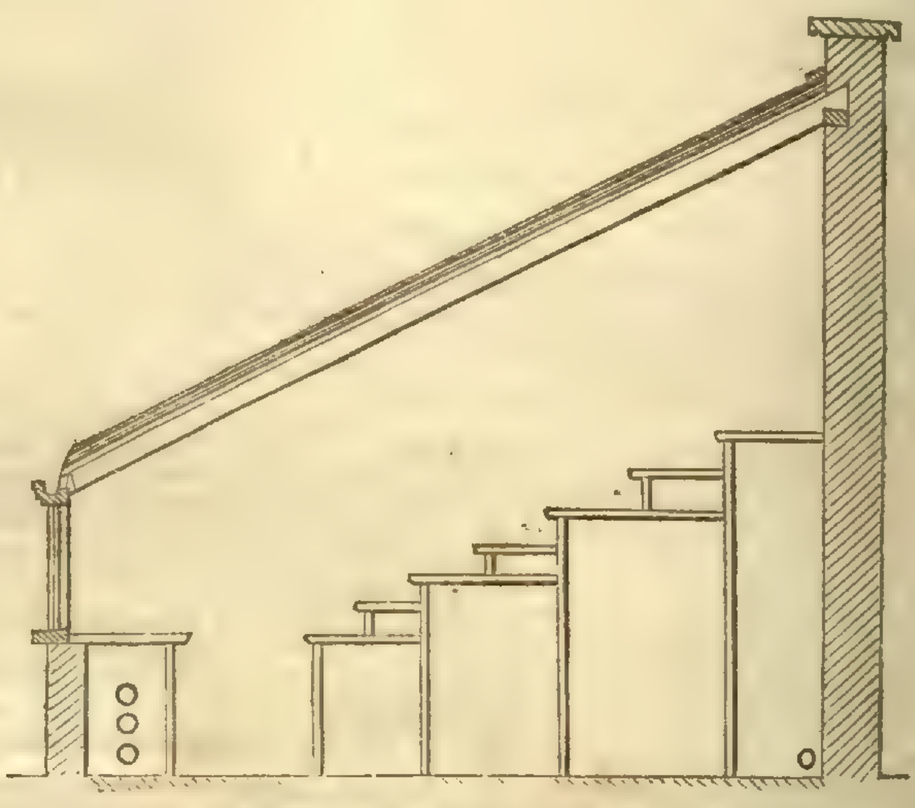
No. 2.—Pine Pit, 14 ft. wide.



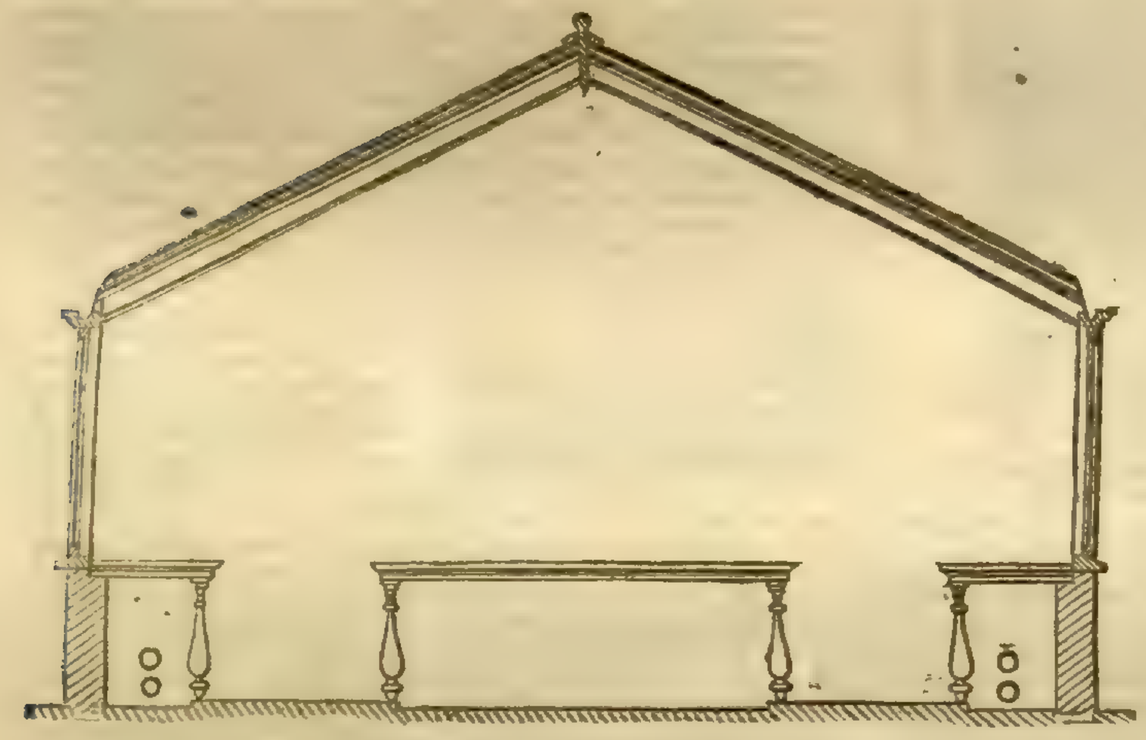
No. 3.—Greenhouse, from 14 to 18 feet wide.



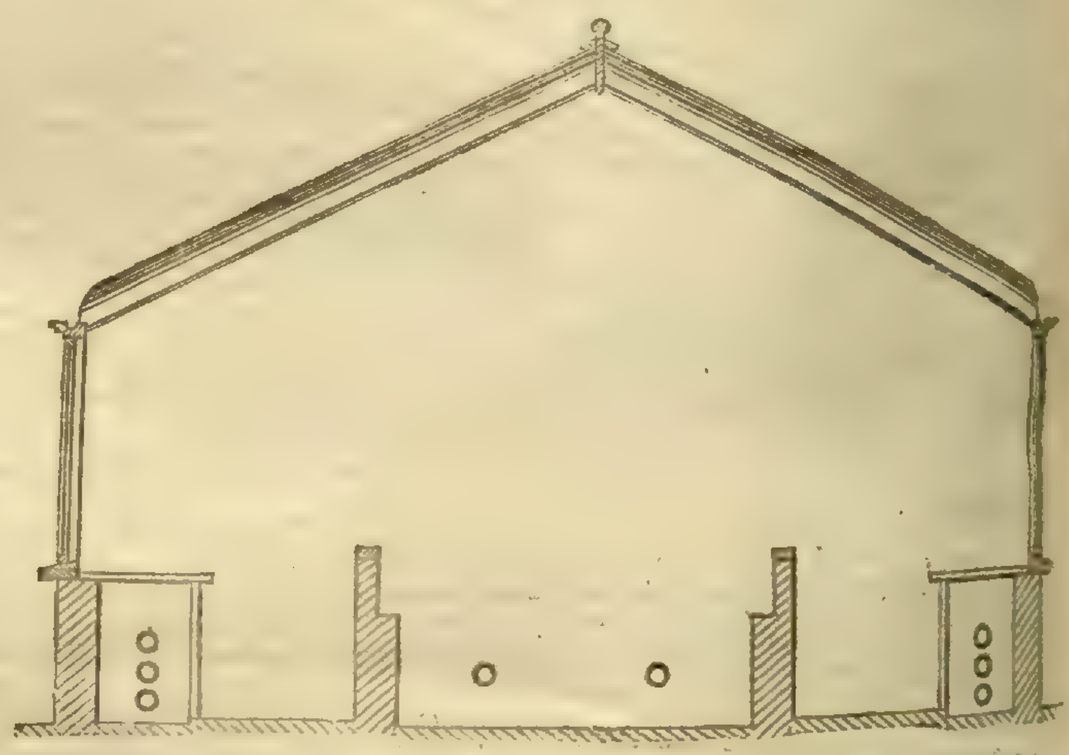
No. 4.—Vinery, from 15 to 18 ft. wide.



No. 9.—Greenhouse, from 12 to 20 ft. wide.



No. 6.—Greenhouse, from 18 to 26 ft. wide.



No. 7.—Forcing House, from 18 to 20 ft. wide.


**HORTICULTURAL BUILDINGS MANUFACTURED BY STEAM POWER MACHINERY**

**BEST MATERIALS AND LOWEST PRICES.**

# HENRY ORMSON,

## HORTICULTURAL BUILDER & HOT-WATER APPARATUS MANUFACTURER.

### STANLEY BRIDGE, KING'S ROAD, CHELSEA, LONDON,

Deeply grateful for the very liberal and kind patronage bestowed upon him, begs most respectfully to inform the Nobility, Gentry, Nurserymen, &c. that it being his determination to spare no pains to merit a continuance of their favours, and that he may be enabled to execute his extensive and increasing orders punctually, and at the lowest possible cost (agreeably with the best Materials and Workmanship), he has erected a most complete set of Steam Power Machines, peculiarly adapted for the purposes of his Trade.

PARTIES DESIRING INFORMATION as to prices, &c., will, by referring to any of the above sections, receive immediate attention.

PLANS, SPECIFICATIONS, and ESTIMATES for plain and inexpensive practical Structures, and for the most elaborate Architectural Erections, either in Wood or Iron, forwarded on application.

### ORMSON'S PATENT JOINTLESS TUBULAR BOILERS

May be seen in successful operation at Mr. Veitch's, Royal Exotic Nursery, King's Road, Chelsea, and on view and for sale at

**THE MANUFACTORY.**


Printed by William Bradbury, of 13, Upper Woburn Place, and Frederick Mullett Evans, of No. 20, Queen's Road West, both in the Parish of St. Pancras, in the Co. of Middlesex, Printers, at their Office, Lombard St., Precinct of Whitefriars, City of London, and published by them at the Office, No. 5, Upper Wellington St., Parish of St. Paul's, Covent Garden, in the said Co.—Saturday, May 7, 1859

# THE GARDENERS' CHRONICLE
AND
# AGRICULTURAL GAZETTE.

**A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.**

No. 20.—1859.] SATURDAY, MAY 14. {Price Fivepence. STAMPED EDITION, 6d.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CRYSTAL PALACE.—FLOWER SHOWS for 1859 will be held as follows:—

WEDNESDAY, May 18 | WEDNESDAY, Sept. 7
WEDNESDAY, June 8 | THURSDAY, Sept. 8

And CHRYSANTHEMUM SHOW on WEDNESDAY, Nov. 9, and THURSDAY, Nov. 10.

Schedules of Prizes may now be had on application.

Gardeners' Tickets at 3s. 6d. each can be obtained on application to the Secretary. By Order,

Crystal Palace, May 14. GEO. GROVE, Secretary.

CRYSTAL PALACE.—FLOWER SHOW.—The FIRST GRAND FLORICULTURAL and HORTICULTURAL EXHIBITION of the present season will be held on WEDNESDAY next, May 18. Full Display of the whole of the Upper Series of Fountains; Display of the Interior Fountains in the Nave and Fine Art Courts during the afternoon; a Military Band and the Orchestral Band of the Company will perform at intervals; Performances on the Great Organ and Pianoforte Recital. Doors open at 12. Admission by Two Guinea Season Ticket; or by One Guinea Season Ticket and payment of 2s. 6d.; by Day Ticket, 7s. 6d.; or if taken before the day of the Show, on the written order of a Season Ticket Holder, 5s.; Children under 12, half-price.

NOTICE.

JOHN WATERER'S EXHIBITION of RHODODENDRONS will be displayed as usual throughout the month of JUNE at the Royal Botanic Gardens, Regent's Park, London.—The American Nursery, Bagshot, Surrey.

EXHIBITION OF PELARGONIUMS, CALCEOLARIAS, AND CINERARIAS.

JOHN DOBSON AND SONS' unrivalled collections of the above popular flowers) among which are many new varieties) is now in full Bloom, and will continue for the next six weeks, and may be seen every day (Sundays excepted).

Woodlands Nursery, Isleworth.

EXHIBITION OF TULIPS.

CHARLES TURNER begs to announce that his extensive COLLECTION of TULIPS are now in fine bloom, and may be viewed till the end of the month.

CHARLES TURNER invites an inspection of the above on FRIDAY, May 20.

The Eleventh Anniversary Exhibition of the ROYAL NATIONAL TULIP SOCIETY will be held at the Nursery on this occasion.

There may also be seen large collections of Specimen Pelargoniums, Chinese Azaleas, Cinerarias, &c.

By the kind permission of Colonel Parker, the band of the First Life Guards will attend.

The Royal Nurseries, Slough.—May 14.

THE PLYMOUTH SEED, AGRICULTURAL IMPLEMENT, AND MANURE COMPANY LIMITED supply every requisite for the Farm and the Garden.

Registered Offices, Union Road, Plymouth.

MESSRS. B. ROEZL AND CO'S NEW CATALOGUE OF MEXICAN SEEDS AND PLANTS, to be had on application to Messrs. B. A. GRAUTOFF & Co., 4, Lime Street Square, London.

NEW HARDY WHITE SWEDE.—This Swede is harlier than any other kind, grows to a large size, is adapted for sowing upon poor land, is not affected by frost, and keeps good in the ground or in store till the end of May. New and genuine Seed of this excellent Swede, price 1s. per lb. (carriage for orders of 30 lbs. and upwards) may be had of RAYNBIRD HARVEY, Seedsmen, Basingstoke; and 89, Seed Market, Mark Lane, London, E.C.

CHOICE ROSES IN POTS.

BIRCHAM AND WARD having a large Stock of the Newest and Best ROSES in fine condition, are enabled to supply them at very reduced prices.

See CATALOGUE, which may be had on application.

Carriage paid to London and Peterborough.

Hedenham Rosary, Bungay, Suffolk.—May 14.

NEW ROSE HYBRID PERPETUAL EVÊQUE DE NÎMES.

BENJAMIN R. CANT has much pleasure in offering the above most beautiful Rose; it is quite a gem and ought to be in every good collection. Colour deep vivid crimson, of exquisite shape; the petals are disposed in the form of a rosette, which gives it a distinct and unique appearance; flower medium size, foliage and habit of growth excellent. Fine plants in pots are now ready at 3s. 6d. each, with the usual discount to the trade.

St. John's Street Nursery, Colchester.

NEW ROSES.

JOHN HARRISON, has to offer a great stock of all the NEW HYBRID PERPETUAL and other ROSES in pots, at from 2s. 6d. to 5s. each, Catalogues of which can be had free on application. J. H. also begs to state that his stock of TEA, CHINA, and other ROSES, of which he has an immense stock, are now in splendid condition for planting out, and solicits early orders. Prices from 6s. to 18s. per dozen, according to size and strength of plants.—Darlington Nursery, May 14.

SKIRVING'S SWEDE—SUTTON'S SELECTED STOCK.

SUTTON AND SONS have a choice stock of SKIRVING'S SWEDE SEED, growth of 1858, which they can strongly recommend. Price 9d. per lb., or cheaper by the bushel.—Royal Berks Seed Establishment, Reading.

PETURION GOURD.—This wonderful Vegetable attains the incredible weight of 130 to 135 lbs. in 36 days. It is perfectly edible, and makes an important addition to the kitchen garden. Seed may be had in packets at 7d. and 1s., post free, from E. P. DIXON, Seed Establishment, 57, Queen Street, Hull.

NEW ZEALAND RUNNER BEAN.—Price 2s. per quart.—JAS. CARTER & Co., Seedsmen, 238, High Holborn, London, W. C.

NEW ZEALAND RUNNING BEAN.—Packets of 12 Seeds, for 14 stamps.

BASS & BROWN, Seed Growers, &c., Sudbury, Suffolk.

SEEDS.

E. SHENTON is now selling off his surplus stock of PEAS, BEANS, &c., at reduced prices as the season is advancing.—Hendon Park Nurseries, N.W.

THE EARLIEST PEA.—DUNNETT'S FIRST EARLY is in every respect superior to "Daniel O'Rourke," being several days earlier, having finer pods, and richer in flavour, height 2½ feet. For an early dish of fine-flavoured Peas we can confidently recommend this; 2s. per quart.

CHAMPION CABBAGE, the earliest and best sort, if sown in succession, may be had fit for table throughout the year, 8d. per ounce, or 1s. post free.

BUTLER & MCCULLOCH, Covent Garden Market, London.

H. AND R. STIRZAKER have still to offer the finest DRUMHEAD CATTLE CABBAGE PLANTS at 2s.; EARLY, of sorts, 3s. 6d.; CURLED SAVOY, 4s.; CAULIFLOWER, strong, 25s. per 1000.—Lancaster Nurseries.

KEMP'S INCOMPARABLE EARLY CABBAGE.—This is quite a distinct variety, and superior to any other known kind, of delicious flavour, dwarf habit, extra early, attains a good size, will not run to seed, and every plant warranted to Cabbage. Seed may be had in sealed packets for 13 postage stamps, post free, at EDMUND P. DIXON'S, 57, Queen Street, Hull.

TO THE TRADE.

CHARLES SHARPE has still to offer, of his own growing, saved from the finest selected stocks—

| | |
|---|---|
| LONG RED MANGEL | RED LINCOLNSH. GLOBE TURNIP SEED |
| YELLOW DO. | GREEN GLOBE DO. |
| YELLOW GLOBE DO. | YELLOW TANKARD DO. |
| ALTRINGHAM CARROT | |

Prices given on application.—Wisbeach, Cambridgeshire.

SORGHUM, OR HOLCUS SACCHARATUS (CHINESE SUGAR CANE GRASS).

SUTTON AND SONS, importers of this SEED, can supply it on liberal terms, according to quantity required. Royal Berkshire Seed Establishment, Reading.

HOLCUS SACCHARATUS, OR CHINA SUGAR-CANE GRASS.—Seed of this lately introduced Fodder plant can be supplied by NUTTING & SONS in any quantity. Price on application.—Seed Warehouse, 60, Barbican, London.

HOLCUS SACCHARATUS, or North China Sugar-Cane.—Pamphlet, "A Visit and a Plant;" the only English authority on the Cultivation of the above. Post free 6d. Prices of Seed on application. Samples 6d. Four varieties of Holcus remitted free by post on receipt of 10s.

CHINESE YAMS, 4s. per dozen.

ASPARAGUS plants, 16s. per 1000.

JOHN W. CLARKE, Whittlesea, Cambridgeshire.

JOSEPH MAY & Co., SEEDSMEN, beg to offer the following:—

Fifty varieties of FLOWER SEEDS, 7s. 6d. Thirty ditto, 5s. Fifteen ditto, 2s. 6d.

Twelve varieties useful and ornamental GOURDS, post free, 3s.

HOLCUS SACCHARATUS, with directions for culture, 1s. 6d. per lb.

DIOSCOREA OR CHINESE YAM, large roots, 1s. each.

NEW ZEALAND RUNNER BEANS, 6d. per dozen.

A LIST of GARDEN and FARM SEEDS sent post free on application.—1, Wellington Street, Strand, Waterloo Bridge.

TO THE TRADE.

T. AND G. SWAILES offer several thousands as under, at 10s. per 1000:—

| | |
|---|---|
| CUPRESSUS SEMPERVIRENS | THUJA ORIENTALIS |
| „ TOURNEFORTI | „ PYRAMIDALIS |

The above are 6 to 9 inches in 8-inch pots, about 150 in each pot.—Beverley, Yorkshire, May 14.

PALM FOR SALE, a fine specimen, 7 feet high. Has not been accustomed to very much heat.—Address X., 5, Brompton Place, S.W.

GOLDEN CHAIN GERANIUMS.—Per dozen, 6s. | Per 100, 2l. 5s. | Per 500, 10l.

The above are offered in good strong plants by ROBERT REA, Ipswich Nursery, Ipswich, Suffolk.

UNRIVALLED BEDDING GERANIUM "CHRISTINA" (KINGHORN).—Deep rosy pink, large trusses, an abundant bloomer, small foliage, of compact and robust habit; without exception the most perfect Bedder yet raised, having such an effective colour and a continuous bloomer. 2s. 6d. each; six plants for four.

F. R. KINGHORN, Sheen Nursery, Richmond, S. W.

ROSA BONHEUR, BLAZER, AND SCARLET GLOBE.—New and attractive bedding GERANIUMS:—Rosa Bonheur—colour carmine rose, truss large, habit dwarf, foliage horseshoe; quite new and unequalled by any of its class. Blazer—large truss, very brilliant colour, habit dwarf; a great improvement. Scarlet Globe—a most showy variety, quite new and distinct from any of its class. These are seedlings of 1858, and received Certificates from all the leading exhibitions.—EDWARD SHENTON, Hendon Park Nurseries, N.W.

HOLLYHOCKS.

A. PAUL AND SON have still a large Stock of HOLLYHOCKS, strong healthy plants that will bloom this autumn at the following rates:—

MIXED SEEDLINGS from fine named sorts, 25s. per 100.

BLOOMED SEEDLINGS, in separate colours, 30s. to 50s. per 100.

NAMED SORTS, border flowers, 9s. to 18s. per doz.

„ „ show flowers, 24s. to 42s. per doz.

HOLLYHOCK SEED, 1s. to 5s. per packet.

Free by post.—Nurseries, Cheshunt, Herts.

SUPERB DOUBLE HOLLYHOCKS.—The present is yet a good time for planting out this noble flower for autumn blooming. W. CHATER can still supply plants fine and perfectly healthy at reasonable prices.

Apply to WILLIAM CHATER, Grove Nurseries, Saffron Walden.

NEW CHRYSANTHEMUMS AND DAHLIAS.

JOHN SALTER is now sending out his splendid Seedlings and other new CHRYSANTHEMUMS, as well as those of his unrivalled general collection, which is the largest in Europe; also several fine new DAHLIAS, English and Foreign.—Versailles Nursery, Hammersmith Turnpike, W.

"DAHLIAS FOR THE MILLION."

CLARKE AND COMPANY'S CATALOGUE of the above is now ready, and may be had gratis upon application.—CLARKE & COMPANY, Florists and Seedsmen, 86, High Street, Borough, London, S.E.

DAHLIAS, FUCHSIAS, VERBENAS, &c.

GEORGE SMITH, FLORIST, &c., Lorrimore Road, Walworth, begs to offer the following, in extra strong plants, true to name, his stock containing the new flowers of last year (per dozen):—

| | | | |
|---|---|---|---|
| Dahlias | 3s. 6d. to 8s. | Double Petunias | 6s. |
| Verbenas | 3s. to 6s. | Fine dry bulbs of Cyclamen persicum & Coum, per dozen roots | 8s. to 12s. |
| Chrysanthemums | 4s. to 6s. | | |
| Fuchsias | 4s. to 8s. | | |

AZALEA INDICA.

J. IVERY AND SON beg to inform their Friends and Patrons that their New DESCRIPTIVE CATALOGUE of the above-named is now published; it contains all newest and best varieties, and may be had post-free upon application, at either the Dorking or Reigate Nurseries.

LARGE CAMELLIAS AND AZALEAS.

J. AND R. THYNE, NURSERYMEN, Glasgow, have a dozen large CAMELLIA plants, 6 to 10 feet high, well furnished, mostly double white; also a fine lot of specimen AZALEAS, 3 to 5 feet high. Prices moderate.

FERN CATALOGUE.

ROBERT SIM'S NEW DESCRIPTIVE AND PRICED CATALOGUE, No. 6 (62 pages) of his COLLECTION of BRITISH AND EXOTIC FERNS, can be had, post free, for 8 stamps. Gratis to all previous purchasers of Ferns.

Nursery, Foot's Cray, Kent, S.E.

TO ORCHID GROWERS.—Duplicate plants of the following good ORCHIDS may be had of ROBERT WARNER, Broomfield, near Chelmsford, Essex, viz., Cattleya Sion House, Labiata splendens and atropurpurea, Ianthina superba, crispa, superba, marginata, elegans, &c.

THOMAS WILD has only a few packets of his PRIMULA SEED left, at 2s. 6d. per packet.

The Primulary, Ipswich.

100,000 BEDDING PLANTS, the cheapest place in England. Catalogue sent for one stamp.—J. PYLE, St. John's Nursery, Upper Holloway, London.

PANSIES.—The best and most distinct kinds, extra fine show varieties, 6s. per dozen.—DODWELL & BAYLEY, Bradshaw Gardens, Chadderton, Manchester.

BELGIAN DAISIES.—In the finest variety, 4s. per dozen.—DODWELL & BAYLEY, Bradshaw Gardens, Chadderton, Manchester.

CARNATIONS AND PICOTEES.—Twenty-five pairs strong, well rooted, and extra fine show varieties, named, 1l., packing and hamper included.—DODWELL & BAYLEY, Bradshaw Gardens, Chadderton, Manchester.

PINKS.—Twelve pairs fine named kinds in strong healthy plants, 5s.; 25 pairs, 10s., packing and hamper included.—DODWELL & BAYLEY, Bradshaw Gardens, Chadderton, Manchester.

DAHLIAS.—The finest selections, strong healthy plants, well established, 4s., 6s., 8s., and 12s. per dozen.—DODWELL & BAYLEY, Bradshaw Gardens, Chadderton, Manchester.

PHLOXES.—The best and most distinct kinds strong plants, well established, 8s. per dozen.—DODWELL & BAYLEY, Bradshaw Gardens, Chadderton, Manchester.

For particulars of New Phloxes see Advertisements April 23 and April 30.

CLIMBING PLANTS.

F. AND A. SMITH have now ready strong plants of COBÆA SCANDENS, MAURANDYAS, blue, white, and rose; LOPHOSPERMUM, ECCREMOCARPUS, and TROPÆOLUMS, in large quantities. Prices on application.

Dulwich, Surrey.

TROPÆOLUM CANARIENSE.

CHARLES ALEXANDER, SEEDSMAN, Edinburgh, offers New Seed of the above at 20s. per lb., and 1s. 6d. per ounce.

PAMPAS GRASS (GYNERIUM ARGENTEUM).—The beauty of this extraordinary plant has this season been fully appreciated. It can be supplied by the dozen, hundred, or thousand, by CHARLES NOBLE, Bagshot, Surrey.

JOHN CULVERWELL, Taunton, begs to call the attention of Agriculturists to his superior selection of GRASS SEEDS, which for PURITY, change of SOIL, and CLIMATE, will bear comparison with any house in the kingdom. Prices, terms, and samples forwarded on application.

### PLANTS IN FLOWER.

F. AND A. SMITH have now in bloom Acacia, Cactus (fine), Cytisus; Erica ventricosa coccinea minor, v. superbiens, v. breviflora, E. intermedia, E. Cavendishi, E. hybrida, E. perspicua nana; Fuchsias, Calceolarias, Heliotrope, Hydrangea, Geraniums, Fairy Roses, &c.

The above are healthy, strong, and well-grown plants, prepared for sending away. Prices on application.

Dulwich, Surrey, S.

---

MESSRS. PARKER AND WILLIAMS beg to inform their friends and patrons that their PRICED and DESCRIPTIVE CATALOGUE of Exotic Orchids, Stove, Greenhouse, and Hardy Ferns, Miscellaneous Stove, Greenhouse, and Hardy Plants, Variegated and Ornamental foliaged Plants, Conifers, Roses, Rhododendrons, Indian Azaleas, Gloxinias, Fuchsias, Cactuses, &c., is now published, and will be forwarded post free on application.—Paradise Nursery, Seven Sisters' and Hornsey Roads, Holloway, London, N.

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### GERMAN AND OTHER FLOWER SEEDS, VEGETABLE, AGRICULTURAL SEEDS, ETC.

MESSRS. PARKER AND WILLIAMS beg to inform their friends and patrons that their new PRICED and DESCRIPTIVE CATALOGUE in which is enumerated every novelty of proved merit, also all the best of the older kinds, is now published, and will be forwarded post free on application. Their whole stock has been selected from the best English and Foreign sources, and every kind is warranted true to name, and of the finest possible quality.—Paradise Nursery, Seven Sisters and Hornsey Roads, Holloway, London.

---

FINE EXHIBITION DAHLIAS, in strong plants, viz., Admiral Dundas, Amazon, Annie, Beauty of Slough, Baron Alderson, Captain Ingram, Colonel Windham, Cossack, Charles Perry, Carnation, Deutsche Würde, Duchess of Wellington, Duke of Wellington, Empress, Fanny Dodds, Fanny Keynes, General Foucher, Grand Sultan, Incomparable, Lady Folkestone, Lollipop, Lord Bath, Lord Palmerston, Lady Paxton, Miss Caroline, Miss Burdett Coutts, Mrs. Edwards, Mrs. Wheeler, Mr. Seldon, Nigger, Perfection, Princess, Pre-eminent, Ruby Queen, Rachel Rawlings, Robert Bruce, Royal Scarlet, Sir R. Whittington, Sir J. Franklin, Souter Johnny, Sir William Wallace, Sir F. Bathurst, Touchstone, Triomphe de Roubaix, Yellow Beauty, Hon. Mrs. Trotter. Selections from any of the above, 3s. per dozen.

HENRY MAY, The Hope Nurseries, near Bedale, Yorkshire.

---

### NEW ANTIRRHINUMS.

HENRY MAY has now ready for delivery his fine SEEDLING ANTIRRHINUMS, selected from an immense collection of very superior Seedlings, and he can recommend them as a most beautiful set and improvement on existing kinds, viz. :—

STANDARD BEARER (MAY's).—White throat, bright rose lip, with yellow centre, very fine and distinct.

LORD JOHN RUSSELL (MAY's).—Pure lilac self, buff lip, very fine form and habit.

LORD DERBY (MAY's).—Creamy white, with yellow lip, beautifully striped and veined with bright purple.

PURPLE KING (MAY's).—Deep rich purple self, fine spike extra.

SURPRISE (MAY's).—Bright rosy crimson gold lip, very fine, form good.

ORLANDO (MAY's).—White tube, bright crimson lip, an improvement on Firefly, very fine.

GALATEA IMPROVED (MAY's).—Pure white tube, bright crimson lip, fine habit and large spike good.

GITANA (MAY's).—Bright rosy purple, white lip, fine spike extra.

The above set of eight for 25s., or 3s. 6d. each separate. The usual discount to the Trade.

HENRY MAY, The Hope Nurseries, near Bedale, Yorkshire.

---

PLANTS FOR THE FLOWER GARDEN, 100,000.—100 strong, well hardened plants, composed of the following:—Yellow, crimson, and orange Calceolarias, Scarlet Geraniums, Antirrhinums, Cupheas, Heliotropes, Pentstemons, Phloxes, Verbenas, Salvias, Senecio, Dahlias, &c., all properly named, basket and packing included, for 12s. 6d.

New Fuchsias, of last season, at 6s. per dozen; new Verbenas, of ditto, at 4s. per dozen.

HENRY MAY, The Hope Nurseries, near Bedale, Yorkshire.

---

### NEW FRENCH PHLOXES.

JOHN STANDISH can recommend the following as the best that were sent out last year, he having seen them in bloom, and selected those he thought the best. They are very beautiful dwarf, and continue flowering from June until October, or until the frost destroys them in the autumn, and are admirably adapted for bedding, being now classed as perpetual bloomers, many of them growing not more than 16 to 18 inches high:—

Empereur de toutes les Russies, shaded violet purple centre
Julie Roussel, white, with purple centre, superb
L'Enfant Prodigue, violet rose, shot with scarlet
Louis Guerard, large deep amaranth, magnificent
La Volupté, smooth rose, shot with scarlet
Madame Suer, white purple centre, very dwarf
Mademoiselle Orelly Duriez, white violet centre
Monsieur Forest, large lively amaranth, very effective
Souvenir d'un Ami, large rosy red, very fine
Surpasse Madame Rendatler, white purple centre, very dwarf.

The above 2s. 6d. each, or the lot 21s.; besides the above J. S. can supply the finest old sorts from 6s. to 12s. per dozen.

ROSES for bedding on their own roots, strong plants:—

TEA: Souvenir d'Elise, the most beautiful of all Tea Roses, 2s. each, or 18s. per dozen, or 7l. per 100
,, Safrano, 1s. each, or 9s. per dozen
,, Gloire de Dijon, 1s. each, or 9s. per dozen

HYBRID PERPETUAL ROSES.

General Jacqueminot, 1s. each, or 9s. per dozen
Louis Chaix, 2s. 6d. each, or 24s. per dozen
Madame Vigneron, 2s. 6d. each, or 24s. per dozen
Pauline Lansezeur, 1s. 6d. each, or 12s. per dozen. (Of all the Hybrid Perpetual Roses this is the best adapted for bedding purposes, from its dwarf bushy habit and being always healthy and always in bloom)
Victor Trouillard, 1s. 6d. each, or 12s. per dozen

NOISETTE: Triomphe de Rennes, 2s. each, or 18s. per dozen.

NEW ROSES of 1858, on their own roots.

HYBRID PERPETUAL ROSES, 2s. 6d. each, or 24s. per dozen:—

| | |
|---|---|
| Duc de Cambridge | L'Evêque de Nîmes |
| Lord Palmerston | Louise d'Autriche |
| Marie Portemer | Reine de Denmark |
| Thomas Rivers | Triomphe des Beaux Arts |

NEW ROSES for 1859, grafted on the Manetti Stock, strong plants, 4s. each, or 2l. 12s. 6d. the lot.

HYBRID PERPETUAL ROSES.

| | |
|---|---|
| Ambroise Verschaffelt | Beauté de Royghem |
| Comte de Beauford | Celine Forestier |
| Docteur Bretonneau | François Ier |
| Empereur de Maroc | François Arago |
| Impératrice Eugenie | Oriflamme de St. Louis |
| Princesse Olympie | Stephanie Beauharnais |
| Virginal | Vicomtesse Laure de Giraud |
| TEA: Madame Damaisin | BOURBON: Octavie Fontaine |

All the above plants are now ready to send out, and J. S. will have the above New Roses on their own roots ready to send out the first week in June.—Bagshot, May 14.

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# MESSRS. E. G. HENDERSON & SON

WILL OFFER THE FOLLOWING NEW PLANTS IN MAY, AND THE

## NEW GENERAL CATALOGUE and SPRING LIST of ORNAMENTAL BEDDING and SUMMER FLOWERING PLANTS

WILL IN A FEW DAYS BE READY FOR DISTRIBUTION, WHEREIN WILL BE DESCRIBED

### ALLAMANDA VIOLACEA.

This plant so long looked for, and much needed by all English competing competitors, we have much pleasure in introducing for the first time to the public, and no doubt it will be for years the great feature at the leading Exhibitions. The late Mr. Gardner, Director of the Royal Botanic Gardens in Ceylon, speaks of it in his papers, published in the second volume of the London Horticultural Society's Quarterly Journal, as one of the finest shrubs he met with, and "by far the most beautiful species in the genus, bearing numerous large flowers not unlike in colour those of Gloxinia speciosa."

As a competition plant in collections, A. violacea, in its violet-blue tint, offers a new and essential feature in colour, there being none other in the same style to associate with the golden-yellow of A. Schotti, and the delicate rosy-blush of Echites and Dipladenia. 63s. each.

---

AGAPETES BUXIFOLIA, a neat-habited plant with good evergreen foliage, and large bright red tubular flowers, resembling the Mitraria and Epacris intermediately.

NEW INDIAN AZALEAS, fine competing kinds raised by M. Spae, M. C. Van Loo, and M. De Witte.

The scarlet-flowered variety of TYDÆA GIGANTEA, and the double-flowered ACHIMENES LONGIFLORA.

The TYDÆA LADY DIGBY, and LADY CAROLINE KERRISON (syn. Achimenes), with large brilliant rosy-crimson flowers throughout winter, free flowering habits.

The HYBRID BEGONIAS raised by Mr. Stange, Gardener to Herrn Consul Schiller, of Hamburgh, including B. PICTURATA and others from B. SPLENDIDA ARGENTEA.

LIERVAL'S NEW PHLOX EVENING STAR.

BURRIDGE'S TWO NEW PHLOX DRUMMONDI, VICTORIA AND ALBERT.

CALCEOLARIA AMPLEXICAULE ALBA, Splendid bedder.

BOUVARDIA "BRILLIANT" AND "DELICATA," with large flower tubes, and profusion of bloom.

NEW BEDDING DAHLIAS, GLOIRE DE FRANCE, AND WHITE UNIQUE.—The best white variety out, and the former as the most noble formed and richly coloured flower of any other Dahlia for beddings, a dried plant showing the dwarf and profuse blooming habit may be seen at the Wellington Nursery.

BANKS'S NEW FUCHSIAS (9 varieties, 63s.).

NEW CHRYSANTHEMUMS (8 varieties), see Plate XXVI. in the "Illustrated Bouquet."

BREEZE & BANKS'S COLLECTION OF NEW VERBENAS will include the finest blue out, the best rose, the finest violet-purple, the best peach, and maroon black, with large white eyes or centres, the Géant des Batailles far surpassed; a Mrs. Holford in truss and habit, but suffused with a beautiful pink tint. The entire collection includes a full complement of colours, as the finest ever sent out by us, and surpasses with but few exceptions any that we have cultivated under name.

### FINE BEDDING GERANIUMS.

NEW NOSEGAY SECTION.

THE IMPERIAL CRIMSON, AND MODEL NOSEGAY GERANIUMS. See descriptions at page 355, and also the Catalogue.

Among Variegated Geraniums, MISS EMILY DOMVILLE will prove a first-class Bedding Plant (see description in Catalogue).

The two GOLDEN-LEAVED varieties with large-petalled flowers.

THE RAINBOW, with the finest red-zoned foliage yet seen.

THE ST. CLOUD, a beautiful accompaniment to FONTAINEBLEAU.

THE SILVER CHAIN, with deep margin of pure white; a fitting companion to the GOLDEN CHAIN.

---

NEW CALCEOLARIAS, scarlet, crimson, and yellow, of proved and true bedding, shrubby, branching growth; not half shrubby, as the majority are.

THE WHITE NOSEGAY GERANIUM (for beds).

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N.B. *The quotations of Price to Geraniums Imperial Crimson and Model Nosegay, at page* 355, *should have appeared as* 3s. 6d. *and* 2s. 6d. *each only.*

**Wellington Nursery, St. John's Wood, London.**

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# CHOICE BEDDING PLANTS, &c.

# YOUELL & CO.

BEG RESPECTFULLY TO OFFER THE FOLLOWING IN STRONG WELL-ESTABLISHED PLANTS (SINGLY) IN POTS:—

AGERATUM ALBUM, white, 4s. per dozen.
CŒLESTINUM, blue, best variety 4s. per dozen.
ARABIS LUCIDA VARIEGATA, beautiful for edging, 9s. per dozen.
ANAGALLIS, large red, do. blue, 4s. per dozen.
ANTIRRHINUM YOUELLI, a beautiful variety of dwarf, bushy habit. The flowers are of a brilliant orange scarlet with white tube, produced in great profusion on dense spikes of bloom. 6s. per dozen.
ANTIRRHINUMS, fine selections of all the best named kinds, 6s. per dozen.
BELLIS PERENNIS, new Belgian Daisies, of the best sorts by name, 4s. per dozen.
BELLIS AUCUBÆFOLIA, a very handsome variety, with golden blotched foliage and large scarlet flowers, 6s. per doz.
BERBERIS DARWINI, fine golden yellow, 6s. per dozen.
CALYSTEGIA PUBESCENS (rose coloured double-flowering Convolvulus), a good hardy climber, 6s. per dozen.
CALCEOLARIA AUREA FLORIBUNDA, the most desirable of all the yellow-flowering varieties. Strong plants, 4s. per dozen; 25s. per 100.
CALCEOLARIAS, of best kinds for bedding, assorted in colours, 6s. per dozen.
CAMPANULA CORALLINA GARGANICA, blue, very pretty, 4s. per dozen.
CHRYSANTHEMUM REGALIUM, fine golden yellow, 4s. per dozen.

### CARNATIONS AND PICOTEES.

CARNATIONS, finest first class show varieties by name, 18s. and 24s. per dozen pairs.
PICOTEES, finest first class show varieties by name, 18s. and 24s. per dozen pairs.
Ditto, on yellow grounds, 20s. and 30s. per dozen pairs.
Finest mixed BORDER CARNATIONS & PICOTEES, 9s. ditto
True old CLOVE CARNATION, 12s. per dozen pairs.
Scarlet ditto ditto, 18s. ditto
NEW CARNATION "EXTRAVAGANZA."—For particulars see Advertisement, March 26. Price 3s 6d. per pair.

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PINKS.—The finest first class show Pinks, by name, 9s. per doz.
Fine mixed border PINKS, 6s. per dozen pairs.
COBÆA SCANDENS, fine strong plants, 6s. per dozen.
CUPHEAS, of sorts, 4s. per dozen.
CHRYSANTHEMUMS, the handsomest of the new large flowering and Pompone kinds, 6s. per dozen.
CHEIRANTHUS ATROPURPUREUS, of dwarf habit, producing a profusion of rich purple flowers, 6s. per dozen.
DAHLIAS, fine show and fancy varieties, by name, 6s. per doz.
DAHLIA PURPLE ZELINDA, fine dwarf bedded, 6s. per doz.
,, CRYSTAL PALACE, scarlet, 6s. per dozen.
DELPHINIUM FORMOSUM. By far the most beautiful of the genus and forms a lovely and permanent bed of the richest blue. Strong flowering Ground Roots 16s. per 100; 3s. per dozen.
FUCHSIAS, finest bedding varieties 6s. per dozen.
,, all the new fine varieties of last season, 12s. per dozen
GAILLARDIAS of sorts, 4s. per dozen.
GERANIUMS, scarlets and other kinds of best vari 4s. per dozen.
GERANIUMS, variegated of sorts, 6s. per dozen
GAZANIA RIGENS, large orange, dark centre, 6s. per dozen.
HOLLYHOCKS, first-rate show varieties by name, 12s per doz.
,, strong unbloomed Seedlings, from the very best named varieties, 4s. per dozen; 30s per 100.
HELIOTROPES, of choice kinds, 6s. per dozen.
KONIGA VARIEGATA, very pretty for edging 4s., per dozen.
LANTANAS, 10 new and very beautiful varieties for 7s. 6d.
,, of sorts, 6s. per dozen.
LINUM FLAVUM, bright yellow, 6s. per dozen.
LOBELIA SPECIOSA, the best of the dwarf blue varieties, 4s. per dozen.
,, ,, finest scarlets adapted for forming magnificent groups, 9s. per dozen.
LOPHOSPERMUM, of sorts, 6s. per dozen.
LYCHNIS CORONATA, fine orange scarlet, 9s. per dozen.
MAURANDYA BARCLAYANA, blue and white, 4s. per dozen.
MATHIOLA TRISTIS, night-scented Stock, 6s. per dozen.
MESEMBRYANTHEMUMS, of showy kinds, 6s. per dozen.
NASTURTIUM TRIOMPHE DE GAND, } fine for baskets, 6s. per dozen.
,, LILLE SCHMIDT }
,, DOUBLE DARK AND DOUBLE YELLOW, 6s. per dozen.
NIEREMBERGIA FILICAULIS, white, lavender eye, very pretty for bedding, 4s. per dozen.
OXALIS FLORIBUNDA AND ROSEA, quite hardy, producing a fine bed of rich rose colour, 6s. per dozen.
ŒNOTHERA MACROCARPA, large yellow, 4s. per dozen, 25s. per 100.
,, TARAXACIFOLIA, large white, 6s. per dozen.
PETUNIAS—M. Boucharlet's superb collection of 12 new double varieties, by far the handsomest yet offered, 9s. per dozen.
,, Double of Sorts, 6s. per dozen.
,, Gem of Suffolk, beautiful silver variegated foliage, large purple flowers, 9s. per dozen.
,, of sorts, assorted colours, 4s. and 6s. per dozen.
PANSIES—Finest first-class show varieties, by name, 9s p. doz.
PENTSTEMONS, of sorts, including the new kinds, 6s.
NEW PHLOXES—An extensive and select collection of this beautiful showy tribe, comprising the fine and newly introduced varieties from the Continent, 6s. to 9s. per dozen. Older varieties, 30s. per 100.
PHYGELIUS CAPENSIS, a handsome Pentstemon-like hardy herbaceous plant, producing tube-shaped flowers of scarlet and yellow, 9s.
SALVIAS, of sorts, 4s.
STATICE MARITIMA ROSEA AND PSEUDO-ARMERIA.—Strong plants of these two beautiful and hardy species, producing throughout the year a profusion of lake-coloured flowers, 4s. per dozen.
TRITOMA MEDIA—A handsome hardy herbaceous plant, producing large spikes of scarlet-yellow flowers, 9s. per dozen.
VERBENAS, scarlet, red, crimson, claret, rose, pink, blush, white, lavender, blue, purple, plum, striped and variegated, of the newest and handsomest varieties in cultivation, 3s. per dozen, or 20s. per 100.
HARDY HERBACEOUS AND ALPINE PLANTS of the most showy species, 6s. per dozen, 30s. per 100.

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☞ *All orders of £2 and upwards are delivered Carriage Free to London, Manchester, Hull, Liverpool, Peterborough, and Newcastle, as well as to any Railway Station within* 150 *miles of the Nursery. Communications, by Steamers and Railway, to all parts of England, Ireland, and Scotland, as well as to the Continent.*

**It is respectfully solicited that all Post-office Orders be made payable to YOUELL & CO., Yarmouth, Norfolk.**

**ROYAL NURSERY, GREAT YARMOUTH, NORFOLK.**

# SUTTON'S CHAMPION SWEDE,

## THE SWEDE THAT NEVER MILDEWS.

*"When this sort of Swede is universally grown, we shall hear very few complaints of failure of the Swede crop."*

### Extracts from Letters received by Messrs. SUTTON & SONS:—

*From* Mr. Henry Herbert, *Flax House, Powick, Feb.* 15, 1858.
"Your Champion Swede is the best sort I ever sowed. I have an extraordinary crop sown 1st and 5th of July."

*From* Mr. George Parker, *Polsue House, Feb.* 20, 1858.
"The Champion Swede Seed which I had from you last year has proved exceedingly good; it is in fact considered the best Swede ever introduced in the county. I had a field 27 acres, which realised 40 tons per acre, many of them weighing 16 lbs. each."

*From* Mr. C. Taylor, *Cross Hill, Wigton, March* 2, 1858.
"You will see that I have enlarged my order for Swedes very much, as I am ordering for a few of my neighbours, who saw my crops last year and wished me to get some for them. All the Seeds I had from you were very good and answered well."

*From* G. Tyler, Esq., *Mount Gernas, March* 2, 1858.
"The Seeds sent last year were very good, and your Champion Swede gained me the prize in the Agricultural Show of Newcastle Emlyn, and has been much admired."

*From* Mr. William Fletcher, *Radmanthwaite, March* 12, 1858.
"The field of your Champion Swede from which I drew the prize roots for Birmingham was the finest I ever saw."

*From* R. T. Sparkes, Esq., *High Ashes, Abinger.*
"On a naturally very poor soil, and nearly 1000 feet above the level of the sea, your Swede far excelled any of my neighbours, although they possess a much better soil and climate."

*From* Mr. Ernest F. Oslar, *Whittlesford, April* 6, 1858.
"Thirty acres of Swedes grown by me from your Champion has given great satisfaction. I had my doubts if so fine a breed of Turnips (if I may be allowed the expression) as the Champion would stand the winter, but I can assure you that I have 5 acres at this time with as fine green tops and sound bottoms, as ever a man might wish to see, while my neighbours who sowed other sorts have not a green top to be seen, and many of their bulbs rotten."

*From* W. Longstaffe, Esq., *Northbrooke, April*, 1858.
"Mr. Longstaffe has grown this year 80 acres of Sutton's Champion Swede, the best crop ever seen in the South of England."

*From* Daniel Potter, Esq., *Charringworth, April* 19, 1858.
"My Champion Swedes from your Seeds last year were first-rate."

*From* Mr. Edward Jaques, *Monkton Farleigh, April* 24, 1858.
"The Champion Swedes I had last year were very fine. I have several tons of them now in prime condition."

*From* Robert Russell, Esq., *Abdale, July* 6, 1858.
"Judging from my plants of Mangel and Swedes, I think every Seed must have grown."

*From* Mr. Joseph Woodend, *Rutland, Oct.* 12, 1858.
"The Seeds were very excellent, particularly the Elvetham Wurzel and the Champion Swede."

*From* John G. Ive, Esq., *The Trenches, Langley, Oct.* 21, 1858.
"At the meeting of the Royal South Bucks Agricultural Association, held October 16, I gained the Silver Cup value 20 guineas given by H.R.H. the Prince Consort to the grower of the best 5 acres of Swedes. This field was from Seed purchased this season of you, called Sutton's Champion."

*From* Mr. Henry Cantrell, *Baylis Farm, Stoke*, 1857.
"The judges have awarded me H.R.H. the Prince Consort's 25 guinea Cup for South Bucks, for the best 5 acres of Swedes. There is no doubt about this Champion Swede of yours being of first-class quality."

*From* Mr. Henry Cantrell, *Baylis Farm, Nov.* 4, 1858.
"I obtained the second prize, a Silver Salver, at our South Bucks Show. My field was nearly equal to Mr. Ive's, which gained the Prince's Cup, (the first prize) which was also from your Champion Swede, and it only proves the truth of my observation last year, that for quality and weight I thought them unequalled."

*From* C. Randell, Esq., *Chadbury, Nov.* 5, 1858.
"A premium of 10*l.* given by H.R.H. the Duke d'Aumale for the best 5 acres of Mangel, and a similar one given by John Cartwright, Esq., for the best 6 acres of Swedes, have both been awarded to me for crops grown from your Seed."

*From* P. Davis, Esq., *Bromfield, Nov.* 5, 1858.
"Your Champion Swede is excellent. I have succeeded in getting good crops this season as well as last. The Yellow Globe Mangel is equally good, and the crops have been very satisfactory both seasons."

*From* Mr. W. Fletcher, *Radmanthwaite, Nov.* 5, 1858.
"I have one field of 12 acres of your Champion Swede, the best I think in the county of Notts."

*From* Mr. Henry Ford, *Branscombe, Nov.* 6, 1858.
"The Champion Swede Seed which I had of you in the spring is a good crop, and as all other Seed which I had of you has given me every satisfaction, I hope to become again a customer."

*From* Captain Harrison, *Clanna, Nov.* 6, 1858.
"Captain Harrison sowed some Champion and Skirving's Swede in the same field, and the former are by far the best crop."

*From* Mr. Henry Withers, *Lodge Farm, Longparish, Nov.* 6, 1858
"The Champion Swede Seed which I had of you in the spring has answered remarkably well, though the season has been unfavourable for the growth of roots, especially in this neighbourhood. I obtained an excellent plant; not a yard in the whole 12 acres vacant, and the bulbs handsome, with a full crop. I congratulate you on the success of the Seeds sent out by your firm."

*From* G. Tyler, Esq., *Mount Gernas, Nov.* 1858.
"I have gained the prize in my district both this and last year for your Champion. They are by far the finest Swedes I have seen this year."

*From* Mr. David Easson, *Camperdown, N.B., Nov.* 6, 1858.
"The crop of Swedes this season from the Seed of your Champion is most satisfactory."

*From* Mr. Charles Turner, *Kelmscott, Nov.* 5, 1858.
"My Swedes from your Champion Seed are very fine, and also my Hybrid and common Turnips after Vetches are very superior in quality and quantity."

*From* Joseph Blundell, Esq., *Burstedon, Nov.* 5, 1858.
"The Champion Swede Seed I purchased of you last season for the farm of A. Elphinstone, Esq., and General Robertson, turned out remarkably well."

*From* Mr. John Jolly, *Steeple Aston, Woodstock, Nov.* 10, 1858.
"I have been very successful with all the Seeds I had from you, especially your Champion Swede. They are a very fine crop indeed, and I like them much better than any other sort I ever grew."

*From* Mr. E. Castleton, *Stoke, November* 9, 1858.
"Your Champion Swedes, grown from Seed supplied by you, are allowed to be the finest field in the parish."

*From* Richard Neville, Esq., *Velin Vale, November* 10, 1858.
"My crop of Champion Swede and Orange Globe Mangel is the best I have seen in this neighbourhood."

*From* Lewis P. Madden, Esq., M.D., *Jacobstow, Nov.* 10, 1858.
"I have a first-rate crop of your Champion Swede this year; indeed, I cannot speak too highly in their praise. I have tried many sorts, as the Ashcroft, Skirving's, Copper-topped, &c., but none of them equal the Champion as to certainty of crop and size."

*From* W. Summerby, Esq., *North Terrace, Nov.* 6, 1858.
"The Champion Swedes raised from Seed obtained from you are in quantity and quality far above the average of an extensive district."

*From* Gilbert Peacock, Esq., *Greatford Hall, Nov.* 5, 1858.
"I like your Champion Swede very much, and hope to grow much more next year."

*From* Charles Noel, Esq., *Bell Hall, November* 8, 1858.
"My crop of Swede Turnips this year from your Champion Seed is a very fine one indeed. It is one of the best I have seen this year. I also drilled in without ploughing a second time some of your Green-topped yellow Hybrid, which succeeded very well; they are now a splendid field of Turnips, and the quality very fine."

*From* Thomas Bosworth, Esq., *Watnall Fields, Nov.* 10, 1858.
"I have had the prizes awarded to me this season by the Selston and Moorgreen Agricultural Societies, for the best crop of Swedes, from the Champion Seed supplied by you."

*From* Mr. Robert Spiller, *Branscombe, November* 13, 1858.
"I have 40 acres of your Champion Swede (although a dry season), regularly planted, good size, and very handsome bulbs. The Mangel Wurzel I grew from your seed are very superior to those I grew from seed I bought of others, particularly the Red Globe. I believe them the most handsome roots I ever saw."

*From* G. M. Robbins, Esq., *Hymenstown House, Tipperary, November* 18, 1858.
"I planted the Liverpool, Ashcroft, and the Champion Swede, all in the same field, and in succession, as they are named above; the result was that the Champion was half as good again as the other two."

*From* Mr. Alfred Wicks, *Ashwick, November* 15, 1858.
"Your Champion Swede is the best I have grown for many years, and your Yellow Globe Mangel Seed has produced an excellent crop."

*From* Mr. E. Berry, *Whelpley Hill, Bovington, Nov.* 19, 1858.
"I gained the first prize for the best five acres of Swedes, at the Amersham and Chesham Agricultural Association (a Silver Cup given by T. T. Drake, Esq.), grown from your Champion Seed."

*From* E. Walshe, Esq., *Castle Hill, Ballina, November* 23, 1858.
"Your Champion Swede did very well with me this year; indeed, so good is my crop, I shall sow no other next year."

*From* Mr. Thomas Rush, *Harefield Grove Farm, Nov.* 27, 1858.
"Our root crops are very good. The prize of three guineas was awarded to us for the best five acres of Swedes, given by the Rickmansworth Society." (Sort, "Sutton's Champion.")

*From* Mr. James Stedman, *Luston, Kingland, Nov.* 29, 1858.
"The Champion Swede Seed I had from you last year was exceedingly good. I never saw a better field of Swedes than I had from it, as also the Green-top Hybrid Turnip."

*From* Mr. Arthur Bentall, *Eastwood, Dec.* 14, 1858.
"I have the best Swedes and Mangel from your Seeds that I have seen this year in this district, and wish to continue the same sorts for next season."

*From* Norman Matthews, Esq., *Poringland, Nov.* 8, 1858.
"My crop of Swede Turnips this year from your Champion Swede is a very fine one; indeed it is one of the best I have seen this year. I also drilled in without ploughing a second time some of your Green-top Yellow Hybrid, which succeeded very well. They are now a splendid field of Turnips, and the quality very fine."

*From* W. T. Hayward, Esq., *Long Wittenham.*
"Sutton's Champion Swede has gained Mr. Morrell's Cup of five guineas value, and Sweepstakes of 11 Sovereigns, for the best 5 acres of Swedes in the old Berkshire Hunt."

*From* Mr. John Baylis, *Lee Farm, Hurley.*
"I have the pleasure of informing you that the Twenty-five Guinea Cup given by H.R.H. the Prince Consort, for the best 5 acres of Swedes in East Berks, was gained by me with your Champion from Seed bought of you. They are the finest I have ever grown, or (as far as I remember) ever saw."

*From* J. F. Burrell, Esq., *Frimley.*
"Your Champion Swede has turned out very good; it is a sort I shall sow more of. I like them better than any I have ever had before."

Eight Prize Cups from H.R.H. the Prince Consort, besides numerous other Prizes throughout the Kingdom, have been awarded to fields of Sutton's Champion Swede Seed, now in course of delivery, Carriage Free to all parts (except small parcels), 1*s.* per lb., or cheaper by the bushel.

**ROYAL BERKSHIRE SEED ESTABLISHMENT, READING.—May 14.**


TURNIPS AND MANGEL WURZEL SEEDS, ETC.

THOMAS GIBBS AND CO., Corner of Half-Moon Street, the Seedsmen to the "Royal Agricultural Society of England," beg to announce to the members of the Society and agriculturists generally that they have still on hand a supply of the different kinds of MANGEL WURZELS; also selected stocks of HYBRIDS, SWEDES, and other TURNIPS, &c.

MANGEL WURZEL:—
Yellow or Orange Globe, Long Red, and other kinds.

TURNIPS:—
Green-top Yellow Hybrid, strongly recommended, and bears late sowing.

Purple-top Swedes | Skirving's Swedes
Globe sorts | Tankard's sorts

GRASS SEEDS for Permanent Pastures, Cemeteries, and Church Yards, Lawns, and Grass plots, &c.
RENOVATING MIXTURES for old Swards.
PRICED LISTS sent free on application.

Thomas Gibbs & Co.

CORNER OF
HALF-MOON St.
Piccadilly, London, W.

NATURAL GRASS SEEDS.

PETER LAWSON AND SON, THE QUEEN'S SEEDSMEN, can supply genuine Seed of all the valuable kinds of the NATURAL GRASSES suitable for Lowland and Upland Pastures; also for Laying-down Lawns, Bowling Greens, Cricket Grounds, Cemeteries, Railway Banks, &c.

PRICED LISTS may be had free on application.—Peter Lawson & Son, 27, Great George Street, Westminster.

"JACK OF NEWBURY" SWEDE, ETC.

PETER LAWSON AND SON, THE QUEEN'S SEEDSMEN, &c., 27, Great George Street, Westminster, respectfully request attention to their very genuine Stock of the above excellent Swede; also of the LOTHIAN PURPLE-TOP SWEDE, both of which have been selected with the greatest care. They have also a very fine Stock of the KOHL RABI, or TURNIP-ROOTED CABBAGE, specimens of which were shown at their Stands at Smithfield Club Show. The Kohl Rabi was largely grown last season, and may now be relied on as a substitute for the Turnip and Mangel, where these roots do not succeed, or for filling up blanks where there is a partial failure. Its feeding qualities, hardiness, and weight per acre are equal to the Swede, and all kinds of stock prefer it to other roots.

P. L. & Son have also selected a first-rate Stock of MANGEL WURZEL SEED, which they can confidently recommend. Their natural GRASS SEEDS have been also saved with very great care, and they are ready to supply them separately or in mixture, for laying down Permanent Pastures, Lawns, &c.

P. L. & Son have arranged to deliver Seeds free throughout England and Wales from their London Establishment, for all quantities exceeding 20*s.* in value.

LISTS OF PRICES of the above and all other Seeds, Plants, &c., may be had on application.
27, Great George Street, Westminster.

TURNIPS FOR EARLY FEEDING.

SUTTON'S LINCOLNSHIRE RED GLOBE; the heaviest cropper known. This sort is very superior to the Red Globe Turnip commonly grown in Lincolnshire. The original stock was presented to Messrs. Sutton by the late Philip Pusey, Esq., with the earnest desire that he might be supplied annually with Seed of the same sort. Price 10*d.* per lb., or cheaper by the bushel.

POMERANIAN WHITE GLOBE TURNIP; the largest white Turnip; price 9*d.* per lb., or cheaper by the bushel.

These two Turnips thrive well on most soils, and are good for feeding off previous to Wheat sowing. Goods delivered carriage free.—Royal Berks Seed Establishment, Reading.

Royal Berkshire Seed Establishment.

GOOD TURNIP SEEDS, CARRIAGE FREE.

Seeds Direct from the Growers the most certain Means of Preventing Disappointment.

SUTTON AND SONS, SEED GROWERS, Reading, Berks, can supply every kind of TURNIP SEEDS of genuine and superior quality.

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PAGE AND TOOGOOD'S STOCKS have produced the finest specimens exhibited at Smithfield, and are so well known and appreciated that comment on their part is unnecessary. Their prices compete with any house in the trade.

Present prices, Carriage Free to all parts of England:—

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| Skirving's Swede | 0 6 | Hardy Green Round | 0 6 |
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Fine PERMANENT PASTURE GRASS, ITALIAN RYE-GRASS, CLOVER, &c., at lowest market prices.
Special contracts for large quantities. Seeds packed for exportation to all parts of the world.
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JOHN HALLY, NURSERYMAN and FLORIST, opposite the Railway Station, Blackheath, S.E., offers the following at the annexed reduced prices :—

1. BURNING BUSH.—This has proved itself the most beautiful of all the red-zoned variegated kinds, having foliage variegated with broad white edge and zone of bright crimson. The flower brilliant scarlet, in good compact trusses, standing well up above the foliage, 30*s.* per dozen ; a few larger plants on hand, at 5*s.* each.

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### NEW SEEDLING AZALEA INDICAS.

| | |
|---|---|
| Blanc de Neige | Triomphe de Gand |
| Pelargoniæflora nova | Vicomte de Nieuport |
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| Reine des Doubles | |

JEAN VERSCHAFFELT, Ghent, Belgium, begs respectfully to announce that he is now prepared to send out his seven new Azalea indicas as above, in fine strong plants full in bloom. The price of the set is 3*l.* Early orders are requested, as they will be sent in strict rotation.

The description of the above may be had free on application to JEAN VERSCHAFFELT. Plants will be immediately forwarded after orders are received. All orders to be directed to JEAN VERSCHAFFELT, Nurseryman, Ghent, Belgium.

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TO BE SOLD, either wholly or in part, a rare and superb collection of Exhibition Specimens of TALL CACTI, CEREUS, EPIPHYLLI, and their hybrids. They have been exhibited at all the Metropolitan Shows for years past. Being large and numerous the owner wishes to dispose of them for cash or in exchange for Camellias, Ferns.—Apply to R. BUNN, Gardener to J. R. Scott, Esq., Harringay Park, Crouch End, Hornsey, N.

GOLD AND SILVER FISH.—Upwards of 100,000 on hand, at 4*s.* to 9*s.* per dozen, 2*l.* per 100, or 18*l.* per 1000. ORANGE TREES, full of bloom, and some with fruit and bloom, 3*s.* 6*d.* each ; larger size, with very large fruit and bloom, 6*s.*, 7*s.* 6*d.*, and 10*s.* 6*d.* each. AZALEAS and CAMELLIAS, 18*s.*, 21*s.*, and 24*s.* per dozen ; and every other kind of Greenhouse and Stove Plants, and Nursery Stock of the best quality at lowest prices for cash. — ROBT. GREEN, 154, Kingsland Road, 55 doors from Shoreditch Church.

WM. CUTBUSH AND SON beg to state that they can supply the following BEDDING PLANTS. Any quantity of extra fine plants at the prices annexed :—

| Per dozen.—*s.d.* | | Per dozen.—*s.d.* | |
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| Dahlias, of sorts | 6*s.* to 9 0 | Salvia, of sorts | 4 0 |
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| Variegated, of sorts, | 6*s.* to 9 0 | ,, Edmonds' New, of 1859, | 18 0 |
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| Lobelia ramosioides | 4 0 | | |

A DESCRIPTIVE CATALOGUE of the above and general Nursery Stock can be obtained free per post on application.

NEW VARIEGATED GERANIUM "BEAUTY."

WM. C. & SON can strongly recommend the above, which has bright green foliage, with a broad margin of pure white, flowers light scarlet of good shape in large trusses in great abundance, and very robust habit. We tested it last year with a dozen other kinds, and found it superior to any for bedding purposes. It was exhibited at the late meeting of the Royal Botanic Society, and received a Certificate of Merit.

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SHOW, FANCY, & FRENCH-SPOTTED PELARGONIUMS.—A large stock of remarkably fine plants of the above in 48-pots of all the leading sorts, at 12*s.*, 18*s.*, and 24*s.* per dozen ; or 5*l.* and 7*l.* 10*s.* per 100.

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NEW SCARLET VERBENA "MAGNET."—This superb variety is a Seedling of 1858. The colour is a most vivid scarlet, with a large Lemon-coloured eye, which gives it a very striking appearance over all other scarlets ; the pips are as round, large, and good a substance as those of the most beautiful Phloxes, the truss is of immense size, many of them last season measuring 9 inches in circumference ; it is a most prolific bloomer, and always throws its trusses well up. Blooms of the finest of the Scarlet Verbenas as yet sent out were compared with it last year, but none of them approached it in size or brilliancy of colour by many degrees. It never fades in the hottest sun, and is a superb variety for pot culture. It was considered to be the finest and most conspicuous variety ever yet grown, throwing Eclipse and all other scarlet Verbenas completely in the background. This was the general opinion of the following gentlemen, nurserymen, and gentlemen's gardeners :—J. Fore, Esq., Devizes ; A. Audry, Esq., Bath ; W. Thompson, Esq., Bath ; H. Collison, Esq., Bath ; Chas. Sainsbury, Esq., Swanswick, near Bath ; Mr. Edwards, of Messrs. Henderson & Co., Wellington Road Nursery, London ; Mr. Nelson, Nurseryman, Bristol ; Mr. Parker, Paradise Nursery, London ; Mr. Caizey, of Messrs. Hugh Lowe & Co., Clapton Nursery, London ; Mr. J. Chaunday, Florist, Lewisham, Kent, S.E. ; Mr. Kitley, Nurseryman, Lyncomb, near Bath ; Mr. Shackell, Oldfield Nursery, Bath ; Mr. Webb, Assistant to Mr. Griffin, Nurseryman, Bath ; Mr. Drummond, Nurseryman, Bath ; Mr. Hann, gardener, Southstoke Rectory, near Bath ; Mr. Froud, gardener to — Wintle, Esq., Swanswick, near Bath ; Mr. Rays, gardener, Vellore, Bath ; Mr. Tootle, gardener to G. Sims, Esq., Bath ; Mr. Salter, gardener to — Yules, Esq., Bathford, Bath ; Mr. Knowles, gardener to — Wiltshire. Esq., Shockerwick, near Bath. Single plants of the above superb new Verbena, 5*s.*

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The above are now ready for sending out, strong, well-rooted plants. Parties taking the three varieties will be charged 10*s.*, postage and package free.

A remittance must accompany all orders either in cash or penny postage stamps.

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### FOUR SHILLINGS PER DOZEN.

DAHLIAS, PANSIES, VERBENAS, FUCHSIAS, GERANIUMS, PETUNIAS, HELIOTROPES, SALVIAS, CHRYSANTHEMUMS, LOBELIAS. Package included. Terms Cash.—THOMAS H. DOUGLAS, Rosebank Nursery, Edinburgh.

### TO TULIP GROWERS—MAY'S TULIPS.

MR. MAY, FLORIST, 1, Northampton Street, Islington, N., begs respectfully to solicit an early call from his old friends in the Trade, he being the oldest grower in the kingdom, and now upwards of 82 years of age, and respectfully informs them that the whole are for unreserved Sale in single rows or otherwise. On view at the Nursery, Canonbury Square, New North Road, Islington. Printed CATALOGUES post free for stamp, addressed Mr. MAY, as above.

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| | *s.* | *d.* |
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| BEGONIA LEOPOLDII, one of the finest Begonias yet sent out | 8 | 0 |
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JAMES BURLEY has much pleasure in offering the above most beautiful CALCEOLARIA as a first-rate bedding variety. Colour rich maroon or violet crimson, in dense corymbs, presenting a broad surface of bloom to the eye ; stands the weather well. The Messrs. A. Henderson & Co., of Pineapple Place, Edgware Road, having proved it last season, have kindly offered to become Sole Agents for the sale of it. Strong plants in large 60-pots will be ready for delivery on and after this day, at 2*s.* each or 18*s.* per dozen.

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NEW ROSES FOR 1859 at 5*s.* each :—

TEA : Madame Damaisin
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Also the following CHOICE ROSES at 2*s.* 6*d.* each, or 25*s.* per dozen :—

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BOURBON : Caroline Riquet
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Louis Chaix
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At 15*s.* per dozen :—

HYBRID PERPETUALS. — Adelaide Fontaine, Bacchus, Belle Anglaise, Cardinal Patrizzi, Etendard de Sebastopol, Lord Raglan, Madame Vidot, Mathurin Regnier, Pauline Lansezeur, Prince Leon, Prince de la Moskwa, Rebecca, Souvenir de la Reine d'Angleterre, Souvenir de Leveson Gower, Sir J. Franklin, Victor Trouillard.

BOURBON : Glorietta, Omer Pacha,

NOISETTE : Miss Gray, Narcisse

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A fine collection of the most esteemed older varieties, such as Caroline de Sansal, Comte de Nanteuil, Colonel de Rougemont, General Jacqueminot, Jules Margottin, Souvenir de la Malmaison, at 12*s.* per dozen.

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REIGATE SILVER SAND, best quality for Florists, 16*s.* per ton ; less quantities, 1*s.* 6*d.* per bushel ; delivered to any London Wharf or Railway. Peat, Loam, and Leaf-Mould in large or small quantities. Sacks for Sand, 1*s.* 9*d.* each ; or on hire, 6*d.* each ; five hold a ton.—JOHN KENNARD, Purveyor to her Majesty, Swan Place, Old Kent Road, London, S.E.

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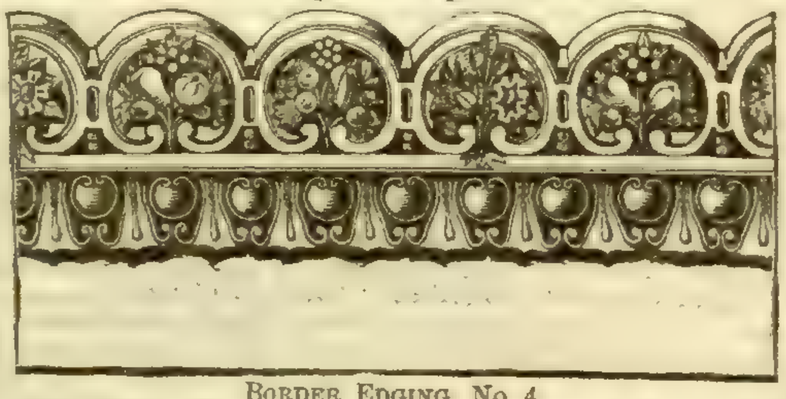

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Sheet Iron Pots for fumigating, 3*s.* 6*d.* each.

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THRIP (magnified). MEALY BUG (magnified).

GREEN FLY on Roses and Greenhouse Plants safely get rid of by syringing with PATENT GISHURST COMPOUND, 2 oz. to the gallon of water.

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Chater, W., Saffron Walden
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Dickson, Francis & Arthur and Sons, Chester
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Dickson, Hogg, & Robertson, Dublin
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Henderson, E. G. & Son, St. John's Wood, London
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Nurserymen and Seedsmen supplied by PRICE'S PATENT CANDLE COMPANY (Limited), Belmont, Vauxhall, London, S.

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POULTRY, DOGS, AND PLANTS are effectually freed from Fleas, and all other Vermin with which they are infested, by the above Powder, which is quite harmless to animal life. The Farmer, the Gardener, or the Sportsman, will therefore find it invaluable. Bugs, Cockroaches, Beetles, Moths in Furs, and every other species of Insect are also instantly destroyed. In packets post free, for 14, or treble size for 36 postage stamps, by THOMAS KEATING, Chemist, 79, St. Paul's Churchyard, London, E.C. Take notice each genuine packet bears the above name and address. See "THE FIELD," Oct. 2d and 9th, pp. 263, 283, and 294.

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| | | | | | 3rds. | 4ths. |
|---|---|---|---|---|---|---|
| 11 by 9, | 12 by 9, | 13 by 9, | 14 by 9 .. | } | 14s. 6d. | 12s. 6d. |
| 12 „ 10, | 13 „ 10, | 14 „ 10, | 15 „ 10 .. | } | | |
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Boxes included and not returnable.

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| 200 feet .. .. .. | £2 2 0 | } 16 oz. |
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ORCHARD HOUSE SIZES, as supplied by us to Mr. Rivers.

| | | 16 oz. | 21 oz. |
|---|---|---|---|
| 20 in. by 12 in. | Common .. .. .. | 14s. 0d. .. | £1 1s. |
| 20 in. by 13 in. | Superior do. .. .. | 16 6 .. | 1 5 |
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SMALL SQUARES.—Per 100 feet. s. d.

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|---|---|---|---|---|
| 6 by 4 | 6½ by 4½ | 7 by 5 | 7½ by 5½ | 11 6 |
| 8 „ 6 | 8½ „ 6½ | 9 „ 7 | 9½ „ 7½ | |
| 10 „ 8 | 10½ „ 8½ .. | .. .. | .. .. | 12 6 |

JAMES PHILLIPS AND CO.,

180, Bishopsgate St. Without, London, E.C.

HORTICULTURAL GLASS—JUNE TARIFF.

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6 by 4, 7 by 5, 8 by 6, 9 by 7 } 16 oz. to the foot, 11s. 6d.
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10 by 8, 12 by 9, 12½ by 10½, 14½ by 10½, 13 by 11
10½ by 8½, 12½ by 9½, 13 by 10, 15 by 10, 13½ by 11½
11 by 9, 13 by 9, 13½ by 10½, 12 by 11, 14 by 11
11½ by 9½, 12 by 10, 14 by 10, 12½ by 11½ .. ..

| | per 100 feet | 16 oz. | 21 oz. |
|---|---|---|---|
| 20 by 12 | Common .. | 16s. .. | 24s. |
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| 20 by 14 | Superior .. | 18s. .. | 27s. |
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All Boxes included.

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Hartley's improved Rough Plate Glass from ¼ to ⅝ in thickness.
Coloured Glass in great variety, at 9d. and 1s. per foot.
Paints, Genuine White Lead, Linseed Oil, Boiled Oil, Turpentine, Putty, Colours, Varnishes, Brushes, Lamp Glasses, &c.
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16 oz. from 3d. to 3½d. per square foot, according to size.
21 oz. „ 3¾d. to 5d. „ „ „
26 oz. „ 3½d. to 7½d. „ „ „

PATENT ROUGH PLATE, THICK CROWN GLASS, and PATENT PLATE GLASS, for Horticultural purposes, at reduced prices, by the 100 square feet.
GLASS TILES AND SLATES made to any size or pattern, either in Sheet or Rough Plate Glass.
Propagating Glasses, Beehive Glasses, Cucumber Tubes, Glass Milk Pans, Glass Water Pipes, and various other articles not hitherto manufactured in Glass.
PATENT PLATE GLASS.—The present extremely moderate price of this superior article should cause it to supersede all other inferior window glass in a gentleman's residence. No alteration connected with the sash is required.
GLASS SHADES, as ornamental to, and for the preservation of every description of goods susceptible of injury by exposure. Prices, since the removal of the excise duty, reduced one-half.
List of Prices and Estimates forwarded on application to
JAMES HETLEY & Co., 35, Soho Square, London.

GLAZIERS' DIAMONDS for CUTTING HORTICULTURAL and other GLASS, to be had of the Wholesale Manufacturer, JOHN EDWARDS, 20, Sharp's Alley, West Smithfield, London, E.C. Prices from 10s. to 27s. 6d.

HORTICULTURAL BUILDINGS AND HEATING BY HOT WATER.

JOHN R. PEILL, 17, New Park Street, Southwark, Manufacturer of every description of Buildings for Horticultural purposes, and Inventor of the Improved Conical Boiler for heating the same, is prepared to undertake works of any magnitude, and refers among others to the celebrated range of FORCING HOUSES at HER MAJESTY'S GARDENS, FROGMORE, and at SIR ROBERT PEEL'S, DRAYTON MANOR, constructed under the superintendence of his Manager, MR. JOHN JONES; and also to his BOILERS fixed at the CRYSTAL PALACE, the ROYAL BOTANIC GARDENS, REGENT'S PARK, and KEW, and at several hundreds of the Nobility's seats, Public Establishments, and Manufactories in London and the provinces. J. R. P. also manufactures every description of Iron Roofs, Iron Houses, and Iron Fencing, plain and ornamental. Strong Iron Hurdles for Sheep (6 feet long, 3 feet high, with 5 bars), 4s. 3d. each; ditto for cattle, 4s. 9d. each.
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SIGMA'S BEAN, MANGEL, & CORN PLANTERS (5 Depositors), HOES, &c. The "Multum in Parvo," combining Cultivator, Horse Hoe, Ridge Plough, Subsoiler, Broadshare, and other forms; all expanding. Complete, 7l. 7s. Prospectus sent.—C. POWELL, Hurstgreen, Sussex.

PATENT PRIZE SCYTHES, Price 11s. AND 11s. 6d.

JAMES PAYNE, Kirkcudbright, invites the attention of Gardeners and others to his newly improved Patent Adjustable Scythes, which can be set to any angle in one minute's time; are light and easily managed, warranted strong, and unequalled for finish by any in the Kingdom.—Circulars on application.

PARKES' STEEL DIGGING FORKS.

BURGESS AND KEY, 95, Newgate Street, London, being the Wholesale and Retail Agents for these celebrated TOOLS have always a large Stock on hand from which their Customers may select what they may require.
ANTHONY'S PATENT AMERICAN CHURN.—The FIRST PRIZE was again awarded to this Churn in Competition with several others at the Chester Meeting of the Royal Agricultural Society; it has obtained the First Prize given by the Society at every Meeting since 1850.
Messrs. BURGESS & KEY, 95, Newgate Street, strongly recommend it as the most perfect Churn now in use. Full particulars sent on application.

BEE-HIVES.

PRIZE MEDAL AWARDED TO G. N. & SONS, FOR BEE-HIVES AND HONEY, AT THE PARIS EXPOSITION OF 1855.

NEIGHBOUR'S IMPROVED COTTAGE BEE-HIVE, as originally introduced by GEORGE NEIGHBOUR & SONS, with all the recent improvements, glasses, and thermometer, price 35s., securely packed for the country

This unique Hive has met with universal commendation, and may be worked with safety, humanity, and profit by the most timid; its arrangements are so perfect that the Honey may be taken at any time of the gathering season without at all injuring the Bees.
Early applications addressed to GEORGE NEIGHBOUR & SONS, 127, High Holborn, or 149, Regent Street, London, will receive prompt attention.
Their newly-arranged CATALOGUE of other Improved Hives with Drawings and Prices, sent on receipt of two stamps.
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WARNER'S SWING WATER-BARROW (To Hold Forty Gallons), MOUNTED ON WHEELS 20 INCHES HIGH. Will save much of the Gardener's time and labour. May be obtained of any Ironmonger for 3l. 3s.

BRASS SYRINGES, 9s. to 18s.
Also a great variety of effective Machines for Hydraulic purposes, and to supply Gardens, Hothouses, Cottages, Farms, Mansions, or Boards of Health, with every requisite connected with the conveyance and distribution of Liquids.
Fountains suitable for Conservatories, Lawns, &c.
JOHN WARNER & SONS 8, Crescent, Jewin Street, London.

GARDEN ENGINES AND SYRINGES.

J. TYLOR AND SONS, Warwick Lane, Newgate Street, London, E.C., beg to call attention to their very superior manufacture of GARDEN ENGINES and SYRINGES.

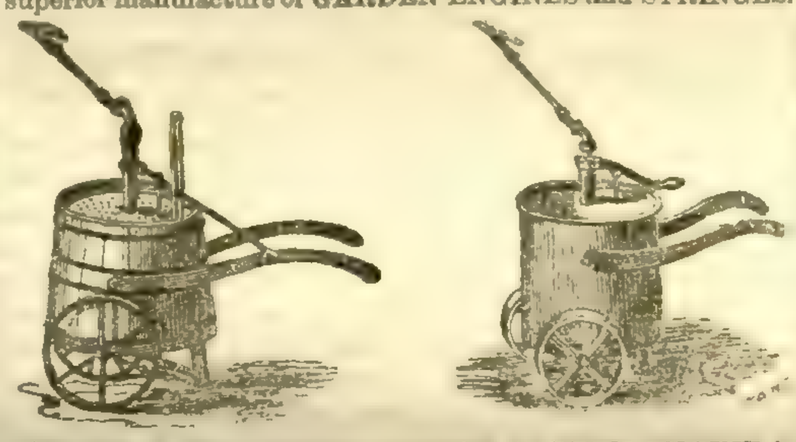


Fig. 598. J. TYLOR & SONS' BARROW GARDEN ENGINE in best well painted Oak tub, fitted with J. TYLOR & SONS' Improved Brass Pump, Universal Joint, and Registered Spreader, which answers the purpose of the separate rose, fan, and jet.

CONTENTS OF TUB:—

| 10 gallons | 15 gallons | 28 gallons |
|---|---|---|
| £4 10 0 | £5 10 0 | £6 18 0 |

Fig. 599. do. TINNED IRON TUB.

CONTENTS OF TUB:—

| 8 gallons | 12 gallons | 16 gallons | 24 gallons | 30 gallons |
|---|---|---|---|---|
| £2 15 | £3 5 | £4 | £5 | £5 18 |

Fig. 618. No. 1. REGISTERED SYRINGE, with India-rubber suction tube, one rose and jet .. .. £1 5 each.
No. 2. Ditto ditto 1 1 „
Telescope Branch Pipe for ditto .. .. 0 10 „

Fig. 619. GARDEN SYRINGE, with one rose and jet, 12s. 6d. each
„ 620. Ditto ditto 11s. 6d. „
„ 621. Ditto ditto 10s. 6d. „
„ 622. LADIES' GARDEN SYRINGE, without rose & jet, 8s.

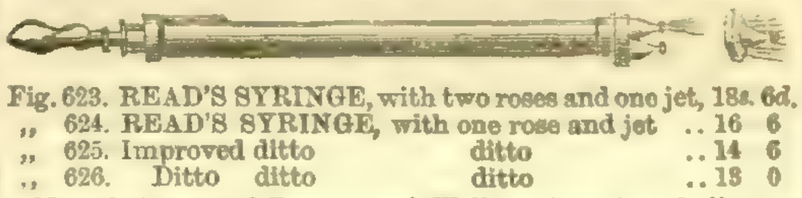


Fig. 623. READ'S SYRINGE, with two roses and one jet, 18s. 6d.
„ 624. READ'S SYRINGE, with one rose and jet .. 16 6
„ 625. Improved ditto ditto .. 14 6
„ 626. Ditto ditto ditto .. 13 0

Manufacturers of Pumps and Well Engines (for shallow or deep Wells), Plumbers' Brass Foundry of every description, High Pressure Cocks and Closets, Copper and Tinned-iron Baths. Garden and Fire Engines, Lamps of every description, Copper Goods, &c. Estimates given for Hot-water and Bath Apparatus.

AGRICULTURAL MACHINERY.

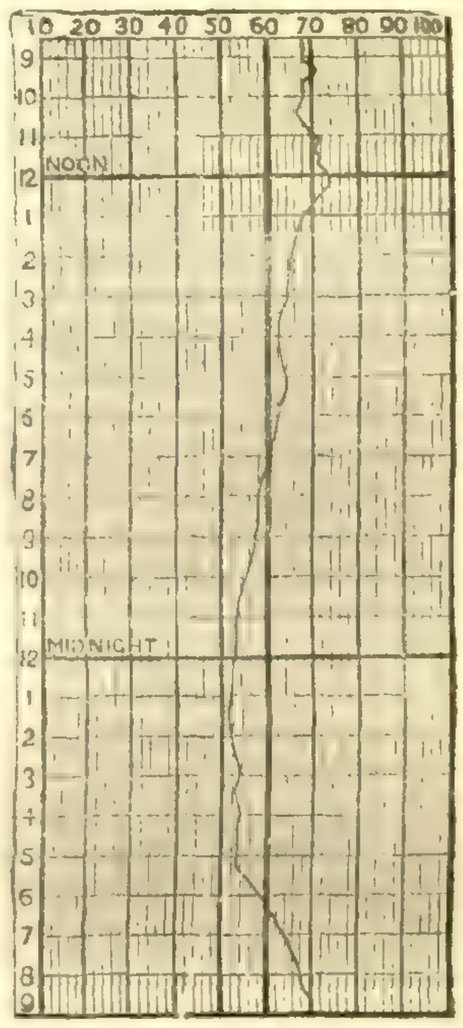
E. R. AND F. TURNER, Ipswich, manufacture Prize Mills for Crushing Corn, Seed, Malt, &c.; Portable Grinding Mills, Steam Engines fixed and portable from 2 horse-power and upwards; Threshing Machines, Chaff Cutter, Oilcake Breakers, Horse Gears, Saw Tables, &c., all of a superior description and adapted for Home, Colonial, and Foreign use. Illustrated Price Lists sent free on application.

IMPERIAL WIRE WORKS AND WINDOW BLIND MANUFACTURY (late Coupland), 370, Oxford Street, London, opposite Wells Street, W.
A variety of FLOWER STANDS AND SUSPENDING FLOWER BASKETS, of new and elegant designs for the present season, made under the personal superintendence of W. RICHARDS, 370, Oxford Street, and at the CRYSTAL PALACE.
Garden Arches, Roseries, Temples, Trainers, Garden Seats, Folding Chairs, Fencing, Bordering, and every description of Wire Work imaginable. Bird Cages, &c. Conservatories and Aviaries fitted up in the best style and taste. Sun Shades and Window Blinds of all sorts.

SHAW'S TIFFANY.—The best and cheapest material for Shading Conservatories, Protecting Fruit from Birds and Wasps, &c. Sold in pieces 20 yards long by 38 inches wide. No. 1, best quality, 5s. per piece; second quality, 4s. per piece. Extra strong and thick (see Circular sent free by post with samples).
Address JOHN SHAW & Co., Manufacturers and Dealers, Princess Street, Manchester.

TO HORTICULTURISTS.

GAUNTLETT'S PATENT CHRONOMETRICAL THERMOMETER.




This instrument, which combines an eight-day clock of the best English make showing time, with a newly-patented Thermometer wherein glass and quicksilver are dispensed with, writes down the temperature of the atmosphere on a slip of paper, and when placed in a Hothouse, Forcing House, or Conservatory, &c., supplies a valuable record of the temperature, with all its variations, showing the time when any change took place, and how long such change continued.

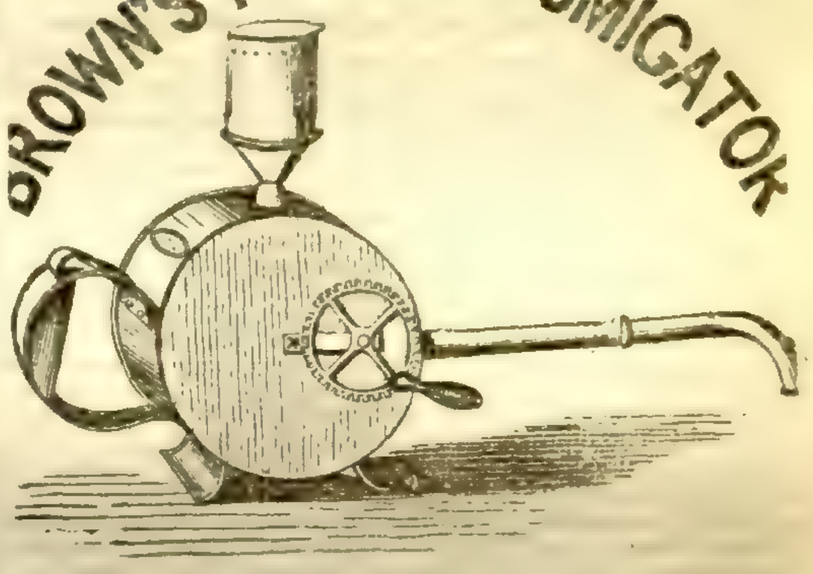
The above slip (reduced in size) exhibits the temperature of the Royal Agricultural Society's show yard at Chester, July 22, 1858, written off by one of these instruments, to which was awarded the Society's SILVER MEDAL.

This is the only instrument that registers temperature continuously and writes it down, and no horticulturist should be without it.

Orders received by W. H. GAUNTLETT, Middlesbro' on-Tees.

PRICE TEN SHILLINGS AND UPWARDS.

BROWN'S PATENT FUMIGATOR



A PORTABLE INSTRUMENT FOR FUMIGATING GREENHOUSES, STOVES, and FRAMES, OR SHRUBS AND FLOWERS, in the open air, without injuring the most delicate plant; delivering the smoke cool, in a dense mass, and effecting a great saving of Tobacco.
Manufactured and supplied to the Trade by Messrs. BARBER & GROOM, London: and may be had of all Ironmongers, Seedsmen, and Florists.

MAPPIN'S PRUNING KNIVES IN EVERY VARIETY.
WARRANTED GOOD BY THE MAKERS.

MAPPIN BROTHERS, Queen's Cutlery Works, Sheffield; and 67 and 68, King William Street, London.
MAPPIN'S "SHILLING" RAZORS Shave well for Twelve Months without Grinding.
MAPPIN'S 2s. RAZORS Shave well for Three Years.
MAPPIN'S 3s. RAZORS (suitable for Hard or soft Beards,) Shave well for Ten Years.
MAPPIN'S SUPERIOR TABLE-KNIVES maintain their unrivalled Superiority—handles cannot possibly become loose—the blades are all of the very first quality, being their own Sheffield manufacture.

| | Tble. Kns. | Dst. Kns. | Carvers. |
|---|---|---|---|
| Ivory 3⅞ in. Handle, balanced, | 20s. p. doz.; | 16s. p. doz.; | 6s. p. pair |
| Do. 4 in. do. .. | 25s. „ | 18s. „ | 9s. „ |

MAPPIN'S SILVER-PLATED DESSERT KNIVES and FORKS, in Mahogany Cases.

| | | |
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| 12 Pairs Knives and Forks, Ivory Handles, in Case.. | | 80s. |
| 12 Do. | Pearl Handles, do. .. | 130s. |
| 12 Do. | Silver-Plated Handles, do. .. | 80s. |

MAPPIN'S ELECTRO-SILVER PLATE.—MAPPIN BROTHERS, Manufacturers by Special Appointment to the Queen, are the only Sheffield makers who supply the consumers in London. Their LONDON SHOW ROOMS, 67 and 68, King William Street, London Bridge, contain by far the largest STOCK of ELECTRO-SILVER PLATE in the World, which is transmitted direct from their Manufactory, Queen's Cutlery Works, Sheffield.

| | Fiddle Pattern. | Double Thread. | King's Pattern. |
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| 12 Table Forks, best quality | £1 16 0 | £2 14 0 | £3 0 |
| 12 Table Spoons, best quality | 1 16 0 | 2 14 0 | 3 0 |
| 12 Dessert Forks, best quality | 1 7 0 | 2 0 0 | 2 4 |
| 12 Dessert Spoons, best quality | 1 7 0 | 2 0 0 | 2 4 |
| 12 Tea Spoons, best quality | 0 16 0 | 1 4 0 | 1 7 |

Messrs. MAPPIN BROTHERS respectfully invite buyers to inspect their unprecedented display, which, for beauty of design, exquisite workmanship, and novelty, stands unrivalled. Their illustrated Catalogue, which is continually receiving addition of New Designs, sent per post on receipt of 12 stamps.—MAPPIN BROTHERS, 67 and 68, King William Street, London Bridge; Manufactory, Queen's Cutlery Works, Sheffield.

SPLENDID BEDDING PLANT,
TRITONIA AUREA,
THE GOLDEN TRITONIA.

LUCOMBE, PINCE, AND Co. having a very large stock of this most beautiful hardy bulb can offer it well established in pots, fit for immediate planting out, at the undermentioned exceedingly moderate prices.

Nothing can surpass the brilliancy of its rich golden orange-coloured flowers, which are produced in the greatest profusion upon graceful slender stems, and stand unblemished the heaviest showers and most fervent sun. They strongly recommend the Golden Tritonia as one of the most effective plants for masses ever introduced. It cannot fail to give satisfaction; indeed, as that excellent authority Donald Beaton truly remarks in the "Cottage Gardener" "IT IS ESTABLISHED AS A FIRST-RATE AUTUMNAL ORNAMENT TO THE FLOWER GARDEN." It is also perfectly hardy. Now is the time for planting.

100 Strong Bulbs.. £3 0s. 0d | 25 Strong Bulbs.. £1 0s. 0d.
50 do. do. .. 1 15 0 | 12 do. do. .. 0 12 0
Single Bulbs .. .. .. .. 1s. 6d. each.

Exeter Nursery, Exeter. Established 1720

JOHN KERNAN, SEEDSMAN, 4, Great Russell Street, Covent Garden, W.C., respectfully announces that he is now fully prepared to SUPPLY, in any quantity, the BEST VARIETIES of AGRICULTURAL TURNIPS, that is:—

| | Per lb.—s. d. | | Per lb.—s. d. |
|---|---|---|---|
| Laing's Swede .. .. | 0 6 | Red Clover .. .. | 0 9 |
| Matson's .. .. .. | 0 6 | White ditto .. .. | 1 0 |
| Marshall's .. .. .. | 0 6 | Alsike ditto .. .. | 2 0 |
| Skirving's .. .. .. | 0 6 | Trefoil .. .. .. | 0 3 |
| Purple-topped Scotch Turnip .. .. .. | 0 6 | Lucerne .. .. .. | 1 0 |
| Green ditto .. .. | 0 6 | Sainfoin and Tares, bush. | 10 0 |
| Cattle and other Cabbages for early Lambs .. .. | 0 6 | Separate & Mixed Grasses | 6 0 |
| Yellow Globe Mangel .. | 0 6 | 12 var. imported German named Stocks per pkt. | 3 0 |
| Red ditto .. .. .. | 0 6 | 12 ditto Asters .. .. | 3 0 |
| Long Red Mangel .. | 0 6 | A mixture of 24 var. of either of the above .. | 0 6 |

CARNATIONS, PICOTEES, DELPHINIA, BROMPTON and INTERMEDIATE STOCKS of sorts, with other Biennials and Triennials for flowering early in spring, should be sown from the present time to the middle of July. For Early Greenhouse Flowers, CINERARIA, CALCEOLARIA, PRIMULA SINENSIS, SCHIZANTHUS HOOKERI, GERANIUM, NIEREMBERGIA, TROPÆOLUM LOBBII, SPIRÆA, VERBENA, and VERONICA.

JOHN KERNAN begs to say that 2 lbs., at 2s. per lb., is sufficient for an acre, and not 8, as is usually advertised by puffers, merely for the sake of the profit on the extra and unnecessary quantity, who can hardly plead ignorance that the space each plant will occupy is double that necessary for the largest Cattle Turnip.

GUANO in any quantity, from 1lb. to 1 ton and upwards.

The Trade supplied on the most liberal terms.

HORTICULTURAL, VEGETABLE, and FLOWER SEEDS, including all the recent introductions, on sale as usual. Catalogues may be had on application.

A well educated YOUTH WANTED as an Apprentice. A Premium expected.

BEDDING PLANTS, 20s. per hundred.
HARDY CONIFER & FRUIT TREES in pots, 30s. p. doz.
HERBACEOUS PLANTS, 20s. per 100.
SHRUBS, in pots, 12s. per dozen.
MANGEL WURZEL SEEDS, 6d. per lb.
SWEDE and other TURNIP SEEDS, 6d. per lb., saved from large bulbs, and of the very best quality.
CATALOGUES by inclosing one stamp to MARTIN & SONS, East Riding of Yorkshire Nursery and Seed Establishments, Cottingham (A.D. 1788), and Junction Street, near Monument Bridge, Hull.

BEDDING PLANTS.—As orders are received the best Plants will be selected, and set aside until they are required. The following 12 dozen Plants can be had for 25s., package included, viz:—

| | | |
|---|---|---|
| 12 Scarlet Geraniums | 12 Petunias [sima | 12 Gazania |
| 12 Yel. Calceolarias | *12 Vinca elegantis- | 12 Blue Lobelia |
| 12 dark ditto | 12 Blue Verbenas | 12 Hollyhocks |
| 12 Dahlias | 12 White Verbenas | 12 Heliotropes |

Thirteen Plants to the dozen. 200 Plants for 21s., the selection left to JOHN JEYES.

*** J. JEYES respectfully invites attention to a very fine COLLECTION of FERNS.

* VINCA ELEGANTISSIMA.—The most beautiful of all variegated plants. As a bordering for flower beds, or to form a bed of itself, or mixed with shrubs, it stands unequalled, and being an evergreen and hardy makes it the most desirable of all variegated plants; it resembles when in full leaf finely grown plants of the Golden Chain Geranium.

Northampton Nurseries.

BEDDING PLANTS
F. AND A. SMITH beg to offer the following varieties, strong and healthy:—

Ageratum
Antirrhinum
Alyssum, variegated fol.
Anagallis
Balm, variegated fol.
Cuphea
Calceolaria
Dahlias
Fuchsia
Geranium, scarlet various
" striped "
" fancy "
" unique "
" scented "
" Ivy "
Gaillardia
Heliotrope, various
Hollyhock, 6s. per dozen
Koniga variegata
Lantana
Lobelia
Mimulus, various
Nasturtium, Tom Thumb. The best scarlet bedding plant out.
Nasturtium, Cattell's Dwarf Crimson.
Nasturtium, double, various, 6d. each
Nierembergia
Pentstemon, various
Petunias, various
" new double
Pyrethrum pleno alba
Roses
Salvias, various
Senecio
Verbenas, white
" blue or purple
" scarlet
" crimson
Musk, 4s. per dozen

The above in strong established plants at moderate prices, according to selection.—Dulwich, Surrey.

CHEAP BEDDING PLANTS, 2s. 6d. per dozen.—Apply for Catalogues, enclosing two stamps, to J. SCOTT, Merriott Nurseries, Crewkerne, Somerset.

The Catalogue comprises everything suitable for Flower Garden decoration, and full descriptions of J. S.'s unrivalled collection of new DOUBLE PETUNIAS, now ready for delivery, at 6s., 9s., and 12s. per dozen. Fine new single sorts, 3s. 6d. to 3s. 6d. per dozen; Magna coccinea, the most splendid of all Bedding Petunias, 5 inches across, beautiful light crimson, 3s. 6d. per dozen.

LEPTODACTYLON CALIFORNICUM, in quantity; also PHLOX CRITERION, two lovely Bedding Plants.

DAHLIAS AND BEDDING PLANTS.
JOHN HARRISON'S Stocks of the above comprise several Hundred Thousand, are in excellent condition, and now ready for sending out. CATALOGUES with prices ready, and as J. H. has again been the most successful exhibitor of Dahlias in the North of England during the past season, having taken the First Prizes at every Exhibition of note except one, he has marked with an asterisk those varieties which have proved the most constant and frequently exhibited in his winning stands.—Darlington Nursery, May 14.

FRUIT TREES IN POTS.

H. LANE AND SON, the Nurseries, Great Berkhampstead, Herts, have to offer in large quantities fine FRUITING TREES of the below-mentioned, which are now in a good state for travelling, the fruit not being heavy and likely to drop off.

They consist of PEACHES, NECTARINES, APRICOTS, 5s., 7s. 6d., to 10s. 6d. each.

CHERRIES, PLUMS, PEARS, APPLES, 3s. 6d. to 5s. each.

VINES, in pots, from eyes, with 5 to 10 bunches of Fruit, 5s. each.

FIGS, in pots, in a bearing state, 3s. 6d. each.

GOOSEBERRIES and CURRANTS, 1s. 6d. each.

Also a very large collection of EVERGREENS, of which we have a fine Stock, viz., Araucarias, Cedrus Deodara, Ced. Lebanon, Cupressus, Junipers, Pines, and all Coniferous Plants, 6 ft. to 12 ft. high; Rhododendrons, well set with flower buds, &c.

The Home Nurseries are within five minutes' walk of the Station of the London and North-Western Railway, Great Berkhampstead, Herts.

GREENHOUSE AND CONSERVATORY PLANTS.—The Subscribers having a large stock of the above well-grown Plants, consisting of the handsomest kinds of the following genera, viz.:—Acacia, Adenandra, Aphelexis, Azalea, Beaufortia, Begonia, Boronia, Bouvardia, Brachysema, Chorozema, Clematis, Correæa, Cyclamen, Cytisus, Daphne, Dillwynia, Diosma, Epacris (100 kinds), Epiphyllum, Erica (200 kinds), Eriostemon, Eugenia, Eutaxia, Gloxinia, Hibbertia, Hoya, Indigofera, Jasminum, Kennedya, Leschenaultia, Lilium, Magnolia, Metrosideros, Myrtus, Nerium, Oxylobium, Passiflora, Pimelea, Polygala, Pultenæa, Sollya, Statice, Swainsonia, Tacsonia, Tecoma, Tropæolum, Veronica, &c., offer them as follows:—

100 handsomest species .. .. .. £5 0 0
50 " " .. .. .. 2 15 0
Any less quantity 15s. per doz.

CATALOGUES may be had on application.

☞ All orders of 2l. and upwards are delivered Carriage Free to London, Manchester, Liverpool, Peterborough, Hull, and Newcastle, as well as to any Railway Station within 15 miles of the Nursery.

YOUELL & Co., Royal Nursery, Great Yarmouth, Norfolk.

A PERFECT SUBSTITUTE FOR GRASS.
LAWNS WITHOUT MOWING.

SPERGULA PILIFERA,
IS OFFERED BY
MESSRS. E. G. HENDERSON & SON

As a perfectly hardy Alpine plant, forming a close, dense, carpet like surface, maintaining the same ground with a rich, ever-during, evergreen verdure through all weathers in winter and summer, presenting in July the living picture of an emerald green velvet-like vegetable carpet, studded over with innumerable snow white star-like blossoms.

WELL-ESTABLISHED TUFTS FOR IMMEDIATE PLANTING, 4s. PER DOZEN.
Seed Packets, 6d., 2s. 6d., 5s., 10s., and 20s. each.

Special directions for sowing, rearing, and final planting are given in E. G. HENDERSON & SON'S NEW GENERAL CATALOGUE OF ORNAMENTAL GREENHOUSE and SUMMER-FLOWERING BEDDING PLANTS, which will be ready for distribution in a few days.

Wellington Nursery, St. John's Wood, London.

CHOICE FLOWERS.

BUTLER & McCULLOCH'S
SPRING CATALOGUE OF SEEDS,

ARRANGED on a new and original plan, with copious Descriptive and Cultural Notes and containing many new and rare species and varieties not found in any other Catalogue, now ready and may be had free and post paid on application.

FLOWER, SHRUB, TREE, and VEGETABLE SEEDS, the crop of 1858, saved with the greatest care, by the most eminent growers.

We may also state that the Sardinian correspondent of Messrs. JAMES CARTER & Co., whose Seeds, especially Carnations and Picotees, have given such universal satisfaction, has transferred the Agency from that firm and appointed us his representative in this country. To meet the growing demand for first class flowers, particularly FLORISTS' FLOWERS, we have adopted our usual maxim of charging the lowest possible prices.

Professor LINDLEY in the *Gardeners' Chronicle* of February 5th, has the following notice of B. & McC.'s Catalogue.

"BUTLER & MCCULLOCH'S (Covent Garden) Spring Catalogue of Choice Flower, Shrub, Tree, and Vegetable Seeds. This list fills 34 closely printed 8vo pages, and is remarkably well got up. It appears that the correspondent in Sardinia, who formerly supplied one of the great London houses with seeds raised in that warm part of Europe, has now transferred what he saves to Messrs. BUTLER & MCCULLOCH. Let us add, that it yields to no Trade List in the abundance of its materials or the excellence of its arrangements."

BUTLER AND McCULLOCH, while drawing attention to their general SPRING CATALOGUE which has elicited such high encomiums both from the scientific botanist and amateur cultivator, avail themselves of the present opportunity to select from its pages the following list:—

(28) ACACIA GRANDIS (TRUE).
One of the most beautiful of the A. pulchella section, producing deep golden balls. Of these graceful and highly ornamental plants our collection embraces no fewer than 47 varieties, all of the most decorative character.

(70) ALPINES.
Of these beautiful little plants we have a splendid collection, embracing all the most admired kinds, collected and arranged for us last autumn by M. Ortgies, the Curator of the Zurich Botanic Gardens. The value of Alpine plants for rock-work is too well known to require comment. These collections we can confidently recommend, containing, as they do, species only of highest merit.

(199) CALLICHROA PEDATA.
A new crimson annual with white eye, very beautiful.

(217 A.) CAMELLIA JAPONICA.
From the newest and finest striped and other varieties of that much admired genus.

(296) CEANOTHUS AZUREUS GRANDIFLORUS.
This, cæruleus macrophyllus, and Fontanesianus are all beautiful varieties of this highly ornamental genus, of which we possess nine splendid varieties. They are equally suited for conservatory and out-door decoration.

CANNAS.
Of these we possess an extremely interesting collection.

(304) CELOSIA (species nova).
A most elegant plant, producing a multitude of long spikes of feathery blossoms, silvery white shaded with bright rose, retaining its colour perfectly when dried, and therefore admirably adapted for winter bouquets; one of the greatest novelties of the season, flowering out of doors or in pots from July to October. Well worth attention. A dried specimen may be seen.

(337) CHRYSANTHEMUM (tall and dwarf).
Of these dwarf and tall varieties we have a fine stock, nearly all of which may be depended upon to produce double flowers, the seeds having been saved from the finest named varieties.

(344) CHRYSOCOMA COMAUREA.
Fine evergreen shrub, bearing a profusion of golden ball-like flowers; one of the handsomest greenhouse plants in cultivation.

(451) DATURA HUMILIS FLORE PLENO.
A magnificent Brugmansia-like plant producing a profusion of deep golden-yellow flowers; very large, double, and sweet-scented. One of the greatest novelties of the season.

(625) HABROTHAMNUS HÜGELLI.
This, purpureus, and Abelli are all handsome varieties of this beautiful genus, which everybody having a greenhouse or conservatory should grow. All three are extremely ornamental.

(665) HIBISCUS ROSEUS SUPERBUS.
This, Syriacus, and Thunbergi we can highly recommend. All are plants of great beauty.

(680 to 688) HOLCUS OR SORGHUM (Chinese Sugar Cane).
Of this important class we have nine new and important varieties from Africa, said to be more ornamental and to contain more saccharine matter, Holcus saccharatus.

(704) INDIGOFERA DECORA ALBA ROSEA.
The above, purpurea, and dosua are all pretty free flowering shrubs, suitable for small greenhouses. They are also highly ornamental out of doors in summer.

(972) PELARGONIUMS.
Of these both large flowered and fancy, very choice, and all other splendid varieties, including Scarlets, we have a fine stock, which cannot fail to prove highly satisfactory.

(1149) SOLANUM CAPSICASTRUM.
Miniature Orange tree, covered all winter with a profusion of scarlet fruit; a handsome plant for greenhouse or sitting rooms.

(1335) BIGNONIA RADICANS MULTIFLORA.
Finer and brighter than radicans; flowers in large panicles producing a splendid effect.

(1468) TACSONIA IGNEA.
This magnificent Passionflower is unequalled for the brilliancy and splendour of its scarlet blossoms, far surpassing in this respect any of its class yet known. It flowers most profusely, grows rapidly, and covers a large space in an incredibly short time. It succeeds in a cold greenhouse, and even against a south wall with a little protection in winter (new and rare).

(1488) TROPÆOLUM TRIOMPHE DE GAND FIMBRIATUM.
Fringed orange scarlet.

CARNATIONS and PICOTEES saved from the most choice Collection of English varieties grown on the continent, and which may be expected to produce flowers of the highest merit, sent out in sealed packets as received from our Sardinian correspondent, whose seeds for many years have given such universal satisfaction, and from which varieties of the greatest excellence have been raised.

For prices and further particulars with regard to the above and other novelties, we refer our patrons to the Catalogue itself, which is sent free and post paid on application.

BUTLER & McCULLOCH, Covent Garden Market.

## HORTICULTURAL SOCIETY OF LONDON.—

St. James's Hall, May 12 and 13.

LIST OF AWARDS.

Class I.—10 ORCHIDS (Amateurs).

1st. Mr. Woolley, Cheshunt, Herts.

Class II.—10 ORCHIDS (Nurserymen).

2d. Messrs. Veitch & Son, Exeter and Chelsea.

Class IV.—8 CHINESE AZALEAS (Nurserymen).

2d. Messrs. Fraser, Lea Bridge Road, Leyton.

Class VI.—6 CHINESE AZALEAS, Standards (Nurserymen).

1st. Messrs. Fraser, Lea Bridge Road, Leyton.

2d. Messrs. Lane & Son, Great Berkhampstead.

Class VIII.—8 RHODODENDRONS, distinct, in pots (Nurserymen).

1st. Mr. J. Standish, F.H.S., Bagshot.

2d. Messrs. Lane & Son, Great Berkhampstead.

Class IX.—6 ROSES, distinct sorts, in pots.

1st. Messrs. Lane & Son, Great Berkhampstead.

Class XII.—8 fine foliaged Plants.

1st. Mr. Young, Gr. to H. Stone, Esq., Dulwich.

2d. Messrs. Jackson & Son, Kingston.

Class XIII.—New or extremely rare ORNAMENTAL PLANTS.

First-class Certificate.—Messrs. Veitch & Son, Exeter and Chelsea, for a species of Pothos; ditto, for Clianthus Dampierii.

Second-class Certificate.—Messrs. Veitch & Son, Exeter and Chelsea, for Begonia amabilis; ditto, for Caladium Chantini.

Third-class Certificate.—Messrs. Veitch & Son, Exeter and Chelsea, for Begonia Queen Victoria.

Class XIV.—Single Specimen of most ORNAMENTAL PLANT, in flower.

1st. Messrs. Veitch & Son, Exeter and Chelsea, for Philesia buxifolia.

2d. Mr. Woolley, Cheshunt, for Dendrobium lituiflorum.

3d. Messrs. A. Henderson & Co., Pine-apple Place, for Datura chlorantha.

Class XV.—Single Specimens of most ORNAMENTAL PLANT, not in flower.

1st. Messrs. Veitch & Son, Exeter and Chelsea, for Wellingtonia gigantea.

First-class Certificate.—Messrs. Veitch & Son, Exeter and Chelsea, for Farfugium grande; ditto, for Cyanophyllum magnificum; ditto, for Olea ilicifolia; Messrs. A. Henderson & Co., Pine-apple Place, for Caladium Chantini.

Second-class Certificate.—Messrs. A. Henderson & Co., Pine-apple Place, for Caladium Houlleti.

Class XVI.—MISCELLANEOUS.

First-class Certificate.—Mr. Ed. Francis, F.H.S., Hertford, for a collection of Roses; Messrs. Veitch & Son, for a large group of Miscellaneous Plants; Messrs. Henderson & Son, Wellington Road, for a Miscellaneous Collection of Plants.

Second-class Certificate.—Mr. J. Standish, F.H.S., Bagshot, for Myosotis nobilis; ditto, for Exochorda grandiflora; Mr John Hally, F.H.S., Blackheath, for a collection of Ferns; Mr Gaines, F.H S., for 6 Amaryllids.

Third-class Certificate.—Mr. Bragg, Star Nursery, Slough, for cut Pansies.

### FRUIT.

Class XVII.—The best Collection of Fruit.

1st. Messrs. Webber & Co., Covent Garden.

Class XVIII.—PINE APPLES; large sorts, not Providence.

1st. Mr. Gilham, Isleworth, for Black Jamaica.

2d. Mr. Davies, Gr. to J. Dixon, Esq., Astle Park, Chelford, for a Black Prince.

3d. Mr. R. Turnbull, Gr. to his Grace the Duke of Marlborough, Blenheim, for a Prickly Cayenne.

Class XIX.—PINE APPLES, Queens, single specimens.

1st. Mr. Page, Gr. to Wm. Leaf, Esq., F.H.S., Streatham.

2d. R. Crawshay, Esq., Cyfarthfa Castle.

3d. Mr. Gillham, Isleworth.

Class XX.—GRAPES, black, three bunches, in baskets.

1st. Mr Thomas Frost, Gr. to E. L. Betts, Esq., F.H.S., Preston Hall, Kent.

2d. Mr. William Hill, Gr. to Ralph Sneyd, Esq., F.H.S., Keele Hall, Staffordshire.

3d. Mr. Tillyard, F H.S., Gr. to Viscount Eversley, F.H.S., Heckfield, Hants.

Class XXI.—GRAPES, white, three bunches, in baskets.

1st. Mr. G. Chalmers, Gr, to Lord Southampton, F.H.S., Whittlebury, Towcester.

2d. Mr. G. Tillyard, F.H.S., Gr. to Viscount Eversley, F.H.S., Heckfield, Hants.

Class XXII.—CHERRIES, in single dishes.

1st. Mr. Shuter, Gr. to the Earl of Wilton, Heaton Park, Manchester.

2d. Mr. J. Fleming, F.H.S., Gr. to his Grace the Duke of Sutherland, F.H S, Clevedon.

3d. Mr. McBey, Gr. to Richard Ellison, Esq., F.H.S., Sudbrooke, Holme, Lincolnshire.

Class XXIII.—STRAWBERRIES, two dishes, distinct sorts.

1st. Mr. T. Park, Gr. to G H. Vernon, Esq., Grove Hall, Retford, for Keens' Seedling, and Victoria.

2d. Mr. J. Clark, F.H S, Gr. to the Earl of Darnley, Cobham Hall, Kent.

3. Mr. R. Turnbull, Gr. to his Grace the Duke of Marlborough, Blenheim, for

Class. XXV.—STRAWBERRIES, single dishes, not British Queen.

1st. Mr. R. Smith, Twickenham, for Sir Charles Napier.

2d. Mr. Park, Gr. to G. H. Vernon, Esq., Grove Hall, Retford, for Keens' Seedling.

Class XXVI.—MISCELLANEOUS.

First-class Certificates.—Mr. Sparkes, Gr. to C. Collins, Esq., Hele Lodge, Collumpton, for Melons; Mr. Monro, Shinley Gardens, Barnet, for Monro's Hybrid Prolific Cucumber; Mr. Ivison, Gr. to his Grace the Duke of Northumberland, F.H.S., for Strawberries in pots; Mr. John Fleming, F.H.S., Gr. to his Grace the Duke of Sutherland, F.H.S., Clevedon, for a dish of Figs; Mr. Park, Gr to G. H. Vernon, Esq., Grove Hall, Retford, for a dish of Beurré Rance Pears; R. Crawshay, Esq., F.H S, Cyfarthfa Castle, for a dish of Tom Thumb Peas.

## THE NEW CHAPEL AT THE LUNATIC ASYLUM, NORTHAMPTON.—A GRAND FLORAL AND HORTICULTURAL SHOW in aid of the Fund for erecting a Chapel at the County Lunatic Asylum will be held at Blisworth Gardens on THURSDAY, July 28, under the special patronage of

The Right Hon. the Earl Spencer.
The Right Hon. the Lord Southampton.
The High Sheriff of the County.
The Rev. Sir G. S. Robinson, Bart.
The Worshipful the Mayor of Northampton.

Prizes will be offered for Stove and Greenhouse Plants, Plants with variegated and fine foliage, Coniferæ, Exotic Ferns and Lycopods, Roses, Geraniums, Carnations, and Pansies, Fruit, Vegetables, &c.

Schedules will be prepared in due time, and further particulars will appear in future advertisements.

H. O. Nethercote, Honorary Secretary.

Subscriptions to carry out the above object will be received by the Honorary Secretary, or by Mr. W. J. Peirce, Auctioneer, Derngate, Northampton, to whom all communications may be addressed.

## TUNBRIDGE WELLS HORTICULTURAL FÊTE, AND GRAND MUSICAL PROMENADE.

POSTPONED TO FRIDAY, JULY 1, 1859.

*Patrons.*

The Most Noble the Marquis Camden, K.G.
The Right Hon. the Earl of Abergavenny.
The Right Hon. the Earl de la Warr
The Right Hon. the Lord Viscount Hardinge.
The Right Hon. Lord de L'Isle.

PRIZES OPEN TO ALL ENGLAND.—(No Entrance Fee).

| Classes. | 1st Prize. £ s. d. | 2d Prize. £ s. d. | 3d Prize. £ s. d. |
|---|---|---|---|
| A.—Stove and Greenhouse Plants, not Geraniums, Fuchsias, or Calceolarias (15 varieties) | 10 0 0 | 5 0 0 | 2 0 0 |
| B.—Ditto (6 vars.), private growers only | 5 0 0 | 2 10 0 | 1 0 0 |
| C.—Pelargoniums (show), in not larger than 11-inch pots (6 varieties) | 3 0 0 | 2 0 0 | 1 0 0 |
| D.—Pelargoniums, fancy (6 varieties) | 3 0 0 | 2 0 0 | 1 0 0 |
| E.—Orchids (6 varieties) | 1 10 0 | 1 0 0 | 0 10 0 |
| F.—Ditto (3 varieties) | 3 0 0 | 2 0 0 | 1 0 0 |
| G.—Ornamental Foliage Plants (6 vars.) | | | |
| H.—Fruit, collection of 6 dishes; each dish of Fruit to contain not less than 3 bunches of Grapes, 30 Strawberries, 6 Peaches, Nectarines, Figs, &c. | 5 0 0 | 3 0 0 | 2 0 0 |
| I.—Grapes, black (3 bunches) | 1 10 0 | 1 0 0 | 0 10 0 |
| K.—Ditto, white (3 bunches) | 1 10 0 | 1 0 0 | 0 10 0 |

☞ Exhibitors in Class E cannot compete in Class F.

Cottagers' Prizes will also be given, a Schedule of which is published.

Special arrangements with the South-Eastern Railway Company for the convenience of visitors will be made, and also for the conveyance of flowers, &c., for exhibition.

The Band of the Royal Artillery, consisting of 50 performers, will be in attendance.

Further particulars, or information, may be obtained of the Secretary, Mr. E. F Loof, 8, Parade, Tunbridge Wells.

## COTTINGHAM AND DISTRICT FLORAL AND HORTICULTURAL SOCIETY AND POULTRY SHOW, TOGETHER WITH FARMERS' PRODUCE. — This Society's splendid Annual Exhibition of PLANTS, FLOWERS, FRUITS, VEGETABLES, POULTRY, AND FARMERS' PRODUCE, will take place on WEDNESDAY, August 31, in spacious Marquees on the grounds of Joseph Gee, Esq., when amongst other Prizes in Silver to be competed for are Two Valuable SILVER CUPS. The amount offered in prize money in the different classes exceeds 100*l*. The successful competitors to receive their prizes before leaving the ground on the day of Exhibition.

Books of Prizes, &c., to be had on application to Martin & Sons, Seedsmen, Junction Street, Hull; or by Post, enclosing three postage stamps to the Secretary.

Cottingham, May 14 Josh. Brittain.

## BRIGHTON AND SUSSEX FLORICULTURAL AND HORTICULTURAL SOCIETY'S EXHIBITIONS for 1859 are fixed to be held on the following days:—Summer Show, WEDNESDAY and THURSDAY, June 22 and 23; Autumn Show, WEDNESDAY and THURSDAY, Sept. 14 and 15; on the same grand scale as in former years. Schedules are now ready, and may be obtained of the Secretary, 96, St. James's Street; or of E. Spary, Queen's Graperies, General Superintendent of Exhibition.

Thos. Attree, Esq., Chairman of Committee. | Edward Carpenter, Secretary.

# The Gardeners' Chronicle.

*SATURDAY, MAY* 14, 1859.

MEETINGS FOR THE FOLLOWING WEEK.

Wednesday, May 18—Crystal Palace.
Friday, — 20—National Tulip at Slough.

The Fellows of the Horticultural Society are under great obligation to those excellent cultivators and earnest supporters who among them formed the interesting exhibition at St. James's Hall last Thursday; for experience has shown that to leave plants for 48 hours in a room, the air of which is dried by gasburning, is to expose the flowers to destruction, and the plants themselves to serious injury. Nevertheless, in the face of so great an obstacle, a highly pleasing collection of fine things was brought together. The particulars of the Exhibition are fully described in another column. We must however add some editorial observations to those of our reporter.

The Rose growers seem not to have had confidence in the strength of their plants to expose them to the trial we have described; with the exception of Messrs. Lane, of Berkhampstead, and Francis, of Hertford, the first of whom sent some of the largest and most beautiful bushes ever seen, and the latter a very nice and extensive set of smaller specimens. Messrs. Frazer, Lane, and Ivery contributed highly interesting collections of Chinese Azaleas. Among Mr. Woolley's Orchids was a beautiful specimen of the very striking Arpophyllum giganteum. Some very striking Palms and Araceous Plants showed the strength of the nursery of Messrs. Jackson, of Kingston. Like the Rose growers, those who make Rhododendrons their specialty shrunk from the consequences of gas-dried air, with the exception of Mr. Standish, of Bagshot, and Messrs. Lane, both of whom furnished collections, the latter confining themselves to crosses with the yellow Chinese Azalea. Superb sets of fine-foliaged plants were supplied by Messrs. Veitch, among which those majestic species called in the nurseries Theophrasta macrophylla and imperialis and Aralia Sieboldi were most especially conspicuous; an extremely pretty and new variegated Pothos was also a gem in its way. The variegated Pelargoniums and other small specimens from Messrs. E. G. Henderson & Co. and A. Henderson formed a very pretty collection. In another set from Messrs. Henderson of Pine-apple Place was to be remarked the charming little greenhouse plant, called Boronia mellina, and a delightful specimen of Todea pellucida or hymenophylloides, one of the very rarest and most delicate of all Ferns. Among plants either new or very little known were the rare crimson-flowered Philesia buxifolia and Olea ilicifolia, the latter one of the finest hardy evergreens, from Messrs. Veitch; Myosotis nobilis, the large Forget-me-Not of New Zealand, and Exochorda grandiflora, loaded with large white flowers, untouched by the cold, although cut from a bush in the open air at Bagshot, from Mr. Standish; and the new greenhouse shrub, Mussehia Wollastoni, with very handsome foliage, from Messrs. Frazer.

Among fruit, which consisted of the usual supply of Grapes, Pine Apples, Strawberries, Cherries, &c., the gem was a dish of the Sir Charles Napier Strawberry, from Mr. Smith, of Twickenham, of the most brilliant *vermilion* colour, such as the most experienced eye never saw before, and of the largest possible size; for the decoration of a dessert this eclipses everything. Mr. Munro's hybrid Cucumbers, evidently bred from the Smyrna, and the Black Hamburgh Grapes from Mr. Hill, of Keele Hall, must also be distinguished by especial notice. Last not least must be mentioned a collection of fruit from Mr. Webber, of Covent Garden, among which were *specimens of Oranges from Adelaide in S. Australia!!* They were of the sort called the "navel" Orange, large, rough, and thick skinned, but rich, sweet, and juicy beyond all other sorts. The plants, we are informed, had been received at Adelaide from Rio; the Oranges were gathered on the 15th of last December, and were 11 weeks on the passage.

Among the miscellaneous articles placed on the tables was a model prepared by Mr. Hutchison, of Castle Malgwyn Gardens, showing the principle on which his new method of ventilation, described at p. 337, is to be applied. In our opinion this is a very material improvement upon all known methods except Mr. Ormson's. The object in both instances is to secure a proper warmth being gained by fresh air before it can enter the plant-house. In one of Mr. Hutchison's plans, as in Mr. Ormson's, this can only be done when the heating apparatus is first put up. But in the other of his plans (the left hand one, B C, at p. 337), it may be applied to any existing house: and it was this contrivance that the model explained. Perpendicular zinc flues, connected with horizontal subterranean ones carried under the front wall of the plant-house, rise between the front wall and the hot-water pipes, and then, by means of a neck, are connected with another close zinc flue pierced with holes and riding on the upper hot-water pipe. A simple mechanical contrivance admits air through the pierced zinc, or shuts it off as may be found necessary. For the information further of those who may desire to examine the contrivance the model will remain for the present in the office of the Horticultural Society, No. 8, St. Martin's Place, Trafalgar Square.

We avail ourselves of this opportunity to add a word or two respecting the future action of the Society, which is daily becoming clearer. After a long struggle against most formidable difficulties the Council have at last succeeded in placing the Society in a safe position. They are in possession of an income which, if the public continues to support them, is considerably in excess of the ordinary inevitable expenditure; and this enables them to take measures far more active than have of late been possible, and to infuse renewed energy into their proceedings. The public papers have announced that an application has been made to her Majesty's Commissioners for the Exhibition of 1851, for possession of the interior of that space at Kensington Gore which is to be surrounded hereafter by public or other important buildings, and we are able to add that the negociation is making sensible progress. A new Committee charged with the duty of examining and reporting upon all so-called new plants or new floral varieties, is about to be formed of experienced and disinterested persons; and thus the same course will be taken with ornamental subjects which has already worked so well with fruits and esculents. Moreover it has been just decided by the Council that a monthly printed circular shall be sent to all Fellows, giving an account of everything connected with the Society which has public interest, embodying reports of committees, results of exhi-

bitions, all notices and other information which requires to be circulated, and such miscellaneous matter as circumstances may suggest. These circulars may be eventually bound into a volume for future reference. Should the Society be sufficiently supported the circular in question may lead to a revival of the Journal, the publication of which has now been long discontinued. The mode of distributing plants by ballot is also to be considerably altered and improved, so that no one shall be exposed to the chance of obtaining plants which he does not want. In these ballots Fellows of the Society will have a number of chances proportioned to the amount of their annual subscriptions.

These unmistakeable indications of renewed progress will doubtless prove gratifying to all who have the interest of horticulture really at heart.

## CLIMATE IN RESPECT TO FRUIT GROWING.

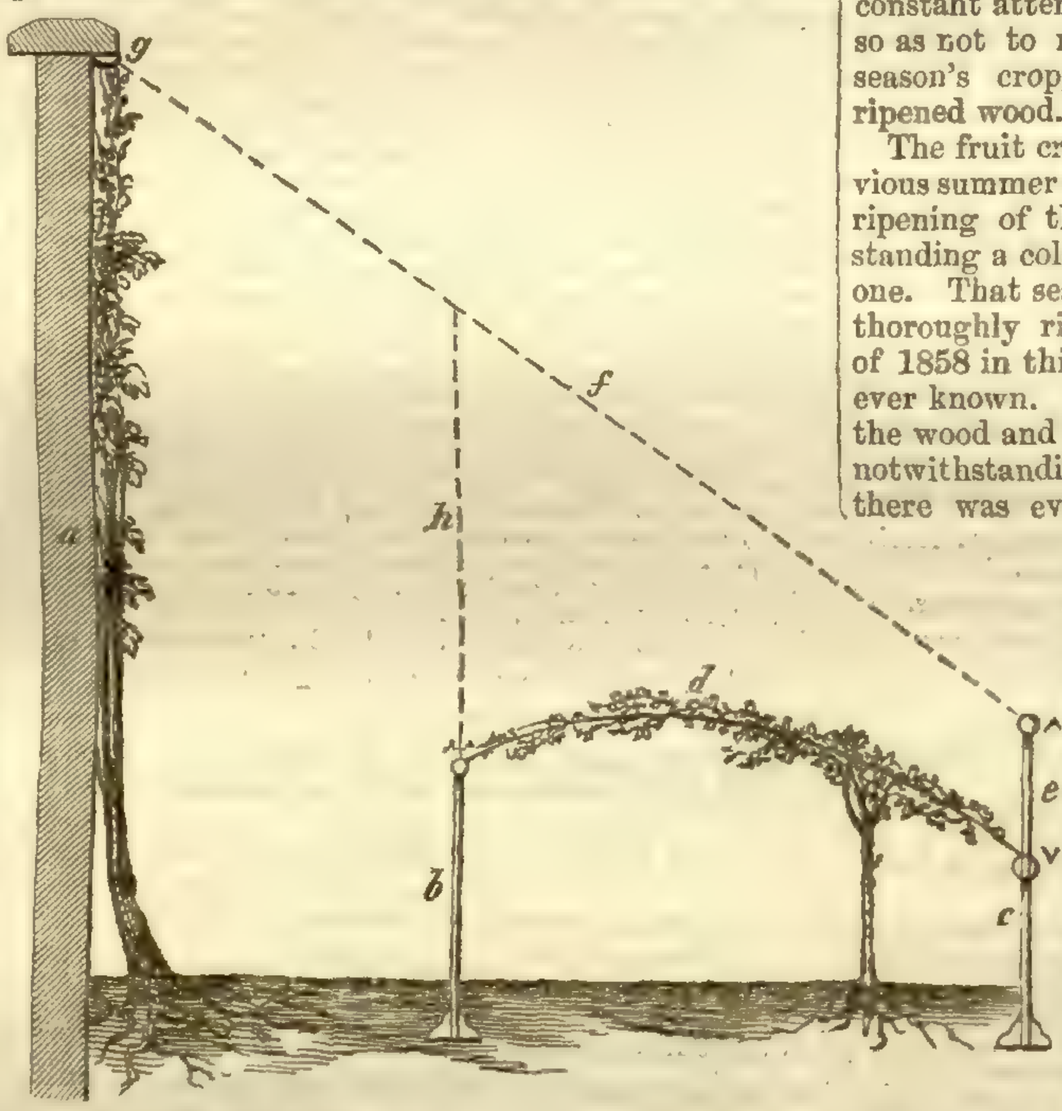
[With the permission of the Editor of the *Florist* we borrow the following from its able and extremely well-conducted columns.]

THE extraordinary vicissitudes of our English climate have never within our memory been so grievously realised as in the present season. After the frosts which occurred at the end of November we have had no winter to speak of; indeed December, January, February, and March were remarkable for unusual mildness, and this too accompanied with a high barometer and the absence of rain in many localities. Our last English winter, in fact, might have answered for the south of Italy, by its immunity from frost, and generally clear bright weather. Very early in February a number of shrubs were fast breaking into leaf, and Apricots opening their blooms; during March all went on unchecked, so much so, that by the beginning of April, notwithstanding the severe frost of March 30 and 31, the woodlands and pasture grounds presented all the appearances usually shown by the first week in May, and every description of garden produce partook also of the general earliness of the season. On the 31st of March we had 10° of frost, which, following after a snow the previous evening, did a vast amount of mischief to such fruit trees in bloom, besides destroying in several places the crops of Apricots, which were then of a considerable size. Peaches had partly set, and suffered more or less throughout the country; and early Pears and Plums also. The weather became warmer, and the 4th, 5th, 6th, and 7th of April were remarkable for their great heat, the day temperature having been 82° in this neighbourhood on the 7th, and between 70° and 80° the greater part of the former three days, an extraordinary temperature for the first week of April, and exceeding by a few degrees the two or three hot days occurring later in the month of April, 1858. The weather next became sensibly colder, and on the 14th and following days indications of winter made their appearance, followed by snow storms, cold north-west winds, and frosty nights. On the morning of the 20th we had 8° of frost, accompanied by an easterly wind; this frost has almost completed the ruin of our crops of Pears, Plums, and Cherries, excepting perhaps those in some favoured locality, or which had ample protection, a thing almost impossible to effect within the means of an ordinary garden expenditure, to say nothing of orchards and open garden fruits.

We have so frequently advocated orchard-houses in the *Florist*, as an almost indispensable auxiliary to a fruit garden, that we need not go further in that direction, except to remind those of our readers who doubted their ever becoming a substitute for brick walls, that their manifest increase throughout the country affords the best evidence of their utility, and that our recommendation for their being adopted was sound advice, borne out by the experience of all those who have tried them on rational principles. We therefore leave orchard-houses out of our present calculations, to see how far it is practicable to ensure crops of fruit, during such weather as the present, without the assistance of glass.

A well-arranged garden, surrounded with walls, with its quarters well furnished with bush or pyramid-shaped Pears, &c., and its divisional and surrounding walks margined with choice espaliers, is a thing to admire, more especially when the trees are in bloom, and give hopeful promise of an abundant return for all the trouble and anxiety they cost. But how often, after witnessing the beautiful display of bloom, are we doomed to disappointment. One or more frosts, such as we have lately experienced, come on us without much warning; and, if warning was given, how could we entirely prevent the consequences? All is then over for the season, and the gardeners' motto of *Nil desperandum* scarcely keeps him progressing under disappointments such as these. It strikes us, we must alter our garden arrangements for fruit trees; true, we may continue to intersect our kitchen garden quarters with fruit trees, in whatever form we may fancy to train; and so we may continue to line our walks to the right and left with espalier Pears, Plums, &c.; but are we wise in spending so much money and time for such uncertain results? We think not, allowing for all the contingencies which intervene between planting and the realisation of returns commensurate with the outlay. Still, when there are means, we say, let the thing be done as now,—and, something else besides. Looking at most kitchen gardens, we shall find them surrounded with walls, from 10 to 16 feet high, which are accompanied by borders of a similar width, or perhaps wider, on which are grown different kinds of vegetables. The south borders must, as a matter of course, be reserved for the first crop of Peas, or hand-glass Cauliflowers, or early Potatoes, and so with all the rest; they are generally the gardener's choice bits of ground, on which to foster and grow up anything he wishes to do better than ordinary. We need not add that this cropping is now universally condemned as inimical to the well-doing of wall trees, which are frequently injured by the system to an extent in comparison of which any crop of vegetables that may be raised is a sorry equivalent. We say, then, avoid all vegetable cropping on the wall borders, and prepare them for growing what fruit you may require, with a view of protecting the trees when in bloom as noticed hereafter. The kitchen garden walks may be margined as now with Currants, &c., or even with espalier or bush Pears, &c., to stand their chance.

To render our meaning more clear, we will take a south wall, cropped, say with Peaches and Apricots; take the wall 14 feet high, and the border as 14 feet wide. Let the soil the whole width be duly prepared for fruit trees, as it generally is near the wall for the Peaches. We would then throw an arched trellis. springing 2 feet from the ground at front over the border, to within 5 or 6 feet of the wall, under which we would plant other kinds of fruit trees for covering the trellis, say the best kinds of Pears and Plums on south aspects; Cherries, Plums, and Pears on east and west borders; and Warrington Gooseberries and late Currants on north aspects. The accompanying diagram represents the wall and trellis, and will help to show the plan of protection recommended. When it is wished to put on the protecting material, the upright (*e*), which, however, may be permanent, should be set up, to hold the front horizontal bar, and strips of wood,




*a*. Garden wall, with trees.
*b*. Back support to trellis, iron or wood.
*c*. Front ditto.
*d*. Arched wire trellis.
*e*. Iron or wood upright every 12 feet, to receive a horizontal iron bar, or spar.
*f*. Wood strips or bar iron, fastened to the horizontal bar at front, and to a similar bar (*g*), under coping.
*h*. Tie from rod *f*, to post *b*, to keep it steady.

iron bars, or even cordage, run up every 8 or 10 feet from the front horizontal bar to the one under the coping (*g*). If the strips are not considered sufficiently strong to sustain the covering, wooden uprights may be substituted as a support for the tie (*h*).

The whole of the frame and supports (*e*, *f*, *h*) can be easily put up and removed, and may be used when the fruit wants protection in the autumn, equally as when the bloom requires it in the spring. It now remains to notice the best material for protecting the bloom; this should be so arranged on rollers as to draw up to the coping (*g*) when not wanted. Woollen netting is perhaps the best known protection against frost; but, as it is necessary that the bloom be kept dry if possible, a thin waterproof material is yet wanted, manufactured sufficiently thin and light not to be inconvenient in drawing up and letting down, and yet impervious to rain. We hope manufacturers will try what can be done towards supplying this deficiency in horticultural shadings. In the mean time Shaw's Tiffany, or Brown's Shading, dipped in oil and dried, would answer the purpose of excluding damp and a great deal of rain, and would last for a number of years, substituting netting for the autumn, when birds, wasps, &c., only are to be kept from the fruit.

That these, our thoughts on the subject, very hastily thrown together, may require some modification in carrying them out in old gardens, we are free to admit. When new gardens or new walls are in course of formation, we see no difficulty in the matter; and we are very strongly impressed with the conviction that a concentration of all our best varieties of fruit trees, so as to admit of an entire covering when necessary, will be found as sound in practice as it will in the end prove to be economical when glass cannot be afforded. *Turner and Spencer's Florist, Fruitist, and Garden Miscellany for May.*

## FRUIT PROSPECTS.

Two months ago all would have said that the fruit prospects of the coming season were most promising; since then what a change has taken place! Expectations of abundant crops are blighted, and now the cry is that the severe frosts of the two last days of March and the greater part of April have all but destroyed our fruit. That the crop has suffered to a serious extent there is not the least doubt. But are matters quite as bad as they are at present represented? I think not. On the first occurrence of any calamity rumour very frequently magnifies matters. This I am of opinion has been the case in the present instance. The fruit crop has suffered, but the damage done has not been so great as is represented. From what I have seen and heard, I think that our prospects of a crop in this part of the country, though not so good as many may desire, are on the whole such as to lead us to believe it will not be much below the average. Owing to our variable climate it is not often that we have three or four heavy crops successively. Spring frosts, as they did this season, some years do great injury. Another frequent cause of bad crops is, that in cold wet summers and autumns the young wood and blossom-buds are not properly ripened. There are some other matters which more or less affect the fruit crops in certain localities, but the two principal causes of failure are unfavourable springs and unripe wood. As we cannot alter or control the seasons, we must do all we can to guard against these two causes of failure. Protection in some form or other is the only means of guarding against spring frosts. Timely disbudding, constant attention to thinning and stopping the shoots, so as not to retain one more than is required for next season's crop, will in ordinary seasons ensure well ripened wood.

The fruit crop of 1856 was a bad one owing to the previous summer and autumn being unfavourable to the ripening of the wood. The crop of 1857, notwithstanding a cold unfavourable spring, was a very heavy one. That season being very hot and dry the wood got thoroughly ripened, and the result was that the crop of 1858 in this country was one of the most abundant ever known. Last season being also very hot and dry the wood and fruit buds were again well ripened; and notwithstanding the heavy crops of 1857 and '58, there was every prospect of abundance this coming season; indeed, there is no doubt that had it not been for the very severe weather we have had the crop would have been most abundant. Up to March 30th all was promise; on that day we had a good deal of snow, which was followed by 10° of frost that night; this destroyed to a great extent all the Apricots, Peaches, and Nectarines that were unprotected. At that time Cherries, Pears, and Plums (with the exception of a few early Plums), were not forward enough to suffer much injury. I never saw Apricots, Peaches, and Nectarines set more abundantly than they did this season; and wherever the simplest description of protection has been used, a good crop has been saved, notwithstanding the severe frost on March 30th and 31st. Those, therefore, who have lost their Apricots, Peaches, and Nectarines, have themselves to blame.

After the extraordinary mild winter we had, and the very forward state of everything, no person should be unprepared for emergencies. Those who were unprepared for March 30th were highly culpable. On all sides we have seen abundant crops saved by such protection as was afforded by Fir branches, straw bands, woollen netting, mats, canvas, &c. The protection afforded by properly constructed glass structures is, of course, very superior to that afforded by any of the foregoing; but in the absence of this more expensive mode of protection, it is quite possible by simple contrivances, and a little energy on the part of the cultivator, to secure abundant crops, even such seasons as the present, if the wood was previously well ripened.

With us Peaches, Nectarines, and Apricots are heavy crops—three-fourths have to be thinned—they were protected on the nights of March 30th and 31st, and during the cold weather in April. Pears, Plums, and Cherries have suffered very much on standard trees, but on trees against walls they are nearly an average crop. Among Pears the following have set pretty well on walls, viz., Jargonelle, Passe Colmar, Brown Beurré, Beurré Diel, Easter Beurré, Vicar of Wingfield, and Glou Morceau. I have never known the Glou Morceau to miss having a crop. The following have a tolerable crop on standards:—Williams's Bon Chrétien, Beurré Diel, Louise Bonne of Jersey, Beurré Bosc, and Dunmore. Among Plums, Greengage, Washington, Kirke's, Victoria, Golden Drop, and Early Orleans are nearly an average crop. Apples will, according to present appearances, if nothing very unfavourable happens, be an abundant crop. The heavy rains of the 25th, 26th, and 27th of last month cleansed the trees, and nothing can be more promising than they are at present. Bush fruit has suffered considerably, and the crop will be

rather below an average one. Among red Currants the "Raby Castle," being a late sort, has escaped from much injury, and it will be a good crop.

The foregoing is a correct statement of my own case, and I know that nearly all those who had taken precautions to protect from the severe frosts stand equally well. I also know that unfortunately too many, lulled into a false security by the remarkably mild weather, have had their crops very much injured. I have heard of Peaches suffering much from the attacks of greenfly in some places. Some attribute this to the frost, but in general it may be taken as a sign that the wood was unripened. Thoroughly matured wood almost invariably bursts into strong healthy vigorous growth, which rarely suffers from the attacks of greenfly. As it is therefore a matter of the utmost importance to secure well ripened wood; attention, I may repeat, should be immediately paid to thinning of the fruit, to disbudding, thinning, and stopping of the shoots. Retain only what are wanted next year. It is good practice to thin well. What fruit is left to ripen will always be the finer for it; the wood will be stronger, and will in ordinary seasons ripen well. With well matured wood and buds there is always a reasonable prospect of a crop. When the summer pruning is not properly attended to, the trees become crowded with young wood, which never gets properly ripened; the first spring frost so affects the young growth that it immediately becomes a prey to greenfly. By thinning the fruit and young wood we as it were economise the organised matter which is stored up in the trees, and concentrate it on the fruit and young wood that is left. The fruit becomes larger and finer; and the young wood grows stronger, and by its being kept thin gets properly ripened. By attention to these matters in summer, and by providing sufficient means of protection from severe spring frost, we may secure satisfactory crops in nine seasons out of ten. *M. Saul, Stourton, Yorkshire.*

## NIGHT TEMPERATURE OF FORCING HOUSES.

When I forwarded you my remarks on this subject and the winter growth of Cucumbers in particular, I was fully aware that I should call into action the querulous disposition of some of your correspondents. Disbelief appears to be the order of the present time, and any attempt to disentangle simple practices from by-gone usages is at once met and combated as rank heresy—and he who has achieved the success set down as a person of very limited understanding. Thus "M. S." would attribute all the success to a comfortable bottom-heat, while Mr. Fry and his friends ignore the success altogether and note it an impossibility. No doubt a comfortable bottom-heat is a very essential thing for Cucumbers or Melons at any season, but at the same time I would remind "M.S." that an instance of the necessary bottom-heat being provided is not an exceptional case, for I am quite convinced that according to ordinary and generally received rules there is no vegetable which costs so much to grow as winter or early spring Cucumbers. In fact Cucumber-growing has been invested with a kind of wonder, and time was when the man who could sow in November and cut a brace of fruit in the early part of March, was looked upon as a sort of horticultural phenomenon, who had the right to dictate to all "lesser men." To expose this absurdity, and to show that it was not necessary to incur the "frightful expense" of dung beds for the growth of Cucumbers in the winter season, I published my treatise in 1841, and subsequent experience has shown me to be quite right. I have no doubt "M. S." knows of many instances where the bottom-heat was provided, and top-heat too, Cucumbers anxiously looked for, and yet they "came not," and were it not invidious, I could name several gardens where the "comforts" were provided in superabundance, and yet the result was what? Etiolated stems and tissue-paper leaves. For my own part I am getting less and less anxious about bottom-heat; in moderation, say never to exceed 80° for any plant, it is very well, but to apply it as a panacea for all the ills that plants are heir to is frequently to do evil that good may come, and a strong bottom-heat, accompanied by a high night temperature, I regard as the root of all evil in plant cultivation. True, "M. S." tells us that his Pines did not swell in the winter season, but the specimen of Antigua Queen, which I send you with this, swelled perfectly flat, and with the rich syrupy juice oozing out on all sides proves that good Pines, like good Cucumbers, can be grown at a much lower temperature than by many would be considered orthodox. [It weighed 2 lb. 13 oz.]

I have now some small, very small plants of Lemon and Ripley Queens in and coming into bloom, and I shall be much deceived if I have a fruit less than from 4 to 6 lbs. in weight. In the same house I have eight kinds of Vines, each carrying a well set crop, and including Muscats, Frontignans, Chasselas Musqué, and Mill Hill Hamburgh, and yet when I was a knight of the shovel and did the stoking, the penalty of allowing a house containing any of the Grapes above enumerated to get below 70° would have been instant dismissal, and yet my Grapes are set as well as could be desired, and much too thick for the man who had to thin them. Am I to shut my eyes to such facts? Am I for the gratification of "M. S.," Mr. Fry, and his friends, to continue in the "old rut," or shall I allow my men to get their regular night's rest, save fuel and other expenses, and yet achieve results as good as the best of them?

Mr. Fry speaks of fine houses of Cucumbers in his neighbourhood. I should hope such sights are not rare in any part of the country in April, but an equally fine house in the depth of winter is another and very different thing. According to Mr. Fry, "the principal secrets in Cucumber culture are a good open porous soil with plenty of peat in it, and well drained throughout, abundance of heat, air, and moisture." It may surprise him to learn that I never use peat, and rarely leaf mould, and as to "drainage" the roots of my plants are standing constantly in water, and forming a complete web in the tank. So do doctors differ, and yet I have not the slightest doubt that from about nine plants I cut more Cucumbers between Michaelmas and Lady-day, through the dead of winter, than some of his friends do through the summer six months of the year. Therefore let me advise them to leave the beaten track, which has now become very "rutty," and take a shorter and easier cut to success. *W. P. Ayres, Orchardleigh Park, Frome.*

## Home Correspondence.

*Monkeys and Sugar Canes.*—The whole of this anecdote would suit the shelves of my old grandmother's library. In fact it savours more of Munchausen than of monkey. We are informed that "a ready-witted Englishman" managed to approach so near to some wild monkeys, as to have the chewed fragments of Sugar Canes spit in his face by them. What an impossibility! We may rest quite certain that no cunning of his could enable him to get so near to the shy and wary inhabitants of the trees. Again, he actually chased a flock of monkeys into a tree, which he then felled, and secured the young ones. What noodles these young and old monkeys must have been to tarry in the tree whilst the "ready-witted Englishman" felled it! Why, on the very first stroke of his axe they would have set off, helter skelter, and left him alone to complete his useless task. Such narratives as these mar and mutilate the science of the 19th century. I take this opportunity to suggest to "R. F., Polesden Lacey, Dorking," that he would do well to secure his rent Beech tree by two iron bolts driven through it; one of them about a foot from the ground, the other about the same distance from the top. As the tree must have received its injury either from a gust of wind or from an over pressure of foliage, a repetition may occur to the final destruction of the tree itself. The bolts would prevent this most effectually. "A stitch in time saves nine." *Charles Waterton, Walton Hall, May 9.*

*Grafting Garrya elliptica on Aucuba japonica* (see p. 384, 1859).—The authority of M. Carrière, and the absence of any remark from the Editor, give reason for supposing that this statement is not altogether extraordinary; though to an unlearned person, who looks merely at the external habits of the two plants, it appears remarkable enough. Perhaps you would kindly take some opportunity of pointing out the precise amount of relation between the two natural orders, Loranthaceæ and Garryaceæ, to which the plants belong. *G.* [The genera Garrya and Aucuba cannot be said to have had their real affinities positively determined. The first at present represents a supposed distinct order called Garryaceæ, and the genus Aucuba is stationed near Dogwood in the order Cornaceæ (not Loranthaceæ), where it seems really to find its true relations. The experiment of M. Carrière, about the exactitude of which we suppose there is no doubt, will doubtless cause the value of the order Garryaceæ to be further considered. Its affinity to Cornaceæ has not been hitherto suspected.]

*Flower Beds.*—I have begun to lay out my beds for bedding out on a somewhat novel principle, for which I am indebted to the Mosaic pavement pattern book of Messrs. Maw & Co. You will observe from the annexed sketches that the chief novelty in them is the substitution of diagonal lines and triangular forms for parallel lines and parallelograms, though a mixture of the two is productive of the finest effect, as is shown in Mr. Digby Wyatt's designs for Maw & Co's pavements. *Geometricus, Salop.* [We regret that typography does not afford the means of reproducing our correspondent's sketches.]

*Soja hispida—Soy Bean.*—This plant will certainly ripen its seeds in favourable seasons in this country a degree or more north of London. I received some seeds of it marked Cajanus, in 1857, from South Carolina, where it is cultivated under the name of Japan Pea. The plant succeeded well and ripened its seeds, while from different species of Dolichos cultivated in the same garden, I could not even obtain flowers in the open air. It is very doubtful, however, whether the Soy Bean would succeed in a cold summer, or even in ordinary seasons. It is well figured in Kæmpfer's Amœnitates Exoticæ, where there is a curious account of its preparation for culinary purposes. It is used principally as a substitute for butter and as the well-known Soy. The first of these preparations is called Miso, and is made in the following way. The seeds are boiled for a very long time in water till they are capable of being pounded into a soft pulp. To this four parts of salt are added in summer and in winter three. The lesser proportion of salt yields the best Miso, but it will not keep so long. A quantity of steamed rice is now added equal to that of the Soy Beans, and intimately pounded up with them, and when the mass is cold it is placed for one or two days and nights in a warm cellar. The mixture is then put into a wooden vessel which has lately contained the beer the country, known under the name of sacki, and left for one or two months before it is used. The preparation of it requires great skill and experience, and is followed as a particular trade. The Soy or Sooju is thus prepared. Equal quantities of Wheat or Barley and Soy Bean are boiled and pounded together. The mixture is kept in a warm cellar for 24 hours to ferment, and then placed in an earthen jar, covered with a measure of salt equal to that of the Soy Beans, and two measures and a half of water. It is then closed up and stirred from once to three times a day for two or three months. The mass is ultimately filtered and pressed, and the liquid preserved in wooden vessels. Its quality improves, while it becomes clearer, with age. Fresh water is then applied to the marc, which is again squeezed after the mixture has been well shaken for some days. The Soy is often of a darker colour when prepared from Wheat than from Barley. *M. J. B.*

*Tombstone upheld by a Fig Tree.*—Having read in your columns Mr. Waterton's statement of a huge mill stone being supported in the air by a Nut tree, I beg to inform you that in the churchyard at Watford there is a large tombstone supported by a Fig tree in the same way. *J. H.*

*A Cry from Amateurs.*—We, the small fry as we are called, whose name is legion, and whose influence in the world of flowers is evidenced by the host of nursery folk, good, bad, and indifferent, who have sprung up thick as Mushrooms at our bidding, humbly petition you to come to our aid under difficulties and trials no longer to be endured. Our case stands thus: devoting, as we have done, all our spare time and our spare cash in the culture of flowers, many of us are compelled to entrust the care of them to other hands from our callings engaging much of our time; and a large proportion of our community now find their former greatest gratifications exchanged for continual and grievous mortifications from finding those who have the charge of the pets confided to their care wholly inefficient and unqualified, although their salaries for the most part average 60*l.* per annum; and we are strongly disposed to ascribe our mischances in a multitude of instances, too numerous to mention, to the names given to the houses in which our most choice and tender plants are grown. The stove and hothouse, in the imagination of these men, implies houses heated to broiling-point, into which a breath of air by night or day must never enter; at night especially every crack and cranny is closed up, and steam put on hot enough to boil a Cabbage, and thus yellow leaves, spot, mildew, languor, and fogging off soon occur, succeeded by drawing, dwindling, flowerless, and at last leafless stems, the plants are then discarded, with the plea that they were sent badly established, or some such bosh; and whisper but faintly a want of skill and you are soon told you know nothing about the matter, and they are not accustomed to be interfered with. Now, your petitioners are but of ordinary flesh and blood, and can but badly brook such language; and we earnestly pray you to indite, in language comprehensible to these men of high pretence though of little wit, some practical code of laws on the temperature of stoves and hothouses for day and night, on ventilation by night as well as by day, on moisture, and on light and shading. We know the real English gardener thoroughly understands how to manage all these appliances to ensure success, and proud are we to witness the proofs of their skill at our exhibitions, and they possess our highest esteem and respect; but they must be well aware that the country is overrun with men professing to be gardeners who are unworthy to fill their watering pots, and these be they who create such havoc with us little fish. They come amongst us with testimonials of ability in all departments, but how obtained we cannot tell. We know that many of our most ardent lovers of the craft have thrown up their establishments in disgust, who have spared no means or money to do things well, and this feeling of disgust is on the increase. We therefore pray you to give ear to this not unreasonable prayer, and with such authority as yours to back us, we may hope for some amendment. *Honorary Secretary to the Suffering Many.* P.S. We think the average temperature in many of our stoves decidedly too high, that air tempered by passing over pipes is right at all times where the moisture of the house is duly watched. We think the temperature at night should ordinarily be kept lower than is usually the case, and that a continuous flow of a tempered and drier air is in accordance with dame Nature. We deem the burning glare of the sun's rays through glass impinging on the tender sprouting foliage of early summer decidedly detrimental to growth, and the supersaturation of our atmosphere with water more prejudicial than the reverse of such a condition, and the evils of the latter state more readily remediable than the former. We think of many other things, but woe betide him who dares to tell his gardener his thoughts. We think that at the Crystal Palace, or Kew, or Chiswick, a college might be created to furnish all classes with men capable of attending to every department of floriculture, fruit and forest work, vegetable growing, and forcing. A large establishment might be maintained by all the pupils engaging in the work. Plants of all descriptions might be raised and propagated, and the sale of these to the public go towards the defrayment of expenses, the scholars by examination receiving their certificates.

*Vines.*—I was much surprised this morning in looking over my trees to find one look as if it had been shot at. On examining it I found a quantity of the Scolytus in the holes. I will thank any readers of the *Gardeners' Chronicle* to say if they have seen the Vine destructor on

attacked by this insect; if so, what will kill them? *J. G. Brown.* [Surely not Scolytus, but some Curculio. If the latter he may be caught at night while feeding.]

*Twin Peaches.*—No very definite answer has been given to your correspondent who made inquiries about double Peaches. Such Peaches are common in orchard-houses, and my practice is, as soon as they are fairly set, to pierce one of the fruit with the point of a penknife quite to the centre, and in order to mark the performance of the operation, to remove a small slice. The wounded fruit withers, and is soon obliterated, while its twin brother swells unhurt. *G. S., Bromley.*

*Crickets.*—Having tried many nostrums and failed, pray let me appeal to your correspondents to ask by what means crickets can really be destroyed or expelled from a Pinery. *A. C., in distress.*

*Garden Expenses.*— Your correspondent "J. D." (see p. 362) has admitted the necessity of some explanation to his Dr. and Cr. account given at p. 218 But with the exception of having deducted nearly one-half from his kitchen garden, no explanatory statement of any importance has been given. He assures us that the remaining 1¼ acre is "both well cropped and cultivated." But the "supply exceeding the demand" is no proof of that, and his figures (56*l.* 3*s.* 4*d.*) really do not warrant such a conclusion, seeing that there is no entry for manure, seeds, &c., in the Dr. account. Let me assure "J. D." that an experience of 15 years has given me ample proof what kind of demands are made upon a gentleman's gardener, and I had no intention to institute a comparison between a public and private garden; but I may tell "J. D." that the outlay per acre in market gardens, even where common vegetables are grown, exceeds considerably the total returns of "J. D.'s" 1¼ acre. I would also inform him that I have seen "walls" covered with fruit, many miles further north than Fife, and although it may be true that "all trees" did not bear "even a moderate crop," yet failure was the exception and not the rule, and last year there was more than an average crop of wall fruit. In the gardens of R. Crawshay, Esq., of Ottershaw Park, there is a wall only 158 feet long covered with Peach and Nectarine trees, from which have been picked for several years on an average 200 dozen of most excellent fruit. Your correspondent states that "orchard houses are of recent introduction." They have been sufficiently long established, however, to warrant a larger return, even though "stocked with maidens," than is set down by "J. D." But your correspondent recommends his orchard house on the score of cheapness; "Curates' Vineries" must dwindle into a minority when orchard-houses 46 feet by 12 can be erected for less than 8*s.* 8½*d.* per foot run. But discussion ought to have for its object information, and if "J. D." would deal with details rather than generalities, his data would be more valuable. Such statements as that at page 218 *b* are calculated to mislead rather than to instruct. "The house" is there given as a department under "J. D.'s" charge, and he keeps it (I wonder in what?) for 39*l.* 10*s.* 5*d.* Then the "fences on the farm," and "additional farm work," seem the only part of the agricultural department under his care. In short, his balance-sheet is still very obscure, and can as yet profit little. *A. M'K., Woodlands, Blackheath.*

*Isabella Gray Rose,*—It may perhaps interest some of your readers to know that I have a plant of this at present in full bloom. It is upon its own roots and in a pot. The blossoms are bright yellow and very beautiful. *John Haste, Cragg Bottom, Rawden, near Leeds.*

## Societies.

Horticultural: *May* 12 *and* 13.—Some of the matters exhibited on this occasion are mentioned in another column. The arrangement of the plants was in every respect excellent, and the display as a whole all that could have been desired. On the raised stages in front of the great organ were plants in flower, Ferns, and Palms from the Society's Garden. In front of these were some handsome Azaleas from Messrs. Fraser, supported on one side by a large and finely flowered specimen of Leptospermum bullatum (?) from Mr. Gaines, of Battersea, and on the other by an equally fine buff-flowered Rhododendron from the same grower. On the platform below stood two fine Wellingtonias from Messrs. Veitch, and an example of their new hardy evergreen shrub Olea ilicifolia. On lower stages nearer the body of the Hall stood the row of magnificent Rose trees from Messrs. Lane, noticed below, the effect of which was grand in the extreme. The centre table was covered with fruit and small Roses in pots, and in a line running its whole length was a row of standard Azaleas. The two side benches contained Orchids, the magnificent groups of plants remarkable for fine foliage, and those at the end near the entrance Rhododendrons. Such materials judiciously disposed, as they were, could not fail to produce the best results.

Of fine foliaged and other plants not for competition, Messrs. Veitch sent a magnificent collection, which filled one entire side of the Hall. Such liberal and disinterested support surely deserves the highest praise. Among them were Theophrasta macrophylla and imperialis, both with leaves remarkable alike for their size and beauty; Aralia Sieboldi, a magnificent species with handsomely divided foliage set on the ends of long foot stalks of remarkable strength; various Palms, all in most luxuriant health; the variegated leaved Chinese Hibiscus, Araucarias of various kinds, Rhopala magnifica, the Dragon tree (Dracæna Draco), an enormous mass of variegated Screw Pine, and others. Associated with these were such flowering plants as Eriostemons, Cape Heaths, Chinese Azaleas, Everlastings, and one or two Orchids which, tastefully intermixed as they were with the valuable plants just alluded to, produced a striking and admirable effect. On a corresponding table on the opposite side of the Hall was a fine group, chiefly Palms from Messrs. Jackson, of Kingston; among them were Livistonia borbonica and Jenkinsi, Phœnix sylvestris and dactylifera, Thrinax parviflora, Corypha australis, Pandanus odoratissimus, with long Sedge-like leaves, and the singular-looking Monstera deliciosa. Mr. Young, of Dulwich, sent a collection in which were Farfugium grande, a very fine specimen with more yellow in the leaves than usual; Bromelia sceptrum, Caladium picturatum and bicolor, Graptophyllum hortense, with white blotched foliage; the white spotted Dieffenbachia maculata, and Ananassa variegata.

Of Ferns, Mr. Hally, of Blackheath, sent a well-grown collection in which were Adiantum formosum, Gymnogramma ochracea, Mertensi, and pulchella intermedia, the Mexican Asplenium fœniculaceum, with finely cut leaves, Doodia Blechnoides, Nephrolepis Davallioides and acuta, Cibotium Barometz, Davallia bullata, Pteris tremula, and Dictyoglossum crinitum.

Rhododendrons consisted of two collections, one from Mr. Standish, of Bagshot; the other from Messrs. Lane, of Berkhampstead. In the former group were Towardi, Gem, a remarkably handsome kind; Robert Gair, purplish crimson; Mrs. Mangles, French white with spotted upper petals; Hildebrand, crimson; Queen of May, white with straw-coloured centre; and Rosabel, crimson. The next collection from Messrs. Lane consisted chiefly of yellow and other light coloured hybrids; among which the best were perhaps primulinum elegans, macranthum flavum, delicate pink and buff; delicatum, lilac and buff; aureum, Jenkinsoni, and formosum.

Of Azaleas Messrs. Lane furnished some very nice standards, some of them "unions," *i. e.*, two varieties worked together on the same stem, or rather stock. Such specimens when the colours are well contrasted produce, as they did in this instance, an excellent effect. Messrs. Fraser sent both in the shape of standards and dwarfs, rosea elegans, Louise Margottin, a semi-double white; Diana, crimson; coronata, purple; a double white called magnifica, sinensis alba, Minerva, brilliant orange scarlet; violacea superba, Duke of Devonshire, Admiration, white streaked with crimson; and optima. Of new kinds, Messrs. Ivery, of Dorking, had examples both in the form of cut blooms and plants. Among the latter were Bouquet de Flore, Distinction, salmon edged with white; Rubens, orange scarlet; Baron de Vriere, delicate pink, spotted; Duc and Duchesse de Nassau, the former a semi-double purple, the latter crimson; and Barclayana superba, white striped with purple.

Of Orchids, Messrs. Veitch had a charming collection. It consisted of Aerides Fieldingi, virens, and Lindleyanum, the latter a handsome deep purple-lipped kind; Lycaste Skinneri, Phalænopsis grandiflora, Cypripedium villosum, a noble plant with some 15 blooms on it; the singular-looking C. Lowei, C. barbatum, the exquisite Dendrobium Devonianum, and the rare and beautiful Odontoglossum Pescatorei. A second collection came from Mr. Woolley, of Cheshunt, who furnished Dendrobium nobile, Cattleya intermedia, and Skinneri, the Brassia-like Oncidium phymatochyllum, O. Phillipsianum, Vanda tricolor, Aerides virens, Gongora truncata, the Orange blossomed Epidendrum rhizophorum, and a small specimen of the charming Guatemala Arpophyllum giganteum, with small shell-like purple flowers arranged on the three spikes which produced them with singular and beautiful regularity.

Of real novelty there was perhaps little. Mr. Standish sent the beautiful Exochorda (Spiræa) grandiflora and the so-called Myosotis nobilis or great New Zealand Forget-me-Not, both of which have been formerly noticed by us. From Messrs. Veitch came Clianthus Dampieri, with brilliant crimson flowers, each furnished with a round black boss; Cyanophyllum magnificum with magnificent leaves of a deep velvety green charmingly traversed with yellowish white veins; Farfugium grande, the deep crimson flowered Philesia buxifolia, Olea ilicifolia, the new hardy evergreen Japanese shrub noticed above; Caladium Chantini, Begonia amabilis, and two other charming Begonias, one named argentea, the other Queen Victoria. The leaves of the latter are of medium size and very distinct. Their ground colour, a greenish brown, is beautifully marked and spangled with silver, large bands of the latter running between the principal nerves. Argentea, also a distinct and beautiful kind, has leaves which look as if they were overlaid with silver, their upper surface being studded with faint green points, whilst the principal nerves, which radiate from the centre, are pale straw coloured. Both are Belgian kinds introduced to this country by Mr. Linden. A most striking silver-blotched new Pothos, called argyræa, was also shown by the same firm.

Of Miscellaneous plants, Messrs. E. G. Henderson sent an interesting group. Among other things it contained Tydæa Duc de Brabant and T. Duchesse de Brabant, both beautiful crimson spotted, Gesnera-like plants; several fine varieties of Marantas, Campylobotrys argyroneura, with singularly-crumpled, deeply-furrowed leaves, having a brown metallic lustre; one or two of Chantin's Caladiums, among which was the neat little argyrites, with green leaves blotched with the purest white; Begonia Regina, with reddish buff foliage, ornamented with a broad silvery band; the shining green-leaved Aucuba himalaïca, formerly noticed by us; Sonerila margaritacea, Echeveria secunda, Salvia argentea, with leaves covered with long white wool; and various fine kinds of variegated Geraniums. Messrs. Fraser had Mussenda Wollastoni, a promising greenhouse shrub; Gastrolobium Leakianum, and the old canary-coloured Sempervivum lineolare. Some very fine Amaryllids came from Mr. Gaines and Messrs. E. G. Henderson. From Pine-apple Place Messrs. A. Henderson sent the double yellow-flowered Datura chlorantha, the pretty Boronia mellina, the charming little Fern Todea pellucida, various Caladiums, Dracænas, and Boronias; also Brunfelsia nitida, Grevillea robusta, and one or two other plants remarkable for the beauty of their foliage.

The collection of magnificent Rose trees in pots from Messrs. Lane, noticed above, formed one of the principal features of the exhibition. Each specimen was nearly 5 feet in height and loaded with blooms. The sorts were Baronne Prevost, large rose; Duchess of Sutherland, of a slightly paler shade; the handsome Tea Rose Souvenir d'un Ami, white, or rather blush with a salmon centre; Jules Margottin, crimson, very fine; Paul Perras, rose; Triomphe de Paris, deep purple. These were, as they deserved to be, greatly admired. Mr. Francis, of Hertford, contributed an extensive assortment of very nice Roses in pots, which occupied the middle of the centre table, and formed a good background for the fruit, which was arranged in front of them. Pansy blooms came from Mr. Bragg.

Fruit was as good and as plentiful as could have been expected considering the season. From M. Webber, Covent Garden Market, came a highly interesting collection. It consisted of Cocoa-nuts, Sapucaya-nuts from Demerara, and the Ground-nuts of commerce; Litchis from China, Shaddocks from the W. Indies, Blood Oranges from Malta, Mandarin from Palermo, and a large rough-skinned kind called the Navel Orange from the neighbourhood of Adelaide, S. Australia; Pommeloes from the W. Indies, four Pine Apples, some Pears and Apples, both in good condition; Sweetwater and Hamburgh Grapes, Sir Charles Napier and other Strawberries, and May Duke Cherries, the latter small, but ripe. These were staged with taste, and excited considerable interest.

Of Pine Apples there were some good examples. Mr. Davis, gr. to J. Dixon, Esq., sent a well-ripened Black Prince; a Prickly Cayenne weighing 3¼ lbs. came from Mr. Clarke, Cobham Hall, Kent. The best Queen was furnished by Mr. Page, gr. to W. Leaf, Esq., Streatham. Mr. Oates, of Stoneleigh Abbey, had a seedling said to be a good kind for fruiting in winter; it was stated to have been a cross between a Montserrat and a Queen. Other Pines consisted of a Globe from Mr. Hickson, gr. to E. Challoner, Esq., Hermiston Grange, Yorkshire; some well-grown fruit from Mr. Fryer, gr. to R. Crawshay, Esq.; a very nice Black Jamaica from Mr. Gillham, of Isleworth; a small, but finely-coloured Queen from Mr. Turnbull; and a Prickly Cayenne from the same grower and from Mr. Crawshay. The latter was, however, past its best.

Of Grapes, three remarkably fine bunches of Black Hamburgh came from Mr. Frost, gr. to E. L. Betts, Esq., and fruit of the same variety almost equally good was contributed by Mr. Hill, gr. to R. Sneyde, Esq., of Keele Hall, Staffordshire. Mr. Tillyard, gr. to Viscount Eversley, also sent good Black Hamburgh. Other exhibitions of this kind were less remarkable. Dutch Sweetwater came from Mr. Tillyard, and Muscadine from Mr. Chalmers, gr. to Lord Southampton.

Figs were contributed by Mr. Fleming, gr. to the Duke of Sutherland at Cliveden.

Of Pears, Mr. Park, Grove Hall, Retford, sent a dish of good Beurré Rance.

May Duke Cherries were uncommonly fine. The best were produced by Mr. Shuter, Heaton Park, near Manchester. These were large and beautiful. Mr. M'Beychester. Sudbrooke Holme, near Lincoln, also sent a good dish of the same variety.

Strawberries were shown in considerable quantity; but by far the best in point of appearance were those from Mr. Smith, alluded to in another column. Mr. Parke had Trollop's Victoria and Keens' Seedling both good; Mr. Clarke Keens' Seedling and Sir Harry; Mr. Ivison, gr. to the Duke of Northumberland at Sion, Keens' Seedling; Mr. Kaile, gr. to Lord Lovelace, Princess Alice; and Mr. Turnbull Keens' Seedling and Alice Maude. Some well fruited specimens in pots came from Mr. Ivison.

Melons, consisting of Golden Perfection and Orion, were contributed by Mr. Sparkes, gr. to R. Collins, Esq., Collumpton, Devon.

Among Vegetables were dishes of green Peas from Mr. Fryer, gr. to R. Crawshay, Esq., Cyfarthfa Castle, Glamorganshire. The sort was Tom Thumb, which was stated to have been grown in wooden boxes in a cold house after having been for the first three weeks in a Pine store. Examples of Australian Cress, formerly mentioned at p. 642, came from Messrs. A. Henderson, Pine-apple Place.

Cucumbers, fine for the season, were shown by Mr. Munro, of East Barnet. The sort—a hybrid—appeared to be unusually prolific, the fruit growing in pairs from almost every joint. It is evidently a valuable sort for winter forcing.

Among Miscellaneous Articles was a new fumigator

from Mr. Spary of Brighton, of which some notice will be taken hereafter, and Mr. Hutchison's ventilator, mentioned in another column.

The list of prizes awarded on the occasion will be found in our advertising columns.

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Hornsey Gardeners' Mutual Instruction: *May* 2, 1859.—This newly established Society met at the Infant School Room, Hornsey, on Monday evening last, to hear a lecture by Mr. Shirley Hibberd on "The Literature of Gardening, and the Sayings and Doings of eminent Horticulturists." Mr. Hibberd gave the lecture gratuitously for the benefit of the Society, and as it was the first meeting the Society had held for any such purpose, a more than usual degree of interest was excited. The room was quite crowded, and among the persons present were Mr. and Mrs. Cutbush, of Highgate, J. R. Scott, Esq., of the Council of the Horticultural Society; Robert Richmond, Esq., &c. The last named gentleman was the chairman of the evening, and previous to the delivery of the lecture he made some remarks on the benefit gardeners might derive from mutual association for purposes of general mental improvement, as well as for advancement in the art which it was their privilege to follow as a means of livelihood.

Mr. Hibberd then began his lecture with a brief sketch of the gardens of the ancients, and coming down to the time of Roman grandeur and luxuriance he instanced the Pompeian Court at the Crystal Palace as giving a faithful idea of a Roman house and gardens. Among the many descriptions of such scenes in ancient and modern writers, he could remember none which placed the scene before the mind more completely and accurately than Bulwer's "Last Days of Pompeii," which he had read just previous to his first visit to Sydenham. The lecturer then glanced at the changes that had taken place in gardening taste during successive ages; he described the main features of Versailles and other noted places, and dwelt with enthusiasm on the glories of the old English gardens, with their bowling alleys, their collections of "simples," their clipped Yews, and favourite border flowers, too many of which were all but thrust out of cultivation in the present day by the rage for bedding and promenade effects. Among the authors reviewed as illustrating the changes of fashion in gardening were Whately, Price, Brown, Langley, Shenstone, Gilpin, and others. In the history of cultivation he said the changes had been fewer and less striking than in those in which taste was concerned. Miller's "Dictionary" was still a book of authority, and many older works, such as Gilbert, 1693, Abercrombie, who wrote under the *nom de plume* of Mawe, and others, differed but little in their treatment to the best practices prevailing at the present day. Mr. Hibberd then considered the several divisions of horticultural practice, and passed in review the most important works relating to them. He said Aylmer Bourke Lambert did much towards that patient study of Conifers which had produced "The Pinetum" of Messrs. Gordon and Glendinning, and then discussed the several merits of Cobbett's "Forester," Sweet's "Hortus," and the works of Bliss, Forsyth, St. Hilaire, Speechly, Hoare, Sanders, Lindley, and Loudon. He said it was a disgrace to England that John Claudius Loudon, who sacrificed his health and eventually his life in the service of horticulture, had yet no monument; his works testified to his unmatched industry, zeal, and intelligence, and the "Hortus Britannicus" must be regarded as his monument until his country should do justice to his memory. The modern practice of fruit culture, including the various methods of grafting, the culture of fruit trees in pots, &c., with such books as Rivers's "Orchard House" and "Miniature Fruit Garden" were the points next touched upon. The lecturer then passed to flower culture and the books relating to it. He gave a brief sketch of the "Florimania," and by numerous anecdotes illustrated the fame which certain florists' flowers had once enjoyed, especially the Tulip, Anemone, Ranunculus, and Dahlia. Alluding to the forthcoming Tulip show at Slough, Mr. Hibberd said they must not expect to find there many of the flowers which once played their part in the great Tulip bubble, for modern fashion had set up quite a different standard of properties, and the flowers which were bought and sold in Amsterdam and Haarlem at ridiculously extravagant prices, would now be of but small value in the eyes of a critical connoisseur. The lecturer quoted from the last catalogue issued by the late John Lawrence to show that there were Tulips now valued at 21*l.*, which was the present price of Charles Williams, and he hoped a healthy love of the Tulip and every other florists' flower would continue, not to give excuse for gambling and feverish speculation, but because "a thing of beauty is a joy for ever." The Chrysanthemum, Auricula, Polyanthus, Carnation, and other popular flowers were then briefly dealt with and their histories illustrated by numerous anecdotes from Fortune's Travels, the works of Maddox, Glenny, Mrs. Loudon, Mr. Paul's works on Roses, &c. Owing to the lateness of the hour, Mr. Hibberd concluded the lecture by omitting many other topics he had intended to embrace.

J. R. Scott, Esq., one of the Council of the Horticultural Society, moved a vote of thanks. He said Mr. Hibberd had not referred to his own works, but had done justice to many able books of the present day. He considered it a privilege to hear from one who had written on horticulture such an interesting discourse on the art itself and the literature of its various branches. The vote of thanks was carried by acclamation, as was also a similar vote to the worthy chairman for his kindness in presiding on the occasion.

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## Notices of Books.

*Occasional Papers on the Theory of Glaciers.* By James D. Forbes, D.C.L., F.R.S. 8vo. Pp. 278. Edinburgh. Black.

The object of the present publication is to establish the claims of the author to the merit of having originated and established the plastic theory of glacier motion, and of having been the first to give a satisfactory explanation of dirt bands and veined structure. For this purpose most of the various papers of the author upon these curious and interesting subjects have been collected and reprinted without alteration, in the order of their dates. Without going into the question whether a plastic solid and a viscous liquid are essentially the same, or into the dispute as to whom the discovery of the true nature of glaciers is due, there can be no doubt that the present collection of papers will be welcome to those who take an interest in their subject matter.

The habit of regarding ice as in the highest degree brittle is so fixed and universal that most persons are inclined to deny the possibility of ice being altered in shape by pressure without breaking. The idea of a stream of solid flowing ice is one which the majority of even educated people would pronounce to be absurd, and yet the experiments of Dr. Forbes and others clearly show that ice is plastic, and the author asserts that a glacier itself is as it were a stream of ice always flowing, and flowing faster in the middle than at the sides, and faster near the surface than near the bottom, and faster during the day than during the night, and faster in summer than in the winter. The author relies upon his observations as proving that this motion is continuous and does not take place by jerks, and that it is due to pressure and the force of gravity, and not to the dilatation of water frozen in the substance of the glacier as at one time ingeniously supposed. He maintains that he was the first to prove that a glacier is not snow which has been melted and then frozen; but snow converted into ice by pressure in the presence of moisture.

The evidence on which these conclusions are based will be found in the present volume; but the great fact of glacial motion cannot be made more apparent than by the fate of a knapsack lost in a crevasse of the Mer de Glace in July 1836, and found ten years afterwards at a spot 4300 feet lower down the stream than the place at which it had been lost.

"The accident occurred thus:—On the 29th July 1836 (or ten years all but five days from my recovering the fragments), Dévouassou accompanied a stranger to the Jardin, taking, as usual, the knapsack from the Montanvert, with a supply of bread, cheese, and wine. They arrived without accident at the top of the Couvercle, between the Aiguille du Moine and the Glacier du Talefre; and when at the point marked in the accompanying sketch with the words 'Knapsack lost,' the guide, to shorten the way, attempted to take an oblique course to the Jardin, instead of following the usual tract on firm ground round the foot of the Aiguille du Moine, and then turning sharply to the right, so as to make the passage of the glacier as short as possible. The ice on which he ventured was partly covered with snow, as is almost always the case there in July, and near the edge it was also full of concealed fissures. Into one of these the guide suddenly dropped, leaving the astonished traveller alone in this wilderness of rocks and ice. After vainly calling to his guide and obtaining no answer, he left the place in despair, and returned to Montanvert by the way he had come. Dévouassou, however, having reached the bottom of the crevasse but little hurt, managed by the aid of his pocket knife to cut steps in the walls of ice, and, finally, with great exertion and suffering, to raise himself to the surface, and make his escape, leaving behind him his knapsack, of which, of course, he had first disembarrassed himself. Astonishing fact! that the yet undecayed vestiges, together with a part of even the very bottle which formed his burden, should be brought to light on the surface of the ice after 10 years' friction and onward movement. I took pains to measure angles with my theodolite at each point, which enabled me to project them with tolerable accuracy on the map, as shown in the plate; and I ascertained by the barometer the difference of level of the two points, and also their elevation above the sea.

| | Height above the Sea—English Feet. |
|---|---|
| Knapsack lost, Glacier du Talefre, 29th July, 1836 .. .. | 8657 |
| Knapsack found, Glacier du Lechaud, 24th July, 1846 .. | 7512 |
| Difference of level .. | 1145 |
| Horizontal distance moved over .. .. .. .. | 4300 feet. |
| Declivity .. .. .. | 14° 55′ |
| Annual motion .. .. | 430 feet. |

This motion harmonises sufficiently well with the numbers found in page 193, if we allow for the acceleration manifestly due to the rapid declivity which commences immediately below station W.

"This interesting discovery forms a curious pendant to the history of De Saussure's ladder, believed to have been found in fragments opposite Trelaporte, as fully detailed in my Travels, page 86; but this new case is much better ascertained in all its particulars."

We cannot conclude this notice without remarking that the author evidently considers himself an injured man, who has been, or is, or is about to be robbed of the fame to which his observations entitle him. We believe that in this respect he is mistaken, and that his real merits are duly appreciated and acknowledged.

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*Dr. Parkin*, the author of various treatises on epidemic and other diseases, has lately written a volume on the *Causation and Prevention of Disease* (8vo, Churchill), in which he denies that fevers and other diseases are assignable to the emanations from cesspools, foul drains, churchyards, open sewers, or even to the atmosphere vitiated by the respiration of large numbers of persons occupying a confined space. He is of opinion that miasma, as it is termed, is merely carbonic acid, "and that whatever ill results this gaseous substance may produce in the extinguishing of lights or even of life itself, it will never, can never be productive of fever, or any other disease" (p. 19). He maintains that "the products of the decomposition of animal bodies are innocuous, or at least are not productive of ordinary diseases," and he founds this opinion, *inter alia*, upon the good health of young men amidst the putrid exhalations of the dissecting room, and of knackers and others continually exposed to the horrid odour produced by the decomposition of heaps of dead animals. Such is the argument sustained through 190 pages, and if the author is right, the millions about to be expended in the metropolitan sewage scheme are an absolute waste of money. The main purpose indeed of Dr. Parkin is to show that the views of the Board of Health are founded on no sufficient ground, but are derived from the personal crotchets of some of their advisers who cannot distinguish between consequence and coincidence. We recommend the volume to the serious consideration of medical men, who alone are capable of forming upon this question an opinion on which the unprofessional part of the community ought to rely. Could not a grand inquest of jurors be held upon so all-important an inquiry?

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## Garden Memoranda.

Garden of Mr. Alexander Potemkin, in Russia.—In one of the last Numbers of the *Gardeners' Chronicle* you publish a letter relating to the establishment of the Prince Troubetzkoy, at Nikolsky, near Moscow, and perhaps it will not be uninteresting to some of your readers to hear something more about Russian gardening. I agree in all points with Mr. Masson, excepted this one, where he says the above-mentioned establishment is the only one of this kind in Russia; doubtless it is one of the richest, but is it the best in fine culture and the good state of plants? It is no very great merit to have a large collection when people are rich enough to purchase all that is good, handsome, and dear, but to cultivate plants under a climate like that of north-eastern Russia in such a state as you do not find them better in Germany or France (I dare not say England, because the English will be surpassed by nobody in what concerns cultivating of plants)—that I think is a matter of a greater value than having the largest collection.

There are two other establishments in Russia, which may rival with that of the Prince Troubetzkoy, both situated in the Government of Nijni-Novogorod, one 10 miles from the town of Nijni, belonging to the General Scherimeteff, still richer than that of Nikolsky; the other about 100 miles in an eastern direction from the above-mentioned town belonging to Mr. Alexander Potemkin. Everybody knows the climate in this part of the country offers very great difficulties for gardening, the winter lasting seven months almost without a sunny day, the cold amounting to —25° Fahr., and more, the summer being very short, dry, and hot, and the change from winter to summer so sudden that the spring lasts only a few weeks. But not only in the climate the gardener meets with difficulties, there are many other things injurious to his plants which give him much pain and of which English gardeners know nothing. The establishment of Mr. Alexander Potemkin, of which in particular I shall speak here, is about 350 miles beyond Moscow, and there are no other means to transport plants from this town into the inmost parts of the empire than the so-called telega, a kind of little cart drawn by one horse, so that this journey lasts at least a fortnight, and you may well imagine how much the plants suffer by it, being exposed the whole day to the burning sun of June or July. So they usually arrive in a very bad state, the half dead, and those which have supported the cruel treatment they have been exposed to are so ill, that hardly a year is sufficient to re-establish them. The head gardener is provided with a large number of grooms, here called gardeners, who, however, do not know the least thing about gardening, and to whom he can entrust nothing which offers any difficulty in practice. Notwithstanding these difficulties, and many others which time and place do not permit me to mention here, the plants are finely cultivated, and I shall give you a superficial description of the greenhouses and stove plants. The best cultivated plants are doubtless the Camellias, the collection of which consists of about 150 specimens, among them the best of the new varieties; and nowhere have I seen these plants so vigorously shooting and so abundantly flowering. Likewise the Rhododendrons are in the finest state, developing just now their beautiful flowers among the dark green leaves with the shoots about 6 and even 7 inches long. All specimens of the Sikkim Himalaya, of Bootan and Assam, are represented in fine specimens. Azaleas are very well cultivated too, and I think them to equal perfectly the best show plants of Ghent and Paris. A rich collection of Conifers and New Zealand plants has passed the winter certainly better than in any garden of the Continent. They are so fresh and grand that one could not believe they have had to suffer during seven months the air of a greenhouse where ventilation by cause of the coldness outdoors was quite impossible. A very fine Palm-house shows the best cultivated plants, among them a beautiful Latania borbonica of about 15 feet high, and perfectly well preserved leaves. Orchids and Ferns are few, but in the best health, and the multiplication of Ferns by seed is very well practised. The other stove plants such as Ixora, Medinilla (a splendid exemplar of M. magnifica is just now flowering, and bears 16 well developed clusters), Boronia, Rhopala, Theophrastas, such as imperialis, macrophylla, &c., Cyanophyllum magnificum, the new and handsome Cossignea borbonica, the Begonias recently introduced by Mr. Linden in Brussels, such as Lazuli, Rex, Miranda (!), and margaritacea, Gardenias, Franciscеas, and many others, are represented in very fine plants. The forcing department is rich and in the finest state, which is so much more required here, where Cherries, Pears, and the French specimens of Apples must be cultivated in greenhouses. Of hardy shrubs and trees there is a fine collection, and the English park is made in the best modern taste. Surely nobody would imagine that such a fine establishment exists in this rude climate, and because it is entirely out of the way of communication it is seldom seen and very little known by foreigners. When, however, any one from Germany or France beholds it, he

assures nowhere he saw better culture, and plants in a finer state. In Russia every one who knows the establishment of Mr. Alexander Potemkin calls it one of the best in the empire. *E. Clausern, Abrotschne, near Potschinki, 20th March, O. S. (2d April, N. S.)* 1859.

## Miscellaneous.

*Prices of Works on Botany and Gardening.*—The recent sale by Messrs. Sotheby & Wilkinson of the larger part of the Library of the Horticultural Society throws some light not only on the value of this description of property, but on the taste of the public. We therefore select a few instances. Andrews' Heathery, 6 vols., 8vo, 3*l.* 5*s.*—Bedford's (Duke of) Salictum Woburnense, coloured plates, 14*l.* 5*s.*—Ditto Pinetum Woburnense, coloured plates, 10*l.* 15*s.*, two works of mere curiosity and no scientific value—De Candolle's Prodromus, 14 volumes, 5*l.* — Dictionnaire des Sciences Naturelles, 66 vols, 3*l.*—Dictionnaire Classique d'Histoire Naturelle, 16 vols., 1*l.* 3*s.*—Botanical Register, 21*l.* 10*s.*—Andrews' (H.) Botanist's Repository, 10 vols. 4to, 664 coloured plates, 7*l.* 7*s.*—Annales du Muséum, 20 vols., russia, and Memoires du Muséum, 20 vols., calf, and Nouvelles Annales du Muséum, 4 vols. calf, in all 44 vols., 4to, 6*l.* 17*s.* 6*d.*—Archives du Muséum, 9 vols., 4to, 8*l.* 15*s.*—Asiatick Researches, 20 vols. (wanting Vol. XVII.), original edition, 19*l.*—Aublet's Histoire des Plantes de la Guiane Françoise, 4 vols., 392 plates, russia, very scarce, 10*s.* 6*d.*—Burchell's Travels in the Interior of Southern Africa, 2 vols., 4to, 2*l.* 11*s.*—Arabida's Flora Fluminensis, 11 vols., folio, in 5, 20*l.*—Bateman's Orchidaceæ of Mexico and Guatemala folio, 13*l.*—Cavanilles Icones, 6 vols., 4to, 9*l.* 9*s.*—Chandler's Illustrations of Camellias, 3*l.* 3*s.*—Curtis's Flora Londinensis, 5 vols., fol., 20*l.* 10*s.*—Duhalde's Description of China, 2 vols., folio, 1*l.* 6*s.*—Flora Danica, fine paper, 10 vols., folio, 23*l.* 10*s.*—Gallesio's Pomona Italiana, 2 vols., fol., 20*l.* — Hernandez's Rerum Medicarum Novæ Hispaniæ Thesaurus, 1*l.* 5*s.* — Griffith's Posthumous Papers, 11*l.* 5*s.* — Hooker's Exotic Flora, 3 vols. 8vo, 3*l.* 1*s.* — Lindley's Genera and Species of Orchidaceous Plants, 1*l.*—Hooker and Greville's Icones Filicum, 2 vols., coloured plates, 11*l.*—Jacquin's Eclogæ, 10*l.* 5*s.*—Jacquin's Icones Plantarum Rariorum, 3 vols., 11*l.*—Jacquin's Hortus Schœnbrunnensis, 4 vols., fol., 13*l.*—Lambert's Description of the Genus Pinus, original edition, 9*l.*—Lindley's Sertum Orchidaceum, 11*l.* 15*s.*—Melville Island Herbarium of dried Plants, forming a Complete Flora of Melville Island, and unique, 3*l.* 18*s.*—Redouté's Roses, 8vo, 1*l.* 10*s.* — The Linnean Society's Transactions, 20 vols. calf, and 6 parts sewed, 9*l.*—Loddiges' Botanical Cabinet, 20 vols., large paper, 9*l.* 15*s.*—Royle's Illustrations of the Botany of the Himalayan Mountains, 2 vols. 4to, 4*l.* 19*s.*—Ruiz & Pavon's Flora Peruviana, 4 vols., folio, 7*l.* 17*s.* 6*d.*—Sibthorp's Flora Græca, 10 vols., folio, 60*l.*; one of the very few original copies in existence.—Sinclair's Hortus Gramineus Woburnensis, the folio, illustrated with dried specimens, in bad condition, 2*l.* 11*s.*!!—Wallich's Plantæ Asiaticæ Rariores, 3 vols. folio, 12*l.* 17*s.* 6*d.*—Sowerby's English Botany, 36 vols., and Supplement, 24*l.*—Sweet's Geraniaceæ, 5 vols., 5*l.* 10*s.* Among the Botanical and other Drawings the following prices were realised:—Ferdinand Bauer's Delineations of the genus Passiflora, 40 exquisite drawings in colours, with 40 other drawings of the dissections, 15*l.* 15*s.*—Chinese Drawings, 4 vols., containing 132 drawings, 18*l.*—Chinese Drawings of Plants, 5 vols.; undoubtedly the finest set in Europe of authentic Chinese drawings of plants, 70*l.*—230 coloured Drawings of Fruit, by W. Hooker, Robertson, Barbara Cotton, and others, 10 vols., 49*l.* 10*s.*

## Calendar of Operations.

(*For the ensuing Week.*)

### PLANT DEPARTMENT.

CONSERVATORY, &C.—As soon as cold frames and pits are clear of bedding stuff they should be occupied with young stock of hard-wooded plants, for the summer growth of which they are much more suitable than large houses. Such places will also be found suitable for dwarf Lobelias, Balsams, Salvia splendens, S. gesneræflora, and many other things which are generally grown for flowering in the conservatory in summer and autumn; indeed most things which require only a moderate temperature will be more manageable here and thrive better than in lofty houses with double the attention. As New Holland plants go out of bloom their seed pods should be picked off, the shoots cut back and arranged in the form most favourable to secure compact growth, placing them in an airy part of the greenhouse until they fairly start into growth. When the buds have fairly started will be the proper time for shifting such as require more pot room, as they can then be kept somewhat close for a fortnight to encourage a free root action without incurring the risk of the buds breaking scantily. Look well to the stock of plants for summer and autumn decoration, and do not allow them to sustain any check through want of pot room or carelessness in watering. Croweas are first-rate subjects for this purpose, remaining longer in beauty than almost any other hard-wooded plant which we possess, and are not nearly so much used as they should be. Fuchsias for late blooming must not be kept too warm; but should be placed in a moist shady house, where they will grow much more freely than in a high temperature. Stove plants will now be grown freely, and will require frequent attention as regards stopping and training. Keep them properly supplied with pot room, and afford them all the sunshine they will bear without scorching, with a moist atmosphere, admitting air freely on mild days. Also afford them sufficient space for the perfect development of their foliage. Look sharp after insects, and attend to cleanliness, washing the floors and pots as often as it may be necessary to do so. Go over creepers frequently, so as to regulate their growth and prevent confusion, which without attention soon happens. Syringe and shut up early on the afternoons of bright days, and be as sparing as possible in the use of artificial heat. ORCHIDS.—Afford those in growth a thoroughly moist atmosphere, giving them a good steaming every bright afternoon by syringing and shutting up early. Admit air in moderate quantities on mild soft days, but carefully avoid currents of drying wind. Examine the plants individually every other day, and water such as require it, but be careful not to give too much to those starting into growth, and a cool atmosphere will greatly assist in prolonging the beauty of those in bloom.

### FORCING DEPARTMENT.

PINERIES.—Plants swelling their fruit should be divested of all suckers, except as many as may be wanted for stock, directly they make their appearance. This will throw more of the energies of the plant into the fruit, and will also secure stronger suckers than if too many were left. Our more valuable sorts of Pines are not, however, very apt to produce any excess of suckers, but some varieties of Queen still in cultivation produce so many that the fruit never attains any size unless the suckers are thinned early. Guard against any decline of the bottom-heat, and where this is obtained from fermenting materials, a little fresh tan should be added before the heat gets too low; and it will be much safer to add a few inches occasionally as it may be wanted than to follow the old practice of renewing the bed only once or twice in the year. See to keeping the soil about the roots, where the plants are in pots or planted in the open bed, in a nice healthy state as to moisture, and give manure-water regularly to fruiters and stock in free growth. VINERIES.—Go over the Vines in succession houses, frequently removing laterals, &c., before they shade or interfere with the principal foliage. Where plants must be grown under the Vines the latter should be kept sufficiently thin to allow of a moderate share of light reaching the plants, and neither laterals nor any useless wood should be allowed to obstruct the light. See that none of the plants are infested with red spider or thrips, especially the latter, which if once allowed to get upon the Vines is very difficult to eradicate, and is most destructive to the foliage. Azaleas are very subject to this pest, and if these are grown under the Vines they must be closely watched, and kept clean at any expense. See that Vines in the late house are tied up in their places before the shoots get too far advanced, as there is considerable danger of breaking these off when they are allowed to get too long before the rods are tied up. Look sharply after red spider, and use every means to keep clear of this pest. FIGS.—Attend to stopping and thinning the shoots, and aim at securing short-jointed strong growth, by exposing the young wood to all the light possible. This will, of course, necessitate keeping the trees rather thin, but it is useless hoping for a crop of good fruit from trees that are crowded with wood. Keep the atmosphere moist, and give the foliage a good washing with the syringe after shutting up the house in the afternoon.

### FLOWER GARDEN AND SHRUBBERIES.

Recently transplanted shrubs and trees must be carefully attended to with water until they get fairly established. It is frequently the case however that too much water is given at the root, thereby souring the soil, and rendering it uncongenial to the young rootlets and the after growth of the plants. The soil should be kept moist, but not to saturation, and the plants as soon as the weather gets warmer might be watered over head with the engine on the evenings of bright days which will be of vastly more service in repairing the loss sustained by evaporation than if given in excess to the soil while there is a deficiency of active rootlets to absorb it. Where Roses are infested with the grub it will be necessary to go over the plants frequently to destroy this pest. Green-fly is also very troublesome at this season; a good washing with the garden engine on two or three successive evenings will greatly assist in getting rid of these destructive pests, but this must be done after all danger of frost is past. Planting of all properly prepared bedding stock may now be proceeded with under favourable auspices. Begin with Calceolarias, Verbenas, Scarlet Geraniums, &c., leaving Heliotropes, Lantanas, Anagallis, and such things as are usually injured by frost until planting of the more hardy kinds is completed. Branches of evergreens are easily enough obtained about most places, and a sprinkling of these stuck into the beds after planting will be of great service in protecting the plants from the drying effects of bright sunshine, and will also help to ward off frost.

### HARDY FRUIT AND KITCHEN GARDEN.

Persevere in the destruction of insects on fruit trees in order to afford the young shoots a fair chance to make healthy growth; also proceed with disbudding and stopping gross shoots. See that recently transplanted trees are not allowed to suffer through want of water. Look after the caterpillars on the Gooseberry trees. The quickest way of getting rid of this pest is to give the trees a heavy washing with a powerful engine, throwing the water against the under sides of the leaves, which will wash off the caterpillars, and they are readily killed on the ground by means of an iron rake. Get trenches filled with some fermenting materials in readiness for Cucumbers, &c., and expose the plants rather freely to light and air, to prepare them for planting under the protection of hand-glasses. If not already done see to sowing plenty of sweet Basil, Savory, &c., on a warm border of light rich soil.

### COTTAGERS' GARDEN.

Every spare half hour may now be profitably employed in killing weeds and stirring the ground among growing crops. Vegetation, which has so long been checked by cold north easterly winds, is now beginning to make rapid progress; and weeds, like other things, grow apace; they therefore require sharp looking after, in order if possible to prevent them from flowering and seeding. Planting, if any, in the kitchen garden should now be done in drills. In that way the plants get more effectually watered, and the first hoeing, by filling in the drills, acts as a slight earthing up. Keep paths clean, straighten their edges, and otherwise render them not only neat but comfortable to walk on.

### STATE OF THE WEATHER AT CHISWICK, NEAR LONDON,

For the Week ending May 12, 1859, as observed at the Horticultural Gardens

| May. | Moon's Age. | Barometer. Max. | Barometer. Min. | Temperature of the Air. Max. | Min. | Mean | Of the Earth 1 foot deep. | Of the Earth 2 feet deep. | Wind. | Rain. |
|---|---|---|---|---|---|---|---|---|---|---|
| Friday 6 | 4 | 30.035 | 29.985 | 64 | 33 | 48.6 | 52 | 49½ | S.E. | .00 |
| Satur. 7 | 5 | 29.983 | 29.924 | 73 | 48 | 60.5 | 52⅔ | 50 | S. | .30 |
| Sunday 8 | 6 | 30.141 | 30.032 | 67 | 29 | 48.0 | 53 | 51 | N. | .00 |
| Mon. 9 | | 30.217 | 30.109 | 63 | 46 | 54.5 | 53 | 51 | E. | .00 |
| Tues. 10 | 8 | 30.096 | 30.053 | 64 | 37 | 50.5 | 53 | 51 | E. | .00 |
| Wed. 11 | 9 | 30.219 | 30.173 | 60 | 34 | 47.0 | 54 | 51 | N.E. | .00 |
| Thurs. 12 | 10 | 30.175 | 30.123 | 63 | 32 | 47.5 | 54 | 52 | E. | .00 |
| Average | | 30.124 | 30.055 | 64.8 | 37.0 | 50.9 | 53.0 | 50.8 | | .39 |

May 6—Clear and cold; fine; clear at night.
— 7—Slight haze; very fine; slight rain.
— 8—Cloudy; very fine; clear; frosty at night.
— 9—Clear and dry air; very fine; clear.
— 10—Overcast throughout.
— 11—Overcast and fine; very clear at night.
— 12—Fine; cloudy and fine; slight frost.
Mean temperature of the week, about the average.

### RECORD OF THE WEATHER AT CHISWICK,

During the last 33 years, for the ensuing Week, ending May 21, 1859.

| May. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds. N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday 15.. | 64.6 | 41.1 | 52.9 | 10 | 0.41 in. | 3 | 8 | 3 | 2 | 9 | 6 | 2 | 1 |
| Mon. 16.. | 65.9 | 43.0 | 54.5 | 11 | 0.34 | 6 | 5 | 6 | — | 2 | 10 | 3 | 1 |
| Tues. 17.. | 65.7 | 42.4 | 54.1 | 14 | 0.58 | 1 | 6 | 4 | 1 | 4 | 9 | 4 | 4 |
| Wed. 18.. | 65.0 | 43.2 | 54.1 | 15 | 0.17 | 1 | 6 | 5 | 3 | 2 | 10 | 5 | 1 |
| Thurs. 19.. | 65.9 | 43.5 | 54.7 | 11 | 0.50 | 2 | 6 | 6 | 3 | 3 | 10 | 3 | — |
| Friday 20.. | 66.1 | 43.4 | 54.8 | 16 | 0.64 | 1 | 5 | 7 | 3 | 4 | 8 | 1 | 4 |
| Satur. 21.. | 65.9 | 45.3 | 55.6 | 15 | 0.36 | 3 | 5 | 9 | 2 | 5 | 5 | 2 | 2 |

The highest temperature during the above period occurred on the 15th, and 17th, 1853—therm. 86 deg.; and the lowest on the 15th, 1850—therm. 25 deg.

## Notices to Correspondents.

COLOURED WALLS: *E E* asks if any of our readers can inform him of a process to change the colour of a wall that has been tarred (and which consequently is black) to a stone or any light colour,—what would be a good material to use, and how to use it?

GISHURST COMPOUND: *Sub.* If you will refer to a leading article in a very late Number you will find all that we know on the subject.

GRAPES: *Constant.* The spot is a well known disease caused by the roots being in a cold bottom and the house ill ventilated, sometimes the one, sometimes the other, sometimes both. Probably the first in your case.

INSECTS: The empty chrysalis skin enclosed in its burrow in a branch of Pear (?) sent by Lady W.'s gardener is that of the Wood Leopard Moth (Zenzera Æsculi, which is often very injurious to young fruit trees by boring into the stems.—*S T.* The blotches on the leaves of the evergreen Oak are caused by the minute caterpillars of a little moth (Lithocolletis Messaniella) which eat the parenchyme between the two surfaces of the leaf.—*A C.* The masses of curled up Rose leaves are not formed by a moth but by the leaf cutter bee (Megachile centuncularis), for the reception of her eggs and pollen for the food of the grubs when hatched. *W.*

NAMES OF PLANTS: We have been so often obliged to reluctantly decline naming heaps of dried or other plants, that we venture to request our correspondents to recollect that we never have or could have undertaken an unlimited duty of this kind. Young gardeners, to whom these remarks more especially apply, should bear in mind that, before applying to us for assistance, they should exhaust their other means of gaining information. We cannot save them the trouble of examining and thinking for themselves; nor would it be desirable if we could. All we can do is to *help* them—and that most willingly. It is now requested that, in future, not more than four plants may be sent us at one time.—*W. Longstanding.* Prunus Padus, the common Bird Cherry.—*W. Constant.* Orchis fusca. — *Sub.* Oncidium carthaginense. — *Constant.* There is much difference of opinion among botanists as to what is a species in the genus Saxifraga. Mr. Bentham reduces the British species to 13 (see his valuable *Handbook*), regarding those you have sent and all their allies as mere forms of one common species. Your No. 1. is S. platypetala, No. 2 is palmata.

OAKS: *New Forest.* It is not possible to speak positively to so small a specimen, but it looks more like Quercus pedunculata than Q sessiliflora.

PLANS OF GARDENS: *J W C.* Sent to the engraver.

SEA SHINGLE: *L R R* would feel obliged by knowing the best plan to bind the sea beach shingle for a small coach road; at present the horses work it up.

THE BALLOT: *W C E* We will inquire.

THE LOQUACIOUS GENTLEMAN: Will *Fletanus* kindly say to whom he alluded by the above expression? Some inquiries, which we think should be satisfied, have been made upon the subject. We do not ourselves much like *ambiguæ voces.*

VINES: *R B.* Muscats want a warmer atmosphere than you may be able to command; their border should also be protected from cold rain, and if warmed a little so much the better. Cold in some shape is we think your enemy. —*J S.* The excessive quantity of clusters shown by your Vine indicates its being in very good health without any tendency to luxuriance. It is only necessary to remove what are beyond the strength of the plant; we should leave one bunch on every other young lateral. The fewer you leave the larger will be the bunches and berries, and now is the time to thin them.

WATER RATS: *T.* Place small balls of phosphoric rat poison in their holes, and the rats will disappear.

THE PATENT

# NITROPHOSPHATE OR BLOOD MANURE COMPANY (Limited),

CONSISTING OF TENANT FARMERS, OCCUPYING UPWARDS OF 30,000 ACRES OF LAND.

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**ODAMS'S BLOOD MANURE FOR CORN AND MANGEL.**
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ARTIFICIAL MANURES, &c.—Manufacturers and others engaged in making ARTIFICIAL MANURES may obtain every necessary instruction for their economical and efficient preparation, by applying to J. C. Nesbit, F.G.S., &c., Principal of the Agricultural and Chemical College, Kennington, London. Analyses of Soils, Guanos, Superphosphates of Lime, Coprolites, &c., and Assays of Gold, Silver, and other Minerals are executed with accuracy and despatch. Gentlemen desirous of receiving instruction in Chemical Analyses and Assaying, will find ample facility and accommodation at the College.

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LONDON MANURE COMPANY, removed to 116, Fenchurch Street, E. C. (Established 1840), have the following MANURES ready for delivery:—

CORN MANURE for SPRING TOP-DRESSING
URATE
MANGEL MANURE
SUPERPHOSPHATE OF LIME
BLOOD MANURE
} all of guaranteed quality.

In consequence of the reduction in the price of raw material the London Manure Co. are enabled to lower the price of their Superphosphate of Lime, and to materially improve the Corn Manure and Urate.

The London Manure Co. also supply PERUVIAN GUANO (direct from Messrs. A. Gibbs and Sons), SULPHATE of AMMONIA, NITRATE OF SODA, CRUSHED BONES, and every other Manure of value. Wholesale dealers supplied.
116, Fenchurch Street, E C. Edward Pursser, Secretary.

PERUVIAN GUANO.
The present price of this valuable Manure is—
12*l.* per Ton for 30 Tons and upwards,
12*l.* 5*s.* per Ton for 1 Ton up to 30 Tons.
And, to guard against the purchase of adulterated mixtures and of inferior Guanos purporting to produce results equal to Peruvian, consumers are recommended to apply either to ourselves, to our agents, Messrs. Gibbs, Bright, & Co., of Liverpool and Bristol, or to dealers of established character, in whose honesty and fair dealing they may place implicit confidence.
Antony Gibbs & Sons.

SUCCESS OF THE NEW GUANO; Imported under Lease from the Crown.—Though the experiments with KOORIA MOORIA GUANO were made late in the season, and under adverse circumstances, the successful results obtained confirm beyond doubt Professor Voelcker's report—(in No. 41, Part I., vol. xix., Royal Agricultural Society's Journal)—that Ammoniacal manures, applied to Turnips in the experimental field, kept back at first the crop, and had no beneficial effect either alone or in conjunction with phosphates.

The Kooria Mooria Guano is essentially a phosphatic manure, containing sufficient ammonia for roots, and, with a mixture of one-fourth of ammoniacal guano, cannot be excelled for either top-dressing or grain crops. It is a natural deposit, and will be delivered as imported, free from risk of adulteration. Deeply impressed with the necessity of encouraging the import of this valuable manure, her Majesty's Government has given such increased facilities for shipment, that arrangements have been made for a considerable supply. Purchasers can be supplied with suitable quantities from cargoes now on sale, containing from 45 to 66 per cent. phosphates. Present prices, 4*l.* 10*s.* to 6*l.* 10*s.* per ton, on applying to Joseph Hindson, Broker (one of the Lessees under the Crown), 20, North John St., Liverpool. Government Lessees: Ord, Hindson, & Hayes.

"Greystoke, Cumberland, Dec. 16, 1858.

"Dear Sirs,—I beg to inform you that I applied the Kooria Mooria Guano I had from you for Turnips, on land of a loamy character, incumbent on a stiff clay subsoil, and recently drained. On each side of the plot sown with Kooria Mooria Guano were Turnips manured with best Peruvian Guano. The quantities applied of each sort were of equal weight for weight per acre. The crop—a very good one throughout—is now being eaten off with sheep. Very little perceptible difference can be discovered, but if anything that difference is in favour of the Turnips sown with Kooria Mooria Guano.

(Signed) "John Barker."

"Messrs. J. & J. Graham, Guano Merchants, Penrith."

A Pamphlet, "Hints on Guano," containing a large number of reports from well-known agriculturists, and analysis of the cargoes here, may be had of the Broker, at the above address.

MANURE for ROOT CROPS, of first-rate quality, with Analysis guaranteed, manufactured by WILLIAMS & Co., 47, Mark Lane, London (Established 1847), at 6*l.* per ton, including bags. Free to Wharf or Rail in London. The Trade supplied.

REDUCTION IN PRICE OF LAWES'S MANURES.

MR. LAWES begs to announce that he has this season reduced the price of the Manures manufactured by him, viz:—

| | | | |
|---|---|---|---|
| TURNIP MANURE .. .. .. | from £7 | to £6 | 6 |
| SUPERPHOSPHATE OF LIME .. | ,, 7 | to 6 | 6 |
| MINERAL do. .. | ,, 6 | to 5 | 5 |
| BARLEY MANURE.. .. .. .. | .. | 8 | 0 |

Prof. Way and Dr. Voelcker have sampled from a bulk of 5000 to 6000 tons at his factories, and their report and analyses are given in full in Circular to be obtained on application at his office, 1, Adelaide Place, London Bridge, E.C., or of his local Agents.

N.B. Genuine Peruvian Guano direct from Messrs Gibbs, Nitrate of Soda, Sulphate of Ammonia, and other Chemical Manures. American Cotton-seed Cake supplied.

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H. and T. PROCTOR'S TURNIP MANURE.—Messrs. H. & T. P. draw particular attention to this valuable Manure, which contains all the elements necessary for the full development of the Turnip Crop, so combined, that, from their chemical knowledge and long experience, they feel satisfied is most advantageous to the consumer. It has been very extensively used by most of the eminent Agriculturists of the day, and has attained a high reputation throughout England, Scotland, and Wales, and, they venture to say, is unrivalled for the weight and quality of the Bulbs which it produces. The application of this Manure to the Turnips will be found to benefit considerably the after crops of Barley, Clover, and Wheat.

POTATO, GRASS, BARLEY, CLOVER, AND WHEAT MANURES; also BONE DUST, PERUVIAN GUANO, and SUPERPHOSPHATE of LIME, warranted of the best quality.

Apply to H. & T. Proctor, West of England Depôt for Artificial Manures, Cathay, Bristol; or Proctor & Ryland, Birmingham, and Saltney, near Chester.

BURNARD, LACK, and CO.'S CONCENTRATED SUPERPHOSPHATE OF LIME; guaranteed to contain Phosphoric Acid soluble, equivalent to 40 per cent. of Tribasic Phosphate of Lime.

CONCENTRATED TURNIP MANURE, equal in value to the preceding.

Of these Manures Dr. Voelcker says:—"These results must be very gratifying to you, and are the best proof of the very high agricultural and commercial value which characterises your concentrated superphosphate."

Detailed analyses, with opinions of the late and present Chemists to the Royal Agricultural Society, with Testimonials, Prices, &c., may be had on application to Burnard, Lack, & Co., Sutton Road, Plymouth.

SPEED and ECONOMY for Farmers, Gentlemen, and Market Gardeners, in the use of HOARE'S REGISTERED HAND SEED PLANTING MACHINE, which from its capabilities, combined with strength, lightness, and simplicity, places it beyond a parallel. Its operative powers in planting the seeds of Mangel, Carrot, Turnip, Parsnip, and all small seeds in patches of equal depth and different distances, from 6, 7, 12, 14, 18, 21, 24, to 28 inches apart, raking in and rolling complete, render it an invaluable invention. It will act as a drill when required. Price 5*l.* 15*s.*

London Agent, Mr. B. Samuelson, 76, Cannon Street, West. Sold also by the inventor, J. Hoare, Old Fishbourne, Chichester, Sussex.

FLEMING'S SALTING MACHINE FOR DESTROYING WEEDS ON GRAVEL WALKS, &c.—This most useful Machine has given the greatest satisfaction wherever it has been introduced; it is the only effectual means of keeping Drives and Walks completely clear of Weeds.

Extract from article "Trentham" in *Gardeners' Chronicle* of January 22.

"And I would observe in passing from these grounds that the whole of the Grass and Gravel are kept in the most perfect order by the aid of Machinery; the former by a Horse Machine wherever it can be worked, a small hand instrument being used in places of difficult access; the latter is kept in order by a Salting Machine, the invention of Mr. Fleming, and judging from the beautiful condition of the Gravel in every direction, I should say that it was altogether most efficient."

(The Mowing Machines here referred to are Shanks's)

From the *Field* of April 2.

"The Salting Machine will effectually destroy the Weeds on Gravel Walks and Drives"

Testimonials, with full particulars and prices, may be had on application to Alexander Shanks & Son, Dens Iron Works, Arbroath, Patentees of Improved Mowing, Rolling, Collecting and Delivering Machine for Lawns, Hot-water Apparatus Manufacturers, &c.

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LOANS MAY BE OBTAINED UNDER THE GENERAL LAND DRAINAGE AND IMPROVEMENT COMPANY'S ACT, for the full amount required by the owners of Settled Estates, Incumbents, Trustees, Bodies Corporate, &c., for the erection of Farm Houses, Farm Buildings, and Labourers' Cottages, designed by their own agents and sanctioned by the Inclosure Commissioners. The Loans are repaid by a rent-charge on the estate for any term the landowner may fix, not exceeding 31 years.

No investigation of title being required, and the charge not being affected by incumbrances, no legal expenses are incurred.

The Company furnish Designs of every description, and undertake the entire responsibility of the works wherever desired by Landowners. No profit however is taken by the Company on any works they execute, the actual expenditure only, approved by the Inclosure Commissioners, with a Commission thereon, being charged in all cases. Applications to be addressed to William Clifford, the Secretary, at the Offices of the Company, 52, Parliament Street, London.

THE LANDS IMPROVEMENT COMPANY,
2, Old Palace Yard, Westminster, S.W.

To Landowners, the Clergy, Solicitors, Estate Agents, Surveyors, &c.—The Company is incorporated by Special Act of Parliament for England, Wales, and Scotland.—Under the Company's Acts Tenants for Life, Trustees, Mortgagees in possession, Incumbents of Livings, Bodies Corporate, certain Lessees, and other landowners are empowered to charge the inheritance with the cost of improvements, whether the money be borrowed from the Company or advanced by the Landowner out of his own funds.

The Company advance money, unlimited in amount, for works of Land Improvement, the Loans and incidental expenses being liquidated by a rentcharge for a specified term of years.

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The improvements authorised comprise Drainage, Irrigation, Warping, Embanking, Enclosure, Clearing, Reclaiming, Planting, Erecting and Improving Farm Houses and buildings for Farm purposes, Farm Roads, Jetties, Steam Engines, Water Wheels, Tanks, Pipes, &c.

Owners in fee may effect improvements on their Estates without incurring the expense and personal responsibilities incident to Mortgages, and without regard to the amount of existing incumbrances. Proprietors may apply jointly for the execution of Improvements mutually beneficial, such as a Common Outfall, Roads through the District, Water Power, &c. For further information and for forms of application apply to the Hon. W. Napier, Managing Director, 2, Old Palace Yard, Westminster, S.W.

COLLEGE OF AGRICULTURE AND CHEMISTRY, AND OF PRACTICAL and GENERAL SCIENCE, 37 and 38, Lower Kennington Lane, Kennington, near London.
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Analyses and Assays of every description are promptly and accurately executed at the College. The terms and other particulars may be had on application to the Principal.

HIGHLAND AND AGRICULTURAL SOCIETY.—EDINBURGH SHOW, August 1, 2, 3, 4, and 5.

1424*l.* and 300 GOLD, SILVER, or BRONZE MEDALS will be offered for STOCK, IMPLEMENTS, and DAIRY PRODUCE.

All articles must be entered on or before Wednesday, June 15.

Schedules of entry, and copies of the Premium List and Regulations, will be issued on application to the Secretary at 6, Albyn Place, Edinburgh.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.
WARWICK MEETING.

The time for receiving entries for Wool, Cheese, and Field Gates, has been extended to the 1st of June.

By Order of the Council,
London, May 14. James Hudson, Secretary.



# The Agricultural Gazette.

*SATURDAY, MAY* 14, 1859.


MEETINGS FOR THE ENSUING WEEK.
Wednesday, May 18—Agri. Society of England .. Noon.

—— A correspondence has been published by Mr. Samuel Phipps, of Long Croft Farm, near Hemel Hempstead, on the estate of the Hon. Granville Dudley Ryder, in the county of Herts, in which the relations of a landlord to a yearly tenant receive striking illustration.

After considerable difference and discussion of terms, Mr. Phipps became the tenant of this farm at Michaelmas, 1854, at the yearly rent of 420*l.* for the first three years, and 430*l.* afterwards; and on the faith of this understanding he proceeded at great expense to get land in condition which at the commencement of the tenancy was in a very low state of cultivation. We now quote from the published statement:—

"In November, 1856, some words fell from my landlord which induced me to think that he was not altogether satisfied with the rent he was receiving; and as I was about to lay out a considerable sum in further improvements, I mentioned the subject to Mr. Tranter, the steward, stating at the same time that I should wish to resign the farm at once if there was a chance of the rent being increased. A few days afterwards he informed me that I entirely misapprehended Mr. Ryder's meaning; that he had mentioned my remarks to that gentleman, and that he had his authority for assuring me that *there was no intention whatever of raising my rent.* Upon this assurance I acted; and from that date to February, 1858, when I first heard that the rent was to be raised to 500*l.*, I expended not less than between 700*l.* and 800*l.*

"On receiving notice of the increased rental I felt aggrieved, and I think I have shown not without reason. I remonstrated. I asked that, at least, I should receive some compensation for the great outlay I had made. But no; the only answer I got from my

landlord (and here I quote his own words) was, 'that I had farmed the land in the way I thought best for my own interest;' in other words, having, at my own expense, got the land into a paying condition, to be turned to my landlord's advantage, I was but a fool for my pains—that 'I had the farm on a *yearly tenancy*'—that 'the raising of my rent was only parcel of raising the rents on the whole of the estate, owing to the increased value of land'—that 'the addition to my rent was only a little more in proportion than the addition made to the others, on account of the large outlay on my premises.' But I would ask, was not the rent in my case fixed, and the rise from 420*l.* to 430*l.* sufficiently considered at the time I took the farm?—or was the 420*l.* the commencement of a sliding scale, to be increased to 430*l.*, 500*l.* and so on, according as the land was improved by my outlay of money and labour? Again, did land increase in value to such an extent in four years, or rather between November, 1856, when I was assured no rise was to take place, and March, 1858, when notice of the rise was given? And, as to the allusion to the outlay on the building, does not this appear a mere pretext for making the rent 'a *little more in proportion* to the others,' when the letters above show that the plan was 'decided on and in the hands of the builder,' and *consequently the cost reckoned* a month before the rent was fixed? Let the letters be carefully read, and it is impossible, in fair dealing, any other conclusion can be arrived at than that the proprietor had, at the time of the negociation, taken into consideration all the items of expense, and fixed his rent accordingly.

"I must not omit to state that only 38 of 160 trees, which, according to our understanding relative to grubbing up the hedges, should have come down, were actually felled; although my part of the understanding, to grub up the hedges, I fully carried out at considerable expense, and without any adequate return.

Mr. Phipps does well to publish a history which adds one more illustration to the many already existing of the insecurity of all attempts at an improved agriculture under the system of yearly tenancy. In his address to the farmers of his county he says:—

"I have felt warranted in thus far trespassing on your patience, feeling that this case, although displaying a personal grievance, affects not me only but tenant farmers generally.

"I will merely add, and this I am prepared to show, that during the first four years of my occupation I expended in manure, and otherwise in improving the farm, upwards of 1000*l.* beyond what I should have done had I known the footing upon which I really stood.

"In conclusion, I will briefly state that having received notice of the increase of the rent at so late a period as to render it impossible to give up the farm at the end of the fourth year without incurring ruinous loss, I endured the 70*l.* increase for one year, but with the determination which I have since carried out, that the end of that year should terminate my connection."

—— The following analyses by Mr. Nesbit of late importations of Kooria Mooria guano have recently been published:—

Kooria Mooria Guanos from Liverpool, 1859.

| | April 16. Ex Queenshill. | April 16. Ex Maitland. | April 20. Ex Kitson. |
|---|---|---|---|
| Moisture | 6.60 | 8.20 | 5.45 |
| Organic matter, &c. | 8.55 | 9.00 | 12.45 |
| Silica | 22.45 | 14.80 | 22.80 |
| Oxide of iron and alumina | — | — | 4.25 |
| Phosphate of iron and alumina | 10.20 | 6.20 | — |
| Phosphate of lime | 38.37 | 53.96 | 43.86 |
| Hydrated sulphate of lime | 8.82 | 4.34 | 7.67 |
| Alkaline salts, &c. | 5.01 | 3.50 | 3.52 |
| | 100.00 | 100.00 | 100.00 |
| Total phosphoric acid, equal to phosphate of lime | 49.42 | 60.68 | 43.86 |
| Nitrogen, equal to ammonia | 0.42 | 0.14 | 0.35 |
| | 0.51 | 0.17 | 0.43 |

Kooria Mooria Crust Phosphates.

| | Crust Phosphates. | Light stratified Guano. |
|---|---|---|
| Moisture | 1.18 | 1.28 |
| Organic matter, &c. | 11.92 | 9.12 |
| Silica | 1.80 | 0.50 |
| Oxide of iron and alumina | 0.60 | 0.60 |
| Phosphoric acid | 44.75 | 42.35 |
| Lime | 25.43 | 25.84 |
| Hydrated sulphate of lime | 7.89 | 6.64 |
| Alkaline salts, &c. | 6.43 | 13.67 |
| | 100.00 | 100.00 |
| Total phosphoric acid equal to phosphate of lime | 96.96 | 91.76 |
| " nitrogen, equal to ammonia | 0.21 | 0.21 |
| | 0.26 | 0.26 |

These so-called crust phosphates are extraordinarily rich in phosphoric acid, and as Mr. Nesbit remarks will be especially useful in the formation of superphosphates. The quantity of ammonia stated to be present is pretty much what previous analyses of this guano have declared it to be, excepting only those of Mr. Huson, published before the manure had been imported in any quantity, and when 1 or 2 per cent. of ammonia were expected along with 50 or 60 per cent. of phosphate of lime.

—— The discussion on steam cultivation before the Central Farmers' Club after Mr. Mechi's lecture on the subject did not add materially to our knowledge of the subject. Mr. Williams, of Baydon, called attention to the truthfulness of his estimates read to the club that day four years ago, and declared his belief that if one-third the agricultural horse-power of the country could be displaced by steam, 18,000,000*l.* worth of corn and fodder would be saved.

"The food so rescued from consumption by the horses would produce, assuming that they would not be fed at a loss, 80,571,500 stones of meat; or 805,715 oxen, of 100 stones each; or 8,057,150 fat sheep of 10 stones each."

"As regarded the economy of horse-power, it seemed to have been overlooked that there were 52 Sundays in the year, and that on those days the horses consumed without yielding any return. If seventy days were set down for Sundays and wet days, there were virtually 10 weeks lost, and reckoning the cost of a horse's food at only 10*s.* per week, there was about 5*l.* per annum entirely lost. Multiplying the 5*l.* by 8, that being the number of horses required for a farm of 200 acres, there alone was a balance of 40*l.* per annum in favour of steam as opposed to horse-power. Steam might be applied for a great variety of purposes in agriculture. When he read his paper before the club, he was laughed at for expressing his conviction that a steam-engine might be employed in grubbing up a hedgerow. Now, he had since applied steam successfully for such purposes as that. With a five-horse engine he had pulled up more than a mile of hedges, and no grub axe would do the work so well. By the ordinary mode of grubbing, it often happened that nearly half the roots were left in the ground; but there was no such defect where a steam-engine was used, and he should be happy for any gentleman present to come and witness how beautifully the work was done on his own farm. He had also pulled down hundreds of trees by means of the same agency."

Mr. Fowler called attention to the great advantage steam-power now gives to the cultivator of stiff clay land:—

"There was many a farmer who would not farm heavy land on any account; but he believed that with steam-power such land was worth double what it was without that auxiliary, owing to the simple fact that six times as much power might be applied as could be previously. In heavy-land cultivation a 10-horse engine would accomplish three miles an hour, and do the work of 40 horses; and unlike the horses, it would do its work without at the same time injuring the land. As regarded the economy of horses, he would remark that with steam cultivation he had seen only six horses employed where 12 used to be employed, and 10 horses where 14 horses and 14 oxen had been used. If an additional number of horses was required in the autumn, it would be easy to purchase them, and if they had afterwards to be disposed of, the season would be at hand when horses were in great demand."

Mr. Halkett referred in detail to his own system of applying steam to cultivation, by which the softest bed for seeds and plants is obtained, along with the hardest bed for carriages. We have already described Mr. Halkett's guideway scheme, but shall repeat hereafter his own statement of the cost at which the several operations of agriculture can by means of it be executed.

The most interesting address of the evening was that of Mr. Collinson Hall, of Narestock, near Romford. He said that all fear for the fate of the labourer might be dismissed.

"He (Mr. Hall) had applied steam more extensively, perhaps, than any of his neighbours, and yet he employed more labourers than his neighbours, with the further advantage that he had a higher cultivation and produced a greater amount of food. His own desire was to see the working man less laboriously employed with his body and more actively occupied with his mind. He believed the time would come when the farmers might reduce their horse-power one-half; but it would not be advisable to do that until their land was in a higher state of cultivation than it was at present. Let them keep both engines and horses until it was in a better state of cultivation. With regard to the use of high pressure, many years ago he saw that there was a difficulty in profitably introducing steam into agriculture, inasmuch as farmers estimated the cost of their horses at half-a-crown a day, whereas in commerce a horse cost 5*s.* a day; and whilst an agricultural labourer was considered to be worth 1*s.* 8*d.* a day, a workman in Manchester would be worth 5*s.* a day. Consequently, if he burned the same proportion of fuel that was consumed in Manchester, he had cent. per cent. against him to make it profitable. He came to the conclusion therefore that in order to make steam profitable he must get as economical machinery as he could, and that he ought to consume the smallest possible quantity of fuel. In 1851 he commenced an engine of 200 lbs. pressure, then another of 320 lbs. pressure, without any accident, for the simple reason that the strength was made proportionally great. He took care, if he went much beyond the point to which engineers had previously gone, to go still further relatively with the strength, and he maintained that with his 320 lbs. pressure he had greater security than was obtained from the ordinary strength they had been accustomed to. Of the fact that the application of steam to the cultivation of the soil would increase the produce there could be no question. With regard to the prospects of the future, Mr. Smith had told them, as the result of his own experience, that there was a difference of 1 quarter of corn per acre between steam and horse culture. He believed that would prove to be correct, and in that case it would be impossible to doubt the great and solid advantages of steam."

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The seed trade is one of such paramount importance to all who are in any way interested in agricultural results, that it becomes a public service to review the doings of seedsmen in all their bearings.

In former papers we have dwelt upon the fact, that with our crop seeds we are continually sowing a greater or less proportion of weeds, which weeds are the result of the careless growth and handling of the seeds before they reach the farmer. We have had further to notice the direct mixing of our home-grown weed seeds with those of cultivated crops, as of Charlock seed, bought as refuse for 2*s.* 6*d.* the bushel, and mixed with Turnip seed and sold for 7*s.* the lb. And not only home-grown but foreign rubbish has been used for these nefarious purposes; Indian Rape, as our readers know, having been lately offered to the trade for mixing with Turnip seed.

It is however gratifying to know that our investigations into these matters are gradually working a salutary reform. Attention is directed to the importance of dealing with respectable men, and the following extracts from a letter from a respectable seed-growing firm will show that public inquiry has been awakened:—

"We take this opportunity of mentioning that the majority of the readers of the *Gardeners' Chronicle and Agricultural Gazette* are customers to us, so that whatever the editors say has immense effect on the minds of our customers. Many of them are clergymen and amateur farmers of but little experience, and when the impositions of the low class of seedsmen were first exposed, they understood the remarks to apply to seedsmen generally, so that we were immediately asked to give warrantry and samples, &c. before they would send their orders."

This shows that we have awakened inquiry in a matter of very great importance. Neither our remarks nor our experience will justify the application of severe strictures to all, and we particularly wish it to be understood that in the absence of accurate professional knowledge in relation to seeds by far the safer plan is to trust to men of standing and reputation, being prepared while you do so to pay a proper remunerative price for a genuine article.

This reminds us that among all the points from which the seed question may be viewed there is yet another which may be illustrated as follows:—

Our county grocer rejoiced in a large shop window which was filled full of teas and coffees on one side and raisins and plums on the other. These of course were soon despoiled of their freshness by time, by flies, wasps, and dust, and so when these were changed for others we asked him what became of the old ones; and to this simple query we are till this day without an answer. Now as regards seeds, we know that there will usually be left some stale stock, some that has not gone off in its proper season. And besides this, there will be some samples so badly grown from defects in locality or season that it must be worthless; the question is what becomes of it; and the following copy of a circular letter which has come into our hands is a sufficient answer.

"Gentlemen,— We enclose sample of light Italian Grass, *suitable for mixture*, which we offer you at 16*s.* in Liverpool, your orders for which will oblige ——."

"Your obedient Servants ——."

We need not say that the sample was rubbish. The 16*s.* per quarter (2*s.* per bushel), if used to mix with Italian Rye-grass, such as is sold for 7*s.* per bushel, or permanent Grass mixtures, such as are sold at 15*s.* to 17*s.* the bushel (30*s.* to 34*s.* per acre), would at once make a "cheap" mixture at any price according to the quantity of the worthless article added. And it is not simply worthless, as a Grass which cannot possibly grow, but it contains weeds of all kinds which unfortunately have not that constitutional debility.

It is a very serious consideration that men of business (for this is a business letter actually received) should apply to any respectable firm as a regular trade matter to buy such things, and state boldly for what purpose it is applicable, for that some in the trade purchase this trash is quite certain. At the same time we rejoice to know that there are those who heartily join with us in denouncing and exposing such

roguery, and we are the more anxious to persevere in our own discussions of this subject, because we feel that honest men cannot be injured by our strictures, whilst on the other hand the more we can open the eyes of the farmer to the tricks of which he is the subject, the less likely are they to be successful; and in the end our readers may be benefited by even rogues finding out where their true policy lies.

## LABOURERS' COTTAGES.

[We give the following abstract of the reports of judges appointed by the Agricultural Improvement Society of Ireland to award the prizes offered by the Society to the landowner who shall have erected on his property the greatest number of the most approved cottages, suitable for labourers, and fulfilling the requirements of the Cottier Tenants' Act of 1856 (19 and 20 Vic. c. 65).]

Lord Clancarty's Cottages. — We found the cottages, six in number, to accord strictly with the plans forwarded to the society. They are situated on the road leading from Ballinasloe to Ahascragh, facing west. The total cost of the six cottages is 420*l.* or 70*l.* each, and the details of the estimate and expenditure were satisfactory. They are built of the limestone common to that district, with which the walls are brought up in rubble-dressed masonry. The chimneys are of cut stone, as also the jambs and arches of the doors and windows, all of which are well finished. Bangor dutchess slates have been used in the roofing. The ground floor consists of one apartment as kitchen, or living room, 18 feet by 14 feet 6 inches; 8 feet 3 inches in height to joist. The back door is opposite to the front or entrance door; the stairs having been judiciously placed between them to prevent cross draughts of air, though the arrangement has not been quite successful. The upper story is divided into two apartments by a boarded partition. The stairs bring you at once to the one which is 14 feet 6 inches by 11 feet, and through it you pass to the other, which is 14 feet 6 inches by 7 feet. These rooms are of a very good height, the walls, front and rear, being 7 feet from floor to wall-plate; from floor to purloins it is 10 feet. A dormer window in front and skylight in the rear give abundant light; but we should have preferred a different distribution of the space by changing the partition, and thus leaving the passage room the smaller one, and the inner room larger, with the entire light of the dormer window, which is at present divided. The skylight in the rear would thus give sufficient light to the smaller room. The floor in the lower or ground apartment is of mortar, and constant sweeping in the direction of the fire-place soon produces unevenness; we, therefore, think that portion, at least, should be tiled or have flags. The piggery, privy, and ash-pit are conveniently placed, and the gardens are to be allotted from a space directly in the rear. We deemed it right, as there was no competition, to point out some little matters of detail, which we considered might be effected at a trifling addition of cost, and would be improvements, such as shelving, or presses in the recesses; some facility for putting up a line to dry linen; eave spouting, both to save the water and also to prevent it drifting against the walls in an exposed situation. We also think there should be a stone barge course on either extremity of the range of building. *Denis Kirwan, Charles Filgate, H. J. Macfarlane.*

Marquis of Bath's Cottages.—The cottages on the estate of the Marquis of Bath are four in number, built in pairs, and on two distinct plans. Plan No. 1 is that for which the prize of 20*l.* was awarded by our society in 1857, and as the site is conspicuous, adjoining the high road from Carrickmacross to Dundalk, Mr. Trench has selected the ornamental design given by Mr. Neville, and has spared no expense in carrying out the architect's plans in the best manner, the very excellent building stone which is supplied by the quarries in the locality affording facilities for such work, which in few districts can be surpassed, or, perhaps, equalled. These houses are 14 feet 6 inches wide in the inside, and on entering you pass from a small interior porch into the kitchen, which is 14 feet 6 inches by 12 feet 1½ inch. On the same floor is a small bedroom 7 feet 10 inches by 7 feet 6½ inches, and a shed against the rear of the house, 14 feet by 6 inches, which contains a scullery and store room, with a back-door leading to the offices in the rear. The entire of the ground floor is laid with well burned tiles. The rooms are well lighted with large windows; one division in each window opening on a pivot, gives good ventilation, and there is also good head room, the height from floor to floor being 9 feet. On the upper floor, which is reached by a convenient staircase, are two bedrooms well lighted with good sized windows—one 8 feet 8 inches by 8 feet 10 inches, and the other 14 feet 6 inches by 11 feet 2 inches. The side walls are 4 feet high to the top of the wall plate, and the height from the floor to the collar-brace is 7 feet 6 inches. The roof is of good material, and well constructed. The slates, which are best queen tons, are laid on close boarding ; inch thick. By this plan of roofing, plastering between the rafters is dispensed with. The mason work is of the very best description, the walls being faced with good hammered stone, whilst all the quoins, with the jambs of the doors and windows, as also the lintels over these openings, are of cut stone of excellent quality. The offices in the rear consist of piggery and privy, with a large space alongside, excavated about 3 feet deep, for holding manure, into which is conveyed by covered sewers all that passes from the sink in the scullery, as well as from the privy and piggery adjoining. Between the manure tanks of the two cottages a most convenient passage has been constructed, walled on either side, filled in with earth and gravelled over for barrowing out the contents. The cost of these houses is 208*l.* 11*s.* for the pair. The other two houses built on plan No. 2 are not ornamented like the last, but are built in a good substantial manner. The walls are of good rubble masonry, with good, strong quoins, and cut stone lintels over the doors and windows; the roof is of the same description as in plan No. 1, except that in these the gables are secured with a good barge course of cut stone. With regard to the accommodation afforded, these houses are somewhat superior to the last, whilst the cost is rather less—viz., 204*l.* 7*s.* for the pair. On the ground floor is a kitchen, 14 feet by 6 inches by 14 feet; a bedroom, 12 feet by 9 feet, and a scullery and store 12 feet by 5 feet, the latter being included within the main walls of the house. There is no back door to these houses, which we consider an objection. The floor of the kitchen is laid with tiles; in the bedroom and scullery the floor is of mortar. The height of these rooms is 8 feet 4 inches from floor to floor. On the upper floor are two bedrooms, one 14 feet 2 inches by 11 feet 6 inches; the other, 14 feet 6 inches by 12 feet 3 inches. The side walls are 4 feet 3 inches high to the top of the wall plate, and the height from floor to collar brace is 6 feet 8 inches. The bedroom over the kitchen is lighted by a good window in the gable; the other by a skylight in the roof. A dormer window would, in our opinion, improve this room very much, without adding very much to the expense. The offices are equally good as in the first case. The recesses in all four houses are well and most conveniently fitted up with presses and shelving, and the care with which all has been finished is very creditable.

Mr. O'Neill's Cottages at Randalstown.—They are 14 in number, built in one continuous row. The plan is the same as in Mr. Trench's No. 1—viz., Mr. Neville's plan, modified to suit the circumstances; these 14 houses, being seven pairs on that plan, placed contiguously in a row. The only difference in plan between that and Mr. Trench's No. 1 is in the position of the stairs; Mr. Neville having given a choice of two arrangements. In regard to size, these houses are somewhat smaller than those built by Mr. Trench, these measuring 23 feet by 17 feet, from out to out, whilst Mr. Trench's house measures 24 feet by 18 feet. As to workmanshship and finish, these houses are extremely good. The mason work in the front wall and gables is all in strong courses, built of large blocks of fine, compact, black basaltic rock of the district, with fine cut stone quoins of the same; the rere wall of good rubble masonry. The arches and jambs of all the doors and windows, as also the chimneys, are built with Moore's patent perforated red brick, neatly jointed with white paint, and which, compared with the black stone, has a very good effect. As to internal finish, these houses are in some respects superior to those on the Marquis of Bath's estate. The entire of the ground floor is laid with tiles of excellent quality, and the rooms on both floors are ceiled over head. This we consider very beneficial as regards the bed rooms, as affording a much greater protection against variations of temperature than the boarding on the houses built by Mr. Trench. The entire range of houses is finished, both on front and rear, with metal eave-spouting, which we consider a very valuable addition, an advantage which is wanting in the houses previously described. As to the rooms, these houses are very similar to those described in the first part of this report; the diminution in the size of house occasioning, of course, a corresponding diminution in that of the rooms. The height of the rooms on the ground floor is 8 feet 1 inch to the ceilling, and of the bedrooms, 7 feet 6 inches, the side walls of the latter being 3 feet 6 inches from the floor to the spring of the roof. The larger bedroom, which is over the kitchen, is lighted by a good-sized dormer window, the other by a skylight. There is also a skylight over the stairs. As to expense, these are by much the cheapest of any that we have inspected. The entire range of 14 houses, including a shed which is being erected in the rear, is stated to cost 1189*l.* 16*s.*, which gives nearly 85*l.* for each house. In order, however, to be able to make a fair comparison of the cost as between these houses and those on the Marquis of Bath's estate, which are competing with them for the Gold Medal offered by the Royal Agricultural Improvement Society, we have thought it right to estimate the additional cost which would have been incurred had they been built in pairs, and had also been provided with a separate privy for each house, there being only six of these for the whole range, which, under the circumstances, may prove sufficient. As the houses stand now, there is a 9-inch brick wall at either end between each pair of houses, and if they had been built in pairs, there would have been required two walls of 18-inch rubble masonry instead of this one brick wall. Taking the cost of a perch, Irish, of rubble masonry, at 5*s.*, and of brick work at 9*s.*, the two stone walls would cost 5*l.* 13*s.* 4*d.*, and the one brick wall 5*l.* 2*s.*, making a saving of 11*s.* 4*d.* on each partition, or 3*l.* 8*s.* on the whole. Taking, then, the

| | £ | *s.* | *d.* |
|---|---|---|---|
| Cost of the 14 houses, as above, at .. .. | 1189 | 16 | 0 |
| And adding for extra work in party walls | 3 | 8 | 0 |
| And for eight privies, at 5*l.* 5*s.* each .. | 42 | 0 | 0 |

we have 14 houses erected for 88*l.* 4*s.* a piece. As a means of testing still further the relative merits of these competing cottages, we have estimated the cost with reference to the cubical contents of each house. The following is the result of this examination. Plan No. 1, on the Marquis of Bath's estate, contains 6940 cubic feet, and the cost being 104*l.* gives 30*s.* per 100 cubic feet. Plan No. 2 contains 8190 cubic feet, which, at 102*l.* for each house, gives about 25*s.* per 100 cubic feet. Mr. O'Neill's houses contain each 6216 cubic feet, and estimating the cost, as above, at 88*l.*, we have the cost of each 100 cubic feet, 28*s.* 4*d.* Examining the houses in this point of view, it appears that the plan No. 2 is, with reference to the space contained, the cheapest of the three under consideration. This result appears to be, in a great measure, owing to their being finished in a plainer and less expensive style than either of the others, as already described. With regard, however, to the number of rooms, all three houses are alike; and, as we are instructed when making our award for the prize which has been offered for building "the greatest number (not less than four) of the most approved cottages suitable for the occupation of agricultural labourers," to take particularly into consideration "the accommodation with relation to expense," as well as the aspect, external appearance, warmth, and durability of the structures, we have no hesitation in awarding the prize, in this case, to the Rev. Wm. O'Neill, considering that his cottages, even were they not so superior as they are in point of numbers, approach more nearly than the others the class of house the building of which it is the object of our society to encourage. Before closing our report, we wish to express our unanimous opinion that all the cottages which have come under our observation are too costly for general adoption, as applicable even to the present improved wages of the agricultural labourer; too high to afford an adequate interest on the outlay—a result which may, perhaps, be attributable to the expensive model which the competitors have adopted. With a view to obtaining suitable plans for houses of a less expensive class we think it would be very desirable that our societ' should offer a prize or prizes for plans, the execution of which shall not incur a greater outlay than, on the average, 70*l.* for each house. *John Geo. Coddington.*

## Home Correspondence.

*Lois-Weedon.*—I am glad to find that at length a response to the invitation of the 25th December last has been made, and that, so ably too, by the very effective experiments of "I. A. C." I congratulate him on his very successful innovation on the Lois-Weedon plan; this experiment and his observations, without doubt, will have much weight in promoting the adoption of the system by the timid, and by those who are deterred from it by the amount of hand labour that in its integrity it demands, His calculations are just and explicit, his argument sound and conclusive. I regard him as the greatest friend the system has yet obtained. I have no doubt that much may be effectuated on Mr. Smith's principles without the requirement of such an amount of hand labour as now, no doubt, tends to prevent its adoption by large land-holders; yet it may be a question whether we can altogether dispense with the fork. "I. A. C." has got to the depth of 9 or 10 inches, but I do not see how he can bring a strength of horse-power in the narrow breadths of the intervals, during the growth of the corn, sufficient to bring to the surface a greater depth of subsoil, should such deep working be deemed expedient; and, under Mr. Smith's view of the necessity of bringing up fresh matter to the extent he has done, it certainly is. But this, I think, may be questioned, and indeed, Mr. Smith himself seems now to think that, after having attained a certain depth, it ceases to be necessary, so that the fertility of the soil may be sustained by then a shallower working. Now if it shall be found that, in a proper Wheat soil, an inch or two of fresh subsoil affords a sufficient amount of inorganic matters for a great number of successive crops of Wheat, say 10 for instance, those deep diggings by which these fresh quantities of subsoil are brought to the surface need not take place oftener than once in 10 years, that is to say, the half of the ground every five years. Thus one-tenth of the land will only have to be dug every year, which might do no more than give employment to the idle hands of the country at the dead time of the year, and which Mr. Smith in his benevolence contemplated. As we believe all other workings of the land need be but superficial, merely sufficient to move little more than these 2 inches of subsoil, prevent the growth of weeds, and keep the surface open to aerial influences, this may well be done with the implements best fitted to the work of such light construction as may be drawn by one horse, and thus no risk of injury would arise to the growing crops. The deepening of the soil however is of primary import with Mr. Smith as affording a wide field of pasture to the roots of the plants, and, there can be no doubt that exuberance of growth is ever a consequence of a deepened soil; yet Mr. Piper reaped as good successive crops without this disintegration of the subsoil. Now the greatest economical value of improvements in agriculture does not merely consist in making them paying to the agent of them, though that should ever be their effect as it also is the general and legitimate instigator of them, but in the production of the greatest possible amount of food for the public: I do not therefore assent to "I. A. C."'s conclusion on the

counterbalancing of diminished produce with lessened expenses, for, though it may make all equal to the cultivator, it does not to the country at large. The country demands from the land the greatest possible amount of produce, cost what it may. Had we indeed an unlimited extent of territory the case were different—the idleness of the grazier might then supersede the industry of the tiller—but in our insular position, with a rapidly increasing population, it must ever be a true principle of political economy to make our land produce as largely as it can. From the less productiveness of the centre rows of the triple ones from the deteriorating effects of this row upon the exterior ones, both in contracting the earth and air field of pasture, I believe if the 5 feet occupied by the three rows and the intervals were divided equally between the three rows, making the rows equi-distant, that is 20 inches apart, a higher rate of produce would be obtained, and I submit this suggestion to "I. A. C." in its being as accessible to horse-labour as the intervals of the triple rows, and being superior in fallow; single rows may not only be as easily worked between, but every interval between them would be so worked, and the rows would be moulded on both sides; whereas in the moulding up of the triple rows the centre one cannot receive any benefit, and the mould can only be put up on the outside of the outer rows, throwing them all very much together. If 20 inches distance does not give sufficient working room it may be increased, I am satisfied, without loss to 24 inches. *J. M. G., Granard.*

*Pasture Land.*—In the last *Gardeners' Chronicle* you have an article on meadow land which induces me to give you my experience on pasture land. I have a field of about 7 acres of poor pasture, the Grasses are fine and cattle eat them readily, the turf feels hard under the foot, and has evidently some years ago been heavily dressed with lime. Although the quality was very good the quantity of Grass grown in the year was very small; it was thick, but took a long time to spring, and was always short; no mole heaps were to be found in it. Being anxious to improve this field, which is within the coal basin, and the soil of which is a strong clay, but dry, I have often manured portions of it with farm-yard manure, which considerably increased the growth for a few years; but it soon returned to its former state, and having seen an account of Proctor's prepared bone manure No. 1, I determined to try 10 cwt. of it upon an acre of this field. I measured an acre of the field and applied 10 cwt. of Proctor's bone manure early this spring; and already it has produced a wonderful change upon this acre; the herbage is a much brighter colour than on the remainder of the field, and the cows grazed this acre quite bare before they touched the Grass on the adjoining land. For days the cows never grazed off this acre, and even after they had grazed it quite close they still repeatedly return to it even now. Messrs. Proctor state that this manure will benefit the land for 8 or 10 years; if it will, it is a very valuable manure for pasture land, and I shall certainly get more of it next autumn. I presume it must be the phosphate of lime which has so much benefited my land, and I am consequently trying 10 cwt. of a phosphatic guano on an acre of pasture, to see if it will act as beneficially as Proctor's prepared bone, and I will let you know the result at a future time. I have some fields of a wet, moory nature, called in Wales short hay meadows, which I wished to improve without going to any very great expense. I therefore applied to a seedsman, who recommended me to sow on them about 10 lbs. of Timothy Grass to the acre. I did so, but not one of the seeds grew, and I am convinced that draining must be the first improvement to them. *D. S., Swansea.*

## Foreign Correspondence.

Bruges, *April.*—"He who clothes a soil creates a country." To appreciate the full force of this fine saying, one has miles to traverse—as we have done this week—the wild tract of Belgian country known as the Campine. You feel while crossing its dreary deserts as if you were moving along the wild tracts of the barren sea-shore. There is sand everywhere; sand so fine that it rises in light clouds beneath the tread of the foot, or is whirled in masses by the winds of heaven. Sand surrounds you, it stretches far away in tracts mournfully monotonous; or broken up with high mounds which, glistening white and dazzling in the sunlight, look like drift-heaps of the winter's snow. It is impossible to exaggerate the wild dreariness of those tracts, which, as yet, are inaccessible by the art of man—or the apparent hopelessness of the task which that art undertakes when out of the sterility it proposes to create fertility. No wonder then that in the popular mind the word Campine conveys but the idea of a land desolate, of sombre hopeless aspect; the only vegetation of which consists in patches of stunted Grass or clumps of meagre Furze—a land devoted to hopeless sterility. But a closer and more philosophical investigation serves to show that there is a future of fertility for even its wildest and most unpromising tracts. And this future is evidenced by the history of the past.

Far round many of the towns and villages of the Campine you see zones rich with their smiling meadows, or gladdened with the fields of waving corn; and even in the wildest districts the eye rests with pleasure on green oases, spots where some determined, patient, and industrious cultivator has settled down, and by dint of labour wrested wealth from the domain of the desert. In all this may be traced the history of the future of the Campine; and in all this we have an exemplification of what man do with his creative arts; for in this sense agriculture is the noblest of all the arts, being essentially creative, and a fine proof, moreover, of the proverb which is so full of meaning to English ears—"where there is a will there is a way." One of the most important "ways" to help this "will" is the establishment of communication between the various districts by means of roads and canals. By the latter—the most important of the two—not only are means of transport for manure and the produce of the soil to our markets ensured, but the means of irrigation; with this herbs for the cattle are obtained; with the cattle manure, and with the manure corn. This, in fact, gives in a line the history of the agricultural progress of many districts of the Campine. Since the establishment of the canal there has been, in one district alone—that of Arendonck—2000 hectares brought into cultivation, sixteen farms formed, which rear several hundreds of cattle. The establishment of canals and of roads in improving the condition of agriculture, has increased the value of the land more than 25 per cent. They have also increased the value of wood, and favoured its production; at one time of little value, the Fir trees are now sent to distant parts in the shape of faggots for brickmaking, or of poles for Hops. It is interesting to trace the gradual increase in the value of the land: a farm which in 1826 sold for 6530 francs, in 1850 brought 14,500; a farm which in 1816 was let for 1088 francs, had in 1854 increased to 2000, and now lets at 3500. Tracts which before 1830 brought at sale 20 francs per hectare are now valued at 150 to 250 francs. Wherever manure can be obtained—and the chief means of obtaining it is by canal—there you see improved agriculture.

The tract of country known by the name of Campine extends into two provinces—those of Antwerp and Limbourg—the north-east portion of the former and the north-west of the latter province. It is bounded by Holland in the north, by the Dyle and the Demeer in the south, by Escant and Rapel in the west, and by the canal of Bois-le-duc à Maestricht in the east. It presents an almost unbroken flat, save where interrupted by the mounds of sand to which we have above alluded. The population is small for the extent of land; in 1840 it possessed nearly as many hectares of uncultivated land as inhabitants—200,000 of the former to 250,000 of the latter. The traveller who visits Brussels by devoting a day or two can easily make the excursion to the Campine. He may go by way of Brussels and Antwerp line as far as the station of Contich; taking thence the railway to Lumhout, or stopping short of Lumhotu, he may leave the railway at Herrnthal, and take the diligence to Gheel, the centre of the Campine. From Gheel on the one side he may extend his travels to Lumhout and Arendonck, and on the other to Guth and Hasselt. From the latter place he has direct railway communication to Brussels. While traversing the route here indicated, or even a less extended one, as from Brussels to Lumhout and Vache, which can be done easily in one day, the traveller will have ample opportunities of witnessing the unpromising materials out of which patient industry has gained such fertile riches. We propose now very briefly to glance at some of the features of the mode of cultivation by which this change from unproductiveness to productiveness is brought about. The soil as we have already said, if indeed it can be dignified with such a title, is almost pure sand. It is of all the sands the worst, and most difficult to subdue. A mixture of sand and oxide of iron is often met with—it is called in the country tuf—it is hard and resists equally the plough and the spade. This iron pan has to be broken up, and the loam which is usually found under it mixed up with it by means of the spade. The soil thus worked is left all winter exposed to the atmospheric influences, which bring it into a comparatively good condition. Where the oxide of iron is not in excess, this quality of soil carries very well crops of Wheat, Colza, or Beetroots. Large tracts of peat or turf are met with; usually the peat is taken off and burned before the land is put in cultivation.

The tracts of poor white sand which are generally formed of the mounds or rising ground carry Fir trees; the leaves of these as they fall form in process of time a soil which consolidates the sand and enriches it. The mixed soil carries a wider range of trees. The sandy soil, neither too dry nor too humid, is that in which cultivation properly so called is carried on.

In bringing a poor sandy soil into cultivation, if manure is not to be had, as where the farm is far distant from a town, the only thing that can be grown is Broom, which takes kindly to any soil, however poor. The leaves which fall from the plants consolidate the sand, as do also the fibres of their roots. The plant is also used for littering cattle. The plants are cut down in the third year, and the land is cropped with Buckwheat, Rye, or Potatoes. The manure heap is now pretty well formed, and regular cropping begins as the forage plants come to hand, enabling cattle to be kept in increasing numbers, and by consequence the increase of manure; the work of fertilisation progresses amazingly, and from a sand which you could kick up into clouds with your feet, you find a soil formed retentive and enriched with humus.

In bringing heathy land into cultivation, our first operation is to pare off the turf, where this is of considerable thickness. This is done very neatly and regularly. The Furze is previously cut down and used for litter. The turf sliced is next burned. The earth is then dug up by means of a spade, care being taken to keep to the surface the part most enriched with vegetable mould. If the land has previously been under plantation of trees, it is a good plan to bury the vegetable matter as the land is worked. Where iron pan is met with this must be broken up and brought to the surface. This spade work is generally done in the late autumn and winter, as labour is cheaper at these seasons; and the soil moreover is turned over to the atmospheric influences. The spring following a fine crop of Potatoes with manure is put in. After Potatoes, they put in either Rye or Oats with manure. After Rye they take a stolen crop of Spurry without manure. After Oats they sow autumn Rye, with manure. All regular rotation here ceases; and exhaustive crops of Rye are taken, interrupted sometimes with crops of Potatoes or Colza. The plan adopted by the more intelligent of the cultivators is as follows:—If the Furze or Broom is young they turn it into the soil; if old it is cut down for litter, &c. The land is then worked to a depth of 60 or 70 centimètres. The first crop taken is either Rye with manure, or Potatoes with manure. After the Rye they sow Oats with Clover and manure; or after the Potatoes they sow Rye, but always with manure. Often as a first crop they sow Spurry with a little artificial manure; they make a pasture of this at the proper stage of its growth, after which they may turn it in and follow with Rye manured.

In forming permanent pastures, after the working of the land as already described, it is found a good practice to sow it first with Oats manured mixed with Clover. This is pastured for one or two years; it is then ploughed up, and sown with Oats manured, and a mixture of seeds.

The following are a few of the rotations in use, for which we are indebted to the works of MM. *Joigneaux* and Delobel:—

1st year, Potatoes with manure; 2d, Rye and Carrots between—manured; 3d, Oats and Clover—manured; 4th, Clover; 5th, Rye or Wheat; 6th, Turnips after the Rye, or Spurry.

The following is the rotation followed by the farmers of Einthout, who have sandy soils to cultivate:—

1st year, Potato or Buckwheat; 2d, Rye; 3d, Rye; 4th, Oats or spring Barley with Clover; 5th, Clover; 6th, Rye.

It is needless here to say that this is a very bad rotation. Nor is the following very much better:—

1st year, roots or Buckwheat; 2d, Rye; 3d, Oats with Clover; 4th, Clover; 5th, Rye.

The better rotations have been introduced by farmers who have, coming from other provinces, established themselves in the Campine. Thus the following introduced by M. Delobel is good, although requiring much manure:—

1st year, Potatoes; 2d, winter Cereal; 3d, Colza, or other green crop which requires weeding and hoeing; 4th, spring Cereal, with artificial Grass; 5th, winter Cereal, other than that of the second year.

It may interest our readers to give a description of a novel mode of bringing the sterile lands of the Campine into cultivation introduced by M. Van der Beke-Pastrel, of Corsendeck. A commission was appointed by the governor of the province of Antwerp to examine this system, which has attracted so much attention; from this report we glean the following information:—To arrive at a quick realisation of an arable soil, M. Van der Beke soon saw the necessity of retaining in the land to be operated upon as much as possible of the humus inert, formed by the detritus of the healthy plants which covered it. To secure this the plants themselves were removed only, care being taken to avoid a too deep cutting of the turf. The plants thus cut were taken to the farm steading, and there used to form a compost or to litter the cattle. After dividing the land into fields, and then again into stetches—*planches*—open drains being made by the spade between the stetches to allow of the free passage of the drainage water, the manure from the steading is then brought and spread over the land, without any previous preparation of the soil. The seed is then sown above the manure, and finally covered with the earth which was taken from the drains between the stetches. If the preliminary operations of removing the turf, &c., are gone through in the autumn, the rotation is commenced by sowing Rye in the manure above stated; if in the spring by Oats. In either case the second crop is Red Clover. It is not till after the second crop that the land receives any working, and even then only to a small depth. A crop of Rye or Wheat follows the Clover; after that the ordinary rotation of the country is followed, the only difference being that the depth of the soil is gradually increased.

When the land possesses an unequal surface, a process of levelling is to be gone through. The turf of the lowest parts is cut in squares; and the squares placed upon the field in such a manner that one of their angles is elongated. The subsoil of the highest parts of the field under operation is carried and placed upon the squares of turf so that the interstices between them are filled up. The principal advantage of this mode of levelling is that there is a perfect mixture of the new soil brought up with the old superficial covering.

The extent of land cultivated by M. Van der Beke is 100 hectares; these now covered with the most beautiful of crops but recently appeared condemned to hopeless and perpetual sterility. The Commissioners

thus describe the crops which the land carried at the time of examination:—Five hectares of Wheat of a beauty remarkable, the produce being 20 hectolitres to the hectare, and of a weight of 70 kilogrammes to the hectolitre. 2d. Thirty-two hectares of Rye equally fine. The seed of this was sown in very wet weather, and the germination made under bad conditions—the yield of Rye is about 27 hectolitres to the hectare, of a weight of 72 kilogrammes to the hectolitre. 3d. Twelve hectares of Oats, of which the magnificent aspect promised an abundant harvest. The yield of this crop generally is 36 hectolitres to the hectare. 4th. Ten hectares of fine Buckwheat; the yield being ordinarily of this crop 30 hectolitres to the hectare. 5th. Eleven hectares of Clover. 6th. Of 4 hectares of Potatoes; and 7th, twenty-five hectares of meadows, which give 3000 to 4000 kilogrammes the hectare.

M. Van der Beke employs eight horses for working the farm, and feeds 36 head of cattle; of those two are milk cows for the use of the domestics. This system secures a large yield of manure, which joined to the composts prepared with the turf of the land undergoing improvement, serves abundantly for manuring all the fields. The carts employed for the transport of the manure, &c., have wheels with broad tires; these do not enter the light soil with the facility with which narrow ones do; great ruts are thus prevented, and the roads kept in good repair.

## Societies.

ROYAL AGRICULTURAL OF ENGLAND.

A Weekly Council was held on May 11, the Right Hon. Lord Berners, trustee, in the chair.

A communication was read from Mr. Edward Farmer on the preservation of Mangel Wurzel roots. He transmitted a root grown and stored with the crop of 1857, and subsequently with that grown in 1858. On the root being cut it appeared quite sound excepting where it had been bruised on the outside.

A communication was read from the Consul-General of Sweden and Norway, stating that he was requested by Professor Holst, of the University of Christiana, manager of the royal farm in Norway, to forward to the Society copies of the first series of reports on the proceedings o the royal farm.

The thanks of the Council were ordered for the above communications.—Adjourned to May 18.

Durham: *Farm Buildings.*—During the recent annual fair at Durham, the Council of the County Agricultural Society, and other influential agriculturists of the neighbourhood, dined with Mr. Spearman, at Newton Hall. This being the fourth anniversary of these gatherings, they have begun to assume the character of perennial as well as annual. Leave has been accordingly given us on the present occasion to take this notice of them, and at the same time to give publicity to what fell from Mr. Spearman on the important topic of the general defective state of farm houses and buildings in this county.

Mr. Spearman introduced the subject by saying he was afraid gentlemen at the other end of the room had not heard a good story which had just been told by his friend on the left (Mr. Wetherell, of Aldborough) of his having been almost afraid to allude to a great calamity that had befallen an acquaintance of his, in the shape of his having had his homestead burnt down, until the sufferer put him at ease by saying, with a smiling face, "Why, between ourselves, it is no such a bad job to have a set of old buildings burned down, which happen to be pretty well insured.' Now it would be a very good job if half the farm buildings in this county were to be burned down, and that almost whether insured or not. He was satisfied he should be borne out by those he addressed, when he said that nothing could be more deplorably defective in every sense of the term than the great majority of the farm houses and buildings in this county. They had landowners constantly expressing their wish to induce men of capital to become their tenants, and nothing could be more rational. But did they really expect that men of capital, of education, and intelligence were to be induced to become the occupants of such habitations and buildings as, generally speaking, were those which alone these landowners had to offer? No doubt there were agricultural enthusiasts, like a fox-hunting friend of his who, having undertaken the hunting of a subscription pack, said, "Never mind a house; I can live in a loft, but let me have a first-rate kennel and stables!" and who would say, therefore, "Never mind house, as long as the buildings are first-rate." But my friend was a jolly bachelor, as I suspect would be the case with the agriculturists I have alluded to. It is otherwise with married men; and he took leave to say of the families of that class of farmers of whom he was speaking, that they required and deserved as good houses as could be obtained for them. As regarded well-constructed and sufficient farm buildings, they were as absolutely essential towards conducting farm business with credit and success as are manufactories and mills towards carrying on the business of our great manufacturers; and what would any of them say if they were invited to become the tenants of buildings totally unequal to their requirements? Why, that the inviter was one of Bedlam's outpensioners. True it was, that in times past, at least, it might be said by some landlords, that their estates being entailed on their eldest sons, if they laid out money on farm buildings it was enriching them at the expense of their younger children, for whom it was their duty to save a provision. Clergymen might say they were but tenants for life, and their children will have nothing to do with their benefices at their death. Others, again, might say they had no wives nor children, and did not choose to cripple themselves for the sake of those who are to come after, who might be well satisfied with the property being left them at all. But all these objections may now be met. In the case of clerical persons they have been enabled, by Act of Parliament, to charge upon their benefices the cost of agricultural improvement, to be borne as well by their successors as themselves. As regards the other description of landlords whom I have mentioned, they have been enabled, by the establishment of late years of a very important institution, to obtain pecuniary aid, and this not merely for the purpose of draining, which is afforded by the Government, but for that of agricultural buildings. An annual charge is created upon the property in respect of which the advance is thus made, including interest and a payment towards extinguishment of the debt, which is thus liquidated in a given time. He alluded to the West of England Land Improvement Society, established by Act of Parliament, under which the advances made by it took priority over other charges, which enabled it to dispense with inquiries into title. He was sorry to have to confess that on his own property the farm-houses and buildings are quite as bad as on that of his neighbours, though he had long contemplated reformation, and was going now to set about it in good earnest. With reference to the projected buildings themselves, he begged also to be allowed to say a few words. He had known instances not infrequent, of landowners proceeding to erect farm-houses and buildings under the advice of architects and builders—the result being very pretty things, architecturally speaking, but which, when submitted to the criticism of practical agriculturists, had been found anything but what, had they been consulted in the first instance, they would have suggested, though perhaps infinitely more costly. He proposed, therefore, to reverse this order of proceeding, and before he called in architect or builder, to take the advice of some of his experienced agricultural friends—some of them whom he saw present had already promised their assistance. When he should have shown them the site he had selected, which he had chosen as being centrical, but also as being close to the best roads, a matter in his opinion not always sufficiently attended to, and furnished them with the precise quantities and proportions of arable and Grass land as determining the number of draughts and consequent amount of stabling, the extent of cattle-sheds, feeding-houses, and barn room, he should request them to say what, under the circumstances, if about to occupy such a farm, they would desire to have as regards extent and arrangement of farm buildings. The farm consisted of about 500 acres, and the site of the buildings was close to the highway from Durham to Hartlepool, which runs through the farm. When they sat again, as he hoped they should do next year, he expected he should be able to report satisfactory progress, and he ventured to say that he should have established, if not quite "a model farm," yet one at least that would serve as an example and specimen of what could be done, proceeding on the principles he had mentioned, and with the aid of the West of England Land Improvement Company. —*Durham Advertiser.*

[It is right to add that there are other companies beside the West of England, as the General Land Drainage, the Land Improvement Company, &c., which have power to take a rent charge for money advanced for buildings and other permanent improvements.]

Agricultural Improvement of Ireland.—The report of Council to the half-yearly general meeting was unanimously agreed to. The following are extracts from it:—

"The prize sheet for the Society's annual cattle show, to be held this year in Dundalk, has been carefully revised. The most important alteration to which your council beg to draw attention has been the withdrawal of prizes for implements. 'The *Farmers' Gazette* Challenge Cup' is still offered for competition, but it is optional for the implement exhibitors to enter for this prize. This step your council consider a prudent one, and will not affect the entries in the implement department at Dundalk. The period for holding the show has been changed from the middle of August, the time when your meetings were usually held, to the last week in July. This alteration will enable the practical farmer, unshackled by harvest operations, to attend, and also much assist your council in obtaining judges. Your council have much pleasure in reporting that the arrangements for the Society's show are progressing most favourably; and, from the energy displayed by the local committee, a most successful meeting may be anticipated. The prize sheet for local farming societies has been revived, and some useful and practical amendments made. The Society's gold medal offered by your council for labourers' cottages was competed for by two in Ulster, four in Leinster, and one in Connaught. There was no competitor from Munster. Experienced judges were appointed to inspect and adjudicate, and their several awards, together with very ample and interesting reports, embodying the plans, specifications, &c., of the prize cottages, have been published. Your council have renewed the prize for the current year, and have also offered the Society's gold medal for competition, in each province of Ireland, for the improvement of previously existing cottages; and they earnestly trust that the efforts of the Society to raise the condition of the agricultural labourer will be heartily responded to, and that each county will send forward a competitor. In conclusion, your council feel justified in congratulating the Society at large upon its continued progress, and upon the increased favour with which its operations are viewed by the public."

Mr. Royse also announced that the receipts of the Society this year exceeded by 30*l.* the receipts during any other year of the Society's existence; and the report of the finance committee, as read by Mr. Dobbyn, exhibited a balance to the credit of the Society of 181*l.* 16*s.* 4*d.*

## Reviews.

*The Horse and his Master, with Hints on Breeding, Breaking, &c.* By Vere D. Hunt, Esq. Longmans.

This little volume contains a number of useful suggestions to breeders and keepers of horses, given however in a somewhat verbose and grandiloquent style. In the following paragraph Mr. Hunt is speaking of horse breeding in Ireland:—

"Ignorance and custom have done much to deteriorate our breed of horses, and injudicious crossing has been productive in a short time of very undesirable consequences. The introduction within the last few years, of the heavy agricultural carts and other agrarian implements, by Scotch and English agriculturists, if calculated to improve farming, have had a materially opposite effect on the breed of horses. For the increased burthens, it was considered that a larger stamp of horse than the native Irish one was necessary; and in the plenitude of unbridled ignorance, would-be clever fellows have hit upon the expedient of crossing upon our country mares, huge Clydesdale stallions, and other monstrous horses, thereby producing a nondescript brute, building, in the majority of instances coming under my notice, a huge structure upon a doubtful basis; or, to be more explicit, placing an elephant-like carcase upon legs insufficient to stand the wear and tear consequent upon such a superincumbent mass. Gentlemen, if you require waggon horses, pray remember to get suitable mares for your purpose, and never hope that you can produce them by crossing with the native Irish mares, which possess an infusion of very good blood,—and that the purer the breed, the more likely it is to be transmitted to the offspring."

The author recommends a recurrence to Arabian blood in order to "infuse into our degenerate breed of horses a new vitality and more universal soundness.

"Away to the winds with the puerile theorists who would cast a shadow of doubt upon the result of crossing high-caste Arab stallions with our native mares! Of their soundness there can be no question; their temper, docility, constitution, hardihood, enduring powers, freedom of action, and indomitable 'pluck,' has become a proverb; and their clean sinewy legs, iron feet, and beautiful form—the type of elegance and concentrated power—is known to all. The universally found healthy condition of their vitals, constitute an arrangement that makes 'broken wind' in these aristocrats of the desert unknown, and blindness is an absolute novelty in the race; what then is objectionable? His size, says some one not aware of the expansive power of the dessert blood when crossed with ours."

Instances are quoted proving that Arab stallions, though small increase rather than diminish the size of the produce of ordinary mares: some 20 pages are occupied with this advocacy of the Arabian. We do not quote from the chapters on Breaking, Horsemanship, and Riding to Hounds, in each of which will be found information interesting to the country gentleman. The following passages from the chapter on Stable Management are more likely to be useful to the majority of our readers.

*Food of the Horse.*—"Free from man's harrassing injustice, he lives a vigorous animal to a great age, until, in the order of creation, nature releases him from her thraldom. So is the horse in a natural state. What is the parallel, in an artificial state? Instead of the field and exhilarating atmosphere, we have generally the close stable and fœtid effluvia; for the cooling and moderate draughts of water, as nature prompts, we have the noxious gulphs that the famished animal deliriously swallows to quench his fiery thirst—for the succulent blade of his natural dietary has been not only suspended, but dry hay, Oats, and Beans have been substituted, in addition to the inflaming qualities of which heaps of warm clothing are to be borne, woollen cases on his head and legs, heaps of clothes on his body, to be stripped off whenever he is called upon to face the cutting sleet and penetrating blast. This mode of treatment is opposed to his nature—is at variance with his instinct and organisation. For the cool and refreshing herbage and elastic sod, so congenial to the feet, they are in the stable either resting upon hard stones, or buried in heating or contracting straw; water, which nature dictates to be taken in small quantities, to suit the capacity of the small stomach of the animal, is given only twice a-day, and in noxious draughts; while, to culminate the poor sufferer's wrongs, some atrocious and ignorant rascal of a groom commences to give him a 'coorse o' medicine,' prescribing similarly for the fat or lean, the gross feeder or delicate eater, the old or the young; into all alike are crammed aloes, calomel, nitre, arsenic, cordial balls, diuretics, and heaven knows what, that nothing but the most extraordinary tenacity of life could resist successfully."

*Light in the Stable.*—"Upon what principle is it that dark stables are tolerated? Will it suffice for their total abolition to assure the public, that from them are derived the numerous cases of defective eyes and total blindness, so prominent a feature in the ills that horse-flesh is heir to, more particularly when acquainted with the fact that in his natural state the occurrence of blindness is unknown in the animal, and that man has a stronger predisposition to it naturally. There is a common error, that requires elucidation and correction, viz., the generally accepted idea, that a dark stable makes a horse rest better, and evidence more health and spirits at liberation from it, than when confined in one well lighted. He comes out, no doubt, more warily, stares about more wildly, and gambols more freely after issuing from it, than from a well-lighted one. But be undeceived as to its being the effects of health. The sudden transition from darkness to light shocks and dims his power of vision, which causes a more gingerly and cautious step, erect ears, and timid bearing—(observe the ears of a blind horse, when treading his way unguided)—when the eyes accomodate themselves to the distressing light, distressing, because ignorantly excluded from his stable; the poor animal feels rejoiced at his release from the dispiriting influence of a dark prison-house, and in the plenitude of his happiness, he 'bucks' and jumps for joy, exhilarated by a sense of freedom and sudden restoration to those blessings, air and light, his heritage from his Creator."

*Ventilation.*—"Ventilation is imperative to the health and general soundness of animal nature. The air we inhale is a very different one from that which we expire: the former is atmospheric, and charged with life-sustaining qualities; the latter is constituted of deleterious gases, inimical to animal life. If not, therefore, carried away by proper ventilation, a combination of its poisonous qualities with the atmospheric air renders its inspiration a matter of certainty; and, as effect following upon cause, if the life-supporting qualities of that air be impregnated with death-dealing gases in insufficient quantities to suspend totally the functions of nature, we have, beyond the possibility of controversion, a proportionate deterioration of constitutional power."

## Farm Memoranda.

Tinna Park, Co. Wicklow.—A short distance beyond the beautifully situated and pleasant village of

Delgany, and sheltered from the north by a ridge of hills, lies Tinna Park, the property of John Clark, Esq. When Mr. Clark purchased this place, some seven or eight years ago, it was very much covered with timber, particularly Beech and other hard woods; but a large extent of this has since been grubbed out, and the land which has been thus reclaimed is now converted into tillage. To the majority of improvers, the clearing of such an extent of heavily timbered land would be a task with which few would willingly grapple, particularly if a ready market for the timber was not immediately available; but in Mr. Clark's case no such obstacle existed, and, in fact, the existence of such a quantity of wood was a recommendation, rather than a drawback, to him. Extensively engaged as a thread manufacturer in Scotland, one of his chief requirements is a large stock of wood which could be made into reels or spools upon which the thread is wound; and amongst his first movements, therefore, at Tinna Park, was the erection of an extensive saw mill, for the purpose of cutting the timber into suitable lengths, previous to its being shipped for Scotland. This saw mill is fully sixty feet wide, and machinery connected with it, as well as that which belongs to the farm generally, is driven by two steam engines. Adjoining the saw mill are the threshing barns and cattle houses, and from the peculiar construction of the whole, the buildings look at a little distance more like extensive manufacturing premises than a farm-yard. The threshing barns are three stories high, and are fitted up with chaff cutters, Oat bruisers, &c., besides the usual threshing machinery. The latter threshes 80 barrels of Wheat per day, equal to 1600 stones, or 373⅓ bushels, at 60 lbs. per bushel; but it is defective in some points—for instance, in the want of elevators to carry the threshed grain from the ground floor, where it is discharged from the machine, up to the third floor, where the grain is stored. In consequence of the want of such auxiliaries, considerably more labour is necessarily entailed upon the attendants. The cattle house at Tinna Park is of spacious dimensions, containing room for 180 head, and is 60 feet wide, inside measurement. This is literally under one roof, without any supporting pillars whatever. The rafters are constructed of wood, with an iron brace on each side; but the rest of the roof, with the exception of the slates, is of iron. The slates are hung on iron rods by copper wires, and all the other roofs about the place are constructed in a similar manner. Ventilators are placed along the ridge. Owing to its great span the roof is pitched high in comparison with the height of the side walls; so that, in fact, it is the most conspicuous and principal part of the building. We never met before with a roof of such a span, nor do we think it as handsome or as cheap in the construction as the series of roofs supported on iron pillars which we have previously referred to in our descriptions of Mr. Pollok's farms, of Mr. Rogerson's farm at Danestown, and Mr. Maxwell's, near Duleek. The manure pit adjoins the cattle house, and as the ground upon which this stands is a little elevated, the former has been constructed by cutting it out of the face of the bank, so that the back part, next the cattle house, is 12 or 13 feet in depth, but in front it runs out upon the level. A stage is erected at the back part, for the convenience of wheeling out the manure, and depositing it in different parts of the yard. The manure yard is faced with a stout stone wall, built with mortar, and inside there is a range of shedding, supported on light iron pillars, for the convenience of such young cattle as may be wintered in the yard. A large octagonal tank receives all the drainings from the houses. It is at present uncovered, but it is intended that it shall be roofed in. Hitherto the liquid has been taken out and distributed by means of a liquid manure cart; but pipes have been laid through several fields on the farm, for the purpose of distributing it through these, by means of the steam engine, on the Myremill plan. That portion of the farm which has been gone over is laid off in large rectangular fields, divided from each other by wire fences, or by stone walls pointed and dashed with lime. The soil is well adapted for folding sheep, and hence we found the Aberdeen Turnips in course of being consumed where they were grown. The Turnip-fed sheep were allowed at the rate of 1 lb. per head daily of crushed Oats, mixed with a good quantity of chaffed hay. This was given in boxes in the field, and the sheep were doing well under this system of management. We have found the folding of sheep objected to in some other parts of the country, owing, in a great measure, to the nature of the soil being unfavourable; but it succeeds well in the County Wicklow, as we have ere now mentioned when describing Coollattin and the district around it. It is only the Aberdeen and other soft varieties of Turnip upon which sheep are folded at Tinna Park, the Swedes being carried from the field and stored up at the houses for the use of the cattle. Mr. Clark has a capital stock of Clydesdale horses; and for the benefit of those who doubt or deny the advantages of cooked food for farm horses, we may state that we saw at the stable door a number of buckets full of boiled Turnips and light grain, in a semi-warm state, waiting the arrival of the horses from their day's work; and the excellent condition of these was a very good proof that this mode of feeding is not so very bad as some would have us imagine it to be. In fact, our experience of farm-horse management has sufficiently proved to us that one good feed at night of cooked food is indispensably necessary during winter and spring. *Irish Farmers' Gazette.*

## Calendar of Operations.

MAY.

WARWICKSHIRE: Owing to the cold and stormy weather which has so much prevailed, the hay ricks are more closely worked up than for the last year or two. It is not often that we have to notice the foddering of beasts out of doors till the close of April, and even the advent of "the merry month" itself. But such has been the case, and in the course of the past week alone, prime hay has risen from 4*l.* to 4*l.* 10*s.* per ton among our local buyers. The week, however, was rather a remarkable one; chilling and searching easterly winds prevailed during the whole of it, bringing with them a heavy continuance of cold, driving showers, and with the mercurial column almost stationary at 29·5 inches. We have not, during the past four years, recorded so stationary a low barometer for the same length of time On seventeen days has rain fallen, to a depth of 2·12 inches, but this does not yet compensate for the deficiency of the past twelve months, so that unless there is a greater downfall, the land-springs must remain low, and the midland grazing districts will again complain of a short allowance. Bark peeling—the first harvest of the year—has thus far proved a tedious and wearisome business, from the harsh weather making it strip unkindly, and occasioning several breaks in this operation. There is barely the average extent of Oak, either coppice or hedge-row, being felled in the district this season. The fall of rain at the close of the month came just in time to save the winter Beans from wonted dwarfishness. As it is, the straw will be short, but those fields now in bloom show a splendid promise of a productive yield. Taking them as a whole, there is no doubt as to their being a safer crop than the spring variety, at least for the past year or two; and at present, spring Beans look anything but kindly. The same may be said of spring-sown cereals, especially Barley, which has remained long stationary in the ground, where sown about the middle of April. A favourable change of weather will, however, elevate the farmer's hopes, increase the pleasures of rural scenery, and render the spring crops all verdant in the energies of vegetable activity. Winter Wheat has a promising appearance, and is not so over-luxuriant as we sometimes see it. It has been longer than usual in starting on its spring growth, but has preferred the lolling and straggling form of stools, which is so pleasing to the eye of the old-fashioned practical farmer. He can tell that this generally speaks of a firmer seed-bed having been secured in November, and of a less lodged and more prolific crop being likely to be reaped in the coming harvest. Potatoes went in well in the early part of April, but so late as the day on which we write have we seen several farmers still committing them to the ground. Fourteen or fifteen years ago May used to be regarded as a good season for planting on the north of the Tweed, but since the fatal '46 it has been found that early planting and early raising of the crop is most likely to result in freedom from disease. With the rise in Wheat we may naturally expect that Potatoes will realise more money, and it already is so. Mangel sowing has not yet gone on so far as might have been desirable. A better season than the third week of April could hardly have been, and experience shows that the best crops in this district are obtained by sowing at the period named. If you have a few of them run to seed, they may be usefully pulled and given to the pigs, or they may be checked from unsightliness by simply cutting off, as often as required, and in either case, it will be found that the weight of those which remain will fully compensate for any little loss apparently resulting from early sowing. The din of the threshing machine is again heard in every direction, and large holders of Wheat would like several of them at work at the same time. Such a sudden rise in value as 10*s.* per quarter, in the course of a single week, is not an every day occurrence; and now that there is a rise, speculation will re-commence, so that there is a probability of even higher rates being temporarily recorded. But no wise man will care to wait any length of time before breaking the bulk of his stock. The Wheat that remains is chiefly in the hand of those who can well afford to hold on for any length of time, although even the slowest moving of them are bestirring themselves in the matter. *J.B. in County Standard.*

## Notices to Correspondents.

CULTIVATOR: *T J.* Scowlar of Haddington makes a good two-horse grubber. We would get Bentall's or Coleman's smallest size, and work so many of its teeth as we could.

MANURE MERCHANT: *J T H.* We do not know the firm you name.

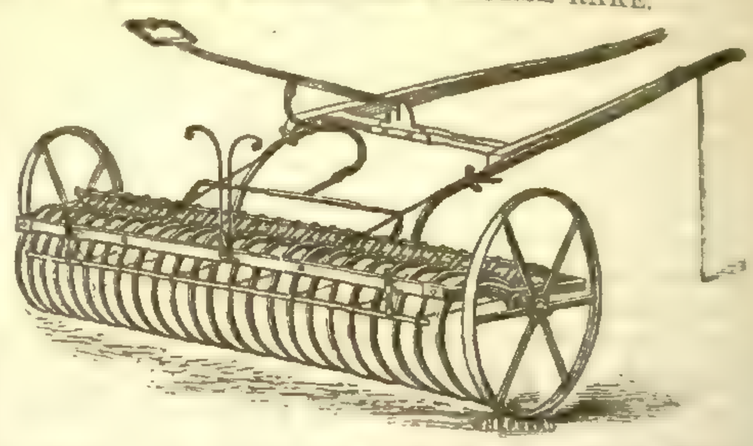
REARING CALVES: *F R S.* The following method was recommended by a correspondent of this Paper 11 years ago:—"I rear short-horn calves at all seasons of the year, or whenever one of suitable blood is dropped. Those coming from the end of August till about the middle of March are separated from the cows as soon as the dams have licked them—an operation of service to the calf and of harmless gratification to the cow—and fed on new milk solely for about three weeks, or according to the health and state of thriving. After that period a part of the new milk is substituted by a portion of skim milk, with a small quantity of boiled Oatmeal or Barley-flour gruel, gradually increased, until in about three weeks more the new milk is in most cases abandoned, and the skim-milk continued till about three months old, mixed with the gruel, which is occasionally varied with crushed Linseed. The skim-milk is gradually left off, and is replaced by Clover-tea—the calves at about three weeks or a month old usually learning to eat a little hay and Turnips. Towards spring, the older calves are turned into a dry and sheltered Grass field, for an hour or two, every mild day; and as soon as sufficient Grass comes they are sent off to pasture, according to age and weather, and remain till autumn on a very high and exposed situation, and generally do well The calves dropped from March to August are fed by hand for a few days, and are then put to nurse-cows, giving each about 4 quarts of milk per day, and are suffered to run at Grass with their foster-dams on very high Grass land, and suckled in this way till about 4 months old, when the nurses are successively driven home and tied up on Italian Rye-grass, or other green food, a few days, till the feelings of attachment subside; and as soon as the calves are quiet again they are also successively brought down and put into the best Grass or aftermath the farm affords—the best of it not ranking equal to second quality. A few of the youngest calves have the first run over the meadows, and other fresh Grass fields; followed by the older ones in one or two bands; alternated, in the early part of winter, with a few days' run on the young Clovers during frost, or when the weather is dry enough to prevent injury by treading. Thus the calves are kept on a continual march from field to field—the youngest in the van, the oldest in the rear; each division halting a week or 10 days, according to the store of Grass in the field, and the shelter afforded against the prevailing wind, and keeping an intervening field between each division, to allow the pasture to sweeten.

VETERINARY SURGEON: *J G, Yorkshire.* Please to give your address.

ERRATUM: In the report of the Rev. J. C. Clutterbuck's lecture before the Farmers' Club at Oxford, the statement that the chalk will not part from the water it holds by capillary attraction, *but* by evaporation, is printed "will not part by evaporation," the *but* being omitted. [See line 5 from the bottom, col. *c*, p. 392.]


HOWARDS' PRIZE IMPLEMENTS, 1859.

JAMES AND FREDK. HOWARD, Britannia Iron Works, Bedford, beg to direct attention to their PATENT STEEL-TOOTH HORSE RAKE.



For which they received the Three First Prizes last offered by the Royal Agricultural Society of England.

J. & F. HOWARD have discontinued troubling the Public with a long List of Prizes awarded to their Implements, but they would just state that for PLOUGHS, HARROWS, and HORSE RAKES, they have for several years gained every Prize for which they have competed.

PLOUGHS.

| | |
|---|---|
| D PLOUGH, for a Pony | £2 5 0 |
| DD ditto for one Horse | 3 5 0 |
| P ditto for two Horses | 4 7 6 |
| PP ditto for general purposes | 4 12 6 |
| SKIM COULTER for P or PP Plough | 0 5 6 |

HARROWS.

| | |
|---|---|
| A Set of Three 4-Beam HARROWS, with Whippletree, recommended as general Seed Harrows, 9½ feet wide, marked No. 12 | 3 14 0 |
| A Set of Three 4-Beam HARROWS, with Whippletree, adapted for 3 Horses, 10 ft. wide, marked No. 11 | 4 4 0 |

If with Patent Joints, 6*s.* per set extra.

HORSE RAKES.

| | |
|---|---|
| Small size, 7½ feet wide, marked A, with 24 iron teeth | 7 10 0 |
| Ditto, with Steel Teeth | 8 0 0 |
| Large size, 8½ feet wide, marked B, with 28 iron teeth | 8 0 0 |
| Ditto, with steel teeth | 8 10 0 |
| Extra large size, 8½ feet wide, marked C, with 24 steel teeth | 10 0 0 |
| A Set of 15 Prongs, to be attached to the above when used as Weed Extirpators | 1 10 0 |

Free Delivery to Birmingham, Bristol, Colchester, Derby, Gloucester, Hull, Lincoln, Liverpool, London, Manchester, Norwich, Nottingham, Retford, Shrewsbury, Wisbeach, Worcester, and York; or to Dublin, Edinburgh, Glasgow, and other parts at fixed rates.

HOWARDS' NEW CATALOGUE, containing prices and description of their Patent Ploughs, Harrows, Horse Rakes, and other Implements, including Smith's Steam Cultivators, for which they received at Chester the Gold Medal of the Royal Agricultural Society of England, sent free on application to

J. & F. HOWARD, Britannia Iron Works, Bedford.

HENRY J. MORTON AND CO., 2, Basinghall Buildings, Leeds.

GALVANISED IRON WATER CISTERNS

for Cottage Houses, &c., to contain 50 gallons, 25*s.*; 80 gallons 30*s.* each; and 140 gallons, 36*s.*, and fitted with tap, keeping the water perfectly sweet and clean; will not *rust or corrod* Cisterns of all sizes.

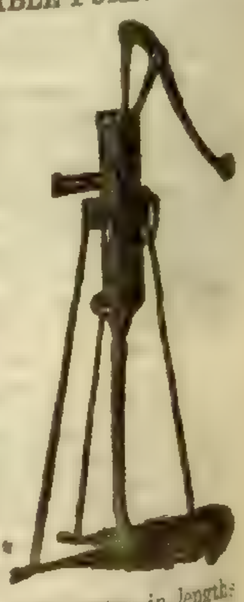
GALVANISED IRON PUMPS

for Liquid Manure or Domestic Use, 3 inches diameter, 30*s.* and 32*s.* 6*d.* each; Tail Pipe for same at from 10*d.* per foot.

GALVANISED IRON SWING WATER BARROWS

for Garden or Farm use, containing about 20 gallons, entirely formed of iron, 32*s* 6*d.* each.

WARNER'S IMPROVED LIQUID MANURE OR GENERAL PORTABLE PUMP.



These Pumps are fitted with J. W. & SON'S Patent Buckets and Suckers, and cannot clog in action. The barrel is of galvanised iron, not likely to corrode, and can be raised or lowered at pleasure. The legs will fold together, and the whole may be carried on the shoulder to any pond or tank required.

Price of 4½ in. Pump, with legs, 3*l.* 3*s.* If with planished copper barrel and galvanised iron handle, &c., 14*s.* extra. The barrel is 27½ in. long, and the legs are 5 ft. high.

These Pumps are also made without the legs, with strong wrought-iron straps for screwing on to any ordinary water butt or cart, and fitted with 1¼ inch brass union for attaching flexible suction. Price 50*s.*

1¾ inch Gutta Percha Suction Pipe, 1*s.* 11*d* per foot.

Rubber and Canvas Suction and Delivery Hose, from ½ inch to 4 inches in diameter, in lengths of 60 feet to order. Branch Pipes with Cocks, Union Screws, &c., at reduced prices.

May be obtained of any Ironmonger or Plumber in town or country, at the above prices, or of the Patentees and Manufacturers, JOHN WARNER & SONS, 8, Crescent, Jewin St., London.

WARNER'S PATENT VIBRATING STANDARD PUMPS.

PATENT CAST-IRON PUMPS, fitted with J. W. & Son's Patent Buckets and Suckers, which cannot clog in action, for Farms, Cottages, and Wells, not exceeding 28 feet.

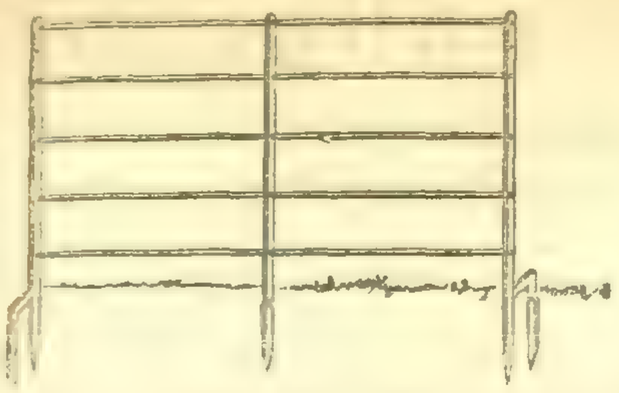
| Diameter of Barrel. | Height. | | £. | s. | d. |
|---|---|---|---|---|---|
| 2½ in. | short 1 ft. 7 in. | Fitted for lead, gutta percha or cast iron flanged pipe as required. | 1 | 10 | 0 |
| 2½ ,, | long 3 ,, 3 ,, | | 1 | 14 | 0 |
| 3 ,, | ditto 3 ,, 6 ,, | | 2 | 8 | 0 |
| 3½ ,, | ditto 3 ,, 6 ,, | | 2 | 12 | 0 |
| 4 ,, | ditto 3 ,, 6 ,, | | 3 | 3 | 0 |
| 2½ ,, | short, with 15 feet of Lead Pipe attached, ready for fixing | | 2 | 14 | 0 |
| 2½ in. | long ditto | ditto ditto | 2 | 18 | 0 |

The short barrel Pump is very convenient for fixing in situations of limited height and space, for the supply of coppers and sinks in Wash-houses with soft water from underground tanks, or in Hot, Forcing, and Plant Houses; they may be fixed, when desired, under the stage.

May be obtained of any Ironmonger or Plumber in Town or country, at the above prices, or of the Patentees and Manufacturers, JOHN WARNER & SONS, 8, Crescent, Jewin Street, London.

Every description of Machinery for Raising Water by means of Wheels, Rams, Deep Well Pumps, &c.; also Fire and Garden Engines, &c. &c.—Engravings sent on application.

IRON HURDLES, FENCING, &c., MADE BY MACHINERY.

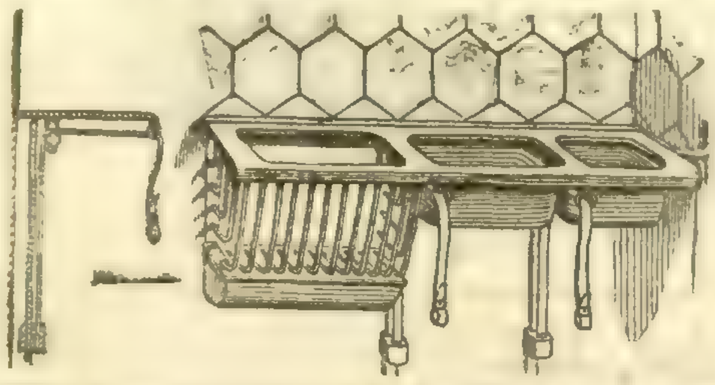


COTTAM AND COMPANY, of Winsley Street, have invented machinery for making Hurdles, &c.; the bars, instead of being pointed by hand in the old fashioned style, are nipped down by the machine, leaving a shoulder so as to more effectually tighten the standards when rivetted. They are made of superior iron only, and will compete in price with those made by hand from cinder or common iron which so frequently break. Iron Fencing, Gates, and Iron Work of all kinds, both Plain and Ornamental, Conservatories, Hot Water Apparatus and Garden Implements.

Illustrated CATALOGUES free on application to COTTAM & COMPANY, Ironfounders, 2, Winsley Street, Oxford Street, W.

N.B. COTTAM & Co. beg to make it known that there is no longer an entrance to their establishment from Oxford Street, but that they have made a second entrance from 2, Winsley Street, Oxford Street, W., by the side of the old entrance to their works, opposite the Pantheon.

COTTAM'S PATENT INVENTIONS FOR STABLE REQUISITES, awarded a Prize at the Paris Exhibition, and patronised by the English and French Governments.



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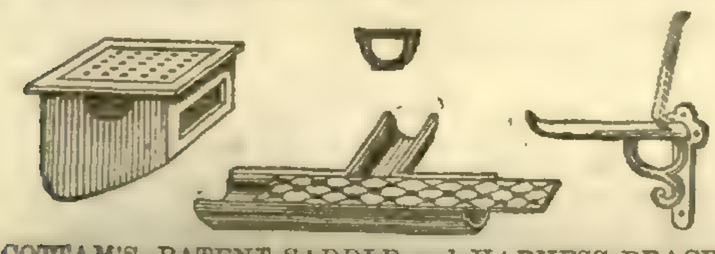
COTTAM'S NEW PATENT SEED-BOX, an important addition to the above fittings, being simple in construction, light, and durable, promotes cleanliness, and is economical in its results.



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COTTAM'S IMPROVED SURFACE GUTTER, with perforated moveable cover, the use of which prevents accidents, and can be easily cleaned out.

COTTAM'S CAST-IRON SANITARY TRAP, from its improved construction, gives a full water passage, and does not allow any smell to ascend from the drain.

PATENT LOOSE-BOX FITTINGS, and every article for the harness-room and stable, kept in stock, plain, galvanised, and enamelled. Iron gates, fencing, hurdles, &c.

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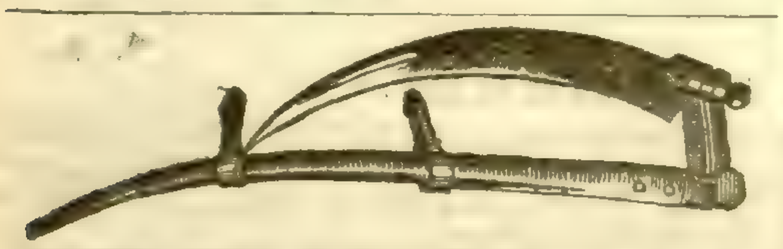

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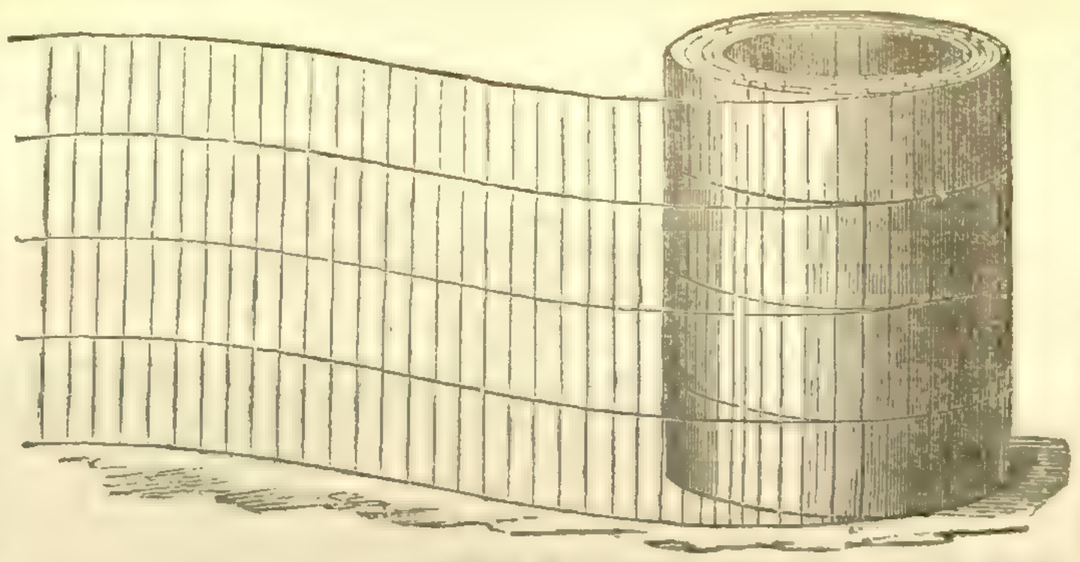
Patronised by His Royal Highness the PRINCE CONSORT.

No. 4 VARIETY.—STRONG HARE AND RABBIT-PROOF FENCE.



SPECIFICATION. — Horizontal bars of stout, tough wire, 6 inches apart; vertical bars of similar wire, 1¼ inch asunder, the whole woven firmly together. Made in rolls of 50 yards, or in other lengths, to order.

G. & Co. have been honoured with five consecutive orders for the Patent Hare and Rabbit Fencing from H.R.H. the Prince Consort, who has also personally expressed his satisfaction with the work. One yard of No. 4 variety is equal in weight to 3 yards of the best Wire Netting made.

PRICES PER YARD:—

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 24 inches high | ... | 1s. 0d., | Japanned | 24 inches high | ... | 1s. 3d., | Galvanised |
| 30 „ | ... | 1 3 | „ | 30 „ | ... | 1 6 | „ |
| 36 „ | ... | 1 6 | „ | 36 „ | ... | 1 10 | „ |

G. & Co. forward (post free) on application their ILLUSTRATED CATALOGUE, containing particulars of the above and other Iron and Wire Fences for Parks, Farms, Gardens, Game Preserves, Poultry Courts, &c.

GREENING & COMPANY, Victoria Iron and Wire Works, 81, Oxford St., Manchester.

SMITH & ASHBY,

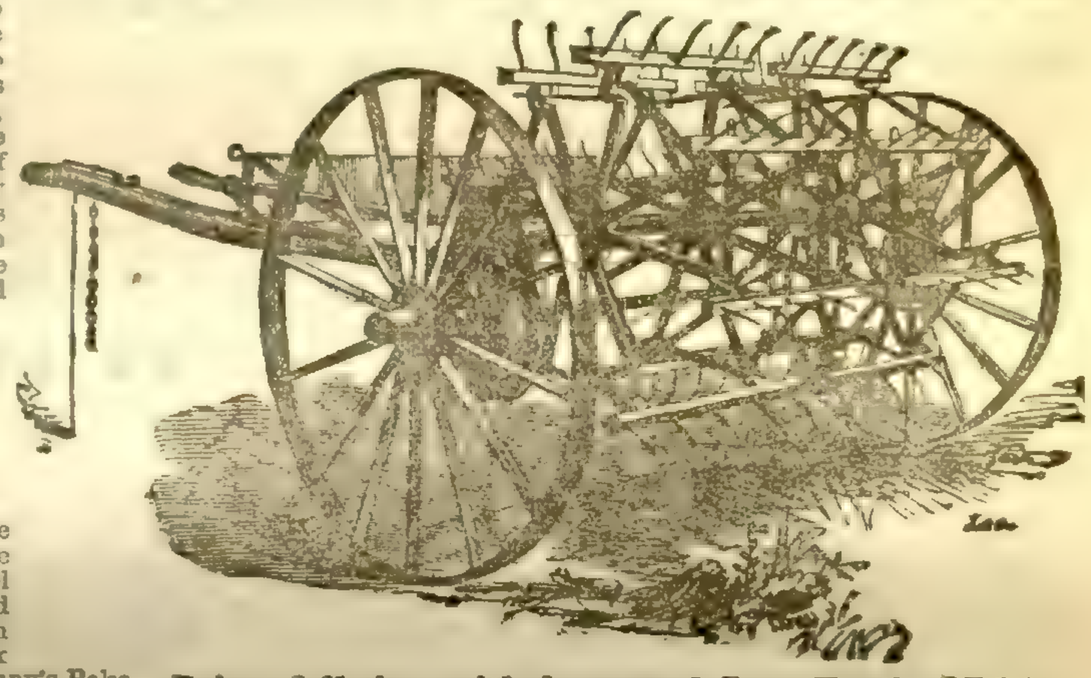
AGRICULTURAL ENGINEERS, STAMFORD.

HAYMAKING MACHINES.

THE last great trial of Haymakers took place at Londonderry, before the Council of the Royal Society of Ireland, in August last. The Machines exhibited there were SMITH & ASHBY'S, Nicholson's, and Sheridan's. The trial land was full of deep broad grips, the crop was heavy green Clover, upon which the Machines selected for trial were set to work. SMITH & ASHBY'S Machine did its work admirably, without a single failure, and was the only one that could clear the grips without clogging and flying out of gear. The Prize of 5*l.* was unanimously awarded to this Machine. This makes Five First-class Prizes that have been awarded to SMITH & ASHBY'S Machine since the Salisbury Meeting of the Royal Agricultural Society of England (1857).

**Price £15 15s.**

SMITH AND ASHBY,
AGRICULTURAL ENGINEERS, Stamford.



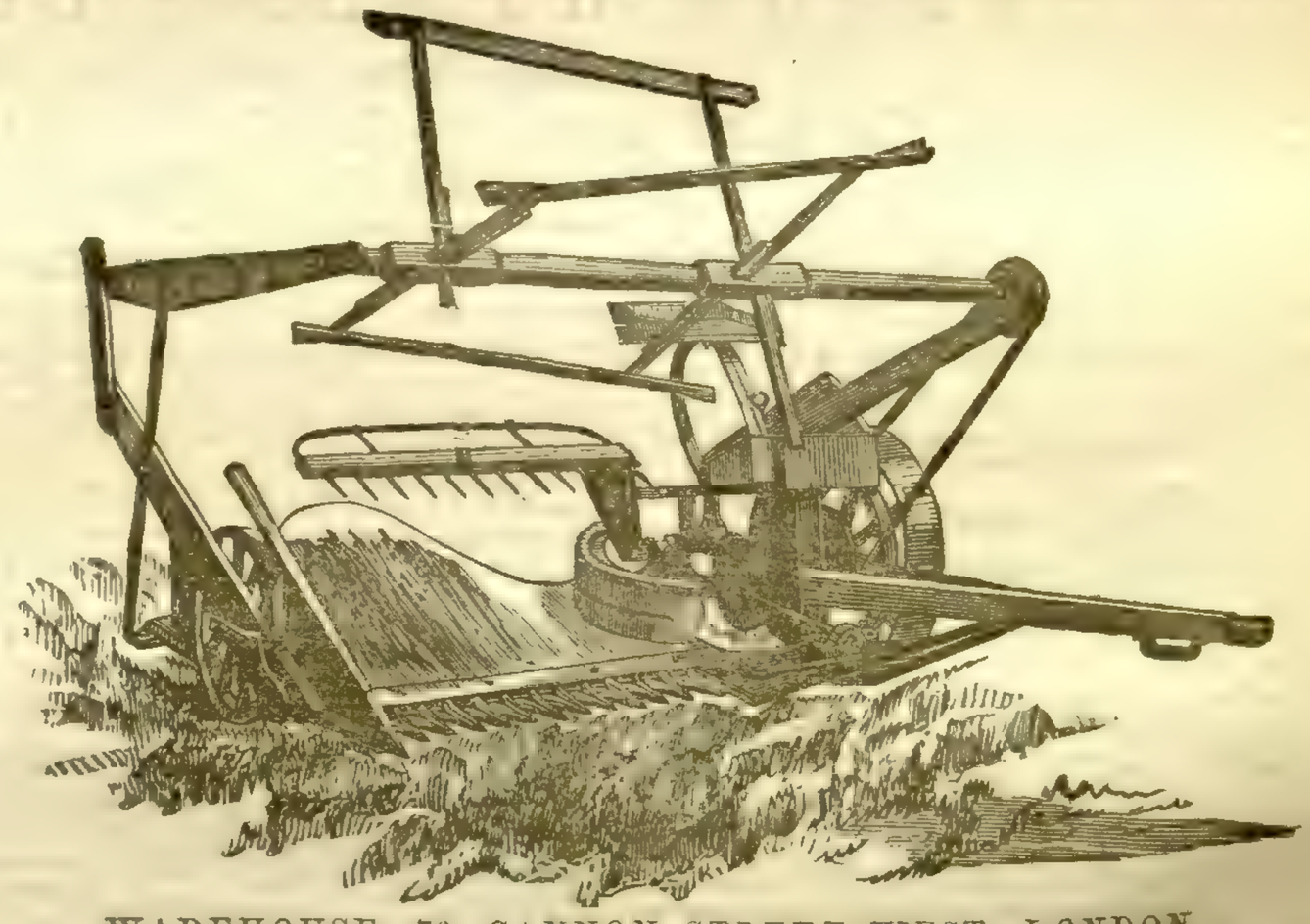
HORSE RAKES.

SMITH & ASHBY'S celebrated Horse Rake has lately been greatly improved by the introduction of their new Patent Steel Semi-angular Teeth, which are warranted not to break, and work much better than those of a circular form. Twenty-six Prizes have been awarded to SMITH & ASHBY'S Rake.

**Price, full size, with improved Iron Teeth, £7 10s. Steel, £8; Extra large Size, £10.** *Catalogues with full particulars free by post on application.*

B. SAMUELSON,

AGRICULTURAL ENGINEER AND MACHINIST,



WAREHOUSE, 76, CANNON STREET WEST, LONDON,

WORKS AT BANBURY,

INFORMS MERCHANTS, the TRADE, and AGRICULTURISTS, that he has opened the above Warehouses as a depôt for his own manufactures and those of Messrs. Barrett, Clayton, Howard, Hornsby, Nicholson, Richmond, Tuxford, Smith, and all other first-class makers, whose implements he is prepared to offer on makers' terms.

THE BRITANNIA SELF-RAKING REAPING MACHINE,

With side delivery in sheaf, no rakers or gatherers required; and all the most improved Spring Implements for the season, may be inspected at the above depôt.

B. SAMUELSON, 76, Cannon Street West, London; and Britannia Works, Banbury.

# FOWLER'S PATENT STEAM PLOUGH.

**THIS IMPLEMENT HAS GAINED THE FOLLOWING PRIZES:—**

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| AT STIRLING, 1857 ... ... ... ... ... ... ... | £200 | AT NORTHALLERTON (Lord BOLTON's Prize), 1858 ... ... ... ... ... ... | £25 |
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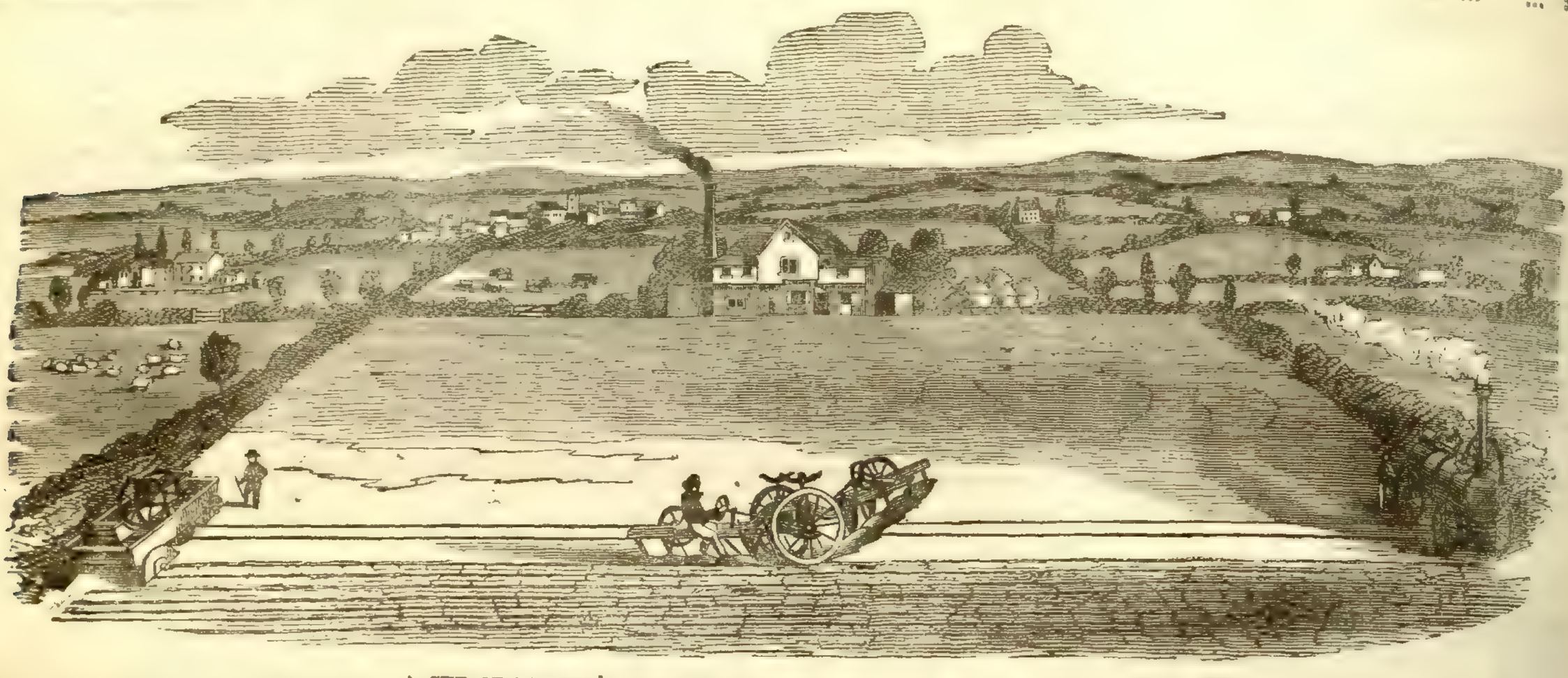
| AT NORTHALLERTON, 1858 ... ... ... ... ... ... | £50 | AT STIRLING, 1858 ... ... ... ... ... ... ... | £50 |



A CUT OF FOWLER'S STANDARD ENGINE, WINDLASS, AND WATER CART.

*Illustrated Catalogues, with reduced prices of Ploughs, will be ready shortly. For further particulars apply to*

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**HORTICULTURAL BUILDING & HEATING BY HOT WATER.**

**BY APPOINTMENT.**

# JOHN WEEKS & COMPANY,

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HORTICULTURAL BUILDERS AND HOT-WATER APPARATUS MANUFACTURERS, ENGINEERS, AND IRON FOUNDERS.

**PLANS, ESTIMATES, & ILLUSTRATED CATALOGUES FREE ON APPLICATION.**

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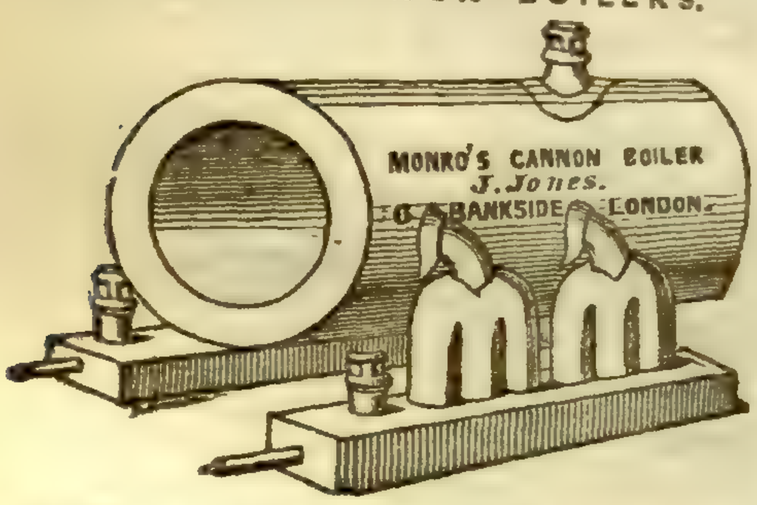
**MONRO'S CANNON BOILERS.**




MUCH has of late been said about BOILERS for Heating by Hot Water, but these Boilers have now proved themselves to be the best at present invented. They are adapted for heating every description of building, and are made of various sizes. The Price of the

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|---|---|---|---|---|
| 24-inch Cast Iron is .. .. .. | £5 | 10s. | 0d. | each |
| 24-inch Wrought ditto .. .. .. | 6 | 10 | 0 | ,, |
| 36-inch Cast ditto .. .. .. .. | 8 | 0 | 0 | ,, |
| 36-inch Wrought ditto .. .. .. | 8 | 10 | 0 | ,, |

References to Gentlemen and Nurserymen where these Boilers are now at work. The Cannon Boilers are now kept in stock, and are to be had only of J. JONES, 6, Bankside. Also, every description of Saddle and Cylinder Boilers. Hot Water Pipes and Connections at prices lower than those of any other house in London. Estimates for Hot-water Apparatus erected complete in any part of the country, and an Illustrated Catalogue on application to J. JONES, 6, Bankside, Southwark, London.

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C. STEPHENSON, late STEPHENSON AND SONS, 61, Gracechurch Street, London, Manufacturer of Iron Hurdles, Fencing, &c., Improved Iron and Copper Conical Boilers and Apparatus for Warming Buildings of every description by Hot Water.

Prices and Estimates furnished upon application.

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**HOTHOUSES, CONSERVATORIES, FRAMES & LIGHTS OR PITS, CUCUMBER & MELON BOXES & LIGHTS.**

JAMES WATTS, HOTHOUSE BUILDER, 8, Claremont Place, Old Kent Road, London.

Green and Hothouses, 9, 10, 11, 12, 13, and 14 feet wide, any length, from 16 to 100 feet. Frames and Lights for Pits, 6ft. 6in., 7 ft., 7 ft. 6 in., 8 ft., and 8 ft. 6 in. wide, any length, from 12 to 100 feet. Upwards of 200 Cucumber and Melon Boxes and Lights, from 4 ft. by 3 to 10 ft. 6 in. by 5 ft. 6 in., kept ready, glazed with stout sheet glass, painted four times, complete, ready for immediate use, all made of best material, packed and sent to all parts of the kingdom.—References may be had to the Nobility, Gentry, and the Trade in most of the counties in England. Horticultural Buildings of every description heated on the most approved and economical principles.

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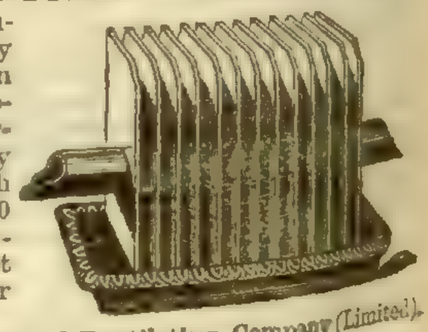
**IMPROVED HOT-WATER PIPE.**

THE HORTICULTURIST will find herein an inexpensive instrument of new and very important powers. An atmosphere may be produced at will either perfectly dry, partially damp, or saturated with moisture. A space of 10 inches by 12 inches contains the power of 25 feet of 4-inch pipe and other numerous advantages.



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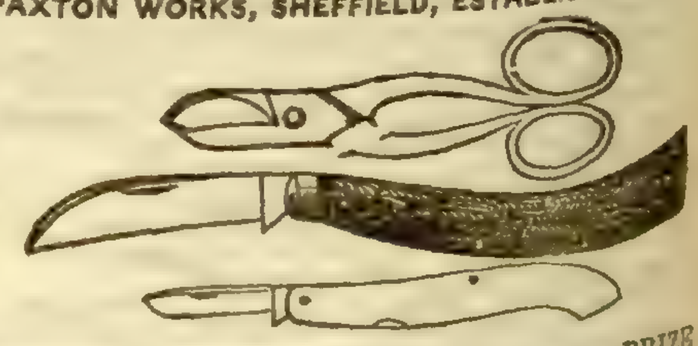

SAYNOR AND COOKE'S warranted PRIZE PRUNING and BUDDING KNIVES, SCISSORS, &c.—Sold by all respectable Nurserymen and Seed Merchants in the three Kingdoms.

# HORTICULTURAL WORKS,

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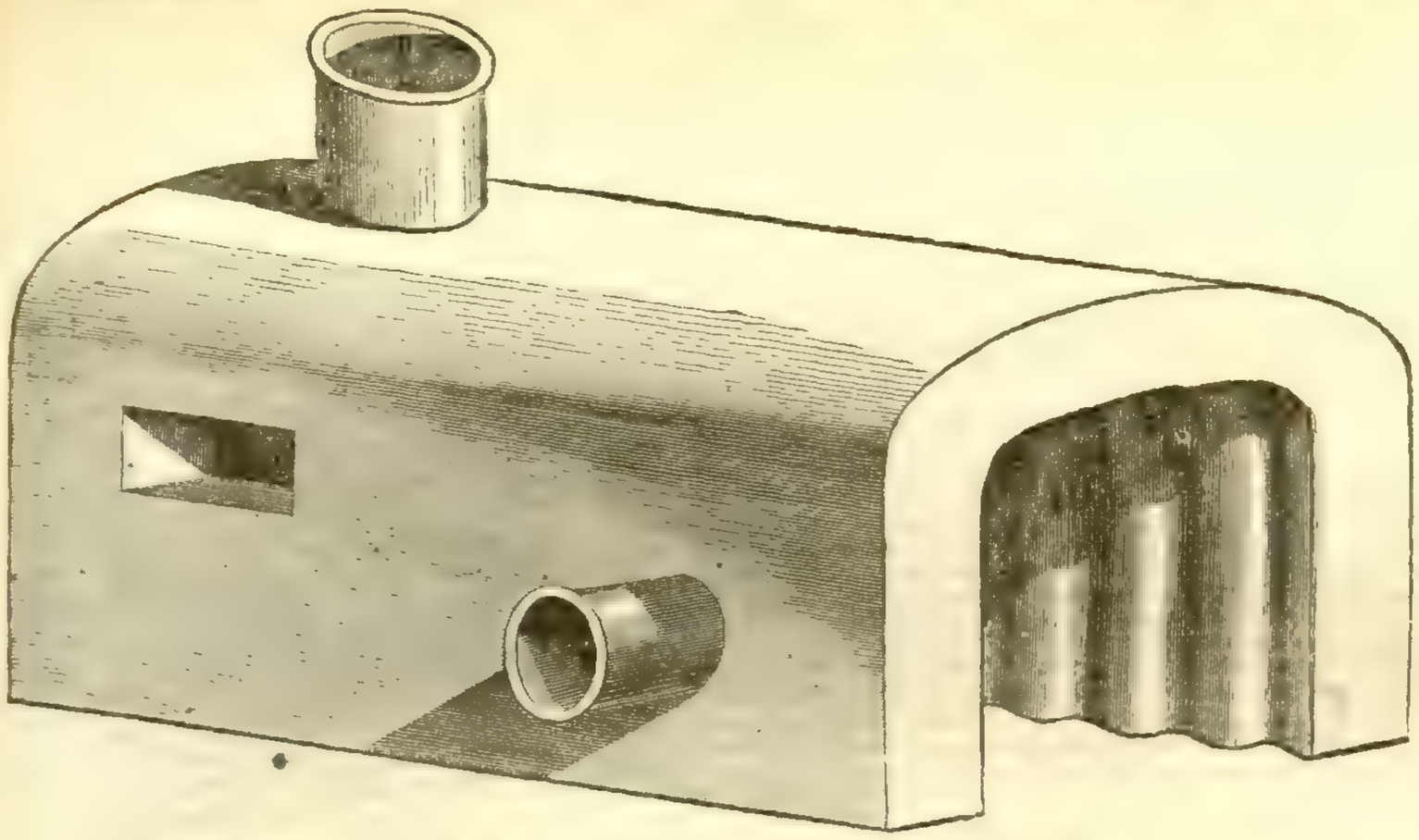

# JAMES GRAY

RESPECTFULLY begs to inform the nobility, gentry, Nurserymen, Gardeners, and others, that he continues to carry on the business in all its branches at the above old established premises.

**CONSERVATORIES, GREENHOUSES, FORCING HOUSES, VINERIES, PITS, &c.,**
of every description, erected on the most approved principles.

## HEATING BY HOT WATER.

J. G. having specially devoted his attention for many years to this part of the business, is now fully prepared to Heat every description of public and private buildings, viz :—Churches, Mansions, Warehouses, &c., as well as all structures connected with Horticulture, in the most efficient manner. His system is the most simple that can be adopted—which he has found from long experience to be the best—can be constructed at less cost, and is more easily managed than those of a complicated nature which have attracted the notice of the public.

J. G. begs to call attention to his CAST-IRON CORRUGATED ARCH BOILER, which from its simplicity of construction has not the liability to fracture to which those of a more complex design are always subject. They have been extensively used for many years, and have given the greatest satisfaction.

All business is conducted at this establishment on the principle of lowest remunerative profits consistent with best materials and workmanship.

**Plans and Estimates furnished on the shortest notice.**

# SMITH'S STEAM CULTIVATOR, 1859.

## OFFICE—40, MARK LANE, LONDON.

## J. & F. HOWARD, BEDFORD, MANUFACTURERS.

PRICE OF A SET OF TACKLE COMPLETE, EXCLUSIVE OF ENGINE:—

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| Windlass, complete, together with 8 Iron Anchors, 2 Wood ditto, 6 Snatch Blocks, 30 Rollers, 3 Wood Levers, 2 Beetles, and 2 Crow Bars | £110 | 0 | 0 |
| 1400 yards of Iron Wire Rope (1¾ inch circumference) | 45 | 0 | 0 |
| No. 3 Implement | 16 | 0 | 0 |
| Turning Bow | 21 | 0 | 0 |
| | £192 | 0 | 0 |

1400 yards of Steel Wire Rope (1½ inch circumference) 15*l.* more than iron.

SMITH'S APPARATUS CAN BE DRIVEN BY AN ORDINARY SEVEN OR EIGHT-HORSE PORTABLE ENGINE.

Nearly Fifty Sets are now in use, about Forty of which have been purchased by Tenant Farmers.

*Catalogues, with full particulars, may be had at the Office, 40, Mark Lane, London; of*

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NEW GARDEN NET, 1½*d.* per yard. Tanned Fish Nets, 6*s.* 3*d.* per 100 yards. Worsted Net for shading Ripe Fruit, Blossoms, &c., much approved. Transparent Sheeting, 2 yards wide, 1*s.* per yard run.—R. RICHARDSON, White Horse Factory, Bidborough Street, Judd Street; Office: 99, Euston Road, London.

MARQUEES ON HIRE, to suit the times.—New, lofty, and extensive, and completely fitted up for any occasion. For sale, Umbrella, Bell, and Square Tents for Gardens, Cricket Clubs, &c. Attention is requested to the Iron-sided Tents recently erected by R. R. in Hyde and Battersea Parks for refreshments. They are firm, require no side lines, and safe; moderate in price, and adapted for Temporary Rooms and other purposes. Drawings of Tents, Summer Houses, and Poultry Houses free.
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TANNED NETTING for Protecting the above from Frost, Blight, Birds, &c.; 2 yards wide, 3*d.* per yard, or 100 yards, 20*s.* Can be had in any quantity of EATON & DELLER, 6 and 7, Crooked Lane, London Bridge.

FOR Effectually Protecting the Bloom of Wall Trees from Spring Frosts use SHAW'S No. 3 TIFFANY, DOUBLE STRENGTH. In pieces 18 yards long by 39 inches wide, 7*s.* 6*d.* each.—JOHN SHAW & Co., Princess Street, Manchester.

TANNED NETTING, for the Protection of Fruit Trees from Frost, Blight, and Birds: also, for the security of fresh sown seeds, at 1*d.* per square yard; 200 yards, 12*s.*; 500 yards, 25*s*; Scrim Canvas, for wall fruit; Garden Mats.—At EDGINGTON & Co's., Rick Cloth, Tent, and Waterproof Cloth Manufacturers, 17, Smithfield Bars, City, & Old Kent Rd.

FLOWER POTS, of superior Red Clay, manufactured by the Arley Pottery Company (Limited), equal in appearance to Terra Cotta at the price of the common pots usually sold, say 1*s.* 6*d.* per cast, at Kidderminster.—Apply to TAYLOR & PEARS, 8, George Yard, Lombard Street, City, E.C.

WHY NOT PRESERVE YOUR HAY?
RICK CLOTHS, New and Second hand,
At BENJAMIN EDGINGTON'S,
2, Duke Street, London Bridge, S.E., and West End,
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MARQUEES, TENTS, &c.
Illustrated Catalogues free.

BENJAMIN EDGINGTON, 2, Duke Street, London Bridge, S.E.
MONSTER TENTS for large parties.
PRETTY TENTS for Lawns.
RICK CLOTHS, Second-hand, very cheap
NETTING for Fruit Trees, &c.
West End Establishment, 32, Charing Cross, S.W.

PATENT GUTTA PERCHA SOLES.—IMPORTANT TO GARDENERS.—The Gutta Percha Company have the pleasure to acknowledge the receipt of the following letter from G. GLENNY, Esq., the celebrated Florist:—

"420, Strand, London

"Gentlemen,—I have worn Gutta Percha Soles and Heels these two years, and being so much in a garden as I necessarily am in all weathers, and with the ground in all states, I would on no account be without them. As a matter of economy I would recommend Gardeners to use them, for they may repair the worn part at all times by warming the material at the fire, and pressing it from the thick parts to the worn parts as easily as if it were so much dough. I think it the duty of all persons who must occasionally wet their feet to adopt a material that completely defies damp. Many a gardener would escape colds and rheumatism by the use of Gutta Percha Soles.

"Your obedient servant, G. GLENNY."

Every variety of Gutta Percha articles, such as Mill Bands, Tubing, Soles, Goloshes, Sheet, Pump Buckets, Fire Buckets, Bosses, Union Joints, Flasks, Bottles, Bowls, Chamber Vessels, Toilet Trays, Sponge Bags, Curtain Rings, Galvanic Batteries, Talbotype Trays, &c., manufactured by the Gutta Percha Company, and sold by their wholesale dealers in town or country.—The Gutta Percha Company, Patentees, 18, Wharf Road, City Road, London.

SMALL GAS APPARATUS, FREE FROM NUISANCE.

THE PATENT NATIONAL COAL-GAS APPARATUS, for private Residences, Farm Buildings, Churches, Chapels, Workshops, Railway Stations, and other places not hitherto lighted with Gas. It is durable, economical, and compact, and supplies the desideratum of cleanliness in the production of a Gas of better quality and purity, and at less cost, than is ordinarily obtained from Public Works. By an entirely new and peculiar process it is easily worked by a boy or inexperienced servant. The cost of Gas, including labour, wear and tear, and interest of capital, is less than one-fourth that of candles or oil. It can be fixed and completed in working order in a few days.—Further particulars, prices, testimonials, &c., on application to the Proprietors and Manufacturers, J. T. B. PORTER & Co., Lincoln.

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JOSEPH AMADIO'S Improved Compound MICROSCOPE, 2*l.* 2*s.*; Students', 3*l.* 13*s.* 6*d.*

"Both these are from Amadio, of Throgmorton Street, and are excellent of their kind, the more expensive one especially."—*Household Words*, No. 345.

A large Assortment of ACHROMATIC MICROSCOPES.
Just published, an ILLUSTRATED CATALOGUE, containing the names of 1000 Microscopic objects, post free, for 4 stamps.

PRIZE MEDAL, PARIS EXHIBITION 1855.

METCALFE, BINGLEY, AND CO.'S New Pattern and Penetrating Tooth Brushes, Penetrating unbleached Hair Brushes, Improved Flesh and Clothes Brushes, and genuine Smyrna Sponges; and every description of Brush, Comb, and Perfumery for the Toilet. The Tooth Brushes search thoroughly between the divisions of the Teeth and clean them most effectually—the hairs never come loose. M., B., and Co. are sole makers of the Oatmeal and Camphor and Orris Root Soaps—sold in Tablets (bearing their names and address) at 6*d.* each; of METCALFE'S celebrated Alkaline Tooth Powder, 2*s.* per box; and of the New Bouquets.—Sole Establishment, 130B and 131, Oxford St., 2d and 3d doors west from Holles St., London.

ALLEN'S PATENT PORTMANTEAUS AND TRAVELLING BAGS, with SQUARE OPENING: Ladies' Dress Trunks, Dressing Bags, with Silver Fittings; Despatch Boxes, Writing and Dressing Cases, and 500 other articles for Home or Continental Travelling, illustrated in their New Catalogue for 1859. By post for two stamps. J. W. & T. ALLEN, Manufacturers of Officers' Barrack Furniture and Military Outfitters (see separate Catalogue), 18 and 22, Strand.

DRESSING CASES, DRESSING BAGS, and highly finished elegancies for presentation in great variety; Ivory-handled Table Cutlery; every requisite for the Toilet and Work Tables.—MECHI & BAZIN, 112, Regent Street; 4, Leadenhall Street; and Crystal Palace, Sydenham.

HANDSOME BRASS AND IRON BEDSTEADS.—HEAL & SON'S Show Rooms contain a large assortment of Brass Bedsteads, suitable both for Home use and for Tropical Climates; handsome Iron Bedsteads with Brass Mountings and elegantly Japanned; Plain Iron Bedsteads for Servants; every description of Wood Bedstead that is manufactured, in Mahogany, Birch, Walnut-tree Woods, Polished Deal and Japanned, all fitted with Bedding and Furniture complete, as well as every description of Bedroom Furniture.

HEAL AND SON'S ILLUSTRATED CATALOGUE, containing Designs and Prices of 100 Bedsteads, as well as of 150 different articles of Bedroom Furniture, sent free by post.—HEAL & SON, Bedstead, Bedding, and Bedroom Furniture Manufacturers, 196, Tottenham Court Road, W.

BEDSTEADS, BATHS, AND LAMPS.—WILLIAM S. BURTON has SIX LARGE SHOW ROOMS devoted exclusively to the SEPARATE DISPLAY of Lamps, Baths, and Metallic Bedsteads. The stock of each is at once the largest, newest, and most varied ever submitted to the public, and marked at prices proportionate with those that have tended to make his establishment the most distinguished in this country.

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| Bedsteads, from | 12*s.* 6*d.* | to | £20 | 0*s.* | each. |
| Shower Baths, from | 8 0 | ,, | 6 0 | ,, | |
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Pure Colza Oil 4*s.* 3*d.* per gallon.

WILLIAM S. BURTON'S GENERAL FURNISHING IRONMONGERY CATALOGUE may be had gratis, and free by post. It contains upwards of 400 Illustrations of his illimited Stock of Electro and Sheffield Plate, Nickel Silver and Britannia Metal goods, Dish Covers and Hot-water Dishes, Stoves, Fenders, Marble Chimney pieces, Kitchen Ranges, Lamps, Gaseliers, Tea Urns and Kettles, Tea Trays, Clocks, Table Cutlery, Baths and Toilet Ware, Turnery, Iron and Brass Bedsteads, Bedding, Bed Hangings, &c., with Lists of Prices and Plans of the 16 large Show Rooms at 39, Oxford Street; 1, 1A, 2, and 3, Newman Street; and 4, 5, and 6, Perry's Place, London.—Established 1820.

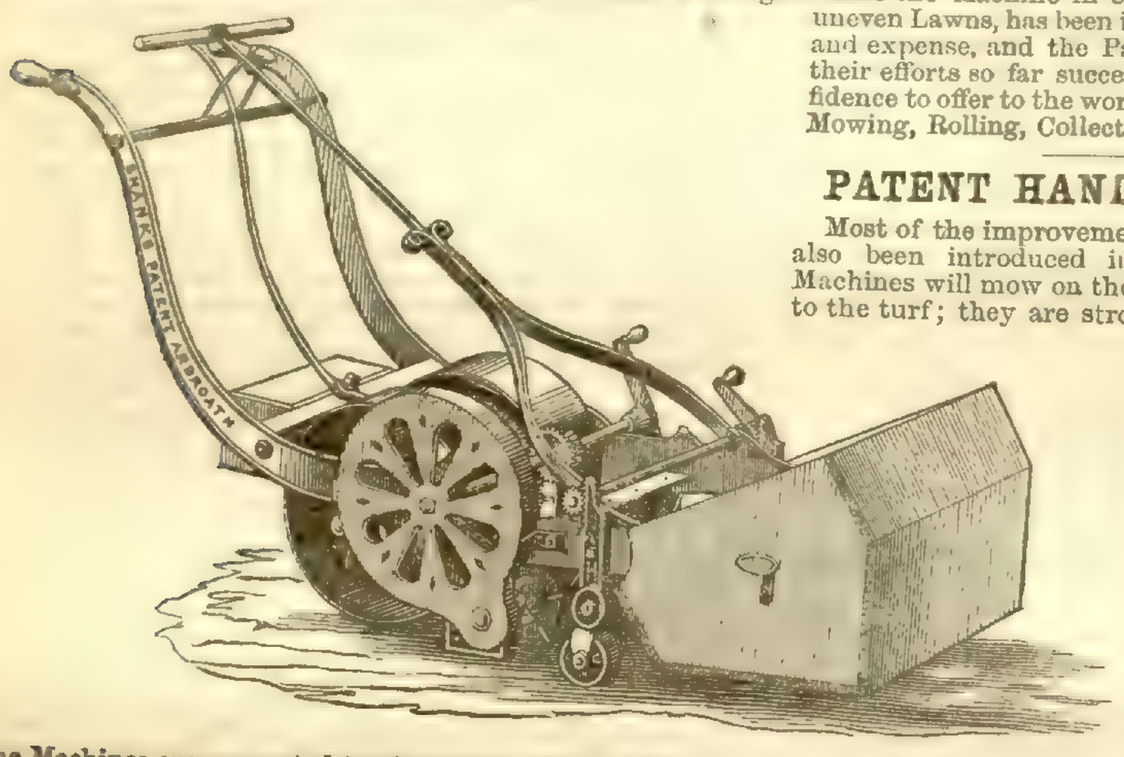
**Patronised by Her Majesty QUEEN VICTORIA, His Majesty the EMPEROR of the FRENCH, and his Royal Highness the PRINCE of PRUSSIA.**

# SHANKS'S PATENT MOWING, ROLLING, COLLECTING, AND DELIVERING MACHINE FOR 1859.

THE ONLY COMPLETE MACHINE FOR HORSE OR PONY POWER.

AMONGST other valuable improvements, A. SHANKS AND SON have this season made in their Patent Horse and Pony Machines, as fully described in the *Gardeners' Chronicle* of March 5, page 207; particular attention is requested to the new Patent method of emptying the Grass Box, which consists in the introduction of a simple and efficient apparatus for emptying it, without the man being under the necessity of leaving the handles or stopping the machine. So effective and complete is the improvement that the Box, if it were possible to fill it, could be emptied at the rate of 60 times a minute, without any undue strain being put on the apparatus. The immense advantages of this invention must be at once apparent to the practical Gardener. It will enable the machine to do at least a third more work, while the labour and annoyance in working it, as compared with ordinary machines, is three-fourths lessened. If a Lawn which formerly took a machine nine hours to mow, can now be done in six hours, with three-fourths less labour to the man who works the machine, nothing further is necessary to establish the utility and worth of the invention.

Every conceivable convenience and improvement tending to make the Machine in every way complete for level as well as uneven Lawns, has been introduced at the sacrifice of much time and expense, and the Patentees have great pleasure in seeing their efforts so far successful as to enable them with all confidence to offer to the world the cheapest and the most complete Mowing, Rolling, Collecting, and Delivering Machine extant.




## PATENT HAND MACHINE for 1859.

Most of the improvements of the Horse and Pony sizes have also been introduced into the new Hand Machine. The Machines will mow on the most uneven Lawns without injury to the turf; they are strongly made, are fitted with the same care and precision of the larger sizes, so simple in construction that a labourer can work them, and are quite free from all superfluous and useless gear, which has only novelty, not improvement, as a recommendation. These Machines are peculiarly well fitted for turning and cutting amongst Flower Beds, Verges, Bowling Greens, and for small Lawns. The Patent improvements for this season render them complete in every part. The draught is greatly lessened, and the execution of the work is unsurpassed.

The Machines are warranted to give ample satisfaction; failing this (which is barely possible), they may be at once returned.

FURTHER PARTICULARS MAY BE HAD ON APPLICATION.

**ALEXANDER SHANKS & SON, Patentees and Sole Manufacturers, Dens Iron Works, Arbroath, Forfarshire.**

*N.B. To prevent disappointment in delivery early Orders are particularly requested.*

## PATENT LAWN MOWING AND ROLLING MACHINES.

# SAMUELSON'S LAWN MOWING MACHINES,

## WITH BOYD'S PATENT IMPROVEMENTS.

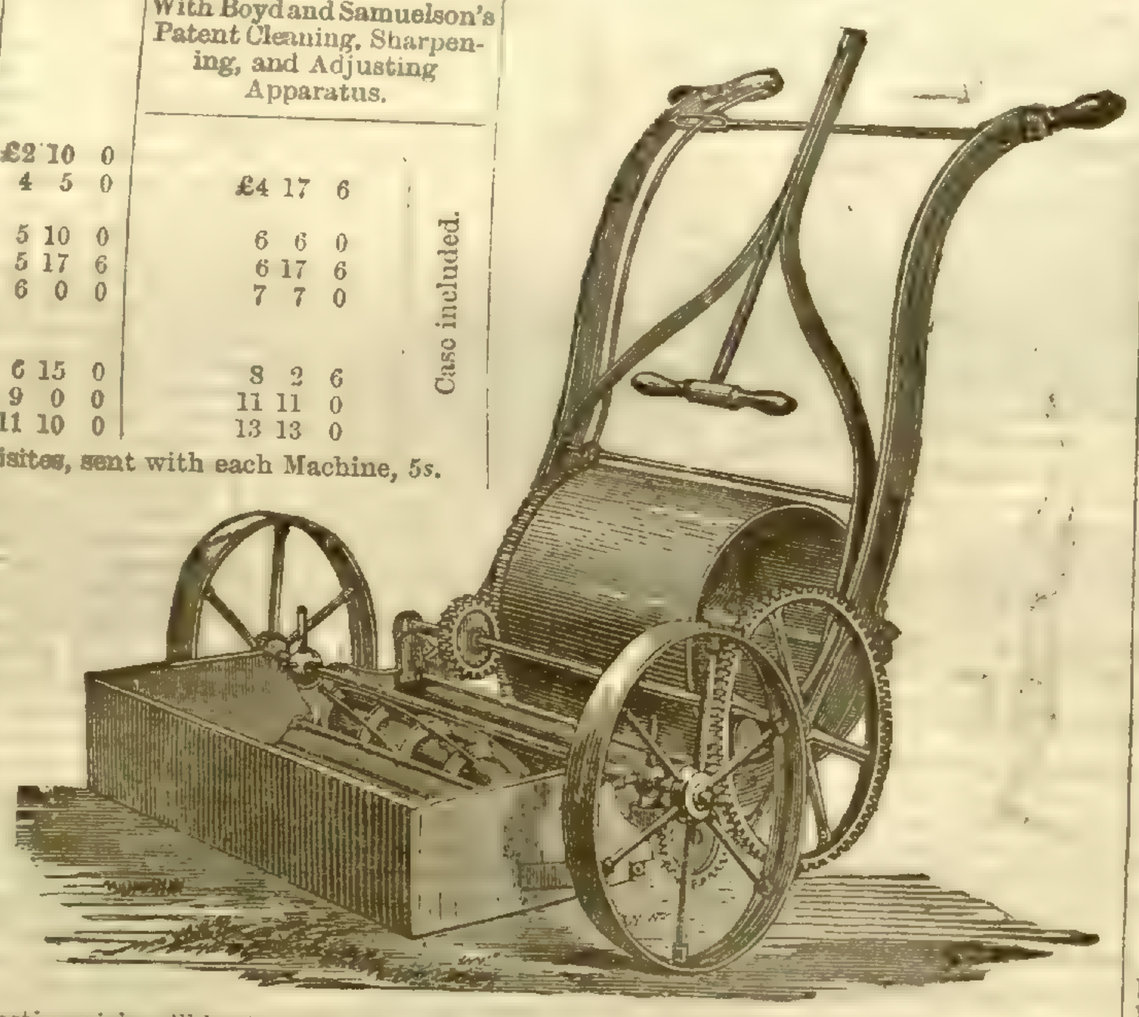
*"Doing the work of five or six men."—The Times, Sept. 20, 1858.*

The following PRICES include the Carriage to any Railway Station in England:—

| | | With Boyd and Samuelson's Patent Cleaning, Sharpening, and Adjusting Apparatus. |
|---|---|---|
| 9 inches wide, for very narrow borders, without registered wheels .. .. | £2 10 0 | |
| 12 inches wide .. .. .. .. | 4 5 0 | £4 17 6 |
| 16 inches wide, with registered arrangement (for one man) .. .. .. | 5 10 0 | 6 6 0 |
| 19 inches wide, ditto (for one man) .. | 5 17 6 | 6 17 6 |
| 22 inches wide, ditto (for man and boy) | 6 0 0 | 7 7 0 |
| 22 inches wide, ditto for ditto, and also fitted with draught links for a pony and a man to work it .. .. | 6 15 0 | 8 2 6 |
| 25 inches wide, ditto .. .. .. | 9 0 0 | 11 11 0 |
| 30 inches wide, ditto (for man and pony) | 11 10 0 | 13 13 0 |

Case included.

Box of Tools, Oil Can, and other requisites, sent with each Machine, 5*s*.



Some thousands of these Machines are now in successful operation on the Lawns of Royalty, the Nobility, and Gentry of the United Kingdom and the Continent of Europe, and are pronounced SUPERIOR to *any other* for lightness of draught, efficiency, and durability. The demand for them is *yearly increasing—the number supplied by* Mr. SAMUELSON *during the years* 1856, 1857, *and* 1858 *being more than* 2100. Testimonials are continually being received from gentlemen having them in daily use, who speak in the highest terms of their efficiency.

These are the only Machines that will cut wet as well as dry Grass without clogging the knives.

Orders for 1859 should be sent at once to insure certain delivery and to prevent disappointment.

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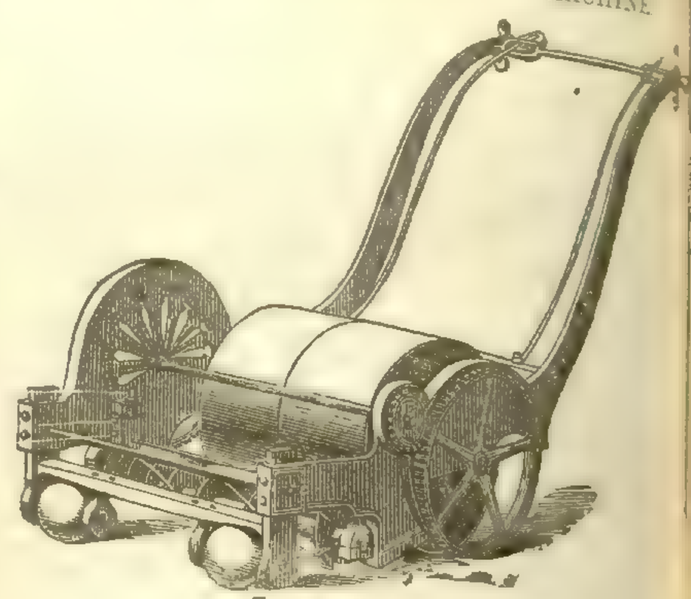

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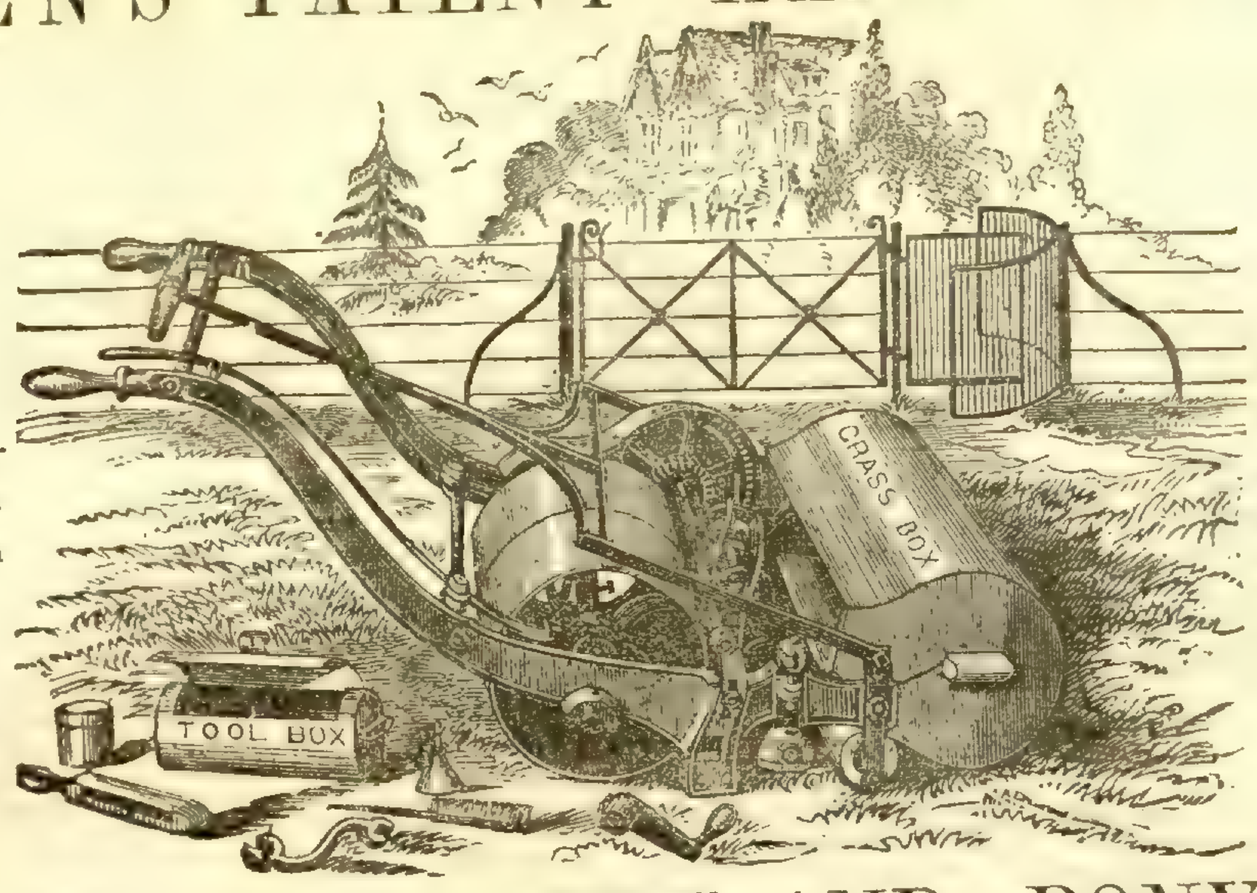


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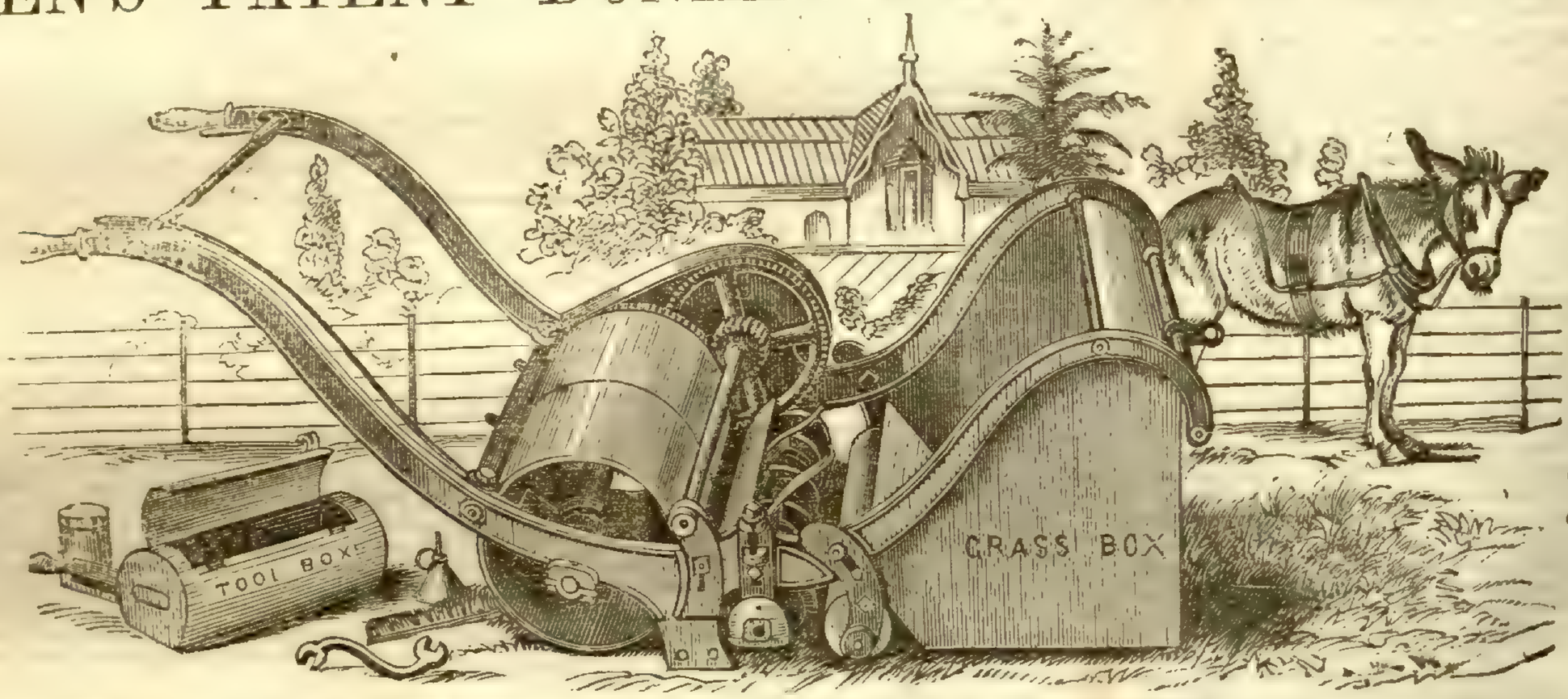
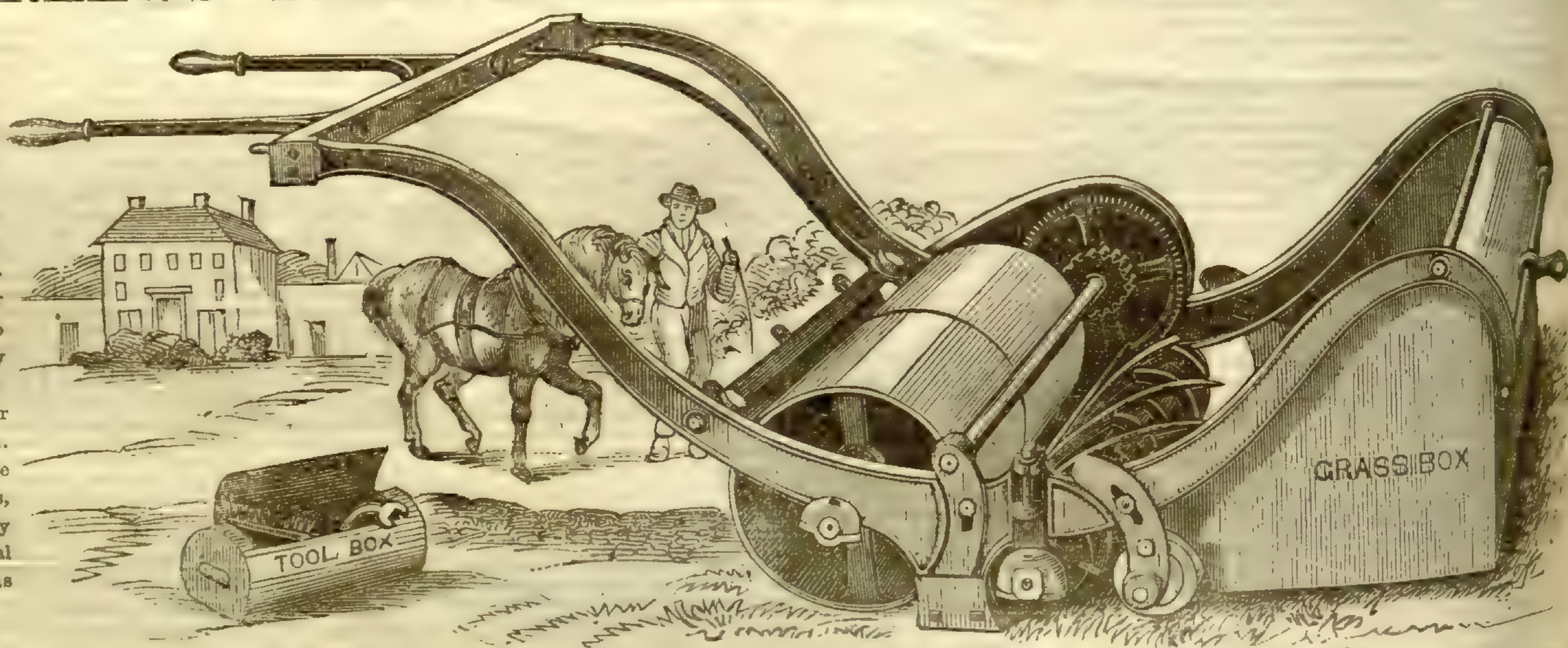
To cut 14 inches, 6*l.*; 16 in. 6*l.* 10*s.*; 18 in. 7*l.*—for one person. To cut 20 inches 7*l.* 10*s.*; 22 in. 8*l.*; 24 in. 8*l.* 10*s.*—for two persons. If with Box and Tools for sharpening and keeping the Machine in order, 5*s.* extra; with Guard for preventing accidents and keeping the wheels clean, 5*s.* extra.

## GREEN'S PATENT DONKEY AND PONY MACHINE,




Suitable for a Donkey, to cut 24 inches, 10*l.*; 26 in., 11*l.* For a Pony, 30 in., 15*l.*; box, tools, &c., 6*s.* 6*d.* extra. Leather traces, stretcher, &c., suitable to attach to common harness or chain traces, 7*s.* 6*d.* Leather boots, suitable for donkey's feet, 16*s.*; do. for a pony, 20*s.* per set of four. Guard for covering wheels, 5*s.* extra.

## GREEN'S PATENT HORSE MACHINE (MADE VERY STRONG).




To cut 30 ins., 18*l.*; 36 ins., 21*l.*; 42 ins., 24*l.*; 48 ins., 27*l.* Box of tools, 7*s.* 6*d.* extra, Leather traces, stretcher, &c., 10*s.* Boots per set of four for Horses' feet, to prevent injury to lawns, 24*s* Guard for wheels, 5*s.* ex.—The above are Net cash prices, delivered at any of the principal Rlway. Stations in England.

**TRIAL at the London Horticultural Society's Gardens, Chiswick, June 5, 1857. Four competitors.**

First trial on level ground, second do. on undulated, third do. on intricate places around trees, &c., when GREEN'S PATENT was unanimously declared to be the best in each trial by Colonel Challoner, Dr. Lindley, and G. M'Ewen, Esq., the appointed Judges.

See the *Gardeners' Chronicle* of May 22, 1858, p. 423, under the heading of "Garden Memoranda."

"London Horticultural Gardens, Chiswick.—The Grass in the Arboretum and elsewhere is in excellent condition; it is kept in order by means of one of GREEN'S 2-feet Mowing Machines, which does its work very satisfactorily, and, compared with the scythe, effects a saving of at least one-half."

Extract from London *Times* of June 8, and *Gardeners' Chronicle* of June 12, 1858.

"Trial of Mowing Machines.—A considerable number of various sizes having been brought to the ground it was agreed that the trial should take place between One Hand Machine of each exhibitor, as nearly as possible of uniform size and worked by themselves, or their men. The ground to be worked was determined by lot, the pieces having been previously selected of as uniform quality as possible. After trials on level ground and round trees, the Judges, Colonel Challoner and Mr. Edward Easton, declared GREEN'S Patent to be the best.

(Signed) "C. B. Challoner, Edward Easton, Judges."

Thos. Green respectfully informs the Nobility, Gentry, Gardeners, Amateurs, and others, that upwards of Six Hundred of these Machines were sold in 1857, and to show the increasing demand, above Nine Hundred were sold last season—they have proven to be the best in all cases of competition, are entirely remodelled, and all the little defects pointed out by the Judges last Year, are now rectified. The Patentee now considers the Machines as near perfection as possible. Although the Machines have been so much improved, at a great additional cost, no extra charge will be made, excepting for a neat Guard, which is placed over the wheels to keep them clean, and to prevent breakage or accidents, which will be 5*s.* extra to parties requiring them.

☞ The Machines are warranted to give satisfaction, or may be at once returned by the party paying the carriage back to Leeds. The Patentee has spared neither time nor expense in producing the best and cheapest Mowing, Collecting, and Rolling Machines ever brought before the public. Hundreds of Testimonials (unsolicited) may be seen, and references given with regard to the superiority of the machines, by applying to the Patentee,

**T. GREEN, Smithfield Iron Works, Leeds; or, No. 2, Victoria Street, bottom of Holborn, London,**

To either of which places all Cheques and Post-office Orders may be made payable.

☞ *T. G. will be glad to receive orders for Machines as early as possible, as a great difficulty was found last season in supplying the number required.*

N.B. Parties desirous of having their Machines repaired may forward them to either the London or Leeds establishment, where they will have the best attention.


Printed by William Bradbury, of 13, Upper Woburn Place, and Frederick Mullett Evans, of No. 20, Queen's Road West, both in the Parish of St. Pancras, in the Co. of Middlesex, Printers, at their Office, Lombard St., Precinct of Whitefriars, City of London, and published by them at the Office, No. 5, Upper Wellington St., Parish of St. Paul's, Covent Garden, in the said Co.—Saturday, May 14, 1859.

# THE GARDENERS' CHRONICLE
AND
# AGRICULTURAL GAZETTE.

**A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.**

**No. 21.—1859.]** SATURDAY, MAY 21. **Price Fivepence. STAMPED EDITION, 6d.**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ROYAL BOTANIC SOCIETY, REGENT'S PARK.—The FIRST EXHIBITION this Season of PLANTS and FLOWERS will take place on WEDNESDAY next, May 25. Tickets to be obtained at the Gardens only by orders from Fellows or Members of the Society, price 5*s.* each, or on the day of Exhibition, 7*s.* 6*d.* each. The Exhibition of AMERICAN PLANTS will take place in June.

MANCHESTER BOTANICAL AND HORTICULTURAL SOCIETY.—The FIRST EXHIBITION of FRUIT and FLOWERS of the Season will be held at the Gardens, Old Trafford, on WEDNESDAY, May 25. The Exhibition will be open to the Public from 2 to 4 P.M. on payment of 2*s.* 6*d.* each, and from 4 to 7 P.M. on payment of 1*s.* each person. By the kind permission of Colonel Harding, the BAND of the 22d Regiment will be in attendance from 2 to 6 o'clock.

Tickets of admission may be had on application to the Secretary, or by payment at the Gates. By order,
13, Corporation Street, May 21. H. WHITWORTH, Sec.
*** A limited number of Forfeited SHARES on Sale.

GRAND YORKSHIRE GALA—YORK FLORAL FETE—PRIZES 150*l.*, 14th and 15th JUNE, 1859.
ENTRIES will close on SATURDAY, the 4th of JUNE next.
Schedules, Regulations, and Forms of Entry may be had on application to JNO. WILSON, Assistant Secretary.
Committee Room, 13, New Street, Coney Street. York.

TOWCESTER FLORAL AND HORTICULTURAL SOCIETY.
*Patrons:—*
His Grace the Duke of GRAFTON.
The Right Honourable the Earl of EUSTON.
The Right Honourable the Earl of POMFRET.
The Right Honourable the Lord SOUTHAMPTON.
RAINALD KNIGHTLEY, Esq., M.P.
Colonel HENRY CARTWRIGHT, M.P
The ANNUAL EXHIBITION will be held on THURSDAY, September 8. Competition will not be restricted to the county.—Schedules of Prizes can be obtained of the Secretary,
SAMUEL COOPER TITE, Towcester.

BRIGHTON AND SUSSEX FLORICULTURAL AND HORTICULTURAL SOCIETY'S EXHIBITIONS for 1859 are fixed to be held on the following days:—Summer Show, WEDNESDAY and THURSDAY, June 22 and 23; Autumn Show, WEDNESDAY and THURSDAY, Sept. 14 and 15; on the same grand scale as in former years. Schedules are now ready, and may be obtained of the Secretary, 96, St. James's Street; or of E. SPARY, Queen's Graperies, General Superintendent of Exhibition.

THOS. ATTREE, Esq., Chairman of Committee. | EDWARD CARPENTER, Secretary.

APIARIAN SOCIETY.—The first Public Meeting of this Society will, by permission of the Council, be held at the rooms of the Entomological Society, at 12, Bedford Row, on TUESDAY evening, at 8 o'clock.
W. B. TEGETMEIER, Secretary.

NOTICE.
JOHN WATERER'S EXHIBITION of RHODODENDRONS will be displayed as usual throughout the month of JUNE at the Royal Botanic Gardens, Regent's Park, London.—The American Nursery, Bagshot, Surrey.

GRAND DISPLAY OF HARDY SCARLET RHODODENDRONS, AZALEAS, ETC.
JOHN WATERER has the pleasure to announce his collection of the above Plants is now in bloom and will continue in great beauty throughout the month of June. The Nursery is near the Sunningdale Station of the South-Western Railway, Reading Branch.
The American Nursery, Bagshot, Surrey.

ONE OF THE LARGEST COLLECTIONS OF AZALEAS, GERANIUMS, both French, Show, and Fancies, is now in FLOWER, and may be seen, gratis, any day, Sunday excepted, at GAINES's Nursery, Surrey Lane, Battersea.

EXHIBITION OF AMERICAN PLANTS.
WATERER AND GODFREY beg to announce the AMERICAN PLANTS at their Nursery will be in the greatest beauty on and after the 25th inst.
The Nursery is readily reached by train from Waterloo to Woking in 40 minutes. Capital conveyances may be depended on at Woking station.—Knap Hill Nursery, Woking, Surrey.

ORCHID GROWERS may obtain good plants of the following first-class ORCHIDS at R. WARNER'S, Broomfield, Essex, viz., Ærides affine superbum, crispum, cornutum, Foxbrush, Larpentæ, maximum, roseum superbum, suavissimum, Schroederi, virens superbum, &c.

PLANTS FOR THE FLOWER GARDEN, 100,000.—100 strong, well hardened plants, composed of the following:—Yellow, crimson, and orange Calceolarias, Scarlet Geraniums, Antirrhinums, Cupheas, Heliotropes, Pentstemons, Phloxes, Verbenas, Salvias, Senecio, Dahlias, &c, all properly named, basket and packing included, for 12*s.* 6*d.*
New Fuchsias, of last season, at 6*s.* per dozen; new Verbenas, of ditto, at 4*s.* per dozen.
HENRY MAY, The Hope Nurseries, near Bedale, Yorkshire.

SKIRVING'S SWEDE—SUTTON'S SELECTED STOCK.
SUTTON AND SONS have a choice stock of SKIRVING'S SWEDE SEED, growth of 1858, which they can strongly recommend. Price 9*d.* per lb., or cheaper by the bushel.—Royal Berks Seed Establishment, Reading.

THE SWEDE THAT NEVER MILDEWS.
SUTTON'S CHAMPION.—See *Gardeners' Chronicle*, May 14, third page. Price 1*s.* per lb., or cheaper by the bushel. Carriage free to all parts. Payment by cheque, or by Post-office orders payable to SUTTON & SONS, Reading, Berks.

NEW HARDY WHITE SWEDE.—This Swede is hardier than any other kind, grows to a large size, is adapted for sowing upon poor land, is not affected by frost, and keeps good in the ground or in store till the end of May. New and genuine Seed of this excellent Swede, price 1*s.* per lb. (carriage free for orders of 30 lbs. and upwards) may be had of RAYNBIRD & HARVEY, Seedsmen, Basingstoke; and 39, Seed Market, Mark Lane, London, E.C.

NEW ZEALAND RUNNER BEAN.
Price 2*s.* per quart.
JAS. CARTER & Co., Seedsmen, 238, High Holborn, London, W.C.

H. AND R. STIRZAKER have still to offer the finest DRUMHEAD CATTLE CABBAGE PLANTS at 2*s.*; EARLY, of sorts, 3*s.* 6*d.*; CURLED SAVOY, 4*s.*; CAULIFLOWER, strong, 25*s.* per 1000.—Lancaster Nurseries.

KEMP'S INCOMPARABLE EARLY CABBAGE.—This is quite a distinct variety, and superior to any other known kind, of delicious flavour, dwarf habit, extra early, attains a good size, will not run to seed, and every plant warranted to Cabbage. Seed may be had in sealed packets for 13 postage stamps, post free, at EDMUND P. DIXON'S, 57, Queen Street, Hull.

SORGHUM, OR HOLCUS SACCHARATUS
(CHINESE SUGAR CANE GRASS).
SUTTON AND SONS, Importers of this SEED, can supply it on liberal terms, according to quantity required.
Royal Berkshire Seed Establishment, Reading.

HOLCUS SACCHARATUS, OR CHINA SUGAR-CANE GRASS.—Seed of this lately introduced Fodder plant can be supplied by NUTTING & SONS in any quantity. Price on application.—Seed Warehouse, 60, Barbican, London.

HOLCUS SACCHARATUS, or North China Sugar-Cane.—Pamphlet, "A Visit and a Plant;" the only English authority on the Cultivation of the above. Post free 6*d.* Prices of Seed on application. Samples 6*d.* Four varieties of Holcus remitted free by post on receipt of 10*s.*
JOHN W. CLARKE, Whittlesea, Cambridgeshire.

PAMPAS GRASS (GYNERIUM ARGENTEUM).—The beauty of this extraordinary plant has this season been fully appreciated. It can be supplied by the dozen, hundred, or thousand, by CHARLES NOBLE, Bagshot, Surrey.

JOHN CULVERWELL, Taunton, begs to call the attention of Agriculturists to his superior selection of GRASS SEEDS, which for PURITY, change of SOIL, and CLIMATE, will bear comparison with any house in the kingdom. Prices, terms, and samples forwarded on application.

NEW CHRYSANTHEMUMS AND DAHLIAS.
JOHN SALTER is now sending out his splendid Seedlings and other new CHRYSANTHEMUMS, as well as those of his unrivalled general collection, which is the largest in Europe; also several fine new DAHLIAS, English and Foreign.—Versailles Nursery, Hammersmith Turnpike, W.

PLANTS IN FLOWER.
F. AND A. SMITH have now in bloom Acacia, Cactus (fine), Cytisus; Erica ventricosa coccinea minor, v. superbiens, v. breviflora, E. intermedia, E. Cavendishi, E. hybrida, E. perspicua nana; Fuchsias, Calceolarias, Heliotrope, Hydrangea, Geraniums, Fairy Roses, &c.
The above are healthy, strong, and well-grown plants, prepared for sending away. Prices on application.
Dulwich, Surrey, S.

CLIMBING PLANTS.
F. AND A. SMITH have now ready strong plants of COBÆA SCANDENS, MAURANDYAS, blue, white, and rose; LOPHOSPERMUM, ECCREMOCARPUS, and TROPÆOLUMS, in large quantities. Prices on application.
Dulwich, Surrey.

AMBROISE VERSCHAFFELT, NURSERYMAN, Ghent (Belgium), will now send out the following NEW PLANTS:—

| | s. | d. |
|---|---|---|
| BEGONIA LEOPOLDII, one of the finest Begonias yet sent out | 8 | 0 |
| TYDÆA PRINCESS TROUBETZKOY, GRANDIS, SANGUINEA (three splendid hybrids; the set) | 10 | 0 |
| TORENIA PULCHERRIMA | 2 | 6 |
| CLEMATIS SOPHIA FLORE PLENO | 8 | 0 |
| LYCHNIS HAAGEANA | 4 | 0 |

PILOGYNE SUAVIS, BRYONIA SCABR (THUNBERG).
W. THOMPSON, SEEDSMAN, Tavern Street, Ipswich, begs to offer the above pl t as an interesting, novel, and desirable summer Climber Its rapid growth, neat dark green angular foliage, and numerous clusters of small whitish sweet-scented flowers, render it well suited for trellis-work, pillars, or festooning, for which purpose it is much used in Germany. It succeeds well in common soil, and with pr per training will attain the height of 10 or 12 feet or more. Price 1*s.* per plant; post free for 1*s.* 6*d.*

ORANGE, LEMON, AND SHADDOCK TREES, 100 full of Buds, Bloom, and some with very large Fruit, 2*s.* 6*d.*, 3*s.* 6*d.*, 7*s.* 6*d.*, and 10*s.* 6*d.* each. CAMELLIAS and AZALEAS, 18*s.*, 21*s.*, and 24*s.* per doz. Standard FUCHSIAS, upwards of 100 plants from 4 to 7 feet high, with large bushy heads, choice varieties, 2*s.* 6*d.*, 3*s.* 6*d.*, and 5*s.* each. A large collection of FERNS and every other kind of greenhouse plants.—ROBERT GREEN, 154, Kingsland Road, 55 doors from Shoreditch Church.

HOLLYHOCKS.
A. PAUL AND SON have still a large Stock of HOLLYHOCKS, strong healthy plants that will bloom this autumn at the following rates:—
MIXED SEEDLINGS from fine named sorts, 25*s.* per 100.
BLOOMED SEEDLINGS, in separate colours, 30*s.* to 50*s.* per 100.
NAMED SORTS, border flowers, 9*s.* to 18*s.* per doz.
" " show flowers, 24*s* to 42*s.* per doz.
HOLLYHOCK SEED, 1*s.* to 5*s* per packet, free by post.
Nurseries, Cheshunt, Herts.

CHOICE ROSES IN POTS.
BIRCHAM AND WARD having a large Stock of the Newest and Best ROSES in fine condition, are enabled to supply them at very reduced prices.
See CATALOGUE, which may be had on application.
Carriage paid to London and Peterborough.
Hedenham Rosary, Bungay, Suffolk.—May 21.

NEW ROSE HYBRID PERPETUAL EVÊQUE DE NÎMES.
BENJAMIN R. CANT has much pleasure in offering the above most beautiful Rose; it is quite a gem and ought to be in every good collection. Colour deep vivid crimson, of exquisite shape; the petals are disposed in the form of a rosette, which gives it a distinct and unique appearance; flower medium size, foliage and habit of growth excellent. Fine plants in pots are now ready at 3*s.* 6*d.* each, with the usual discount to the trade.
St. John's Street Nursery, Colchester.

CHEAP AND GOOD.—A very large quantity of BEDDING PLANTS for Sale in great variety at low prices, at GAINES's Nursery, Surrey Lane, Battersea.

THOMAS WILD has only a few packets of his PRIMULA SEED left, at 2*s.* 6*d.* per packet.
The Primulary, Ipswich.

TROPÆOLUM CANARIENSE.
CHARLES ALEXANDER, SEEDSMAN, Edinburgh, offers New Seed of the above at 20*s.* per lb, and 1*s.* 6*d.* per ounce.

GOLDEN CHAIN GERANIUMS.
WILLIAM HUSSEY begs to offer the above at 4*s.* per dozen or 30*s.* per 100. Also several thousand Seedling HOLLYHOCKS, raised from a fine named Collection, at 2*s.* per dozen, or 12*s.* per 100.—Horticultural Gardens, Norwich.

THE PLYMOUTH SEED, AGRICULTURAL IMPLEMENT, AND MANURE COMPANY LIMITED supply every requisite for the Farm and the Garden.
Registered Offices, Union Road, Plymouth.

FERN CATALOGUE.
ROBERT SIM'S NEW DESCRIPTIVE AND PRICED CATALOGUE, No. 6 (62 pages) of his COLLECTION of BRITISH AND EXOTIC FERNS, can be had, post free, for 8 stamps. Gratis to all previous purchasers of Ferns.
Nursery, Foot's Cray, Kent, S.E.

WILLIAM BARNES begs to inform his friends and patrons that his new PRICED and DESCRIPTIVE CATALOGUE is now ready, and can be had post free upon application. It contains the finest selections of Indian Azaleas, Cinerarias, Calceolarias, Verbenas, Fuchsias, Hollyhocks, Liliums, Phloxes, Roses, Geraniums, Chrysanthemums, Ferns, Stove and Greenhouse plants, as well as a very large assortment of choice miscellaneous plants.
Camden Nursery, Camberwell South.

UNRIVALLED SHRUBBY CALCEOLARIAS.
J. COLE has on hand some superb varieties for Bedding and Pot culture, strong bushy plants, at 9*s.*, 12*s.*, 15*s.*, and 20*s.* per dozen; also some strong unbloomed Seedling Herbaceous CALCEOLARIAS, without pots, at 3*s.* per dozen.
LOBELIA SPECIOSA, strong plants, without pots, 2*s.* 6*d.* per dozen. The above for cash only.
Keyfield Nursery, St. Albans, Herts.

FIG TREES WANTED, VIZ.
1 WHITE MARSEILLES | 1 BROWN TURKEY
Good established plants, 6 feet high, fit for training against a back wall of a small conservatory.—Address price and particulars, W. F., Office of the *Gardeners' Chronicle*.

100,000 BEDDING PLANTS, the cheapest place in England. CATALOGUE sent for one stamp.—J. PYLE, St. John's Nursery, Upper Holloway, London.

BEDDING PLANTS.
BUTLER AND McCULLOCH'S LIST of the above, forwarded free by post, contains a selection of the most suitable PLANTS FOR TOWN GARDENING, together with Hints on their Culture, embodying the experience of Messrs. Broome, of the Temple Gardens; Wyness, Royal Gardens, Buckingham Palace; and Morgan, the Gardens, Lincoln's Inn Fields.—Covent Garden Market.

BEDDING PLANTS, 20*s.* per hundred. HARDY CONIFER & FRUIT TREES in pots, 30*s.* p. do. HERBACEOUS PLANTS, 20*s.* per 100.
SHRUBS, in pots, 12*s.* per dozen.
MANGEL WURZEL SEEDS, 6*d.* per lb.
SWEDE and other TURNIP SEEDS, 6*d.* per lb., saved from large bulbs, and of the very best quality.
CATALOGUES by inclosing one stamp to MARTIN & SONS, East Riding of Yorkshire Nursery and Seed Establishments, Cottingham (A.D. 1788), and Junction Street, near Monument Bridge, Hull.

CHEAP BEDDING PLANTS, 2*s.* 6*d.* per dozen.—Apply for Catalogues, enclosing two stamps, to J. SCOTT, Merriott Nurseries, Crewkerne, Somerset.
The CATALOGUE comprises everything [illegible] for Flower Garden decoration, and fill descriptions of [illegible] collection of new DOUBLE PETUNIAS, [illegible] very, at 6*s.*, 9*s.*, and 12*s.* per dozen. Fancy [illegible] 2*s.* 6*d* to 5*s.* 6*d* per dozen; Magna [illegible] 2*s.* 6*d* to 5*s.* 6*d* per dozen; Magna [illegible] of all Bedding Petunias, 5 inches across, [illegible] sorts, 3*s.* 6*d.* per dozen.
LEPTODACTYLON CALIFORNICUM, [illegible] PHLOX CRITERION, two lovely Bedding [illegible]

## NEW SEEDLING AZALEA INDICAS.

| | |
|---|---|
| Blanc de Neige | Triomphe de Gand |
| Pelargoniflora nova | Vicomte de Nieuport |
| Prince Impérial | Rosseflora plena |
| Reine des Doubles | |

JEAN VERSCHAFFELT, Ghent, Belgium, begs respectfully to announce that he is now prepared to send out his seven new Azalea indicas as above, in fine strong plants full in bloom. **The price of the set is 3*l*. Early orders are requested, as they will be sent in strict rotation.**

The description of the above may be had free on application to JEAN VERSCHAFFELT. Plants will be immediately forwarded after orders are received. All orders to be directed to JEAN VERSCHAFFELT, Nurseryman, Ghent, Belgium.

## BEDDING PLANTS.

F. AND A. SMITH beg to offer the following varieties, strong and healthy :—

| | |
|---|---|
| Ageratum | Mimulus, various |
| Antirrhinum | Nasturtium, Tom Thumb. The best scarlet bedding plant out. |
| Alyssum, variegated fol. | Nasturtium, Cattell's Dwarf Crimson. |
| Anagallis | Nasturtium, double, various, 6*d*. each |
| Balm, variegated fol. | Nierembergia |
| Cuphea | Pentstemon, various |
| Calceolaria | Petunias, various |
| Dahlias | ,, new double |
| Fuchsia | Pyrethrum pleno album |
| Geranium, scarlet various | Roses |
| ,, striped ,, | Salvias, various |
| ,, fancy ,, | Senecio |
| ,, unique ,, | Verbenas, white |
| ,, scented ,, | ,, blue or purple |
| ,, Ivy ,, | ,, scarlet |
| Gaillardia | ,, crimson |
| Heliotrope, various | Musk, 4*s*. per dozen |
| Hollyhock, 6*s*. per dozen | |
| Koniga variegata | |
| Lantana | |
| Lobelia | |

The above in strong established plants at moderate prices, according to selection.—Dulwich, Surrey.

## NEW ROSES IN POTS.

BENJAMIN R. CANT offers the undermentioned NEW ROSES. The plants are now ready, and are remarkably fine and healthy; many of them have strong shoots from 1 to 2 feet in length. Purchasers of 1 dozen and upwards will be supplied at a reduced rate. The trade allowed the usual discount.

NEW ROSES FOR 1859 at 5*s*. each :—

| | |
|---|---|
| TEA : Madame Damaisin | HYBRID PERPETUALS :— |
| BOURBON : Docteur Berthet | Comtesse Cecile de Chabrillan |
| ,, Edith de Murat | Imperatrice Eugénie |
| HYBRID PERPETUALS :— | L'Oriflamme de St. Louis |
| Altesse Impériale | Le Mont Vésuve |
| Ardoisée de Lyon | Orderic Vital |
| Anna Alexieff | Princesse Olympie |
| Anna de Diesbach | Salomon |
| Beauté de Royghem | Virginal |

**Also the following CHOICE ROSES at 2*s*. 6*d*. each, or 25*s*. per dozen :—**

| | |
|---|---|
| TEA : Souvenir d'Elise | HYBRID PERPETUALS :— |
| BOURBON : Caroline Riquet | Louis Chaix |
| ,, Josephine Clermont | Louise d'Autriche |
| ,, Madame Contesse | Lord Palmerston |
| ,, Monsieur Jard | Marie Thierry |
| HYBRID PERPETUALS :— | Monsieur de Montigny |
| Abbé Feytel | Philomène Crozy |
| Evêque de Nîmes. 3*s*. 6*d*. | Reine de Denmark |
| Gloire de Lyon | Triomphe de Mont Rouge |
| General MacMahon | ,, des Beaux Arts |

At 15*s*. per dozen :—

HYBRID PERPETUALS. — Adelaide Fontaine, Bacchus, Belle Anglaise, Cardinal Patrizzi, Etendard de Sebastopol, Lord Raglan, Madame Vidot, Mathurin Regnier, Pauline Lansezeur, Prince Leon, Princé de la Moskwa, Rebecca, Souvenir de la Reine d'Angleterre, Souvenir de Leveson Gower, Sir J. Franklin, Victor Trouillard.

BOURBON : Glorietta, Omer Pacha,

NOISETTE : Miss Gray, Narcisse

TEA : Devoniensis, Elise Sauvage, Gloire de Dijon, Madame Bravy, Souvenir d'un Ami, Vicomtesse de Cazes.

A fine collection of the most esteemed older varieties, such as Caroline de Sansal, Comte de Nanteuil, Colonel de Rougemont, General Jacqueminot, Jules Margottin, Souvenir de la Malmaison, at 12*s*. per dozen.

St. John's Street Nursery, Colchester.

## NEW SCARLET VERBENA "MAGNET."—

This superb variety is a Seedling of 1858. The colour is a most vivid scarlet, with a large Lemon-coloured eye, which gives it a very striking appearance over all other scarlets; the pips are as round, large, and good a substance as those of the most beautiful Phloxes, the truss is of immense size, many of them last season measuring 9 inches in circumference; it is a most prolific bloomer, and always throws its trusses well up. Blooms of the finest of the Scarlet Verbenas as yet sent out were compared with it last year, but none of them approached it in size or brilliancy of colour by many degrees. It never fades in the hottest sun, and is a superb variety for pot culture. It was considered to be the finest and most conspicuous variety ever yet grown, throwing Eclipse and all other scarlet Verbenas completely in the background. This was the general opinion of the following gentlemen, nurserymen, and gentlemen's gardeners :—J. Fox, Esq., Devizes; A. Awdry, Esq., Bath; W. Thompson, Esq., Bath; H. Collison, Esq., Bath; Chas. Sainsbury, Esq., Swanswick, near Bath; **Mr. Edwards, of Messrs. Henderson & Co**, Wellington Road Nursery, London; Mr. Nelson, Nurseryman, Bristol; Mr. Parker, Paradise Nursery, London; **Mr. Caizey, of Messrs. Hugh Lowe & Co.**, Clapton Nursery, London; Mr. J. Chaunday, Florist, Lewisham, Kent, S.E.; Mr. Kitley, Nurseryman, Lyncomb, near Bath; Mr. Shackell, Oldfield Nursery, Bath; Mr. Webb, Assistant to Mr. Griffin, Nurseryman, Bath; **Mr. Drummond**, Nurseryman, Bath; **Mr. Hann**, gardener, Southstoke Rectory, near Bath; Mr Froud, gardener to — Wintle, Esq., Swanswick, near Bath; Mr. Rays, gardener, Vellore, Bath; Mr. Tooth, gardener to G. Sims, Esq., Bath; Mr. Salter, gardener to — Yeeles, Esq., Bathford, Bath; Mr Knowles, gardener to — Wiltshire, Esq., Shockerwick, near Bath. Single plants of the above superb new Verbena, 5*s*.

**New Verbena "LOLA MONTES," colour light, beautifully shaded rose, fine eye and truss, is a first-rate show variety, many of the pips coming as round and as large as a shilling and of good substance. Plants 3*s*. 6*d*. each.**

EMPEROR OF MOROCCO VERBENA. Also a seedling of 1858, colour very dark purple, the nearest approach to a decided blue of any variety that has yet been sent out; **it throws a very fine truss, is a prolific bloomer, and good bedder. Plants 3*s*. 6*d*. each.**

The above are now ready for sending out, strong, well-rooted plants. Parties taking the three varieties will be charged 10*s*., **postage and package free.**

**A remittance must accompany all orders either in cash or penny postage stamps.**

EDWARD TILEY, Nurseryman, Seedsman, and Florist, 14, Abbey Church Yard, Bath.


# CRYSTAL PALACE.

# GRAND HORTICULTURAL EXHIBITION,

## MAY 18, 1859.

## LIST OF AWARDS.

CLASS I.—20 STOVE AND GREENHOUSE PLANTS IN FLOWER (Open).

First Prize, Mr. G. S. Dods, Gr. to Sir J. Cathcart, Bart., Egham, 25*l*.; 2d, Mr. B. Peed, Gr. to T. Treadwell, Esq., Lower Norwood, 15*l*.; 3d, Mr. T. Page, Gr. to W. Leaf, Esq., Streatham, 10*l*.; 4th, Mr. R. Baxendine, Gr. to W. H. Smallpiece, Esq., Guildford, 7*l*.; extra, Mr. O. Rhodes, Gr. to J. Phillpot, Esq., Stamford Hill, 5*l*.

CLASS II.—12 STOVE AND GREENHOUSE PLANTS IN FLOWER.

1st, Messrs. J. & J. Fraser, Lea Bridge, 10*l*.; 2d, Mr. W. J. Cutbush, Barnet, 7*l*.

CLASS III.—10 STOVE AND GREENHOUSE PLANTS IN FLOWER (Amateurs).

1st, Mr. J. Green, Gr. to Sir E. Antrobus, Bart., Cheam, 10*l*.; 2d, Mr. J. Peed, Gr. to C. T. Gabriel, Esq., Streatham, 7*l*.; 3d, Mr. W. Kaile, Gr. to the Earl of Lovelace, Ripley, Surrey, 5*l*.; 4th, Mr. J. Tegg, Gr. to Baron Hambro, Rochampton, 3*l*.; Extra, C. Smith, Gr. to A. Anderson, Esq., Norwood, 2*l*.

CLASS IV.—6 STOVE AND GREENHOUSE PLANTS IN FLOWER (Amateurs).

1st, Mr. H. Chilman, Gr. to Mrs. Smith, Epsom, 5*l*.; 2d, Mr. W. Laybank, Gr. to T. H. Maudslay, Esq., Lower Norwood, 4*l*.; 3d, Mr. S. M. Carson, Gr. to W. F. G. Farmer, Esq., Cheam, 3*l*.; 4th, Mr. E. A. Hamp, Gr. to James Thorne, Esq., South Lambeth, 2*l*.

CLASS V.—12 STOVE AND GREENHOUSE PLANTS, Variegated Plants included (Nurserymen).

1st, Mr. W. Cutbush, Barnet, 7*l*.

CLASS VI.—6 STOVE AND GREENHOUSE PLANTS, Variegated Plants included (Amateurs).

1st, Mr. G. S. Dods, Gr. to Sir J. Cathcart, Bart., Egham, 7*l*.; 2d, Mr. G. Young, Gr. to W. H. Stone, Esq., Dulwich, 5*l*.; 3d, Mr. J. Colgate, Gr. to W. T. Woolley, Esq., Kensington, 3*l*.; Extra, Mr. J. Summers, Gr. to A. Mongredien, Esq., Forest Hill, 2*l*.; Mr. O. Rhodes, Gr. to J. Phillpot, Esq., Stamford Hill, 1*l*.

CLASS VII.—20 ORCHIDS OF EXOTIC SPECIES (Amateurs).

1st, Mr. Robert Bullen, Gr. to J. Butler, Esq., Woolwich, 20*l*.; 2d, Mr. William Gedney, Gr. to Rev. W. Ellis, Hoddesdon, 15*l*.; Mr. S. W. Carson, Gr. to W. F. G. Farmer, Esq., Cheam, 15*l*.

CLASS VIII.—15 ORCHIDS OF EXOTIC SPECIES (Nurserymen).

1st, Mr. S. Woolley, Cheshunt, 10*l*.

CLASS IX.—12 ORCHIDS OF EXOTIC SPECIES (Amateurs).

1st, Mr. G. S. Dods, Gr. to Sir J. Cathcart, Bt., Egham, 10*l*.; 4th, Mr. Osman Rhodes, Gr. to J. Philpott, Esq., Stamford Hill.

CLASS X.—6 ORCHIDS OF EXOTIC SPECIES (Open).

1st, Mr. J. Green, Gr. to Sir E. Antrobus, Bt., Cheam, 5*l*.; 2d, Mr. T. Page, Gr. to W. Leaf, Esq., Streatham, 4*l*.

CLASS XI.—10 GREENHOUSE AZALEAS (Amateurs).

1st, Mr. J. Green, Gr. to Sir E. Antrobus, Bart., Cheam, 12*l*.; Mr. S. W. Carson, Gr. to W. G. F. Farmer, Esq., Cheam, 12*l*.; 3d, Mr. T. Page, Gr. to W. Leaf, Esq., Streatham, 5*l*.; 4th, Mr. J. Peel, Gr. to C. T. Gabriel, Esq., Streatham, 4*l*.; Extra, Mr. O. Rhodes, Gr. to J. Phillpot, Esq., Stamford Hill, 2*l*.

CLASS XII.—8 GREENHOUSE PLANTS (Nurserymen).

1st, Messrs. J. Ivery & Son, Reigate and Dorking, 7*l*.; 2d, Mr. C. Turner, Royal Nurseries, Slough, 5*l*.; 3d, Mr. R. Atlee, Clapham Road, 4*l*.; Extra, Messrs. J. & J. Fraser, Lea Bridge Road, 2*l*.

CLASS XIII.—6 GREENHOUSE AZALEAS (Amateurs).

1st, Mr. B. Peed, Gr. to T. Treadwell, Esq., Lower Norwood, 5*l*.; 2d, Mr. W. Kaile, Gr. to the Earl of Lovelace, Ripley, Surrey, 4*l*.; 3d, Mr. E. A. Hamp, Gr. to James Thorne, Esq., South Lambeth, 3*l*.

CLASS XIV.—10 GREENHOUSE AZALEAS, newest and best Plants.

1st, Mr. C. Turner, Royal Nurseries, Slough, 5*l*.; 2d, Messrs. Ivery & Son, Reigate and Dorking, 3*l*.; 3d, Mr. J. Green, Gr. to Sir E. Antrobus, Bart., Cheam, 2*l*.; Extra, Mr. T. Page, Gr. to W. Leaf, Esq., Streatham, 3*l*.; Mr. B. Peed, Gr. to T. Treadwell, Esq., Lower Norwood, 3*l*.

CLASS XV.—8 CAPE HEATHS (Nurserymen).

1st, Mr. W. Cutbush, Barnet, 4*l*.

CLASS XVI.—6 CAPE HEATHS (Amateurs).

1st, Mr. B. Peed, Gr. to T. Treadwell, Esq., Lower Norwood, 4*l*.; 2d, Mr. J. Peed, Gr. to C. T. Gabriel, Esq., Streatham, 3*l*.; 3d, Mr. J. Green, Gr. to Sir E. Antrobus, Bart., Lower Cheam, 2*l*.; Extra, Mr. H. Chilman, Gr. to Mrs. Smith, Epsom, 1*l*.; Mr. T. Frost, Gr. to E. J. Betts, Esq., Maidstone, 1*l*.

CLASS XVII.—6 TALL CACTI in Flower, large Plants.

1st, Mr. J. Green, Gr. to Sir E. Antrobus, Bart., Lower Cheam, 5*l*; 2d, Mr. R. Bunn, Gr. to J. R. Scott, Esq., Hornsey, 4*l*.; 3, Mr. J. Summers, Gr. to A. Mongredien Esq., Forest Hill, 2*l*.

CLASS XVIII.—12 ROSES IN POTS.

1st, Messrs. Lane & Son, Berkhampstead, 10*l*.; 2d, Mr. E. P. Francis, Hertford, 7*l*.; 3d, Messrs. A. Paul & Son, Cheshunt, 5*l*.

CLASS XIX.—6 ROSES IN POTS (Amateurs).

1st, A. Rowland, Esq., Rosenthal, Lewisham, 5*l*.; 2d, Mr. T. Terry, Gr. to C. W. G. Puller, Esq., Youngsbury, 4*l*.

CLASS XX.—6 FUCHSIAS IN POTS, distinct varieties.

1st, Mr. J. H. Elliott, Gr. to C. Davidson, Esq., Sydenham Hill, 4*l*.; 2d, Mr. O. Rhodes, Gr. to J. Phillpot, Esq., Stamford Hill, 3*l*.

CLASS XXI.—10 PELARGONIUMS (Amateurs).

1st, Mr. J. Wiggins, Gr. to E. Beck, Esq., Isleworth, 8*l*.; 2d, Mr. J. Weir, Gr. to Mrs. Hodgson, Hampstead, 6*l*.

CLASS XXII.—12 PELARGONIUMS (Nurserymen).

1st, Mr. C. Turner, Royal Nurseries, Slough, 8*l*.; 2d, Messrs. J. Dobson & Son, Isleworth, 6*l*.; 3d, Mr. T. Windsor, Hampstead, 4*l*.; 4th, Messrs. J. & J. Fraser, Lea Bridge Road, 2*l*.; Extra, Mr. T. Gaines, Battersea, 1*l*.

CLASS XXIII.—6 FANCY PELARGONIUMS (Amateurs).

1st, Mr. James Weir, Gr. to Mrs. Hodgson, Hampstead, 4*l*.; 2d, Mr. J. James, Gr. to F. W. Watson, Esq., Isleworth, 2*l*.; 3d, Mr. J. Holland, Gr. to R. W. Peake, Esq., Hounslow, 1*l*.

CLASS XXIV.—6 FANCY PELARGONIUMS (Nurserymen).

1st, Mr. C. Turner, Royal Nurseries, Slough, 4*l*.; 2d, Mr. T. Gaines, Battersea, 3*l*.; 3d, Mr. T. Windsor, Hampstead, 2*l*.

CLASS XXV.—NEW OR RARE PLANTS, in or out of Flower.

1st, Mr. S. M. Carson, Gr. to W. F. G. Farmer, Esq., Cheam, for Burlingtonia Farmeri, 3*l*.; 2d, Mr. G. S. Dods, Gr. to Sir J. Cathcart, Egham, for Genetyllis macrostegia, 2*l*.; 3d, Messrs. Veitch & Son, Exeter and Chelsea, for Pothos species, 1*l*.; Mr. J. Green, Gr. to Sir E. Antrobus, Bart., Cheam, for Daviesia umbellata, 1*l*.; Extra, Messrs. Ivery & Son, Reigate and Dorking, for Azalea "Flower of the Day," 10*s*.

CLASS XXVI.—HARDY ORNAMENTAL PLANTS (remarkable for fine habit or beauty of foliage).

2d, Messrs. Veitch & Son, Exeter and Chelsea, for Acer japonicum polymorphum, 1*l*.; 3d, Messrs. Veitch & Son, for Wellingtonia gigantea, 10*s*.

CLASS XXVII.—SEEDLING PELARGONIUMS of 1858-9. (Prizes withheld.)

CLASS XXVIII.—6 PLANTS OF CINERARIAS.

1st, Mr. C. Turner, Royal Nurseries, Slough, 3*l*.; 2d, Mr. J. Shrimpton, Gr. to A. J. Doxat, Esq., Putney Heath, 2*l*.; 3d, Messrs. Dodson & Sons, Isleworth, 1*l*.; Extra, Mr. James Holland, Gr. to R. W. Peake, Esq., Hounslow, 10*s*.

CLASS XXIX.—MISCELLANEOUS.

Extra, Mr. H. Lavey, Gr. to E. A. De Grave, Esq., Fetcham (British Ferns), 3*l*.; 1st, Mr. W. Leybank, Gr. to T. H. Maudslay, Esq., Lower Norwood (Aphelexis), 2*l*.; Messrs. Veitch & Son, Exeter and Chelsea (Begonias), 2*l*.; 2d, Messrs. Dobson & Son, Isleworth, 1*l*. 10*s*.; Mr. J. Summers, Gr. to A. Mongredien, Esq., Forest Hill (Stove Ferns), 1*l*. 10*s*.; Ditto, Mammalaria), 1*l*. 10*s*.; Messrs. H. Lane & Son, Berkhampstead (Cut Roses), 1*l*. 10*s*.; 3d, Mr. T. Gaines, Battersea, 1*l*.; Mr J. Pepper, Gr. to R. Pulling, Esq., Penge (Achimenes), 1*l*.; Mr. C. Turner, Slough (Seedling Verbenas), 1*l*.; Ditto (Tulips), 1*l*.; Mr. S. M. Carson, Gr. to W. F. G. Farmer, Esq., Cheam (Aphelandra Porteana), 1*l*.; Messrs. J. & C. Lee, Hammersmith (Tussilago Farfara), 1*l*.; Ditto (Centaurea candidissima), 1*l*.; Ditto (Ferns), 1*l*.; Mr. H. Surman, Eltham, Kent (Calceolarias), 1*l*.; Messrs. Paul & Son, Cheshunt (Seedling Rhododendron), 1*l*.; 4th, Mr. J. James, Gr. to W. F. Watson, Esq., Isleworth (Pansies), 15*s*.; Mr. C. Turner, Slough (Variegated Geraniums), 15*s*.; Ditto (Auriculas), 15*s*.; Mr. J. Halley, Blackheath (Variegated Geraniums), 15*s*. Extra, C. Turner, Slough (Cineraria Slough Rival), 10*s*.

## FRUIT.

CLASS A.—PINE APPLE (Single fruit of the Providence).—No Exhibitors.

CLASS B.—PINE APPLE, Single fruit of any other variety.

1st, Mr. T. Page, Gr. to W. Leaf, Esq., Streatham, 3*l*.; 2d, Mr. J. Gillham, Isleworth, 2*l*.; 3d, Mr. R. Davies, Gr. to J. Dixon, Esq., Congleton, 1*l*.; Extra, Mr. P. Frost, Dropmore, Maidenhead, 15*s*.

CLASS C.—GRAPES, BLACK (Single Dish).

1st, Mr. T. Frost, Gr. to E. L. Betts, Esq., Maidstone, 3*l*.; Mr. W. Hill, Gr. to R. Sneyd, Esq., Keele Hall, Staffordshire; 2d, Mr. T. Ellis, Gr. to F. Bebb, Esq., Fleet House, Devonshire, 2*l*.; 3d, Mr. W. Stent, Gr. to W. Herbert, Esq., Clapham Common, 1*l*.

CLASS D.—GRAPES, White (Single Dish).

1st, Mr. J. Enston, Gr. to Sir J. Duckworth, Bart., Exeter, 3*l*.; 2d, Mr. G. Chalmers, Gr. to Lord Southampton, Towcester, 2*l*.; 3d, Mr. W. Bones, Gr. to J. Barnett, Esq., Woodford, 1*l*.

CLASS E.—GRAPES, Muscats (Single Dish).

Extra, Mr. J. Embry, Gr. to A. Moss, Esq., Chadwell Heath, 10*s*.

CLASS F.—GRAPES, 12 lbs. weight (Market Gardeners).

1st, Mr. C. French, Burnham, Bucks, 3*l*.; 2d, Mr. W. Davies, Starch Green, Hammersmith, 2*l*.

CLASS G.—PEACHES (Single Dish).

1st, Mr. H. Constantine, Gr. to C. Mills, Esq., Uxbridge, 3*l*.; 2d, Mr. W. Gardiner, Weston House, Shipston-on-Stour, 2*l*.

CLASS H.—NECTARINES (Single Dish).—No Exhibitors.

CLASS I.—MELONS, Green Fleshed (Single Fruits).

1st, Mr. W. B. Peed, Gr. to T. Treadwell, Esq., Lower Norwood, 2*l*.; 2d, Mr. H Constantine, Gr. to C. Mills, Esq., Uxbridge, 1*l*.; 3d, Mr. James Tegg, Gr. to Baron Hambro, Roehampton, 10*s*.

CLASS J.—MELONS, Scarlet Fleshed (Single Fruits).

1st, Mr. B. Peed, Gr. to T. Treadwell, Esq., Lower Norwood, 2*l*.

CLASS K.—FIGS (Single Dish of 10 Fruits).

1st, Mr. H. Constantine, Gr. to C. Mills, Esq., Uxbridge, 2*l*.

CLASS L.—CHERRIES, White (Single Dish).—No Exhibitors.

CLASS M.—CHERRIES, Black (Single Dish).

1st, Mr. E. Shuter, Gr to the Earl of Wilton, Heaton Park, Manchester, 2*l*.

CLASS N.—STRAWBERRIES (Single Dish).

1st, Mr. R. Smith, Twickenham, 2*l*.; 2d, Mr. George, Gr. to A. Gooday, Esq., Essex, 1*l*.; 3d, Mr. W. Taylor, Gr. to C. H. Hanbury, Esq., East Barnet, 10*s*.; Extra, Mr. J. Gillham, Isleworth, 5*s*.

CLASS O.—MISCELLANEOUS.

1st, Mr. Gillham, Isleworth (Pine Apple), 2*l*.; 2d, Mr. [illegible] Waters, Gr. to F. Moore, Esq., Sydenham (Orange Trees); Mr. R. Inman, Gr. to J. Lintott, Esq., Forest Hill (Vines in pots), 1*l*.; Mr. C. Mackay, Gr to T. Devas, Esq., Dulwich Common (Vines in pots), 1*l*.; 3d, Mr. C. Hutt, Gr. to Miss Burdett Coutts, Highgate (Vines in pots), 15*s*.; 4th, Mr Farmer, Gr. to S. Morley, Esq., Stamford Hill (Cucumbers), 10*s*.; Mr. W. Kaile, Gr to Monro, St. Alban's (Cucumbers), 10*s*.; Mr. W. Kaile, Gr to Earl Lovelace, Ripley, Surrey (Strawberries in pots), 10*s*.

### GERMAN AND OTHER FLOWER SEEDS, VEGETABLE, AGRICULTURAL SEEDS, ETC.

MESSRS. PARKER AND WILLIAMS beg to inform their friends and patrons that their new PRICED and DESCRIPTIVE CATALOGUE in which is enumerated every novelty of proved merit, also all the best of the older kinds, is now published, and will be forwarded post free on application. Their whole stock has been selected from the best English and Foreign sources, and every kind is warranted true to name, and of the finest possible quality.—Paradise Nursery, Seven Sisters and Hornsey Roads, Holloway, London.

MESSRS. PARKER AND WILLIAMS beg to inform their friends and patrons that their PRICED and DESCRIPTIVE CATALOGUE of Exotic Orchids, Stove, Greenhouse, and Hardy Ferns, Miscellaneous Stove, Greenhouse, and Hardy Plants, Variegated and Ornamental foliaged Plants, Conifers, Roses, Rhododendrons, Indian Azaleas, Gloxinias, Fuchsias, Cactuses, &c., is now published, and will be forwarded post free on application.—Paradise Nursery, Seven Sisters' and Hornsey Roads, Holloway, London, N.

### VARIEGATED GERANIUMS FOR BEDDING OUT.

JOHN HALLY, NURSERYMAN and FLORIST, opposite the Railway Station, Blackheath, S.E., offers the following at the annexed reduced prices:—

1 BURNING BUSH.—This has proved itself the most beautiful of all the red-zoned variegated kinds, having foliage variegated with broad white edge and zone of bright crimson. The flower brilliant scarlet, in good compact trusses, standing well up above the foliage, 30*s.* per dozen; a few larger plants on hand, at 5*s.* each.

2. SCINTILLATUM.—Foliage variegated, with white edge, and having a black and crimson zone, bears a very large truss of deep scarlet blossoms, 15*s.* per dozen; strong plants, at 2*s.* 6*d.* each. The usual discount to the Trade on the above.

BEDDING PLANTS.—As orders are received the best Plants will be selected, and set aside until they are required. The following 12 dozen Plants can be had for 25*s.*, package included, viz:—

| | | |
|---|---|---|
| 12 Scarlet Geraniums | 12 Petunias [sima | 12 Gazania |
| 12 Yel. Calceolarias | *12 Vinca elegantis- | 12 Blue Lobelia |
| 12 dark ditto | 12 Blue Verbenas | 12 Hollyhocks |
| 12 Dahlias | 12 White Verbenas | 12 Heliotropes |

Thirteen Plants to the dozen. 200 Plants for 21*s.*, the selection left to JOHN JEYES.

*** J. JEYES respectfully invites attention to a very fine COLLECTION of FERNS.

* VINCA ELEGANTISSIMA.—The most beautiful of all variegated plants. As a bordering for flower beds, or to form a bed of itself, or mixed with shrubs, it stands unequalled, and being an evergreen and hardy makes it the most desirable of all variegated plants; it resembles when in full leaf finely grown plants of the Golden Chain Geranium.

Northampton Nurseries.

### NEW FRENCH PHLOXES.

JOHN STANDISH can recommend the following as the best that were sent out last year, he having seen them in bloom, and selected those he thought the best. They are very beautiful dwarf, and continue flowering from June until October, or until the frost destroys them in the autumn, and are admirably adapted for bedding, being now classed as perpetual bloomers, many of them growing not more than 10 to 18 in. high:

Empereur de toutes les Russies, shaded violet purple centre
Julie Roussel, white, with purple centre, superb
L'Enfant Prodigue, violet rose, shot with scarlet
**Louis Guerard, large deep amaranth, magnificent**
**La Volupté, smooth rose, shot with scarlet**
**Madame Suer, white purple centre, very dwarf**
**Mademoiselle Orelly Duriez, white violet centre**
**Monsieur Forest, large lively amaranth, very effective**
**Souvenir d'un Ami, large rosy red, very fine**
**Surpasse Madame Rendatler, white purple centre, very dwarf.**

The above 2*s.* 6*d.* each, or the lot 21*s.*; besides the above J. S. can supply the finest old sorts from 6*s.* to 12*s.* per dozen.

ROSES for bedding on their own roots, strong plants:—

TEA: Souvenir d'Elise, the most beautiful of all Tea Roses, 2*s.* each, or 18*s.* per dozen, or 7*l.* per 100
" Safrano, 1*s.* each, or 9*s.* per dozen
" Gloire de Dijon, 1*s.* each, or 9*s.* per dozen

HYBRID PERPETUAL ROSES.

**General Jacqueminot, 1*s.* each, or 9*s.* per dozen**
**Louis Chaix, 2*s.* 6*d.* each, or 24*s.* per dozen**
**Madame Vigneron, 2*s.* 6*d.* each, or 24*s.* per dozen**
**Pauline Lansezeur, 1*s.* 6*d.* each, or 12*s.* per dozen.** (Of all the Hybrid Perpetual Roses this is the best adapted for bedding purposes, from its dwarf bushy habit and being always healthy and always in bloom)
**Victor Trouillard, 1*s.* 6*d.* each, or 12*s.* per dozen**
NOISETTE: Triomphe de Rennes, 2*s.* each, or 18*s.* per dozen.

NEW ROSES of 1858, on their own roots.

HYBRID PERPETUAL ROSES, 2*s.* 6*d.* each, or 24*s.* per dozen:—

| | |
|---|---|
| Duc de Cambridge | L'Evêque de Nimes |
| Lord Palmerston | Louise d'Autriche |
| Marie Portemer | Reine de Denmark |
| Thomas Rivers | Triomphe des Beaux Arts |

NEW ROSES for 1859, grafted on the Manetti Stock, strong plants, 4*s.* each, or 2*l.* 12*s.* 6*d.* the lot.

HYBRID PERPETUAL ROSES.

| | |
|---|---|
| Ambroise Verschaffelt | Beauté de Royghem |
| Comte de Beauford | Celine Forestier |
| Docteur Bretonneau | François Ier |
| Empereur de Maroc | François Arago |
| Impératrice Eugenie | Oriflamme de St. Louis |
| Princesse Olympie | Stephanie Beauharnais |
| Virginal | Vicomtesse Laure de Giraud |
| TEA: Madame Damaisin | BOURBON: Octavie Fontaine |

All the above plants are now ready to send out, and J. S. will have the above New Roses on their own roots ready to send out the first week in June.—Bagshot, May 21.

### FRUIT TREES IN POTS.

H. LANE AND SON, the Nurseries, Great Berkhampstead, Herts, have to offer in large quantities fine FRUITING TREES of the below-mentioned, which are now in a good state for travelling, the fruit not being heavy and likely to drop off.

They consist of PEACHES, NECTARINES, APRICOTS, 5*s.*, 7*s.* 6*d.*, to 10*s.* 6*d.* each.

CHERRIES, PLUMS, PEARS, APPLES, 3*s.* 6*d.* to 5*s.* each.

VINES, in pots, from eyes, with 5 to 10 bunches of Fruit, 5*s.* each.

FIGS, in pots, in a bearing state, 3*s.* 6*d.* each.

GOOSEBERRIES and CURRANTS, 1*s.* 6*d.* each.

Also a very large collection of EVERGREENS, of which we have a fine Stock, viz., Araucarias, Cedrus Deodara, Ced. Lebanon, Cupressus, Junipers, Pines, and all Coniferous Plants, 6 ft. to 12 ft. high; Rhododendrons, well set with flower buds, &c.

The Home Nurseries are within five minutes' walk of the Station of the London and North-Western Railway, Great Berkhampstead, Herts.

DILLISTONE AND CO., of the Nurseries, Sturmer, Halstead, Essex, will have great pleasure in forwarding to any part upon receipt of 10*s.*, hamper and carriage paid to London, the following kinds of HARDY CLIMBERS:—

| | |
|---|---|
| 4 varieties of fine Honeysuckles | 2 varieties of Passion Flowers |
| 2 " Clematis | 2 " fine Ivies |
| 3 " Jasmines | 1 " Solanum |
| 4 " Climbing Roses | 1 " Bignonia |
| | 1 " Ampelopsis (tricolor) |

The following Summer ditto, per 20 Plants, for 6*s.* (viz.), hamper, &c.:—

| | |
|---|---|
| 2 Maurandyas in varieties | 2 Kennedyas in varieties |
| 2 Calampelis " | 4 Tropæolums " |
| 2 Calystegias " | 4 Ipomœas " |
| 4 Lophospermums " | |

Also the usual BEDDING PLANTS in well grown and hardened stuff, hamper, &c, 20*s.* per 100.

HERBACEOUS, all the best two of a kind, 20*s.* per 100.

### NEW ANTIRRHINUMS.

HENRY MAY has now ready for delivery his fine SEEDLING ANTIRRHINUMS, selected from an immense collection of very superior Seedlings, and he can recommend them as a most beautiful set and improvement on existing kinds, viz.:—

STANDARD BEARER (MAY'S).—White throat, bright rose lip, with yellow centre, very fine and distinct.

LORD JOHN RUSSELL (MAY'S).—Pure lilac self, buff lip, very fine form and habit.

LORD DERBY (MAY'S).—Creamy white, with yellow lip, beautifully striped and veined with bright purple.

PURPLE KING (MAY'S).—Deep rich purple self, fine spike extra.

SURPRISE (MAY'S).—Bright rosy crimson gold lip, very fine, form good.

ORLANDO (MAY'S).—White tube, bright crimson lip, an improvement on Firefly, very fine.

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|---|---|---|---|
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WM. C. & SON can strongly recommend the above, which has bright green foliage, with a broad margin of pure white, flowers light scarlet of good shape in large trusses in great abundance, and very robust habit. We tested it last year with a dozen other kinds, and found it superior to any for bedding purposes. It was exhibited at the late meeting of the Royal Botanic Society, and received a Certificate of Merit.

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**Wellington Nursery, St. John's Wood, London.**

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### ALLAMANDA VIOLACEA.

This plant so long looked for, and much needed by all English competing competitors, we have much pleasure in introducing for the first time to the public, and no doubt it will be for years the great feature at the leading Exhibitions. The late Mr. Gardner, Director of the Royal Botanic Gardens in Ceylon, speaks of it in his papers, published in the second volume of the London Horticultural Society's Quarterly Journal, as one of the finest shrubs he met with, and "by far the most beautiful species in the genus, bearing numerous large flowers not unlike in colour those of Gloxinia speciosa."

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The scarlet-flowered variety of TYDÆA GIGANTEA, and the double-flowered ACHIMENES LONGIFLORA.

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The HYBRID BEGONIAS raised by Mr. Stange, Gardener to Herrn Consul Schiller, of Hamburgh, including B. PICTURATA and others from B. SPLENDIDA ARGENTEA.

LIERVAL'S NEW PHLOX EVENING STAR.

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BOUVARDIA "BRILLIANT" AND "DELICATA," with large flower tubes, and profusion of bloom.

NEW BEDDING DAHLIAS, GLOIRE DE FRANCE, AND WHITE UNIQUE.—The best white variety out, and the former as the most noble formed and richly coloured flower of any other Dahlia for beddings, a dried plant showing the dwarf and profuse blooming habit may be seen at the Wellington Nursery.

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BREEZE & BANKS'S COLLECTION OF NEW VERBENAS will include the finest blue out, the best rose, the finest violet-purple, the best peach, and maroon black, with large white eyes or centres, the Géant des Batailles far surpassed; a Mrs. Holford in truss and habit, but suffused with a beautiful pink tint. The entire collection includes a full complement of colours, as the finest ever sent out by us, and surpasses with but few exceptions any that we have cultivated under name.

### FINE BEDDING GERANIUMS.

NEW NOSEGAY SECTION.

THE IMPERIAL CRIMSON, AND MODEL NOSEGAY GERANIUMS. See descriptions at page 355, and also the Catalogue.

Among Variegated Geraniums, MISS EMILY DOMVILE will prove a first-class Bedding Plant (see description in Catalogue).

The two GOLDEN-LEAVED varieties with large-petalled flowers.

THE RAINBOW, with the finest red-zoned foliage yet seen.

THE ST. CLOUD, a beautiful accompaniment to FONTAINBLEAU.

THE SILVER CHAIN, with deep margin of pure white; a fitting companion to the GOLDEN CHAIN.

NEW CALCEOLARIAS, scarlet, crimson, and yellow, of proved and true bedding, shrubby, branching growth; not half shrubby, as the majority are.

THE WHITE NOSEGAY GERANIUM (for beds).

N.B. *The quotations of Price to Geraniums Imperial Crimson and Model Nosegay, at page* 355, *should have appeared as* 3*s.* 6*d.* *and* 2*s.* 6*d.* *each only.*

**Wellington Nursery, St. John's Wood, London.**


# The Gardeners' Chronicle.

*SATURDAY, MAY* 21, 1859.


MEETINGS FOR THE FOLLOWING WEEK.

| | | | |
|---|---|---|---|
| TUESDAY, | May 24 | Linnean (Anniversary) | 1 P.M. |
| WEDNESDAY, | — 25 | Royal Botanic | 2 P.M. |
| | | Microscopical | 8 P.M. |

MANY inquiries concerning the BEST MODE OF MAKING CHARCOAL have lately reached us. People are at last desirous of converting their vegetable refuse, their sticks, weeds, leaves, sawdust, and other dry rubbish, into a material that shall have some horticultural value. They have learned that leaves may be easily made to assume the form of something better than leaf-mould, and by a quicker process. Burning has been discovered to be one of the most wasteful of all time-honoured practices; and it is at last felt that it is better to preserve the solid constituents of vegetation than to convert them into air and drive them into space. An excellent symptom this of real unmistakable progress. Intelligence is moving forward.

There can be no doubt that charcoal, whether

derived from plants or the bones or hides of animals, is one of the most useful of all known agents to gardeners. It keeps the soil open, absorbs heat, takes up the best of the solid and gaseous matters which are found in soil, and gives them up to roots when called upon to do so. Besides which it holds in its own substance no unimportant quantity of those alkaline and other ingredients on which every plant must be able to feed. Those who have no experience of its effects may easily see how it acts by planting a Strawberry in a pot filled with earth and charcoal fragments. The new roots will cling to the charcoal with all the symptoms of a powerful natural necessity, and growth will be strong and healthy in proportion.

The only question that really requires an answer in the interest of cultivators is how charcoal can be most easily prepared from such worthless materials as were just mentioned. Before replying to this it is as well to consider in what respects charcoal is different from the substances from which it is prepared. Plants consist wholly of carbon, water, earthy, alkaline, and other incombustible matters, and various secretions differing in different species; as for instance resins in Coniferous plants, gum in stone fruit—and so on. The object to be gained in making charcoal is to obtain the carbon, without the water or peculiar secretions of plants. This is effected by heat. If a piece of wood is submitted to a temperature sufficiently high all the water and other constituents not incombustible and not carbon are separated from the wood, and the charcoal remains behind. That is the whole principle; the difficulty consists in separating the water, &c., from the carbon without setting the latter on fire; for if it once gets into a blaze it is itself converted into air and lost. What is wanted then is to heat vegetable substances up to a high temperature without allowing them to burst into flame. That is done by not allowing air to get to them while heated, and herein is the practical difficulty of charcoal making.

Having premised thus much, we will endeavour to describe two or three simple methods which, if not very scientific, are good enough for such a rough operation as making charcoal for gardeners. The most perfect way is the following:—Cut pieces of wood into lengths of 2 or 3 feet, and so that they can be packed pretty closely together and form a heap. This heap may be either placed on the level ground or in a pit; but in the latter case three or four openings should be cut in the sides from the bottom of the pit outwards in order to admit a little draught for the ignition of the wood in the first instance. In the centre of the space several long pieces of wood must be fixed so as to leave an opening for introducing the kindling; or an opening may be formed by pieces 12 or 15 inches in length, two of which are laid horizontally 6 inches apart; two others are then laid at the same distance from each other across the two first, and so on; thus forming a rough flue 6 inches square from the bottom to the top of the heap. Round this billets, faggots, or bundles of wood are closely packed in a nearly upright position. When completed the heap should be of a round, conical form. The wood may, however, be arranged in the form of a ridge, several openings being left for firing. When the pile is completed it must be covered with turf, which may be further closed by earth or sand as is found necessary during the process. Where turf cannot be easily procured, old mats or any other rubbish that will prevent the earth from mixing with the wood will afford a tolerably good substitute. When all is covered except the opening at top and some holes for air near the bottom fire is introduced down the central flue. As soon as the heaps are fairly in a blaze, the top must be well closed and the smoke, but not flame, encouraged to issue as equally as possible from every other portion of the surface by making holes with a pointed stick where smoke does not appear. Some portion of the wood will necessarily be consumed before sufficient heat can be obtained, but that must be disregarded. As soon as the wood becomes heated to 212° the water is given off in the form of steam, and the whole mass takes fire readily enough. Great care is then necessary to prevent flame bursting out; as the heat increases the openings in the covering must be reduced, and all must be finally closed when the charring is found to be complete.

Excellent material for mixing with potting earth for striking cuttings or growing seeds, &c., may be readily prepared from sawdust. A fire of dry sticks, &c., being lighted on the ground upon a circular space, when it is well alight begin to heap on sawdust with a shovel, allowing plenty of air at first for a few hours till the fire has got well hold, then cover the whole over with sawdust and pat it down with the shovel, leaving three or four stout sticks projecting to the outside, which can be raised now and then to admit a little air. When such a heap is once well alight it may be kept so for months, or indeed any length of time, taking care always to have a load or two of sawdust at hand, which is to be thrown on when fire breaks out at any spot. The heap should be sheltered from strong winds, and never allowed to burn out into the open air. A part of the charcoal thus made may be taken away every month or so from one side of the heap, leaving the rest to keep the fire burning. Any one within reach of a sawmill can get sawdust for the trouble of carting it.

Nearly all the charcoal is prepared in France by a process which is known by the name of carbonisation in heaps (*meules*). The wood is arranged in conical heaps of variable size, which are covered over with a thick layer of earth and of coal ash. The heap is kindled from the centre, where a cavity is kept open for that purpose, and which descends to the base. In this cavity burning charcoal is placed and some small pieces of wood, and the air is admitted by holes formed at the base and over the whole circumference of the heap. After some hours, during which the central cavity or chimney is allowed to remain open, in order to determine a more active combustion, the upper opening is shut, and the carbonisation is directed from above downwards, by piercing holes in the covering nearer and nearer to the base of the heap as the operation advances.

We apprehend that any intelligent workman, after such instruction, would soon form charcoal heaps—in which bones are an excellent ingredient—out of the refuse within his reach. For wood may be substituted anything green or dry than can be had; even freshly mown Grass may be employed to cover over the heaps so as to exclude air; for it will become dry in time, catch fire, and then when covered with other Grass or with earth will form good charcoal. If he lives in a clay country the heaps may be covered with dry clay only, which, if the heaps are large enough, will become red, when it may be itself covered over by more dry clay, and so on, as long as the core is hot enough. The successive falling in of the clay among the charcoal is by no means objectionable—quite the reverse.

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A METHOD of ensuring the SUCCESS of trees, especially EVERGREENS WHEN TRANSPLANTED, is mentioned in the Proceedings of the Horticultural Society of the Rhone. M. LUIZET, who recommends the following process, describes it as possessing remarkable efficacy in reviving plants dried by having had their roots too long out of the ground, and in ensuring their safe removal in late spring planting.

Into a vessel, tub, or even hole in the ground, holding about 20 gallons, pour as much water as will make it three-quarters full. Add to this about 20 lbs. weight of cowdung mixed with the same quantity of fine rich soil. By working the mixture for a long time and carefully, you reduce it to the consistence of whitewash. In this mixture steep the roots of your plants just before putting them into the ground; the earth thrown after them into the hole sticks to the roots, which immediately begin to swell. At the very first movement of sap rootlets appear through this coating, which gives them immediate manure, and not only brings on but secures the further formation of roots. Once fairly started, there is nothing more to fear.

This reminds us of the plan for encrusting seeds with manure in order to give the seedlings a good start, recommended by an ingenious gentleman at Orleans, of which an account was given in a former volume (1857, p. 189). Plants that have been packed too long in the late dry weather, and whose roots have become dry, would afford a good opportunity of testing the value of M. LUIZET's practice, which has at least the merit of simplicity and cheapness; though it may not be altogether new.

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THE public will learn with much satisfaction that Mr. EYLES, one of the best and most experienced Gardeners in the country, has been appointed to the superintendence of every department of Horticulture, both in-doors and out-doors, at the CRYSTAL PALACE.

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## NIGHT TEMPERATURE OF FORCING-HOUSES.

WHEN I read Mr. Ayres's communication in the *Gardeners' Chronicle* of April 9 on this subject, I thought it so likely to lead the inexperienced into serious mistakes that I sat myself down and wrote the few remarks which appeared in the *Gardeners' Chronicle* the following week. After a few weeks there appears another article in the same Journal on the subject by Mr. Ayres. But instead of meeting the statements in my remarks, Mr. A. runs away altogether from the subject; he says, "I was fully aware that I should call into action the querulous disposition of some of your correspondents. Disbelief appears to be the order of the present time, and any attempt to disentangle simple practices from by-gone usages is at once met and combated as rank heresy." Again he says, "I am quite convinced that according to ordinary and generally received rules there is no vegetable which costs so much to grow as winter or early spring Cucumbers. In fact, Cucumber growing has been invested with a kind of wonder," &c. He further on says, he "has some small, very small, Queen Pine plants coming into bloom which, he says, unless he shall be deceived will bring fruit not less than from 4 to 6 lbs. in weight."

Now, I ask does Mr. A. expect this result solely from keeping a low night temperature? Does Mr. A. expect this result without any bottom-heat? He also tells us he has in the same house eight kinds of Vines, including Muscats, Frontignan, Chasselas Musqué, and Mill Hill Hamburgh, and that his Grapes are set as well as could be desired.

Now, all this is but an evasion of the matter at issue between Mr. Ayres and myself. I expressed my belief that Mr. Ayres's success in growing Cucumbers during the winter was to be attributed as much, if not more, to the comfortable bottom, which, according to his own statement, the plants had, as to the night temperature they had. I did not dispute the advantages of keeping a low night temperature. I knew its advantages long ere Mr. Ayres's little work on Pine Cucumber Culture appeared, and that from practical experience in some of the very best gardens in the United Kingdom, and also from having read and thoroughly digested a work which was published some years prior to Mr. Ayres's Cucumber treatise—I mean Lindley's Theory of Horticulture. But to return to the question of bottom-heat. Mr. A. says (see p. 313) that "his plants had a comfortable bottom-heat from water around the pipes in the tank into which the roots soon introduced themselves." Now, I ask Mr. A. this plain question: if this "comfortable bottom-heat" which he describes was wanting, would he be able to grow Cucumbers successfully in winter? My own opinion is, and I believe it to be the opinion of most of the practical men in the kingdom, that Mr. Ayres could not grow Cucumbers in winter without bottom-heat—no matter what the night temperature may be. With a steady comfortable bottom-heat, and by carefully attending to all the other necessary conditions, Cucumbers can be most successfully grown during winter. Without any bottom-heat, no matter how carefully all other conditions (the night temperature included) may be observed, the attempt to grow Cucumbers in winter will end in disappointment.

Mr. Ayres says, "I have no doubt 'M. S.' knows of many instances where the bottom-heat was provided, and top heat too, Cucumbers anxiously looked for, and yet they 'came not;' and were it not invidious I could name several gardens where the 'comforts' were provided in superabundance, and yet the result was what? Etiolated stems and tissue paper leaves." I beg to assure Mr. A. I never knew an instance where the necessary bottom-heat was provided, and all other conditions properly attended to, but was attended always with success. But Mr. Ayres says—"I know gardens where the 'comforts' were provided in *superabundance*, and yet the result was what? Etiolated stems and tissue paper leaves." No doubt Mr. Ayres may know *several* gardens where the "comforts" were provided in superabundance, and such was the result. I beg to tell Mr. A. that I have too high an opinion of the intelligence and skill of the gardeners of the present day to think that such instances are common. Plants, like animals, can be injured or killed by a superabundance of the "comforts." A little guano will be beneficial to some things, but if a superabundance be given it may kill. A certain amount of bottom and top heat is essential to the successful growth of many things, but given in superabundance will always do injury. "For my own part," Mr. A. says, "I am getting less and less anxious about bottom-heat; in moderation, say never to exceed 80°, for any plant." I do not regard bottom-heat as a panacea for all the ills that plants are heir to; but I deem it absolutely necessary in the cultivation of all plants from tropical and warm climates. A bottom-heat of 75° may suit Pine plants in a state of rest in the winter months, but a bottom-heat of 85° will be nearer the mark in the summer months.

I will now briefly state my mode of growing winter Cucumbers. I always sow the last week in July, and put the plants out the first week in September on a bottom-heat from 75° to 80°, which I endeavour to maintain all through the winter months. During the whole of September and October I never give any artificial top-heat, unless a very severe frost should set in towards the end of October. I give all the air that is possible. I always give it as early in forenoons as the state of the weather permits. During the middle of the day, if the weather be mild, I give what Mr. A. would call a superabundance of air, but I always shut up before it gets late in the afternoons. I attend regularly to tying down the shoots, and I pull off any male blossoms that appear. By this treatment the plants are by the month of November, when Mr. A. plants out, in such a state of health and robust vigour, that no matter how severe the winter may be, by timely attention in observing the

necessary condition, I have always had a superabundance of Cucumbers. Owing to the amount of solar light and influence the plants receive during September and October the stems are as thick as my forefinger—not etiolated, Mr. Ayres—and the leaves are much more like pasteboard than tissue paper. I maintain during November, December, January, and February a night temperature of from 55° to 60°, which varies a degree or two according to the weather; if it gets as low as 50° I am not alarmed, so long as I know the roots have a sufficient bottom-heat, not a superabundance. I keep a top-heat of from 60° to 70°, varying a little according to the weather. By this treatment I get a superabundance of Cucumbers during winter. In March the plants are pruned in a little; they get a surface dressing of fresh soil and start into a fresh growth. By giving them the necessary attentions they bear all through the season until the following September, when they are replaced by young plants.

By the foregoing plan I have never failed to have a superabundance of Cucumbers at all seasons. Without the necessary amount of bottom-heat in winter I could not do it. The plan is as simple and inexpensive as Mr. Ayres's, and will not lead to disappointments. The readers of the *Gardeners' Chronicle* I leave to decide whether Mr. Ayres or myself is right. *M. S.*

## Home Correspondence.

*Waltonian Cases.*—"Old Subscriber" and others who are in difficulty as to hardening off the plants struck in a Waltonian case, would at once give up their fears if they were to get sight of one at work. There are two square panes of glass in zinc frames which fit on the top and render the case almost air-tight, when of course the heat is fierce and may be as moist as you please according to the state of the sand in the tray. Across the centre is a strip of zinc on which the lights meet for support. Now by drawing each light over this so as to lap one over the other in the centre, the two ends are left open. To harden off a few at a time you have but to remove the pots from the centre to the sides, and give air in the way just stated, for then the ends of the case are cool. After 24 hours, the pots may be lifted out and stood on the edge of the case or wedged in between the side of the case and the zinc frame of the light which is next them. Thus they have full daylight, and a current of warm moist air ascends from the case round them so as to comfort them for a little while longer; and after a day or two in that position they may go to any warm shelf in a window or a greenhouse. Little manipulations of this kind are not easily described, but an experienced hand finds no difficulty in getting several degrees of heat, moisture, ventilation, &c., simultaneously, for you can have one side quite open and the other close; you can take off the lights entirely, and allow the sand and the pots to get as dry as you wish, in which case the heat declines, because no longer confined, and the plants can be transferred to any quarter that would suit stock lately removed from a hot-bed. In a greenhouse there can of course be no difficulty. The candles with which I have been experimenting this season have answered admirably. Messrs. Price & Co. have made at least a dozen different kinds for me, and I have carefully tested their several merits with a view to determine which is the best adapted to the purpose. In such experiments there are many nice points to determine, and the conditions I regard as essential are not yet completely accomplished. Since March 1st I have obtained from my case pans of Ricinus, Hibiscus Lindleyi, Quisqualis glabra, Thunbergia species, Cycas sphærica, Melia sempervirens, Duranta Plumieri, Datura fastuosa, and S. American species, Cannas in variety, Solandras, Abutilon species, Inga bigemina; Cassia occidentalis, fistula, grandis, and purpurea; Casuarina muricata, Asclepias tuberosa, Bignonia var., Lantana trifolia, Lotus indicus, above 100 Fuchsias, 1000 seedling Lobelias, nearly 500 Asters, and various lots of bedding and greenhouse plants. Many of them were put in to test the capabilities of the invention, not because I wanted them, and from my experience in its management, I would undertake to propagate in it every kind of stove and greenhouse plant, and then convert the tray into a Melon bed, and maintain a steady bottom-heat with candles. It can be made ready for use in five minutes, and again taken to pieces and packed away in a similar short space of time. *Shirley Hibberd, Stoke Newington.*

*Watercresses.*—I have been asked whether there are two permanent varieties of the Watercress, the green and the brown. I said I had no doubt they are one and the same plant; that they are always so considered in Lincolnshire, where it is exceedingly abundant; and that my impression was—though it was only an impression—that I had often seen them growing on the same stem, or at any rate from the same root. My querist, who cultivates them in Middlesex, was not satisfied, and took me to the stream in his grounds, Kempton Park, to show me that I was wrong. With a rake he brought out a few entire plants of the brown variety, and certainly every sprig had the brown tinge. He then drew out a considerable number, perhaps 20, of the green, which he considers worthless, though here they like it best, and on these there was not a leaf that was not pure green. Is it so then that the plants do not yield interchangeable produce? And if so, does the seed of the one not produce the other? *Iota.* [Botanists do not distinguish these varieties; but growers do. Bradbury, one of the early writers on the cultivation of Watercresses, speaks of three sorts, the green, the small brown, and the large brown. The first grows easiest, the second is the hardiest, the third the best.]

*The loquacious Gentleman.*—Personality is so objectionable that compliance with your correspondent's wish is out of the question, and his desire to know who was meant by the foregoing gentle epithet must remain unsatisfied. But there can be nothing wrong in describing the class of people to which he belongs—fortunately a small class. Such men have a strange incoherent style of speaking like that of the unhappy beings to be seen by visitors to private asylums. When the floodgates of their garrulity are once opened their expressions are all introduced by the word I; thus "I don't approve of it; I think I know more than most men; I have two gardeners; I do my own work though; I wouldn't give a farthing for anybody's opinion except my own; I know more than all the gardeners in England; I have a collection of Primroses; I have above 20 sorts; I gave half-a-crown apiece for some of them; I grow Cabbages; I have a wonderful lot of Gooseberry bushes; I grow Roses; I have the finest Canonia ægyptiaca in England; I gave five shillings for it; I don't mind what I give; I am ready to give five shillings more for another specimen as good as what I now have; I disapprove of consulting gardeners about garden work; I think all nurserymen humbugs; I think the builder does not know his business; I know more about fruit than twenty Rivers's, and Hoggs', and Thompsons'; I can build a better house at half the price; I can make a Cucumber bed; I have got two Cucumber beds; I recommended that, but nobody would take my recommendation; nobody ever will; I think them wrong, very wrong; I was right; I am always right; nobody is so right as I am." It is thus the loquacious gentlemen gabble on; and this little peculiarity, while it leads satirical persons to call them Messrs. Ibymyselfi, raises a doubt in the minds of the uncharitable as to their sanity. *Fletanus.*

*Rainfall in Cheshire.*—Referring to some remarks that appeared in your Paper respecting the fall of rain, the enclosed may be of interest to your readers. You will notice that for the last 10 months we have had a fair quantity of rain, and that the great deficiency here was the last two months of 1857, and the first three months of 1858. *G.*

FALL OF RAIN AT HOOLE BANK, CHESTER.

| | 1850 | 1851. | 1852. | 1853. | 1854. | 1855. | 1856. | 1857. | 1858. | 1859. |
|---|---|---|---|---|---|---|---|---|---|---|
| January | .7 | 2.35 | 3.13 | 2.09 | 1.07 | .2 | 2.62 | 1.9 | .8 | .55 |
| February | .2 | .82 | 1.16 | .56 | .58 | 1.18 | 1.07 | .46 | .18 | 1.44 |
| March | .75 | 2.47 | .72 | 1.04 | .77 | 1.66 | .56 | 1.04 | .72 | 2.87 |
| April | 2.62 | 1.68 | .98 | 1.18 | .59 | .33 | 1.0 | 2.28 | 2.44 | 2.45 |
| May | 1.57 | 1.24 | 1.27 | 1.05 | 1.01 | 1.36 | 1.6 | 3. | 1.87 | |
| June | 3.16 | 3.35 | 3.40 | 4.20 | 1.24 | 2.48 | 2.54 | 3.82 | 1.36 | |
| July | 2.21 | 2.09 | 3.35 | 5.34 | 2.45 | 4.36 | 3. | 2.14 | 1.34 | |
| August | 2.7 | 1.48 | 4.47 | 2.24 | 1.74 | 2.85 | 3.75 | 2.40 | 1.25 | |
| September | 1.8 | 1.21 | 2.94 | 1.99 | 1.19 | 1.12 | 2.76 | 1.98 | 2.76 | |
| October | 2.04 | 2.25 | 3.54 | 2.48 | 1.47 | 2.32 | 1.99 | 1.98 | 2.87 | |
| November | 1.4 | 2.53 | 4.86 | 1.02 | 1.7 | .09 | 1.03 | .94 | 1.65 | |
| December | 1.05 | .7 | 2.36 | .29 | 1.79 | .81 | 1.51 | .36 | 2.16 | |
| | 30.2 | 23.17 | 32.27 | 24.38 | 16 8 | 18.70 | 25.23 | 22.09 | 19.40 | |

*Vines.*—I enclose you a piece of a branch from a Black Barbarossa Vine. They rot off in the way you see this, when from 12 to 14 inches long, some with bunches of Grapes formed on them. Can you tell me the cause or name a remedy? The Vines have grown, had fruit, and are about three years old. *Robert Norfolk.* [Cases like this should be inquired into on the spot. The specimen sent is of an unusually deep green, but the leaves are something smaller than in well grown plants. From immediately below the leaf the succulent branch is rotten all through or is about to become so, and above the leaf there is a similar tendency, so that the whole of the young shoots may be expected to meet the same fate. There can be no doubt that the cause is in the border; if coarse rank manure or Mr. Roberts's garbage has been used, that would explain the mischief; or perhaps the border is cold and wet, and the house insufficiently ventilated. The mischief seems to arise from the Vines taking up more fluid than they can decompose or throw off by perspiration, and the dark colour points to the presence of nitrogen in excess, as would arise from an overdose of ammoniacal matter in the soil.]

*Glass Dealing.*—Living in Ireland and wanting glass for hothouse purposes, I caught sight of Thomas Millington's advertisement in your Paper, "Reduced tariff on glass." I wrote to order "three boxes of glass, 8½ by 10½ inches, 4ths quality," which appears in the advertisement to be 12*s.* 6*d.* per box. I receive the three boxes, but am charged 18*s.* 7*d.* I write to T. Millington to remonstrate and to ask for an explanation, and he writes in answer to say that he has sent the glass he usually sends to Ireland, and that I made no allusion to his advertisement when I gave the order. I refuse to keep the glass and return it as not according to my order, and am now threatened with law proceedings. I shall be greatly obliged by your inserting this letter in your Paper, as under the circumstances Thomas Millington's advertisement is calculated to mislead, and the public ought to be made aware how far the terms of that advertisement are to be depended upon. I enclose my card. *E. R., May* 17.

*How to Grow Large Potatoes.*—To improve the size of Potatoes, whether planted with small or large, whole, or even cut Potatoes, now in May, when the plants are only a few inches high, let the shoots be reduced by pulling them up to one, two, or at most three of the strongest. The tubers will consequently be fewer and very much larger, also in measure nearly all fit for market and the table. Every grower will do well to try a few rows by way of experiment, if he disbelieves the truth of this statement. *A. Hardy, Maldon, Esser.*

*Morels.*—Is not the enclosed sketch an extraordinary size for Morchella esculenta? Morels about the size of a hen's egg have been plentiful this spring in our neighbourhood, but this week we met with the one from which I made the sketch, and also another full 7 inches wide, but it was very irregular in shape, and flattened like a cock's comb. The sketch represents a specimen with the circumference of the pileus 14 inches. Gathered on the borders of the Fir plantations, King's Weston Hill. *J. S. R., May* 11. [This is by far the largest specimen we have ever seen.]

*The Church Mite.*—At the gathering of the Microscopical Society at the South Kensington Museum, on Thursday the 7th inst, I had the pleasure to exhibit under the microscope the Acarus from St. Peter's Church, Colchester, of which you lately gave a description and cut. I have been requested both by the architect and churchwarden of St. Peter's to acquaint them with the result of my observations, and as you have taken this Acarus under your special auspices, I have much pleasure in forwarding to you for publication the following short account of it. Mr. Benham, churchwarden of St. Peter's, writes to me as follows:—"A few vaults were unavoidably broken into in lowering the floor, but were immediately closed and cemented, and although experiments show that the creatures exist in the soil under the pews, yet no doubt (!) it is from the decayed wood lying in that soil that they proceed"—"they reappear very quickly after all that can be seen are destroyed." Mr. Hayward says, "Similar insects though in smaller numbers have been found in a neighbouring church." The curate writes, "the earth is full of them, they come up and lay eggs in the crevices of the woodwork and the heat hatches them." The heat being a new apparatus for warming the church, the furnace being in the crypt underneath; from all which we may learn that the earth beneath the church has been lately disturbed and that artificial heat has been added. I forward you a drawing of the Acarus, which I propose calling Acarus mansolei as being more definite than Acarus ecclesiasticus proposed by Mr. Westwood in his paper, as it would be very disagreable for the ecclesiastics if by chance the Acarus should be associated however remotely with them. [Nevertheless, the name Acarus ecclesiasticus has the right of priority and should be retained.] The drawing I inclose was taken with the aid of the sixth of an inch object glass, from a live female specimen, very large; it differs very materially from the woodcut, the latter being from a dead specimen, and not showing the plumose tails, the enlarged body, or the hairs covering it. I find it to be a full grown 8-legged Acarus, most resembling the Acarus hippopodus described and figured by Hering. "Its body is twice as long as it is broad, beset all over with small hairs, head retractile, proboscis consisting of two valves moving laterally, mouth directed rather downwards, close to it two small palpi, feet eight, five jointed, the last joint as long as the four preceding, with a small sucking disk at the end, and two small hairs on each joint; on the abdomen a small prominence, and on each side four long straight plumose bristles. The three pairs of bristles on the back and those at the abdomen can be raised like the tail of a peacock. The large bristles are plumose, the hairs on the joints of the feet diminish in length towards the extremity of the foot. Only the third joint of the first pair of feet has a longer hair." This describes the creature with really remarkable accuracy, and if you will refer to the drawing, made before reading the description, you will discover the resemblance. The great majority of the Acari are animal parasites, of which there are myriads, varying in every conceivable manner, from the nidus in which they are discovered. The Acarus mansolei I have little doubt is a higher stage of existence of the Acarus folliculorum—Von Siebold. He goes on to state, "in living persons especially if fat, and in dead bodies, the contents of one or several vesicles may be pressed out by placing the nails upon the skin two or three lines apart, and then moving them towards each other." "In the sebaceous matter which then issued, I found the animals very easily. In dead subjects I have also evacuated them by pressure."—"We shall then find that the animals occur in extreme abundance, and that authors like Wilson, according to whom but few men are free from the mites, are in the right."—"They continue to live for a considerably time in fatty oils, whether taken from living or dead subjects. If the animals are still, this is only an apparent death, and they again become lively by the application of a gentle heat." Here we have the presence of an Acarus distinctly described as existing in dead bodies, and the Acarus hippopodus is found in the gangrenous feet of horses, portions of flesh already dead. Without therefore any difficulty the Acarus mansolei may be traced to the remains found in vaults. Gervais has described the Acarus cursor as existing in skeletons; I have however not had an opportunity of consulting his work. The eggs of the Acari are very rapidly hatched by artificial heat, or they will resist cold for almost any length of time. I therefore have no hesitation in stating that the Acari of St. Peter's arise from the vaults and mould beneath the pews, that they are encouraged by the heat of the surface and hot-water pipes. Now for the question of destruction. It will be found on referring to Von Siebold, Hering, Heim, Hebra, Hardy, &c., that Acari are exceedingly difficult to destroy; they will live for a considerable time "in concentrated solutions of soap, or in fats;" they are rapidly destroyed by the essential oils, especially the oil of rosemary, turpentine, the sulphuret of potass, and the sulphide of calcium kills them. I should therefore recommend the following plan for their destruction:—Dig into the mould beneath the pews, and scatter about the vaults the cheap sulphide of calcium, at the same time keeping the church heated to hatch the eggs, destroying the animals with the sulphide as they appear. Wash the pews with turpentine once every three days; this should in about 10 days destroy all the animals there might be present at the time. As I have already

trespassed too much upon your space, I will conclude, but I shall be happy at your desire to enter into several other questions I had noted for observation at some future time. *Harry Wm. Lobb.*

## Societies.

Crystal Palace Horticultural Exhibition: *May* 18.—This, the first great Floral Exhibition held in the Palace this season, may be stated to have been in every respect successful except as regards company, which, owing to the unfavourable state of the weather, was but limited. True, fruit was scarce; but plants, although presenting little novelty, were abundant. Stove, Greenhouse, fine-foliaged plants, and Azaleas occupied the benches along the sides of the principal transept; a noble circular group of Miscellaneous plants, surmounted by a fine specimen of Norfolk Island Pine, the centre at its intersection with the nave, and the fruit table the rear in front of the great organ. Lining the nave on both sides were collections of Pelargoniums, Roses in pots, groups of Azaleas, Cape Heaths, Ferns and Orchids. These it may be remarked were shown to more advantage than usual, owing to the green baize background against which they were staged having been raised sufficiently high to shut out almost completely from view the palace and its profuse ornamentation. Of Stove and Greenhouse plants a noble collection was furnished by Mr. Dods, gr. to Sir John Cathcart, Bart. It contained blue Leschenaultia, Everlastings, Eriostemons, Azaleas, among which was a very fine specimen of Glory of Sunning Hill, a perfectly double-flowered pink variety, which was deservedly the admiration of all who saw it; Adinandra fragrans, profusely ornamented with terminal clusters of rich rosy blossoms; the early flowering and handsome Boronia pinnata, Pimelea spectabilis, Acrophyllum venosum, certainly one of the most perfect examples of the kind we have ever seen—not large, but most compact, and loaded with little branchlets furnished for a considerable portion of their length with whorls of pure white flowers, surmounted by a tuft of pretty red leaves; Boronia serrulata, such a specimen as is rarely seen, being literally covered with rosy pink blossoms from top to bottom; the handsome lilac Tetratheca cricifolia; a conspicuous white Azalea forming a depressed cone, quite a mass of flowers; and Erica depressa, a fine specimen with branches hanging down so as to almost conceal the pot. Other collections of 20 came from Mr. B. Peed, gr. to T. Treadwell, Esq.; Mr. Page, gr. to W. Leaf, Esq.; Mr. Baxendine, gr. to W. H. Smallpiece, Esq.; and Mr. Rhodes, gr. to J. Phillpot, Esq., of Stamford Hill. Among these were nice specimens of Pimelea rosea, Polygalas, blue Leschenaultias, Allamandas, Boronias, the handsome Cape Heath E. tricolor Wilsoni, Boronia Drummondi, loaded with pretty rosy pink star-shaped blossoms; Franciscea, Pimeleas, Ixoras, Everlastings, and Vincas. Smaller collections, of which there were 11 from private growers and three from nurserymen, consisted for the most part of well-grown specimens of plants similar to those just enumerated.

Of plants remarkable for fine foliage there were one or two collections. The best came from Mr. Cutbush of Barnet, and Mr. Dods. The former had a most beautiful plant of Maranta capitata with large obovate lively green leaves prominently ribbed, striking and effective; others consisted of Caladiums, Cissus, Palms, Ferns, Aralias, and plants of that description. Mr. Dods had handsome specimens of Farfugium and Platycerium grande, Caladium marmoratum, and others. Mr. Young and Mr. Summers also showed plants remarkable for the beauty of their leaves.

Orchids were furnished in tolerably good condition. Considerably the best collection came from Mr. Bullen, gr. to J. Butler, Esq., of Woolwich. It contained Epidendrum bicornutum, Saccolabium retusum, guttatum, and another fine species with five spikes of flowers; Vanda suavis, teres, tricolor, and insignis; Aerides odoratum, Cattleya Skinneri, the snowy white Calanthe veratrifolia, Coelogyne Lowi, with five spikes of buff or rather dull yellowish blossoms; Chysis bractescens, and the rare Cypripedium hirsutissimum, a fine plant with more purple in its flowers than is usually met with in this singular genus. Mr. Gedney, gr. to the Rev. W. Ellis, Hoddesdon, and Mr. Carson, gr. to W. F. G. Farmer, Esq., Cheam, also showed in this class. In these we remarked the orange Saccolabium curviflorum, Acanthophippium bicolor, with multitudes of blossoms, literally carpeting the surface of the pot; the bright yellow Oncidium ampliatum, the somewhat rare Burlingtonia rigida, Camarotis purpurea, Vanda teres, the handsome Arpophyllum giganteum, with four flower spikes; various Aerides, Dendrobium aggregatum, a charming mass of yellow blossoms; the white Butterfly plant (Phalænopsis), the orange Lælia cinnabarina, Cypripedium villosum, a finely-flowered Cattleya Mossiæ, Dendrobium albo-sanguineum, with buff flowers, having a brown centre; the showy Lycaste Skinneri, and a large plant of the Wallich Phaius. Smaller groups came from Mr. Dods, Mr. Rhodes, and others. In the Nurserymen's Class, Mr. Woolley sent a handsome group, in which we more particularly remarked Vanda tricolor and insignis, the Fielding Fox-brush Aerides, Lælia purpurata, a magnificent species with large pure white blossoms tipped with deep purple; Stanhopea oculata, various Oncidiums, Calanthe veratrifolia, Phalænopsis, the slender growing Dendrobium lituiflorum, and others of which mention was made in our report of the Horticultural Society's exhibition in St. James's Hall.

Of Azaleas there was, as might be expected, a grand display. The plants from Messrs. Green & Carson being large and very full of blossom, and occupying as they did conspicuous positions in the principal transept, were very effective, and were deservedly much admired. In both were good examples of the yellow sinensis. The others were equally well known kinds. Collections of smaller plants were abundant. In the Nurserymen's Class Messrs. Ivery & Turner had good collections. In the former were showy plants of Iveryana, double red, magnificans, a white variety; Glory of Sunning Hill, the double kind mentioned above; and Criterion. Mr. Turner had Gledstanesi, lateritia, variegata, alba lutescens, Perryana, atropurpurea, Symmetry, and Beauty of Berkshire. Messrs. Atlee and Fraser also showed Azaleas. Of newer kinds, Mr. Turner sent a group in which were Advance, General Outram, fine orange scarlet; Criterion, Model, Miltoni, Sir H. Havelock, crispiflora, Patrichia, large and fine; and Prince Jerome, a variety with finely-formed blossoms of good colour. Messrs. Ivery had Rosy Circle, Admiration, white flaked with purple; Duchesse Adelaide de Nassau, a handsome American kind; Ivery's Gem, Model, and crispiflora. Mr. Green sent, among others, Gem, deep salmon, and Glory of Sunning Hill. From Messrs. Ivery, of Peckham, came a collection, in which was the new continental kind called Petuniæflora, a rosy peach-coloured sort, of good form, but reported not to stand sun well. From Mr. Page came a purple flaked white called Queen Victoria.

Cape Heaths were produced in large quantities, and in good condition. We however did not observe among them anything new or remarkable.

Tall Cacti were furnished by Mr. Green and Mr. Bunn, gr. to J. R. Scott, Esq., of Hornsey. Both collections contained good plants of well-known kinds, among which we noticed a white kind allied to Epiphyllum crenatum.

Roses in pots were truly magnificent, and as a matter of course much admired. Messrs. Lane, Francis, and Paul all had fine specimens, as had also A. Rowland, Esq., and Mr. Terry, gr. to C. W. G. Puller, Esq., Youngsbury, Herts. Among them the following names will be familiar to our readers, viz., Baronne Prevost, Blairi, Paul Perras, Paul Ricaut, Niphetos, Souvenir d'un Ami, one of the finest of all Tea Roses; Coupe d'Hébé, Souvenir de Malmaison, Jules Margottin, Gloire de Dijon, Madame Masson, Aubernon, Louis Bonaparte, Louis Odier, Chenêdolé, Lion des Combats, Louis Peyronny, Madame Willermoz, and Devoniensis. The gem of the exhibition was unquestionably a plant of General Jacqueminot in Messrs. Lane's collection. This was just in perfection, its blossoms being of the most intense crimson scarlet, and of the most striking description. Vicomtesse Decazes from Mr. Francis was also very fine, its numerous bright yellow flowers being greatly admired. Isabella Gray was also present, but by no means in good condition.

New or rare plants were scarce. Mr. Carson had Burlingtonia Farmeri; Mr. Dods a finely grown plant of the orange scarlet Genetyllis macrostegia; Messrs. Veitch the handsome Pothos, Begonias, and other plants mentioned in our report of the Horticultural Society's late exhibition; and a small yellow Daviesia called umbellata came from Mr. Green. Of plants not in flower Messrs. Veitch sent their Holly-leaved Japanese Olea, and Acer japonicum polymorphum from Japan; this had small reddish deeply cut leaves, and if hardy, as it was stated to be, must prove a most important acquisition. Mr. Carson sent the bright orange Aphelandra Porteana.

Among Miscellaneous plants was a variegated variety of Barbarea præcox, our early British Winter Cress, which was recommended as a plant for edging flower beds with, as was also the grey-looking Centaurea candidissima. These came from Messrs. Lee, who likewise had a variegated Tussilago Farfara, and some rare Ferns. From Messrs. Paul came a plant of the yellow Rhododendron Dalhousieanum, with 14 blossoms on it all in the greatest perfection. Flowered thus profusely it is extremely handsome and effective. Of Spergula pilifera, the new substitute for lawn Grasses, Mr. Summers, gr. to A. Mongredien, Esq., sent a large panful, which seemed to excite considerable interest. It was deep green and in excellent condition.

Ferns were not so plentiful as might have been expected. Mr. Summers, gr. to A. Mongredien, Esq., Forest Hill, contributed a good collection of Exotic kinds; and from Mr. Savey, gr. to E. A. de Grave, Esq., Fetcham, near Leatherhead, was a very good set of British kinds, all well grown plants.

Pelargoniums were as a whole scarcely so fine as we have seen them in former years. Mr. Turner's, however, formed an exception. His collection of 12 plants were all that could be desired. Conspicuous among them were Symmetry, Empress Eugenie, the prettily spotted Sanspareil, an example of which might be seen in every collection; Review, Rose Celestial, Mazeppa, Governor-General, Mr. Marnock, a finely spotted variety; Etna, Viola, Candidate. Among Messrs Dobson's plants we remarked Fairest of the Fair, Sanspareil, Vestal, Wonderful, Governor-General, and Satirist. Messrs. Windsor, Fraser, and Gaines also showed in this class.

In the Amateurs' class the best plants came from Mr. Wiggins, gr. to E. Beck, Esq., of Isleworth. These were well grown and finely flowered. Among the kinds were Bride, Fanny, Sanspareil, Fairest of the Fair. Of fancy kinds an excellent collection came from Mr. Turner. Messrs. Gaines and Windsor also sent groups. In the Amateurs' class were collections from Mr. Weir, gr. to Mrs. Hodgson, of Hampstead; Mr. James, gr. to W. F. Watson, Esq., of Isleworth; and Mr. Holland, gr. to R. W. Peake, Esq., of Hounslow.

Of Fuchsias we observed one rather striking collection, the plants in which stood from 8 to 10 feet in height at least, and were tolerably well flowered. They were all trained to single stems.

Cinerarias were exhibited in beautiful condition by Mr. Turner, who sent Slough Rival, Incomparable, Brilliant (Smith's) crimson, Brilliant (Lidgard's) white tipped with blue; Eclipse, Perfection, and Regulator, the last a good blue. Some fine plants were also furnished by Mr. Shrimpton, gr. to A. J. Doxat, Esq., among which we noticed optima, Loveliness, Mrs. Hoyle, Admiral Dundas, Lady Paxton, and Prince of Blues. Messrs. Dobson had Perfection, Mrs. Livingstone, and others, the names of most of which were the same as those just mentioned.

Auriculas Ne Plus Ultra and Lancashire Hero, both fine kinds, were shown by Mr. Turner.

Calceolarias, herbaceous kinds, came from Messrs. Dobson. Among them were Ruby Queen, Yellow Model, King of Yellows, Edith, and others, all fine spotted varieties.

Other florists' flowers consisted of Tulips, cut Verbenas, and Pansies.

Fruit, as has been stated, was scarce. Of Pine Apples, one specimen well worthy of special notice was a Queen 5½ lbs. in weight from Mr. Page, gr. to W. Leaf, Esq., of Streatham. This was beautifully ripened. Other fruit of this variety came from Messrs. Davis and Frost. Mr. Gillham sent three well grown Black Jamaicas.

Of Grapes, the best were exhibitions of Black Hamburgh from Messrs. Frost and Hill. Mr. Ellis, gr., Fleet House, Devonshire, also sent fine bunches of that variety, as did also Mr. Stent, gr. to W. Herbert, Esq., Clapham. Of baskets of 12 bunches each, the best Black Hamburgh came from Mr. French, of Burnham. These were large in berry and well coloured. A good basket also came from Mr. Davies, of Starch Green, Hammersmith. Some fair bunches from 2-year-old Vines were shown by Mr. Sorley, of Liverpool. White Grapes were not good.

Peaches came from Mr. Constantine, gr. to C. Mills, Esq., of Hillingdon; and from Mr. Gardiner, Shipston-on-Stour. The sorts apparently Royal George.

Of Melons the best were Orion, green-fleshed, and Polignac, scarlet fleshed, from Mr. Peed. The next in point of merit was M'Ewen's Hybrid, from Mr. Constantine. Mr. Tegg also showed a nice little Melon.

Figs, Lee's Perpetual, were furnished by Mr. Constantine.

Of Cherries, Mr. Shuter again sent a fine dish of May Duke.

Strawberries, Sir Charles Napier, were again shown in admirable condition by Mr. Smith, of Twickenham. Mr. George, gr. to A. Gooday, Esq., sent some good British Queens, and good fruit of other sorts came from Mr. Taylor and Mr. Gillham. Strawberries in pots were contributed by Mr. Kaile, gr. to Lord Lovelace.

Vines and Orange trees in pots came from Mr. Waters, gr. to F. Moore, Esq., Sydenham, and from Mr. Inman, gr. to J. Elliott, Esq., Forest Hill; Mr. Mackay, gr. to T. Devas, Esq., Dulwich; and Mr. Hutt, gr. to Miss Coutts, Highgate. Cucumbers, fine specimens, came from Mr. Farmer, gr. to S. Morley, Esq., Stamford Hill; Mr. Monro, Barnet, Herts.; and Mr. Weir, gr. to Mrs. Hodgson, of Hampstead.

## Notices of Books.

*The Citrus Wood of the Ancients* (a very small pamphlet reprinted from the *Builder* of April 9, and sold by C. Cross, 14, Cleveland Mews, Fitzroy Square). The object of the writer of this little essay is to prove that the valuable Citrus wood of the extravagant Romans was obtained from the Burrs of *Callitris quadrivalvis*. Since many readers of the *Gardeners' Chronicle* are probably unacquainted with the history of these tables we quote our author's statement on that subject:—

"Of all the ornamental woods of which we have any record, none has ever enjoyed so great a celebrity as the Citrus. The Greek and Roman writers make frequent mention of this wood.

"It was one of the accusations directed by Cicero against Verres, that his cupidity was unable to withstand the attractions of a Citrean table in the possession of a fellow citizen:—'*Tu maximam et pulcherrimam mensam citream, a Quinto Lutatio Diodoro, Lilybæi, abstulisti,*' was the charge preferred by the orator, who was himself no bad judge of a Citrean table.

"Martial by comparing this wood with gold would imply that it was esteemed the first of all precious materials:—

'Accipe felices Atlantica munera sylvas;
Aurea qui dederit dona, minora dabit.'

"In another of his epigrams the same author represents a Maple table addressing a more aristocratic Citrean one thus:—

'Non sum crispa quidem, nec sylvæ filia Mauræ.'

"It is apparently with the admiration of a connoisseur that Petronius exclaims,—'*Ecce Afris eruta terris Citrea mensa;*' while Tertullian, with due Christian austerity, in alluding to the vast sums which Cicero and

others were known to have sacrificed to the fashion for fine tables, sneers at the extravagance:—'*Heu! quantis insultatibus estimarere ligneas maculas!*"

"But it is to Pliny that we are indebted for the most minute and interesting account of the Citrus, and the part played by it in the luxury and refinement of ancient Rome. 'To Mauritania and its peculiar Citrus tree,' he says, 'we owe the mania for fine tables, with which the women reproach the men when they complain of their expenditure on pearls. There is preserved to the present day a table which belonged to M. T. Cicero, and for which, notwithstanding his comparatively moderate means, he gave no less a sum than 9000*l.* sterling. Two tables also were sold by auction, which had belonged to King Juba; the price fetched by one was 10,800*l.* sterling, and the other something less. * * The largest table that has ever yet been known was one which belonged to Ptolemæus, king of Mauritania; it was made of two semi-circumferences, joined together down the middle, being 4½ feet in diameter, and a quarter of a foot in thickness. * * The Emperor Tiberius had likewise a table, which exceeded 4 feet in diameter; this, however, was only covered with a veneer of Citrus wood. * *

"The principal merit of the tables made of this material is to have veins arranged in wavy lines, or spirals, like so many whirlpools. In the former arrangement the veins run in an oblong direction, for which reason the tables presenting this appearance are called *mensæ tigrinæ*; while in the latter the marks are circling and spiral, and hence give rise to the appellation *mensæ pantherinæ*. Next in esteem to these is the wood with a small mottle, representing, as it were, a surface covered with dense masses of grain; *apiatæ* is the term given to these. But it is the colour of the wood which is the quality held in the highest esteem; that of red wine mixed with honey (*mulsum*) being the most prized, the figure coming out in such with particular brilliancy. After colour, size is looked to; at the present day entire trunks are greatly admired, and sometimes several are united in a single table.

"The Citrus formed one of the principal sacrificial woods of the ancients. According to Theophrastus, Circe was said to have employed it in her enchantments, and it was, no doubt, the same material that Homer meant by the wood *θυον*, with which he represents Calypso as fumigating her grotto."

What was the tree producing this famous wood? The author believes that no one has suspected its origin before himself; and it appears to be true that writers on Coniferous plants have failed to determine what the Citrus may have been. The learned Endlicher indeed supposes the original Θυίον (not *θυον*) or Θυία may have been Callitris quadrivalvis, but he does not also refer it to the Κέδρος *θαυμασὴ* of Theophrastus, the *Cedrus magna* of Pliny, which on the contrary, like most other authors, he supposes to have been the Cedar of Lebanon, a very improbable identification. But by some writer the Cedrus wood must have been already referred to the Callitris, for in the 3d volume of Riley's Pliny that translator says it, the Citrus, is "generally supposed to be the Thuja articulata of Desfontaines," *i. e.* Callitris quadrivalvis; adding, however, the strange remark that "Desfontaine's Thuja articulata is the same as the Cedrus atlantica of other botanists," itself a variety of the Cedar of Lebanon. So that according to Mr. Riley the Callitris quadrivalvis and the Cedar of Lebanon are the same plant!! On what authority the Cedrus is said to be "generally supposed" we do not know; but the remark shows that the suggestion is not new.

Those who are curious to see specimens of Citrean tables will find one in the Museum of Œconomic Botany at Kew, and "tables and other articles made of the above wood can be seen at the workshop of Mr. C. Cross, working cabinet-maker, 14, Cleveland Mews, Fitzroy Square."

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***Filices Exoticæ, or Coloured Figures and Descriptions of Exotic Ferns, such as are chiefly cultivated in the R. Gardens, Kew.*** By Sir W. J. Hooker, K.H., F.R.S. Reeve. 4to.

This superb work contains 100 plates, drawn by Fitch, of the finest Ferns in cultivation. To wealthy lovers of gardening it is one of the best guides they can follow; and to the collectors of fine books it is an indispensable acquisition for their libraries. Each of the hundred plants is accompanied by letterpress giving the technical description, synonyms, and popular description of the species figured, together with some scientific discussion concerning the name it ought to bear. Upon this point Sir William Hooker is one of the highest of living authorities, and Fern growers will not regret to learn that he is no friend to the prevailing rage for new names uncalled for by scientific necessity.

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*The Handbook of Dining.* By L. F. Simpson. Longmans. Pp. 244. 12mo.

If people do not know how to dine this volume will hardly teach them. It is in reality a collection of jokes, not always quite proper, about dining, dinners, and diners founded upon the *Physiologie du Goût* of Brillat-Savarin, a merry mortal, and what the French call a good liver. We cannot compliment Mr. Simpson upon the manner in which he has executed the task which we are told he was led to impose upon himself by some, not over sensible, letters on dining which appeared in the *Times* newspaper. His preface is in very bad taste, and some of his translation is hardly more intelligible than the original to those who are unfamiliar with French. What for example are plain English people to understand by such expressions as the following, which occur every now and then, "Throw in the *sauté*," "boiled, fried *à l'huile*, in wine, hot or cold," "serve up as a *Matelote*," "the exclusive *apanage* of man," "Every guest has a *procès verbal* of the *menu*"? Such phrases are intelligible enough to those who do not require a French book to be translated for them, but are incomprehensible by those who do. We are reminded of a French Cookery Book translated after this fashion: "Fill a bottle with Bigarreaux, leaving on each a demi-centimètre of queue. Add some leaves of estragon;" and in another place, "Cut a mou de veau into small pieces. Degorge them in several waters, then put them into a casserole with a bit of butter, some Ciboules, Thyme, and Laurel leaves," and so on, by the word Laurel meaning Sweet Bay.

Notwithstanding these faults the lively style of Savarin will secure Mr. Simpson many readers among those who have not access to the original; especially if they think that nobody knows how to dine except a Frenchman; an opinion in which by the way we do not concur. The fault indeed of middle class dinners is that they are too French, for unless French cooking is excellent it is detestable, and excellent French cooking is beyond the means of most of us. A few extracts taken almost at random will let the reader know what he has to expect.

*Chocolate.*—"The Spanish ladies of the New World are fond of chocolate to excess. Not satisfied with taking it two or three times a day they even have it sometimes brought to them in church. For this they have often been reproved by the bishops. But they finally winked at it, and the venerable father, Escobar, whose metaphysics were as subtile as his morals were accommodating, formally declared that chocolate *à l'eau* did not interfere with fasting, quoting the old adage, '*Liquidum non frangit jejunium.*' Linnæus styles cocoa, *cacao theobroma*, or 'drink of the gods.' Attempts have been made to discover the reason for so strong a denomination; some attribute it to the fact that he was passionately fond of chocolate; others that he wished to please his confessor; others out of gallantry to please a Queen who had introduced it. Chocolate has been the subject of deep dissertations, with a view to determine its nature and properties, and to place it in the category of hot, cold, or temperate food; it must be owned that these learned documents have served but little to the establishment of the truth. But time and experience, those two great masters, have established that chocolate, carefully prepared, is as wholesome as it is agreeable; that it is nutritious and easy of digestion; that it does not hurt the complexion as coffee is supposed to do, on the contrary, it clears it; that it is well suited to men of all sedentary or mental occupations, to literary men, barristers, and travellers; finally, that it will not hurt the weakest stomachs; that it has proved beneficial in chronic diseases, and becomes the last resource in affections of the pylorus. Some people complain they cannot digest chocolate; others, on the contrary, pretend that it does not contain sufficient nourishment, and digests too soon. It is very probable that the first have only themselves to blame, and that they purchase bad chocolate; good chocolate will not offend the most delicate stomach. As regards the others, the remedy is easy; let them have a chop or a kidney with it, and let them thank Heaven for giving them a strong digestion. After having made a hearty and excellent breakfast, swallow a cup of good chocolate, and within three hours the digestive organs will have performed their functions. From zeal for the science, I requested various ladies to try it; they first said they should die, but found it answer so well that they glorified the professor."

*M. Savarin's way of eating Larks.*—"Take a fat little bird by the beak, sprinkle a little salt over it, take out the gullet, put the bird cleverly into your mouth, bite him off close to your fingers, and chew him manfully; the result will be an abundance of juice to envelope the whole organ, and you will enjoy a pleasure unknown to the vulgar."

Is this last method recommended for adoption among us?

*Eggs fried in Gravy.*—"I was travelling one day with two ladies to Melun. We left rather late in the forenoon, and reached Montgeron with a famous appetite. We put up at a very decent-looking inn, but, to our disappointment, were informed three diligences and two post-chaises had passed, and the travellers had eaten up everything, like locusts from Egypt. We had, however, looked into the kitchen, and saw a very nice-looking *gigot* of mutton turning on the spit, towards which the ladies cast hungry eyes. It belonged to three travellers in the coffee-room. With a half-hungry, half-supplicating voice, I asked whether we could not have some eggs fried in the gravy; with a cup of coffee it would suffice. 'Oh! certainly.' The cook broke the eggs into the dripping-pan. As soon as he turned his back, I maliciously drew my travelling-knife, and made two or three incisions in the roast to allow the juice to flow more freely. I then watched my eggs, and, when they were done, took them to my party. They were found excellent, and we certainly had the best part of the mutton."

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All questions have two sides. In the *Past and Future of the Present Crisis* (Hardwicke, a pamphlet), Mr. H. M. Ward takes the side of the Emperor of the French, and with no little ability defends his Imperial Majesty from all the charges that a hostile press has brought against him. In like manner Austrian acts are denounced. Politicians should read the pamphlet.

We have received from *Mr. Stanford*, of 6, Charing Cross, a beautifully executed coloured map of British Columbia, Vancouver Island, &c., with the gold country laid down as exactly as existing information permits. It includes all the American continent lying between the parallels of 47° and 57° N. lat., and 113° to 133° W. long., thus including a part of North Washington territory, in the United States, and the Rocky Mountain range in British territory, with the newly discovered Kotani Pass from Western Canada into British Columbia.

Another map issued by the same active publisher is that of *Davies' Central Europe*, 31 inches by 44, giving all the European railways, roads, and principal places between the States of the Church and Denmark, thus forming an admirable guide to the present seat of war. Small places being omitted this map is singularly free from the confusion resulting from covering the ground with unimportant names.

For one shilling the visitor to London can now be provided with a very good, well executed, little guide to the metropolis, called *Hardwicke's Shilling Handy Book of London* (Hardwicke, Piccadilly) with uncommonly good engravings of some of the most striking places to be seen. The price is very low, but the execution would be worthy of even a dear book.

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Trade Lists Received.—*Wm. Barnes* (Camberwell), *Select List of Indian Azaleas, Cinerarias, Verbenas, Fuchsias, Hollyhocks, Liliums, Phloxes, Roses, Geraniums, Chrysanthemums, Ferns, and other Miscellaneous Plants*, forms 36 pages in double columns of good useful bedding and other plants for decoration, as well as Roses, Ferns, and hardy bothouse and greenhouse plants. The collections of Azalea indica include about 130, and of Chrysanthemum and Phlox nearly 100 sorts each.—*E. G. Henderson & Son's* (Wellington Road) *Spring List of Plants* is another of those extraordinary lists which indicate unmistakeably how important a trade that of Nurseryman has become. We have here no fewer than 104 closely printed 8vo pages, got out in the best manner by Bradbury & Evans, and containing everything required in modern decorative gardening.

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## Garden Memoranda.

Cliveden, near Maidenhead, one of the Seats of his Grace the Duke of Sutherland.—As it has now become known that spring flower gardening is carried on here with great success under the excellent management of Mr. Fleming, some account of the appearance of this fine place at the present time may not be unacceptable. The effect produced on the beautiful lawn which lies between the mansion and the Thames, especially when viewed from the noble terrace in front of the house, is grand in the extreme, the beds being now nearly as full of blossom as they might be expected to be even in July or August. Commencing with the small flower garden in front of the conservatory, we find running its whole length on one side a small curved border edged with a broad belt of the dwarf growing early flowering Aubrietia purpurea. Behind this is a compact row of purple Pansies, and beyond them mixed Anemones, Ranunculuses, Tulips, and a good belt of dwarf Italian Wallflower. Taking the beds as they appear at present perhaps the most effective were the following mixtures, viz.: Tulips and the common blue Forget-me-Not; Anemones, Jonquils, and Erysimum Perofskianum, edged with dark Pansies; a pink coloured Squill and Forget-me-Not, the latter now taking the place of the former, whose beauty is beginning to decline; Ranunculuses and the white Saxifraga granulata, which is one of the most beautiful spring plants of its kind; Scarlet Ranunculuses, edged with a pale blue Pansy, a most effective bed; Evergreen Candytuft, edged with dark Pansies and Scilla "Nonsuch," mixed with the purple Silene pendula; Dielytra and double Cuckoo flower (Cardamine pratensis), Tulips, and white Forget-me-Not, and Tulips, and white Alyssum. It must be observed that the beauty of the bulbous plants in most of the above masses is now nearly over, and that the plants with which they have been associated have already taken their places with excellent effect. Thus the general aspect of the beds changes at different stages of their development, one kind of flower taking the place of another as fast as the latter goes out of bloom. Along the terrace are beautiful vases extending the whole length of the south front of the house filled with Pansies of different colours clustering round suitable centres composed of other plants.

Below the terrace right and left of the centre flight of steps are two admirable ribbon borders at present full of flowers, the colours of which are finely contrasted. The lines, being curved, present an agreeable wavy appearance. The front line next the Grass consists of the grey looking Cerastium tomentosum covered with white flowers. This forms a broad belt, behind which are rows of yellow and blue Pansies. White Forget-me-Not and Alyssum mixed, the purple or rather pink Silene pendula, yellow Alyssum, blue Forget-me-Not, Wallflowers, orange Erysimum, and white and red Brompton Stocks. Each of these borders, both of which are composed of the same materials, are 17 yards in length, and from the outside curve to the terrace wall 18 feet in width; looked down upon therefore from the terrace the effect is very striking. Some idea

of the number of plants required to fill them may be formed when we state that it requires 500 Pansies for a single row on one side.

In front of each of the curves of the ribbon are circular beds on the Grass, and corresponding beds occupy suitable positions on the other side of the walk. These are filled with Anemones, Tulips, &c., surrounded by a broad edging of white Arabis and blue Pansy; yellow next the Grass is however what Mr. Fleming would have preferred. In summer these circular beds form stations for Orange trees, of which there are here some very handsome specimens. Forming a centre-piece as it were for the ribbon borders are two large baskets or vases of Austin & Seeley's artificial stone. These are filled with Hyacinths, Anemones, and mixed Tulips, edged with Pansies, blue Forget-me-Not, and white Candytuft.

We now come to the main or central flower garden, the whole of which, as has been already stated, is seen from the terrace. The beds are cut out in panels on each side of a magnificent turf-covered promenade; the whole occupying a space of some 5 acres. Here the beds are on a scale commensurate with the extent of Grass. They are edged with Privet, Spruce, and Sweet Briar, cut in the form of hedges about 9 inches in height, and as much in width. Each panel has for a centre-piece a mass of American plants, around which are Grass walks some 6 feet in width, and belts of flowers nearly equal in point of size bounded on the outside by the little hedges just named. These belts or borders have been for some time past and are still one mass of gay flowers. One contained Anemones mixed with Limnanthes Douglasii; another yellow Tulips, and the yellow Lasthenia californica; a third Tulips, blue and white Forget-me-Not, and white Alyssum; a fourth mixed Tulips and the pink Silene pendula; a fifth mixed Tulips and Forget-me-Not; a sixth white Tulips and the pale lavender-coloured Nepeta cærulea; a seventh mixed Anemones, the orange Erysimum, and the white and yellow Limnanthes Douglasii.

This constitutes one half; the other half is filled in a similar manner. Below, forming as it were a kind of termination to the whole, is a large circle of mixed flowering plants surrounding a Grassy centre; and bounding all is a raised promenade, from which the flower beds below appear to much advantage. The above will give some idea to what extent spring gardening is carried on at this place.

As soon as the beauty of these beds begin to fade they are immediately cleared of their occupants, and filled with the ordinary half hardy bedding plants, such as Geraniums, &c., thousands of which are now being prepared and hardened off for that purpose. The whole of the spring plants are removed from the beds every season and treated as follows:—Pansies are taken out the last week in May and laid in a shady corner and well watered until time can be found for propagating them, which generally commences about the second week in June; after the beds have been filled with half hardy plants, cuttings are taken off them in the usual way, and planted in a mixture of road scrapings with a frame light over them, to be planted out as soon as struck into borders where they grow until autumn, when the beds are cleared; they are then removed into the borders properly prepared for them.

Seeds of the Wallflowers, Forget-me-Not, Silene, and Anemones are sown about the second week in June; they are then left till the beds are clear in autumn, and are planted out with the Pansies.

The roots and bulbs of the Ranunculuses, Anemones, Tulips, and Saxifraga, &c., are all taken up, carefully dried, and kept till autumn, when they are again planted out. The greatest difficulty is experienced with the Alyssum and Candytuft. These require more attention than the others.

We may add that the kitchen garden and fruit department are managed with equal skill, and that the result is all that could be wished. Forced Strawberries we noticed in abundance; Grapes in two Vineries ripe, black as sloes, and well flavoured; and in a well constructed "Trentham case" was a fine crop of Peaches, some of which were all but ready to gather. On walls out of doors Apricots and Peaches are thin.

## Calendar of Operations.

*(For the ensuing Week.)*

### PLANT DEPARTMENT.

CONSERVATORY, &c.—Climbing or trained plants still require attention in regard to thinning, training, stopping, &c. If the sun shines very brightly a slight shading would be of benefit for a few hours on very hot days. The inmates of such structures however are sometimes very various in character and habit, and the foregoing advice would be more applicable perhaps to New Holland plants, Oranges, Camellias, &c. As regards stove plants and Orchids, thorough cleanliness, free ventilation, plenty of atmospheric moisture, and occasionally a slight shading in very bright sunshine, are at present the chief requisites. No means should be neglected to encourage a free growth at this period in Orchids, in order to get their pseudo-bulbs firm, well fed, and well ripened betimes. In mixed greenhouses fires may now be nearly or entirely dispensed with. If the weather is genial and accompanied with bright sunshine heat sufficient for the night may be secured by shutting up early, not however soon enough to scorch. A general rule can scarcely be laid down in such cases to guide the inexperienced. On a sunny afternoon one-half of the air may be reduced at 3 o'clock, and the whole taken away at 4 o'clock. Continue the various points of cultivation previously recommended, remembering that now is the period for rapid growth and for applying all the encouragements accessory thereto.

### FORCING DEPARTMENT.

PINERIES.—Where the quality of the fruit is the first consideration, which it is or should be in every instance, care must be observed to have the soil about the roots in a rather dry state during the ripening period, and where it can be done without injuring the rest of the stock the atmosphere should be kept rather dry, admitting air more freely while the fruit is colouring; for there is no chance of fruit of prime quality if the soil is very wet about the roots, and the atmosphere kept close and saturated with moisture during the ripening period. In the case of plants growing in pots the trouble of collecting and placing together those approaching ripeness, so as to be able to treat them properly, would be well repaid. Use fire-heat as sparingly as may consist with maintaining the proper degree of temperature. Be very careful to keep the plants properly supplied with water at the root, and give plenty of manure water to those in vigorous growth, and also to plants swelling their fruit. VINERIES.—Where Muscats are grown for a late crop the night temperature of the house must not be allowed to fall too low after the bunches begin to appear, and a temperature of from 65° to 70° must be maintained while the fruit is setting to ensure good sized, close bunches. Keep a sharp look out for red spider in houses where the fruit is colouring, and if this pest make its appearance lose no time in coating the hot-water pipes with sulphur. If not already done get the litter removed from the outside borders, but if it is found that the roots have crept up into it, which will probably be the case where the Vines were started early in the season, the decayed portion at the bottom should be left, and every caution used not to disturb the young roots. And if many roots are found at the surface it will be necessary, after removing the litter, to top-dress the border to prevent these getting dried up; a slight coat of turfy loam, leaf soil, and horse-droppings will answer very well for this purpose. See that the borders of houses, where the fruit is swelling, are not allowed to get too dry. MELONS.—Maintain a rather close, moist, warm temperature to plants recently planted out until they get into full growth, but avoid inducing a gross habit of growth by too much moisture and warmth after the roots fairly get hold of the soil, for it is generally somewhat difficult to secure a crop from wood of this sort. Give air as freely as the state of the weather will admit, in order to secure firm short-jointed wood, and where the crop is setting, as the young fruit is very apt to damp off unless the atmosphere is kept moderately dry. Endeavour to secure a steady bottom-heat of about 75° or 80° for plants in all stages, and also to keep the soil in a proper state as to moisture; avoid having to water while the crop is setting, by well soaking the soil before the principal blossoms begin to expand. Keep a careful look out for insects, and use every precaution to prevent these getting established upon the foliage, for there is hardly any chance of a crop of fruit unless the leaves can be preserved in health.

### FLOWER GARDEN AND SHRUBBERIES.

It is now high time to think of bedding out some of the mass flowers, at least such as are least liable to injury by frost, and have undergone a proper hardening process. Much may be done as to display by a judicious arrangement or combination of both colour and form. As a general principle, our best authorities seem to agree that the various shades of orange and yellows will class well with the various purples and blues; whites are suitable with the blues, oranges, and reds; whites however, derange the effect of the yellows as also the violet shades, whilst the various red or rose-coloured flowers are, as far as colour is concerned, capable of forming a bed by themselves. Every individual bed of a flower garden should, in our opinion, be complete in itself, both with regard to colour and outline.

### HARDY FRUIT AND KITCHEN GARDEN.

Let a sowing of Endive be made at once. Throw in a sprinkling of early Dutch Turnips on a cool border, neither digging nor using manure. It is a mistaken notion to persist in digging ground for these in kitchen gardens so full of old manures, the Turnip being naturally too gross then under any circumstances. Always choose the poorest hardest ground you can find, and merely hoe the seed in; by these means you will always procure good Turnips. Let full crops of Kidney Beans be planted forthwith, and a row of Knight's Marrow Peas or the British Queen. The row should be prepared after the way of a Celery drill, and the manure completely saturated with moisture.

### STATE OF THE WEATHER AT CHISWICK, NEAR LONDON.

For the Week ending May 19, 1859, as observed at the Horticultural Gardens.

| May. | Moon's Age. | Barometer. Max. | Barometer. Min. | Temperature of the Air. Max. | Air. Min | Air. Mean | Of the Earth 1 foot deep. | Earth 2 feet deep. | Wind | Rain. |
|---|---|---|---|---|---|---|---|---|---|---|
| Friday 13 | 10 | 30.175 | 30.055 | 66 | 34 | 50.0 | 54 | 52 | E. | .00 |
| Satur. 14 | 11 | 30.098 | 30.002 | 63 | 32 | 47.5 | 53 | 51 | E. | .00 |
| Sunday 15 | 12 | 29.955 | 29.861 | 64 | 41 | 52.5 | 52½ | 51 | N.E. | .04 |
| Mon 16 | ○ | 29.896 | 29.765 | 64 | 46 | 55.0 | 53½ | 51½ | N.E. | .10 |
| Tues. 17 | 14 | 29.761 | 29.718 | 56 | 46 | 51.0 | 54 | 52 | N. | .06 |
| Wed. 18 | 15 | 29.712 | 29.631 | 60 | 47 | 53.5 | 54 | 52 | N. | .00 |
| Thurs. 19 | 16 | 29.692 | 29.649 | 67 | 49 | 58.0 | 54 | 52 | S. | .30 |
| Average | | 29.903 | 29.811 | 62.8 | 42.6 | 52.5 | 53.6 | 51.6 | | .50 |

May 12—Fine; clear and cold at night
— 14—Dry cold haze; fine; clear and cold.
— 15—Fine; cloudy; rain at night
— 16—Cloudy; rain; cloudy and fine.
— 17—Rain; cloudy; overcast.
— 18—Densely and uniformly overcast.
— 19—Overcast; fine; rain at night.
Mean temperature of the week, 1 deg. below the average.

### RECORD OF THE WEATHER AT CHISWICK,

During the last 33 years, for the ensuing Week, ending May 28, 1859

| May | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds |
|---|---|---|---|---|---|---|
| Sunday 22.. | 65.4 | 43.7 | 54.5 | 16 | 0.30 in. | 6 |
| Mon. 23.. | 67.3 | 45.6 | 56.4 | 11 | 0.53 | 11 |
| Tues. 24.. | 67.9 | 45.0 | 56.5 | 11 | 0.54 | 2 |
| Wed. 25.. | 66.3 | 44.5 | 55.4 | 14 | 0.64 | 2 |
| Thurs. 26.. | 66.8 | 43.6 | 55.2 | 14 | 0.48 | 2 |
| Friday 27.. | 68.2 | 45.2 | 56.7 | 18 | 0.63 | 2 |
| Satur. 28.. | 67.4 | 44.7 | 56.1 | 14 | 0.97 | — |

The highest temperature during the above period occurred on the 28th, 1847—therm. 91 deg.; and the lowest on the 25th, 1839—therm. 29 deg.

## Notices to Correspondents.

AMERICAN TREES: *C P.* The best book on American trees is Michaux's Arbres Forestiers. The Magnolia acuminata is as hardy as the Tulip tree, and is one of the best sorts for planting in a park in a rather exposed situation.

BOOKS: *A Cockney.* No book will teach a person how to garden unless he possesses some preliminary information. If he is "utterly ignorant of the most simple operations of this healthful science," then he had better try Mawe's edition of Abercrombie's *Every Man his own Gardener.*

CEDARS OF LEBANON: *M P.* We should move them in the middle of September when the earth is warm, and the air damp and cool. October is rather late. We have within a year a specimen 15 feet high removed with perfect safety at the time recommended But this kind of tree requires careful removal, whatever the season.

CUCUMBERS: *J Cuthill.* Your white-spined fruit are very handsome, free from ribs and remarkably well grown.

DISEASED PEACHES: *Truro* There is no appearance of beetles having attacked the shoots. The mischief probably lies in the border. Look to that.

GREENHOUSE: *Quite a Beginner.* We do not see what you can do with the space where the flue runs. Nothing will grow there except Rhubarb, Seakale, and such things as want blanching in winter or spring. Even if you could obtain light enough there, which is impracticable, the dry air about the flue would be fatal to vegetation of the usual kind. Slates would form a better material on which to place your pots, and as it will be necessary to keep the house continually watered in dry weather, the extra cost of slate will be repaid by its greater durability. Take care that your ventilators are so managed that the air which enters by them cannot pass or pass into the house without being warmed by the flue. You may effect this perhaps by providing zinc horizontal flues one end of which fits the ventilator and the other rests on the flue itself.

NAMES OF FRUITS: *J L A.* The specimens of Dumelow's Seedling and Rymer Apples are unquestionably correct; and so is, most probably, the Beauty of Kent, although smaller than usual.

NAMES OF PLANTS: We have been so often obliged to reluctantly decline naming heaps of dried or other plants, that we venture to request our correspondents to recollect that we never have or could have undertaken an unlimited duty of this kind. Young gardeners, to whom these remarks more especially apply, should bear in mind that, before applying to us for assistance, they should exhaust their other means of gaining information. We cannot save them the trouble of examining and thinking for themselves; nor would it be desirable if we could. All we can do is to *help* them—and that most willingly. It is now requested that, in future, not more than four plants may be sent us at one time.—*J B.* 1, Epidendrum rhizophorum; 2. Epidendrum cochleatum.—*W Hooper.* Some Polygala—and if wild P vulgaris. If not, then the specimen is indeterminable for want of the radical leaves.—*Reader.* 1, Pteris tremula; 2. Polystichum falcinellum; 3, Viburnum cotinifolium; 4, Onychium japonicum.—*A H.* 7. Lomaria Fraseri, a very rare species; 8, Cyathea medullaris; 9, Dicksonia squarrosa; 10, Goniopteris pennigera or Forsteri. Thanks for the other plant.—*M K* Your No. 3 is we believe Lastrea æmula, as before stated, but this difficult group is not to be satisfactorily named from such imperfect specimens as yours, badly preserved, and wanting especially the stalk and its scales. There is no doubt about the others.—*B G.* Not numbered; the larger one Pleopeltis Billardieri; the smaller Cheilanthes alabamensis.—*Hants.* Anagallis arvensis.—*B P.* 2, Hæmadictyon venosum; 1 has no flower, and has too common a form to be determined without one: it is not the Arrowroot plant. The seed is that of some Bignonia.

NIGHT TEMPERATURE: *Liverpool.* We believe it is no less a person than Milton who says—"Where there is much desire to learn there will of necessity be much arguing, much writing, many opinions—for opinions are but knowledge in the making."

PERSIAN MELONS: *F H S.* We are informed that they perished during the dry weather of last autumn from the attack of red spider.

RIFLES: *Hulme.* There is no doubt about the Enfield rifle fouling. When the men went out to the rifle pits before Sebastopol each man carried with him a rag and bottle of water. The Lancaster rifle does not foul; we once fired 200 rounds from a Sapper's musket, which is of Lancaster's pattern, and it was as clean at the end as at the beginning. Three days since we took down a Lancaster rifle which had not been fired for two years and was put by without the barrel being cleaned out. The cartridge grease that had adhered to the inside was in the state of dust, and was removed by merely flashing a little powder through it, when the rifle loaded as freely as ever. Since Government is to determine the arms to be issued to rifle volunteers they should apply for such rifles as are now used by the Sappers, all of which we believe are on Lancaster's smooth bore pattern. We much doubt the possibility of preventing grooved rifles from fouling on service.

RIFLE SHOOTING: *Goole.* You require a good tool, a good eye, a steady hand, and the power of judging pretty well of distance. In modern rifles, suited for conical balls, the trajectory is so low that if you can but shoot straight you could hardly miss a man at 500 yards, even although you mis-judged the distance to be only 400 or as much as 600 yards.

SENECIO: *J B.* We have not seen a variegated variety of the kind you name. If handsome it might be suitable for edgings to flower beds.‡

THE BALLOT: *W C B.* The notice of the day on which it was to take place was published in the *Gardeners' Chronicle* of March 26, although by some oversight it was omitted in the number to which you refer. Would it not have been better to have expended a penny in making an inquiry in the proper quarter?

TROUBLESOME TALKERS: *Richmond.* There are many absurd people in the world, but they have not the slightest idea themselves that they are absurd Your friend belongs to that class.

VINE BORDERS: *J L A.* Of the four kinds of soil, we consider No. 2 is the best; but to this we would much prefer a mixture of No. 2 and No. 4.‖

*** As usual, many communications have been received too late, and others are detained till the necessary inquiries can be made. We must also beg the indulgence of those correspondents the insertion of whose contributions is still delayed.

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ARTIFICIAL MANURES, &c.—Manufacturers and others engaged in making ARTIFICIAL MANURES may obtain every necessary instruction for their economical and efficient preparation, by applying to J. C. Nesbit, F.G.S., &c., Principal of the Agricultural and Chemical College, Kennington, London. Analyses of Soils, Guanos, Superphosphates of Lime, Coprolites, &c., and Assays of Gold, Silver, and other Minerals are executed with accuracy and despatch. Gentlemen desirous of receiving instruction in Chemical Analyses and Assaying, will find ample facility and accommodation at the College.

ARTIFICIAL MANURES.

FREDERICK CORNWELL begs to inform his friends and the Agricultural public that he can now supply a "SUPERPHOSPHATE of LIME" superior to anything yet produced. Each Bag guaranteed to contain from 20 to 25 per cent. of "Soluble Phosphate of Lime." Price 5*l.* 10*s.* per ton, delivered free to any Railway or Wharf in London. Dealers and the trade supplied. LINSEED-CAKES, COTTON-CAKES, and all descriptions of ARTIFICIAL MANURES at lowest market prices.—Offices, 7, Great St. Helen's, London, E. C.

LONDON MANURE COMPANY, removed to 116, Fenchurch Street, E. C. (Established 1840), have the following MANURES ready for delivery:—

CORN MANURE for SPRING TOP-DRESSING
URATE
MANGEL MANURE
SUPERPHOSPHATE OF LIME
BLOOD MANURE
} all of guaranteed quality.

In consequence of the reduction in the price of raw material the London Manure Co. are enabled to lower the price of their Superphosphate of Lime, and to materially improve the Corn Manure and Urate.

The London Manure Co. also supply PERUVIAN GUANO (direct from Messrs. A. Gibbs and Sons), SULPHATE of AMMONIA, NITRATE OF SODA, CRUSHED BONES, and every other Manure of value. Wholesale dealers supplied.
116, Fenchurch Street, E.C. Edward Pursser, Secretary.

PERUVIAN GUANO.

The present price of this valuable Manure is—
12*l.* per Ton for 30 Tons and upwards,
13*l.* 5*s.* per Ton for 1 Ton up to 30 Tons.

And, to guard against the purchase of adulterated mixtures and of inferior Guanos purporting to produce results equal to Peruvian, consumers are recommended to apply either to ourselves, to our agents, Messrs. Gibbs, Bright, & Co., of Liverpool and Bristol, or to dealers of established character, in whose honesty and fair dealing they may place implicit confidence.
Antony Gibbs & Sons.

SUCCESS OF THE NEW GUANO; Imported under Lease from the Crown.—Though the experiments with KOORIA MOORIA GUANO were made late in the season, and under adverse circumstances, the successful results obtained confirm beyond doubt Professor Voelcker's report—(in No. 41, Part I., vol. xix., Royal Agricultural Society's Journal)—that Ammoniacal manures, applied to Turnips in the experimental field, kept back at first the crop, and had no beneficial effect either alone or in conjunction with phosphates.

The Kooria Mooria Guano is essentially a phosphatic manure, containing sufficient ammonia for roots, and, with a mixture of one-fourth of ammoniacal guano, cannot be excelled for either top dressing or grain crops. It is a natural deposit, and will be delivered as imported, free from risk of adulteration. Deeply impressed with the necessity of encouraging the import of this valuable manure, her Majesty's Government has given such increased facilities for shipment, that arrangements have been made for a considerable supply. Purchasers can be supplied with suitable quantities from cargoes now on sale, containing from 45 to 66 per cent. phosphates. Present prices, 4*l.* 10*s.* to 6*l.* 10*s.* per ton, on applying to Joseph Hindson, Broker (one of the Lessees under the Crown), 20, North John St., Liverpool. Government Lessees: Ord, Hindson, & Hayes.

"Greystoke, Cumberland, Dec. 16, 1858.

"Dear Sirs,—I beg to inform you that I applied the Kooria Mooria Guano I had from you for Turnips, on land of a loamy character, incumbent on a stiff clay subsoil, and recently drained. On each side of the plot sown with Kooria Mooria Guano were Turnips manured with best Peruvian Guano. The quantities applied of each sort were of equal weight for weight per acre. The crop—a very good one throughout—is now being eaten off with sheep. Very little perceptible difference can be discovered, but if anything that difference is in favour of the Turnips sown with Kooria Mooria Guano.

(Signed) "John Barker."

"Messrs. J. & J. Graham, Guano Merchants, Penrith."

A Pamphlet, "Hints on Guano," containing a large number of reports from well-known agriculturists, and analysis of the cargoes here, may be had of the Broker, at the above address.

MANURE for ROOT CROPS, of first-rate quality, with Analysis guaranteed, manufactured by WILLIAMS & Co., 47, Mark Lane, London (Established 1847), at 6*l.* per ton, including bags. Free to Wharf or Rail in London. The Trade supplied.

REDUCTION IN PRICE OF LAWES'S MANURES.

MR. LAWES begs to announce that he has this season reduced the price of the Manures manufactured by him, viz.:—

| | | |
|---|---|---|
| TURNIP MANURE .. .. .. | from £7 to £6 | 6 |
| SUPERPHOSPHATE OF LIME .. | ,, 7 to 6 | 6 |
| MINERAL do. .. .. | ,, 6 to 5 | 5 |
| BARLEY MANURE.. .. .. .. | 8 | 0 |

Prof. Way and Dr. Voelcker have sampled from a bulk of 5000 to 6000 tons at his factories, and their report and analyses are given in full in Circular to be obtained on application at his office, 1, Adelaide Place, London Bridge, E.C., or of his local Agents.

N.B. Genuine Peravian Guano direct from Messrs Gibbs, Nitrate of Soda, Sulphate of Ammonia, and other Chemical Manures. American Cotton-seed Cake supplied.

ESTABLISHED 1812.

H. and T. PROCTOR'S TURNIP MANURE.—Messrs. H. & T. P. draw particular attention to this valuable Manure, which contains all the elements necessary for the full development of the Turnip Crop, so combined, that, from their chemical knowledge and long experience, they feel satisfied is most advantageous to the consumer. It has been very extensively used by most of the eminent Agriculturists of the day, and has attained a high reputation throughout England, Scotland, and Wales, and, they venture to say, is unrivalled for the weight and quality of the Bulbs which it produces. The application of this Manure to the Turnips will be found to benefit considerably the after crops of Barley, Clover, and Wheat.

POTATO, GRASS, BARLEY, CLOVER, AND WHEAT MANURES; also BONE DUST, PERUVIAN GUANO, and SUPERPHOSPHATE of LIME, warranted of the best quality.

Apply to H. & T. Proctor, West of England Depôt for Artificial Manures, Cathay, Bristol; or Proctor & Ryland, Birmingham, and Saltney, near Chester.

BURNARD, LACK, and CO.'S CONCENTRATED SUPERPHOSPHATE OF LIME; guaranteed to contain Phosphoric Acid soluble, equivalent to 40 per cent. of Tribasic Phosphate of Lime.

CONCENTRATED TURNIP MANURE, equal in value to the preceding.

Of these Manures Dr. Voelcker says:—"These results must be very gratifying to you, and are the best proof of the very high agricultural and commercial value which characterises your concentrated superphosphate."

Detailed analyses, with opinions of the late and present Chemists to the Royal Agricultural Society, with Testimonials, Prices, &c., may be had on application to Burnard, Lack, & Co., Sutton Road, Plymouth.

"BRITTAIN'S SUMMER SHADING."—
No. 1. 35-inch TIFFANY, 3*d.* a yard.
No. 3. 39 inch do. double strength, 6*s.* 6*d.* a piece of 18 yards.
No. 2. 55-inch Net, 6*d.* a yard; No. 3, 8*d.*
55-inch ZEBRA NET, 9½*d.* per yard.
36-inch LINEN, 4*d.* to 6*d.* a yard.

The Tiffanies are cheap, and form a light and graceful shading for conservatories, but are not recommended as so useful nor so ornamental as the Nettings, nor are they under any circumstances so effective as a protection from frost. The Nettings have been tested by the largest consumers of the three kingdoms during six years, and have never failed. They modify the temperature, while at the same time they are so woven as to admit the natural influence of light and air, so essential to healthy growth. Patterns on application to T. Brittain & Co., Manchester, sole manufacturers.

"FRIGI DOMO."—Patronised by her Majesty, the Queen, the Duke of Northumberland for Syon House, His Grace the Duke of Devonshire for Chiswick Gardens, Professor Lindley for the Horticultural Society, Sir Joseph Paxton for the Crystal Palace, Royal Zoological Society, late Mrs. Lawrence of Ealing Park, and —Collier, Esq., of Dartford.

PROTECTION from COLD WINDS and MORNING FROSTS.

"FRIGI DOMO," a Canvas made of patent prepared Hair and Wool, a perfect non-conductor of Heat and Cold, keeping, wherever it is applied, a fixed temperature. It is adapted for all horticultural and, floricultural purposes, for preserving Fruits and Flowers from the scorching rays of the sun, from wind, from attacks of insects, and from morning frosts. To be had in any required lengths. Two yards wide, 1*s.* 6*d.* per yard run; four, 3*s.* per yard. Also, an improved make for Shading Purposes. Three yards wide, 2*s.* 6*d.* per yard run.

Elisha Thomas Archer, whole and sole manufacturer, 7, Trinity Lane, Cannon Street, City, and of all Nurserymen and Seedsmen throughout the kingdom. "It is much cheaper than mats as a covering."

AGRICULTURAL MACHINERY.

E. R. and F. TURNER, Ipswich, manufacture Prize Mills for Crushing Corn, Seed, Malt, &c.; Portable Grinding Mills, Steam Engines fixed and portable from 2 horse-power and upwards; Threshing Machines, Chaff Cutter, Oilcake Breakers, Horse Gears, Saw Tables, &c., all of a superior description and adapted for Home, Colonial, and Foreign use. Illustrated Price Lists sent free on application.

FOWLER'S PATENT STEAM PLOUGH.—A Standard set of FOWLER'S STEAM PLOUGHING TACKLE, upon the most approved principle, can be seen in operation on the 27th, 28th, and 30th inst., on the estate of W. T. Burs, Esq., M.P., Napsbury, near St. Albans, Herts.

For further particulars apply to John Fowler, Jun., 28, Cornhill, London, E.C.

SIGMA'S BEAN, MANGEL, & CORN PLANTERS (5 Depositors), HOES, &c. The "Multum in Parvo," combining Cultivator, Horse Hoe, Ridge Plough, Subsoiler, Broadshare, and other forms; all expanding. Complete, 7*l.* 7*s.* Prospectus sent.—C. Powell, Hurstgreen, Sussex.

SPEED and ECONOMY for Farmers, Gentlemen, and Market Gardeners, in the use of HOARE'S REGISTERED HAND SEED PLANTING MACHINE, which from its capabilities, combined with strength, lightness, and simplicity, places it beyond a parallel. Its operative powers in planting the seeds of Mangel, Carrot, Turnip, Parsnip, and all small seeds in patches of equal depth and different distances, from 6, 7, 12, 14, 18, 21, 24, to 28 inches apart, raking in and rolling complete, render it an invaluable invention. It will act as a drill when required. Price 5*l.* 15*s.*

London Agent, Mr. B. Samuelson, 76, Cannon Street, West. Sold also by the inventor, J. Hoare, Old Fishbourne, Chichester, Sussex.

FLEMING'S SALTING MACHINE FOR DESTROYING WEEDS ON GRAVEL WALKS, &c.—This most useful Machine has given the greatest satisfaction wherever it has been introduced; it is the only effectual means of keeping Drives and Walks completely clear of Weeds.

Extract from article "Trentham" in *Gardeners' Chronicle* of January 22.

"And I would observe in passing from these grounds that the whole of the Grass and Gravel are kept in the most perfect order by the aid of Machinery; the former by a Horse Machine wherever it can be worked, a small hand instrument being used in places of difficult access; the latter is kept in order by a Salting Machine, the invention of Mr. Fleming, and judging from the beautiful condition of the Gravel in every direction, I should say that it was altogether most efficient."

(The Mowing Machines here referred to are Shanks's).

From the *Field* of April 2.

"The Salting Machine will effectually destroy the Weeds on Gravel Walks and Drives"

Testimonials, with full particulars and prices, may be had on application to Alexander Shanks & Son, Dens Iron Works, Arbroath, Patentees of Improved Mowing, Rolling, Collecting and Delivering Machine for Lawns, Hot-water Apparatus Manufacturers, &c.

THE GENERAL LAND DRAINAGE and IMPROVEMENT COMPANY: Offices, 52, Parliament Street.
Henry Ker Seymer, Esq., M.P., Chairman.

1. This Company is incorporated by Act of Parliament to facilitate the Drainage of Land, the Making of Roads, the Erection of Farm Houses, Farm Buildings, and Labourers' Cottages, and other Improvements on all descriptions of Property, whether held in fee, or under entail, mortgage, in trust, or as ecclesiastical or Collegiate Property.

2. In no case is any investigation of Title necessary.

3. The Works may be designed and executed by the Landowner or his Agents, or the Company will undertake the entire improvement by their experienced staff, and advance the money required for the works. Equal facilities will be afforded in either case.

4. The whole cost of the works and expenses may, in all cases, be charged on the Lands improved, to be repaid by half-yearly instalments.

5. The term of such charge may be fixed by the Landowner, and extended to 50 years for Land Improvements, and 31 years for Farm Buildings, whereby the instalments will be kept within such a fair per-centage as the occupiers of the improved Lands can afford to pay.

6. No profit is taken on any Works executed by the Company, the actual expenditure only, approved by the Inclosure Commissioners, being charged in all cases.

William Clifford, Secretary.

COLLEGE OF AGRICULTURE and CHEMISTRY, and of PRACTICAL and GENERAL SCIENCE, 37 and 38, Lower Kennington Lane, Kennington, near London.
Principal—J. C. Nesbit, F.G.S., F.C.S., &c.

The system of studies pursued in the College comprises every branch requisite to prepare youth for the pursuits of Agriculture, Engineering, Mining, Manufactures, and the Arts; for the Naval and Military Services, and for the Universities.

Analyses and Assays of every description are promptly and accurately executed at the College. The terms and other particulars may be had on application to the Principal.

YORKSHIRE AGRICULTURAL SOCIETY.—GREAT SHOW at HULL, AUGUST 3 and 4.

For Prize Lists, apply to the Secretary, John Hannam, Land Agent, Kirk Deighton, Wetherby.—May 21.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.—WARWICK MEETING.

Entries for CHEESE, WOOL, and FARM GATES must be made on or before June 1.

Entries for LIVE STOCK must be made on or before June 1.

All Entries received in each case after those respective dates will without any exception be disqualified and returned to the senders.

Prize Sheets may be obtained on application at the Offices of the Society, 12, Hanover Square, London.



# The Agricultural Gazette.

*SATURDAY, MAY 21, 1859.*


MEETINGS FOR THE ENSUING WEEK.

Wednesday, May 25—Agri. Society of England .. Noon.

Some experiments by Mr. Macpherson Grant of Craigo, published in the current number of the Highland Society's Transactions, in which various artificial manures were compared with farm-yard dung, in their effects upon the Turnip crop, deserve attention, now that the Turnip crop, more difficult than ever to obtain, is occupying the time and labour of the farmer.

There are at least three sets of difficulties in the way of his success, or we may enumerate with Professor Buckman as many as four, for in addi-

tion to poverty in the soil, and drought, and insects, we must not forget the inherited character of the seed we sow. Owing to bad management in this particular we may get bulbs with branched tops and forked roots, as the result of a tendency to the natural type of the plant, aggravated no doubt by the condition of the land in which we sow this seed, and by the defects of climate and the depredations of fly and grub.

Having however obtained well grown seed, we have three principal sources of difficulty in growing it. In eastern, southern, and midland England more especially, we have not a suitable Turnip climate; and Mangel Wurzel would be much more easily and successfully grown. Even here however it is rarely that a plant well started does not continue to increase; and CHANDLER'S water drill which, if used with discretion, will generally secure the brairding of the seed, is a most valuable ally against difficulties of climate. A soil containing a sufficient quantity of absorbent vegetable matter is another great security for success in this particular aspect of the matter; though with all the aids at our command, the southern half of the island will never be able to compete, in either quantity or quality of Turnips, with the northern.

As to insect attacks, the remedy hitherto has been to place the land in such a condition as to urge a rapid growth; and this plan is now being supplemented by the direct action of machines which throw lime and other dust upon the land when the crop is growing, so as to choke or drive away the plague, or even so as to convert that which had been an attractive food for them into a distasteful poison. What may be the ultimate report of Mr. ROWLEY'S dust-blast for the fly and grub we cannot say; but it may be safely asserted that of all the difficulties to which the failure of the Turnip crop is owing, more hinges on a defective condition of the soil than on any other cause.

We have had land broken up out of pasture, pared, and burned, and ploughed, and cultivated; and seed has been sown when the soil was barely damp and insufficiently reduced to tilth and no artificial auxiliary manure was added, and a meagre dressing of farm dung applied, but in spite of everything the seed so brairded, and the plant so grew, that 29 tons per acre were obtained in September—sufficient to ensure, during the ensuing rotation of crops, the maintenance of the fertility of the newly broken land—while in ordinary years the average crop of the district does not exceed 10 or 12 tons of the Swedish Turnip. It was the quantity of decaying vegetable matter in the turfy soil, and of soluble mineral matter in the ashes spread, that insured so great a success; and the real difficulty in the way of Turnip growth, no doubt, consists in getting the land into the proper state of richness before the seed is sown. Agriculturists are therefore much indebted to those of their number who continue to publish their experience in the application of suitable manures to this and other crops. That of Mr. GRANT relates to the following substances:—

"It was resolved that ten distinct experiments should be tried, viz.:—

1. With the usual quantity of farmyard manure applied in the ordinary way, without any other fertiliser.
2. Half the usual quantity of farmyard manure, with the addition of guano at the rate of 3 cwt. per imperial acre.
3. Half the usual quantity of farmyard manure, with the addition of guano at the rate of 1½ cwt., and the same weight of superphosphate of lime, supplied by Messrs. STENHOUSE & Co., of Newcastle-upon-Tyne.
4. Peruvian guano alone, at the rate of 4 cwt. per imperial acre.
5. Half the usual quantity of farmyard manure, with the addition of superphosphate of lime at the rate of 3 cwt. per imperial acre.
6. Superphosphate of lime, supplied by Messrs. STENHOUSE & Co., of Newcastle-upon-Tyne, at the rate of 6 cwt. per imperial acre.
7. Nitrophosphate of lime, also supplied by Messrs. STENHOUSE & Co., at the rate of 5 cwt. per imperial acre.
8. SOMERVILLE'S Manure (manufactured by Mr. CHARLES S. M. SOMERVILLE, Agricultural Manure Works, Montrose), at the rate of 4 cwt. per imperial acre.
9. No manure or fertiliser of any kind.
10. Bone-ash at the rate of 1½ cwt. per acre, with the addition of double that weight of ammoniacal liquor from a gas work."

"The experiments were conducted in duplicate, or in two separate series. For the first series half an imperial acre was measured off for each experiment, and duly prepared with the manures above-mentioned, the seed sown being of that variety of yellow Turnip called 'Aberdeen Bullock;' while for the second series all the experiments (with the exception of No. 9) were repeated on a quarter of an acre each, the seed used being that of White Globe Turnip. The sowing of the first series was done on 19th and 20th June, 1857, and of the second series all on the latter day. The hoeing and subsequent treatment of every kind were as nearly as possible uniform, and the utmost care was taken to guard against partial influences."

"In the first series of experiments each division occupied 12 drills, and in the second series six. Instead of weighing the whole produce, it was thought preferable to draw for this purpose only two drills nearest the centre in each division, because with the utmost care it was not possible altogether, in sowing, to avoid a slight commixture of the manures in those drills where the divisions came in contact."

In the following tables the results of the applications are given, along with the ingredients supplied in the manures as ascertained by analysis:—

I. YELLOW ABERDEEN BULLOCK TURNIP.

| | Weight of Turnips produced | | | Organic matter. | | Phosphates. | | Alkaline salts. | | Ammonia | | Phosphates as Soluble. | | Insoluble. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Tons. | cwt. | lbs. | cwt. | lbs. | cwt. | lbs. | cwt. | lbs. | cwt. | lbs. | cwt. | lbs. | lbs. |
| II. Farm manure and guano .. .. | 12 | 6 | 36 | 38 | 84 | 2 | 23 | 1 | 83 | 1 | 16 | .. | .. | .. |
| IV. Guano alone .. .. .. .. | 11 | 16 | 100 | 1 | 75 | .. | 105 | .. | 36 | .. | 59 | .. | .. | .. |
| I. Farm manure alone .. .. .. | 11 | 15 | 80 | 75 | .. | 3 | .. | 3 | .. | 1 | 56 | .. | .. | .. |
| VIII. Somerville's manure .. .. .. | 11 | 13 | 40 | 1 | 5 | 1 | 5 | .. | 19 | .. | 25 | .. | 16 | 100 |
| III. Farm manure, guano, and superphos. | 11 | 9 | 92 | 38 | 36 | 2 | 24 | 1 | 74 | .. | 106 | .. | 33 | 7 |
| V. Farm manure and superphosphate .. | 10 | 5 | 8 | 37 | 100 | 2 | 25 | 1 | 65 | .. | 84 | .. | 66 | 14 |
| VI. Stenhouse & Co.'s superphosphate .. | 10 | .. | 40 | .. | 88 | 1 | 50 | .. | 18 | .. | .. | 1 | 21 | 28 |
| VII. Stenhouse & Co.'s nitrophosphate .. | 9 | 16 | 92 | .. | 63 | 1 | 15 | .. | 56 | .. | 8 | .. | 90 | 36 |
| IX. No manure .. .. .. .. .. | 4 | 2 | 56 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |

II. WHITE GLOBE TURNIPS.

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| IV. Guano alone .. .. .. .. | 15 | 11 | 16 | 1 | 75 | .. | 105 | .. | 36 | .. | 59 | .. | .. |
| VIII. Somerville's manure .. .. .. | 14 | 18 | 20 | 1 | 5 | 1 | 5 | .. | 19 | .. | 25 | .. | 16 | 100 |
| III. Farm manure, guano, and superphos. | 14 | 13 | 52 | 30 | 92 | 1 | 102 | 1 | 40 | .. | 89 | .. | 33 | 7 |
| V. Farm manure and superphosphate .. | 14 | .. | 56 | 30 | 44 | 1 | 103 | 1 | 31 | .. | 67 | .. | 66 | 14 |
| II. Farm manure and guano .. .. | 13 | 18 | 16 | 31 | 28 | 1 | 101 | 1 | 49 | 1 | .. | .. | .. | .. |
| VI. Stenhouse & Co.'s superphosphate .. | 12 | .. | 48 | .. | 88 | 1 | 50 | .. | 18 | .. | .. | 1 | 21 | 28 |
| VII. Stenhouse & Co.'s nitrophosphate .. | 11 | 14 | 60 | .. | 63 | 1 | 15 | .. | 56 | .. | 8 | .. | 90 | 36 |
| I. Farm manure out of covered court .. | 11 | 11 | .. | 60 | .. | 2 | 44 | 2 | 44 | 1 | 22 | .. | .. | .. |

We make only one additional extract:—

"It will be remarked that farm-yard manure, both alone and in combination with other fertilisers, stands greatly lower in the scale of the second series than it does in that of the first, while the other fertilisers, contrasted among themselves, occupy precisely the same rank in each, viz., 1st, guano; 2d, SOMERVILLE'S manure; 3d, STENHOUSE & Co.'s superphosphate of lime; and 4th, STENHOUSE & Co.'s nitrophosphate of lime. The explanation of this curious result involves a question of great interest and importance to agriculturists. In the first series of experiments the farm-yard manure employed was of the description most commonly used, having been driven out of the field and rotted in dung-heaps, according to the old-established practice. In the second series it was taken direct from a large covered court, where it had been trodden upon by feeding cattle throughout the previous winter, sheltered entirely from rain, and little exposed to the atmosphere. In both cases the quantity by measure was the same; but it will be seen that the weight of covered-court manure applied was less in every instance than that of common farm-yard dung in the corresponding experiment, viz., as 12 to 15. This is to be regretted, perhaps; but it was found that a quantity of the covered-court manure, equal in weight to that of common dung ordinarily employed, could not be worked into the soil, and it was thought inexpedient to diminish the due allowance of the latter for the sake of contrasting equal weights of both, when the number of cartloads—by which this kind of manure is usually measured—was the same. The theory so much urged by chemists of the loss sustained through the excessive fermentation to which, under the old system of management, farmyard manure is subjected, appears to receive no support from these experiments; for while the fermented dung employed in the first series stands third in degree of productiveness, the less decomposed manure from the covered court stands at the very bottom of the scale in the other series. At all events, it would seem that farmyard manure, when only slightly fermented, requires the addition of some special fertiliser to act as a stimulant, or in some other way to render it immediately available for the nutrition of the Turnip plant, because the addition of guano and superphosphate of lime raised its productiveness very materially, and the combination of farmyard manure and superphosphate was more productive than either of them employed alone."

In the comparison of the farm manure from the covered court standing at the bottom of the second series with the farm manure as ordinarily rotted and prepared, it must, however, be observed that the available ingredients applied in the former case were less per acre than in the latter; in addition to which we have the undoubted fact that they were in a less available state in the less fermented material. It is the weight of useful substances in an immediately available condition which it contains that will determine the immediate effect of any fertiliser; and the result of the experiment in this particular need not shake our confidence in the inferiority of that mode of managing the manure of the farm which exposes it the least to atmospheric waste. For the rest, it will be found upon examination of these Tables, that those manures which contain ammonia as well as superphosphate stand highest at Craigo in their effects upon the Turnip crop.

## THE TASTE OF BUTTER.

THE following are passages on this subject extracted from previous volumes of the *Agricultaral Gazette*:—

1. I have found chloride of lime very effectual to remove from butter the taste of Turnips, or any other bad flavour. A drachm of it to every expected pound of butter put into the water of the second washing, after it is taken out of the churn, and the butter well but rapidly kneaded in it.

2. Do not feed your cows with Turnips until they have been previously milked, by which means the animal has 12 hours to get rid of the flavour of the vegetable. Good hay must also be given in sufficient quantity. I need not add great cleanliness not only in the cow-house but in the dairy. No stale pieces of Turnip should on any account be allowed to remain in the manger, which should be cleaned out before feeding. If your correspondent does not feed largely, perhaps peeling the Turnips might answer the purpose, for it is principally in the skin that the strong smell resides. I question much if saltpetre answers any purpose in freeing the cream of the strong taste imparted by Turnips.

3. We have obtained answers from Warwickshire, Cheshire, Gloucestershire, and Devonshire. Some of them suppose the annual occurrence of the nuisance to be due to the growth of some ill-tasted weed at that time; others appear to have had no experience of the evil complained of; the only one who speaks positively says:—"The cause of the unpleasant taste in your correspondent 'R.'s' butter is wild Garlic, or what in Devonshire is known by the name of Ramsey [Ramson] which is often found here in rich pastures. The leaf is much like the Lily of the Valley, and bears a white flower. The reason of its not affecting the butter after the middle of June is, that it is then in flower, when the cows will not eat it. The best way is to dig it up early in May, or now, if not covered with Grass." The following is from Cheshire:—"I have not met with any case similar to the one you speak of respecting butter, although I have heard of instances, in some parts of North Wales, where the butter is not so good flavoured at certain seasons of the year, and the cause was attributed to ill-flavoured plants making their appearance at those times, more especially the wild Onion. The herbage, certainly, has a great deal to do with the flavour of butter and cheese, and I find that Red Clover even affects it; in this county there is nothing to equal old pastures for the dairy. Perhaps if the farmers in Warwickshire would examine their land carefully they might be able to discover the real cause." We had cows on Grass last year, and their cream and butter had the acrid taste that you complain of. We had about a dessert-spoonful of saltpetre dissolved in water, and put into every gallon of milk before it was churned, and a small bit of common salt was put into the milk pan when the milk was brought in from the cows. The cream was put to stand in boiling water for half an hour, and frequently stirred while the water cooled before it was churned. Ultimately we had good butter, but certainly not till after this season of the year had passed. So that probably the improvement was attributable, not to our treatment, but to the natural alteration of the pasture, which is full of Buttercups at this season.

4. As soon as the milk is brought into the dairy (warm from the cows), pour into it, in the proportion of half a pint of boiling water to a gallon of milk; cover it over with a cloth, four times doubled, for half an hour; then strain and pour it into milk dishes to stand for cream. N.B. I have never known this receipt fail, unless the dairy-maid put a wooden cover over the milk-pail instead of a cloth, which absorbs the steam, and entirely removes any unpleasant taste, even when the cows are fed on yellow Turnips and straw, which makes the butter require no colouring of Carrot, and have the appearance of summer butter.

5. There is a paragraph in your Paper headed "Butter-making," in which the writer condemns the use of Turnips for feeding cows, as giving the butter and cream a bad taste, and expresses his surprise that there should not be any method to prevent it. I occupied a farm of 500 acres, and kept a large dairy of cows, and never had the taste of Turnips in the butter, by applying hot water and steam, at different times, to the milk and cream, which entirely took away all flavour of

the Turnip. We generally made from 1*d.* to 2*d.* per lb. of our butter more than market price. Should any gentleman wish to know what our process was, I should be most happy to give him any information that he may require. Our system has been carried out for 40 years, and has never been known to fail where properly attended to.

6. The popular remedy in these parts is, to put a small quantity of pounded nitre in the pail before going to milk, which answers well enough so far as the milk is concerned; but its influence can hardly be said to extend to the cheese and butter. The writer has heard it stated that nitre would meet the evil in the cheese and butter as well as in the milk, if it were only used in sufficient quantity; but then, many are of opinion that the use of nitre to the extent necessary for effectually correcting the evil in cheese, or in butter when kept for some time, would give to the dairy produce medicinal properties, of a kind not altogether agreeable; be that as it may, the point is an important one, and such as might with very great propriety be brought under the notice of some of the leading chemists of the day. As you expressed a wish to know how the flavour of Turnips was got rid of in the butter which I sent you, and which was made from the milk of cows fed, morning and evening, on Swedes, I beg to inform you and your readers that the only precaution adopted is that the cream, before being placed in the churn, should stand in a room with a fire, and raised to the temperature of 65° Fahr. This prevents a tedious operation in churning, and, with ordinary cleanliness in the diary, butter so made will never taste of Turnips. This is the whole mystery of destroying the flavour of Turnips in butter; an experience of a dozen years in a large dairy may be relied on.

7. If you collect so many gallons of cream before churning, then put that number of half pints of vinegar into the jar to begin with, and churn when the usual quantity is collected. "Quereus" is the authority for this. He "had it from a friend of his who supplies a large quantity of butter of the best quality to one of the crack shops at the west end."

8. Make a strong solution of nitre, and add a dessertspoonful of it to every two gallons of milk as it is brought in from the cow.

9. The simplest and most convenient preventative against Turnipy taint, and one to the efficacy of which I can speak from daily experience, is to let your cows have their feed of Turnips immediately after being milked, and at no other time.

10. "S. R. S." asks for the cause of his butter being bad both in texture and taste; cows fed on Mangel Wurzel and Beans, with scrupulous cleanliness in dairy utensils, but cream churned only once a week. My cows were fed last winter on Mangel Wurzel cut into shreds with a (Moody, Frome) Turnip-cutter, and mixed with hay and straw-chaff; butter made twice a week. The butter was good in flavour, but crumbled. In the spring I was able to add Rape to the above food, the butter immediately changed to a good texture, and improved in flavour; this change I attribute to the oily nature of the plant Rape. I have this winter used oil-cake crushed, giving 2 quarts a day to each cow, 3 perhaps would not be amiss, with Mangel Wurzel, some few Swedes, and a sprinkling at times of Carrots, all cut up, being well cleared from dirt, and mixed with chaff. Butter is good both in texture and flavour, but I think it should be made winter and summer twice a week. I have used Beans, but find them neither so good nor so cheap as cake.

*(To be continued).*

## THEORY OF AGRICULTURE.

By Dr. Evan Pugh.

*(See pages 223, 319).*

Letter III.—The Best Means of Raising Crops to Ensure the Greatest Profit.

The question which we are now about to consider is almost invariably the first, and it is too often the only one that is asked by the practical farmer. He too often cares little about looking after causes if he can but secure the effects which he desires; to him it seems of little importance why a certain manure will produce a certain result with one crop and not with another, or why certain soils are adapted to a particular kind of husbandry and not to another kind. It appears sufficient for practical purposes to know what manure should be used, and what kind of husbandry should be adopted in order to give satisfactory results, and then to leave to the theoretical and the scientific man the consideration of the relations between the manure used, or the husbandry followed and the effect produced.

Now if there were no other object to be attained by the study of natural things and natural causes than simply to develop the means of administering to our bodily wants—if the study of agricultural principles could lead to no other result than to enable us to produce maximum crops at a minimum expense—if there were even no desire that the youth of our agricultural communities should find in the principles involved in the occupation of their lives a theme for study upon which they might develop the natural resources of their own minds—there would still be an abundance of reasons why the farmer should not be contented with simply knowing how to get satisfactory results, without caring anything about why he gets them. And it shall not be so much the object of the present article to attempt to give any practical rule by which the farmer can make the greatest amount of money, or raise the largest crop at the least expense, as to endeavour to show that no such practical rule can be given, except it be deduced from a knowledge of agricultural principles; and that, such being the case, the question proposed at the head of this article cannot be answered until a great number of other questions with regard to these principles have been solved. The question proposed is, indeed, but a simple corollary, the answer to which would be self-evident were the main proposition involving the principles concerned solved, but until it is solved this must remain either totally unanswered or partially so.

It is true that certain empirical rules, founded upon a practice which has been more or less successful, have in all agricultural communities been adopted. And in many instances these rules have been established without any regard to a principle upon which to found them, or by which to explain the practice which they demand. They have been followed up for years with a good degree of success by men who have cared nothing about such principles; and this success may be adduced as evidence of the value of the rules and of the correctness of the method by which they were constructed. It is also equally true, that before any time had been devoted to the study of oceanic currents, the direction of winds, and the laws of storms, ships crossed the Atlantic and commerce flourished. For every ship that was stranded on an unknown shoal, or dashed to pieces against an uncharted rock, hundreds of others rode smoothly onwards unharmed. Yet, notwithstanding this success, no one doubts the great benefit that have been derived from the immense expenditures that have been made by the maritime powers of the world to chart the ocean and to study the laws of physical forces that operate upon it.

Systems purely empirical are always dangerous in the hands of empiricists; whenever circumstances are liable to change, as is the case in agriculture, they meet with phenomena entirely inexplicable, and are liable to fall into the most disastrous blunders. Such systems are almost as various and incongruous as are the number and character of the persons by whom they are developed. One system recommends the use of lime as the universal panacea for all sterile land; another finds that gypsum is the great restorer of the soil's exhausted resources; while others inform us that bones, or wood ashes, or organic matter, or ammoniacal salts, or some other particular thing that experiment has proved to give a satisfactory result in limited circumstances, is the philosopher's stone, which is to fill the farmer's pocket with almighty dollars. On the other hand, we could find equally satisfactory evidence that each and every one of these several systems had failed under particular circumstances.

We could find instances enough in Pennsylvania, Maryland, and Virginia, of the farmers coming to a dead halt upon an exhausted soil and not knowing what to do next. Empiricism had well-nigh left our mica slate, and gneiss soils a barren and exhausted plain, when science first came forward to point out the use of bones, ammoniacal salts, and guano.

Not very long since one of the favourite results of agricultural empiricism, particularly amongst the German part of our population, was the connection between the position of the planets, the sun and moon in the zodiac, and the state of vegetation. Empiricism had afforded the most incontestable evidence that Potatoes planted in the wrong "sign" would produce no crop, and that corn hoed when the sign was in a vital part would assuredly die. Animals that were born under particular planets would in consequence of some sub-planetary influence exhibit certain peculiarities.

Empiricism had no doubt about the correctness of its conclusions; it did not hesitate to answer such a question as that at the head of this article with all the confidence that ignorance alone could inspire. As the alchymist with his philosopher's stone professed to perform experiments from which modern chemistry would shrink in despair, so the empiricist in agricultural practice would boldly venture upon ground where science with all its refinement would hesitate to tread.

The empiric is confident because he trusts to his senses rather than to his understanding. Like the travelled fool, "he has seen and sure he ought to know," and since it is not his purpose to trace relationships between the individual things he does see, it matters not how incongruous the latter may be, or how incompatible one phase of his vision may have been with another, it is still sufficient to "know" that he did see it.

The man of science, on the other hand, is ever ready to doubt the evidence of his senses if he cannot bring it into harmony with his understanding. Isolated facts to him have no value. Facts are important only in their relations to other facts. They are only important as forming the stepping stones upon which to ascend to principles. Principles once discovered and fully understood, the facts through which they were detected, like the scaffolding of a finished edifice, become of little importance. The civilised world will never cease to do homage to that transcendant genius which first grasped the idea of universal gravitation, but it will never care about the particular circumstances of the first observations by which the immortal Newton satisfied himself that the gravitating force varied directly as the mass and inversely as the square of the distance.

Principles once understood, a knowledge of them becomes a powerful engine in the development of other facts, and in the control of causes. To show that the steam engine, the electric telegraph, and all the various physical agents which have contributed to the greatness of the present age owe mainly the efficiency of their development to the study which has been devoted to the fundamental principles involved in their construction, would be but to reiterate truths familiar to every mind that has given a moment's thought to the subject. These subjects have been followed in many instances by scientific men more with a view to develop principles than to obtain practical results from the application of them. And these principles once understood by the scientific man and the student, the practical man and the mechanic have made those practical applications of them which so pre-eminently characterises the middle of the present century.

Now, there is no industrial occupation the success or failures of which are more influenced by the operation of agents which it is the province of science to investigate, than is that of agriculture. The farmer, then, must distinctly understand that in order to bring his favourite art to the highest possible degree of perfection he must understand the principles upon which it depends, and since these principles embrace all that modern science combined with practice can bring to bear upon the subject, the question of the most profitable method of farming is not to be exhausted in a single essay. It is not a subject to be embraced in a short receipt, such as that which accompanies the "cure alls," which the vendors of quack medicines put off upon those who patronise them. It can only be mastered by a command of its principles, and these can only be understood and appreciated by a cultivated intelligence and an enlightened understanding, such as we cannot hope to attain in all parts of our agricultural populations until we have suitable agricultural schools and colleges at which the work of education shall be commenced in youth. Here in England where a greater degree of talent has been brought to bear upon agricultural practice than in any other part of the world we find agriculture brought to a degree of perfection surpassing that of any other part of the world; it has, however, yet much to learn in order to avail itself of all the advantages to be derived from the study of its principles.

But we have been discussing this subject upon the assumption that the practical result of a maximum crop at a minimum expense is the only object to be derived from the study of agricultural principles.

When we come to consider the subject of agricultural education, we shall find that one of the great advantages of the study of agricultural principles in agricultural communities will be the mental and moral elevation of the masses of the population. It is a notorious fact that the agricultural labourers of England, Germany, and France constitute the most ignorant part of the population. Indeed, to simply characterise them as ignorant does not convey an adequate idea of the complete stultification which abounds amongst them.

The moral and mental torpitude of the English farm labourer is the subject of remark with every foreigner who traverses the country. With nothing to occupy his thought but the monotonous duties of the farm, he drags out a wearied existence, thinking only of those duties in connection with the pittance he receives for performing them, as a means of administering to his bodily necessities. Of agricultural principles and practice—of the reasons why he performs what he does, and of the connection between one part of his labour and another, which might constitute a theme upon which to cultivate his intelligence, and make him a more efficient because a more intelligent labourer, he knows nothing.

In America (at least in the Free States) where we have no recognised class, the fathers and grandfathers of whom have been, and the children and grandchildren of whom will be simply labourers, without any capital, this deplorable stultification does not exist, but even there the state of general intelligence amongst our "hired men" is more the result of a mental activity devoted to subjects foreign to that of their daily avocations than to these. At the termination of our common school course, which has as little reference to agriculture as to the inhabitants of the moon, his intelligence is mainly kept alive by the discussion of political and reform subjects, which are ever so exciting in our country, and which our cheap press, in some form or other, is constantly bringing before the entire population.

When the study of agricultural chemistry and of science in general as applied to agriculture shall have taken its proper place in our country schoolrooms and on our farms, the subject of maximum crops at a minimum expense will become clear to our agricultural communities, and until such change is brought about, we cannot hope that such clearness can be attained.

## Home Correspondence.

*Liebig on Manure.*—Liebig's last agricultural utterances are perhaps the most important, as such, that he or indeed any one ever placed before the world. They deserve the closest attention on the part of your agricultural readers, and of every one interested in the common welfare of our country. It would be a measure attended with much good if the volume which contains these precious utterances could, through some arrangement with the publisher, be placed in an accessible cheap form before the eyes, and in the hands of every man who holds or drives a plough. Liebig shows in clear impressive language that we suffer our towns to be encumbered with the dirt, the refuse, the waste in short, attending the processes of life in man and brute; that we suffer this waste in short to be utterly lost, carried off by the winds and the rains, the rivers and the sea, in place of retaining it for the benefit of the soil, and the behoof of man. The great cloaca of

Rome, he says and truly says, engulfed the agricultural prosperity, first of Italy, then of Sicily, and lastly of Northern Africa, in succession. The stamina of the soil were removed, there was no substitute, and desolation and ruin followed in due course. At the present moment the agricultural wealth of England, Scotland, and Ireland is carried away by the sewers of towns great and small, never to be recovered, unless partially and for a time from the guano islands, into the ocean. These kingdoms are in the position of a strong man, both of whose arms are tied up and bleeding, and no provision or no adequate provision made to keep up his strength, and repair his loss. In our towns, the poor directly, and indirectly the rich, suffer from the retention of the waste, that would, if judiciously applied, confer health and strength, instead of, as it is, inflicting pollution and disease upon humanity. The farmers' insanity suffer their manure heaps to be washed by the rains, disintegrated by the sun and winds, while we as insanely poison the beautiful rivers flowing through our towns, and let the rich refuse escape, which, were it properly hoarded, would confer health, wealth, and prosperity, instead of entailing misery and disease. *Henry M'Cormac, M.D., 3, Wellington Place, Belfast, May* 12.

## Foreign Correspondence.

Bruges, Belgium, *April*.—An inspection of the Flax districts of Flanders has resulted—as with the majority of travellers who have preceded us—in imbuing us with a profound conviction that a system of agriculture which can, with by no means promising materials, establish localities marked by the neatness of the fields, by the depth of their cultivation, and the richness of their crops, if not absolutely is at least very nearly perfect. By no means desirous to elevate the agricultural position of this wonderful country at the expense of that of England, still we deem our statement to be pretty nearly the truth when we say that the system of Flax cultivation in Belgium is altogether unique, and has no equal in any country. Nothing can exceed the untiring industry of the farmer in preparing the land, applying the manure, and carefully watching the progress of the plant in all its stages; the result is a condition of matters which from its perfect finish is an absolute treat to all interested in agricultural operations. You walk through districts which convey the idea of carefully cultivated garden plots rather than of farm fields, and it is only by a survey of their extent that you come to appreciate the extent and the value of the labour which must have been bestowed upon them.

With us the Flax crop is by no means a favourite; looked upon as a plant which takes more than it gives, it is jealously regarded by most of our farmers. But if for no other reason than this, that Flax cultivation involves good husbandry—for good Flax crops and bad farming are altogether incompatible—and that it affords an excellent school for the practice of good modes of procedure, it is worth while inquiring how, and by what means the Flemish farmers have from time immemorial succeeded in raising fine crops of Flax; not only maintaining, but actually increasing the fineness of its qualities, and all this without in any degree bringing about that exhaustion of the soil's fertility, which we are told is the almost invariable result of its cultivation elsewhere, se much so that it is more frequently looked upon as a robbing rather than a giving plant. That it is not to the fertility of the soil that the fine crops of Flax in Flanders are to be attributed, a very brief inspection of it will suffice to show. We have before us a sample of soil taken from a celebrated district. at which we do not hesitate to say many an English farmer would turn up his nose as beneath his notice and unworthy of his cultural cares. It is to the careful working of the soil, the unstinted supply of manure, of which the quality and mode of action on the soil and plants is a matter of careful and anxious study; to an equally careful attention to the quality of the seed and the properties of the plant; and last, not least, by carrying out a well-considered system of rotation, in which long intervals are allowed to pass between the successive growths on the same soil;—it is to all this that the Flemish farmer owes his success in Flax culture. Flax can be grown, and grown well, in a wide variety of soils, essentials being the deep and careful pulverisation of the soil, and the unsparing application of manure. Even a soil of almost pure sand will bear a good crop if well worked, and supplied both with solid and liquid manure; but the fibres grown upon this quality although long and fine are not so strong as those produced on better soils. The soil sought after by the experienced farmer is that which is new, easily worked, strong, and fertile; neither too wet nor too dry. The finest Flax is obtained in the deep soil of a clayey sand or loam. In the strong, fat, humid soils the Flax in good seasons grows to a great length, but is never fine in its filaments. In light soils the Flax is shorter but the filaments are fine and silky. In Courtrai the soil is generally a clayey sand. In the neighbourhood of Bruges the soil is sandy, as also in the Pays de Waes, a part of East Flanders celebrated for the fineness of its Flax.

The choice of seed exercises one important influence upon the Flax crop. In Flanders two sorts are generally grown, that bearing white and that bearing blue flowers. The latter, which is cultivated chiefly in the Pays de Waes, gives a strong Flax, which is generally mixed and worked along with Hemp. The former gives a finer and softer Flax. The best seed is that which is bulky and heavy, and of a clear colour, smooth and brilliant, oily, without mouldy or sour smell, and which sinks in water, and when burnt consumes rapidly and clearly. A very good test to put seed to is that of germination. For this test they keep a piece of flannel extended and in a moist state, and on the surface of which they place a few of the seeds; if germination takes place uniformly within 24 hours the seed may be relied upon; if it is retarded to a space of three to five days, and takes place unequally, the seed is not to be relied upon. Two-year-old seed may be sown without inconvenience, but the object is to have seed of the same harvest—not mixed—so that it will germinate equally. The changing of the seed at intervals is necessary. Riga seed may serve for three or four years; after that it degenerates rapidly. The rotation adopted exercises an influence most important on the productiveness of the crop. In connection with this it may be taken as an axiom that the more rarely the crop comes upon the same soil the better the produce. Short rotations exercise a most unfavourable influence upon the crop, and wherever they have been introduced with a view to force production, the invariable result has been a deterioration in the quality of the Flax. Where Flax is cultivated *à la ramés* (that is, where the plants are supported by a species of net-work formed of poles and cords—this being done where filaments of the finest nature are required), the rotation extends over a period of 18 or 20 years—this being necessitated from the demands which the Flax thus grown makes upon the soil. For Flax grown in the ordinary manner, the period over which the rotation extends should not be less than from 6 to 7 years. In the province of West Flanders, of which Bruges is the chief town, the rotation extends over a period of 5 to 10 years; in East Flanders, of which Ghent is the chief town, it extends over a period of 5 to 9. Generally the Flax crop succeeds the Clover, Oats, Rye, Wheat, or Hemp. It loves new land, as a meadow or pasturage broken up. Astonishing crops are obtained from land in the neighbourhood of towns where market-garden produce is raised from the great quantity of manure employed, as in the case of the Onion, &c.

In West Flanders a six-years' rotation is as follows:—1st year, Potatoes; 2d, Rye with Carrots—these being largely watered; 3d, Flax; 4th, Rye; 5th, Turnips; 6th, Oats. A nine-years' rotation is as follows:—1st year, Oats; 2d, Flax and Turnips; 3d, Wheat, manured; 4th, Rye or Colza alone, or with Clover; 5th, Clover; 6th, Wheat; 7th, Potatoes or Beans; 8th, Oats with Clover, sometimes with Wheat; 9th, Clover.

In the Pays de Waes (East Flanders) a seven-years' rotation is as follows:—1st year, Potatoes, Hemp, Barley, or Rye; 2d, after Potatoes or Hemp, Rye or Wheat; 3d, after Rye or Wheat, Flax and Clover, or Flax and Carrots; 4th, Clover, and if Carrots have been grown during the 3d year as above, Rye; 5th, after Rye Oats, after the Clover Barley or Rye; 6th, Buckwheat or Rye, Rye after Barley; 7th, Rye. Where the oleaginous plants are cultivated, as Rape, the following is a nine-years' rotation:—1st year, Potatoes; 2d, Flax and Turnips; 3d, Oats with Clover; 4th, Clover; 5th, Wheat; 6th, Rye, 7th, Colza; 8th, Barley; 9th, Rye and Turnips.

In connection with the manures employed and the mode of preparing the land for the reception of the seed, with the sowing, the weeding and reaping, there remain many points of practical interest yet to be adverted to; these we hope to overtake in another and an early communication.

## Societies.

### ROYAL AGRICULTURAL OF ENGLAND.

A Weekly Council was held on Wednesday, May 18th, present Col. Challoner, Trustee, in the Chair.

The names of candidates proposed for election were read.

The Secretary of the Belgian Legation transmitted copies of the programme of the International Exhibition of Reaping Machines to be held at Brussels, under the auspices of the Central Agricultural Society of Belgium.

The Hon. Leslie Melville laid before the Council copies of the prospectus of a gas apparatus adapted to lighting farm buildings and stables and private houses. Having had one in operation himself for a year he was enabled from personal observation to detail its success. He stated that an intelligent labourer could manage it, and that the cost of gas varied from 2*s*. 9½*d*. to 3*s*. 6*d*. per 1000 feet, but of course subject to variation according to the price of the coal used.

Mr. Fisher Hobbs expressed his willingness to detail to the Council the result of his practical experience relative to the Turnip fly, and his success in lessening the ravages made by it. The Council expressed their hope that Mr. Fisher Hobbs would favour the Society with this statement at the Weekly Council to be held on Wednesday next, the 25th inst.

Adjourned to Weekly Council, on 25th inst.

## Farmers' Clubs.

The London Farmers' Club: *June Discussion*. We regret to hear that Mr. Robert Baker is still too unwell to introduce the subject standing in his name for the next meeting of the London Club. Mr. Owen Wallis, of Overstone, has, however, kindly consented to take Mr. Baker's place. Mr. Wallis is already well known by the papers he has read here, while his practical ability would promise to do full practice to that now coming on for consideration—"The most profitable system of cultivation upon mixed soils."

## Reviews.

*Landlord, Tenant, and Labourer, in a Series of Papers affecting their Interests.* By W. F. Hobbs. J. Ridgway, Piccadilly.

This is the very effective title of a pamphlet in which Mr. Fisher Hobbs has republished three papers on the Beershop System, on Copyhold Tenure, and on the Transfer of Land respectively, which he read some years ago before the Central Farmers' Club.

The conclusions to which the Club were led by Mr. Hobbs on these several points were as follows:—

"1. *On the Beer-shop System*.—That the effect of the present beer-shop system is to deteriorate in the greatest degree the character and value of the agricultural labourer, tending as it does to encourage habits of idleness, dissipation, and dishonesty. 2. That as all other classes necessarily suffer, it becomes the duty of every one to use his utmost exertion to hasten the suppression of these sources of crime. 3. That in the opinion of this club the labourer should have every opportunity given him for brewing the beer he requires, or for procuring it on fairer and cheaper terms; and that the retention of the malt tax is to him. as a consumer of that his labour produces, both a serious oppression and a direct injustice."

"2. *On Copyhold Tenure*.—That copyhold and customary tenures are frequently a bar to the application of skill and capital, an impediment to the improvement of the land, injurious to the public, and inconvenient to the lord as well as the tenant. That it is highly desirable for the interests of lord, tenant, and public that the entire enfranchisement of these tenures should be effected as soon as practicable on equitable terms, due regard being had to the rights and just claims of all parties."

"3. *On Land Transfer*.—1. That the difficulties attending the transfer of land have generally become so many and embarrassing as to demand the serious attention of the legislature, with a view to removing them. 2. That the effect of these difficulties is in the highest degree injurious—to the owners of the land who, encumbered with them, can seldom make the most of their property; to the cultivators of it, who are thus too often denied that aid and encouragement in the way of permanent improvements, such as buildings and draining, that should properly come from the landlord; and to the public at large, who are consequently deprived of those opportunities for investment, and the advantages of increased production, they would otherwise enjoy. 3. That the first and most direct means for removing these difficulties would be the improvement of the law of real property, the simplification of titles and forms of conveyance, together with the establishment of some effective system for the registration of deeds."

These resolutions are perfectly justified by the arguments and statements preceding them, which are well worth the perusal of any one seeking information on the topics specified.

Let us here call attention to the immense store of valuable agricultural information which the Journal and proceedings of the Farmers' Club embody. A series now of many years' duration of monthly papers on the points of greatest agricultural interest written by the men best qualified to discuss them, must include a great deal of useful material which ought to be more accessible than it at present is. We commend the field to the cultivation of the secretary to the society in question, who might, we are persuaded, with the permission of the authors, edit a number of useful volumes from the materials thus at his disposal—volumes which would command a large circle of readers.

## Miscellaneous.

*Halkett's Guideway Agriculture*.—My system consists of laying down rails over the farm, the cultivating implements, and carts for the carriage required on the farm, travelling upon these rails. Both the following advantages are thus gained to an extreme—the softest and deepest bed for the plants, and the hardest road for the passage of carts and implements. Under the present system of agriculture, the ground being more and more cultivated by the modern requirements of deep and fine tillage, of which we have heard so much to-night, is becoming more than ever an unfit medium for the economic cartage of the farm; whilst, on the other hand, the trampling and pressure in cartage, and all the other operations of the year, annuls as well as man can do it the effect aimed at, of keeping the ground in a state suitable to the plants. Again, the system assures a perfect operation of the implements, the rails forming the guides, and thus all the operations of the field are enabled to be brought under the power of the steam. Let us now see the value of these advantages in other operations, besides those of ploughing, grubbing, subsoiling, rolling, harrowing, &c., which I do by steam. On some lands, after a long continuance of dry weather, followed by perhaps two days of rain, and again fine weather, the surface is dry, but underneath the soil is soft and deep: the whole is as tender as possible, and might almost be hoed with a feather. The gardeners will at once stir and hoe the ground, bringing up the black mould in strong contrast with the fresh green plants; for the weeds will now spring into rapid growth. And if the farmer can yet go upon his land without injuring the plants, he requires many days to hoe them, whilst in a short time the surface becomes again hard and caked, and covered with weeds; or perhaps more rain will still further delay the operation. But on my system I can hoe from 150 to 200 acres in 24 hours with the greatest precision, without putting a foot on the land. So again with seeding: I am enabled to seize a favourable moment in the weather for crumbling the earth fine, or for putting in the seed. In 24 consecu-

tire hours 150 or 200 acres of land may be drilled. The manner of carrying out the various operations I will not allude to to-night. I refer gentlemen desirous of examining the subject to the professional papers of December, 1857, read at the Freemasons' Tavern, and of 1858 before the Society of Arts. But allow me to draw your attention to parts of the subject not before discussed. Let me, for instance, consider a rotation of crops, taking first the Grasses. Inasmuch as by my system the carriages run upon the rails, the economic advantages are so great that I am enabled to cart water and distribute it on the land at 1*s.* per acre, giving about 3000 gallons on that space. Secondly, I am enabled to mow by the machine at a great saving; and I can cart the large crops which some of the artificial Grasses will yield, if watered and repeatedly cut, at an equally reduced charge. If this be considered, it will be seen what a large herd of cattle may be supported with summer food, besides raising a great quantity of manure. The root crop also, for the reasons before stated, of better cultivation, and from the great abundance of manure, will yield much larger crops—and an increased quantity of meat will thus be raised—whilst the land being richer, the cereals also will bear heavier crops. When, independent of all these advantages, it is found that I can cultivate land 1*l.* per acre less than it can be done at present, after paying all expenses for interest and renewal, will it appear strange that if the profits afford thus a very large interest upon the capital laid out, I should look for the system to be adopted as a matter of course? The amount of the money required is of no moment at all; in fact, the greater amount the better, if the interest be large, and upon what security can a man expend capital better than on land? All that is wanted is to ascertain that the system is true. I grant there is a difficulty at the present; for the farmer who takes the greatest interest in my system (and there are several present here who I believe will corroborate my statements of the work done) is not willing to lay out capital on his landlord's property; whilst the latter does not sufficiently appreciate the system to risk its adoption. But when proved, money may be borrowed for the purpose, the same as for drainage; or a landlord, receiving say 2000*l.* a year, by selling a portion of his land, will be enabled to lay down the remainder on this system. And if he then receives, after paying for renewals, a net income of 4000*l.* a year, there is but little doubt that his example will be followed wheresoever it can be. *Mr. Halkett at the late meeting of the London Farmers' Club.*

## Calendar of Operations.

MAY.

WESTER ROSS: *May 16th.*—Within a wonderfully short space of time we have passed from the extreme cold and wet of winter to the heat and drought of summer. A few weeks only have gone by since we were complaining that the Oats could not be satisfactorily sown because of wet: now we are afraid to commence the Swedes because of drought. Then we complained of violent east winds, bitterly cold and scathing: now we say the weather is unbearably hot and dry. As there is not yet any great want of sap where the ground has not been repeatedly stirred, and as the heat is great, everything grows very rapidly. A few days of such heat would advance the crops as much as they would have been with a more genial spring. Our Oats which were all sown wet, and in bad condition, have come away nicely, and are making good progress. Barley also presents a regular and vigorous braird, and has got a good start. Wheat is advancing rapidly, but would be greatly the better of a shower, as the dark green is already beginning to give place to a green greatly lighter, and much more unpromising. A good shower within a few days would be greatly advantageous. Potato planting is nearly finished, and the earlier plantings are coming above ground. As Potatoes have been very low priced this season, fetching only from 27*s.* to 30*s.* per ton, the common people are planting more than usual. Farmers now show no desire to speculate in them. There is still a good demand for cattle, although prices have fallen considerably. At our last Muir of Ord market a great many beasts changed hands at a reduction of some 10 per cent. upon the prices paid in early spring, but as many of these cattle were purchased last autumn when prices were very low, the seller had a considerable profit notwithstanding. A few farmers in this neighbourhood some weeks ago sold their winter stock to a would-be dealer, who failed to send back the money, or take off the cattle. The beasts, after being kept for some weeks, were disposed of at a loss of some 2*l.* per head. Upon the declaration of war Wheat rushed up some 20*s.* per quarter, and whilst farmers were congratulating each other upon their unexpected windfalls, the price as rapidly tumbled down again, leaving us disappointed not a little. We are now, and will for some time be, busily engaged preparing the ground for Turnips, and more suitable weather for that purpose we could not desire. Turnip sowing is scarcely commenced.

## Notices to Correspondents.

ADDRESSES: *G H Haig.* As to the cultivation, Mr. Coleman, Chelmsford. As to the peat compressing machine, Mr. Slight, engineer, Edinburgh.

GAME: *R.* An association has been formed at Chester "to remedy a great national evil by enforcing the existing laws of the United Kingdom, which are opposed, letter and spirit, to the creation of nuisances injurious to the morality of the preserver of game and the gamekeeper, in nearly the same degree as the poacher." Their proceedings commence with temperate remonstrances by letter to individual preservers, and if these are not heeded will be followed by indictments for nuisances.

THE CHINESE SUGAR SORGHO: *X.* In the French Agricultural Journals it is stated, on the authority of the Marquis de Vibrave, that its effects have been mischievous in the experience both of himself and neighbours. "On a farm which I occupy myself, 25 horned cattle have been fed exclusively on Sorgho during a month; and from the precise day on which it was introduced in feeding the cattle, the journal of the farm shows a diminution of the profit of the dairy by one-half, and the same decrease was exhibited every month of feeding with Sorgho."

THE HON. D. RYDER AND MR. S. PHIPPS.—We referred to this subject in a leading article last week. We have now in type extracts from what appears to us the successful rejoinder of Mr. Ryder; but must postpone their publication for a week.


TURNIPS FOR EARLY FEEDING.

SUTTON'S LINCOLNSHIRE RED GLOBE; the heaviest cropper known. This sort is very superior to the Red Globe Turnip commonly grown in Lincolnshire. The original stock was presented to Messrs. SUTTON by the late Philip Pusey, Esq., with the earnest desire that he might be supplied annually with Seed of the same sort. Price 10*d.* per lb., or cheaper by the bushel.

POMERANIAN WHITE GLOBE TURNIP; the largest white Turnip; price 9*d.* per lb., or cheaper by the bushel.

These two Turnips thrive well on most soils, and are good for feeding off previous to Wheat sowing. Goods delivered carriage free.—Royal Berks Seed Establishment, Reading.

TWO HUNDRED GUINEAS IN EIGHT PRIZES.

FOR FOUR YEARS SUCCESSIVELY HIS ROYAL HIGHNESS THE PRINCE CONSORT'S PRIZE CUPS HAVE BEEN AWARDED TO SUTTON'S CHAMPION SWEDES at the East Berks and South Bucks Agricultural Societies in 1855, 1856, 1857, and 1858. New Seed now ready, 1*s.* per lb., or cheaper by the bushel, carriage free.

Royal Berkshire Seed Establishment, Reading.

ROYAL SOUTH HANTS SEED ESTABLISHMENT,

UNDER THE PATRONAGE OF H.R.H. THE PRINCE CONSORT, THE AGRICULTURAL SOCIETY OF INDIA, AND THE LEADING AGRICULTURISTS OF THE UNITED KINGDOM.

PAGE AND TOOGOOD'S STOCKS have produced the finest specimens exhibited at Smithfield, and are so well known and appreciated that comment on their part is unnecessary. Their prices compete with any house in the trade.

PRESENT PRICES, Carriage Free to all parts of England:—

| | Per lb.—*s. d.* | | Per lb.—*s. d.* |
|---|---|---|---|
| Skirving's Swede | 0 6 | Hardy Green Round | 0 6 |
| Page's Improved | 0 8 | Early Six Weeks | 0 6 |
| Ashcroft | 0 6 | Kohl Rabi | 2 6 |
| Greentop | 0 6 | Yellow Globe Mangel | 0 6 |
| Sussex, or Jeffery's | 0 9 | Page's Impl. Orange Globe* | 0 8 |
| Tankard | 0 7 | Red Globe | 0 7 |
| Red Round Turnip | 0 6 | Elvetham Long Red | 0 7 |
| Page's Improved Red Globe | 0 8 | Long Red | 0 6 |
| Scotch or Bullock | 0 7 | Long Yellow | 0 7 |
| Pomeranian White Globe | 0 6 | White Belgian Carrot | 1 0 |
| Early Green Globe | 0 6 | New Red | 1 3 |
| ,, White Tankard | 0 7 | Long Altringham | 1 3 |
| Red Tankard | 0 7 | Cattle Cabbage | 2 6 |
| Green ditto | 0 7 | Cattle Parsnip | 1 0 |
| Yellow ditto | 0 7 | Dwarf Essex Rape | 0 4 |

* Bulbs of this variety have acquired the enormous weight of 44 lbs., as shown at Smithfield Club.

BUCKWHEAT, MUSTARD, LINSEED, TARES, SAINFOIN, HOLCUS SACCHARATUS, 1*s.* per lb.

Fine PERMANENT PASTURE GRASS, ITALIAN RYE-GRASS, CLOVER, &c., at lowest market prices.

Special contracts for large quantities. Seeds packed for exportation to all parts of the world.

Oxford Street and Above Bar, Southampton

TURNIPS AND MANGEL WURZEL SEEDS, ETC.

THOMAS GIBBS AND CO., Corner of Half-Moon Street, the Seedsmen to the "Royal Agricultural Society of England," beg to announce to the members of the Society and agriculturists generally that they have still on hand a supply of the different kinds of MANGEL WURZELS; also selected stocks of HYBRIDS, SWEDES, and other TURNIPS, &c.

MANGEL WURZEL:—
Yellow or Orange Globe, Long Red, and other kinds.
TURNIPS:—
Green-top Yellow Hybrid, strongly recommended, and bears late sowing.
Purple-top Swedes | Skirving's Swedes
Globe sorts | Tankard's sorts

GRASS SEEDS for Permanent Pastures, Cemeteries, and Church Yards, Lawns, and Grass plots, &c.
RENOVATING MIXTURES for old Swards.
PRICED LISTS sent free on application.

Thomas Gibbs & Co.

CORNER OF
HALF-MOON St.
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NATURAL GRASS SEEDS.

PETER LAWSON AND SON, THE QUEEN'S SEEDSMEN, can supply genuine Seed of all the valuable kinds of the NATURAL GRASSES suitable for Lowland and Upland Pastures; also for Laying down Lawns, Bowling Greens, Cricket Grounds, Cemeteries, Railway Banks, &c.

PRICED LISTS may be had free on application.—PETER LAWSON & SON, 27, Great George Street, Westminster.

"JACK OF NEWBURY" SWEDE, ETC.

PETER LAWSON AND SON, THE QUEEN'S SEEDSMEN, &c., 27, Great George Street, Westminster, respectfully request attention to their very genuine Stock of the above excellent Swede; also of the LOTHIAN PURPLE-TOP SWEDE, both of which have been selected with the greatest care. They have also a very fine Stock of the KOHL RABI, or TURNIP-ROOTED CABBAGE, specimens of which were shown at their Stands at Smithfield Club Show. The Kohl Rabi was largely grown last season, and may now be relied on as a substitute for the Turnip and Mangel, where these roots do not succeed, or for filling up blanks where there is a partial failure. Its feeding qualities, hardiness, and weight per acre are equal to the Swede, and all kinds of stock prefer it to other roots.

P. L. & SON have also selected a first-rate Stock of MANGEL WURZEL SEED, which they can confidently recommend. Their natural GRASS SEEDS have been also saved with very great care, and they are ready to supply them separately or in mixture, for laying down Permanent Pastures, Lawns, &c.

P. L. & SON have arranged to deliver Seeds free throughout England and Wales from their London Establishment, for all quantities exceeding 20*s.* in value.

LISTS OF PRICES of the above and all other Seeds, Plants, &c., may be had on application.

27, Great George Street, Westminster.

CACTI.

TO BE SOLD, either wholly or in part, a rare and superb collection of Exhibition Specimens of TALL CACTI, CEREUS, EPIPHYLLI, and their hybrids. They have been exhibited at all the Metropolitan Shows for years past. Being large and numerous the owner wishes to dispose of them for cash or in exchange for Camellias, Ferns.—Apply to R. BUNN, Gardener to J. R. Scott, Esq., Harringay Park, Crouch End, Hornsey, N.

WARNER'S IMPROVED LIQUID MANURE OR GENERAL PORTABLE PUMP.

These Pumps are fitted with J. W. & Son's Patent Buckets and Suckers, and cannot clog in action. The barrel is of galvanised iron, not likely to corrode, and can be raised or lowered at pleasure. The legs will fold together, and the whole may be carried on the shoulder to any pond or tank required.

Price of 4½ in. Pump, with legs, 3*l.* 3*s.* If with planished copper barrel and galvanised iron handle, &c., 14*s.* extra. The barrel is 27½ in. long, and the legs are 5 ft. high.

These Pumps are also made without the legs, with strong wrought-iron straps for screwing on to any ordinary water butt or cart, and fitted with 1½ inch brass union for attaching flexible suction. Price 50*s.*

1½ inch Gutta Percha Suction Pipe, 1*s.* 11*d.* per foot.

Rubber and Canvas Suction and Delivery Hose, from ½ inch to 4 inches in diameter, in lengths of 60 feet to order. Branch Pipes with Cocks, Union Screws, &c., at reduced prices.

May be obtained of any Ironmonger or Plumber in town or country, at the above prices, or of the Patentees and Manufacturers, JOHN WARNER & SONS, 8, Crescent, Jewin St., London.

WARNER'S PATENT VIBRATING STANDARD PUMPS.

PATENT CAST-IRON PUMPS, fitted with J. W. & Son's Patent Buckets and Suckers, which cannot clog in action, for Farms, Cottages, and Wells, not exceeding 28 feet.

| Diameter of Barrel. | Height. | | £. *s. d.* |
|---|---|---|---|
| 2½ in. | short 1 ft. 7 in. | Fitted for lead, gutta percha or cast iron flanged pipe as required. | 1 10 0 |
| 2½ ,, | long 3 ,, 3 ,, | | 1 14 0 |
| 3 ,, | ditto 3 ,, 6 ,, | | 2 8 0 |
| 3½ ,, | ditto 3 ,, 6 ,, | | 2 12 6 |
| 4 ,, | ditto 3 ,, 6 ,, | | 3 3 0 |
| 2½ ,, | short, with 15 feet of Lead Pipe attached, ready for fixing | | 2 14 0 |
| 2½ in. | long ditto | ditto ditto | 2 18 0 |

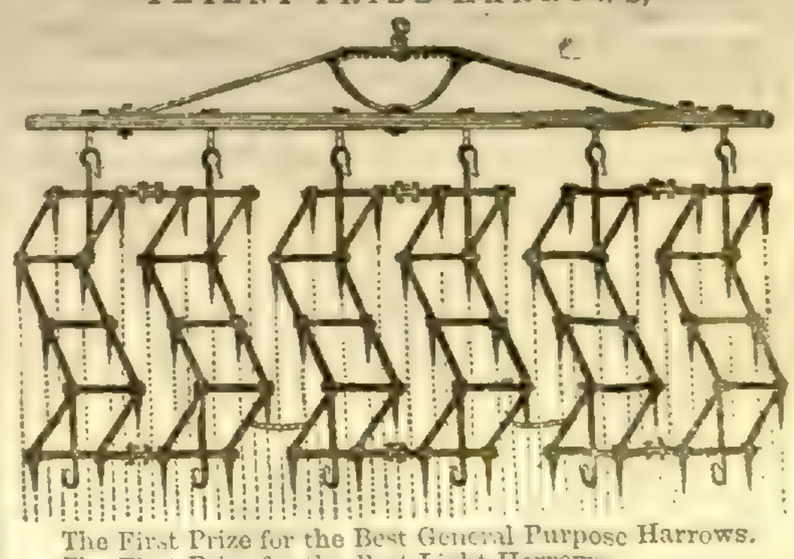
The short barrel Pump is very convenient for fixing in situations of limited height and space, for the supply of coppers and sinks in Wash-houses with soft water from underground tanks, or in Hot, Forcing, and Plant Houses; they may be fixed, when desired, under the stage.

May be obtained of any Ironmonger or Plumber in Town or country, at the above prices, or of the Patentees and Manufacturers, JOHN WARNER & SONS, 8, Crescent, Jewin Street, London.

Every description of Machinery for Raising Water by means of Wheels, Rams, Deep Well Pumps, &c; also Fire and Garden Engines, &c. &c.—Engravings sent on application.

HOWARDS' PRIZE IMPLEMENTS, 1859.

JAMES AND FREDK. HOWARD, Britannia Iron Works, Bedford, beg to direct attention to their PATENT PRIZE HARROWS,



The First Prize for the Best General Purpose Harrows.
The First Prize for the Best Light Harrows.
The First Prize for the Best Drag Harrows.

For which they received All the First Prizes last offered by the Royal Agricultural Society of England, viz.:—

J. & F. HOWARD have discontinued troubling the Public with a long List of Prizes awarded to their Implements, but they would just state that for PLOUGHS, HARROWS, and HORSE RAKES, they have for several years gained every Prize for which they have competed.

PLOUGHS.

| | |
|---|---|
| D PLOUGH, for a Pony | £2 5 0 |
| DD ditto for one Horse | 3 5 0 |
| P ditto for two Horses | 4 7 6 |
| PP ditto for general purposes | 4 12 6 |
| SKIM COULTER for P or PP Plough | 0 5 0 |

HARROWS.

| | |
|---|---|
| A Set of Three 4-Beam HARROWS, with Whippletree, recommended as general Seed Harrows, 9½ feet wide, marked No. 12 | 3 14 0 |
| A Set of Three 4-Beam HARROWS, with Whippletree, adapted for 3 Horses, 10 ft. wide, marked No. 11 | 4 4 0 |
| If with Patent Joints, 6*s.* per set extra. | |

HORSE RAKES.

| | |
|---|---|
| Small size, 7½ feet wide, marked A, with 24 iron teeth | 7 10 0 |
| Ditto, with Steel Teeth | 8 0 0 |
| Large size, 8½ feet wide, marked B, with 28 iron teeth | 8 0 0 |
| Ditto, with steel teeth | 8 10 0 |
| Extra large size, 8½ feet wide, marked C, with 24 steel teeth | 10 10 0 |
| A Set of 15 Prongs, to be attached to the above when used as Weed Extirpators | 1 10 0 |

Free Delivery to Birmingham, Bristol, Colchester, Derby, Gloucester, Hull, Lincoln, Liverpool, London, Manchester, Norwich, Nottingham, Retford, Shrewsbury, Wisbeach, Worcester, and York; or to Dublin, Edinburgh, Glasgow, and other parts at fixed rates.

HOWARDS' NEW CATALOGUE, containing prices and description of their Patent Ploughs, Harrows, Horse Rakes, and other Implements, including Smith's Steam Cultivators, for which they received at Chester the Gold Medal of the Royal Agricultural Society of England, sent free on application to J. & F. HOWARD, Britannia Iron Works, Bedford.

# SHANKS' PATENT LAWN MOWING MACHINES

## NOW USED IN ALL THE ROYAL GARDENS.

### NEW AND IMPORTANT IMPROVEMENTS FOR MOWING, ROLLING, COLLECTING, AND DELIVERING.

**PRICES OF THE HORSE POWER PATENT MOWING, ROLLING, COLLECTING, AND DELIVERING MACHINE**

| | | | | | |
|---|---|---|---|---|---|
| **No. 1** (*a*) **48-inch Machine**—(usually drawn by a Horse) | £27 | 0 | 0 | | |
| **No. 1.—42-inch Machine**—(usually drawn by a Horse) | 24 | 0 | 0 | | |
| **No. 2.—36-inch do.**—(usually drawn by a Horse or Pony) | 20 | 10 | 0 | | |
| **No. 3.—30-inch Machine**—(usually drawn by a Pony) | | | | £17 | 10 |
| **No. 4.—25-inch do.**—(usually drawn by a Pony or Donkey) | | | | 13 | 10 |
| **No. 5.—25-inch do.**—(made light for a small Pony or Donkey) | | | | 9 | 10 |

Machines Nos. 1 (*a*), 1, 2, 3, & 4 have the Patent Delivering Apparatus attached. No. 5 can either be had with or without this improvement; if with it, 30*s.* extra.

**PRICES OF THE HAND MOWING AND ROLLING MACHINE**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **No. 6.—22-inch Machine** | £7 | 17 | 6 | **No. 8.—16-inch Machine** | £6 | 10 | 0 |
| **No. 7.—19-inch Machine** | 7 | 5 | 0 | **No. 9.—13-inch Machine** | 5 | 15 | 0 |

*Detailed Printed Circulars free on application.*

**LONDON AGENTS**

**MESSRS. J. B. BROWN & CO., 18, CANNON STREET, CITY, LONDON, E.C.**

**LAWNS—IN USE IN THE ROYAL GARDENS.**

SAMUELSON'S PATENT BOYD LAWN MOWING and ROLLING MACHINE, the only one that will cut wet as well as dry Grass, is guaranteed efficient in use, easily handled, and readily kept in working order. Doing the work of five or six men. Prices, including case and carriage to any railway station in England, from 4*l.* 17*s.* 6*d.* and upwards. Copies of testimonials post free on application to Mr. SAMUELSON'S London Warehouse, 76, Cannon Street West, City; Messrs. DEANE'S, London Bridge; or the Works, Banbury, Oxon.

THE NEW PATENT MOWING MACHINES may be used anywhere at any time, are self-sharpening, and admit of the use of duplicate sets of cutting parts. Prices from 4*l.* 10*s.* upwards. Illustrated Circulars free by post.—Manufactured and Sold by JAMES FERRABEE & Co., the original introducers of Mowing Machines.

Several infringements of their patent having taken place, the Makers respectfully caution the public to see that the words "FERRABEE'S Patent" are cast on every Machine.

JAMES FERRABEE & Co., Phœnix Iron Works, Stroud.

GREEN'S PATENT LAWN MOWERS have proved to be the best by the appointed judges in all cases of competition. Full illustrations, with particulars of improvements for the present season, will appear in this Paper next week.

THOMAS GREEN, Patentee and Sole Manufacturer, Smithfield Iron Works, Leeds, Yorkshire; and 2, Victoria Street, bottom of Holborn, London. Repairs done at either of the Establishments, where every information may be obtained.

SHANKS'S PATENT LAWN MOWERS are unquestionably the most perfect Machines for Mowing Lawns, Verges, &c., extant. SHANKS'S Horse and Pony Machines are the only Machines that Mow, Roll, Collect, and Deliver the Grass.—London Agents: COTTAM & Co., 2, Winsley Street, Oxford Street, W.

**SHANKS'S PATENT MOWING MACHINES.**

J. AND C. LEE, NURSERYMEN, Hammersmith, have great confidence in recommending these as the most complete Mowing Machines offered to the public. They have had large experience with SHANKS'S Machines, and have ever found them do their work admirably, effecting a great saving in labour, and not liable to get out of order. For terms, apply to the Agents, J. & C. LEE, Nurserymen, Hammersmith.

PICKSLEY, SIMS, AND CO.'S (by ROYAL LETTERS) PATENT LAWN MOWING MACHINE.

LEIGH, LANCASHIRE.

P., S., & Co., in introducing this Lawn Mowing Machine, particularly request a strict examination, or comparison and trial, for simplicity of construction, lightness, regularity of draught, adaptability for mowing every kind of plain, circular, and verge work.

Firstly, we have encased the wheels so as completely to protect from injury flower borders, shrubs, &c., whilst working the machine, at the same time not being liable to obstruction or damage.

Secondly, this machine works easily on undulated and sloping ground; it can be thrust forward or be drawn from behind, the latter being the easiest.

Thirdly, this is the only machine made that will work round quick curves; it will work easily and effectively round circular borders so small as 12 inches in diameter. This very desirable improvement has been obtained by fixing to the front part of the machine our newly-invented universal action, and self-cleaning, anti-friction spherical guiding balls. The continual revolving of these spherical guiding balls, under the most trying circumstances, never fails.

Fourthly, we have attached to this machine a rack and pinion motion, for adjusting the cutting parts (there being a rack and pinion on each side of the machine to act conjointly at the same time upon the full length of the knives), in other machines a slow, tedious, and uncertain operation, into one of quickness, ease, and certainty.

PRICES:—

| | | | | £ | *s.* |
|---|---|---|---|---|---|
| Patent Lawn Mowing Machine | 13 inches | .. | .. | 5 | 10 |
| Ditto ditto ditto | 16 ,, | .. | .. | 6 | 0 |
| Ditto ditto ditto | 19 ,, | .. | .. | 6 | 10 |
| Ditto ditto ditto | 22 ,, | .. | .. | 7 | 0 |
| Patent Chaff and Gorse Cutters from | .. .. | £2 5 | to | 22 | 0 |
| ,, Bean, Oat, and Malt Mills | .. .. | 3 10 | to | 10 | 10 |
| ,, Gorse and Grain Bruisers | .. .. | 10 10 | to | 21 | 0 |
| ,, Bone Mills | .. .. .. .. | 27 10 | to | 150 | 0 |
| ,, Mangles, various | .. .. .. | 2 10 | to | 12 | 10 |

ILLUSTRATED CATALOGUES can be had gratis.

## PATENT LAWN MOWING AND ROLLING MACHINES.

# SAMUELSON'S LAWN MOWING MACHINES,

## WITH BOYD'S PATENT IMPROVEMENTS.

*"Doing the work of five or six men."—The Times, Sept.* 20, 1858.

The following PRICES include the Carriage to any Railway Station in England:—

| | | With Boyd and Samuelson's Patent Cleaning, Sharpening, and Adjusting Apparatus. |
|---|---|---|
| 9 inches wide, for very narrow borders, without registered wheels .. .. | £2 10 0 | |
| 12 inches wide .. .. .. .. | 4 5 0 | £4 17 6 |
| 16 inches wide, with registered arrangement (for one man) .. .. .. | 5 10 0 | 6 6 0 |
| 19 inches wide, ditto (for one man) .. | 5 17 6 | 6 17 6 |
| 22 inches wide, ditto (for man and boy) | 6 0 0 | 7 7 0 |
| 22 inches wide, ditto for ditto, and also fitted with draught links for a pony and a man to work it .. .. | 6 15 0 | 8 2 6 |
| 25 inches wide, ditto .. .. .. | 9 0 0 | 11 11 0 |
| 30 inches wide, ditto (for man and pony) | 11 10 0 | 13 13 0 |

Case included.

**Box of Tools, Oil Can, and other requisites, sent with each Machine, 5*s.***

Some thousands of these Machines are now in successful operation on the Lawns of Royalty, the Nobility, and Gentry of the United Kingdom and the Continent of Europe, and are pronounced SUPERIOR to *any other* for lightness of draught, efficiency, and durability. The demand for them is *yearly increasing—the number supplied by* Mr. SAMUELSON *during the years* 1856, 1857, *and* 1858 *being more than* 2100. Testimonials are continually being received from gentlemen having them in daily use, who speak in the highest terms of their efficiency.

These are the only Machines that will cut wet as well as dry Grass without clogging the knives.

Orders for 1859 should be sent at once to insure certain delivery and to prevent disappointment.

Copies of Testimonials will be forwarded post free on application to

**B. SAMUELSON, 76, Cannon Street West, City, London;**

**to the Manufactory, Britannia Works, Banbury, Oxon;**

or to MESSRS. DEANE AND CO. London Bridge; or any respectable Ironmonger or Seedsman in the Kingdom.

## CARSON'S

# ORIGINAL ANTI-CORROSION PAINT,

PATRONISED BY

THE BRITISH GOVERNMENT,
THE FRENCH GOVERNMENT,
THE RUSSIAN GOVERNMENT,
H.R.H. THE PRINCE CONSORT,

HON. EAST INDIA COMPANY,
MOST OF THE NOBILITY AND GENTRY,
NEW RIVER COMPANY,
THE DOCK COMPANIES,

RAILWAY AND CANAL COMPANIES,
THE PRINCIPAL COLLIERIES,
MILL OWNERS,
IRON MASTERS, &c. &c.

**The ANTI-CORROSION PAINT is now used extensively for all kinds of**

**OUT-DOOR WORK,**

Such as Iron, Wood, Stone, Brick, Compo, Cement, &c., and has been proved, after a practical test of 70 years, to surpass any other Paint; *and being peculiarly adapted for Conservatories, Hothouses, and Frames of all descriptions, is constantly used by Noblemen, Gentlemen, as also many eminent Horticulturists, for such purposes.* It is much lower in Price, and lasts twice as long as the best White Lead, and can be easily applied by any Labourer, being sent in various Colours, requiring simply to be mixed (no grinding is needed). The Anti-Corrosion is a powder, and will keep any length of time.

COLOURS:—

| | | | |
|---|---|---|---|
| White Stone .. .. .. .. .. | 34*s.* per cwt. | Light and Dark Lead .. .. .. .. | 28*s.* per cwt. |
| Light do. .. .. .. .. .. | 32*s.* ,, | Light and Dark Chocolate .. .. .. | |
| Drab or Portland .. .. .. .. | | Bright Red .. .. .. .. | |
| Bath do. .. .. .. .. .. | | Dark do. (or Brick Colour) .. .. | |
| Light and Dark Yellow do. .. .. | | Black .. .. .. .. .. | 42*s.* ,, |
| Copper .. .. .. .. .. | 30*s.* ,, | Invisible Green .. .. .. .. | 50*s.* ,, |
| Light and Dark Oak .. .. .. | | Bright and Deep Green .. .. .. | 50*s.* ,, |
| | | Blue (for Carts and Waggons) .. .. | |

OIL, TURPENTINE, AND BRUSHES,

A Copy of Testimonials (700), will be sent upon application to

**WALTER CARSON & SONS, (Successors to the Inventors), 9, Great Winchester Street, near the Royal Exchange), London, E.C.**

**NO AGENTS THROUGHOUT THE UNITED KINGDOM.**

## COTTAM & COMPY., Engineers, Founders, &c.,

2, WINSLEY STREET, LONDON, W.

A SHOW ROOM DEVOTED ENTIRELY TO ARTICLES OF HORTICULTURE.

THE NEW ILLUSTRATED CATALOGUE UPON APPLICATION.

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|---|---|---|---|---|
| Conservatories | Mowing Machines | Hand-glass Frames | Garden Engines | Flower Sticks |
| Greenhouses | Fountains | Game Netting | ,, Syringes | Garden Bordering |
| Hot-water Apparatus | Ornamental Wire Work | Hurdles | ,, Rollers | Watering Pots |
| Garden Vases | Flower Stands | Garden Chairs | Flower Labels | Garden Arches, &c. |

**Iron Hurdles, Strained Wire Fencing, Game Netting, &c.**

*Every description of Plain, Ornamental, Cast and Wrought Iron, and Wire Work.*

**EXHIBITION PRIZE MEDAL GATES AND ENAMELLED MANGERS.**

N.B. COTTAM AND COY. beg to make it known that there is no longer an entrance to their establishment from Oxford Street, but that they have made a second entrance from 2, Winsley Street, Oxford Street, W., by the side of the old entrance to their works, opposite the Pantheon.

---

200 ONE, TWO, and THREE-LIGHT MELON BOXES and LIGHTS, of the best seasoned materials, ready for immediate use.—JAS. WATTS, Hothouse Builder and Hot-water Apparatus Manufacturer, Old Kent Road, London.

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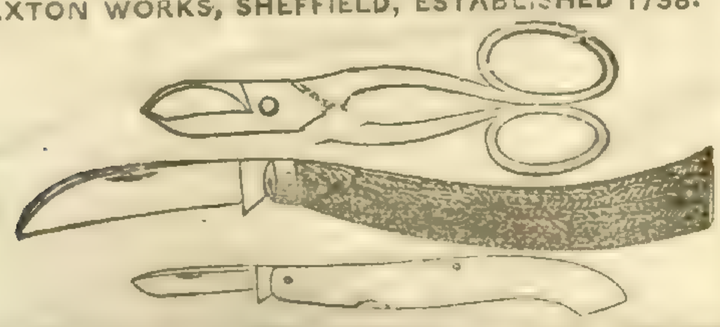
PAXTON WORKS, SHEFFIELD, ESTABLISHED 1738.



SAYNOR AND COOKE'S warranted PRIZE PRUNING and BUDDING KNIVES, SCISSORS, &c.—Sold by all respectable Nurserymen and Seed Merchants in the three Kingdoms.

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JOHN WARNER AND SONS, Crescent, Jewin Street, London.—GALVANISED IRON TUB GARDEN ENGINE, with WARNER'S Registered Spreader, is strongly recommended, for durability and low price, viz., 2 . 19s., to hold 30 gallons.

Larger sizes in wood or iron, viz., 14 gallons, 24 gallons and 35 gallons. May be obtained of any Ironmonger or Plumber in town or country, or of the patentees and Manufacturers, as also Machinery of all kinds for raising Water from any depth to any height by Steam, Horse, or Manual Power. Prices sent on application.

Syringes of various constructions and sizes from 9s. upwards. Metallic String from 5d. to 1s. 3d. per lb.

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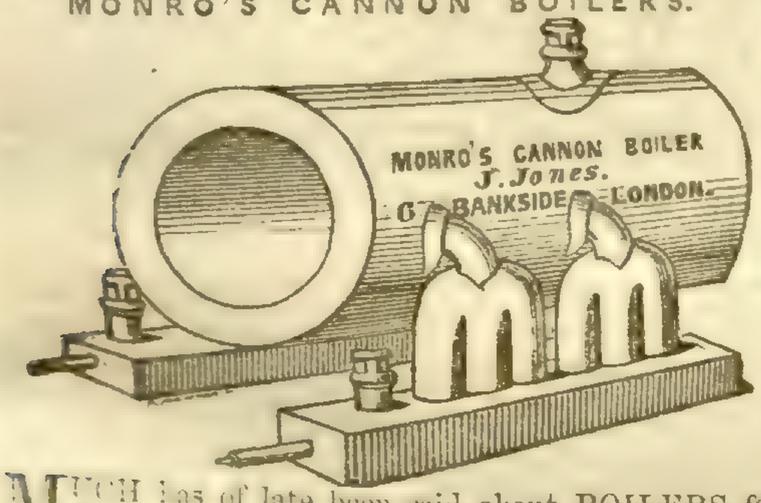
MONRO'S CANNON BOILERS.




MUCH has of late been said about BOILERS for Heating by Hot Water, but these Boilers have now proved themselves to be the best at present invented. They are adapted for heating every description of building, and are made of various sizes. The Price of the

| | | | |
|---|---|---|---|
| 24-inch Cast Iron is | .. .. | .. £5 10s. 0d. | each |
| 24-inch Wrought ditto | .. .. | .. 6 10 0 | ,, |
| 36-inch Cast ditto .. | .. .. | .. 8 0 0 | ,, |
| 36-inch Wrought ditto | .. .. | .. 8 10 0 | ,, |

References to Gentlemen and Nurserymen where these Boilers are now at work. The Cannon Boilers are now kept in stock, and are to be had only of J. JONES, 6, Bankside. Also, every description of Saddle and Cylinder Boilers. Hot Water Pipes and Connections at prices lower than those of any other house in London. Estimates for Hot-water Apparatus erected complete in any part of the country, and an Illustrated Catalogue on application to J. JONES, 6, Bankside, Southwark, London.

---

GARDEN ENGINES AND SYRINGES.

J. TYLOR AND SONS, Warwick Lane, Newgate Street, London, E.C., beg to call attention to their very superior manufacture of GARDEN ENGINES and SYRINGES.

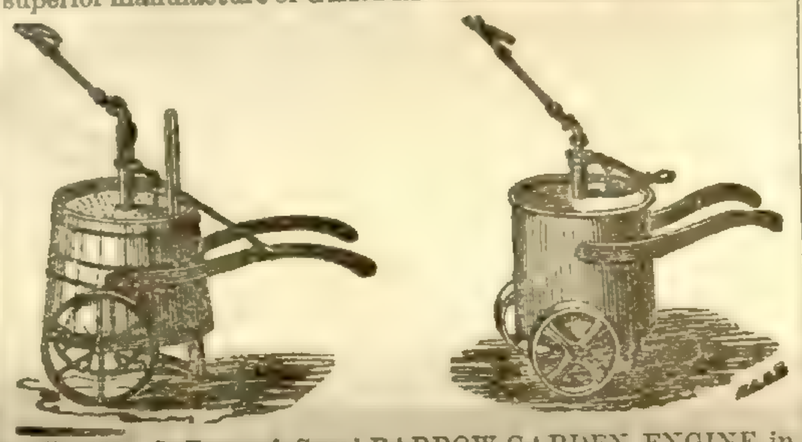


Fig. 598. J. TYLOR & SONS' BARROW GARDEN ENGINE in best well painted Oak tub, fitted with J. TYLOR & SONS' Improved Brass Pump, Universal Joint, and Registered Spreader, which answers the purpose of the separate rose, fan, and jet

CONTENTS OF TUB:—

| 10 gallons | 15 gallons | 28 gallons |
|---|---|---|
| £4 10 0 | £5 10 0 | £6 18 0 |

Fig. 599. do. TINNED IRON TUB.

CONTENTS OF TUB:—

| 8 gallons | 12 gallons | 16 gallons | 24 gallons | 30 gallons |
|---|---|---|---|---|
| £2 15 | £3 5 | £4 | £5 | £5 18 |

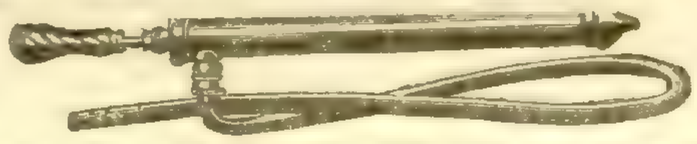


Fig. 618. No. 1. REGISTERED SYRINGE, with India-rubber suction tube, one rose and jet .. .. £1 5 each.
No. 2. Ditto ditto 1 1 ,,
Telescope Branch Pipe for ditto .. .. 0 10 ,,

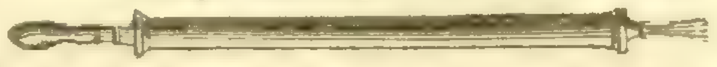


Fig. 619. GARDEN SYRINGE, with one rose and jet, 12s. 6d. each
,, 620. Ditto ditto .. 11s. 6d. ,,
,, 621. Ditto ditto 10s. 6d. ,,
,, 622. LADIES' GARDEN SYRINGE, with one rose & jet, 8s.

Fig. 623. READ'S SYRINGE, with two roses and one jet, 18s. 6d.
,, 624. READ'S SYRINGE, with one rose and jet .. 16 6
,, 625. Improved ditto ditto .. 14 6
,, 626. Ditto ditto ditto .. 13 0

Manufacturers of Pumps and Well Engines (for shallow or deep Wells), Plumbers' Brass Foundry of every description, High Pressure Cocks and Closets, Copper and Tinned-iron Baths. Garden and Fire Engines, Lamps of every description, Copper Goods, &c. Estimates given for Hot-water and Bath Apparatus.

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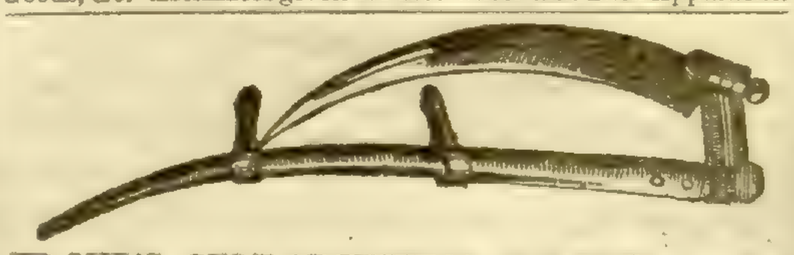

BOYD'S SELF-ADJUSTING SCYTHES are the cheapest and best, and being sold adjusted are ready for immediate use. They can be regulated in an instant to suit any person, and to cut any crop without change of Scythes. To Amateur Gardeners they are very desirable as they afford a healthy and interesting exercise. They have stood the test of public opinion for seven years, and for excellence, ease, economy, and durability are highly recommended. Upwards of 50,000 of them have been sold. To be had of every Ironmonger, Hardwareman, and Seedsman in the United Kingdom; and Wholesale of the Sole Licensed Makers, WM. DRAY & CO., at their New Agricultural Implement Warehouses, Adelaide Place, London Bridge.

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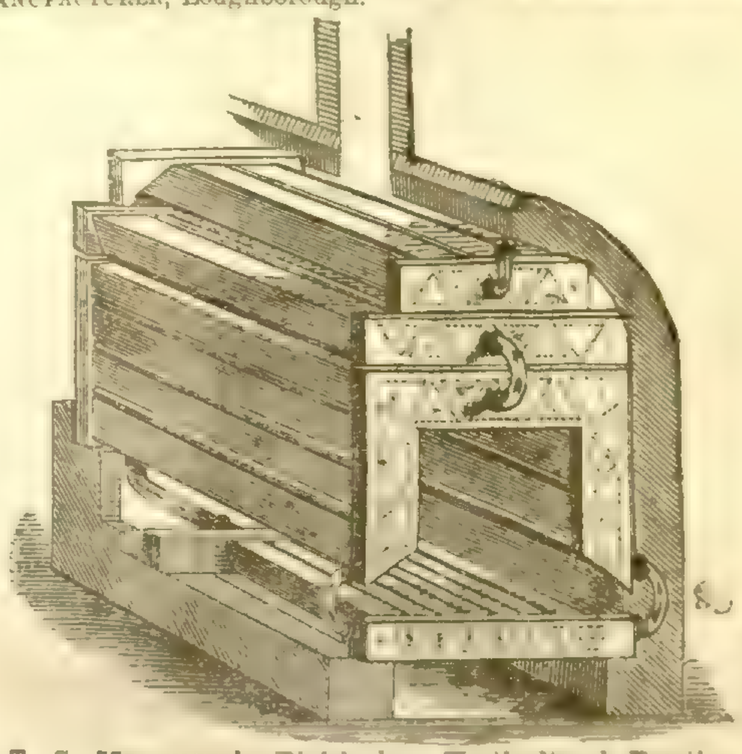
T. G. MESSENGER, HORTICULTURAL BUILDER and PATENT HOT-WATER APPARATUS and GARDEN ENGINE MANUFACTURER, Loughborough.



T. G. MESSENGER'S Divisionless Horticultural Erections, ventilated with screw mechanism by which the top or front lights are opened the entire length of the house momentarily, do not fail to give complete satisfaction (as numerous Testimonials can show), for the following reasons:—They are much lighter in appearance, more durable, much stronger, and cheaper than any other can possibly be.

Three years' trial has proved his PATENT BOILER to be superior to any hitherto invented; a great number of houses can be heated at once with this Boiler, with the facility of heating any separately.

Illustrated descriptions and prices of his Patent and greatly approved GARDEN ENGINES sent free upon application; also Plans, Estimates, and Testimonials for Building or Heating.

---

TO PIG AND POULTRY FEEDERS AND MILLERS.

CHICKEN AND GAME RICE, 8s. per cwt., in bags 1½ cwt. each. SCREENED RICE, 11s. per cwt., in bags 1¾ cwt. each. RICE MEAL, 6s. 6d. to 8s. 6d. per cwt. RICE for grinding. American Oilcake and Locust Beans, per Ton only.—All Sold for Cash, and an allowance per ton, by W. & R. JUPP, Rice Merchants, 6, Cross Lane, St. Mary-at-Hill, Eastcheap.

---

TO BE LET, BRISTOL NURSERY GROUNDS, Kemp Town, Brighton. These Gardens are now to Let for occupation with immediate possession.—Any person desirous of treating for the same may obtain particulars and permission to view the grounds on application to Mr. R. W. LUCAS, 20, Great Marlborough Street, London, W.; and of Mr. A. CHANDLER, Horticultural Valuer, 28, Priory Road, Wandsworth Road, S.

---

NURSERY GROUND.

TO BE LET, WHITTINGTON NURSERY, Upper Holloway, to be entered upon immediately.—For particulars apply to J. F. MARSON, Esq., Small Pox Hospital; or to Mr. BUNNEY, Nurseryman, Stratford, Essex.

---

TO BE DISPOSED OF, A BUSINESS in the SEED TRADE, where an immense retail trade may be done. Proof of trade shown, and most satisfactory reasons for leaving given.—Address, A. Z., *Gardeners' Chronicle* Office.


---

# Sales by Auction.

GREENHOUSE AND BEDDING PLANTS.

MR. PREECE is instructed to Sell by Auction (without reserve), on MONDAY, May 23, at 11 for 12 o'Clock, upon the premises of Mr. W. Bragg, "Star" Nursery, Slough, several thousands of BEDDING-OUT and other choice Plants, Geraniums, Hollyhocks, Dahlias, Carnations, Picotees, Fuchsias, Pot Roses, &c.—Catalogues on application.

---

CHOICE TULIPS.

MESSRS. PROTHEROE AND MORRIS are instructed by Mr. J. Hepworth to Sell by Auction on the Premises, Hendrie's Gardens, Lea Bridge Road, adjoining the Railway Station, on MONDAY, May 23, at 3 o'Clock, a Choice Bed of TULIPS, consisting of 144 rows of the finest strains of named varieties, and 20 rows of named Breeders, all in excellent condition and nearly every root blooming.—May be viewed prior to the Sale. Catalogues had of Mr. J. HEPWORTH, and of the Auctioneers, American Nursery, Leytonstone, Essex.

---

HOMERTON NURSERY.—10,000 ORNAMENTAL BEDDING AND GREENHOUSE PLANTS.

To GENTLEMEN, NURSERYMEN, FLORISTS, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS are instructed by Mr. J. Fry to submit to public competition by Auction, on the premises, Homerton Nursery, High Street, Homerton, within 5 minutes' walk of the Hackney Railway Station, on TUESDAY, May 24, at 12 o'Clock, about 10,000 ORNAMENTAL BEDDING, BORDER, and GREENHOUSE PLANTS, consisting of fine show and Scarlet Geraniums of sorts, Azalea indica, Ericas, Metrosiderons, Diosma, Cacti, Hydrangea, Calla, Roses in pots, Heliotropium, Verbenas, Fuchsias, Petunias, Calceolarias, Lobelias, Double Wallflowers, Intermediate Stocks, Lilium lancifolium and eximium, Tropæolum, Thunbergia, Lophospermum, Ferns, &c.—May be viewed three days prior to the Sale. Catalogues may be had on the premises; of the principal Seedsmen in London; and of the Auctioneers, American Nursery, Leytonstone, Essex.

---

STOKE NEWINGTON.

To NOBLEMEN, GENTLEMEN, NURSERYMEN, AND AMATEURS.

5000 GREENHOUSE AND BEDDING PLANTS.

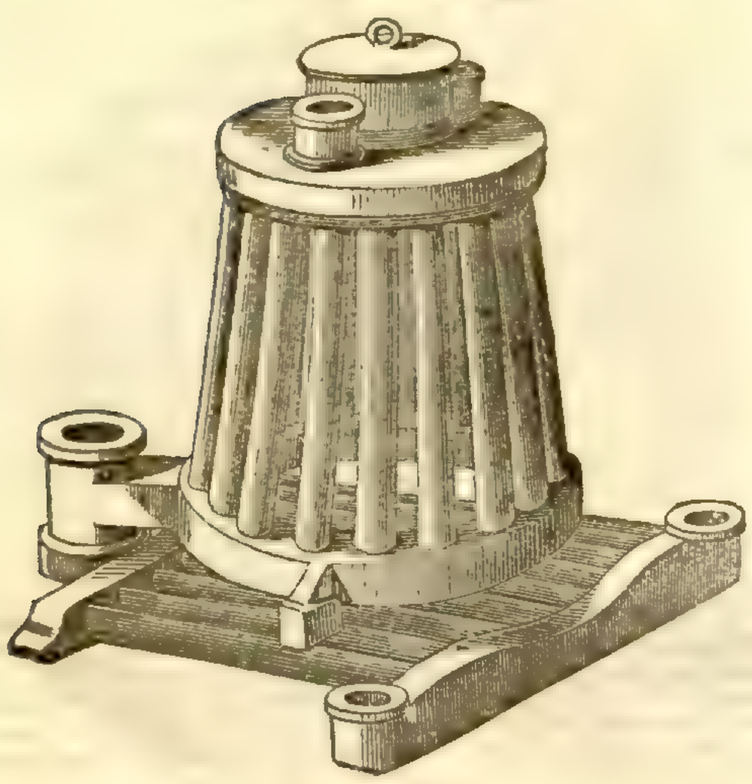
MESSRS. PROTHEROE AND MORRIS are instructed to Sell by Auction, at Messrs. Brown's Nursery, Albion Road, Stoke Newington, on THURSDAY, May 26, at 12 o'Clock, the CHOICE STOCK of GREENHOUSE and other PLANTS of a gentleman who is declining their further cultivation, consisting of fine specimen Camellias, Indian Azaleas, Gardenias, Scarlet and other Rhododendrons, Burchellia, Stephanotis, Daphnes, Cytisus, Acacias, Orange Trees, &c.; together with 5000 Bedding Plants, consisting of Scarlet and other Geraniums, Fuchsias, Verbenas, Petunias, Dahlias, Climbers, &c.—May be viewed, and Catalogues had on the premises; and of the Auctioneers, American Nursery, Leytonstone, Essex.

---

TO GENTLEMEN, FLORISTS, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS will Sell by Auction at the Mart, on FRIDAY, May 27, at 12 o'Clock, a choice assortment of GREENHOUSE PLANTS, comprising Scarlet and other Geraniums, Ericas, Epacris, &c., the newest varieties of Fuchsias, Verbenas, and Dahlias, with a large assortment of Ornamental Plants for Bedding.—On view the morning of Sale. Catalogues had at the Mart, and of the Auctioneers, American Nursery, Leytonstone, Essex.

**By Her Majesty's Royal Letters Patent.**



# ORMSON'S
# PATENT JOINTLESS TUBULAR BOILER.

## TESTIMONIALS.

"Sir,—I feel much pleasure in bearing testimony to the efficiency of your Patent Jointless Tubular Boiler which you have erected for Baron de Rothschild, at Gunnersbury Park, and from the number of hothouses and great extent of pipe you have heated from one boiler, I now feel confident it is decidedly the most powerful, economical, and safe boiler yet invented. Having had the working of the Wrought-iron Arch, and Cast-iron Corrugated Arch Boilers in these gardens, I have no hesitation in stating that your boiler is infinitely superior to either of them in every respect.—Yours truly,

"William Forsyth.

"The Gardens, Gunnersbury Park, Acton, Middlesex."

---

"Sir,—It is with much satisfaction I give my testimony in favour of your admirable Patent Jointless Tubular Boiler, being attached to upwards of 3000 feet of 4-inch pipe, and doing the work of four fires, and consumes little more fuel than was required for one of the fires previous to the adoption of your boiler. We can command any amount of heat, the boiler being so powerful I am confident it would with ease heat as much more. Altogether we have realised much more economy in fuel and attendance than we at first anticipated. In addition to the great power and economy of your boiler it possesses another most important advantage over all other tubular boilers which have come under my notice, in the fact of its being jointless, consequently quite safe from all danger of leakage. On referring to my coal account I find that I now only use one where I formerly used five waggon loads of coal for the arched boilers which you took out.—I am, Sir, yours respectfully, "J. Fraser.

"The Gardens, Luton Hoo, Bedfordshire.'

---

"Mr. Henry Ormson, Sir,—I beg to inform you of my entire satisfaction with your Hot-water Apparatus in general, and your Patent Jointless Tubular Boiler in particular, as fitted up in the new range of Hothouses you have recently erected for Lord Powerscourt. The Boilers I admire for three excellent reasons; they are simple in construction, effective in working, and I feel assured, from the calculation I have already made, a very great saving of fuel will be the consequence from using these Boilers. You will permit me to add if I had formed a contrary opinion of the merits of these Boilers I should have been candid enough to have told you so, but in justice to you I must distinctly state I consider them a great boon to the horticultural world.—I am, Sir, yours truly, "Alexander Robertson.

"The Gardens, Powerscourt, Ireland."

---

"Sir,—I have much pleasure in testifying to the excellent working of your Patent Jointless Tubular Boiler; though a small one it does the work of five fires, and is a great saving of fuel and labour.—I am, Sir, yours respectfully,

"Holland House Gardens, Kensington." "J. Scobie.

---

"Sir,—In regard to your Patent Jointless Tubular Boiler, it answers admirably the purpose for which it was erected. I consider it the most economical and powerful Boiler ever introduced, and am confident it will not fail to give general satisfaction.—I am, yours most respectfully,

"John Lauder.

"The Gardens, Witley Court, Worcestershire."

---

"Sir,—I have much pleasure in testifying to the efficiecny of your simple but most powerful Patent Jointless Tubular Boilers. The two small boilers you put up here are doing the work of six fires, with the addition of a range of lofty coach-houses which were afterwards attached. The amount of fuel is little more, and the attention much less, than was required for one fire before these boilers were put up; there is not the least strain on them, and I am confident if required would heat a considerably greater amount of piping. I must also add that the whole of the hot-water apparatus works satisfactory, especially the ventilating boxes you put up in the Fruiting Pine Stove, which I consider a great acquisition, supplying at all seasons a constant stream of pure warm air to the plants, which are in consequence sturdy and in the most robust health —I am, Sir, yours respectfully, "John Clark.

"The Gardens, Cobham Hall, Gravesend, Kent."

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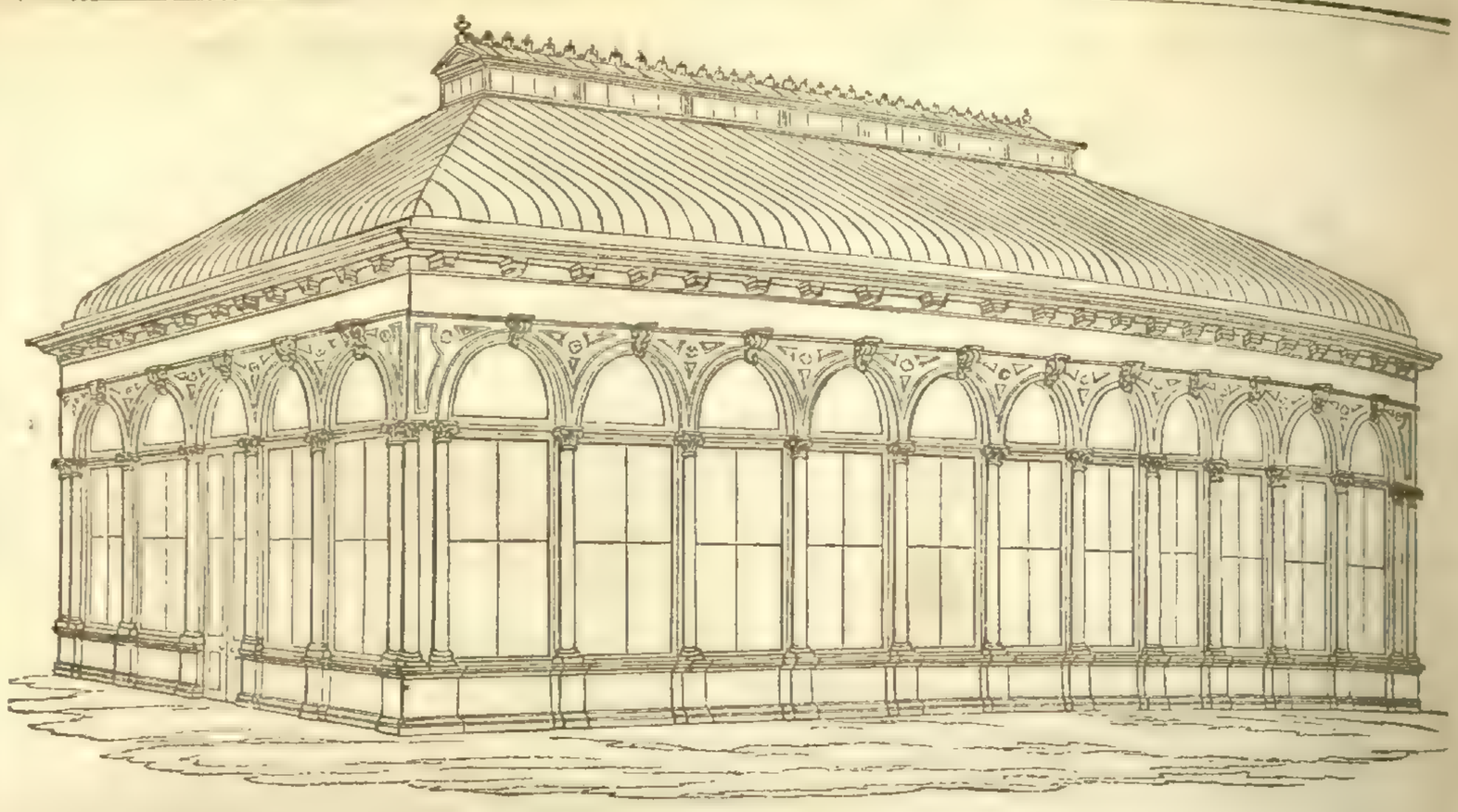
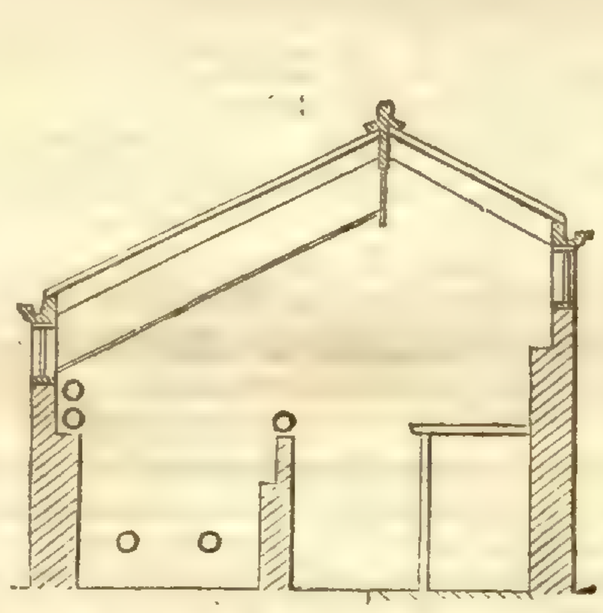
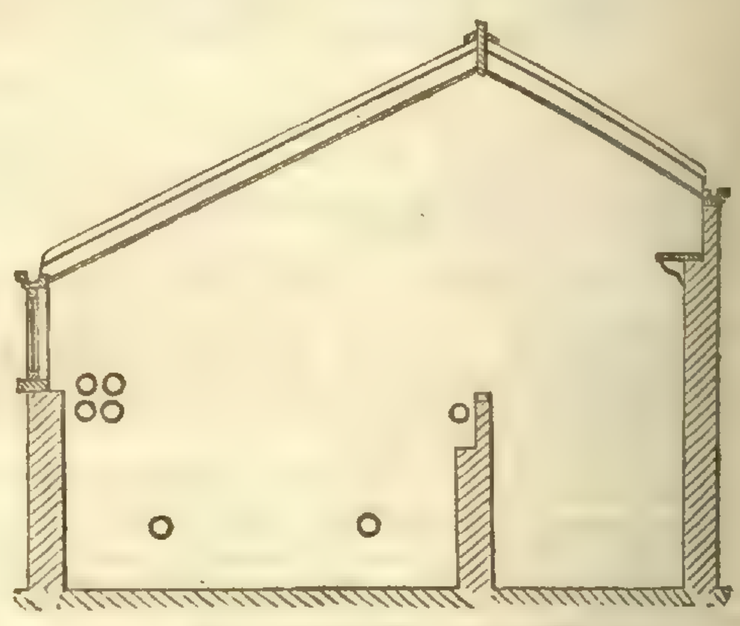
**Ormson's Patent Jointless Tubular Boilers may be seen in successful operation at Mr. Veitch's, Royal Exotic Nursery, King's Road, Chelsea.**

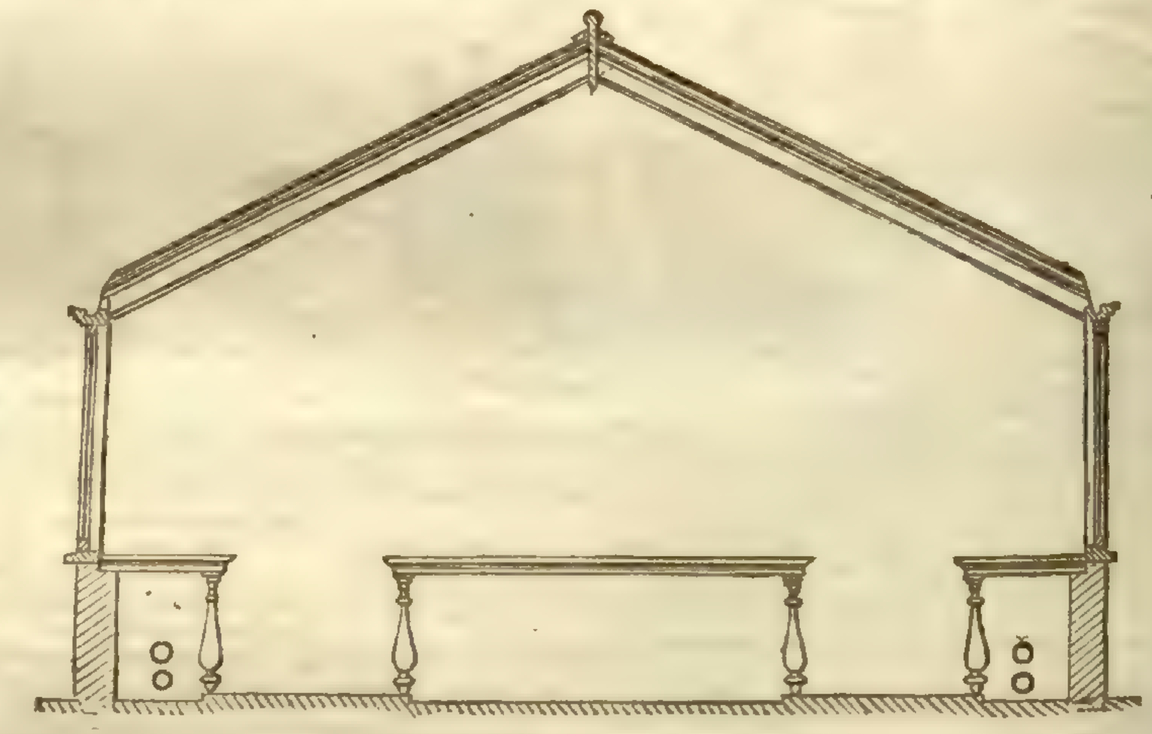




No. 1.—Cucumber and Melon Pit, 10 ft. wide.



No. 2.—Pine Pit, 14 ft. wide.



No. 6.—Greenhouse, from 18 to 20 ft. wide.

# HORTICULTURAL BUILDINGS
# MANUFACTURED BY STEAM POWER MACHINERY.

## BEST MATERIALS AND LOWEST PRICES.

# HENRY ORMSON,
## HORTICULTURAL BUILDER & HOT-WATER APPARATUS MANUFACTURER,
## STANLEY BRIDGE, KING'S ROAD, CHELSEA, LONDON.

Deeply grateful for the very liberal and kind patronage bestowed upon him, begs most respectfully to inform the Nobility, Gentry, Nurserymen, &c., that it being his determination to spare no pains to merit a continuance of their favours, and that he may be enabled to execute his extensive and increasing orders punctually, and at the lowest possible cost (agreeably with the best Materials and Workmanship), he has erected a most complete set of Steam Power Machines, peculiarly adapted for the purposes of his Trade.

PARTIES DESIRING INFORMATION as to prices, &c., will, by referring to the above sections, receive immediate attention.

PLANS, SPECIFICATIONS, and ESTIMATES for plain and inexpensive practical Structures, and for the most elaborate Architectural Erections, either in Wood or Iron, forwarded on Application.

Printed by William Bradbury, of No. 13, Upper Woburn Place, and Frederick Mullett Evans, of No. 20, Queen's Road West, both in the Parish of St. Pancras, in the Co of Middlesex, Printers, at their Office, Lombard St., Precinct of Whitefriars, City of London, and published by them at the Office, No. 5, Upper Wellington St., Parish of St. Paul's, Covent Garden, in the said Co.—Saturday, May 21, 1859.

# THE GARDENERS' CHRONICLE AND AGRICULTURAL GAZETTE.

**A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.**

No. 22.—1859.] SATURDAY, MAY 28. {Price Fivepence. STAMPED EDITION, 6d.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CRYSTAL PALACE.—FLOWER SHOW.—The SECOND GRAND FLORICULTURAL and HORTICULTURAL EXHIBITION of the present season will be held on WEDNESDAY, June 8. Doors open at 12. Admission free by Two Guinea Season Tickets; or by One Guinea Season Tickets on payment of 2s. 6d.; by Day Tickets, 7s. 6d., or if taken before the day of the Show, 5s. Children under 12, half-price. Tickets had at the Crystal Palace, at 2, Exeter Hall, and at the usual Agents.

SCHEDULES OF THE SECOND GRAND NATIONAL ROSE SHOW, to be held in the Hanover Square Rooms, on THURSDAY, June 23, may be had on application to the Honorary Secretary,

The Rev. REYNOLDS HOLE,
Caunton Manor, Newark, Nottinghamshire.

GRAND YORKSHIRE GALA—YORK FLORAL FETE—PRIZES 150*l.*, 14th and 15th JUNE, 1859.

ENTRIES will close on SATURDAY, the 4th of JUNE next. Schedules, Regulations, and Forms of Entry may be had on application to JNO. WILSON, Assistant Secretary.

Committee Room, 13, New Street, Coney Street, York.

LEAMINGTON FLOWER SHOW will be held in the Jephson Gardens, on TUESDAY, June 28. Numerous additional visitors are now assembling for the Agricultural Show; this occasion is therefore a special opportunity for large growers, for whom a portion of the Schedule has been expressly prepared. Schedules (including the First Prize of 10*l.*) to be obtained on application to the Honorary Secretary, Mr. R. RUSSELL, 5, Lower Parade, Leamington.

GRAND FLORAL AND HORTICULTURAL FÊTE AT STAMFORD.—The SUMMER SHOW of the Stamford Horticultural Society will take place on WEDNESDAY, July 6, on the same magnificent scale as in former years. Liberal Prizes are offered, including two SILVER CUPS for CUT ROSES and one for STOVE and GREENHOUSE PLANTS, open to all England. Every facility afforded to Exhibitors, and the Schedule with Rules forwarded free on application to Mr. H. JOHNSON, Hon. Sec.

NOTICE.

JOHN WATERER'S EXHIBITION of RHODODENDRONS will be displayed as usual throughout the month of JUNE at the Royal Botanic Gardens, Regent's Park, London.—The American Nursery, Bagshot, Surrey.

GRAND DISPLAY OF HARDY SCARLET RHODODENDRONS, AZALEAS, ETC.

JOHN WATERER has the pleasure to announce his collection of the above Plants is now in bloom and will continue in great beauty throughout the month of June. The Nursery is near the Sunningdale Station of the South-Western Railway, Reading Branch.

The American Nursery, Bagshot, Surrey.

GEORGE BAKER begs to inform the nobility, gentry, and public that his extensive collection of HARDY RHODODENDRONS, AZALEAS, KALMIAS, &c., are now in perfection, and may be viewed free.—American Nursery, Windlesham, near Bagshot, Surrey (1¼ mile from the Sunningdale Station of the Staines and Wokingham Railway, where conveyances are always to be had).—May 28.

THE PLYMOUTH SEED, AGRICULTURAL IMPLEMENT, AND MANURE COMPANY LIMITED supply every requisite for the Farm and the Garden.

Registered Offices, Union Road, Plymouth.

ORCHID GROWERS may obtain good plants of the following first-class ORCHIDS at R. WARNER'S, Broomfield, Essex, viz.:—Saccolabium ampullaceum, Blumei majus, furcatum, guttatum, guttatum giganteum, guttatum splendens, præmorsum, retusum, &c.; Dendrobiums, Lælias, Odontoglossums, &c.

FIG TREES WANTED, VIZ., 1 WHITE MARSEILLES | 1 BROWN TURKEY Good established plants, 6 feet high, fit for training against a back wall of a small conservatory.—Address price and particulars, W. F., *Gardeners' Chronicle* Office.

CACTI.

TO BE SOLD, either wholly or in part, a rare and superb collection of Exhibition Specimens of TALL CACTI, CEREUS, EPIPHYLLI, and their hybrids. They have been exhibited at all the Metropolitan Shows for years past. Being large and numerous the owner wishes to dispose of them for cash or in exchange for Camellias, Ferns.—Apply to R. BENN, Gardener to J. R. Scott, Esq., Harringay Park, Crouch End, Hornsey, N.

ORANGE, LEMON, AND SHADDOCK TREES, 100 full of Buds, Bloom, and some with very large Fruit, 2*s.* 6*d.*, 3*s.* 6*d.*, 7*s.* 6*d.*, and 10*s.* 6*d.* each. CAMELLIAS and AZALEAS, 18*s.*, 21*s.*, and 24*s.* per doz. Standard FUCHSIAS, upwards of 100 plants from 4 to 7 feet high, with large bushy heads, choice varieties, 2*s.* 6*d.*, 3*s.* 6*d.*, and 5*s.* each. A large collection of FERNS and every other kind of greenhouse plants.—ROBERT GREEN, 154, Kingsland Road, 55 doors from Shoreditch Church.

THE SWEDE THAT NEVER MILDEWS.

SUTTON'S CHAMPION.—See *Gardeners' Chronicle*, May 14, third page. Price 1*s.* per lb., or cheaper by the bushel. Carriage free to all parts. Payment by cheque, or by Post-office orders payable to SUTTON & SONS, Reading, Berks.

NEW HARDY WHITE SWEDE.—This Swede is hardier than any other kind, grows to a large size, is adapted for sowing upon poor land, is not affected by frost, and keeps good in the ground or in store till the end of May. New and genuine Seed of this excellent Swede, price 1*s.* per lb. (carriage free for orders of 30 lbs. and upwards) may be had of RAYNBIRD & HARVEY, Seedsmen, Basingstoke; and 89, Seed Market, Mark Lane, London, E.C.

NEW ZEALAND RUNNER BEAN.

Price 2*s.* per quart.

JAS. CARTER & Co., Seedsmen, 238, High Holborn, London, W.C.

KEMP'S INCOMPARABLE EARLY CABBAGE.—This is quite a distinct variety, and superior to any other known kind, of delicious flavour, dwarf habit, extra early, attains a good size, will not run to seed, and every plant warranted to Cabbage. Seed may be had in sealed packets for 13 postage stamps, post free, at EDMUND P. DIXON'S, 57, Queen Street, Hull.

SORGHUM, OR HOLCUS SACCHARATUS

(CHINESE SUGAR CANE GRASS).

SUTTON AND SONS, Importers of this SEED, can supply it on liberal terms, according to quantity required.

Royal Berkshire Seed Establishment, Reading.

HOLCUS SACCHARATUS, OR CHINA SUGAR-CANE GRASS.—Seed of this lately introduced Fodder plant can be supplied by NUTTING & SONS in any quantity. Price on application.—Seed Warehouse, 60, Barbican, London.

HOLCUS SACCHARATUS, or North China Sugar-Cane.—Pamphlet, "A Visit and a Plant;" the only English authority on the Cultivation of the above. Post free 6*d.* Prices of Seed on application. Samples 6*d.* Four varieties of Holcus remitted free by post on receipt of 10*s.*

JOHN W. CLARKE, Whittlesea, Cambridgeshire.

TROPÆOLUM CANARIENSE.

CHARLES ALEXANDER, SEEDSMAN, Edinburgh, offers New Seed of the above at 20*s.* per lb., and 1*s.* 6*d.* per ounce.

PAMPAS GRASS (GYNERIUM ARGENTEUM).—The beauty of this extraordinary plant has this season been fully appreciated. It can be supplied by the dozen, hundred, or thousand, by CHARLES NOBLE, Bagshot, Surrey.

WILD'S ORION MELON.—

FIRST PRIZE, ST. JAMES'S HALL, May 12, 1859.
FIRST PRIZE, CRYSTAL PALACE, May 18, 1859.
THOMAS WILD, the Primulary, Ipswich.

GRAPE VINES FOR PRESENT PLANTING.

MESSRS. ARTHUR HENDERSON AND CO. can now supply LARGE and SMALL plants (at reduced prices) of the

MUSCAT HAMBURGH GRAPE;
Also the
STOCKWOOD GOLDEN HAMBURGH,

and all the best leading Grape Vines of the day, suitable for planting at the present season. Prices to be had of them on application.—Pine Apple Place, Edgware Road, May 28.

CINERARIA SEED

SAVED FROM THE
CHOICEST NEW SORTS.

LUCOMBE, PINCE, AND CO. have now ready for sending out SEEDS of their very superior

CINERARIAS,

Which have been saved with the greatest care from fine selected flowers of the best new varieties. The great satisfaction which their Cinerarias have given for many years past has induced them to pay even greater attention to the quality, which enables L., P., & Co. to recommend their Seed of this present season's saving as being vastly superior to any previously sent out by them:—

Large packets .. 5*s.* 0*d.* each } Post free, sealed and warranted by L., P., & Co.
Small do. .. 2 6 ,, }

The present is an excellent time for sowing, and as their stock owing to its select quality is limited, early orders are respectfully solicited.

Exeter Nursery, Exeter. Established 1720.

CHOICE SEEDS.

MESSRS. PARKER AND WILLIAMS beg to inform ther friends and patrons that they can now supply the following choice SEEDS, all of which are warranted genuine and of the finest quality.

| Per packet—*s. d.* | | Per packet—*s. d.* | |
|---|---|---|---|
| Calceolaria, herbaceous | 2 6 | Gaillardia grandiflora | 0 6 |
| Cineraria, from named vars. | 2 6 | Primula sinensis, mixed | 1 6 |
| Clianthus Dampieri | 2 6 | Pansy, from named vars. | 1 0 |
| Hollyhock, from named vars. | 0 6 | Sweet William, from extra fine vars. | 0 6 |

Paradise Nursery, Seven Sisters and Hornsey Roads, Holloway, London, N.

SELECT NEW ROSES FOR 1859.

FRANCIS AND ARTHUR DICKSON & SONS beg to offer the following superb NEW ROSES, which are a selection of the best of the New Roses of this season. Extra strong plants in pots 5*s.* each, or 42*s.* per dozen.

HYBRID PERPETUALS.
Altesse Imperiale.
Anna de Diesbach.
Anna Alexieff.
Ardoisé de Lyon.
Armide.
Beauté de Royghem.
Comtesse de Chabrilland.
Empereur de Maroc.
Orderic Vital.
Oriflamme de St. Louis.
Princess Olympie.
Virginal.

BOURBON.
Docteur Berthet.
Mdlle. Aline Pierron.
Octavie Fontaine.

TEA-SCENTED.
Madame Damaizin.

FRANCIS & ARTHUR DICKSON & SONS, Upton Nurseries, Chester.

FERN CATALOGUE.

ROBERT SIM'S NEW DESCRIPTIVE AND PRICED CATALOGUE, No. 6 (62 pages) of his COLLECTION of BRITISH AND EXOTIC FERNS, can be had, post free, for 8 stamps. Gratis to all previous purchasers of Ferns.

Nursery, Foot's Cray, Kent, S.E.

WILLIAM BARNES begs to inform his friends and patrons that his new PRICED and DESCRIPTIVE CATALOGUE is now ready, and can be had post free upon application. It contains the finest selections of Indian Azaleas, Cinerarias, Calceolarias, Verbenas, Fuchsias, Hollyhocks, Liliums, Phloxes, Roses, Geraniums, Chrysanthemums, Ferns, Stove and Greenhouse plants, as well as a very large assortment of choice miscellaneous plants.

Camden Nursery, Camberwell South.

MESSRS. PARKER AND WILLIAMS beg to inform their friends and patrons that their PRICED and DESCRIPTIVE CATALOGUE of Exotic Orchids, Stove, Greenhouse, and Hardy Ferns, Miscellaneous Stove, Greenhouse, and Hardy Plants, Variegated and Ornamental foliaged Plants, Conifers, Roses, Rhododendrons, Indian Azaleas, Gloxinias, Fuchsias, Cactuses, &c., is now published, and will be forwarded post free on application.—Paradise Nursery, Seven Sisters' and Hornsey Roads, Holloway, London, N.

UNRIVALLED SHRUBBY CALCEOLARIAS.

J. COLE has on hand some superb varieties for Bedding and Pot culture, strong bushy plants, at 9*s.*, 12*s.*, 15*s.*, and 20*s.* per dozen; also some strong unbloomed Seedling Herbaceous CALCEOLARIAS, without pots, at 8*s.* per dozen.

LOBELIA SPECIOSA, strong plants, without pots, 2*s.* 6*d.* per dozen. The above for cash only.

Keyfield Nursery, St. Albans, Herts.

NEW CHRYSANTHEMUMS AND DAHLIAS.

JOHN SALTER is now sending out his splendid Seedlings and other new CHRYSANTHEMUMS, as well as those of his unrivalled general collection, which is the largest in Europe; also several fine new DAHLIAS, English and Foreign.—Versailles Nursery, Hammersmith Turnpike, W.

NEW ROSE HYBRID PERPETUAL EVÊQUE DE NÎMES.

BENJAMIN R. CANT has much pleasure in offering the above most beautiful Rose; it is quite a gem and ought to be in every good collection. Colour deep vivid crimson, of exquisite shape; the petals are disposed in the form of a rosette, which gives it a distinct and unique appearance; flower medium size, foliage and habit of growth excellent. Fine plants in pots are now ready at 3*s.* 6*d.* each, with the usual discount to the trade.—St. John's Street Nursery, Colchester.

HUMEA ELEGANS.—Strong flowering plants, in 6 and 8-inch pots.

NEW ROSES for 1859.—A choice selection.
PHLOXES.—A collection of the finest new varieties.
PLANTS FOR BEDDING. Strong and in great variety.

Prices and DESCRIPTIVE LISTS on application to JAMES DICKSON & SONS, Newton Nurseries, Chester.

CALCEOLARIA YELLOW PRINCE OF ORANGE.—Strong healthy plants, the best of its class, new last year, 6*s.* per doz.—E. SHENTON, Hendon Park Nursery, Hendon, N.W.

CABBAGE PLANTS.—Fine Drumheads, also the choicest sorts of Early Cabbage, all at 3*s.* 6*d.* per 1000.—By THOMAS WELLAND, Surrey Gardens, Godalming, Surrey. Packing and stationing included.

CLIMBING PLANTS.

F AND A. SMITH have now ready strong plants of COBÆA SCANDENS, MAURANDYAS, blue, white, and rose; ECCREMOCARPUS, and TROPÆOLUMS, in large quantities. Prices on application.—Dulwich, Surrey.

CHEAP BEDDING PLANTS.—The following varieties 1*l.* 1*s.* per hundred:—Verbenas, Scarlet Geraniums, Fuchsias, Salvias, Calceolarias, Kœniga variegata, Cerastrum tomentosum, &c., the best plant out for an edging, having silvery foliage and white flowers. Sold in collections 25 of a sort.—E. SHENTON, Hendon Park Nursery, Hendon, N.W.

BEDDING PLANTS.

BUTLER AND McCULLOCH'S LIST of the above, forwarded free by post, contains a selection of the most suitable PLANTS FOR TOWN GARDENING, together with Hints on their Culture, embodying the experience of Messrs. Broome, of the Temple Gardens; Wyness, Royal Gardens, Buckingham Palace; and Morgan, the Gardens, Lincoln's Inn Fields.—Covent Garden Market.

AMBROISE VERSCHAFFELT, NURSERYMAN, Ghent (Belgium), will now send out the following NEW PLANTS:—

| | *s.* | *d.* |
|---|---|---|
| BEGONIA LEOPOLDII, one of the finest yet sent out .. | 8 | 0 |
| TYDÆA PRINCESS TROUBETZKOY { three splendid hybrids; the set } | 16 | 0 |
| ,, GRANDIS .. .. .. } | | |
| ,, SANGUINEA .. .. .. } | | |
| TORENIA PULCHERRIMA .. .. .. .. .. | 2 | 6 |
| CLEMATIS SOPHIA FLORE PLENO .. .. .. | 8 | 0 |
| L HNIS HAAGEANA .. .. .. .. .. | 4 | 0 |

E. ADOLPHE, 47, Rue de la Paix, Boulogne-sur-Mer, offers the following 13 new French GERANIUMS in strong cut down plants in flower, at 5*l.* the set; small rooted cuttings, 3*l.* Grande Duchesse Stephanie, Impératrice Eugénie, Prince Jerome, Reine Hortense, Alma, Le Criméen, Madame de Wendel, Beauté de Rochefuret, Ciceron, Pline, Senèque, Virgile, Horace. Orders must contain payment. Package and transport to London included.

TO THE TRADE.—Ericas, Azaleas, Boronias, Dillwynias, Epacris, Eutaxias, Apheleas, Chorozemas, Hibbertias, Leschenaultias, Myrtus of sorts, Jasminum grandiflorum, Pimeleas, Polygalas, &c.: healthy plants and the best sorts in 60-sized pots, 50*s.* per 100. Greenhouse and Stove Creepers, fine, 6*s.* to 12*s.* per dozen. Stove and Variegated plants of all the best kinds, fine plants, 3*l.* per 100. All the new Tydæas and Achimenes, 6*s.* to 12*s.* per dozen. Fine plants of the new Gesnerias and Begonias. Extra strong plants of French and Spotted Geraniums, 12*s.* to 18*s.* per dozen.—Epps's Nursery, Maidstone.

# LIST OF THE AWARD OF PRIZES
## AT THE FIRST EXHIBITION,
# ROYAL BOTANIC GARDENS,
## REGENT'S PARK, MAY 25, 1859.

### EXTRA GOLD MEDAL.

Mr. G. Dods, Gr. to Sir J. Cathcart, Bart., Cooper's Hill, Egham, Surrey, for 16 Stove and Greenhouse Plants

Mr. Gedney, Gr. to Mrs. Ellis, Hoddesdon, Herts, for 20 Exotic Orchids

### LARGE GOLD MEDAL.

Mr. Whitbread, Gr. to H. Colyer, Esq., Dartford, Kent, for 16 Stove and Greenhouse Plants

Mr. Bullen, Gr. to J. Butler, Esq., Woolwich, for 20 Exotic Orchids

### MEDIUM GOLD MEDAL.

Mr. B. Peed, Gr. to T. Tredwell, Esq., St. John's Lodge, Norwood, for 16 Stove and Greenhouse Plants

Mr. W. Cutbush, Nurseryman, Barnet, Herts, for 12 Stove and Greenhouse Plants

Mr. W. May, Gr. to J. Spode, Esq., Hawkesyard Park, Rugeley, Staffordshire, for 10 Stove and Greenhouse Plants

Messrs. J. Ivery & Son, Nurserymen, Dorking and Reigate, for 10 Greenhouse Azaleas

Mr. Carson, Gr. to W. F. G. Farmer, Esq., Nonsuch Park, Surrey, for 8 Greenhouse Azaleas

Mr. Carson, Gr. to W. F. G. Farmer, Esq., for 20 Exotic Orchids

Mr. S. Woolley, Nurseryman, Cheshunt, Herts, for 16 Exotic Orchids

Mr. G. Dods, Gr. to Sir J. Cathcart, Bart., for 12 Exotic Orchids

Messrs. Paul & Son, Nurserymen, Cheshunt, Herts, for 10 Roses in 13-inch pots

### GOLD MEDAL.

Messrs. J. & J. Fraser, Nurserymen, Leyton, Essex, for 12 Stove and Greenhouse Plants

Mr. Green, Gr. to Sir E. Antrobus, Bart., Lower Cheam, Surrey, for 10 Stove and Greenhouse Plants

Mr. W. Cutbush, Barnet, for 10 Cape Heaths

Mr. B. Peed, Gr. to T. Tredwell, Esq., for 8 Cape Heaths

Mr. C. Turner, Nurseryman, Slough, Bucks, for 10 Greenhouse Azaleas

Mr. Page, Gr. to W. Leaf, Esq., Park Hill, Norwood, for 8 Greenhouse Azaleas

Mr. O. Rhodes, Gr. to J. Philpott, Esq., for 12 Exotic Orchids

Messrs. Lane & Son, Nurserymen, for 10 Roses in 13-inch pots

Mr. C. Turner, Nurseryman, for 12 Pelargoniums

Mr. Nye, Gr. to E. Foster, Esq., Clewer Manor, Berks, for 10 Pelargoniums

### LARGE SILVER GILT MEDAL.

Mr. Baxendine, Gr. to H. Smallpiece, Esq., Guildford, Surrey, for 16 Stove and Greenhouse Plants

Mr. O. Rhodes, Gr. to J. Philpott, Esq., Stamford Hill, for 16 Stove and Greenhouse Plants

Mr. W. J. Epps, Nurseryman, Maidstone, Kent, for 12 Stove and Greenhouse Plants

Mr. J. Peed, Gr. to C. T. Gabriel, Esq., Norfolk House, Streatham, for 10 Stove and Greenhouse Plants

Mr. Laybank, Gr. to T. Maudslay, Esq., Lower Norwood, for 6 Stove and Greenhouse Plants

Messrs. J. & J. Fraser, Nurserymen, Leyton, Essex, for 10 Greenhouse Azaleas

Mr. Green, Gr. to Sir E. Antrobus, Bart., for 8 Greenhouse Azaleas

Mr. G. Dods, Gr. to Sir J. Cathcart, Bart., for 6 Greenhouse Azaleas

Mr. May, Gr. to J. Spode, Esq., for 6 Exotic Orchids

Mr. E. Francis, Nurseryman, Hertford, for 10 Roses in 13-inch pots

A. Rowland, Esq., Rosenthal, Lewisham, Kent, for 6 Roses in 13-inch pots

Messrs. Dobson & Son, Nurserymen, Isleworth, for 12 Pelargoniums

Mr. Wiggins, Gr. to E. Beck, Esq., Isleworth, for 10 Pelargoniums

### LARGE SILVER MEDAL.

Mr. Chilman, Gr. to Mrs. Smith, Ashtead House, Epsom, for 6 Stove and Greenhouse Plants

Mr. J. Peed, Gr. to C. T. Gabriel, Esq., for 8 Cape Heaths

Mr. Laybank, Gr. to T. Maudslay, Esq., for 6 Cape Heaths

Mr. C. Turner, Nurseryman, for 6 Greenhouse Azaleas

Mr. Green, Gr. to Sir E. Antrobus, Bart., for 6 Exotic Orchids

Mr. C. Turner, Nurseryman, for 6 Fancy Pelargoniums

Mr. Bailey, Gr. to T. T. Drake, Esq., Shardiloes, Amersham, Bucks, for 6 Fancy Pelargoniums

### SILVER GILT MEDAL.

Mr. Kaile, Gr. to Earl of Lovelace, East Horsley Towers, Surrey, for 10 Stove and Greenhouse Plants

Mr. Tegg, Gr. to Baron Hambro, Roehampton, Surrey, for 6 Stove and Greenhouse Plants

Mr. O. Rhodes, Gr. to J. Philpott, Esq., for 8 Cape Heaths

Mr. W. May, Gr. to J. Spode, Esq., for 6 Cape Heaths

Messrs. H. Lane & Son, Nurserymen, Great Berkhampstead, for 10 Greenhouse Azaleas

Mr. O. Rhodes, Gr. to J. Philpott, Esq., for 8 Greenhouse Azaleas

Mr. Kaile, Gr. to Earl of Lovelace, for 6 Greenhouse Azaleas

Mr. G. H. Bunney, Nurseryman, Stratford, Essex, for 6 Exotic Orchids

Mr. Terry, Gr. to C. W. Puller, Esq., Youngsbury, Ware, Herts, for 6 Roses in 13-inch pots

Mr. C. Turner, Nurseryman, for 6 Cinerarias

Messrs. Fraser, Nurserymen, for 6 Fancy Pelargoniums

Mr. Windsor, Nurseryman, Child's Hill, Hampstead, for 12 Pelargoniums

Mr. Bailey, Gr. to T. T. Drake, Esq., Shardiloes, Amersham, for 10 Pelargoniums

Mr. Weir, Gr. to Mrs. Hodson, for 6 Fancy Pelargoniums

### SILVER MEDAL.

Mr. Hamp, Gr. to J. Thorne, Esq., Mawby House, South Lambeth, for 10 Stove and Greenhouse Plants

Mr. Page, Gr. to W. Leaf, Esq., Park Hill, Streatham, for 6 Stove and Greenhouse Plants

Mr. Harlock, Gr. to R. W. Nather, Esq., Wanstead, Essex.

Mr. Green, Gr. to Sir E. Antrobus, Bart., for 6 Greenhouse Azaleas

Mr. Page, Gr. to W. Leaf, Esq., for 6 Exotic Orchids

Mr. Shrimpton, Gr. to A. Doxat, Esq., Putney Heath, for 6 Cinerarias

Messrs. J. & J. Fraser, Nurserymen, for 12 Pelargoniums

Mr. Weir, Gr. to Mrs. Hodson, the Elms, Hampstead, for 10 Pelargoniums

Mr. Windsor, Nurseryman, for 6 Fancy Pelargoniums

Mr. Holland, Gr. to R. W. Peake, Esq., Spring Grove, Hounslow, for 6 Fancy Pelargoniums

Messrs. Veitch, Nurserymen, Chelsea and Exeter, for Cattleya sp. (nova)

Messrs. Veitch, for Pothos species

Mr. Williams, Nurseryman, Fortis Green, Muswell Hill, for Caladium Argyrites

Messrs. E. G. Henderson, for a collection of New Plants

Mr. Green, Gr. to Sir E. Antrobus, Bart., for 6 Tall Cacti

Mr. W. Cutbush, for Variegated Plants

Messrs. Parker & Williams, for 12 Amaryllis

Messrs. Parker & Williams, for 6 Begonias

### SMALL SILVER MEDAL.

Mr. Baxendine, Gr. to H. Smallpiece, Esq., for 8 Cape Heaths

Mr. Page, Gr. to W. Leaf, Esq., for 6 Cape Heaths

Mr. Green, Gr. to Sir E. Antrobus, Bart., for 6 Cape Heaths

Mr. R. Atlee, Nurseryman, Clapham Road, for 10 Greenhouse Azaleas

Messrs. J. Ivery & Son, Nurserymen, for 6 Greenhouse Azaleas

Mr. Ivison, Gr. to the Duke of Northumberland, Sion House, for 6 Exotic Orchids

Mr. Farmer, Gr. to S. Morley, Esq., Stamford Hill, for 6 Cinerarias

Mr. Gaines, Nurseryman, Battersea, for 6 Fancy Pelargoniums

Mr. James, Gr. to W. F. Watson, Esq., Isleworth, for 6 Fancy Pelargoniums

Messrs. Downie & Laird, Nurserymen, Edinburgh, for 36 Pansies

Mr. James, Gr. to W. F. Watson, Esq., for 24 Pansies

Mr. J. Hunt, High Wycombe, Bucks, for 18 Tulips

Messrs. Veitch, for Begonia argentea

Messrs. Veitch, for Begonia Queen Victoria

Messrs. Parker & Williams, Nurserymen, Holloway, for Vanda species

Messrs. Parker and Williams, for Tydæa Leopardi

Messrs. E. G. Henderson, Wellington Nursery, for Grevillea Drummondi

Mr. Whitbread, Gr. to H. Colyer, Esq., for Correct Labels

Mr. Dods, for Arrangement of Colour

Messrs. H. Lane & Son, Nurserymen, for 3 Boxes of cut Roses

Mr. Hamp, Gr. to J. Thorne, Esq., for 6 tall Cacti

Messrs. Dobson, for 6 Herbaceous Calceolarias

### BRONZE MEDAL.

Mr. Chilman, Gr. to Mrs. Smith, for 6 Cape Heaths

Mr. T. Gaines, Nurseryman, Battersea, for 10 Greenhouse Azaleas

Mr. B. Peed, Gr. to T. Treadwell, Esq., for 8 Greenhouse Azaleas

Messrs. H. Lane & Son, Nurserymen, for 6 Greenhouse Azaleas

Messrs. Dobson & Son, Nurserymen, for 6 Cinerarias

Mr. Parmenter, Gr. to J. W. Taylor, Esq., Croft Lodge, Kentish Town, for 10 Pelargoniums

Mr. Turnbull, Gr. to Lady Goldsmid, St. John's Lodge, Regent's Park, for 6 Fancy Pelargoniums

Mr. C. Turner, Nurseryman, for 36 Pansies

Mr. Holder, Gr. to Rev. — Maryatt, Eton College, for 24 Pansies

Mr. Turner, for 18 Tulips

Mr. Ellis, Gr. to A. Dunn, Esq., Pymmes Park, for Bignonier gandavensis

Messrs. Parker & Williams, for Tydæa Duc de Brabant

Messrs. Parker & Williams, for Tydæa Princess Charlotte

Mr. O Rhodes, Gr. to J. Philpott, Esq., for Correct Labels

Mr. Green, Gr. to Sir E. Antrobus, Bart, for Correct Labels

Mr. B. Peed, for Arrangement of Colour

Messrs. Fraser, for ditto

Messrs. Lane, for Collection of Rhododendrons

Messrs. Paul, for 3 Boxes of Cut Roses

Mr. Williams, Nurseryman, Fortis Green, for 6 Begonias

Mr. Gaines, Nurseryman, for 10 Amaryllis

### CERTIFICATE OF MERIT.

Mr. Turner, for Pelargonium Spark

Messrs. Ivery & Son, for Azalea Flower of the Day

Messrs. Ivery, for Azalea Model

Mr. C. Turner, for Azalea Advance

Mr. B. Peed, Gr. to T. Treadwell, Esq., for Correct Labels

Mr. B. Peed, Gr. to T. Treadwell, Esq., for Correct Labels

Mr. O. Rhodes, for Arrangement of Colour

Mr. C. Turner, for Fancy Pelargonium Miss Arabella Goddard

Mr. C. Turner, for a collection of cut Verbenas

Mr. C. Turner, for Seedling Pelargonium Hero

Mr. C. Turner, for Seedling Pelargonium King of Purples

G. W. Hoyle, Esq., Reading, for Pelargonium Czar

G. W. Hoyle, Esq., Reading, for Pelargonium Angelina

Mr. Carson, Gr. to W. F. G. Farmer, Esq., for Aphelandra Porteana

Mr. Foster, Clewer Manor, for Pelargonium Autocrat

Mr. Kent, St. Alban's, for 6 Shrubby Calcealarias.

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THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.—The SIXTEENTH ANNIVERSARY FESTIVAL will take place at The Crystal Palace, Sydenham, on WEDNESDAY, June 8, the day of the Grand Flower Show.

The Honourable Mr. JUSTICE HALIBURTON in the chair.

*Stewards.*

SIR JOSEPH PAXTON, M.P.

| | |
|---|---|
| Samuel Ainsworth, Esq. | John Green, Esq. |
| Henry G. Bohn, Esq. | Thos. Hancock, Esq. |
| R. Boyd, Esq. | Chas. Horsley, Esq. |
| M. Busby, Esq. | Wm. Hoskins, Esq. |
| Edwin Chadwick, Esq. | Wm. S. Johnson, Esq. |
| Captain Trevor Clark | John Laurie, Esq. |
| John Cobden, Esq. | J. B. Mackay, Esq. |
| G. E. Cockerell, Esq. | R. Marnock, Esq. |
| James Cutbush, Esq. | Chas. Ratcliffe, Esq. |
| F. Davies, M.D. | Thos. Rivers, Esq. |
| Chas. L. Dorrien, Esq. | George Rollisson, Esq. |
| Benjamin Edgington, Esq. | R. Stains, Esq. |
| Wm. Edgar, Esq. | F. B. Thomas, Esq. |
| T. N. Farquhar, Esq. | James Vickers, Esq. |
| F. J. Graham, Esq. | Edmund Wilder, Esq. |
| | Chas. Zetterquist, Esq. |

In order to meet the wishes of a great number of the Patrons and Friends of the Society, arrangements have been made for the admission of LADIES to the Dinner. By the kind liberality of the Directors of the Crystal Palace Company, the tickets for the Dinner will include ADMISSION TO THE PALACE.

Tickets:—Gentlemen, 20*s.*; Ladies, 10*s.* May be had of any of the above-mentioned Gentlemen, and of

EDWARD R. CUTLER, Secretary.

14, Tavistock Row, Covent Garden, W.C.

Dinner upon Table at Half-past Five o'Clock precisely in the SOUTH WING.

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ROYAL OXFORDSHIRE HORTICULTURAL SOCIETY.

*Patron.*—H.R.H. THE PRINCE CONSORT.

The SUMMER EXHIBITION of the above Society will be holden in the Gardens of Worcester College, Oxford, on TUESDAY, July 5, when, in addition to the prizes confined to members, the following are offered, opened to all England, entrance free:—

Stove or Greenhouse plants (not Fuchsias or Geraniums): nine varieties: 1st prize, 10*l.*; 2d do., 8*l.*; 3d do., 7*l.* Cape Heaths, six varieties: 1st prize, 5*l.*; 2d do., 4*l.* Geraniums (not fancies) in 8-inch pots, 12 varieties: 1st prize, 6*l.*; 2d do., 4

No person will be allowed to take more than one prize in a class.

Notice of intention to exhibit must be given to the Secretary by post on or before Saturday, June 25.

The Flowers must be labelled with their names, and staged ready for the Judges by 11 o'clock on the morning of the day of Show, and will not be allowed to be removed till the close of the Exhibition (7 o'clock, P.M.).

Exhibitors will be required to sign a declaration that the flowers are *bonâ fide* their property, or the property of their employers.

The Judges have the power of withholding the first or any other prize if the flowers exhibited are not worthy.

The Band of the Coldstream Guards will play during the afternoon.

W. R. HOBBS, Acting Secretary.

May 23. 23, St. Giles's Street, Oxford.

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THE NEW CHAPEL AT THE LUNATIC ASYLUM, NORTHAMPTON.—A GRAND FLORAL AND HORTICULTURAL SHOW (Open to all England), in aid of the Fund for erecting a Chapel at the County Lunatic Asylum will be held at Blisworth Gardens on THURSDAY, July 28, under the special patronage of

THE RIGHT HON. THE EARL SPENCER.
THE RIGHT HON. THE LORD SOUTHAMPTON.
THE HIGH SHERIFF OF THE COUNTY.
THE REV. SIR G. S. ROBINSON, BART.
THE WORSHIPFUL THE MAYOR OF NORTHAMPTON.

Prizes will be offered for Stove and Greenhouse Plants, Plants with variegated and fine foliage, Coniferæ, Exotic Ferns and Lycopods, Roses, Geraniums, Carnations, and Pansies, Fruit, Vegetables, &c.

Schedules will be prepared in due time, and further particulars will appear in future advertisements.

H. O. NETHERCOTE, Honorary Secretary.

Subscriptions to carry out the above object will be received by the Honorary Secretary, or by Mr. W. J. PEIRCE, Auctioneer, Derngate, Northampton, to whom all communications may be addressed.

---

NEW SEEDLING AZALEA INDICAS

| | |
|---|---|
| Blanc de Neige | Triomphe de Gand |
| Pelargoniflora nova | Vicomte de Nieuport |
| Prince Impérial | Rosæflora plena |
| Reine des Doubles | |

JEAN VERSCHAFFELT, Ghent, Belgium, begs respectfully to announce that he is now prepared to send out his seven new Azalea indicas as above, in fine strong plants full in bloom. The price of the set is 3*l.* Early orders are requested, as they will be sent in strict rotation.

The description of the above may be had free on application to JEAN VERSCHAFFELT. Plants will be immediately forwarded after orders are received. All orders to be directed to JEAN VERSCHAFFELT, Nurseryman, Ghent, Belgium.

---

VARIEGATED GERANIUMS FOR BEDDING OUT

JOHN HALLY, NURSERYMAN and FLORIST, opposite the Railway Station, Blackheath, S.E., offers the following at the annexed reduced prices:—

1. BURNING BUSH.—This has proved itself the most beautiful of all the red-zoned variegated kinds, having foliage variegated with broad white edge and zone of bright crimson. The flower brilliant scarlet, in good compact trusses, standing well up above the foliage, 30*s.* per dozen; a few larger plants on hand, at 5*s.* each.

2. SCINTILLATUM.—Foliage variegated, with white edge and having a black and crimson zone, bears a very large truss of deep scarlet blossoms, 15*s.* per dozen; strong plants 2*s.* 6*d.* each. The usual discount to the Trade on the above.

---

FRUIT TREES IN POTS.

H. LANE AND SON, the Nurseries, Great Berkhamstead, Herts, have to offer in large quantities fine FRUITING TREES of the below-mentioned, which are now in a good state for travelling, the fruit not being heavy and likely to drop off.

They consist of PEACHES, NECTARINES, APRICOTS, 5*s.*, 7*s.* 6*d.*, to 10*s.* 6*d.* each.

CHERRIES, PLUMS, PEARS, APPLES, 3*s.* 6*d.* to 5*s.* each.

VINES, in pots, from eyes, with 5 to 10 bunches of Fruit, 5*s.* each.

FIGS, in pots, in a bearing state, 8*s.* 6*d.* each.

GOOSEBERRIES and CURRANTS, 1*s.* 6*d.* each.

Also a very large collection of EVERGREENS, of which we have a fine Stock, viz., Araucarias, Cedrus Deodara, Cedrus Lebanon, Cupressus, Junipers, Pines, and all Coniferous Plants, 6 ft. to 12 ft. high; Rhododendrons, well set with buds, &c.

The Home Nurseries are within five minutes' walk of the Station of the London and North-Western Railway, Great Berkhampstead, Herts.

## BEDDING PLANTS.

F. AND A. SMITH beg to offer the following varieties, strong and healthy:—

Ageratum
Anisanthinum
Alyssum, variegated fol.
Amaranthus
Balm, variegated fol.
Cuphea
Calceolaria
Dahlias
Fuchsia
Geranium, scarlet various
,, striped ,,
,, fancy ,,
,, unique ,,
,, scented ,,
,, Ivy ,,
Gaillardia
Heliotrope, various
Hollyhock, 6s. per dozen
Koniga variegata
Lantana
Lobelia
Mimulus, various
Nasturtium, Tom Thumb. The best scarlet bedding plant out.
Nasturtium, Cattell's Dwarf Crimson.
Nasturtium, double, various, 6d. each
Nierembergia
Pentstemon, various
Petunias, various
,, new double
Pyrethrum pleno album
Roses
Salvias, various
Senecio
Verbenas, white
,, blue or purple
,, scarlet
,, crimson
Musk, 4s. per dozen

The above in strong established plants at moderate prices, according to selection.—Dulwich, Surrey.

## NEW ROSES IN POTS.

BENJAMIN R. CANT offers the undermentioned NEW ROSES. The plants are now ready, and are remarkably fine and healthy; many of them have strong shoots from 1 to 2 feet in length. Purchasers of 1 dozen and upwards will be supplied at a reduced rate. The trade allowed the usual discount.

**NEW ROSES for 1859 at 5s. each:—**

Tea: Madame Damaisin
Bourbon: Docteur Berthet
,, Edith de Murat
Hybrid Perpetuals:—
Altesse Impériale
Ardoisée de Lyon
Anna Alexieff
Anna de Diesbach
Beauté de Royghem
Hybrid Perpetuals:—
Comtesse Cecile de Chabrillan
Imperatrice Eugénie
L'Oriflamme de St. Louis
Le Mont Vésuve
Orderic Vital
Princesse Olympie
Salomon
Virginal

Also the following CHOICE ROSES at 2s. 6d. each, or 25s. per dozen:—

Tea: Souvenir d'Elise
Bourbon: Caroline Riquet
,, Josephine Clermont
,, Madame Contesse
,, Monsieur Jard
Hybrid Perpetuals:—
Abbé Feytel
Evêque de Nîmes. 3s. 6d.
Gloire de Lyon
General MacMahon
Hybrid Perpetuals:—
Louis Chaix
Louise d'Autriche
Lord Palmerston
Marie Thierry
Monsieur de Montigny
Philomène Crozy
Reine de Denmark
Triomphe de Mont Rouge
,, des Beaux Arts

At 15s. per dozen:—

Hybrid Perpetuals.—Adelaide Fontaine, Bacchus, Belle Anglaise, Cardinal Patrizzi, Etendard de Sebastopol, Lord Raglan, Madame Vidot, Mathurin Regnier, Pauline Lansezeur, Prince Leon, Prince de la Moskwa, Rebecca, Souvenir de la Reine d'Angleterre, Souvenir de Leveson Gower, Sir J. Franklin, Victor Trouillard.
Bourbon: Glorietta, Omer Pacha,
Noisette: Miss Gray, Narcisse
Tea: Devoniensis, Elise Sauvage, Gloire de Dijon, Madame Bravy, Souvenir d'un Ami, Vicomtesse de Cazes.

A fine collection of the most esteemed older varieties, such as Caroline de Sansal, Comte de Nanteuil, Colonel de Rougemont, General Jacqueminot, Jules Margottin, Souvenir de la Malmaison, at 12s. per dozen.

St. John's Street Nursery, Colchester.

BOYD'S SELF-ADJUSTING SCYTHES are the cheapest and best, and being sold adjusted, are ready for immediate use. They can be regulated in an instant to suit any person, and to cut any crop without change of Scythes. For Amateur Gardeners they are very desirable, as they afford a healthy and interesting exercise. They have stood the test of public opinion for seven years, and for excellence, ease, economy, and durability, are highly recommended. Upwards of 50,000 of them have been sold. To be had of every Ironmonger, Hardwareman, and Seedsman in the United Kingdom, and wholesale of the Sole Licensed Makers, Wm. Dray & Co., at their New Agricultural Implement Warehouses, Adelaide Place, London Bridge.

SHAW'S TIFFANY.—The best and cheapest material for Shading Conservatories, Protecting Fruit from Birds and Wasps, &c. Sold in pieces 20 yards long by 38 inches wide. No. 1, best quality, 5s. per piece; second quality, 4s. per piece. Extra strong and thick (see Circular sent free by post with samples).

Address John Shaw & Co., Manufacturers and Dealers, Princess Street, Manchester.

PATENT GUTTA PERCHA SOLES.—Important to Gardeners.—The Gutta Percha Company have the pleasure to acknowledge the receipt of the following letter from G. Glenny, Esq., the celebrated Florist:—

"420, Strand, London

"Gentlemen,—I have worn Gutta Percha Soles and Heels these two years, and being so much in a garden as I necessarily am in all weathers, and with the ground in all states, I would on no account be without them. As a matter of economy I would recommend Gardeners to use them, for they may repair the worn part at all times by warming the material at the fire, and pressing it from the thick parts to the worn parts as easily as if it were so much dough. I think it the duty of all persons who must occasionally wet their feet to adopt a material that completely defies damp. Many a gardener would escape colds and rheumatism by the use of Gutta Percha Soles.

"Your obedient servant, G. Glenny."

Every variety of Gutta Percha articles, such as Mill Bands, Tubing, Soles, Goloshes, Sheet, Pump Buckets, Fire Buckets, Bosses, Union Joints, Flasks, Bottles, Bowls, Chamber Vessels, Toilet Trays, Sponge Bags, Curtain Rings, Galvanic Batteries, Talbotype Trays, &c., manufactured by the Gutta Percha Company, and sold by their wholesale dealers in town or country.—The Gutta Percha Company, Patentees, 18, Wharf Road, City Road, London.

CASELLA'S COTTAGE BAROMETER.—"Equals one in our possession at 10 times the price. The Thermometer, self-registering, has proved upon trial to be equally efficient."—See *Gardeners' Chronicle*, Sept. 1857.

The recent extraordinary variations in the weather and sudden changes of temperature induce L. C. to announce that his POPULAR SERIES of SCIENTIFIC GARDEN INSTRUMENTS now includes the Cottage Barometer, 11s. 6d.; Greenhouse Thermometer, 1s 9d.; Garden Thermometer, to Register Cold, 4s., ditto, for Heat, 7s. 6d.; Garden Window Thermometer, in Mahogany, from 5s. 6d.; Garden Rain Gauge, 15s. 6d.; Pine or Melon Pit Thermometer, for surface and 2 feet below, 18s. 6d. and 21s. A DESCRIPTIVE LIST on receipt of stamp.—L. Casella, Instrument Maker to the Admiralty, 23, Hatton Garden, London.

C. STEPHENSON, late STEPHENSON AND SONS, 61, Gracechurch Street, London, Manufacturer of Iron Hurdles, Fencing, &c., Improved Iron and Copper Conical Boilers and Apparatus for Warming Buildings of every description by Hot Water.

Prices and Estimates furnished upon application.

## GREENHOUSES.

HENRY FREEMAN, Hothouse Builder and Hot-Water Apparatus Manufactory, Triangle, Hackney. Established 20 years. Good substantially-built Greenhouses fixed in any part of the kingdom, for cash, 42 ft. long by 13 ft., 90*l.*; 21 ft. by 13 ft., 50*l.*; 12½ ft. by 10 ft., 30*l.* A first-class Conservatory, 30 ft. by 16 ft., 130*l.* A large assortment kept. Estimates for Heating.

T. G. MESSENGER, Horticultural Builder and Patent Hot-Water Apparatus and Garden Engine Manufacturer, Loughborough.

T. G. Messenger's Divisionless Horticultural Erections, ventilated with screw mechanism by which the top or front lights are opened the entire length of the house momentarily, do not fail to give complete satisfaction (as numerous Testimonials can show), for the following reasons:—They are much lighter in appearance, more durable, much stronger, and cheaper than any other can possibly be.

Three years' trial has proved his PATENT BOILER to be superior to any hitherto invented; a great number of Houses can be heated at once with this Boiler, with the facility of heating any separately.

Illustrated descriptions and prices of his Patent and greatly approved GARDEN ENGINES sent free upon application; also Plans, Estimates, and Testimonials for Building or Heating. See *Gardeners' Chronicle*, May 21.

WANTED, the Address of any Gardener or his Employer wishing to have Patterns, with Prices and Testimonials, of HAYTHORN'S HEXAGON and CHISWICK GARDEN NETS, now used in most Gardens and recommended by all the principal Gardeners.—Please direct Mr. Haythorn, Nottingham.

FOR Effectually Protecting the Bloom of Wall Trees from Spring Frosts use Shaw's No. 8 TIFFANY, DOUBLE STRENGTH. In pieces 18 yards long by 39 inches wide, 7s. 6d. each.—John Shaw & Co., Princess Street, Manchester.

TANNED NETTING, at Reduced Prices.—200 square yards, 10s.; 500 yards, 24s. A quantity of good second-hand Rick Cloth for Sale, Cheap, all sizes, and only once used. Samples sent free.—Address Frederick Eddington, Thomas Street, Old Kent Road, London, S.E.

TANNED NETTING, for the Protection of Fruit Trees from Frost, Blight, and Birds: also, for the security of fresh sown seeds, at 1*d.* per square yard; 200 yards, 12s.; 500 yards, 24s.; Scrim Canvas, for wall fruit: Garden Mats.—At Eddington & Co's., Rick Cloth, Tent, and Waterproof Cloth Manufacturers, 17, Smithfield Bars, City, & Old Kent Rd.

## FRUIT TREES, RIPE STRAWBERRIES, ETC.

TANNED NETTING for Protecting the above from Frost, Blight, Birds, &c.; 2 yards wide, 3*d.* per yard, or 100 yards, 24s. Can be had in any quantity of Eaton & Deller, 6 and 7, Crooked Lane, London Bridge.

TANNED GARDEN NETTING for Preserving Fruit Trees from Frost, Blight, Birds, &c., and as a Fence for Fowls, &c. One yard wide 1½*d.*, 2 yards 3*d.*, 3 yards 4½*d.*, and 4 yards 6*d.* per yard, in any quantity, may be had at C. Wright's, 376, Strand, W.C.

A liberal allowance to Nurserymen.

TO FARMERS.—If you wish to PRESERVE YOUR HAY, go to Davis & Co., 64, West Smithfield, E.C., where you may purchase a RICK CLOTH of the best material and workmanship, cheaper than at any house in London.

## WHY NOT PRESERVE YOUR HAY?

BENJAMIN EDGINGTON respectfully informs the Nobility and Gentry that they can be supplied on the best terms with RICK CLOTHS, with Poles complete.

Early application should be made for SECOND-HAND RICK CLOTHS. MARQUEES, TENTS, and FLAGS. A great variety of Marquees and Tents may be seen erected on the premises. A quantity of SECOND-HAND TENTS from the Crimea at a greatly reduced price. An Illustrated Catalogue sent post free.

West End Establishment, 32, Charing Cross, S.W.

Benjamin Edgington, 2, Duke Street, London Bridge, S.E.

JAMES PHILLIPS AND CO.'S PRICES of GLASS for the present month.

HORTICULTURAL GLASS, Stock Sizes, in 100 feet boxes

| | 3rds. | 4ths. |
|---|---|---|
| 11 by 9, 12 by 9, 13 by 9, 14 by 9 .. / 12 ,, 10, 13 ,, 10, 14 ,, 10, 15 ,, 10 .. | 14s. 6d. | 12s. 6d. |
| 13 ,, 11, 14 ,, 11, 15 ,, 11, 16 ,, 11 .. / 14 ,, 12, 15 ,, 12, 16 ,, 12, 17 ,, 12 .. / 18 ,, 12, 19 ,, 12, 16 ,, 13, 17 ,, 13 .. / 18 ,, 13, 19 ,, 13, 20 ,, 13, 21 ,, 13 .. / 16 .. 14, 17 ,, 14, 18 ,, 14 .. .. / 19 ,, 14, 20 ,, 14, 21 ,, 14 .. .. | 16s. 6d. | 14s. 6d. |

Boxes included and not returnable.

Packed in Cases.

| | | |
|---|---|---|
| 200 feet .. .. .. | £2 2 0 | 16 oz. |
| 300 feet .. .. .. | 3 3 0 | |
| 200 feet .. .. .. | 2 18 0 | 21 oz. |

ORCHARD HOUSE SIZES, as supplied by us to Mr. Rivers.

| | | 16 oz. | 21 oz. |
|---|---|---|---|
| 20 in. by 12 in. / 20 in. by 13 in. / 20 in. by 14 in. / 20 in. by 15 in. | Common .. .. | 14s. 0d. .. | £1 1s. |
| | Superior do. .. | 16 6 .. | 1 5 |
| | English Glass .. | 18 0 .. | 1 9 |

Boxes included and not returnable.

SMALL SQUARES.—Per 100 feet.

| | | | | s. | d. |
|---|---|---|---|---|---|
| 6 by 4 | 6½ by 4½ | 7 by 5 | 7½ by 5½ | 11 | 6 |
| 8 ,, 6 | 8½ ,, 6½ | 9 ,, 7 | 9½ ,, 7½ | | |
| 10 ,, 8 | 10½ ,, 8½ .. | .. .. | .. .. | 12 | 6 |

JAMES PHILLIPS AND CO.,

**180, Bishopsgate St. Without, London, E.C.**

## GLASS FOR CONSERVATORIES, ETC.

HETLEY AND CO. supply 16-oz SHEET GLASS of British Manufacture at prices varying from 2*d.* to 3*d.* per square foot for the usual sizes required, many thousands of which are kept ready packed for immediate delivery.

Lists of Prices and Estimates forwarded on application, for PATENT ROUGH PLATE, THICK CROWN GLASS, GLASS TILES, and SLATES, WATER-PIPES, PROPAGATING GLASSES, GLASS MILK PANS, PATENT PLATE GLASS, ORNAMENTAL WINDOW GLASS, and GLASS SHADES, to James Hetley & Co., 35, Soho Square, London.

See *Gardeners' Chronicle* first Saturday in each month.

## HORTICULTURAL GLASS—JUNE TARIFF.

THOMAS MILLINGTON'S reduced Tariff of GLASS, &c.

6 by 4, 7 by 5, 8 by 6, 9 by 7 / 6½ by 4½, 7½ by 5½, 8½ by 6½, 9½ by 7½ } 16 oz to the foot, 11s. 6d per 100 feet.

In 100 boxes,—4ths quality, 12s. 6d.; 3ds do., 14s. 4d.

10 by 8, 12 by 9, 12½ by 10½, 14½ by 10½, 13 by 11
10½ by 8½, 12½ by 9½, 13 by 10, 15 by 10, 13½ by 11½
11 by 9, 13 by 9, 13½ by 10½, 12 by 11, 14 by 11 .. ..
11½ by 9½, 12 by 10, 14 by 10, 12½ by 11½ .. ..

| | 16 oz. | 21 oz. |
|---|---|---|
| 20 by 12 / 20 by 13 / 20 by 14 / 20 by 15 — per 100 feet | 16s. | 24s. |
| Common .. | 18s. | 27s. |
| Superior . | | |

All Boxes included.

Orchard House sizes as supplied to Mr. Rivers.

Hartley's improved Rough Plate Glass from ⅛ to ¾ in thickness.

Coloured Glass in great variety, at 9*d.* and 1s. per foot.

Paints, Genuine White Lead, Linseed Oil, Boiled Oil, Turpentine, Putty, Colours, Varnishes, Brushes, Lamp Glasses, &c.

87, Bishopsgate Street Without, same side as Eastern Counties Railway.

GLAZIERS' DIAMONDS for CUTTING HORTICULTURAL and other GLASS, to be had of the Wholesale Manufacturer, John Edwards, 20, Sharp's Alley, West Smithfield, London, E.C. Prices from 10s. to 27s. 6d.

## HORTICULTURAL BUILDINGS AND HEATING BY HOT WATER.

JOHN R. PEILL, 17, New Park Street, Southwark, Manufacturer of every description of Buildings for Horticultural purposes, and Inventor of the Improved Conical Boiler for heating the same, is prepared to undertake works of any magnitude, and refers among others to the celebrated range of FORCING HOUSES at HER MAJESTY'S GARDENS, FROGMORE, and at SIR ROBERT PEEL'S, DRAYTON MANOR, constructed under the superintendence of his Manager, MR. JOHN JONES; and also to his BOILERS fixed at the CRYSTAL PALACE, the ROYAL BOTANIC GARDENS, REGENT'S PARK, and KEW, and at several hundreds of the Nobility's seats, Public Establishments, and Manufactories in London and the provinces. J. R. P. also manufactures every description of Iron Roofs, Iron Houses, and Iron Fencing, plain and ornamental. Strong Iron Hurdles for Sheep (6 feet long, 3 feet high, with 5 bars), 4s. 8*d.* each; ditto for cattle, 4s. 9*d.* each.

Prices and other particulars forwarded on receipt of one postage stamp.

# CARSON'S
# ORIGINAL ANTI-CORROSION PAINT,

PATRONISED BY

| | | |
|---|---|---|
| The British Government, | Hon. East India Company, | Railway and Canal Companies, |
| The French Government, | Most of the Nobility and Gentry, | The Principal Collieries, |
| The Russian Government, | New River Company, | Mill Owners, |
| H.R.H. the Prince Consort, | The Dock Companies, | Iron Masters, &c. &c. |

**The ANTI-CORROSION PAINT is now used extensively for all kinds of**

## OUT-DOOR WORK,

Such as Iron, Wood, Stone, Brick, Compo, Cement, &c., and has been proved, after a practical test of 70 years' to surpass any other Paint; *and being peculiarly adapted for Conservatories, Hothouses, and Frames of all descriptions, is constantly used by Noblemen, Gentlemen, as also many eminent Horticulturists, for such purposes.* It is much lower in Price, and lasts twice as long as the best White Lead, and can be easily applied by any Labourer, being sent in various Colours, requiring simply to be mixed (no grinding is needed). The Anti-Corrosion is a powder, and will keep any length of time.

COLOURS:—

| | | | |
|---|---|---|---|
| White Stone .. .. .. .. .. | 34s. per cwt. | Light and Dark Lead .. .. .. .. | 28s. per cwt. |
| Light do. .. .. .. .. .. | 32s. ,, | Light and Dark Chocolate .. .. .. | |
| Drab or Portland .. .. .. .. | | Bright Red .. .. .. .. | |
| Bath do. .. .. .. .. .. | | Dark do. (or Brick Colour) .. .. | |
| Light and Dark Yellow do. .. .. | | Black .. .. .. .. .. | 42s. ,, |
| Copper .. .. .. .. .. | 30s. ,, | Invisible Green .. .. .. .. .. | 60s. ,, |
| Light and Dark Oak .. .. .. | | Bright and Deep Green .. .. .. | 50s. ,, |
| | | Blue (for Carts and Waggons) .. .. | |

OIL, TURPENTINE, AND BRUSHES.

A Copy of Testimonials (700), will be sent upon application to

**WALTER CARSON & SONS, (Successors to the Inventors), 9, Great Winchester Street, near the Royal Exchange), London, E.C.**

NO AGENTS THROUGHOUT THE UNITED KINGDOM.

GREAT SUCCESS OF

# SHANKS' PATENT MOWING, ROLLING, COLLECTING, AND DELIVERING MACHINE FOR LAWNS, &c.

THE ONLY COMPLETE MACHINE FOR HORSE OR PONY POWER.

## SHANKS' PATENT HORSE AND PONY LAWN MOWERS

ARE the only Machines that deliver the Grass without the man leaving the handles or stopping the horse. These immense advantages enable the Machine to do at least a third more work with three-fourths less labour to the man who works it. The Machines answer exceedingly well for uneven as well as level Lawns, are strong and very durable, while the execution of the work cannot be surpassed.

## SHANKS' PATENT HAND MACHINE for 1859,

fitted with all the new improvements, is the most efficient and complete Hand Mower that has ever been before the public. For convenience in turning and cutting small Lawns, Verges, around Flower Beds, &c., it has no equal.

Read the following Testimonials in favour of SHANKS' new Horse Machine before ordering:—

*From* Mr. SHEARER, *Gardener to the* Marquis of TWEEDDALE, *Yester Garden, May* 13, 1859.

"GENTLEMEN,—Allow me to congratulate you on the success of your improved Grass Cutting Machine which we got the other day from you, especially the delivering part; it is a mechanical triumph. You know that I expressed my doubts to you about it before I got the Machine, but having cut all our Grass with it I must say that it acts far beyond my expectation, and it performs all you say in your prospectus. We can now go on the whole day without stopping, except to oil the parts that require it. The men are quite in love with it; a good proof of its utility.—I am, Gentlemen, yours respectfully,

"ALEX. SHEARER."

*From* Mr. MACKIE, *Gardener to* His Grace the Duke of ATHOLL, *The Gardens, Dunkeld, May* 18, 1859.

"GENTLEMEN,—After repeated trials with our Grass-Cutting Machine, as now fitted up with your Delivering Apparatus, I have much pleasure in saying that I now consider your Machine complete. We can now do as much work in six hours as we used to do in ten hours, with the old plan of stopping to empty the Grass Box, and with far greater ease both to man and horse. His Grace is so well pleased with the working of the Apparatus, and the saving of time effected by it, that he has ordered the Machine from Blair Castle to be sent through to you to be fitted up in the same way as the one here.—I am, Gentlemen, yours, &c.,

"JAMES MACKIE."

Illustrated Price Lists with further particulars forwarded on application. The Machines are warranted to give ample satisfaction, failing this they may be at once returned.

## ALEXANDER SHANKS & SON, Patentees and Sole Manufacturers,

DENS IRON WORKS, ARBROATH, FORFARSHIRE.

## PATENT LAWN MOWING AND ROLLING MACHINES.

30-inch wide Pony-power Machine, made also of smaller sizes for Hand Power.

# SAMUELSON'S LAWN MOWING MACHINES,

## WITH BOYD'S PATENT IMPROVEMENTS.

*"Doing the work of five or six men."—The Times, September* 20, 1858.

**The following PRICES include the Carriage to any Railway Station in England:—**

| | | With Boyd and Samuelson's Patent Cleaning, Sharpening, and Adjusting Apparatus. |
|---|---|---|
| 9 inches wide, for very narrow borders, without registered wheels | £2 10 0 | |
| 12 inches wide | 4 5 0 | £4 17 6 |
| 16 inches wide, with registered arrangement (for one man) | 5 10 0 | 6 6 0 |
| 19 inches wide ditto (for one man) | 5 17 6 | 6 17 6 |
| 22 inches wide ditto (for man and boy) | 6 0 0 | 7 7 0 |
| 22 inches wide, ditto for ditto, and also fitted with draught links for a pony and a man to work it | 6 15 0 | 8 2 6 |
| 25 inches wide, ditto | 9 0 0 | 11 11 0 |
| 30 inches wide, ditto (for man and pony) | 11 10 0 | 13 13 0 |

Case included.

Box of Tools, Oil Can, and other requisites, sent with each Machine, 5s.

Some thousands of these Machines are now in successful operation on the Lawns of Royalty, the Nobility, and Gentry of the United Kingdom and the Continent of Europe, and are pronounced SUPERIOR to *any other* for lightness of draught, efficiency, and durability. The demand for them is *yearly increasing—the number supplied by* Mr. SAMUELSON *during the years* 1856, 1857, *and* 1858 *being more than* 2100. Testimonials are continually being received from gentlemen having them in daily use, who speak in the highest terms of their efficiency.

These are the only Machines that will cut wet as well as dry Grass without clogging the knives.

Orders for 1859 should be sent at once to insure certain delivery and to prevent disappointment.

*Copies of Testimonials will be forwarded post free on application to*

## B. SAMUELSON, 76, Cannon Street West, City, London;

TO THE MANUFACTORY, BRITANNIA WORKS, BANBURY, OXON;

**or to Messrs. DEANE & CO., London Bridge; or any respectable Ironmonger or Seedsman in the Kingdom.**

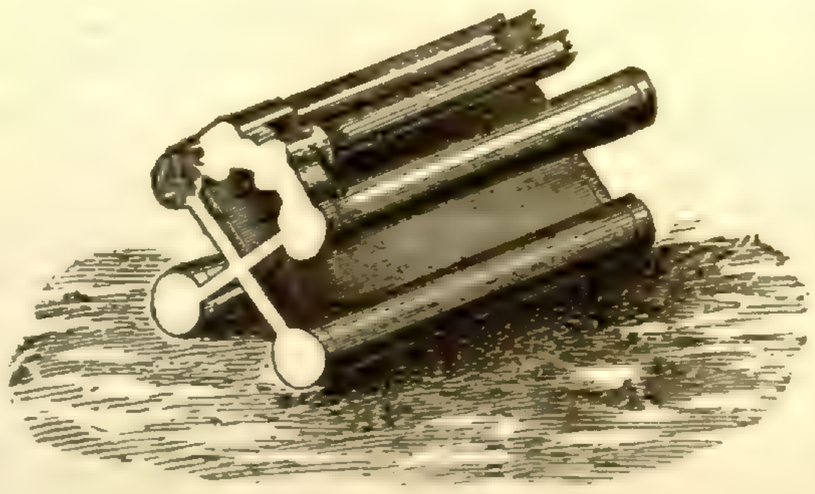
# MEIKLEJON'S PATENT CRUCIFORM OR WEBBED BOILER.

No. 1 BOILER, 4 ft. long by 2 ft. 3 in. wide, having 60 feet of heating surface ... ... ... ... £9 0s. 0d.

Set of Furnace Mountings for ditto .... 3 10 0

„ including Front, with flue door ... 1 18 6

Two Tubes for each Boiler, 3s. 6d., also included in price of Mountings.



No. 2 BOILER, 3 ft. long by 2 ft. wide, having upwards of 30 feet of heating surface ... ... ... £6 0s. 0d.

Set of Furnace Mountings for ditto ... 2 5 0

„ including Front with flue doors ... 1 2 6

Delivered in Edinburgh and Leith.

**MEIKLEJON'S PATENT VALVES, forming Valve, Expansion Box, and Bend, 42s. each.**

# JOHN MEIKLEJON, HORTICULTURAL ENGINEER,

## WESTFIELD IRON WORKS, DALKEITH,

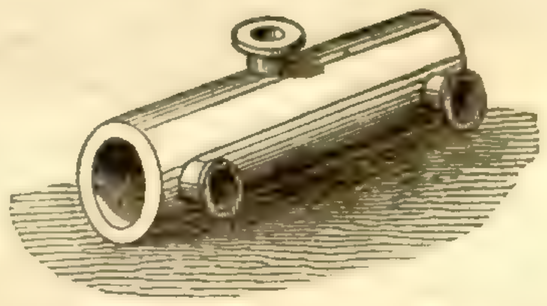
BEGS respectfully to lay before the Public his PATENT BOILER which, for the last twelve months has been in constant use in a great number of Gardens in the three kingdoms, and from all parties who have thus proved them (without one single exception) highly satisfactory testimonials have been received.

J. M.'s long experience and extensive practice in heating large ranges of every description have enabled him to produce this durable, cheap, and efficient Boiler, possessing advantages which he is certain will recommend it to all parties interested in Horticultural pursuits. J. M. would also draw the attention of his Customers and others to THOMSON'S IMPROVED SINGLE RETORT BOILERS, of which he is the original and now the only authorised maker.

No. 1. SINGLE RETORTS ... ... ... £1 0 0

Set of Furnace Mountings, complete... 1 15 0

One Tube for each Boiler, 1s. 6d.



AMATEUR BOILER ... ... ... ... £2 10 0

Set of Furnace Mountings complete ... 1 15 0

Including front ... ... ... ... 0 18 0

## TESTIMONIALS:—

"Newcombe Villa, Murrayfield, Edinburgh, March 2, 1859.

"Dear Sir,—At the time I ordered five of your new Cruciform Boilers I had no doubt in my own mind that they were constructed upon sound theoretical principles. Since then I have seen several of them at work, and am glad to contribute my opinion of their great efficacy in practice, nor is this my opinion only, for I have the satisfaction to inform you that several parties who have had them in use during the past winter speak in the highest terms of them. I hope as you have spent so much time and means in this department of Horticultural Engineering, that you will reap a more substantial reward for your exertions than any expression I can give you of my unqualified approval of them.—I am, &c.,

(Signed) "CHARLES M'INTOSH,

"Garden Architect and Landscape Gardener."

"The Gardens, Dalkeith Park, April 28, 1859.

"Dear Sir,—I bear willing testimony to the substantial manner in which you have manufactured the Retort Boilers, as well as to the cost you have incurred in the getting up of the recent improvements on these Boilers. I am also much pleased with the action of your New Patent Boiler fixed according to my specifications in the new range of glass, recently erected for his Grace the Duke of Roxburgh, at Floors Castle, Kelso. I consider your Patent Brass Stop Valve meets what has hitherto been much needed, viz.:—a good Stop Valve whose action is sure and yet so simple as not to be easily deranged nor subject to corrosion.—I am, &c.,

(Signed) "WILLIAM THOMSON."

"Drumlanrig Gardens, Thornhill, March 10, 1859.

"Dear Sir,—I have great pleasure in saying that the Patent Cruciform or Webbed Boilers which you have erected here for his Grace the Duke of Buccleuch are giving me entire satisfaction. You know I have only had a short time of practically proving the value and capabilities of your Boiler, but (from the trial I have had), I unhesitatingly admit that throughout my experience in the business I have never met with any Boiler that will approach yours in all its various merits.—I am, &c,

(Signed) "JAMES M'INTOSH."

"Floors Castle, Kelso, April 17, 1859.

"Sir,—I have much pleasure in bearing testimony to the great power and efficiency of the heating apparatus you have fitted up in the large range of glass recently erected here under the directions of Mr. Thomson, Dalkeith Gardens. You have fixed two Boilers (and space is left for a third if in very severe weather it should be required), but I find in ordinary weather your Patent Cruciform Boiler can work the whole itself, comprising nearly 4000 feet of 4-inch pipes, besides numerous bends and patent valves fixed in seven span-roofed Houses, each 60 feet long by 20 feet wide, and 16 feet high (glass to the ground), and a Corridor 270 feet long of the same dimensions as the other houses in width and height. I also find your New Patent Stop Valves answer admirably.—I am, &c.,

(Signed) "H. ROSE."

"The Gardens, Bothwell Castle, April 11, 1859.

"Sir,—I have much pleasure in informing you that your No. 1 Cruciform or Webbed Boiler, lately fitted up here for the Countess of Home, is answering the purpose admirably and heating very efficiently, with a considerable reduction of labour and fuel, what was formerly heated by five fires.—I am, &c,

(Signed) "ANDREW TURNBULL."

"Culcreuch, Stirlingshire, March 11, 1859.

"Sir,—Having now had a fair trial of the Hot-water Apparatus fitted up by you in the new range of hothouses erected for A. G. Spiers, Esq., I beg to inform you of my entire satisfaction with it as a whole, and more particularly with your No. 2 Patent Boiler. Its heating powers are very great, construction simple, management remarkably easy, and what is of equal importance it saves a great quantity of fuel. It now heats two Vineries, but will as you are aware be shortly applied to a Plant Stove also, when I am confident it will only consume the usual quantity of coal required for one fire. I consider that your Patent Boiler, being so economical, will be of great benefit to all engaged in horticultural pursuits, but more especially to those located at a distance from the coal markets.—I am, &c., (Signed) "C. TAYLOR."

"The Gardens, Norton Hall, Sheffield, March 10, 1859.

"Sir,—I cannot speak too highly of your No. 1 Cruciform Boiler now at work here, it having surpassed my most sanguine expectations. Of its full capabilities I cannot speak, as at present we have not anything like sufficient glass connected with it to test its powers. It consumes a very small quantity of coal or small coke (working equally well with either), and requires very little attention, while the peculiarity of its form renders the setting of it an easy matter to any common bricklayer. Altogether I am highly pleased with it.—I am, &c.,

(Signed) "J. ADAMS."

"The Gardens, Dalhousie Castle, April 28, 1859.

"Sir,—Your Patent Boiler gives entire satisfaction, and I cordially bear my testimony to its great power of heating, combined with its small consumption of fuel; and I have no doubt but it will be found to surpass every other Boiler for heating hothouses, churches, &c. Your Patent Ground Valves also answer the purpose most effectually.—I am, &c.,

(Signed) "WILLIAM STEWART."

"May 7, 1859.

"The extensive range of Forcing and Greenhouses erected here from designs by Charles M'Intosh, Esq., were fitted up with Hot-water Apparatus by Mr. MEIKLEJON, Dalkeith. There are about 3000 feet of 4-inch pipe, which have been in use nearly five years, and I have great satisfaction in stating that they have wrought admirably. He likewise made and fitted up the Plant Stages, Trellising for Vineries, Cast-iron Pillars and Arches for supporting, and Iron work for binding the houses together, which, for lightness and elegance, combined with great strength, have been admired by hundreds who have seen those houses. Altogether the work executed here by Mr. MEIKLEJON has been done in a very superior manner, and I have great pleasure in bearing testimony to its efficiency. (Signed) "JAMES MITCHELL,

"Gr. to the Rt. Hon. Lord Panmure, Panmure Castle, N.B."

DILLISTONE AND CO., of the Nurseries, Sturmer, Halstead, Essex, will have great pleasure in forwarding to any part upon receipt of 10*s*., hamper and carriage paid to London, the following kinds of HARDY CLIMBERS:—

| | | | |
|---|---|---|---|
| 4 varieties of fine Honeysuckles | | 2 varieties of Passion Flowers | |
| 2 ,, | Clematis | 2 ,, | fine Ivies |
| 3 ,, | Jasmines | 1 ,, | Solanum |
| 4 ,, | Climbing Roses | 1 ,, | Bignonia |
| | | 1 ,, | Ampelopsis (tricolor) |

The following Summer ditto, per 20 Plants, for 6*s*. (viz.), hamper, &c. :—

| | |
|---|---|
| 2 Maurandyas in varieties | 2 Kennedyas in varieties |
| 2 Calampelis ,, | 4 Tropæolums ,, |
| 2 Calystegias ,, | 4 Ipomœas ,, |
| 4 Lophospermums ,, | |

Also the usual BEDDING PLANTS in well grown and ædened stuff, hamper, &c, 20*s*. per 100.

HERBACEOUS, all the best two of a kind, 20*s*. per 100.

BEDDING PLANTS.—As orders are received the best Plants will be selected, and set aside until they are required. The following 12 dozen Plants can be had for 25*s*., package included, viz :—

| | | |
|---|---|---|
| 12 Scarlet Geraniums | 12 Petunias [sima | 12 Gazania |
| 12 Yel. Calceolarias | *12 Vinca elegantis- | 12 Blue Lobelia |
| 12 dark ditto | 12 Blue Verbenas | 12 Hollyhocks |
| 12 Dahlias | 12 White Verbenas | 12 Heliotropes |

Thirteen Plants to the dozen. 200 Plants for 21*s*., the selection left to JOHN JEYES.

*** J. JEYES respectfully invites attention to a very fine COLLECTION of FERNS.

* VINCA ELEGANTISSIMA.—The most beautiful of all variegated plants. As a bordering for flower beds, or to form a bed of itself, or mixed with shrubs, it stands unequalled, and being an evergreen and hardy makes it the most desirable of all variegated plants; it resembles when in full leaf finely grown plants of the Golden Chain Geranium.

Northampton Nurseries.

WM. CUTBUSH AND SON beg to state that they can supply the following BEDDING PLANTS. Any quantity of extra fine plants at the prices annexed :—

| | Per dozen.—*s. d.* | | Per dozen.—*s. d.* |
|---|---|---|---|
| Ageratum .. .. .. | 4 0 | Lobelia speciosa (from cuttings true) the best of the class .. .. | 4 0 |
| Chrysanthemum regalium flore pleno, golden yellow, an excellent plant for large beds .. .. | 6 0 | Nasturtium Tom Thumb . | 4 0 |
| Calceolaria, yellow .. | 4 0 | Petunias, of sorts .. 4*s*. to | 6 0 |
| Cuphea platycentra .. | 4 0 | Pyrethrum .. .. .. | 4 0 |
| Dahlias, of sorts .. 6*s*. to | 9 0 | Salvia, of sorts .. .. | 4 0 |
| Fuchsias, of all the best varieties .. 4*s*., 6*s*., and | 9 0 | Tropæolum elegans(Crystal Palace variety), a free flowering bright orange-scarlet dwarf plant, well adapted for flower gardens .. .. .. | 6 0 |
| Geraniums, Tom Thumb and other Scarlets .. | 4 0 | Verbenas, of the best sorts | 4 0 |
| .. Variegated, of sorts, 6*s*. to | 9 0 | ,, Edmonds' New, of 1859, | 18 0 |
| Heliotrope .. .. .. | 4 0 | | |
| Lobelia ramosioides .. | 4 0 | | |

A DESCRIPTIVE CATALOGUE of the above and general Nursery Stock can be obtained free per post on application.

NEW VARIEGATED GERANIUM "BEAUTY."

WM. C. & SON can strongly recommend the above, which has bright green foliage, with a broad margin of pure white, flowers light scarlet of good shape in large trusses in great abundance, and very robust habit. We tested it last year with a dozen other kinds, and found it superior to any for bedding purposes. It was exhibited at the late meeting of the Royal Botanic Society, and received a Certificate of Merit.

2*s*. 6*d*. each ; or 21*s*. per dozen.

SHOW, FANCY, & FRENCH-SPOTTED PELARGONIUMS.—A large stock of remarkably fine plants of the above in 48-pots of all the leading sorts, at 12*s*., 18*s*., and 24*s*. per dozen ; or 5*l*. and 7*l*. 10*s*. per 100.

LISIANTHUS RUSSELLIANUS.

WM. C. & SON beg to intimate that they can supply strong plants of the above elegant Conservatory Plants in 48-pots, at 2*s*. 6*d*. each ; or 24*s*. per dozen.

Highgate Nurseries, London, N.

NEW FRENCH PHLOXES.

JOHN STANDISH can recommend the following as the best that were sent out last year, he having seen them in bloom, and selected those he thought the best. They are very beautiful dwarf, and continue flowering from June until October, or until the frost destroys them in the autumn, and are admirably adapted for bedding, being now classed as perpetual bloomers, many of them growing not more than 16 to 18 in. high :

Empereur de toutes les Russies, shaded violet purple centre
Julie Roussel, white, with purple centre, superb
L'Enfant Prodigue, violet rose, shot with scarlet
Louis Guerard, large deep amaranth, magnificent
La Volupté, smooth rose, shot with scarlet
Madame Suer, white purple centre, very dwarf
Mademoiselle Orelly Duriez, white violet centre
Monsieur Forest, large lively amaranth. very effective
Souvenir d'un Ami, large rosy red, very fine
Surpasse Madame Rendatler, white purple centre, very dwarf.

The above 2*s*. 6*d*. each, or the lot 21*s*. ; besides the above J. S. can supply the finest old sorts from 6*s*. to 12*s*. per dozen.

ROSES for bedding on their own roots, strong plants :—

TEA : Souvenir d'Elise, the most beautiful of all Tea Roses, 2*s*. each, or 18*s*. per dozen, or 7*l*. per 100
,, Safrano, 1*s*. each, or 9*s*. per dozen
,, Gloire de Dijon, 1*s*. each, or 9*s*. per dozen

HYBRID PERPETUAL ROSES.

General Jacqueminot, 1*s*. each, or 9*s*. per dozen
Louis Chaix, 2*s*. 6*d*. each, or 24*s*. per dozen
Madame Vigneron, 2*s*. 6*d*. each, or 24*s*. per dozen
Pauline Lansezeur, 1*s*. 6*d*. each, or 12*s*. per dozen. (Of all the Hybrid Perpetual Roses this is the best adapted for bedding purposes, from its dwarf bushy habit and being always healthy and always in bloom)
Victor Trouillard, 1*s*. 6*d*. each, or 12*s*. per dozen

NOISETTE : Triomphe de Rennes, 2*s*. each, or 18*s*. per dozen.

NEW ROSES of 1858, on their own roots.

HYBRID PERPETUAL ROSES, 2*s*. 6*d*. each, or 24*s*. per dozen :—

| | |
|---|---|
| Duc de Cambridge | L'Evêque de Nîmes |
| Lord Palmerston | Louise d'Autriche |
| Marie Portemer | Reine de Denmark |
| Thomas Rivers | Triomphe des Beaux Arts |

NEW ROSES for 1859, grafted on the Manetti Stock, strong plants, 4*s*. each, or 2*l*. 12*s*. 6*d*. the lot.

HYBRID PERPETUAL ROSES.

| | |
|---|---|
| Ambroise Verschaffelt | Beauté de Roysghem |
| Comte de Beauford | Celine Forestier |
| Docteur Bretonneau | François Ier |
| Empereur de Maroc | François Arago |
| Impératrice Eugenie | Oriflamme de St. Louis |
| Princesse Olympie | Stephanie Beauharnais |
| Virginal | Vicomtesse Laure de Giraud |
| TEA : Madame Damaisin | BOURBON : Octavie Fontaine |

All the above plants are now ready to send out, and J. S. will have the above New Roses on their own roots ready to send out the first week in June.—Bagshot, May 28.

THE NEW GRASS SUBSTITUTE FOR LAWNS.

SPERGULA PILIFERA.

BASS & BROWN

HAVE a few thousand ready for sale of this handsome Grass-like Alpine plant, well established tufts (not seedlings), 3*s*. per dozen ; or damp moss can be placed to the roots, if requested, and sent by post free for 8*d*. per dozen extra, or 6*d*. per dozen for more than a dozen. Directions as to distance and culture sent with plants. BASS & BROWN'S No. V. CATALOGUE, comprising their Superb Achimenes, Gloxinias, Gesnerias, and Bedding Plants, sent on application.

*Goods (20s. and upwards) Carriage free to all Stations in London, &c. See Catalogue.*

SEED & NURSERY ESTABLISHMENT, SUDBURY, SUFFOLK.

CHOICE BEDDING PLANTS, &c.

YOUELL & CO.

BEG RESPECTFULLY TO OFFER THE FOLLOWING IN STRONG WELL-ESTABLISHED PLANTS (SINGLY) IN POTS:—

AGERATUM ALBUM, white, 4*s*. per dozen.
CŒLESTINUM, blue, best variety 4*s*. per dozen.
ARABIS LUCIDA VARIEGATA, beautiful for edging, 9*s*. per dozen.
ANAGALLIS, large red, do. blue, 4*s*. per dozen.
ANTIRRHINUM YOUELLI, a beautiful variety of dwarf, bushy habit. The flowers are of a brilliant orange scarlet with white tube, produced in great profusion on dense spikes of bloom. 6*s*. per dozen.
ANTIRRHINUMS, fine selections of all the best named kinds, 6*s*. per dozen.
BELLIS PERENNIS, new Belgian Daisies, of the best sorts by name, 4*s*. per dozen.
BELLIS AUCUBÆFOLIA, a very handsome variety, with golden blotched foliage and large scarlet flowers, 6*s*. per doz.
BERBERIS DARWINI, fine golden yellow, 6*s*. per dozen.
CALYSTEGIA PUBESCENS (rose coloured double-flowering Convolvulus), a good hardy climber, 6*s*. per dozen.
CALCEOLARIA AUREA FLORIBUNDA, the most desirable of all the yellow-flowering varieties. Strong plants, 4*s*. per dozen ; 25*s*. per 100.
CALCEOLARIAS, of best kinds for bedding, assorted in colours, 6*s*. per dozen.
CAMPANULA CORALLINA GARGANICA, blue, very pretty, 4*s*. per dozen.
CHRYSANTHEMUM REGALIUM, fine golden yellow, 4*s*. per dozen.

CARNATIONS AND PICOTEES.

CARNATIONS, finest first class show varieties by name, 18*s*. and 24*s*. per dozen pairs.
PICOTEES, finest first class show varieties by name, 18*s*. and 24*s*. per dozen pairs.
Ditto, on yellow grounds, 20*s*. and 30*s*. per dozen pairs.
Finest mixed BORDER CARNATIONS & PICOTEES, 9*s*. ditto
True old CLOVE CARNATION, 12*s*. per dozen pairs.
Scarlet ditto ditto, 18*s*. ditto
NEW CARNATION "EXTRAVAGANZA."—For particulars see Advertisement, March 26. Price 3*s* 6*d*. per pair.

PINKS.—The finest first class show Pinks, by name, 9*s*. per doz.
Fine mixed border PINKS, 6*s*. per dozen pairs.
COBÆA SCANDENS, fine strong plants. 6*s*. per dozen.
CUPHEAS, of sorts, 4*s*. per dozen.
CHRYSANTHEMUMS, the handsomest of the new large flowering and Pompone kinds, 6*s*. per dozen.
CHEIRANTHUS ATROPURPUREUS, of dwarf habit, producing a profusion of rich purple flowers, 6*s*. per dozen.
DAHLIAS, fine show and fancy varieties, by name, 6*s*. per doz.
DAHLIA PURPLE ZELINDA, fine dwarf bedded, 6*s*. per doz.
,, CRYSTAL PALACE, scarlet, 6*s*. per dozen.
DELPHINIUM FORMOSUM. By far the most beautiful of the genus and forms a lovely and permanent bed of the richest blue. Strong flowering Ground Roots 16*s*. per 100 ; 3*s*. per dozen.
FUCHSIAS, finest bedding varieties. 6*s*. per dozen.
,, all the new fine varieties of last season, 12*s*. per dozen
GAILLARDIAS of sorts, 4*s*. per dozen.
GERANIUMS, scarlets and other kinds of best vari[eties] per dozen.
GERANIUMS, variegated of sorts, 6*s*. per dozen
GAZANIA RIGENS, large orange, dark centre, 6*s*. per dozen.
HOLLYHOCKS, first rate show varieties by name, 12*s* per d[oz.]
,, strong unbloomed Seedlings, from the very best named varieties, 4*s*. per dozen ; 30*s*. per 100.
HELIOTROPES, of choice kinds, 6*s*. per dozen.
KONIGA VARIEGATA, very pretty for edging 4*s*., per dozen.
LANTANAS, 10 new and very beautiful varieties for 7*s*. 6*d*.
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LINUM FLAVUM, bright yellow, 6*s*. per dozen.
LOBELIA SPECIOSA, the best of the dwarf blue varieties, 4*s* per dozen.
,, ,, finest scarlets adapted for forming magnificent groups, 9*s*. per dozen.
LOPHOSPERMUM, of sorts, 6*s*. per dozen.
LYCHNIS CORONATA, fine orange scarlet, 9*s*. per dozen.
MAURANDYA BARCLAYANA, blue and white, 4*s*. per dozen.
MATHIOLA TRISTIS, night-scented Stock, 6*s*. per dozen.
MESEMBRYANTHEMUMS, of showy kinds, 6*s*. per dozen.
NASTURTIUM TRIOMPHE DE GAND, } fine for baskets, 6*s*.
,, LILLE SCHMIDT } per dozen.
,, DOUBLE DARK AND DOUBLE YELLOW, 6*s*. per dozen.
NIEREMBERGIA FILICAULIS, white, lavender eye, very pretty for bedding, 4*s*. per dozen.
OXALIS FLORIBUNDA AND ROSEA, quite hardy, producing a fine bed of rich rose colour, 6*s*. per dozen.
ŒNOTHERA MACROCARPA, large yellow, 4*s*. per dozen, 25*s*. per 100.
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PETUNIAS—M. Boucharlet's superb collection of 12 new double varieties, by far the handsomest yet offered, 9*s*. per dozen.
,, Double of sorts, 6*s*. per dozen.
,, Gem of Suffolk, beautiful silver variegated foliage, large purple flowers, 9*s*. per dozen.
,, of sorts, assorted colours, 4*s*. and 6*s*. per dozen.
PANSIES—Finest first-class show varieties, by name, 9*s*. p. doz.
PENTSTEMONS, of sorts, including the new kinds, 6*s*.
NEW PHLOXES—An extensive and select collection of this beautiful showy tribe, comprising the fine and newly introduced varieties from the Continent, 6*s*. to 9*s*. per dozen. Older varieties, 30*s*. per 100.
PHYGELIUS CAPENSIS, a handsome Pentstemon-like hardy herbaceous plant, producing tube-shaped flowers of scarlet and yellow, 9*s*.
SALVIAS, of sorts, 4*s*.
STATICE MARITIMA ROSEA AND PSEUDO-ARMERIA—Strong plants of these two beautiful and hardy species, producing throughout the year a profusion of lake-coloured flowers, 4*s*. per dozen,
TRITOMA MEDIA—A handsome hardy herbaceous plant, producing large spikes of scarlet-yellow flowers, 9*s*. per dozen.
VERBENAS, scarlet, red, crimson, claret, rose, pink, blush, white, lavender, blue, purple, plum, striped and variegated, of the newest and handsomest varieties in cultivation, 3*s*. per dozen, or 20*s*. per 100.
HARDY HERBACEOUS AND ALPINE PLANTS of the most showy species, 6*s*. per dozen, 30*s*. per 100.

☞ *All orders of £2 and upwards are delivered Carriage Free to London, Manchester, Hull, Liverpool, Peterborough, and Newcastle, as well as to any Railway Station within* 150 *miles of the Nursery. Communications, by Steamers and Railway, to all parts of England, Ireland, and Scotland, as well as to the Continent.*

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ROYAL NURSERY, GREAT YARMOUTH, NORFOLK.

TURNIPS AND MANGEL WURZEL SEEDS, ETC.

THOMAS GIBBS AND CO., Corner of Half-Moon Street, the Seedsmen to the "Royal Agricultural Society of England," beg to announce to the members of the Society and agriculturists generally that they have still on hand a supply of the different kinds of MANGEL WURZELS; also selected stocks of HYBRIDS, SWEDES, and other TURNIPS, &c.

MANGEL WURZEL :—
Yellow or Orange Globe, Long Red, and other kinds.

TURNIPS :—
Green-top Yellow Hybrid, strongly recommended, and bears late sowing.

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| Purple-top Swedes | Skirving's Swedes |
| Globe sorts | Tankard's sorts |

GRASS SEEDS for Permanent Pastures, Cemeteries, and Church Yards, Lawns, and Grass plots, &c.
RENOVATING MIXTURES for old Swards.
PRICED LISTS sent free on application

Thomas Gibbs & Co.

CORNER OF
HALF-MOON St.
PICCADILLY, LONDON, W.

CHEAP BEDDING PLANTS, 2*s*. 6*d*. per dozen.—Apply for Catalogues, enclosing two stamps, to J. SCOTT, Merriott Nurseries, Crewkerne, Somerset.

The CATALOGUE comprises everything suitable for Flower Garden decoration, and full descriptions of J. S.'s unrivalled collection of new DOUBLE PETUNIAS, now ready for delivery, at 6*s*., 9*s*., and 12*s*. per dozen. Fine new single sorts, 2*s*. 6*d*. to 3*s*. 6*d*. per dozen ; Magna coccinea, the most splendid of all Bedding Petunias, 5 inches across, beautiful light crimson, 3*s*. 6*d*. per dozen.

LEPTODACTYLON CALIFORNICUM, in quantity ; and PHLOX CRITERION, two lovely Bedding Plants.

FINE EXHIBITION DAHLIAS, in strong plants, viz., Admiral Dundas, Amazon, Annie, Beauty of Slough, Baron Alderson, Captain Ingram, Colonel Windham, Cossack, Charles Perry, Carnation, Deutsche Würde, Duchess of Wellington, Duke of Wellington, Empress, Fanny Dodds, Fanny Keynes, General Foucher, Grand Sultan, Incomparable, Lady Folkestone, Lollipop, Lord Bath, Lord Palmerston, Lord Paxton, Miss Caroline, Miss Burdett Coutts, Mrs Edwards, Mrs. Wheeler, Mr. Seldon, Nigger, Perfection, Princess, Pre-eminent, Ruby Queen, Rachel Rawlings, Robert Bruce, Royal Scarlet, Sir R. Whittington, Sir J. Franklin, Souter Johnny, Sir William Wallace, Sir F. Bathurst, Touchstone, Triomphe de Roubaix, Yellow Beauty, Hon. Mrs. Trotter. Selections from any of the above, 3*s*. per dozen.

HENRY MAY, The Hope Nurseries, near Bedale, Yorkshire.

A PERFECT SUBSTITUTE FOR GRASS.

LAWNS WITHOUT MOWING.

# SPERGULA PILIFERA

IS OFFERED BY

# MESSRS. E. G. HENDERSON & SON.

WELL-ESTABLISHED TUFTS FOR IMMEDIATE PLANTING, 4s. PER DOZEN.
Seed Packets, 6d., 2s. 6d., 5s., 10s., and 20s. each.

Special directions for sowing, rearing, and final planting are given in E. G. HENDERSON & SON'S

**NEW GENERAL CATALOGUE and SPRING LIST of ORNAMENTAL BEDDING and SUMMER FLOWERING PLANTS**

IS READY FOR DISTRIBUTION, WHEREIN WILL BE DESCRIBED

**ALLAMANDA VIOLACEA.**

This plant so long looked for, and much needed by all English competing competitors, we have much pleasure in introducing for the first time to the public, and no doubt it will be for the great feature at the leading Exhibitions. The late M. Gardner, Director of the Royal Botanic Gardens in Ceylon, speaks of it in his papers, published in the second volume of the London Horticultural Society's Quarterly Journal, as one of the finest shrubs he met with, and "by far the most beautiful species in the genus, bearing numerous large flowers not unlike in colour those of Gloxinia speciosa."

As a competition plant in collections, A. violacea, in its violet-blue tint, offers a new and essential feature in colour, there being none other in the same style to associate with the golden-yellow of A. Schotti, and the delicate rosy-blush of Echites and Dipladenia. 63s. each.

CALCEOLARIA AMPLEXICAULIS ALBA, Splendid bedder.
BOUVARDIA "BRILLIANT" AND "DELICATA," with large flower tubes, and profusion of bloom
NEW BEDDING DAHLIAS, GLOIRE DE FRANCE, AND WHITE UNIQUE.—The best white variety out, and the former as the most noble formed and richly coloured flower of any other Dahlia for beddings, a dried plant showing the dwarf and profuse blooming habit may be seen at the Wellington Nursery.
BANKS'S NEW FUCHSIAS.

NEW CHRYSANTHEMUMS (8 varieties), see Plate XXVI. in the "Illustrated Bouquet."

BREEZE & BANKS'S COLLECTION OF NEW VERBENAS will include the finest blue out, the best rose, the finest violet-purple, the best peach, and maroon black, with large white eyes or centres, the Géant des Batailles far surpassed; a Mrs. Holford in truss and habit, but suffused with a beautiful pink tint. The entire collection includes a full complement of colours, as the finest ever sent out by us, and surpasses with but few exceptions any that we have cultivated under name.

**FINE BEDDING GERANIUMS.**

NEW NOSEGAY SECTION.

THE IMPERIAL CRIMSON, AND MODEL NOSEGAY GERANIUMS. See descriptions at page 355, and also the Catalogue.

Among Variegated Geraniums, MISS EMILY DOMVILE will prove a first-class Bedding Plant (see description in Catalogue).

The two GOLDEN-LEAVED varieties with large-petalled flowers.

THE RAINBOW, with the finest red-zoned foliage yet seen.

THE ST. CLOUD, a beautiful accompaniment to FONTAINBLEAU.

THE SILVER CHAIN, with deep margin of pure white; a fitting companion to the GOLDEN CHAIN.

THE WHITE NOSEGAY GERANIUM (for beds).

Wellington Nursery, St. John's Wood, London.

# CHOICE FLOWERS.

# BUTLER & McCULLOCH'S SPRING CATALOGUE OF SEEDS,

ARRANGED on a new and original plan, with copious Descriptive and Cultural Notes, and containing many new and rare species and varieties not found in any other Catalogue, now ready and may be had free and post paid on application.

FLOWER, SHRUB, TREE, and VEGETABLE SEEDS, the crop of 1858, saved with the greatest care, by the most eminent growers.

We may also state that the Sardinian correspondent of Messrs. JAMES CARTER & Co., whose Seeds, especially Carnations and Picotees, have given such universal satisfaction, has transferred the Agency from that firm and appointed us his representative in this country. To meet the growing demand for first class flowers, particularly FLORISTS' FLOWERS, we have adopted our usual maxim of charging the lowest possible prices.

Professor LINDLEY in the *Gardeners' Chronicle* of February 5th, has the following notice of B. & McC.'s Catalogue.

"BUTLER & MCCULLOCH'S (Covent Garden) Spring Catalogue of Choice Flower, Shrub, Tree, and Vegetable Seeds. This list fills 84 closely printed 8vo pages, and is remarkably well got up. It appears that the correspondent in Sardinia, who formerly supplied one of the great London houses with seeds raised in that warm part of Europe, has now transferred what he saves to Messrs. BUTLER & MCCULLOCH. Let us add, that it yields to no Trade List in the abundance of its materials or the excellence of its arrangements."

BUTLER AND MCCULLOCH, while drawing attention to their general SPRING CATALOGUE which has elicited such high encomiums both from the scientific botanist and amateur cultivator, avail themselves of the present opportunity to select from its pages the following list:—

(23) ACACIA GRANDIS (TRUE).
One of the most beautiful of the A. pulchella section, producing deep golden balls. Of these graceful and highly ornamental plants our collection embraces no fewer than 47 varieties, all of the most decorative character.

(70) ALPINES.
Of these beautiful little plants we have a splendid collection, embracing all the most admired kinds, collected and arranged for us last autumn by M. Ortgies, the Curator of the Zurich Botanic Gardens. The value of Alpine plants for rock-work is too well known to require comment. These collections we can confidently recommend, containing, as they do, species only of highest merit.

(199) CALLICHROA PEDATA.
A new crimson annual with white eye, very beautiful.

(217 A.) CAMELLIA JAPONICA.
From the newest and finest striped and other varieties of that much admired genus.

(296) CEANOTHUS AZUREUS GRANDIFLORUS.
This, cæruleus macrophyllus, and Fontanesianus are all beautiful varieties of this highly ornamental genus, of which we possess nine splendid varieties. They are equally suited for conservatory and out-door decoration.

CANNAS.
Of these we possess an extremely interesting collection.

(304) CELOSIA (species nova).
A most elegant plant, producing a multitude of long spikes of feathery blossoms, silvery white shaded with bright rose, retaining its colour perfectly when dried, and therefore admirably adapted for winter bouquets; one of the greatest novelties of the season, flowering out of doors or in pots from July to October. Well worth attention. A dried specimen may be seen.

(237) CHRYSANTHEMUM (tall and dwarf).
Of these dwarf and tall varieties we have a fine stock, nearly all of which may be depended upon to produce double flowers, the seeds having been saved from the finest named varieties.

(344) CHRYSOCOMA COMAUREA.
Fine evergreen shrub, bearing a profusion of golden bell-like flowers; one of the handsomest greenhouse plants in cultivation.

(451) DATURA HUMILIS FLORE PLENO.
A magnificent Brugmansia-like plant producing a profusion of deep golden-yellow flowers; very large, double, and sweet-scented. One of the greatest novelties of the season.

(625) HABROTHAMNUS HÜGELLI.
This, purpureus, and Abelii are all handsome varieties of this beautiful genus, which everybody having a greenhouse or conservatory should grow. All three are extremely ornamental.

(665) HIBISCUS ROSEUS SUPERBUS.
This, Syriacus, and Thunbergi we can highly recommend. All are plants of great beauty.

(680 to 688) HOLCUS OR SORGHUM (Chinese Sugar Cane).
Of this important class we have nine new and important varieties from Africa, said to be more ornamental and to contain more saccharine matter, Holcus saccharatus.

(704) INDIGOFERA DECORA ALBA ROSEA.
The above, purpurea, and dosua are all pretty free flowering shrubs, suitable for small greenhouses. They are also highly ornamental out of doors in summer.

(972) PELARGONIUMS.
Of these both large flowered and fancy, very choice, and of other splendid varieties, including Scarlets, we have a fine stock, which cannot fail to prove highly satisfactory.

(1149) SOLANUM CAPSICASTRUM.
Miniature Orange tree, covered all winter with a profusion of scarlet fruit; a handsome plant for greenhouse or sitting rooms.

(1335) BIGNONIA RADICANS MULTIFLORA.
Finer and brighter than radicans; flowers in large panicles producing a splendid effect.

(1468) TACSONIA IGNEA.
This magnificent Passionflower is unequalled for the brilliancy and splendour of its scarlet blossoms, far surpassing in this respect any of its class yet known. It flowers most profusely, grows rapidly, and covers a large space in an incredibly short time. It succeeds in a cold greenhouse, and even against a south wall with a little protection in winter (new and rare).

(1488) TROPÆOLUM TRIOMPHE DE GAND FIMBRIATUM.
Fringed orange scarlet.

CARNATIONS and PICOTEES saved from the most choice Collection of English varieties grown on the continent, and which may be expected to produce flowers of the highest merit, sent out in sealed packets as received from our Sardinian correspondent, whose seeds for many years have given such universal satisfaction, and from which varieties of the greatest excellence have been raised.

For prices and further particulars with regard to the above and other novelties, we refer our patrons to the Catalogue itself, which is sent free and post paid on application.

BUTLER & McCULLOCH, Covent Garden Market.

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GOOD TURNIP SEEDS, CARRIAGE FREE.
SEEDS DIRECT FROM THE GROWERS THE MOST CERTAIN MEANS OF PREVENTING DISAPPOINTMENT.

SUTTON AND SONS, SEED GROWERS, Reading, Berks, can supply every kind of TURNIP SEEDS of genuine and superior quality.

Agriculturists residing in the most remote parts of the kingdom can procure good Seeds at very moderate prices from this Establishment.—For particulars, apply to
SUTTON & SONS, Seed Growers, Reading, Berks.

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Just Published by

MILNE, ARNOTT, AND CO., Successors to Chandler & Sons, and will be forwarded free upon application, a General Descriptive CATALOGUE, containing select priced Lists of new Hybrid Achimenes, Camellias, Azaleas, Ferns, Stove and Greenhouse plants, Chrysanthemums, Dahlias, Fuchsias, Pelargoniums, Verbenas, Petunias, Phloxes, Bedding Plants, hardy Trees, Shrubs, Fruit Trees, &c.

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ROYAL SOUTH HANTS SEED ESTABLISHMENT,
UNDER THE PATRONAGE OF H.R.H. THE PRINCE CONSORT, THE AGRICULTURAL SOCIETY OF INDIA, AND THE LEADING AGRICULTURISTS OF THE UNITED KINGDOM.

PAGE AND TOOGOOD'S STOCKS have produced the finest specimens exhibited at Smithfield, and are so well known and appreciated that comment on their part is unnecessary. Their prices compete with any house in the trade.

PRESENT PRICES, Carriage Free to all parts of England:—

| | Per lb.—s. d. | | Per lb.—s. d. |
|---|---|---|---|
| Skirving's Swede | 0 6 | Hardy Green Round | 0 6 |
| Page's Improved | 0 8 | Early Six Weeks | 0 6 |
| Ashcroft | 0 6 | Kohl Rabi | 2 6 |
| Greentop | 0 6 | Yellow Globe Mangel | 0 6 |
| Sussex, or Jeffery's | 0 9 | Page's Impl. Orange Globe* | 0 8 |
| Tankard | 0 7 | Red Globe | 0 7 |
| Red Round Turnip | 0 6 | Elvetham Long Red | 0 7 |
| Page's Improved Red Globe | 0 8 | Long Red | 0 6 |
| Scotch or Bullock | 0 7 | Long Yellow | 0 7 |
| Pomeranian White Globe | 0 6 | White Belgian Carrot | 1 0 |
| Early Green Globe | 0 6 | New Red | 1 3 |
| ,, White Tankard | 0 7 | Long Altringham | 1 3 |
| Red Tankard | 0 7 | Cattle Cabbage | 2 6 |
| Green ditto | 0 7 | Cattle Parsnip | 1 0 |
| Yellow ditto | 0 7 | Dwarf Essex Rape | 0 4 |

* Bulbs of this variety have acquired the enormous weight of 44 lbs., as shown at Smithfield Club.

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Fine PERMANENT PASTURE GRASS, ITALIAN RYE-GRASS, CLOVER, &c., at lowest market prices.

Special contracts for large quantities. Seeds packed for exportation to all parts of the world.

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PETER LAWSON AND SON, THE QUEEN'S SEEDSMEN, can supply genuine Seed of all the valuable kinds of the NATURAL GRASSES suitable for Lowland and Upland Pastures; also for Laying-down Lawns, Bowling Greens, Cricket Grounds, Cemeteries, Railway Banks, &c.

PRICED LISTS may be had free on application.—PETER LAWSON & SON, 27, Great George Street, Westminster.

"JACK OF NEWBURY" SWEDE, ETC.

PETER LAWSON AND SON, THE QUEEN'S SEEDSMEN, &c., 27, Great George Street, Westminster, respectfully request attention to their very genuine Stock of the above excellent Swede; also of the LOTHIAN PURPLE-TOP SWEDE, both of which have been selected with the greatest care. They have also a very fine Stock of the KOHL RABI, or TURNIP-ROOTED CABBAGE, specimens of which were shown at their Stands at Smithfield Club Show. The Kohl Rabi was largely grown last season, and may now be relied on as a substitute for the Turnip and Mangel, where these roots do not succeed, or for filling up blanks where there is a partial failure. Its feeding qualities, hardiness, and weight per acre are equal to the Swede, and all kinds of stock prefer it to other roots.

P. L. & SON have also selected a first-rate Stock of MANGEL WURZEL SEED, which they can confidently recommend. Their natural GRASS SEEDS have been also saved with very great care, and they are ready to supply them separately or in mixture, for laying down Permanent Pastures, Lawns, &c.

P. L. & SON have arranged to deliver Seeds free throughout England and Wales from their London Establishment, for all quantities exceeding 20s. in value.

LISTS OF PRICES of the above and all other Seeds, Plants, &c., may be had on application.

27, Great George Street, Westminster.



# The Gardeners' Chronicle.

*SATURDAY, MAY 28, 1859.*


MEETINGS FOR THE FOLLOWING WEEK.
THURSDAY, June 2—Linnean ..... 8 P.M.

ENQUIRIES respecting the quality of MELONS made the subject of experiment remind us of a curious trial by some French gentlemen who found that although Melon seed, especially of the Persian sorts, is saved with the utmost care, yet it is so apt to produce a degenerate offspring that no one can absolutely rely on its good quality. This was ascertained to be the case in a long series of experiments on Melons grown in France under equal circumstances, conducted by Messrs. DECAISNE and NAUDIN at Paris, and M. DURIEU DE MAISONNEUVE at Bordeaux; and nothing could

well be more contradictory than the results at which they arrived. The two former excellent and experienced observers were astonished at the change in quality brought about by change in the place of growth. Thus the Melons called *Gurmuck* and *Goorgab*, and all the Persian races, original seeds of which were sent for trial from the Horticultural Society, the *Gardeners' Chronicle*, and other sources, proved to be scarcely eatable in Paris, and were universally condemned as being inferior to the very worst market sorts, but were pronounced admirable at Bordeaux. On the other hand the *Melon blanc dur* which is quite delicious in Paris was disagreeably bitter at Bordeaux. These changes are ascribed by Messrs. DECAISNE and NAUDIN to climate and the nature of the soil; and possibly also to unknown meteorological influences. They suggest that the changes are such as occur in the races of the Vine, which are so remarkably affected for the better or the worse by the place in which they are planted.

The detailed account given by M. DURIEU DE MAISONNEUVE of the comparative quality of the Melons tried by him at Bordeaux against those of Paris furnishes some further facts of interest. Thus:

HUNTER'S LONG BOKHARA. Small, very sugary —*Paris*. Long, pretty large, sugary—*Bordeaux*.

SERPENT CUCUMBER CROSSED BY THE CHITO MELON. Uneatable—*Paris*. Eatable but not good—*Bordeaux*.

VILMORIN'S PERSIAN MELON. Delicious, rather small—*Paris*. Large, weighing above 10 lbs. Melting and sugary, very good, but not better than others of the same race—*Bordeaux*.

MOGUL. Very good in 1857—*Paris*. Insipid, scarcely sweet, bad—*Bordeaux*.

CHATE. Must be cooked; raw uneatable—*Paris*. Flesh melting and sugary, very good raw—*Bordeaux*.

DE COULOMMIER'S. Enormous, fine and very good—*Paris*. Pretty large. Not pleasant tasted. Not worth keeping—*Bordeaux*. (See Ann. de la Soc. Hort. de la Gironde.)

Let us add that the Melon of Archangel, a sort highly recommended in France for its hardiness and excellent quality, does not seem to meet with favour here; neither do the great black Portuguese Melons, sometimes weighing on the Continent as much as 30 lbs., and measuring 16 or 17 inches in diameter (see the *Proceedings of the Paris Horticultural Society*, Sept. 10, 1857) gain with us any such weight and dimensions.

These facts should not be lost sight of by Melon growers, who are too apt to blame their seedsmen or gardeners when they find that their fruit, raised from seed of which they have had a very high account, turns out of inferior quality. It was only last year that the following case was reported to us. A very zealous wealthy amateur tasted at a table in Prussia a scarlet-fleshed Melon of most remarkable sweetness, richness, and thinness of rind. He was presented by his host with seeds taken from this Melon before it left the table. In 1858 the seed was placed in the hands of his gardener, a careful and experienced man, with directions to raise plants enough of that sort only for the supply of the family. The order was obeyed; and a plentiful crop was obtained in spite of red spider, by which less skilful gardeners in the neighbourhood allowed their Melons to be destroyed. But the fruit was so unlike that from which the seed had been saved that Mr. —— would not believe the latter not to have been changed. He found his Melons smoother and greener and thicker in the rind, with the flesh watery and pale instead of being sugary, firm, and deep salmon coloured. It seemed impossible that such a worthless brood should have come from such a parentage; and in the end the unfortunate gardener was removed.

And yet there is no doubt whatever that the original seed was really sown, and the crop complained of what it produced. Had Mr. —— known what has just been related he would never have committed so great an injustice as to throw on his gardener the consequences of a deterioration natural to the Melon itself.

The true cause of this uncertainty in quality is possibly undiscoverable. It may be owing to differences in soil, or in climate, or in atmospheric conditions; or, which is quite as likely, to unsuspected contamination by hybridising. For the present we can only point to the facts, and beg that gardeners may not be made answerable for what is quite beyond their control.

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THE ISABELLA GREY ROSE, a fine double yellow variety, about which and against which so much has been said (not by us), is beginning to show her true character and to vindicate her claim to stand in the first rank of beauty. In the county of Middlesex, in a double-walled enclosure containing about 18 cubic feet of earth rich and black, with morsels of charcoal and burnt clay, helped with a watering or two of liquid manure, and against the wall of a dwelling house facing the south-west, a wee specimen was planted in the summer of 1857. In 1858 it grew away with much vigour, but showed no flowers. The pruning knife was strictly prohibited. A fortnight since an expanded flower was observed, pinched by the cold, but with unmistakeable indications of beauty to come; and another is already opening, although the season of blossoming would seem to be the autumn.

More success still has attended a lady's patience at Torquay, as will be seen by the following note which accompanied a nice specimen of this Rose. "Mrs. —— presents her compliments to the Editor, and sends him by this post a specimen of the Isabella Grey Rose, grown against a south wall just above the sea. The buds declined opening till a warm sun came. The Rose is on its own roots its third year, grew immensely last year, and has above 90 buds on it, most of which are rapidly expanding. The Editor is at liberty to mention this statement, suppressing Mrs. ——'s name." We cannot but anticipate similar communications from others.

A like result may be expected with the famous CLOTH OF GOLD Rose, which so many persons think can never be made to flower. In a similar double-walled enclosure in the same Middlesex garden, but facing the south-east, a very weak plant was placed in the autumn of 1857. Attempts at making it even grow had previously failed in the same garden, as elsewhere. This time however the plant took, survived the winter, and grew rapidly in 1858, no pruning being allowed. It is now in 1859 making vigorous healthy dark purple shoots, and will doubtless be covered with Roses by the month of July.

Hence it would seem that Roses like the Cloth of Gold and Isabella Grey demand four things; 1, a *warm* rich soil; 2, a southern exposure; 3, time; 4, to be protected from the pruning knife. May not these be also the conditions demanded by the famous old Double Yellow Rose herself?

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WE observe that the annual dinner of the GARDENERS' BENEVOLENT INSTITUTION will this year take place at the Crystal Palace, and there is reason to believe that it will prove an unusually agreeable meeting, especially since the tickets of the Institution admit on that day to the Flower Show, and ladies will form a part of the company. An appeal has been made to all gardeners who are subscribers, asking them to obtain the permission of their employers to assist the dinner by contributing some fruit, &c., to form the dessert, and it is probable that an interesting display will be thus formed.

—— Letters from Washington mention the formation of a garden and greenhouses there for the express purpose of nursing and propagating the numerous Tea plants and other valuable Chinese vegetable productions received from Mr. FORTUNE. The establishment is placed under a Scotch gardener, and it is to be hoped that he will accomplish in a satisfactory manner the important duty entrusted to him. It is understood that this arrangement will render the intended visit of Mr. FORTUNE to the United States unnecessary for the present.

—— It is also reported on good authority that the Indian Council has commissioned Mr. CLEMENT MARKHAM, a relative, we believe, of the Earl of ELLENBOROUGH, to proceed to South America, for the purpose of procuring seeds and plants of the various kinds of Cinchona or "Peruvian bark" trees for transmission to India—an operation demanding not only great energy, but a very considerable amount of practical knowledge in gardening, as well as much botanical experience.

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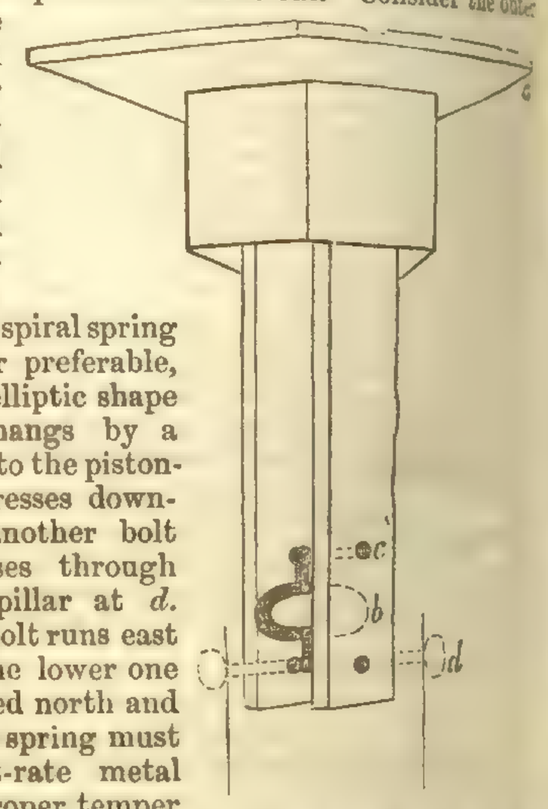
## INDICATOR BEE STAND.

THE indicator bee stand which I described last year in the *Gardeners' Chronicle* (May 15, 1858, p. 400) proved so interesting and instructive that I am induced once more to suggest its general adoption in apiaries; indeed I would recommend every bee keeper who makes a study as well as a profit of bees to have one for the purpose of making its indications a special subject for a bee journal. It would not be sufficient in support of such a suggestion were I merely to say that I am indebted to Mr. Cox, of 5, Barbican, London, for the carrying out of my views, or to add that Mr. Cox supplies these stands under my direction, because there are many earnest apiarians who cannot afford 25*s*. or 30*s*. for one, which is the price I myself pay to Mr. Cox for them; I will therefore explain the construction as clearly as I can with the help of a working diagram, so that an amateur skilled in the use of tools may make one for himself. In my first description I advised the use of "a spiral spring fitted inside a hollow post," which was the construction I at first adopted when the idea seized me to register the daily work of a stock of bees. Numerous experiments and careful observations have resulted in the adoption of a definite plan and pattern as follows:—Construct a hollow pillar of inch Deal 2 feet 10 inches high, and 5½ inches square. To fit the inside of this very loosely, construct another pillar of the shape shown in the diagram. The top plate or table *a* to be of inch Deal, 1 foot square. As this is to receive the hive, its shape and size may be varied at discretion. Underneath *a* is a short rest 5½ inches square, which falls on the top of the outer pillar, and below this rest is a 2 feet length of wood-work consisting of two parallel pieces, between which is fixed the spring which gives the indications. Before we quit this wood-work, let it be understood that the construction here represented is intended to play up and down freely within the outer pillar, and to assist it four little brass wheels are let in just under the rest but are not represented in the cut. Consider the outer pillar to be a piston, and the inner one the piston-rod, and you have an exact idea of their relationships.




Instead of a spiral spring I use, as far preferable, one of an elliptic shape *b*, which hangs by a cross-bolt *c* to the piston-rod, and presses downward on another bolt which passes through the outer pillar at *d*. If the top bolt runs east and west the lower one will be placed north and south. The spring must be of first-rate metal and of a proper temper to play kindly under a range of from 20 to 60 or 80 lbs. If well japanned the weather will not affect it. The man who can get so far in the manufacture will find no difficulty in converting the perpendicular action of the spring into a horizontal or rotary motion. As made by Mr. Cox, a circular plate of polished zinc divided to show pounds up to 60 is placed in front as a dial with hands. One of these works round as the spring is pressed upon by means of an upright slip of brass notched to correspond with a brass cog-wheel placed behind the centre zinc dial. It is the simplest piece of ratchet work imaginable, and as *a* sinks down on the spring *b* with the increasing weight of the hive the centre wheel is turned, and the travelling hand which it is affixed registers the weight in pounds. The other hand is free of the ratchet work, and can be moved to any number to show the dead weight of the hive when first put on the stand. Suppose the hive with bees to weigh 20 lbs., the loose hand is placed at 20 lbs. The other takes its place there by means of the ratchet work, and as the store increases it travels on, and you can at any time deduct from the gross weight which it indicates the dead weight pointed to by the other. If a super is put on the additional dead weight must be taken note of, and the loose hand moved on to correspond. Thus, if the indicating hand is at 40 and the other at 25, the difference consists of comb, honey, &c., 15 lbs. The last point is to make sure that the instrument gives correct indications, and the final adjustment of the dial plate and ratchet work must be performed with the help of weights. Put a 20 lb. weight on the table *a* and see that the indicator points to 20; then put on 40 lbs., and then 60 lbs., and you have the three main divisions. A little more patience will suffice to ensure the simultaneous action of spring and index, and unless they work together and tell a true tale on the dial the thing is of no use at all. Every one sent out by Mr. Cox is tried first with a series of weights, in order to avoid twisting the dial about, for it would look ridiculous, if upside down; the adjustment is accomplished by shortening or lengthening the ratchet. The other cut represents the indicator in use, fitted with Tegetmeier's bar and slide hive, which is the best bee box I have ever used; it combines the advantages of Taylor's with the economy of the Stewarton, which latter is of too large a size for ordinary use with southern swarms. Herewith I give from my bee journal a few of the registers of last year, to show how interesting are the indications:—On May 16 a swarm was hived into a pair of Stewarton boxes, and was at once placed on an indicator bee-stand; the dead weight was then 23 lbs. The loose hand was

placed at 23; by the 1st of June the gross weight had increased to 34 lbs. After this the dead weight was reduced to 18 lbs. by the removal of a stone from the crown-board, which was placed there to prevent the hive being blown off before the bees had cemented it to the floor-board. After this the registers were as follows:—

| | Dead weight. | Gross weight. | Produce. |
|---|---|---|---|
| | lbs. | lbs. | lbs. |
| June 7 .. .. | 18 | 35½ | 17½ |
| ,, 15 .. .. | 18 | 38 | 20 |
| ,, 28 .. .. | 18 | 40 | 22 |
| ,, 30 .. .. | 18 | 41 | 23 |
| July 5 .. .. | 18 | 44 | 26 |
| ,, 6 .. .. | 18 | 45 | 27 |
| ,, 13 .. .. | 18 | 48 | 30 |
| ,, 14 .. .. | 18 | 49 | 31 |
| ,, 15 .. .. | 18 | 50½ | 32½ |
| ,, 16 .. .. | 18 | 50 | 32 |
| ,, 19 .. .. | 18 | 49½ | 31½ |

On July 15, therefore, the balance was struck between production and consumption. From that day the store began to decrease, and if no other result had been attained I should consider myself well repaid in having visible evidence of the very day on which honey collecting ceased to be in excess of the wants of the community. Not that this is any discovery. Bee-keepers of the modern school know well that if honey is to be taken it should be taken early, and that to harvest the store in September and October on the plan of most cottagers is to be content with the gleanings of a field from which the best of the harvest has disappeared. But to fix the day appears to me a matter of no small moment, and though it may vary with seasons, places, and the strength of the stocks, here are the means by which it may be noted, as well also as the effect of weather and other circumstances from day to day in the progress of a colony in its industrial endeavours. *Shirley Hibberd, Stoke Newington.*

## THE LATE BISHOP AGARDH.

By the death of Bishop Agardh, on the 28th January of the present year, Sweden has lost one of her most illustrious sons, who throughout a long and active life largely contributed to maintain the honour of his country by his labours and writings in various departments of literature and science. As the late bishop's name will always occupy a distinguished position amongst the cultivators of Natural History, and especially of Botany, and as he was moreover distinguished for his great learning and many talents and acquirements, it may be interesting to give a brief sketch of his life and works.

C. A. Agardh was born at Båstud, in Harland, in 1785, and in 1799 he became a student in the University of Lund, where he applied himself especially to Natural History and Mathematics. In 1807 he was nominated Matheseos Docens of the University of Lund, but soon after devoted himself to Botany, to which science indeed he had very early displayed an attachment; and after a visit to Stockholm, where he became the pupil and friend of that famous man and amiable botanist Olaf Swatz, he ardently entered upon the study of Algæ. After travelling on the Continent he returned to Lund, and was named first E. O. Botanices Demonstrator, and in 1812 Botanices and Æconomiæ practicæ Professor, upon which he entered upon his active career as a botanist. Perceiving that though much had been done towards adding to the species of Algæ in the admirable works of Turner, Dillwyn, and Vaucher, little advance had been made towards a philosophical classification of the order, he laboured to discover an arrangement of the genera that should be founded on natural principles as derived from their internal structure. At that time Sweden was taking the lead in the study of Cryptogamic plants, Swartz was labouring upon the Ferns and Mosses, Acharius on Lichens, Fries on Lichens and Fungi, when Agardh by adding his labours on Algæ secured to the country of Linnæus that supremacy in every department of Cryptogamic botany which had been already universally awarded to her in Phænogamic.

The Dispositio Algarum Sueciæ which appeared in 1812 was for the most part founded on the old principles, but in the Synopsis Algarum Scandinaviæ, which appeared in 1812, he applied his untiring diligence, powers of observation, and matured judgment in scientifically developing a method which had already been used to some extent by Lamouroux, and by which he established sound genera and accurately defined species. In his Species Algarum, Icones Algarum, and lastly in his Systema Algarum, published in 1827, he completed his reform of that great division of the Vegetable Kingdom, and laid the foundations of all modern Algology.

The above-mentioned works contain Agardh's most important discoveries and most extensive and valuable contributions to the science of botany, but these alone would give but an inadequate idea of the amount and variety of his labours or of the influence he exerted on the progress of the science. Amongst other claims on the gratitude of his country it must be especially remembered that he was the first Swedish author on Vegetable Physiology. In his Aphorismi Botanici and Classes Plantarum he treated on Morphological and Systematic Botany. His Organography and Biology of Plants was translated into German, and he was the author of,—Essai de réduire la physiologie végétale à des principes fondamentaux (1828); Essai sur la développement intérieure des Plantes (1829); Observations sur les Prêles; Dissertatio de Metamorphosi Algarum; Ueber die Anatomie und den Kreislauf der Chareen, &c., besides many monographs (on Lemania, Conferva, Carex, Byssus, Ruppia, Gentiana, Calamogrostis, Verbascum, &c.), including one on the fossil plants of Skane.

Many of his minor works are scarcely known out of Sweden, having appeared as Dissertationes Academicæ, but in all we find Agardh taking broad and philosophical views of vegetable phenomena; considering the bearing of his observations upon biological principles, and on many subjects enunciating original ideas that could not fail to have a wide influence on the progress of scientific botany. Besides possessing these solid acquirements, and applying them to his favourite science, it must be remembered that Agardh was for many years the glory of his University, the zealous and friendly promoter of the studies of many young botanists, at a later period the President of the meetings of Scandinavian Naturalists, and that he continued at a very advanced age to contribute interesting botanical matter to various publications, thus filling a position amongst the cultivators of science in Sweden, that was second to few in influence and usefulness.

As Botanical, Economical, and practical Professor, Agardh's attention was necessarily turned to political economy and kindred subjects, upon which he has left a quantity of papers of the greatest importance towards developing the material resources of his country. His last publication was on the statistics of Sweden, and in the last part of that great work is his treatise on the forest trees of Scandinavia, considered economically and botanically, in which he delights to regard science and its application under a common point of view. As a member of the Swedish Parliament for the year 1817, he exerted himself as the zealous advocate of all measures bearing on the public welfare, and owing to his great learning and experience, his sparkling eloquence, and his fascinating manner and delivery, he always commanded the attention of the auditory even when he failed to persuade them.

In 1816 Agardh took orders, and in 1837 was consecrated Bishop of Carlstadt; and here again his active and useful talents were immediately exerted in promoting the cause of national education so effectually, that there are few who can be said to have contributed so largely to infuse a new vigour into the national schools and instructional bodies; and he was ever advocating by personal superintendence in his own sphere, and by discussion or correspondence with others, the necessity of introducing modern science, and especially botany, into the educational bodies.

There are perhaps many of Agardh's botanical views which have not met with universal acceptation, and his speculations in theology, and above all in moral philosophy*, together with his projects for reform in finance and sociology, have been much opposed; but it is impossible for any one to withhold his admiration of his skill in introducing them, his penetration of whatever was obscure, his earnest desire to render everything as clear to others as it was to himself, his conscientious endeavours to diffuse for the public good his often almost too daring or paradoxical views, and the pure patriotism that animated him in all his ways and works. For the love of science and the honour of Sweden he thought and wrote and laboured by word and by deed, and his loss is consequently felt to be a heavy national calamity.

## Home Correspondence.

*Gardeners' Benevolent Institution.*—I think it right to inform you that the Council of the Horticultural Society, with that liberality which has always marked their proceedings to this Society, has granted the Committee the free use of their rooms for them to hold their monthly meetings. Also that the Council of the Society of Arts, following the example thus set by the Horticultural Society, has through the influence of the Chairman, Mr. Dilke, kindly granted this Institution the gratuitous use of their great room to hold their general meetings. This has been to avoid the inconvenience so generally felt by charitable institutions in being obliged to hold their meetings at taverns. *Edw. R. Cutler, Secretary.*

*Rainfall in the Eastern Counties of England.*—Permit me to direct attention to one or two important and interesting points in natural science which are likely to receive some elucidation this approaching summer. It has been proved by Mr. Dickinson, the millowner and paper-maker of Watford, in a practical and convincing manner, and is believed by meteorological observers generally, that the water supply of the country during the summer months, *i. e.* from April to September inclusive, depends almost wholly upon the rainfall of the winter months of November, December, January, and February, which replenishes the springs and subterranean reservoirs in the water-bearing strata. These four winter months are essentially "non-evaporating" months (if I may use such a term in a comparative sense), as Mr. Dickinson has shown by the valuable records kept by him showing the proportion of the rainfall which filtrates the soil and passes down to the subterranean water-level to be discharged by springs at the surface. The two months of March and October are those in which evaporation is much in excess of filtration, and the proportion of the rainfall which then descends to the subsoil is frequently unappreciable, whereas in the four winter months specified as "non-evaporating," the mean percentage infiltrated in eight years was 83.5. A wet October succeeded by a wet November and December nevertheless affords the greatest security that we shall have a plentiful supply of "spring" water during the following summer. In the summer months—*i.e.*, from April to September inclusive—the proportion which descends is very small. About 90 tons of water per acre reaches the subsoil out of 1300 tons, which is the average weight of rain which falls on the surface of England in those months; evaporation and vegetation intercept and dispose of the rest. If these assumptions are sound, and no one doubts them, it is manifest that not only are the rivers dependent in summer on the rainfall of the preceding winter, but any scarcity will be increased, summer after summer, if the preceding winters are successively deficient in infiltrated supply. This deduction has a very pertinent bearing on the present condition of the eastern counties of England. Taking the rainfall at Chiswick as the mean quantity of the eastern side, from Oxford to Harwich, we find the average quantity for 18 years of the four "non-evaporating" months to have been 6⅓ inches:—

| | Inches | | Inches |
|---|---|---|---|
| 1841-2 | = 7.91 | 1850-1 | = 7.15 |
| 1842 3 | = 8.77 | 1851-2 | = 4.06 |
| 1843-4 | = 7.23 | 1852-3 | = 10.90 |
| 1844-5 | = 7.35 | 1853-4 | = 3.91 |
| 1845-6 | = 9.04 | 1854-5 | = 4.03 |
| 1846-7 | = 5.29 | 1855-6 | = 4.83 |
| 1847-8 | = 8.35 | 1856-7 | = 5.23 |
| 1848-9 | = 7.18 | 1857-8 | = 8.71 |
| 1849-50 | = 4.98 | 1858-9 | = 3.39 |

By these figures it will be seen that every winter's rainfall since that of the very wet winter of 1852-3 has been deficient—the greatest quantity having fallen in 1856-7, when 5.23 inches were recorded—and that the supply of the last two winters barely exceeds the average fall of one winter. Last summer and autumn were remarkable for the scarcity of water in the eastern counties. The labouring poor were paying for it by the pail, and the farmers were carting it from a distance into the fields for the use of their stock. What are we to anticipate for the ensuing autumn? "February fill-dyke" has failed to fill even the ponds in the fields, and we look anxiously though in vain for a seasonable illustration of the Wiltshire truism, that "as the days lengthen so the springs strengthen." So insignificant, in fact, is the rise of subterranean water in the wells throughout the eastern counties that the daily draught has exceeded the influx, and the consequence is the majority of wells in the less favoured districts are now dry that were never dry before. If this be so at the beginning of May, when the subterranean supply is gaining its maximum height, what will be the condition of the eastern counties in July, August, and September, when the springs are rapidly declining, evaporation is active, vegetation is thirsty, and infiltration "nil?" While this state of things has prevailed in the east of England, the rainfall in the west and north-west has been plentiful. While in Essex the fall was only 11 inches and in Kent only 17 inches in the whole year of 1858, the fall in Lancashire was above 59 inches, and in Devon 40 inches in the same period. This great difference existing, it would indeed be interesting to discover how far the dip of the water-bearing strata serves as a means of conducting the water absorbed in the higher grounds of the north-west to the lower districts of the south-east. We know that art has done and is doing much to overcome, by boring through one stratum into another, the deficiencies of certain localities, such as Bourne in Lincolnshire, where an Artesian well is constantly disgorging its many thousand gallons per minute, but it is a problem yet unsolved whether or not the eastern and lower districts derive any of their subterranean water supply from the higher districts of the north-west. If Nature by some hidden means, by "faults" or by omissions of strata, such as we have recently been told occur under the metropolis, makes good our deficiencies we cannot be too grateful, but under any circumstances the whole subject, with the considerations involved in it, demands the attention of the country. It is a common remark that the prevalent scarcity of water arises from the drainage of land, which has extended lately with such marvellous benefit to agriculture. It is hardly necessary to expose this popular delusion. Careful experiments have proved that no water can be discharged by under drains until the subsoil is surcharged (*i. e.*, that no water can flow off by the drains until the soil beneath them is replenished by descended water), and that the result of under-draining is to diminish evaporation and thereby increase the water actually discharged after the subsoil is replenished. It is, however, more than possible that by reducing evaporation the rainfall itself may be slightly reduced even in this sea-girt island, but even if it be so the loss, whatever it may be, is more than equalled by the proportion of the rainfall rescued from evaporation by drainage, which it need hardly be said

* In my short announcement of the death of Bishop Agardh, communicated to the *Chronicle* by Dr. Hooker, I made no allusion to his merits as an author and man of science, being well aware that these needed no heralding in England, but amongst the appended cursory remarks upon his views as an economist, moral philosopher, and theologian, are some which (owing to my imperfect command of the English language), now appear to me to convey a false impression of his character. I need not assure your readers that nothing was farther from my thoughts than to cast a slight on his memory as a man of honour and principle *N. J. Andersson.* [We need hardly remark, that had it occurred to us that Dr. Andersson's remarks could have borne the interpretation of impugning the memory of a man so esteemed in this country, they would never have been published in our columns. *Ed. G. C.*]

renders the soil capable of absorbing and of discharging that which in undrained land is retained on, until evaporated from, the surface. But as it will require some disastrous inundation to induce inquiry into and to bring about a reformation in the arterial drainage of the country, now daily becoming more urgent as underdraining extends, so it will require some calamitous suffering by drought to make the landed interest appreciate the value of those drainage-waters so heedlessly discharged, but which might be impounded at little cost and turned to profitable uses if attended to. *J. Bailey Denton, Stevenage, May* 9.

*The Courtesies of Trade.*—I am pleased to see "E. R.'s" letter inserted; it may do some service. I lately ordered of one party—advertising in yours—½ cwt. of white lead; he sent 1 cwt., coolly remarking he had no halves in store just then. From another (copying his advertisement) I had a box of glass marked 30*s.*; the bill came in 2*l.* 12*s.* 6*d.*; I paid both rather than come into collision with the gentleman. But the unprotected female is their readiest victim. I sought redress for one, and the gent summed up a rather lengthy reply as follows:—"I scorn your vile insinuations, you are no gentleman. Let the galled jade (the lady I presume) wince, my withers are unhung"—plainly written and unmistakably "unhung." I enclose my card and the names of the persons alluded to. *T. T.*

*Cucumbers.*—Having been much interested in the discussion on Cucumber growing between "M. S." and Mr. Ayres, I should feel obliged if "M. S." would state the name of his winter Cucumbers, what soil he uses, and whether his bottom-heat is drived from tan or hot water. *An Amateur, Chelmsford.*

*A Cry from Amateurs.*—I see in your last week's Paper some remarks with this heading. I am one of those alluded to perhaps by the writer of the lament, as for a length of time I carried on gardening, "in all its branches," with some success, but paying pretty smartly from the first. I could cut Cucumbers as early as my neighbours, sometimes a little earlier, so long as the good old dung beds were in vogue, but not so since hot-water pipes and steam tanks took their place. In good old times I could grow whatever I thought fit and could please myself in all things and great were my delights; but in course of time things were sadly changed, and every expense increased. Failure upon failure followed quickly in succession through men of paper or newspaper rather than sound practice. Plants of the newest and the best mysteriously disappeared, fogged off, or died (at least so I was told); my early crops of fruits were eaten off by insects; though certainly to me they seemed to grow and ripen well; and especially I had to purchase much garden stuff for family necessities. My men meanwhile grew fat and saucy, the wives of one or two dressing finer than my own. At last I grew tired of all this and threw up all that once had lightened the labours of a fagging day and given me so much real pleasure. What I did was this: after much inquiry I got a man who was accustomed to grow early fruits and vegetables for the London market, and since then I have every reason to be satisfied, and he supplies me with all I want without stint, keeps my gardens in good trim, and my houses fairly dressed. I supply him from my stables with manure, but he pays all outgoings, and pockets all the rest without a farthing wages from my hands. He seems well satisfied; his family, though large, is well maintained, some working with him in the garden after their return from school, and I trust the man is doing well and putting in the savings' bank as I advise such portions of his earnings as he can spare. He supplies my fruits for table in good condition, and in plenty. I am quite content, and certainly ought to be, finding myself richer in pocket by full 200*l.* a year, and can enjoy a sly chuckle at my neighbours, who go on grumbling, as was my case before my revolutionary move. I like the notion of a collegiate institution to turn out gardeners of all degrees, and suited to the wants of flower gardening folks, small fish as well as large, respectable and certificated men, with salaries proportioned to attainments in one or more branches of their business. It would, I know, be a boon to many, beside the legion of complainers, and I think I know the man to set the scheme agog—if present prices are maintained, and the supplies of Continental produce not increased. *A Constant Subscriber.* [We think that this subject has gone far enough.]

*Andromeda polifolia in Somersetshire.*—A correspondent having a few weeks ago expressed some surprise at finding this plant in the neighbourhood of Glastonbury, it may be interesting to observe that it is very plentiful in the drier parts of the Turf Moor, not only near Glastonbury, but more or less frequently as much as 5 or 6 miles to the west of that place. It is so common as to be well known to the people living on the Moor by the name of "Bog Rosemary," the leaves having a considerable resemblance (especially on the under side) to the common Rosemary. This district is a most interesting one to the botanist. Besides the Andromeda, Epilobium angustifolium (the Rose. Bay Willow-herb) grows in great abundance in some parts, particularly at the sides of the Glastonbury Canal. Rhynchospora alba and fusca, and Lastræa Thelypteris are also plentiful; Pinguicula vulgaris and lusitanica are occasionally met with, and many other plants of somewhat rare occurrence. Among the latter may be especially mentioned the variety of Rubus idæus with amber-coloured fruit. This plant is referred to in a local "Catalogue of the Rarer Plants of the Turf Moors of Somerset" as having been found in two different places towards the border of the Moor. *J. W. Chapman, Dulwich.*

*Crickets.*—Procure some small glazed earthenware pots about 3 inches deep, such as are used for preserved fruit; in the evening put about a square inch of new bread broken into small pieces in each pot; then fill them half full of boiling water and sink them in the tan or other plunging material up to the brim; the vapour arising from the hot water attracts crickets to the bait, and they go in and get drowned. The pots must be emptied in the morning and refilled with cold water to keep them sweet till the following evening. *J. D., The Gardens, Beechwood.*—Mix some arsenic with oatmeal, and place it in their runs. I and others have tried it with success. *A Novice, Tunbridge Wells.*

*Fruit Prospects.*—I was glad to see by Mr. Saul's report that it was likely there would be an average crop in his part of Yorkshire; such is not the case here in south Lincolnshire. The wall fruit has suffered very seriously in many places, and is quite a failure; Peaches, although protected, have all fallen off; Gooseberries and Currants are very thin. In some places the Currant trees have been quite killed by frost. Early Apples, such as the Hawthornden and Keswick Codling, are all falling off, and most of the late sorts, exposed to the north-east winds, will be a failure. Pears will likewise be very thin; in some places none. *J. B.*

*Linum grandiflorum coccineum.*—Will any of your Correspondents furnish me with the best mode of raising this most beautiful of all annuals? Some trade lists recommend steeping the seed, others raising it in heat, but both of these modes so far as my experience goes are not quite satisfactory. Considering the expense of the seed, parties like myself with limited means cannot afford to lose their money, to say nothing of the disappointment. *Betsy.*

*An Ornithological Want.*—I would through the columns of your excellent Paper point out a want that may perhaps if brought to notice be supplied. In the Museum at Ludlow, plenty of the members attend to the fossils, of which we have a goodly collection of the Silurian, being situated in I believe nearly the centre of Sir Roderick Murchison's discoveries; but as regards the ornithological branch, which had been much neglected as regards additions for some time, there is no one but myself to attend to it, and having only lately taken up the study, I feel often grievously puzzled to identify some of the birds, especially the females. Unfortunately, many of the works on the subject do not take the trouble to represent these at all, of which the otherwise admirable Bewick is an example. Yarrell, it is true, often does, but then his is a plain edition. Myers's folio is expensive and cumbrous. What a pity it is that a coloured work of a manageable size and moderate price is not brought out. The British Museum might publish a really good coloured edition, as they have all the birds in their possession to copy from; and surely if the male and female were cleverly set up side by side, and photographed, we should have perfect accuracy of shape and form. All that we want is extreme accuracy; and above all, the female as well as the male. Why should the sober-coated little dames be banished because of their dress? Let them take post beside their mates as they have a perfect right to do. Howitt, in his Rural Life of England, says: "The female is usually clad in much more sober dress than the male, as if it were otherwise she would undoubtedly get pulled off her nest and destroyed by some bird or beast of prey. *F. N.*

*Morphology.*—Is it usual to find the flower of an Epacris modified as in the present example? I should fancy it was a similar freak of nature as in the modification of the female organs of the Rose, &c., as in that plant I have seen it occur very often. *J. E. L., Edinburgh.* [You will find a similar case figured in Lindley's Elements of Botany, p. 62, but it is very rare. The axis of the flower, which is usually incapable of lengthening, suddenly, owing to some unknown cause, extends itself into a branch. The Epacris, the Rose, the Pear, Potentilla, the Apple are especially subject to such changes.]

*Glass Dealing.*—In a paragraph in your last number under this heading, signed "E R," I perceive my name mentioned, and I shall be obliged by your insertion of the following, which will fully explain the transaction, and will, I think, remove any injurious impression which the letter in question may have made on the public. The following are the particulars. Extract of a letter, without date, received on the 29th ult.:—"Carrick-on Suir, Ireland. Be so good as to send me 300 feet of glass 10½ by 8½, fourth quality, together with a good glazier's diamond. I am anxious to have the glass as soon as possible, and although the order is only a small one, it may be larger at some future time if promptly attended to." Signed Rev. E. Ridgeway. Replied to on the 29th April, as follows:—"87, Bishopsgate Street, Without. Enclosed I hand you invoice of glass forwarded this day, which I trust will arrive safe and please. You do not state in your letter what substance you require, so have sent you 21oz. I have inclosed a strong useful diamond." Signed T. Millington. It will be obvious that the Rev. E. Ridgeway infers that I have charged him 18*s.* 7*d.* per box instead of 12*s.* 6*d.* as advertised, at the same time withholding the most important fact, that 21oz glass was sent, of full value as advised. Damage having arisen on several occasions to glass by this route, I thought it prudent to forward this substance, none being mentioned. All this was fully explained to "E. R." previous to his paragraph being inserted, he having before threatened to expose me in your Journal as a public duty, and which I invited him to do if he did it with truth. The charge for the glass sent was 2*l.* 16*s.* 3*d.*, and the charge on it, he having returned it, is 1*l.* 11*s.* 1*d.*, being nearly its value, and this is the encouragement I have received by promptly attending to his order, having sent it the day the order was received. *Thomas Millington, 87, Bishopsgate Street Without, May* 26. [Some part of this communication, which has no bearing upon the complaint of "E. R.," is necessarily omitted.]

## Societies.

Royal Botanic, Regent's Park: *May* 25.—It was in all respects an excellent exhibition. Azaleas and Pelargoniums being numerous and effectively arranged, made a brilliant display. Roses were also in good condition, and there was as usual a large assemblage of stove and greenhouse plants. The weather being favourable there was a large attendance of visitors.

In the class of 16 Stove and Greenhouse Plants the chief contest lay between Mr. Dods, gr. to J. Cathcart, Bart., and Mr. Whitbread, gr. to H. Collyer, Esq., of Dartford. The first had plants nearly the same as those shown by him at the Crystal Palace, and fully described in our Notice for last week. Mr. Collyer's group was every way in excellent condition, and so nearly equal in point of merit to that of Sir J. Cathcart that it was for some time difficult to decide the proper position of the two collections. The first prize was however ultimately awarded to Mr. Dods. Mr. Collyer had among others large and beautiful flowered specimens of Gompholobium polymorphum trained in the form of a bush; some charming examples of Aphelexis, the pretty deep, rosy-blossomed Bossiæa Drummondi; a fine plant of Azalea variegata and Juliana, the latter a variety seldom seen in first-rate order; the bright yellow Pultenæa stipularis, Kennedya elegans, and tortuliflora, the last a noble plant; Chorozema Henchmanni, and the very pretty C. variabile nanum; a huge Epacris, Allamanda cathartica, Ixora coccinea, a large Eriostemon and Polygala, and Lechenaultia formosa. Other groups came from Messrs. Peed, Baxendine, and Rhodes.

In the class of 10 Stove and Greenhouse Plants, the best were contributed by Mr. May, gr. to J. Spode, Esq. These, although they had travelled all the way from Rugeley in Staffordshire, a distance of 124 miles, were as fresh and unshaken in appearance as if they had not been carried as many yards. They consisted of Aphelexis sesamoides superba, a grand specimen, whose showy blossoms were admired by everybody; Gompholobium polymorphum, trained as has now (and properly) become the fashion in the form of a bush; Azalea Criterion, a useful kind now apparently superseded by Admiration; Hedaroma tulipiferum with large drooping bell-shaped pale lemon-coloured blossoms streaked with reddish brown; Ixora coccinea superba, stated to be an improvement in point of size of truss on the old kind; the deservedly much admired Dipladenia crassinoda, Chorozema variabile nanum, and a fine plant of Pimelea Hendersoni. Messrs. Green, Peed, Kaile, Hamp, and others, also showed good groups of stove and greenhouse plants, as did likewise Messrs. Cutbush, Fraser, & Epps.

Collections of Orchids were not materially different from those shown on the previous Wednesday. In the different groups we remarked beautiful examples of Dendrobium Devonianum and densiflorum, some good plants of Vanda suavis, especially one from the Rev. W. Ellis, with four fine spikes of bloom on it; Cypripedium villosum and a very dark variety of barbatum, Cycnoches barbatum, with a fine spike of buff flowers not at all attractive, looked at from a distance, but on close inspection extremely interesting on account of their whole surface being beautifully dotted over with minute chocolate-coloured spots; various varieties of the lovely Lælia purpurata, some with pure white flowers with the lip as usual edged with deep purple, others with the last named colour diffused more or less extensively and with different degrees of intensity all over both sepals of petals. Arpophyllum giganteum, and various fine Phalænopsis.

Azaleas, as has already been stated, were present in large numbers and in great perfection. Mr. Carson's plants were very fine. With the exception of the golden yellow A. sinensis, those from Mr. Green were a little past their best. The kind just named was, however, all that could possibly have been desired, and was, as it deserved to be, greatly admired. The collection from Messrs. Ivery, Turner, & Dods contained many charming examples of well-known kinds. Of new varieties Messrs. Ivery had a pretty white, pink-flaked sort called Flower of the Day; and from Mr. Turner came Advance, also a promising kind. It is a light purple strongly marked and very handsome. Milton and Chameleon were also good flowers. A. elegantissima, a striped kind, was also promising. Glory of Sunning Hill, though not new, still appears to be the finest double-flowered variety.

Cape Heaths were shown in good condition, both by amateurs and nurserymen. They were, however, strikingly devoid of novelty.

Roses in pots were again the admiration of everybody. General Jacqueminot, so brilliant at the Crystal Palace, was this time evidently past his best; the bright sunshine we have experienced during these last few days having changed the intense crimson then displayed in every bloom to deep purple. The same ill effects of bright weather were also visible on other sorts. Blanc No. 2, delicate pink (on this occasion nearly white) with crimson centre, was very handsome. Others were not different from what have been already reported on.

New plants are still scarce—a Cattleya, somewhat resembling Aclandiæ, was shown by Messrs. Veitch, and Messrs. Parker & Williams also sent two or three kinds of Cattleya allied to intermedia. From the former firm were likewise shown their handsome Begonias and

Pothos formerly noticed by us, and a yellow-blossomed Blandfordia. Mr. Williams, nurseryman, Muswell Hill, had the pretty Caladium argyrites, with small leaves, charmingly blotched with white. Tydæa Duchesse de Brabant and Leopardi came from Messrs. Parker & Williams, the former purple and the latter scarlet, large and showy, both beautifully marked and very handsome. The last-named firm also sent a pretty little Vanda with straw-coloured sepals and petals, and violet lip. We also noticed one or two fine-foliaged plants, none of them very new, from Messrs. E. G. Henderson.

Of Amaryllids, Messrs. Parker & Williams sent a fine collection, chiefly red kinds and white striped with red.

Pelargoniums, like Azaleas and Roses, looked infinitely better under canvas than they did at the Crystal Palace; as shown on Wednesday last they were very effective. In the Nurserymen's class Mr. Turner was first with a finely-coloured Etna, the large orange-blossomed Festus, Empress Eugenie, Carlos, Mazeppa, Admirable, Governor-General, Lord Raglan, Sanspareil, delicatum, Fair Ellen, and Matilda. Messrs. Dobson had Rosamond, Evelyn, Vestal, Governor-General, Fairest of the Fair, Rosalie, Bride, Admirable, Sanspareil, Starlight, Carlos, Eugenie Duval. Messrs. Fraser sent Clara, Governor-General, Una, delicatum, Admirable, Rosamond, Lucy, Sanspareil, Pallas, Gem of the West, Mr. Hoyle, Eclipse. Mr. Windsor and Mr. Gaines, of Battersea, also showed in this class. Of Fancies, Mr. C. Turner sent large well bloomed plants in good variety, several of which were new. Of the latter were crimson Pet, Rosabella, Bridesmaid, Princess Royal, Madame Rougière, and Carminatum. Messrs. Fraser had Richard Cobden, Celestial, conspicuum, formosissimum, Madame Sontag, and delicatum. Mr. Windsor furnished Electra, Duchesse d'Aumale, delicatum, Perfection, Lady Hume, Campbell, and Cassandra. Mr. Gaines also contributed a collection.

In the Amateur's Class Mr. Nye, gr. to E. Foster, Esq., furnished a fine plant of Carlos, Fair Ellen, Sanspareil, Saracen, Governor-General, Pallas, Wonderful, Una, Admirable, and Rose Celestial. Mr. Wiggins, gr. to E. Beck, Esq., Isleworth, had Bride, Admirable, Fanny, Laura, Governor-General, Vestal, Wonderful, Sanspareil, and Symmetry. Mr. Bailey, gr. to T. T. Drake, Esq., Amersham, had some well grown plants, consisting of conspicuum, Gem of the West, Admirable, Carlos, Governor-General, floribundum, Fair Ellen, and Mr. Marnock.

In Fancies, the best 6 came from Mr. Bailey, whose kinds were Madame Sontag, Cloth of Silver, formosum, Celestial, Evening Star, and Lady of the Lake. Mr. James and Mr. Holland, both from Isleworth, exhibited well in this class, in which Mr. Weir and Mr. Turnbull were also competitors.

A nice bank of Seedlings appeared to greatly interest growers of this popular flower, as well as the public. The best were Autocrat (Foster), white centre, dark top, and richly painted lower petals; King of Purples (Turner), rosy purple, spotted on the lower petals; Czar (Hoyle), similar in character to Autocrat; Angelina (Hoyle), a smooth flower, light lower petals, very dark top; Hero (Turner), salmon spotted; Spark (Turner), a small but vivid scarlet, much the brightest of its class; Fancy Arabella Goddard (Turner), soft rose, white eye and edge, fine form. The Judges selected the above for prizes. There were also Juno (Beck), bright crimson; Apollo (Beck), scarlet, dark top; Eastern Beauty (Hoyle), rose, fine form; Inez (Hoyle), dark top, lower petals light; Jessica (Hoyle), orange, very bright; Lightning (Foster), Favourite (Turner), Mammoth (Turner), Hesperus (Beck), Bridesmaid (Beck), white, resembling The Bride. All the above possess some merit, and many of them at some future time may possibly be found in winning collections. In Fancies, Negress, multiflorum, Symmetry, and Miss Turner appeared to be dissimilar in colour, and were of the finest form. A pretty seedling variegated Geranium, Magnet, appeared dwarf and of good colour, but not new in foliage.

Although the season for Cinerarias is now nearly over, nevertheless the two first collections were very good. They came from Mr. Turner, of Slough, and Mr. Shrimpton, of Putney. Messrs. Dobson also had some good plants. The best were Slough Rival, Perfection, Baroness Rothschild, Mrs. Colman, Brilliant (Lidyard), ditto (Smith), and Mr. Hoyle.

Of Tulips, some good blooms were shown by J. Hunt, Esq., Wycombe, and Mr. Turner. The best were Eliza, Sarah Headly, Mary Headly, Blœmart, Magnum Bonum, Maid of Orleans, King, Victoria, and Heroine.

Of Verbenas, Mr. Turner had a beautiful boxful of cut blooms, among which the most conspicuous were perhaps Rosalind, large and showy scarlet; Mrs. Pennington, rosy pink, large and fine; and Lord Elgin, deep plum with a white eye.

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Linnean: *April* 21.—The President in the chair. J. Forbes Watson, M.D., was elected a Fellow. N. B. Ward, Esq., presented a collection of Mosses made in N. Wales by W. Valentine, Esq. The Secretary read an extract of a letter from A. Hambrough, Esq., to the Librarian, announcing the discovery on the sea-shore at Ventnor of a rather scarce shell, Vertigo cylindrica; also a note on the phenomena of the present season on the French coast by Dr. Forster, who had been residing at Boulogne since September last. The writer mentioned that the Tussilago fragrans was in bloom in November, the Snowdrop at the end of January, the Croci in February, the yellow one, C. mœsiacus, by February 1, and all out of flower by March 1; Pilewort, Ficaria verna, on the 3d or 4th March, at which time Daisies covered the upland hills and meadows; Cynoglossum omphalodes had flowered all the winter, and Cyclamen Coum and the different varieties of Hepatica were in flower by the end of February. The chimney swallow was seen about the shortest day, and at the date of writing, about the end of March, the Ficarias or Willow wrens and the blackcap had arrived, and the blackbird and thrush were heard every morning. The following additional communications were read:—1. "Remarks on Gnetum," by the late W. Griffith, Esq., communicated with a prefatory note, by Prof. Henfrey. The original paper of Griffith, written in 1835, contained an elaborate technical account of the structure of the Gnetaceæ; and from this, according to Prof. Henfrey, were derived the particulars communicated by Dr. Lindley in the article Gnetaceæ in the Vegetable Kingdom. "My curiosity," observed Prof. Henfrey, "was excited by Mr. Griffith's account of a long convoluted suspensor in the ovule of Gnetum. It appeared to me that this indicated an additional affinity between the Gnetaceæ and the Coniferæ and Cycadaceæ; and that this would be still more striking if it were accompanied by the phenomena of polyembryony, such as are met with in the undoubted gymnosperms. On examination of some specimens I found that the lower end of the long convoluted suspensor does divide into a number of distinct processes, as in Conifers, and that the embryo is developed at the end of one of these. I now became anxious to examine some flowers in an early stage of development, with a view to ascertain if Gnetum produced corpuscula; which I thought might have been overlooked by Mr. Griffith, his memoir having been written before the publication of Mr. Brown's celebrated memoir on the Plurality of Embryos in the Coniferæ." Specimens of the flowers in various stages were obtained from the Kew Museum, and together with Griffith's paper, in the possession of the Society, were examined. "The study of this paper," continued Prof. Henfrey, "under the light of my own observations, has led me to attach great importance to it, and I have recommended its publication before communicating the results of my investigations, on account of the author's having forestalled me in the greater part of the facts important in the history of development of this genus, and rendered it unnecessary for me to do more than supplement his observations in a few points, before entering upon the general conclusions I have drawn from his and my own studies. * * * My investigations lead me to look very favourably upon the opinion expressed by Prof. Agardh, in his new Theoria Systematis Plantarum, that the Gnetaceæ are related even more closely to the Loranthaceæ than to the Coniferæ."—2. "Note on the species of Croton described by Linnæus under the names of Clutia Eleuteria and Clutia Cascarilla." By J. J. Bennett, Esq., Secretary. During a late residence in the Bahama Islands, Dr. W. F. Daniell had directed especial attention to the species of Croton growing in those islands, and by means of the materials he collected Mr. Bennett was enabled to clear up much of the obscurity in which the species furnishing the Cascarilla Barks of commerce have been involved. Linnæus first described Clutia Eleuteria in the Hortus Cliffortianus; of this plant an authentic specimen exists in Clifford's Herbarium in the British Museum, so that it can be satisfactorily identified. In his Flora Zeylanica and Materia Medica, the synonyms of Breynius, Plukenet, and Seba, belonging to the Croton niveum of Jacquin, and those of Plumier and Catesby, the foundation of Linnæus's own Croton Cascarilla, are given to this plant. Swartz's C. Eleuteria is distinct from the foregoing, and is called C. Sloanei by Mr. Bennett. The plant figured by Catesby is the original Clutia Cascarilla of Linnæus, who, however, mis-stated the habitat. The various discordant citations of Linnæus in respect to these plants were traced by the author, and the following conclusions were based upon his examination of the subject:—(1). The *C. Eleuteria* of the first edition of Sp. Pl., the Eleuteria of Lin. Hort. Cliff., 486, is that figured by Woodville at t. 223, fig. 2 of his Medical Botany; (2) *C. Cascarilla* of the same edition of Sp. Pl. is that figured by Plumier t. 240, fig. 1, and by Catesby at t. 46; (3) *C. lineare* of Jacq. (Amer. t. 162, fig. 4) is the Clutia Cascarilla of Lin. in Amœn. Acad., and of the Linnæan Herbarium, and the Croton Cascarilla of Woodville, t. 222; (4) *C. Sloanei*, Bennett, is the Clutia Eleuteria of Lin. in Amœn. Acad., and of the Linnæan Herbarium, the Croton Eleuteria of Swartz and of Woodville, who has given a very bad figure at his t. 223, fig. 1. Of these four W. Indian and totally distinct species, the characters and synonymy were given. Two other species of Croton were gathered by Dr. Daniell, in the Bahamas.

## Notices of Books.

*Letters on Modern Agriculture.* By Baron v. Liebig. Edited by John Blyth, M.D. Small 8vo. Pp. 284. Walton & Maberly.

The learned author in this work presents us as usual with a series of highly interesting dissertations upon a variety of topics, bearing upon the science of cultivation, prepared with all the skill of an accomplished writer and experienced philosopher. He discourses learnedly upon vegetable nutrition, exhaustion and restoration, on Humus, Ammonia and Guano, on empirical practices as distinguished from rational practice, and so on; but we confess that we have been unable to find any absolutely new announcement in the pages before us. What we really have are well-known facts placed in a new point of view, or accompanied by such striking illustrations as a man with Professor Liebig's talent always has at command. The Editor indeed speaks of new and important facts which are brought forward connected with the nutrition of plants; but the examples that he gives are to our apprehension far from novel. Surely it is not novel to say that if the mineral constituents of a field are incessantly removed and never replaced, the field will at last be exhausted; or that the more rapidly they are removed by high cultivation the more quickly it will be exhausted. This strikes us as a very old doctrine; and Dr. Blyth does not point to anything else. But since we are told in the preface that the author's observations chiefly apply to German and French cultivators, it is to be presumed that what is not novel in these islands is really so in those countries. This however we must in justice say, that some of the author's remarks have a large application among ourselves.

"One of the worst points in the character of practical men is their sensibility to opposition. The total want of foundation for their erroneous views is the reason why they regard them with so much affection and tenderness. It makes them blind to their own interest, and deaf to all instruction. They look on every one as an enemy who does not flatter their prejudices, who openly tells them that there yet remains much to be learned, and that the consciousness and confession of our ignorance, and the knowledge of our faults are the first steps towards improvement."

And again: "It is not at all the province of science to seek out the means of increasing produce or augmenting incomes. She inquires not after what is profitable; this belongs to experimental art, with which she has been confounded. The business of science is to seek for causes, and like a light, to illuminate the surrounding darkness. Science confers power, not money; and power is the source of riches and of poverty,—of riches when it produces, and of poverty when it destroys; it is expended by use, and renewed by supply.

"If agriculture is to arrive at results which are to be lasting, she must decide upon entering on that path which science has recognised to be the only trustworthy one to lead to a knowledge of hidden objects and their relations. This could be done without renouncing one of the facts acquired by experience. There is no lack of these, but agriculturists are at fault in their mode of comprehending them. They must, in the first place, desist from drawing hasty conclusions for special purposes from these facts, and only occupy themselves with investigating the proximate conditions of all the facts connected with the life and development of plants, the production of which is their object. From the favourable action of the constituent of a manure in one case, they must not at once infer its equally favourable action in another, in order to derive immediate profit from it; but they ought, in the first place, to inquire into the reason of its good effects in the special case.

"Such investigations are in an agricultural point of view greatly facilitated by all the conditions of the incidents, or effects, or their proximate causes, being clearly perceptible by the senses, and palpably manifest if we know the proper way to proceed.

"The favourable action of a manure A is always dependent on certain physical conditions of the soil, and on the presence of a second substance B, of a third C, of a fourth D, and so on. After investigating these different points, our conclusion must then be submitted to proof, which must show whether all the conditions have been considered together, and none overlooked. We must endeavour to produce the same effect in another soil, by the combination of all the conditions found. Should the result correspond with our expectations, and be equally favourable as in the first instance, we have made an extraordinary step in advance; for from this special case we can now in all similar cases predict the like or unlike effect of the manure A. The effects will be like, in every instance in which we know that we have present the same conditions united in the same manner; and unlike, when one of these is known to be wanting.

"The presence and united action of all the conditions of the effect observed is designated by the term, a special law; because it refers to a special case, to a certain plant for instance. If this law holds good for superphosphate of lime and 'Turnips,' it does not follow that it is equally true for 'Wheat.' But a similar special law can be established for each manure, each plant; and from these again general laws can be deduced, which express the conditions of the growth and development of all varieties of cereals, all species of Turnip and tuberous plants, &c. These connected general laws now receive the name of theory.

"It must be evident, even to the most limited understanding, that there is nothing hypothetical in this proceeding. It differs from blind experimental art, only in being the result of thought and reflection. As the train of thoughts, on which the experiments are based, is carried out in a precise and fixed direction, this mode of proceeding has received the name of the inductive method."

The following great truth, so little appreciated, is very happily put: "The technical part of an industrial pursuit can be learned; principles alone can be taught. To learn the trade of husbandry, the agriculturist must serve an apprenticeship to it; to inform his mind in the principles of the science, he must frequent a school specially

devoted to this object. It is impossible to combine the two; the only practicable way is to take them up successively. I formerly conducted at Giessen a school for practical chemistry, analysis, and other branches connected therewith, and 30 years' experience has taught me that nothing is to be gained by the combination of theoretical with practical instruction. A student of chemistry who attends the lecture-hall and the laboratory concurrently positively defeats thereby the object of his stay at the school, and misses the aim of his studies. It is only after having gone through a complete course of theoretical instruction in the lecture-hall that the student can with advantage enter upon the practical part of chemistry; he must bring with him into the laboratory a thorough knowledge of the principles of the science, or he cannot possibly understand the practical operations. If he is ignorant of these principles, he has no business in the laboratory.

"In all industrial pursuits connected with the natural sciences, in fact, in all pursuits not simply dependent on manual dexterity, the development of the intellectual faculties, by what may be termed 'school learning,' constitutes the basis and chief condition of progress and of every improvement. A young man, with a mind well stored with solid scientific acquirements, will, without difficulty or effort, master the technical part of an industrial pursuit; whereas, in general, an individual who may be thoroughly master of the technical part is altogether incapable of seizing upon any new fact that has not previously presented itself to him, or of comprehending a scientific principle and its application.

"I have often found that students coming from good colleges will speedily leave the pupils of industrial and polytechnic schools far behind them even in the natural sciences, though the latter, when compared with the former, were at first giants in knowledge."

*(To be continued).*

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We have received from *Mr. Bohn* a copy of the third edition of his edition of the *Greek New Testament* (12mo, pp. 598) with Burs's Greek and English Lexicon to it (pp. 246) as a supplement. It is extremely well printed, has facsimiles of a fragment of the Cotton Manuscript, and another of a more recent manuscript, an introduction giving the history of the various codices which now exist, and a very full chronology of events. In addition to this the margin is occupied by cross references, and the foot notes by a copious list of various readings. The whole is issued at the low price of 5*s*.—The same active publisher has brought out a neat illustrated pocket edition of *Hudibras*, with abundant notes and an excellent index; and also the 4th part of a new edition of *Lowndes's Bibliographer's Manual* of English Literature, corrected and enlarged by himself.

The *Linnean Society* have issued another supplemental part of their Journal, completing Mr. Mitten's *Enumeration of Indian Mosses*, with an excellent index of the genera and species.

Tyas's *Wild Flowers of England* (Houlston & Wright) are now completed, and form a nice gay-looking drawing-room volume. The learned and reverend author should, however, be more critical with his printer, as the following mistakes in the account of the Mezereum sufficiently show:—Flowers do not grow in the *axes* of leaves, but in their axils; there is no French chemist of the name of Vanqueline, but Vauquelin is well known. We would also suggest that considering the commonness of the Mezereum it would have been better to say that its bark has formidable blistering powers, and is excessively acrid; than to remark that it affords "a *stimulating* decoction used for various *medicinal* purposes," which we fear is calculated to expose to serious danger the ignorant who may try its effects as a "medicinal stimulant," an expression very likely to be misunderstood.

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TRADE LISTS RECEIVED.—*Edmund Philip Dixon's* (Hull) *Catalogue of Stove, &c., Plants, Ferns, Orchids, Bedding Plants, &c.* A very good country collection of all sorts of useful plants.—*Milne, Arnott, & Co.'s* (Wandsworth Road, London) *General Catalogue* fills 48 closely printed pages, and is rich in all sorts of things except stove plants, the list of which is small.

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## Calendar of Operations.

*(For the ensuing Week.)*

### PLANT DEPARTMENT.

CONSERVATORY, &c.—Early New Holland and other greenhouse plants will soon be getting past their best, and some foresight and care will be necessary to avoid being short of specimens in bloom with which to supply their places. Many things in the stove (as Allamandas, Clerodendrons, Croweas, Achimenes, Gloxinias, &c.) should now be in a forward state, but these must be carefully prepared for removal to the cooler and drier atmosphere of the conservatory, otherwise there will be great risk of injuring the foliage, &c. Where circumstances will admit plants that have been grown in a warm moist atmosphere should be removed to an intermediate house about a fortnight previous to their being taken to the conservatory and gradually inured to a free circulation of air, &c. By attention to this and placing the plants in the warmest corners in the conservatory, the Clerodendrons, Allamandas, &c., will continue growing slowly and blooming for some three months, whereas if this is neglected, their beauty may be very short-lived. Aim at maintaining an even temperature in the conservatory after removing plants thence that have been grown in the stove, and avoid allowing the atmosphere to become very bright on warm sunny days. Also see that every plant is perfectly clean before placing it in this house, and that the creepers, &c., are not infested with insects. Young stock in pits will now be making rapid growth, and must be carefully attended to as to watering, stopping, training, &c. Examine Heaths frequently for mildew, and apply sulphur the moment it is perceived, some of the soft-foliaged varieties being very liable to be attacked by this pest at this season.

### FORCING DEPARTMENT.

PINERY.—Where the quality of the fruit is of great importance, care must be observed to have the soil in a healthy rather dry state during the period of ripening, for as there is no reasonable hope of obtaining high-flavoured fruit from plants growing in pots, the trouble necessary to collect and place together those approaching ripeness, so as to be able to afford them a rather dry atmosphere, and avoid touching them with the syringe after they begin to colour, will be well repaid. Suckers that are not very strong will be benefited by being left on the stool for a month after the fruit is cut, but this will seldom be necessary in the case of healthy vigorous plants. Any neglect in the way of watering and maintaining a moist atmosphere in the case of succession stock may lead to their fruiting prematurely, therefore let there be no lack of attention at present. Plants swelling their fruit should be encouraged with plenty of liquid manure and a moist high temperature, shutting up early in the afternoon after syringing. VINES.—If spider makes its appearance on the foliage after fruit has commenced colouring, no time should be lost in coating the hot-water pipes with sulphur. The sulphur should be mixed in water with about equal quantities of lime and soot, and applied with a brush. The lime serves to prevent the sulphur being washed or rubbed off, and the soot helps to prevent any disagreeable appearance. The temperature of late houses where the fruit is now showing must not be allowed to fall too low at night if good-sized bunches are expected, and where Muscats are grown for a late supply, there will be but little chance of securing a good crop of these unless a temperature of 70° is maintained. Attend carefully to young Vines recently planted, keeping the borders in a healthy moist state, maintaining a moist atmosphere, and shading if necessary until the Vines get a fair start. Proceed diligently with thinning the berries, &c., immediately they are ready, for they progress rapidly at this season; stop all the laterals in time, and allow no confusion. MELONS.—Where the fruit is swelling the soil should be kept in a properly moist state, and every means should be used to preserve the foliage in perfect health, as there is no possibility of obtaining good flavoured fruit unless the foliage is kept in health. Keep the Vines thin, and prevent their being encumbered with useless laterals, and remove any decaying leaves at once, as these when left only serve as a harbour for insects. There is yet plenty of time to secure a good crop in dung beds, and if any of the frames which have been used for getting up "bedding-out stuff" can be spared for this purpose the plants should be got out at once.

### FLOWER GARDEN AND SHRUBBERIES.

Examine recently transplanted trees, shrubs, &c., frequently to see that they are not suffering from want of water. Give a liberal soaking where necessary and stir and mulch the surface afterwards. The half-hardy plants now consigned to their summer places after many months' shelter under glass and much attention and care, must be duly attended to with water until they lay hold of the soil, and with the present favourable weather and proper attention they will speedily cover the beds and will repay all the trouble that has been bestowed upon them, but every effort must be used to prevent their sustaining any check, for if allowed to get into an unhealthy state at present there will be much difficulty in getting them into free growth without much loss of time. Spare hand-glasses should now be used for the propagation of favourite spring blooming plants, as Pansies, Phloxes, &c. These do best on a shady border.

### HARDY FRUIT AND KITCHEN GARDEN.

Strawberries may soon require attention as to watering, &c. After thoroughly cleaning the beds a thorough soaking should be given, and if manure-water from the stable-tank can be given when the ground has been well saturated with clear water, it will assist in securing large fruit. The beds should be mulched as soon after watering as convenient, in order to prevent evaporation and the fruit from being soiled. Where clean straw cannot be afforded, fresh litter from the stable-yard will form a very good substitute.

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### STATE OF THE WEATHER AT CHISWICK, NEAR LONDON.

For the Week ending May 26, 1859, as observed at the Horticultural Gardens.

| May. | Moon's Age. | Barometer. Max. | Barometer. Min. | Temperature. Of the Air. Max. | Min. | Mean | Of the Earth. 1 foot deep | 2 feet deep. | Wind. | Rain. |
|---|---|---|---|---|---|---|---|---|---|---|
| Friday 20 | 17 | 29.709 | 29.699 | 60 | 46 | 53.0 | 54½ | 52½ | N. | .19 |
| Satur. 21 | 18 | 29.938 | 29.843 | 61 | 41 | 51.0 | 55 | 53 | N.E. | .00 |
| Sunday 22 | 19 | 30.048 | 30.014 | 61 | 36 | 48.5 | 55 | 53 | E. | .00 |
| Mon 23 | 20 | 30.039 | 29.938 | 68 | 40 | 54.0 | 55 | 53 | N.E. | .00 |
| Tues 24 | | 29.949 | 29.859 | 70 | 35 | 52.5 | 55 | 53 | N.E. | .00 |
| Wed. 25 | 22 | 29.871 | 29.841 | 73 | 38 | 55.5 | 55 | 53 | N | .00 |
| Thurs. 26 | 23 | 29.916 | 29.890 | 72 | 38 | 55.0 | 55 | 53 | N.E. | .00 |
| Average | | 29.924 | 29.859 | 66.4 | 39.1 | 52.7 | 54.9 | 52.9 | | .19 |

May 20—Cloudy; showery; overcast at night.
— 21—Cloudy; overcast, fine, cloudy.
— 22—Cloudy; fine; very clear at night.
— 23—Overcast; fine; very clear.
— 24—Very fine throughout; cloudy and cool.
— 25—Very fine; hot and dry; clear and cold at night
— 26—Very fine; hot and dry; very clear.
Mean temperature of the week, 2½ deg. below the average.

### RECORD OF THE WEATHER AT CHISWICK,

During the last 33 years, for the ensuing Week, ending June 4, 1859.

| May and June. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds N. | NE. | E. | SE. | S. | SW. | W. | NW. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday 29.. | 65.9 | 44.7 | 55.3 | 12 | 0.97 in. | 3 | 11 | 1 | 2 | 5 | 6 | 4 | — |
| Mon. 30.. | 67.3 | 44.7 | 56.0 | 12 | 0.34 | 3 | 7 | 6 | — | 3 | 9 | 3 | — |
| Tues. 31.. | 68.9 | 45.2 | 57.1 | 11 | 0.46 | 2 | 7 | 6 | — | 4 | 9 | 4 | — |
| Wed. 1.. | 69.9 | 45.9 | 57.9 | 11 | 0.27 | 1 | 9 | 3 | — | 5 | 9 | 3 | — |
| Thurs. 2.. | 69.6 | 46.2 | 57.9 | 13 | 0.33 | 1 | 9 | 2 | 3 | 3 | 9 | 3 | — |
| Friday 3.. | 71.1 | 45.4 | 58.2 | 13 | 0.91 | — | 3 | 5 | 1 | 5 | 12 | 5 | — |
| Satur. 4.. | 71.0 | 46.1 | 58.6 | 11 | 0.76 | 1 | 5 | 2 | 2 | 4 | 9 | 5 | — |

The highest temperature during the above period occurred on the 1st and 3d, 1858—therm. 87 deg.; and the lowest on the 31st, 1857—therm. 32 deg.

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## Notices to Correspondents.

BOOKS: *Arthur J.* There is just out a volume called "Manual of Practical Gardening," by Mr. Glenny, which we recommend to you. Want of space prevents our noticing it this week, but we shall certainly do so very soon.—*Alexander Crombie.* Loudon's Self-Instruction for Young Gardeners contains all you want to know. It costs 7*s*. 6*d*.

BROCCOLI: *Messrs. Carter & Co.* have sent us specimens of a Broccoli with the following memorandum:—"This Broccoli has been proved side by side with the Wilcove's Late White, Ward's Late White, Reading Giant Late White, Dwarf Danish, and other approved late kinds, and has shown itself superior to all of them. The Wilcove's Late White we finished cutting more than a fortnight since; this variety is just coming in, and fine heads will be cut for the next few days." The heads forwarded to us were of the finest possible quality, very large, not in the least coarse, white rather than cream-coloured, and proved when cooked to be wholly free from the strong taste which spoils so many Broccolis.

DISEASES: *J R.* On comparing your Moutan leaves with some which have been affected by the late frosts, we see no difference. They are quite free from parasites. We should be inclined therefore to attribute the diseased appearance to cold, rather than Fungi. You had better examine cautiously the roots, and if you find that free from spawn, you may consider yourself safe, unless the stem should be affected in the same way as the leaves and petioles. *M J B.*

FILTERS.—We have received from the patentees, Messrs. Harrison & Co., 62, Fleet Street, a specimen of an ingenious contrivance for filtering water by means of what is called moulded carbon, a contrivance for forcing water through the carbon, instead of between the pieces. Experiments upon rain, river, pond, and spring waters, impregnated with noxious matters, are said to have shown that when passed through moulded carbon, they are rendered inodorous, tasteless, sparkling, and wholesome. The apparatus varies in form according to the purposes to which it is to be applied, and in all cases seems likely to do its work well. When the moulded carbon becomes dirty it can be cleaned by mere scrubbing with a brush. These filters are cheap and handy, they may be even put into the pocket, and appear to deserve a trial by all who are unfortunate enough not to be within reach of pure water. The table filters made of clear white glass are 7½ inches in diameter, shaped like an hour-glass, and are less than 14 inches high.

GRAPES AND FERNS: *T J.* Depend upon it the mischief you describe is traceable to the border; but it may be of no consequence. Had you sent a berry a better opinion might have been formed. Your plan of a Fernery will do very well if you have proper ventilation without drying the air.

INSECTS: *J G.* The grubs you obtained out of the head of the sheep are the larvæ of the sheep bot, *Œstrus ovis*. The eggs are laid by the parent fly in the nostrils of the sheep, and the grubs when hatched work their way into the frontal sinus where they remain till full grown, when they descend and go into the ground to become pupæ, and afterwards appear in the middle of the summer as two-winged flies, smaller and greyer than the blowfly.—*W W.* The Poplar twigs are infested with the larvæ of a small moth, Tinea (Gelechia) Populella. We should scarcely have supposed that the destruction of the young shoots would have resulted in the falling off of all the leaves of the trees and their death. Be so good as to send us a fresh supply of the twigs and caterpillars—not in a paper box, as it is liable, like the last, to be smashed in the post. You would of course do good to the trees to relieve them of the infested shoots. *W.*

NAMES OF PLANTS: We have been so often obliged to reluctantly decline naming heaps of dried or other plants, that we venture to request our correspondents to recollect that we never have or could have undertaken an unlimited duty of this kind. Young gardeners, to whom these remarks more especially apply, should bear in mind that, before applying to us for assistance, they should exhaust their other means of gaining information. We cannot save them the trouble of examining and thinking for themselves; nor would it be desirable if we could. All we can do is to *help* them—and that most willingly. It is now requested that, in future, not more than four plants may be sent us at one time.—*Robin Hood.* We do not see how the leaves differ from those of Southernwood, Artemisia Abrotanum.—*Sudbury.* One appears to be Lithospermum purpuro-cœruleum, the other not being in flower cannot be named. Both are ruined by being packed in cotton wool, the worst of all kinds of packing. Mere paper is quite sufficient.—*T D.* The Fern is Adiantum hispidulum, that form which is known as A. pubescens. The flowering plant is Prunus Padus.—*Thos. Cripps* Some Eugenia, apparently E. Jambos.—*W Fuller* The very rare plant gathered at Gorleston, Suffolk, in a copse soil under the north side of a hedge, is Claytonia perfoliata, an introduced weed. The other is a Doronicum, and probably plantagineum.—*A M S.* Halesia tetraptera. Pray do not send to any other place than 5, Upper Wellington Street, Covent Garden, W C.

NEW ZEALAND RUNNING BEAN: *Anti-humbug.* We have informly stated that this was not a native of New Zealand, but some continental sort unknown in English trade. Surely that was a good warning. It may be, as you say, sold in Paris under the name of Haricot Boulot; but we don't think the seedsmen here are bound to know that. As for the name H. Boulot, we do not find it in any French list within our reach, and it seems to be a mere shop name.

PEAR TREE DISEASE: *L C.* The disease on your Pear leaves is very common, and sometimes extends to the fruit. There is often a little perforation in the centre, and the pustules are sometimes inhabited by an Acarus, but whether they have any close connection with the Acarus is uncertain. They do not, we believe, arise from anything wrong about the soil, and so long as they are confined to the leaves are not apparently injurious. *M J B.*

THE BALLOT: *F H S.* The next of these meetings for the distribution of plants by the Horticultural Society is expected to take place in June. It will be more extensive than the last, and conducted upon a different principle, the particulars of which will be announced in due time.

THE LOQUACIOUS GENTLEMAN: *Brompton.* You are surely under a misapprehension.

TILEY'S "MAGNET" VERBENA. We are requested to say that Messrs. E G Henderson & Son disclaim all personal knowledge of the Verbena offered by this name. It *may* be good, but otherwise, but the vendor has no authority from them to quote their testimony in its favour—they not having seen it, neither has it been submitted to them for approval.

THE PATENT

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} all of guaranteed quality.

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116, Fenchurch Street, E C. EDWARD PURSER, Secretary.

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12*l.* per Ton for 30 Tons and upwards,
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And, to guard against the purchase of adulterated mixtures and of inferior Guanos purporting to produce results equal to Peruvian, consumers are recommended to apply either to ourselves, to our agents, Messrs. Gibbs, Bright, & Co., of Liverpool and Bristol, or to dealers of established character, in whose honesty and fair dealing they may place implicit confidence.
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SUCCESS OF THE NEW GUANO; IMPORTED UNDER LEASE FROM THE CROWN.—Though the experiments with KOORIA MOORIA GUANO were made late in the season, and under adverse circumstances, the successful results obtained confirm beyond doubt Professor Voelcker's report—(in No. 41, Part I., vol. xix., Royal Agricultural Society's Journal)—that Ammoniacal manures, applied to Turnips in the experimental field, kept back at first the crop, and had no beneficial effect either alone or in conjunction with phosphates.

The KOORIA MOORIA GUANO is essentially a phosphatic manure, containing sufficient ammonia for roots, and, with a mixture of one-fourth of ammoniacal guano, cannot be excelled for either top-dressing or grain crops. It is a natural deposit, and will be delivered as imported, free from risk of adulteration. Deeply impressed with the necessity of encouraging the import of this valuable manure, her Majesty's Government has given such increased facilities for shipment, that arrangements have been made for a considerable supply. Purchasers can be supplied with suitable quantities from cargoes now on sale, containing from 45 to 66 per cent. phosphates. Present prices, 4*l.* 10*s.* to 6*l.* 10*s.* per ton, on applying to JOSEPH HINDSON, Broker (one of the Lessees under the Crown), 20, North John St., Liverpool. Government Lessees: ORD, HINDSON, & HAYES.

"Greystoke, Cumberland, Dec. 16, 1858.

"Dear Sirs,—I beg to inform you that I applied the Kooria Mooria Guano I had from you for Turnips, on land of a loamy character, incumbent on a stiff clay subsoil, and recently drained. On each side of the plot sown with Kooria Mooria Guano were Turnips manured with best Peruvian Guano. The quantities applied of each sort were of equal weight for weight per acre. The crop—a very good one throughout—is now being eaten off with sheep. Very little perceptible difference can be discovered, but if anything that difference is in favour of the Turnips sown with Kooria Mooria Guano.

(Signed) "JOHN BARKER."

"Messrs. J. & J. Graham, Guano Merchants, Penrith."

A Pamphlet, "Hints on Guano," containing a large number of reports from well-known agriculturists, and analysis of the cargoes here, may be had of the Broker, at the above address.

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|---|---|---|---|---|---|
| TURNIP MANURE .. .. .. | from | £7 | to | £6 | 6 |
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HIGHLAND AND AGRICULTURAL SOCIETY.—EDINBURGH SHOW, August 1, 2, 3, 4, and 5.
Entries must be made on or before June 15.
Programmes of the Show, and Forms of Entry, to be applied for at 6, Albyn Place, Edinburgh.

YORKSHIRE AGRICULTURAL SOCIETY.—GREAT SHOW AT HULL, AUGUST 3 AND 4.
For Prize Lists, apply to the Secretary, JOHN HANNAM, Land Agent, Kirk Deighton, Wetherby.—May 28.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.—WARWICK MEETING.
Entries for CHEESE, WOOL, and FARM GATES must be made on or before June 1.
Entries for LIVE STOCK must be made on or before June 1.
All Entries received in each case after those respective dates will without any exception be disqualified and returned to the senders. Prize Sheets may be obtained on application at the Offices of the Society, 12, Hanover Square, London.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.
JUDGES OF CATTLE.—Governors and Members of the Society are requested to forward to the Secretary on or before SATURDAY June 11, their nomination of such Judges of Live Stock as they can certify from their personal knowledge to be qualified and willing to act in the division of Live Stock for which they are respectively recommended.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.—The WARWICK MEETING will be held in the week commencing MONDAY, July 11; THURSDAY being the principal day of the Show.


# The Agricultural Gazette.

*SATURDAY, MAY* 28, 1859.

MEETINGS FOR THE ENSUING WEEK.
WEDNESDAY, June 1—Agri. Society of England .. Noon.

THE following remarks on root-crop culture relate more especially to the width of drill by which the maximum amount of food may be realised and the greatest profit secured. It must be remembered in connection with this subject that great as are the services rendered by chemistry to the agriculturist, it is a mistake to suppose that chemical analysis forms in every case an unerring guide to the practical farmer in deciding his course of action. There is ample illustration of this point in the analyses of plants hitherto published.

In order that these analyses be valuable for comparison three conditions should be strictly observed:

1. The crops whose analyses are to be compared should be grown under the same circumstances as to soil and climate.

2. The individual constitutional peculiarities of the plants should be as like as possible.

3. Regard should be had to the size of the plants

analysed; for as we shall presently see, Prof. Sullivan has invariably found that in the case of root crops, such as Turnips and Mangel Wurzel, the smaller the roots the larger the amount of solid matter which they contain. As this point has not been observed, nearly all the analyses of root crops hitherto published are comparatively worthless.

Some time ago this subject was investigated in the Government School of Chemistry, Dublin, and by the chemist of the Agricultural Improvement Society of Ireland; more recently by Dr. W. K. Sullivan, whose investigations in Vegetable Physiology have revived the subject, and as we have ourselves experimented in the same direction we may briefly advert to his results.

In carrying out a series of analyses on Sugar Beet, Mr. Sullivan invariably found that the smaller the root the greater the per centage of sugar it contained. Dr. Apjohn, of Trinity College, Dublin, repeated Mr. Sullivan's experiments, and though in some respects the results differed, they agreed in the fact already enunciated—that the smaller roots contained the larger amount of solid matter.

The following Table, compiled from Mr. Sullivan's paper in the "Atlantis" for July, 1858, and embodying his recent remarks, is conclusive on this point:—

| White Silesian Beet. | | | Mangel Wurzel. | | |
|---|---|---|---|---|---|
| Weight of Roots. | | Per cent. of Solid Matter. | Weight of Roots. | | Per cent. of Solid Matter. |
| lbs. | oz. | | lbs. | oz. | |
| 7 | 10½ | 11.94 | 8 | 6¾ | 12.84 |
| 6 | 12½ | 12.32 | 6 | 11¾ | 13.03 |
| 6 | 6½ | 12.80 | 3 | 4 | 15.20 |
| 6 | 2½ | 13.09 | 1 | 5½ | 14.80 |
| 4 | 3¾ | 14.32 | 1 | 4¾ | 16.96 |
| 2 | 6½ | 16.92 | | | |
| 2 | 1¾ | 14.56 | | | |
| 1 | 15¾ | 15.48 | | | |

In this case Mr. Sullivan has determined the total quantity of solid matter in the roots, while in his earlier investigations he operated on cross sections cut through the thickest part of the roots. It is very curious to find, that if we cut five sections across a root the percentage of sugar varies very considerably in these sections. Thus Mr. Sullivan quotes the following from Rehring:—

*Beet experimented on, 15th November.*

| Section. | Percentage of sugar. |
|---|---|
| Crown | 2.00 |
| Segment below crown | 8.94 |
| Body of root | 12.31 |
| Point of root | 10.89 |
| Bifurcations and smaller roots | 7.54 |

Dr. Apjohn pushes his inquiry a little farther than the determination of the percentage of sugar and solid matter in the roots. Thus he determined the percentage of (1), azotised or nitrogenised constituents; (2), of ash, distinguishing the part soluble from that insoluble in water; and (3), the amount of phosphoric acid in the ash of each root. Dr. Apjohn deduced from his own researches the conclusion that in the case of the dried matter of the Beets the nitrogen and the albuminous compounds are greater in quantity in large than small roots. But in the same paragraph in which he announces this deduction he remarks that the "relation is constant only in the Beet, for the Mangels and Swedes are sometimes not in accordance with it." Now, it is hardly possible that any law of this kind could be established in relation to the composition of Beet which did not hold good in Mangels, which are merely field Beet, and the conclusion deduced by Dr. Apjohn can therefore hardly be accepted.

As regards the phosphoric acid in roots, we find from his table that in the majority of cases there was a greater percentage of it in small than large roots. This is true of all the Turnips analysed by him; and yet in his deductions, Dr. Apjohn observes, "if we confine our attention to the Beets the phosphoric acid appears to be more abundant in the larger than in the smaller specimens." Dr. Apjohn's table gives only four analyses of Beet, two large and two small specimens, and out of the four he only gives the phosphoric acid in one small root. Why, therefore, in deducing important conclusions "confine our attention" to the Beets, while there were 17 specimens of Mangels analysed and five specimens of Swedes, in nearly all of which there was a larger percentage of phosphoric acid in the smaller roots? Under these circumstances we submit that no law has been established by Dr. Apjohn as to the relative quantities of nitrogenised compounds and phosphoric acid in large and small roots. And even if he had established any such law we might still dispute his further deductions. He says (p. 344, vol. I., Journal of Royal Agricultural Society of Ireland):—"In Beets, Mangels, and Swedes the amount of the non-azotised alimentary matter is always relatively large—in fact more than sufficient for the performance of the duties we have ascribed to them—viz., of giving rise to oleaginous matter and maintaining animal heat."

In this statement Dr. Apjohn enunciates a doctrine neither borne out by experience nor attested by science. On the contrary the recent researches of Dr. Gilbert show that the non-nitrogenised constituents of food exercise higher functions than had been previously assigned to them. Dr. Apjohn further observes that "in estimating the feeding properties of roots the point to be principally attended to is the amount of azote which is contained in them." A special dependance upon this element for determining feeding value is however no longer taught by scientific men. In the late report of Messrs. Lawes and Gilbert, it appears that "by far the larger proportion of the solid increase of the so-called fattening animals is really *fat itself*; and moreover, it is probable that, at least in great part, the fat formed in the body is normally derived from starch and other non-nitrogenised constituents of the food; and since the current fattening foods contain such a very large amount of nitrogen compared with that eventually retained in the increase of the animal, it can hardly be surprising that, contrary to the usually accepted opinions, the comparative values of our staple food-stuffs are much more nearly measurable by their amount of digestible and assimilable non-nitrogenous constituents than by that of the digestible and assimilable nitrogenous compounds." So that the theory propounded by Dr. Apjohn has been directly controverted by the actual experience of Messrs. Lawes and Gilbert. We are therefore fairly entitled to make the following deductions from the foregoing facts:

1. That even granting that large roots contained a little more nitrogen than small roots, we are not justified in under-estimating the importance of the non-nitrogenous compounds in plants, which, according to Mr. Sullivan, are far more abundant in small than large roots.

2. That it is not proved that large roots contain more phosphoric acid or nitrogenous compounds than small roots.

3. That taking all circumstances into account small roots, weight for weight, contain more solid matter, and are therefore more valuable for feeding purposes than large roots.

Now, what practical conclusions can be drawn from these deductions? Are we to advise farmers to grow small roots weighing only a couple of lbs. each? In reply to these questions, let us remark that every law established by science cannot be practically applied. There may be difficulty of a mechanical or artistic nature to thwart the utilising of a scientific fact. And this is the case with the application of Mr. Sullivan's able researches. In the present state of agricultural mechanics it were vain to try and realise all the advantages of green crop fallowing if the roots are grown in narrow drills. Mr. Garrett's horse hoe is a valuable adjunct; but we could not recommend the abandonment of a system which works well and which is the base of all good cultivation. But we find in Mr. Sullivan's researches sufficient reasons for questioning the practice of those who grow excessively large roots, by which it is supposed the largest amount of feeding is obtained. We have seen drills for Mangels 40 inches wide, which from our own experiments we are inclined to consider a waste of ground. Our observations have been taken on a farm under a very close system of tillage and brought to a very high state of cultivation, and the *entire produce* of every field is annually weighed, so that our conclusions are based on accurate data.

In our own case, that of a farm under a fair climate for Mangel Wurzel, we are bound to say that the greatest acreable weight of produce has been obtained when the drills are 28 inches apart, and the plants thinned from 10 to 12 inches asunder in these drills. We do not, however, advocate so small an interval as a general rule; a space of 2½ feet between the rows and 15 inches between the plants will probably be more generally profitable.* If, however, instead of making our drills 28 inches wide, we extend the width to 3 feet, and thus lose two drills out of every nine, we would lose a very large number of roots per acre, and bearing Mr. Sullivan's researches in mind the loss of nutriment to our stock would probably be considerable.

With these facts before us there seems good ground for condemning the system adopted by many agricultural societies in awarding prizes for large roots, which may not be only watery and comparatively worthless for feeding purposes, but which may have been grown on a hot bed (as we have seen them grown for exhibition), and cost ten times their value. A system so delusive and mischievous should at once be abolished, and no longer permitted to remain a disgrace to the present enlightened position of agriculture.

* To avoid lengthened tables we only give one showing the distance at which the plants may be thinned in drills 28 inches apart. The crop experimented on was Long Red Mangel.

| Distance of Plants in Drills. | Acreable yield. |
|---|---|
| 8 inches | 22 tons |
| 9 " | 24½ " |
| 10 " | 26¾ " |
| 10½ " | 27½ " |
| 11 " | 27 " |
| 12 " | 25½ " |

## TASTE OF BUTTER.

(*Concluded from p.* 451.)

11. Your correspondent "Clitheroe," to whom your readers are indebted for some apparently very good recipes for making cream cheeses, gives also a recipe for preventing the taste of Turnips in butter by the application of scalding water. It has often been a matter of surprise with me that the system, adopted in Devonshire, of scalding the milk has not become more general in other parts of the kingdom; and as some of your readers may not be aware of the manner in which this is performed, I purpose, in as few words as may be, giving some little account of it. The milk when first brought from the cow is strained, as usual, into the pans, which for this purpose are deeper and narrower than those used in the ordinary way; it remains thus for 12 or more hours, when it is placed on the hot plate of the kitchen range, or some such suitable place, where it is scalded, but not suffered to boil (in which case it would be spoiled); this done, it is removed to the dairy, where it remains for 12 hours or so, when it is skimmed. The process of making butter is performed by putting the cream into a butter tub and then working it about with the hand; in a few minutes the butter forms, and separates from the butter-milk; it is then washed and made up as usual. As in all cases, of course the utmost cleanliness is requisite as regards the dairy-maid. The advantages I hold to be these: the use of a churn is avoided; the butter is much sooner made; a smaller quantity may be made, if requisite, than can be made by the churn; and lastly, it is free from any unpleasant taste. I have tried it through all seasons, and whether through the fall of the leaf in autumn or at this time, when we are using the hybrid Turnip (with the greens on), I find no unpleasant taste. The longest time I have known butter to be "coming" by this process was 20 minutes, but it is generally made in a very few minutes; while by the churn I have frequently known it to be two or three hours.

12. It is probable the "Man of Kent" would cure the bad flavour of his butter, if he would keep his cows off his meadows; the Grass remaining over from last summer being withered and much decayed is eaten by the cows, and being of a musty and disagreeable flavour imparts its own offensiveness to the cream and butter. The "Man of Kent" should also examine his meadows and see that no weeds of early growth are the cause of the rancidity complained of; in some meadows, Chives make their appearance and spoil both milk and butter. Another and fruitful source of bad butter in the winter is the way in which it is made; the cream is allowed to be reduced almost to freezing, or, it may happen, is frozen, and as the temperature has to be raised some 30° or more before the peculiar sound of the "butter is coming" can be heard, all sorts of plans and nostrums are practised to get rid of the churn: add to this neglect or rather mismanagement the cream of stale milched cows, and what need be the surprise if the butter is not sweet and according to expectation. I would recommend your correspondent to adopt the preventive system, it is better than the curative; if his cows eat old and decayed Grass in his meadows he cannot have good butter, if they get at strong-scented herbs the butter will partake of the smell, if the cream is mismanaged before and during churning he must not expect pleasant butter, if his cows are too stale milched the butter will be rancid. If cleanliness and attention to the diet of the cows be looked to, cases of failure would be very rare.

13. The *Echo du Monde Savant* says, "An agriculturist in the neighbourhood of Brussels having succeeded in removing the bad smell and disagreeable taste of some butter by beating or mixing it in fresh water with chloride of lime, he was encouraged by this happy result to continue his experiments, by trying them upon butter so rancid as to be past use; and he has restored to butter, whose odour and taste were insupportable, all the sweetness of fresh. This operation is extremely simple and practicable for all: it consists in beating the butter in a sufficient quantity of water, in which put 25 or 30 drops of chloride of lime to 2 lbs. of butter. After having mixed it till all its parts are in contact with the water, it may be left in it for an hour or two, afterwards withdrawn, and washed anew in fresh water. The chloride of lime having nothing injurious in it, can with safety be augmented; but after having verified the experiment, it was found that 12 or 14 drops to a pound of butter were sufficient."

14. Wild recommends that the butter should be kneaded with fresh milk, and then with pure water. He states, that by this treatment, the butter is rendered as fresh and pure in flavour as when recently made. He ascribes this result to the fact that butyric acid, to which the rancid odour and taste are owing, is readily soluble in fresh milk, and is then removed.

15. There is a very general complaint against Turnips that they give a bad taste to the butter; but this is not

necessarily the case. The fact is Turnip-milk will not keep as long as Grass milk, but gets rancid; and this is increased by the practice of keeping the churn near the fire in winter, which is sometimes done. The milk, on the contrary, should be kept cool, and warmed when churning by as much boiling water as it will bear. When yellow Turnips are used, the butter will be nevertheless a good colour; but if wanted with more of a yellow shade, dairy-maids use grated Carrot in a cloth, wet with boiling water, and squeeze it into the churn. As the milk does not keep, it is of great importance to churn often, at least twice, and if possible, three times a week, so that it cannot be let stand for cream, but churned whole. Where so frequent churning is impossible, it is useful to add one-eighth part of boiling water to the milk as it comes from the cow, and cover it over with a double cloth, which prevents the heat escaping, and imbibes the steam which seems to carry off with it the peculiar flavour which the Turnip would otherwise communicate; but under any management much will always depend on the cleanliness and attention of the dairy-maid. As a means of enabling people to churn often, and thereby get rid of the Turnip taste, I have lately introduced the French churn invented by Mr. Valcourt, which can be made of so small a size that the owner of a single cow may churn three times in the week. To dissolve salt-petre in water, and put a glassful of the liquid into the pail, before making, takes away the taste also in a great degree; but there is nothing effectual but frequent churning, and the milk may be strained in a sufficient quantity of buttermilk to ripen it more quickly.

16. I do not agree with your correspondent, never having found saltpetre would take away the taste of Turnips. I have a remedy, gleaned from your *Gazette* about a year ago; but the proportions were incorrect, and a churning or two spoiled in consequence, and this might be the case with others and cause it to be given up. When the cream is in the churn, and the proper temperature gained (57 degrees), I put in a little chloride of lime mixed in a little water. Of course the quantity depends upon its pureness, and also upon the degree of taint. I put as much as will lie upon a sixpence to three gallons. One or two trials will ascertain the proper quantity. Too much gives a disagreeable flavour, a little improves and gives a sweet nutty taste.

17. In your last *Agricultural Gazette* a correspondent complains that he could never give his dairy cows Turnips without spoiling the butter and the milk. I have given my milch cows for 50 years Turnips regularly in the winter, and both milk and butter have been perfectly good. The Turnips are Swedes or Aberdeen, and I take them up in October and carefully cut off every bit of leaf and root, and stack them in a dry cellar in my cow yard; if every bit of leaf be not carefully cut off it will taint the milk. Should your correspondent wish for further information I will readily answer his queries; or if he doubt my statement will send him a pat of butter to any place which he will appoint.

18. If your correspondent who wishes for information on this subject will direct his dairymaid to adopt the following very simple remedy, he need henceforth have no more of that disagreeable and unpleasant taste in his butter, occasioned by his cows feeding upon Turnips—viz., let his dairymaid, before going to milk her cows, place on the fire her kettle filled with water; and on her return to the dairy with the new milk, add to every gallon of milk a sixteenth, or half-pint of boiling water; stir both a minute or two, and after the usual interval pour them out into the lead, earthen, or (as the case may be), glass bowls. I practised this method the whole of last winter (and am doing the same now), when my cows had as many Swede Turnips as they could eat, and not the slightest trace of the Turnip flavour can be discovered. The water must be boiling when added, or the experiment fails.

19. I have never remarked this taste in this county, where the cream is separated by fire, and churns are unknown; the butter is made with the hand in a few minutes.

20. The letter of your correspondent Mr. Caird on Mr. Lawes's paper on Turnip culture in Devonshire induces me to say a word on the same side in behalf of the butter-eating part of the community, whose interests and those of the farmers are sadly opposed on this subject. For it is, I think, an unquestionable fact that wherever Turnip culture flourishes, there it is impossible to get any butter or cream that those who know what good butter and cream are would pronounce deserving of that epithet. In fact they are both, in Turnip countries, detestable; and to us butter-buyers in other counties the Devonshire pastures are thought of with many regrets, especially in winter, when every pound we buy seems worse than its predecessor. Now, Turnips in their proper place are doubtless good food, but it is rather hard in these improving days that one should have them in one's tea and bread and butter, spoiling one's breakfast every morning. I have no faith in any of the remedies sugested for taking away the taste, such as saltpetre, chloride of lime, &c.; they all fail, or leave another taste as bad as the Turnips. All modern improvements in agriculture have, or ought to have, for their object, to increase the quantity and improve the quality of human food; but in the case of Turnip culture, however much the quantity may be increased, the quality of butter and cream is changed from a capital article of food to a positively detestable one; and I really think the unfortunate public will soon lose all satisfaction in that most agreeable meal, breakfast, unless every man can afford to keep his own cows and feed them on other food. I do not know whether you will admit such heretical opinions into your journal, but I wish Mr. Mechi, Mr. Davis, Mr. Huxtable, and other great improvers, would add to the number of their good deeds by finding out how to make good milk and butter compatible with good farming, which at present they certainly are not.

21. "A. Z." discovers an unpleasant taste in the milk which has been placed in zinc vessels. He will be prudent if he avoids using them. The acid of milk forms with zinc a salt which is a deadly poison. It is said to operate by causing violent vomiting; but though the solution of it may not be strong enough to produce death by a single dose, or even to occasion vomiting, it can scarcely be doubted that it must be very injurious to health if frequently repeated. Zinc butter-churns were for a time recommended as increasing the quantity of butter by some galvanic effect; but they were found to make the food so dangerous and unwholesome that they have been in many instances, and it is believed, universally, now discontinued.

## THE HON. G. D. RYDER AND HIS TENANT, MR. SAMUEL PHIPPS.

We referred the other week to the case of Mr. S. Phipps, late tenant of Longcroft Farm, near Hemel Hempstead, on the estate of the Hon. G. D. Ryder, who has given up his occupation rather than submit to the increased rent demanded by his landlord.

We are bound to add that the complete history of the transaction, which is now before the public, since Mr. Ryder has published his account of the matter, while it appears to strengthen the impression at first produced of the extreme impolicy of a tenant at will relationship between the owner and occupier of the land, does entirely exonerate the landlord in this particular instance from the charge of injustice or dishonesty, under which he appeared to lie. For let us quote Mr. Ryder's statement:—

"Mr. Phipps took to Longcroft Farm in 1854, on a tenancy from year to year, by his own choice, terminable on six months' notice at any Lady-day. He was offered a lease, but declined it—his reason being, as he has since told my steward, that he did not know whether the farm would suit him. His occupation, therefore, at 420*l.* per annum for three years, and of 430*l.* afterwards, was, from the beginning, subject to termination on such notice being given by either party in any year; so that this rent would endure, only if both parties continued satisfied with it from year to year. Last year, four years after Mr. Phipps entered upon Longcroft—the best four years together that farmers have known since the French war—I raised the rents on the whole of this estate. They were not high originally, as is well known. They had been reduced in bad times, and they had not been increased in the late good times. The new lettings in the neighbourhood, moreover, were on higher terms, owing to the enhanced value of land, and the competition for it. Mr. Phipps's rent, which, without taking his new house into consideration at all, was only a little above the old letting (the oldest and lowest on the estate), was raised with the rest, but in a rather higher proportion, on account of my large expenditure on a new house and farm-buildings having made them superior, in all respects, to those on any other holding. Now, Mr. Phipps disputes my equitable right to raise his rent at all; and what does his reasoning on this point amount to? Precisely to this—that, unbound as he was to me by his agreement for more than one year for his own convenience, I was not only bound to him for four years certain by the same document, but must actually retain him at the same rent for just that number of additional years which suited him. This view of a contract is at least a novel one. But Mr. Phipps's complaint becomes still more unwarrantable when the real facts regarding the new buildings are understood, which he has deliberately and entirely misrepresented. Happily there can be no doubt about these facts, as Mr. Phipps's letter sufficiently supplies them. And what are they? That I agreed to erect 'a good new brick house,' and 'to rearrange the farm buildings, and repair them' (see Mr. Phipps's letter, page 2). To these terms he consented, and they were embodied, as regards the buildings, in the agreement which he signed, in these words, 'Mr. Ryder agrees to adapt the buildings, which are to be put in repair, to feeding stock,' &c. No allusion of any kind, you perceive, was made to any new farm buildings whatever, before Mr. Phipps had settled to take the farm. On these terms, then, the rent was finally fixed, but not before Mr. Phipps had learnt distinctly from me, both by word of mouth and by letter (see Mr. Phipps's letter, bottom of page 2), that in a rent of 420*l.*, to which I eventually acceded, 'a new house had not at all entered into the calculation;' so that he was fully aware that I considered this rent inadequate, even in respect only of a new house. I should add that Mr. Phipps and his friends had pressed me very hard to pull down the old, and to erect new farm buildings; but I positively refused to do so, alleging the inconvenience of the expense, in addition to that of the new house, and the insufficiency of the rent, lowered as it was below my original demand, to yield any return on the house alone (see Mr. Phipps's letter, top of page 3). Not only, therefore, had Mr. Phipps no reason whatever to expect a new set of farm buildings at the rent fixed in the agreement, but he had every reason, which the most explicit terms on paper, and by word of mouth, could impress upon him, not to expect the erection of them at all. It suits, indeed, Mr. Phipps's truthful purpose to affirm that my letter of April 17 (see Mr. Phipps's letter, page 2), written before he had taken the farm, shows that my plan for the farm-buildings was 'then decided upon, and in the hands of the builder;' but that same letter expressly refers that plan to the house alone; and, even if the plan had related to the farm-buildings, it could only point to what I say immediately afterwards respecting them, that they should be 'rearranged and repaired.'

"But Mr. Phipps knows well that the question about the farm-buildings was never gone into at all, until November, when the house was being finished, and the workmen were expected to be soon at liberty to begin upon them. He cannot have forgotten, for he was present, that I then consulted Mr. Sedgwick, of Watford, as the best authority on the subject, respecting the cheapest and most effectual mode of 're-arranging and repairing the old buildings,' according to my covenant. Nor can Mr. Phipps be ignorant that it was only after receiving from Mr. Sedgwick a strong opinion against re-arranging and repairing at all, together with a plan for new buildings, which I showed to Mr. Phipps, that I finally determined, though with much reluctance, to face the great additional expense of erecting a whole set of new premises, which should be, as I was about it, of a first-rate character. Perhaps Mr. Phipps may remember my informing him of my new determination, and the gratification which it seemed to afford him.

"From this statement of facts it results that, as the new buildings were finished soon after Michaelmas, 1855, and the old house was turned into cottages soon after Christmas, Mr. Phipps had the enjoyment for nearly three years of admirable new premises, at the same rent as he had covenanted to pay for 're-arranged and repaired old buildings.' In other words, Mr. Phipps had the benefit of my outlay of capital (estimated by my surveyor at 1500*l.* beyond the covenant, the whole expense on the premises exceeding 3000*l.*) for that period, during which I received no interest upon it. Now, by the agreement, I had power to give notice to quit, on any one of those years, in order to raise the rent on a holding, rendered so much more valuable at my own cost. It does then seem most unwarrantable that Mr. Phipps should hold me forth to the world as having acted dishonourably, in at length, after these three years had expired, requiring some return on my expenditure, and at a time too when the enhanced value of land enabled me to raise the rents of my other tenants, whose premises were of a very inferior character. That the rent was not then put up beyond what the farm was worth has been sufficiently proved by the numerous applications which I received this year to take it at the same rent, although the prices were lower than last year, and the cultivation of the land had been let down by Mr. Phipps for the last 12 months, with a view to quitting the farm this year by his own option."

We extract one more passage:—

"I proceed, secondly, to consider his special ground for questioning this right, viz., that I raised his rent after promising that I would not, and then profited by the outlay he was thus induced to make.

"Mr. Phipps founds this statement on a conversation which he had with Mr. Tranter, my steward. Now the facts relating to this conversation are as follows:—Towards the close of the autumn of 1856, Mr. Tranter mentioned to me that Mr. Phipps gathered from some observations of mine to him, that I was dissatisfied with the rent he paid me. To this I replied that I certainly was so, as I had laid out so large an additional sum on the buildings beyond the agreement, for which I received no return; whilst Mr. Phipps seemed never contented with anything done for him, and was always pressing me for more buildings still; but that, as he had been put to inconvenience during their construction, I should not then raise the rent. I sent no message, however to Mr. Phipps on the subject, nor did I even know that Mr. Tranter would communicate with him upon it. When therefore some days afterwards, Mr. Tranter told me that he had done so, I felt some surprise and misgiving, and immediately expressed my hope that he had taken special care to limit my not raising the rent to the present. He assured me, as he still assures me, and has always maintained before Mr. Phipps and others, that he was particularly cautious on this point, because I had been so explicit myself upon it, as well as in stating how dissatisfied I was with the existing rent. From Mr. Tranter's high character, as well as from the most obvious considerations, I entertain no doubt whatever that he committed me no further than for the present. His only object, in naming my observation to Mr. Phipps at all, was to set his mind at ease respecting the coming season, that he might act accordingly. If Mr. Tranter was in his right senses he could have committed me no further; and how could Mr. Phipps suppose that I, if I also was in my senses, should bind myself verbally to him in a conversation with another person, to set aside the written agreement by continuing for an indefinite period (to be determined apparently by Mr. Phipps himself) the existing rent, with which he well knew I neither was nor could be satisfied; and, as you have seen, with very good reason? Solely, then, out of consideration to Mr. Phipps, the rent remained the same for two years longer, as the higher rent only began at Michaelmas last. I repeat that this was done solely out of consideration for him, because the new buildings having been completed before the close of 1855, if I had put on a higher rent either in 1856 or 1857 (which I was at liberty to do), and Mr. Phipps had

refused to give it, or if he had not cultivated his land properly, there can be no question whatever that having such a house and premises to offer, produce being at so high a price (much higher than now), and competition for farms so eager, I could have instantly obtained a substantial successor to him, at the rent I asked, who would have laid out his capital on the farm, in the place of Mr. Phipps. He and his capital, therefore, were no necessity to me, as he seems to imply. Moreover, it was my obvious interest to raise the rent at once, whilst the times were good, which might not last; so that I could have no inducement to keep on Mr. Phipps at the old and inadequate rent, except a wish to compensate to him liberally for the inconvenience to which he had been put, by the erection of the new farm-buildings, during the first year of his tenancy, and for any extra expense to which he might have been put in improving the land."

## Home Correspondence.

*Coleman's Grubber.*—I see the answer to a question as to a two-horse cultivator in your last *Gardeners' Chronicle*. Coleman makes a small one for two horses. I have had one of him with only four teeth, and I find it very useful. At first through the workmen not properly understanding how to work it it was upset on the side of a hill and damaged, but since that the men know how to manage it, and find it very handy; yet I am far from certain that your advice is not the best—to have a larger one, and use only as many teeth as you have power to work. Yet I imagine care must be taken to have as much weight on one side as on the other; one tooth in the centre, two teeth on one side, and one tooth on the other side would, I imagine, make the cultivator work very heavy, and incline it to one side. I saw in your paper some time ago a statement that Howard's two-wheel plough would not work well without the wheels. I have one which is worked fully as much without the wheels as with, and I find it work excellently without the wheels; in fact, I have a Scotch plough which my men will never use if they can get Howard's plough. In Carmarthenshire, where my farm lies, swing ploughs only are used, and none of my men will use the wheels to the plough if they can help it; yet they praise Howard's plough without the wheels very much. Mine has a steel mould-board, which I think is a very great advantage; it cleans itself in all land, and I think must make the work for the horses lighter. It lays even soft Turnip ground in furrows much the same as if it were lea ground. *D. S.*

## Foreign Correspondence.

BRUGES.—While treating some weeks ago of the Flax crop, we promised to take up at a future period the consideration of points connected with the manuring of the land, its preparation for the seed, &c.; that promise we now redeem. And first as to manures. These are used in the two forms of liquid and solid. Of the former are the *vidanges* (human excretæ, for our notes on this subject see a former article), diluted with the urine of the stock; the *purin*, and the oilcakes dissolved in water on the *purin*. The liquid manures play an important part in the Flax culture. In the Courtrai district as you walk along the highway or the farm roads, you will see close by their sides long Grass-covered circular mounds. On a closer examination you will discover that these raised parts are the semi-circular roofs of liquid manure tanks. These are generally provided with a large aperture having a cover, and through which the contents are supplied to and taken out of the interior when required. At the end of the tank a small aperture is provided communicating with the external atmosphere, and through which the air is admitted to the interior. The tanks being generally placed at the roadside the *vidarges* are easily supplied to them from the conveyances which bring them from the towns. The solid manures employed are very numerous, as the court-yard manure, that of sheep and hogs, crushed oilcake of Colza or other oleaginous plants, as the *oillette* or the cameline-guano, the mud scrapings from the road, Peat ashes, chalk, and marl. In the Pays de Waes, a celebrated district or part of East Flanders, they employ universally cattle manure and *vidanges*; the oilcakes are not much used excepting in certain soils containing iron. The manures above mentioned are not usually applied to the Flax itself, the soil having obtained a rich manuring for the previous crop. In Courtrai district the oilcakes are generally employed; those of Colza, reckoned a cold, and of *oillette* reckoned a warm manure, being mixed together. The mixture of the two is considered to be beneficial, as the *oillette* is considered to quicken the growth too rapidly. In the province of Hainant, the manure used is *purin* and oilcake, well diluted. In the provinces of Namur and Brabant the liquid manures are rarely employed.

The preparation of the soil for the Flax crop is of the utmost importance; unless it is well worked so as to have a fine tilth and of considerable depth, and the manure well mixed, no specially good crop need be expected. Flax loves a well divided soil, deep into which to send its roots, and rich in fertilising manures. The working of the soil previous to the sowing of the seed varies in different districts, and also according to the crop which the Flax succeeds. We select from M. Demoor's practical work on the "Flax culture," the following points in connection with the preparation of the soil in the districts of Courtrai and the Pays de Waes. Before giving these we may here note that where the Flax succeeds the Hemp crop, and where the land has received a strong application of *vidanges*, there is every prospect of an excellent crop. There is a proverb embodies the popular belief in some districts that the Flax does best in the land which has borne Hemp, and been so treated, and which may be thus paraphrased:—

> If thou sowest thy Hemp in well manured land,
> Thou holdest thy fine Flax already in hand.

The Flax is of the best quality when it succeeds the Clover. In Flanders it usually follows the Wheat or the Rye, followed by a crop of Turnips which are well manured, well watered. Flax after Bere does well where the soil is in good condition; after Potatoes gives the worst crop.

To proceed with our notes on the preparation of the soil in the Courtrai district. In this district the Flax generally succeeds the Oats, the Rye, or the Clover; the first working is given to the soil as soon as the crop is off the ground. Immediately after this is done or after the interval of a few days, the instrument called the *traineau* is hauled over the ground to break the clods, and to destroy the weeds, &c. The *traineau*, an implement peculiarly Belgian, is of very simple construction. It is a frame of wood narrower at one end, that to which the draught chains are attached, than at the other; it is partly or wholly covered with planks; while being drawn over the land the driver stands upon it and gives weight to its action and keeps it level. To return: after the labours of winter are over a second working is given to the land, so as to get a fine tilth, and as deep as possible. In stony and wet lands thus they give a working to the land before winter, throwing it up into ridges more or less elevated, which they afterwards spread out into large flats more or less curved in outline. Towards spring advantage is taken of the first fine weather to work the land, and to give it a harrowing. After this the first preparation of the land it is well manured with a mixture of *purin* and oilcakes, which is taken to the field in barrels containing from 3 to 5 hectolitres, and spread uniformly over the land by means of a scoop provided with a long handle. The oilcakes are added to the *purin* some eight or ten days before the mixture is taken and spread upon the land. The proportion of oilcake to the *purin* is from 1200 to 1600 of the former to 200 to 300 hectolitres of the latter.

For wet lands the oilcake is also used as a manure, but in the solid form. It is reduced to powder and spread upon the land as uniformly as possible. A mixture of oilcake, of Colza, and of *oillette* is preferred to Colza alone. After the oilcake dust is distributed over the land, *purin* is applied as a liquid manure by means of the manure cart, to the extent of 150 to 175 hectolitres the hectare. After the land is dry enough, they harrow it three or four times, and afterwards pass the roller over to consolidate it. Three or four harrowings are again given at the end of three or four weeks, after which the land is ready for the seed. In West Flanders generally the land is worked by means of the plough; in a great part of East Flanders by the spade. The farmers of the Pays de Waes treat the land very much in the same manner as those of Courtrai. They work it well in the early fine weather of spring, spreading over it *purin* at the rate of 12 to 16 cartloads to the hectare. Others use generally the Dutch cinders with the *purin*. Although considerable diversity of practice is observable in this district in the modes of culture—sometimes not giving any working to the land before winter, at others working and harrowing it vigorously—still on one point all are agreed: namely, the necessity—if a good crop is desirable—of preparing the soil by good manurings and waterings of liquid manure (*vidanges*).

The following is a statement of the cost of preparing a hectare of land for the seed. In Courtray, from 452 to 475 fr., made up thus:—rent and taxes, 98 fr. to 111 fr.; manure, oilcakes, and *purin*, 322 fr. to 332 fr.; ploughings, harrowings, 32 fr. In the district of the Pays de Waes the cost per hectare is from 502 fr. to 625 fr.; rent and taxes, 120 fr. to 170 fr.; solid manure, 160 fr. to 181 fr.; liquid manure, 175 fr.; labour, 47 fr. to 50 fr.

The land being prepared as we have indicated, the sowing is proceeded with. In accordance with the time at which the seed is put in so is the quality of the Flax. If the sowing takes place during the period from the end of March to the 10th of April, the Flax obtained is known by the name of "*Lin tardif*," or of slow growth; if the sowing is performed during the period from the 15th of April to the end of May, the Flax is known by the name of "*Lin hâtif*," or of quick growth. The former quality yields a fibre fit only for ordinary purposes; it never acquires the fineness of the latter species, which affords a fibre fit for all purposes. In Flanders the time of sowing is greatly regulated by the fineness of the weather. The seed is sown broadcast, the quantity generally being 200 kilogrammes to the hectare; the quantity, however is regulated by the quality of the soil and the destination of the plant; if it is cultivated for the fibre it is sown thicker than when it is grown for the seed. In West Flanders the Flax is almost always sown alone; in East Flanders they obtain two products, sowing with the Flax Carrots or Clover, the Flax being the first, the Carrots or Clover the second crop. The Carrots and Flax seed are often sown together, while the Clover seed is not sown till the cotyledonous leaves of the Flax show above the surface of the ground. After the seed is in, it is covered with the harrow, and finally rolled with a light roller drawn by a man. Flax is grown in two ways, *non ramé* and *ramé*, that is, where it is allowed to ripen self-supporting; and, as in the latter case, where the fibres are supported by a means similar to garden Peas. This latter method is only employed where the fibres are required of the finest quality. For Flax cultivated *ramé* the quantity of seed is much less—a half or a third—than that for Flax grown *non ramé*. After the thinning or first weeding takes place, stakes from 16 to 20 centimetres in length are driven in the ground, at a distance from each other of a metre; these stakes support a species of net-work formed of little rods or switches, which support the Flax as it grows.

Towards the 12th or 15th day after the sowing, the weeding is proceeded with. This is performed by females by preference, who, divested of their shoes or wooden sabots, and kneeling down against the wind, weed out the plants foreign to the crop, and at the same time give a light stirring to the soil at the foot of the plants. Sometimes more than one weeding is given to the crop to clear it of all weeds, &c. The crop being thoroughly cleaned, it is left to itself till ready for pulling. The flowering takes place in the *Lin hâtif* towards the latter end of June or the beginning of July; later for the "*Lin tardif*."

Thus far have we followed the Flax crop; we may at a future time devote a paper or two to a brief detail of the methods adopted in pulling and stacking the crop, of saving the seed, and of the process of retting. Meanwhile those of our readers desirous of going more deeply into the subject than the space at the disposal has admitted of, cannot do better than consult the pages of M. Demoor's work "*De la Culture du Lin*," or of M. Ledocte's "*Manuel du Culture*," both of which are published in Brussels.

## Societies.

### ROYAL AGRICULTURAL OF ENGLAND.

AT the half-yearly general meeting held on Monday Mr. R. Milward moved the election of Lord Walsingham as President for the next year.

Col. Challoner seconded the nomination, which was carried unanimously.

Mr. B. Gibbs then read the following *Report of the Council*.

The Society consists at the present time of—78 life-governors, 130 annual governors, 927 life members, 4008 annual members, 18 honorary members, making a total of 5161 names on the list. The Council has elected Lord Leigh, of Stoneleigh Abbey, a member of the Council, to supply the vacancy caused by the resignation of Sir Archibald K. Macdonald, Bart. The funded capital of the Society stands at 10,000*l.* stock, in the New Three per Cents. The Council has appointed Professor Spooner, of the Royal Veterinary College, joint Veterinary Inspector with Professor Simonds, at the Annual Country Meetings of the Society. This step has been found necessary in order that every facility may be afforded for a thorough examination of the animals sent to the shows, more especially as to their freedom from any hereditary diseases, which might be transmitted to their progeny; and also as to whether the state of dentition fully bears out the ages stated in the certificates. The Council has decided that Professor Voelcker, the Society's consulting chemist, shall investigate the following subjects:—1st. The changes that take place in liquid manures, in passing through different soils. 2d. Experiments on top-dressing of Wheat and Barley. 3d. The different modes of applying manure in autumn and spring. 4th. The nature and physiology of cultivated Turnips, being a continuation of his experiments connected with this subject. The Council has determined to amend the wording of the rule regulating the members' privilege of analyses, so as to prevent dealers or manufacturers of manures availing themselves of the reduced scale of charges, which has been secured for the benefit of such members as may require these analyses *bonâ fide* for their own personal use as agriculturists. The Warwick meeting (to be held in the week commencing Monday, July 11th) promises to be of a highly interesting character. The arrangements for the meeting are steadily progressing. The entries for implements are so extremely large as to require six sheds to be added to last year's plans, in the implement department alone; and the applications for space in the yard devoted to "machinery at work" are also far greater than on any former occasion. The entries for live stock will, as usual, be received up to the 1st of June. The numerous applications for certificate-forms that are being received daily indicate that this portion of the show will at least be equal to any former exhibition. The local committee at Warwick having declined to undertake the arrangements and expenses connected with the dinner during the Society's meeting, the Council has determined to adhere to the resolution of last year—not to take these responsibilities on itself on the present occasion. The special attention of the General Warwick Committee has been directed to the subject of the supply of refreshments for visitors in the show-yard during the exhibition; and such arrangements have already been made and are still in progress as, it is hoped, will secure to the public due accommodation in this respect, at a fixed tariff of charges. Since the Society first prominently drew attention to the important subject of the application of steam-power to the cultivation of the soil, by offering a special prize of large amount, several inventions and improvements have been brought before the public; and the advancement made was such as to lead the Council to award the prize of 500*l.* at the Chester Meeting last year. As no doubt further improvements have since been made, it may be confidently expected that the trials to be carried on at Warwick, under the direction of the Society's Judges, will prove an interesting feature in the meeting, by affording agriculturists an opportunity of personally inspecting the different inventions that will then be brought together in competition. The Council has decided that the Country Meeting of next year, for the South-eastern district (comprising the counties of Kent and Surrey), shall be held at the city of Canterbury. The accommodation offered and guaranteed by the authorities promises to be unusually convenient and complete. The Council has the satisfaction of recording that the interest taken by agriculturists generally in these annual exhibitions appears steadily to increase, and that year by year greater anxiety is manifested by the authorities and inhabitants of the principal towns within the district proposed to be visited to secure the Society's meeting being held in their respective localities, and to offer every facility in their power to aid the Council in carrying it to a successful issue. In conclusion, the Council congratulate the members on the steady

progress of the Society in accomplishing the various important objects for which it was established.

(By order of Special Council, May 20th, 1859.)

The report was adopted.

Mr. R. Barker, chairman of the Finance Committee, presented the following balance-sheet:—

Half-Yearly Account, extending from the 1st of July to the 31st of December, 1858.

Receipts.

| | £ | s. | d. |
|---|---|---|---|
| Balance in the hands of the bankers, July 1, 1858 .. | 2225 | 15 | 9 |
| Petty cash balance in the hands of the Secretary, July 1, 1858 .. .. .. .. .. .. | 3 | 14 | 4 |
| Dividends on stock .. .. .. .. .. | 146 | 17 | 6 |
| Governor's life-composition .. .. .. .. | 50 | 0 | 0 |
| Governors' life-subscriptions .. .. .. .. | 30 | 0 | 0 |
| Members' life-composition . .. .. .. | 167 | 0 | 0 |
| Members' annual subscriptions .. .. .. | 664 | 2 | 0 |
| Journal receipts .. . .. .. .. .. | 187 | 8 | 6 |
| Sale of horse-shoeing tracts .. .. .. .. | 17 | 18 | 10 |
| Country Meeting receipts:— | | | |
| Salisbury .. .. .. .. .. | 14 | 1 | 0 |
| Chester .. .. .. .. .. | 4566 | 15 | 7 |
| | £8073 | 13 | 6 |

Payments.

| | £ | s. | d. |
|---|---|---|---|
| Permanent charges .. .. .. .. .. | 179 | 17 | 6 |
| Taxes and rates .. .. .. .. .. .. | 15 | 17 | 6 |
| Establishment .. .. .. .. .. .. | 631 | 8 | 3 |
| Postage and carriage .. .. .. .. .. | 18 | 14 | 2 |
| Advertisements .. .. .. .. .. .. | 7 | 7 | 6 |
| Journal payments .. .. .. .. .. .. | 648 | 2 | 6 |
| Essay prizes .. .. .. .. .. .. | 120 | 6 | 0 |
| Veterinary grant .. .. .. .. .. .. | 100 | 0 | 0 |
| Chemical grant .. .. .. .. .. .. | 150 | 0 | 0 |
| Country Meeting Payments:— | | | |
| Chester .. .. .. .. .. | 4792 | 8 | 1 |
| Subscription (paid in error by banker) returned .. | 5 | 0 | 0 |
| Purchase of 735*l.* 11*s.* 1*d.* Stock in the New Three per Cents .. . .. .. .. .. | 717 | 3 | 4 |
| Sundry items of petty cash .. .. .. .. | 4 | 7 | 9 |
| Balance in hands of the bankers, Dec. 31, 1858 .. | 649 | 11 | 6 |
| Petty cash balance in the hands of the Secretary, Dec. 31, 1858 .. .. .. .. .. .. | 0 | 15 | 5 |
| | £8073 | 13 | 6 |

(Signed) Thomas Raymond Barker, Chairman, C. B. Challoner, } Finance Committee.

Examined, audited, and found correct, this 20th day of May, 1858.

(Signed) Joseph Druce, George T. Raymond Barker, } Auditors on the part of the Society.

Thanks were voted to the auditors. The election of the Council then took place, and with one exception, the house list was adopted. Three new members of Council were elected, viz., Mr. J. W. Buller, M.P., the Hon. Augustus Vernon, and Professor John Wilson. Colonel Challoner proposed that the cordial thanks of the meeting be given to his Grace the Duke of Marlborough, for the services which he had rendered to the Society as President. Mr. H. Corbet, in seconding the motion, regretted that in consequence of the Council having determined to get rid of the annual dinner, they would not have an opportunity of seeing him preside over a full gathering of the members. The motion was carried by acclamation.

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A Weekly Council was held Wednesday, June 24. Present, Sir John Johnstone, Bart., M.P., in the chair.

The names of candidates for election were read.

Mr. Fisher Hobbs, in accordance with the arrangement made at the last Council, favoured the meeting with the following statement of his practical experience in preventing the ravages of the Turnip-fly:—

"Having been requested at the last meeting of the Society to introduce to the notice of the members my experience of, and mode of treatment for, preventing the ravages of the Turnip-fly, I readily consented to do so with, however, the understanding that what I had to say should be given more in a conversational form than as a paper specially prepared for the occasion. I was induced the more to respond to this invitation in the hope that it might act as something of an example for other members, and that the Weekly Council Meetings of the Society might become of some interest and service to us all, by affording the time and place for talking over subjects of passing importance to agriculturists generally. In introducing this subject I wish you particularly to understand that I have no new theory to expound, but merely to impress the result of my practice and the policy of carrying out certain principles which have long been known and admitted: but, I fear, not sufficiently observed. My remarks on the cultivation I should here state are intended to apply more to the Swede Turnip than to any other varieties which are generally grown after green crops, but the great work of destruction by the fly is applicable alike to both. As 'prevention is better than cure,' I shall commence with the preparation of the land, assuming that this has been thoroughly under-drained wherever requisite. 1st. I consider that autumnal cultivation is essentially necessary; first, by broadsharing for the destruction of weeds and insects, as well as for the aëration of the soil. 2d. That deep ploughing should follow, and subsoiling if required, and it is frequently my practice during the early part of winter to carry on to the land intended for a root crop the unfermented manure direct from the yards or sheds, and at once plough it in, and not a particle must be suffered to be seen on the surface; this I believe to be important, for if not attended to the undecayed portion of the manure becomes a receptacle, and subsequently a nursery for insects. 3d. That at the commencement of spring it is most desirable, as soon as the state of the land will permit, to apply the harrows and roll, especially the former. I believe that more good may be done towards the destruction of insects of various kinds at that period than at any other throughout the year. Afterwards scarify, harrow, and roll until the land is in a pulverised state, and for a fortnight or three weeks before the time for drilling let the land remain like a seed-bed, so as to attract moisture, to allow vegetation for the seeds of weeds and for insects to deposit their larvæ; this is frequently termed 'purging' the land. I need not refer to the common mode of applying the fermented or partly rotted farm-yard manure for the Turnip crop, except to state that it ought at once to be ploughed in, and the seed deposited immediately. 4th. That at the time of drilling the seed it is best for the land to be ploughed (but some prefer scarifying only), and the seed to be immediately deposited. This is so important that I have frequently known total failures from the neglect of so doing. There is another point which I would strongly recommend, that is, in dry and sunny weather to plough and sow early in the morning and late in the afternoon, but never during the heat of the day. I know an instance where the most signal success has for several years attended this mode of operation, and where the manager has never failed to secure a plant, although he is one of the old school, and still sows the seed broadcast with his own hand. This can be confirmed by several large farmers in the neighbourhood, who, strange to say, notwithstanding the example thus placed before them, continue to incur an amount of loss from having to sow two or three times, simply from the obstinacy and prejudice with which they continue to adhere to the customary working hours for their horses and men. 5th. That at the time of depositing the seed it is my invariable practice to use some description of artificial manure, generally superphosphate of lime, and I likewise add about 30 bushels of ashes per acre, made from hedge trimmings, weeds, &c., collected upon the land at different periods throughout the year. The roller may now be used with great advantage, before, and sometimes after the drilling. In dry weather I strongly recommend the application of the liquid manure drill. 6th. That before or immediately the young plants appear, the horse-hoe should be resorted to for the purpose of destroyed the ova or larvæ of the insects to prevent their coming to maturity. When once the plant is well up the roller may sometimes be applied with much benefit as it tends still further to disturb the insect tribe, as well as to retain moisture for the young plant, and to consolidate the farm-yard manure where lately applied. At this period the plant requires frequent watching throughout the day, and if the enemy shows itself in any force set to work as quickly as possible to accomplish its annihilation. Having described to you briefly my mode of prevention, I will now proceed to give you the cure, which is simply by the application of one or more 'top-dressings.' I have tried various experiments, steeping the seed, and top-dressings for upwards of 30 years, but though sometimes successful I could not depend on any of them until I adopted my present system, and I think it is only fair that I should state that I derived the chief features as to the use of this top-dressing from my late bailiff Mr. O. Hawkins, who came to me some nine years since with an especial recommendation on this point; in fact, he himself engaged to secure the Turnip plant from the ravages of the fly, adding that he was willing to give up his situation immediately if he could not do so. I can only add that for eight years, during the whole time he was with me, he fulfilled all he promised in this respect. The following is Mr. Hawkins's recipe for a top-dressing:—1 bushel of white gas-ashes, fresh from the gas house; 1 bushel of fresh lime from the kiln, 6 lbs. of sulphur, and 10 lbs. of soot, well mixed together and got to as fine a powder as possible, so that it may adhere to the young plant. The above is sufficient for 2 acres when drilled at 27 inches. It should be applied very early in the morning, when the *dew is on the leaf*—a broad-cast machine being the most expeditious mode of distributing it, or it may be sprinkled with the hand carefully over the rows. If the fly continues troublesome the process should be repeated; by this means 200 to 220 acres of Turnips, Swedes, and Rape have been grown on my farms annually for eight or nine years without a rod of ground losing plants. The above is a strong dressing to be used when the fly is very numerous, and has never failed when applied at night. Numerous experiments have been tried, and amongst them I recommend the following in ordinary cases, and intend to use it during the present season if necessary:—14 lbs. of sulphur, 1 bushel of fresh lime, and 2 bushels of road scrapings per acre, mixed together for a few days before it is used, and applied at night, either by means of a small drill, or strewed along the rows by hand. I have known sulphur mixed with water applied in a liquid state by means of water-carts during the night and the horse-hoe immediately following the water cart. This has succeeded admirably. In consequence of the dryness of the climate in my neighbourhood (the rain-fall being on the average only about 16 inches annually) I usually sow on the flat; but the dressings above-named are equally applicable to crops sown on the ridge. I would strongly impress the necessity of frequently applying the horse-hoe. It is not my intention to enter upon the subject of the history, habits, and transformations of the various insects that infest the Turnip crop, but I would rather refer you to Curtis's excellent treatises on the subject, which appear in our journals. I think that these papers might be reprinted with great advantage in a cheap form in something of the same style of pamphlet as Mr. Miles's Essay on Horse-hoeing. I am quite sure there is no subject of which the farmer has so little scientific knowledge as entomology, nor is there one that has had less attention paid to it by the Society. In offering these rough notes to your notice I am fully aware of the little information I have given, and I wish you to understand that I feel I have only acted up to the principle which I have always endeavoured to observe in the course of my agricultural career. I have ever been anxious to impart information as well as to acquire it. I have no secrets to keep, and in my opinion there ought to be none in farming. The system I here recommend is founded upon my own practice and experience, and for many years I have proved and can answer for its efficacy. I am induced from these results to conclude that by care and attention the Turnip plant may be as effectually and as certainly freed from the ravages of the fly as seed Wheat has been for upwards of the last 20 years from smut and other destructive fungi."

Mr. Nesbit, in reply to a question from the Chairman, stated that the paper read by Mr. Fisher Hobbs was calculated to be of great benefit to the farmer. Mr. Hobbs's experience extended over a period of nine years, and whilst using the substances mentioned, in the manner indicated, he had not lost one rod of Turnips. It was evident that the most important ingredient in these mixtures was sulphur. In the "gas-ashes," or rather "gas-lime," sulphur was found in considerable quantity. Gas lime was produced by using lime in proper receivers for the purpose of absorbing sulphur from gas. When applied in quantity to land in its original state it destroyed all vegetation. When mixed with earth and turned over for a twelvemonth it became more mild, and might be used with safety. The quantity mentioned by Mr. Fisher Hobbs could not possibly do any harm, and as its application had been successful for some years, he would not himself recommend any considerable alteration in the quantity to be applied per acre. The use of soot, he thought, was decidedly right. In the case of using sulphur with lime, their union, if properly effected by slaking the lime and making the mixture moist, would give a compound of lime and sulphur somewhat analogous to gas lime, and possessed of similar properties. This mixture might of course be made in any locality where gas lime could not be obtained, but near most towns the gas lime might be had for the trouble of fetching it. Dry road dust added to the compound would render it capable of being sown, and the presence of the former on the leaves would present a mechanical difficulty to the ravages of the fly. Sulphur unassociated with an alkali or an alkaline earth, such as lime, though it might be to some extent advantageous, would require to be used to such an amount as to entail an unnecessary expense. The experience of Mr. Hobbs was very interesting in a scientific point of view, as it gave an increased importance to some previously well-known facts, as, the oïdium or Grape disease had yielded to the action of alkaline sulphurets, and on the Hop plant sulphur had been found beneficial both in the case of the mould and the fly. The working of the soil at night or morning when the dew was on the ground, he thought was worthy of the serious attention of the farmer.

The Hon. Leslie Melville said, that on his dry and shallow soil he had found by experience that late ploughing should be avoided. His attention had first been drawn to this fact in the Essay in the Society's Journal, and he had found it borne out in practice that no ploughing should be done later than March, and all subsequent preparation should be by scarifying, &c. He had also found (by experiment) that both Turnips and Potatoes answered best on such soils as his own, when the drills run north and south, as the plants pertain a shade each other during the intense heat of the day. He also named that he had found a composition manufactured by "Price's Candle Company" most effective against the green-fly and red spider in his greenhouses.

Mr. Spooner, of Southampton, had made experiments last year by measuring out three plots of his Turnip crop, to which he applied the following dressing:—1st, sulphur; 2d, lime; 3d, soot. From the sulphur he found no effects; from the lime a little benefit; and from the soot the most. With reference to the gas lime he believed that the smell might be greatly instrumental in keeping the fly away, as that insect possesses the sense of smell in a high degree.

Mr. Nesbit, in answer to a question put to him, stated that he was of opinion that the action of sulphur by itself would be but little—and unless in considerable quantities almost inert. He believed almost the secret of the success to be that the lime rendered the sulphur soluble.

Mr. Badham stated that he had found rolling young Turnips to be very beneficial.

Mr. Slaney, M.P., inquired of Mr. Hobbs whether he considered that sand would answer as well as road scrapings—because the latter in many districts could not be obtained.

Mr. Hobbs replied that in his opinion any sharp grit would answer the purpose, because he had observed that after heavy rain had caused any grit to adhere to the young plants they had generally escaped the ravages of the fly. He would impress upon all who wished to try experiments the necessity of applying the dressing by night when the leaves of the young plant are *wet with dew* and when the insects are on the surface feeding.

The thanks of the Meeting were voted to Mr. Fisher Hobbs for his interesting communication. A letter from Mr. Smith as to Steam Cultivation was referred to the Implement Committee. A letter from Miss Banister was read, and a specimen of the growth of Dactylis glomerata (Cock's foot Grass) was laid on the table.

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## Farmers' Clubs.

Oxford: *Dipping Sheep.*—Mr. Mein introduced the subject of which he had previously given notice, namely, "Sheep Dipping," and said that his reason for choosing it was because he thought it was an interesting one and capable of improvement, in addition to which it was one to which the attention of chemists should be directed. Sheep dipping had been practised for the last 30 years; the previous plan was to run the mixture along the sheep's back, tail, and head, and this was used with success for the prevention and cure of scab, lice, and other cutaneous diseases to which sheep were liable, but for the cure of scab he had found nothing so efficacious as spirits of tar and tobacco juice. The principal aim in sheep dipping was to kill the tick and prevent the striking of the fly, without injury to the constitution of the animal, but great care was necessary in the manufacture of the dipping preparation, as well as in the applying it. In making the mixture strong, to kill the tick, they had no doubt succeeded, but it oftentimes affected some sheep considerably, while others of a strong constitution walked off with impunity. He disapproved of many of the sheep-dipping compositions, and, as he did not intend to puff any, he would, without mentioning names, state that he had used two which he had found answer very well, and from which he had had no deaths. He had, however, seen cases where the little sheep, and those with a weak constitution, had been completely paralysed after being dipped, and a great deal depended on whether it was done in good or bad weather; if done in bad weather, it was injurious to the wool, as well as to the constitution of the animal. He had seen some sheep in good condition that were completely salivated; and it was worthy of notice that ram breeders did not dip their rams at all, because they believed that it injured their breeding powers; and without a great deal of care was used, he believed that it affected the ewes in the same way, and caused them to be barren. Even in the present system of dipping, they got the oil neutralised, and, for want of that oil, the wool was dry, and the sheep suffered by the rain penetrating to the skin. They ought always to dip in very dry weather, for if they did it in wet or stormy weather they would not dry. The best time for dipping was in June, July, or August, when the wool had grown. Shepherds did what they could to prevent the fly striking, but it was necessary that every one should study his flock, and dip in the best way, and at the best time. Chemists could not be too careful in mixing the preparations, and if that rule was not attended to, it might cause a great deal of injury and death to the stock, and give rise to litigation. In many mixtures, fish oil and soft soap were used to assist and promote the growth of the wool, adding to it what they took away, but generally speaking, the dipping preparation were not what they ought to be. Mr. Mein concluded by moving the following resolution:—"That this club wishes to draw the attention of chemists to the sheep-dipping compositions at present in use, and to solicit them to devise one that would be equally efficacious, but not so injurious, to the animal." Mr. Watson seconded the resolution, and remarked that he had been in the habit of employing persons to dip his sheep, for which he paid them so much a score. The party provided the preparation, and he had had very good luck and no loss, and had experienced very little injury either with regard to the wool or to the health of the animal. *Oxford Journal.*

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## Calendar of Operations.

### MAY.

Isle of Ely, *May* 17.—It is now raining hard after a week of brilliant sunshine and strong searching east and north-east winds. The nights have been uniformly cold and slightly frosty, and vegetation has progressed very tardily; and until

we have a change of wind, and get some genial and life-giving breezes from the south-west, we can hardly expect luxuriant vegetation. The time of year has now come, however, when we may reasonably expect the advent of spring weather. The Wheat plant maintains its vigour, and perhaps has been benefited rather than otherwise by the severity of the season. A few weeks ago it was growing too rapidly, and was getting full of coarse Flag, and consequently was beginning to fall about in all directions, and looked weak and unpromising; but the cold dry winds of the last fortnight have stiffened and strengthened it considerably, and it is now as magnificent in its appearance as we could well desire to see it. Some of the thinly planted crops on our weakest and poorest fen soils are improving, and with seasonable weather may yet produce a fair crop. The Oat crop has suffered most from the cold dry winds and frosty nights, and where infested with wireworm has lost plant considerably. Unless we get a speedy change we must inevitably have a very patchy and broken crop, which generally produces a very poor yield. Beans are beginning to run, and are thickly planted, but have in thousands of instances, in consequence of the frost, lost the eye, and must make a fresh lead before they can run. How far this may affect the crop we venture not thus early in the season to predict. Most of our Fen farmers have sown their Mangels, and those first planted are just beginning to show themselves, and look unusually strong and healthy. This is an invaluable crop, and is becoming much more extensively cultivated. Grass keeping has become more scarce than it was a month ago, and where stocked at all heavily has wasted fast. It now wants a thoroughly good rain with warm nights. The Clovers for mowing are very little forwarder than they were six weeks ago. The price of both lean and fat stock has been lower, and sales have been very slowly effected. The corn trade has manifested great unsteadiness, advancing 10*s.* per quarter one week, receding from 6*s.* to 8*s.* the next, and again advancing 3*s.* to 4*s.* the next. We can scarcely expect steady prices again, so long as the war in Europe is continued. *Your Fen Reporter.*

LAMMERMUIR SHEEP FARM: *May* 18.—The spring set in mild and genial, but true to the old proverb, "February Grass is April hunger," the weather changed for the worse and we had a very barren month of April, making Grass scarce enough at a time when every green blade is prized. Notwithstanding the unfavourable weather, the loss of young lambs has we believe been below the average; and now that May has set in fine, we have Grass in the fields and may hope speedily to see the hills change their winter grey for a clothing of livelier green. The lambing season being now nearly over, it is good practice to separate and keep by themselves the few ewes that are still in lamb, the better to avoid loss of lambs by strangling in the birth, which is sure to follow on the customary but slovenly practice of marking the "grit" ewes and turning them to the hill with the rest of the flock, there to take the chance of being seen by the shepherd in the course of his usual rounds. We have noticed that the loss of lambs at this stage of the lambing season, and from the above-mentioned cause, is quite out of proportion, considering the small number of ewes in hand. The lambs are much larger when born, and the ewes seem to go over their time when the weather is warm and sunny. Each year's experience convinces us the more thoroughly of the advantage, in fact the necessity, of having, even on strictly pastoral farms, one or two Grass fields for this and other purposes. We have begun to work our fallows, but they turn up decidedly out of temper, either from the want of frost or from excess of moisture during winter, and the droughty weather of the last fortnight only confirms them in their obstinacy and stubborn resistance. The usual small extent of Swedes is being sown, and we have ventured upon a plot of Mangel which (should we succeed in growing in our high climate) will no doubt be a valuable addition to our spring keep, *J. S. B.*

## Notices to Correspondents.

BEETROOT DISTILLING (LEPLAY'S SYSTEM): *A Z.* It consists in fermenting the juice while still in slices of the root, and in passing over-heated steam through vessels full of these slices after the fermentation is completed. Mr. Weekes, of Bolney Lodge, Sussex, has stated in the *Times* that nearly 5000 tons have been distilled in this country on this plan in one season, yielding 40,000 gallons of proof spirit. The refuse is nutritive, and he says that his experience of the steamed roots after distillation is conclusive on this point. "Some cull South-down lambs I purchased at 12*s.* 6*d.* each, and sold, fatted almost entirely on the steamed roots, at 38*s.* each, after taking a better fleece of wool than usual; nor could I have fatted them so well on any other produce. And in so steaming the roots is it not better to catch the steam and condense it into spirit than let it go up the chimney to evaporate in the air?" It is only right to add that the subject is properly one for experiment, the view thus expressed not being so self-evident as it is here implied to be. The steam carries off that which in the original root contributes to its nutritive character—the fermentation having conferred an evaporable character upon it; and French grown roots, grown under a somewhat different climate, contain probably more of this spirit-yielding portion of the root than our own.

MARL: *Streatley.* Its efficiency depends often on phosphate present in them in small quantities rather than on the lime or other more abundant earth that they contain. A heavy dressing of marl is often sufficient for many years, and a re-dressing under such circumstances would be useless. The gradual descent of any dressing, as of ashes, marl, &c., is owing to the worm casts being taken from below them continually. Mr. Darwin's explanation of this was given some years ago in the Transactions, we believe, of the Geological Society.

PREMIUMS FOR BARLEY: *Cor.* Prize crops are offered by Messrs. Blizard Brothers & Godsall, of Tewkesbury, for the best sample of Barley. These cups produced, as was intended, a double advantage—first to the farmer, who was induced to produce a better article and obtain a better price; and next, to themselves as maltsters, who were enabled to get the best kind of grain for their manufacture. At the recent presentation of the cup, Mr. Blizard said:—The cultivation of Barley had, in former years, undoubtedly been neglected: a stimulant had been applied, and as a proof of its effect he would point to the samples of that day, which he firmly believed could not be equalled in any town in England. Mr. Blizard then referred to some remarks he had made last year relating to the machines used for dressing the Barley. He regretted that the evil still continued; the grain was broken at the ends, and gave out a blue mould which rendered it totally unfit for malting. He had proposed, with others, to offer a prize of 50*l.* for such improvements in the machines as should obviate this evil; nothing, however, had as yet been done in it, but he trusted that agricultural machinists would give attention to the subject, and that before long the difficulty would be overcome. Mr. Rice, in response for the judges, said they felt surprise that the clay land had won the prize; but it was a fact that the sand Barleys were burnt up last year, which of course accounted for it. There had been 60 samples from Gloucestershire, Worcestershire, and Herefordshire sent in; and 10 from Berks and Wilts. In the course of their examination the samples of Mr. J. Creese and Mr. G. Woodward stood well for a long time, but at the conclusion they were bound to admit that those of the Rev. W. Parker for the former counties, and of Mr. W. H. Gillett, of Swindon, for the latter, were the best.


ADDRESS: THE MANAGERS, ST. PANCRAS IRONWORKS.

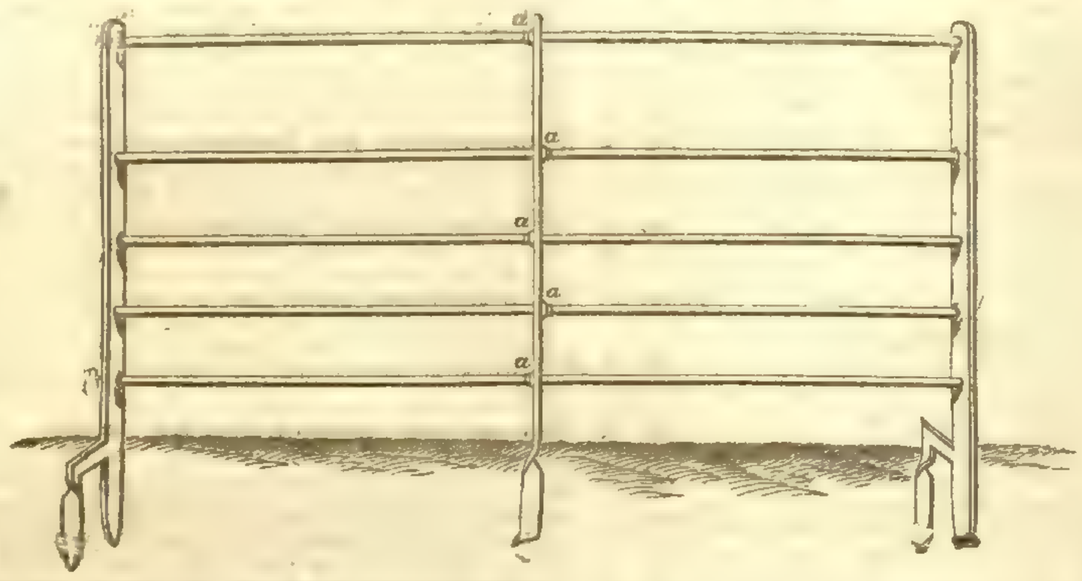
THE ST. PANCRAS IRON WORKS ARE OPPOSITE THE OLD ST. PANCRAS CHURCH, OLD ST. PANCRAS ROAD, LONDON.

IRON COLLAR BAR HURDLES.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

Obtained the Silver Medal of the Royal Agricultural Society.

ST. PANCRAS IRON WORKS,



OLD ST. PANCRAS ROAD, LONDON.

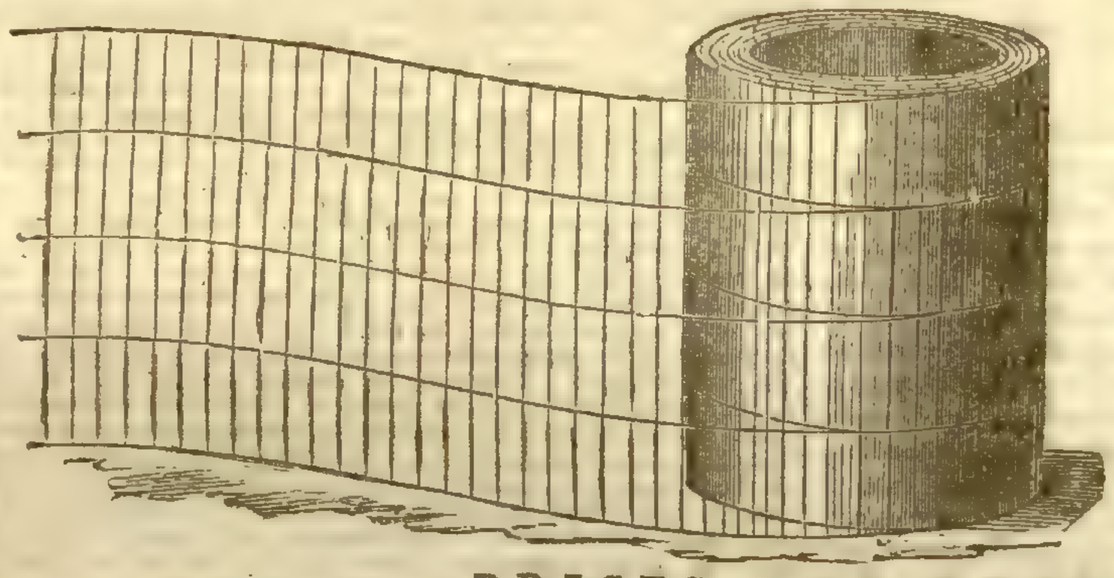
The improvement by this PATENT consists in the COLLARS on the Bars which, being placed on alternate sides of the centre upright bar, keep it in its position, confine the bars to short bearings, prevent their being strained, and give more than DOUBLE STRENGTH and RIGIDITY to the HURDLE.

PROFESSOR VARNELL'S MANGERS AND STABLE FITTINGS.

GREENING & COMPANY'S PATENT WIRE FENCES.

Patronised by His Royal Highness the PRINCE CONSORT.

No. 4 VARIETY.—STRONG HARE AND RABBIT-PROOF FENCE.



SPECIFICATION. — Horizontal bars of stout, tough wire, 6 inches apart; vertical bars of similar wire, 1¼ inch asunder, the whole woven firmly together. Made in rolls of 50 yards, or in other lengths, to order.

G. & Co. have been honoured with five consecutive orders for the Patent Hare and Rabbit Fencing from H.R.H. the Prince Consort, who has also personally expressed his satisfaction with the work. One yard of No. 4 variety is equal in weight to 3 yards of the best Wire Netting made.

PRICES PER YARD:—

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 24 inches high | ... | 1s. 0d, | Japanned | | 24 inches high | ... | 1s. 3d., Galvanised |
| 30 " | ... | 1 3 | " | | 30 " | ... | 1 6 " |
| 36 " | ... | 1 6 | " | | 36 " | ... | 1 10 " |

G. & Co. forward (post free) on application their ILLUSTRATED CATALOGUE, containing particulars of the above and other Iron and Wire Fences for Parks, Farms, Gardens, Game Preserves, Poultry Courts, &c.

GREENING & COMPANY, Victoria Iron and Wire Works, 81, Oxford St., Manchester.

B. SAMUELSON,

AGRICULTURAL ENGINEER AND MACHINIST,

WAREHOUSE, 76, CANNON STREET WEST, LONDON,

WORKS AT BANBURY,

INFORMS MERCHANTS, the TRADE, and AGRICULTURISTS, that he has opened the above Warehouses as a depôt for his own manufactures and those of Messrs. Barrett, Clayton, Howard, Hornsby, Nicholson, Richmond, Tuxford, Smith, and all other first-class makers, whose implements he is prepared to offer on makers' terms.

THE BRITANNIA SELF-RAKING REAPING MACHINE,

With side delivery in sheaf, no rakers or gatherers required; and all the most improved Spring Implements for the season, may be inspected at the above depôt.

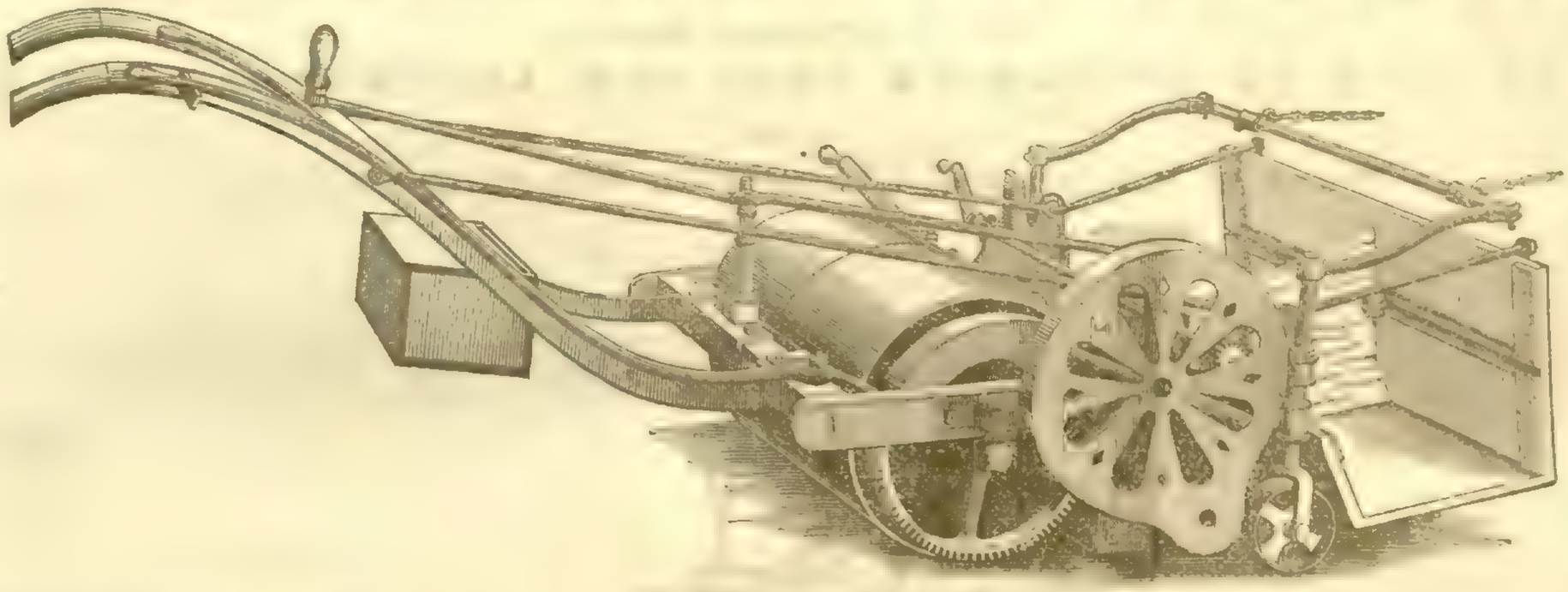
B. SAMUELSON, 76, Cannon Street West, London; and Britannia Works, Banbury.

# SHANKS' PATENT LAWN MOWING MACHINES,

## NOW USED IN ALL THE ROYAL GARDENS.

NEW AND IMPORTANT IMPROVEMENTS FOR MOWING, ROLLING, COLLECTING, AND DELIVERING.

**HORSE POWER PATENT MOWING, ROLLING, COLLECTING, AND DELIVERING MACHINE.**



**PRICES**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| No. 1(*a*).—48-inch MACHINE (usually drawn by a Horse) .. .. .. .. | £27 | 0 | 0 | No. 3.—30-inch MACHINE (usually drawn by a Pony) .. .. .. .. | £17 | 10 | 0 |
| No. 1.—42-inch MACHINE (usually drawn by a Horse) .. .. .. .. | 24 | 0 | 0 | No. 4.—25-inch MACHINE (usually drawn by a Pony or Donkey) .. .. | 13 | 10 | 0 |
| No. 2.—36-inch MACHINE (usually drawn by a Horse or Pony) .. .. .. | 20 | 10 | 0 | No. 5.—25-inch MACHINE (made light for a small Pony or Donkey) .. .. | 9 | 10 | 0 |

Machines Nos. 1 (*a*), 1, 2, 3, & 4 have the Patent Delivering Apparatus attached. No. 5 can either be had with or without this improvement; if with it, 30*s*. extra.

**PRICES OF THE HAND MOWING AND ROLLING MACHINE**

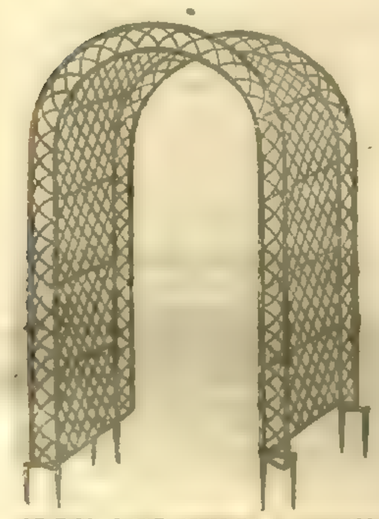
| | | | | | | | |
|---|---|---|---|---|---|---|---|
| No. 6.—22-inch MACHINE .. .. .. .. .. .. .. .. .. .. | £7 | 17 | 6 | No. 8.—16-inch MACHINE .. .. .. .. .. .. .. .. .. .. | £3 | 10 | 0 |
| No. 7.—19-inch MACHINE .. .. .. .. .. .. .. .. .. .. | 7 | 5 | 0 | No. 9.—13-inch MACHINE .. .. .. .. .. .. .. .. .. .. | 5 | 15 | 0 |

☞ FULLY ILLUSTRATED AND DETAILED CIRCULARS ON APPLICATION.

**LONDON AGENTS**

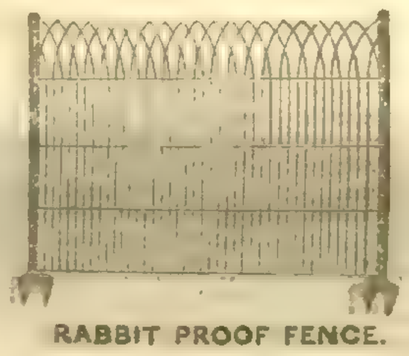
MESSRS. J. B. BROWN & CO., 18, CANNON STREET, CITY, LONDON, E.C.

# IRON & WIRE WORK, & WIRE NETTING.



IRON AND WIRE ARCHWAY.

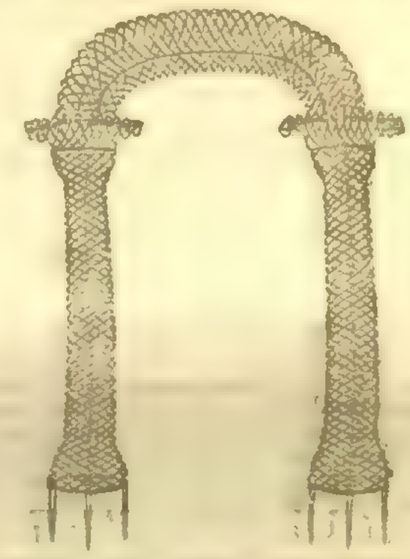
FLOWER BASKET.



RABBIT PROOF FENCE.

FLOWER STAND.

FLOWER BASKET.



IRON AND WIRE COLUMN.

IRON HURDLES
STRAINED WIRE FENCING
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HAND-GLASS FRAMES

IRON AND WIRE ESPALIERS
PLAIN AND GALVANIZED WIRE
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IRON FLOWER STAKES
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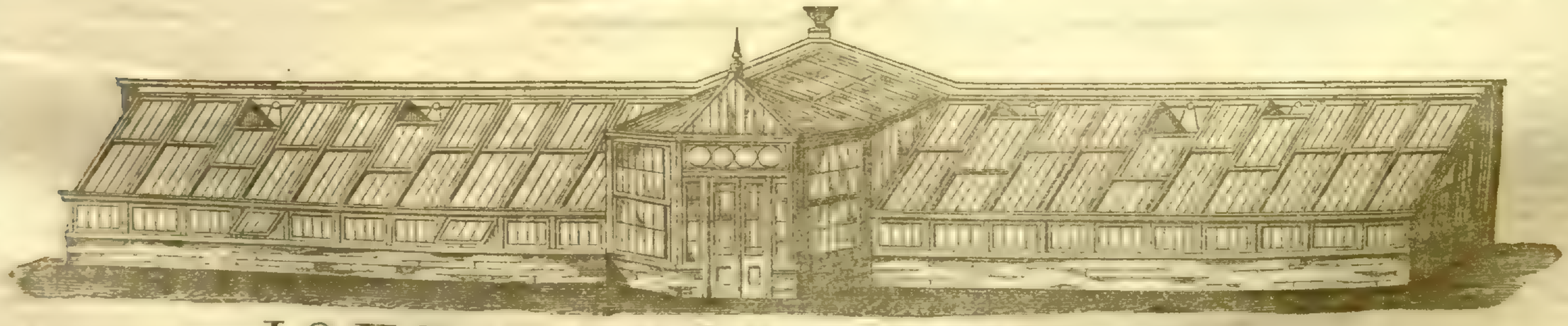
☞ *Every Article warranted to give satisfaction, and if not approved may be exchanged or returned unconditionally.*

J. B. BROWN & CO., OFFICES, 18, CANNON STREET, CITY, LONDON, E.C.

# HORTICULTURAL BUILDING & HEATING BY HOT WATER.

**BY APPOINTMENT.**



# JOHN WEEKS & COMPANY,

KING'S ROAD, CHELSEA, LONDON.

HORTICULTURAL BUILDERS AND HOT-WATER APPARATUS MANUFACTURERS, ENGINEERS, AND IRON FOUNDERS.

PLANS, ESTIMATES, & ILLUSTRATED CATALOGUES FREE ON APPLICATION.

# FOWLER'S PATENT STEAM PLOUGH

## SEEN AT WORK.

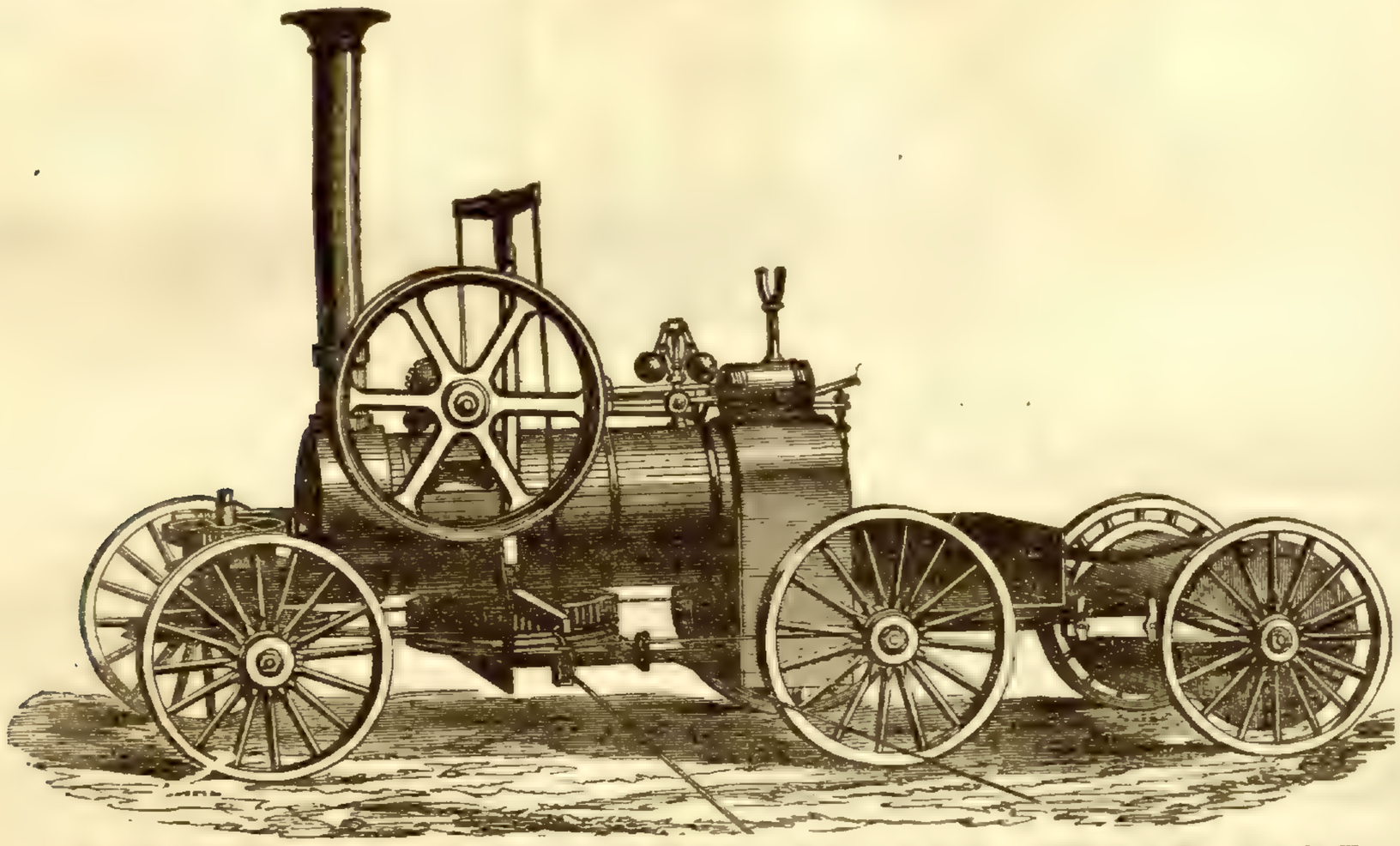
### A STANDARD SET OF FOWLER'S STEAM-PLOUGHING TACKLE,

UPON THE MOST APPROVED PRINCIPLE,

### CAN BE SEEN IN OPERATION THIS DAY AND MONDAY, 30th INST.,

ON THE

ESTATE OF M. T. BASS, ESQ., M.P., NAPSBURY, NEAR ST. ALBANS, HERTS.



FOWLER'S ENGINE, WINDLASS, AND WATER CART.

☞ Illustrated Catalogues will be ready shortly.

**The following TESTIMONIALS have been handed to JOHN FOWLER by some of the parties using his Steam Plough and Cultivator:—**

(No. 1.)

"Sarsden Lodge Farm, Chipping Norton, March 31, 1859.

"Dear Sir,—I am pleased to give you a most favourable report of your Steam Plough sent to Mr. Langston. It has been used daily for the last three weeks without the slightest accident or breakage, and has more than answered our expectations. We have ploughed with it the most varied and uneven field upon the estate, and have found the work perfect. The grubbing with plough heads and shares effects an excellent tillage. This is accomplished by removing the turn furrows; the same ploughs answer either for turning the soil or for breaking it up. We have for some years had an excellent scarifier, which is easily attached to each end of your plough beams, and this constitutes a simple and effectual cultivator, with this special recommendation, that it will work over ridge and furrow and in the roughest land without clogging. The above is the testimony of my own experience, and during the time mentioned I have given exclusive attention to the working of the plough, but it has been likewise witnessed and approved by almost every practical farmer in the neighbourhood. A large party came from Oxford on Monday last, and I feel sure that if additional evidence should be wanted to confirm my statement I could procure it from a long list of signatures well known to the agricultural public.

"I remain, sir, yours truly, MATTHEW SAVIDGE.

"Mr. John Fowler, Jun., 28, Cornhill."

(No. 2.)

"London, April 13, 1859.

"Dear Sir,—In reply to your inquiries respecting the working and general value of the Steam Plough you supplied me with in November last, I beg to inform you that I have every reason to be fully satisfied with it. The farm in East Lothian on which it has been used is very badly laid out, and not at all adapted for steam culture, many of the fields being angular, and of every supposable shape; still it is a fact that with the exception of the cornered pieces, and some of the shorter lands, the whole ground that has been ploughed, since I received the Steam Plough, has been so by it. The result has been that on a farm of 320 acres I have not required during the winter to keep more than six horses, and yet I believe the spring work is as well forward as it could be under any circumstances however favourable. I may mention that I have fitted on a cultivating apparatus to your subsoiling plough frame; I find this cultivator of great value in preparing the soil for root crops, and in autumn I expect it will be found of still greater use in scarifying stubble and foul land. On the whole I am well pleased with your Plough. I know very well that any one who adopts a piece of machinery like it, before it has assumed the exact state in which it is likely to come into general use, must be prepared to pay for the experience he is acquiring and working out. But I believe your Plough is now very nearly in that state which it requires to be, in order that the farmer may adopt and employ it on his land with profit, and I have therefore no hesitation in giving my recommendation in its favour. "I am, &c. J. L. MORTON."

"P.S.—The farm I ought to add is all arable, and when I got possession shortly before I purchased your Plough, scarcely any of the work was done. Now, as I have said, it is well forward; this certainly could not have been the case but for the Steam Plough.

"John Fowler, Jun."

(No. 3.)

"Esher, April 14, 1859.

"Dear Sir,—As manager of the Steam Plough supplied by you to Mr. Gurney last autumn, I may inform you that we ploughed with it up to the end of December about 70 acres of land in a most efficient manner. Most of the work was deep ploughing; and that on Mr. Sherrard's farm, near Reigate, unprecedently so in my experience of such soils, his being strong land on a yellow clay, which was brought to the top to increase the depth in cultivation. On the lighter land of Mr. Marriage's farm, at Nutfield, when ploughing for Wheat about 6 inches deep, we repeatedly got well over an acre in the hour without any particular effort being made for speed. Universal satisfaction was given by the quality of the work performed, and I am satisfied that with your recent improvements, which render the engine and windlass self-moving from field to field, of the value of which I am fully convinced, and the other alterations which experience has suggested, the tackle is now such as must well answer the purpose of every large occupier to possess, being simple, durable, and easily managed. "I am, &c. E. W. BROOKS.

"John Fowler, Jun."

(No. 11.)

"Wickham Market, May 24, 1859.

"Dear Sir,—In answer to your inquiry as to my experience with the Steam Plough and Apparatus purchased of you for Mr. Lyne Stephens last year, I beg to state that a very large extent of land has been ploughed by it at a depth greater than is generally approved in the neighbourhood, the policy of which, for the present, must remain a matter of opinion; in point of execution everything that can be desired; beside other advantages it is decidedly cheaper than horse labour, and when the cost price of the plough, &c., is brought within the reach of the tenant of a moderate-sized occupation, nothing can prevent its general use; equally so with threshing by the same power; of this I entertain not the smallest doubt. The comparison between your plough and Smith's, of Woolston, so lauded in some of the newspapers, is perfectly farcical. Before purchasing of you I went over with a party of Norfolk gentlemen to see Mr. Smith's at work near Lynn; I advise others to do the same, and then judge which of the two is the better implement.

"I am, &c. (Signed) CORNELIUS WELTON.

"John Fowler, Jun."

(No. 9.)

"Navestock, Essex, May 14, 1859.

"Dear Sir,—In reply to yours, I am happy to inform you that I have succeeded in drawing my Draining Plough, with your tackle, through my strong marl land 26 inches deep, and as I am determined to lay all my land on the flat (with even a water furrow), I have made each drain 7 feet apart only. I have just completed 14 acres, and I have no doubt but that we shall soon be able to do 5 to 7 acres per day at this distance. I am much pleased with your Steam Plough, and by taking off the breasts, I scarified 40 acres for my Mangel 10 inches deep, which I thought for the first time over would be sufficient. I quite congratulate you on the perfection you have made in your Steam Plough, rendering steam cultivation an accomplished and profitable fact, and which will now be readily admitted by practical men.—I am, &c. COLLINSON HALL.

"P.S.—I have formerly drawn my Draining Plough with 24 horses, 18 to 20 in. deep, and am delighted to dispense with their services in future by the steady draft of steam."

(No. 8.)

"Littywood, near Penkridge, April 8, 1859.

"Dear Sir,—In reply to your letter of the 29th March, I have great pleasure in certifying to the efficient working of your Steam Plough upon my farm. In the autumn of 1858 I ploughed by it 70 acres, 8 inches deep, in 15 days, part for Wheat and part for root crops, and am convinced the work could not have been done so well by horses; the Wheat is looking well, and I consider that land ploughed by steam has many advantages over that ploughed by horses, inasmuch as there is a greater tilth for the grain to grow in, and it is worked for root crops much easier. I find in riding across the land ploughed by steam my horse sinks fully 3 inches deeper in the soil than upon that ploughed by animal power, which is a proof of the good condition in which the land is left for working after the plough. You are at liberty to use my name to what I have stated in this if it will be to your service in any way.

"I am, &c. CHARLES BYRD.

"John Fowler, Jun."

(No. 4.)

"Kinnersley, Reigate, April 4, 1859

"Dear Sir,—In reply to your letter of the 29th ult., requesting me to state my opinion of your Steam Plough, I beg to say that I had every reason to be pleased with its performance on my land during the month of November and the greater part of December in last year, when your plough turned up about 3 acres of my heavy clay land to a depth of 8 to 9 inches in a manner so satisfactory that I hope to arrange with Mr. Gurney's agent, Mr. Brooks, to bring the plough here again immediately after the harvest, when he shall have the greater part of my farm to plough if he likes to undertake it.—I am, dear sir, yours truly,

"J. T. SHERRARD

"John Fowler, Jun."

(No. 5.)

"Boyton Hall, near Chelmsford, March 2, 1859.

"My dear Sir,—Your Steam Cultivator has finished the 16-acre field to my entire satisfaction. The land was ploughed soon after harvest, and had not been moved since. The Scarifier was driven across the stetches and completely stirred the ground from 6 to 8 inches deep, in many places deeper than the previous ploughing, leaving it in a finely pulverised state. I am convinced the work could not have been done so well even with a large amount of horse labour, as the land is a stiff marl, and the treading of the horses would to a great extent have counterbalanced the benefit of the scarifying.—I am, sir, yours faithfully,

"J. CHRISTY, Jun.

"John Fowler, Jun., 28, Cornhill."

(No. 6.)

"Morelsham Lodge, Chelmsford, April 6, 1859

"Dear Sir,—I feel it is only due to you to state, that during the time your Steam Plough was at work on my farm, it performed its work remarkably well, ploughing the soil to a good depth, and casting the furrow even and well, and in the hands of a practical ploughman I have but little doubt the results will eventually be highly satisfactory. I make this remark because we all know the poor work a bad ploughman will make holding either a Bentall or a Howard.—I am, &c.

"JOHN MARRIAGE."

(No. 7.)

"Hilton, Burton-on-Trent, April 1, 1859

"I am decidedly of opinion that ploughing done by Fowler's Steam Plough is far superior than it is possible for horses to do it, as the treading of the horses is a decided drawback to them, whilst there is nothing of the sort when done by steam, and it is in every other respect quite equal to that done by horses, and this was the universal opinion of my friends. I am now ploughing across a mixed soil, or more properly speaking a field of different sorts of land—viz., gravel, sand, clay, and even some rocky parts, and it keeps a regular depth of about 11 inches, and leaves the land much lighter than when done by horses.—I am, &c., yours truly,

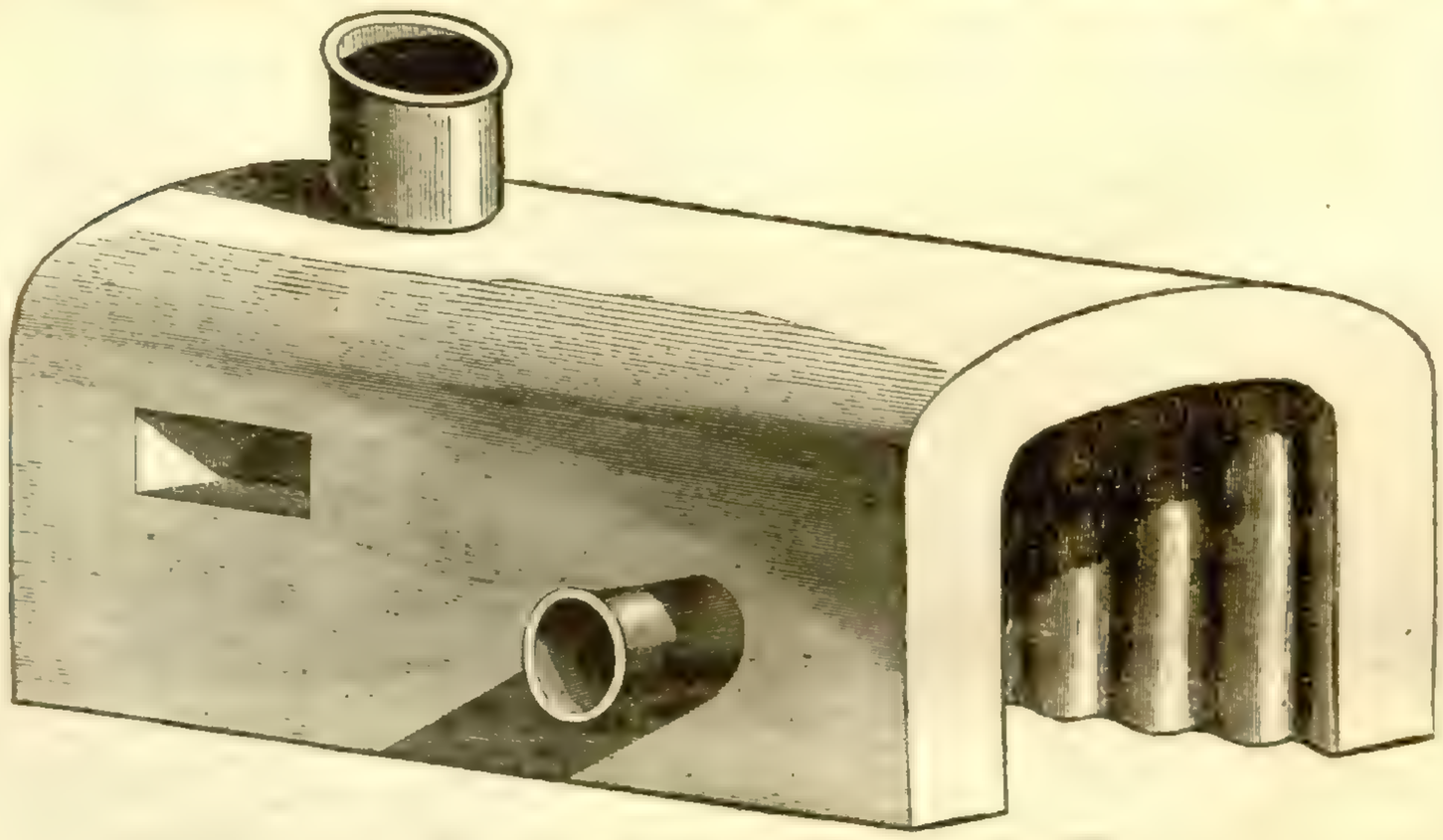
"W. BRADBURN

"John Smith, Coven."

**For further particulars apply to JOHN FOWLER, Jun., 28, Cornhill, London, E.C.**

# HORTICULTURAL WORKS,

## DANVERS STREET, PAULTON'S SQUARE, CHELSEA, S.W.



# JAMES GRAY

RESPECTFULLY begs to inform the nobility, gentry, Nurserymen, Gardeners, and others, that he continues to carry on the business in all its branches at the above old established premises.

**CONSERVATORIES, GREENHOUSES, FORCING HOUSES, VINERIES, PITS, &c.,**

of every description, erected on the most approved principles.

## HEATING BY HOT WATER.

J. G. having specially devoted his attention for many years to this part of the business, is now fully prepared to Heat every description of public and private buildings, viz :—Churches, Mansions, Warehouses, &c., as well as all structures connected with Horticulture, in the most efficient manner. His system is the most simple that can be adopted—which he has found from long experience to be the best—can be constructed at less cost, and is more easily managed than those of a complicated nature which have attracted the notice of the public.

J. G. begs to call attention to his CAST-IRON CORRUGATED ARCH BOILER, which from its simplicity of construction has not the liability to fracture to which those of a more complex design are always subject. They have been extensively used for many years, and have given the greatest satisfaction.

All business is conducted at this establishment on the principle of lowest remunerative profits consistent with best materials and workmanship.

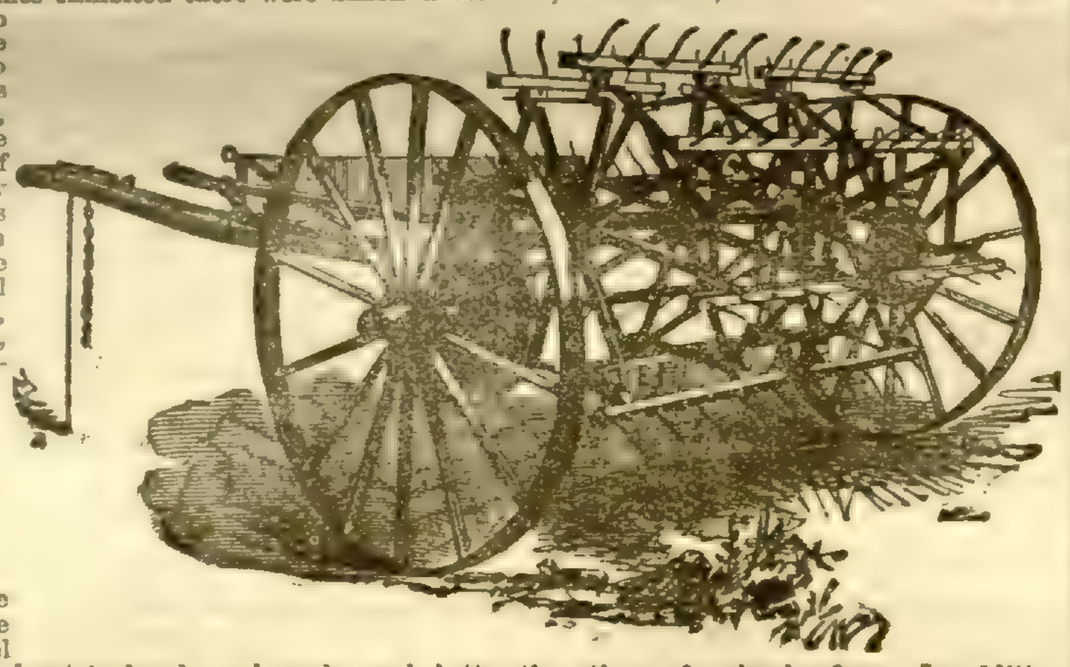
**Plans and Estimates furnished on the shortest notice.**

# SMITH & ASHBY,

## AGRICULTURAL ENGINEERS, STAMFORD.

## HAYMAKING MACHINES.

THE last great trial of Haymakers took place at Londonderry, before the Council of the Royal Society of Ireland, in August last. The Machines exhibited there were SMITH & ASHBY'S, Nicholson's, and Sheridan's. The trial land was full of deep broad grips, the crop was heavy green Clover, upon which the Machines selected for trial were set to work. SMITH & ASHBY'S Machine did its work admirably, without a single failure, and was the only one that could clear the grips without clogging and flying out of gear. The Prize of 5*l.* was unanimously awarded to this Machine. This makes Five First-class Prizes that have been awarded to SMITH & ASHBY'S Machine since the Salisbury Meeting of the Royal Agricultural Society of England (1857), being every Prize offered since that Show, and in addition to the 31 First Prizes announced last season.



**Price £15 15s.**

SMITH AND ASHBY,
AGRICULTURAL ENGINEERS, Stamford.

## HORSE RAKES.

SMITH & ASHBY'S celebrated Horse Rake has lately been greatly improved by the introduction of their new Patent Steel Semi-angular Teeth, which are warranted not to break, and work much better than those of a circular form. In addition to the Twenty-six Prizes announced up to last season, SMITH & ASHBY'S Rake took the First Prize of the Royal North Lancashire Society at Ulverstone in September last. The same Rake took the First Prize of the Royal Agricultural Society of Ireland two years in succession.

**Price, full size, with improved Iron Teeth, £7 10s. Steel, £8; Extra large Size, £10.**

☞ *For full particulars see* S. & A.'s *Catalogue, posted free on application.*

## WARNER'S IMPROVED LIQUID MANURE OR GENERAL PORTABLE PUMP.

These Pumps are fitted with J. W. & SON'S Patent Buckets and Suckers, and cannot clog in action. The barrel is of galvanised iron, not likely to corrode, and can be raised or lowered at pleasure. The legs will fold together, and the whole may be carried on the shoulder to any pond or tank required.

Price of 4½ in. Pump, with legs, 3*l.* 3*s.* If with planished copper barrel and galvanised iron handle, &c., 14*s.* extra. The barrel is 27½ in. long, and the legs are 5 ft. high.

These Pumps are also made without the legs, with strong wrought-iron straps for screwing on to any ordinary water butt or cart, and fitted with 1½ inch brass union for attaching flexible suction. Price 50*s.*

1½ inch Gutta Percha Suction Pipe, 1*s.* 11*d.* per foot.

Rubber and Canvas Suction and Delivery Hose, from ½ inch to 4 inches in diameter, in lengths of 60 feet to order. Branch Pipes with Cocks, Union Screws, &c., at reduced prices.

May be obtained of any Ironmonger or Plumber in town or country, at the above prices, or of the Patentees and Manufacturers, JOHN WARNER & SONS, 8, Crescent, Jewin St., London.

## WARNER'S PATENT VIBRATING STANDARD PUMPS.

PATENT CAST-IRON PUMPS, fitted with J. W. & SON'S Patent Buckets and Suckers, which cannot clog in action, for Farms, Cottages, and Wells, not exceeding 28 feet.

| Diameter of Barrel. | Height. | | £. | s. | d. |
|---|---|---|---|---|---|
| 2½ in. | short 1 ft. 7 in. | Fitted for lead, gutta percha or cast iron flanged pipe as required. | 1 | 10 | 0 |
| 2½ ,, | long 3 ,, 3 ,, | | 1 | 14 | 0 |
| 3 ,, | ditto 3 ,, 6 ,, | | 2 | 8 | 0 |
| 3½ ,, | ditto 3 ,, 6 ,, | | 2 | 12 | 0 |
| 4 ,, | ditto 3 ,, 6 ,, | | 3 | 3 | 0 |
| 2½ ,, | short, with 15 feet of Lead Pipe attached, ready for fixing .... | | 2 | 14 | 0 |
| 2½ in. | long ditto ditto | ditto | 2 | 18 | 0 |

The short barrel Pump is very convenient for fixing in situations of limited height and space, for the supply of coppers and sinks in Wash-houses with soft water from underground tanks, or in Hot, Forcing, and Plant Houses; they may be fixed, when desired, under the stage.

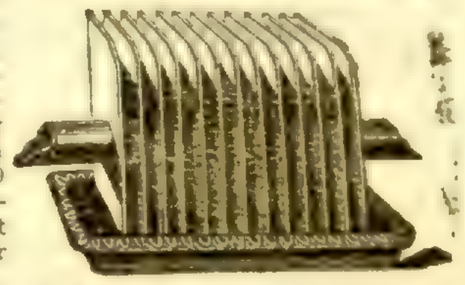
May be obtained of any Ironmonger or Plumber in Town or country, at the above prices, or of the Patentees and Manufacturers, JOHN WARNER & SONS, 8, Crescent, Jewin Street, London.

Every description of Machinery for Raising Water by means of Wheels, Rams, Deep Well Pumps, &c.; also Fire and Garden Engines, &c. &c.—Engravings sent on application.

MARQUEES, TENTS, AND RICK CLOTHS FOR SALE, OR HIRE.—H. PROCOTT, 115, Fore Street, E.C.

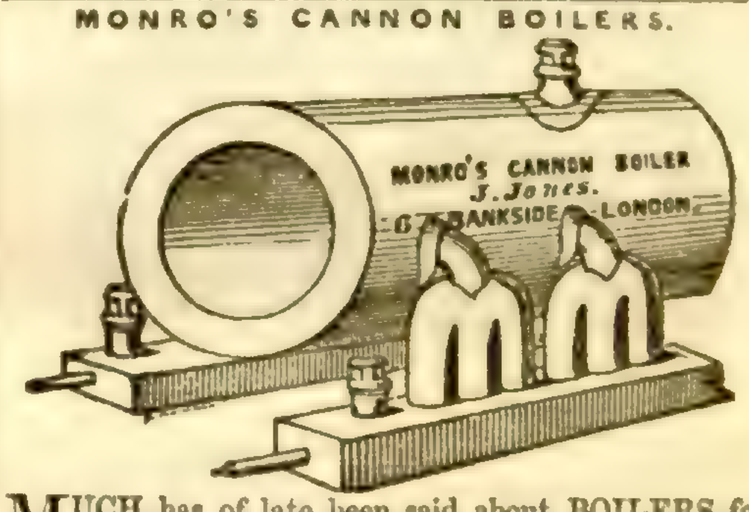
## IMPROVED HOT-WATER PIPE.

THE HORTICULTURIST will find herein an inexpensive instrument of new and very important powers. An atmosphere may be produced at will either perfectly dry, partially damp, or saturated with moisture. A space of 10 inches by 12 inches contains the power of 25 feet of 4-inch pipe and other numerous advantages.



The London Warming and Ventilating Company (Limited), 26, Great George Street, Westminster, S.W.

## MONRO'S CANNON BOILERS.

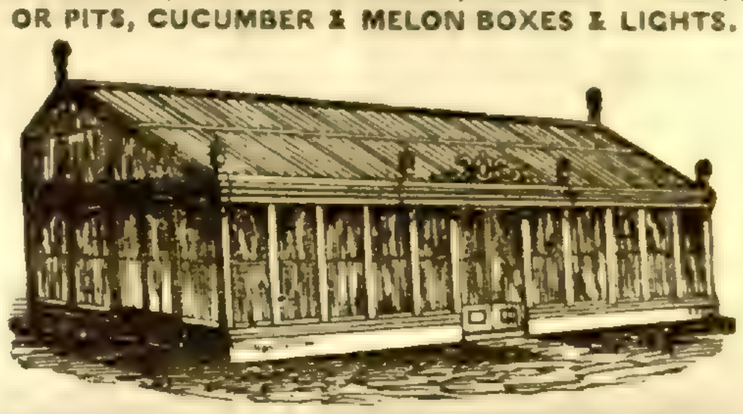



MUCH has of late been said about BOILERS for Heating by Hot Water, but these Boilers have now proved themselves to be the best at present invented. They are adapted for heating every description of building, and are made of various sizes. The Price of the

| | | | | |
|---|---|---|---|---|
| 24-inch Cast Iron is | .. .. | .. | £5 10s. 0d. | each |
| 24-inch Wrought ditto | .. .. | .. | 6 10 0 | ,, |
| 36-inch Cast ditto .. | .. .. | .. | 8 0 0 | ,, |
| 36-inch Wrought ditto | .. .. | .. | 8 10 0 | ,, |

References to Gentlemen and Nurserymen where these Boilers are now at work. The Cannon Boilers are now kept in stock, and are to be had only of J. JONES, 6, Bankside. Also, every description of Saddle and Cylinder Boilers. Hot Water Pipes and Connections at prices lower than those of any other house in London. Estimates for Hot-water Apparatus erected complete in any part of the country, and an Illustrated Catalogue on application to J. JONES, 6, Bankside, Southwark, London.

## HOTHOUSES, CONSERVATORIES, FRAMES & LIGHTS OR PITS, CUCUMBER & MELON BOXES & LIGHTS.



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Green and Hothouses, 9, 10, 11, 12, 13, and 14 feet wide, any length, from 16 to 100 feet. Frames and Lights for Pits, 6ft. 6 in., 7 ft., 7 ft. 6 in., 8 ft., and 8 ft. 6 in. wide, any length, from 12 to 100 feet. Upwards of 200 Cucumber and Melon Boxes and Lights, from 4 ft. by 3 to 10 ft. 6 in. by 5 ft. 6 in., kept ready, glazed with stout sheet glass, painted four times, complete, ready for immediate use, all made of best material, packed and sent to all parts of the kingdom.—References may be had to the Nobility, Gentry, and the Trade in most of the counties in England. Horticultural Buildings of every description heated on the most approved and economical principles.

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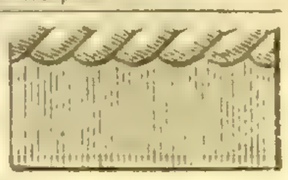

| Price at Peterborough. | In London |
|---|---|
| Straight .. .. .. 5*d.* | — 6*d.* per yard |
| Bends .. .. .. 6*d.* | — 7*d.* ,, |
| If fitted to plans .. 7*d.* | — 8*d.* ,, |

LOOMES & Co., Manufacturers, Whittlesea, near Peterborough.

VASES, PEDESTALS, SUNDIALS, FOUNTAINS, FLOWER BOXES, JARDINETS, FERN CASES, BALUSTRADES, EDGINGS AND CURBS FOR FLOWER BORDERS, SEATS, &c., in Imperishable Siliceous Stone, at reduced prices, for the adornment of the Villa Garden, the Mansion Grounds, or the private or public Park.

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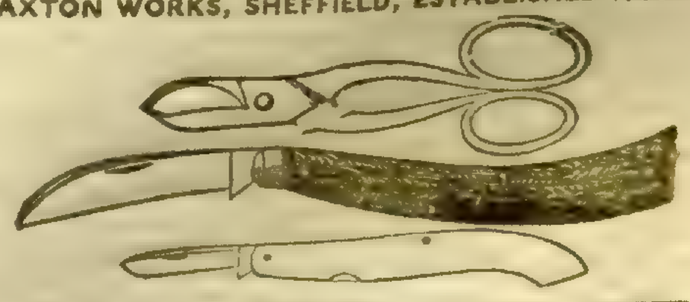

SAYNOR AND COOKE'S warranted PRIZE PRUNING and BUDDING KNIVES, SCISSORS, &c.—Sold by all respectable Nurserymen and Seed Merchants in the three Kingdoms.

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E. R. AND F. TURNER, Ipswich, manufacture Prize Mills for Crushing Corn, Seed, Malt, &c.; Portable Grinding Mills, Steam Engines fixed and portable from 2 horse-power and upwards; Threshing Machines, Chaff Cutter, Oilcake Breakers, Horse Gears, Saw Tables, &c., all of a superior description and adapted for Home, Colonial, and Foreign use. Illustrated Price Lists sent free on application.

## TO AMATEUR GARDENERS, NURSERYMEN, AGRICULTURISTS, AND OTHERS.

GUTTA PERCHA TUBING FOR WATERING GARDENS, from 2½*d.* per foot; Vulcanised India Rubber Tubing for Watering Gardens, from 4*d.* per foot; Brass Hand Branches, with Stopcock and Rose, and every description of Garden Tubing Fittings, sold Wholesale and Retail by W. R. WOODS, 94, Goswell Road, near the "Angel," Islington, London, E.C. Priced Lists can be had on application.

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WARNER'S SWING WATER-BARROW (TO HOLD FORTY GALLONS), MOUNTED ON WHEELS 20 INCHES HIGH. Will save much of the Gardener's time and labour. May be obtained of any Ironmonger for 3*l.* 8*s.*

BRASS SYRINGES, 9*s.* to 18*s.*

Also a great variety of effective Machines for Hydraulic purposes, and to supply Gardens, Hothouses, Cottages, Farms, Mansions, or Boards of Health, with every requisite connected with the conveyance and distribution of Liquids.

*Fountains suitable for Conservatories, Lawns, &c.*

JOHN WARNER & SONS 8, Crescent, Jewin Street, London.

## GARDEN ENGINES AND SYRINGES.

J. TYLOR AND SONS, Warwick Lane, Newgate Street, London, E.C., beg to call attention to their very superior manufacture of GARDEN ENGINES and SYRINGES.

Fig. 598. J. TYLOR & SONS' BARROW GARDEN ENGINE in best well painted Oak tub, fitted with J. TYLOR & SONS' Improved Brass Pump, Universal Joint, and Registered Spreader; which answers the purpose of the separate rose, fan, and jet.

CONTENTS OF TUB:—

| 10 gallons | 15 gallons | 28 gallons |
|---|---|---|
| £4 10 0 | £5 10 0 | £6 18 0 |

Fig. 599. do. TINNED IRON TUB.

CONTENTS OF TUB:—

| 8 gallons | 12 gallons | 16 gallons | 24 gallons | 30 gallons |
|---|---|---|---|---|
| £2 15 | £3 5 | £4 | £5 | £5 18 |

Fig. 618. No. 1. REGISTERED SYRINGE, with India-rubber suction tube, one rose and jet .. .. £1 5 each.

No. 2. Ditto ditto 1 1 ,,

Telescope Branch Pipe for ditto .. .. 0 10 ,,



Fig. 619. GARDEN SYRINGE, with one rose and jet, 12*s.*6*d.* each

,, 620. Ditto ditto 11*s.*6*d.* ,,

,, 621. Ditto ditto 10*s.*6*d.* ,,

,, 622. LADIES' GARDEN SYRINGE, with one rose & jet, 8*s.*

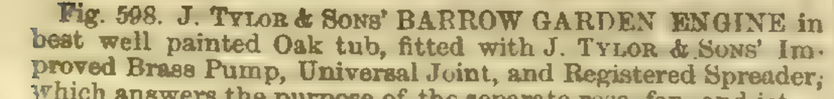

Fig. 623. READ'S SYRINGE, with two roses and one jet, 18*s.*6*d.*

,, 624. READ'S SYRINGE, with one rose and jet .. 16 6

,, 625. Improved ditto ditto .. 14 6

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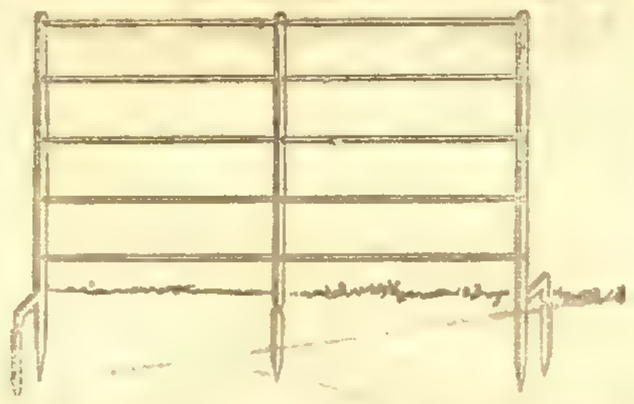
Manufacturers of Pumps and Well Engines (for shallow or deep Wells), Plumbers' Brass Foundry of every description, High Pressure Cocks and Closets, Copper and Tinned-iron Baths, Garden and Fire Engines, Lamps of every description, Copper Goods, &c. Estimates given for Hot-water and Bath Apparatus.

## IRON HURDLES, FENCING, &c., MADE BY MACHINERY.



COTTAM AND COMPANY, of Winsley Street, have invented machinery for making Hurdles, &c.; the bars, instead of being pointed by hand in the old fashioned style, are nipped down by the machine, leaving a shoulder so as to more effectually tighten the standards when rivetted. They are made of superior iron only, and will compete in price with those made by hand from cinder or common iron which so frequently break. Iron Fencing, Gates, and Iron Work of all kinds, both Plain and Ornamental, Conservatories, Hot Water Apparatus and Garden Implements.

Illustrated CATALOGUES free on application to COTTAM & COMPANY, Ironfounders, 2, Winsley Street, Oxford Street, W.

N.B. COTTAM & Co. beg to make it known that there is no longer an entrance to their establishment from Oxford Street, but that they have made a second entrance from 2, Winsley Street, Oxford Street, W., by the side of the old entrance to their works, opposite the Pantheon.

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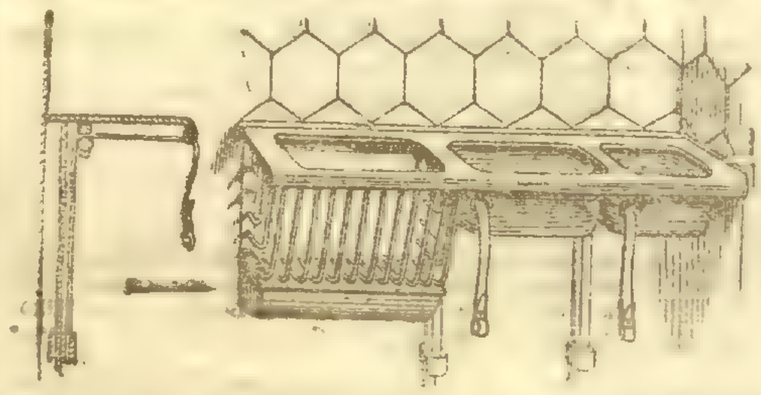
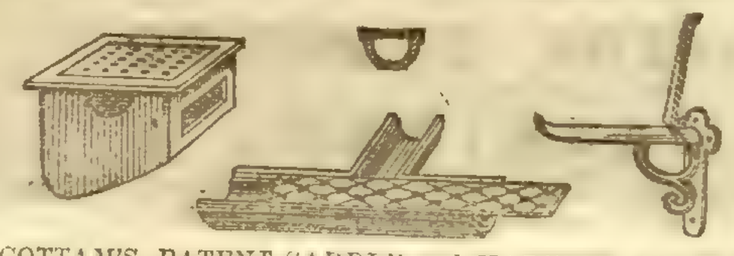


COTTAM AND COMPANY, of Winsley Street, are the original inventors of the PATENT ENAMELLED MANGER, Water Trough, and Wrought Iron Rack, united to an iron top-plate, and forming one complete and useful fixture, having COTTAM'S patent noiseless halter guide and collar rein attached, which is taken to the back of the manger, and works with ease and freedom up or down the guide-bar.

COTTAM'S NEW PATENT SEED-BOX, an important addition to the above fittings, being simple in construction, light, and durable, promotes cleanliness, and is economical in its results.



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COTTAM'S CAST-IRON SANITARY TRAP, from its improved construction, gives a full water passage, and does not allow any smell to ascend from the drain.

PATENT LOOSE-BOX FITTINGS, and every article for the harness-room and stable, kept in stock, plain, galvanised, and enamelled. Iron gates, fencing, hurdles, &c.

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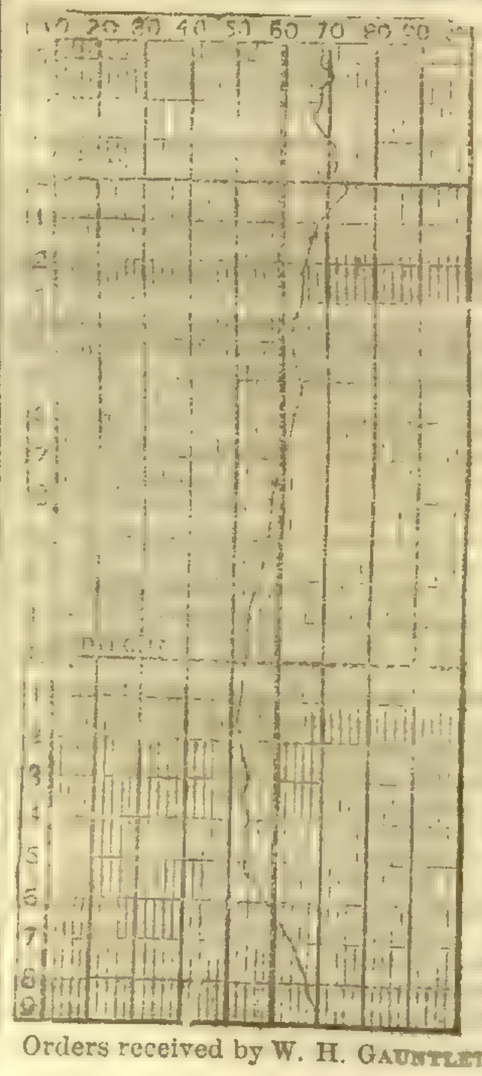
## TO HORTICULTURISTS.

GAUNTLETT'S PATENT CHRONOMETRICAL THERMOMETER.



This instrument, which combines an eight day clock of the best English make showing time, with a newly-patented Thermometer wherein glass and quicksilver are dispensed with, writes down the temperature of the atmosphere on a slip of paper, and when placed in a Hothouse, Forcing House, or Conservatory, &c., supplies a valuable record of the temperature, with all its variations, showing the time when any change took place, and how long such change continued.

The above slip (reduced in size) exhibits the temperature of the Royal Agricultural Society's show yard at Chester, July 22, 1858, written off by one of these instruments, to which was awarded the Society's SILVER MEDAL.

This is the only instrument that registers temperature continuously and writes it down, and no horticulturist should be without it.

Orders received by W. H. GAUNTLETT, Middlesbro' on-Tees.

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PRIZE MEDAL AWARDED TO G. N. & SONS, FOR BEE-HIVES AND HONEY, AT THE PARIS EXPOSITION OF 1855.

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This unique Hive has met with universal commendation, and may be worked with safety, humanity, and profit by the most timid; its arrangements are so perfect that the Honey may be taken at any time of the gathering season without at all injuring the Bees.

Early applications addressed to GEORGE NEIGHBOUR & SONS, 127, High Holborn, or 149, Regent Street, London, will receive prompt attention.

Their newly-arranged CATALOGUE of other Improved Hives with Drawings and Prices, sent on receipt of two stamps.

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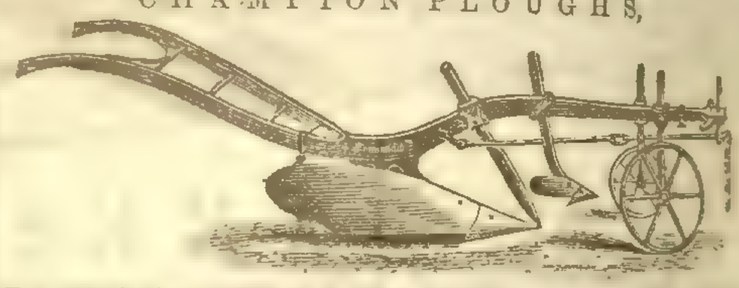
## HOWARDS' PRIZE IMPLEMENTS, 1859.

JAMES AND FREDK. HOWARD, Britannia Iron Works, Bedford, beg to direct attention to their CHAMPION PLOUGHS,



For which they received All the First Prizes last offered by the Royal Agricultural Society of England, viz.:—

The First Prize for the best Plough for general purposes.
The First Prize for the best Plough for light land.
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The only Prize ever offered by the Society for the best Double Breast or Ridging Plough was also awarded to J. & F. HOWARD.

J. & F. HOWARD have discontinued troubling the Public with a long List of Prizes awarded to their Implements, but they would just state that for PLOUGHS, HARROWS, and HORSE RAKES, they have for several years gained every Prize for which they have competed.

PLOUGHS.

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|---|---|
| D PLOUGH, for a Pony .. .. .. .. .. | £2 15 0 |
| DD ditto for one Horse .. .. .. .. .. | 3 5 0 |
| P ditto for two Horses .. .. .. .. .. | 4 17 6 |
| PP ditto for general purposes .. .. .. .. | 4 12 6 |
| SKIM COULTER for P or PP Plough .. .. | 0 5 6 |

HARROWS.

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| A Set of Three 4-Beam HARROWS, with Whippletree, recommended as general Seed Harrows, 9½ feet wide, marked No. 12 .. .. .. .. .. | 3 14 0 |
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If with Patent Joints, 6*s.* per set extra.

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| Small size, 7½ feet wide, marked A, with 24 iron teeth | 7 10 0 |
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| A Set of 15 Prongs, to be attached to the above when used as Weed Extirpators .. .. .. .. | 1 10 0 |

Free Delivery to Birmingham, Bristol, Colchester, Derby, Gloucester, Hull, Lincoln, Liverpool, London, Manchester, Norwich, Nottingham, Retford, Shrewsbury, Wisbeach, Worcester, and York; or to Dublin, Edinburgh, Glasgow, and other parts at fixed rates.

HOWARDS' NEW CATALOGUE, containing prices and description of their Patent Ploughs, Harrows, Horse Rakes, and other Implements, including Smith's Steam Cultivators, for which they received at Chester the Gold Medal of the Royal Agricultural Society of England, sent free on application to

J. & F. HOWARD, Britannia Iron Works, Bedford.

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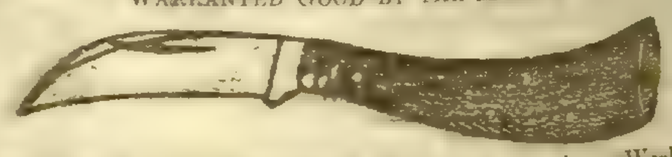
WARRANTED GOOD BY THE MAKERS.



MAPPIN BROTHERS, Queen's Cutlery Works, Sheffield; and 67 and 68, King William Street, London.

MAPPIN'S "SHILLING" RAZORS Shave well for Twelve Months without Grinding.

MAPPIN'S 2*s.* RAZORS Shave well for Three Years.

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MAPPIN'S SUPERIOR TABLE-KNIVES maintain their unrivalled Superiority—handles cannot possibly become loose—the blades are all of the very first quality, being their own Sheffield manufacture.

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| Ivory 3½ in. Handle, balanced, | 20*s.* p. doz.; | 16*s.* p. doz.; | 6*s.* p. pair |
| Do. 4 in. do. .. | 25*s.* ,, | 18*s.* ,, | 9*s.* ,, |

MAPPIN'S SILVER-PLATED DESSERT KNIVES and FORKS, in Mahogany Cases.

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MAPPIN'S ELECTRO-SILVER PLATE.—MAPPIN BROTHERS, Manufacturers by Special Appointment to the Queen, are the only Sheffield makers who supply the consumers in London. Their LONDON SHOW ROOMS, 67 and 68, King William Street, London Bridge, contain by far the largest STOCK of ELECTRO-SILVER PLATE in the World, which is transmitted direct from their Manufactory, Queen's Cutlery Works, Sheffield.

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Messrs. MAPPIN BROTHERS respectfully invite buyers to inspect their unprecedented display, which, for beauty of design, exquisite workmanship, and novelty, stands unrivalled. The illustrated Catalogue, which is continually receiving addition of New Designs, sent per post on receipt of 12 stamps.—MAPPIN BROTHERS, 67 and 68, King William Street, London Bridge; Manufactory, Queen's Cutlery Works, Sheffield

SHANKS'S PATENT LAWN MOWERS are unquestionably the most perfect Machines for Mowing Lawns, Verges, &c., extant. SHANKS's Horse and Pony Machines are the only Machines that Mow, Roll, Collect, and Deliver the Grass.—London Agents: COTTAM & Co., 2, Winsley Street, Oxford Street, W.

SHANKS'S PATENT MOWING MACHINES.

J. AND C. LEE, NURSERYMEN, Hammersmith, have great confidence in recommending these as the most complete Mowing Machines offered to the public. They have had large experience with SHANKS's Machines, and have ever found them do their work admirably, effecting a great saving in labour, and not liable to get out of order. For terms, apply to the Agents, J. & C. LEE, Nurserymen, Hammersmith.

LAWNS—IN USE IN THE ROYAL GARDENS.

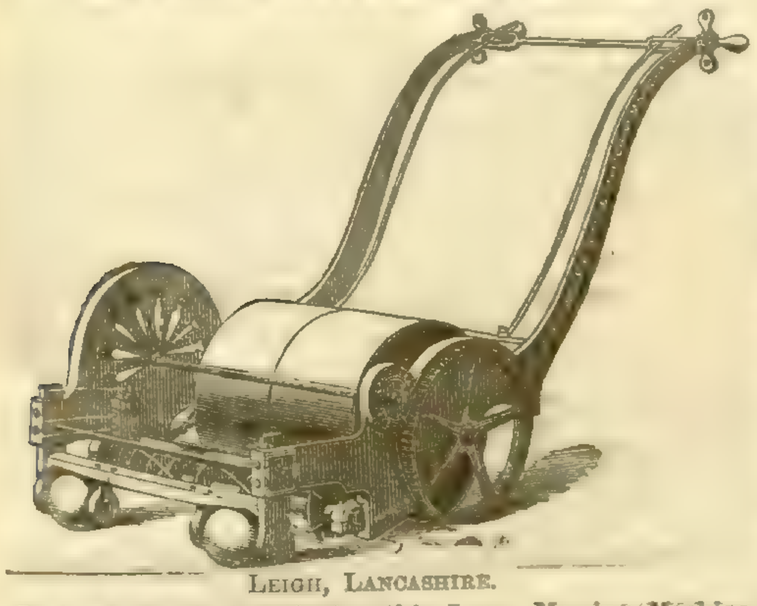
SAMUELSON'S PATENT BOYD LAWN MOWING and ROLLING MACHINE, the only one that will cut wet as well as dry Grass, is guaranteed efficient in use, easily handled, and readily kept in working order. Doing the work of five or six men. Prices, including case and carriage to any railway station in England, from 4*l.* 17*s.* 6*d.* and upwards. Copies of testimonials post free on application to Mr. SAMUELSON's London Warehouse, 76, Cannon Street West, City; Messrs DEANE's, London Bridge; or the Works, Banbury, Oxon.

THE NEW PATENT MOWING MACHINES may be used anywhere at any time, are self-sharpening, and admit of the use of duplicate sets of cutting parts. Prices from 4*l.* 10*s.* upwards Illustrated Circulars free by post.—Manufactured and Sold by JAMES FERRABEE & Co., the original introducers of Mowing Machines.

Several infringements of their patent having taken place, the Makers respectfully caution the public to see that the words "FERRABEE's Patent" are cast on every Machine.

JAMES FERRABEE & Co., Phœnix Iron Works, Stroud.

PICKSLEY, SIMS, AND CO.'S (by ROYAL LETTERS) PATENT LAWN MOWING MACHINE.



LEIGH, LANCASHIRE.

P., S., & Co., in introducing **this Lawn Mowing Machine**, particularly request a strict examination, or comparison and trial, for simplicity of construction, lightness, regularity of draught, adaptability for mowing every kind of plain, circular, and verge work.

Firstly, we have encased the wheels so as completely to protect from injury flower borders, shrubs, &c., whilst working the machine, at the same time not being liable to obstruction or damage.

Secondly, this machine works easily on undulated and sloping ground; it can be thrust forward or be drawn from behind, the latter being the easiest.

Thirdly, this is the only machine made that will work round quick curves; it will work easily and effectively round circular borders so small as 12 inches in diameter. This very desirable improvement has been obtained by fixing to the front part of the machine our newly-invented universal action, and self-cleaning, anti-friction spherical guiding balls. The continual revolving of these spherical guiding balls, under the most trying circumstances, never fails.

Fourthly, we have attached to this machine a rack and pinion motion, for adjusting the cutting parts (there being a rack and pinion on each side of the machine to act conjointly at the same time upon the full length of the knives), in other machines a slow, tedious, and uncertain operation, into one of quickness, ease, and certainty.

PRICES:—

| | | | | £ | s. |
|---|---|---|---|---|---|
| Patent Lawn Mowing Machine | | | 13 inches .. | 5 | 10 |
| Ditto | ditto | ditto | 16 ,, .. | 6 | 0 |
| Ditto | ditto | ditto | 19 ,, .. | 6 | 10 |
| Ditto | ditto | ditto | 22 ,, .. | 7 | 0 |
| Patent Chaff and Gorse Cutters from | | | .. .. £2 5 to | 22 | 0 |
| ,, Bean, Oat, and Malt Mills | | | .. .. 3 10 to | 10 | 10 |
| ,, Gorse and Grain Bruisers | | | .. .. 10 10 to | 21 | 0 |
| ,, Bone Mills | | | .. .. 27 10 to | 150 | 0 |
| ,, Mangles, various | | | .. .. 2 10 to | 12 | 10 |

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HENRY J. MORTON AND CO.,
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for Cottage Houses, &c., to contain 50 gallons, 25*s.*; 80 gallons 30*s.* each; and 140 gallons, 36*s.*, and fitted with tap, keeping the water perfectly sweet and clean; will not rust or corrod Cisterns of all sizes.

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for Liquid Manure or Domestic Use, 3 inches diameter, 30*s.* and 32*s.* 6*d.* each; Tail Pipe for same at from 10*d.* per foot.

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Messrs. BURGESS & KEY, 95, Newgate Street, strongly recommend it as the most perfect Churn now in use. Full particulars sent on application.

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JOSEPH AMADIO'S Improved Compound MICROSCOPE, 2*l.* 2*s.*; Students', 3*l.* 13*s.* 6*d.*

"Both these are from Amadio, of Throgmorton Street, and are excellent of their kind, the more expensive one especially."—*Household Words*, No. 345.

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Sheet Iron Pots for fumigating, 3*s.* 6*d.* each.

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THRIP (magnified).

MEALY BUG (magnified).

**GREEN FLY** on Roses and Greenhouse Plants safely got rid of by syringing with PATENT GISHURST COMPOUND, 2 oz. to the gallon of water.

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"That it really kills red spider, aphides, mealy bug, thrips, and scale, it is impossible to doubt in the face of reports of practical men, among whom we may mention Mr. D. Judd, of Althorp Gardens"—then follows a caution against the use of a too strong solution.

The Gishurst Compound is sold in boxes at 1*s.* 6*d.* and 6*s.* each, with directions for use, and printed opinions of Mr. Rucker's gardener, Lady Dorothy Nevill's gardener, Sir William Hooker, Mr. Rivers, and other eminent authorities. For Nurserymen the large size is recommended, but where the consumption is not large the compound keeps its strength best in the small. The undermentioned Seed Merchants, Nurserymen, &c., having taken in supplies are prepared to sell single boxes.

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BEETLE POISON.

EQUALLY DESTRUCTIVE TO RATS AND MICE, AND HARMLESS TO CATS AND DOGS.

A SAFE and most effectual Destroyer of BLACK BEETLES and COCKROACHES; one trial alone will suffice to prove its great efficacy, and one box will destroy thousands. The great advantage in this preparation is, that it does not leave their bodies to decay and corrupt the air, but completely dries up and destroys them, so that nothing is left to cause an unpleasant odour when dead. *Directions for use.*—Place four or five of the Balls each night where the Beetles mostly resort.—Sold in boxes at 1*s.* each, or sent free to any part of the kingdom for Twenty Stamps (or a case containing one dozen boxes sent *carriage free* on a receipt of a Post-office Order for 12*s.*), by THOMAS CHASE, Chemist, 14, Holborn, London, E.C., and may be obtained through all Chemists, Booksellers, and Medicine Vendors.

Testimonials from the Rev. Edwin Sidney, Cornard Parva Rectory, near Sudbury, Suffolk; James Veitch, jun., Esq., of the Royal Exotic Nursery, Chelsea; Lucombe, Pince, & Co.; E. G Henderson & Son, Wellington Nursery, St. John's Wood; C. Loddiges, Esq., of Hackney, and many others.

PAGE'S BLIGHT COMPOSITION (1*s.* per gallon, sufficiently strong to make four 1*l.* for use) has stood the test of eight years public trial, and its great success has led to numerous imitations. Dr. Lindley, in his leading article of October 25, 1856, reported 182 cases in its favour, sufficient to convince the most sceptical. Seeds packed for exportation to all parts of the world.—PAGE & TOOGOOD, Royal South Hants Seed Establishment, Southampton.

BARBER'S POISONED WHEAT, Kills Mice and Sparrows on the spot.—In 1*d.*, 2*d.*, 4*d.*, and 8*d.* packets, with directions and testimonials No risk nor damage in laying this Wheat about. From a single packet hundreds of Mice and Sparrows are found dead. Agents: Barclay & Sons, 95, Farringdon Street; W. Sutton & Co., Bow Churchyard; B. Yates & Co., 25, Budge Row, London; and sold by all Druggists, Grocers, &c., throughout the United Kingdom.

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POULTRY, DOGS, AND PLANTS are effectually freed from Fleas, and all other Vermin with which they are infested, by the above Powder, which is quite harmless to animal life. The Farmer, the Gardener, or the Sportsman, will therefore find it invaluable. Bugs, Cockroaches, Beetles, Moths in Furs, and every other species of Insect are also instantly destroyed. In packets post free, for 14, or treble size for 36 postage stamps, by THOMAS KEATING, Chemist, 79, St. Paul's Churchyard, London, E.C. Take notice each genuine packet bears the above name and address. See "THE FIELD," Oct. 2d and 9th, pp. 263, 283, and 294.

FOR WATERING GARDENS, PLUMBERS, ENGINEERS, MILLS, AND MACHINISTS.

VULCANISED INDIA RUBBER.

Washers for Hot-water and Steam Joints
Elastic Packing and Valves for Steam Engines
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Do. fitted with Brass Joints, Taps and Spreaders
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N.B. A Stock of the above always on hand, and any modification made to order. Please address all communications to the Manufactory.

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TO MARKET GARDENERS.—The Advertiser is about to build a large extent of HOTHOUSES for Forcing Vegetables and Fruits for the London and other markets. They will be supplied with hot water of an uniform and sufficient heat without the use of coals, or any other expense to the tenants, and will be let at rents not very much more than the mere saving of labour and coals. The Advertiser would be glad to engage with respectable parties for taking any portion of the Houses, which may be built according to their plans and wishes.—Any further particulars may be had by addressing G. M., *Gardeners' Chronicle* Office.

TO PIG AND POULTRY FEEDERS AND MILLERS.

CHICKEN AND GAME RICE, 8*s.* per cwt., in bags 1½ cwt. each. SCREENED RICE, 11*s.* per cwt., in bags 1¾ cwt. each. RICE MEAL, 6*s.* 6*d.* to 8*s.* 6*d.* per cwt. RICE for grinding. American Oilcake and Locust Beans, per Ton only.—All Sold for Cash, and an allowance per ton, by W. & R. JUPP, Rice Merchants, 6, Cross Lane, St. Mary-at-Hill, Eastcheap.

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TO BE SOLD, EGGS and BIRDS from first-class breeds, from the Poultry Court of an Amateur of rank, who is overstocked.—Address A. B. C., Mr. Eccles, Woodstock.

100 PURE BRED ALDERNEY COWS AND HEIFERS.—Purchasers are invited to inspect this herd—the largest in England.—Address, JAMES DUMBRELL Jun., Ditchling, Hurstpierpoint, Sussex, 1¼ mile from Hassock's Gate Station, London and Brighton Railway.

TO GARDENERS, ETC.

TO BE LET OR SOLD, with immediate possession, a small NURSERY, suitable for the Jobbing Trade. Good reasons will be giving for leaving.—Apply 6, Alpha Road, St. John's Wood.

NURSERY GROUND.

TO BE LET, WHITTINGTON NURSERY, Upper Holloway, to be entered upon immediately.—For particulars apply to J. F. MARSON, Esq., Small Pox Hospital; or to Mr. BUNNEY, Nurseryman, Stratford, Essex.

TO BE LET, BRISTOL NURSERY GROUNDS, Kemp Town, Brighton. These Gardens are now to Let for occupation with immediate possession.—Any person desirous of treating for the same may obtain particulars and permission to view the grounds on application to Mr. R. W. LUCAS, 20, Great Marlborough Street, London, W.; and of Mr. A. CHANDLER, Horticultural Valuer, 28, Priory Road, Wandsworth Road, S.

WARWICKSHIRE.

FOR SALE, by Private Contract, an ESTATE, of between 800 and 900 acres in a ring fence. Situation first-rate. Applications (from Principals or Solicitors only) to the care of Messrs. RYLAND & MARTINEAU, Solicitors, Birmingham.

## Sales by Auction.

TO NOBLEMEN, GENTLEMEN, AND NURSERYMEN.

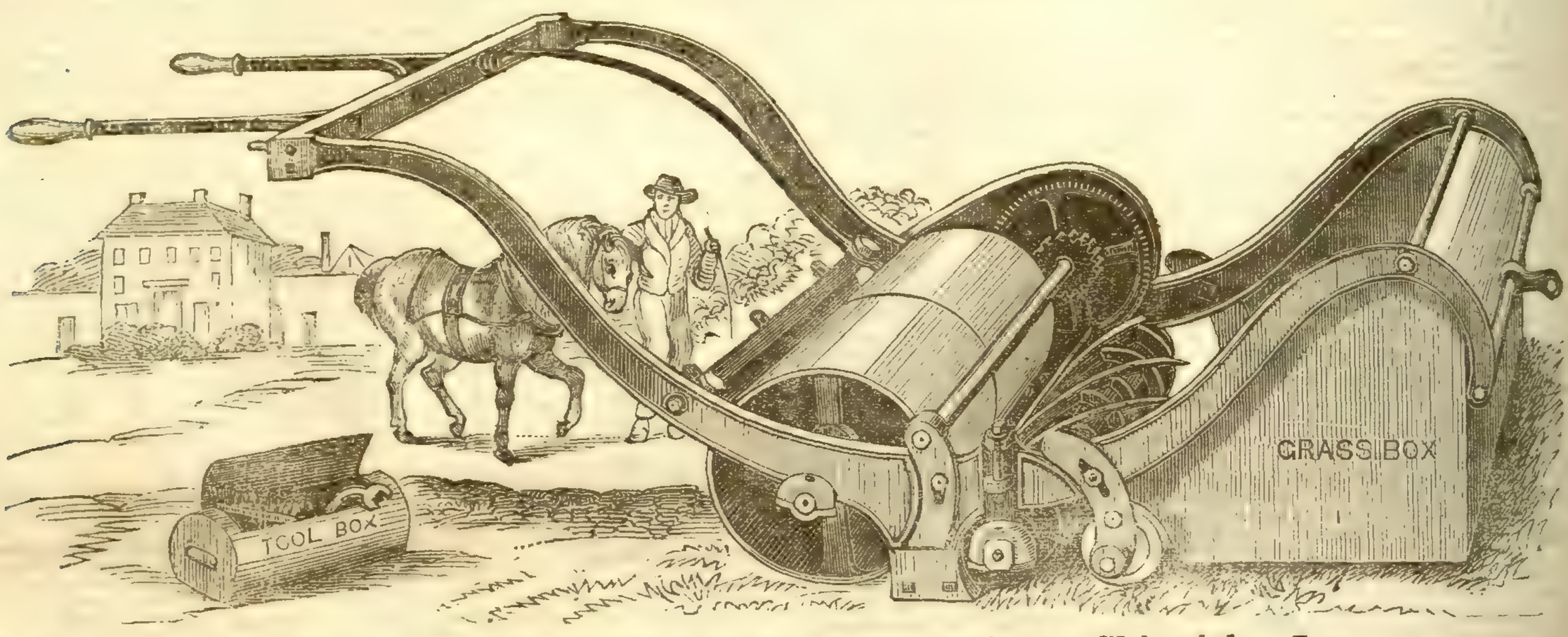
MR. J. C. STEVENS is favoured with instructions (in consequence of the agreement that existed between Mr. R. Fortune and Mr. Glendinning of the Chiswick Nursery having expired) to announce for unreserved Sale by Auction, at his Great Room, 38, King Street, Covent Garden, on THURSDAY, June 9, at half-past 12 precisely, the remaining stock of Mr. Fortune's recent CHINESE INTRODUCTIONS, including Abies Kæmpferi from 6 inches to 3 feet, A. Jezoensis, Pinus Bungeana (the lace barked Pine of China), Torreya grandis (several extra strong plants), Cephalotaxus Fortuni, the Chusan Palm, Farfugium grande (some of them specimen plants), Aralia papyrifera (the Chinese Rice-paper plant), Ilex cornuta and ternago, Limonia trifoliata, &c.—May be viewed on the day prior and morning of Sale, and Catalogues had.

TO GENTLEMEN, FLORISTS, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS will Sell by Auction at the Mart, on FRIDAY, June 3, at 12 o'Clock, a choice assortment of GREENHOUSE PLANTS, comprising Scarlet and other Geraniums, Ericas, Epacris, &c., the newest varieties of Fuchsias, Verbenas, and Dahlias, with a large assortment of Ornamental Plants for Bedding.—On view the morning of Sale. Catalogues had at the Mart, and of the Auctioneers, American Nursery, Leytonstone, Essex.

# GREEN'S PATENT HORSE MACHINE,

## MADE VERY STRONG.




## TRIAL at the London Horticultural Society's Gardens, Chiswick, June 5, 1857.

### FOUR COMPETITORS.

First trial on level ground, second do. on undulated, third do. on intricate places around trees, &c., when GREEN'S PATENT was unanimously declared to be the best in each trial by Colonel Challoner, Dr. Lindley, and G. M'Ewen, Esq., the appointed Judges.

See the *Gardeners' Chronicle* of May 22, 1858, p. 423, under the heading of "Garden Memoranda."

"London Horticultural Gardens, Chiswick.—The Grass in the Arboretum and elsewhere is in excellent condition; it is kept in order by means of one of GREEN'S 2-feet Mowing Machines, which does its work very satisfactorily, and, compared with the scythe, effects a saving of at least one-half."

Extract from London *Times* of June 8, and *Gardeners' Chronicle* of June 12, 1858.

"Trial of Mowing Machines.—A considerable number of various sizes having been brought to the ground it was agreed that the trial should take place between One Hand Machines each exhibitor, as nearly as possible of uniform size and worked by themselves, or their men. The ground to be worked was determined by lot, the pieces having been previously selected of as uniform quality as possible. After trials on level ground and round trees, the Judges, Colonel Challoner and Mr. Edward Easton, declared GREEN'S Patent to be the best.

(Signed) "C. B. Challoner, Edward Easton, Judges."

Extract from the "Cottage Gardener" of June 15, 1858.

"The decision was just what was anticipated, all present being satisfied of the manifest superiority of Green's Machine, both in construction, lightness of draught, and superiority of work."

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THOMAS GREEN respectfully informs the Nobility, Gentry, Gardeners, Amateurs, and others, that upwards of Six Hundred of these Machines were sold in 1857 and to show the increasing demand, above Nine Hundred were sold in 1858, and in the early part of this season considerably more than One Thousand have already been ordered, and in all probability will exceed Two Thousand before the end of the present season. They have proved to be the best in all cases of competition, are entirely remodelled, and all the defects pointed out by the Judges up to the present time are here rectified. It would be superfluous to attempt to give here extracts from the numerous letters T. G. receives, giving unbounded testimony to the great superiority of

# GREEN'S PATENT MOWING MACHINES

over all others. As several infringements of this Patent have been attempted, the Maker respectfully requests parties purchasing to see that "Green's Patent, Leeds," with the number of each Machine, are cast on the side, and the whole of the Wheels and Gearing works inside the frame, and have wood rollers in front.

## LIST OF PRICES:—

| HAND MACHINES. | | DONKEY and PONY MACHINE (stronger). | | HORSE MACHINE (very strong) | |
|---|---|---|---|---|---|
| To cut 14 inches | £6 0 0 | To cut 24 inches | £10 0 0 | To cut 30 inches | £18 0 0 |
| To cut 16 inches | 6 10 0 | To cut 26 inches | 11 0 0 | To cut 36 inches | 21 0 0 |
| To cut 18 inches | 7 0 0 | To cut 30 inches | 15 0 0 | To cut 42 inches | 24 0 0 |
| To cut 20 inches | 7 10 0 | Donkey Boots | 0 16 0 | To cut 48 inches | 27 0 0 |
| To cut 22 inches | 8 0 0 | Pony Boots | 1 0 0 | Horse Boots | 1 4 0 |
| To cut 24 inches | 8 10 0 | Leather Traces and Stretcher | 0 7 6 | Leather Traces and Stretcher | 0 10 0 |

The Patentee now considers the Machines as near perfection as possible. Notwithstanding the great improvements now introduced at much additional cost, no extra charge will be made, excepting for a neat Guard, which is placed over the wheels to keep them clean, and to prevent breakage or accidents, which will be 5*s.* extra to parties requiring them.

# GREEN'S IMPROVED GARDEN ROLLERS,

## WITH ORNAMENTAL ENDS.

| Length and Diameter equal | 16 inches | 18 inches | 20 inches | 22 inches | 24 inches | 26 inches | 28 inches | 30 inches |
|---|---|---|---|---|---|---|---|---|
| | 31*s.* 6*d.* | 34*s.* 0*d.* | 42*s.* 6*d.* | 47*s.* 0*d.* | 56*s.* 0*d.* | 62*s.* 0*d.* | 75*s.* 6*d.* | 97*s.* 6*d.* |
| Extra (if double) | 3 0 | 4 0 | 5 0 | 6 0 | 7 0 | 9 0 | 12 0 | 15 0 |

The great advantage of the Double Rollers are the comparative ease in turning them without disturbing the ground or the gravel walks; also, being much heavier and are easier drawn, they are capable of performing their work in a superior manner, which is acknowledged by all who have tried them. The above are the lowest Net Cash Prices, delivered at all the principal Railway Stations.

---

The number of Testimonials from Noblemen, Gentlemen, and almost all the first-class Gardeners in the United Kingdom and many other parts of Europe, would fill a volume if T. G. was to attempt to give them. So many numerous respectful references are kindly permitted that any lady or gentleman requiring references can on inquiry be supplied with every information necessary, and so widely are they spread that they may be seen within easy distance of their own seats.

---

☞ The Machines are warranted to give satisfaction, or may be at once returned by the party paying the carriage back to Leeds. The Patentee has spared neither time nor expense in producing the best and cheapest Mowing, Collecting, and Rolling Machines ever brought before the public. Every information may be had by applying to the Patentee,

**THOMAS GREEN, Smithfield Iron Works, Leeds;**

**or, No. 2, Victoria Street, bottom of Holborn, London;**

**or at the CRYSTAL PALACE, Sydenham, where the Machines may be seen working daily in suitable weather.**

N.B. Parties desirous of having their Machines repaired may forward them to either the London or Leeds establishment, where they will have the best attention.

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Printed by William Bradbury, of 13, Upper Woburn Place, and Frederick Mullett Evans, of No. 20, Queen's Road West, both in the Parish of St. Pancras, in the Co. of Middlesex, Printers, at their Office, Lombard St., Precinct of Whitefriars, City of London, and published by them at the Office, No. 5, Upper Wellington St., Parish of St. Paul's, Covent Garden, in the said Co.—Saturday, May 28, 1859.

A PERFECT SUBSTITUTE FOR GRASS.

LAWNS WITHOUT MOWING.

# SPERGULA PILIFERA

IS OFFERED BY

# MESSRS. E. G. HENDERSON & SON.

WELL-ESTABLISHED TUFTS FOR IMMEDIATE PLANTING, 4*s.* PER DOZEN.
Seed Packets, 6*d.*, 2*s.* 6*d.*, 5*s.*, 10*s.*, and 20*s.* each.

Special directions for sowing, rearing, and final planting are given in E. G. HENDERSON & SON'S

**NEW GENERAL CATALOGUE and SPRING LIST of ORNAMENTAL BEDDING and SUMMER FLOWERING PLANTS**

IS READY FOR DISTRIBUTION, WHEREIN WILL BE DESCRIBED

## ALLAMANDA VIOLACEA.

This plant so long looked for, and much needed by all English competing competitors, we have much pleasure in introducing for the first time to the public, and no doubt it will be for years the great feature at the leading Exhibitions. The late Mr. Gardner, Director of the Royal Botanic Gardens in Ceylon, speaks of it in his papers, published in the second volume of the London Horticultural Society's Quarterly Journal, as one of the finest shrubs he met with, and "by far the most beautiful species in the genus, bearing numerous large flowers not unlike in colour those of Gloxinia speciosa."

As a competition plant in collections, A. violacea, in its violet blue tint, offers a new and essential feature in colour, there being none other in the same style to associate with the golden-yellow of A. Schotti, and the delicate rosy-blush of Echites and Dipladenia. 63*s.* each.

CALCEOLARIA AMPLEXICAULIS ALBA, Splendid bedder.
BOUVARDIA "BRILLIANT" AND "DELICATA," with large flower tubes, and profusion of bloom.
NEW BEDDING DAHLIAS, GLOIRE DE FRANCE, AND WHITE UNIQUE.—The best white variety out, and the former as the most noble formed and richly coloured flower of any other Dahlia for beddings, a dried plant showing the dwarf and profuse blooming habit may be seen at the Wellington Nursery.
BANKS'S NEW FUCHSIAS.

NEW CHRYSANTHEMUMS (8 varieties), see Plate XXVI. in the "Illustrated Bouquet."

BREEZE & BANKS'S COLLECTION OF NEW VERBENAS will include the finest blue out, the best rose, the finest violet-purple, the best peach, and maroon black, with large white eyes or centres, the Grant des Batailles far surpassed; a Mrs. Holford in truss and habit, but suffused with a beautiful pink tint. The entire collection includes a full complement of colours, as the finest ever sent out by us, and surpasses with but few exceptions any that we have cultivated under name.

## FINE BEDDING GERANIUMS.

NEW NOSEGAY SECTION.

THE IMPERIAL CRIMSON, AND MODEL NOSEGAY GERANIUMS. See descriptions at page 355, and also the Catalogue.

Among Variegated Geraniums, MISS EMILY DOMVILE will prove a first-class Bedding Plant (see description in Catalogue).

The two GOLDEN-LEAVED varieties with large-petalled flowers.

THE RAINBOW, with the finest red-zoned foliage yet seen.

THE ST. CLOUD, a beautiful accompaniment to FONTAINBLEAU.

THE SILVER CHAIN, with deep margin of pure white; a fitting companion to the GOLDEN CHAIN.

THE WHITE NOSEGAY GERANIUM (for beds).

**Wellington Nursery, St. John's Wood, London.**

# CHOICE FLOWERS.

# BUTLER & McCULLOCH'S SPRING CATALOGUE OF SEEDS,

ARRANGED on a new and original plan, with copious Descriptive and Cultural Notes, and containing many new and rare species and varieties not found in any other Catalogue, now ready and may be had free and post paid on application.

FLOWER, SHRUB, TREE, and VEGETABLE SEEDS, the crop of 1858, saved with the greatest care, by the most eminent growers.

We may also state that the Sardinian correspondent of Messrs. JAMES CARTER & Co., whose Seeds, especially Carnations and Picotees, have given such universal satisfaction, has transferred the Agency from that firm and appointed us his representative in this country. To meet the growing demand for first class flowers, particularly FLORISTS' FLOWERS, we have adopted our usual maxim of charging the lowest possible prices.

Professor LINDLEY in the *Gardeners' Chronicle* of February 5th, has the following notice of B. & McC.'s Catalogue.

"BUTLER & McCULLOCH'S (Covent Garden) Spring Catalogue of Choice Flower, Shrub, Tree, and Vegetable Seeds. This list fills 84 closely printed 8vo pages, and is remarkably well got up. It appears that the correspondent in Sardinia, who formerly supplied one of the great London houses with seeds raised in that warm part of Europe, has now transferred what he saves to Messrs. BUTLER & McCULLOCH. Let us add, that it yields to no Trade List in the abundance of its materials or the excellence of its arrangements."

BUTLER AND McCULLOCH, while drawing attention to their general SPRING CATALOGUE which has elicited such high encomiums both from the scientific botanist and amateur cultivator, avail themselves of the present opportunity to select from its pages the following list:—

(28) ACACIA GRANDIS (TRUE).
One of the most beautiful of the A. pulchella section, producing deep golden balls. Of these graceful and highly ornamental plants our collection embraces no fewer than 47 varieties, all of the most decorative character.

(70) ALPINES.
Of these beautiful little plants we have a splendid collection, embracing all the most admired kinds, collected and arranged for us last autumn by M. Ortgies, the Curator of the Zurich Botanic Gardens. The value of Alpine plants for rock-work is too well known to require comment. These collections we can confidently recommend, containing, as they do, species only of highest merit.

(199) CALLICHROA PEDATA.
A new crimson annual with white eye, very beautiful.

(217 A.) CAMELLIA JAPONICA.
From the newest and finest striped and other varieties of that much admired genus.

(296) CEANOTHUS AZUREUS GRANDIFLORUS.
This, cæruleus macrophyllus, and Fontanesianus are all beautiful varieties of this highly ornamental genus, of which we possess nine splendid varieties. They are equally suited for conservatory and out-door decoration.

CANNAS.
Of these we possess an extremely interesting collection.

(304) CELOSIA (species nova).
A most elegant plant, producing a multitude of long spikes of feathery blossoms, silvery white shaded with bright rose, retaining its colour perfectly when dried, and therefore admirably adapted for winter bouquets; one of the greatest novelties of the season, flowering out of doors or in pots from July to October. Well worth attention. A dried specimen may be seen.

(337) CHRYSANTHEMUM (tall and dwarf).
Of these dwarf and tall varieties we have a fine stock, nearly all of which may be depended upon to produce double flowers, the seeds having been saved from the finest named varieties.

(344) CHRYSOCOMA COMÆREA.
Fine evergreen shrub, bearing a profusion of golden ball-like flowers; one of the handsomest greenhouse plants in cultivation.

(451) DATURA HUMILIS FLORE PLENO.
A magnificent Brugmansia-like plant producing a profusion of deep golden-yellow flowers; very large, double, and sweet-scented. One of the greatest novelties of the season.

(625) HABROTHAMNUS HÜGELLI.
This, purpureus, and Abelli are all handsome varieties of this beautiful genus, which everybody having a greenhouse or conservatory should grow. All three are extremely ornamental.

(665) HIBISCUS ROSEUS SUPERBUS.
This, Syriacus, and Thunbergi we can highly recommend. All are plants of great beauty

(680 to 688) HOLCUS OR SORGHUM (Chinese Sugar Cane).
Of this important class we have nine new and important varieties from Africa, said to be more ornamental and to contain more saccharine matter, Holcus saccharatus.

(704) INDIGOFERA DECORA ALBA ROSEA.
The above, purpurea, and dosua are all pretty free flowering shrubs, suitable for small greenhouses. They are also highly ornamental out of doors in summer.

(972) PELARGONIUMS.
Of these both large flowered and fancy, very choice, and of other splendid varieties, including Scarlets, we have a fine stock, which cannot fail to prove highly satisfactory.

(1149) SOLANUM CAPSICASTRUM.
Miniature Orange tree, covered all winter with a profusion of scarlet fruit; a handsome plant for greenhouse or sitting rooms.

(1335) BIGNONIA RADICANS MULTIFLORA.
Finer and brighter than radicans; flowers in large panicles producing a splendid effect.

(1468) TACSONIA IGNEA.
This magnificent Passionflower is unequalled for the brilliancy and splendour of its scarlet blossoms, far surpassing in this respect any of its class yet known. It flowers most profusely, grows rapidly, and covers a large space in an incredibly short time. It succeeds in a cold greenhouse, and even against a south wall with a little protection in winter (new and rare).

(1488) TROPÆOLUM TRIOMPHE DE GAND FIMBRIATUM.
Fringed orange scarlet.

CARNATIONS and PICOTEES saved from the most choice Collection of English varieties grown on the continent, and which may be expected to produce flowers of the highest merit, sent out in sealed packets as received from our Sardinian correspondent, whose seeds for many years have given such universal satisfaction, and from which varieties of the greatest excellence have been raised.

For prices and further particulars with regard to the above and other novelties, we refer our patrons to the Catalogue itself, which is sent free and post paid on application.

**BUTLER & McCULLOCH, Covent Garden Market.**


THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.—The SIXTEENTH ANNIVERSARY FESTIVAL will take place at The Crystal Palace, Sydenham, on WEDNESDAY, June 8, the day of the Grand Flower Show.

The Honourable Mr. JUSTICE HALIBURTON in the chair.

*Stewards.*

SIR JOSEPH PAXTON, M.P.

| | |
|---|---|
| Samuel Ainsworth, Esq. | John Green, Esq. |
| Henry G. Bohn, Esq. | Thos. Hancock, Esq. |
| R. Boyd, Esq. | Chas. Horsley, Esq. |
| M. Busby, Esq. | Wm. Hoskins, Esq. |
| Edwin Chadwick, Esq. | Wm. S. Johnson, Esq. |
| Captain Trevor Clark | John Laurie, Esq. |
| John Cobden, Esq. | J. B. Mackay, Esq. |
| G. E. Cockerell, Esq. | R. Marnock, Esq. |
| James Cutbush, Esq. | Chas. Ratcliffe, Esq. |
| F. Davies, M.D. | Thos. Rivers, Esq |
| Chas. L. Dorrien, Esq. | George Rollieson, Esq. |
| Benjamin Edgington, Esq. | R. Stains, Esq. |
| Wm. Edgar, Esq. | F. B. Thomas, Esq. |
| T. N. Farquhar, Esq. | James Vickers, Esq. |
| F. J. Graham, Esq. | Edmund Wilder, Esq. |
| | Chas. Zetterquist, Esq. |

In order to meet the wishes of a great number of the Patrons and Friends of the Society, arrangements have been made for the admission of LADIES to the Dinner. By the kind liberality of the Directors of the Crystal Palace Company, the Tickets for the Dinner will include ADMISSION TO THE PALACE.

Tickets:—Gentlemen, 20*s.*; Ladies, 10*s.* May be had of any of the above-mentioned Gentlemen, and of

EDWARD R. CUTLER, Secretary.
14, Tavistock Row, Covent Garden, W.C.

Dinner upon Table at Half-past Five o'Clock precisely in the SOUTH WING.

ROYAL OXFORDSHIRE HORTICULTURAL SOCIETY.—*Patron:* H.R.H. THE PRINCE CONSORT.

The SUMMER EXHIBITION of the above Society will be holden in the Gardens of Worcester College, Oxford, on TUESDAY, July 5, when, in addition to the prizes confined to members, the following are offered, opened to all England, entrance free:—

Stove or Greenhouse plants (not Fuchsias or Geraniums), nine varieties: 1st prize, 10*l.*; 2d do., 8*l.*; 3d do., 7*l.* Cape Heaths, six varieties: 1st prize, 5*l.*; 2d do., 4*l.* Geraniums (not fancies) in 8-inch pots, 12 varieties: 1st prize, 6*l.*; 2d do., 4*l.*

No person will be allowed to take more than one prize in a class.

Notice of intention to exhibit must be given to the Secretary by post on or before Saturday, June 25.

The Flowers must be labelled with their names, and staged ready for the Judges by 11 o'clock on the morning of the day of Show, and will not be allowed to be removed till the close of the Exhibition (7 o'clock, P.M.).

Exhibitors will be required to sign a declaration that the flowers are *bonâ fide* their property, or the property of their employers.

The Judges have the power of withholding the first or any other prize if the flowers exhibited are not worthy.

The Band of the Coldstream Guards will play during the afternoon.

W. R. HOBBS, Acting Secretary,
June 4. 23, St. Giles's Street, Oxford.


# The Gardeners' Chronicle.

*SATURDAY, JUNE* 4, 1859.


MEETINGS FOR THE FOLLOWING WEEK.

| | | | |
|---|---|---|---|
| MONDAY, | June 6— | Entomological | 8 P.M. |
| TUESDAY, | — 7 | Horticultural (Fruit Committee at St. Martin's Place) | Noon. |
| WEDNESDAY, | — 8— | Crystal Palace | Noon. |

NOTWITHSTANDING all that has been written on the Vine Mildew, cultivators do not seem to have very clear notions as to what it is. The specimens submitted to us for examination frequently present not a single spore of the Oidium, and faults due to the bad condition of the soil or ventilation are improperly charged to the parasite, while at the same time surprise is expressed at the insufficiency of the remedies recommended, when they are utterly inapplicable to the particular case.

An instance of this kind was noticed in our answers to correspondents, May 7, 1859. The mischief in that case was clearly not due to mildew, but to inefficient ventilation as indicated by the persistent drops of moisture at the serratures of the leaves. We have now before us a very curious instance in which a slight degree of mildew co-exists with this condition of the leaves, an instance at once calculated to mislead and affording matter for reflection.

On the tender shoots, but not upon the leaves, there are undoubted specimens of the Oidium, but at present not to any serious extent. The bunches, whose blossoms are still unexpanded, are perfectly free, and we believe that a slight dressing with *sublimed*,* not ground sulphur, would remove it. At the same time either surface of the leaves is disfigured with white blotches, as if they had been syringed with water containing a great quantity of carbonate of lime, and, as our correspondent correctly remarks, principally occupying the exact spots where the drops of fluid exuded. A few similar spots, however, appear upon the central part of the leaves, and even on the stems, doubtless where the moisture has dripped upon them. As we have often found similar spots arising from syringing regarded as mildew, we at once applied sulphuric acid, without however producing more than a globule or two of air, which might arise from particles of lime accidentally present, and not a strong ebullition like that which takes place when the whole of the white deposit is calcareous. On a close examination with the microscope some minute radiating snow-white acicular crystals appeared, together with transparent threads forming round tolerably well defined patches.

* It is indispensable that Flowers of sulphur (*i.e.*, sublimed sulphur) be used. Ground sulphur (*i.e.*, brimstone) is useless.

Abundance of minute subelliptic spores averaging about $\frac{1}{3000}$ of an inch in length, but variable in size, appeared, and at the same time Cladosporium herbarum with its fruit just formed. It is possible that the parasite first mentioned may be a condition of the Cladosporium, but this is uncertain. At any rate we are unable to refer it to any distinct genus or species. The point of importance, however, is that these moulds have been clearly developed upon the sugary or gummy deposit from the drops of sap which have oozed from the leaves, and the crystals are, we believe, due to some salt contained in that fluid. Similar groups were rapidly formed on the field of the microscope from water in which the white pellicle had been immersed. The production indeed is very similar to the white efflorescence which has for years appeared in one of the conservatories at Kew, on certain Podocarpi and Myrtads and which is described in this Journal, 1855, p. 172.*

We thus have spots simulating the Oidium, but due to crystallisation, and to vegetable growth in the inspissated drops of sap which have exuded from the leaves, and ultimately the development of Cladosporium, which is of itself when luxuriant quite enough without the Oidium to damage the crop, blocking up as it does the pores of the leaves, preventing the due intercourse of the cellular tissue of the leaves with the outer air, and disfiguring whatever it does not destroy. A common lens is sufficient to show the difference between these spots and the Oidium. The latter has a mealy loose mode of growth without any definite margin, while these spots are tolerably well defined without anything like loose spores projecting from the surface. Though the sulphur is specific against the Oidium, it is by no means clear that it is so against the Cladosporium, especially when the original cause of evil is not remedied.

The lesson from the whole is clearly to acquire habits of accurate observation, and to look well to ventilation. If everything else be right, a defect there may be as disastrous as the mildew. *M. J. B.*

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WITHIN the last three years the French have invented a method of treating the Peach tree wholly at variance with all previous contrivances. It originated with a grower at Chartres, and has been partly explained but scarcely in his usual able manner by M. DUBREUIL, the great authority among our Gallic friends in all matters relating to pruning and training fruit trees. I have taught, says this gentleman, the old mode of training for 16 years, and if I now abandon it it is because the new way is better; and if a better still should be invented I should as readily abandon this. In an article in the *Revue Horticole* will be found a discussion of the advantages and disadvantages of this method by M. DUBREUIL, of which and the woodcuts accompanying it we have availed ourselves with the assistance of Mr. THOMPSON in order to make out exactly in what the method consists.

In order to explain the system to which we refer it is necessary to observe, in the first place, that the Peach tree bears its fruit on the preceding summer's shoots; these, when growing vigorously, usually throw out *laterals*, which are also termed *summer laterals*, because they are produced from recently formed buds on the young summer's shoots, and not from buds that have existed during winter. Sometimes, according to the state of the tree, no such laterals are produced unless the growing shoot is stopped or shortened; this induces several of the eyes left to burst into shoots instead of remaining in the bud state till the following spring. These are termed by the French *bourgeons anticipés*, to distinguish them from the regular shoots, that is, those which spring from buds pruned in the preceding summer, and which do not push till the following spring.

According to the new system it appears that of the shoots which push from mature buds those situated on the front and sides of the branches only are retained; those behind are disbudded as soon as they are $2\frac{3}{4}$ inches long. At the same time the others are pinched so as to preserve only the two lowest well-developed leaves as at A A Fig. 1. The weak leaves, B B B, are not taken into account. This pinching has the effect of causing the young buds situated in the axils of the two leaves to burst into shoots A A, Fig. 2, and

FIG. 2.

when these shoots are 2 inches long they also are cut off above the first leaf from their origin. The

FIG. 3.

secondary laterals which push from the first ones are likewise pinched to one leaf from their bases, as at A A, Fig. 3. Those shoots which push afresh from vigorous parts are entirely removed.

These operations cause the production of buds which at the winter pruning have the appearance represented by Fig. 4; they are then cut at A A, A A so as to leave only the flower buds nearest the base.

FIG. 4.

When numerous laterals push, on the leading shoots, C, Fig. 5, those situated behind are entirely removed. The others ought to be pinched as soon as the second pair of leaves have the buds in their axils sufficiently advanced. If the operation is deferred too long, the shoot lengthens and a spur is produced, which at the winter pruning is like that represented by Fig. 6. If the operation is performed too early, before the buds have commenced to form, the shoot withers as in Fig. 7.

FIG. 5.

But when the pinching is performed at the proper time the shoot ceases to lengthen, and the lower pair of leaves remains near the base. At the winter pruning the shoots have the appearance represented by Fig. 8.

It sometimes happens that, in spite of pinching, the laterals continue to lengthen. In this case a cut is made with the point of the knife on one side of the base, as at A, Fig. 9, about half an inch in length. This cut stops the growth, and a few days after the lateral is pinched, and the eyes are formed in the axils of the two lower leaves, as at D.

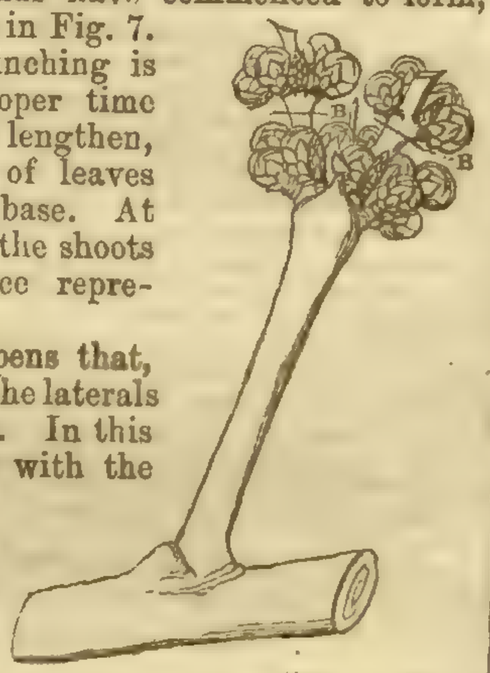


FIG. 6.

All the laterals having been pinched for the first time, on several of them one or two generations of young shoots will be produced. These are pinched above the leaf nearest to their base, as already explained, and this operation will give rise to shoots as represented in Figs 8 and 10. At the winter pruning they are cut as at B, Fig. 8.

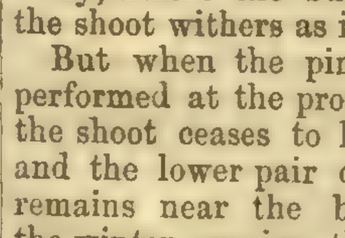

FIG. 7.

Sometimes the spur resulting from these repeated pinchings becomes entirely composed of blossom buds, as represented Fig. 10. If left they so completely weaken the spur that it is apt to die. To prevent this all the flower buds are cut off, and an incision made as at A, Fig. 11.

FIG. 8.

Finally, close pinching is not practised during the first year after the tree is planted.

Such appears to be the plan now advocated by M. DUBREUIL under the name of *pincement court*, which we prefer to call spur pruning. That the method has been unsuccessful in several places he admits, but he thinks that this has been owing to want of skill in the operator. His own experience tells him that it possesses the following advantages. 1. It saves labour by getting rid of the necessity of summer and winter nailing. 2. It saves half the cost of trellis work (the French train their Peach trees to wooden or wire trellis). 3. Winter and summer pruning becomes much more simple and more readily understood by gardeners. 4. The fruit spurs projecting from the front of the old wood protect it with their leaves from the scorching action of the sun. 5. The fruit spurs being very short the old wood that bears them may be twice as thick, and consequently a wall will carry twice as much fruit.

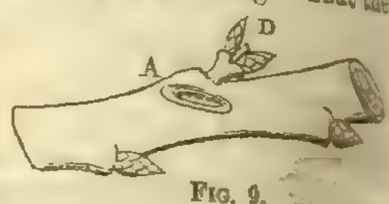


FIG. 9.

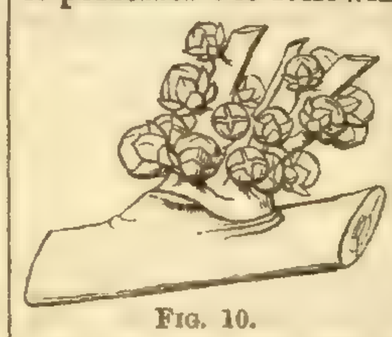

FIG. 10.

FIG. 11.

Nor does it appear to M. DUBREUIL that the plan of spur-pruning is affected by climate; for he has practised it successfully in extremely different parts of France. We must, however, express a doubt whether an equally satisfactory result would attend it in our damp insular climate. That is however a point to be determined by actual experiment, and in no other manner.

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THE gardening world cannot have yet forgotten the wonderful DISPLAY OF ROSES last year at St. James's Hall. Should any have been oblivious let us refer them to page 523 of these columns for 1858, while we at the same time remind them that another grand exhibition is about to be made on the 23d of June under the guidance of the same master hand as directed the arrangements of last year.

Never perhaps did the Rose tribe make such rapid growth as now, and a most beautiful as well as bountiful show may be anticipated, for just about that time the first and best blooms should be ready; and growers, whether amateur or professional, will have the opportunity of putting forth all their strength.

We observe that, in order to aid in interesting the public and bringing the exhibition more within the notice of the higher classes, the good offices of many ladies of rank have been secured, who have undertaken to act as Patronesses on the occasion. A merely nominal duty thus devolves upon these ladies, that of spreading among their own class the intelligence of the glorious spectacle which is in store for them, a duty which can be best performed by the fairest part of society.

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IN our advertising columns will be found the announcement that a large quantity of Mr. FORTUNE'S PLANTS will be brought to the hammer on Thursday next by Mr. STEVENS. We are able to state that the sale will include some of the finest specimens in England of those two noble and hardy trees, the Abies Kæmpferi and Torreya grandis.

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## AUSTRALIAN HORTICULTURE.

THE S. Australian newspapers give some striking information concerning the Horticulture of that country, which seems to be now very seriously occupied in measures of more social interest than gold digging. The Oranges from Adelaide, exhibited lately by Mr. Webber before the Horticultural Society, were the finest that ever reached London, and other produce, for which the S. Australian climate is suitable, especially wines, may soon be expected in the English markets. We give such extracts as we can find room for, from *Andrews's Farm and Garden*.

GAWLER AGRICULTURAL SOCIETY.—The annual show of this Society was held on Thursday, February

FIG. 1.

* In this case Dr. Owen Rees believed the crystals to be due to the combination of some vegetable acid with potash or soda.

10. On a long table in different compartments was displayed a splendid series of "collections of fruits," including exquisite specimens of many choice varieties. The show of Grapes, both wine and table, was extensive, and superior to anything we had expected to see. From the tables it was evident that some of the most successful cultivators of the Vine on Gawler Plains are German colonists. There were not many exhibitors of vegetables, but we noticed some fine Onions and several bags of capital Potatoes. There were a few branches from Plum and Damson trees suspended over the table so thickly studded with fruit as to excite general notice and admiration; as also did four large glasses filled with honeycombs. Among the various articles exhibited which deserved especial mention was a collection of 15 bottles of South Australian preserved fruit. The bottles included nearly every variety of preserved fruit which the housewife could desire. There were a few bouquets of flowers on the table, but they appeared to have been extemporized, and had no claim to notice. The principal subjects of exhibition were Grapes, Apples, Pears, Plums, Peaches, Lemons, Raisins, Melons, Onions, as well as Farm and Dairy produce. On the Wines the judges pronounced as follows:—"We consider that they fully substantiate the character South Australian wines are gradually establishing for themselves. There were five samples of one gallon each exhibited; one of red and four of white wine. No. 1 (Frontignac) we consider entitled to the first prize, being an extremely pleasant and good bodied wine. No. 4 (Tokayer) we consider very little inferior to the above, and fully entitled to the second prize. No. 5 (Madeira) a good wine, but too new, and badly corked. [We can ourselves speak to the injury done to Australian wine by the bad quality of corks. A case from the late Sir Thomas Mitchell was spoiled during its voyage to England entirely owing to this circumstance. ED. *Gardeners' Chronicle.*]

SOUTH AUSTRALIAN AGRICULTURAL AND HORTICULTURAL SOCIETY.—The annual exhibition took place on Thursday, Feb. 17, and the distribution of the productions sent for competition was vastly superior to that of former years. Fruit was no longer exhibited in jumbled collections belonging to different individuals, which sometimes caused Cherries and Cucumbers, Oranges and Pumpkins, Celery and Siberian Crabs to be heterogeneously congregated; but it was properly classified. The Grapes had their own proper locality, the Apples theirs, and the Plums theirs. The season of the year, the month of all our summer months the hottest, precluded the expectation of a large display of flowers, but the few that were brought forward were choice. Among those not shown for competition was a splendid collection of Cacti and Cerei, 100 pots in all, from the Botanical Garden, and a handsome collection of mixed plants, principally Fuchsias, 52 pots in all, from Mr. J. R. Smith, of Norwood. There were but two bouquets exhibited, but one for its richness and freshness created wonder as to where so many lovely flowers could have come from. The fruits laid claim to more than 40 prizes. First came white table Grapes, many of the bunches of which were very fine, weighing, we suppose, from 6 to 7 or 8 lbs. Then came the dark table Grapes, the bunches of which were, in the main, not so large, the berries, however, being in general much larger. Among those which were exhibited for the prize awarded to the six largest and finest shaped bunches were some magnificent clusters. The wine Grapes were unripe (indeed the show was too early for all the Grapes, or the Grapes were too late for the show), but there were seven collections, each numbering many varieties, some shown in the naked bunch, others hanging to the Vine, and all proving that if we do not make good wine it will not be owing to our not possessing the right sorts or varieties of Grape. There was a poor display of Citrons. Peaches also were but feebly represented, the season being principally over for them, and the supply of Nectarines was very meagre. But the accumulation of Apples—sort upon sort, and collection upon collection, kitchen and dessert, late and early, from hill and plain—was amazing, and must have fairly bewildered the judges. Many of the Apples must have weighed from 1½ lb. to 2 lbs. each, and must have been nearly 1½ foot in circumference. There were Ribstone Pippins finer than any we ever saw in England; and cookers which, for size, excelled any we ever saw at Lisbon, famed as that place is for growing the fruit to perfection. A magnificent collection of Pears, numbering about 40 varieties, took the first prize for that fruit, but many of these were far from having arrived at maturity. The collection of Plums which took the first prize contained 35 varieties. There were gleanings of the Strawberry, Raspberry, Cherry, and Mulberry, with a good dish or two of fine black Turkey Figs. A few Water Melons of large proportions were exhibited, and two dishes of Quinces. Among vegetables there were a few Cabbages which looked hearty and well, but the Cucumbers had rather a seedy appearance. Some samples of French Beans were fleshy, green, and brittle; others were somewhat sere and stringy. There was a moderate show of Peas, some fine-shaped and beautifully grown Turnips, and Carrots "according to the usual perfection." Ponderous Pumpkins cousined with baskets of uncommonly fine Onions. The Potatoes were sound and large; among them was a fine sack of White Kidneys, but a hundredweight of Redskins took the first prize. The Parsnips were as good as we expect that esculent will ever be in this colony. The Rhubarb was in excellent stalk, especially that which gained the favourable opinion of the judges. Some fine specimens of dried and bottled fruits and jams were shown. The first prize was affixed to a bottle of very fine Olives. There were some beautiful specimens of honey. The wax was very pure and somewhat bleached. Silk was fine and glossy, showing that South Australia might become a silk-producing colony. The Mulberry thrives here better than most trees. It is only the price of labour, we presume, which stops silk-production. As to wines the judges reported as follows: Red—With the exceptions of Nos. 1, 2, and 4, which are decidedly good wines, whose qualities are in the rotation mentioned, the remainder of the samples exhibit a decided falling off from last year. White—No. 7 was the next best, and No. 6 also a good wine. The white wines as a class were decidedly better than the red. White of any previous year—No. 5 (first prize) sample decidedly out of condition. No. 1 (second prize) very little inferior to No. 5, condition excellent. Other samples of wine exhibited, but not for competition, of which the judges entertained a favourable opinion. There was also a fair sample of colonial spirits.

TANUNDA ANNUAL EXHIBITION OF THE VINTAGERS' AND GARDENERS' ASSOCIATION.—The German settlement of Tanunda is rendering itself celebrated for the production of wine. This township is situated about 15 miles north-east of Gawler, and between that town and Angaston, upon the North Para River, which stream continuing to run throughout the year adds much to the beauty of this place of Vineyards and gardens. The name is not, as many suppose, German, but a native appellation of the ancient lords of the soil, and has reference to the waters that skirt the place the year round. The Association was established two years ago, and the exhibition now under notice is the third that has been held, but the first including a show of colonial wines. The Melons were very fine. We observed in particular a pie Melon, grown by Mr. Aldenhoven, J.P., of Tanunda, of huge dimensions and in fine condition. On tasting several, however, we were struck with the insipidity that characterised them. Whether this is attributable to the soil or season must be a matter for the investigation of those more immediately interested. Three monster Pumpkins were prominent, being each about 18 inches diameter. The Cucumbers were firm and well grown. The Potatoes, which we were informed had been raised in sandy soil, were inferior to samples which we have recently examined in other parts of the colony. A new German Plum, of the egg kind, attracted deserved attention. Of Peaches, only one basket was exhibited, hardly ripe and not very fine, had they even been mature. The Apples were very fine, and as this fruit is one of considerable interest to the colony, we give a brief notice of the sorts exhibited:—Royal Nonpareil, very fine; Hawthornden, large and fine; Admirable, a fine cooking fruit; Ribstone Pippin—this fruit was nearly double the size of the great American article of export, and resembled it closely, with the exception observable in most fruits of this kind in South Australia of being higher in colour; Mobb's Codlins, a fine fruit; Dixon's Pippin, good hard fruit for cooking; Downton Pippin, an elegant little table fruit of the Golden Pippin kind; Mobb's Royal, fine large, for table or kitchen; Margaret, good, but very variable in appearance; Cornish Gilliflower, a Pear-shaped production, not remarkable for beauty; Prolific, fine large green Apple; Margil, middle-sized, not remarkable; Winter Pearmain, an old and well-known favourite, very handsome sample and strongly redstreaked; Golden Harvey, a misnomer and more like a Russet. The Pears were good but limited in quantity. Of Grapes there appeared to those who have visited our recent country exhibitions a comparatively large display, containing a great variety, among which were very fine Sweetwater, excellent Black Hamburgh, splendid Damascus and Black Prince, as large as Violet Plums, and the Pineau Rouge, a beautiful close clustered fruit of very fine flavour. The whole of the specimens were sent in by the exhibitors in a very clean and creditable style. One of the most interesting departments of the show was that of the dried fruits, which contained dried Figs, dried Apples of good condition and flavour, dried Apricots of good character, dried Peaches of inferior quality, very fine colonial Raisins and Zante Currants, the clean and clear condition of which contrasted strongly with the usual dirty state of the imported article. Of the wines there were no less than 49 samples, of which seven were afterwards withdrawn, The report of the judges is, however, so meagre that we can make nothing more of it than that they awarded eight prizes, and that they were of opinion that the new wines showed a very marked improvement upon those of older vintages.

## Home Correspondence.

*Colchester Church Mite.*—Mr. Lobb having called in question the accuracy of my figure and description of this insect, alleging that they were taken from a dead specimen, I beg to state that they were made from several living specimens examined under a strong achromatic microscope. I have also examined Mr. Lobb's drawing of the insect which he has been so good as to send me, and I find it represents the ventral surface of the mite, the body, legs, and bristles of which are delineated as entirely covered with short spines. I have re-examined my specimens (which I exhibited under the microscope last Monday at the meeting of the Ashmolean Society in Oxford), and find the body and legs destitute of these short spines; the long bristles of the hind part of the body have a few minute spines near the base, not longer than the diameter of the bristle itself; these, however, become much rarer towards the middle of the bristles, where they then disappear. I am consequently under the necessity of believing that Mr. Lobb has not correctly drawn the object he has had in view. I possess Hering's excellent paper on the mites infesting the bodies of various animals, and can assure Mr. Lobb that the Church Mite has no connection with that of the horse's hoof, and much less with the Acarus folliculorum; indeed, the observation in which Mr. Lobb has indulged respecting the relation of the Church Mite with the last named insect, is only another instance of the mischief resulting from such works as the "Vestiges of Creation." As to the Acarus cursor, of Gervaez, its name alone, independent of its different habits, would point out the difference between it and the sluggish Church Mite. I learn, moreover, that a mite, which from the description given to me of it appears to be identical with the Colchester animal, was noticed five or six years ago on the cushions in New College Chapel, Oxford. *J. O. Westwood.*

*Tiley's "Magnet" Verbena.*—In your Paper of May 28 is a paragraph from Messrs. E. G. Henderson & Son, disclaiming all knowledge of this Verbena. You will find on referring to my advertisement that their name is not mentioned as having seen the Verbena, but that of their traveller, Mr. Edwards, who saw the first bloom as it opened on the seedling plant, he being in Bath at the time. He offered to buy the Verbena of me several times, but on my refusing to sell it he immediately ordered six plants, which were in due time forwarded to the firm in question. About a week after that they wrote and denied all knowledge of the order. I suppose the reason of this was that when it was ordered the Verbena had no name. *Edward Tiley, 14, Abbey Churchyard, Bath.* [We do not see that Mr. Tiley has made any use of the name of Messrs. Henderson & Co. All he said was that the *traveller to their firm* had approved of it.]

*Take care of your Pockets.*—I enclose for your inspection a reply from a Mr. Davison to an advertisement of mine which appeared in your columns, and which I believe to be a downright imposition. I shall therefore be greatly obliged if you will favour me with your opinion of the matter. You will observe that the letter in question cost me 2*d.*, and to make the deception more complete "stamped" is written on the envelope, and a little gum daubed where the stamp should have been placed. If you would kindly expose the case perhaps some of my brother gardeners might profit by your so doing, as a young gardener (here) paid 2*d.* for a similar note from the same party. *Isaac Watson, or J. T. W.* [We are making inquiries through the police. In the meanwhile we caution you and others to be very careful what you do with people who write to you in the style of this Davison. There is no registry office at the place in Beech Street, which is kept by a man of the name of Bainbridge, who denies all knowledge of the person in question.]

*Pond Weeds.*—We have a piece of water here about 2 acres in extent. It was cleaned out two years ago, and since then there has been a great accumulation of weeds; the bottom of the pond seems quite foul, and is continually covering the top with a brown scum resembling some seaweed, and clinging to Sagittaria. I believe several other weeds also thickly cover the bottom. Since cleaning out, the fish have not made their appearance. I ought to mention that all drains from the house run into the water, which is I think the cause of the bottom being so foul. Is there any remedy for the evil just complained of, or what are the best means of cleaning the top? We are now trying scythes rivetted together, and having a ring on each end to which ropes are attached. They are then lowered into the water from a boat, and worked by two men, and two rowing. The scythes are each 3 feet long, and are I believe river scythes, making in all 9 feet in length. The floating surface material is raked into a boat. *G. W., Greenhill, near Whetstone, Herts.* [Your mode of cleaning the surface from weeds will probably answer; but you will never be able to keep either the bottom of the pond or the water clean or have your fish thrive, until you prevent all drains from the house from running into it.]——We have here in the middle of some ornamental grounds a pond that has been made some years, and till this spring has always been very clear; lately it has become very foul from the growth of a slimy sort of vegetable matter of a brownish green colour rising in flakes from the bottom, and on reaching the surface floats upon the top. We have cleaned it off several times, but the next day it is as bad as ever. Can any of your readers inform me how we can remedy the evil, and a hint as to the cause of it appearing now after so many years? *Ellesmere.*

*Winter Cucumber Growing.*—For the information of your correspondent "An Amateur," who wishes me to state the name of my Cucumbers, what soil I use, and whether the bottom-heat is derived from tan or hot water, I beg to say that the Cucumber I grow at present is a kind raised a few years ago by a friend of mine, between Victory of Bath and Sion House. It is longer than the latter, equally productive, and a strong grower. I have grown Sion House for years, also a short, black-spined sort, called Smithers's Cucumber—a very old sort and a very excellent one. I have also grown many other kinds. The soil I use is composed of one-half turfy loam and one-half rotten leaves from a hotbed. In spring the plants get a good dressing of soil—one-half loam and one-half rotten dung—and

receive good waterings of liquid manure during the spring and summer months. I have also grown Cucumbers successfully in peat. My bottom-heat is derived from hot-water pipes, but I have also grown them very successfully in tubs plunged in a bed of leaves. Winter Cucumbers should always be trained on trellises. I regard early planting, combined with bottom-heat and an abundance of air, as most essential points in the culture of Winter Cucumbers. They should never be planted out later than the first week in September. They should have an abundance of air and no artificial top heat during September and October; and all the male blossoms should be pulled off. By this treatment there will be an abundance of fine strong healthy vigorous shoots and foliage which, with proper care and attention, will not fail to produce an abundance of fruit during winter. Many people plant their Cucumber plants too late in the autumn, which often ends in disappointment. No matter what treatment plants may receive that are planted in November, they cannot make such healthy vigorous growth as those planted at the beginning of September. *M. S.*

*Orchard Houses.*—I have had an orchard house in operation now for 18 months. The Peaches, Apricots, and Nectarines in it this year have set very badly, and I shall not gather two dozen Peaches off nine trees in pots. I should be glad to learn whether such failure is common this year, and may be ascribed to the severe frost at Easter; or if the management of the house as to over or under ventilation is likely to be in fault. The crop of Plums is heavy and Figs look well. During the cold weather I applied a slight degree of heat from a portable stove. *L. H., Scotland.*

*Linum grandiflorum*, concerning which a correspondent inquires in your last issue, undoubtedly succeeds best treated as a hardy annual. When raised in a frame the plants are never so vigorous or bushy as when sown in the open ground; and it is a singular fact that, however treated, old seed, say two winters old, usually vegetates in a larger proportion than fresh. The eminent French firm by whom seed of this beautiful plant was first introduced into the trade, informed me of this peculiarity several years since, and my own experience with this plant, which dates from 1853, has satisfied me of the correctness of their statement. The removal of the mucilage by steeping is a somewhat troublesome process, and as far as my own trials go does little to rouse the vitality of the seed when dormant. Perhaps the weak solution of oxalic acid often employed in the case of the Australian Leguminosæ, and referred to by Dr. Ingle in a recent number of the *Gardeners' Chronicle*, might prove of service. An experiment or two shall be tried and reported on at a future period. *W. Thompson, Ipswich.*——The best mode of raising this Linum is I find to sow it in seed pans in the month of February or March in finely sifted leaf-mould with a little loam and a good quantity of silver sand, all well mixed together. Drain thoroughly with broken pots, rough pieces of turfy peat and loam, and set the pans near the light—the nearer the better—in a temperature of from 60° to 80°. I have never steeped the seeds in milk nor anything else before sowing. *A. Barclay, the Gardens, Gillside.*

*Indicator Bee Stand.*—Your correspondent Mr. Shirley Hibberd has occupied much space in telling us how to construct this. Allow me to suggest to your readers that a common spring balance or "ouncal," as I believe they are called, will have all the effect at a great saving to their pockets. Buy a spring balance to weigh up to 60 lbs., which I believe they can get for something like 7*s.* 6*d.*, and let them suspend their hive on a board with four cords, like a single scale thereto. *A Looker On.*

*Sardinian Carnations and Picotees.*—How is it, may I ask, that plants of these are not offered for sale, while the seed is so highly spoken of and warranted to produce such splendid blooms? Surely, if that were so, nurserymen would have found it worth their while to grow a stock for market, in the same way as they do other kinds. Being anxious to know what they really have turned out to be, perhaps some of your readers who have tried the seed will kindly state the result of their experience with it. I remember, when on a visit to the late Mr. Porterfield of Duchall, near Paisley, in Renfrewshire, many years ago, having seen growing in his garden a large deep yellow-coloured Carnation, with regular bright scarlet stripes, very double, and exceedingly beautiful, which he called an Italian sort, but how it had been produced I cannot say. Upon again visiting Mr. P. the following year, I found that no layers of the said Carnation had been made, and that the plant itself had perished during the winter. Since then, I have tried in vain to procure a similar variety, although, among the Paisley weavers, so celebrated for their Carnations and Pinks, I found several very pretty yellow kinds of the former, not met with elsewhere that I know of, and which they told me had been raised by themselves from seed, none of them, however, at all to be compared with the one described. *J. H., Whitland.*

*Dielytra spectabilis.*—I have in my garden a magnificent specimen of this plant, the foliage and blossoms of which were entirely destroyed by the severe frost we had last spring, just as they were coming into beauty, exactly in the same way as Potatoes are destroyed by frost. I consequently cut off at the time every shoot close to the ground. Soon afterwards the plant began to push strongly, and it is now one splendid mass of bloom; indeed, so far from its having been injured by the circumstances just mentioned, it appears rather to have been benefited by it, and, moreover, it has produced its flowers at a season when these are generally over, or nearly so. Next year, in order to obtain the same result, I mean to shave off the first shoots in like manner from some of my plants, whether they may be blighted by frost or not; and as a succession of this beautiful flower will no doubt be also desirable to some of your readers, they will find their wishes fully gratified in that respect by adopting the same plan. *A Subscriber, South Wales.*

*Cucumbers without Bottom-heat.*—Having read with much interest the discussion between Mr. Ayres and "M. S.," I have forwarded for your inspection some leaves and a small fruit from a young plant grown without a particle of artificial bottom-heat. It is in a brick pit with nothing but old decayed tan at the bottom. I also beg to say that I have cut fruit of the same sort from a dung-bed since the first week in April in abundance, many measuring 22 inches in length with the bloom on the end. The night-heat has never at any time been over 60°, and after the first 10 days from planting never more than 55°, and often 50° at night. *S. Farmer, Gardener, South Lodge, Ham Common, Surrey.* [The leaves in question were deep green, healthy, and vigorous, the largest measuring nearly 36 inches in circumference. The fruit, a white spined sort, measured 10 inches long and 5 inches in circumference.]

*Early Strawberries.*—On the 27th of last month I gathered in Mr. Cuthill's garden at Camberwell some of his "Black Prince" perfectly ripe, and from others I saw among the leaves half devoured it was evident that they had been mature several days earlier, but being few in number had apparently been abandoned to the slugs. Surely this is the most rapid grower of all the tribe. Let me add that I am exceedingly interested in the history given by your correspondent Mr. Hibberd of the "Waltonian case." It promises a great boon to a certain class of gardeners, to which class I belong. *E. Thornton, Camberwell.*

*Rainfall in Scotland.*—In the "Edinburgh New Philosophical Journal" I published the particulars of the fall of rain at 35 stations in Scotland for the year 1856, at 55 stations for the year 1857, and have just sent to the same Journal like particulars from 60 stations for the year 1858. As it may be interesting to your readers to compare the rainfall over Scotland during each of these years, I append the mean deposit of rain in inches of vertical depth during each month of these several years.

| YEAR. | Jan. | Feb. | March | April | May | June | TOTAL. |
|---|---|---|---|---|---|---|---|
| 1856 .. .. | 2.86 | 3.55 | 0.87 | 2.69 | 2.96 | 4.36 | 1856, 36.96 inches. |
| 1857 .. .. | 3.29 | 2.14 | 3 41 | 2.40 | 1.85 | 3.08 | |
| 1858 .. .. | 3.12 | 1.14 | 2.01 | 2.03 | 3.37 | 2 36 | |

| | July | August | Sept. | October | Nov. | Dec. | |
|---|---|---|---|---|---|---|---|
| 1856 .. .. | 2.64 | 4.00 | 4.79 | 1.91 | 1.98 | 4 85 | 1857, 34.90 inches. |
| 1857 .. .. | 2.48 | 2.28 | 4.39 | 2.57 | 3 05 | 3 96 | |
| 1858 .. .. | 4.35 | 2.15 | 3.85 | 5.12 | 2.33 | 4 20 | 1858, 36.53 inches. |

*James Stark, M.D., Edinburgh.*

*Earwigs.*—A friend of mine has been suffering for a year or two from the depredations of innumerable earwigs; indeed, he speaks of their rivalling one of the plagues of Egypt. Nothing escapes them; they devour every young thing in the garden, and not content with what they find there, enter the house and are found everywhere—at bed and board. I have been looking through your journal for a remedy, but can find nothing applicable to the pest on so large a scale. I suggested that beetle traps set with some food which the insects particularly affect might be tried. Can any of your correspondents tell me what would be the most likely bait, or if any other mode of capture would be more certain? *J. C. H., Essex.* [Edwards's earwig traps would possibly answer better than beetle traps. They have been advertised in our columns, and may, we believe, be had of any respectable nurseryman.]

## Societies.

LINNEAN: *May* 5.— Prof. Bell, President, in the chair. H. Munroe, Esq., M.D., and C. Prentis, Esq., were elected as Fellows; and Prof. Brandt, Prof. Grisebach, Prof. Lóven, and M. H. A. Weddell, as foreign members. The following papers were read:—1. "Further observations on the new organ in the antennæ of Insects," by J. B. Hicks, Esq., M.D.—2. "Synopsis of the genera Camellia and Thea," by Dr. Berthold Seemann. After inquiring into the various distinguishing features assigned by authors to these genera, many of which it was observed had been set aside by increased knowledge of the plants, the author explained the characters by which he proposed to separate them. He ascribed to Camellia a many-leaved calyx with deciduous sepals; free stamens within the monadelphous ring, twice as many in number as the petals, and erect sessile flowers. To Thea he assigned a bracteated, five-sepaled calyx, with persistent sepals; free stamens equalling the petals in number, and nodding pedunculate flowers. Full generic characters, together with a synopsis of the species, were given.—3. "Synopsis of the Fructification of the simple Sphæriæ of the Hookerian Herbarium," by F. Currey, Esq.—4. "Additional Notes on the Phenomena of the present Season," by Thos. Forster, Esq., M.D. Mr. Forster mentioned that, at Brussels, on the 19th April, one swallow only was seen, and but one had been observed since that day. Neither the sand marten nor the house martlet had appeared. The peasants regard the appearance of the tribe as a certain indication of spring, and were continually asking when they would come and usher in warm weather, commencing about the middle of April. Various Narcissi had been observed.

ENTOMOLOGICAL: *May* 2.—H. T. Stainton, Esq., Vice-President, in the chair. Amongst the donations received since the last meeting was a copy of Mr. Wilkinson's new work on the British Tortrices, forming a companion volume to that on the Tineæ by Mr. Stainton. Mr. Stevens exhibited a variety of new and very beautiful Lepidoptera sent from Dorei, in New Guinea, by Mr. Wallace. Mr. Westwood exhibited both sexes of a very remarkable aculeate Hymenopterous insect from South Africa, the male of which has the antennæ bipectinated. Also specimens of the following insects new to the British Fauna:—1. Blatta Acervorum of Panzer, forming the type of the genus Myrmecophila, and considered by MacLeay to form the connecting link between the cursorial and saltatorial Orthoptera, taken by Mr. Hope near Netley. 2. Bethylus (Pristocerus) depressus, one of the connecting links between the aculeate and terebrant Hymenoptera, also taken by Mr. Hope. 3. Dryenus formicarius of Latreille's genera, taken by Dr. Baly at Cobham. Mr. Westwood also exhibited several kinds of insects, especially species of Anobium and Ptinus, with their larvæ, found gnawing and burrowing in books and upon book covers. Also specimens of several kinds of rove beetles (Staphylinidæ) found after dark upon young Cucumber plants, of which it was affirmed that several successive sowings had been eaten off by these insects. Mr. W. W. Saunders read a paper containing descriptions of some very extraordinary Dipterous insects collected in New Guinea by Mr. Wallace. A paper was also read from Mr. Wallace containing remarks disapproving of the practice of publishing magnified coloured figures of insects, which were considered as liable to give erroneous ideas of the true size and appearance of the insects. Mr. Wallace's remarks were objected to by most of the members present.

BOTANICAL OF EDINBURGH: *April* 14.—The President in the chair. The following communications were read:—1. "On some of the Plants used for Food by the Feejee Islanders." By Mr. W. Milne, late botanical collector in Captain Denham's expedition to the South Seas. The inhabitants of the Feejee Islands subsist mainly on the fruits of the earth. The principal articles of food are Yams, Taro, Breadfruit, and Bananas. Of Yams there are upwards of 50 varieties in the islands. These grow sometimes to an enormous size, being occasionally 50 lbs. or 80 lbs. in weight; their general average, however, is from 2 lbs. to 8 lbs. They will keep for eight or ten months after being dug. The planting season extends from June to September, and the Yams reach maturity in March, and are dug in April. On the west coast of Naviti Levu two crops are secured, one in November and another in March. The natives prepare the ground for cultivation by cutting down the natural vegetation, allowing it to dry, then burning it, and using the ashes as manure. They dig the ground with sticks about 6 feet long, sharpened at the end. The smallest Yams are used for planting, and sometimes the large ones are cut up like Potatoes, and the pieces planted separately. When the Yams begin to sprout sticks and Reeds are placed in the earth, and a rude frame is formed on which the twining stems of the Yams can support themselves. When the Yams are ripe they are dug up and stored like Potatoes. They are cooked either by boiling, baking, or roasting. The boiling is conducted in pottery ware of native manufacture, and is superintended by the women; baking is the work of the men. A large hole from 9 to 18 feet in circumference and 2-3 feet deep forms the oven. This is filled with firewood, on which stones are laid. When these are thoroughly heated the oven is cleaned out, the stones being placed at the bottom and covered with leaves. The walls of the pit are lined with the same material. The Yams, after being scraped, are laid on the stones and covered with several layers of leaves, and, finally, the oven is covered with a mound of earth. The Yam, as well as other food, is served on wooden trays, which are covered with leaves. Another article of Feejeean food is the Ndalo or Taro, the root or rhizome of Colocasia macrorhiza. The principal crops are raised from November to April. The average weight of the root is 2 lbs. There are two varieties, called land Ndalo and water Ndalo; the latter is that which is most generally grown. It requires irrigation, and valleys are selected for its cultivation through which a stream of water flows. The stalks and leaves of the plant are acrid, but in the young state they are used after preparations as articles of diet, either like Spinach or in soup. The root is employed for making the mindrai or native bread. It contains much starch. The Banana yields abundance of fruit from November till March. There are numerous varieties of it. The plant takes 12 months to arrive at maturity and bear fruit. The unripe Bananas are boiled and baked, and the ripe ones are used as dessert. Sometimes they are made into puddings or bread. The Musa Cavendishi, or Chinese Banana, has been introduced, and it bears abundance of fruit. The Bread-fruit Tree (Artocarpus incisa) is another vegetable pro-

duction of the Feejee Islands; it grows in abundance on the coast. The Sweet Potato or Kumera (Convolvulus Batatas) is also cultivated, and some other species of Convolvulus. The Kawai, or Sweet Yam, is another edible root. The root of the Ki or Dracæna terminalis also yields food. It weighs from 10 lb. to 40 lb. Sugar Cane is eaten by the natives. The Cocoa Nut is also employed as an article of diet, especially in times of scarcity. Among other fruits of these islands are Tarawan, a kind of Plum (?); Kavika, or the Malay Apple (Eugenia malaccensis); and the Ivi, a kind of Hog Plum (Spondias dulcis). The rhizome of Tacca pinnatifida yields a large quantity of starch, and is used as food after the acrid matter of the root has been removed by washing. The root or rhizome is grated, and after being steeped, is made into a kind of jelly, which is sweetened with the juice of the Sugar Cane. From October to December there is sometimes a scarcity of food. The chief causes of want of food are improvidence on the part of the natives, war, and occasional failure of crops. Native bread is prepared from the Taro, Banana, Kawai, Breadfruit, and Tahitian Chestnut. The roots and unripe fruit are scraped and bruised in pits thickly lined with Banana leaves. These are covered over and left to ferment. The bread thus prepared may be kept for a long time. The material is taken out of the pit when wanted and made into cakes, which are wrapped in leaves and then either boiled or baked. In general it may be said that the food of the Feejeeans during January consists of Ndalo or Taro and Bananas; February, Ndalo; March to September, Yams and Ndalo; October, Breadfruit; November and December, Ndalo and Bananas. A great improvement has taken place in the habits of the natives since the introduction of Christianity.—II. "Extracts from correspondence between Dr. Skene and Linnæus and John Ellis, about the year 1765."—III. "Notice of Narthex Assafœtida (the Assafœtida plant at present in flower in the Botanic Garden)." By Professor Balfour. This season another of the Assafœtida plants in the Botanic Garden, raised from seeds sent home by Sir John M'Neill and Dr. Falconer, has produced a flowering stem. The specimen was planted out in front of the houses in the Garden about five years ago. It began to show symptoms of developing a flowering stem at the end of February and beginning of March; none of the large radical leaves were produced, but the flowering axis shot up at once from the underground stem. At the time when this took place none of the other specimens in the open ground of the garden had shown any leaves. Warned by the untimely fate of the plant last year, which was suddenly destroyed by an intense frost on 13th April, when the thermometer fell to 22°, Mr. M'Nab secured the present specimen from injury by getting a glazed wooden frame, about 8 feet high, erected around it, and connecting it with the adjoining stove, so that a moderate degree of heat might be supplied in the event of intense frost occurring during night. In this way the plant has been completely protected from the effects both of very high winds and of cold. It has progressed vigorously and rapidly. On the 13th April its height was 7 feet 8 inches. This height had been reached in about 45 days. The last 30 inches of growth have been accomplished in 11 days—*i.e.*, from 2d to 13th April. The first anther expanded at 11 A.M. on 7th April, and in the course of that day the anthers appeared by hundreds. The plant has flowered well, and promises to bear fruit. At present there are 45 compound umbels on it, some of which are 5 or 6 inches across.—The following note was read from A. G. Spiers, Esq., of Culcreuch:—"The enclosed I took off a Cryptomeria Lobbii; they appear to be attempts to form cones, and I have not heard of that tree seeding in this country."—Dr. Balfour noticed the flowering of Rhododendron Falconeri in Professor Syme's garden at Millbank. The plant has produced 28 flowers, which are of a white colour, and are beautifully marked with a purple spot inside.—Mr. J. B. Booth exhibited specimens of a Thuja, which he had received from British Columbia, under the name of Thuja gigantea, but supposed to be the true Thuja Menziesii of Douglas. The specimens were taken from a tree 200 feet in height, and from 4 to 6 feet in diameter.—Mr. Murray exhibited specimens of Spraguea umbellata from California.—Mr. M'Nab laid on the table specimens of the common Hawthorn (Cratægus oxyacantha), having the leaves of 1858 still green upon it, as well as the mature leaves of 1859, with blossoms fully developed. He likewise laid on the table specimens of Cratægus heterophylla in full leaf, with flower buds far advanced.

DEVON AND EXETER BOTANICAL AND HORTICULTURAL: *May* 27.—We learn from *Trewman's Exeter Flying Post* that this was in all respects an excellent exhibition. A brilliant collection of floral gems was contributed by Messrs. Veitch & Son. The whole of a large marquee was solely occupied by choice, rare, and beautiful flowers and plants from their extensive conservatories, all of which were admirably arranged under the superintendence of Mr. Veitch, jun., and their foreman Mr. Dominy. They were placed in two lines on either side of the marquee, and the crowded state of the latter during the whole afternoon showed how fully the visitors appreciated this really magnificent exhibition. The Orchids were on this occasion exceedingly fine. Among them were four plants of Lælia purpurata, with pure white blossoms, edged with rich purple; from 30 to 40 of the White Butterfly plant — Phalænopsis; Cypripedium barbatum, the snowy white Calanthe veratrifolia, Aerides virens, the Fielding Fox-brush, and A. Veitchii—the latter a rare variety, with delicate pink-spotted flowers. The Azaleas were also beautiful and effective. Among them were exquisita, lateritia, Iveryana, Perryana, dilecta, Eulalie Van Geert, Roi Leopold, the latter with fine salmon-coloured flowers, and other good kinds. Cape Heaths were present in great variety, and in fine bloom; those deserving of special notice were—Cavendishi, depressa, vestita coccinea, and Spenceriana. The most attractive feature perhaps of the whole exhibition was the Roses, which were magnificent, and elicited the admiration of all. There were Charles Lawson, a vivid rose, large and double; Jules Margottin, Coupe d'Hébé, Paul Perras, Duchess of Sutherland, and Madame Domage, together with several beautiful specimens of General Jacqueminot, rich crimson scarlet, and others. Of New Holland plants there was a good collection. Hardy Rhododendrons too were much admired. Amongst the latter were several new seedlings raised by the Messrs. Veitch. Among new and rare plants were Clianthus Dampieri, with brilliant crimson blossoms and dark boss; Olea ilicifolia, a handsome evergreen shrub from Japan; Rhododendron Veitchianum, a greenhouse species from Moulmein, with beautiful pure white flowers, 4 inches across, and crisped round the edge; Cyanophyllum magnificum, a handsome stove plant, with deep velvety green foliage; Embothrium coccineum, an evergreen shrub, with flowers of the richest scarlet; Caladium Chantini, with green leaves blotched with purest white; two Belgian Begonias, argentea and Queen Victoria, distinct kinds very fine. There was also exhibited in a glass case the strikingly beautiful new Pothos argyræa; also a fine collection of Anæctochilus, with handsomely marked foliage. These all came from the Messrs. Veitch, who likewise contributed among other rare plants the fine conservatory climber Lapageria rosea, from Chili, with crimson bell-shaped flowers; Philesia buxifolia, a beautiful shrub from Patagonia, with deep rose-coloured blossoms; the curious Pitcher plants, Nepenthes lanata, Rafflesiana, ampullacea, vittata, and others. The new and commodious marquee, which was erected on this occasion for the first time, contained large quantities of plants, flowers, and fruit, and also some prodigious vegetables. A great number of prizes was awarded on the occasion, for the enumeration of which we are unable to find room.

## Notices of Books.

*Our Woodlands, Heaths, and Hedges.* By W. S. Coleman (Routledge), is a shilling volume of gossip about trees and shrubs, very well done, and containing in addition to the principal subject matter, useful information on entomological subjects. It is illustrated by small woodcuts sufficient for identification. The author should have pointed out however the poisonous nature of Holly berries; nor do we see why the true Service tree, Pyrus domestica, should have been omitted.

*Pets, a paper dedicated to all who do not spell Pets —Pests.* By Major Egerton Leigh (Longmans). Those must have passed a very agreeable evening who had the good fortune to hear the gallant author read this charming essay to the Mechanics' Institute at Chester. Its title marks its character—serious, jocular, witty, and full of lively anecdote. Lovers of domesticated animals will be proud of their graceful champion, and cling more fondly than ever to the little creatures of their affection. Through 62 pages there is a running fire of good stories, capitally told, as may be judged from the following extract:—

"My own earliest Pet was a mouse, caught in my schoolboy days, and highly educated. At that particular school we were all mouse tamers. The first process was conducted on the water-cure principle, breaking the wild spirit of independence by letting the mice swim till they were tired. After the preparatory immersion had been undergone, their education was conducted on principles of decided kindness. Our mice knew and would come to us like dogs, and were most docile and teachable. I grieve to have to confess that in a moment of extreme poverty I disposed of an 'admirable Crichton' of a mouse for the unheard-of sum of five shillings. 'Toby' (that was his name) was a genius, knew his name, came to the whistle, leapt, ran up poles, opened doors, shouldered arms, &c. In the course of their education our mice often got bad falls, and the pharmacy we adopted in these cases is not the least curious part of mouseology. The fainting sufferer was phlebotomized by cutting off a link of his tail with a sharp knife; the drop of blood which followed this process generally brought the patient round. A very accomplished mouse might have been known by the shortness of his tail, as the senior wrangler may often be distinguished at the universities by the baldness of his forehead. Apropos of mice, I remember hearing of an English officer in a smart uniform being introduced during the short peace to Napoleon the First at the Tuilleries as 'Capitaine des Souris.' The Emperor could not at first solve the problem of the English mice requiring a commanding officer till it was explained to him that the officer was a captain in the *Surrey* Yeomanry."

And thus Major Leigh goes on sparkling and sparkling till his tales die out, with one last reflection in which all kind-hearted folks will join. "And now what moral can I draw from my subject? That there must be some great reason for the general cultivation and popularity of Pets; that it is one of the many ways by which lessons of humanity may be impressed on a child's young heart in the pleasantest and most lasting manner. Kindly affections are fostered by the means of Pets in those of a riper age. Pets cheer the bed of sickness, solace the hours of solitude, bring to mind absent or deceased friends, and soften and render more endurable the trials of poverty and sorrow.

"'He prayeth well who loveth well,
Both man and bird and beast
He prayeth best who loveth best
All things both great and small;
For the dear God, who loveth us,
He made and loveth all.'"

*Glenny's Manual of practical Gardening* (8vo. Houlston, pp. 384) is a really good book and deserves to be favourably received by the gardening world. It treats indeed of common things only, but of these it treats well, and it is upon them that the great mass of cultivators requires to be informed. Amateurs in particular have here an adviser in whom they may place confidence. In short Mr. Glenny's volume seems to us the best work on the details of ordinary cultivation that has appeared since Abercrombie's. The author describes his object as being to give, as concisely as possible, such instructions as may be profitably learned by all classes, as part of their scholastic acquirements: he does not propose to elaborate upon all the modes of grafting; for many that help to fill up modern treatises are mere whims and fancies,—which, like difficult pieces of music without melody, by astonishing instead of pleasing the hearer, serve only to show the skill of the performer, which nobody wishes to dispute. His object is to give the easiest and most efficient instructions for all the necessary operations in gardening; not to introduce the novelties which have nothing to recommend them but their novelty. This is a fair account of the way in which the work before us is prepared. "Nobody," the author adds, "can defend those writers who put 20 lessons before a pupil, all different, all professing to accomplish the same end, and without once informing him which are the safest and best, the easiest and most economical. Young gardeners, of all others, should have no puzzling matters; their path ought to be as straight as circumstances will admit of. We should think our work but half done, or very ill done, were we to record the useless variety of methods adopted by as many different authors, and leave our less experienced friends to discover which is the best. Yet such has been the character of some of our most popular works on gardening: perhaps 20 authors are quoted, and all of them persons of some note in their profession; but with all these quotations, the person wholly inexperienced would be bewildered, while the moderately well-informed gardener would be actually misled." Mr. Glenny confines his statements within his own experience, and in so doing has conferred a substantial benefit on his readers.

Messrs. Longmans have just published a new and greatly improved edition of *Maunder's* useful *Treasury of Knowledge*. The English Grammar occupies 59 pages, the English Dictionary 344 pages, the Gazetteer 277 pages, the Classical Dictionary of proper names 60 pages, the Chronological Compendium 30 pages, besides which are various minor matters, in all forming a duodecimo volume of 900 pages beautifully printed in double columns in very small type, and costing no more than 10*s*. We have also before us from the same great publishers a new and revised edition of *Mangnall's Historical and Miscellaneous Questions* in the form of a small duodecimo of 570 pages.

Mr. Bohn has brought out a translation of *Dante's Inferno*, by the *Rev. J. W. Thomas*, who tells his readers that his main object has been "to unite with a version almost literal the *form*, the *beauty*, and the *spirit* of the original." In the first he has succeeded, but we greatly doubt whether readers will recognise the presence of the other two qualities.

The 9th Part of Prof. Lindley's *Folia Orchidacea* has appeared, containing the completion of Pleurothallis. What progress the knowledge of Orchids has made of late years may be seen from this instance. When, in 1830, the genus was introduced by the author into his *Genera et Species Orchidearum*, only 19 species had been published, of which he had only seen 15, many in the state of unexaminable fragments. The present classification is formed upon 280 species, nearly all of which have been carefully dissected; exclusive of three doubtful species, and nine which are now referred to other genera.

Messrs. Blackie & Son have now carried *Thompson's Gardener's Assistant* (see p. 638, 1858) as far as the 10th Part, in which they announce that the author finds notwithstanding all his efforts to confine the various subjects within the limits of 10 parts, at the same time doing justice to the articles, that the matter has so extended upon his hands as to render it necessary to enlarge the work to 12 parts, as the only means of maintaining proper harmony between the various sections, and allowing that scope for their treatment which the importance of the subjects and the interests of the purchasers demand. We are glad to say that the coloured plates are improved, and that the work continues to justify the favourable opinion we formerly expressed of it.

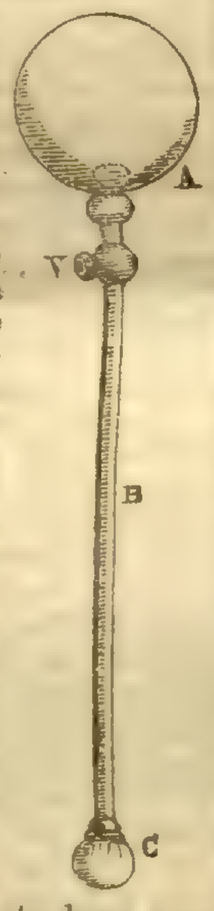
From Mr. Murray we have an excellent abridgment of the *Life of George Stephenson*, by Mr. Smiles. It

now appears in a form which brings it within the reach of everybody who can spare 6*s.*, and there is surely no one book in the English language more worthy of being placed in the hands of the young. It is here they find the history of one who by a life of steady industry, sobriety, intelligent perseverance, and a resolution to be deterred by no difficulty, raised himself from the low condition of a poor peasant boy to the highest rank among those great engineers who, following in his footsteps, are rapidly affecting the destinies of the mightiest nations of the earth. The narrative of the simple means by which so great a result was obtained should be placed in the hands of every schoolboy, with the advice to read, digest, and do likewise. The volume just provided is not however a mere abridgment of Mr. Smiles's former biography, but is enriched with many interesting illustrations, calculated to fix the attention of young people upon some of the most striking periods in Stephenson's career. We shall hope to learn that the volume is universally accepted by those intrusted with education as the most valuable piece of biography that can be placed in the hands of their pupils.

## Miscellaneous.

*Measures and Weights used in the Vegetable Markets of Paris.*—Most sorts, such as Carrots, Turnips, Parsnips, Leeks, Radishes, Onions, &c., and small herbs are sold by the *botte*, which weighs about 1 kilo (nearly 2¼ lbs.). Sorrel, Spinach, Parsley, and Chervil are made up into *paquets* (bundles), which are about the same in weight as the *botte*. Some of the articles usually sold by the botte are otherwise brought to market at certain seasons; thus Onions are in *grains* up to the hectolitre (2¾ bushels) from November or December; and Sorrel and Spinach after September cease to be offered in *paquets*, but come for sale in *mannes* (punnets), the price of which is according to size. Mushrooms are sold in *clayettes*, each consisting of 24 *maniveaux*; this is a very small basket, holding five or six middle-sized Mushrooms; but when Mushrooms are exported from Paris they are sold by weight. The *Calais*, a measure used for wild Chicory, contains 12 heads. Cos Lettuces are sold in bottes of 32 heads, or in *bottillons* of four heads each. Other heavy articles, such as Cabbages, Cauliflowers, sometimes Celery, are sold by the hundred, as are also Curled Endive, Batavian Endive, and Cabbage Lettuces. *Rev. Hort.*

*Aquaria.*—We find in the *Pharmaceutical Journal* the following ingenious instrument for forcing air into the water of Aquaria, invented by Mr. Stevenson, of Edinburgh. "This is a very simple, elegant, and efficient instrument. It is formed of an india-rubber air ball, A, attached to one end of a glass tube, B, which has a ball of cotton wool, C, tied firmly to the other end of it, whilst there is a valve opening inwards. When the india-rubber ball is pressed or squeezed, the air expelled from it shuts the valve, V, rushes down the tube, and is forced through the ball of cotton, which distributes it in small globules. When the pressure is removed, the expansion of the elastic india-rubber ball opens the valve, the external air rushes through it and again fills the ball, so that by alternately squeezing this ball with the hand and relaxing the pressure, a current of fresh air is thrown out at the ball of cotton."




*Ceylon the ancient Tarsus or Tarshish.*—A correspondent who appears to have seen portions of Sir Emerson Tennent's forthcoming work on Ceylon, speaks of it in very high terms. Our correspondent writes that the author "proves that Ceylon is the Tarsus of the Scriptures—that a very large trade was carried on with it hundreds of years before the Christian era—with Turkey, Ophir (Sumatra), and China from the Red Sea—proves this by official documents from Turkey and China. He has maps showing the ancient and native names of the places." *Colombo Observer.*

## Calendar of Operations.

*(For the ensuing Week.)*

### PLANT DEPARTMENT.

CONSERVATORY, &c.—The conservatory should now be thoroughly relieved of all superfluous stock. Nothing therefore will be required in structures of that kind but to carry out a cleanly system of cultivation and to introduce specimens in flower from other houses or pits. Keep the atmosphere as moist as circumstances will admit. Ventilate thoroughly, and shade with thin canvas during bright sunshine. Attend to plants for autumn and early winter decoration, such as Japan Lilies, Chrysanthemums, Scarlet Salvias, Tree Carnations, and things of that sort. Give them plenty of pot room, good rich compost, a moist atmosphere, and plenty of space for the proper development of their branches and leaves. Selago distans is a good useful plant which must not be forgotten; it flowers freely and requires nothing better than a cold pit to grow in. Epacrises, winter blooming Heaths, and Cytisus should likewise be cultivated in quantity, for few plants surpass them for winter decoration. The atmosphere of plant houses can scarcely be kept too moist at this season; therefore sprinkle every available surface frequently and syringe growing stock lightly twice a day during bright weather.

### FORCING DEPARTMENT.

PINERIES.—Where the bottom-heat is obtained from tan or other fermenting matter it will be necessary to add a little fresh material at intervals, in order to recruit the heat, but at this season it will be safer to surface with a few inches of fresh tan in a rather dry state than to turn the bed, mixing the fresh materials, which often cause too strong a heat; and at this season there is much more danger of erring on the side of too much than too little bottom heat. Give every attention to keeping up a succession of fruit. Perhaps the most certain method of doing this is by securing and potting a number of suckers proportionate to the demand at short intervals during the growing season, therefore attend to keeping up a regular supply of young plants if doing this should necessitate throwing away a few overgrown plants which have failed to fruit at the desired time. We have frequently seen gardeners allow the number of large plants to increase, so that there was little room left for the young stock, which suffered accordingly, and disappointment came in due course. Do not let the growing stock suffer for want of pot room, or through dryness at the root, and afford them a moist atmosphere, syringing and shutting up early in the afternoon, so as to give the house a good steaming. Recently potted plants, especially if they were much pot bound before being repotted, should be kept rather close and shady, with a thoroughly moist atmosphere, and very carefully attended to with water until they appear to have taken to the fresh soil. VINERIES.—In the case of fruit intended to be kept as long as possible, the berries should be thinned, so that they will hardly touch when fully swelled, for it is scarcely possible to keep Grapes through the winter except they are severely thinned. Be particularly careful of the foliage of the Vines intended to furnish a late supply of Grapes, and if plants must be grown in the house, see that they are not infested with black thrips or red spider, for if either of these pests is allowed to gain a footing on the Vines, the foliage will probably be greatly injured, and then there will be no chance of keeping the Grapes in good condition for any time after they are ripe. Muscats must be encouraged with a brisk temperature while setting. PEACH HOUSE.—Use means to eradicate insects if any from the early house as soon as the fruit is gathered, in order that the trees may be perfectly free from them before the lights are removed. Syringe copiously to destroy red spider, dust with sulphur for mildew, and smoke with tobacco for green fly. MELONS.—In dung beds keep up a good heat by means of linings. Let no water fall upon the fruit after it is fully swelled, and give air more freely. Sprinkle late Melons overhead early in the afternoon before closing up the frames; a little air may be left on during warm nights if the bottom heat is brisk. Keep the Vines thin and shade lightly if the weather should become suddenly very dry or hot. CUCUMBERS.—Attend to watering and thinning out superfluous shoots. If in frames, and the latter are small, they may be raised by placing bricks under the corners so as to allow the shoots to run outside. Stop and train those under handlights, and supply them liberally with water.

### FLOWER GARDEN AND SHRUBBERIES.

All newly bedded out things will during hot weather require daily waterings. The benefit of little basins round each plant will then be readily seen. Let the young shoots on all old Fuchsia stools be thinned out to five or six. Attend diligently to standard Roses, constant disbudding is necessary at this period; also keep down suckers. Let every attention be paid to propagating a reserve stock to fill gaps, and let those already rooted, or the remains of store pots, have kindly cultivation forthwith, in order to be ready to fill blanks. They should be kept in a shady border entirely by themselves, and should receive frequent waterings.

### HARDY FRUIT AND KITCHEN GARDEN.

In order to have a good and constant supply of winter Endive a full sowing should now or very soon be made. Endive is generally sown too thickly. Another good sowing should be made in the first week of July, and a second towards the middle, after which the plants will not attain full size. As soon as the plants are a few inches high some mow the tops of the leaves off with a scythe, cutting about one-third of the leaves away. This they do to stiffen the plants and cause more heart to develope itself; it also enables them to bear transplanting better. A good breadth of dwarf and compact Cabbages may be sown for early Coleworts; also a bed of Horn Carrots. This is a good time for a liberal sowing of autumn Turnips; the Dutch or Stone are useful sorts for the kitchen garden. Prepare for Leeks by heavy dressings of manure, also for Celery. Water late Cauliflowers abundantly, also Lettuces for salad. Mushroom spawn should be made without delay. See that fresh planted trees have thorough mulchings and waterings.

### COTTAGERS' GARDEN.

As soon as early Potatoes are fit for use and up let the ground be immediately cropped with Winter Greens. The Early Ulm Savoy, Brussels Sprouts, and above all Green and Cottagers' Kale should be amongst the foremost to claim attention. If a cow is kept the Thousand-headed Cabbage will be found to furnish a large amount of good food for her. A bit of the early Potato ground should be sown with Turnips forthwith. Celery and Leek ground should be got ready. Leeks well grown and large are most useful in a cottager's family. Blanks among late Potatoes should be filled up with transplanted Swedes.

STATE OF THE WEATHER AT CHISWICK, NEAR LONDON.
For the Week ending June 2, 1859, as observed at the Horticultural Gardens.

| May and June. | Moon's Age. | Barometer. Max. | Barometer. Min. | Temperature of the Air. Max. | Min. | Mean | Of the Earth 1 foot deep. | Of the Earth 2 feet deep. | Wind. | Rain. |
|---|---|---|---|---|---|---|---|---|---|---|
| Friday 27 | 24 | 29.831 | 29.753 | 74 | 46 | 60.0 | 55 | 53 | N.E. | |
| Satur. 28 | 25 | 29.925 | 29.667 | 69 | 52 | 60.5 | 57 | 55 | N.E. | |
| Sunday 29 | 26 | 29.680 | 29.621 | 76 | 47 | 61.5 | 57½ | 55 | E. | |
| Mon. 30 | 27 | 29.650 | 29.587 | 75 | 52 | 63.5 | 59 | 56½ | W. | |
| Tues. 31 | 28 | 29.739 | 29.680 | 76 | 45 | 60.5 | 60 | 58 | S.E. | |
| Wed. 1 | ● | 29.838 | 29.725 | 75 | 52 | 63.5 | 61 | 58½ | N.E. | |
| Thurs. 2 | 1 | 29.598 | 29 515 | 74 | 55 | 64.5 | 62 | 59 | E. | |
| Average | | 29.753 | 29.649 | 74.1 | 49 8 | 62.0 | 58 8 | 56.4 | | |

May 27—Overcast; fine; overcast.
— 28—Very fine throughout; rather foggy at night.
— 29—Uniform haze; thunder and lightning; rain at night.
— 30—Foggy; cloudy and mild; clear and fine.
— 31—Hazy; fine; thunderstorm in afternoon; fine.
June 1—Very fine throughout.
— 2—Cloudy; overcast; fine; rain at night.
Mean temperature of the week, 5 deg. above the average.

RECORD OF THE WEATHER AT CHISWICK,
During the last 33 years, for the ensuing Week, ending June 11, 1859.

| June. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. | Calm |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday 5.. | 70.8 | 47.2 | 59.0 | 17 | 0.64 in. | 2 | 6 | 2 | 1 | 5 | 8 | 6 | | |
| Mon. 6.. | 69.5 | 47.7 | 58.6 | 17 | 0.28 | 6 | 5 | 1 | 2 | 4 | 9 | 3 | | |
| Tues. 7.. | 68.8 | 47.6 | 58.2 | 12 | 0.53 | 3 | 7 | — | 4 | 4 | 8 | 4 | | |
| Wed. 8.. | 70.3 | 47.5 | 58.9 | 12 | 0.45 | 3 | 7 | 1 | — | 4 | 12 | 4 | | |
| Thurs. 9 | 70.6 | 48.1 | 59.4 | 16 | 1.18 | 1 | 5 | 2 | 2 | 3 | 14 | 2 | | |
| Friday 10 . | 71.5 | 48.0 | 59.7 | 14 | 0.95 | 1 | 8 | 2 | 2 | 3 | 8 | 5 | | |
| Satur. 11.. | 72 2 | 48.3 | 60.3 | 10 | 0.47 | — | 7 | 3 | 2 | 4 | 7 | 10 | | |

The highest temperature during the above period occurred on the 7th—1846—therm. 90 deg.; and the lowest on the 5th, 1856—therm. 33 deg.

## Notices to Correspondents.

BOOKS: *A—, Rectory.* Utrum mavis.

BROCCOLI: *Shaw and Crosland.* Your "Richmond Dwarf Late White" appears to be a valuable variety for this season of the year. The heads sent (which were pale sulphur coloured rather than white) measured on an average 2 feet in circumference. All of them were however rather past their best.

CAULIFLOWER PLANTS: *H E.* If they are suffering from fly, give them a good syringing once or twice with tobacco-water, washing it off afterwards with clean water. That will probably cause them to disappear.‡

FUNGI: *C E.* The soot-like fungus from the inside of a large Elm (Ulmus montana) is Reticularia maxima. It generally grows first upon the bare soil, running from thence over everything which is in its way. It is not the cause of the decay of your tree, its connection with which is probably merely accidental. *M J B.*

GINGER BEER: *F P, Maidstone.* The following is a very good way to make it:—Take of ginger bruised or sliced 1½ oz., cream of Tartar, 1 oz.; loaf sugar, 1 lb.; one Lemon sliced. Put them into a pan and pour 6 quarts of boiling water upon them. When nearly cold put in a little yeast and stir it well about a minute. Let it stand till next day, then strain and bottle it. It is fit to drink in three days, but will not keep good longer than a fortnight. The corks should be tied down, and the bottles placed upright in a cool place.

INSECTS: *J S.* The night feeding insect which attacks the young Vines in your house is the destructive Weevil Otiorhynchus sulcatus. They may be trapped by laying a white cloth under the Vines, which should be visited some time after dark and suddenly shaken.—*J S* (Perry Barr). The grubs which have eaten off your Lobelias, Alyssums, Verbenas, and Calceolarias are the larvæ of one of the smaller species of Daddy-long legs (Tipula hortorum?). Your plan of gently forking round the roots and picking out the grubs is the best you could have adopted. The grubs are now nearly full grown and have done their worst. They will now turn to inactive pupæ underground, and in a few weeks the perfect insects will be produced; it will then be worth your while to employ children to catch the Daddy-long-legs.—*H F.* The grubs which have attacked your Oat plants by thousands and have also eaten off your spring Tares, Carrots, and Mangel Wurzel are the larvæ of one of the larger species of Tipulidæ. We do not think any fluid could be applied in sufficient quantities to injure the grubs, and can therefore only recommend the plans suggested in the preceding answer.—*W P.* Your Barley plants have been eaten off by the larvæ of another but smaller species of Tipula. See the two preceding answers. *W.*

NAMES OF PLANTS: We have been so often obliged to reluctantly decline naming heaps of dried or other plants, that we venture to request our correspondents to recollect that we never have or could have undertaken an unlimited duty of this kind. Young gardeners, to whom these remarks more especially apply, should bear in mind that, before applying to us for assistance, they should exhaust their other means of gaining information. We cannot save them the trouble of examining and thinking for themselves; nor would it be desirable if we could. All we can do is to *help* them—and that most willingly. It is now requested that, in future, not more than four plants may be sent us at one time.—*Dick.* Justicia carnea.—*Redfern.* Certainly nothing more than a viviparous Poa annua, whose strange structure has been produced by the growth of the chaffs of the flowers into common leaves.—*Adam Ball.* Certainly the real Spergula pilifera. From what part of Europe did the seed come to you?—*W T.* Pilogyne suavis and Bryonia scabra are supposed to be the same plant; but that is not quite clear. We fear the plant you have sent is too much dried up to have a chance of growing.—*J L Capper.* Polygala vulgaris.—*B W S.* Arenaria marina, Anthyllis vulneraria, and Bunium flexuosum. The specimens are not numbered.—*J P, Castle Carey.* 1, Fedia cornucopiæ; 2, smashed to pieces and indeterminable.—*Lydia T.* Abies Douglasii.—*T K.* Stanhopea guttata.

ROSES: *Somersetensis.* It is difficult to say with certainty from the specimen sent what the name of your yellow Rose is. It looks like Cloth of Gold, but we should think it is too early for that variety to be in flower now, even on a warm south wall. We are rather inclined to think that it is Solfaterre.‡

THE GISHURST COMPOUND: *Newbury.* It appears that you dissolved the compound in hard water which has a tendency to form a curd, and after using, left the solution to dry upon the plants. It is especially recommended to use soft or rain water for the purpose of dissolving this substance, and to rinse or syringe off the solution before it is allowed to dry upon the leaves.

MISC.: *G S.* The Portuguese Apple you mention is the Reinette du Canada, and is in cultivation here. So is the Patel plant, which we suppose may be had in the great nurseries. With the other plant we are unacquainted.—*So-and-so.* We really cannot occupy ourselves with querulous ignorance.

*** As usual, many communications have been received too late, and others are detained till the necessary inquiries can be made. We must also beg the indulgence of those correspondents the insertion of whose contributions is still delayed.

THE PATENT

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SUCCESS OF THE NEW GUANO; IMPORTED UNDER LEASE FROM THE CROWN.—Though the experiments with KOORIA MOORIA GUANO were made late in the season, and under adverse circumstances, the successful results obtained confirm beyond doubt Professor Voelcker's report—(in No. 41, Part I., vol. xix., Royal Agricultural Society's Journal)—that Ammoniacal manures, applied to Turnips in the experimental field, kept back at first the crop, and had no beneficial effect either alone or in conjunction with phosphates.

The KOORIA MOORIA GUANO is essentially a phosphatic manure, containing sufficient ammonia for roots, and, with a mixture of one-fourth of ammoniacal guano, cannot be excelled for either top-dressing or grain crops. It is a natural deposit, and will be delivered as imported, free from risk of adulteration. Deeply impressed with the necessity of encouraging the import of this valuable manure, her Majesty's Government has given such increased facilities for shipment, that arrangements have been made for a considerable supply. Purchasers can be supplied with suitable quantities from cargoes now on sale, containing from 45 to 66 per cent. phosphates. Present prices, 4*l.* 10*s.* to 6*l.* 10*s.* per ton, on applying to JOSEPH HINDSON, Broker (one of the Lessees under the Crown), 20, North John St., Liverpool. Government Lessees: OAD, HINDSON, & HAVES.

"Greystoke, Cumberland, Dec. 16, 1858.

"Dear Sirs,—I beg to inform you that I applied the Kooria Mooria Guano I had from you for Turnips, on land of a loamy character, incumbent on a stiff clay subsoil, and recently drained. On each side of the plot sown with Kooria Mooria Guano were Turnips manured with best Peruvian Guano. The quantities applied of each sort were of equal weight for weight per acre. The crop—a very good one throughout—is now being eaten off with sheep. Very little perceptible difference can be discovered, but if anything that difference is in favour of the Turnips sown with Kooria Mooria Guano.

(Signed) "JOHN BARKER."

"Messrs. J. & J. Graham, Guano Merchants, Penrith."

A Pamphlet, "Hints on Guano," containing a large number of reports from well-known agriculturists, and analysis of the cargoes here, may be had of the Broker, at the above address.

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MANURE FOR ROOT CROPS, of first-rate quality, with Analysis guaranteed, manufactured by WILLIAMS & Co., 47, Mark Lane, London (Established 1847), at 6*l.* per ton, including bags. Free to Wharf or Rail in London. The Trade supplied.

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**REDUCTION IN PRICE OF LAWES'S MANURES.**

MR. LAWES begs to announce that he has this season reduced the price of the Manures manufactured by him, viz.:—

| | | | |
|---|---|---|---|
| TURNIP MANURE .. .. .. | from £7 | to £6 | 6 |
| SUPERPHOSPHATE OF LIME .. | ,, 7 | to 6 | 6 |
| MINERAL do. .. | ,, 6 | to 5 | 5 |
| BARLEY MANURE.. .. .. .. | | 8 | 0 |

Prof. Way and Dr. Voelcker have sampled from a bulk of 5000 to 6000 tons at his factories, and their report and analyses are given in full in Circular to be obtained on application at his office, 1, Adelaide Place, London Bridge, E.C., or of his local Agents.

N.B. Genuine Peruvian Guano direct from Messrs GIBBS, Nitrate of Soda, Sulphate of Ammonia, and other Chemical Manures. American Cotton-seed Cake supplied.

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**ESTABLISHED 1812.**

H. AND T. PROCTOR'S TURNIP MANURE.—Messrs. H. & T. P. draw particular attention to this valuable Manure, which contains all the elements necessary for the full development of the Turnip Crop, so combined, that, from their chemical knowledge and long experience, they feel satisfied is most advantageous to the consumer. It has been very extensively used by most of the eminent Agriculturists of the day, and has attained a high reputation throughout England, Scotland, and Wales, and, they venture to say, is unrivalled for the weight and quality of the Bulbs which it produces. The application of this Manure to the Turnips will be found to benefit considerably the after crops of Barley, Clover, and Wheat.

POTATO, GRASS, BARLEY, CLOVER, AND WHEAT MANURES; also BONE DUST, PERUVIAN GUANO, and SUPERPHOSPHATE of LIME, warranted of the best quality.

Apply to H. & T. PROCTOR, West of England Depôt for Artificial Manures, Cathay, Bristol; or PROCTOR & RYLAND, Birmingham, and Saltney, near Chester.

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BURNARD, LACK, AND CO.'S CONCENTRATED SUPERPHOSPHATE OF LIME; guaranteed to contain Phosphoric Acid soluble, equivalent to 40 per cent. of Tribasic Phosphate of Lime.

CONCENTRATED TURNIP MANURE, equal in value to the preceding.

Of these Manures Dr. Voelcker says:—"These results must be very gratifying to you, and are the best proof of the very high agricultural and commercial value which characterises your concentrated superphosphate."

Detailed analyses, with opinions of the late and present Chemists to the Royal Agricultural Society, with Testimonials, Prices, &c., may be had on application to BURNARD, LACK, & Co., Sutton Road, Plymouth.

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**TO AGRICULTURISTS AND DEALERS IN ARTIFICIAL MANURES.**

MESSRS. RICE, BROTHERS, AND SEARLE will Sell at the New Corn Exchange Coffee House, Mark Lane, on MONDAY, June 6, at 2 o'Clock precisely, 250 tons of MANURE, comprising 200 tons of genuine SUPERPHOSPHATE or LIME, which will be sold by guaranteed analysis, and 50 tons of WOOL SHODDY. N.B.—Approved Bills at two months will be taken of purchasers to the amount of 25*l.* and upwards.—Samples may be seen, with the analysis, &c., at the Auctioneer's Offices, 263, Borough, Southwark, S.E.

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"FRIGI DOMO."—Patronised by her Majesty, the Queen, the Duke of Northumberland for Syon House, His Grace the Duke of Devonshire for Chiswick Gardens, Professor Lindley for the Horticultural Society, Sir Joseph Paxton for the Crystal Palace, Royal Zoological Society, late Mrs. Lawrence of Ealing Park, and —Collier, Esq., of Dartford.

PROTECTION FROM COLD WINDS AND MORNING FROSTS.

"FRIGI DOMO," a Canvas made of patent prepared Hair and Wool, a perfect non-conductor of Heat and Cold, keeping, wherever it is applied, a fixed temperature. It is adapted for all horticultural and, floricultural purposes, for preserving Fruits and Flowers from the scorching rays of the sun, from wind, from attacks of insects and from morning frosts. To be had in any required lengths. Two yards wide, 1*s.* 6*d.* per yard run; four, 3*s.* per yard. Also, an improved make for Shading Purposes. Three yards wide, 2*s.* 6*d.* per yard run.

ELISHA THOMAS ARCHER, whole and sole manufacturer, 7, Trinity Lane, Cannon Street, City, and of all Nurserymen and Seedsmen throughout the kingdom. "It is much cheaper than mats as a covering."

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**AGRICULTURAL MACHINERY**

F. R. AND F. TURNER, Ipswich, manufacture Prize Mills for Crushing Corn, Seed, Malt, &c; Portable Grinding Mills, Steam Engines fixed and portable from 2 horse-power and upwards; Threshing Machines, Chaff Cutter, Oilcake Breakers, Horse Gears, Saw Tables, &c, all of a superior description and adapted for Home, Colonial, and Foreign use. Illustrated Price Lists sent free on application.

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**HAY MACHINES.**

Small size, No. 1 .. £10 | Large size, No. 1 .. £12
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These Machines are free from small and delicate parts, and can be easily understood by a farm labourer. They have gained several prizes at the Royal Agricultural Society's Shows.

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WEDLAKE & DENDY'S Horse Rakes are made on the tubular principle, combining great strength and lightness. Free to all the principal Railway Stations.

WEDLAKE & DENDY, Union Foundry, Hornchurch, Essex.

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TO FARMERS.—If you wish to PRESERVE YOUR HAY, go to DAVIS & Co., 64, West Smithfield, E.C., where you may purchase a RICK CLOTH of the best material and workmanship, cheaper than at any house in London.

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**WHY NOT PRESERVE YOUR HAY?**

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Early application should be made for SECOND-HAND RICK CLOTHS. MARQUEES, TENTS, and FLAGS. A great variety of Marquees and Tents may be seen erected on the premises. A quantity of SECOND-HAND TENTS from the Crimea at a greatly reduced price. An Illustrated Catalogue sent post free.

West End Establishment, 32, Charing Cross, S.W.
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**TO AMATEUR GARDENERS, NURSERYMEN, AGRICULTURISTS, AND OTHERS.**

GUTTA PERCHA TUBING FOR WATERING GARDENS, from 2½*d.* per foot; Vulcanised India Rubber Tubing for Watering Gardens, from 4*d.* per foot; Brass Hand Branches, with Stopcock and Rose, and every description of Garden Tubing Fittings, sold Wholesale and Retail by W. R. WOODS, 94, Goswell Road, near the "Angel," Islington, London, E.C. Priced Lists can be had on application.

Please notice the Address—94, Goswell Road.

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**GUTTA PERCHA TUBING FOR WATERING GARDENS.**

THE GUTTA PERCHA COMPANY have the pleasure to acknowledge the receipt of the following

*Testimonial from* Mr. J. FARRAH, *Gr. to* BOSWELL MIDDLETON JALLAND, Esq., *of Holderness House, near Hull.*

"I have had 400 feet of your Gutta Percha Tubing, in lengths of 100 feet each, with union joint, in use for the last 12 months for watering these gardens, and I find it to answer better than anything I have ever yet tried. The pressure of the water is very considerable, but this has not the slightest effect on the tubing. I consider this tubing to be a most valuable invention for Gardeners, inasmuch as it enables us to water our gardens in about one-half the time, and with one-half the labour required."

Manufactured by the Gutta Percha Company, Patentees, 18, Wharf Road, City Road, London, and sold by their Wholesale Dealers in town and country.

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THE GENERAL LAND DRAINAGE AND IMPROVEMENT COMPANY: Offices, 52, Parliament Street.
HENRY KER SEYMER, Esq., M.P., Chairman.

1 This Company is incorporated by Act of Parliament to facilitate the Drainage of Land, the Making of Roads, the Erection of Farm Houses, Farm Buildings, and Labourers' Cottages, and other Improvements on all descriptions of Property, whether held in fee, or under entail, mortgage, in trust, or as ecclesiastical or Collegiate Property.

2. In no case is any investigation of Title necessary.

3. The Works may be designed and executed by the Landowner or his Agents, or the Company will undertake the entire improvement by their experienced staff, and advance the money required for the works. Equal facilities will be afforded in either case.

4. The whole cost of the works and expenses may, in all cases, be charged on the Lands improved, to be repaid by half-yearly instalments.

5. The term of such charge may be fixed by the Landowner, and extended to 50 years for Land Improvements, and 31 years for Farm Buildings, whereby the instalments will be kept within such a fair per-centage as the occupiers of the improved Lands can afford to pay.

6. No profit is taken on any Works executed by the Company, the actual expenditure only, approved by the Inclosure Commissioners, being charged in all cases.

WILLIAM CLIFFORD, Secretary.

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COLLEGE OF AGRICULTURE AND CHEMISTRY, AND OF PRACTICAL and GENERAL SCIENCE, 37 and 38, Lower Kennington Lane, Kennington, near London.
Principal—J. C. NESBIT, F.G.S., F.C.S., &c.

The system of studies pursued in the College comprises every branch requisite to prepare youth for the pursuits of Agriculture, Engineering, Mining, Manufactures, and the Arts; for the Naval and Military Services, and for the Universities.

Analyses and Assays of every description are promptly and accurately executed at the College. The terms and other particulars may be had on application to the Principal.

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YORKSHIRE AGRICULTURAL SOCIETY.—GREAT SHOW AT HULL, AUGUST 3 AND 4.
For Prize Lists, apply to the Secretary, JOHN HANNAM, Land Agent, Kirk Deighton, Wetherby.—June 4.

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# The Agricultural Gazette.

*SATURDAY, JUNE 4, 1859.*

**MEETINGS FOR THE ENSUING WEEK.**

MONDAY, June 6—Central Farmers' Club. .... 6 P.M.
WEDNESDAY, — 8—Agri. Society of England .. Noon.

HAVING traversed during the past week many of the western and midland counties we are able to say that the country generally has rarely at this season exhibited a finer promise. Our grain crops are generally of good colour and well covering the ground; Wheat is almost everywhere strong and dark, and Barley and Oats are generally full of leaf, and sufficiently forward. Perhaps the sandier parts of Cheshire should be excepted as suffering over all its late sown spring corn from want of rain. But on the more clayey lands in that

county nothing can look finer than the Wheat crop and the Potato crop, and the abundant growth of Grass in the pastures. In Northamptonshire and Bedfordshire, again, the promise is everything that could be wished.

—— Mr. FOWLER's steam plough was successfully at work on Monday last on a farm belonging to M. T. BASS, Esq., M.P., near St. Albans. Seven acres of ploughing were effected 6 inches deep in a long day, and 20 acres of grubbing done in two days. We were lately across the red gravelly and marly district lying to the south and west of Stafford, in which Mr. BYRD's farm at Littywood is situated—where 70 acres were ploughed 8 inches deep last autumn in 15 days by FOWLER's apparatus. The Wheat looks well after the work—and on the steam-cultivated land near Bedford, worked by SMITH's apparatus, there is the same superiority manifest in the crop after steam cultivation as compared with that which has been cultivated and *trodden* under horse labour. There seems every reason to believe that on every kind of land, and especially on the clay wherever it is laid out in fields of reasonable size, the soil can be cultivated so much more efficiently by steam power as to render the necessary outlay an economical investment.

—— The proceedings of the Agricultural Society last week possess unusual interest. Mr. FISHER HOBBS's paper, and the discussion upon remedies for the Turnip fly which ensued upon it, will be read with especial interest at this season. A most satisfactory feature in the history of it is the immediate transmission of the report to the agricultural journals, enabling us without difficulty to publish it at once in full. For this our readers are indebted to Mr. BRANDRETH GIBBS, who is the acting secretary of the Society, and who forwarded all the documents to be printed without the usual delay. We have to add the unexplained announcement, as intimated in the official report elsewhere, of Mr. HUDSON's retirement from the office of secretary of the Society, which he has held for so many years.

—— During the past few days, too, the Bath and West of England Agricultural Society have held their annual meeting at Barnstaple. A report of it is given in another page.

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FROM none of the lines of railway by which we have traversed Cheshire do you receive a just impression either of the fertility or farm management of the best parts of the county. You pass too often by the rough and broken fences, which Mr. MECHI describes as stretching away unaffected by a good example from the trim and tidy hedges of the railway: you traverse rough and poached pastures, with weedy ponds in their midst fringed by neglected shrubbery, and lines of Rushes marking the parallel furrows between the ridges. But this is not the universal nor even the general character of the land. On many large estates, and on many scattered farms throughout the county, you will find well fenced pasture fields containing a bulkier produce now of Grass, which if coarser than you see elsewhere is more genuine—less made up of weeds—and as nutritious—capable of maintaining probably a larger head of stock than any other in the country. You will find these farms more generally provided with a considerable proportion of arable land than is generally seen in other dairy districts, that of Gloucestershire, for instance, and this is generally better cultivated and presents just now, so far as during the past week we have seen it, as good a promise of its crops, especially Wheat, and Oats, and Potatoes, as any that we have anywhere observed. The Cheshire farmer is thus enabled more economically to manage his farm horses, which have work provided for them pretty evenly throughout the year. He is also able more satisfactorily than most dairy farmers can, at least in the corresponding districts of Gloucestershire and Somersetshire, to feed his cows economically and well throughout the winter.

Let us by way of a specimen of good Cheshire dairy farming describe the management and land of Mr. W. PALIN, who is well known as a public-spirited and intelligent agriculturist beyond the limits of his county. Stapleford Hall stands near the village of Tarvin, about six miles east of Chester. The farm lies partly on the sand and partly on the clay of the new red sandstone formation. Of its 250 acres 60 are arable. A herd of 52 cows are milked, and the other stock besides pigs consists of a flock of 60 or 80 wether sheep, and 40 or 50 ewes with lambs, bought in and sold fat every year, and 15 or 20 calves, with a similar number of yearlings, and of two and three-year-old heifers, which are partly introduced into the herd as they come into milk and partly sold. Mr. PALIN suffered severely from the pleuro-pneumonia several years ago, and also from the "hask" amongst the young calves, having last year lost 18 from that complaint, and he has not yet regained his full strength of herd—as he dares not replenish it by direct purchase at the fairs—and must therefore recover it gradually. The cows are now in full milk, the earliest calving having been nearly seven weeks at Grass, and nearly the whole being now at the pail.

The dairy management is as follows:—The cows are milked at night and the milk is poured into tin pans on the floor of the milk-house. This milk is skimmed in the morning, and then poured into the large tub where the curd is "set." As the morning's milking proceeds, the pails full are brought one after another and poured into this tub. A pan of milk is warmed in a boiler in the dairy, and when sufficiently hot the cream just taken from the evening's milk is mixed with it, and the whole thus warmed is poured at last into the tub which thus contains the whole milk, cream and all, of both "meals." The colouring matter, "annatto," apparently about a gill, is added to the 100 or 120 gallons which may be then in the tub as the produce of 48 to 50 cows—a half handful of saltpetre is thrown in with the view of correcting the bitterness which is to be detected while the Butter-cups are in full leaf; and the rennet, about a pint of brine in which two or three little bits of the prepared vells or "bag skins" have been steeped over night is added to the milk, which is then left for an hour covered up till the curd has fully formed. It is then cut slowly with a wire curd breaker, and the curd sinking, the whey is baled out: the curd is collected and squeezed both by hand and by the direct pressure of a weight above a board placed upon it, and the last of the whey being removed it is lifted into one of the large Cheshire cheese vats pierced with holes for the further escape of fluid—the lower part being a wooden cylindrical vat, and the upper a tinned cylinder slipping into it as the curd on pressure sinks. After a certain pressure in this *form* the curd is removed and cut and broken by hand, and from 1 to 2 lbs. of fine salt is scattered over it, and the whole rebroken and refilled into the vat, into which a cheese cloth has previously been placed. There it remains for the day—yielding somewhat to the pressure of its own weight. It is then put gradually under pressure, which on the second or third day amounts to nearly a ton weight upon each cheese.

Every day the cheese is turned and wrapped in fresh cloths, and on the seventh or eighth day of this treatment, or as soon as dry, it is removed to the loft and there swathed around with strong girthing, placed on a bench. By and bye it is laid, still swathed as before, on a layer of straw on the floor of the room, and there it lies till from 10 weeks to four months old, when it is ready for sale.

This is pretty generally the history of a Cheshire cheese. In some dairies, in order to the perfect extraction of the whey, skewers are used to pierce it, being thrust repeatedly into it through the holes in the cheese vat, in order to the formation of drains for the liquid. The whey is heated in a boiler, and throws up a cream, called "fleetings," which is skimmed twice, the first yielding a very good butter, and the latter a substance used principally for feeding calves; the whey is afterwards given to the pigs. Excepting a portion of the cream from the milk used in the house, and that which thus comes from the whey, the Cheshire cheese is a whole-milk cheese, and as rich, therefore, as any that is made.

The breed of cows is essentially short-horn, though possessed of no record of pedigree. They are large framed, well made animals, white, roan, and red. The pastures, some of the best we have seen, are on the clayey and marly part of the farm, owing their quality to original fertility, to drainage, and to boning. This last application at the rate of a ton to 30 cwt. per acre had been effected, most of it, many years ago, to the permanent improvement of the land. In more recent instances it had been used with perfect success on rough and sour portions of fields, making them yield sweet and palatable food, so that the patches formerly avoided are now eaten most readily. It is over the pastures on these marly soils that bone-dust has exerted its wonderful effect on the quantity and quality of the annual produce.

The arable land on Mr. PALIN's farm is for the most part on the sandier portion of its subsoil. The rotation adopted is — 1st, Oats on "lea" furrow; 2d, Wheat; 3d, green crop, Turnips, Mangel Wurzel, or Potatoes; 4th, Barley or Oats laid down with Clovers and other Grass seeds for three or four years, when it is usually broken up again, and the same process gone through. It is a tolerably easily worked soil, and every field bears rich promise of a crop.

A considerable portion of the arable land is devoted to the growth of early Potatoes and of seeds. The Potatoes are grown on the so-called lazybed system, one of the best methods existing for the growth of early Potatoes on a large scale. The ridges are about 4 feet wide, and the Potatoes being dibbled in rows across them are covered over, on coming through, with the earth taken deeply from the furrows. As fast as the Potatoes are removed towards the end of June, selected Mangel plants or Swedish Turnip plants are dibbled in their places. Thirty-five tons per acre of Mangels have been thus grown as a transplanted crop. These are harvested in the usual way, and roots again selected in February are transplanted for the crop of seed. The Mangels are now shooting up their leaves and stems, the Swedish Turnips are in full bloom, and a magnificent promise of both is offered.

This seed growing has itself been a gradual growth, and is an instance of the kind which the Rev. Mr. BERKELEY has more than once recommended in our columns, in which a devotion to this department of cultivation by a well known and trustworthy man has proved, as he alleged, the existence of an increasing demand (although at higher prices) for seed grown from carefully selected roots.

The reference to this part of Mr. PALIN's management is however beside our present object, which is to present a picture of a well managed Cheshire dairy farm. We ought to add as to the herd of cows, that being gradually brought in towards winter, as the yield of milk ceases, they are fed in stalls, first on Mangel Wurzel leaves, then on the Turnip-tops, and then successively on Turnips, Swedes, and Mangel Wurzel (the last of which has just disappeared), along with cut straw and hay chaff. They thus come to their calving in fair condition and receive then a full allowance of hay until ready to be turned out to Grass.

A reference of this kind to Cheshire farming would be incomplete without mentioning the condition of the labourers. They are better off in Mr. PALIN's neighbourhood than anywhere we know—receiving 10*s.* a week during nine months of the year, and 2*s.* a day during the rest, together with all their food during the corn harvest weeks: they also have cheap cottages of abundant room. Those on Mr. PALIN's farm let at 1*s.* a week, though containing four rooms and outhouses, including cowhouse and loft, and pigstye in the garden. Most of them have also a Grass paddock of 2 acres or more at an agricultural rent, enabling them to keep a cow and to rear one or two calves. The men are made comfortable in their station without being offered thereby any temptation to leave it. Altogether the immediate neighbourhood of Tarvin, in so far as it is represented by Stapleford Hall Farm, presents as satisfactory a picture of agricultural prosperity in all classes as any county in the kingdom can present.

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## THE MONEY VALUE OF MANURES.

[The following passages are extracted from a paper read by Mr. Baldwin, of Glasnevin, before the Royal Dublin Society.]

*The Manure Trade.*—There are no accurate data for arriving at a conclusion as to the actual quantity of commercial, as distinguished from farm-yard manure, used in these countries; but we may approximate. In 1858 the imports of Peruvian guano amounted to 312,000 tons, and taking the consumption at 300,000 tons, and the retail price at 13*l.* 5*s.* per ton, we have in this article an outlay of 3,975,000*l.*, or very nearly four millions sterling. It is exceedingly difficult to arrive at an accurate conclusion as to the consumption of manures, such as superphosphates; but I do not think we can over-state the quantity manufactured if we take the number of tons to be at least equal to that of imported Peruvian guano, or, say 300,000 tons, at 7*l.* 10*s.* per ton, which gives the commercial value of what may be denominated the unsophisticated manures turned out by the manufacturers at 2,250,000*l.* annually. We thus obtain the aggregate value of imported Peruvian guano and home-made superphosphate to be about six millions and a quarter sterling. As a very interesting piece of statistics for a "Blue Book," we may suggest to some industrious individual to ascertain the extent to which fraud is practised on this capital in passing through nefarious hands. In the absence of accurate data, we may assume that British farmers are annually swindled by the dishonest practice of manure dealers to the amount of a million and a half sterling, over and above the legitimate profit of respectable manufacturers of superphosphates and the importers of guano.

I have no doubt but this statement will sound alarming; but we cannot too loudly sound the tocsin, nor too impressively express our opinions on this question. There are few articles of ordinary use free from adulteration. The bread we eat and the bever-

ages we drink are subject to the most systematised species of wholesale sophistication. I am inclined to think, however, that the manure trade is at the present time in a more unsatisfactory and calamitous condition than any other, and that there is no class of the community so flagrantly defrauded as those tillage farmers who find it necessary to have recourse to the manure market. Fraud pervades many a recess in this market, stalks forth occasionally in daylight, and not unfrequently unmasks itself in the advertising sheet of the farmer's newspaper.

Fortunately, however, science boldly treads on the track of fraud; and if she does not always discover and disarm it, she has in a very sensible manner checked its career. He would be a blind farmer, indeed, who in this age would slight the aid of the man of science. Further progress in the mode of restoring the lost fertility of land with economy cannot be effected without more of that light which chemistry has shed upon the brow of practice, and immediate relief from the crushing tax imposed on farmers by unprincipled manure vendors can be afforded only by the diffusion of the knowledge we already possess of the chemistry of manures.

*The Nitrogen in Manure.*—Now, in manure the nitrogen may exist either in the form of ammonia—a salt of ammonia—or be locked up in the tissues of the structure of the substances forming the manure, and its effects on plants depend materially on whether it exists in one or other of those states—so much so that Dr. Voelcker estimates the value of the nitrogen in ammonia at one-third more than the nitrogen in animal or vegetable substances. The advanced agriculturist who estimates the real importance of economising time will always seek to obtain a manure in which the nitrogen exists in a state, say, of actual ammonia, in which it can minister to vegetable nutrition as soon as it is put into the ground, in preference to the "potential" state, as Dr. Ure, many years ago, denominated the nitrogen that may, in course of time, be converted into ammonia. That it is desirable to take this state of combination of the nitrogen into account in estimating the value of a manure may be evidenced by one or two examples.

1. Estimating the value of a specimen of Welsh coal by the quantity of nitrogen which it contains (upwards of 2 per cent.), it would be worth more than 1*l.* per ton; and yet no sane man would pay the cost of its carriage for manure.

2. We know that unboiled bones are probably the cheapest source of nitrogen at our command, and yet in practice the intelligent farmer, who knows that his soil wants nitrogen in the shape of manure, prefers purchasing that element at a higher price in the form of guano. In the bones the nitrogen is in an inactive, and not immediately available condition; whereas in guano it exists in an active state, of which plants can make ready use. We may, no doubt, obtain the full benefit of the nitrogen of the bones before the expiration of a lease, or even before the end of a short rotation; but time is in our time the mother of the tripping sixpence, and the farmer who neglects it will have little chance of competing for maximum profits.

If these premises be true, it follows that the common mode of estimating the commercial value of manures, as far as it depends on nitrogen, is far from being satisfactory. That mode consists in ascertaining by processes which we will not describe the percentage of nitrogen in the manure, and then, after finding how much ammonia this nitrogen is equivalent to, or, in other words, how much ammonia it would produce if it were converted into that substance, estimating the ammonia so determined at the same price per ton as if the nitrogen existed in the state of ammonia. To show the absurdity of this rule, let me remind you that 2 per cent. of nitrogen in guano is worth upwards of 1*l.* per ton; while the 2 per cent. of nitrogen in coal would practically be valueless as a source of nourishment to plants!

But what are the various sources of ammonia within reach of the farmer, and its price per ton?

The cheapest source of this substance is the liquor of gas works; but as that source is very limited, compared to the present enormous demand for ammonia, it may be overlooked. The cheapest salt of ammonia, and the only one used to any extent in agriculture, is the sulphate—a salt formed by the union of pure sulphuric acid, water, and the gas ammonia. Every 100 lbs. of pure sulphate of ammonia consists of—

| | |
|---|---|
| Ammonia .. .. .. .. | 22.7 |
| Sulphuric acid .. .. .. | 53.3 |
| Water .. .. .. .. | 24.0 |

The salt of commerce contains impurities to the extent of 10 per cent. or so: we may, therefore, assume its composition in every 100 parts as—

| | |
|---|---|
| Ammonia .. .. .. | 20.4 parts |
| Sulphuric acid.. .. .. | 48.0 ,, |
| Water .. .. .. .. | 31.6 ,, |

Now, on looking on last Saturday's quotations in the *Farmers' Gazette* I find sulphate of ammonia offered for sale to farmers at from 15*l.* to 16*l.* a ton. We will assume the former figure:—

| | | | |
|---|---|---|---|
| One ton of agricultural sulphate of ammonia .. | £15 | 0 | 0 |
| Deduct the value of 1075 lbs. of sulphuric acid contained in the ton, which would be supplied by the sulphuric acid in about 1 ton (20¾ cwt.) of sulphate of lime or gypsum, for .. .. | 1 | 10 | 0 |
| | £13 | 10 | 0 |

Leaving 13*l.* 10*s.* as the price the farmer pays for the 457 lbs. of ammonia contained in a ton of the sulphate of ammonia, or a fraction more than 7*d.* per lb., or 65*l.* 6*s.* 4*d.* per ton.

In oil-cake at 10*l.* per ton the farmer pays for ammonia about 1*s.* 6*d.* per lb.; in Rape-cake at 5*l.* per ton he pays about half the price, so that as manure these articles cannot be considered economical. In the scale for valuing manure adopted in the laboratories of our leading chemists, 56*l.* per ton is the price of ammonia, which is rather under its commercial value.

*(To be concluded next week.)*

## Home Correspondence.

*The Craigo Turnip Experiment.*—You are good enough frequently to give your readers details of agricultural experiments made by practical men for the determination of some point of interest to the experimenters. One is forcibly struck, however, with the frequently apparently contradictory character of the results. How is this? Have the functions of the soil, or the growth of plants, or the action of manures no well-defined laws of operation, or are the experiments at fault? We know agriculture to be a most profound art, and that inquiries of the soil when made with much circumspection are not always successfully answered, though the reply be most patiently waited for; but how much more difficult of comprehension is the answer, when we clog the question with unnecessary conditions! Permit me to remark that field experiments should only be made for the elucidation of one well-defined point. We may, it is true, from the reply draw minor inferences, or possibly obtain an answer not sought for—but put only one question at a time and such question to be clearly put—and in triplicate, not merely duplicate. In your last Number you give the experiments of Mr. Grant, of Craigo. Not having access to the Journal of the Highland Society, I beg to remark on them as standing in your Journal. Two sorts of seed were used; here we have a departure from the simplicity of the question—the question being put not as to the character of the seeds, but rather of the manures. Two sorts of dung were used, so that as regards the dung the experiments were not even duplicate. Then only the two centre rows were weighed. After which statement the experiments lose all title to confidence. The weights given might be correct, which is all we can say in their favour. The reason assigned for not weighing all the rows is the mixing of the manures at the end of each sort; as well might the chemist excuse the imperfection of his results by the plea that he had neither rinsed out his vessels or washed his filters. What a pity it is that valuable time should be spent in working up a promising experiment and then compromise the results by the want of attention to mere detail. Let us suppose, however, the weights given to be correct; then what is the difference in the results of the two sorts of dung? The White Globes have produced a larger crop than the Yellow Aberdeens. Leave out the "no manure" in the first because it is absent in the second. Omit in each experiment the produce of farm manure alone, then we shall have as the total weights of yellow Aberdeen Bullock Turnip, 77 tons 8 cwt. 2 qrs. 16 lbs.; and that of the White Globe Turnip, 96 tons 16 cwt. 1 qr. 16 lbs. The produce of farm manure alone is of Yellow Aberdeen, 11 tons 15 cwt. 2 qrs. 24 lbs.; of White Globe, 11 tons 11 cwt 0 qrs. 0 lbs. Now as

| tons. | cwt. | qrs. | lbs. | | tons | cwt. | qrs. | lbs. | | tons | cwt. | qrs. | lbs. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 77 | 8 | 2 | 16 | : | 96 | 16 | 1 | 16 | : : | 11 | 15 | 2 | 24 |

Answer .. : 14 tons 14 cwt. 2 qrs. 0 lbs.

But it is stated that there was less dung used in the second experiment than in the first, in the proportion of 12 to 15.

| | | | tons | cwt. | lbs. | | tons | cwt. | qrs. |
|---|---|---|---|---|---|---|---|---|---|
| Then as | 15 : 12 | : : | 14 | 14 | 2 : | Answer | 11 | 15 | 0 |
| Whereas the produce was .. .. .. | | | | | | | 11 | 11 | 0 |

So that if the experiments are to be relied on they do not at all go to invalidate the numerous testimonies we have had in favour of the "covered court," or better preserved manure. As there will be many experiments tried this season on the Turnip crop, you will do agriculturists great service by sounding a warning note, and pointing out the conditions necessary to success. *Charles F. Burnard, Plymouth.*

*Anticipated Early Harvest.*—In this district, South Essex, there are vast breadths of thickly planted and early sown "rough chaffed" Wheats, this day, May 31st, in full ear, but it is to be regretted of very diminutive size and length. The thinner planted however will not be so forward for a week or nine days to come, resulting in about two-thirds, and in some cases not more than half the number of ears on equal spaces of land, but of full size, very large and long, consequently of greater productiveness. On a whole, should not a dripping June deteriorate the crops by lodging them, and injuring them in their blooming season, a very early and abundant harvest may reasonably be expected. Never in my recollection of 50 years can I remember Wheat in ear on Whitsun-Tuesday but once, and in that year I saw a field of the Talaverian variety in full blossom on that day. This year it will then be generally so of all varieties of Wheats. It must be borne in mind however that Whitsuntide cannot possibly fall so late (I think) only once in two centuries as in the present year 1859, though in the year above alluded to, it fell within two days as late. *A. Hardy, Maldon, Essex, May* 31.

## Societies.

### ROYAL AGRICULTURAL OF ENGLAND.

A SPECIAL COUNCIL was held, by order of the President, on Friday, May 27th, Lord Walsingham in the chair. The Report of the Finance Committee was read.

A communication having been made by the Council to Mr. Hudson, the Secretary, and his reply having been received, it was unanimously resolved—

On the motion of Mr. Milward, seconded by Lord Feversham, "That Mr. Hudson be suspended from the office of Secretary from this time."

On the motion of the Hon. Colonel Hood, seconded by Mr. Jonas, "That Mr. Brandreth Gibbs be requested to accept the office of Honorary Acting Secretary *pro tem.*"

On the motion of the Hon. Colonel Hood, seconded by Lord Feversham, "That all letters be addressed to Mr. Brandreth Gibbs, as Honorary Secretary to the Society."

On the motion of the Hon. Colonel Hood, seconded by Mr. Jonas, "That these resolutions be made known to the public journals in the usual manner."

The Council came to other resolutions relative to the details rendered necessary for carrying into effect the above decisions, and gave orders accordingly.

At a Monthly Council (for the transaction of business), held June 1, present the Right Hon. Lord Portman, Trustee, in the chair, several new Members were elected.

FINANCES.—Mr. Raymond Barker, Chairman of the Finance Committee, presented the monthly report on the accounts, from which it appeared that the current cash balance in the hands of the bankers was 1759*l.* 4*s.* 11*d.* On the motion of Mr. Thompson, seconded by Col. Challoner, a special committee was appointed to examine the past accounts, and to make certain reports thereon to a special meeting of the Council to be summoned.

AGRICULTURAL CHEMISTRY.—Mr. Wren Hoskyns, Chairman of the Chemical Committee, reported that Professor Voelcker had analysed a specimen of Mangel that had been stored two years, and that the Professor will be prepared at the next meeting of the Council to make some remarks upon the analysis he has made, with the object of turning attention to the general question of the causes (manurial and otherwise), exercising influence upon the important subject of the storing qualities of root crops generally.

WARWICK MEETING.—Lord Leigh, Vice-Chairman of the General Warwick Committee, reported the recommendations of the Committee in reference to—1st, the Hon. Director of the Show being empowered to order shedding, hurdles, &c., according to the number of entries (which close this day, June 1st), also as to arrangements with the Local Committee at Warwick, for hay, straw, and the yardmen and assistants required; 2d, as to the lodgings to be provided for the judges of the Show; 3d, as to the printing of the Award of Prizes; 4th, the arrangement of the programme of the Meeting; 5th, the application to be made to her Majesty's principal Secretary of State for the Home Department for the usual number of Metropolitan police; and other matters of detail connected with the Meeting.

SPECIAL COUNCIL FOR APPOINTMENT OF JUDGES.—The President was requested to summon a Special Council for 10 o'clock on June 22, for receiving the report of the Special Committee on Accounts, and of the Judges Committee, and appointing the judges for the several departments of live stock, implements, and also for cheese and wool at the Warwick meeting.

STEWARD ELECT OF IMPLEMENTS.—On the motion of Colonel Challoner, the Right Hon. Lord Leigh was unanimously appointed Steward elect of Implements.

The Council gave authority to the House Committee as to carrying out the details of matters intrusted to them.

### MEETING OF THE BATH AND WEST OF ENGLAND SOCIETY AT BARNSTAPLE.

Our notes this week of a very successful annual meeting must refer almost exclusively to the contents of the cattle yards, and anything like a detailed reference to the Implements and the Art Exhibition must for the present be postponed.

*The Cattle Show.*—It cannot be denied that whatever excellence may belong to the various classes exhibited, the best class of cattle in the yard was the Devon. It sometimes happens that when a meeting of the kind is held in a district celebrated for some particular stock, that either from expectation having been raised to too high a pitch, or from the want of spirit in local exhibitors, it has disappointed public expectation in the very department in which it was expected mostly to excel. This could not be said on the present occasion; a good show was expected and a better one was never obtained—whilst the long red line extending from one end of the yard to the other denoting the locality of the Devons, had a pleasing effect in the distance, a nearer approach greatly heightened the gratification by the great number of symmetrical and almost faultless animals brought under close inspection. Good animals were the rule, moderate ones the exception, bad animals were scarcely to be found. On the whole we may justly say that without exception it was the finest exhibition of Devon stock ever brought together. This was not to be attributed however entirely to local merits alone, for various competitors from a distance boldly challenged the native breeders, and succeeded in wresting some of the prizes from them. The most prominent of these was H.R.H. Prince Albert, who showing in three animals succeeded in getting two prizes.

CLASS I. Bulls above 3 years.—Seven animals were

shown. Probably this was the weakest class amongst the Devons. The prize was awarded to Mr. John Bodley's No. 2, who stood between two good animals, Lord Portman's "Palmerston," No. 1, and Captain Davy's No. 3. The judges no doubt had good reason for their selection, but many preferred No. 1 to the prize bull; and we find on reference to the catalogue that he was the sire of No. 15, the best bull not exceeding 3 years old, as well as of No. 50, the prize heifer in Class V. If the commendations had been rather more liberal, we do not think they would have been undeserved.

CLASS II.—Not exceeding 3 years old. There were eight entries. No. 15, the property of Mr. James Merson, carried away the prize as well as the local prize of 10*l.* 10*s.* As before observed, his sire was No 1.

CLASS III.—Bulls not exceeding 2 years. No. 10, belonging to the Prince Consort, received the first prize of 10*l.*; Mr. Thos. Hooper (Sir George), the second of 5*l.*, No. 35; and Mr. George Turner's No. 22, Prince Frederick; all were animals of great merit, as well as many others in the same class, in which 28 were entered.

CLASS IV., Cows in calf or in milk—eight were entered. Mr. Walter Farthing's "Nelly" was the prize winner, and Mr. Cecil Smith's 3-year old cow Florence, No. 42, had the second honour. Mr. James Merson's No. 43 was a good deal thought of by the Devonshiremen, and so was Mr. James Quartly's No. 40, who some thought should have had a prize.

CLASS V., In-calf or In-milk Heifers, we find was highly commended by the judges, which of course enhanced the merits of the prize winners, No. 50, Mr. Turner's Vandine (sire Palmerston), and No. 55, Mr. W. Langdon's Treasure, the winner of the second prize.

CLASS VI. Pairs of Heifers not exceeding 2-years old.—The first honours were awarded to No. 57, the Prince Consort's; whilst the second was won by Mr. Buller's (58). Both pairs were greatly admired, There were five other pairs exhibited in this class, most of whom possessed much merit.

The SHORT-HORN Classes were as well filled as could have been expected in the locality. There were six classes and 34 entries, which were mostly filled up. Mr. Holland's bull was the winner of the 1st prize for bulls above 3 years old; Mr. Brown's, No. 68, for bulls under 3 years old, and the Rev. Mr. Marker the 2d prize. Among young bulls, Mr. Stratton's No. 70 was the first, and Mr. Abbot's the second. The Cows were remarkably good. Mr. Stratton's Matchless 4th, No. 80, received the first, and was beyond all comparison. Lady Pigot's cow, 82A, was also greatly admired; Mr. Abbot's heifer (89) received the first prize in her class, and Mr. Stratton's, 84, the second. Lady Pigot's pair of beautiful heifers, 91, received the first prize, and Mr. Stratton's, 90, the second. This class was very good.

The HEREFORDS were few in number but very good, although there was little competition, as with one exception all the exhibitors were prize winners in one class or another.

The LONG-WOOLLED Sheep, both Cotswold and Leicesters, were very good, but the Downs, both Sussex and Hampshire, were but moderate. There were no Shropshire shown.

The HORNED SOMERSET Sheep were not numerous but good.

The MOUNTAIN EXMOOR Sheep were exceedingly good, and those who have viewed them in the distance ranging over the North Devon hills, could little imagine the weight these little animals can reach or the weight of their fleece. We postpone further observations until next week.

The Pigs were very indifferent and the Poultry a good show.

HORSES.—In this department the society has been hitherto somewhat indifferent. The difference between a good animal and a bad one is as great in a horse as in a short-horn or a Devon; whether raised for the purposes of sale or for being worked on the farm, an inferior brute not only consumes the food and occupies the place of a more valuable animal, but the work to get through is more ineffectually accomplished.

Including the local prizes there were no less than 20 classes submitted to the decision of the Judges. Commencing with Class XXXVII, for the best mare with or in foal for Agricultural purposes, we have six entries. The first prize is given to a fine black mare in foal, number belonging to Mr. R. Gibbs, possessing an exceedingly good back, loins and hind quarters. The second prize was given to a very useful Suffolk mare, belonging to Sir R. G. Throckmorton, Bart. of fair quality, active and roomy, but not quite so compact as we could wish, yet of sufficient merit to rival very closely the first-prize mare. An useful brown mare belonging to Mr. Thos. Kemble was commended.

In CLASS XXXVIII. (two-year-old Colts) there were seven entries; the 1st prize of 10*l.* being given to No. 261, a well shaped powerful colt of considerable promise belonging to Edw. Holland, Esq., M.P. The 2d prize was taken by 258, belonging to Mr. H. Watson, a neat active horse, nearly three years old—a very active compact animal, rather too short in the ribs, and of less relative size than the first-prize colt, but probably well adapted for a hilly country. A handsome black colt of Sir R. Throckmorton's was commended. Mr. R. Bucknell's bay colt No. 264, also received a commendation.

CLASS XXXIX. (two-year-old Fillies) was not good. The 1st prize was therefore withheld, and the 2d given to No. 265, a bay filly belonging to Mr. W. Smith.

CLASS XL. Yearling Colts or Fillies.—There were five entries in this class. (237) Mr. W. Smith's bay colt, a promising animal, winning the first, and (268) Mr. G. S. Stone Poole, gaining the second with his brown cart colt "Little John," and the Rev. J. G. Coplestone's chesnut cart filly being highly commended.

CLASS XLI. Mares in Foal or with Foal, for hacks or hunters, had six entries, but not all filled. A very superior well-bred chesnut mare belonging to the Rev. G. F. Hodson (275), and a brown well-bred with some good points, belonging to Mr. Richard Passmore (274), were first and the second.

CLASS XLII. (two-year-old Fillies for Hacks or Hunters) contained four good entries. The winner (279) was the offspring of the prize winner in the last class and belonged to the same owner, the sire being "Bowstring." She was a fine filly. The 2d prize was given to a very promising chesnut filly belonging to Mr. Hamilton Baillie (281), and Mr. Thomas Brinley's thorough-bred Bowstring filly was highly commended.

CLASS XLIII. Yearling Colts or Fillies for Hacks or Hunters.—Mr. Richard Passmore's No. 284, a brown filly, was the first prize winner; and No. 289, a bay colt, belonging to Mr. Hamilton Baillie, the second—both promising animals, having some ordinary ones as companions in the Class.

CLASS XLIV., Hacks or Hunters of either sex under 3 years, afforded several good animals. No. 295, a brown colt 3 years old, belonging to Mr. William Gapper, winning the first; and Mr. R. T. Head's thorough-bred the second; 298, Mr. John Anthony's, being commended.

The Pony Classes (Mares under 14 hands) were perhaps, next to the Devons, the most attractive objects in the Show. No. 304, Mr. J. W. Knight's bay Exmoor pony, Nelly, was the winner of the first prize; she was a very superior little animal, good in all her points, and with very superior action. The second prize was given to Mr. Wall's black Welsh pony (302), compact and strong, with good loins, but too fat for work, and better adapted for harness; 303, Mr. James Merson's bay pony, was highly commended, had remarkably good action—a superior fore-hand to the last but not so good in his loins.

CLASS XLVI. Mare Ponies under 13 hands.—No. 309, Mr. R. Ogilvie, a very superior bay pony, with remarkably good action, was the winner of the 1st prize; 311, Mr. Cridge's, the 2d—all were good. A year old cream-coloured filly, No. 308, had considerable merit, but should not have been shown in this class.

CLASS XLVII. A Roan Welsh Stallion Pony, No. 313, strong, compact, with good action, Mr. Wall's, had the 1st prize; and Mr. Ogilvie's bay Welsh pony the 2d—both were good. The labours of the judges were increased by the number of local prizes given; thus there were no less than 11 classes for horses alone.

CLASS LVI. For Cobs or Galloways not exceeding 14½ hands or 5 years in age.—The winner, No. 378, belonged to Mr. James Harris, whilst Mr. Brailey, No. 377, was commended—both good animals. There were only three entries.

CLASS LXVII. Mares and Foals for agricultural purposes.—Only one entry, Mr. W. Howe's, but a good animal, and worthy of the prize.

CLASS LXVIII. Two-year-old Colt or Filly.—Mr. Bowden's chesnut colt, 381, was a good animal, and received the prize, but there was little competition.

CLASS LXIX. Thorough-bred Stallions.—Two only were shown, the winner, 383, belonging to Mr. John Brewer, a brown horse, Swinton, had many good points, was not at all weedy, and deserved the prize.

CLASS LXX. Cart Stallions.—One only was shown, viz., a Suffolk horse, bred by the late Mr. Catlin, and well deserving a prize. The owner, Mr. James Harris, is likely, by his means, to improve the cart stock in the neighbourhood of the Show.

CLASS LXXI. Stallions under 13 hands.—Mr. Knight's 6-year-old pony, 390, was a very perfect animal with extrordinary action. No. 381, belonging to the same owner, was highly commended; though somewhat less perfect than the other, they made a capital match, and were just what ponies ought to be.

CLASS LXXII. Mare Ponies under 13 hands.—Mr. Dennis, 391, received the prize, and 395, Mr. Knight's, the second. In Extra Stock, Mr. G. Elliott, No. 429. Mr. R. Smith's Bobby was first named, and was certainly one of the most perfect animals in the show yard—a bright bay stallion pony, bred in Scotland, but having some Arabian blood, strong and symmetrical, and with superior action, is just the animal to increase the size and improve the quality of the Exmoor breed. He also gained Mr. Buller's special prize of 5*l.* 5*s.* for the best pony under 14 hands. No. 430, a very perfect Welsh brown pony, though small, was also named, as well as Mr. G. Elliott for a very good cart horse, and Mr. Brewer for a thorough-bred.

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Amongst the animals most worthy of notice throughout the Show we may enumerate Mr. James Merson's Devon bull, the winner of two prizes; the Prince Consort's bull and heifers; Mr. Stratton's Short-horn cow, No. 80; Mr. R. Smith's pony stallion Bobby; Mr. Knight's Exmoor pony Bobby; Mr. Merson's Exmoor sheep.

The Show altogether was very successful and well attended, and was exceedingly well managed by the Director and the Stewards; whilst the attractions afforded by the Flower Show and exhibition of Fine Arts added much to the attractions of the meeting. The great and successful exertions of Mr. T. D. Acland in this department appear to be generally appreciated.

The following is the award of the judges in the live stock yard:—

CATTLE.—DEVONS.—Class 1. 1st, Mr. J. Bodley, of Stockley Pomeroy, Crediton (old Bull).—Class 2. 1st, Mr. J. Merson, Northmolton (3-yrs. Bull), also 10*l.* 10*s.* given by J. Sillifant, Esq., for the best Bull in Classes 2 and 3; 2d, Mr. W. Farthing, Stowey Court.—Class 3. 1st, H.R.H. the Prince Consort (2-yrs. Bull); 2d, Mr. T. Hooper, Heanton Barton, Peatrockstow; 3d, Mr. George Turner, of Barton.—Class 4. 1st, Mr. W. Farthing (Cow); 2d, Mr. C. Smith, Lydeard House, Taunton.—Class 5. 1st, Mr. Geo. Turner (Heifer); 2d, Mr. J. Quartly, Molland House.—Class 6. 1st, H.R.H. the Prince Consort, (pair of Heifers); 2d, J. W. Buller, Esq., M.P., Crediton.—SHORTHORNS.—Class 7. 1st, E. Holland, Esq., M.P., Evesham (old Bull).—Class 8. 1st, Mr. J. W. Brown, Upcott, Swindon (3-yrs. Bull); 2d, Rev. G. T. Marker, Uffculme, Cullumpton.—Class 9. 1st, Mr. R. Stratton, Broad Hinton (2-yrs. Bull); 2d, Mr. Abbott, Long Ashton, Bristol.—Class 10. 1st, Mr. Stratton (Cow); 2d, Lady E. Pigot, Chippenham.—Class 11. 1st, Mr. C. H. Abbott, Long Ashton (Heifer); 2d, Mr. R. Stratton.—Class 12. 1st, Lady Pigot (Pair of Heifers); 2d, Mr. R. Stratton.—HEREFORDS.—Class 13. 1st, Mr. E. Price, Pembridge (aged Bull).—Class 14. 1st, Mr. J. Williams, St. Mary's Kingsland, Leominster (3-years Bull); 2d, Mr. Edward Price.—Class 15. 1st, Mr. T. Edwards, Wintercott, Leominster (2-years Bull); 2d, Lord Bateman.—Class 16. 1st, Mr. Wm. Perry, Cholstrey (Cow).—Class 17. 1st, Lord Bateman (Heifer); 2d, Mr. W. Williams, Ely, Cardiff.—Class 18. 1st, Mr. Price (pair of Heifers); 2d, Mr. J. Williams, Kingsland.

SHEEP.—Class 19. 1st, Mr. T. Potter, Thorverton (yearling Leicester Ram); 2d, Mr. G. Turner; 3d, ditto.—Class 20. 1st, Mr. G. Turner (Ram); 2d, ditto.—Class 21. 1st, Mr. G. Turner (pen of Ewes); 2d, Mr. James B. Corner, Longforth, Wellington; 3d, J. W. Buller, Esq., M.P., Crediton, Devon.—Class 22. 1st, Mr. T. P. Brown, Hampen, Andoversford, Cheltenham (Cotswold Ram); 2d, Mr. E. Handy, Sierford, Cheltenham.—Class 23. 1st, Mr. T. B. Brown (Ram); 2d, Mr. E. Handy.—Class 24. 1st, Mr. T. B. Brown (pen of Ewes); 2d, Mr. W. Smith, Bibury Fairford.—Class 25. 1st, Sir R. G. Throckmorton, Bart., Buckland, Faringdon (Southdown Ram); 2d, ditto.—Class 26. ditto; 2d, ditto.—Class 27. 1st, Sir R. G. Throckmorton, Bart. (pen of Southdown Ewes); 2d, Mr. R. N. Grenville, Glastonbury.—Class 28. 1st, Mr. J. W. Brown, Uffcote, Swindon (Hampshire Ram); 2d, Mr. G. Harbin, Yeovil.—Class 29. 1st, E. Holland, Esq., M.P. (Ram); 2d, Mr. J. W. Brown.—Class 30. 1st, Mr. J. Moore, Littlecott Farm, Pewsey (pen of Ewes); 2d, Mr. J. W. Brown.—Class 31. 1st, Mr. Danger, Huntstile, Bridgewater (Dorset Ram); 2d, Mr. F. Bond, Ilminster.—Class 32. 1st, Mr. T. Danger (Ram); 2d, Mr. F. Bond.—Class 33. 1st, Mr. T. Danger (pen of Ewes); 2d, Mr. F. Bond.—Class 34. 1st, Mr. J. Merson, Brinsworthy, Northmolton (Exmoor Ram); also 5*l.* 5*s.*, given by F. W. Knight, Esq., M.P., for the best Exmoor Ram in the yard.—Class 36. 1st, Mr. J. Merson (pen of 5 Ewes); also 5*l.* 5*s.*, given by F. W. Knight, Esq., M.P., for the best pen of Exmoor Ewes in the yard; 2d, Mr. J. Harris, Barnstaple.

HORSES.—Class 37. 1st, Mr. Robert Gibbs, Carhampton, Dunster (Cart Mare); 2d, Sir R. G. Throckmorton, Bart.—Class 38. 1st, E. Holland, Esq., M.P. (Colt); 2d, Mr. H. Watson, Dorsely, Totnes.—Class 39. 2d, Mr. W. Smith, Bibury, Fairford (Filly).—Class 40. 1st, Mr. W. Smith, Bibury (Colt); 2d, Mr. G. S. Poole, Bridgewater.—Class 41. 1st, Rev. G. F. Hodson, North Petherton (Mare and Foal); 2d, Mr. R. Passmore, Barnstaple.—Class 42. 1st, Rev. G. F. Hodson (Filly); 2d, Mr. H. Baillie, Cowbridge.—Class 43. 1st, Mr. R. Passmore, Eastdown (Filly); 2d, Mr. H. Baillie, Cowbridge.—Class 44. 1st, Mr. W. Gapper, Dudleston, Taunton (Colt); 2d, Mr. R. T. Head, Alphington.—Class 45. 1st, F. W. Knight, Esq., M.P. (Exmoor Pony); 2d, Mr. J. C. Wall, Redland Lodge, Bristol (Welsh Pony).—Class 46. 1st, Mr. R. Ogilvie, Barnstaple (Exmoor Pony); 2d, Mr. R. Cridge, Southmolton, Devon (Exmoor Pony).—Class 47. 1st, Mr. J. C. Wall (Welsh Pony); 2d, Mr. Rd. Ogilvie, Barnstaple, Devon (Welsh Pony).

PIGS.—LARGE BREED.—Class 48. 1st, Mr. W. Bryant, Pitt Farm, Barnstaple (Boar); 2d, Mr. W. Hewer, Sevenhampton, Highworth.—Class 49. 1st, Mr. W. Hewer (Sow); 2d, Sir R. G. Throckmorton.—Class 50. 1st, Mr. W. Hewer (pen of 3 Sows); 2d, Rev. H. G. Baily, Swindon.

PIGS.—SMALL BREED.—Class 51. 1st, Mr. J. Partridge, jun., of Bow, Crediton (Essex Boar); 2d, Mr. George Turner, Barton.—Class 52. 1st, Mr. George Turner (Essex Sow); 2d, Mr. W. D. Bragington, Knapp, Bideford.—Class 53. 1st, Rev. S. N. Kingdon, Holsworthy (pen of 3 Sows); 2d, Mr. W. D. Bragington, Bideford.

LOCAL PRIZES.—Class 54. 1st, Mr. G. Lock, Instow Barton (Devon Steers), bred by himself.—Class 55. 1st, Mr. Richard Mogridge, Southmolton (pair of Devon Steers); 2d, ditto.—Class 56. 1st, Mr. John Snow, Barnstaple (Devon Cow); 2d, Mr. G. S. Burden, Swimbridge.—Class 57. 1st, Mr. W. Langdon, Ashford, Barnstaple (Devon Heifer); 2d, Mr. H. Passmore.—Class 58. 1st, Mr. John Tapp, Southmolton (Devon Heifer); 2d, Mr. John Snow.—Class 59. 1st, Mr. John Snow (Devon Heifer); 2d, Mr. G. S. Burden, Swimbridge, Barnstaple.

SHEEP.—Class 60. 1st, Mr. R. Symonds, Buckland Barton, Devon (Ram).—Class 62. 1st, Lord Clinton, Beaford (pen of 5 Ewes); 2d, Mr. James B. Torr, Bideford, Devon.—Class 63. 2d, Mr. James Harris, Barnstaple, Devon (Ram).—Class 64. Mr. J. Harris (pen of Ewes); 2d, do.—Class 65. Mr. C. Halse, Molland (pen of 5 Wethers); 2d, do.

HORSES.—Class 66. 1st, Mr. James Harris (bay Colt).—Class 67. 1st, Mr. Wm. Howe, Townsend, Braunton (Bay Mare).—Class 68. Mr. H. K. Bowden, Combmartin (Colt).—Class 69. 1st, Mr. W. J. Brewer, Barnstaple (thorough-bred Stallion).—Class 70. 1st, Mr. James Harris (Cart Stallion).

PONIES.—Class 71. 1st, F. W. Knight, Esq., M.P. (Exmoor Pony).—Class 72. 1st, Mr. T. J. Dennis, Barnstaple (Pony).

PIGS.—Class 74. 1st, Mr. A. Clement, Sloo Farm, Bideford (Essex Sow).—Class 76. 1st, Mr. T. J. Dennis, Barnstaple (Sow).

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The show of implements has not suffered from the absence of any such additional inducement to competition as prizes are supposed to offer. The leading manufacturers who protest against the prize system and have not competed at previous exhibitions of this Society, are at Barnstable in full force. Messrs. Ransome, Humphries, Barratt & Exall, Hornsby, Garrett, Clayton, Smith & Ashby, and many others, are among the exhibitors. And the local machine-makers are also liberal exhibitors.

There was an exhibition of many of the implements at work; and among other attractions a well-attended ploughing match. But to this we must return next week.

The Fine Arts exhibition, an entirely new department of these annual Shows, originated by Mr. T. D. Acland, included contributions from the Museum at South Kensington, and contributions from tradesmen and manufacturers of ornamental glass, furniture, electroplate and bronzes, book-binding, carpets, carriages, vases, earthenware, photographs, and water-colour drawing—the whole forming a very attractive and useful exhibition.

# Reviews.

*The Two Prize Essays of the Suffolk Agricultural Association on the Elevation, Improvement, and Education of the Labouring Classes.* By Mr. G. Kersey Cooper, Euston; and Mr. Robert Bond, Secretary to the Association, Thorington and Kentwell. Wertheim, Mackintosh, & Hunt, Paternoster Row.

Both of these essays are written by men convinced that on the moral condition of a man, more than on any other cause, depends his well-being. And while abundant and comfortable house-room, ample garden ground, temperance, intelligence, friendly societies, &c., are advocated, yet it is argued that the solution of the whole difficulty as regards the condition of our labourers depends "on one thing, not on many. Much may be done by the improvement of their dwellings—by the extension of education—by the suppression, or better regulation of beer houses; but most of all, by the encouragement of a sober and practical sense of religion."

Mr. Cooper's Essay, from which this passage is extracted, concludes with a reference to the influence for good or evil of the example of employers; quoting Justice Talfourd's dying charge upon the power of that too seldom active principle, sympathy between classes.

Mr. Bond is even more outspoken and impressive on the religious aspect of the subject; and the award of their prize by an association of tenant farmers to one of their number for a paper which might have been even more appropriately spoken by an earnest preacher from the pulpit is a remarkable circumstance. "Christianity is God's instrument for good," if generally, so also with reference to any particular class. This is the keynote of the whole performance—for though political causes such as affect the investment of capital in land, and purely social influences such as the character of cottages, the agency of schools, and the example and sympathy of employers, are discussed through many pages of this pamphlet, yet the author recurs continually to the one and only remedy for evil—the establishment and growth of a personal relationship of gratitude and service to his Saviour—as the only source which can always be depended on for really raising the condition of the labouring or any other man.

We need hardly say, although our columns have not seemed a fitting channel for religious teaching on this subject, that we entirely agree with the Suffolk Agricultural Association and their secretary in their treatment of it. Their essays are not only unusually energetic in the establishment of the right principle and foundation on which all efforts should be built, but very explicit and particular on the various methods which may be adopted by a well disposed man for the welfare of his neighbours.

## Notices to Correspondents.

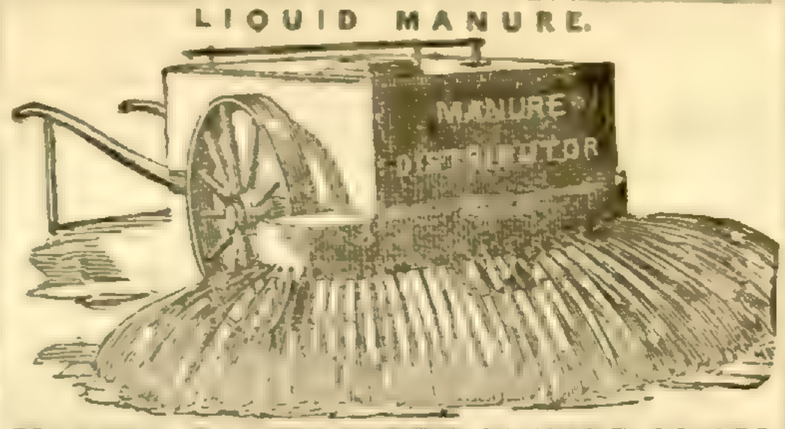
GAPES IN POULTRY: *W P.* There is more difficulty in giving the origin of this disorder than there is in describing it. It is caused by the presence of very small red worms in the windpipe, at the extremity of it. They are active wiry little creatures, and it is in the vain hope of getting rid of them, and the tickling they cause, that the fowl gapes. There is little doubt in the minds of many people who are able to form a correct judgment that the disease is contracted from bad water. There are two reasons for this opinion:—first, that it never exists where fowls drink from running streams; next, that it is asserted from microscopic observation that the worm is identical with that which is found at the bottom of tubs and other wooden vessels where water remains stagnant. The treatment by a doubled horse hair is correct; but a better plan is to strip a tail feather within an inch of the end, and to dip it in turpentine, then to introduce it into the windpipe, and twist it sharply round several times. The worms will be found entangled in the feather. The advantage of the turpentine is, that it kills those the feather does not remove. This remedy only fails when the feather is put down the gullet instead of the windpipe. As the gapes speedily depress and waste chickens, it is always well, after they have been subjected to the operation of removing the worms, to give them a stimulant for a day or two, and nothing is so effectual or so easy as stale bread soaked in strong beer; under the influence of it they cough up the dead worms. The preventive is, clean, cool, spring water in zinc, iron or earthenware vessels, but not wooden, and the water with which they are supplied should be fresh from a spring or well, but not from ponds or from vessels filled by rain falling from roofs of houses. We write from experience: we lost many chickens where a man persisted in using rain-water, and none where it was drawn from a deep well. *J. Baily*, 113, *Regent Street, W.*

LIQUID MANURE: *H P.* It is worth collecting—if you can do so inexpensively—but the washings of the yard will be so weak that you had better keep them separate from the urine of the cattle stalls. Your best remedy is to roof your feeding yard, and so hinder the washing of the manure. For flooring material, next week.

LIQUID MANURE HOSE: *Correspondent.* Mr. Mechi is good enough to state his experience as follows:—I used for several years the Gutta Percha hose, having found all others fail; but latterly I have adopted the vulcanised Indian-rubber, having within it sundry layers of canvas. The canvas gives rigidity to the vulcanised Indian-rubber, whilst the latter strengthens and protects from rotting the internal canvas. It stands our enormous pressure well, is more manageable than Gutta Percha, and does not melt like Gutta Percha in the heat of the sun. The cost is about the same. I purchased mine from Messrs. Perreaux & Co., Mark Lane. Their vulcanised Indian-rubber pump valves I consider as a valuable acquisition. Messrs. Hughes, of New Cross, Deptford, use them in their high-pressure engines with unfailing action, and for ordinary or manure pumps they save no end of trouble. *J J Mechi.*

SUNDRIES: 1. Savine has considerable effect on the uterus, and its administration would probably be the cause of the mare slipping her foal. We do not think it to be the cause of blindness in the young horse. No carter ought to be allowed to drug his master's horses. 2. Mangel Wurzel given freely and early to heavy ewes will certainly endanger the slipping of the lamb. Turnips have produced the same effect. As a rule ewes should not have roots before they lamb. *W C S.*


LIQUID MANURE.




JAMES'S PATENT LIQUID MANURE DISTRIBUTOR OR WATER-CART, warranted not to choke up or otherwise get out of order. It is thoroughly adapted for Drill Crops, or Pasture Land, or for Watering Streets; has been awarded SIX FIRST PRIZES.

Full Particulars and Testimonials may be obtained of the Patentee, ISAAC JAMES, Tivoli Waggon Works, Cheltenham.

Improved LIQUID MANURE PUMPS supplied.

WARNER'S IMPROVED LIQUID MANURE OR GENERAL PORTABLE PUMP.

These Pumps are fitted with J. W. & Son's Patent Buckets and Suckers, and cannot clog in action. The barrel is of galvanised iron, not likely to corrode, and can be raised or lowered at pleasure. The legs will fold together, and the whole may be carried on the shoulder to any pond or tank required.

Price of 4½ in. Pump, with legs, 3*l.* 3*s.* If with planished copper barrel and galvanised iron handle, &c., 14*s* extra. The barrel is 27½ in. long, and the legs are 5 ft. high

These Pumps are also made without the legs, with strong wrought-iron straps for screwing on to any ordinary water butt or cart, and fitted with 1½ inch brass union for attaching flexible suction. Price 50*s.*

1¼ inch Gutta Percha Suction Pipe, 1*s.* 11*d* per foot.

Rubber and Canvas Suction and Delivery Hose, from ½ inch to 4 inches in diameter, in lengths of 60 feet to order. Branch Pipes with Cocks, Union Screws, &c., at reduced prices.

May be obtained of any Ironmonger or Plumber in town or country, at the above prices, or of the Patentees and Manufacturers, JOHN WARNER & SONS, 8, Crescent, Jewin St., London.

WARNER'S PATENT VIBRATING STANDARD PUMPS.

PATENT CAST-IRON PUMPS, fitted with J. W. & Son's Patent Buckets and Suckers, which cannot clog in action, for Farms, Cottages, and Wells, not exceeding 28 feet.

| Diameter of Barrel. | Height. | | £. | s. | d. |
|---|---|---|---|---|---|
| 2½ in. | short 1 ft. 7 in. | Fitted for lead, gutta percha or cast iron flanged pipe as required. | 1 | 10 | 0 |
| 2½ ,, | long 3 ,, 3 ,, | | 1 | 14 | 0 |
| 3 ,, | ditto 3 ,, 6 ,, | | 2 | 8 | 0 |
| 3½ ,, | ditto 3 ,, 6 ,, | | 2 | 12 | 0 |
| 4 ,, | ditto 3 ,, 6 ,, | | 3 | 3 | 0 |
| 2½ ,, | short, with 15 feet of Lead Pipe attached, ready for fixing | | 2 | 14 | 0 |
| 2½ in. | long ditto ditto | ditto | 2 | 18 | 0 |

The short barrel Pump is very convenient for fixing in situations of limited height and space, for the supply of coppers and sinks in Wash-houses with soft water from underground tanks, or in Hot, Forcing, and Plant Houses; they may be fixed, when desired, under the stage.

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| 12 Pairs Knives and Forks, Ivory Handles, in Case .. | | 80*s.* |
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| | Fiddle Pattern. | Double Thread. | King's Pattern. |
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| 12 Table Forks, best quality | £1 16 0 | £2 14 0 | £3 0 |
| 12 Table Spoons, best quality | 1 16 0 | 2 14 0 | 3 0 |
| 12 Dessert Forks, best quality | 1 7 0 | 2 0 0 | 2 4 |
| 12 Dessert Spoons, best quality | 1 7 0 | 2 0 0 | 2 4 |
| 12 Tea Spoons, best quality | 0 16 0 | 1 4 0 | 1 7 |

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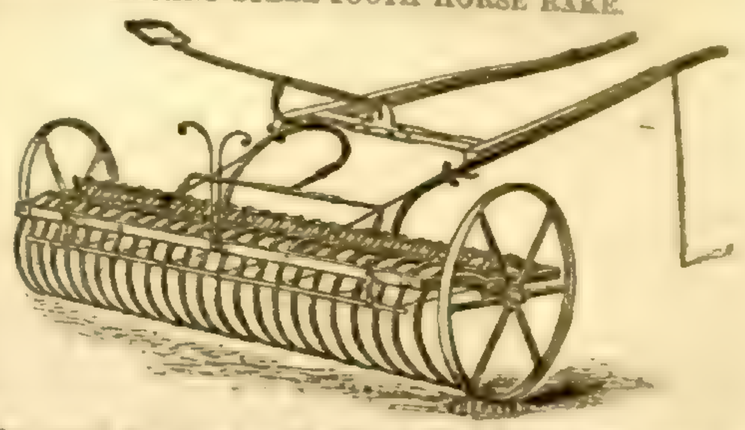
JAMES AND FREDK. HOWARD, Britannia Iron Works, Bedford, beg to direct attention to their PATENT STEEL-TOOTH HORSE RAKE.



For which they received the Three First Prizes last offered by the Royal Agricultural Society of England

J. & F. HOWARD have discontinued troubling the Public with a long List of Prizes awarded to their Implements, but they would just state that for PLOUGHS, HARROWS, and HORSE RAKES, they have for several years gained every Prize for which they have competed.

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| | | | |
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| D PLOUGH, for a Pony .. .. .. .. .. | £2 | 5 | 0 |
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|---|---|---|---|
| A Set of Three 4-Beam HARROWS, with Whippletree, recommended as general Seed Harrows, 9½ feet wide, marked No. 12 .. .. .. .. .. | 8 | 14 | 0 |
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If with Patent Joints, 6*s.* per set extra.

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| Small size, 7½ feet wide, marked A, with 24 iron teeth | 7 | 10 | 0 |
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OBSERVATORY BEE-HIVES.—A cheap form of permanent OBSERVATORY HIVE is now issued at 1*l.*, the same in polished mahogany, 2*l.* Improved bar and slide hives complete, 16*s.*—Prospectuses on application to Mr. TEGETMEIER, Muswell Hill, London, N.

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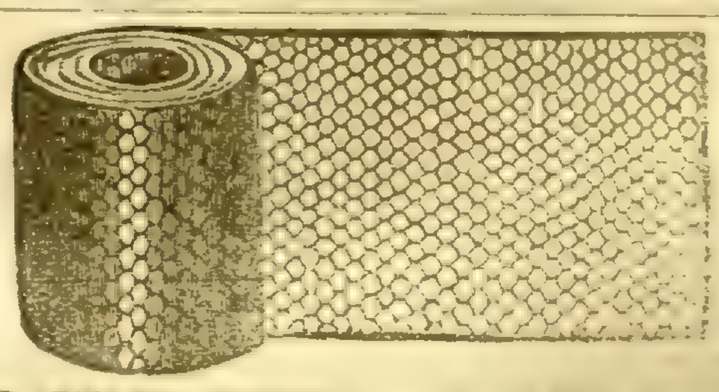

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| 2-inch mesh, 24 inches wide .. | | .. | 5*d.* per yd. | 4*d.* per yd. |
| 2-inch ,, | strong do. .. | .. | 6 ,, | 4½ ,, |
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| 1⅝-inch ,, | intermediate, do. | .. | 7½ ,, | 6 ,, |
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All the above kinds can be made of any width (under 8 feet) at proportionate prices. If the upper half is of a coarser mesh than the lower, it will reduce the prices about one-fifth.

Strong Galvanised Poultry Netting, 8½*d.* per yard, 3 feet wide Galvanised Sparrow-proof Netting for Pheasantries, 2½*d.* per square foot. Delivered free of expense in London, Peterborough, Hull, or Newcastle. Manufacturers of Improved Strained Wire Cattle and Deer Fencing, Iron Hurdles, &c.

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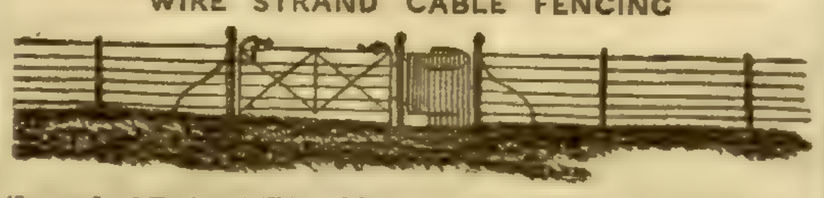

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This fence is far cheaper than posts and rails, or any kind of iron fencing; and possesses four times the strength of solid bars. Will not rust nor corrode. Upwards of 1200 miles of this Fencing supplied.

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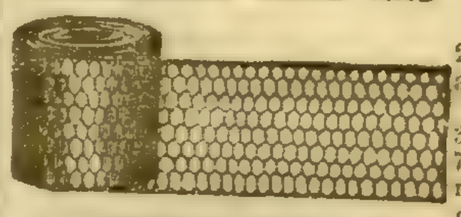

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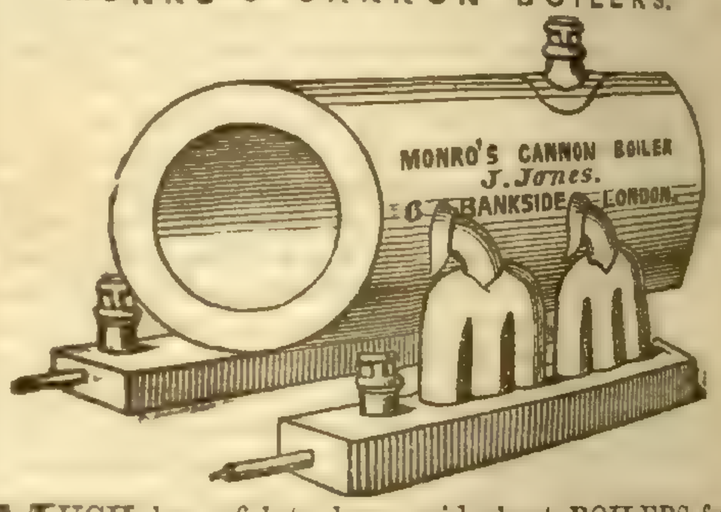


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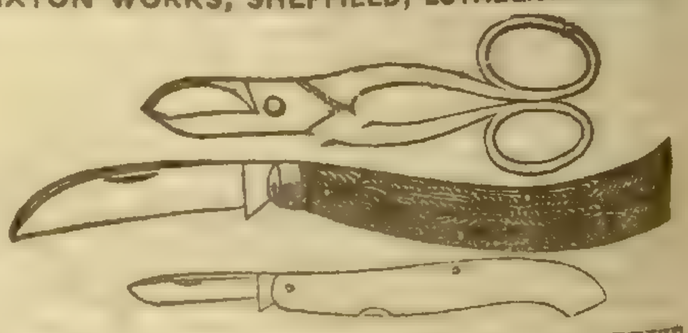

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| Price at Peterborough. | In London. |
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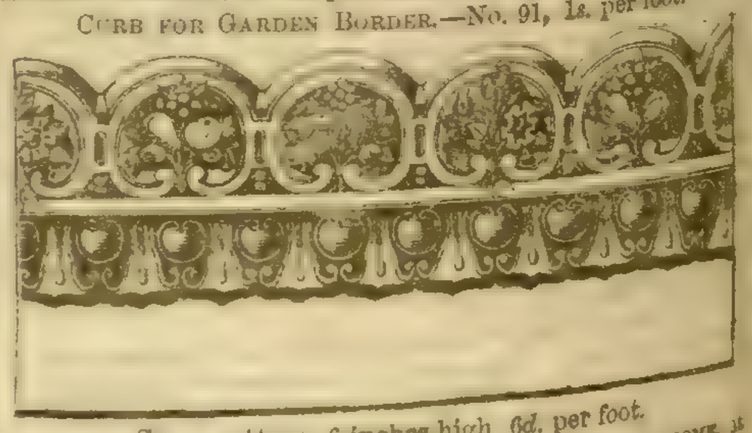

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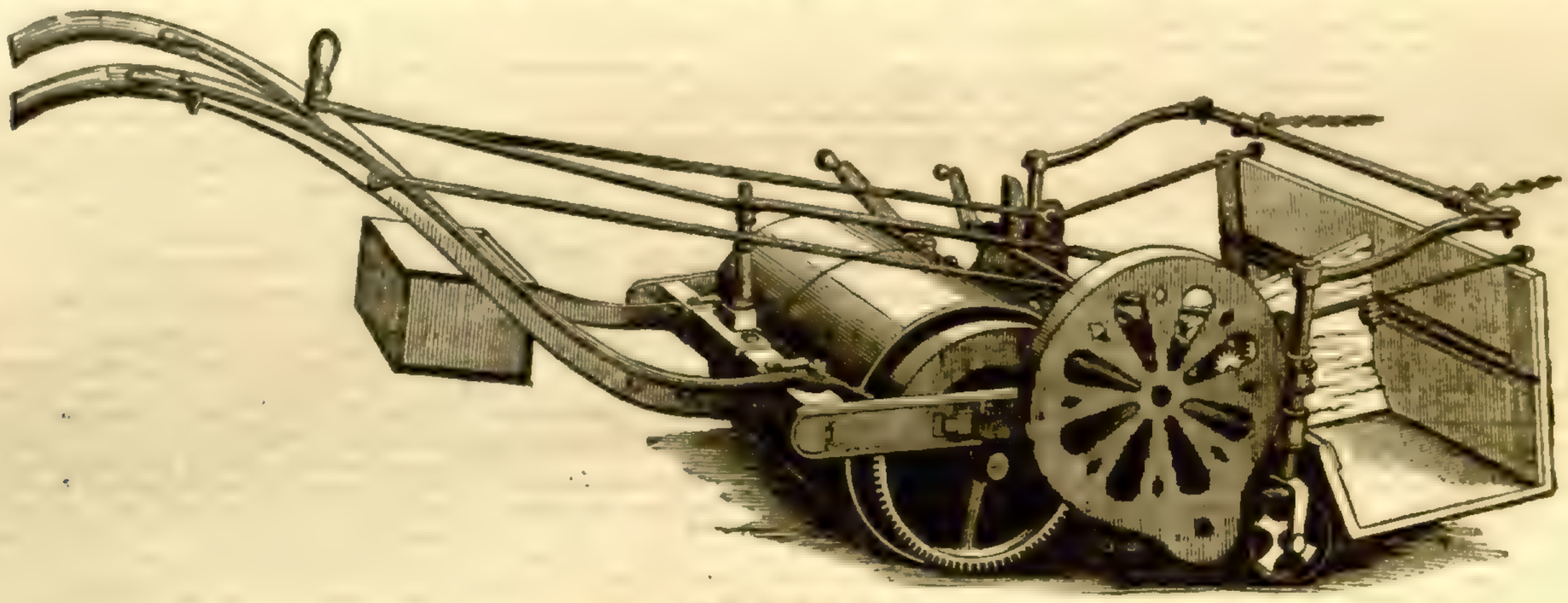

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ARE the only Machines that deliver the Grass without the man leaving the handles or stopping the horse. These immense advantages enable the Machine to do at least a third more work with three-fourths less labour to the man who works it. The Machines answer exceedingly well for uneven as well as level Lawns, are strong and very durable, while the execution of the work cannot be surpassed.

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fitted with all the new improvements, is the most efficient and complete Hand Mower that has ever been before the public. For convenience in turning and cutting small Lawns, Verges, around Flower Beds, &c., it has no equal.

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"GENTLEMEN,—Allow me to congratulate you on the success of your improved Grass Cutting Machine which we got the other day from you, especially the delivering part; it is a mechanical triumph. You know that I expressed my doubts to you about it before I got the Machine, but having cut all our Grass with it I must say that it acts far beyond my expectation, and it performs all you say in your prospectus. We can now go on the whole day without stopping, except to oil the parts that require it. The men are quite in love with it; a good proof of its utility.—I am, Gentlemen, yours respectfully,

"ALEX. SHEARER."

*From* Mr. MACKIE, *Gardener to* His Grace the Duke of ATHOLL, *The Gardens, Dunkeld, May* 18, 1859.

"GENTLEMEN,—After repeated trials with our Grass-Cutting Machine, as now fitted up with your Delivering Apparatus, I have much pleasure in saying that I now consider your Machines complete. We can now do as much work in six hours as we used to do in ten hours, with the old plan of stopping to empty the Grass Box, and with far greater ease both to man and horse. His Grace is so well pleased with the working of the Apparatus, and the saving of time effected by it, that he has ordered the Machine from Blair Castle to be sent through to you to be fitted up in the same way as the one here.—I am, Gentlemen, yours, &c.,

"JAMES MACKIE."

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| Calceolaria, herbaceous .. | 2 6 | Gaillardia grandiflora .. | 0 6 |
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| Blanc de Neige | Triomphe de Gand |
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The description of the above may be had free on application to JEAN VERSCHAFFELT. Plants will be immediately forwarded after orders are received. All orders to be directed to JEAN VERSCHAFFELT, Nurseryman, Ghent, Belgium.

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TO BE SOLD, either wholly or in part, a rare and superb collection of Exhibition Specimens of TALL CACTI, CEREUS, EPIPHYLLI, and their hybrids. They have been exhibited at all the Metropolitan Shows for years past. Being large and numerous the owner wishes to dispose of them for cash or in exchange for Camellias, Ferns.—Apply to R. BUNN, Gardener to J. R. Scott, Esq., Harringay Park, Crouch End, Hornsey, N.

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| 12 Variegated Geraniums (Flower of the Day), or at .. | 4 | 0 |
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The above are now ready for sending out in strong well rooted plants. Parties taking the three varieties will be charged 10s., postage and package free.

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# GRAND HORTICULTURAL EXHIBITION, JUNE 8, 1859.

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First Prize, 25l. each, Mr. G. S. Dods, Gr. to Sir J. Cathcart, Bart., Chertsey; Mr. T. Whitbread, Gr. to H. Collyer, Esq., Dartford; Second ditto, 15l. each, Mr. B. Peed, Gr. to T. Treadwell, Esq., Lower Norwood; Mr. J. Green, Gr. to Sir E. Antrobus, Bart., Cheam; Third ditto, 10l., Mr. T. Page, Gr. to W. Leaf, Esq., Streatham; Extra ditto, 5l., Mr. Baxendine, Gr. to W. H. Smallpiece, Esq., Guildford.

CLASS II.—12 STOVE AND GREENHOUSE PLANTS IN FLOWER.

First Prize, 10l., Mr. O. Rhodes, Gr. to J. Philpott, Esq., Stamford Hill; Second ditto, 7l., Mr. J. Peed, Gr. to C. T. Gabriel, Esq., Streatham; Third ditto, 5l. each, Mr. W. Cutbush, Barnet; Mr. W. Kaile, Gr. to Earl of Lovelace, Ripley, Surrey.

CLASS III.—6 STOVE AND GREENHOUSE PLANTS IN FLOWER (Amateurs).

First Prize, 5l., Mr. H. Chilman, Gr. to Mrs. Smith, Epsom; Second ditto, 4l., Mr. C. Smith, Gr. to A. Anderson, Esq., Norwood; Third ditto, 3l., Mr. S. M. Carson, Gr. to W. F. G. Farmer, Esq., Cheam; Fourth ditto, 2l., Mr. J. Tegg, Gr. to Baron Hambro, Roehampton; Extra ditto, 1l. 10s., Mr. E. A. Hamp, Gr. to J. Thorne, Esq., South Lambeth.

CLASS IV.—12 STOVE AND GREENHOUSE PLANTS (Nurserymen).

First Prize, 7l., Messrs. Veitch & Son, Exeter and Chelsea; Second ditto, 5l., Messrs. Jackson & Son, Kingston; Third ditto, 3l., Mr. W. Cutbush, Barnet.

CLASS V.—10 STOVE AND GREENHOUSE PLANTS IN FLOWER (Amateurs).

First Prize, 7l., Mr. Dods; Second ditto, 5l. each, to Mr. Colgate, Gr. to W. F. Woolley, Esq., Kensington; and Mr. G. Young, Gr. to W. H. Stone, Esq., Dulwich; Third ditto, 3l., Mr. Summers, Gr. to A. Mongredien, Esq., Forest Hill; Extra Prizes, 2l. each, Mr. Oubridge, Gr. to J. Foster, Esq., Stamford Hill; Mr. Rhodes; 1l. to Mr. Hamp.

CLASS VI.—20 ORCHIDS OF EXOTIC SPECIES (Amateurs).

First Prize, 20l., Mr. Gedney, Gr. to Rev. W. Ellis, Hoddesden; Second ditto, 15l., Mr. Bullen, Gr. to J. Butler, Esq., Woolwich.

CLASS VII.—15 ORCHIDS OF EXOTIC SPECIES (Nurserymen).

First Prize, 10l., Messrs. Veitch & Son; Third ditto, 5l., Mr. S. Woolley, Cheshunt.

CLASS VIII.—12 ORCHIDS OF EXOTIC SPECIES (Amateurs).

First Prize, 10l., Mr. G. S. Dods; Second ditto, 7l., Mr. S. M. Carson; Third ditto, 5l., Mr. O. Rhodes.

CLASS IX.—6 ORCHIDS OF EXOTIC SPECIES (Open).

First Prize, 5l., Mr. Page; Second ditto, 4l., Mr. J. Green.

CLASS X.—8 GREENHOUSE AZALEAS.

First Prize, 7l., Mr. J. Green; Second ditto, 5l., Mr. T. Page; Extra Prize, 1l., Mr. Rhodes.

CLASS XI.—6 GREENHOUSE AZALEAS (Amateurs).

First Prize, 5l., Mr. Carson; Second ditto, 4l., Mr. B. Peed; Third ditto, 3l., Mr. J. Peed; Extra Prize, 1l., Mr. Hamp; Extra ditto, 15s., Mr. Chilman.

CLASS XII.—8 CAPE HEATHS (Nurserymen).

First Prizes, 4l. each, Mr. W. Cutbush, Barnet; Messrs. Jackson & Son, Kingston.

CLASS XIII.—6 CAPE HEATHS (Amateurs).

First Prize, 4l., Mr. B. Peed; Second ditto, 3l., Mr. J. Peed; Third ditto, 2l., Mr. Page; Fourth ditto, 1l. each, Mr. Baxendine, Mr. Chilman.

CLASS XIV.—6 TALL CACTI IN FLOWER (large Plants).

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CLASS XV.—12 ROSES IN POTS.

First Prize, 10l., Messrs. Lane & Son, Berkhampstead.

CLASS XVI.—6 ROSES IN POTS (Amateurs).

First Prize, 5l., Mr. Terry, Gr. to C. W. G. Puller, Esq., Youngsbury; Second ditto, 4l., A. Rowland, Esq., Lewisham.

CLASS XVII.—6 CALCEOLARIAS.

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CLASS XVIII.—6 FUCHSIAS IN POTS (Distinct Varieties).

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CLASS XIX.—10 PELARGONIUMS (Amateurs).

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CLASS XX.—12 PELARGONIUMS (Nurserymen).

First Prize, 7l., Mr. C. Turner, Slough; Second ditto, 5l., Messrs. Dobson & Son, Isleworth; Third ditto, 3l., Mr. Windsor, Hampstead; Fourth ditto, 2l., Messrs. J. & J. Fraser, Lea Bridge Road.

CLASS XXI.—6 FANCY PELARGONIUMS (Amateurs).

First Prize, 4l., Mr. T. Bailey; Second ditto, 3l., Mr. James, Gr. to W. F. Watson, Esq., Isleworth; Third ditto, 2l., Mr. R. Oubridge.

CLASS XXII.—6 FANCY PELARGONIUMS (Nurserymen).

First Prize, 4l., Mr. C. Turner, Slough; Second ditto, 3l., Mr. T. Windsor, Hampstead; Third ditto, 2l., Messrs. J. and J. Fraser, Lea Bridge.

CLASS XXIII.—NEW OR RARE PLANTS, IN OR OUT OF FLOWER.

First Prize, 3l., Messrs. Veitch & Son, Exeter and Chelsea (Cattleya sp.); Second ditto, 2l., Mr. W. Barnes, Camberwell (Begonia Queen of England); Third ditto, 1l., R. Sim, Foot's Cray (Selaginella rubricaulis). Extra Prize, 10s., Messrs. J. & J. Fraser (Epiphyllum Andersonii).

CLASS XXIV.—HARDY ORNAMENTAL PLANTS.

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CLASS XXV.—SEEDLING PELARGONIUMS OF 1858 & '59.

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*Fancy Pelargoniums.*—First Prize, 10s., Mr. Turner (King of Purples); Second ditto, 7s., Mr. Turner (Bracelet); Third ditto, 5s., Mr. Turner (Magpie).

*Spotted Pelargoniums.*—First Prize, 10s., Messrs. Veitch & Son (Mrs. Ponsonby Moore); Second ditto, 7s., Mr. Kinghorn (Christina).

*Scarlet Geraniums.*—First Prize, 10s., Mr. Turner (Sarah Turner); Second ditto, 7s., Mr. Turner (Omega).

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CLASS XXVI.—6 PLANTS OF NEPENTHES.

First Prize, 5l., Messrs. Veitch & Son; Second ditto, 4l., Mr. Gedney.

CLASS XXVII.—12 EXOTIC FERNS (Nurserymen).

First Prize, 3l., Messrs. Veitch & Son; Second ditto, 2l., Mr. S. Woolley, Cheshunt; Third ditto, 1l., Mr. Hally, Blackheath.

CLASS XXVIII.—12 EXOTIC FERNS (Amateurs).

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CLASS XXIX.—MISCELLANEOUS.

First Prize, 2l., each, Mr. Pfersdorff, Kensal New Town; Mr. Sim; Messrs. Veitch & Son; Second ditto, 1l. 10s. each, Mr. C. Turner, Mr. Waters, Mr. Lavey, and Mr. Binder, Gr. to Rev. T. Stainforth, Windermere; Third ditto. 1l. each, Mr. Summers, Mr. Baillie, Mr. C. Young, and Mr. J. Wood, Norwood; Fourth ditto, 15s., Mr. H. Williams, Muswell Hill.

CLASS XXX.—50 ROSES (Distinct varieties).

First Prize, 3l., Messrs. Paul & Son, Cheshunt.

CLASS XXXI.—25 ROSES (Distinct varieties).

First Prize, 2l., A. Rowland, Esq.; Second ditto, 1l. 10s., Mr. Terry; Third ditto, 1l., Mr. Hollingworth, Turkey Mills, Maidstone.

CLASS XXXII.—24 ROSES (Distinct varieties).

First Prize, 1l., Mr. Hollingworth.

CLASS XXXIII.—24 PINKS (Distinct varieties).

First Prize, 15s., Mr. C. Turner; Second ditto, 10s. Mr. Bragg, Slough.

CLASS XXXIV.—24 PANSIES (Distinct varieties).

First Prize, 15s., Mr. August, Beddington; Second ditto, 10s. Mr. James; Third ditto, 5s., Mr. Bragg.

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First Prize, 3l., Mr. G. Young; Second ditto, 2., Mr. T. Bailey; Third ditto, 1l., Mr. W. Davies, Starch Green, Hammersmith.

CLASS D.—PINE APPLE, (Single Fruit of any variety).

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First Prize, 3l., Mr. W. Hill, Gr. to R. Sneyd, Esq., Staffordshire; Second ditto, 2l., Mr. T. Frost, Gr. to E. L. Betts, Esq., Maidstone; Second ditto, 2l., Mr. G. Tillyard, Gr. to Viscount Eversley, Heckfield, Hants; Third ditto, 1l., Mr. G. Thomas, Gr. to J. Baxendale, Esq., Whetstone.

CLASS F.—GRAPES, White (Single Dish)

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CLASS G.—GRAPES, Muscat (Single Dish).

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CLASS H.—GRAPES, 12 lbs. weight (Market Gardeners).

First Prize, 3l., Mr. H. Baker; Second ditto, 2l., Mr. C. W. Alderson; Third ditto, 1l., Mr. H. Smith, Twickenham.

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Two equal First Prizes, 3l. each, Mr. T. Frost and Mr. W. Hill; Second ditto, 2l., Mr. T. Page; Third ditto, 1l., Mr G. Masters.

CLASS K.—MELONS, PERSIAN, OR HYBRIDS FROM IT (the Heaviest).

First Prize, 2l., Mr. T. Harwood, Gr. to G. H. Turnbull, Esq., Down, Kent; Second ditto, 1l., Mr. J. Tapling, Teddesley Park, Staffordshire.

CLASS L.—MELONS, GREEN-FLESHED (Single Fruits)

First Prize, 2l., Mr. J. Bailey; Second ditto, 1l., Mr. W. Kaile; Third ditto, 10s., Mr. J. Taplin.

CLASS M.—MELONS, SCARLET-FLESHED (Single Fruit)

First Prize, 2l., Mr. J. Tegg; Second ditto, 1l., Mr. T. Bailey.

CLASS N.—FIGS (Single Dish of 10 Fruits).

First Prize, 2l., Mr. S. Snow, Gr. to Earl de Grey, West Park, Beds; Second ditto, 1l., Mr. T. Frost; Third ditto, 10s., Mr. J. Richards.

CLASS O.—CHERRIES, WHITE (Single Dish).

First Prize, 2l., Mr. Henderson, Gr. to the Duke of Sutherland, Trentham.

CLASS P.—CHERRIES (Single Dish, Black, in Fifties).

First Prize, 2l., Mr. Henderson; Second ditto, 1l., Mr. Ferguson, Stowe, Bucks.

CLASS Q.—PLUMS (Single Dish, 10 Fruits).

First Prize, 2l., Mr. Ingram, Gr. to J. J. Blandy, Esq., Highgrove, Reading.

CLASS R.—STRAWBERRIES (Collection of 3 Dishes, distinct variety).

First Prize, 2l., Mr. R. Smith, Richmond Road, Twickenham; Second ditto, 1l., Mr. R. Clarke, Twickenham; Third ditto, 10s., Mr. P. Stoddart, Wivenhoe Park, Colchester.

CLASS S.—VINES IN POTS (with Ripe Fruit).

First Prize, 4l., Mr. Alderson; Second ditto, 3l., Mr. J. Summers; Third ditto, 2l., Mr. R. Inman, Gr. to J. Lamb, Esq., Forest Hill.

CLASS T.—MISCELLANEOUS.

Prizes, 1l. 10s., Mr. J. Tegg, Gr. to Baron Hambro; Prizes 1l. each, Mr. Snow, Mr. Horwood, Mr. Wortley, Gr. to Mrs. Maubert, Norwood; Prize 10s., Mr. G. Young.

# MESSRS. E. G. HENDERSON & SON'S

## NEW GENERAL CATALOGUE

AND

## SPRING LIST OF ORNAMENTAL BEDDING AND SUMMER-FLOWERING PLANTS,

Is ready for distribution (free by post) wherein are described the following NEW PLANTS and also special directions for sowing, rearing, and final planting of

## SPERGULA PILIFERA,

the admirable substitute for Grass on Lawns, without mowing, of which good established tufts for immediate planting (from Mr. Mongredien's fine lawn at Forest Hill, near to the Crystal Palace), are offered at 4*s.* and 2*s.* per dozen, according to their respective size. Seed Packets, 6*d.*, 2*s.* 6*d.*, 5*s.*, 10*s.*, and 20*s.* each.

BEATON'S NEW SEEDLING BEDDING GERANIUMS of unique and beautiful colours are—

THE IMPERIAL CRIMSON and the MODEL NOSEGAY.

ALLAMANDA VIOLACEA.
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DWARF DAHLIA, THE WHITE UNIQUE.
" " GLOIRE DE FRANCE.
BANKS'S NEW FUCHSIAS.
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GERANIUM WHITE NOSEGAY.
" SILVER CHAIN.
" ST. CLOUD.
" GOLDEN TOM THUMB.
" " CERISE UNIQUE.
" THE RAINBOW.

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THE MOST SPLENDID COLLECTION EVER OFFERED are those now in bloom at the Wellington Nursery, and to which E. G. HENDERSON & SON have called the special attention of cultivators for the first time this season. The present season is the most suitable for sowing

## CALCEOLARIA, CINERARIA, AND PRIMULA,

to secure an early and continuous bloom of the above favourite plants for Greenhouse and Conservatory decoration. Seed Packets, of first class quality in each kind, at 2*s.* 6*d.* each.

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ESTABLISHED UPWARDS OF A CENTURY

ARRANGED on a new and original plan, with copious Descriptive and Cultural Notes, and containing many new and rare species and varieties not found in any other Catalogue, now ready and may be had free and post paid on application.

FLOWER, SHRUB, TREE, and VEGETABLE SEEDS, the crop of 1858, saved with the greatest care, by the most eminent growers.

We may also state that the Sardinian correspondent of Messrs. JAMES CARTER & Co., whose Seeds, especially Carnations and Picotees, have given such universal satisfaction, has transferred the Agency from that firm and appointed us his representative in this country. To meet the growing demand for first class flowers, particularly FLORISTS' FLOWERS, we have adopted our usual maxim of charging the lowest possible prices.

Professor LINDLEY in the *Gardeners' Chronicle* of February 5th, has the following notice of B. & McC.'s Catalogue.

"BUTLER & MCCULLOCH'S (Covent Garden) Spring Catalogue of Choice Flower, Shrub, Tree, and Vegetable Seeds. This list fills 64 closely printed 8vo pages, and is remarkably well got up. It appears that the correspondent in Sardinia, who formerly supplied one of the great London houses with seeds raised in that warm part of Europe, has now transferred what he saves to Messrs. BUTLER & MCCULLOCH. Let us add, that it yields to no Trade List in the abundance of its materials or the excellence of its arrangements."

BUTLER AND MCCULLOCH, while drawing attention to their general SPRING CATALOGUE which has elicited such high encomiums both from the scientific botanist and amateur cultivator, avail themselves of the present opportunity to select from its pages the following list:—

(28) ACACIA GRANDIS (TRUE).
One of the most beautiful of the A. pulchella section, producing deep golden balls. Of these graceful and highly ornamental plants our collection embraces no fewer than 47 varieties, all of the most decorative character.

(70) ALPINES.
Of these beautiful little plants we have a splendid collection, embracing all the most admired kinds, collected and arranged for us last autumn by M. Ortgies, the Curator of the Zurich Botanic Gardens. The value of Alpine plants for rock-work is too well known to require comment. These collections we can confidently recommend, containing, as they do, species only of highest merit.

(199) CALLICHROA PEDATA.
A new crimson annual with white eye, very beautiful.

(217 A.) CAMELLIA JAPONICA.
From the newest and finest striped and other varieties of that much admired genus.

(296) CEANOTHUS AZUREUS GRANDIFLORUS.
This, cæruleus macrophyllus, and Fontanesianus are all beautiful varieties of this highly ornamental genus, of which we possess nine splendid varieties. They are equally suited for conservatory and out-door decoration.

CANNAS.
Of these we possess an extremely interesting collection.

(304) CELOSIA (species nova).
A most elegant plant, producing a multitude of long spikes of feathery blossoms, silvery white shaded with bright rose, retaining its colour perfectly when dried, and therefore admirably adapted for winter bouquets; one of the greatest novelties of the season, flowering out of doors or in pots from July to October. Well worth attention. A dried specimen may be seen.

(337) CHRYSANTHEMUM (tall and dwarf).
Of these dwarf and tall varieties we have a fine stock, nearly all of which may be depended upon to produce double flowers, the seeds having been saved from the finest named varieties.

(344) CHRYSOCOMA COMAUREA.
Fine evergreen shrub, bearing a profusion of golden ball-like flowers; one of the handsomest greenhouse plants in cultivation.

(451) DATURA HUMILIS FLORE PLENO.
A magnificent Brugmansia-like plant producing a profusion of deep golden-yellow flowers; very large, double, and sweet-scented. One of the greatest novelties of the season.

(625) HABROTHAMNUS HÜGELLI.
This, purpureus, and Abelii are all handsome varieties of this beautiful genus, which everybody having a greenhouse or conservatory should grow. All three are extremely ornamental.

(665) HIBISCUS ROSEUS SUPERBUS.
This, Syriacus, and Thunbergi we can highly recommend. All are plants of great beauty

(680 to 688) HOLCUS OR SORGHUM (Chinese Sugar Cane).
Of this important class we have nine new and important varieties from Africa, said to be more ornamental and to contain more saccharine matter, Holcus saccharatus.

(704) INDIGOFERA DECORA ALBA ROSEA.
The above, purpurea, and dosua are all pretty free flowering shrubs, suitable for small greenhouses. They are also highly ornamental out of doors in summer.

(972) PELARGONIUMS.
Of these both large flowered and fancy, very choice, and of other splendid varieties, including Scarlets, we have a fine stock, which cannot fail to prove highly satisfactory.

(1149) SOLANUM CAPSICASTRUM.
Miniature Orange tree, covered all winter with a profusion of scarlet fruit; a handsome plant for greenhouse or sitting rooms.

(1335) BIGNONIA RADICANS MULTIFLORA.
Finer and brighter than radicans; flowers in large panicles producing a splendid effect.

(1468) TACSONIA IGNEA.
This magnificent Passionflower is unequalled for the brilliancy and splendour of its scarlet blossoms, far surpassing in this respect any of its class yet known. It flowers most profusely, grows rapidly, and covers a large space in an incredibly short time. It succeeds in a cold greenhouse, and even against a south wall with a little protection in winter (new and rare).

(1488) TROPÆOLUM TRIOMPHE DE GAND FIMBRIATUM.
Fringed orange scarlet.

CARNATIONS and PICOTEES saved from the most choice Collection of English varieties grown on the continent, and which may be expected to produce flowers of the highest merit, sent out in sealed packets as received from our Sardinian correspondent, whose seeds for many years have given such universal satisfaction, and from which varieties of the greatest excellence have been raised.

For prices and further particulars with regard to the above and other novelties, we refer our patrons to the Catalogue itself, which is sent free and post paid on application.

**BUTLER & McCULLOCH, Covent Garden Market.**

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UNDER THE PATRONAGE OF H.R.H. THE PRINCE CONSORT, THE AGRICULTURAL SOCIETY OF INDIA, AND THE LEADING AGRICULTURISTS OF THE UNITED KINGDOM.

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Fine PERMANENT PASTURE GRASS, ITALIAN RYE-GRASS, CLOVER, &c., at lowest market prices.

Special contracts for large quantities. Seeds packed for exportation to all parts of the world.

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SUTTON'S CHAMPION SWEDE.

NOTIFICATION.

SUTTON AND SONS respectfully intimate that owing to the great demand they have quite sold out of seed of this fine sort of Swede.

The following excellent sorts can still be supplied :—
IMPROVED WHITE SWEDE
SKIRVING'S IMPROVED PURPLE-TOP
GRANT'S PINE APPLE | RUSSIAN GREEN TOP.
Price 1*s.* per lb., or cheaper by the bushel.

Royal Berkshire Seed Establishment, Reading.



# The Gardeners' Chronicle.

*SATURDAY, JUNE* 11, 1859.


MEETINGS FOR THE FOLLOWING WEEK.

WEDNESDAY, June 15—Royal Botanic ..... 2 P.M.
THURSDAY, — 16—Linnean ..... 8 P.M.

IF there is any one thing more infamous than another it is the robbery of poor people upon the false pretence of rendering them a service. The columns of the daily and weekly papers literally teem with advertisements from persons anxious to obtain employment; it is with no small difficulty that many of them can spare the money required to make such announcements; and, inexperienced in the world, they too often thus become mere objects of plunder by the harpies who infest this modern Babylon.

Let us explain one of the methods in which this nefarious practice is carried on. A. B. advertises that he or she is in want of employment. In a day or two a letter is received, purporting to come from a London registry office, informing the advertiser that upon remitting the amount of a "registration fee" he or she will stand an excellent chance of obtaining the employment sought. To this is added a hint that some places of the kind wanted are just then vacant. The simple advertiser remits the fee, which is either 2*s.* 6*d.* or 5*s.*, and hears no more of the matter. Patience being exhausted, personal inquiry is instituted, when it is discovered that there is no registry office at the place to which the fee is sent, nor is anything to be heard of the gentleman who has received the fee. The end of the matter is that the poor advertiser is victimised. We have taken the trouble to inquire after one of the persons engaged in this kind of swindling; and we find him to be well known to the police, who are also acquainted with his practices. There is hardly a day but some one is looking after the registry office which has swallowed the registration fee, but of course to no purpose, since the registry office does not exist. During this very week five or six sufferers, among whom are two young girls, have been endeavouring to discover the man. What is very surprising, the district postman is in the con-

stant habit of redirecting the ingenious gentleman's letters to another part of the city.

Let us hope that all who read this statement will draw attention to it; and so caution advertisers against falling into the trap that is set for them.

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THE Council of the Horticultural have just issued the following important notice:—

"The Council have to-day the satisfaction of issuing the first number of a monthly report upon the proceedings of the Horticultural Society, and of informing the Fellows that the continuation will be regularly forwarded by post or otherwise. It is intended that this monthly issue should contain an account of all matters of interest connected with the Society; those of merely a temporary nature being printed on the wrapper, while the part which is regularly paged will receive subjects of permanent importance, such as Reports of Councils and Committees, Accounts of Meetings, or other proceedings and matter of general Horticultural intelligence. *A second ballot for plants*, of which a list and particulars are annexed, is arranged to take place at the rooms of the Society of Arts, which have been liberally placed at the service of the Society. The Council also trust to be in a position to make a highly important communication with reference to the formation of *a large garden near the Metropolis*, upon terms advantageous to the Society. Should their anticipations be realised, the arrangements connected with so great a change will call for all the means which the Society can possibly make available. It having been ascertained that gardeners are most unwilling to send their valuable plants for exhibition in a gas-lighted room, in consequence of the injury they sustain from so dry an atmosphere, the Council have determined upon incurring no further expense in that direction, and *upon abandoning the Meeting which has been announced to take place in St. James's Hall on the 29th and 30th of June.* This will not, however, affect the Grand Fruit Exhibition in December next, which will certainly be held in London. The disinterested support which the Society has received from the public during a period of very great difficulty, and the prospect now opened of the sacrifices which have been made being about to be amply rewarded, lead the Council to rely with confidence upon the measures now announced being regarded as the dictates of a sound and prudent policy, by which they hope and believe the Horticultural Society will be preserved in the high position it has so long occupied among the most useful associations of the United Kingdom, for the advancement of every branch of Horticulture."

It is understood that the situation contemplated for a large garden near London is the centre of the land at Kensington Gore belonging to the Royal Commissioners of the Exhibition of 1851. Should the arrangements for obtaining this ground be brought to a satisfactory conclusion, there can be no doubt that the place would be by far the best near the metropolis. We do not mean that it would be as good for all plants as if it were 20 miles away from town; but that, in connection with a small garden of supply, which would be necessary, it would be an admirable place for exhibiting everything that is going on in Horticulture, in the most advantageous manner. And as to soil and exposure, it is infinitely preferable to any place on the cold, heavy, unworkable clay on the north of London.

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M. LOISEAU recommends that the usual method of STRIKING CUTTINGS should be altered. When, he observes, a cutting is put in perpendicularly, the sap, whose natural tendency is to rise, is expended in pushing forward a new bud instead of forming a root. But if a cutting is laid horizontally or even with its lower end higher than the upper, that is not the case; the sap prefers to move towards the higher end, or at all events is evenly distributed between the two extremities. This causes the callus to form so rapidly that if the cuttings are put in a warm place, 8 or 10 days are enough to secure its formation or even that of roots.

Autumn-struck cuttings taken off a little before the sap ceases to move, and treated in this manner, form their callus so quickly, that they are ready for planting out before winter. In winter it is necessary to put in cuttings in a gentle heat (*une couche tiède*), or beneath leaves deep enough to keep off frost, and even then a callus will be found to have formed by spring time.

As for cuttings taken off in May they *must* have more heat, such for instance as is afforded by a hotbed or a hothouse, and they will then take in many cases in a few days.

—— M. LOISEAU also states that HERBACEOUS GRAFTING may be practised on woody plants, any time after the middle of May, without taking any greater precaution than is demanded in ordinary grafting—at least in the case of Apples, Pears, and the like (*fruits à pépin*). Grafts put on in this manner he finds grow so fast that they soon overtake the spring grafts; that a better junction is formed between the scion and stock; that as it is immaterial whether the bark will run or not it may be practised all the summer long without any particular precautions. He also adds that if done in the course of the summer it has this great advantage over budding that you may have shoots 12 or 14 inches long the first summer, even if the operation is not performed before the 1st of August. Another advantage which he finds in herbaceous grafting consists in being able, when spring grafting misses, to graft over and over again at a late period: a power extremely convenient when old branches that have been headed back have to be grafted (*Journ. Soc. Imp.*).

—— It is not clear to every one whether smearing trees with pitch or grease in order to keep off insects is mischievous or not; some people asserting that such applications are highly dangerous, others that they are highly beneficial. Considering how important it is to settle this point, Mr. JAEGER has recorded in the *Monatsbericht für Pomologie* the result of some experiments that he has tried.

A mixture of tar and whale oil was applied to some fruit trees six years old in perfect health, in the spring before they were quite in leaf. 1. A tree, the trunk of which was covered all over by the mixture, pushed feebly; when the tar became firm the bark burst in various places, and began to bleed there. By the autumn the tree was well nigh dead. 2. When the trees had their stems covered only one-third or half-way up, they took very little harm, pushing freely the year afterwards. 3. When only a ring a hand's breadth wide was tarred they took no harm at all.

Hence it is to be inferred that a mixture of tar and whale oil may be safely used to form a ring which caterpillars or other insects that crawl up trees from the ground cannot possibly pass.

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## GARDENERS' ROYAL BENEVOLENT INSTITUTION.

THE anniversary festival of this institution was held on Wednesday last in the Crystal Palace. Covers had been laid for 247, leaving a considerable margin for casual visitors, but so unexpected were the numbers who attended, beyond those provided for, that the anticipations of the committee were agreeably surprised, although somewhat puzzled for the moment. In order, therefore, to seat all who presented tickets it became necessary to improvise a supplemental dining room without delay, and thus some 50 ladies and gentlemen were accommodated. Ladies were numerous, and sat down with the gentlemen at table. A military band enlivened the dinner by the performance of select musical compositions.

The Chairman on taking his seat was supported by Sir Joseph Paxton, M.P., General Dickson, Admiral Cary, the Rev. H. M. Bellew, C. W. Dilke, Esq., Sir Charles Fox, Mr. Charles Horsley, one of the Directors, Mr. Farquhar, the Chairman of the Crystal Palace, &c. After the removal of the cloth "Non nobis domine" was sung, and accompanied on the pianoforte.

The Chairman then rose and said: "Ladies and gentlemen, in all parts of the wide spread dominions of this country, at every social feast and meeting, the first toast that is given is that of her Most Gracious Majesty. That toast is never accompanied by any remark or by any preparatory observations, because it requires none. It speaks directly to all the affections of all her Majesty's subjects, who consider it a great privilege as well as a duty to invoke in that toast 'Long life and health to her Majesty the Queen.'" The toast was drunk with all the honours, the company standing whilst the national anthem "God save the Queen," was sung.

The Chairman proceeded: "Ladies and gentlemen, the next toast which in the natural order follows that of her Majesty, is the health of the Prince Consort, the Prince of Wales, and the rest of the Royal family." The toast was drunk with enthusiasm.

The Chairman: "The next toast I have to propose to you is, 'Our gallant defenders the Army and Navy.' The approbation that you have been pleased to pass upon that toast shows me how unnecessary it is for me to add any observations to it. The gallant actions of both those highly meritorious and noble services are recorded in history; to those it is not necessary to allude, but the more recent ones, and perhaps the most glorious exploits of our army we have only had in telegrams from the East, where we have been surprised to see in one victory after another, how bravely they have conducted themselves Now that the revolt has been crushed we require time to gather our senses together, to form a fair estimate of the exploits of our army. Whatever men can do, British soldiers have proved that they are the people to do it, as they have ever done. The endurance, gallantry, fearless intrepidity, and the marvellous manner in which they threw themselves on countless hosts, how they drove them back and the way in which they succeeded has become the object of envy of all foreign nations, and the admiration of our own. With respect, however, to the other branch of the service, there has not, recently, been any opportunity for showing what they can do, excepting in a few naval tactics, and where they have landed troops in different parts of India. But should the united arms of army and navy be required, we well know that they are composed of the same stuff, the same material, that won laurels for themselves at the battle of the Nile and the battle of Trafalgar, and wherever and whenever the sons are called upon they will be able to give as good an account of themselves and their foes as their forefathers have done before them. I have lived the greatest part of my life at the largest naval station belonging to this country, out of Great Britain, namely, North America, and I had the honour of the acquantance of a large number of naval men. Of the seniors I say nothing; their deeds are recorded in the naval history of the country; but with respect to the lieutenants of the navy, a more independent, a more brave, a more useful, or a more serviceable body of men is not to be found in any branch of her Majesty's service. The only regret I have is, that they are not better paid, and that their promotion is not more certain, rapid, and somewhat commensurate with their deserts. Having said so much on that head, I think I may say in the company of the ladies that these 'jolly tars'—a word I like myself, for I am a jolly old man—that these jolly tars are as invincible in love as they are in war. I recollect a story told me of a lady who was suffering very much with a severe pain in the side. She went about complaining of some affection of the heart which she feared was hopeless, and would become fatal, and she was asked if it was ossification that was the matter with her? She shook her head, laid her hand on her heart, and said, 'Oh! no, sir, it is something far worse than that; it is a lieutenant of the navy.' Having said this, ladies and gentlemen, I have great pleasure in proposing those toasts, 'the Army and Navy,' coupled with the healths of the gallant General Dickson and Admiral Cary." (Drunk with all the honours.) Both the gallant officers returned thanks in a few brief sentences for the honour done to their respective services.

Sir Charles Fox next rose, and proposed the health of the Right Hon. the Earl of Carlisle, the President of the Institution, which was responded to most warmly.

The Chairman: "Ladies and gentlemen, I am about to propose to you what is usually called 'the toast of the evening,' and that is, 'Prosperity to the Gardeners' Benevolent Society.' I assure you when the honour was proposed to me to preside at this distinguished meeting, I demurred very considerably to it, because I felt that there were so many other people, who, both from their knowledge of gardening, their station in society, had better ability to perform the duties of the office that devolved upon me, that I should have preferred to have transferred those duties to their hands. I felt that it was not any power of speech that was required, but a person who could extract the money from their pockets in some other way. However, if I was put into the witness-box I could give impartial testimony, and I would with sincerity and truth declare that I know of no body of men in this country for whom I entertain so great a respect and regard as the gardeners of England. I have visited this country at different intervals and marked its progress. In nothing have I noticed it so much as in the decorative art of the gardener. I believe we are more indebted to the gardener in this country than we, who have lived in the country, are aware of. There are one or two things expressed in the report which I should like to see expunged. I see it called the 'trade' of gardening. Now when I consider the scientific knowledge, the general attainments, the great skill, the particular accomplishments necessary to make a gardener, I don't see why we should call him a 'tradesman.' Nor will I advance him to the learned professions, but I would put him among the liberal professions of England. There is also another word in the report which I should like to see expunged, and that is, that this Society is called a 'charity.' It is no such thing as a charity. There is a great deal in words, more than we think—a great deal in the station of a man, and I would therefore advance the gardener himself to the dignity of a profession. This would raise him in the estimation of his employers, and whilst he and they contribute largely out of their profits to the wants of their aged body, it is very wrong to call that a charity. I should be wrong so to call the grateful offerings we have to make here to those who have contributed so much to our pleasure and modified our taste—and we ought not to hurt their feelings by calling it a charitable association. Those two words I hope to see expunged. This Society, by an abstract which has been placed before me, I am told was founded in the year 1838, but did not make any progress until 1840; since then it has steadily and gradually progressed. Well, this society may not certainly have been called by that name before 1838, but it existed long before then, for our first forefather Adam was a gardener, and I believe myself that if the female gardener had not eaten before she had seen the beautiful fruit which has been distributed here at this particular season of the year, she would hardly have risked so much for an Apple. It must have been very inferior in flavour to the fruit which has been spread before us to-day; still a moral may be drawn from it, which is that a gardener may admonish his wife not to touch forbidden fruit. The pensioners of this society, I see, are allowed to reside in any part of the United Kingdom. Well, there is very little in that; but I see by the number on the pension list that the average age is 73 years. Gardening must be a very healthful occupation; if the average age is 73 a great many must be over 100 years old. I strongly recommend the occupation of a gardener. I see again that no man can be placed on the list of pensioners unless his character will bear the strictest investigation. Well, I think the Society are not likely to have many applicants, for I never yet saw the man whose character would stand the test of the *strictest* investigation, and I should be very sorry to trust my character to such an examination. The stock is invested in Government funds, and the treasurer is called Robert Wrench, Esq. A capital name, as he will be wanted to put the screw on occasionally, but I hope it will be unnecessary in this case to put the screw on anybody. That's the business part of it, and now, ladies and gentlemen, allow me for one minute more. I hope I don't intrude myself too long upon you. You must recollect that this is the object for which we have met here to-day—it is to aid the benevolent institution of the Gardeners' Society. I said before that we are more indebted to the gardeners of this country—much more than we are aware of. I have been, on a small scale, myself a practical gardener; and I know that the progress of farming is built on the experience of the gardener. Now there are three important things which you all know must be done if you wish to succeed in farming or gardening, and they are—make your land dry, let it be warm, and keep it clean. Those three great axioms we owe to the principles of underdraining shown us by the market gardener; the deep trenching and the deep and beautiful cultivation which they practise. Therefore let us give praise where it is due. Here to-day we are honoured, as every society must be honoured who has the good fortune to have it, and as every society must receive a great advantage from it—I mean the presence of the ladies. I am delighted they are here, because a reciprocal benefit is derived, both by the ladies from the gardener and the gardener from the ladies. They give a refined taste, by the means of their art, to the ladies of the land, for they do that work which cannot be done without skill, and the ladies, on the other hand, are the great patronisers of the gardeners. Show me a lady that is fond of gardening and I will show you a lady of refined taste, and those domestic qualities by which you can judge of her character. It is a very great advantage and honour to the gardener to have had the ladies here, and I think the ladies are in their proper sphere when patronising the gardener, who is contributing so much to their taste and enjoyment. There are two words in this report which I have said I object to, and here are some more. There is a plant called 'Prime Minister,' and I should like to hear what Lord Derby would say to this description of Lord Palmerston, or *vice versâ*—'Orange crimson mouth, fine form, excellent spike,' whatever that is, and 'a good bedder.' Then I find in the description of a highly respectable gentleman—who may bring an action for damages—here is Lord Raglan described as 'having a fine eye, not constant, and with rather loose habits.' There is another gentleman who is connected, as the head, with almost all the religious and philanthropic societies in London—I mean the Earl of Shaftesbury. No more worthier man is to be found; but he is described here as 'a fine plant, showing the white of his eyes.' With respect to the ladies, I don't think they ought to be exposed in this way. There is the Princess Matilda, whoever she is, 'has a rosy blush, and is very free.' One lady, whose name I shall not give, is celebrated for her 'beautiful white neck.' Then there is 'Mrs. Church.' She has 'a full throat, great constancy, and may be depended on.' Now what a character that is, for there are very few that 'may be depended on.' Notwithstanding these latter words that might be altered there is a great deal to admire, a great deal to applaud, and a great deal of scientific knowledge in the gardener. The object of this meeting is to raise a subscription to aid this benevolent Institution; it is no

charity, and I should be sorry to call it a charity. 'Institution' is not the word you would choose to express a charity by. The ladies are the patronisers in this country of the gardeners and the garden—they are in fact the great patronisers of gardening—and they could patronise nothing better. Now there is one subject I wish to make mention of, and that is that when people employ a gardener—and no one employs them except persons of property—I hope the gardener will say 'We have a society, and I hope you will in addition to my salary contribute a guinea a year to the funds.' If the gardener asks his employers to contribute a sum that is not to go into his own pocket; but to help to provide for his brethren in their old age, he will suffer no depreciation and find very few to refuse. I throw out the suggestion. Had I happpened to have been an humble member of the House of Commons at the time when Mr. Disraeli talked of a 60*l.* savings' bank qualification for a vote, had I the means, I would have given a vote to every gardener in England. Ladies and gentlemen, I shall conclude a somewhat lengthened speech by recommending to your notice the interests of the Gardeners' Benevolent Association, and that it is well worthy and entitled to your support, I am sure you will all agree with me."

The Rev. H. M. Bellew rose and proposed the health of the Chairman, "who was alike distinguished by his talents in literature, in law, and the honesty of his purpose. Gardeners well knew the value of a good transplant, and they had presiding over them at that moment a gentleman who was a transplantation amongst them. He trusted they would respond to the toast, and drink the health of their hon. chairman 'right *slick* off.'"

The toast was drunk with rounds of cheering. When the applause had subsided, the Chairman in replying to the toast said, "I assure you that I never rose before with a difficulty to express what I feel upon occasions of this kind greater than I do at this moment. I thank you with all my heart for the very kind reception you have given to my name—a reception I can never forget. The rev. gentleman who proposed my health has gratified me in one particular thing, and that is that he has understood the motives from which those books of mine have sprung. I should despise myself as much as anybody could, and look with indifference and contempt upon myself if I had written a mere jest book. I addressed myself to my countrymen to point out virtues as well as errors, and I therefore put a little sugar on the pill before they swallowed it. It is a trick of trade, the druggists understand it, and why should not authors? When severe advice is given to people it is put off to another day; I chose a vein of humour, and while laughing at what I wrote it might be that some of those morals I wished to teach were thus inculcated. The rev. gentleman in ascribing those motives to me has done me honour, for I feel they might be open to a different interpretation to that which he has put upon them." The hon. gentleman resumed his seat amid the warmest congratulations; in a few minutes he rose and proposed the health of the Vice-Presidents of the Society, coupled with the names of Sir Joseph Paxton and Mr. Bohn. If they wanted to know more about the subject of the toast, all he could say was *circumspice*, Sir Joseph might justly say, "I am the architect of my own fortune and the architect of this building."

Mr. Bohn having returned thanks, congratulated the ladies on being present, and to whose influence he attributed the numbers being much larger than they could accommodate. He referred with regret to the emigration that was going on among gardeners, and said that it almost served us right, for their wages were only 14*s.* or 15*s.* a week instead of 40*s.* or 50*s.* He hoped that the Society would continue to flourish, and thanked them for receiving his name with the toast of the "Vice-Presidents."

Sir Joseph Paxton next rose, and was received with cheers. He said that "the Society was a very useful one, and he should be glad of any donations they might be pleased to give. The great centre of civilisation, London, was also the centre of benevolence, and the fittest place for an institution of that kind to take up its position in. After looking at the number of visitors with which they had been honoured that day, there can be no doubt but that the Crystal Palace was the proper place for a gardener's dinner. He had long believed so, but that day's result had convinced him. They had had a hundred more than on any previous occasion, and more than ever they had before, they had had the advantage of the ladies, and the best time for such a gathering was, no doubt, a flower show. The Directors of the Palace had met the proposal in the most liberal spirit, and were entitled to the entire approbation of the Society. The Company had done great things for horticulture, and are giving it every encouragement; indeed, their support was exerting a most powerful influence all over the country. He should propose the health of the Directors of the Crystal Palace Company, coupled with the name of Mr. Farquhar, their chairman." The toast was drank with three times three.

Mr. Farquhar returned thanks in a very appropriate manner for himself and co-directors, and sat down amid applause.

The Chairman next proposed "The health of the Secretary," which was heartily responded to. The latter read the statement for the past year, and announced the subscriptions of the evening to be 340*l.*

"The Ladies" was next drunk, and having been responded to with cheers the company separated.

## PLANS FOR VILLA AND SUBURBAN GARDENS.

PLATE 4.—Two plans are here given, neither of which however call for any lengthened description; they are both of a very simple kind—fig. 1 especially. It was recently designed by me for a semi-detached residence. The owner being fond of archery requested that an uninterrupted space should be preserved throughout the whole length of the ornamental portion; and in the plan as actually executed the bed

Fig. 1

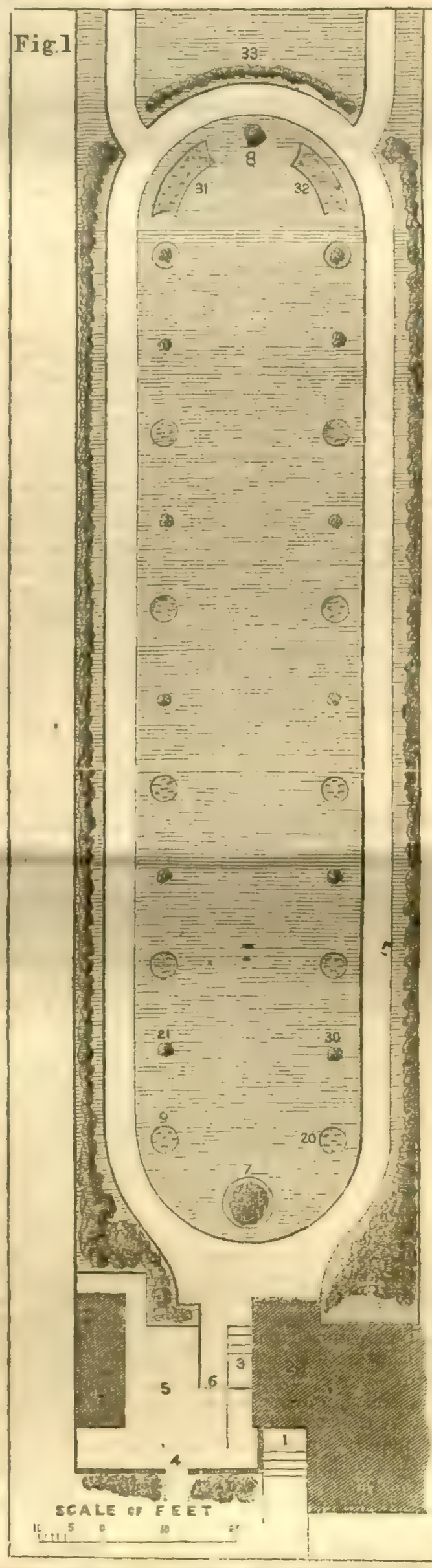
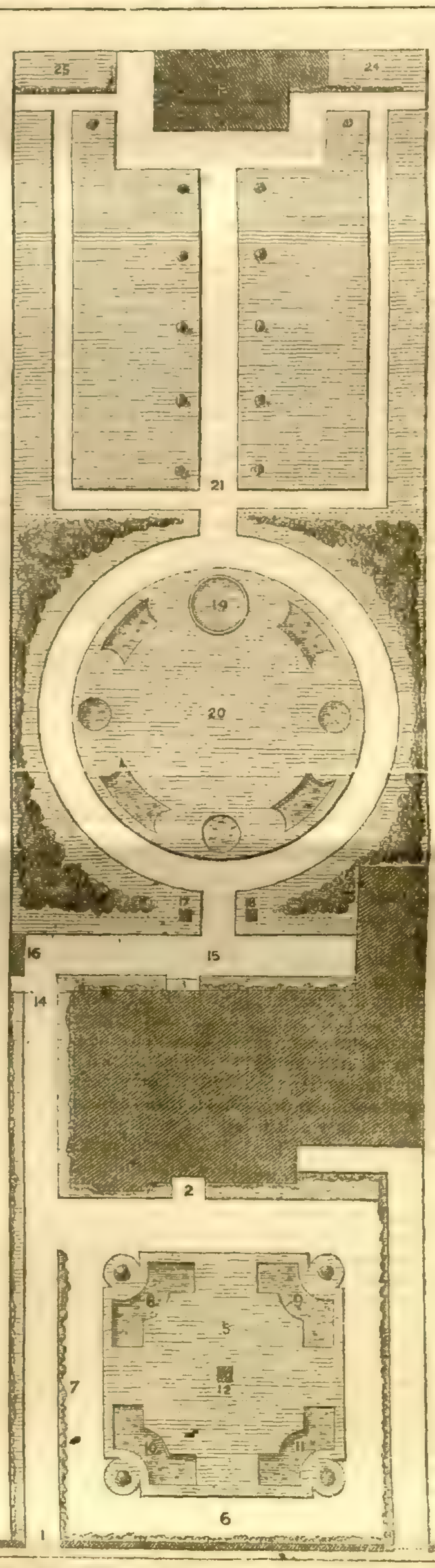



Fig. 2




7 and plant 8 are omitted. The following references will explain the arrangements:—1, the front door of the house; 2, from which you pass to the garden by steps 3; 4 is the entrance to a small yard and offices 5; there is also admission to these from the garden at 6. The circular bed 7 was intended for dwarf evergreens, and 8 as the position for a handsome Rhododendron already on the ground, but the exigencies of archery demanded their omission. The 12 circular beds 9 to 20 are for "bedding" plants in summer. The alternating permanent plants 21 to 30 are standard Roses, and beds 31 and 32 for dwarf Roses. A Laurel hedge with the small shrubberies near the house and offices surround the ornamental garden. The portion devoted to vegetables, commencing at 33, extends beyond this for about two-thirds the whole extent shown. A road common to all in the "Crescent" passes some 10 or 12 feet from the front windows.

*Fig.* 2.—It may be questioned whether in so small a garden as the one here represented, a plot for vegetables would not be advantageously omitted. I was, however, requested to provide for such when preparing the original of this design. And the arrangement as here given may be of use in laying out a greater extent of ground upon the same principle. The residence is detached, and the front garden separated from the public thoroughfare by a wall with iron palisades. The whole garden is also surrounded by a low wall. At 1 is the principal entrance from the street, 2 the front door, 3 the garden entrance, 4 a portion of the offices. The small flower plot 5 is surrounded by a gravel walk 6, and an evergreen hedge 7; beds 8 to 11 are on Grass; a vase 12 occupies the centre. The kitchen entrance is at 13. At 14 is a trellis through which the garden is entered by a door of like material, 15 a broad gravel walk, 16 a seat, 17 and 18 two vases, 19 a basin of water and fountain; these last were built by a former occupier. Seven beds surrounding the circular plot 20 are for ordinary "massing" plants, or they may be dwarf permanent ones to be intermixed with gayer kinds in summer. The boundary shrubbery is intended merely to hide the wall, and to mingle in appearance with the plants in the adjoining gardens. When this is effectually attained an apparent extent will be given to this small plot, of which the plan can give no idea. On either side the walk, 21, are pyramid fruit trees; these will form a vista to carry the eye in a pleasing manner to the small greenhouse 22, which, when filled with gay plants and the front doors thrown open, will form an interesting feature from the house. On the walls in the vegetable garden fruit trees are trained. At 23 is the greenhouse boiler, 24 and 25 are receptacles for pots, rubbish, &c., concealed by evergreen hedges. *George Lovell, Bagshot.*

[We have to announce with very great regret the termination of these little articles in consequence of the decease of the talented author. Mr. Lovell was the son of a gardener to Sir Hussey (afterwards Lord) Vivian, and was himself brought up to the business. After spending many years in qualifying himself for a place, he was engaged by the late Marchioness of Hastings to take charge of her very pretty grounds at Efford House, near Lymington. It was here that he acquired that fondness for the more scientific departments of Horticulture, in which he became distinguished. Already in 1849 he had produced a very good paper, "On the Growth and Maturation of the Wood of Plants," which was printed in the fourth volume of the Journal of the Horticultural Society, to which he afterwards made further contributions. When Lady Hastings left Efford, Mr. Lovell found employment in the Nursery of Mr. Standish of Bagshot, and so remained till the period of his death, occupying himself chiefly with Landscape Gardening, for which he possessed a very decided taste. If we are not misinformed, he had a large share in the designs for the Queen's Pavilion at Aldershott. Exclusive of his "Plans for Villa Gardens," he communicated many other articles to our columns, the latest of which were on Rhododendron cultivation.

Mr. Lovell died at Bagshot on Monday the 30th of May, of tubercular peritonitis, in the 37th year of his age, to the very great regret of all who were aware of his many excellent qualities as a most amiable man, as well as of his solid attainments as a practical and scientific gardener. ED. *G. C.*]

## Home Correspondence.

*Budding Vines.*—An amateur Grape grower will feel greatly obliged to any of your readers for some information relative to this subject; whether in ancient or modern practice any case has occurred where a bud of one season's growth has in the month of August of the same season been inserted in the stock of another Vine and produced fruit the next season; or rather is it practicable for buds (similar to those used in budding Roses) to be taken from a Vine that will be sent out in August 1859, to be inserted in another stock, and produce Grapes fit for exhibition in September 1860?

*Foul Ponds.*—For 20 years I have had such a pond as is described at page 485. It was cleared by navvies and planted with white Water Lily, yellow and pink Rush, yellow Flag, and other plants. The surface has been kept clean by ducks sent on daily throughout the year. Fish have recently been put in, as the ducks have destroyed nearly all the plants, but the water is uniformly clear by pumping plentifully from the well of the house. *A Subscriber, Toxteth Park.*

*Bath Asparagus.*—Could you favour me with the name of the enclosed, which is sold in our market in bunches as a substitute for Asparagus, and when dressed as that vegetable is very good indeed? It is found in the woods in this neighbourhood, and has a root not unlike that of the double white Narcissus. *J. Smith, Bath.* [It is Bath Asparagus, or Ornithogalum pyrenaicum.]

*Earwigs.*—Your correspondent "J. C. H." Essex, had better try flower pots as traps for these. The plan is to get some No. 40 or 60 flower pots, and fill them about half full of perfectly dry Moss, then turn the pots on the top of all the Dahlia or any other stakes he may have in the garden; look them over every alternate day and kill the earwigs collected; be sure to keep dry Moss in the pots. This is an old and simple plan, but I think that it is the best yet. *H. Smith, Darley Dale Nurseries, near Matlock.*——About two years ago a gardener told me he had a frame full of Cucumbers, which were nearly destroyed by earwigs. I told him to get as many tobacco-pipes as he could—old ones with a little ashes left in them, and to put them in the frame. In one week he came to tell me that he had thus cleared his frame. But for this plan I could not have a Dahlia bloom entire. *Robert Ashcroft, West Derby.*

*Rhododendron Nuttallii.*—This is now flowering in the gardens of the Archdeacon of Canterbury at Saltwood, and is I think without exception the most beautiful thing of its class, *i.e.*, of those Rhododendrons producing tubular flowers. It is sweet scented, and a magnificent plant even without blossoms. I have been informed that this is the first plant of its kind which has produced flowers in England; is that the case? *Wm. Acomb, Saltwood, Hythe, Kent.* [We think not.]

## Foreign Correspondence.

Camp, Queensborough (or New Westminster),
March 20, 1859.

BRITISH COLOMBIA.—*Discovery of Lake Burnaby.*—We started from here four days ago on an exploring expedition up the Frazer. The stream at first was not thought to be of so much importance as it has since turned out to be, but as we got a mile or so up it deepened greatly and widened, the current running with great rapidity, 5 or 6 miles an hour and more in the rapids, of which we had a continuous succession nearly all the way up. I cannot describe the beauty of the scenery, as bend after bend opened to the view, the hill sides crowned with mighty Cedars and Douglas Pines that seemed imminent rather than merely impending over our tiny canoes as they passed through the ravines, across which they grandly flung their arms. Every half hour we came to some huge log that had fallen across the water, then we had to unload everything and cut away branches or little trees, and carry the canoes over by main force. Sometimes we had to carry them over the banks for some distance, cutting a path as we went.

The river was much swollen from the snow beginning to melt, and as we were the first Europeans who had been up it, there was no feasible passage open, we had to pole in all three-fourths of the way, and the greater part through rapids, the undertow of which was really dangerous, at least it put swimming out of the question, as each of us experienced before the expedition was over. It was quite a little excitement, and joined with the fine weather, and the bright and clear lights and shades, made the porter's work we were going through a real pleasure. At the first portage the canoe suddenly turned over and in I went; but I got hold of a branch or two, and with the greatest difficulty, amid the cheers and jests of the Indians and my companions, I got at last safe to shore, but had to sit all the rest of the day in wet clothes.

At length the shades of evening began to fall, and we busied ourselves in felling trees, cutting wood, and building a huge fire for the first night's camping out preparatory to "turning in." We found a beautiful nest under some enormous Cedars near 200 feet high, and from 5 to 8 feet in diameter (as near as we could calculate without a measure), fringed round in a circle by low saplings which were preparing to take the place of the parent trees. On scraping away the snow we came to some of the most glorious moss you can fancy; that done we ranged ourselves in a circle round the fire, piled up the wood in a handy spot for firing at night, pulled out the blankets, and produced the eatables, pork and biscuit called by the Indians "muck-a-muck," topping out with a "horn," *anglicè* a drink of whiskey. And then the fun began; tales of forest life alternating with B.'s experiences in the Gulf of Tartary, and ending in a regular round of songs which made the still, silent, old forest glades ring again with sounds of unwonted merriment. The dusky sons of the forest who "canoed" for and with us, got their "muck-a-muck" and formed another camp not far from ours, and so the night drove on with songs and clatter till one by one we sank into silence, and after a little earnest prayer for ourselves and those far away, we forgot all and everything till daybreak woke us to another day.

Then came breakfast, the same as supper; then "All on board" was the cry, and we embarked. Our canoe, the largest, and I had almost said the most experienced, took all the baggage of the party (except two Enfield rifles), with four days' provisions for the whites, that for the Indians by some oversight having been forgotten. We pushed over "portage" and big fallen trees that blocked up the passage every 100 yards, poled our way through rapids and all sorts of impossible looking places, crashing through bushes till all at once we came upon a huge tree which was particularly difficult to pass. All got on the tree, the *voyageurs* and Indians strove to get the canoe across; to help them I passed B—— on the tree, his indian-rubber boots slipped, and bang he went into the river, emerging like a drowned cat, cold and shivering for the rest of that day. I opened both eyes wide in the hopes of finding sandstone, limestone, ironstone, and coal; and in the broken banks of the river, and also in its bed, I at last discovered sandstone and a sort of shale, preliminary I trust one day to coal, which must in my opinion be somewhere hereabouts.

Thence proceeding full of hope we at length emerged into a beautiful lake 2½ miles long, which we called "Burnaby Lake," after a friend of mine of that name. It is situated seven miles from Queensboro', with fall enough to supply any amount of water for the new town. There are lots of game, swans, duck, teal, &c., and myriads of fish, salmon trout jumping up in crowds under the very bows of the canoe. We were compelled to camp in a swamp by the side of the lake, in the prospect of making our way across the next day to "Burrard's Inlet," which from its great depth of water may one day, in case of war, be of the greatest importance to Queensboro', protecting its rear by ships of war and the fire of a battery of heavy guns on a sort of "Drake's island" in the centre. All along the river we saw traces of beaver which the Indians, who we afterwards found knew all about the place, did not like our examining, thinking it would interfere with their hunting grounds, on which they partially subsist. Our camp for the second night was on leaves and decaying vegetation, with the water oozing up at every step. Unfortunately it came on to snow and rain incessantly, so we had but poor lodging after all. My boots and clothes have never been quite dry since. The lake rose and we literally slept in the water, and built our fire on logs raised above water; the sides of our camping place we stuffed with brushwood, and the bottom was thickly laid with branches of the Spruce Fir and Arbor-vitæ, which latter gives out a most delicious fragrance. We laid it a foot thick, and added to the bed as the water rose; however it beat us at last, so we decamped and made the best of our way down. And then at what a pace we went. The Indian at the stern gave the word to another Indian at the bow; we glided swiftly past point and tree and snag, rushing madly down rapids that every moment threatened us with swamping—slap on upon thick timber sticking out in the middle of the stream, when a word from the helmsman, a turn of the hand or paddle from the bowsman, and presto—the canoe gave a slight deflexion, and round we went clear of the obstacle that threatened us with destruction. It was perfectly wonderful to see them, so easy, composed, and graceful in the most difficult situations. We had passed our first resting place coming up, and were now rushing down after the smaller canoe that had started before us when we saw a man on the bank—our corporal in undress uniform, dripping like a Naiad, waving his arms to us to stop, and shouting above the noise of the waters that all was lost. A little inquiry supplied the intelligence that their canoe, which had broken its bows against a log in passing down the rapids we were approaching, had gone head foremost under, and had sent them all flying down stream, they saving themselves with considerable difficulty by catching hold of boughs and pulling themselves by main force ashore; the two rifles and the canoe, with part of B.'s uniform and great coat, having fallen a sacrifice to the angry god of the river. However, the men were saved, so it all came into the day's work. We gave them shirts and coats warm off our bodies and took them in, and though with a double load and eight men in our canoe we got safe over all difficulties, and returned to our anxious friends after four days' absence with the satisfactory intelligence of our discoveries. On our way back to camp I pricked my leg with a plant which grows in marshy places here, the stem of which is jointed, and covered with sharp pointed hairs. Inflammation immediately came on, and was succeeded by very severe pain, which has confined me to my tent. If from so imperfect a description you can tell me its name, my friends and I should be very glad to know it. [This was probably the *Panax horridum*, figured by Sir Wm. Hooker in the first volume of his valuable Flora Boreali-americana, the plant which according to Douglas, who found it in Oregon, is the "Prickly Ash" of the Alexander Mackenzie's voyage. Douglas states in the above work, that it is common on the west side of the Rocky Mountains from the Head Springs of the Colombia to the coast. Dr. Scouler met with it in Queen Charlotte's Sound. "The entangled stems of this remarkable plant are described as a great impediment to travellers in the woods of N. W. America." *Hooker.* We hope our enterprising correspondent will be able to send home ripe seeds of it, and of the Cedars and Arbor-vitæs he speaks of, as well as of other natives of British Colombia. Old Westminster should have in its neighbourhood some of the productions of New Westminster, the name which it is intended to give to the capital of British Colombia.]

## Societies.

CRYSTAL PALACE HORTICULTURAL EXHIBITION: *June* 8.—A fine day and an excellent exhibition brought together on this occasion a considerable assemblage of visitors.

Stove and Greenhouse Plants were again furnished in great quantities, and in beautiful condition. Indeed, nothing in their way could possibly be finer than the magnificent plants which covered the stages of the large round table in the centre of the principal transept. These were contributed chiefly by Mr. Dods, gr. to Sir J. Cathcart, Bart, and Mr. Whitbread, gr. to H. Collyer, Esq., of Dartford, between whom the struggle for mastery in this class of plants now principally lies. This time, as will be seen by an advertisement in another column, their merits were regarded by the judges to be equal. In Mr. Dods' group were noble examples of Allamandas, blue Leschenaultia, Everlastings, among which Aphelexis macrantha rosea was conspicuous; Azalea variegata and lateritia, both still in admirable condition as regards bloom; the fine variety of Cape Heath called Erica tricolor Wilsoni, Coleonema rubrum, Erioste-mons, Adenandras, Boronia serrulata, and some very fine Ixoras, more especially a plant of the Willow-leaved variety, on which were such heads of bloom as one rarely sees on this kind. It had been grafted on I. coccinea, which appears to be an excellent stock for it. In Mr. Collyer's group were equally fine specimens of nearly the same kind of plants, collections of which were also contributed by Messrs. Peed, Green, Page, and Baxendine. Smaller exhibitions came from Messrs. Rhodes, Cutbush, Kail, Chilman, Smith, Carson, Tegg, and Hamp. Among these were nice specimens of Stephanotis floribunda, Pimelea Hendersoni, Polygalas, Dracocephalum gracile, blue Leschenaultias, Cyrtoceras reflexum, Allamandas, Boronias, Abelia floribunda, Ixoras, Combretum coccineum finely in flower, Everlastings, Cape Heaths, and Azaleas.

Of Plants remarkable for fine foliage there was a large collection from Messrs. Veitch, who contributed among other things beautiful plants of Dieffenbachia picta, Dracænas, Palms, variegated Screw Pines, Maranta vittata and zebrina, Crotons, and the handsome Theophrasta imperialis, and some Tree Ferns. Messrs. Jackson & Cutbush also furnished good collections, as did likewise Messrs. Dods, Colgate, Young, Summers, Oubridge, Rhodes, and Hamp. Among these were the handsome Maranta capitata, formerly noticed by us; Caladiums of different kinds, Cissus discolor, Palms, Ferns, among which was a magnificent example of Platycerium grande from Mr. Dods; Aralias, of different sorts, Farfugium grande, Begonias, Rhopalas, Musas, and Calatheas.

Orchids were produced on this occasion in better condition than we have seen them at any exhibition this year. Messrs. Veitch had a splendid group, which contained among other things beautiful specimens of White Butterfly plants (Phalænopsis), Cattleya Mossiæ, one of the handsomest varieties of Cypripedium barbatum; various Aerides, among which the Fielding Fox-brush was conspicuous; Saccolabium guttatum, Vanda suavis, the charming purple-lipped white-blossomed Lælia purpurata, the showy clear yellow blossomed Oncidium ampliatum majus, and others. The next group in point of merit came from Mr. Gedney, gr. to the Rev. Mr. Ellis, of Hoddesdon. It contained Cypripedium villosum, finely in flower; Phalænopsis, the beautiful Dendrobium Devonianum, the yellow Tulip-like Anguloa Clowesi, Lælia purpurata, Dendrobiums of different kinds, Aerides, and Saccolabiums. From Mr. Bullen, gr. to J. Butler, Esq., of Woolwich, came the handsome Dendrobium Farmeri, with numerous racemes of cream-coloured flowers blotched with rich orange; Cattleya Loddigesi, with deep lilac blossoms; the showy Sobralia macrantha, Anguloa Clowesi with six flowers, all in perfection; and Trichopilia coccinea. Mr. Wooller had a good group, as had also Messrs. Dods, Carson, Rhodes, Page, and Green. In these we remarked the orange Saccolabium curviflorum, Camarotis purpurea, Dendrobium aggregatum, Lælia cinnabarina, Lycaste Skinneri, Stanhopea oculata, and Calanthe veratrifolia.

Azaleas were greatly past their best, and made but little display. Tall Cacti, of which two collections were produced—one from Mr. Green, the other from Mr. Bunn, gr. to R. S. Scott, Esq., of Hornsey—were however better, if possible, in flower than they were in May, and were for their number, which was small, very effective. A handsome Seedling Epiphyllum, rich violet and crimson in colour, was shown by Messrs. Frazer.

Cape Heaths were again furnished in great quantities and in good condition: but still deficient in novelty. They, however, had their admirers.

Roses in pots showed unmistakably the ill effects of the late bright weather. With the exception of those from Messrs. Lane, which were good, the rest were very much past their best. Among them were Baronne Prevost, Madame Plantier, Coupe d'Hébé, Paul Perras, General Jacqueminot, and other well-known kinds. Of yellows, we noticed a fine plant of the Persian, from Mr. Terry, gr. to C. W. G. Puller, Esq., of Youngsbury, Herts. Cut blooms, very good for the season, were shown by Messrs. Paul. Among them Jules Margottin and Coupe d'Hébé were remarkably fine.

Ferns, both Exotic and British, were in unusually good condition and formed one of the principal features of the show. Of the former the best collection came from Messrs. Veitch, who sent among others splendid examples of Gleichenia flabellata, Speluncæ, dichotoma, and hecistophylla; Angiopteris evecta, Cyathea dealbata, Alsophila guianensis, Dicksonia antarctica, Balantium culcita, Todea Fraseri, Cibotium Schiedei, and Davallia polyantha. Messrs. Woolley and Halley also showed good groups, as did also Mr. Baillie, gr. to C. Carbonell, Esq., and Mr. Summers, gr. to A. Mongredien, Esq. The former sent Todea pellucida, quite a gem; four species of Gleichenia, one, microphylla, very large and fine; Alsophila aculeata, a beautiful Microlepia platyphylla, and Davallia oculata, the last a charming species. Mr. Summers sent Microlepia polypodioides, Adiantum trapeziforme, a very good Cheilanthes elegans, the Bird's Nest Fern, the rare Gymnogramma hybrida, and a good plant of Lygodium scandens. Among British sorts was nothing remarkable.

Of New Plants, Messrs. Veitch sent as usual the largest number. Among them were the Californian Torreya myristica, and Thuja Lobbii; various fine Begonias, the best of which have been noticed by us on former occasions; a cut specimen of Ceanothus too withered to judge of its merits, Farfugium grande, the lilac and white-flowered annual Fenzlia dianthiflora, Chamæbatia foliolosa, a hardy flowering shrub from California, with handsome Mimosa-like foliage; Clianthus Dampieri, a charming variety of Cattleya in the way of C. elegans, and a new variety of Gymnogramma. Messrs. Jackson sent some handsome Caladiums and Genetyllis macrostegia. From Mr. Standish came a white-blossomed Viburnum from the north of China; Mr. Carson, Cyanophyllum magnificum; Mr. Williams, the North American Goodyera pubescens, a pretty kind, which will succeed in a greenhouse; Mr. Gedney, a handsome large rich orange-flowered Hemerocallis from Natal, with semi-double flowers, and Tachiadenus carinatus, a Gentian-like plant with pretty violet blossoms. Mr. Barnes, of Southampton Street, Camberwell, had some handsome Begonias, the best of which was Queen of England, a kind with large and showy leaves. The same eminent cultivator also sent Prince of Wales, Princess Alice, Minnie, and Water Witch, all pretty, but perhaps a little too much alike. From the neighbourhood of Windermere, Mr. Binder sent a good specimen of the Holly-like Desfontainea spinosa, well furnished with bright crimson flowers tipped with orange yellow. And we also noticed from another exhibitor the orange scarlet Embothrium coccineum, also one of Messrs. Veitch's valuable introductions to this country.

Of Pitcher plants Messrs. Veitch and Gedney exhibited splendid collections, in which were noble examples of lanata, Hookeri, lævis, Rafflesiana, distillatoria, ampullacea, vittata, and others, all of which excited much interest.

At the end of a long bank of Pelargoniums were the seedlings, to which eight prizes were awarded. In large varieties Lord Clyde was selected as the best. It is a bright free-flowering scarlet, of fine form and substance, with very dark blotch on the top, having a narrow margin of vivid crimson. This and Bijou, which was third, a curious shade of bluish purple, were raised by Mr. Nye, gr. to E. Foster, Esq., Clewer Manor. Bacchus, Ajax, and Unique, also of superior form, were from the same raiser. Angelina (Hoyle), an improved Fair Ellen, and very fine, was second. Of large spotted kinds, known as French, there were considerable numbers. King of Purples is a large flower of good quality; Bracelet, rose ground, finely marked with maroon spots, full size, and good habit; Magpie, white and maroon with black in centre of the spots. Rifleman, Beadsman, flowers in the style of Sanspareil, much better, and as free. These all came from Mr. Turner of Slough, the three first named being selected by the judges for prizes. In Fancies were Sarah Turner, bright crimson, with white centre and edge, and free good habit; and Omega, a rosy crimson, suffused with purple, and of the finest possible form; Amy Sedgwick, fine rose, Louisa Pyne, light, and Lady Craven, crimson rose, were each and all good and new. These were raised and exhibited by Mr. Turner. The judges selected the two first.

In Bedding Geraniums, Messrs. Veitch received a first prize for Mrs. Ponsonby Moore, a spotted kind, of dwarf free blooming habit, colour bright crimson, each petal being ornamented with distinct maroon spots. This was greatly admired. Christina (Kinghorn) also received a prize; it appeared to be a good free blooming bedding kind of a lively pink colour.

Collections of Pelargoniums were numerous and generally good. Mr. Nye had some fine plants, the best and most effective of which were Flora, Prince of Wales, Saracen, Meteor, Fair Ellen, Viola, Wonderful, and Carlos. Mr. Thos. Bailey, gr. to T. J. Drake, Esq., Amersham, sent the next best collection, which contained a good Carlos, Miss Foster, Meteora, Mr. Marnock, Governor-General, and Spotted Gem. Mr. Bailey was first with Fancies in the amateur class, his plants being nicely bloomed, but not large—Acme, Celestial, Lady of the Lake, Evening Star, Princess Royal, and formosissimum were the kinds. Mr. James and Mr. Oubridge also contributed collections. In the Nurseryman's Class Mr. Turner, Messrs. Dobson, Mr. Windsor, and Messrs. Fraser were placed in the order in which their names appear. The best in Mr. Turner's collection were Candidate, Cynthia, Viola, Governor-General, Fair Ellen, and Saracen. Messrs. Dobson's contained good plants of Evelyn, Fairest of the Fair, the Bride, Miss Foster, and Roseleaf.

In the class of Fancies were some remarkable specimens. Mr. Turner's plants were Celestial, delicatum, Evening Star, Madame Sontag, Madame Rogière, and Cassandra. These were of immense size and of unequalled beauty, every leaf being hid by the mass of blossoms, which in some cases were so crowded together as to prevent many opening. Mr. Windsor and Messrs. Fraser also sent well bloomed collections.

Of Fuchsias there were some beautiful exhibitions, consisting of pyramidal plants 6 and 8 feet high, and loaded with flowers from bottom to top. The sorts were not different from those shown before this year. One plant, Souvenir de Chiswick, is however well worthy of notice. It was a fine specimen of a good kind, and was literally loaded with large and showy blossoms, whose charming violet-coloured corollas and deep crimson sepals and petals rendered them objects of general admiration. This is a kind well worth possessing.

Calceolarias, both herbaceous and shrubby, were shown; but we did not observe among them anything new. Of the former the best came from Mr. Cross, gr. to Lord Ashburton, at Addiscombe. They consisted of yellow and buff grounds dotted all over with minute spots, with the exception of one, which was blotched, a class to which too little attention has lately been paid.

Verbenas were shown in fine variety in a cut state by Mr. Turner. We have before named the best kinds. Mrs. Maclean was very beautiful.

Pinks were shown by Mr. Turner and Mr. Bragg. Mr. Turner's kinds were: Unanimity, Napoleon, Gem, Godfrey Seedling No. 3, Seedling Mr. Hobbs, Mr. Weedon, Winchester Rival, Sovereign, Prince of Wales, optimus, Adonis, Koh-i-noor, Invincible, Helen, Lady Blandford, New Criterion, Colchester, Cardinal, Seedling No. 6, Hebe, Sultan, Seedling Little Gem. These were finely laced, and larger than the average.

Of fruit a considerable quantity was produced, but much of it was not above mediocrity. A Providence Pine Apple, weighing 11 lbs. 4 oz., came from Mr. Bailey, gr. to T. Drake, Esq., Shardeloes, and some good fruit of the same variety also came from Mr. Floud, gr. to R. Fothergill, Esq., of Aberdare. Mr. Young, gr. to C. Bailey, Esq., likewise sent a good Providence. The best Queen came from Mr. Young, gr. to W. H. Stone, Esq., of Dulwich. Mr. Bailey also had a good fruit, and a third came from Mr. Davis, of Starch Green, Hammersmith. Mr. Scott, of Leigh Park, sent a very good Black Prince. We also noticed one or two Black Jamaicas.

Black Hamburgh Grapes were again furnished in admirable condition—large and black both in bunch and berry—by Mr. Hill, Keele Hall, Staffordshire; by Mr. Frost, gr. to E. L. Betts, Esq.; Mr. Tillyard, gr. to Viscount Eversley; and Mr. Thomas, gr. to J. Baxendine, Esq., of Whetstone. The best basket of 12 lbs. came from Mr. Thurston, of Leicester. Messrs Alderson and Smith also showed well in this class. White Grapes were not good. The best Muscats were exhibited by Mr. Embry, gr. to A. Moss, Esq., of Chadwell Heath; and Mr. Richards and Mr. Baker also sent exhibitions. Exhibitions of Grapes in pots were not good. The bunches were small, and in some cases unripe.

Peaches were not very plentiful. The best Royal George were contributed by Mr. Sage, of Ashridge. Mr. Frost also sent the same variety, as did also Mr. Hill and Mr. Masters, gr. at Sherburn Castle, Oxon. Elruge Nectarines, large and fine, were furnished by Mr. Frost, of Preston Hall, and an equally fine dish of Violet Hâtive came from Mr. Hill, gr. to R. Sneyd, Esq. Mr. Page and Mr. Masters also both showed good dishes.

Of Apricots, a dish of small but well ripened fruit came from Mr. Ferguson, of Stowe.

Melons were present in considerable numbers. The best in point of flavour in the opinion of the judges were Bailey's Green-fleshed and the Bromham Hall. Of scarlet-fleshed sorts the best was one called Gem, a small kind from Mr. Tegg, gr. to Baron Hambro', at Roehampton.

Of Figs Mr. Snow, gr. to Earl de Grey, sent a beautiful dish of the Brown Turkey large and finely ripened. Some good fruit of this kind also came from Mr. Frost and Mr. Richards of Tadcaster.

Of Cherries, by far the best were two dishes, one of Black Circassian, the other Elton, from Mr. Henderson, gr. to the Duke of Sutherland at Trentham. These we were informed had been grown in the kind of glass structure known as the "Trentham case," and were certainly very fine. Others came from Mr. Ferguson, of Stowe.

Plums were shown by Mr. Ingram, gr. to J. J. Blandy, Esq., who sent good fruit of Denyer's Victoria.

Strawberries were not remarkable either for quantity or excellence. The best were dishes of Sir Charles Napier, British Queen, and Keens' Seedling from Mr. Smith, of Twickenham. Mr. Clarke, of Twickenham, and Mr. Stoddart, of Colchester, also both had good fruit of the kinds just named.

Among Miscellaneous exhibitions we noticed a bunch of unripe Bananas and some very good Cucumbers.

## Notices of Books.

*Letters on Modern Agriculture.* By Baron v. Liebig. Edited by John Blyth, M.D. Small 8vo. Pp. 284. Walton & Maberly.

(*Concluded from page* 468.)

The first point of common belief assailed by the author is that plants can only be fed by substances in a state of solution. "We have hitherto believed," he says, "that plants received their food from a solution, and that the rapidity of its effect was in direct proportion to its solubility. We have supposed the active elements to be carried in solution in rain water and carbonic acid to their roots, and have regarded them in the light of sponges, half in the moist ground and half in the air, continuously absorbing by their roots the water which evaporated from their leaves. Whatever was in solution passed with the water into the roots, and by the process of nutrition was appropriated by the plant. The soil and the plant were both passive in the operation. Vegetable physiology has taught that an element of food in the soil, at a distance from the rootlets of plants, is available as nourishment, provided there is water between the rootlets and the food to dissolve the latter. In consequence of the evaporation from the leaves, the rootlets suck up the water, which thus, with the substances dissolved in it, receives a movement onwards towards them. We believed that the water was the carrier of the most remote elements of the oils to the immediate presence of the plant. But all this has been a great mistake. We have inferred from the effect of water and carbonic acid on rocks, a similarity of action on soils; but this conclusion is false. There is not to be found in chemistry a more wonderful phenomenon, one which more confounds all human wisdom, than is presented by the soil of a garden or field. By the simplest experiment, any one may satisfy himself that rain water filtered through field or garden soil does not dissolve out a trace of potash, silicic acid, ammonia, or phosphoric acid. The soil does not give up to the water one particle of the food of plants which it contains. The most continuous rain cannot remove from the field, except mechanically, any of the essential constituents of its fertility. The soil not only retains firmly all the food of plants which is actually in it, but its power to preserve all that may be useful to them extends much further. If rain or other water, holding in solution ammonia, potash, phosphoric and silicic acids, be brought in contact with the soil, these substances disappear almost immediately from the solution; the soil withdraws them from the water. Only such substances are completely withdrawn by the soil as are indispensable articles of food for plants; all others remain wholly or in part in solution."

This is excellently put, but surely vegetable physiologists when treating of food lying in the earth contend for no more than this—that all matter which can be received into the system of a plant must be either gaseous or fluid. Nobody, since Way's capital experiments, doubts the filtering power of common soil, and that the food of vegetation is detained by its particles to be given up to roots *when the two come in contact*. But still the matters that are thus detained must be soluble, and it cannot be said that they can only be received into the system of a plant after they have been absorbed by particles of earth. If that were so how could plants exist in pure sand, which has no power of absorption, but in which they may nevertheless be maintained alive by artificial feeding? or in water, from which earthy particles are wholly absent? Surely the learned author does not mean to say that dry potash can be taken up by plants or that the elements of food are not distributed through the soil by means of water, or that when one particle of earth is saturated water does not carry those elements onwards to another particle, and that roots cannot seize upon the elements while *in transitu*.

Nothing can be more just than the following comparison of the plough and the spade, and we trust that cultivators will appreciate it; for it involves some of the greatest of truths, an entire conviction of the importance of which is all that is wanted to terminate the career of an antiquated implement whose merit consists in its ability to perform much bad work in little time.

"If the food of plants in the soil cannot move towards the roots, it is evident that the roots must spread about to look for food."

"A piece of bone weighing about 30,000 milligrammes, (one ounce) in a cubic foot of earth, produces no marked effect on its fertility. But if these 30,000 milligrammes of phosphate of lime be uniformly distributed throughout the earth, it will suffice for the nourishment of 120 Wheat plants. Ten thousand milligrammes of food, having a surface extent of 100 square millimètres, are within the same given time not more effective than ten milligrammes having the same surface extent. Of two fields with the same amount of food, one may be very fertile, and the other equally

unfruitful, if the food is more uniformly distributed throughout the former than the latter.

"*The common plough breaks and turns up the soil without mixing it;* it only displaces, to a certain extent, the spots on which plants are already grown. *But the spade breaks, turns, and mixes it thoroughly.*"

"As the smallest portions of food cannot of themselves leave the spot in which they are held firmly fixed by the soil, we can understand what immense influence must be exerted on its fertility by its careful mechanical division and thorough intermixture. This is the greatest of all the difficulties which the agriculturist has to overcome.

"If a field is to produce a crop, corresponding to the full amount of food present in it, the first and most important condition for its accomplishment is, that its physical state be such as to permit even the finest rootlets to reach the spots where the food is to be found. The extension of the roots in every direction must not be obstructed by the cohesion of the soil. Plants with thin delicate roots cannot grow on a tenacious heavy soil, even with abundance of mineral food. These facts explain in a very simple manner one of the many favourable effects of green manures on such soils, and enable us to understand the reasons of the preference given in many cases, by agriculturists, to fresh over rotten farm-yard manure. The mechanical condition of the ground is, in fact, remarkably altered by the ploughing in of plants and their remains A tenacious soil loses thereby its cohesion; it becomes brittle, and more readily pulverised than by the most careful ploughing; and, in a sandy soil, a certain coherence is introduced among its shifting particles. Each stem of the green manure plants ploughed in opens up by its decay a road by which the delicate rootlets of the Wheat plant ramify in all directions to seek their food. With the exception of their combustible elements, the ground receives from the green manure plants nothing which it did not previously contain; and these of themselves would have no effect on the increase of the crop, without the presence in the soil of the necessary mineral food."

Professor Liebig strongly advocates the use of green manures, a system pursued much more extensively on the continent than here.

"The keeping of cattle is necessary for the production of manure; but the production of manure is by no means necessary for the fertilisation of corn fields. In the system of the rotation of crops, all that is required is that green crops should be grown, and that their constituent parts be incorporated with the arable surface soil of the field; and it is quite immaterial for the cereals whether the green crops be previously eaten by the cattle and converted into manure or not. If Lupines, Vetches, Clover, Turnips, &c. are cut up and ploughed in, in the green state, their action is far more powerful."

To the use of the word MANURE he has the strongest objection.

"In scientific agriculture manure finds no longer a place; for the notions that were formerly attached to the term are completely obsolete; just as is the case with the word Phlogiston, which, up to the end of last century, was used to explain chemical phenomena."

"Absurd as would now be the attempt of a teacher of chemistry to account for any chemical process by having recourse to phlogiston, it is no less inadmissible in a teacher of scientific agriculture to explain a given fact by attributing it to 'manure;' for, in the place of the obsolete notion of 'manure,' which has no longer any meaning, we have now for every plant certain positively known elements of food, to the united action of which we have to look for an explanation of the fact or phenomenon in question."

This may be true in a mere chemical sense, but the term is not likely to disappear from practice nor ought it. The chemist here assumes that he has fathomed the mystery of vegetable nutrition, and that only certain substances found in manure can have any effect upon vegetation. But non-chemists may be permitted to doubt whether the subject is exhausted; and can hardly be expected either to ignore the mechanical effects on the soil of certain substances present in manure, or to admit that chemists have nothing more to learn. Manure is a complex mixture of substances having a known effect upon land; the cultivator is certain that a given quantity of manure will produce a certain effect upon his soil; but his experience tells him that he can obtain no such certain effect by merely using the potash, phosphoric acid, and ammonia separable from it by chemical analysis. Quite the contrary, as long ago was discovered by those who have trusted wholly to liquid applications. Let us preserve then our word manure with all possible deference to the great man who proscribes it.

Our space will not permit us to advert to the interesting inferences drawn by Baron Liebig from the Chinese system of husbandry. To that portion of his work the attention of philodysodists, and especially of our friend Dr. Parkyn may be advantageously directed.

## Miscellaneous.

*Mr. Fortune's Plants.*—Those sold by Mr. Stevens on Thursday last realised the following prices:—Abies Kæmpferi, first imported plant, 3 feet in height, and a fine specimen, 5*l.* 10*s.*; other fine plants, equally good, from 4*l.* 15*s.* to 6*l.* per plant; 50 lots of 5 plants each, from 10*s.* to 2*l.* 15*s.* per lot; 20 lots of 10 plants each, from 1*l.* 8*s.* to 1*l.* 12*s.* per lot; Pinus Bungeana, the Lace-bark Pine of China, from 1*l.* 10*s.* to 1*l.* 17*s.* per lot of 6 plants each; lots consisting of two Torreya grandis, four Abies Kæmpferi, and one Pinus Bungeana, from 1*l.* 14*s.* to 2*l.* 2*s.* per lot; ditto of Torreya grandis, first specimen plant, and two Abies Kæmpferi, from 2*l.* 10*s.* to 4*l.* 5*s.* per lot; Cephalotaxus Fortuni, from 10*s.* to 1*l.* 9*s.* per lot of 25 plants each; Chusan Palm, from 1*l.* 4*s.* to 2*l.* 4*s.* per lot of 10 plants each; Ilex terago, from 11*s.* to 14*s.* per lot of 10 plants each; I. cornuta, from 1*l.* 6*s.* to 1*l.* 10*s.* per lot of 25 plants each; Limonia trifoliata, a fine plant, 12*s.*; Aralia papyrifera, the Rice-paper plant, a fine specimen, a similar sum; Farfugium grande, a large and fine plant, 2*l.*; other lots, 5 and 10 plants each, from 5*s.* to 1*l.* 1*s.* per lot; Abies Jezoensis, 25 plants, 11*s.* The whole sale consisted of 229 lots.

## Calendar of Operations.

*(For the ensuing Week.)*

### PLANT DEPARTMENT.

CONSERVATORY, &c.—It is a very common practice in the management of the show house to huddle the plants thickly, in order to produce a dense mass of bloom; but this should never be done with hard-wooded plants, especially at this season, when they are starting into growth, and most things if they are to be of any further service require a fair share of light and air while in bloom. Valuable specimens of hard-wooded things, particularly Heaths, should be frequently examined, turning them partly round in order that their shoots may be equally exposed to the light. Should the weather continue bright the beds and borders of this house will require a liberal supply of water to keep them properly moist; and the soil about strong growing plants should be occasionally examined to see that it is not too dry towards the bottom of the bed, for the amount of moisture absorbed by such things at this season is much greater than inexperienced persons are apt to imagine. GREENHOUSE.—Now that many of the inmates can with safety be removed to the open plant ground, where they will do quite as well or better during summer than under glass, there will be no necessity for crowding the specimens left, therefore see that every plant stands quite clear, so that all its parts may be fully exposed to light and air. In placing greenhouse things out of doors care should be taken not to rashly expose them to bright sunshine, particularly if they are at all tender through having been kept close or are in a growing state. Indeed, the plant ground should be so situated that the plants will not be exposed to the mid-day sun, for few things in pots will do much good if exposed to the full force of our summer's sun.

### FORCING DEPARTMENT.

VINERIES.—Borders that have been lately uncovered should be carefully examined, and if found too dry give a liberal soaking of good strong manure water from the stable or farm-yard tank. It will be advisable, however, to mix the manure-water with sufficient warm water to bring the temperature to from 70° to 90°. Take advantage of bright days to admit air freely where the Grapes are colouring, and avoid moisture in the atmosphere by removing all plants from under the Vines. Attend carefully to young Vines recently planted, keeping the soil about the roots in a healthy moist state, maintaining a moderately moist atmosphere, and shading if necessary until the Vines get a fair start. MELONS.—Where the fruit is swelling endeavour to keep the soil in a nice healthy state as to moisture, avoiding either extreme. Give air freely whenever the weather admits, and use every means to preserve the foliage in health. Keep the Vines thin, and prevent their being encumbered with useless laterals, and remove any decaying leaves immediately they are perceived, which when left only serves as nurseries for insects. There is yet a fair chance of obtaining a good crop in "dung frames," and if any of the frames which have been used for getting up the bedding-out stock can be spared for this purpose the beds should be made and the plants got in without loss of time. Very little artificial heat will be necessary at present, and the bed should not be made to heat too strongly, otherwise there will be time lost before the plants can be safely put in. The beds should be made high enough however to allow of applying a lining if necessary.

### FLOWER GARDEN AND SHRUBBERIES.

The weather for the last 10 days has been favourable for newly-planted out stock, and well-prepared plants which have only been planted during this time are rooting into the fresh soil freely; and those who delayed planting out until the first week in June, and were then prepared with strong plants in good condition, will probably have their beds covered before those who planted out earlier. Should the weather be dry, water. Where there is a large demand for cuttings for spring propagation a number of plants of each variety proportionate to the demand for cutting should be selected from the reserve stock, potted in 7-inch pots in light soil, and plunged in the reserve garden. These with very little attention will make nice stocky plants in the course of the summer, and there is no risk of losing in winter plants prepared in this way, and this can hardly be said of autumn rooted cuttings of many things; and by repotting and placing them in growing circumstances early in spring each plant will furnish a large number of cuttings sufficiently early to make good strong plants before planting out time. Young specimens of ornamental shrubs and trees which it is desirable to get to grow rapidly should be thoroughly soaked with water at once, especially Coniferous plants.

### HARDY FRUIT AND KITCHEN GARDEN.

Trees that have not got fully established since replanting will be benefited by mulching over their roots, which will prevent rapid evaporation, and keep the soil in a healthy state as to moisture. And the same attention will be useful to trees in shallow borders, especially Peaches and Nectarines, which are very subject to the attacks of mildew if allowed to get too dry at the root in summer. Those who are fortunate enough to have a heavier crop of fruit set than the trees are likely to bring to perfection, should thin at once, in order to secure fine fruit with a prospect of a crop next season. See that there is plenty of Peas planted for furnishing a late autumn supply, and also attend to keeping up a succession of French Beans, Spinach, and all kinds of salad.

### STATE OF THE WEATHER AT CHISWICK, NEAR LONDON,

For the Week ending June 9, 1859, as observed at the Horticultural Gardens.

| June. | Moon's Age. | Barometer. Max. | Barometer. Min. | Temperature of the Air. Max. | Min. | Mean | Of the Earth 1 foot deep. | Of the Earth 2 feet deep. | Wind. | Rain. |
|---|---|---|---|---|---|---|---|---|---|---|
| Friday 3 | 2 | 29.615 | 29.591 | 72 | 57 | 64.5 | 62½ | 60 | N.E. | .52 |
| Satur. 4 | 3 | 29.759 | 29.725 | 75 | 58 | 66.5 | 63 | 60 | W. | .14 |
| Sunday 5 | 4 | 29.911 | 29.862 | 76 | 51 | 63.5 | 65 | 61 | N.E. | .44 |
| Mon. 6 | 5 | 30.021 | 29.954 | 78 | 52 | 65.0 | 65 | 62 | E. | .00 |
| Tues. 7 | ☽ | 29.993 | 29.863 | 76 | 47 | .61.5 | 65 | 62 | E. | .00 |
| Wed. 8 | 7 | 29.803 | 29.704 | 77 | 54 | 65.5 | 65 | 62 | N.E. | .00 |
| Thurs. 9 | 8 | 29.718 | 29.620 | 73 | 52 | 62.5 | 65 | 62½ | N.E. | .00 |
| Average | | 29.831 | 29.759 | 75.2 | 53 0 | 64.1 | 64.3 | 61.3 | | 1.30 |

June 3—Hazy and mild; overcast; heavy rain at night.
— 4—Hazy and dull; uniformly overcast; thunderstorm 6 P.M.
— 5—Overcast and mild; very fine; thunderstorm; heavy rain.
— 6—Foggy; very fine throughout.
— 7—Foggy; fine; lightning at night.
— 8—Very fine; exceedingly fine throughout.
— 9—Fine; very fine; overcast at night.
Mean temperature of the week, 5½ deg. above the average.

### RECORD OF THE WEATHER AT CHISWICK,

During the last 33 years, for the ensuing Week, ending June 18, 1859.

| June. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds. N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday 12.. | 71.2 | 49.7 | 60.5 | 14 | 0.78 in. | — | 7 | 3 | 1 | 6 | 10 | 3 | 3 |
| Mon. 13.. | 71.9 | 49.1 | 60.5 | 16 | 0.77 | 1 | 5 | 5 | 1 | 2 | 9 | 8 | 2 |
| Tues. 14.. | 72.8 | 49.1 | 60.9 | 15 | 0.36 | 1 | 2 | 5 | 1 | 6 | 10 | 7 | 1 |
| Wed. 15.. | 73.0 | 49.4 | 61.2 | 14 | 0.38 | 1 | 4 | 7 | 2 | 4 | 7 | 3 | 5 |
| Thurs. 16 . | 72.7 | 49.3 | 61.0 | 14 | 0.46 | 2 | 3 | 6 | 1 | 9 | 7 | 3 | 2 |
| Friday 17.. | 72.9 | 48.7 | 60.8 | 19 | 0.80 | 1 | 4 | 3 | — | 7 | 9 | 4 | 5 |
| Satur. 18 . | 72.5 | 50.3 | 61.4 | 17 | 0.30 | 2 | 2 | 3 | 2 | 5 | 6 | 10 | 3 |

The highest temperature during the above period occurred on the 16th, 1858—therm. 97 deg.; and the lowest on the 15th, 1850—therm. 30 deg.

## Notices to Correspondents.

BLIGHT: *J M.* Curious, but not new; a drawing is in the hands of the wood engraver.

GRAPES: *G.* The Calabrian Raisin is a very nice large white Grape, but not of first quality.

INSECTS: *W C B.* The beetles which have attacked your Grapes are the destructive weevil, Otiorhynchus sulcatus. Search the Vines after dark, and lay a sheet beneath them, upon which the beetles will fall on being disturbed or the branches shaken. They must then be killed with boiling water.—*W W.* Some of the shoots of the Willow sent are infested with the galls of an aphis, each gall containing an entire brood. *W.*

LAWNS: *S T.* You cannot get rid of Quitch from your lawn except by very carefully picking it out as fast as it continues to appear. Every joint left in the ground becomes a new plant, and the difficulty is to know when all the joints have been removed. Unless this answers you will have to break up the lawn and leave it fallow until you have succeeded in forking out every bit of the Quitch, when, and not till when, it may be relaid.

MONSTROUS CARDAMINE: *D W.* The specimens are a little injured by their travel through the post office. We have however, put them in hospital, and hope to report on them next week. The case seems to be a very curious one. Much obliged.

NAMES OF PLANTS: We have been so often obliged to reluctantly decline naming heaps of dried or other plants, that we venture to request our correspondents to recollect that we never have or could have undertaken an unlimited duty of this kind. Young gardeners, to whom these remarks more especially apply, should bear in mind that, before applying to us for assistance, they should exhaust their other means of gaining information. We cannot save them the trouble of examining and thinking for themselves; nor would it be desirable if we could. All we can do is to *help* them—and that most willingly. It is now requested that, in future, not more than four plants may be sent us at one time.—*G A D, Norwich.* The specimens are young, but seem to belong to Potamogeton densum. Clear the water if you can, by such means as were pointed out last week, *before the plant is in flower.* It is not likely to impede navigation to any serious extent.—*F S.* 1, Rhododendron ferrugineum; 2, R. hirsutum; 3, Kalmia glauca.

ORCHID DISEASE: *J C, Norwich.* There is no appearance of the Acarus, but your leaves are in a sad state; probably owing to too much dampness and too little or unskilful ventilation. The mischief does not however appear to be recent. Although terribly spotted and decayed, the leaf sent is perfectly clean.

THE ASPARAGUS BUG: *F Mellon.* This insect is not a bug, but a beetle called Crioceris Asparagi. You should carefully hand-pick the branches, putting the insects into a vial of water as you gather them, and afterwards pouring boiling water over them. Moreover you will find the twigs of the Asparagus bristling with little brown oval bodies, usually fixed in rows, and of a dull brown colour. Those are the eggs of the beetle, and will soon become grubs devouring the Asparagus shoots. Nip off all the little twigs on which you can find such eggs, and throw them into the fire.

VANCOUVER'S ISLAND, B. C.: *Exmouth.* All depends upon the Government here. If supported in good earnest the new colony will be one of the most important, both agriculturally and POLITICALLY, of all her Majesty's foreign possessions. We publish in another column an interesting letter from British Columbia. We believe Government to be in earnest in the matter.—*St Austell.* There is no exaggeration about the gold; nor is there any unusual difficulty in obtaining it. A gold-finder's life is never suited to a soft-skinned young gentleman.

MISC.: *A Correspondent.* The two ought to have 12 feet of solid clay between them. As to the legal question, you must consult your solicitor.

*** As usual, many communications have been received too late, and others are detained till the necessary inquiries can be made. We must also beg the indulgence of those correspondents the insertion of whose contributions is still delayed.

THE PATENT

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| | | | | | |
|---|---|---|---|---|---|
| TURNIP MANURE .. .. .. | from | £7 | to | £6 | 6 |
| SUPERPHOSPHATE OF LIME .. | ,, | 7 | to | 6 | 6 |
| MINERAL do. .. | ,, | 6 | to | 5 | 5 |
| BARLEY MANURE.. .. .. .. | | | | 8 | 0 |

Prof. Way and Dr. Voelcker have sampled from a bulk of 5000 to 6000 tons at his factories, and their report and analyses are given in full in Circular to be obtained on application at his office, 1, Adelaide Place, London Bridge, E.C., or of his local Agents.

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ROYAL AGRICULTURAL IMPROVEMENT SOCIETY OF IRELAND.—The GREAT ANNUAL CATTLE SHOW of this Society will be held at DUNDALK, on JULY 27, 28, and 29.

All Entries must be made with the Secretary on or before July 13, from whom a detailed Prize Sheet, together with Entry Forms for the different Classes can be obtained.

The following favourable arrangements have been made with the respective Rail and Steam Boat Companies for the conveyance of Stock, &c., to the Show:—

On the Great Southern and Western, Live Stock (except Entire Horses and Poultry) FREE to the Show, and any unsold returned free. Entire Horses charged to the Show, and any unsold returned free. Implements charged to the Show; any unsold returned free.

The Ulster Railway Company will convey everything to the Show free.

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The Dundalk and Liverpool Steam Packet Company will convey from Liverpool all Stock, Implements, &c., intended for exhibition, free of freight.

By Order, J. M. ROYSE, Secretary.
Society's Rooms, 42, Upper Sackville Street.—June 11.

YORKSHIRE AGRICULTURAL SOCIETY.—GREAT SHOW AT HULL, AUGUST 3 AND 4.
For Prize Lists, apply to the Secretary, JOHN HANNAM, Land Agent, Kirk Deighton, Wetherby.—June 11.



# The Agricultural Gazette.

*SATURDAY, JUNE* 11, 1859.


MEETINGS FOR THE ENSUING WEEK.

WEDNESDAY, June 15—Agri. Society of England .. Noon.

ONE of the most useful and interesting agricultural discussions of the season was that of last Monday before the London Farmers' Club—On the Modifications of Cultivation rendered necessary by existing Agricultural circumstances. The paper of the evening was read by Mr. OWEN WALLIS, of Northamptonshire. The "circumstances" to which he chiefly referred were those rather of the soil than of the market place, and it was the altered practice to which the farmer was *driven* by reason of the impossibility of getting the Turnip crop, the Barley crop, and the Clover crop which formerly he could—not the altered practice to which he was *drawn* by the enhanced price of meat or the altered prices of grain—that were the subjects of his discourse.

Nearly every speaker declared in succession the increasing difficulty that is almost everywhere experienced in obtaining a good Turnip crop. "My land is certainly in a better state than it was 20 years ago—more fertile—fuller of the food of plants. It carries as much stock, and the dung-heap is as large as ever. Moreover, I can go into the market now for guano and artificial manure,

and I use them largely, which 20 years ago I could not do. But I cannot grow the Turnip crops which I used to do." This was the almost universal testimony.

Mr. OWEN WALLIS had a similar complaint with reference to the Barley crop; its weaker straw, and inferior yield, accompanied the rotting Turnip crop. The fault was attributed for the most part to the too frequent recurrence of these crops in the four-course rotation. On light lands Turnips should alternate with Mangel Wurzel in five-course systems. They come thus only once in 10 years' time apiece, and are followed by Wheat and that by Barley, and this by seeds which again may be alternately Red Clover and Dutch with Trefoil, either of them followed by Wheat. In some cases Oats may follow the green crop, and Wheat follow Oats instead of Barley after Wheat. Under good management there is no risk of the land getting foul. Care taken in digging up patches of Couch before they spread, and in the autumn cleansing of stubble is effectual for the prevention of perennial weeds, and a spring hoeing of the green crop will keep down annual weeds. Care must however be also taken that while destroying weeds with one hand you are not sowing them with the other. Mr. WALLIS has for several successive weeks gone the round of all the stands in Mark Lane without finding a single clean sample of Rye-grass seed offered for sale. And our own columns have repeatedly exposed the monstrous adulteration of the seed of crops with those weeds to which the farmer is exposed.

Under Mr. WALLIS's five years' course three-fifths of the land are in grain—the Turnip crop receives a half-dressing of dung and a half-dressing of superphosphate, all the young Clover receives a dressing of 8 loads of rotten dung per acre; one-third of the Turnip crop is pulled and carried to the yards to be consumed by cattle, and only two-thirds are consumed on the land with sheep; on a small portion, some 10 or 12 acres, of the corn stubble Rye is sown to be mown and fed in the spring, and afterwards to yield a crop of Turnips, and these have generally proved one of the best portions of the whole Turnip break upon the farm.

Under a more self-supporting system of farming and one less obnoxious to those difficulties to which the four-course cropping is liable, a six years' rotation of crops is recommended, viz., 1, Turnips; 2, Barley; 3, seeds mown; 4, seeds grazed; 5, Wheat; 6, Barley receiving half a dressing of manure.

The second year of seeds is an economy as regards the labour of the farm, and it enables the keeping of a larger breeding stock. As an alternative, Oats may be grown after the second year's seeds and Wheat taken after the Oats.

Keeping land down in Grass longer than one year and keeping a breeding stock requires good fences; and Mr. WALLIS digressed into the subject of fence management, condemning the practice of annual clipping, and recommending them to be cut only once in a rotation! On the whole, considering the increased facilities for the profitable management of a breeding stock which it affords—the diminished cost of cultivation—the half of the land being in corn—and the probable re-invigoration of the Turnip crop if taken once in six years instead of every fourth, there is a great deal in this six-years rotation to recommend it.

On stiff clay soils more difficult to clean fallows either bare or succeeding green crops must come more frequently. Italian Rye-grass may be sown with a portion of the Wheat, and will in the following spring yield a good deal of food for stock, and Mangel Wurzel well adapted to clay soil may be grown on a portion of the land and fed off on this young Grass land, which is afterwards to be ploughed up and well fallowed during summer for another grain crop. Such spring feeding on Tares, and Rye-grass, and Mangel Wurzel can be carried out to a considerable extent on stiff clay lands, greatly to the maintenance and increase of their fertility under this method of management.

Mr. OWEN WALLIS concluded his very excellent paper with a recommendation to tenants to farm not "highly" but liberally, not to put heavy dressings to any one crop (with the one exception of Mangel Wurzel)—to feed off roots with liberal supplies of corn and cake to the feeding cattle and sheep (the manure so made does not weaken straw, it rather strengthens it)—to stand for the most part, excepting such modifications as "circumstances" enforced, by the rotation generally adopted in the district—no shift being so bad as the "everlasting shift." To landlords Mr. WALLIS recommended such liberality in the interpretation of agreements as would enable an intelligent tenant to farm more independently of them, and in accordance with the altered "circumstances" which rendered old practice unadvisable and impossible.

The subsequent discussion was animated and instructive. Mr. PAIN found his remedy for that difficulty in growing Turnips that would keep, which he dated from the general use of artificial manures, in the increased growth of Mangel Wurzel.—Mr. SMITHIES, occupying clay land, could not grow Swedes once in four years, but had sown Mangel Wurzel and Rape in place of them with perfect success. His rotation was:—1, green crop (Mangel Wurzel); 2, white grain crop (Wheat, Barley, or Oats); 3, green crop (Clover well manured); 4, Beans; 5, Wheat.—Mr. MARSH, from the county of Kent, spoke of light land management on the chalk—the soil Turnip sick, but still growing Turnips with a certain amount of success—Clover-sick too, but yet, with an occasional turn of the Giant Sainfoin, growing a tolerable crop occasionally of Clover.—Mr. PARKINSON spoke very decidedly, not merely on the coincidence of the rottenness in the Turnip crop with the use of guano and artificial manures, but of their standing to one another in the relation of cause and effect. We force the crop at its early stage without supplying it with the food which it thus all the more requires during its later stages. So long as farm manure and bones were the only Turnip manures, we had no difficulty in growing crops of Turnips. Since we have depended on guano and superphosphate they have failed. Mr. PARKINSON quoted and defended his own rotation of cropping on light land, viz.:—1, Turnips; 2, Barley; 3, Red Clover; 4, Wheat; 5, Turnips; 6, Barley; 7, 8, 9, seeds grazed during three successive years; 10, Oats or Wheat. He also spoke of the good effects of salt—3 cwt. per acre applied with guano on the young Wheat.

Mr. FISHER HOBBS spoke at considerable length on the general subject of crop rotations, recommending the growth of Rape seed or other oil seed crop as profitable in itself, and useful by way of change in its effect on the other crops of a rotation. He also spoke of a method of procuring three green crops from the same land in one year by taking Vetches after Wheat, feeding them off in April, and after ploughing the land and drilling 3 cwt. of superphosphate, taking a crop of early dwarf Rape, which will be ready to feed off before the first week in July, when it is quite early enough to sow common Turnips; or when the Rape land may be horse-hoed and white Mustard sown to come up along with a second crop of the Rape, and to be fed off during the autumn in time enough to be succeeded by another Wheat crop. He referred to the proper management of fences recommended in opposition to Mr. WALLIS's annual cutting properly performed, which should leave the hedge ridge form, with sloping side, angular at top and wide at bottom.

Towards the end of the discussion a gentleman farming on the Lincolnshire Wolds rose to defend the four-course system of cropping. Mr. WALLIS's paper was no doubt perfectly adapted to the circumstances of *his* locality—but speaking for the wolds of Lincolnshire he could say that so far from artificial manure being the cause of Turnip failure, Turnips could not there be grown without them. He had grown 46 acres last year with seven or eight heavy loads of good farm dung and three loads of compost per acre, and 4 cwt. per acre of nitrophosphate had been sown broadcast before the seed. A double drill width had been left here and there over the field without the artificial manure, receiving therefore the heavy dressing of farm dung alone, and it was plain to every observer that the crop on those places was not one-half so good as it was elsewhere. He had grown Mangel Wurzel too—three years ago he grew 4 acres—two years ago he grew 8 acres—last year he had grown 12 acres—this year he had 40, all up and looking well. Their manuring was 2 cwt. of guano, 3 cwt. of salt, and 3 cwt. of nitrophosphate per acre applied through the liquid manure drill in addition to a dressing of farmdung. He found a difficulty in growing 14 tons of Swedes per acre, but he had no difficulty in growing 30 to 40 tons of Mangel Wurzel. It was his belief that with an ample supply of manure there was nothing in the recurrence of the crops every four years to hinder an abundant yield.

It must be admitted that the general experience of farmers is against him—but there is we believe an experience if not on so great a scale, at least for as long a time, and in so large a number of instances which he might have quoted on his side.

We had the pleasure last week of riding with Mr. TRETHEWY, of Silsoe, Bedfordshire, over the occupations of 500 separate tenants, where Wheat has been taken every other year since the date of the new Poor-law—where Potatoes have been taken nearly as often. There was no evidence apparent in the crops of anything like degeneracy or failure in the Wheat, or the Potatoes, or any other crop that we saw growing in such luxuriance over these many different "farms" in Silsoe and the neighbouring parishes. What is there in the management of our "allotments," the fiftieth part of a field apiece, as compared with that of a farm, fifty fields perhaps in one, to explain the difference in experience of their respective tenants on this subject of crop rotations which puzzled the gentlemen of the London Farmers' Club last Monday? One thing is plain—it is not by any plan of economising labour or laying the land three years out of 10 to rest that allotment cultivation is successful when agriculture fails.

## METHOD OF MANUFACTURING AMMONIA.

BY ALEXANDER WILLIAMS, NEATH.

THE importance of ammonia, and its sister compound, nitric acid, in an agricultural point of view, as forming probably the chief sources whence the nitrogen of plants is obtained, and the high commercial price of compounds containing either of these substances, have led practical chemists to look upon any new method of obtaining them as one of the great desiderata of the day.

The atmosphere, with its water, contains the elements necessary for the formation both of ammonia and nitric acid, and during the passage of electricity both are formed; but, so far as our present knowledge extends, and from a long series of experiments on the subject, I am led to believe that it will be some time ere the Society's premium will be claimed "for the production of ammonia or nitric acid from the elements, by methods which would admit of practical application."

After having been engaged for many years in experiments on this subject, I have arrived at the conclusion that, except under peculiar circumstances, nitrogen and hydrogen in their gaseous, or elementary state, will not combine together in sufficient quantities to be commercially available. To make them unite in any quantity it is necessary that the nitrogen should, in its nascent state, be brought in contact with the hydrogen, when union will take place, but this combination is much more readily effected if both be in their nascent state.

To obtain nascent nitrogen it is of course necessary to decompose one of its compounds, and thus far I had only arrived at the same conclusion as every one else. The object of this paper is to direct attention to a bye-product of one of our most important chemical manufactories, which is exactly adapted for our purpose.

The animal and vegetable kingdoms have been so thoroughly searched by the shoals of manure manufacturers of this and other countries, that the discovery of any new nitrogen compound in these kingdoms seems to be altogether improbable; one is therefore naturally led to the mineral kingdom, and our ideas as naturally become fixed on nitrate of soda as the cheapest source. It has been known for years that nitric acid, or other compounds of nitrogen and oxygen could be converted into ammonia, and therefore the use of a nitrate would present no novelty; but if we can obtain the nascent nitrogen from nitrate of soda as a bye-product, we shall have made a grand step towards facilitating the manufacture of ammonia.

This, I believe, I have accomplished. Of the thousands of tons of nitrate of soda annually imported into this country, I have been told, on good authority, that about half is used in the manufacture of sulphuric acid. It is well known that sulphuric acid is usually manufactured in a large leaden chamber having attached to it a burner where sulphur is kept constantly burning, by which it is converted into sulphurous acid. The great difficulty of the manufacture is to give another atom of oxygen to this sulphurous acid ($S O_2$), to convert it into sulphuric acid ($S O_3$), and it is for this purpose that the nitrate of soda (cubic nitre) is used, and usually in the following manner:—One or more moveable iron pots are placed in the burner. Into each of these pots is put, as often as required, a few pounds of nitrate of soda, and with it a sufficient quantity of sulphuric acid to decompose it. Sulphate of soda (salt cake) remains in the pot, whilst nitric acid and probably other compounds of nitrogen and oxygen pass with the sulphurous acid into the leaden chamber. The sulphurous acid ($S O_2$) gains an additional atom of oxygen from the nitrogen compounds, and becomes converted into sulphuric acid ($S O_3$) which, with water afforded by steam jet or otherwise, condenses as a liquid at the bottom of the chamber, whilst a quantity of gas escapes.

Such is a rough sketch of the first part of the process usually adopted for making sulphuric acid or oil of vitriol, and the gas which escapes from the vitriol chamber must now be the subject of our inquiry.

On referring to Dr. Ure, our great authority on manufacturing chemistry, I found that he asserts that in a properly working chamber nothing but nitrogen gas should escape; in fact, that the whole of the oxygen should be taken up, and that the nitrogen should be reduced to its elementary condition. This, although the generally received opinion of the manufacturing chemists of the present day, appeared to me fallacious; as, on considering the affinities, I did not think it probable that sulphurous acid, although it is known to form a compound with nitric oxide ($N O_2$), should, under the circumstances occurring in the vitriol chambers, be able to decompose it. Experiments were immediately instituted to ascertain the truth, and they led to the knowledge of the fact that a chemical compound of nitrogen and oxygen was escaping, and not free nitrogen. What

particular compound of nitrogen and oxygen it is has not been ascertained, as the fact of its being a chemical compound was sufficient for the purpose intended, viz., of applying this waste product for the manufacture of ammonia.

At the commencement of the year 1856, I transferred a portion of the gases escaping from a vitriol chamber to my own laboratory, and there and then succeeded in converting them into ammonia.

This was an important step, but I did not feel satisfied until I had tried the process on the large scale; therefore, in November in the same year, an arrangement was entered into for this purpose with Messrs. Lewis & Pollard, of the Pontardawe Vitriol Works, whose kind assistance in the matter I take this opportunity of acknowledging.

The apparatus fitted up was of the following description:—A furnace was built above the exit tube of one of their vitriol chambers, and a brick gas retort, about 14 inches in diameter, 8 feet long, and open at both ends, was passed through its whole length. This retort was filled with charcoal, and kept at a red heat; the exit tube of the chamber, and a steam-jet to supply the hydrogen, were attached to one end, whilst to the other end was fixed an upright leaden cylinder, filled with coke, and moistened with diluted sulphuric acid. On passing the waste gases and steam through the retort containing red-hot charcoal, both were decomposed, the oxygen of each uniting with the charcoal to form carbonic acid ($C O_2$); the nitrogen and hydrogen combining to form ammonia ($N H_4 O$, or without water, $N H_3$); then together, probably forming carbonate of ammonia ($N H_4 O_1 C O_2$), which was again decomposed by the diluted sulphuric acid, the sulphate of ammonia being found remaining in solution. This solution was then evaporated, and in July, 1857, I first had the pleasure of obtaining any quantity of crystals of sulphate of ammonia, by this process, from a vitriol chamber in actual work.

It was the intention at that time to have secured the invention by patent, and therefore, when the above comparatively rough result had been obtained, the further prosecution of the experiments to ascertain yield, &c., was not proceeded with, lest the process should become public. Several circumstances have since prevented their renewal. I therefore merely wish to offer the process as it is to those interested in the matter, hoping some one else may apply it more profitably than I have, and feeling sure that—as there seems no reason why it should not be successfully carried out—it will be the means of advancing the "arts, manufactures, and commerce" of this country, by increasing the supply of one of our most valuable fertilisers.

Perhaps it may be thought that the process is only adapted to such gases as escape directly from the chamber, and that, if any of the late improvements as coke cylinders, &c., be used, it cannot be applied; but provided the assertion be correct that sulphurous acid is incapable of reducing compounds of nitrogen and oxygen to their elementary state, then the process will be available after all these improvements have been carried out, and not only to the waste gases, but also, by a slight modification, to any nitrogen compounds that may have been absorbed by the dilute sulphuric acid, and be given off in its evaporation, so that really a very minute portion only of the nitrogen contained in the nitrate of soda need be lost.

With regard to the quantity obtainable by these means, I have not as yet been able to ascertain with certainty the amount of nitrate of soda imported, but, as already stated, it appears probable that about half of the whole quantity arriving in this country is used in the manufacture of oil of vitriol, or sulphuric acid. Now every thousand tons of this cubic nitre, allowing 10 per cent. for impurities, would, if the whole of its nitrogen were converted into chloride of ammonia ($N H_4 O$), yield about 565 tons of this substance, which, at 30*l.* per ton, would be worth nearly 17,000*l.*, and there are doubtless many thousands of tons of nitrate of soda used by the vitriol makers of this country. Although these figures give, of course, no approximation to the practical yield likely to be afforded by this process, yet they enable us to form a very good idea of the enormous amount of valuable material daily wasted. The process suggested, or some modification of it, may render this waste unnecessary, and thus save the pocket of the manufacturer, and at the same time benefit the public. *Journal of the Society of Arts.*

## SUCCESS OF A VILLAGE SCHOOL.

[The following passage is extracted from Mr. Moseley's report published some years ago, of the National School in the parish of King's Somborne, Hampshire, then under the care of the Rev. R. Dawes, the present Dean of Hereford.]

WE break off a fragment from our own education, and give it to the poor man's child in charity.

We consult neither his judgment in the matter nor his independence. We have no faith in his affection for his child, or in his willingness to make sacrifices for its welfare; and thus we give him no encouragement to make them, and scarcely an opportunity.

It is the fault of all the eleemosynary good we seek to do, that we claim the right of doing it in our own way. When we spend our own money, we spend it as we like. What we give, we give to whom we like, and in the manner we like best. It is with us rather a matter of sentiment and impulse than of deliberation. We do not make this expenditure with the same forethought, and caution, and thriftiness as we do others, or with the same reference to a profitable result; and thus it is that we so often give in vain.

If our education has failed of its results, if we find the poor but little benefited by our schools, careless of sending their children to them, and ready to take them away on the least chance of profitable employment, let us remember that they have themselves had no voice in the matter; that in the education we offer to their children, the springs of opinion among them have never been considered, nor their wants consulted.

It is in this that the secret of Mr. Dawes's success appears to me to lie. He has shown his knowledge of the springs of opinion amongst the poor by consulting their independence, and adapted the education he offers to their wants, by a careful study of their condition.

The King's Somborne school was commenced in the exercise of abundant faith in the affection of a labouring man for his children; and, notwithstanding that the wages of labour in the parish of King's Somborne are very low, the school fee was fixed at double that of other neighbouring schools, under the impression that he would be willing to pay more than is usually claimed of him for what he believed to be a really good and useful education, and that the higher fee would tend to create this belief in his mind.

Who are to be considered farmers, and to pay the highest fee, and who tradesmen and labourers, Mr. Dawes claims the right himself to decide, but all are placed within the walls of the school on terms of perfect equality; they are intermingled in their seats, and in the classes in which they are taught, and precisely the same advantages of instruction are offered to all.

Here, then, is a practical recognition of the principle which your lordship's recent measures appear to embody, and which public opinion now recognises, that education is not a privilege to be graduated according to men's social condition, but the right of all, inasmuch as it is necessary to the growth of every man's understanding, and, into whatever state of life it may please God to call him, an essential element in his moral well-being.

To give to a labouring man everything needful for the support of his family would be to pauperise him. To give him the education of his children is, moreover, to make him undervalue it. It is for this, among other reasons, that the estimation of education among the poor has for years past been sinking.

To treat labourers always as a separate and dependent class appears the likeliest way to perpetuate their state of dependence. In all we do—carefully to avoid intermingling with them those persons who, having emerged from their condition, have achieved some degree of independence (the employers and the employed), is to neglect an obvious means of cultivating those feeling of neighbourly consideration and mutual respect and good-will, on which the links of society depend for their permanence, and the commonwealth for its safety.

It was to embody these views, to unite in a new relation the farmers, the tradesmen, and labourers of his parish, that Mr. Dawes conceived the idea of bringing their children together in the parish school. He had a faith in the practicability of this, and he had the moral courage to act upon it. Much, no doubt, to the astonishment of the neighbouring farmers, he announced that the National school was open to their children to received the same education as their labourers' children were receiving, on condition of their paying for the privilege a higher rate of remuneration. On the one hand were their prejudices, and on the other, the fact that their children were offered a better education at home for 2*l.* a year than they could get by sending them to boarding school, for which they must pay from 30*l.* to 40*l.* The fact of the better education being once established in their minds, to attack them on the side of economy was to carry the day. One-third of the children are accordingly those of farmers and tradesmen, and the remaining two-thirds those of labourers. Thus in the King's Somborne school the foundation is laid of that mutual respect and good-will between the employers and the employed which is said once to have existed in England, but which seems of late years to have been disappearing from among us.

There is so intimate a connection and dependance between the education of the farmer and that of the labourer, that it is impossible to conceive the existence of a class of educated workmen fostered by a class of ignorant farmers, or a class of educated farmers in constant intercourse with a class of brutalised workmen.

If the one class is to be educated, we must educate also the other; and the only place where the education they both thus need can be given to either is the parish school. The labourer can get it nowhere else, neither can the agricultural tradesman or farmer. Farmers and country tradesmen live too far apart to enable them, as a class, to maintain good day schools for their children, and they are deterred by motives of economy from sending them to boarding schools. When therefore our training schools have sent out a new class of schoolmasters, it is to the parish school that both classes must look for education.

But that this may be accomplished, it must offer an education adapted to the wants of both; and in this adaptation consists the chief element in the success of the King's Somborne schools. What is the nature of it Mr. Dawes has himself fully detailed in his work entitled "Suggestive Hints on Secular Instruction." No other person having the same claim to attention appears to have given the same deliberate consideration to the subject, and no one else has, with the like success, subjected opinions thus formed to the test of experiment.

It is sufficient to say of his system, that it deals with reasons rather than with facts, and with things rather than with words: that, intended for a class of persons who are to delve out an existence from the material objects which surround them, it assumes the properties of those objects to be legitimate subjects of interest to them, and of reflection; and, as a principle, that the Almighty, in manifesting his wisdom and goodness in all material things, has, in mercy, associated the elements of thought with labour, and the means of exercising the highest intelligence with the humblest craft.

That it is for this reason that thinking and doing are associated in a pleasurable relation, so that what we do in the exercise of our judgment for some object and with an adaptation to some end we do with pleasure, but not that which is done with no exercise of our own judgment, for no object, and with an adaptation to no end.

Assuming, then, that in the knowledge or science of the things with which his observation is familiar, or which are associated with his labour, is to be sought a legitimate sphere for the exercise of a labouring man's reason and reflection; and that these afford the means of exercising those faculties and of developing them to the utmost limit of his powers, it gives to "the science of common things" an important place in the system of the school, and a remarkable development; and this seems to lie at the root of its success. Mr. Dawes thus speaks on this subject:

"With respect to that part of the instruction described in the foregoing pages which is of a scientific kind, I would say, and I do so from a feeling of conviction which experience gives, that in no way can the teachers in our higher class of elementary schools give such a character of usefulness to their instruction, as by qualifying themselves to teach in these subjects, introducing simple and easy experiments, which illustrate the things happening before their eyes every day, and convey conviction with them the moment they are seen and explained. It is a great mistake to suppose that boys of 12 and 13 years of age cannot understand elementary knowledge of this kind, when brought before them by experiment. Seeing the way in which the bigger boys were interested in it here, and the tendency it had to raise the standard of teaching, and to give rise to a wish for information, it has proceeded further than I at first contemplated; and the result has been that the school is provided with sufficient of a philosophic apparatus for all the common experiments of a pneumatic and hydrostatic kind, a small galvanic battery, an electric apparatus, &c. One little book used as a text-book is a volume of Chambers's Edinburgh books, 'Matter and Motion,' and this is illustrated by experiment.

"The end of all education ought to be, to prepare them for those duties and those situations in life they are called upon to fulfil, whether they be 'hewers of wood, or drawers of water;' of those who belong to the labouring, the middle, or the upper classes in life, to make them in their respective stations good citizens and good Christians; and I think it will be found that, according as a teacher keeps this in view, making his instruction bear upon the ordinary duties of life, or loses sight of it (I am speaking of a teacher competent to his work), he will succeed, or the contrary. I am perfectly convinced that many well-meaning efforts have not been attended with the success expected from them, entirely owing to their leaving out all instruction relaiing to the occupations by which they were, in after-life, to earn their bread."—*Suggestive Hints*, p. 151.

If ever we are to educate the labouring classes it must, in my opinion, be by teaching them to reason and to understand about things which are connected with their ordinary pursuits; the things out of which each is compelled to extract a livelihood, or which lie in his daily path. With the labouring man these are things so engrossing, that whatever other process of instruction we may begin in his mind when a little boy at school, the consideration of these will infallibly take the place of it when he comes to be a man, and when his education should tell upon him.

It may be difficult to teach him principles, but not when those principles are associated with results, and those results to him useful results.

I have expressed in this Report an opinion that it would be possible to create such schools as that at King's Somborne generally in the country, and with this view, that the opportunity should be afforded to the promoters of such schools of some general direction and guidance in the management of them; and the training colleges placed on such a footing as to yield an adequate number of masters competent to teach them. It is a further condition of success that books should be provided specially adapted to the instruction of the children in these subjects, and the masters made familiar with the use of these books.—*An Account of the King's Somborne School.**

## THE MONEY VALUE OF MANURES.

*(Concluded from page 289.)*

***The Phosphoric Acid in Manure.***—The various sources of this substance are (1) coprolites; (2) the "green sand" of England and the north of Ireland; (3) bones; (4) inferior guanos, or those from which the ammonia has been dissipated by rain, &c. Phosphate of lime, as produced in coprolites, costs about 6*l.* per ton.

Bone ash, containing 70 per cent. of phosphate of lime, sold last year for from 5*l.* 10*s.* to 6*l.* 10*s.*; and assuming the mean at 6*l.*, we pay in this state for phosphate of lime upwards of 8*l.* 10*s.* per ton. Good ground bones, which would not cost the manufacturer more than 7*l.* per ton, would contain:—

| | 46 per cent. |
|---|---|
| Of bone earth .. .. .. .. .. .. | £7 0 0 |
| From the price per ton .. .. .. .. .. | |
| Deduct the value of the nitrogen (in the 28 per cent. of gelatine) about 5 per cent., equal to 6 per cent. of ammonia, at 56*l.* per ton .. .. .. .. | 3 7 2 |
| Cost of the 46 parts of phosphates .. .. .. | £3 12 10 |
| or 7*l.* 16*s.* per ton | |

* Groombridge and Sons.

The chemical substances known as phosphate of lime, therefore, may be said to cost the manufacturer—

| | | | | |
|---|---|---|---|---|
| *a* In coprolites .. .. .. .. .. | £6 | 0 | 0 | per ton |
| *b* Bone ash .. .. .. .. .. .. | 8 | 10 | 0 | ,, |
| *c* Ground bones .. .. .. .. .. | 7 | 16 | 0 | ,, |
| *d* And in boiled bones he ought to have it for | 7 | 0 | 0 | ,, |

I have satisfied myself by direct experiment that ground coprolites (the phosphates in which are valued by chemists at 7*l.* or 8*l.* a ton) are worthless in the production of the crop to which they are immediately applied, while ground bones are most efficacious manures.

Now, nearly all manure manufacturers employ coprolites, and, no doubt, when acted upon by sulphuric acid, their phosphates become powerful manures; but as all their phosphates are not dissolved, and as the portion not so dissolved is valued at 7*l.* or 8*l.* a ton, I submit that little reliance can be put in the present mode of estimating the value of superphosphates, so far as the insoluble phosphates are concerned. And if it be true that the price at which the insoluble phosphate is usually valued be unsatisfactory, I think it will soon appear that the rule adopted in reference to the soluble phosphates is perfectly anomalous.

Those chemists who value (insoluble) phosphate of lime at 7*l.* a ton say that the soluble or biphosphate is worth four times as much, or 28*l.* per ton. The relative quantities of the acid in the two salts is as follows:—

| | Every 100 lbs. contain— Phosphate of lime. Lbs. | Bi-phosphate. Lbs. |
|---|---|---|
| Phosphoric acid .. .. | 46.15 | 72 |
| Lime .. .. .. | 53.85 | 28 |
| | 100.00 | 100 |

Supposing that a ton of lime obtained from coprolites cost 6*l.*, let us endeavour to ascertain the cost of producing a ton of biphosphate from that source.

In converting the phosphate into biphosphate of lime we require 45 lbs. of the real acid for every 100 lbs. of phosphate, or to dissolve a ton of sulphate we must employ 1008 of real acid, which is supplied by 1236 lbs. of best liquid acid, which, at 1*d.* per lb., amounts to 5*l.* 3*s.*

| | | | |
|---|---|---|---|
| Now, by acting on a ton of phosphate, worth .. | £6 | 0 | 0 |
| With 1236 lbs. acid, worth .. .. .. .. | 5 | 3 | 0 |
| Total .. .. .. .. .. .. | 11 | 3 | 0 |
| We get of sulphate of lime or gypsum 1725 lbs., at 30*s.* per ton .. .. .. .. .. | 1 | 3 | 0 |
| And 1523 lbs. of biphosphate for .. .. .. | £10 | 0 | 0 |

Or, in other words, by acting on coprolites by means of sulphuric acid we obtain the biphosphate at about 15*l.* per ton.

But, granting that we act on bones, a ton of which, say

| | £ | *s.* | *d.* |
|---|---|---|---|
| Costs .. .. .. .. .. .. .. | 8 | 0 | 0 |
| With 1236 lbs. acid, worth .. .. .. | 5 | 3 | 0 |
| Total .. .. .. .. .. .. | 13 | 3 | 0 |
| We get, as before, 1725 lbs. gypsum, worth .. | 1 | 3 | 0 |
| And 1523 lbs. biphosphate of lime, for .. | 12 | 0 | 0 |

or about 18*l.* per ton.

If those calculations be correct, I am at a loss to understand how chemists value biphosphate of lime at from 28*l.* to 48*l.* per ton. And I do urgently invite the attention of our chemical friends to this part of the subject to which I have undertaken to ventilate.*

*Valuation of Manure.* I may now explain for the information of the practical farmer, how he may, with the aid of an analysis (which should always be made by a first-class chemist), ascertain the value of a manure.

The following is the table of prices adopted up to the present time; and any substance not mentioned in the table may be altogether overlooked in the calculation.

| Component parts. | Price per ton. £ | *s.* | *d.* |
|---|---|---|---|
| Organic matter .. .. .. .. .. | 0 | 10 | 0 |
| Ammonia .. .. .. .. .. | 56 | 0 | 0 |
| Phosphate of lime .. .. .. .. | 7 | 0 | 0 |
| Soluble or biphosphate of lime .. .. | 28 | 0 | 0 |
| Alkaline salts, when chiefly soda compounds | 1 | 0 | 0 |
| Potash .. .. .. .. .. | 20 | 0 | 0 |
| Unburnt sulphate of lime or gypsum .. | 1 | 10 | 0 |

Now, in applying these figures to the calculation of the value of a ton of any manure, the simplest mode of procedure is that recommended by Mr. Nesbit, namely, to consider the percentage of ammonia, biphosphate, &c., in the manure, as the number of tons of those matters contained in 100 tons of the manure (for 5 per cent. means 5 tons in every 100 tons, or 5 lbs. in every 100 lbs.); multiply the percentage of each ingredient by its price per ton, and the sum of the product divided by 100 gives the price per ton.

In order to illustrate the application of those figures, I will estimate the value of genuine Peruvian guano, the average composition of which is as follows:—

| | Per cent. composition, &c. | Price per ton. £ | *s.* | *d.* | Value of 100 tons. £ |
|---|---|---|---|---|---|
| Ammonia .. .. .. | 16.52 | 56 | 0 | 0 | 924 |
| Organic matter and ammoniacal salts .. .. | 52.05 | 0 | 10 | 0 | 26 |
| Potash .. .. .. .. | 3.50† | 20 | 0 | 0 | 70 |
| Insoluble phosphate .. .. | 22.78 | 7 | 0 | 0 | 161 |
| Phosphoric acid in alkaline salts 3.34. equivalent to biphosphate of lime .. .. .. .. | 4.63 | 28 | 0 | 0 | 140 |
| | | | | | £1321 |

Or to 13*l.* 4*s.* 2*d.* per ton.

* The explanation of the anomaly is simply this—that you do not get so large a quantity of superphosphate from the use of the materials verified. The result is partly neutral phosphate, and only *partly* biphosphate.

† Potash is not usually estimated; but Mr. Way found this quantity in genuine guano.

We shall always find that the price at which guano is sold will agree pretty accurately with its estimated value according to the foregoing scale of valuation—a result which is to be expected, as the prices of other manures revolve round that of guano. The great mass of manures in the market are superphosphates, omitting, of course, sophisticated articles, which belong to no known genus, and can be referred to no definite species. It is no uncommon thing to find manures vended in which the farmer purchases ammonia at the rate of 160*l.* per ton, and soluble phosphates at a corresponding figure. Manures not worth more than 2*l.* or 3*l.* per ton are hawked about the country, freely advertised, and offered for sale at from three to four times their value. Every man who has an interest in the advancement of agriculture should lend his aid in stemming this fraudulent system, detrimental alike to science and progress, by causing a reaction in the minds of those who are victimised. I know an establishment in this city professing to sell Peruvian guano which does not obtain 1 ton of that substance from the Messrs. Gibbs. I know of a concern in Dublin where hundreds of tons of oyster and other shells are calcined, and after being reduced to a fine powder are mixed with a little guano to give the peculiar smell and something of the appearance of that substance. And the effect of the mixture is to dissipate the little ammonia contained in the limited quantity of guano added. I see manure vendors at present selling superphosphate according to analyses made two years ago. I find a Scotch firm advertising phospho-Peruvian guano, and ingeniously stating that their sample contains a quantity of ammonia equal to 15 per cent. of crystallised sulphate of ammonia, which is calculated to mislead the ordinary farmer, as that quantity of sulphate is only equal to about 3 per cent. of ammonia. I see, in last Saturday's papers, a manure advertised under the name of British Economical Manure in these terms—"1¼ to 1½ cwt. of it per acre, though costing only 15*s.* to 18*s.*, has been found equal to 3 cwt. Peruvian guano" (which, at retail price, would cost about 2*l.*). Surely, no intelligent farmer will be gulled by such an announcement; and to crown the farce, we are informed that more (than 1¼ to 1½ cwt. per acre) must not be used, and that a saving of 75 per cent. may be effected by the use of this manure, which is backed by thousands of testimonials.

To guard the farmer from fraud, I submit three very simple propositions:—1st. To deal with men of well known probity—men who have a stake in the country and a character to lose.

2d. To send a sample of the manure which he purchases to a chemist for analysis, and ascertain by the table already given the commercial value of the article.

3d. The small farmer should, in my opinion, always manufacture his own manure, and this can be easily accomplished in the following manner:—Procure a large, shallow vat, in which place ground bones—boiled bones being the cheapest and best; moisten them with their own weight of boiling water, after which add one-third their own weight of brown sulphuric acid, which costs ¾*d.* per lb. The action will be more effectual if the water and acid are first mixed together, but it is safer to proceed as I have directed, as a very violent action takes place when water and vitriol are mixed. As the action of the acid on the bones goes on for some days, the mass should be frequently stirred; and when the work of solution ceases, the mass may be dried with fine dry mould.

An intelligent manufacturer, who can command skill and every appliance which science points out, and who is content with fair remuneration for superintendence and capital, can manufacture superphosphate cheaper than the mere farmer; but it seems to me exceedingly desirable to teach the small farmer, who is most liable to become a prey to fraud, how he may make his own superphosphate.

## Home Correspondence.

*Thick or Thin Sowing.*—I am about to "flag" great part of a field of Wheat drilled with 4½ pecks of seed per acre. It is too thick. Had I sown 2 bushels it would have gone down in the Grass. The field was Wheat in 1857 and Beans in 1858. So much for deep cultivation, drainage, and cleanliness. A thick crop is not always the result of a thick sowing. Much money is lost by sowing large quantities on highly farmed lands. If I were to catechise a farmer I should say: How many bushels of crop do you get for one bushel of seed? A Russian nobleman told me to-day he got 2 to 2½ for one. I replied that my crops which he was looking at would most probably yield 40 for one. In Oats and Wheat we need not be alarmed at Russian productions just yet. His land was sandy and boggy, in the same province as St. Petersburgh. Hoeing and weeding is not a Russian practice, consequently they are sure at any rate of a good crop of weeds. *J. J. Mechi, Tiptree.*

## Societies.

### ROYAL AGRICULTURAL OF ENGLAND.

AT a Weekly Council held Wednesday, June 8th, present the Right Hon. Lord Berners, Trustee, in the chair,

The names of candidates for election were read.

A letter from Mr. R. Wainwright was read relative to a compound that he stated he had discovered to be unusually fertilising. The Council expressed their willingness to receive any further particulars he might wish to communicate.

Mr. H. Smythies, of Auckland, New Zealand, addressed an inquiry to the Council as to whether they were in possession of any remedy (poisonous or otherwise) against a small caterpiller, which he stated passes over the face of the country in swarms during hot dry summers and devours all vegetation.

A communication from Mr. Greenwood, of Abermarles, Brecon, was read relative to an insect that had destroyed his Mangel Wurzel crop. This insect is never seen during the day-time, and the specimens which were placed on the table had been collected very early in the morning. Lord Berners stated that his bailiff had found the Mangel plant on his lordship's estate eaten all over when about an inch high by a similar insect.

Professor Simonds stated that his Mangel plants had been attacked by an underground grub. The Council directed the insects to be forwarded to Mr. Curtis, the entomologist, for examination, and also desired it to be stated in the reports of the proceedings of the meeting that the Society would be obliged by any further information on this subject from the members or others whose Mangel crops had suffered in a similar manner to those above named, and in case any successful remedy had been discovered by an account of its nature and mode of application.

Mr. Whitehead transmitted copies of the prospectus of the "Cottage Improvement Society," 18, Adam Street, Strand.

Baron de Cetto, of the Bavarian Legation, transmitted copies of the Transactions and Almanac of the Agricultural Society of Bavaria.

The thanks of the Council were ordered for the above communications, as also for the Journal of the Statistical Society, the Transactions of the Entomological Society, and the American Geographical and Statistical Society, which were placed on the table.

The Council then adjourned to the weekly meeting on Wednesday next.

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BATH AND WEST OF ENGLAND.—In addition to the remarks last week upon the stock and implements exhibited at their very successful annual meeting at Barnstable, we now give an extract from the report of the Council to the Society, in which some of the statistics of the exhibition will be found.

The General Meeting of the Members of the Society took place last Thursday, J. Sillifant, Esq., President, in the chair. A letter was read from Sir Thomas Dyke Acland, enclosing a cheque for 50*l.*, for distribution as extra prizes among the successful exhibitors of cattle and sheep. The letter was received with acclamation, and a vote of thanks unanimously passed. The report of the Council was then read declaring the steady increase of the Society, an increase of five governors, two life members, and 75 other members, since last meeting. There were 146 exhibitors of stock at the present meeting; and the number of animals was: cattle 177, sheep 325, horses 55, pigs 35, total 592. The number of exhibitors of implements was 108, and 1080 articles were entered. In the portion appropriated to machinery in motion there were 18 exhibitors. The report stated that in January last the Council decided upon having an exhibition of arts and industry, and they had the satisfaction of reporting that the exhibition comprised one of the most beautiful collections of the works of art to be found in this country. The Council acknowledged the kindness of those who had contributed in this department, in which there were about 5000 articles. They recommended that the place of meeting next year be at Dorchester. The committee appointed by the Society, on the question of weights and measures, reported that they considered it desirable that a uniform standard of weight and measure should be adopted throughout the kingdom; that weight is the surest test of quantity as well as quality of grain; and that in any legislation on the subject it will be necessary to determine what weight of corn should be substituted for the imperial bushel, in ascertaining the averages for the purposes of the tithe commutation. Lord Rivers is invited to accept the appointment of president for the ensuing year.

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From the interest excited in the locality and the large attendance at the meeting, its effects will no doubt tend permanently to improve the agriculture of the neighbourhood. Although the implement makers could not expect in the country of small farms to dispose of their machines, particularly of the larger kinds, to the same extent as in the purely agricultural districts, where large occupations afforded wide fields for their employment, yet we doubt not the opportunity afforded for examination by the very capital implement show will set on foot the spirit of inquiry, which will not be satisfied until very many of these implements become part and parcel of the stock of the Devonshire farms. So far as the giving of prizes being essential to the collection of a large and good show, the question has been fully solved by the late meeting. It was the best show of implements this Society has ever had. The prize system no doubt has its advantages as well as its disadvantages. It no doubt stimulates inventive talent, and directs attention to novelties and meritorious inventions; but at the same time the very hasty trials that have often been instituted and the crude judgments founded thereon have frequently had the effect of awarding praise where it is not due, and still more

frequently really good inventions have been condemned to the public owing to their being hastily or unwittingly passed over by the judges.

We omitted in our notice of the Barnstaple Show last week to state that it was held in a very convenient field of 16 acres, about a ¼ mile from the town; and while there was ample space afforded for the display of the numerous attractions of the meeting, the attendance was so good on the principal days that there really appeared to be no space to spare. We alluded last week to the exhibition of fine and useful arts, and the display of the works of water-colour painters, of which Devonshire furnishes considerably more than any other county. We cannot attempt to point out the principal objects or those worthy of the most attention, but on the whole this branch of the exhibition was considered very successful. It is worthy of note that as each district is celebrated for some particular trade or manufacture, such meetings as the present afford very suitable and attractive opportunities for their public display. We should not forget to mention that the town was handsomely decorated for the occasion, and the authorities vied with each other in their endeavours to welcome the members of the Society, the Mayor taking the lead in a display of the most unbounded hospitality. In speaking of the implement department, although there were but few novelties amongst the many really good implements exhibited, it is right to mention a rather important improvement in threshing machines introduced by Messrs. Garrett & Sons, by which the fan is rendered more available in separating the corn, and being driven from the drum, a great speed is attained and a number of bearings dispensed with, by which the machine is cheapened as well as improved. We also noticed an improvement in ploughs by Messrs. Taskers, by which the implement is turned with greater facility and speed, and without dragging on the ground, the improvement being introduced without increased expense. Messrs. Clayton & Shuttleworth were there with their admirable steam-engines, and Messrs. Ransome & Sims with a large collection of their sterling implements.

Amongst the useful novelties of the Show were a class of Prizes given by Mr. Miles, of Dixfield, Exeter, for the best Shoeing Smiths. The Judges of Horses were called in on Wednesday to adjudicate—eight competitors entered the lists, and were each called upon to make a fore-shoe and put it on. The adjudication became a question of points; and it was somewhat difficult to decide the respective merits, as some operators excelled in making or fitting shoes, and others in putting them on. However, a decision was at length arrived at, and three prizes were awarded respectively to Jenkins, Culwill, and May, whilst several others were commended. It may be interesting to note that the time taken in making and fitting a shoe ranged from 29 minutes to 57, and the nailing on from 3¾ to 8½ minutes, certainly a very wide range.

In conclusion we are pleased to find that in a pecuniary point of view the meeting has been highly successful, more so indeed than on any former occasion, a result which the excellence of the arrangements systematically carried out by a great number of gentlemen well deserved. The dinner in a large tent in the show yard on Thursday, although less numerously attended from the heavy storm prevailing at its commencement, proved a very interesting feature of the week's proceedings. It was indeed admirably presided over by the President, J. Sillifant, Esq., who was well supported, and its interest was throughout well maintained.

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CHEMICO-AGRICULTURAL, ULSTER: *Steaming Bones.* Mr. M'Mechan gave an account of some experiments he had tried with bones softened by steaming; and also with bones steamed and acted on by sulphuric acid, in which he had found that the advantages derived from the addition of the acid were so evident in the produce of Turnips obtained, that he had resolved to continue the use of vitriolised bones.—Dr. Hodges illustrated, by experiment, the great advantages derived from the minute state of division of the phosphates of bones, obtained by the employment of the acid solvent. Though the superphosphate became decomposed, on contact with the lime and other constituents of the soil, yet the distribution of the finely divided tri-basic phosphate was greater than could be effected by any mechanical method of division.

*Storing of Root Crops.*—The following letter, in reference to a communication at a late meeting, was read:

"Having just seen, in the report of your proceedings at your last meeting, a letter from Mr. Healy, of Larne Agricultural School, in which he speaks somewhat condemnatory of the practice hitherto adopted in many districts of storing Turnips with straw covering, I beg to make a comment with the view of correcting what I consider to be erroneous doctrine calculated to entail unnecessary labour and expense in this particular department of the business of the farm. As to the most desirable mode of storing Turnips or Mangels, there is none equal to that of putting, or binging them up in large heaps, convenient to the place of consumption, secured with thatch and ropes. The crop may be stored in bings of any size, at pleasure, from 4 to 7 ft. wide at base, and carried up thereon at equal angles to a fine thin top (taking care, in the course of formation, to throw out all bad or even slightly damaged Turnips, as well as the very smallest in size, the latter being kept for the finishing of the bing). There is no danger whatever from fermentation, there being sufficient ventilation through all the straw that is required for the perfect covering of the heap. The straw should be put on evenly and neatly, and with as much care as in the case of covering a corn stack. This attended to, a very ordinary supply will suffice,—a heavy covering is quite unnecessary. I have kept Turnips up till the middle of May stored in this manner, and I can vouch for the fact, that at that period they were, on that side not stricken by the sun, as hard and firm, and in every way in as good condition as they were on the day carted in. I must admit, however, that the Turnips on that side of the bing on which the sun reflected were somewhat soft in quality; and, to obviate this, I would recommend that some part shaded with trees should be selected for the place of storing. In the winter of 1853—the wettest, I believe, in the memory of man—I stored up an immense quantity of Turnips, Carrots, &c., the former carted in and built up often in the midst of heavy rains; and, as in this case, building and covering were carried on at same time, and the roots keeping, as aforesaid, until the end of their season, no better proof could be adduced of the safety and desirability of the method. Mangels and Carrots, lifted and stored in the time of frost, are sure to give way in the heaps. Turnips left out in the fields in winters of protracted frost, will be sure to rot immediately on the fresh weather setting in. I have never found this to fail.—*R. M Cairns, Stirling.*"

*Reports on Analyses.*—Dr Hodges reported the results of analyses of manures offered for sale in the present season. Among these he directed attention to the composition of two samples of Ritchie's vitriolised bone compound, one of which had been examined for the manufacturers, and the other for a member of the Society in Newtownlimavady. 100 parts contained:—

| | |
|---|---|
| Water | 10.82 |
| *Organic and ammoniacal matters | 32 84 |
| Biphosphate of lime | 11.50 |
| Equal to bone phosphate made soluble | 18.12 |
| Insoluble phosphate of lime | 4 48 |
| Hydrated sulphate of lime | 31.02 |
| Insoluble siliceous matter | 4.20 |
| Alkaline salts | 5.14 |
| Containing 0.76 phosphoric acid | |
| Equal to phosphate of lime | 1.20 |
| | 100.00 |

*Capable of yielding 2.9 ammonia.

representing a fertiliser of high value.

*Patagonian Guano.*—A sample of guano, termed Patagonian by the importers, had lately been examined, and was found to be much superior in quality to that usually brought to this country. It had been, he (Dr. H.) was informed, taken from a newly-opened deposit belonging to Messrs. H. C. Smith & Co. of Liverpool. The large amount of soluble phosphates which its analysis showed it to contain added very much to its value. 100 parts of it had the following composition:—

| | |
|---|---|
| Water | 9.66 |
| Organic matters capable of yielding 1.61 of ammonia | 25.42 |
| Phosphate of lime | 23.02 |
| Sulphate and carbonate of lime | 7.24 |
| Alkaline salts, containing phosphoric acid equal to 9.16 soluble phosphates | 15.72 |
| Insoluble earthy matters | 18.94 |
| | 100.00 |

*Inferior Phospho-Peruvian Guano.*—Dr. Hodges placed before the meeting a sample of Phospho-Peruvian guano offered for sale in Londonderry at 12*l.* per ton. It was darker in colour than that which had been examined for Messrs. Seagrave of Liverpool, and was not value for more than 6*l.* per ton. The following was its composition. 100 parts contained—

| | |
|---|---|
| Water | 17.20 |
| *Organic matters | 14.12 |
| Bi-phosphate of lime, equal soluble phosphate, 4.00 | 2.55 |
| Insoluble phosphate of lime | 31.30 |
| Hydrated sulphate of lime | 10.93 |
| Alkaline salts | 2.90 |
| Sand | 21.20 |
| | 100.00 |

*Capable of yielding ammonia 3.24

## Farmers' Clubs.

NEWCASTLE-UPON-TYNE: *Farm Leases.*—At a late monthly meeting of this club, Mr. Dunn read a paper on this subject from which we make the following extracts:—Having during an extended professional mining practice in England, Scotland, and Ireland, been made conversant with the principles of mining leases, I have, at the same time, directed considerable attention to the various customs regarding the tenure, letting, and management of lands. I have heard and seen much of the misery and ruinous state of agriculture in Ireland. I have witnessed the excellent condition of the cultivation in Scotland, under the prevailing custom of 19 years' leases, and I am constantly witnessing the evil effects upon districts where leases are not granted, and where the tenancies are from year to year, or, what is much the same, for short terms of agreement. I particularly allude to corn farms. I am constantly hearing it asserted and determined by Farmers' Clubs that the most advantageous state of the land, both for landlord, tenant, and the public, and for the obtaining the greatest amount of produce from the soil, is that farms should be held on permanent leases for 15 or 20 years' duration. The object to be attained by such lease being that the farmer will freely spend his capital, labour, and skill upon the presumption (should he so long live) that they will produce advantages to himself and family, whilst the estate of the landlord will participate in the advantages. The first point to which my attention has been directed is the apparent difficulty in laying down such principles as will be agreeable to both landlord and tenant, which, with great deference, I enumerate as follows:—

1. The difficulty of establishing a fixed rent for so long a period as 15 or 20 years, during the ever-varying state of labour and the value of produce.

2. The absence of a provision for enabling a tenant not only to quit at certain appointed periods, but to alienate his lease in case of death or other circumstances; first, offering it to the landlord under tenant-right compensation, so as to realise any improved value that his capital and industry may have produced.

Upon the subject of terminating the lease, I find that many intelligent persons conceive it highly unreasonable that the tenant shall have the power at certain periods to quit the landlord, unless the landlord have a corresponding power to quit the tenant. Now, such a clause as this would in my opinion negative justice, and strike at the root of all improvements to arise from a lease. The clause in favour of the tenant would remain a dead letter so long as the holding of the farm was profitable to him, whereas the landlord might have an obvious advantage in demanding an increased rent, under pain of notice to quit. Without any power of terminating the lease, the landlord is satisfied to receive the agreed rent during the whole term; and should not, I submit, object to the tenant possessing the power of quitting, under circumstances which would call for a reduction of rent or a return of — per cent., when imperatively demanded; for a tenant, pressed by circumstances of loss, and not allowed to quit, would obviously be an unprofitable tenant, inasmuch as he would cease to work and improve the farm as he ought to do. With the loss of production in mining leases, the power of quitting on the part of the tenant only is all but universal, and also of disposing of his lease; and I submit that the comparison is not out of course, for the meaning of a lease is the inducement to expend capital. In many cases a compensating medium is adverted to by a sliding scale, founded upon the rise and fall in the market of the chief produce of the land*—for instance, Wheat and Oats; and although such an application cannot be made entirely to meet every contingency, yet it may be made to supply a certain quota, amounting to a sort of return, such as landlords are wont to give when their tenants are very clamorous. The difference between the two systems being, that in one case the tenant acquires the reduction as a right, whereas in the other case he has to entreat it from his landlord or his agent as a favour; and that, after repeated application and delays, during which the tenant's resources become exhausted, and his spirit broken. I will with great deference submit for the consideration of the club the basis of a lease, calculated to secure to the landlord his proper quota of rent, viz., a fair proportion of the amount value of the produce; whilst it also would defend the tenant from the evil consequences arising from the fall of prices, &c., as hereinbefore enumerated. The general principle is illustrated in mining leases, where the produce and value are altogether uncertain, viz., that the landlord reserves for himself 1-6th or 1-8th of the value, whether paid in kind or in money value; the same principle applies to tithes in kind. The question therefore arises: cannot some similar principle be made applicable to farm leases? Although this is the acknowledged basis of mine rent it is often found more convenient to commute it for a certain tonnage, for the principle cannot be carried out unless some standard of value can be laid hold of, and this is not practical in case of indirect selling in distant markets. If a code of this sort can be hit upon, then I humbly submit that it would tend to elevate the position of the tenant above that to which he is driven in the casual and perpetually recurring application to the landlord or his agent for a return of 10 or 15 per cent. It occurs to me, therefore, that the authentic fact of average prices in the different markets ought to form the grand basis for such a structure as I have taken the liberty to suggest; but professing myself unequal to the task of assigning the details, I leave the matter in the hands of the club, trusting that they may see it worthy the consideration of a special committee of their body to scrutinise and report.

*Suggested Basis for a Permanent Lease*—1. Term, 15 and 20 years to A B, his executors, administrators, and assigns. 2. Power for tenant to quit or alienate the lease at every — years (varying according to the scheme of husbandry adopted) by giving six or 12 months' notice in writing, and having complied with all the obligations of the lease—time of quitting to be May. 3. In case of death or otherwise, the representatives of the tenant, before offering the lease for sale, to offer it first to the landlord, at a price, if necessary, to be fixed by disinterested referees, and also to receive from the landlord such compensation, for added value, or inexhausted improvements, as may be fixed by indifferent valuators, the grounds of such claim to be specified in the agreement. 4. The general principles of managing the farm of course to be laid down specifically, and the usual remedies for the landlord reserved. 5. As the rent (corn farm) is assumed to be founded chiefly upon the average price of Wheat and Oats, the averages to be procured from a certain market upon which the certain rent is first fixed. But in case such averages should be found to fall, then for every — per boll reduced value a diminution shall take place in the rental of — per cent,—and also that a corresponding ratio should also hold in favour of the landlord. The principle of a corn rent is so little practised, and I may add so little understood, that I am willing to waive that part of the subject, because, if the landlord and tenant agree in preferring a certain annual rent, it does not affect the other material points in the case. The

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* Such I understand to form the basis of the farm leases of his Grace the Duke of Portland upon the Bothal estate, the particulars of which have been transmitted to me by one of the tenants, as follows:—

"Scale of reductions for calculating his Grace the Duke of Portland's rents in Bothal Barony, commencing 13th of May, 1832 ——. —— Farm.

"The rent of your farm is fixed to be 274*l.* per annum when the average price of Wheat in Newcastle market is 7*s.* 6*d.* per bushel, and

| | | £ | s. | d. |
|---|---|---|---|---|
| When Wheat is 7*s.* 3*d.* | per bushel, every 1*l.* of rent will be reduced to | 9 | 16 | 8 |
| ,, 7*s.* 0*d.* | ,, ,, | 9 | 13 | 4 |
| ,, 6*s.* 9*d.* | ,, ,, | 9 | 10 | 0 |
| ,, 6*s.* 6*d.* | ,, ,, | 9 | 6 | 8 |
| ,, 6*s.* 3*d.* | ,, ,, | 9 | 3 | 4 |
| ,, 6*s.* 0*d.* | ,, ,, | 9 | 0 | 0 |
| ,, 5*s.* 9*d.* | ,, ,, | 8 | 16 | 8 |
| ,, 5*s.* 6*d.* | ,, ,, | 8 | 13 | 4 |
| ,, 5*s.* 3*d.* | ,, ,, | 8 | 10 | 0 |
| ,, 5*s.* 0*d.* | ,, ,, | 8 | 0 | 8 |

observation of certain intelligent land agents is, that such clauses as here suggested would negative the very existence of the lease; but that I deny, the principal object being to divest it as much as possible of ruinous variation, for which the capital of the tenant is not prepared, it being specially the business of the corn merchant to buy at market price, and hold upon the speculation for a rise. 6. Lease to have a general clause of reference to settle disputes which may arise during the currency of the lease.

[A discussion of the subject was postponed till the following month, when several addresses were delivered, which will be given next week.]

SMITHFIELD CLUB.—The following is their balance sheet of the past year:—

| | | | |
|---|---|---|---|
| Balance in hand of bankers, Dec. 10, 1857, including Life Compositions to be invested, 42*l.* .. .. | £1452 | 7 | 2 |
| Balance in hands of Hon. Secretary, Dec. 10, 1857 | 6 | 11 | 11 |
| Received since (by bankers)— | | | |
| Half-year's dividend on 3 per cent Consols, due January, 1858 .. .. .. .. .. | 26 | 4 | 9 |
| Half-year's dividend on 3 per cent. Consols, due July, 1858 .. .. .. .. .. | 27 | 17 | 11 |
| Annual subscriptions for 1858 .. £1 1 0 | | | |
| " " 1859 .. 2 2 0 | 3 | 3 | 0 |
| Received since (by Hon. Secretary)— | | | |
| Of Mr. Boulnois, for Show 1857 .. .. .. | 700 | 0 | 0 |
| Compositions .. .. .. .. .. .. | 73 | 10 | 0 |
| Annual subscriptions for 1853 .. £1 1 0 | | | |
| " " 1854 .. 1 1 0 | | | |
| " " 1855 .. 1 1 0 | | | |
| " " 1856 .. 2 2 0 | | | |
| " " 1857 .. 25 4 0 | | | |
| " " 1858 .. 175 7 0 | | | |
| " " 1859 .. 4 4 0 | 210 | 0 | 0 |
| Non-members' fees. Stock at Show 1858 .. | 130 | 4 | 0 |
| " " Implements " .. | 603 | 15 | 0 |
| For steam engines and barn works .. .. | 45 | 0 | 0 |
| | 3278 | 13 | 9 |
| Drafts, prizes 1857, not presented at bankers— | | | |
| M'Combie .. .. £10 0 0 | | | |
| Earl Darnley .. .. 5 0 0 | 15 | 0 | 0 |
| | £3293 | 13 | 9 |

INVESTMENT ACCOUNT.

| | | | |
|---|---|---|---|
| 1858. Dec. 1, Amount of Stock standing in 3 per cent. Consols in the name of the trustees .. (This includes 1000*l.* surplus income ordered to be invested until wanted for current expenses.) | £1920 | 14 | 2 |
| Paid on account of Prizes awarded at Show 1857 .. | 985 | 0 | 0 |
| Medals .. .. .. .. .. .. .. | 155 | 10 | 0 |
| Judges and Veterinary Inspector, Show 1857 .. | 35 | 0 | 0 |
| Bills— | | | |
| Printing (Wilson) .. .. .. £55 17 0 | | | |
| Advertising (*Mark Lane Express*) .. 7 10 0 | | | |
| " (*Bell's Messenger*) .. 5 10 0 | | | |
| " (*Gardeners' Chronicle*) .. 4 6 0 | | | |
| " (Ridgway) .. .. 4 4 0 | | | |
| Weighing Sheep (James & Co.) .. 2 2 0 | | | |
| Stationery (Mason) .. .. .. 2 6 6 | | | |
| Tin Numbers (Marchant) .. .. 2 11 0 | | | |
| Show-yard Agreement and Stamps (Clutton) 11 17 2 | | | |
| Bookbinding (Jones) .. .. .. 0 8 3 | | | |
| Dinner arrangements (Genge) .. 12 12 0 | | | |
| Collecting clerk, dinner ticket .. 0 13 0 | | | |
| Toast master .. .. .. .. 0 5 0 | 110 | 1 | 11 |
| Postage and receipt stamps during the year, up to Dec. 1, 1858 (as per postage book) .. .. | 16 | 16 | 6 |
| Clerks' time (as per time book) .. .. .. | 35 | 14 | 5 |
| Commission on Post-office orders, returning over-payments for steam engines and barn works not admitted, show 1858 .. .. .. .. | 0 | 3 | 3 |
| Stamped cheque book and draft stamps for remr. of book in use .. .. .. .. .. | 0 | 15 | 6 |
| Compositions invested, added to stock in 3 per cent. Consols .. .. .. .. .. .. | 115 | 10 | 0 |
| | £1454 | 11 | 7 |
| Balance in hand of bankers, Dec. 1, 1858.. .. | 1827 | 7 | 8 |
| Balance in hands of Hon. Secretary, Dec. 1, 1858 | 11 | 14 | 6 |
| | £3293 | 13 | 9 |

Dec. 4, 1858, Audited and found correct,
(Signed) WM. SANDAY,
W. TORR,
JAMES QUARTLEY.

## Foreign Correspondence.

SPA, BELGIQUE.—On a beautiful sunny morning in the balmy spring time, we set out from Bruges in one of those comfortable hooded gigs, which while permitting a view of all as you pass along still give shelter from the wind and rain—conveyances in every way more comfortable than the nondescript vehicles known in England, and the possession of one of which, according to a first-rate authority, confers on the owner the title of "respectable." Our destination was the town of L'Ecleuse, in Holland, and the object of our visit to it was to examine the peculiarities of that interesting department of Flemish or Belgian agriculture, known as the Polders cultivation, examples of which are met with in its immediate neighbourhood.

As we passed along we met with more pasture land than we had yet seen in our rambles in Flanders—indeed the district in this direction some miles from Bruges is somewhat celebrated for its meadows. A striking feature of the farm steadings was the large orchards attached to them. This department has considerable attention paid to it in the neighbourhood of Bruges; immense quantities of the fruit reared in the orchards being sent off to London in the season. An orchard well managed should yield a profit of 30*l.* an acre. Great pains are taken to select good trees, and of such qualities that as one goes out another comes in; by this means a succession of crops is secured during the season. The land devoted to orchards is well worked before the trees are planted, and a crop or two well manured taken off.

The country, although flat as a bowling green, was by no means dull or uninteresting—a Flemish farm district is never this—for what with the trees grown in avenues of handsome breadth and great length (we have passed through one three leagues long), and dotted here and there in clumps over the landscape, the finely cultivated fields with their beautiful green or their brilliant patches of Colza, and thickly studded with farm houses with their red-tiled roofs and whitewashed walls, a prospect is made up, which if wanting in the charms which hill and dale, rock and valley give, is at least pleasant to the eye; and abounds at all events in that degree of interest which affords much thought to the contemplative mind. For every step one takes, and every field one sees, tell of the successful battle fought and won by man over materials of the most unpromising kind. For every yard of the district we are now travelling through has been wrested from the ocean; in times long gone by the sea rolled over places where now the corn waves, and where now the sounds of human labour are heard as it goes on merrily with its work, or the lowing of cattle or the bark of the house dog breaks the silence, the howl of the wind as it swept over sand heaps, and the roar of the ocean as it broke in thunder tones on the beach, reigned supreme in the olden times long ago. Slowly, and foot by foot, has territory been won from old Neptune's hands; and were it not for evidences which are everywhere met with, you would have great difficulty in believing that such has been the case. Thus not far—a few minutes' walk—from Bruges, the village of St. Pierre sur la Digue is met with. As its name imports, this village in ancient times was close upon the *digue* or sea wall, which kept out the tide from the cultivated lands. Again, this morning's drive took us through the village of Damme; and as you passed along its quiet street, and admired the quaintness of the houses, or wished to examine the old church, you certainly would not have dreamt that you were passing through what in ancient times was a most important maritime town. But so it was, and had a large harbour from which issued ships of no small burthen trading with all parts of the world. No look now about it of a seafaring town; no ships lying there with streamers idly floating from their mastheads; not a vestige left to tell of its history in the olden time; completely and altogether changed in its aspect and fortunes now. Neptune's temple has for once and ever been closed, and his worshippers now throng that of Ceres.

It was odd as we drove along to notice how the churches, one and all, were stripped of their spires, nothing but their towers left, which looked unfinished, and loomed large and heavy in the landscape. This general demolition of the spires was, we were led to understand, done by the orders of Napoleon, who wished not to give by their means a series of useful landmarks to the sailors of the ships of the "nation of shopkeepers" who swept the seas.

As we drove on we passed by means of two handsome suspension bridges the broad waters of the two canals of diversion; one of these brings the waters of drainage from the district of Ghent, the other from that of Courtrai; yet here not far from the sea they run parallel to each other at a distance of not more than 60 or 80 yards. There was little to tell us when the frontier line, dividing Belgium from Holland, was crossed, save the erection of stone pillars, placed at distances along the line; one side bearing a cast-iron tablet with the arms of Belgium, the other side a tablet with those of Holland. The country on both sides was in every respect alike in aspect. The farm houses had however little garden plots attached to them which, cultivated with the greatest care and having a large variety of flowers and plants, showed that we were among a people having a "flower-love." Flower gardens we have rarely seen attached to the Flemish farm houses. As we drove into L'Ecleuse we passed huge, misshapen, straggling mounds, and were told that they were the remains of the earthworks or batteries raised in the stormy times of the Revolution of 1830. "In Flanders," said our companion as we passed them, "these would long ago have been levelled and cultivated instead of lying waste as they do here." Our friend clearly had no great love for the Dutch; he did not tell us why, and we were indifferent to know. The town of L'Ecleuse struck us as particularly neat and clean, with its dazzling white walls and brightly painted doors and jalousies it looked more like a toy-town than one where staid burghers dwelt. The town is not remarkable for anything save a clock. A man armed with a large hammer and worked by machinery comes out and strikes a bell previous to the clock striking the hours. We were led to believe that this figure struck the hours, which would have taken a higher range of mechanism than that which enables him to "warn" the hour, which is all he does. We were idle or curious enough to stand in the Grand Place five minutes to hit the time when the figure would go through his work. In the doing of this he had a spasmodic stiffness, a jerking, jolting gait and action, somewhat unsatisfactory. As we turned to go away we had a notion that the exhibition was not worth waiting for, and that the whole affair smacked strongly of humbug; but as the inhabitants looked evidently upon it as a thing of vast importance, something to be proud of, if not to swear by, we discreetly kept our thoughts to ourselves, and duly expressed our surprise at the exhibition, albeit not saying at what we were surprised.

Thirty years ago vessels came close up to the town; now the water way is completely choked up, and land with rough herbage upon it gradually forming over the place where years ago vessels sailed. So far now is the sea from the town, that we had to walk for nearly two hours along the top of the embankments or *digues* before we arrived in sight of the sea-shore, on which we saw the waves of the turbulent North Sea breaking in long lines of curling foam. This walk affords an excellent opportunity of observing the formation of cultivable land in all its stages, and also, when fairly under the hand of man, in its fair and rich fertility. On the seaward side of the embankment which surrounds the reclaimed portion, you see as you walk along tracts of marshy half-formed soil, with here a patch of miserable vegetation, in which a sheep or two find a precarious footing and a scanty feed; there, a space of yielding quicksand on whose surface a bird dare scarcely tread; anon a pool of water lying black and murky in the shade or sparkling in the sunlight. All is bleak, dreary, and wild around you; you have but to turn however, and cast your eyes over the fair fields which greet your view on the other side of the embankment to feel convinced of the wealth which will some day be worked from it. Already seaward you perceive on the parts on which the sea comes but seldom now, and which have in measure become solid soil—a flock of sheep picking up a somewhat meagre meal off the scanty Grass; their very presence there tending still further to enrich the soil and to make it yield hereafter more fruitful produce. It is curious on the side of the embankment to trace what may be called the "sea-margins," left marked there by each successive overflowing to, which this land in high tides is now and then subjected. Each margin is lower than the other, showing how the land is gradually becoming more elevated on the sea receding further; at the lowest you pick up shells so fresh looking that you half expect them to contain the remains of the animals which they once gave shelter to; weeds which might but a few days ago have floated on the rising tide; higher up you find shells and sea-weed in the various stages of decay, till near the top, where the sea margin is so faintly marked that it merges with the bright green of the luxuriant Grass which covers the sides of the embankment, and the shells of which, or rather the crumbling remains of those which a close examination only will reveal to you, are fast decaying to dust and soil.

A few words will suffice to explain the general method of the formation of the Polders. The rivers and canals of diversion bring down to the sea vast quantities of *débris* which when the waters are met with the rising tide are placed in a position of comparative stagnation, and which allows of its subsidence. Banks of mud are gradually formed, through which the waters flow in self-made channels, until at last the deposition is such that the banks are raised above the level of the tide, and are covered only at intervals under high tides. Plants of various kinds begin to grow: and as the land becomes consolidated sheep find a scanty pasture. In this stage of formation the tracts of land are called *schorres*. The lands are fairly reclaimed from the tide by the erection of embankments more or less expensive in character—from the simple mud to the elaborate sea wall—according to the circumstances of the locality.

The Polder land in Belgium is of vast extent, and is yearly increasing, for the action of the sea is such that it is gradually leaving Belgium and encroaching on the Dutch coast. It forms a belt of land from near the neighbourhood of Valais, in France, round to L'Ecleuse in Holland. The subsoil of the Polder land is—as may be gathered from the above description of its formation—formed of turf or peat composed of the remains of the rich vegetation brought down by the rivers in days long gone by, and which have been kept back and deposited along the margin of the sea by its tidal action. The upper or arable soil is formed of mud and of marine plants and shells, which are brought up by the tide and left. The soil thus formed is noted for its amazing fertility; it can be cropped for years without any manure. For the first 50 years or so after reclamation the lands are known as new Polders; but if cropped up to this period without manure, the ordinary methods in use to increase the fertility of the soil will require to be carried out with unsparing hand. The soil is generally cropped for the first 20 or 30 years without manure. The soil of the whole zone of the Polder is generally speaking of the same uniform character; interruptions of small extent, however, occur where tracts of pure sand are met with; this owes its presence to the flowing in of the sea permitted by the destruction of the dykes in times of tempest or of war.

The most notable feature in the cultivation of the Polder is the existence of the "fallow" system; this we may here state, and we shall hereafter fully recur to it, has no part in the Flemish or Flanders cultivation where the land is under perpetual cropping. At one period in the history of the Polder cultivation, the fallow came round every seven years; it is now generally every nine years in the rotation. Where the latter rotation is adopted, the sixth year is Clover, of which they take a first cutting, and then it is ploughed in with manure for the next crop. M. Kerkoyn gives the following rotation:—1st year, Barley or Colza; 2d, Beans; 3d, Wheat; 4th, Beans; 5th, Wheat; 6th, Clover; 7th, Wheat; 8th, Potatoes or Carrots; 9th, Oats; next, the fallow; after which the rotation begins with Barley or Colza as above. The root crops are little cultivated and manure is by no means abundant. The cattle are miserably fed during winter on Wheat straw and Beans, and are turned out in a wretched condition to pasture in spring. The districts of the Polders, thus, it will be perceived, play a very unimportant part in the breeding and rearing of cattle.

distinguished Flemish agriculturists are endeavouring to introduce the system of root cultivation and the substitution of the perpetual cropping system of Flanders for their fallow system. Stolen crops, so remarkable a feature of Flemish husbandry, form generally—or at least where they do to a small extent only—no part of the Polder cultivation.

Unlike the other districts of Flanders, the holdings of the Polder districts are comparatively large; a farm of 200 acres is not uncommon. This difference in the management of the land is observable at once, for in place of the landscape being dotted with numerous farm houses, which give so much of human interest to many a Flemish commune, the eye but seldom rests upon them; they are few and far between, and divided from each other by roads bad at the best but so fearfully opposed to all transit in long continued bad weather as effectually to put a stop to all communication between them. It was perhaps this feeling of their utter isolation in the depths of winter that made us look upon a Polder farm house with a melancholy which never visited us at other periods of our travel in the same districts of Flanders. Fiercely as the sun shone out that early spring day, and blithe and gay as all Nature looked under its cheering influence, still a wind came sweeping up from the sea which somehow, as we stood on the lofty bank, made us think of the time when the sky would present another aspect—black with winter's leaden-hued storm clouds; and when the wind, now sweeping over green meadows and waving Colza, would come careering wildly over snow-clad fields, and bearing with it as on wings the sea spray, and to lonely hearths the hoarse roar of the waves dashing drearily on the desert of sand beyond. Surrounded thus with sights and sounds of so cheerless a kind, farm life in the Polders during a comparatively large partion of the year will present few charms to lone people to venture upon a trial of it. Nor—not very pleasing at the best of times, and being utterly destitute of all the requisites which go to make a picturesque or romantic aspect—have the Polders the advantage of being healthy places for man to pitch his camp in. The sea breezes too often, instead of bringing health on their wings, carry the seeds of ague or of the "Polder fever." All these things tend to make the population very scant as compared with other parts of the province, and labour to be comparatively dear. A feature of Polder farms of practice to be noticed here is the practice of giving a portion of ploughed land to the labourer, who rears his tiny crops of Potatoes or of Flax upon it. The working of this is generally done by the family of the labourer. The Flax grown is worked for domestic purposes, while the Potatoes are used for food or for a cow or a pig.

## Miscellaneous.

*Price of Fox Hounds.*—How far an established pack of fox hounds is cheap at a thousand or twelve hundred pounds, is a matter of consideration with reference to concomitant circumstances. We should put the average price at something less than the highest of the above sums, although several packs have been sold for the former sum; and the justly renowned one of Mr. Warde fetched 2000 guineas. When blindness unhappily compelled Mr. Foljambe to lay aside the scarlet in 1845, his pack was sold for 3000 guineas. The late Lord Middleton gave Mr. Osbaldeston 2000 guineas for 10 couples of hounds out of his kennel, and the Earl of Stamford gave 470 guineas for four couples of Mr. Richard Sutton's hounds. *From the Encyclopædia Britannica—New Edition.*

## Notices to Correspondents.

Black Puddings: *J M.* Take 1 quart of whole oatmeal, boil it and let it steep all night in the water; boil a penny loaf in milk, put in 2 lbs. of hog fat cut small, four eggs, some Pennyroyal, Sage, sweet Leeks or Onions, black Pepper, Nutmeg, Cloves, and Mace, and what blood you think proper; fill the intestine a little more than half full. Boil it three-quarters of an hour. The blood should be stirred when hot to prevent its congealing.

Blood Striking in sheep is of the nature of apoplexy, that is, the blood is suddenly determined to a particular part of the body, and the vessels become congested. Blood letting is desirable if the sheep can be seen sufficiently early, which however is not often the case. A change of the food which produces, with saline purgatives, is the best preventative. *W C S.*

Churn: *Victoria Little.* We have not for many years heard of Valcourt's churn. It was a box churn we believe with a double exterior, the interval being capable of being filled with water of any desired temperature. No dairy on a scale of any size employs any of these niceties of contrivance. Put your milk or cream of the right temperature into the churn and churn it in a room of as nearly the right temperature as possible.

Floor for Cattle Stalls: *H P.* Asphalte flooring has been recommended. We give the following recipe, not on our own experience, but on that of a correspondent "J.P.B." who says, "Dig sifted gravel, such as is used for topping walks, and use coal-gas tar; level the ground perfectly; mix gravel and tar, two quarts of the latter to each bushel of the former, till every particle of gravel is saturated with tar. This is best done on a boarded or stone floor; spread evenly, about one inch thick; roll till hard with a heavy garden roller. When dry, add from two to five inches more, according to the purpose for which the floor is required. Roll as soon as laid, and frequently, until it is quite solid. Cost, at 6 inches deep, 9*d.* per square yard, at the following high prices:—gravel, 1*d.* per bushel; gas tar, 4½*d.* per gallon; labour, 1*s.* 6*d.* per day."

Mangel Wurzel: *E L S* We should have no hesitation in sowing guano and common salt about 2 or 3 cwt. each per acre by hand between the rows of young plants, and horse hoe it in, if there is any doubt about the land being rich enough to produce a good crop.

Mr. Ryder and his Tenant: *N.* A reply has been published by Mr. Phipps to the pamphlet issued by his late landlord; and as the whole correspondence has been published in it, any one desirous of full information on this subject should procure this pamphlet published by George Dean, 13 and 14, Tothill Street, Westminster.


**SHANKS'S PATENT MOWING MACHINES.**

J. AND C. LEE, Nurserymen, Hammersmith, have great confidence in recommending these as the most complete Mowing Machines offered to the public. They have had large experience with Shanks's Machines, and have ever found them do their work admirably, effecting a great saving in labour, and not liable to get out of order. For terms, apply to the Agents, J. & C. Lee, Nurserymen, Hammersmith

SHANKS'S PATENT LAWN MOWERS are unquestionably the most perfect Machines for Mowing Lawns, Verges, &c., extant. Shanks's Horse and Pony Machines are the only Machines that Mow, Roll, Collect, and Deliver the Grass.—London Agents: Cottam & Co., 2, Winsley Street, Oxford Street, W.

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THE NEW PATENT MOWING MACHINES may be used anywhere at any time, are self-sharpening, and admit of the use of duplicate sets of cutting parts. Prices from 4*l.* 10*s.* upwards Illustrated Circulars free by post.—Manufactured and Sold by James Ferrabee & Co., the original introducers of Mowing Machines.

Several infringements of their patent having taken place, the Makers respectfully caution the public to see that the words "Ferrabee's Patent" are cast on every Machine.

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PICKSLEY, SIMS, AND CO.'S (by Royal Letters) PATENT LAWN MOWING MACHINE.

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P., S., & Co., in introducing this Lawn Mowing Machine, particularly request a strict examination, or comparison and trial, for simplicity of construction, lightness, regularity of draught, adaptability for mowing every kind of plain, circular, and verge work.

Firstly, we have encased the wheels so as completely to protect from injury flower borders, shrubs, &c., whilst working the machine, at the same time not being liable to obstruction or damage.

Secondly, this machine works easily on undulated and sloping ground; it can be thrust forward or be drawn from behind, the latter being the easiest.

Thirdly, this is the only machine made that will work round quick curves; it will work easily and effectively round circular borders so small as 12 inches in diameter. This very desirable improvement has been obtained by fixing to the front part of the machine our newly-invented universal action, and self-cleaning, anti-friction spherical guiding balls. The continual revolving of these spherical guiding balls, under the most trying circumstances, never fails.

Fourthly, we have attached to this machine a rack and pinion motion, for adjusting the cutting parts (there being a rack and pinion on each side of the machine to act conjointly at the same time upon the full length of the knives), in other machines a slow, tedious, and uncertain operation, into one of quickness, ease, and certainty.

PRICES:—

| | | | £ | s. |
|---|---|---|---|---|
| Patent Lawn Mowing Machine | 13 inches | .. | 5 | 10 |
| Ditto ditto ditto | 16 ,, | .. | 6 | 0 |
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| Patent Chaff and Gorse Cutters from | .. .. | £2 5 to | 22 | 0 |
| ,, Bean, Oat, and Malt Mills | .. .. | 3 10 to | 10 | 10 |
| ,, Gorse and Grain Bruisers | .. .. | 10 10 to | 21 | 0 |
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| ,, Mangles, various | .. .. .. | 2 10 to | 12 | 10 |

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| Bends .. .. .. 6*d.* | — 7*d.* ,, |
| If fitted to plans .. 7*d.* | — 8*d.* ,, |

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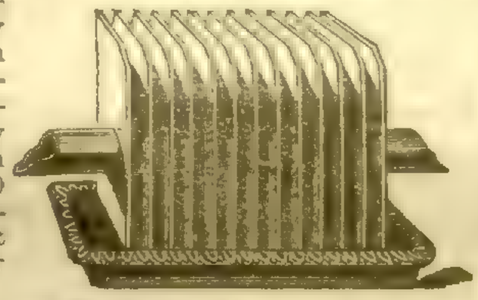
THE HORTICULTURIST will find herein an inexpensive instrument of new and very important powers. An atmosphere may be produced at will either perfectly dry, partially damp, or saturated with moisture. A space of 10 inches by 12 inches contains the power of 25 feet of 4-inch pipe and other numerous advantages.



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| 11 by 9, | 12 by 9, | 13 by 9, | 14 by 9 .. | } | 4ths. |
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| 18 ,, 13, | 19 ,, 13, | 20 ,, 13, | 21 ,, 13 .. | | |
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| 200 feet .. .. .. | £2 2 0 | 16 oz. |
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| | | 16 oz. | | 21 oz. |
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| 20 in. by 12 in. / 20 in. by 13 in. | Common .. .. | 14s. 0d. | .. | £1 1s. |
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| 6 by 4 | 6½ by 4½ | 7 by 5 | 7½ by 5½ | 11 | 6 |
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11 by 9, 13 by 9, 13½ by 10½, 12 by 11, 14 by 11
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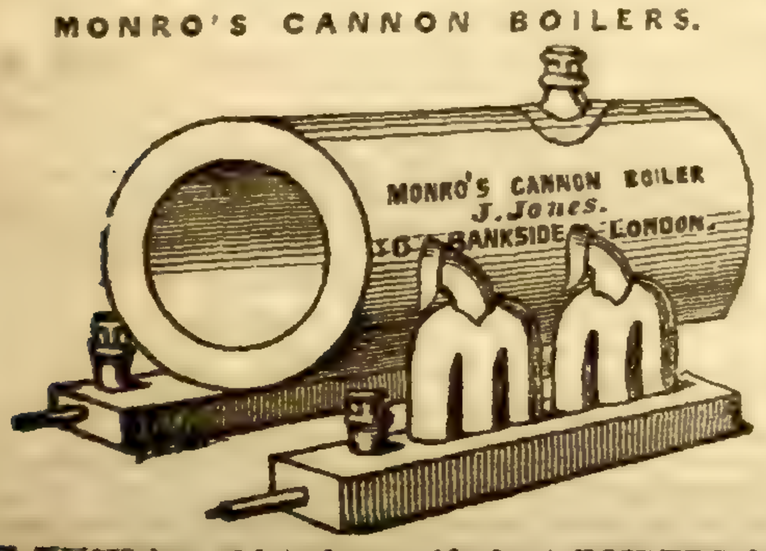


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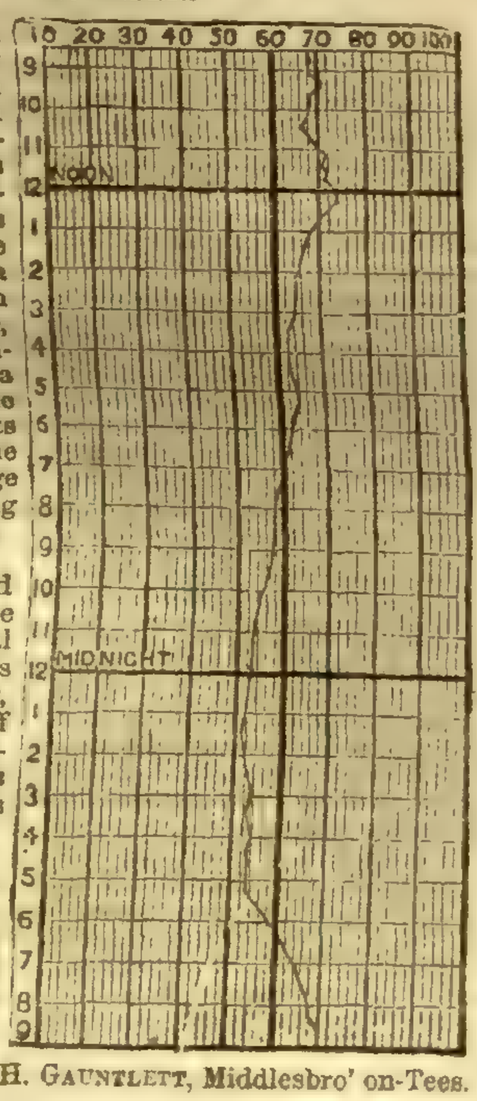
**GAUNTLETT'S PATENT CHRONOMETRICAL THERMOMETER.**

This instrument, which combines an eight-day clock of the best English make showing time, with a newly-patented Thermometer, wherein glass and quicksilver are dispensed with, writes down the temperature of the atmosphere on a slip of paper, and when placed in a Hothouse, Forcing House, or Conservatory, &c., supplies a valuable record of the temperature, with all its variations, showing the time when any change took place, and how long such change continued.




The above slip (reduced in size) exhibits the temperature of the Royal Agricultural Society's show yard at Chester, July 22, 1858, written off by one of these instruments, to which was awarded the Society's SILVER MEDAL.

This is the only instrument that registers temperature continuously and writes it down, and no horticulturist should be without it.

Orders received by W. H. GAUNTLETT, Middlesbro' on-Tees.

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# FOWLER'S PATENT STEAM PLOUGH

**SEEN AT WORK.**

STANDARD SETS OF FOWLER'S STEAM-PLOUGHING TACKLE can be seen in operation on the 1st of July next at the Show of

**SUFFOLK AGRICULTURAL ASSOCIATION AT IPSWICH.**
**SOUTH YORKSHIRE AND NORTH DERBYSHIRE AGRICULTURAL SOCIETY AT SHEFFIELD.**
**SUSSEX AGRICULTURAL SOCIETY AT HAILSHAM.**

For further particulars apply to

**JOHN FOWLER, JUN., 28, CORNHILL, LONDON, E.C.**

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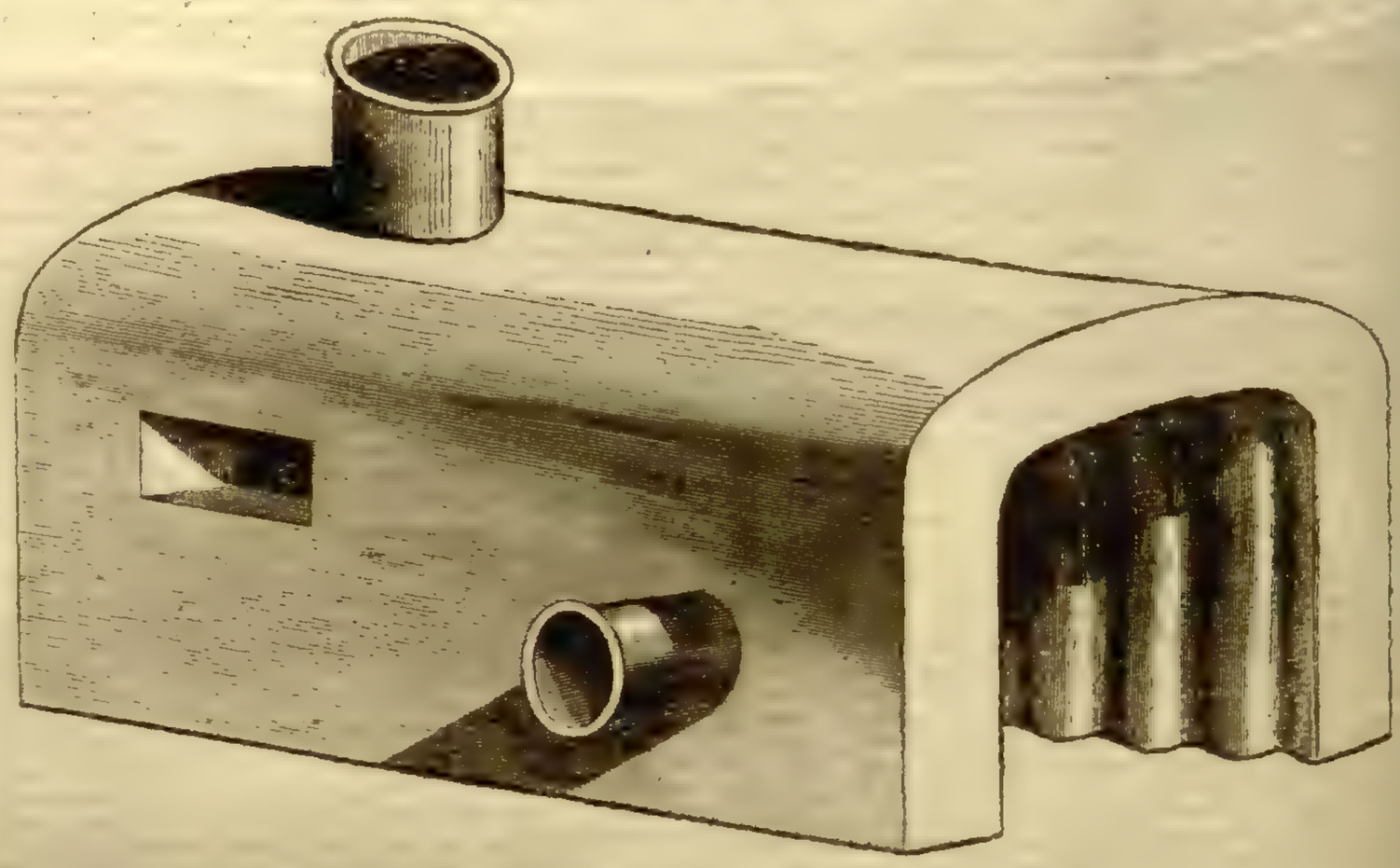
# HORTICULTURAL WORKS,

**DANVERS STREET, PAULTON'S SQUARE, CHELSEA, S.W.**



# JAMES GRAY

RESPECTFULLY begs to inform the nobility, gentry, Nurserymen, Gardeners, and others, that he continues to carry on the business in all its branches at the above old established premises.

**CONSERVATORIES, GREENHOUSES, FORCING HOUSES, VINERIES, PITS, &c.**

**of every description, erected on the most approved principles.**

## HEATING BY HOT WATER.

J. G. having specially devoted his attention for many years to this part of the business, is now fully prepared to Heat every description of public and private buildings, viz :—Churches, Mansions, Warehouses, &c., as well as all structures connected with Horticulture, in the most efficient manner. His system is the most simple that can be adopted—which he has found from long experience to be the best—can be constructed at less cost, and is more easily managed than those of a complicated nature which have attracted the notice of the public.

J. G. begs to call attention to his CAST-IRON CORRUGATED ARCH BOILER, which from its simplicity of construction has not the liability to fracture to which those of a more complex design are always subject. They have been extensively used for many years, and have given the greatest satisfaction.

All business is conducted at this establishment on the principle of lowest remunerative profits consistent with best materials and workmanship.

**Plans and Estimates furnished on the shortest notice.**

# MESSRS. E. G. HENDERSON & SON'S

## NEW GENERAL CATALOGUE

AND

## SPRING LIST OF ORNAMENTAL BEDDING AND SUMMER-FLOWERING PLANTS,

Is ready for distribution (free by post) wherein are described the following NEW PLANTS and also special directions for sowing, rearing, and final planting of

## SPERGULA PILIFERA,

the admirable substitute for Grass on Lawns, without mowing, of which good established tufts for immediate planting (from Mr. Mongredien's fine lawn at Forest Hill, near to the Crystal Palace), are offered at 4*s.* and 2*s.* per dozen, according to their respective size. Seed Packets, 6*d.*, 2*s.* 6*d.*, 5*s.*, 10*s.*, and 20*s.* each.

BEATON'S NEW SEEDLING BEDDING GERANIUMS of unique and beautiful colours are—

THE IMPERIAL CRIMSON and the MODEL NOSEGAY.

ALLAMANDA VIOLACEA.
CALCEOLARIA AMPLEXICAULIS ALBA.
DWARF DAHLIA, THE WHITE UNIQUE.
" " GLOIRE DE FRANCE.
BANKS'S NEW FUCHSIAS.
PELE'S NEW CHRYSANTHEMUMS.

GERANIUM WHITE NOSEGAY.
" SILVER CHAIN.
" ST. CLOUD.
" GOLDEN TOM THUMB.
" CERISE UNIQUE.
" THE RAINBOW.

## OF VERBENAS,

THE MOST SPLENDID COLLECTION EVER OFFERED are those now in bloom at the Wellington Nursery, and to which E. G. HENDERSON & SON have called the special attention of cultivators for the first time this season. The present season is the most suitable for sowing

## CALCEOLARIA, CINERARIA, AND PRIMULA,

to secure an early and continuous bloom of the above favourite plants for Greenhouse and Conservatory decoration. Seed Packets, of first class quality in each kind, at 2*s.* 6*d.* each.

**Wellington Nursery, St. John's Wood, London.**

## CHOICE FLOWERS.

# BUTLER & McCULLOCH'S SPRING CATALOGUE OF SEEDS,

ARRANGED on a new and original plan, with copious Descriptive and Cultural Notes, and containing many new and rare species and varieties not found in any other Catalogue, now ready and may be had free and post paid on application.

FLOWER, SHRUB, TREE, and VEGETABLE SEEDS, the crop of 1858, saved with the greatest care, by the most eminent growers.

We may also state that the Sardinian correspondent of Messrs. JAMES CARTER & Co., whose Seeds, especially Carnations and Picotees, have given such universal satisfaction, has transferred the Agency from that firm and appointed us his representative in this country. To meet the growing demand for first class flowers, particularly FLORISTS' FLOWERS, we have adopted our usual maxim of charging the lowest possible prices.

Professor LINDLEY in the *Gardeners' Chronicle* of February 5th, has the following notice of B. & McC.'s Catalogue.

"BUTLER & MCCULLOCH's (Covent Garden) Spring Catalogue of Choice Flower, Shrub, Tree, and Vegetable Seeds. This list fills 84 closely printed 8vo pages, and is remarkably well got up. It appears that the correspondent in Sardinia, who formerly supplied one of the great London houses with seeds raised in that warm part of Europe, has now transferred what he saves to Messrs. BUTLER & MCCULLOCH. Let us add, that it yields to no Trade List in the abundance of its materials or the excellence of its arrangements."

BUTLER AND MCCULLOCH, while drawing attention to their general SPRING CATALOGUE which has elicited such high encomiums both from the scientific botanist and amateur cultivator, avail themselves of the present opportunity to select from its pages the following list:—

(28) ACACIA GRANDIS (TRUE).
One of the most beautiful of the A. pulchella section, producing deep golden balls. Of these graceful and highly ornamental plants our collection embraces no fewer than 47 varieties, all of the most decorative character.

(70) ALPINES.
Of these beautiful little plants we have a splendid collection, embracing all the most admired kinds, collected and arranged for us last autumn by M. Ortgies, the Curator of the Zurich Botanic Gardens. The value of Alpine plants for rock-work is too well known to require comment. These collections we can confidently recommend, containing, as they do, species only of highest merit.

(199) CALLICHROA PEDATA.
A new crimson annual with white eye, very beautiful.

(217 A.) CAMELLIA JAPONICA.
From the newest and finest striped and other varieties of that much admired genus.

(296) CEANOTHUS AZUREUS GRANDIFLORUS.
This, cæruleus macrophyllus, and Fontanesianus are all beautiful varieties of this highly ornamental genus, of which we possess nine splendid varieties. They are equally suited for conservatory and out-door decoration.

CANNAS.
Of these we possess an extremely interesting collection.

(304) CELOSIA (species nova).
A most elegant plant, producing a multitude of long spikes of feathery blossoms, silvery white shaded with bright rose, retaining its colour perfectly when dried, and therefore admirably adapted for winter bouquets; one of the greatest novelties of the season, flowering out of doors or in pots from July to October. Well worth attention. A dried specimen may be seen.

(337) CHRYSANTHEMUM (tall and dwarf).
Of these dwarf and tall varieties we have a fine stock, nearly all of which may be depended upon to produce double flowers, the seeds having been saved from the finest named varieties.

(344) CHRYSOCOMA COMAUREA.
Fine evergreen shrub, bearing a profusion of golden ball-like flowers; one of the handsomest greenhouse plants in cultivation.

(451) DATURA HUMILIS FLORE PLENO.
A magnificent Brugmansia-like plant producing a profusion of deep golden-yellow flowers; very large, double, and sweet-scented. One of the greatest novelties of the season.

(625) HABROTHAMNUS HÜGELLI.
This, purpureus, and Abelli are all handsome varieties of this beautiful genus, which everybody having a greenhouse or conservatory should grow. All three are extremely ornamental.

(665) HIBISCUS ROSEUS SUPERBUS.
This, Syriacus, and Thunbergi we can highly recommend. All are plants of great beauty.

(680 to 688) HOLCUS OR SORGHUM (Chinese Sugar Cane).
Of this important class we have nine new and important varieties from Africa, said to be more ornamental and to contain more saccharine matter, Holcus saccharatus.

(704) INDIGOFERA DECORA ALBA ROSEA.
The above, purpurea, and dosua are all pretty free flowering shrubs, suitable for small greenhouses. They are also highly ornamental out of doors in summer.

(972) PELARGONIUMS.
Of these both large flowered and fancy, very choice, and of other splendid varieties, including Scarlets, we have a fine stock, which cannot fail to prove highly satisfactory.

(1149) SOLANUM CAPSICASTRUM.
Miniature Orange tree, covered all winter with a profusion of scarlet fruit; a handsome plant for greenhouse or sitting rooms.

(1335) BIGNONIA RADICANS MULTIFLORA.
Finer and brighter than radicans; flowers in large panicles producing a splendid effect.

(1468) TACSONIA IGNEA.
This magnificent Passionflower is unequalled for the brilliancy and splendour of its scarlet blossoms, far surpassing in this respect any of its class yet known. It flowers most profusely, grows rapidly, and covers a large space in an incredibly short time. It succeeds in a cold greenhouse, and even against a south wall with a little protection in winter (new and rare).

(1488) TROPÆOLUM TRIOMPHE DE GAND FIMBRIATUM.
Fringed orange scarlet.

CARNATIONS and PICOTEES saved from the most choice Collection of English varieties grown on the continent, and which may be expected to produce flowers of the highest merit, sent out in sealed packets as received from our Sardinian correspondent, whose seeds for many years have given such universal satisfaction, and from which varieties of the greatest excellence have been raised.

For prices and further particulars with regard to the above and other novelties, we refer our patrons to the Catalogue itself, which is sent free and post paid on application.

**BUTLER & McCULLOCH, Covent Garden Market.**

NEW VERBENA.—Edmonds's set of the above as sent out this spring by Mr. Chas. Turner. Twelve of the best, including package, 12*s.*
J. & W. BADMAN, Nurserymen, Gravesend.

BUSBY'S STOCKWOOD GOLDEN HAMBURGH GRAPE.

IN consequence of the Horticultural Society having abandoned their intended Exhibition at St. James's Hall on the 29th and 30th of this month, on account of the injury sustained by the plants from the heat and dryness of a gas-lighted room,

JAMES VEITCH, JUN., begs to announce that the PRIZE of 5*l.* 5*s.* offered by him for the BEST THREE BUNCHES of the above GRAPE, will now be awarded at the next Meeting of the HORTICULTURAL SOCIETY'S FRUIT COMMITTEE, at 8, St. Martin's Place, Trafalgar Square,

On TUESDAY, July 12, 1859, at 3 P.M.

J. V., Jun., also offers a PRIZE of 5*l.* 5*s.* for the BEST THREE BUNCHES Exhibited at the CRYSTAL PALACE SHOW, September 9 and 10, 1859, as before advertised.

N.B. The Grapes intended for Exhibition at St. Martin's Place on July 12 should be delivered there not later than 11 A.M. on that day; and J. V., Jun., will be happy to pay the carriage of those that are sent.

ROYAL SOUTH HANTS SEED ESTABLISHMENT,
UNDER THE PATRONAGE OF H.R.H. THE PRINCE CONSORT, THE AGRICULTURAL SOCIETY OF INDIA, AND THE LEADING AGRICULTURISTS OF THE UNITED KINGDOM.

PAGE AND TOOGOOD'S STOCKS have produced the finest specimens exhibited at Smithfield, and are so well known and appreciated that comment on their part is unnecessary. Their prices compete with any house in the trade.

PRESENT PRICES, Carriage Free to all parts of England:—

| | Per lb.—*s. d.* | | Per lb.—*s. d.* |
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| Skirving's Swede | 0 6 | Hardy Green Round | 0 6 |
| Page's Improved | 0 8 | Early Six Weeks | 0 6 |
| Ashcroft | 0 6 | Kohl Rabi | 2 6 |
| Greentop | 0 6 | Yellow Globe Mangel | 0 6 |
| Sussex, or Jeffery's | 0 9 | Page's Impl. Orange Globe* | 0 8 |
| Tankard | 0 7 | Red Globe | 0 7 |
| Red Round Turnip | 0 6 | Elvetham Long Red | 0 7 |
| Page's Improved Red Globe | 0 8 | Long Red | 0 6 |
| Scotch or Bullock | 0 7 | Long Yellow | 0 7 |
| Pomeranian White Globe | 0 6 | White Belgian Carrot | 1 0 |
| Early Green Globe | 0 6 | New Red | 1 8 |
| " White Tankard | 0 7 | Long Altringham | 1 8 |
| Red Tankard | 0 7 | Cattle Cabbage | 2 6 |
| Green ditto | 0 7 | Cattle Parsnip | 1 0 |
| Yellow ditto | 0 7 | Dwarf Essex Rape | 0 4 |

* Bulbs of this variety have acquired the enormous weight of 44 lbs., as shown at Smithfield Club.

BUCKWHEAT, MUSTARD, LINSEED, TARES, SAINFOIN, HOLCUS SACCHARATUS, 1*s.* per lb.

Fine PERMANENT PASTURE GRASS, ITALIAN RYE-GRASS, CLOVER, &c., at lowest market prices.

Special contracts for large quantities. Seeds packed for exportation to all parts of the world.

Oxford Street and Above Bar, Southampton

CINERARIA SEED
SAVED FROM THE
CHOICEST NEW SORTS.

LUCOMBE, PINCE, AND CO. have now ready for sending out SEEDS of their very superior

CINERARIAS,

Which have been saved with the greatest care from fine selected flowers of the best new varieties. The great satisfaction which their Cinerarias have given for many years past has induced them to pay even greater attention to the quality, which enables L., P., & Co. to recommend their Seed of this present season's saving as being vastly superior to any previously sent out by them:—

Large packets .. 5*s.* 0*d.* each } Post free, sealed and war-
Small do. .. 2 6 " } ranted by L., P., & Co.

The present is an excellent time for sowing, and as their stock owing to its select quality is limited, early orders are respectfully solicited.

Exeter Nursery, Exeter. Established 1720.



# The Gardeners' Chronicle.

*SATURDAY, JUNE* 18, 1859.


MEETINGS FOR THE FOLLOWING WEEK.

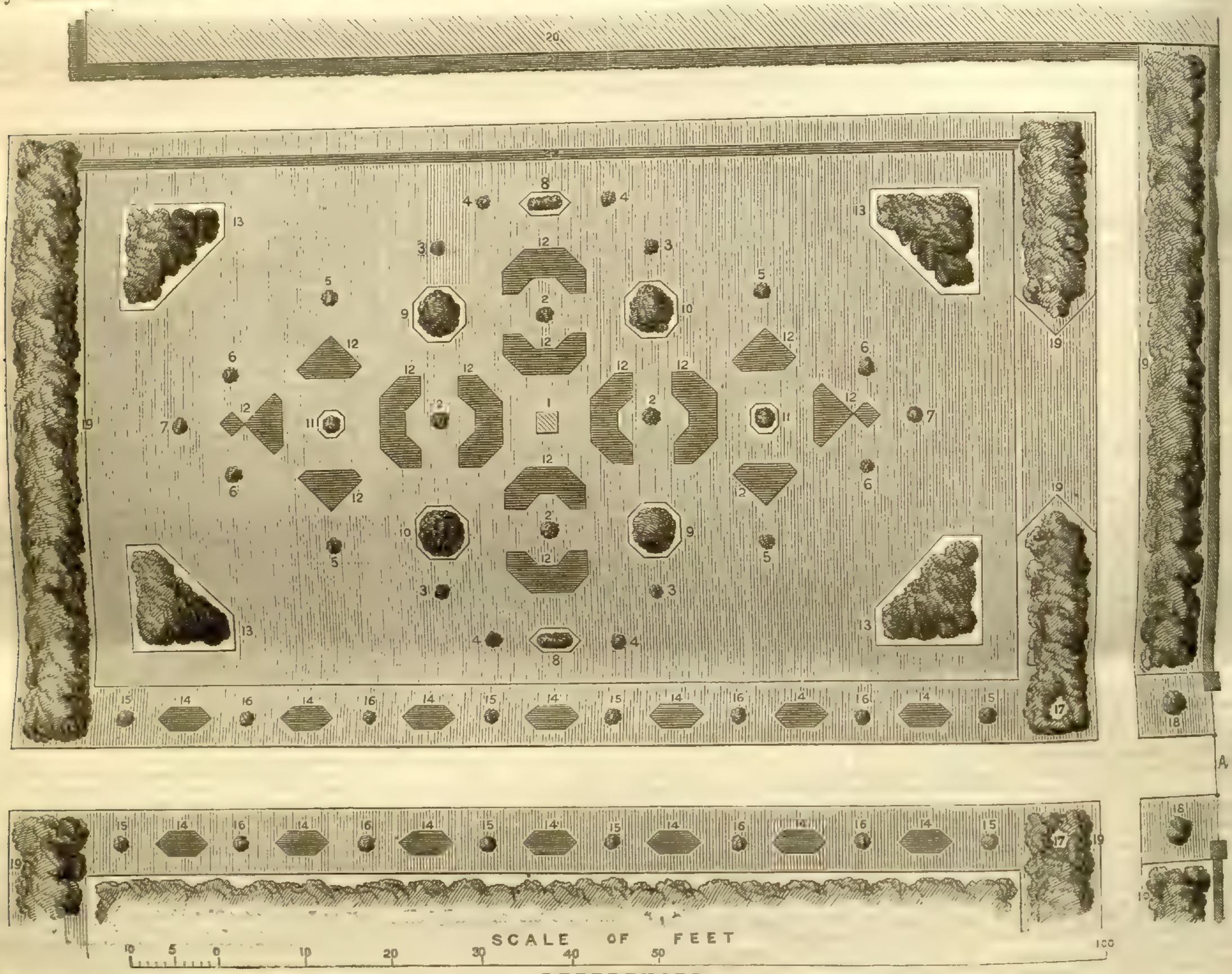
THURSDAY, June 23—National Rose at Hanover Square Rooms.

ALMOST every one is aware of the great superiority of true field MUSHROOMS over those which are grown under sheds or in houses warmed by flues, though the latter are often preferred from the comparative safety with which they can be used, and on that account are the only Mushrooms which are allowed to be sold publicly in the markets at Paris. Attempts have been made with greater or less success to grow Mushrooms in the open air, but after all, except they break through turf they are often gritty, and at present few persons seem to be able to manage Mushroom beds coated with green sods.

Some years since the late Mrs. HUSSEY, who devoted so much time in conjunction with our lamented friend, Dr. BADHAM, to the study of esculent Fungi, proposed their cultivation in lawns. We believe, however, that her proposition was merely theoretical, and, if at all, very imperfectly carried out into practice. Mrs. LOUDON, indeed, in her "Gardening for Ladies," as stated in this Journal (Jan. 17, 1857), writes "that Mushrooms may be made to grow on lawns and in pleasure grounds by procuring some bricks of spawn in April or May, and after breaking them into pieces one or two inches square, burying the pieces at intervals all over the lawn. In each place a little of the turf should be raised, under which the spawn should be inserted and the turf then pressed down over it. The lawn should be afterwards

rolled, and no other care will be requisite till the plants are ready for gathering, which they will be in September if the summer has been tolerably warm and dry. This plan only succeeds where there are no snails." Whether Mrs. LOUDON had any experience of this method we are unable to state, but it has been frequently tried, though, as far as we know, uniformly without success. Without discouraging further experiments in this line, it may be well to have recourse to another plan where it is desired to make the lawn a prolific Mushroom bed. Some lawns are naturally productive of Mushrooms, but there seems to be a prejudice in some quarters against the use of the Mushrooms they produce, though beyond doubt without the slightest foundation. The plan we should propose is to procure the spawn at once from the fields, and for this purpose those spots should be preferred where the specimens are scattered about irregularly and not produced in rings, as there will be a better chance of obtaining the spawn free from any admixture with that of inferior and more vigorous species of Agaric, such as *Agaricus arvensis* (the Horse-Mushroom), for *Agaricus campestris* is the species which every one would wish in preference to cultivate. If not convenient to get the spawn at once when the Mushrooms appear, the spots should be carefully marked, and at the very first convenience a patch of turf should be taken out 1 foot or more square, and at least a foot deep, breaking the soil beneath as little as possible. This should be inserted, after careful removal, without needless delay into the lawn, and after the new turf has been closely pressed, watered with rain-water occasionally till the union with the old turf is complete. If there is nothing wrong about the drainage or locality, there can be little doubt that this plan would succeed. It would at least be certain that the healthy Mushroom spawn is used, which is not always the case with what is purchased. The cultivation of *Agaricus arvensis*, and *A. Oreades* (the Champignon), but especially that of the former is not desirable on lawns, as the fertile turf is always withered up and has a disagreeable aspect. To *Agaricus gambosus* there is the same objection, and highly as it is spoken of, it is more fit for flavouring than for stewing from its tough unyielding texture, and those who have any taste for the St. George's Mushroom may well be content to gather it in its own natural station, where it is generally abundant in spring and early summer.

As however *A. Oreades* is next to *A. campestris* the very best of Fungi, should its cultivation in the lawn be wished for we should give precisely the same advice as in the former case, and recommend isolated patches to be selected for removal rather than specimens of spawn from rings. In either instance the spawn should be disturbed as little as possible, for though it is very true that the artificial spawn may be crumbled up with impunity, that in the natural ground is impatient of interference, notwithstanding the occasional difficulty of eradicating it where it is once thoroughly established. The finest Mushrooms are always found in pastures which have never been disturbed within the




REFERENCES.

1. Pedestal for Sun-dial.
2. Specimen Irish Yews.
3. Do. dwarf Golden Hollies.
4. Do. Andromeda floribunda.
5. Do. Yucca gloriosa.
6. Do. Berberis japonica.
7. Do. Pernettya mucronata.
8. Beds of Berberis Darwini.
9. Do. Rhododendron hirsutum.
10. Do. do. ferrugineum album
11. Do. mixed Heaths.
12. Beds for Geraniums, Verbenas, &c., one colour to each bed.
13. Beds of Hybrid Rhododendrons.
14. Beds for choice Herbaceous and other plants.
15. Specimen Hybrid Rhododendrons.
16. Do. Half-standard Roses.
17. Standard Wistaria sinensis.
18. Deodar Cedars.
19. Masses of Rhododendrons, Kalmias, and other American plants.
20. Conservatory.
21. Border for Climbing Plants, with a Box edging.
22. Terrace, bank of Grass, 1 foot in width, and 6 inches below the gravel walk in front of Conservatory.

memory of man, and the best chance of success will be where the spawn in its new situation is as nearly as possible in the same condition as that in which it was before its removal. *M. J. B.*

AT the end of last January some remarks appeared in these columns upon what was called a PEA LENTIL, that is to say, a mule between a Pea and a Lentil, which Dr. RAUCH of Bamberg announced his having obtained by artificial crossing. Our announcement was however made with all the caution that so startling an occurrence demanded; its improbability was pointed out, no well attested case of mules among Pea-flowered plants having been previously recorded; to say nothing of the obvious difficulty of effecting, by any kind of manipulation, the intermixture of such very different flowers as the tiny Lentil, and the large-flowered Garden Pea.

Nevertheless in the face of such evidence as was produced no one could absolutely deny the truth of the statement. There was the guarantee of Dr. RAUCH'S name, and samples of the Pea Lentils reached us from correspondents who had obtained them from Dr. RAUCH himself. Among these was Mr. VAN HOUTTE, who had been assured by the raiser that the "hybridization had been effected by fecundating the Common Lentil" (Ervum Lens) with the pollen of a sort of Sugar Pea. Nothing then remained to be done except to sow the Pea Lentils and report the result.

Many of our home correspondents were furnished with seeds for trial, a few being reserved for ourselves. The latter are now in flower, and we find it necessary to state—1. That there is no appearance whatever of the Garden Pea having been concerned in their parentage; 2. That they are equally free from the blood of a Lentil; and 3. That they are merely a Vetch of some kind, at present undistinguishable from the *Vicia globosa* of continental gardens. We understand moreover from Dr. SEEMANN that some similar statement has been made in the Hamburgh Gartenzeitung, where this Pea Lentil has proved to be the white seeded common Vetch (*Vicia sativa leucosperma*). Whether it is the latter, or the former, which indeed is probably a mere form of *Vicia sativa*, our own plants do not at present enable us to report; but it is doubtless either the one or the other.

This being the case, we think it due to the public that Dr. RAUCH should offer some explanation of the circumstances that led him to put forth the statement thus shown to be wholly unfounded, and which, in the absence of such an explanation, looks like a discreditable hoax.

Let us add that some time ago (p. 312) it was mentioned in our columns that a parcel of seed from Messrs. HAAGE of Erfurt, marked *Ervum monanthos* or Provence Lentil, was apparently the same as Dr. RAUCH'S Pea Lentil; and at present we see no difference between the plants of the two.

## DESIGN FOR A FLOWER GARDEN IN THE FORMAL STYLE.

THE accompanying plan for a Flower Garden is now in course of formation at the Nurseries of Messrs. Rollisson, of Lower Tooting. A Conservatory of large dimensions, about 130 feet in length by 28 feet in width, for the exhibition of specimen plants has recently been erected, and it was desired to arrange the piece of ground in front so as to set this off to advantage, and at the same time to afford an opportunity for the display of any new or remarkable plants. The Coniferous and other trees would be placed in the border on the left hand side of the principal walk from the entrance gate (A), the Rhododendrons and other American plants in the beds (Nos. 13 and 19), while the Herbaceous, Bedding, and other similar plants will be arranged in the Flower beds at Nos. 12 and 14. The wall of the Conservatory being about 3 feet in height, a border (No. 21) 18 inches wide is to be made

at the foot of this, in which climbing plants are to be placed. As there was a slight fall from the Conservatory to the ground in front of it, a small Terrace Bank (No. 22) is formed, which has the effect of raising the walk 6 inches above the Flower Garden. It should be observed that there is a fountain in the line of the entrance gate, which forms an appropriate termination to the principal walk. (There was not room to show this in the plan.) The branches of the two Wistaria sinensis (No. 17) will eventually form a kind of arch over this walk near the gateway. *J. W. Chapman, Dulwich.*

## Home Correspondence.

*Glenny's Manual of Practical Gardening.*—I fear your reviewer's notice of this book will produce disappointment. Acting on his recommendation I purchased a copy, and although the matter is in itself very good, yet it is put together in a manner to puzzle the most industrious reader. In truth it is a mere jumble of good things without any means of finding where they are. I have been looking for Chrysanthemum, but give up the search. The name is not in the Index, as it is called, which leads to nothing; nor can I discover its place in any part of the volume. Your notices of books are generally very just, but I think good-nature has in this instance pushed justice from her stool. *Carlton.*

*Monstrous Cardamine.*—I send you some "monstrous" specimens of Cardamine, thinking, if you have not seen the same state before, they might be interesting to you, as you observe what in the normal state should be the pod becomes a second flower, and in some cases the specimen is at once a double flower. *Daniel Wheeler, M.R.C.S.* [This is the most extraordinary deviation from usual structure that we have yet seen. A flower appears in its usual state; the calyx, petals, and stamens fall away; then the ovary acquires a long stalk, swells, and opens on one side, where a cluster of petals bursts forth in imitation of the natural flower. This flower in the inside the ovary arises from the torus (or growing point) of the first flower; but seems to be independent of the placenta, which bears abortive ovules much as usual. We hope to examine this structure hereafter upon better specimens.]

*Fragrance.*—"A. Z." will feel much obliged to the Editor if he will give an answer to the following query: "To what do plants owe their fragrance?" And why is one kind of flower odoriferous and another scentless; as all the tissue of plants is originally without scent? [We can only reply by asking other questions. Why has one person flaxen and another black hair? Why is a cat free from bad smell and a fox intolerable?—seeing that in the beginning their animal tissue was alike.]

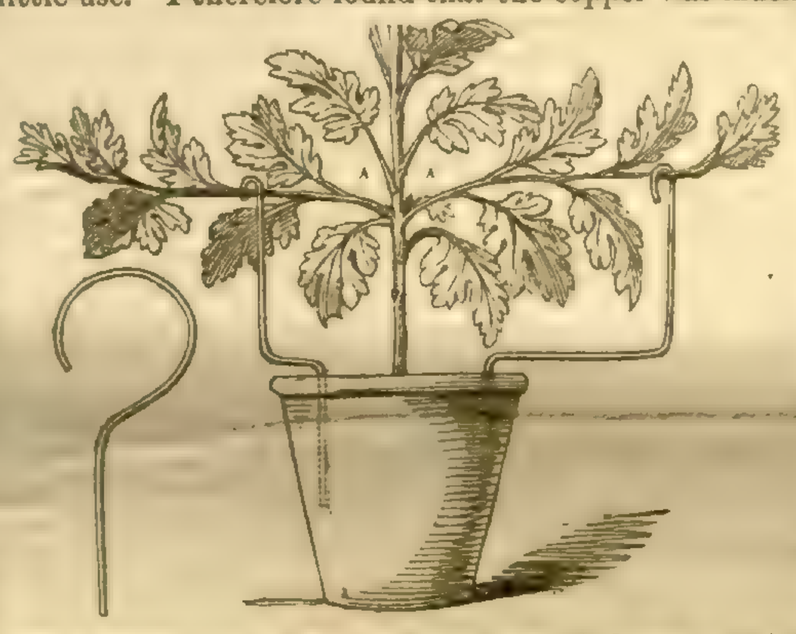
*Weigela amabilis* (alias *Coræensis*).—I observe in the *Revue Horticole* that this plant when raised from seed loses all its distinctive characters, and becomes mere W. rosea, of which, therefore, it is evidently only a variety. Is not this equally true of an enormous number of what are called species by garden botanists and gardeners? *Jael.*

*Are Puff Balls good to eat?*—This neighbourhood is now beginning to teem with Agaricus arvensis, the *Boule de Neige* of the French, and a very bad substitute it is for true Mushrooms. I found some very large young Puff Balls the other day, which were dressed according to Mrs. Hussey's and Dr. Badham's "indications," and they were detestable. *M.*

*Miasma or Malaria.*—Being absent from England, it was only to-day that I observed the notice which you did me the honour to take of my work in the *Gardeners' Chronicle* of the 14th ult. In that article the reviewer states:—"He (the author) is of opinion that miasma, as it is termed, is merely carbonic acid, and that whatever ill results this gaseous substance may produce in the extinguishing of lights, or even of life itself, it will never, can never, be productive of fever or any other disease." If by miasma be meant the emanation arising from decomposing or putrefactive matter, in addition to carbonic acid, carburetted hydrogen, sulphuretted hydrogen, phosphoretted hydrogen, nitrogen or azote and ammonia, should also have been mentioned—these being, as is well known, the ordinary gaseous products of the putrefactive process. The argument, however, is the same, for it has been my object to show that neither of these gaseous substances possesses the chemical or physical properties of that invisible but well-known substance malaria—to the agency of which the majority of diseases are to be ascribed. I entirely concur with the writer of the article referred to in wishing that an inquest of jurors—of scientific medical jurors—might be held on the subject; for if my conclusions be correct, animal *excretæ*, instead of being thrown into the sea, might be applied to agricultural purposes, and thus become a mine of wealth to the agriculturists, and a source of revenue instead of expenditure to the inhabitants of all our large towns. *J. Parkin, London, June* 10.

*Gardeners' Benevolent Institution.*—As a member of this Institution, and one who works hard in the heat of the day, I beg to tender my humble thanks to Mr. Justice Haliburton for the kind manner in which he advocated the cause of us gardeners at the last anniversary festival. I sincerely believe that every working gardener would unite with me in thanking that gentleman; he said the word "charity" ought to be expunged, a statement in which I quite agree. How can it be any such thing? The station of a man of course is thought of, and whilst he contributes out of his profits to the wants of his aged brethren it would be "very wrong to call that charity;" it cannot in any way assume that definition. The Institution ought rather to be called the Gardeners' Society, as it chiefly consists of a united body of gardeners and those who patronise them. I have been for 10 years an annual subscriber, and many other gardeners I know have been so much longer; surely, therefore, the time is coming, or has come that the gentlemen of the committee will well consider what they are doing and come forward with an open and impartial verdict, and not let this our Society be an exception to all others, viz., by allowing gardeners to become candidates for the pension that are not subscribers. It would rather be better for them to decide upon augmenting the pension from 16*l.* to 20*l.* per year to every gardener who is elected a pensioner, and 16*l.* in the place of 12*l.* to widows. I am sure such a movement would give universal satisfaction to that indefatigable class of men who strive to support their brother labourers that have been doing likewise, and should the hour of need come or befall them, they themselves may not be cast out but be gladly received. *A Working Gardener.* [We quite agree that it would be better to drop the word charity if facts justified the change; and that would be the case if no persons received assistance except those who have subscribed, a measure the sound policy of which we shall never cease to advocate. But when the funds of the institution are applied to the relief of those who have never contributed anything to it, that surely is charity and nothing else.]

*Chrysanthemum Peg.*—Finding I needed something to keep the branches of my Chrysanthemums down, I referred to your Number of last year, page 639, and found there the representation of a wooden peg invented by Mr. Broome. As however I have not much time to devote to the sawing and cutting of wood, I bethought myself of something more easily attainable, and I think at the same time more serviceable. It is as follows: I procured a small quantity of copper wire, I think technically termed "18s," and cutting this up into pieces about 6 inches in length, the end is readily bent with the fingers into the shape of the peg just adverted to as made by Mr. Broome. But a difficulty arose. My branches were overhanging the pots they were in, consequently pegging them down to the pots was of very little use. I therefore found that the copper was much




more preferable to the wood, as it enabled me to twist it any way I pleased; thus I had the means at my command of stretching my shoots some distance over the sides of the pots. The above is a sketch of its appliances in the form I have it now in use. These slips are capable of being bent to any shape, whereas the wooden ones could with great inconvenience only be used for pot plants. Another advantage gained is that for the price of 2*d.* I procured sufficient wire to make 40, and the time (an object with me) occupied in making them was only 20 minutes. It is therefore I think an improvement on the wooden peg; should, however, a doubt arise that the wire would slip from the mould, this may be remedied by pressing the surface with the finger where the wire enters, thus giving a compact body to resist any attempt at rising. But before concluding I must add a word of caution to amateurs like myself, namely, that should the branch intended to be bent down be too strong and too full grown, it will be found necessary to have a crutch or prop (similar in shape only to those used by laundresses in supporting their clothes-lines) formed out of a piece of wood, or the joints at A A in the woodcut may snap and produce disappointment. A piece of bast tied round the branch bent and again to the parent stem will answer the same purpose as a crutch. Any information as to recent improvements that may have been made will be considered a boon. The Tulip, the Dahlia, and several other plants have long been favourites with the public, and as the Chrysanthemum now seems rising in estimation all that can be gleaned from experience in regard to the management of that plant will be highly acceptable. *G. Aucutt.*

*Cucumber Growing.*—Much having been written of late on growing Cucumbers without bottom-heat, I have forwarded for your inspection two leaves taken from a plant just coming into bearing; the sort is Webb's Imperial Black Spine, which promises to be very prolific. It was planted in a brick pit in April, with a little bottom-heat to start it, obtained from dung and leaves, which declined long since and will not be renewed during summer. But in winter I certainly should not think of being successful without a steady bottom-heat. I also send a large leaf taken from a Black Hamburgh Vine, which with the rest in the house I am informed has been planted nearly 20 years. This is one out of many nearly as large, and the crop of fruit and bunches is large also. *W. Chesher, Beaufront Gardens, Hexham.* [The Cucumber leaves sent measured 14 inches from stalk to point, and 1 foot in diameter. The Vine leaf 12 inches from stalk to point, and the same in diameter.]

*Yucca gloriosa.*—We have a large plant of this here with a stem or trunk, about 5 feet in height, coming into bloom, or rather the flower stem has just made its appearance. Caring more about the plant than the flowers, and knowing that often after blooming the trunk rots, would you advise me to cut the flower stalk away? By so doing would it preserve the plant from decaying? *G. A., Finedon Hall.* [Let it flower; you will have plenty of suckers.]

*Sardinian Carnations and Picotees.*—The seed offered for sale under this designation is saved in Sardinia from English, French, and Belgian plants; the indigenous Sardinian Carnations being comparatively worthless. The fine climate of southern Europe enables Carnations to ripen freely, and the seed is consequently more fully developed; but although seeds thus saved give a large proportion of double flowers, they being mostly ragged-edged are not suitable for show-blooms, for which reason they are not worthy of extensive cultivation by nurserymen; more especially as Carnations and Picotees very rarely come true to description from seed. Has "J. H." looked over the catalogues of the following firms—"Turner," "Henderson," and "Dodwell & Bailey?" I think he will find the sort he requires in one of the above lists. *Italy.*

*Charcoal.*—I have for many years practised the making of charcoal in a very simple and economical way from every refuse of wood kind, which is either too worthless or too small to be good for anything else; of course small charcoal, but that is no disadvantage for gardening purposes. The materials have been the small branches and twigs of all trees, clippings of hedges, Evergreens, &c., which it generally costs labour to destroy. I could produce this charcoal at a cost of 10*s.* a ton—for the mere labour of making—assuming that the materials must be got rid of somehow. Of course it could be sold with a profit at any price above 10*s.* The mode of making can be best understood by being seen—as there is a little, but very little, practical skill required. The materials are placed in a large heap, as if to be burnt to ashes, but near where water is at hand. The heap is set fire to, and allowed to burn up, but when some way advanced it is then drenched with buckets of water. This arrests the burning to ash. An iron rake must then be applied to the burning mass, the larger parts separated from the smaller in a half burnt and burning state. The smaller will be found the excellent small charcoal, the larger half charred wood and still burning. This part of the mass must be raked to one side, and a mass of new raw material placed on the top of it, which will blaze up, and when it has burnt to the proper point, water must be administered as before, the raking take place, and the same operations pursued *ad infinitum.* No doubt a small portion of the finer twigs is reduced to an ash, but that loss is amply compensated by the economy of the process and the large proportion of perfect charcoal produced. It is obvious that a little practical experience is required to execute the process, as well as it admits of being performed, but a person who well understands it can teach another to do it as well as himself in one hour. I manufactured it to a considerable extent, but no one would buy my charcoal, so I ceased to make more than I could use, and had to revert to the wasteful practice of destroying annually a vast mass of material which might have been converted into excellent charcoal at a cost of 10*s.* a ton. I had no intention of writing so much when I commenced. The quantity of charcoal which might be produced by this simple process in all districts is immense, if people only would use it in culture and in deodorising, and in that event it might be a source of profit to the owners of woodlands. The mere dressings of the hedges of the kingdom would produce an immense quantity. *K.*

## Societies.

ROYAL BOTANIC, REGENT'S PARK: *June* 15.—This was an excellent show, and was very well attended. Stove and Greenhouse plants were in great perfection, and so were Cape Heaths and Pelargoniums. The only weak points were Roses in pots and Azaleas, the season for both of which is evidently over. There were, however, some charming boxfuls of cut Roses. The fruit show was an improvement on that held last week at the Crystal Palace.

Stove and Greenhouse plants were contributed by the usual exhibitors; but this time considerably the finest large collection was produced by Mr. May, gr. to J. Spode, Esq., of Hawkesyard, near Rugeley. These, although they had travelled nearly 150 miles, were in excellent condition. Among them were admirable samples of Dracophyllum gracile loaded with compact heads of small snow-white blossoms, which are well suited for bouquets; Allamandas, Dipladenia splendens beautifully flowered, Ixora coccinea, Phœnocoma proliferum unusually well furnished with fine heads of showy blossoms, Stepha-

notis floribunda, and Pleroma elegans, the last one of the very handsomest of Melastomads, its flowers being of the most beautiful Tyrian purple, and each of them larger than a five shilling piece. They are also more persistent than those of most of the class to which they belong. Mr. Dods, gr. to Sir J. Cathcart, Bart., and Mr. Whitbread, gr. to H. Collyer, Esq., were placed equal in point of merit. In these groups were fine specimens of the well-known Mahernia incisa, Allamandas, Ixoras, including the fine example of the Willow-leaved kind, to which attention was directed in our report of the Crystal Palace. This may safely be asserted to be one of the best of the genus. Its great heads of showy flowers of a brilliant orange colour stand well up above the leaves, which are long and pendent, thus giving to the former an amount of individuality and artistic beauty not possessed by other species of the genus. Smaller collections were furnished by Messrs. Cutbush, Fraser, Green, Rhodes, Baxendine, Peed, Chilman, Carson, and Tegg. These for the most part consisted of plants that were shown at Sydenham last week.

Orchids were furnished in beautiful condition; in general, however, they were very much the same as those produced at the Crystal Palace. In the Rev. Mr. Ellis's group were the handsome Cattleya superba, and the singular looking rather than beautiful Uropedium Lindeni. Mr. Bullen, gr. to J. Butler, Esq., had a splendidly flowered Brassia and Anguloa Clowesi, with no fewer than five blossoms on it, all in the greatest possible perfection. Two Sobralias (macrantha and Galeotti) from Mr. Woolley were admired; Mr. Dods sent a very fine Phalænopsis; Mr. Carson the elegant green tailed Dendrochilum filiforme and Stanhopea tigrina; and Mr. Ivison, gr. to the Duke of Northumberland at Sion, Acineta Humboldti with a remarkably fine spike of pale watery looking yellow blossoms. Others did not differ materially from those mentioned last week.

Among Cape Heaths, several collections of which were exhibited, were some beautiful specimens of mutabilis, tricolor Wilsoni, one of the best of its class; obbata, a fine old Heath; Massohi, small but very handsome; and different seedlings of Hartnelli and aristata.

Conspicuous among Azaleas were Ivery's Gem, a sort remarkable for fine form; and Extrani, the latter a lovely rosy pink kind, still finely in flower.

Of real novelty there was little. Though not absolutely new perhaps the most striking was a charming specimen of Cœlogyne pandurata from Mr. Lawrence, gr. to the Bishop of Winchester. This had a fine spike of pale green flowers stained on the lip with jet black, a contrast of colours not less remarkable than pleasing. Messrs. Parker & Williams sent a white variety of Meyenia erecta, which promises to be a useful plant; Mr. Parsons a hybrid Achimenes called Dazzle, with brilliant red flowers in the way of Meteor. From Messrs. E. G. Henderson came Aucuba himalaïca, a velvety crimson-flowered variety of Dianthus sinensis called Hedwigii, and Amphicome Emodi, with lilac flowers stained in the throat with yellow. The Dianthus, to which we have formerly alluded, promises to be a fine thing; its blossoms measure at least 2 inches across. We hope, however, to see it again in better condition.

Of Miscellaneous articles, Messrs. Veitch sent Oreopanax hypargyreum, a noble plant with palmate leaves; Blandfordia grandiflora in flower, Rhopala glaucophylla, the violet Tradescantia odoratissima, and Tacca integrifolia, a well known plant, whose singular dark looking leafy inflorescence takes a form not unlike that of some Orchids. A fine specimen of Eucharis amazonica was shown by Mr. Davis, of St. John's Wood.

Ferns were shown in considerable quantity, and served to fill up odd nooks and corners with excellent effect. Among those from Mr. Carbonell were the New Zealand Todea hymenophylloides, the Jamaica Hymenophyllum hirtellum, the handsome Gleichenia flabellata, dichotoma, and a wonderfully fine G. microphylla.

Roses in pots, as has been stated, were much past their best. Among them however one, Charles Lawson, deserves notice. It is very double, something like Coupe d'Hébé, and altogether a very fine kind. Among those shown in boxes in a cut state were many fine blooms of most of the leading sorts. The best came from Mr. Mitchell, of Piltdown, Sussex. Messrs. Paul & Francis also showed fine blooms. Conspicuous among the latter were Madame Vidot, Paul Ricaut, General Jacqueminot, Lord Raglan, Madame Willermoz, and Gloire de Dijon.

Pelargoniums were not very different from the kinds mentioned at p. 507. Those from Mr. Turner, of Slough, both fancies and ordinary kinds, were all that could possibly be wished for, both as regarded good cultivation and profusion of bloom. Mr. Dobson's were also good, as were likewise the collections from Amateur growers. Of the latter the best came from Mr. Foster. Messrs. E. G. Henderson sent imperial crimson, a bright kind but without what florists call form. The same firm also sent two pretty kinds suitable for bedding purposes, allied to Golden Chain. Messrs. Veitch had the very handsome spotted dwarf kind mentioned in our report of the Crystal Palace, and from Mr. Turner and others was a fine bank of seedling florists' varieties, the best of which will be found described in last week's report.

Fruit was tolerably plentiful. Providence Pines weighing between 8 and 10 lbs. each came from Messrs. Young, Bailey, and Floud. The latter sent the best Queen, whose weight was about 4 lbs. It was well ripened and finely grown. From Messrs. Young, Bray, and Bailey also came fine fruit of this variety. An Enville 6 lbs. weight came from Mr. Fothergill, and we noticed one or two small Jamaicas.

Grapes were good, especially Black kinds. The best Black Hamburgh came from Messrs. Floud, Thomas, and Hill. The three bunches from the latter weighed together 6 lbs. Others from Messrs. Henderson, Wood, and Drewett were nearly equally good. West's St. Peter's and Black Prince, fine bunches, were furnished by Messrs. Allport, Fullerton, Turner, and Miller. Of white sorts Mr. Bailey sent excellent examples of Muscadine, and exhibitions of the same kind also came from Messrs. Jackson, Wood, Frost, and Alderson. Frontignans came from Messrs. Drewett, Bond, Parr, Standish, and Allport. Muscats were not at all good, and many of them were unripe. An exhibition marked Stillwell's Sweetwater, from Mr. Allport, appeared to be White Frontignan and very good of its kind. Grizzly Frontignan came from Mr. Richards. "Musqué Frontignan," exhibited on this occasion, was evidently the Chasselas Musqué. It was very fine and not cracked, the only fault belonging to this Grape. The specimens in question proved however that under proper management it may be obtained without this defect. Vines in pots well fruited were shown by Mr. Hutt.

Peaches, beautiful fruit of the Violet Hâtive sort, came from Mr. Gorton and Mr. Sage; Mr. Oats sent Bellegarde; and fine fruit was also contributed by Messrs. Peacock, Miller, and Hill. The best Nectarines, Violet Hâtive, came from Messrs. Peacock and Frost. Messrs. Carmichael, Forbes, Robinson, Cox, and Hill also showed fine dishes, consisting of Elruge, Violet Hâtive, and Pitmaston Orange.

Of Cherries, both black and white, the best were again furnished by Mr. Henderson, gr. to the Duke of Sutherland at Trentham. The sorts were Black Circassian and Elton, both large and in every way perfect. Messrs. Peachey, Marcham, and others also showed good fruit. Messrs. Lane had some finely fruited trees in pots.

Strawberries were scarcely so good as might have been expected. The best were furnished by Messrs. Clarke, Wood, and Widdowson. Among the varieties were British Queen, Sir C. Napier, Keens' Seedling, Myatt's Surprise, and Sir Harry, the last very dark coloured, which it should be when fully ripe.

Of Melons a great many were exhibited. The best green-fleshed sorts were Bailey's and Snow's. Mr. Bailey also sent the best scarlet-fleshed variety.

Of Figs were noticed some good examples of Lee's Perpetual and Brown Turkey.

Among Miscellaneous Fruit were some Bananas and Apples of the French Crab variety, the latter fine specimens as sound as the day they were gathered.

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LINNEAN: *May* 24 (*Anniversary*).—Prof. Bell, President, in the chair. The special thanks of the Society were given to Mr. Cuming for a valuable present of works on Conchology not previously existing in the Society's library. The secretary reported that since the last anniversary 18 Fellows, three Foreign Members, and two Associates had died, that one Fellow had withdrawn, and that 26 new Fellows, four Foreign Members, and two Associates had been elected. The financial statement read showed a balance in favour of the Society on the year's account of 238*l.* 15*s.* 3*d.* At the ballot which ensued C. C. Babington, Esq.; C. Darwin, Esq.; J. D. Hooker, M.D.; R. Hudson, Esq.; and R. McAndrew, Esq., were removed from the Council, and the following Fellows were elected in their room:—F. Currey, Esq.; R. E. Grant, M.D.; T. C. Janson, Esq.; Prof. Lindley, Ph.D.; and Sir C. Lyell. Prof. Bell was re-elected President; F. Boott, M.D., Treasurer; J. J. Bennett, Esq., Secretary; and G. Busk, Esq., Assistant-Secretary. The President nominated G. Bentham, Esq., F. Boott, Esq., Prof. Owen, and W. W. Saunders, Esq., as Vice-Presidents. Resolutions requesting that the President's address, and the obituary notices by the secretary might be printed, were unanimously adopted.

*June* 2.—Prof. Bell, President, in the chair. W. Camps, M.D., was elected a Fellow. Dr. Iliff exhibited specimens of the Acarus (described at p. 453), which has lately been found to infest a church at Colchester. The following papers were read:—1. "Notes on Homalineæ," by G. Bentham, Esq.—2. "Synopsis of Dalbergieæ, a tribe of Leguminosæ," by G. Bentham, Esq. The author stated that when working up the South American Dalbergieæ some 20 years ago, he had adopted in their fullest extent the prevailing ideas of the importance of the modifications of the fruit in the limitation of genera, but having since had much more ample materials before him for examination, from the warmer regions of Asia, Africa, and America, he had been led to considerably modify his former views on this point. The paper, which was a very long one, consisted mainly of descriptions of the genera and species, with critical remarks on their affinities. This part was however prefaced by some general observations from which the following particulars are gleaned. The majority of the Dalbergieæ are for the most part hard-wooded trees, often of considerable size and great beauty, or climbers of various degree from the short or small tree with weak sarmentose branches to the tall liane twining up to the summits of the highest trees or supported by their twisted petioles or hooked spinous stipules. The wood of the arborescent species, as in the case of most Leguminous trees, is hard and durable, and often of great beauty. That of many of the species is considered of great value as timber, and is largely exported to Europe for the manufacture of furniture, being elegantly veined, and susceptible of a high polish. Of the principal varieties of Rosewood imported into this country, the two best, obtained from the interior of Brazil by way of Rio Janeiro, are certainly supplied by Dalbergieæ, and principally by Dalbergia nigra. Other qualities are derived from species of Machærium. The Honduras and Martaban Rosewoods appear also to be the produce of some species of this tribe, and the tropical African Rosewood or Camwood is certainly that of Pterocarpus erinaceus or P. echinatus. The Red Sandars and Ruby woods of India are the produce of species of Pterocarpus and the Sissoo wood of Dalbergia Sisso. Several species supply gum resins, such as the Kino from Pterocarpus erinaceus or echinatus in Africa; and from P. marsupium and P. santalinus in India. Gum Dragon is said to be produced by Pterocarpus indicus in Asia, and by P. draco in tropical America. Very similar resinous products are attributed to Ecastophyllum monetarium, Drepanocarpus lunatus, and some others. The roots, bark, and fruits of several species are known to be highly astringent, narcotic, or poisonous. All the species of Andira, commonly known in South America under the name of Angelina, are there considered as powerfully anthelmintic. The Lonchocarpi, allied to the Tephrosias, include like them several species used for poisoning fish; as also is the closely connected Piscidia Erythrina. The fruits of several species, on the other hand, are much eaten in some countries, though we have occasional hints of their deleterious qualities, and they are probably never very palatable. Those especially noted as articles of food for the natives are Pterocarpus esculentus, and the similarly corky-fruited species or varieties of Ecastophyllum in tropical Africa, the Geoffroya superba in North Brazil and Venezuela, the G. spinosa about Carthagena, and it is said also a species of Dipteryx, known as Almeadron in Antioquia. All the Dipteryx fruits or seeds are however more used under the name of Tonga Beans or Camaroo, for scenting snuff or for their oil, one of them supplying the Eboe oil of the Mosquito country. The fruits of the Pterodons of S. Brazil are still more replete with an oil which is there said to have powerful medicinal properties. The Poonga or Kurunj oil of India is the produce of Pongamia glabra. Whether for food or for medical purposes, care is generally recommended in the use of all fruits and seeds of this tribe, on account of their narcotic or intoxicating qualities, a principle which prevails more or less in the tribes most nearly allied, especially in the arborescent Galegeæ and many Phaseoleæ, among which we find in the seeds of closely allied species important articles of food or virulent poisons. Even the common Phaseolus vulgaris seeds, or Haricots, are apt to be deleterious (and fortunately to the taste) if stewed at the same time disagreeable without throwing away the first water. The paper contained descriptions of 286 species distributed in 23 genera.—3. A letter from C. Knight, Esq., "on the Common Slug of New Zealand."—4. "Catalogue of the Diptera Insects, collected by Mr. Wallace, at Makessar in Celebes," by F. Walker, Esq.

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## Notices of Books.

*On the growth of Cotton in India, its present state and future prospects*, &c. By J. Forbes Watson, A.M., M.D. (reprinted from the Journal of the Society of Arts).

This is a long statistical account of the present state of Cotton cultivation in India. Although we have failed to discover much novelty in its pages, they will be valuable for purposes of reference. We should have thought however that the possibility of growing good Cotton in many of the regions under the government of India had been already shown so amply by the reports of Wight and Royle, that to insist at great length upon that point would have been superfluous. What required explanation were the causes that had hitherto paralysed the government officers as well as the little Indian farmers (Ryots), whose power has proved powerless. Upon that subject Dr. Watson has shrunk from expressing an opinion. Not so Colonel Sykes, who takes the view which has always been taken in these columns, and without hesitation fixes the cause of failure upon the manufacturers themselves. We rejoice to meet with such an ally, whose plain speaking does him honour. After pointing to Royle's diagram which showed "that as the price of American Cotton rose in the market here, so did the price and supply of Indian Cotton increase; and as the price of American Cotton fell, the quantity of Indian Cotton fell in a corresponding degree," the gallant Colonel proceeded as follows (the Italics are ours):—

"Had the price been kept up at the maximum there would have been a maximum supply from India. The ascents and descents of the quantities, as shown upon that diagram, were truly marvellous. They would scarcely suppose that there had been a supply of 30 millions of lbs. this year in consequence of an increase of a halfpenny or a penny per lb., and if that continued he had no doubt the quantity would rush up to 100 millions of lbs. next year. The fact was, when Cotton was at a price of 3½*d.* per lb., instead of coming to England it went to China, where they got a better price. Therefore, as far as the supply was concerned, there was no doubt India could furnish it, *provided the price was remunerative.* It was not the cultivators themselves who supplied it, but the intermediate agents. The cultivator got his three half-

ence per lb., and there all advantages to him ceased. It then came into the hands of other persons, and so found its way gradually to the coast at an augmented price, through the accumulated profits of the agents through whose hands it passed. When there was a want of Indigo it was thought worth while to send out Europeans to get it, and they got land in Bengal for its cultivation. These were in the 'dark' days of the Company's government, when it was said that Europeans were interdicted from going into the country; but, nevertheless, those persons somehow contrived to get land. *The Indigo had increased in quantity consistent with the demand in this country and in Europe generally.* How was that? *By those who wanted it going after it.* It was the same with Sugar. It had increased from small beginnings to an enormous amount. It was thought worth while by some European houses to send out agents to India, to go into the villages and collect the Sugar, until it was put on board by hundreds of thousands of tons. *Why should not the people of Manchester do the same when they wanted Cotton, as had been done in the cases of Indigo and Sugar?* The government of India never prevented them going there.

"The CHAIRMAN.—There were no roads for the traffic when they got there.

"Colonel SYKES.—If the roads were sufficient to bring Sugar down 1200 miles, surely the Cotton could have found its way down; and it had done so to the extent of 250,000,000 of lbs. in one year. There was no question that they could get the Cotton, if those gentlemen who raised the outcry against the Indian government *would pay a proper price for it;* but the wheel stuck in the rut, and, instead of helping themselves, they called upon Hercules to assist them."

This is the pivot of the whole question. The manufacturers *must* help themselves, if they want either Cotton or any other article of great consumption.

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*Botany and Religion, or Illustrations of the Works of God in the Structure, Functions, Arrangement and General Distribution of Plants.* By Prof. Balfour. 3d edition. Black, Edinburgh. Pp. 436, 12mo, with upwards of 260 woodcuts.

*The Rudiments of Botany, Structural and Physiological, being an Introduction to the Study of the Vegetable Kingdom, &c.* By Christopher Dresser. Large 8vo. Virtue. Pp. 443, with numerous woodcuts.

So far as botanical science is concerned these works add nothing to our stock of knowledge. The first is the author's "Class-book of Botany," recast by himself; the second is the learning of others stitched together in a new pattern. Dr. Balfour addresses the religious world, Mr. Dresser talks to art students. The learned Edinburgh professor follows in the steps of John Ray, except that he limits "the wisdom of God manifested in the works of the Creation" to the evidence afforded by the Vegetable Kingdom, and accompanies his statements by a copious introduction of Scripture texts. The ingenious London lecturer appropriates the work of others, cribbing a bit here and a morsel there, and illustrating his sentences by cross references, sometimes *apropos* and sometimes the contrary. We must add that in two other rather important aspects they also differ; Dr. Balfour understands his subject and has produced a cheap volume which was needed by clergymen; Mr. Dresser does not understand his subject and has produced an expensive book, which was quite uncalled for. The fitness of the latter gentleman for the task he has imposed upon himself is indeed to be estimated from his statement (p. 208), that a Fig may be regarded as a *peduncle turned inside out!!!*

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*Dictionary of Geography, Descriptive, Physical, Statistical, and Historical, forming a complete general Gazetteer of the World.* By A. K. Johnston, F.R.S.E. 8vo. Longmans. (A new Edition revised to May 1859).

This ponderous volume of 1352 pages, beautifully printed in double columns, is one of the remarkable works of the age, and is doubtless the most complete book of its kind, descending to even obscure English parishes with a population of 50 or 60 souls. The various articles are very carefully written and most skilfully condensed; so that in reality had the work been managed otherwise it would have filled three times its actual space, without conveying a word more information. In a book of such magnitude, and compiled in a manner so thoroughly conscientious, it seems hypercritical to point out omissions; we will nevertheless suggest to its learned author that the important colony of British Columbia, and the interesting discoveries of Hector and Palliser in that direction, have scarcely received so much attention as they demand.

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*Farm Insects: being the Natural History and Œconomy of the Insects injurious to Field Crops, &c.* By John Curtis, F.L.S. Part I. Square 8vo. Blackie.

The entomological papers which formerly appeared in our columns with the signature of *Ruricola*, universally admitted to be models of careful description, as well as the result of very long experience in the field, have long been known to have come from the pen of Mr. Curtis, whose eminence as a naturalist is familiar to all men of science. At a later period he furnished a series of elaborate articles to the Journal of the Royal Agricultural Society; and now, in the work the first number of which is before us, he resumes his valuable labours, by republishing the latter in a separate form with such alterations or additions as the course of time and further experience has suggested. It is proposed to bring the work out in eight parts, price 2*s.* 6*d.* each if plain, or 3*s.* 6*d.* if coloured; and we may even now congratulate our country friends upon the probability of their acquiring, at a reasonable cost, a work of sterling value. The first part, which is occupied by the natural history and œconomy of the different insects affecting the Turnip crop, consists of 72 pages (exclusive of introductory matter), two coloured plates, and six woodcuts, illustrating the structure of the insects described. These last however are scarcely worthy of the letter-press, owing to unskilful engraving and not over good work in the printing office. The publishers will see what we mean if they turn to the beautiful woodcuts of insects in Blackwood's Book of the Garden, or their own Cyclopædia of Agriculture.

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Professor BALFOUR has published (Maclachlan and Stuart) *A List of the Medicinal and Poisonous Plants cultivated in the R. Botanic Garden, Edinburgh.* This would form a useful list for other gardens in which similar plants are grown for the use of students.

*Murray's Edition of Lord Byron's Poetical Works,* Part V., contains the great poet's "Hours of Idleness," and some other miscellaneous matter, among which figures the rough writing of "English Bards and Scotch Reviewers," and "Hints from Horace." The new edition of *Boswell's Life of Johnson,* edited by Croker, is now at Part IV., the hero of the gossip being in his 64th year.

*Notes on the Defences of Great Britain and Ireland.* By Lieut.-Gen. Shaw Kennedy, C.B. (Murray, a pamphlet). The gallant author states that "these Notes while in manuscript underwent the criticism of Officers of eminence, of great practical and strategical knowledge; also of Naval and other Authorities on the subjects embraced in them; who unanimously were of opinion that they should be laid before the Public." What higher guarantee can be given of their importance at the present conjuncture? and who is there except the Vellutis of the press to deny the force of Gen. Kennedy's last sentence: "This country will not be in her proper position until she can openly show to the world, *by the actual state of her defensive means,* that on her own shores she can not only overcome the invading force of any one power, but that of any combination of powers that could possibly arise against her." A table of contents would be a great improvement, considering the multifarious subjects included in the pamphlet.

*Recreations in Shooting, &c.,* by Craven (12mo, Bohn), is a very nice edition of a good book, abundantly illustrated by steel engravings and woodcuts. It would, however, be a mistake to suppose that a man would become a sportsman by merely reading books like this, which are only useful to sportsmen themselves.

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## Garden Memoranda.

MESSRS. ROLLISSON'S NURSERY, TOOTING.—Some account of the more important alterations that have lately been effected in this nursery will be found at p. 524. The Camellia house has been unusually gay. The plants have pushed vigorously. The house is a long lean-to, one end of which is filled with greenhouse plants, which are separated from the Camellias by a few large and fine specimens of the true Rhododendron arboreum. Of the different varieties of Everlastings there is a fine assortment, as indeed there is of most greenhouse plants, more especially of Cape Heaths, for which this nursery has long been famed. Of these there are some beautiful specimens which promise to bloom beautifully this season. Of the handsome Rhododendron javanicum we noticed large quantities. This variety, which was once regarded as a stove plant, is now found to succeed perfectly well in a cool greenhouse. It will not however withstand the cold of our winters out of doors. An orange-flowered Rhododendron named retusum, also from Java, promises to be a good thing. In shape its blossoms somewhat resemble those of R. jasminiflorum; but they are smaller.

Among Orchids are some good specimens. Foremost among them may be mentioned Dendrobium macranthum, and a large flowered variety of that kind; also the handsome D. densiflorum, together with various plants of D. nobile; Burlingtonia fragrans; some of the handsomer kinds of Cattleyas, among which we noticed the still scarce C. Aclandiæ. Among other Orchids were Odontoglossum hastilabium, a white-lipped species with long narrow sepals and petals beautifully marked with bands of deep purple; the still scarce O. Pescatorei; and the graceful yet singular-looking Lowe's Lady's Slipper (Cypripedium Lowei). This last has bloomed beautifully here. In addition to the above we observed Brassia cinnamomea, a species so named on account of half of each of its flowers being cinnamon coloured. It is not a plant of great beauty, but it finds favour with some on account of the peculiar odour which it possesses. Of Vandas several were in flower, and at the end of the house where it is most damp and shaded were some fine Pitcher plants, while in another house were numbers of Cephalotus follicularis, and young plants of Nepenthes raised from seed. Of Ferns there is an interesting collection here, among which were fine examples of Platycerium grande; the most remarkable, however, was a noble plant of Nephrolepis davallioides, whose graceful fronds measured nearly 3 feet in length and half a foot in width. Of Begonias we noticed some handsome Java kinds with fine foliage; some of them were covered all over with bright red hairs, which gave them a rich and brilliant appearance. The beautiful B. Rex, on account of the facility with which it may be propagated, may now be had in any quantity. It is therefore comparatively cheap. Other fine kinds consisted of grandis, Isis, nebulosa, Rollissoni, Urania, and Virginia. These are hybrids raised between splendida and Rex, and are all remarkable for the beauty of their finely variegated foliage, the colours of the markings of which, varying as they do from white to crimson, are very handsome. One interesting feature of these hybrids is that they are furnished with beautiful long hairs varying in the different varieties from white to bright red. The blossoms are generally of a rich pink colour, and are individually larger than in most of the other kinds of this family. Of Meyenia erecta we found some good plants; the large violet white-eyed blossoms of this plant must always render it a favourite, but it is seldom well managed. Cultivators forget that it is a Cape plant, requiring nearly the same treatment as a Heath, and give it too much heat: the consequence is plenty of wood and leaves, but few flowers. A cool greenhouse suits it best. Among Vacciniums was Rollissoni, a small, dark, crimson-flowered kind, which is said to be hardy; and among Conifers the beautiful Cupressus Lawsoniana, Thujopsis borealis, Podocarpus antarctica, the smaller leaved P. acicularis, and Thuja gigantea were conspicuous.

To soft-wooded plants such as Pelargoniums considerable attention has lately been paid here; there is now therefore a good collection of things of that sort. Of spotted Pelargoniums there is here a large assortment, an enumeration of two or three of the best of which may not be unacceptable. Victoria has purplish maroon top petals margined with white; lower petals pure white spotted with crimson. Aglaia, crimson upper petals surrounded with bright red and margined with white; under petals white; a prettily spotted kind. Julia, upper petals spotted with deep crimson and surrounded with a belt of bright red and French white; under petals delicate blush, spotted with rosy purple; a handsome kind. Theodosia, deep crimson upper petals, with broad belt of bright red; under petals bright crimson and blotched. Irene, upper petals rich maroon, surrounded with bright red, and margined with pink; under petals pale salmon, deeply blotched with dark crimson; truss large and striking. These are stated to have been obtained by carefully hybridising the most attractive of the French kinds with the best varieties of English raisers, so that while possessing the striking colours of the French sorts combined with their acknowledged free flowering character, they partake of the improved shape and substance of the English kinds. In all the spots are very clear and well defined, which is not the case with the majority of the French varieties.

Of double-blossomed and striped Petunias, the following are some of the best, viz., Antigone, shaded purple, a compact good flower; Countess, bluish purple, a fine bold kind; Fanty, shaded French white, distinct and compact; Athamas, red, striped with white, a single variety, but one of the best; Mandarin, shaded purplish lilac, and striped with white. These are all, we believe, continental kinds.

The general aspect of this nursery is becoming greatly improved; the internal arrangement of the grounds has been considerably altered, and a new flower garden, or rather frontage, is being laid out by Mr. Chapman, of Dulwich. Of the latter we have been furnished with a plan which will be found in another column.

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BURNHAM, SOMERSET, THE SEAT OF G. REED, ESQ., has for some time been noted for its large and magnificent collection of Orchids, of which some 150 plants are now in blossom. On entering the Cattleya house, opposite the door was a splendid specimen of Lælia purpurata, with no fewer than 26 expanded flowers on it, each of the latter measuring about 6 inches across. On the left of it stood a noble plant of Cypripedium barbatum, with 40 blooms on it. In the same pit was another very neat specimen of Lælia purpurata, but darker in colour than that just mentioned; it had 17 flowers on it. Also Cattleya Mossiæ, the White Butterfly plant (Phalænopsis), Oncidium papilio with six blossoms on it, and Chysis Limminghi in flower. In another department of the same house were some fine specimens of Aerides, together with Vandas and Saccolabiums.

In what was called the Mexican house were splendid specimens of Sobralia macrantha, with 12 expanded flowers on it; Calanthe Masuca, with twelve blue flower spikes showing just above the foliage; a large Odontoglossum citrosmum, with 10 good spikes of blossoms; two magnificent specimens of the snowy white Calanthe veratrifolia, with 36 spikes of blossom; a good example of the rare and beautiful Oncidium sessile, with six spikes of yellow flowers; together with the beautiful Dendrobium devonianum, large specimens of the old Brassia maculata, Maxillaria tenuifolia, the latter with two or three hundred blooms on it. Associated with these were large plants of Brassia verrucosa and B. verrucosa major, a large group of Dendrobiums, all large specimens; the rare and beautiful Barkeria spectabilis, with 27 good flower spikes. On the lawn were some fine Araucarias and other Conifers, also many ornamental shrubs and trees. The kitchen garden was

also in excellent condition. By the kind permission of Mr. Reed, the houses here are I understand open to visitors, Sundays excepted. *Viator.*

## Miscellaneous.

*Roses.—Cloth of Gold.—Isabella Grey.*—As might naturally be expected, the controversy about the merits of these two Roses has commenced with the blooming season. The *Gardeners' Chronicle* of last Saturday has a notice of the two Roses, accompanied by reports from two correspondents, one of whom has been blessed with so slight a modicum of success with the fair Isabella that he must indeed be thankful for small mercies to chronicle it—one expanded bloom, pinched by the cold but showing unmistakable indications of beauty, and an opening bud, being the crop of a vigorous specimen planted in 1857. The other correspondent, a lady, has more cause for joy; her Isabella (at Torquay), in its third year, and which grew immensely last year, having now about 90 buds on it, most of which are rapidly expanding. The specimen sent to the Editor of the *Gardeners' Chronicle* is described by him as a "nice" one; not a very glowing description of a selected bloom, sent by a lady. However, 90 buds, opening into even nice blooms, is something encouraging. In each case the fact that no pruning has been allowed is dwelt on with great force, and to that circumstance is attributed the success. One of the correspondents, he whose Isabella Grey has produced one pinched bloom, and a second about to open, has also a Cloth of Gold, which has been treated in the same way as the Isabella. It, also, was planted in 1857, "grew rapidly in 1858, no pruning being allowed, and is now, in 1859, making vigorous, healthy, dark-purple shoots, and will doubtless be covered with Roses by the month of July!" May it be so! But those "vigorous, healthy, dark-purple shoots" are sad deceivers, too often finishing their career with blind ends, to the disgust of the disappointed grower, whether professional or amateur. The inference to be drawn from the remarks of the *Gardeners' Chronicle* itself, as well as from those of its correspondents, is that "protection from the pruning knife" (coupled with age and suitable aspect) is the grand secret in getting Cloth of Gold blooms, and probably those of Isabella Grey, and of other yellow varieties. Perhaps it may be in the recollection of the readers of this Paper that on the 10th of June, last year, a description was given of a Cloth of Gold Rose growing at the Rev. R. M. Atkinson's, on the Rectory House at Great Cheverell, on which there were 200 or 300 blooms fully expanded, and a far greater number of buds ready to expand, the tree itself (worked on a Yellow Banksia) being in the highest health. Now this tree, which is covered with blooms every year, having at this time (although it has suffered much both in foliage and bloom from the severe blight) upwards of 100 fully expanded blooms of deep yellow colour and great beauty, with twice or thrice that number ready to burst forth, is, and always has been regularly pruned, every shoot being cut back to two or three eyes, except when it is necessary to lead in long shoots to fill up any blank space on the wall. Another constantly blooming Cloth of Gold, in this neighbourhood, has also been always subjected to close pruning. In other cases, whether pruned or unpruned, the rule is, no blooms; the exception, a few stragglers, so that pruning no more seems to prevent free blooming, than non-pruning seems to promote it. It may be recollected, too, that the account of Mr. Atkinson's Cloth of Gold, above alluded to, caused a long correspondence in this Paper, and in the *Gardeners' Chronicle* as well, on the subject, and that it was suggested by Mr. Ayres, of Orchardleigh Park, near Frome, that the most likely way to insure a free-blooming Cloth of Gold would be to take the bud for working from immediately below a bloom. We should be glad if any correspondent who has tried the experiment will favour us with the result. And now a word about the Isabella Grey. Mr. Mould, the well-known gardener and florist of Devizes, has this year succeeded in producing a very fine and high coloured bloom, under glass; the bloom was of good size, perfect shape, and of exquisite fragrance. That plant had been pruned. On the other hand, on a very warm sunny wall with south aspect we have seen upwards of 30 strong shoots of Isabella Grey (budded on a Banksia) from 1 to 4 feet in length, unpruned, both wood and foliage a deep red, and showing the highest health, and not a single blossom-bud to be seen; each one of these vigorous shoots going off with blind ends! Thus it would seem that pruning has really nothing to do with it. *Wiltshire Independent, June* 2.

*The Pike.*—The pike is one of the largest of fresh-water fishes, and indeed, if the accounts which some writers give are not exaggerated, it occasionally attains a size not greatly inferior to the gigantic inhabitants of the ocean. Individuals are recorded as measuring from 5 to 9 feet in length. They frequently weigh above 30 lbs. in the lakes of the north of England; and Dr. Grierson mentions one taken in Loch Ken, in Galloway, which weighed 61 lbs. Pallas states that the lakes in the government of Tobolsk in Siberia nourish multitudes of pikes which attain the size of between 30 and 40 lbs. In North America, which seems to be the head-quarters of the family, since not only the common European species, but several others exist in the great lakes of that country, 30 lbs. is considered a large size, though doubtless some individuals attain a greater weight. Most authors have cited the accounts of one said to have been caught at Kaiserslautern, near Mannheim, in 1197, which was nearly 19 feet in length, and weighed 350 lbs. The skeleton of this extraordinary specimen was for a long time preserved, and bore a brass ring with an inscription to the effect that the fish was put into a pond by the hands of the Emperor Frederick II., the 5th of October 1262. From this it is inferred that it was upwards of 235 years old. *From the Encyclopædia Britannica — New Edition.*

## Calendar of Operations.

*(For the ensuing Week.)*

### PLANT DEPARTMENT.

CONSERVATORY, &c.—This house should now be gay with such things as Achimenes, Clerodendrons, Allamandas, Gardenias, Stephanotis, and other showy plants from the stove, for without the assistance of these it is hardly possible to produce a first-rate display at this season. And if the house can be kept rather close many of our most showy stove plants will be more at home here while in bloom than they would be in the stove, and the length of time which they retain their beauty renders it desirable to grow them largely for this purpose. To do these justice, however, the house should be cleared of Ericas and such plants as are soon injured by a close confined atmosphere, so as to be able to keep it closer and moister than would suit these, for very few of our stove plants will do any good in a temperature that is regulated for Ericas and such like plants. If the permanent occupants of the beds and the twiners, however, are such as require a free circulation of air, the house must not be kept so close as to injure them; but where Passifloras, Ipomœas, Mandevilla suaveolens, Tecomas, Bignonias, &c., are grown for covering the roof, and Orange trees and other things that enjoy a fair amount of warmth and moisture while making their wood occupy the beds, the hardier stove plants will form the most suitable decoration for the next three months. Go over the twiners frequently and regulate their growth before the shoots get entangled, but avoid keeping them tied too closely, for they are never seen to advantage unless they are allowed to hang in a natural and graceful manner.

### FORCING DEPARTMENT.

VINERIES.—Attend to keeping cool and moist where the fruit has been cut in order to preserve the foliage in a healthy state as long as possible. The laterals need not be kept very closely stopped after the fruit is cut, but they must not be allowed to shade or injure the principal leaves. If there is any appearance of red spider give the foliage a good washing with the engine directly the fruit is cleared off, and repeat this as long as there is a vestige of the enemy to be seen. Give prompt attention to the thinning of the fruit in succession houses, for like many other jobs this is most easily and expeditiously done when taken in time. Look well to the state of the borders where the fruit is swelling, and give a thorough soaking of tepid, good strong manure-water wherever the soil is found to be at all dry, and aim at having the borders in a healthy state as to moisture where the fruit is about colouring, for a healthy root action has more to do with the colouring of the fruit than many persons seem to suppose. Young Vines planted out this season should be encouraged to grow freely, and as the roots will be near the surface see that they are not allowed to suffer for the want of water, and in the event of continued dry weather a slight mulching over the roots would be useful. Do not keep the laterals too closely stopped, as the more leaves, &c., the Vines are allowed to make the more freely the roots will run in the border, and this deserves attention the first season. PEACHES.—Spare no pains to maintain a moist state of the atmosphere where the fruit is swelling, syringing freely, and shut up early in the afternoon, but give air sufficiently early in the morning to prevent the least risk of scorching.

### FLOWER GARDEN AND SHRUBBERIES.

Late sown annuals should be thinned out as soon as they are well above ground, for if left to grow too thickly they spoil one another, and never make half the display plants do that are allowed plenty of space and which are grown strongly from the first. Attend to staking such of the herbaceous plants as require it before they get blown about and injured, and do not huddle the stems together, as is too frequently done. The early flowering bulbs, as Tulips, Hyacinths, Turban Ranunculuses, &c., will now be ready for taking up, and should not be left in the ground after the decay of the foliage, as if wet weather occurs they will be making fresh roots, which weaken them for next season. On light dry soils American plants will be greatly benefited by a good soaking of water after flowering, and the finer specimens should be mulched to assist in keeping the roots moist during the growing season. Attend to the propagation of the better varieties of Pentstemons, which are exceedingly useful plants. Also see to having a good stock of the border Picotees and Carnations, which are invaluable for cutting. Cuttings of these, if put in before the wood gets too hard, root as freely as Pinks.

### HARDY FRUIT AND KITCHEN GARDEN.

Proceed with nailing in the young wood of wall trees, and see that they are perfectly clear of insects. Also stop any gross shoots, and endeavour to secure a fair supply of bearing wood all over the tree. Gross shoots that were stopped early in the season should be divested of all the laterals except one, or if they can be spared removed altogether. Keep the breast wood on Pear and other wall or espalier trees closely stopped in and attend to thinning the fruit where the crop is too heavy for the strength of the tree. Look to preparing Strawberry runners for forcing next spring. If not already done a good breadth of Brussels Sprouts should soon be planted on rich deep soil, for if not got in early the crop will be but poor, and it is very desirable to secure a good supply of this most useful winter green. A fair supply of Savoys and Broccoli, &c., should also be planted soon. Continue to plant out Celery as ground can be spared, and keep it well supplied with water. Cauliflowers and other strong growing things will be greatly benefited by an occasional watering with manure. Keep the hoe in action on dry days; cut Box edgings in showery weather; and endeavour to have all neat and clean.

### COTTAGERS' GARDEN.

If Carrots have failed a small bed of the Early Horn may yet be sown. Continue to fill spare ground with various winter greens. York Cabbages may be sown for autumn use; they will do to plant in any small gaps that may exist among other crops. Stake up flowers, dub hedges, pipe Pinks, and lay Carnations. Cuttings of choice Roses may be made, choosing the early wood just getting firm.

### STATE OF THE WEATHER AT CHISWICK, NEAR LONDON.

For the Week ending June 16, 1859, as observed at the Horticultural Gardens.

| June. | Moon's Age. | Barometer. Max. | Barometer. Min. | Temperature of the Air. Max. | Min. | Mean | Temperature of the Earth. 1 foot deep. | 2 feet deep. | Wind. | Rain. |
|---|---|---|---|---|---|---|---|---|---|---|
| Friday 10 | 9 | 29.615 | 29.561 | 72 | 51 | 61.5 | 65 | 62 | N.E | |
| Satur. 11 | 10 | 29.624 | 29.556 | 69 | 52 | 60.5 | 65 | 62 | S.E. | |
| Sunday 12 | 11 | 29.854 | 29.735 | 74 | 50 | 62.0 | 64 | 62 | S.W | |
| Mon. 13 | 12 | 29.912 | 29.838 | 75 | 44 | 59.5 | 65 | 62 | S.W | |
| Tues. 14 | 13 | 29.946 | 29.911 | 67 | 42 | 54.5 | 64½ | 62 | N.E. | |
| Wed. 15 | ○ | 29.932 | 29.811 | 73 | 42 | 57.5 | 64 | 62 | N.W. | |
| Thurs. 16 | 15 | 29.896 | 29.831 | 72 | 41 | 56.5 | 64 | 62 | N.E. | |
| Average | | 29.825 | 29.749 | 71.7 | 46.0 | 58.8 | 64.5 | 62 | | .357 |

June 10—Fine; overcast at night.
— 11—Overcast, cloudy and fine; overcast and warm.
— 12—Uniformly overcast; cloudy; thunderstorm with heavy rain; fine.
— 13—Light haze; very fine; densely overcast.
— 14—Densely overcast; very fine; overcast.
— 15—Clear; very fine throughout.
— 16—Very fine, dry air; cloudy and cool at night.
Mean temperature of the week, 1.9 deg. below the average.

### RECORD OF THE WEATHER AT CHISWICK,

During the last 33 years, for the ensuing Week, ending June 25, 1859.

| June. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds. N | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday 19 | 70.6 | 49.0 | 59.8 | 17 | 0.62 in. | 2 | 3 | 2 | 2 | 3 | 5 | 10 | |
| Mon. 20 | 72.3 | 49.7 | 61.0 | 15 | 0.68 | 1 | 4 | 1 | 1 | 6 | 9 | 9 | |
| Tues. 21 | 74.0 | 50.7 | 62.4 | 14 | 0.68 | 2 | 4 | 3 | 2 | 1 | 15 | 5 | 1 |
| Wed. 22 | 73.3 | 49.6 | 61.4 | 12 | 0.59 | 2 | 2 | 1 | 1 | 2 | 13 | 9 | 3 |
| Thurs. 23 | 74.1 | 48.9 | 61.5 | 12 | 0.44 | 2 | 1 | 3 | 11 | 4 | 4 | 5 | 3 |
| Friday 24 | 73.7 | 49.8 | 61.7 | 11 | 0.49 | — | 3 | 4 | 2 | 2 | 14 | 7 | 1 |
| Satur. 25 | 72.8 | 50.4 | 61.6 | 16 | 0.72 | 1 | 1 | 6 | 2 | 5 | 10 | 5 | 3 |

The highest temperature during the above period occurred on the 19th and 22d, 1846—therm. 93 deg.; and the lowest on the 20th, 1855—therm. 30 deg.

## Notices to Correspondents.

BAMBUSA GRACILIS: *Bayswater.* Plant in a rather damp place, where the soil is rich or enriched, and in the sun—not in the shade. That being done it will take care of itself. A good mulching of stable litter in November will, however, do it good.

BOTANICAL EXAMINATIONS: *Cirencester.* There is no doubt that the gentlemen charged with this public duty will in future demand from examinees a familiarity with the art of describing plants in technical form and language. The course they have thus determined to pursue is far better suited than any other for testing the relative powers of students in observation and the methodical arrangement of ideas as well as a knowledge of plants. You will find the whole subject fully explained in Dr. Lindley's "Descriptive Botany," published by Bradbury & Evans, price 1s.

INSECTS: *Major C.* The thread-like creature sent is a species of hair worm, Gordius, which lives in water and damp earth, and is harmless; its habits, however, are but little known. *W.*

NAMES OF FRUITS: *W. W.* Your Apple appears to be the Cluster Golden Pippin.‖

NAMES OF PLANTS: We have been so often obliged to reluctantly decline naming heaps of dried or other plants, that we venture to request our correspondents to recollect that we never have or could have undertaken an unlimited duty of this kind. Young gardeners, to whom these remarks more especially apply, should bear in mind that, before applying to us for assistance, they should exhaust their other means of gaining information. We cannot save them the trouble of examining and thinking for themselves; nor would it be desirable if we could. All we can do is to *help* them—and that most willingly. It is now requested that, in future, not more than four plants may be sent us at one time.—*O O.* Carex distans and intermedia.—*Anonymous, Thirsk.* 1, a morsel of some Zichya, apparently Z. tricolor; 2, Ajuga reptans; 3, Galium cruciatum; 4, looks like fragments of Rhodiola rosea.—*Galway.* Lavatera maritima.—*E G., Ramsgate.* Tamarix germanica and Bupleurum fruticosum.—*Mrs. F.* A seedling of Scolopendrium vulgare.

PRUNING: *E C M.* If the Rose trees planted last December, some of which are now showing blossom while others are running into wood, look very healthy, although not so vigorous as those about to blossom, we advise you to do nothing to them till next year's pruning, unless indeed you like to destroy the flower-buds, which will have the effect of throwing strength into the branches.

SEEDS: *Oxon.* It is impossible to justify the conduct of a newspaper in which tradesmen are recommended; unless under some very peculiar circumstances. *Caveat emptor* is all that can be said. You will have no difficulty in obtaining the information you seek by private inquiry among your horticultural friends.

THE SLIDING RULE: *Geo. Frost.* It has been most truly said that with this instrument for a few shillings most persons might put into their pockets some hundred times as much power of calculation as they have in their heads. There are various sorts; all to be had of good instrument makers with explanatory treatises. There is a good account of the sliding rule in "The Universal Ready Reckoner by an Idle Gentleman," published in 1839; or you may obtain "Ingram's Concise System of Mathematics." For prices inquire of booksellers.

TOMATOS: *Brixton.* These are now selling in the Paris market at from 17 to 23 francs per 100; Artichokes now fetch there 24 francs per 100.

*** As usual, many communications have been received too late, and others are detained till the necessary inquiries can be made. We must also beg the indulgence of those correspondents the insertion of whose contributions is still delayed.

ARTIFICIAL MANURES, &c.—Manufacturers and others engaged in making ARTIFICIAL MANURES may obtain every necessary instruction for their economical and efficient preparation, by applying to J. C. NESBIT, F.G.S., &c., Principal of the Agricultural and Chemical College, Kennington, London. Analyses of Soils, Guanos, Superphosphates of Lime, Coprolites, &c., and Assays of Gold, Silver, and other Minerals are executed with accuracy and despatch. Gentlemen desirous of receiving instruction in Chemical Analyses and Assaying, will find ample facility and accommodation at the College.

ARTIFICIAL MANURES.

FREDERICK CORNWELL begs to inform his friends and the Agricultural public that he can now supply a "SUPERPHOSPHATE of LIME" superior to anything yet produced. Each Bag guaranteed to contain from 20 to 25 per cent. of "Soluble Phosphate of Lime." Price 5*l.* 10*s.* per ton, delivered free to any Railway or Wharf in London. Dealers and the trade supplied. LINSEED-CAKES, COTTON-CAKES, and all descriptions of ARTIFICIAL MANURES at lowest market prices.—Offices, 7, Great St. Helen's, London, E. C.

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The present price of this valuable Manure is—
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And, to guard against the purchase of adulterated mixtures and of inferior Guanos purporting to produce results equal to Peruvian, consumers are recommended to apply either to ourselves, to our agents, Messrs. Gibbs, Bright, & Co., of Liverpool and Bristol, or to dealers of established character, in whose honesty and fair dealing they may place implicit confidence.

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BURNARD, LACK, AND CO.'S CONCENTRATED SUPERPHOSPHATE OF LIME; guaranteed to contain Phosphoric Acid soluble, equivalent to 40 per cent. of Tribasic Phosphate of Lime.

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URATE
MANGEL MANURE
SUPERPHOSPHATE OF LIME
BLOOD MANURE
} all of guaranteed quality.

In consequence of the reduction in the price of raw material the London Manure Co. are enabled to lower the price of their Superphosphate of Lime, and to materially improve the Corn Manure and Urate.

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116, Fenchurch Street, E.C. EDWARD PURSER, Secretary.

REDUCTION IN PRICE OF LAWES'S MANURES.

MR. LAWES begs to announce that he has this season reduced the price of the Manures manufactured by him, viz.:—

| | | | |
|---|---|---|---|
| TURNIP MANURE .. .. .. | from £7 | to £6 | 6 |
| SUPERPHOSPHATE OF LIME .. | ,, 7 | to 6 | 6 |
| MINERAL do. .. | ,, 6 | to 5 | 5 |
| BARLEY MANURE.. .. .. .. | .. | .. | 8 0 |

Prof. Way and Dr. Voelcker have sampled from a bulk of 5000 to 6000 tons at his factories, and their report and analyses are given in full in Circular to be obtained on application at his office, 1, Adelaide Place, London Bridge, E.C., or of his local Agents.

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Wire work of superior description, useful and ornamental, for Conservatory, Garden, Drawing-room, Flower Stand and Basket, Garden Arch, Rosery, Fencing, Birdcage, &c., and Domestic and other purposes in elegant variety. Aviaries and Conservatories fitted up in the best style. Sun Shades and Window Blinds of all sorts.

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## SEEN AT WORK.

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SUFFOLK AGRICULTURAL ASSOCIATION AT IPSWICH.
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**FOWLER'S ENGINE, WINDLASS, AND WATER CART.**

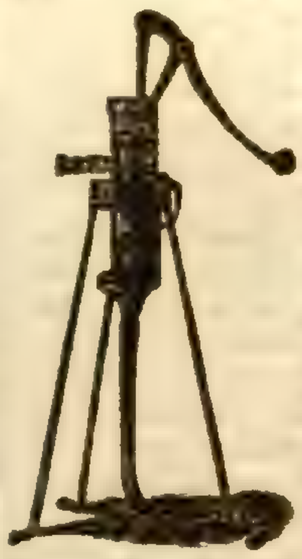
For further particulars apply to

**JOHN FOWLER, JUN., 28, CORNHILL, LONDON, E.C.**

AGRICULTURAL MACHINERY.

E. R. AND F. TURNER, Ipswich, manufacture Prize Mills for Crushing Corn, Seed, Malt, &c.; Portable Grinding Mills, Steam Engines fixed and portable from 2 horse-power and upwards; Threshing Machines, Chaff Cutter, Oilcake Breakers, Horse Gears, Saw Tables, &c., all of a superior description and adapted for Home, Colonial, and Foreign use. Illustrated Price Lists sent free on application.

WARNER'S IMPROVED LIQUID MANURE OR GENERAL PORTABLE PUMP.



These Pumps are fitted with J. W. & Son's Patent Buckets and Suckers, and cannot clog in action. The barrel is of galvanised iron, not likely to corrode, and can be raised or lowered at pleasure. The legs will fold together, and the whole may be carried on the shoulder to any pond or tank required.

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May be obtained of any Ironmonger or Plumber in town or country, at the above prices, or of the Patentees and Manufacturers, JOHN WARNER & SONS, 8, Crescent, Jewin St., London.

WARNER'S PATENT VIBRATING STANDARD PUMPS.

PATENT CAST-IRON PUMPS, fitted with J. W. & SON'S Patent Buckets and Suckers, which cannot clog in action, for Farms, Cottages, and Wells, not exceeding 28 feet.

| Diameter of Barrel. | Height. | | £. | s. | d. |
|---|---|---|---|---|---|
| 2½ in. | short 1 ft. 7 in. | Fitted for lead, gutta percha or cast iron | 1 | 10 | 0 |
| 2½ ,, | long 3 ,, 3 ,, | | 1 | 14 | 0 |
| 3 ,, | ditto 3 ,, 6 ,, | | 2 | 8 | 0 |
| 3½ ,, | ditto 3 ,, 6 ,, | flanged pipe | 2 | 12 | 0 |
| 4 ,, | ditto 3 ,, 6 ,, | as required. | 3 | 3 | 0 |
| 2½ ,, | short, with 15 feet of Lead Pipe attached, ready for fixing .... | | 2 | 14 | 0 |
| 2½ in. | long ditto ditto | ditto | 2 | 18 | 0 |

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PRICES REDUCED.

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(formed of Twisted Wires like a rope or cable), the strongest, cheapest, and neatest fence in use, will resist the largest cattle, and will not bend or get out of form by trespassing upon or over. Price, with five lines of the Galvanised Strand, iron main posts, and pronged Standards, 1*s.* 2½*d.* per yard.

This fence is far cheaper than posts and rails, or any kind of iron fencing; and possesses four times the strength of solid bars. Will not rust nor corrode. Upwards of 1200 miles of this Fencing supplied.

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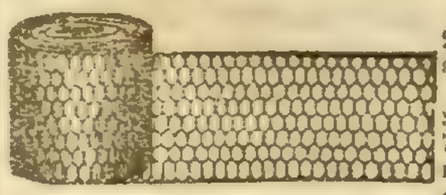

Galvanised, 24 ins. wide, 2-inch mesh, 5*d.*, 6*d.*, 7½*d.*, and 10*d.* per yard.

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2. In no case is any investigation of Title necessary.

3. The Works may be designed and executed by the Landowner or his Agents, or the Company will undertake the entire improvement by their experienced staff, and advance the money required for the works. Equal facilities will be afforded in either case.

4. The whole cost of the works and expenses may, in all cases, be charged on the Lands improved, to be repaid by half-yearly instalments.

5. The term of such charge may be fixed by the Landowner, and extended to 50 years for Land Improvements, and 31 years for Farm Buildings, whereby the instalments will be kept within such a fair per-centage as the occupiers of the improved Lands can afford to pay.

6. No profit is taken on any Works executed by the Company, the actual expenditure only, approved by the Inclosure Commissioners, being charged in all cases.

WILLIAM CLIFFORD, Secretary.

COLLEGE OF AGRICULTURE AND CHEMISTRY, AND OF PRACTICAL and GENERAL SCIENCE, 37 and 38, Lower Kennington Lane, Kennington, near London.
Principal—J. C. NESBIT, F.G.S., F.C.S., &c.

The system of studies pursued in the College comprises every branch requisite to prepare youth for the pursuits of Agriculture, Engineering, Mining, Manufactures, and the Arts; for the Naval and Military Services, and for the Universities.

Analyses and Assays of every description are promptly and accurately executed at the College. The terms and other particulars may be had on application to the Principal.

The Agricultural Gazette.
*SATURDAY, JUNE* 18, 1859.

MEETINGS FOR THE ENSUING WEEK.

WEDNESDAY, June 22—Agri. Society of England .. Noon.

A PRINCIPAL to the Royal Agricultural College at Cirencester has been appointed in the person of the Rev. J. CONSTABLE, Cantab., late of Upham, Hants. It is satisfactory to know that he is possessed of the highest testimonials, and that

his selection has been the result of a most painstaking investigation of the claims of a large list of candidates who were possessed of first-rate recommendations.

The College Session closed on the 15th inst. The reports of all the professors declare that never have they been enabled to speak more highly of the progress and general good conduct of their classes, a testimony which does honour to the memory of the late Principal as evidencing the completeness of the plan which he had organised.

—— The past week has witnessed many a successful trial of the American mowing machine, which will no doubt ultimately be as frequently employed in this and the following month as the reaper is in August and September. It, like the reaper, needs adaptation to its work: a rapidity of movement in the cutting parts which would amply suffice for a poor crop, would not save the implement from choking when engaged upon a heavier produce. Whether it will be generally approved of for the Clover haymaking may be doubted, for ordinary cutting of meadow land there is however little doubt of its being soon adopted. It leaves the Grass behind it, lying where it stood, already spread and tedded as it were over the surface of the ground: Clover, however, is not tedded—but left in swathe, and merely turned. Too much movement breaks the leaf and wastes it, and unless it be raked at once into "rollers" the Clover left, as by this machine it is, will not be easily gathered together without harm.

—— The weather has latterly been everything that could have been desired; and there is every probability that a very heavy growth of Grass will be successfully harvested. The warm and sunny weather is just what all our grain crops also need. There is generally a very bulky growth upon the ground—some of it already laid—and a wet summer would no doubt injure it materially.

—— A very unusual difference between a tenant and his landlord has been lately published in the report of a suit before the Court of Chancery, in which a tenant farmer is in effect prosecuted by his landlord for preserving game! Lord LOVELACE had let certain farms in Surrey to a Mr. FROGLEY, together with exclusive right of shooting on them—it being, however, reserved by his lordship that no injury was thereby to be done to his property or that of his other tenants. Such injury having, however, as was alleged, been suffered, the exclusive right of sporting was revoked, and "large bodies of men, under the orders of the landlord, were employed to destroy the hares and rabbits on the farm, thereby disturbing and driving away the pheasants which had been preserved at the expense of the tenant." Mr. FROGLEY obtained an injunction restraining the landlord from thus interfering with the game, and on a motion to dissolve this injunction appears to have established the right to which he had laid claim.

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WHAT IS THE BEST METHOD OF DESTROYING NETTLES? It is a question so often put to us that we cannot do better during the present prolific season of these pests than offer a few notes upon some points in their natural history.

Everybody knows that our common Stinging Nettle is a plant which annually sends up new shoots from a perennial "running-root," as it is popularly called, but which the botanist views as an underground stem, or as he terms it, "rhizome."

Its fresh shoots make their appearance with the first genial weather of spring; but these are so liable to injury by cold that the first frosty night usually destroys the young leaves, though the bud ultimately recovers, and the crop of Nettles soon overtops the Grass of the meadow. Here though a most conspicuous it is no pleasing object, as it prevents the growth of the Grass, while itself is totally unfit for food for cattle, which reject it both in the green and in the dried state. Having run its summer race the frosts of autumn very early kill it to the ground, leaving behind the underground stem to perpetuate the pest.

Now as its most mischievous position is in pastures where of course its extermination by way of forking out would, if possible, be avoided, its growth above ground is that which is commonly attended to: and if we take into consideration that the leaves are among the active organs by which the growth of flowering plants is ordinarily provided for; being not only the lungs concerned in the due preparation of the sap, but in all probability to a great extent the stomach too—the eliminators of organic food—it follows that by crippling the leaf growth we must cause a falling off in the increase of produce in the whole plant, and cutting them down is therefore doubtless the best way of dealing with it. But though this is admitted by all, still the question is constantly recurring:—How to destroy Nettles.

The fact is, that in dealing with this pest, the farmer has followed rhyme rather than reason, as the following rustic directions for the destruction of the Nettle proves:—

> "If Nettles be cut in April,
> They reappear in a while;
> If Nettles be cut in May,
> They peep out again the next day;
> If cut in June,
> They appear again soon;
> If cut in July,
> They'll hardly die;
> But cut in August,
> Die they must."

Let us now offer a commentary upon these directions, which it is hoped will make clear the rationale of the process. The common plan of cutting Nettles is with the scythe, which is no doubt the best implement for the purpose. We commence in April, but soon see our diligence rewarded by the appearance of two or three shoots for one. We need not, however, let this distress us, as they will always be very small, and if the portion experimented upon be left until autumn it will be seen that even as regards the surface growth its produce will be less than that which was left untouched.

May is the season for the most vigorous putting forth of shoots of plants, and if cut then truly they are quick enough at reappearing; but again we would say, as the result of experience, that the crop will be still more diminished than if it had been cut in April.

June is also a turning point of great importance in the annual history of this plant. Bearing in mind that leaves are concerned in the growth of all other parts of the plant, those well developed in May will all June be feeding the underground as well as the surface growth of the plant. Cutting them then is certainly better than nothing, yet it by no means cripples growth so much as if done the previous month. As to July, it is true that if then cut a few shoots only will reappear as a second crop, but we must remember that what was true of June is more so now; in fact, the above-ground growth is completed, and the rhizomes, or underground stems, have by this time been aided nearly, if not quite, as much as Nature intended, so that they are scarcely, if at all, injured for the next year.

In August, again, the Nettle has performed all its functions for the year, even to the production of seed, so that although on being cut down it will disappear for that year, the pest is not at all injured in productiveness for the next season. The fallacy of recommending August cutting of these weeds must be apparent to everybody. The madman in the poem is made to say to the soldier as to killing his enemies,—

> "Kill a fool's head of your own;
> They'll die of themselves if you let them alone."

And this is quite true of these enemies of the farmer at this season. The first cold night acts quite as readily in destroying the above-ground growth as the most careful cutting. Hence the injury inflicted by August cutting is more apparent than real.

The conclusion then at which we have arrived is this: that if we were to confine our operations as regards the Nettle to any particular month, we should choose May for cutting it down; but it fortunately happens that we are not so confined, and we would therefore knock off the young shoots of this plant first in April. In May we shall have the second crop of shoots to deal with, in all probability in increased numbers; the process must be repeated therefore both in May and in the following month, and even in July if they again appear; and with this treatment we can answer for it that the Nettle will not have increased its underground growth that year. Much, indeed, will have been killed entirely, so that usually in the following season little will reappear; and with reference to what does again make its appearance, the rule of the first year must be the practice of the second.

At any rate, do not wait until August, as in all probability the plant will have ripened seed as well as made much underground wood; the evil is thus sure to appear in the following season in an aggravated degree. By pursuing the plan recommended seeding is impossible, and we know from experiment that it is the easiest method of eradicating Nettles.

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## BELGIAN FARM IMPLEMENTS.

THERE is perhaps no country which possesses so deep an interest to the agriculturist as that of Belgium, none certainly which presents such striking evidences of what man can do if he wills, so many proofs of the power of mind over matter. If we travel through the flat fields of Flanders, examine the wide tracts of land wrested from the rule of old Ocean, or view the smiling meadows or the waving corn fields of the Campine and the pastures of the Ardennes, we have equally presented to us a series of cultural triumphs as gratifying to the philosophic as they are to the practical mind. It is always interesting to trace the results of man's patient industry, and to note the victories which he obtains by it over great and difficult obstacles, and in no country can the traveller see such repeated and marked evidences of what man can do in working with the most unpromising materials as in Belgium. Our mother earth is always grateful, and repays a hundredfold, and with a ready grace, the gifts which her sons bestow upon her. To feel the full force of this, the reader must have seen, as we have, the tracts of land green with a rich fertility and waving with the hopes of a bounteous harvest, which in times gone by were expanses of barren sand, or heath covered with a scant vegetation, or more striking still, sea-margins on which the waves of ocean rolled, and the winds blew into heaps of sand or sea-weed. The observant traveller has many opportunities presented to him of noticing what has been done in the way of culture and the materials out of which such a rich fertility has been won. Alongside of a band of smiling green, he will note with wonder a strip of sand not yet brought under the mastery of man—sand so loose and poor that he kicks it up into tiny dust-clouds as he walks along, or sees it whirled in masses by the winds of heaven. And yet the soil which now yields the produce which gladdens his eyes was years ago the same shifting sand, so apparently hopelessly sterile. Or he walks along the ridge of a mound (*digue*) which skirts the ocean; and on one side he sees bleak and barren tracts, here with a patch of green the produce of a miserable vegetation springing up on some soil more consolidated than the rest; there a mass of yielding quicksand—and anon sand heaps and shells and sea-weed—on the other side he will see with pleasure well laid out fields, bearing a wide variety of plants and produce, fields which in days past presented an aspect of sad sterility, and gave to the inexperienced observer but little promise of pleasant pastures and waving corn fields. In viewing then for the first time the evidence of what has been done in this land of cultural wonders with materials the most hopeless in appearance, and the most unpromising in character, the traveller is apt to suppose that in the "battle of the workman" with such a foe he will most assuredly have been aided by the most accurate deductions of science, and the most powerful and perfect of mechanism. And great doubtless will be his surprise when he is informed that all these triumphs have been obtained with the aid only of an industry which never tires; the brave working of the brawny arm carrying out the processes which have been the result of a long experience and a close observation. No country owes so few obligations to agricultural science and agricultural mechanism as Belgium, and yet no country has done so much to wrest fertility from an unwilling source—and we may add, to prove by practice the correctness of theory. We do not, however, wish to convey to the reader the idea that all these cultural triumphs have been won in spite of the absence of science and the power of mechanism—they have been won by patiently working out a system which it has taken the slow experience of centuries to elaborate, and it is not difficult to suppose that the perfecting of the system would have been greatly aided and its growth more rapid had the cultivators brought to their aid all the indications of science. Our readers, then, who have had no previous knowledge of the subject will now be prepared to learn that unlike the farmers of England or of Scotland, the farmers of Belgium, and more markedly those of Flanders, are aided very triflingly by machines and implements. In England the stranger is perplexed by the multiplicity of the mechanical appliances which are used in a well stocked farm. In Flanders his examination will only discover what may be called the rudimental implements, the spade, the plough, and the harrow; the other implements are few in number and simple in character. It is in other parts of Belgium that the more advanced, or at least the more complicated, machines and implements, which are of British origin, are chiefly if not altogether met with. We propose, in the course of a brief paper or two, to glance at the leading features of the mechanism of Belgian farming; more particularly dwelling on that of Flanders. The first implement we shall pass under review is the plough.

The first obvious distinction between the plough of Flanders and the swing plough of Scotland and England, of which indeed it is the progenitor or model, is the absence of two stilts or handles, one only being provided. This rises from the beam at an angle more or less oblique, according to the opinion or fancy of the maker, and is provided with a small curved horn or handle near its upper extremity. It is this small handle which is grasped by the workman, in guiding and adjusting the plough while at work. Properly speaking no "guiding" in the meaning of the term as applied to ploughing as executed in England is required, for a well constructed Flemish plough follows with admirable precision the line of the furrow traced out for its path. The real use of the handle is to ease the plough when it happens to meet any obstacle which tends to throw it out of the exact line of working. This easing of the plough should be, and by an experienced ploughman is, effected almost intuitively, the obstacle to the progress of the plough being, as it were, felt by instinct. To this

and it is necessary that the workman should always keep his right hand in contact with the handle, to be ready to meet any change in the position of the plough when it meets an obstacle. So accustomed are we in Great Britain to use ploughs with two stilts or handles, that at first view it seems impossible that a Flemish plough can do its work. It is nevertheless true that it does this with admirable precision and ease; so much so, that it appears to require little or none of the control of the operator. It should be remembered, however, while contrasting the operation of the Flemish with the Scotch or English swing plough, that the soils in which they respectively work are very different in character. The heaviest soil in Flanders bears little affinity to what is called heavy land in Great Britain; it is in fact a soil light enough for Turnips, and is far removed from the stiff, heavy, retentive clays characterising the heavy soils of England. The lightest soils of Flanders again are more like sand than anything else; and in none are the stones and boulders which abound in so much of the soil of Scotland met with. The soil of Flanders then possesses all the features of a medium well calculated to aid the easy and regular working of an implement like the Flemish plough, which is light and remarkably easy of draught. It is doubtful how far a one-stilted Flemish plough would work in the unequal soils of Great Britain, in those of Scotland especially, where the numerous obstacles to uniform working met with necessitate so complete and powerful a control over the plough; a control attainable, we think, only by the use of two handles or stilts. The one-handled plough of Flanders is preferred by the farmers there for another reason, namely, allowing the left hand of the ploughman to be at perfect freedom to handle the long tool or implement by means of which he can free the mould-board of the manure, the earth, or the roots of plants which adhere to it, and impede the operation of the plough. This constant manipulation is, therefore, not compatible with two handles, which would require the use of both hands. The one-handled plough then of Flanders appears well designed for the peculiarities of the mode of cultivation and kind of soil in which it is required to operate.

The sole (*sep*) to which the working parts of the plough, as the share (*soc*) and the mould-board or turn-furrow (*versoir*) are attached, is generally made of wood; it is a species of sledge, which slides along the bottom of the furrow, and the left side of which works against the part of the land not operated upon by the plough. In good constructions the under part and left side of the sole are armed with bands of iron, which tend to reduce the friction and to prevent the rapid wearing of the wood. The length of the (*sep*) sole obviously regulates that of the working parts of the plough; some advocate a long sole, some a short one; the first will give steadier action, the second less surface for friction. The action of the sole in adding to the draught of the plough, and also in forming a hard surface in the bottom of the furrow, attracts no less the attention of the Belgian than it does that of the British agricultural mechanic. In both countries the evil has been sought to be avoided by the use of the same appliance. This consists in the adaptation of wheels which are placed behind the sole; these derive their motion of revolution from the progressive motion of the plough, and serve as they revolve to ease the pressure of the sole on the soil. These may act very well in the extremely light soils met with in Belgium; but in soils tenacious they will speedily become clogged, and act if not prejudicially at least little favourably.

To the fore part of the sole the share (*soc*) is connected. This is very broad, and is sharp on the right edge. The duty of the *soc* being not only the horizontal separation or cutting of the furrow-slice, but to lead this easily up to the face of the mould-board or turn furrow (*versoir*), its junction with the latter requires to be made so well that it will afford no obstacle to the free passage of the slice of earth along the mould-board. In many of the ploughs met with in Flanders the mould-board or turn-furrow is constructed of wood, armed on the face with sheet-iron to reduce the friction and to maintain the integrity of its outline. In improved ploughs it is made entirely of iron. The upper part of the turn-furrow or mould-board is so curved that it lays over the slice of earth at the usual angle of 45°. The coulter (*coutre*) in the Flemish plough generally has a carved outline nearly equal to that of the front line of mould-board; it is rarely placed vertically on the beam—or at least nearly vertical—as in the Scotch or English plough. *R. S. B.*

## Home Correspondence.

*Catalogues at the Annual Agricultural Show.*—I was unfortunately prevented attending the last half-yearly meeting of the Royal Agricultural Society, where I intended to have brought under notice the subject of the scarcity of catalogues at the Shows. I know I shall only be echoing the remark of thousands when I say that the want of catalogues in sufficient quantity to meet the demand at the Shows year after year is very discreditable to the managers. To persons who like myself cannot spare time to explore every stand in the implement yard but who wish to see anything new or likely to be useful, the want of a catalogue is nearly equivalent to sending some one to an inhabitant of this metropolis with no other address than "London" to go by; and although I must bear witness to the courtesy I have always experienced in being provided with a catalogue at the Directors' booth when I complained, yet as that is a resource not open to every one I hope the Directors will see to it in time to prevent such an occurrence this year, more especially as they may confidently reckon upon from 50 to 100 per cent. more visitors than even at Chester with ordinary weather. I was told while complaining at Chester by a gentleman who takes a very active part in the management of Agricultural Societies that it was almost impossible to have a supply of catalogues, but I referred him for advice to some of the men that turn out their 10,000, 15,000, or 20,000 copies of a newspaper in two or three hours daily or weekly, and expressed my hope that the R.A.S. had not yet arrived at the point of "circumlocution" indicated by the confession of a foregone conclusion of "how not to do it." *J. Girdwood*, 49, *Pall Mall*, *June* 8.

*Supplementary Notes at Barnstaple.*—Of the Devon Notts fair specimens were shown as extra stock. Mr. Merson was the winner of the prizes for the Exmoor sheep, both ram and ewes, and well deserved the honour. The improvement effected in these sheep by judicious selection has been immense. They have not only the good hind-quarters which belong to a mountain breed, but their short fore legs are far apart, the barrel deep and circular, and the fleece heavy. The ram shown was computed to be not less than 30 lbs. per quarter. In speaking of the pony classes in your last as possessing so much merit, you mentioned the winner of the special prize as the best in the yard. This handsome, compact, but highly bred *bay* pony, "Bobby," belonged to Mr. R. Smith of Exmoor, and his purpose is to improve the Exmoor ponies, or rather to breed stock by which they may be improved. The produce of "Bobby" belonging to Mr. Milward sold at Tattersall's a fortnight since and averaged 60*l.* each. In South Down sheep Sir R. Throgmorton carried everything before him, but there were none of Mr. Jonas Webb's, the Duke of Richmond's, and Mr. Rigden's to compete with. The Horn Dorset and Somerset were good, but were principally confined to a few exhibitors. These sheep have been well managed and carefully selected and improved of late years. Mr. Danger has the first prize and Mr. Bond the second. The Hampshire and the West-country Downs were not represented in proportion to the vast and increasing extent of country these sheep now occupy. Next year at Dorchester we may expect to see them in greater force. Mr. Brown had most of the prizes, sharing some with Mr. Moore, Mr. Holland, and Mr. Harbin. *S.*

## Societies.

### ROYAL AGRICULTURAL OF ENGLAND.

At a WEEKLY COUNCIL held June 15, present Mr. Raymond Barker, Vice-President, in the chair—

The Earl of Malmesbury, Secretary of State for Foreign Affairs, transmitted the report of Mr. Morgan, her Majesty's Consul at Bahia, respecting some original deposits of guano (from which nitrate is extracted) existing in the province of Bahia. The Lords of the Committee of Privy Council for Trade transmitted the three boxes of samples of the guano referred to in the above despatch, and requested to be favoured with the result of any experiments that may be made with a view to ascertaining the value of this substance. Mr. Morgan's report states that favourable accounts have been given of the samples already sent to London, Liverpool, and Birmingham. The deposits exist in beds of limestone, some of them extending over 20 square leagues. The most available deposits are found on the road to the diamond districts. The chief drawback is the want of good roads, but the formation of a railroad is in contemplation. There are also other and almost inexhaustible deposits in the neighbourhood of the River San Francesco, province of Pianhy. These altogether extend over a territory of upwards of 200 square leagues. The report proceeds to detail the process of extracting the nitre, which is used to prepare gunpowder of a very ordinary quality, and to preserve meat and fish. The report concludes thus: "From information received from several of the proprietors of those deposits lying in the intended line I believe, with the railroad, the primitive earth or manure could be replaced in England at 7*l.* to 9*l.* per ton. Should the trade in this article increase, either from competition or abundance, it is but natural to suppose it would be placed at a lower figure for the purposes of our commerce, inasmuch as the manure in question contains highly organised matter with a large quantity of real ammonia and nitrogen, alkalies, magnesia, sulphate, and carbonate of lime."

On the motion of Mr. Wren Hoskyns, these communications were referred to the Chemical Committee with a view to the samples being analysed by Dr. Voelcker, the Society's consulting chemist; and the thanks of the Council were ordered to be conveyed to the Earl of Malmesbury and to the Board of Trade for these communications.

A letter from Mr. Bullock Webster (dated from Athens) was read, in which he states that he has been devoting attention to the Vine disease, and that the application of sulphur has proved most successful in Greece, and that the same effect has been produced on blighted green crops. He can speak with confidence as to Potatoes, Beans, Peas, fruit trees, Roses, trees, &c., and that he has no doubt of its efficacy as regards both Turnips and Hops. He also states that the sulphur ought to be applied in a very fine powder in the early stage of the growth of the plant, as soon as any blight shows itself; it is applied either by means of a large tin pepper-box or small bellows (of which he enclosed a sketch). A woman can dress an acre of Vines per day. Scarcely any change will be observable in the crop for the first 10 days; after that it becomes healthy. Should rain fall within five days after the application of the sulphur the operation has to be repeated.

A letter was read from Mr. Curtis, the entomologist, respecting the insects forwarded by order of the Council, and by which Mr. Greenwood's Mangel Wurzel crop had been nearly destroyed. Mr. Curtis states them to be the larvæ of a beetle which has at various times injured the crops of Mangel Wurzel in Ireland and in France. The beetle is the Silpha opaca, fully described in the Society's Journal (vol. viii., page 404, and plate S, figures 12 to 24). Mr. Curtis observes that notwithstanding the leaves being nearly or entirely consumed, the plants have been known to recover and to produce a fair crop. Mr. Curtis also transmitted the prospectus and the first number of an entire edition of his 16 reports published in the Society's Journal, and which are now being reproduced in a complete separate form by Messrs. Blackie & Son, entitled "Farm Insects."

The thanks of the Council were ordered for each of the above communications.

The Council then adjourned.

CHEMICO-AGRICULTURAL, ULSTER: *Drying Milk Cows.*—The following letter was read:—"I am rather surprised that Mr. Andrews and other extensive feeders, graziers, and agriculturists are not better informed on that simple matter. Having had considerable practice in a small way, I beg to submit the plan I have long adopted without a failure. No matter what quantity of milk the cow is yielding, stop at once, not by milking every second or third day, but for ten, twelve, or fourteen days; it is only by refusing to take away the milk that it ceases to be formed. This is the whole secret. But attention must be given to prevent injury to the animal. If the quantity of milk be large, the udder should be wet or bathed with cold water, and rubbed frequently for the first four days to keep down inflammation. On the fourth day, four quarts, or, if the cow be large, five, or even six quarts of blood should be taken from the neck. Bleeding before hetting, or before inflammation has set in, is worse than useless. On the fifth or sixth day, the udder will begin to soften and gradually subside, but don't milk for ten days at least; by that time, milk will almost have disappeared without any bad consequence resulting. I have known some cases where after such treatment the animal has been put to Grass at May, after one milking only, and not again touched until brought in for slaughter at the end of the season. The above is the treatment of cows in the house before being sent to Grass; but on pasture the bathing and rubbing may be dispensed with—the Grass being a substitute for the cold bath—the friction of the cow's thighs in walking being better than hand-rubbing to the udder. There is sometimes trouble with cows that run out their milk. A small gutta percha band on the teat or teats will put a stop to it. To prevent the band becoming embedded and difficult to remove, place a small piece of calico, or thin, soft leather, on the teat, below the band, fixing on the band a small ring of cord to hang out, so that a ready hold may be got, and the point of a small knife applied to the band where it cannot be otherwise got off. No necessity to reduce the feeding in the slightest degree.—Mr. Henry Miller said that he had repeatedly and most successfully treated diseases of the udder in cows by the employment of the homœopathic remedy—the tincture of bryonia. In a case in which he administered the bryonia to a three-year-old heifer, in very high condition, the udder was much inflamed and distended three days before calving. After giving one dose the udder became much softer. In twelve hours he commenced to milk her, and gave no more medicine. After calving, the udder again became very much inflamed, and her body exceedingly swollen as far forward as the fore legs. She remained in that state for four days. He then gave her bryonia every eight hours, and the swelling almost immediately disappeared, and the udder became quite soft. To another three-year-old heifer also in high condition, he gave bryonia before calving; the udder became soft, and it was not necessary to milk her, and, by continuing the medicine, the udder never became distended, as in the other case. He also directed the attention of the meeting to the fact tha a professional gentleman, Dr. Peart, who farms nea Dublin, had treated pleuro-pneumonia among his own stock with extraordinary success by homœopathic remedies, as detailed in the *Irish Farmers' Gazette.*

*Analysis of Manures.*—Among samples lately examined was one forwarded by Mr. Bishop, steward of Mr. Agnew, of Kilwaughter Castle, Larne. It had the following composition:—100 parts consisted of—

| | |
|---|---|
| Water | 6.40 |
| *Organic and ammoniacal matters | 10.50 |
| Phosphate of lime | 11.24 |
| Carbonate of lime | 15.42 |
| Alkalies | 5.04 |
| Sand and earthy matter | 51.40 |
| | 100.00 |

*Capable of yielding 1.38 parts of ammonia.

The value of the manure represented by this sample was only 1*l.* 17*s.* 3*d.* per ton. 73 lbs. in every 100 lbs. consisted of worthless matters; yet it was, probably, bought by farmers at 10*l.* per ton. The sand extracted from the sample was exhibited to the meeting.

## Farmers' Clubs.

LONDON: *Turnip Culture.*—The following is an abridged report of the discussion before this Club on Monday of last week:—

Mr. J Pain (Bedfordshire) agreed with Mr. Wallis, that the four-course system in the growth of Turnips on light land, if not already abandoned, was about to be so. It was too frequent for both Turnips and Clovers, and finding that he could hardly raise a Turnip at all on his farm, he (Mr. Pain) had during the last three or four years adopted a 6-course system, by doing which he found he had a little better chance. Upon what was considered good Turnip land in Bedfordshire, they could not grow Turnips as they used to do. Therefore they substituted Mangel, in the proportion of half Mangel and half Turnips; and at present the Mangels had succeeded admirably. They also grew Mangels on their cold lands, with Tares or something else as a substitute for Turnips on the fallows; thus Barley, Beans, Clover, Wheat, Beans and Wheat. When the land was good and well farmed no difficulty had been experienced in getting two crops of Wheat in six years.

**Mr. Coussmaker (Farnham) could corroborate what Mr. Pain had said respecting the general failure of the Turnip crop. He had farmed chiefly heavy lands, and** had done so for 20 years.

He had pursued a five-course system. The land, when he first entered upon it, had not been subjected to a Turnip crop; still it grew very good Turnips and Swedes, though he had some difficulty in feeding it off; but he found that he could not now produce the Turnip crops that he used to do. His rotation is a green crop suitable to the nature of the soil—Turnips, Mangel, Tares, or whatever that might be; next, a white corn crop, according to circumstances—Wheat, Barley, or Oats; then a seed crop, which he invariably followed by Beans, and the Bean crop by Wheat. He had gone on the five-course shift, but having only a portion of his land adapted to Turnips he had called upon that land, perhaps, oftener than he otherwise should. He had at length declined growing Turnips, and this year he had not grown any at all. He had substituted Globe Mangel for Swedes, and Rape for Early Turnips. A friend of his had recommended him to manure with lime, and he tried it a year or two ago; but he did not find that it was successful. The seed crop did not fail, but then, he only came upon that once in 10 years, whilst the Turnip crop, once in five years, he certainly could not grow. He does not use much artificial manure, their effects depending much on the weather. If they used a strong application of guano, and wet weather followed, it answered; but if the weather chanced to be dry, the results were rather the reverse. After all, he did not find that even for high farming there was anything upon which they could so well rely as good farmyard dung. He laid on all his manure on the Clover lea for Beans, and took his Wheat afterwards, and the result of that was invariably a better crop.

**Mr. Parkinson (Newark) said previous to the introduction of guano that it was impossible to say of what bulk or weight they might grow Swede Turnips, for neither of them had been able to grow one beyond its power, and at that time they had Swede Turnips on their farms of 16 lbs. and 17 lbs., and not a hollow one amongst them.**

Now, in his opinion, it was mainly to the introduction of guano that they owed the failure of the Turnip crop, though not perhaps entirely to it, yet to other artificial manure as well. But they could not "eat their cake and have it too;" they could not force the crop in the first stage of its growth, and expect to have the benefits to the end. So long as the cultivation of the Turnip was confined to the use of bones and farmyard manure, the Turnips never failed. At all events, until the year 1841, or a little later perhaps, he had never seen anything like a hollow Swede, though he had frequently seen them since: he had, therefore, come to the conclusion that it was chiefly owing to these forcing manures that there had been such a great deterioration in the Turnip crop. Mr. Wallis had denounced the four-course system in very proper terms. He advocated carrying the system rather further with regard to seeds than even Mr. Wallis had gone. He carried the seeds to three years. Always grazed. The system of rotation adopted was this:—1st Turnips, 2d Barley, 3d Red Clover mown, 4th Wheat, 5th Turnips, 6th Barley, 7th, 8th, and 9th, Seeds pastured, 10th Oats. The land was light land in Sherwood Forest, but the crops were so heavy, and produced with so small an expense in the cultivation, that it was found in practice to be a very profitable system. It was now being continued upon the same land, and he had no doubt that the present tenant found it to be equally profitable. With regard to Wheaten straw, he had derived great benefit from the use of salt. Upon one occasion, however, a neighbour of his applied guano to his Wheat crop, on the same description of soil as that to which he himself had applied salt, and the result was marvellous. His neighbour's Wheat was laid down, whilst his own was standing well up to the time of harvest, and he got a quarter per acre more, and that of a very superior sample. As to raising Wheat after Oats, he thought there was this difficulty—that the sample of Wheat could not be kept entirely free from the Oat.

**Mr. W. Fisher Hobbs said that the discussion, so far as it had gone, clearly showed that the four-course system of cultivating mixed soils was not under any circumstances the most profitable.**

It had often struck him that an oleaginous crop might be introduced with very great advantage; he meant such a crop as Rape-seed or other crop producing oil. At the present day we were dependent altogether upon foreign countries for the Colza oil with which our house lamps were supplied, and if unfortunately hostilities were to break out with France, the first effect would be to double, treble, or quadruple the price of Colza, or we might even have to do without it. In travelling through France at this season of the year he had seen, for two or three years past, immense tracts of land upon which they were growing those valuable crops of Rape-seed. They were found to be much more profitable than white crops; and he did think that occasionally, say once in eight or 10 years, an oleaginous crop, such as Rape, might be introduced in the farming of England with the best results. Independent of its intrinsic value as a crop, it tended very much to destroy insects; it altered the rotation; and, what was more, was in every way profitable. Under the system he pursued he had frequently three green crops in one season. That too was a change, the adoption of which enabled him to keep a larger number of sheep; and as far as he had carried it out it had proved eminently successful. As soon as the Wheat crop was off he sowed the land with Vetches and winter Oats mixed. Then, in the spring, when the sheep had fed off the Vetches, he ploughed the land, and drilled in about 3 cwts. of superphosphate and Rape seed per acre. The early Rape would be ready in eight or 10 weeks from the time of putting into the ground, and which came off in the last week of June or the 1st July, which in his climate was quite time enough to sow any common or even hybrid Turnips. If the land was at all tenacious, after the Rape had been fed off a first time he frequently horse-hoed in Mustard seed with the Rape which came up a second time, and then it was a most valuable food for a flock of ewes, especially during the time that the tups were turned into them. That too was a change in rotation; but he need not go further than to say, that they could not lay down any particular rule, and that the crops should be varied to suit differences in soil and climate. With reference to the management of hedges in this county (Essex), which was the driest in England, the hedges were, he believed, the worst; one reason of which was that the bank was the fence, and not the hedge. The bank was thrown up high, consequently it was very dry; and he did not think there was another county in England where the fences were so badly managed. In his opinion they ought to be planted as near the ground as possible, the same as in Lincolnshire. During the last 12 years he himself had planted a considerable quantity of new Quick, and he thought that it should be kept and trimmed in the form of a wedge, as recommended by Mr. Smythies. In respect of artificial manures, salt, &c., he had no doubt of the useful properties of salt; indeed he found it very beneficial. But so far as the stiffening of the straw was concerned, he believed that wide drilling had as much to do with that as salt. He had observed in the course of the present year, especially in places which had been visited by thunder storms, that when Wheat was drilled 10 or 12 inches wide the straw was much stiffer, and stood very much better; and that when with this they combined the use of salt mixed with guano the straw was still more stiffened. Guano for a Wheat crop, particularly upon heavy land, when mixed with salt, was the most beneficial manure he had ever applied, far surpassing any farmyard manure in the autumn. Within the last three or four years during the dry seasons, wherever he had applied guano to Mangel Wurzel, it had invariably been successful. In a climate where the rainfall did not exceed 16 inches he recommended superphosphate for the root crops instead of guano; but for Wheat crops upon heavy lands, which might be out of condition, he never found anything answer so well as guano and salt mixed. He had used it upon clay lands in the proportion of 2 cwt. of guano and 3 cwt. of salt.

**Mr. Lyall (Lincolnshire) said, that in the district in which he resided there was a great deal of light land that, from his experience, could be more profitably farmed on the four-course system than any other.**

It was less expensive, and produced a greater weight of green crops and corn; and a well approved maxim was—"Grow all you can; sell all you can; and at the least cost you can." As to artificial manures, in the Lincolnshire Wolds instead of their injuring the Turnip crop the farmers would scarcely know how to produce a Turnip without them. During the past year he had one field of 46 acres, which he heavily dressed with good cake manure, at the rate of seven or eight good Lincolnshire cart loads per acre. In addition to that he put on three loads of compost, mixed with 4 cwt. of nitrate of phosphate, through the drill. This mixture he divided into 10 heaps. The land was all manured alike, with the exception of two drill breadths between the heaps, which were left for the purpose of seeing what the effect would be without the nitro-phosphate. The result was, that where the nitrate was not used there was not half the growth of Turnips as where it had been used. He was but a young Mangel Wurzel grower, having commenced only four years back. But his progress was not slow. The first year he grew 4 acres; the next 8; the next 12, and this year 40. For Mangel he used 2 cwt. of guano, 3 cwt. of salt, and 3 cwt. of nitrate, in addition to farmyard dung; and he applied it through a drill. Mangel being sown early was not so liable to the depredations of the fly as the Swede Turnip, or so difficult to be kept clear of weeds. From his experience he should say that the root crop was the basis of all good husbandry; and that, if the land were properly prepared, suitable manures used, and a good selection of seeds made, they need not fear the Turnip crop degenerating, or becoming depreciated in this country.

Mr. Pell (Lincolnshire), having been asked by Mr. Parkinson to state what had been his experience of the use of artificial manures on the heaths and wolds of that county, said that for the last three or four years there had been complaints of the Turnips rotting. They got Turnips as usual. During the last season or two the fly had been troublesome, but to that they were always more or less subject. The great bulk of the farmers on the heaths and wolds, however, would say that for the last two or three years the Turnips were much more decayed, and gave way earlier than formerly.

Mr. Hooker had known Turnip lands where no superphosphate or other artificial manures had been used, and the crops had failed as well as where those manures had been used. On the stiff clay lands in his county they grew Wheat every second year. They sowed Tares, and after Tares Rape, and the Rape they fed off with sheep, with oilcake; they were thus enabled to get a very good crop of Wheat indeed. The following year they sowed Beans, and sometimes Rape. The method proved a very advantageous one.

Mr. Lyall had understood Mr. Wallis to say that the best mode of farming was to use good farmyard dung and bones for Turnips. (Mr. Wallis assented.) Now, last year, an experiment, much talked of at the time, was made upon the farm of his neighbour, Mr. Fowler, of Kirkhall, a tenant of Sir Montague Cholmeley. More than a dozen competitors entered their manures, and against the manufacturers of manures Mr. Fowler tried his stable manures and bones, and of all the 13 crops in the field that of Mr. Fowler was decided to be the worst.

The Chairman strongly advocated the use of salt on light lands, and moderately so on mixed lands. On the former he would apply it in the proportion of 4 or 5 cwt. per acre, mixed with guano; but on strong land he should hesitate doing so, inasmuch as it made the land still more sticky and adhesive.

Mr. Owen Wallis, in the course of a brief reply, said he did not believe that the use of artificial food or manure had been the cause of delay or failure in the Turnip crop; for some of the worst tubers he had seen were upon land cultivated with farmyard manure only. His own opinion was, that the decay was owing to some important principle being extracted from the soil by the repeated growth of the Turnip crop, and not to the manure. Indeed, he believed that the manures recently introduced had assisted materially in keeping the Turnip afloat. With regard to straw, his remark had applied not to Wheat but to Barley. He had no difficulty with the Wheat crop at all; but Barley he could not keep upon its legs, and everybody was complaining of the failure of their Barley both in respect of quantity and quality. Salt was no doubt an admirable application to light lands; he should be extremely shy, however, in applying it to clay soils. True, he had seen it thus applied; but so tenacious was the soil for years afterwards that little improvement could be made upon it, and the crops were almost a total failure for three or four years. So far as the Lincolnshire Wolds were concerned, they must not be compared with the old arable districts of the country. They had only recently been broken up, and within the memory of man had been heaths and rabbit warrens.

## Reviews.

*Journal of the Bath and West of England Society for the Encouragement of Agriculture, Arts, Manufactures, and Commerce.* 1859.

The current volume of this excellent agricultural Journal contains reports of the Cardiff Show—a Statement of Personal Experience on a Farm—an Essay on the Sheep of the West of England—papers on Carts and Waggons—on Orchards—on Irrigation—on French Agriculture—on Farm Buildings for Small Farms—on the Barnstaple Exhibition (Arts and Manufactures)—an Elementary Introduction to the Principles and History of Art; and "The Note Book," including 26 shorter interesting notices and paragraphs—altogether an exceedingly satisfactory volume. There is in addition to these Papers a report of the Local Examination connected with the Universities, in which indeed, through Mr. Acland, the Bath and West of England Society had early taken a special interest. The volume also contains the report of a committee of the Society, to whom had been deputed the subject of Tenant right. The history of their progress towards certain conclusions is given in detail, and the conclusions themselves are as follows:—

"*Resolutions as Amended by the Committee on Jan. 22, 1859, being the Report of the Committee.*—1st. That it is desirable that terms of arrangement between landlord and tenant should be reduced to writing and signed before the entry of the tenant on the land. 2d. That the basis of such arrangements should be one of mutual security to landlord and tenant:—(*a*). In favour of the Tenant: Security that if he farms the estate up to the expiration of the tenancy, as if he were going to continue in the occupation, he shall not be called upon to leave capital beneficial to his successor, from which he has not had time to obtain a fair return himself, without being paid for it. (*b*). In favour of the Landlord: Security that, on the other hand, any permanent or temporary damage done to the farm by foulness or bad management, will be a charge against the outgoing tenant. 3d. That cultivation clauses should not needlessly restrict the tenant as to the succession of his crops. 4th. That such restrictive clauses as may be necessary should, as far as practicable, carry definite penalties, by way of additional rent, so as to be capable of enforcement without the necessity of resorting to legal proceedings to assess damages. 5th. That no claim for compensation on the ground of having made a farm clean be entertained. 6th. That ordinary claims on the part of the outgoing tenant be limited to crops in the ground and acts of husbandry, to be estimated according to their value to the incoming tenant. 7th. That in making arrangements between landlord and tenant, the usual "custom of the country" be specially barred. 8th. That claims for compensation for purchased manure or purchased food be matter of special agreement, under which compensation is not to be claimed, without previous definite notice given, and consent obtained from the landlord or his agent. 9th. That claims for any special outlay in permanent improvements—such as draining, fencing, road-making, or building—be in like manner made in the form of a definite sum, spread over a given number of years, after previous notice given and consent obtained, as in the last case."

## Miscellaneous.

*American Guano Islands.*—The discovery of the extraordinary fertilising properties of guano is of such recent date, comparatively speaking, that few intelligent readers are unacquainted with its history. The marvellous growth of the guano trade, however, is scarcely realised by any one who has not given the subject a particular and minute examination. The waters of the Pacific Ocean have for the past few years been the theatre of discovery, towards which enterprising commercial men have sent their vessels upon voyages planned expressly for the development of new guano islands, and thus far the most extraordinary success has crowned their efforts. In these voyages of discovery, the lion's share has fortunately fallen to our own countrymen; whether owing to their superior energy of character or nor we will not pretend to say, although they have been participated in by vessels of various nationalities. True it is, that nothing that will compare with the Chincha Islands, on the coast of Peru, has yet been found, but for all this, there have been enough discoveries made to render the American ownership of guano islands an item of almost inconceivably great importance, while the number is increasing, constantly, through the continued researches that are being made by enterprising explorers. [The names of 48 guano islands now claimed by American citizens, as recorded at Washington, are then given.] To these may be added—Johnson's Island, owned by parties in this city, the discovery of which is believed to be due to the late W. H. Parker, who recently committed suicide at Washington; "French Frigate Shoals," which Lieutenant J. M. Brooke, of the U. S. surveying schooner Fennimore Cooper, discovered to be extensive guano islands; and another purporting to have been discovered recently by the schooner E. L. Frost, which sailed from Honolulu, the name and location of which is unknown. From this showing, it will be seen that the American guano islands are becoming of immense value and importance. A correspondent of the *New York Tribune*, to whom we are indebted for the above statement of the number of guano islands now claimed by Americans, understands that "these acquisitions are all to be surveyed and charted, and the quality and quantity of the guano thereon to be ascertained by competent analytical chemists and topographical engineers, and a report thereof made to congress at the earliest practicable period." Elide Island, on the Mexican coast, nominally owned by the Mexican government, is virtually owned by a company of American citizens, who are now engaged in shipping

# MESSRS. E. G. HENDERSON & SON'S

## NEW GENERAL CATALOGUE

AND

## SPRING LIST OF ORNAMENTAL BEDDING AND SUMMER-FLOWERING PLANTS,

**Is ready for distribution (free by post) wherein are described the following NEW PLANTS and also special directions for sowing, rearing, and final planting of**

## SPERGULA PILIFERA,

the admirable substitute for Grass on Lawns, without mowing, of which good established tufts for immediate planting (from Mr. Mongredien's fine lawn at Forest Hill, near to the Crystal Palace), are offered at 4*s.* and 2*s.* per dozen, according to their respective size. Seed Packets, 6*d.*, 2*s.* 6*d.*, 5*s.*, 10*s.*, and 20*s.* each.

BEATON'S NEW SEEDLING BEDDING GERANIUMS of unique and beautiful colours are—

THE IMPERIAL CRIMSON and the **MODEL NOSEGAY.**

| | |
|---|---|
| ALLAMANDA VIOLACEA. | GERANIUM WHITE NOSEGAY. |
| CALCEOLARIA AMPLEXICAULIS ALBA. | ,, SILVER CHAIN. |
| DWARF DAHLIA, THE WHITE UNIQUE. | ,, ST. CLOUD. |
| ,, GLOIRE DE FRANCE. | ,, GOLDEN TOM THUMB. |
| BANKS'S NEW FUCHSIAS | ,, CERISE UNIQUE. |
| PELE'S NEW CHRYSANTHEMUMS. | ,, THE RAINBOW. |

## OF VERBENAS,

THE MOST SPLENDID COLLECTION EVER OFFERED are those now in bloom at the Wellington Nursery, and to which E. G. HENDERSON & SON have called the special attention of cultivators for the first time this season. **The present season is the most suitable for sowing**

## CALCEOLARIA, CINERARIA, AND PRIMULA,

to secure an early and continuous bloom of the above favourite plants for Greenhouse and Conservatory decoration. Seed Packets, of first class quality in each kind, at 2*s.* 6*d.* each.

**Wellington Nursery, St. John's Wood, London.**

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## CHOICE FLOWERS.

# BUTLER & McCULLOCH'S SPRING CATALOGUE OF SEEDS,

ESTABLISHED UPWARDS OF A CENTURY

ARRANGED on a new and original plan, with copious Descriptive and Cultural Notes, and containing many new and rare species and varieties not found in any other Catalogue; **now ready and may be had free and post paid on application.**

FLOWER, SHRUB, TREE, and VEGETABLE SEEDS, **the crop of 1858, saved with the greatest care, by the most eminent growers.**

We may also state that the Sardinian correspondent of Messrs. JAMES CARTER & Co., whose Seeds, especially Carnations and Picotees, **have given such universal satisfaction, has transferred the Agency from that firm and appointed us his representative in this country. To meet the growing demand for first class flowers, particularly FLORISTS' FLOWERS, we have adopted our usual maxim of charging the lowest possible prices.**

Professor LINDLEY in the *Gardeners' Chronicle* of February 5th, has the following notice of B. & McC.'s Catalogue.

"BUTLER & McCULLOCH's (Covent Garden) Spring Catalogue of Choice Flower, Shrub, Tree, and Vegetable Seeds. This list fills 84 closely printed 8vo pages, and is remarkably well got up. It appears that the correspondent in Sardinia, who formerly supplied one of the great London houses with seeds raised in that warm part of Europe, has now transferred what he saves to Messrs. BUTLER & McCULLOCH. **Let us add, that it yields to no Trade List in the abundance of its materials or the excellence of its arrangements."**

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BUTLER AND McCULLOCH, while drawing attention to their general SPRING CATALOGUE which has elicited such high encomiums both from the scientific botanist and amateur cultivator, avail themselves of the present opportunity to select from its pages the following list:—

(28) ACACIA GRANDIS (TRUE).

One of the most beautiful of the A. pulchella section, producing deep golden balls. Of these graceful and highly ornamental plants our collection embraces no fewer than 47 varieties, all of the most decorative character.

(70) ALPINES.

Of these beautiful little plants we have a splendid collection, embracing all the most admired kinds, collected and arranged for us last autumn by M. Ortgies, the Curator of the Zurich Botanic Gardens. The value of Alpine plants for rock-work is too well known to require comment. These collections we can confidently recommend, containing, as they do, species only of highest merit.

(199) CALLICHROA PEDATA.

A new crimson annual with white eye, very beautiful.

(217 A.) CAMELLIA JAPONICA.

From the newest and finest striped and other varieties of that much admired genus.

(296) CEANOTHUS AZUREUS GRANDIFLORUS.

This, cæruleus macrophyllus, and Fontanesianus are all beautiful varieties of this highly ornamental genus, of which we possess nine splendid varieties. They are equally suited for conservatory and out-door decoration.

CANNAS.

Of these we possess an extremely interesting collection.

(304) CELOSIA (species nova).

A most elegant plant, producing a multitude of long spikes of feathery blossoms, silvery white shaded with bright rose, retaining its colour perfectly when dried, and therefore admirably adapted for winter bouquets; one of the greatest novelties of the season, flowering out of doors or in pots from July to October. Well worth attention. A dried specimen may be seen.

(337) CHRYSANTHEMUM (tall and dwarf).

Of these dwarf and tall varieties we have a fine stock, nearly all of which may be depended upon to produce double flowers, the seeds having been saved from the finest named varieties.

(344) CHRYSOCOMA COMAUREA.

Fine evergreen shrub, bearing a profusion of golden ball-like flowers; one of the handsomest greenhouse plants in cultivation.

(451) DATURA HUMILIS FLORE PLENO.

A magnificent Brugmansia-like plant producing a profusion of deep golden-yellow flowers; very large, double, and sweet-scented. One of the greatest novelties of the season.

(625) HABROTHAMNUS HÜGELLI.

This, purpureus, and Abelli are all handsome varieties of this beautiful genus, which everybody having a greenhouse or conservatory should grow. All three are extremely ornamental.

(665) HIBISCUS ROSEUS SUPERBUS.

This, Syriacus, and Thunbergi we can highly recommend. All are plants of great beauty

(680 to 688) HOLCUS OR SORGHUM (Chinese Sugar Cane).

Of this important class we have nine new and important varieties from Africa, said to be more ornamental and to contain more saccharine matter, Holcus saccharatus.

(704) INDIGOFERA DECORA ALBA ROSEA.

The above, purpurea, and dosua are all pretty free flowering shrubs, suitable for small greenhouses. They are also highly ornamental out of doors in summer.

(972) PELARGONIUMS.

Of these both large flowered and fancy, very choice, and of other splendid varieties, including Scarlets, we have a fine stock, which cannot fail to prove highly satisfactory.

(1149) SOLANUM CAPSICASTRUM.

Miniature Orange tree, covered all winter with a profusion of scarlet fruit; a handsome plant for greenhouse or sitting rooms.

(1335) BIGNONIA RADICANS MULTIFLORA.

Finer and brighter than radicans; flowers in large panicles producing a splendid effect.

(1468) TACSONIA IGNEA.

This magnificent Passionflower is unequalled for the brilliancy and splendour of its scarlet blossoms, far surpassing in this respect any of its class yet known. It flowers most profusely, grows rapidly, and covers a large space in an incredibly short time. It succeeds in a cold greenhouse, and even against a south wall with a little protection in winter (new and rare).

(1488) TROPÆOLUM TRIOMPHE DE GAND FIMBRIATUM.

Fringed orange scarlet.

CARNATIONS and PICOTEES saved from the most choice Collection of English varieties grown on the continent, and which may be expected to produce flowers of the highest merit, sent out in sealed packets as received from our Sardinian correspondent, whose seeds for many years have given such universal satisfaction, and from which varieties of the greatest excellence have been raised.

For prices and further particulars with regard to the above and other novelties, we refer our patrons to the Catalogue itself, which is sent free and post paid on application.

**BUTLER & McCULLOCH, Covent Garden Market.**

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## CHOICE SEEDS.

MESSRS. PARKER AND WILLIAMS beg to inform ther friends and patrons that they can now supply the following choice SEEDS, all of which are warranted genuine and of the finest quality.

| Per packet—*s. d* | | Per packet— *d.* | |
|---|---|---|---|
| Calceolaria, herbaceous | 2 6 | Gaillardia grandiflora | 0 6 |
| Cineraria, from named vars. | 2 6 | Primula sinensis, mixed | 1 6 |
| Clianthus Dampieri | 2 6 | Pansy, from named vars | 1 0 |
| Hollyhock, from named vars. | 0 6 | Sweet William, from extra fine vars. | 0 6 |

Paradise Nursery, Seven Sisters and Hornsey Roads, Holloway, London, N.

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## FRUIT TREES IN POTS.

H. LANE AND SON, The Nurseries, Great Berkhampstead, Herts, have still to offer in large quantities fine TREES, well set with Fruit (which are now in a good state for travelling, the fruit not being heavy and likely to drop off), of—

PEACHES, NECTARINES, and APRICOTS, 5*s.*, 7*s.* 6*d.* to 10*s.* each; also APPLES, 3*s.* 6*d.* to 5*s.*

FIGS in a bearing state, 3*s.* 6*d.*

GOOSEBERRIES and CURRANTS, 1*s.* 6*d.*

VINES from eyes, with Fruit on, 5*s.*

They also have a fine collection of Roses in 60-size pots for bedding out, and Roses in 32-size or 6 inch pots suitable for filling up vacancies, and a most splendid lot of Araucaria imbricata; also Indian and Ghent Azaleas, Rhododendrons, Cedrus Deodara, Cedar of Lebanon, and Evergreens of every description.

Catalogues of the above may be had upon application at the Home Nurseries, which are within 5 minutes' walk of the station of the London and North-Western Railway, Great Berkhampstead, Herts.

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ROYAL BERKSHIRE SEED ESTABLISHMENT.

## GOOD TURNIP SEEDS, CARRIAGE FREE.

SEEDS DIRECT FROM THE GROWERS THE MOST CERTAIN MEANS OF PREVENTING DISAPPOINTMENT.

SUTTON AND SONS, SEED GROWERS, Reading, Berks, can supply every kind of TURNIP SEEDS of genuine and superior quality.

Agriculturists residing in the most remote parts of the kingdom can procure good Seeds at very moderate prices from this Establishment.—For particulars, apply to

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## ROYAL SOUTH HANTS SEED ESTABLISHMENT,

UNDER THE PATRONAGE OF H.R.H. THE PRINCE CONSORT, THE AGRICULTURAL AND HORTICULTURAL SOCIETY OF INDIA, AND THE LEADING AGRICULTURISTS OF THE UNITED KINGDOM.

NEW TURNIP SEEDS, 6*d.* per lb.

Carriage free, parcels under 20 lbs. excepted.

PAGE AND TOOGOOD have harvested a fine stock of HARDY GREEN ROUND TURNIP, which is ready for immediate delivery. They have yet a few of their

IMPROVED SKIRVING'S SWEDES at 6*d* per lb.
PAGE'S IMPROVED PURPLE-TOP do. at 8*d.* do.
JEFFERY'S OR SUSSEX do at 9*d.* do.
SCOTCH HYBRIDS, 7*d* per lb.
YELLOW TANKARD, 7*d.* do.
POMERANIAN WHITE GLOBE, 6*d.* per lb. and also
PAGE'S IMPROVED RED GLOBE, 8*d.* per lb., which W. Baker, Esq., Purewell, says is preferred by his beasts and sheep to any he has grown; it is quite hardy, and less injured by Fly than other sorts.—PAGE & TOOGOOD, Seed Growers, 37, and 38, Oxford Street, and 58, Above Bar, Southampton.

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## BUSBY'S STOCKWOOD GOLDEN HAMBURGH GRAPE

IN consequence of the Horticultural Society having abandoned their intended Exhibition at St. James's Hall on the 29th and 30th of this month, on account of the injury sustained by the plants from the heat and dryness of a gas-lighted room,

JAMES VEITCH, JUN., begs to announce that the PRIZE of 5*l.* 5*s.* offered by him for the BEST THREE BUNCHES of the above GRAPE, will now be awarded at the next Meeting of the HORTICULTURAL SOCIETY'S FRUIT COMMITTEE, at 8, St. Martin's Place, Trafalgar Square,

**On TUESDAY, July 12, 1859, at 3 P.M.**

J. V., Jun., also offers a PRIZE of 5*l.* 5*s.* for the BEST THREE BUNCHES Exhibited at the CRYSTAL PALACE SHOW, September 7 and 8, 1859, as before advertised.

N.B. The Grapes intended for Exhibition at St. Martin's Place on July 12 should be delivered there not later than 11 A.M. on that day; and J. V., Jun., will be happy to pay the carriage of those that are sent.

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# The Gardeners' Chronicle.

*SATURDAY, JUNE* 25, 1859.


**MEETINGS FOR THE FOLLOWING WEEK.**

WEDNESDAY, June 29—Microscopical..... 8 P.M.

IN the history of progress few things are more remarkable than the changes which have taken place in our SOUTH AUSTRALIAN COLONIES. Thirty years ago they were hardly known except to explorers and geographers. When MITCHELL first saw their rich plains, and called them Australia Felix, he little dreamt of their mineral wealth being far greater than their pastoral. Nor did the discoverers of gold suspect that the time would come when the scene would change once more, and the cultivation of the soil become of greater importance than mining itself. Nevertheless such a contingency does not seem to be remote, if we can judge from the agricultural and horticultural statistics partly collected by the South Australian Government, and published in a late number of the Melbourne *Farm and Garden*—statistics so interesting that we gladly reproduce them

although the returns for 1858 were not ready when our file of papers left Melbourne.

The first table given by Mr. ANDREWS, the Editor, states the population, number of acres under cultivation, and proportion of acreage for every 100 of the population, from the year 1836 to the year 1857:—

| Dates. | Population. | Acres. | Proportion. |
|---|---|---|---|
| 1836 | 200 | .. | .. |
| 1837 | 1200 | [illegible] | [illegible] |
| 1838 | 5000 | [illegible] | [illegible] |
| 1839 | 10,000 | 443 | 4½ |
| 1840 | 14,610 | 2687 | 18 |
| 1841 | No returns. | 6722 | .. |
| 1842 | No returns. | 19,790 | .. |
| 1843 | 17,366 | 28,690 | 165 |
| 1844 | 18,999 | 26,907 | 141 |
| 1845 | 21,759 | 26,218 | 120 |
| 1846 | 25,893 | 33,292 | 128 |
| 1847 | 31,155 | 46,440 | 149 |
| 1848 | 38,666 | 48,911 | 126 |
| 1849 | 52,904 | 44,983 | 85 |
| 1850 | 63,700 | 64,728 | 101 |
| 1851 | 66,538 | No returns. | .. |
| 1852 | 68,063 | No returns. | .. |
| 1853 | 76,059 | No returns. | .. |
| 1854 | 85,550 | 129,692 | 151 |
| 1855 | 96,982 | No returns. | .. |
| 1856 | 104,708 | 203,423 | 194 |
| 1857 | 109,917 | 235,965 | 214 |

From this it appears that in 1837 only two-thirds of an acre were provided for every hundred persons, a sufficient explanation of the enormous price of all articles of food at that time; but that in 1857 there were more than two acres per head devoted to the comfort or sustenance of the population, nearly 236,000 acres being under either spade or plough, instead of 7 acres and three-quarters—in fact a small Potato-field.

Of these 236,000 acres above 8000 were exclusively occupied by garden stuff; as the next table explains:—

| Dates. | Gardens and Orchards. | Vineyards. | Potatoes. | Other crops. | Totals. |
|---|---|---|---|---|---|
| 1837 | 6 | .. | 1½ | .. | 7½ |
| 1838 | 25 | .. | 20 | .. | 45 |
| 1839 | 60 | .. | 75 | 70 | 205 |
| 1840 | 183 | .. | 440 | .. | 623 |
| 1841 | .. | .. | 456 | .. | 456 |
| 1842 | 850 | .. | 690 | .. | 1540 |
| 1843 | 840 | .. | 470 | .. | 1310 |
| 1844 | 761 | .. | 397 | .. | 1158 |
| 1845 | 631 | .. | 459 | .. | 1090 |
| 1846 | 896 | 112 | 591 | .. | 1599 |
| 1847 | 993 | 198 | 381 | .. | 1572 |
| 1848 | 1300 | 219 | 596 | .. | 2115 |
| 1849 | 1497 | 198 | 875 | .. | 2570 |
| 1850 | 1372 | 283 | 1785 | .. | 3440 |
| 1854 | 2974 | 410 | 1712 | 392 | 5488 |
| 1856 | 4148 | 754 | 2679 | 897 | 8178 |
| 1857 | 4501 | 1056 | 2130 | 397 | 8084 |

One of the most striking facts in this return is the extension of Vine culture. The Vineyards, which in 1846 embraced only 112 acres, in 1857 had increased to 1056 acres. And in the opinion of the Editor of the *Farm and Garden* every succeeding year will doubtless add largely to the quantity. That much of the wine is at present unsuited to European consumption will be readily believed; but the climate and soil are perfectly well suited to Vine growing, and the quality of the wine will mend with time. That of Sydney was poor stuff at first; but now, as regards its sweet kinds, it takes rank by the side of the French Muscats; and some of the dry wines are of superior excellence. The Government returns show that even in 1856-7 as many as 100,624 gallons were produced, and the quantity is so steadily and rapidly increasing that South Australia must already be regarded as a wine producing colony. Nor are the gardeners there behind those of Europe in the search after new varieties of the Grape possibly better suited to the climate than those of Europe. They are now talking of a "Black Mammoth," described as a magnificent sort.

With regard to the agricultural produce, although it should in strictness be reported in the other side of our *Chronicle*, yet we crave permission to mention it in connection with the Horticultural. Upon this subject Mr. ANDREWS has prepared the following table:—

| Dates. | Wheat. | Barley. | Oats. | Maize. | Hay, &c. | Totals. |
|---|---|---|---|---|---|---|
| 1837 | .. | .. | .. | ¼ | .. | ¼ |
| 1838 | 20 | 1 | 5 | 10 | .. | 36 |
| 1839 | 120 | 23 | 30 | 60 | .. | 238 |
| 1840 | 1059 | 388 | 425 | 192 | .. | 2064 |
| 1841 | 4154 | 897 | 501 | 714 | .. | 6266 |
| 1842 | 14,000 | 2700 | 700 | 850 | .. | 18,250 |
| 1843 | 23,000 | 3300 | 790 | 290 | .. | 27,380 |
| 1844 | 18,980 | 4264 | 1045 | 242 | 1218 | 25,749 |
| 1845 | 18,838 | 4342 | 1486 | 86 | 376 | 25,128 |
| 1846 | 26,135 | 3489 | 1963 | 106 | .. | 31,693 |
| 1847 | 25,920 | 5840 | 2947 | 161 | .. | 34,868 |
| 1848 | 29,737 | 8479 | 3977 | 4603 | .. | 55,796 |
| 1849 | 35,185 | 5751 | 1470 | 7 | .. | 42,413 |
| 1850 | 41,807 | 4029 | 2112 | 37 | 13,302 | 61,288 |
| 1854 | 89,945 | 6454 | 4359 | 44 | 23,402 | 124,204 |
| 1856 | 162,012 | 7828 | 2822 | 67 | 22,516 | 195,245 |
| 1857 | 175,865 | 10,209 | 2912 | 48 | 38,847 | 227,881 |

No Government returns were published in the years here omitted. It is, however, evident, that there has been a gradually progressive increase in the number of acres brought under cultivation for Wheat—the great agricultural product of South Australia. The advance from 20 bushels in 1838 to 175,865 in 1857 is most remarkable. This is rather more than a bushel and a half per head, so that South Australia is rapidly becoming independent of other countries for the staff of life. It is moreover to be observed that a large part of what agricultural crops the colony now produces is exported, to the value in 1857 of more than 700,000*l.*, as is seen in the next Table.

| Dates. | Agricultural. | Horticultural. | Totals. |
|---|---|---|---|
| | £ s. | £ s. | £ s. |
| 1843 | 10,509 1 | 249 10 | 10,758 11 |
| 1844 | 20,350 12 | 43 4 | 20,393 16 |
| 1845 | 25,604 7 | 78 6 | 25,682 13 |
| 1846 | 27,419 0 | 219 0 | 27,638 0 |
| 1847 | 40,792 19 | 57 0 | 40,849 19 |
| 1848 | 37,209 0 | 21 0 | 37,230 0 |
| 1849 | 32,205 15 | 3 0 | 32,208 15 |
| 1850 | 38,312 0 | Nil | 38,312 0 |
| 1851 | 73,311 10 | Nil | 73,311 10 |
| 1852 | 215,160 9 | 1446 0 | 216,606 9 |
| 1853 | 295,375 11 | 2153 0 | 297,528 11 |
| 1854 | 399,556 10 | 6074 10 | 405,631 0 |
| 1855 | 240,014 0 | 466 0 | 240,480 0 |
| 1856 | 556,741 0 | 1674 0 | 558,415 0 |
| 1857 | 701,132 0 | 3299 0 | 704,731 0 |
| Grand total during 15 years .. | | | £2,729,777 4 |

Under the head of "Agricultural" are included flour, Wheat, Barley, Oats, bran, pollard, hay, Maize, and malt; and under the head "Horticultural" fruit, vegetables, wine, plants, roots, and seeds.

What a tempting prospect is thus presented to clever, skilful, energetic, practical men—whether husbandmen or gardeners—who find it impossible to make head against the difficulties inherent in all old countries. No one can doubt that in S. Australia are sources of wealth far more important than "pit-holes," and "pockets of gold," and auriferous mud.

And so will it be with British Columbia, the mineral wealth of which promises to exceed even the fabulous accounts of Californian treasure. Crowds are flocking to the gold streams there, enduring every possible hardship in the search for wealth ready made. But these crowds must be fed and clothed, and the purveyors of the necessaries of life follow close on the miners' footsteps and easily share profits with them. Then come luxuries and the countless forms of imaginary want; for of what worth is gold except for what it can procure? Fine clothes, fine houses, fine carriages, and delicate viands are quickly in demand, and thus will soon be created in a savage wilderness in the north Pacific cities and towns with their halls of justice and of legislature, that in 20 years will look like those of Europe, and in 20 years more will be talking of independence, and boasting like South Australia of exporting millions worth of farm and garden produce.

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WE are asked how the beautiful TOMATOS, so common in the French markets and so much finer than our own, are obtained; and why it is that the sauce made from them is so incomparably better. The obvious answer would seem to be "climate;" without French climate you cannot have French Tomatos. But that is certainly not all. Climate will influence the quality of the fruit but not its quantity: and moreover climate itself is not absolutely beyond reach. Management has doubtless in this as well as in other cases much to do with result.

Our common way of growing this plant does not seem to require alteration. Bringing it forward early, planting it in the hottest place that can be found, and keeping it from night cold and heavy rain, while ripening; these points are very well understood by experienced men; although it must be owned that the inexperienced are too apt to neglect them: as might have been seen last year in a pretty good country place not a hundred miles from Hastings, where they were stationed at the foot of a north-west wall, and left to sprawl over the ground like wild things, with no pruning, and no autumn shelter.

The common English practice, in the best hands, is almost unobjectionable; nor indeed does it materially differ from the French except in summer management. To nail them to a wall, or to lead them over slates, is right; but to peg them down on banks, although it answers for a market gardener in very warm dry autumns, is certainly not to be recommended in private gardens where quality is more important than quantity, inasmuch as the fruit of the Tomato is compelled to absorb rain or heavy dews whenever they fall on the bank, at the very time when it requires to be kept perfectly dry.

The best French gardeners are quite particular about stopping their plants, so that as nice a balance may be maintained between fruit and leaves as in a Peach tree. They are not satisfied with mere topping as soon as there is plenty of flowers, and with pinching off laterals afterwards. Their method is this. As soon as a cluster of flowers is visible they top the stem down to the cluster, so that the flowers terminate the stem. The effect is that sap is immediately impelled into the two buds next below the cluster, which immediately push strongly and presently produce another cluster of flowers each. The moment these are visible the branch to which they belong is also topped down to their level; and this is done five times successively. The effect is to form stout dwarf bushes not above 18 inches high. In order to prevent their falling over, sticks or string are stretched horizontally along the rows so as to keep the plants tolerably upright. In addition to this all laterals that have no flowers, and after the fifth topping all laterals whatsoever are nipped off. In this way the ripe sap is directed into the fruit, which acquires a beauty, size, and excellence unattainable by other means, and we are assured that 14 lbs. of ripe Tomatoes per plant is no very unusual produce; even 16 lbs. being known.

Whether or not this exact method is suitable to our climate may be doubted; but the soundness of its principle is beyond dispute. Five successive toppings are more than our short summers will justify except in very hot dry places; three we should consider quite enough; for although the fourth and fifth toppings would doubtless increase the quantity of fruit, yet there is little probability of such late fruit ripening well; and it must be safest to direct the energies of the plant to bear a smaller quantity of the highest excellence that our soil and climate can secure in a species which grows best in a country where the summer heat rises to 100° and does not fall below 50°, with a mean in the warmest month of 77°.

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## ON SOME REMARKABLE PLANTS OF IVY

### MEASURED AT MONTPELLIER, AND ON A NEW METHOD OF EMPLOYING THIS SHRUB IN THE ORNAMENTATION OF GARDENS.

(From the *Revue Horticole*).

DE CANDOLLE has described an Ivy which existed at Gigean, near Montpellier. In 1814 its base was 6 feet in circumference, whence proceeded two large stems which spread over a wall, and covered a surface of 72 square metres; its entire height was 6 metres. This Ivy was blown down by a hurricane in 1829.

The climate and soil of Montpellier appear favourable to the growth of this fine shrub. I have measured one in the wood of Oscar, which was 0m. 39 in circumference, but its age is unknown; this is not the case with the one I am about to describe. On demolishing some houses previous to building the choir of the cathedral, an old wall was exposed, which had formed part of the ancient monastery of the Benedictines, founded by Urban V., and now occupied by the school of medicine. An Ivy, planted in the ancient cemetery of the convent, covers the northern side of the wall at the back of the large amphitheatre of the faculty. At 0m. 30 above the ground, the circumference of the stem is 0m. 77. At the height of 2 metres it divides in three branches, of which the eastern is the largest, being 0m. 45 in circumference. The Ivy spreads over the surface of the wall in the form of a perfectly regular reversed triangle, the height of which is 10m. 88, and its base, which coincides with the top of the wall, is 23m. 25 in length; it presents therefore a surface of 126 square metres, a space much larger than that covered by the Ivy of Gigean. If the wall were higher, the surface covered by the Ivy would be still more considerable, for not only do the branches rise above the top of the wall, but they extend on to the roof of the amphitheatre which abuts against it, and they are cut from time to time to prevent their entirely covering it. It is proposed to surround the new cathedral by a square; if the municipality of Montpellier carry out this project, this fine Ivy will be one of the most curious ornaments of the new promenade.

I had fancied this Ivy must be extremely venerable, when a lucky accident introduced me to an old gardener named Aymard, 71 years old, who gave me the following information:—At the age of 8 or 10 years he was assisting his father in planting a Nut-hedge to conceal the wall in question, when he noticed a young plant of Ivy clinging to the wall: he spared it, and it gradually increased in size. As the child became a man he took pleasure, when cultivating the neighbouring gardens, in seeing his Ivy gradually ascend the wall, reach the summit about 1833, and finally pass it. The prodigious growth of this Ivy, which is thus proved to be about 65 years old at most, is a remarkable instance of the influence of decomposed animal matter upon vegetation. I have already stated that the garden in which it grows served as a burial-ground to the monks of the priory of St. Germain, founded in 1366 by the Pope Urban V.; but besides this, Aymard affirmed that during the Revolution they had buried there many bones and coffins taken from some catacombs in the neighbourhood, called

the Public Vaults. For a considerable distance the soil was filled with human bones and rotten wood, which were found in large quantities when digging the foundations of the choir of the cathedral. This Ivy has therefore grown in land manured in an exceptional manner, and incomparably richer in phosphate of lime than the richest ordinary soil.

To obtain an idea of the influence of this unusual amount of food, I have had the curiosity to calculate what would have been the age of the Ivy if it had grown in a non-manured soil. De Candolle furnished a basis for the calculation; he measured at Montpellier an Ivy growing in ordinary ground; it was 45 years old and was 0m. 065 in diameter. If we establish a geometrical ratio between the diameter and age of this Ivy, and the diameter (0m. 245) of the Ivy of the cathedral, with the view of ascertaining the probable age of the latter, we should commit a gross error, for foresters, horticulturists, nay even woodcutters and sawyers, know very well that in all trees the ligneous layers diminish in thickness from the centre to the circumference. Unfortunately the laws of this diminution have not even been ascertained for the commonest species. With the assistance of my friend Auguste Bravais I have determined them for the Pinus sylvestris, the growth of which we have studied from 70° of N. latitude to 51½°; that is to say, from Lapland to the north of France. It is in the middle of Sweden, in lat. 60°, that this tree presents the finest proportions and most regular growth, and it is there also that we have been able to measure the oldest trees. We have ascertained that the mean decrease of the layers is represented by a hyperbolic curve with a horizontal asymptote. Other considerations show that it is very probable that the hyperbola represents the general law of the growth in thickness of all species of trees in our climate.

For want of other elements I shall therefore suppose that the Ivy of the medical school would have followed this law had it grown in a poor soil; in which case I find that it would have been about 360 years old. Thus, an Ivy planted in a highly manured soil has acquired in 65 years the diameter which it would only have attained at the end of 360 years if unmanured; consequently a manure abounding in phosphate of lime has quintupled the vegetative power of this shrub.

These facts complicate with a new and very important element the approximate calculation of the age of trees deduced from their size; for example, the Ivy observed at Gigean by De Candolle in 1814, and which was 0m. 620 in diameter, would have attained the extraordinary age of about 800 years if it had grown in an unmanured soil, but in a well manured garden its age would be considerably less, while, had it grown in the ancient cemetery of the Abbey of St. Germain, it would be but 160 years old.

The Montpellier Garden possesses an Ivy remarkable in another way, and which will interest horticulturists and landscape gardeners more than the great age of those of which we have been speaking. In 1811 or 1812, De Candolle planted in the newly added northern part a forest school, in which the trees were arranged in natural families. The common Ivy was planted there, as usual, with a support. The stems embraced this, and by interlacing around it formed a trunk similar to those of the American Lianes, which end by killing and replacing the tree which they enfold. The support was not high, so that the trunk is only 1m. 30 high; it is 2m. 30 in circumference at 0m. 30 above the ground; the top of the tree, which is perfectly round, is not more than 4m. 35 in height, but it is 19m. 30 in circumference. The extremities of the lowest branches touch the earth, and the entire tree presents the appearance of a pyramid of verdure placed upon the ground. This Ivy is now 46 years old; its trunk, as I have said, is not simple, but is composed of an agglomeration of entwined stems and branches which have been continually increasing in number. If we desire to form an idea of the age of the Ivy, it is very important to distinguish these compound trunks from single ones like that of the Ivy on the school of medicine.

This tendency of Ivy to form a trunk by the interlacing and joining of its branches may be taken advantage of in the ornamentation of parks and gardens. I have proved this by experience. In 1852, I transplanted a Pinus Laricio of 5 metres in height, and placed it opposite the house which I occupy in the botanic garden. After some months the tree died; on which I cut off its branches, and planted at its foot two Ivies and two Banksia Roses; for two years both creepers flourished, and the yellow Roses showed to advantage against the dark green foliage of the Ivy; but by degrees the latter gained the ascendancy, stifled its weaker companion, and gained the top of the prop. I then placed on the top of the tree an iron hoop 1 metre in diameter; the branches of the Ivy soon reached the edge of this, and they now fall down all around, presenting the appearance of an evergreen candelabrum. The hollow trunk of the Ivy is already strong enough to support itself if the Pine should decay, but the resinous nature of this tree ensures its preservation. Were I to begin again, I would make the hoop twice the size, so as to leave, between the stem and the hanging branches, a verdant summerhouse, always cool and shady.

In central Europe the Ivy still grows vigorously, but it does not pass the 58° of N. latitude; it exists, however, in the island of Gothland, but it is not found in Sweden. In Britain it stops at the Shetlands, and neither grows in the Hebrides nor in the Feroe isles. In England and Germany it embellishes all the ruins, clothing them with a perpetual verdure. No traveller will forget the Ivy which adorns the ruins of the castle of Heidelberg, the feudal fortress of Bressuire in Vendée, and the castle of Courtalein (Eure-et-Loire), the inheritance of the Montmorency family. This castle has stood since 1440; it is flanked by a tower 23 metres in height; the Ivy is trained with much care over a trellis, and the windows appear as if cut out of the foliage. It is impossible to form an idea of the charming effect of this castle of verdure. In England I have admired the Ivy clothing the ruins of Kenilworth. Loudon describes those of Brockley Hall, in Somersetshire, which climb over the trees; one is 0m. 266 in diameter, another 0m. 285; both must be very old, for the growth of the Ivy is slower in England than in the south of France. Another Ivy covers a cottage in the town of Morpeth, in Northumberland; it grows out of a wall, and measures 0m. 490 in diameter at the place where it branches, a height of 3 metres above the ground.

Ivies so often cover ruins or old buildings, that it would be very interesting to study their growth in diameter; this can be done by counting the number of ligneous layers in old Ivies cut down at the base, or by measuring the diameter of those of which the age is known. A certain number of examples compared together would furnish a mean by which we might calculate the age of all large Ivies of which the diameter was measured; for these shrubs, if growing near a ruin, in a soil which is neither cultivated nor manured, may be supposed to have in France a mean growth.

The calculation of the age of Ivy on a ruin would of itself be very interesting, for I am sure examples of prodigious longevity would be met with; besides which we should evidently have a minimum limit by the age of the ruin itself, since this must necessarily be anterior to the Ivy which clothes it. Vegetable physiology and the history of the ruins which cover Europe would thus have an equal interest in the pursuit of these investigations. *Charles Martins.*

## Home Correspondence.

*Geraniums struck from roots.*—The accompanying is a specimen of propagating this class of plants by roots. I don't know if it is generally known. I find it very useful. Roots cut into short pieces at any time

of the year grow just covered with earth. If put in in the autumn they will push in spring; any time during summer they are up in a few weeks. *W. W.*

*Tacsonia manicata.*—A plant was distributed a few years ago by the Horticultural Society under this name, but I do not hear of it as having flowered in many places, nor have I ever seen it except in my own greenhouse. It is nevertheless by far the most splendid in colour of the splendid genus Passiflora, and moreover a hardy greenhouse climber. Neither Passiflora princeps (racemosa), the Brazilian stove species, nor P. Le Michauxii, nor P. Kermesina, all stove plants though they be, equal in colour Tacsonia manicata. Its colour is intense orange scarlet, so identical with the average scarlet Geranium, that petal being laid upon petal you can hardly distinguish a shade between them, whilst the rays, which are nearly black, enhance this colour and give the effect of a scarlet Anemone. The flower is nearly the same size as Passiflora cærulea. It is nothing like so compact as the older Tacsonias, and may be flowered in any ordinary greenhouse, and it is so hardy that its wood survives even when run through the iron bars of the lights within an inch of the glass in a cool greenhouse. Its only peculiarity is in pruning. It flowers, not as Passiflora cærulea on the wood of the year, but upon laterals produced on that wood, and the most successful treatment is to shorten the principal shoots in August when it forms laterals which produce flowers the following spring. I suspect that in a warmer house than mine it would flower early in spring or perhaps in autumn, but as the thermometer falls with me to 35° or 36°, it sometimes loses some of its buds which are formed in autumn, but even thus enough remains to make the plant very gay in the spring, and, well cultivated, it would be by far the most gorgeous climber we know. *J. R. S. O.*

*Glenny's Manual of Practical Gardening.*—So a writer who signs "Carlton" has questioned your honesty or judgment, and tells you that your review will cause disappointment. He says "although the matter is in itself very good, yet it is put together in a manner to puzzle the most industrious reader. In truth it is a mere jumble of good things without any means of finding where they are. I have been looking for Chrysanthemum, but give up the search; the name is not in the index, as it is called, which leads to nothing, nor can I discover its place in any part of the volume." He might just as well have told you that he fished in the Thames for a red herring. He looks for Chrysanthemum in a work entirely devoted to practical operations, a work which does not treat of a single florist's flower, and condemns it because he could not find what had no business there. I must contradict him flatly when he says "the index leads to nothing." There is not a single item in the index that does not directly lead to the number of the page on which the article referred to appears. No doubt Carlton fancied he had made a great discovery, when in his ignorance of what the work should be, he missed Chrysanthemum, but I can assure him that Dr. Lindley's "Theory of Horticulture" has just the same deficiency with regard to prize fighting. There is nothing about the boxing ring in the index, "nor can I discover its place in any part of the volume." Clever fellow, this Carlton! *George Glenny.*

*Lightning-struck Oak.*—I have a large and handsome Oak tree which has been struck by lightning and much damaged. The bark round the main stem for some distance, about one-third part down, has been torn off and loosened, and the electric fluid has then passed down the trunk, rifting not splintering the bark from the first point of injury to the ground. The tree is in a place where it is a great ornament, and I am very unwilling to cut it down. Can any of your readers tell me—1st, whether there is any hope of its living after the shock and injury; 2dly, whether any means can be taken to help its recovery? If the only injury were the tearing of the bark I could see hopes by plastering over the part, but I fear the shock to the whole system must have been great. The age of the tree must be about 100 or 120 years, in full vigour and beauty. *L. W. G.*

*Gigantic "Hemlock."*—At a jobbing gardener's near here there is an American Hemlock 11 feet high, with leaves 2 or more feet across, and 4 feet long; the topmost head of bloom measures about 18 inches in diameter, and there are seven or more heads of flowers nearly equally fine. *J. C.* [This is no Hemlock, but no doubt one of the great species of Heracleum.]

*Mushrooms in Lawns and Meadows.*—Like your able correspondent "M. J. B.", I attempted some years since to persuade Mushrooms to come up on my lawn. I took all the precautions which were suggested, indulged in the flattering anticipation of fine "flaps" for breakfast and "buttons" for sauce to my boiled fowl at dinner. But alas! nothing came. I am wrong—I did get one whole Mushroom—but no more. Discouraged at my failure, being assured by great gardeners that it was useless to try, and not seeing in what respect my experiment was faulty, nothing more has been done. But, now that the subject is revived, I trust that among the many intelligent correspondents of the *Gardeners' Chronicle* some will be found able to discuss this interesting subject. For myself I cannot see why Mushroom spawn should not be made to "run" in a lawn as well as on a Mushroom bed; nor why, if once established, it should wear out faster than in a meadow. Suppose long surface drains were rammed full of loam and horse droppings, and then spawned! *Agriomyce.*

——Although I have gathered beautiful Mushrooms from an exposed Asparagus bed in April, yet I have never been able to get them to grow on my lawn. My failure I however attribute more to the spawn being bad than to mismanagement, and I am sorry to say that good spawn is difficult to get; it is either not present at all in the "bricks" you buy, or it has begun to run and has got killed. I examined several samples in Covent Garden Market last week, and found that in every instance it had started and was dead. I however intend to renew the experiment, and that directly as follows:—I shall take care this time to get good spawn, and having got that I shall have some circular holes cut here and there in my lawn about 1 foot in diameter and 8 inches deep. These I shall fill with dung prepared as for an ordinary Mushroom bed, introduce into each hole a good lump of spawn, covering it lightly with the dung, replace the sods, make all firm, and leave the rest to chance. In this way I do not doubt that I shall get Mushrooms; but you shall know the result. I have frequently seen beautiful ones raised on Mushroom beds turfed over, with green sods; and I see no good reason why a good crop should not be obtained from my lawn in the way just described. *M.*

*Linum grandiflorum.*—I have observed in recent numbers of your Paper some communications with regard to the vegetation of the seeds of this annual. I believe the difficulty is caused by the great quantity of

mucilage which adheres to the seeds, and which may be removed by steeping them for a night in water, and then rubbing them between the hands with wet sand. This method, recommended to me by a French gardener, I have found to answer perfectly. *A. D. B.*

*Summer Grafting.*—In your Number of the 11th of this month you have a note or paragraph on grafting trees by M. Loiseau, in which he says he can graft all the summer to the 1st of August, but he does not say how he prepares his grafts. Does he cut them off in the spring and preserve the vital spark until the 1st of August, or does he cut them fresh from the trees? Perhaps if this meet his eye he will be kind enough to explain in some future number how he prepares or keeps his grafts; it would be most valuable information, and would greatly oblige one that has grafted many a thousand. *P. T., Priory Grange, near Sheffield, June* 20. [If you will be so good as refer to M. Loiseau's statement you will find that he speaks of *herbaceous* grafting; a term which conveys a distinct reply to your inquiry.]

*Budding Vines.*—In the *Gardeners' Chronicle* of the 11th inst. you kindly had inserted under "Home Correspondence" some queries from me relative to budding Vines, and I regret to find in the past week's edition no notice has been taken of it by gardeners or readers. Will you therefore allow me to bring this subject before your notice, as there is a great deal more in it than appears at first sight, for if it can be proved that in the months of July or August buds can be transferred from one Vine to another, and the next season bear as good fruit as an established Vine, it certainly is a new and the best means of at once changing any variety not approved of, and moreover when a new variety is let out, such for instance as the "Muscat Hamburgh" last year, it must be of great importance, especially to growers of advanced years, to be able to produce fine ripe "Black Muscat Hamburgh" this year on an established stock budded as I propose. If you think this worthy of your attention and the Grape-growing world, I shall have something more to say on the subject, but I have wished first to ascertain if it has yet been in operation. *James Aldrige Dearwith, Radwell, Weymouth, June* 20. [We are not aware that the process has been tried. Why not try M. Loiseau's summer grafting? Dormant wedge buds will take very well as soon as the stock is so far in leaf as to cease bleeding: but we do not understand that to be what our correspondent means.]

*Early Strawberries.*—First and foremost amongst early Strawberries comes the May Queen (Nicholson, Egglescliffe). I purchased some plants in August last, and I think it due to Mr. N. to give my experience of the merits of this variety. The plants thrived so prosperously after travelling some 200 miles and the usual delay of transit, that I was enabled to take a considerable number of good stout runners from them in October, which I potted and placed in a cool house in February. Very little fire-heat was used, and every plant produced a nice quantity of fruit early in April. I name this to show its prolific tendency, for the plants were roughly treated; and being runners from young plants of the same season it was not expected they would form good buds if taken up with a trowel, replanted in pots late in the season too, and not forced to any extent. I augur, therefore, that under proper treatment with plants properly potted it will be found our earliest and one of the best and easiest forcers. As to open ground culture, I found that out of my collection of some 50 sorts, I had none that passed through the winter and looked so well as the May Queen; and though the terrible spring frosts destroyed the early blooms, still the general character of the plants was strong and healthy. I gathered ripe fruit on the 3d inst., and I have no doubt but for the very severe frosts of the 18th, 19th, and 20th of April, which destroyed nearly all the fruit in my garden, I should have had ripe Strawberries by the 20th of May at least. The plants produced a good crop notwithstanding the loss of perhaps more than half the bloom, so that I imagine it is prolific enough for all purposes of an early Strawberry. The fruit is above medium size, inclined to globular in shape, of brightish red colour, very highly perfumed, and when well ripened of delicious flavour, more like to my thinking a well-grown Swainston Seedling, than any other, which is no mean praise. I gathered several berries yesterday (20th) of the size of an average Keens' Seedling, which after a hot day's sun were quite exquisite in flavour; so that on the whole the May Queen may be safely recommended as a step in the right direction in prolonging the season of this excellent fruit, and I think it is only just to the raiser to say thus much in its favour. Of course, as with most other kinds, its character will vary more or less with the kind of soil. Mine is a light dry soil on a gravelly subsoil. Those who are favoured with a better Strawberry soil may be enabled to say still more in its behalf. *W. Roden, M.D., Kidderminster.*

*Puffballs are good to Eat.*—In reply to your correspondent "M." I agree that the general class of Puffballs are unpalatable, although they may be innocuous. The Lycoperdon giganteum or giant Puffball, however, is an exception, and in some seasons is frequently met with in this neighbourhood. When fried with butter in its fresh pulpy state I know of nothing to equal it in richness and delicacy of flavour. The Agaricus deliciosus and procerus are worthy, too, of being better known, the former abounding in Fir plantations during the autumnal months. Some of my neighbours have them served as a daily standing dish during the season, and think them superior to the common Mushroom in flavour. There may be some difficulty in making converts. One friend to whom I sent a basketfull had to partake of them alone the first day they made their appearance at his table; but having eaten them with impunity his family and some guests took courage the following day, and the dish was emptied and pronounced delicious and worthy of its name. I was amused in sending another quantity to a physician, who wished to try them, but much against the urgent attack of his housekeeper, who warned him against the fatal effects that must ensue, and listened anxiously occasionally at the dining-room door to satisfy herself that her master was really living. Most of the esculent funguses require to be well cooked, and the late Dr. Badham's direction for the deliciosus is excellent:—"Duly season with pepper and salt, and putting a piece of butter upon each, bake in a closely covered pie-dish for about three-quarters of an hour." *Richard Ward, Salhouse, Norwich.*

*Calla æthiopica: Somersetshire Climate.*—There exists in this county, at Nettlecombe, near Taunton, a plant of Calla æthiopica, which was put some years since by Sir Walter Trevelyan into a small stream that passes through his garden, and which this year has 40 blossoms on it. I think that at Cheshunt, in Hertfordshire, a similar example was formerly to be found in a deep pond in the garden of the late Mr. Wm. Harrison. *Jael.*

*Sloe Blight.*—Among the effects produced by blight, the bush from which I gathered the enclosed twigs is certainly one of the most remarkable I have met with. You will perceive it is the common Sloe or "snag," as it is familiarly called (Prunus spinosa). You can hardly form an adequate idea of the strange appearance of a large bush decorated with myriads of these pendant monsters in various stages of growth, and odd enough, mingled with fruit in a healthy and flourishing state. *J. M., Hawkchurch, near Axminster, Devon.* [The Sloe branch covered with bladder-like fruit, in which there is not a vestige of stone, resembles exactly what have been figured in this Journal 1850, p. 406, and 1855, p. 532, where the requisite information will be found. *M. J. B.*]

## Societies.

HORTICULTURAL: At a meeting of this Society held in the rooms of the Society of Arts, John Street, Adelphi, on Tuesday, the 21st inst., the following gentlemen were elected Fellows, viz.:—

E. P Sells, Jun., Esq., Highbury Park West.
W. S. Dixon, Esq., 1, Dixon Street, Glasgow.
G. F. Wilson, Esq., Belmont, Vauxhall.
B. Noakes, Esq., Hope Cottage, Highgate.

A variety of plants selected by the Council for distribution were balloted for, and will be shortly forwarded to those Fellows who were successful in gaining prizes.

GREAT ROSE EXHIBITION.—The second grand annual meeting of the National Rose Show took place on Thursday last in the Hanover Square Rooms, and notwithstanding that in many localities there is as yet a scarcity of blooms owing to the first growths having been cut off by frost in April last, the whole of the large room devoted to the exhibition was literally filled with magnificent examples of the different varieties of this queen of flowers. Two tables running the entire length of the great concert room were covered with charming boxes full of Roses, both in the shape of single blooms and of exhibitions of three trusses of each variety. In the centre of one of the tables, and placed at intervals along its whole length, were groups of Roses in pots from Messrs. Paul, and along the middle of the corresponding table were multitudes of beautiful little plants, chiefly Hybrid Perpetuals, all on the Manetti Stock, from Mr. Francis, of Hertford. The orchestra was ornamented with fine foliaged plants, liberally contributed by Messrs. Veitch.

In the Nurserymen's class the best collection of 100 trusses of three blooms each came from Messrs. Paul, who sent beautiful examples of Devoniensis, Paul Perras, Jules Margottin, a magnificent rose, large and fine; Pierre Jaucens, dark velvety rose; charming examples of crested Moss; Lamarque, Madame Laffay, Dr. Lepestre, Madame Place, Solfaterre, Triomphe d'Avranches, bright rose, not very double, but showy; Souvenir d' un Ami, with an unusual amount of colour in it; Madeline, white suffused with pink; Blairii No. 2, a very fine Rose; Madame de Manoel, George Cuvier, Raphael, Transon Goubault, a fine deep rose, full and fragrant; Cardinal Patrizzi, deep velvety crimson; Madame Pauline Labronte, Ohl, an old but still favourite sort; Panachée d'Orléans, one of the few striped kinds, none of which are remarkable either for form or beauty; Triomphe de Beauté, Narcisse, pale yellow; Victor Trouillard, one of the few fine recent additions to deep velvety crimsons; Cynthia, Brennus, Cabbage Moss, Lord Palmerston, deep rose, full and good; Madame Vidot and Madame Rivers, both nearly of the same colour, delicate pink, and both excellent of their kinds; Prince Leon, one of the best of Roses; General Pelissier, not sufficiently blown; Col. Rougemont, a larger and by some considered a finer Rose than Baronne Prevost, which it greatly resembles; Madame Masson, one of the best of its class; Madame Ducher; Souvenir de Leveson Gower, very beautiful deep rose; Louise Peyronny, lilac; Duchess of Norfolk, a little loose, but still a first-class Rose; Comtesse de Ségur, white; Gloire de Dijon, bronzy yellow; Pauline Lansezeur, rich full deep rose; Charles Duval, Joan of Arc, an old but good variety; Count Boubert, Madame Hardy, white; Triomphe de Beaux Arts, a deep velvety crimson Hybrid Perpetual, not very double, but somewhat novel in colour; Latour d'Auvergne, bright rose; Paul Ricaut, Mademoiselle Therèse Appert, pale lilac rose; Bonde Paris, rosy crimson, in this instance showing a green eye; Laure Ramond, a sort somewhat resembling M. Vidot; William Jesse, Baronne Prevost, Evêque de Nîmes, nearly as brilliant as General Jacqueminot; Télémaque, Paul Dupuy, Adam, Old Cabbage, Bath White Moss, Baronne de Wassenaer, deep lilac tinged with rose; Boule de Nanteuil, one of our best old deep lead-coloured kinds; M. Victor Jacquin, Duke of Cambridge, a good full dark coloured Rose; Auguste Guinoisseau, large and loose but showy; Queen of Denmark, Lord Raglan, perhaps the best of all the brilliant scarlet kinds; Gloire de Parthenay, Caroline de Sansal, Chénédolé, rich and fine; M. Domage, large and beautiful; Madame Zoetmans, large white; Felicité Parmentier, delicate pink; Gloire des Mousseuses, large fine Moss; Mrs. Elliott; Souchet, brilliant crimson; M. de Cambacères, fine full deep rosy lilac; M. Willermoz, pale yellow, with a salmon centre; General Jacqueminot, with blossoms at least 5 inches across, and very brilliant; Mathurin Regnier, delicate pink, good; Noëmi, Triomphe de l'Exposition, crimson, faulty in the centre, but showy; Charles Lawson, one of the best of Roses, large and double; William Griffiths, Géant de Batailles, Lafontaine, a large coarse kind; General Simpson, Louis Chaix, a fine comparatively new sort, which should be in every collection; M. Knorr, Dr. Deilthem, Gen. Castellane, one of the handsomest of bright rosy crimsons; Dr. Juillard, Coupe d'Hébé, Lion des Combats, Duchess of Sutherland, and Souvenir de Malmaison. From Mr. Francis, who also showed in this class, came pretty blooms of Persian Yellow, the most striking of its colour; Cloth of Gold, White Bath Moss, Col. Rougemont, large and fine; Gen. Jacqueminot, Prince Leon, Gen. Castellane, and Elise Sauvage, pale yellow.

In the class of 50 varieties Messrs. Cant and Tiley had the best collections. In these we remarked beautiful blooms of Boule de Nanteuil, Joan of Arc, La Ville de Bruxelles, lilac rose, large and fine; Louis Chaix, Victor Trouillard, deep velvety crimson; Gloire de Dijon, Prince Regent, Comte de Nanteuil, Triomphe de l'Exposition, velvety shaded crimson; Mathurin Regnier, Souvenir d'un Ami, Etendard des Amateurs, crimson shading off to rose; Chénédolé, M. Rivers, Gloire des Mousseuses, General Castellane, Triomphe de Paris, Ariel, M. de Cambacères, Bacchus, a good brilliant crimson; Kean, Comte de Paris, M. Stolz, Pauline Lansezeur, rose shading off to lilac; Paul Ricaut, Prince Leon, Charles Lawson, M. Pravy, cream coloured; Sir J. Franklin, dark rose; General Jacqueminot, large and fine; William Griffiths, Devoniensis, Colonel Rougemont, Emperor Napoleon, deep velvety crimson, nearly one of the darkest of its class; Lafontaine, rough and changeable in colour; Julie, M. Vidot, Duke of Cambridge, rosy crimson; William Jesse, Prince de la Moskwa, a very dark kind approaching to black; Solfaterre, large and fine; Souvenir des Braves, rich rose, but not very full; Souvenir de Leveson Gower, an excellent Rose; Caroline de Sansal, Lord Raglan, M. Knorr, rosy centre, shading off to lilac; Alphonse de Lamartine, lilac, medium size, and of fine form; Jules Margottin, Souvenir de Malmaison, very large; Acidalie, an old but still good Rose; Gloire de Dijon, with more pink in it than usual, and others. It may be remarked that those that came from Bath were for the most part very large and fine.

In the class of 24 varieties Messrs. Fraser, of Lea Bridge, contributed the best collection. It consisted of Col. Rougemont; Duc d'Ossuna, carmine, large, and fine; Duchess of Norfolk, Duke of Cambridge, Anna Alexieff, a new Rose of considerable promise; Generals Castellane and Jacqueminot, Jules Margottin, Lord Raglan, Louis Chaix, M. Herand, fine carmine; M. de Cambacères, M. Recamier, flesh-coloured, changing to white; Madlle. Therèse Appert, delicate rose; Madlle. Alice Leroy, delicate pink, large and fine; Pauline Lansezeur, Prince Leon, Souvenir des Braves, bright red, large, and showy; S. de Leveson Gower, deep rose, large, and double; Triomphe de l'Exposition, bright reddish crimson, large and finely formed; Triomphe des Beaux Arts, deep violet crimson; Victor Trouillard, Wm. Griffiths, and Devonensis.

In the class for Amateurs who kept a Gardener, the best collection of 50 varieties came from Mr. May, gr. to C. M. Worthington, Esq., who sent Berenice, Colonel Coombes, M. Willermoz, La Quintine—a very dark kind; Dido, Auguste Mie, Moiret, Laurence de Montmorency, Triomphe de Paris, Coupe d'Hébé, Paul Ricaut, Cynthie, Triomphe de l'Exposition, Solfaterre, Hector Jacquin, Devoniensis, Triomphe des Beaux Arts, Knorr, Eillet Parfait, Caroline de Sansal, Col. Rougemont, Gloire de Dijon, and others whose names did not differ from those already mentioned.

Of 24 varieties shown in the class last named, the best came from Mr. Moffatt, Easter Lodge, Dunmow, Essex. It consisted of Lady Stuart, Pauline Lansezeur, M. Vidot, Chénédolé, M. Domage, Paul Dupuy, William Jesse, Baronne Prevost, M. Masson, Comtesse d'Orléans,

Jules Margottin, Cynthia, General Jacqueminot, Duchess of Sutherland, Triomphe de Paris, M. Rivers, Colonel Rougemont, M. Place, Paul Ricaut, William Griffiths, Prince Leon, Souvenir de Malmaison, and Baronne Hallez.

Of 12 varieties shown by Amateurs' Gardeners the best were furnished by Mr. May, gr. to C. M. Worthington, Esq. The sorts were Duchess of Sutherland, M. Masson, Baronne Hallez, Paul Ricaut, Cloth of Gold, Jules Margottin, Lord Raglan, Prince Leon, Madame William, the yellow Rose which was so much admired a year ago in St. James's Hall; Emperor Napoleon, and Baronne Prevost. Mr. Plester, of Elsenham Hall, sent the next best lot, in which were William Griffiths, Paul Perras, William Jesse, Baronne Prevost, Charles Duval, Paul Ricaut, M. Bosanquet, Jules Margottin, Souvenir de Malmaison, Gloire de Dijon, General Jacqueminot, and Coupe d'Hébé. A third collection, from the Rev. H. Helyar, contained Lafontaine, Lord Raglan, Baronne Wassenaer, a good Moss; Jules Margottin, Prince Leon, Adèle Prevost, Cardinal Patrizzi, Paul Ricaut, Gloire de Dijon, Emperor Napoleon, General Jacqueminot, and William Griffiths.

In the class for Amateurs not keeping a Gardener, the best 24 sorts came from G. Cant, Esq., who sent beautiful blooms of Boule de Nanteuil, M. Schmidt, Paul Ricaut, Prince Imperial, a kind nearly as large as a Moutan, rough but showy; Charles Lawson, one of the finest blooms of the kind at the show; Caroline de Sansal, Jules Margottin, General Jacqueminot, not the fine brilliant crimson sort known by that name now-a-days, but the old Hybrid China General Jacqueminot, which has a deep slate-coloured flower; M. Knorr, Prince Leon, Souvenir de Malmaison, Etendard des Amateurs, Gloire de Dijon, Wm. Jesse, Kean, Souvenir d'un Ami, Géant des Batailles, Devoniensis, Evêque de Nîmes, Pauline Lansezeur, Lord Raglan, Solfaterre, Coupe d'Hébé, and General Jacqueminot. From Thomas Mallet, Esq., came General Jacqueminot, Boule de Nanteuil, Paul Ricaut, Lord Raglan, Amandine, Kean, General Castellane, General Jacqueminot, Jules Margottin, William Jesse, Lion des Combats, Souvenir de la Malmaison, Duchess de Cambacères, Caroline de Sansal, Triomphe de Paris, Madame Rivers, Louise Peyronny, General Simpson, Madame Knorr, Madame Lamoricière, Charles Duval, Madame Place, Standard of Marengo, and La Ville de Bruxelles.

Of 12 varieties in the class last named, the best were furnished by Mr. Cant, who sent magnificent blooms of Charles Lawson, Madame Masson, Boule de Nanteuil, Jules Margottin, Solfaterre, Baronne Prevost, Kean, Comte de Nanteuil, Omar Pacha, Devoniensis, Lord Raglan, and Coupe d'Hébé. Thomas Walker, Esq., had Boule de Nanteuil, Paul Ricaut, Jules Margottin, Lord Raglan, Caroline de Sansal, Madame Masson, William Griffiths, Lion des Combats, Prince Leon, and Baronne Prevost. Mr. Thomas Mallet sent Caroline de Sansal, Paul Ricaut, Louise Peyronny, Boule de Nanteuil, General Jacqueminot, General Simpson, Jules Margottin, Baron Prévost, Archduc Charles, Madame Rivers, and Lord Raglan.

In these and other collections, for the names of the flowers in which we cannot spare room, we observed charming trusses of the following varieties, viz., HYBRID PERPETUALS:—Madame Vidot, Duchess of Norfolk, Madame Heraud, Madame Hector Jacquin, Victor Trouillard, Madame Masson, Duchesse d'Orleans, Comte de Nanteuil, Cardinal Patrizzi, Madame Place, Lady Stuart, Gloire de Vitry, Madame Knorr, General Simpson, General Castellane, Gloire de Parthenay, Panachée d'Orléans, Madame de Cambacères, Prince Leon, Géant des Batailles, Mathurin Regnier, Lord Raglan, Caroline de Sansal, William Griffiths, Noëmi, Jules Margottin, Madame Rivers, Triomphe de l'Exposition, Louis Peyronny, Auguste Mie, Baronne Prevost, Lion des Combats, General Pelissier, General Jacqueminot, and Joan of Arc. GALLICA:—Transon Goubault, Cynthie, Boule de Nanteuil, Colonel Coombes, Latour d'Auvergne, Prince Regent, Dido, Ohl, Kean. BOURBON:—Acidalie, Souvenir de Malmaison, Coupe d'Hébé. HYBRID CHINA:—Brennus, Chénédolé, Victor Hugo, Madeleine, Paul Perras, Madame Rameau. TEA:—Souvenir d'un Ami, Narcisse, Gloire de Dijon, Madame Willermoz, Bougère, Devoniensis.

The following list contains some of the very finest varieties selected from the whole exhibition. BLUSH:—Madame Vidot, Madame Rivers, Duchess of Orléans, Auguste Mie (deep blush), Caroline de Sansal, and Mathurin Regnier. SCARLET or DARK CRIMSON:—Lord Raglan, Gen. Jacqueminot, Lion des Combats, Gen. Castellane, Prince Leon, Paul Ricaut, and Sir J. Franklin. ROSE:—Col. Rougemont, Madame Hector Jacquin, Jules Margottin, William Griffiths, Gloire de Vitry, Prince Imperial, coarse but showy; Coupe d'Hébé, and Paul Perras. YELLOWS:—Cloth of Gold, some tolerably fine blooms of which were exhibited; Decazes, and Persian Yellow. Of WHITES there is still a deficiency. The best are Dr. Henon, Princess Clementine, the old white Provins, Louise Magnan, and Beauté de Melan. STRIPES were not good. Among them we noticed Panachée d'Orleans and Œillet Parfait. Among Moss Roses we have little to recommend beyond the usual well known kinds. There were, however, some good blooms of the white Bath.

Of Roses not for competition, Mr. Cranston sent some very fine boxfuls of Gen. Jacqueminot, Old Moss, Jules Margottin, many of them measuring 5 inches across, highly coloured and beautifully double; Géant des Batailles, very fine; and charming trusses of Louis Chaix, Gloire de Dijon, Duchess of Norfolk, Queen, Narcisse—pale sulphur, Crested Moss, and other favourite kinds. We also noticed some charming masses of different kinds from Messrs. Veitch, Turner, Hollamby, and Laing.

Of Seedling Roses, Mr. Standish had one named Eugène Appert, a deep velvety crimson Hybrid Perpetual, said to be suitable either for pot culture or for beds. It was commended by the judges, and certainly promises to be a really fine thing. It is in the way of Victor Trouillard and other very dark Roses of that class. Except this we saw nothing really new.

Let us add that the day being fine there was a very good attendance of visitors. We only regret that the beauty of the exhibition and the pleasure of a meeting such as this, should have been so much impaired by the fearful noise of a band which drowned all sounds except those of its own crashing instruments.

## Notices of Books.

*A Lady's Tour round Monte Rosa.* 8vo. Longmans.

When will the English public be tired of reading Swiss tours? One would have fancied the subject a hackneyed one, now that Chamouni and Interlaken are as familiar as Hampstead and Richmond, and Zermatt and Courmayeur scarcely less so; yet every book that appears on the subject is read, however little novelty it may contain. The present volume is more particularly addressed to ladies, and may perhaps prove all the more interesting to such, since the excursions it records are not exceptional feats fitted for none but the most adventurous, but are within the powers of any one possessed of health and strength. The authoress says:—"I feel certain that any lady blessed with moderate health and activity, who is capable of taking a little exercise 'al fresco,' and has a taste for the picturesque and sublime, may accomplish the tour of Monte Rosa with great delight and few inconveniences, and all who do so must bring back with them a store of delightful recollections for the solace of future years. Two or three hours in the badly ventilated rooms of a crowded picture gallery will generally produce a feeling of more thorough fatigue than a journey over an eight-hours' pass in the pure, invigorating mountain air."—P. 391.

The authoress writes well, in a simple and interesting style, and if she records but little that is new, yet the old is pleasantly brought forward, and often presented from a new point of view. As the ascent of the Æggisch-horn is perhaps among the least known, a few extracts respecting it may be acceptable: for the benefit of those unacquainted with Switzerland it may be well to state that this mountain is situated near Viesch, on the northern side of the Rhone valley. The authoress slept at an hotel about three parts up the mountain, whence she and her companions started at 5.10 A.M. on the 7th September.

"After ascending for above 35 minutes we had a fine view of the Strahlhorn and Weisshorn; and beyond them, in the far distance, which the rising sun had just reached, the stately form of Mont Cervin, or the Matterhorn, was also visible. * * *

"At 6 A.M. I dismounted, for 'Frity' could go no farther, and I accompanied the gentlemen on foot the rest of the way, which is excessively steep. The path winds upwards amongst large blocks of stone, which form a kind of staircase to the summit. This I reached at 6.55 A.M., without once requiring any assistance. * * * On reaching the summit, one's first difficulty is to discover a secure resting-place from which to make observations, for there is no level spot on which to stand; but having done this, I found myself poised on a pile of huge, loose rocks, which are heaped together on the top of the mountain in so strange a fashion that one wonders the heap does not separate and tumble down on the Aletsch Glacier below. This feeling of insecurity is, however, soon forgotten, and the mind becomes absorbed in admiration and delight at the wonderful view. This is almost unparalleled in extent and variety. It embraces the range of the Bernese Alps on the north, and that of the Monte Rosa chain on the south. The Æggisch-horn is placed between these two magnificent chains of mountains, and at an immense depth below, at one's very feet, lies the great Aletsch Glacier, stretching away in an unbroken expanse for about 20 miles long and perhaps two or three wide. On the southern edge of this glacier is the small lake called Märjelen See, which is of a deep blue colour, with icebergs of the purest white floating about in it. On every side arise snowy peaks of the highest mountains." P. 60.

On a second occasion this small lake was visited:—"When we reached the Märjelen See we sat down and examined it with the greatest admiration and astonishment. This lake is fed by water supplied from the Aletsch Glacier, to which it forms a lateral outlet, though the principal part of the drainage of that glacier is at its southward termination, where the Massa torrent flows from it, and empties itself into the Rhone a little above Brieg. The glacier, where it touches the Märjelen See, does not form a great cavern, but breaks off in huge masses, which fall into the lake, and thus enormous perpendicular cliffs of deep blue ice are formed. These cliffs extend for more than half a mile across the ravine, where the lateral outlet is. The lake was now about three-parts dry, but there was still deep water at the base of the ice cliffs, which in consequence of the draining of the lake rose more than 100 feet above its level; in ordinary times the height is about 60 feet. As the glacier moves downwards in its long course from the southern side of the Jungfrau and Mönch to the Massa torrent, it misses the support of the rocks when it meets this lateral outlet, and large pieces of many hundred tons split off by their own weight and tumble into the lake, where, when there is plenty of water, they float about like icebergs in the North Sea. We approached some of these icebergs which had been left dry, and walked round them, and even through a kind of arcade which was in one of the largest. The ice of which they were composed was of a deep blue colour when viewed in the mass, but of the purest and clearest white when in smaller pieces. The fragments of the glacier which strewed the bed of the lake were of various sizes—some as big as a cottage, and some as small as mincemeat. We observed that many of the mud-covered stones which had been left dry abounded with a kind of sandworm or serpula, which lives in this intensely cold water just drained from the glacier, and kept icy cold by the enormous icebergs which float in it. * * * Nothing could be more singular than the appearance of the enormous ice-cliffs which towered above the lake. They were already split by immense fissures, and in some places hung over the lake, ready to fall with a tremendous crash at any instant. We appeared to see into the very heart of the glacier, and all its inmost depths were disclosed. Nothing indeed could exceed the exquisite beauty and delicacy of its colour, of which no description can convey an adequate idea. In consequence of the sudden draining away of the greater part of the lake,* the ice-cliffs, which are generally half hidden in the deep water, were laid bare nearly to their foundations; and it was curious to observe the different character and colour of the ice above and below the usual water-line, that below being of a far deeper and more brilliant hue. In some places the ice assumed the most fantastic shapes, and at one spot it appeared to form a kind of landing-place from the lake to the glacier, with rude steps and balustrades of ice leading up to small deep blue caverns." P. 160.

From this book, as well as from Mr. King's "Pennine Alps," it would appear that the inconveniences to be encountered on the Italian side of the Alps are considerably greater than those to the northward; at the same time this region has the advantage of being less overrun by travellers, and there is more of the excitement of novelty and uncertainty in the different excursions. All accounts agree in representing the southern valleys as extremely beautiful.

"I have known some persons, especially ladies, who have been so much overpowered and even terror-stricken by the stern and severe character of Swiss scenery, that they could not fully appreciate its sublimity; but who would nevertheless thoroughly enjoy the softer beauties of the south, where the same majestic, snow-capped mountains are indeed met with, but set in a frame of the richest vegetation, which softens their ruggedness, and at the same time forms a lovely combination and contrast. The noble Chesnut and Walnut trees grow to a greater height on the southern side of the Alps, where they spread themselves in the grandest masses of luxuriant foliage. The little Alpine plants and flowers also abound on the Italian side more profusely than in Switzerland, and adorn the mountain sides up to the very edge of the snow, frequently making a garden in places where nothing could be seen from a distance but stony desolation. The number, and perhaps the variety, of buttterflies and moths, is also greater on the sunnier side of the Alps; and even as late as August and September I have seen many beautiful specimens," p. 5. On the other hand, the heat of the Piedmontese valleys and the absence of the invigorating mountain air of Switzerland must be very trying, and a drawback to the thorough enjoyment of any exercise, especially that of walking.

The illustrations are generally good, though the chromo-lithographs, as is often the case, are too brightly coloured. One fault must be pointed out, namely, that the red line in the map, if intended to trace the journeys of the authoress, is not correct, since she confesses at p. 380 that she has not attempted the most difficult part of the circuit, namely, the pass of the St. Théodule. It is true she has supplied this omission from the journal of a friend; nevertheless, she cannot be considered strictly accurate in commencing her book with the statement that she has "successfully accomplished the tour of Monte Rosa."

*Thesaurus capensis; or Illustrations of the South-African Flora, being figures and brief descriptions of S. African Plants selected from the Dublin University Herbarium.* By W. H. Harvey, M.D., F.R.S. No. 1 (5s.). Hodges, Dublin.

Under this title Dr. Harvey has commenced a series of uncoloured, but very useful, and scientifically exact, figures of the more remarkable plants inhabiting the Cape of Good Hope, and the colony to the northward. It is intended to be a running supplement and illustration of the *Flora Capensis*, or general description of the plants of South Africa, now in preparation by the learned author and Dr. Sonder of Hamburgh, the two greatest living authorities upon South African vegetation. Each number of the work will contain 25 plates, four quarterly numbers forming a volume, which will be complete in itself. Since only 250 copies will be printed, of which 150 are reserved for the Cape Colony, those interested in the publication should im-

* It had burst its barrier on the previous night.

immediately insert their Booksellers to secure the work. Dr. Harvey does not bind himself to issue more than one volume; but if the work is sufficiently encouraged, then he will proceed to the preparation of five, or six, or even more, similar volumes. Some of the plants are remarkable for their beauty as well as novelty, and nurserymen will do well to study these Parts as they appear. To botanists the work is invaluable.

The 6th part of Messrs. Henderson's *Illustrated Bouquet*, completing the volume, is now before the public. It contains fine figures of three varieties of Gladiolus gandavensis, viz. Danäe, Adonis, and Archimedes; four Pompone Camellias, viz., St. Justin, Miss Towers, Satanella, and Queen of Beauties; Clianthus Dampieri, Dipteracanthus affinis, a scarlet flowered stove plant allied to Ruellia; and the three Gloxinias, Princess Alice, Cartoni-robusta, and Mathilde de Landevoisin. All these are accompanied by very full instructions for cultivation. The volume is dedicated by permission to H.R.H. the Princess Mary of Cambridge.

We have also received the following:—*Practical Guide for Italy* (Longmans) is a closely printed half-crown volume, giving the traveller information upon all sorts of useful matters. Roads, passports, luggage, exports, imports, conversation, railways, inns, tradesmen, things to be seen, how to see them, excursions, and a multitude of other matters fill the pages, to which is added a small map of Italy as low as Rome. The author is said to be "an Englishman abroad," and he is evidently familiar with what he describes. His purpose is to tell the traveller "how to see all that ought to be seen in the shortest period and at the least expense."—*A Map of the Seat of War in North Italy*, remarkable for the beauty of its execution, and the abundance of its details, has been published by Messrs. Blackie, at the price of 1s.—*Mental Arithmetic*, by Hugo Reid (Longmans), a little volume intended as much for teachers as for learners, and apparently well calculated for either.—A new edition of the excellent *Manual of Scientific Inquiry*, published by authority of the Lords of the Admiralty (square 8vo., Murray), under the superintendance of the Rev. R. Main, of the Greenwich Observatory. Many additions and some omissions belong to this edition; among the latter of which is Sir John Herschel's appendix on reducing foreign languages to the form of our own. We observe that Mr. Hanbury has aided Sir William Hooker in revising the botany.

## Miscellaneous.

*The Gulf Stream.*—The Gulf Stream, where it quits the Gulf of Florida, has a velocity of from three to five miles per hour (varying with the season), a breadth of only a few miles, and a temperature of 83°. Thence it follows the coast of America to about the 36th degree of latitude, where it still possesses a temperature of 76° Fahr., and where it quits the coast about Cape Fear, and encircling the Azores, spreads itself in wide diverging streams over the basin of the Atlantic, between the coasts of America and Spain, forming a vast eddy, overgrown with the "Sargasso" or Gulf-weed. The main stream, however, continues to run north-westward, directed full towards the British Islands, to about the 46th parallel, in the 40th degree of west longitude, where its force is much weakened by subdivision. The surface water, however, continues to flow onwards in the same direction, and its presence on our western shores is evidenced by the warm vapours the south-west winds waft from above it, and by tropical plants and seeds thrown ashore on the west coast of Ireland, on the Hebrides, and even on Norway. Were the isthmus of Panama broken through, there is no doubt that the whole climate of our islands would undergo a most notable deterioration. *From the Encyclopædia Britannica—New Edition.*

## Calendar of Operations.

*(For the ensuing Week.)*

### PLANT DEPARTMENT.

CONSERVATORY, &c. — Shading should be used sparingly here, except on bright days, for during dull unsettled weather plants require all the light that conservatories afford, and are greatly benefited by an occasional gleam of sunshine. The beauty of most soft-wooded plants will be considerably prolonged by the use of weak manure water, which should be given frequently whenever it can be done. Indeed, such things as Achimenes, Clerodendrons, &c., may be had in full beauty from June to October through being liberally supplied with manure water, but this must not be given too strong at first. Keep the atmosphere as moist as can be done, but avoid damp on cold nights by leaving sufficient air to cause a gentle circulation, and spare no attention to keep the plants clear of insects. Stock for autumn and winter flowering will require careful attention to get it sufficiently forward. Chinese Primulas, especially the double varieties, if at all backward should be placed in a cold frame and shaded from the sun, where they will make rapid progress, particularly if the pots stand on a slight bottom heat. Cinerarias for early flowering should also be potted and started at once, choosing the strongest suckers, and placing them in a close shady frame till rooted. These are sometimes very subject to the attack of thrips at this season, but if they are kept cool and moist, and smoked occasionally, there is no danger of their being clean and growing vigorously. STOVE.—The stock here will now be growing very rapidly, and must be afforded sufficient space to allow of the perfect development of the foliage and the formation of compact handsome specimens. The atmosphere of this house can hardly be kept too moist, and the plants should be sprinkled over head morning and evening and every available surface kept moist.

### FORCING DEPARTMENT.

PINERIES.—Such varieties as are at all liable to spoil at the bottom before the upper pips are coloured should now be kept as dry as possible immediately they show the least signs of colouring, keeping the atmosphere also as dry as can be done without injury to the rest of the stock. VINERIES.—Grapes intended to hang through the winter should be thinned very freely, and, if necessary, they should be gone over a second time, leaving them so that the berries when fully swelled will scarcely touch each other. A moderate crop only should be left on the Vines; for to ensure success in keeping Grapes fresh and in good condition till next March the Vines must be in first-rate health; be satisfied, therefore, with a moderate or rather light crop in the late house. Keep the atmosphere of houses where the fruit is colouring in active circulation, using gentle fires by day, with abundance of air, and leaving a little air on at night to prevent damp. If red spider appears inclined to be troublesome, wash the pipes, &c., with a mixture of soot and lime, and if the colour is objectionable add more soot. FIGS.—Trees that have been kept dry while ripening the first crop, and are now cleared of this, should be well watered at the root, and if there is any appearance of red spider the leaves should be thoroughly washed with the engine. Give manure-water to trees showing a heavy second crop, and keep the atmosphere moist by frequently sprinkling the passages and borders, &c. Keep the shoots thin and regularly tied, so as to avoid confusion, and expose all parts of the tree equally to the light. Where the fruit is ripening attend to previous directions, and keep the atmosphere and borders as dry as can conveniently be done. Assist trees in pots by giving them a liberal supply of manure-water.

### FLOWER GARDEN AND SHRUBBERIES.

Go over the beds frequently and keep the young shoots of Verbenas, &c., nicely regulated and pegged down until the ground is fairly covered, after which the shoots may be allowed to grow more at liberty. On poor dry soils two or three applications of weak manure water given at intervals of a few days, and when the ground is moist, will greatly assist in getting the beds covered without loss of time. Remove dead and dying leaves from Roses, and give the autumn flowering varieties plenty of manure water in order to keep them in vigorous health, and secure plenty of wood for blooming in autumn. Those budded on the Dog Rose must be kept clear of suckers, which, when allowed to grow, weaken the head, besides having an unsightly appearance. Budding should be proceeded with during cloudy weather. Mildew is sometimes very troublesome after this season, and no time should be lost in dusting the infested plants with sulphur, for the enemy will soon spread and destroy the foliage, and ruin the plants for blooming in autumn. Proceed with the propagation of herbaceous plants as expeditiously as possible, in order to get this work out of hand and the glasses, &c., at liberty. Take advantage of showery weather, give the walks and lawns a good rolling, and endeavour to keep the Grass short and neatly mown, for nothing looks worse than badly kept Grass.

### HARDY FRUIT AND KITCHEN GARDEN.

Occasional showers will be found favourable for the growth of Strawberry runners, and a sufficient stock for forcing next season should be potted at once, and placed in a close shady frame until they get established, which will soon be the case. Prepare ground for fresh plantations by heavily manuring and trenching, or if ground cannot be obtained at once select the strongest runners and plant them on a shady border in rich soil, to be transplanted with balls early next month. Asparagus beds can hardly have too much manure-water from the stable or farmyard tank during the present month. On dry friable soils salt may be applied with advantage, but this should not be used on strong adhesive soils, as it keeps the ground wet in winter and decays the roots. See that there is plenty of Peas planted for furnishing a late autumn supply, and also attend to keeping up a succession of French Beans, Spinach, and salad.

### COTTAGERS' GARDEN.

Let every bit of spare ground be constantly broken up at this period, and filled with some kinds of greens or Turnips. If the cottager is short of manure extra spade husbandry will in some degree compensate for the want of it. This is the cottager's chief capital, and is generally most efficient.

STATE OF THE WEATHER AT CHISWICK, NEAR LONDON.
For the Week ending June 23, 1859, as observed at the Horticultural Gardens.

| June. | Moon's Age. | Barometer. Max. | Barometer. Min. | Temperature of the Air. Max. | Temperature of the Air. Min. | Temperature of the Air. Mean | Temperature of the Earth. 1 foot deep. | Temperature of the Earth. 2 feet deep. | Wind. | Rain. |
|---|---|---|---|---|---|---|---|---|---|---|
| Friday 17 | 16 | 30.011 | 29.988 | 71 | 41 | 56.0 | 64 | 62 | W. | .00 |
| Satur. 18 | 17 | 30.136 | 30.034 | 76 | 53 | 64.5 | 63½ | 62 | N. | .00 |
| Sunday 19 | 18 | 30.045 | 29.929 | 74 | 56 | 65.0 | 64 | 62 | N.W. | .01 |
| Mon 20 | 19 | 29.850 | 29.819 | 66 | 41 | 53.5 | 64 | 62 | W. | .13 |
| Tues 21 | 20 | 29.928 | 29.858 | 76 | 55 | 65.5 | 63 | 62 | N.W. | .00 |
| Wed. 22 | 21 | 30.003 | 29.898 | 74 | 52 | 63.0 | 63 | 62 | S.W | .00 |
| Thurs. 23 | | 30.014 | 29.988 | 69 | 41 | 55.0 | 64 | 62 | S.W. | .03 |
| Average | | 30.012 | 29.930 | 72.3 | 48.4 | 60.3 | 63.8 | 62.0 | | 0.17 |

June 17—Clear; very fine; cool.
— 18—Fine; very fine; overcast.
— 19—Cloudy; very fine; shower; overcast.
— 20—Overcast; rain; overcast at night.
— 21—Fine throughout.
— 22—Very fine; cloudy; overcast.
— 23—Fine; very fine, cool at night.
Mean temperature of the week, 1 deg. below the average.

RECORD OF THE WEATHER AT CHISWICK,
During the last 33 years, for the ensuing Week, ending July 2, 1859.

| June and July. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds. N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday 26.. | 73.7 | 50.8 | 62.2 | 14 | 1.09 in. | 1 | 2 | 4 | 3 | 2 | 10 | — | — |
| Mon. 27.. | 74.2 | 50.7 | 62.5 | 17 | 0.80 | 3 | 2 | 3 | 1 | 3 | 11 | — | — |
| Tues. 28.. | 73.6 | 50.1 | 61.8 | 11 | 0.65 | 3 | 2 | 5 | 1 | 2 | 9 | — | — |
| Wed. 29.. | 73.0 | 50.8 | 61.9 | 8 | 0.20 | 3 | 4 | 3 | 1 | 1 | 13 | 3 | — |
| Thurs. 30 | 73.1 | 51.3 | 62.2 | 12 | 0.80 | 1 | 4 | 4 | 2 | 4 | 11 | 3 | — |
| Friday 1.. | 71.9 | 51.8 | 61.9 | 16 | 1.18 | 1 | 4 | 3 | — | 4 | 10 | 6 | — |
| Satur. 2.. | 73.1 | 51.9 | 62.5 | 12 | 0.22 | 2 | 5 | 2 | — | 5 | 10 | 7 | — |

The highest temperature during the above period occurred on the 27th, 1826—therm. 93 deg.; and the lowest on the 27th, 1838—therm. 35 deg.

## Notices to Correspondents.

BOOKS: *A Constant Sub.* Any *good* books on general Gardening teach you how to grow Strawberries. As for special treatises there is Reid on the Strawberry, published by Baldwin, and another little book by M'Ewen, published by Groombridge. We cannot find the subject in Glenny's Manual.

CACTUS: *G Fry.* Your small-flowered seedling, with an unusually large amount of the charming violet tinge of speciosissimus in it, is very handsome. We have seen others, however, very much like it.‡

CAULIFLOWER PLANTS: *H E.* If they are suffering from fly give them a good syringing once or twice with tobacco-water, washing it off afterwards with clean water. That will probably cause them to disappear. ‡

CHRYSANTHEMUMS: *Landor.* These never produce in the open border flowers worth looking at unless they are parted in March or April, left with not more than three young shoots each, planted in very rich soil, pegged down when long enough, and treated to plenty of coarse manure while preparing for flowering. The old flower stems of the previous year are useless.

DAPHNE CNEORUM: *Old Sub.* In order to make this grow more compactly, prune it in a little, just after it has done blooming, or rather when it begins to push fresh wood. It will then stand a little cutting without injury.‡

DISEASED MELONS: *C A.* As far as we can judge your disease is caused by too much moisture somewhere *combined with* insufficient ventilation.

FUNGI: *A very old Subscriber.* The specimens are the true Champignon, or Agaricus oreades.

FUNGI IN MELON BEDS: *Uttoxeter.* You will destroy them by dusting them with hot lime, which will do your Melon plants no harm whatever.

GLASS: *J B, Bray.* We prefer for all horticultural purposes Hartley's rough plate glass; it is perfectly well adapted to grow and colour Grapes under.

GRAPES: *X Y Z* No opinion can possibly be formed of the cause of the disease without seeing specimens of the berries attacked.

INSECTS: *W M M.* The Elm leaves are infested with the galls formed by Eriosoma Gallarum Ulmi, a species of the Aphidæ. We can recommend no other remedy than that of picking off the infested leaves at the present season, but when the galls burst the leaves may be syringed with gas tar water, which will kill the inclosed insects. *W.*

LONG-SUSPENDED VITALITY IN SEEDS: *J W.* The seeds which have been in your family and in their present state for upwards of a century are those of Abrus precatorius. That any of them after being soaked in lukewarm water should have shown signs of germination, one having sprouted three-quarters of an inch, although it subsequently died, is a very interesting fact.

MORPHOLOGY: *D Judd.* Your specimen of a Plum is a capital example of the change of calyx into common leaves.

NAMES OF PLANTS: We have been so often obliged to reluctantly decline naming heaps of dried or other plants, that we venture to request our correspondents to recollect that we never have or could have undertaken an unlimited duty of this kind. Young gardeners, to whom these remarks more especially apply, should bear in mind that, before applying to us for assistance, they should exhaust their other means of gaining information. We cannot save them the trouble of examining and thinking for themselves; nor would it be desirable if we could. All we can do is to *help* them—and that most willingly. It is now requested that, in future, not more than four plants may be sent us at one time.—*Z C D.* 1 and 2 are not in flower; 3 is Pteris longifolia; 4, Gymnogramma ochracea.—*Diss.* The purple-leaved variety of Trifolium repens.—*A Devonian.* In so young a state it is not possible to form a positive opinion. The specimen looks like a bit of the variegated Thuja orientalis, which the Japanese are known to cultivate; but it may be some Retinispora.—*F A P.* The "blight" is the well known Æcidium laceratum, a most mischievous kind of fungus; it is very likely to attack Pear trees and Medlars. The double Escholtzia is not uncommon, but has not at present fixed itself: perhaps your plants may be more tractable. The Hibiscus fruit probably belongs to H. Manihot. We do not find any Hollynoc seeds.—*E J E M.* Ozothamnus rosmarinifolius.—*R J M.* Sisyrinchium striatum.—*David.* Platanthera bifolia, the Butterfly Orchis. *C F.* Spiræa Aruncus.—*C.* 1, Adiantum formosum; 2, A. cuneatum; 3, Pteris longifolia; 4, Selaginella uncinata, commonly called Lycopodium cæsium.

SLOE BLIGHT: *J P.* See our "Home Correspondence" of today, p. 542, col. *b.* ‡

SPERGULA PILIFERA: *G M.* Your plant is not by any means that to which the foregoing name belongs.

SPOT ON ORANGE LEAVES: *R R.* These specimens are certainly in the state which by gardeners is always ascribed to burning by the sun's rays. It is however incomprehensible how that should be; as was shown in our columns many years ago. It is more probable that the mischief is produced either by cold drops falling from the roof upon tender leaves, or from the sudden and rapid evaporation of drops of water collected on the leaves; which evaporation produces cold enough to kill the young tissue.

STRAWBERRIES.—We have received from Mr Knevett, of Isleworth, a remarkably fine Strawberry called the Empress Eugénie, of the largest size, red inside like Red Beet, and extremely good, though not equal to the British Queen and the race to which that kind belongs. The flesh of Knevett's Strawberry is very firm, so that it ought to travel well.

STRAWBERRY LEAVES: *C B Hall.* The leaves have evidently been in rude health; and the spots by which they are disfigured are certainly not caused by either fungi or insects. We should suspect that the leaves have received a volley of hail-stones when young. If that cannot be, and since there is no trace of constitutional disease another conclusion would be that the soil contains something noxious.

STRAWBERRY RUNNERS: *T P.* There can be no doubt that the oldest runners of the year are the best.

THE LOCUST TREE: *J O.* As several different trees bear this name, we must beg you to repeat your question and to say *what* Locust tree it is concerning which information is desired.

VERBENA: *C J P.* Your crimson seedling, with a pale yellow eye, is apparently a fine kind. Its blooms were, however, considerably withered when they reached us, and nearly scentless.‡

MISC: *Sub* Flowers of sulphur is right, not flour of sulphur.‡

*** As usual, many communications have been received too late, and others are detained till the necessary inquiries can be made. We must also beg the indulgence of those correspondents the insertion of whose contributions is still delayed.

THE PATENT

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The present price of this valuable Manure is—
12*l.* per Ton for 30 Tons and upwards,
13*l.* 5*s.* per Ton for 1 Ton up to 30 Tons.

And, to guard against the purchase of adulterated mixtures and of inferior Guanos purporting to produce results equal to Peruvian, consumers are recommended to apply either to ourselves, to our agents, Messrs Gibbs, Bright, & Co., of Liverpool and Bristol, or to dealers of established character, in whose honesty and fair dealing they may place implicit confidence.
ANTONY GIBBS & SONS.

BURNARD, LACK, AND CO.'S CONCENTRATED SUPERPHOSPHATE OF LIME; guaranteed to contain Phosphoric Acid soluble, equivalent to 40 per cent. of Tribasic Phosphate of Lime.

CONCENTRATED TURNIP MANURE, equal in value to the preceding.

Of these Manures Dr. Voelcker says:—"These results must be very gratifying to you, and are the best proof of the very high agricultural and commercial value which characterises your concentrated superphosphate."

Detailed analyses, with opinions of the late and present Chemists to the Royal Agricultural Society, with Testimonials, Prices, &c., may be had on application to BURNARD, LACK, & Co., Sutton Road, Plymouth.

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CORN MANURE for SPRING TOP-DRESSING
URATE
MANGEL MANURE
SUPERPHOSPHATE OF LIME
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} all of guaranteed quality.

In consequence of the reduction in the price of raw material the London Manure Co. are enabled to lower the price of their Superphosphate of Lime, and to materially improve the Corn Manure and Urate.

The London Manure Co. also supply PERUVIAN GUANO (direct from Messrs. A. Gibbs and Sons), SULPHATE of AMMONIA, NITRATE OF SODA, CRUSHED BONES, and every other Manure of value. Wholesale dealers supplied
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REDUCTION IN PRICE OF LAWES'S MANURES.

MR. LAWES begs to announce that he has this season reduced the price of the Manures manufactured by him, viz:—

| | | | |
|---|---|---|---|
| TURNIP MANURE .. .. .. | from £7 | to £6 | 6 |
| SUPERPHOSPHATE OF LIME .. | ,, 7 | to 6 | 6 |
| MINERAL do. .. | ,, 6 | to 5 | 5 |
| BARLEY MANURE .. .. .. | .. | .. | 8 0 |

Prof. Way and Dr. Voelcker have sampled from a bulk of 5000 to 6000 tons at his factories, and their report and analyses are given in full in Circular to be obtained on application at his office, 1 Adelaide Place, London Bridge, E.C., or of his local Agents.

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J. R. AND F. TURNER, Ipswich, manufacture Prize Mills for Crushing Corn, Seed, Malt, &c; Portable Grinding Mills, Steam Engines fixed and portable from 2 horse-power and upwards; Threshing Machines, Chaff Cutter, Oilcake Breakers, Horse Gears, Saw Tables, &c, all of a superior description and adapted for Home, Colonial, and Foreign use. Illustrated Price Lists sent free on application.

WARNER'S IMPROVED LIQUID MANURE OR GENERAL PORTABLE PUMP.

These Pumps are fitted with J. W. & Son's Patent Buckets and Suckers, and cannot clog in action. The barrel is of galvanised iron, not likely to corrode, and can be raised or lowered at pleasure. The legs will fold together, and the whole may be carried on the shoulder to any pond or tank required.

Price of 4½ in. Pump, with legs, 3*l.* 3*s*
If with planished copper barrel and galvanised iron handle, &c., 14*s.* extra.
The barrel is 27½ in. long, and the legs are 5 ft. high.

These Pumps are also made without the legs, with strong wrought iron straps for screwing on to any ordinary water butt or cart, and fitted with 1½ inch brass union for attaching flexible suction. Price 50*s.*

1¾ inch Gutta Percha Suction Pipe, 1*s.* 11*d* per foot.

Rubber and Canvas Suction and Delivery Hose, from ½ inch to 4 inches in diameter, in lengths of 60 feet to order. Branch Pipes with Cocks, Union Screws, &c., at reduced prices.

May be obtained of any Ironmonger or Plumber in town or country, at the above prices, or of the Patentees and Manufacturers, JOHN WARNER & SONS, 8, Crescent, Jewin St., London.

WARNER'S PATENT VIBRATING STANDARD PUMPS.

PATENT CAST-IRON PUMPS, fitted with J. W. & SON'S Patent Buckets and Suckers, which cannot clog in action, for Farms, Cottages, and Wells, not exceeding 28 feet.

| Diameter of Barrel. | Height. | | £. | s. | d. |
|---|---|---|---|---|---|
| 2½ in. short | 1 ft. 7 in. | Fitted for lead, gutta percha or cast iron flanged pipe as required. | 1 | 10 | 0 |
| 2½ ,, long | 3 ,, 3 ,, | | 1 | 14 | 0 |
| 3 ,, ditto | 3 ,, 6 ,, | | 2 | 8 | 0 |
| 3½ ,, ditto | 3 ,, 6 ,, | | 2 | 12 | 0 |
| 4 ,, ditto | 3 ,, 6 ,, | | 3 | 3 | 0 |
| 2½ ,, short, with 15 feet of Lead Pipe attached, ready for fixing .... | | | 2 | 14 | 0 |
| 2½ in. long ditto | ditto | ditto | 2 | 18 | 0 |

The short barrel Pump is very convenient for fixing in situations of limited height and space, for the supply of coppers and sinks in Wash-houses with soft water from underground tanks, or in Hot, Forcing, and Plant Houses; they may be fixed, when desired, under the stage.

May be obtained of any Ironmonger or Plumber in Town or country, at the above prices, or of the Patentees and Manufacturers, JOHN WARNER & SONS, 8, Crescent, Jewin Street, London.

Every description of Machinery for Raising Water by means of Wheels, Rams, Deep Well Pumps, &c.; also Fire and Garden Engines, &c. &c.—Engravings sent on application.

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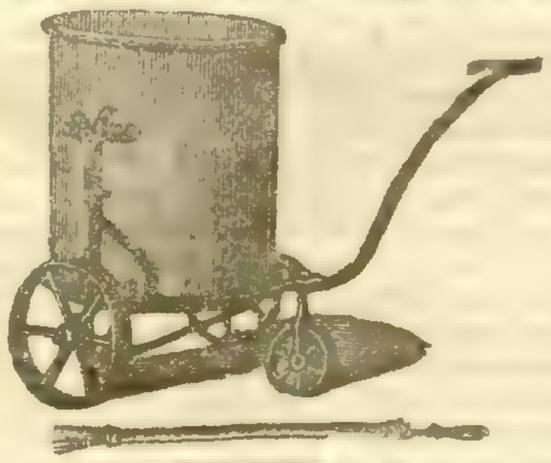

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CHICKEN AND GAME RICE, 8*s.* per cwt., in bags 1¼ cwt. each. SCREENED RICE, 11*s.* per cwt., in bags 1⅛ cwt each. RICE MEAL, 6*s.* 6*d.* to 8*s.* 6*d.* per cwt. FREE for grinding. American Oilcake and Locust Beans, per Ton only.—All Sold for Cash, and an allowance per ton, by W. & R. JUPP, Rice Merchants, 6, Cross Lane, St. Mary-at-Hill, Eastcheap.

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LOANS MAY BE OBTAINED UNDER THE GENERAL LAND DRAINAGE AND IMPROVEMENT COMPANY'S ACT, for the full amount required by the owners of Settled Estates, Incumbents, Trustees, Bodies Corporate, &c., for the erection of Farm Houses, Farm Buildings, and Labourers' Cottages, designed by their own agents and sanctioned by the Inclosure Commissioners. The Loans are repaid by a rent-charge on the estate for any term the landowner may fix, not exceeding 31 years.

No investigation of title being required, and the charge not being affected by incumbrances, no legal expenses are incurred.

The Company furnish Designs of every description, and undertake the entire responsibility of the works wherever desired by Landowners. No profit however is taken by the Company on any works they execute, the actual expenditure only, approved by the Inclosure Commissioners, with a Commission thereon, being charged in all cases. Applications to be addressed to WILLIAM CLIFFORD, the Secretary, at the Offices of the Company, 52, Parliament Street, London.

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2, Old Palace Yard, Westminster, S.W.

To Landowners, the Clergy, Solicitors, Estate Agents, Surveyors, &c.—The Company is incorporated by Special Act of Parliament for England, Wales, and Scotland.—Under the Company's Acts Tenants for Life, Trustees, Mortgagees in possession, Incumbents of Livings, Bodies Corporate, certain Lessees, and other landowners are empowered to charge the inheritance with the cost of improvements, whether the money be borrowed from the Company or advanced by the Landowner out of his own funds.

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The improvements authorised comprise Drainage, Irrigation, Warping, Embanking, Enclosure, Clearing, Reclaiming, Planting, Erecting and Improving Farm Houses and buildings for Farm purposes, Farm Roads, Jetties, Steam Engines, Water Wheels, Tanks, Pipes, &c.

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ROYAL AGRICULTURAL SOCIETY OF ENGLAND.—WARWICK, 1859.

PROGRAMME.

TUESDAY, July 12; WEDNESDAY, 13.—The Implement Yard open from 10 o'clock in the morning till 6 o'clock in the evening on Tuesday; and from 7 o'clock in the morning till 6 o'clock in the evening on Wednesday, at an admission charge of 2*s.* 6*d.* for each person. Machinery will be shown by the Exhibitors at work on each of these days.

WEDNESDAY, 13.—The Judges to inspect the Live Stock, and to award the Prizes.

Public trials of the Steam Cultivators, on land in the neighbourhood of the city, during such hours as the Stewards may determine.

At 1 o'clock (or as soon after as all the Judges shall have delivered in their awards, of which notice will be given), the Public will be admitted into the Cattle Yard on the payment of 5*s.* each person, at the Special Entrances.

THURSDAY, 14.—The General Show Yard of Cattle, Horses, Sheep, Pigs, and Implements open to the Public from 6 o'clock in the morning till 6 in the evening; admission 2*s.* 6*d.* each person.

FRIDAY, 15.—The General Show Yard open to the Public from 6 o'clock in the morning till 6 in the evening; admission 1*s.* each person.

General Meeting of the Members, in the Shire Hall, at 10 o'clock in the forenoon.

By Order of the Council, B. T. BRANDRETH GIBBS,
London, June 25. Hon. Acting Secretary, *pro tem.*

By the Regulations of the Society, all persons admitted into the Show Yard, or other places in the temporary occupation of the Society during the Meeting, shall be subject to the Rules, Orders, and Regulations of the Council.

COLLEGE OF AGRICULTURE AND CHEMISTRY, AND OF PRACTICAL and GENERAL SCIENCE, 37 and 38, Lower Kennington Lane, Kennington, near London.

Principal—J. C. NESBIT, F.G.S., F.C.S., &c.

The system of studies pursued in the College comprises every branch requisite to prepare youth for the pursuits of Agriculture, Engineering, Mining, Manufactures, and the Arts; for the Naval and Military Services, and for the Universities.

Analyses and Assays of every description are promptly and accurately executed at the College. The terms and other particulars may be had on application to the Principal.



# The Agricultural Gazette.

*SATURDAY, JUNE 25, 1859.*


MEETINGS FOR THE ENSUING WEEK.

WEDNESDAY, June 29—Agri. Society of England .. Noon.

BEANS have always been considered one of the most precarious crops which come under the care of the agriculturist. If the weather is dry, they are short and unproductive; if wet, they are rank and luxuriant, but still more unproductive: and in years when they go on for a time admirably,

and promise a productive harvest, the hopes of the farmer are frequently completely frustrated by the ravages of plant lice. There are other minor afflictions to which they are subject arising from other insects or parasitic Fungi, but in general not to such an extent as to attract much notice.

It was hoped that the introduction of winter Beans might make the result of cultivation more certain, but like the older variety, they suffer from drought or excessive moisture, and notwithstanding their comparative forwardness, they are sometimes, as was too surely proved last year, rendered almost abortive by aphides.

To the affections above mentioned, in the case of winter Beans, one is superadded which renders their cultivation still more precarious. At the present moment in all parts of the country this crop is rotting upon the ground with singular rapidity, the whole becoming from a state of apparent health in the course of a few days a loathsome mass, without the most distant prospect of relief. The only course left to the farmer is at once to plough his Beans in and secure if he can a crop of Turnips or Coleseed, or where the evil has not advanced far enough, to mow them down for fodder.

Ten years since the writer of this article published some remarks in the *Agricultural Gazette* (June 2, 1849, p. 345), which agree so singularly with the state of matters during the present season, that we shall make no apology for reproducing one or two of the opening paragraphs.

"Early in the spring every energy was called into premature action, which was as suddenly checked by a course of dull cold wet weather attended frequently with frost, and an almost total absence of direct solar light for some weeks. The wonder is under such circumstances that at present most crops should look so well, rather than that there should be an occasional failure." The condition of the winter Beans is then mentioned according precisely with the experience of the present year, and in the resemblance of the disease in external character to one which appeared in Tares in the year 1843.

The course of the present season has hitherto been almost exactly like that of 1849, and we may therefore conclude that it has borne no small part in the production of the Bean rot. It appears however, on an inspection of different crops, that the affection is in direct proportion to the quantity of plant upon the ground. Where the stalks are very close there is in some instances an absolute failure of produce, while the stalks themselves are rapidly becoming soft and pappy, exactly as is the case with the Potato haulm when affected by the murrain; whereas, on the contrary, where the plants are thinly scattered, the stalks are already well corned and there is very little appearance of disease. It is very true that a few spots appear upon the leaves, and should these extend to the stems there may still be danger, but such spots occur in common Bean crops almost every year without inducing any serious mischief. We observed in the thinly planted Beans, that vegetation had been of late so rapid that the cuticle of the stem was sometimes ruptured, and the subjacent tissue much discoloured in consequence of exposure to the air, but this did not exist to any great extent. We have heard also that the common Beans where over luxuriant are slightly affected, but at present we have no ocular testimony upon the subject.

The affection arises, we believe, purely from conditions of climate, and is in no degree produced either by insects or parasitic Fungi; though in some cases where it is well established, it is very possible that they may aggravate the mischief. If our remarks, however, are borne out by experience, it is clear that the cultivator may profit hereafter by the experience of the present year. Should a forward spring occur again, and his winter Beans look extremely luxuriant in March or April, it would be wise to hoe out every other plant, taking them alternately in the drills, so as to make them stand in a sort of quincunx. We are convinced that, had this been done, some crops which we have seen would not have suffered to an injurious extent. The exact proportion of plants to be removed must of course depend upon the state of the crop, and proper judgment must be exercised as to the peculiar conditions which require such treatment.

In conclusion we may make one additional remark. Some farmers before pulling up the diseased Beans have observed a number of little tubers at the roots, and fancied that they had some connection with the malady. But this is not the case. Let them pluck up the first plant of Clover, or indeed of almost any closely allied plant, and they will find similar tubers, and if they watch the growth of a Bean when sprouting they will find that these tubers make their appearance uniformly at a very early period of growth. *M. J. B.*

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—— During last week several provincial agricultural societies have held their annual meetings. The Norfolk Agricultural Association met at Swaffham; the Essex Society met at Colchester; and the annual meeting took place of the Cornwall Agricultural Society. At the last of these meetings Captain DAVY, of Southmolton, who had officiated as judge of cattle, referred to the duties of his office in terms which especially deserve publication at a season when the merits of competing cattle are everywhere being determined.

The following is a passage extracted from Captain DAVY's speech:—

"Somebody had remarked that the Cornish farmers had been found fault with for not knowing how to farm. They knew, however, how to feed young bulls, and to make them fat at a very early age; but his friends and himself had often been called on for this sort of work before, and the Cornish fat could not entice them from certain animals, which had an indication to fatten. He contended it was their duty as judges not to be led away by the fat animals, but to see whether there were not animals in a fair condition, with a tendency to fatten, and much more even in their shape. He would draw attention to the first and the third prize bulls in the second class. They would be called by some, poor little things. And why? Because some cwts. of oilcake had not passed through them. But put so much oilcake or other nutritive matter through them, and put them by the side of the others, and see how they will look. You must remember that fat will cover deficiencies, and those little animals we awarded the prize to had no fat, and he thought it would take more powerful eyes than he had, to point out any great deficiencies in them. He should not be afraid to go round the yard with any gentleman, to satisfy him as to the awards, and to fight him from the head to the tail, as to the merits of any animal that had been awarded a prize. There was one animal among the cows that they might wonder had not gained a prize. She was of beautiful quality and the best shaped cow in the class; but she only gave milk from one teat, and he did not consider a cow so injured was a fit animal to award a prize to as a milch cow. In agriculture milk was a rather important article of produce, and butter makes a good price. It was an all-prevailing law of the animal kingdom that 'like produces like,' and he firmly believed there was a very great probability that the offspring of that cow would be diseased, if not to the same extent, in a similar way, and for that reason they did not award her a prize."

—— The agricultural meeting at Swaffham, though signalised by a very creditable show of cattle and sheep, and by a good exhibition of implements—180 entries from 26 exhibitors—was not so large as on previous occasions. Hay-making and mowing machines were exhibited in operation. The local breed of cattle was well represented, and Norfolk has a number of well-known South Down flocks, from which the best portion of the show of sheep was derived. There was a good show of Devon cattle from the herds of Lord LEICESTER and some of his tenants, and a tolerable show of short-horns, in which Lord WALSINGHAM, Lady PIGOTT, Mr. S. GOOCH, and others were distinguished.

—— At Colchester, the second annual meeting of the Essex Society was distinguished by a remarkably good show of implements by all the neighbouring manufacturers. Messrs. RANSOME, E. & F. TURNER, SMYTH & SONS, GARRETT, COLEMAN & SONS, BENTALL, BURRELL, CATCHPOOL & THOMPSON, WOOD, and BOBY—all "county" men; with HUMPHRIES of Pershore, and BURGESS & KEY, and others from a distance. There was also an excellent collection of cattle and horses, not so numerous as that of the previous year—a comparatively poor display of sheep and pigs, and a tolerable show of poultry. At the meeting after the show, Mr. REBOW referred in the following terms to the faults and merits of Essex agriculture:—

"He hoped he should not be considered unwarrantably proud of his own locality when he stated that in his part of the county they need not bow their heads to any one in regard to arable farming. He believed he might safely say that in that corner of Essex they grew the finest samples of corn, and they understood the growth of corn as well as the agriculturists of any other part of England. Within comparatively few years the laws of England had been changed in reference to the advantages of growing corn, and therefore more general attention has been called to another branch of agriculture, with a view to ascertain whether it is as profitable as the growth of corn. It was from that cause that Essex farmers had only now turned their attention to the growth of stock. And there was another reason for their dilatoriness hitherto. The climate of this part of England is peculiarly suitable to the growth of corn, and not peculiarly suited to the growth of animals. Now, it is of course known to every agriculturist that a dry climate must be advantageous to the growth of corn. Well, in the year 1858 the downfall of rain in this part of Essex was only 14 inches, while in the west and north of England it was between 60 and 70 inches. From this it must be apparent that this part of the country is better suited to the growth of corn than the growth of stock; and it was on that account that few persons in the eastern part of Essex had given their attention to the growth of stock. He referred more particularly to sheep, which require a large extent of Grass cultivation. He believed he was within bounds when he said that within 20 miles of this town not half-a-dozen flocks were kept. At all events they had a smaller exhibition of sheep than shows in many other parts of the country would secure; but the show of stock taken as a whole was one which they need not be ashamed to exhibit in any part of the United Kingdom."

—— A correspondent writing from Cheshire suggests the propriety of including manure and seed adulteration in Mr. SCHOLEFIELD's Bill about to be brought into Parliament for the punishment of food adulterations. The former are almost as mischievous as the latter. The following are his remarks:—

"To give an instance of how adulteration in the seed market works, a small farmer said to me the other day, 'I will never have anything to do with Italian Rye-grass; it fills the land full of Twitch.' A neighbour of his had so suffered, no doubt from his having purchased foul seed. And so it is with artificial manures. Farmers are cheated, and then discontinue using them altogether. Thus is improvement seriously checked, the consequence of course being loss to the public in a less production of food, as well to the tenant, and ultimately to the landlord. In a dairy district it is most difficult to induce the older, smaller, and more ignorant farmers to make a single step out of the beaten track. This class eagerly jump at such things as I have narrated, to give them an excuse for continuing simply as their fathers did before them."

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## DAIRY MANAGEMENT.

SIR JOHN SINCLAIR has stated that "it is supposed that the same quantity of herbage that would add 224 lbs. to the weight of an ox would produce 900 English gallons of milk." Now, if we reckon 6 oz. of butter to be the average weight obtained from a gallon of milk, we will get 337 lbs. of butter from the same quantity of herbage as was supposed to produce 224 lbs. of beef. Or, if we convert the two into their respective money values, according to present rates, we will obtain 6*l.* 10*s.* 8*d.* as the value of the beef, reckoning the beef at 7*d.* per lb., and 16*l.* 17*s.* as the value of the butter, reckoning the butter at 1*s.* per lb. If the hypothesis of Sir J. Sinclair be correct, there can be no doubt that it is the interest of the farmer to adopt the dairy system in preference to the feeding of cattle. But even granting that the difference between the production of beef and butter is not so great as stated by him, yet it is generally admitted that there is a considerable margin in favour of butter, particularly when we take into account the relative price of the two at the present time.

The importance of the subject being admitted, we may inquire shortly as to what kind of feeding is best adapted for producing the largest yield of butter. Aiton, in his "Agriculture of Ayrshire," published about the beginning of this century, tells us that the winter food of the dairy stock at that time was the straw of Oats, or, towards the muirish parts of the country, the hay of bog meadows, frequently but ill preserved. "For a few weeks after they calved, they were allowed some weak corn and chaff, boiled, with infusions of hay; and by way of luxury, a morsel of Rye-grass, or lea-hay once every day; and of late years, by some farmers, a small quantity of Turnips in the early part of the winter, and a few Potatoes in the spring have been added." The effect of such feeding on the animals is apparent when they are turned out on the Grass in summer; "many of them are so dried up and emaciated, that they appear like the ghosts of cows, their milk vessels are dried up, and it is not till they have been several weeks on the Grass, that they give either much milk or that of a rich quality." The summer feeding was generally pasture, and though a much better system of feeding has been practised throughout the country since the introduction of Turnip husbandry, yet an approximation to this described by Mr. Aiton will be found in some of the upland districts.

Farmers have now, however, a great variety of food from which they can make a selection; and the problem to be solved now is not—how a sufficiency of one particular kind of food is to be gathered together to keep the cows in life for a considerable period of the year, but rather what variety of food, or better, what mixture of varieties, how much, and in what state (raw or cooked), will prove most profitable for the production of butter. The mainstay of the dairy farmer now as formerly in summer is Grass; in winter, however, there has been a great improvement in the feeding of the cows from the use of Turnips and other roots as well as many other substances, such as Beans, dried, or distillers' and brewers' grains, Linseed, and Rape cake, &c. Even now in summer, in some districts, it is found advisable and profitable, where butter is wanted more

than milk, to give to the cows some nourishing food, in addition to the pasture, at the very height of the season. Draff and Bean meal are the two substances more generally used in such circumstances.

If the production of butter is to be the main object of keeping a dairy, there are two things to which the farmer should pay particular attention: the kind of cows he keeps, and the feeding. When we speak of the feeding, we mean not merely the quality of what food the farmer purchases, but of what is grown on his farm. It is well known that the Grass and Turnips on some farms will produce far more butter from the same quantity of milk than those grown on others. We have known cattle fed on Turnips alone from particular farms made fat in the same time as similar animals fed on Turnips with the addition of 2 or 3 lbs. of Linseed-cake each per day, the treatment and housing of the animals being alike in both cases. Certain fields will give a larger proportion of butter to the milk than others on the same farm. A farmer, therefore, should be guided, not only by the locality, but by the farm, in determining what department of the dairy he should turn his attention to. While he may find it most profitable to sell all his sweet milk, even at a considerable distance from town, it might be ruinous to him to convert it into butter, unless he used a great deal of extra food for his cows, the profit from which, unless judiciously used, is not always certain. We are aware that often draff is used where the production of butter is the main object, with the certain result of a large increase of milk, and also increase of butter, but by no means in the same ratio. We are convinced that were farmers to make some experiments, and not be satisfied with the small increase of butter as a proof of the value of the draff, they would come to the conclusion that it would be their interest to use less draff and more of other substances. Of course, if all the milk is to be sold sweet, the larger the quantity that can be obtained, however watery or inferior in quality, the greater will be the return. In this case the consumer, not the farmer, is the loser.

Without referring at all at present to the kind of cow most profitable for a butter dairy, we pass on to a consideration of the kinds of food that may be used most profitably for the production of butter. The great authority on this subject is Mr. Horsfall, who has laid the public under great obligations to himself for the publication of his experiments and views on this interesting question. His method of feeding is the following:—In May his cows are turned out on rich pasture near the homestead; towards evening they are housed for the night, when they are supplied with a mess of a steamed mixture, to be afterwards described, and a little hay each morning and evening. During June mown Grass is given to them instead of hay, and they are also allowed two feeds of steamed mixture. This treatment is continued till October, when they are again wholly housed. After this they receive steamed food *ad libitum* three times per day. After each meal Cabbages are given, from October till December; Kohl Rabi till February; and Mangel till Grass-time—the supply of each of these varieties of green food being limited to 30 or 35 lbs. per day for each cow; 4 lbs. of meadow hay are also allowed after each meal, or 12 lbs. per day for each cow, and water is placed before them twice a-day, of which they partake as much as they feel inclined for. The steamed food spoken of above consists of "5 lbs. of Rape-cake, 2 lbs. of bran, for each cow, mixed with a sufficient quantity of Bean-straw, Oat-straw, and shells of Oats, in equal proportions, to supply them three times a day with as much as they will eat. The whole of the materials are moistened and blended together, and, after being well steamed, are given to the animals in a warm state. The attendant is allowed 1 lb. to 1½ lbs. of Bean-meal per cow, according to circumstances, which he is charged to give to each cow in proportion to the yield of milk, those in full milk getting 2 lbs. each per day, others but little; it is dry, and mixed with the steamed food on its being dealt out separately." This is certainly high feeding, but it is amply repaid by the results; for while cows fed in the ordinary way seldom produce milk which yields more than 1 oz. to every quart, Mr. Horsfall's milk gives upwards of 1½ oz. for every quart. It is also an important part of his system never to allow his cows to fall off in condition. He considers the maintenance of the condition essential to a large yield of milk. There can be no doubt of the soundness of this opinion. A cow low in condition cannot give the same quantity of milk, as much of the nourishment of the food is drawn off to make up the condition of the animal. And when a very lean cow is put on rich food it is some weeks before the full benefit of the food can be obtained in milk for the reason stated above. Another useful deduction made by Mr. Horsfall from his experiments is, that albuminous matter is the most essential element in the food of the milk cow, and that any deficiency in the supply of this will be attended with loss of condition, and a consequent diminution in the quality of the milk.

In Scotland bran is not very often used as an ingredient in any mixture of food for milk cows; but it will be seen from the foregoing that it forms an important part of Mr. Horsfall's mixture. Some time ago we came upon the following extract, we believe from the *Irish Farmers' Gazette*, which gives some valuable hints as to the use of different substances in the feeding of milk cows:—"In reading over the experiments on feeding in Stephens, a difference of opinion exists as to the comparative fattening qualities of Linseed-cake, Bean and other meal; and in the 'Report of the Larne National Agricultural School for 1853,' 1 lb. of Beans is said to be equal in fattening qualities to 30 lbs. of Turnip, and nearly 3 lbs. of oatmeal. I tried the Bean-meal one season, at the rate of 3 lbs. a day, boiled for each milk cow, with Mangel, Turnip, and hay. By February one of them was fat, but I may say dry; and the others with about half the quantity of milk they had when commencing. I tried for two winters oatmeal, the same quantity in the same way, and each cow gave three times the quantity of milk and butter, and turned out full better the following summer. I tried the same quantity of yellow Indian meal last winter, and I think it good for both milk and butter. I tried bran for three winters, at the rate of 4 lbs. every night for each cow; it was equal to the Oatmeal, while using, and my cows turned out better the following summer than on any other feeding. The bran not only keeps them healthy, and gives them a greater relish for their food, but there is some combination of qualities in it beyond what any writer I have seen attributes to it."

The state in which the food is given has also a great effect in the production of both milk and butter. We have observed more than once that the yield of butter and milk is never so great when we give cows boiled Turnips, with Beans boiled quite soft amongst them, as when they get the boiled Turnips and the same weight of Beans made into meal and mixed raw with them. Again, there is more milk and no taste of the Turnip in it, when the Turnips are pulped and mixed with cut straw or chaff and fermented, than if the same weight of Turnips are given whole and raw. In the "Journal d'Agriculture Pratique" we read a short notice on this subject by M. Lejeune, a director of the Agricultural School at Thourout, in Belgium. The facts he reports are not to be regarded as experiments instituted to test any theory, but are merely extracted from his accounts, and show the importance of attending to the mode in which their food is given to milk cows. In February 1855 the milk of eight cows was selected for experiment. The cows were fed in the following manner:—Each cow got per day 4.4 lbs. of meadow hay, 13.2 lbs. straw, 48 lbs. Linseed meal, 11.5 lbs. of Beetroot, and a cooked mash, consisting of 55 lbs. of Turnips, 27 lbs. of Beetroot, 1.2 lbs. Linseed meal, 3.2 lbs. of Rape-cake, 1.1 lb. of grain dust, 1.1 lb. of mixed meal, about 1½ oz. of salt, and 6 gallons of water. From this very watery diet a large quantity of milk was obtained, 16 quarts of which gave 1 lb. of butter. In the month of February, 1856, the calculation was made from the milk of 10 cows, eight of which were those with which the observations were made in the previous year. The nutritive value of the food detailed above was calculated to be equivalent to upwards of 30 lbs. of good meadow hay per head. The food given in 1856 consisted of Oat straw, Beetroot, the meal of Rye, Oats, and Buckwheat, Linseed-cake, Rape-cake, and the dust of Wheat or bran, given in such proportions as to make the equivalent value of the day's feed equal to a little more than 31 lbs. per head of hay. None of it was cooked and the Beetroot was reduced to small pieces and sprinkled over the meal. There was not the same quantity of milk, but the proportion of butter was much larger, being 2 lbs. of butter for every 20 quarts of milk. The cows, with the exception of the food, were managed in the same way in both years, and there were more newly-calved cows in 1855 than in 1856. *The Farmers' Note-book in the Journal of Agriculture.*

## Home Correspondence.

*The Wheat Crop in the North* on the whole looks promising; it is I think about a week later than last year in coming into ear. Beans are blooming very short; Oats are I think likely to prove an average crop. The same may be said of Barley; Potatoes are showing very feebly Of the Turnip crop it is too early to speak with confidence, but the early sown Swedes in many places have had a terrible struggle with the fly; some farmers have sown a second time, while others have left the leafless stumps alone, in the hope that if we get rain there will still be plenty for a crop. It is a pity the remedy you recently published was not earlier known among farmers in the north, as many of them no doubt would gladly have given it a trial. Corn markets have all tended downwards lately; I apprehend, however, that a halt will be made now that it has got to 48*s.* per quarter, as there is not any probability of much foreign Wheat coming profitably to our market below that rate, and although from the considerable quantity of Wheat still in farmers' hands there will no doubt be a fair supply sent for sale, it will be their own fault if at such a time they glut the market, and thus cause a fall in price as great perhaps and as uncalled for as the rise which took place a few weeks ago. *H. J. Turner, Richmond, Yorkshire.*

## Societies.

### ROYAL AGRICULTURAL OF ENGLAND.

At a Special Council held Wednesday, June 22, 1859, his Grace the Duke of Marlborough, President, in the chair—

The report of the Special Committee appointed to examine the past accounts of the Society was read, received, and confirmed.

It was moved by the Hon. Col. Hood, and seconded by Lord Berners, "That Mr. Hudson be dismissed from the office of Secretary."

The Special Committee (with the addition of the names of Mr. Fisher Hobbs and Mr. Brandreth) was reappointed to carry out certain recommendations contained in the above report, and instructions were given by the Council relative thereto.

On the motion of Mr. Brandreth, seconded by Col. Challoner, it was resolved, "That a Committee be appointed consisting of the President, Vice-presidents, Trustees, and the following members of the Council: the Hon. Col. Hood, Mr. Barnett, Mr. Jonas Webb, Mr. Wren Hoskyns, Mr. Torr, Mr. Fisher Hobbs, Mr. Milward, Mr. Brandreth Gibbs, Mr. Amos, and Mr. Brandreth, to take into consideration and report to the next general Council what in their opinion should be the general and particular duties of the Secretary and the mode of his appointment."

Judges for the Warwick Show.—Col. Challoner, chairman of the Implement Committee, presented the report recommending the judges of implements.

Mr. Milward, chairman of the Live Stock Judges Committee, presented the report recommending the judges of live stock, cheese, and wool. These reports were received and confirmed.

Steward of Cheese and Wool.—On the motion of Mr. Brandreth Gibbs, Mr. Pain was elected to this office.

Prize Essay.—Mr. H. S. Thompson, chairman of the Journal Committee, reported the recommendation that the Prize of 25 Sovereigns for the best Report on the Agriculture of the Islands of Jersey, Guernsey, Alderney, and Sark, be awarded to the author of the Essay bearing the motto "Practical." The sealed envelope having been opened by the President, the author was declared to be C. P. Le Corme (Honorary Secretary to the Royal Jersey Agricultural Society), Beaumont, Jersey.

Lodgings for Judges at Warwick.—At the request of the Council Mr. Pain kindly undertook to proceed to Warwick to make arrangements relative to this accommodation.

The Council decided several cases as to qualification of live stock and implements; also matters of detail connected with the approaching show at Warwick.

The Council then adjourned to its weekly meeting on Wednesday, the 29th inst., when Prof. Voelcker's report on the analysis of a Mangel root kept two years will be read.

## Farmers' Clubs.

Newcastle: *Farm Leases.*—The following discussion ensued on the reading of the paper published the week before last:—

Mr. Chrisp, Hawk Hill, did not oppose leases; they were very desirable, especially with a tenant of capital and skill. The intention of a lease was to guard the interest of the landlord, so that a farm should not suffer from a tenant overcropping it. In general leases were good; but Mr. Dunn evidently though there was a weakness in them or he would not have loaded them with so many conditions to guarantee the tenant's interest. He (Mr Chrisp) objected decidedly to a corn rent, and to allowing the tenant the power to quit at a certain number of years unless the same power was given to the landlord. An obligation of this kind ought to be reciprocal, or there was no use in it. There were far fewer leases now than formerly. There were good and middling farmers both under leases and agreements from year to year. Mr Dunn laid it down that leases were the sine qua non to guarantee the tenant and assist the improvement of the land; now this was not so. They might have a very good effect in certain districts, and in Scotland they were carried out to great advantage; but the south of England was mostly under a tenancy from year to year, and it had taken greater strides in proportion than Scotland. It had been said that the advantage of a lease was to enable the farmer to replace the capital he might lay out. Now, if he were to build, fence, or drain, the landlord could not, in the majority of cases, expect above one-half of the rental he would get if he were to make these improvements at his own expense. At present, when the Land Improvement Commissioners would lend any amount of money, at no higher percentage than a farmer could command, a tenant crippled himself very much if he did the work at his own expense. Their worthy friend, Mr. Dunn, mentioned clauses to guard the tenant's interest, but in many instances they had been over much guarded, to the great detriment of the landlord. This was the reason why landlords frequently objected to granting long leases. He did not say "Don't grant leases," but let every man do what he thought right, according to the state of the farm and other circumstances. To urge a lease upon all occasions, unless you looked very closely to the tenant as well as the landlord, was one of the most fallacious things that possibly could be, and would do a great deal more harm than good. Then, as respected compensation to tenants, otherwise tenant-right, Mr. Caird said it led to nothing but chicanery and deceit; that it neither benefited landlord nor tenant.

Mr. Ferguson said: A lease of a farm for a considerable number of years was decidedly of greater advantage to both landlord and tenant than yearly tenancy, and on this point he entirely agreed with Mr. Dunn He (Mr. Ferguson) believed landlords generally would think his paper on farm leases somewhat one-sided; and therefore likely to discourage leases altogether. The interest of a landlord and tenant are, or ought to be, identical, but if tenants generally had the power to sublet their farms, or sell their leases to any one and at any time, irrespective of the proprietor, their interest would then be the very reverse of identical, for the only object of the outgoing tenant would be to get a large premium for his bargain, whereas the object of the landlord always is to get a man with a good agricultural character, and whom he believes may become a good neighbour and a good friend, as well as a good farmer He is planted on the property of the landlord, and it is reasonable and fair that he should, as he always will, select his own tenants. Mr. Dunn hinted at a corn rent, and believes that mode of fixing the rent preferable to any other method; but in several districts where that plan has for a long period been in practice the landlords as well as tenants are getting tired of it, for the one never could tell what he was to receive, nor the other what he was to pay, and hence the difficulty of regulating the expenses of the year A bad season also always operates severely against a tenant when his rent is paid by the price of grain, for it is often high when he has little to take to the market. A fixed money rent is decidedly preferable for both landlord and tenant. I did not observe in Mr. Dunn's paper any recommendation as to how the farm is

to be managed or cropped. Perhaps he wished that this should be left open in the lease, so that the tenant may cultivate according to his own fancy. When a landlord has perfect confidence in his tenant, then he ought to have liberty to use his own discretion as to management, and be left very much to himself, because such a tenant will not take any advantage, or attempt to plunder the farm. But this liberty ought to be given, irrespective of the leases, which should be carefully drawn, and some mode of cultivation (according to the nature and situation of the farm) carefully specified and entered in the lease, not with the view of cramping an energetic tenant, but for the purpose of preventing the farm from being plundered and the soul taken out of it, in the event of its coming into the hands of a non professional man. We all know that a lease, write it who may, will never make a bad tenant a good one. It will not make a tenant put one horse into a loaded cart on a good level road, when he is determined to put two (as we may see almost every day) to do the work of one. It will not make him cut his corn low when he is disposed to cut it high, nor will a lease compel a tenant to plough deep when he is disposed to plough shallow; but a lease will give perfect security to a tenant, so that he may reap the benefit of his own improvements, and it will also, if properly and carefully drawn, protect the property of the landlord from being plundered and overcropped in the event of the lease which is heritable coming into the hands of a non professional man. Some gentlemen who write leading articles in agricultural papers go quite crazy when they hear that a landlord inserts in his leases a particular mode of management or cropping of a farm, and they severely criticise such an arrangement, and insist that it is unfair to a tenant to be bound to any system of management. They studiously, however, keep out of view altogether that a lease is heritable property. Now, when a landlord has perfect confidence in his tenants, then he might with propriety allow them full liberty to follow the bent of their own mind as to cropping, but still that liberty ought to be given altogether independent of the lease, so that the landlord might have it in his power to protect his property from mismanagement in the event of a change of tenancy taking place.

The Chairman said it would be impossible to compel tenants and landlords to accept leases—that would be a principle acted on in no branch of commerce. If a man invested capital, the first consideration was to invest it safely and properly; and the same consideration arose with a prudent tenant taking a lease. Every man would not like to take a lease, but would prefer a yearly taking; but if a person wished to lease a part of his estate, and found a tenant willing to take it, it became a matter of fair bargain between the two; and if he understood the lease question aright, it was to make the bargain a fair one between man and man. The landlord had his rights—the property was his, and very likely he laid down certain conditions on which he would let it; but the right way was to have the conditions so that he would entice men of capital and enterprise to farm his land properly and give him a high rent. It was no use evading the question; if a person had property it was his right and duty to get as fair a return for it as he possibly could. No man could find fault with a landlord for this; but if he went beyond this, the result was the same as in other cases of demand and supply; his conduct recoiled upon himself. In all cases, whether under leases or yearly tenancies that he knew of, the landlord was made perfectly secure of obtaining his rent, except, of course, when men got wrong in their circumstances, although they had seen many instances where farmers had cheated their landlords. He was favourable to leases, with a sort of tenant-right at the end of them, such as that four years before the expiry between the landlord and tenant were granted for 21 years a treaty should be entered into to renew the lease. In this he went further than upon the principle of equity between the landlord and tenant; he went upon the principle that no land in this country ought to be in a state of unproductiveness, and that every person holding property in this kingdom ought to endeavour to make it produce as much food for the people as he could. It seemed a great hardship that a farmer should be compelled to go on for 21 years; it was a long time for a man to be in operation and have no power of selling his lease; and another great hardship was that his widow and family might be objected to. He was not of Mr. Ferguson's opinion, that widows in general made very bad farmers; they were generally very much imposed upon. A colliery lease was very different from a lease of land; a colliery lease was a very speculative description of property to go into; but when you took a farm you knew the land was there. Mr. Dunn had made a mistake in talking about corn rent; corn rents had proved to be very fallacious. If a man had a Wheat farm, he might have a fixed medium of exchange; but if he had a farm of mixed husbandry—and such farms, more than anything else, had been the means of improving the agriculture of the north of England—he would have a variety of ways of meeting the times. This year a great Barley grower was a very fortunate, and a great Wheat grower a very unfortunate man. The point Mr. Dunn wished to establish was, that to encourage men of capital as tenants to put their money into land they should have a security. But he (the Chairman) doubted whether the landlord allowed the tenant to have much hold upon the land in this respect. Mr. Dunn, in talking of a valuation, introduced a kind of tenant right. Now he (the Chairman) had seen a great deal of tenant right in the south of England, and where it was understood it worked very well. A man should be paid for unexhausted improvements; but he had no idea of letting the farmer receive something without being liable also to pay. If the tenant farmed his land so badly that he could not pay his rent, he ought not to be allowed to go on; and therefore the valuation only followed on one side—when there was an improved value. When there was an unimproved value the tenant should be amenable to make it up otherwise: it was an encouragement for under-farming; and no landlord would like an unfit man upon his land. Mr. Ferguson's plan of re-letting the land, and giving the tenant the improved value, would be very good as far as it went; but the advanced value might not be due to the tenant for improved husbandry, but from a change of circumstances and times over which he had no control. They knew that the great bulk of the land in the north of England had not had capital enough put into it; this was proved by the establishment of large societies for the lending of money. Men having large estates borrowed it; and if it were not there the land would go as unproductive as ever. There should be still more money put into the land to make it advantageous for the landlord and tenant, and if it were advantageous for these it was advantageous for the country. At present, under most leases, a man was bound not to let without his landlord's consent; this was a matter of favour, not a matter of right, as it ought to be. You could not encourage a man to put additional capital into the land for a matter of favour. It must be a matter of right Mr. Dunn's great point was, that he wanted the farmer to be secured for the additional capital he lays out, and to be encouraged to lay it out; and if this principle were agreed upon they could easily work out the details.

## Farm Memoranda.

AMERICAN FARMING: MR. S. WALRATH'S FARM *in Canton, New York.*—My farming operations, in this place, commenced in the spring of 1839, when the earth was to be reclaimed from the primitive forest. The process was naturally slow and toilsome. The forest, when removed, left the earth obstructed by stumps and roots that required time and labour to reduce the land to a condition capable of good husbandry. In addition to these hindrances, the soil was mixed with sandstones that required great labour in digging and removing from cultivated fields. The process could not be performed in any one year, even to a limited extent, without a sacrifice of time and money, and this labour must be performed before any efficient attempt at subsoiling and thorough cultivation could be made with present profit and a fair prospect of future improvement. I adopted a plan of gradual improvement, both in clearing and breaking the subsoil, which has been successful and brought its annual rewards. The hard crust which underlaid the native soil was attacked by gradual and persistent assaults, year by year, carrying the plough a little deeper each successive season, and allowing the new matter brought up time to slack by the influence of air and water, and to form a homogeneous mass with the soil. In this manner, and by successful assaults, the crust of hard pan has been broken and made part of the soil on all my cultivated lands, and the soil greatly improved.

Formerly my crop of Wheat averaged 10 or 12 bushels, and my corn 20 or 25 bushels per acre. Now, on same land, where the hard crust has been thoroughly broken and mingled with the soil, my Wheat averages 20 bushels or over, and my corn averages full 60, and sometimes amounts to 80 bushels per acre. My meadows, which were formerly liable to fail in dry seasons, and be hardly worth mowing, now yield large and uniform crops of 2 or 3 tons to the acre.

Every man must adapt his mode to his means as well as his soil, in order to a satisfactory result. The soil on which I have operated being stony, gravelly, and loose on the highest parts, needed no sub-soiling. Here the labour and expense was that of clearing from stone, pulverising and enriching. On the slopes and in the intervales, the natural soil was underlaid by a hard compact formation of little depth that required breaking and pulverising to improve the crop and insure its certainty. The best method, under the circumstances, is supposed to have been adopted. For had the land been thoroughly cleaned and sub-soiled in one season, it would have required an amount of labour and manure that could not be afforded; while, by the gradual process, fair crops have been obtained at moderate expense. The cost of clearing the land of stumps, roots and stones, and the manure necessary for each acre, thoroughly prepared and sub-soiled, could not be estimated at less than 30 dollars per acre; which is an amount of expense that can only be incurred by those who make farming a pastime without regard to profits. In the intervals and natural water-ways, on my farm, the hard crust was thickest. There the water in the spring and the drought of summer were alike unfavourable to vegetation of any valuable kind. In order to remedy these evils I commenced a system of blind drains, of a width and depth proportioned to the water that might be expected to pass through them. They are from 3 to 6 feet deep, and the width is from 2 to 3 feet. Stone are laid on the sides of the drain at the bottom, from 6 to 10 inches high, and covered by flat stone. The ditch is then filled up with small loose stone, within a foot and a half of the top. Straw is laid over the stone to prevent the earth from obstructing the drain, and the soil dug from the drain filled in. The result has been most satisfactory. Lands that were formerly useless are made the most productive spots on the farm, and the adjacent soil quickened. I have about 200 rods of these drains constructed at an expense of about 50 cents. per rod.

I make a compost heap annually. The Hop Vines and other vegetable substances that are not useful for feeding stock are gathered in the fall and placed in the centre of the barn yard. Straw and other coarse fodder is scattered over it, and the animals feed and tramp it down during the winter. In the spring when the frost is out, the heap is gathered and covered with muck from a neighbouring creek, and additions made to the heap during the summer, of such materials as will increase its value. Salt is added to the heap before and after the muck, for the purpose of retaining moisture as well as for its fertilising properties in small quantities. When the heap is formed the soap suds and other waste waters are thrown upon it, to keep it moist and prevent the escape of gases, which constitute an important element of manures. In the fall this compost is used on the Hop field for a top-dressing, to enrich the soil and shield the roots from the action of frost. I also make a composition of 6 bushels of house ashes, 1 bushel of plaster, 1 bushel of slacked lime, and ¼ bushel of salt, a small quantity of sulphur, pounded bones &c. This is used for a top dressing. It is sown broad cast, on grain and meadows. On grain it should be sowed soon after the grain is up; on meadows as early as practicable after the Grass shoots up in the spring, and before a rain if practicable. On corn it is applied before and after hoeing. On Potatoes it is applied to the hill at the time of hoeing, and slightly covered, and in the same manner on gardens. This composition was made at an expense of about 20 cents per bushel, and used at the rate of 2 to 3 bushels per acre, on grain and meadows. This composition, with a small addition of guano, was used upon about an acre, constantly cultivated for 10 years, without other manures, and the result was a constantly increasing annual product. The last crop was Wheat, and the yield 30 bushels per acre. It was then seeded with Clover and Timothy, and during the past season it has produced 2 crops of hay; the first of two, the second of one ton.

I sow what is known as Scotch Wheat, after corn Potatoes or Peas, 2 bushels per acre. The ground is prepared by ploughing in the fall and again in the spring, as early as practicable. After the sowing the ground is mellowed, and the grain covered by the harrow or cultivator, and sometimes by both, if necessary, and then rolled. If the earth is dry roll immediately; if not, it is better to postpone the rolling till the Wheat comes up. After the Wheat appears, I sow 2 to 3 bushels to the acre of the top-dressing already deseribed. If any weeds or Thistles appear in the field they should be eradicated before they attain a size to overshadow and check the growth of the Wheat. With this care, nature developes and matures the crop, and it needs but little attention till fit to harvest. I harvest my Wheat soon after the colour changes and while the joints are green, bind immediately after the cradle, stook and cap, and let the grain and straw cure in the field till they are fit for the mow. There are several advantages in this method: Firstly, it does not shell, and little or none of the grain is wasted; secondly, the straw is more palatable and nutritious to stock; thirdly, the Wheat is better in appearance, and affords more and better flour. During the past season I left a portion of a field, sowed with the same seed upon the same day, for ten days, and the early and the latter harvesting were kept separate. The difference in the two samples was so marked that an experienced miller, who regarded them as two kinds of grain, considered the early gathered grain worth a shilling a bushel more than the other. The same management of other grains, as I apply to Wheat, will be equally successful. My average crop of Oats has been about 55 bushels, and of Peas 25 bushels per acre.

The wireworm has been injurious for several years. It attacks Potatoes and the roots of most kinds of grain. About eight years ago I sowed a barrel of salt, in which I mixed 3 lbs. of arsenic, upon about ¾ of an acre of land, badly infested with wireworm. I ploughed the salt in and dragged the ground; and in three or four days I ploughed the ground again and planted it with corn, and the crop was uninjured by the worm, and produced about 80 bushels per acre. In my later experience, I find that the wireworm is not partial to Clover or Peas, and when they have become troublesome I seed down with Clover and the worms uniformly disappear. There are several other kinds of flies, grubs, and worms that affect the crops, but these are the most troublesome and destructive in this section.

The Grasses that I cultivate are Clover and Herds Grass. I sow 16 lbs. of Clover seed when used alone, and when mixed I sow 4 lbs. of Clover with 8 quarts of Timothy seed per acre. They may be sowed either in the fall or spring, according to the crop, but should be sowed early in order to attain a strong root before the summer droughts come on. For dairy purposes white Clover is the best, and is natural to our soil and flourishes without care or culture. For two years past I have mowed only six acres, producing an average yield of about 2½ tons per acre. My time for cutting Clover is when the heads begin to change colour. It is wilted and put into small cocks, where it is allowed to stand and make in the air. When it is thoroughly cured it is opened and aired previous to being mowed in the barn.

Experience has convinced me that the pig is the only animal whose idle life is more profitable to the farmer than one of industry. If he is allowed to shift for himself he learns habits of mischief, becomes a loafer of the first class, lean, lank and sinister of appearances, and ready to prey upon the unwary and unsuspecting by night and day. The swine are kept till they are eight or nine months old, and when slaughtered generally exceed 300 lbs. each. Carrots are the most sure of the root crops, and the best for animals in this country.

My orchard at its commencement failed. I have since set trees, grafted on seedlings, which thrive well and begin to bear. I wash the trees with suds every spring, and the bark is smooth and the growth vigorous. I have 160 rods of stone wall, 3½ wide at bottom, 20 inches at top, and 4½ high, built at a cost of about one dollar and a quarter per rod. I have 75 rods of board fence that cost the same per rod as the wall, and 200 rods of rail fence that cost about 62½ cents per rod. The house is of wood, 28 by 38 feet on the ground, one and a half stories in height, clap-boarded and painted white on the outside, the roof covered with Pine shingles, and the windows shaded with blinds. Attached to it is a wing, 18 by 28, a story and a half high, and finished like the main building on the outside. It is divided into a kitchen, pantry, and wood-house on the first floor, and a large lodging room overhead. I have a cellar under the main body of the house with a stone wall laid in mortar, that is proof against frost and water. Under the kitchen is a cistern, built of brick and water lime, of the capacity of 100 barrels, which affords an unfailing supply of soft water.

## Calendar of Operations.

JUNE.

ISLE OF ELY: *June* 15.—To-day the thermometer rose to 66°, on the 16th of June last year it stood at 90° in the shade. The contrast is very great: the intense heat which prevailed for several days last year about the middle of June was very prejudicial to the growing crops generally, more especially those on the hot gravelly soils. This year the weather is more favourable, and is exerting a very beneficial influence on every description of crop. The copious rains we received

fortnight ago have produced marvellous results. The Oat crop and the pastures appear to have vied with each other in seeking to present a luxuriant and fruitful appearance. Some of the heavy crops of Wheat have been laid a good deal, and must inevitably yield a small produce and of inferior quality. The lighter crops where there was less flag and grossness have benefited largely by the seasonable and fructifying showers, and promise now to yield far better than those which previously we regarded with so much favour. On all our early soils the ear is beginning to show itself distinctly above the sheath, which will, with seasonable weather, bring us to about the last few days of July, or quite the beginning of August for harvest. As already intimated, the Oat crop has made immense—we had almost said unparalleled—progress. Certainly we never saw so much improvement in so short a time. Where there is a full plant there is every prospect of abundance, and even where the wire-worms had so seriously thinned and weakened it, the progress has been so great that in most instances there will be a fair average bulk of straw. The earlier sown are just breaking into corn. The Beans look very strong and healthy, and grow rapidly. We may say the same of the Peas, but we dare not venture an opinion beyond present appearances; for the sudden and destructive enemy of last year is not forgotten by us, and a like calamity may soon overtake us. Indeed we have heard of some such visitation upon the winter Beans already, although as none are yet grown here we have been unable to ascertain accurate particulars. Mangels have planted irregularly in several instances, although in others, they are all that could be desired. We think the later sown present the most promising appearance, showing less feature of plant. Potatoes on the high lands grow strong and look extremely healthy but on some of the low are very weak and presently injured by wireworm. Haymaking has commenced generally, and some of the earliest cut is being stacked in fine condition. The crop is heavy but the quality rather coarse. Pastures are splendid, and could not well be better. We have consequently an increased demand for lean cattle and sheep, and prices are moving upwards. Meat is not so brisk a trade, especially pork, which is 6*d*. per st. lower. We seem likely to have the anomaly of a war in Europe and low prices for corn. The Wheat trade is dull in the extreme, and prices are within 1*s*. or 2*s*. per qr. of what they were before the commencement of hostilities. The future is veiled in darkness, and we seek not to pry into its secrets. Wool is advancing, and for those farmers who brought in their sheep when prices were comparatively low, will be very remunerative. *Your Fen Reporter.*

CHESHIRE: *June* 15.—The nice genial showers we have had within the last fortnight appear to have allayed the fears of the farmers regarding their pastures, hay crops and late sown spring corn, all of which have recovered from the effects of the previous dry weather and now present as luxuriant an appearance as could well be desired. Wheat is generally looking well and Beans under a good system of management are most promising, and we think a greater breadth than usual has been sown. Mangel Wurzels have been very tardy in coming up, in consequence of the dry weather, and in some instances, the wireworm and other insects have attacked them, but they now appear more regular in the row, and from the fine condition of the land, we hope they will soon make up for lost time. The Swedes too have received a check from the prevalence of the fly, and in some instances doubts have been entertained of their recovery; the weather however is much in their favour, and it is not yet too late for Swedes. We find thick sowing the greatest security against the fly. The haulm of the early "radical" Potato is very much curled, which we think is an indication of disease, but the cause does not appear to be understood, nor will the effect upon the crop be known until it is taken up, which may be expected to commence pretty generally in about a fortnight; the Ashleaf Kidney, the earliest kind we have, does not appear affected with the curl, and a few have already been sent to market. The team horses are now principally employed in cleaning the green crops, repairing roads, &c. Where cattle are perfectly healthy, they are milking well, but many dairy stocks are suffering from the foot and mouth distemper, which greatly interferes with the progress of cheese making, and in some instances the "pleuro" still lingers. Clover roots are much improved by the late rains, and we may expect the scythe to be busy at work in the course of another week. *W. P.*

WESTER ROSS: *June* 20.—Dry, dry! excessively dry. For 33 years we have had no season for drought like this. It is now more than two months since we have had a shower of any importance, and consequently all the later fields of Oats and Barley have had scarcely a drop of rain since they were sown. And wonderful it is how things have looked until within these few days; but now every day is telling disastrously, and every succeeding dry day will tell with rapidly increasing disaster. Pasture Grass is becoming thoroughly scorched, even in the best fields, whilst for some time it has been completely withered away on light soils; hay is light everywhere, and in many places is getting dry as stubble; Wheat is coming rapidly into ear, and must now be poorly strawed, being both thin and short. The earlier sown fields of Oats and Barley are also getting into ear, and cannot be very materially benefited should rain now come; but with present rain the later fields would be greatly advantaged. And it is no slight rain that would now be really serviceable. The dry, over-heated soil would cause even a heavy shower to evaporate so rapidly, that in a few hours one could not tell where it fell. But the farmer has at present more to vex and annoy him than his scorched and withering crops. The Swedes have been sown for some time, and few comparatively have brairded, and many of these have again disappeared. We know of few fields in the county that have a close, promising braird. And what is now best to be done? is the perplexing question. A large proportion of the common Turnips remains to be sown, and the time for sowing has fully come. Some are proceeding in the usual way, and sowing their Turnips in soil dry as ashes, hoping that rain will come, and believing that when it comes the seed will start away. Others are opening the drills, and covering in the manure, and leaving the ground unsown until rain come; and others again, exercising commendable patience, are leaving the ground untouched. Potatoes are the only crop that as yet appear to bid defiance to the drought. They are coming away rapidly and vigorously. Altogether, in present circumstances, with stinted crops and unbrairded Turnips, it is no easy matter to join a neighbour of mine in saying, "We must just be content with the crops that grow to us."

## Notices to Correspondents.

BLACKS IN WHEAT: *R H.* They are the complete development of a parasitic fungus, which finds its way into the plant from the soil, and ultimately comes to reside and multiply in the young ear. It is not, like bunt, likely to infect a sample of the grain—and so the "pickling" which seed Wheat gets before sowing is directed, not against "blacks" but against bunt. It is probable that vigorous growth in the young plant may enable it to resist the attacks of this parasitic growth; and thus good cultivation is the only probable remedy.

CHARCOAL: *Regular Reader.* We shall refer to the subject next week.

ITALIAN RYE-GRASS: *Cheshire.* It will not do to continue its growth beyond the first year after sowing. It dies after seeding. Wheat does not succeed after it unless it has been most liberally dealt with as to manure. We should plough it up in October and re-plough in spring, and either sow Oats or take a green crop before Wheat.


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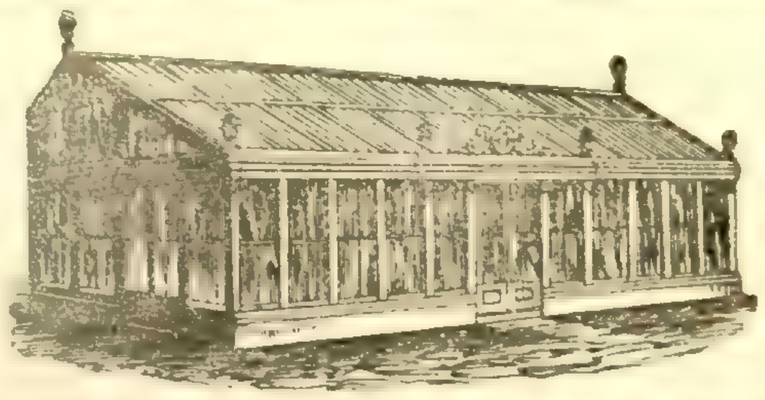

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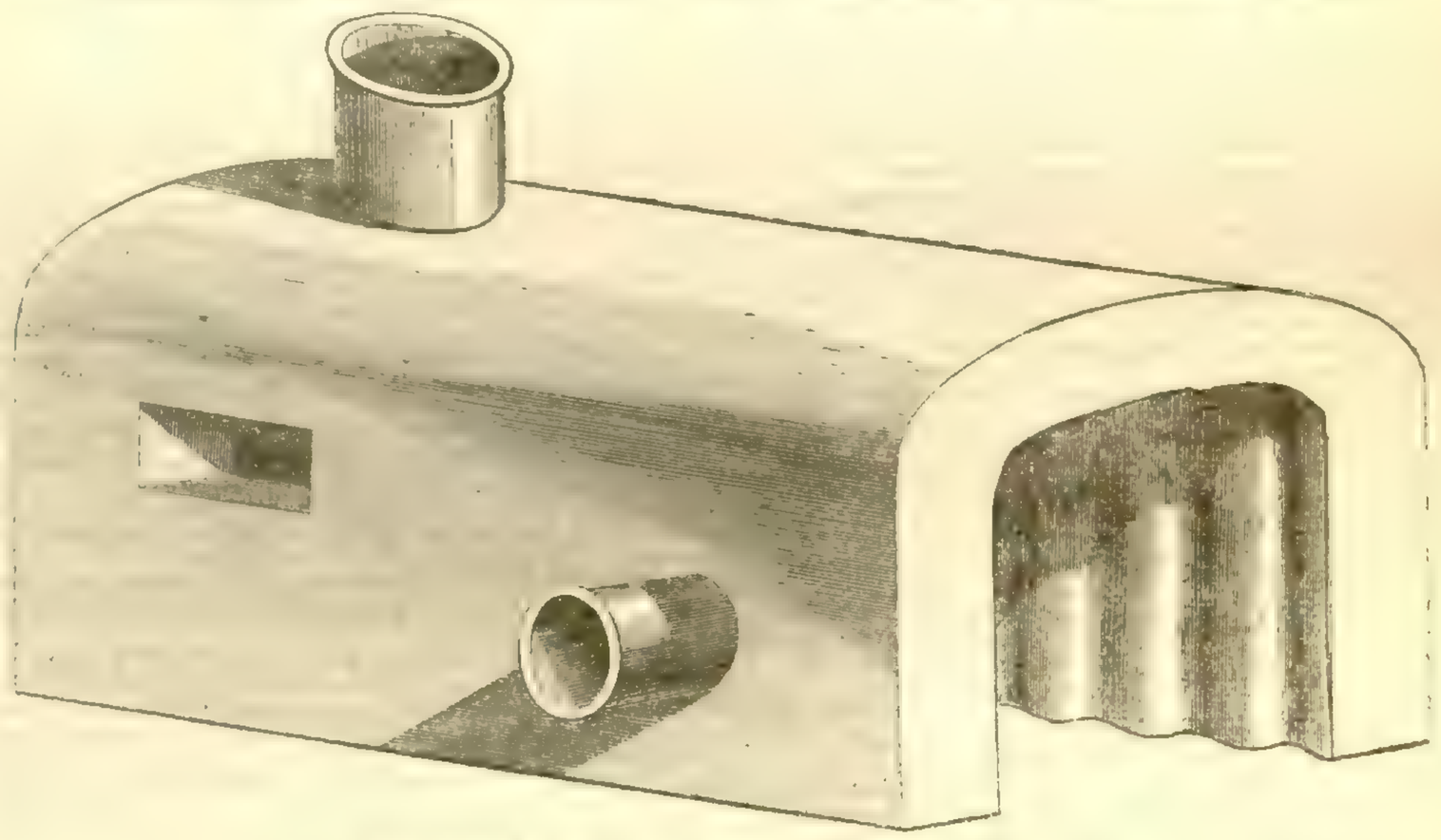

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RESPECTFULLY begs to inform the nobility, gentry, Nurserymen, Gardeners, and others, that he continues to carry on the business in all its branches at the above old established premises.

**CONSERVATORIES, GREENHOUSES, FORCING HOUSES, VINERIES, PITS, &c.,**
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J. G. begs to call attention to his CAST-IRON CORRUGATED ARCH BOILER, which from its simplicity of construction has not the liability to fracture to which those of a more complex design are always subject. They have been extensively used for many years, and have given the greatest satisfaction.

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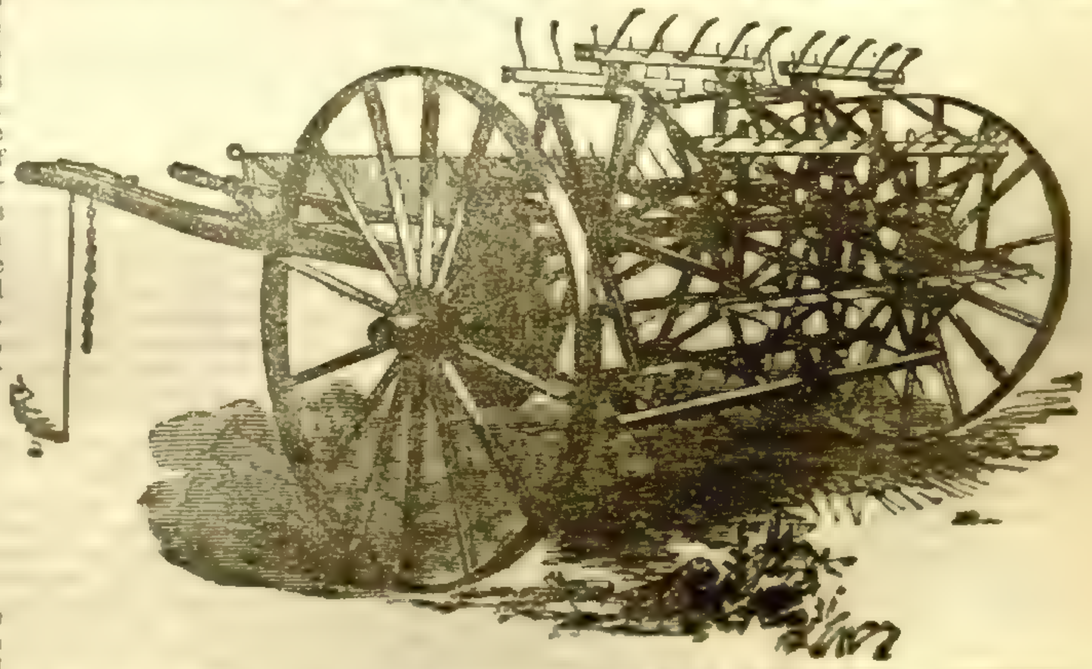

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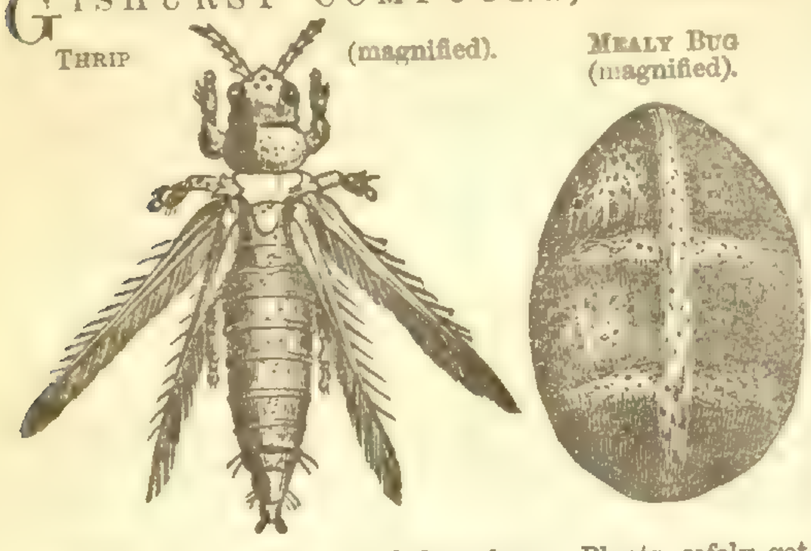
THRIP (magnified). MEALY BUG (magnified).



GREEN FLY on Roses and Greenhouse Plants safely got rid of by syringing with PATENT GISHURST COMPOUND, 2 oz. to the gallon of water.

Extract from leading article in *Gardeners' Chronicle*, April 9, '59.

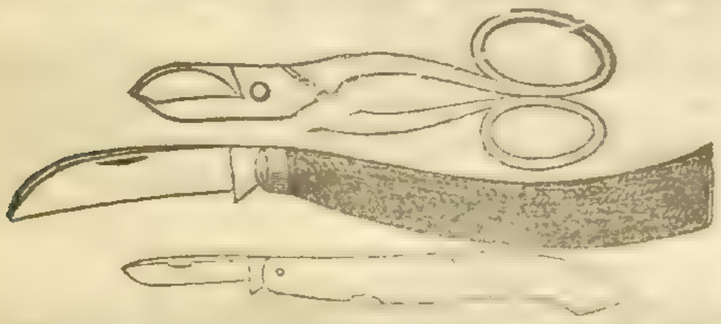
"That it really kills red spider, aphides, mealy bug, thrips, and scale, it is impossible to doubt in the face of reports of practical men, among whom we may mention Mr. D. Judd, of Althorp Gardens"—then follows a caution against the use of a too strong solution.

The Gishurst Compound is sold in boxes at 1s. 6d. and 6s. each, with directions for use, and printed opinions of Mr. Rucker's gardener, Lady Dorothy Nevill's gardener, Sir William Hooker, Mr. Rivers, and other eminent authorities. For Nurserymen the large size is recommended, but where the consumption is not large the compound keeps its strength best in the small. The undermentioned Seed Merchants, Nurserymen, &c., having taken in supplies are prepared to sell single boxes

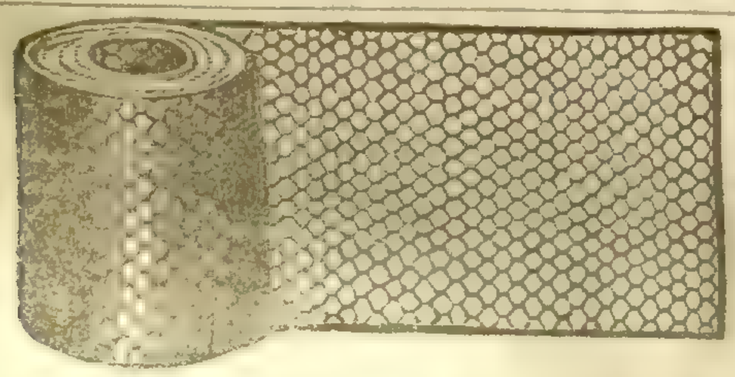
Alexander, C., Edinburgh
Bailey, G., Rugby
Barker, W., Godalming
Barnes, Thos., Thirsk.
Barratt, Bury St. Edmunds
Bass & Brown, Sudbury
Batt & Rutley, Strand
Bell & Co., Newcastle-on-Tyne
Bell, John, Norwich
Bradley & Sons, Halam Nursery, near Southwell
Brigden, T., Railway Arcade, London Bridge
Brown, D., Norwich
Bwye, H., Great Malvern
Burgess, C., Cheltenham
Caldwell, W. G., Knitsford
Cattell, J., Westerham
Chater, W., Saffron Walden
Clark, J., Cheltenham
Clark, T., 25, Bishopsgate Street Within
Cooks & Son, Dorrington, near Spalding
Cottrell, J. H., Birmingham
Cripps, T., Tunbridge Wells
Darby, R. F., Cirencester
Davies & Co., Wavertree, near Liverpool
Deane & Co., London Bridge
Denyer, Mr., Gracechurch Street, City
Dickson, Francis & Arthur and Sons, Chester
Dickson & Brown, Manchester
Dickson, Hogg, & Robertson, Dublin
Dickson & Co., Edinburgh
Epps, F., Ashford, Kent
Epps, Maidstone
Fisher, Holmes & Co., Sheffield.
Foster, W., Stroud
Gray, W., Gainsborough
Griffin, J., Bath
Harrison, J., Darlington
Hawkins, R. T., Weymouth
Henderson, E. G. & Son, St. John's Wood, London
Henderson, A. & Co., Pineapple Place, Edgeware Rd.
Hooper & Co., Covent Garden
Ivery & Son, Dorking
Jackman & Son, Woking
Jackson, Thos. & Son, Kingston
Jefferies, W. B., Ipswich
Josling, K., St. Albans
Kennedy & Co., Dumfries
Kenway, J. S., Batheaston
King, Wm., Lincoln
Laws, T., Beccles
Low, Hugh & Co., Clapton
Mackie & Stuart, Norwich
Mann, J., Brentwood
Matheson, R. C., Gloucester
May, J. & Co., 1, Wellington St.
Nelson, J., Bristol
Parsons, G., Brighton
Pattinson & Son, Hexham
Perkins, J., Northampton
Pontey, A., Plymouth
Pope, H., Gib Heath, near Birmingham
Reid, B. & Co., Aberdeen
Samson & Co., Kilmarnock
Stuart & Mein, Kelso
Sutton & Sons, Reading
Taber, G., Rivershall, Witham
Thyne, J. & R., Glasgow
Tynan, J., Liverpool
Walker, J., Thame
Whalley, T., Liverpool
Wood & Son, Maresfield
Wood & Son, Woodbridge
Wright, W., Retford

Nurserymen and Seedsmen supplied by PRICE'S PATENT CANDLE COMPANY (Limited), Belmont, Vauxhall, London, S.

## PAXTON WORKS, SHEFFIELD, ESTABLISHED 1738.



SAYNOR AND COOKE'S warranted PRIZE PRUNING and BUDDING KNIVES, SCISSORS, &c.—Sold by all respectable Nurserymen and Seed Merchants in the three Kingdoms.



BARNARD, BISHOP, AND BARNARD, Market Place, Norwich, in consequence of improvements in their machinery for the manufacture of the above article, have been enabled to make a great reduction in the prices.

| | | Galvanised. | Japanned Iron. |
|---|---|---|---|
| 2-inch mesh, 24 inches wide .. .. | | 5d. per yd. | 4d. per yd. |
| 2-inch ,, strong do. .. .. | | 6 ,, | 4½ ,, |
| 2-inch ,, intermediate, do. .. | | 7 ,, | 5½ ,, |
| 2-inch ,, extra strong, do. .. | | 9½ ,, | 7½ ,, |
| 1⅝-inch ,, 24 inches wide .. .. | | 5½ ,, | 4½ ,, |
| 1⅝-inch ,, strong, do. .. .. | | 6½ ,, | 5½ ,, |
| 1⅝-inch ,, intermediate, do. .. | | 7½ ,, | 6 ,, |
| 1⅝-inch ,, extra strong, do. .. | 10 | ,, | 8 ,, |

All the above kinds can be made of any width (under 8 feet) at proportionate prices. If the upper half is of a coarser mesh than the lower, it will reduce the prices about one-fifth.

Strong Galvanised Poultry Netting, 8½d. per yard, 3 feet wide Galvanised Sparrow-proof Netting for Pheasantries, 2½d. per square foot. Delivered free of expense in London, Peterborough, Hull, or Newcastle. Manufacturers of Improved Strained Wire Cattle and Deer Fencing, Iron Hurdles, &c.

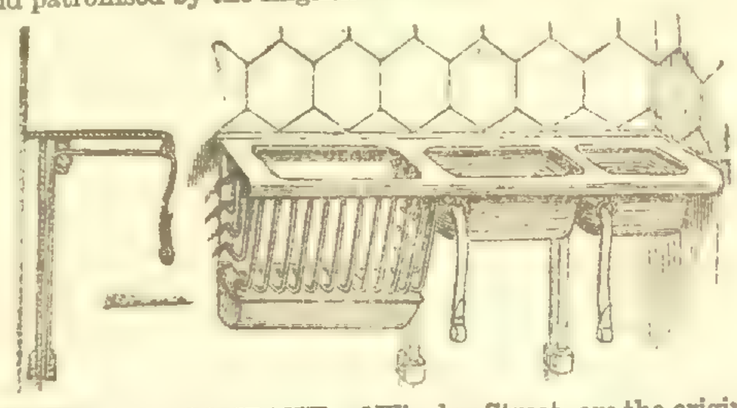
Illustrated Catalogues and Patterns forwarded by post.

## AGRICULTURAL AND HORTICULTURAL IMPLEMENTS

manufactured by RICHMOND & CHANDLER, RANSOME & SIMS, SAMUELSON, and other eminent makers, ordered from WM. DAVIES & Co., Frodsham Street Bridge, Chester, will be supplied at manufacturers' prices.

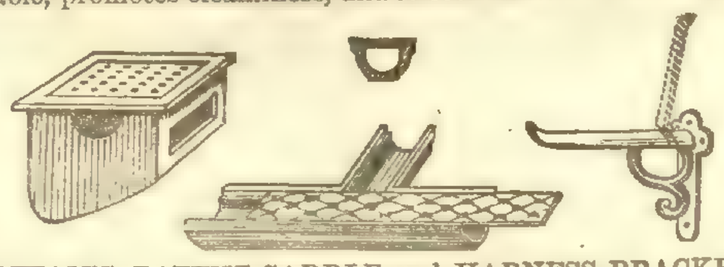
## COTTAM'S PATENT INVENTIONS FOR STABLE REQUISITES,

awarded a Prize at the Paris Exhibition, and patronised by the English and French Governments.



COTTAM AND COMPANY, of Winsley Street, are the original inventors of the PATENT ENAMELLED MANGER, Water Trough, and Wrought Iron Rack, united to an iron top-plate, and forming one complete and useful fixture, having COTTAM'S patent noiseless halter guide and collar rein attached, which is taken to the back of the manger, and works with ease and freedom up or down the guide-bar.

COTTAM'S NEW PATENT SEED-BOX, an important addition to the above fittings, being simple in construction, light, and durable, promotes cleanliness, and is economical in its results.



COTTAM'S PATENT SADDLE and HARNESS BRACKET combined, can be used with great advantage where space is an object, as it can be turned up out of the way when not in use.

COTTAM'S IMPROVED SURFACE GUTTER, with perforated moveable cover, the use of which prevents accidents, and can be easily cleaned out.

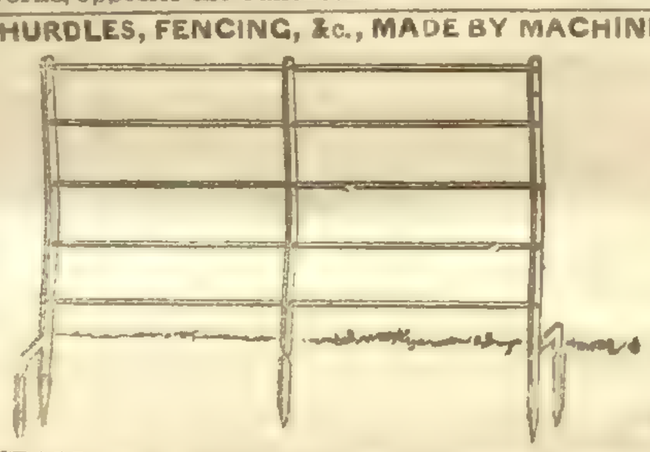
COTTAM'S CAST-IRON SANITARY TRAP, from its improved construction, gives a full water passage, and does not allow any smell to ascend from the drain.

PATENT LOOSE-BOX FITTINGS, and every article for the harness-room and stable, kept in stock, plain, galvanised, and enamelled. Iron gates, fencing, hurdles, &c.

The New Illustrated Catalogue and Estimates, gratis, upon application to COTTAM and COMPANY, 2, Winsley Street, Oxford Street.

N.B. COTTAM & Co. beg to make it known that there is no longer an entrance to their establishment from Oxford Street, but that they have made a second entrance from 2, Winsley Street, Oxford Street, W., by the side of the old entrance to their works, opposite the Pantheon.

## IRON HURDLES, FENCING, &c., MADE BY MACHINERY.



COTTAM AND COMPANY, of Winsley Street, have invented machinery for making Hurdles, &c.; the bars, instead of being pointed by hand in the old fashioned style, are nipped down by the machine, leaving a shoulder so as to more effectually tighten the standards when rivetted. They are made of superior iron only, and will compete in price with those made by hand from cinder or common iron which so frequently break. Iron Fencing, Gates, and Iron Work of all kinds, both Plain and Ornamental, Conservatories, Hot Water Apparatus and Garden Implements.

Illustrated CATALOGUES free on application to COTTAM & COMPANY, Ironfounders, 2, Winsley Street, Oxford Street, W.

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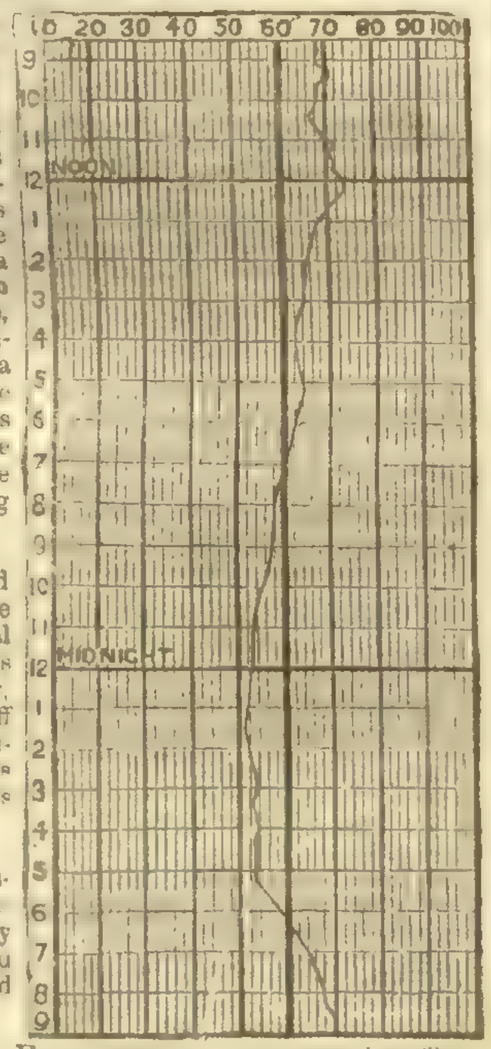
## TO HORTICULTURISTS.

## GAUNTLETT'S PATENT CHRONOMETRICAL THERMOMETER.

This instrument, which combines an eight-day clock of the best English make showing time, with a newly-patented Thermometer, wherein glass and quicksilver are dispensed with, writes down the temperature of the atmosphere on a slip of paper, and when placed in a Hothouse, Forcing House, or Conservatory, &c., supplies a valuable record of the temperature, with all its variations, showing the time when any change took place, and how long such change continued.



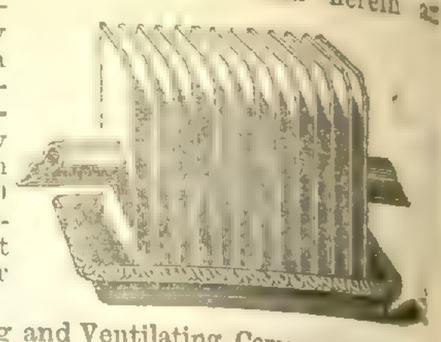

The above slip (reduced in size) exhibits the temperature of the Royal Agricultural Society's show yard at Chester, July 22, 1858, written off by one of these instruments, to which was awarded the Society's SILVER MEDAL.

This is the only instrument that registers temperature continuously and writes it down, and no horticulturist should be without it.

Orders received by W. H. GAUNTLETT, Middlesbro' on-Tees.

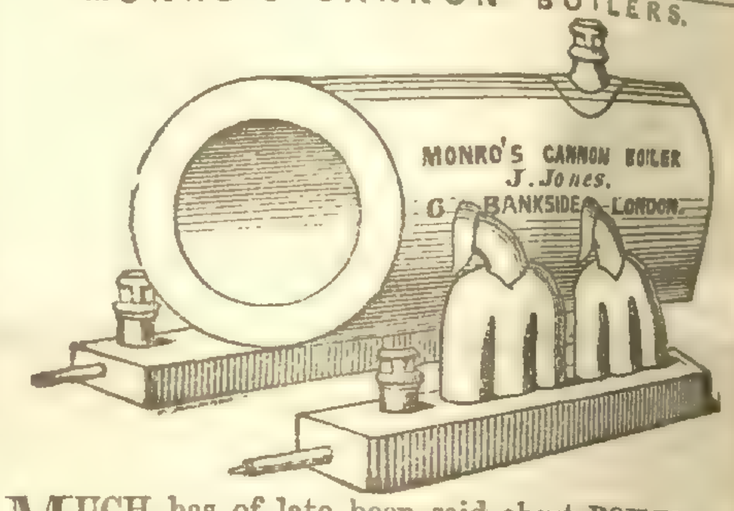
## IMPROVED HOT-WATER PIPE.

THE HORTICULTURIST will find herein an inexpensive instrument of new and very important powers. An atmosphere may be produced at will either perfectly dry, partially damp, or saturated with moisture. A space of 10 inches by 12 inches contains the power of 25 feet of 4-inch pipe and other numerous advantages.



The London Warming and Ventilating Company (Limited), 26, Great George Street, Westminster, S.W.

## MONRO'S CANNON BOILERS.




MUCH has of late been said about BOILERS for Heating by Hot Water, but these Boilers have now proved themselves to be the best at present invented. They are adapted for heating every description of building, and are made of various sizes. The Price of the

| | | | |
|---|---|---|---|
| 24-inch Cast Iron is .. .. | £5 | 10s. | 0d. each |
| 24-inch Wrought ditto .. .. | 6 | 10 | 0 ,, |
| 36-inch Cast ditto .. .. | 8 | 0 | 0 ,, |
| 36-inch Wrought ditto .. .. | 8 | 10 | 0 ,, |

References to Gentlemen and Nurserymen where these Boilers are now at work. The Cannon Boilers are now kept in stock, and are to be had only of J. JONES, 6, Bankside. Also every description of Saddle and Cylinder Boilers. Hot Water Pipes and Connections at prices lower than those of any other house in London. Estimates for Hot-water Apparatus erected complete in any part of the country, and an Illustrated Catalogue on application to J. JONES, 6, Bankside, Southwark, London.

## BEE-HIVES.

PRIZE MEDAL AWARDED TO G. N. & SONS, FOR BEE-HIVES AND HONEY, AT THE PARIS EXPOSITION OF 1855.

NEIGHBOUR'S IMPROVED COTTAGE BEE-HIVE, as originally introduced by GEORGE NEIGHBOUR & SONS, with all the recent improvements, glasses, and thermometer, price 35s., securely packed for the country.

This unique Hive has met with universal commendation, and may be worked with safety, humanity, and profit by the most timid; its arrangements are so perfect that the Honey may be taken at any time of the gathering season without at all injuring the Bees.

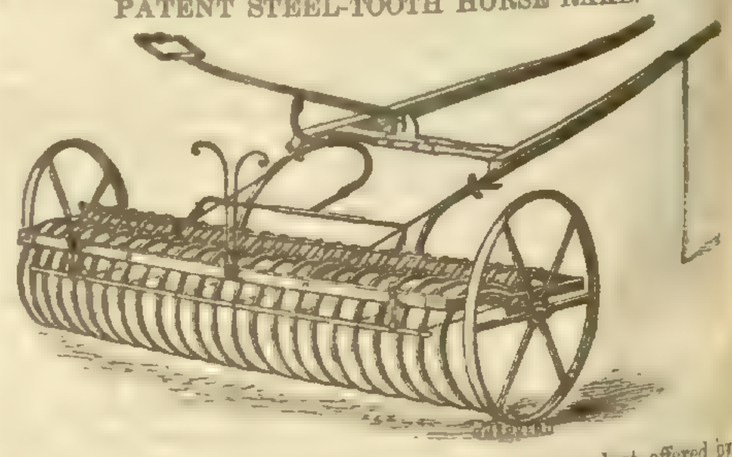
Early applications addressed to GEORGE NEIGHBOUR & SONS, 127, High Holborn, or 149, Regent Street, London, will receive prompt attention.

Their newly-arranged CATALOGUE of other Improved Hives with Drawings and Prices, sent on receipt of two stamps.

AGENTS.—Liverpool: JAMES CUTHBERT, 12, Clayton Square.
Manchester: W. WILSON, 50, King Street.
Birmingham: J. H. COTTRELL, 15, Bull Ring.
Dublin: J. EDMONDSON & Co., 61, Dame Street.

## HOWARDS' PRIZE IMPLEMENTS, 1859.

JAMES AND FREDK. HOWARD, Britannia Iron Works, Bedford, beg to direct attention to their PATENT STEEL-TOOTH HORSE RAKE.



For which they received the Three First Prizes last offered by the Royal Agricultural Society of England.

J. & F. HOWARD have discontinued troubling the Public with a long List of Prizes awarded to their Implements, but they would just state that for PLOUGHS, HARROWS, and HORSE RAKES, they have for several years gained every Prize for which they have competed.

PLOUGHS.

| | |
|---|---|
| D PLOUGH, for a Pony .. .. .. .. .. | £2 5 0 |
| DD ditto for one Horse .. .. .. .. .. | 3 5 0 |
| P ditto for two Horses .. .. .. .. .. | 4 7 0 |
| PP ditto for general purposes .. .. .. .. | 4 12 6 |
| SKIM COULTER for P or PP Plough .. .. | 0 5 6 |

HARROWS.

| | |
|---|---|
| A Set of Three 4-Beam HARROWS, with Whippletree, recommended as general Seed Harrows, 9½ feet wide, marked No. 12 .. .. .. .. .. | 3 14 0 |
| A Set of Three 4-Beam HARROWS, with Whippletree, adapted for 3 Horses, 10 ft. wide, marked No. 11 | 4 4 0 |

If with Patent Joints, 6s. per set extra.

HORSE RAKES.

| | |
|---|---|
| Small size, 7½ feet wide, marked A, with 24 iron teeth .. .. .. .. .. | 7 15 0 |
| Ditto, with Steel Teeth .. .. .. .. .. | 8 0 0 |
| Large size, 8½ feet wide, marked B, with 28 iron teeth .. .. .. .. .. | 8 0 0 |
| Ditto, with steel teeth .. .. .. .. .. | 8 10 0 |
| Extra large size, 8½ feet wide, marked C, with 24 steel teeth .. .. .. .. .. .. .. | 10 10 0 |
| A Set of 15 Prongs, to be attached to the above when used as Weed Extirpators .. .. .. .. | 1 10 0 |

Free Delivery to Birmingham, Bristol, Colchester, Derby, Gloucester, Hull, Lincoln, Liverpool, London, Manchester, Norwich, Nottingham, Retford, Shrewsbury, Wisbeach, Worcester, and York; or to Dublin, Edinburgh, Glasgow, and other parts at fixed rates.

HOWARDS' NEW CATALOGUE, containing prices and description of their Patent Ploughs, Harrows, Horse Rakes, and other Implements, including Smith's Steam Cultivators, for which they received at Chester the Gold Medal of the Royal Agricultural Society of England, sent free on application to

J. & F. HOWARD, Britannia Iron Works, Bedford

**GENUINE TOBACCO PAPER FOR FUMIGATING.**

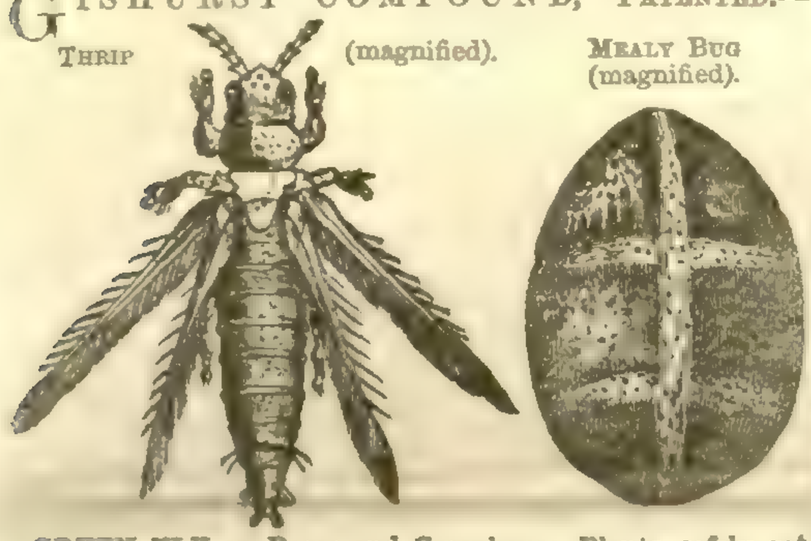
H. APPLEBY (Foreman to Messrs. Ivery & Son, Surrey), takes this opportunity of informing his patrons and the public that he is now offering the above at a very considerably reduced price. It is now sold in packets of 4 lbs. each, at 1*s.* 3*d.* per lb. A liberal discount allowed to the Trade. For testimonials that will guarantee its quality, see *Gardeners' Chronicle*, April 16, p. 333.

Sheet Iron Pots for fumigating, 3*s.* 6*d.* each.

N.B. All orders to be accompanied with a Post-office Order, payable to HENRY APPLEBY, Dorking, Surrey.

GISHURST COMPOUND, PATENTED.—

THRIP (magnified). MEALY BUG (magnified).



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Caldwell, W. G., Knitsford
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Clark, J., Cheltenham
Clark, T., 25, Bishopsgate Street Within
Cooks & Son, Dorrington, near Spalding
Cottrell, J. H., Birmingham
Crippa, T., Tunbridge Wells
Darby, R. F., Cirencester
Davies & Co., Wavertree, near Liverpool
Deane & Co., London Bridge
Denyer, Mr., Gracechurch Street, City
Dickson, Francis & Arthur and Sons, Chester
Dickson & Brown, Manchester
Dickson, Hogg, & Robertson, Dublin
Dickson & Co., Edinburgh
Epps, F., Ashford, Kent
Epps, Maidstone
Fisher, Holmes & Co., Sheffield.
Foster, W., Stroud
Gray, W., Gainsborough
Griffin, J., Bath
Harrison, J., Darlington
Hawkins, R. T., Weymouth
Henderson, E. G. & Son, St. John's Wood, London
Henderson, A. & Co., Pine-apple Place, Edgeware Rd.
Hooper & Co., Covent Garden
Ivery & Son, Dorking
Jackman & Son, Woking
Jackson, Thos. & Son, Kingston
Jefferies, W. B., Ipswich
Josling, K., St. Albans
Kennedy & Co., Dumfries
Kenway, J. S., Batheaston
King, Wm., Lincoln
Laws, T., Beccles
Low, Hugh & Co., Clapton
Mackie & Stuart, Norwich
Mann, J., Brentwood
Matheson, R. C., Gloucester
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Nelson, J., Bristol
Parsons, G., Brighton
Pattinson & Son, Hexham
Perkins, J., Northampton
Pontey, A., Plymouth
Pope, H., Gib Heath, near Birmingham
Reid, B. & Co., Aberdeen
Samson & Co., Kilmarnock
Stuart & Mein, Kelso
Sutton & Sons, Reading
Taber, G., Rivershall, Witham
Thyne, J. & R., Glasgow
Tynan, J., Liverpool
Walker, J., Thame
Whalley, T., Liverpool
Wood & Son, Maresfield
Wood & Son, Woodbridge
Wright, W., Retford

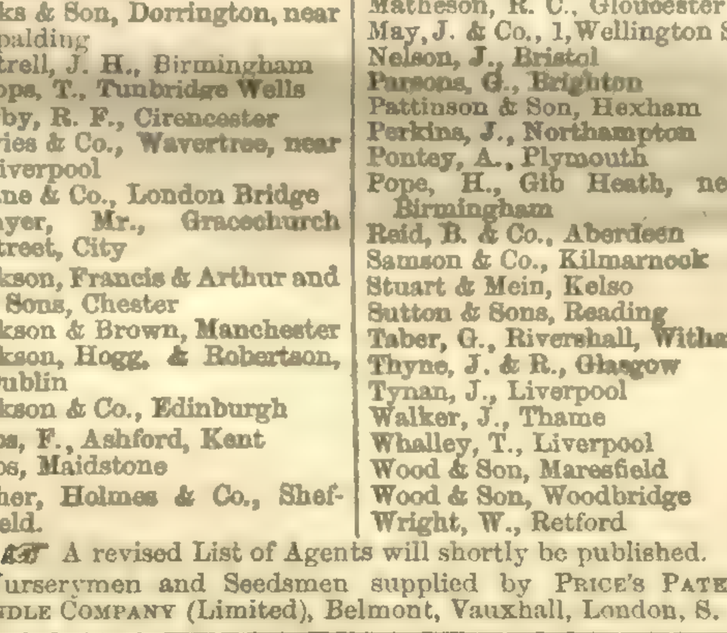
☞ A revised List of Agents will shortly be published.

Nurserymen and Seedsmen supplied by PRICE'S PATENT CANDLE COMPANY (Limited), Belmont, Vauxhall, London, S.

SIGMA'S INSECT OR GREEN-FLY POWDER, QUITE NEW AND VERY FIRST RATE.

Messrs. BURGESS & KEY, 95, Newgate Street, Wholesale and Retail London Agents. 2*s.* per lb.

**THE "MULTUM IN PARVO," ALL EXPANDING.**



C. POWELL, Hurst Green, Sussex. £7 7*s.*

A Prospectus, with large Engravings, sent on application.

**KEATING'S PERSIAN INSECT DESTROYING POWDER.**

POULTRY, DOGS, AND PLANTS are effectually freed from Fleas, and all other Vermin with which they are infested, by the above Powder, which is quite harmless to animal life. The Farmer, the Gardener, or the Sportsman, will therefore find it invaluable. Bugs, Cockroaches, Beetles, Moths in Furs, and every other species of Insect are also instantly destroyed. In packets post free, for 14, or treble size for 36 postage stamps, by THOMAS KEATING, Chemist, 79, St. Paul's Churchyard, London, E.C. Take notice each genuine packet bears the above name and address. See "THE FIELD," Oct. 2d and 9th, pp. 263, 283, and 294.

# PAGE'S COMPOSITION

FOR THE

## DESTRUCTION OF BLIGHT UPON ROSES, WALL FRUIT TREES, CUCUMBERS, MELONS, VINES, STOVE AND GREENHOUSE PLANTS.

*Extra Strong, 4s. per gallon, sufficient to make four fit for use. (Jars and Barrels charged at cost price.) Ten gallons and upwards Carriage Free to London.*

NO Journal would grant space to publish the testimonials. In 7 years it has attained great reputation is used in the principal gardens of the kingdom, and should be by every person who has a Rose bush or a Wall Fruit Tree. It destroys insect life, and produces luxuriant growth by its fertilising properties. On October 25, 1856, Professor Lindley reported upon 192 cases, 10 only of which were adverse. W. H. T. Hawley, Esq., says of it—

"For a series of years my wall fruit trees have been destroyed by a gradual decay, which I supposed proceeded from cause, affecting their roots, and I attributed it to the nature of the soil, to want of drainage, and in short every cause but the right one, which the use of your invaluable mixture proved to be the aphides attacking the leaves, which appeared as if scorched up, and the poisonous effects produced by these insects shortly extended themselves to the branches, which withered and died, and most of the trees have ultimately been quite destroyed by them. I have this year well saturated the trees with the blight mixture once—just before the blossoms made their appearance, and again when the trees were in full leaf, and the result has been that not an aphis has remained upon them; they have exhibited a thoroughly healthy appearance, and have made vigorous shoots, and have borne a plentiful crop of fruit—results which never happened previously. I may add the effects of the mixture on my Rose trees and other plants have been equally successful, and I shall much obliged to you to send me another supply before the winter closes, in time to repeat the successful experiment next spring."

LONDON AGENTS:—

HENDERSON & Co., Pine-apple Place
HOOPER & Co., Covent Garden
W. BARNES, Camden Nursery
F. HOPGOOD & Co., Shepherd's Bush
VEITCH & SON, Chelsea
CUTBUSH & SON, Highgate
G. CLARK, Streatham Place
MILNE, ARNOTT, & Co., Wandsworth Road

All the leading Provincial Nurserymen, and of the Inventors and Manufacturers,

**PAGE & TOOGOOD, Seed-Growers, 37 & 38, Oxford Street, Southampton, (adjoining Radley's, 10 yards from the Railway Station).**

*Seeds packed for Exportation to all parts of the world.*

## CARSON'S
# ORIGINAL ANTI-CORROSION PAINT,

PATRONISED BY

THE BRITISH GOVERNMENT,
THE FRENCH GOVERNMENT,
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H.R.H. THE PRINCE CONSORT,
HON. EAST INDIA COMPANY,
MOST OF THE NOBILITY AND GENTRY,
NEW RIVER COMPANY,
THE DOCK COMPANIES,
RAILWAY AND CANAL COMPANIES,
THE PRINCIPAL COLLIERIES,
MILL OWNERS,
IRON MASTERS, &c. &c.

**The ANTI-CORROSION PAINT is now used extensively for all kinds of OUT-DOOR WORK,**

Such as Iron, Wood, Stone, Brick, Compo, Cement, &c., and has been proved, after a practical test of 70 years to surpass any other Paint; *and being peculiarly adapted for Conservatories, Hothouses, and Frames of all descriptions, is constantly used by Noblemen, Gentlemen, as also many eminent Horticulturists, for such purposes.* It is much lower in Price, and lasts twice as long as the best White Lead, and can be easily applied by any Labourer, being sent in various Colours, requiring simply to be mixed (no grinding is needed). The Anti-Corrosion is a powder, and will keep any length of time.

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| White Stone | 34*s.* per cwt. | Light and Dark Lead | 28*s.* per cwt. |
| Light do. | 32*s.* ,, | Light and Dark Chocolate | |
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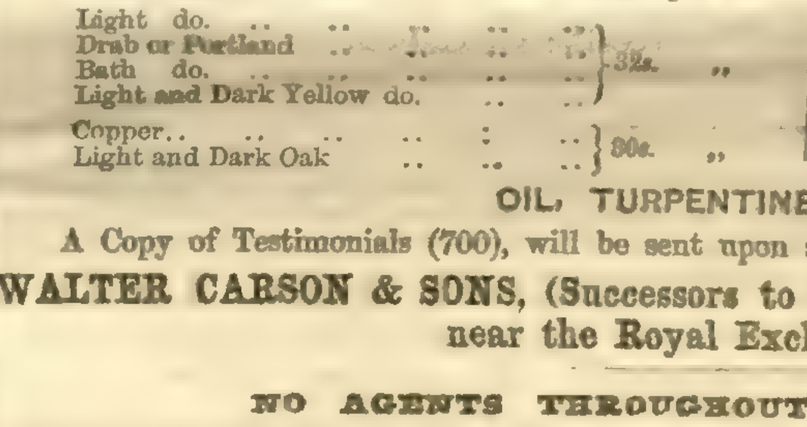
## BEETLE POISON.



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A SAFE and most effectual Destroyer of BLACK BEETLES and COCKROACHES; one trial alone will suffice to prove its great efficacy, and one box will destroy thousands. The great advantage in this preparation is, that it does not leave their bodies to decay and corrupt the air, but completely dries up and destroys them, so that nothing is left to cause an unpleasant odour when dead. *Directions for use*—Place four or five of the Balls each night where the Beetles mostly resort.—Sold in boxes at 1*s.* each, or sent free to any part of the kingdom for Twenty Stamps (or a case containing one dozen boxes sent *carriage free* on a receipt of a Post-office Order for 12*s.*), by THOMAS CHASE, Chemist, 14, Holborn, London, E. C., and may be obtained through all Chemists, Booksellers, and Medicine Vendors.

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"I have had 400 feet of your Gutta Percha Tubing, in lengths of 100 feet each, with union joint, in use for the last 12 months for watering these gardens, and I find it to answer better than anything I have ever yet tried. The pressure of the water is very considerable, but this has not the slightest effect on the tubing. I consider this tubing to be a most valuable invention for Gardeners, inasmuch as it enables us to water our gardens in about one-half the time, and with one-half the labour required."

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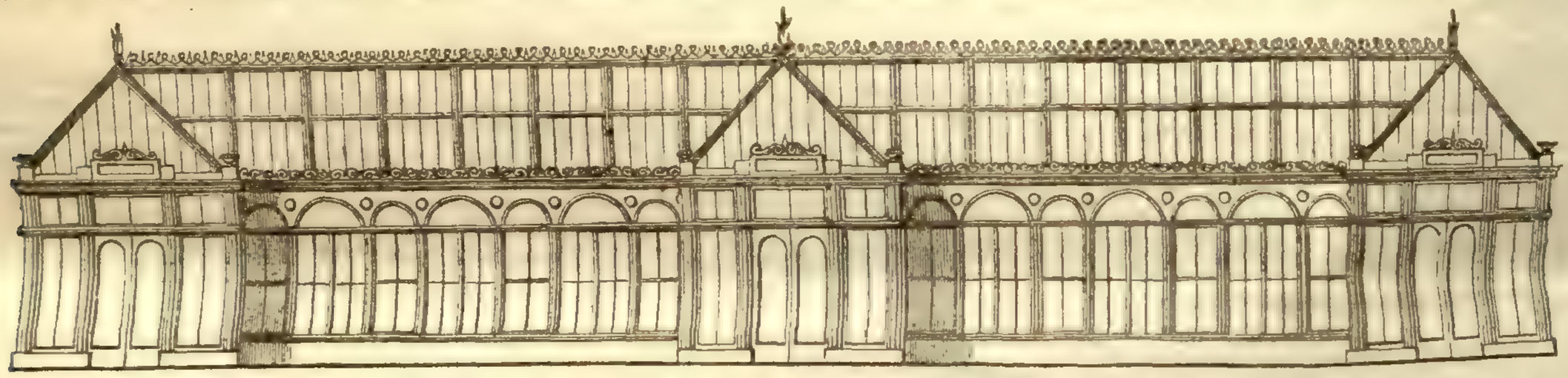

H. M'C. will furnish PLANS and ESTIMATES free of any charge whatever, or will supply WORKING DRAWINGS at a trifling cost for any Gentleman wishing to construct his own, thereby effecting a great saving.

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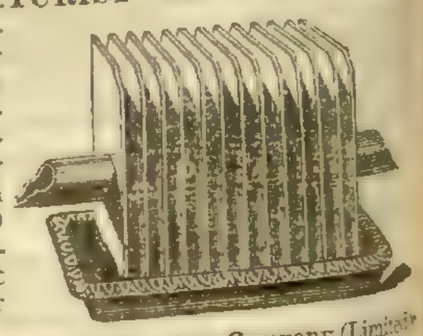
THE HORTICULTURIST will find herein an inexpensive instrument of new and very important powers. An atmosphere may be produced at will either perfectly dry, partially damp, or saturated with moisture. A space of 10 inches by 12 inches contains the power of 25 feet of 4-inch pipe and other numerous advantages.



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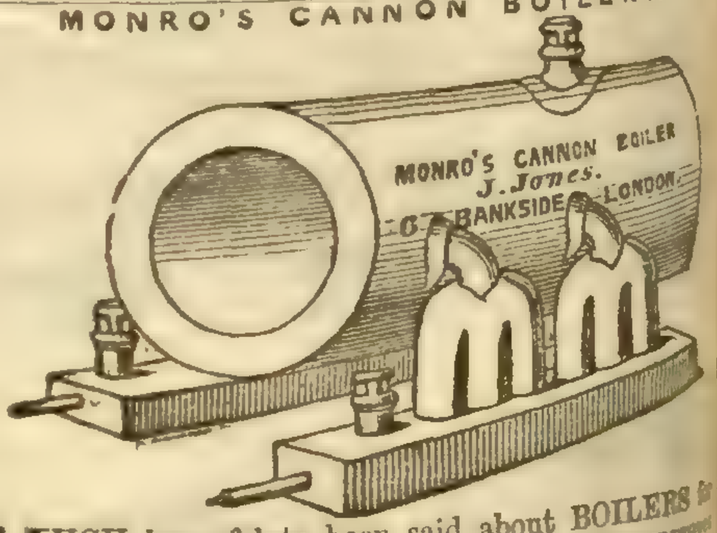


MUCH has of late been said about BOILERS for Heating by Hot Water, but these Boilers have now proved themselves to be the best at present invented. They are adapted for heating every description of building, and are made of various sizes. The Price of the

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| 24-inch Cast Iron is | .. .. .. | £5 10s. 0d. | each |
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References to Gentlemen and Nurserymen where the Boilers are now at work. The Cannon Boilers are now kept in stock, and are to be had only of J. JONES, 6, Bankside. Also every description of Saddle and Cylinder Boilers. Hot Water Pipes and Connections at prices lower than those of any other house in London. Estimates for Hot-water Apparatus erected complete in any part of the country, and an Illustrated Catalogue on application to J. JONES, 6, Bankside, Southwark, London.

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**JOHN WARNER AND SONS**, Crescent, Jewin Street, London.—GALVANISED IRON TUB GARDEN ENGINE, with WARNER'S Registered Spreader, is strongly recommended, for durability and low price, viz., 10 gallons, 2*l*. 15*s*.; 16 gallons, 3*l* 15*s*.; 24 gallons, 5*l*.; or in strong oak tub, 14 gallons, 5*l*. 10*s*.; 24 gallons, 6*l*. 18*s*. May be obtained of any Ironmonger or Plumber in town or country, or of the patentees and Manufacturers; as also Machinery of all kinds for raising Water from any depth to any height by Steam, Horse, or Manual Power. Prices sent on application.

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**GARDEN ENGINES AND SYRINGES.**

**J. TYLOR AND SONS**, Warwick Lane, Newgate Street, London, E.C., beg to call attention to their very superior manufacture of GARDEN ENGINES and SYRINGES.

Fig. 598. J. TYLOR & SONS' BARROW GARDEN ENGINE in best well painted Oak tub, fitted with J. TYLOR & SONS' Improved Brass Pump, Universal Joint, and Registered Spreader, which answers the purpose of the separate rose, fan, and jet.

CONTENTS OF TUB:—

| 10 gallons | 15 gallons | 28 gallons |
|---|---|---|
| £4 10 0 | £5 10 0 | £6 18 0 |

Fig. 599. do. TINNED IRON TUB.

CONTENTS OF TUB:—

| 8 gallons | 12 gallons | 16 gallons | 24 gallons | 30 gallons |
|---|---|---|---|---|
| £2 15 | £3 5 | £4 | £5 | £5 18 |

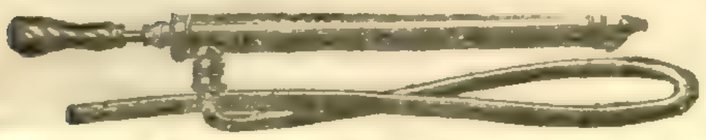

Fig. 618. No. 1. REGISTERED SYRINGE, with India-rubber suction tube, one rose and jet .. .. £1 5 each.
No. 2. Ditto ditto 1 1 ,,
Telescope Branch Pipe for ditto ,, .. 0 10 ,,

Fig. 619. GARDEN SYRINGE, with one rose and jet, 12*s*. 6*d*. each
,, 620. Ditto ditto 11*s*. 6*d*. ,,
,, 621. Ditto ditto 10*s*. 6*d*. ,,
,, 622. LADIES' GARDEN SYRINGE, with one rose & jet, 8*s*.

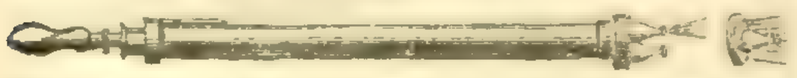

Fig. 623. READ'S SYRINGE, with two roses and one jet, 18*s*. 6*d*.
,, 624. READ'S SYRINGE, with one rose and jet .. 16 6
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Manufacturers of Pumps and Well Engines (for shallow or deep Wells), Plumbers' Brass Foundry of every description. High Pressure Cocks and Closets, Copper and Tinned-iron Baths, Garden and Fire Engines, Lamps of every description, Copper Goods, &c. Estimates given for Hot-water and Bath Apparatus

**PRICES REDUCED.**

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**GALVANISED IRON ROOFING**

for Farm Buildings and other Roofs; the cheapest, most durable, and neatest Roofing in use; also Spouting at 10½*d*. per yard.

**WIRE STRAND CABLE FENCING**

(formed of Twisted Wires like a rope or cable), the strongest cheapest, and neatest fence in use, will resist the largest cattle, and will not bend or get out of form by trespassing upon or over. Price, with five lines of the Galvanised Strand, iron main posts, and pronged Standards, 1*s*. 2½*d*. per yard.

This fence is far cheaper than posts and rails, or any kind of iron fencing; and possesses four times the strength of solid bars. Will not rust nor corrode. Upwards of 1200 miles of this Fencing supplied.

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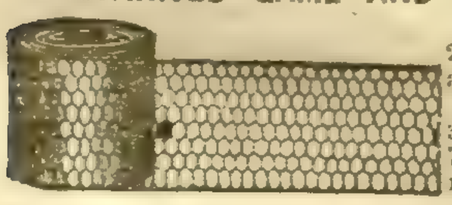

Galvanised, 24 ins. wide, 2-inch mesh, 5½*d*., 7½*d*. and 9½*d*. per yard.

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Strong CATTLE HURDLES from 2*s*. per yard.

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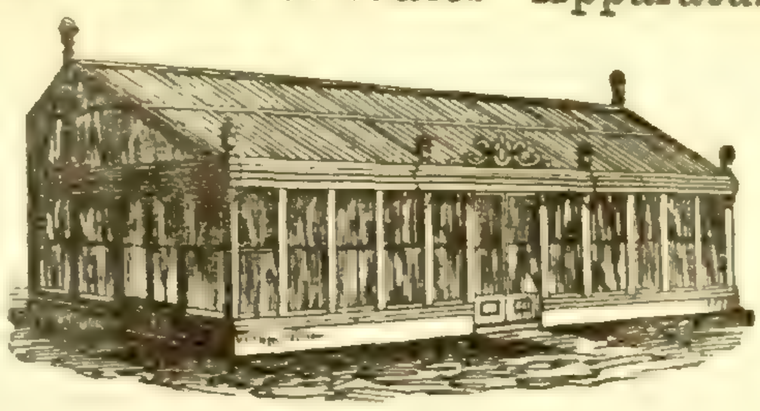
Our economic Heating Apparatus combines great power with simplicity of construction, a Range of Houses being Heated as easily as the smallest Fit.



Two Hundred Cucumber Boxes and Lights, and from Three to Four Hundred Lights of all sizes kept in stock, glazed and painted complete, ready for immediate use.

*References to the Nobility and Gentry in most of the Counties in England.*

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# HORTICULTURAL TOOLS.

GARDEN ENGINES, Galvanized Iron
Prices 55s., 63s., 105s., 120s.
Ditto, Wood, 84s,, 105s, 130s.
Flower Stands, 4s. 6d. each.
Cast Iron Ornamental ditto, to hold 7 Vases, 27s.
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Wire Work, 18in. 4d. per yard run.

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## STANDARD SETS OF FOWLER'S STEAM-PLOUGHING TACKLE

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No. 11 variety, Strong Poultry and Chicken Proof Fence.

SPECIFICATION.—Horizontal bars of stout tough wire 6 inches apart. Meshes at the foot of fence, 1 inch apart; at the centre of fence, 2 inches; at the top of fence, 4 inches.

"By far the most elegant and durable wire fencing that has come under our notice. Below it is sufficiently fine to be proof alike against the ingress of rats and the egress of chickens, and being spiked above it affords no resting-place for the fowls, who consequently do not attempt to fly over it."—*Poultry Book.*

PRICES PER YARD:—

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| 3 feet high, | 1*s*. 6*d*. | japanned; | 1*s*. 10*d*. | galvanised. |
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**G. & CO.'S NEW ILLUSTRATED CATALOGUE**

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It contains descriptions of the above and other Iron and Wire Fences for Parks, Farms, Gardens, Game Preserves, Poultry Courts, &c.

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# CALCEOLARIAS AND CINERARIAS.

## JAMES CARTER & CO.

Are now ready to supply Seed of the above, in three-sized packets, *all of the same quality,*

1s. ... 2s. 6d. ... 5s.

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In seed packets at 2*s.* 6*d.* each kind. The superior quality of the above may be seen in the fine varieties from which the seed is produced, as they are bloomed in the Wellington Nursery at their respective seasons. The CALCEOLARIAS and CINERARIAS of the present year are much finer than those of any previous one.

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ARRANGED on a new and original plan, with copious Descriptive and Cultural Notes, and containing many new and rare species and varieties not found in any other Catalogue, now ready and may be had free and post paid on application.

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We may also state that the Sardinian correspondent of Messrs. JAMES CARTER & Co., whose Seeds, especially Carnations and Picotees, have given such universal satisfaction, has transferred the Agency from that firm and appointed us his representative in this country. To meet the growing demand for first class flowers, particularly FLORISTS' FLOWERS, we have adopted our usual maxim of charging the lowest possible prices.

Professor LINDLEY in the *Gardeners' Chronicle* of February 5th, has the following notice of B. & McC.'s Catalogue.

"BUTLER & McCULLOCH'S (Covent Garden) Spring Catalogue of Choice Flower, Shrub, Tree, and Vegetable Seeds. This list fills 84 closely printed 8vo pages, and is remarkably well got up. It appears that the correspondent in Sardinia, who formerly supplied one of the great London houses with seeds raised in that warm part of Europe, has now transferred what he saves to Messrs. BUTLER & McCULLOCH. Let us add, that it yields to no Trade List in the abundance of its materials or the excellence of its arrangements."

SPLENDID DOUBLE ITALIAN-SAVED CARNATION AND PICOTEE SEED, IN SEALED PACKETS,

FROM ONE OF THE CHOICEST COLLECTIONS IN EUROPE.

The following collections of Carnations and Picotees have been saved with the greatest care by our Sardinian correspondent, a most successful and distinguished amateur, and only from the most perfect flowers of the newest and handsomest of the English stage varieties, or seedlings from them: they can be confidently recommended to the lovers of this exquisitely beautiful class of plants, as certain to produce at least 80 per cent. of fine double flowers, and with a fair chance of obtaining varieties of the greatest value. The Perpetual or Tree kind is comparatively a new class of Carnations and Picotees; they bloom beautifully in the open ground, during the whole of the Autumn months; and, if grown in pots, are highly ornamental in the Conservatory or Greenhouse in Winter and Spring.

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| Self or one-coloured, in 12 beautiful vars. | | of 10 seeds each | | 5 | 6 |
| Do. | do. | of 5 | do. | 3 | 0 |
| Flake or Striped | do. | of 10 | do. | 6 | 0 |
| Do. | do. | of 5 | do. | 3 | 6 |
| Bizarre or three-coloured | do. | of 10 | do. | 6 | 0 |
| Do. | do. | of 5 | do. | 3 | 6 |
| Fancy Coloured | do. | of 10 | do. | 5 | 6 |
| Do. | do. | of 5 | do. | 3 | 6 |
| Yellow Bizarre and Self | do. | of 10 | do. | 7 | 0 |
| Do. | do. | of 5 | do. | 4 | 0 |
| Yellow Flake | do. | of 10 | do. | 7 | 0 |
| Do. | do. | of 5 | do. | 4 | 0 |
| Yellow Fancy | do. | of 10 | do. | 7 | 0 |
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Choice Mixed, 2*s.* per packet.—Fine Mixed, 1*s.* per packet.

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|---|---|---|---|---|---|
| Perpetual Self or one-coloured, in 12 beautiful varieties | | | of 10 seeds each | 5 | 6 |
| Do. | do. | do. | of 5 do. | 3 | 0 |
| Perpetual Flake | do. | do. | of 10 do. | 5 | 6 |
| Do. | do. | do. | of 5 do. | 3 | 0 |
| Pepetual Fancy | do. | do. | of 10 do. | 5 | 6 |
| Do. | do. | do. | of 5 do. | 3 | 0 |

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| White, margined with various colours, in 12 beautiful varieties | | | of 10 seeds each | 6 | 0 |
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Do. do. 5 do. .. .. .. 3 6

Perpetual, choice mixed, 2*s.* per pkt. Fine mixed, per pkt. 1 0

Dried petals from Sardinia, such as the above, may be expected to produce, may be seen at our place of business.

CALCEOLARIA.

| | |
|---|---|
| Herbaceous, saved from the choicest hybridised flowers, in packets, 1*s.*, 1*s.* 6*d.* and .. .. .. .. .. | 2 6 |
| Half Shrubby, saved from the newest and most beautiful flowers of this exceedingly interesting class. The flowers are smaller and in clusters, the habit more dwarf and compact than the herbaceous varieties, in packets, 1*s.*, 1*s.* 6*d.*, and .. .. .. .. .. | 2 6 |
| Agents for Dobson & Sons splendid hybridised varieties, in packets, 1*s.* 6*d.*, 2*s.* 6*d.*, 3*s.* 6*d.*, and .. .. .. | 5 0 |

CINERARIA.

| | |
|---|---|
| Saved from a splendid collection, composed of the newest and most beautiful of this class, in packets, 1*s.*, 1*s.* 6*d.*, and .. .. .. .. .. .. | 2 6 |
| Agents for F. & H. Smith's splendid collection, in packets, 1*s.* 6*d.*, 2*s.* 6*d.* and .. .. .. .. .. | 5 0 |

PRIMULA.

| | |
|---|---|
| Saved from splendid flowers, in packets, 1*s.*, 1*s.* 6*d.*, and | 5 0 |
| Agents for F. & H. Smith's, do. 1*s.* 6*d.*, 2*s.* 6*d.*, and | 5 0 |

DOUBLE HOLLYHOCK.

| | |
|---|---|
| 20 packets, embracing the newest and most beautiful named prize varieties.. .. .. .. .. .. | 5 0 |
| 12 packets do do. do. .. | 3 6 |
| The same mixed .. .. .. .. .. .. .. | 1 0 |

CRYPTOMERIA JAPONICA.—An exceedingly Ornamental Coniferous Tree, suitable for Lawns or Pleasure Grounds. Seeds sown in the open ground germinate freely, and make more handsome specimens than "worked" plants, 1*s.* per packet.

BUTLER & McCULLOCH, Covent Garden Market.


## HORTICULTURAL SOCIETY.

I. Notice is hereby given, that a Special General Meeting will be held in the rooms of the Society of Arts, John Street, Adelphi, on THURSDAY, July 7, at 11 o'clock A.M., to consider an arrangement with her Majesty's Commissioners of the Exhibition of 1851, for leasing to the Horticultural Society 20 Acres of Ground at Kensington Gore upon terms and for objects, to be then explained.

II. CHANGE OF ENTRANCE TO THE GARDEN.—The Council have directed that the Gate leading into the Garden from the Duke of Devonshire's road shall be closed; and that, in future, the principal entrance shall be at the National School Gate, immediately opposite the Church on Turnham Green.

III. MEETINGS OF THE FRUIT COMMITTEE.—Notice is hereby given, that the Meetings of this Committee for the next three months will be held at 8, St. Martin's Place, Trafalgar Square, at 3 P.M., on TUESDAY, JULY 12,

TUESDAY, AUGUST 9 | TUESDAY, SEPTEMBER 20.

At the Meeting on August 9, a Prize of One Guinea will be awarded for the best EARLY SEEDLING PEACH or NECTARINE, if found to possess sufficient merit. The fruit should be accompanied by two or three of the full-grown leaves.

On September 20 a Prize of Two Guineas will be awarded for the best SEEDLING GRAPE; a Prize of One Guinea will also at this Meeting be given for the best dish of SEEDLING STRAWBERRIES.

Blank forms to be filled up and sent with Seedling or other Fruits may be obtained on application to Mr. ROBERT THOMPSON, Secretary to the Fruit Committee, Horticultural Society's Garden, Chiswick, London, W.

N.B. The carriage of packages of Fruit will be paid. They should be directed "To the Secretary to the Fruit Committee, 8, St. Martin's Place, Trafalgar Square, London;" and should be delivered before 1 P.M. on the respective days of meeting.

IV. At a meeting held in the rooms of the Society of Arts, on Tuesday, June 21, the following gentlemen were elected Fellows, viz.:—

| | |
|---|---|
| E. P. Sells, jun., Highbury Park, West | G. F. Wilson, Esq., Belmont, Vauxhall |
| W. S. Dixon, Esq., 1, Dixon Street, Glasgow | B. Noakes, Esq., Hope Cottage, North Hill, Highgate |

A ballot took place for the undermentioned plants, which were declared to have been gained by the following Fellows, viz.:

**Pinus from Popocatapetl, 7 Plants. 14 Applicants.**

| | | |
|---|---|---|
| Mr. Wm. Cotterell | Mr. Fisher Godwin | Col. Leslie |
| Mr. Charlwood | Earl of Leicester | Lady Rolle |
| | Mr. J. Veitch, jun. | |

Pinus Regeliana, 9 Plants. 21 Applicants.

| | | |
|---|---|---|
| Capt. Best | W. J. Lloyd, Esq. | Rev. T. Stainforth |
| Mr. J. R. Challice | J. G. Parry, Esq. | Mr. J. Veitch, jun. |
| Sir C. Lemon | Lady Rolle | Lord Vernon |

Pinus Calabra, 13 Plants. 31 Applicants.

| | | |
|---|---|---|
| Mr. W. Barron | A. S. Gladstone, Esq. | Earl of Scarborough |
| W. Childers, Esq. | Rt. Hanbury, Esq. | Mr. J. Shaw |
| Arthur Currie, Esq. | Wm. Hunt, Esq. | Mr. J. Veitch, jun. |
| Sir P. Egerton | Lady Rolle | Lord Vernon |
| | C. B. Warner, Esq. | |

**Pinus Brutia, 17 Plants. 28 Applicants.**

| | | |
|---|---|---|
| Capt. Best | J. Fielden, Esq. | Col. Leslie |
| Robt. Capper, Esq. | Mr. J. Garaway | Earl of Scarbrough |
| Mr. J. R. Challice | Dr. Henderson | Mr. J. Shaw |
| Fredk. Chatfield, Esq. | Wm. Hunt, Esq. | Sir W. C. Trevelyan |
| Sir Philip Egerton | Mr. J. Ivery | Lord Walsingham |
| | Rev. W. B. Lee | Lady C. Wellesley |

Wistaria sinensis alba, 30 Plants. 53 Applicants.

| | | |
|---|---|---|
| Edw. Banks, Esq. | Jas. Heywood, Esq. | Sir F. Shuckburgh |
| J. E. Bartlet, Esq. | W. H. Hughes, Esq. | J. S. Smith, Esq. |
| E. Brown, Esq., Oakhill | Col. Mason | A. J. R. Stewart, Esq |
| W. F. Lindsay Carnegie, Esq. | P. Nelson, Esq. | J. Straith, Esq. |
| R Crawshay, Esq. | G. H. Packe, Esq. | Lady L. Tennisson |
| Lord Egerton of Tatton | A. F. Paxton, Esq. | J. N. Walker, Esq. |
| W. J. Etches Esq. | W. J. Phelps, Esq. | Lord Walsingham |
| Hon F. L. Gower | E. P. Richards, Esq. | J. C. Whiteman, Esq. |
| | Col. Richardson | Miss Wilson |
| | G. S. Ridgway, Esq. | G. Wood, Esq. |
| | R. Rogers, Esq. | J. Deacon, Esq. |

The following plants, of which there was a sufficient number to supply all the Fellows who applied for them, were also ordered to be distributed:—

| | Applicants | | Applicants |
|---|---|---|---|
| Pinus Don Pedri .. .. | 93 | Bambusa gracilis .. .. | 33 |
| Abies, sp. from Mexico .. | 15 | Platycodon chinensis .. | 21 |
| Cupressus Macnabiana .. | 49 | Seedling Camellias .. .. | 41 |
| ,, Lawsoniana .. | 67 | Buddlea, sp. from Peru .. | 18 |
| Pentstemon, from Mexico | 47 | Sida malvæfolia .. .. | 18 |
| Veronica decussata Devon. | 31 | Clematis microphylla, var. leptophylla .. .. | 26 |
| Aralia japonica .. .. | 15 | Seeds of Sikkim Rhododendron .. .. .. | 41 |
| Eurybia quercifolia .. .. | 9 | | |
| Pomaderris phillyreæfolia .. | 10 | | |

V.—NEXT ORDINARY MEETING FOR ELECTION OF FELLOWS AND BALLOT FOR PLANTS.—Notice is hereby given that the next Ordinary Meeting will be held in the rooms of the Society of Arts, in the Adelphi, on TUESDAY, JULY 19th; the Chair to be taken at 11 o'clock, A.M. On this occasion a third Ballot for plants will take place.

*List of Plants for Ballot.*

100 "NERGALI," OR HILL BAMBOO OF THE PUNJAUB. Hardy herbaceous plant.
50 CUPRESSUS MACNABIANA. Hardy tree.
50 CUPRESSUS LAWSONIANA. Hardy tree.
50 CUPRESSUS TORULOSA. Hardy tree.
50 ABIES SMITHIANA. Hardy tree.
30 PINUS PATULA. Half-hardy tree.
20 PINUS DON PEDRI. Hardy (?) tree.
20 PINUS BRUTIA. Hardy tree.
80 STATICE BRASSICÆFOLIA. Greenhouse herbaceous plant.
30 HESPEROMELES, SP. from Mexico. Half-hardy shrub.
40 BERBERIS, SP. from Pichincha. Half-hardy shrub.
20 TECOMA LATROBEI. Greenhouse climber.
40 SPIRÆA CALLOSA. Hardy shrub.
30 SCLEROTHAMNUS DIFFUSUS. Greenhouse shrub.
30 BOUVARDIA LONGIFOLIA. Greenhouse shrub.
40 CALLISTEMON RUGULOSUM. Greenhouse shrub.
40 BUDDLEA, SP. from Peru. Greenhouse shrub.
40 PENTSTEMONS, SP. from Peru. Hardy herbaceous plants.
50 SEEDLING CAMELLIAS.
50 BAMBUSA GRACILIS. Hardy herbaceous plant.
40 CUPRESSUS GOVENIANA. Hardy tree.
30 CUPRESSUS CASHMERIANA. Hardy tree.

Fellows of the Society desirous of obtaining any of these plants are requested, if they are subscribers of 4 guineas a year, to name the *four* sorts they would prefer; or, if subscribers of 2 guineas a year, to name *two* sorts. Should there be more applications for any particular plant than the number prefixed to its name in the List, a Ballot will then take place to determine which applicants are to be supplied. The arrangements for conducting this Ballot render it necessary that the names of the plants to be drawn for, should be sent to the Office of the Society, 8, ST. MARTIN'S PLACE, W.C., at the latest by Saturday, July 16.

VI.—FURTHER MEETINGS OF COUNCIL, 1859-60.

1859.—July 22, August 19, September 23, October 21, November 18, December 23.

1860.—January 20, February 24, March 23, April 20.

**ORCHIDS.**

THOMAS JACKSON AND SON having determined [illegible] reducing their extensive collection of Orchids, have resolved to offer them at extremely low prices; for instance, they now offer 12 good plants, selected from the under named (or their selection), for 2*l.* 10*s.*, or the 20 for 4*l.*, package included:—Aerides odoratum, majus, A. roseum, Barkeria spectabilis, Brassavola glauca, Calanthe vestita, Cattleya Mossiæ, Cirrhopetalum lucidum, Dendrobium aggregatum, D. chrysanthum, D. densiflorum, D. nobile, Epidendrum primulinum, Lycaste macrophylla, Miltonia spectabilis, Odontoglossum grande, Oncidium ornithorhynchum, Oncidium leucochilum, O. papilio, Stanhopea oculata, S. tigrina, and the new and rare sorts at equally reduced prices. Post-office Orders to be made payable at Kingston-on-Thames, Kingston, S.W.

**CHOICE SEEDS.**

MESSRS. PARKER AND WILLIAMS beg to inform ther friends and patrons that they can now supply the following choice SEEDS, all of which are warranted genuine and of the finest quality.

| | Per packet—*s. d.* | | Per packet—*s. d.* |
|---|---|---|---|
| Calceolaria, herbaceous | 2 6 | Gaillardia grandiflora | 0 6 |
| Cineraria from named vars. | 2 6 | Primula sinensis, mixed | 1 6 |
| Clianthus Dampieri | 2 6 | Pansy, from named vars | 1 0 |
| Hollyhock, from named vars. | 0 6 | Sweet William, from extra fine vars. | 0 6 |

Paradise Nursery, Seven Sisters and Hornsey Roads, Holloway, London, N.

**SPLENDID CINERARIAS.**

F. AND A. SMITH are now sending out Seed of their fine COLLECTION of the above, which for brilliancy of colour profuseness of flowering, and compactness of growth, are unsurpassed. Great care has been taken to select only the very best for Seed from upwards of 10,000 of the finest produced in the country, some of which were exhibited at the Spring Meetings of the Botanic Society, obtained certificates of merit, and were much admired. In packets 1*s.* 6*d.*, 2*s.* 6*d.*, and 5*s.* each in stamped envelopes, and may be had of most respectable Seedsmen in the United Kingdom.—Dulwich, Surrey, S.

**ROYAL SOUTH HANTS SEED ESTABLISHMENT,**

UNDER THE PATRONAGE OF H.R.H. THE PRINCE CONSORT, THE AGRICULTURAL AND HORTICULTURAL SOCIETY OF INDIA, AND THE LEADING AGRICULTURISTS OF THE UNITED KINGDOM.

NEW TURNIP SEEDS, 6*d.* per lb.

Carriage free, parcels under 20 lbs. excepted.

PAGE AND TOOGOOD have harvested a fine stock of HARDY GREEN ROUND TURNIP, which is ready for immediate delivery. They have yet a few of their

IMPROVED SKIRVING'S SWEDES at 6*d.* per lb.
PAGE'S IMPROVED PURPLE-TOP do. at 8*d.* do.
JEFFERY'S OR SUSSEX do. at 9*d.* do.
SCOTCH HYBRIDS, 7*d.* per lb.
YELLOW TANKARD, 7*d.* do.
POMERANIAN WHITE GLOBE, 6*d.* per lb. and also
PAGE'S IMPROVED RED GLOBE, 8*d.* per lb., which W. Baker, Esq., Purewell, says is preferred by his beasts and sheep to any he has grown; it is quite hardy, and less injured by Fly than other sorts.—PAGE & TOOGOOD, Seed Growers, 37, and 38, Oxford Street, and 58, Above Bar, Southampton.



# The Gardeners' Chronicle.

*SATURDAY, JULY 2, 1859.*


**MEETINGS FOR THE FOLLOWING WEEK.**

MONDAY, July 4—Entomological ..... 8 P.M.
WEDNESDAY, — 6—Royal Botanic ..... 2 P.M.

IT is no secret that the gentleman who so ably conducts the agricultural department of this Journal is Mr. JOHN CHALMERS MORTON, the editor of an excellent Cyclopædia of Agriculture. It has also become notorious that a Mr. JOHN LOCKHART MORTON, also a writer on agriculture, has been committed for trial on a charge of forgery. We therefore think it necessary to state publicly that there is no kind of connection or relationship between the last person and Mr. J. C. MORTON. The ancestors of the latter gentleman's father have been farmers for generations in the county of Fife, while those of his mother have been for the most part clergymen of the Scotch Church in the same county; the late Dr. CHALMERS being her brother.

As to the person committed for forgery, he is believed to be a Lanark man, and at all events resembles Mr. J. C. MORTON in nothing whatever beyond his name.

THE negotiations between the Royal Commissioners of the Exhibition of 1851 and the Council of the Horticultural Society, to which we alluded lately (p. 504), have now arrived at something like a conclusion, and a general meeting of the Society has been summoned for Thursday next, when the Council will be prepared to lay before the Fellows the reply to their application.

It is understood that the Royal Commissioners have had under their consideration the propriety of granting to the Society a lease of 20 acres of land at Kensington Gore.

Although it is not so stated in the advertisement we believe that no objection will be made to the presence of strangers at the meeting on Thursday.

IT will have been seen from our report of the great ROSE SHOW held last week that, with one exception, not a single new variety was exhibited separately. That however was a fine one; and STANDISH'S Eugene Appert promises to take rank among the best.

How is this absence of novelty to be explained? And is it a subject of regret or of congratulation? Foreign trade lists abound as much as ever in new names attached to "wonderful improvements" of what seems unimprovable. High prices are asked for new seedlings, which, in order to render them more attractive, are decorated with the names of persons, places, or things famous for rank, or beauty, or great deeds. And doubtless the present season will bring forth some Duke of Solferino, or Duchesse de Magenta, or Belle Palestrina, to say nothing of Buffaloras, and Montebellos, and Garibaldis. But alas! a name carries nothing with it, especially among Roses; it is no guarantee that the bearer is sweeter, or fairer, or healthier than those who were born before her; perhaps it is rather the reverse.

As a matter then of mere conjecture we may venture to suggest that no new Roses were produced on this occasion because none are equal to the old ones. The importance of this tacit confession of inferiority will doubtless be well understood by the purchasers of Roses. For ourselves, we rejoice to see in it a sign of improvement in the judgment of the public. A few years ago such an exhibition as this would have been crowded with carefully selected buds and single blooms produced under the magical name of seedlings, and purchasers would have eagerly contended for their possession; there being a notion in the mind of the worthy public that to be a seedling was to be worth having—an idea by no means indeed confined to Roses. We well remember hinting to an excellent horticulturist and great buyer of plants, now alas! no more, that some of her high-priced acquisitions did not seem so good as her ancient favourites; a suggestion not taken in very good part. "Not so good!" exclaimed the fair dame; "why, my good sir, they are all seedlings, let out this year for the first time by BALIVERNE & Co., the great Continental nurserymen." That was the light in which seedlings were regarded in those days; but another sun is shining now.

Nothing has so much contributed to this change in public opinion as the great annual exhibitions near London of horticultural produce. For there it has been easy to contrast new things with old ones, and to institute comparisons under equal circumstances, it being certain that everything sent for exhibition was the best that a grower could furnish. Best being thus placed side by side with best, that judgment must have been indeed defective which could not discover the truth. In such places it was not possible to say that a new flower was inferior to an old one because the grower of the former did not know how to manage it, or because of his soil, or his climate, or something else equally misty or intangible. It was always certain that the exhibitor would produce it in the best possible state; and that being so, its relative value was no longer open to dispute or doubt.

Such in our judgment has been one of the important consequences of public competitive exhibitions. If they have thus worked advantageously among plants in general, they have been most especially useful among Roses; and we trust that the National Rose Shows, so skilfully organised by the Rev. Mr. HOLE, will have given the *coup de grace* to the second-rate pretenders in that class who are always struggling to be placed in the front rank of beauty, in spite of ephemeral complexion, loose array, wrinkling skin, and feeble constitution.

THERE is no fruit tree cultivated under glass of so much importance as the VINE, nor any so useful for the dessert. Pine Apples, although expensive owing to the amount of fuel which they require, are less esteemed by most persons. Peaches and Nectarines are admirable and delicious when brought to perfection; but they are soon over, unless forced in successional houses. From one Grape house, however, a long supply for the dessert may be daily obtained, with proper management and a judicious selection of sorts.

But it frequently happens that in houses of well established Vines there are sorts for which it would be desirable to substitute others. A set of young Vines, raised from eyes, if planted in a fresh made border will soon fill a house; but the rooting up of an established plant from amongst others, and planting a young one in its place, is in some respects an objectionable proceeding; for the roots of those intended to remain are liable to be injured, or otherwise they take possession of the newly loosened soil prepared for the young plant before the latter is itself able to do so. In order to avoid these inconveniences recourse should be had to grafting, which will be found the best mode of substituting for any existing sort one that is more desirable? As regards the Vine, however, the principle of this operation is not, generally speaking, so perfectly well understood as it ought to be. It is very simple; but many failures, with considerable loss, and disappointment, have been the result of not knowing it. It consists in *performing the operation when the Vine is in active growth, and can be cut without bleeding.* If this is attended to, any of the usual modes of placing the scion in contact with the stock will succeed, such as whip, cleft, or saddle grafting: but a certain failure will be the result of every mode if performed when the Vine is in a bleeding state.

Mr. KNIGHT states in a paper read before the Horticultural Society in 1821, that "The practice of grafting the Vine appears to be very ancient; for it is mentioned both by CATO and COLUMELLA in a way which shows that it was common in the Vineyards of Italy at the period in which they wrote. It must consequently have been an operation of easy execution, though it is rarely seen to succeed well in the hands of the modern gardener, who is, nevertheless, certainly much better provided with instruments, and can scarcely be supposed to be inferior in skill or science to the cultivators of that period. It is therefore probable that the ancients were acquainted with some mode of operating, of which the modern gardener is ignorant. It is well known that the ancients, in propagating the Vine, employed cuttings which consisted partly of one-year-old and partly of two-year-old wood." Mr. KNIGHT conceived it probable that the success of the Roman cultivators in grafting their Vines might have arisen from the selection of grafts similar to their cuttings. He therefore selected scions consisting of about 2 inches of old wood and 5 inches of annual wood. With these he was successful; but the condition of the Vine as regards its vegetation is not stated. It is, however, evident that if he had known the simple principle to which we have as above directed attention he would have at once expressly and clearly pointed it out. Instead of ascribing his success to the circumstance of employing a portion of two-year-old wood, he could have stated that with scions of one-year-old wood the chances would be that not one in 20 would fail, especially in the hands of so practised an operator as Mr. KNIGHT was known to be. This great physiologist, however, in 1832, pointed out the right principle in the analogous case of grafting the Walnut tree.

So far as we are aware the credit of first discovering and explaining the essential principle for the successful grafting of Vines is due to the late JOHN BRADDICK. In a communication from that gentleman to the Horticultural Society in 1822, and which was published in the "Transactions of the Society," vol. v., p. 201, details of experiments are given which render evident the cause of failure, and likewise the principle according to which success in Vine grafting is ensured. Believing that many of our readers would profit by an account of these interesting and conclusive experiments, we give the following extract from Mr. BRADDICK'S communication.

"The information which I collected from books on that subject was, that Vines may be easily made to grow by grafting; and that the proper time for performing the operation was in January and February, for Vines growing under glass; and in March for Vines growing in the open border. But out of 40 or 50 Vines which I operated upon in the above months, I had the mortification to find that very few of the grafts grew, and those which did take became weakly plants.

"I observed that the stocks of the Vines grafted as above-mentioned all bled profusely, and upon unbinding those grafts which did not take, I found that the parts of the grafts which joined to the stocks were sodden and turned black, by their being steeped for a considerable time in the thin sap of the stock.

"To stop the bleeding I tried every experiment with styptics, cements, &c., which I ever heard of, with many others suggested by my own imagination, but all without effect. One experiment I will mention, as it may serve to show the great power of the rising sap of the Vine while its buds are breaking. On March 20, in the middle of a warm day, I selected a strong seedling Vine five years old, which grew in a well prepared soil against a south-west wall; I took off its head horizontally with a clean cut, and immediately observed the sap rising rapidly through all the pores of the wood from the centre to the bark. I wiped away the exuded moisture, and covered the wound with a piece of bladder, which I securely fastened with cement and a strong binding of waxed twine. The bladder, although first drawn very close to the top of the shoot, soon began to stretch and to rise like a ball over the wound:

thus distended, and filled with the sap of the Vine, it felt as hard as a cricket ball, and seemed to all appearance as if it would burst. I caused cold water from a well to be thrown upon the roots of the plant, but neither this nor any other plan which I could devise, prevented the sap from flowing, which it continued to do with so much force as to burst the bladder in about 48 hours after the operation was performed; the weather continuing the whole time warm and genial.

"I now fitted a graft to this stock, and after binding it on, I took a piece of bladder doubled, and made a small hole in it so as just to let the tip of the graft and the eye pass through the hole; he inside of the bladder I covered with a cement made of bees-wax, resin, and tallow, and bound the whole with strong waxed twine from just under the eye of the graft to 6 inches below on the stock. The sap, having now no other way to escape, was forced up through the pores of the graft; in a short time I was pleased with observing the bud of the graft swell, and when the other Vines on the same wall began to grow it broke, and made a shoot with several joints. It however soon became evident that no union had taken place between the graft and the stock, as the shoot of the former turned sickly, and before Midsummer died entirely away.

"The next season I took a healthy growing Vine in a pot, and carefully matched it with a seedling Vine of the same size, growing in the open ground; these I inarched together, and bound a bladder round the wound instead of using cement. Upon cautiously removing the bladder at different times, I found that both the Vines bled profusely, and no adhesion began to take place until they had both shot out four or five joints from each of their eyes; the bleeding then ceased, as I judged, by the sap becoming more glutinous.

"It consequently now occurred to me that the proper time for cutting off the heads and grafting of Vines, without the danger of their suffering through bleeding, was when they had reached that period of their annual growth at which the sap ceases to flow thinly and rapidly. I accordingly cut the branches of several in that state, and grafted them with cuttings of the preceding year; all these grew, the operation was performed by whip grafting, and no other covering was used than a binding of bast surrounded with grafting clay.

"From these and various other experiments which I have since made I feel confident in stating that healthy Vines may be successfully grafted with *young wood of the preceding year's growth from the time that the shoots of the stocks which the grafts are to be put upon have made four or five eyes until Midsummer*; with every prospect of the grafts growing, and without the least danger of the stocks suffering by bleeding.

"Some cuttings of Vines sent from Madeira which I received from the Horticultural Society were grafted on the 10th of May by me on seedling Vines which were growing under glass, but without fire heat, with the following results:—

"The *Verdelho* shot 14 feet, produced one small bunch of Grapes, and ripened its wood well.

"The *Negro Molle*, grafted on the same stock, shot upwards of 12 feet, produced no fruit, but ripened its wood.

"Another graft, of which the name was accidentally lost, was not put on till the 1st of July; it was then worked on the top of a young shoot of the same summer's growth; this has also grown and ripened three eyes of its wood."

From the above experiments it is evident that by grafting the Vine when its state of vegetation is such that bleeding ensues, the consequence is complete failure; on the contrary, when the operation is performed after the buds of the Vine have burst into leaf, when no bleeding takes place, the flow of sap being then readily taken up by the foliage, complete success is the result; and this, to the best of our knowledge, was first clearly pointed out by Mr. BRADDICK, in the above communication.

About the year 1834 Mr. WILLIAM GOWANS, Cadder Gardens, near Glasgow, was very successful in grafting Vines, of which he produced a proof by exhibiting a bunch of Grapes from a strong, vigorous, well ripened shoot 22 feet long, from a graft of the same season. His plan was wedge-grafting, and, as stated in the Transactions of the Horticultural Society, second series, vol. II., p. 114, no fewer than 22 out of 23 grafts were attended with decided success. He selected for a scion a portion of the preceding year's shoot with one eye, and cut it into the form of a wedge; a shoot of similar age and thickness was split down the middle, and both sides thinned to fit the wedge-shaped portion of the scion, which was inserted with its eye opposite to that on the top of the stock; then tied and clayed over, leaving a hole for the bud. We have found, however, that whip-grafting answers quite as well, and in many cases is to be preferred. After describing his mode of operation, Mr. GOWANS adds, "What I thought, and still think of essential importance to success in this mode, is to leave the eye or young shoot on the top of the stock, and allow it to grow for a few days, when it should be cut off, leaving only one eye and one leaf to draw sap to the scion, till it be fairly united to the stock.

"With regard to the time for grafting I find it will succeed pretty well when the stocks are about to break into leaf. But I think there is more certainty of success when the shoots of the stock, into which the grafts are to be inserted, have made 12 or 15 inches of new wood. For instance, the grafts which I made on the 25th February this year have not broken so freely, nor yet advanced so far, as those grafted a month after when the stocks had made about 15 inches of new wood; by this time the sap has begun to flow freely (into the leaves), and the danger of the stocks suffering from bleeding is over."

In the "Reports of the Fruit Committee of the Horticultural Society," there is an account of a Vine having been very successfully grafted after it had come into leaf, by Mr. SPARY, of the Queen's Graperies, Brighton. The particulars of this case were given in the *Gardeners' Chronicle* of this year, page 167. For a Trebbiana in a bearing state a Muscat was desired to be substituted on the 1st of April, 1858, the Trebbiana being at that time in full leaf; it was cut off rather more than 2 feet from the ground, a cleft was made in the top of the portion of stem left, and in this cleft was inserted, on the one side, a scion of the Muscat, and on the other one of the Golden Hamburgh. The former grew to the length of 18 feet in the same season; its girth measured very nearly 3½ inches; and it also bore fruit.

From what we have stated the cause of failure in Vine grafting will be fully understood, and therefore can be easily avoided in future. There is in fact as little difficulty in successfully grafting the Vine as there is in grafting the Apple or Pear; and any one who wishes to substitute one sort of Vine for another may do so without the risk of disappointment. He may cut back at the winter pruning to where he wishes to graft, or he may wait, as Mr. SPARY did, till the Vine is in leaf; in either case allow the uppermost shoot on the part left to push, say 6 or 8 inches, place the graft by whip grafting opposite that shoot, which may at the same time be stopped; bind the stock and scion together with matting, surround with clay, and over this some Moss which should be kept moist. Finally, cut back the shoot left on the top of the stock to one leaf as soon as the graft begins to push. *T.*

## REPORT ON THE PROGRESS AND CONDITION OF THE ROYAL GARDENS OF KEW, FROM 1853 TO 1859.

AN official Report by Sir Wm. J. Hooker, K.H., to the First Commissioner of H.M. Works, &c., on the progress and condition of the Royal Gardens of Kew, during a period of six years, viz., from the commencement of 1853 to that of 1859, has just been issued. The following are extracts:—

Royal Gardens, Kew, January 1, 1859.

I must premise that the following statement relates chiefly to the last six years; a period which I have selected, mainly because, until 1853, this establishment altogether lacked two of the most essential requisites of a National Botanic Garden, viz., a Herbarium and a Library;* by which only can the objects in the Gardens and Museum be properly named, arranged, and ticketed, and that information be afforded to manufacturers, travellers, and men engaged in the arts, sciences, or horticulture, which is here daily sought. It is also since 1853 that the new Museum has been built and its contents arranged; that a magnificent collection of vegetable products has been acquired from the French Exhibition; that the demand for more ornamental plants in the Gardens and Conservatories, and for the use of the Schools of Design, has been as much as possible supplied; that the Gardens and Museums have been thrown open to the public on Sunday afternoons; that the average of visitors has risen to upwards of 1000 daily; and that the request for information, the correspondence on vegetable products, and the number of donors to the establishment have augmented more than twofold. Within this period, too, the most complete Arboretum in Europe has been formed in the Pleasure Grounds, nurseries have been established for stocking with trees the metropolitan parks (and these are already found very profitable); the Queen's Garden has been enlarged by 14 acres; and a lake of 4½ acres has been commenced in the Pleasure Grounds, and an enormous quantity of earth removed from it at no cost to the public.

As regards the staff, since 1853 an assistant has been appointed to the Director, and one to the Curator; constables (Crimean soldiers) have been selected to keep order during public hours; the foremen have been put on a better scale of remuneration; while more liberal pay and promotion to the gardeners have greatly increased their efficiency, by rewarding the meritorious, and encouraging the deserving men; and an allowance for medical attendance and support has also been granted, both to gardeners and labourers, when sick.

Owing to the unparalleled advantages afforded by our vast collections to scientific men, I shall have to report the publication of a large number of works in the English, Latin, French, and German languages, executed more or less at Kew, by distinguished British and foreign naturalists, upon economic and scientific botany. I shall have, further, to report an increase in the number of young men instructed here, and sent out as naturalists or collectors to Government expeditions and commercial enterprises, or as curators of scientific gardens in England, the Colonies, and on the Continent.

Thus it is only within these six years that the Royal Gardens can be considered as becoming a nearly complete national establishment. Till 1853, they were but in course of formation; whereas they now approach that condition when any considerable extension would, in the state of our present commercial and scientific relations, be unadvisable; and when (the long desired "Conservatory" once completed) we shall do better to economise our means than indefinitely to enlarge them. It must not be forgotten that, 18 years ago, England stood alone in having no national botanic establishment like Paris, Berlin, Vienna, Göttingen, Petersburg, Copenhagen, and even Stockholm; and that within this period we have been called upon to rival foreign gardens, some of which had enjoyed for more than two centuries the lavish patronage of their respective Governments; added to which, that (thanks chiefly to the Horticultural Society) the Gardens of the Universities, and of noblemen and private individuals, and of many provincial towns in the kingdom, had attained an excellence during that time, which it would have been discreditable to the Royal Gardens not to rival.

In my Annual Reports, I have classed the improvements in the Gardens, &c, under two heads, indicative of the chief objects of Government in establishing and supporting them. They are—

1. As a place for the healthy recreation of the public, gratifying the national love of gardening, and affording much popular information as to the appearance, names, uses, and native countries, &c., of an extensive series of useful and ornamental plants, from all lands and climates, together with their products, whether as food, drugs, dyes, timbers, textiles, or cabinet-work.

2. By encouraging horticulture and scientific botany, promoting the useful arts which depend on vegetable produce, supplying information to botanists, and aiding their publications, and imparting a knowledge of plants to travellers, merchants, and manufacturers; also by training plant collectors and gardeners, for home, colonial, and foreign service.

These manifold objects are not attained by supporting a number of independent branches of the establishment at Kew; but are the result of a system, designed to provide that accurate popular information which cannot be acquired without scientific aid and appliances. Thus the Library is indispensable for determining the objects in the Gardens, the Museums, and the Herbarium, and for ticketing and illustrating them properly. The Herbarium is essential for naming the plants in the Gardens and Museum, and for relieving the former of a vast number of plants which are of great botanical or scientific interest, but which are not capable of cultivation, nor worth the expense or the space they would require; and it contains a permanent record in its preserved specimens, of what has lived and flowered in the Gardens. The Museum, again, furnishes a receptacle for specimens of economic interest which are too bulky for the Herbarium, and samples of curious woods and fruits, reared in the Gardens, and for a named series of seeds, which are in constant requisition as giving the best means of determining the many unnamed kinds which are sent to Kew from all parts of the world.

In the present Report, I shall continue to view the several branches of the establishment under the above-mentioned aspects, of gratifying the public and giving information and aid to the practical and the scientific man; but more detail being required on each of these heads, together with some account of the method of conducting these departments, and the limitation of demands upon them, I adopt the following more methodical sub-division:—I. The Staff and its Organisation; II. The Botanic Gardens; III. The Pleasure Grounds; IV. The Museums; V. The Library and Herbarium; VI. List of Donors, &c.

### I. STAFF AND ITS ORGANISATION.

1. *Director.*—The general superintendence of the whole establishment devolves upon the Director, who is responsible for the good keep and efficient working of every part. He conducts all the correspondence, which, as regards the colonies and our own and other foreign possessions, is very great. He daily visits the gardens and houses, directs the exchanges of growing plants and seeds, prepares the reports, revises the estimates, and recommends all alterations and improvements. Once a week he inspects and signs the bill vouchers and accounts of the Garden, Museum, Library, and Herbarium. He selects foremen and gardeners for colonial and other establishments. He supplies the names of plants and their products to manufacturers, merchants, and druggists, nurserymen, amateurs, and travellers in all parts of the world; and he has hitherto been able to satisfy all requisitions of this kind, if at all moderate, and without drawing any distinction between those applicants who had benefited the gardens and others. But it is evident that these demands may become so numerous as to require some such regulations as were found indispensable in the matter of living specimens of plants, to which I shall hereafter allude. In the performance of all the above-mentioned duties, and especially in the charge of the Library and Herbarium, the Director is aided by the Assistant-Director.

2. *Curator.*—He takes the practical superintendence of the cultivation in all parts of the Botanic Garden, the Stoves, and Greenhouses, and sees that the tickets are attached to the living plants; he has the supervision of the plants and seeds received and sent away, and of all the arrangements connected with the hire and discharge of the foremen, gardeners, labourers, &c. It is his duty to prepare and balance the accounts, to keep an accurate list of the implements, of the coals, coke, soil, pots, and gravel required, and of horse and cart hire; he examines candidates for employment, and draws up their certificates. He is assisted by a Sub-Curator.

3. *Foremen.*—There are seven who devote their energies to as many departments of the garden. Each has a set of gardeners and labourers under him, for whose conduct during working hours he is answerable to the Director and Curator; as he is for his implements, and for the safety, order, and good culture of the collections. The foremen's responsibilities are very heavy, especially those of the individuals who are charged with the propagation of plants (the culture of numerous kinds, both hot-house, greenhouse, and hardy, requiring very varied modes of treatment), or with the decoration of the ground in a manner to gratify the public, by producing much floral effect over an exceedingly large area, and for many months of the year. It must be remembered that at Kew plants of all kinds, and especially the most difficult to grow, are constantly asked for; and the foremen are further ordered to render an account of a vast multitude of seeds, roots, and living plants (the greater part often proving unworthy of cultivation), which are presented to the Gardens. The foremen superintend by turns the Gardeners' Library, the Reading Room, the Plant Houses on Sundays, and the night work; and they have often other similar occasional duties to perform. To each of the following departments a foreman is assigned.

*a.* A Foreman superintends the double Propagating House, No. 22; the Hardy Ferns in No. 21; the Tropical Ferns, Begonias, and rare Palms in the double House No. 12; the Aroideæ, Ginger, and Root-spices in No. 19; the Cacti, Aloes, and Succulent Plants in No. 7. He has the raising of all Hot-house Plants, and of Seeds that require heat: he personally superintends the packing of Ward-cases, and of the plants sent abroad, and keeps accurate lists of what are received and given away.

* Till that time these desiderata were wholly supplied by the Director's private Herbarium and Library, to which I shall refer when describing these departments of the establishment.

*b.* A Foreman has charge of the Orchids in Nos 4, 5, and 16; of the ornamental and variegated leaved Stove Plants, Water Lilies, Nepenthes, &c., in No. 6; of the Tropical Fruit Trees and Spices, as Mangosteen, Cloves, Nutmeg, &c., which demand great care and skill: also of the Plants in No 9.

*c.* The Conservatories devoted to the Trees and Shrubs of our Colonies, and of other countries possessing temperate climates, requiring protection, and contained in Nos 12 and 18, are under another Foreman, whose duty it also is to keep the large double house, No 10, well filled always with ornamental Azaleas, Fuchsias, Roses, &c.

*d.* The Palm House and new Victoria House, from the great size of the former, and of the plants they both contain, demand a Foreman's entire time. The operations here performed are very laborious, retubbing, cleaning, and watering daily by hoses; while the care of a somewhat complicated apparatus for heating, syringing, and ventilating is attached to this department.

*e.* A Foreman is charged with the Hardy Herbaceous Plants (some 6000 species), which are scientifically arranged. He raises all seeds of out-door plants, and maintains a large stock of duplicates, his department being the oftenest applied to by European and some Colonial Gardens.

*f.* A Foreman is entrusted with the Flower Beds of various sizes of the entire Garden, no fewer than 400; and to stock them properly during summer and autumn, demands on an average a supply of 40,000 plants. The majority are preserved as roots or cuttings during winter, and great industry and forethought are required to secure a proper supply of bedding-out plants in our changeful climate, when a night's frost often cuts off the labours of many months. Besides this charge, he keeps a large number of well-grown Fuchsias, Roses, Geraniums, &c., to be sunk during the summer in the lawns for their special ornament.

*g.* The trees, lawns, walks, clumps, Rhododendrons, and the flowering shrubs of the lawns and walls, demand the whole energies of a Foreman as well as a great many labourers, varying in number with the season and weather.

*Gardeners* coming for improvement are invariably young men, who would otherwise perhaps be apprenticed; and they are selected for their good character, promising abilities, and fair education. Each must bring one or more satisfactory written characters, and fill up a printed set of inquiries as to age, and attainments in gardening, reading, writing, arithmethic, mensuration, &c., &c. The nominal period for which they enter is two years, during which they may, by good conduct, energy, and ability, rise from gardeners at 12*s.* to assistant foreman at 18*s.*; some of our best foremen having begun as gardeners, while others have been sent to colonies, &c.

*Labourers.*—Their number necessarily varies with the season and the work. The Royal Gardens also employ one policeman, three liveried constables, and two constant gatekeepers; two female attendants in the ladies' cloak rooms; a label writer, and several stokers and engine men.

When speaking of the duties of foremen, gardeners, &c., it must be observed that it is only up to noon (the dinner hour) that they can exclusively and uninterruptedly do the work of the gardens. On the admission of the public, besides the inevitable disturbance caused by a large body of people, with the need that everything should be in its place, and that no watering or inconveniencing operation should then go on, it is essential that the men be so dispersed as to keep a sufficient eye to the safety of the collections, the closing of Conservatory doors, &c. Thus it often happens, especially when the visitors are very numerous, that the actual gardening work is more or less restricted to half a day.

## II. THE BOTANIC GARDENS.

On the transference in 1841 of these beautiful grounds by the Royal family to the public, the Botanic Gardens consisted only of 11 acres, and were extended by successive additions till, in 1847, they had reached their present dimensions of 75 acres; this is exclusive of the Pleasure Grounds, which I shall hereafter mention. As regards the number of visitors, beginning with 9174 in 1841, the increase has been gradual to 405,376 in 1858 (exclusive of those to the Herbarium and Library); while the generally good behaviour of this mass of people, often inconveniently crowding the Plant-houses and Museums, the eagerness with which they inspect the more curious and interesting plants and their products, and read the notices and explanations given in the Guide Books and attached to the objects in the Museum, all evince that such privileges minister food to the mind, as well as health to the body.

The greatest number of persons admitted in one day to the Gardens (where they have free access to all parts), has been 13,761. The best attended months, as may be supposed, are June, July, and August, during which we have numbered so many as 267,223 persons. The fewest visitors are in November, December, and February, when they have been so low as 4679. For the further gratification of the public, the First Commissioners have, during the last three years, obtained an increased grant for the higher keep and ornament of the Gardens. More flower borders have been designed, the walks are gravelled with a better material, new shrubberies and clumps have been formed, and standard flowering trees and shrubs have been planted with an excellent effect.

All the hot-houses and greenhouses are progressing satisfactorily, both in beauty and usefulness. Of late years, some of the more remarkable and curious plants have become conspicuous, from their increased size and more perfect maturity of flower and fruit. The Palms unquestionably stand unrivalled; as do the Ferns, particularly the Tree Ferns; the Cactuses, Agaves, Aloes, and other succulent plants, and the Bananas. Among the last is the most extraordinary plant in all our collections, the gigantic Abyssinian Banana (Musa Ensete), described and figured by no author, save the celebrated Bruce, and now first introduced to Europe through W. C. M. Plowden, Esq., the British Consul at Mussowah. This striking herbaceous plant has attained in the Palm Stove, in five years' time, a height of more than 30 feet, with a stem of 7½ feet in circumference, and leaves, of which the blade, independent of the stalk or petiole, is 16 feet long! It also now shows promise of a flower-spike, corresponding with its foliage. The Orchideous Plants, under a recently-appointed and very skilful special cultivator, are improving remarkably. The singular Pitcher Plants, the noble Zamias, the Cycads and their allies, the Rice-paper Plant of Formosa, the wonderful Lattice-Leaf (Ouvirandra fenestralis) brought by the Rev. William Ellis from the Lakes of Madagascar, the Traveller's Tree (Urania speciosa), described by the same writer, the Lace Bark of Jamaica, the rare Cinchona, or best Peruvian bark, the noble collection of Sikkim Himalayan Rhododendrons, to say nothing of objects of lesser note, particularly of the almost innumerable hardy and out-of-door plants, have proved highly attractive to all ranks of people. The greenhouse Coniferæ and other trees and shrubs of temperate climates that require protection in winter, alone show too evident symptoms of deterioration, caused by want of suitable house accommodation, which we trust will soon be remedied. The applications for growing plants, seeds, and museum objects are so numerous that it is sometimes difficult to meet even all those which proceed from persons who have sent valuable contributions. As a general rule, we profess to give only in exchange for what is received; or as a return for those facilities of increasing the Kew collections and diminishing their expenses, which have been freely afforded by many departments of Government, by public companies, and private individuals. Colonial Gardens and similar Government establishments are considered to have a very early claim for duplicates, and in certain cases it is well to take the initiative with them. But it is plainly more to their advantage than to that of the Royal Gardens, that such intercommunication should proceed on the principle of exchange, it being the duty of the Colonial Gardens especially to communicate with those of the mother country. An active correspondence and interchange of this nature are the measure of the usefulness and success of these establishments; and it is only needful to refer to the eminent services rendered by the Botanic Gardens of Ceylon, Calcutta, Victoria, Jamaica, and the Mauritius, as cases in point. Another class of demands is for cut flowers and leaves, for flower-painting, decoration, and for preparing skeleton specimens. These last requests were for a time largely granted, and they consequently multiplied far beyond the power of supply; so that they are now generally refused, except when preferred by persons who have done us service or have other claims. I may remark that they usually came from individuals who had no such claim, and were as often for the commonest shrubs, trees, and weeds of the road-sides as for the rarest stove plants. Had the applications been generally granted, various plants, both in the gardens and houses, would have been materially damaged; and as no more men than are absolutely required are kept at Kew, to have employed them in selecting, packing, and despatching parcels of leaves and flowers would have seriously deranged their daily operations.

The hours of admission to the Royal Gardens are from 1 P. M. till dusk on week days, and from 2 P. M. on Sundays. On Christmas Day only they are wholly closed.

Incessantly are applications, personal and written, made for leave to visit the Gardens before 1 P. M.: but they are necessarily refused, except to persons who have actual business or other claims to be admitted. Considering that, as previously explained, the whole of the work in the Houses and Museums must be concluded before noon (the dinner hour for the men), it is obvious that the exclusion of the general public till 1 P. M. must be rigidly enforced; otherwise the foremen cannot be answerable for the safety of their respective collections, or the steady working of their gardeners, who are often addressed, and are in many ways interrupted in their duties, by strangers. Large schools are admitted under certain regulations, namely, that the children be divided into groups of 10 to 12, each with a suitable guardian, so that they do not incommode other visitors, and that the Houses, Museums, and walks may not be inconveniently crowded. The public are forbidden to carry baskets of provision or parcels into the Gardens, or large reticules which may excite suspicion, or similar articles which facilitate the concealment of specimens.

Connected with the Garden Establishment is a very important feature—the Gardeners' Library and Reading-room. It consists of two small apartments, adjoining the director's office, and contains a selection of the more useful works on Horticulture, Elementary Botany, Geography, and Physics, Agricultural Chemistry, Landscape Gardening, and a few volumes of Voyages and Travels, together with two Horticultural Weekly Journals, some Maps, and a small supply of stationery for the use of readers. It is open every evening for the gardeners, under the direction of the Curator and Foremen, who are responsible, by turns, for the safety of the books and good conduct of the men. The Foremen also, in rotation, attend to the fires, prepare the rooms, collate the books with the catalogue, and act as librarians. The men, on entering the Reading room, inscribe their names in a book kept on purpose; and when their period of retirement from the service of the Gardens arrives, the amount of attendance at the library is considered in drawing up their testimonials. Lastly, in connexion with the Gardens proper, I have to notice the Guide Books of the Garden; 16 editions, each of 3000 copies, of the "Garden Guide" have been sold, between the years 1846 and 1858; and three large impressions of the more recent "Museum Guide."

## III. THE PLEASURE GROUNDS, OR ARBORETUM.

This large and ornamental piece of ground consists of 250 acres, separated by a wire fence from the Botanic Gardens, and opening into them by four gates. It was placed under my charge in 1846, since which time it has been laid out primarily as an Arboretum, for the cultivation of every tree and shrub which will stand the open air in this climate. An active and intelligent Foreman superintends it, who has one assistant, one efficient gardener, and the necessary supply of labourers. The Pleasure Grounds are daily open to the public from the middle of May till the last day of September, at the same hours as, and under similar restrictions to those of, the Botanic Gardens. Among the more remarkable natural and artificial features of the Pleasure Grounds, I have to report briefly on—1. The Arboretum. 2. The Nurseries. 3. The Lake (in process of formation). 4. The Queen's Garden. There will further be the great Conservatory (if sanctioned by Parliament), and the Flag-staff of "Douglas Pine," (Abies Douglassii) from British Columbia, a magnificent spar, 118 feet long, which has been presented to the Gardens during the preparation of this report, and which it is proposed to erect on a hill in these grounds.

1. *Arboretum.*—The peculiarities of the climate of England render it singularly favourable for the growth of a large collection of the trees and shrubs of temperate regions, from almost all parts of the globe; and hence arose the eminent desirableness of attaching to the Royal Gardens such an Arboretum as should be worthy of Great Britain, and serviceable to its extensive possessions and foreign relations. In pursuance of this object, the best suited localities in these grounds have been devoted to a classified collection of hardy trees and shrubs, amounting to about 3500 kinds (including marked varieties), and they are mostly in a thriving condition. Some years must however elapse ere the general effect of the whole can be fully seen, and when the groups of different Pines, Oaks, Planes, Beeches, Ashes, Birches, Poplars, Willows, &c., each forming a clump of allied but distinct kinds, will produce a beautiful variety of foliage in well-disposed masses, enabling also the visitor to compare the character of a vast number of carefully-named trees adapted to this climate, and to judge of their effect in the lawn, the park, or the forest.

2. *Nurseries.*—There are two in the Arboretum; one specially intended for planting the Kew grounds with ornamental trees and shrubs, and rearing a stock for exchange; the other (formed at the desire of the First Commissioner in 1855), to supply the metropolitan parks. Both are profitable; and the latter has proved to be a very useful part of this establishment. In 1856 it furnished 1010 trees (chiefly Planes and Elms); in part 1857, 4100 trees; and in 1858, 2475; the sizes varying from 6 to 14 feet; while our own Pleasure Ground Arboretum sent to the parks of the metropolis, with the sanction of the Board, in 1857, 9289, and in 1858, 2814 trees and shrubs of great variety, besides furnishing the grounds at Kew with no fewer than 18,000 in the year just closed.

3. *The Lake.*—A sheet of water in such extensive and noble grounds as those of Kew, had long been a desideratum. It is now in process of being supplied; advantage having been taken of a depressed spot, so situated in respect to walks and trees, that nothing would be sacrificed, while its proximity to the Thames would allow of its being filled and emptied at pleasure, by taking advantage of the tides. The position is singularly favourable, for it borders one side of the noblest avenue in the grounds (that which conducts from the Palm House to the river), and it will be in view both from the Palm House and the new Conservatory. Hitherto, 16,000 yards of stones have been removed for the repair of the public roads, not only at no expense, but with considerable advantage to this establishment, for a bed of excellent gravel was thus discovered, which served to renovate the walks in the whole garden. Other 10,000 yards will be required to form the terrace of the new Conservatory at but a short distance; after which a very trifling sum will suffice for the removal of the remaining soil, and for constructing the conduit to the Thames.

4. *The Queen's Garden.*—This beautiful piece of ground, reserved for the use of Her Majesty, and situated on the S.W. angle of the Pleasure Grounds, consisting of 12 acres, has lately been enlarged by 14 more acres taken from the adjacent Royal Deer Park; new walks have been cut through it, much old decayed wood and copse cleared away, the paths freshly gravelled, and other improvements effected.

## IV. THE MUSEUM OF ECONOMIC BOTANY.

The formation of this establishment suggested itself to my mind in 1847, when a very humble building (within the precincts of what had been the kitchen and fruit garden), which had been used for the conservation of the fruit for the Royal table, was no longer required for that purpose. It promised to afford, for a time, the needful accommodation for a display of the various products of the vegetable kingdom; especially such as are in demand by the merchant and manufacturer, the timber-dealer, the cabinet-maker, the druggist, &c., and to form, in short, the nucleus of a Museum of Economic as well as Structural Botany, which should contain all that was interesting or curious in vegetable organisation, and that could not be preserved nor generally exhibited in the living state. Such a collection could not fail to answer the *cui bono?* so often propounded, by showing the uses and applications of plants. It was commenced by the transference to this building of a considerable series of articles of this nature, which the Director had been forming during the previous 40 years, in connection with his own private Herbarium; and, thanks to the contributions of friends, in a few years' time the 10 apartments (two of them of considerable dimensions) in this Museum were full. An additional structure, of much more capacious accommodation, was then required: it was commenced in 1855, finished early in the summer of 1856, and but little vacant space is to be seen in 1858.

The Museum, when first founded, was put under the charge of Mr. Alexander Smith, the Curator's son, and for its rapid progress it is largely indebted to his ability, assiduity, and zeal. For the first eight years it required no other care than Mr. A. Smith's, assisted in the mornings by a neat-handed person who attended to the public in the afternoons. Since the addition of the second and larger Museum, and the accession of crowds of visitors, more than quadrupling the amount of necessary supervision, two constant and two occasional attendants have been employed. The cost incurred by increasing the contents of the Museum has been exceedingly small; for owing to the interest felt in these collections, it is seldom necessary to buy specimens; they are almost invariably given, and in the case of articles imported into England, often without being asked for. The majority are, however, procured by correspondence direct from the countries producing them. On the walls of the new Museum staircase are exhibited a large number of engravings and original chalk drawings, the portraits of botanists, and of travellers who have largely promoted the study of botany and horticulture. These are the property of the Director; as was the extensive series of magnified drawings of plants and botanical scenery which hangs above them.

Demands for duplicate specimens from the Museums are frequently and most energetically urged; and they mostly emanate from public establishments, and especially provincial museums. But I need hardly remark that the preparation, conservation, and naming of museum articles are works of much time, labour, and skill. In most instances the specimens are preserved in glass, often in fluids, and to be of service as museum objects they must be ample and prominent. Thus the value of the specimens is trifling to that of the time consumed in packing, unpacking, selecting, correctly naming, and fitting them for public inspection. To carry out in the Museum the complicated system of exchange and distribution pursued in the Garden and Herbarium, it would be necessary not only to increase the assistants and the present accommodation for duplicates, but to provide a special scientific curator, who should be answerable for the accuracy of the names and proper selection of the specimens sent out, and for such a distribution as should satisfy claimants of all degrees. For it is obvious that errors of information, emanating from Kew, or jealousies excited by apparent partiality to one recipient above another, are not only directly prejudicial to the establishment, but a reflection on it. Duplicates do indeed occasionally accumulate; but much less than is supposed, both because we decline accepting them, and because many articles spoil by keeping, and require renewal. Such duplicates are given away from time to time to individuals who have most benefited the Museum and Gardens; or they are sent to the Colonies, where similar museums are being formed. In conclusion, I would remark that the Kew Museums were established to indicate how such institutions may be founded and conducted, and not as the source whence they are to draw.

## V. HERBARIUM AND LIBRARY.

To render the Kew Gardens a complete botanical establishment, a Herbarium and Library (without which the plants could not be correctly named) were long a desideratum. True, the very extensive Library and Herbarium belonging to me were accommodated in a suitable building, the property of the Crown; and by an arrangement between the Board of Works and myself, they were thrown open, with the needful attendants, to all men of science. And in 1855, as fully recorded in former reports, two collections of dried plants (Herbaria) were added as gifts, and they now form that portion of this department which belongs to the Crown. These, combined with my own (placed under the same roof, but in quite different apartments, and even on different floors), unquestionably constitute the most extensive and practically useful Herbarium and Library ever formed; and they cannot fail to be, and have indeed already proved, of inestimable service to all who are engaged in subjects connected with botany and horticulture.

In proof of this assertion, I subjoin a list of the principal works, more or less completely carried out by means of the ready access granted to these collections, confining myself, however, to those which have been in progress during the last six years. [Here follows the list referred to.]

Many of the authors above enumerated have taken up their residence at Kew for weeks and even months, in order to acquire that information which, it may be safely said, is nowhere else to be so conveniently or fully obtained. Add to them the casual visitors who come (in always increasing numbers) from the metropolis and the provinces, &c., and who are engaged in botanical, medical, and economical publications, and some idea may be formed of the importance of this branch of the Kew establishment; to say nothing of the inquiries continually made by letter, inquiries that always meet with prompt and encouraging attention. After these statements, avouched by the acknowledgments of the authors in their respective works, it cannot be denied that the Kew Herbarium and Library, especially taken in conjunction with the noble collections of living plants in the Garden, and the products of plants in the Museums, are admirably adapted for the study of botanical science. And there is the great and inestimable privilege, not attainable in the capital of England, that the collections do not suffer from dust and coal-smoke, which are destructive both to paper and specimens.

I have here to mention that this establishment has, during the last year, rendered a most important service to Indian botany, by rescuing from total destruction the enormous collections of plants made under the orders of the Indian Government by officers of their service, and which had been accumulating for 30 years in the cellars of the India House, in consequence of the urgent remonstrances that emanated

from Kew, the Hon. East India Company consented to these collections being arranged under our supervision, and to defray the necessary expenses for carriage, materials, and assistance in arranging and preserving them. In July last these collections arrived in 11 large waggons, and the work of inspection and selection commenced. They proved to be of much greater bulk than was anticipated, but upwards of one half were totally destroyed by damp, vermin, and coal smoke. Amongst the remainder are some of great interest and value; especially the first collections ever made in Kashmir and Tibet (Dr. Falconer's), of which there were 70 chests full: all Mr. Griffith's Herbaria, made during Government missions to every part of India, from the borders of Persia to Birma and Malacca, together with all his MSS. and drawings, in many volumes and portfolios; and all Mr. Heifer's Tenasserim and Andaman Island plants. The whole are still regarded as appertaining to the department of the Government of India, who will decide upon their ultimate destination.

Nor are the benefits of this establishment at all restricted to the authors, more or less eminent, who by its aid have carried out the above-mentioned works; they are also educational, in a very important degree. By selecting for assistants young men, who, besides a competent education, are imbued with a thorough love of science and zeal in the duties connected with it, we train them for more lucrative positions; and a respectable list could be offered of individuals, now filling important posts as botanical collectors abroad, or as superintendents of colonial and other gardens (particularly in the Indian Presidencies), who have gone from Kew. The ill-health of the late able Curator, Mr. Alexander Smith, has deprived the Museum of his valuable services; but suitable training has enabled Mr. Jackson, strongly recommended by the President of the Linnæan Society, to become a competent successor. Mr. Oliver and Mr. Black, now in the Herbarium and Library, are rendering good service by their industry, tact, and zeal; whilst a third assistant has been selected for a botanical mission to Japan and China.

One appendage to the Library must not pass unnoticed: it is the very extensive and valuable collection of Botanical Prints and Drawings, mainly presented by myself; they are deposited in 75 convenient portfolios, made on purpose, and have proved of great service to persons studying the different families of plants. Among them are—1st, the original drawings, made by Dr. Hooker, during his extensive voyages and travels; 2d, very numerous drawings by Mr. Walter Fitch (who is undeniably the best among the botanical artists of the day), executed during the last 30 years for the "Botanical Magazine," and other publications (the largest proportion are from Kew plants); 3d, 800 of the original coloured plates, by Sowerby, of Dr. Sibthorp's magnificent Flora Græca; 4th, the extensive and valuable series of Indian drawings, announced in a former Garden Report, as presented by Miss Cathcart; and 5th, a considerable series of coloured drawings made at Kew, under the directorship of Mr. Aiton, previous to 1840. Our collection contains about 30,000 original drawings and numerous engravings, systematically arranged, and attached to sheets of atlas folio paper, of the same size as the portfolios.

It is now my duty to point out the further service rendered by this garden to horticulture and botany, in the several missions and botanical explorations that have been carried out of late years, to the very great promotion of science; and these, too, at a comparatively small expense to the Gardens, the costs being either wholly or partly defrayed by other departments of Government, or borne by the individuals themselves. To go no further back than the last six years, I may mention the following:—

1. M. Bourgeau, botanist, appointed to Captain Palliser's expedition for exploring the unknown territories of British North America, especially on the east side of the Rocky Mountains. (Wholly under the auspices of the Secretary of State for the Colonies.)

2. Dr. Kirk, botanist in Dr Livingstone's expedition to the Zambesi, and for making researches into the interior of Tropical Eastern Africa, quite a *terra incognita* to us. (Lords of the Admiralty.)

3. Mr. Milne, botanist and collector in H.M.S. Herald, Captain Denham, commander, for survey of the Fiji and other scarcely known islands in the South Pacific Ocean. (Lords of the Admiralty; a small portion only of the salary falling upon the Garden.) This botanical mission is just concluded, and Mr. Milne has returned with his collections.

4. Dr. Lyall, R.N., botanist to the very important expedition sent to determine the boundary line between the British and United States possessions in British Columbia. This territory includes Vancouver's Island (which has already supplied us with seeds of noble hardy Pines, and most commercially important spars for the navy, of unprecedented size and value), and the interior of the mainland across the Rocky Mountains. (Secretary of State for the Colonies.)

5. Corporal Buttle, assistant collector to Dr. Lyall. (Under the same authority.)

6. Mr. C. Wilford, late an assistant in the Kew Herbarium, now on a botanical mission to Hong Kong, Japan, Northern China, &c. His collections have arrived from Hong Kong and Formosa. He has now joined her Majesty's Ship Actæon, and is about to proceed to the coast of Eastern Tartary, in that surveying vessel, under the command of Lieutenant Ward. (A special grant to the Garden from the Treasury of 600*l.* for three years; and the Admiralty gives him a free passage and rations.)

7. Mr. Barter, botanist to Dr. Baikie's second expedition up the Niger, or rather the third, the officers having descended the river to Fernando Po, where another vessel met them, in which they have again ascended. These voyages have, both as concerns geography and natural history, proved the most successful ever undertaken in Western Tropical Africa; and the collections sent to Kew by Dr. Baikie and Mr. Barter from the scene of Mungo Park's death, are extensive and of the highest interest; they are moreover in excellent condition, considering the difficulties encountered in obtaining them. (Expenses defrayed partly by the Foreign Office and partly by the Admiralty.)

8. Mr. Spruce's exploration of South America, by way of the Amazon and the Andes, crossing that vast continent, from the Atlantic to the Pacific. This expedition, though undertaken wholly at Mr. Spruce's own risk and cost, has proved singularly productive in plants, and by purchase, at a small outlay, has added greatly to the horticultural and scientific stores at Kew, especially to the Museum. And now that this traveller has made the Cinchona regions in Equador his headquarters, many more valuable collections may be expected.

[The report concludes with a list of the principal contributors to the Gardens, Museum, and Herbarium.]

## Home Correspondence.

*The Pea Lentil.*—In consequence of your reference to the so-called Pea Lentil in a late number of your Paper, I take the opportunity to communicate to you what I know about it. Your remarks upon it in January last induced me to write to Dr. Rauch, requesting him for further particulars and a sample of it. He gave information to the effect that the affair rested upon a Yankee hoax, besides his report on it having been misunderstood by some party in France. He mentioned having received seed of it under that name from America, with the remark that it is a hybrid between the Honey Pea (a variety of the Marrows) and common Lentil, raised by a Mr. Murray, of Peponville. Dr. Rauch, however, concurred in the opinion of others, that it is apparently no hybrid, but probably a variety of Vicia sativa; and stated in his report on it in his treatise of new Kitchen Garden and Agricultural Plants, that it is a plant standing between the Pea and Lentil, without stating that it is a hybrid between these two kinds of plants, as erroneously translated by some party in France, I believe. The sample I received along with the above information led me at once to consider it identical with the Provence Lentil (Ervum monanthos), which I have grown and sold under that name for the last 30 years, and of which I forwarded you a sample at the time. It is a very productive forage plant, yielding abundance of stalks and leaves, and is much esteemed by cattle either in a green or dry state, and suitable for any sort of soil. However, I doubt the value of its seeds for culinary purposes, which have the bitter taste of Vetches. I do not know if the name Ervum monanthos is correct, but it is by no means a variety of Vicia sativa, as supposed by several authorities. It is quite different in form of the seed and habit of the plant from that species, although it may be some other species of Vicia. [We believe V. globosa, as was lately stated.] Along with the sample of seed sent you of the above I submitted to you a parcel of Beans, known in this country under the name of Larch Egg Runner Bean, an old-fashioned sort almost out of cultivation, being superseded in quality by other kinds. I consider it identical with the New Zealand Runner Bean, of which I received one dozen seeds for 3*s.* per post. I have some very handsome new annuals, &c., from Mexico, of which I would take the liberty to send you plants in flower for your opinion, if you will permit me to do so. [Certainly.] Amongst others is a beautiful orange-coloured large flowered Sanvitalia as free blooming and lasting as S. procumbens, but much more showy; an extremely neat Œnothera with beautiful cup-shaped carmine flowers; a very free blooming Lophospermum; of garden hybrids a brilliant carmine striped variety of Verbena Maouetti (Imperatrice Elizabeth), a striking improvement on the old variety; a beautifully variegated variety of Cobæa scandens, &c. *J. W. Haage, Erfurt.*

*Lightning-struck Oak* (see p. 54).—I beg to suggest that "L. W. G." will do well to let his Oak remain entirely under the fostering care of old Dame Nature for a few months. If at the close of the present summer he shall perceive that the bark at the place where the damage ceases has begun to form itself anew, he may have good hopes of ultimate recovery. If on the contrary no such a sign is perceptible, he may conclude that his tree is in a very alarming state, and that, ere long, it will be as dead as Julius Cæsar himself. As to the "tearing of the bark," that portion of it which has been loosened by the stroke, even in the slightest degree, will never more unite with the wood underneath it. At present it would be only loss of time in "L. W. G." to apply a "plastering over the parts." A plaster is of no use whatever in producing a new bark. All it can ever do is to prevent the rain from penetrating, and at last causing rot in the tree. Should the tree recover, some years may elapse before the application of a plaster in the shape of sheet lead or of compost will be required for an Oak. Not so with regard to the Walnut tree; its parts, when deprived of their bark, soon begin to decay. I once had an ornamental Oak so fatally blasted in a thunderstorm that it died outright both in root and branch. Had I "L. W. G." here I could show him divers trees which have been sorely riven by the lightning's rage, but which are now visibly on the mending hand. I pay considerable attention to them, and although I do not consider myself in the light of a tree doctor worthy of a diploma, still I fancy that what with my own simple nostrum and the renovating powers of old Dame Nature together, all my injured trees, either by lightning or by tempests, are now in a comfortable state of convalescence. I must add, in strict justice to the dame, that to herself belong nine-tenths of the merit that may be due. *Charles Waterton, Walton Hall, June* 28.——During these last few years several large Oaks on this estate having been struck by lightning and subsequently cut down, I have had an opportunity of examining the extent of the damage which they had sustained. And although not equal externally to that described by your correspondent as having happened to his tree, yet it was found, when they were cut up, that the wood was rent and split in all directions, to such an extent that it was quite evident the trees could have survived only for a short time. I have therefore little doubt that if your correspondent should decide on cutting down his injured tree, he will find it similar to those I have described. *H. Petrie, Elsham Hall.*

*Linum grandiflorum.*—Some weeks ago there was an inquiry in your Paper as to the best means of raising this. Nobody seems to have answered the question with any great confidence, and as I have been quite successful in raising seedlings, I write to communicate my plan. Use wide pots, about 4 inches deep, not many sherds in the bottom, but a good quantity of siftings of very fibrous peat; use a mixture of heath mould, loam, and sand in equal parts, and sow the seeds ¼ inch deep. Let the earth be pretty moist at first, but never water over head at all. Place the pots in an intermediate house or not very moist stove; and to keep the earth moist place each pot every morning for about two or three hours in a saucer of water. They should have a pretty good deal of light, but not the full rays of the sun. When the first two leaves are grown to their full size remove them to a frame, gradually giving air to harden them. By these means, after discarding a few obviously bad seeds from a packet, I have succeeded in raising every seed, and as this plant is certainly well worth growing, perhaps my plan may be of use to others. *Wentworth W. Buller, Strete Ralegh, Exeter, June* 22.

*Potato Disease.*—A report weekly in your Paper respecting the progress of this disease, as it is observable in different parts of the country, may be serviceable if it be accompanied by statements of the time of planting and mode of culture. Do you not think so? In this neighbourhood I hear that the haulm begins to show unmistakeable signs of decay. Between the 19th of February and 4th of March I planted a goodly breadth of Prince Regents, of a sort known in Berkshire as Golden Reeds, and of Ash-leaf Kidneys. A few of the former were damaged by the late frosts, but not seriously, and their growth has been uniform and gradual, evidencing a robust habit in the size and strength of the haulm, which is not succulent, too high, but short and stout. No manure was dug in at the time of planting, the ground being naturally strong; and I had prepared it by digging with Parkes's steel fork two spits deep. I should have supposed that this mode of culture would have ensured a diminution of the evil; but on the contrary last week the disease appeared with the utmost virulence, and has distributed its favours equally among all the sorts, which lie contiguous to one another, but at the distance of 22 inches apart in the rows. I remarked yesterday in this neighbourhood another peculiarity in the aspect of the disease this season. At Nash, distant two miles, a lot of Potatoes entirely free from the appearance of disease in the haulm were found on Saturday to be affected; several bad Potatoes being taken up in a bunch of tubers which were quite ripe, and the haulm of which, quite devoid of spot or mildew, only showed tokens of maturity. I fear that after all that has been said and written on this subject, we poor gardeners, professional as well as amateur, are as much in the dark as at the first outbreak of the disease. *J. S. Templer, Thornborough, Buckingham, June* 27. [We first observed it last Monday in the Garden at Chiswick, and it is spreading there.]

*Sardinian Carnations and Picotees.*—In consequence of a correspondence in your Paper relative to Sardinian Carnations, we have had forwarded to us petals taken from the laterals of numerous seedlings which have been raised this season in that warm part of Europe, and which we feel much pleasure in submitting to your inspection. In contradiction to the remarks of "Italian" on the 18th inst., you will observe that the edges of the flowers are by no means ragged. The markings are fine and the shape good, while the variety in shade and colour at once shows the care and judgment brought to bear in the selection of flowers for hybridisation—the most perfect in shape and with colours the most diverse. In justice to Sardinian growers we have thought it right to make the above remarks. *Butler & McCulloch, Covent Garden Market.* [The specimens submitted to us are very handsome, and quite correspond with Messrs. B. & McC.'s statement.]

*Marsh Agues.*—I perceive that you have opened your columns to the discussion of ague. Suffering a good deal from that complaint, and having hitherto been led to believe that the miasma arising from decaying vegetation in the marsh ditches was the cause of all my family's constant attacks of ague, I should esteem it a great favour if your reviewer or Mr. Parkin will be kind enough to tell us from what the ague does proceed, as there is hardly a person, young or old, native or not, in this parish that does not have the attack once in six months at least. *Charles Bott, Stanford-le-Hope, Essex.*

*Monstrous Cardamine.*—I used to find in great profusion, in a meadow adjoining Beckham Vicarage, Kent, a variety of Cardamine pratensis, which is precisely identical with the specimen described in your Paper last week. It is thus noticed in "Flowers of the Field," p. 51:—"A double variety is sometimes found in meadows which is remarkably proliferous, the leaflets producing new plants where they come in contact with the ground, and the flowers, as they wither, sending up leafy stalked flower-bud from their centres." *C. A. Johns.*

*May Queen Strawberry.*—In your last Number Mr. Roden has given a very high opinion of this Strawberry, and asks if others cannot say even more in its favour than he has done. I regret to say I cannot speak so favourably. I can answer for its earliness, having had a dish of it to the Reading exhibition on the 1st of July from the open ground; also to the last meeting of the Pomological Society; at both places the flavour was considered to be very inferior. On account of its fruit being so very small and acid I have just destroyed a batch of strong plants. It is certainly not worth keeping in a select collection, but in cases like Dr. Roden's, where 50 varieties are grown, it may be allowed a place. *Charles Turner, Slough.*——I received plants of this kind last autumn from Mr. Nicholson, and had some of them planted out by the side of Keens' Seedling, and near to plants of the Black Prince in a tenacious soil inclined to clay, but very favourable to Strawberries. I planted this new and, said to be, very early kind with the above sorts to test its merits as to earliness and flavour. Those planted near the Black Prince ripened with it early in June. The berries were of the same size, and in flavour not at all superior to it. The

planted alongside of Keens' Seedling ripened some three or four days before that excellent kind, and were decidedly inferior in flavour to it. I was inclined to impute this lack of earliness and flavour to some peculiarity in my soil, and therefore suspended my opinion. On Thursday, the 23d ult, Mr. Turner exhibited a considerable quantity of the May Queen Strawberry at the meeting of the Pomological Society. The berries were like mine in size, colour, and shape, but in flavour even inferior; in fact they were pronounced to be flat, acid, and the most inferior kind in the whole collection. On tasting them I felt inclined to make a prompt demand on Mr. Nicholson to return the money I had paid him for 100 plants, but on seeing in your Paper for June 25 a letter from Dr. Roden, a most skilful amateur gardener, highly eulogistic of this kind, I am inclined to think that neither Mr. Turner nor myself have received the true kind, or at least the variety described by Dr. Roden as the May Queen. *Thos. Rivers, Sawbridgeworth.*

*Hybrid Veronicas.*—I send you flowers of seedling Veronicas raised by myself between V. speciosa and decussata, which may be interesting, partaking as they do of the character of both parents. No. 1 is one of the first batch of seedlings, and is perfectly hardy with me, forming a very neat Evergreen shrub, 4 feet high, and about 22 feet in circumference. The others are second crosses from decussata, and are smaller plants, possessing more of the paternal character, but a far more floriferous habit. *A. Devonian.* [No. 1 is extremely handsome both as respects flowers and foliage, the beautiful arrangement and shining dark green of the latter setting off the deep lilac violet tinged blossoms to excellent advantage. As a bush even without flowers it must be handsome. The leaves of the others are smaller and less conspicuous; the flowers had dropped before the specimens reached us.]

## Societies.

Entomological: *June* 6.—Dr. J. E. Gray, F.R.S., President, in the chair. Mr. Stevens exhibited a number of beautiful butterflies recently received from Mr. Wallace, by whom they had been collected in Ternate, near New Guinea. He also read an extract from a letter by the same gentleman, announcing the capture of a new and most gorgeous species of Papilio, as well as a new kind of Bird of Paradise. Specimens had been forwarded to England. Mr. Stevens also mentioned the capture by himself of various rare British Coleoptera, including Lamprophlœus clematidis, Stenolophus elegans, and Heterius sesquicornis. Mr. Janson exhibited a new British genus of ants' nest beetles, belonging to the Staphylinidæ found in the nest of Formica fuliginosa, named Aploglossa gentilis. Mr. Stainton mentioned that Dr. Herrick Schaffer of Ratisbon had recently shown him a small species of butterfly from the East Indies which resides in the perfect state in ants' nests; it is of dull colours, and its legs are peculiarly constructed for its mode of life. Mr. Westwood suggested that this insect would most probably prove to be a species of the genus Symetha figured in Dr. Horsfield's work on the Javanese Lepidoptera. Mr. MacLachlan exhibited a variety of the rare Lily beetle, Crioceris merdigera, and Mr. Douglas illustrations of the habits of two species of Micro-Lepidoptera belonging to the genera Ornis and Tortrix. He also read some notes on the transformations of the genus Rhaphidia, and on those of the genus Trinodes. Mr. Baly read descriptions of some new exotic species of Chrysomelidæ.

Linnean: *June* 16.—Prof. Bell, President, in the chair. E. Bradford, Esq., the Ven. Archdeacon Hale, M. H. Lackersteen, M.D., J. T. Llewelyn, Esq., Dr. G. Rolleston, and D. Williams, Esq., were elected Fellows. The following papers were read:—1. "A revised Synopsis of the Distomidæ," by T. S. Cobbold, M.D.—2. A memoir "On the structure of the genus Nepenthes, with descriptions of new species from Borneo, by J. D. Hooker, M.D.—3. "A Synopsis of the Indian species of Impatiens;" 4. "A description of a new genus of Balanophoreæ;" 5. "A description of the genus Fropiera of Bouton;" all by Dr. J. D. Hooker.—6. "On Leopoldinia Piassaba, of Wallace," by R. Spruce, Esq. The Palm producing the Piassaba of the Rio Negro (better known as that of Para, from which port it is exported in vast quantities to Europe and North America,) has been supposed, for want of sufficient data, to be identical with the Attalea fumifera of Martius, which furnishes the Piassaba of Bahia. Mr. Wallace however had correctly referred the Rio Negro Piassaba to the genus Leopoldinia, which genus Martius has stated to be spatheless, but incorrectly, for according to Mr. Spruce it has in reality two thin fusiform spathes, which fall away at an early stage, long before the flowers are fully formed. The ascertained distribution of the Piassaba Palm, which grows in low sandy flats where the water stands to a slight depth in rainy weather, is from the river Padauiri, a large tributary of the Rio Negro, on the south, to the cataracts of the Orinoco on the north, and from near the Japura on the west to the sources of the Pacimoni on the east. "Near two Indian villages on the south side of the Casiquiare," the author remarked, "where I penetrated deep into the forest, I came on large groves of Piassaba, and nothing that I have seen in Amazonian forests dwells more strongly and pleasantly on my memory than my walk among these strange bearded columns, from whose apex sprung the green interlacing arches which shaded me overhead." Of the Piassaba collected on the Casiquiare and Guainia, about half, it was stated, is taken down to Para, and the other half goes to Angostura on the Orinoco. In the summer season the Indian villages on those rivers present a very lively appearance from the boat-building and rope-making which occupy the inhabitants. Besides the use made of the beard of the Piassaba, Mr. Spruce stated that the pulpy envelope of the sarcocarp in the ripe fruit is said to yield the most delicious of all Palm drinks, bearing great resemblance to cream both in colour and taste. "I have not," he remarked, "had the good fortune to taste it, or even to see the ripe fruit, which comes into season at Midsummer, but like the fruit of most other trees is subject to seasons or periods of intermittance, when little or none is matured." The fruit appears to take about nine months to ripen. Mr. Spruce gave as follows the dimensions of one of these Palms, which he cut in the forests of the Guainia:—Caudex, 40 feet; fronds, 15½ to 16½ feet, including a petiole of 4 feet 8 inches; pinnæ, 63 pairs; beard, 21 inches long, on young plants growing close by it was as much as 4 feet 9 inches long; spadix, 4 feet. Another bearded Palm which extends all along the eastern roots of the Andes, Mr. Spruce described to be a true Attalea, distinct from A. fumifera. The beard of this, which is deciduous, not persistent as in the Piassaba, makes excellent brooms. In the Quitinian Andes a very similar broom is made of the base of the petiole of the Cádi Palm (Phytelephas macrocarpa), but the decayed parenchyma requires to be combed away from the fibres before they can be put to this use.—7. "Notice of the cultivation of Cocoa-nuts in Ceylon," by the Rev. Thomas Foulkes, in a letter to Sir W. J. Hooker. The writer first mentioned the unsystematic but all prevailing cultivation of this tree by the natives, remarking that it obtains everywhere on the coasts of the island and to the height of 2000 feet on its mountain sides. A somewhat authentic computation estimates the number of trees in all parts of Ceylon at upwards of 20 millions for this mode of cultivation alone. The systematic cultivation of the Cocoa-nut by Europeans in plantations exclusively devoted to it, however, dates from about the year 1842, when it was undertaken with very sanguine hopes of quick and large returns upon the capital invested in it. In a very short time thousands of acres of unprofitable jungle were cleared in different parts of the island, and probably upwards of half a million sterling has been expended on the estates. Omitting the central province where the Coffee take the place of the Cocoa-nut plantations, there are in the remaining provinces, which occupy an area of 18,509 square miles, 99 Cocoa-nut estates, extending over 22,400 acres. Taking an average of 80 trees to the acre, this acreage would give 1,792,000 Cocoa-nut trees, raised in Ceylon during the last 20 years. Added to those previously mentioned, we have 22 millions for the total of trees throughout the island, and assuming each tree to produce annually on an average 50 nuts, we should have the enormous number of eleven hundred millions of Cocoa-nuts as the annual produce of Ceylon. As all the trees cannot be in full bearing, this must be beyond the truth, and yet since fifty nuts to each tree is a low average for those already in bearing two-thirds of the above number would probably be a fair though low computation. Indeed, one estate in the western province, with about one-fifth of its trees in full bearing, is said to be producing at the present time 600,000 nuts annually on 800 acres. The estimated yield of the Jaffera estates alone for the present year is 5,000,000 of nuts, on 9000 acres; a small proportion only of the trees being in full bearing. The quantity of Cocoa-nut oil exported from Ceylon in 1857 (the last return) was 1,767,413 gallons. The paper gave an interesting account of the management of the plantations, and the author concluded with the following Hindoo riddle on the subject:

"It dwells on high; but it is not the eagle:
It produces water; but it is not the rain-cloud:
It is white; but it is not the silver moon:
It has three eyes; but it is not Siva."

—8. A memoir "On the Embryogeny of Endogens," by B. Clarke, Esq.—9. Notes "On the structure and affinities of Batideæ and Callitrichaceæ; on the structure and affinities of Vochysiaceæ; and on Cassytheæ," by B. Clarke, Esq.

## Notices of Books.

*Mary Stuart, by Alphonse de Lamartine.* 8vo. Black. With portrait, autograph, and vignette.

A graceful translation of one of the most beautiful narratives of modern days, to which are added about 70 pages of illustrative matter in the form of an appendix. It is for literary journals to criticise works of this class; we can only commend them when they deserve praise, as this does most abundantly, excepting always the translations of the poetry of the Queen and of Ronsard. We may however extract the concluding passages by Lamartine, in which he eloquently condenses his own opinions as to the true character of the unfortunate Scottish Queen.

"If we regard Mary Stuart in the light of her charms, her talents, her magical influence over all men who approached her, she may be called the Sappho of the 16th century. All that was not love in her soul was poetry; her verses, like those of Ronsard, her worshipper and teacher, possess a Greek softness combined with a quaint simplicity; they are written with tears, and even after the lapse of so many years, retain something of the warmth of her sighs.

"If we judge her by her life, she is the Scottish Semiramis; casting herself, before the eyes of all Europe, into the arms of the assassin of her husband, and thus giving to the people she had thrown into civil war a coronation of murder for a lesson of morality.

"Her direct and personal participation in the death of her young husband has been denied, and nothing in effect, except those suspected letters, proves that she actually and personally accomplished or permitted the crime; but that she had attracted the victim into the snare; that she had given Bothwell the right and the hope of succeeding to the throne after his death; that she had been the end, the means, and the alleged prize of the crime; finally, that she absolved the murderer by bestowing upon him her hand,—no doubt can be entertained regarding these points. To provoke to murder, and then to absolve the perpetrator—is not this equivalent to guilt?

"In fine, if she be judged by her death—comparable in its majesty, its piety, and its courage, to the most heroic and the holiest sacrifices of the primitive martyrs—the horror and aversion with which she had been regarded change at last to pity, esteem, and admiration. As long as there was no expiation she remained a criminal; by expiation she became a victim. In her history blood seems to be washed out by blood; the guilt of her former years flows as it were from her veins, with the crimson stream; we do not absolve, we sympathise; our pity is not absolution, but rather approaches to love; we try to find excuses for her conduct in the ferocious and dissolute manners of the age; in that education, depraved, sanguinary, and fanatical, which she received at the Court of the Valois; in her youth, her beauty, her love. We are constrained to say with M. Dargaud—to whom we feel deeply indebted for the researches which have guided us—'we judge not—we only relate.'"

## Garden Memoranda.

A. J. Doxat's, Esq., Putney Heath.—At few places are Cinerarias and Chrysanthemums grown in such perfection as they are here by Shrimpton, Mr. Doxat's gardener. Some account of his mode of managing them may therefore not be unacceptable. In the case of Cinerarias, they are cut down after blooming and set in a cold frame or pit (under a north wall is preferable), and shaded from the midday sun. As soon as they have pushed sufficiently to enable them to be divided, the offsets are removed and put into 3-inch pots in very light sandy soil and kept rather close for a few days, attending to watering and shading, &c. When rooted they are sprinkled overhead morning and evening, to encourage growth. When strong they are shifted into 48 pots, given weak manure water, and plenty of air, but still shaded. They should never be allowed to suffer from want of water. As they fill the pots with roots they are potted on, using pots according to the size of the plants. When they begin to start into growth they are pinched back, so as to make them break strongly from the bottom. After they have made shoots long enough the latter are pegged out so as to form a spreading plant, or otherwise, as may be required. By stopping them again the size is increased, and it prolongs the time of coming into bloom. Those who have no stock by them, or who wish to obtain fresh sorts should lose no time now in ordering them from the nursery, so as to obtain nice little plants to start with, which will make fine specimens for all purposes from a 4-inch pot up to a 10-inch one if required. The soil Mr. Shrimpton uses is turfy loam and stable dung, bulk for bulk (laid together 12 months previously, and well turned at different times), with sand, the latter to secure a free open soil, and good drainage. They ought never to want for water when they require it. Cinerarias are very subject to the attacks of aphides, which must be destroyed as soon as perceived. For that purpose the following recipe has always been found effectual, viz.—4 oz. of tobacco and 1 lb. of soft soap to 5 gallons of soft water; get all the strength out of the tobacco and dissolve the soft soap; then strain it through a coarse cloth to prevent dirt passing and thus injuring the plants. Carefully dip them into it, but not the pots. It will not only destroy but prevent fly from making its appearance. Should mildew attack them use sulphur, putting it on one day and washing it off the next. Well sprinkle the plants all over with it, it will not harm the foliage. By giving frequent doses of manure water and attending to the above directions, plants will be produced which will repay every care bestowed on them.

The Chrysanthemums grown at this place, like the Cinerarias, are remarkable not only for abundance of bloom, but for the health and beauty of the plants themselves, furnished as they are with foliage quite down to the pots. To ensure this the following points are attended to:—When hot dry weather sets in the plants are well mulched with rotten dung, which prevents the sun's rays from scorching the little rootlets which may be found in multitudes just under the surface of the soil. If these get scorched or burned, the plants are almost sure to shed their lower leaves; this is however easily avoided by the mulching just mentioned and frequent waterings, a practice which causes the plants to grow healthily and renders them ornaments to the garden, even when out of bloom. Pompones Mr. Shrimpton keeps in study

situations till September; he stops them two or three times during the season, and they are supplied plentifully with water, taking care, if the mould should open or crack round the inside of the pot, to fill up the gap with a little finely sifted soil. If this is not attended to, water when supplied passes off between the soil and pot and leaves the middle dry. Another point requiring particular attention is not to allow the plants to get too high before they are stopped; if this is neglected they do not break at the bottom or throw out laterals low enough to induce a handsome bushy habit. Mildew, to which the Chrysanthemum is very subject, is kept down by sprinkling the plants with water, and then well powdering them with flowers of sulphur. To be effectual however this ought to be done immediately the pest makes its appearance; for, if allowed to fairly establish itself, it is very difficult to eradicate, and the plants never look so healthy afterwards.

## Miscellaneous.

*The late William Gardiner.*—We learn with much pleasure that the friends in Dundee of this lamented botanist have been enabled out of the small sum raised for his family to maintain him with every comfort and attendance till death, when there remained at their disposal a sum which enabled them to print, bind, and mount a fourth edition of the "First Series of Twenty Lessons on British Mosses," the proceeds of the sale of which have been nearly sufficient, with certain local aid, to bring up his orphan son. The boy, following the bent of a strong inclination for a sea life, has decided on being a sailor. In accordance with his determination, he has been fitted out, and is at present serving an apprenticeship on board a merchantman, the Onega, brigantine, Captain Scott, of Dundee. His guardians have incurred in this final expense, when added to a deficiency for his up-bringing, about 26*l*. As this will be the last effort which, in duty, they will be called on to make, they would freely solicit the kind friends of the father to assist them in discharging this obligation. On the authority of the Rev. William B. Borwick, Dundee, and the Rev. J. W. Taylor, F. C., Flisk and Creich, Fifeshire, both of whom have taken considerable interest in him, it may be stated that the boy is promising as to disposition, morals, and ability. All communications may be addressed, and Post-office orders made payable, to the *curator bonis*, Mr. James Scrymgeour, Superintendent of the Dundee Band of Hope, Kemback Place, Lilybank, Dundee. There are a few copies of poor Gardiner's book of Mosses, illustrated with specimens, price 3*s*. 6*d*., still on hand, which may be had through any bookseller of the Messrs. Longman, publishers, London.

*Patent Stump and Tree Extractor.*—A machine of rather a novel character, adapted for the purpose of clearing land of trees and stumps, was tested the other day in the Parliamentary reserve, in the presence of his Excellency the Governor. The machine, which has been patented by Messrs. Mansfield and Hewitt, consists of an iron-bound beam about 2½ feet in circumference and 20 feet in length. It is supported horizontally by a small wheel at each end. This beam is used as a lever, the fulcrum being obtained by fastening it with a chain to a tree or stump at a distance of about 100 yards from the tree to be removed, around which a strong chain is fastened at a considerable elevation from the root. The other end of the chain is fixed by a hook to the lever, about 8 inches from the fulcrum. The action of the machine is caused by four bullocks being harnessed to the end of the lever, and drawing it alternately backwards and forwards in a half-circle. At each turn, the chain connecting the tree with the lever is shortened, by a contrivance for the purpose, and the strain is consequently increased, while at the same time, the declination gained is preserved. The machine appears to be constructed on true mechanical principles, and when applied, it is evident that either it or the tree must give way. In the experiments yesterday the trees were pulled down in a few minutes, and apparently without any great strain on the machine. The trees experimented on, however, although rather above the average girth and height, were dead, permission having been refused to remove any trees exhibiting signs of vitality. The patentees state that a tree in full vigour presents no greater obstacles to the action of the machine, and possesses this advantage, that in its fall the roots are drawn entire from the ground, whereas in a dead tree they break off and are left in the ground. Four trees were yesterday taken up, and the time required for each did not exceed 10 minutes. For the eradication of stumps a second lever, with a vertical action, is used, but this portion of the machine was not tested. *Melbourne Argus.*

*Australian Garden Edgings.*—During one of my rambles about two years ago in search of plants to dry and send to England, after surmounting a barren and rugged range of hills I was agreeably surprised to find the opposite slope covered with a beautiful Heath-like plant, which brought vividly to my recollection the Heath-covered hills of the old country. The plants were from 6 inches to a foot high, and covered with multitudes of pink flowers. On removing several plants to the nursery, I noticed that the shoots, about as thick as a knitting pin, were clustered with small fibres at their base. I immediately pulled them to pieces, making of each bunch 20 or 30 small rooted plants. Here then, I thought, I have a substitute for Box-edging. I stretched a line, made a small straight trench, and kneeling down placed these slender rooted shoots about an inch from each other, holding all safe with the back of my left hand whilst I drew the soil to them and fastened them with my right. They were not watered, but took their chance. The result was that every one grew, and I now have as beautiful a neat edging as can possibly be desired. It is called Tetratheca ericæfolia, and I think if some plants were procured, and a bed or two edged with it at the Botanic Garden, Mr. Francis would be able to report also on its merits, and visitors would likewise be enabled to distinguish the plant, so as in many cases to procure it in their own neighbourhoods. Bottles for flower-border edgings are monstrous, always inculcating the idea that we, as colonists, are "a thirsty lot." Camomile looks mangy, and untidy at certain seasons; Thyme is of a dull colour, sometimes dying off in patches, and as for Box it will be too expensive and uncertain for general purposes for years. *J. F. Wood, Evandale Nurseries in the Melbourne* Farm and Garden.

## Calendar of Operations.

(*For the ensuing Week.*)

### PLANT DEPARTMENT.

CONSERVATORY, &c.—Now that many of the Camellias, Azaleas, and other plants have been placed in summer quarters out-of-doors, painting or other repairs required by any of the plant-houses may be more conveniently done than at any other season. As recommended last week pay great attention to plants for autumn and early winter decoration. Let them have plenty of pot-room, good rich compost to grow in, a moist atmosphere, and plenty of space for perfect development, regulating the temperature according to the nature of the plant, and they will make rapid progress. Mealy bug and thrips will require to be looked after; the utmost diligence must be used to keep these in check. STOVE.—If there are any sickly or badly rooted specimens here they must be frequently examined, for red spider; otherwise they will become a nursery for this pest, and from them it will soon spread to adjoining plants. See that young growing stock is not allowed to suffer for want of pot room; attend carefully to watering, giving manure-water to all plants in free growth that enjoy it. Gardenias and other things that have been in the conservatory while in bloom should be replaced in heat as soon as their beauty is over, in order to allow time for getting their growth ripened before short days and dull weather have arrived. ORCHIDS.—Growing stock will require encouragement. Shading must be promptly attended to when bright sunshine occurs. Allow them, however, as much light as they will bear without injury, using a very light screen, and that only when absolutely necessary. Keep them clear of insects and dust by frequent syringings or spongings.

### FORCING DEPARTMENT.

PINERIES.—Such varieties as are at all liable to spoil at the bottom before the upper pips are coloured should now be kept as dry as possible immediately they show the least signs of colouring, keeping the atmosphere also as dry as can be done without injury to the rest of the stock. VINERIES.—Grapes intended to hang through the winter should be thinned very freely, and, if necessary, they should be gone over a second time, leaving them so that the berries, when fully swelled, will scarcely touch each other. A moderate crop only should be left on the Vines; for, to ensure success in keeping Grapes fresh and in good condition till next March, the Vines must be in first-rate health; be satisfied, therefore, with a moderate, or rather light crop, in the late house. Keep the atmosphere of houses where the fruit is colouring in active circulation, using gentle fires by day, with abundance of air, and leaving a little air on at night, to prevent damp. If red spider appears inclined to be troublesome, wash the pipes, &c., with a mixture of soot and lime, and if the colour is objectionable, add more soot. FIGS.—Trees that have been kept dry while ripening the first crop, and are now cleared of this, should be well watered at the root, and if there is any appearance of red spider, the leaves should be thoroughly washed with the engine. Give manure-water to trees showing a heavy second crop, and keep the atmosphere moist by frequently sprinkling the passages and borders, &c. Keep the shoots thin and regularly tied, so as to avoid confusion, and expose all parts of the tree equally to the light. Where the fruit is ripening attend to previous directions, and keep the atmosphere and borders as dry as can conveniently be done. Assist trees in pots by giving them a liberal supply of manure-water.

### FLOWER GARDEN AND SHRUBBERIES.

Continue to clear everything away decaying and to introduce good things from pots in the reserve ground. A good reserve ground, if properly situated and systematically planned and conducted, would be one of the most useful plots about a garden. Such a valuable adjunct as this would, however, require the constant attendance of a man possessing some little knowledge of flowers, and therefore could not be carried out where there is a stint of labour. Decayed patches of bulbs which are required to stand for early spring flowering may have dressy Verbenas or other things introduced from pots between them. Cuttings of Pansies should be got out in succession before the shoots are too much exhausted. All boundary or other hedges should be clipped forthwith.

### HARDY FRUIT AND KITCHEN GARDEN.

Tomatos must be regularly attended to, keeping the shoots thin and stopping them above a cluster of fruit, for if the plants are allowed to ramble and grow too freely there will be a poor chance in an unfavourable season of securing a good crop of fruit. Shallots, if left in the ground after the bulbs are matured, are apt to mildew and rot in wet weather, therefore these should be pulled as soon as the tops begin to decay, and spread out in an airy place to dry before storing them away. Get herbs in flower cut and dried for winter use. Where a sufficient breadth of Celery is not yet planted out, this must be attended to as speedily as possible, and must be well cared for with water, &c., until well established after planting, otherwise good sized heads need hardly be expected. Earth up former plantings, and encourage rapid growth by occasional waterings with manure water. See that a good bed of some approved early variety of Cabbage is sown for spring use. Ply the hoe freely among all growing crops, both for the destruction of weeds and for loosening the surface of the soil after heavy rains. Look over all trained fruit trees frequently for the purpose of stopping and shortening any gross shoots, and keeping the growth nicely regulated; also get the young shoots of wall trees laid in where not already done.

STATE OF THE WEATHER AT CHISWICK, NEAR LONDON.
For the Week ending June 30, 1859, as observed at the Horticultural Gardens.

| June. | Moon's Age. | Barometer. Max. | Barometer. Min. | Temperature of the Air. Max. | Min. | Mean | Temperature of the Earth 1 foot deep. | Temperature of the Earth 2 feet deep. | Wind | Rain. |
|---|---|---|---|---|---|---|---|---|---|---|
| Friday 24 | 23 | 30.083 | 30.026 | 72 | 34 | 53.0 | 63½ | 61½ | S.W | .76 |
| Satur. 25 | 24 | 30.001 | 29.836 | 78 | 53 | 65.5 | 62 | 62 | S.W | .20 |
| Sunday 26 | 25 | 29.938 | 29.775 | 81 | 55 | 68.0 | 63½ | 61½ | S.W | .15 |
| Mon. 27 | 26 | 30.094 | 30.044 | 80 | 56 | 68.0 | 65 | 63 | S.W | .12 |
| Tues. 28 | 27 | 29.933 | 29.816 | 71 | 50 | 60.5 | 65 | 63 | S.W | .42 |
| Wed. 29 | 28 | 30.050 | 30.040 | 72 | 42 | 57.0 | 65 | 63 | N.W | .00 |
| Thurs. 30 | ● | 30.092 | 30.066 | 74 | 40 | 57.0 | 64 | 63 | N.E. | .00 |
| Average | | 30.207 | 29.943 | 75.4 | 47.1 | 61.3 | 64.0 | 62.4 | | 0.84 |

June 24—Very fine throughout; cold at night.
— 25—Clear; dry air and fine.
— 26—Thunder and lightning, 6 40 A.M.; very fine; lightning at night.
— 27—Very fine; cloudy; rain; overcast.
— 28—Rain, very heavy; rain at night.
— 29—Fine; very fine throughout.
— 30—Very fine; clear and fine at night.,
Mean temperature of the week, ½ deg. below the average.

RECORD OF THE WEATHER AT CHISWICK,
During the last 33 years, for the ensuing Week, ending July 9, 1859.

| July. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds. N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday 3.. | 74.2 | 51.7 | 63 0 | 14 | 0.78 in. | 1 | 6 | 2 | 1 | 3 | 11 | S | 1 |
| Mon. 4.. | 76.2 | 51.4 | 63 8 | 10 | 0.23 | 1 | 4 | 2 | 1 | 2 | 14 | 7 | 2 |
| Tues. 5.. | 77.6 | 51 3 | 64.4 | 13 | 0.59 | 1 | 2 | 4 | 1 | 5 | 11 | 9 | — |
| Wed. 6.. | 76.3 | 51.6 | 63.9 | 14 | 0.45 | — | 3 | 1 | 4 | 5 | 11 | 7 | 2 |
| Thurs. 7 . | 73.5 | 52.3 | 62.9 | 18 | 0.34 | 2 | 1 | 5 | 2 | 6 | 9 | 5 | 3 |
| Friday 8 . | 73.5 | 50 5 | 62.0 | 18 | 0.46 | 1 | 1 | 5 | 3 | 5 | 9 | 4 | 5 |
| Satur. 9.. | 73 7 | 50.1 | 61.9 | 16 | 0.82 | 4 | 1 | 2 | — | 3 | 8 | 10 | 5 |

The highest temperature during the above period occurred on the 5th, 1852—therm. 97 deg.; and the lowest on the 3d and 9th, 1856, and 4th, 1851 and 1855—therm. 37 deg.

## Notices to Correspondents.

DISEASED GRAPES: *J Robertson.* We are at a loss to know what has caused the mischief in your Grapes. This is certain: 1, that the decay is internal, not external; and 2, that it occurs in the pulp where the veins run, and on them, and nowhere else. Is there nothing in the soil that you can ascribe it to? No mildew fungi are discoverable. But minute bubbles of air appear in the diseased spots as soon as the skin is removed, a circumstance that suggests fermentation as going on in the spots. Is your border warm and well drained? Look to that.

GUERNSEY LILIES: *H H.* You will find ample directions for their culture in No. 47, p. 742, of our volume for 1852.‡

INSECTS: *Old Sub.* The Rose leaves sent here had the under surface gnawed off by the yellow larvæ of a small black Saw-fly, (Selandria æthiops) It is difficult to reach them by syringing the plants, but by enveloping the trees in a sheet and fumigating them with brimstone the larvæ will fall off the leaves, and may be caught on sheets of paper and destroyed. *W.*

NAMES OF PLANTS: We have been so often obliged to reluctantly decline naming heaps of dried or other plants, that we venture to request our correspondents to recollect that we never have or could have undertaken an unlimited duty of this kind. Young gardeners, to whom these remarks more especially apply, should bear in mind that, before applying to us for assistance, they should exhaust their other means of gaining information. We cannot save them the trouble of examining and thinking for themselves; nor would it be desirable if we could. All we can do is to *help* them—and that most willingly. It is now requested that, in future, not more than four plants may be sent us at one time.—*J M'J.* Niphobolus Lingua; 2, Asplenium fragrans; 3, Pleopeltis Billardieri; 4, Nephrodium molle.—*R C.* 1, Saxifraga sarmentosa; 2, Lycium barbarum.—*D J.* It is Helleborus fœtidus. There is no such plant as H officinalis that we know of.—*G B.* 1, Brasavola tuberculata; 2 is so much withered that it cannot be determined; send fresh flowers not quite open, and say what sort of looking plant it is if you cannot spare a leaf.—*N.* The Fern-leaved Hornbeam.—*G.* One of the varieties of Rhododendron cinnabarinum.—*Canterbury.* 1, Malva capensis; 2, Polygala myrtifolia; 3, Jasminum gracile.—*G.* 1, Callipteris ambigua, *alias* Diplazium malabaricum; 2, Asplenium lucidum; 3, Lastrea tenericaulis, often called Polypodium trichodes; 4, Lysimachia nemorum.—A few answers under this head are unavoidably deferred till next week.

STRAWBERRIES: *A P.* Of your three seedlings, 1 is the most distinct; in flavour it is perhaps too acid for some people. 2 somewhat resembles British Queen; but is not so good. The best in the latter respect is the smaller one of the three, which does not appear to differ from Cuthill's Princess Royal. We advise you to send fruit to the meeting of the Horticultural Fruit Committee, at 8, St. Martin's Place, on the 12th inst.—*H B.* We can offer no opinion on your seedling. Send it for the inspection of the Horticultural Society's Fruit Committee on the 12th ‡

THE LATTICE PLANT: *Curious.* It requires both skill and attention. It must be always under water, which must be soft, and its temperature never below 70°. The root should be in soft mud, and the water should be kept in motion by any contrivance that will prevent its becoming stagnant. Were we to take it in hand we should also endeavour to keep a few fish in the water.

VINES: *W P.* If you will be so good as refer to a leading article in another column, you will we trust find your question fully answered.

planted alongside of Keens' Seedling ripened some three or four days before that excellent kind, and were decidedly inferior in flavour to it. I was inclined to impute this lack of earliness and flavour to some peculiarity in my soil, and therefore suspended my opinion. On Thursday, the 23d ult, Mr. Turner exhibited a considerable quantity of the May Queen Strawberry at the meeting of the Pomological Society. The berries were like mine in size, colour, and shape, but in flavour even inferior; in fact they were pronounced to be flat, acid, and the most inferior kind in the whole collection. On tasting them I felt inclined to make a prompt demand on Mr. Nicholson to return the money I had paid him for 100 plants, but on seeing in your Paper for June 25 a letter from Dr. Roden, a most skilful amateur gardener, highly eulogistic of this kind, I am inclined to think that neither Mr. Turner nor myself have received the true kind, or at least the variety described by Dr. Roden as the May Queen. ***Thos. Rivers, Sawbridgeworth.***

*Hybrid Veronicas.*—I send you flowers of seedling Veronicas raised by myself between V. speciosa and decussata, which may be interesting, partaking as they do of the character of both parents. No. 1 is one of the first batch of seedlings, and is perfectly hardy with me, forming a very neat Evergreen shrub, 4 feet high, and about 22 feet in circumference. The others are second crosses from decussata, and are smaller plants, possessing more of the paternal character, but a far more floriferous habit. *A. Deronian.* [No. 1 is extremely handsome both as respects flowers and foliage, the beautiful arrangement and shining dark green of the latter setting off the deep lilac violet tinged blossoms to excellent advantage. As a bush even without flowers it must be handsome. The leaves of the others are smaller and less conspicuous; the flowers had dropped before the specimens reached us.]

## Societies.

Entomological: *June* 6.—Dr. J. E. Gray, F.R.S., President, in the chair. Mr. Stevens exhibited a number of beautiful butterflies recently received from Mr. Wallace, by whom they had been collected in Ternate, near New Guinea. He also read an extract from a letter by the same gentleman, announcing the capture of a new and most gorgeous species of Papilio, as well as a new kind of Bird of Paradise. Specimens had been forwarded to England. Mr. Stevens also mentioned the capture by himself of various rare British Coleoptera, including Læmophilæus clematidis, Stenolophus elegans, and Hetarius sesquicornis. Mr. Janson exhibited a new British genus of ants' nest beetles, belonging to the Staphylinidæ found in the nest of Formica fuliginosa, named Aploglossa gentilis. Mr. Stainton mentioned that Dr. Herrick Schaffer of Ratisbon had recently shown him a small species of butterfly from the East Indies which resides in the perfect state in ants' nests; it is of dull colours, and its legs are peculiarly constructed for its mode of life. Mr. Westwood suggested that this insect would most probably prove to be a species of the genus Symetha figured in Dr. Horsfield's work on the Javanese Lepidoptera. Mr. MacLachlan exhibited a variety of the rare Lily beetle, Crioceris merdigera, and Mr. Douglas illustrations of the habits of two species of Micro-Lepidoptera belonging to the genera Ornis and Tortrix. He also read some notes on the transformations of the genus Rhaphidia, and on those of the genus Trinodes. Mr. Baly read descriptions of some new exotic species of Chrysomelidæ.

Linnean: *June* 16.—Prof. Bell, President, in the chair. E. Bradford, Esq., the Ven. Archdeacon Hale, M. H. Lackersteen, M.D., J. T. Llewelyn, Esq., Dr. G. Rolleston, and D. Williams, Esq., were elected Fellows. The following papers were read:—1. "A revised Synopsis of the Distomidæ," by T. S. Cobbold, M.D.—2. A memoir "On the structure of the genus Nepenthes, with descriptions of new species from Borneo, by J. D. Hooker, M.D.—3. "A Synopsis of the Indian species of Impatiens;" 4. "A description of a new genus of Balanophoreæ;" 5. "A description of the genus Tropiera of Bonton;" all by Dr. J. D. Hooker.—6. "On Leopoldinia Piassaba, of Wallace," by R. Spruce, Esq. The Palm producing the Piassaba of the Rio Negro (better known as that of Para, from which port it is exported in vast quantities to Europe and North America,) has been supposed, for want of sufficient data, to be identical with the Attalea fumifera of Martius, which furnishes the Piassaba of Bahia. Mr. Wallace however had correctly referred the Rio Negro Piassaba to the genus Leopoldinia, which genus Martius has stated to be spatheless, but incorrectly, for according to Mr. Spruce it has in reality two thin fusiform spathes, which fall away at an early stage, long before the flowers are fully formed. The ascertained distribution of the Piassaba Palm, which grows in low sandy flats where the water stands to a slight depth in rainy weather, is from the river Padauiri, a large tributary of the Rio Negro, on the south, to the cataracts of the Orinoco on the north, and from near the Japura on the west to the sources of the Pacimoni on the east. "Near two Indian villages on the south side of the Casiquiare," the author remarked, "where I penetrated deep into the forest, I came on large groves of Piassaba, and nothing that I have seen in Amazonian forests dwells more strongly and pleasantly on my memory than my walk among these strange bearded columns, from whose apex sprung the green interlacing arches which shaded me overhead." Of the Piassaba collected on the Casiquiare and Guainia, about half, it was stated, is taken down to Para, and the other half goes to Angostura on the Orinoco. In the summer season the Indian villages on those rivers present a very lively appearance from the boat-building and rope-making which occupy the inhabitants. Besides the use made of the beard of the Piassaba, Mr. Spruce stated that the pulpy envelope of the sarcocarp in the ripe fruit is said to yield the most delicious of all Palm drinks, bearing great resemblance to cream both in colour and taste. "I have not," he remarked, "had the good fortune to taste it, or even to see the ripe fruit, which comes into season at Midsummer, but like the fruit of most other trees is subject to seasons or periods of intermittance, when little or none is matured." The fruit appears to take about nine months to ripen. Mr. Spruce gave as follows the dimensions of one of these Palms, which he cut in the forests of the Guainia:—Caudex, 40 feet; fronds, 15½ to 16½ feet, including a petiole of 4 feet 8 inches; pinnæ, 63 pairs; beard, 21 inches long, on young plants growing close by it was as much as 4 feet 9 inches long; spadix, 4 feet. Another bearded Palm which extends all along the eastern roots of the Andes, Mr. Spruce described to be a true Attalea, distinct from A. fumifera. The beard of this, which is deciduous, not persistent as in the Piassaba, makes excellent brooms. In the Quitinian Andes a very similar broom is made of the base of the petiole of the Cádi Palm (Phytelephas macrocarpa), but the decayed parenchyma requires to be combed away from the fibres before they can be put to this use.—7. "Notice of the cultivation of Cocoa-nuts in Ceylon," by the Rev. Thomas Foulkes, in a letter to Sir W. J. Hooker. The writer first mentioned the unsystematic but all prevailing cultivation of this tree by the natives, remarking that it obtains everywhere on the coasts of the island and to the height of 2000 feet on its mountain sides. A somewhat authentic computation estimates the number of trees in all parts of Ceylon at upwards of 20 millions for this mode of cultivation alone. The systematic cultivation of the Cocoa-nut by Europeans in plantations exclusively devoted to it, however, dates from about the year 1842, when it was undertaken with very sanguine hopes of quick and large returns upon the capital invested in it. In a very short time thousands of acres of unprofitable jungle were cleared in different parts of the island, and probably upwards of half a million sterling has been expended on the estates. Omitting the central province where the Coffee take the place of the Cocoa-nut plantations, there are in the remaining provinces, which occupy an area of 18,509 square miles, 99 Cocoa-nut estates, extending over 22,400 acres. Taking an average of 80 trees to the acre, this acreage would give 1,792,000 Cocoa-nut trees, raised in Ceylon during the last 20 years. Added to those previously mentioned, we have 22 millions for the total of trees throughout the island, and assuming each tree to produce annually on an average 50 nuts, we should have the enormous number of eleven hundred millions of Cocoa-nuts as the annual produce of Ceylon. As all the trees cannot be in full bearing, this must be beyond the truth, and yet since fifty nuts to each tree is a low average for those already in bearing two-thirds of the above number would probably be a fair though low computation. Indeed, one estate in the western province, with about one-fifth of its trees in full bearing, is said to be producing at the present time 600,000 nuts annually on 800 acres. The estimated yield of the Jaffera estates alone for the present year is 5,000,000 of nuts, on 9000 acres; a small proportion only of the trees being in full bearing. The quantity of Cocoa-nut oil exported from Ceylon in 1857 (the last return) was 1,767,413 gallons. The paper gave an interesting account of the management of the plantations, and the author concluded with the following Hindoo riddle on the subject:

> "It dwells on high; but it is not the eagle:
> It produces water; but it is not the rain cloud:
> It is white; but it is not the silver moon.
> It has three eyes; but it is not Siva."

—8. A memoir "On the Embryogeny of Endogens," by B. Clarke, Esq.—9. Notes "On the structure and affinities of Batideæ and Callitrichaceæ; on the structure and affinities of Vochysiaceæ; and on Cassytheæ," by B. Clarke, Esq.

## Notices of Books.

*Mary Stuart, by Alphonse de Lamartine.* 8vo. Black. With portrait, autograph, and vignette.

A graceful translation of one of the most beautiful narratives of modern days, to which are added about 70 pages of illustrative matter in the form of an appendix. It is for literary journals to criticise works of this class; we can only commend them when they deserve praise, as this does most abundantly, excepting always the translations of the poetry of the Queen and of Ronsard. We may however extract the concluding passages by Lamartine, in which he eloquently condenses his own opinions as to the true character of the unfortunate Scottish Queen.

"If we regard Mary Stuart in the light of her charms, her talents, her magical influence over all men who approached her, she may be called the Sappho of the 16th century. All that was not love in her soul was poetry; her verses, like those of Ronsard, her worshipper and teacher, possess a Greek softness combined with a quaint simplicity; they are written with tears, and even after the lapse of so many years, retain something of the warmth of her sighs.

"If we judge her by her life, she is the Scottish Semiramis; casting herself, before the eyes of all Europe, into the arms of the assassin of her husband, and thus giving to the people she had thrown into civil war a coronation of murder for a lesson of morality.

"Her direct and personal participation in the death of her young husband has been denied, and nothing in effect, except those suspected letters, proves that she actually and personally accomplished or permitted the crime; but that she had attracted the victim into the snare; that she had given Bothwell the right and the hope of succeeding to the throne after his death; that she had been the end, the means, and the alleged prize of the crime; finally, that she absolved the murderer by bestowing upon him her hand,—no doubt can be entertained regarding these points. To provoke to murder, and then to absolve the perpetrator—is not this equivalent to guilt?

"In fine, if she be judged by her death—comparable in its majesty, its piety, and its courage, to the most heroic and the holiest sacrifices of the primitive martyrs—the horror and aversion with which she had been regarded change at last to pity, esteem, and admiration. As long as there was no expiation she remained a criminal; by expiation she became a victim. In her history blood seems to be washed out by blood; the guilt of her former years flows as it were from her veins, with the crimson stream; we do not absolve, we sympathise; our pity is not absolution, but rather approaches to love; we try to find excuses for her conduct in the ferocious and dissolute manners of the age; in that education, depraved, sanguinary, and fanatical, which she received at the Court of the Valois; in her youth, her beauty, her love. We are constrained to say with M. Dargaud—to whom we feel deeply indebted for the researches which have guided us—'we judge not—we only relate.'"

## Garden Memoranda.

A. J. Doxat's, Esq., Putney Heath.—At few places are Cinerarias and Chrysanthemums grown in such perfection as they are here by Shrimpton, Mr. Doxat's gardener. Some account of his mode of managing them may therefore not be unacceptable. In the case of Cinerarias, they are cut down after blooming and set in a cold frame or pit (under a north wall is preferable), and shaded from the midday sun. As soon as they have pushed sufficiently to enable them to be divided, the offsets are removed and put into 3-inch pots in very light sandy soil and kept rather close for a few days, attending to watering and shading, &c. When rooted they are sprinkled overhead morning and evening, to encourage growth. When strong they are shifted into 48 pots, given weak manure water, and plenty of air, but still shaded. They should never be allowed to suffer from want of water. As they fill the pots with roots they are potted on, using pots according to the size of the plants. When they begin to start into growth they are pinched back, so as to make them break strongly from the bottom. After they have made shoots long enough the latter are pegged out so as to form a spreading plant, or otherwise, as may be required. By stopping them again the size is increased, and it prolongs the time of coming into bloom. Those who have no stock by them, or who wish to obtain fresh sorts should lose no time now in ordering them from the nursery, so as to obtain nice little plants to start with, which will make fine specimens for all purposes from a 4-inch pot up to a 10-inch one if required. The soil Mr. Shrimpton uses is turfy loam and stable dung, bulk for bulk (laid together 12 months previously, and well turned at different times), with sand, the latter to secure a free open soil, and good drainage. They ought never to want for water when they require it. Cinerarias are very subject to the attacks of aphides, which must be destroyed as soon as perceived. For that purpose the following recipe has always been found effectual, viz.—4 oz. of tobacco and 1 lb. of soft soap to 5 gallons of soft water; get all the strength out of the tobacco and dissolve the soft soap; then strain it through a coarse cloth to prevent dirt passing and thus injuring the plants. Carefully dip them into it, but not the pots. It will not only destroy but prevent fly from making its appearance. Should mildew attack them use sulphur, putting it on one day and washing it off the next. Well sprinkle the plants all over with it, it will not harm the foliage. By giving frequent doses of manure water and attending to the above directions, plants will be produced which will repay every care bestowed on them.

The Chrysanthemums grown at this place, like the Cinerarias, are remarkable not only for abundance of bloom, but for the health and beauty of the plants themselves, furnished as they are with foliage quite down to the pots. To ensure this the following points are attended to:—When hot dry weather sets in the plants are well mulched with rotten dung, which prevents the sun's rays from scorching the little rootlets which may be found in multitudes just under the surface of the soil. If these get scorched or burned, the plants are almost sure to shed their lower leaves; this is however easily avoided by the mulching just mentioned and frequent waterings, a practice which causes the plants to grow healthily and renders them ornaments to the garden, even when out of bloom. Previous to Mr. Shrimpton

situations till September; he stops them two or three times during the season, and they are supplied plentifully with water, taking care, if the mould should open or crack round the inside of the pot, to fill up the gap with a little finely sifted soil. If this is not attended to, water when supplied passes off between the soil and pot and leaves the middle dry. Another point requiring particular attention is not to allow the plants to get too high before they are stopped; if this is neglected they do not break at the bottom or throw out laterals low enough to induce a handsome bushy habit. Mildew, to which the Chrysanthemum is very subject, is kept down by sprinkling the plants with water, and then well powdering them with flowers of sulphur. To be effectual however this ought to be done immediately the pest makes its appearance; for, if allowed to fairly establish itself, it is very difficult to eradicate, and the plants never look so healthy afterwards.

## Miscellaneous.

*The late William Gardiner.*—We learn with much pleasure that the friends in Dundee of this lamented botanist have been enabled out of the small sum raised for his family to maintain him with every comfort and attendance till death, when there remained at their disposal a sum which enabled them to print, bind, and mount a fourth edition of the "First Series of Twenty Lessons on British Mosses," the proceeds of the sale of which have been nearly sufficient, with certain local aid, to bring up his orphan son. The boy, following the bent of a strong inclination for a sea life, has decided on being a sailor. In accordance with his determination, he has been fitted out, and is at present serving an apprenticeship on board a merchantman, the Onega, brigantine, Captain Scott, of Dundee. His guardians have incurred in this final expense, when added to a deficiency for his up-bringing, about 26*l*. As this will be the last effort which, in duty, they will be called on to make, they would freely solicit the kind friends of the father to assist them in discharging this obligation. On the authority of the Rev. William B. Borwick, Dundee, and the Rev. J. W. Taylor, F. C., Flisk and Creich, Fifeshire, both of whom have taken considerable interest in him, it may be stated that the boy is promising as to disposition, morals, and ability. All communications may be addressed, and Post-office orders made payable, to the *curator bonis*, Mr. James Scrymgeour, Superintendent of the Dundee Band of Hope, Kemback Place, Lilybank, Dundee. There are a few copies of poor Gardiner's book of Mosses, illustrated with specimens, price 3*s*. 6*d*., still on hand, which may be had through any bookseller of the Messrs. Longman, publishers, London.

*Patent Stump and Tree Extractor.*—A machine of rather a novel character, adapted for the purpose of clearing land of trees and stumps, was tested the other day in the Parliamentary reserve, in the presence of his Excellency the Governor. The machine, which has been patented by Messrs. Mansfield and Hewitt, consists of an iron-bound beam about 2½ feet in circumference and 20 feet in length. It is supported horizontally by a small wheel at each end. This beam is used as a lever, the fulcrum being obtained by fastening it with a chain to a tree or stump at a distance of about 100 yards from the tree to be removed, around which a strong chain is fastened at a considerable elevation from the root. The other end of the chain is fixed by a hook to the lever, about 8 inches from the fulcrum. The action of the machine is caused by four bullocks being harnessed to the end of the lever, and drawing it alternately backwards and forwards in a half-circle. At each turn, the chain connecting the tree with the lever is shortened, by a contrivance for the purpose, and the strain is consequently increased, while at the same time, the declination gained is preserved. The machine appears to be constructed on true mechanical principles, and when applied, it is evident that either it or the tree must give way. In the experiments yesterday the trees were pulled down in a few minutes, and apparently without any great strain on the machine. The trees experimented on, however, although rather above the average girth and height, were dead, permission having been refused to remove any trees exhibiting signs of vitality. The patentees state that a tree in full vigour presents no greater obstacles to the action of the machine, and possesses this advantage, that in its fall the roots are drawn entire from the ground, whereas in a dead tree they break off and are left in the ground. Four trees were yesterday taken up, and the time required for each did not exceed 10 minutes. For the eradication of stumps a second lever, with a vertical action, is used, but this portion of the machine was not tested. *Melbourne Argus.*

*Australian Garden Edgings.*—During one of my rambles about two years ago in search of plants to dry and send to England, after surmounting a barren and rugged range of hills I was agreeably surprised to find the opposite slope covered with a beautiful Heath-like plant, which brought vividly to my recollection the Heath-covered hills of the old country. The plants were from 6 inches to a foot high, and covered with multitudes of pink flowers. On removing several plants to the nursery, I noticed that the shoots, about as thick as a knitting pin, were clustered with small fibres at their base. I immediately pulled them to pieces, making of each bunch 20 or 30 small rooted plants. Here then, I thought, I have a substitute for Box-edging. I stretched a line, made a small straight trench, and kneeling inch from each other, holding all safe with the back of my left hand whilst I drew the soil to them and fastened them with my right. They were not watered, but took their chance. The result was that every one grew, and I now have as beautiful a neat edging as can possibly be desired. It is called Tetratheca ericæfolia, and I think if some plants were procured, and a bed or two edged with it at the Botanic Garden, Mr. Francis would be able to report also on its merits, and visitors would likewise be enabled to distinguish the plant, so as in many cases to procure it in their own neighbourhoods. Bottles for flower-border edgings are monstrous, always inculcating the idea that we, as colonists, are "a thirsty lot." Camomile looks mangy, and untidy at certain seasons; Thyme is of a dull colour, sometimes dying off in patches, and as for Box it will be too expensive and uncertain for general purposes for years. *J. F. Wood, Evandale Nurseries in the Melbourne* Farm and Garden.

## Calendar of Operations.

(*For the ensuing Week.*)

### PLANT DEPARTMENT.

CONSERVATORY, &c. — Now that many of the Camellias, Azaleas, and other plants have been placed in summer quarters out-of-doors, painting or other repairs required by any of the plant-houses may be more conveniently done than at any other season. As recommended last week pay great attention to plants for autumn and early winter decoration. Let them have plenty of pot-room, good rich compost to grow in, a moist atmosphere, and plenty of space for perfect development, regulating the temperature according to the nature of the plant, and they will make rapid progress. Mealy bug and thrips will require to be looked after; the utmost diligence must be used to keep these in check. STOVE.—If there are any sickly or badly rooted specimens here they must be frequently examined, for red spider; otherwise they will become a nursery for this pest, and from them it will soon spread to adjoining plants. See that young growing stock is not allowed to suffer for want of pot room; attend carefully to watering, giving manure-water to all plants in free growth that enjoy it. Gardenias and other things that have been in the conservatory while in bloom should be replaced in heat as soon as their beauty is over, in order to allow time for getting their growth ripened before short days and dull weather have arrived. ORCHIDS.—Growing stock will require encouragement. Shading must be promptly attended to when bright sunshine occurs. Allow them, however, as much light as they will bear without injury, using a very light screen, and that only when absolutely necessary. Keep them clear of insects and dust by frequent syringings or spongings.

### FORCING DEPARTMENT.

PINERIES.—Such varieties as are at all liable to spoil at the bottom before the upper pips are coloured should now be kept as dry as possible immediately they show the least signs of colouring, keeping the atmosphere also as dry as can be done without injury to the rest of the stock. VINERIES.—Grapes intended to hang through the winter should be thinned very freely, and, if necessary, they should be gone over a second time, leaving them so that the berries, when fully swelled, will scarcely touch each other. A moderate crop only should be left on the Vines; for, to ensure success in keeping Grapes fresh and in good condition till next March, the Vines must be in first-rate health; be satisfied, therefore, with a moderate, or rather light crop, in the late house. Keep the atmosphere of houses where the fruit is colouring in active circulation, using gentle fires by day, with abundance of air, and leaving a little air on at night, to prevent damp. If red spider appears inclined to be troublesome, wash the pipes, &c., with a mixture of soot and lime, and if the colour is objectionable, add more soot. FIGS.—Trees that have been kept dry while ripening the first crop, and are now cleared of this, should be well watered at the root, and if there is any appearance of red spider, the leaves should be thoroughly washed with the engine. Give manure-water to trees showing a heavy second crop, and keep the atmosphere moist by frequently sprinkling the passages and borders, &c. Keep the shoots thin and regularly tied, so as to avoid confusion, and expose all parts of the tree equally to the light. Where the fruit is ripening attend to previous directions, and keep the atmosphere and borders as dry as can conveniently be done. Assist trees in pots by giving them a liberal supply of manure-water.

### FLOWER GARDEN AND SHRUBBERIES.

Continue to clear everything away decaying and to introduce good things from pots in the reserve ground. A good reserve ground, if properly situated and systematically planned and conducted, would be one of the most useful plots about a garden. Such a valuable adjunct as this would, however, require the constant attendance of a man possessing some little knowledge of flowers, and therefore could not be carried out where there is a stint of labour. Decayed patches of bulbs which are required to stand for early spring flowering may have dressy Verbenas or other things introduced from pots between them. Cuttings of Pansies should be got out in succession before the shoots are too much exhausted. All boundary or other hedges should be clipped forthwith.

### HARDY FRUIT AND KITCHEN GARDEN.

Tomatos must be regularly attended to, keeping the shoots thin and stopping them above a cluster of fruit; for if the plants are allowed to ramble and grow too freely there will be a poor chance in an unfavourable season of securing a good crop of fruit. Shallots, if left in the ground after the bulbs are matured, are apt to mildew and rot in wet weather, therefore these should be pulled as soon as the tops begin to decay, and spread out in an airy place to dry before storing them away. Get herbs in flower cut and dried for winter use. Where a sufficient breadth of Celery is not yet planted out, this must be attended to as speedily as possible, and must be well cared for with water, &c., until well established after planting, otherwise good sized heads need hardly be expected. Earth up former plantings, and encourage rapid growth by occasional waterings with manure water. See that a good bed of some approved early variety of Cabbage is sown for spring use. Ply the hoe freely among all growing crops, both for the destruction of weeds and for loosening the surface of the soil after heavy rains. Look over all trained fruit trees frequently for the purpose of stopping and shortening any gross shoots, and keeping the growth nicely regulated; also get the young shoots of wall trees laid in where not already done.

STATE OF THE WEATHER AT CHISWICK, NEAR LONDON,
For the Week ending June 30, 1859, as observed at the Horticultural Gardens.

| June. | Moon's Age. | Barometer. Max. | Barometer. Min. | Temperature of the Air. Max. | Min. | Mean | Temperature of the Earth 1 foot deep. | 2 feet deep. | Wind | Rain in inches |
|---|---|---|---|---|---|---|---|---|---|---|
| Friday 24 | 23 | 30.083 | 30.026 | 72 | 34 | 53.0 | 63½ | 61½ | S.W | |
| Satur. 25 | 24 | 30.001 | 29.836 | 78 | 53 | 65.5 | 62 | 62 | S.W | |
| Sunday 26 | 25 | 29.938 | 29.775 | 81 | 55 | 68.0 | 63½ | 61½ | S.W | |
| Mon. 27 | 26 | 30.094 | 30.044 | 80 | 56 | 68.0 | 65 | 63 | S.W | |
| Tues. 28 | 27 | 29.933 | 29.816 | 71 | 50 | 60.5 | 65 | 63 | S.W | |
| Wed. 29 | 28 | 30.050 | 30.040 | 72 | 42 | 57.0 | 65 | 63 | N.W | |
| Thurs. 30 | ● | 30.092 | 30.066 | 74 | 40 | 57.0 | 64 | 63 | N.E | |
| Average | | 30.207 | 29.943 | 75.4 | 47.1 | 61.3 | 64.0 | 62.4 | | |

June 24—Very fine throughout; cold at night.
— 25—Clear; dry air and fine.
— 26—Thunder and lightning, 6.40 A.M.; very fine; lightning at night.
— 27—Very fine; cloudy; rain; overcast.
— 28—Rain, very heavy; rain at night.
— 29—Fine; very fine throughout.
— 30—Very fine; clear and fine at night.
Mean temperature of the week, ¾ deg. below the average.

RECORD OF THE WEATHER AT CHISWICK,
During the last 33 years, for the ensuing Week, ending July 9, 1859.

| July. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds N. | N.E. | E. | S.E. | S. | S.W. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday 3.. | 74.2 | 51.7 | 63.0 | 14 | 0.79 in. | 1 | 6 | 2 | 1 | 3 | 11 |
| Mon. 4.. | 76.2 | 51.4 | 63.8 | 10 | 0.33 | 1 | 4 | 2 | 1 | 2 | 14 |
| Tues. 5.. | 77.6 | 51.3 | 64.4 | 13 | 0.59 | 1 | 2 | 4 | 1 | 5 | 11 |
| Wed. 6.. | 76.3 | 51.6 | 63.9 | 14 | 0.45 | — | 3 | 1 | 4 | 5 | 11 |
| Thurs. 7.. | 73.5 | 52.3 | 62.9 | 18 | 0.34 | 2 | 1 | 5 | 2 | 6 | 9 |
| Friday 8.. | 73.5 | 50.5 | 62.0 | 18 | 0.46 | 1 | 1 | 5 | 3 | 5 | 9 |
| Satur. 9.. | 73.7 | 50.1 | 61.9 | 15 | 0.82 | 4 | 1 | 2 | — | 3 | 5 |

The highest temperature during the above period occurred on the 5th, 1852—therm. 97 deg.; and the lowest on the 3d and 9th, 1856, and 4th, 1851 and 1855—therm. 37 deg.

## Notices to Correspondents.

DISEASED GRAPES: *J. Robertson.* We are at a loss to know what has caused the mischief in your Grapes. This is certain: 1, that the decay is internal, not external; and 2, that it occurs in the pulp where the veins run, and on them, and nowhere else. Is there nothing in the soil that you can ascribe it to? No mildew fungi are discoverable. But minute bubbles of air appear in the diseased spots as soon as the skin is removed, a circumstance that suggests fermentation as going on in the spots. Is your border warm and well drained? Look to that.

GUERNSEY LILIES: *H H.* You will find ample directions for their culture in No. 47, p. 742, of our volume for 1852.

INSECTS: *Old Sub.* The Rose leaves sent here had the under surface gnawed off by the yellow larvæ of a small black fly-fly, (Selandria æthiops). It is difficult to reach them by syringing the plants, but by enveloping the trees in a sheet and fumigating them with brimstone the larvæ will fall off the leaves, and may be caught on sheets of paper and destroyed. *W.*

NAMES OF PLANTS: We have been so often obliged to reluctantly decline naming heaps of dried or other plants, that we venture to request our correspondents to recollect that we never have or could have undertaken an unlimited duty of this kind. Young gardeners, to whom these remarks more especially apply, should bear in mind that, before applying to us for assistance, they should exhaust their other means of gaining information. We cannot save them the trouble of examining and thinking for themselves; nor would it be desirable if we could. All we can do is to *help* them—and that most willingly. It is now requested that, in future, not more than four plants may be sent us at one time. *J M'J.* Niphobolus Lingua; 2, Asplenium fragrans; 3, Pellæa peltis Billardieri; 4, Nephrodium molle.—*R C.* 1, Sarcochilus sarmentosa; 2, Lycium barbarum.—*D J.* It is Helleborus fœtidus. There is no such plant as H. officinalis that we know of.—*G B.* 1, Brasavola tuberculata; 2 is so withered that it cannot be determined; send fresh specimens not quite open, and say what sort of looking plant it is; we cannot spare a leaf.—*N.* The Fern-leaved Hornbeam.—Cineraria of the varieties of Rhododendron cinnabarinum.—*Constant.* 1, Malva capensis; 2, Polygala myrtifolia; 3, Jasminum gracile.—*G.* 1, Callipteris ambigua, *alias* Diplazium maximum; 2, Asplenium lucidum; 3, Lastrea tenericaulis, called Polypodium trichodes; 4, Lysimachia nemorum.—A few answers under this head are unavoidably deferred to next week.

STRAWBERRIES: *A P.* Of your three seedlings, 1 is the most distinct; in flavour it is perhaps too acid for some palates; 2 somewhat resembles British Queen; but is not so fine. The best in the latter respect is the smaller one, No. 3, which does not appear to differ from Cuthill's Prince Royal. We advise you to send fruit to the meeting of the Horticultural Fruit Committee, at 8, St. Martin's Place, on the 12th inst.—*H B.* We can offer no opinion on your seedling. Send it for the inspection of the Horticultural Fruit Committee on the 12th.

THE LATTICE PLANT: *Curious.* It requires both skill and attention. It must be always under water, which must be soft and its temperature never below 70°. The root should be in soft mud, and the water should be kept in motion by a contrivance that will prevent its becoming stagnant. If we to take it in hand we should also endeavour to stock it with a few fish in the water.

VINES: *W P.* If you will be so good as refer to a leading article in another column, you will we trust find your question answered.

THE PATENT

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LIQUID MANURE.

JAMES'S PATENT LIQUID MANURE DISTRIBUTOR OR WATER-CART, warranted not to choke up or otherwise get out of order. It is thoroughly adapted for Drill Crops, or Pasture Land, or for Watering Streets; has been awarded SIX FIRST PRIZES.

Full Particulars and Testimonials may be obtained of the Patentee, ISAAC JAMES, Tivoli Waggon Works, Cheltenham.

*Improved* LIQUID MANURE PUMPS supplied.

WARNER'S IMPROVED LIQUID MANURE OR GENERAL PORTABLE PUMP.

These Pumps are fitted with J. W. & SON'S Patent Buckets and Suckers, and cannot clog in action. The barrel is of galvanised iron, not likely to corrode, and can be raised or lowered at pleasure. The legs will fold together, and the whole may be carried on the shoulder to any pond or tank required.

*Price* of 4½ in. Pump, with legs, 3*l.* 3*s.* If with planished copper barrel and galvanised iron handle, &c., 14*s.* extra. The barrel is 27½ in. long, and the legs are 5 ft. high.

These Pumps are also made without the legs, with strong wrought-iron straps for screwing on to any ordinary water butt or cart, and fitted with 1¼ inch brass union for attaching flexible suction. Price 50*s.*

1¾ inch Gutta Percha Suction Pipe, 1*s.* 11*d.* per foot.

Rubber and Canvas Suction and Delivery Hose, from ½ inch to 4 inches in diameter, in lengths of 60 feet to order. Branch Pipes with Cocks, Union Screws, &c., at reduced prices.

May be obtained of any Ironmonger or Plumber in town or country, at the above prices, or of the Patentees and Manufacturers, JOHN WARNER & SONS, 8, Crescent, Jewin St., London.

WARNER'S PATENT VIBRATING STANDARD PUMPS.

PATENT CAST-IRON PUMPS, fitted with J. W. & SON'S Patent Buckets and Suckers, which cannot clog in action, for Farms, Cottages, and Wells, not exceeding 28 feet.

| Diameter of Barrel. | Height. | | £. | s. | d. |
|---|---|---|---|---|---|
| 2½ in. | short | 1 ft. 7 in. | 1 | 10 | 0 |
| 2½ ,, | long | 3 ,, 3 ,, | 1 | 14 | 0 |
| 3 ,, | ditto | 3 ,, 6 ,, | 2 | 8 | 0 |
| 3½ ,, | ditto | 3 ,, 6 ,, | 2 | 12 | 0 |
| 4 ,, | ditto | 3 ,, 6 ,, | 3 | 3 | 0 |

Fitted for lead, gutta percha or cast iron flanged pipe as required.

2½ ,, short, with 15 feet of Lead Pipe attached, ready for fixing .... 2 14 0
2½ in. long ditto ditto ditto 2 18 0

The short barrel Pump is very convenient for fixing in situations of limited height and space, for the supply of coppers and sinks in Wash-houses with soft water from underground tanks, or in Hot, Forcing, and Plant Houses; they may be fixed, when desired, under the stage.

May be obtained of any Ironmonger or Plumber in Town or country, at the above prices, or of the Patentees and Manufacturers, JOHN WARNER & SONS, 8, Crescent, Jewin Street, London.

Every description of Machinery for Raising Water by means of Wheels, Rams, Deep Well Pumps, &c.; also Fire and Garden Engines, &c. &c.—Engravings sent on application.

MR. JONAS WEBB begs to inform his friends and the public that his THIRTY-THIRD ANNUAL SHOW of PURE SOUTHDOWN RAMS will take place on THURSDAY, July 7, when the honour of their company will be esteemed a favour.

The Sheep will be Let or Sold as usual, and may remain upon the farm until required by the purchasers. Conditions of the Sheep letting may be obtained on application.

JONAS WEBB will forward Sheep half way should the distance be farther than 12, and not exceed 100 miles, and those let at 20 guineas and upwards will be sent free by J. W. to any Railroad Station, and their carriage back paid by him.

Whittlesford Station on the Eastern Counties Line is two miles from Babraham, and by permission, all trains, except the express, will on that day stop at Whittlesford, where conveyances will be in readiness to meet them.—Church Farm, Babraham, near Cambridge.

THE GENERAL LAND DRAINAGE AND IMPROVEMENT COMPANY: Offices, 52, Parliament Street.

HENRY KER SEYMER, Esq., M.P., Chairman.

1. This Company is incorporated by Act of Parliament to facilitate the Drainage of Land, the Making of Roads, the Erection of Farm Houses, Farm Buildings, and Labourers' Cottages, and other Improvements on all descriptions of Property, whether held in fee, or under entail, mortgage, in trust, or as ecclesiastical or Collegiate Property.

2. In no case is any investigation of Title necessary.

3. The Works may be designed and executed by the Landowner or his Agents, or the Company will undertake the entire improvement by their experienced staff, and advance the money required for the works. Equal facilities will be afforded in either case.

4. The whole cost of the works and expenses may, in all cases, be charged on the Lands improved, to be repaid by half-yearly instalments.

5. The term of such charge may be fixed by the Landowner, and extended to 50 years for Land Improvements, and 31 years for Farm Buildings, whereby the instalments will be kept within such a fair per-centage as the occupiers of the improved Lands can afford to pay.

6. No profit is taken on any Works executed by the Company, the actual expenditure only, approved by the Inclosure Commissioners, being charged in all cases.

WILLIAM CLIFFORD, Secretary.

ROYAL AGRICULTURAL IMPROVEMENT SOCIETY OF IRELAND.—The GREAT ANNUAL CATTLE SHOW of this Society will be held at DUNDALK, on JULY 27, 28, and 29.

All Entries must be made with the Secretary on or before July 13, from whom a detailed Prize Sheet, together with Entry Forms for the different Classes can be obtained.

The following favourable arrangements have been made with the respective Rail and Steam Boat Companies for the conveyance of Stock, &c., to the Show:—

On the Great Southern and Western, Live Stock (except Entire Horses and Poultry) FREE to the Show, and any unsold returned free. Entire Horses charged to the Show, and any unsold returned free. Implements charged to the Show; any unsold returned free.

The Ulster Railway Company will convey everything to the Show free.

The Dublin and Drogheda, the Belfast Junction, the Midland Great Western, and the Dundalk and Enniskillen Lines will convey back from the Show all unsold Stock, Implements, &c., free of charge.

The Dundalk and Liverpool Steam Packet Company will convey from Liverpool all Stock, Implements, &c., intended for exhibition, free of freight.

By Order, J. M. ROYSE, Secretary.

Society's Rooms, 42, Upper Sackville Street.—July 2.

YORKSHIRE AGRICULTURAL SOCIETY.

HULL MEETING, 1859.

OPEN TO THE UNITED KINGDOM.

The TWENTY-SECOND ANNUAL MEETING will be held at Hull on WEDNESDAY, August 3, and THURSDAY, August 4, when nearly 900*l.* will be offered in prizes for Stock, Poultry, Implements, &c., including Steam Ploughs and Reapers.

Prize Lists and Certificates of Entry may be had on application to the Secretary. The Entry closes on the 20th July.

JOHN HANNAM, Secretary.

N.B.—Persons desirous of becoming members of the Society are requested to send their names immediately to the Secretary.

An Annual Subscription of 1*l.* enables a member to exhibit an unlimited number of Stock, to view all the Exhibitions, and to receive the Society's Publications free of charge.

Kirk Deighton, Wetherby, July 2.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.—WARWICK, 1859.

PROGRAMME.

TUESDAY, July 12; WEDNESDAY, 13.—The Implement Yard open from 10 o'clock in the morning till 6 o'clock in the evening on Tuesday: and from 7 o'clock in the morning till 6 o'clock in the evening on Wednesday, at an admission charge of 2*s.* 6*d.* for each person. Machinery will be shown by the Exhibitors at work on each of these days.

WEDNESDAY, 13.—The Judges to inspect the Live Stock, and to award the Prizes.

Public trials of the Steam Cultivators, on land in the neighbourhood of the city, during such hours as the Stewards may determine.

At 1 o'clock (or as soon after as all the Judges shall have delivered in their awards, of which notice will be given), the Public will be admitted into the Cattle Yard on the payment of 5*s.* each person, at the Special Entrances.

THURSDAY, 14.—The General Show Yard of Cattle, Horses, Sheep, Pigs, and Implements open to the Public from 6 o'clock in the morning till 6 in the evening; admission 2*s.* 6*d.* each person.

FRIDAY, 15.—The General Show Yard open to the Public from 6 o'clock in the morning till 6 in the evening; admission 1*s.* each person.

General Meeting of the Members, in the Shire Hall, at 10 o'clock in the forenoon.

By Order of the Council, B. T. BRANDRETH GIBBS, Hon. Acting Secretary, *pro tem.*

London, July 2.

By the Regulations of the Society, all persons admitted into the Show Yard, or other places in the temporary occupation of the Society during the Meeting, shall be subject to the Rules, Orders, and Regulations of the Council.



# The Agricultural Gazette.

*SATURDAY, JULY 2, 1859.*


MEETINGS FOR THE ENSUING WEEK.

WEDNESDAY, July 6—Agri. Society of England .... Noon.
THURSDAY, — 7—Mr. Jonas Webb's Ram Sale at Babraham.

WHAT are the merits of the so-called "CONCENTRATED CATTLE FOODS?"—so called to distinguish them from the ordinary foods with which cattle are fed or fattened. They are very costly, on the plea implied or expressed that by a well

studied combination of ingredients a food is prepared of so much greater health giving and feeding properties as to be increased in value from about 7*l.* for its ingredients to as much as 40*l.* for their combination.

We have in the course of years been brought in contact with every class making up the rural population, and happen to know from experience how anxious are the carter and the shepherd and the cowman to acquire "resaits" for use in their several departments as keepers of the live stock of the farm. Without trying to follow the two last worthies into the secret arcana of their many much prized compounds for the "yellows," the "red water," or the "shab," it will be enough for our present purpose to review some of the doctoring predilections of the carter.

A man having charge of horses, if he be worth anything as a groom, is desirous of having his cattle look healthy and well; and, especially in the earlier part of the year when the coat begins to change, he is solicitous that the new garment shall be sleek and fine, an effect sure to be brought about by proper feeding and good grooming. But your carter is slow to admit that Nature can effect so much as his peculiar leechcraft, and so he follows out with his horse to the present moment what was formerly a custom with the higher animal, man. Every spring, or perhaps at spring and fall, he plies his beast with some medicated stuff, even though it be forbidden by the master; and so powerful is the influence of tradition in favour of these nostrums, that these poor men pay out of their own pockets as much as from 2*s.* 6*d.* to 5*s.* at a time for horse powders.

But, again, as showing the firm hold which the system possesses, it will be not out of place here to state another circumstance connected with the matter. At the time the horse powders are being administered it is deemed desirable that the animal should be better fed than ordinarily; and it is not at all uncommon for a carter to crib from time to time a store of corn with which the animal is duly primed, while taking the medicines; and as he is in this and in every other way better cared for than usual, no wonder that good looks and sleek coat should result. Now all this is done in secret and with great caution; few farmers know of this periodical tampering, the finding out of which would often involve the carter in loss of place and character; and yet these probabilities are braved, and what is perhaps more, several days' wages are not unfrequently sacrificed to procure the stuff which we shall now inquire into. It will be well here to state that the foundation of horse powders consists of seeds or other parts of aromatic plants, as thus—Aniseed, Coriander, Carraway, and especially Fenugræc seeds, the roots, or underground stems—rhizomata—of Ginger or Turmeric; these and others are sometimes mixed with varied quantities of nitre, sulphur, or antimony, according as the urine or skin may be thought to require them, which as these are really powerful medicines very frequently lead to disasters in the cattle, the causes of which are but little dreamed of. Fortunately, however, where only the vegetable medicines are employed no evil results ensue, and this is partly owing to the dilution which the active principle in each undergoes at the hands of the wholesale drug merchant and the country druggist. The extent to which this is carried on may be gathered from the following *formulæ* copied *verbatim* from GRAY's Supplement to the Pharmacopœia, which was formerly a druggist's recipe-book in constant use:—

*Semina Fenugræci trita reducta.*

| | lbs. | |
|---|---|---|
| Sem. Fenugræc. .. | .. 56 | Fenugræc seeds. |
| Rad. Curcumæ .. | .. 7 | Turmeric root. |
| Fabarum .. .. | .. 36 | Beans. |
| Whiting .. .. | .. 14 | |
| Boxwood .. .. | .. 14 | |
| | Powder. | |

This is a tolerable dilution, but still it contains some of the real seed; the next it will be seen is an entire sophistication.

*Sem. Anisi trita reducta.*

| | lbs. | |
|---|---|---|
| Sem. Lini .. .. | .. 32 | Linseed. |
| P. Lini .. .. | .. 36 | Linseed-meal. |
| Rus Guaiaci .. .. | .. 20 | Guaiacum shavings. |
| Ebor .. .. .. | .. 4 | Ivory black. |
| Dutch Pink .. .. | .. 7 | |
| | Powder. | |

Take again Turmeric root, which is of an intensely yellow colour, and we shall find it more than half sophistication; the colour however is maintained by the addition of a colouring wood.

*Rad. Curcumæ trita reducta.*

| | lbs. | |
|---|---|---|
| Rad. Curcumæ .. | .. 12 | Turmeric root. |
| Fabarum .. .. | .. 12 | Beans. |
| Lign. rubri .. .. | .. 4 | Brazil Wood (?) |
| | Powder. | |

These examples are sufficient to show the kind of stuff the carter has been content to buy at such a large cost, and as we happen to know that in some country towns a considerable traffic, and that, too, mostly on the Sunday morning, is carried on in these articles, it indicates in a strong light the kind of preparation some minds had undergone for listening to the marvels related of the more modern cattle-food preparations.*

The compounders of cattle food then, it would appear, have discovered a prejudice to which they very cunningly administer. They know full well that it jumps with the humour of all who have to do with horses or cattle to mix medicated powders with their food, and they prepare for it by a pretended concentration of feeding materials; and so much are people taken with professions of this class, that the other day a friend of ours told us with no little surprise "that his horses ate quite as much corn; and indeed that he could not keep them a bit cheaper since he used the new food." However, people may not be much surprised at this who may read the following remarks with comments upon an analysis of cattle food, read before the Dublin University by Dr. CAMERON:—

"This so-called *concentrated* cattle food is sold at 42*l.* per ton, which is at the rate of 4½*d.* per lb.; while in reality it is not, at the very utmost, worth 7*l.*, or ¾*d.* It is far less nutritious than either Linseed-cake or Rape-cake, though it is no doubt more palatable to cattle than the latter. Its great inferiority to the oilcakes may be rendered more apparent by contrasting its analysis with that of an average sample of Linseed-cake."

No wonder, therefore, that this writer should have added the following remarks to his report, in which we cordially agree:—

"I consider the sale of the peculiar article they prepare an imposition of the grossest kind on the agricultural public, and on that portion of the urban community who are proprietors of horses. I have no hesitation in placing the manufacturers of 'concentrated cattle foods' in that category of the farmer's benefactors which includes the manufacturers of and dealers in spurious guano, for both take advantage of the prevailing ignorance of the farmer as to what really constitutes a nutritious article of food, or an excellent fertiliser of the soil. What is the moral difference between the man who sells guano at 12*l.* per ton, knowing it not to be worth 3*l.*, and the highly respectable dealer who vends cattle food at 42*l.* per ton and yet knows that its ingredients may be purchased at one-sixth of that amount?"

However, while endeavouring to show our agricultural friends the foundation upon which the superstructure of these cattle foods has been built, we would not have them unmindful of the fact that the flavour of the food is a really important matter—an inquiry into which, as it will further elucidate our present subject, we shall hope to go in a future Number.

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A TRIAL of BURGESS & KEY's mowing machine at Glasnevin, near Dublin, is reported in the *Weekly Agricultural Review* as having been remarkably successful. Mr. BALDWIN, of the Albert Institution there, estimates that, kept continually at work by alternate pairs of horses, it will mow 12 acres in a day. It performs the work admirably when the ground is even and free from stones, indeed the work could not be better done.

The following is Mr. BALDWIN's estimate of the cost per acre:—

"Assuming a farm of 200 statute acres, under a four course rotation, and having 50 acres of Grass, the cost would be as follows:—

| | s. | d. | s. | d. |
|---|---|---|---|---|
| Interest on the first cost of the machine for wear and tear, &c., say 12½ per cent., 3*l.* 15*s.*, or per acre .. .. .. .. .. .. .. | | | 1 | 6 |
| Wages of a man to drive .. .. .. .. | 2 | 0 | | |
| ,, of a boy .. .. .. .. .. .. | 1 | 0 | | |
| | 3 | 0 | | |
| Or per acre .. .. .. .. .. .. | | | 0 | 3 |
| Total per acre .. .. .. | | | 1 | 9 |

So that, omitting the cost of horse labour, we may safely say that the cost of mowing with the machine would not exceed 2*s.* per acre. Now, I know several farmers who paid upwards of 5*s.* per acre last summer for mowing Grass not exceeding in luxuriance that on the trial field at Glasnevin. And even if we charge the machine with the feeding of the horses, it will still be more economical than the scythe. The keep of four horses may on an average be assumed at 10*s.*, or about 1*s.* per acre, so that the cost of the "mower" will not exceed 3*s.* per acre where there are 50 acres of Grass to be cut down annually; and, of course the cost will diminish as the area to be mown increases. I have not drawn any comparison between the mower of Messrs. Burgess & Key and other machines in the market. It is enough to say that the work executed at Glasnevin is very creditable and calculated to inspire farmers with the hope that the cost of tillage will diminish in proportion as the science of agricultural machine-making is advanced."

We may add to this that WOOD's combined reaper and mower, a rival machine brought out we believe by RICHMOND & CHANDLER, of Salford, has also been successfully in operation in various parts of the country.

* It should be noted that the powders previously described are manufactured from articles sent to the drug mills, and mostly in London. The country druggist often knows little about them except that they are commonly reported as "very good" by their purchasers, while the genuine article could hardly be sold.

—— At the meeting of the East of Berwickshire Farmers' Club the other day reports were read of the experience of members in the cultivation of Swedes and Mangel Wurzel. Mr. GEORGE WILSON, of Harelaw, Chirnside, found that Peruvian guano was among the less effective of the six manures two guineas worth of each of which had been applied per acre upon Swedish Turnips; while bone-dust and dissolved bones were among the most effective of the series.—Mr. JOHN WILSON, of Cumledge, reported favourably of Mangel Wurzel, of which 30 tons per acre had been grown where Swedes treated in the same manner, with the exception of wanting a second dressing of artificial manure, yielded rather less than 20 tons.

"The land, a gravel loam, had been manured with not very rotten farmyard dung, upwards of 20 cart loads per acre in autumn 1857, after a crop of Oats, ploughed with a deep furrow, and ploughed again in the end of March, and well harrowed, grubbed, and drilled up about the 12th April with 1½ cwt. of Peruvian guano. Previous to drilling 3 cwt. of salt was applied. The drills were compressed with a light roller, and allowed to remain for eight days to gather sap, and then sown at the rate of 5 lbs. of seed per acre, on the 22d April. The seed brairded about the 8th May, very irregularly, from careless sowing; the blanks were filled by transplanting when the crop was thinned, about the 15th June. As it was moist weather this succeeded very well, although the plants were not ultimately so large as those grown from the seed. The plants were about 15 inches apart, where regular; the width of the drills was 28 inches. The ground was cleaned with the little ploughs and scufflers the same as for Turnips, with the exception of being stirred between the drills with a two-horse grubbler as deep as the horses could work it, about the beginning of July. Towards the end of that month, a dressing of a mixture of Peruvian guano and dissolved bones was applied, 1½ cwt. per acre, and worked in with the small plough and scuffler. Four kinds of Mangel were sown, Long Red, Red Globe, Long Yellow, and Yellow Globe; there was not much difference. The storing process was too long delayed, and it was stopped in the middle with a week's frost, in the beginning of December. What was stored before the frost is in perfect order at this time, the 4th June; what was stored after the few days' frost, although first used, was all much deteriorated, and many of the roots were quite rotten."

Mr. WILSON believes that Mangel will be cultivated in Berwickshire to a much greater extent than it has ever yet been. It is the best root that can be given to ewes when lambing, and to cows, the milk produced by it being so safe for calves, as well as to feeding cattle in late spring and early summer. All sheep and cattle seem to be very fond of it, preferring it to any other roots after April.

—— An addendum to last year's report of Irish Agricultural Statistics has lately been published by Mr. DONNELLY, in which the estimated produce per acre of the several crops during 1858 is applied to the ascertained acreage, as given last autumn, so as to bring out the gross produce of the country. The Tables accompanying the report indicate that "in 1858, compared with 1857, Wheat shows an increase of 83,507 quarters although a less extent was sown—the average produce per acre having been greater. Oats, with the same average yield per acre as in 1857, produced 58,194 quarters more in 1858, owing to a larger acreage; Barley and Bere, with a higher average yield per acre, gave a lower total produce, owing to the decrease in their extent. Potatoes exhibit an increase both in acreage and average yield per acre, and afforded an addition of 1,382,881 tons to the food of the country. Turnips, Mangel Wurzel, and Cabbage, also show an increased produce in 1848. Flax, although with a diminished extent of 6075 acres, shows, owing to a greater produce per acre, a general increase in yield of 3108 tons in 1858. The hay crop also appears to have produced 134,362 tons more in 1858 than in 1857. According to the returns, the average yield per acre of the principal crops during the last 10 years (1849 to 1858), was as follows:—Wheat, 5.3 barrels of 20 stones; Oats, 7.8 barrels of 14 stones; Barley, 8.5 barrels of 16 stones; Bere, 8.0 barrels of 16 stones; Rye, 7.1 barrels of 20 stones; Beans and Peas, 27.1 bushels of 8 gallons; Potatoes, 39.4 barrels of 20 stones; Turnips, 15.1 tons; Mangel Wurzel, 16.6 tons; Cabbage, 13.1 tons; Flax, 85.8 stones of 14 lbs.; hay, 2.0 tons.

From the tables, it would appear that the yield of the Wheat crop in 1858 was about the tenth of

a barrel per acre above the average of the previous 10 years; whilst Oats, Barley Bere, Rye, Potatoes, Turnips, Cabbage, Flax, and hay were below the mean acreable produce for the same period.

—— A trial of mowing machines near Boreham Park, the seat of Sir J. TYRRELL, excited a good deal of interest last week. Three machines were tried—BURGESS & KEY's mower, WOOD's combined reaper and mower, and a smaller implement, also of WOOD's. Of these BURGESS & KEY's mowing machine did the best work, though not the most in the time. It was drawn by two horses, and cut half an acre in little more than half an hour, performing the work well, *i.e.* close to the ground and regularly without missing.

—— A correspondent asks for the value of charcoal as a fertiliser. There is certainly a superiority which black imperfectly burned turf ashes exhibit over quickly and thoroughly burned or red ashes, and this superiority is in some measure due to the charcoal which the former contains, and which has been burned out of the latter. It is possible that some of the inferiority of the latter may however be due to the effect of a greater heat upon its other ingredients, and that owing to this greater heat there may be a less quantity of useful soluble matter in the quickly and thoroughly burned ash than in the slowly burned and black ash. Carbon is itself the most insoluble and unchangeable of substances, and its influence as a manure cannot depend, as that of others does, upon ability to become directly and of itself the food of plants: but as it exists in charcoal it is united with the mineral part of the plant from which it is prepared. And this is distributed throughout it, so as to become very readily dissolved by water passing through it. The carbon too in charcoal is presented in such a porous form as to possess great powers of absorbing and concentrating within itself gaseous substances which are available as food of plants, and so of checking waste from the soil to which it is applied of those volatile products of decomposition which are probably always more or less evaporating from its surface. It is in this way chiefly that such fertilising properties as charcoal possesses are explained. Whether, as our correspondent asks, it may be a profitable speculation to undergo the cost of grubbing up 60 acres of copsewood for the charcoal which it would yield depends on many other things than the value of charcoal as manure. It may be more profitable to sell it for fuel and buy guano and superphosphate with the proceeds. If used as manure it must be reduced to a coarse powder, and would probably be more serviceable in a compost with farmyard dung or other ammoniacal manure than applied directly to the soil. If so applied, however, we would rather depend upon it as a permanent fertiliser of the soil, and as fitting it for the growth of all sorts of plants than as specially adapted for the growth of any particular crop. It would improve the texture of stiff soils, and the powers which it is believed to possess of attracting fertilising vapours from both soil and air would make it a good nurse and feeder of all kinds of crops.

—— A SPECIAL COMPETITION OF REAPING MACHINES will be held, under the superintendance of the French Government, from the 20th to the 25th of the month, at the Imperial farm of Fouilleuse, near Saint Cloud, a station of the railway from Paris to Versailles, 5 miles from Paris. The competition is an international one; all foreigners are admitted to compete for the premiums and medals.

The following prizes are offered by the French Government to Foreign Competitors:—

1st prize, 40*l.*, with a Gold Medal.
2d prize, 20*l.*, with a Silver Medal.
3d prize, 12*l.*, with a Bronze Medal.

And a Great Gold Medal will be awarded to the best Reaping Machine exhibited, either French or Foreign.

The prizes will be awarded by a jury after careful examination and ample trial, in the fields of the Imperial farm, of all the machines exhibited.

The day, hour, and place of the trial will be indicated in proper time to every exhibitor, by the Director of the competition. Exhibitors or their agents are requested to be in attendance during the trials, while the judges are inspecting the implements, in case any explanation may be required from them, and they or their servants must give every facility to the commissaires and the judges, by having their implements ready for inspection and trial at the time intimated; and any exhibitor, after having had due notice, will be liable either to have his machine tried at his own risk, in his absence, or to have it removed altogether from the show, without any responsibility attaching to the Director. No reaping machine will be allowed to commence work in the trial field unless by the express orders of the Director of the competition. No machine will be allowed to be painted or varnished after it has been brought into the yard.

All the expenses of the trial will be borne by the French Government; the transport of the machines to the show-yard will be at the charge of the exhibitors. It is desirable that the machines should be landed at Boulogne-sur-Mer, where every facility will be given to exhibitors to go through the Custom House.

The certificates of entry must be sent by the exhibitors to his Excellency the Minister of Agriculture, 78 *bis*, Paris, on or before the 10th of this month. Forms of certificates are to be had on application at the same address.

The certificates must contain full information about the machines to be exhibited, such as—the name and address of the exhibitor—the name and address of the inventor and those of the constructor—what improvements have been effected—on what principle the machine is constructed—what power it requires to work it—how many horses and how many labourers are required to work it—how much work it can perform per hour or per day—the space required by the machine—whether the machine both cuts and puts into sheaves or only cuts, and any other particulars.

## ROYAL AGRICULTURAL COLLEGE.

THE sessional examination was brought to a close on June 16th, for the first time under the superintendence of the new Principal, the Rev. John Constable, M.A., when the following students obtained the College Diploma, and thereby became members and graduates of the institution:—

1. James Nott, Folly, Alfrick, Worcestershire.
2. Thomas Westray, Workington, Cumberland.

PRIZES.

FARM BOOKS.
1. Appleby
2. Jekyll

FARM JOURNALS.
1. Gibbon
Highly commended—Turner
Mounsey
Commended—Harding

LABORATORY.
Classes 1 and 2—J. Knott
Classes 3 and 4—M'Ivor Tindall
Classes 5 and 6—Dawson
Highly commended—Phillips
Commended—Harding

NATURAL HISTORY.
*Geology*—T. Newton
*Agronomics*—W. E. Ivey

HOSPITAL JOURNALS.
1. Nott
2. Beverley

*Anatomical*—1. Doxet 2. M'Ivor Tindall

FIELD SURVEYING AND LEVELLING BOOKS.
*1st Division*—1. Brown
Commended—Dixie
Bigge
*2d Division*—1. Ivey
Commended—A. Carey
M'Ivor Tindall
*3d Division*—1. Allanson
Highly commended—Mounsey
Doxet

A few of the first names in each of the departments in order of merit:—

PRACTICAL AGRICULTURE

| 1st Division. | 2d Division. |
|---|---|
| 1. Nott | 1. Deacon, M'Ivor Tindall, eq. |
| 2. Westray | |
| 3. J. B. Jones | 3. Doxet, Gibbon, eq. |
| 4. Appleby | |
| 5. Hull | 5. Harding |
| 6. Beverley | |
| 7. Bramston, Ivey, eq. | |

CHEMISTRY.

| Organic. | Inorganic. |
|---|---|
| 1. Westray | 1. M'Ivor Tindall |
| 2. Nott, Appleby, eq. | 2. Ivey |
| 4. Bigge, J. B. Jones, eq. | 3. Clarke |
| | 4. Doxet |

NATURAL HISTORY.

| Geology. | Agronomics. |
|---|---|
| 1. Bigge, Hull, eq. | 1. Doxet, Ivey, eq. |
| 3. J. B. Jones, Nott, eq. | 3. Congreve, Harding, Twamley, eq. |
| 5. Appleby | |
| 6. Beverley, Westray, eq. | 6. Phillips |

VETERINARY.

| Pathology. | Anatomy. |
|---|---|
| 1. Nott | 1. Doxet, M'Ivor Tindall, Ivey, eq. |
| 2. J. B. Jones | |
| 3. Westray | |
| 4. Bigge | 4. Deacon |

SURVEYING AND ENGINEERING.

| 1st Division | 2d Division | 3d Division. |
|---|---|---|
| 1. Nott | 1. Ivey | 1. Doxet |
| 2. J. B. Jones | 2. M'Ivor Tindall | 2. Deacon |
| 3. Westray | 3. Twamley | 3. Allanson. |
| 4. Beverley | 4. Dayman | |

## DAIRY EXPERIENCE.

THE quantity of milk yielded by a dairy of cows depends altogether on their feeding, as nothing is more common than farmers overstocking their pastures in summer, and keeping more stock in winter than they have sufficient feeding for. This miserable economy is the rule; sufficiency of food given to milk cows is the exception. My experience leads me to believe that it is profitable to allow cows as much pasture as they can eat in summer, and as many roots in winter as will maintain them in good condition; the quantity requisite to do so depends on whether their pastures have been eaten bare during summer, and what description of fodder is allowed them. When the foggage is good in winter, 60 lbs. of Turnips daily will keep cows in good condition, but when the foggage is bare it will require 84 lbs. per day; this is assuming Wheat straw as the fodder, where hay is given less will suffice. My position being a dairyman, who rents cows by the year from a farmer, with a certain stipulated quantity of feeding for each cow, I will not speak of what might be made by extraordinary feeding, but will only note what is my own routine, and state the results. In the dairy of 100 cows rented by me, in winter we give each cow 42 lbs. of Turnips at 5 o'clock in the morning, commence to milk at 6; as soon as that is concluded, fodder with straw, then cleanse out the cowhouses, and curry-comb all the cows, fodder again between 10 and 11, and at 12 turn them out to drink, put another feed of 42 lbs. of Turnips in their troughs, and allow them to return to the house as soon as they desire; fodder again with straw as soon as they have their feed of Turnips consumed, cleanse out the cowhouse again, and after milking again at 6 o'clock, the last fodder is given between 7 and 8 o'clock. The litter is carefully shaken up on their beds every time they get fodder. Two active girls will do all the necessary work in feeding and cleansing 100 cows, until the calves begin to drop in the spring, when a third one may be needed. As the cows approach calving, a little Bean meal in a mash of steamed or boiled Turnips, mixed with chaff or chopped straw, is given daily to each cow, and by the time the cow is a week calved, she gets half of her allowance of Turnips boiled or steamed, and mixed with chaff, or chopped, and 3½ lbs. of finely ground Bean meal in each mash (given her twice every day). After having tried various methods and different sorts of grain, as Oats, Wheat, Barley, Indian Corn, oilcake, Rape, &c., I decidedly prefer Bean meal, both for quantity and quality of milk and butter. These two mashes are given at about blood heat, being well mixed and saturated with water. A stock of cows calved by April 1st, and receiving this feeding—assuming that all the herd have come to their proper time of calving—will average about 11 imperial quarts each daily, or 28 lbs. per cow. I mention the weight of milk as being the most certain way of being accurate with new milk, and in speaking of the quantities of butter or cheese produced by a stated quantity of milk, it requires to be understood that milk from newly calved cows does not yield so much butter or cheese as milk from cows approaching their time of going dry (in proportion to the weight of milk). Thus from a stock of cows all calved by May 1st, 260 lbs. of milk will give 22 lbs. of cheese ready for the market in the month of June, while the same quantity of milk from the same cow in October will produce 28 lbs. ready for the market, and increase in the yield of cheese from the quantity of milk until the cow goes dry. The monthly yield of milk in my dairy stands as under:—

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| April—30 days' yield, 28 lbs. of milk daily | | | | | | | 840 lbs. |
| May— | 31 | ,, | 30 | ,, | ,, | ,, | 930 ,, |
| June— | 30 | ,, | 33 | ,, | ,, | ,, | 990 ,, |
| July— | 31 | ,, | 26 | ,, | ,, | ,, | 806 ,, |
| August— | 31 | ,, | 22 | ,, | ,, | ,, | 682 ,, |
| September— | 30 | ,, | 18 | ,, | ,, | ,, | 540 ,, |
| October— | 31 | ,, | 14 | ,, | ,, | ,, | 434 ,, |
| November— | 30 | ,, | 10 | ,, | ,, | ,, | 300 ,, |
| December— | 31 | ,, | 4 | ,, | ,, | ,, | 124 ,, |
| | | | | | | | Milk 5646 lbs. |

which, allowing 10 lbs. of milk on an average to yield 1 lb. of cheese, will leave as the year's produce of each cow 564 lbs. of cheese. This has been yielded by a dairy of 100 cows on an average, and I have been credibly informed by a farmer in the high districts of New Cummock, Ayrshire, that he has made more off each cow; but his stock was extra good, also his pasture and feeding. The greatest part of milk is in Scotland made into cheeses on the Dunlop method, and very little intelligence is brought to bear on their manufacture as generally practised—consequently the cheeses are inferior. Generally in this branch of husbandry the Scotch are far behind the English cheese-makers, and the inferiority of the Scotch cheeses is entirely to be attributed to the manner in which the milk is turned into cheese. It is not even the Dunlop method properly followed that is to blame for it, as cheeses little if at all inferior to either Cheddar or Cheshire may be made. My method of making Dunlop cheese is as follows:—putting the last night's and morning's milk together after milking in the morning, raising the temperature to from 76° to 80°, using sweet steep (rennet) and no more of it than will coagulate the milk in an hour, breaking the curds thoroughly at first, and after the whey is run off keeping up the temperature of the dairy, so as not to suffer the curd to cool rapidly, lifting the curds out of the tub and putting them into a cloth in a dresser and continuing to cut or break them up frequently, increasing the weight on them until they are very firm—6 or 8 breakings or cuttings will suffice generally. Then mill the curd and salt them and put it into the cheese press; having changed it in half a hour repeat that at 5 and 9 o'clock, again next morning at 5 and 10, and the cheese will be entirely dry and pressed by 1 o'clock next day. Thus a cheese only remains 24 hours under the press, and if properly attended to the cheese will be easily pressed and of excellent quality. The principal feature of difference in the manner of making Cheddar is the raising of the temperature by heated whey, first, after the curd is broken, to 80° of heat, and afterwards when the curd has stood an hour, when it is raised up to 100°. This I consider the most rational way of getting up the temperature to free the curd entirely from whey, as it does it most effectually when properly performed. There is a movement going on in Scotland to alter from the old Dunlop to the Cheddar mode, and if judiciously carried out it will effect a great improvement; but there is much danger of only an imperfect

the Fourth Duke, and presented by her in October last. We also heard of a calf of hers realising the high price already named—being the calf presented prior to the Roman brethren. To our taste, Orphan, a rich roan six years old cow, carried off the palm among her competitors. Her genealogy traces back twelve or thirteen generations, and she evidently possesses some of the choicest short-horn blood in her veins. When three years and a half old, she produced White Rose, (appropriately named), by Siddington Duke: and Oriel, a red-and-white bull, by the Fourth Duke, followed in January, 1858. Elsie and Miss Christmas, although a little deficient in size, gained the Cirencester honours, when the county show was last held there; while Peace and Ruby, both very handsome, stood in the like position at Gloucester. Songstress was fully as showy a two-year-old heifer as any of her compeers, and we anticipate again meeting her on Warwick race-course, in the course of next month. Emerald, Isis, or Warbler, all over one year old, will no doubt also make an appearance there; but the cowman is probably wide of the mark in his idea that "they will stand a good chance in the local or special division, since that is not so generally known." They will stand a good chance anywhere; but it will probably appear that the competition will be almost, if not altogether, as close in the one department as in the other. He is capitally up to showing off a young bull or heifer, and giving the head an aristocratic bearing; but we do think that his philosophy in the other respect is at fault. Leaving the lawn surrounding the handsome villa residence of Mr. Bowly, we found half-a-dozen promising yearlings grazing in a field of rich pasture at the back. Of these, Comet, a very handsome light roan, bore the palm; but if asked to compare these with the earlier specimens of the herd, we could not think that the increase in quality had been great. And is it not generally so? Do we not find a point in the breeding of all our domestic animals, at which a hidden principle says "Hitherto shalt thou go, and no farther?" Probably the fact of females being put to bull at an earlier age, as well as the more stimulating character of the food, and the unbounded desire for early precocity, have much to do in producing such a state of things. But no unalterable rules appear to be here laid down, as regards the age at which they should bring the first calf. And an experiment of a most interesting character is also being tried in another direction. We refer to a nice roan two-year-old heifer, in which many of the best points of the short-horn race are well developed. Respecting her, a note says that the granddam was a cow bought in for a nurse, without any peculiar character or breed—and to ascertain how soon all the characteristics of a pure short-horn may be produced by breeding in and in on the pure side. We cannot conceal the fact that the Cotswold district needs, to the fullest extent, all the good blood, and also the example, which can be brought to bear upon it, as far as the beasts are concerned. They have an unrivalled breed of sheep, which is cultivated with spirit and judgment; but in the other department there is some headway to make up. We saw but this day three-year old steers, bred and reared in Gloucestershire, that would barely realize 12*l.* per head; and we would respectfully ask "Where can the margin for profit come from, in rearing such animals as these?" *T. Bowick, abridged from the Leamington Courier.*

## TILLAGE *VERSUS* GRAZING.

[The following is an abridgment of a paper read by Mr. Levinge before the Dublin Society. It has reference more especially to the lighter class of soils on Irish uplands.]

Viewing the position of Ireland generally as an agricultural country, the question as to the most profitable mode of managing the land, whether as regards the interest of the landowner, the tenant-farmer, or the community, must always be one of deep interest and importance.

Looking forward even to a gradual diminution of the labouring population, the most profitable mode of managing the land may naturally be expected to become of deep interest to all who are anxious for the welfare of this country, but especially to those who are engaged in agriculture.

As a general rule, the rich grazing lands of Ireland return such a large and quick profit, by being devoted to pasture, or to pasture and meadow, that few will be tempted to convert them to the purposes of tillage, even under the most improved system of cultivation.

On such land cattle can be kept over the winter on hay, and fattened by the end of July, when a fresh lot can be put in and finished off by November.

A great deal of this kind of land, if converted to tillage, would not produce as heavy, or heavier crops than the light arable lands of the country, cultivated under a suitable rotation of crops.

There is not, therefore, any necessity on the present occasion to dwell on the management of this class of soils, where a large number of labourers are not required at present, and where the rents, profits, and gross produce are, perhaps, higher than could be expected under the best and most improved system of tillage that we are at present acquainted with.

There is another class of soils, chiefly stiff or wet clays, which produce excellent corn, Pulse, and green crops, but which are not so well suited to fattening stock when in pasture as the soils before mentioned. The herbage is coarser, yet it will rear and support a very large quantity of store cattle and even strong sheep. It is probable that this class of land would be found on a calculation to produce as high rents and profits, and an equal amount of gross produce, whether in tillage or in Grass.

There are other classes of soils to which particular attention is requested, viz., those on the light lands, which are usually stated to be and are well adapted to form sheep pastures, and which are, at the same time, useful for dairy purposes, and for rearing young cattle.

It is now proposed to show that these light land soils generally would be far more productive and remunerative if kept in tillage than in Grass.

In the first place, suppose a farm of 200 Irish acres of light land, as already described in pasture, of an average quality.

Such land will generally carry a sheep to the acre all the year round. There would be as much Grass besides as would enable the occupier to keep a dairy of, say, 10 cows, and a stock of, say, 30 two-year-old cattle, together with 30 yearlings, to replace the two-year-olds sold off annually to the feeder.

But the farmer would also be able to cultivate in tillage a small portion of the farm, to supply oatmeal and vegetables for the use of his family.

The expenses of management and the returns under this system may be briefly stated as follows:—

| Debtor. | | | |
|---|---|---|---|
| Rent of 200 acres, at 25*s.* | £250 | 0 | 0 |
| Herd's wages yearly | 30 | 0 | 0 |
| Labour, at 1*l.* per week | 52 | 0 | 0 |
| Poor rate, county cess, &c. | 15 | 0 | 0 |
| Sundries, as medicine for stock, &c. | 13 | 0 | 0 |
| Total | £360 | 0 | 0 |
| **Creditor.** | | | |
| Profit on 200 sheep, at 1*l.* per annum | £200 | 0 | 0 |
| Do. on 30 two-year-old cattle, at 6*l.* | 180 | 0 | 0 |
| Do. on 10 dairy cows, at 6*l.* | 60 | 0 | 0 |
| Do. on 10 calves reared at 3*l.* | 30 | 0 | 0 |
| Sundries, as pigs, vegetables, &c., for use of the farmer's family, say | 30 | 0 | 0 |
| Total | £500 | 0 | 0 |
| Deduct Debtor | 360 | 0 | 0 |
| Balance | £140 | 0 | 0 |

This system shows a balance to the farmer of 140*l.* per annum.

On the other hand—supposing the same land to be cultivated under a five-course rotation of crops, viz:—40 acres of Turnip or other green crops, including a small portion of Potatoes; 40 acres in Oats after green crops; 40 do. in first year's Grass; 40 do. in second year's Grass; 40 do. in Oats, after second year's Grass; and that the landowner perfected all the building accommodation requisite for conducting this system—the farmer could feed in the stalls on Turnips 120 head of cattle every winter, and the Grass, besides supplying hay, would rear 40 young cattle, and afford keep for a dairy of 10 cows. There would be 55 acres of Oats to sell, besides Rye-grass seed and other sundries.

The result may be stated, generally, as follows:—

| Debtor. | | | |
|---|---|---|---|
| The rent for 200 acres might be 2*l.* per annum | £400 | 0 | 0 |
| Steward's wages yearly, say | 70 | 0 | 0 |
| Labour, at 6*l.* per week | 312 | 0 | 0 |
| Blacksmith per annum | 30 | 0 | 0 |
| Carpenter work per annum | 15 | 0 | 0 |
| Harness maker per annum | 15 | 0 | 0 |
| Extra manure, as guano | 80 | 0 | 0 |
| Poor rate, county cess, &c., | 15 | 0 | 0 |
| Seeds | 10 | 0 | 0 |
| Sundries, say | 48 | 0 | 0 |
| Total | £1000 | 0 | 0 |
| **Creditor.** | | | |
| 40 acres of Turnips, &c., at 15*l.* profit | £600 | 0 | 0 |
| 55 acres of Oats, to sell at 8*l.* | 440 | 0 | 0 |
| 40 store cattle, increased in value, at 7*l.* | 280 | 0 | 0 |
| 10 dairy cows' produce, at 6*l.* | 60 | 0 | 0 |
| 10 calves produce, at 3*l.* | 30 | 0 | 0 |
| Rye-grass seed sold, say | 20 | 0 | 0 |
| Pigs, poultry, &c. | 30 | 0 | 0 |
| Total | £1460 | 0 | 0 |
| Deduct Debtor | 1000 | 0 | 0 |
| Balance | £460 | 0 | 0 |

This system shows a balance to the farmer of 460*l.* per annum.

It will be seen at once that although the prices mentioned in this latter case are moderate, there is an immense difference in the amount of rent, profit, and gross produce in favour of the system of tillage as compared with Grass; and it will be observed that the sufficient accuracy of the old system of valuing land for tillage purposes—viz., allowing one-third of the gross produce for rent, one-third for expenses of management, and the other third for the farmer's profit—is borne out by the last calculation.

It appears that on this light class of land the rent might be one-third, that the gross produce and the farmer's profit would be two-thirds higher under a system of tillage than under a grazing system.

No calculation has been made in either case as to interest of capital or losses; these would be applicable to both systems, and the omission does not affect the general result. Neither is it intended that the above estimates should refer to farms of 200 acres only—they would apply equally to farms of 5 or 1000 acres.

The foregoing remarks have been made partly from practical personal experience and general observation, and in part from inquiry as to the general average capability of soils such as have been described.

[We insert the above extract from a paper which raised considerable discussion when read, in the hope that it may excite discussion here. It is plain however that such rough estimates of expenditure and returns as are here given are decisive of nothing. How does Mr. Levinge make 15*l.* per annum profit off his Turnips?]

## ON FEEDING HORSES AND CATTLE.

It is a practice now with a very few scientific farmers—that is, farmers who never pay their rents from their farms—to chop all the hay, straw, green Clover, Vetches, &c., for both horses and cattle, and also to steam all the roots and chopped dry food. These men will tell you, in their speeches and writings, that the straw must be made to go through the intestines of the animal to convert it into manure, and that to use any portion for bedding to make the animal comfortable is a great waste and inconsistent with good farming. Some of them will tell you there is far more nutriment in Wheat straw than in Oat straw. These men keep their pigs, cattle, and sheep, in pens with open boarded floors, and tanks beneath, to receive the liquid and solid manure made by the animals. Thus the poor animals are pent up in rooms just large enough to turn themselves round, without bedding, and in the constant smell of their own excrement. Now these very same men will make speeches before Improvement Commissioners of town and villages, or at meetings called to enforce the laws relative to the abatement of nuisances, and in their speeches use very forcible and very proper language in showing the bad effects of the effluvia rising from stagnant ditches, dung hills, and pettys, and yet in their speeches at agricultural dinners, they will not admit of any deleterious effluvia arising from the tanks under the animals, on open boarded floors. The inconsistency of these men is strange.

The above has reference to the practice of a few amateur farmers scattered over Britain, some of them exceedingly useful as experimental farmers, but dangerous as guides to young farmers, or any just commencing farming for the first time.

With the great body of our best practical farmers, men who have good common sense notions, both on the cultivation of land and the feeding of stock, the above mode of lodging of cattle is never adopted. But these men are in many cases ruled by the tyrant fashion both in the house and farm yard (for this tyrants put his nose into the affairs of nearly all men). Many of them cut all the hay and straw, and steam all the food given to horses, but not to other stock. Others again cut and steam all the food given to all descriptions of live stock, except sheep. It is to this class of farmers I wish to state my own experience on the subject, and recommend them to seriously think on it, and to try experiment without swallowing or condemning all, or any part, of what either I or any other person may say on this important subject.

For 10 years before I commenced farming I was sometimes my father's ploughman, and had horses under my care, and sometimes had the care of dairy cows and young stock. I thus got a knowledge of feeding and taking care of stock in the old way of never cutting or steaming anything. My father had an excellent man-servant who took a great delight in teaching young lads to work, and I learned more from him as to the proper treatment of live stock than from even my father's instructions.

In 1813 I commenced farming, and became a sort of enthusiast in my profession, and went to see the practice of many men noted for good farmers. Draining, deeper ploughing, Scotch ploughs, drilling root crops, cultivating Mangels and Swedes, chopping and steaming food for cattle in winter, and soiling in summer, was then becoming the order of the day with all improving farmers; the high prices caused by the ruinous and debt-creating French war had given a great stimulus to farming. So far as to the cultivation of land, introducing new crops, and new implements, I followed the new practice, and intended to do the same in feeding stock. But the question of cash interfered dreadfully with my plans, as it required considerable outlay in providing conveniences and apparatus for carrying all things out properly in horse and cattle feeding. However, for a few years, I partially adopted the newest fashions in feeding, and paid very considerable attention to the result. I also paid very considerable attention, in this matter, to the practice of other farmers who carried it out more fully, and the result and conclusion I arrived at was that the old system, properly carried out, was more profitable, when all the various contingencies of risk, expense, and care attending the new system were considered. Within the last few years many farmers have told me they have found no benefit in the steaming and chopping, except in steaming Potatoes. This exactly agrees with my ideas. I feel certain that in another half century the system will be given up as a general one.

When there is plenty of straw, soiling in summer is profitable under most circumstances. Horses at work should always be soiled; and now the best farmers raise early green food in spring, which to horses and milk stock is exceedingly valuable. One cwt. of green food in April and May is worth double the quantity when the summer is more advanced.

It will be seen that my objection to the present system of feeding stock, at least to all kinds of stock the natural food of which is Grass, is to cutting hay and straw, and to steaming these and Turnips. My objections are many.

It is not the way Nature intended them to be fed. It is more expensive, and requires more capital—as more buildings are required, machinery to purchase, fix up, and keep in repair, more than double the cost of labour in preparing the food, serving it out, and in keeping everything sweet and clean. Without great attention to cleanliness, the whole concern is here-

to come near. There is the cost of coals. Requires a better class of servants both for honesty, diligence, and intelligence. If this is not the case, the master must never leave the farm-yard without suffering loss either in waste or negligence. More waste may be made undetected by the master than by the natural mode of feeding. Bad hay and straw may be made more palatable, but not more nutritious, by cutting and steaming. Cattle can swallow their food quicker when steamed, but this is no advantage, except to very old animals. Food is far better masticated with the animal as he takes it. It gets better digested except the animal is unwell, and its digestive organs out of order. An animal kept on dry food must have a sufficiency of water; but I have never known an animal take harm by taking water when kept on hay and straw uncut.

By a great many farmers a far greater stress is laid on making bad hay palatable, than on the importance of making good hay at hay harvest.

Mr. Mechi, and many other steamers and choppers, honestly admit that the only profit in cattle feeding, on an arable farm, is the manure they make. But by the natural system of feeding, profit can be, and is made, exclusive of the manure. We often hear Scotch farming extolled, but chopping and steaming is little practised there, and yet the system would be of more use there than here, as the farmers are bad hay makers.

I shall now give what I consider the most profitable mode of keeping stock, and a few of the most successful farmers of my acquaintance always followed the system, and men who never closed their eyes to anything really profitable in practice, but men of foresight and of calculation, not taking for granted everything new as an improvement.

I shall first state how I should keep horses in full work on a farm. When I was a farmer, or at least after I had been a farmer five or six years, I fed them on hay uncut, crushed Oats, crushed Beans and bran, with a few raw Potatoes or Swedes every day. The Oats, Beans, and bran mixed in equal proportions. The quantity according to the work required to be done.

The first thing, at 5 in the morning, a feed of the mixture and a little hay were given while they and the stable were cleaned. Then gave what water they would drink, and a little more hay. Not cram the catches full. At 7 o'clock go to work till 12 o'clock. As soon as they are in the stable give a few quarts of water, a feed of the mixture, and a little hay. After the ploughman has got dinner more water and hay. At 2 o'clock go to work till 6 at ordinary times, and at very particularly busy times later; often at seed time till 7 or 8 o'clock. When in the stable again a little water and hay till supper is over with the men. Then well cleaned. After this give what water they will take, then a feed of the mixture, and a few handfuls of sliced Swedes, Potatoes, or Carrots. Give a bed of from 12 to 18 inches deep of straw. If it be thought they will eat a little more hay give it, but not otherwise. It is very common to cram the catches the last thing, which is a very bad practice, as it is a waste of hay, and tempts the horse to keep nibbling at it instead of lying down and taking his rest. As I have before said, the quantity of Oats, Beans, and bran to be given should be regulated according to the labour to be performed. They should be fed so as to keep them firm in flesh and in full vigour, but not fat. In the summer Clover or Vetches to be given instead of hay; and if the labour be not very severe no corn will be required. Colts and horses out of work are best out at pasture. Never give medicine either when turned out to Grass or when taken up from it, or at any other time except when actually unwell. Some horsekeepers are everlastingly physicking them, particularly gentlemen's grooms and coachmen.

For horned cattle the following plan of feeding I practised and considered the best after trying many experiments.

Say first, for dairy cows, for three months before calving, and say from Nov. 1st—food, Oat or Barley straw, uncut, and common Turnips sliced twice a day; and water twice a day. If the straw be good and well got, give no more than they will eat up; but if coarse, or ill-got, give plenty to run through, to pick the best, and the rest go for bedding. Never give Wheat straw except fodder be very scarce. Give sufficient quantity of Turnips to keep them in good condition up to the time of calving. Immediately after calving give her all her first beestings, while warm from the udder, except what is given to the calf; and let the cow lick the calf while in beesting. If left to herself in a field, she will lick it till it can stand and suck her. Licking does both good. After calving, never cram a cow with better food for several days. Give her oatmeal gruel once, and give her water blood heat. If she has had a very hard or difficult time of calving, give some good honest ale in her gruel. After a few days, let her food be hay, uncut Swedes or Mangels sliced, twice a day, with crushed Oats or Beans amongst the sliced roots. I should prefer the Swedes and Mangels mixed. Cows in full milk must be well fed, but never so much food given at one time as to pall the appetite. If, when food is given, the animal does not begin to eat with a relish, take it from her till the next feeding time. The food and water must be given at regular stated hours every day. The same with milking. Cows are animals of habit, and do not like change. They have not to work, but they have to manufacture milk and butter. For this they require many hours a day of undisturbed quietness from the feeder or any other person. When water is given let them have it out of doors, and let them remain out at a quarter or half an hour each time, according to the state of the weather. Raise green food as early as possible in the spring, of either very rich pasture, Rye, winter Vetches, Clover, or Rape. Do not turn them out in the night till June comes in, and take them up when October comes in. Dairy cows are excellent chemists, and very correct thermometers. In their milk secretions they very soon test the quality of food given, and the temperature of the air surrounding them. They ought never to be out in the night when there is the least frost, or in cold wet nights.

Young stock never require hay at any season. Turnips and straw in the winter, and pasture in the summer, is sufficient; but, in winter and spring have Turnips sufficient to keep them in condition and thriving. They should never be allowed to sink in condition at any season. When there are frosty nights and hot sunny days in the autumn and spring, they should, by all means, be kept indoors in the night, but most particularly in low situations, on the banks of rivers and brooks. It is the extremes of temperature, in such weather, between the cold of the morning and the heat at noon, which, in my opinion, gives the quarter evil, and many other complaints. The difference is often from 30 to 40 degrees in six hours.

It is always disagreeable to find fault, but I am going to find fault with the Cheshire farmers, because with them so much depends on the dairy. In a ramble through the county, in April, I was surprised to see so many dairy stocks out in the fields, and out of condition, and on farms where I had considered the occupiers good farmers. I saw several stocks which I had seen in September last, and if they had been in the same condition in April as in September, they would have been worth 3*l*. a head more. They would, I think, have produced 1 cwt. more cheese this season each.

They are also "penny wise and pound foolish" in hay making, particularly in making hay for a dairy stock. After Grass has been cut 24 hours it should never be allowed to get wet with either dew or rain if possible. It should be cocked up in the night in the best weather. None of their wives would allow her tea to lie in the dew several nights, saying nothing of rain, before she used it.

But the Cheshire farmers are not the only ones who are faulty in this respect. There are but too many in this county who sadly neglect this branch of rural economy. However, in a district of 10 miles round Bury, you will generally find this article in perfection, so far as the weather will allow, and they have far more rain there than in most parts of Lancashire or Cheshire. Yet, for milking purposes, their hay is worth from 10*s*. to 20*s*. per ton more than a very great quantity made under more favourable circumstances. By the mode of making hay there, it is, in fine weather, made in one day less time, and in bad weather in perhaps two or three days, or a week less time, and often on this account at less expense. *W. Rothwell in the Warrington Guardian of May 28.*

## Home Correspondence.

*Sheep* v. *Cattle.*—I have met with the following passage on this subject in a lecture by Mr. Bond before the Ipswich Agricultural Society, which I think deserves your attention:—I believe that in this and the adjoining counties we have erred by too expensive a system of bullock grazing; that we have bought our lean beasts at too dear a rate for profit; that under altered circumstances we have too much adhered to old past fattening principles, and we have too much adhered, to exploded and expensive methods of manure making to the partial neglect of cattle and sheep rearing. More may be profitably done in lamb rearing on heavy land, and more may be done in sheep-breeding and fattening on light and mixed soils. Let me relate the practice of a gentleman in West Suffolk, and the result of his long experience. I visited him last month, and was pleased with the first-class condition of the lambs and the healthy and satisfactory appearance of the ewes, as well as with the large number of sheep kept to so small a portion of land. He farms 260 acres of very good friable loam clay land, of which only about 25 are pasture, and by gradually increasing his stock yearly, as lamb rearing has promised to pay, he now annually keeps from 20 to 21 scores of ewes, and each year the fall of lambs has been large: this year exceeding 30 to the score. Of course, the wonder is how so many are maintained, and the supposition follows that much artificial food must be used. The annexed account of expenses and returns is copied from his balance-sheet:—

1857.

| Expenditure. | £ | s. | d. |
|---|---|---|---|
| Artificial food .. | 66 | 0 | 0 |
| Outkeep in summer | 55 | 0 | 0 |
| Annual loss of 10 ewes and the amount expended for 60 shearling ewes after deducting the value of crones .. .. | 70 | 0 | 0 |
| Amount realised for farm produce consumed by flock .. | 535 | 18 | 0 |
| | 726 | 18 | 0 |

1857.

| Receipts. | £ | s | d. |
|---|---|---|---|
| 400 lambs, at 24*s*. .. | 480 | 0 | 0 |
| 100 lambs, at 22*s*. .. | 110 | 0 | 0 |
| 18 lambs, at 14*s*. .. | 12 | 12 | 0 |
| 3 fat .. .. | 5 | 2 | 0 |
| Wool .. .. .. | 119 | 4 | 0 |
| | 726 | 18 | 0 |

The value of the manure is placed against the labour. Now, how is this vast practical result annually accomplished? How are the sheep fed? The secret is, the yard and straw system. The ewes are mainly fed during the winter months upon fresh-threshed Barley or Oat-straw placed in binns, and some cut into chaff, with which is admixed Trefoil husk when procurable, and, previous to lambing, some miller's offal is given. They have also about four Scotch cart-loads of Turnips each day. For the spring feed, Rye and Italian Rye-grass are grown upon the fallow shift, previous to sowing for the Turnip crop. Cabbages are also grown, and the Clover layers usually fed. Of course, it would appear probable that the whole farm must be given up to sheep husbandry. Now such is not the case; and upon April 8, 1859, I recorded the present position of the farm as to its cropping. It is as follows:—

| Acres. | | |
|---|---|---|
| 49 | Wheat | |
| 55 | Barley | |
| 24 | Peas and Barley | |
| 12 | White Clover fed in spring, and to be saved for seed | |
| 16 | Red Clover fed in spring, and to be saved for seed | |
| 15½ | Italian Rye-grass, ditto | ditto |
| 10½ | Sainfoin, to be reserved for hay | |
| 1 | Cabbage seed | |
| 2 | Oats, after Cabbages | |
| 41 | Fallow | 16 acres for Mangel Wurzel<br>8 acres Italian Rye-grass, after feeding for Swedes, Turnips, or Kohl Rabi<br>6 acres winter Oats, ditto ditto<br>8 acres Rye ditto ditto<br>3 acres Tares, ditto for Cabbages |
| 25 | pasture | |
| 8 | waste | |
| 259 | acres. | |

Thus 130 acres are with corn, 44½ for seeds, 10½ for mowing; consequently, nothing more than the fallow shift is specially set apart for the flock, and although the Clovers and Italian Rye-grass intended for seeding are first fed, it is not at all clear to me, at the present market price of seeds, that such a course is not much more paying than growing Wheat at 20*s*. per coomb. I am convinced it is more profitable, and ample food is thus provided for spring consumption for the lambs. Thus, straw and a few roots, with slight artificial additions, suffice for the first three months after tupping; then Cabbages are added as lambing proceeds, and then the Italian Rye-grass and Clovers. After the lambs are sold, the ewes are put out to keepfor two or three months, and after the Italian Rye-grass has seeded, Rape is sown, upon which the ewes are fed during tupping. *M. S.*

*Nettles.*—As there is nothing better than actual experience to guide us successfully through difficulties, I desire to lay before your readers a plan which has effectually answered in destroying Nettles in old Grass land. I ought first perhaps to state that on one of the estates under my care where there is much valuable old Grass near a monastic ruin which was very much overrun with Nettles, cutting with the scythe at various seasons had been applied yearly for a long period, and yet at each returning spring another and apparently a larger crop of Nettles appeared. The owner of the property then determined to pull them up by hand, and this laborious operation was diligently carried into effect. The result has been most satisfactory, as when these Nettles were pulled up two years ago there is scarcely a single plant now to be seen, and their place is occupied by fine herbage. In several of the plots so cleared the Nettles stood as closely as a corn crop. The persons pulling them up took care to get as much of the "running root" as possible, and the work being done after the ground was well soaked with rain, most of the roots were got up; although this work seemed rather costly at first, a great part has been destroyed, and as no more annual cuttings will be required, it will in the end no doubt prove also the cheaper plan. *H. J. Turner, Richmond, Yorkshire.*

## Societies.

ROYAL AGRICULTURAL OF ENGLAND.

At a weekly Council held Wednesday, June 29, Co'. Challoner, Trustee, in the chair, the names of candidates for election were read.

Dr. Voelcker submitted to the Council the following analysis of a Mangel Wurzel which was grown in 1857, and has been kept for nearly two years in an apparently sound condition:—

*Detailed Composition.*

| | In natural state. | Calculated dry. |
|---|---|---|
| Water .. .. .. .. .. | 92.25 .. | .. |
| *Soluble proteine compounds .. | .97 .. | 12 51 |
| Sugar, gum, and pectin .. .. | 4.08 .. | 52.67 |
| Soluble inorganic salts .. .. | 1.23 .. | 15.87 |
| †Insoluble proteine compounds .. | .16 .. | 2.06 |
| Woody fibre (cellulose) .. .. | 1.18 .. | 15.22 |
| Insoluble mineral matter .. .. | .13 .. | 1.67 |
| | 100.00 | 100.00 |
| *Containing nitrogen .. .. | .155 .. | 2.00 |
| †Containing nitrogen .. .. | .025 .. | .32 |
| Total nitrogen .. .. .. .. | .18 .. | 2 32 |

The amount of water in this root it will be noticed is as large as in common White Turnips. It is much more considerable than in good Mangels, in which there is an average of 88 to 89 per cent. of water. The proportion of mineral matter in this root is larger than in good roots. Nearly the whole of the mineral matter consists of soluble salts, and more than one half of these was found to be chloride of sodium or common salt. It appears, therefore, that salt was largely employed in growing the Mangels of which a specimen was analysed. The proportion of nitrogen in the root is also larger than the average. The legitimate conclusion which may be

deduced from the preceding results and observations is that this Mangel, although apparently sound, has undergone some changes which have deteriorated its feeding qualities. Dr. Voelcker's report explained in what manner this deterioration may have taken place, and remarked that it must be a matter of considerable interest to practical men to know how long Mangels can be stored without suffering injury, and what time of the year stored roots had acquired their maximum feeding properties. He also suggested that the large quantity of salt in the Mangel Wurzel which kept apparently sound for two years may have had its share in preserving it for so long a time, and expressed the opinion that the character of the manures used for growing Mangels had a material influence on their composition, a circumstance which naturally must affect their keeping qualities. Dr. Voelcker stated in conclusion—"In the absence of precise information and experiments, I abstain from further speculating on this subject, and allude to it mainly for the purpose of showing how desirable it is that the whole question should be thoroughly investigated. This can alone be done properly by a systematic series of practical and analytical experiments."

Mr. Fisher Hobbs suggested that in publishing Dr. Voelcker's report in a condensed form it should be stated that the analysis was of one small root only, which had been preserved two years, and that it could hardly be taken as a fair average example of the keeping properties of a whole crop.

A communication was read by Mr. Charles Fulbrook, of Dallington, Hurst Green, giving the result of his investigations of the laws governing the wet and dry seasons occasionally experienced in this country. On the motion of Lord Feversham, seconded by the Hon. Wm. Cavendish, this communication was referred to the Journal Committee, and the thanks of the Council were ordered to be conveyed to Mr. Fulbrook.

M. Tisserand, Inspector of the Imperial Farms in France, transmitted to the Council programmes of the special international competition of reaping machines, to take place at the Imperial Farm of Fouilleuse, near St. Cloud, between July 20th and 25th next. The certificates of entry to be sent by exhibitors to his Excellency the Minister of Agriculture, 78 *bis*, Rue de Varennes, Paris, on or before July 10th.

The following communications were also received from Mr. Chas. W. Hamilton, a Schedule of Queries issued by the Royal Dublin Society respecting the Condition of Farm Labourers; the Journal of the Agricultural Society of Alger, and the Journal of the Central Agricultural Society of Belgium, for all of which the thanks of the Council were ordered.

Mr. H. Tucker, from the New York States Agricultural Society, presented a letter deputing him to attend on behalf of that Society at the Warwick Show. The Chairman assured Mr. Tucker that the officers of the Society would afford him every facility in their power to enable him to inspect the trials and general exhibition.

The Council then adjourned to the Monthly Council on July 6th.

## Reviews.

*Agricultural Essays*: No 1. *Soils.* By Thomas Baldwin, Lecturer on Agriculture, Albert Model Farm, Glasnevin. W. Robertson, 23, Upper Sackville Street, Dublin.

This pamphlet contains chapters on the general constitution of soils—on their classification—on clay, light, and peaty soils—and on the physical properties of soils. We presume that the work itself is the first of a series of textbooks from which the students of Agriculture at the Albert Institution are taught. If the others of the series equal this, the agricultural instruction given there is sound and good. Mr. Baldwin's essay on soils gives the results of both chemical research and practical experience on the several topics specified. We have the results of analyses and the theories of chemists founded on them, as well as descriptions of the best farm management on various soils specified. Not only Liebig, Johnston, Voelcker, Thaer, Gasparin, and Way, with other men of science, are quoted, but Low, Stephens, Tanner, Vallentine, and other writers on the practice of agriculture. We give the following passage as an illustration of the author's style when discussing the practical division of his subject.

"The general management of strong and sandy soils is totally different. While the clays are habitually wet, sandy soils are naturally dry. If a sandy soil rests on a porous subsoil, no amount of rain can injure it. Indeed, from its porosity and want of attraction for water, there is great difficulty in raising good crops on such a soil. When under a green fallow crop, for instance, the moisture dissipates so readily that every precaution must be taken to retain a sufficiency of it. The raised drill, by exposing a large surface to the air, is, in many cases, unsuited to the lighter class of soils, especially in dry districts. And accordingly we find green crops grown on the unraised or flat drill system in such situations.

"'In moist climates,' says Vallentine, 'raised drills leave a kind of water-course or channel between the artificial heights, which act most conveniently for carrying the superfluous moisture away, and not only that, but the ridges are left, in the intervals of dry weather, in a proper state for working the land, for the horse and hand-hoeing, as the case may be. Where, as in Ireland and Scotland, 40 inches of rain fall in a year, with a much less average temperature than in the south and east of England, raised drills are decidedly preferable, as the flat surface would usually be a puddle; but the case is completely reversed in the dry districts of England just named, where little more than 20 inches of rain fall annually. The summer heat is also greater, and, of course, the evaporation is far more than in Scotland or Ireland.'

"One of the chief causes of the many failures that occur in Turnip-growing on light land is the undue exposure of the soil immediately before the time of sowing. In the case of clays, every time we expose a fresh surface we may expect some beneficial result, unless the ground is wet; but every time a fresh surface is turned up on light land in May or June, the Turnip-sowing season, we must expect an injurious effect by an escape of moisture. A clay soil retains sufficient moisture in the driest season; but a light soil has no such retentive force.

"The practice of autumn cleaning, which is now coming into use, is well adapted to light-land farming. We would recommend the cleaning and ploughing of light land in autumn, and agree with Mr. Vallentine, that 'all soils which have a tendency to lose moisture quickly should be prepared, as far as possible, for the Turnip crop in autumn.' If light land is cleaned in autumn it has time to acquire consistency and moisture before spring, and only requires a grubbing and harrowing before drilling at seed time, by which the 'natural sap' is retained in the soil. If any circumstance should prevent autumn cleaning, the next best thing is to prepare it as early as possible in spring, before the heat advances so as to dissipate the moisture 'Some years ago the practice was general, and, in some districts, is still continued, of ploughing Turnip-fallows, even clean land, three or four times in spring and summer, for the purpose of pulverising the soil and making it work well; such a practice on light soils is quite against the economy of labour and the chance of securing a Turnip-braird, as it dissipates the moisture of the soil.' We think it right to quote here the opinion of an able writer—Mr. Clare Sewell Read—who, in his report of Norfolk farming, says: 'When these light lands of Norfolk are clean, autumn cultivation does more harm than good. They are sufficiently friable by nature, and do not want to be finely pulverised or constantly stirred, as the heavy winter rains then wash more of the manure into the porous subsoil; so that the best farmers (where the land is clean) give a good winter ploughing before Christmas, and thus grow better Turnips than when the soil has been well cultivated after harvest."—*J. R. A. S. England*, vol. xix., p. 283.

"The time and mode of applying manure should be materially influenced by the character of the soil. There can be no doubt but that by ploughing-in the farm-yard manure, in its recent or fresh state, we add most fertility to the soil. To add to this there is, in the case of clays, the additional advantage, that in decaying the manure tends to open up or render the soil more loose and open. It would seem, however, that this explanation is opposed to applying recent manure to light soils; nevertheless, if applied in autumn, no injury can result; on the contrary, it is found to increase the retentive power of the soil for moisture. There is one important consideration, however, in connexion with this subject; namely, is the soil capable of retaining the elements of fertility as they are liberated in the decaying manure? Clay soils have this power, and the practice may with safety be carried out on those soils; but owing to the facility with which water descends through sandy or light soils, and the little power they possess of taking up the elements which it dissolves out of the manure, we apprehend the practice of autumn-manuring is not a safe one on the lighter soils.

"When, and in what state, then, should farm-yard manure be applied to light Turnip lands? In answering this question, we may review its bearings:—1st, by allowing manure to ferment, it diminishes in value; 2nd, if applied in a recent state in autumn and ploughed in, it is liable to be washed out of the soil; 3rd, if applied in a recent state at or before seed-sowing, it renders the soil still lighter and more liable to part with its moisture; and, besides, it will not have become available for the crops in due time. Under these circumstances, it is evident that the best system is to form the manure into heaps, in which, while it decomposes, loss of any of the liberated elements is prevented; and to apply it under the seed in a pretty well decomposed state.

"In treating of manures, we will show that farm-yard manure can be prevented from undergoing any depreciation in value, by carefully covering it with earth, peat mould, &c., in the heap. Manure should be covered in as fast as it is applied to light land, and the seed sown immediately after; for on light soils, the difference of a few hours, and certainly of a day or two, may materially affect a green crop. The manure, too, suffers injury by exposure; but far more injury is done during a hot day by loss of moisture than by loss of the elements of the manure itself. 'The system practised by many, of dunging a great breadth of Turnip land at once, is highly injudicious on the average of seasons, when it is desirable to retain moisture in the soil; and those who follow such a course fail more generally than they succeed in getting a regular braird. The land may lose by injudicious exposure, with a rough surface, more moisture in a few days than it can obtain from an ordinary fall of rain.' Let the careless farmers reflect on this, and guard against the evil which it inv... an evil of serious moment.

"On the after culture of green crops, on light land... there is some difference of opinion. One agriculturist tells us, that we cannot too frequently employ the ... and other implements, as the more finely pulverised the soil, the more moisture it absorbs. That this ... true, there cannot be a doubt. The gardener always recognises the fact, and is incessantly hoeing and digging, &c. The farmer, too, is aware of it. But ... it gives a greater surface for the absorption of moisture, it gives the same increased surface for the evaporation of moisture. We think clay lands cannot be too frequently stirred, as they absorb freely and part with moisture tardily. The case is different, however, with light soils, which should be only hoed just as frequently as is necessary to keep down weeds, and retain the surface open for the admission of air. The frequent horse-hoeings of high drills must prove injurious on light soils, especially when the implement "cuts down the sides of the drills so much as to leave but a narrow strip of earth containing the plants, exposed to the sun's heat on all sides." Hand and horse implements must, therefore, be used with caution and discretion on light soils.

"The crops best adapted to light soils are bulbous-rooted plants such as Turnips, Carrots, &c.; also Oats, Barley, and Rye. These follow each other in a regular course of cropping, suited to this class of soils. Light soils will not bear such frequent cropping with grains as clays; nor will they all grow remunerative crops of Wheat and Beans, unless improved in texture by the addition of clay or marl, or some others means. They do not yield the more valuable farm plants, but produce abundant returns of the more useful crops. Laying these soils down to Grass is a frequent means of renovating them. As the roots of the Grasses accumulate and decay in the soil, they add to it organic matter, in which sandy soils are naturally deficient; this, besides directly increasing fertility, also gives them a degree of consistency which enhances their value. It is for this reason that the five course (two years' Grass) is better adapted to light soils than the four course (one year's Grass). If very light, a six, seven, or eight years' course may be followed, by which the land is in Grass three, four, or five years.

"By sheep folding on Turnips, many light land districts have been greatly improved; in some cases the rental has been increased fourfold. We have examples of this improvement on the most extensive scale in Norfolk and other parts of England. The sheep consolidate the ground, and enrich it by their excrements. It has been truly remarked, that 'Turnips are the sheet-anchor of light land cultivation.' Thousands of acres of light lands, now yielding remunerating crops, would have remained in a worthless state, had it not been for the introduction of Turnip husbandry, with all its various accompaniments of artificial manures, &c., which have in no small degree contributed to enhance the value of this class of soils.

"Among the other means of improving sandy soils may be mentioned: first, green manuring, which adds organic matter to them. This consists in growing Rape, Turnips, Buckwheat, or any other crop with an abundance of green foliage, and ploughing them in where they grow before forming their seeds; second, applying farm-yard manure, which is also abundant in organic matter; third, peat, which also abounds in organic matter, and which should be made into a compost; fourth, claying; fifth, marling, which is similar in practice and principle to claying. As the first three and the last of these processes belong to the subject of manures, we shall notice in this place only the *fourth*, namely, claying. According to our definition of manures, claying may be considered under that head; nevertheless, it is so peculiar to sandy soils that we may introduce it here. Clay has been applied to land in three ways: first, in its natural state, as dug from under, or found on the surface of the ground; second, in a calcined or burnt state; third, in a compost with lime or other substances. It is of the first we are now to speak.

"The quantity of clay per acre necessary to be applied in order to correct the bad qualities of a sandy soil depends: first, on the quality of the clay; second, on the character of the soil to be improved. If the clay be calcareous, it will resemble marl in its effects. If it contains much alumina, it will impart the more tenacity and retentiveness to the soil; and when the clay contains ochrey or ferruginous matter (as many clays do) it will only injure and poison the soil. Clays of a white sandy nature are bad, but those of a pliable and more or less unctuous character, and of a soft consistency, are always safe.

"It takes 134 cubic yards to cover an acre an inch deep. This may not appear at first a heavy application, but when it is considered that the ordinary depth of cultivation does not exceed 8 or 10 inches, it will at once be seen that this is a very heavy dose. The usual application may be said to vary from 58 to 120 cart-loads, the average being about 80.

"Autumn or early winter is the usual time for applying clay to sandy or light soils, as the weather is then likely to pulverise the clay and incorporate it with the soil."

## Miscellaneous.

*Value of the Earth-worm.*—The common earth-worm, though apt to be despised and trodden on, is really a useful creature in its way. Mr. Knapp describes it as

the natural manurer of the soil, consuming on the surface the softer parts of decayed vegetable matters, and conveying downwards the more woody fibres, which there moulder and fertilize. They perforate the earth in all directions, thus rendering it permeable by air and water, both indispensable to vegetable life. According to Mr. Darwin's mode of expression, they gave a kind of under tillage to the land, performing the same below ground that the spade does above for the garden, and the plough for arable soil. It is, in consequence, chiefly of the natural operations of worms that fields which have been overspread with lime, burnt marl, or cinders, become in process of time covered by a finely divided soil, fitted for the support of vegetation. This result, though usually attributed by farmers to the "working down" of these materials, is really due to the action of earth-worms, as may be seen in the innumerable *casts* of which the initial soil consists. These are obviously produced by the digestive proceedings of the worms, which take into their intestinal canal a large quantity of the soil in which they feed and burrow, and then reject it in the form of the so-called casts. "In this manner," says Mr. Darwin, "a field, manured with marl, has been covered, in the course of 80 years, with a bed of earth averaging 13 inches in thickness." *From the Encyclopædia Britannica—New Edition.*

## Calendar of Operations.

JUNE.

BORDER OF THE FENS: *June* 27.—Large quantities of hay and Clover have been secured in good condition; the crop of hay is generally abundant, and therefore has been cut early; Clover is not so heavy. Mangels now become an important item in the labour account; we see people among them everywhere, hoeing, weeding, and singling out. Turnips have also made their appearance, and the weather seems to have been as favourable to the green crops as it has been to everything else; even the winter Beans have improved where they have been suffered to stand after the extreme blight which affected them just after flowering. Many have been ploughed up. The spring Beans appear to have escaped, the flower has "set" well, and the pods are forming in a healthy state. The disease is attributed to sharp spring frosts succeeding an unusually mild winter. The same cause injured the Oats; we observed one very early crop to be quite prostrated and cut off. The owner put a "Coleman's" through it and sowed the field again; the experiment has succeeded, for a finer plant could not be, and though rather late it bids fair to yield largely. The Wheat everywhere looks well, a full standing crop; Barley is equally luxuriant and promises to be very fine; Potatoes grow well, and the country has a very beautiful appearance. The graziers have had so much Grass as to feel quite an "embarras de richesses," consequently store stock has been in great demand and very dear; trade is however now more quiet, and fat stock has somewhat declined; no doubt the markets may be expected to be well supplied throughout this autumn, and with abundant food for the stock, sheep and cattle will be offered in prime condition. Pigs even partook of the animation in the trade, and even now are about twice the value as stores that they were in the autumn. Labourers are well employed at 12*s.* per week. *J. W., Peterborough.*

WEST SUSSEX: *June* 28.—After a continuance of very dry weather we are now likely to get a little rain, and it appears to be much wanted here, although a few miles farther off there has been more than was agreeable for haymaking. But here we have had no rain since the end of last month, and food is getting much dried up; ponds and wells are getting low. But with a falling barometer and some rain having fallen during the past night we soon hope to see a change. Wheat looks well with us, quite up to the average, and perhaps we shall have harvest earlier than even last year, for ears in May were more plentiful than they have been for a long time. Barley, where forwardly sown, is good; but the later sown has showed signs lately of suffering from the excessive dryness, but may yet recover. The same may be said of Oats. Peas are a good crop, and a week or two more will make them fit to cut. The hay crop has not been a very heavy one, but has been nearly all secured in good order, so that there is no fear of want in the coming winter. Mangel generally looks well, though with its usual blanks; but these will disappear as they grow. Swedes with some are forward and good, others have lost them by fly, and some not sown so early have lain in the ground waiting for a shower. There are not many Turnips yet sown, as if put in early they get too ripe and dry before they are wanted. There will be time to put in Turnips after the Peas, and they do well, and so does the spring corn after them; and it seems a better system than Wheat, Peas, Wheat, especially as prices now rule. Our corn market is not very heavily supplied; but as everywhere else trade is done quietly, just enough for passing wants—this applies especially to Wheat—for all other corn the sale is ready, and the price good. Our stock market increases very fast; within the past few years it has doubled, but the demand keeps pace with it, and perhaps we have at Chichester as good a market for everything as any in the south of England, out of London. On Wednesday last we had our annual wool fair, and owing to prices having been put a little too high, business was checked for a time, but eventually a good many lots were bought at considerably higher prices. The Duke of Richmond's sold at 1*s.* 9*d.* per lb.; the average for the best South Down flocks was 1*s.* 6*d.*; for ewe wool, 1*s.* 4½*d.* to 1*s.* 5*d*, which is far above the market quotations. But still in the present unsettled state of continental affairs, there is a good deal of hesitation about dealing largely. All feel it to be more than usually a speculation. Work is well advanced, and hands are plentiful, but none to spare, and had not the season been good so that work was kept in advance all through, such would not be the case; there is no doubt that harvest hands will run short if the militia are still up, but it would be well if our rulers could get our suspected friends bound over to keep the peace for six weeks to come, and then we could keep a look-out for them again. *G. S.*

## Notices to Correspondents.

BLACKS IN WHEAT: *Cefn-cettim.* You cannot explain these blacks on any chemical theory. They are not Wheat (*i. e.*, starch, gluten, &c.) *minus* water owing to the dry season! They are the effects of a true vegetable organism with a life, habits, and structure proper to itself, the germ of which enters the young plant and ripens and developes in the ripening ear generally to the entire destruction of the part attacked.

NETTLES: *An Old Subscriber* says:—"Seeing an article in your paper of the 29th on 'Nettles,' I would state that 2 years ago my farm abounded with them. I applied agricultural salt, only one dressing, and at various periods of the year, and scarcely a Nettle is now to be seen. Of course it kills the Grass for the time, but it is notwithstanding that, the simplest and most effectual cure that in my opinion could be adopted."

THE FINEST FRUITS IN ENGLAND.—The Nobility, Clergy, Gentry, and Gardeners are respectfully informed that HAYTHORN'S HEXAGON and CHISWICK GARDEN NETS are guaranteed to protect all kinds of Fruit from Birds, Wasps, Flies, &c. The Nets are used in most gardens, and are recommended by all the principal gardeners. For testimonials, patterns, and prices (gratis, and free by post), please direct to Mr. HAYTHORN, Nottingham.

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TO FARMERS.—If you wish to PRESERVE YOUR HAY, go to DAVIS & CO., 64, West Smithfield, E.C., where you may purchase a RICK CLOTH of the best material and workmanship, cheaper than at any house in London.

HAY HARVEST. NICHOLSON'S PATENT HAYMAKER, to which was awarded the First Prize of the Royal Agricultural Society of England at the last contested trial.

The celebrated STAMFORD HORSE RAKE has lately been much improved, and has obtained 26 Prizes at competitive trials.

MOWING AND REAPING MACHINES are performing their work most satisfactorily, and fully justify public expectation, cutting about 10 acres per day, at a cost of 9*d.* per acre.

Orders for the above machines should be given at once to RICHMOND & CHANDLER, Salford, Manchester.

Branch Establishment, South John Street, Liverpool.

WHY NOT PRESERVE YOUR HAY?

BENJAMIN EDGINGTON respectfully informs the Nobility and Gentry that they can be supplied on the best terms with RICK CLOTHS, with Poles complete.

Early application should be made for SECOND-HAND RICK CLOTHS. MARQUEES, TENTS, and FLAGS. A great variety of Marquees and Tents may be seen erected on the premises. A quantity of SECOND-HAND TENTS from the Crimea at a greatly reduced price. An Illustrated Catalogue sent post free.

West End Establishment, 32, Charing Cross, S.W.

BENJAMIN EDGINGTON, 2, Duke Street, London Bridge, S.E.

WEDLAKE AND DENDY, AGRICULTURAL ENGINEERS, Hornchurch, Essex.

HAY MACHINES.

Small size, No. 1 .. £10 | Large size, No. 1 .. £12
Large size, No. 2 .. .. .. £13

These Machines are free from small and delicate parts, and can be easily understood by a farm labourer. They have gained several prizes at the Royal Agricultural Society's Shows.

HORSE RAKES.

No. 1 .. .. £6 10*s.* | No. 2 .. .. £7 10*s.*

WEDLAKE & DENDY'S Horse Rakes are made on the tubular principle, combining great strength and lightness. Free to all the principal Railway Stations.

WEDLAKE & DENDY, Union Foundry, Hornchurch, Essex.

Stand No. 30.—ROYAL AGRICULTURAL SOCIETY'S SHOW AT WARWICK, July, 1859.

B. SAMUELSON,

AGRICULTURAL ENGINEER AND MACHINIST,

76, CANNON STREET, WEST, LONDON; WORKS—BANBURY, OXON;

INVITES the atttention of Agriculturists to his

IMPROVED DOUBLE-ACTION HAYMAKER (Price 13*l.* 13*s.*).

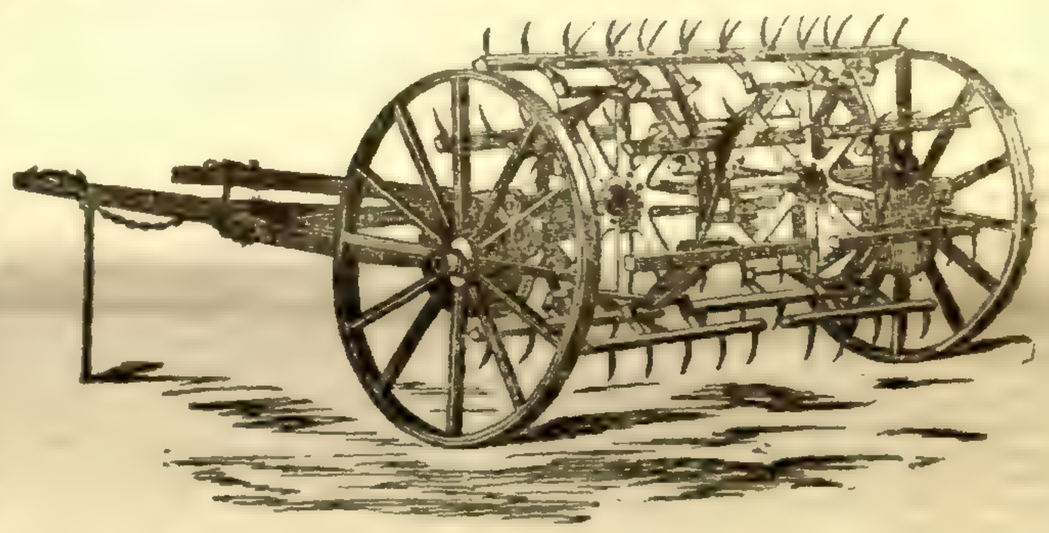
This Machine is guaranteed against breakages in fair usage.

SAMUELSON'S IMPROVED HORSE RAKES.

No. 3, extreme width, 7 feet 6 ins. £7 10 0
No. 4, " " 8 feet 6 ins. 8 0 0
Steeled Teeth, 10*s.* extra.

SAMUELSON'S PATENT BRITANNIA SELF-RAKING REAPING MACHINE, with side delivery in sheaf (requires no rakers or gatherers), price 32*l.* 10*s.* at the Works, Banbury; 34*l.* in London.

SAMUELSON'S BOYD'S PATENT LAWN MOWING AND ROLLING MACHINES. The only Machine that will cut WET as well as dry Grass. Price, from 4*l.* 17*s.* 6*d.* to 13*l.* 13*s.*



SAMUELSON'S PATENT PRIZE GARDENER'S DOUBLE ACTION TURNIP CUTTER, with the new Patent improvement for separating the dirt and small chippings from the clean and useful pieces.

SAMUELSON'S PRIZE CHAFF CUTTERS, MILLS, CAKE BREAKERS, and food-preparing Implements of every description; also HARROWS, FIELD ROLLERS, CLOD CRUSHERS, &c.

The above may be inspected at MR. SAMUELSON'S stand, No. 30, at the Warwick Show, where CATALOGUES and PRICE LISTS may be obtained, or at the

Works, Banbury, Oxon; London Warehouse, 76, Cannon Street, West.

ADDRESS: THE MANAGERS, ST. PANCRAS IRONWORKS.

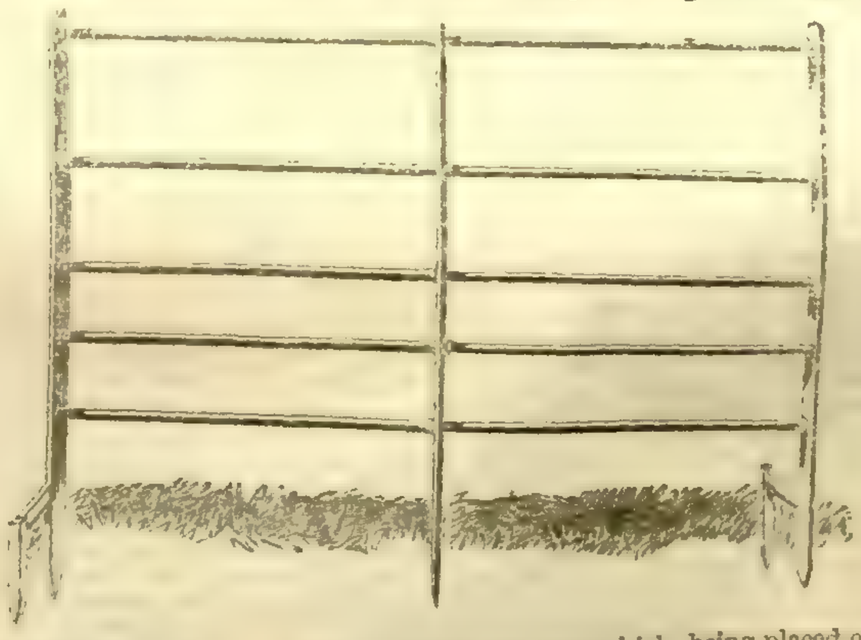
THE ST. PANCRAS IRON WORKS ARE OPPOSITE THE OLD ST. PANCRAS CHURCH, OLD ST. PANCRAS ROAD, LONDON.

IRON COLLAR BAR HURDLES.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

Obtained the Silver Medal of the Royal Agricultural Society.

ST. PANCRAS IRON WORKS,



OLD ST. PANCRAS ROAD, LONDON.

The improvement by this PATENT consists in the COLLARS on the Bars which, being placed on alternate sides of the centre upright bar, keep it in its position, confine the bars to short bearings, prevent their being strained, and give more than DOUBLE STRENGTH and RIGIDITY to the HURDLE.

PROFESSOR VARNELL'S MANGERS AND STABLE FITTINGS.

## BEE-HIVES.

PRIZE MEDAL AWARDED TO G. N. & SONS, FOR BEE-HIVES AND HONEY, AT THE PARIS EXPOSITION OF 1855.

NEIGHBOUR'S IMPROVED COTTAGE BEE-HIVE, as originally introduced by GEORGE NEIGHBOUR & SONS, with all the recent improvements, glasses, and thermometer, price 35*s*., securely packed for the country.

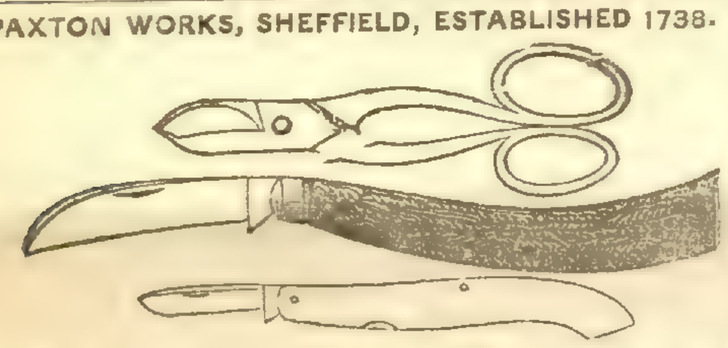
This unique Hive has met with universal commendation, and may be worked with safety, humanity, and profit by the most timid; its arrangements are so perfect that the Honey may be taken at any time of the gathering season without at all injuring the Bees.

Early applications addressed to GEORGE NEIGHBOUR & SONS, 127, High Holborn, or 149, Regent Street, London, **will receive prompt attention.**

**Their newly-arranged CATALOGUE of other Improved Hives** with Drawings and Prices, sent on receipt of two stamps.

AGENTS.—Liverpool: JAMES CUTHBERT, 12, Clayton Square.
Manchester: W. WILSON, 50, King Street.
Birmingham: J. H. COTTRELL, 15, Bull Ring.
Dublin: J. EDMONDSON & Co., 61, Dame Street.

## PAXTON WORKS, SHEFFIELD, ESTABLISHED 1738.

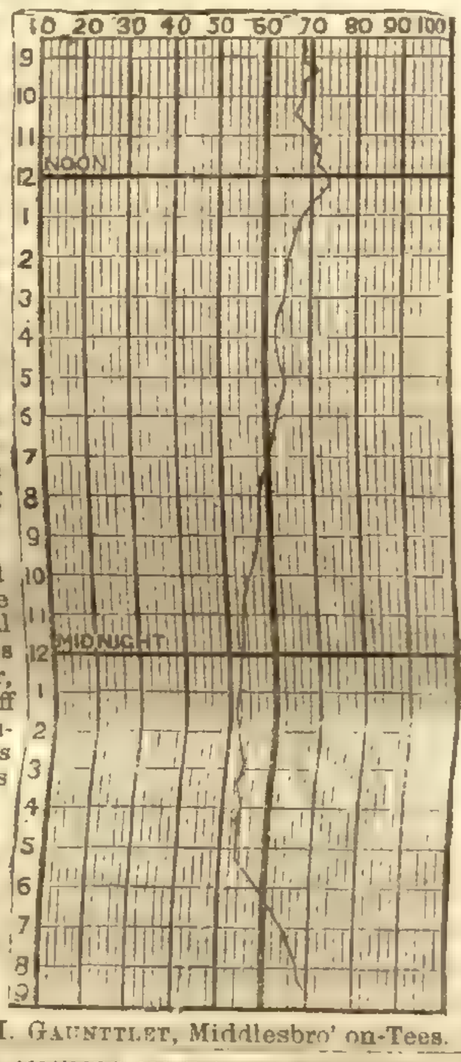


SAYNOR AND COOKE'S warranted PRIZE PRUNING and BUDDING KNIVES, SCISSORS, &c.—Sold by all respectable Nurserymen and Seed Merchants in the three Kingdoms.

## TO HORTICULTURISTS.

GAUNTLETT'S PATENT CHRONOMETRICAL THERMOMETER.

This instrument, which combines an eight-day clock of the best English make showing time, with a newly-patented Thermometer, wherein glass and quicksilver are dispensed with, writes down the temperature of the atmosphere on a slip of paper, and when placed in a Hothouse, Forcing House, or Conservatory, &c, supplies a valuable record of the temperature, with all its variations, showing the time when any change took place, and how long such change continued.



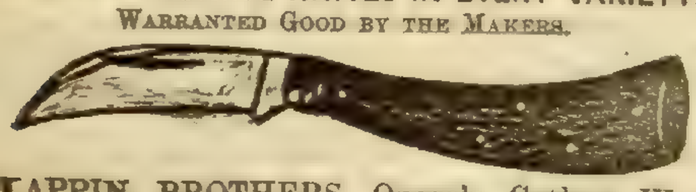

The above slip (reduced in size) exhibits the temperature of the Royal Agricultural Society's show yard at Chester, July 22, 1858, written off by one of these instruments, *to which was awarded the Society's* SILVER MEDAL.

This is the only instrument that registers temperature continuously and writes it down, and no horticulturist should be without it.

Orders received by W. H. GAUNTLETT, Middlesbro' on-Tees.

## MAPPIN'S PRUNING KNIVES IN EVERY VARIETY.

WARRANTED GOOD BY THE MAKERS.



MAPPIN BROTHERS, Queen's Cutlery Works Sheffield; and 67 and 68, King William Street, London.

MAPPIN'S "SHILLING" RAZORS Shave well for Twelve Months without Grinding.

MAPPIN'S 2*s*. RAZORS Shave well for Three Years.

MAPPIN'S 3*s*. RAZORS (suitable for Hard or soft Beards,) Shave well for Ten Years.

MAPPIN'S SUPERIOR TABLE-KNIVES maintain their unrivalled Superiority—handles cannot possibly become loose—the blades are all of the very first quality, being their own Sheffield manufacture.

| | Tble. Kns. | Dst. Kns. | Carvers. |
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| Ivory 3⅞ in. Handle, balanced, | 20*s*. p. doz. | 16*s*. p. doz. | 6*s*. p. pair |
| Do. 4 in. do. | 25*s*. ,, | 18*s*. ,, | 9*s*. ,, |

MAPPIN'S SILVER-PLATED DESSERT KNIVES and FORKS, in Mahogany Cases.

| | | |
|---|---|---|
| 12 Pairs Knives and Forks, | Ivory Handles, in Case | 80*s*. |
| 12 Do. | Pearl Handles, do. | 130*s*. |
| 12 Do. | Silver-Plated Handles, do. | 80*s*. |

MAPPIN'S ELECTRO-SILVER PLATE.—MAPPIN BROTHERS, Manufacturers by Special Appointment to the Queen, are the only Sheffield makers who supply the consumers in London. Their LONDON SHOW ROOMS, 67 and 68, King William Street, London Bridge, contain by far the largest STOCK of ELECTRO-SILVER PLATE in the World, which is transmitted direct from their Manufactory, Queen's Cutlery Works, Sheffield.

| | Fiddle Pattern. | Double Thread. | King's Pattern. |
|---|---|---|---|
| 12 Table Forks, best quality | £1 16 0 | £2 14 0 | £3 0 |
| 12 Table Spoons, best quality | 1 16 0 | 2 14 0 | 3 0 |
| 12 Dessert Forks, best quality | 1 7 0 | 2 0 0 | 2 4 |
| 12 Dessert Spoons, best quality | 1 7 0 | 2 0 0 | 2 4 |
| 12 Tea Spoons, best quality | 0 16 0 | 1 4 0 | 1 7 |

Messrs. MAPPIN BROTHERS respectfully invite buyers to inspect their unprecedented display, which, for beauty of design, exquisite workmanship, and novelty, stands unrivalled. Their Illustrated Catalogue, which is continually receiving addition of New Designs, sent per post on receipt of 12 stamps.—MAPPIN BROTHERS, 67 and 68, King William Street, London Bridge; Manufactory, Queen's Cutlery Works, Sheffield.

GARDEN WATERING ENGINES, PAIL MACHINES, CONSERVATORY PUMPS, and GREENHOUSE SYRINGES, with all the latest improvements, manufactured only by the Patentee,

RICHARD READ, 35, REGENT CIRCUS, PICCADILLY, LONDON.

☞ Descriptions with drawings sent post free.

TO WATER GARDENS in the easiest way is by the BEST FLEXIBLE TUBE. Brass Hand Branches, Roses and Jets, Garden Engines, Syringes, &c.—Apply for Illustrated Price Lists to JAMES SHEATH & Co., the Patent Gutta Percha and India Rubber Factory, 35, Old Street Road, E.C.

N.B. The best articles only manufactured.

## FRUIT TREES, RIPE STRAWBERRIES, ETC.

TANNED NETTING for Protecting the above from Frost, Blight, Birds, &c.; 2 yards wide, 3*d*. per yard, or 100 yards, 20*s*. Can be had in any quantity of EATON & DELLER, 6 and 7, Crooked Lane, London Bridge.

TANNED NETTING, at REDUCED PRICES.—200 square yards, 10*s*.; 500 yards, 24*s*. A quantity of good second-hand Rick Cloth for Sale, Cheap, all sizes, and only once used. Samples sent free.—Address FREDERICK EDGINGTON, Thomas Street, Old Kent Road, London, S.E.

TANNED NETTING, for the Protection of Fruit Trees from Frost, Blight, and Birds; also, for the security of fresh sown seeds, at 1*d*. per square yard; 200 yards, 12*s*.; 500 yards, 25*s*.; Scrim Canvas, for wall fruit; Garden Mats.—At EDGINGTON & Co's., Rick Cloth, Tent, and Waterproof Cloth Manufacturers, 17, Smithfield Bars, City, & Old Kent Rd.

GARDEN, RABBIT, CRICKET, SHEEP, AND FISHING NETS, at J. ALLEN'S, 7, Chenies Place, St. Pancras Road, London, N.W.

RATS.—A novel Stratagem for taking RATS by wholesale, without POISON or TRAPS.—Ships, Mills, Barns, Stables, Granaries, Warehouses, Farmsteads, and Houses, cleared at one sweep. Any person can by this method clear the entire premises of every rat, however numerous they may be, in one single night. Printed directions how to entice and secure the whole lot alive, but powerless to move, sent free by post for 12 penny stamps.—Direct FISHER & SON, Publishers, Kingsland, London, N.E. Established 1847.

NOTICE.—Appended to this invaluable Publication will be found, sixty Graziers', Farmers', and Agricultural Recipes, the rarest in the world.

## PRIZE MEDAL, PARIS EXHIBITION 1855.

METCALFE, BINGLEY, AND CO.'S New Pattern and Penetrating Tooth Brushes, Penetrating unbleached Hair Brushes, Improved Flesh and Clothes Brushes, and genuine Smyrna Sponges; and every description of Brush, Comb, and Perfumery for the Toilet. The Tooth Brushes search thoroughly between the divisions of the Teeth and clean them most effectually—the hairs never come loose. M., B., and Co. are sole makers of the Oatmeal and Camphor and Orris Root Soaps—sold in Tablets (bearing their names and address) at 6*d*. each; of METCALFE'S celebrated Alkaline Tooth Powder, 2*s*. per box; and of the New Bouquets.—Sole Establishment, 130B and 131, Oxford St., 2d and 3d doors west from Holles St., London.

HANDSOME BRASS AND IRON BEDSTEADS—HEAL & SON'S Show Rooms contain a large assortment of Brass Bedsteads, suitable both for Home use and for Tropical Climates; handsome Iron Bedsteads with Brass Mountings and elegantly Japanned; Plain Iron Bedsteads for Servants; every description of Wood Bedstead that is manufactured, in Mahogany, Birch, Walnut-tree Woods, Polished Deal and Japanned, all fitted with Bedding and Furniture complete, as well as every description of Bedroom Furniture.

HEAL AND SON'S ILLUSTRATED CATALOGUE, containing Designs and Prices of 100 Bedsteads, as well as of 150 different articles of Bedroom Furniture, sent free by post.—HEAL & SON, Bedstead, Bedding, and Bedroom Furniture Manufacturers, 196, Tottenham Court Road, W.

BEDSTEADS, BATHS, AND LAMPS.—WILLIAM S. BURTON has SIX LARGE SHOW ROOMS devoted exclusively to the SEPARATE DISPLAY of Lamps, Baths, and Metallic Bedsteads. The stock of each is at once the largest, newest, and most varied ever submitted to the public, and marked at prices proportionate with those that have tended to make his establishment the most distinguished in this country.

| | | | | | |
|---|---|---|---|---|---|
| Bedsteads, from | .. .. | 12*s*. 6*d*. | to | £20 | 0*s*. each. |
| Shower Baths, from | .. .. | 8 0 | ,, | 6 0 | ,, |
| Lamps (Moderateur), from | .. | 6 0 | ,, | 7 7 | ,, |

(All other kinds at the same rate.)

Pure Colza Oil .. .. .. .. 4*s*. 3*d*. per gallon.

THE PERFECT SUBSTITUTE FOR SILVER.—The REAL NICKEL SILVER, introduced more than 20 years ago by WILLIAM S. BURTON, when PLATED by the patent process of Messrs. Elkington & Co., is beyond all comparison the very best article next to sterling silver that can be employed as such, either usefully or ornamentally, as by no possible test can it be distinguished from real silver. A small useful plate chest, containing a set, guaranteed of first quality for finish and durability, as follows:—

| | Fiddle or Old Silver Pattern. | Thread or Brunswick Pattern. | King's Pattern. | Military Pattern. |
|---|---|---|---|---|
| | £ *s*. *d*. | £ *s*. *d*. | £ *s*. *d*. | £ *s*. *d*. |
| 12 Table Forks .. .. | 1 18 0 | 2 8 0 | 3 0 0 | 3 10 0 |
| 12 Table Spoons .. .. | 1 18 0 | 2 8 0 | 3 0 0 | 3 10 0 |
| 12 Dessert Forks .. .. | 1 10 0 | 1 15 0 | 2 2 0 | 2 10 0 |
| 12 Dessert Spoons .. | 1 10 0 | 1 15 0 | 2 2 0 | 2 10 0 |
| 12 Tea Spoons .. .. | 0 18 0 | 1 4 0 | 1 10 0 | 1 18 0 |
| 6 Egg Spoons, gilt bowls.. | 0 12 0 | 0 15 0 | 0 18 0 | 1 1 0 |
| 2 Sauce Ladles .. .. | 0 7 0 | 0 8 6 | 0 10 6 | 0 16 0 |
| 1 Gravy Spoon .. .. | 0 8 0 | 0 11 0 | 0 13 6 | 0 16 0 |
| 2 Salt Spoons, gilt bowls.. | 0 4 0 | 0 5 0 | 0 6 0 | 0 7 6 |
| 1 Mustard Spoon, gilt bowl .. .. | 0 2 0 | 0 2 6 | 0 3 0 | 0 3 9 |
| 1 Pair of Sugar Tongs .. | 0 3 0 | 0 3 9 | 0 5 0 | 0 7 0 |
| 1 Pair of Fish Carvers .. | 1 4 0 | 1 7 6 | 1 12 0 | 1 18 0 |
| 1 Butter Knife .. .. | 0 3 6 | 0 5 9 | 0 7 0 | 0 8 0 |
| 1 Soup Ladle .. .. | 0 13 0 | 0 17 6 | 1 0 0 | 1 1 0 |
| 1 Sugar Sifter .. .. | 0 4 0 | 0 4 9 | 0 5 9 | 0 8 6 |
| Total .. .. | 11 14 6 | 14 11 3 | 17 14 9 | 21 4 9 |

Any article to be had singly at the same prices. An oak chest to contain the above, and a relative number of knives, &c., 2*l*. 15*s*. Tea and coffee sets, cruet and liqueur frames, waiters, candlesticks, &c., at proportionate prices. All kinds of re-plating done by the patent process.

WILLIAM S. BURTON'S GENERAL FURNISHING IRONMONGERY CATALOGUE may be had gratis, and free by post. It contains upwards of 400 Illustrations of his illimited Stock of Electro and Sheffield Plate, Nickel Silver and Britannia Metal goods, Dish Covers and Hot-water Dishes, Stoves, Fenders, Marble Chimney-pieces, Kitchen Ranges, Lamps, Gaseliers, Tea Urns and Kettles, Tea Trays, Clocks, Table Cutlery, Baths and Toilet Ware, Turnery, Iron and Brass Bedsteads, Bedding, Bed Hangings, &c., with Lists of Prices and Plans of the 16 large Show Rooms at 39, Oxford Street; 1, 1A, 2, and 3, Newman Street; and 4, 5, and 6, Perry's Place, London.—Established 1820.

CHUBB'S LOCKS, FIREPROOF SAFES, DOOR LATCHES, CASH AND DEED BOXES. Illustrated Priced Lists sent free.—57, St. Paul's Churchyard, London; 28, Lord Street, Liverpool; 16, Market Street, Manchester; and 9, Wolverhampton.

ALLEN'S PATENT PORTMANTEAUS AND TRAVELLING BAGS, with SQUARE OPENING Ladies' Dress Trunks, Dressing Bags, with Silver Fittings Despatch Boxes, Writing and Dressing Cases, and 500 other articles for Home or Continental Travelling, illustrated in their New Catalogue for 1859. By post for two stamps. J. W. & T. ALLEN, Manufacturers of Officers' Barrack Furniture and Military Outfitters (see separate Catalogue), 18 and 22, Strand.

FRY AND SONS' CHOCOLATES AND COCOAS—Victoria Chocolate, Bon Bons, Soluble Cocoa, &c., in great variety. These delicious beverages are now sold at very moderate prices, and many of them are highly economical.

FRY'S HOMŒOPATHIC COCOA is an article of unexceptionable quality. FRY'S SOLUBLE COCOA, in Hexagon packets, and FRY'S PEARL COCOA, are strongly recommended.

FRY AND SONS, MANUFACTURERS TO THE QUEEN.

Liebig, the celebrated Chemist, asserts that nitrogen is essential to the healthy action of the bile, and the great sustenance, and invigoration of the body. No stronger recommendation of Cocoa and Chocolate can therefore be given than the following statement:—Caffeine and Theine each contain only about 29 per cent., whilst Theobromine (or essence of Cocoa) contains upwards of 35 per cent. of nitrogen.

VINEGAR.—Patronised by her Majesty's Government.

CONDY'S PATENT PURE CONCENTRATED MALT VINEGAR.—Families, by using this delicious Vinegar, insure purity, and effect a saving of 50 per cent. See Report of Dr. Letheby, City Officer of Health; Dr. Hassall; the *Lancet* Commission, and others. Six Quart Sample sent free to any Railway for 3*s*. 6*d*.—Sold by the Trade, in bottles, labelled and capsuled; wholesale, 63, King William Street, London Bridge, E.C.

PURE WATER.—The great public want of a perfect and cheap Water Filter is now supplied by the PATENT MOULDED CARBON COMPANY'S FILTERS, by which rain, river, pond and spring waters impregnated with noxious matters are rendered perfectly inodorous, tasteless, bright, sparkling, and wholesome. Price from 3*s*. upwards. PRICE LISTS on application.—Sold wholesale and retail by HARRISON & Co., 62, Fleet Street, London, E.C.

KNOW THYSELF.—MARIE COUPELLE continues to give her graphic and interesting delineations of character, discoverable from an examination of the handwriting, in an unique style of description peculiarly her own. All persons desirous of knowing themselves, or any friend in whom they are interested, must send a specimen of the writing, stating the sex and age, and enclosing 13 penny postage stamps, and a directed envelope, to Miss COUPELLE, 69, Castle Street, Oxford Street, London, and they will receive in a few days a minute detail of the talents, tastes, virtues, and failings of the writer, with many other things hitherto unsuspected. All letters are considered strictly confidential.

DO YOU WANT LUXURIANT HAIR, WHISKERS, &c?—COUPELLE'S CRINUTRIAR is guaranteed to produce whiskers, moustachios, eyebrows, &c., in two or three weeks with the utmost certainty, strengthen weak hair, prevent its falling off, check greyness in all its stages, and reproduce the hair in baldness, from whatever cause, price 2*s*. Sold by all chemists in the world; or will be sent post free, on receipt of 24 penny postage stamps, by Miss COUPELLE, 69, Castle Street, Newman Street, Oxford Street, London. A toilet guide sent post free for four penny postage stamps. "It completely restored my hair."—Miss Davis. "My whiskers are now growing freely."—H. Merry, Esq.

FOR THE TOILETTE.—OLDRIDGE'S BALM OF COLUMBIA, which has for more than 30 years been celebrated for its peculiar properties in restoring, cleansing, and beautifying the hair, promoting its growth, as well as preventing it falling off or turning grey.—C. & A. OLDRIDGE, 13, Wellington Street, North, seven doors from the Strand. Sold wholesale and retail in bottles at 3*s*. 6*d*., 6*s*., and 11*s*.; and by all Chemists and Perfumers. Its use for whiskers and moustachios is invaluable.

WHITE AND SOUND TEETH are indispensable to personal attraction and to health and longevity by the proper mastication of food. ROWLANDS' ODONTO, or Pearl Dentifrice, compounded of oriental ingredients, is of inestimable value in improving and beautifying the teeth, strengthening the gums, and in rendering the breath sweet and pure. It eradicates tartar from the teeth, removes spots of incipient decay, and polishes and preserves the enamel, to which it imparts a pearl-like whiteness. As the most efficient and fragant aromatic purifier of the breath, teeth, and gums ever known, ROWLANDS' Odonto has for a long series of years occupied a distinguished place at the toilets of the sovereigns and the nobility through Europe: while the general demand for it at once announces the favour in which it is universally held.—Price 2*s*. 9*d*. per box. CAUTION.—The words "ROWLANDS' Odonto" are on the Label, and "A ROWLAND & SONS, 20, Hatton Garden," engraved on the Government stamp affixed on each box.—Sold by the Proprietors, and by Chemists and Perfumers.

IMPORTANT INFORMATION.—Mrs. Brown, of Queen Street, Kingsland, was for years severely afflicted with a scorbutic eruption, covering the back of both hands and spreading up her arms. She was persuaded to try Dr. ROBERTS'S POOR MAN'S FRIEND and PILULÆ ANTISCROPHULÆ by a friend who had a large wound in her leg which baffled her doctor's skill, but was effectually cured by these medicines. She only took one box of the Pills, and used one pot of the Ointment, which effected a cure to the surprise of her friends, who wish it to be made public for the benefit of her suffering fellow creatures. Dr. ROBERTS'S POOR MAN'S FRIEND and PILULÆ ANTISCROPHULÆ have been proved, by 60 years' experience, successful in the cure of eruptions and wounds of every description. Price 1*s*. 1½*d*.; 2*s*. 9*d*.; 4*s*. 6*d*.; 11*s*.; and 22*s*. each.—Sold wholesale by the Proprietors, BEACH & BARNICOTT, at their Dispensary, Bridport, and by their London Houses; and retail by all respectable Medicine Vendors in the United Kingdom and the Colonies.

PAINS IN THE BACK, Gravel, Lumbago, Rheumatism, Gout, Indigestion, Flatulency, Nervousness, Debility, &c.—Dr. DE ROOS' COMPOUND RENAL PILLS have been long established as a safe and efficacious remedy for the above complaints, discharges of any kind, retention of urine, and diseases of the kidneys, bladder and urinary organs generally, which, if neglected, frequently end in stone in the bladder and a lingering death. For depression of spirits, incapacity for society, study or business, confusion, giddiness, drowsiness, sleep without refreshment, fear, nervousness, and insanity itself, when arising from or combined with urinary diseases, they are unequalled. By their salutary action in correcting the acidity of the stomach, they prevent the formation of stone, and establish the healthy functions of all these organs.—Price 1*s*. 1½*d*., 2*s*. 9*d*., 4*s*. 6*d*., 11*s*., and 33*s*. per box, through all Medicine Vendors, or sent free on receipt of the amount in postage stamps, by Dr. DE ROOS, 10, Berners Street, Oxford Street.

# HORTICULTURAL SOCIETY.

CHANGE OF ENTRANCE TO THE GARDEN.—The Council have directed that the Gate leading into the Garden from the Duke of Devonshire's road shall be closed; and that, in future, the principal entrance shall be at the National School Gate, immediately opposite the Church on Turnham Green.

MEETINGS OF THE FRUIT COMMITTEE.—Notice is hereby given, that the Meetings of this Committee for the next three months will be held at 8, St. Martin's Place, Trafalgar Square, at 3 P.M., on

TUESDAY, JULY 12, | TUESDAY, AUGUST 9, | TUESDAY, SEPTEMBER 20.

At the Meeting on August 9, a Prize of One Guinea will be awarded for the best EARLY SEEDLING PEACH or NECTARINE, if found to possess sufficient merit. The fruit should be accompanied by two or three of the full grown leaves.

On September 20 a Prize of Two Guineas will be awarded for the best SEEDLING GRAPE; a Prize of One Guinea will also at this Meeting be given for the best dish of SEEDLING STRAWBERRIES.

Blank forms to be filled up and sent with Seedling or other Fruits may be obtained on application to Mr. ROBERT THOMPSON, Secretary to the Fruit Committee, Horticultural Society's Garden, Chiswick, London, W.

N.B. The carriage of packages of Fruit will be paid. They should be directed "To the Secretary to the Fruit Committee, 8, St. Martin's Place, Trafalgar Square, London," and should be delivered before 1 P.M. on the respective days of meeting.

At a meeting held in the rooms of the Society of Arts, on Tuesday, June 21, the following gentlemen were elected Fellows, viz.:—

| | |
|---|---|
| E. P. Sells, jun., Highbury Park, West | G. F. Wilson, Esq., Belmont, Vauxhall |
| W. S. Dixon, Esq., 1, Dixon Street, Glasgow | B. Noakes, Esq., Hope Cottage, North Hill, Highgate |

A ballot took place for the undermentioned plants, which were declared to have been gained by the following Fellows, viz.:

Pinus from Popocatapetl, 7 Plants. 14 Applicants.

| | | |
|---|---|---|
| Mr. Wm. Cotterell | Mr. Fisher Godwin | Col. Leslie |
| Mr. Charlwood | Earl of Leicester | Lady Rolle |
| | Mr. J. Veitch, jun. | |

Pinus Regeliana, 9 Plants. 21 Applicants.

| | | |
|---|---|---|
| Capt. Best | W. J. Lloyd, Esq. | Rev. T. Stainforth |
| Mr. J. R. Challice | J. G. Parry, Esq. | Mr. J. Veitch, jun. |
| Sir C. Lemon | Lady Rolle | Lord Vernon |

Pinus Cahabra, 13 Plants. 31 Applicants.

| | | |
|---|---|---|
| Mr. W. Barron | A. S. Gladstone, Esq. | Earl of Scarborough |
| W. Childers, Esq. | Rt. Hanbury, Esq. | Mr. J. Shaw |
| Arthur Currie, Esq. | Wm. Hunt, Esq. | Mr. J. Veitch, jun. |
| Sir P. Egerton | Lady Rolle | Lord Vernon |
| | C. B. Warner, Esq. | |

Pinus Brutia, 17 Plants. 28 Applicants.

| | | |
|---|---|---|
| Capt. Best | J. Fielden, Esq. | Col. Leslie |
| Robt. Capper, Esq. | Mr. J. Garaway | Earl of Scarbrough |
| Mr. J. R. Challice | Dr. Henderson | Mr. J. Shaw |
| Fredk. Chatfield, Esq. | Wm. Hunt, Esq. | Sir W. C. Trevelyan |
| | Mr. J. Ivery | Lord Walsingham |
| Sir Philip Egerton | Rev. W. B. Lee | Lady C. Wellesley |

Wistaria sinensis alba, 30 Plants. 53 Applicants.

| | | |
|---|---|---|
| Edw. Banks, Esq. | Jas. Heywood, Esq. | Sir F. Shuckburgh |
| J. E. Bartlet, Esq. | W. H. Hughes, Esq. | J. S. Smith, Esq. |
| E. Brown, Esq., Oakhill | Col. Mason | A. J. R. Stewart, Esq. |
| | P. Nelson, Esq. | J. Straith, Esq. |
| W. F. Lindsay Carnegie, Esq. | G. H. Packe, Esq. | Lady L. Tennisson |
| | A. F. Paxton, Esq. | J. N. Walker, Esq. |
| R. Crawshay, Esq. | W. J. Phelps, Esq. | Lord Walsingham |
| Lord Egerton of Tatton | E. P. Richards, Esq. | J. C. Whiteman, Esq. |
| | Col. Richardson | Miss Wilson |
| W. J. Etches, Esq. | G. S. Ridgway, Esq. | G. Wood, Esq. |
| Hon. F. L. Gower | R. Rogers, Esq. | J. Deacon, Esq. |

The following plants, of which there was a sufficient number to supply all the Fellows who applied for them, were also ordered to be distributed:—

| | Applicants | | Applicants. |
|---|---|---|---|
| Pinus Don Pedri | 93 | Bambusa gracilis | 33 |
| Abies, sp. from Mexico | 15 | Platycodon chinensis | 21 |
| Cupressus Macnabiana | 49 | Seedling Camellias | 41 |
| ,, Lawsoniana | 67 | Buddlea, sp. from Peru | 18 |
| Pentstemon, from Mexico | 47 | Sida malvæfolia | 18 |
| Veronica decussata Devon. | 31 | Clematis microphylla, var. leptophylla | 26 |
| Aralia japonica | 15 | | |
| Eurybia quercifolia | 9 | Seeds of Sikkim Rhododendron | 41 |
| Pomaderris phillyreæfolia | 10 | | |

NEXT ORDINARY MEETING FOR ELECTION OF FELLOWS, AND BALLOT FOR PLANTS.—Notice is hereby given that the next Ordinary Meeting will be held in the rooms of the Society of Arts, in the Adelphi, on TUESDAY, JULY 19th; the Chair to be taken at 11 o'clock, A.M. On this occasion a third Ballot for plants will take place.

LIST OF PLANTS FOR BALLOT, JULY 19.

100 "NERGALL," or HILL BAMBOO OF THE PUNJAUB. Hardy herbaceous plant.
50 CUPRESSUS MACNABIANA. Hardy tree.
50 CUPRESSUS LAWSONIANA. Hardy tree.
50 CUPRESSUS TORULOSA. Hardy tree.
50 ABIES SMITHIANA. Hardy tree.
30 PINUS PATULA. Half-hardy tree.
20 PINUS DON PEDRI. Hardy (?) tree.
20 PINUS BRUTIA. Hardy tree.
80 STATICE BRASSICÆFOLIA. Greenhouse herbaceous plant.
30 HESPEROMELES, SP. from Mexico. Half-hardy shrub.
40 BERBERIS, SP. from Pichincha. Half-hardy shrub.
20 TECOMA LATROBEI. Greenhouse climber.
40 SPIRÆA CALLOSA. Hardy shrub.
30 SCLEROTHAMNUS DIFFUSUS. Greenhouse shrub.
20 BOUVARDIA LONGIFOLIA. Greenhouse shrub.
40 CALLISTEMON RUGULOSUM. Greenhouse shrub.
40 BUDDLEA, SP. from Peru. Greenhouse shrub.
40 PENTSTEMONS, SP. from Peru. Hardy herbaceous plants.
50 SEEDLING CAMELLIAS.
50 BAMBUSA GRACILIS. Hardy herbaceous plant.
40 CUPRESSUS GOVENIANA. Hardy tree.
30 CUPRESSUS CASHMERIANA. Hardy tree.

Fellows of the Society desirous of obtaining any of these plants are requested, if they are subscribers of 4 guineas a year, to name the *four* sorts they would prefer; or, if subscribers of 2 guineas a year, to name *two* sorts. Should there be more applications for any particular plant than the number prefixed to its name in the List, a Ballot will then take place to determine which applicants are to be supplied. The arrangements for conducting this Ballot render it necessary that the names of the plants to be drawn for, should be sent to the Office of the Society, 8, ST. MARTIN'S PLACE, W.C., at the latest by Saturday, July 16.

VI.—FURTHER MEETINGS OF COUNCIL, 1859–60.

1859.—July 22, August 19, September 23, October 21, November 18, December 23.

1860.—January 20, February 24, March 23, April 20.

GARDENERS' ROYAL BENEVOLENT INSTITUTION.—At a General Meeting of the Members of this Society held on Wednesday, July 6, at the House of the Society of Arts, John Street, Adelphi, for the Election of Three Pensioners, the following was the result of the ballot:—

CANDIDATES.

| No. | NAMES. | APPLICATION. | AGE. | VOTES. |
|---|---|---|---|---|
| 1 | JAMES SMITH | Eleventh | 78 | 554 |
| 2 | WILLIAM PRIEST (a Subscriber 7 years) | Seventh | 64 | 515 |
| 3 | WILLIAM CROUCHER | Sixth | 80 | 145 |
| 4 | JOHN MACKINTOSH (a Subscriber 5 years) | Sixth | 68 | 419 |
| 5 | GEORGE DRURY | Fifth | 73 | 49 |
| 6 | JOHN ALLERMAN | Fourth | 70 | 161 |
| 7 | MARGARET MITCHINSON (husband subscribed 7 years) | Fourth | 65 | 135 |
| 8 | JOHN DOWNING | Third | 72 | 658 |
| 9 | THOMAS JENKINS (a Subscriber 11 years) | Third | 71 | 386 |
| 10 | JAMES WALLIS | Third | 81 | 115 |
| 11 | GEORGE ANNABALL | Second | 62 | 95 |
| 12 | SAMUEL FAULKNER (a Subscriber 6 years) | Second | 67 | 20 |
| 13 | WILLIAM SMITH | Second | 82 | 21 |
| 14 | MARIA SQUIBES (Husband subscribed 14 years) | Second | 60 | 853 |
| 15 | JAMES BROWNE (a Subscriber 5 years) | First | 73 | 333 |
| 16 | ELIZABETH FLINN | First | 67 | 3 |

The Meeting then declared MARIA SQUIBES, JOHN DOWNING, and JAMES SMITH duly elected Pensioners of this Society.

13, Tavistock Row.—July 7. EDW. R. CUTLER, Sec.

70 FINEST NEW VERBENAS OF 1859.—Azucena, Dentonia, Belinda, True Blue, Mrs. White, Il Trovatore, Comet, conspicua, Eleanor, Gem, Lord Clyde, Lord Elgin, Mathilde, Mrs. Maclean, Norfolk Beauty, Novelty, Ajax, Bandmaster, Balfe, Comte de Morello, Isa Craig, Lightning, Miss Drake, Mrs. Blyth, Mrs. Pennington, Princess Clothilde, Satanello, Verdii, striata perfecta, Abundance, Baccarah, Blue Magnifique, Cerise, Cendrillon, Clara, Cyrus, Fatima, Felix Roland, Figaro, Gitana, Gloire de Mon Plaisir, Ivanhoe, La Magicienne, Luerèce, Madame Hardy, Madame Hoste, Madame Large, Malakoff, Manteau d'Evêque, Mars (Sankey), Mars (Chauvière), Monsieur Hardy, Monsieur Denis Blain, No Plus Ultra, Primulaeflora, Reine Blanche, Rosalinde, Rosamonde, Mrs. Fowke, Souvenir de M. Selinge, Miss E. Hammer, Lamire, Mrs. Leslie, Lady C. Sheppard, Snowflake, Kossuth, Marie Rugiere, Le Bon Nicholas, Flora, Rubens, Beliona. The above 70 Verbenas for 30s; or selections of any 12 sorts, 5s. They are fine, strong, well hardened plants in single pots (free by post).

HENRY MAY, The Hope Nurseries, Bedale, Yorkshire.


# The Gardeners' Chronicle.

*SATURDAY, JULY 9, 1859.*


MEETINGS FOR THE FOLLOWING WEEK.

TUESDAY, July 12 { Horticultural (Fruit Committee at St. Martin's Place) ..... 3 P.M.

IN another column will be found a very full report of the MEETING OF THE HORTICULTURAL SOCIETY last Thursday, assembled for the purpose of determining whether they would authorise the Council to proceed with the plan of forming a new garden in the centre of the quadrangle at KENSINGTON GORE, belonging to H.M.'s Commissioners of the Great Exhibition of 1851. It will be seen that after hearing the details of the plan, inspecting the designs which had been prepared by order of the Royal Commissioners, and fully discussing the principal terms proposed by them, the meeting unanimously authorised the Council to proceed.

This essential point having been resolved on, an announcement was then made that so great is the interest taken by the Queen and the Prince Consort in the welfare of the Horticultural Society, that HER MAJESTY, entirely approving of the plan proposed by the Council, was most graciously pleased to signify her royal intention of subscribing the sum of ONE THOUSAND POUNDS towards the fund which must be raised for carrying it out, and of causing various branches of the Royal family to be elected as Life Members of the Society; at the same time his Royal Highness authorised the meeting to be informed that he also was prepared to subscribe the sum of FIVE HUNDRED POUNDS in aid of the measure, and also to provide a further sum of ONE THOUSAND POUNDS by taking ten of the debentures of 100*l.* each, which the Society proposes to issue. It was at the same time announced that H.R.H. the Princess FREDERIC WILLIAM, Princess Royal of England, proposed to join the Society as a Life Member. It is needless to add that these munificent contributions were acknowledged with the deepest gratitude by every one present, and that the noble chairman of the meeting was requested to convey to HER MAJESTY, to H.R.H. the PRINCE CONSORT, and to H.R.H. the PRINCESS ROYAL, the most respectful thanks of the Society.

So very considerable a number of new supporters of the Society was also named, in the event of the proposed Garden being constructed, as to give the Council increased confidence in being able to bring their arrangements to a satisfactory termination.

It is impossible to exaggerate the importance of this movement with reference to its bearing on the progress of English gardening. No public body ever imparted such a stimulus to cultivation as the Horticultural Society, partly by introducing almost every new plant that found its way into gardens between the years 1816 and 1850, and partly by conferring medals and pecuniary rewards upon meritorious cultivators; the first of these operations having cost above 13,000*l.* for pay of collectors alone; and the second having amounted to considerably more than 20,000*l.* Nor was there any abatement of activity in these two most important lines of operation, so long as the means at the disposal of the Society were sufficient. But when the world forsook the Chiswick Gardens for other places of more convenient access, income rapidly declined, and with income the power to render public services as formerly. A great opportunity now presents itself of recovering the lost income and very largely increasing it. There can be no possible doubt that a magnificent garden, such as it is proposed to construct at Kensington Gore, would be thronged daily by crowds of visitors eager to exchange the dirty streets of London for a place where they can cheaply enjoy the pleasures of a garden, without the inconvenient intrusion of that lowest class which infests all places of resort that are absolutely public. Its contiguity to the parks, and to the immense population of western London, together with the facility of access from the north and east by the North of London Railway, which is expected to be extended to the very corner of the proposed garden, renders the situation unrivalled in the vicinity of the metropolis. It is from the admission money paid at the gates on ordinary days, as well as on days specially set apart for great exhibitions or other occasions of unusual importance, that the income we contemplate will be derived, and that must of necessity be so large, especially while the Garden enjoys the high privilege of being the favourite resort of our beloved Sovereign and her Royal family, as to reduce all such questions as providing the funds now demanded, to insignificance. That income again possessed, new plants valuable for their hardiness, beauty, and utility, whether merely ornamental, or important as additions to our dessert, our kitchens, or even our agricultural resources may be rapidly introduced and distributed among the Fellows of the Society. The world contains many a corner rich beyond belief in vegetable treasures that never yet have reached us, and with sufficient means at its disposal, the Horticultural Society will know how to penetrate such regions, and carry off whatever deserves to be introduced.

A CORRESPONDENT or two remind us that the season has arrived when some at least of the instances of LUMINOUS APPEARANCES reported to have been seen among living plants may be verified. Should verification be possible, it is to those who live in gardens that we must look for information; and a season so dry as this has hitherto been may be expected to prove favourable to such appearances—if they ever occur.

The best English account of the phænomenon in question is to be found in Dr. BALFOUR'S Class-book of Botany; from which we borrow the following details:—

"The younger LINNÆUS states that the flowers of Nasturtium, the African Marigold, the orange Lily, and other orange flowers, give out, at the end of a hot summer day, intermittent phosphorescence resembling little flashes of light. DOWDEN also mentions a luminous appearance of a similar nature in the common Marigold (Calendula vulgaris). He noticed it on the 4th of August, 1842, at 8 P.M., after a week of very dry warm weather. A gold-coloured lambent light seemed to play from floret to floret, and to make a course round the disk of the flower. JAMES states that at Moseley, in Worcestershire, after a hot dry day, the flashes of light from Papaver pilosum, or hairy red Poppy, were observed by himself and others. The light given out by flowers has been remarked by various other observers. The plants in the flowers of which it has been observed are Tropæolum majus, Helianthus annuus, Calendula officinalis, Tagetes erecta and patula, Lilium chalcedonicum and bulbiferum, Polyanthes tuberosa, Papaver orientale and pilosum, Chrysanthemum inodorum, Œnothera macrocarpa, and Gorteria rigens."

"In the case of Dictamnus Fraxinella, it is reported that in a still warm evening the resinous vapour given off by a plant is in such abundance as to take fire when a flame is applied to it. The writer of the work entitled Garden Flowers says, that on a fine summer evening in June, before the twilight had commenced, he held a light about half an inch from the flower, when the vapour which it emitted took fire, and a beautiful blue flame ran over every part of the plant, which was about 3 feet high. It occupied half a minute in progress, and the plant was not injured." (*Balfour, p.* 676-7.)

The general opinion of vegetable physiologists has been that such appearances are either illusory or connected with rapid chemical action in the

interior of plants. Prof. HENFREY adopts the first view (*Elementary Course*, *p.* 615), regarding "the asserted luminosity of flowers as at present a very questionable matter." Prof. ALLMAN holds the same opinion. Dr. CARPENTER adopts the second idea, which is the common one. In his opinion it is probable that the extrication of light is in part connected with that conversion of oxygen into carbonic acid, which takes place very rapidly in flowers, and which may be regarded as a slow combustion. This also, as will be presently seen, is the interpretation of TULASNE, a very distinguished observer.

For ourselves we find the subject so surrounded by difficulty that we hesitate to offer any opinion; and it is probably very far from being so simple a question as has been supposed. That Fraxinella is really luminous at night, under some circumstances, can hardly be doubted; and yet we have never been able to perceive the smallest sign of that plant possessing such a quality. DARWIN, indeed, assumes the story to be true:—

*Slow o'er the twilight sands, or leafy walks.*
*With gloomy dignity Dictamna stalks;*
*In sulphurous eddies round the weird dame*
*Plays the light gas, or kindles into flame,*

thus explaining the phænomenon by saying that at certain seasons the plant emits an inflammable air or gas, and flashes on the approach of a candle. And this, his notion, has been adopted by subsequent writers. If so the luminosity ascribed to it must be something very different from what occurs in Marigolds and Poppies, which contain very little volatile oil; although it may be analogous to that spoken of in the Tuberose.

But it is certain that some Fungi are really luminous in the dark; upon that point the evidence is clear. We again quote Balfour—

"Light is undoubtedly given out by Fungi in certain circumstances. Luminosity has been noticed in many species of Agaricus growing on dead or decaying wood, such as Agaricus olearius, indigenous in the south of Europe; Agaricus Gardneri, in Goyaz, Brazil; Agaricus igneus, in the island of Amboyna; and Agaricus noctilucens, in Manilla. The first two are of an orange colour, the third of an ash colour, and the fourth white. The light of the Agaric of the Olive-grounds (Agaricus olearius) may be compared to that of phosphorus; it is a continued white light without scintillations, very bright when the plant is young and recently gathered. Agaricus igneus has a bluish light. The whole plant of Agaricus Gardneri gives out at night a bright phosphorescent light, somewhat similar to that emitted by the larger fire-flies, having a pale greenish hue. From this circumstance, and from growing on a Palm, it is called by the inhabitants of Villa de Natividade, Flor de Coco.

"DRUMMOND describes two species of Agaricus near the Swan River, which emit a most curious light. They grow parasitically on trunks of trees such as Banksias. When placed on paper, the Agarics emitted by night a phosphorescent light sufficient to allow a person to read by it, and they continued to do so for several nights with gradually decreasing intensity as the plant dried up. Another phosphorescent Agaric was noticed by Mr. DRUMMOND in Australia on the trunk of a dead Eucalyptus occidentalis. The upper surface of the pileus was nearly black, while the central portion and the gills were milk-white, the stipe being attached to one side of the pileus.

"Some species of Rhizomorpha are remarkable for the phosphorescence which they display. These plants vegetate in dark caverns, and in the coal mines of Germany. They are seen hanging from the roof in great numbers. Their luminous qualities are most developed in the furthest recesses of the mines. PRESTOC has noticed that the spawn of the Truffle is luminous, and that it may thus be collected at night in the Truffle-grounds. These are instances of luminosity in living Fungi, which disappears with life. Luminosity has also been observed in plants in a state of putrescence, as in rotten wood and in half-decayed Potatoes.

"TULASNE has made observations on the light given out by *Rhizomorpha subterranea*. By preserving it in a proper state of humidity the phosphorescence was kept up for several evenings. When the Fungus began to dry it lost its luminosity. TULASNE considers the light as similar to the phosphorescence in decaying plants, and he concludes that the same agents, namely oxygen, water, and heat, furnish the combination necessary for producing phosphorescence, both in organised living beings and in those which have ceased to live. In both cases the luminous phenomenon accompanies a chemical reaction, which consists chiefly in the combination between organised matter and the oxygen of air, that is to say, a slow combustion, giving rise to carbonic acid."

It is thus certain that some plants are luminous while alive; and if so why should not others be so? The whole subject is a question of fact. It has indeed been maintained that the luminosity of Fungi is something peculiar to that order, and that when decaying wood is found to be phosphorescent it is only because it is infested with the spawn of Fungi. But the sap of plants having no relation to Fungi is also luminous.

"MORNAY describes a tree in South America called Cipó de Cunanam, with a milky juice, which gave out in the dark a bright light when wounded. The phosphorescent light appeared at every cut in the stem, and each drop of the milky juice was luminous. MARTIUS also observed the same kind of light in the sap of Euphorbia phosphorea, a Brazilian plant, when wounded. When this was observed, the temperature was 97.25° F., but it ceased when the heat sank to 68° F.; he did not find that it affected the galvanometer in the east."

It is therefore by no means necessary to assume that when plants are luminous they are infested with Fungi.

The only example of manifest luminosity that has come before ourselves is recorded in the volume of the *Gardeners' Chronicle* for 1845. General CULLEN, an Indian officer, informed the Royal Asiatic Society that a plant luminous at night had been discovered by a Tahsildar, who having been compelled by rain to seek shelter at night under a mass of rock in the jungle, had been astonished at seeing a blaze of phosphoric light diffused "over all the Grass in the vicinity" (see *Gard. Chron.*, 1845, *p.* 243). A piece of the root, or rhizome, was sent home by General CULLEN, and was found, although dead, to become luminous after being wetted. Having been enabled to examine this plant we found that it gleamed in the dark with all the vividness of a glowworm, or the electric Scolopendra, after having been moistened. Nor did the phosphorescence appear to be exhaustible; for the plant lighted up again as often as it was moistened. Here then was an unquestionable case of luminosity, not in rotten wood, but in a piece of a plant which, although dry, appeared to ourselves to be quite sound and free from decay. Our learned friend Dr. WIGHT, in a communication with which he has lately favoured us, believes however that the phosphorescence was really caused by Fungi. The ground, he says, in which the luminous rhizomes were found had been recently broken up, having been covered with Andropogons and other rhizomatous Grasses. "These rhizomes," he adds, "thus exposed probably for weeks or months to the action of soaking rains and heavy dews alternating with hot sunshine, would naturally begin to decay, or may have become impregnated with minute luminous Fungi, and in that state, when damped, became luminous in the dark. This is the inference I was led to draw from General CULLEN'S account of the matter, strengthened by the fact that other specimens of the plant sent to me in a living state did not exhibit the slightest trace of luminosity."

But BALFOUR states, upon the authority of the late General MADDEN, that the rhizomes of several Indian Grasses are occasionally luminous by night during the rainy season; and we do not understand that their phosphorescence is consequent on death and decay.

Such being the state of this curious question, we concur with our correspondents in thinking that the attention of those who dwell in gardens should be invited to the subject, and we shall hope to learn that many a quick intelligent eye has been directed towards it.

## SOUTHILL.

THIS magnificent estate, containing as it does the noble demesne and beautiful classic structure, the principal residence of William Henry Whitbread, Esq., lies south-east of Bedford, and is intersected by the London road for some 10 or 11 miles in extent. The Leicester and Hitchin Railway also passes through the property, and there is a Southill station in close proximity to the park, something less than a mile from the mansion. There is also a station at Biggleswade, on the Great Northern line, four miles distant; and to Bedford by road, over the high ground, the distance is nine miles; by this rout some exquisite views are obtained of that magnificent town, and the surrounding beauties of its broad and fertile plain, enriched and animated as it is by the sluggish waters of the Ouse.

The park comprises an area of 600 acres of excellent land of a bold and irregular character, richly adorned with noble timber in well disposed groups and masses, and the salient points are well brought out, with many remarkable examples of fine trees. An admirable specimen of Weeping Birch, growing in a commanding position, is an object of very great beauty; it is 40 feet in height, and at some distance from the ground the girth is 9 feet, covering with beautifully pendent branches an area of 170 feet in circumference. This tree is at all times an object of peculiar interest, but when covered with hoary frost or loaded with pearly dew, the effect is then of the most charming description. Of late years many Deodars and other remarkable Conifers have been planted unsparingly in well marked positions in this beautiful park; all of them look promising and well. Many of these have already reached a height of 14 or 15 ft., and are now objects of great beauty and attraction. An avenue of Cedars of Lebanon has been planted, through which the carriage drive passes for a considerable distance in its course to the new station of the Leicester and Hitchin Railway. A small stream threads its way through the park eastward, and expands into a beautiful sheet of water of more than 40 acres in extent immediately in front of the mansion; in its centre is a well clothed green island, and on the opposite shore a beautiful Doric temple nobly proportioned with an admirable background of stately wood, which rises up majestically behind. The principal approaches are those from Bedford over the high ground on the west, and from the pretty village of Southill on the eastern side. The roads are wide and exceedingly well directed; they enter the park by simple and unpretending gates and lodges. There are also three other approaches from different points, which unite with the Bedford drive; these with their gates and lodges are of the same simple and useful character as the others; they reach the mansion by rising ground on either side at the northern or entrance point on a noble parallelogram of gravel 400 feet in length, and 46 feet in width; there is also a diverging entrance at the western end. The park is bounded on the north by Lord Ongley's woods and the beautifully picturesque village of Old Warden, which at this period of the season is a scene of much interest and attraction on account of the gorgeous masses of flowering shrubs, creepers, and other beautiful plants with which its tastefully ornamented cottages are so profusely decorated, enhanced, too, by the cleanliness and comfort which seems to pervade the whole. Near here is also his lordship's once famous Swiss garden—with its handsome curvilinear conservatory—its lake, bridges, banks of turf, aviaries, statuary, and vases filled with choice flowers—its fine shrubs, trees, and plants, the whole scene being enlivened with birds of fine plumage, some disporting on the waters of the lake or soaring over head, others rambling or congregating at will, all united in forming a scene of the most enchanting kind—a paradise—now alas! a neglected wilderness.

The mansion is proudly situated on a well-marked acclivity, and is a noble pile of white freestone in the classic style—the centre a large square mass, with wings and connections on either side; the roofs of the wings are pointed, and have an exceedingly good effect, and the whole presents a façade of 226 feet in length, and there are 270 feet of offices and excellent stable buildings continued from the eastern end, and hidden by plantations from the main portion of the building, the carriage drive being diverted by a sweep, so as at once to give depth of effect and more privacy to the entrance front of this superb residence. It was built for the late Samuel Whitbread, Esq., M.P., in the years 1796–7, by Holland, who has been described as one of the most experienced and eminent architects of his time, and to whom Brown, the celebrated architect and landscape gardener, at his decease, bequeathed the whole of his drawings. It contains a noble suite of magnificent apartments, superbly furnished and rich in articles of *virtù* and taste, its walls being adorned with many admirable paintings by the best masters; and over the doors of some of the principal apartments are animals in basso-relievo by Garrard and paintings of live game by Gilpin. The dining room, a breakfast room, a sitting room, entrance hall, billiard room, and libraries are situated on the northern side; the former is 42 feet 9 inches in length and 19 feet 8 inches in width, and has a projecting bow window, which adds very materially to the convenience and comfort of this noble room; the latter is 61 feet long by 17 feet 9 inches in width, and contains in handsome cases a well chosen collection of beautifully-bound books. Over the chimney-piece is a portrait of Mr. Whitbread, the grandfather of the present worthy possessor, and over the book-cases on either side are portraits of his clerks in the Chiswell Street Brewery at that period. The centre of the south side of the building contains two beautiful drawing-rooms; the largest is 43 feet long, 23 feet wide, and lofty in proportion. Its walls are decorated by some exquisite paintings, and also full length portraits of the late Samuel and Lady Elizabeth Whitbread. There are galleries on either side, connecting on the one hand a very beautiful but simply furnished breakfast-room, 29 feet long and 17 feet wide, and on the other a superb sitting-room and boudoir, to which an elegant conservatory has lately been added.

The pleasure grounds immediately surrounding the mansion comprise an area of more than 15 acres; that portion of them on the north side is divided from the park by a handsome open balustrade fence, 400 feet in length, having elegant iron gates in the centre, supported by colossal urns, and relieved on either side by upright Cypress. The other portion of the ground is enclosed by a sunken wall or ha-ha. The width of the ground from the house to the open balustrade fence is 150 feet, in which there is a fall of 5 feet. The lower

tory of the house was earthed up after Repton's model of Welbeck, which had then just been completed. That portion however nearest the building was carried out in a style far superior to the original, inasmuch as an open balustrade fence surmounted by Maltese vases, artistically disposed, is run along the front of the building its entire length at some little distance from the walls, and instead of an upright wall being carried up to the height of the lower windows the ground is bevelled to within 3 feet of the office floors. A light balcony, too, 4 feet wide and having a handsome iron rail, projects from the stringing course of the principal floor, and these conjointly serve to screen from observation the lower or office windows, without rendering the rooms so dark and dismal as at Welbeck. But in all other matters of ground work, Mr. Holland, notwithstanding his great fame as an architect, failed here as signally as he had done at Woburn and elsewhere, and the ample space in front of this magnificent building was laid out in a wide approach, which was separated from the lower portion by an open balustrade fence, surmounted by vases, with a view to represent a terrace, and that too on ground sloping from the very base of the building at the rate of 1 foot in 30 feet. The long line of umbrella Acacias with which this so-called terrace was formerly adorned has been replaced, as at Chatsworth, by Standard Portugal Laurels, having nicely formed heads. The ground is formally laid out and planted with Rhododendrons and other dwarf groups of evergreen shrubs —a very few clumps for flowers being introduced, and these are protected by a game fence of a light colour. The whole of the vases are filled in the summer season with flowering plants, and they have an excellent effect. There is a broad walk inside the lower balustrade fence terminated at the eastern end by a handsome stone seat; at the other end the walk sweeps through the sward into the general pleasure ground walks; at either end are some very excellent specimens of Cedars of Lebanon, Magnolias, &c. On the upper Grass verge in front of the mansion there was formerly an admirable line of Arbutus, most interesting at all periods of the season, but more especially so in the autumn months, when loaded with their deep-coloured Strawberry fruit. The view from this front is a very perfect specimen of picturesque effect—the foreground gently receding being admirably adorned with specimens and groups of noble timber, amongst which cattle range at will, or repose under the ample shade of magnificent trees; in the middle distance the charming lake with its irregular and beautiful outline, a richly clothed verdant island resting on its bosom, adding materially to its effect, not only affords great variety and contrast, but also from the shadows cast across this lovely sheet of water, the silvery surface is rendered more brilliant from being reflected by the sun from behind. The beautiful Doric temple half embosomed in trees, occupying a prominent and central position on a rich glade of turf, grouped and dotted with plants of low growth, on the opposite shore, is a charming object relieving the monotony of the vast wood which rises upon the high ground beyond, in which there are some admirable drives, broad and well directed, so as to comprise the most particular objects alike of beauty and interest in this delightful domain. The south or garden front of the mansion is an object of very great beauty; its central portico and colonnades on either side, with their Ionic columns surmounted by open balustrade parapets, have an admirable effect. The colonnades too are adorned by some excellent fresco paintings. The ground in front has been raised up to nearly the height of the lower or office windows, and their tops are secured and screened by iron gratings of the same colour as the pavement. There is a low wall in front to represent a terrace, which is surmounted by vases filled with flowering plants. Unfortunately the whole of the ground beyond this wall has been raised to the same level, which has at once the effect of destroying the character such a garden ought to present, and of lessening the elevation of this magnificent building. At Trentham and other palace residences of like character such matters have been better understood, and the ground in front of some such mansions has even been excavated in order that terrace and panel gardens might be formed suitable to the style of the building to which they form so admirable an adjunct, and on which they also confer a certain degree of majesty. At a distance of 75 feet, and at right angles with the centre of the portico, there is a noble group of colossal figures elevated on a pedestal, forming a centre to the garden in front, and from which broad walks radiate at right angles with the front of the mansion, and a walk of equal width surrounds the whole, 75 feet in radius; the space thus formed between these walks is laid out in simple figures, and planted with Rhododendrons and other forms of dwarf evergreen shrubs, some simple flower beds being introduced in the angles made by the wide circular walk in front of the colonnades and wings at either end. There is in addition at the eastern end a fountain by Rowley, and a handsome cenotaph surmounted by the effigy of a reclining spaniel, there is too a font underneath dedicated to the memory of some favourite dogs of the late Lady Elizabeth Whitbread, and having an inscription on two sides from the pen of the late Mr. Samuel Whitbread as follows:—

"Boney was plain, but then his air
Was so engaging, he could spare
To other dogs their beauty spots,
Their genteel shape, and silken coats.
Ladies! good temper, neatness, sense,
To plainness make full recompense.
His wiry hair was silver white,
His pointed ears stood bolt upright;
His brilliant eye and shining nose
Were black as were the ripest sloes.
His face was crooked, his legs were straight.
He had the funniest little gait,
With one foot up and three feet down
(An affectation quite his own).
If he did wrong you could not scold him,
He looked so modest when you told him
Of his misdeeds, but when you praised him
His countenance quite said you pleased him."

S. W., 1809.

*Obverse.*—

"The good, the constant, and the just,
Are honoured in the silent dust.
Near his beloved mistress' seat,
Departed Jock such honours meet.
Ye dogs who in succession share
Your kindest lady's tender care,
Drink at this font, for see above
A model of the truest love
That ever warmed your faithful race.
His loving form you there may trace.
Drink at this font and humbly vie
With him in matchless constancy."

S. W., 1806.

The walk in front of the portico, and on which the colossal group of figures stands forming a centre to the garden, is produced to a distance of 770 feet; it is 15 feet in width, and is enriched with statuary elevated on pedestals on either side during its entire length; a fine figure of Sampson terminates this exquisite walk, and from which it takes its name; it is well backed by masses of Laurel and other evergreen shrubs and trees, and there is an excellent view from the mansion through this walk into a broad avenue of considerable length. From Sampson's walk too other excellent walks diverge at different points, and are judiciously led through these beautiful grounds, which contain some remarkable examples of fine trees. One in particular merits attention—a Douglas Fir, which the writer of these notes procured and planted more than 25 years ago, it is now an admirable specimen, more than 40 feet in height, and the trunk girths over 4½ feet in circumference; it is well clothed with branches, dense and beautifulas if the foreright buds had been removed. There are also some noble specimens of Larch, Spruce, and Silver Firs, and the whole grounds are well grouped and massed with evergreen shrubs, which have of late years been further enriched by specimens of Deodars and other Conifers, which already begin to wear an air of considerable grandeur. The ground slopes considerably from either end of the mansion, at the eastern end of which there is a private garden, which was remodelled by Sir Francis Chantrey, something more than 30 years ago. It is of considerable size and symmetrically disposed, and has the advantage of a game fence protection. Until lately it contained a conservatory of some considerable size, which was connected with the mansion by a long sweeping colonnade, the whole of which was painted in sombre colour, in order that the symmetrical architecture of the mansion might not be deranged. These erections, however, have now been swept away, and a conservatory has since been attached to the eastern end of the mansion, a very pretty structure 51 feet long, 26 feet wide, and 26 feet high. The entrance is by a lobby to the boudoir, an arrangement that lessens a very material objection to plant houses being immediately attached to sitting-rooms constantly inhabited, and where the smell and damp from a large body of earth in the beds or pots are often more powerful than the fragrance of the plants. But Repton has laid it down as an axiom "that such an appendage, however it may increase its interior comfort, will never add to the external ornament of a house of regular architecture;" and certainly the structure in question, although pretty enough in itself and excellently constructed, forms no exception to the rule thus so explicitly laid down. The whole of these beautiful grounds was faultless alike in regard to keeping and management, and at the period of my visit all was gay with flowering plants distributed with no sparing hand. Passing onward by one of the traversing walks on the eastern side, one is arrested by the exquisite view of the elegant mansion with its irregular symmetrical outline and noble proportions, its extended frontage and beautiful wings, with pointed roofs, and their connections of colonnades surmounted by open balustrades, its projecting portico and open columns, a noble monument alike of the genius of Holland and the princely munificence of the great Mr. Whitbread. This walk leads onward through a considerable dell, formed by the excavations required by the earthworks round the mansion, and near the large mass of stable buildings partially hidden by planting, and under the approach bridge over which the eastern entrance passes —another copy of Repton's great work at Welbeck—in this instance, however, of a much nobler character than the original, sufficient room being provided on the bridge for effectually planting out the walks and grounds underneath. Beyond the bridge the ground is more expanded, and the leading walk has been bordered by common Laurels trained as standards; they were planted some 25 years since with a view to a more faithful representation of an Orange tree being produced than could be effected with the Portugal Laurel; they are, however, trained too flatly to be effective. A proper model would be the chaste, exquisite forms in the Crystal Palace, or the unrivalled specimens of standard variegated Hollies in the raised stone beds of the Grand Terrace at Chatsworth. In the midst of this glade of turf there is an immense mass of Portugal Laurel which covers a space of 190 feet in circumference. A Maiden Hair tree is also a very conspicuous object in this part of the grounds, which are well clothed with excellent forms of Larch, Silver and other Firs; a Canadian Spruce tree and a Hickory are objects of much attraction. At some considerable distance from the bridge the walk diverges to the right, and crosses one of the broad drives leading to the lake, to the entrance of the kitchen garden, on the right of which is the parish church, a beautiful structure; it contains a memento to Dilly, the bookseller, who lived close to the village, and whose guest the great lexicographer, Dr. Johnson, frequently was; and also a mausoleum of the Torrington family, to whom Southill proper at one time belonged, and in which there is a marble slab with the following inscription to the memory of the unfortunate Admiral Byng:—

"To the perpetual disgrace
of Publick Justice
The Honble. John Byng, Esq.,
Admiral of the Blue,
Fell a Martyr to
Political persecution
March 14th, in the year 1557,
When Bravery and Loyalty were
Insufficient securities
For the Life and Honour
of a
Naval Officer."

The kitchen garden contains something more than 6 acres of excellent land of varied character, but well adapted for fruit and vegetable culture. There is also an orchard of considerable size in close proximity, planted some 25 years since, and which usually produces excellent crops of fine fruit. The entrance is by a simple gate, and there is a broad drive through the centre of the garden; 2 acres are inclosed by brick walls, which at various periods have been well covered with Apricot, Plum, Cherry, Peach, and Pear trees, remarkable alike for health and the admirable quality of the fine fruit they have produced. Within the last 30 years the southern aspect of the south wall of this garden has been three times planted with Peach trees, and the middle planting on a border of new soil and resting on an impervious bottom; these trees rapidly covered the space assigned to them, and were for years the admiration of all beholders; but the seasons have proved too much for them, and they have been replaced by others, which will in succession most likely share the same fate. Had this wall been covered with glass when the new borders were formed, there can be but little doubt that the trees would have been in first-rate condition at this day; all expenses, too, of canvas or other spring covering, with the daily labour of taking off and on, would have been saved—an item which in a series of years would go far to liquidate the original expense of such an erection; and I would here observe, that in a well-constructed erection of this kind judiciously planted with sorts and in positions so to obtain a succession, a very lengthened supply may be obtained. In the last week of last September I visited many gardens of note, alike in the midland and home counties; but I did not find a single Peach. "They had just been all gathered." Nor did I see a Coe's Golden Drop, save on the walls at Southill, and they were dropping off ripe, whilst here in an exposed situation in a south-western county, there was a continuous supply of Peaches for more than four weeks; and of Coe's Golden Drop and other Plums for seven weeks after that period. The Golden Drop Plums, too, were of such a character that no Grapes or Pines of whatever excellence could for a moment be compared with them. The garden walks are wide and composed of red sand, which binds well, and is firm to tread on, and they are easily kept in order. In the centre of the walled garden there are espaliers or dwarf standard Apple trees on either side of the walks, and which produce admirable crops of remarkably fine fruit —Ribstone Pippins and Nonpareils especially of an unrivalled description. There are several Walnut trees on the eastern side of the garden, and also two Mulberry trees on the southern side, which produce quantities of fine fruit.* It is now many years since the system not only of culture in these gardens was changed from a mere piece of surface digging to that of draining and deep cultivation, and with the best results, but a process was begun of effectually improving the most sterile and ungenial portion, in order that the permanent crops might be established there instead of on the lighter soil—so essential to the successful cultivation of many other crops. On one of the internal quarters a trench was dug out across its whole length, 5 feet in width and 3 feet in depth; a drain was laid in the bottom, and the excavation was filled up three-parts of its depth with Cabbage stumps and other garden refuse, on which a bed of leaves and half-decayed manure was placed and the soil was replaced on its surface, and on which ridge Cucumbers were planted—a small portion of a more genial character being placed immediately under the plants. Yet, notwithstanding the adverse character of this soil, nothing could have done better than the plants so treated. The following spring this bed was forked up and mixed, on which a crop of Asparagus was planted, and another trench was formed for Cucumbers as before, and this system has been carried on year after year with the most successful result, not only in securing good

* At the entrance of the gardens there is a border on which a row of Figs were planted 25 years since. They bore a fine crop of excellent Figs when I saw them last autumn; they having stood the severity of the season, whilst the magnificent trees at Arundel had been destroyed during that period

crops, but in permanently improving the character of the soil. On the south portion of the garden there is a range of glass structures, consisting of a lofty greenhouse and three Vineries; two of these latter are on Speechly's model, with double Pine beds in the interior, and having a depth of three lights on the roof. The whole of the Vines in these houses were taken up in the middle of last September, the impervious bottom of the border broken up, some fresh soil added, and the Vines replanted. They have broken tolerably well, and the earliest house is now ripening a fair crop of well-coloured Grapes, and of a better quality than has been produced for several years past. Near the entrance to the garden there are two inclosed squares in which a Cucumber house and several ranges of pits and frames are situated, nd used for the production of Melons and other requisites ecessary for the requirements of a large establishment. During my occasional visits to this beautiful place I ave invariably found these gardens in the best state of cultivation, and producing heavy crops alike of fruit and vegetables, reflecting much credit on Mr. Scrogie, the worthy gardener, whose management for a long series of years has constantly been a subject of favourable representation. *D.*

## Home Correspondence.

*Cloth of Gold and Isabella Gray Roses.*—In your impression of June 18, these are spoken of as being difficult to bloom, &c.; there have been various reports of the merits of these Roses, the fair Isabella appearing to be exceedingly capricious. In June 1857 I procured a quantity of plants of the latter of Messrs. Henderson; some I worked on the Manetti stock, others on the common Briar; one of the former I am growing in a 12-inch pot. Last autumn it had made very vigorous shoots, some of them 4 to 6 feet in length, but without any prospect of bloom until I pinched off the ends of two of the principal shoots, which immediately caused laterals to break all up the principal shoots, every one of which produced a splendid bud, but too late in the season to expand freely. Early this spring I pruned the spurs back close to the main shoots, and shortened the other shoots to six or eight eyes; the plant began to grow freely in February, and in March showed 29 splendid blooms. Those shoots that were cut back to six or eight eyes did not show bloom, but after they had made a growth of about 5 feet I pinched off the points, and at the present time the laterals are again showing splendid blooms—the old shoots I have now cut out to give strength to the flowers. After the bloom is again over I intend to prune the spurs close back to the main stems, and I have but little doubt of procuring a third crop of blooms from this plant this season. A plant on the Briar stock similarly treated has also produced an excellent show of blooms, but it does not appear to bear the pruning so well as that on the Manetti stock, as the shoots are breaking weakly; the plants are both in a warm greenhouse. I have also another strong plant on its own roots of the same age as those above described, but it does not grow near so vigorous as the one on the Manetti, neither has it as yet produced a bloom. Of the Cloth of Gold, the finest specimen I ever saw was worked on the common blush China Rose; it nearly covered the entire front of the residence of C. Perkins, Esq., Picktree House, Chester-le-Street, Durham; the number of blooms and buds was enormous; it was the admiration of every one who saw it. It was a treat of no ordinary kind to be enabled to visit the beautiful grounds that surround Mr. Perkins's house. Although in the midst of collieries and coke ovens and in a cold country, it was marvellous how splendidly the Coniferæ and other ornamental plants were grown; the manner in which the grounds were laid out speak highly of the good taste of the proprietor; for a private grower his collection of Roses is unique. The pleasure grounds are thickly belted with the black Austrian Pine, one of the most useful and hardy plants for shelter in a cold and exposed country. *John Harrison, Nurseryman, Darlington.*

*Bad Water.*—Having remarked a very unpleasant taste in the pipe water lately, I made inquiries and was informed by one of our Corporation that it had been ascertained that both here and in London a "Spongiola" had found its way into the pipes, and to its presence there we must attribute the very unpleasant flavour of which I complained. Can you tell me anything of this "Spongiola." Londoners cannot be uninterested if any such cause has been discovered to account for the fearful impurity in the water supplied to them. *A Subscriber, Dublin, July 7.* [We have no notion what is meant. The word Spongiola signifies the young living point of the fibre of a root.]

*New and Old Roses.*—In your leading article of the 2d inst. on the Roses, I think you are coming rather hard upon the new ones, and it would appear that you think the old sorts are not yet surpassed or even equalled because the former did not make their appearance in large numbers at the late National Rose Show. That many of the new Roses sent out within the last three years are a decided advance there can, I think, be no question; nor can it be denied that with them have appeared too many which should never have been made public. But the sterling sorts very soon prove themselves; for instance, which of the old Roses can equal the fine new Rose Lælia, shown in Mr. Cranston's stand of 24 at the National in 1858, and has since maintained its reputation as the very finest Rose of its colour—delicate rose most beautifully shaped? I am not sure, but I should rather think, that it was not exhibited this season, as it blooms rather late. Then again take Victor Trouillard: which of the old Roses can equal it in its glowing shades of carmine and scarlet? Certainly none of them; it again blooms rather late. Thomas Rivers is a most beautiful new Rose, and I think not equalled by any of the old sorts of the same shade. Mathurin Regnier quite throws that fine old Rose William Griffiths into the shade. Then take Souvenir de la Reine d'Angleterre, which is an improvement upon La Reine; Madame Knorr is not equalled in its shade of colour, deep rose, and outer petals—light shade; Madame Vidot is far in advance of the sorts older than itself, and not equalled in beauty of form and pureness of colouring, delicate flesh; Alphonse Karr is another new Rose, most desirable; Pauline Lansezeur, Prince Leon, Lord Raglan, Lord Palmerston, and Jules Margottin are not old Roses, and yet they are not equalled in their respective shades. I do not think it is because the new Roses are not superior that they are not exhibited; it is because they are propagated to that extent there are not strong shoots to produce those perfect blooms required for exhibition; when they become more plentiful they begin to make their appearance more frequently. I have seen most of the new Roses sent out last season in bloom, but I cannot speak positively which is inferior, as they are not in a state to judge correctly. Then, again, I am quite of opinion the National Rose Show is held too early (on the 23d June), even for the south. I particularly noticed on the 23d of June I had not more than a dozen expanded blooms amongst a stock of some 30,000 plants. I think the National Rose Show held on the 23d of June cannot correctly be called national, as this is just the time my Roses are in full beauty, July 6, and it will apply to the north generally. *Henry May, The Hope Nurseries, near Bedale, Yorkshire.* [We do not see how our remarks are touched. Surely our correspondent does not suppose that when we spoke of old Roses, we referred to sorts in fashion 30 years ago.]

*Covers for Vine Borders.*—Have any of your readers used zinc sheeting for covering Vine borders? If so, will they say if it answers the purpose or if wooden shutters are better? What is the price of zinc per superficial yard? Which of the two should a person who can have either use? If boards are recommended what length, breadth, and thickness should they be, and should they be painted with mineral paint, or hot gas-tar? *G. A.*

*Water Rats.*—Will any of your correspondents kindly say whether or not the common water rats, which seem very injurious to the banks of a pond here, are hurtful as destructive of young waterfowl or fish, or whether their food is merely of the leaves of pond weeds or known to consist of more valuable substances? Perhaps Mr. Waterton, whose knowledge on the subject is so varied, would furnish the information required, but I have looked in vain through his "Essays" for the habits of the water rat. *M.*

*Pinus nobilis.*—Can any one inform me if the Pinus nobilis has yet ripened its seeds in this country? Mine, which was planted in 1834, and is now about 33 feet high, has one large erect cone upon one of its upper branches this year for the first time. *F. H. S., Whitfield.*

*Budding Vines.*—Having lately seen several articles in your columns relative to the propagation of the Vine, and conclusions drawn that the time will arrive when "grafted plants will be more common," I am induced to lay before your readers a system I have adopted, and which I have not seen alluded to in any treatise on the Vine; nor in conversation with most experienced Grape growers have I found they have practised it. It is certainly far preferable to grafting, as a season for fruiting is gained, and a more perfect union effected—I allude to budding in the months of July and August. On August 9, 1858, I received from a nurseryman a small 1 guinea plant of the Black Muscat Hamburgh, and having at one end of a Vinery a plant of the Golden Hamburgh and one of the Bowood Muscat, I was desirous that the Black Muscat Hamburgh should be next to them, that I may fairly test the relative merits of these three fine Grapes; but as there was a Black Hamburgh of two years planting next to the Golden Hamburgh, I did not like removing it to plant the Black Muscat Hamburgh, but resolved on trying the effect of budding the Black Muscat Hamburgh on the stock of the Black Hamburgh. On the 10th August I inserted three buds, and at the time of winter pruning cut the Black Hamburgh down to the top bud inserted. Each bud has broken quite as strong as a natural eye, and on each shoot there were three as strong and fine bunches of Grapes as could be desired. Since then the fruit from the leader has been removed, and also two bunches from each side shoot, leaving one to each bearer. This operation has been performed in a young Vinery where there are about forty Vines, and the bunches on the shoots of the inserted buds are just beginning to colour. I shall therefore fruit this season, side by side, from established plants in the border, the "Black Muscat Hamburgh," the "Golden Hamburgh," and the "Bowood Muscat." From what information I have been able to collect, I believe this to be an advance in the propagation of the Vine not before practised. If it has been, I should from any of your numerous readers like to know, and if not, it gives me gratification to lay before the Grape-growing world the result of my experience. *James Aldrige Devenish, Rodwell, Weymouth, July 4.*

## Horticultural Society.

A Special General Meeting of this Society was held in the Rooms of the Society of Arts, Adelphi, on Thursday, July 7, at 11 o'clock, to consider an arrangement with her Majesty's Commissioners of the Exhibition of 1851, for Leasing to the Horticultural Society 20 acres of ground at Kensington Gore, for the purpose of constructing a magnificent Horticultural Garden upon the spot.

A more important meeting of the Society was perhaps never held. The walls were hung round with photographs and plans of proposed garden terraces and entrances.

The Right Hon. the Earl of Ducie, V.P., occupied the chair.

Previous to the commencement of proceedings the following document was circulated among the members as affording an explanation of the matter in reference to which they had been specially assembled:—

REPORT OF THE COUNCIL ON THE PROPOSED NEW GARDEN AT KENSINGTON GORE.

The Council of the Horticultural Society have thought it desirable to call the present Special Meeting of its members in order to explain the steps taken by them with a view to obtaining a locality in the immediate neighbourhood of the metropolis where some of the objects of the Society might be pursued on a large scale with great advantage. They now proceed to state their views for the future, in the confident hope that the course which they think it their duty to recommend for the future adoption of the Society, will meet with its hearty approval and concurrence.

It is scarcely necessary to recur to the reasons which led the Council to the conclusion that it was inexpedient to continue the annual exhibitions at Chiswick. Successful and attractive as those exhibitions once were, it seemed evident to the Council that it would not only be to the pecuniary advantage of the Society, but that their means of usefulness as a scientific body would be greatly extended if they could obtain sufficient space for the prosecution and development of their objects in the more immediate neighbourhood of London.

In seeking for such a situation, the attention of the Council was naturally attracted to the finely situated estate purchased by the Commissioners for the Exhibition of 1851, out of the surplus proceeds of that Exhibition; and it appeared to them that the grant by the Commissioners of a certain portion of that estate to the Society would be strictly compatible with, and might even tend largely to promote the means of encouraging Art and Science generally, the furtherance of which was known to be the object for which the Commissioners were incorporated by Royal Charter.

The Council of the Society, therefore, some time since made an application to the Commissioners of 1851, in order to ascertain how they would be disposed to regard a request from the Horticultural Society for permission to establish itself upon their estate.

The Commissioners have met this request in a liberal spirit, and it will be the duty of the Council to lay before the present Meeting the conditions on which the Commissioners have announced their readiness to comply with it.

It may be as well, however, first to point out the situation of the estate, and more particularly of that portion of it which the Commissioners are willing to place at the disposal of the Horticultural Society.

After letting on building leases certain outlying portions of their estate, the Commissioners have reserved about 50 acres for the purposes of their incorporation, forming a parallelogram between the two new roads—Prince Albert Road (100 feet wide) to the west, and Exhibition Road (80 feet wide) to the East—which two roads connect the Kensington Road on the north with the new Cromwell Road (80 feet wide) on the south. Of this parallelogram the Commissioners have reserved a portion of about 16 acres at the south end for the purposes of the Great International Exhibition, which had been projected by the Society of Arts for the year 1861—the intention of holding which has, it is hoped, been but temporarily suspended by the war now unhappily raging; also a portion at the North end, with a frontage to Hyde Park, well adapted for any public buildings which it may hereafter appear desirable to erect there; and further spaces of about 150 feet in depth along each of the parallel roads running North and South, for such buildings, public or private, as the Commissioners may hereafter, in the prosecution of their own objects, determine to erect.

It is the remainder or centre of this ground that the Commissioners, under certain conditions, have offered to place at the disposal of the Horticultural Society. This space, inclusive of a proposed Winter Garden, and also of Italian Arcades with which the Commissioners themselves propose to surround it, will contain about 20 acres available for the new Garden of the Society.

The conditions on which the Commissioners have made their liberal offer will be communicated in the course of the Meeting. The main provisions are, that the Society shall engage to lay out and maintain the Garden in a fitting style, and that it shall also erect a Conservatory, or Winter Garden—the whole at a cost estimated at 50,000*l.*, and should the offer be accepted the Commissioners will be prepared to grant the Society a lease of the ground for thirty-one years, and further, as before stated, to surround, at their own expense, the space allotted for the Garden with Italian Arcades open to the grounds and built at their own

expense at an estimated cost of 50,000*l.*; the conditions as to the payment of interest on any sum so expended not exceeding 50,000*l.*, and as to the amount of rent to be paid by the Society, being of the most liberal nature.

The great advantages of the site proposed are obvious. The Garden will be in the immediate neighbourhood of Hyde Park and Kensington Gardens, and in the very centre of a new and rapidly rising town of first-class houses which bids fair to become one of the most popular and fashionable districts in London. The shape and situation of the ground, which slopes gradually from the North to the South, admits of the formation of successive terraces on different levels, affording peculiar facilities for effective and ornamental treatment, and is well adapted besides for the effective display of sculpture; while a fine Winter Garden at the upper end, and a colonnade extending round it, will afford a promenade of three-quarters of a mile in length, sheltered from heat and cold, wind and wet. The Colonnade will also offer peculiar facilities for the display of the Flowers and Fruit at the Annual Shows, free from all those risks of weather which have not unfrequently marred the Chiswick Fêtes.

Bearing all these advantages in mind, the Council have no manner of doubt, that with the hearty support and co-operation of the Royal Commissioners which have been so liberally promised to them, they will be enabled, while keeping steadily in view the scientific objects of the Society at Chiswick, to make this garden, with the periodical exhibitions which they propose to hold in it, one of the most attractive places of popular resort in the neighbourhood of London; and they will have the satisfaction of knowing that they have provided for the metropolis a place for healthful recreation during the more inclement season of the year.

Plans and designs for the Winter Garden and for laying out of the ground, as prepared and agreed upon in conjunction with the Royal Commissioners, are now hung up in this room,* and a careful estimate of the probable cost has convinced the Council that, as at present prepared, these plans may be carried into effect for the sum named. But it should be borne in mind that the more liberal the support which the Society shall meet with, and the nobler the scale on which the designs for this garden are framed and executed, the greater will be the prospect, not to say the certainty, of a successful and remunerating result.

Should the General Meeting adopt the views of the Council, the question will then arise, as to the mode of raising so large a sum as 50,000*l.*

The Council believe that this may be effected by the issue of a certain number of Life Memberships; but as the success of the undertaking will in some measure depend upon the vigour with which it is undertaken, and it is of importance that the works should not be in any way delayed in their completion, if once determined on, it will be requisite to obtain the money immediately required for the progress of the works by the issue of debentures, bearing interest at 5 per cent., to be redeemed as the receipts from Life Memberships become available. Donations in aid of the undertaking will at the same time be thankfully accepted by the Council, and they will be prepared to extend to the donors of sums exceeding 20 guineas privileges similar to those possessed by members. Had the Council been inclined to make the project a mere commercial speculation, and to place it in the hands of a company, there is little doubt that thrice the sum now demanded would have been speedily obtained. But the Council felt that such a course would have been derogatory to the character and objects of the Society; nor would the support and co-operation of the Royal Commissioners of 1851 have been extended to such a mere money speculation. They therefore prefer resting their hopes of success in the course proposed, and in the desire which will be generally felt to promote the accomplishment of a scheme so advantageous to the Fellows and the public, and so conducive to the important objects for which the Society was chartered; and they entertain no doubt that their confidence in the support of the public will be justified by the result.

The Council propose to keep up the experimental part of Chiswick Gardens, and also as much as may be required to furnish decorative plants for the new garden at Kensington Gore.

The noble Chairman, in opening the proceedings, alluded to the decline of the Society, and the necessity that existed for its improvement, and in doing so entered into a brief recapitulation of the history of the Society from its establishment. He referred to the purpose for which they were called together, and alluded to the desirability of accepting the offer of the Royal Commissioners granting as it did upon such reasonable terms the plot of land in the vicinity of Kensington. He thought that the establishment of such gardens as those proposed would effectually tend to resuscitate the Society. There was a general endeavour on the part of the friends of horticulture to do so, and it was well known that her Majesty the Queen and H.R.H. Prince Albert took a great interest in it. The matter had been well considered by the Council, and Dr. Lindley, the secretary, would proceed to give details of what it was proposed should be done by the Society.

Dr. Lindley opened the subject, by adverting to a communication having been made by the Council to the Royal Commissioners, with a view to ascertain whether, if the Horticultural Society undertook to make a new Garden at Kensington Gore, the Royal Commissioners would treat with them, and on what terms. That communication was made in January; it was only within the last two or three days that an answer had been received, and the Council had convened the present meeting to hear the terms on which the Royal Commissioners would be willing to grant a lease of this important piece of ground. He then read the following letter:—

"Whitehall, July 4th, 1859.

"Sir,—I am directed by H.M.'s Commissioners to acknowledge the receipt of your letter of the 26th January last, inquiring on behalf of the Council of the Horticultural Society whether the Commissioners would be willing to receive a proposal from the Society for renting the central portion of the main square of the Commissioners' estate at Kensington Gore, and if so, upon what terms. H.M.'s Commissioners direct me to acquaint you in reply, for the information of the Council of the Society, that they have delayed answering this communication up to the present time because of their anxiety to give the proposal in question all the consideration which its importance deserves, and to investigate how far its adoption could be made to contribute towards the development of the general objects for which they are incorporated. The result of their inquiries has been to satisfy them that the proposal of the Society offers opportunities of realising a plan worthy of the metropolis and advantageous to the public, whereby on the one hand the special science of horticulture may be advanced, and on the other the general interest of science and art promoted. The Commissioners accordingly contemplate setting apart for this purpose the central portion of the main square of the estate as desired by the Society, to the extent of about 20 acres, and inclosing that area by arcades of an architectural character. As respects the purposes to which the above-mentioned enclosed space and arcades respectively should be applied, so far as relates to the use to be made of them by the Society, the Commissioners consider that the ground should be laid out as an ornamental garden with the necessary accompaniment of terraces, steps, fountains, &c., and with the addition of a conservatory or winter garden at the north end, the whole to be executed in conformity with plans approved by the Commission; whilst the arcades would afford at all times a protection from the weather to the visitors to the Gardens, and the upper portion of them afford a most favourable site for the Flower Shows of the Society. The arcades, whilst being complete in themselves and enclosing the Gardens, would at once serve to unite into a harmonious whole any buildings that may be hereafter erected between them and the main roads of the estate in furtherance of the general objects of the Commissioners, and to secure those Gardens against any future interference or encroachment, as the Commissioners' objects just referred to are gradually developed. The cost of executing the whole of these works, so far as it has yet been possible to estimate them, would be 100,000*l.*, a moiety of that sum representing the cost of the arcades and of the earthworks, and the other moiety the cost of erecting the conservatory and laying out the grounds as before mentioned. In the event of the Horticultural Society being willing to incur the expense of the latter, or horticultural portion of the works, and succeeding in raising the requisite amount within a period of six months from the present time, H.M.'s Commissioners will on their part be disposed to execute at their own expense the former or architectural part, together with the earthworks necessarily preparatory to the laying out of the Gardens. The Commissioners will also be prepared, in the event of the Society agreeing to the above proposed division of the contemplated works, to grant to the Society a lease of the 20 acres in question for a period of 31 years, subject to the payment by the Society to the Commissioners of an annual rental on the following basis:—The rent to be ascertained with reference to the receipts of the Society in each year (that is to say)—There shall be first deducted from the sum of the gross receipts (1) such a sum as shall be allowed by a committee hereinafter mentioned in respect of expenses; and (2) the amount which may be payable by the Society for interest of any money not exceeding 50,000*l.*, borrowed by them for the works on the land. The rent shall be in the first place a sum equal to the interest payable on any principal money not exceeding 50,000*l.*, which may be borrowed by the Commission, and expended on works on the land, or so much of this interest as the surplus receipts after the allowed deductions amount to. And if the surplus exceeds this interest, a further sum equal to a moiety of the residue. For the purpose of regulating the amount to be deducted by the Society in each year for expenses, a committee of six persons shall be annually appointed, three by the Society and three by the Commission, such committee to select the chairman from among the three nominees of the Commission, the chairman to vote on all occasions, and in case of equality of votes to have a casting vote in addition. H.M.'s Commissioners, bearing in mind their responsibility towards the Crown and their public duty, feel it incumbent upon them further to stipulate that a general veto with regard to the management of the ground leased to the Society shall be reserved to the Commission; at the same time it is to be understood that the terms above specified are subject to be modified in such manner as shall be deemed necessary by the legal advisers of the Commission to prevent the implication of a partnership between the Commission and the Society. In the event of the Horticultural Society being prepared to assent to the general principles above indicated, it will afford H.M.'s Commissioners much pleasure to confer with the Council of the Society, for the purpose of settling the details of an agreement upon that general basis.—I have the honour to be, your obedient servant,

"Dr. Lindley, F.R.S." (Signed) "E. A. Bowring."

With reference to one or two points in that letter it would be as well to direct attention to them, as they were very important, most especially with regard to that serious matter, rent. There was no fixed rent to be charged. In the first place the Society would be permitted to pay its whole expenses out of income (which expenses would include the interest on any money that might be borrowed by debenture or otherwise), before the question of rent came to be considered at all. The Royal Commissioners had stated that if the surplus of income, after the payment of all the Society's expenses, should be 2000*l.*, then that was to be the rental; they would take the 2000*l.* If it was 500*l.* only they would take that, and if it was nothing at all they would have nothing for rent. But if, on the other hand, the profits exceeded the 2000*l.*, then the Commissioners and the Society were to share what was left equally between them. This rental of 2000*l.* fixed by the Commissioners represented the interest they would have to pay upon money to be borrowed by themselves in order to join the Society in the expenditure for constructing the Gardens. They were to furnish 50,000*l.*, and the Society was to furnish 50,000*l.* Another important point was that there was to be no back rent: each year would clear itself. If the rent was 2000*l.* a year, and the Society could only pay 500*l.* out of its profits, then that was to be the rent for that year, and it was not to go on accumulating to the next. It was only on that ground that the Commissioners could justify sharing the profits beyond the 2000*l.*, when such profits arose. In the proposed Gardens it was intended to have ample promenades under arcades, where people could see the flowers and plants even in wet weather, and not be subjected to the risks they experienced at Chiswick from storms, which had so materially affected their receipts. The Commissioners claimed a veto in management on the ground that if the Gardens did not answer it should not be in the power of the Society to turn them to any use which the Commissioners could not sanction, such as Cremorne, for instance, although they were aware that no gentleman connected with the Horticultural Society would ever think of such a thing: but it was to prevent the possibility of such a question being started at any future period, however remote. He would next proceed to describe a probable plan of the Gardens from a drawing which they saw suspended over the Chairman's head.

Dr. Lindley then entered into a minute description, which could only be understood by those present at the meeting with the drawing before them; after which he continued:—It is intended that statuary at some time or other should be placed in suitable parts of the Gardens, but it was not a necessary part of the plan, nor was it anything with which they had to do, as it was not to be at the expense of the Horticultural Society, nor was it to be so placed as to crowd or in any way interfere with the general arrangements of the plants; but it would prove a great additional attraction, as there was no fitting place at present in London. The room was hung round with photographs and drawings of beautiful and magnificent designs both for entrances, arcades, and terraces, and, no doubt, the Commissioners would choose from among them that design which might be considered the best. The arcades would be 16 feet high in the clear, and access to them would be had by covered ways from more than one direction, so that carts arriving with necessary plants and materials would be able to do so without in any way disfiguring the Gardens. Another part of the Commissioners' letter stated that there would be a Winter Garden as well. It was proposed that this should be a great conservatory, 260 feet long by 75 feet wide. It was not intended to make it a hothouse, but to confine it entirely to such plants as grow in greenhouses, and only require shelter from the weather. The interior would have a high level, accessible from the terrace walk formed on the top of the arcades, while the other level, 20 feet lower, would be entered from the Garden itself, the two levels being connected by magnificent flights of steps. The grounds of the Garden itself were to be formed into three extensive terraces, and the visitor on entering the Gardens would pass from one level to another, each having a different description of plants growing on it. This would be easily effected, as the whole of the land between Kensington and Brompton slopes very fast to the southward. With respect to ornamental water, it was not intended that there should be a grand display in the shape of "waterworks," as that could be seen elsewhere. It was said there would be a great difficulty in carrying out a garden in a place like Kensington Gore, as they could not preserve certain plants there. Well, he did not believe there was half the difficulty which was stated. With respect to the alleged badness of the atmosphere, doubtless there were plants that would not grow there, but the application of the skill of modern gardening would do a great deal to overcome that. It was however intended by the Council to retain a portion of the grounds at Chiswick, where experimental operations might be carried on, and plants prepared for being sent to Kensington. The continuance of some

* Great room of the Society of Arts, Adelphi, W.C., London.

portion of the Chiswick garden would be a part of the expenses of the Society which the Royal Commissioners had consented to recognise. The next question was the *quo modo*—how was the expense to be defrayed? In the first place, "What is the probable cost of managing these Gardens?" He would state what they had estimated the outside cost to be, including 1000*l.* a year for the maintenance of Chiswick. It appeared to be the opinion, after due consideration by the gentlemen of the Council, that this would amount to 9400*l.* a year, which would also include 1000*l.* a year for contingent expenses. With regard to income it was difficult to form an estimate, but looking at the receipts at similar places in London and other great towns, the principal source of income would be at the doors; Fellows of the Society would, of course, be exempt from paying at the entrance. Such Gardens as those proposed would naturally excite a great desire to see them. The Royal Commissioners were of opinion that the Council should be liberal on the question of admission, and that the great mass of the public should be admitted in the most favourable manner. On Mondays the price to all persons would be 3*d.*; on Tuesdays, 6*d.*; on Wednesdays, Thursdays, and Fridays, 1*s.*; and on Saturdays, 2*s.* 6*d.* During the fine months in the year a band would play every Monday, Wednesday, and Saturday, and also during the Easter and Whitsuntide holidays. Making allowance for bad days, which in this country must be counted as one in five, and taking this as the basis for receipts at the doors it was calculated that 17,400*l.* a year might be derived. Thus there would be an outlay of 9400*l.*, and an income of 17,400*l.* Such would be the result, if that estimate could be relied upon; it had been very carefully prepared. For himself, he looked upon the income as being placed too low and the outlay as too high. If the profits were 8000*l.* a year the Royal Commissioners would have to allow out of that whatever was necessary to pay the interest on any debenture stock that may be out, and then there would be 3500*l.* a year to divide between the Royal Commissioners and Horticultural Society, which would leave 1750*l.* a year each. But the supposed income could not be taken to represent what might be expected in case the enterprise should be strennously supported by the wealthy classes of the metropolis. Should, for instance, her Majesty take an interest in the Garden, it was needless to say what effect that would have upon the interests of the undertaking. There would also be special occasions when the Council would fix the amount of admission money at a sum commensurate with the importance of the day. In such cases the returns would no doubt be very large, and would totally change the future income of the Gardens, upon which the estimates stated had been based. As to the mode of dealing with the 50,000*l.*, the Council would obtain life subscriptions with the usual privileges of Fellows in the neighbourhood, where there would be a very large class who would be glad of free entry into such a garden and promenade as this would be. These subscriptions would be issued at 20 and 40 guineas each, giving personal admission to the ground. A considerable sum would thus be raised. Donations would also be made to a considerable extent. Upon that the Council had positive information. The residue would have to be raised by the issue of debentures. 50,000*l.* seemed a large sum, but from the information which the Council had received, it was believed there is a sufficient number of persons interested in the matter who would be content to take those debentures at 5 per cent., with some privilege attached to them. The debentures would be paid off by surplus income and life subscriptions if that should be a practicable operation. Then all new annual subscribers would have to pay an entrance fee of two guineas, but of course the present members of the Society would be exempt from that. He felt he was justified in saying, from the offers that had already been made, that the issue of new life subscriptions would take place rapidly. And as to debentures, it was believed that subscribers would come forward, some because they would have a reasonably good investment, while others would subscribe without any commercial feeling, partly on account of the pleasure they would take in the privileges of the Society, and partly from a feeling of public spirit in being connected with such an undertaking. With respect to the question of a 31 years lease, the Commissioners had not proposed what to do after that time. It was no doubt a question that would require very serious consideration; but the commissioners in their letter had announced that they were prepared to confer with the Council. Whatever arrangements might be made the Council would take care that the interests of the Society were properly attended to; indeed, the Commissioners had expressed every desire to do so in the broadest and most liberal manner.

Mr. Wilson Saunders said he had gone into the matter with a great deal of care; he felt the Society would be justified in going on with the work, and that there would be a very large income. Of course they could not fix what that would be. He was quite ready to support the plan, because he thought it was a not undesirable investment and the scheme a good one. It might be said "this is a glorious scheme; but how is it to benefit the horticulture of the country?" The income derived would enable the Society to make large importations of new plants which they have not means to do now.

Mr. C. W. Dilke said that as to the receipts, it was utterly hopeless to do more than make a guess at them. But he had made it his business to communicate with the authorities connected with various institutions where payment was or was not made for admission, and he was satisfied the Council had approximated as closely as possible to the truth. The hon. gentleman then went through a variety of statistical matter bearing on this point.

Mr. Charlwood proposed that a circular should be sent round to every member with full details of the plan. He objected to the scheme *in toto*, because it was not one which went to further the objects for which the Society was originally founded. He protested against the movement in any shape whatever.

The Duke of Leinster moved the first resolution:—"That the Council be authorised to conclude the negociation with the Royal Commissioners for a lease of the ground at Kensington Gore, upon the best terms that can be made."

Sir John Ramsden seconded it. The matter was to be looked at in two aspects—as regards a decoration for the metropolis, and as regards the interest of the Horticultural Society. He was very sanguine as to the results which might be expected from the new scheme for the benefit of the Society. The Council had earnestly endeavoured to improve the Society's affairs for some years past, but unfortunately without sufficient success. He thought the Royal Commissioners had acted in a broad and liberal spirit. The resolution of the noble duke did not pledge the Society in any way, and he could say that the Council had adopted a straightforward manly course in taking no decided steps without consulting their constituents. This was a fresh claim which the Council had upon the confidence of the Society.

Mr. Henry Pownall hoped that after the resolution had been moved by such distinguished members of the Society it would not be considered discourteous of him to speak freely upon this point. He differed from the last speaker in thinking that the resolution did not pledge the Society. He thought the information which had been conveyed to the meeting was much too limited to warrant a hasty decision upon so vast an undertaking. He begged to ask first, whether their charter authorised such an undertaking? Secondly, what would be the responsibility upon the members if this measure were to be carried out? And thirdly, was the two guineas admission fee to apply generally to the public, or to old members? He thought 31 years' lease was too short a period, and if the Council was not able to say what was to be done at the end of that term, the members should not be called upon to decide on the matter till that point was arranged.

Dr. Lindley apprehended there was nothing in the charter which was opposed to this arrangement, because the object was to obtain the means of promoting the cause of horticulture. As to the responsibility of members, there was none individually, nothing beyond the corporate property of the Society represented by their corporate seal. As to admission fees to the proposed fellowships it would only apply to new Fellows. With respect to the question of the lease of 31 years it was a very serious question, and should the meeting authorise the Council to take the necessary steps, that question would be the first to engage their attention.

Mr. Frederick North thought the question should be more fully considered, and moved as an amendment, "That the consideration of this question be postponed for one fortnight, and that the details of the proposed scheme be forthwith printed and circulated."

Sir Peter Pole and several other members thought the matter should not be decided too hastily, as it was an important financial affair, and he was against disposing of it so rapidly. He complained of the shortness of the time which had been allowed for its consideration.

Mr. Dilke said it was done to save time, as the Royal Commissioners required an answer within six months, and the Council were desirous of holding the meeting before the season closed and parties went out of town.

The Duke of Leinster thought it would be best to submit the matter to another meeting, and his friend Mr. Pownall had a motion on the subject.

Mr. Pownall then proposed the following amendment:—"That the thanks of this meeting be given to the Council for the information afforded, and that they be requested to continue the negotiations, reporting progress to another meeting."

Mr. James Heywood said that in the event of the Garden being made, he would advocate that it should be opened on Sundays.

Mr. Dilke read a list of the noblemen and gentlemen in the neighbourhood, to the number of 128, who are desirous of being elected Fellows in the event of the Gardens being constructed, some of whom would also take large sums in debentures.

Mr. Holmes Godson said that part of the present gardens at Chiswick would be retained for experimental purposes. The question of terms was one of great importance to the Society, and also to those who might subscribe the debentures as to when they would get their money back. He looked upon the amendment as fatal to the plan. He thought the Council should not be fettered, but left to meet the Royal Commissioners as they best could. He trusted the Council would be enabled to save time and go to the Royal Commissioners at once.

Mr. Pownall begged to press his amendment forward He looked upon the question of responsibility of the corporation as one that was of great import. Every member felt a moral individual responsibility beyond the legal one, and unless they did so he thought they should not ask the public to subscribe 50,000*l.* He wanted to be satisfied that there was a fair chance of people getting their money back, and then he could ask a friend to subscribe. He felt that a delay of a week or 10 days would make very little difference in the Royal Commissioners' time in treating of such an important matter.

Mr. Wrench supported the movement as an attraction to enable the Society to recover what they had lost.

The Duke of Leinster expressed his willingness to withdraw his motion in favour of Mr. Pownall.

Mr. H. G. Bohn thought they would not be in any better condition a month hence. It was simply a question whether the members who approved of the scheme would take an active part in it. For himself, he was ready to take a double subscription, and otherwise assist the movement.

Mr. North's amendment, seconded by Sir Peter Pole, was lost by a majority of 13.

Mr. Pownall's resolution was then put and carried by a majority of 2.

Mr. Cole could not understand the force of the resolution just passed. The Council had received the answer of the Royal Commissioners, and now they were being sent back to re-ask the question. He thought the meeting had got into a rut. He did not know now what the Council could possibly do under present circumstances.

The Duke of Leinster thought that some further resolution should be passed to fortify the Council.

Mr. C. W. Dilke said the Council must have the expression of feeling further than had yet been expressed. It might be all very well to send the Council back to modify their plans; but the first question which would be put by the Royal Commissioners would be, "Are you ready to carry out the arrangement?" He thought the terms were favourable, and they must have an expression from the Fellows that they would like to have the garden at Kensington Gore.

Mr. Pownall then moved:—"That this meeting approves generally the plan of the Gardens at Kensington Gore, and requests the Council to continue the negotiation with the Commissioners, and report as early as possible to the members of the Society the final proposals of the Commissioners," which having been seconded by Mr. Parker and supported by the Duke of Leinster, was carried unanimously.

Mr. C. W. Dilke said the carrying that resolution enabled him to act upon a communication which he had been entrusted with. It had been his duty to keep his Royal Highness the Prince Consort informed of all the bearings of the case. His Royal Highness had looked over the draft report, and had instructed him to say that if a resolution approving of the Gardens at Kensington Gore was passed he would assist, but at the same time H.R.H. commanded him not to express any opinion on the part of his Royal Highness or her Majesty, until after such resolution had been passed, so that there might be no appearance of wishing to lead the meeting. He had now to hand to the chairman an official communication from Colonel Sir C. B. Phipps, stating the part which her Majesty and his Royal Highness were prepared to take.

The Earl of Ducie then opened and read the following letter:—

"Buckingham Palace, July 7, 1859.

"My Lord,—I have received the commands of her Majesty the Queen, and of his Royal Highness the Prince Consort, to inform you that in the event of the plan being carried out for the establishment of the Garden of the Horticultural Society of London upon the estate at South Kensington, belonging to the Royal Commissioners of the Exhibition of 1851, it is the intention of her Majesty and of his Royal Highness to make donations towards the execution of this undertaking of one thousand pounds (1000*l.*), and five hundred pounds (500*l.*) respectively. It is also the intention of her Majesty, should it be in accordance with the rules of the Society, that parents or guardians should purchase Life Memberships for children or persons not yet of age, to place the name of his Royal Highness the Prince of Wales and the younger Princes and Princesses upon the list of Life Members. I have further the pleasure of informing your Lordship that I am authorised by her Royal Highness the Princess Frederic William of Prussia, Princess Royal of England, to announce the intention of her Royal Highness to become likewise a Life Member.—I have the honour to be, my Lord, your Lordship's most obedient humble servant,

"C. B. PHIPPS."

"The Earl of Ducie, &c. &c.

Mr. Dilke said that H.R.H. further commanded him to say that should the meeting decide on raising money by debentures, H.R.H. would take debentures up to 1000*l.*

It was then moved by the Duke of Leinster, seconded by Mr. Frederick North, "That the thanks of the Society be respectfully tendered to her Most Gracious Majesty, H.R.H. the Prince Consort, and H.R.H. the Princess Royal of England for the interest they have been graciously pleased to express in the welfare of the Society."

The reading of the letter was received by the meeting with the most marked enthusiasm.

Mr. Pownall moved a vote of thanks to the noble chairman for the kindness and courtesy with which he presided over the meeting. There could be no doubt now that the matter would go on well, and their success was certain.

The resolution was carried unanimously and responded

to by the chairman. A vote of thanks to the Society of Arts for the use of their room was also passed, after which the proceedings terminated.

## Notices of Books.

*The Nature-Printed Seaweeds: a History, accompanied by Figures and Dissections, of the Algæ of the British Isles.* By W. G. Johnstone and Alex. Croall. *Nature-Printed by Henry Bradbury.* In four vols., vol. I., royal 8vo. With 66 plates.

The old art of Nature-printing, that is to say, of obtaining impressions of plants by using dried or even fresh leaves instead of copper-plates, rude as it was, always possessed the great advantage of really representing the object intended. Like photography, it could not err; but like that marvellous art in its infancy it laboured under the defect of only showing a portion of the object to be represented, and that imperfectly though truly. Impressions of leaves thus obtained were at the best not much more distinct than those left accidentally in the tertiary rocks, and dug up by the geologist. But modern skill has worked a wondrous change in Nature-printing: for rough outlines or confused surfaces we now have the utmost delicacy of outline, while every surface-marking is elaborately represented; and it is impossible not to feel that when flat thin bodies are to be represented, such as the leaves of plants, the human hand is wholly superseded. Those who have seen the beautiful impressions of leaves executed in Germany by Dr. v. Ettingshausen, and in this country by Mr. Henry Bradbury, will acknowledge that this is no over statement. The defect of the art consists in its being unable to represent very convex surfaces, or solid bodies, such as the stems of plants, as is seen in Ettingshausen's Celastrineæ, the footstalks and midribs of whose leaves are merely opaque lines, although the leaves themselves are admirably exact.

It is thus clear that while the new art is perfectly adapted to the representation of certain classes of plants or parts of their structure, it fails when applied to other classes and other parts. But to nothing is it more suitable than to the exquisitely graceful race of seaweeds, which are capable of so completely giving up their forms to paper, in all the most minute ramifications, that it requires a very good eye to distinguish the original from its impression. Of this property Mr. Henry Bradbury has availed himself in the work before us, which is quite a wonder in typography; for even the letterpress has the sharpness and blackness of copperplate engraving, so admirable is the practical skill that has been applied to its production.

One thing which this kind of printing cannot do is to represent those magnified dissections of the minute parts of plants, which are indispensable to scientific natural history. In the volume before us that defect is removed by the addition of engraving to the copper-plates on which the representation of the plants is impressed; and thus there is combined such accuracy as the human eye and hand can give with the unerring truth of Nature herself.

The authors, Messrs. Johnstone and Croall, announce their intention of adding to the last volume an account of the structure, uses, classification, and distribution of the British Algæ, where also will be given instructions for the cultivation, preservation in the herbarium, and preparation as microscopic objects of these interesting marine plants. In the meanwhile every plate is accompanied by full scientific description, list of synonyms, and such general observations as the subject calls for.

While the lover of books will admire this volume for its singular beauty, lovers of natural history will feel that it is indispensable to the library of all who occupy themselves with the study of the vegetation of the mighty deep.

The first volume is entirely occupied by the Rhodosperms or Red-seeded Seaweeds; the next volume will complete their history; a third volume will contain the Melanosperms, and the fourth will dispose of the Chlorosperms.

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*First Impressions of the New World on two Travellers from the Old in the Autumn of* 1858. Longmans. Small 8vo., pp 308.

A lady forms one of a party which visited the United States, landing at New York and spending three months in travelling through the States and Canada. In a series of letters written as she went on her way she records what she saw and thought of the novel scenes before her, and we recommend her pages to the perusal of other ladies who thinks of following her route.

A fastidious critic would perhaps complain of finding nothing new in three hundred pages of feminine gossip. But that would be hardly reasonable. There is little new under the sun; and moreover such novelty as is here to be found consists in a narrative of the feelings of an inexperienced woman, who wishes her friends to know what they may expect in the western world. How far the tales that are told her are to be considered true or the contrary it is not for us to say. We add a few extracts.

*American Horses at Springfield.*—"We drove next to the Horse Fair, which was very well arranged. There was a circus of half a mile, forming a wide carriage road, on which horses were ridden or driven, to show off their merits. The quickest trotted at the rate of twenty miles an hour. When the horses were driven in pairs, the driver held a rein in each hand. There was a platform at one end filled with well-conducted people, and a judge's seat near it. The horses in single harness went faster even than those in pairs: one horse, called Ethan Allen, performing about 24 miles an hour; though Edward may arrive nearer than this 'about,' by calculating at the rate of two minutes and thirty-seven seconds, in which it went twice round this circle. The owner of this horse has refused 15,000 dols. or 3000*l.* for it. It is said to be the fastest horse in America, and a beautiful animal, but most of the horses were very fine."

*American Helps at Albany.*—"The hotel is very large and good; but, alas! instead of our dear darkies at Newport, we had some twenty pale-faced damsels to wait at table, all dressed alike in pink cottons, their bare necks much displayed in front, with large white collars, two little frills to form the short sleeves, large, bare, clean, white arms, and short white aprons not reaching to the knees. They had no caps, and such a circumference of hoops! quite Yankeeish in their style; and most careless, flirtatious-looking, and impertinent in their manners. We were quite disgusted with them; and even papa could not defend any one of them. We were naturally very badly waited upon; they sailing majestically about the room instead of rushing to get what we wanted, as the niggers at Newport did. Men-servants answered the bed-room bells, and brought our hot water; the ladies being employed only as waiters."

*Mr. Longworth, his Vineyards and Strawberry-beds at Cincinnati.*—Mr. Longworth, among other things remarkable about him, is the proprietor of the Vineyards from which the sparkling Champagne is produced, known, from the name of the Grape, as the sparkling Catawba; but he seems no less remarkable from the immense extent of his Strawberry beds, which cover, I think he said, 60 acres of ground. He told us the number of bushels of fruit they daily produce in the season; but the number is legion, and I dare not set it down from memory. He showed papa a book he had written about his Grapes and Strawberries, and is very incredulous as to any in the world being better than his. This led to a discussion upon the relative size of trees and plants on the two sides of the Atlantic; and in speaking of the Indian Corn, he tells us he has seen it standing, in Ohio, 18 feet high, and he says it has been known, in Kentucky, to reach as high as 25 feet, and the ear 18 inches long. The old gentleman is a diminutive-looking person, with a coat so shabby that one would be tempted to offer him a sixpence if we met him in the streets; indeed a story is told of a stranger, who, going into his garden, and being shown round it by Mr. Longworth, gave him a dollar, which the latter good-humouredly put into his pocket, and it was not till he was asked to go into the house that the stranger discovered him to be the owner. He is, however, delightfully vivacious, and full of agricultural hobbies. His wife is a very pleasing, primitive-looking person. We tasted at their house some of the ham for which this city, called by the wits Porkopolis, is so remarkable. The Maple sugar is used in curing it, and improves the flavour very much. * * * The party at the Longworths was confined to the members of their large family, all of whom are very agreeable. There were two married daughters, Mrs. Flagg and Mrs. Anderson, and the grandson and his wife, Mr. and Mrs. Stettinius; and we also saw the little great-granddaughter, who is a pretty child of eighteen months. The dining room not being long enough to accommodate us all at tea, the table was placed diagonally across the room, and it was surprising to see Mrs. Longworth pouring out tea and coffee for the whole party as vigorously as if she were 18 years old, her age being 72. She is remarkably pretty, with a fair complexion, and a very attractive and gentle manner and face. We had quails and Cincinnati hams, also oysters served in three different ways — stewed, fried in batter, and in their natural state, but taken out of their shells and served *en masse* in a large dish. Our friends were astonished that we did not like these famous oysters of theirs in any form, which we did not, they being very huge in size and strong in flavour. We said, too, we did not like making two bites of an oyster; they pitied our want of taste, and lamented over our miserably small ones in England. After tea we saw some seaweed and autumnal leaves beautifully dried and preserved by Mrs. Flagg, and we also looked over an illustrated poem on the subject of Mr. and Mrs. Longworth's golden wedding, the poem being the composition of Mr. Flagg. Towards ten o'clock a table was laid out in the drawing-room with their Catawba Champagne, which was handed round in tumblers, followed by piles of Vanilla ice 1½ foot high. There were two of these towers of Babel on the table, and each person was given a supply that would have served for half a dozen in England; the cream however is so light in this country that a great deal more can be taken of it than in England; ices are extremely good and cheap all over America; even in very small towns they are to be had as good as in the large ones. Water ices or fruit ices are rare; they are almost always of Vanilla cream. In summer a stewed Peach is sometimes added."

*The Prairies.*—"*St. Louis, November 4th.*—We came on here on the 2nd instant, and soon after leaving Vincennes found ourselves in a prairie, but it was not till after 60 miles that we got to the Grand Prairie, which we traversed for about 60 more. The vastness, however, of this prairie consists in its length from north to south, in which it stretches through nearly the whole length of the State. These prairies are enormous plains of country, covered, at this time, by a long brown Grass, in which are the seed vessels and remains of innumerable flowers, which are said to be most lovely in their form and colour in the spring. It was disappointing only to see the dark remains of what must have been such a rich parterre of flowers. One of our party, Colonel Reilly, of Texas, who had seen our Crystal Palace gardens at Sydenham, in full flower, said that they reminded him of the prairies in the spring. The ground is so level, that the woods on the horizon had the effect that the first sight of the dark line of land has at sea. In many places near the road on each side, small farms were established, and good-sized fields of Indian Corn were growing; and wherever there was a railway station, a town, or even a 'city' with one or two churches, and an hotel, besides grocery stores and wooden buildings of various kinds, were in progress in this immense wilderness."

*Slaughter-houses at Chicago.*—"We afterwards drove about six miles into the country, through oceans of mud, to see one of the great slaughter and packing-houses. I did not venture out of the carriage, but the proprietor took Mr. Wilkins, Lord Radstock, and papa through every part of the building. In a yard below were a prodigious number of immense oxen, and the first process was to see one of these brought into the inside of the building by means of a windlass, which drew it along by a rope attached to its horns and passing through a ring on the floor. The beast, by means of men belabouring it from behind, and this rope dragging it in front, was brough in and its head drawn down towards the ring, when a man with a sledge-hammer felled it instantaneously to the ground; and without a struggle it was turned over on its back by the side of eight or ten of its predecessors who had just shared the same fate, and were already undergoing the various processes to which they had afterwards to be subjected. The first of these was to rip up and remove the intestines of the poor beast, and it was then skinned and cut lengthways into two parts, when the still reeking body was hung up to cool. The immense room was hung with some hundreds of carcases of these huge animals thus skinned and cleft in two. The process, from the time the animal leaves the yard alive till the time it is split and hung up in two pieces, occupied less than a quarter of an hour. At the end of two days they are dismembered, salted, packed in casks, the best parts to be shipped to England, and the inferior parts to be eaten by the free and enlightened citizens of this great continent. The greater number of these beasts come from Texas, and have splended horns, sometimes 3 feet long. The next thing they saw was the somewhat similar treatment of the poor pigs; but these are animals, of which for size there is nothing similar to be seen in England, excepting, perhaps, at the cattle show. At least, one which papa saw hanging up weighed 400 lbs. and looked like a young elephant. In the yard below there was a vast herd of these, 1500 having arrived by railway the night before; the number killed and cut up daily averages about 500. It takes a very few minutes only from the time the pig leaves the pen to its being hung up, preparatory to its being cut up and salted. They first get a knock on the head like the more noble beasts already mentioned; they are then stuck, in order to be thoroughly bled; after this they are plunged headlong into a long trough of boiling water, in which they lie side by side in a quiescent state, very different to the one they were in a few minutes before, when they were quarrelling in a most unmannerly manner in the yard below. From this trough the one first put in is, by a most ingenious machine, taken up from underneath, and tossed over into an empty trough, where in less than a minute he is entirely denuded of his bristles, and passed over to be cleft and hung up. The trough holds about eight or ten thus lying side by side, and the moment one is taken out at one end, another is put in at the other, and they thus all float through the length of the trough, and are taken out in order; but so rapid is the process, that no one pig is long in; in fact, the whole business occupies only a very few minutes per pig. Every part is turned to account, the mass of bristles being converted into tooth brushes, &c. In the huge larder, in the story next above the oxen, there were about 1500 unhappy pigs hung up to cool, before being cut up, salted, packed, and sent off. There are several establishments of this nature in Chicago, but only one of equal extent to the one papa saw. About 400,000 pigs are shipped every year from Chicago. I do not know the total number of cattle, but this house alone slaughters and sends away 10,000. There were places on an enormous scale for preparing tallow and lard, and there were many other details equally surprising, which I have not now time to describe; but papa says that the smells were most offensive, and that it was altogether a very horrible sight, and it was one I was well pleased to escape."

Those who are curious about American ladies' dresses and occupations will get information upon those important subjects also.

## Miscellaneous.

*Gutta Percha of Surinam.*—Professor Bleekrod, of the Delft Academy, has recently given a notice of the Gutta Percha of Surinam. Although Gutta Percha has been known in Europe for a dozen years, and has now come into general use, yet much still remains to be done regarding it, both as respects its uses and its

sources. The Professor states that Dutch Guiana can supply Gutta Percha. This is of importance, when we consider the value of the article, and the probable exhaustion of it in the countries from which it is now supplied. The Dutch Government took measures to transplant the Isonandra Gutta and cultivate it in Guiana; but they have lately discovered in that country a species of Sapota, to which Blume gives the name of Sapota Mulleri, which yields a juice in every way equal to that of the Isonandra. It is probable that other trees of the same natural order may be found to yield a similar product. Achras Sapota, the fruit of which is known in the West Indies as Neesbery, also yields a milky juice like Gutta Percha. Sapota Mulleri of Blume is probably the tree called "Bullet-tree" by the English, and its wood is known as "horse-flesh." It is a tall tree, yielding in summer a large quantity of milky juice. It appears that under the name common Boerowe, or Bullet-tree, there have been confounded; 1, the Lucuma mammosa of Gærtner (Marmalade tree) —the Mimusops of Schomburgk; 2, the white Boerowe, which is the Dipholis salicifolia of Alph. D.C., and is known in Jamaica as Galimata; 3, the bastard Boerowe or Lowranero, which is the Bumelia nigra of Swartz; and 4, the Neesbery Bullet-tree, or Achras Siderexoylon of botanists, which yields one of the best of the Jamaica woods. Sapota Mulleri grows abundantly on slightly elevated situations. In collecting the milk the trunk is surrounded with a ring of clay, with elevated edges, and then an incision is made in the bark as far as the liber. The milky juice flows out immediately, and is collected in the clay reservoir. The juice resembles in some respects the milk of the cow. It forms a pellicle on its surface, which is renewed after removal. By the evaporation of the juice, we obtain 13 to 14 parts in 100 of pure Gutta Percha. This Surinam Gutta Percha is said to be sold at Amsterdam at the same price as the best Gutta Percha of commerce. *Edinburgh New Philosophical Journal.*

*Physiognomy of Good Livers.*—Gourmands by predestination are generally of the middle height: they have round or square faces (*carré*), sparkling eyes, small forehead, short nose, full lips, and round chins. The women are dimpled, pretty rather than handsome, with an inclination to *embonpoint*. Those who are especially addicted to good eating have finer features, a more refined appearance; they are more *mignonnes*, and are distinguished by a peculiar manner of their own in swallowing. Under this exterior the most amiable dinner-companions are to be found: they partake of every dish handed to them, eat slowly, and taste with reflection. They are in no hurry to leave the spot where they have been well entertained, and you have them for the rest of the evening, because they are aware what games and amusements are to follow the ordinary accessories of a gastronomic meeting. Those, on the contrary, to whom nature has denied an aptitude for the enjoyments of taste, have long faces, long noses, and long eyes; no matter what their stature, there is something longitudinal about them. They have sleek black hair, and are thin and lanky: it is they who invented trowsers. Women, whom nature has similarly afflicted, are angulous, yawn at dinner, and live upon whist and scandal. The inclination of the fair sex for good-living is a natural instinct, because it is favourable to their good looks. A series of observations has convinced me that ladies who live well remain younger much longer than others. It gives more brilliancy to the eye, more freshness to the skin, more support to the muscles; and, as physiology has proved that the depression of the muscles causes wrinkles, those dreaded enemies of beauty; it is also true, taking all on an equal footing, that the ladies who know how to eat are, comparatively, ten years younger than those who are ignorant on the subject. *Brillat-Savarin's Art of Dining.*

## Calendar of Operations.

(*For the ensuing Week.*)

### PLANT DEPARTMENT.

CONSERVATORY, &c.—While out-of-door flowers are plentiful nothing should be brought here at present but what is well grown and bloomed, nor should any plants be allowed to remain here that are at all shabby; for it seems a waste of means, and certainly betrays bad management to occupy glass houses with plants of inferior interest to such as are now plentiful in the open air. It is not desirable, however, to crowd the house with flowering plants; the aim should rather be to have a moderate number of handsome specimens effectively arranged, which will yield more solid interest and pleasure than a greater amount of floral display from plants of no individual merit. A thin arrangement of the pot plants will also be advisable on account of the permanent occupants of the beds or borders, which at this season should be allowed plenty of space, in order to secure strong and well ripened wood, without which they need not be expected to bloom finely. Use every means to keep down insects, and let order and neatness be strictly observed. STOVE.—Such plants as are intended for the decoration of the conservatory in autumn and early winter should now be carefully looked over, shifting such as are likely to want more pot room, with a view to getting the pots well filled with roots before they are required to be in flower. Keep also the shoots tied out rather thinly, and expose the plants to as much sunshine as they will bear without scorching their foliage, in order to keep them low and bushy. Give clear weak manure-water to young growing specimens, and repot any that are intended to have another shift this season, so as to have the pots well filled with roots before winter. Maintain a moist growing atmosphere, and syringe vigorously any plant at all infested with red spider. ORCHIDS.—The growing season with these is now far advanced; encourage therefore backward plants with plenty of heat and moisture while that can be done safely. See that plants on blocks and in baskets are properly supplied with moisture at the root; to prevent any mistake in this matter, carefully examine every plant at least once a week, and immerse any found to be dry in tepid water until the material about the roots shall have become well soaked. Syringe lightly morning and evening, and sprinkle floors, &c., in order to keep the atmosphere thoroughly moist.

### FORCING DEPARTMENT.

PINERY.—Attend carefully to growing stock, keeping the bottom-heat regular and the atmosphere warm and moist, and use every means to secure rapid vigorous growth. This will not be obtained, however, unless all is right at the root; therefore attend well to watering, and never allow any of the plants to become pot-bound. Give air moderately to young stock, and shut up early in the afternoon, giving the plants a gentle wipe with the syringe, and the house a good steaming by wetting every available surface. Continue to pot a few suckers as they can be obtained of sufficient strength, and do not allow too many to be produced by one plant, as they weaken each other. Indeed we never allow a sucker to grow to any size that is not likely to be wanted for stock, and, unless in the case of any scarce sort, never more than two on a plant. Plants growing in beds of soil must be very carefully attended to with water, giving enough at each application to moisten the whole body of soil; for unless this is attended to, the bottom of the bed will sometimes get quite dry, while the surface is moist. VINERIES.—The inside borders of houses intended to furnish late supply of Grapes should be well soaked with manure water as soon as convenient, so as to allow of their becoming dry before the damp cloudy days of autumn set in, for damp will be most injurious then, and anything likely to cause it should be avoided. Muscats beginning to ripen should be assisted with fire heat, for it is hardly possible to ripen these properly at any season without artificial heat; and those for late use should be pushed on, so as to get them right by the end of next month at the latest; for those ripened later in the season are seldom of good quality, and we have always found them to hang better when ripened early in autumn than those that were ripened later in the season. FIGS.—The second crop on the earliest trees will be fast advancing towards maturity; as soon as the fruit begins to ripen the atmosphere should be kept dry and rather cool, giving air freely every fine day, and using a little fire on wet cloudy days, to prevent damp and allow of a gentle circulation of air. Use every care to keep the foliage clean and healthy, and clear of insects, and do not crowd the young shoots. MELONS.—Plants on which the fruit is ripening should be kept dry at the root, and freely exposed to air on fine days, avoiding moisture in the atmosphere as far as can be done without injury to the other plants. Do not allow the bottom heat to decline where the fruit is setting, which is a frequent cause of the young fruit dropping off. Keep a watchful eye on the foliage, and guard against red spider, which, if once allowed to establish itself, can hardly be removed without greatly injuring the tender foliage.

### FLOWER GARDEN AND SHRUBBERIES.

Proceed soon with budding Roses, keep down all suckers, and clear the stems of wild shoots. Strong shoots of Chrysanthemums may now be layered in pots to produce dwarf compact bushes. Those in pots may soon receive their final shift. Carnations and Picotees will now be in bloom; let plants in pots be moved under an awning like that used for Tulips. Here they may be arranged on a raised platform or not according to taste. Picotees may be grouped on one side and Carnations on the other, taking care that the tallest plants are behind, and at the same time contrasting the colours as much as possible. Pipings may be put in on a gentle hot-bed. Layering may also now or very soon be proceeded with. Much of next year's success depends on this matter. All seedlings should be marked, noticing their various properties as to form, colour, and substance, &c. Ranunculuses may be taken up as soon as the foliage has turned yellow; for should wet weather set in they might emit fresh fibres, and if taken up then they are likely to be worthless.

### HARDY FRUIT AND KITCHEN GARDEN.

Endive may now be planted without delay. High manuring is necessary to have it in perfection. In planting succeeding crops keep raising the beds higher as the season declines. Keep succession beds of Horn Carrots duly thinned. Let a good breadth of ground be prepared for Winter Spinach; trench it thoroughly, and let it be heavily manured. It generally succeeds best in beds slightly raised. Continue getting out Cape and other Broccoli, and also some late Cauliflowers. An autumn Mushroom bed may now be made; throw the dung together to ferment for a few days; when half dry, mix one-third of loamy soil with it to keep in check any further fermentation, and tread or beat hard while making the bed, forming the spawn holes immediately it is finished to assist in keeping down the heat. Strawberry runners should be procured for new plantations without delay. Those who cannot spare ground for a new plantation may prick them out in prepared beds about 6 inches apart, and remove them with balls in October or in the early part of February. For main crops Keens' Seedling, British Queen, Cuthill's Black Prince, Princess Royal, and Elton are invaluable.

### COTTAGERS' GARDEN.

If not already done take advantage of showery weather to plant out all kinds of Winter Greens, stir the soil frequently among growing crops, and keep down weeds. Pelargoniums, if any, for window decoration may be cut down when done flowering, and cuttings made of their tops. They strike freely without bottom-heat. Water Dahlias and Hollyhocks and secure them from winds. Also guard the former as much as possible from earwigs, which are apt to disfigure their blooms. Inverted flower-pots with a little dry Moss in them make good traps; dry Bean stalks also answer the same purpose.

STATE OF THE WEATHER AT CHISWICK, NEAR LONDON.
For the Week ending July 7, 1859, as observed at the Horticultural Gardens.

| July. | Moon's Age. | Barometer. Max. | Barometer. Min. | Temperature of the Air. Max. | Min | Mean | Of the Earth. 1 foot deep | 3 feet deep | Wind. |
|---|---|---|---|---|---|---|---|---|---|
| Friday 1 | 1 | 30.089 | 30.050 | 70 | 53 | 61.5 | 64 | 63 | N.E. |
| Satur. 2 | 2 | 30.125 | 0.155 | 75 | 56 | 65.5 | 64 | 63 | E. |
| Sunday 3 | 3 | 30.111 | 30.001 | 78 | 53 | 65.5 | 65 | 63 | S.W. |
| Mon. 4 | 4 | 30.147 | 30.106 | 79 | 46 | 62.5 | 65 | 64 | W |
| Tues. 5 | 5 | 30.300 | 30.237 | 79 | 48 | 63.5 | 66 | 64 | W |
| Wed. 6 | 6 | 30.254 | 30.178 | 84 | 48 | 66.0 | 66 | 64 | S.W. |
| Thurs. 7 | ) | 30.189 | 30.100 | 82 | 50 | 66.0 | 66 | 64 | S.W. |
| Average | | 30.174 | 30.104 | 78.1 | 50.5 | 64.3 | 65.7 | 63.5 | |

July 1—Light clouds; fine; overcast.
— 2—Uniform haze; very fine; severe thunder storm, almost constant sheet and forked lightning, with heavy rain.
— 3—Uniformly overcast; close and hazy; thunder and lightning, 10 P.M.
— 4—Overcast; very fine; clear at night.
— 5—Clear and fine; very fine; light clouds.
— 6—Clear; hot; very fine throughout.
— 7—Clear and very fine; hot sunshine; very clear at night.
Mean temperature of the week, 1 deg. above the average.

RECORD OF THE WEATHER AT CHISWICK,
During the last 33 years, for the ensuing Week, ending July 16, 1859.

| July. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds. N | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday 10.. | 74.2 | 51.5 | 62.8 | 13 | 0.48 in. | 2 | 2 | 1 | 1 | 3 | 15 | 4 | 7 |
| Mon. 11.. | 74.5 | 51.7 | 63.1 | 9 | 1.07 | 4 | — | 3 | 1 | 4 | 7 | 5 | 5 |
| Tues. 12.. | 74.8 | 51.0 | 62.9 | 12 | 1.10 | 1 | 2 | 4 | — | 4 | 10 | 6 | 3 |
| Wed. 13.. | 75.3 | 52.0 | 63.6 | 12 | 0.92 | — | 2 | 5 | — | 1 | 2 | 1 | 1 |
| Thurs. 14.. | 76.2 | 51.9 | 64.1 | 13 | 0.64 | — | 1 | 3 | 2 | 5 | 1 | 16 | — |
| Friday 15.. | 75.9 | 50.6 | 63.2 | 17 | 1.46 | 1 | 3 | 3 | 1 | 4 | 16 | 3 | — |
| Satur. 16.. | 76.4 | 50.6 | 63.5 | 13 | 1.60 | 2 | 3 | 3 | — | 2 | 16 | 6 | — |

The highest temperature during the above period occurred on the 14th, 1847—therm. 93½ deg; and the lowest on the 10th, 1851—therm. 38 deg.

## Notices to Correspondents.

BOOKS: *J M.* There is no special work on Conservatory Management. Good general instructions will be found in Glenny's Manual. As to books on Vines, their name is legion. Try Sandars on the Vine.—*J R.* Sandars on the Vine.—*R O.* Moore on the Cucumber.—*A Constant Sub.* You will find no better advice as to growing Cape Bulbs than what is contained in Miller's Gardeners' Dictionary; the old edition. You can however consult Sweet's Hothouse and Greenhouse Cultivator, and Dean Herbert's work on Amaryllidaceæ, published by Ridgway. But you will not go wrong if you manage them like Hyacinths when grown in pots. The great point is to make them push freely, to take care that the leaves are kept in perfect health, and when the leaves die to preserve the bulbs in a warm dry place until the season of growth returns.

CUCUMBERS: *A.* The smooth one is Carter's Champion.

DEADBODY: We will tell you next week.

DISEASES: *Meson.* The affection of your Melon leaves appears to be similar in character to one which frequently occurs on Vines and Geraniums. In those cases the roots are always in a bad condition, and we suspect, therefore, that such must be the case with your Melons, and we should recommend you to turn your attention in that direction.—*J F F.* We have examined your Rose-leaves carefully, and do not find any traces of Fungi. From the disposition and character of the spots, and the form of a great many of them, we feel sure that the tissue has been injured by cold, connected in some way or other with drops of moisture adhering to the leaves, and if so, nothing can be done. The ungenial spring has been very injurious in many cases to trees which were forward, and in some fatal. *M J B.*

INSECTS: *H E.* The insect you sent had made its escape out of your contrivance. A pill-box cut down would have brought it safely. *W.*—*Insignis.* It is the very common Hylurgus piniperda. Hand-pick your trees, and BURN the pieces *immediately.*

LOCUST TREE: *J D.* We regret to say that we are still unable to make out what Locust tree you mean. The common Acacia is a Locust tree, the St. John's Bread is a Locust tree, and there are many more. If you mean the second sort, then you will find it too tender for this country; but this second sort is not at all like common Box.

NAMES OF PLANTS: We have been so often obliged to reluctantly decline naming heaps of dried or other plants, that we venture to request our correspondents to recollect that we never have or could have undertaken an unlimited duty of this kind. Young gardeners, to whom these remarks more especially apply, should bear in mind that, before applying to us for assistance, they should exhaust their other means of gaining information. We cannot save them the trouble of examining and thinking for themselves; nor would it be desirable if we could. All we can do is to help them—and that most willingly. It is now requested that, in future, not more than four plants may be sent us at one time.—*O P.* Spiræa filipendula.—*Inquisitive.* 1, Scolopendrium vulgare; 2, Veronica speciosa; 3, Erica Bowieana; 4, Erica stricta.—*T P.* It is a Fourcræa of some sort; but the species cannot be determined without seeing the plant.—*Rarenmuet.* Oreodaphne californica.—*A Y.* 2, Arenaris verna; 1, Lycopodium selago; 3, Potentilla anserina; 4, Lastrea filix-mas.—*W H.* 1, Polystichum angulare; 2, Cystopteris fragilis; 3, Blechnum glandulosum; 4, Lastrea fœmina.—*W.* Filix-mas.—*T W.* It is not Shamrock but a not uncommon variety of Potentilla reptans.—*Carter & Co.* It is not the least like Leonotis Leonurus, which is a beautiful thing, this, on the contrary, is the weed called Leonurus sibericus.—*W Jackson.* Next week.

NEW BEECH: *J M.* We cannot see in your specimen the variegation you speak of; but we have seen such a kind variegation elsewhere.

ROSE FUNGUS: *J J.* The fungus on your Rose leaves is *Asterosia Rosæ.* It is not in general fatal. No remedy has yet been discovered. *M J B.*

VINE LEAVES: *Reader.* They are in a sad plight, and apparently ruined for this season. The cause of the mischief is want of ventilation and too damp an atmosphere.

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| SUPERPHOSPHATE OF LIME .. | „ 7 | to 6 | 6 |
| MINERAL do. .. | „ 6 | to 5 | 5 |
| BARLEY MANURE.. .. .. | .. | .. | 8 | 0 |

Prof. Way and Dr. Voelcker have sampled from a bulk of 5000 to 6000 tons at his factories, and their report and analyses are given in full in Circular to be obtained on application at his office, 1, Adelaide Place, London Bridge, E.C., or of his local Agents.

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WARWICK SHOW.—STAND 70.

"SIGMA'S" AGRICULTURAL INVENTIONS will be exhibited by W. C. POWELL, of Hurstgreen, Sussex. Engravings sent on application.

ROYAL AGRICULTURAL BENEVOLENT COLLEGE FOR THE RELIEF OF DECAYED FARMERS, THEIR WIDOWS AND ORPHANS.

WARWICK MEETING OF THE ROYAL AGRICULTURAL SOCIETY.

Land-owners, Farmers, and others connected with British Agriculture, desirous of promoting the above Institution, can leave their names with either of the following eminent Firms, who have kindly consented to receive signatures. Subscriptions or Donations are not at present required:—

Messrs. Barrett, Exall and Andrewes, Reading, Stand No. 77.
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And with J. J. Mechi, Esq., Tiptree Hall, Kelvedon, Essex.

HIGHLAND AND AGRICULTURAL SOCIETY.
AGRICULTURAL EDUCATION.

THE SOCIETY'S AGRICULTURAL DIPLOMA will be granted in terms of the following Bye-Laws enacted by authority of Royal Charter:—

"That it shall be competent for the Board of Examiners from time to time to receive for examination, and to recommend for the Society's Agricultural Diploma, Candidates who shall have attained their 21st year, and who shall exhibit the vouchers, and pass an examination on the subjects hereinafter prescribed.

"That the vouchers to be exhibited shall be such as to afford satisfactory evidence to the Board—1st, That the Candidate has attended a farm, and been engaged in the practical operations thereof for a period of two years, or for two separate periods of not less than one year each. 2dly, That the Candidate has attended, for another period of two years, or for separate periods of not less than one year each, the following classes in some seminary recognised by the Board as sufficient:—Agriculture, Chemistry, Natural History, Botany, Veterinary Medicine, and Surgery.

"That the Candidate's knowledge of Practical Husbandry, and of the foregoing Branches of Study, as well as of Technology, Field Engineering and Surveying, Farm Mechanics and Architecture, and Book-keeping, shall be established to the satisfaction of the Board by means of a strict examination.

"That upon a Report made by the Board to the Council on Education, stating that a Candidate has exhibited the vouchers and passed the examination required, the Council shall issue, in favour of such Candidate, a diploma bearing the corporate seal of the Society, and certifying his proficiency in the Arts and Sciences connected with Agriculture."

Examinations are held annually towards the close of the Winter Session of the Edinburgh University. Detailed information may be had by applying to Mr. HALL MAXWELL, No. 6, Albyn Place, Edinburgh.

COLLEGE OF AGRICULTURE AND CHEMISTRY, AND OF PRACTICAL and GENERAL SCIENCE, 37 and 38, Lower Kennington Lane, Kennington, near London.
Principal.—J. C. NESBIT, F.G.S., F.C.S., &c.

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Analyses and Assays of every description are promptly and accurately executed at the College. The terms and other particulars may be had on application to the Principal.

YORKSHIRE AGRICULTURAL SOCIETY.
HULL MEETING, 1859.
OPEN TO THE UNITED KINGDOM.

The TWENTY SECOND ANNUAL MEETING will be held at Hull on WEDNESDAY, August 3, and THURSDAY, August 4, when nearly 900*l.* will be offered in prizes for Stock, Poultry, Implements, &c., including Steam Ploughs and Reapers.

Prize Lists and Certificates of Entry may be had on application to the Secretary. The Entry closes on the 26th July.

JOHN HANNAM, Secretary.

N.B.—Persons desirous of becoming members of the Society are requested to send their names immediately to the Secretary.

An Annual Subscription of 1*l.* enables a member to exhibit an unlimited number of Stock, to view all the Exhibitions, and to receive the Society's Publications free of charge.

Kirk Deighton, Wetherby, July 9.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.—WARWICK, 1859.
PROGRAMME.

TUESDAY, July 12; WEDNESDAY, 13.—The Implement Yard open from 10 o'clock in the morning till 6 o'clock in the evening on Tuesday; and from 7 o'clock in the morning till 6 o'clock in the evening on Wednesday, at an admission charge of 2*s.* 6*d.* for each person. Machinery will be shown by the Exhibitors at work on each of these days.

WEDNESDAY, 13.—The Judges to inspect the Live Stock, and to award the Prizes.

Public trials of the Steam Cultivators, on land in the neighbourhood of the city, during such hours as the Stewards may determine.

At 1 o'clock (or as soon after as all the Judges shall have delivered in their awards, of which notice will be given), the Public will be admitted into the Cattle Yard on the payment of 5*s.* each person, at the Special Entrances.

THURSDAY, 14.—The General Show Yard of Cattle, Horses, Sheep, Pigs, and Implements open to the Public from 6 o'clock in the morning till 6 in the evening; admission 2*s.* 6*d.* each person.

FRIDAY, 15.—The General Show Yard open to the Public from 6 o'clock in the morning till 6 in the evening; admission 1*s.* each person.

General Meeting of the Members, in the Shire Hall, at 10 o'clock in the forenoon.

By Order of the Council, B. T. BRANDRETH GIBBS,
London, July 9. Hon. Acting Secretary, *pro tem.*

By the Regulations of the Society, all persons admitted into the Show Yard, or other places in the temporary occupation of the Society during the Meeting, shall be subject to the Rules, Orders, and Regulations of the Council.

The Agricultural Gazette.

*SATURDAY, JULY 9, 1859.*

MEETINGS FOR THE ENSUING WEEK.

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|---|---|---|---|
| TUESDAY, | July | 12 | Annual Meeting of the Agri. Society of England at Warwick. |
| WEDNESDAY | — | 13 | |
| THURSDAY, | — | 14 | |
| FRIDAY, | — | 15 | |

—The preparations for the Warwick Show of the Agricultural Society have at length been completed. The show-yard was delivered up by the contractors some days ago; the implement stands are already well stocked, and judges are employed this day and will be further engaged on Monday and Tuesday of the show week in testing their merits. The class of implements to receive their awards this year is the same as it was at the Chelmsford meeting—implements of tillage, among which those drawn or driven by steam power will of course occupy a prominent place; and we shall no doubt find a large advance made since 1856, the year of the Chelmsford meeting, if not in the machinery of steam cultivation, at least in the preparedness of our cultivators for its use.

The show yard at Warwick lies on the race ground, very nearly as that of Chester did, close to the town on its north western side. The trial grounds, for which ample provision has been made, lie within two miles of the town on the same side—at Hampton-on-the-Hill, and on the Stratford road. The public trial ground lies on the farm of Mr. PALMER, at Hampton, facing the city, at a distance of 1½ miles. The private trial grounds of medium soil lie on the same farm, and on the adjoining one of Mr. CANNING. They are in large 20-acre fields in second years' seeds, the former well eaten down and excepting its dryness in admirable condition for a ploughing match—the latter steeper, less perfectly eaten down, and with one or two old marl pits in it which will somewhat interfere with its otherwise perfect uniformity. The light land trial ground is in two 10-acre fields on the Stratford road, in the occupation of Mr. HINCKS, and the heavy land grounds are two 10-acre fields on the neighbouring farm of Mr. DICKENSON, in extremely foul condition, from which a poor Pea crop has recently been removed. A portion of one of these fields has been ploughed, in order to put clod crushers and rollers to the trial.

The public trials of field implements will take place on Wednesday next—those of barn and other machines will be continued in the show-yard during the days of exhibition—and ample store of corn of all kinds in sheaf is being provided. The local authorities are everywhere busily engaged in the attempt to realise an even greater success at Warwick than has been achieved at the previous annual gatherings of the Society.

—— Among the services which these annual gatherings accomplish for agriculturists, is one contingent on their July journeyings in thousands to and from the meeting—the more accurate information that is thus acquired of the probabilities and prospects of the coming harvest. In most of the southern and the midland counties we believe it will be found that the probability of a large Wheat crop has lately been considerably reduced.

Unusual injury has been suffered from recent rains, and the crop is much laid; some fields we have seen already much blighted. Barley also is a good deal laid. The complaints of the condition of the Bean crop prove to be less general than had been feared. Peas appear generally to promise well. A very heavy hay crop is being gathered safely in. Turnips are this year growing almost unmolested by the fly. There is no complaint yet general about the Potato crop, though indications of the disease have been noticed in places.

On all these points however we hope to speak more confidently during the ensuing month.

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ONE of the most interesting papers in the current Number of the *Bath and West of England Society's Journal* is that in which Mr. LUSH, of Brewham House, near Bruton, Somersetshire, gives the experience of more than 20 years on a farm at Kilmington in that county. It consisted, when first taken, of 30 acres of dry pasture land, 60 of very poor pasture land, 51 of dry arable land, 52 of exceedingly poor and worked out arable land, 60 of still poorer arable thrown out of cultivation several years, 237 acres of common land uncultivated, and 10 of coppice and of waste. In October, 1837, there were 18 acres of Wheat stubble, 30 acres of Oat and Barley stubbles, 7 acres of Clover stubble, 3 of Swedes, 11 of Vetch stubble, 32 of fallows, and 300 acres barren. In October, 1857, there were 93 acres of Wheat stubble, 108 acres of Oat and Barley stubbles, 50 acres of Clover and 50 acres of Swedes, and 102 acres of Vetches, Turnips, Rape, and fallows. The process by which this remarkable change in the cropping and condition of the land was effected is detailed in the course of a dozen very interesting pages.

The crop of 1837 was valued at 20, 23, and 22 bushels per acre in the case of Wheat, Oats, and Barley respectively. "In the year 1854," says Mr. LUSH, "I grew, on 109 acres and 12 perches, 1046 sacks and 2 bushels. The crop of 1837, which I bought, and the two first crops of my own growth, did not average 120 sacks a year."

This improvement was effected thus:—Useless fences were grubbed up, and common land was grubbed and dug, and pared, and burned at a cost of sometimes 8*l.* an acre. Lime and bonedust were the dressings which produced the best effect. Ashes alone were useless. Mr. LUSH gives an illustration on this point:—

"I will state here how I was misled by a good Wiltshire farmer. I had a piece pared and burnt, and an abundance of ashes produced. I intended to have spread them, and to have drilled a small quantity of bones with the Turnip seed, but he entreated me not to waste the bones, as he would guarantee a first-rate crop of Turnips with the ashes alone, if drilled with the seed. I tried his plan on part of the field, and bones on the other part, and found the bones, 12 bushels per acre, produce a very good crop; the ashes alone (except where the fires were) produced nothing—absolutely nothing. I invited some of my neighbours to see the effect of bones, as none had been used in the parish at that time but by myself. They ridiculed the idea that 12 bushels of bones to an acre had made the difference, and for many years afterwards some looked at my crops with as little belief as ever in the virtue of bones; but now the same parties use a little artificial manure occasionally. Eighteen or 20 years have worked a change.

"After taking off the first crop of Oats on the first piece of 30 acres, I ploughed it, and found much of the turf as sound as ever, and the Fern roots so thick that I could scarcely work the drags on it. After picking up and burning hundreds of loads of roots, principally of Fern, I sowed it to Oats the second time, and had a better crop than the first—21 bushels per acre. I was now convinced that nothing could be done with it profitably without lime or some artificial manure. Wherever I used lime for corn and bones for roots, it answered admirably, so that I was encouraged to hope that it would ultimately pay. I used a

London-made manure one or two years before, and now tried it again, but was not satisfied with it. It was called 'Carbonated Humus.'

"As the practice adopted with the first piece was continued with very little variation till the whole was cleared, I will state more particularly my management of it. After the second crop of Oats was off, I fallowed it, and commenced by liming one part at the rate of 30 quarters per acre; the other part I prepared for Swedes, which I drilled with bones, about 2 quarters per acre. They were tolerably good, and were fed on the land, which was sown the following year (after being well manured from the yards) with Vetches, Rape, and Turnips. Most of the limed part was also sown to Rape and Turnips; and in the autumn the part that had been limed and sown to green crops, and had been well trodden with sheep, was sown to Wheat, and produced a good crop. The part limed, and not sown to a green crop, was very light and unfit for Wheat; I therefore sowed it to Rye, which answered remarkably well, and from that time till the whole was brought into a regular course, I have grown Rye on part of my Wheat field, if found to be loose and light, which was generally the case on the parts which had not grown Turnips or Rape. I have always found Rape after Swedes the best preparation for Wheat, and in that way I have grown upwards of 40 bushels per acre in a very good season."

At length in 1844 the tenant began to reap the reward of his labours. Till then he had not made rent or taxes off the land, having spent all in improvements, but that year he made a great breadth of corn, and the crops yielded well. Some further details of experiments he gives:—He had tried carbonate of soda for Wheat with bad results—subsoiling with no results—he had observed thin seeding and been discouraged by its results. After obtaining a lease he proceeded with fresh spirit, and ultimately reclaimed the whole land, making 403 acres arable. The process seems to have been a profitable one at length, though sometimes during the period over which the experience runs it must have presented a somewhat hopeless prospect to the tenant.

The following is an interesting account of the effects of chalking and liming:—

"Most, I suppose, know that where lime answers well, chalk or malm will also do good; but few persons, I think, have witnessed such extraordinary results as I am about to relate from the use of the latter. In 1841, I wished to try malm on a piece of land of 26 acres, which was covered with very short Heath and Fern, with a little Grass of the very coarsest kind. I agreed with a neighbouring farmer to allow me to dig some on his farm at 3*d.* per load (I have nothing of the kind on my land). I had about a mile to haul it, and I put about 35 loads per acre, at a cost of about 5*l.* After I covered about 6 acres of the worst part of the field, a circumstance occurred that prevented my continuing it; the next year it began to alter the appearance of the land, and in two or three years after, if a flock of sheep were turned into the opposite end of the field, in a few minutes three-fourths of them would be on the 6 acres malmed. In 1847, being six years after it was done, I decided on digging the whole piece, and I began with the malmed part, which turned out mellow and nice; but when the men, about 20, came on to dig on the other part, it was of quite a different colour, and such a sour and most unpleasant smell arose from it, that I could perceive it a quarter of a mile off. In fact, a gentleman walking with me at about that distance could not imagine from whence the smell came, and had to be convinced by going to the spot. The digging was taken at 2½*d.* per lug, but, when the malmed part was finished, I was obliged to advance the price to 3*d.* per lug. Some weeks after the whole field was turned, the malmed piece, and 3 acres adjoining it, was sown to Oats; the other part of the field was drilled to Swedes with dissolved bones. At harvest the Oats on the malm part were 5 feet high, and produced 3 bushels per acre; and on the adjoining 3 acres, 1½ foot high, producing 15 bushels per acre. The Swedes were not very good; I fed them on the same, and then ploughed the whole field, and found the turf but little rotted on the part not malmed. At spring I sowed it all to Oats, and the result was 59 bushels on the malm parts, and 25 bushels per acre on the remainder of the field; every drill of bones used the previous season for seeds could be easily seen by the difference in the Oats. I then folded the whole field equally over with 2000 sheep per acre, and sowed Oats again—this was the third time on 9 acres, and the second time on the other part; this crop produced 67 bushels per acre on the malmed, and 41 bushels on the other parts, showing the extraordinary difference in the average of three crops of 63 bushels against 27 bushels per acre; so that, if I had continued the malm over the whole field at first, I should have had on the three crops 1324 bushels of Oats more than I had, which, at 2*s.* 6*d.* per bushel, would be 155*l.* 10*s.* I then considered the field deserved better treatment; so I fallowed it, and limed the part not malmed with upwards of 30 qrs. per acre, brought into a regular course with my other land, and have had good crops of all kinds on it since. For at least seven years after it was dug, a person walking across it blindfolded could tell the malm part by the difference of feeling to his feet."

We have made extracts here and there without attempting to describe the whole process to which Mr. LUSH's success has been owing, and these extracts will, we hope, induce a perusal of the full report which he gives in the pages of the Journal.

## ON LIQUID MANURING.

No one will suspect me of being disposed to undervalue the great favours conferred on agriculturists by Dr. Voelcker; and if I have occasion to differ with a few conclusions to which he has recently given expression, it is simply in the hope of arriving at safe conclusions on points of much importance in practical agriculture.

In his paper on liquid manure Dr. Voelcker enunciates this among other doctrines:—"The liquid manures which I examined, compared with other fertilisers, are poor manures, and cannot produce any marked effect upon naturally fertile land."* And again: "If we calculate the total amount of the available fertilising substances for a depth of soil only 10 inches deep, we shall find a quantity of mineral and organic matters in comparison with which the amount of manuring constituents supplied in 50,000 gallons of liquid manure appears altogether insignificant. I believe this to be the chief reason why little benefit results from the application of liquid manure to clay soils and fertile loams."†

I must dispute these principles. Liquid manure more diluted than even any of the samples analysed by him produces very marked effects on naturally good and fertile land. I found my experience on a "fertile loam." The most approved appliances have been adopted for applying the liquid on a large experimental scale; and the following concise facts will leave little room for doubting the inaccuracy, or at all events the danger of the Professor's teaching. The past season, it is very well known, has been in many parts of the United Kingdom a very trying one. The Grass in our neighbourhood suffered very severely for want of moisture. Now, by the aid of irrigation with liquid manure we had an excellent cutting of Italian Rye-grass early in April; indeed, without this aid our cattle must have suffered like those of many others in the country. And on the day on which I write these sentences I have cut and weighed very accurately the produce of 4 perches square of the second cutting of the irrigated portion of one field, and find the acreable yield to amount to the almost incredible quantity of 17 tons 10 cwt. per imperial acre. The liquid was excessively diluted, and the land, be it remembered, is a fertile clay loam, which has been for many years generously treated and skilfully managed. The conclusion forces itself upon us, that upon this soil, which Dr. Voelcker would consider ill adapted for liquid manuring, the original cost of the underground pipes would be repaid in one season like the present.

These and similar facts have induced us to view with regret the tendency of Professor Voelcker's views on liquid manure. I believe that there is not in the United Kingdom a soil that would not be benefited by an application of this kind of manure in such a season as the past. A few years ago I experimented with river water, containing in solution a very small quantity of mineral matters, and found in one year an increase of 10 of Grass, and in another 11¾. And this leads me to comment upon a fallacy in the Professor's paper; namely, in comparing the value of liquid manures with other fertilisers, he simply estimates the commercial value of its ingredients. Now, the practical farmer in estimating the money value of liquid manure, should look to the practical results likely to emanate from its application, rather than to the price at which he can obtain from other sources the matters contained in it.

Assuming that plants receive their mineral food from the soil in solution, no comparison can be drawn between a given quantity of the elements of manure in a solid state and an equal quantity of the same elements in a liquid state. And this consideration becomes the more important if we accept the announcement made in Liebig's "Letters on Modern Agriculture," that rain water is utterly incapable of dissolving all the mineral substances required by plants. For if that view be endorsed we must further concede that we cannot obtain from the soil its maximum produce without an artificial supply of water.

It is true Liebig suggests that plants can assimilate food directly and without its being in solution; but I am far from accepting a suggestion so much at variance with recognised physiological laws, and every day practice.

Viewing Dr. Voelcker's argument that liquid manure must be inefficacious because of the extreme state of dilution of its mineral constituents in another [illegible] appears equally questionable. We know that [illegible] charged with carbonic acid (such as the rain [illegible] soils, which contains not only the carbonic acid [illegible] by the rain in passing through the air, but [illegible] carbonic acid derived from the decay of the [illegible] matter of the soil) has the power of dissolving [illegible] soluble phosphates of the soil. Solutions of the [illegible] ammonia, of common salt, and nitrate of soda [illegible] same effects on the same insoluble phosphates. Now, [illegible] most important fact that the solvent action of the [illegible] just named does not increase with the strength of [illegible] solution; but on the contrary (to use the words of Liebig), "the quantity of the earthy phosphates [illegible] up by the above solutions [of salts of ammonia, common salt, and nitrate of soda] does not rise in proportion with the amount of salts in solution, but rather with the dilution of those fluids."* I object on this ground to any comparison between liquid and solid manure based merely on the monetary value of the constituents of the farm; and in making this protest I have not relied solely on abstract scientific reasoning, nor have I been led on by practical observation, strong and convincing though they are in my own case. I have questioned the deductions of one of the ablest expounders of agricultural chemistry of our day; first, because they are openly at variance with attested practice; and secondly, because they are not in accordance with our own interpretation of pretty well attested scientific principles.

In the valuable paper which has suggested this notice, the author gives two suggestive chapters on the soils benefited and not benefited by liquid manure; and I cannot avoid noticing the interesting, but to my mind unsatisfactory, line of argument adopted in endeavouring to establish that liquid manure proves beneficial only on light soils, while on clayey and loamy clays it can produce no marked effect, and may prove injurious.

"All clay soils are generally more than sufficiently wet during the early part of the year; the additional quantity of water supplied in liquid manure renders them wetter still. * * In summer clay soils crack in all directions, and the liquid runs through these cracks instead of passing through the soil" in the usual way.

The first sentence in this extract presupposes that the farmer will apply liquid manure to his land when it is not wanted—when there is a sufficiency of rain to dissolve out of the soil enough of plant food; while the fact of clay land contracting and cracking, as the author truly remarks, only proves the inestimable advantage of having it in our power to create artificial showers by which those cracks and fissures would be prevented. My opinion is in this respect totally at variance with Dr. Voelcker, knowing from experience that clay land feels most grateful for a judicious application of liquid manure, be it ever so diluted, in seasons of drought.

I by no means advocate the indiscriminate or excessive use of liquid manure on heavy lands, believing that such a practice would render them more unmanageable than they are; but am equally strong in my advocacy of a judicious application of dilute liquid manure to such lands, especially when in Grass, and, as already remarked, in dry or parching seasons.

With Dr. Voelcker's views on the application of the liquid to light soils I fully concur. But when he accounts for certain "instances which have come under my [his] observation, in which considerable expense was incurred for the erection of tanks that are now doomed," by saying that "experience has shown that no good whatever was produced by the application of liquid manure to the land," I am again forced to dispute his interpretation of the facts. I have known a very remarkable instance of a nobleman who incurred a very heavy outlay in putting down iron pipes, erecting a steam-engine, &c., for the purpose of irrigation; and it is not a little singular to find that on first inquiry I was offered the explanation that is now so prominently urged by Dr. Voelcker; namely, that the land was ill suited for the purpose. Being sceptical I sifted the matter, and as I suspected the case afforded a most apt illustration of the old adage of cooking the fish before it is caught; the quantity of available food was so insignificant that no reflecting man would have gone to a heavy outlay for applying it. The distribution of this small quantity was found exceedingly expensive; the scheme was abandoned; the iron pipes are now undergoing the work of slow oxidation and destruction; and to retrieve his own position the agent—an over sanguine and unthinking man—would fain charge the soil with the failure of his own whim.

Of course I do not advocate the indiscriminate extension of the system of liquid manure irrrigation as practised at Tiptree Hall, Glasnevin, and elsewhere. Its advantages. When the supply of liquid is forthcoming, and when the climate is dry, and that there is adequate capital and ample security of tenure to justify the outlay, I look upon the system, and more particularly for the growth of Italian Rye-grass, as the most remunerative branch of high farming yet introduced. The return on the farm to which my remarks more particularly refer will this season amount to at least an excess of 20 tons of Italian Rye-grass per statute acre in favour of irrigation; a fact which is in itself quite conclusive as to the economy of the system, and to the unsoundness of the views propounded by Dr. Voelcker. This is one of those subjects which requires to be very calmly considered, not only for the mere secondary question of, will it pay? but as a new element of pro-

* Journal of the Royal Agricultural Society of England, vol. xix., p. 548.

† Ibid, p. 546.

* "Letters on Modern Agriculture," p. 69.

grass—as an agency for making two blades of Grass to occupy the place of the solitary leaf which now occupies a given surface and derives its nourishment from a given number of particles—and still more as a means of meeting the requirements of the growing population of this powerful but very limited country. *T. B., G. N.*

## THE PERIOD OF ENTRY TO A FARM.

THE early history and practices of our island clearly show that the customs of our forefathers were established upon practical views, and that the character of soil to be dealt with very naturally governed their period of entries upon lands that were newly taken in hand, and thus led to certain practices peculiar to each district. Amongst them the ancient usage of entering upon farming ands at certain fixed periods of the year. These usages have been handed down to us through successive generations, remodelled on their way, and now form the basis of our present customs. It would appear from early evidence, and the then desire for lands suitable to the growth of Rye and Wheat, that an autumn entry had been more generally adopted, as being the most convenient period for the sowing of these crops, and the abandonment of other lands that had just previously yielded its golden crop to the scythe. This is supported by the present custom of autumn entries, upon the oldest wheat-growing districts.

*Autumn Entries.*—The autumn entry usually takes place at New Michaelmas, 29th September. But in some districts it is the practice to enter at Old Michaelmas—10th October. There are also Martinmas entries, 22nd November. With autumn entries, the tenant takes to the land and houses together. This affords him the opportunity of sowing his own Wheat and Vetches, ploughing his winter fallows, and making other preparations for the spring. The outgoing tenant retains the barns for threshing his corn, and the yards for the consumption of his straw, &c., unless the incoming tenant takes them by valuation. This latter practice is objectionable, and has been revised in some districts, by an arrangement being entered into for the incoming tenant to take the hay and straw at a valuation, and with them he gets the use of the yards. As a convenient set-off against these payments, he agrees to pay for the threshing of the corn, and carts it to market, &c., a distance not exceeding the usual custom—say 10 miles—by far the best mode. By this arrangement both parties, to a certain extent, are benefited. The out-going tenant gets clear out of his old occupation (except the selling of his corn), and is set at liberty to remove to another farm; the incoming tenant has full use of the yards, hay, straw, &c., and makes his own manure. The farm valuations are made some few days previous to the day of entry. The root crops are valued, either by their apparent worth, according to the season's price, or by their cost in production, rents, rates, manures, and tillages. The valuations made for summer fallows on tenacious soils vary materially—in fact, every district appears to have its custom; the common sense view being that of valuing every required or proper act of husbandry, that has been efficiently performed upon the land since the removal of the preceding corn crop, as also the rent, rates, &c., that have been paid upon them.* The cost of the last year's Clover and Grass seed bill is paid in every district, according to the (merchant's) bill produced. The cost of sowing the Grass seeds is always allowed for.

The advantages of the preceding plan of an autumn entry are that it is calculated to simplify the process of autumn valuations upon changing tenants, that the cultivation of the farm during the ensuing season is amply provided for, the incoming tenant enters upon tolerable terms, and the outgoing tenant is set free (or nearly so) to arrange his new occupation. The disadvantage of an autumn entry, to an incoming tenant, is the long period of suspense before any return can be made for carrying on the subsequent payments of rent, rates, house-keeping, labour, &c. And to the outgoing tenant, the having his corn threshed in a distant barn amongst the incoming tenant's labourers, and carted to market by another man's servants. Such is custom—as a tenant enters, so he must quit.

*Spring Entries.*—The next ancient custom is the Candlemas-day entry, 2nd February. This period is still adopted in many districts, especially in the North, where they enter to the lands on Candlemas-day, and to the house and yards on 13th May. The offgoing tenant allows stabling for six or more cart-horses, as the case may be. The advantage of this entry is the facility it gives the incoming tenant for sowing his spring corn. The Wheat crop is taken by the incoming tenant. The rent and rates up to the period of entry, cost of seed and tillages, form the basis of valuation, With this entry there is no valuation for corn or hay, beyond the wish of the incoming tenant.

The chief disadvantage is that of the two tenants having their homes at distant places during this busy period of the year, the incoming tenant not having full possession of the premises at the same time, and the constant annoyance of two sets of labourers being upon the same ground—to say nothing of the clashing of interests between two opposing parties—the outgoing and incoming tenant. With the introduction of the Turnip crop a new era sprang up, which brought the light soils into more general notice as an employment for capital and the growth of roots. This subsequently led to the four-course system of cropping. The Turnip culture being the preparatory step for the succeeding Barley, seed, and Wheat crops. The period of cultivation for the Turnip being in early spring, it led to the occupation of many new lands at that season of the year, and with it grew up the extended desire for spring entries, Lady-day. New Lady-day, 25th March, and Old Lady-day, 6th April, are each adopted; according to the custom of the district. With a New Lady-day entry, a confusion in the spring seeding is experienced, it being just the busy season for sowing the Barley, &c., and the roots and straw will scarcely have been consumed. Therefore, unless some arrangement is entered into (as in the case of the Candlemas entry) for stabling an efficient number of cart-horses for the incoming tenant to get established, and prepare for the sowing of his crops, this period of entry is objectionable. Old Lady-day is a more favourite time of spring entry, and appears to be gaining strength. With it every part of the land, house, and offices, are entered upon at the same time. A valuation is agreed upon for all previous acts of husbandry. This simplifies the entry to a small and convenient compass.

The advantages of an Old Lady-day entry are many. The winter is then over, the roots are all consumed, and the straw made into manure. The yards, barns, and granaries are all clear, the cattle and fat sheep sold without a valuation. All the grain crops will have been sown, and the winter fallows ploughed up ready to receive their preparation for roots. These are great facilities on entering upon a strange farm.* It may be said that such an entry is indeed perfection, save the heavy valuation of tillages—in effect, that the incoming tenant should plant his own spring crops. If we consider the two positions of the two parties for accomplishing these acts of husbandry, it will be seen that they could not have been performed at a cheaper rate, than by a proper agreement, for valuation, &c., with the outgoing tenant. The sowing of the Wheat crop is the question now to be entertained, and if this be done by the outgoing tenant, upon the agreement that he is to be fairly paid for his tillages, half a year's rent and rates, seed Wheat, &c., there can be no doubt as to the value of a spring entry. With either of the autumn entries we have a risk of a mixed tenancy, and consequent clashing of interests, and very probably the two tenants may both have two holdings, possibly wide apart, for three or four months of the dreary period of the year. The main difficulties to be overcome are the consumption and sale of the last year's produce, and preparation of the land that falls to be cultivated for the next crops. The processes upon a farm are so mixed, that it would be difficult to name the time of year when no difficulties exist. So that the great object to be attained is that of changing the occupation in such a manner that it may suit the tillages of the farm, and give the old tenant a clearance of his farm produce without valuation or interruption before the new tenant enters upon the premises. To give the incoming tenant full possession at the same time, free of valuations beyond the tillages; and for every operation of the farm to be properly carried on (until a fixed period) by the outgoing tenant. Under all circumstances, I prefer a spring entry at Old Lady-day, especially for young farmers. With a spring entry we get the full benefit of the summer's growth before us, to reinstate our outlay at an earlier period, and provide for the forthcoming rent-day. To aid and give simplicity to the plan of spring entries I subjoin a few suggestions, which may be useful towards establishing an amicable system.

1. That the outgoing tenant shall perform every required operation upon the farm up to a fixed period in the spring (Lady-day or Candlemas) on being paid for these acts of husbandry. 2. That the outgoing tenant shall farm the lands upon the usual plan of husbandry up to the said period of his quitting, under certain forfeitures. 3. That a proper allowance for crops and manures in or on the ground be made him according to agreement. 4. That the outgoing tenant shall be paid half-a-year's rent, rates and taxes, upon all land sown with Wheat, in addition to the usual allowances for seed and tillages. 5. That the outgoing tenant shall first offer his farm implements to the incoming tenant, by valuation, before proceeding to a sale by auction. 6, That all fixtures be subject to agreements between the outgoing and incoming tenant; unless paid for by the estate. *Smith's Hints in Journal Bath and West of England Agricultural Society.*

* It is very important that the basis of this arrangement should be so laid, that an outgoing tenant is not to be better paid for bad farming than for good. As long as the Turnips are abundant and clean, what matters it to the incoming tenant how cheaply they were produced? He ought to pay their fair worth to consume on the premises, and certainly ought not to pay for five ploughings, when one would do as well if done at the right time.—ED.

* It must be allowed that to enumerate these points as advantages is to presume much goodwill and zeal for another man's interest, on the part of the outgoer.

## THE PRAIRIE LANDS OF ILLINOIS.

[We take by permission the following passages from a pamphlet issued by Mr. Caird, M.P., who has lately visited the district described, and published notes on "Prairie Farming in America," in the form of a little book under that title already reviewed in these columns, issued by Messrs. Longman. The pamphlet from which we make these extracts is procurable for the cost of its postage on application to Mr. Caird, M.P., at 6, Serjeant's Inn, Fleet Street, E.C.]

WITHIN a fortnight's voyage and journey from Great Britain there is for sale a tract of the richest land in the world, which may be bought in large or small lots at prices from 35*s.* to 60*s.* an acre. It may be purchased either for cash, under a discount of 20 per cent., or by payments spread over seven years, the first of which is not due until the third year, by which time the settler should have reaped two crops. The climate is suitable for every kind of corn crop, and peculiarly so for fruit, including Peaches and Grapes. The natural pastures are at present almost boundless, and may be stocked with cattle or sheep by the adjoining settlers to any extent within the means of their capital, and at no cost for the use of the land so long as it remains unappropriated. Cattle are reared to great weight on these pastures, and Merino sheep in large flocks are kept most profitably upon them.

This fine country is situated in the State of Illinois, on Lake Michigan, in North America. By steam navigation across the Atlantic, and a direct railway communication from the seaboard to Chicago, the journey from this country can be made within a fortnight, and at a cost of from 7*l.* to 20*l.* So short is the journey that there need be no life-long parting between friends who go and friends who stay, as there too often must be in emigration to more distant lands. The settler here finds himself, within 14 days of leaving his old home, placed in a country provided already with all the conveniences of civilisation, with a railroad within sight of his homestead, with excellent markets for his produce, a sufficient supply of labour, and with better means of educating his family, provided at the public cost, than he was probably able to procure at home, though willing to pay for it. On all sides of him he will find farms being enclosed and cultivated:—villages, with their churches and schools, growing rapidly into towns;—steam flour-mills in active operation, and the railway train puffing across the landscape. The large towns he will find superior to most of the market towns of the old country, and the spirit of enterprise so active, that in all probability the land which he buys this year will become doubly valuable 5 years hence. The journey can be so easily and cheaply accomplished that it must be worth the while not only of men of large capital, but of most men of limited capital, with families to provide for, to take a run over and judge for themselves.

Nearly the whole of these lands are rich prairie soil, close to or within 5 miles of the railway, fresh and unexhausted, of extraordinary fertility, and ready for the plough. They have direct railway access to all the great sea-ports and centres of American trade and commerce, and water communication to the Atlantic, either by the Mississippi to New Orleans, or by the Lakes and St. Lawrence to Quebec. Chicago, which is the principal town, is the centre of more miles of railway, completed and in operation, than London. And though it is only 20 years since the first shipment of grain was made from it, the annual exports from Chicago now exceed 20,000,000 bushels. There are other Prairie States in America, but Illinois alone has the advantage, which every year will render more valuable, of being the nearest Prairie State to the Atlantic, and thus the point from which the populous Eastern markets can most cheaply draw their supplies. The advantage of being from 300 to 500 miles nearer the market is equal to the whole price of the land itself, in the diminished expense of transporting a single crop. Lands at the Government price of 5*s.* an acre, now to be had only in the remote parts of the Western States, are not to be named in point of cheapness with these, which are in the midst of population, markets, and railways. The rapid increase of the population of Illinois—now said to be 1,600,000, which is ten times what it was in 1830—is of itself a proof that this advantage of position has been fully appreciated by the Americans themselves. The fertile character of her soil is so proverbial that it has obtained for Illinois the distinctive appellation of the "Garden State of the Union." Though not a tenth of the soil is yet cultivated, it already produces more grain than both Ireland and Scotland, and possesses twice as many horses, cattle, and pigs, as the latter country.

These facts are a sufficient proof of the general fertility of the country. But an evidence not less convincing is to be found in the character of the soil itself, as sown by chemical analysis. Four samples of soil taken at different distant points from these Prairie Lands now on sale, were carefully analysed by Professor Voelcker, the Consulting Chemist of the Royal Agricultural Society of England. In almost every element of fertility, the analysis shows that these soils excel our best lands. They are especially rich in nitrogenised organic matter, that nitrogen which yields the same ammonia for which we send millions sterling annually to Peru. Professor Voelcker says: "I have never before analysed soils which contained so much nitrogen, nor do I find any record of soils richer in nitrogen than these." He adds: "In the least fertile of these four soils there is more nitrogen than in the Carse of Gowrie soil. It is the large amount of nitrogen and the beautiful state of division that impart a peculiar character to these soils, and distinguish them so favourably."

Besides the fertility of the surface, a great part of the land is underlaid with coal. Limestone is also abundant. Ironstone, lead, and other minerals are extensively wrought in this State, which thus contains within itself every element to encourage the increase of population and wealth. Each time the population doubles, wealth is said to quadruple, and land which may now be bought at 2*l.* an acre will soon be worth 8*l.*

To the capitalist seeking a safe and profitable investment, there is probably none more promising than the soil of Illinois at the present low rates of price. Money judiciously laid out there would give an immediate annual return of at least 10 per cent., and the capital would be constantly augmenting by the rapidly pro-

gressive increase in the value of the soil. An annual visit to such a property from England might be made with as much pleasure as to a Highland or Irish estate, with very little more fatigue, and with a far greater change to the mind and body in the variety of scene and character. The land could be managed as a large stock-farm, involving little risk, and, like the great sheep-grazings of Australia, requiring a very small amount of labour. The capital would in this way yield not only a regular return in the crop of wool and surplus sheep, but, while the land would year by year increase in value, the flocks would likewise become more numerous and profitable. Merino sheep in very large flocks are now kept on these prairie soils, with great profit to their owners.

The farmer, who has keen competition to contend with in this country from the constant demand for land and consequent increase of rent, might either emigrate with his family, or, if he can afford to divide his capital, might visit Illinois, and settle his elder sons there. This he might do either with a view to future emigration for his whole family, or simply to place his sons in a good position for earning for themselves an independence. A very moderate amount of spare capital will suffice for this, if advantage is taken of the credit terms on which these lands may be purchased.

For example: If an English farmer desires to place his eldest son in a farm in England of 300 acres, he must provide him with a capital of 2000*l*. But if, instead of pinching himself and the younger members of his family to make his eldest son, after all, only the tenant of another man, he resolves to give them all an equal chance of becoming, not occupiers merely, but owners of land, let him go out to Illinois along with his sons, giving them the benefit of his experience and prudence to start them, and he may select for each much larger farms, with less money than is needed to start the one in England. He fixes on a good locality, with good soil, enters into a contract for the purchase of it on the usual terms of credit, fixes also the contract terms for enclosing, breaking up part of the land for Wheat, and building a snug cottage. There he leaves his sons fairly started, and returns home to his family in England in time for his own harvest. He may visit them the second or third summer to see how they are getting on, and to make arrangements for paying the first instalment of the price, then about to become due, after the proceeds of two crops have been already realised. An intelligent prudent man, with 600*l*. at his command, may rely on finding that sum sufficient to start himself or his son successfully as the owner of 320 acres of rich Prairie Land, and the two first crops, with ordinary seasons, will do more than leave a surplus, after paying all expenses, to pay the whole price of the land.

But a large discount is allowed to those who prefer paying cash for their purchase. It is a less speculative system, and if there is no want of capital it is decidedly the most advantageous mode of making an investment. A discount of 20 per cent. is allowed for full payment in cash. A capital of 4*l*. an acre will thus suffice for the purchase of the land, with all the cost of breaking, enclosing, and putting it under crop.

The fact that land which would sell for 60*l*. to 80*l*. an acre in England, can be bought in Illinois for 40*s*. or 50*s*.—while the population of the United States, already as large as that of the British Isles, is increasing much more rapidly, and the facility of transport is equally good—ought to carry its own weight to the mind of every thinking man who has a family to provide for.

## BELGIAN COLZA CULTURE.

One of the most striking points of Flemish husbandry is the cultivation of the oleaginous plants. If the stranger visits the various districts during early spring time, he will see around him at every turn he takes evidences of the value which the Flemish farmer sets upon them, in the numerous fields and plots golden with the yellow-flowered Colza. Nor is the cultivation of these valuable oleaginous plants confined to Flanders only; their value in an agricultural and commercial point of view, first principally established there, has been gradually appreciated in other districts and countries; and of this the traveller as he extends the sphere of his observations sees ample evidence. He will notice their cultivation in nearly every district of Belgium, among the sandy spots of the Campine, or the cleared plots amidst the forests of the Ardennes—the same Ardennes which the pen of our immortal Shakespeare has for ever rendered classic. Extending his journey he will trace them in the fields of Germany, or amidst the flat pasture fields of Holland; and in tiny patches he will see them render a tinge of golden glory to the Vine-clad banks of the Rhine, that "glorious and abounding river;" and wherever he sees them carried out to any extent, he may rest assured that there careful cultivation will be found, or at all events is about to be established, for the cultivation of the oleaginous plants—Flax included—is quite incompatible with bad or careless farming. Demanding fair preparation of the soil, and abundant supplies of manure, they carry along with them a necessity for the complete and careful display of improved modes of husbandry. The objection—which at one time was almost universally held—to these plants, namely, that they are exhausting, is being gradually exploded, and year by year loses its influence. True, they are exhausting, but of what crop cannot the same be said? Is Wheat—our great staple—not exhausting? and because it demands abundant supplies of manure to replace the fertilising materials which it withdraws from the soil, would that, or does that, form a sufficient reason for refraining from its cultivation? The same applies, and with greater force, to the cultivation of the oleaginous plants. For not only do they not exhaust the soil if wisely cultivated, but they bring advantages in their train which other crops do not, or at least in by no means so marked a degree. By the cultivation of Colza, to wit, the soil is left in a state admirably adapted for the crops which follow in the usual course of rotation. They aid also in the extension of the root crops those plants which, drawing a large supply of nourishment from the atmosphere, tend to establish a proper equilibrium of fertilising matter in the soil; but more than this—not only does the plant we are now referring to do all this, but it yields an oil of high commercial value, and this again a residue which in the form of oilcake places at the command of the farmer a highly valuable manure, which being restored to the soil gives back to it all those fertilising properties which the plant originally carried away. This last feature is of the utmost practical importance. We have in former articles shown what an important part the oilcake manure plays in Flemish farming, and in no instance does the farmer play the reckless part—so often done with us when we cultivate, or rather attempt to do so, the oleaginous plants—of throwing away the fertilising refuse of the crop produced. Many advantages follow this Flemish mode of saving this refuse and redistributing by its means those valuable properties to the soil of which the plant robbed it. By this restoration the arable soil is greatly enriched, and rendered capable in a high degree of carrying the Cereals which form part of the rotation. Still further, the produce of the oleaginous plants is one which at all times is readily convertible into cash, and this in a variety of ways. By the establishment of oil-mills throughout all the districts, the owners of which are ready to arrange with the farmer for the disposal of the proceeds of his oil plants, he may either sell the seed—to be crushed by the owner of the mill for his own business—or he may exchange his seed for the oilcake, or for other grain; or, thirdly, he may have the seed crushed, and the oil and the oilcake both returned to him. In every way is facility offered to the farmer to dispose of his produce, and always, which to him is of the utmost importance, to retain the residue, or a portion of it, in order to restore it to the soil.

It may interest the reader to have here a short description of those oil-mills and the mode by which they express the oil, and form the oilcakes so well known to all our farmers. The oil-mills met with throughout Belgium, which act on a large scale, are generally driven by the power of wind, sometimes with water, and sometimes, but not often, with steam. Small oil-mills are sometimes adopted in large farms and worked by horse power. The machinery required for the various operations is of a simple and comparatively inexpensive kind; the first operation to be gone through is reducing the oil seed to a coarse powder. This in large mills is effected by means of two circular stones; these have a double movement; first on their axis, and secondly round a circular table. As they revolve round and roll upon the surface of this table on which the seed to be crushed lies, they gradually crush it to the desired degree of fineness. The crushed material is next taken and heated in shallow circular iron pans which rest upon heated plates, and in which the crushed seed is kept in a state of perpetual movement by the action of revolving stirrers which imitate the action of the human hands when engaged in mixing powder intimately together. To hold the seed thus heated long bags and of width equal to the well-known breadth of an oilcake, are prepared; they are in length rather more than that of the finished oilcake. These bags are suspended at the lower aperture of conical vessels placed near the heating furnaces, and into which vessels the heated seed is put, falling from thence into the bags. The bags are then laid on a board, and the crushed seed uniformly spread out in them. The bags thus prepared are placed between an envelope of felt, and then put between wedges. These are driven hard up by means of vertical stampers which receive a reciprocating movement by means of revolving cams or wipers. As the wedges are gradually driven up the pressure acts upon the bags and expresses the oil, which falls into a vessel placed beneath the press to receive it. By a simple arrangement the wedges are easily released as soon as the "expression" is finished, and the hardened oilcake or residue taken out; this, from the nature of the material of which the bag is made, gives the peculiarly ribbed or corrugated appearance to the cake so familiar to all our readers. The edges of the cake are then trimmed up with a knife, and it is really for sale.

The oil-mills used in farms are of simpler nature than the above, the crushing being effected by means of stampers, which have their lower termination shaped to fit the bottoms of circular vessels cut out in blocks of hard wood, and which act as mortars in which the seed is crushed. The shaft for working the crushing stampers and also those which act upon the wedges of the press is easily worked by horse-power.

We may now turn our attention—and we trust not unprofitably—to a few points connected with the cultivation of the oleaginous plants generally grown in Belgium, or rather of the most important of these, namely, the Colza, of which there are two kinds grown—the winter and summer, the former being the more important.

Colza may be cultivated in a wide variety of soils, crops being equally obtained from soils of the most contrary character. It gives the best results in a soil rich and deep, friable, and open to the atmospheric influences. To give this character to soils not naturally possessing it, every care should be taken to give deep culture before the sowing or the planting. The plant being, as we said before, an exhausting one, it is necessary to manure the soil carefully and well. This may either be done directly, or the crop may succeed one for which the land has been liberally manured. It is best, however to manure the soil directly for the crop, with manures containing the greatest amount of ammonia, those best adapted for Colza. In this respect the night manure is most highly esteemed. The amount of the manure employed is a mean between that used for a Wheat and that used for a Barley crop; much of course depends upon the nature of the soil and other circumstances. Guano and oilcakes are also excellent manures, but that which enjoys the highest reputation in Flanders is a mixture of urine, oilcake, [illegible] excretæ, and of columbine. This manure is applied directly in winter or in spring to the feet of the plants.

With respect to the place of Colza in the rotation, it may be stated that it follows well after almost any crop; it succeeds well after the Rye, Wheat, and Corn. It may be sown with advantage on land recently brought under cultivation from wood; on meadow land after being broken up, and on marshy land after draining. When sown after a cereal the stubble is ploughed up shallow, so as to bury the weeds; the ground is then well harrowed; and finally deep cross ploughed. M. de Bock-Kenifeck, who has strongly advocated the cultivation of the oleaginous plants in Ireland as meliorative crops, recommends two methods of preparing the soil adapted for that country, and which we shall transcribe. The first is for undrained land—the ridge system. This he says is the best when the cultivation is carried on on a small scale. "The field should be divided into 6½ and 7 feet ridges, to suit two kinds of dibblers. * * * It should be understood that the divisions of the ridges should be made merely by a simple deviation of the plough in ploughing about 2 inches; in taking a comb of 2 inches more surface in the beginning of a second ridge, and in the forming of each following one which will form a hollow division and shape the mark of a furrow. Care should be taken to divide the combs so as to leave a free distance for the furrows between each ridge of about 1 foot. In this system the rows of the plant are only about 12 inches separate across the ridge." In drained land the drilled system consists in ploughing the field so that it may have "a flat appearance, spacing the combs so that the plants can be planted in the middle of an overturned comb, allowing the drills to be 2 feet apart, or 2½ feet if intended to receive a Potato crop afterwards; if on lea fields they should receive a first shallow ploughing and cross harrowing."

There are two methods of sowing the Colza; first, by sowing in small plots carefully prepared and transplanting the plants grown upon them to the fields destined for the permanent crop. This is the most costly mode, but it is the best, as by following it a good crop is most likely to be ensured, as more time is allowed to prepare the land which is to receive the plants by repeated workings, harrowings, and weedings. The second plan is to sow the seed as uniformly as possibly on the field destined for the crop, broadcast sometimes but less frequently in lines equi-distant from each other, the plants being afterwards thinned. We shall direct our attention to the mode of transplanting. The plot of land to receive the plants should be well manured and carefully and deeply worked, so as to insure to the young plants a rich vitality previous to being transplanted; to have them also strong the seed should not be sown too thickly. The quantity of seed for a hectare is about a kilogramme and a half, or about 3½ lbs. to the two acres. The young plants are subject to the ravages of insects, which frequently devour the leaves and rapidly destroy the hopes of the husbandman. Various methods have been introduced to prevent the ravages of these insects—earth fleas, as they are called. The best plan is to hasten by all means possible the rapid development of the plants in their early stages of growth, for the more advanced the growth the less the power of the insect. The use of guano spread either before or after the sowing, or mixing the seed with the flower of sulphur, are two plans recommended by a good authority to avoid the dangers of the insect depredators.

When the plants are ready to be transplanted, a time should be chosen for their removal when the land is moist and fresh; every care should be taken to maintain the integrity of the plants and not to destroy their organisms; to this end they should be removed by means of a spade, not plucked up by the hand. They should then be tied up in bundles or removed to the field which is to receive them in baskets. The months of September, towards the latter end, or the month of October, are the best to effect the transplanting. The land to receive the plants should be deeply worked as for a cereal crop, should receive two or three good harrowings, and the manure ploughed in shallow. The plants are placed in the ground by one of three methods, by the spade, the dibbler, and the plough. In using the first, the spade is sunk in the earth nearly up to the top; the workman then draws the handle towards

him, so as to compress the earth and form in front a species of trough; in this at each end he places a plant; withdrawing the spade the earth falls upon the plants, which are further fixed by the workman pressing in the earth with his foot. The plants are thus separated by a distance equal to the width of the spade. In planting by the dibbler, one makes the holes while another follows with the plants, placing one in each of the dibbles, and consolidating the earth round the roots by pressing upon it with the foot. In November the plants which have not taken root are replaced by others, taken from a reserve of plants which is always maintained for this purpose. Some farmers delay this operation till the early spring. The transplanting by the plough is the most expeditious and economical; although it has not always been so successful in practice as the others, it is however the plan generally adopted where the plant is cultivated on the large scale. When it is adopted some modification in the method of preparing the soil is necessary, this consists in mixing the manure as intimately as possible with the soil in place of ploughing it in shallow only, as done for the two modes of transplanting previously mentioned. The plants are placed in the furrow opened up by the plough by females who follow it during the operation; the plants are then covered by the slice of the furrow following. If the ploughing is well executed, the depth of the furrow is found pretty uniform, and of the necessary depth. To ensure uniformity however in the placing of the plants, a person goes over the rows, earthing up those which are too shallow and releasing the earth from those which are too deeply in the soil. When this method of transplanting is adopted it is necessary that the soil should be brought to as fine a tilth as possible, having no clods or lumps, which will cover the roots unequally. The plough should also be drawn by the two horses tandem fashion; when drawing abreast one of the horses is apt to destroy the roots already planted. Did space permit we should have here noticed one plan of transplanting by means of the "mechanical planter," an instrument of great ingenuity of arrangement, and which has been found in practice of the utmost value, as a quick, a certain, and an economical means of transplanting roots. The instrument and the mode of working it in the field is the invention of M. Le Docte, and deserves to be widely known. We may hereafter give a description of its construction and mode of use.

The treatment of the plant during its growth is a matter of the utmost importance; and it is here that the best cares of the farmer are demanded; for upon the retarding of the growth during winter, so as to prevent the plants from shooting up too prematurely, to be killed or nipped by the frosts, depends the success of the crop. In Flanders the system adopted is to make an open drain between the rows by means of a spade, laying the earth upon the plants. This serves to protect them from the frost, and also to provide for them new earth when spring arrives. The more frequently the soil is worked, and weeding attended to, the more vigorous is the plant, and the more certain a good harvest. We have thus traced the cultivation of the Colza up to the point of harvesting. The various points connected with this important department and the saving of the seed we propose to notice in a future paper.

Seeing then the facility with which Colza can be cultivated in almost every variety of soil, and that it can succeed almost any crop—that it moreover acts to the cereals as a fallow—that it prepares the soil favourably for other crops—that it may be succeeded by the Wheat, the Rye, or the Clover—that it produces a crop which at all times commands a ready sale, and a material of the highest value as a manure, we can understand the important place which it occupies and is destined still further to occupy in the routine of Belgian agriculture. *R. S. B.*

## THE USE OF STRAW.

One of the most important and difficult problems to be solved at present in farm management is—What is the best means of economising the food of animals in the manufacture of meat and manure? We mention manure, because many agriculturists consider the fattening of cattle a necessary evil—a means of obtaining manure; in short, they look upon cattle as mere manure manufacturers. We suppose, then, that we have produced on the farm the ordinary food of the animals—viz., roots, hay, straw, grains, &c.—and that we purchase, besides, extraneous articles as food, such as cake. What is the most profitable way of using these substances as food for the animals on the farm? Mr. Mechi tells us that it is nothing else than waste to use our straw for litter—it should all be consumed as food; while others who have seen the living skeletons that have been fed on straw and water for five months, allege that there is comparatively little nourishment in straw. One party calls the Turnip a globe of water, injurious to the animal if given to it *ad libitum*; another appeals to the condition of his oxen fed on Turnips alone, and compares his profits with those of his neighbour who has been using cake largely as supplementary to the Turnip. One would prepare his animals' food by cooking; another thinks that they thrive best when the food is given in its natural state.

There is no doubt that Wheat-straw, dried naturally, contains nearly 70 per cent. of muscle, fat, and heat-producing matters; that, theoretically speaking, it is not worth more than 9*s.* 4*d.* per ton as manure, if ploughed in in its natural state—while used as food it will, if properly prepared, realise a value of 40*s.* per ton;—no doubt that what it does contain of manurial value is rendered more soluble, more available as manure, by being consumed as food, than if ploughed in in its natural unprepared state; but still the question which meets us at the very outset is, Will it pay? It it profitable to convert into its most available form all that valuable food matter stored up—we would rather say bound up, in the straw? The profits of feeding cattle are not often very encouraging; very frequently are farmers content with, what a shrewd one of their own number said, the "company and manure" of the cattle they feed. It is therefore essential that the expenses of feeding be increased as little as possible. Now, experience has proved that animals fed alone on straw in its natural state, and water, do not, after four or five months' keep, from their condition give strong evidence of a great amount of nutritive matter in the straw; and the fact of the straw being less used for food and more for litter and manure—as more nourishing articles of food, such as Turnips, have been more cultivated—may be considered also presumptive evidence of its being found to be more profitable when used for manure than for food in the modern systems of husbandry. But it may be said that it is not proposed to use the straw in its natural state as was formerly done; it is to be so prepared as to bring what is valuable in it as food into a form in which it will be more readily assimilated by the animal which partakes of it; and this will be accomplished by reducing it to chaff, by steaming or other process.

Suppose that it is determined to consume as food all the straw on the farm, the cattle being condemned to lie on bare boards. The accommodation for feeding animals on an ordinary arable farm in Scotland would require to be very largely increased, in most cases more than doubled. Here, then, is a great additional expense in the erection of the buildings, from which the annual charge against the cattle, for interest and repairs, is also much increased; to this we must add the expense of attending on the cattle, and of preparing the straw, which is often so great as to swallow up any profit that may be derived from this method of feeding; interest of capital invested in the stock, risk, and other elements which enter into all commercial transactions, must also be taken into account. It is not enough to tell a farmer who is to make his livelihood by his profession, that "science has shown us that, ploughed in and considered as manure, the worth of straw is but 9*s.* 4*d.* per ton; while used as food it will, if properly prepared, realise a value of 40*s.* per ton." You who consume all your straw and keep your cattle on boards, must show him by actual practice that you can extract more profit from your straw according to your system than he can by using it as litter; otherwise we would never blame any proprietor or tenant who should hesitate to make the increase to his steading necessary for the consumption of all his straw by stock, if he had no other reason for doing so than a mere scientific dictum.

We are inclined to challenge the statement so often made that the consumption of all the straw by animals increases the value of the manure made on the farm. One would suppose, from the manner in which this opinion is urged upon the public, science being appealed to in support of it, that it is quite a new discovery, for which we are indebted to the light of modern science. But the truth is, that it is only the revival of an old theory held by farmers of a former age. "It was at one time a prevalent notion," says Stephens, "that straw could not be converted into good manure unless it were consumed by cattle and horses; and the celebrated Bakewell carried this idea to such a height, that if he had not stock sufficient of his own to consume his straw, he took in those of others for the purpose. But he lived to see his error." Though, as we have mentioned before, what straw contains of manurial value is rendered more soluble by being first consumed as food, the excrement of the animal fed on straw and water alone does not contain, of course, all the constituents of the unconsumed straw. A great part of the carbon for instance of the straw has been made use of during the respiration of the animal, and some of the nitrogen has also been assimilated to restore the waste of the muscular tissues. We need scarcely allude to the low value of the manure made from animals fed on straw alone. "I proved by experiments," said Mr. Gray of Dilston, "many years ago, that 1 ton of manure taken from a yard in which cattle were fed on full Turnips, with a portion of oilcake and Bean-meal, was worth 3 tons of that (though apparently in equally good state) which was made in a yard where young cattle were kept on straw during the night, with a run out in the fields, getting a few Turnip tops in the day." We think that the question as to the value of straw for food and manure has not been fairly put by the advocates for the consumption of the whole of the straw on the farm as food. "Science has shown us," says Mr. Mechi, one of these advocates, "that, ploughed in and considered as manure, its worth is but 9*s.* 4*d.* per ton, while used as food it will, if properly prepared, realise a value of 40*s.* per ton." It is intended that other kinds of food are to be used with the straw. The question to be solved, which concerns the practical farmer most, should be put thus:—Given a certain quantity of cattle food and a certain quantity of straw—wanted to know whether it is more profitable to consume the whole of the straw as food, or only part of it, and use the rest as litter? We suppose, of course, that there is an abundance of straw, such as is to be found on an ordinary arable farm in Scotland. It will be found that when a part of the straw has been consumed, and the greater part used as litter, instead of a ton of it being worth 9*s.* 4*d.* as manure, it will add to the manure-pit at least five tons of good manure, worth about 6*s.* per ton, if only as much of the straw be used as litter as will admit of its being thoroughly saturated and mixed with the urine and solid excrement of the animal. We only ask the same condition in our method of using the straw which Mr. Mechi insists on in his method of using all for food—viz., that the straw be "properly prepared" in the manure-pit by fermentation.

Now, while we are in no way inclined to subscribe to the opinion of those who advocate the consumption of the whole of the straw, we are as unwilling to support those who maintain that straw possesses little feeding property, and that it should be used only as litter. We have already said that there is a considerable amount of matter contained in it valuable for its feeding qualities, which is rendered more available for the animals by different preparatory processes. We are of opinion that in Scotland generally the value of straw as food is not fully appreciated, because it has not generally been properly used. To obtain the full benefit of it, it should be cut into chaff and mixed with the other more watery and nourishing food used by the animals on the farm. By being steamed or boiled, a part of the process performed by the stomach of the animal is executed before it is presented to it for food. Mixed in the state of chaff with pulped Turnips, Vetches, Clover, it economises these valuable feeding substances, increases the efficacy of what is actually mixed with it, and prevents those attacks of illness to which all animals are liable which are fed on green food, particularly when they commence to use it. The great advantage of mixing straw with pulped Turnips is fully proved by the experiments of Mr. M'Laren as detailed in the Transactions of the Highland Society, vol. xvi., p. 160. It will be observed from these experiments that the profit from the use of the cut straw with the pulped Turnips would have been much greater had the expense of cutting the straw, pulping the Turnips, and mixing the two together not been so great. Not merely is straw valuable as containing matter which possesses considerable feeding properties, and as a corrective of the laxative effects of green food, but it is most beneficial in feeding in giving bulk to those kinds of food in which the elements of nutrition are more concentrated—the condition of bulk of food being most essential in ruminating animals. The mixing of cut straw with cut hay and bruising of Oats causes a saving of both hay and Oats, as has been proved by the London Omnibus Company. So also Mr. Croall, of Edinburgh, has been enabled to discontinue the use of hay in Middlefield stables, Edinburgh, by adopting the practice of cutting his straw and mixing it with oil-cake, Linseed, &c. Both of these cases are fully commented on in the last number of this Journal, p. 666. So much importance did the farmers in some parts of France attach to the mixing of straw and hay in equal proportions, and so favourable were the results of the mixture on work-horses, that there was a proverb in those districts where the mixture was used expressing a favourable opinion of the use of straw, viz.—"Cheval de foin, cheval de rien; cheval de paille, cheval de bataille;" which may be translated, "A horse on hay is a horse of little worth; a horse on straw is a horse fit for battle." *Journal of Agriculture.*

# Societies.

## ROYAL AGRICULTURAL OF ENGLAND.

At a Monthly Council, held Wednesday, July 6, 1859, his Grace the Duke of Marlborough, President, in the chair,

New members were elected.

The usual monthly report of the Finance Committee was received, with the following addition:—"The members of the Finance Committee also beg to state to the Council that they desire to set the Committee appointed to entertain and report upon the rearrangement of the system of keeping the accounts of the Society perfectly free, by the tender of their resignation."

On the motion of Lord Portman, seconded by Mr Torr, the above resignation was accepted.

On the motion of Mr. Thompson, seconded by Lord Feversham, the thanks of the Council were voted to the Finance Committee for their past services. On the motion of Mr. Torr, seconded by Mr. Shuttleworth, the Finance Committee were requested to continue to hold office until the new committee be appointed.

Mr. Thompson, chairman of the Journal Committee, reported:—

I. That in Class III., Essay on Steam Cultivation, the prize of 25*l.* is awarded to the Essay bearing the motto "Faint but pursuing," and on the seal being broken Mr. J. Algernon Clarke, of Long Sutton, was declared the author.

II. That in Class VII. none of the Essays are considered worthy of the prize.

III. The following list of subjects for Prize Essays for 1860 is recommended to the Council:—

| | £ | s. | d. |
|---|---|---|---|
| I. Agriculture of Berkshire .. .. .. | 50 | 0 | 0 |
| II. On the best period of the rotation, and the best time for applying the manure of the farm .. .. .. .. .. .. | 20 | 0 | 0 |
| III. Alterations advisable in farm management, | | | |

| | | £ | s. | d. |
|---|---|---|---|---|
| | in land of different qualities, by low price of grain and high price of meat .. . | 10 | 0 | 0 |
| IV. | Late improvements in dairy practice .. | 10 | 0 | 0 |
| V. | Proper office of straw in a farm .. .. | 10 | 0 | 0 |
| VI. | Amount of capital required for the profitable occupation of a farm .. .. .. | 10 | 0 | 0 |
| VII | On the condition of seed-bed best suited to the various agricultural crops . .. | 10 | 0 | 0 |
| VIII. | On the adulteration of agricultural seeds .. | 10 | 0 | 0 |
| IX. | Any other agricultural subject . .. | 10 | 0 | 0 |

IV. The reprint of Dr. Lang's Prize Essay on Potatoes is now laid on the table, and recommended to be sold at the following prices:—

1*d.* each, or 6*s.* per 100 to Members of the Society,
1 *d.* each, or 9*s.* per 100 to Non-Members.

**Lord Leigh**, chairman of the General Warwick Committee, presented the report of the Committee in reference to details connected with the Warwick meeting.

**Mr. Pain** was elected one of the Stewards of Show-yard receipts in place of Lord Portman, who will be unable to attend.

**The report of the special Committee on the past accounts of the Society was received and adopted, and the honorary acting Secretary was authorised to take steps relative to a deed of assignment executed by the late Mr. Hudson previous to his death.**

The Report of the Committee on the duties of Secretary and mode of his appointment having been read, it was resolved, on the motion of Sir John Shelley, Bart., M.P., and seconded by Sir Edward Kerrison, Bart., M.P., "That the office of Secretary and Editor shall not be combined."

It was resolved, on the motion of Lord Faversham, "That the Secretary's salary be 400*l.* per annum; the Secretary to reside in the Society's house, and have coals and lighting."

It was ordered that advertisements be inserted stating that all applications from candidates for the office of Secretary be sent to the Honorary Acting Secretary on or before the 30th of October next.

The following recommendations of the Committee were confirmed, viz.:—That the Secretary shall devote his whole time to the affairs of the Society. That he shall find approved security to the amount of 1000*l.* That it shall be considered an additional recommendation to a candidate if he possesses a competent knowledge of French and German.

Other recommendations of the Committee on minor details were also confirmed.

On the motion of Lord Portman, Mr. Brandreth Gibbs was requested to continue to undertake the duties of Honorary Acting Secretary, until a new Secretary be elected.

Mr. Raymond Barker expressed his determination to resign the office of Vice-president.

On the motion of Col. Challoner, Mr. Manning's offer to undertake on the usual terms such works as the Council may hereafter determine upon to require next year at Canterbury, was accepted.

On the motion of Mr. Fisher Hobbs permission was given to the Stewards and Judges of the Show to make *arrangements for the trial of* Grass mowing-machines *at Warwick, and to report thereon.*

Various communications were laid before the Council, and it was decided what replies should be given thereto by the Hon. Secretary.

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HIGHLAND AND AGRICULTURAL: *June* 30.—At the half-yearly meeting of this Society, the Duke of Athol, President, in the chair, 118 new members were admitted.

*The Edinburgh Show.*—Mr. Walker, of Bowland, reported the entries of stock and implements to be as follows:—Cattle, 336; horses, 192; sheep, 581; swine, 87; butter, 56; Poultry, 324; implements, 820. The arrangements for the Show are in a forward and satisfactory state.

*Agricultural Education.*—The Secretary reported that the examination was held on the 6th of April, 1859. Eight candidates inscribed their names for examination, and the diploma was conferred on the following:—John Milne, Mains of Lathers, Turriff; William Henry Eley, Cobham, Kent; Thomas Rome, Groundslow, Stone, Staffordshire. In addition to these Mr. Hewens Walton, Fenny Crompton, Warwickshire, passed a very creditable examination on the scientific branches, but being under 21 years of age he cannot be taken up on the practical department, nor obtain the diploma till he has attained that age.

## Reviews.

*The Journal of Agriculture and the Transactions of the Highland and Agricultural Society of Scotland.* July 1859. W. Blackwood and Son.

The current number of this quarterly periodical is more than usually interesting, containing papers on Flemish husbandry, on Pisciculture, on English and French Agriculture, on Labourers' Cottages, on the Bean crop, on Finger and Toe, on Dunlop and Cheddar cheese, on Hill Farm Drainage, and on Laboratory experience. Some of them we have already marked for extract. The papers on French Agriculture is very explicit and full of useful matter. The following passages compares its results with those of our own farming.

"We find that in France one-fourth of the entire, and one-third of the cultivated, land is under cereal crops; whilst in the United Kingdom, one-sixth of the whole, and one-fourth of the cultivated land, is so occupied. The produce of Wheat in France is 13½ bushels per acre—that of the United Kingdom is 28 bushels. The fifteen millions of acres of Wheat in the former country produce only 25,315,500 qrs., whilst the 4,500,000 acres in the latter yield 15,750,000. The above statistics are taken from the valuable work of M. de Lavergne, who ascribes the small result in France to the occupation of so large an extent of land being devoted to cereal food for the use of man, without applying or providing those restoratives by which the land would be compensated for the exhaustion.

"The bad effects of this system of cropping are equally observable in lessening the production of animal food; the impoverishment of the soil by the excess of white crops affecting in the same proportion all others, and rendering them less productive. This is shown in France by the number of cattle and sheep kept upon a given quantity of land; and the amount of meat produced, in proportion to the number of cattle, &c., kept, as compared with those produced in the United Kingdom. The following tables show the different results:—

ANIMALS KEPT.

| | *United Kingdom.* | *France.* |
|---|---|---|
| Sheep, | 30,000,000, or 1 to 2½ acres. | 30,000,000, or 1 to 4½ acres. |
| Bullocks, | 8,000,000, or 1 to 9½ acres. | 10,000,000, or 1 to 13 acres. |

ANIMALS SLAUGHTERED.

*United Kingdom.*

| | |
|---|---|
| Sheep, .. | 10,000,000, producing 80 lbs. of meat each, or 800,000,000 lbs. |
| Bullocks, .. | 2,000,000, weighing 560 lbs. each, or a total of 1,120,000,000 lbs. |

*France.*

| | |
|---|---|
| Sheep.. .. | 8,000,000, producing 40 lbs. of meat each, or 320,000,000 lbs. |
| Bullocks, cows, and calves .. .. | 4,000,000, weighing 220 lbs. each, or a total of 880,000,000 lbs. |

"It is necessary to state here, that both oxen and milch sows are employed in France as beasts of burthen and in field labour; the next results will therefore be at once accounted for:

MILCH COWS KEPT.

*England.*

3,000,000, producing 656,250,000 gallons of milk, or 218¾ gallons each.

*France.*

4,000,000, producing 437,500,000 gallons of milk, or 109¾ gallons each.

"The cattle are kept either until they are from four to seven years old before they are slaughtered, or killed as calves at a month or six weeks old. This latter practice will in part account for the low average produce of beef per head. Out of the four millions slaughtered annually, the calves are stated to amount to 2½ millions. But the practice of working both oxen and cows to the last not only reduces the produce in meat and milk, but deteriorates also the quality of both."

Dr. Anderson calls attention among other subjects to the value of fish guano as manure. The following are remarks on the manufacture and analyses of specimens:—

"All that is requisite is to remove the water, and to reduce the dry residue to a pulverulent state. To effect this object, no complicated apparatus is necessary, all that is required being a stove or flat drying surface, heated either by a small furnace, with flues passing backwards and forwards, or by means of steam, the latter being preferable. A thin layer of the moist fish or offal being laid upon this, might be rapidly dried and converted into a proper state before putrefaction commenced, and a manure be produced which would have comparatively little smell. As regards its value, there is some difficulty in forming an opinion; but some guide may be afforded by reference to the composition of such manures of this kind as have appeared in the market, analyses of several of which have at different times been made in the laboratory. The first of them to which I shall refer are two samples made on the east coast of England, by a process, with the nature of which I am unacquainted. They were found to contain:—

| | I. | II. |
|---|---|---|
| Water .. .. .. .. .. | 9.77 | 12.15 |
| Organic matter .. .. .. .. | 53.55 | 55.27 |
| Phosphates .. .. .. .. .. | 4.72 | 6.44 |
| Sulphate of lime .. .. .. .. | 1.63 | 1.71 |
| Common salt .. .. .. .. | 26.49 | 22.29 |
| Sand .. .. .. .. .. | 3.84 | 2.14 |
| | 100.00 | 100.00 |
| Ammonia .. .. .. .. .. | 6.20 | 7.63 |

"If we estimate these according to the plan used for guanos, then No. I. is worth about 4*l.* 12*s.* and No. II., 5*l.* 10*s.* per ton—values which are certainly not very high. We must take into account, however, the large quantity of common salt, which materially reduces the value; and if it were possible to exclude this substance, which we shall immediately see can be done, then the value of these samples would be about 5*l.* 15*s.*, and 6*l.* 18*s.* respectively.

"Another sample, the source of which I have been unable to ascertain, but which I believe to have been offered for sale in Liverpool, contained:—

| | |
|---|---|
| Water .. .. .. .. .. .. | 7.55 |
| Organic matter .. .. .. .. .. | 87.45 |
| Phosphates .. .. .. .. .. .. | 0.55 |
| Carbonate of lime .. .. .. .. .. | 0.45 |
| Alkaline salts .. .. .. .. .. | 2.55 |
| Sand .. .. .. .. .. .. .. | 1.45 |
| | 100.00 |
| Ammonia .. .. .. .. .. .. | 7.29 |

"The absence of common salt in this case, except to a very small extent in the alkaline salts, shows the possibility of producing a manure without that substance; but in this case the value is somewhat lower, owing to the trifling proportion of phosphates. It does not exceed 4*l.* 16*s.* per ton. It is probable that in this case some charcoal or other organic matter had been mixed with the fish, with the view of its acting as an antiseptic during the process of manufacture; but on this point I am unable to speak positively.

"The last sample to which I shall refer was manufactured on the Portuguese coast, whence it was imported into this country. It is of a totally different nature from the others, sulphuric acid having obviously been used to some extent in the process, and sulphate of lime apparently added as a drier. For this reason its value must be estimated on the same principle as that of a superphosphate, which, indeed, it somewhat resembles in composition.

| | |
|---|---|
| Water .. .. .. .. .. .. | 14.04 |
| Organic matter .. .. .. .. .. | 27.77 |
| Biphosphate of lime equivalent to 7.00 bone-earth made soluble .. .. .. | |
| Insoluble phosphates .. .. .. .. | 4.48 |
| Sulphate of lime .. .. .. .. .. | 1.60 |
| Alkaline salts .. .. .. .. .. | 36.17 |
| Sand .. .. .. .. .. .. .. | 6.14 |
| | 9.80 |
| | 100.00 |
| Ammonia .. .. .. .. .. .. | 2.10 |

"This manure is worth only 3*l.* 16*s.* per ton, and this value is chiefly derived from the biphosphate of lime it contains.

"Fish manures have usually been offered for sale at from 8*l.* to 9*l.* per ton; and at this price there is obviously no inducement to buy them, and hence the ailure of the manufacture."

## Miscellaneous.

*The Cental.*—The new weight has now been in use in the Liverpool corn market for some time; and as circumstances have induced some further discussion of its merits during the past month, we are enabled to estimate, with some decision, the degree of favour it has met with in the trade. We may say, then, that it has entirely superseded the "bushel" of 70 lbs., in the sale of Wheat, both foreign and home-grown; also the "bushel" of 45 lbs. for Oats, and that of 60 lbs. for Barley. So far the change is complete; and all parties agree, now that the temporary inconveniences of the change are over, that it is a good one; that it was well made, as regards this market alone; and that it will have still greater advantages when the other markets of the kingdom shall have followed the example. In the foreign trade we understand that shippers abroad generally display the utmost willingness to concur in and facilitate the new practice. In short, the difficulties at first anticipated as to these, the three principal descriptions of grain, have either not been met with, or have altogether disappeared. But as to Beans and Indian Corn, previously sold per 480 lbs., the change of practice is not yet so complete. The defects of the old system not being so great, and the obstacles to a complete introduction of the new one rather greater, it appears that the market has not yet, as to these articles, passed entirely through the transition. A large majority of the trade adopted the cental at first, and have adhered to it. Others have adopted it since. But a few still leave the choice of weight to be quoted to be settled by the will of the buyer. Here, however, everything points to a more or less speedy completion of the change, and to exclusive use of the cental at no distant date. Not so as to flour and meal; these are subject to different conditions, and as to them the trade is divided. It will be remembered that the new weight was introduced at the instance of the Corn Association, embracing nearly all who are in the wholesale trade, but not including a very large number of persons engaged in retail transactions. More than four-fifths of the members of the Association, regarding mainly the description of business they are themselves occupied with, and the relations of this market to others, have a decided and a very natural tendency to enforce, with all their influence, a complete and uniform adoption of the cental. But the rest—a minority, though including some very able and influential members of the wholesale trade—being brought, by the nature of their business, into more immediate contact with the numerous retail dealers, find the contest with such customers for the establishment of the desired uniformity, as to flour and meal, more arduous than they expected, and so involving more exertion than they think the object in view is worth. *Liverpool Paper.*

*Guano.*—It is almost to be feared that guano will play a momentous part in history. When it is considered that one cwt. of that manuring agent contains the effective mineral constituents of between 25 cwt. and 30 cwt. of Wheat, or of an equivalent amount of some other produce, and that, when used as manure, it produces, in a succession of crops, a corresponding quantity of elements of food, some conception may be formed of the immense value which the guano-beds of America possess, with reference to the production of corn in Europe. From the enormous increase of the population of London, and other large cities of Great Britain, the loss which the English fields sustain annually in the main conditions of their fertility is every year becoming more and more considerable; and it would appear that the obstacles which oppose the collection of the human and animal excrements are altogether insurmountable, at least as regards London. It is evident, therefore, that England, in order to remain permanently a corn-growing country, requires a free and plentiful supply of guano (even now Great Britain consumes nearly nine-tenths of all the guano brought to Europe). Fifteen years ago the American agriculturists looked down upon guano with a species of contempt; but things have greatly altered since then; and it is said that last year about eight million cwt. of that

manuring agent were imported into the United States. In the actual position of English agriculture, America, by her guano-beds, rules the prices of all the corn-markets of Europe, and more especially in England; and should circumstances ever arise to prevent the importation of guano into England, a state of things would ensue in that country of which the consequences might be incalculable. Bloody wars have sometimes sprung from causes of much less importance. *Liebig's Letters on Modern Agriculture.*

*Sheep Farming in New Zealand.*—We have been favoured with the following letters, which were written in the course of last year in reply to a distinguished military officer who was desirous of settling his son, also in her Majesty's service, in the colony.

The following letter was written from Nelson:—

I am very much puzzled what to advise about your son leaving such prospects as he has of getting on in the service, and entering another business of so totally an opposite character;—one is attended with comfort, luxury, and leisure, the other must be accompanied with constant anxiety and hardships. In fact, it is a rough, wild, and frequently solitary life, but at the same time offering better prospects of a good income than the more refined one; indeed, in my opinion there is no occupation which a gentleman can enter in this colony that can compare with it in point of a good return for your investment. I will instance my own case, and it is one of many. I began sheep farming about eight years ago by investing about the same capital as you say your son will have at his command, and now ——— gives me 800*l.* a year rent for the run and stock, and every one says he will make that sum, if not 1000*l.* a-year clear for himself in a short time. Then ———, who has not done so well as most people, has been offered and refused 700*l.* present for his run. This will prove to you that sheep farming is a lucrative business. Should you and your son determine that he should enter upon it, I am quite at a loss what to advise. If ——— were living at our station, I should say let your son come down and be with him to learn the work, but since ———'s engagement I have asked him and his wife to come and live with me, which they do when ——— leaves. I think it would be well that your son should see the life before he finally makes up his mind, and he would be gaining experience and knowledge at the same time, I shall consult with ——— on his return from the Wairau, about the best person he could go to. With respect to the province where he should ultimately settle I can say little, but I certainly advise that it should not be this one, as I cannot see any opening whatever for his getting a run for anything like the sum he has to invest, and if he could I would not advise it; so long as the waste lands are in the hands of the Provincial Government, the tenure of runs is so uncertain that I would not advise any one to commence in this province. In some of the others the case is different. These provinces are altogether pastoral; there is no other interest to clash, and therefore no act will be passed by their Councils calculated to injure the flockmasters. I should prefer the ———, but I fear there are no runs to be had there now. At Otago I learn they may still be had, and if your son would like to try his luck there and go down and look out for a run for himself, I know several young gentlemen who have gone there from Nelson to whom I would give him letters, and I have no doubt they would cheerfully afford him every assistance in their power.

The following letter is dated from Ahuriri:—

You spoke to me before leaving Auckland about making an investment in sheep for ———, and you seemed to give a preference to the Ahuriri district. The course I should advise you to adopt would be to purchase 500 or 1000 ewes and to place them with a careful person on the following terms, viz., that the party taking them should have one-third of the increase and half of the wool for taking care of them. This is all you would have to pay, except carriage of wool to port, freight, stowage, and wool bags; the persons taking them on these terms should keep them for three or five years, or until such time as a run could be obtained in some of the new districts that will be opened up here. By the end of either of those terms he would have a considerable flock as the proportion of increase, while all the original stock would still be his own. Of course the party taking the sheep could not guarantee a run, there is so much scrambling for them now-a-days; but he should use all diligence to secure one. The above terms, or else purchasing out some one's interest, are the only means by which any person could establish himself here; but there are no eligible offers of the latter kind to be met with. Good ewes might be purchased here after shearing for about 20*s.* or 25*s.*; two rams of a good breed should be purchased for every 50 ewes. If you could get one here to take on those terms it would be a safe and good investment, and I shall be most happy to aid ——— in every way towards getting a run if you really decide on his becoming an Ahuriri flock-owner. In applying for a run here, the boundaries of the place required should be distinctly stated, and in the event of one place not being purchased two or three applications might be sent in together with a deposit of 25*l.*, which would be refunded in the event of the runs not being obtainable. When I get back to Auckland I will point out the most desirable run country as yet unpurchased, and afford any other assistance I can towards furthering ———'s views; and if he would like to come here and look about for himself, if he is not getting too fat for such exertions, he can have a shake-down at my station, plenty of fat mutton, bread, and tea, with a good horse to ride when he feels disposed. I have no doubt this district would suit him as an eventual place of settlement as well as any in New Zealand, but of that he will be the best judge himself when he sees it.

## Calendar of Operations.

JULY.

ESSEX: *July* 4.—We regret to state that the fine harvest prospects pronounced last week are now sadly blighted by the late storms of Saturday and Sunday night last. Chief of the crowded and apparently best crops are prostrated, and are injured to a very great extent in this district—South Essex. The Potato murrain has again appeared this last fortnight in its usual malignant form; but most rife in those crops highly manured. Its commencement was earlier than hitherto, which adds to its disastrous effects. Atmospheric humidity does not appear to be the sole cause of the malady, as extreme drought has prevailed here all winter and spring, and up to the present time. Former experience however reminds us that now wet weather is set in before the tubers are matured, the evil will be aggravated by it, and will be more severely felt. We have not manured ours at all this year, and have planted them in wide rows, with a view of preventing the virulence of disease, believing that if this practice was fully carried out, without any stimulants, Old Dame Nature thus left uninterrupted would play her part, and be the best restorer of this ill-fated patient to a more perfect state of convalescence. In our remembrance of 30 years Potatoes were always of better quality grown on poor ground than those on richer soils, though of course smaller and less remunerative. *Maldon.*

## Notice to Correspondents.

LAND AGENTS: *J Fleming.* There is no better work than that "On Landed Property," by the late Professor Low.


PAXTON WORKS, SHEFFIELD, ESTABLISHED 1738.

SAYNOR AND COOKE'S warranted PRIZE PRUNING and BUDDING KNIVES, SCISSORS, &c.—Sold by all respectable Nurserymen and Seed Merchants in the three Kingdoms.

TO BE SOLD, a handsome, well-built, and finished CONSERVATORY, 30 feet long, 16 feet wide, quite new.—Apply to H. FREEMAN, Triangle, Hackney.

SMALL GAS APPARATUS, WITH FREEDOM FROM NUISANCE.

BOWER'S PATENT NATIONAL COAL GAS APPARATUS, for Private Residences, Farm Buildings, Churches, Chapels, Railway Stations, and all isolated places not yet lighted with Gas. The various parts are of the best materials and workmanship, are not liable to get out of order, and can be worked with a small degree of attention by a farm servant or labourer without materially interfering with his other duties. Prospectuses with testimonials, &c., may be had on application to the Proprietors and Manufacturers,
J. T. B. PORTER & Co., Lincoln.

# FOWLER'S PATENT STEAM PLOUGH.

The above Cut shows FOWLER'S STEAM PLOUGH at work.

ENGINES purchased for STEAM PLOUGHING can be used for any other operation the Farmer may wish. They are made to move themselves by Steam from field to field or place to place, requiring but one or two horses in the shafts to steer them.

For further particulars, prices, and Illustrated Catalogues apply to
JOHN FOWLER, JUN., 28, CORNHILL, LONDON, E.C.

Stand No. 30.—ROYAL AGRICULTURAL SOCIETY'S SHOW AT WARWICK, July, 1859.

# B. SAMUELSON,

AGRICULTURAL ENGINEER AND MACHINIST,
76, CANNON STREET, WEST, LONDON; WORKS—BANBURY, OXON;

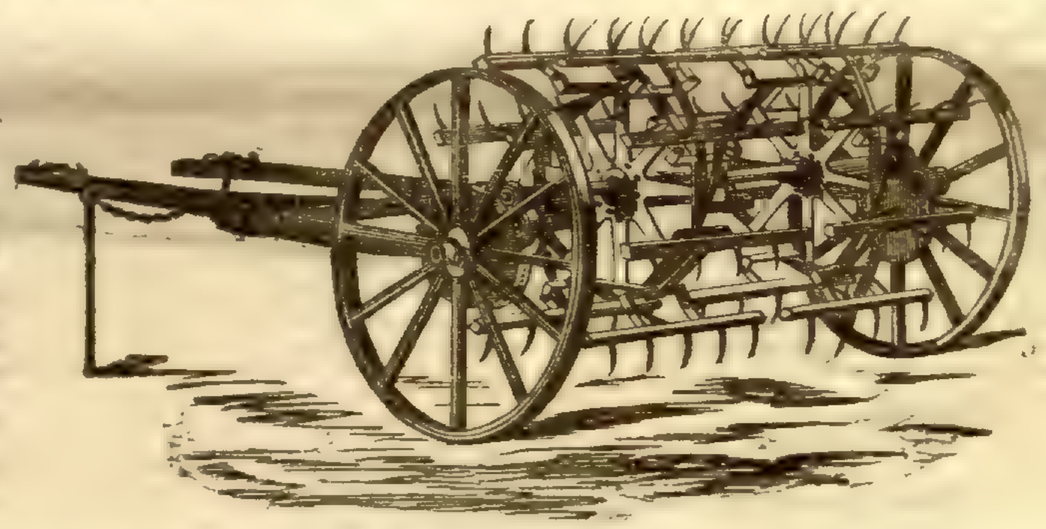
INVITES the atttention of Agriculturists to his
IMPROVED DOUBLE-ACTION HAY-MAKER (Price 18*l.* 18*s.*).
This Machine is guaranteed against breakages in fair usage.
SAMUELSON'S IMPROVED HORSE RAKES.

| | | |
|---|---|---|
| No. 3, extreme width, 7 feet 6 ins. | £7 | 10 0 |
| No. 4, ,, ,, 8 feet 6 ins. | 8 | 0 0 |

Steeled Teeth, 10*s.* extra.

SAMUELSON'S PATENT BRITANNIA SELF-RAKING REAPING MACHINE, with side delivery in sheaf (requires no rakers or gatherers), price 32*l.* 10*s.* at the Works, Banbury; 34*l.* in London.

SAMUELSON'S BOYD'S PATENT LAWN MOWING AND ROLLING MACHINES. The only Machine that will cut WET as well as dry Grass. Price, from 4*l.* 17*s.* 6*d.* to 13*l.* 13*s.*



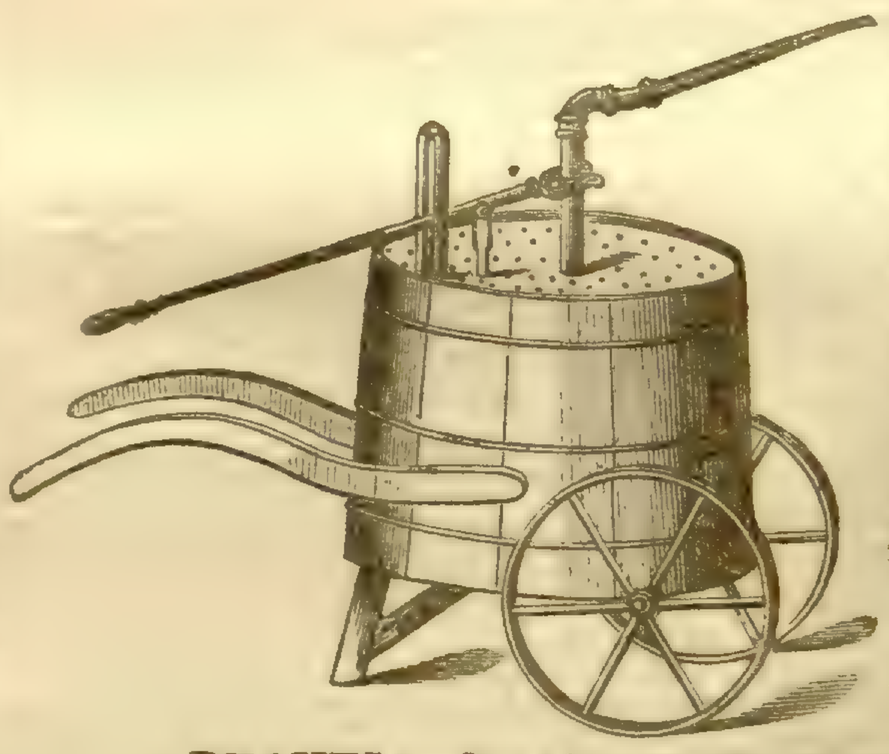
SAMUELSON'S PATENT PRIZE GARDENER'S DOUBLE ACTION TURNIP CUTTER, with the new Patent improvement for separating the dirt and small chippings from the clean and useful pieces.

SAMUELSON'S PRIZE CHAFF CUTTERS, MILLS, CAKE BREAKERS, and food-preparing Implements of every description; also HARROWS, FIELD ROLLERS, CLOD CRUSHERS, &c.

The above may be inspected at MR. SAMUELSON'S stand, No. 30, at the Warwick Show, where CATALOGUES and PRICE LISTS may be obtained, or at the

Works, Banbury, Oxon; London Warehouse, 76, Cannon Street, West.

*DEANE & COMPANY'S*
# HORTICULTURAL TOOLS,



GARDEN ENGINES, Galvanized Iron
Prices 55*s.*, 68*s.*, 105*s.*, 120*s.*
Ditto, Wood, 84*s*,, 105*s*, 130*s*.
Flower Stands, 4*s.* 6*d.* each.
Cast Iron Ornamental ditto, to hold 7 Vases, 27*s.*
Deane's Mowing Machines, with Boyd's Patented Improvements, £4 17*s.* 6*d*; £6 6*s.* 0*d.*, £6 17*s.* 6*d.*, £7 7*s.* 0*d.*
Green House Syringes, 8*s.*, 10*s.*, 18*s.* 6*d*
Garden Rollers, £1 14*s.* 6*d.*, £2., £2 12*s.*
£3 3*s.*, £3 18*s.*, £4 13*s.*, £5 12*s.*, £7 10*s.*
Garden Stools, 4*s.* 6*d.*
Garden Chairs, from 30*s.*
Boyd's Self-adjusting Scythe, 10*s.* 6*d.*
Wire Work, 18in. 4*d.* per yard run.

*Every Implement for Garden use on the lowest Terms.*

DEANES:—Opening to the Monument, London Bridge.

## WARWICK SHOW.—STAND No. 183.

MESSRS. J. B. BROWN AND CO. will exhibit at the Royal Agricultural Society's Show at Warwick on Tuesday, the 12th inst., and following days, specimens of their Iron and other Manufactures, in connection with Landed Property, particularly

IRON HURDLES, variety of specifications and prices. CONTINUOUS BAR FENCING, in flat and round bars. IRON, FIELD, and other GATES. IRON FENCING WIRE. WIRE NETTING, various meshes and degrees of strength. GARDEN SEATS, CHAIRS AND STOOLS, a great variety and novelty in design. ORNAMENTAL WIRE WORK in Garden Arches, Flower Stands, Suspending Flower Baskets, &c. GARDEN ENGINES, GARDEN ROLLERS, CAST IRON VASES. SHANKS' NEW IMPROVED PATENT LAWN MOWING MACHINES. CAMPBELL'S NEW PATENT GRUBBING AND HARROWING LAND ROLLER AND CLOD CRUSHER (new implement). IRON CORN RICK STANDS, &c. &c.

**STAND No. 183, WARWICK SHOW.**

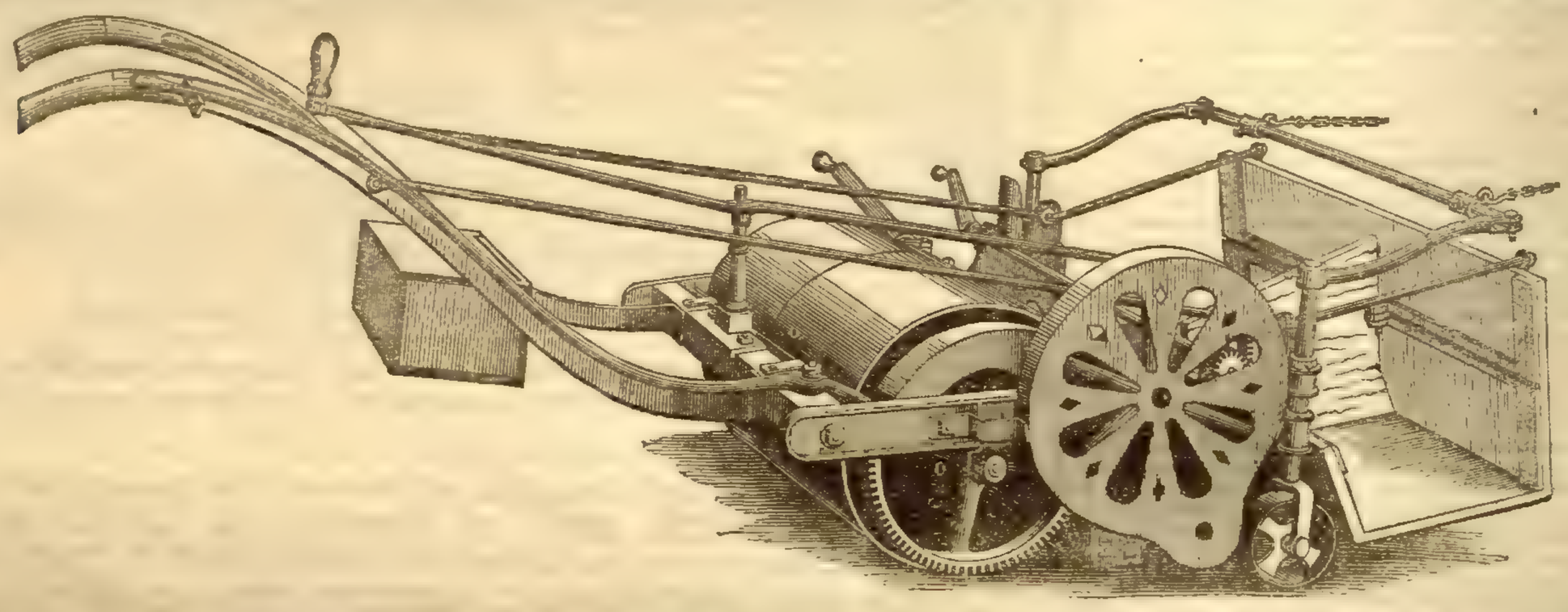
**J. B. BROWN & CO., 18, CANNON STREET, CITY, LONDON, E.C.**

## SHANKS' PATENT LAWN MOWING MACHINES,

### NOW USED IN ALL THE ROYAL GARDENS.

*NEW AND IMPORTANT IMPROVEMENTS FOR MOWING, ROLLING, COLLECTING, AND DELIVERING.*

**HORSE POWER PATENT MOWING, ROLLING, COLLECTING, AND DELIVERING MACHINE.**



THESE NEW IMPROVED MACHINES WILL BE EXHIBITED AT THE ROYAL AGRICULTURAL SOCIETY'S SHOW AT WARWICK ON TUESDAY, JULY 12, AND FOLLOWING DAYS, AT MESSRS. BROWN & CO.'S STAND, NO. 183.

### PRICES

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| No. 1(*a*) 48-INCH MACHINE (USUALLY DRAWN BY A HORSE) | £27 | 0 | 0 | No. 3.—30-INCH MACHINE (USUALLY DRAWN BY A PONY) | £17 | 10 | |
| No. 1.—42-INCH MACHINE (USUALLY DRAWN BY A HORSE) | 24 | 0 | 0 | No. 4.—25-INCH MACHINE (USUALLY DRAWN BY A PONY OR DONKEY) | 13 | 10 | |
| No. 2.—36-INCH MACHINE (USUALLY DRAWN BY A HORSE OR PONY) | 20 | 10 | 0 | No. 5.—25-INCH MACHINE (MADE LIGHT FOR A SMALL PONY OR DONKEY) | 9 | 10 | |

Machines Nos. 1 (*a*), 1, 2, 3, & 4 have the Patent Delivering Apparatus attached. No. 5 can either be had with or without this improvement; if with it, 30*s.* extra.

### PRICES OF THE HAND MOWING AND ROLLING MACHINE

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| No. 6.—22-INCH MACHINE | £7 | 17 | 6 | No. 8.—16-INCH MACHINE | £6 | 10 | |
| No. 7.—19-INCH MACHINE | 7 | 5 | 0 | No. 9.—13-INCH MACHINE | 5 | 15 | |

### TESTIMONIALS IN FAVOUR OF SHANKS' NEW HORSE MACHINE.

*From* Mr. T. HARLEY, *Gardener to* THOMAS CHAMBERLYNE, Esq., *Cranberry Park, near Winchester.*

"The Gardens, Cranberry Park, July 5, 1859.

"I am happy to be able to add my testimony to the high merits of the Shanks' 30-inch New Horse Lawn Mowing Machine which you sent me. I have put it to work in its trials on rough and uneven ground, which had only been once mown this year with a scythe. It surpassed all my expectations, as it likewise did my employer and other gentlemen who witnessed its working. When taken on the Lawn, where it had a better chance of showing its power, nothing could possibly excel it; after cutting, and the Grass being removed, the Lawn never before looked half so well as it did then. I am quite sure that I shall be able to pay the expense of the Machine this year in the labour saved from the use of the Scythe, and not only that, but it leaves the turf in such fine condition. My opinion is that no one should be without Shanks' Machine, as I believe it to be without exception the best I ever saw worked. *The self-acting apparatus delivering the Grass is the most complete thing invented in any Mowing Machine inventions.*"

*From* Mr. ALEXR. SHEARER, *Gardener to the* MARQUIS of TWEEDDALE, *Yester Garden, May* 13, 1859.

"The success of your improved Grass Cutting Machine which we got the other day—especially the delivering part—is a mechanical triumph. Having cut all our Grass with it, I must say that it acts far beyond my expectation, and it performs all you say in your prospectus. We can now go on the whole day without stopping, except to oil the parts that require it. The men are quite in love with it; a good proof of its utility."

*From* Mr. JAMES MACKIE, *Gardener to* His Grace the DUKE of ATHOLL, *The Gardens, Dunkeld, May* 18, 1859.

"After repeated trials with our Grass Cutting Machine, as now fitted up with your Delivering Apparatus, I have much pleasure in saying that I now consider your Machines complete. *We can now do as much work in six hours as we used to do in ten hours*, with the old plan of stopping to empty the Grass Box, *and with far greater ease both to man and horse.* His Grace is very well pleased with the working of the Apparatus, and the saving of time effected by it, that he has ordered the Machine from Blair Castle to be sent through to be fitted up in the same way as the one here."

☞ FULLY ILLUSTRATED AND DETAILED CIRCULARS ON APPLICATION.

**LONDON AGENTS**

**MESSRS. J. B. BROWN & CO., 18, CANNON STREET, CITY, LONDON, E.C.**

---

GLAZIERS' DIAMONDS FOR CUTTING HORTICULTURAL and other GLASS, to be had of the Wholesale Manufacturer, JOHN EDWARDS, 20, Sharp's Alley, West Smithfield, London, E.C. Prices from 10*s.* to 27*s.* 6*d.*

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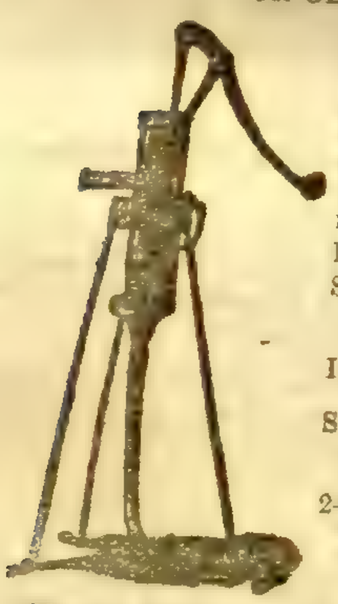
WARNER'S IMPROVED LIQUID MANURE OR GENERAL PORTABLE PUMP.



These Pumps are fitted with WARNER'S Patent Bucket and Valve, and cannot clog in action. The barrel is made of galvanised iron, not likely to corrode, and can be raised or lowered at pleasure on the stand, the legs of which fold together, and may be carried with ease by one man to tank or pond.

| | £ | *s.* | *d.* |
|---|---|---|---|
| Stand and Pump, with screwed tail pipe, fitted with strong brass union for suction pipe | 2 | 15 | 0 |
| If fitted with barrel of planished copper .. .. | 3 | 4 | 0 |
| Stand and Pump, with plain tail pipe, for tying on suction pipe .. .. .. | 2 | 9 | 0 |
| 2-inch patent rubber and canvas flexible suction pipe, on wires, either 10, 12, or 15 ft., per foot | 0 | 2 | 2 |

May be obtained of any Ironmonger or Plumber in town or country, at the above prices, or of the Patentees and Manufacturers, JOHN WARNER & SONS, 8, Crescent, Jewin St., London.

---

WARNER'S PATENT VIBRATING STANDARD PUMPS.

PATENT CAST-IRON PUMPS for Farms, Cottages, Stable Yards, &c., where the Well does not exceed 28 feet in depth; fitted with WARNER'S Patent Metal Bucket and Valve, which cannot clog in action. These Pumps can be made right-handed, left-handed, or with handle opposite the nose by removing four screws only.

| Diameter of Barrel. | Height. | | £. | *s.* | *d.* |
|---|---|---|---|---|---|
| 2½ in. short | 1 ft. 7 in. | Fitted for lead, gutta percha or cast iron flanged pipe as required. | 1 | 5 | 0 |
| 2½ ,, long | 3 ,, 3 ,, | | 1 | 10 | 0 |
| 3 ,, ditto | 3 ,, 6 ,, | | 2 | 4 | 0 |
| 3½ ,, ditto | 3 ,, 6 ,, | | 2 | 9 | 0 |
| 4 ,, ditto | 3 ,, 6 ,, | | 2 | 13 | 0 |

2½ ,, short, with 15 feet of Lead Pipe attached, ready for fixing .... 2 10 0

2½ in. long ditto ditto ditto 2 14 0

The short barrel Pump is very convenient for fixing in situations of limited height and space, for the supply of coppers and sinks in Wash-houses with soft water from underground tanks, or in Hot, Forcing, and Plant Houses; they may be fixed, when desired, under the stage.

May be obtained of any Ironmonger or Plumber in Town or country, at the above prices, or of the Patentees and Manufacturers, JOHN WARNER & SONS, 8, Crescent, Jewin Street, London.

Every description of Machinery for Raising Water by means of Wheels, Rams, Deep Well Pumps, &c.; also Fire and Garden Engines, &c. &c.—Engravings sent on application.

---

LOOMES' GARDEN EDGING —CABLE PATTERN.

| Price at Peterborough. | In London. |
|---|---|
| Straight .. .. .. 5*d.* | — 6*d.* per yard |
| Bends .. .. .. 6*d.* | — 7*d.* ,, |
| If fitted to plans .. 7*d.* | — 8*d.* ,, |

LOOMES & Co., Manufacturers, Whittlesea, near Peterborough.

---

BEE-HIVES.

PRIZE MEDAL AWARDED TO G. N. & SONS, FOR BEE-HIVES & HONEY, AT THE PARIS EXPOSITION OF 1855.

NEIGHBOUR'S IMPROVED COTTAGE BEE HIVE, as originally introduced by GEORGE NEIGHBOUR & SONS, with all the recent improvements, glasses, and thermometer, price 2 securely packed for the country.

This unique Hive has met with universal commendation, and may be worked with safety, humanity, and profit by the most timid; its arrangements are so perfect that the Honey may be taken at any time of the gathering season without at all injuring the Bees.

Early applications addressed GEORGE NEIGHBOUR & SONS, 127, High Holborn, or 149, Regent Street, London, will receive prompt attention.

Their newly arranged CATALOGUE of other improved Hives with Drawings and Prices, sent on receipt of two stamps.

AGENTS.—Liverpool: JAMES CUTHBERT, 12, Clayton Square. Manchester: W. WILSON, 50, King Street. Birmingham: J. H. COTTRELL, 15, Ball Ring. Dublin: J. EDMONDSON & Co., 61, Dame Street.

# NEW AND BEAUTIFUL PLANTS.

# MESSRS. VEITCH & SON,

OF THE

## ROYAL EXOTIC NURSERIES, EXETER AND CHELSEA,

HAVE much pleasure in offering for the first time the following Novelties, in the selection of which they have been guided solely by the determination of submitting only such Plants as are of general usefulness and sterling merit.

## PLANTS ARE NOW READY FOR DELIVERY.

### CHAMÆBATES FOLIOLOSA (Bentham).

This most beautiful hardy evergreen shrub, sent by Mr. W. Lobb from California, is of a dense compact habit, with most delicately divided Fern-like foliage, almost resembling the Cheilanthes elegans. The flowers, which are white, are produced in great abundance. It has been exhibited during the present season at the Crystal Palace and Royal Botanic Society's Exhibitions, at both of which it has received prizes as a new hardy evergreen. It will certainly prove a great acquisition amongst hardy evergreen shrubs. Good established plants in pots, 2 years old, 15*s.* and 21*s.* each, according to size.

### PENTSTEMON JAFFRAYANUM (Hooker).

This very handy half shrubby herbaceous plant was also sent from California by Mr. W. Lobb. It grows so compact and bushy and produces its beautiful flowers, which are a clear bright blue with pink throat, so abundantly and continuously, that it will doubtless prove a most valuable plant for bedding; even as a single bush in the open border it is exceedingly striking and attractive. It was exhibited at the Royal Botanic Society's Show on July 6, and was awarded the First Prize for new and rare plants. It is figured by Sir Wm Hooker in "Curtis's Botanical Magazine" for April, 1858. Strong established plants, 7*s.* 6*d.* each.

### POTHOS ARGYRÆA (Lindley).

This very striking variegated plant, which was found and sent us by Mr. Thomas Lobb, from Borneo, is QUITE A GEM, of remarkably neat and compact habit, and almost rivalling in beauty some of the Anœctochili. The leaves, which are obliquely ovate in shape, are of a rich green, blotched with silvery white, with an irregular band of the latter colour running along their central ribs. It has been shown at the various Metropolitan Exhibitions during the present season, at all of which it has received prizes, and been much admired. It is adapted either for pot or basket culture, and requires the temperature of a stove, where it prefers a shady position. Strong established plants, 10*s.* 6*d.*, 15*s.*, and 21*s.* each, according to size.

### PTERIS ARGYRÆA (Moore).

This is undoubtedly one of the greatest acquisitions to our now justly popular collections of Ferns. It is of noble aspect and free growth, perfectly distinct and novel in its character; the pinnæ on every frond, as well as their branches, having a broad central stripe of glistening silver, which in contrast with the bright green produces a most charming effect. It may justly be called the VARIEGATED FERN. It was exhibited at the Royal Botanic Gardens on July 6, and before the Horticultural Society's newly-appointed Floral Committee on July 7, and on both occasions received the highest prize given to such novelties, and was universally admired. Established plants, 31*s.* 6*d.* each.

### COTONEASTER BUXIFOLIA, of Wallich

(TRUE).

This perfectly hardy evergreen shrub is from the Neilgherry Hills, from whence it was sent us by Mr. Thomas Lobb. It was originally described and figured by Dr. Wight, in his "Icones Plantarum." It produces its white flowers most abundantly, is of a dwarf compact habit, and is an interesting pretty shrub. Strong plants, 5*s.* each.

### LYGODIUM POLYSTACHYUM (Wallich).

This beautiful Fern was sent us by Mr. Thomas Lobb from Central India. In general appearance and beauty of habit it much resembles some of the lovely Gleichenias. The fronds are branched, with a downy upper surface, and when cultivated to sufficient size, it will make a fine exhibition plant. Young plants, 31*s.* 6*d.* each; larger ditto, 42*s.* each.

### SELAGINELLA ATROVIRIDIS (Spring).

This is a fine species of dwarf habit, introduced from Borneo through Mr. Thomas Lobb. The branches of the repeatedly forked stems are broad and well defined, and have a most distinct and novel appearance. It is certainly one of the finest yet introduced of the dichotomous-branched section. Price 10*s.* 6*d.* each.

### SELAGINELLA LOBBI.

A most beautiful and distinct species, sent by Mr. Thomas Lobb from Borneo, partaking of the habit of S. inæqualifolia, but having the rich lustrous metallic hue of S. cæsia. It is remarkable for the Fern-like character of its branches, and no collection of these charming plants should be without this lovely addition. Price 15*s.* each.

### SPRAGUEA UMBELLATA.

This is a very distinct and pretty hardy annual, sent by Mr. Thomas Lobb from California. It is at this time in great beauty at the Exeter Nursery, raised from seed sown in the open ground last autumn, having stood without any protection through last winter. It is also well adapted for pot culture, the habit is very dwarf and spreading, resembling that of Calandrinia grandiflora. The flowers, which may be styled Amaranthine, are of a beautifully shaded pink, with purple stamens. Seeds of this plant will be supplied in the autumn, and in the mean time a few spring-raised plants, in small pots, can be had, at 2*s.* 6*d.* each.

*The usual allowance to the Trade, to whom special terms will be furnished when required in quantity.*

---

# CHOICE FLOWER SEEDS

## FOR AUTUMN SOWING.

# JAMES CARTER & CO., SEEDSMEN,

## 238, HIGH HOLBORN, LONDON, W.C.,

BEG leave to offer Seeds of the following, of *this year's harvesting*, saved from SEVERAL UNRIVALLED COLLECTIONS, and they can with confidence recommend them as being of first-rate quality, both for form, colour, and variety.

CALCEOLARIA, CINERARIA, PRIMULA SINENSIS FIMBRIATA, in three-sized packets, all of the same quality, 1*s.*, 2*s.* 6*d.*, and 5*s.* each.

J. C. & Co. have also selected from their general Catalogue of Seeds a few varieties of HARDY and HALF-HARDY PERENNIALS (including Seeds of Florists' Flowers of undoubted quality), also Seeds for sowing in the Greenhouse and Conservatory.

### HARDY AND HALF-HARDY PERENNIALS.

| Per packet.—*s. d.* | | Per packet.—*s. d.* | | Per packet.—*s. d.* | |
|---|---|---|---|---|---|
| Antirrhinum, extra choice, mixed | 0 6 | Œnothera macrocarpa | 0 6 | Stock, Imperial, 10 splendid varieties | 2 6 |
| Aquilegia, finest mixed | 0 6 | Œnothera taraxacifolia | 0 6 | Stock, Imperial, finest, mixed | 0 6 |
| Alyssum saxatile | 0 3 | Pentstemon Murrayanum | 1 0 | Stock, Brompton, 12 splendid varieties | 2 6 |
| Campanula, finest mixed | 0 6 | Phlox, 12 newest French varieties | 3 6 | Stock, Brompton, finest mixed | 0 6 |
| Delphinium formosum | 0 6 | Phlox, finest mixed | 1 0 | Stock, Intermediate, scarlet | 0 6 |
| Dianthus Veitchi | 1 0 | Potentilla atrosanguinea | 0 3 | Verbena, extra choice | 1 0 |
| Digitalis, extra fine, mixed | 0 6 | Potentilla pedata | 0 6 | Wallflower, 12 finest varieties | 2 6 |
| Gaillardia, finest mixed | 0 6 | Silene Schafta | 0 3 | Wallflower, finest mixed, double | 1 0 |
| Lupinus, finest mixed | 0 6 | Canterbury Bell, fine, mixed | 0 3 | Wallflower, single, blood | 0 3 |
| Œnothera Drummondi nana | 0 6 | Marvel of Peru, mixed | 0 3 | | |

### SEEDS OF FLORISTS' FLOWERS.

J. C. & Co. can particularly recommend the following, especially the CARNATIONS and PICOTEES; they are all saved from first-rate named flowers, and J. C. & Co. have no doubt will give the utmost satisfaction:—

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Carnations | 12 splendid vars. | 12*s.* | 0*d.* | Picotees, white ground, 6 varieties | | 3*s.* | 6*d.* |
| Do. | 12 | ,, | 6 | 0 | Do., yellow ground, 12 | ,, | 7 | 0 |
| Do. | 6 | ,, | 3 | 6 | Do. do. 6 | ,, | 4 | 0 |
| Do. Yellow | 12 | ,, | 7 | 6 | Do., perpetual 12 | ,, | 6 | 6 |
| Do. do. | 6 | ,, | 4 | 0 | Do. do. 6 | ,, | 3 | 6 |
| Do. Perpetual, 12 | | ,, | 6 | 6 | Carnation, choicest mixed, p. pckt. | | 2 | 6 |
| Do. do. | 6 | ,, | 3 | 6 | Do. perpetual | ,, | 2 | 6 |
| Picotees, white ground, 12 vars. | | | 6 | 0 | Picotee, choicest mixed | ,, | 2 | 6 |

| Per packet.—*s. d.* | | | |
|---|---|---|---|
| Geranium, finest varieties | 1 | 0 | |
| Do. new French varieties | 1 | 0 | |
| Heartsease, finest mixed | 1 | 0 | |
| Hollyhock, 12 show varieties | 5 | 0 | |
| Do. 8 ,, | 2 | 6 | |
| Do. finest mixed | 1 | 0 | |
| Polyanthus, extra fine | 1 | 0 | |

### GREENHOUSE SEEDS.

| Per packet.—*s. d.* | | Per packet.—*s. d.* | | Per packet.—*s. d.* | |
|---|---|---|---|---|---|
| Acacia longifolia | 0 6 | Linum grandiflorum kermesinum | 0 6 | Phlox Drummondi, finest mixed | 0 6 |
| Canna, choice mixed | 1 0 | Lisianthus Russellianus | 1 0 | Pleroma elegans | 1 0 |
| Chorozema, finest mixed | 1 0 | Lobelia formosa | 0 6 | Salvia patens | 1 0 |
| Cheilanthes [illegible] | 0 6 | Lophospermum, finest mixed | 0 6 | Schizanthus retusus, two varieties | 0 6 |
| Cobæa scandens | 0 6 | Maurandya, finest mixed | 0 6 | Swainsonia, finest mixed | 0 6 |
| Erica, finest mixed | 2 6 | Mimulus, finest mixed | 0 6 | Thunbergia, fine mixed | 0 6 |
| Fuchsia, finest mixed | 1 0 | Nierembergia gracilis | 1 0 | Tropæolum Lobbianum, mixed | 1 0 |
| Gloxinia, choice mixed | 1 0 | Passiflora cinnabarina | 1 0 | Tropæolum speciosum | 1 0 |
| Hoya [illegible] | 0 6 | Petunia, finest mixed | 0 6 | Verbena, choicest mixed | 1 0 |
| Ipomœa Murvattæ | 0 6 | | | | |

**JAMES CARTER & CO., Seedsmen, 238, High Holborn, W.C.**

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MESSRS. PARKER AND WILLIAMS beg to inform their friends and patrons that their PRICED and DESCRIPTIVE CATALOGUE of Exotic Orchids, Stove, Greenhouse, and Hardy Ferns, Miscellaneous Stove, Greenhouse, and Hardy Plants, Variegated and Ornamental Foliaged Plants, Conifers, Roses, Rhododendrons, Indian Azaleas, Gloxinias, Fuchsias, Cactuses, &c., is now published, and will be forwarded post free on application.—Paradise Nursery, Seven Sisters' and Hornsey Roads, Holloway, London, N.

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### CHOICE SEEDS.

MESSRS. PARKER AND WILLIAMS beg to inform their friends and patrons that they can now supply the following choice SEEDS, all of which are warranted genuine and of the finest quality.

| Per packet—*s. d.* | | Per packet—*s. d.* | |
|---|---|---|---|
| Calceolaria, herbaceous | 2 6 | Gaillardia grandiflora | 0 6 |
| Cineraria, from named vars. | 2 6 | Primula sinensis, mixed | 1 6 |
| Clianthus Dampieri | 2 6 | Pansy, from named vars | 1 0 |
| Hollyhock, from named vars. | 0 6 | Sweet William, from extra fine vars. | 0 6 |

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FIRST PRIZE CALCEOLARIA, CINERARIA, AND PRIMULA.

"Shanakiel House, Cork, June, 1859.

"GENTLEMEN,—The Calceolaria Seed you sent me turned out so remarkably well, my gardener got First Prize for the plants at our recent Flower Show. You will please send me another half-crown packet, for which I enclose postage stamps.

"Messrs. Jackson & Son. "FRANCIS R LEAHY."

Seed of the same excellence is now being supplied by post or otherwise. CALCEOLARIA, 1*s.*, 1*s.* 6*d.*, and 2*s.* 6*d.*; CINERARIA, 6*d.*, 1*s.*, and 2*s.*; and PRIMULA, 1*s.*, 1*s.* 6*d.*, and 2*s.* 6*d.* per packet.

T. JACKSON & SON, Nurserymen and Seedsmen, Kingston, S.W.

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### ORCHIDS.

THOMAS JACKSON AND SON having determined upon reducing their extensive collection of Orchids, have resolved to offer them at extremely low prices; for instance, they now offer 12 good plants, selected from the under-named (purchaser's selection), for 2*l.* 10*s.*, or the 20 for 4*l.*, package included:—Aerides odoratum majus, A. roseum, Barkeria spectabilis, Brassavola glauca, Calanthe vestita, Cattleya Mossiæ, Cœlogyne flaccida, Dendrobium aggregatum, D. chrysanthum, D. densiflorum, D. nobile, Epidendrum primulinum, Lycaste aromatica, Miltonia spectabilis, Odontoglossum grande, O. pulchellum, Oncidium leucochilum, O. papilio, Stanhopea oculata, S. tigrina, and the new and rare sorts at equally reduced prices. Post office Orders to be made payable at Kingston-on-Thames, Kingston, S.W.

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GEORGE WHEELER, Warminster Nursery, can supply the following, post free:—

CALCEOLARIA SEED of the finest strain in 1*s.* 6*d.* and 2*s.* 6*d.* packets.

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WHEELER'S genuine IMPERIAL CABBAGE, in 6*d.* or 1*s.* packets, or by the lb.

HOLLYHOCK SEEDS from fine named kinds, in 1*s.* and 2*s.* 6*d.* packets.

DELPHINIUM FORMOSUM, 6*d.* and 1*s.* per packet.
,, Chinese, fine vars., 6*d.* and 1*s.* per packet.
,, cœrulescens, 6*d.* and 1*s.* per packet.
,, fine mixed, 6*d.* and 1*s.* per packet.

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ROYAL SOUTH HANTS SEED ESTABLISHMENT,

UNDER THE PATRONAGE OF H.R.H. THE PRINCE CONSORT, THE AGRICULTURAL AND HORTICULTURAL SOCIETY OF INDIA, AND THE LEADING AGRICULTURISTS OF THE UNITED KINGDOM.

NEW TURNIP SEEDS, 6*d.* per lb.
Carriage free, parcels under 20 lbs. excepted.

PAGE AND TOOGOOD have harvested a fine stock of HARDY GREEN ROUND TURNIP, which is ready for immediate delivery. They have yet a few of their
IMPROVED SKIRVING'S SWEDES at 6*d.* per lb.
PAGE'S IMPROVED PURPLE-TOP do. at 8*d.* do.
JEFFERY'S OR SUSSEX do. at 9*d.* do.
SCOTCH HYBRIDS, 7*d.* per lb.
YELLOW TANKARD, 7*d.* do.
POMERANIAN WHITE GLOBE, 6*d.* per lb. and also
PAGE'S IMPROVED RED GLOBE, 8*d.* per lb., which W. Baker, Esq., Purewell, says is preferred by his beasts and sheep to any he has grown; it is quite hardy, and less injured by Fly than other sorts.—PAGE & TOOGOOD, Seed Growers, 37, and 38, Oxford Street, and 58, Above Bar, Southampton.

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# The Gardeners' Chronicle.

*SATURDAY, JULY 16, 1859.*

A VERY curious and destructive disease has lately appeared amongst Peaches and Nectarines, which deserves a short notice. It occurred in a house where Vines are attached to the rafters, Strawberries are cultivated on shelves, and Peach and Nectarine trees are attached to trellises at the back of the house and immediately under the Vines. The house is old. The Vines have never been particularly healthy, as they were planted far too deep on the outside; the Peach and Nectarine trees on the contrary are planted inside, and for the last 30 years have succeeded pretty well, with occasional traces of mildew, but have never before exhibited the curious appearance which is now prevalent.

Nearly a month since we observed on

the Peaches little dark specks with a bleached centre. We pointed this out at the time to the gardener as unusual and likely to spoil the beauty of his fruit. Two days ago he called our attention to its present condition. The specks were prevalent on the Nectarines as well as on the Peaches, and on either fruit many of them had become more developed. From the clearness of the skin and the absence of pubescence, the progress was more evident in the Nectarine, though there was no essential difference on the Peach. It is of the disease then as developed upon the Nectarine more especially that we are speaking.

In this case it exhibited a very striking and pretty appearance. The white spot, and the dark ring round it were most beautifully defined, seated in the centre of a regular circular depression, the borders of which were pale, but not completely bleached like the centre. The whole surface of the depression was studded with little salmon-coloured warts, disposed more or less in circles, from the centre of some of which, but especially of those in the bleached cuticle, a little curled tendril of salmon-coloured spores issued, giving a very pretty appearance even to the naked eye. The spores under the microscope were oblong, and about $\frac{1}{1500}$ inch long with their contents retracted to either end. On taking off a thin slice, the portion of the succulent tissue of the fruit immediately beneath the bleached cuticle was white, and the discolouration was traceable down to the stone. On examination under the microscope the whole was found to be threaded with abundant fungus-spawn of very different degrees of fineness.

Such were the appearances in small but perfect individuals. After a time, however, the several spots run together, and form a depression an inch or more across, still teeming with the red spores, but void of every trace of former beauty. The spawn in this case had spread in every direction, and had induced thorough decomposition.

As the growth of this fungus is internal, beneath the skin, it is very evident that no external remedy is likely to be of service, nor indeed can we suggest any palliative. We should however be glad to know whether the disease has appeared elsewhere, and whether it exists in houses where there are no Vines, or in orchard houses. The black and white centre, and the salmon-coloured pustules are so characterised, that it is not difficult to recognise the precise malady.

The fungus is quite new to science, and may be characterised *Glæosporium læticolor*—maculis depressis centro candidis nigro-annulatis, pustulis circinantibus, cirrhis pallide coccineis; sporis oblongis endochromate utrinque retracto.

*l* A plant of the same genus, destructive to Apples, is figured and described in this Journal, 1856, p. 245. We may also refer to the very similar production on Grapes, 1854, p. 676. *M. J. B.*

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OUR readers will doubtless wish to know something concerning the state of the weather near London during the present week. We have, therefore, to report that the temperature has been as follows:—In the shade over Grass on the 12th, 93°; and on the same day in the sun at the foot of a south wall, 135°. On the following day it was 91° in the shade over Grass; and against a south wall near the bottom, 125°. As to rain there has been none during the week, and the arrear is now about 12¾ inches, being 1.21 inch less than it was at the beginning of April. The arrear was at that time 13¾ in. (see p. 287), and the quantity fallen since, as compared with the average, stands thus:

| | April. | May. | June. | Half July. |
|---|---|---|---|---|
| | inches. | inches. | inches. | inches. |
| 1859. | 2.01 | 1.80 | 3.10 | 0.80 |
| Average of 33 years .. .. | 1.58 | 1.90 | 1.81 | 1.21 |
| Difference .. .. .. | +0.43 | —0.10 | +1.29 | —0.41 |

From the above it appears that the average has been exceeded in April and June to the amount of 1.72 inch; whilst in May and the half of July the deficiency amounts to 0.51 inch, so that on the whole the gain in moisture since April is about 1¼ inch. The underground water level near London was at its lowest in January. In an old well the water was then 9 feet 1 inch below the surface, and it is now 8 feet 7¼ inches; it has therefore risen 5¾ inches.

The temperature of the ground at one foot deep is at present 68°, and at 2 feet 65½°, which represents a pretty good bottom heat. The average temperature for these depths in July is respectively 62.85 and 61.71. The difference in excess this year is therefore very extraordinary indeed.

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IN our last Number there appeared an inquiry from Dublin as to the cause of the BAD STATE OF WATER supplied to that city through the public water-pipes. The writer ascribed the mischief to the action of a "Spongiola," a term which signifies the young living point of the fibre of a root. Our sagacious correspondent Dr. SEEMANN having suspected that the word Spongiola should have been written Spongilla, and that the evil complained of was due to the action of some SPONGILLA, or fresh-water Sponge, consulted Mr. BOWERBANK, who has been for many years occupied with the study of the interesting group of Zoophytes, among which Spongilla is placed. In reply he received the following reply, with permission to make it public:—

"My Dear Sir,—In the short account which you read to me from the *Gardeners' Chronicle* of the occurrence of 'Spongiola' in the water pipes of Dublin, I think the writer must have meant Spongilla, probably S. fluviatilis; and if this be the case I fear the company have incurred a serious nuisance, as there is no living creature that I know which so seriously deteriorates water in which it either lives or dies, and in the latter case it renders it peculiarly fetid. Some years since my late friend Prof. BAILEY, of New York, wrote me word that the water-pipes of Boston, U.S., were sadly infested by the growth of a Spongilla within them, and that the water supplied to the city was frequently rendered very fetid in consequence. I have since received specimens of this Spongilla through the kindness of Dr. ASA GRAY, and I find it to be a new and undescribed species. What remedy the Bostonians may have adopted I do not know, but it strikes me that there is no other way of preventing the evil than that of passing the whole of the water supplied through a fine sand filter before it enters the pipes, and it is then probable, as Spongilla fluviatilis appears to be an annual production, and there is no reflux of water in the pipes, it may be entirely expelled in the course of a few years. The gemmules of Spongilla are exceedingly tenacious of life, and very shortly after their liberation from the parent they attach themselves firmly to other bodies, and are rapidly and extensively developed in the spring of the following year, and if no measures be taken to remedy the evil, it is to be feared that beside the deterioration of the water the water ways themselves will be very considerably diminished by the accumulation of Spongilla within them. If a small dried specimen, containing either some of the gemmules or a portion of the dermal membrane were sent to me by post, I should have much pleasure in determining the species that has caused this nuisance.—I remain, my dear Sir, yours most truly, W. BOWERBANK."

"3, Highbury Grove."

Let us hope that our Dublin correspondent has been misinformed as to the London water mains having been attacked by this mischievous creature. Possibly caustic lime water driven through the pipes may destroy the Spongilla now within them, and at the same time expel its remains.

We may add for the information of those unacquainted with the subject that Spongillæ or fresh-water Sponges are animal productions standing so closely on the border of the vegetable kingdom that naturalists are not absolutely agreed as to their real nature; although it appears to the majority that they really are of the nature of zoophytes. It is however curious to observe that Spongilla is influenced by light in the same manner as plants, and that it owes its green colour to that agent.

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## New Plants.

### 219. CEANOTHUS VEITCHIANUS, *Hooker*.

"For this magnificent acquisition to our hardy shrubs we are indebted to Messrs. Veitch & Sons, of the Exeter and Chelsea Nurseries, who introduced it from California through Mr. William Lobb. Though closely allied to and in many respects so similar to *Ceanothus floribundus* (Tab. 4806), *C. Lobbianus* (Tab. 4811), and *C. papillosus* (Tab. 4815), it is abundantly distinguished from them by the character of its foliage; and, beautiful as they are, it far surpasses them all in the abundance of its bright mazarine-blue flowers, and the glossy, almost varnished surface of its deep evergreen foliage. The specimen sent us by Mr. Veitch was fully 3 feet long, and the profusion of flowers was so great that the leaves were almost concealed throughout the whole length of every twig. To distinguish it accurately, attention must be paid to the perfectly glabrous branchlets, upper surface of the leaf, petiole, pedicel, and calyx, to the glossiness of that surface, to the venation beneath, which consists, besides the midrib, of about four, very stout, straight, parallel nerves, given off at an acute angle to the midrib on each side; as also to the pubescence of the minute areoles between the venules, which under the microscope is found to consist of minute, converging fimbriæ or short hairs. It does not exist in our herbaria from any North-American or European collectors."—*Botanical Magazine, t.* 5127.

This is indeed a beautiful shrub.

### A NEW MUSCARI ON MOUNT IDA.

IN April 1856 a party was formed among the officers stationed at the British Hospital of Renkioi, on the Dardanelles, for the ascent of Mount Ida, about 40 miles distant, in a south-easterly direction. At first our route was over a rough country, through the villages of Renkeny and Doumenek, as far as the old Roman aqueduct, crossing a ravine in the metamorphic rocks. This had been constructed to supply Novum Ilium with water. Many of the old clay pipes are now used as chimneys to the native hovels. The stream which flows through this ravine is named the Kemarson, and joins the River Mendere, but in the heat of summer it is lost in the sand about a quarter of a mile from its junction. Thus far the ground had been covered with brushwood of Pistacia Terebinthus, Storax, Pinus Halepensis, and dwarf Oaks of several species. A few clumps of handsome Valonia Oaks, Q. Ægilops, and Q. Cerris were seen towards the plain of Troy. In the valleys the Oriental Plane, the Poplar, and prickly Paliurus bush grew luxuriantly, festooned with Clematis cirrhosa and Vitalba, Periploca græca, Cynanchum, and wild Vine. The ground was covered with several species of Anemone, Iris, and Crocus. After having crossed the Kemav, we soon entered a Pine forest covering the high grounds as far as the plain of Beyramitsh. Next morning we followed the Mendere through a rich well-watered valley. By the road sides the Hop and Lint grew wild. Anemone appenina and Scilla bifolia were picked; they had been transported from a higher region by the waters. Between this and the foot of Ida the country was rough and barren, intersected by ravines, through which the Scammander found its way to the plains. At the village of Avjylar we had some difficulty in obtaining lodging. Early the following morning we began to ascend on foot. Proceeding in an oblique direction for some time we came to one of the sources of the Scammander, where it gushes by many powerful springs from the schist rocks. In this neighbourhood we found Saxifrages, Geraniums, Dentaria bulbifera, Ruscus Hypóglossum, and Pæonia decora among the fine timber of Pinus Pinaster which covered this region. There, too, a Muscari was picked in considerable abundance, which seems to be a new species, and which we have named, from its remarkably broad leaves, M. latifolium. It now appeared that our guides had deceived us, and taken us off the proper road, and from this point it seemed almost impossible to ascend. But, being determined to reach the top, we set off, leaving them to follow if they chose. Near the summit the forest opened out and left nothing but bare rock; we picked Crocus garganicus, Corydalis tuberosa and digitata, Viola gracilis, Scilla bifolia, Ornithogalum nanum and fimbriatum. The scanty soil had been turned up by the wild pigs in search of bulbous roots. The ascent had occupied from 7 in the morning till 3 P.M. On our return we followed a much easier path, and here we found Saxifraga sancta growing in wet boggy spots. This species had been previously discovered by Griesbach on Mount Athos. The sun had set by the time we reached the village of Avjylar, and, having enjoyed a night's rest, we set off on our return to the Hospital, where we arrived on the fifth day from our departure. Dr Kirk briefly indicated, in the following terms, the characters of the new Muscari:—Muscari latifolium; scape erect, about 12 inches in height, rising from a globose bulb, and bearing near its base a large sheathing, broadly lanceolate, rather obtuse, solitary leaf; flowers numerous, forming a raceme about two inches in length, the lower ones shortly pedicellate, the upper ones barren, sessile; perianth tubular (blue) in the fertile flowers inflated below. *Dr. Kirk in Proceedings of the Royal Society, Edinburgh.*

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## Home Correspondence.

*Luminosity in Plants.*—I see a notice in your last Number of "luminous appearances seen among living plants." The following is a copy of some observations made by me last year on the subject. "June 10, 1858. We witnessed this evening a little before 9 o'clock a very curious phenomenon. There are three scarlet Verbenas, each about 9 inches high and about a foot apart, planted in the border in front of the greenhouse. As I was standing a few yards from them and looking at them, my attention was arrested by faint flashes of light passing backwards and forwards from one plant to the other. I immediately called my gardener and several members of my family, who all witnessed the extraordinary sight, which lasted for about a quarter of an hour, gradually becoming fainter till at last it ceased altogether. There was a smoky appearance after each flash which we all particularly remarked. The ground under the plants was very dry, the air was sultry and seemed charged with electricity. The flashes had the exact appearance of summer lightning in miniature." This was the first time I had seen anything of the kind, and having never heard of such appearances I could hardly believe my eyes. Afterwards, however, when the day had been hot and the ground was dry, the same phenomenon was constantly observed at about sunset—and equally on the Scarlet Geraniums and Verbenas. This year (1859) it has again been seen. On Sunday evening last, July 10, my children came running in to say that the "lightning" was again playing on the flowers. We all saw it, and yesterday evening, July 11, I thought the flashes of light brighter than I had ever seen them before. The weather here is very sultry. *E. D. K., Nottage Court, near Bridgend, Glamorgan.*

*Covering for Vine Borders.*—The question of your

correspondent "G. A." as to the proper covering for Vine borders, "zinc sheeting or boards," induces me as an amateur Grape grower to offer some remarks upon the horticultural precept everlastingly inculcated,—"keep your Vine borders dry." This precept is issued without any qualification, and is so accepted by all who establish a Vinery; and, in very many instances, to their utter failure and disappointment. Four years ago I built a lean-to Vinery, heated by flues, and planted it with Muscats and Frontignans. The border was made after the plan of the late Mr. Crawshay; and I commenced my operations in a decided state of hydrophobia. I was much disappointed with the poor progress my Vines made the first year, and some gardeners who looked at them said they had not water enough. I cut them down, and the second year I watered them once a week; still they looked unhealthy, and by Midsummer I was devoured by red spider. In the autumn I cut the Vines down half way, and washed the house well with sulphur. The Vines being planted inside, and running outwards, in the following spring I watered the inside border three times a week, and the outside copiously twice a week. The result was freedom from spider, healthy foliage, and a fair crop of good Grapes. I was now cured of hydrophobia; and I am led to the conclusion that there can be no general rule as to keeping Vine borders dry, but it must in every case vary according to the nature of the soil. The Vine, as much as any plant, requires moisture; and instead of saying "Keep your borders dry," it should rather be "Let your border be well drained;" prevent water from stagnating and lodging about the roots of the Vine, whereby they canker or rot, and so produce shanking and all other evils; and if so, you need not be afraid of water. I stand upon 3 feet of reddish loam, followed by 9 feet of gravel; no water can therefore lodge about the roots of my Vines; and if good fruit be expected they must be well watered and manured. Having experimentally come to this conclusion, and observing that the roots of the Vine are in operation during winter when beyond the reach of frost, in February last I procured a quantity of strong manure consisting of good sewerage, pig and cowdung; and adding some short litter to make it hold together, I covered my borders inside and out 18 inches thick. The winter being mild I watered the borders copiously once a week, thus sending the liquid manure to the very bottom of the roots. I commenced fires on the 1st of April, and when the Vines had pushed 4 inches I watered the borders three times a week. The result is that I have as fine a crop as was ever seen; and I doubt if 10 shanked berries could be found. Such a mode of treatment will not do for one who has a subsoil of clay; but if he have secured good artificial drainage, and the eaves of his house be properly troughed, he need not be afraid of rain-water. In such a case I contend that a covering of leaves, Fern, or litter, as a protection against frost, is all that is required. *G. L.*

*Picea nobilis.*—In your Paper of July 9, "F. H. S." wishes to be informed whether or not this fine Conifer has ripened seeds in this country. We have a tree here that has produced cones for these last five years, but until last season the seeds were but imperfectly ripened. I have by me now a fine healthy stock amounting to many hundred plants, the produce of last year's cones. I sowed them this spring in sandy loam, and many of them have already made their second growth. *G. Archer, Finedon Hall, Northamptonshire.*

*Gishurst Compound.*—On the 21st of June I found a quarter of Morello Cherry trees, upwards of 1000 in number, suddenly attacked with the (well known to gardeners) black aphis. I immediately had some of the Gishurst Compound dissolved in soft water (2 oz. to the gallon) and the ends of the flexible young shoots dipped into it, being gently rubbed with the fingers while in the liquid. The shoots that were too rigid to bend were painted with the liquid, using a medium-sized painter's brush and brushing upwards. The day following I found nearly all my black friends dead and dry; a few, however, were alive, and as from experience with tobacco-water I knew that they would in the course of a week bring forth a progeny quite equal to those defunct, I gave orders for a second dipping at the proper time. On the 28th, feeling more than usual interest in my Cherry trees, I looked over those that had been dipped on the 21st, and could not find a single aphis left. Those that escaped the dipping on the 21st had languished two or three days and then died; the young shoots imbued with the Compound seemed fatal to aphis life. Some young Plum trees covered with the blue aphis peculiar to the Plum, and in my opinion the hardiest and most difficult to kill of all the race, were operated upon in the same way as the Cherry trees—not a single aphis has survived. Some shoots of Rose trees covered with Rose aphides (the shoots were young and full of sap, and I never remember to have seen a more fat and thriving batch, winged and unwinged, of these—apart from Rose culture—really interesting creatures) were dipped into the liquid used for the Cherries about 8 P.M.; they did not appear to suffer any inconvenience the first half hour, but remained on the shoots plump and quiet as usual. The next morning every aphis was dead, and most of them were brown and dry instead of being green and plump as when living the evening before. The shoots have not been syringed with pure water to wash off the dead aphides as is usual, but not one has made its appearance since. The young shoots before so tempting seem now to give out death. There are three modes of using the liquid compound: by dipping and the brush as described above, and with the syringe, which is the only way it can be used when applied to wall trees, to trees in pots in the orchard house, or to trees trained on trellises. When so applied one operation will not kill all the aphides, for in one of my houses full of Peach trees three applications were necessary before the swarm of them on every tree was destroyed. For the oidium or any other kind of mildew on Vines the Gishurst Compound is a perfect remedy. Early in June some Vines growing on a sandy slope and trained to stakes as usual in the Vineyards of the Continent, and which for many years have borne good crops of Grapes, with which wine has been made, became covered with the oidium. They were syringed once with the Compound, 4 oz. to the gallon; the remedy seemed severe, as some of the shoots appeared to be killed. They have now entirely recovered, and are full of fruit. I should recommend only 3 oz. to the gallon in preference to 4, and if one syringing did not kill the oidium to apply it twice. The Vines in question, some six or eight in a long row, were almost destroyed by the oidium last year, and sulphur failed to arrest its progress, although applied abundantly. The cheapness and efficacy of the Compound make it almost invalable. I have never yet found any remedy for the "ills" of gardening so cheap and so easily applied. *T. Rivers, Sawbridgeworth.*

*Dipladenias.*—I shall feel indebted to any of your correspondents, or to any one who grows Dipladenias successfully, for a few working hints. For two seasons or more mine after sending up some half dozen healthy shoots begin to look sickly, the foliage crimpling and turning yellow, spotted, and then falls off on the slightest touch, and they are now leafless except at the tips, which are beginning to die off. I wish to know the proper soil, the degree of moisture, and the temperature and atmosphere most congenial to their growth, crassinoda and Houtteana especially. And why is it that my Nepenthes ampullacea grows spindly without a single pitcher, and the Sarracenias the same? And is it right to grow the Anæctochilus without a bell glass? or the Dionæa and smaller Australian Pitcher-plants? *An Amateur.*

*Rhododendron Soil.*—I am about to lay in a quantity of soil for Rhododendrons, and have close at hand a peat bog that I should consider most excellent for the purpose, but it is completely saturated with iron. I may be wrong; but I have always understood that iron in a soil was held to be highly objectionable. Observation, however, has led me to believe to the contrary in the case of Rhododendrons. I have seen the silky roots penetrate and cling tenaciously to lumps of clay in which iron existed abundantly, seemingly in preference to the rest of the soil which is a soapy bog, devoid of sand. *Thos. Cannon, Hazelbeach Hall, Northampton, July* 8. [Bog earth is not injurious because of its iron but on account of the large quantity of gallic acid in its composition. The best soil is sandy peat from an upland common.]

*Farfugium grande.*—This beautiful foliaged Chinese plant, which during the last two years has attracted so much attention, may now be found in all gardens of any importance as well as on the stages of exhibitions. As a decorative plant for the greenhouse all the year round it cannot be surpassed, and more especially during winter, when it takes a prominent position, its bright green shining foliage blotched with beautiful yellow having an excellent effect. It thus furnishes an admirable substitute for flowers, which are generally scarce during the dreary months. When mixed with flowering plants in the open ground it produces an excellent contrast, and forms a feature new in flower gardening. As an edging its effect is most striking, and in a bed to contrast with Scarlet Geraniums it is extremely attractive. When, however, large plants become abundant, as they soon will, it will form a first-rate vase plant, and placed on balustrades, associated with Scarlet Geraniums, it will produce a charming effect highly agreeable to the eye of taste. On mounds of rock-work it thrives well, and relieves the general aspect of this kind of gardening; and it strikes me this is a natural position for it. There is one other and most important place which it must fill, and which also will induce its extensive patronage, and that is as a house plant either for halls, vestibules, corridors, windows, drawing-rooms, &c. It will stand the confinement of a close room with impunity. In the beginning of last October two plants were placed in a basket with some others in a warm room where the temperature varied from 55° to 65°. A considerable fire was maintained for five months during the winter, and although the plants are still there they present a degree of vigour undeteriorated by eight months' incarceration. This Farfugium will also obviate any objection which may be made to highly odoriferous plants, and secure it a place in every mansion and every cottager's window. *R. G.*

*Strawberries.*—I saw in an old monthly magazine that burnt seaweed is the best of manure for Strawberries. May I know what time of the year is the best to apply it? *J. B. H.* [We should say in the spring just before the Strawberry plants are beginning to grow.]

*Remains of Vegetation, and Human Bones.*—I send you some vegetable matter found adhering to a skull-bone dug up in Suffield Churchyard. The body had been buried very many years, as the bones were in an advanced stage of decay, and there was no remnant of the coffin. It is supposed to be the stuffing of a pillow used to keep the head steady. *C.* [The remains submitted to us consist of twigs of the Tree Box with leaves attached to them, and roots of some kind of herbaceous plant. The first were, we presume, employed about the corpse; the second may be supposed to have penetrated the coffin at a subsequent period.]

*The May Queen Strawberry.*—It was not my intention to become the champion of this Strawberry or to raise a controversy respecting it, but since two gentlemen of acknowledged experience have given their opinions of its merits, which differ considerably with my own, I feel constrained to make a few further remarks—and first I should have thought at any rate that the extended observation of such men as Mr. Rivers and Mr. Turner would have led them to have made further trials of the variety in question before hastening to conclusions, possibly to the detriment of the raiser. My small experience tells me that it frequently requires two or three seasons to develop the properties of a particular variety of Strawberry. When I first received Cuthill's Prince of Wales, for instance, the plant would scarcely grow with me, and there were not more than two or three berries on a plant, which were extremely sour, and had no good quality whatever. I persevered however, and in two or three years I had the finest crop of handsomely shaped fruit imaginable. I plant annually in well trenched, well manured ground, giving the plants plenty of room, and I have now little or no trouble with it, and the quality is such that although it is our staple preserving sort it is not discarded altogether from the dessert. Again, the first season I cultivated Mr. Rivers's seedling Eliza, I was so much disappointed with it that had I not seen the variety and tasted the fruit on Mr. R.'s own ground at Sawbridgeworth, I should most decidedly have dug it up. The second year was little better, both as regards the first and second year's plants; but ever since I have had no difficulty whatever. I have always an abundance of fine, well flavoured fruit through three-fourths of the season, and by early planting and taking the runners from marked plants (that is, from plants of the best habit and producing the finest fruit) I have an improved and improving stock, and my first year's plants are now equal in every respect to those formerly kept two years. I could adduce numerous similar instances which would only tend to show that no grower, be who he may, should pronounce definitely upon any given variety till he has given it a fair trial under different circumstances of soil and season. I have not the pleasure of a personal acquaintance with Mr. Nicholson, but I can readily imagine he would feel rather hurt at so precipitate a disposal of his efforts to prolong the Strawberry season. I think I may safely say, however, from my dealings with him, that he is not a likely man knowingly to send out a wrong sort. The May Queen I find, by a report in the "Cottage Gardener" of June 28, was exhibited by Mr. Turner at the Pomological Society on the 23d of June, and either a very indifferent specimen of the fruit must have been produced, or I must set the same value on the criticism I do with regard to some others in that report. The Filbert Pine or Myatt's Seedling (for it smacks rather of the British Queen breed), amongst all its acknowledged good properties, correctly stated, is there said to be a firm and solid fruit. Now, every one who grows this variety must have found that if it has any drawback it is that the fruit is soft and tender—an excellent variety, nevertheless, and with a flavour peculiarly its own. Sir C. Napier is reported to be cockscomb shaped, deeply furrowed, and briskly but not richly flavoured. I think Mr. Smith, the raiser of it, will bear me out when I say that there are few sorts less furrowed or less liable to the cockscomb form than this. There is perhaps no Strawberry that presents a more even, uniform surface, which with its beautiful bright scarlet colour, and I should say rich piquant flavour, render this Strawberry so unique a variety. No one I should imagine expects a first early sort like the May Queen to possess the attributes of Sir Charles Napier, or Carolina superba. I have watched the proceedings of the Pomological closely and with great pleasure, and have generally found its reports and its published Transactions to be correct as far as I can judge, and very interesting; but if the May Queen is pronounced at once (and without waiting for a further trial as in the case of other kinds) a small coarse variety, utterly destitute of flavour, either the Society must have been in error on this occasion, or fruit must have been shown which was grown under unfavourable circumstances as to soil or situation or both. As to its admissibility among a select stock, I apprehend that no one would think of growing any early variety on a large scale whether he had five or 50 sorts; but in a favourable season, and at a time when there are no other Strawberries (and we are not all blessed with hothouses), there will be few who will be found to refuse the produce of a score May Queens. In consequence of the check which my plants received from the spring frosts, as stated in my former hurried communication, they are now in full blossom again, and I have no doubt I shall have a tolerable crop in the autumn. There is at the same time a little ripe fruit remaining, as large as those remaining on my Keens' Seedling plants, and quite as good in flavour. Since penning the above I have received a letter from Mr. Nicholson, which I have his permission to publish. He says, "I was very much hurt on opening the *Gardeners' Chronicle* this morning to find a letter from Mr. Rivers condemning the May Queen after so short and unfair a trial. I wonder that he of all men should not have known better than to plant a first early Strawberry on a strong and tenacious soil, when every one knows that the reverse is required for such a purpose. Besides

he makes no allowance for young plants and the season, neither does he know that it is better a great deal after standing two or three years. The enclosed sketch is taken from a plant two years old. I only wish Mr. Rivers and others could have seen the fruit I have had and some I have remaining. I have had trusses with from 12 to 16 and 18 fine fruit all ripe together, and the ground half covered with them, which for flavour I think ought to satisfy every unprejudiced person. Mr. R. and Mr. T. seem to expect a first early to be as large as the late sorts. Indeed Mr. Turner, in a letter I have received from him, says Sir Charles Napier is worth a thousand of it (the May Queen). Let me say, sir, that you have taken the right course with it, and what you have said is quite correct every word of it, and if you continue to grow it on the same ground next year, you will have more to say in its favour. I may add that the plants sent to Mr. Rivers and every one else were all true, and always shall be so long as I grow a Strawberry." *W. Roden, Kidderminster.*

*Strauberry Runners.*—Would any of your correspondents who have successful experience in Strawberry cultivation be kind enough to point out the conditions for ensuring fruitful plants in laying down runners? Out of a number of plants laid down at the same time and under similar circumstances, some will show fruit the first season, and others none, and some will not produce even the second. What is the cause of this difference? It does not seem to depend altogether on the condition of the parent plant as to fruitfulness; for I have been careful to select runners from fruitful plants only, without being able to secure a satisfactory result. *J. H. H., Portobello, July* 2.

*Linum grandiflorum.*—Just as the true principles by which a good physical constitution may be built up and preserved are often lost sight of by the "petting and over-much nursing" system, so I think has it been the case with this Linum. The difficulty experienced by several practical gardeners in getting up this plant within the circle of my acquaintance, as well as the desire to see a flower so much extolled, prompted me to try and raise it last year. Having no glass, and being desirous to give it as fair a trial as I possibly could, the experiment was made both in pots and in the open border. The soil of the latter is of a rather stiffish nature, and where the Linum was sown had no addition of leaf-mould or any other such help to secure success to the attempt, my object being to discover whether it would grow successfully under the most ordinary treatment. After steeping the seeds in cold water for 12 hours they were then sown with all the glutinous matter about them, and covered but very slightly; by these means I secured a speedy germination of seedlings which flourished vigorously. A similar result attended the trial made in pots (which I may mention were 6 inches across the mouth), with this difference, that the plants in the border were the strongest. This season I adopted the same method and with similar success. It is with some degree of confidence therefore that I recommend to my brother amateurs a trial of this simple method by which to cultivate this beautiful variety of the Flax tribe. I would, however, observe that while it may be grown in any good garden soil, a free soil is favourable to its development, so that should the ground be naturally clayey or stiff, an application of leaf mould and sand will prove considerably advantageous. *Scoticus.*

*Filtered Water v. Fish*—Well water filtered through animal charcoal has proved injurious to gold and silver fish. We have a fountain in the garden, and a basin and numbers of gold and silver fish. The latter have hitherto done well, but about a month ago I had the basin emptied and cleaned out and refilled with filtered water. I may mention however that the first supply after the filter was put in was let run away, so that the fish had the second fill of the tank. For four or five days the water was very clear; then all at once it got as if lime had been thrown into the basin among the fish, and has continued very dirty ever since, and I have found two of the fish dead, and of course floating on the surface. To-day I am having the water emptied out again—should I use this water or not? It was highly impregnated with iron before the filter was put in. *G. Wright, Sowerby.*

*The Mealy Bug and Gishurst Compound.*—I enclose you a list of plants on which I have tried this Compound. I find it effectually to kill mealy bug at the strength of ½ lb. to a gallon of water, and it does not hurt the plants I have named, excepting those marked *; it rather injures the very young growth of them, and quite destroys the flowers. At the strength of 2 oz. to the gallon it is sudden death to thrips and greenfly wherever it comes in contact with them; it appears to absorb the whole moisture from them, and leaves the greenfly a mass of brown dirt. Thrips it seems to rivet to the place which it attacks. No plants that I have as yet tried suffer from the effects of 2 oz. to the gallon, so that it is useless having it stronger than that for greenfly and thrips. All the plants I have tried have been thoroughly immersed in the solution and kept in for some seconds, and I find this the best remedy where it can be effected. By syringing some parts are apt to be missed, and as a friend of mine when talking to him about it told me, innocently enough, "that it did not kill where it did not touch." At the strength of 2 oz. to the gallon I do not find it hurt the flowers of Azaleas. I am not quite certain the exact strength Gloxinias will stand, but 2 oz. to the gallon does not hurt the foliage, and will kill thrips; if however bug gets on them it will not destroy it. I have not yet found what strength will kill scale such as I have enclosed—½ lb. to the gallon will not do it. This is the only scale that puzzles me. It will kill the smaller species of scale and the very young of the one in question; but the old ones it leaves unscathed. This scale infests Thyrsacanthus rutilans. I have tried it ½ lb. to the gallon on Plum and Pear trees for scale, but I cannot speak positively about it at present. It does not injure the young growth of either; I intend trying this again at greater strength in the autumn and winter months. Two ounces to the gallon will effectually kill red spider if properly applied; the great difficulty is to get the solution to properly penetrate the web. If the solution is in too much of a lather state it forms bubbles on the web or under surface of the leaves, and makes a kind of arch over certain portions; when this dries or bursts it leaves the space within and spider contained unharmed. This occurs in syringing; but if the plant is thoroughly immersed so that the surface is wholly wetted it is a "certain kill." I find this gentleman requires great perseverance. On the whole I consider the Gishurst Compound the best thing ever invented or brought before the public for the uses for which it is recommended, and I for one am pleased and thankful for the introduction. I hope I have been sufficiently explicit in my remarks. I can assure you they have been conducted with great care and exactness, weighing and measuring the whole myself for every operation, and I find it is equally as good for its purposes if made and kept bottled and corked six weeks after making. (Signed) *Daniel Judd, Althorp Gardens.*—Plants dressed with Gishurst Compound at the strength of ½ lb. to the gallon of water:—Franciscea confertiflora, Rondeletia speciosa, Begonia insignis, Ardisia crenulata, Hexacentris mysorensis, Pergularia odoratissima, Hoya carnosa, Hoya bella, Clerodendron speciosum majus, Cassia corymbosa, Cattleya Forbesii, Camarotis purpurea, Dendrobium nobile, Dipladenia crassinoda, Stephanotis floribunda, Passiflora alata, Azaleas (quite young growth), Burchellia capensis. * Rhynchospermum jasminoides; of this it rather injured the young growth, and quite damaged the flowers. * Euphorbia jacquiniflora; it quite spoiled the flowers of this plant, but did not hurt the young growth. At the strength of 2 oz. to the gallon Pteris pubescens, Luculia gratissima, Roses, Geraniums, both woolly and smooth-leaved; Fuchsia Venus de Medici, grown in a Vinery in a temperature of 90° by day and 60° at night; Young Dahlias. [With this letter we have been favoured by Mr. Wilson. Gardeners will appreciate its importance; mealy bug being their greatest enemy, along with scale and American blight. We delayed the publication until we could experimentalise personally on mealy bug, and we endorse Mr. Judd's statement that it is killed by Gishurst. Scale may perhaps be reached if the part attacked is first rubbed and then painted over with the Compound.]

## Societies.

HORTICULTURAL: *July* 12.—At a meeting of the Fruit Committee held this day, Mr. Jas. Veitch's prize of 5*l.*, offered for the best exhibition of Stockwood Golden Hamburgh Grape, was awarded to Mr. Spary, of Brighton, for three fine bunches of that variety. Two other exhibitions were also entered for the prize, one from Mr. Allport, gr. to H. Ackroyd, Esq., of Doddington Park, Nantwich, and the other from Mr. Crambe, gr. to the Earl of Ducie at Tortworth Court, Gloucestershire. The bunches exhibited by Mr. Spary were produced from a shoot resulting from a graft of the Golden Hamburgh which was put on in April, 1858, and which bore this season, in all, 13 bunches. The three exhibited were splendid and remarkably well grown both as regards the form of the bunch and the size of the berries composing it, all of which were well and equally swelled. The bunches exhibited by Mr. Crambe were likewise very fine. They were longer than those which gained the prize, but the berries were not quite so large. The specimens exhibited by Mr. Allport were over-ripe, the footstalks of the berries being withered. It was stated that the fruit was ripe on the 10th of June, and was larger than that of the Black Hamburgh 67 years old, on which it was worked.

ROYAL BOTANIC, REGENT'S PARK: *July* 6.—This Society's concluding exhibition for this year took place on this occasion. The display both of fruits and flowers was good for the season, and the attendance of visitors large.

Mr. Whitbread, gr. to H. Collyer, Esq., showed as usual a beautiful collection of 16 Stove and Greenhouse Plants, all large, and for the most part well flowered. Among them were Rondeletia speciosa, Dracophyllum gracile, Phœnocoma proliferum, immense bushes of Ixora javanica and coccinea, Dipladenia crassinoda, Pleroma elegans, one of the very handsomest of autumn-blooming greenhouse plants, its beautiful deep purple blossoms, each as large and round as a five-shilling piece, being very conspicuous. The same exhibitor also sent handsome plants of Erica obbata, Leschenaultias, Vincas, and Roella ciliata, whose flowers though pretty are ill set off by the foliage, which is rusty and dead looking. Mr. May, gr. to J. Spode, Esq., again showed a charming group of 16 plants, some of which had, however, this time suffered a little from travelling, nevertheless others, as Ixora crocata and javanica, Dipladenia splendens and crassinoda, Pleroma elegans, Phœnocoma proliferum, Aphelexis Sesamoides, some Cape Heaths, and Statice imbricata were all that could be desired. The same excellent cultivator also sent a charming specimen of the white-flowered Ixora, quite a cone of blossoms from top to bottom. Among plants from Mr. Peed, who also showed in this class, were admirable examples of Erica mutabilis, Dipladenia crassinoda, Vincas, yellow and white-flowered Cape Heaths, an Azalea still in good condition, Everlastings, the white and Java Ixoras, Cyrtoceras reflexum, and the white Dracophyllum gracile. In a group of 16 from Mr. Rhodes, chiefly small plants, were pretty specimens of Pleroma, Kalosanthes, Cyrtoceras, Allamandas, and the seldom seen Bartonia ericoides.

Smaller collections of Stove and Greenhouse Plants were furnished by Messrs. Cutbush, Fraser, Green, Page, Baxendine, and Chilman. These consisted chiefly of Vincas, Everlastings, Clerodendrons, Stephanotis, Allamandas, Dipladenias, Rhyncho-spermums, Heaths, Tetratheca verticillata, Kalosanthes, the seldom shown Lapageria rosea, Statice Holfordi, Paretta Caffra, and Phœnocoma proliferum. The last when well grown and flowered, though somewhat Thistle like in appearance, is nevertheless a handsome plant.

Of plants remarkable for fine foliage, magnificent collections were furnished by Messrs. Veitch, Jackson, Young, Cutbush, and Bunney. Among them were Palms, Marantas of different kinds, Coleus Blumei and pectinatus, Crotons, Rhopalas, Cissus, Tree Ferns, Dieffenbachias, Theophrasta imperialis, Calathea zebrina, Aspidistra lurida variegata, Dion edule, Dioscoreas, Farfugium grande, Caladiums, one of the handsomest of which is Chantini; variegated Yuccas, and Begonias.

Of the last named plants Mr. Barnes, of Camberwell, showed a fine collection, in which were Rex, argentea splendens, Griffithsi, Queen, Princess Alice, Water-witch, and Prince of Wales, all large-leaved and handsomely variegated. Mr. Cole, of Manchester, also contributed a fine kind called Marshalli, with large leaves strikingly variegated with broad silvery markings.

Cape Heaths were shown in admirable condition and tolerable abundance. Among them was nothing new. We observed, however, beautiful plants of obbata, Jasminiflora alba, and Metulæflora bicolor; the last a very handsome variety with rich rosy pink flowers tipped with white. Of the Hartnelli and aristata breeds there were also some good samples.

Orchids, though not plentiful, were for the most part well flowered. Messrs. Gedney and Bullen again showed excellent collections, as did also Messrs. Woolley, Carson, Rhodes, May, and Page. In the different groups were fine plants of the handsome Cattleya superba, Cypripedium villosum, White Butterfly Plant, the singular-looking Coryanthes macrantha, White Phaius, the yellow Anguloa Clowesi, Dendrobes of different sorts, Miltonia spectabilis, Epidendrum verrucosum, Odontoglossum hastilabium, the green-tailed Dendrochilum filiforme, Saccolabium Blumei and guttatum, Aerides odoratum, and others, Stanhopea tigrina, various Oncids, Sobralia macrantha, and one or two varieties of Brassia.

Of New Plants, Messrs. Veitch sent Pentstemon Jeffreyi, a pretty blue-flowered kind from California, with a tinge of pink in it; a Bilbergia, with a large branching spike of pale pink blossoms; Calanthe Dominii, with numerous spikes of pink flowers; a small canary-blossomed Calla, the singular Ceratodactylis Osmundoides; Pteris argyræa, with large fronds striped with white; Platycerium Wallichii, from Moulmein; two kinds of Blandfordia, Clianthus Dampieri, Chamæbates foliolosa, Dichorozandra vittata discolor, with leaves striped with red; Spraguea umbellata, a pink and white woolly-flowered plant from California; Æschynanthus tricolor, Boehmeria argentea from South America, and Cyanophyllum magnificum, both remarkable for the size and beauty of their leaves; and Phlesia buxifolia. Messss. Parker and Williams furnished the pretty white and blue flowered Statice brassicæfolia, the double yellow Datura, a variegated Tussilago, an Anæctochilus, Tydæa, and Begonia; also some rare Ferns, Maranta fasciata, and others; and a yellow flowered grey leaved Centaurea. From Messrs. E. G. Henderson were the white Portlandia platantha, Gazania splendens, a spreading silvery-leaved plant with handsome orange flowers. Messrs. Low showed several Borneau plants, some of which were without names; others were a variegated variety of Franciscea confertiflora, Myrsine picta, Gonatanthus cupreus (?) with metallic-like foliage, Pothos argyræa, the new greenhouse shrub Chamæbates foliolosa, from California; Plocostemma lasianthum, an Asclepiad with bunches of tawny orange coloured flowers not unlike those of Cyrtoceras reflexum; Spraguea umbellata, and Gœthea strictiflora, whose naked stem was ornamented with flowers enclosed within crimson bracts, in which the chief beauty of the plant resides.

The display of Cut Roses was excellent; beautiful collections of 50 sorts were furnished by Messrs. Paul, Fraser, Francis, Lane, and Mitchell. Among the varieties were Victor Trouillard, Comte de Nanteuil, Queen Victoria, Mathurin Regnier, Charles Lawson, Madame Hector Jacquin, Kean, Gloire de Dijon, William Griffiths, Madame Vidot, General Simpson, Niphetos, Prince Leon, Paul Perras, Louis Peyronny, Boule de Nanteuil, Crested Moss, Louise Magnan, Juno, Madame William, devoniensis, Jules Margottin, Augusta, Alphonse Karr, Baronne Prevost, Felicite Parmentier, Auguste Mie, Pius the Ninth, Duchess of Sutherland, Vicomtesse Decazes, Coupe d'Hébé, Souvenir d'un Ami, Narcisse, Duchesse d'Orléans, Marie

[illegible]berry, Souvenir de Malmaison, Evêque de Nîmes, Mrs. Rivers, Joan of Arc, Ohl, Duchess of Buccleugh, [illegible]uvenir de la Reine d'Angleterre, La Reine, Duchess of Norfolk, Madame Knorr, I. Gray, Lord Raglan, Comtesse de Sansal, Triomphe de Rennes. Of single blooms, 24 varieties, Mr. Turner of Slough sent Devoniensis, Glory of France, La Reine, Gloire de Dijon, Evêque de Nîmes, Gloire de Vitry, Cloth of Gold, Louis Peyronney, Madame Domage, Mrs. Rivers, Victor Pavillard, Madame Villermoz, Salvator Rosa, Lamarque, Enfant du Mont Carmel, Adelaide Fontaine, Niphetos, Prince Imperial, Wm. Griffiths, Lord Raglan, Madame Willot, Ohl, General Jacqueminot, and Jules Margottin. Of bunches, 24 kinds, from private growers, Mr. Wilcox, gr. to Miss Crawshay, had Charles Lawson, Paul Perras, Gloire de Dijon, Lord Raglan, Lamarque, Jules Margottin, Madame Hector Jacquin, Madame E. Ory, Paul Ricaut, Duchess of Norfolk, Auguste Mie, Moiret, Crested Moss, Salvator Rosa, Devoniensis, Great Western, Solfaterre, H. General Jacqueminot, H. P. General Jacqueminot, Madame de Cambacérès, Coupe d'Hébé, Souvenir d'un Ami, Napoleon, Baronne de Wassenaer, and Madame de Maucel. Of Cloth of Gold we noticed a bextal from Pymms House, Edmonton. Mr. Standish had also good blooms of Eugene Appert.

Later on it was for Pelargoniums, a large number was contributed. Some were good, others very inferior. The best came from Mr. Turner, Mr. Winsor, Messrs. Dobson & Son, Mr. Gaines, and Mr. Bragg. Private growers were Mr. Bailey, Shardeloes; Mr. Shrimpton, gr. to A. J. Doxat, Esq., Putney Heath (the collections from these two very fine); Mr. Wier, gr. to — Hodgson, Esq.; Mr. Tandy, gr. to E. Saunders, Esq., Putney Heath; and Mr. Baillie, gr. to W. C. Carbonell, Esq., Harrow Road. Varieties still in good colour, and which evidently stand sunshine well, were Etna, Cynthia, R. Benyon, Prince of Prussia, Monarch, Empress Eugenie, Sir Colin Campbell, Guillaume Severyns, Madame Furtado, Ariel, Bianca, King of Scarlets, Fairest of the Fair, Marvellous, Flora, Meteora, and the Bride. These, one and all, were good. Among Fancies the following were the best:—Bridesmaid, Acme, Mrs. Turner, Columbine, Rosabella, Zoe, delicatum, Captivator, Cloth of Silver, Celestial, and Madame Sontag. Mr. Kingshorn sent Christina and Sheen Rival, and Messrs. E. G. Henderson their new kind called Imperial Crimson Nosegay.

Pinks and Pansies were getting over, but there were some remarkably fine Carnations and Picotees. Mr. Turner sent 24 varieties of each, very large and bright, namely: Carnations.—Mayor of Nottingham, Poor Tom, Mr. Tugwell, Sir G. Brown, Prince Albert, Justice Shallow, National, Mars, Christopher Sly, Seedling, Ascendant, Seedling, Antinio, Juno, Exit, Earl Stamford, Seedling, Sir H. Havelock, Garland, Tenby Rival, Mayor of Oldham, Friar Lawrence, Seedling, Admiral Curzon. Picotees.—Charlemagne, Emma, Rival Purple, Rev. A. Matthews, Mr. Hobbs, Cedo Nulli, Miss Holbeck, Prince Arthur, Mrs. Norman, Amy Robsart, Countess Alice, Mary, Mrs. May, Mrs. Drake, Eliza, Miss Charlotte, Prince of Wales, Duke of Devonshire, Mrs. Strachan, Prince Albert, Finis, Ne Plus Ultra seedling. Mr. Norman, of Woolwich, also sent a stand of each, in collections of 12 varieties, very pretty, but much less in size. Mr. Bragg sent 24 Carnations and the same number of Picotees, the latter included some pretty yellow kinds. A Certificate was awarded to a fine Scarlet Flake, named Sir H. Havelock (Puxsley); the Rev. A. Matthews and Rival Purple, two heavy-edged Picotees, were very fine.

Verbenas were shown only in a cut state; several collections were shown. The only prize awarded was to Mr. Turner, for Mrs. Pennington, Fairy, conspicua, Queen, Lord Elgin, Ajax, Nostradamus, Lady Peto, Lord Raglan, Comet, Leviathan, Earl of Shaftesbury, Novelty, Catanella, Venus, Matilda, Catherine, Lord Clyde, Verdi, Sir J. Outram, Monsieur Hardy, La Magicienne, Charles Dickens, Mrs. Maclean. Mr. C. J. Perry, of Birmingham, received a Certificate for Clara, a rose Verbena.

Fuchsias were largely contributed and in finer condition than usual. The fault was that too great a proportion of the kinds was dark. The best came from Mr. Oubridge, gr. to — Foster, Esq., Stamford Hill, Mr. Bray, of Regent's Park, being second. The best kinds were Little Bopeep, Clio, Fairest of the Fair, Venus de Medici, Gen. Williams, Souvenir de Chiswick, Peer of England, Queen of Hanover, Honeyball, Wonderful, Shedding Star, and Rose of Castile.

Of Ferns two or three collections were shown. The best came from Messrs. Baillie, Bunney, and Gedney. They contained fine plants of Gleichenias, and other favourite sorts, the names of which have been given in former reports.

Of Miscellaneous subjects Mr. Ivison, gr. to the Duke of Northumberland at Sion, showed immense leaves of Victoria Regia in shallow tanks; also the pink Nymphæa Devoniana, together with examples of the white and blue kinds, and of Nelumbium speciosum. We also noticed finely flowered specimens of Lisianthus Russellianus, a plant now rarely to be met with, and the handsome Vallota purpurea.

Calceolarias were shown in good condition by Mr. [illegible] of St. Albans. Of shrubby kinds the best were Garnet, rosy crimson; Orion, yellow; aurea floribunda, Triumph, and Queen of Yellows.

Of Phloxes two handsome sorts were shown by Mr. Turner; one, a white kind, was named Blanche, the other was lilac and named Model.

Petunias, both double and striped, were exhibited by Messrs. E. G. Henderson. Among them the most striking were M. Henry Jacotot, purple blotched with white; Coquette, and Ernest Benary, the last a Carnation striped sort; M. F. Beosl, semi-double crimson; Madame de Pruins, and Virgo Maria, pale rose, very double.

The last-named firm also contributed some extremely showy varieties of Dianthus sinensis giganteus. They were of various colours, varying from deep crimson to pale pink striped or blotched, or mottled with white, each flower measuring not less than 2½ inches in diameter! The effect produced by a mass of such blossoms as we have just described may therefore easily be conceived.

Of Fruit there was a large display. Pine Apples especially were excellent, beautiful examples of this fruit being shown by Messrs. Davies, Floud, Young, and Page. Mr. Floud's Pines in particular have been very fine. A Providence, weighing 11 lbs. 4 oz., was shown by that grower at the Crystal Palace on the 8th ult., and at the exhibition held here on the 15th ult. he furnished a Queen weighing 6 lbs. 5 oz., an Enville 6 lbs. 10 oz., and a Providence 11 lbs. 9 oz. Nor were his fruit inferior on this occasion. Messrs. Povey, Davies, Young, and Oates also showed fine fruit of the last named variety. Queens came from Messrs. Dalrymple, Fryer, Page, Halliday, and Temple; and a Prickly Cayenne weighing 8¾ lbs. came from Mr. Bailey, Shardeloes. We also noticed two very fine specimens of Enville.

Of Grapes, Mr. Drewitt, gr. to Mrs. Cubitt, the Denbies, near Dorking, sent admirable bunches of Black Hamburgh, and Grizzly and White Frontignan. These were each perfect of their kinds, and fully maintained the reputation for good Grape growing which this excellent grower has already attained. Not less remarkable were three bunches from Mr. Allport, gr. to H. Ackroyd, Esq., Doddington Hall, Cheshire. These were Black Hamburgh, West's St. Peters, and Golden Hamburgh. The latter was stated to have been from a bud inserted in a very old Vine on the 18th Feb. last year. The fruit exhibited was ripe on the 10th ult. and was larger than that of the sort on which it was budded. Messrs. Wortley, Frost, Page, Bousie, Wood, and Turnbull also showed well in this class. Of Black Hamburgh the best dishes came from Messrs. Young, Henderson, Little, Hill, Sawkins, Page, Harrison, Simpson, and Perkins. Beautiful bunches of West's St. Peter's came from Mr. Allport, and fine fruit of this variety also came from Messrs. Williamson, Turner, Turnbull, and Tillyard. Of Muscats the ripest and most perfect, though by no means the largest, were shown by Mr. Ingram, gr. to J. J. Blandy, Esq. Mr. Allport and Mr. Turnbull also showed very fine Muscata. Fine bunches of the Bowood variety came from Mr. Thomson of Dalkeith. The best basket of 12 lbs. was contributed by Mr. Hill, gr. to R. Sneyd, Esq. Keele Hall, Staffordshire. Messrs. Hodson, Bailey, Thomson, and Jackson also furnished good baskets, chiefly of Black Hamburgh. Of White Hamburgh, Mr. Bailey showed three very fine bunches; of Golden Hamburgh we noticed several exhibitions, but none so good as Mr. Allport's. A remarkable fact connected with this Grape is that those from budded Vines were much rounder in the berry than others from plants on their own roots. Of Pot Vines there were exhibitions from Messrs. Standish, Alderson, Ivison, and others. Mr. Standish's, both Muscats and Black Hamburghs, were extremely good, the bunches being large, and the Muscats especially well ripened, though the only places they had to grow in were, as we understood, low pits heated with dung and leaves.

Of Peaches and Nectarines beautiful exhibitions of four dishes each came from Messrs. Miller, Henderson, Thomas, Turnbull, Little, and Allen. The sorts were chiefly Royal George, Bellegarde, and Noblesse Peaches, and Violette Hâtive, Elruge, and Pitmaston Orange Nectarines. Of two dishes, the best came from Messrs. Dawson, Judd, Rutland, Sawkins, and Miller. Grosse Mignonne Peaches, large and fine, came from Mr. Taylor and Mr. Widdowson.

Of Apricots only one dish was shown. They came from Mr. Cameron, gr. to the Duke of Richmond at Goodwood.

Figs: Brown Turkey and Lee's Perpetual were contributed by Messrs. Page, Snow, Ruffett, Hutt, and Bousie. We also noticed a dish of the Violet Fig, the fruit of which was nearly black.

Cherries came from Messrs. Bousie, Wood, Snow, and Widdowson. The sorts were Elton, May and Late Duke, and Morello.

Strawberries were furnished by Messrs. Bailey, Sage, Turner, Kimberley, and Tillyard. Among the sorts were Bicton White, British Queen, Myatt's Eleanor, and Surprise, Admiral Dundas, Sir C. Napier, Stirling Castle Pine, Carolina Superb, Filbert Pine, Crimson Queen, (large deeply-furrowed late kind), Adair (a large dark kind), and Nimrod. Of Seedlings the best was Oscar, the merits of which may now be considered established. It is certainly the best flavoured of large kinds, and being a great cropper must soon find a place in every garden. This was shown by Mr. Turner, of Slough.

Melons were numerous. The best, however, were Scarlet Gem and Orion, the latter green-fleshed. The former has been successful at every show this season.

Of Apples a dish of the variety called French Crab was again exhibited, still in an excellent state of preservation.

Miscellaneous collections of fruit came from Messrs. Turnbull, Dawson, Thomas, Ruffett, and Davies, the names being put down in the order in which the prizes were awarded. In the first lot were Pine Apples, Strawberries, West's St. Peter's and Muscat Grapes, Royal George Peaches and Elruge Nectarines, Bousie's Incomparable Melon, a handsomely netted sort; Violet Figs, and May Duke Cherries. The second group consisted of Providence and Queen Pine Apples, Black Hamburgh and Chasselas Musqué Grapes, Myatt's Surprise and Sir Harry Strawberries, Melons, Royal George Peaches, and Violet Hâtive Nectarines and Cherries. In the third lot were Queen Pines, Muscadine and Black Hamburgh Grapes, British Queen Strawberries, Violette Hâtive and Royal George Peaches, and Golden Perfection Melon. In the other two collections were Queen Pines, Black Hamburgh Grapes, Peaches, Nectarines, Strawberries, and Cherries.

## Notices of Books.

*Plain and Pleasant Talk about Fruits, Flowers, and Farming.* By H. W. Beecher. Small 8vo. pp. 420. New York: Derby & Co.; London: Sampson, Low, Son & Co.

The author of this agreeable and instructive volume has perfectly succeeded in making it correspond with its title. Perhaps we ought rather to say that the title hardly does its justice; for it is not merely a collection of plain and pleasant talk, but of valuable facts and suggestions full of good sense about fruits, flowers, and farming—seen from an American point of view.

The history of the book is thus related by Mr. Beecher:—Twenty years ago he settled at Indianapolis, the capital of Indiana, a place then of 4000, and now of 25,000 inhabitants. At that time, and for years afterwards, there was not any other than political newspapers in the State—no educational journals, no agricultural or family papers. The *Indiana Journal* at length proposed to introduce an agricultural department.

The author having found the labour of daily preaching, extending through months, without the exception of a single day, begin to wear upon the nerves, sought for some relaxation, and accordingly he used, after each week night's preaching, to drive the sermon out of his head by some alterative reading.

"In the State Library were Loudon's works—his Encyclopedias of Horticulture, of Agriculture, and of Architecture. We fell upon them, and, for years, almost monopolised them.

"In our little one-story cottage, after the day's work was done, we pored over these monuments of an almost incredible industry, and read, we suppose, not only every line, but much of it, many times over; until, at length, we had a typographical knowledge of many of the fine English estates—quite as intimate, we dare say, as was possessed by many of their owners.

"A seedman's list, a nurseryman's catalogue, are more fascinating to us than any story. In this way, through several years, we gradually accumulated materials and became familiar with facts and principles, which paved the way for our editorial labours. Lindley's Horticulture and Gray's Structural Botany came in as constant companions. And when, at length, through a friend's liberality, we became the recipients of the London *Gardeners' Chronicle*, edited by Prof. Lindley, our treasures were inestimable. Many hundred times have we lain awake for hours, unable to throw off the excitement of preaching, and beguiling the time with imaginary visits to the Chiswick Garden, or to the more than oriental magnificence of the Duke of Devonshire's grounds at Chatsworth. We have had long discussions, in that little bedroom at Indianapolis, with Van Mons about Pears, with Vibert about Roses, with Thompson and Knight of fruits and theories of vegetable life, and with Loudon about everything under the heavens in the horticultural world."

This turn of mind led him to write for the *Western Farmer and Gardener*, the modern name of the *Indiana Journal* from whose columns the papers before us "have been dug out."

How pleasant a style Mr. Beecher employs may be gathered from his chapter "*O Dear! shall we ever be done lying.*"

"An honest old gentleman, in telling us his troubles, gave great prominence to the necessity he was frequently under of disappointing his customers, whose work could not be finished as soon as he had promised. After explaining the difficulty, he looked up with great earnestness, and exclaimed, '*O dear! shall we ever be done with this lying?*'

"We have often wondered ourselves whether such a consummation would ever take place. 'Your boots shall be done on Saturday night without fail.' Nevertheless, you have to go to church with gaping shoes for want of them. 'Your coat shall be sent home by 9 o'clock on Saturday night;' and you get it, in fact, the Wednesday after. 'Will you lend me your wheelbarrow? I will return it to-night.' You wait for it till next week, and then send for it. My carpenter solemnly agreed to finish my house by November; but it was July before I could get the key. My wood was to be split on Saturday afternoon—enough for the Sabbath; so it was—but I had to do it. My money was to be paid me the next week; and then, next week; and then, next week—and then, as soon as he could get it; he did get it and spent it; and then it should be paid when he got it again—he got it again, and paid another debt because the man treated him more savagely than I would. The strength laid out in running for

this money, if it had been economically applied to labour, would, nearly, have earned the whole debt. The fellow never paid me at last; but Death came along, and he paid him promptly. 'O dear! shall we ever get done with this lying?' It is one of the few domestic manufactures which need no protection, and flourishes without benefit either to the producer or consumer."

The dry humour of the next extract will find admirers.

"*Deep Planting.*—We saw recently a Potato which grew at the depth of 25 feet below the surface of the earth. This is an extraordinary depth. Few things planted at that depth would vegetate. The fact in this case is unquestionable. The top was terminated by a cluster of blossoms, and the Potatoes were of the size of small Hickory Nuts.

"P.S. Another fact, which like to have been omitted in this account, is, that it grew at the bottom of an open well."

The good sense of the following notices about pruning may be commended to gardeners of home growth, as well as to those on the other side the Atlantic.

"There is another marked fault in selecting trees—a disposition to get long and handsome trees with smooth stems. This principle of selection would be excellent when one goes after a Bean-pole, or a cane. A fruit tree is not usually cultivated for such uses. In the first place, it is not wise to expose the trunk of a fruit tree to the full sun of our summers. We have seen Peach trees killed by opening the head so much as to expose the main branches to the sun. A low head, a short trunk should be sought. When land is scarce, and orchards cultivated, high trimming is employed for the sake of convenience, not of the tree, but of its owner. And in cool and humid climates, such evils do not attend the practice, as with us. Beside picking long-shanked trees, one would suppose that a leaf below the crotch would poison the tree from the assiduity with which they are trimmed off. It ought to be laid down as a fundamental rule with us, that a tree is benefited not by the amount of its wood, but by the extent of its leaf surface. Every effort should be used to make the length of the wood moderate, and the amount of its leaves abundant. The leaf does not depend for its quality on the wood, but the wood takes its nature from the leaf. Young trees ought to be grown with side brush from the roots to the fork. Water shoots from the root are to be removed, but leaves upon the trunk are to be nursed. By cutting in the brush when it tends to a long growth, it will emit side shoots, and still increase the number of leaves.

"Secondly. There is great evil in pruning too much. France and England have given us our notions upon pruning. There, their own system is wise, because it conforms to the climate and soil. But their system of pruning is totally uncongenial with our seasons and the habits of our trees. In England, for instance, the Peach will not ripen in open grounds, except, perhaps, in the extreme southern counties. In consequence, it is trained upon walls, and its wood thinned, to let light and heat upon every part of it. It is very right to husband light and heat when it is scarce, and by opening the head of a tree to carry them to all parts of the sluggish wood. But we often have more than we want. A Peach will ripen, on the lowest limb and inside of the tree, by the mere heat of the atmosphere. Even in New England, the English system of pruning proves too free. Manning says, 'From the strong growth of fruit-trees in our country and the dryness of its atmosphere, severe pruning is less necessary here than in England.' We are not giving rules for pruning; but cautions against pruning too freely. There is not a single point in fruit cultivation where more mistakes are committed than in pruning."

We hope often to return to Mr. Beecher's amusing and instructive pages.

## Miscellaneous.

*How Actiniæ kill their prey.*—In the recent number of the Proceedings of the Royal Society is a very curious account by Dr. Waller, Professor of Physiology in Queen's College, Birmingham, of the effects produced upon their prey by these animals. After showing that the theory of their effecting their purpose by communicating an electric shock, like the torpedo, the learned author proceeds thus. "In order to elucidate the real power of the Actiniæ—after having in vain exposed the finger on which the cuticle had been softened by soaking in water—considering that the tongue was better adapted for the purpose in view, by reason of the thinness of its cuticle, I presented its apex to the tentacles of an Actinia mesembryanthemum, of about the size of a half-crown piece. The result was such as to satisfy the most sceptical respecting the offensive weapons with which it is furnished. The animal seized the organ most vigorously, and was detached from it with some difficulty after the lapse of about a minute. Immediately a pungent acrid pain commenced, which continued to increase for some minutes until it became extremely distressing. The point attacked felt inflamed and much swollen, although to the eye no change in the part could be detected. These symptoms continued unabated for about an hour, and a slight temporary relief was only obtained by immersing the tongue in cold or warm water. After this period the symptoms gradually abated, and about four hours later they had entirely disappeared. A day or two after, a very minute ulceration was perceived over the apex of the tongue, which disappeared after being touched with nitrate of silver. I have subsequently frequently repeated this experiment on myself and others, using greater precaution, and have invariably obtained similar symptoms of urtication. In only one instance has a minute ulceration been the consequence. It is very evident therefore that the Actiniæ act by means of an acrid irritant poison, similar in some respects to that of the wasp, or of snakes, which quickly spreads through the system of the Annelida, producing the above mentioned results. It remains to determine whether the poisoned weapons existing in such numbers over the surface of the Actiniæ were left in the part attacked. For this purpose I stretched a thin India-rubber membrane over a glass tube. After its seizure by the Actinia, I found that under the microscope it was studded in many points with the poison darts inserted slightly in the membrane, without their having penetrated through. In this respect my observations differ from those of Mr. Gosse, who considers that a fragment of cuticle from the hand was perforated by these darts."

## Calendar of Operations.

*(For the ensuing Week.)*

### PLANT DEPARTMENT.

CONSERVATORY, &c.—If there are sickly or badly rooted specimens here they must be frequently examined for red spider, or they may become a nursery for that pest, and it will soon spread to adjoining plants. See that young stock is not allowed to suffer from want of pot room, and during very hot weather like the present attend carefully to watering, giving weak liquid manure to all plants in free growth that are likely to be benefited by it. Such stove plants as may have been removed to this house while in bloom should be replaced in heat as soon as their beauty is over, in order to permit their young wood to get ripened before short days set in. Orchids must now be carefully shaded during bright days, but when the weather is at all cloudy allow them as much light as they will bear without injury. Keep the foliage clear of insects and dust by frequent syringings or spongings, as may be necessary.

### FORCING DEPARTMENT.

PINERIES.—Air should now be given liberally to young stock in dung pits, in order to secure strong stocky growth. The plants should not, however, be exposed to drying winds by giving back and front air liberally on drying days, for this would not serve the end in view; but a moderate circulation should be secured at night, giving no more during the day than may be necessary to prevent the temperature getting too high. This, with careful attention to the state of the roots, keeping the bottom heat regular, the soil in a nice healthy state as to moisture, and giving a liberal supply of manure water to such as are well rooted, will be found much more conducive to strong stocky growth than exposing the plants too freely to hot drying winds, which would probably check and throw them into fruit prematurely. Use every means to afford plants swelling their fruit a thoroughly moist atmosphere, sprinkling passages, &c., frequently, and shutting up early on the afternoons of bright days, giving a gentle dewing with the syringe, and saturating the atmosphere by sprinkling every available surface; also give these plenty of clear strong manure water at the root until the fruit begins to change colour, when the soil should be kept rather dry, which will improve the flavour. VINERIES.—Attend to former directions as to thinning the fruit in houses intended to furnish a late supply, and see that the bunches are severely thinned, and also that the crop left is not too heavy in proportion to the strength of the Vines. Where the fruit is swelling, be careful to maintain a moist state of the atmosphere, and give every possible attention to the roots, keeping the border in a healthy state as to moisture, and if watering is found necessary, use good strong manure water. Give abundance of air where the fruit is colouring, and do not allow plants in pots to remain in the house to cause damp, which, despite every care in ventilating, is apt to settle on the berries and spoil the bloom. Where the fruit is ripe and expected to hang for some time, the atmosphere of the house should be kept as cool as possible; but a little fire heat will probably be necessary occasionally in order to keep the atmosphere dry.

### FLOWER GARDEN AND SHRUBBERIES.

Trimming, staking, and pegging down must be well followed up at this period where neatness and order are essential. See that sufficiently strong stakes are applied to plants with heavy foliage and gross habits, such as Dahlias, Hollyhocks, Larkspurs, Phloxes, and tall growing Asters. Keep Roses as much as possible free from insects, and if time can be spared dead blooms should be removed. Budding may now be proceeded with. Let Carnations and Picotees be layered, and that in quantity; they make exceedingly useful border flowers, and are much prized in a cut state. See therefore that plenty of them are secured for next season.

### HARDY FRUIT AND KITCHEN GARDEN.

Tomatoes must be regularly attended to, keeping the shoots thin and stopping them above a cluster of fruit. Shallots if left in the ground after they are ripe are apt to mildew; they should therefore be taken up as soon as the tops begin to decay, and spread out in an airy place to dry, before storing. Herbs in flower should be cut and dried for winter use. They can either be hung up in bags to keep them clean or rubbed out and bott'ed. Where a sufficient breadth of Celery is not yet planted out this must be attended to as speedily as possible; it must however be well attended to [illegible] water until it is established, otherwise good sized heads need not be expected. Earth up former plantings and encourage rapid growth by means of occasional waterings with liquid manure.

### COTTAGERS' GARDEN.

Plant early Ulm Savoy on spare ground from which Potatoes or other crops have been removed. They may be allowed to stand a foot apart each way. A [illegible] Spinach to stand the winter may also soon be put in. Water every evening crops likely to suffer from drought.

STATE OF THE WEATHER AT CHISWICK, NEAR LONDON
For the Week ending July 14, 1859, as observed at the Horticultural Gardens

| July. | Moon's Age. | Barometer. Max. | Barometer. Min. | Temperature of the Air. Max. | Temperature of the Air. Min. | Temperature of the Air. Mean | Temperature of the Earth. 1 foot deep. | Temperature of the Earth. 2 feet deep. | Wind. |
|---|---|---|---|---|---|---|---|---|---|
| Friday 8 | 8 | 30.171 | 30.110 | 83 | 48 | 65.5 | 66 | 64 | W |
| Satur. 9 | 9 | 30.209 | 30.109 | 82 | 52 | 67.0 | 66 | 64 | N.W |
| Sunday 10 | 10 | 30.179 | 30.128 | 86 | 50 | 68.0 | 66 | 64 | W |
| Mon. 11 | 11 | 30.229 | 30.102 | 87 | 49 | 68.0 | 67 | 64 | W |
| Tues. 12 | 12 | 30.122 | 30.052 | 93 | 52 | 72.5 | 67 | 65 | S.W |
| Wed. 13 | 13 | 30.127 | 30.095 | 91 | 45 | 68.0 | 68 | 65 | S.W |
| Thurs. 14 | ○ | 30.250 | 30.149 | 76 | 47 | 61.5 | 68 | 65 | N.E |
| Average | | 30.184 | 30.106 | 85.4 | 49.0 | 67.2 | 66.9 | 64.8 | |

July 8—Clear and very fine throughout.
— 9—Cloudless; very fine; partially overcast.
— 10—Cloudless and hot; very fine; clear and fine at night.
— 11—Sultry; hot and dry; clear at night.
— 12—Clear and hot; excessively hot and dry; clear.
— 13—Hot and sultry; cloudless; very fine; cool at night.
— 14—Very fine throughout.
Mean temperature of the week, 4½ deg. above the average.

RECORD OF THE WEATHER AT CHISWICK,
During the last 33 years, for the ensuing Week, ending July 23, 59

| July. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Wind. |
|---|---|---|---|---|---|---|
| Sunday 17.. | 75.7 | 52.3 | 64.0 | 12 | 0.46 in. | [illegible] |
| Mon. 18.. | 74.3 | 51.0 | 62.6 | 16 | 1.22 | [illegible] |
| Tues. 19.. | 72.3 | 51.0 | 61.7 | 18 | 0.60 | [illegible] |
| Wed. 20.. | 73.0 | 51.2 | 61.6 | 19 | 0.47 | [illegible] |
| Thurs. 21 . | 73.0 | 51.1 | 62.0 | 13 | 0.54 | [illegible] |
| Friday 22.. | 73.3 | 52.2 | 62.7 | 17 | 1.37 | [illegible] |
| Satur. 23 . | 74.4 | 53.3 | 63.9 | 15 | 0.70 | [illegible] |

The highest temperature during the above period occurred on the [illegible] 1834—therm 94 deg.; and the lowest on the 17th, 1856, and 24th [illegible] —therm. 40 deg.

## Notices to Correspondents.

ADVERTISEMENTS: *Orion.* We are very sorry to hear that you have been so unsuccessful. A man skilful in his business, healthy, industrious, and unmarried, ought to have no difficulty in procuring a situation. Such men are always wanted. Possibly you do not mention the wages you require, or possibly you ask more than the current wages. Unless this is so we are unable to account for what is, as far as we know, quite unusual. There must be some general cause connected with yourself, for none of your applications ever receive a reply.

ARTIFICIAL LIGHT: *A L.* This has little effect on vegetation. A Crocus will open its flowers when exposed to the light of a lamp, and plants may be roused from their sleep in the same way; but the great function of vegetation, the decomposition of carbonic acid, cannot be set in motion by the most powerful lamp light.

BOTANY: *** If you wish to know for certain whether a candidate for the teachership really understands the subject, ask some botanist of *known* eminence to take the gentleman into a room, and there give him some plant to name and describe botanically. Pretenders are sure to be discovered.

BOUQUET HOLDERS: *J J G R N.* You may obtain them at a shop for the sale of fancy articles. They are made of all kinds of materials, from gold down to wire or wicker work.

FOUL WELL: *S R F.* It will consume a good deal of time to ascertain the nature of the matter which is forming a foul well. We will endeavour to give you an answer next week.

GRAPES: *H H C* The appearance of small transparent sweet globules on some of the berries of a Black Hamburgh Vine which are just beginning to colour, does not indicate honey dew, but is a symptom of high health; the [illegible] drops being surplus saccharine matter oozing through the skin.—*J G.* Your roots are down deep in bad soil, and you must expect the rest of your crop to fall into the same condition.—*W S.* Your Grapes are attacked by mildew, a disease caused by the skin of the berry when very young having been injured—by fingering, or by cold draughts of air, or some other cause.

NAMES OF PLANTS: *J M A.* Cattleya maxima; not very different from some varieties of C. Mossiæ.—*H.* The Arundo sphacelatum.—*D D. a*, Alopecurus agrestis; *b*, Agrostis lanatus; *c*, Lolium perenne; *d*, Hordeum murinum.—*E H T.* Your shrub now in bloom, grown from a seed brought from Lycia, is Bambusa gracilis.—*E H T.* Your shrub now in bloom, grown from a seed brought from Lycia, is Zizyphus aculeatus if it has prickles; Zizyphus vulgaris if it has not.—*J G.* 1, Tecoma jasminoides; 2, Actæa racemosa.—*Mr. Fern.* 1, Asplenium [illegible] in a state for determination, the flowers being [illegible] and unexaminable.—*Mr. Fern.* 1, Asplenium [illegible]; 2, Woodwardia (*alias* Doodia) caudata; 3, Lastrea [illegible]; 4, Adiantum formosum.

MEALY BUG: *Wandsworth.* You had better try to destroy it by painting, with a brush, your Vines with Gishurst compound in the proportion of half a pound to a gallon of water. But it will spoil the Grapes.

MICROPHOTOGRAPHS: *R.* One of the most successful of these curious productions is "The Interview of Charles I. with the Family," just three quarters of a French line long and one line deep. The figures when magnified are as sharply defined as in the original picture. This specimen has been executed by Mr. Amadio, of 7, Throgmorton Street, one of the most skilful of the London philosophical instrument makers.

MONSTROUS THISTLE: *J D A.* The specimen of Cardinus [illegible] is certainly in a very curious state, almost crested like a cock's comb, and might as well be called cock's-head as fasciated, the name given by botanists to such specimens. The Thistles are all subject to this peculiarity, the cause of which is unknown.

ROSES: *F H S.* This is one of the curious cases of [illegible] tion on which the doctrine of morphology is based. The whole of the interior apparatus of the flower is [illegible] into leaves, in the axils of some of which new flowers are even formed.

SEPULCHRAL FLOWERS: *C P.* Before we answer this question it is necessary to know of what sort of soil the churchyard is composed.

STRAWBERRIES FROM SEED: *Sub.* Choose a female variety; remove from its flowers all the anthers before they burst or shed their pollen over the stigmas; and with these would have burst collect pollen from another flower of the male; and with it touch lightly the stigmas of the female; when waxy, and the work is done. Cover with [illegible] or gauge to keep out insects for a day or two before and after the operation has been effected. The seeds when ripe should be sown at once in pans, and raised in a cold frame.

THINNING: *Near York.* There is no objection to the thinning taking place now, provided it is really done to [illegible]

MISC. Full price will be given for a perfect copy of [illegible]

ARTIFICIAL MANURES, &c.—Manufacturers and others engaged in making ARTIFICIAL MANURES may obtain every necessary instruction for their economical and efficient preparation, by applying to J. C. NESBIT, F.G.S., &c., Principal of the Agricultural and Chemical College, Kennington, London. Analyses of Soils, Guanos, Superphosphates of Lime, Coprolites, &c., and Assays of Gold, Silver, and other Minerals are executed with accuracy and despatch. Gentlemen desirous of receiving instruction in Chemical Analyses and Assaying, will find ample facility and accommodation at the College.

BURNARD, LACK, AND CO.'S CONCENTRATED SUPERPHOSPHATE OF LIME; guaranteed to contain Phosphoric Acid soluble, equivalent to 40 per cent. of Tribasic Phosphate of Lime.

CONCENTRATED TURNIP MANURE, equal in value to the preceding.

Of these Manures Dr. Voelcker says:—"These results must be very gratifying to you, and are the best proof of the very high agricultural and commercial value which characterises your concentrated superphosphate."

Detailed analyses, with opinions of the late and present Chemists to the Royal Agricultural Society, with Testimonials, Prices, &c., may be had on application to BURNARD, LACK, & Co., Sutton Road, Plymouth.

LONDON MANURE COMPANY, removed to 116, Fenchurch Street, E. C. (Established 1840), have the following MANURES ready for delivery:—

CORN MANURE for SPRING TOP-DRESSING
URATE
MANGEL MANURE
SUPERPHOSPHATE OF LIME
BLOOD MANURE
} all of guaranteed quality.

In consequence of the reduction in the price of raw material the London Manure Co. are enabled to lower the price of their Superphosphate of Lime, and to materially improve the Corn Manure and Urate.

The London Manure Co. also supply PERUVIAN GUANO (direct from Messrs. A. Gibbs and Sons), SULPHATE of AMMONIA, NITRATE OF SODA, CRUSHED BONES, and every other Manure of value. Wholesale dealers supplied.

116, Fenchurch Street, E.C. EDWARD PURSER, Secretary.

REDUCTION IN PRICE OF LAWES'S MANURES.

MR. LAWES begs to announce that he has this season reduced the price of the Manures manufactured by him, viz.:—

| | | | |
|---|---|---|---|
| TURNIP MANURE .. .. .. | from £7 to | £6 | 6 |
| SUPERPHOSPHATE OF LIME .. | ,, 7 to | 6 | 6 |
| MINERAL do. .. | ,, 6 to | 5 | 5 |
| BARLEY MANURE.. .. .. .. | .. | 8 | 0 |

Prof. Way and Dr. Voelcker have sampled from a bulk of 5000 to 6000 tons at his factories, and their report and analyses are given in full in Circular to be obtained on application at his office, 1, Adelaide Place, London Bridge, E.C., or of his local Agents.

N.B. Genuine Peruvian Guano direct from Messrs GIBBS, Nitrate of Soda, Sulphate of Ammonia, and other Chemical Manures. American Cotton-seed Cake supplied.

SOFT STUFF GREAVES ARE A CAPITAL MANURE FOR WHEAT LANDS.—The undersigned have sent large quantities to Norwich, where they are highly approved.—Price 4l. 10s. per ton in tierces (no charge for casks), delivered free to any railway station in London.

JOHN WILLIAMS & SON, Soap Works, Clerkenwell, London.

TO PIG AND POULTRY FEEDERS.

RICE SWEEPINGS FOR CHICKENS, 8s. per cwt., in 1¼ cwt. bags. SCREENED RICE, 11s. per cwt., in 1¼ cwt. bags. RICE MEAL, 6s. 6d. to 8s. 6d. per cwt. OILCAKE, 10l. 10s. to 11l. 10s. per ton only. DOG BISCUIT, 14s. to 15s. per cwt.—Sold for cash only by W. & R. JUPP, 6, Cross Lane, St. Mary-at-Hill, Eastcheap, City, E.C.

TO ENGINEERS.

SUBSOIL PULVERIZER.—A premium of TWENTY GUINEAS is offered by the undersigned for an approved draught design, (accompanied by a written explanation) of a MACHINE, to consist of a series of augers, for the general pulverisation, to a depth of 3 or 4 feet, of a marly soil, free from all obstructions but occasional small pieces of limestone; to be worked by a portable steam engine of 6 horse power, the augers to admit of expeditious liberation from the soil; but their number, shape, position (whether in one or two rows), and distance from each other, are matters left to the judgment of competitors. It is almost needless to add that no existing invention (Fowler's or any other) could effect so deep a pulverisation as that considered essential to the efficient cultivation of the Vine in our Australian Colonies. Designs to be sent in on or before the 15th of August.—H. S. WILLS, 10, Queen's Terrace, Queen's Road, Bayswater.

HAY HARVEST.

NICHOLSON'S PATENT HAYMAKER, to which was awarded the First Prize of the Royal Agricultural Society of England at the last contested trial.

The celebrated STAMFORD HORSE RAKE has lately been much improved, and has obtained 26 Prizes at competitive trials.

MOWING AND REAPING MACHINES are performing their work most satisfactorily, and fully justify public expectation, cutting about 10 acres per day, at a cost of 9d. per acre.

Orders for the above machines should be given at once to RICHMOND & CHANDLER, Salford, Manchester.

Branch Establishment, South John Street, Liverpool.

RICK AND HAY CLOTHS, HAY ROPES, second-hand MARQUEES and TENTS; NETTING, new and old, for protecting fruit trees; SCAFFOLD CORD, SACK TYERS, BLIND and SASH LINES, Patent Circinate NOSEBAGS, &c., &c.

J. MORISON, Manufacturer, 25, Norton Folgate, N.E.

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HAY MACHINES.

Small size, No. 1 .. £10 | Large size, No. 1 .. £12
Large size, No. 2 .. .. .. £13

These Machines are free from small and delicate parts, and can be easily understood by a farm labourer. They have gained several prizes at the Royal Agricultural Society's Shows.

HORSE RAKES.

No. 1 .. .. £6 10s. | No. 2 .. .. £7 10s.

WEDLAKE & DENDY'S Horse Rakes are made on the tubular principle, combining great strength and lightness. Free to all the principal Railway Stations.

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COLLEGE OF AGRICULTURE AND CHEMISTRY, AND OF PRACTICAL and GENERAL SCIENCE, 37 and 38, Lower Kennington Lane, Kennington, near London

Principal—J. C. NESBIT, F.G.S., F.C.S., &c.

The system of studies pursued in the College comprises every branch requisite to prepare youth for the pursuits of Agriculture, Engineering, Mining, Manufactures, and the Arts; for the Naval and Military Services, and for the Universities.

Analyses and Assays of every description are promptly and accurately executed at the College. The terms and other particulars may be had on application to the Principal.

THE LANDS IMPROVEMENT COMPANY, 2, Old Palace Yard, Westminster, S.W.

To Landowners, the Clergy, Solicitors, Estate Agents, Surveyors, &c.—The Company is incorporated by Special Act of Parliament for England, Wales, and Scotland.—Under the Company's Acts Tenants for Life, Trustees, Mortgagees in possession, Incumbents of Livings, Bodies Corporate, certain Lessees, and other landowners are empowered to charge the inheritance with the cost of improvements, whether the money be borrowed from the Company or advanced by the Landowner out of his own funds.

The Company advance money, unlimited in amount, for works of Land Improvement, the Loans and incidental expenses being liquidated by a rentcharge for a specified term of years.

No investigation of Title is required, and the Company being of a strictly commercial character do not interfere with the plans and execution of the works, which are controlled only by the Enclosure Commissioners.

The improvements authorised comprise Drainage, Irrigation, Warping, Embanking, Enclosure, Clearing, Reclaiming, Planting, Erecting and Improving Farm Houses and buildings for Farm purposes, Farm Roads, Jetties, Steam Engines, Water Wheels, Tanks, Pipes, &c.

Owners in fee may effect improvements on their Estates without incurring the expense and personal responsibilities incident to Mortgages, and without regard to the amount of existing incumbrances. Proprietors may apply jointly for the execution of Improvements mutually beneficial, such as a Common Outfall, Roads through the District, Water Power, &c. For further information and for forms of application apply to the Hon. W. NAPIER, Managing Director, 2, Old Palace Yard, Westminster, S.W.

THE BIRMINGHAM CATTLE AND POULTRY SHOW, 1859.—The ELEVENTH GREAT ANNUAL EXHIBITION OF CATTLE, SHEEP, PIGS, DOMESTIC POULTRY, AND ROOTS, will be held in Bingley Hall on MONDAY, TUESDAY, AND WEDNESDAY, November 28, 29, and 30, and THURSDAY, December 1, when Prizes, Cups, or other Articles of Silver Plate, and Gold and Silver Medals, to the amount of 1250l., will be awarded.

Prize Lists and any other information may be obtained from JOHN MORGAN, Secretary.

Offices: Bingley Hall, Birmingham.

# The Agricultural Gazette.

*SATURDAY, JULY 16, 1859.*

THE annual exhibition of the Royal Agricultural Society of England has hitherto increased in interest and extent each year; and this year's show is exceptional only in presenting an unusual progress. The catalogue of implements is now a portly volume of 440 pages, occupied with the enumeration of 5000 articles, one-half more than even Chester boasted of, and contributed by 50 or 60 additional exhibitors. The catalogue of live stock includes 1159 entries in horses, cattle, sheep, and pigs; and there are besides good displays both of wool and cheese.

The competition in some classes is unprecedentedly large. The entries for the local premiums are this year arranged separately from the others, and magnificent classes—especially of cows, heifers, and yearlings in pairs—of Shropshire sheep, and Berkshire pigs—have been attracted by them. The judges in the large short-woolled sheep, not Southdowns, have had a most laborious task, and these breeds as represented now from Hampshire, Shropshire, and Oxfordshire, which have been growing in importance ever since the Gloucester meeting, have never been surpassed. There was not a more interesting class of animals on the ground than the pairs of cows and heifers in milk or in calf, and pairs of yearlings, attracted by the local premiums. It was a good opportunity—one of the few left to us—of pitting the rival breeds against one another. But the challenge was not generally accepted, and excepting three or four entries of Herefords, one of long-horns, and one of the little Breton dairy stock presenting an absurd contrast to its neighbours, the animals were all of the Short-horn breed. A report of the show of horses, upwards of 200 in number, will be found in another page. In the Short-horn classes the prizes have in some instances been given to comparatively new names; but Colonels TOWNELEY and PENNANT, Captain GUNTER, Messrs. AMBLER, STRATTON, FLETCHER, TOD, DOUGLASS, BOOTH, are among the prize holders. "Marmaduke," which has had a career of great success ever since he has been exhibited, is only second this year in the first class. Duchess 77, shown by Captain GUNTER as a yearling heifer, is third in her class; she is the calf of Duchess 70, sold a calf for 300 guineas at the Tortworth sale, and is probably one of the most "in-and-in" bred animals in the yard; her sire and dam being by the same bull, and her grandsire and granddam being by the same bull. There is no evidence of want of constitution about her; and no lack of fecundity of late years in the particular family, nearly related as its members are, to which she belongs.

Among Herefords the well-known names as breeders of H.R.H. the PRINCE CONSORT, Lord BERWICK, and Messrs. HILL, PERRY, NAYLOR, VEVERS, and PRICE, figure in the prize list; nearly 100 animals are shown in these classes against 163 in the Short-horn classes.

There is also a good show of Devons, and with the exception of two to H.R.H the PRINCE CONSORT, the prizes go to the long established names of FOURACRE, FARTHING, QUARTLY, HOLE, POPE, and TURNER.

There is a shorter collection of the long-horned breed than, considering the locality, might have been expected.

The show of sheep is very large. There are nearly 100 entries in Leicesters, and the prizes are taken by Messrs. SANDAY and PAWLETT.

Among the Leicesters shown were rams from the flock of Mr. VALENTINE BARFORD, Foscote—shorn extraordinarily bare—and interesting from their relationship to the original Dishley flock as improved by ROBERT BAKEWELL. A paper was handed about containing a pedigree of the flock bred at Foscote since the year 1783, indicating very close relationship and persevering "in-and-in" breeding, without the production of any of those ill effects which are ascribed to it.

There are 34 entries of shearling rams in the Southdown classes, and the Duke of RICHMOND is placed first and JONAS WEBB second and third; while in the class of old rams the Duke is again first and WILLIAM RIGDEN second and third. There are 10 pens of five shearling ewes, and his Grace is here first and second, Mr. RIGDEN being third. Of course a great deal of the success of every man in this breed has long depended upon the influence of the Babraham sales, and a great improvement has no doubt been effected in this way of late years in the Duke of RICHMOND'S flock, which have acquired greater strength, thickness, and constitution. Certainly his Grace's rams exhibited this year have never been surpassed, and their place at the Sussex Exhibition a week or two ago led every one to anticipate their success here.

A very large competition in long-woolled sheep results in the award of prizes to Messrs. GARNE, FLETCHER, PORTER, and LANE, all well-known names.

For short-woolled sheep, not South Downs, Mr. HUMFREY, of Oak Ash, near Wantage, is almost as successful as he was last year at Chester: first, second, and third in shearling rams—a class of no fewer than 70 sheep; second among the old rams, where Mr. DRUCE is first, and Mr. ADNEY third; first among the pen of five shearling ewes, where Messrs. KING and CANNING are second and third; this gentleman has maintained his position as leader among the owners of what is probably the most rising breed in the country. The local prizes offered exclusively to Shropshire sheep did not allow him to compete for them.

The classes of pigs exhibited were generally commended by the judges, and well deserved the commendation, especially those classes of Berkshires exhibited for the special prizes of the Local Committee. All the classes for the local prizes were indeed exceedingly successful. The prizes for milk and dairy breeds and for cows and heifers all went to Shropshire, Messrs. AMBLER, LANGSTON, and PRICE (of Featherston) being the chief prizeholders.

Among the principal points of discussion which have arisen at the Warwick meeting is the influence of the prize system on the progress of agricultural mechanics and on the interests of machine makers and their customers generally. Mr. HORNSBY has this year carried off a large share of the prizes for ploughs. A recent maker of these tools, he has beaten the old established houses on their own ground, and it is urged by those who advocate the prize system that neither would he have exerted himself in order to such an attainment, nor could the public have become so immediately aware of the merit of his implements had there been no prize offered by the Society—no award made by their judges. Mr. HORNSBY'S ploughs did very excellent work, and they have some points in the construction of their framework that are praiseworthy; their mould-boards are convex to their work, on the plan of some Scotch ploughs, FERGUSON'S of Stirling, and other clay-land ploughs; but these distinctions—and there are greater differences among Scotch ploughs than there are amongst those of HOWARD, RANSOME, and HORNSBY—are not, we venture to say, of any such essential importance to the economy of English agriculture as to carry with them that enormous reward which an award by the Society's judges carries with it. And let it not be said that this is spoken in the interest of the old-established firms. The prizes

are as valuable to them as to any of their competitors. They have already achieved a position by years of patient labour and attention, and they have ascertained conclusively what the principles are on which a well-made plough depends for its efficiency. The prize system has made them, it is said, and now they want to throw the ladder down by which they have attained distinction. But we believe that the public verdict would have rewarded their patient perseverance as effectually as that of selected and official judges—and that the latter has done harm by giving them an undue eminence and prominence, as compared with many who are not so often named, but who differ very little from them in the merit of their implements.

—— The past week of extremely hot weather has wonderfully hastened the ripening of grain crops—the greatest progress was observable on the return journey from the Warwick show. Harvest has already commenced along the line from London to Dideot. The Wheat crop, though generally this year a puzzle to the reaping machine, being unusually laid, promises to yield well. Reports to this effect are given from some of the southern counties in another column. The Turnip crop which had escaped the fly is in many cases falling victim to the black caterpillar. An instrument shown at Warwick — a revolving brush which would travel over 5 or 6 acres a day—may perhaps be serviceable in clearing the Turnip plants when grown in rows from this voracious plague—brushing them off to the interval between the rows, where they could be dealt with by roller and drill harrow.

—— The annual letting of Mr. JONAS WEBB's rams took place last week at Babraham, when four dozen shearling rams, 42 two-shear sheep, two dozen three-year-old sheep, and a few older rams were offered. The prices reached did not equal those of some previous years, although the average, 25*l.* 9*s.* 10*d.* for 54 sheep publicly let, was 4*l.* 10*s.* higher than that of 1858. Some of the best sheep were taken by Sussex flockmasters, Mr. WATERS, of Eastbourne, being the hirer of the highest priced tup at 70 guineas, and Mr. RIGDEN, of Brighton, of the next highest for 60 guineas. Purchasers were present from America, New South Wales, and the Continent.

## APPEARANCE OF THE CROPS.

CORNWALL, *Launceston.*—Wheat, nearly an average crop, but not equal to either of the last two years. Barley and Oats suffering much from the drought, and both these crops will be light and consequently below an average. Hay, a very good crop, and secured in excellent condition. Mangels very partial, the fly in many instances damaged them exceedingly. Some fields of early sown Swedes are hoed and past all danger of the fly, but what we term the Black Jack is on them and doing considerable injury. The excessive hot dry weather prevents all green crops from making any progress; the prospect is therefore by no means cheering. Our pastures are quite burnt up, both Grass and water are likely to be very scarce. The Potato crop, although slightly affected in some instances with disease, is on the whole satisfactory. Harvest will partially commence the last week in July, and the cutting of Wheat will be general the first week in August. *John Wills, South Petherwyn, July 9.*—*Probus.* I beg to state that the Wheat crop in this neighbourhood is generally good, but the Barley crop, especially the late sown, is very thin and short, and must be much under an average crop. Oats also are likely to be under an average crop, on account of the extreme dryness of the season. The Mangel crop is generally bad, and the Turnips so backward that I cannot say much about them; the black caterpillar is making sad havoc with the early sown Turnips, as also with the Rape. The hay crop is under an average, but has been got together in beautiful order. The Wheat harvest is likely to be busy the latter part of the month. *H. Tresawne.*—Our Wheat crops are looking very favourable, although not heavy in straw. Early sown Barley and Oats are fine; late sown, thin, and short in straw. Should the fine weather continue I expect harvest will be general at the end of this month. Great complaints are made by farmers in consequence of the devastation committed on the Turnip and Rape crops by the black caterpillar. *M. Michell, Trygoose, near Truro.*

ESSEX.—Wheat, over average and well set; Barley, full average; Oats, average; Beans, average, partial failures; Mangels, good; Peas, abundant and above average; hay, abundant, over average; Potatoes, very much diseased; Turnips plant well; my own crops never so good. Harvest commences about the 18th. *J. J. Mechi, Tiptree Hall.*—Wheat generally fine and free from blight and maggot, but much lodged; will be ready for commencing harvest by the 25th, some pieces earlier will be a full crop. Barley fine, but unequal in quality; is much lodged. The early sown will be the best, malting quality, and will be a full crop generally. Oats are fine, and will be of heavier quality than usual. Common Beans good; but winter Beans for the most part very bad, and are ploughed up; they constitute a moiety of the whole crop. Hog Peas a full average crop, the autumn sown very good. White Peas below an average. Mangel Wurzel rather thin in plant, but very promising and vigorous in growth. Swede Turnips plant unusually well with little fly Feed becoming very scarce, but the hay has been well housed. The crops of both Clover and Grass, however, below an average crop. *Robert Baker, Writtle, Essex, July 9.*

HAMPSHIRE, *Romsey.* Wheat is thin on the ground and in many places much laid by storms. There is a defect in the ear of many pieces from the causes alluded to. It is the general opinion that there will not be an average crop. I think cutting will commence about August 1. Oats and Barley appear like an average crop, Beans, Peas, and Tares in my opinion will prove above an average. Our Mangels are splendid, and a much larger breadth than usual is planted. Swedes and Turnips have come forward with great rapidity and singular exemption from the fly, but the Black Palmer is carrying them off completely in many places. The earwig and wire worm is also making sad havoc, altogether rendering flock-masters very anxious about their crops of these very valuable roots. A large breadth of Potatoes was planted and they came on most satisfactorily, but the blight has assailed them earlier than it has ever done before, and apparently with greater virulence. The gardens are in many places offensive from its effects. *J. W. Clark, Lockerby.*

KENT: *Isle of Thanet.*—On the latter part of the last and the beginning of the present month we were visited with terrific thunderstorms and torrents of rain, all our best and most luxuriant corn crops were laid flat—a thing not common in this dry locality. We have since been favoured with a week of fine dry hot forcing weather, which has been of great benefit, but still on all our best high-farmed land the damage done to the corn is very great; although a much greater abundance of straw than usual, the yield must prove deficient in quantity and light and inferior in quality. The foregoing will apply to Wheat, Barley, and Oats; probably Oats (not extensively grown here) will be found to have sustained the least, and Barley (on which we Thanet farmers so much depend) the most injury. Peas are generally a good crop this season, so are spring Beans, whilst winter Beans are in most places a failure. Harvest will be about ten days earlier than usual; Barley and Oats will be commenced generally about the 18th inst., and Wheat a week later. In some few instances autumn-sown Barley is cut already. From present appearances the poor land and the bad farmer will this year have the best of it; the rain in these cases has been rather beneficial than injurious. The hay-harvest has been more than an average both in artificial and permanent Grasses, and though the rains have been very heavy, they have not been of sufficient duration to do hay much injury, or cause much delay; it is now mostly secured in fair condition. Potatoes are more diseased at this early period than they have ever been, not excepting the year 1846, the haulm on all the early varieties looks as if it were burnt, the tubers are fast rotting, and our fields and gardens actually stink so as to be annoying to persons who walk the public roads. Late sorts are not at present so seriously affected, whether they will be depends much on the weather, past experience proving (that if thunder does not cause the disease) the virulence of it is much increased when the atmosphere is highly charged with electricity. There is a much larger breadth planted this year than for many years past, and if the disease prevails all over the kingdom to the same extent as here, the loss will be severely felt by the producer and consumer. Our Mangel Wurzel has generally taken well; they are strong and healthy plants, and promise a heavy crop. Turnips are very inferior, every piece in the neighbourhood has suffered much from the black caterpillar (provincially called the nigger). We have never known the Swedes so much injured. Many remedies have been tried, but with little effect; where a person can turn ducks on the field they more effectually clear off the nigger than any means I am acquainted with. From what I have tried myself, and seen others, I believe that if as soon as the nigger first appears ducks at the rate of about four per acre are turned on the field, they will soon eat all the niggers and save the crop. We have a larger breadth of Canary sown this year than usual, and it cannot well look better. *William Manser, Dumpton, Ramsgate.*

# Societies.

## GREAT MEETING OF THE ROYAL AGRICULTURAL SOCIETY AT WARWICK.

THE class of implements examined by the judges of the Society this year requires a large extent of trial ground. Excepting that of the steam cultivator there were at Chester no field trials whatever; the judges were there engaged on barn machinery and implements for preparing food. This year they are employed in superintending ploughing, harrowing, cultivating, rolling—on light land, on so-called medium land, and on heavy land, and many fields are needed for the purpose.

The labour is not only proportionately heavy for those whose award is to direct the tide of custom; but it is more a personal labour. The question to be solved is not so capable of answer, independently of the judgment or the prejudice of the spectator. You can time a chaff-cutter and measure the power it has taken to cut a given weight of hay into pieces of a given length, and there is hardly an item on which the award must hinge which is not determined for you; but in the case of ploughing there is difference of opinion as to what constitutes good work, and your judgment is affected not only by the quality of the tool but by the ability of the man who holds it. The furrow-slices may be uniformly cut and laid in straight lines; the lip of the original surface, which is most liable to exposure, may be perfectly buried, and the corner of the slice taken from the bottom of the furrow immediately below that lip may stand prominently up, exposing a maximum of new surface to the air, and the dynamometer may declare the work to be inexpensively performed, but a great deal of the nature of the performance depends on what does not meet the eye, and you have to search for evidence of its quality by laborious subsequent examination. Your judgment, too, is necessarily affected by the weather. A chaff-cutter or a threshing machine is set to work on material which may be and ought to be all dry and in good order, but the soil is not only essentially different in different places, but it varies according to the weather in the same place.

A cultivator will go swimmingly through dry and clean land which would clog and choke in foul land or in wet. A revolving harrow like that of Mr. Ellis, which raised such a dust on Monday afternoon in the light land trial ground, is just the thing to shake the weeds out of the shallow tilth raised by a scarifier or paring plough over loose and dry and sandy soil, but it would be incapable of work on stiffer wetter land. Grubbers and cultivators, whether driven by horse-power or by steam, whose work may vary much on extremely dry and hard and intractable land, may, under the average circumstances of land throughout the year, differ very little in their performance.

The judgments of implements of cultivation, while thus more difficult and laborious than any, are perhaps less likely than any others to be completely satisfactory. Look at the effect of them—you perhaps have 30 ploughs upon the ground—20 are selected for trial work. Each has performed its ridge. In some of the cases the soil moved has been removed in order to see exactly what has really been cut off from the subsoil; the dynamometer has been put to two or three, and the work done, and the labour by which it has been done having been thus ascertained, the best and second best are declared—and the rest are nowhere. Not only so, but the worst are as good, as far as the Society's award is concerned, as the many who fall but a little way below the best.

We saw lying on the light land trial ground a large and somewhat heavy-looking timber-framed plough from Worcestershire. The maker had invented and applied several appliances for the more easy deflection and lateral shifting of the share or sock, and of the coulter. These are the peculiarities on which the maker prided himself; but the important thing connected with it, so far as society was concerned, was that it was the plough of its district. It looked outlandish, clumsy, and abrupt compared with the graceful curves and polished surfaces of the more "highly bred" instruments around it, and they were very probably as much superior to it as they looked; but this was not ascertained, for it was not tried. And the makers of the district which it represents go home unconvinced upon that point.

One of the most interesting sections of a national agricultural show might be made of a representative stand of implements—the ploughs and grubbers and harrows actually in general use in large districts where local peculiarities have retained most strongly their position. And awards, which should be founded upon actual trials of these machines alongside our best makers would be of even greater usefulness than those of these first-class makers among themselves, which have to determine the order of precedence among men who have achieved what is essentially a right to walk at the head of the profession abreast. Messrs. Hornsby, Howard, and Ransome probably made the best work upon the light-land ground, and it is barely possible that by dint of dust and perspiration, and labour and anxiety, the nicer distinctions on which the relative position of their tools depend may have been correctly made out; and all the anxiety and labour on the part of these makers was no doubt reasonably bestowed, because the upshot of it all is that the one stands first and the other second, and the third nowhere for merit on the lists of the Society for the next three years; but can any one believe that it will matter to the country in any appreciable manner whether the land is ploughed during those three years by Howard's ploughs or Ransome's? The economy of agriculture will not during the next three years be affected by these laborious competitions in the very least; and it is probable that the true relative merits of the competing implements would in the long run appear to the spectator if each maker were allowed his own way of exhibiting them, even though the fierceness and anxiety of the competition for the Society's award were a good deal reduced.

MONDAY: *July* 11.—STEAM PLOUGHING.—On Saturday, July 9, and to-day, the judges have been engaged on the light and medium soil trial grounds in comparing the work of ploughs, of steam cultivators, and of grubbers, paring ploughs, and harrows. On Mr. Canning's land, a somewhat steep slope of marly soil, some 10 chains wide and 20 chains long, Fowler's system of ploughs, and the same balance frame-work with cultivating apparatus, being essentially the plough frames without the regular mould-boards, with, however, share and cutter, was subjected to a very severe trial. It certainly made the best work in the field. The ploughing was excellent, of great depth, and without a slighted piece. No team of horses could have done the work. Probably 20 horses if they could have been yoked might have pulled the machine along, but 20 horses would have disfigured their own work by their trampling; and here without pressure on the subsoil, or a single hoof upon the soil once moved, the whole cultivable surface is turned over and under at least 9 inches deep, four furrows at a time, and at a rate considerably exceeding the ordinary pace of plough horses. The cultivating or grubbing was an equally thorough and perfect performance—left of course exceedingly rough, and needing many processes and much weathering before fit for seed, but more completely loosened, and disturbed at least 8 inches deep.

The performance of Coleman's steam cultivator seemed to us less perfect than that of Fowler's; and Smith of Woolston's apparatus, exhibited by the Messrs. Howard, was also in our opinion less perfect on the whole. The plot worked by this apparatus was perhaps less favourable to its operation than that which fell to the lot of the cultivator worked by Fowler; and certainly the old marl pit across which Smith's tackle had to go was as well done as any other part of his allotment. When the work up and down had been crossed too by his grubber, as it is in order to the completion of his process, the land was very much reduced and more prepared for the influence of the weather than under the rough but thorough grubbing which it received at the hands of Fowler's grubber. We quite anticipate, nevertheless, that the award of the judges will give the 50*l.* premium to the latter apparatus. In Smith's case an ordinary engine works a double vertical windlass separate from the engine. In Fowler's a horizontal windlass is attached to a powerful steam engine underneath it;

the wire rope travels round it and round an anchorage at the other end of the field, which also carries a windlass. Both the engine at one end and the anchorage at the other travel as the manager directs along their respective headlands, and that by a simple gearing or engaging of a winding pulley into wheels connected with the windlass. The whole thing is exceedingly simply managed, and the guiding arrangement on the cultivator or plough employed is sufficient, as was seen to-day along the curved ridges up and down which they went, to take the apparatus laterally out of the straight line, and so to adapt it to the curvatures of side ridges or old lands.

In the adjoining field, occupied by Mr. Palmer, Romaine's rotating cultivator stood, after having done some very satisfactory work: not so deep as it should have been, however, owing to the lack of power in the engine, which at length proved so defective that the whole affair was stopped. The engine on its roller wheels, the large front balance wheel, the working cylinder behind, with the stage for engineer and fuel above that, and water tank atop of boiler high over all, strike one as a cumbrous and bulky affair; but it weighs only 11 tons altogether, and travelling about one-sixth the rate of a plough horse's ordinary pace, it would not take two-horse power to merely move it. It does, in fact, take about 12 lbs. pressure on the boiler to work the mere locomotion of the engine, while 70 or 80 are used when the digging apparatus is also engaged, which thus takes seven or eight times as much power as is needed to move 11 tons on large wheels at the rate of half a mile an hour over the land. The power thus estimated is probably 14 or 15 horses. used by the digging cylinder, armed with 33 cutting teeth of a form and relative position arrived at by long and expensive trial. It works in the same direction as the travelling wheels, only so much faster as to set each tooth (one-third the circumference of the cylinder apart) just 6 inches in advance of its neighbour or the one which preceded it, and as each overlaps its neighbour on either side of it, the whole land is thus broken up into fragments varying in thickness from 6 inches at the surface of the ground to nothing or a thinning out at the part where it is cut off from the subsoil.

The work on this land about 5 or 6 inches deep was very perfect. All the loose earth had been moved for a yard wide across the plot, and the floor was perfectly true and level, whereas where a grubber had been taken across the field alongside of it, the moved soil appeared by the uneven character of the floor on which it lay to have been very unequally and imperfectly disturbed.

Steam cultivation at Warwick has resolved itself this year into a comparison of Fowler, Smith, and Romaine, and, owing to the defective engine of the last, it has practically resolved itself into a comparison of the two former, and so far as judgment from a day's trial goes, the verdict is in favour of the first. We are glad to find that Mr. Fowler is now sending out his apparatus in considerable numbers, 18 or 20 having been sold during the past month, and that he is in all probability on the way to recover the large capital which during the last few years he has invested. The application of the dynamometer is said to have brought out an extraordinary difference in favour of his implement as compared with that of Smith of Wooiston. The former when turning four furrow-slices 9 inches by 6 inches employed a power equal to 10 horses, and taking 40 inches with his cultivator he employed a power equal to 8 horses; whereas the latter taking a width of 30 inches and breaking up from 8 to 9 inches deep required a power equal to 11½ horses. Notwithstanding the greater depth of the latter work this appears to us extremely improbable; and we should be very much surprised if the draught of each of these implements at work upon this hard and marly soil was not much beyond either of the figures here quoted.

LIGHT LAND TRIAL GROUND.—*The Ploughing* here included a trial of nearly 30 ploughs, varying from the high, solid, and heavy-looking Scotch swing-ploughs, with their large and somewhat abrupt and comparatively short mould-boards, to the long, low, graceful curves of the lighter, more complicated, better *polished* English implements. There can be no doubt on the score of either draught or quality of work or cost of implement to which the palm is due. The Scotch plough at rest lies over on its mould-board, the side plate if held in that position when at work lies inclined from the land and towards the furrow, and the slice it cuts is not rectangular but acute along that edge which, when turned, it presents upwards; the whole slice has therefore to be shifted laterally before it can be turned, and a waste of power is the result. But the plough is generally held somewhat more upright than the position in which it naturally stands, and the edge of the share is then no longer horizontal, and the floor off which the slice is cut is no longer level; but if the moved earth were lifted off it would be found scored with deeper furrows, corresponding to the path taken by the point of the sock or share: and here ensues a loss of quality in the performance. But, indeed, a deficient quality in the work of the Scotch ploughs has not to be searched for to-day beneath the surface. It is obvious to the passer-by: crooked furrows, unburied surface, and every defect that can be named, are the result of the implement being badly set or badly held, not to speak of its being badly made. Most of the English ploughs, even when badly held, have made much better work—little good appears to have resulted from the use of the skim coulter, for the seams were often green with the uncovered Clover or Grass from end to end; but in one or two instances the work was beautifully perfect, as straight as possible—as large an extent of new surface shown, as complete a burial of the old as possible—and between Hornsby, Ransome, and Howard, amongst whom the nearest competition seemed to lie, the judges will have a difficulty in deciding. The following are notes on some of the ploughs engaged.

1. Law, of Shettleston, near Glasgow.—A heavy Scotch swing plough, work rough and broken.
2. T. C. Mason, of Stamford.—A lighter plough—2 wheels, coulter, and skim—very long and shallow mould-board with comparatively little twist in it, and hardly capable of pressing the slice home.
3. Jones, of Redditch, not tried.—A timber framed old-fashioned plough with short and high mould board, and contrivance for shifting share and coulter.
4. Busby, of Bedale.—One wheel, solid beam, long and taper mould board, very good work.
5. Hornsby.—Long and taper mould board, everywhere convex to its work, uncommonly good work.
6. Reeves, of Stratton.—Two wheels and skim and coulter, somewhat shorter mould board, Grass not buried.
7. Wallis & Haslam.—Also shorter mould board, highly polished, shorter beam than many of them.
8. Bruce, of Teddington.—Wide set mould board and short, two wheels, skim and coulter.
9. Goulding & Co., Leicester.—Long mould-board, patented arrangement for holding sock.
10. Page, of Bedford.—Very long and taper, and shallow mould-board.
11. Ball, of Rothwell.—Large mould-board, with coulter and skim, two wheels.
12. Hensman.—A lighter plough, long mould-board, skim coulter did not appear to have worked very well, otherwise the ploughing was good.
13. Stalker, Penrith.—Shorter and higher mould-board, more like the Scotch form, not straight work.

Ploughs were also shown by O. Maggs, of Bourton; Hitherly, of Thrussington (a wonderfully long and taper turn-furrow, making very good work); Hornsby (again and making first-rate work); Tasker with a cellar and catch for retaining or releasing the rigid connection of the two wheels; Wallis & Haslam (large and long mould boards); Warren, of Maldon (rather a long tool with a somewhat new arrangement of the frame); Goulding, of Leicester (again); Page, of Bedford (again); Busby (again, and very good and deep work); Ransome & Sims and Howards (these ploughs are well known all over England, and need no description or praise. Their work was first-rate. After repeated trials with dynamometer and without, both tools were set to travel from end to end of the furrow unheld, and made excellent work; better it appeared to us in the case of Ransome's than in that of Howard's.)

There were several turnwrest ploughs on the ground—Comins's simple and easily worked arrangement: Locock's, manufactured by Ransomes; two mould-boards end to end, with a fly common to both, and coming into operation alternately; Eddy's (Kenford, near Exeter), in which the "fly" is separate for each of the mould-boards. Comins made very poor work; Eddy's seemed to be as good as any.

*Cultivators, &c.*—In the adjoining field of light land Snowdon's paring-plough was at work. It is a heavy tool carried, however, not on a sole plate but on a solid iron wheel also of considerable weight. This wheel works by a crank movement an oscillating bar terminating in a knife, which passes through the mould-board and perpetually cleans the share. The share is a broad sharp edge, and the turf being cut is turned by a somewhat abrupt mould-board. There is a revolving knife in front by which the turf as it is turned is cut into 2 feet lengths. It may be worked by one horse, and will pare 2 acres of stubble per day from 1 to 3 inches thick; or for paring where roots have been pitted or removed; to destroy weeds and stop their vegetating; for sheep-fed Turnip land, to protect the manure; for raising and tailing Turnips from the rows. It is we believe the best of our paring ploughs. A revolving harrow by Mr. Ellis, of Holbeach, was doing some good work on this field after one of the cultivators. It found soil and circumstances exactly suited to its ability, but would probably clog on moist or heavy soil. The prize list below must be consulted for the awards of the judges in this department. *M. S.*

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TUESDAY: *July* 12.—HEAVY LAND TRIALS.—These took place to-day.

*Ploughing.*—In the field adjoining the mower trial field, to which reference is made below, the general purpose ploughs and strong land ploughs were tried, the soil the strongest we have ever had these trials on before. The competition was as usual pretty close between the old standards — Howard, Ransome, Busby, and Ball. But the well-known firm of Hornsby & Sons, of Grantham, has come forward with a plough which appears to have taken the judges by surprise. These ploughs break the land up into pieces more than others, and yet resemble them in laying the furrow-slice over complete in form and laid at a perfect angle of 45 degrees, it not being easy to tell whether the furrow has been turned to the right or left. It is very strange that now we are on the eve of going into cultivation by steam, the art of making ploughs upon the best principle should be still a doubtful question. Certainly the clap-trap tale of every soil requiring a particular principle of plough has at last got its practical answer; Mr. Hornsby's implement being tried successfully on all sorts of land. We observed that Mr. Amos was taking the amount of draught required by the various ploughs. It was he who found the Society in 1848 without the means of ascertaining the power required by any of our implements or machines with anything like pretension to truth; therefore the whole of our advances were in the dark, seeing that the power required is the great element out of which we are to draw indemnification for the means expended in improvements.

The trial of strong land scarifiers took place on the field adjoining where the ploughs were tried, where it was soon proved that the competition lay between Bentall and Coleman. The extreme tenacity of the soil-baked until almost as hard as rock, testing swingle, trees, chains, horses, and implements to the utmost, soon showing the weak parts and defective points of construction. Several were so ill contrived that the framework and material sprung and twisted until the whole got into the grasshopper style of movement. Both Bentall and Coleman's implements did the work well, the lightness of draught being evidently in favour of Coleman's; but Bentall's appeared to stick the closest to its work. We were grieved to find so much fine corn land lying undrained as another monument of the ignorance of the landowners and proof that their intelligence is not yet enough to induce tenants entering upon the task of raising the land to its highest pitch of productiveness. Would to Heaven such men were bound to let their land on leases long enough to induce men of capital and enterprise to improve and cultivate it for their own and country's wealth. *P. L.*

MOWING MACHINES.—The trial of the mowing machines took place upon a field of upland meadow bearing a light crop, but thick and close at the bottom, therefore one of the most difficult for machine cutting; the land being also ridge and furrow, served to test more fully the power of the machines to combat difficulties arising from uneven surfaces. There was also a moderate quantity of soil thrown up by worms and ants, to prove how far the gritty earth affected the cutting edge of the knives, thus showing that the various circumstances were happily combined to draw out defects in the machines if such existed.

Three machines went into competition, viz., W. M. Cranston's (of 11, New Bond Street, London,) Wood's combined American reaper and mower; Burgess & Key's Grass mowing machine, invented by Mr. J. Allen, of New York, improved and manufactured by the exhibitors; and Mr. William Harwood's (of Mendlesham, near Stonham, Suffolk) combined reaping and mowing machine. These were the only machines that came into competition as Grass mowers on this occasion. Each machine had about two acres of meadow laid off to it to cut; they started by taking a cut right up the field over ridge and furrow, opening up the work for themselves round the piece, then coming back and cutting the part the horses and travelling wheels had passed over. This Burgess & Key's machine did in first-rate style; indeed, nearly as well as where the Grass had not been trodden. Wood's being unable to cope with this difficulty the judge asked B. & K.'s man to cut this part for Mr. Cranston, and so enable him to proceed with his work. They all started about half-past 10 o'clock, A.M., and finished their task in about two hours. After the machines had been at work some time a roller about 15 cwt. in weight was drawn twice over the Grass at right angles to the progress of the machines; also one width of the roller drawn as the machines went and another in the opposite direction. This was a very severe test, yet B. & K.'s mower did its work low and clean, in fact almost as well as if the roller had never passed over it, except on that part where the roller was drawn in the same direction as the machine, where it failed to cut more than two-thirds of the Grass. Leaving this bit out, the whole of B. & K.'s piece was mown both leveller and closer than any man would cut it with the scythe, completely establishing itself as a standard implement of the farm. Some mowers who witnessed the performance exclaimed that they might hang their scythes on the old Willow tree and grieve over the passing away of the days of hard work and little pay. Both Wood's and Harwood's machines failed to cut this crop close and level enough to justify their use on a thick bottom Grassed meadow, where the last inch is the most valuable of the whole, and averaging from 4 to 5 cwts. of the best hay. But for cutting artificial Grasses of the coarser descriptions both of these machines might be useful aids to the farmer when mowers could not be obtained to do their work at a moderate price.

This trial quite satisfies us that the difficulties to be overcome in combining a reaping and mowing machine are almost too great to be surmounted without greatly reducing its value for both purposes. *P. L.*

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WEDNESDAY: *July* 13.—The Cattle yards were opened to the public about 1 o'clock on Wednesday at a charge of 5*s.* each person, and soon became fuller than we have ever known them so early in the week. It soon became evident that there was unusual competition and excellence in many of the classes. The separation of the classes for the local prizes was evidently a great improvement over the arrangement or want of arrangement at Chester, which made the Society's own classes the subject of two separate judgments and awards by the National and the local judges respectively. Here a large number of animals under separate shedding were drawn together by the very liberal offers of the locality, and the prizes for cows and heifers in pairs, and for Berkshire pigs and for Shropshire sheep, attracted one of the most interesting features of the whole exhibition.

Let us in the first place give the names of the judges, and then head each short report of the several sections with the awards in each.

### AWARD OF PRIZES.

JUDGES OF LIVE STOCK.

*Short-horn Cattle* Topham, James; Stokes, Charles; Wright, John.

*Hereford Cattle.*—Franklin, E. L.; Trethewy, H.

*Devon Cattle*—Franklin, E. L; Trethewy, H.

*Other Established Breeds of Cattle.*—Parkinson, John; Clayden, John; Thompson, J. B.

*Agricultural Horses.*—Spooner, W. C.; Randell, C.; Morley, J.

*Dray Horses.*—Spooner, W. C.; Randell, C; Morley, John

*Other Horses.*—Brooks, Thos.; Thurnall, Henry; Bland, J. H.

*Leicester Sheep.*—Hewitt, Richard; Stone, Nathaniel C.; Bodley, John

*Southdown Sheep.*—Lugar, H.; Footes, H.; Trumper, E.

*Long-woolled Sheep.*—Bartholomew, William; Bateman, Henry; Beevor, Henry.

*Short-woolled Sheep.*—Blundell, Josh.; Rawlence, James; Burgess, James.

*Pigs.*—Woolf, J.; James, Rev. C. T.; Turner, J. S.

*Stewards of Cattle.*—Mr. Robert Smith; Mr. Milward; Mr. W. Fisher Hobbs.

*Implements.*—Mr. Barnett; Mr. H. B. Caldwell; Mr. E. Pope. (Lord Leigh, steward elect)

*Honorary Director of the Show and General Arrangements.*—Mr. B. T. Brandreth Gibbs.

—— Eight thousand five hundred and twenty persons paid for admission to the yard on Wednesday afternoon. We have to postpone a report of the Implement-yard until next week owing to want of room. Descriptions will be given of any novelties that we noticed—and general references to improvements of the more ordinary tools of the farm. Of the former a digging machine—a hammer by atmospheric pressure—a dry brick making machine—a Turnip-fly duster, &c., may be enumerated as deserving that detailed description which we cannot now give them.

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THURSDAY: *July* 14.—The yard soon became exceedingly crowded, and excepting early in the morning there was little opportunity for inspecting with any care or minuteness individual animals. Up to 6 P.M. very nearly 20,000 persons had paid for admission.

The following short report on the show of Horses may be prefaced by a short conversational remark we overheard illustrative of the impossibility of obtaining unanimity of opinion on the part of the public, however unanimous the judges may have been—"A good show of cattle, is it not?"—"Yes: some mistakes, no doubt, on the part of the judges."—"The greatest mistake of the whole is of course in the entire horses—stallions for racing purposes. There is one horse there, "Sprig of Shillelagh," entirely passed over, which I confidently assert is worth all the rest in his class put together, and 500 sovereigns on the top of all!" All this said gravely, and by a man who appeared to speak from a lifetime of experience on the subject. The judges have many advantages over ordinary spectator for ensuring the justice of their awards. They can place competing animals alongside of one another—try their paces—and are undisturbed by the jostling or conversation of spectators. Their judgment is of course not infallibly just, but it is greatly more probable than that which any other three gentlemen in the crowd of to-day could form.

*HORSES.*

*The following is the award of the judges of horses:—*

HORSES.—AGRICULTURAL HORSES GENERALLY.

CLASS I. Stallions for Agricultural purposes, foaled before the 1st of January, 1857.—25*l.*, John Hemmant, of Thorney Fen, near Peterborough, Cambridge; 15*l.*, Samuel Clayden, of Linton, Cambridge; 5*l.*, Henry Hitchcock, of Chittern All Saints, near Heytesbury, Wilts.

CLASS II. Stallions for Agricultural purposes, foaled in 1857.—20*l.*, Edward Holland, of Dumbleton Hall, near Evesham; 10*l.*, R. H. Wrinch, of Harkstead, near Ipswich.

CLASS III. Mares and Foals for Agricultural purposes.—20*l.*, Charles Frost, of Wherstead, near Ipswich; 10*l.*, G. D. Badham, of Bulmer, near Sudbury.

CLASS IV. Two-years-old Fillies, for Agricultural purposes.—15*l.*, Leonard Wrinch, of Arwarton, near Ipswich; 10*l.*, H.R.H. the Prince Consort.

DRAY HORSES.

CLASS I. Stallions, foaled before the 1st of January, 1857.—25*l.*, Benjamin Taylor, of New Road, Peterborough; 10*l.*, J. Hemmant, of Thorney Fen.

CLASS II. Stallions foaled in 1857.—15*l.*, Thomas Hibbard, of Bishopstone, near Farringdon; 5*l.*, William Buller, of Hanwell Fields, near Banbury.

CLASS III. Mares with foal at feet.—20*l.*, William Lowrie, of Cadoxton, near Cardiff.

CLASS IV. Fillies foaled in 1857.—10*l.*, Thomas Russell, of Hodwell Manor, near Southam, Warwick.

OTHER HORSES.

CLASS I. Thorough-bred Stallions for getting hunters.—25*l.*, John Wadlow, of Shiffnal, Salop; 15*l.*, William Barnett, of Bay's Hill Lawn, near Cheltenham.

CLASS II. Brood Mares with foal at foot, or in foal, for breeding hunters.—20*l.*, John K. Fowler, of Prebendal Farm, near Aylesbury; 10*l.*, Charles Aikin Holland, of Hartford Hill, near Northwich.

CLASS III. Brood Mares for breeding hackneys.—15*l.*, Walter Coleman, of Kingsbury Hall, near Tamworth; 5*l.*, Samuel Wallis, of Barton Seagrave, near Kettering.

This portion of the Show has on the whole well sustained its previous reputation as being one of the most attractive portions of this great exhibition. In the first class, for *Agricultural Stallions*, no less than 30 contended for the honours, many of them being noble specimens of the breed. The strong and powerful breed of the Midland Counties was well represented in this as well as in the Drayhorse Classes, winning two prizes, viz., first and third in the Agricultural Class, the second prize being taken by a Suffolk, which breed was very well represented throughout the Show. A few Clydesdales were also shown; but they were not the best of the breed. The prize horse, No. 337, was a very fine and powerful bay horse with three white legs, and somewhat hairy, with fair moderate action, belonging to Mr. John Hemmant, of Peterborough; the second a chesnut, owned by Samuel Clayden. This animal was larger than the usual Suffolk horse, and had better fore legs and with very good action. The third prize was given to a cross-bred horse between Warwick and Suffolk, and if he had had better fore legs, would not have discredited either ancestry, his general frame being good. No. 322 was a fine 3-year old Suffolk belonging to Mr. Badham. Nos. 334 and 335 were also two good Suffolks belonging to Mr. Crisp, the first a promising 3-year-old, and the last an aged horse which won a commendation. No. 350 was also a very promising 3-year-old bay horse belonging to Messrs. Reed, and which received a commendation. We shall probably hear of this horse again. No. 329, belonging to Mr. Lowe, was a powerful iron grey horse, and was commended. No. 325 (Mr. Berridge, of Leicester) was a good black horse, and we rather wonder there were not more good horses of this colour shown, seeing how many very useful black carthorses are purchased in the Midland Counties.

In the two-year-old Class there were 14 shown, and some of considerable merit. The prize was given to Mr. Holland's No. 358, a very promising colt, that will no doubt again appear at the Society's Show; 353, a very good chesnut, belonging to Mr. Wrinch, gained the second prize, and has since been sold, we understand, for a very good price; 362, belonging to Mr. W. Biddell, was also a very nice animal; 366 (Mr. Rea, of Knighton), was a nice black colt.

Class 3, Agricultural Mares and Foals, was a good class. The Suffolks here had it pretty much their own way, winning the two prizes as well as the commendations. Mr. Frost, 380, was the winner of the first, and Mr. Badham of the second prize; both good and symmetrical animals, the latter perhaps the most compact and perfect, but the former, who gained the first position, having a more extended development. A still finer mare, No. 383, Mr. Barthrop's, was commended, but she was less perfect in the symmetry and action of her hind legs than the others. There were many other good useful mares, but mostly deficient in that very essential requisition, the power of supporting their offspring and retaining their own condition at the same time. The Suffolks excel more in the mares than in the stallions, their compact frame and activity appearing to equal advantage, whilst the too frequent slightness of the parts below the knee is less apparent in the lighter female than in the heavier male, which consequently has from this cause the appearance of being over-topped. Twenty mares were exhibited in this class with foals by their sides.

Class 4. Two-year-old-Fillies.—There were 13 entries, but several made no appearance. The prize was given to Mr. L. Wrinch, for No. 388, a very fine Suffolk filly, decidedly the best—a remarkably beautiful animal. The second prize filly was No. 396, belonging to the Prince Consort and got by the Chelmsford prize horse—a Clydesdale, a very promising and compact animal. The commendation was won by Mr. Frost's chesnut filly, No. 393.

Drayhorses, Class 1.—This was a very good class, 15 in number. The prize horse (No. 417, Mr. B. Taylor's "*England's Glory,*") was a noble animal and active withal, and very capable of getting agricultural as well as dray horses. The second prize horse, No. 409, Mr. Hemmant, was also a very fine animal, a true dray horse, with massive frame and yet active. Mr. Spence's grey horse was also well worthy of commendation, and several others, although not named.

Class 2. Two-year-old Dray Stallions.—Only six were exhibited. The prize, No. 422, belonging to Mr. Thos. Hibbard, was a very fine and powerful brown colt. Mr. Buller's red roan, No. 420, had the second prize; both were very promising animals, as well as Mr. Manning's grey, Young Matchless, No. 421.

Class 3. Mares and Foals.—Six entries. Only one was considered worthy of a prize, viz., Mr. Lowrie's brown mare, No. 425, a very good animal.

Class 4, Dray Fillies, only brought three into the lists, one only, No. 430, being worthy of a prize—a very promising filly.

The duties of the judges were much increased by having Special Prizes to determine; these prizes being given by the Local Committee for animals used or to be used in the district.

Class 1. For Agricultural Stallions.—There were eight entries. No. 983 was the prize horse, and belongs to Mr. John Manning; he was a very fine brown horse, active, and powerful. No. 981, Mr. R. Spencer's roan, was also a very superior animal. This class although not numerous was good, and several were commended.

Class 2, the 2-year old Stallions, only had three entries; but all were good. Mr. Buller's black, No. 988, was the first; Mr. Crisp's chesnut the second; and Mr. Wynn's brown was commended.

Class 3, for pairs, either Mares or Geldings for agricultural purposes, was a very good as well as interesting class. No. 994, a roan and a brown, although not a match in size or colour, were very perfect animals, possessing great strength and symmetry; they were only three years old, and gained the first prize; the second being carried away by a pair of chesnuts, a capital match, handsome and active, No. 995, belonging to Mr. Beasley; whilst a splendid pair of blacks, No. 992, belonging to Mr. E. Davies, were well worthy of a prize.

Class 4, One-year-old Fillies or Geldings, had five entries. No. 998 gained the prize—a superior animal. Mr. Badham's 999 was also a promising filly.

We must defer our observations on the lighter horses till next week.

On the whole we consider the agricultural and dray-horses above the average of previous years, although there were some better animals exhibited at Chester than were shown on the present occasion.

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CATTLE.

The following is the award of the prizes:—

SHORT-HORNED CATTLE.

CLASS I. Bulls under 6 years old.—30*l.*, John H. Bradburne of Pipe Place, near Lichfield, Staffordshire; 15*l.*, the Hon. Colonel Pennant, M.P., of Penrhyn Castle, near Bangor, Carnarvon; 5*l.*, Stephen Gooch, of Honningham, near Norwich.

CLASS II. Young Bulls.—25*l.*, Lieut.-Colonel Towneley, of Towneley Park; 15*l.*, Henry Ambler, Halifax; 5*l.*, John Lynn, of Stroxton, near Grantham, Lincoln.

CLASS III. Bull Calves.—10*l.*, William Fletcher, of Ranmanthwaite, near Mansfield, Nottinghamshire; 5*l.*, Richard Stratton, Swindon, Wiltshire.

CLASS IV. Cows in milk or in calf.—20*l.*, Richard Stratton 10*l.*, Richard Eastwood, of Swinshawe, near Burnley, Lancaster; 5*l.*, William Todd, of Elphinstone Tower, near Tranent, Haddington.

CLASS V. Heifers in milk or in calf under 3 years old.—15*l.*, Lieut.-Colonel Towneley; 10*l.*, Francis Fowler, of Hen.ow, near Biggleswade, Bedfordshire; 5*l.*, Lieut.-Colonel Towneley.

CLASS VI. Yearling Heifers.—15*l.*, John Grundy, of The Dales, Stand, near Manchester; 10*l.*, James Douglas, of Athelstaneford Farm; 5*l.*, Captain Gunter, of the Grange, near Wetherby, York.

HEREFORD CATTLE.

CLASS I. Bulls under 6 years old.—30*l.*, Richard Hill, of Golding Hall, near Shrewsbury; 15*l.*, Lord Berwick, of Cronkhill, near Shrewsbury; 5*l.*, John Williams, of St. Mary's Kingsland, near Leominster.

CLASS II. Young Bulls.—25*l.*, John Naylor, of Leighton Hall, near Welshpool; 15*l.*, William Perry, of Cholstrey, near Leominster; 5*l.*, Thomas Edwards, of Wintercott, near Leominster.

CLASS III. Bull Calves.—10*l.*, His Royal Highness the Prince Consort; 5*l.*, Charles Vevers, of Ivington Park, near Leominster.

CLASS IV. Cows in milk or in calf.—20*l.*, Thomas Rea, of Westonbury, near Pembridge; 10*l.*, Lord Berwick; 5*l.*, Rees Keene, of Pencraig, near Caerleon.

CLASS V. Heifers in milk or in calf.—15*l.*, James Rea, of Monaughty, near Knighton; 10*l.*, Lord Berwick; 5*l.*, John Naylor, of Leighton Hall.

CLASS VI. Yearling Heifers.—15*l.*, Edward Price, of Court House, Pembridge; 10*l.*, the Rev. Archer Clive, of Whitfield, near Hereford; 5*l.*, Edmund Wright, of Halston Hall, near Oswestry.

DEVON CATTLE.

CLASS I. Bull under 6 years old.—30*l.*, Walter Farthing, of Stowey Court, near Bridgewater; 15*l.*, John Quartly, of Molland, near South Molton; 5*l.*, Thomas White Fouracre, of Durston, near Taunton.

CLASS II. Young Bull.—25*l.*, John Quartly, of Molland; 10*l.*, H.R.H. the Prince Consort; 5*l.*, William Hole, of Hannaford, near Barnstaple, Devon.

CLASS III. Bull-calves.—10*l.*, William Hole, of Hannaford; 5*l.*, George Turner, of Barton.

CLASS IV. Cows in milk or in calf.—20*l.*, James Merson, of Brinsworthy, near North Molton; 10*l.*, Walter Farthing, of Stowey Court; 5*l.*, James Quartly, of Molland House

CLASS V. Heifers in milk or in calf.—15*l.*, James Quartly, of Molland House; 10*l.*, George Turner; 5*l.*, Edward Pope, of Great Toller, near Maiden Newton.

CLASS VI. Yearling Heifers.—15*l.*, John Quartly, of Molland; 10*l.*, H.R.H. the Prince Consort; 5*l.*, John Mildon, of Woodington Farm, near Witheridge, Devon.

OTHER ESTABLISHED BREEDS,

Not including the Short-horn, Hereford, or Devon breed.

CLASS I. Bulls under 6 years old.—10*l.*, the Hon. Col. Pennant, M.P.

CLASS II. Young Bulls.—10*l.*, John Turville, of Hartley Park, near Alton, Hants.

CLASS III. Cows in milk or in calf.—10*l.*, the Earl of Southesk, of Kinnaird Castle, near Brechin.

CLASS IV. Heifers in milk or in calf.—10*l.*, Lord Sondes, of Elmham Hall, near Thetford.

CLASS V. Yearling Heifers.—5*l.*, The Earl of Southesk.

The show of live stock at Warwick is on the whole more successful than that of last year. The Short-horns are decidedly of superior quality. Mr. Bradburne's 1st prize 4-year-old roan bull has several good points though not a first class animal. The hair is somewhat scanty. Col. Pennant's 2d prize, "Marmaduke," a 4-year-old roan, has perfect shoulders and admirably formed ribs, but is very light in the thighs. We are at a loss to comprehend how some "long" horned Short-horns in this class were commended.

In the 2d class Col. Towneley has won easily the 1st prize with "Royal Butterfly," 22 months old, an animal of great merit; the head exquisitely formed. Mr. Ambler's 2d prize animal in this class, "Prince Talleyrand," is a fine white animal. The 3d prize animal has a coarse hip and an ugly lengthy Devon-like horn.

In the next class Mr. Fletcher obtained the 1st prize for "Prince of Warwick," a roan nine months old: well formed in hip, and the shoulder well set. Mr. Stratton's 2d prize animal in this class, "Magician," handles well, but is not well filled up behind the shoulder. Colonel Towneley's "Bow Bearer," white, was highly commended in this section, and is a very promising animal. The loin is, according to our idea, rather fine. Mr. Wells was commended for "Prince Imperial," a dull-eyed roan possessing good substance.

In Class 4, Mr. Stratton, of Swindon, obtained 1st prize for "Matchless the Fourth," a roan cow seven years old, of extraordinary substance, but rather coarse in rump. Mr. Eastwood's 2d prize cow in this class, "Rosette," three years old, is also a fine animal. Mr. Todd's red cow "Volga," eight years old, which gained 3d prize, has points disguised in fat. "Ringlet," a six-year-old roan belonging to Mr. Douglas, is disfigured by a protuberance of fat near the tail.

In Class 5 Mr. Towneley is again successful with "Fidelity," a white heifer, two years and one month old, whose horn is a little long and fine. The majority of the colonel's Short-horns have their horns very fine, perhaps too much so. In this class Mr. Fowler of Bedfordshire gets the 2d prize for "Daisy," a roan 26 months old, and one of the most even animals we have ever seen. Colonel Towneley comes in for 3d prize with "Pearl," a red heifer, two years seven months old; a nice animal of no great depth. We were rather disappointed at finding Mr. Booth's

"Queen of the Isles," a beautiful roan, passed over without even a commendation in this class. Mr. Grundy got 1st prize in the yearling heifer class for "Faith," a handsome red and white animal. She is not at present sufficiently wide, but gives fair promise of filling up as she grows older. Mr. Douglas got 2d prize (the only one carried off by the Athelstaneford herd at Warwick), for the "Maid of Athelstaneford," a roan 22 months old, possessed of symmetry, and giving fair promise of still more successful competition. Capt Gunter's herd is here successful with "Duchess 77." Mr. Jonas Webb was highly commended for "Lady Alice," a thick well-shaped heifer. "Precious Stone," a very handsome white heifer belonging to Colonel Towneley, sixteen months old; "Matchless the Sixth," a small, handsome animal (17 months old), belonging to Mr. Stratton; "Victoria Regina," a roan (22 months old) belonging to Mr. Grundy; and "Orange Preserver," a roan, belonging to Rev. Mr. Hill, were highly commended in this class. "Victoria Regina" has her flesh too inelastic on the rump.

We have not seen a more select lot of Short-horns than those now in the Warwick show yard. And if proper precautions be taken to prevent these exhibitions from being converted into mere bazaars for people to advertise their stock, and to ensure the awards being always as fairly made as on the present occasion, we augur a rapid progressive improvement in the Short-horns of Britain.

The Herefords do not reach those of last year; indeed, there were animals of this breed at Chester superior to any at Warwick. Mr. Hill obtained 1st prize for his bull "Claret," 34 months old; a coarse animal, which is disfigured with useless fat. The 2d prize animal, "Severn," four and a-half years old, is a more symmetrical animal. The 3d prize bull in this section is "Sir Colin," belonging to Mr. Williams, a good even beast. In the next class, Mr. Naylor of Montgomeryshire got 1st prize for Adjutant, whose back inclines too much, and whose hind-legs are far from being perfect. The 2d prize animal belongs to Mr. Perry, and has more symmetry. In the 3d Class H. R. H. Prince Albert won the 1st prize with "Maximus," which is 11 months old, a very neat beast, but is deficient in the quantity of its bone and muscle. Mr. Rea's prize Hereford cow, "Bella," is an animal of great excellence. It has the touch and many of the points of the Short-horn. Indeed it is quite evident that the former breed is gradually approaching in some points to the latter, which is more highly prized. All the animals in this section are excellent. We do not quite concur in one or two of the adjudications. For instance, "Countess," belonging to Mr. Pitt, was only commended, while "Perfection," the property of the same gentleman, was highly commended. "Countess" is the finer animal of the two. "Perfection" is a year younger, but one or two of his points are not likely to improve with his growth. We do not think Mr. Smith's "Fatima" should have been passed over without some mark of approbation. In the yearling heifer class, "Medea," a handsome animal, belonging to H.R.H. Prince Albert, should have received some notice. All the prize animals in this class are highly commendable.

Of Devons we need not say much. They may be characterised as eminently good. Mr. Farthing's "Sir Peregrine," a two-and-a-half year old bull, got 1st prize. We have seldom seen a Devon having such a well set-on tail; the back is very even. Mr. Quartly's 2d prize animal in the same class is a very handsome bull, but has not sufficient depth. Mr. Merson's 1st prize cow, "Lively," well sustains her agreeable name. Indeed, there is scarcely room left for unfavourable criticism. The 2d prize animal in this class is somewhat coarse, and in some points not equal to the 3d prize cow, but she has youth, and may yet become a fine beast. Mr. Quartly's 1st prize yearling heifer is the most perfect little creature we have ever seen; and if her points continue to develop themselves in the same happy proportions as they have done her owner will yet obtain many prizes with this heifer.

Of the other breeds we say nothing, as we are convinced little good can emanate from the exhibition of such unsightly animals as many of those exhibited on this occasion. We regret, too, to be obliged to postpone the prize list and description of the classes of sheep and pigs. These we shall give next week. References to some of the prizes taken will be found in the leading article.

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FRIDAY: *July* 15.—We hope to supplement this report with additional remarks on several departments of the Show during future weeks. It has been successful in every aspect of it, in the laborious and careful trial of field implements, in the opportunity of comparison which it afforded on an unprecedented scale as regards all classes of live stock, in the additions it will make to the Society's finances, in the instruction and amusement of an immense multitude of visitors, and in the enrichment of the town and locality. Its success has been owing first to the admirable system of arrangement now perfectly developed under Mr. Brandreth Gibbs, the Director of the Show; it has also been due to the extreme fineness of the weather, and to the very satisfactory show yard arrangements for the supply of abundant, good, and cheap refreshments.—The annual meeting of members took place at 10 o'clock this morning. Reference to the proceedings will be made at length next week.


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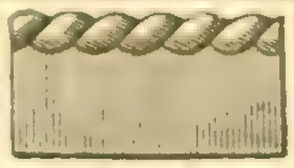

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| 2½ in. | short 1 ft. 7 in. | Fitted for lead, gutta percha or cast iron flanged pipe as required. | 1 | 5 | 0 |
| 2½ ,, | long 3 ,, 3 ,, | | 1 | 10 | 0 |
| 3 ,, | ditto 3 ,, 6 ,, | | 2 | 4 | 0 |
| 3½ ,, | ditto 3 ,, 6 ,, | | 2 | 9 | 0 |
| **4 ,,** | **ditto 3 ,, 6 ,,** | | **2** | **13** | **0** |
| 2½ ,, | short, with 15 feet of Lead Pipe attached, ready for fixing ... | | 2 | 10 | 0 |
| **2½ in.** | **long ditto ditto** | **ditto** | **2** | **14** | **0** |

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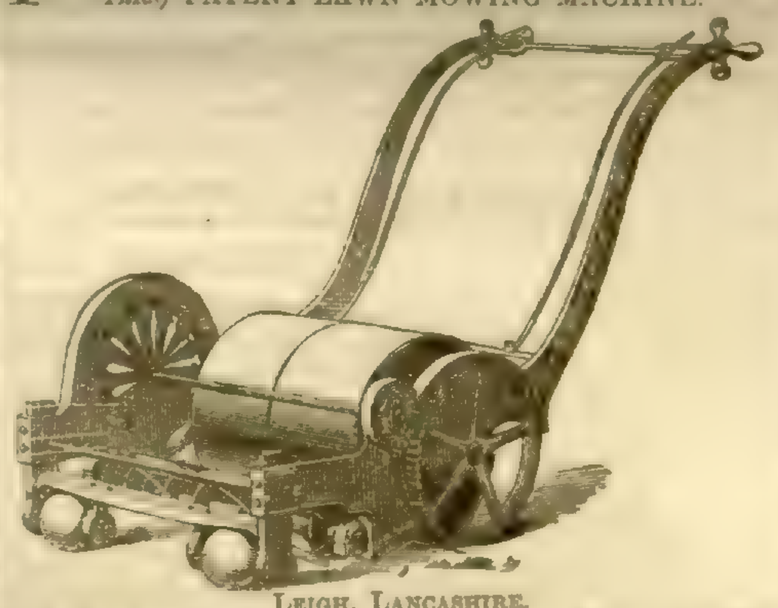

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Firstly, we have encased the wheels so as completely to protect from injury flower borders, shrubs, &c., whilst working the machine, at the same time not being liable to obstruction or damage.

Secondly, this machine works easily on undulated and sloping ground; it can be thrust forward or be drawn from behind, the latter being the easiest.

Thirdly, this is the only machine made that will work round quick curves; it will work easily and effectively round circular borders so small as 12 inches in diameter. This very desirable improvement has been obtained by fixing to the front part of the machine our newly-invented universal action, and self-cleaning, anti-friction spherical guiding balls. The continual revolving of these spherical guiding balls, under the most trying circumstances, never fails.

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| Patent Lawn Mowing Machine | 13 inches | .. | 5 | 10 |
| Ditto ditto ditto | 16 ,, | .. | 6 | 0 |
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| Ditto ditto ditto | 22 ,, | .. | 7 | 0 |
| Patent Chaff and Gorse Cutters from .. | .. | £2 5 to | 22 | 0 |
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**PATENT IMPROVED GAS WORKS,**
of all sizes for the use of Private Houses, Mansions, Railway Stations, Mills, Collieries, Mines, Villages, &c. Works from 10 to 500 lights estimated for. The works can be entrusted to an ordinary labourer.—Apply to

HENRY J. MORTON & Co. 2, Basinghall Buildings, Leeds.

**MAPPIN'S PRUNING KNIVES IN EVERY VARIETY.**
WARRANTED GOOD BY THE MAKERS.

**MAPPIN BROTHERS,** Queen's Cutlery Works, Sheffield; and 67 and 68, King William Street, London.

**MAPPIN'S "SHILLING" RAZORS Shave well** for Twelve Months without Grinding.

MAPPIN'S 2*s.* RAZORS Shave well for Three Years.

MAPPIN'S 3*s.* RAZORS (suitable for Hard or soft Beards,) Shave well for Ten Years.

**MAPPIN'S SUPERIOR TABLE-KNIVES maintain** their unrivalled Superiority—handles cannot possibly become loose—the blades are all of the very first quality, being their own Sheffield manufacture.

| | Tble. Kns. | Dst. Kns. | Carvers. |
|---|---|---|---|
| Ivory 3⅝ in. Handle, balanced, | 24*s.* p. doz.; | 16*s.* p. doz.; | 6*s.* p. pair |
| Do. 4 in. do. .. | 25*s.* ,, | 18*s.* ,, | 9*s.* ,, |

**MAPPIN'S SILVER-PLATED DESSERT KNIVES and FORKS, in Mahogany Cases.**

| | | |
|---|---|---|
| 12 Pairs Knives and Forks, Ivory Handles, in Case .. | | 80*s.* |
| 12 | Do. Pearl Handles, do. .. | 130*s.* |
| 12 | Do. Silver-Plated Handles, do. .. | 80*s.* |

**MAPPIN'S ELECTRO-SILVER PLATE.**—MAPPIN BROTHERS, Manufacturers by Special Appointment to the Queen, are the only Sheffield makers who supply the consumers in London. Their LONDON SHOW ROOMS, 67 and 68, King William Street, London Bridge, contain by far the largest STOCK of ELECTRO-SILVER PLATE in the World, which is transmitted direct from their Manufactory, Queen's Cutlery Works, Sheffield.

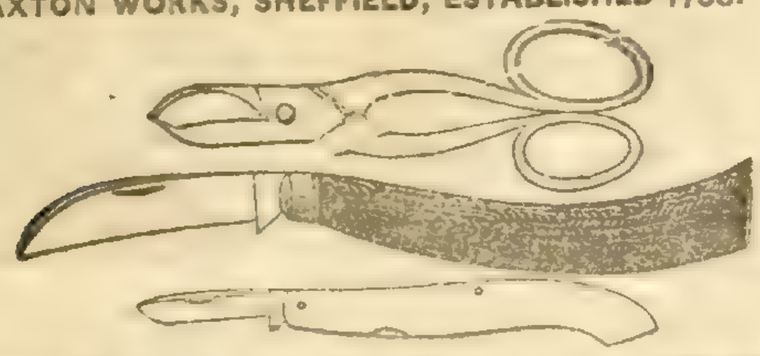
| | Fiddle Pattern. | Double Thread. | King's Pattern. |
|---|---|---|---|
| 12 Table Forks, best quality | £1 16 0 | £2 14 0 | £3 0 |
| 12 Table Spoons, best quality | 1 16 0 | 2 14 0 | 3 0 |
| 12 Dessert Forks, best quality | 1 7 0 | 2 0 0 | 2 4 |
| 12 Dessert Spoons, best quality | 1 7 0 | 2 0 0 | 2 4 |
| 12 Tea Spoons, best quality | 0 16 0 | 1 4 0 | 1 7 |

Messrs. MAPPIN BROTHERS respectfully invite buyers to inspect their unprecedented display, which, for beauty of design, exquisite workmanship, and novelty, stands unrivalled. Their Illustrated Catalogue, which is continually receiving addition of New Designs, sent per post on receipt of 12 stamps.—MAPPIN BROTHERS, 67 and 68, King William Street, London Bridge; Manufactory, Queen's Cutlery Works, Sheffield.

**SLATE WORKS, ISLEWORTH, MIDDLESEX.**

EDWARD BECK MANUFACTURES in SLATE a variety of Articles for Horticultural purposes, all of which may be seen in use at Worton Cottage, on application to the Gardener, Sundays excepted. PRICED LISTS of PLANT TUBS and BOXES forwarded on application.

**PAXTON WORKS, SHEFFIELD, ESTABLISHED 1738.**



SAYNOR AND COOKE'S warranted PRIZE PRUNING and BUDDING KNIVES, SCISSORS, &c.—Sold by all respectable Nurserymen and Seed Merchants in the three Kingdoms.

JOHN WARNER AND SONS, Crescent, Jewin Street, London.—GALVANISED IRON TUB GARDEN ENGINE, with WARNER'S Registered Spreader, is strongly recommended, for durability and low price, viz., 10 gallons, 2*l.* 15*s.*; 16 gallons, 3*l.* 15*s.*; 24 gallons, 5*l.*; or in strong oak tub, 14 gallons, 5*l.* 10*s.*; 24 gallons, 6*l.* 18*s.* May be obtained of any Ironmonger or Plumber in town or country, or of the patentees and Manufacturers; as also Machinery of all kinds for raising Water from any depth to any height by Steam, Horse, or Manual Power. Prices sent on application.

Syringes of various constructions and sizes from 9*s.* upwards. Metallic String from 10*d.* to 1*s.* 2*d.* per lb.

**ORNAMENTAL GARDENING.**

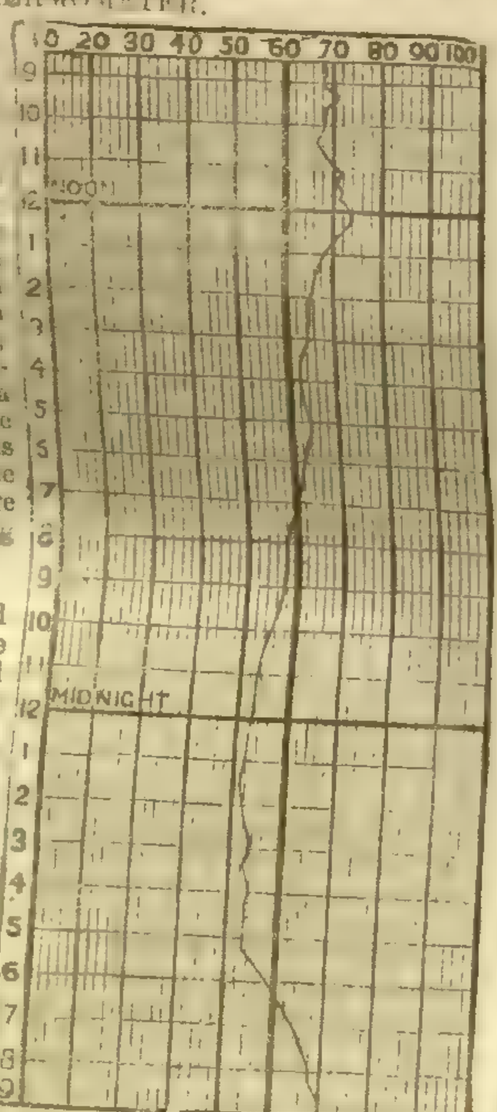
AUSTIN, SEELEY, AND CO. respectfully invite the attention of the Nobility and Gentry to their large FLOWER BASINS or "PORTE-FLEURS," of which they have now some handsome designs, from 7 to 20 feet diameter.

Fountains of every description, Vases and Figures for Gardens, and Ornamental Balustrading.—370 to 375, Euston Road.

**TO HORTICULTURISTS.**

GAUNTLETT'S PATENT CHRONOMETRICAL THERMOMETER.

This instrument, which combines an eight day clock of the best English make showing time, with a newly-patented Thermometer wherein glass and quicksilver are dispensed with, writes down the temperature of the atmosphere on a slip of paper, and when placed in a Hothouse, Forcing House, or Conservatory, &c., supplies a valuable record of the temperature, with all its variations, showing the time when any change took place, and how long such change continued.




The above slip (reduced in size) exhibits the temperature of the Royal Agricultural Society's show yard at Chester, July 22, 1858, written off by one of these instruments, to which was awarded the Society's SILVER MEDAL.

This is the only instrument that registers temperature continuously and writes it down, and no horticulturist should be without it.

Orders received by W. H. GAUNTLETT, Middlesbro' on-Tees.

**WARWICK MEETING, July 1859.**

# HOWARD'S CHAMPION PLOUGH

HAS AGAIN RECEIVED THE

**First Prize as the best Plough for General Purposes at Warwick.**

Prizes awarded to J. & F. HOWARD at Warwick, being the largest number of Prizes awarded to any Exhibitor.

THE FIRST PRIZE FOR THE BEST PLOUGH FOR GENERAL PURPOSES
A PRIZE FOR THE BEST PLOUGH FOR LIGHT LAND
A PRIZE FOR THE BEST PLOUGH FOR HEAVY LAND
THE FIRST PRIZE FOR THE BEST LIGHT HARROWS
THE SECOND PRIZE ALSO FOR THE BEST LIGHT HARROWS
THE FIRST PRIZE FOR THE BEST HEAVY HARROWS.

CATALOGUES, with full particulars, sent post free on application to

J. & F. HOWARD, BRITANNIA IRON WORKS, BEDFORD.

**Stand No. 30.—ROYAL AGRICULTURAL SOCIETY'S SHOW AT WARWICK, July, 1859.**

# B. SAMUELSON,

## AGRICULTURAL ENGINEER AND MACHINIST,

**76, CANNON STREET, WEST, LONDON; WORKS—BANBURY, OXON;**

INVITES the atttention of Agriculturists to his

IMPROVED DOUBLE-ACTION HAY-MAKER (Price 13*l.* 13*s.*).

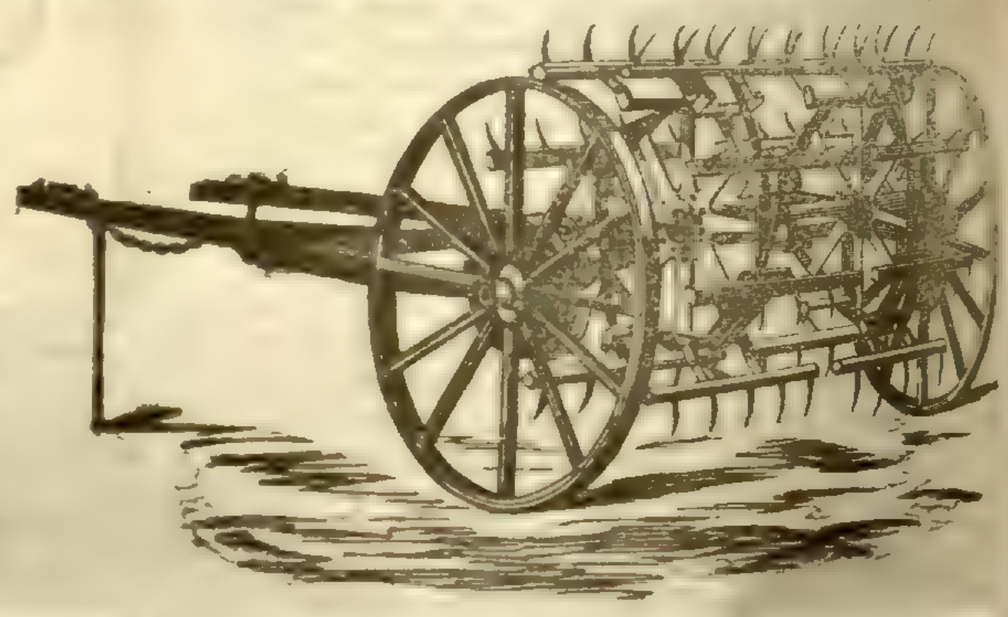
This Machine is guaranteed against breakages in fair usage.

SAMUELSON'S IMPROVED HORSE RAKES.

No. 3, extreme width, 7 feet 6 ins. £7 10 0
No. 4, " " 8 feet 6 ins. 8 0 0
Steeled Teeth, 10*s.* extra.

SAMUELSON'S PATENT BRITANNIA SELF-RAKING REAPING MACHINE, with side delivery in sheaf (requires no rakers or gatherers), price 32*l.* 10*s.* at the Works, Banbury; 34*l.* in London.

SAMUELSON'S BOYD'S PATENT LAWN MOWING AND ROLLING MACHINES. The only Machine that will cut WET as well as dry Grass. Price, from 4*l.* 17*s.* 6*d.* to 13*l.* 13*s.*



SAMUELSON'S PATENT PRIZE GARDENER'S DOUBLE ACTION TURNIP CUTTER, with the new Patent improvement for separating the dirt and small chippings from the clean and useful pieces.

SAMUELSON'S PRIZE CHAFF CUTTERS, MILLS, CAKE BREAKERS, and food-preparing Implements of every description; also HARROWS, FIELD ROLLERS, CLOD CRUSHERS, &c.

The above may be inspected at MR. SAMUELSON'S stand, No. 30, at the Warwick Show, where CATALOGUES and PRICE LISTS may be obtained, or at the

**Works, Banbury, Oxon; London Warehouse, 76, Cannon Street, West.**

# COTTAM & COMPY., Engineers, Founders, &c.,

2, WINSLEY STREET, LONDON, W.

**A SHOW ROOM DEVOTED ENTIRELY TO ARTICLES OF HORTICULTURE.**

THE NEW ILLUSTRATED CATALOGUE UPON APPLICATION.

| | | | | |
|---|---|---|---|---|
| Conservatories | Mowing Machines | Hand-glass Frames | Garden Engines | Flower Sticks |
| Greenhouses | Fountains | Game Netting | ,, Syringes | Garden Bordering |
| Hot-water Apparatus | Ornamental Wire Work | Hurdles | ,, Rollers | Watering Pots |
| Garden Vases | Flower Stands | Garden Chairs | Flower Labels | Garden Arches, &c. |

**Iron Hurdles, Strained Wire Fencing, Game Netting, &c.**

*Every description of Plain, Ornamental, Cast and Wrought Iron, and Wire Work.*

**EXHIBITION PRIZE MEDAL GATES AND ENAMELLED MANGERS.**

N.B. COTTAM AND COY. beg to make it known that there is no longer an entrance to their establishment from Oxford street, but that they have made a second entrance from 2, Winsley Street, Oxford Street, W., by the side of the old entrance to their works opposite the Pantheon.

# CALCEOLARIA, CINERARIA,

AND

## PRIMULA SINENSIS FIMBRIATA,

Of first quality, in seed packets, 2*s.* 6*d.* each.

## SPERGULA PILIFERA,

The admirable substitute for Grass in forming Lawns, &c., REQUIRING NO MOWING. Seed packets, 6*d.*, 2*s.* 6*d.*, & 5*s.*

**E. G. HENDERSON & SON, Wellington Nursery, St. John's Wood, London.**

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## NEW AND BEAUTIFUL PLANTS.

# MESSRS. VEITCH & SON,

OF THE

## ROYAL EXOTIC NURSERIES, EXETER AND CHELSEA,

HAVE much pleasure in offering for the first time the following Novelties, in the selection of which they have been guided solely by the determination of submitting only such Plants as are of general usefulness and sterling merit.

## PLANTS ARE NOW READY FOR DELIVERY.

### CHAMÆBATES FOLIOLOSA (Bentham).

This most beautiful hardy evergreen shrub, sent by Mr. W. Lobb from California, is of a dense compact habit, with most delicately divided Fern-like foliage, almost resembling the Cheilanthes elegans. The flowers, which are white, are produced in great abundance. It has been exhibited during the present season at the Crystal Palace and Royal Botanic Society's Exhibitions, at both of which it has received prizes as a new hardy evergreen. It will certainly prove a great acquisition amongst hardy evergreen shrubs. Good established plants in pots, 15*s.* and 21*s.* each, according to size.

### PENTSTEMON JAFFRAYANUM (Hooker).

This very lovely hardy half shrubby herbaceous plant was also sent from California by Mr. W. Lobb. It grows so compact and bushy, and produces its beautiful flowers, which are a clear bright blue with pure throat, so abundantly and continuously, that it will doubtless prove a most valuable plant for bedding; even as a single bush in the open border it is exceedingly striking and attractive. It was exhibited at the Royal Botanic Society's Show on July 6, and was awarded the First Prize for new and rare plants. It is figured by Sir Wm. Hooker in "Curtis's Botanical Magazine" for April, 1858. Strong established plants, 7*s.* 6*d.* each.

### POTHOS ARGYRÆA (Lindley).

This very striking variegated plant, which was found and sent us by Mr. Thomas Lobb, from Borneo, is QUITE A GEM, of remarkably neat and compact habit, and almost rivalling in beauty some of the Anœctochili. The leaves, which are obliquely ovate in shape, are of a dark green, blotched with silvery white, with an irregular band of the latter colour running along their central ribs. It has been shown at the various Metropolitan Exhibitions during the present season, at all of which it has received prizes, and been much admired. It is adapted either for pot or basket culture, and requires the temperature of a stove, where it prefers a shady position. Strong established plants, 10*s.* 6*d.*, 15*s.*, and 21*s.* each, according to size.

### PTERIS ARGYRÆA (Moore).

This is undoubtedly one of the greatest acquisitions to our now justly popular collections of Ferns. It is of noble aspect and free growth, perfectly distinct and novel in its character; the pinnæ on every frond, as well as their branches, having a broad central stripe of glistening silver, which in contrast with the bright green produces a most charming effect. It may justly be called the VARIEGATED FERN. It was exhibited at the Royal Botanic Gardens on July 6, and before the Horticultural Society's newly-appointed Floral Committee on July 7, and on both occasions received the highest prize given to such novelties, and was universally admired. Established plants, 31*s.* 6*d.* each.

### COTONEASTER BUXIFOLIA, of Wallich

(TRUE).

This perfectly hardy evergreen shrub is from the Neilgherry Hills, from whence it was sent us by Mr. Thomas Lobb. It was originally described and figured by Dr. Wight, in his "Icones Plantarum." It produces its white flowers most abundantly, is of a dwarf compact habit, and is an interesting pretty shrub. Strong plants, 5*s.* each.

### LYGODIUM POLYSTACHYUM (Wallich).

This beautiful Fern was sent us by Mr. Thomas Lobb from Central India. In general appearance and beauty of habit it much resembles some of the lovely Gleichenias. The fronds are branched, with a downy upper surface, and when cultivated to sufficient size, it will make a fine exhibition plant. Young plants, 31*s.* 6*d.* each; larger ditto, 42*s.* each.

### SELAGINELLA ATROVIRIDIS (Spring).

This is a fine species of dwarf habit, introduced from Borneo through Mr. Thomas Lobb. The branches of the repeatedly forked stems are broad and well defined, and have a most distinct and novel appearance. It is certainly one of the finest yet introduced of the dichotomous-branched section. Price 10*s.* 6*d.* each.

### SELAGINELLA LOBBI.

A most beautiful and distinct species, sent by Mr. Thomas Lobb from Borneo, partaking of the habit of S. inæqualifolia, but having the rich lustrous metallic hue of S. cæsia. It is remarkable for the Fern-like character of its branches, and no collection of these charming plants should be without this lovely addition. Price 15*s.* each.

### SPRAGUEA UMBELLATA.

This is a very distinct and pretty hardy annual, sent by Mr. Thomas Lobb from California. It is at this time in great beauty at the Exeter Nursery, raised from seed sown in the open ground last autumn, having stood without any protection through last winter. It is also well adapted for pot culture, the habit is very dwarf and spreading, resembling that of Calandrinia grandiflora. The flowers, which may be compared to Anamaranthus, are of a beautifully shaded pink, with purple stamens. Seeds of this plant will be supplied in the autumn, and in the mean time a few spring-raised plants, in small pots, can be had, at 2*s.* 6*d.* each.

*The usual allowance to the Trade, to whom special terms will be furnished when required in quantity.*

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### UNRIVALLED HYBRIDISED CALCEOLARIA SEED.

JOHN DOBSON AND SONS have again much pleasure in offering their very superior CALCEOLARIA SEED, which is acknowledged to be the very best offered to the public. The present being the best time for sowing the Seed, intending growers and admirers of really good kinds will receive great satisfaction by purchasing a Packet of this Seed, as each Packet contains a great diversity of brilliant and varied shades of colours, combined with good shape, and dwarf robust habit; this renders them especial favourites. Every year increases the large sale of the Seed; this we believe is entirely owing to our own personal inspection in hybridising and harvesting the Seed, as we pay more attention to this subject than we believe any other person in the trade does. Our collections of Calceolarias invariably take off the First Prize at the Crystal Palace and Regent's Park Exhibitions. Each Packet contains printed directions for sowing, which will tend to obviate the annoyance some persons experience in being unable to get the Seed up; each Packet is also sealed, without which none is true. May be had of the following Agents, at 1*s.* 6*d.*, 2*s.* 6*d.*, 5*s.* 0*d.*, and 5*s.* per Packet; the Seed is of one quality only.—Messrs. Butler & McCulloch, Seedsmen, Covent Garden; Messrs. Dodwell & Bailey, Bradshaw Gardens, Chadderton, near Manchester; Messrs. Fisher, Holmes, & Co., Handsworth Nursery, Sheffield; Messrs. Fraser, Richardson, & Goad, Seedsmen, 82, Bishopsgate Street Within; Messrs. Fraser, Lea Bridge Road Nursery, Essex; Messrs. Garraway, Mayes, & Co., Durdham Down Nursery, near Bristol; Mr. G. Glenny, Horticultural Agent, Fulham; Messrs. Hurst & McMullen, Seedsmen, 6, Leadenhall Street, Messrs. Robinson & Sons, Nursery, Tooting; Mr. Scott, Merriott Nurseries, Ilminster, Somerset; Mr. C. Turner, Royal Nurseries, Slough; or of the Growers, Messrs. DOBSON & SONS, Seedsmen, Woodlands Nursery, Isleworth, and High Street, Hounslow.

Also the following Seeds may be had of J. D. & SONS only, for present sowing:—

| Per packet— | s. | d. |
|---|---|---|
| Antirrhinum .. .. | 0 | 6 |
| Hollyhock .. .. | 1 | 0 |
| Fancy Geranium .. | 1 | 0 |
| Pansy, ex. .. 1*s.* and | 2 | 0 |
| Delphinium formosum | 0 | 6 |

| Per packet— | s. | d. |
|---|---|---|
| Cineraria from the finest varieties .. 1*s.* and | 2 | 6 |
| Primula sinensis, finest fimbriated varieties, 1*s.* and | 2 | 6 |

Seed Establishments, Isleworth and Hounslow, W.

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### CHOICE SEEDS.

MESSRS. PARKER AND WILLIAMS beg to inform their friends and patrons that they can now supply the following choice SEEDS, all of which are warranted genuine and of the finest quality.

| Per packet— | s. | d. |
|---|---|---|
| Calceolaria, herbaceous .. | 2 | 6 |
| Cineraria from named vars. | 2 | 6 |
| Clianthus Dampieri .. | 2 | 6 |
| Hollyhock, from named vars. .. .. .. | 0 | 6 |

| Per packet— | s. | d. |
|---|---|---|
| Gaillardia grandiflora .. | 0 | 6 |
| Primula sinensis, mixed.. | 1 | 6 |
| Pansy, from named vars . | 1 | 0 |
| Sweet William, from extra fine vars. .. .. .. | 0 | 6 |

Paradise Nursery, Seven Sisters and Hornsey Roads, Holloway, London, N.

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### RARE HARDY CONIFERS—PICEA (ABIES) AMABILIS, TRUE; PICEA (ABIES) GRANDIS, TRUE

HUGH LOW AND CO. have great pleasure in announcing that they have this season been successful in obtaining from Seed imported by them direct from California a large supply of Plants of the above named most beautiful and thoroughly hardy Conifers. They are without exception two of the finest and most ornamental trees yet known to Botanists, and attain in Northern California a height of from 250 to 280 feet. Their perfect hardiness and adaptation to the climate of this country have been proved beyond a doubt, but up to the present time Seedling Plants have been rarely to be obtained. The quantity now raised being considerable, H. L. & Co. have decided on offering them by the dozen and 100 at such low prices as will induce lovers of hardy trees to plant them in large numbers. Prices can be had on application: as also of Seedling Plants of Cupressus Lawsonii, C. macrocarpa, C. Goveniana, C. M'Nabiana, Picea Pinsapo, P. Nordmanniana, P. Pindrow, P. nobilis, Abies Menziesi, A. cephalonica, A. Douglasi, both from Californian and Scotch seeds; A. Mertensiana, (taxifolia of Jeffrey), A. Williamsoni (Puttoni, Hookeriana), A. orientalis, Araucaria imbricata, Cedrus Deodara, Cedrus Atlantica (argentea), Cryptomeria japonica, C. Lobbi, Pinus Benthamiana, P. excelsa, P. insignis, P. Don Pedri, P. Pallasiana, P. Sabiniana, P. macrocarpa, P. Edgariana, P. Jeffreyi, P. Montezuma, and many others; Podocarpus andina, P. nubigena, Thuia gigantea (Libocedrus decurrens); Thuja Lobbi (Menziesi), Torreya grandis, Wellingtonia gigantea, and many other fine Coniferous plants.—Clapton Nursery, London, N.E.

---

TRIFOLIUM INCARNATUM, 3*d.* to 4*d.* per lb.; with hints on the successful cultivation, showing how 3 tons per acre of the most nutritive hay may be secured, the advantages of sowing it where broad Clover is thin, and its superiority to Tares as green food.

PAGE AND TOOGOOD having secured a large breadth of prime quality, offer it at the above low rate for cash.

| | | | |
|---|---|---|---|
| New Turnip Seed, per lb... .. .. | 0*s.* 6*d.* | Italian Rye grass, per bush, 5*s.* to .. .. | 7*s.* 0*d.* |
| New Rape, do .. .. | 0 4 | Mustard, per lb. 4*d.* to | 0 5 |

Calceolaria and Cineraria, in packets of 2*s.* 6*d.* and 1*s.* each, saved from one of the finest collections in Europe.

Seeds for exportation to all parts of the world.

PAGE & TOOGOOD, Seed Growers and Merchants, Oxford Street; and Above Bar, Southampton.

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### BUCKLAND SWEETWATER GRAPE.

MESSRS. IVERY AND SON, of Dorking and Reigate Nurseries, feel great pleasure in introducing this fine early WHITE GRAPE, and beg to intimate that they will commence sending out Plants on October 3, in strict rotation, as the orders are received. Price 21*s.* and 31*s.* 6*d.* each.

It received the Premium offered by the Pomological Society for the best Seedling Grape not having a Muscat flavour, Sept. 9, 1858; also an Extra Prize at Crystal Palace Exhibition, Sept. 8 and 9, 1858; and it is recommended by many Gardeners who have seen it growing and tasted the fruit. For the information of those who have not seen this Grape, J. I. & Son beg to say that they have issued a Circular containing the various periodical reports, and also the names of the Gardeners by whom it is recommended, which they will be pleased to forward on application.—Dorking Nursery, July 23.

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### J. CARTER AND CO.'S Select LIST OF CHOICE FLOWER SEEDS FOR PRESENT SOWING,

will be found on page 603 of *Gardeners' Chronicle* of July 16.

238, HIGH HOLBORN,
London, W.C.

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CARTER'S CHAMPION CUCUMBER surpasses Sion House and Lord Kenyon's Favourite for winter and early spring use. Smooth, dark green, straight, and prolific; average length, 1 foot. Price per packet, 1*s.*

J. C. & Co. do not hold themselves responsible for the genuineness of the above unless obtained direct from

238, High Holborn, London, W.C.

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### SEEDS FOR PRESENT SOWING.

ROYAL BERKSHIRE SEED ESTABLISHMENT.

SEEDS DIRECT FROM THE GROWERS THE MOST CERTAIN MEANS OF PREVENTING DISAPPOINTMENT.

TRIFOLIUM INCARNATUM,
TURNIP SEEDS, | GRASS SEEDS,
MUSTARD SEED, | RAPE SEED,
COW CABBAGE, | EARLY CABBAGE,
CINERARIA, CALCEOLARIA, AND PRIMULA.

SUTTON & SONS have a good stock of New Seeds of the above kinds which they are now sending out at very moderate prices, as see Priced List. Carriage free to all parts, and 5 per cent. allowed for cash payment.

Address, SUTTON & SONS, Seed Growers, Reading, Berks.

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### BUSBY'S STOCKWOOD GOLDEN HAMBURGH GRAPE.

JAMES VEITCH, JUN., in again offering fine established Vines of this Splendid GRAPE at the prices noted below, begs to call attention to the Reports of the Horticultural Society's Fruit Committee in the *Gardeners' Chronicle* of the 16th and in the "Cottage Gardener" of the 19th inst. The beautiful specimens exhibited on this occasion in competition for J. V., jun.'s Prize of Five Guineas incontestably prove it to be a fruit of first rate excellence.

Price 5*s.* to 10*s.* 6*d.* to 21*s.* each, according to size and strength.

Special terms will be furnished to the Trade when Vines are required in quantity.

Royal Exotic Nursery, Chelsea, S.W.—July 23.

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### MUSCAT HAMBURGH GRAPE AND OTHER CHOICE SORTS.

LUCOMBE, PINCE, AND CO. have now ready to send out fine strong healthy VINES, raised from eyes, 6 to 9 feet long, of this celebrated and much esteemed new Grape, together with all the leading kinds in cultivation, including that very superior variety

BIDWILL'S SEEDLING,

which is one of the finest Black Grapes ever raised, and being a very free bearer is especially adapted for pot culture, and several specimens of it fruiting in pots can now be seen in the Exeter Nursery; it is also perfectly hardy.

L., P., & Co. having a large experimental Vinery, have had the opportunity for several years of proving their Stock, and can therefore warrant all the sorts true to their names:—

| | | | |
|---|---|---|---|
| Strong Vines .. | 5*s.* 0*d.* each | Very large extra-sized Fruiting | 10*s.* 6*d.* each |
| Extra strong .. | 7 6 ,, | | |

All are fit for immediate planting, and being well established in pots, can be packed securely, and safely sent to any distance, and Plants, fully to compensate for carriage, will be presented.

Exeter Nursery, Exeter.

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# The Gardeners' Chronicle.

*SATURDAY, JULY* 23, 1859.

THE final decision of the HORTICULTURAL SOCIETY is taken. The attempt to form a grand Garden at KENSINGTON GORE was resolved upon last Wednesday, as will be seen from the report in another column. All that now remains is for the Fellows of the Society and the public to find the money, and for the Council to settle the details of the lease with the Royal Commissioners, and obtain a PLAN worthy of so noble a site and so great an undertaking.

So many have signified their intention to join the Society should the Garden be formed that there can be no doubt about its giving the Society a very

great addition of strength, for almost every person of wealth and station in the West of London must necessarily take the deepest interest in a place calculated to add so largely to their personal enjoyment, irrespective of the immense impulse it would be certain to give to the improvement of that—we should say those—arts which conduce more than anything else to the beauty and enjoyment of country homes.

Nor is there any sign of serious difficulty in completing the fund of 50,000*l.* by the issue of Debentures, which, under the new arrangement proposed by the Royal Commissioners, will afford as safe an investment as can ever be obtained in operations of the kind. Each Debenture is to be of the value of 100*l.*, carrying until paid off 5 per cent. interest payable half yearly, and giving the holder free admission, either in person, or by transferable nomination, to the gardens at all times whatsoever. The Royal Commissioners are to guarantee a sum not exceeding 20,000*l.* to all Debenture holders remaining unpaid at the end of the first term of 31 years, or else to renew the lease for 31 years more. Several members of the Council have subscribed for these Debentures in sums from *100l. to 500l., for the purpose of showing that they* are satisfied with the goodness of the investment.

The Society has wisely committed the final arrangement of all details concerning tenure to their Council, who will of course take care, for their own security as well as that of others, that the terms shall be equitable on both sides. And in this there should be no serious difficulty, seeing that the interests of the Royal Commissioners and the Horticultural Society are identical. For if the prosperity of the Society is greatly promoted by obtaining a garden at the very gates of the metropolis, so also will the objects of the Commissioners be most essentially forwarded by carrying that prosperity to the utmost.

As to the plan of the ground, it should be understood that, although sketches of some contemplated arrangements have been made public, yet they are to be regarded as suggestions, and nothing more. The form of the ground is settled, so is the position of the bounding arcades, and of the great Winter Garden; anything further is quite open to discussion. It may be looked upon indeed as a sheet of blank paper, and will demand, more than all the rest of the arrangements, the most intelligent, practical consideration. We entertain no doubt that the Council will consider whether it will not be to the interest of the Society that they should invite plans for laying out the inner area of 20 acres, as soon as they shall have ascertained that the money which is required can be raised. Earlier than that it would be premature to discuss the subject.

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*Our readers will remember how, some six weeks since (see p. 403), we pointed out the extreme improbability of the story that the* INSECT-BITTEN ELM TREES in Paris were being cured and restored to vigorous health by being deprived of their bark. We now find that in fact the Paris foresters never denude the trees of the *whole* of their bark, they only pare off the outer layer, leaving or at least intending to leave the inner live layer intact; that is to say they leave the liber, and merely remove the separable dead outer bark. After paring off this outer bark up to the main branches they cover the stem with Moss, binding it round with coarse sack-cloth, and at the top of this kind of swathing they place a tin funnel encircling the stem, so as to enable them to keep the Moss, and consequently the liber constantly moist.

In this way they two years ago treated a considerable number of large trees in the Champs Elysées, Place de la Concorde, &c. Hundreds of them might have been seen in that state in 1857; none were vigorous and some very sickly, but it was expected that this treatment would have restored them. The trees are now, however, as we are informed, with perhaps one or two poor exceptions, dead and gone and replaced by younger ones.

In order to fill the gaps thus produced great number of trees of a large size have been, and are still being planted. They are extracted from the soil by mechanical contrivances, and carry with them a considerable, but not remarkably large ball of earth. They are then placed in a hole filled in with rich vegetable mould, and their stems also are swathed in Moss and fitted with the funnel at the top as above described, so as to keep the bark moist as in the case of the old pared trees. Some of the trees thus planted are rather young drawn up plants from 25 to 30 feet high, but others are much older and taller. Several might have been seen the other day travelling down the Boulevards each in a machine drawn by six horses. They were Horse Chesnuts in full leaf, and must have been full 50 feet high, for their tops were nearly on a level with the roofs of the houses. Nevertheless the ball of earth round their roots could not have been above 4 feet in diameter.

As to the result of this mode of transplanting and treatment there has scarcely yet been sufficient evidence. Some say that it succeeds admirably, others that the trees make during the first year vigorous looking shoots, which, however, mostly die in the second year; so that many of the trees have to be replaced in the third year. We suppose the fact to be that some die and some succeed, whether in consequence of or in spite of the swathing we are not informed. A plantation which was made the year before last round the Bourse, and consisting of trees of considerable size, all of which are swathed, does not look unhealthy, but we understand that it has been found necessary to cut out a great deal of dead wood.

The swathing the bark of trees when in a shrivelled state with a thick mass of damp Moss is a plan recommended by Mr. ANDREW KNIGHT; and is well known to be useful when the trees to be operated on are young and dormant. But we can learn nothing that tends to encourage the adoption of the practice upon trees of large size and transplanted while in leaf. Our own large trees transplanted in winter and not swaddled seem, so far as we can learn, to be quite as successful as any in Paris, and as for sickly trees being restored to health by the process, we can hear of no instance of the kind.

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## PALACE OF THE PEOPLE, MUSWELL HILL.

ON Saturday the inauguration of a site for the establishment of a "Palace of the People" at Muswell Hill, was performed by Lord Brougham, in the presence of a number of patrons and patronesses of the proposed institution.

The site, which commands one of the finest views of scenery in the county of Middlesex, consists of about 500 acres, a large portion of which forms the highest ground in the county, affording extensive views of Hertford and Essex on the north and north-east, together with the beautifully wooded scenery of Woodford and Epping Forest. In a south-easterly direction the view extends along the valley of the Thames, the Kent and Surrey hills forming the background, whilst in the extreme south and south-westerly direction is obtained no indistinct view of the metropolis, with the Crystal Palace in the distance. "The Palace of the People" at Muswell Hill is to be established to effect that desideratum for the inhabitants of the northern side of the metropolis which the Crystal Palace at Sydenham already affords to the denizens of the southern side of the Thames, and it is so situate as to be readily accessible to the northern districts, containing more than one million and a half of persons, without being obliged to pass through the crowded streets of London.

Mr. John Masterman, on behalf of the committee, read an address to the following effect:—It stated that the Crystal Palace at Sydenham was established for the purpose of providing the means of intellectual improvement and physical recreation for all classes of the community, and in this respect the experiment had been eminently successful. It appeared by the report presented to the shareholders on the 15th December last, that 1,058,206 persons visited the palace during the six months ending the 30th October, 1858, being an increase of 21,541 on the corresponding six months of 1857, and 48,594 on the same period in 1856. The profits realised for the year ending the 30th April, 1858, amounted to 35,073*l.* 17*s.* 10*d.*, equivalent to 5 per cent. on a capital of 700,000*l.* The profits for the six months ending the 30th October, 1858, were 3[illegible],221*l.* 13*s.* 3*d.* The Crystal Palace, however, being situate on the southern side of the Thames, at a distance of about six miles from London Bridge, could never become a place of frequent and easy resort for the dense population resident on the northern side. A reference to the Post Office map would show that this immense population was four or five times as large as that dwelling on the southern side of London. Whilst the greater part were debarred practically from the enjoyment of the Crystal Palace, the Palace of the People at Muswell Hill would be readily accessible to all; at the same time it would possess peculiar advantages for the erection of a building devoted to general instruction and amusement. It stood on the line of the Great Northern Railway, within a quarter of an hour's journey from King's Cross, and from its elevated position commanded the most extensive and beautiful views in all directions. It was within an easy walk from all the north metropolitan suburbs, and within an hour's drive by omnibus or carriage from the City itself. The Palace of the People was projected in no spirit of opposition to the Crystal Palace at Sydenham. Experience had proved that fair competition was favourable to all sound enterprises, and although the range of local visitors which the Palace of the People would command would seem to be of itself sufficient to ensure success, the general public might expect to derive advantage from the stimulus which each undertaking would receive from the efforts of the other. In designing the Palace of the People the architect, Mr. Owen Jones, had endeavoured to secure important attractions over its predecessors in Hyde Park and at Sydenham, combined with a considerable saving of expense. A dome of 200 feet internal diameter, visible from all parts of the building, would contain a winter garden; semi-circular colonnades at each end, of 120 feet of internal diameter, would be devoted to refreshment courts, which would command the most beautiful views of the neighbourhood. A concert room or lecture theatre of 216 feet internal diameter, surrounded by corridors 24 feet wide, would project from the centre of the building on the north side. This would contain 10,000 persons comfortably, and the corridors would enable such number to take their seats without confusion, and to disperse with facility. The railway station would be so arranged that passengers would enter the building under cover, and visitors by carriage and horseback could alight under a glazed corridor. Each side of the palace would present instructive examples of landscape gardening of different styles, such as the early English, the French, Italian, the Dutch, and modern English, with their appropriate embellishments—horticulture, economic botany, arboriculture, and ornamental planting would be taught and illustrated on a scale never before attempted on one spot, ample space being provided for out-door amusements, including archery, cricket, riding, and boating. A distinctive feature of the Palace of the People would be the endeavour to render the resources of the institution subservient to the cause of popular education. In order to accomplish this object, English history, geography, astronomy, geology, mineralogy, and mining would all be illustrated in a systematic manner, and on a large scale. Provision would be made for a fund to be applied in lectures, prizes, &c., the control and disposition of such fund to be confided to a council of distinguished men, who would preside over the educational department. The estate consisted of about 450 acres, of these 150 would be appropriated to the special use of the Palace and its grounds. A reserve of 30 acres would be made in favour of benevolent institutions connected with art, science, literature, music, horticulture, and the railway interest. The remainder would be available for the benefit of the shareholders. Mr. Masterman added, that the cost of the undertaking was estimated at 500,000*l.*, and from the careful estimates made by Sir Charles Fox and Mr. Owen Jones, there was no doubt, taking the great advantages which nature itself afforded, that the entire establishment would be constructed and opened to the public below that sum.

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## THE WATER RAT.

THIS perennial frequenter of our brooks and ponds is always in favour here, as I consider it in the light of a little British beaver, inoffensive in its habits, and nearly innocuous in its pursuits. I say nearly innocuous, because it does a trifling damage to certain fish-ponds, by making holes in the banks. It is very partial to such ponds as have been formed parallel with a rivulet; and nothing will prevent its passing to and fro from the stagnant to the running water, except a kind of wall made of tiles or slates in the middle of the intervening bank.

I am strongly of opinion that its food consists entirely of vegetable productions. In its habits, it confines itself unremittingly to the border of its favourite element. After more than half a century of observation at intervals, I have never once detected it straying from the water's edge into the adjoining fields.

When not molested, it will sit for hours together on any stone a little elevated above the surface of the water where it affords to him who advances cautiously an excellent opportunity of beholding its fine dark fur.

When impelled by appetite, you may see it cropping the Grass and Rushes, and now and then venturing on a blade of corn, should corn grow near to its haunts.

In the spring of the present year, my tom cat Whittington brought to the house a magnificent old male water rat. As I was in want of a skull at the time, I dissected it; but I found nothing in its stomach to shake my conviction, that its ordinary food is strictly vegetable.

Although differing from the Hanoverian rat in colour, form, and feature, still it is too often mistaken for that notorious marauder, and is condemned to suffer for sins which it never committed.

The water rat is of sedentary habits, and of moderate appetite. Whereas, on the contrary, its Hanoverian congener is a rambling glutton, and would go up to the moon in quest of prog, had it but a path to walk on.

When I was a boy from school, one night as our family was going to the chapel, we surprised a huge Hanoverian at the top of the staircase. Unceremoniously, it ran up inside of the cook's petticoats, and located itself just on the spot which modern milliners have selected to support the fashionable bustle.

There, the coachman pressed it so effectually with his brawny fingers, that it fell to the ground dead as mutton, close to where I was witnessing the unusual uproar. *Charles Waterton, Walton Hall, July 16.*

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## Home Correspondence.

*Turkish Peas.*—Is the inclosed anything but a white variety of the Lathyrus sativus? The seeds came from Mark Lane, where a quantity were offered, Feb. 1859, for sale for food for cattle under the name of "Turkish Peas." Is the account given of the Lathyrus sativus

selves a power to decline so to renew the lease upon taking upon themselves the responsibility of any of the Debentures now proposed to be issued by the Society that may be outstanding at the expiration of the 31 years, to any extent not exceeding a *maximum* of 20,000*l*. On the same hand, with a view to reducing as far as possible the Debenture debt above alluded to, the Society shall agree to devote in each year, during the continuance of the lease, not less than 50 per cent. of their moiety of the net surplus balance of receipts (after the Commissioner's claim for rent as set forth in my former letter are satisfied) to the purpose of paying off outstanding Debentures. In the event of the Society being unable for any period of five consecutive years, during the first term of 31 years or during the renewed term, if there be one, to pay the interest on the 50,000*l*. proposed to be borrowed by the Commissioners and which interest, according to the original proposal of the Commissioners, is to be a second charge on the net receipts of the Society), the Commissioners to have the right of re-entry without payment of compensation to the Society. Her Majesty's Commissioners have lastly to stipulate that the Society shall not underlet or dispose of their leases, either during the original or the extended term, without the consent of the Commissioner being previously obtained.—I have the honour to be, sir, your obedient servant,

(Signed) "Edgar A. Bowring."

Such was the communication received from the Commissioners, which now stated fully and distinctly what they would do at the end of the first period of 31 years. Dr. Lindley next directed attention to a list of names already sent in as supporters of the proposed plan, some for donations, others for life memberships, and others for Debentures. This list will shortly be circulated; it is therefore only necessary now to state that it included the names of all the Royal family, H.R.H. the Prince Consort, President of the Society, Earl Granville and Countess Granville, Hon. Frederick Leveson Gower, M.P., F.H.S., and George Granville Leveson Gower, Esq., Sir John Dalberg Acton, Bart., the Duke of Newcastle, the Duke and Duchess of Manchester, Lady Ulrica Thynne, the Marquis and Marchioness of Ailesbury, the Earl of Ellesmere, the Earl of Harrowby, F.H.S., Sir J. F. Davis, Bart., F.H.S., the Duke of Leinster, F.H.S., Earl of Ducie, V.P.H.S., the Hon. Payan Dawnay, F.H.S., Sir Proby Cautley, F.H.S., Col. Long, F.H.S., Sir Richard Frederick, Bart., F.H.S., Earl of St. Germans, F.H.S., Lady Rolle, F.H.S., Sir John Cathcart, F.H.S., Earl of Cawdor, F.H.S., Sir Roderick and Lady Murchison, F.H.S., Samuel Gurney, Esq., M.P., F.H.S., Lord Ashburton, F.H.S., Miss Baring, Right Hon. Henry Labouchere, Lady Mary Labouchere and three Misses Labouchere, Sir Charles Lyell, F.R.S., Lord and Lady Overstone, Major Lindsay, Hon. Mrs. Loyd Lindsay, Colonel W. Kirkman Loyd; Miss Eliza Loyd, T. Field Gibson, Esq., Right Hon. Robert Lowe, M.P., H. T. Hope, Esq., F.H.S., Sir Joseph Paxton, M.P., F.H.S., Sir William Cubitt, Sir Charles Barry, George Wood, Esq., F.H.S., Sir Charles Lamb, Bart., Colonel Harcourt, F.H.S., Rev. Thomas Staniforth, F.H.S., Lord Boston, and a large number of other gentlemen, including various members of the Council, seven of whom had subscribed for Debentures to the amount of 2300*l*., exclusive of the 1000*l*. taken by H.R.H. the President of the Society.

Dr. Lindley continued, saying that they could not of course, ascertain the precise amount of the life-memberships, because some were of 40 guineas and others of 20 guineas value; and they did not at present know which of the two classes the subscribers would join; but they might reckon the whole amount at something beyond 11,000*l*. As to the Debentures, the Council had resolved that they should be of the value of 100*l*. each, carrying interest (half-yearly) at 5*l*. per cent., with right to free admission to the Gardens on all occasions whatsoever, that right being transferable on payment of a trifling fee for the registration of the name of the party to whom transferred.

The noble Chairman then said that if any gentleman had any remarks to make before the first resolution was put he should be glad to hear them.

Mr. Grissell asked what were the particular privileges attached to the different descriptions of life memberships?

Dr. Lindley said it was proposed that the difference between the 40-guinea and the 20-guinea should continue what it had been for some years. As to the former, in addition to the ordinary privileges of Fellows of the Society, they would have a right to a transferable ivory ticket, which conferred personal privileges; personal admission at all times to the gardens of the Society be they where they might; and this ivory ticket could be lent to a friend; the latter (the 20-guinea) had no ivory ticket; and in reference to distribution of plants by ballot, the 40-guinea had a right to twice as many chances as the 20 guinea. One great object of the Society being to promote the importation from other countries of seeds and plants valuable for horticultural purposes, this last difference in privilege became of no small importance.

Mr. Grissell asked whether he was to understand that the interest on the 50,000*l*. to be advanced by the Royal Commissioners was to be paid out of the funds of the Society, and whether if for five consecutive years that interest was not paid the Commissioners were to resume possession.

Dr. Lindley said the conditions were these:—After the Horticultural Society should have paid all its expenses, including the expenses of maintaining Chiswick (which it seemed probable they would have to do to some extent), and including any interest on Debentures issued by the Society, then the surplus was to be divided thus:—If 2000*l*. surplus, it was to pay the interest of the 50,000*l*. borrowed by the Royal Commissioners; if more, the further surplus would be divided equally between the Society and the Commissioners; if the Society could not pay the 2000*l*. interest upon the money the Commissioners had to borrow, they must pay as much as they could. There would be no accumulation of rent. The income and expenditure would be ascertained every year. Dr. Lindley concluded by again reading that portion of the letter which referred to the period of "re-entry after five consecutive years."

Mr. Grissell said it seemed then that if the income of the Society was only sufficient to pay itself and the interest of the money it raised itself, the Commissioners could come in and retake possession, and leave them minus, and they would have no security at all. He was afraid there would be some difficulty in raising the money whilst that stared them in the face.

Mr. Cole said that one year would not be affected by another. If there was a deficiency one year and it was made up the next it would make no matter. It was five *consecutive* years they had to look at.

Mr. Blundy said the estimated income of the new Winter Garden was 17,475*l*.; the expenditure 9400*l*.; leaving a surplus of 8075*l*. The first charge would be the interest on the 50,000*l*. borrowed by the Society. The second charge would be the interest on the 50,000*l*. borrowed of the Commissioners. The remainder divided between the Royal Commissioners and the Society in equal proportions. Assuming these calculations to be correct (and it had been said at the last meeting that such calculations had been duly tested), they arrived at the conclusion that there would be ample to pay the interest on the money proposed to be borrowed by way of Debentures.

Mr. G. Wood asked what was proposed to be done with Chiswick? It was to be a kind of auxiliary for the supply of plants, &c., for the Winter Garden. The whole of Chiswick Gardens was not required for that purpose. What part was to be given up? The question was whether the part not required might not be made the means of raising funds for the Horticultural Society as a means towards getting rid of its old debt?

Dr. Lindley said the Society had communicated with the Duke of Devonshire, who proposed to take such part of the Chiswick Gardens as the Society felt disposed to surrender. That would reduce the cost of maintaining them *pro tanto*. The cost of maintaining Chiswick was to form part of the current expenditure of the Horticultural Society in settling their accounts with the Royal Commissioners.

Mr. Wood asked what were the pecuniary advantages to the Horticultural Society to be derived from any portion of the grounds of Chiswick?

Dr. Lindley said they would have the right of removing all plants that were removable. There was a large iron conservatory also, which it would be necessary to dispose of. Anything there would be liable to be dealt with in the same manner. But beyond the iron conservatory there would not be much on the part of the garden that might not be required that was likely to produce money towards the discharge of the old debts of the Society. There were greenhouses, &c., in the part of the grounds which it was not proposed to give up. Those would be kept to avoid the expense of the construction of others in which to rear plants for Kensington Gore or for the Society.

Sir Philip Grey Egerton said he did not wish to interrupt receipt of valuable information, but he would take the opportunity of moving a resolution on which it would be competent for any gentleman to make remarks when it was before the meeting. He looked upon the course adopted by the last special meeting as wise and judicious. No doubt some who had attended that meeting had been let into the secret as to the proposals brought before it. But the larger portion were unprepared for so splendid a proposal as that which had been submitted. It was not unlike the astonishment produced by the cock pheasant suddenly springing up before Mr. Briggs, as caricatured by Leech; or that caused by a Catherine-wheel as suddenly fizzing away just under one's nose. The scheme was one of great magnitude, and it was not fair to it, to the Society, or to the public, to be polished off without mature consideration. As far as the feelings of that very fastidious body the British public could be ascertained, they had received it with great cordiality; and he believed it would meet with general support. If carried into effect, it would tend vastly to give a great impulse to horticulture in all its branches—floriculture, horticulture, and even scientific botany itself. It would afford healthy recreation at all times of the year and in all seasons, and also an opportunity of seeing the best productions of other climes collected and submitted for inspection. The Royal Commissioners themselves had behaved with great liberality—with wise liberality. Looking at the past, they would find in the finest productions of the sculptor and the painter—foliage. Foliage was now an accepted word in every dictionary of art. They had acted wisely therefore in bringing close to the Schools of Design those objects which could be studied from Nature better than from the works even of the ancient masters. The Society was deeply indebted to the Council for the trouble they had taken during the negotiations, and he thought a great meed of thanks was due to them. He hoped and believed they would carry on the negotiations to a successful completion if possible. The resolution he had to move was as follows:

"That this meeting approves of the steps already taken by the Council, authorise the negotiations with the Royal Commissioners to be continued, and empower the Council to proceed to raise the sum required for the construction of a Garden at Kensington Gore, and if the money shall be obtained to complete the arrangements."

His Grace the Duke of Leinster, in seconding the resolution, said that the result of a former resolution at a former meeting had created a warm and most useful discussion, which, he must add, had been carried on with every good feeling, and had elicited a great deal of information on the matters which the Society had before it. His Grace then referred to the report of the Council (dated July 7, 1859), said he was a little taken by surprise when that paper was put into his hands, and when he began to consider the locality, and the great advantages attached to it. His Grace concluded by deeming it of the highest importance that the measures proposed should be carried out, and with a view towards that end he had much pleasure in seconding the resolution which had been so well proposed by Sir Philip Egerton.

The noble Chairman having read the resolution, Mr. Grissell said no doubt the subject would receive the deepest consideration. The proposition of the Commissioners did not seem to him so favourable as the one as to the 31 years' lease. Were they liable to pay interest on the 50,000*l*. of the Royal Commissioners as well as on their own? If their income was only sufficient to keep up the Winter Garden and to pay the interest on the money they borrowed, and they had not wherewith to pay interest on the other 50,000*l*., it would seem hard that the Commissioners should be able to come in and expel them and take possession of the ground.

Dr. Lindley explained that in reality the difference between the second proposal and the first was—in the first instance the Commissioners said nothing about the renewal of the lease. Now they said they would renew the lease on certain terms, or if they did not they would find a sum of money in satisfaction of outstanding Debentures. There was, however, nothing in the first propositions of the Commissioners about the right of re-entry.

Mr. Godson said that at the last meeting many questions arose which led to the second proposal of the Commissioners, and after reviewing the whole of the matters connected with the proposals, he went on to say that in what concerned Chiswick they had been greatly relieved by the families of Devonshire and Granville. They could not deal with Chiswick, however, without knowing what they were going to do about Kensington Gore. He was not for parting with the "bird in the hand." He would not lose hold of Chiswick until they had got the Winter Garden at Kensington. He had taken 500*l*. worth of Debentures, and did not feel at all alarmed about the matter. He had every hope of success. Whatever fell from the meeting to-day he hoped that an impression would be wiped away (or he was much mistaken) that there was no security for this 50,000*l*. With proper care and prudence there would be ample; but not if they received 4000*l*. or 5000*l*. only, and then spent 9000*l*. at Chiswick. This had been done. He could not condemn the present Council for the past, however. The Council had now the means in their own hands, and they must keep within those means. It was every man's duty to do so, and the Horticultural Society must do so likewise. If they did this, whether the present scheme succeeded or not, the Society would be in a far more flourishing state. He repeated his faith in the security afforded. If it was suffered to go abroad that there was no security, they not only depreciated the character of the Society, but they paid no respect to the Council of that Society. He had a high opinion of the Royal Commissioners of 1851. They were open to conviction. They had shown themselves anxious to give the Society a fair start, by affording to it every support. He repeated that he had taken 500*l*. worth of Debentures, and in conclusion he hoped that no one would leave that room with the impression that they would not get security as well as interest for the money they might advance.

Mr. Edmonds said the horticulture of the whole world would be improved through the medium of this Society. They already knew the good which had been done to horticulture in Great Britain through it. Other societies had found their parentage in this. His conviction was that if they could only raise the funds to carry out the present scheme, they would soon see a vast advance made in horticulture. If they made the monetary—that was to say, the preliminary—arrangements satisfactory there could be no doubt of the results.

Mr. James Cole (of Ipswich) wished to know how they proposed to pay the first two years' interest on the Debentures? They could not expect the concern to be profitable for the first two years.

The Earl of Ducie said the money subscribed by way of Debentures would not be all required at once. The life-memberships would enable them to begin the work. Then the opening would be a great spectacle, and would no doubt be nobly supported and bring in large funds to the Society, thus counteracting in a great measure any deficiency during the formation of the Garden.

by Loudon to be depended on? *Cobham.* [Yes. We do not see that the specimen forwarded offers any distinction from L. sativus. Its seeds are certainly unwholesome to man.]

*Luminous Plants.*—Observing that the attention of the observant is called to the luminous appearance among plants, it occurs to me that about three years since, whilst on my return from the hills after deer in the Hebrides, I noticed (when following close in the footsteps of the gillie, to avoid falling into the deep fissures of the moor) that, as he withdrew his foot from the moor the spot became immediately luminous, and this continued for about the space of a quarter of a mile. I endeavoured to preserve small portions of the Lichen, but dropped them during a very disagreeable walk in the dark. The Lichen resembled in form the antler of the red deer, and was whitish or pale grey in colour. The time of year October, nearly the last day or so of that month, and vegetation rapidly decomposing. *K. T. A.*

*Rose Lælia.*—Can any Rose grower inform me in what respect this, which I see is advertised as new, is different from Louise Peyronnet. For my own part I see no difference between them. If Lælia be different then I would like to know what makes it better. *A Rose Grower.*

*Bottom-heat for Cucumbers.*—A good deal has been said for and against bottom-heat for Cucumbers from time to time, and Mr. Ayres to fortify his position as a cold-bottom disciple sent some leaves from his plants that were considered strong evidence in favour of the no bottom-heat system. I now send you a leaf picked at random from a span-roofed house in which we grow Cucumbers all the year round; the bottom-heat is never under 80°, and often above it; it is derived from hot-water pipes; the house is only 25 feet long and 12 feet wide, and from it we can cut a Cucumber every day of the year. The leaf sent measures 20 inches by 17 inches, the average length of the fruit at present in the house is 22 inches, the sort Sir C. Campbell. *W. Thomson, Dalkeith Gardens, July* 8. [We must take some opportunity of re-opening this question, the point of which has been completely lost sight of.]

*The Water Rat.*—Your correspondent need have no fear of this little animal killing his fowls, or sucking eggs, or biting his fingers. To such bad habits it is decidedly averse. But in hard winters it is a voracious consumer of the roots of trees. Some years since I saw in my shrubbery a fine Holly, 20 feet high, which had always been remarkable for its erectness, falling over to one side, and upon examination its roots were found to have been completely gnawed off by the water rats of a neighbouring ditch, from whence the rats had ingeniously constructed a gallery rising upwards from the water. The same black gentlemen entirely destroyed a fine Hawthorn hedge, 150 feet long, and in the same manner. *Jael.*

*Linum grandiflorum.*—I have never found any difficulty in growing this from seed, treating it in the same way as the whole class of tender annuals, but was struck lately with the appearance of two patches in my garden of unusual size and vigorous growth, and a sheet of flower; while those I had reared were only beginning to show signs of flowering, and were poor little things in comparison. On inquiry I found these beautiful specimens were from seed sown in the open ground with other hardy annuals, and no more attention. The seed had been sent to my governess, who fortunately did not know that it required any particular care, and so did not weaken or spoil it by over-kindness. *Clericus.*

*Peas.*—Is there any difference between the Auvergne Pea and Dickson's Favourite? Both these sorts are growing side by side in my garden, and I can see no difference whatever. I should be glad to know the peculiarity or superiority of the one over the other. For the Auvergne I paid 1*s.* a quart, and for Favourite 1*s.*6*d.* *John Marsland, Birch Hall, Rusholme, near Manchester, July* 20.

*Picea nobilis.*—We have a fine specimen of this here, which has produced cones for several years. Last season I gathered from it some well ripened ones, the seeds from which were sown in the spring of this year, and they have produced more than a thousand strong healthy plants. *Richard George, Chatsworth, Derbyshire.*

*Gladioli.*—On the occasion of a late visit to a friend who is an enthusiastic as well as successful amateur horticulturist, among many other excellent things I noticed some fine beds of Gladioli, particularly ramosus, gandavensis, insignis, and cardinalis, but foremost among all for its beautiful effect in a mass stood cardinalis. To be seen in perfection it should be grown in a circular bed, and, if possible, on an elevated part of the lawn; then the graceful curve of the flower-stems all round and down to the Grass makes one of the most beautiful masses of scarlet, and this too without the usual defect —too much green. To be grown in perfection my friend told me it should be planted in equal parts of rich loam and peat, and about one-fourth of the whole clean sharp sand, put in about 4 inches deep early in autumn, and protected from frost by leaves, litter, or some such contrivance, and as a principal point not be disturbed more than once every three or four years. If any of your readers who have not grown these plants with the above success will try this method they will be more than compensated for the trouble by the gorgeous display produced. *J. K. C.*

*Strawberry Runners* (See p. 606).—Having had considerable experience in the cultivation of the Strawberry, I am quite at a loss to understand why your correspondent "J. H. H." is not able to fruit his plants the first year after laying, provided he observed the following particular; viz., to select the strongest runners as early in the season as possible. Of course if he does not lay his plants before now he cannot expect them to fruit like those laid in the early part of June, as there is not time for them to form their fruit-buds. Another point to which attention should be paid is to give plenty of water till autumn, for if left to dry up in the summer time they are not able to form their flower-buds before autumn, when they are so tender that the least frost possible kills them. If however he strictly follows the above directions, and selects the strongest and earliest runners, and keeps them in a growing state till autumn, so that they may finish growth early, then success is certain. Out of some thousands laid here every year we never have any that do not fruit, except such as are blind. Perhaps however your correspondent leaves his plants to root in the ground, five or six on a runner, till now, then takes up; if so, the mystery is explained. Success cannot attend such treatment. *William G. Gordon.*

*Roses.*—Would your correspondent Mr. Sheppard, of Wolverstone Park, who in your Paper of March 5th gave such a successful account of his system of growing Roses on the Manetti stock, be so kind as give the details of his management, such as the growing of the stocks, time and mode of grafting, and all after management? It would be conferring a great boon on those amateurs who cannot employ scientific men. *J. K. C.*

*A Foul Well.*—I should be much obliged if you could give me a word of advice concerning a well—an old well that I re-opened last year after it had been closed for not less than 25 years. The water seemed very good; the well in good condition. In the winter I had it thoroughly cleaned, and soon afterwards put down a pump. The water at first came clean enough, but soon there appeared in it what seemed to be a weed, like a very fine Seaweed, in its early state, with almost transparent colourless fibres; as it appeared to grow older it became of a dirty green colour. When I drew some water 12 months ago, I did not observe anything of the sort. I have bottled some of this weed, or whatever it may be, in a quill, which I enclose for your inspection. What is to be done? Will it profit me to pump the well out? This I can do easily, for the water does not stand in it more than 4 feet, being supplied by a spring flowing through the rock, as is usually the case hereabouts. The depth is 54 feet from the surface. The pump is of the common kind, made of green Elm; the piece above the ground Oak, also green. If you or any of your contributors can assist an original subscriber, pray do so. *S. R. F.* [A microscopical examination of the matter sent us shows that the green portion consists of clouds of Contervoid threads and mucilage, possibly belonging to the plant called Anabaina subtilissima. Mixed with this are woody fibres, possibly derived from some old rope in the well. There seems to be no remedy except pumping the well dry, thoroughly cleaning it, leaving caustic lime to act for a time, and then pumping it dry again.]

*Rose Insects.*—I herewith send for your inspection a caterpillar which has made terrible havoc amongst my Rose trees this season. The effects of their industry you will see by the accompanying leaves, which are in fact mere skeletons of leaves; and where the enemy exists to great extent, such is the disfigured appearance of the trees that Rose growing might be given up unless a remedy is found, either for destroying the parent of the caterpillar or the latter on its first appearance. I should be greatly obliged for any information on the subject. The first ravages I observed from this enemy appeared three years ago, when they were confined to one tree in the front of my house; last year they extended to a few standard trees near, and this year they have spread to trees at a very considerable distance. The first tree attacked, however, was the original one in the front of the house, when after finishing every leaf upon it, those of a Wistaria were commenced upon; but they proved distasteful, and so but very few were injured. I have not heard of any other garden which has been visited with this pest. I ought to remark that about three weeks ago, when at a neighbouring nursery-ground, I was advised to try "Gishurst Compound," as being very fatal to insect life, and therefore, although the nurseryman was quite unacquainted with the caterpillar in question, he said it might destroy it; and I have great pleasure in saying that I found his prophecy correct, for by syringing the trees very freely vast numbers were destroyed, though not all. I see by your last *Agricultural Gazette* that the black caterpillar is in some districts ravaging the Swedes. Would it not be well to try the effects of the Gishurst Compound? when if found to answer, probably the company might be able so far to lower the price as to make its application nearly universal. A trial, too, might next season be made against the old Turnip enemy, "the fly," whose ravages have again been much felt in this district. *W. Squire Ward, Wellow Hall, Newark, July* 19. [The insects which have committed so much injury to the Roses, as described in the above communication, are the larvæ of the Rose saw-fly (Tenthredo Æthiops), described and figured in *Gardeners' Chronicle*, 1848, p. 524. It would be serviceable to envelope the trees infested in a canvas bag, and then fumigate them with sulphur or brimstone. *W.*]

*Gishurst Compound.*—The following is our experience of this Compound: For stove plants 2 oz. to the gallon are enough; for greenhouse plants, 2½ oz; for out-door plants, such as Carnations, Roses, &c., 3 oz.; for Pea and all fruit trees, 4 oz. We have used it on some thousands of plants, and the effect has always been to kill the insects completely; if some escaped a second application was effectual; 1 oz. to the gallon killed with two applications every green fly on Carnations, Pinks, and Picotees, and what is more the plants have not been attacked since. Much depends upon the state of plants; if forced, and they have delicate leaves, or plants making rapid growth, 4 oz. would destroy the foliage; 1 oz. would be quite enough; a little judgment should be used in these matters; all plants out of doors are hardier, consequently they will stand a stronger dose. We apply it with loose pieces of mat tied at one end 1 foot long; one of these in each hand, dipping them both in the pot and drawing them on each side of the shoots and leaves. *A. Henderson & Co., Pine-apple Place, Edgware Road, July* 16.——If any one having Loudon's Gardeners' Magazine for 1830 to 1833 will refer to the Index under Red Spider, he will find a recipe for the destruction of this pest, which if not identical is so near an approximation to it as to warrant a strong suspicion of its forming the base of this compound. It is a system of lixiviating sulphur which I recollect using successfully for spider at the time; but which I had forgotten until a sniff of the Compound reminded me of my "ancient friend." I am using the Compound, and though it is useful, I am not at all enraptured with it. For bug, turtle, and white scale it is almost useless, unless the insects are dislodged previously to the application; and on the score of expedition it has certainly little more to recommend it than the old remedy of "catch 'em and kill 'em." For bug, the remedy sent out by Messrs. Veitch's foreman some years back is very preferable to the Compound, and I find tobacco water at 6*d.* per gallon cheaper for aphides and thrips. *Orchardleigh.*

## Horticultural Society.

A SPECIAL general meeting of this Society was held in the large room of the Society of Arts, John Street, Adelphi, on Wednesday last, "for the purpose of further considering an arrangement with her Majesty's Commissioners of the Exhibition of 1851, for leasing to the Horticultural Society 20 acres of ground at Kensington Gore. The Earl of Ducie took the chair. The business of the meeting commenced by the minutes of the last meeting being read by Dr. Lindley.

The Earl of Ducie then rose and said that in discharging the duties entrusted to his charge he would endeavour to be as brief as possible. They were there to report progress as between the Council and the Royal Commissioners since the last meeting. He was happy to say that some amplifications of the proposed lease had been communicated to the Council. He could not say the terms were more liberal, where the concession had been almost all on one side, but perhaps he might say the further information would make the lease more acceptable to those likely to support them. No exertions had been yet made to raise funds, but funds had come in already to the amount of 11,000*l.*, as would be seen inscribed in a paper in the room, to which any so disposed might add their names. As to the plan of the proposed Garden, and as to its internal arrangements—that part which would fall to the Horticultural Society to perform—they were not obliged to execute it according to the plans laid before them, which had been drawn provisionally. In endeavouring to carry out the contemplated scheme they would strive to obtain the best possible advice, and exercise the greatest caution and deliberation, on which so much would obviously depend. He would now call on Dr. Lindley to enter more minutely into the matter.

Dr. Lindley commenced by adverting to a point to which considerable consideration would have to be directed—the terms of the lease in the original proposal of the Royal Commissioners. They had offered to grant a lease on certain terms for 31 years, but nothing was said about the intention of the Commissioners at the end of that term of 31 years. At any rate such intentions were not communicated to the Council of the Horticultural Society. He could now, however, lay before the meeting, in compliance with the wish of Lord Ducie, a letter which had been received from Mr. Bowring. Dr. Lindley then read the following:—

"Whitehall, July 18, 1859.

"SIR,—I am directed by her Majesty's Commissioners for the Exhibition of 1851, to acknowledge the receipt of your letter of the 14th inst., in which you inquire with reference to the proposed lease to the Horticultural Society of a portion of the Kensington Gore estate for a period of 31 years, what is the position which the Commissioners contemplate assuming at the expiration of that term, and whether they will then be willing to renew the lease to the Society, if the management shall have been satisfactory to the Commissioners and the public. In reply, I am to acquaint you for the information of the Council of the Horticultural Society, that being anxious to meet their wishes as far as possible, her Majesty's Commissioners will be prepared to add to the arrangement which the Society proposed in their letter of the 4th inst, stipulation to the following effect:—Upon the Society giving to the Commissioners two years' notice previous to the expiration of the lease the lease shall be renewed for a further period of 31 years upon the same condition as to rent, management, &c., as those already proposed by the Commissioners with reference to the original lease. Her Majesty's Commissioners, however, reserve to them-

Sir Joseph Paxton said he could not deny that this institution if established at Kensington would be of very great advantage to the Royal Commissioners of the Exhibition of 1851. He believed the two bodies indeed (if this scheme should proceed) would be equally indebted to each other. Therefore the terms should be carefully considered, so that the Horticultural Society should not be placed in a position from which it was unable to extricate itself in the event of its not succeeding according to the wishes that it should. Having 35 years ago had his principal education in the garden of the Horticultural Society, he naturally took a deep interest in it. There was nothing that he would not do in order to resuscitate it and place it in the position it once held. He wished to be informed what was the exact proposals of the Royal Commissioners? He asked it as a favour, as he had not been present at the commencement of the proceedings, so that he might be able to form an opinion on those proposals.

Dr. Lindley then read the letter containing the information required by Sir Joseph Paxton, who considered the new terms worse than the former. After the Society had raised 50,000*l.*, if it should not be successful, they would lose all their money, and the concern would go into the hands of the Royal Commissioners without any arrangement whatever. If it went before the public that this was likely to be so how were they to raise the money? He was in favour of the meeting being postponed with a view to more satisfactory arrangements being come to in the meantime.

Mr. Cole thought it was of no use their "pottering" about the details. Why not leave it to the Council at once? He was sure they would not betray the interests of the Society. Why meet again? They might meet and meet and meet again up to Christmas, and be no better for it. Sir Joseph had viewed this scheme as a means of increasing the influence of the Horticultural Society. On that they were all agreed. And they were also agreed that horticulture itself was to be much promoted, and the public at large benefited by it. But he (Sir Joseph) also thought that in the projected arrangements the balance was on the side of the Commissioners. He (Mr. Cole) thought the Commissioners had shown a great disposition to join in benefiting the public through the Horticultural Society. That Society was in debt and difficulty, ("No, no,") and their object was to raise it out of the mire. Could they not, he repeated, have confidence in the Council, and leave the precise terms in question to be adjusted by them? Members present were going to subscribe — others were going to take life-memberships—there was confidence in the scheme; but if the public saw that there was any doubt in the matter they would not lend the money. He considered that the Commissioners gave a liberal answer. They said, "If you want the lease to be renewed you must give us two years' notice. But if we do not renew the lease we take upon ourselves the responsibility of any of the Debentures outstanding at the end of 31 years to any amount not exceeding 20,000*l.*" Now if that was not security he did not know what was. Mr. Cole concluded by urging that the arrangements be left in the hands of the Commissioners and the Council to settle, without their being summoned to another meeting a fortnight hence. It was but paralysing their operations and throwing suspicion, as it were, on the Council.

The Duke of Leinster repeated his astonishment at the terms proposed by the Royal Commissioners. He deemed them most favourable. He had had a good deal of experience in leases and such matters, and he must say that—especially considering the locality—the terms proposed were extraordinarily in their favour.

Mr. Grissell had faith in the Council putting matters fairly before the Commissioners. If they failed to convince them and to induce them to reduce their terms, they must go back to the old term of 31 years.

A gentleman having expressed his readiness to support an amendment postponing the meeting for a fortnight,

The noble Chairman reminded the meeting that Sir Philip Egerton's resolution did not bind them in any way. It had reference to the continuance of the negotiations. Adjourning the meeting he thought would be tantamount to the Parliamentary plan of moving that a Bill be read that day six months. The Council would take into consideration the objections which had been urged against the five years' re-entry as pointed out by Sir Joseph Paxton and others, and the Commissioners would take into consideration the feeling expressed there through the Council, and he hoped they would be enabled to arrive at some compromise.

Sir Joseph Paxton expressed his readiness to alter the period of postponement from a fortnight to a week, though still believing that an adjournment would be of importance to the success of the undertaking. After expressing his faith in the Council of the Society, Sir Joseph concluded by hoping that terms would be adjusted more equally, viz., by doing away with the five years, and obtaining terms with regard to the renewal.

Mr. H. G. Bohn suggested that if they were to insert the words "*no* interest" instead of "the interest" in reference to this clause, it would enable them to meet the difficulty.

Mr. Cole suggested that the Council be instructed to have that part of the scheme as to re-entry at the end of five years modified. The meeting he was sure was not in favour of constant adjournments.

Mr. Dilke spoke of the difficulty of getting a meeting together, and of the further impossibility of getting an answer from the Commissioners in so short a space of time as a week. Besides people were now going away for their holidays, and altogether he could not see the utility of postponement. He should therefore oppose the amendment.

Mr. Cole and Mr. G. Wood having briefly expressed themselves adverse to postponement, Sir Joseph Paxton said there was evidently a great disposition on both sides to come to fair terms. The public was desirous of fair terms, and that the Horticultural Society should have its due share and interest and proportion in this amalgamation—for such they might term it. He would withdraw his amendment; but would add that the meeting did not approve of the five years' clause of the Commissioners, and thought that some more equitable arrangement should be made as to the termination of the 31 years.

The noble Chairman said he would urge an argument used at the last meeting—if the Horticultural Society were successful at the end of 31 years, by that time their interests would be so interwoven with those of the Commissioners that the Commissioners would only be too glad to renew the lease.

Sir Joseph Paxton said what he had to propose he would move as a substantive resolution.

The noble Chairman then put the first resolution, which was carried unanimously.

Sir Joseph Paxton then moved, "That the Council be instructed not to accept the clause about re-entry in case of failing to pay interest for five years, and that in the event of the Commissioners cancelling the lease an equitable adjustment of mutual interests be made."

Mr. Clutton seconded it, and on its being put to the meeting there was but one dissentient.

After a few words of a conversational character, his Grace the Duke of Leinster moved a vote of thanks to the Chairman, which was seconded by Mr. W. W. Saunders, the Treasurer, and carried unanimously.

The meeting then broke up, after which several sums were subscribed in the room, among which was 500*l.* from Sir Joseph Paxton.

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HITCHAM LABOURERS' AND MECHANICS' HORTICULTURAL SHOW: *July* 6.—A visit to this show would convince the most prejudiced that botany can be made a focus of the most agreeable and instructive attraction. These gatherings of all classes in the Rectory and grounds of Professor Henslow are a source of real pleasure and improvement to his visitors and to the industrious classes. The scene is a very pretty one. Flags are suspended across the lawn from tree to tree, and float on the summits of the highest trees. On the left of the house a rostrum is made for the Professor, and adjacent to it is the long booth where the exhibition takes place, and which is always tastefully decorated by the zeal of his servants. On the right there is a famous swing for the young people, and near it stands what he calls "The Marquee Museum," which he fills with objects of great interest and gives what he calls "Lectures" on them at intervals. The decorations of this out-door museum are ingeniously formed of snail shells and mussels, and the pearly lustre of the latter makes a pleasing contrast with the brown hues of the former. At the entrance there were on this day Chinese gingalls, and round these rude implements of war several vegetable products, as Sugar Cane, Papyrus, and Jungle Grass. On entering the marquee were seen drawings and diagrams, and amongst the engravings was one of our Lord discoursing on the "Lilies of the field." With these were mingled many instructive specimens of natural history, and amongst them a stuffed cameleon, with a great variety of drawings of the creature in all the hues he was seen to assume by his owner, Miss Henslow, during life. There were also placed here an apteryx from New Zealand, and many other rarities of the animal kingdom, including bull-frogs, natter-jacks and insects. Near these were a whirling prayer brought by Dr. Hooker from Thibet, and charms against danger from the chances of war, on the folly of which and all other superstitions the Professor spoke as he lectured. Here also were exhibited the tympanic bones of a recent whale to compare with the fossil ones found in the crag, and which gave occasion to a capital explanation of the subject. The people were greatly pleased also with some beads made at Bethlehem, and with a necklace of Olive stones, Juniper berries, and cross of mother-of-pearl from Mount Tabor, with a piece of the rock of Jerusalem. There was shown also a fine specimen of the Mya margaritifera with little Chinese gods in it covered with mother-of-pearl in the shell, and used as charms, with many other instructive objects too numerous to specify. Of all these the Professor gave explanations in a pleasing and profitable strain. But it soon became time to inspect the specimens of horticultural and wild vegetables in the long booth, which was filled by them from end to end. There were numbers of Geraniums, Fuchsias, and other flowers, the produce of the window gardening of the villagers, not large nor spread out according to modern fashion, but admirably blossomed. Mixed with them were some beautiful Orchid flowers from the Rev. E. Sidney, and a fine show of Roses and Pansies from the nursery of Mr. Barnes of Stowmarket. Then came a series of cut perennials and next of cut annuals. There was also a device in sand of a cottage residence with beds of flowers and a fountain, which was greatly admired. There were besides numerous nosegays of garden flowers and a superb show of vegetables, which the judges declared to be of first-rate excellence. But the most interesting portion of the exhibition was the series of nosegays of wild flowers, of which there were two rows containing 80 examples. Forty-three were gathered by children under 8 years of age, and the rest were collected by children between this age and 14, all prettily made up and set in jugs of water. A sensation was produced by one child claiming a reward for a specimen of Chrysanthemum segetum, as a wild flower new to Hitcham; but alas for the competitor, the Professor elicited that it grew on the bank of a garden, and so the claim could not be allowed. Most wisely, a rigid investigation is made of every alleged discovery, and all must be in rule, or there can be no prize. But it was curious to witness the interest of the little village botanists, who were talking of the new specimen with the greatest eagerness. A prize was offered for honey by deprivation, but none was forthcoming, and the bees of Hitcham were pronounced to be idle or their keepers but little skilful. The Professor ascended his rostrum and declared the prizes, and made appropriate remarks on all these subjects in a playful, instructive, and happy manner. The children were all smiles, and talking in groups with their prize tickets in their hands. The style of their talk may be gathered from the following example. One said, "I gathered ever so many Bee-Orchids this summer." Another exclaimed, "That is not an Orchis, it is Ophrys apifera." "So it is," said the one corrected, "I remember." Then came the puzzle what the new flower Chrysanthemum segetum could be, and the young ones were pleased that the senior scholar did not know. "She does not know any more than we," they said laughing. If young villagers could in many places be induced to converse and compete in this way, it would cure many a mischievous gossip and much unprofitable talk amongst them. In all these wild posies the Professor insists on accuracy in naming and taste in arranging, and if any one thinks botany a dry subject, let him go to Hitcham on one of these days. Many friends among the visitors offered prizes under the influence of delight for the September show, and a more fascinating village gathering cannot be conceived. It was mentioned that Dr. Lindley had offered a cottage barometer for the next meeting as a prize, and a more judicious one could not be given. The order is excellent. Everything is ready by 1 o'clock, the children are placed in various parts of the lawn preparing their wild flower nosegays, novelties in the Marquee Museum fill up vacant moments, botanical prizes gladden the young exhibitors and the seniors also, then comes tea orderly and sociably, and all concludes with the school children and visitors singing "God save the Queen." Then the Professor says "Good night," and adds "Success to the next show." Great numbers of persons of all classes mingled this day with the Hitcham rustics, and were most hospitably welcomed at the Rectory. May these happy meetings long continue, and may they be extensively imitated. Nothing can tend more to social happiness and usefulness than rural meetings for mutual benefit and for benevolent purposes, and it is in the hope of increasing the number that this brief account is given of the Hitcham show.

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## Notices of Books.

We have received the following small works:—*Practical Rhine Guide* and *Practical Paris Guide* (Longmans), extremely useful travelling companions.—*Calder's Key to Lund's Mensuration* (Longmans). Questions with the answers apart; very useful to students.—*Dr. Smith's Handy Book of the Law of Husband and Wife* (Eff. Wilson), a digest of what is necessary to be known by suitors in the Divorce Court, and by married people generally.—*The Sense Denied and Lost* (Longmans) is an extremely interesting narrative of the sensations and thoughts of Dr. Bull, a medical man who became blind and remained so for eight years, edited by the Rev. B. G. Johns, chaplain of the Blind School, St. George's Fields.—*Pitt's How to Brew Good Beer* (Longmans) is a little treatise by Sir Wm. Geary's butler upon the whole art of brewing. The author says in his Preface that he "has had upwards of 20 years' experience in brewing, and he has made and preserved an accurate statement of the particulars of each brewing during the whole of that period. For the last 13 years he has had the entire management of a two-quarter brewing plant, and cellars, such as he has fully described in this work. During the first four years (as well as in his previous practice), he was unable to prevent frequent failures, but by perseverance in varying his method of brewing, and carefully examining the particulars of the processes in which the successful brewings differed from the unsuccessful, he was at length enabled, about nine years ago, to fix upon a method of brewing which has never failed during that period (though tested in about 90 brewings) to produce a pure, excellent, and sound-keeping beverage. That method is described in this work with such minuteness and accuracy, that all who exactly follow it must meet with the same successful result, however inexperienced they may be in the art of brewing." At first we thought the processes described by him were rather too extensive for small people; but upon turning over his pages we find that he descends as low as brewing from 8 bushels, or even 2½ bushels of malt. The little book is so clearly written that anybody may understand it.

## Calendar of Operations.

*(For the ensuing Week.)*

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### PLANT DEPARTMENT.

CONSERVATORY, &c.—Orange trees and other plants known to be liable to the attacks of red spider must be frequently examined for this pest, and well washed with the engine immediately it is perceived, taking care not to bruise or injure the foliage, and placing the affected plants so that every leaf may be reached. Also keep a sharp look out for other insects, and spare no trouble to keep these under. Go over the twiners frequently and keep the shoots nicely regulated, cutting out where necessary, to prevent their being too thick, and shortening any that hang down so low as to interfere with other things. Attend promptly to the removal of decaying specimens before they become unsightly; and also see to having plenty coming forward with which to supply their places. COLD PITS.—The stock here will probably require rearrangement about this time, as some of the specimens, having completed their season's growth, will be better in a shady situation out of doors, and their removal will allow of giving more space to those left. Young growing stock and late flowering plants that have yet to make their season's growth should receive the most careful attention, as if well treated they will make rapid and vigorous growth at this season, and nothing in the way of good soil, careful potting, or proper accommodation will compensate for the want of this. Indeed, there is no possibility of securing free growth from hard-wooded plants in bright hot weather, except by moderate shading and maintaining a moist atmosphere by sprinkling the plants overhead morning and evening, and air must be given liberally to keep the wood strong, avoiding as much as possible exposure to drying winds. Any of the specimens which require more pot room should be shifted as soon as possible, taking care to have the ball moist, and keeping them rather closer and the atmosphere moister than usual for a fortnight after potting. Get the young shoots tied before they begin to fall on the ground and injure each other. Cut down Pelargoniums as soon as the wood is properly hardened, and keep them very sparingly supplied with water at the root until they start into growth, but sprinkle them overhead frequently, which will cause them to break more strongly. Get cuttings of favourite sorts rooted, and attend to those that were struck early in the season. Continue to pot Cinerarias as strong suckers can be obtained, placing them in a close part of a cold frame until they get established in their pots; but avoid placing them in heat, where they speedily become a prey to insects, mildew, and never do any good. Let adequate precautions be used to protect the tender greenhouse plants, placed temporarily out of doors, from the effects of frequently recurring storms of wind and rain; screens may be advantageously employed; all stakes and supports should be proved, and the pots closely examined, lest the plants suffer from defective drainage or the presence of worms. The young reserve stock for filling blanks in the stove should be sedulously encouraged by progressive potting, and a warm equable temperature. Gesnera zebrina, Plumbago rosea, and Torenia asiatica will amply repay attention bestowed on their culture; decayed Beech leaves, with a mixture of sharp sand, form a compost peculiarly suitable to the first-named plant. The stock of pot Roses should be looked over, useless wood and decayed blossoms removed, and the plants shifted; fibrous loam, night-soil, and burnt earth may be used effectually. Camellias which have matured their flower-buds may receive additional assistance either by soil or manure-water, as circumstances allow.

### FORCING DEPARTMENT.

PINERIES.—Air should now be given liberally to young stock in dung pits, in order to secure strong stocky growth. The plants should not, however, be exposed to drying winds by giving back and front air liberally on drying days, for this would not serve the end in view; but a moderate circulation should be secured at night, giving no more during the day than may be necessary to prevent the temperature getting too high. This, with careful attention to the state of the roots, keeping the bottom heat regular, the soil in a nice healthy state as to moisture, and giving a liberal supply of manure water to such as are well rooted, will be found much more conducive to strong stocky growth than exposing the plants too freely to hot drying winds, which would probably check and throw them into fruit prematurely. Use every means to afford plants swelling their fruit a thoroughly moist atmosphere, sprinkling passages, &c., frequently, and shutting up early on the afternoons of bright days, giving a gentle dewing with the syringe, and saturating the atmosphere by sprinkling every available surface; also give these plenty of clear strong manure water at the root until the fruit begins to change colour, when the soil should be kept rather dry, which will improve the flavour. VINERIES.—Attend to former directions as to thinning the fruit in houses intended to furnish a late supply, and see that the bunches are severely thinned, and also that the crop left is not too heavy in proportion to the strength of the Vines. Where the fruit is swelling, be careful to maintain a moist state of the atmosphere, and give every possible attention to the roots, keeping the border in a healthy state as to moisture, and if watering is found necessary, use good strong manure water. Give abundance of air where the fruit is colouring, and do not allow plants in pots to remain in the house to cause damp, which, despite every care in ventilating, is apt to settle on the berries and spoil the bloom. Where the fruit is ripe and expected to hang for some time, the atmosphere of the house should be kept as cool as possible; but a little fire heat will probably be necessary occasionally in order to keep the atmosphere dry. PEACHES.—Expose trees freely to the air from which the fruit has been gathered, keeping the ventilators open day and night, and spare no attention which may be necessary to preserve the foliage in a clean healthy state until the young wood is well matured. Where the fruit is ripening, shading the house on the forenoons of bright days will prolong the supply, and will not injure the flavour as much as would be the case with most other fruits. FIGS.—Trees swelling their second crop must be attended to with water, giving sufficient to moisten the whole of the border thoroughly, if this has been allowed to become dry while the first crop was ripening. Use the syringe freely on the foliage, shutting up early in the afternoon, and sprinkle paths, &c., frequently, in order to keep the atmosphere moist.

### FLOWER GARDEN AND SHRUBBERIES.

After the plants have fairly covered the ground the great point will be to preserve that symmetrical appearance over the whole of the beds, which in a geometrical flower garden is absolutely necessary to render the effect pleasing. To do this will involve frequent attention and considerable labour for some time to come, as many of the plants will be inclined to grow much too strongly for others, and will also be continually encroaching upon the edgings and extending beyond their proper limits. Plants of a weakly habit of growth, as for instance the more slender growing varieties of Verbena, may be assisted in dry weather by an occasional watering with manure water; but for those that grow too strongly there is no help except thinning out and pegging down the shoots. In shortening back shoots that incline to extend beyond the edges of the beds, avoid the least appearance of formality by thinning out the under shoots and keeping all parts of the bed of equal depth or thickness, or allowing the plants, as it were, to die away at the edges according to the arrangement. Climbers on walls must be attended to as they advance in growth, keeping the young shoots neatly laid in, &c. The climbing Roses will also require to be gone over occasionally, for the purpose of cutting off decayed blooms, and any weakly old wood should be cut out at the same time, to allow of laying in the strong young shoots which will bloom much finer next season than the old wood would do. Phloxes and other herbaceous plants must be neatly tied up; but avoid huddling the shoots together, as is sometimes done even about well kept places to save time. Any of the perpetual blooming Roses that have flowered very freely should be assisted by a liberal watering with manure water from the stable or farm-yard tank; indeed, too much of this can hardly be given to any of the autumn-flowering varieties.

### HARDY FRUIT AND KITCHEN GARDEN.

Select a bit of open light ground and prepare it for winter Spinach by giving it a heavy dressing of manure, and trenching or digging it deeply. This crop should be sown at once, and in drills in beds, allowing wide alleys, so as to be able to gather the crop without trampling the ground; also provide ground for winter Onions, &c. Finish planting out Broccoli and winter greens as speedily as ground can be obtained, for, unless the autumn should prove very favourable, those planted after this time will not attain much size. Get Endive planted out on very rich soil, also Lettuce, to maintain the succession, and attend to other small salad herbs. See to securing a good supply of Parsley for winter use, which is always largely in demand. A good bed should be planted in some convenient place for protecting it during severe weather in winter. The soil should be of a light texture, deep, and thoroughly drained as a preventive against damp in winter. New plantations of Strawberries should be made at once, selecting the strongest young plants and keeping them well supplied with water until they get established. Attend to Celery and all recently-planted crops with water if the weather continues dry.

### COTTAGERS' GARDEN.

Savoys, Green Kale, and Cabbage plants may yet be planted with every chance of success. A good breadth of Turnips might be sown, and a few rows of winter Spinach would prove remunerative. We recommend a few ridges of Celery most particularly; its value as an ingredient in soup alone should recommend it.

### STATE OF THE WEATHER AT CHISWICK, NEAR LONDON.

For the Week ending July 21, 1859, as observed at the Horticultural Gardens.

| July. | Moon's Age. | Barometer. Max | Barometer. Min. | Temperature of the Air. Max. | Min. | Mean | Temperature of the Earth. 1 foot deep | 2 feet deep. | Wind | Rain. |
|---|---|---|---|---|---|---|---|---|---|---|
| Friday 15 | 15 | 30.200 | 30.149 | 84 | 48 | 66.0 | 67½ | 65½ | N.W | .00 |
| Satur. 16 | 16 | 30.218 | 0.107 | 86 | 53 | 69.5 | 67 | 65½ | W. | .00 |
| Sunday 17 | 17 | 30.075 | 29.857 | 88 | 48 | 68.0 | 67½ | 65½ | S.W. | .00 |
| Mon. 18 | 18 | 29.827 | 29.772 | 91 | 57 | 74.0 | 68 | 66 | S.W | .25 |
| Tues. 19 | 19 | 29.809 | 29.813 | 90 | 54 | 72.0 | 68 | 66 | S.W. | .01 |
| Wed. 20 | 20 | 29.952 | 29.918 | 82 | 56 | 69.0 | 68 | 66½ | E. | .72 |
| Thurs. 21 | 21 | 29.912 | 29.827 | 83 | 52 | 67.5 | 68 | 66 | E. | .02 |
| Average | | 30.006 | 29.920 | 86.3 | 52.5 | 69.4 | 67.7 | 65.8 | | 1.0 |

July 15—Fine; hot and dry; clear and fine.
— 16—Very fine; hot; clear and fine.
— 17—Cloudless and hot; clear and very fine at night.
— 18—Clear; very hot; rain with thunder and lightning at night.
— 19—Cloudy; very hot; fine.
— 20—Thunder; very heavy peal 9; A.M., sultry; thunder and heavy rain at night.
— 21—Thunder and heavy rain; overcast; very fine.

Mean temperature of the week, 7¼ deg. above the average.

### RECORD OF THE WEATHER AT CHISWICK.

During the last 33 years, for the ensuing Week, ending July 30.

| July. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Wind. |
|---|---|---|---|---|---|---|
| Sunday 24.. | 73.0 | 52.5 | 62.7 | 11 | 1.16 in. | |
| Mon. 25. | 74.0 | 50.5 | 62.2 | 9 | 0.36 | |
| Tues. 26.. | 73.1 | 51.5 | 62.3 | 17 | 1.22 | |
| Wed. 27.. | 74.5 | 52.1 | 63.3 | 16 | 0.98 | |
| Thurs. 28. | 75.9 | 52.4 | 64.1 | 17 | 0.33 | |
| Friday 29. | 75.5 | 50.6 | 63.1 | 13 | 1.31 | |
| Satur. 30. | 74.7 | 51.2 | 62.9 | 16 | 0.88 | |

The highest temperature during the above period occurred on the 30th, 1844—therm. 92 deg; and the lowest on the 29th, 1853—therm. 33 deg.

## Notices to Correspondents.

ARTIFICIAL LIGHT: *Alpha.* We have no recollection of the experiments by Humboldt; but will endeavour to find what they were. Much obliged.

DISEASES: *Peach.* You will find in this Journal, July 16, the information you require about your diseased Peaches and Nectarines. At least we believe the affection to be the same, but the specimens were too decayed to allow us to form a decisive opinion.—*S W.* Your Melons are attacked with Fungus which is often very troublesome where the air is not. Its name is Æthalium septicum. You may try unslaked lime while the Fungus is soft and frothy, but we are not sure that even this will relieve you of your enemy. *M J B.*

DOUBLE WHITE GERANIUM: *T R E.* Your blooms arrived withered up and unexaminable. Flowers will not travel in good condition by post during such hot weather as we have lately been experiencing.‡

GRAPES: *T F.* The roots of your Vines are in a deep border. There is no doubt of it. Therefore your gardener's adviser is quite right.—*Vitis.* Your Grapes are attacked with mildew, and if you don't take care you will lose all your crop.

INSECTS: *T Z* sends a couple of leaves and says, "The true *insect* made its appearance some six weeks or two months since on East India Orchids; since then it has unfortunately spread over the house;" and he begs us if we can tell anything of it to give him some information. In reply we are happy to inform him that no insect is present on the leaves, which are remarkably clean. They are suffering from want of regular and judicious ventilation.

LARCH: *Subscriber.* The best time of year to cut Larch for use, either as poles or timber, is midwinter.

MICROPHOTOGRAPHS: *Bubden.* You will find full information in Mr Amadio's Catalogue, price 6*d.*, which may be had on application at 7, Throgmorton Street.

NAMES OF PLANTS: We have been so often obliged to reluctantly decline naming heaps of dried or other plants, that we venture to request our correspondents to recollect that we never have or could have undertaken an unlimited task of this kind. Young gardeners, to whom these remarks more especially apply, should bear in mind that, before applying to us for assistance, they should exhaust their other means of gaining information. We cannot save them the trouble of examining and thinking for themselves; nor would it be desirable if we could. All we can do is to *help* them—and that most willingly. It is now requested that, in future, not more than four plants may be sent us at one time.—*J W G.* Calystegia pubescens.—*Cynaro.* Tamarix gallica.—*P Mackenzie.* The Gall is that of the Oak bud, the commonest of all here in the South, and vulgarly named the Oak Apple. The other plant is Sempervivum villosum.—*A Lady Gardener.* Salvia Horminoides; Antirrhinum Orontium. For a book for beginners use Prof. Lindley's School Botany. For the bug use Gishurst Compound, as directed at p. 606 of last Number.—*A D.* Your troublesome water weed seems to be Potamogeton pectinatum.—*R B.* What you have sent appears to be Spergula saginoides; it is not S. pilifera.—*G B. Wavertree.* Atriplex hortensis, or "common" garden Orache, now become uncommon.—*N G.* 1, Euphorbia Medusæ, a dangerous poison; 2, a Stapelia of some sort not to be further named without flowers; 3, Cuphea verum; 4, some uncommon species of Cape Heath. *One in Distress.* Eucomis nana.—*O P.* Fuchsia microphylla.—*W S.* 1, Funkia cærulea; 2, Fuchsia globosa; 3, not made out to be determined; 4, the Variegated Glyce (or Alyssum) maritima. We do not know what ails your Onions. They are rotting, and look as if they had been pulled up before they were half ripe.—*E A.* 1, Asplenium bulbiferum; 2, A. marinum; 3, Athyrium Filix-fœmina; 4, Lastrea decursive-pinnata, sometimes called decursive-pinnata.—*R D.* Amaryllis Belladonna.—*J B. South Lambeth.*—1, Asplenium angustifolium; 2, apparently Cyrtopteris bulbifera; 3, Lastrea intermedia.—*G G.* Butomus umbellatus.—*W.* Centradenia rosea.—*H.* Heterocentrium album.—*D D.* Your Grasses are overripe and have fallen to pieces. *e.* Phalaris arundinacea; *f.* P. picta major; *g.* destroyed; *h.* Agrostis alba.

NEW ZEALAND FLAX: *E D.* You must search for this in Scotch Gardens and very great Nurseries in the South of England. You are not likely to find it in the North unless at Edinburgh or Glasgow.

PEAT CHARCOAL: *A Constant Sub.* We do not know why this substance continues to be sold. We left off using it because of its high price. Any finely divided charcoal will do just as well, for making which yourself we refer you to pp. 443 and 525, of the present year.

SEPULCHRAL FLOWERS: *C P.* You will not find any one flower which will look well all the year round. But you may have to several things at different seasons. Eranthis hiemalis, Christmas Rose in winter, Violets, Primroses, and gay flowers in spring, and Roses, Climbing or Perpetual, in summer and autumn. Heliotropes and Mignonette will give fragrance in summer, and Russian Violets will aid in the late autumn. But all such mixtures will require taste, and constant care without which they will form a little wilderness. If you wish to add the immortelles that the French adore so much, you had better grow Gnaphalium arenarium dioicum.

STRAWBERRIES: *F Gloede.* Crimson Queen, the sort about which you inquire, was exhibited at the Royal Botanic Society's meeting on the 6th inst., by Mr. Turner, of Slough.‡

WALNUT LEAVES: *G F.* The specimens exhibit no trace of disease. The tree may have been struck by lightning, or possibly the ground in which it grows may have become too dry to support the foliage.

WELLINGTONIA: *C C B.* The cause of some shoots of this tree turning black and dying, although it is otherwise in full vigour, is unknown. The same thing occurs in other Conifers, *e. g.*, in Cryptomeria, Cupressus funebris, and Juniperus Sabina. The symptom, be it what it may, does not appear to indicate any general want of health.

VINES: *W M.* Your leaves are swarming with thrips, which can be easily removed by syringing with Gishurst Compound used in the manner that has been frequently mentioned in our columns within the last few months. We suspect the evil to have been caused by allowing the Vines to be excessively watered or damped without sufficient ventilation.

ZINC LABELS: *G S.* The best ink is the nitromuriate of platinum, which may be had of dealers in chemicals.

MISC: Full price will be given for a perfect copy of No. 22 of this Journal.

*** As usual, many communications have been received too late, and others are detained till the necessary inquiries are made. We must also beg the indulgence of those correspondents the insertion of whose contributions is still delayed.

ARTIFICIAL MANURES, &c.—Manufacturers and others engaged in making ARTIFICIAL MANURES may obtain every necessary instruction for their economical and efficient preparation, by applying to J. C NESBIT, F.G.S., &c., Principal of the Agricultural and Chemical College, Kennington, London Analyses of Soils, Guanos, Superphosphates of Lime, Compounds, &c., and Assays of Gold, Silver, and other Minerals are executed with accuracy and despatch. Gentlemen desirous of receiving instruction in Chemical Analyses and Assaying, will find ample facility and accommodation at the College

BURNARD, LACK, AND CO.'S CONCENTRATED SUPERPHOSPHATE OF LIME; guaranteed to contain Phosphoric Acid soluble, equivalent to 40 per cent. of Tribasic Phosphate of Lime.

CONCENTRATED TURNIP MANURE, equal in value to the preceding.

Of these Manures Dr. Voelcker says:—"These results must be very gratifying to you, and are the best proof of the very high agricultural and commercial value which characterises your concentrated superphosphate."

Detailed analyses, with opinions of the late and present Chemists to the Royal Agricultural Society, with Testimonials, Prices, &c., may be had on application to BURNARD, LACK, & Co., Sutton Road, Plymouth.

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CORN MANURE for SPRING TOP-DRESSING
URATE
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} all of guaranteed quality.

In consequence of the reduction in the price of raw material, the London Manure Co. are enabled to lower the price of their Superphosphate of Lime, and to materially improve the Corn Manure and Urate.

The London Manure Co. also supply PERUVIAN GUANO (direct from Messrs. A. Gibbs and Sons), SULPHATE of AMMONIA, NITRATE OF SODA, CRUSHED BONES, and every other Manure of value. Wholesale dealers supplied.

116, Fenchurch Street, E C. EDWARD PURSER, Secretary.

REDUCTION IN PRICE OF LAWES'S MANURES.

MR. LAWES begs to announce that he has this season reduced the price of the Manures manufactured by him, viz.:—

| | | |
|---|---|---|
| TURNIP MANURE .. .. .. | from £7 to | £6 6 |
| SUPERPHOSPHATE OF LIME .. | ,, 7 to | 6 6 |
| MINERAL do. .. | ,, 6 to | 5 5 |
| BARLEY MANURE.. .. .. .. | .. | 8 0 |

Prof. Way and Dr. Voelcker have sampled from a bulk of 5000 to 6000 tons at his factories, and their report and analyses are given in full in Circular to be obtained on application at his office, 1, Adelaide Place, London Bridge, E.C., or of his local Agents.

N B. Genuine Peruvian Guano direct from Messrs GIBBS, Nitrate of Soda, Sulphate of Ammonia, and other Chemical Manures. American Cotton-seed Cake supplied.

COLLEGE OF AGRICULTURE AND CHEMISTRY AND OF PRACTICAL and GENERAL SCIENCE, 37 and 38, Lower Kennington Lane, Kennington, near London.

Principal—J. C. NESBIT, F.G.S., F.C.S., &c.

The system of studies pursued in the College comprises every branch requisite to prepare youth for the pursuits of Agriculture, Engineering, Mining, Manufactures, and the Arts; for the Naval and Military Services, and for the Universities.

Analyses and Assays of every description are promptly and accurately executed at the College. The terms and other particulars may be had on application to the Principal.

LAND IMPROVEMENTS.—The GENERAL LAND DRAINAGE AND IMPROVEMENT COMPANY are empowered by Act of Parliament to assist the Owners of Land in carrying into effect the following Improvements, and charging the whole outlay and expenses on the property improved.

I. All Works of Drainage, Irrigation, Warping, and Embankment.

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III. The construction of Roads.

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The Landowners by whom any of these Improvements may be executed are—Tenants for Life, Trustees, Mortgagees in Possession, Guardians, Committees of Incompetent persons, Married Women, Beneficial Lessees for Lives or for a Term exceeding 14 years, Corporations, Ecclesiastical or Municipal, Incumbents, Sequestrators, Charitable Trustees, &c.

The Owners of Estates not entailed, who may be desirous to avoid the expense or inconvenience of a Legal Mortgage, may also avail themselves of the powers of the Company's Act to charge their estates with an outlay in improvements.

In all cases the whole cost of the improvements, with the attendant expenses, may be charged on the Estate, the term for Building Works being limited to 21 years, but for all other improvements being capable of extension to 50 years.

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Operations under the Company's Act are divided into two principal branches; one where the Landowner designs and executes the improvements by his own Agent and merely requires a loan from the Company to charge the Estate,—the other where the Company undertake the entire responsibility of the Improvement and obtain repayment by way of Rent Charge. In the first case the plans, specifications, and estimates prepared by the Landowner's Agent are forwarded to the Company to be submitted for approval to the Inclosure Commissioners. As soon as the sanction has been given the Landowner proceeds to execute the works, and the Company having conducted the business through all the official forms, complete the charge on the estate when the works have been passed by the Commissioners, and repay the Landowner the amount agreed upon.

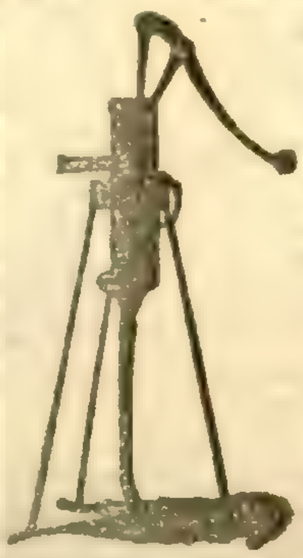
In no part of the business is there any control upon a Landowner except by the Inclosure Commissioners. The Company never interfere, except at the special request of the Landowner or his Agent, and only to such extent as may further the objects he has in view.

In the other case, where the Company are required to execute the works, a report and estimate of the Improvement are sent to the Landowner, and having been approved, the plans are then prepared and the works—either submitted to public competition or entrusted to their own staff—are carried on to completion, and the amount of the actual expenditure only, approved by the Inclosure Commissioners with the Company's agreed commission and the Commissioners' expenses, finally charged on the Estate for the term fixed by the Landowner.

The Company also execute Drainage and all other Works of Land Improvement on Commission for the Owners of Estates not Entailed who may wish to charge the outlay on the property through the simple and inexpensive process of the Company's Act.

Applications to be addressed to WILLIAM CLIFFORD, the Secretary, at the Offices of the Company, 52, Parliament Street, London.

WARNER'S IMPROVED LIQUID MANURE OR GENERAL PORTABLE PUMP.



These Pumps are fitted with WARNER'S Patent Bucket and Valve, and cannot clog in action. The Stand is made of galvanised iron, not likely to corrode, and can be raised or lowered at pleasure on the stand, the legs of which fold together, and may be carried with ease by one man to tank or pond.

| | £ | s. | d. |
|---|---|---|---|
| Stand and Pump, with screwed tail pipe, fitted with strong brass union for suction pipe | 2 | 15 | 0 |
| If fitted with barrel of planished copper .. .. | 3 | 4 | 0 |
| Stand and Pump, with plain tail pipe, for tying on suction pipe .. .. .. | 2 | 9 | 0 |
| 2-inch patent rubber and canvas flexible suction pipe, on wires, either 10, 12, or 15 ft., per foot | 0 | 2 | 2 |

May be obtained of any Ironmonger or Plumber in town of country, at the above prices, or of the Patentees and Manufacturers, JOHN WARNER & SONS, 8, Crescent, Jewin St., London.

WARNER'S PATENT VIBRATING STANDARD PUMPS.

PATENT CAST-IRON PUMPS for Farms, Cottages, Stable Yards, &c., where the Well does not exceed 28 feet in depth; fitted with WARNER'S Patent Metal Bucket and Valve, which cannot clog in action. These Pumps can be made right-handed, left handed, or with handle opposite the nose by removing four screws only.

| Diameter of Barrel. | Height. | | £. | s. | d. |
|---|---|---|---|---|---|
| 2½ in. | short 1 ft. 7 in. | Fitted for lead, | 1 | 5 | 0 |
| 2½ ,, | long 3 ,, 8 ,, | gutta percha | 1 | 10 | 0 |
| 3 ,, | ditto 3 ,, 6 ,, | or cast iron | 2 | 4 | 0 |
| 3½ ,, | ditto 3 ,, 6 ,, | flanged pipe | 2 | 9 | 6 |
| 4 ,, | ditto 3 ,, 6 ,, | as required. | 2 | 13 | 0 |

2½ ,, short, with 15 feet of Lead Pipe attached, ready for fixing ....2 10 0

2½ in. long ditto ditto ditto 2 14 0

The short barrel Pump is very convenient for fixing in situations of limited height and space, for the supply of coppers and sinks in Wash-houses with soft water from underground tanks, or in Hot, Forcing, and Plant Houses; they may be fixed, when desired, under the stage.

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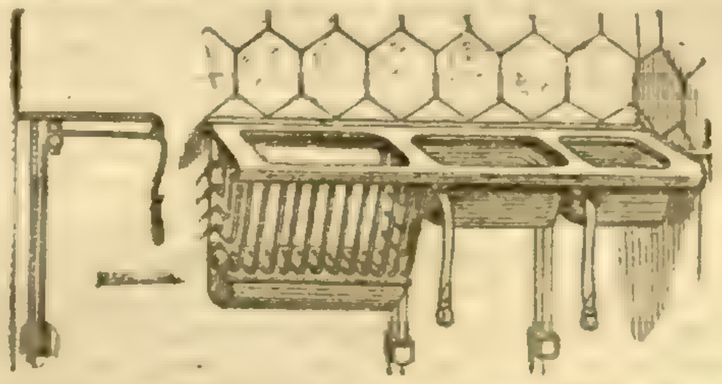
Every description of Machinery for Raising Water by means of Wheels, Rams, Deep Well Pumps, &c.; also Fire and Garden Engines, &c. &c.—Engravings sent on application.

TO ENGINEERS.

SUBSOIL PULVERIZER.—A premium of TWENTY GUINEAS is offered by the undersigned for an approved draft design, (accompanied by a written explanation) of a MACHINE, to consist of a series of augers, for the general pulverisation, to a depth of 3 or 4 feet, of a marly soil, free from all obstructions but occasional small pieces of limestone; to be worked by a portable steam engine of 6-horse power, the augers to admit of expeditious liberation from the soil; but their number, shape, position (whether in one or two rows), and distance from each other, are matters left to the judgment of competitors. It is almost needless to add that no existing invention (Fowler's or any other) could effect so deep a pulverisation as that considered essential to the efficient cultivation of the Vine in our Australian Colonies. Designs to be sent in on or before the 15th of August.—H. S. WILLS, 10, Queen's Terrace, Queen's Road, Bayswater.

COTTAM'S PATENT INVENTIONS FOR STABLE REQUISITES, awarded a Prize at the Paris Exhibition, and patronised by the English and French Governments.



COTTAM AND COMPANY, of Winsley Street, are the original Inventors of the PATENT ENAMELLED MANGER, Water Trough, and Wrought Iron Rack, united to an iron top plate and forming one complete and useful fixture, having COTTAM'S patent noiseless halter guide and collar rein attached, which is taken to the back of the manger, and works with ease and freedom up or down the guide-bar.

COTTAM'S NEW PATENT SEED BOX, an important addition to the above fittings, being simple in construction, light, and durable, promotes cleanliness, and is economical in its results.

COTTAM'S PATENT SADDLE and HARNESS BRACKET combined, can be used with great advantage where space is an object, as it can be turned up out of the way when not in use.

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PATENT LOOSE-BOX FITTINGS, and every article for the harness-room and stable, kept in stock, plain, galvanised, and enamelled. Iron gates, fencing, hurdles, &c.

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N.B. COTTAM & Co beg to make it known that there is no longer an entrance to their establishment from Oxford Street, but that they have made a second entrance from 2, Winsley Street, Oxford Street, W., by the side of the old entrance to their works, opposite the Pantheon.

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Early application should be made for SECOND HAND RICK CLOTHS. MARQUEES, TENTS, and FLAGS. A great variety of Marquees and Tents may be seen erected on the premises. A quantity of SECOND HAND TENTS from the Crimea at a greatly reduced price An Illustrated Catalogue sent post free.

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The celebrated STAMFORD HORSE RAKE has lately been much improved, and has obtained 26 Prizes at competitive trials.

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Branch Establishment, South John Street, Liverpool.

HAYMAKERS, possessing the best features of Nicholson's Prize Machines, with recent improvements peculiar to those supplied and manufactured only for

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N B. The celebrated Bedford and Stamford Prize HORSE RAKES always in stock, with latest Patented Improvements.

RICK AND HAY CLOTHS, HAY ROPES, second-hand MARQUEES and TENTS; NETTING, new and old, for protecting fruit trees; SCAFFOLD CORD, SACK TYERS, BLIND and SASH LINES, Patent Circinate NOSEBAGS, &c., &c.

J. MORISON, Manufacturer, 25, Norton Folgate, N E.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.—SECRETARY WANTED.

The Council of the Royal Agricultural Society of England have come to the following resolutions:—

That the Secretary shall be resident in the Society's house.

That the Salary shall be 400*l.* per annum, with Coals and Lighting.

That the Secretary shall find approved security to the amount of 1000*l.*

That it will be an additional recommendation to a Candidate if he possess a competent knowledge of French and German.

NOTE.—By the Bye-laws "The Secretary shall devote the *whole* of his time to the affairs of the Society, and shall be immediately responsible to the Council for the discharge of the various duties they require him to perform."

Gentlemen desirous of becoming candidates for the above office can obtain further particulars from the Hon. Acting Secretary *pro. tem.*

All applications (together with testimonials and other particulars) to be sent on or before October 31, addressed to

B. T. BRANDRETH GIBBS, Esq., Hon. Acting Secretary.

12, Hanover Square, London, W.

STAFFORDSHIRE AGRICULTURAL SOCIETY.

STOKE-UPON TRENT MEETING, 1859.

The POULTRY EXHIBITION in connection with this Society will take place on WEDNESDAY, September 14.

Prize Lists and Certificates of Entry may be obtained on application to WM. TOMKINSON, Secretary.

Newcastle-under-Lyme, July 23.

MANCHESTER AND LIVERPOOL AGRICULTURAL SOCIETY.

*Patrons*—The Right Hon. the EARL of DERBY, K.G., and LORD EGERTON.

*President for the Year*—The Right Hon. the EARL of SEFTON.

The TWELFTH ANNUAL SHOW of LIVE STOCK (including POULTRY), IMPLEMENTS, &c. will take place at Liverpool on THURSDAY and FRIDAY, September 8 and 9. Premiums amounting to nearly 1100*l.* are offered for competition; and the entry will close on August 20.—Prize Lists and Regulations may be obtained by application to

THOMAS B. RYDER, Secretary.

2, Elliot Street, Clayton Square, Liverpool, July 23.

The Agricultural Gazette.

*SATURDAY, JULY 23, 1859.*

MEETINGS FOR THE ENSUING WEEK.

| | | | |
|---|---|---|---|
| TUESDAY, | July | 26 | Meeting of the Agri. Improvement Society at Dundalk. |
| WEDNESDAY, | — | 27 | |
| THURSDAY, | — | 28 | |
| FRIDAY, | — | 29 | |
| TUESDAY, | Aug. | 2 | Meetings of the Highland Society at Edinburgh; and of the Yorkshire Agricultural Society at Hull. |
| WEDNESDAY, | — | 3 | |
| THURSDAY, | — | 4 | |
| FRIDAY, | — | 5 | |

THE general meeting of members of the Society was held on Friday, in the Shire Hall, at Warwick. It was expected that angry expression would have been given to the feelings with which the management of the Society's financial affairs, as exposed by recent events, is generally regarded. This however was prevented by the previous resignation of the Finance Committee, and Mr. SIDNEY, who was chief speaker on the occasion, confined himself to remarks upon the somewhat exclusive character of the governing Council; and on the propriety of taking stock, as it were, in the Journal, of our present agricultural position, so that we may know what progress has been made during the past 20 years of the Society's career. A short report of the proceedings will be found in another page. The show-yard receipts, notwithstanding an unprecedented attendance on the Wednesday afternoon when the entrance fee was five shillings, have fallen about 500*l.* short of the sum received at Chester. There were 1689 present on the Tuesday, 3376 present in the cattle yard on Wednesday afternoon, and 5154 present on that day in the implement yard; 19,902 paid half-a-crown apiece on Thursday; 25,446 paid one shilling each on the Friday. The falling off on this day, as compared with the 40,000 of the Chester meeting, is attributed to the absence of any extraordinary facilities in the way of excursion trains at a lower

fare, which would have attracted thousands from Birmingham, Coventry, &c.

—— A good deal of complaint is still heard of the ravages of the black caterpillar among the young Turnip plants: and numberless recipes are published for their destruction. The heavy rains of Wednesday and Thursday of this week, in so far as they have been general, will prove a better antidote than any other. Among the remedies proposed are the following:—Herd flocks of ducks in the fields attacked—do not mind the failure of the plan at first, keep them on the ground, and they will soon acquire an extraordinary appetite for the grub; mixtures of sulphur, soot, and ashes sown over the drill; children employed to gather the grub into cans; brushes to shake them on to the intervals between the rows and implements to crush them there; quick-lime and arsenic strewed on the plants, or quick-lime in larger quantity alone;—all these methods are recommended with confidence by men who speak from experience of their value.—The harvest has commenced in all the Southern Counties; and reports are given from many of them below.

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ONE of the most interesting papers in the current Number of the Highland Society's Transactions contains a report by Mr. FULTON, of Temple Maryhill, near Glasgow, on the best mode of making Dunlop and Cheddar cheese. It appears that notwithstanding Dunlop cheese is, according to the analyses hitherto published, one of the richest descriptions manufactured, it sells for less per ton than many other sorts. In 1858 while the farmers' price for Dunlop was only from 48*l.* to 50*l.* per ton, that obtained for Cheddar by Mr. HARDING (of Markbury, near Bristol) at the same time was nearly 80*l.* per ton. In addition to this direct commercial advantage the article thus bringing in so much larger a return is made with less labour and with less waste, and when made it is a more nourishing and digestible food. It is plain that the Highland Society were right in seeking for a report on the differences of process which lead to such differences of result. For it is clearly ascertained that the quality of the cheese is determined almost entirely by the mode of manufacture, not, as has been hitherto imagined, almost entirely by the quality of the pasture. "Whilst in Ayrshire," writes Mr. HARDING, "we made cheese in almost every part of the country; and whether it was from the old pastures of Cumnock, the forced Italian Rye-grass at Cumming Park, or the Heather of Corwar, the cheese was uniform in texture, quality, and flavour; if there was any sensible difference, our impression was that the best article was made at Corwar. Three of the cheeses, made at as many different places, were transferred to our own cheese-room, and were it not for the private mark upon them we could not have discovered them amongst our own."

Mr. FULTON accordingly undertakes in this report to describe the Dunlop and Cheddar processes respectively. In the former in large dairies a cheese is made morning and evening; the rennet, a large quantity, enough to effect the process of coagulation in a quarter of an hour, is added to the newly drawn milk. Even less time than that named is allowed for coagulation in some dairies.

"When the coagulum is ready for breaking up for the separation of the whey—a condition indicated by a certain firmness to the hand, and the appearance of greenish whey on a little part being broken—it is cut across, from top to bottom, with a long-bladed knife, so as to leave it in pieces of about 2 inches square, and left for about 10 minutes. It is then more minutely broken up with the dairymaid's hands, or by stirring it very gently and carefully from top to bottom with the skimming dish.

"The breaking up being finished, a few minutes are again allowed to admit of a little settling down of the curd. The dairymaid and her assistants then place themselves beside the tub, and, immersing their bared arms into the mass, assist by gentle pressure the separation of the whey and subsidence of the curd, which experienced hands do in a dexterous and efficient manner, putting down the curd evenly and firmly to the bottom of the tub."

After lading out the whey "the curd is transferred to the dreeper—a utensil in shape exactly like a cheese-vat, only of larger diameter and a greater number of holes." It there receives eight successive cuttings and changings to effect the discharge of the whey—these being given at intervals of about five minutes. The last cuttings are given in great detail, or they are effected by the curd milk. "When the milk is steeped at night, the curd, after receiving three or four cuttings, is left in the dreeper till morning, when at an early hour the process is resumed."

Salt is then sprinkled over the curd, 1 oz. to every 3 lbs. of curd, and the curd is then put in the vat, and a slight pressure given while the whole is warmed before the fire. A succession of changes at intervals of every two or three hours from cloth and vat into fresh cloths and vats under pressure then ensues for some 24 hours or more, and then the cheese is removed to the cheese-room, and turned daily for a fortnight.

The difference in the Cheddar manufacture as compared with that of Dunlop lies first in the cheese being made but once a day.

"The evening's meal of milk, as brought in from the cows, is at once strained into the steeping-tub in the dairy, where it remains until morning, when the morning's meal is added to it.

"In sultry weather, where the quantity of milk is large, part of the evening's meal is kept separate in coolers.

"If the heat of the mass, when the evening and morning meals are put together, be under 80°—the temperature at which the milk is set with the rennet—as much of the evening's milk is warmed to about 100° as will raise the temperature to the required heat, which is accurately determined by the thermometer. In cool weather the temperature is made 2° or 3° higher."

An acid reaction has set in the milk before the rennet is added—if not, then sour whey is added to it for the purpose; a weaker rennet and less of it is used so as to make the coagulation last over an hour or more; colouring matter (annatto) is used; the curd after breaking is scalded with hot whey; there is much less frequent cutting and breaking of the curd when once it is fit for placing in the vat:—

"When the curd is made up into a cheese—a stage usually reached by 2, or from 2 to 3 o'clock—it is put into the press, and there remains until morning.

"Pressure is gradually applied; no weight is put on the lever for the first half hour; a light weight is then hung on, and at 7 o'clock full pressure applied. Next morning, after the milking and setting of the milk are over, the cheese is changed, and very heavy pressure applied for 24 hours. On the following morning, a neatly-fitted slip of fine calico is put on the cheese to smooth the surface, moderate pressure being applied, and in the evening it is ready for the cheese-room.

"When withdrawn from the press, the cheese is laced into a piece of stout linen or cotton cloth called a fillet or stay, which is kept on until the cheese is ready for sale, or has become quite firm."

The advantages of the English process as compared with the Scotch are commercial, dietetic, and economical. As to the first, the process results in a cheese of higher value; as to the second, in a cheese of better flavour and more digestible; as to the third, in the employment of less labour, and the saving of considerable waste:—

"The mode in which the saving of labour is effected will readily occur to the reader. The larger quantity, as determined by experiment, probably arises from the presence of a free acid in the milk, which, acting as an additional coagulating agent, either assists or coagulates some substance in the milk not coagulable by rennet or in an alkaline or neutral condition, and thus precipitates from the milk a larger quantity of curd; at least the curd relinquishes more readily its attraction for the whey, which comes away more thin and limpid than in the Dunlop. The larger quantity also arises from the substance of the curd not being forced out in the form of white whey, as takes place in the Dunlop by the excessive manipulation and pressing in the dreeper."

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## APPEARANCE OF THE CROPS.

BUCKINGHAMSHIRE.—About a month ago we had some terrific thunderstorms; they knocked the heavy crops of Wheat down frightfully, and in some instances the Oats and Barley too. My opinion of the Wheat crop is that it is very bulky in straw, but must be very deficient in yield; Barley below an average; Oats above an average; Winter Beans a failure, many acres having been ploughed up; Spring Beans below an average; Mangel Wurzel good; Swedes full plant, but late; Potatoes rotting as fast as they can; hay crop has been very heavy, and generally well got; Peas are not much grown hereabouts—I hardly know of a field. Wheat harvest will be general about the 5th August. *W. G. Duncan, Bradwell, Stony Stratford, July* 18.

DEVONSHIRE.—Wheat, good average; Barley, early sown, good; late sown, very inferior; Oats, very plain; hay, very light crop, but good; Mangels, almost a failure. We have had a long continuance of very dry weather; rain is wanted very badly in this part of the county. *R. W. Clark, Plymouth.*—— The Wheat crop is looking very well and likely to turn out a great burden; Barley and Oats not so promising, and have suffered much from the long drought. Harvest will be very early should the weather continue as it is now. The shares of Clover and meadow hay are slight; the Mangel Wurzel are very bad, and on some farms have completely failed. Turnips are now being sown, but the ground is very dry for it. *J. Michemore, Berry, Totnes.*——The Wheat crop in this neighbourhood is fine and beyond the average; some early spots will be cut in July, and the harvest will be general the first week in August. Barley, early, very fine; late sown, thin. Oats, Beans, and Peas, none; Mangel Wurzel, poor; prospect of Turnips, tolerable. *Samd. Cornish, Stancombe, near Kingsbridge, July* 16.——To form a correct opinion of crops now is difficult, for unless a very careful inspection be made, it is no easy matter to know how much is ripening properly, and how much is from drought. Wheat will be a fair average crop, but both Oats and Barley must be light, especially in land that is not in good condition. Harvest will be general next week. Turnips and Mangel Wurzel will be very bad; the former was much damaged by flea, and the drought has not allowed any chance of improvement—very few fields of either are likely to be half a crop. Potatoes still seem healthy; hay hereabouts is a light crop, but well got; straw will be very short; all Grass is burnt up, and no year since 1826 equal to this for drought and heat. We had no thunder rains to do damage, and the want of water is fearful for man and beast. *John Benson, Tavistock, July* 19.

HAMPSHIRE.—Wheat full crop on strong land, but much laid; thin on light land. Barley pretty good. Oats good. Beans partial but average. Peas good. Hay crop good and tolerably well made. Potatoes pretty good. Mangel tolerably good. Turnips good plant. Harvest will commence about third week in July. *W. C. Spooner, Eling, Southampton.*

SOUTH ESSEX.—Potatoes are doomed, and the best alternative is to remove the decaying blades already infected and plant Brassicas between the rows, leaving the tubers to their fate in the ground a month that are not wanted for present use. Wheat is superlatively fine and good, the late heavy rains falling just seasonably have prevented its ripening immaturely in the extreme sunny hot weather during the longest days, as was the case last year. Notwithstanding its being very much lodged, the crop will we believe on the whole even exceed that of 1857. We will not venture, however, to form this opinion of the Wheat crops in other districts which we have not witnessed or seen, and where rains did not fall before it ripened, but rather imagine contrary effects to be produced there, as its tendency this season to ripen is so extraordinarily precocious. Barley and Oats appear equally early and good, so far as our observation extends. Peas are chiefly good, and are most of them hooked. Beans are partial, crop being badly podded from extreme drought. All crops are unusually early. The chief complaint farmers are justified to make now is that corn-growing is not a remunerative business at present prices, labour being so dear and foreign competition unchecked. *Hardy & Son, Maldon, July* 14.

SOUTH HANTS.—The Wheat crop may be stated as very good and very bad: the light soils were never worse, and the loamy and heavy soils never much better. Although the latter has suffered to some extent by the recent storms, yet the ears where the crop is laid seem to be filled much better than could be expected. On the whole the Wheat crop will probably reach an average. The Barley crop somewhat like the Wheat has suffered on the light land, whereas on the loams it is a bulky crop and much laid, and will also produce about an average crop of doubtful quality. Oats were never finer, and are one of the most bulky crops ever harvested and although a good deal laid by storms, yet it is likely to prove considerably over an average crop, as Oats do not generally suffer so much as other corn from this cause. Rye is also an abundant crop, and will yield over an average. Winter Tares, a good crop; Summer Tares promise well. Peas, a good crop, but much injured by hailstorms; they will, however, produce over an average. Both Winter and Spring Beans show blight to some extent, and although not so promising as a few weeks past will yet probably yield an average produce. A blight has set in earlier than usual on the haulm of the Potato crop, and it is therefore in an unusually precarious state, and not likely to yield an average quantity of sound tubers. Large breadths of Mangel have been planted this season, and although irregular in plant in many instances from the effects of wireworm, yet it is likely to yield a larger amount of food for stock than usual, owing to the extent of land under crop. Carrots have taken well and look promising; but this crop, although easily cultivated and more certain than Turnips, is very costly to raise, and does not increase in acreage. Swedes, although much injured by the fly, will prove about an average produce, except the black palmer continue to eat them, as they are now doing in some fields. Common Turnips are in many instances totally destroyed by the palmer, and the entire crop is threatened by the appearance of the palmer fly so early in the season, and in such immense numbers. *Joseph Blundell, Bursledon, Southampton, July* 11.—P.S. The harvesting of winter Oats, Rye, &c., has commenced; the Wheat will be ready on the 18th or 20th inst.

SUFFOLK.—Wheat; as fine a prospect as ever the earth exhibited, and will be ready in 10 days or a fortnight. Barley grew luxuriantly, and was not stiff enough in straw to resist the heavy storms; much is laid; we shall have a good crop, but various samples. Beans and Peas: both better than usual. Oats: very few grown. Clover: first crop very good; some caught in rain, but none materially injured; second crop growing well. Grass hay: generally good crop, and well secured. Mangel Wurzel promising well. Turnips: better spoken than could have been expected with such hot dry weather. The drought has been too much for the sand lands, but we have had occasional storms, giving rain plenty on our retentive soils for the demands of the growing plant. We have no injury to Wheat by storms sufficient to affect the average, and we have some Potato disease upon the Peas and Beans. Plenty of old Wheat in farmers' hands. *G. Edwards, Framlingham, July* 18.

SUSSEX.—I hand you a short account of the crops in this neighbourhood: Wheat, very good, over an average; Beans, Oats, Barley, and Peas, good; Potatoes, prospect good, but disease has appeared in many gardens; Mangel Wurzel, good; Swedes, some looking very well, others quite destroyed by Fly-Nigger. With regard to the harvest, reaping will no doubt be general between the 20th and 25th. They were cutting a forward piece of Talavera on Saturday at Eastbourne. A good many fields of Peas are already cut, and I expect to be mowing Winter Oats by the end of this week.—*J. Scott Hayward, Wotton, near Eastbourne.*

WILTSHIRE.—Wheat a fair average crop; in some places much laid; crop not so much as last year by 1 qr. to the acre. Reaping will be general about the 27th inst. Barley: a large bulk of straw (where sown after Turnips); injured by storms; symptoms of premature ripeness within the last few days; a full average. Oats: an excellent crop; above an average. Beans. Winter: a failure; Spring: a good crop. Peas considerably above an average. Potatoes: in some districts disease virulent, in others quite free. Turnips: an excellent plant; some patches carried away by black maggot, not to a very great extent; the maggot has now disappeared. A good prospect of winter keep for stock. Hay very plentiful, and well put together. *T. Chandler, Aldbourne, Hungerford, July* 19.—— Wheat is good, but very much laid. Reaping will commence generally on the 1st August—in some instances three or four days earlier. Barley very good; Oats a fair average; Spring Beans do.; Peas under an average—in some instances bad. Forward Turnips in some places good, but the Black Jack (or caterpillar), as it is termed, has destroyed acres. Swedes, I think, will be good, as will the Winter Turnips. Oats and Peas being off the ground so early, will afford a great deal of winter and spring keep. That does not apply to our neighbourhood—more as to Berkshire and Oxfordshire. Hay a good crop, and got together in first-rate condition; ricks

pulp and chaff, were exhibited here. Corn and cake breakers, churns, chain and other harrows, lawn mowers, and pumps and tools. (33) Waller, of Uddington, near Hamilton, exhibited ploughs, jointed harrows, grubbers; also common harrows, in which however the teeth are held, not by a screw to each tooth, but by several screws which held a whole bar of them tight together. (34) John Smith, of Coven, Wolverhampton; Fowler's steam plough and locomotive engine.

Fitted with patent adjusting boiler, which prevents priming and injury to tubes while travelling or working on unlevel ground. The outside plates are of best Staffordshire iron; fire-box of Low-moor, with copper tube plate, also fitted with outside framing, to which the engines are attached similar to railway locomotives, and has reversing gear and patent straps to actuate road wheels, so as to turn to right or left with facility; it can transport itself and ploughs, tackle, &c., where required, without horses. Price 420*l*.

(36) Hunt, Earl's Colne; a very good Clover hulling machine, corn dresser, chaff-cutter, &c. (37) Ruston & Co., Lincoln, steam engines, threshing machines, &c. (38) Hetherly, Thrussington, Leicester, ploughs of extraordinary length and taper. (39) Perry, Balston, Fencing. (40) Picksley, Sims & Co., Leigh, Manchester, chaff-cutters, &c., kneading machine.

The interior consists of a wood trough in a semi cylindrical form; a horizontal shaft traverses its entire length; to which are attached beaters, which in their revolving action beat the flour into a perfect dough, and thoroughly incorporate the yeast, flour, and water in a far better, cleaner, regular, and more expeditious manner than human hands can perform.

(13) Brown & May, Devizes, steam engines, haymakers, &c.; Waller's cheese maker, somewhat after the fashion of Keevil's, to which it is manifestly inferior. [We shall continue our walk round the stands during weeks to come, and point out those implements of which we have taken notes. Meanwhile we refer to the following out of their order.]

Among the most striking novelties of the yard, and one to which a silver medal was awarded by the judges is a dry brick-making machine, exhibited by Mr. Chamberlain, of Worcester. The clay is ground and delivered through a hopper into the brick-shaped boxes of a revolving horizontal platform. The bottoms of these boxes are moveable pistons, and as the platform revolves the pistons pushed up by the inclined plane on which they rest below, subject the contents of the boxes to enormous pressure against the shield beneath which the boxes are at the same time carried. Egress is given throughout this pressure to the air included with the dry earth in the box, and as the latter escapes from beneath the shield just named, it receives a heavy pressure from above by a piston working up and down at that particular spot. The under piston then continuing to rise pushes out the bricks, and they are delivered hard and polished at the rate of one every two or three seconds ready for the kiln at once. The exhibitor says:—By this machine bricks are manufactured from perfectly dry clay, of a quality hitherto unprecedented in this country. It is capable of making from 15,000 to 25,000 bricks per day, at less cost than any other machine, as the bricks can be taken direct to the burning kilns. This principle of manufacture is equally well adapted to all kinds of earths suitable for brick-making. Price, including patent rights, 1000*l*.

Digging machines are exhibited by Mr. Samuelson, of Banbury, Mr. Romaine, and Mr. S. Dawes, of Smethwick. The first is the rotating fork already described in this journal as efficient on land which has been subjected to a preliminary working by the plough; the second is a revolving cylinder armed with teeth of a particular form and arrangement, and worked by a self-moving engine, to which reference was made last week in the steam-plough trials; the third is also intended to be attached to a traction engine, and by means of the peculiar action of the cranks as the machine progresses the teeth or diggers are made to enter the ground with a nearly cycloidal action, thus preparing land at one operation for the seed.

Among the most interesting contributions to the implements shown were the stable fittings exhibited by several firms. Completer accommodation for the wants of the horse, with less opportunity for injury either from accident or vice, cannot be imagined. At the St. Pancras Iron Works Company's stand pivot mangers, rack, and water-trough are exhibited, invented by Professor Varnell, of the Royal Veterinary College, and manufactured by the exhibitors. These fittings are constructed to fit compactly in the corners of the box, and are made self-closing, so that the moment the bolt is withdrawn they fall of themselves into the closed position, leaving their surface even with the boarding. For sick and restless horses or foaling mares, this invention is invaluable.

## Notices to Correspondents.

CATTLE FOOD: *J. Venn.* We have had no personal experience of the sort you name. Assuming it to be of first-rate quality, does it cost over 14*l*. or 15*l*. a ton; if so, we would have nothing to do with it.

DAIRY: *Young Farmer.* If you remove all old mortar and soil from mason work and floor to a sufficient depth, thoroughly cleanse with chlorine water, &c., and re-paint and plaster, we should think it would be possible to convert a stable into a dairy.

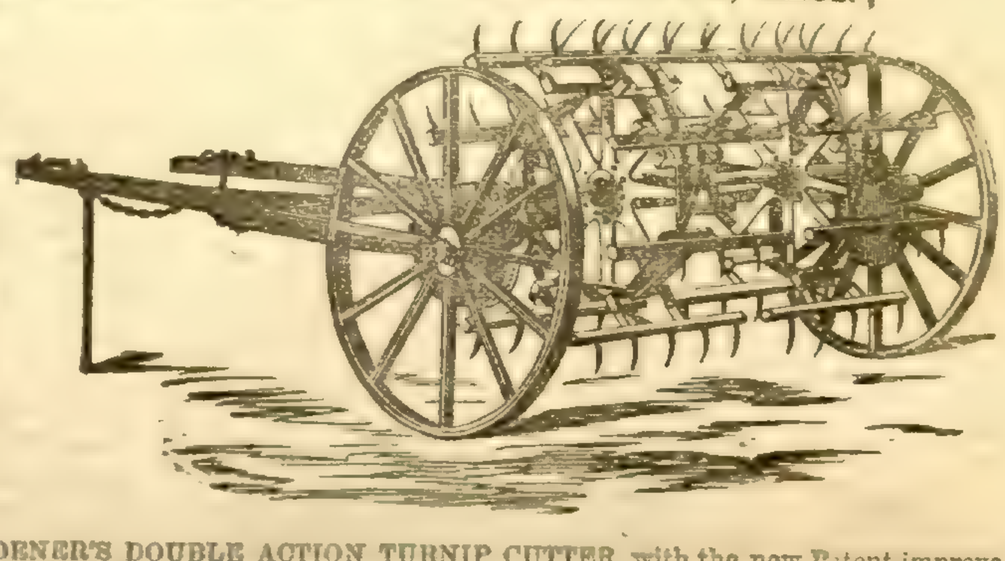
INSECTS: *G. W.* Your cart-horses have been attacked by the bloodthirsty Tabanus bovinus, the largest of our British gadflies. *W.*

PRESERVATION OF POTATOES: *Old Subscriber.* Common salt mingled with green Swede and Mangel Wurzel leaves in a heap or pit preserves them for a certain period, *i.e.*, the mess that is thrown out some months afterwards will not, we believe, be refused by cattle. But we have never heard of the "preservation of Potatoes for a length of time in the pits by a liberal use of salt which destroys their vitality."


# B. SAMUELSON,

## AGRICULTURAL ENGINEER AND MACHINIST,

**76, CANNON STREET, WEST, LONDON; WORKS—BANBURY, OXON;**



INVITES the attention of Agriculturists to his

IMPROVED DOUBLE-ACTION HAY-MAKER (Price 13*l*. 13*s*.).

This Machine is guaranteed against breakages in fair usage.

SAMUELSON'S IMPROVED HORSE RAKES.

No. 3, extreme width, 7 feet 6 ins. £7 10 0
No. 4, " " 8 feet 6 ins. £8 0 0
Steeled Teeth, 10*s*. extra.

SAMUELSON'S PATENT BRITANNIA SELF-RAKING REAPING MACHINE, with side delivery in sheaf (requires no rakers or gatherers), price 32*l*. 10*s*. at the Works, Banbury; 34*l*. in London.

SAMUELSON'S BOYD'S PATENT LAWN MOWING AND ROLLING MACHINES. The only Machine that will cut WET as well as dry Grass. Price, from 4*l*. 17*s*. 6*d*. to 13*l*. 13*s*.

SAMUELSON'S PATENT PRIZE GARDENER'S DOUBLE ACTION TURNIP CUTTER, with the new Patent improvement for separating the dirt and small chippings from the clean and useful pieces.

SAMUELSON'S PRIZE CHAFF CUTTERS, MILLS, CAKE BREAKERS, and food-preparing Implements of every description; also HARROWS, FIELD ROLLERS, CLOD CRUSHERS, &c.

The above may be inspected at MR. SAMUELSON'S stand, No. 30, at the Warwick Show, where CATALOGUES and PRICE LISTS may be obtained, or at the

**Works, Banbury, Oxon; London Warehouse, 76, Cannon Street, West.**

# FOWLER'S PATENT STEAM PLOUGH.

**The Prize of £50 at the Warwick Meeting of the Royal Agricultural Society**
HAS BEEN AWARDED TO JOHN FOWLER FOR HIS PATENT STEAM PLOUGH.

THE FOLLOWING PRIZES HAVE ALSO BEEN GAINED BY HIM:—

**The Royal Agricultural Society's Prize of £500, at Chester, July, 1858.**
**The Highland Society's Special Prize of £200, at Stirling, October, 1857.**
And at various other Agricultural Shows in the United Kingdom Prizes amounting to £175.

[The above Cut shows FOWLER'S Steam Plough at work. On the left headland is the Engine, with Windlass and Water Cart attached, and directly opposite to them the anchor, and between them the Plough is pulled backwards and forwards, one end of the Plough being alternately in the air and the other in its work. The Engine and Anchor propel themselves forward along the headland as the Plough performs its work, so that they may be always opposite to the work.]

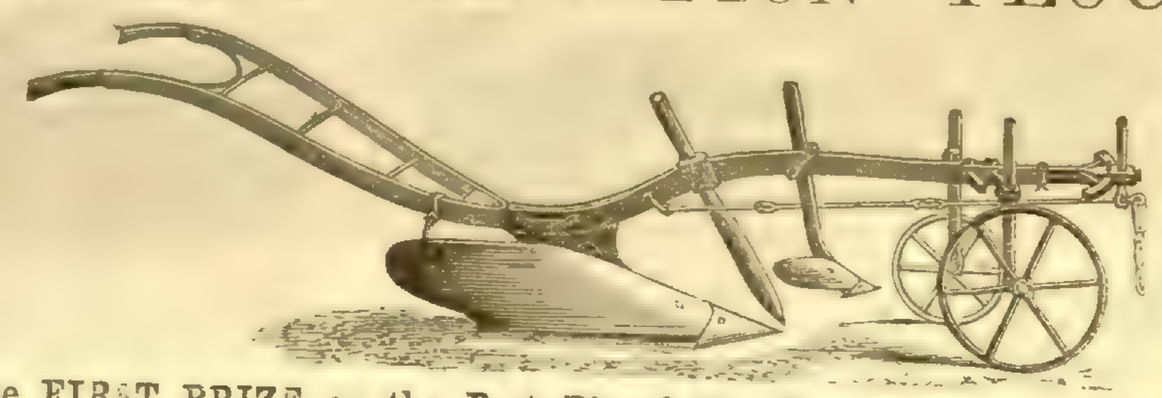
ENGINES purchased for STEAM PLOUGHING can be used for any other operation the Farmer may wish. They are made to move themselves by Steam from field to field or place to place, requiring but one or two horses in the shafts to steer them.

For further particulars, prices, and Illustrated Catalogues apply to

**JOHN FOWLER, JUN., 28, CORNHILL, LONDON, EC.**

THE PLOUGH TRIALS AT WARWICK.

# HOWARD'S CHAMPION PLOUGH



**Gained the FIRST PRIZE as the Best Plough for General Purposes at Warwick,**

BEING the CHIEF PRIZE for PLOUGHS, awarded by the Royal Agricultural Society of England, at this Meeting. The importance of this Prize will be gathered from the fact that the GENERAL PURPOSE PLOUGHS are the only ones tried on BOTH LIGHT AND HEAVY LAND, and as HOWARD'S CHAMPION PLOUGH proved itself to be the best on both soils, the FIRST PRIZE, of the HIGHEST AMOUNT given by the Society for any kind of Plough, was awarded to J. & F. HOWARD.

PRIZES awarded to J. & F. HOWARD, by the Royal Agricultural Society of England, at the WARWICK MEETING, 1859: being not only the LARGEST NUMBER of PRIZES, but the LARGEST NUMBER of FIRST PRIZES awarded to any Exhibitor,

THE FIRST PRIZE FOR THE BEST PLOUGH FOR GENERAL PURPOSES
ALSO A PRIZE FOR THE BEST PLOUGH FOR LIGHT LAND
AND A PRIZE FOR THE BEST PLOUGH FOR HEAVY LAND

THE FIRST PRIZE FOR THE BEST LIGHT HARROWS
THE SECOND PRIZE ALSO FOR THE BEST LIGHT HARROWS
AND THE FIRST PRIZE FOR THE BEST HEAVY HARROWS.

**Every one of HOWARD'S Implements, tried at Warwick, gained a Prize.**

CATALOGUES, with full particulars, sent post free on application to

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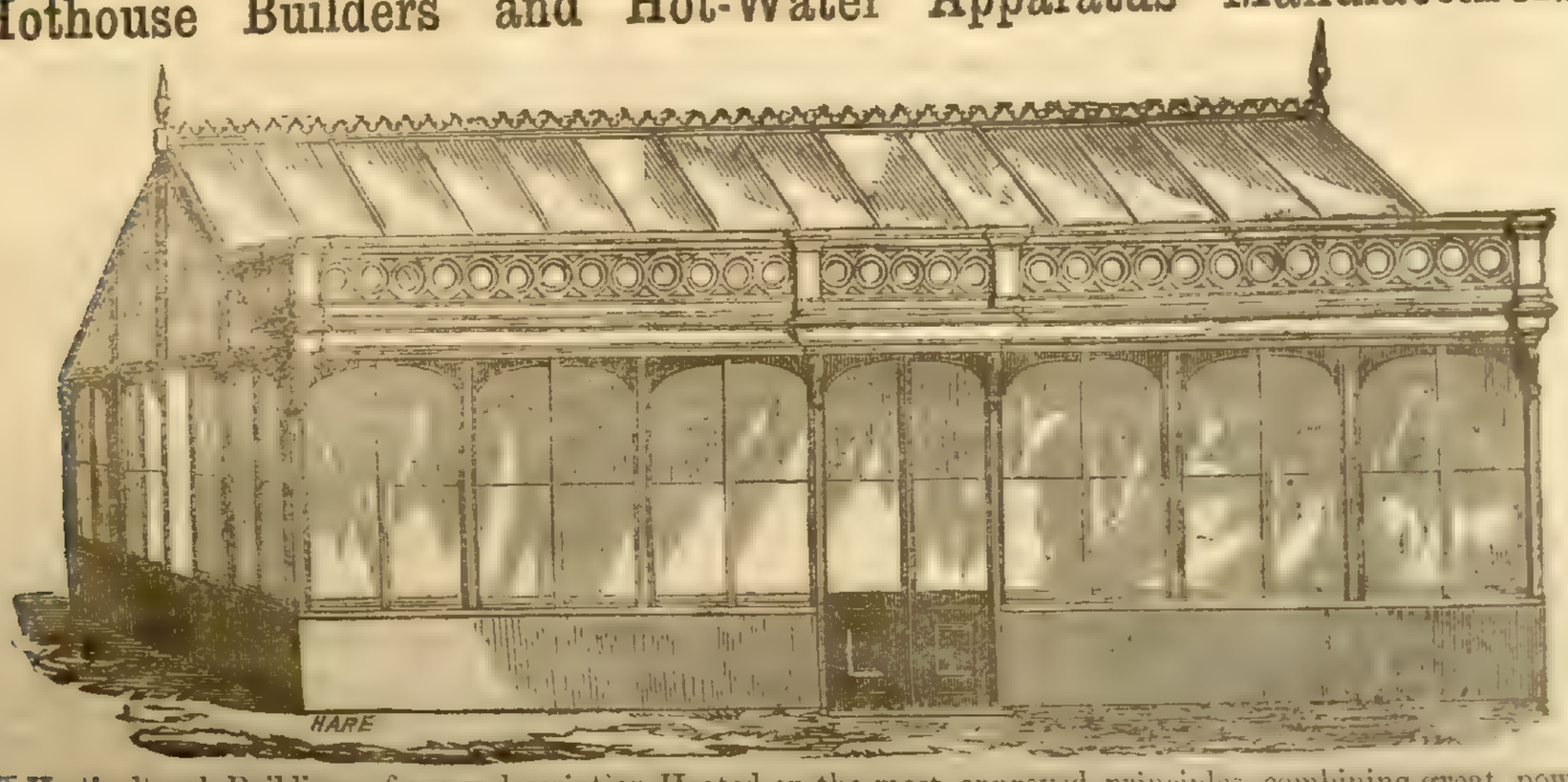
## HORTICULTURAL TOOLS.

GARDEN ENGINES, Galvanized Iron
Prices 55s., 63s., 105s., 120s.
Ditto, Wood, 84s,, 105s, 130s.
Flower Stands, 4s. 6d. each.
Cast Iron Ornamental ditto, to hold 7 Vases, 27s.
Deane's Mowing Machines, with Boyd's Patented Improvements, £4 17s. 6d; £6 6s. 0d., £6 17s. 6d., £7 7s. 0d.
Green House Syringes, 8s., 10s., 18s. 6d
Garden Rollers, £1 14s. 6d., £2., £2 12s. £3 3s., £3 18s., £4 13s., £5 12s., £7 10s.
Garden Stools, 4s. 6d.
Garden Chairs, from 30s.
Boyd's Self-adjusting Scythe, 10s. 6d.
Wire Work, 18in. 4d. per yard run.

*Every Implement for Garden use on the lowest Terms.*

**DEANES :—Opening to the Monument, London Bridge.**

# J. WATTS & CO.,
## Hothouse Builders and Hot-Water Apparatus Manufacturers.

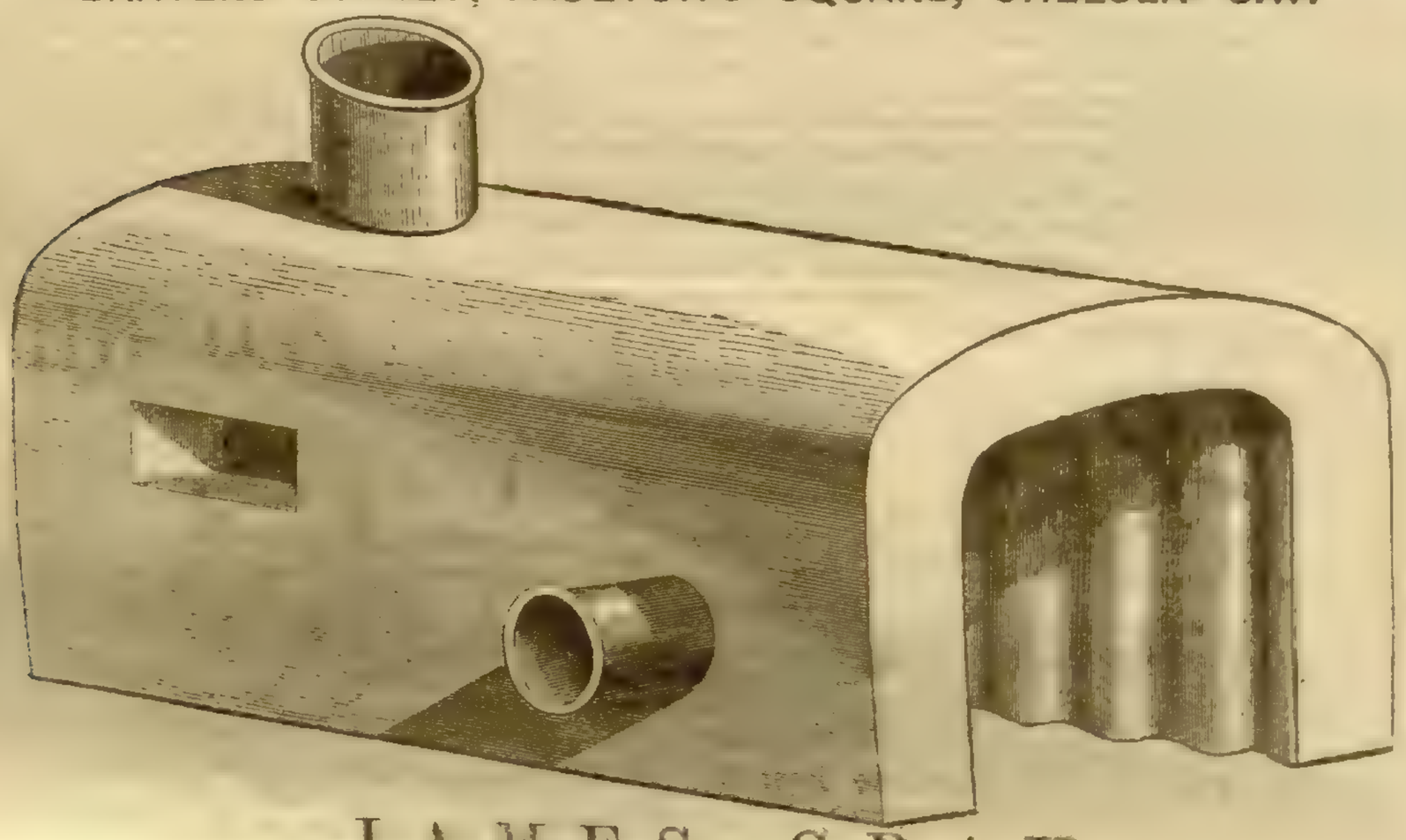



Horticultural Buildings of every description Heated on the most approved principles, combining great power with simplicity of construction. A Range of Houses containing 20,000 feet can be Heated as easily as the smallest Pit. Two Hundred Cucumber Boxes and Lights, and from Three to Four Hundred Lights of all sizes kept in stock, glazed and painted complete, ready for immediate use.

*References to the Nobility, Gentry, and the Trade in most of the Counties in England.*

**Claremont Place, Old Kent Road, London, S.E.**

# HORTICULTURAL WORKS,
## DANVERS STREET, PAULTON'S SQUARE, CHELSEA S.W.



# JAMES GRAY

RESPECTFULLY begs to inform the nobility, gentry, Nurserymen, Gardeners, and others, that he continues to carry on the business in all its branches at the above old established premises.

**CONSERVATORIES, GREENHOUSES, FORCING HOUSES, VINERIES, PITS, &c.,**
of every description, erected on the most approved principles.

## HEATING BY HOT WATER.

J. G. having specially devoted his attention for many years to this part of the business, is now fully prepared to Heat every description of public and private buildings, viz :—Churches, Mansions, Warehouses, &c., as well as all structures connected with Horticulture, in the most efficient manner. His system is the most simple that can be adopted—which he has found from long experience to be the best—can be constructed at less cost, and is more easily managed than those of a complicated nature which have attracted the notice of the public.

J. G begs to call attention to his CAST-IRON CORRUGATED ARCH BOILER, which from its simplicity of construction has not the liability to fracture to which those of a more complex design are always subject. They have been extensively used for many years, and have given the greatest satisfaction.

All business is conducted at this establishment on the principle of lowest remunerative profits consistent with best materials and workmanship.

**Plans and Estimates furnished on the shortest notice.**

C. STEPHENSON, late STEPHENSON AND SON, 61, Gracechurch Street, London, Manufacturer of Hurdles, Fencing, &c., Improved Iron and Copper Cottage Boilers and Apparatus for Warming Buildings of every description by Hot Water.

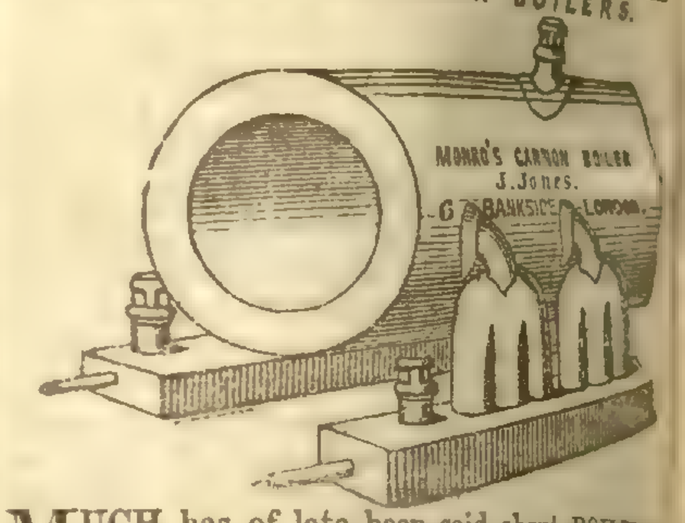
Prices and Estimates furnished upon application.

**WEST OF ENGLAND HOTHOUSE AND HOT-WATER APPARATUS MANUFACTORY,**
BRIDEWELL STREET, BRISTOL.

VINCENT SKINNER (late Partner in and for seven years connected with the firm of John Weeks & Co., of Chelsea), erects Conservatories, Forcing Houses, &c., of the best materials and workmanship. Hothouses, Halls, &c., heated by Hot-water Upright Tubular Boilers of all sizes, from 18 inches by 15 inches, Garden Frames, &c.

V. S. begs to remind gentlemen that labour, &c., being cheaper at Bristol, he can give Estimates lower than London houses. Plans and Estimates free.

**MONRO'S CANNON BOILERS.**




MUCH has of late been said about BOILERS for Heating by Hot Water, but these Boilers have now proved themselves to be the best at present invented. They are adapted for heating every description of building, and are made of various sizes. The Price of the

| | | | |
|---|---|---|---|
| 24-inch Cast Iron is | .. | .. | .. £5 10s 0d |
| 24-inch Wrought ditto | .. | .. | .. 6 10 0 |
| 36-inch Cast ditto .. | .. | .. | .. 8 0 0 |
| 36-inch Wrought ditto | .. | .. | .. 8 10 0 |

References to Gentlemen and Nurserymen where the Boilers are now at work. The Cannon Boilers are always in stock, and are to be had only of J. JONES, 6, Bankside, of every description of Saddle and Cylinder Boilers. Hot-water Pipes and Connections at prices lower than those of any other house in London. Estimates for Hot-water Apparatus complete in any part of the country, and an Illustrated List on application to J. JONES, 6, Bankside, Southwark, S.E.

T. G. MESSENGER, HORTICULTURAL BUILDER, PATENT HOT-WATER APPARATUS and GARDEN Implement MANUFACTURER, Loughborough.

T. G. MESSENGER'S Divisionless Horticultural Building ventilated with screw mechanism by which the top lights are opened the entire length of the house moment (do not fail to give complete satisfaction (as numerous testimonials can show), for the following reasons :—They are lighter in appearance, more durable, much stronger cheaper than any other can possibly be.

Three years' trial has proved his PATENT BOILER superior to any hitherto invented; a great number of can be heated at once with this Boiler, with the heating any separately.

Illustrated descriptions and prices of his Patent and approved GARDEN ENGINES sent free upon application also Plans, Estimates, and Testimonials for Building. See *Gardeners' Chronicle*, May 21.

**HORTICULTURAL BUILDINGS AND HEATING HOT WATER.**

JOHN R. PEILL, 17, New Park Street, Southwark, Manufacturer of every description of Buildings for Horticultural purposes, and Inventor of the Improved Conical Boiler for heating the same, is prepared to undertake works of any magnitude, and refers among others to the celebrated RANGE OF FORCING HOUSES at HER MAJESTY'S GARDENS, FROGMORE, and at SIR ROBERT PEEL'S, DRAYTON MANOR, constructed under the superintendence of his Manager, Mr. JOHN JONES; and also to his BOILERS fixed at the CRYSTAL PALACE, the ROYAL BOTANIC GARDENS, REGENT'S PARK, and KEW, and at several hundreds of the principal seats, Public Establishments, and Manufactories in London and the provinces. J. R. P. also manufactures every description of Iron Roofs, Iron Houses, and Iron Fencing, plain and ornamental. Strong Iron Hurdles for Sheep (6 ft. long, 3 bars, 5 bars), 4s. 3d. each; ditto for cattle, 4s. 9d. each. Price and other particulars forwarded on receipt of one postage-

BARNARD, BISHOP, AND BARNARD, Norwich Place, Norwich, in consequence of improvements in machinery for the manufacture of the above article, are enabled to make a great reduction in the prices.

| | | Galvanised. |
|---|---|---|
| 2-inch mesh, 24 inches wide .. | .. | 5d. per yd. |
| 2-inch ,, strong do. | .. | 6 ,, |
| 2-inch ,, intermediate, do. | .. | 7 ,, |
| 2-inch ,, extra strong, do. | .. | 9½ ,, |
| 1⅝-inch ,, 24 inches wide .. | .. | 5½ ,, |
| 1⅝-inch ,, strong, do. | .. | 6½ ,, |
| 1⅝-inch ,, intermediate, do. | .. | 7½ ,, |
| 1⅝-inch ,, extra strong, do. | .. | 10 ,, |

All the above kinds can be made of any width, and at proportionate prices. If the upper half is of a finer than the lower, it will reduce the prices about one-

Strong Galvanised Poultry Netting, 8d. per yard, Galvanised Sparrow proof Netting for Pheasantries square foot. Delivered free of expense in London borough, Hull, or Newcastle. Manufacturers Strained Wire Cattle and Deer Fencing, Iron Hurdles

Illustrated Catalogues and Patterns forwarded

TRIFOLIUM INCARNATUM, 3*d.* to 4*d.* per lb.; with hints on its successful cultivation, showing how 5 tons per acre of the most nutritive hay may be secured, the advantages of sowing it where broad Clover is thin, and its superiority to Tares as green food.

PAGE AND TOOGOOD having secured a large breadth of prime quality, offer it at the above low rate for cash.

| | |
|---|---|
| New Turnip Seed, per lb .. .. .. 6*s.* 6*d.* | Italian Rye-grass, per bush, 5*s.* to .. .. 7*s.* 0*d.* |
| New Rape, do. .. .. 0 4 | Mustard, per lb, 4*d.* to 0 5 |

Calceolaria and Cineraria, in packets of 2*s.* 6*d.* and 1*s.* each, saved from one of the finest collections in Europe.

Seeds for exportation to all parts of the world

PAGE & TOOGOOD, Seed Growers and Merchants, Oxford Street; and Above Bar, Southampton.

BUCKLAND SWEETWATER GRAPE.

MESSRS. IVERY AND SON, of Dorking and Reigate Nurseries, feel great pleasure in introducing this fine early WHITE GRAPE, and beg to intimate that they will commence sending out Plants on October 3, in strict rotation, as the orders are received. Price 21*s.* and 31*s.* 6*d.* each.

It received the Premium offered by the Pomological Society for the best Seedling Grape not having a Muscat flavour, Sept. 9, 1858; also an Extra Prize at Crystal Palace Exhibition, Sept. 8 and 9, 1858, and it is recommended by many Gardeners who have seen it growing and tasted the fruit. For the information of those who have not seen this Grape, J. I. & Son beg to say that they have issued a Circular containing the various periodical reports, and also the names of the Gardeners by whom it is recommended, which they will be pleased to forward on application.—Dorking Nursery, July 30.

HALF-SHRUBBY CALCEOLARIAS.

ROBERT ALEXANDER begs to inform his patrons and the public that carefully HYBRIDISED SEED of the above is now ready for distribution at 2*s.* 6*d.* per packet.

This celebrated and much admired collection has fully sustained its character for superiority the present season, by again carrying off the First Prizes at the Bath, Bristol, and Clifton Horticultural Exhibitions, making three successive seasons of success at each exhibition.

They have also been pronounced by the most experienced Horticulturists of the neighbourhood, as well as others from a distance officiating as Censors, as the most distinct and superior in point of habit that had come under their notice.

Lyncombe Vale, Bath.

CUTHILL'S STRAWBERRY PLANTS will be sent out on and after August 1st.

CUTHILL'S EARLY BLACK PRINCE, 5*s.*; selected, 7*s.* 6*d.* per 100.

CUTHILL'S PRINCESS ROYAL or ENGLAND.—Good size, fine colour, Pine-apple flavour, great bearer, very hardy, good forcer. Per 100, 7*s.* 6*d.*; selected, 10*s.*

CUTHILL'S PRINCE or WALES.—Good size, rich colour, cone shape, tremendous bearer, first rate for table and preserving. It is earlier and later than Elton on account of its numerous trusses, 7*s.* 6*d.* per 100; selected, 10*s.*

Dr. Lindley told J. C. that he never could depend upon having a Strawberry until he had his breed.

From Charles Hillhouse, Esq.—"Your 100 baskets of Strawberries have given great satisfaction.—June 30."

Best Mushroom Spawn.

CUTHILL'S Pamphlet on the Potato, with 20 more Articles, on the Strawberry, Asparagus, Sea Kale, &c., 2*s.*

CUTHILL on Market Gardening round London, &c., 1*s.* 6*d.*

CUTHILL on the Cultivation of the Mushroom, Killing of Woodlice, &c., 1*s.*

CUTHILL on the better Cultivation of the Vine, 1*s.*

Vegetable Mowing Paper gratis.

Post-Office Orders to be made payable to JAMES CUTHILL, Cremorne Road, London, S.

SEEDS FOR PRESENT SOWING.

JOHN CATTELL has NEW SEEDS of the following choice articles now ready to send out, in packets post free at the annexed prices. Orders from unknown correspondents must contain a Post office Order or Postage Stamps for the amount.

| | Per packet.—*s. d.* |
|---|---|
| Calceolaria, from finest large flowered varieties of the richest colours .. .. .. .. .. | 2 6 |
| ,, second quality .. .. .. .. .. | 1 0 |
| Cineraria, from finest new varieties .. .. .. | 2 6 |
| ,, from fine older varieties .. .. .. .. | 1 6 |
| ,, second quality .. .. .. .. .. | 1 0 |
| Geranium, from extra fine new French and show vars., 12 seeds .. .. .. .. .. .. | 1 0 |
| Hovea Celsii, just gathered; if sown now will vegetate next spring .. .. .. .. .. | 1 0 |
| Delphinium formosum; if sown now in pans will make good plants to flower next June .. .. | 0 6 |
| Cyclamen persicum .. .. .. .. .. .. | 0 6 |
| Oxalis rosea .. .. .. .. .. .. .. | 0 3 |

Nursery and Seed Establishment, Westerham, Kent.

CHOICE SEEDS.

MESSRS. PARKER AND WILLIAMS beg to inform their friends and patrons that they can now supply the following choice SEEDS, all of which are warranted genuine and of the finest quality.

| Per packet—*s. d.* | Per packet—*s. d.* |
|---|---|
| Calceolaria, herbaceous .. 2 6 | Primula sinensis, mixed.. 1 6 |
| Cineraria, from named vars. 2 6 | Pansy, from named vars. . 1 0 |
| Hollyhock, from named vars. .. .. .. 0 6 | Sweet William, from extra fine vars. .. .. .. 0 6 |

Paradise Nursery, Seven Sisters and Hornsey Roads, Holloway, London, N.

MESSRS. PARKER AND WILLIAMS beg to inform their friends and patrons that their PRICED and DESCRIPTIVE CATALOGUE of Exotic Orchids, Stove, Greenhouse, and Hardy Ferns, Miscellaneous Stove, Greenhouse, and Hardy Plants, Variegated and Ornamental foliaged Plants, Conifers, Roses, Rhododendrons, Indian Azaleas, Gloxinias, Fuchsias, Cactuses, &c., is now published, and will be forwarded post free on application.—Paradise Nursery, Seven Sisters' and Hornsey Roads, Holloway, London, N.

J. CARTER AND CO.'S Select LIST OF CHOICE FLOWER SEEDS FOR PRESENT SOWING,

will be found on page 603 of *Gardeners' Chronicle* of July 16.

238, HIGH HOLBORN, London, W.C.

CARTER'S CHAMPION CUCUMBER surpasses Sion House and Lord Kenyon's Favourite for winter and early spring use. Smooth, dark green, straight, and prolific; average length, 1 foot. Price per packet, 1*s.*

J. C. & Co. do not hold themselves responsible for the genuineness of the above unless obtained direct from 238, High Holborn, London, W.C.

CALCEOLARIA, 1*s.*, 2*s.* 6*d.*, 5*s.*
CINERARIA, 1*s.*, 2*s.* 6*d.*, 5*s.*
PRIMULA SINENSIS FIMBRIATA, 1*s.*, 2*s* 6*d.*, 5*s.*
} All the same quality.

JAMES CARTER AND CO. beg leave to offer Seeds of the above of *this year's harvesting*, saved from SEVERAL UNRIVALLED COLLECTIONS, and they can with confidence recommend them as being of first-rate quality, both for form, colour, and variety.—JAMES CARTER & Co., Seedsmen, 238, High Holborn, London, W.C.

GEORGE WHEELER, Warminster Nursery, can supply the following, post free:—

CALCEOLARIA SEED of the finest strain in 1*s.* 6*d.* and 2*s.* 6*d.* packets.

CINERARIA SEED from the finest varieties in 1*s.* and 2*s.* 6*d.* packets.

WHEELER'S genuine IMPERIAL CABBAGE, in 6*d.* or 1 packets, or by the lb.

HOLLYHOCK SEEDS from fine named kinds, in 1*s.* and 2*s.* 6*d.* packets.

DELPHINIUM FORMOSUM, 6*d.* and 1*s.* per packet.
,, Chinese, fine vars., 6*d.* and 1*s.* per packet.
,, cœrulescens, 6*d.* and 1*s.* per packet.
,, fine mixed, 6*d.* and 1*s.* per packet.

FIRST PRIZE CALCEOLARIA, CINERARIA, AND PRIMULA.

"Shanakiel House, Cork, June, 1859.

"GENTLEMEN,—The Calceolaria Seed you sent me turned out so remarkably well, my gardener got First Prize for the plants at our recent Flower Show. You will please send me another half-crown packet, for which I enclose postage stamps.

"Messrs. Jackson & Son. "FRANCIS R. LEAHY."

Seed of the same excellence is now being supplied by post or otherwise. CALCEOLARIA, 1*s.*, 1*s.* 6*d.*, and 2*s.* 6*d.*; CINERARIA, 6*d.*, 1*s.*, and 2*s.*; and PRIMULA, 1*s.*, 1*s.* 6*d.* and 2*s.* 6*d.* per packet.

T. JACKSON & SON, Nurserymen and Seedsmen, Kingston, S.W.

CINERARIA, HERBACEOUS CALCEOLARIA, AND HALF SHRUBBY DITTO SEED.—These have been saved from Turner's most beautiful varieties; in 1*s.* and 2*s.* 6*d.* packets. Primula and Hollyhock, from the newest and handsomest varieties, 1*s.* per packet. Agents for F. & A. Smith's splendid Cineraria, in 1*s.* 6*d.*, 2*s.* 6*d.*, and 5*s.* packets: also agents for Dobson & Son's splendid Calceolaria, in 1*s.* 6*d.*, 2*s.* 6*d.*, 3*s.* 6*d.*, & 5*s.* packets.—Catalogues of the newest Flower Seeds, and newest Dutch and Cape Bulbs, sent post-paid.—BUTLER & MCCULLOCH, Seedsmen, Covent Garden Market, W.C.

MUSCAT HAMBURGH GRAPE AND OTHER CHOICE SORTS.

LUCOMBE, PINCE, AND CO. have now ready to send out fine strong healthy VINES, raised from eyes, 6 to 9 feet long, of this celebrated and much esteemed new Grape, together with all the leading kinds in cultivation, including that very superior variety

BIDWILL'S SEEDLING,

which is one of the finest Black Grapes ever raised, and being a very free bearer is especially adapted for pot culture, and several specimens of it fruiting in pots can now be seen in the Exeter Nursery; it is also perfectly hardy.

L., P., & Co. having a large experimental Vinery, have had the opportunity for several years of proving their Stock, and can therefore warrant all the sorts true to their names:—

| | | | |
|---|---|---|---|
| Strong Vines .. | 5*s.* 0*d.* each | Very large extra-sized Fruiting | 10*s.* 6*d.* each |
| Extra strong .. | 7 6 ,, | | |

All are fit for immediate planting, and being well established in pots, can be packed securely, and safely sent to any distance, and Plants, fully to compensate for carriage, will be presented.

Exeter Nursery, Exeter.

# CALCEOLARIA, CINERARIA,

AND

## PRIMULA SINENSIS FIMBRIATA,

Of first quality, in seed packets, 2*s.* 6*d.* each.

## SPERGULA PILIFERA,

The admirable substitute for Grass in forming Lawns, &c., REQUIRING NO MOWING. Seed packets, 6*d.*, 2*s.* 6*d.*, & 5*s.*

E. G. HENDERSON & SON, Wellington Nursery, St. John's Wood, London, N.W.

# NEW STRAWBERRY, "OSCAR."

## CHARLES TURNER,

HAVING purchased the entire stock of this fine Strawberry, is prepared to receive orders for the same at 42*s.* per 100. Strong plants will be ready on the 20th August.

"Oscar" was submitted to the Fruit Committee of the Horticultural Society, July 5, 1858, accompanied by the following statement:—"The plant is strong and healthy, and bears better than the British Queen in our soil, which is very strong. The fruit will attain a larger size than those sent, the best having been gathered about a week ago. The fruit appears ripe several days before it actually is so. I cannot exactly state its parentage, as I gathered seed of British Queen, Keens' Seedling, and Alice Maud, and saved all together." The Committee reported on its merits as follows:—"Fruit large, ovate, frequently flattened on the sides, or cockscomb shaped; shining dark red, flesh firm, flavour superior, remarkably sweet, with a brisk aroma; it was considered a valuable variety worthy of cultivation."

A silver medal was awarded to it by the Royal Botanic Society, June 15, 1859. It was again exhibited at the last exhibition of this Society, July 6. The *Gardeners' Chronicle* thus speaks of it:—"Of seedlings the best was 'Oscar,' the merits of which may now be considered established. It is certainly the best flavoured of the large kinds, and being a great cropper, must soon find a place in every garden."

It received the prize given for the best seedling Strawberry by the Pomological Society, June 23. In the report of this excellent Society it is thus described:—The premium of One Guinea was awarded to a dish of 'Oscar,' exhibited by Mr Bradley (the raiser), Gardener to W. F. N. Norton, Esq., of Elton Manor, near Nottingham, in very fine condition. This fruit is very large, ovate, angular, and frequently cristate, but rarely flat or wedge-shaped: seeds rather large and deeply imbedded: colour very dark, becoming deep mulberry when fully matured; flesh red throughout, solid, firm, and juicy; flavour very rich and fine when quite ripe, apparently near in affinity to Sir Harry, on which it was considered an improvement. Particular notice was taken of its firm and solid qualities, which augured well for its powers of enduring package and carriage. The above dish afforded good evidence of this, as the fruit itself was firm, plump and unimpaired, although it had travelled from Nottinghamshire; and, in consequence, the footstalks and calices were dry and withered. It was reported to be a great cropper, next in earliness to Cuthill's Black Prince, and some days earlier than Keens' Seedling."

In a collection of Strawberries exhibited by C. TURNER at the same meeting, it is thus further alluded to in the Society's report:—"The most remarkable variety in the collection was 'Oscar,' a seedling exhibited for the first time last year, when high encomiums were passed on it; and this year's examination has fully borne out the former impression. It was however exhibited by the raiser (who is understood to have supplied plants to Mr. TURNER only) in the seedling class, in which place it will be fully described."

It also received the First Prize for best dish of Strawberries at Nottingham, June 30. It will be seen from the above that it is a Strawberry of long duration, having been shown this season from June 15 till July 6. It was however in fine condition, June 10.

"Oscar" is strongly recommended, and will be found to be one of the best for early forcing.

A Coloured Plate, by Andrews, may be had free by post for 12 postage stamps.

### The following most successful Fruit Growers have already ordered Plants:—

Bailey, Mr. Thomas, Shardiloes Gardens, Amersham
Bailey, Mr. H., Nuneham Park
Bousie, Mr., Stoke Park Gardens
Beale, Mr. T., Walton Wood Hall Gardens, Ware
Constantine, Mr. H., Hillingdon Court Gardens
Dodds, Mr., the Gardens of Col. Baker, Salisbury
Dodds, Mr. Geo., Cooper's Hill Gardens, Englefield Green
Drewitt, Mr. J., Denbies, Dorking
Elsworthy, Mr., the Gardens of R. J. Gilman, Esq., Bishopstoke
Forsyth, Mr., Gunnersbury Park Gardens, Acton
Frost, Mr., Preston Hall Gardens, Maidstone
Hill, Mr., Keele Hall Gardens
Ingram, Mr., the Royal Gardens, Frogmore
Ingram, Mr., the Gardens of J. J. Blandy, Esq., Reading
Judd, Mr., Althorp Park Gardens, Northampton
Knight, Mr., the Gardens of H.R.H. the Duchess of Kent, Frogmore
Lawrence, Mr., Farnham Castle Gardens
Little, Mr., the Gardens of A. Darby, Esq., Stoke
Parsons, Mr., Danesbury Park Gardens, Welwyn
Spencer, Mr., Bowood Gardens, Calne
Snow, Mr., Wrest Park, Ampthill
Watt, Mr., the Gardens of J. J. Colman, Esq., Cannon House, Norwich
Whiting, Mr. J. B., the Deepdene
Widdowson, Mr., Rickmansworth

### C. TURNER can also supply the following Select Varieties:—

Adair (Elphinstone).—Handsome fruit, second class in flavour
Admiral Dundas (Myatt).—Large fruit, heavy crop, second class in flavour
Black Prince (Cuthill).—Early, small, but good cropper
British Queen (Myatt).—Fine
Carolina superba (Kitley).—Extra fine
Crimson Queen (Myatt).—Very large, great cropper, and fine late variety
Elton Pine.—Late
Filbert Pine (Myatt).—Extra fine flavour and heavy cropper, not large, but good late variety
Prince of Wales (Ingram).—Fine flavour and handsome fruit
Sir C. Napier (Smith).—Large, very heavy crop, good for general purposes
Sir Harry (Underhill).
Wonderful (Joyes).—Remarkably heavy cropper, second quality; also many other varieties.

THE ROYAL NURSERIES, SLOUGH.

# The Gardeners' Chronicle.

*SATURDAY, JULY 30, 1859.*

MEETINGS FOR THE FOLLOWING WEEK.

THURSDAY, Aug. 4—Pomological..... 2 P.M.

THERE has lately appeared in the *Manchester Guardian* a letter signed "A Gardener," containing the following statement:—

"Twenty years ago I read in HUMBOLDT's works about some experiments he had made with artificial light on vegetation. He planted some Peas in a box, and placed it in a dark room, and when grown up they were of a yellow colour. He

also placed some in a room where daylight was entirely excluded, and suspended a lamp so that the rays of light from it would fall upon them; they grew up as green as though they had been exposed to sunlight.

"This year I have tried experiments on the same subject. I planted vegetables in a place daylight could not penetrate, over which I suspended a paraffine oil lamp, with a reflector to throw the light upon the plants. They have grown up a beautiful dark green. I also lighted a greenhouse with lamps every night, and find it not only increases vegetation, but gives a beautiful deep tinge to the plants."

It is to be regretted that the writer did not authenticate his statement by giving his real name and address; for the subject to which it relates is one of considerable interest.

A good many experiments on the action of artificial light on vegetation are to be found scattered through the writings of physiologists, but they cannot be said to have had any practical application. DE CANDOLLE exposed Sensitive Plants to the light of six lamps, equal to about 5-6ths of diffused daylight, and he found that after a time, having been kept in the dark during the day and been only thus illuminated at night, they changed their hours of "sleep" as it is termed, expanding their leaves at night, and closing them by day. It is also well known that Crocuses will open their flowers under the influence of a good candle.

The same able physiologist was led by his experiments to infer that "artificial light acts on plants like natural light," and hence he supposed that during the long dark winters of northern regions, conservatories might be so artificially illuminated as no longer to suffer from want of sunlight. (See his *Phys. Veg.*, p. 1087.) Nevertheless in another place DE CANDOLLE maintains the doctrine that carbonic acid, which is so immediately resolved into its elements by the feeblest daylight, cannot be decomposed by the most powerful artificial light. It is needless to say how entirely these two statements are opposed to each other. We have therefore always regarded artificial light as having little or no effect upon the functions of vegetation.

It would appear, however, from the statement in the *Manchester Examiner*, that physiologists are wrong. Should this memorandum chance to meet the eye of the writer we trust that he will favour us with some further information upon this curious subject, and also mention in what work of HUMBOLDT the experiments referred to by him are to be found. We are aware that that philosopher's *Flora Friburgensis*, a very scarce book which we never saw, is sometimes referred to for experiments on light,* but we presume that the correspondent of the *Manchester Examiner* has derived his information from some more accessible source.

Should he favour us with the particulars of his own experiments we would ask him to accompany them with a few of the leaves that have acquired their "beautiful green colour" under the sole influence of lamplight.

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IT is a fixed idea with some persons that OUTDOOR GARDENING is impossible in LONDON, and almost as much so in its immediate neighbourhood. Our dingy ill-kept squares are pointed at as proofs of this rather disagreeable fact, or we are referred to dirty Geraniums and boxes of starved Mignonette, to be found easily enough by those who care to look for them.

Against this notion we have always protested. One of the earliest objects of the *Gardeners' Chronicle* was to disabuse the metropolitan mind upon a subject which so nearly concerns the enjoyment of people doomed to live amidst vast masses of brickwork overshadowed by the smoke of myriads of coal fires. The question, in fact, resolved itself into one of cleanliness. If the good folks who throng the streets of London were never to wash themselves they would find the place as unwholesome as do unwashed plants. Both have skins, and both require that skin to be continually deprived of the impurities that collect upon it. If there is any difference plants have greater need than ourselves of a clean skin, because they breathe and feed through it. That ordinary care will ensure the health of most plants in London was sufficiently proved 40 years ago by a little garden in the sunken "area" of a building within the quadrangle of Somerset House, about as smoky a place as could well be found. In that "area" might be seen for many years Aucubas, Laurels, Tree Box, and even Rhododendrons, as fine and healthy as at Bagshot. The whole secret of their health consisted in their being frequently washed. It was manifest that what could be done at Somerset House could be done in any other place.

It is not without satisfaction that we perceive here, as in so many other instances, truth ultimately prevailing. Green leaves, gay flowers, and graceful forms of vegetation are evidently increasing in a remarkable degree among even the worst parts of London, as well as in districts more favourably situated. Nothing is more common than to see baskets and pots gaily decorated with brilliant flowers suspended in the kitchen "areas" of streets which ten years ago could not boast a single break to the dismal monotony of a dusty sooty surface.

That improved horticultural skill has brought this about cannot be doubted; the metropolitan Exhibitions, the Temple Gardens, the well kept parks on the West of London, the superb Botanic Garden at Kew, and the Crystal Palace grounds, have not only much increased the love for flowers, but taught people how to preserve and enjoy them at home. The hundreds of thousands of weary, street-sick holiday makers who swarm in these places gradually contract a fondness for plants, which they are eager to foster; and when they find that the cheapest and commonest species will afford as much decoration as the most precious, there remains no reason why their passion should not be gratified. Some Scarlet Runners, Convolvulus majors, or the common Bind weed of the hedgerows, Pelargoniums, Pinks, Moneywort, a cheap evergreen or two, a little water, and as much care as the idle minutes of necessary leisure place within the reach of all, will, without further aid, convert the dirtiest nook in Bloomsbury into a pretty summer garden.

This is no exaggeration. The taste of the general public is unmistakeably improving. Flowers are no longer confined in London to the balconies of the wealthy, but are becoming common in the "areas" of the kitchen. So fast, indeed, is this change operating, that in another 10 years we may expect to find some parts of London in the summer time one universal garden.

By way of illustrating this statement, the following examples are given of gardening in places where it was formerly not thought of. They prove conclusively that care and skill have their usual reward.

In an "area" between Nos. 27 and 28, Bloomsbury Street, is a Grape Vine loaded with fruit, at present the size of Peas. The bunches promise to be of fair average size, and if judiciously thinned there is no good reason why the berries should not swell properly and ripen perfectly. Dust seems to be the only enemy with which the plant has to contend, and a good syringing night and morning from time to time would clear it of that. Of soil it appears to have very little, the roots being boxed up against the wall in very small compass; nevertheless the plant is perfectly healthy, and covers the house front, which faces east, as high as the first floor. The windows of No. 23, nearly opposite, contain boxes full of flowering plants intermixed with Aucubas and even Arbor-vitæ, and below the "area" is full of Geraniums and other gay though inexpensive flowers.

In Bedford Square and Gower Street gardening is chiefly confined to the kitchen windows, which are in some cases, as at Nos. 27 and 36, ornamented with Convolvuluses, Geraniums, and common Moneywort, vulgarly called "Creeping Jenny," hanging down from pots suspended from the top of the windows. Let us observe that this Moneywort or Lysimachia nummularia is one of the handsomest evergreen window trailers; its little fleshy roundish leaves are arranged on its branches with the greatest neatness and regularity, the latter often extending to 2 or 3 feet in length. Its appearance is at all times clean and healthy, and when decorated as it is everywhere at present with pretty yellow flowers, it is one of the most charming plants that can be employed.

In Dudley Street, St. Giles, a locality remarkable for its filth and rags, its old clothes, iron and boot shops, there is an evident desire to catch a glimpse of green herbage. In this street and neighbourhood are numerous bird fanciers, the tops of whose shops melodious with song generally contain a few Geraniums, Chrysanthemums, Moneywort, and even Scarlet Runners. At No. 44, a bootmaker's nearly in the very centre of St. Giles, the windows really look very pretty. Not only is the sill of those of the first floor filled with plants, but a neat green painted miniature railing about half a foot or so below the window also contains a gay assortment of flowering plants, the tops of which cover the pots of the upper set with excellent effect.

Considerably the most attractive little "area" garden we have seen, however, is at No. 37, Holywell Street, Westminster. This faces St. John's burial ground, and though not more than 6 yards square, and sunk some 3 feet below the level of the street, is so full of flowers and other plants as to be extremely ornamental. First of all a raised mound is thrown against the wall, from which it extends in three points over the greater portion of the "area." Its summit and sides are then shelved for the accommodation of plants in pots, and what is not occupied by the latter is covered with large white flints and shells. From the sill of the window hangs the hairy variety of Campanula garganica, and below that arranged in the neatest possible manner are Scarlet Geraniums, Fuchsias, yellow shrubby Calceolarias, Dahlias in pots, Musk, and numerous examples of little trailing white Lobelias. In the corner may be seen Moneywort winding about stones half hid with yellow blossoms, and bounding all are nice little plants of Aucubas and Box. In the arrangement much taste is displayed, and the plants appeared to be all in the highest health. Other examples of a similar kind may be found in the same street, but by no means so striking as this.

In the aristocratic neighbourhood of Belgravia are a few brilliant examples of balcony gardening. One of the best is at No. 22, Grosvenor Place, where a balcony running the entire length of the frontage, as well as the top of a noble portico, is at present a blaze of floral beauty. Among other decorative plants employed here we noticed white and purple Petunias, Geraniums, yellow Calceolarias, and plants of that description; and scrambling over the railings are Nasturtiums and Convolvuluses, the whole producing a fine effect. Over the front of No. 15 was a series of arches covered with Virginian Creeper, and from the centre of each arch hung baskets of flowers, an arrangement at once effective and striking. Virginian Creepers, Vines, and Laburnums frequently occur on house fronts in this neighbourhood—the latter at present badly mildewed.

At No. 98, Sloane Street, is a tolerably gay display of flowers. Round the windows are led Convolvuluses and Virginian Creepers, and in boxes Fuchsias, pink and white Petunias, white Ivy-leaf and other Geraniums, and Moneywort, the effect of which *en masse* is excellent.

At No. 177, Great College Street, Euston Square, is a beautiful box of Mignonette and Geraniums, which we learned was obtained as follows:—Having some Tom Thumb Geraniums three were placed in the box, one at each end and one in the middle, and between them were introduced carefully, without breaking the ball, Mignonette from pots, filling the boxes up with light rich soil, and finishing with a good watering to settle the earth down about the balls. The after treatment consisted in keeping the boxes watered always when they required it; for be it remembered if Mignonette is ever allowed to flag it seldom succeeds well afterwards. In this way a very fine box has been obtained, the Geraniums giving gaiety of colour while the Mignonette yields scent.

At a public-house in the corner of Nutford Place, Edgware Road, the landlord has shown much taste in decorating his premises with flowers, not only in the balcony, but also in suspended baskets similar to those used in the Crystal Palace. The baskets are crammed full of Fuchsias, Geraniums, and Nasturtiums, the latter festooning over the sides. The balcony is also so full of Scarlet Geraniums and Nasturtiums as to be highly effective, and here and there at certain distances apart are Irish Yews, which make not only a good background, but from their sombre appearance serve to vary the colour. Early in the season the balcony is filled with Stocks, which when out of flower give place to the kind of plants just mentioned. Aucubas, Myrtles, and Arbor-vitæ are also grouped on the ground along the sides of the walls within the railings.

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## New Plants.

### 219. SPRAGUEA UMBELLATA.

*Torrey in Plant. Fremont., p. 4, t. 1.*

"The root of this remarkable plant is short and tapering, soon dividing into a tuft of thick fleshy fibres. The caudex is short and thick, throwing up from its summit from one to five or six simple scape-like branches, which are from 3 inches to a span high, and somewhat diverging. All the proper leaves are situated at the crown of the caudex, forming a dense rosulate cluster. They are from an inch to nearly 2 inches in length, of a fleshy consistence, obovate-spatulate, with a long tapering base, obtuse, and perfectly entire. The scapes are furnished with several lanceolate distant scales, which

* In some Chemico-physiological Aphorisms placed at the end of the *Flora Friburgensis*, HUMBOLDT says (we quote Arago) that young plants in a state of germination become sensibly green, if, being surrounded by atmospheric air, they are exposed to very intense artificial light.

are scarious on the margin. Spikes 6 to 12 in a terminal spreading umbel, at first conspicuously scorpioid, and gradually unfolding from the base upwards. The peduncles are about half an inch long, and the ovate bracts at their base form an involucrum. Flowers closely imbricated, on short pedicels. The calyx consists of two persistent hyaline sepals, which are right and left of the axis; they are nearly orbicular, emarginate, undulate on the margin, obscurely veined, and of a pale rose colour, except the broad green midrib. Petals four, obovate, rose colour, much shorter than the calyx, two of them nearly opposite the sepals, the others alternate with them, gelatinous-colliquescent after flowering, as in many other Portulacaceæ, and in a withered state, remaining attached to the summit of the young fruit like an indusium. The stamens are constantly but three, and are inserted opposite three of the petals; the fourth (belonging to a lateral petal) wanting: filaments longer than the petals: anthers ovate, fixed by the middle, two-celled, opening longitudinally. The ovary is globose-ovoid, much compressed, one-celled, and contains from 8 to 10 ovules, on conspicuous stalks, which arise from a basilar placenta. Style slender, as long as the stamens, undivided; the stigma minute and three-lobed. Capsule membranaceous, much compressed, two-valved; the valves parallel with the persistent sepals. Seeds lenticular, black and shining, with a crustaceous testa. Embryo hippocrepiform, embracing mealy albumen.

"This remarkable plant undoubtedly belongs to the family of the Portulaceæ; and judging from the description, it seems to be a near ally of the Chilian genus Monocosmia of Fenzl. In the latter, however, there is but a single stamen; the ovules are only from two to four in number; the style is very short as well as two-cleft, and the habit is different.

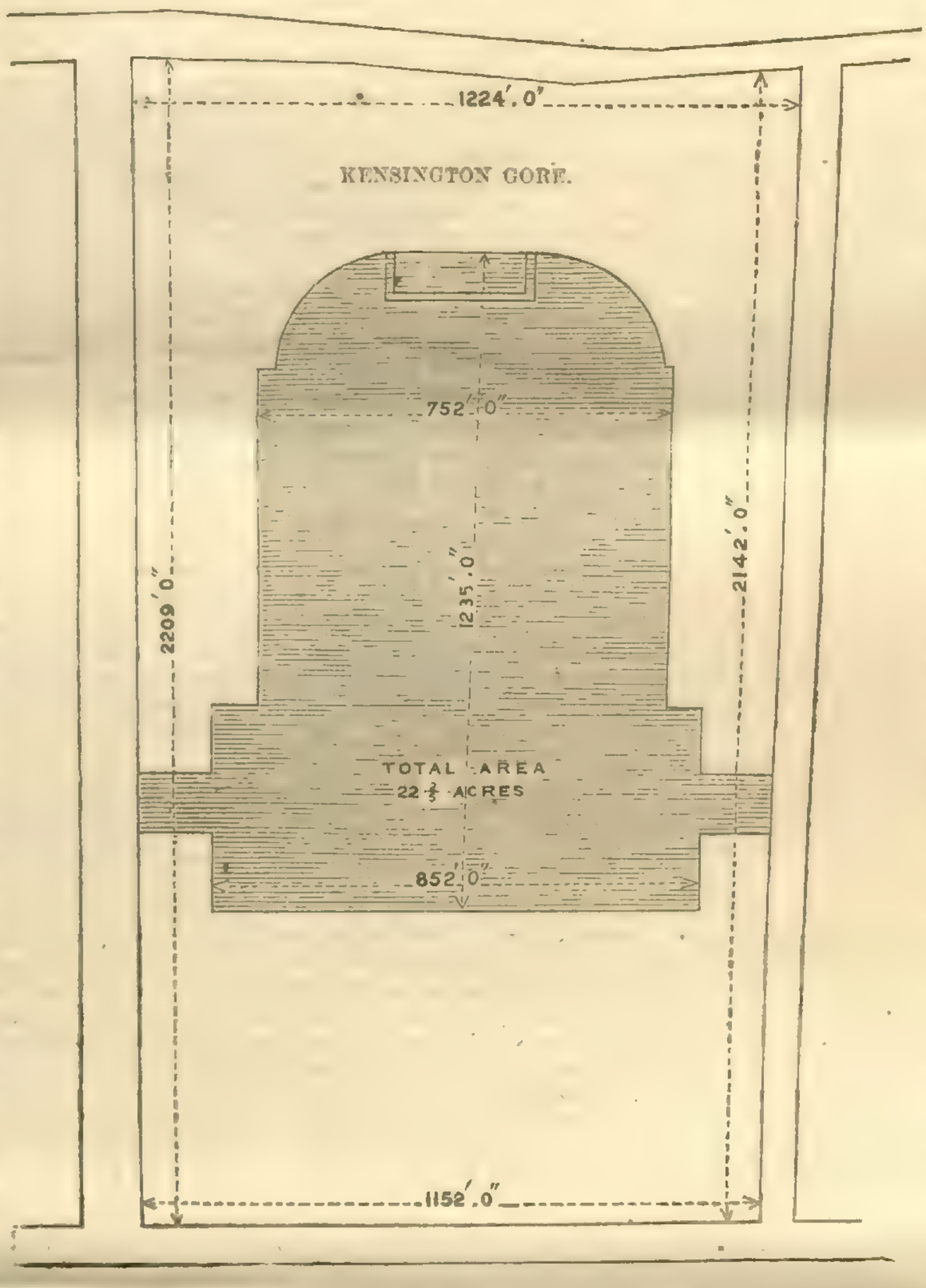
"I have dedicated this genus to Mr. Isaac Sprague, of Cambridge, Massachusetts, so well known as a botanical draughtsman, and especially for the admirable illustrations of the Genera of the Plants of the United States, by himself and Dr. Gray."

The plant occurs at the forks of the Nozah river, in the foot-hills of the Sierra Nevada of Northern California. In flower and fruit, May 22.

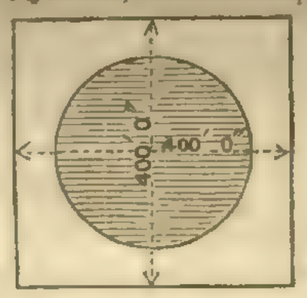
We borrow from Dr. Torrey the foregoing account of this curious and very pretty little plant, lately exhibited by Messrs. Veitch. The delicate transparent bivalve calyx opens just enough to reveal the presence between them of four brilliant amethystine petals, three of which embrace by their involute base one stamen each; while the fourth is left without a stamen.

## KENSINGTON GORE.

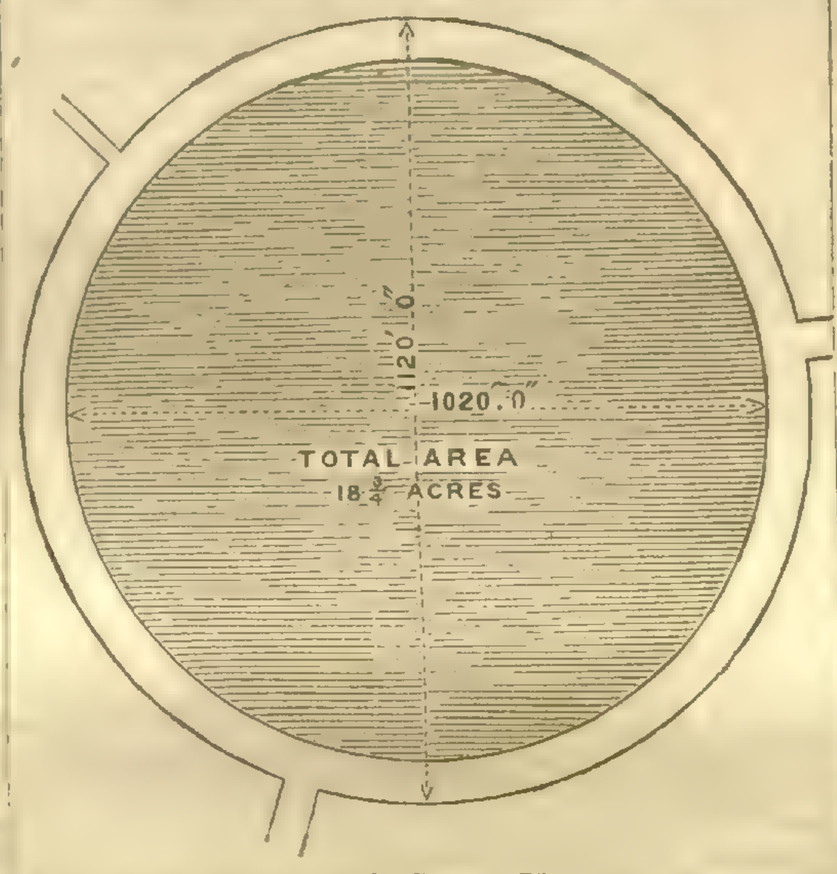
As it may be interesting to contrast the ground on which it is proposed to form the new Horticultural Society's Garden with other open spaces near London, we have caused the accompanying ground plans to be prepared, in which a well-known London square, the Royal Botanic Gardens in the Regent's Park, and the Kensington Gore ground are represented by shaded spaces, each drawn to the same scale.




CAVENDISH SQUARE, Total area 3 7/10 acres, nearly.




ROYAL BOTANIC GARDENS, REGENT'S PARK.




## Home Correspondence.

*Gishurst Compound.*—This seems pretty unanimously voted a good thing, and only requires experience to determine the right proportions and *modus operandi*. I have a greenhouse with six Vines in it and mixed plants below them; and observing signs of mildew on the berries, now swelling fast, determined to try the Compound in the proportions recommended by Mr. Rivers (3 oz. to the gallon). My experience is that this is rather too strong. I mixed it myself and applied it myself. It has injured the tops of the young shoots, and discoloured (like burning) spots are visible on the berries where the liquid found a settlement or hung in drops. No great harm is done, and if the mildew reappears I shall try it again 2 oz. to the gallon. It is rather odd that the above application did no injury to any plants below the Vines, except perhaps the blooms of the Hoya carnosa. Should not the Grapes be well syringed with water the following day to remove the stickiness left by the Compound? *Clericus.* [They should be syringed immediately after application of the Compound.]

*Rose Lælia.*—If "A Rose Grower" will wait until the weather has become cooler he will find that Lælia is not only different from, but quite superior to, Louise Peyronnet. Its colour during hot weather is pale rose, and somewhat resembles that of the latter kind; but at other times it is much deeper and quite distinct. Its flowers are larger, not so long in the bud, and quite full in the centre, which those of the latter are not. The habit too of Lælia is free and good, which alone would be sufficient to recommend it to all who are acquainted with the wretched and bad growth of L. nise Peyronnet. *John Cranston, Nurseries, King's Acre, Hereford.*

*Transmutation of Corn.*—Walking through a field of Oats with a farmer, my attention was drawn by him to the enclosed seeds which he did not know the name of, but he told me that he thought the Oats had turned into them, which I consider could not well be. Will you say what they are? *Cuvo.* [In what Bœotia can this farmer live? The seeds belong to the common worthless Bromus secalinus. He might as well fancy that his hens were turned into Guinea fowls, because he found one of the latter in his poultry yard.]

*Truffles.*—Is the enclosed the true Truffle and fit to eat? It grows under Lime trees and Beech trees at this place. *C. E. W., Newnham Paddock, July* 25. [It is Tuber æstivum, not T. cibarium. In quality it is inferior to the latter, but may be substituted for it.]

*Sangster's Prince of Wales Rhubarb.*—I have forwarded for your inspection a variety of Rhubarb which in my opinion deserves to be better known than it is. With me it is far superior to any other. I would rather have one plant of it than six of "Salt's Crimson Perfection," and the latter is advertised by the most respectable nurserymen in the kingdom, whereas I have not seen this sort advertised for I think five years. Perhaps I ought to say that I cultivate all the new varieties of late years, such as Maclean's Early Scarlet Nonpareil, Salt's Crimson Perfection, Champagne, Anderson's Princess Royal, beside those of earlier date, such as Prince Albert, Victoria, Grey Eagle, &c. I think you will pronounce its flavour as well as fine red colour to be excellent; I sell it at a higher price than any other variety. Although I have no doubt that like other vegetables and fruits, it varies under certain circumstances, yet I think it well deserves a trial by every gardener. *George Lee, Market Gardener, Clevedon.* [This is one of the many forms of the Red Rhubarb, called Buck's, the produce of Rheum undulatum. It is very good, but not superior to others of the same breed that we can see.]

*Water Rat.*—I have not been so long an observer of the habits of this rat as your correspondent Mr. Waterton, but I can claim an acquaintance with him for nearly 40 years, and my experience does not lead me to give him the character of being "nearly innocuous in his pursuits." On the contrary, I have found him a great enemy to the cultivators of Vines, of which I have been one for many years, and in some seasons have suffered severely, not only from having the wands barked but the roots also devoured. I am sorry to speak ill of him, as I think him an interesting little animal, but it is right that this part of his pursuits should be known. *B., Norfolk.* [This confirms the tale of "Jael," see p. 621.]

*Winter Cucumbers.*—I have a hothouse in which I can command a moist heat of 75° I have had it arranged on purpose to grow Cucumbers, and should feel obliged to any of your correspondents who would inform me which two sorts are the best to grow in the winter months, and the proper time to sow the seed to enable me to have good Cucumbers at Christmas. I have been told that some sorts are better than others for winter forcing, and should much regret meeting with disappointment through sowing the wrong seed. *De l'Orme.*

*Flower Pegs.*—As I wanted a great number of these this season for Verbenas I was anxious to obtain something more durable than wood and cheaper than ladies' hairpins; I therefore thought I would make some of zinc wire, which I find answers perfectly. They have hooked heads, and are 3 inches in length. They are also well adapted for all kinds of layering, adding length and strength where desirable. I can make 100 in five minutes myself. They might however be made much quicker, and sold very cheaply. *J. Prior, Gardener, Alton.*

*Cucumbers.*—Permit me to submit to your inspection a branch of my Improved Prolific Early Cucumber, bearing four fully grown fruit and five in embryo. Let me observe that the specimen sent is not a chance production, nor has it had particular attention for a special purpose. On the contrary I can truly affirm that I have not only had many equal to it but superior during the last two months, during which time I have cut from a pit 30 feet in length (in which I have 21 of the earliest approved fruit-ripening seeds), 375 fruit, on an average considerably superior to those on the branch sent. As regards the history of the variety, I may state that early in my career as a Cucumber grower I found the want of a really useful variety—one that could be depended upon for general purposes, but more particularly for early forcing. At that time "Sion House" was the gardener's sheet anchor for earliness and productiveness; and for size and quality the "Smyrna" was unequalled. I cultivated both these kinds, the former an abundant bearer but deficient in length and solidity, and the latter a robust plant with fruit of ample length, solidity, and flavour, but a notoriously shy bearer; it therefore occurred to me that if I could obtain a cross between these two, embodying the free bearing properties of the one, and the strength, solidity, flavour, &c., of the other, I should have a Cucumber which would give universal satisfaction; and after many fruitless attempts eventually succeeded in obtaining the desired "cross," namely, a robust plant enduring any degree of forcing, bearing early and abundantly all the year round handsome fruit of intermediate length, not liable to warp, and possessing great solidity and superiority of flavour. All who have grown it are satisfied with it, but I think it has sometimes fallen into bad company as I have frequently met with it in a deteriorated state; of late years, however, it has been my constant endeavour to improve it by every means that I knew of, and the improved variety is that which I now send you. *Jas. Craig, Hope Nurseries, Lawrence Street, York.* [It is extremely difficult, if not impossible, to say what is new and what not among Cucumbers. Yours is

evidently, as you state, bred from the Smyrna, and is pronounced by a person at our elbow to be undistinguishable from Munro's Prolific. It seems to be a prodigious bearer.]

*Orchard Houses.*—On the 1st May, 1858, you did me the favour to insert in your Journal the particulars of my newly-built orchard house. Please be good enough for the information of many of my friends, your readers, to record the success of that undertaking. My Peach and Nectarine trees are trained on a back wall 15 feet high, and have made prodigious growth, filling every space with nice young fruiting wood, which ripens well, and are at this moment loaded with fine fruit. Peaches—Royal George, Grosse Mignonne, and Barrington; Nectarines—Elruge and Violet Hâtive. My trees in pots, plunged to rim, are abundantly fruitful and healthy. My Vines—on rafters 6 feet apart—Black Hamburgh, Royal Muscadine, and Busby's Golden Hamburgh, give the best evidence that good forest loam, with a small quantity of rotted dung, well drained, is not to be equalled by any other compound for Vine borders. On the vexed question of sulphur and lime, permit me to state that I have used it most successfully, and consider it a very excellent mode of disposing of red spider. Gardeners, when they use it, must recollect it is the vapour they require and not the fumes of the sulphur. The first is sure death to the spider, the other kills the plant. Constant syringing with fresh water I really find the best remedy against these pests, as well as green and black fly; and no orchard house can, in my opinion, remain healthy long without at least two liberal washings daily. In short, this house 70 feet long by 10 wide, costing under 50*l.*, will this year produce at least 80 dozen Peaches and Nectarines, 50 dozen Plums, and 25 lbs. of Grapes—a very good return for outlay for the second year. The fruit ripened splendidly last year, with flavour unexceptionable. *J. Green, Burlington Mills.*

## Societies.

HORTICULTURAL.—At an ordinary meeting of this Society, held on the 19th inst. in the rooms of the Society of Arts, John Street, Adelphi, the Right Hon. the Earl of Ducie, V.P., in the chair, the following members were balloted for and elected, viz.:—

James Campbell, Esq., the Grove, Hendon
H. White, Esq, Harrold House, Lansdowne Road
Mrs. Pocock, Pucrup Hall, near Tewkesbury
Miss Clendinning, Queen Anne Street, Cavendish Square
Edward Hibbert, Esq, Leyton, Essex
J. Greenwood, Esq., Swarcliffe, Ripley, York
Ashton Wentworth Dilke, Esq., 76, Sloane Street.

A third distribution of plants took place on this occasion, when the following were balloted for, namely:—20 Pinus Don Pedri, for which there were 48 applicants; 20 Tecoma Latrobei, 26 applicants; and 30 Cupressus Cashmeriana, for which there were 55 applicants. The names of Fellows successful in drawing the above will appear in the next number of the "Proceedings of the Society." It was announced that the other plants advertised for distribution, and for which application had been made, were in sufficient quantity to render the Ballot needless, and would shortly be forwarded from the Garden to the respective parties.

*July* 28.—A meeting of the Floral Committee of the Society was held on this occasion at No. 8, St. Martin's Place, the Rev. Mr. Dix in the chair. Hollyhocks, both in the shape of spikes and cut blooms, were shown in beautiful condition by Messrs. Paul and Chater. Of new kinds the best were Leonora (Chater), deep rose shaded with buff, distinct and beautiful; Brunette (Paul), deep claret; Perfection (ditto), mottled lilac, fine form; Countess Dowager Jane Summers (Chater), fine yellow; Harriet (ditto), lilac; Novelty (ditto), dark purple crimson ground, edged and mottled with blush; Warrior (ditto), brilliant crimson; and Exhibitor and Joshua Clarke, both good kinds. Of Verbenas, several cut blooms of which were shown, Clara (Perry) was the only one selected by the judges for a reward. It is large, both in pip and truss, delicate pink with a green eye, distinct and showy. Of Dahlias, Miss Sarah Boyce (Rawlings) appeared to be a promising kind, which we hope to see again later in the season. Among Miscellaneous Plants was Musschia Wollastoni, bearing a great branched panicle of dull brown and yellow flowers, from Messrs. Veitch. Though not possessed of striking colours yet the fine foliage and stately appearance of this plant will always command attention. The same firm also sent the pretty Selaginella Lobbi and S. atroviridis. From Mr. Macintosh, of Hammersmith, came Lantanas, Plumbago capensis, and a very beautiful specimen of the now seldom seen Gomphocarpus salicifolius, which deserves to be again brought into notice. From Messrs. Parker & Williams were some Gloxinias and Larkspurs; and from Mr. Turner a hybrid Geranium, crimson with a white eye, which promises to be a good bedding kind.

BRITISH POMOLOGICAL: *May 5th.*—Mr. Hogg in the chair. This was the day appointed for competing for the prize of One Guinea, offered by Mr. Spencer, of Bowood, for the best Seedling Late Kitchen Apple. That to which the prize was awarded was raised by Mr. Samuel Bradley, gr. to W. F. N. Norton, Esq., Elton Manor, near Nottingham, and was raised from seed of Dumelow's Seedling in 1850, since which time it has been allowed to grow naturally without grafting. The variety has been named Baron Ward. It is below medium size, and of an ovate shape; the skin is of a fine golden yellow colour, quite smooth and shining; eye slightly open, and stalk short; flesh very tender, crisp, and fine-grained, with a nice, subdued and very agreeable acid, not unlike in flavour that of the Gooseberry Apple. Its acid is less rough and severe than the Dumelow's Seedling, against which it was tested; and it is considered a very valuable culinary Apple for this late season of the year, as it appears to keep well without shrivelling, having been gathered in October. It is reported to be growing on strong adhesive loam, over the lias, in the Vale of Belvoir. The habit of the tree is described as vigorous and healthy; inclined to spread horizontally; and retaining the foliage at the point of the shoots until late in the winter, although ripening its wood perfectly; the young wood is not speckled like Dumelow's Seedling.

Rev. J. Bramhall, of St. John's near Lynn, again sent specimens of Clissold's Seedling, or Lodgemore Nonpareil, a seedling which he submitted to the Society at the meeting of May 6th last year. A very high opinion was then expressed regarding it, and which, this year, was fully sustained. It is a most valuable dessert Apple at this late season.

Mr. Horton, Post Office, Toddington, Bedfordshire, sent a seedling Apple (raised by a friend), and also a variety which had been sent in 1857, on which occasion the Meeting desired to see it again. This year the sender considered the crop inferior to last, when it was reported to have kept sound until the new crop was gathered. The fruit is about the medium size, greenish yellow on the shaded side, and dull red next the sun. A month ago it would have been in good condition, as it had the remains of a good flavoured Apple, something like that of London Pippin, but it had now become mealy. Mr. E. Simpson, gr. to Lord Wrottesley, Wrottesley Hall, Wolverhampton, sent a dish of very beautiful Dumelow's Seedling, large, firm, and heavy. They have been beautifully kept. The Rev. H. Manton, of Sleaford, sent a dish of Scarlet Nonpareil, which were considerably shrivelled, but well flavoured, and were also well kept for that variety. The Rev. Adam Fitch, Thornton Stewart, Bedale, sent a dish of Aromatic Russet, still good in flavour although shrivelled.

*June* 23*d.*—Mr. Hogg in the chair. The premiums offered at this meeting were a Guinea and Half-a-Guinea, for the best collections of Strawberries, the object being to draw together as many as possible of the varieties in cultivation, that the Society might compare them, test them, and decide upon their respective merits and correctness of nomenclature. Only one collection came within their intentions, and was exhibited by Mr. Turner, of Slough; the first premium was unanimously awarded it. The most remarkable variety in the collection was Oscar, a seedling exhibited for the first time last year, when high encomiums were passed on it; and this year's examination has fully borne out the former impression. For further particulars see notes on seedlings below.

In the following remarks the varieties are arranged according to size; and those nearly allied are brought together. Oscar (Bradley) is after the way of Sir Harry (Underhill), which was also exhibited very ripe and good-flavoured. The last-mentioned variety has not found universal favour; probably because it is not generally known that the fruit requires to be very ripe, and its great firmness permits it to be gathered, packed, and carried long distances without injury. Hooper's Seedling is another of this class, very highly coloured, but inferior to either of the above in flavour. Sir Charles Napier (Smith), bright scarlet, pectinate, and very handsome; very refreshing and juicy, brisk, but not richly flavoured. Doubleday's No. 3, or Crimson Queen (Myatt), is large, coarse, irregular, very pectinate, and deeply furrowed. Colour bright cerise-scarlet. Flesh red throughout, brisk, acid, not rich. It is reported to be a great cropper. British Queen (Myatt) needs no description as it is always good where it succeeds, which is generally on strong soils; as also on light soils, or in dry localities, is its near relative Carolina superba (Kitley), which is now equally well known. Very nearly allied to British Queen is Doubleday's No. 2 (Myatt), both in colour and flavour, but scarcely equal in the latter. It does not, therefore, appear in what point this variety is desirable. Omar Pacha (Ward), was not distinguishable from Rival Queen (Tiley), large, regular, and handsome, pale scarlet, somewhat cristate, with a refreshing flavour, after the way of British Queen. Reported to be a good cropper. Surprise (Myatt), pale scarlet, very cristate, very soft, acid, and deficient in flavour. Wonderful (Keyes), similar to the above, but longer in form, very corrugate, seeds more numerous, firmer in flesh, juicy, and briskly acid, with a medium flavour. Adair (Elphinstone) is handsome and highly coloured, brisk, but not highly flavoured; reported to be a strong grower and medium cropper. Nimrod (Pince) was so nearly like Adair both in fruit and foliage, that the meeting were unable to distinguish them. Admiral Dundas (Myatt) is large, conoid, somewhat cristate, very rugged, and irregular; colour pale red; flesh white, very juicy, brisk, and fine flavoured. Prince of Wales (Ingram); this kind, now well known, is a favourite for forcing purposes; it was exhibited in good condition; flavour rich and juicy. Elton Pine (Myatt); this was scarcely ripe, but well grown. Filbert Pine (Myatt); this variety deserves to be more known; pale-coloured, very regular in form, medium size, conical, and handsome; flesh pale, with a pink core, firm and solid, with a rich nutty flavour. Eliza (Rivers) was small, and not equal to its average quality. Incomparable (Continental). Mr. Turner reported that he had selected this as the best out of a large number of continental varieties; it was pale in colour, regular in form, and distinct, but soft in flesh and worthless in flavour. Quinquefolia (Myatt), is a medium sized, elongated fruit; not a good grower, nor first-class in flavour. Black Prince (Cuthill), not any better in quality than when reported on last year; the only merit this variety possesses is earliness, and a slightly perpetual habit, which makes it also a good variety. May Queen (Nicholson), a small, round, and coarse variety, very acid, utterly worthless. Mr. Jones, gr. to E. Rosher, Esq., of Hamilton Terrace, St. John's Wood, exhibited a remarkably fine dish of British Queen, as evidence of what may be done within London in the way of Strawberry growing; they were large, well coloured, and very fine flavoured.

For Seedling Strawberries the premium of One Guinea, offered by Mr. Turner, was awarded to a dish of Oscar, exhibited by Mr. Bradley, gr. to W. F. N. Norton, Esq., of Elton Manor, near Nottingham, in very fine condition. This fruit is very large, more angular, and frequently cristate, but rarely flat, wedge-shaped; seeds rather large and deeply imbedded; colour very dark, becoming deep mulberry when fully matured; flesh red throughout, solid, firm, and juicy; flavour very rich and fine when quite ripe, apparently near in affinity to Sir Harry, on which it was considered an improvement. Particular notice was taken of its firm and solid qualities, which augured well for its powers of enduring package and carriage. The above dish afforded good evidence of this, as the fruit not only was firm, plump, and uninjured, although it had travelled from Nottinghamshire; and, in consequence, the footstalks and calices were dry and withered. It was reported to be a great cropper, next in earliness to Cuthill's Black Prince, and some days earlier than Keens' Seedling.

*July* 7.—Mr. Hogg in the chair. An interesting dish of Doubleday's No. 3, or Crimson Queen (Myatt), was exhibited by Mr. Turner, to show its qualities as a late Strawberry. The fruit were even finer than those in the collection last Meeting; but the Meeting did not attribute to it a higher place amongst midseason varieties than would accrue to it from the opinion above expressed; its continuing to produce large fruit later than other kinds may be a point in its favour, but this will be more satisfactorily seen a fortnight hence.

## Notices of Books.

*Peaks, Passes, and Glaciers. A Series of Excursions by Members of the Alpine Club.* Edited by John Ball, M.R.I.A. 8vo, Longmans. Pp. 516.

Now that the tide of war has rolled away from the Swiss frontier, and travellers are beginning to betake themselves once more of glaciers and mountains, it is time to mention this extremely interesting volume. It appears that a number of gentlemen familiar with mountain travel and fond of scientific adventure, have formed themselves into a club, called the Alpine, where kindred minds can associate for the purpose of communicating information as to past excursions and planning "new achievements." Out of this very agreeable association has grown the work before us, which consists of 18 well written narratives of Alpine adventures and observations, by as many gentlemen well known to be familiar with the world of ice. Among these the names of Tyndall, Ball, and Ramsay are more especially familiar to the general reader. The work is copiously illustrated with chromo-lithographs, excellent maps and wood engravings.

One of the most adventurous of the club, Mr. Wills gives a very picturesque account of his passage of the Fenêtre de Salena, from the Col de Balme to the Val Ferret, by the Glacier du Tour, the Glacier de Trient, and the Glacier de Salena, a route that is almost unknown to Swiss explorers. In the course of the excursion a little event served to show the pleasant danger to which the adventurous tourist is exposed. "A steep scramble, not unlike the descent of the rocks of La Tête, in the valley of Fée, conducted us to the edge of the Glacier de Salena. I had for some time past abandoned all hope of sleeping under a roof this night, and was much relieved by finding on the lower part of these rocks a quantity of dwarf Rhododendron. 'A présent,' I said to Balmat, 'nous sommes sauvés le feu, au moins, ne nous manquera pas ce soir.' Balmat, with whom the wish was father to the thought, still hoped to reach Orsières, and would not admit the necessity of a bivouac. But R.'s lameness was increasing, and this rough descent tried him severely, and we had entered the ascending shadow of the opposite peaks long before we reached the foot of the rocks. The descent ended in an abrupt precipice, down the face of which we had considerable difficulty in finding any passage at all. Balmat and I pressed on ahead, in order to explore the way, and, while doing so, I was nearer making an end of my expeditions than was at all pleasant. My companions were still entangled in a mass of broken débris which we had quitted, when a large stone dislodged by one of them came bounding after me. I heard it coming, and, as I thought, leaped aside from its path, when suddenly it struck against a rock near many yards from me, and was hurled with a frightful velocity right at my head. There was a boy mentioned

to Drinkwater's 'Siege of Gibraltar' who possessed the useful faculty of seeing the cannon balls coming, and was able to call out to the soldiers in time for them to save themselves: but I doubt whether his skill would have availed him much if the battery had been within a hundred yards of him, and I cannot ascribe it to any dexterity in my part that the missile passed within an inch or two of my head, instead of striking it. I mention the circumstance as an illustration of the great caution that is necessary in ascending or descending steep and stony *arêtes*, where any one is likely to be behind you. I had in this instance a most narrow escape, and yet the danger was not of a kind that one would have thought much of beforehand." But bounding stones were not the only enemies to be feared in these Alpine solitudes. Mr. Wills and his party, after a desperate but vain attempt to escape from the glacier region by daylight, were obliged to pass the night *al fresco* as they best could. Of this an entertaining account is given; the travellers were half starved, and to add to their discomforts the slope on which they were encamped was so steep "that no one who was not fortunate enough to find a hole in which to nestle could keep himself from slipping, especially as the Bilberry bushes on which we lay were soaking wet with the heavy dew." However, by dividing the night into five watches of 1½ hour each, they managed to get over their difficulty and even to enjoy themselves. "It was a night," writes Mr. Wills, "I would not have missed, with all its inconveniences. The stars shone bright and clear out of the sky of jet; not a wreath of vapour could be seen; the solemn glacier far beneath us showed dimly through the gloom with a dead and spectral white, as if it had been some mighty giant lying in his shroud. The crags beyond it were sombre as a funeral pall, and, in the darkness, seemed to rise to such an enormous height, that the eye grew weary of wandering upwards, before their massive ebony was relieved by the liquid and transparent blackness of the sky, with its thousand glittering points of light. Not a sound broke the awful stillness of the scene, except the faint dashing of the distant torrent, which we had sought so unsuccessfully, and the crackling of the fire as R. heaped upon it fresh armfuls of Bilberries and Rhododendrons. Occasionally, by the fitful glare of the flames, I could see his form moving slowly and noiselessly about, now in bold relief against the ruddy light, now half hidden by the curling smoke, now illuminated by the blaze, as he passed round to the other side in search of fuel, quite unconscious of how much he was adding to the picturesqueness of the scene. I could not help thinking of home, and of those who not improbably were at that very moment thinking of me, little dreaming that I was lying out on the side of the glacier, many a thousand feet above the sea, with nothing between me and the blue vault of heaven. It was a pleasant thought, and led me gently back to another bivouac beneath a rock by the Lac de Tacul, and thence to many an Alpine wandering enjoyed in the same good company; and at length I was passing gently from reverie to sleep, when, alas! the inexorable voice of R. proclaimed that a quarter-past 11 was come, and that it was my turn to feed the fire, instead of indulging in the pleasures of memory or the luxuries of imagination. * * * Had I had much time for reflecting, I think I should have been impressed with the solemnity of the scene even more than when I was contemplating it from my den beneath the rock, for now I had a more uninterrupted view of the dark prospect on every hand, and, as I walked about amongst the prostrate motionless forms of my companions, I felt as if I was the only living thing within sight or ken. There was not, however, much time for such thoughts, for it was full occupation for one man to feed the fire. The Bilberry bushes that we tore up by handfuls were gone in no time. There was a hissing, a little cloud of smoke, and a crackling blaze, and then there was an end of them. The Rhododendron twigs burnt with a bright and cheerful glow, and threw quite a flood of light over our little encampment; but they hardly lasted so long even as the Bilberries. The Junipers had rather more substance, but were full of prickles, and hurt the hands; so that it was really hard work to keep the fire up to the mark; and I found it continually necessary to widen the area of search. I was lucky enough to fall in with a very respectable Alder tree, which I was able to cut in pieces with the saw blade of a large knife; and this was the best *pièce de résistance* I met with; but I cannot say I was sorry when half-past 12 was fairly come and past."

Still more striking is Prof. Tyndall's description of an avalanche, which he witnessed among the *séracs* of the Glacier du Géant:—

"The vast mass of snow collected on the plateau of the Col du Géant, and compressed to ice by its own weight, reaches the throat of the valley, which stretches from the rocks called Le Rognon, to the promontory of the Aiguille Noire. Through this defile it is forced, falling steeply, and forming one of the grandest ice cascades in the Alps. At the summit it is broken into transverse chasms of enormous width and depth; the ridges between these break across again, and form those castellated masses to which the name of *séracs* has been applied. In descending the cascade the ice is crushed and riven; ruined towers, which have tumbled from the summit, cumber the slope, and smooth vertical precipices of ice rise in succession out of the ruins. At the base of the fall the broken masses are again squeezed together, but the confusion is still great, and the glacier is here tossed into billowy shapes, scooped into caverns, and cut into gorges by torrents which expand here and there into deep green lakes.

"Across this portion of the glacier we proceeded westward, purposing to attempt the ascent at the Rognon side. Our work soon commenced in earnest, and perils and difficulties thickened round us as we advanced. The confusion of ice-pinnacles, crags, and chasms, amid which we hewed our way, was very bewildering. Plates of ice jutted from the glacier like enormous fins, along the edges of which we had to walk; and often, while perched upon these eminences, we were flanked right and left by crevasses, the depth of which might be inferred from their impenetrable gloom. At some places forces of extreme complexity had acted on the mass; the ridges were broken into columns, and some of these were twisted half round, as if with a vortical motion; while the chasms were cut up into shafts which resembled gigantic honeycombs, round the edges of which we crept tortuously. Our work was very difficult, sometimes disheartening; nevertheless, our inspiration was, that what man has done man may do, and we accordingly persevered. My fellow-traveller was silent for a time: the brandy had its effect upon him, and he confessed it; but I knew that a contact with the cold ice would soon cause this to disappear, and I resolved that when restored to his normal condition I would not influence his judgment in the least.

"Looking now to the right, I suddenly became aware that high above us, a multitude of crags and leaning columns of ice, on the stability of which we could not for an instant calculate, covered the precipitous incline. We were not long without an illustration of the peril of our situation. We had reached a position where massive ice cliffs protected us on one side, while in front of us was a space more open than any we had yet passed; the reason being that the ice avalanches had chosen it for their principal path. We had just stepped upon this space when a peal above us brought us to a stand. Crash! crash! crash! nearer and nearer, the sound becoming more continuous and confused, as the descending masses broke into smaller blocks. Onward they came! boulders half a ton and more in weight, leaping down with a kind of maniacal fury, as if their sole mission was to crush the *séracs* to powder. Some of them on striking the ice rebounded like elastic balls, described parabolas through the air, again madly smote the ice, and scattered its dust like clouds in the atmosphere. Some blocks were deflected by their collision with the glacier, and were carried past us within a few yards of the spot where we stood. I had never before witnessed an exhibition of force at all comparable to this, and its proximity rendered that fearful which at a little distance would have been sublime.

"My companion held his breath for a time, and then exclaimed, '*C'est terrible! il faut retourner.*' In fact, while the avalanche continued we could not at all calculate upon our safety. When we heard the first peal we had instinctively retreated to the shelter of the ice bastions; but what if one of these missiles struck the tower beside us! would it be able to withstand the shock? We knew not. In reply to the proposal of my companion, I simply said, 'By all means, if you desire it; but let us wait a little.' I felt that fear was just as bad a counsellor as rashness, and thought it but fair to wait until my companion's terror had subsided. We waited accordingly, and he seemed to gather courage and assurance. I scanned the heights and saw that a little more effort in an upward direction would place us in a much less perilous position, as far as the avalanches were concerned. I pointed this out to my companion, and we went forward. Once, indeed, for a minute or two, I felt anxious. We had to cross in the shadow of a tower of ice, of a loose and threatening character, which quite overhung our track. The freshly broken masses at its base, and at some distance below it, showed that it must have partially given way some hours before. 'Don't speak, or make any noise,' said my companion; and, although rather sceptical as to the influence of speech in such a case, I held my tongue and escaped from the dangerous vicinity as fast as my legs and alpenstock could carry me."

Those who are ambitious to follow in the track of the Alpine Club will now know what they have to expect. Let us add that Prof. Ramsay's comparison of the old glaciers of Switzerland and Wales forms by no means the least interesting chapter in the volume, which concludes with suggestions for Alpine travellers by Mr. Ball, and a table of the heights of the chief mountains in the chain of the Alps.

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Among other matters the past week has brought us another of Messrs. Longmans' useful Travelling Companions called the *Practical Swiss Guide* (2*s.* 6*d.*), and the following small Natural History works. *A Manual of Protozoa*, by J. R. Greene, B A. (Longmans), a very good guide to those obscure productions, such as sponges and their allies, that stand on the very frontier of the Animal and Vegetable Kingdoms (2*s.*). A reprint of *Becher's Pleasant Talk about Fruits, Flowers*, &c. (Strachan, Edinburgh; and Sampson Low, London), already noticed in our columns at p. 607.

Messrs. Ivery have also forwarded their Descriptive *Catalogue of Azalea Indica*, containing 162 varieties, varying in price from 1*s.* 6*d.* to 5*l.*, the latter sum being asked for Criterion.

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## Garden Memoranda.

Messrs. Wood & Son's Nursery, Woodlands, near Maresfield, Sussex.—The fine collection of Roses which this nursery is well known to contain is now in full bloom, and well worth inspection. The new line of railway from Lewes to the pretty little village of Uckfield now sets the visitor down within some three miles of the nursery, a great advantage compared with travelling 14 miles by road as formerly from Hayward's Heath.

As regards Roses, many of the high coloured kinds have been planted in large masses and in that way are extremely effective. Indeed 20 acres of land are said to be occupied with Roses alone. One bed of standards, consisting chiefly of Géant des Batailles, Lord Raglan, General Jacqueminot, and Duchess of Norfolk, occupied nearly an acre of ground, and rose-coloured and lighter kinds have been planted in equal abundance, and when in full bloom as they are at present are scarcely less conspicuous. A Banksian which covers the walls of Mr. Charles Wood's house has been rendered highly attractive, by budding on it various kinds of summer and autumn Roses, some of which are nearly always in bloom, the Banksian itself being the first. In this way considerable variety not only of foliage but of flowers may be given to this favourite Rose, and a long succession of beautiful flowers of various colours be secured.

Of now comparatively well known varieties none were more striking than Lord Raglan, a brilliant scarlet, large and double. This is said to have been raised from seeds saved from Géant des Batailles; but its flowers are higher coloured and even more dazzling than those of that variety. Of that glowing Rose General Jacqueminot, the majority of its blooms are more double this year than usual, and on the Manetti stock they are said to be even more so than on the Briar. The Manetti also is said to throw unusual vigour into the charming Tea Rose Gloire de Dijon, and others of that class. This stock for some kinds of Roses is therefore a favourite here. Souvenir de Leveson Gower, crimson, very double, and possessing a beautiful Rose scent, is a variety which all must admire and cannot be too largely grown, and of the glorious Jules Margottin too much cannot be said. It is incomparably the finest Rose of its colour, producing its magnificent flowers in the greatest possible abundance. Adelaide Fontaine, deep pink, with a form not unlike that of Louise Peyronnet, is a handsome variety, which must become a favourite; Bacchus is a crimson kind beautifully cupped, which deserves to be better known than it is; Caroline de Sansalles, pale blush, very large and double, is a showy and excellent kind; Comte de Nanteuil is deep rose, large and full, and nearly equal in form to Coupe d'Hébé; Docteur Rushpler, rich deep rose, large and double, looked as if it would make an excellent show Rose—it is one of the few Hybrid Perpetuals which grows sufficiently strong to make a good pillar Rose; Duchess of Norfolk, a rich crimson nearly spineless, has bloomed beautifully this season; Duke of Cambridge, bright rose, appears to be an improvement on Madame Fremion—it cannot therefore fail to be a favourite; Evêque de Nimes, deep vivid crimson, with petals charmingly disposed in the form of a rosette, is certainly a first class variety, and may be regarded as an acquisition in its class. Scarcely less beautiful, though in a different way, is General Brea, a rich deep pink with large full flowers; General Simpson too, a bright carmine with something of the look and form of Louise Odier, is also a promising Rose; Lord Palmerston, light crimson, is a variety of good shape and will doubtless be a favourite; and of Madame Masson too much can hardly be said, its doubleness and deep purplish crimson colour must ensure it a place in every collection; Madlle. Alice Leroy, delicate pink, is a good addition to its class, and so is Mathurin Regnier, a valuable sort in the way of Wm. Griffiths; Monsieur de Montigny, Queen of Denmark, and Thomas Rivers complete our selection from among the newer kinds of Hybrid Perpetuals. The last is in the way of, but a decided improvement on, Col. Foissy, being larger and in other respects superior to that variety. Of delicate pink Hybrid Perpetuals, none surpassed Mrs. Rivers and Madame Vidot, both of which are excellent in shape, free flowering and truly beautiful.

Among really new Roses the best are Altesse Impériale, a glowing crimson of good form; Anna Alexieff, a pretty kind in the way of Jules Margottin, and a free grower; Anna de Diesbach, like Louise Peyronnet but brighter, a little coarse but certainly one of the largest Roses we have yet seen; Armide: this somewhat resembles President Menoux, but is a better grower; Empereur de Maroc belongs to the Lord Raglan class, but is a stronger grower; Virginal, pure white, a loose but apparently a good grower, which Dr. Hogg and others are not. A new white Bourbon, called Octavie Fontaine, has also been added to the list; of its merits, however, little can be said at present. It appears to be a free grower. Cornelie (Noisette), bright rose shaded with lilac, looked as if it would be a good pillar rose. To Tea Roses have been added Madam Damaizin, salmon rose, large, vigorous, and free flowering; Madam Joseph Halphen, pale rose shaded with fawn, and very distinct; and Souvenir de Malmaison, deep shaded rose. The last is one of the most fragrant of Roses. Madame Falcôt is also worthy of notice; when just opening it is even a deeper yellow than Safranot, and in that state is very handsome. [We are of opinion that no safe judgment can be pronounced at present upon these novelties. They must be first tested by exposure to public competition. *Ed. G. C.*]

For bedding purposes the following may be recommended—viz., Auguste Mie, Baronne Prevost, Cardinal

Patrizzi, a very dark kind; Comte de Nanteuil, Duchess of Norfolk (this also makes a good pot Rose), Evêque de Nîmes, Géant des Batailles, Général Castellane (this is not apt to mildew, but does not succeed on all soils), Gen. Jacqueminot on the Manetti, Gen. Simpson, Jacques Lafitte, Jules Margottin, Lion des Combats, Louise Peyronnet, Pæonia, M. de Cambacères, M. Knorr, M. Masson, Mrs. Elliott, Prince Leon, Souvenir de la Reine d'Angleterre, Souvenir de Leveson Gower, Bourbon Queen, Sir Jos. Paxton, Souvenir de Malmaison, Mrs. Bosanquet, Fabvier, Crimson and Common China, Aimée Vibert, and some of the hardier Teas, as Gloire de Dijon and Melanie Willermoz.

Charred garden refuse is used largely here in the cultivation of Roses. Messrs. Wood say, however, when Roses are placed out singly on lawns, or in beds amongst other plants, a hole should be made about 18 inches deep, and large enough to contain half a wheel-barrowful of compost; two-thirds of this should be strong turfy loam (if it can be procured from an old pasture it is preferable), and one-third well-decomposed animal manure. The latter should only be used on light hungry soils; on naturally rich ground leaf-mould should be substituted for it. These should be thoroughly mixed together: should the ground be dry at the time of planting, or if it is done in spring, a liberal watering should be given before the soil is all filled in around the plants, and Standards should be securely staked to prevent the winds from moving them, which is very injurious. When beds are planted, the ground should be deeply trenched, and afterwards a good dressing of manure should be applied; a small quantity of the compost recommended above may also be added around each plant. As Roses seldom thrive well in soils that have previously grown them for a number of years, it is advisable that when old beds are renewed, the soil should be removed to the depth of 18 inches, and its place supplied with the above mixture. When a piece of ground is set apart for the exclusive cultivation of Roses, the most open situation that is available should be selected; if wet, it should be drained; if it is inconvenient to use tiles, a layer of from 4 to 6 inches deep of broken stones, or any other coarse material, will answer the purpose; this done, the ground should be trenched as deeply as the nature of the soil will admit; the beds may then be formed according to taste or circumstances, and the planting may be proceeded with as recommended above. November is the best month for transplanting, but it may be safely done from October to March: it is not advisable to prune at the time of, nor immediately after, planting; the first season the plants should all be headed back to two or three buds upon each shoot: this will ensure a vigorous growth. With respect to pruning, this general rule should be borne in mind—that all strong growing Roses should be pruned very moderately, while those of weak growth can scarcely be pruned too severely; the flowering season may be greatly prolonged by pruning a portion of the collection at intervals from December to March.

The stock of young Roses in pots and planted out into open quarters is this season larger than ever it has been in any previous year, a fact sufficiently indicative of the degree of popularity the Queen of flowers continues to enjoy. The young plants have made fine growth and appeared to be clear of mildew and insects. For the extirpation of both the Gishurst Compound has been found successful. For the first it is used mixed with soft water in the proportion of 2 oz. to the gallon, and for red spider and aphides we were informed that ¼ lb. to the gallon is sufficient. It is applied with the syringe, and if the first application is not wholly effectual, recourse is had to a second, which is generally all that is required.

Among Conifers, of which Messrs. Wood have a few choice specimens, was a beautiful example of Libocedrus chilensis, bushy, quite hardy, and about 9 feet in height. The best Cryptomeria here now measures upwards of 30 feet in height, in addition to which were some noble Araucarias, Picea Nordmanniana, Cephalotaxus Fortuni, and Deodars. Of small plants of Thuja gigantea and Cupressus Lawsoniana there were large plantations, as well as some thriving single specimens. Indeed, portions of ground have been set apart exclusively for the growth of fine examples of the above and of other ornamental trees, of which this nursery contains large numbers.

Among fruit trees, to the culture of which great attention is paid, was a variegated-leaved Apricot, which if it should turn out to be useless as a fruit tree may nevertheless be useful for out-door decoration.

Tropæolum speciosum covering the S. side of a verandah deserves notice. Every year about this time it is covered for months with scarlet flowers. To effect this no extra care whatever is required beyond that given to ordinary hardy plants—it stands during winter without protection, and in the summer, as has been stated, it affords a rich profusion of scarlet flowers for months. The only difficulty experienced with it is in its propagation, and that even is in a great measure obviated, since Messrs. Wood have adopted the plan of potting the little suckers which proceed from the roots of the parent plant. These may be found occasionally in great numbers, some as far from the parent stem as 4 and 5 feet. When noticed they are taken off and potted, and ultimately they make vigorous plants. Having at various times tried seed and cuttings, and as often failed to effect their purpose, Messrs. W. now resort wholly to the root plan of increase, which they find requires less care, and is at the same time the surer method of procuring a stock. Associated with it were Clematis Sieboldi and C. azurea grandiflora. The latter comes into flower early, and is therefore now out of bloom. It has, however, been very handsome.

Tall Phloxes, several beds of which were in full bloom, were extremely showy. Among them were many new kinds, some account of the merits of which we hope to give hereafter.

## Calendar of Operations.

*(For the ensuing Week.)*

### PLANT DEPARTMENT.

CONSERVATORY, &c.—Let shading be used less frequently as the weather becomes cooler and the season advances. As plants should now be ripening their young wood, they want as much light and even moderate sunshine as possible. In the case of Orchids this is especially necessary, in order that the young leaves and pseudo-bulbs may be thoroughly matured. Plants already in this condition, or nearly so, should be removed forthwith to a cool house, and care taken not to induce them at present to push again, as a fresh start would interfere with their flowering next year. Dendrobium nobile and others of that class sufficiently advanced in growth should also be moved to a house where they could have a moderate and steady temperature, abundance of air, and little water till their stems are ripe and their flower buds formed. Those Orchids which are still in a growing state should be placed in the most favourable positions and encouraged by a nice growing temperature, while the weather continues favourable for ripening and hardening any growths which they may yet make. Afterwards let them be put gradually to rest.

### FORCING DEPARTMENT.

PINERY.—Attend carefully to growing stock, keeping the bottom-heat regular, and the atmosphere warm and moist, and use every means to secure rapid vigorous growth. This will not be obtained, however, unless all is right at the root, therefore attend well to watering, and never allow any of the plants to become pot-bound. Give air moderately to young stock, and shut up early in the afternoon, giving the plants a gentle wipe with the syringe, and the house a good steaming by wetting every available surface. Continue to pot a few suckers, as they can be obtained of sufficient strength, and do not allow too many to be produced by one plant, as they weaken each other. Indeed, we never allow a sucker to grow to any size that is not likely to be be wanted for stock, and unless in the case of any scarce sort, never more than two on a plant. Plants growing in beds of soil must be very carefully attended to with water, giving enough at each application to moisten the whole body of soil; for unless this is attended to, the bottom of the bed will sometimes get quite dry, while the surface is moist. VINERIES.—The inside borders of houses intended to furnish a late supply of Grapes should be well soaked with manure water as soon as convenient, so as to allow of their becoming dry before the damp cloudy days of autumn set in, for damp will be most injurious then, and anything likely to cause it should be avoided. Muscats beginning to ripen should be assisted with fire-heat, for it is hardly possible to ripen these properly at any season without artificial heat; and those for late use should be pushed on, so as to get them ripe by the end of next month at the latest; for those ripened later in the season are seldom of good quality, and we have always found them to hang better when ripened early in autumn than those that were ripened later in the season. FIGS.—The second crop on the earliest trees will be fast advancing towards maturity; as soon as the fruit begins to ripen the atmosphere should be kept dry and rather cool, giving air freely every fine day, and using a little fire on wet cloudy days, to prevent damp and allow of a gentle circulation of air. Use every care to keep the foliage clean and healthy, and clear of insects, and do not crowd the young shoots. MELONS.—Plants on which the fruit is ripening should be kept dry at the root, and freely exposed to air on fine days.

### FLOWER GARDEN AND SHRUBBERIES.

Cuttings of Roses may now be taken, and planted in a close cold frame in a northern aspect. In about a month they will have shown a disposition to strike root, when they may be taken up carefully, potted, and plunged in a slight bottom heat. Treated thus they make nice plants in a short time, and if kept under slight protection during winter will fill their pots with roots and be ready for planting out next May. Pink pipings put in early will now be ready for transplanting, and if so this should be done at once, as they will require time to fully establish themselves, so as to prevent frost from injuring them. If the situation ultimately intended for them is vacant they may be planted there at once; but if occupied at present by something else, let the young Pinks be planted 4 inches apart on reserved beds in an open situation, the soil of which should consist chiefly of light loam, to which may be added some charcoal-dust or charred refuse. The rotten manure from an old Mushroom bed answers very well for Pinks, as it encourages a mass of fibres, and produces a healthy but not over gross development of top. As regards bedding plants some memoranda respecting their arrangement next season should now be made. Of the flower garden a rough plan should be made, the beds on which should be numbered and correspond with an accompanying list of plants with which it may be intended to fill them, and along with this should be the quantity required for each bed. In this way accurate information is at once obtained of the quantity of plants which must be propagated immediately by cuttings, and by these and seed in spring. Disappointment is thus prevented on the one hand, and waste of time and labour on the other. Whilst half hardy plants are in full beauty, a tasteful eye will easily discover the weak and improvable points, and by closely observing this more satisfactory part, will readily perceive the most desirable future arrangement.

### HARDY FRUIT AND KITCHEN GARDEN

The main breadth of Spinach for furnishing the main supply should be sown at once; also prepare ground for winter Onions. Get a good breadth of Lettuce and Endive planted out for the autumn supply, and sow some hardy sort of Lettuce for planting out against south walls, or in frames, to come in after the frost cuts off the out-door supply. Dig down exhausted plantations of Strawberries, and get the ground planted with winter stuff, if there is not already sufficient of that planted; and make a further sowing of Turnips, if they are likely to be scarce before the winter is over. Attend to cutting and drying herbs as they are ready, and let them allow Shallots to remain in the ground after the tops die down, as, in the event of wet weather, they will make fresh roots, which prevents their keeping. Get a good breadth of Cabbage planted thickly in rich ground to furnish Winter Greens.

**STATE OF THE WEATHER AT CHISWICK, NEAR LONDON for the Week ending July 28, 1859, as observed at the Horticultural Gardens.**

| July. | Moon's Age. | Barometer. Max. | Barometer. Min. | Temperature of the Air. Max. | Min. | Mean | Temperature of the Earth 1 foot deep. | 2 feet deep. | Wind. |
|---|---|---|---|---|---|---|---|---|---|
| Friday 22 | 21 | 29.876 | 29.799 | 82 | 54 | 68.0 | 68 | 66 | S W |
| Satur. 23 | [illegible] | 29.920 | 29.818 | 80 | 52 | 66.0 | 68 | 66 | N E |
| Sunday 24 | 23 | 30.084 | 30.052 | 68 | 52 | 60.0 | 68 | 66 | N |
| Mon. 25 | 24 | 30.126 | 30.086 | 80 | 41 | 60.5 | 68½ | 65½ | W |
| Tues. 26 | 25 | 30.080 | 30.009 | 81 | 59 | 70.0 | 68 | 65 | S W |
| Wed. 27 | 26 | 30.059 | 29.983 | 82 | 60 | 71.0 | 68½ | 65½ | S W |
| Thurs. 28 | 27 | 30.073 | 29.976 | 82 | 61 | 71.5 | 69 | 66 | W |
| Average | | 30.031 | 29.960 | 79.3 | 54.1 | 66.7 | 68.3 | 65.7 | |

July 22—Fine; hot; overcast; rain.
— 23—Thunder; rain; hazy; overcast at night.
— 24—Fine throughout; clear.
— 25—Very fine; overcast; lightning at night.
— 26—Clear; quite cloudless; hot; overcast.
— 27—Partially overcast; very fine; cloudy.
— 28—Very fine; cloudy and fine; overcast and hot.
Mean temperature of the week, 3½ deg. above the average.

**RECORD OF THE WEATHER AT CHISWICK,**
During the last 33 years, for the ensuing Week, ending August 6, &c.

| July and August. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday 31.. | 75.0 | 51.0 | 63.0 | 13 | 0.66 in. | 2 | 4 | 2 | 1 | 4 | | | |
| Mon. 1.. | 76.0 | 51.6 | 63.8 | 16 | 1.23 | 1 | 2 | 6 | 2 | 3 | | | |
| Tues. 2.. | 75.9 | 52.9 | 64.4 | 15 | 1.03 | 1 | 4 | 3 | — | — | | | |
| Wed. 3.. | 74.8 | 51.2 | 63.0 | 16 | 0.50 | 3 | 4 | 3 | 2 | — | | | |
| Thurs. 4.. | 75.6 | 51.9 | 63.8 | 15 | 0.85 | 2 | 3 | 4 | 3 | 3 | | | |
| Friday 5.. | 73.7 | 52.0 | 62.9 | 15 | 0.88 | 1 | 4 | 4 | 2 | 4 | | | |
| Satur. 6.. | 72.9 | 51.5 | 62.1 | 14 | 0.58 | — | 6 | 3 | 1 | 5 | | | |

The highest temperature during the above period occurred on the 1st, 1846, and 2d, 1856—therm. 92 deg.; and the lowest on the 1st, 1858—therm. 34 deg.

## Notices to Correspondents.

BOOKS: *Young Gardener.* Lindley's School Botany may possibly answer your purpose.—*J. Brown.* There is no agricultural account of Grasses better than Sinclair's Hortus Gramineus Woburnensis, the 8vo edition. There is only one edition of Loudon's Hortus Britannicus has been completed by a supplement, including all other supplements, published to date and the last.

EMIGRATION: *H. L.* We apprehend that British Columbia is one of the most promising of our colonies for active hard-working young men. But whether gardeners are in request there we do not know. Probably market gardening might pay well. Labour is worth from 12s. to 20s. a day, according to the accounts, but provisions are very dear.

INSECTS: *J. F. M.* Your young Deodars have been attacked by the weevil, of which you have sent a specimen (Hylobius Abietis), the well-known scourge of the Fir tribes. Spread sheets under the trees, and then visit them at midnight when the weevils are in full activity, shake the trees over the sheets, when the insects will fall and may easily be collected and burnt. All loose rubbish under the trees should be cleared away and burnt.—*E. G.* The insects which have got into the food-drawer of your larks are a minute Acarus, a mite allied to the cheese mite. We have not been able to determine the species, as you do not mention the name of the food. Scalding repeatedly will certainly destroy them; also washing the drawers with turpentine or strong soap water. *W.* But you must not put your larks back to their till the drawer is quite sweetened.

MORELLO CHERRY: *Alpha.* They are devoured by the larva of one of the sawflies. These larvæ are now snug underground undergoing their transformation. Watch for their appearance next year, and destroy them by hand; they are chiefly found on the under side of the leaves.

NURSERY STOCK: *A Constant Reader* shall have a reply next week.

POND WEEDS: *Ignoramus.* Many statements on this subject have been made in our columns from time to time. As they all amount to this, that such weeds as you have can only be extirpated by continued cleaning by drags, subaqueous scythes, or by any other mechanical means. What you have sent are Potamogeton natans and Sparganium Pseudacorus, neither of which is formidable. But you must remove the Potamogeton before it comes into flower, and not turn off the water and fork out all the roots this autumn?

ROYAL BOT. SOCIETY: In the award of prizes at the Show and Exhibition on the 15th ult. there is an error, viz., Silver Medal to Mr. G. Sage, gr. to Earl Howe. This is incorrect. It should be printed thus:—Silver Gilt Medal to Mr G. Sage, gr. to Earl Brownlow, Atherstone, for a dish of Peaches.

TACSONIA IGNEA: *A P B.* No such name is known to us, and we are quite unacquainted with the plant itself. T. manicata is fiery red; T. mollissima is rose coloured.

THE SCOTCH FIR: *A Constant Sub.* Consult Messrs. Lawson, Edinburgh.

TRANSPLANTING: *South Derbs.* Don't think of moving your bushes before next November. The sprig belongs to Cotoneaster microphylla, which may be transplanted in the month of August or beginning of September. With ordinary care it will do very well. Mahonia comes from Oregon; the berries have been made into jam, and very balmy.

MISC.: *N K.* Fisher & Son, Publishers, Bloomfield Kingsland, London, N.W.

ARTIFICIAL MANURES, &c.—Manufacturers and others engaged in making ARTIFICIAL MANURES may obtain every necessary instruction for their economical and efficient preparation, by applying to J. C. NESBIT, F.G.S., &c., Principal of the Agricultural and Chemical College, Kennington, London, S. Analyses of Soils, Guanos, Superphosphates of Lime, Coprolites, &c., and Assays of Gold, Silver, and other Minerals are executed with accuracy and despatch. Gentlemen desirous of receiving instruction in Chemical Analyses and Assaying, will find ample facility and accommodation at the College.

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|---|---|---|
| TURNIP MANURE .. .. .. | from £7 to | £6 6 |
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| MINERAL do. .. | ,, 6 to | 5 5 |
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Prof. Way and Dr. Voelcker have sampled from a bulk of 5000 to 6000 tons at his factories, and their report and analyses are given in full in Circular to be obtained on application at his office, 1, Adelaide Place, London Bridge, E.C., or of his local Agents.

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| Stand and Pump, with screwed tail pipe, fitted with strong brass union for suction pipe | 2 | 15 | 0 |
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| 2-inch patent rubber and canvas flexible suction pipe, on wires, either 10, 12, or 15 ft., per foot | 0 | 2 | 2 |

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| 2½ in. | short 1 ft. 7 in. | Fitted for lead, gutta percha or cast iron flanged pipe as required. | 1 | 5 | 0 |
| 2½ ,, | long 3 ,, 3 ,, | | 1 | 10 | 0 |
| 3 ,, | ditto 3 ,, 6 ,, | | 2 | 4 | 0 |
| 3½ ,, | ditto 3 ,, 6 ,, | | 2 | 9 | 0 |
| 4 ,, | ditto 3 ,, 6 ,, | | 2 | 13 | 0 |
| 2½ ., | short, with 15 feet of Lead Pipe attached, ready for fixing .... | | 2 | 10 | 0 |
| 2½ in. | long ditto ditto | ditto | 2 | 14 | 0 |

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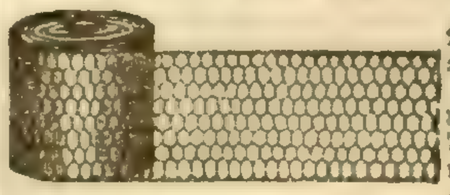

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The Company advance money, unlimited in amount, for works of Land Improvement, the Loans and incidental expenses being liquidated by a rentcharge for a specified term of years.

No investigation of Title is required, and the Company being of a strictly commercial character do not interfere with the plans and execution of the works, which are controlled only by the Enclosure Commissioners.

The improvements authorised comprise Drainage, Irrigation, Warping, Embanking, Enclosure, Clearing, Reclaiming, Planting, Erecting and Improving Farm Houses and buildings for Farm purposes, Farm Roads, Jetties, Steam Engines, Water Wheels, Tanks, Pipes, &c.

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The Owners of Estates not entailed, who may be desirous to avoid the expense or inconvenience of a Legal Mortgage, may also avail themselves of the powers of the Company's Act to charge their estates with an outlay in improvements.

In all cases the whole cost of the improvements, with the attendant expenses, may be charged on the Estate, the term for Building Works being limited to 31 years, but for all other improvements being capable of extension to 50 years.

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Operations under the Company's Act are divided into two principal branches; one where the Landowner designs and executes the improvements by his own Agent and merely requires a loan from the Company to charge the Estate,—the other where the Company undertake the entire responsibility of the Improvement and obtain repayment by way of Rent Charge. In the first case the plans, specifications, and estimates prepared by the Landowner's Agent are forwarded to the Company to be submitted for approval to the Inclosure Commissioners. As soon as the sanction has been given the Landowner proceeds to execute the works, and the Company having conducted the business through all the official forms, complete the charge on the estate when the works have been passed by the Commissioners, and repay the Landowner the amount agreed upon.

In no part of the business is there any control upon a Landowner except by the Inclosure Commissioners. The Company never interfere, except at the special request of the Landowner or his Agent, and only to such extent as may further the objects he has in view.

In the other case, where the Company are required to execute the works, a report and estimate of the Improvement are sent to the Landowner, and having been approved, the plans are then prepared and the works—either submitted to public competition or entrusted to their own staff—are carried on to completion, and the amount of the actual expenditure only, approved by the Inclosure Commissioners with the Company's agreed commission and the Commissioners' expenses, finally charged on the Estate for the term fixed by the Landowner.

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Practical Agriculture—Farm Manager—J. COLEMAN, M.R.A.C.
Surveying, Civil Engineering, and Mathematics—J. M. GRINDROD, C.E.
Assistant to Chemical Professor—A. SIBSON.

In-Students, 84*l.*; Out-Students, 40*l.* per annum. For admission application must be made to the Principal. The next Session commences on MONDAY, August 8.

MANCHESTER AND LIVERPOOL AGRICULTURAL SOCIETY.

*Patrons*—The Right Hon. the EARL of DERBY, K.G., and LORD EGERTON.
*President for the Year*—The Right Hon. the EARL of SEFTON.

The TWELFTH ANNUAL SHOW of LIVE STOCK (including POULTRY), IMPLEMENTS, &c. will take place at Liverpool on THURSDAY and FRIDAY, September 8 and 9. Premiums amounting to nearly 1100*l.* are offered for competition; and the entry will close on August 20.—Prize Lists and Regulations may be obtained by application to

THOMAS B. RYDER, Secretary.

2, Elliot Street, Clayton Square, Liverpool, July 30.



# The Agricultural Gazette.

*SATURDAY, JULY 30, 1859.*


MEETINGS FOR THE ENSUING WEEK.

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| TUESDAY, | Aug. | 2 | Meetings of the Highland Society at Edinburgh; and of the Yorkshire Agricultural Society at Hull. |
| WEDNESDAY, | — | 3 | |
| THURSDAY, | — | 4 | |
| FRIDAY, | — | 5 | |

THE difficulty of finding new subjects for discussion in agricultural journals is itself an agricultural subject of some importance, now that journals of agriculture are so numerous and so widely read. An agriculturist referring to it

lately said to us—"I wonder that no writer upon agriculture has bethought him of the LUCIFER MATCH as the subject of an agricultural essay. It is a matter in which farmers are as much interested now-a-days as they are in rotations of cropping or in manures or in plant cultivation. For if by these means he does get a harvest garnered safely, what does it profit him after it has been destroyed by the incendiary?"

That accidental fires in the rick-yard are more frequent since flint and steel went out and lucifers came in no one will deny. That, other things being equal, wilful incendiarism will be in some degree proportioned to the facilities afforded for it is equally certain. The assize reports with which our newspapers are now filled contain ample testimony to the mischievous facility with which lucifers are to be had. Hawkers give them as presents to children, who thus play everywhere with one of the most dangerous weapons that folly could put into the hands of thoughtlessness. The consequences are what might have been expected. There is hardly an assize court in the kingdom where charges of incendiarism have not been laid; where these lucifer matches have not figured in the report—and where the proved probability of accident from their use has not been made a cloak under which rogues have hoped to gratify their malice unpunished. Will any of our fire insurance companies relate their experience on this point? There must be a multitude of facts illustrative of their increasing risk, and our correspondents would do good service by collecting and relating them; thus proving the agricultural importance of the lucifer match.

—— THE trial of reaping machines, of which notice was given some weeks ago in our columns, took place last week near Paris, and M'CORMICK's reaper as manufactured by Messrs. BURGESS & KEY received the first prize (40*l.* and a gold medal) among English-made machines, as well as the prize of the day (a great gold medal) among all the machines tried. A prize of 20*l.* and a silver medal were awarded to Mr. CRANSTON for Mr. WOOD's reaper, and a prize of 12*l.* and a bronze medal were awarded to Messrs. ROBERTS & Co., of Paris, for MANNING's reaper. The trial was conducted on a good crop of Wheat and Oats, and during a portion of the time in the presence of the EMPEROR. The superiority of BURGESS & KEY's reaper appears to have been unquestionable.

In this country we may add that no harvest for many years has proved such a puzzle for the reaper as the present. Corn crops generally are unusually laid; and in many instances machines even in the hands of energetic sanguine men have been useless except for a comparatively small portion of the crop. In the neighbourhood from which we write, where Wheat is now (July 28) half cut down, the crop generally has proved impracticable for reaping machines. The machine (CROSSKILL's BELL) is let to the labourers for 30*s.* a day, and they gladly avail themselves of its services where possible; but excepting a trial here and there it has been found impossible to use it on the twisted, laid, and heavy crops which everywhere have to be gathered in.

—— In the *North British Agriculturist* of this week Mr. WILSON, of Edington Mains, Berwickshire, gives a very satisfactory report of a newly-imported American mowing machine, which, worked by a pair of horses, on the afternoon of the first day, 16 hours of the second day, and until 4 P.M. on the third day, *i.e.*, in 32 hours altogether, cut down 30 acres of Red Clover and Italian Ryegrass in mixture, estimated at 50 cwt. of hay per acre. He says, "on getting the ground cleared I was exceedingly gratified to find the quality of the work all that could be desired. Indeed I never saw a field so well mowed." This machine is imported by Messrs. BRIGHAM & BICKERTON, of Tweedmouth.

—— Mr. SANDAY's sale of Leicester sheep at Holme-Pierrepoint last week resulted in the very high average of 31*l.* 13*s.* for 40 lots disposed of. Twenty-two shearling rams fetched 721 guineas, 10 two-shear sheep realised 286 guineas, and the remaining older sheep brought 199 guineas. The highest priced obtained 90 guineas, and was taken to Ireland.

—— A preliminary report of the meeting of the Agricultural Improvement Society at Dundalk will be found in another page.—The meetings of the ensuing week include the Yorkshire Agricultural Society at Hull, and the Highland Society's at Edinburgh.—Among the most interesting incidents of the Warwick meeting was a meeting of the former pupils of the Royal Agricultural College, when arrangements were made for an annual gathering of the kind, and a permanent standing in the showyard of the National Society.

## APPEARANCE OF THE CROPS.

BERKSHIRE.—The intense heat of the weather has forced the crops here to an unusual state of forwardness. Wheat, Barley, and Oats are now being cut. The crops generally assume the appearance of a good yield and also a fair quality. The green crops promise well but want rain. *John Adnams, Thatcham, Newbury.*——The corn on the hill district varies very much according to soil and management. On 2d July in the evening we had a violent storm of rain accompanied with lightning and thunder, which I am sorry to add laid the Wheat and Barley very much, and has made a great difference to the yield, wherever the wind whipped it, so as to prevent it rising again; until this untoward event the district had nothing to complain of. I have looked over some thousands of acres; my parish (Chieveley) is upwards of 5000, the adjoining parishes of Thatcham, Peasemore, Stanmore, Beedon, Asbridge, East and West Ilsley, Bothamsted, Langley, Flamsted Norris, &c., all fine corn producing land. On the light brackish soils this hot and dry time has not suited, producing premature ripening causing small troughy grain. The hay and Clover was made without rain and at little expense, a very heavy crop in most places. The Mangel Wurzel is much planted: my next neighbour has 40 acres, with very few blots, on some farms I see it is patchy. Swedes with few exceptions a little backward, but showing a straight and full drill; the horse-hoe in constant requisition. One of my friends had 10 acres of Swedes attacked by the black maggot Negro (after being hoed and thought safe) and were fast being devoured, when to the great joy of the owner of the soil, a flight of plovers settled upon the land, and in the course of two days cleared the pests away. Carrots look well where planted. Turnip just put into the soil. Have had storms this week every day, with sufficient moisture to start the seeds. Oats and Peas being cut general. The harvest commenced on Monday last, the 25th; some intended 21st or 22d, but this opportune rain will retard it for a day or two. Wheat an average; Barley an average; Oats in some places very good; Peas, fair, four in a pod, some very good; Winter Beans a failure; Spring Beans very good; Clover a heavy crop and well made; meadow, some light, but generally good; Carrots good where planted; Mangel Wurzel a good and fair plant; Swede a good plant but backward; Turnips just put into the ground; Potatoes great complaint of disease and scab, some places very good in light land. *Thomas Fordham, Snelsmore Hill East, near Newbury, July 22.*

LINCOLNSHIRE.—In this immediate neighbourhood we have a bulky crop of Wheat generally, which is very much laid, and must be bad to reap The crop, however, is ripening very unkindly, and we have both blight and mildew manifesting themselves to a fearful extent; complaints are universal, and to the mere casual observer the evidences are most palpable and unequivocal. We must, therefore, anticipate considerable deficiency both in quantity and quality, although we have a heavy crop of straw. On all our early soils Wheat cutting will be general towards the middle or end of next week. Oats are a good crop in most instances, and promise a large yield, although the quality will probably be injured through their being laid a good deal. Beans (spring) are better than was expected. The top blossoms have set well, and we have every prospect of an average crop. Peas are good, and will doubtless yield well. Potatoes are good on the high lands, but bad in the Fens. No symptoms of disease apparent yet. *Alfred S. Ruston, Aylesby House, Chatteris, July 21.*

MONMOUTH.—Wheat above average; Barley good, ripens unevenly; Oats good; Carrots improving but late; Wurzels good but late. *T. Dyke, Monmouth.*

GLOUCESTERSHIRE.—I have much pleasure in forwarding you a report of our harvest prospects on the Cotswold Hills. Wheat about an average crop, certainly not equal to last year, which was one of the largest crops ever known on the Cotswold Hills. It is fortunately but little laid, and may therefore turn out better than some of the better Wheat land. Harvest will be general this week. Barley, where planted early and uninjured by the storms, is a very promising crop, and I think the yield will be fully equal and in many cases superior to last year. The weather in June was very favourable for this crop. Oats but little grown; appear quite a good crop. Winter Beans a deficient crop, owing to the late frost whilst blossoming. Spring Beans are generally good Mangels and Turnips are good; the latter far more promising than last year, except for partial visits of the nigger or Black Jack caterpillar there is a regular plant everywhere. Potatoes at present but little affected with disease The hay crop was large and well put together. *John Coleman, Royal Agricultural College, Cirencester.*

NORTHAMPTON.—Harvest commenced in this district this week with Peas and Oats, and on Monday Barley and Winter Bean harvest will begin. But we shall not have general harvest before the end of this month. This will be a most expensive harvest to the farmer, and except the weather turns out very fine, harrassing and disheartening, seeing that all the flattering hopes held out by the extraordinary luxuriance of his crops, and the prospect of the most favourable weather, have been blasted by the superabundance of straw, thunderstorms, and blight. The Wheat crops are excessively long in the straw, and laid and twisted about more than has been known for the last 20 years. During the past 8 days a serious blight has blasted the hopes of the farmer to such an extent that it is believed that this year's Wheat crop will fall at least 2 quarters short of last year, and the quality at least 5*l* per bushel The Barley crops are very long in the straw and much laid, yet they are generally healthy and promise abundant yields of fair average quality. Spring Beans are an average crop, but Winter Beans were nearly all blighted and ploughed down, and Turnips sown on the land; those worth leaving have recovered and mended into fair half crops. Oats are abundant in straw, but very much laid and damaged, so that the quality will be but middling, though the yield must be a good average. Peas are a good average crop. Potatoes are a good crop, with a moderate amount of disease among them. Turnips and Mangel Wurzel are both promising to be good crops, especially where a moderate quantity of genuine artificial manure has been applied. Hay is a most abundant crop and well got. *P L.*——A more difficult question to answer than "What is the state of the crops?" could not be well put. In all my experience of 40 years I do not remember to have seen them so beat down as at the present time. Consequently blight and all the accompaniments of a laid crop must detract from the produce. The Wheat crops that are standing, which is the exception, appear to ripen kindly, and will soon be ready; but I cannot think that the Wheat crop, although the bulk is large, can be an average. Barley about an average, but the yield of that grain seems to diminish very fast. Oats are a full crop, the acreage large and the bulk heavy; a full average. Winter Beans where not ploughed up, half a crop. Peas very good. Beans a doubtful crop. Potatoes very much diseased. Harvest just commencing; general by August 1. *W. Gray, Courteen Hall.*

NORTH HANTS.—The prospect of abundant crops in this district is upon the whole better than an average Upon poor soils there are instances of failure of the Wheat plant, and hence occur indifferent crops, much overgrown with weeds. Generally speaking, however, the Wheat crop is a very heavy one, but partially injured by the recent severe tempests and hail storms. Barley is an abundant crop but a portion will be of indifferent quality. Oats are tolerably extensively grown, and are much better than usual. Winter Beans are blighted, but Spring Beans and Peas promise well. The hay crop is much above an average and well secured. Turnips, Mangel, and other green crops are a good plant. Reaping is now become general, but from the heavy crops being much laid, the labour of harvesting will be increased at least 25 per cent. *H. R., Basingstoke.*

ROMFORD.—In reply to yours we are in a most dangerous position. Wheat more laid than I have ever seen before; the heads in many fields very deficient, and in some few cases the crop will hardly pay the expenses of getting in. We fear weather will be most destructive, being so stormy, wet, and hot. We have made a beginning. The straw nearly double, but the corn, I think, will not equal an average. Beans and Oats good. Barley much laid. Mangels and Turnips capital. Potatoes bad. It is now raining, and continually for the last two days *Collinson Hall, Havering Bower.*

SOUTH LINCOLNSHIRE.—The Wheat crop in this district is in the roughest condition seen for many years, so storm broken and dashed down by winds and rains; many fields are sadly blighted, and many more look very unpromising, showing symptoms of mildew. The sample will be a rough and varied one The Barley crop is good, and Oats are heavy and likely to be a productive crop. Beans are a fair average crop except Winter Beans, which are a total failure. Peas have by no means suffered from the aphides as was anticipated, and will now prove an average crop. Potatoes all right yet, and a large breadth under this crop. Mangels are a splendid crop and plenty of it. Swedes a scanty breadth, and the crop has suffered from the black caterpillar. Common Turnips and Coleseed are likely to be very productive. Hay in great abundance and well got. Pastures are very rough but the stock do well. Our Clover eddishes are beautiful. *John Clarke, Long Sutton, July 25.*

WEST DORSET.—The Wheat in this neighbourhood, although in many cases much laid, promises well. It has gone off very quickly and reaping is now commencing. Close to the sea at the end of another week, should the weather prove favourable, it will be harvested. Barley appears to be ripening in patches, or as here described as "twi ripe;" I hear rumours of bad samples. Oats are nothing like as good as they were last year. Peas are cut and are well podded and good. The Turnip crop of course irregular. Mangel better than could be expected. Potatoes until the present time have almost reminded us of former days, but the stalks are now decaying. The crops of hay have been light, and the pastures are worse than they have been for years past, consequently stock of any description not doing so well. Dairymen cry out lustily *W. P.*

WORCESTERSHIRE.—A copious report of the condition of the crops in different parts of this county appeared in the *Worcester Journal* of the 23d inst., taking the results of which in aid of my own somewhat limited observation I may record as under. Wheat, Barley, Oats, Beans, and Peas are generally promising average crops, especially Wheat. The Wheat crop is a good deal laid in places by heavy thunderstorms, and there is a general opinion that the yield will be rather deficient. the number of corns to an ear being in many cases found less than usual. There has been a remarkable absence of the fly on Swedes, but a general complaint of black caterpillar, in some cases almost destroying the crop. Recent rains have probably saved this crop (which had suffered from drought) and a favourable result may be expected. Mangels are well spoken of. Hay crop light but well got in. Potatoes nearly free from disease at present. *F.*

YORKSHIRE.—The Wheat crop is generally light of straw, the bulky crops much laid from thunder rains; from the late extreme heat there are a great deal of blind ears, no corn of value in those ears. Barley generally heavy and lodged; on the lighter soils many blind ears from the same cause as in the Wheat crop. Oats a light crop. Beans tolerable but affected with black aphis. Mangels, Swedes, yellow and white Turnips very various; some good but generally bad, have improved since the late rains. Hay crop light but well got. Harvest commences about August 1. *Peter Stevenson, Rainton, Thirsk.*

## THE LIGHT HORSES SHOWN AT WARWICK.

ALTHOUGH at the meetings of the National Society the number and importance of the agricultural horses ever will, as they ever should, exceed the lighter horses, yet the number and quality of the latter were sufficient at Warwick, as at several preceding shows, to render this a very interesting as well as useful part of the live stock exhibition. Thus, whilst of the heavy horses, foals included, no less than 170 animals were submitted to the criticism of the judges, in the lighter classes there were no less than 70, special classes of course in each case included. Although it is a matter of some little doubt whether any real utility is accomplished by having a class for Thorough-bred Stallions, seeing that the turf affords every possible encouragement to the breeding of these animals, and the racecourse a good opportunity for studying and comparing their form, yet they certainly afford a very attractive part of the horse exhibition, and serve to gratify the eye of the admirers of breed. Whilst we should therefore be sorry to see this class discontinued we think it is of the utmost importance that a most valuable class of animals should be recognised and encouraged, and it would be truly the province of a National Society to carry out such a purpose of national utility. There should be a class for Stallions, not thorough-bred, calculated for getting Hunters. Encouragement would then be given to the preservation of such horses as that shown by Sir W. W. Wynn last year at Chester, which was debarred from receiving a prize by there being no proper class in which he could be fairly shown. At present the Society by their prizes advocate the doctrine that all hunters should be got by thorough-bred stallions, which we believe is a fallacy, holding as we do the opinion that provided sufficient breeding is secured, it matters little whether it comes by the sire or the dam, but it is somewhat preferable that it should come in tolerably equal proportions from both sides. There is no royal law existing, either in Nature or otherwise, imposing the necessity of always using a thorough-bred male in the getting of hunters. Although extremely desirable in very many instances, yet the almost universal practice of so doing shuts out from breeding a large number of small but good three parts bred mares, that would if put to a thorough-bred horse breed weeds or animals of trivial value, but if put to horses of bone and substance half or three parts bred would unquestionably breed animals of value and profitable ones to the breeder. It is evident that beginning with a blood horse and a half-bred mare, and using a blood horse as sire for three generations with the female progeny, we have an animal $\frac{14}{16}$ths thorough-

[illegible] no doubt a weed; whilst by using a three parts bred horse at the second generation, we retain all the handling we demand and with all the substance we require for a weight-carrying hunter. We intrude these remarks for the purpose of supporting our opinion that there ought to be a distinct class for stallions (not thorough-bred), calculated for getting hunters.

To return to our subject, the animals shown as Thorough-bred Stallions were worthy of prizes and commendations. Not quite so good as the Salisbury horses, they were better, we thought, than the Chester animals. The prize thorough-bred horse "Hunting Horn" was a dark brown horse of great size, power, and substance. As he stood in his box we scarcely liked his shoulders, but if his slow action was good enough he was well worthy of a prize, for his back and hind quarters were undeniable.

The second prize horse, "Sir Peter Lawrie," was more perfect as regards some of his points, but with less size and substance than his competitor. The "Ugly Buck" and the "Sprig of Shillelagh," added to the attractions of this class very much, particularly the latter, and we thought were well worthy of commendation.

The class for Hunting Brood Mares brought out some very good animals. The best of the lot was disqualified, from disease of the eye. It should be known that there are few diseases more hereditary than those of the eye, and there is no great difficulty in ascertaining by proper examination whether blindness, wholly or partially, is caused by disease or by accident. The attendant too frequently searches his imagination for his facts when accounting for a disease of the eye, and a blow, a flip of the whip, or a hay seed affords him a ready answer to all inquiries on the subject. It is however somewhat difficult to prove the origin of such a disease when it occurred on the other side of the Channel. Most of the mares were good, and had good foals by their sides, particularly Mr. Shaw's second prize mare by "Mundig."

The Mares for breeding Hackneys were not very good. Why there should be a class for the hack mares and not for the stallions we cannot imagine. The latter we conceive is of the greatest importance, seeing that he may be the sire of fourscore animals in one year, whilst the mare is rarely the parent of more than one. Mr. W. Coleman was the winner of the first, and Mr. S. Wallis of the second prize.

The Local Committee added to the list by giving two prizes to the light horses as well as four to the agricultural classes. The first of the former was for Hunting Mares or Geldings. This was a very good as well as a very interesting class, and well competed. It opened up as it were the equine riches of the district, but at the same time elicited considerable difference of opinion, some fancying one animal, some another. "A very good animal," said an excellent judge in speaking of one of the prize winners, "for 100*l*., but I would rather give 200*l*., for my own riding to her neighbour." We hope the judges before they ventured to decide had the animals saddled and mounted. A four-year-old by "Drayton," belonging to Mr. Coleman, won the first, and Lord Berners the second prize, whilst several others were commended. The Pony class was good but scarcely equal to the show of last year. The prize stallion was a beautiful animal belonging to Sir Pyers Mostyn, Bart. The second was won by a strong Welsh pony, also successful at Barnstaple last month. Mr. Wall, the owner, had also his little brown pony, a prize winner there, but commended here, as was the class generally. *W. C. S.*

## THE IMPLEMENTS AT WARWICK.

We pursue our wander round the yard:—At stand 46 the trustees of Mr. Crosskill exhibited a number of well-known implements—their clod crushers, the Uley cultivator, the Norwegian harrow, carts and wheels, the Archimedian root washer, a capital tool; as well as a patent portable railway, somewhat on Boydell's principle, but differing from it; it is invented by Mr. Romaine—

Its peculiarity consists in having the iron rails longer instead of shorter than the circumference of wheels that roll over the rails, thereby preserving the ends from being battered down by the wheels, also in having the wood sleepers (which carry the iron rails) about double the length of such rails, equalising the pressure of the load on the whole length of the sleepers, breaking joint, and having a minimum bearing surface of never less than three-fourths or two-thirds the whole bearing of the surface.

(47) Clayton & Shuttleworth exhibited a number of their well-known portable and fixed steam-engines, threshing-machines, mills, saw-mills, and straw elevators.—(49) J. Fowler, jun., exhibited 8 and 10-horse steam cultivating apparatus, together with windlass and balance ploughs, and scarifier. We add the prices and lists of the articles specified:—

An 8-horse Set of Steam-cultivating Apparatus, consisting of an 8-horse engine (single cylinder), with reversing gear and windlass, anchor, 700 yards of steel rope, headland ropes, water tub, 16 rope porters, 2 snatch blocks, and field tools, complete. Price 455*l*. 10*s*. This tackle is adapted to be worked in combination with Articles Nos. 6, 7, 8, 9, and 10. Also an 8-horse Set of Steam-cultivating Apparatus, consisting of an 8-horse engine (double cylinder), with self-moving and reversing gear and windlass, anchor, 800 yards steel rope, headland ropes, water-cart, 16 rope porters, 2 snatch blocks, and field tools, complete. Price 527*l*. 10*s*. Is adapted to be worked with Nos. 6—10, as follows, a Balance Two-furrow Plough, a Balance Three-furrow Plough, a Balance Four-furrow Plough, all fitted with Scarifier Irons; a Balance Three-furrow Plough, fitted as two-furrow Cotgreave and subsoiler and scarifier; a Scarifier—prices 52*l*. 10*s*., 61*l*. 10*s*., 81*l*., 105*l*., and 26*l*. respectively.

(51) Loomes & Co., Whittlesea, exhibited draining pipes, which received the prize for the best quality in the yard.—(52) Hayes, of Elton, near Oundle, showed his portable straw elevator which takes the straw off the end of shaker when working with the threshing machines, and carries it up 22 feet or more on to the stack. It is made with two octagon drums, diameter of which is 20 inches, and thereon is worked a chain with tines, driven by strap from threshing machine to carry up the straw; and the slow motion of the elevator absorbing but very little power, the wear and tear is reduced to the lowest amount.—(53) Mr. Nalder, of Wantage, exhibited a clever corn separator and blower.—(58) Snowden's paring plough was shown here. It is a very effective implement capable of paring 1 and 2 acres a day by horse-power at one-fourth the cost of manual labour. Reference has been already made to it here.—Churns and milk buckets are exhibited by Heel, of Warwick, at stand 61.—Mills and mill stones, at 62, by Hughes & Son, of Great Dover Street, Borough, S.E.—Dairy implements and washing machines, at 63, by Mr. Kent, of 199, Holborn. (64.) Thomas Lyne, of Malmesbury, exhibited his patent field stile, remarkably effective and cheap.

It consists of a cast-iron box, with legs to steady it in the ground, and sockets into which are placed stationary posts, forming an opening somewhat like the letter V; between these posts are two moveable uprights received by metal sockets (centred upon ¾ inch bolts or pins), having balance weights attached, with projections on them, terminating in teeth, which work into each other, causing both levers, when pressure is applied, to move sideways, allowing the passage of a person, and closing immediately the pressure is removed. There is a simple contrivance to act as a fastening, which prevents its being accidentally opened; it is not liable to get out of repair. Price, without extra work at the side, 2*l*.

At stand 66 Messrs. Hornsby exhibited steam engines, threshing machines, drills, &c., and, a new thing with them, first on their list, ploughs. We give their description. They were successful in obtaining prizes both on light and on heavy land.

The beam handles and frame are one solid piece of wrought-iron work, obtaining the greatest lightness with immense strength. The share is attached to an improved lever neck of wrought iron, on R. H. & Sons' patented principle. Capable of being adjusted so as to give it more or less pitch or land as the share wears, or as may be required by the nature of the work. Price with two wheels, 4*l*. 7*s*. 6*d*.; skim coulter and drag chain, 7*s*.; steel breast, 6*s*. extra.

(67) Mr. Humphries, of Pershore, exhibits his portable combined threshing, shaking, riddling, Barley horning, winnowing, and sacking machine, to prepare the grain fit for market; to be worked by steam power. Fitted with all the latest improvements; one of the most important is an improved iron whitecoater or smut machine, which perfectly separates any extraneous matter from the grain before passing into the second blower, where it is effectually dressed fit for market. (70) Mr. Powell, of Tiechurst, shows "Sigma's" well-known implements "Multum in Parvo,—a horse plough, parer, hoe, and ridger all in one—a manure distributor, exceedingly simple, promising, and ingenious, capable of distributing a large quantity or a small with perfect regularity, and in our opinion well deserving use in these days, when the efficiency of a manuring of 1 or 2 cwt. per acre wholly depends on its even distribution—and "Sigma's" well known dibbles and hoes.—(72) The St. Pancras Iron Works Company exhibited a long range of stalls and stable apparatus—very attractive and useful—showing all costs and styles, and stable furniture and accommodation. There was also here a foot gate capable of conversion into gateway for a horse in a very simple and effective manner.—(73) Smyth & Son, of Peasenhall, the fathers of the Suffolk drill, exhibited a great variety and number of their well-known machines. At 74, Turner of Ipswich, grinding and crushing mills, oilcake breakers, &c., were the chief machines exhibited.—(76) Williamson, of Kendal, among other articles showed an improved straw shaker, cheap, and easily packed away, adapted for working with the above threshing machine. The straw, after leaving the machine, is discharged upon a traversing frame, formed entirely of wrought iron, and a vibratory motion is given to it, the effect of which is to shake out the loose grain from amongst the straw, and to carry forward and discharge the latter at a considerable elevation. The addition of the shaker increases but very slightly the strain upon the horses; and when the work is done, it can be separated from the machine and rolled into a small compass. Price 6*l*.

*(To be continued).*

## Home Correspondence.

*How to Insure Turnip Plants.*—My attention is attracted to this subject by a paper in your Number of July 24, emanating from Mr. B. Clarke, F.L.S., &c., headed "Proposal of a new remedy for the ravages of the Turnip fly, and the failure of crops from the dryness of the weather." Mr. Clarke suggests a coating of oil, wax, gum, or turpentine, to keep the seed from rotting till rain comes, and has given himself much trouble in preparing a tabular statement of various kinds of dressing used upon the seed and the effects visibly produced by each process. Without entering on the further consideration of what appears to me to have been a careful and elaborate, but by no means a practically useful experiment, I venture to suggest as a remedy for the evils in question a thorough examination and alteration of the usual practice of preparing the ground for the deposit of the seed. I will presume that the seed of the Turnip possesses at least an average amount of vitality. I have known it to grow after two years, and to require hoeing out of Beans grown on Barley stubbles after a failing crop of Turnips. Moreover the seed of the Charlock (a very similar plant) is generally thought to be almost imperishable, and I am satisfied that if Turnip seed be properly deposited in the land under proper conditions, its growth is a matter of certainty, and the young plant has little to fear from the fly. I assert from observation that the majority of Turnip crops fail in the early stages of their growth from the same cause as the seed in the parable which fell among stony ground, and perished for lack of underground moisture. The land is perhaps ridged, manure is put directly under the seed, and keeps the land open; it is then delicately rolled before the drill, and perhaps raked up again by the spout of a dry artificial manure drill passing immediately under the seed, and the soil falling in upon the artificial manure is scarcely compressed at all by the light roll following the drill. The consequence is that the seed "lies hollow," comes up languidly, and perishes in detail under the constant attacks of the fly; and having no firm hold of the ground, the scorching rays of the sun soon penetrate the loose open soil down to the very roots of the young plant, leaving it entirely destitute of moisture from below and quite dependent upon fitful and uncertain showers for its support; consequently if, according to old Moore's prediction, "rain interveneth not," the plant is utterly unable to maintain itself, and at the same time resist a persevering attack of the fly. These remarks apply equally to drilling on the flat into loose, newly ploughed, freshly manured land. In such cases I advise the Crosskill roller to be freely used till the land treads firmly; then drill the seed; harrow with ordinary seed harrows, to fill up the troughs left by the drill, and roll down with a heavy roller. This system, if properly carried out, ensures a firm seed bed, always fed with moisture of attraction from below, as is the case in a stale furrow, and against such plants the fly will be found comparatively powerless. I usually sow my artificial manure broadcast upon the land immediately after the last ploughing, and mix it with the soil by the operations of the Crosskill rolling, drilling, and harrowing. I use 3 lbs. per acre of the best seed, and for the last six years I have never once failed in obtaining a vigorous plant, capable of resisting the attacks of the fly, and soon out of the reach of injury, and I have arrived at the conclusion that with proper care Turnips may be grown with the same facility and certainty of plant as Wheat, Oats, or Barley. *George Beaumont, jun., Bridgeford Hill, near Nottingham.*

*What Value has Dry Manure unaided by Rain or Moisture?*—Professor Voelcker has evidently made a mistake in estimating my tank manure at its *dry* value, ignoring altogether the 50,000 gallons of water or 2-inch rain-fall which accompany it. If the principle of dry valuation of manure were carried out, ignoring the presence or absence of rain-fall, it is quite clear that without rain or moisture a ton of guano would have no value for a crop. Professor Voelcker estimates the cost of putting on so much water, but ignores its value or result! Many of my friends think with me that he has made a great mistake in such a valuation, so disparaging to irrigation. Every one sees the effect of a thunderstorm in its almost magical stimulus to vegetation. Excessive drought, despite dry guano, is in its result equally obvious. As a Grass farmer said to me the other day: "If we get no water we get no Grass;" and he was right. *J. J. Mechi, Tiptree, July 25.*

## Societies.

ROYAL AGRICULTURAL IMPROVEMENT OF IRELAND.

Meeting at Dundalk.—That Ireland is making steady progress in agricultural improvement is fully proved by her annual agricultural exhibitions, which are on a scale of steady and most gratifying progression. One means of judging of undertakings of this kind is by comparison; and accordingly it will be found in this way that at this meeting, compared with that of last year, there is of implements a considerable increase. There is also a numerical excess in the Short-horns, agricultural horses, and all classes of sheep, as well as pigs. We have, however, a falling off in the entries of Kerry cattle, Herefords, Ayrshires, thorough-bred horses, and a marked deficiency in farm produce.

From the programme of proceedings our readers will have learnt that the Society has abandoned the implement prize system; and this year competition in this department is limited to the handsome prize (Cup) offered last year for the first time by the *Farmers' Gazette* for the best collection of implements suited to the circumstances of Irish farming. Now, whatever difference of opinion may be entertained regarding the prize system in England, where manufacturers are extremely wealthy and equally intelligent, few who reflect upon the subject will say that it is not desirable to encourage the Irish manufacturer to increased vigour and more useful action. He is in point of intelligence very far indeed behind the Howards, Ransomes, Garretts, Hornsbys, &c., of England, and we see no more immediate or efficacious means of taxing his ingenuity and skill than by a liberal scale of prizes.

Of new inventions we have not much to record; but a great many improvements and modifications have been made in old and established articles. We present our notes in the order in which we took them, and if they are too cursory it is accounted for by our appearance on the show ground before all the exhibitors had displayed their goods. Mr. Miller, of Dunbar, and other makers, have added an ingenious yet simple index to the drill plough for the purpose of

setting the boards at any required width. We may remark that in these machines (as in many others known to our readers) both boards are simultaneously acted upon by a screw handle, and attached to this is the index referred to. Mr. Miller's threshing mill, however, with its antiquated revolving shaker, feeding rollers, and power spending conical wheels, is certainly behind the times.

Richmond & Chandler exhibit in addition to their usual admirable machines, Nicholson's haymaker, in which they have, with the original maker's permission, effected some alterations.

Mr. Shackleton, of Dundalk, shows an ingenious and novel collection of steam-engines, &c. Great credit is due to him for his self-propelling steam-engine, the first of the sort made in Ireland. It has been several years in use, and is in good working order. In some of his engines Mr. Shackleton has introduced vertical boilers resting on a water cistern, the whole running on wheels.

Messrs. Turner, of Ipswich, show a fine collection of mills, a well finished 3-horse power steam-engine, shown at Warwick and purchased there by Major St. Quentin, of Old Court, Waterford, price 130*l.*, inclusive of appendages. We were pleased with the corresponding 3-horse power threshing-machine. The beater—Coulson's patent—is an interesting one, and somewhat similar in principle to Goucher's. The groove is in three separate parts, turned in alternate directions. The shakers and riddle are driven by one crank. The corn is only half dressed.

Mr. Gray, of Uddingstone, has exhibited a still finer collection of implements than the one of which we said so much in our report of the Derry show last year. Mr. Gray, of Belfast, shows another well-finished collection of ploughs, grubbers, &c. In some of the former he has introduced a modification of the English mould-board; we wish he would fully adopt a recognised principle. His farm cart is a well mounted article; the arrangement for tilting is the best in the show, being a modification of the spring "tilt," with two vertical spring bars for raising the cart to any desired degree. We are also pleased with Mr. Gray's barrow: the tine is securely fixed, at a sacrifice of much workmanship. He also makes good chaff cutters, using Picksley, Sims and Co.'s castings. Adverting to farm carts we have to mention that nearly all the makers adopt the patent principle of having a wide groove (about 3 inches) in the axle arm for retaining the grease. The groove is of course transverse, and about the middle of the arm. No doubt the part of the arm below the groove will be effectually oiled; but as sure as a drain carries away moisture from the surrounding height so will this groove (and especially when the arm "creeps" or "dips" to any appreciable extent) dry the upper part of the axle arm. Messrs. Hornsby exhibited the Warwick prize plough. An acute turned-up edge may appear very neat, but it does not give the same body of earth for covering a rectangular furrow-slice; and in this respect it must afford a very imperfect seed bed after a heavy fall of rain.

Of mowing machines we had an interesting trial very close to the town of Dundalk on Wednesday. The rivals on the occasion were Burgess & Key and Mr. Cranston, who exhibited Wood's combined mower and reaper. Both machines were set in trim so as to commence work at the same time; but owing to the horses turning restive some time was lost before Mr. O'Neil, the agent for Burgess & Key, could commence operations. Both machines cut a field of old pasture, not very productive, very creditably; but the general feeling prevalent among the spectators—a feeling in which we shared—was that Mr. O'Neil did the better work, cutting lowest and cleanest. The machines take the same width of cut; and differ in general construction as well as in the knives.

Mr. Samuelson's Britannia Reaper excited no small amount of interest. We regret not having seen a practical test of the self-acting rake, which is an exceedingly ingenious contrivance; if its success be equal to its ingenuity, it cannot be too well known.

We cannot add more this week in continuation of our report of the implement show, and our notes upon the cattle shown must be postponed. The first prize old bulls, among Short-horns, belonged to Mr. Todd, of East Lothian; as did also the first prize cow in calf or in milk. Mr. Douglas, of Athelstaneford, received the second prize in the classes of Short-horn heifers. Mr. Eastwood, of Lancashire, took the Purcell Challenge Cup for the best animal in cattle classes, viz., the first prize heifer (calved in 1856). The Waterford Challenge Cup for the best lot of three horned-animals (bulls and heifers) was awarded to Mr. Thomas Ball. The remainder of the prize list will be given next week.

## Notices of Books.

*Handy Book for Youg Farmers.* Pp. 102. By Charles Lawrence, Member of the Council of the Royal Agricultural Society of England.

Mr. Lawrence has here seized the opportunity given by a very popular title for issuing a useful little work the fruit of his own lengthened and very carefully recorded experience. It is a farmers' calendar of operations supplemented by chapters on Manure, Cattle-feeding, Implements, and tabular statements illustrative for the most part of the processes of feeding.

Mr. Lawrence limits himself in his preface to the instruction of the young farmer, and in order still further to hedge his meaning and his object, he states the circumstances under which the experience which he describes and on which his instructions are formed was acquired. He says:—

"We do not presume to offer any counsel, or to be able to afford any information which would be new to the experienced agriculturist, in the calendarial division of our subject, that will be to him the mere A B C of the science; these observations are intended for the exclusive use of those who are about to enter the portals of agriculture. For that purpose, we know how necessary is that minute detail of operations which would be tiresome to the adept.

"To enable the reader to judge to what extent our observations may be applicable to his particular case, we may state that our farm comprises 260 acres; of which 64 are pasture and 196 are arable. The nature of the latter is very variable. Ten acres consist of a deep black loam with a slight mixture of sand, resting upon a strong clay. About 90 acres are what would be usually styled light land, the subsoil stonebrash, resting on the Oolite. The remainder is a retentive, aluminous soil, lying chiefly on clay, which requires careful management in wet seasons, but is useful, productive land when the weather admits of its reduction to a fine tilth.

"We shall carry our young friends with us through the monthly operations in the first place, and reserve our observations on manuring and the feeding of stock for separate consideration. To these latter divisions, and the tables appended, we venture to invite the attention of the more advanced agriculturists. We start with the month of March, as the more common period of entry on farms, though we should much prefer a Michaelmas taking, with the privilege of entering immediately after harvest, to sow Wheat and prepare for the next root crops.

"In order to a convenient arrangement of our calendarial observations, we have assumed a four-field division of a farm, as by far the most common, but we must not be understood as recommending any adherence to that particular course. On the contrary, we very much doubt whether it can be profitably and economically adhered to for any length of time, as respects the green crops, whether of artificial Grasses or roots. These cannot be so often repeated on the same ground successfully. The failure of the Clovers under such an arrangement is universally acknowledged, and there exists a general impression that Swedes and Turnips have degenerated of late years from too frequent repetition."

The following describes the operations of the present season, and is given as a further illustration of Mr. Lawrence's performance.

"For any sowing of Turnips after Vetches later than July, we recommend the Red Nottingham, as attaining a large size in a short time, and as being hardier than most of the quick-growing sorts. We have had the ground well covered by this Turnip even after harvesting Wheat in an average season. The crop was sound and good at spring for ewes and lambs.

"Just before the Swedes and Mangels cover the ground, when a horse can tread up the furrows without damaging the plants, we strongly advise you to finish the operations by an effectual stirring up the interval between the ridges, some 4 or more inches in depth. For this purpose we recommend the common triangular iron Scotch expanding horse-hoe, described under the head of Implements, used for the first horse-hoeing, to be so constructed, that the hoes being fixed into the frame by a wedge, are easily removed; and in lieu of them tines are introduced, slightly curved forward, with hardened points like a common cultivator or grubber. If the ground is very firm, we put on two horses at length, and stir the ground 4 or 5 inches deep between the rows. If you have thus treated a portion of a field, and have been obliged to leave the work for three or four days, you can see from the increased luxuriance of the plants where you left off, without going into the field. Furthermore, this process leaves the ground in the most favourable state for the absorption of moisture and other atmospheric influences, and in a state in which it retains moisture.

"We shall now be in the middle of harvest, and will therefore consider the various modes of severing the corn.

"Wheat, until of late years, was generally reaped. The go-ahead farmers of the present day, impatient at this slow operation, adopted the plan of mowing to the corn, and then tying up. This also saved the subsequent mowing of the stubbles. Considering this simply as a mere field operation, an acre of Wheat can be mowed and stooked in one-third less time than it can be reaped by the same number of hands. Supposing we set on four mowers, the party would require, in addition, eight women; one to follow each mower to remove his swathe, and another to tie—one man to stook the sheaves, and another to rake, and tie up rakings after the stooker; in all six men and eight women. We find these hands would get over six acres a day, taking one crop with another; and that the same hands would reap and tie up four acres per diem. The cost per acre of the mowing we find to be eight shillings, and the cost of the reaping twelve shillings, including the mowing and raking the stubble afterwards, without beer.

"On these data we adopted the mowing system, much to the disgust of sportsmen; but we soon found there were other elements affecting the computation, both as respects economy of time and money. When Wheat has been mowed, we have one-fourth more in quantity to stack; consequently, a much larger surface to thatch. Reaped Wheat is more easily and regularly disposed in the stack, more easily trimmed, and with much less waste of corn in that operation. It is threshed with at least one-fourth less power than mown Wheat, and with less waste of grain. In those cases in which the improved practice of cutting up the straw for litter is adopted, there is a saving of power to the extent of the stubble; and where that is not adopted for want of power, the stubble makes the best manure, as being the most ready absorbent of the urine of the animals. Taking all these matters into consideration, we are advocates for reaping in preference to mowing, with the exception of the small portion of the Wheat quarter on which it may be intended to take Vetches for spring feed before the Turnip crop. This will require to be cleared as soon as possible, and ploughed.

"We have not yet seen any reaping machine by means of which, all things considered, we are convinced that the crop can be harvested more economically and satisfactorily than by ordinary mowing or reaping, assuming hands to be readily obtainable when required at the usual rate of wages, otherwise no doubt the best machines of the present day are useful and economical auxiliaries.

"Barley and Oats, of ordinary growth of straw, will mow to the corn, and tie and stack the same as mown Wheat. If very short, after an unusually dry season, it must be mowed out in the ordinary way. The mowing to, and tying up the Barley and Oats, as compared with the cost of mowing it out in the usual mode, is so much more expensive, looking only to the mere severance of the crop, that we can hardly anticipate the general adoption of the practice. That, however, is a limited view of the question. When the crop is once set up, there is an end of the expense, be the weather what it may. It is carried and stacked in half the time by the same hands, and is delivered to the threshing machine with much less waste. In either a dripping season, or in the event of occasional storms, more or less frequent turnings are avoided, and the consequent staining, and, in the former case, sprouting of the greater portion of the grain. If carefully mowed, gathered, and tied, we have had it, in an unfavourable season, standing set up for some weeks without injury, with the exception of a few heads tied in beneath, or under the band. In fine settled weather, when no rain occurs between the mowing and the stacking, the ordinary plan of mowing out and harvesting is rather the cheapest; but taking one season with another, we believe the other system to be the most economical.

"Peas should never be mowed, but gathered together, just above the roots, by a stick with a curved end, and cut with a sickle, and left in small heaps; and this before the pods are over ripe. After autumn-sown winter Peas, and indeed after Peas of an early sort sown early in the spring, a good crop of the red Nottingham Turnip, or other quick-growing hardy sort, may be obtained in favourable seasons, if the land be clean and in good condition. When the Peas have been sown in the spring, it will be expedient to carry them off, as soon as cut, on to a pasture to dry, to admit of sowing the Turnips as early as possible; as on a few days at this season may depend the success or otherwise of the Turnip crop. If the land be very clean, and in a mild open state, nothing more will be required than taking the scarifier over it to secure a good seedbed. If there be much annual weed, it would be proper to take the harrows over after the scarifier and gather and burn the vegetable matter before the drill. In some states of the land a light ploughing may be necessary.

"Beans are severed in the same mode in all districts, and the only observation we have to make is, that they are generally allowed to stand too long before they are cut, which leads to great waste of the grain. Nothing is more common than to see the ground strewed with Beans, on the mere cutting them, sufficient to seed the ground, to say nothing of the further waste before they arrive on the stack. It is true, the scattered Beans may be picked up by pigs, but they may be fed, at this season, more economically."

## Farm Memoranda.

THE FARM AT AYNHO.—With a view to impress the tenants of an estate in Buckinghamshire with the progress making in farming and the improvements open to them from the use of modern machinery, permission has been obtained from Mr. T. R. B. Cartwright to see the farms at Aynho. His successful sale of Short-horns in 1858 will have made his name familiar to many of your readers; and on Thursday the 14th the party had the pleasure of viewing his fine crops and making their observations upon them. The first crop they saw was a field of Winter Beans sown at Michaelmas, which although suffering from the blight that has this year generally destroyed this description of Bean in the neighbourhood, still had its bottom pods well filled and will afford a fair crop. The Beans were drilled at Michaelmas in rows 30 inches asunder, 1½ bushel of seed per acre, and to the extra air and light the greater width and small quantity of seed have let in them their comparative healthiness is attributed. The land between the drills has been made a perfect fallow by the cultivation it has undergone in the spring, in horse-hoeing and scarifying it has had, and it presents a finely pulverised clean bed ex for the Wheat seed in the autumn without any

ploughing. This crop although damaged is sufficiently good to lead those who saw it to guess its yield at from 4 to 5 quarters per acre. The next field seen was Barley drilled 1 bushel and ½ a gallon per acre on the 16th and 26th of December, and although the two sowings were made so near to each other and at a season of the year when vegetation is supposed to be at a stand-still, the difference between them is very marked, the first being several days forwarder, and so forward that Mr. Wilson, Mr. Cartwright's bailiff, has since informed me he began cutting it the following day, and the first sowing was carried on Monday and Tuesday. The crop must have been an extraordinary one before the late storms, as although much laid the general opinion was that it would still be found to yield over 7 quarters an acre; and the superior quality it presents, notwithstanding that it is so much damaged, shows much in favour of such early sowing. The early crop last year yielded nearly 9 qrs. an acre and realised 43s. per quarter. The next field was half in Mangel Wurzel and half Swedes, in drills 30 inches apart, with the plants set out the Mangels at 2 feet and the Swedes at 18 inches. The leaves already meet. These crops were pronounced to be the most forward and best the party had seen this season. After this came a field of Wheat drilled 12 inches apart and from rather less than 3 pecks of seed per acre. This too is a surprising crop, and although it is much laid, was generally considered as likely to yield 50 bushels per acre. Following this they came to two fields of Oats also drilled 12 inches apart, the quantity of seed planted being only 7 pecks an acre, which were pronounced to promise not less than 10 quarters to the acre; they likewise saw the Clover, a fine plant, from 7 lbs. of seed per acre drilled 12 inches apart; and although it had yielded a crop of hay the drills were no longer visible. In this way might the whole of the two farms be spoken of, for the fields varied very little, but enough has been said to show your readers that with the important advantages from wide drilling in keeping the land clean, and with the economy of fewer ploughings and thinner seedings, the largest crops of corn may be grown. Their attention was then given to the implements by means of which the cultivation is made so perfect and so economical, and they noticed particularly two Scotch hoes in use in the Turnip ground. These are best described in the words of one of the party as being made for first shaving the land and so getting rid of surface weeds, and afterwards for combing it to eradicate Couch, Thistles, Docks, and all root weeds. The action of these two implements has left the ground between the drills of the wide sown crops of Beans, Peas, and roots perfectly clean, with 7 or 8 inches deep of clean dust acted on by the atmosphere and prepared for the next crop. They were then shown Garratt's drill and horse-hoe to match, Finlayson's harrow, Coleman's cultivators, Bentall's scarifiers, and other modern implements that cheaply eradicate weeds and do so much to economise labour; but I will not trespass farther than to say that they all admitted the lesson they had received would be of considerable value to them, and they left with the determination to drill wider, sow less seed, and have recourse more generally to horse-hoes and modern cultivators to keep their land clean and prepare it for the succeeding crop. *Hewitt Davis*, 3, *Frederick's Place, Old Jewry.*

## Calendar of Operations.

JULY.

Wester Ross: *July* 25.—Some eight days after I wrote my plaintive report for last month we had a heavy and continuous fall of rain for 12 hours, which greatly revived the face of Nature and cheered the farmer's heart; and since that time we have had repeated refreshing showers. A large proportion of the growing crop was so far advanced before the rain came that so far as the lengthening of the straw was concerned very little could be done, but, in this respect even, all the later fields have been materially advantaged. Pasture Grass although still very scarce is again becoming green, and Turnips are progressing delightfully. The bulk in our stack-yards will be very small—perhaps one-third less than it has been for several years, and greatly less than it now appears on the ground. The heat was so great, and the drought so protracted that the stalks having hurriedly grown up are small and feckless, and when cut and gathered together will occupy very little room. Admirable crops they are altogether for the reaping machine, for throughout the whole district there is scarcely a bit of laid corn to be seen. Wheat, though far from bulky, is yet the most bulky crop, and will, we believe, according to its bulk thresh out satisfactorily. Having passed the blooming season without any damage, and being now well filled, all the grain if well harvested would be of fine quality. Barley and Oats are far below an average, and will prove very unsatisfactory. The earlier fields are rapidly changing colour, and harvest will commence in the course of three weeks. Potatoes are still looking well, having no appearance of disease. Turnip hoeing is progressing with all rapidity, and the singling will be completed in a few days. There is abundance of work at this season for every woman, old and young, who can handle a hoe.

## Notices to Correspondents.

Cattle Food: *London Agents.* We have not named any manufacturer in our attack upon these costly foods, and you have no claim in justice to be named in any defence of them. The name was purposely cancelled in the paragraph referred to. We cannot recommend our readers to buy any cattle food at 42*l.* a ton, while oilcake, Beans, and Linseed are about one quarter of this price.—In all the letters on this subject which we have received there has been inclosed what is called an analysis of these foods, but it is no such thing. An analysis not only states what things are present in the compound analysed, but how much of each. And it is plain that without information on this point it is impossible to say whether the charge for the article is excessive or not.

Trifolium incarnatum: *N.* You must not cultivate the land deeply for this crop. The shallowest scarifying is all that you need. Mere harrowing if the ground is moist is indeed enough. We would apply the guano and ashes in wet weather after the plant is up.


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A SHOW ROOM DEVOTED ENTIRELY TO ARTICLES OF HORTICULTURE.

THE NEW ILLUSTRATED CATALOGUE UPON APPLICATION.

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| Conservatories | Mowing Machines | Hand-glass Frames | Garden Engines | Flower Sticks |
| Greenhouses | Fountains | Game Netting | ,, Syringes | Garden Bordering |
| Hot-water Apparatus | Ornamental Wire Work | Hurdles | ,, Rollers | Watering Pots |
| Garden Vases | Flower Stands | Garden Chairs | Flower Labels | Garden Arches, &c. |

Iron Hurdles, Strained Wire Fencing, Game Netting, &c.

*Every description of Plain, Ornamental, Cast and Wrought Iron, and Wire Work.*

EXHIBITION PRIZE MEDAL GATES AND ENAMELLED MANGERS.

N.B. COTTAM AND COY. beg to make it known that there is no longer an entrance to their establishment from Oxford Street, but that they have made a second entrance from 2, Winsley Street, Oxford Street, W., by the side of the old entrance to their works opposite the Pantheon.

*DEANE & COMPANY'S*

HORTICULTURAL TOOLS.

GARDEN ENGINES, Galvanized Iron
Prices 55s., 63s., 105s., 120s.
Ditto, Wood, 84s,, 105s, 130s.
Flower Stands, 4s. 6d. each.
Cast Iron Ornamental ditto, to hold 7 Vases, 27s.
Deane's Mowing Machines, with Boyd's Patented Improvements, £4 17s. 6d; £6 6s. 0d., £6 17s. 6d., £7 7s. 0d.
Green House Syringes, 8s., 10s., 18s. 6d
Garden Rollers, £1 14s. 6d., £2., £2 12s.
£3 3s., £3 18s., £4 13s., £5 12s., £7 10s.
Garden Stools, 4s. 6d.
Garden Chairs, from 30s.
Boyd's Self-adjusting Scythe, 10s. 6d.
Wire Work, 18in. 4d. per yard run.

*Every Implement for Garden use on the lowest Terms.*

DEANES:—Opening to the Monument, London Bridge.

ORNAMENTAL GARDENING.

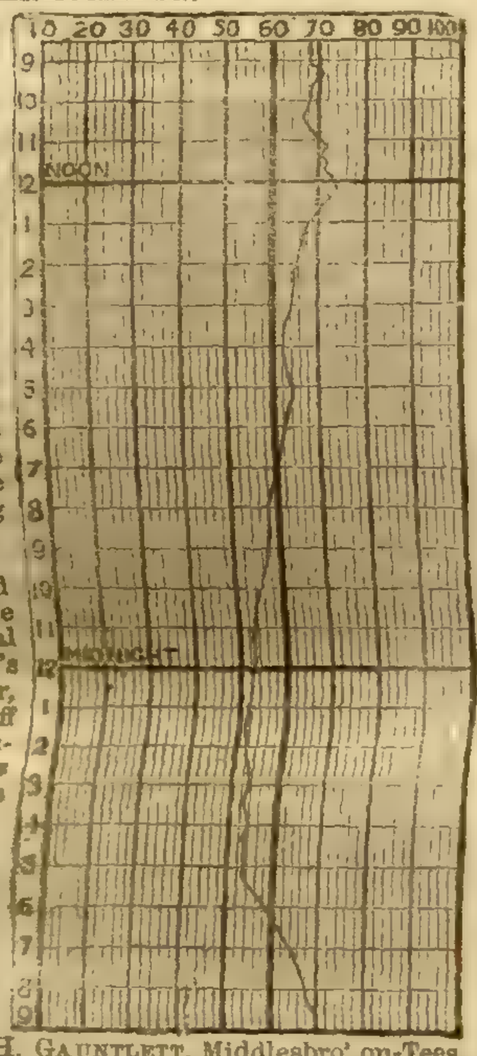
AUSTIN, SEELEY, AND CO. respectfully invite the attention of the Nobility and Gentry to their large FLOWER BASINS or "PORTE-FLEURS," of which they have now some handsome designs, from 7 to 20 feet diameter.

Fountains of every description, Vases & Figures for Gardens, and Ornamental Balustrading.—370 to 375, Euston Road, N.W.

TO HORTICULTURISTS.

GAUNTLETT'S PATENT CHRONOMETRICAL THERMOMETER.

This instrument, which combines an eight-day clock of the best English make showing time, with a newly-patented Thermometer, wherein glass and quicksilver are dispensed with, writes down the temperature of the atmosphere on a slip of paper, and when placed in a Hothouse, Forcing House, or Conservatory, &c., supplies a valuable record of the temperature, with all its variations, showing the time when any change took place, and how long such change continued.

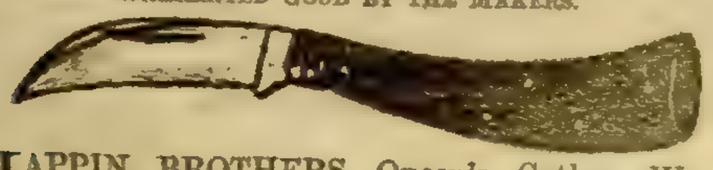



The above slip (reduced in size) exhibits the temperature of the Royal Agricultural Society's show yard at Chester, July 22, 1858, written off by one of these instruments, to which was awarded the Society's SILVER MEDAL.

*This is the only instrument that registers temperature continuously and writes it down, and no horticulturist should be without it.*

Orders received by W. H. GAUNTLETT, Middlesbro' on-Tees.

MAPPIN'S PRUNING KNIVES IN EVERY VARIETY.
WARRANTED GOOD BY THE MAKERS.



MAPPIN BROTHERS, Queen's Cutlery Works, Sheffield; and 67 & 68, King William St., London, E.C.

MAPPIN'S "SHILLING" RAZORS Shave well for Twelve Months without Grinding.

MAPPIN'S 2s. RAZORS Shave well for Three Years.

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MAPPIN'S SUPERIOR TABLE-KNIVES maintain their unrivalled Superiority—handles cannot possibly become loose—the blades are all of the very first quality, being their own Sheffield manufacture.

| | Tole. Kns. | Dst. Kns. | Carvers. |
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| Ivory 3½ in. Handle, balanced, | 20s. p. doz. | 16s. p doz. | 6s. p. pair |
| Do. 4 in. do. .. | 25s. ,, | 18s. ,, | 9s. ,, |

MAPPIN'S SILVER-PLATED DESSERT KNIVES and FORKS, in Mahogany Cases.

| | | |
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| 12 Pairs Knives and Forks, | Ivory Handles, in Case.. | 80s. |
| 12 Do. | Pearl Handles, do. .. | 120s. |
| 12 Do. | Silver-Plated Handles, do. .. | 80s. |

MAPPIN'S ELECTRO-SILVER PLATE.—MAPPIN BROTHERS, Manufacturers by Special Appointment to the Queen, are the only Sheffield makers who supply the consumers in London. Their LONDON SHOW ROOMS, 67 and 68, King William Street, London Bridge, E.C., contain by far the largest STOCK of ELECTRO-SILVER PLATE in the World, which is transmitted direct from their Manufactory, Queen's Cutlery Works, Sheffield.

| | Fiddle Pattern. | Double Thread. | King's Pattern. |
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| 12 Table Forks, best quality | £1 16 0 | £2 14 0 | £3 0 |
| 12 Table Spoons, best quality | 1 16 0 | 2 14 0 | 3 0 |
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Messrs. MAPPIN BROTHERS respectfully invite buyers to inspect their unprecedented display, which, for beauty of design, exquisite workmanship, and novelty, stands unrivalled. Their Illustrated Catalogue, which is continually receiving addition of New Designs, sent per post on receipt of 12 stamps.—MAPPIN BROTHERS, 67 & 68, King William Street, London Bridge, E.C; Manufactory, Queen's Cutlery Works, Sheffield.

B. SAMUELSON,

AGRICULTURAL ENGINEER AND MACHINIST,

76, CANNON STREET, WEST, LONDON; WORKS—BANBURY, OXON;

INVITES the attention of Agriculturists to his IMPROVED DOUBLE-ACTION HAY-MAKER (Price 13*l.* 13*s.*).

This Machine is guaranteed against breakages in fair usage.

SAMUELSON'S IMPROVED HORSE RAKES.

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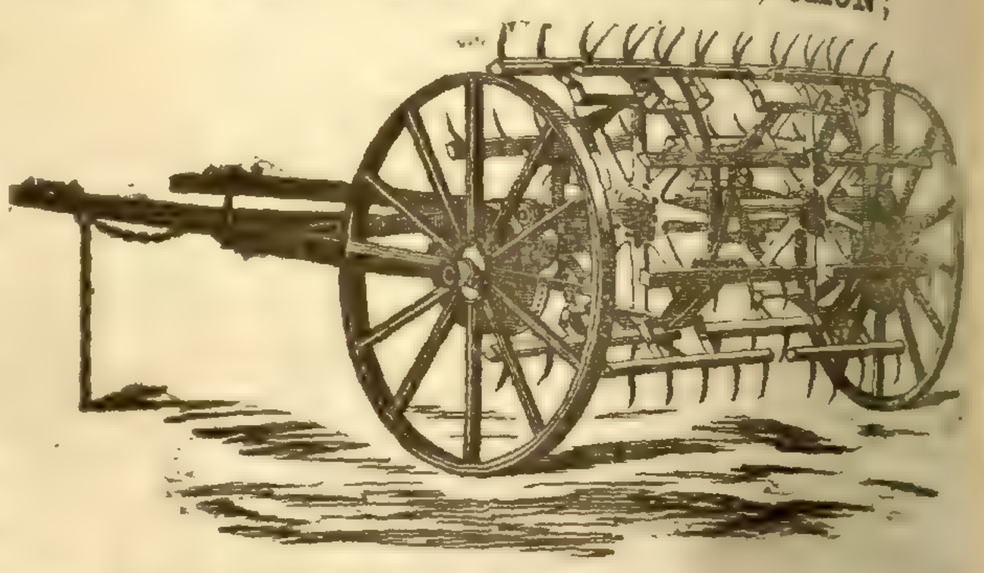
| No. 3, extreme width, | 7 feet 6 ins. | £7 10 0 |
| No. 4, ,, ,, | 8 feet 6 ins. | £8 0 0 |

Steeled Teeth, 10*s.* extra.

SAMUELSON'S PATENT BRITANNIA SELF-RAKING REAPING MACHINE, with side delivery in sheaf (requires no rakers or gatherers), price 32*l.* 10*s.* at the Works, Banbury; 34*l.* in London.

SAMUELSON'S BOYD'S PATENT LAWN MOWING AND ROLLING MACHINES. The only Machine that will cut WET as well as dry Grass. Price, from 4*l.* 17*s.* 6*d.* to 13*l.* 13*s.*



SAMUELSON'S PATENT PRIZE GARDENER'S DOUBLE ACTION TURNIP CUTTER, with the new Patent improvement for separating the dirt and small chippings from the clean and useful pieces.

SAMUELSON'S PRIZE CHAFF CUTTERS, MILLS, CAKE BREAKERS, and food-preparing Implements of every description; also HARROWS, FIELD ROLLERS, CLOD CRUSHERS, &c.

The above may be obtained at

B. SAMUELSON'S Works, Banbury, Oxon; London Warehouse, 76, Cannon Street, W.

GREENING & COMPANY'S

PATENT WIRE FENCES.

PATRONISED BY HIS ROYAL HIGHNESS THE PRINCE CONSORT.

No. 11 variety, Strong Poultry and Chicken Proof Fence.

SPECIFICATION.—Horizontal bars of stout tough wire 6 inches apart. Meshes at the foot of fence 1 inch apart; at the centre of fence, 2 inches; at the top of fence, 4 inches.

"By far the most elegant and durable wire fencing that has come under our notice. Below it is sufficiently fine to be proof alike against the ingress of rats and the egress of chickens, and being spiked above it affords no resting-place for the fowls, who consequently do not attempt to fly over it."—*Poultry Book.*

PRICES PER YARD:—

| | | | | | | |
|---|---|---|---|---|---|---|
| 3 feet high, | 1s. 6d. | japanned; | 1s. 10d. | galvanised. |
| 4 ,, | 1 11 | ,, | 2 4 | ,, |
| 5 ,, | 2 3 | ,, | 2 9 | ,, |
| 6 ,, | 2 6 | ,, | 3 0 | ,, |

G. & CO.'S NEW ILLUSTRATED CATALOGUE is now ready.

It contains descriptions of the above and other Iron and Wire Fences for Parks, Farms, Gardens, Game Preserves, Poultry Courts, &c.

Post free on receipt of stamp.

GREENING & Co., Victoria Iron and Wire Works, 81, Oxford Street, Manchester.

ST. PANCRAS IRON WORKS,

OLD ST. PANCRAS ROAD, N.W.

IRON HURDLES, FENCING, AND GATES.

THE PROPRIETORS OF THE ST. PANCRAS IRON WORKS, OLD ST. PANCRAS ROAD, LONDON,

WERE AWARDED THE

SILVER MEDAL of the Royal Agricultural Society for their IRON HURDLES & GATES

which, by their peculiar construction, are more than twice as strong and durable as those in ordinary use.

Lists per post on application. Gates from 30*s.* to 500*l.*

The Hurdles can be seen in process of Manufacture at the Works.

GAME WIRE NETTING.

Professor Varnell's Enamelled and Wrought-iron Stable Fittings.

These Patent Mangers and Stable Fittings obtained the Commendation and the Silver Medal of the Royal Agricultural Society of England and the Royal Agricultural Society of Ireland, are adopted by the Royal Veterinary College, and Professor Spooner of that Institution states that they should be used by all who value the health and comfort of their horses. They can be had plain, galvanised, or enamelled.

A Show Room is devoted entirely to every description of Stable Furniture, and full-sized stalls and loose boxes are erected for inspection at St. Pancras Iron Works.

ADDRESS—THE MANAGERS,

ST. PANCRAS IRON WORKS, OLD ST. PANCRAS ROAD, LONDON, N.W.

OPPOSITE OLD ST. PANCRAS CHURCH.

## BUCKLAND SWEETWATER GRAPE.

MESSRS. IVERY AND SON, of Dorking and Reigate Nurseries, feel great pleasure in introducing this fine early WHITE GRAPE, and beg to intimate that they will commence sending out Plants on October 1, in strict rotation, as the orders are received. Price 21s. and 31s. 6d. each.

It received the Premium offered by the Pomological Society for the best Sweetwater Grape, and having a Muscat flavour, Sept. 9, 1856; also at Exeter, Prize and Crystal Palace Exhibition, Sept. 8 and 9, 1858; and it is recommended by many Gardeners who have seen it growing and tasted the fruit. For the information of those who have not seen this Grape, J. I. & Son beg to say that they have issued a Circular containing the various periodical reports, and also the names of the Gardeners by whom it is recommended, which they will be pleased to forward on application.—Dorking Nursery, Aug. 6.

## RARE HARDY CONIFERS—PICEA (ABIES) AMABILIS, TRUE; PICEA (ABIES) GRANDIS, TRUE.

HUGH LOW AND CO. have great pleasure in announcing that they have this season been successful in obtaining, from Seed imported by them direct from California a large supply of Plants of the above named most beautiful and thoroughly hardy Conifers. They are without exception two of the finest and most ornamental trees yet known to Botanists, and attain in Northern California a height of from 250 to 300 feet. Their perfect hardiness and adaptation to the climate of this country have been proved beyond a doubt, but as the present true Seedling Plants have been rarely to be obtained, the quantity now raised being considerable, H. L. & Co. have decided on offering them by the dozen and 100 at such low prices as will induce lovers of hardy trees to plant them in large numbers. Prices can be had on application; as also of Seedling Plants of Cupressus Lawsonii, C. macrocarpa, C. Goveniana, C. M'Nabiana, Picea Pinsapo, P. Nordmanniana, P. Pindrow, P. nobilis, Abies Menziesi, A. cephalonica, A. Douglasi, both from Californian and Scotch seeds; A. Mertensiana, (taxifolia of Jeffrey), A. Williamsoni (Puttoni, Hookeriana), A. orientalis, Araucaria imbricata, Cedrus Deodara, Cedrus Atlantica (argentea), Cryptomeria japonica, C. Lobbi, Pinus Benthamiana, P. excelsa, P. insignis, P. Don Pedri, P. Pallasiana, P. Sabiniana, P. macrocarpa, P. Edgariana, P. Jeffreyi, P. Monticola, and many others; Podocarpus andina, P. nubigena, Thuja gigantea (Libocedrus decurrens); Thuja Lobbi (Menziesi), Torreya grandis, Wellingtonia gigantea, and many other fine Coniferous plants.—Clapton Nursery, London, N.E.

## J. CARTER AND CO.'S Select LIST OF CHOICE FLOWER SEEDS FOR PRESENT SOWING,

will be found on page 603 of *Gardeners' Chronicle* of July 16.

238, HIGH HOLBORN, London, W.C.

## CARTER'S CHAMPION CUCUMBER

surpasses Sion House and Lord Kenyon's Favourite for winter and early spring use. Smooth, dark green, straight, and prolific; average length, 1 foot. Price per packet, 1s.

J. C. & Co. do not hold themselves responsible for the genuineness of the above unless obtained direct from 238, High Holborn, London, W.C.

CALCEOLARIA, 1s., 2s. 6d., 5s.
CINERARIA, 1s., 2s. 6d., 5s.
PRIMULA SINENSIS FIMBRIATA, 1s., 2s 6d., 5s.
} All the same quality.

JAMES CARTER AND CO. beg leave to offer Seeds of the above of *the past's harvesting*, saved from SEVERAL SELECTED COLLECTIONS, and they can with confidence recommend them as being of first-rate quality, both for form, colour, and variety.—JAMES CARTER & Co., Seedsmen, 238, High Holborn, London, W.C.

## CHOICE SEEDS

MESSRS. PARKER AND WILLIAMS beg to inform their friends and patrons that they can now supply the following choice SEEDS, all of which are warranted genuine and of the finest quality.

| | Per packet—s. d. | | Per packet—s. d. |
|---|---|---|---|
| Calceolaria, herbaceous | 2 6 | Primula sinensis, mixed | 1 6 |
| Cineraria from named vars. | 2 6 | Pansy, from named vars | 1 0 |
| Hollyhock, from named vars. | 0 6 | Sweet William, from extra fine vars. | 0 6 |

Paradise Nursery, Seven Sisters and Hornsey Roads, Holloway, London, N.

## NEW HYBRID RHODODENDRONS.

ISAAC DAVIES, LARKFIELD NURSERY, Wavertree, near Liverpool, begs respectfully to draw the attention of the admirers of Winter and Early Spring flowering Plants to the undermentioned handsome and novel HYBRID RHODODENDRONS, which were raised by him five years ago from R. atrovirens, hybridised with ciliatum, and which have proved perfectly hardy, having been grown two years in the open ground without being in the smallest degree injured by frost. The Plants form beautiful bushes, with dark green leaves, about the size of the Myrtle; in the open ground the flowers, which are produced in great abundance, expand about the end of March, and are as large as a moderate-sized Indian Azalea, and of the colours given below. These Plants will be found invaluable for forcing, from the fact that they may be got in flower at any time desired in the winter months, merely by placing them in a greenhouse or cold frame. The flowers last more than three weeks after expansion, and from the peculiar odour of its foliage, which it inherits from the mother parent, not a green fly will live upon it. A plant in flower was sent to London, where it was seen by Messrs. H. Low & Co., Waterer & Godfrey, and other leading Nurserymen, from whom I received very flattering opinions of its merits, which are sanctioned by the Certificates of that distinguished Rhododendron grower and raiser, Mr George Cunningham, and Mr. James Grant, who saw the entire stock in bloom, of which the following are correct copies:—

"Old Vale Nursery, Old Swan, near Liverpool,
"March 12, 1859.

"Dear Sir,—You wish to have my opinion of your Hybrid Rhododendron, raised between atrovirens and ciliatum, and which you call Precox. I have much pleasure in saying that I think it a handsome and successful cross, showing both parents very distinctly; its compact habit of growth, and its blooming so abundantly at this season of the year will make it an attractive acquisition to our early flowering plants, whether for the open ground or the conservatory.

"I am, dear Sir, yours faithfully,
"Mr. Isaac Davies. "GEORGE CUNNINGHAM."

"Olive Mount, Wavertree, March 10, 1859.

"Dear Sir,—I consider your Rhododendron Precox and its varieties the most novel and handsome hardy hybrids that have been raised for many years. They will be invaluable as Forcing Plants for winter blooming, and the most attractive early spring Flowers out of doors.—I am, dear Sir, yours respectfully, "JAMES GRANT, Gr. to A. S. Gladstone, Esq.

"Mr. Isaac Davies."

Well-established Small Plants, on own roots, will be ready for delivery early in September next, at the prices given below, under the following names:—

| | s. d. |
|---|---|
| RHODENDRON PRECOX, rosy lilac | 10 6 |
| " ,, ROSEUM, pale rose | 15 0 |
| " ,, SUPERBUM, rose, shaded with pink | 15 0 |
| " ,, RUBRUM, deep pink | 21 0 |

The Trade will be allowed one plant over with every three taken of the same variety. A few larger plants of all except rubrum can be supplied at proportionately higher prices.

A Drawing, by Mr James Andrews, of the variety superbum, which differs very little from the others except in colour, may be seen at the Nurseries of Messrs. H. Low & Co., Upper Clapton, N.E.; Waterer & Godfrey, Knap Hill, Woking; E. G. Henderson & Son, St. John's Wood, N.W.; Rollisson & Sons, Tooting; William Wood & Son, Maresfield; Fisher, Holmes, & Co., Sheffield, and at the Nurseries of all extensive Rhododendron growers.

A CATALOGUE of all the best proved kinds of RHODODENDRONS and HARDY HEATHS is now ready and may be had on application.

# CALCEOLARIA, CINERARIA,

AND

## PRIMULA SINENSIS FIMBRIATA,

Of first quality, in seed packets, 2s. 6d. each.

## SPERGULA PILIFERA,

The admirable substitute for Grass in forming Lawns, &c., REQUIRING NO MOWING. Seed packets, 6d., 2s. 6d., & 5s.

E. G. HENDERSON & SON, Wellington Nursery. St. John's Wood, London, N.W.

# NEW STRAWBERRY, "OSCAR."

## CHARLES TURNER,

HAVING purchased the entire stock of this fine Strawberry, is prepared to receive orders for the same at 12s. per 100. Strong plants will be ready on the 20th August.

"Oscar" was submitted to the Fruit Committee of the Horticultural Society, July 5, 1859, accompanied by the following statement:—"The plant is strong and healthy, and bears better than the British Queen in our soil, which is very strong. The fruit will attain a larger size than those sent, the best having been gathered about a week ago. The fruit appears ripe several days before it actually is so. I cannot exactly state its parentage, as I gathered seed of British Queen, Keens' Seedling, and Alice Maud, and saved all together." The Committee reported on its merits as follows:—"Fruit large, ovate, frequently flattened on the sides, or cockscomb shaped; shining dark red, flesh firm, flavour superior, remarkably sweet, with a brisk aroma; it was considered a valuable variety worthy of cultivation."

A silver medal was awarded to it by the Royal Botanic Society, June 15, 1859. It was again exhibited at the last exhibition of this Society, July 6. The *Gardeners' Chronicle* thus speaks of it:—"Of seedlings the best was 'Oscar,' the merits of which may now be considered established. It is certainly the best flavoured of the large kinds, and being a great cropper, must soon find a place in every garden."

It received the prize given for the best seedling Strawberry by the Pomological Society, June 23. In the report of this excellent Society it is thus described:—The premium of One Guinea was awarded to a dish of 'Oscar,' exhibited by Mr. Bradley (the raiser), Gardener to W. F. N. Norton, Esq., of Elton Manor, near Nottingham, in very fine condition. This fruit is very large, ovate, angular, and frequently cristate, but rarely flat or wedge-shaped; seeds rather large and deeply imbedded; colour very dark, becoming deep mulberry when fully matured; flesh red throughout, solid, firm, and juicy; flavour very rich and fine when quite ripe, apparently near in affinity to Sir Harry, on which it was considered an improvement. Particular notice was taken of its firm and solid qualities, which augured well for its powers of enduring package and carriage. The above dish afforded good evidence of this, as the fruit itself was firm, plump, and uninjured, although it had travelled from Nottinghamshire; and, in consequence, the footstalks and calices were dry and withered. It was reported to be a great cropper, next in earliness to Cuthill's Black Prince, and some days earlier than Keens' Seedling."

In a collection of Strawberries exhibited by C. TURNER at the same meeting, it is thus further alluded to in the Society's report:—"The most remarkable variety in the collection was 'Oscar,' a seedling exhibited for the first time last year, when high encomiums were passed on it; and this year's examination has fully borne out the former impression. It was however exhibited by the raiser (who is understood to have supplied plants to Mr. TURNER only) in the seedling class, in which place it will be fully described."

It also received the First Prize for best dish of Strawberries at Nottingham, June 30. It will be seen from the above that it is a Strawberry of long duration, having been shown this season from June 15 till July 6. It was however in fine condition, June 10.

"Oscar" is strongly recommended, and will be found to be one of the best for early forcing.

A Coloured Plate, by Andrews, may be had free by post for 12 postage stamps.

## The following most successful Fruit Growers have already ordered Plants:—

Bailey, Mr. Thomas, Shardiloes Gardens, Amersham
Bailey, Mr. H., Nuneham Park
Bousie, Mr., Stoke Park Gardens
Beale, Mr. T., Walton Wood Hall Gardens, Ware
Constantine, Mr. H., Hillingdon Court Gardens
Dodds, Mr., the Gardens of Col. Baker, Salisbury
Dodds, Mr. Geo., Cooper's Hill Gardens, Englefield Green
Drewett, Mr. J., Denbies, Dorking
Elsworthy, Mr., the Gardens of R. J. Gilman, Esq., Bishopstoke
Forsyth, Mr., Gunnersbury Park Gardens, Acton
Frost, Mr., Preston Hall Gardens, Maidstone
Hill, Mr., Keele Hall Gardens
Ingram, Mr., the Royal Gardens, Frogmore
Ingram, Mr., the Gardens of J. J. Blandy, Esq., Reading
Judd, Mr., Althorp Park Gardens, Northampton
Knight, Mr., the Gardens of H.R.H. the Duchess of Kent, Frogmore
Lawrence, Mr., Farnham Castle Gardens
Little, Mr., the Gardens of A. Darby, Esq., Stoke
Parsons, Mr., Danesbury Park Gardens, Welwyn
Spencer, Mr., Bowood Gardens, Calne
Snow, Mr., Wrest Park, Ampthill
Watt, Mr., the Gardens of J. J. Colman, Esq., Cannon House, Norwich
Whiting, Mr. J. B., the Deepdene
Widdowson, Mr., Rickmansworth

## C. TURNER can also supply the following Select Varieties:—

Adair (Elphinstone).—Handsome fruit, second class in flavour
Admiral Dundas (Myatt).—Large fruit, heavy crop, second class in flavour
Black Prince (Cuthill).—Early, small, but good cropper
British Queen (Myatt).—Fine
Caroma superba (Kitley).—Extra fine
Crimson Queen (Myatt).—Very large, great cropper, and fine late variety
Elton Pine.—Late
Filbert Pine (Myatt).—Extra fine flavour and heavy cropper, not large, but good late variety
Prince of Wales (Ingram).—Fine flavour and handsome fruit
Sir C. Napier (Smith).—Large, very heavy crop, good for general purposes
Sir Harry (Underhill).
Wonderful (Jeyes).—Remarkably heavy cropper, second quality: also many other varieties.

## THE ROYAL NURSERIES, SLOUGH.

## SPLENDID NEW VARIEGATED FERN, PTERIS ARGYRÆA (MOORE).

JAMES VEITCH AND SON have peculiar satisfaction in calling attention to the above-named most striking novelty, which is undoubtedly one of the greatest acquisitions of recent introduction to our now justly popular collections of Ferns.

It is of *noble aspect* and free growth, perfectly distinct and novel in its character, the pinnæ on every frond as well as their branches having a broad central stripe of glistening silver, which, in contrast with the bright green, produces a most charming effect. It may justly be called

THE VARIEGATED FERN.

It was exhibited at the Royal Botanic Garden on July 6, and before the Horticultural Society's newly appointed Floral Committee on July 7, and in both cases received the highest Prizes given to such novelties, and was universally admired.

Established Plants, 31s. 6d. each.
The usual allowance to the Trade.
Royal Exotic Nurseries, Exeter and Chelsea.—August 6.

## BUSBY'S STOCKWOOD COLDEN HAMBURGH GRAPE.

JAMES VEITCH, JUN., in again offering fine established Vines of this Splendid GRAPE at the prices noted below, begs to call attention to the Reports of the Horticultural Society's Fruit Committee in the *Gardeners' Chronicle* of the 16th and in the "Cottage Gardener" of the 19th inst. The beautiful specimens exhibited on this occasion in competition for J. V., jun.'s Prize of Five Guineas incontestably prove it to be a fruit of first-rate excellence.

Price 5s. to 10s. 6d. to 21s each, according to size and strength.

Special terms will be furnished to the Trade when Vines are required in quantity.

Royal Exotic Nursery, Chelsea, S.W.—August 6.



# The Gardeners' Chronicle.

*SATURDAY, AUGUST 6, 1859.*


SEVERAL communications have lately reached us inquiring whether it is safe to make some alterations, including the removal of shrubs, during the month of August. Probably the best answer that can be returned is the statement of a case that occurred last August, a very hot, dry, dusty month, during which the heat of the earth at 2 *feet below the surface* was never lower than 62° and was sometimes as high as 63½°.

It then chanced that a gentleman, wearied with London, sought refuge in a little garden not a hundred miles from Hyde Park Corner. He found there a lawn, which he desired to rearrange, some American plants in ill health and ill placed, some

bushes that were in the way of all improvement, and some ground that good taste claimed as the site of a new plantation. Being a man of action, and knowing the value of time to one who might be any day recalled from a vacation holiday he summoned his gardener, explained his intentions, ordered labourers to be engaged, and the work to proceed on the following Monday. The gardener, a man of sense without conceit, not having experience in August planting, raised no objection (he knew indeed that it would be useless to do so), and was ready at the time appointed.

Down went old bushes; up went old roots; Thorns, the glory of the place, but which would allow nothing to be seen except themselves, fell before the axe and mattock. All worked bravely on and ground was cleared. Then came the pinch. A great bed of Rhododendrons and similar plants had to be rearranged. To do this it was necessary to dig them up, and keep them waiting till their new bed could be prepared. The sun seemed to blaze hotter and hotter, not a shower would lend its assistance, even dews denied themselves, and no better shade for the exposed roots than mats and other bushes could be found. Nevertheless the master was resolved; the ground, he said, from which they were taken was already baked, and a little more drying would do the roots no harm. So up came Rhododendrons and Azaleas, and there they stood like criminals waiting for execution, for two long days. At the same time turf was pared, rolled up, and carried off till time could be found to relay it.

While this was going on an ancient gardener of great practical knowledge chanced to pass. "Aha!" cried the experimentalist, "What do you say to this, Mr. TUBER? You see we are not afraid of the sun in this part of the country."—"Say, sir!" answered the old man; "I should say that every plant will die. How can you expect them to live after transplanting in weather like this? And as for the turf, it is of no use to lay that down again; why, it's dead already, or as good." Cold comfort this for our London friend! But he was a man who had learnt while a schoolboy not to tie his belief to the coatskirts of even his schoolmaster; and as he grew to manhood he became more and more addicted to forming an opinion for himself. So, his only reply to Mr. TUBER was, "Well, my *good friend, we shall see.*"

*The new ground was at last made ready and soaked with water. The Rhododendrons and* Azaleas were replaced on the damp bottom; earth was thrown loosely over their roots till they were thoroughly covered, and then another soaking was given. For this purpose the water was fetched from a warm, stagnant, and not quite fragrant ditch. No treading was allowed; but over the earth, when soaked for the second time, 3 or 4 inches of finely-sifted peat and burnt clay were loosely scattered.

Then came the relaying of the turf. Dry enough it was, and spoiled in appearance. But turf is like a body corporate, its vitality is wonderful, and soon aroused, though it looks like death. So the ground was levelled, well watered, just dressed with a sprinkling of guano, and the turf unrolled; after which the turf was itself watered, and covered with old mats for the next few days. Here and there, where it did not seem to lie comfortably, it was fastened down with wooden pegs.

As soon as this work was over a new bed for Roses and small flowering shrubs was prepared, of nothing but burnt clay and charred rubbish, well sifted and mixed. Into this went stumps of Yuccas just cut off, little Pampas Grasses out of pots, Roses from cutting pots, and things of a similar nature. By the end of August all was over. Mats were withdrawn from the turf, water withheld from the Rhododendrons, and the future left to nature.

We have been looking at the result; and quite regret that our ancient friend was not with us. Not an inch of turf died; on the contrary, it has grown faster than ever. Of all the Rhododendrons and Azaleas, now vigorous enough to satisfy a Bagshot man, one only is dead, and of that the head was cut off before being put into his August bed. The Pampas Grasses are 4 feet in diameter, and the only loss has been among some Roses bought in a neighbouring nursery, the roots of which had grown through their pots and been broken off in removal. Of these some are just alive, and some doing pretty well, but several have been thrown away by our impatient experimental friend, who would not wait till they recovered, but replaced them long since with healthy specimens.

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WE learn with very great pleasure that the Parliament of the Cape Colony has just granted the sum of 300*l.* *as a first instalment* towards defraying the expenses of Dr. HARVEY'S valuable FLORA CAPENSIS (see our last volume p. 543); and it is understood that the grant will be extended, as the work advances, at the rate of 150*l.* per volume. The wise liberality of acts like this will be appreciated by men of science in all old countries, and will, we trust, be imitated in all new colonies, to whose prosperity nothing more conduces than an accurate knowledge of their vegetable productions. Governor Sir GEORGE GREY, and the chief Colonial Secretary Mr. RAWSON RAWSON, have thus, as by many another act of political wisdom, shown how worthy they are to be intrusted with the destinies of so vast and important a region as that which now lies under the control of the South African Government.

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Upon inquiry yesterday at the office of the HORTICULTURAL SOCIETY, we were informed that the subscriptions to the proposed new garden at Kensington Gore already amount to something more than 23,000*l.*

## New Plants.

220. CHAMÆBATIA FOLIOLOSA. *Bentham in Plantæ Hartwegianæ, p.* 308.

Of this pretty little novelty lately introduced by Messrs. Veitch, we find the following account by Dr. Torrey in his *Plantæ Fremontianæ*, where there is a figure:—

"HAB.—Higher parts of the Sierra Nevada, as well as on the sides of the foothills; in great abundance: Colonel Frémont. Mountains of the Sacramento: Mr. Hartweg and Mr. Shelton.

"A shrub, growing from 2 to 3 feet high, of agreeable balsamic odour, with very smooth bark, and numerous upright branches; the young twigs clothed with a glandularly pubescent epidermis, which easily separates. The leaves are broadly ovate in outline, about 2 inches long, tripinnately dissected; the ultimate segments oval and obtuse, scarcely half a line long, hispidulous-pubescent, each tipped with a minute gland. Stipules minute, adnate to the petiole. The cymes are four-five-flowered, and terminate the young shoots: each pedicel is subtended by a foliaceous bract, which is toothed or pinnatifid. The flowers are about $\frac{3}{4}$ of an inch in diameter. Externally the calyx is glandularly pubescent, and the inside of the tube is densely woolly. The petals are white, obovate, emarginate, with a very short claw. There are 50 or more stamens, the filaments of which are inserted in several series in the throat of the calyx. The pollen is obtusely triangular. The ovary is ovoid; one-celled, with two collateral and erect ovules, which arise from the base of the cell; style as long as the stamens, nearly straight, and with a longitudinal stigmatose fissure or groove on the inside (as in Cercocarpus). Achenium oblong, compressed, almost wholly enclosed in the persistent and membranaceous calyx, apiculate with the base of the style. The seed is erect, with amygdaloid cotyledons, and a short inferior radicle.

"The foliage of this plant is so different from that of most other Rosaceæ, that it was at first taken for a Mimosa or Acacia. It clearly belongs to the subtribe Cercocarpeæ, *Torr. & Gr.*, although it differs in its valvate calyx. The æstivation of Cercocapus is difficult to determine, as the calyx is open in the very young flower-bud, and the teeth are very short; it seems, however, to be imbricated. The characters of the subtribe Eudryadeæ must be altered, for the calyx in Cowania (described by Don, Endlicher, and Zuccarini as valvate) is certainly imbricate in all the species. Dr. Engelman noticed this character in his genus Greggia (which is Cowania plicata, *Don*, and C. purpurea, *Zucc.*) There will be nothing therefore to distinguish the subtribes, as they now stand, but the number of ovaries in the flower, which being a character of no great importance, they may be united; and then Cowania will stand next to Purshia, to which it is very nearly allied in habit."

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## THE AQUARIUM.

WE lately received the following question from a fair correspondent:—"How am I to make an Aquarium? Some people tell me nothing is easier, and when I ask how do they manage to get a change of water, they answer, 'We have not changed ours for two years.' The only experience I ever had was anything but successful; for what with the difficulty of getting the Sea Anemones off the rock without tearing them, carrying home large stones and pieces of rock, and a plentiful supply of water, and then establishing them in their new home, it was no easy matter. Being a novice and not knowing the right way (for they say there is a right and a wrong way of doing everything), the water quickly became thick and disagreeable, and the animals closed and looked very sick and ill; supposing them to be dead or dying, I weeded them out one by one, and trudged a mile and a half for a fresh supply of water. I watched them in the most careful manner, but despite all my endeavours, the water again became so offensive and unsightly that instead of being a pleasure, they became a perfect nuisance, and in disgust I threw them all away. I bought a little book highly spoken of, which professed to teach any one and every one a simple way of making an Aquarium, but alas! the directions were so tiresome and tedious, I abandoned the idea in despair. For instance, it advised pieces of rock being cemented together and then left many weeks in order to get rid of any smell there might be; such tedious preparations quite disheartened me—surely there must be a simpler method of making an Aquarium."

To this another lady, deeply skilled in the mystery of the matter, and who does not know what failure is, has supplied the following really valuable practical reply.

I am one of a large family party, who in common with all the London world, *i.e.*, with all who have the means, leisure, and opportunity so to do, have taken refuge from London heat and dust at the sea-side, and are now in the enjoyment of cooler and purer air, and more healthful and natural sources of pleasure than the crowded metropolis can afford at this season of the year to the most energetic pleasure-seeker.

At a quiet little fishing town on our north-eastern coast, the attractions of which, though long appreciated and enjoyed by the inhabitants of this northern county, have but recently become known to those of London, the days of our summer holiday pass pleasantly and not unprofitably in the observation and enjoyment of nature, and of life in all its forms. Whether we look out over the blue waters of the bay to the distant horizon, and watch the ever-varying aspect of sea and sky, as we breathe the fresh air which comes to us cooled and purified by its passage across the German Ocean—or wander sketchbook in hand amongst the picturesque groups that gather around the fishing boats on the sands below, or pick our way along yon reef of rocks that stretches far away into the sea, forming the northern extremity of the bay, and search for the marine treasures hidden low down amongst its nooks and crevices, or enriching the pools left by the retreating tide—objects of interest surround us on every side, and reward our patient search. It is true this northern shore cannot boast of the rarities which attract the naturalist to the coast of South Devon, but marine animals of the commoner sort are to be found here, with a rich variety of sea-weeds. We have already replenished our Aquarium with Anemones, Periwinkles, tiny Crabs, and some of those beautiful little jelly-like Medusæ so delicate and ornamental in their form, and so delicious in flavour, if we may judge by the avidity with which the Crabs seize and devour them when placed within reach of their greedy claws. This Aquarium has been to us a never-failing source of amusement and interest ever since the difficulties attending its first establishment have been successfully surmounted, and it has been suggested to us that a simple record of facts with regard to its formation, with some account of our failures and subsequent success, might not be uninteresting to your readers. But first I must premise, that the small amount of knowledge we possess being rather practical than technical, we write for the uninitiated. We are as yet but students of the alphabet of marine science, very cautious experimental philosophers, who have as yet taken but the first step in the inductive process—that of collecting materials for observation and experiment. We have hitherto made no startling discoveries, nor thrown light upon any remarkable phenomena previously unexplained; but our success so far as we have gone has been most encouraging to ourselves, and may perchance prove equally so to others.

In the month of January, 1857, a friend passing through London left a small Aquarium in our charge, the materials for which had been collected at Sandgate, and consisted of a few specimens of the common Sea Anemone (Actinia Mesembryanthemum), a small Hermit Crab, two Periwinkles, and three or four fragments of rock, on which were growing plants of the green Laver and of the common Coralline, all contained in a small bell glass, the bottom of which was well covered with carefully washed shingle stones. For some weeks plants and animals grew and flourished; when sudden suspicious black stains appeared upon one of the rocks and the Seaweed seemed to be rotting away from the surface; the water became thick and muddy, and the aspect of things appeared altogether most discouraging. No time was to be lost, so out went all the rocks on a tray, the animals having been safely deposited in a basin, and all set to work cleaning and scrubbing and scraping, till the decayed parts had been completely removed, and then rocks and shingle were left exposed to the air until all traces of the fatal presence of sulphuretted hydrogen had disappeared; and the water having been well filtered and syringed to restore its lost purity, we started afresh, hoping all our troubles were at an end, and that such a disturbance might not again occur. Soon afterwards having added a few more specimens to our collection—amongst others, two Actinia Bellis and an Actinia Dianthus—we purchased for the reception of our increased stock a larger glass with flat bottom and cylindrical sides, and returned the bell glass to its owner, who had kindly transferred to us all right to its original contents. This new glass was filled with fresh sea-water from Dover—and with varying success, and several repetitions of the cleaning process above described, the necessity for which nearly us almost despair of ever reaching a state of permanent prosperity, we persevered until the summer of 1858, when on going down to Dover for a visit of some months, we removed thither our whole apparatus, taking down our rocks and glass in a hamper, our water in a keg, and our animals in a covered jar. They were somewhat shaken by the journey, but with a little care in allowing the water to settle before replacing the stock, our miniature sea was soon in its former flourishing condition. Two Gobies were here added to our stock, a small Hermit Crab in a trochus shell, a

Serpula, some common Anemones, with a fresh supply of Ulva, and a piece of chalk rock in which a Pholas had made its habitation, and things prospered until having left our Aquarium at Dover during a tour on the Continent, something occurred to corrupt the water, and its guardians becoming alarmed, renewed the supply and placed it once again on a fresh footing, September 5, 1857.

From that day to this, having resolved to persevere in endeavouring to discover the right balance of animal and vegetable life, so as to ensure the healthy development of both, and convinced that this cannot be fairly ascertained as long as the supply of water is periodically renewed, we have never again changed it, although on two occasions we have found it necessary to add to it owing to the diminution of its quantity from external causes. The loss caused by evaporation is supplied by the occasional addition of a glass of spring water. We took however a keg-full of sea water with us to London in case of emergency; but having considerably added to our collection, used it to fill a glass milk pan for the reception of those of our specimens which seemed to prefer shallow water. Soon after our return we purchased at Bohn's in Essex Street, Strand, two Actinia Gemmaceæ which are still in full vigour and beauty, a small Dianthus, since dead, and a fine specimen of Serpularia contortuplicata which came to an untimely end, having been devoured by an ungrateful Crab taken in by us out of pure compassion when in a crippled state owing to the loss of all its legs but two. This ill-disposed individual has since recovered its missing limbs, has four times changed its shell, and finally has been restored to its native ocean on account of the mischievous propensities which have grown with its growth, and made it too dangerous to remain any longer an inhabitant of our peaceful Aquarium. From this time no event of any importance occurred, except the addition of some handsome Serpulæ and a fresh stock of Periwinkles to mow down the young growth fast covering the rocks, and likely to increase to too great an extent; when in July 1858 we again removed with our live stock to Dover, where our Aquaria after recovering from the upsetting influence of the journey, soon resumed their pristine condition, the water becoming again crystalline in its clearness, the animals lively and healthy as before. When lo! a dimness was one day observed upon the sides of the larger glass, the water appeared faintly tinged with a greenish hue, which increased in intensity until at length it began to present the unpleasant appearance of a stagnant pond. This was the first time such a disaster had occurred, and although we had been prepared for such unexpected disagreement, and had learnt from Mr. Gosse's interesting work on the Aquarium that no injury to the animals was to be apprehended from the presence of this microscopic vegetable growth, yet so unsightly was the green muddy appearance of the water, that it was decided that something must immediately be done to remedy it. But what remedy could we adopt? Some were for at once changing the green slimy-looking fluid for pure water from the Channel, and thus cutting the knot of our perplexity without further trouble, and much was said as to the folly of taking any pains to preserve a few gallons of dirty water in the very sight of that mighty reservoir with its pure and inexhaustible supply ready for immediate use. Others—and these far-sighted ones were in the minority—maintained that a little present pains and trouble might save much future annoyance, with a repetition of all the difficulties attendant upon the first establishment of an Aquarium; besides it would be ignominious to give up our determination of persevering with the same water in spite of all discouragements, and there was something exciting in the idea of overcoming what seemed likely to prove a serious obstacle to our success. So these pertinacious few persisted in their intention and gained their point, and it was at length resolved that the whole liquid contents of the Aquarium should be well filtered through powdered charcoal. This tedious process having been successfully accomplished with the exception of the loss of some part of the water (owing to the upsetting of the awkward kind of filter which had been extemporised for the occasion), the purified water was restored to the Aquarium, and all were pleased and satisfied with the result of the experiment.

On this occasion some kind friends at Dover supplied us with a few Prawns and Gobies, which proved useful as well as lively and ornamental additions to our stock. Three of these Prawns are still alive and very active; the unfortunate Gobies fell a prey to their voracious appetite after living with them for months in perfect harmony. Throughout the past year, our Aquaria have been in a most thriving condition, and they have again travelled with us to the place of our summer sojourn. Not that they needed change of air, for they have hitherto given us less trouble in town than at the sea-side, but that we might enjoy the pleasure of watching them, and avoid the risk of their being neglected in our absence.

Now for an account of their present condition—Glass No. 1 contains 6 common Sea Anemones (Actinia Mesembryanthemum), of different colours; 1 Gem, (Actinia Gemmacea); 3 Prawns (Palæmon Squilla); a common Cockle (Cardium edule); an Oyster within a cockle shell; several of the sand-burrowing bivalves. Venus, &c., and plenty of Periwinkles. Every now and then, adhering to the sides of the glass or darting through the water with quick and graceful motion, appear numbers of little bell-like Medusæ, which as quickly disappear. The centre ornament is a scallop shell crowned by the tubes of Serpularia contortuplicata, whose elegant scarlet fan is constantly expanded, and the length of whose tube has considerably increased since its first introduction to our Aquarium. Not long ago one of our mischievous Prawns bit off the scarlet cork-like tentacle which serves as a stopper to its tube, but it was soon reproduced, and its owner does not appear to have suffered from the accident. Glass No. 2 contains the same number of common Actiniæ, one of them a fine Strawberry; 1 Actinia Gemmacea, 2 Daisy Anemones (Actinia Bellis), 1 Scarlet Madrepore (Balanophylla regia), 1 Pholas candida (?) which may or may not have ceased to exist, as it has long been lost to view, having penetrated too far into the rock to admit of its looking abroad upon the world any more; 2 Chitons, several Periwinkles, a group of Mussels, and 3 small sand Crabs, not to mention the Infusoria on which they subsist. Most of the animals above mentioned are old inhabitants of the Aquarium, who have survived many of later introduction. With regard to vegetation a few plants of the Sea Lettuce (Ulva latissima), with an abundance of young Confervoid growth and Sea Lichens of every hue which have gradually overspread the rocks, imparting to them a richness and variety of colour that a painter might admire, are all we can boast of at present; but these are abundantly sufficient to keep up a constant supply of oxygen, which they give off in abundance.

And now I must add a few words as to the mode of treatment which has contributed to our success. Many are deterred from setting on foot an Aquarium through dread of the trouble and difficulty supposed to be attendant on its management. We can assure such that ours has long ceased to give us any trouble at all, beyond the five or ten minutes' daily attention required either to rub the glasses clean, to remove anything like decayed matter likely to corrupt the water, or occasionally to feed the Anemones, Crabs, and Prawns. In so doing we are guided by circumstances, sometimes leaving the Anemones for weeks without food, when they appear to find it in the water, and look healthy and flourishing, but as soon as they present a starved and shrivelled aspect, a timely morsel of dried meat (or small shell fish when they can be procured) seems to revive and invigorate them, and they again expand into full beauty. In London we find it necessary to cover our vessels with a sheet of glass, so as to protect them from the soot, which is of course highly injurious, but this is not needful elsewhere. Difficulties will of course attend the first establishment of an Aquarium, but these may be overcome by a little patience and perseverance, and a firm determination not to yield to the temptation which often arises to change the water. This is never needful if the quantities of growing Sea-weed be sufficient to supply it with oxygen. It is very desirable that an equal temperature should if possible be maintained, *i.e.*, that the sun should never be allowed to heat the water, nor the cold to affect it too much in winter. Our Aquarium thrives well in a northern aspect close to the window, in a room constantly inhabited.

This simple account of our proceedings may, we trust, prove useful and encouraging to beginners, although operations conducted on so very humble a scale might otherwise appear unworthy of record. After all that can be said upon the subject, we must return to the oft repeated saying, that experience is the best teacher—not the experience of others alone, although we may thereby hope to avoid the mistakes into which others have fallen, gaining at the same time many a useful hint for our own guidance, yet inasmuch as circumstances are seldom identical in the case of two individuals, there is always much that can only be learnt from one's own experience. Hence the danger of making that of others a substitute for the patient observation and reflection by which alone we can hope to gain real pleasure and profit from the study of Nature, learning "in these his lowest works" to admire and adore the wisdom and goodness of their great Creator and ours. Energy and perseverance is in this, as in every other kindred pursuit, the real secret of success, and the motto of every lover of science should be that by which I subscribe myself Sir, your obedient servant, *Nil desperandum*.

## QUANTITY OF RAIN AND SNOW FALLEN INTO HOWARD'S RAIN GAUGE,

### 12 INCHES ABOVE THE GRASS AT COBHAM LODGE, COBHAM, SURREY.

| | 1825 | 1826 | 1827 | 1828 | 1829 | 1830 | 1831 | 1832 | 1833 | 1834 | 1835 | 1836 | 1837 | 1838 | 1839 | 1840 | 1841 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| January . | 1.12 | .43 | .90 | 4.69 | .75 | 2.12 | 1.21 | 1.25 | .59 | 4.08 | .89 | 1.93 | 2.34 | .26 | 1.82 | 2.57 | 2.50 |
| February | .63 | 2.09 | .38 | 1.24 | 1.09 | .95 | 2.53 | .29 | 4.09 | .37 | 2.54 | 2.00 | 2.47 | 1.65 | 1.37 | 2.08 | 1.07 |
| March .. | 1.26 | 1.94 | 2.72 | 1 01 | .40 | .24 | 2 50 | 1.49 | 1.43 | .73 | 2.50 | 3.58 | .74 | 1.16 | 1.28 | .32 | 1.30 |
| April ... | 1.56 | .45 | 1.12 | 2.47 | 5.63 | 2.57 | 2 25 | 1.60 | 2.52 | .53 | .98 | 3.10 | .85 | .73 | .93 | .21 | 2.58 |
| May .. | 2.03 | 2.42 | 1.76 | 2.13 | .85 | 3.03 | 2.97 | 1 71 | .69 | 1.35 | 2.31 | .92 | .94 | .74 | 1.13 | 1.58 | 2.39 |
| June .. | 1.16 | .48 | .75 | 1.96 | 2.58 | 3.18 | 1.27 | 2.25 | 2.44 | 1.90 | 2.58 | 1.58 | 1.17 | 2.65 | 2.10 | .93 | 1.74 |
| July .. | .23 | 2.44 | 1.07 | 5.07 | 4.63 | 1 86 | 2.71 | .60 | 1.35 | 5.47 | .30 | 2.04 | 1.53 | 1.56 | 3.48 | 1.97 | 1.93 |
| August .. | 2.87 | 1.34 | 1.97 | 2.34 | 4.14 | 3.35 | 1.37 | 2.59 | .83 | 3.50 | 1.16 | 1.56 | 2.86 | 1.09 | 1.36 | 2.04 | 2.61 |
| Septemb. | 2.21 | 5.17 | 3.62 | 2.56 | 3.48 | 3.14 | 3.85 | .63 | 2.91 | .98 | 4.57 | 2.61 | 1.00 | 2.60 | 5.74 | 2.88 | 4.13 |
| October.. | 3.16 | 1.69 | 4.16 | 1.42 | 1.48 | .75 | 4.68 | 3.41 | 1.78 | .24 | 4.77 | 4.44 | 1.65 | 1.84 | 1.84 | 1.38 | 5.51 |
| Novemb. | 3.77 | 3.88 | 1.81 | 1.01 | 1.61 | 3.10 | 1.44 | 1.62 | 2.67 | 1.77 | 1.83 | 2.81 | 1.60 | 3.77 | 3.94 | 3.84 | 3.69 |
| Decemb. | 2.85 | 1.81 | 3.46 | 2.22 | .42 | 1.50 | 3.48 | 1.69 | 3.53 | .79 | .28 | 2.12 | 1.88 | 1.64 | 2.86 | .55 | 2.88 |
| Total .. | 22.85 | 23.59 | 23.22 | 28.12 | 27.06 | 25.79 | 30.26 | 19.13 | 24.74 | 21.71 | 24.71 | 28.69 | 18.53 | 19.69 | 27.35 | 20.35 | 31.83 |

| | 1842 | 1843 | 1844 | 1845 | 1846 | 1847 | 1848 | 1849 | 1850 | 1851 | 1852 | 1853 | 1854 | 1855 | 1856 | 1857 | 1858 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| January . | .83 | 1.68 | 3.25 | 2.83 | 2.96 | 1.33 | 1.42 | 1.44 | .84 | 2.93 | 2.36 | 2.60 | 1.72 | .46 | 1.22 | 2.57 | .78 |
| February | 1 37 | 2.05 | 2.22 | 1.07 | 1.28 | 1.28 | 2.71 | 1 47 | 1.28 | .73 | .65 | .80 | .87 | 1.07 | .99 | .14 | 1.68 |
| March .. | 1.79 | .83 | 2.41 | 1.10 | 1.04 | .62 | 3.39 | .88 | .19 | 3.86 | .20 | 1.29 | .26 | 1.87 | .72 | .88 | .55 |
| April .. | .32 | 1.82 | .31 | .83 | 1.89 | 1.48 | 4.01 | 3.15 | 2.78 | 1.53 | .46 | 2.56 | .22 | .27 | 2.85 | 1.39 | 2.34 |
| May .. | 1 78 | 5.99 | .44 | 3.08 | 1.50 | 1.65 | .11 | 2.78 | 2.21 | .75 | 1.77 | 1.65 | 3.24 | 1.88 | 3.55 | .76 | 1.83 |
| June .. | .56 | 1.68 | 1.43 | .73 | .97 | 1.30 | 3.08 | .42 | 1.17 | .98 | 4.64 | 1.88 | 1.17 | 1.11 | 1.07 | 3.42 | 1.39 |
| July .. | 1.62 | 2.13 | 1.02 | 2.82 | 2.17 | 1.48 | 2.36 | 3.66 | 3.39 | 2.09 | 3.36 | 5.15 | 1.39 | 6.39 | .73 | 1.23 | 2.47 |
| August .. | 3.00 | 3.20 | 2.18 | 2.56 | 2.91 | 1.02 | 3.44 | .69 | 1.56 | 1.35 | 4.89 | 2.16 | 1.61 | 1.02 | 3.17 | 2.70 | 2.00 |
| Septemb. | 3.58 | .71 | 1.18 | 1.69 | 2.07 | 1.52 | 2.26 | 2.42 | 1.14 | .20 | 3 68 | 2.10 | .70 | 1.15 | 2.01 | 3.77 | .86 |
| October.. | 1.25 | 3.75 | 4.26 | 1.56 | 5.73 | 2.44 | 3.50 | 2.47 | 1.43 | 2.20 | 4.41 | 3.68 | 2.63 | 5.21 | 2.85 | 4.83 | 1.48 |
| Novemb. | 4.65 | 3.29 | 2.76 | 2.70 | 1.42 | 1.82 | 1.31 | 1.00 | 2.02 | .74 | 5.54 | .93 | 1.37 | 1.95 | 1.07 | 1.45 | .82 |
| Decemb. | .62 | .30 | .29 | 1.61 | 1.26 | 2.63 | 2.77 | 1.87 | 1.51 | 52 | 2.23 | .44 | 1.40 | 1.44 | 1.98 | .48 | 1.67 |
| Total .. | 21.37 | 27.43 | 21.75 | 22.58 | 25.20 | 18.52 | 30.36 | 22.25 | 19.47 | 17.38 | 34.19 | 25.19 | 16.58 | 23.32 | 21.21 | 23.62 | 17.87 |

The gauge is placed on the Grass about 40 feet north of the north corner of Miss Molesworth's house, Cobham Lodge, Cobham, Surrey. The top of the funnel is about 12 inches from the Grass and 100 feet above the level of the Thames at high water mark. The soil is about 1½ foot loam on clay, above the London clay.

## ON THE HEATING OF THE SOIL OF HIGH MOUNTAINS,

### AND ITS INFLUENCE UPON THE LIMIT OF ETERNAL SNOW AND ALPINE VEGETATION.

By Charles Martins.

Theory indicates, and experience proves, that the atmosphere absorbs a notable proportion of the heat transmitted by the sun to the earth. M. Pouillet estimates this quantity at ·4 of the total heat transmitted by the sun to the earth at any given moment. As the calorific ray which falls upon an elevated summit traverses a less considerable thickness of the atmosphere than that which arrives at the level of the sea, it ought to heat the summit of the mountain more than that which penetrates as far as the plain; but the rarefied air surrounding the summit does not become so much heated as that of the plain; hence it should follow that the soil at the surface and for about a foot deep, upon a high mountain, should become more heated than the air, while the contrary would take place in plains little elevated above the sea. Now this is fully confirmed by experience, as I show in this notice, through observations made in August 1842 on the Faulhorn by MM. Bravais and Peltier, and in September 1844 by M. Bravais and myself, compared with corresponding ones made at Brussels by M. Quetelet, and with those made in Spitzbergen in 1839 by the Meteorological commission attached to the expedition of "La Recherche."

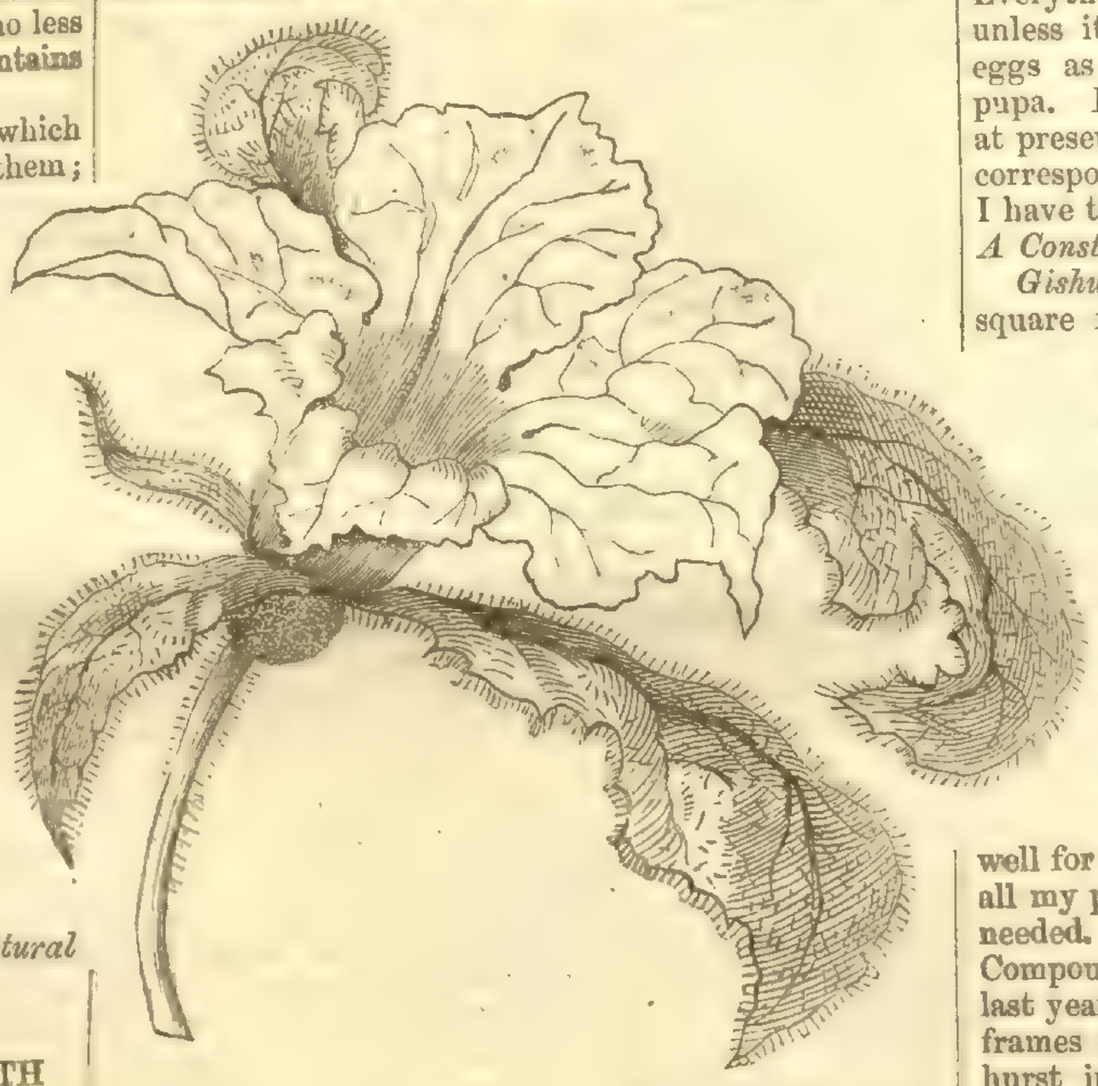
This relatively considerable heating of the surface of the soil exerts a powerful influence upon the physical geography of the high Alps: it is this which moves upward the line of eternal snow, the melting of which is principally due to the heat of the subjacent ground. All travellers who have ascended these elevated regions know that in the Alps the snows melt underneath in consequence of the heat of the soil. Often, when the foot is placed on the edge of a snow-field, the weight of the body breaks a superficial crust which does not rest on the soil. Sometimes we perceive with astonishment underneath these icy vaults Soldanellas in flower (Soldanella alpina, L., and S. Cludii, Thom.), with tufts of the leaves of the Dandelion. It is likewise the melting of the snow in contact with the soil which causes the sliding of the snow-fields which form the spring avalanches of turfy declivities. Finally, it is this heating which explains the variety of species of plants, and the number of individuals which cover the soil at the very limit of the eternal snows: thus, upon the terminal cone of the Faulhorn, the height of which is about 250 feet, the superficies about 11 acres, and the altitude nearly 9000 feet, I have gathered 131 species of flowering plants. On the Grands-Mulets (needles of laminated protogene rising in the midst of the glaciers of Mont Blanc, at 10,000 feet above the sea), I have noted 19 Phanerogamia,—viz., Draba vladimensis, Wulff., Cardamine bellidifolia, L., Silene acaulis, L., Potentilla frigida, Vill., Phyteuma hemisphæricum, L., Erigeron uniflorum, L., Pyrethrum alpinum, Willd., Saxifraga bryoides, L., S. grœnlandica, Lap., S. muscoides, Auct., Androsace

helvetica, Gaud., Avena pubescens, DC., Gentiana verna, L., Luzula spicata, DC., Festuca Halleri, Vill., Poa laxa, Haencke, P. cæsia, Sm., Agrostis rupestris, All., Carex nigra, All.; but then, on the 28th of July, 1846 (the temperature of the air in the shade being 48°.9 Fahr., in the sun 52°.5 Fahr.), the schistose gravel of the rock in which these plants vegetated indicated a temperature of 84°.2. As a contrast, I will again cite Spitzbergen. This archipelago, whose shores may equally be regarded as touching the limits of eternal snows, occupies no less than 4½° of latitude by 12° of longitude, and yet contains no more than 82 Phanerogamia.

In the Alps, the plants are heated by the soil which bears them more than by the air which surrounds them; a vivid light favours their respiratory functions; and even when the temperature descends to the freezing-point during the day, a layer of recent snow preserves them even in summer from the accidental chills which always accompany bad weather on high mountains. Equally sensitive to cold and heat, they can only bear temperatures between about 32° and 59°; constantly moistened by clouds or irrigated by the water flowing from the melting snow, they require the utmost care to make them prosper in the plains; for the gardener must defend them against the cold of winter and the heats of summer, yet without keeping them from the influence of light. At Spitzbergen, on the contrary, in spite of the perpetual day of summer, the vegetation is poor and scattered, because the rays of the sun being for the most part absorbed by the great thickness of the atmosphere and the continual fogs, can neither heat nor illuminate this frozen country. *Annals and Magazine of Natural History.*

## HAVE GOURDS AND CUCUMBERS BOTH CALYX AND COROLLA?

BOTANISTS are aware that the great Jussieu was of opinion that the brilliant yellow cup which in Melons, Gourds, and Cucumbers forms so conspicuous a part of the flowers of such plants, was a calyx and not a corolla. The five green processes external to this cup, and occupying the place of a calyx, that eminent systematist pronounced to be merely appendages; comparing them possibly to the small bracts that adhere to the calyx of a Strawberry. Him has followed Auguste de St. Hilaire, and probably others, though not in this country. Hitherto the true nature of these parts has been a matter of opinion rather than a point incontestably established. But no doubt can longer remain after considering such cases as those here represented, for which we are obliged to our sharp-sighted correspondent Mr. Cuthill, of Camberwell. The figures demonstrate that the apparent calyx is really such, the sepaline lobes having grown into true leaves, while in the smaller figure, which represents a male flower, the corolla remains absolutely unaltered. The specimens sent us exhibited several intermediate conditions of structure; but nothing more instructive than what our artist has represented. The monstrosity occurred in a common Cucumber.



## Home Correspondence.

*The Water Rat.*—As I shall be off for the Continent in the course of the day, I have not time just now to say much on the supposed vices and virtues of my dark little pet. No doubt, "Jael" has had a fine Holly tree and a handsome Hawthorn hedge most unmercifully punished by the water rat; and no doubt, "B., Norfolk" has most just reason to consider the same quadruped an "enemy to the cultivators of Vines." By the way, the water rat with us is a solitary animal, and of course it is not gregarious like its pilfering cousin, the audacious Hanoverian. So far as regards my own property, really I cannot in conscience denounce the water rat as an enemy to Vines, and to Hawthorn hedges. I have here at Walton Hall perhaps the most magnificent Hawthorn hedge in all Great Britain, growing on the very bank itself which is the constant abode of the water rat. This hedge is upwards of 160 yards long, and is open to the inspection of the public. Its roots and bark have never yet been preyed upon by the water rat; and I can affirm the same of many fine Holly trees growing on the banks of the brook. Within 50 yards of the water rat's haunts are two flourishing Grape plants. One is the Sweet Water; the other is the Black Hamburgh. Neither of these have ever been gnawed by the water rat. Hence I venture to draw the conclusion that there are different tastes in different water rats. Neither is this to be wondered at, when we reflect that in man himself, and in many other animals, there is a surprising diversity of appetites. For example, I always revolt at the very sight of the half-roasted beef in England; but I actually fatten on the beef which is boiled to rags in France. My grandmother (Heaven rest her soul) could not tolerate the yolk of eggs on her stomach. I once saw a man tear to pieces and eat up an old raw hen with all her guts and feathers; and I was very intimate with a gentleman who was uncommonly fond of puppy pie when he could procure it. I never can coax my tom-cat Whittington to eat fat or gristle; and I have seen him vomit, after he had eaten a common house mouse. But he will take for his supper every night a hard and dry biscuit. I know many young ladies who are struck with horror at the idea of dining on fricasseed frogs and stewed snails; still I myself find such dishes very palatable. Having all these things in view, I flinch not from what I have lately written on the habits of the water rat. But it is time to bid a temporary farewell to the indulgent readers of Dr. Lindley's far-famed *Gardeners' Chronicle*. So I will conclude with the old remark, somewhat in a new dress: De variis, variorum animalium gustibus, disputare nequeo. *Charles Waterton, Walton Hall, Aug* 1.

——In your Number of the 30th ult. your printer has made me say I have found the water rat a great enemy to the cultivators of "Vines." It should have been the cultivators of "Osiers." *Old Subscriber.*

*Pear and Cherry Grub.*—I am rather surprised at not finding in your columns more complaints of the amazing quantity and variety of blight this year. I

believe there never was a season when the gardens, in this part of England at least, suffered so much from the ravages of every description of insect life. Here Peaches, Nectarines, Plums, Apples, Pears, Cherries, Currants. are a failure. Of Peaches and Nectarines I have lost many trees, completely burnt up, in spite of syringing, Gishurst Compound, &c. But the particular annoyance I beg to call attention to, and to ask for information upon, is the caterpillar which attacks the leaves of Pears and Cherries, the slimy grub, I believe it is—"Selandria Æthiops." This year for the first time after eating up every leaf on the trees, it has fallen upon the fruit, and completely destroyed the outer skin, leaving it to dry up and perish. There is the inconvenience of a constant litter from the fallen leaves, whilst the trees themselves, instead of being an ornament, are an eyesore, and something worse. The irregular action produced by the check to the whole tree causes the spurs which should fill up for bloom next year to burst into watery spray, puzzling the pruner altogether. Everything I have tried for their destruction has failed unless it could be effected either by a search for the eggs as soon as laid, or still better, perhaps, for the pupa. I do not know enough of the habit of the insect at present for this; but in the hope that some of your correspondents might give me the needful information I have taken the liberty of laying my case before them. *A Constant Reader, Newbury.*

*Gishurst Compound.*—I have usually about 3300 square feet of Cucumber plants growing under glass. Towards the end of June last year they became so infested with red spider and thrips as to be worthless; had they remained healthy they would have borne me nearly 100*l.* worth of Cucumbers by the end of the season. This year I have tried the Gishurst Compound with complete success, beginning about three weeks ago, and using at first 4 oz. per gallon; this is too strong—2 oz. per gallon destroys the pests without injuring the Cucumbers. Some of the leaves were thinned out and the remainder and the young fruit and shoots were dipped into the solution, and now they are breaking into fresh healthy growth and looking well for fruiting. Four 1*s.* 6*d.* boxes are sufficient to dip all my plants once; but a second dipping is sometimes needed. I feel sure that the timely application of the Compound has saved me from a loss equal to that of last year. I propose early this winter to wash all my frames and lights with a very strong solution of Gishurst in the hope of destroying all insects and eggs. *James Steel, Market Gardens, Plough Lane, Battersea.*

*Gishurst Compound* v. *House Bugs.*—This institution (County Lunatic Asylum, Bedford) has been infested for years with bed bugs, and to such an extent as to aggravate the anxieties of my charge for its inmates. About three months ago I purchased a large box of the Gishurst Compound for use in my greenhouse, and it occurred to me that what would destroy insect life in one instance might do so in another; and I am gratified inasmuch as after a series of trials, my attempts have in no case been fruitless; indeed the Compound is without exception the most effective means for the destruction of these pests. The best mode of using it is by dissolving about 4 ounces in a gallon of water, letting it stand for about 48 hours, then applying it freely to every part of the furniture or room where bugs are to be found. I must remark that almost all the known remedies for the purpose have been tried here at great expense, and failed; in this the small cost is a great desideratum. *Wm. Denne, F.R.C.S. Medical Superintendent.*

*Tenacity of Life in Succulents.*—About six months ago a branch was taken from a Sempervivum villosum and thrown aside as useless; but instead of withering like most branches that are treated in a similar manner, it continued its greenness nearly as much as the plant from which it was taken. In order to try how long it would live without earth or water it was hung up in a greenhouse head downwards, but still it would not die. We are often told that cats have nine lives, but this Sempervivum appears to have more and nine, for every shoot curved beautifully downwards, and had some resemblance to a chandelier in miniature. In the spring of the year the shoots threw up flower-stalks, and for two months past there has been an abundance of flowers, but how long they will continue I cannot say. From this simple affair I began to think of revolutionizing some departments of gardening, which might be of great importance to some of your readers as Armstrong gun in modern warfare. Only think of Sempervivum gardens—plants living and flowering without soil, earth, or water. Both inside and outside of windows may yet be greatly adorned in such a way, and Wardian cases with their misty atmosphere may yet be turned to the left; and a great boon it will be to housekeepers and housemaids, and a saving to carpets and crumbcloths where window gardening can be accomplished without earth or water. A pleasure it will be to many to look at growing plants in flower, placed in a bouquet stand hanging in any convenient place, and not any of the dried and dyed French "Immortelles" either, but living productions. Others might be added to the list. There are the Sedums or Stonecrops so tenacious of life that they can scarcely be kept from growing in a herbarium; and there is the Sempervivum tectorum: the flowers of this well-known plant are no less beautiful than they are curious in their structure, and the plant is so difficult to kill, that it almost requires cooking before it can be well dried; and if the mountain herbariums that have accumulated in and about London were turned over, there may be found specimen plants trying to make their escape from their long confinement that may yet adorn the windows of the metropolis. Those of your readers who have plenty of plants belonging to Crassulaceæ and Ficoideæ may try some of them, and observe how long they will endure hanging before they die. I may observe that the Sempervivum villosum growing in a pot in the greenhouse has not flowered this season, although growing and healthy

enough, while the branch taken from it and hung up by the heels has flowered abundantly. *P. Mackenzie.*

*Roses on the Manetti Stock.*—In reply to your correspondent "J. K. C.," I beg to say that the details of my management are as follows:—The cuttings of Manetti are taken off stools kept for the purpose any time in November. They should be strong and well ripened, about 1 foot long, and all buds should be cut out, except the two top ones; they are then inserted deeply in rows in nursery beds, and taken up the following November or December for grafting; I now cut back to 4 or 5 inches of stem, and insert the graft, which should be of strong well ripened wood. I tie with bast, and put low in moist soil to avoid watering till a callus is formed; the grafts are sure to turn black if water touches their pith. The plants are then placed in any close frame on a gentle bottom-heat, and kept dark till a union is effected, which generally occurs in about a fortnight or three weeks from the time of grafting. After this any place free from frost will suit them, but if convenience admits of keeping them gently growing so much the better; they may then be "potted on" to form strong flowering plants by May, or kept in the same pots for turning out in April if properly hardened, always bearing in mind to keep the Manetti stock about an inch below the surface. If stopped before turning out they form fine bushes, flower well in June, and continue to bloom all the season. *J. Sheppard, Woolverstone Park.*

*Cucumbers* intended for winter forcing should be sown immediately, for by getting them planted out whilst the sun is powerful, and giving plenty of air and a night temperature of 60°, a strong and vigorous growth is secured. Use every means to keep clear of greenfly and thrips. Should they appear fumigate two or three evenings successively and there will be but little difficulty in getting plenty of fruit during the winter months. Lord Kenyon and Sion House Improved are two favourite kinds for winter use. They may also be propagated by cuttings, of 5 or 6 inches in length, taken from the tops of bearing branches of vigorous plants, planted in pots of rich mould in September, plunged in a hotbed, and water regularly. They will take root in about a fortnight, when they may be planted out for fruiting. The fruit will be in perfection before Christmas. *M. A., Chartham Deanery.*

## Notices of Books.

*The Pyrenees West and East.* By C. R. Weld. 8vo. Longmans. Pp. 410.

A charming book which, unlike so many travellers' journals, may be read and re-read with undiminished pleasure. No one knows better than Mr. Weld how to fix upon the salient points of what he sees and hears. A ready pen, a skilful pencil, much knowledge of the world as it is as well as of old world things, and a thoroughly English turn of mind, are combined advantages that very few observers possess in an equal degree. He is thus enabled to carry the reader along with him so completely that we rise from the perusal of one of his chapters with a half belief that we have really been present at the scenes described.

On this occasion he proceeds by way of Rouen to Tours, Poitiers, and Bordeaux, thence crosses the Landes to Bayonne, sees Biaritz, Dax, Orthez, and reaches Pau. After here describing the valleys, the mountains, the peasants, he travels to Cauterets and Luz, explores their neighbourhood, then reaches the fashionable Bagnères de Bigorre, makes his way to Luchon, and at last pulls up in Toulouse. After some stay in this famous town he dashes into the Eastern Pyrenees, explores their most remarkable scenes, Ussat, Cabannes, Ax, Val d'Andorre, Puicerda, Olette, Thuez, and many more, discusses the heady wines of Roussillon, is delighted with the "rare nectar" called Bagnol or Rivesaltes, pushes on for Canigou, doubles back to Prades, and finally dismounts in Perpignan. Such a guide is worthy of such a route, and Pyrenean travellers will be wise if they follow exactly in Mr. Weld's footsteps.

One of the most interesting of the author's sketches is that of the sandy wilderness near Bordeaux, called the Pays des Landes. We quote his two descriptions:—

"Nothing more dreary than these apparently interminable wastes. Your passage across them suggests ideas of the ocean, with this great difference however, that whereas the latter is rarely at rest, the vast tract of the Landes, comprising 600,000 hectares, equal to 1,482,600 acres, except when swept by hurricanes, presents a still and monotonous surface. The soil is sand—endless sand—vertically as well as superficially. Artesian wells have been sunk to the depth of nearly 1000 feet, and then a scanty supply of wretched yellow water has been the only result. As may be supposed, the lives of the inhabitants of this unpromising region are short, feverish, and sickly. The Landais have a proverb,

"'Tant que Lande sera Lande
La pellagre te demande;'

said pellagre being a fatal disease occasioned by malaria and bad water. Amidst these wastes, lying to the east of the Pine forests which fringe the sea coast, the Landais, who are, with few exceptions, shepherds, spend the long summer days with their flocks of sheep, each animal being as well known to them as their dogs. The Landais shepherd is a primitive being, fond of solitude, rarely venturing near the railway; when he does, he gazes wonderingly at the rushing train—so to see him you must penetrate into his wilderness. There, amidst the great wastes, clothed in sheep skins and wearing the Navarre cap, you will find him mounted on tall stilts, become, from long habit, like a second pair of legs, for he has been accustomed to them from childhood; probably knitting while his flock crop the scanty herbage. There he stands, resting against his pole, a strange tripod-looking figure—stranger still when he strides across the Landes in hot haste after a wandering sheep. He has a small hut, sometimes a wife, who aids him in cultivating a small patch of ground, from which he obtains a little corn and a few vegetables. A miserable existence is this, but the dawn of brighter days has, we may hope, appeared for the poor Landais. After innumerable futile attempts to reclaim and fertilise portions of this desert, two joint-stock companies (Compagnie des Landes and Compagnie d'Arcachon) have succeeded in reclaiming a considerable tract of the Plaine de Cazaux. Sheltered from the prevailing west winds by the great maritime Pine forest, of which we shall have something to say presently, the Plaine de Cazaux, situated to the east or leeward, as may be said of that forest, is not so liable to the destructive effects of the great sand storms as other parts of the Landes. Rice, Tobacco, and the *topinambour*, or Jerusalem Artichoke, for which the soil is admirably adapted, are the chief crops. The improvements are, in a great measure, due to a M. Pierre, an agricultural genius, who, having studied agriculture, and particularly drainage under scientific teachers, devised a system of reclaiming and husbandry which has been very successful.

"Prosperity is rapidly following these improvements, and, what is better, malaria no longer poisons the reclaimed districts. The peasantry enjoy better health, and M. Pierre firmly believes that the terrible pellagre will be soon unknown in the Landes. His system has been approved by the Emperor, who has lately extended his patronage to M. Pierre by purchasing a large tract of the Landes, which is to be cultivated according to his method. The Imperial estate lies to the east of Labouheyre station, and the Landais have marked their sense of his Majesty's advent among them as a landowner by erecting a pillar, surmounted by a gilt eagle, on the spot where the Emperor first entered the Landes."

"The great Pine forest of the Landes, locally called Pignadas, extends from the Adour to the Gironde, and is an extraordinary monument of man's skill and perseverance.

"Prior to 1789 this vast forest area was—

"'A bare strand
Of hillocks heaped from ever-shifting sand,
Matted with Thistles and amphibious weeds,
Such as from earth's embrace the salt ooze breeds.'

The sand was so fine as to be wafted by the faintest breeze, whilst the great sea storms raised huge sand waves, which overwhelmed vegetation, and rolling inland frequently carried desolation and destruction among far distant villages and fields. Such was the state of this part of the country when M. Bremontier, an officer in the Government department of the Administration of the Forests of France, conceived the idea of erecting wattled hurdles and boards near the sea, so as to break the storms; and sowing in narrow zones, leeward and at right angles to the prevailing wind, seeds of the Pinus Pinaster and common Broom, in the proportion of 5 lbs. of the former to 2 lbs. of the latter per acre. The area sown was then covered or thatched with Pine branches, care being taken to prevent these being blown away by pinning them to the ground. In about six weeks the Broom seeds produced plants 6 inches high, which attained the height of 2 feet at the close of the year. These now afforded excellent shelter to the Pine plants, which were but 4-inch striplings, and under their fostering protection the Pines grew and flourished, until at length with an ingratitude not, unhappily, confined to the vegetable world, they suffocated their infantine protectors, and rose high, defiant of the raging sand storms.

"So effective was M. Bremontier's process, that in 1811 a commission appointed by government to examine the Landes reported that 12,500 acres were covered with thriving and profitable Pines; and the Landais, who had lived to see their howling wastes clothed with far-stretching forests, were enabled to gain a livelihood less precarious and perilous than that obtained by fishing in the stormy waters of the Biscayan bay.

"Twenty-five years passed, and then the hand of man was busy among the Pines. Good as the Pinaster is for domestic purposes, La Fontaine says:

"'Sera-t-il Dieu, table, ou cuvette?'

It is far more valuable for the great quantity of resin, tar, and lampblack which it produces. As you ride through the Pines you will meet the resin gatherers, *résiniers*, as they are called, who during the summer months live in the forest; for the most part a rude set of men, speaking a strange *patois*, from which, however, you may glean some information. When the resin harvest is at hand the *résinier* goes forth provided with a short ladder and a curved axe. His manner of testing the fitness of a tree to be tapped is by throwing his arms round it. If the trunk be so thick that he cannot see his finger ends, the Pine is ripe for the operation. This is performed with great quickness and dexterity. A longitudinal cut or groove is made in the trunk, down which the resin flows, and is caught at the bottom of the stem in a little trough, fashioned in a few moments from the bark removed by the cut. Weekly the wound is reopened, but not widened; and the operation is renewed yearly until the entire trunk is scored in such a manner as to make you wonder how the maimed bole can support the superincumbent weight. But, stranger still, the Pine is not injured by this scoring process; for if the operation be judiciously performed, by the time that the *résinier* has gone round the tree the first wound has healed, and the trunk is ready to be bled again. Wonderful too is the quantity of resin which exudes from these bountiful trees. You may know where the *résiniers* have lately been, by the balsamic odour proceeding from the wounded Pines. A resin-gatherer told me that after a season's practice—from the 1st of May to the end of September—a good hand could score 2400 trees, scrape the *résine molle*, which incrusts the trunks, into the troughs with small iron rakes, and carry the resin to the pits where it is boiled. I saw a *résinier* frequently score a tree to the height of 15 feet, and make a trough in two minutes and a quarter. Such a proficient earns 25 francs weekly, a high wage in this part of France. Indeed the *résinier* is far better off now than the small vineyard proprietor, who, generally destitute of capital, is ruined by a failure of his crop. 'How can a Kentish labourer be a Hop-grower?' asked Arthur Young; and now that the Vine is smitten by disease, we may ask, 'How can a small landed proprietor who is little above an English labourer with a good wage, succeed as a Vine-grower?

"When the Pines have been scored and rescored, those destined to make tar—called *pins perdus*—are cut down. The tar, commercially known as *goudron des Landes*, not so good, however, as that derived from the Scotch Pine, is made by burning the roots and thick portion of the trunk very slowly in cavities made in sloping ground, and the tar is caught in cast-iron pans and run into barrels. An inferior kind of lampblack is deposited by the smoke of the wood, but a better description is obtained by burning the straw used in straining the resin.

"Besides these products, the resin of the Pinus Pinaster yields common turpentine, and is used extensively for pills. Glaring placards and advertisements at Arcachon further inform the visitor that 'Sève de Pin Maritime est recommandée contre les affections de poitrine, catarrhes, bronchites,' &c., by the French faculty—a revival, by the way, in another form, of tar-water, whose virtues were extolled by Bishop Berkeley long ago in his curious book entitled 'Siris.'

"And even now the economical uses of resin are not exhausted; so the Frenchman did not exaggerate when he asserted that 'résine est l'or en barriques.'

"Many and delightful were the hours that I spent in the Pignadas, generally on horseback; for the country around Arcachon is very favourable for riding, and the small Landais horses are excellent; Arab blood runs in their veins. Hear the first stanza of 'Le Chanson du Cheval Landais:'—

"'Le voyez vous, fringant et leste,
Parcourir la grande forêt?
Avec lui, de Dax à Teste,
En un jour je fais le trajet.
Le sang arabe est dans ses veines;
Son trot est ferme et chaleureux,'
Car il franchit dunes et plaines
Sans perdre son air courageux.'"

As it may be useful to tourists entering Spain to know how to comport themselves with the grim Douaniers that guard the frontier, we add Mr. Weld's account of what befel him on his road to Puicerda without a passport:—

"We had ridden about six miles when our guides, pointing to a small stone pillar on the left of our path, announced that we had entered Spain. Excepting this pillar, which might easily be overlooked, there is nothing to mark the boundary between the two kingdoms. How different to the grand dividing natural walls, which awe by their sublimity, at the Brèche de Roland, or the Port de Venasque. However, we were in Spain, and if any doubt had lingered in our minds it would have been dispelled by the Spanish custom house and police station which were before us. The sight of these establishments was not agreeable, for although our passports were good for France, they had not been viséd for Spain. I had omitted, by some strange neglect, to obtain this at Bayonne, and my companion, not purposing to enter Spain, had no authority to enter that country. What was to be done? We could, of course, if not allowed to proceed to Puicerda, retrace our steps to Corbassil, or sleep at Bourg-Madame within the French territory; but one does not like to be foiled, and we had made up our minds to sup in Spain. Taking council with the guides, they thought that we should not meet with any opposition provided we had no objection to paying our footing—in other words, bribing the two officers, who they felt sure would, for a fee of five francs each, allow us to pass, but not otherwise. To this we made reply that we would willingly pay the money and see whether a five-franc piece would be as effective as the visa of the Spanish Consul. It was arranged that my guide, who spoke Spanish, was to be the bribing agent, and having provided him with the money we assumed a bold face and pushed on.

"Our approach to the police station had not been unobserved. The officer and his custom-house colleague were out, and when we drew near challenged us. The one demanded our passports, the other expressed a strong desire to see the contents of our bags. My guide

now stepped forward and assured the officers that we were gentlemen travelling merely for our pleasure, that our bags contained only the necessary articles for a tour, and that we did not propose proceeding farther into Spain than Puicerda. The information did not satisfy them, for they again desired to see passports and bags, upon which my guide drew them aside, spoke gentle words, slipped the broad silver pieces into their hands, and we were free to go where we pleased. 'Recent travellers,' says the last edition of the Spanish Handbook, 'report that bribery is now out of fashion in Spain, and that no money should be offered to *resguardos*, or custom-house officers;' 'but,' adds the late Mr. Ford, 'in my time the grandest panacea was cash, the Oriental backshish, and those who preferred peace to *pesetas*, paid with both hands.' Money is, I apprehend, still the *primum mobile* in Spain. 'The first thing,' said the Duke of Wellington, 'that the Spanish invariably want is money; their worship of the Virgin is second to their adoration of Mammon.'

"My experience at the threshold of Spain confirms these opinions, and I have no doubt that a very sad condition of 'moral ophthalmia' may be still induced among Spanish officials by a judiciously administered *gratificacioncita*—vulgarly a tip."

TRADE LISTS RECEIVED.—*Youell & Co.'s* (Great Yarmouth) *Catalogue for* 1859 *and* 1860 *of Plants, Conifers, Shrubs, &c.* A list of a considerable collection of useful plants, among which, in addition to the usual stock of a large country nursery, are included a good many herbaceous plants not often now-a-days cultivated for sale. The whole occupy 57 pages.

## Garden Memoranda.

GOWRAN CASTLE, KILKENNY.—We learn from Mr. Miller, the intelligent gardener here, that he gathered ripe Peaches from the open wall on the 10th ult. They consisted of the variety called Nutmeg, which was not ripe last year before the 24th of July, thus making the present season in this instance 14 days earlier than that of 1858. The gardens here, like those in other places, having suffered greatly from drought this season, every available means of administering water were put in operation, and among others the syphon plan has been used with great success. Mr. Miller says: "It has become the favourite of both the men and myself, as well as every one who has seen it work. The syphon is made of Gutta Percha and is about an inch in diameter. The lengths vary, according to the ground to be operated upon. To water the borders of the kitchen garden, which are about 16 feet in width, the syphons are inserted in a large water cart, drawn by a horse, on each side of which the syphons work, having a person to each directing the tube, which is fitted with a rose and stop-cock. The tube can be thus kept full, and conveniently brought from place to place without waste of water or delay in again setting it to work. In endeavouring to water too far off, the operator is apt to draw the suction end out of the water, which as a matter of course immediately stops the action. This is easily remedied by attaching a weight to the end in the water, thus preventing it from being so readily lifted out."

In this way the operator is enabled to water considerable surfaces with little trouble, except that of filling the water cart. Without resorting to this system, Mr. M. adds, the large surface of flower garden here, together with that of a large kitchen garden, would have been altogether burnt up.

Liquid manure may also be administered in the same way with equal success; but, if from the farm-yard tank, precaution must be taken to have it well strained before entering the cart; sediment soon stops the rose, but the tube itself will pass a large amount. So strong is the suction that pebbles, nearly equalling the diameter of the pipe, will pass freely. The syphon is so well known that the only wonder is it has not been more frequently applied to practical purposes. By means of its use the gardens here, instead of appearing like an arid plain, have become as it were an oasis in the desert, for the neighbouring farm and other crops have suffered greatly from drought. We are not informed by what means the air is exhausted from the Gutta Percha tube.

## Calendar of Operations.

*(For the ensuing Week.)*

### PLANT DEPARTMENT.

CONSERVATORY, &c.—Attention must now be paid to late growing plants in borders; for while in active growth they require a good deal of water, and insects are more troublesome than in the case of plants at rest. Give Luculias especially plenty of water at the root, and an occasional supply of clear weak manure-water to old plants that may not be growing freely until they have made sufficient wood to ensure a good display of flower. As has been previously stated, however, manure-water must not be given to young specimens in vigorous health, as in that case it would only induce too gross a growth, a condition in which they seldom flower profusely. In order to secure fine heads of bloom from this plant it should be allowed a few weeks of comparative rest, after, say about the middle of next month, keeping the roots rather dry, and exposing the plants as freely to air as can be done without injury to the foliage or the health of their neighbours. Brugmansia sanguinea is also a useful plant for winter and early spring flowering when managed so as to have it pruned, rested, and started into growth about this time. See that large specimens of Camellias are not allowed to get too dry at the root after they have set their buds, for shedding of the latter is often due to this cause. Young and vigorous plants however frequently require to be watered rather sparingly at this period to prevent their making a second growth. Cinerarias for early flowering should now be growing freely, and should be shifted when necessary, for if they are to form large specimens for flowering in winter they must not be permitted to sustain any check. Remove suckers whenever they can be obtained, and pot them for spring flowering. Calceolarias will now be beginning to demand attention. Get cuttings of favourite sorts rooted as soon as possible. Seed may also now be sown in pans placed on a gentle hot-bed.

### FORCING DEPARTMENT.

PINERIES.—Those who intend commencing the culture of Pines on the open bed system cannot begin at a more favourable season than the present. The bed should be from 18 inches to 2 feet deep, and should consist principally of good rich mellow turfy loam, well broken up, and carefully intermixed with a liberal sprinkling of clean sand, and a small proportion of leaf soil or good rich fibry peat; for when rough turfy soil is used and the bed is ever from any cause allowed to get thoroughly dry it is very difficult to moisten it again, as the water passes off through the lumps without penetrating them. But if the loam is well broken up and mixed with some leaf soil, or peat and sand, it will be found to take water freely enough, and the roots will be almost as much under command as when the plants are grown in pots. Persons commencing this method of growing Pines should also endeavour to avoid planting of pot-bound plants, as these, whether young or old, seldom strike freely into the fresh soil, and are very apt to fruit prematurely; but if such plants must be turned out, then care should be used to make the soil firm about the balls, so as to prevent the water passing off without moistening the balls. VINERIES.—Every possible attention must be afforded young Vines planted this spring where strong rods are expected. Let a vigorous root action be secured, and endeavour to get the wood well ripened. Give air freely and early on fine days, so as to avoid any risk of scorching the foliage, but shut up early in the afternoon, sprinkling the floors, &c., so as to cause a genial moisture in the atmosphere, which will be of great service in strengthening the Vines. If plants are grown in the house, see that they are not infested with black thrips, and on no account be induced to regulate the temperature, &c., of the house for the plants, but remove these to other quarters, or make them succumb to the treatment most suitable for the Vines. Keep a sharp look-out for the appearance of red spider in houses where the fruit is ripening, and coat the pipes or flues with sulphur on the first appearance of this enemy. Indeed it is well to do this occasionally by way of a preventive, which, in this case as in most others, is vastly preferable to a cure. Vines in pots intended for early forcing will require attention to get the wood properly ripened.

### FLOWER GARDEN AND SHRUBBERIES.

Propagation of stock for next season must now soon be commenced and carried on with expedition so as to secure strong well established plants before winter and without the necessity of keeping them so close or warm as to induce weakly and watery growth. It cannot be too often repeated that to be able to winter bedding stock safely with ordinary care, the cuttings should be put in sufficiently early in the autumn to allow of having them well established and fit to be exposed to the open air by the end of next month. Begin with such as are found to be the most tedious to propagate and prepare for winter. Hollyhocks are general favourites, but they do not afford cuttings freely, and are in general not over plentiful about most places. These should therefore be examined often in search of any cuttings which they may afford, as those rooted about this time will make strong plants for next season. Attend to the tying up of these and Dahlias, and go over the masses of Verbenas, &c., frequently for the purpose of regulating the growth, so as to keep it orderly and neat. Sow Ten-week or Intermediate Stocks for spring flowering. Transplant Brompton and Queen Stocks, and if the situations in which they are to flower are not at liberty, prick them out in nursery beds, allowing them plenty of room to prevent weakly growth.

### HARDY FRUIT AND KITCHEN GARDEN.

Winter Onions may now be sown; also Cauliflowers for the early crop next season, a small bed of pickling Cabbage, Brown Cos, and some hardier sorts of Lettuce to stand the winter. The tops of the main crops of Onions had better be laid down if they are inclined to be too rank, going over the bed with a wooden-headed rake and pressing the tops down sufficiently to check further growth. Plant out a good breadth of Endive on well enriched soil of a light dry nature. Also see to providing a good supply of Lettuce for autumn use. Attend to Celery, keeping it well supplied with water in dry weather, giving it as much manure water as can be spared for it, and keep the early crop rather closely earthed up. Vacant ground, or that which can be cleared of early crops, may be still planted with winter stuff, first giving it a good dressing of manure and a good deep digging. Stir the surface of the soil among growing crops. This has a highly beneficial effect. Cut Box edgings, and keep every corner clean and neat.

### COTTAGERS' GARDEN.

Let Scarlet Runners be topped once more, if not already done. A few Cabbage plants got in now will be found useful. Green Kale may still be got in where blanks exist, and a few Dutch Turnips might yet be sown; also a little of the Bath Cos Lettuce, a little American Cress and a few Turnip Radishes.

STATE OF THE WEATHER AT CHISWICK, NEAR LONDON,
For the Week ending August 4, 1859, as observed at the Horticultural Gardens.

| July and August. | Moon's Age. | Barometer. Max. | Barometer. Min. | Temperature of the Air. Max. | Min. | Mean | Of the Earth 1 foot deep. | Of the Earth 2 feet deep. | Wind | Rain |
|---|---|---|---|---|---|---|---|---|---|---|
| Friday 29 | ● | 29.997 | 29.960 | 78 | 58 | 68.0 | 69 | 66 | N | |
| Satur. 30 | 1 | 29.899 | 29.727 | 79 | 61 | 70.0 | 69½ | 66 | N.W | |
| Sunday 31 | 2 | 29.703 | 29.591 | 78 | 51 | 64.5 | 69 | 66½ | S.W. | |
| Mon. 1 | 3 | 29.913 | 29.850 | 78 | 44 | 61.0 | 68½ | 66 | W | |
| Tues. 2 | 4 | 30.051 | 29.993 | 76 | 42 | 59.0 | 67 | 66 | S.W | |
| Wed. 3 | 5 | 29.992 | 29.865 | 77 | 57 | 67.0 | 66½ | 65½ | S.W. | |
| Thurs. 4 | 6 | 29.925 | 29.816 | 78 | 43 | 60.5 | 68 | 65 | S.W | |
| Average | | 29.925 | 29.829 | 77.7 | 50.8 | 64.2 | 68.2 | 65.9 | | |

July 29—Cloudy and fine; densely overcast; rain.
— 30—Light clouds and fine; exceedingly fine; overcast.
— 31—Clouds in strata; fine; clear and fine at night.
Aug. 1—Fine; very fine; clear.
— 2—Very fine; cloudy and fine; clear at night.
— 3—Quite cloudless; very fine; overcast; rain in the night.
— 4—Slight rain; fine; very clear and fine at night.
Mean temperature of the week, 1 deg. above the average.

RECORD OF THE WEATHER AT CHISWICK,
During the last 33 years, for the ensuing Week, ending August 13, 1859.

| August. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday 7.. | 74.6 | 50.4 | 62.5 | 10 | 0.57 in. | 1 | 4 | — | — | — | 3 | 1 | — |
| Mon. 8.. | 75.1 | 49.6 | 62.3 | 12 | 0.50 | 2 | 3 | 2 | — | — | 4 | 1 | 5 |
| Tues. 9.. | 75.0 | 50.5 | 62.7 | 12 | 0.40 | 1 | 5 | 1 | — | — | 5 | 1 | 3 |
| Wed. 10.. | 75.8 | 53.0 | 64.4 | 14 | 1.06 | 1 | 3 | 2 | 1 | — | 3 | 1 | 4 |
| Thurs. 11.. | 75.7 | 52.0 | 63.8 | 16 | 0.78 | 1 | — | 2 | 1 | — | 5 | 1 | 5 |
| Friday 12.. | 75.0 | 51.0 | 63.0 | 12 | 0.47 | 2 | 2 | 1 | 1 | — | 5 | 1 | 2 |
| Satur. 13.. | 73.9 | 50.2 | 62.0 | 16 | 1.04 | 1 | 3 | 2 | 4 | — | 5 | 1 | 3 |

The highest temperature during the above period occurred on the 11th, 1835—therm 92 deg.; and the lowest on the 11th, 1833, and 6th, 7th, 8th, 1858—therm. 37 deg.

## Notices to Correspondents.

ARTIFICIAL LIGHT: *Observer.* If you refer to our remarks on this subject you will find that they have anticipated, or rather include, the information you have been so good as to communicate.

BOOKS: *Stockport.* If you want figures of English plants procure Sowerby's small edition of English Botany, or his diminished figures now publishing in numbers. If you want figures of Exotic plants, you must have the Botanical Magazine, which appears in monthly numbers, 3*s.* 6*d.* each.

BOTANICAL EXAMINATIONS: *Peterborough.* The following were the questions put to the senior class in the Faculty of Medicine of University College, London, by Dr. Lindley:—1, Describe fully, in technical language and in the prescribed order, Rubus fruticosus. 2, Describe briefly, in technical language and in the prescribed order, Phlox decussata: N.B. In the replies to these two questions it is required that precision be observed, and prolixity avoided. 3, Describe fully the torus, and all its modifications. 4, If an unsymmetrical petaloid Endogen, with an inferior ovary, and a vitellus round the embryo, were before you, to what natural order would you refer it. 5, Mention the natural orders that are most nearly allied to Rosa, and state their distinctions. 6, Mention the natural orders that are most nearly related to Solanum, and state their distinctions. 7, Distinguish Cyperaceæ from Graminaceæ. 8, What is the difference between septicidal, septifragal, and loculicidal dehiscence? 9, Can an orthotropal ovule produce an embryo with its radicle directed to the hilum? 10, Which of the elementary organs furnishes the thread used in textile fabrics? and what part of a plant yields such thread most abundantly? 11, Describe fully the structure of epidermis, and the functions it performs. 12, When seeds begin to germinate they form carbonic acid, which they expel; whence is the oxygen derived?

BUCKLAND SWEETWATER GRAPE: *Preston.* We have not seen this fruit, and are therefore unable to offer any opinion upon it. You are yourself aware that it is well spoken of by competent judges.

EMIGRATION: *H L.* We cannot assume so serious a responsibility as that of advising a man where he should go. All we can do is to inform him respecting such matters as he inquires about. Industry and activity, with patience in addition, will secure success in every English colony. For ourselves we should take our chance in British Columbia.

FINE FOLIAGED PLANTS: *Vix incertus.* Cyanophyllum magnificum is a fine thing; so is Caladium argyrites. When equally well grown they may be called equal. When one is better grown than the other the best grown should win.

FRUITS FOR A SOUTH WALL: *H T.* Peaches ought to succeed against a south wall in Essex if the subsoil is drained and the trees properly managed. You have only to protect the blossoms from frost, keep the foliage clear of insects, and adopt such means in pruning and training as will prevent the branches at the top and in the centre of the tree from growing too strong, and the others from becoming too weak. However, if you resolve to plant Pears instead the following will be suitable:—Marie Louise, Beurré Diel, Winter Nelis, Glou Morceau, Passe Colmar, Beurré Rance, Gansel's Bergamot, Easter Beurré. They may be planted 20 feet apart.

HANDSOME FLOWERING EVERLASTINGS: *C B.* All the species of Aphelexis, Ozothamnus, Helichrysum, Helipterum, Gnaphalium (except the weeds), and Xeranthemum. Many of the latter are hardy. Your only way is to inquire for them at some great establishment. Some are purple, some white, some yellow.

LANDSCAPE GARDENING: *Staffordshire.* Consult Mr. Kemp's book, *How to Lay Out a Small Garden.* The author's address is Birkenhead.

NAMES OF PLANTS: *W D.* We do not recognise your plant, and not being in flower it cannot be determined. That it is forming flowers is clear, and they will doubtless expand as soon as the plant is strong enough.—*G F.* The Lastrea does not seem different from a sterile Filix-mas. The other plant is so much withered as to be quite unexaminable. It looks like some species of Heliotropium, and is certainly no native of this country.—*E G.* 1, Calamintha Acinos; 2, Athyrium Filix-fœmina; 3, Lastrea Filix-mas.—*E A.* 1, Asplenium fontanum; 2, Polystichum Lonchitis; 3, Pteris tremula; 4, Adiantum formosum.—*D.* Common Melilot.—*Cork.* Santolina Chamæcyparissias or Lavender Cotton.—*W Fuller.* Chenopodium ambrosioides, and Cynodon Dactylon.—*A M.* Your Hypogreen is Senecio Jacobæa; you may preserve it by drying the roots and potting them now in a nice damp shady place.—*D D.* 1, Cynosurus cristatus; M, Carex remota; J, Phalaris arundinacea; E, Aira cæspitosa. Why not number the specimens?

NURSERY STOCK: *A Constant Reader.* The agreement is valid though not stamped. It can now be stamped on payment of a penalty. There being an agreement you had better refer it to your solicitor and consult him as to your rights under it.

VERBENA: *A Q Z.* Your seedling is handsome, but not more so than many having the same colour already in cultivation.

VINES: *T H H.* Too much moisture somewhere, and too little ventilation, are the cause of the "blistering."

COLLEGE OF AGRICULTURE AND CHEMISTRY, and PRACTICAL and GENERAL SCIENCE, 37 and 38 Lower Kennington Lane, Kennington, London, S.

Principal—J. C. NESBIT, F.G.S., F.C.S., &c.

The system of studies pursued in the College comprises every branch requisite to prepare youth for the pursuits of Agriculture, Engineering, Mining, Manufactures, and the Arts; for the Naval and Military Services, and for the Universities.

Analyses and Assays of every description are promptly and accurately executed at the College. The terms and other particulars may be had on application to the Principal.

ARTIFICIAL MANURES, &c.—Manufacturers and others engaged in making ARTIFICIAL MANURES may obtain every necessary instruction for their economical and efficient preparation, by applying to J. C. NESBIT, F.G.S., &c., Principal of the Agricultural and Chemical College, Kennington, London, S. Analyses of Soils, Guanos, Superphosphates of Lime, Coprolites, &c., and Assays of Gold, Silver, and other Minerals are executed with accuracy and despatch. Gentlemen desirous of receiving instruction in Chemical Analyses and Assaying, will find ample facility and accommodation at the College

BURNARD, LACK, AND CO.'S CONCENTRATED SUPERPHOSPHATE OF LIME; guaranteed to contain Phosphoric Acid soluble, equivalent to **40 per cent. of Tribasic** Phosphate of Lime.

CONCENTRATED TURNIP MANURE, equal in value to the preceding.

Of these Manures Dr. Voelcker says:—"These results must be very gratifying to you, and are the best proof of the very high agricultural and commercial value which characterises your concentrated superphosphate."

**Detailed analyses, with opinions of the late and present** Chemists to the Royal Agricultural Society, with Testimonials, **Prices, &c., may be had on application to BURNARD, LACK, & Co., Sutton Road, Plymouth.**

LONDON MANURE COMPANY, removed to 116, Fenchurch Street, E. C. (Established 1840), have the following MANURES ready for delivery:—

CORN MANURE for SPRING TOP-DRESSING
URATE
MANGEL MANURE
SUPERPHOSPHATE OF LIME
BLOOD MANURE
} all of guaranteed quality.

In consequence of the reduction in the price of raw material the London Manure Co. are enabled to lower the price of their Superphosphate of Lime, and to materially improve the Corn Manure and Urate.

The London Manure Co. also supply PERUVIAN GUANO (direct from Messrs. A. Gibbs and Sons), SULPHATE of AMMONIA, NITRATE OF SODA, CRUSHED BONES, and every other Manure of value. Wholesale dealers supplied.

116, Fenchurch Street, E.C. EDWARD PURSER, Secretary.

REDUCTION IN PRICE OF LAWES'S MANURES.

MR. LAWES begs to announce that he has this season reduced the price of the Manures manufactured by him, viz.:—

| | | | |
|---|---|---|---|
| TURNIP MANURE .. .. .. | from £7 | to £6 | 6 |
| SUPERPHOSPHATE OF LIME .. | ,, 7 | to 6 | 6 |
| MINERAL do. .. | ,, 6 | to 5 | 5 |
| BARLEY MANURE.. .. .. .. | .. | .. | 8 0 |

Prof. Way and Dr. Voelcker have sampled from a bulk of 5000 to 6000 tons at his factories, and their report and analyses are given in full in Circular to be obtained on application at his office, 1, Adelaide Place, London Bridge, E.C., or of his local Agents.

N.B. Genuine Peruvian Guano direct from Messrs. GIBBS, Nitrate of Soda, Sulphate of Ammonia, and other Chemical Manures. American Cotton-seed Cake supplied.

HENRY J. MORTON AND CO.,
2, Basinghall Buildings, Leeds.

CALVANISED IRON WATER CISTERNS

for Cottage Houses, &c., to contain 50 gallons, 25*s.*; 80 gallons, 30*s.* each; and 140 gallons, 36*s.*, and fitted with tap, keeping the water perfectly sweet and clean; will not rust or corrode. Cisterns of all sizes.

GALVANISED IRON PUMPS

for Liquid Manure or Domestic Use, 3 inches diameter, 30*s.* and 32*s.* 6*d.* each; Tail Pipe for same at from 10*d.* per foot.

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for Garden or Farm use, containing about 20 gallons, entirely formed of iron, 32*s.* 6*d.* each.

GUTTA PERCHA TUBING FOR WATERING GARDENS.

THE GUTTA PERCHA COMPANY have the pleasure to acknowledge the receipt of the following

*Testimonial from* Mr. J. FARRAH, *Gr. to* BOSWELL MIDDLETON JALLAND, Esq., *of Holderness House, near Hull.*

"I have had 400 feet of your Gutta Percha Tubing, in lengths of 100 feet each, with union joint, in use for the last 12 months for watering these gardens, and I find it to answer better than anything I have ever yet tried. The pressure of the water is very considerable, but this has not the slightest effect on the tubing. I consider this tubing to be a most valuable invention for Gardeners, inasmuch as it enables us to water our gardens in about one-half the time, and with one-half the labour required."

Manufactured by the Gutta Percha Company, Patentees, 18, Wharf Road, City Road, London, E.C., and sold by their Wholesale Dealers in town and country.

SHAW'S TIFFANY is universally acknowledged to be the best, neatest, and cheapest material for shading Conservatories, and other Hothouses. Effectually securing Plants from the scorching rays of the sun, without obscuring the light. Also, for protecting the Bloom of Wall Trees from spring frosts, and Fruit from birds and wasps. Sold in pieces.

No. 1.—20 yards long, by 38 inches wide, 5*s.* per piece.
No. 3.—Double strength, 18 yards long, by 39 inches wide, 7*s.* 6*d.* per piece.
No. 4.—Treble strength, 18 yards long, by 39 inches wide, 9*s.* per piece.

A liberal allowance to the Trade when ten or more Pieces are taken.—JOHN SHAW & Co., Princess Street, Manchester.

"FRIGI DOMO."—Patronised by her Majesty, the Queen, the Duke of Northumberland for Syon House, His Grace the Duke of Devonshire for Chiswick Gardens, Professor Lindley for the Horticultural Society, Sir Joseph Paxton for the Crystal Palace, Royal Zoological Society, late Mrs. Lawrence of Ealing Park, and —Collier, Esq., of Dartford.

PROTECTION FROM THE SCORCHING RAYS OF THE SUN.

"FRIGI DOMO," a Canvas made of patent prepared Hair and Wool, a perfect non-conductor of Heat and Cold, keeping, wherever it is applied, a fixed temperature. It is adapted for all horticultural and floricultural purposes, for preserving Fruits and Flowers from the scorching rays of the sun, from wind, from attacks of insects, and from morning frosts. To be had in any required lengths. Two yards wide, 1*s.* 6*d.* per yard run; four, 3*s.* per yard. Also, an improved fabric for Shading Purposes. Three yards wide, 2*s.* 6*d.* per yard run.

ELISHA THOMAS ARCHER, whole and sole manufacturer, 7, Trinity Lane, Cannon St., City., E.C., and of all Nurserymen and Seedsmen throughout the kingdom. "It is much cheaper than mats as a covering."

THE LANDS IMPROVEMENT COMPANY.—Incorporated by Special Act of Parliament in 18[illegible]. 2, Old Palace Yard, Westminster, S.W. To Landowners, the Clergy, Estate Agents, Surveyors, &c., in England and Wales and in Scotland.

The Directors beg leave to announce that the Company's Amendment Bill, 1859, has received the sanction of the Legislature. The Company now advance money, unlimited in amount, for the following works of Agricultural Improvement, the whole outlay and expenses in all cases being liquidated by a rentcharge for 25 years.

1. Drainage, Irrigation and Warping, Embanking, Inclosing, Clearing, Reclamation, Planting for any beneficial purpose, Engines or Machinery for Drainage or Irrigation.
2. Farm Roads, Tramways and Railroads for agricultural or farming purposes.
3. Jetties or Landing places on the sea coast or on the banks of navigable rivers or lakes.
4. The erection of Farm Houses, Labourers' Cottages, and other Buildings required for Farm purposes, and the improvement of and additions to Farm houses and other buildings for farm purposes.

Landowners assessed under the provisions of any Act of Parliament, Royal Charter, or Commission, in respect of any public or general works of drainage or other improvements, may borrow their proportionate share of the cost, and charge the same with the expenses on the lands improved.

**No investigation of title is required, and the Company being** of a strictly financial character do not interfere with the plans **and execution of the Works, which are controlled only by the** Government Enclosure Commissioners.

Under the Company's Acts, tenants for life, trustees, mortgagees in possession, incumbents of livings, bodies corporate, certain lessees, and other landowners are empowered to charge the inheritance with the cost and expenses of the above improvements, whether the money be borrowed from the Company or advanced by the Landowner out of his own funds, and owners in fee may effect these improvements of their Estates without incurring the expense and personal responsibilities incident to mortgagees, and without regard to the amount of existing incumbrances.

**For further information, and for forms of application, apply** to the Honbrable WILLIAM NAPIER, Managing Director, 2, Old Palace Yard, Westminster, S.W.

ROYAL AGRICULTURAL COLLEGE, CIRENCESTER.

The next SESSION commences on MONDAY, August 8. Early application to the Principal, the Rev. JOHN CONSTABLE, M.A., for admission should be made, as only those Students are admitted whose papers are satisfactory, and for whom there is accommodation.

ROYAL AGRICULTURAL COLLEGE, CIRENCESTER.

*Patron*—His Royal Highness the PRINCE CONSORT.
*President*—The Right Hon. Earl BATHURST.
*Principal*—The Rev. JOHN CONSTABLE, M.A., Trin. Coll., Camb.
*Professors, &c.*
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Surveying, Civil Engineering, and Mathematics—J. M. GRINDROD, C.E.
Assistant to Chemical Professor—A. SIBSON.

In-Students, 84*l.*; Out-Students, 40*l.* per annum. For admission application must be made to the Principal. The next Session commences on MONDAY, August 8.

STAFFORDSHIRE AGRICULTURAL SOCIETY.
STOKE-UPON-TRENT MEETING, 1859.

The POULTRY EXHIBITION in connection with this **Society will take place on WEDNESDAY, September 14.**

Prize Lists and Certificates of Entry may be obtained on application to WM. TOMKINSON, Secretary.

Newcastle-under-Lyme, July 23.

# The Agricultural Gazette.

*SATURDAY, AUGUST* 6, 1859.

—— A REPORT of the Yorkshire Agricultural Society's meeting at Hull during the past week will be found in another page. A short account is also given of the meeting of the Highland and Agricultural Society at Edinburgh. It is note-worthy that at neither was there any trial exhibition of steam cultivation. It would seem that the manufacturers interested in this subject are satisfied with the progress already made, and believe that the general public is already fully convinced of the practicability of the methods already sanctioned and adopted.

The two societies meet during the same week, in spite of obvious public interest to the contrary. For, admitting that there are few who would care to be present with both as spectators, it is plain that there are many who would help both as exhibitors if they could. The implement department and the live stock department of these shows would both of them be more capable of instructing and of benefiting spectators if the undivided attention of exhibitors in each could be given to both of them, as at present it cannot be. The remedy manifestly is that one of these two associations should postpone the ordinary period of its meeting until that of the other has elapsed. And if in the case of one society the period of meeting has on many past occasions and for various reasons been shifted to and fro, while that of the other has throughout its history been invariable—if in the case of one the annual show is but one of many objects to which the attention of the society is directed, while in that of the other it is the sole effort of the year, the main source of its income, and the whole occasion of its expenditure, there cannot be a doubt as to which should yield. This is we believe the history of the two societies respectively, and we therefore venture to express a hope in the interest of the public that in the year 1860 the Highland Society will allow the meeting of the Yorkshire Association to elapse before holding its own. Besides what has been stated, it would by delaying its annual gathering obtain in ordinary years the additional advantage of being able to provide suitable trial ground for the show of reaping machines at work, which is generally a difficulty so far north as early as the first week in August.

—— Harvest is now general all through the midland and even the northern counties of England, and it is nearly completed in the south. We hope next week to give the report of crops with which our correspondents all over the island usually favour us. Their statements have however to a certain extent already been forestalled by the communications which during several past weeks we have published in our columns.

IT is a very general complaint that the Barley this autumn is thin and meagre, but farmers do not in general seem to be acquainted with a very prevalent cause. They may be right in attributing the evil in part to deficiency of moisture, and cold nights alternating with hot days; but there is an enemy which seems to have escaped their notice, which is at least as much to blame. Scarcely a leaf or leaf-sheath is free from mildew, and in many cases the parasite extends to the stem; and doubtless had the weather been warm and moist, both the Barley and Wheat crops would have suffered very seriously. Mildew is very rare in general on Barley, and assumes rather a different form on that plant from what it does on Wheat. The spots are much shorter, and the spores are shorter. In other respects, however, it is precisely the same and has doubtless equal powers of exhaustion, especially when seated on the stem.

As regards Wheat, there is also a prevalent notion that it is much affected by some blight, and though somewhat exaggerated, it is not entirely without foundation. It was very evident soon after the Wheat had blossomed, and appeared on the chaff in the shape of dark lines or blotches penetrating deep into the tissue without any trace of mould, even of the common *Cladosporium*, which so often gives a black tint to standing corn in damp weather without very materially affecting the grain. The affection is in fact very similar to one which was very prevalent in Hungary last year, and which was described in this Journal. It arises, as we believe, from heavy dew settling upon the ear while the tissues are yet tender, and inducing a degree of cold which is injurious to them in consequence of its rapid evaporation.

Here and there the stalk immediately beneath the ear is blackened, the stain extending upwards amongst the spikelets. This is a far more formidable condition, and ends, in bad weather, in complete decay, the hollow of the stem being stuffed with the spawn of some fungus. The affection is not, however, common, and may probably escape general observation.

Though some diminution of weight will doubtless attend on the prevalent blight, there is clearly no cause for general uneasiness, but on the contrary, the produce in most parts of England will probably be above the average, provided the weather does not take an unfavourable turn and encourage the growth of mildew. *M. J. B.*

## APPEARANCE OF THE CROPS.

BERKSHIRE.—Wheat crop barely an average in consequence of storms: ripening too rapidly. Barley good, but quality variable. Oats full crop. Beans vary; some very good, others almost a failure. Hay crop abundant and well harvested. Mangel Wurzel promising; plant in some places irregular. Swedes and Turnips very promising; aftermath very short. Corn harvest commenced pretty generally about the 23d. Labour short; generally regretted that the militia should have been called out at this important season. *E. W. Moore, Coleshill, Highworth. July* 29.

BUCKS.—Wheat heavy, much laid, good average. Barley full fair crop. Oats good. Spring Beans fair crop. Winter Beans very bad. Hay full crop, well secured. Potatoes somewhat doubtful as to soundness. Turnips promising. Harvest will be general in a week. *Alex. Fraser, Steeple Claydon July* 21.

CHESHIRE.—It would be difficult in the present season to form a very correct estimate of the growing crops, many of them having suffered from the dry hot weather, and others from the effect of heavy thunder-showers, which in many localities have laid prostrate fields, and portions of fields, of Wheat, Barley, and Oats; and we observed nearly a fortnight ago several fields which had a very spotted appearance of green and white, almost a certain indication of premature ripeness. Our impression however is, that a great portion of the Wheat crop, and also of early sown Barley and Oats is well fed, and will prove productive, although we cannot imagine that there will be an average of the last two years. The harvest is just commencing, having seen both Wheat and Oats cut; but we cannot calculate upon harvest being general before the end of next week. We have neither seen or heard much disease in the Potato crop. Mangel Wurzel has greatly improved by the late rains, and many crops which at one time were considered worthless bid fair to being above, rather than below, an average; Swedes too are also improved where they have escaped the ravages of black caterpillar, which pest has been unusually destructive in many parts of the county. In one field which came under our notice about a fortnight ago, we observed detached portions literally covered with the grub, and the plants reduced to mere skeletons; in another field not more than 200 yards off, they made their

appearance in very formidable numbers, but fortunately the crop had not been hoed, and the plants being very thick in the row, but little injury was done, and the whole tribe left the field in a very sudden and mysterious way: we suspect a flock of starlings had discovered and feasted upon them, as we know from experience their usefulness in this way. The hay crops (excepting upon very hot land) have been very good and well secured, and pastures too, where not overstocked, have been full of Grass until within the last fortnight, when the dry weather began to tell upon them, and also upon the quantity of milk from the cattle. *W. Palin, Tarrein, July 27.*

DORSETSHIRE.—The crops are generally good, and harvest is nearly in full work. *William Voss, West Bucknowle, Corfe Castle, July 21.*

EAST NORFOLK.—I have delayed till this moment sending you an account of the appearance of the crops in this district. A fortnight since they bid fair to be all the most sanguine could wish (I allude especially to the loamy soils along the coast), but this unprecedented drought is telling daily upon them. The Wheat is ripening prematurely, and many fields are more or less affected with mildew; the crop is not likely to exceed an average. Barley was a most promising crop, and excepting here and there a field injured by wireworm is bulky and much laid. Mildew has attacked it, and the sample will be coarse and thin, and much of it unfit for malting. Oats and Beans are not extensively grown here, but promise an average crop. On the light and sandy soils which predominate in this county, the crops are seriously injured by the drought and must fall short of an average. The root crop is various, Mangel Wurzel a larger breadth than usual, and promising; Turnips not doing so well, injured by wireworm and caterpillar, many fields patchy and some resown. Potatoes diseased; hay a fair crop and well secured, but little or no aftermath, indeed pastures of all kinds scorched and bare, and water getting scarce. Harvest will be general about the end of first week in August. *W. Cubitt, North Walsham, July 27.*

GLOUCESTERSHIRE.—Wheat, average produce, variable in quality; Barley not average; Oats not average; Beans good; Peas average; Potatoes, disease appearing, otherwise have looked very well; Mangel, below average; Swedes, below average. Harvest general on the 26th July, and weather permitting will be rapidly brought to a close. *Josiah Hunt, Almondsbury, Gloucestershire.*

KENT.—There may at present be one-third of the Wheat in sheaf, but not 1 per cent secured. We have not had so short a crop of Wheat since 1816, when I was 36 years of age. We are so short of hands that even with dry weather I cannot imagine when the harvest can be finished. The bulk of straw is nearly double of last year, and consequently increases the expense and time in carting. Wheat not half the crop of last year; Barley as various in quantity and quality as can be; Peas an exceeding good crop; Beans a good average; Oats very good; Potatoes worse than for many years; Swedes particularly good. *Robert Matson, Wingham.*

LINCOLNSHIRE.—The Wheat crops in this neighbourhood are generally thin and light; where the crops are laid they are mildewing; altogether I should say that the Wheat crops are below an average. The Barley crops are about average, but much laid and in many cases mildewed. The Oats are about average crops. On the whole Turnips are looking well, but there are complaints of wireworm and Black Jack. Mangel Wurzel every year becomes more cultivated, and is now looking well. The disease has made its appearance in the Potato crops in this neighbourhood. No Beans and Peas are grown in this immediate vicinity. The hay and Clover crops were more than average ones. *Edward Darby, Grantham, Horncastle, July 26.*

NORTH LINCOLNSHIRE.—I am sorry to say we have not the same prospect for a good crop of Wheat as last year. Good well farmed land is again a good crop, the contrary is much lighter than last year, but the worst feature is that this last 10 days the mildew has made its appearance on the light soils to a considerable extent, and the heavy crops are very much beaten down with the heavy rains, which will very much injure the quality as well as lessen the quantity. Barley is a good crop; Oats I think an average. Turnips and Mangels are now doing well. Harvest will be pretty general in this neighbourhood about August 8. *F. Sowerby, Aylesby, July 29.*

NOTTINGHAM.—My opinion of the crops on the light sand land near this is briefly as follows: Wheat and Barley, very fair; Oats, not good at all; Peas, bad poor crop; Turnips, doing very well, first rate; Mangels look very well, but not much grown; Potatoes look well, no disease yet. *Henry J. Wilson, Sherwood Hall, Mansfield, July 27.*

SOMERSET.—The crops generally in the eastern part of the county of Somerset look well. The Wheat promises an average return, as is the case with Oats and Barley. The hay-harvest over, crop good, and in beautiful order. Late-sown Turnips and Mangel Wurzel, a failure, but the early sown crops good. Very little Potato blight. Keep for cattle exceedingly scarce from the long continued drought. Peas and Beans an average crop.. *J. W. Eastment, July 28.*

SUSSEX.—The Wheat crop in this neighbourhood is very good, much over an average crop. Oats will be rather short in straw but still quite an average crop. Peas very good indeed, much over an average. Beans good in most places where land is farmed well. Barley but little sown in this part, but what there is looks promising. Hops improving very fast, and bid fair for a great crop. Harvest commenced the latter end of last month, but in some parts of Sussex not till this week. Hay crop good, and has been a most favourable time to get it up with little expense to the farmer. Prices of store stock very high and likely to continue so. *Henry Bristowe, Rose Hill, Brighting.*

WEST SUSSEX.—We are now into harvest with all hands: some began on the 18th. Nearly all had begun on the 20th, and it has got ripe so fast that every hand is fully employed to get it down with all possible speed, and some are complaining of shortness of hands. In some places the Wheat is very much down, and will be more expensive to cut, and as this is the case in some localities more than others, extra hands go where it is easiest to do even at less money, and this being the case we hear of hands being numerous in some places and scarce in others. I do not think that the reaping machines have made much advance in favour this season. I have not heard of any new ones hereabout, though I suppose those that had them last year are using them this. The Wheat crop has ripened too fast, but still it is a good crop. Barley has also ripened a little too soon, but where it was early sown it will be of good quality and a fair crop. Oats, where sown in fair time, are rather over average. Of Beans the reports are various, what I have seen are good. Peas I believe are generally good. We have lately had some very heavy thunderstorms, which, though they have done some damage to the corn, have done immense benefit to the pastures, which were getting much burnt up, and Swedes and Turnips have been much assisted by them, as they were previously doing very badly, and even now are not what they generally are; but as it is still early they may yet come up to an average crop. Potatoes are a fair crop; there is a little disease in some places, but not to the usual extent. Our corn market is more than usually full, and sales proceed slowly. Beef in short supply, and but little in demand; mutton in large supply, and a fair sale; lambs more in demand, the supply beginning to fall off. *G. S., July 26.*

WILTSHIRE.—Reaping became general July 25, although a few began two or three days earlier. The Wheat crop is a bulky one as regards straw, and much of it laid rather early; but whether laid or standing it has not ripened so kindly as one would have expected from so warm and dry a season, the corn being thin and several pounds per bushel under last year. Still, I am inclined to think there will be nearly the average number of bushels per acre. Barley is a heavy crop of straw, but not sufficiently early to judge what the quality will be. Oats are also a heavy crop. Winter Beans where left are turning out better than at one time was expected, still they are a short crop. Spring Beans and Peas are a good crop and well corned, but the hot season is not unlikely to make the corn small in size. The hay crop has been the most bulky one we have had for several years, and it has been well got in. Turnips and Swedes are very promising, although it has not been free from the attacks of its usual enemies. There is not much corn harvested in the neighbourhood and the weather is rather unsettled to-day. *Thomas Arkell, Pen Hill Farm, Swindon, August 1.*

WORCESTERSHIRE.—Wheat crop average; Barley full average; Beans average; Oats average; Peas full average; Swedes good; Mangels good; Turnips good. Harvest commenced the latter end of last week and will be general the latter end of this week. Grain ripening fast but reapers scarce. *Henry Hudson, Wick, near Pershore, July 29.*

YORKSHIRE.—Up to Monday the 18th inst there had been no heavy rains to lodge the corn in the northern counties, but on that evening and since we have had violent storms of wind and rain, and much grain has been laid perfectly flat. As, however, it was generally pretty well filled before this disagreeable weather came, the sample will not be much worse if the season should continue moderately fine up to harvest. The Wheat crop has shot into ear quite as well as could have been expected, and although it will be inferior to the heavy yielding crop of last year, yet on the whole I think it will prove a full average one. The same may be said of Barley. Oats are unequal; on the whole, perhaps, barely an average. Beans short. Peas good. Potatoes so far promising, though not so strong in the haulm as in some years. Turnips patchy, with here and there a splendid field; the whole crop is not so promising as one could wish. Hay harvest is nearly over; it has been a moderate crop, exceedingly well got and at unusually small expense. I think corn harvest may commence in a few favoured spots in a fortnight, and will be general in three weeks in the North Riding of Yorkshire. *H. J. Turner, Richmond, July 25.*

## Home Correspondence.

*Sheep Feeding.*—I observed in your Number for July 2 some Notes on Sheep Farming by Charles W. Hamilton, and although readily agreeing as to the value of the information contained in it, yet think it right to point out a mistake of great practical importance, which if not corrected would be a fertile source of error. Mr. Hamilton in comparing the analysis of the urine of a ewe and wether states—"Urine of ewe, sp. grav. 1.009; it was strongly acidulated with muriatic acid and then evaporated down, until upon cooling it was converted into a solid, the residuum was weighed and found to constitute 2.609 per cent. of the urine; such amount of it (2.609 lbs.) was then burned with soda lime, and in this way was found to yield 0.542 lbs. of ammonia = 0.390 lbs. nitrogen. Urine of wether, sp. grav. 1.057, treated in the same way it gave a much larger residuum, consisting of 25.43 per cent. of the urine, and this when burnt with soda lime gave 9.165 lbs. of ammonia = 7.45 nitrogen. The comparison gives—

| | Sp. gr. | Ammonia. | Nitrogen. |
|---|---|---|---|
| Urine of ewe .. . | 1.009 | 0.542 | 0.390 |
| Urine of wether .. | 1.057 | 9.165 | 7.486 |

We then arrive at the conclusion that the urine of the wether yields very nearly 17 times as much ammonia as that of the ewe, and that using the ammonia as a guide the value of the urine of the wether is to that of the best Peruvian guano in the ratio of 9 to 17." What an extraordinary amount of ammonia this urine is made to contain, more even than in the oilcake itself from which it was derived; how is this to be accounted for? If, however, we look close into the subject, a little more light begins to dawn upon our minds, since it appears highly probable that Mr. Hamilton has mistaken the per centage of ammonia in the solid matter of the urine of the wether for the per centage of ammonia in the whole bulk of the urine. Supposing this to be the case, we find that the urine of the wether contains, instead of 9.165 per cent. of ammonia, merely 2.33, and instead of yielding nearly 17 times as much ammonia as that of the ewe, it yields merely about four times as much. It must be remembered also that it would be impossible that feeding sheep on oilcake should pay, were it not that the value of the nitrogen as contained in the form of mutton so much exceeds the same constituent as contained in oilcake. *W. Spooner, jun., Eling, July 7.*

*Renting Dairy Cows.*—You will oblige some readers of your excellent *Gazette* by procuring full information upon the subject of letting milch cattle to dairymen, the rates charged, the amount of food stipulated for, to whom belongs calves and manure, and all particulars which would instruct in the system. Believing it to be of great value to note the different produce of dairies, and that the present season is that in which results can be best noted, I hope you will invite information on the subject, to which I will contribute if you will permit. *C. M. E., Co, Armagh, Ireland.* [We shall be glad to hear from you.]

*The Cow.*—We find in the cow species numerous breeds of various qualities, induced by climate, selection of man, and other influential causes. In the moist climate of Ayrshire and adjoining western counties of Scotland, Kerry in Ireland, Devonshire, Holland, and the Danish peninsula and islands from the mouth of the Elbe northward, we find breeds of cows extremely well suited for dairy purposes, and consequently these districts are chiefly devoted to the production of butter and cheese. In these districts the moist climate and abundance of the Grasses are the disposing causes. The moist air does not exhaust or dry up the fluids of the body of the cow by respiration or perspiration; while the herbage, also moist and succulent, is suited to produce by assimilation a large quantity of milk. Here a rather curious fact occurs. When the climate is peculiarly moist and not too hot, as in Ayrshire, the milk contains, in proportion, more butter materials than cheese; hence cheese is made in preference to butter. The excess of butter in the milk causes the cheese made from it to be of the richest quality, and the consequent increase of value more than compensates for the defect in quantity of cheese, or worth of the butter. In these dairy countries the figure of the cow is as much as possible of a wedge shape, commencing with a fine long nose, comparatively slight fore-quarters, fine bone, horn, skin, and pile, very large hind-quarters, with good size of tail; the hind-quarters broad and deep, completing the thick end of the wedge both in the horizontal and perpendicular section. In Ayr, Kerry, and Devon breeds of cows, by habit of race and bodily proportions peculiarly adapted to milk production (a character of race induced as well by climate as by man's selection for numberless ages), continue for several generations to retain the same character though removed to drier climates, and but gradually yield to change of circumstances. In Spain, and other hot arid portions of Europe, the cow, as a milk-producing animal, is of small account, and is chiefly used for draught purposes. From the dry unsucculent herbage and searching dry hot atmosphere during the greater part of the season, not producing but exhausting the animal juices, the cow is scarcely able to give milk sufficient to support her own calf. Spain therefore looks to the pig for a butter supply, and terms the melted fat of the pig white butter. This the pig affords in considerable quantity, getting fat upon the Chesnuts, Acorns, and reptiles, and upon the numerous herbs which take the place of the Grasses in Spain, the Grasses becoming more scant as we approach the tropics. In the central and eastern districts of England, where the climate is drier than in the west, and now also pretty well scattered over the British Islands, we find the Short-horn, a breed of a very different figure and character from the dairy cow, a massive meat-producing animal, got up by the beef-loving Saxons of the eastern counties. This animal is of a square figure, the fore-quarters and hind-quarters forming each nearly a cube, the trunk of the animal presenting a double cube, with a comparatively small head, neck, and legs, the body as much as possible resembling a short thick log of mahogany a little rounded at the edges. This cubic object has a fine head, straight outline, mild eye, with the skin and pile soft and yielding. It has the further quality, as we have already stated, of early maturity and early disposition to fatten to great weight; and is perhaps the most interesting object that can meet the eye of an Englishman. I have thus briefly sketched the two extreme classes of the cow—the most perfected milk giver and beef giver. There are many breeds intermediate in character, partaking to some extent the valuable qualities of both; but an incompatibility of combining the highest excellence in both seems to exist. The British Islands are especially favoured with a climate capable of affording the finest pastures in the world. In the south of England and Ireland the Grass continues growing more months in the year than in any other country (New Zealand excepted). Continental countries, in the colder portion of the temperate zone, lose more months' growth by their long-continued winter, while in the warmer portion of these zones the continental vegetation is completely parched up by the drought and heat, and vegetation is dormant for about as long a portion of the year as in the colder. In consequence of these natural continental disabilities the excellence in cow culture, and the peculiar adaptation of it of the British Islands, aided by the superior intelligence and energy of the British farmer, these islands incomparably excel in this branch of rural economy, as much in breeds of the cow as in the cognate production incomparable beauty in the milkmaids. *A Farmer's 50 years' practice, Carse of Gowrie, July 18.*

## Societies.

ROYAL AGRICULTURAL OF ENGLAND.

AT a MONTHLY COUNCIL held Wednesday, August 3, the Right Hon. Lord Walsingham, President, in the chair, several new members were elected. The monthly report of the Finance Committee was received, by which it appeared that the current cash balance in the hands of the bankers was 2464*l.* 18*s.* 2*d.* The report of the House Committee was received and adopted.

A deputation having attended from Canterbury relative to the site proposed for the Society's show in 1860, it was resolved on the motion of Col. Challoner, seconded by Sir John Shelley, "That the deputation be informed that the whole of the guarantees for the lower sites (No. 2 called Hale's Place), for the show yard and trial yard, must be guaranteed by the Corporate Seal of Canterbury during the present month, subject to Mr. Fisher Hobbs and Mr. Brandreth Gibbs visiting the above sites and deciding that there is a sufficient quantity of ground adapted to the requirements of the Society, and that the said guarantees should include the completion of the sidings, suitable to the wants of the Society previous to the 1st of May, 1860.

Reports were received from the stewards of live stock at the Warwick meeting.

On the motion of Mr. Barnett, seconded by Mr.

Milward, the thanks of the Council were voted to Lord Leigh, and the county magistrates for the use of the judges' lodgings at Warwick.

The following were elected as the new Finance Committee: Mr. Barnett, the Hon. Col. Hood, Mr. Fisher Hobbs, Mr. Milward, and Mr. Bramston.

On the motion of Mr. Wilson the resignation of Mr. Raymond Barker as a Vice-President was withdrawn.

A communication transmitted from the Foreign Office by order of Lord John Russell, together with copies of despatches relative to guano deposits on Jarvis Island, was laid before the Council. From a despatch from Captain Montreser, of H.M.S. Calypso, to Rear-Admiral Baynes, it appears that on Jarvis Island, situated in lat. 0° 22′ S., long. 159° 50′ W., deposits of guano exist to an extent estimated (by measurement) at 1,000,000 tons. Of this 6000 tons have been exported since the American Guano Company of New York (to whom it belongs) first commenced regular shipments in May 1858. The shipments already made have been exclusively in American vessels. The deposit is from 4 feet to 10 inches in depth, and it contains a maximum of 80 per cent of phosphate of lime but little or no ammonia. It appears that there is also a deposit on Fanning's Island, but that none of this has been exported, and a further deposit is said to exist on Johnson's Island.

Communications were received from Mr. Smith of Woolston, and the Hon. Secretary was instructed as to the reply to be given to the one of these letters which was addressed directly to the Council.

Other communications and matters of detail were laid before the Council, and instructions given relative thereto.

The Council granted the usual vacation to the Society's clerks during the autumn recess, subject to the exact dates being arranged by the Hon. Secretary.

The Council then adjourned to its Monthly Meeting in November.

## YORKSHIRE AGRICULTURAL.

HULL: *Monday, August* 1.—Although Tuesday, as far as the public are concerned, is the first day of this important agricultural gathering, yet a good deal of interest was taken in many things that fell to be done this day. Towards 10 o'clock the judges made the round of the yard, selecting such implements as appeared deserving of trial in the field, under the heads of reaping machines, ploughs, and harrows. These being immediately despatched to the farm of Mr. John Clarke, at a distance of four miles west of Hull, were followed by the gentlemen appointed to ascertain their relative merits. The first work to be done was to clean a large field of Beans in readiness for the plough on the following day. Eight different reapers appeared upon the ground.

(1) Crosskill's Bell (42*l*.), with its buttoned-strap side delivery and evenly balanced cutting apparatus driven by two horses from behind—(2) Burgess & Key's (42*l*. 10*s*.) with its spiral roller side delivery, drawn by two horses from the side—(3) Wood's (Cranston's) (35*l*.) combined mower and reaper, drawn by two horses from the side, with side delivery by hand—(4) Samuelson's automaton reaper, with self-acting rake, and delivery at the side in sheaves—(5) Wray's one-horse (16*l*.) (Hussey), drawn from the side and delivered by hand in sheaves from behind—(6) Cuthbert's (22*l*.) one-horse reaper with delivery by hand from behind.—(7) The same reaper (24*l*. 10*s*.) with an additional leaf behind, needing an additional horse, and carrying an additional man with an additional rake by which an excellent side delivery is effected; and (8) C. W. Eddy's (25*l*.) (Kegworth, Derby), with what may be called a central delivery, also driven by two horses from the side. The prices are affixed as constituting an important element in the adjudication of merit.

The field of Beans on which they were first tried was a heavy crop, as clean as possible. Bell's machine (Crosskill, maker), first went around it and across it, so as to divide it out into the eight plots, and the machines were very soon all at work. The following are our notes of their performance:—

In Wray's machine the speed is got up by a toothed wheel working into a worm upon the shaft carrying the crank movement for the cutter, and so making it revolve and giving it its speed. Nothing could be simpler and nothing therefore can be cheaper than this way of accomplishing the object; but unfortunately nothing can be more wasteful of power, and on this mechanical ground alone the award of merit could not be granted to Mr. Wray, who made creditable work, requiring, however, the attendance of men to pick up the sheaves and bind them out of the way in order to enable its continuous work.

Burgess & Key's well-known reaper made very fair work in the Bean field, delivering the produce on one side in continuous swathes.

Cuthbert's machine did excellent cutting—no better in the field—and the sheaves, thrown on one side by two men with rakes riding on the machine, were easily gathered together and bound. There was no better work than this in the field.

Samuelson's Automaton reaper was shown by the North of England Company. It cuts about 4 feet wide: the operation of its self-acting rake is to some extent influenced by the man carried on the machine, who can put it out of gear and into gear with his foot, according to the rapidity with which a sheaf is gathered; but even at its best the sheaf was very clumsily laid. The spasmodic rapidity with which the rake is made to change its position at its turning places is such as to fling or flirt out the straw, so that on a windy day it would be carried to some distance. The method in which the rake is worked is extremely simple; but the necessary looseness of its parts makes the works rattle with considerable noise, suggestive of rapid wear of those parts.

Wood's reaper made capital cutting; but the delivery by one man perched at the end of the machine was not very even or effective. Cuthbert's one-horse machine, with delivery in the wake of the machine, made capital work, but was of course subject to the same objection laid to the work of Wray's machine—that it involved immediate attendance of labourers. Crosskill's, to which we were indebted for opening up the field, as being the only one which can charge standing corn, did not do very good work—did not cut so well as Cuthbert's or as Wood's, and did not deliver so well as Burgess & Key's. The butts on the India rubber straps, of which by the way there are now only two, did not stand out sufficiently to catch the straw and carry it forwards, and yet stood out sufficiently to rub corn out of the straw underwhich it passed.

Dr. Eddy's reaper, which attempts to carry out an ingenious idea, failed entirely. It unites cutters and a series of vertical saw edges with five or six large teeth apiece in one; they all move together, and as the straw is cut it falls on an inclined receiving board upon these teeth, which, going to and fro, push it to the one side of the receiving board, where there is a large enough opening through which it falls on to the ground. Unfortunately this opening was *not* large enough, and so the corn did *not* fall, but accumulated and choked. This was attributed to the bulk and wetness of the crop, but on being afterwards tried on Barley the failure was *almost* equally great, and an award of merit to it was thus out of the question. It appears to us that either hand delivery, or web delivery, or spiral roller delivery, as in Cuthbert's, Bell's, and Burgess & Key's respectively, is superior to the idea which in this roughly patched trial machine has been unsuccessfully attempted to be carried out.

The award for excellence of work in the Bean field seemed to us almost equally due to Cuthbert's, Burgess & Key's, and Wood's, though the last was inferior to the others in the form in which his sheaves are delivered.

Showers fell during this trial which rendered the work both disagreeab e and inferior.

*Tuesday, Aug.* 2.—This was the principal day for the trial of implements.

*The Trial of Reapers* attracted most attention, and considering that fields of Beans, Barley, Wheat, and Oats were provided for the judges, the trial was a very effective one. The Barley field, standing tolerably well, and carrying a good and clean crop, was first cut down, the same machines as were yesterday at work starting on their respective plots, and were timed to their several performances. Wood's and Cuthbert's cut pretty evenly together. Burgess & Key's was much the most rapid in its performance in the field; its cutting was hardly so perfect as that of either Wood's machine or Cuthbert's, but its delivery left little to be desired. Samuelson's Automaton was greatly delayed and injured by restive horses. The delivery of Cuthbert's machine effected by two men is superior to that of Wood's. The excellent performance of Cuthbert's one-horse machine, leaving the corn in sheaves in its wake, excited the greatest interest in the field. Wray's cheap one-horse machine made very good work. Dr. Eddy's failed this day as on the previous. The reel of Crosskill's reaper, set too low, caught the corn as it was cut, and acted as a haymaker, contributing no doubt to the delay and injury of its performance. After the Barley was all cut down we were again indebted to Crosskill's reaper to open up the Wheat field—and here the performance of the several machines tended to confirm the judgment which had already been generally formed. Burgess & Key's, though cutting hardly so well as either Cuthbert's or Wood's, was much the first in the field for efficient delivery and rapid performance. Cuthbert's cut admirably well and delivered by hand in well formed sheaves. Wood's cut well but did not deliver in good sheaves. Dr. Eddy's implement did not leave the Barley field. Samuelson's Automaton did better in the Wheat than had been expected. Wray's worked satisfactorily. As a last trial Burgess, Cuthbert, and Wood followed one another round some laid and heavy Wheat at the lower end of the field, and this sufficed to determine the award which had been already pretty nearly arrived at before. The first prize would have been awarded to Burgess & Key's machine had the conditions under which the judges were placed permitted them to award a nearly equal sum to Cuthbert's reaper from the extra fund placed at their disposal; and failing their ability to do this—the fitness of the latter for farms of moderate size, its cheapness, and its excellent performance as a cutter, and its creditable performance in delivering the sheaves, although this was done by hand, induced an equal division of the 20*l*. offered for the best reaper between Cuthbert and Burgess & Key—a commendation being given to Wood's combined mower and reaper.

*The Trial of Tillage Implements* took place on a level field of exceedingly hard and stiff alluvial clay, covered with old seeds imperfectly eaten off, and very foul. A large number of ploughs and harrows were gathered in this field, and had horses been available the office of judge would have been comparatively easy and agreeable. By-and-bye the ploughs for 6-inch work were got to work, and Howards' took the first prize with comparative facility, while Busby's took the second. Messrs. Hornsby, whose ploughs were in the yard, declined to allow them to compete on the score of unpreparedness. An injury to Howards' plough hindered it from competing for the deep-work prize, which was awarded to Busby of Bedale, the second going to Cooke of Lincoln.

A very interesting performance in the field was made by Hancock's (Glo'ster) pulverising plough, which takes its full depth by means of three shares, each higher than the one behind it, the two former armed with upright coulters in the middle of their width, and the last and lowest being of great width. A mould-board is placed, but may be removed, by which the land may be turned as well as distributed if desirable. It is a very heavy tool, but seems very perfectly available, either as a shallow parer or for deep and thorough fallowing, and in both ways on this extremely heavy land it made such excellent work that orders for it were given by some of the judges, who awarded it an extra prize of 3*l*.

The harrows were tried on the ploughed land as soon as it was ready for them. Busby's Northumbrian harrow, a hybrid of harrow and cultivator, with curved teeth, made good work and secured a commendation. Howards' heavy harrow of the common form seemed to be the best of these tried, including Busby's and Bentall's, and received the prize, Bentall's being highly commended. Bentall again got the first prize for light harrows, and Busby was highly commended. Howards' harrows of this class were of the lightest kind, and the ground was unusually hard and heavy. Bentall's success and commendations were achieved owing as much perhaps to the quality of their make (of double angle iron with special arrangements for fixing the teeth) as to any obvious superiority in their performance. Bentall's will probably outlive any other harrows made—an advantage, however, gained at the expense of a somewhat additional cost.

*Wednesday, Aug.* 3.—The earlier part of this day was occupied by the inspection both of stock and of a large remainder of implements by the Society's judges. The public were however admitted at an early hour, and had the advantage in many cases of watching the process of adjudication in the cattle and sheep classes, the horses not being judged till the last morning of the show. It is an advantage to see a whole class of animals brought out and placed neck and neck for examination alongside of one another.

*The Classes of Drills and Manure Distributors*, as well as the award of extra premiums, still remained to be adjudicated by the implement judges, and their examination resulted in the award of the prize for manure distributors to Mr. Reeves, of Westbury, who also received the prize for Turnip and manure drill on the ridge—the advantage of simplicity and of not aiming at the accomplishment of too much by a variety of ingenious contrivances being thus asserted. For, at Coultas's (Grantham) stand and at Clarke's, of Lincoln, there were extremely ingenious machines by which the delivery of bulky manures along with the seed was effected, and rows of seed might be deposited a little to one side of the rows of manure, and the alteration of the supply of manure and interval of row was ingeniously effected. Reeves's machine, however, adapted to the uniform supply of a very small quantity of manure and with much fewer parts about it, took the prize. It appeared to us to be less cheap than it ought to be considering its simplicity. We should have been glad too to have seen "Sigma's" manure distributor (Powell, of Hurstgreen) in competition with Reeves's manure distributor which took the prize. The prize for Turnip drill on the flat was given to Messrs. Coultas, of Grantham; the superiority in his case as compared with Reeves's lying mainly in the ability to carry a larger supply of manure, which where five rows instead of two are being thus fed is an essential matter. The prize for general corn drill was given to J. Coultas, Jun., of Grantham, and J. Clarke's (Lincoln) drill was highly commended. The best liquid manure drill (Chandler's) was declared to be that of Watkinson (Louth), which differed in some commendable particulars from that of Reeves, who was the original manufacturer.

Among the other awards by the judges were 2*l*. for Lambert's (Hull) metallic horse collar, combining harness and collar at less weight and cost and equal strength in one. It was somewhat bold to give a premium of this kind where none of the judges had had personal experience of the fitness of a rigid metallic surface as a horse collar, but there was sufficient testimony on the subject to induce them thus to commend a new contrivance. 1*l*. was given to a combination of seed drill with Cambridge roller, exhibited by Marshall of York; and 1*l*. to Busby's "crowbar" steel-pointed plough.

The silver medal of the Society was awarded to Isaac Spight, of Briggs, for a remarkably clever, efficient, and cheap corn horse hoe, to which reference will be made hereafter. It is a great improvement in many important particulars, and among others in cheapness on Garrett's horse hoe. Beyond sundry commendations we have now gone over the awards of the Society's judges; the gentlemen acting in that capacity being Messrs. Barugh, John Clarke, J. Chalmers Morton, Riley, and Wheatley.

We may however refer to one or two other implements in the yard deserving notice. Mr. Patch, of

Driffield, showed an ingenious contrivance in front of the pole of a two-horse waggon, for retaining hold of the draught chains. Mr. Clarke's (Lincoln) drills exhibit great ingenuity in contrivances for altering intervals of rows, inclination of manure box, and quantity of material sowed.

Mr. Grantham's (Louth) blower, with endless chain for filling sacks and weighing machine combined, deserves notice. A self-cleaning bar-roller, showed by Marshall, of York, is ingenious. Mr. Winder's (Sheffield) rotary pumps deserved and received commendation. Mr. Sawney's (Beverley) sack weigher and lifter combined is a useful tool. Mr. Kittmer's (Louth) corn-dressing machine received a high commendation. The Crosskills had a good stand of implements. An ingenious hand drop drill (Wailes, of Easingwold) exhibited a simple arrangement for delivering Turnip seed in bunches. Bentall, of Maldon, showed an ingenious addition to Gardner's Turnip cutter, by which the earth off the roots is delivered apart from the cut slices.

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THE CATTLE YARDS of the Yorkshire Agricultural Society exhibit a good average entry of live stock in most of the classes, more especially of course in Short-horn cattle, Leicester sheep, and horses. Among them are many animals which have been already prize-takers at other agricultural meetings. Mr. Wetherall's Short-horn bull "Statesman," some of Colonel Towneley's cattle, Captain Gunter's yearling heifer, "Duchess 77" and other Short-horn cattle, are well known by visitors at Chester, Warwick, &c. And among the entire horses are some with entire necklaces of trophies carried off at previous shows. We can do little more this week than enumerate some of the chief prize animals in the several classes:—

SHORT-HORN BULLS: 1. *Bulls of any age.*—11 entries, including "Statesman" (Mr. Wetherall), "Prince Imperial" (Lord Feversham), "Master Butterfly 5," Colonel Towneley. The first and second prizes went to "Stateman" and "Prince Imperial," white and roan respectively.—In (2) *Yearling Bulls* there were 10 entries contributed by many of our best breeders—Towneley, H. Smith, Ambler, &c. Col. Towneley's "Royal Butterfly" (roan), carried away the first prize easily, and Mr. Ambler took the second with "Prince Talleyrand."—Among (3) *Bull Calves*—14 entries—Col. Towneley carried away both the prizes by two calves, both by "Baron Hopewell."—Among (4) *old Cows* the prizes went to Col. Towneley and Mr. Ambler, and the order of merit was here somewhat doubtful, Col. Towneley being, however, placed first by the judges.—Of (5) *Three-year-old Cows*, the first prize animal (excessively fat) was "Queen Mab," the property of R. Booth, of Warlaby; the second prize went to Mr. Middleborough, of Milford.—The first prize (6) *Two-year-old Heifer*, an animal of extraordinary length and beauty, was shown by Col. Towneley.—In (6) *Yearling Heifers* there were 17 entries—a very remarkably beautiful show. The first prize went to Captain Gunter, for "Duchess 77," which took the third prize in the same class at Warwick, and the second went to Colonel Towneley.—Of (8) *Heifer Calves*, 11 were exhibited, and the first and second prizes stood side by side, both roan, nearly of one age; the smallest, shown by Mr. Torr, took the second prize; the other, first prize animal, was the property of Sir C. H. Tempest.

There were classes for fat oxen and fat cows—only one entry, we were glad to see, in the latter—a wonderfully fine white cow, only three years old, "Beauty's Butterfly," that ought to have been worth much more than beef.

A capital show of *Dairy Cows* was exhibited in Classes 11 and 12, the latter containing five entries of six cows each, all of them first-class animals of wonderful size.

We shall merely name the prize-takers in the classes of *Leicester Sheep*, premising that the awards are in every case given to the more delicate and highly bred sheep, rather than to the coarser, longer, stronger long-woolled sheep.

*Shearling Rams* (14 entries).—1st, W. Torr; 2d, J. Borton.
*Old Rams* (18 entries).—1st, W. Sanday; 2d, J. Borton.
*Pens of 5 Ewes* (9 entries).—1st, J. Simpson; 2d, W. Gofton.
*Shearling Ewes* (11 entries).—1st, F. Jordan; 2d, J. Simpson.

There was a very short entry of short-woolled sheep and of cross-breds. A considerable entry in *Swine*, both the large and small classes being well represented. The awards were not known when we left.

A capital show in the *Horse Classes*, both of sporting and farming, completes the contents of the Yorkshire show-yard. A dozen agricultural stallions made a capital feature in it. "Champion," a Clydesdale horse, Douglass, and Lord Raglan, black horses, are among the best. What the award of the judges is will be given in our next.

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We may congratulate the secretary, J. Hannam, Esq., and the office-bearers generally of the Society, on the unquestionable success of an unusually good meeting.

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## MEETING OF THE HIGHLAND AND AGRICULTURAL SOCIETY AT EDINBURGH.

August 1st, 2d, 3d, 4th, and 5th.

*Edinburgh: Monday, August* 1.—This meeting, which bids fair to surpass its predecessors in interest from the variety and extent of its productions, is held in a city which in itself possesses attractions sufficient to draw numerous visitors from all parts of the kingdom; held, too, at a season when the "travelling fever" is at its height, we may fully expect the largest and most influential gathering of visitors which has yet graced the Society's exhibitions. The site, chosen with admirable good taste for the locality of the show yard, affords perhaps the best and most characteristic view of the town "Edina, Scotia's darling seat." As you turn from it to wend your way townwards, a view unmatched anywhere for romantic beauty meets your delighted eye.

As those acquainted with the routine of proceedings of the national meetings of England and Scotland well know, two modes of arrangement of implements and machines in the show yard, very different in principle and details, are adopted. At the gigantic gatherings of the Royal Agricultural Society of England, the implements are all arranged according to the rotation of the stands, each exhibitor having all his articles of whatever class or kind, no matter how diverse in character or mode of application, under his own shedding. At the meetings of the Scottish Society on the contrary, the various implements and machines are arranged according to a system of classification having reference to their special uses in the field or the farm buildings; thus if one exhibitor exhibits ploughs, harrows, and threshing machines, these are placed under three divisions or classes. However admirable in a scientific point of view this system of classification may be, it is doubtless productive of much inconvenience to exhibitors, inasmuch as it involves the trouble of looking after separate detachments of articles—taking their attention from one while attending at the other—and thus lessening the chances of having conferences with intending purchasers of different classes of machines. By dividing his attention thus, his "Order-book" may not display so satisfactory a condition at the end of the show as it might do, could he have all his articles under his immediate inspection and that of intending purchasers.

*Tuesday, Aug.* 2.—*The Trials of the Steam Threshing Machines* took place this morning at Myreside Farm, near Merchiston Castle. The weather was as fine as could be desired in every respect but one, namely, a wind which, blowing pretty hard, added not a little to the discomfiture of those who were judging and witnessing the trials, by blowing about and mixing the products. The machines entered for trial were only five in number: those of Messrs. Robey & Co., of Lincoln; Mr. Wm. Foster, of same place; and of Messrs. Williamson of Kendal and Mr. Haywood, jun., of Derby, representing the English makers; Messrs. Smith, of Glasgow, the Scotch. There was to one accustomed to the displays of the English shows, a marked absence of the fine machines of the leading English firms, as the Hornsby's, the Garrett's, Ransome's and Sims, or Clayton & Shuttleworth's. This, however, may be attributed to the agreement, which, we believe, has been recently entered into by the leading houses not to compete for prizes at the provincial shows, of which the Highland Society, although the parent of all our agricultural societies nearly, has been classed as one.

Each of the threshing machines in the trial yard above noted was accompanied by portable steam-engines, which for compactness and high finish were very noticeable. The result of the trials was in every way satisfactory; but we refrain from entering into particulars till the publication of the judges' report. The four-horse power machine of Mr. Haywood attracted considerable attention from its adaptability to small holdings.

*Mowing Machines.*—In the afternoon the trial of the field implements began with the exhibition of "mowing machines." Here, as at Warwick, the machine (Allen's Patent) of Messrs. Burgess & Key, brought forward in this instance by Mr. J. Shaw, of Whiterigg, made good its claim to be considered *the* machine of the day. The work performed by it gave good hopes that the farmer had now a machine upon the good services of which he could depend in the important season of haymaking. The other mowing machines exhibited were two by Messrs. Gardner & Lindsay, of Stirling, and one of Wood's (American Patent). Immediately after the mowing a number of stubble and hay rakes were tried. On a piece of ground roughly ploughed the clod-crushers and Norwegian harrows, &c., were put to trial, and displayed their capabilities upon the whole very favourably. The preliminary trial of the "ploughs" excited great interest; amongst those entered for competition Howards' excited, we need scarcely say, a great deal of attention. The names of the principal competitors in this department are Law, of Shettleston, near Glasgow; Miller, of Arntelly; Sellar & Son, of Huntly; Howard, of Bedford; Ponton, of Linlithgow; Grieve, of Tranent; Kirkwood, of Tranent; M'Gregor & Sons, of Keith. It is to be regretted that owing to a misunderstanding—of which more hereafter—Hornsby does not compete with his new plough. We do not remember of ever having seen so large and influential an assemblage at "implement trials" as was drawn together on this occasion. We may remark in passing that not the least interesting feature of the display to an agriculturist was the number of splendid horses in the field retained to do the work of ploughing, &c. The Scotch Shows have for long been famous for this "display." Yet on this occasion it excelled we think all previous ones. Much to the disappointment of many there was no steam ploughing apparatus at work as at the Show at Aberdeen last year. This is cause for regret, for we believe that it would have interested not a few to have had an opportunity of examining the improvements which Mr. Fowler has effected in his apparatus since its exhibition at Aberdeen last season.

*Wednesday, Aug.* 3.—*The trial of the field implements* was renewed this morning at 7 o'clock. The Show Yard (admission 2*s.* 6*d.*) opened at 2 o'clock. It was highly satisfactory to notice the great number of people who flocked to the admission gates. Doubtless not a few of the fashionable people there assembled, and who it must be confessed possessed apparently but little in common with those whose "talk is of oxen" were drawn together as to a fashionable promenade with the additional attraction of "Royalty." For it was publicly announced that his Royal Highness the Prince of Wales would grace the show-yard with his presence this afternoon, which in due course he did; and appeared to examine the various novelties with exemplary patience and affability.

We were glad to see a few of our well-known English firms well represented. Amongst these we may name Hornsby, Clayton & Shuttleworth, Richmond & Chandler (a firm which has booked the lion's share of praise for those machines, as straw cutters, &c., for which they are so distinguished), Howard, Robey, Foster, Coleman & Sons, Crosskill, Reeves, Samuelson, Bentall, and Turner & Co.

The following taken at random from notes on the show yard will show the "first prize" takers in a few of the leading sections. In our next we hope to make the list complete, adding thereto a few notes on the novelties exhibited. For two horse ploughs for general purposes, the first prize of 3*l.* has been taken by Howard of Bedford, the same taking the first prize for trench or deep furrow ploughs. For subsoil ploughs for two horses, first prize taken by Mr. J. Kirkwood, of Tranent, R. Law, of Shettleston, taking the first prize for a subsoil plough for three or four horses. For double mould-board ploughs for forming drills or balking, with attachment for lifting Potatoes, the first prize was taken by Mr. George Ponton, of Linlithgow. Of Norwegian harrows, the first prize was awarded to Mr. David Young, of Haxenden, Kelso. For consolidating land rollers, the first prize was given to the trustees of William Crosskill, Messrs. Smith Brothers & Co., Glasgow, taking the first prize for the land pressers for preparing seed-bed for grain. Of harrows for covering Grass seeds, the first prize was taken by Howard, of Bedford. Of drill sowing machines the first prize was awarded to Messrs. Hunter & Samuelson, of Haddington. Of sowing machines for Grass seeds the first prize was given to Mr. Andrew Tyrie, Errol; sowing machines for Mangel Wurzel to J. and S. Young, Ayr; do. for Carrots, the first to Mr. Shireff, Dunbar. Liquid manure distributing machines, first to the trustees of William Crosskill.

At the threshing machine trial yesterday morning there was a keen competition, the trial mainly resting between Mr. Foster, of Lincoln, and Messrs. Robey of the same place. So nicely balanced, indeed, were the respective claims of the competitors that the judges deemed it best to divide the prize of 50*l.*; each party was thus left standing on equality of merit.

Of fanners for cleaning Grass seeds the first prize was awarded to Mr. Richardson, of Carlisle. Of straw cutters for "hand," also for "power," Messrs. Richmond & Chandler took the first prize; the same firm taking the first prizes for Linseed and oilcake breakers and for grain bruisers for power. Of Turnip cutters for sheep the first prize was awarded to Picksley, Sims, & Co., Leigh, near Manchester; for ditto attachable to a cart, the first prize was taken by Mr. Shireff, of Dunbar. Messrs. Smith, Brothers, & Co., of Glasgow, took the first prize for steaming apparatus for food. Of churns worked by hand, the first prize was taken by R. Tinkler, of Penrith; for ditto worked by power, Wm. Lindsey, of Edinburgh; Messrs. J. & T. Young, of Ayr, taking the first prizes for cheese presses.

We must defer our concluding remarks till our next Number.

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### AGRICULTURAL IMPROVEMENT OF IRELAND.

DUNDALK: *Annual Meeting.*—We omitted the prize list last week, and now supply it.

The judges on this occasion were:—

SHORT-HORNS.—R. Holmes, Ballycumber; T. Parkinson, Southwell; W. Ladds, Ellington, Hants.

OTHER BREEDS.—H. Watson, Keillor, N.B.; S. Anston, Manavilly Farm, Cornwall; D. Hastings, Belfast.

HORSES: FARM.—Hon. R. G. Talbot, Dalkey; S. Rait, Rathmoyle; Hon. W. Arbutnoth, Blackrock.

THOROUGHBREDS.—H Thurnal, Royston, Herts.

SHEEP.—G. Brown, Marlborough; C. Going, Nenagh; A. Wright, Corstophine, N.B.

SWINE.—H. Thurnal; Hon. W. Arbutnoth; W. Harris, Highfield.

POULTRY.—G. A. Pollock, Navan; J. Dombraine, Dublin; Dr. Madden, Dublin.

FLAX AND CEREALS.—H. Halett, Newtownlimavady; G. Martin, Belfast.

BUTTER.—J. M'Donnell, Carlow; G. Burrowes, Carrickfergus; S. M'Connell, Belfast.

IMPLEMENTS.—R. O. Wade; C. G. Grey; J. Clarke, Lincolnshire.

The following is the Prize List:—

CLASS A.—SHORT-HORNED.

Section 1. Old Bulls, 1st, Mr. William Todd, commended at Warwick, East Lothian; 2d, Lord Talbot de Malahide, first at Royal Dublin Society. 2. Young Bulls, 1st, Mr. Jeffry Burcroft; 2d, Mr Thomas Barnes. 3. Yearling Bulls, 1st, Mr P. Tynte, Clydesdale; 2d, Mr. F. Lindsay, Killybegs. 4. Old Cows, 1st, Mr. W Todd; 2d, Mr J. Douglas. 5. Two-year Heifers, 1st, Mr. Richard Eastwood, Lancashire; 2d, Mr James Douglas. 6. 2 year Heifer 1st, Mr T. Ball, Malahide; 2d, Mr. J. Douglas. 7. Yearling Heifers, 1st, Mr. R. Eastwood, 2d, Mr. T. Ball.

CLASS B.—OTHER BREEDS.

Section 1, Old Hereford Bull, John E. L. Hewer, Hereford; 2, Old Devon Bull, R. Quinn Alexander, Acton; 3, Polled

Angus or Galloway Bull, Lord Talbot de Malahide; 4, Ayrshire Bull, H. Harrison, Holywood House; 5, West Highland bull, Earl of Charlemont; 6, Kerry Bull, Charles Reilly; 7, Hereford, Sussex, or Long-horned Leicester Cow, J. E. L. Hewer; 8, Hereford Heifer, J. E. L. Hewer; 9, Hereford Heifer (young), J. E. L. Hewer; 10, Devon Cow, Henry L. Prentice, Caledon; 11, Devon Heifer, Sir Allan C. Bellingham; 12, do. (young), H. L. Prentice; 13, Polled Angus or Galloway Cow, Lord Talbot de Malahide; 14, do. (young), Sir F. Heygate; 15, do. (yearling), Lord Talbot de Malahide; 16, Ayrshire Cow, M. Chambre, Esq.; 17, do. (young), Lord Clermont; 18, do. (yearling), Lord Clermont; 19, West Highland Cow, Sir F. Heygate, M.P.; 21, do. (yearling), Lord Charlemont; 22, Kerry Cow, Sir E. McDonnell; 23, do. (young), Model Farm, Glasnevin; best prize Bulls, the Gold Medal, Mr. Wm. Todd, Elphinstone Tower, East Lothian; best prize Cow and Heifer, the Gold Medal, Mr. Richard Eastwood.

The Purcell Challenge Cup, value 100*l.*—Founded by the late Peter Purcell, for the best animal in the Neat Cattle classes, possessing most merit of its kind in the estimation of the judges. (Mr. Eastwood, for section V., Short-horns.)

Waterford Challenge Cup, value 100*l.*—For the best lot of three horned animals (Bulls or Heifers), but not in mixed lots, not exceeding 20 months old, having been bred by exhibitor, and *bonâ fide* his property, Mr. Thomas Ball.

CLASS C.—HORSES.

Section 1. Stallion for agricultural purposes, Messrs. Moore, Raheny, Dublin: 2d, John Mill, Donabate, Dublin; best Stallion, the Medal, Messrs Moore. 2. Draft Mare in foal, or with a foal, Sir F. Heygate, M.P.; 2d, N. M. Archdall. 3. Draught Filly, Lord Clermont. 4. Draught Filly (2 years old), Mr. A. Steele, Londonderry.

BEST THOROUGH-BRED STALLIONS.

30*l.*, and the Croker Challenge Cup, value 50*l.*, Mr. Hugh Morrow.

CLASS D.—SHEEP.—LEICESTERS.

Section 1, Shearling Ram, Mr. George Thunder, Navan; 2d, do. 2. Old Ram, Mr. Owen; 2d. Thomas Marris. 3. five Shearling Ewes, Thomas Roberts; 2d, William Owens. 4. Pen of five Ewes, Thomas Roberts; 2d, Thomas Marris. 5. Five Ewe Lambs, C. P. Leslie.

CLASS E.—OTHER LONG WOOLLED SHEEP.

Section 1, Shearling Ram, W. H. Carroll, Tulla House, Nenagh; 2d, W. H. Carroll. 2. Old Ram, T. B. Browne, of Gloucester; 2d, N. W. Roche, M.D., Fermoy. 3. Five Shearling Ewes, W. Brown; 2d, do.

CLASS F.—CHEVIOTS.

Section 1. Ram, Lord Clermont; 2d, do. 2. Shearling Ewes, Marquis Conyngham; 2d, do. 3. Five Ewes, Marquis Conyngham; 2d, do.

CLASS G.—BLACK FACES.

Section 1. Ram, Lord Clermont; 2d, Sir F. Heygate. 2. Shearing Ewes, Sir F. Heygate: 2d, Lord Clermont. 3. Ewes, Sir F. Heygate; 2d, Lord Clermont.

CLASS H.—DOWNS.

Section 1. Shearling Ram, C. W. Hamilton. 2. Old Ram, R. Scott, Stirling. 3. Shearling Ewes, Thomas Marris. 4. Ewes, C. W. Hamilton. For the best Ram in classes, the medal. Mr. George Thunder.

CLASS K.—SWINE.

Black.

Section 1. Young Boar, R. G. Glen, Londonderry; 2d, Mr. W. Joyce, Waterford. 2. Old Boar, Lord Clermont; 2d, Mr. R. G. Glen; the best Boar, Mr. George Glen. 3. Young Breeding Sow, Lord Clermont; 2d. R. G. Glen. 4. Old Breeding Sow, W. Joyce; 2d, H. S. M'Clintock, Randalstown.

White.

5. Young Boar, J. Wilkinson; 2d, Lord Clermont. 6. Old Boar, J. Wilkinson; 2d, W. Prendergast; best Boar, Mr Joseph Wilkinson. 7. Young Breeding Sow, H. L. Prentice, Caledon; 2d, Lord Clermont. 8. Old Breeding Sow, H. L. Prentice; 2d, R. Pattison, Dundalk.

## Miscellaneous.

*Wash your Pigs.*—Pigs are not dirty when they have any encouragement to be clean. Ours is washed every week, in warm soap and water, and well scrubbed behind the ears and everywhere, to its great ease and comfort. A highly economical remark of my man about this part of his work was, that he scrubbed the pig on washing days, because the soapsuds did just as well for manure after the pig had done with them, "and that," said he, "makes the soap serve three times over." *Once a Week.*

## Calendar of Operations.

AUGUST.

South Essex: *August* 1.—Since sending our last report violent storms of rain have intercepted and marred the prospects of the very fine and abundant harvest that was fully expected a fortnight back. Although the storms have not been so destructive here by hail as in adjacent counties, yet many thick seeders' crops fell never to rise any more, and are deteriorated in a much greater degree from blight and various other causes, than those crops more rationally seeded, which although they could not fully resist the force of the tempests, yet were able to rise upon their stout footstalks again, and will produce more than an average crop. Of about 28 acres of our own Wheat planted at one bushel and at five pecks per acre, not more than five acres was prostrated so as not to be able to lower up again, and that was on land too highly enriched by artificial stimulants. On the whole we have reason to thank Almighty God that rain did come, or more serious consequences might have been occasioned by a premature ripening of the grain, in the extreme heat and absence of shade during so many of the longest days.—*Maldon, Essex.*

## Notices to Correspondents.

Grass: *A B.* The Grass sent is not Alopecurus pratensis (Meadow Foxtail) but A. agrestis (slender Foxtail), which is a highly pernicious weed, and if its seed has really been supplied for the Meadow Foxtail it is a very serious affair, as it not only involves injury to the present crop but introduces a most baneful weed to the farm, which without great care will take years to eradicate. We should like to know if the species sent is the general Grass of the crop, and the nature of the soil. *J B.*

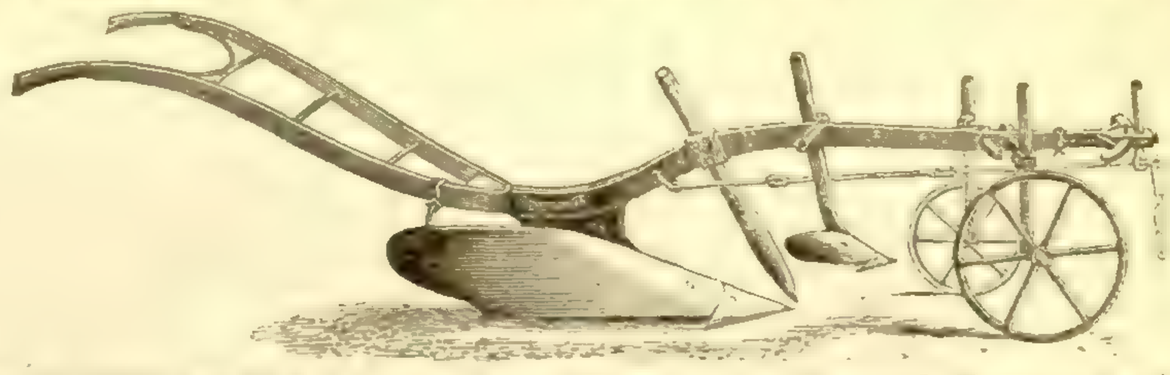
Mangel Wurzel: *R L.* This is the usual English spelling. It is founded on a whimsical application of the German word Mangel—scarcity or want.

Thistles: *J H.* Perseverance in spudding and draining will ultimately destroy them.

* As usual, many communications have been received too late, and others are detained till the necessary inquiries can be made. We must also beg the indulgence of those correspondents the insertion of whose contributions is still delayed.


THE PLOUGH TRIALS AT WARWICK.

HOWARD'S CHAMPION PLOUGH



Gained the FIRST PRIZE as the Best Plough for General Purposes at Warwick,

BEING the CHIEF PRIZE for PLOUGHS, awarded by the Royal Agricultural Society of England, at this Meeting. The importance of this Prize will be gathered from the fact that the GENERAL PURPOSE PLOUGHS are the only ones tried on BOTH LIGHT AND HEAVY LAND, and as HOWARD'S CHAMPION PLOUGH proved itself to be the best on both soils, the FIRST PRIZE, of the HIGHEST AMOUNT given by the Society for any kind of Plough, was awarded to J. & F. Howard.

PRIZES awarded to J. & F. Howard, by the Royal Agricultural Society of England, at the WARWICK MEETING, 1859, being not only the LARGEST NUMBER of PRIZES, but the LARGEST NUMBER of FIRST PRIZES awarded to any Exhibitor.

THE FIRST PRIZE FOR THE BEST PLOUGH FOR GENERAL PURPOSES
ALSO A PRIZE FOR THE BEST PLOUGH FOR LIGHT LAND
AND A PRIZE FOR THE BEST PLOUGH FOR HEAVY LAND
THE FIRST PRIZE FOR THE BEST LIGHT HARROWS
THE SECOND PRIZE ALSO FOR THE BEST LIGHT HARROWS
AND THE FIRST PRIZE FOR THE BEST HEAVY HARROWS.

Every one of HOWARD'S Implements, tried at Warwick, gained a Prize.

CATALOGUES, with full particulars, sent post free on application to

J. & F. HOWARD, BRITANNIA IRON WORKS, BEDFORD.

SAMUELSON'S

PATENT SELF-RAKING REAPER

is now working satisfactorily in nearly every County in England.

It delivers at the side in sheaves ready for the binders; requires no raker or gatherer. A man capable of driving a pair of horses can easily manage it, and can cut from 12 to 15 acres per day. Orders can be only received for 1860. The above and

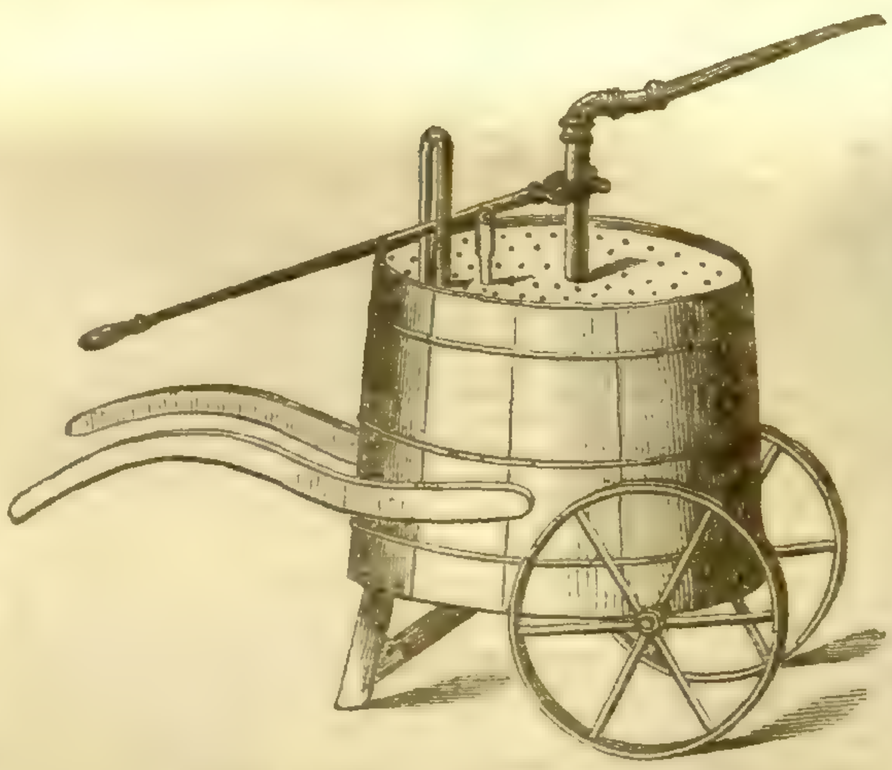
SAMUELSON'S IMPROVED HORSE RAKES, &c.,

and all approved Implements of the day by Barrett, Clayton, Howard, Hornsby, Nicholson, Richmond, Smith & Ashby, Tuxford & Sons, may also be inspected at

76, Cannon Street West, London, E.C. Manufactory: Banbury, Oxon.

DEANE & COMPANY'S

HORTICULTURAL TOOLS.

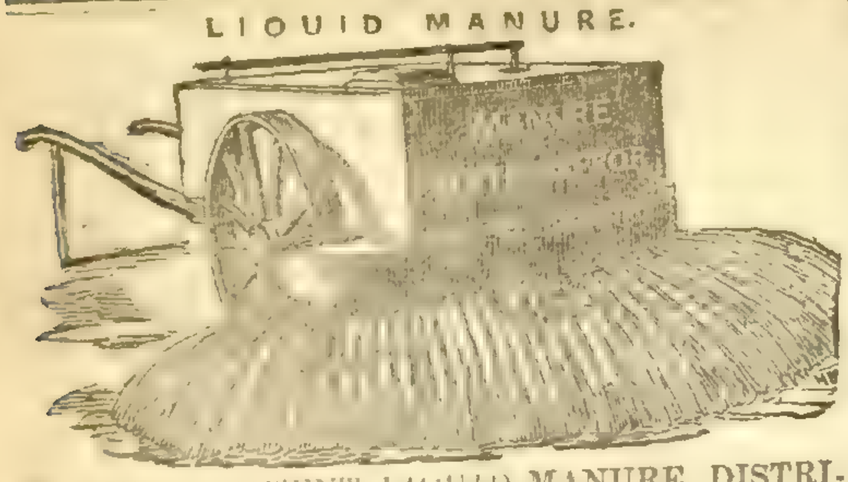


GARDEN ENGINES, Galvanized Iron
Prices 55s., 63s., 105s., 120s.
Ditto, Wood, 84s,, 105s, 130s.
Flower Stands, 4s. 6d. each.
Cast Iron Ornamental ditto, to hold 7 Vases, 27s.
Deane's Mowing Machines, with Boyd's Patented Improvements, £4 17s. 6d; £6 6s. 0d., £6 17s. 6d., £7 7s. 0d.
Green House Syringes, 8s., 10s., 18s. 6d
Garden Rollers, £1 14s. 6d., £2., £2 12s.
£3 3s., £3 18s., £4 13s., £5 12s., £7 10s.
Garden Stools, 4s. 6d.
Garden Chairs, from 30s.
Boyd's Self-adjusting Scythe, 10s. 6d.
Wire Work, 18in. 4d. per yard run.

*Every Implement for Garden use on the lowest Terms.*

DEANES:—Opening to the Monument, London Bridge.

LIQUID MANURE.



JAMES'S PATENT LIQUID MANURE DISTRIBUTOR OR WATER-CART, warranted not to choke up or otherwise get out of order. It is thoroughly adapted for Drill Crops, or Pasture Land, or for Watering Streets; has been awarded SIX FIRST PRIZES.

Full Particulars and Testimonials may be obtained of the Patentee, ISAAC JAMES, Tivoli Waggon Works, Cheltenham.

Improved *LIQUID MANURE PUMPS* supplied.

---

WARNER'S IMPROVED LIQUID MANURE OR GENERAL PORTABLE PUMP.

These Pumps are fitted with WARNER'S Patent Bucket and Valve, and cannot clog in action. The barrel is made of galvanised iron, not likely to corrode, and can be raised or lowered at pleasure on the stand, the legs of which fold together, and may be carried with ease by one man to tank or pond.

| | £ | s. | d. |
|---|---|---|---|
| Stand and Pump, with screwed tail pipe, fitted with strong brass union for suction pipe | 2 | 15 | 0 |
| If fitted with barrel of planished copper .. .. | 3 | 4 | 0 |
| Stand and Pump, with plain tail pipe, for tying on suction pipe .. .. .. | 2 | 9 | 0 |
| 2-inch patent rubber and canvas flexible suction pipe, on wires, either 10, 12, or 15 ft., per foot | 0 | 2 | 2 |

May be obtained of any Ironmonger or Plumber in town of country, at the above prices, or of the Patentees and Manufacturers, J. WARNER & SONS, 8, Crescent, Jewin St., London, E.C.

---

WARNER'S PATENT VIBRATING STANDARD PUMPS.

PATENT CAST-IRON PUMPS for Farms, Cottages, Stable Yards, &c., where the Well does not exceed 28 feet in depth; fitted with WARNER'S Patent Metal Bucket and Valve, which cannot clog in action. These Pumps can be made right-handed, left-handed, or with handle opposite the nose by removing four screws only.

| Diameter of Barrel. | Height. | | £. | s. | d. |
|---|---|---|---|---|---|
| 2½ in. | short | 1 ft. 7 in. | 1 | 5 | 0 |
| 2½ ,, | long | 3 ,, 3 ,, | 1 | 10 | 0 |
| 3 ,, | ditto | 3 ,, 6 ,, | 2 | 4 | 0 |
| 3½ ,, | ditto | 3 ,, 6 ,, | 2 | 9 | 0 |
| 4 ,, | ditto | 3 ,, 6 ,, | 2 | 13 | 0 |

Fitted for lead, gutta percha or cast iron flanged pipe as required.

2½ ,, short, with 15 feet of Lead Pipe attached, ready for fixing .... 2 10 0

2½ in. long ditto ditto ditto 2 14 0

*The short barrel Pump is very convenient for fixing in situations of limited height and space, for the supply of coppers and sinks in Wash-houses with soft water from underground tanks, or in Hot, Forcing, and Plant Houses; they may be fixed, when desired, under the stage.*

May be obtained of any Ironmonger or Plumber in Town or country, at the above prices, or of the Patentees and Manufacturers, JOHN WARNER & SONS, 8, Crescent, Jewin Street, London, E.C.

Every description of Machinery for Raising Water by means of Wheels, Rams, Deep Well Pumps, &c.; also Fire and Garden Engines, &c. &c.—Engravings sent on application.

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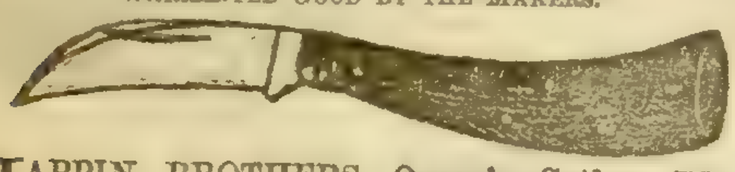
MAPPIN'S PRUNING KNIVES IN EVERY VARIETY.

WARRANTED GOOD BY THE MAKERS.



MAPPIN BROTHERS, Queen's Cutlery Works, Sheffield; and 67 & 68, King William St., London, E.C.

MAPPIN'S "SHILLING" RAZORS Shave well for Twelve Months without Grinding.

MAPPIN'S 2s. RAZORS Shave well for Three Years.

MAPPIN'S 3s. RAZORS (suitable for Hard or soft Beards,) Shave well for Ten Years.

MAPPIN'S SUPERIOR TABLE-KNIVES maintain their unrivalled Superiority—handles cannot possibly become loose—the blades are all of the very first quality, being their own Sheffield manufacture.

| | Tble. Kns. | Dst. Kns. | Carvers. |
|---|---|---|---|
| Ivory 3½ in. Handle, balanced, | 20s. p. doz. | 16s. p. doz. | 6s. p. pair |
| Do. 4 in. do. .. .. | 25s. ,, | 18s. ,, | 9s. ,, |

MAPPIN'S SILVER-PLATED DESSERT KNIVES and FORKS, in Mahogany Cases.

| | | |
|---|---|---|
| 12 Pairs Knives and Forks, | Ivory Handles, in Case.. | 80s. |
| 12 Do. | Pearl Handles, do. .. | 130s. |
| 12 Do. | Silver-Plated Handles, do. .. | 80s. |

MAPPIN'S ELECTRO-SILVER PLATE.—MAPPIN BROTHERS, Manufacturers by Special Appointment to the Queen, are the only Sheffield makers who supply the consumers in London. Their LONDON SHOW ROOMS, 67 and 68, King William Street, London Bridge, E.C., contain by far the largest STOCK of ELECTRO-SILVER PLATE in the World, which is transmitted direct from their Manufactory, Queen's Cutlery Works, Sheffield.

| | Fiddle Pattern. | Double Thread. | King's Pattern. |
|---|---|---|---|
| 12 Table Forks, best quality | £1 16 0 | £2 14 0 | £3 0 |
| 12 Table Spoons, best quality | 1 16 0 | 2 14 0 | 3 0 |
| 12 Dessert Forks, best quality | 1 7 0 | 2 0 0 | 2 4 |
| 12 Dessert Spoons, best quality | 1 7 0 | 2 0 0 | 2 4 |
| 12 Tea Spoons, best quality | 0 16 0 | 1 4 0 | 1 7 |

Messrs. MAPPIN BROTHERS respectfully invite buyers to inspect their unprecedented display, which, for beauty of design, exquisite workmanship, and novelty, stands unrivalled. Their Illustrated Catalogue, which is continually receiving addition of New Designs, sent per post on receipt of 12 stamps.—MAPPIN BROTHERS, 67 & 68, King William Street, London Bridge, E.C; Manufactory, Queen's Cutlery Works, Sheffield.

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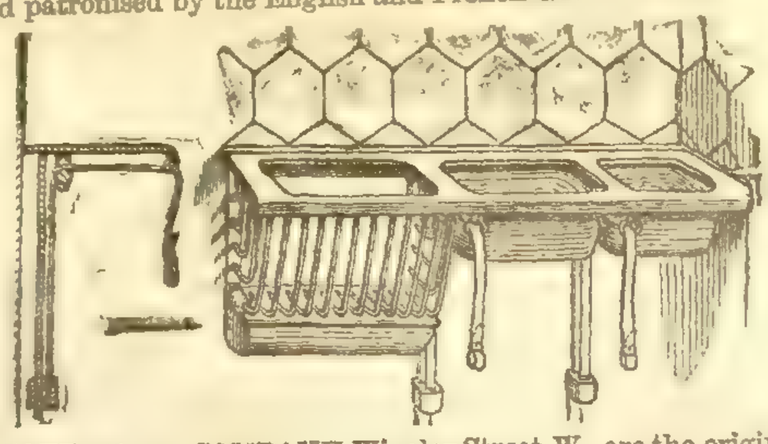
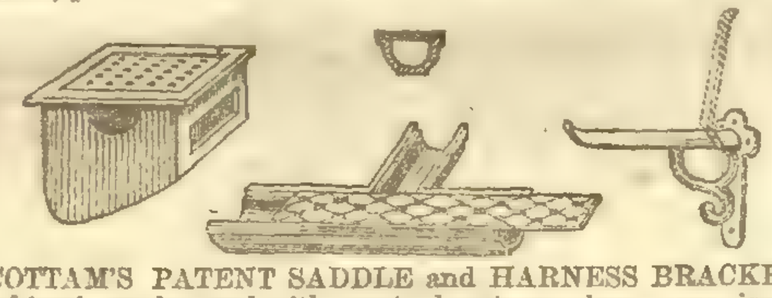
COTTAM'S PATENT INVENTIONS FOR STABLE REQUISITES, awarded a Prize at the Paris Exhibition, and patronised by the English and French Governments.



COTTAM AND COMPANY, Winsley Street, W., are the original inventors of the PATENT ENAMELLED MANGER, Water Trough, and Wrought Iron Rack, united to an iron top-plate, and forming one complete and useful fixture, having COTTAM'S patent noiseless halter guide and collar rein attached, which is taken to the back of the manger, and works with ease and freedom up or down the guide-bar.

COTTAM'S NEW PATENT SEED-BOX, an important addition to the above fittings, being simple in construction, light, and durable, promotes cleanliness, and is economical in its results.



COTTAM'S PATENT SADDLE and HARNESS BRACKET combined, can be used with great advantage where space is an object, as it can be turned up out of the way when not in use.

COTTAM'S IMPROVED SURFACE GUTTER, with perforated moveable cover, the use of which prevents accidents, and can be easily cleaned out.

COTTAM'S CAST-IRON SANITARY TRAP, from its improved construction, gives a full water passage, and does not allow any smell to ascend from the drain.

PATENT LOOSE-BOX FITTINGS, and every article for the harness-room and stable, kept in stock, plain, galvanised, and enamelled. Iron gates, fencing, hurdles, &c.

The New Illustrated Catalogue and Estimates, gratis, upon application to COTTAM and COMPANY, 2, Winsley Street, Oxford Street, W.

N.B. COTTAM & Co. beg to make it known that there is no longer an entrance to their establishment from Oxford Street, but that they have made a second entrance from 2, Winsley Street, Oxford Street, W., by the side of the old entrance to their works, opposite the Pantheon.

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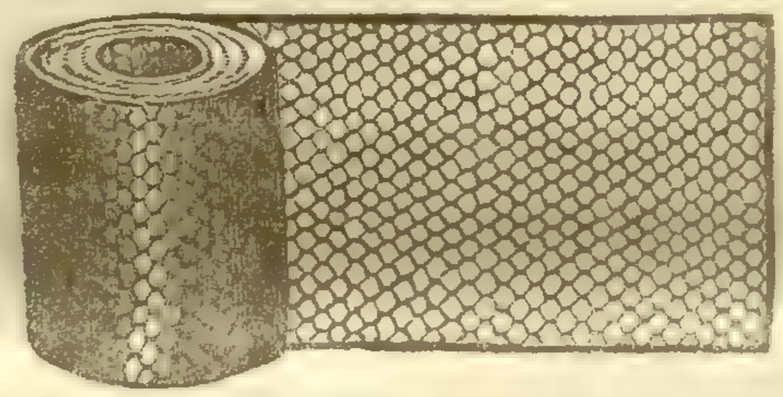

BARNARD, BISHOP, AND BARNARD, Market Place, Norwich, in consequence of improvements in their machinery for the manufacture of the above article, have been enabled to make a great reduction in the prices.

| | | Galvanised. | Japanned Iron. |
|---|---|---|---|
| 2-inch mesh, | 24 inches wide .. .. | 5d. per yd. | 4d. per yd. |
| 2-inch ,, | strong do. .. .. | 6 ,, | 4¾ ,, |
| 2-inch ,, | intermediate, do. .. | 7 ,, | 5½ ,, |
| 2-inch ,, | extra strong, do. .. | 9½ ,, | 7½ ,, |
| 1⅝-inch ,, | 24 inches wide .. .. | 5½ ,, | 4½ ,, |
| 1⅝-inch ,, | strong, do. .. .. | 6½ ,, | 5¼ ,, |
| 1⅝-inch ,, | intermediate, do. .. | 7½ ,, | 6 ,, |
| 1⅝-inch ,, | extra strong, do. .. | 10 ,, | 8 ,, |

All the above kinds can be made of any width (under 8 feet) at proportionate prices. If the upper half is of a coarser mesh than the lower, it will reduce the prices about one-fifth.

Strong Galvanised Poultry Netting, 8½*d.* per yard, 3 feet wide Galvanised Sparrow-proof Netting for Pheasantries, 2½*d.* per square foot. Delivered free of expense in London, Peterborough, Hull, or Newcastle. Manufacturers of Improved Strained Wire Cattle and Deer Fencing, Iron Hurdles, &c.

Illustrated Catalogues and Patterns forwarded by post.

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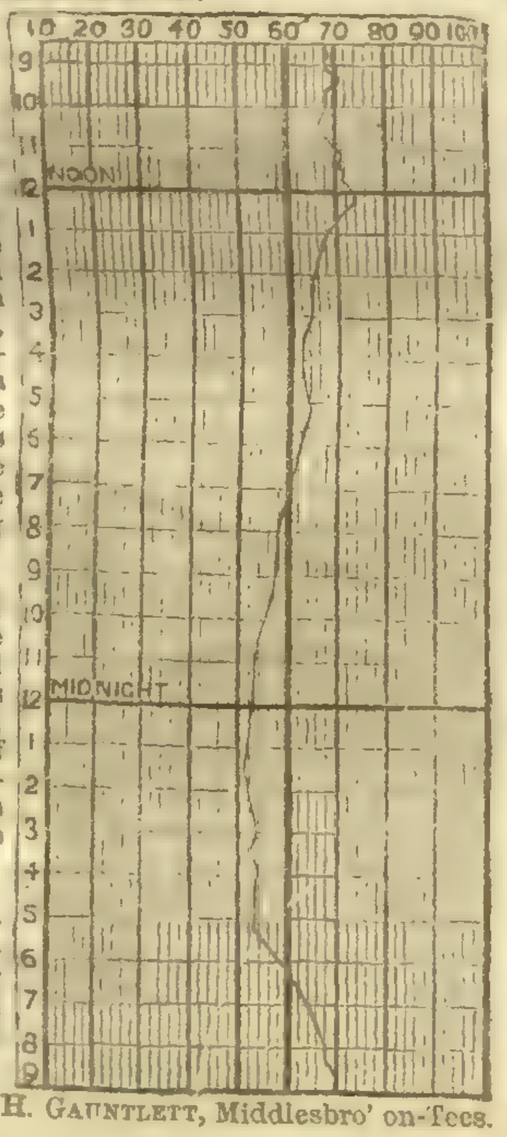
TO HORTICULTURISTS.

GAUNTLETT'S PATENT CHRONOMETRICAL THERMOMETER.

This instrument, which combines an eight-day clock of the best English make showing time, with a newly-patented Thermometer, wherein glass and quicksilver are dispensed with, writes down the temperature of the atmosphere on a slip of paper, and when placed in a Hothouse, Forcing House, or Conservatory, &c., supplies a valuable record of the temperature, with all its variations, showing the time when any change took place, and how long such change continued.




The above slip (reduced in size) exhibits the temperature of the Royal Agricultural Society's show yard at Chester, July 22, 1858, written off by one of these instruments, to which was awarded the Society's SILVER MEDAL.

This is the only instrument that registers temperature continuously and writes it down, and no horticulturist should be without it.

Orders received by W. H. GAUNTLETT, Middlesbro' on-Tees.

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TANNED GARDEN NETTING for Preserving Fruit Trees from Frost, Blight, Birds, &c., and as a Fence for Fowls, &c. One yard wide 1½*d.*, 2 yards 3*d.*, 3 yards 4½*d.*, and 4 yards 6*d.* per yard, in any quantity, may be had at C. WRIGHT'S, 376, Strand, W.C.

A liberal allowance to Nurserymen.

---

TANNED NETTING, for the Protection of Fruit Trees from Frost, Blight, and Birds; also, for the security of fresh sown seeds, at 1*d.* per square yard; 200 yards, 12*s.*; 500 yards, 25*s.*; Scrim Canvas, for wall fruit; Garden Mats.—At EDGINGTON & Co's., Rick Cloth, Tent, and Waterproof Cloth Manufacturers, 17, Smithfield Bars, City, & Old Kent Rd.

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PEACHES, NECTARINES, PLUMS.—WORSTED NET to effectually protect the above from Wasps and Flies and the blossoms in the spring, 7*d.* per square yard, in widths of 2 yards, very much approved. New GARDEN NET, 1½*d.* per yard, TANNED NETS, 6*s.* 3*d.* per 100 yards.—R. RICHARDSON, White Horse Factory, Bidborough Street, Judd Street, W.C.; Office: 99, Euston Road, London, N.W.

N.B.—All kinds of FISHING NETS cheap.

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WASPS.—THE WASPS ARE COMING.—Gentlemen who have Gardens or Hothouses are invited to transmit their address to Mr. HAYTHORN, Nottingham, who will forward free by post patterns, testimonials, and prices of HAYTHORN'S HEXAGON and CHISWICK NETS, warranted to protect all kinds of Fruit from Wasps, Flies, Birds, &c., now used and recommended by all the principal gardeners.

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SMALL SPAN-ROOFED GREENHOUSE WANTED.—Any party having a Span-roofed House from 12 to 20 feet in length, in good condition for sale, is requested to send a full description with lowest price to A. B. FLETCHER, Uckfield, Sussex.

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GREENHOUSES.

HENRY FREEMAN, HOTHOUSE BUILDER and HOT-WATER APPARATUS MANUFACTURER, Triangle, Hackney, N.E. Established 20 years. Good substantially built GREENHOUSES, fixed in any part of the kingdom, for cash, 12 feet long by 13 feet, 90*l.*; 21 feet by 13 feet, 50*l.*; 12½ feet by 10 feet, 30*l.* A first-rate CONSERVATORY, 30 feet by 18 feet, 130*l.* A large assortment kept. Estimates for Heating, or any branch in Wood or Iron or Park Fencing.

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HORTICULTURAL BUILDINGS AND HEATING BY HOT WATER.

JOHN R. PEILL, 17, New Park St., Southwark, S.E., Manufacturer of every description of Buildings for Horticultural purposes, and Inventor of the Improved Conical Boiler for heating the same, is prepared to undertake works of any magnitude, and refers among others to the celebrated range of FORCING HOUSES at HER MAJESTY'S GARDENS, FROGMORE, and at SIR ROBERT PEEL'S, DRAYTON MANOR, constructed under the superintendence of his Manager, MR. JOHN JONES; and also to his BOILERS fixed at the CRYSTAL PALACE, the ROYAL BOTANIC GARDENS, REGENT'S PARK, and KEW, and at several hundreds of the Nobility's seats, Public Establishments, and Manufactories in London and the provinces. J. R. P. also manufactures every description of Iron Roofs, Iron Houses, and Iron Fencing, plain and ornamental. Strong Iron Hurdles for Sheep (6 ft. long, 3 ft. high, with 5 bars), 4*s.* 3*d.* each; ditto for cattle, 4*s.* 9*d.* each. Prices and other particulars forwarded on receipt of one postage stamp.

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GARDEN POTS AND PANS, in quantities of not less than 20 casts, delivered to the London Stations at the following prices:—Nos. Thbs. 60. 48, 40, 32, 24, 16, per cast, 2*s.* respectively. 12, 3*s.*; 8, 3*s.* 6*d.*; 6, 5*s.*; 4, 5*s.*; 3, 5*s.*; 2, 7*s.*; 1, 5*s.* On lesser quantities, 6*d.* per mile. For delivery to the Station, charged. The usual discount to the Trade. Square Propagating Pans, Kale and Planting Pots, Strawberry and Border Tiles, &c., made to order.

J. & W. ADAMS, Kilns, Belle Isle, York Road, King's Cross, N.

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LAWNS—IN USE IN THE ROYAL GARDENS.

SAMUELSON'S PATENT BOYD LAWN MOWING and ROLLING MACHINE, the only one that will cut wet as well as dry Grass, is guaranteed efficient in use, easily handled, and readily kept in working order. Doing the work of five or six men. Prices, including case and carriage to any railway station in England, from 4*l.* 17*s.* 6*d.* and upwards. Copies of testimonials post free on application to Mr. SAMUELSON'S London Warehouse, 76, Cannon Street West, City, E.C.; DEANE'S, London Bridge, E.C.; or the Works, Banbury, Oxon.

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FOWLER'S PATENT STEAM PLOUGH has gained the following prizes:—

The Royal Agricultural Society's Prize, at Warwick, July 1859, 50*l.*

The Royal Agricultural Society's Prize, at Chester, July 1858, 200*l.*

The Highland Society's Special Prize at Stirling, Oct. 1857, 20*l.*

And at other Agricultural Meetings in the United Kingdom, Prizes amounting to 175*l.*

For further particulars, prices, and Catalogues apply to JOHN FOWLER, JUN., 28, Cornhill, London, E.C.

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AGRICULTURAL MACHINERY.

E. R. AND F. TURNER, Ipswich, manufacture Prize Mills for Crushing Corn, Seed, Malt, &c.; Portable Grinding Mills, Steam Engines fixed and portable from 2 horse-power and upwards; Threshing Machines, Chaff Cutter, Oilcake Breakers, Horse Gears, Saw Tables, &c., all of a superior description and adapted for Home, Colonial, and Foreign use. Illustrated Price Lists sent free on application.

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HAYMAKERS, possessing the best features of Nicholson's Prize Machines, with recent improvements peculiar to those supplied and manufactured only for RICHMOND AND CHANDLER, Salford.

Branch Establishment, South John Street, Liverpool.

N'B. The celebrated Bedford and Stamford Prize HORSE RAKES always in stock, with latest Patented Improvements.

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HAY HARVEST.

NICHOLSON'S PATENT HAYMAKER, to which was awarded the First Prize of the Royal Agricultural Society of England at the last contested trial.

The celebrated STAMFORD HORSE RAKE has lately been much improved, and has obtained 26 Prizes at competitive trials.

MOWING AND REAPING MACHINES are performing their work most satisfactorily, and fully justify public expectation, cutting about 10 acres per day, at a cost of 9*d.* per acre.

Orders for the above machines should be given at once to RICHMOND & CHANDLER, Salford, Manchester.

Branch Establishment, South John Street, Liverpool.

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CAST-IRON GARDEN ORNAMENTS, viz.—ORNAMENTAL VASES, of various sizes, do. with pedestal, GARDEN CHAIRS and STOOLS, RUSTIC GARDEN SEATS and TABLES, both plain and bronzed, also GARDEN ROLLERS of all sizes.—Prices on application to J. JONES, Iron Merchant, 6, Bankside, London, S.E.

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VASES, PEDESTALS, SUNDIALS, FOUNTAINS, FLOWER BOXES, JARDINETS, FERN CASES, BALUSTRADES, EDGINGS AND CURBS FOR FLOWER BORDERS, SEATS, &c., in Imperishable Siliceous Stone, at reduced prices, for the adornment of the Villa Garden, the Mansion Grounds, or the private or public Park.

For Priced Illustrations apply to FREDERICK RANSOME, at the Show Rooms, Cannon Row, Westminster, S.W., or Patent Stone Works, Ipswich.

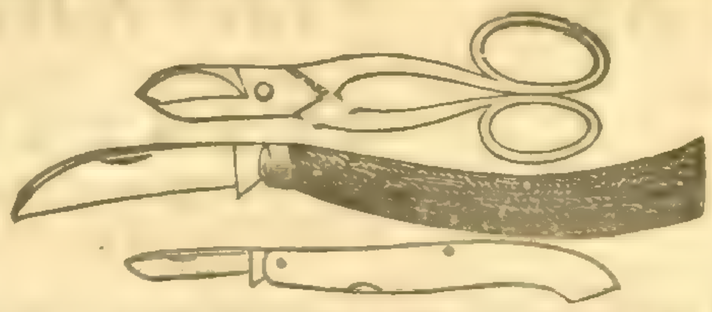
GUTTA PERCHA TUBING FOR WATERING GARDENS

THE GUTTA PERCHA COMPANY have the pleasure to acknowledge the receipt of the following *Testimonial* from Mr. J. Farrar, Gr. to Boswell Middleton Jarland, Esq., of Hainault House, near Ilford:

"I have had 400 feet of your Gutta Percha Tubing, in lengths of 100 feet each, with union joint, in use for the last 12 months for watering these gardens, and I find it to answer better than anything I have ever yet tried. The pressure of the water is very considerable, but this has not the slightest effect on the tubing. I consider this tubing to be a most valuable invention for Gardeners, inasmuch as it enables us to water our gardens in about one-half the time, and with one-half the labour required."

Manufactured by the Gutta Percha Company, Patentees, 18, Wharf Road, City Road, London, E.C., and sold by their Wholesale Dealers in town and country.

PAXTON WORKS, SHEFFIELD, ESTABLISHED 1738.



SAYNOR AND COOKE'S warranted PRIZE PRUNING and BUDDING KNIVES, SCISSORS, &c.—Sold by all respectable Nurserymen and Seed Merchants in the three Kingdoms.

JOHN WARNER AND SONS, Crescent Jewin St., London, E.C.—GALVANISED IRON TUB GARDEN ENGINE, with WARNER'S Registered Spreader, is strongly recommended, for durability and low price, viz., 10 gallons, 2*l.* 15*s.*; 16 gallons, 3*l.* 15*s.*; 24 gallons, 5*l.*; or in strong oak tub, 14 gallons, 3*l.* 10*s.*; 24 gallons, 6*l.* 18*s.* May be obtained of any Ironmonger or Plumber in the country, or of the patentees and Manufacturers; as also Machinery of all kinds for raising Water from any depth to any height by Steam, Horse, or Manual Power. Prices sent on application.

Syringes of various constructions and sizes from 9*s.* upwards. Metallic String from 10*d.* to 1*s.* 2*d.* per lb.

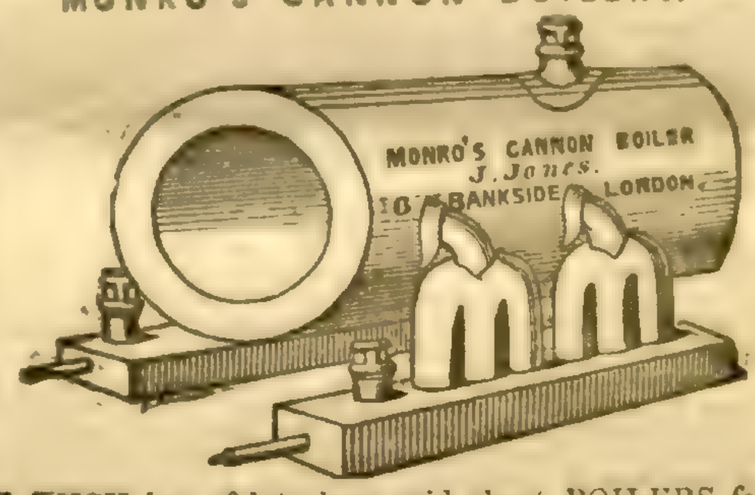
DEANE & COMPANY'S
HORTICULTURAL TOOLS,

GARDEN ENGINES, Galvanized Iron
Prices 55s., 63s., 105s., 120s.
Ditto, Wood, 84s,, 105s, 130s.
Flower Stands, 4s. 6d. each.
Cast Iron Ornamental ditto, to hold 7 Vases, 27s.
Deane's Mowing Machines, with Boyd's Patented Improvements, £4 17s. 6d; £6 6s. 0d., £6 17s. 6d., £7 7s. 0d.
Green House Syringes, 8s., 10s., 18s. 6d
Garden Rollers, £1 14s. 6d., £2., £2 12s. £3 3s., £3 18s., £4 13s., £5 12s., £7 10s.
Garden Stools, 4s. 6d.
Garden Chairs, from 30s.
Boyd's Self-adjusting Scythe, 10s. 6d.
Wire Work, 18in. 4d. per yard run.

*Every Implement for Garden use on the lowest Terms.*

DEANES:—Opening to the Monument, London Bridge.

MONRO'S CANNON BOILERS.




MUCH has of late been said about BOILERS for Heating by Hot Water, but these Boilers have now proved themselves to be the best at present invented. They are adapted for heating every description of building, and are made of various sizes. The Price of the

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|---|---|---|---|---|
| 24-inch Cast Iron is | .. | .. | .. £5 10*s.* 0*d.* | each |
| 24-inch Wrought ditto | .. | .. | .. 6 10 0 | ,, |
| 36-inch Cast ditto .. | .. | .. | .. 8 0 0 | ,, |
| 36-inch Wrought ditto | .. | .. | .. 8 10 0 | ,, |

References to Gentlemen and Nurserymen where these Boilers are now at work. The Cannon Boilers are now kept in stock, and are to be had only of J. Jones, 6, Bankside. Also, every description of Saddle and Cylinder Boilers. Hot Water Pipes and Connections at prices lower than those of any other house in London. Estimates for Hot-water Apparatus erected complete in any part of the country, and an Illustrated Catalogue on application to J. Jones, 6, Bankside, Southwark, London, E.S.

GREENHOUSES.

HENRY FREEMAN, Hothouse Builder and Hot-Water Apparatus Manufacturer, Triangle, Hackney, N.E. Established 20 years. Good substantially built GREENHOUSES, fixed in any part of the kingdom, for cash, 42 feet long by 13 feet, 90*l.*; 21 feet by 13 feet, 50*l.*; 12½ feet by 10 feet, 30*l.* A first rate CONSERVATORY, 30 feet by 18 feet, 130*l.* A large assortment kept. Estimates for Heating, or any branch in Wood or Iron or Park Fencing.

HORTICULTURAL BUILDINGS AND HEATING BY HOT WATER.

JOHN R. PEILL, 17, New Park St., Southwark, S.E., Manufacturer of every description of Buildings for Horticultural purposes, and Inventor of the Improved Conical Boiler for heating the same, is prepared to undertake works of any magnitude, and refers among others to the celebrated range of FORCING HOUSES at HER MAJESTY'S GARDENS, FROGMORE, and at SIR ROBERT PEEL'S, DRAYTON MANOR, constructed under the superintendence of his Manager, MR. JOHN JONES; and also to his BOILERS fixed at the CRYSTAL PALACE, the ROYAL BOTANIC GARDENS, REGENT'S PARK, and KEW, and at several hundreds of the Nobility's seats, Public Establishments, and Manufactories in London and the provinces. J. R. P. also manufactures every description of Iron Roofs, Iron Houses, and Iron Fencing, plain and ornamental. Strong Iron Hurdles for Sheep (6 ft long, 3 ft. high, with 5 bars), 4*s.* 3*d.* each; ditto for cattle, 4*s.* 9*d.* each. Prices and other particulars forwarded on receipt of one postage stamp.

PRICES REDUCED.

H. J. MORTON AND CO., Galvanised Iron Works, 2, Basinghall Buildings, Leeds.

GALVANISED IRON ROOFING

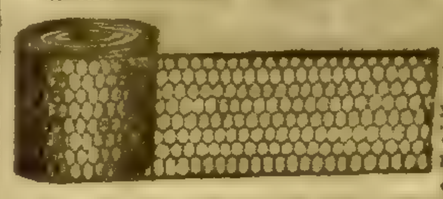
for Farm Buildings and other Roofs; the cheapest, most durable, and neatest Roofing in use; also Spouting at 10½*d.* per yard.

WIRE STRAND CABLE FENCING

(formed of Twisted Wires like a rope or cable), the strongest cheapest, and neatest fence in use, will resist the largest cattle and will not bend or get out of form by trespassing upon or over. Price, with five lines of the Galvanised Strand, iron main posts, and pronged Standards, 1*s.* 2½*d.* per yard.

This fence is far cheaper than posts and rails, or any kind of iron fencing; and possesses four times the strength of solid bars. Will not rust nor corrode. Upwards of 1200 miles of this Fencing supplied.

GALVANISED GAME AND POULTRY NETTING.



Galvanised, 24 ins. wide, 2-inch mesh, 5½*d.*, 7½*d.* and 9½*d.* per yard.

Galvanised, 24 ins. wide, 3-inch mesh, 4*d.*, 5*d.*, and 7*d.* per yard. The Netting made any width, and with openings of any size.

GALVANISED IRON CHAIN CAMP STOOLS & CHAIRS, POULTRY FOUNTAINS & FEEDERS, PRONGED DAHLIA RODS AND ROSE STAKES, &c.

Strong CATTLE HURDLES from 2*s.* per yard.

PATENT IMPROVED GAS WORKS,

of all sizes for the use of Private Houses, Mansions, Railway Stations, Mills, Collieries, Mines, Villages, &c. Works from 10 to 500 lights estimated for. The works can be entrusted to an ordinary labourer.—Apply to

HENRY J. MORTON & Co. 2, Basinghall Buildings, Leeds

GREENING & COMPANY'S
PATENT WIRE FENCES.

PATRONISED BY HIS ROYAL HIGHNESS THE PRINCE CONSORT.

No. 7 B VARIETY.—PATENT SHEEP-FOLDING FENCE.

SPECIFICATION.—Height 3 feet: four horizontal bars of strong, tough, pliable fencing wire, intersected by vertical bars of lighter wire, woven firmly on at regular intervals of 4 inches.

9d. per lineal yard.

From "Report of the Judges" on the Exhibition and Trial of Implements at the Salisbury Meeting, 1857. Royal Agricultural Society of England.

"The Iron Wire Sheep-fold Fence of Messrs. GREENING was cheap and excellent. It can be very easily fixed, and was well coated with a bright and durable-looking varnish." (High commendations were awarded.)

G. & Co's NEW ILLUSTRATED CATALOGUE is now ready. It contains descriptions of the above, and other IRON and WIRE FENCES for PARKS, FARMS, GARDENS, GAME PRESERVES, POULTRY COURTS, &c., also of IRON GATES, IRON HURDLES, &c.

Post free on application.

GREENING & Co., Victoria Iron and Wire Works, 81, Oxford Street, Manchester.

ST. PANCRAS IRON WORKS,
OLD ST. PANCRAS ROAD, N.W.

IRON HURDLES, FENCING, AND GATES.

THE PROPRIETORS OF THE ST. PANCRAS IRON WORKS, OLD ST. PANCRAS ROAD, LONDON,

WERE AWARDED THE

SILVER MEDAL of the Royal Agricultural Society for their IRON HURDLES & GATES, which, by their peculiar construction, are more than twice as strong and durable as those in ordinary use.

Lists per post on application. Gates from 30*s.* to 500*l.*

The Hurdles can be seen in process of Manufacture at the Works.

GAME WIRE NETTING.

Professor Varnell's Enamelled and Wrought-iron Stable Fittings.

These Patent Mangers and Stable Fittings obtained the Commendation and the Silver Medal of the Royal Agricultural Society of England and the Royal Agricultural Society of Ireland, are adopted by the Royal Veterinary College, and Professor Spooner of that Institution states that they should be used by all who value the health and comfort of their horses. They can be had plain, galvanised, or enamelled.

A Show Room is devoted entirely to every description of Stable Furniture, and full-sized stalls and loose boxes are erected for inspection at St. Pancras Iron Works.

ADDRESS—THE MANAGERS,
ST. PANCRAS IRON WORKS, OLD ST. PANCRAS ROAD, LONDON, N.W.,
OPPOSITE OLD ST. PANCRAS CHURCH.

CUTHILL'S STRAWBERRY PLANTS will be sent out on and after August 15.

CUTHILL'S EARLY BLACK PRINCE, 5s.; selected, 7s. 6d. per 100.

CUTHILL'S PRINCESS ROYAL OF ENGLAND.—Good size, fine colour, Pine-apple flavour, great bearer, very hardy, good forcer. Per 100 7s. 6d.; selected, 10s.

CUTHILL'S PRINCE OF WALES.—Good size, rich colour, cone shape, tremendous bearer, first rate for table and preserving. It is earlier and later than Elton on account of its numerous trusses, 7s. 6d. per 100; selected, 10s.

Dr. Lindley told J. C. that he never could depend upon having a Strawberry until he had his breed.

From Charles Hillhouse, Esq.—"Your 100 baskets of Strawberries have given great satisfaction.—June 30."

Best Mushroom Spawn.

CUTHILL'S Pamphlet on the Potato, with 20 more Articles, on the Strawberry, Asparagus, Sea Kale, &c., 2s.

CUTHILL on Market Gardening round London, &c., 1s. 6d.

CUTHILL on the Cultivation of the Mushroom, Killing of Woodlice, &c., 1s.

CUTHILL on the better Cultivation of the Vine, 1s.

Vegetable Meeting Paper gratis.

Post-Office Orders to be made payable to JAMES CUTHILL, Camberwell, London, S.

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CINERARIA, HERBACEOUS CALCEOLARIA, AND HALF SHRUBBY DITTO SEED.—These have been saved from Turner's most beautiful varieties; in 1s. and 2s. 6d. packets. Primula and Hollyhock, from the newest and handsomest varieties, 1s. per packet. Agents for F. & A. Smith's splendid Cineraria, in 1s. 6d., 2s. 6d., and 5s. packets; also agents for Dobson & Son's splendid Calceolaria, in 1s. 6d., 2s. 6d., 3s. 6d., & 5s. packets.—Catalogues of the newest Flower Seeds, and newest Dutch and Cape Bulbs, sent post-paid.—BUTLER & MCCULLOCH, Seedsmen, Covent Garden Market, W.C.

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BUCKLAND SWEETWATER GRAPE.

MESSRS. IVERY AND SON, of Dorking and Reigate Nurseries, feel great pleasure in introducing this fine early WHITE GRAPE, and beg to intimate that they will commence sending out Plants on October 3, in strict rotation, as the orders are received. Price 21s. and 31s. 6d. each.

It received the Premium offered by the Pomological Society for the best Seedling Grape not having a Muscat flavour, Sept. 9, 1858; also an Extra Prize at Crystal Palace Exhibition, Sept. 8 and 9, 1858; and it is recommended by many Gardeners who have seen it growing and tasted the fruit. For the information of those who have not seen this Grape, J. I. & SON beg to say that they have issued a Circular containing the various periodical reports, and also the names of the Gardeners by whom it is recommended, which they will be pleased to forward on application.—Dorking Nursery, Aug. 13.

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TRIFOLIUM INCARNATUM, 3d. to 4d. per lb.; with hints on its successful cultivation, showing how 3 tons per acre of the most nutritive hay may be secured, the advantages of sowing it where broad Clover is thin, and its superiority to Tares as green food.

PAGE AND TOOGOOD having secured a large breadth of prime quality, offer it at the above low rate for cash.

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| New Turnip Seed, per lb... .. .. | 0s. 6d. | Italian Rye-grass, per bush., 5s. to .. .. | 7s. 0d. |
| New Rape, do... .. | 0 4 | Mustard, per lb, 4d. to | 0 5 |

Calceolaria and Cineraria, in packets of 2s. 6d. and 1s. each, saved from one of the finest collections in Europe.

Seeds for exportation to all parts of the world.

PAGE & TOOGOOD, Seed Growers and Merchants, Oxford Street; and Above Bar, Southampton.

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NEW HYBRID ACHIMENES.

MILNE, ARNOTT, AND CO. have the pleasure to announce that they will send out on and after the 1st of August the following set of EIGHT NEW HYBRID ACHIMENES, selected from a collection in their possession raised by Mr. Breeze, the well known hybridiser, and of whom M., A., and Co. purchased the entire stock.

| | | |
|---|---|---|
| *Adonis* | *Mars* | *Erecta multiflora* |
| *Comet* | *Aurora* | |
| *Delicata* | *Denton Beauty* | *Mazeppa* |

These beautiful novelties, are remarkable not only as a successful instance of hybridising, but for strikingly distinct characteristics of foliage, flowers, and habit. In some the flower spikes rise nearly two feet in height, others remain quite dwarf.

The foliage of all is remarkably handsome, in some instances of a rich velvety green marked with deep brown and black, along the course of the ribs and nervures, with single leaves of very large size. The flowers are of the most brilliant and delicate tints, broken with numberless minute markings, and suffused and spotted with almost every shade of crimson, rose, lilac, orange, scarlet, and white. At a time when plants with ornamental foliage are so much and so deservedly in request, the introduction of these striking novelties will, we feel assured, be highly appreciated, especially as they possess flowers of singular beauty and produce them in the greatest possible profusion As Autumnal and Winter blooming Plants they will be invaluable. Price 7s. 6d. each, or the eight varieties for 2l. 2s. The usual discount to the Trade.

MILNE, ARNOTT, & Co., Wandsworth Road, London, S.

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REIGATE SILVER SAND.—Best quality for Florists, 16s. per ton; less quantities, 1s. 6d. per bushel, delivered to any London wharf or railway. Sacks for sand, 1s. 6d. each, or on hire 6d. each (five hold a ton).

JOHN KENNARD, Purveyor to her Majesty, Swan Place, Old Kent Road, London, S E.

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TO PIG AND POULTRY FEEDERS.

RICE SWEEPINGS FOR CHICKENS, 8s. per cwt., in 1¼ cwt. bags. SCREENED RICE, 11s. per cwt., in 1¼ cwt. bags. RICE MEAL, 6s. 6d. to 8s. 6d. per cwt. OILCAKE, 10l. 10s to 11l. 10s. per ton only. DOG BISCUIT, 14s. per cwt.—Sold for cash only by W. & R. JUPP, 6, Cross Lane, St. Mary-at-Hill, Eastcheap, City, E.C.

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HORTICULTURAL VALUATIONS

MR. ALFRED CHANDLER (of the late firm of Chandler & Sons, Vauxhall), begs to inform his friends that he is at liberty to undertake the valuation of Collections of Plants, Nursery Stock, Horticultural Buildings, &c.

Mr. A. C. is also open to engagements as Censor at Horticultural Exhibitions, in which capacity he has had long and extensive experience.—28, Priory Road, Wandsworth Road, S.

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NURSERYMEN supplied with the best GENUINE TOBACCO PAPER at 4l. per cwt.; any less than ½ cwt., 10d. per lb.—Address, TOM BRYANT, Messrs. Jackson & Sons, Lady Lane, Leeds.

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KEATING'S PERSIAN INSECT DESTROYING POWDER.

POULTRY, DOGS, AND PLANTS are effectually freed from Fleas, and all other Vermin with which they are infested, by the above Powder, which is quite harmless to animal life. The Farmer, the Gardener, or the Sportsman, will therefore find it invaluable. Bugs, Cockroaches, Beetles, Moths in Furs, and every other species of Insect are also instantly destroyed. In packets post free, for 14, or treble size for 36 postage stamps, by THOMAS KEATING, Chemist, 79, St. Paul's Churchyard, London, E.C. Take notice each genuine packet bears the above name and address. See "THE FIELD," Oct. 2d and 9th, pp. 263, 283, and 294.

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# NEW STRAWBERRY, "OSCAR."

## CHARLES TURNER,

HAVING purchased the entire stock of this fine Strawberry, is prepared to execute orders for the same at 42s. per 100. The plants are very strong, and will produce a fine crop of Fruit next season.

"Fruit large, colour shining dark red, flesh firm, flavour superior, remarkably sweet, with a brisk aroma; it was considered a valuable variety."—Fruit Committee of the Horticultural Society, July 5, 1858.

"'Oscar' is certainly the best flavoured of the large kinds, and being a great cropper, must soon find a place in every garden."—*Gardeners' Chronicle*, July 6, 1859.

"This fruit is very large, solid, firm, and juicy, flavour very rich and fine when quite ripe. Particular notice was taken of its firm and solid qualities."—Pomological Society, June 23, 1859.

"Oscar" received the Prize given for the best Seedling Strawberry by the Pomological Society, June 23, 1859.

It also received the First Prize for the best Dish of Strawberries at Nottingham, June 30.

"Oscar" is strongly recommended. It will be found one of the best for early forcing, a great cropper, and fine strong grower

A Coloured Plate, by Andrews, may be had free by post for 12 postage stamps.

C. TURNER can also supply fine plants of the best older kinds. In addition to many Noblemen and Gentlemen, Market Gardeners and the Trade, the following most successful Fruit Growers have ordered plants of "Oscar:"—

Aiton, Mr., the Gardens, Enville Hall, by Stourbridge
Bailey, Mr. Thomas, Shardiloes Gardens, Amersham
Bailey, Mr. H., Nuneham Park, Oxon
Bousie, Mr., Stoke Park Gardens
Beale, Mr. T., Walton Wood Hall Gardens, Ware
Brown, Mr. J., Wilton House Gardens, Salisbury
Barron, Mr. W., Elvaston Castle Gardens, Derby
Constantine, Mr. H., Hillingdon Court Gardens
Dodds, Mr., the Gardens of Col. Baker, Salisbury
Dodds, Mr. Geo., Cooper's Hill Gardens, Englefield Green
Drewitt, Mr. J., Denbies, Dorking
Dawkins, Mr., the Gardens of the Countess Dowager of Craven, Hampstead Marshall, by Newbury
Dawson, Mr., Panshanger, Hertford
Duncan, Mr., the Gardens, Basing Park, Alton, Hants
Elsworthy, Mr., the Gardens of R. J. Gilman, Esq., Bishopstoke
Edmonds, Mr., the Gardens, Chiswick House, Middlesex, W.
Forsyth, Mr., Gunnersbury Park Gardens, Acton, W.
Frost, Mr., Preston Hall Gardens, Maidstone
Hardie, Mr., the Gardens of the Most Noble the Marquis of Northampton, Castle Ashby, Northampton
Hill, Mr., Keele Hall Gardens
Ingram, Mr., the Royal Gardens, Frogmore
Ingram, Mr., the Gardens of J. J. Blandy, Esq., Reading
Judd, Mr., Althorp Park Gardens, Northampton
Knight, Mr., the Gardens of H.R.H. the Duchess of Kent, Frogmore
Lawrence, Mr., Farnham Castle Gardens
Little, Mr., the Gardens of A. Darby, Esq., Stoke
Malleson, Mr., the Royal Gardens, Claremont
Parsons, Mr., Danesbury Park Gardens, Welwyn
Peel, Mr., the Gardens of H. Bevan, Esq., Cambridge House, Twickenham, S.W.
Rutland, Mr., the Gardens of Capt. Peploe, Garnston Castle, Hereford
Spencer, Mr., Bowood Gardens, Calne
Snow, Mr., Wrest Park, Ampthill
Scott, Mr. A., the Gardens, Leigh Park, Havant, Hants
Shearer, Mr. A., the Gardens of the Most Noble the Marquis of Tweedale, Yester House, Haddingtonshire
Sharpe, Mr., Eglinton Gardens, Irvine, N.B.
Taylor, Mr., the Gardens of C. A. Hanbury, Esq., Willenhall, East Barnet, N.
Thompson, Mr., Stanstead Park Gardens
Tillyard, Mr. G., the Gardens of Viscount Eversley, Heckfield
Whiting, Mr. J. B., the Deepdene
Widdowson, Mr., Rickmansworth
Wyness, Mr. G., the Gardens of G. Keith, Esq., Usan, N.B.
Ward, Mr., the Gardens of James Morrell, Esq., Headington Hill, Oxford
Williamson, Mr., the Palace Gardens, Ripon

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## THE ROYAL NURSERIES, SLOUGH.

# NEW AND BEAUTIFUL PLANTS.

# MESSRS. VEITCH & SON,

OF THE

## ROYAL EXOTIC NURSERIES, EXETER AND CHELSEA,

HAVE much pleasure in offering for the first time the following Novelties, in the selection of which they have been guided solely by the determination of submitting only such Plants as are of general usefulness and sterling merit.

## PLANTS ARE NOW READY FOR DELIVERY.

### CHAMÆBATES FOLIOLOSA (Bentham).

This most beautiful hardy evergreen shrub, sent by Mr. W. Lobb from California, is of a dense compact habit, with most delicately divided Fern-like foliage, almost resembling the Cheilanthes elegans. The flowers, which are white, are produced in great abundance. It has been exhibited during the present season at the Crystal Palace and Royal Botanic Society's Exhibitions, at both of which it has received prizes as a new hardy evergreen. It will certainly prove a great acquisition amongst hardy evergreen shrubs. Good established plants in pots, 15s. and 21s. each, according to size.

### PENTSTEMON JAFFRAYANUM (Hooker).

This very lovely hardy half shrubby herbaceous plant was also sent from California by Mr. W. Lobb. It grows so compact and bushy, and produces its beautiful flowers, which are a clear bright blue with pink throat, so abundantly and continuously, that it will doubtless prove a most valuable plant for bedding; even as a single bush in the open border it is exceedingly striking and attractive. It was exhibited at the Royal Botanic Society's Show on July 6, and was awarded the First Prize for new and rare plants. It is figured by Sir Wm. Hooker in "Curtis's Botanical Magazine" for April, 1858. Strong established plants, 7s. 6d. each.

### POTHOS ARGYRÆA (Lindley).

This very striking variegated plant, which was found and sent us by Mr. Thomas Lobb, from Borneo, is QUITE A GEM, of remarkably neat and compact habit, and almost rivalling in beauty some of the Anæctochili. The leaves, which are obliquely ovate in shape, are of a rich green, blotched with silvery white, with an irregular band of the latter colour running along their central ribs. It has been shown at the various Metropolitan Exhibitions during the present season, at all of which it has received prizes, and been much admired. It is adapted either for pot or basket culture, and requires the temperature of a stove, where it prefers a shady position. Strong established plants, 10s. 6d., 15s., and 21s. each, according to size.

### PTERIS ARGYRÆA (Moore).

This is undoubtedly one of the greatest acquisitions to our now justly popular collections of Ferns It is of noble aspect and free growth, perfectly distinct and novel in its character; the pinnæ on every frond, as well as their branches, having a broad central stripe of glistening silver, which in contrast with the bright green produces a most charming effect. It may justly be called the VARIEGATED FERN. It was exhibited at the Royal Botanic Gardens on July 6, and before the Horticultural Society's newly-appointed Floral Committee on July 7, and on both occasions received the highest prize given to such novelties, and was universally admired. Established plants, 31s. 6d. each.

### COTONEASTER BUXIFOLIA, of Wallich (TRUE).

This perfectly hardy evergreen shrub is from the Neilgherry Hills, from whence it was sent us by Mr. Thomas Lobb. It was originally described and figured by Dr. Wight, in his "Icones Plantarum." It produces its white flowers most abundantly, is of a dwarf compact habit, and is an interesting pretty shrub. Strong plants, 5s. each.

### LYGODIUM POLYSTACHYUM (Wallich).

This beautiful Fern was sent us by Mr. Thomas Lobb from Central India. In general appearance and beauty of habit it much resembles some of the lovely Gleicheuias. The fronds are branched, with a downy upper surface, and when cultivated to sufficient size, it will make a fine exhibition plant Young plants, 31s. 6d. each; larger ditto, 42s. each.

### SELAGINELLA ATROVIRIDIS (Spring).

This is a fine species of dwarf habit, introduced from Borneo through Mr. Thomas Lobb. The branches of the repeatedly forked stems are broad and well defined, and have a most distinct and novel appearance. It is certainly one of the finest yet introduced of the dichotomous-branched section. Price 10s. 6d. each.

### SELAGINELLA LOBBI.

A most beautiful and distinct species, sent by Mr. Thomas Lobb from Borneo, partaking of the habit of S. inæqualifolia, but having the rich lustrous metallic hue of S. cæsia. It is remarkable for the Fern-like character of its branches, and no collection of these charming plants should be without this lovely addition. Price 15s. each.

### SPRAGUEA UMBELLATA.

This is a very distinct and pretty hardy annual, sent by Mr. Thomas Lobb from California. It is at this time in great beauty at the Exeter Nursery, raised from seed sown in the open ground last autumn, having stood without any protection through last winter. It is also well adapted for pot culture, the habit is very dwarf and spreading, resembling that of Calandrinia grandiflora. The flowers, which may be compared to an Amaranthus, are of a beautifully shaded pink, with purple stamens. Seeds of this plant will be supplied in the autumn, and in the mean time a few spring-raised plants, in small pots, can be had, at 2s. 6d. each.

*The usual allowance to the Trade, to whom special terms will be furnished when required in quantity.*

# CALCEOLARIA, CINERARIA,

AND

## PRIMULA SINENSIS FIMBRIATA,

Of first quality, in seed packets, 2*s.* 6*d.* each.

## SPERGULA PILIFERA,

The admirable substitute for Grass in forming Lawns, &c., REQUIRING NO MOWING. Seed packets, 6*d.*, 2*s.* 6*d.*, & 5*s.*

**E. G. HENDERSON & SON, Wellington Nursery, St. John's Wood, London, N.W.**

THE PLYMOUTH SEED, AGRICULTURAL IMPLEMENT, AND MANURE COMPANY LIMITED supply every requisite for the Farm and the Garden.
Registered Offices, Union Road, Plymouth.

J. CARTER AND CO.'S Select LIST OF CHOICE FLOWER SEEDS FOR PRESENT SOWING, will be found on page 603 of *Gardeners' Chronicle* of July 16.
238, HIGH HOLBORN,
London, W. C.

CARTER'S CHAMPION CUCUMBER surpasses Sion House and Lord Kenyon's Favourite for winter and early spring use. Smooth, dark green, straight, and prolific; average length, 1 foot. Price per packet, 1*s.*

J. C. & Co. do not hold themselves responsible for the genuineness of the above unless obtained direct from
238, High Holborn, London, W.C.

CALCEOLARIA, 1*s.*, 2*s.* 6*d.*, 5*s.*
CINERARIA, 1*s.*, 2*s.* 6*d.*, 5*s.*
PRIMULA SINENSIS FIMBRIATA, 1*s.*, 2*s* 6*d.*, 5*s.*
} All the same quality.

JAMES CARTER AND CO. beg leave to offer Seeds of the above of *this year's harvesting*, saved from SEVERAL UNRIVALLED COLLECTIONS, and they can with confidence recommend them as being of first-rate quality, both for form, colour, and variety.—JAMES CARTER & Co., Seedsmen, 238, High Holborn, London, W.C.

NEW SEEDS.

TRIFOLIUM INCARNATUM
ITALIAN RYE-GRASS
NATURAL GRASS SEEDS FOR PERMANENT PASTURE LAWNS, &c.

PETER LAWSON AND SON, the QUEEN'S SEEDSMEN, &c., are prepared to supply all kinds of SEEDS for AUTUMN SOWING of the best quality.
27, Great George Street, Westminster, S W.

NEW HYBRID RHODODENDRONS.

ISAAC DAVIES, LARKFIELD NURSERY, Wavertree, near Liverpool, begs respectfully to draw the attention of the admirers of Winter and Early Spring Blooming Plants to the undermentioned handsome and novel HYBRID RHODODENDRONS, which were raised by him five years ago from R. atrovirens, hybridised with ciliatum, and which have proved perfectly hardy, having been grown two years in the open ground without being in the smallest degree injured by frost. The Plants form beautiful bushes, with dark green leaves, about the size of the Myrtle; in the open ground the flowers, which are produced in great abundance, expand about the end of March, and are as large as a moderate-sized Indian Azalea, and of the colours given below. These Plants will be found invaluable for forcing, from the fact that they may be got in flower at any time desired in the winter months, merely by placing them in a greenhouse or cold frame. The flowers last more than three weeks after expansion, and from the peculiar odour of its foliage, which it inherits from the mother parent, not a green fly will live upon it. A plant in flower was sent to London, where it was seen by Messrs H. Low & Co., Waterer & Godfrey, and other leading Nurserymen, from whom I received very flattering opinions of its merits, which are sanctioned by the Certificates of that distinguished Rhododendron grower and raiser, Mr. George Cunningham, and Mr. James Grant, who saw the entire stock in bloom, of which the following are correct copies:—

"Oak Vale Nursery, Old Swan, near Liverpool,
"March 12, 1859.

"Dear Sir,—You wish to have my opinion of your Hybrid Rhododendron, raised between atrovirens and ciliatum, and which you call Precox. I have much pleasure in saying that I think it a handsome and successful cross, showing both parents very distinctly; its compact habit of growth, and its blooming so abundantly at this season of the year will make it an attractive acquisition to our early flowering plants, whether for the open ground or the conservatory.

"I am, dear Sir, yours faithfully,
"Mr. Isaac Davies. "GEORGE CUNNINGHAM."

"Olive Mount, Wavertree, March 10, 1859.

"Dear Sir,—I consider your Rhododendron Precox and its varieties the most novel and handsome hardy hybrids that have been raised for many years. They will be invaluable as Forcing Plants for winter blooming, and the most attractive early spring Flowers out of doors.—I am, dear Sir, yours respectfully, "JAMES GRANT, Gr. to A. S. Gladstone, Esq.
"Mr. Isaac Davies."

Well established Small Plants, on own roots, will be ready for delivery early in September next, at the prices given below, under the following names:—

| | s. | d. |
|---|---|---|
| RHODODENDRON PRECOX, rosy lilac .. .. .. | 10 | 6 |
| ,, ,, ROSEUM, pale rose .. .. .. | 15 | 0 |
| ,, ,, SUPERBUM, rose, shaded with pink | 15 | 0 |
| ,, ,, RUBRUM, deep pink .. .. | 21 | 0 |

The Trade will be allowed one plant over with every three taken of the same variety. A few larger plants of all except rubrum can be supplied at proportionately higher prices

A Drawing, by Mr. James Andrews, of the variety superbum, which differs very little from the others except in colour, may be seen at the Nurseries of Messrs. H. Low & Co., Upper Clapton, N.E.; Waterer & Godfrey, Knap Hill, Woking; E. G. Henderson & Son, St. John's Wood, N.W.; Rollisson & Sons, Tooting; William Wood & Son, Maresfield; Fisher, Holmes, & Co., Sheffield, and at the Nurseries of all extensive Rhododendron growers.

A CATALOGUE of all the best proved kinds of RHODODENDRONS and HARDY HEATHS is now ready and may be had on application.

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SUTTON & SONS have a good stock of New Seeds of the above kinds which they are now sending out at very moderate prices, as see Priced List. Carriage-free to all parts, and 5 per cent. allowed for cash payment.
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SPLENDID NEW VARIEGATED FERN,
PTERIS ARGYRÆA (MOORE).

JAMES VEITCH AND SON have peculiar satisfaction in calling attention to the above-named most striking novelty, which is undoubtedly one of the greatest acquisitions of recent introduction to our now justly popular collections of Ferns.

It is of *noble aspect* and free growth, perfectly distinct and novel in its character, the pinnæ on every frond as well as their branches having a broad central stripe of glistening silver, which, in contrast with the bright green, produces a most charming effect. It may justly be called

THE VARIEGATED FERN.

It was exhibited at the Royal Botanic Garden on July 6, and before the Horticultural Society's newly appointed Floral Committee on July 7, and in both cases received the highest Prizes given to such novelties, and was universally admired.
Established Plants, 31*s.* 6*d.* each.
The usual allowance to the Trade.
Royal Exotic Nurseries, Exeter and Chelsea.—August 13.



# The Gardeners' Chronicle.

*SATURDAY, AUGUST* 13, 1859.


**It is not a little remarkable that a part of the economy of vegetation which is to cultivators of far more importance than any other should usually meet with the least attention. Infinite pains are bestowed on the stem, the leaves, the flowers, the fruit of a plant. These parts are the objects of the most minute care; they are washed and fumigated, sunned and shaded, damped and dried, kept close and ventilated, cooled and heated, in a multitude of ways. Their structure is studied, their symptoms are watched, and what books may say about them is carefully read. No man indeed thinks himself a gardener without possessing what is, in his own opinion, a competent knowledge of the nature of what appears above ground. Not that all who imagine themselves well up in this kind of knowledge really are so; it is too often much the contrary; but they certainly do what they think necessary to acquire such knowledge.**

**These parts are above ground; they are seen by everybody, at all times and under all circumstances. If they become ill the evil is visible. The stem cankers, the leaf blisters, the flower drops or refuses to appear, the fruit shrivels, or cracks or rots upon its stalk. They are facts visible to the most unobservant. So visible indeed that eyes travel no further. A Vine leaf is blistered; the blistering is ascribed to the leaf. The Camellia flower falls off; it is the flower that is in fault. A Peach tree casts its young fruit without stoning; it is a disease in the fruit that produces the mischief. The Vine berries shank, or remain colourless or crack; who looks beyond the berries? A forest tree dies at the extremities; it is something in the air that makes it stagheaded. A Cherry tree is ulcerated, and gum oozes from the sores in its stem; it is the stem that wants a doctor. Such ideas are prevalent among the majority of gardeners as well as amateurs. Nothing can be seen beyond the edge of the well in which such ideas are content to stagnate. It is not imagined that there is something at the bottom of the well itself, which is of far more importance than what is seen above.**

**The world should look downwards as well as upwards.**

**The first great cause of all the evils that plants are heirs to is least understood. It is not seen, and therefore its existence is unsuspected. If half the study that has been given to the parts of a plant that live above ground had been bestowed upon what is under ground, cultivation would make greater progress and horticultural misfortunes would very sensibly diminish. It is on the root that attention should be fixed, and upon the innumerable accidents to which it is subject from its peculiar manner of life. Great gardeners are of course aware of this, at least to a certain extent; but are all their neighbours? and do they themselves always appreciate the full importance of the fact? This we think may well be doubted. At all events it may be asserted, without fear of any contradiction deserving notice, that botanists, to whom cultivators ought to look for their guidance, have so little studied the nature of this all-important organ, that the physiology of the root still remains to be written.**

**How do roots grow? what is their structure and what the limits to its variation? how do they act? what conduces to their health? and what to their disease? All these are very large questions, each demanding a separate inquiry, and to this day quite imperfectly answered. Nor is a reply to be given by the microscopist alone, or the physiologist alone, or the chemist alone, still less by the cultivator alone. A really good history of the root will only be prepared when all these classes of observers shall combine, or be themselves combined in one person.**

**Nothing more strongly confirms the justice of the observation just made, however little it may be complimentary to science, than the appearance of two memoirs that have lately proceeded independently from an English and a French source. Professor HENFREY, on the one hand, has commenced a paper on the structure of roots in the *Journal of the Royal Agricultural Society*, and Messrs. GARREAU and BRAUWERS have a memoir on the manner of growth of rootlets, just published in the *Annales des Sciences*. Attention having been thus awakened to the subject, it is to be hoped that at last it will be examined to some practical purpose in all its bearings. One thing seems to have been already made out by these careful observers, namely, that the growing point of a young root is always protected from injury by a natural guard.**

**It has long been known that in certain plants the end of the roots is covered by a kind of cap or hood, within which the process of growth is carried on. Of this the common Duckweed offers a familiar example, which any one may see with the aid of a pocket lens. Another, on a far larger scale, is to be found at the end of the stout aerial roots of the Screw Pine (*Pandanus*), in which it looks like a great brown cup. It now appears that the structure in question is general, not exceptional. Mr. HENFREY finds that "the growing point of a root is not at its absolute extremity, which is covered by a cap-shaped or hood-like portion of epidermis of its own, continuous likewise behind with the cambial structure. This cap-like sheath of the point of the root may be compared with the head of an arrow, forming a firm body, which can be pushed forward by the growing force behind, to penetrate through the resisting soil. This cap is subject to destruction and decomposition by external agencies, and is less distinctly seen in roots growing in earth than in those of aquatic plants. In all cases it is constantly undergoing renewal by cell-development at the back-part; and when it remains undissolved, as in many water-plants, it becomes very large; when it undergoes decomposition in proportion as it is renewed behind, it presents an irregular ragged appearance, which probably gave rise to the idea of a spongy structure at the ends of the rootlets."**

**In like manner Messrs. GARREAU and BRAUWERS find that the ends of roots undergo a process of exfoliation, the rapidity of which depends upon the idiosyncrasy of the species and the temperature and moisture to which it is exposed. This exfoliation is connected with the formation of new tissue in the midst of a viscous matter, beneath skins or hoods of epidermis which are eventually thrown off.**

**We cannot, on the present occasion, point out the practical value of this apparently small fact, but we shall seize the first opportunity of doing so.**

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**Now that HARDY FRUITS are becoming common in our markets and the results of a most remarkable season are about to be realised, some account of the prices they fetch may not be uninteresting. After some sharp frosts last November we had no winter to speak of. December, January, February, and the greater part of March were unusually mild, and fruit prospects were most promising till the end of the last named month, when it will be**

remembered that severe frosts, accompanied by a snowstorm, greatly diminished our expectations. Apricots, then about the size of Nuts, were killed in many places, even although protected; Peaches were partly set and suffered more or less, and the blossoms of Plums and Pears were in many instances killed. In short, many regarded the fruit crop as entirely ruined. Matters are, however, not quite so bad as was anticipated; but that our hardy fruits suffered to a serious extent from the frosts which occurred on the 30th and 31st of March and during part of April, there can be no reasonable doubt.

As prices of fruit not less than of other goods convey a pretty accurate idea of the abundance or scarcity of the supply, we have prepared the following tabular statement, by which the prices obtained in Covent Garden market in the first week in August this season may be compared with those of the same week in the years indicated, beginning with 1841.

| | 1841. | 1845. | 1850. | 1855. | 1859. |
|---|---|---|---|---|---|
| | s. d. | s. d. | s. d. | s. d. | s. d. |
| Apples, per doz. .. .. | 3 0 | 2 0 | 2 0 | 3 0 | 3 0 |
| ,, per half sieve .. | 6 0 | 7 0 | 4 0 | 5 0 | 5 0 |
| Pears, per doz. .. .. | 4 0 | 6 0 | 3 0 | 4 0 | 6 0 |
| ,, per half sieve .. | 6 0 | 10 0 | 8 0 | 7 0 | 12 0 |
| Plums, per punnet .. .. | 3 0 | 3 6 | 2 0 | 1 6 | 2 6 |
| ,, per half sieve .. | 5 0 | 5 0 | 4 0 | 3 6 | 8 0 |
| Cherries (Morello), per lb. .. | 4 0 | 5 0 | 3 0 | 2 0 | 4 0 |
| Currants, Black, p. half sieve | 6 0 | 7 0 | 6 0 | 6 0 | 7 0 |
| ,, Red do. | 5 0 | 5 0 | 5 0 | 5 0 | 6 0 |
| ,, White do. | 4 0 | 5 0 | 5 0 | 5 0 | 6 0 |
| Gooseberries, per half sieve | 5 0 | 5 0 | 3 0 | 4 0 | 5 0 |
| Raspberries, per lb. .. .. | 0 4 | 0 6 | 0 4 | 0 3 | 0 9 |
| Apricots, per doz. .. .. | 3 0 | 2 6 | 2 6 | 3 0 | 4 0 |

From the above it will be seen that with few exceptions prices range higher than those of any of the years with which they are compared, and that they agree best with those of 1845, the spring of which was very severe. The inference therefore is clear, even if we had no other data to go by, that fruit this season is scarce. That is however the case to a greater extent than the above return indicates; for in addition to that of home growth we have weekly importations from Portugal, Spain, and France, all of which tend to keep down prices. Apples come from Lisbon large and fine, and generally higher coloured than fruit of English growth. Greengage Plums are also largely supplied from France, and we have some foreign Pears, but the latter are not good. The varieties in season now are Jargonelles, Beurré d'Amanlis, and Williams's Bon Chrétien; and of Apples Kerry Pippin, Early Julian, Quarrenden, and Nonesuch. The famous Newtown Pippin, which was wont to make its appearance in the market soon after this time, now seldom arrives until about Christmas. Earlier than that there is little demand for it.

We may add that an ordinary sieve contains about 5 pecks, and a Currant sieve 2½ pecks. A punnet is a round flat basket that holds from 12 to 18 good-sized Plums.

## THE EUGENE APPERT ROSE.

IT will doubtless be remembered that in recording the last National Rose Show in London, very favourable mention was made by us of this undoubted novelty. We are happy to find our opinion confirmed by the greatest authority among Roses, "S. R. H.," who thus speaks of it in the last number of the "Florist."

"Now, what must have been the feelings of a bashful young Rose suddenly introduced into such an august society? Young ladies at their first ball, young gentlemen in their first tailed coat, may form some feeble conjecture—feeble, because they have had some previous knowledge of the world; but in the case to which I refer there existed no such experience. No, it is a fact that Master Eugene Appert had actually never left the nursery until his worthy guardian, Mr. Standish, introduced him, with many a kind word of praise and encouragement, into the midst of this dazzling scene, this glorious assemblage des Beautés. Well might he petition for that place in an obscure corner of the room, from which he never stirred throughout the day, blushing vividly in his nervous excitement, and longing but not daring to speak to those lovely ladies in white close to him, resting gracefully upon their mossy couch, after their long journey from pleasant Devon.

"And who shall attempt to describe his painful state of trepidation, when, wishing that, if it were possible, he might sink into his tube of zinc, and be for ever hidden, he saw the censors draw near to scrutinise? Or who, on the other hand, shall essay to tell of all his pride and ecstacy, when kindly words of recognition and of praise were spoken pleasantly to his listening ear, when he heard the judges say that they knew his papa, the celebrated Géant des Batailles: that they were intimately acquainted with his dear old French master, M. Victor Trouillard, and had recently seen his near relations, his sisters Alice Leroy, Rebecca, and Stephanie Beauharnais; his brothers Patrizzi, François Arago and François Premier, and his uncle, Doctor Bretonneau. How must his delight have culminated and overflowed, when they expressed their positive opinion that he would prove himself 'a better man than his father;' declared him to be 'a decided addition to the Rosarium,' and finally inscribed upon a card above him, 'much admired and approved by the censors.'

"Eugene Appert (to leave off metaphor) is a very beautiful new Rose, raised by M. Victor Trouillard, and having much of the gorgeous colouring which enriches the flower of that name. To those who saw the three blooms of Victor Trouillard, in the collection of Mr. Caut of Colchester, at the National Rose Show, this resemblance will sound as no mean compliment: but we may, I think, indulge in still higher eulogy, and assert, that both in arrangement of its petals, in the beauty of its foliage, and the robust healthfulness of its vigorous growth, the Rose Eugene Appert is superior to Victor Trouillard. This combination of strength and beauty is to be especially commended at a time when so many of our new Roses are sadly defective in constitution—like dolls, beautiful in face, but with nothing to support their bodies of bran but those thin, distorted ricketty legs, which cannot be induced to stand at any price. But Eugene Appert is hale as handsome, not glowing with that hectic flush which foretells a rapid decline, but with the enduring bloom of perfect health—health which keeps the flowers beautiful for some days after they have been severed from the tree, and this makes the Rose especially valuable to those who grow for exhibition."

## CULTIVATION OF THE STRAWBERRY IN N. AMERICA.

THERE are but two distinct systems of cultivation—the one may be called the hilling, and the other the bedding system. In both systems, so far as garden culture is concerned, the deepest and warmest soil it affords should be selected, and the plants set out in rows 12 to 15 inches wide, and a foot apart in the row, with a narrow walk between every third and fourth, or fourth and fifth row.

In the hilling system the beds thus formed are kept perfectly clear of weeds, and all runners from the plants are cut off as soon as they start.

Under this course of treatment the plants, instead of overrunning the bed, form large branched or multiplied crowns, from which, in its season, the fruit is produced—finest and most abundantly in the first full-bearing year, afterward gradually declining, until in four or five years, at most, the beds must be replaced by others. An annual top-dressing of compost is applied after the crop is gathered, being lightly dug in with the spade-fork.

After the spring hoeing of such beds they are carefully mulched by laying straw, or litter, or tan, or Moss between the rows, so that the fruit, when bent down by its own weight or from dashing rains, will not become dirty and unfit for use. For this purpose a coat of cut straw, such as is commonly fed to horses, &c., will be found excellent and easily applied.

In the bedding system less labour and care are required, provided they be given at the proper time. The beds should be annually renewed in the following manner:—At the ends of the rows, when first planted, set a small Locust, or Chesnut, or Cedar stick, thrust into the ground to the depth of a foot or more. If your bed is planted in early spring, or even at any time before the middle of June, and well tended, being hoed often and carefully till they begin to run, and afterward hand-weeded if requisite, and all runners that would spread themselves into the paths cut off or turned in, the whole surface of the bed will be covered before winter with strong young plants; the crowns of the parent plant, instead of branching immediately around itself, as in the hilling system, will have spread and planted themselves at a distance in independent positions. In the following spring the bed will yield its crop in season, and the mat of leaf-growth upon it will keep the fruit clean.

As soon as the crop is gathered, begin on one side and find by your mark-sticks where the old rows stand, and stretch a line exactly midway between the first two of them from end to end of the bed; then, with a spade or Grass-edger, cut along each side of the line so stretched, at 2 inches distance from it, proceeding thus until you have gone over the bed, dividing it into four strips of about 11 inches width, in which the old plant rows stand, and three strips of 4 inches, occupied exclusively by young plants. If, on looking at it, you think you would prefer to have five rows in your new bed rather than three, though the latter is generally preferable, make another cut along just outside of each old outside row, and you will have a narrow rim of young plants standing on each side of your bed.

If you wish plants for enlarged plantings you may pare off with your spade an inch or two deep all the wide intervals, and can choose out the young plants for resetting as you may desire, or the plants on the wide spaces, instead of being pared off, may be dug under if they are not needed for use, thus retaining them in the bed as specific manure for their successors, adding compost also in the process. If pared off, fill up the spaces with leaf-mould or compost, and either dig them with the spade-fork or hook them over deeply with a Potato-hook; then let the narrow strips of young plants be well hoed and perfectly cleaned from weeds and Grass, and you will leave the whole bed as clean and loose as when it was just planted, but with a better stock of plants, and these undisturbed and ready to grow right on. Place your mark-sticks at the centre of the ends of your new rows, and keep the bed clean as before until the runners cover it again preparatory to your next crop; and so alternate from year to year, manuring with compost, &c., as may be needful, at the annual renewal of the bed.

This mode, though it may at first appear complicated, is really a simple and efficient process for securing a clean and, with proper precautions, a full cropping Strawberry bed at a small expense of labour.

Dress your bed repeatedly through the summer and fall with leached ashes and liquid manure. Give it a very light winter covering of straw or evergreen. Let it have at least one liberal application of liquid manure at the opening of spring; and if drought occur while the plants are in blossom or fruit, water them often and heavily to such a degree as will prevent their becoming sensible of want of moisture.

Upon beds so treated the fruit will prove to be almost uniformly fine; plants seldom yield fruit equalling, and never surpassing, the product of their second year, and by this system every bearing plant in your bed comes within this class.

In large operations for marketing the Strawberry crop is sometimes brought into the system of farm rotation upon this alternating or renewal principle. New acres are planted every spring, at from 2 to 3 feet distance each way, the land being well manured and furrowed as for corn, and the plants set at the crossing; they are kept clean with the cultivator, or with the plough and corn harrow, and a little hoeing until they begin to run. Before winter they cover the ground; and as soon as the crop is marketed in the following spring, the whole patch is ploughed under, and a fall crop of vegetables planted on the land. If the plantings are made in the fall, which is undesirable, the patch runs over to the spring of the third year for its main crop. *Weston's American Home Garden.*

## NORTH AMERICAN SCALE INSECTS AND THEIR ENEMY.

[We extract the following interesting account from Dr. Asa Fitch's valuable Entomological Report to the State Agricultural Society of New York. Although the particular species of Aspidiotus or "Scale" insect mentioned is not known in this country, nevertheless the facts connected with it will certainly be read with both pleasure and profit.]

IN those sections of our country where it is not common as a native of the forests there is scarcely any tree which is more esteemed for ornamenting the grounds around a dwelling than the white Pine. Especially is it a favourite, and strenuous attempts are making to cultivate it, about houses upon the prairies of the west; its tall growth and perennial foliage adapting it so well for a shelter from the winds of winter which sweep over those vast plains with such piercing severity; whilst by many of the residents there it is further prized as having been associated with the scenes of their early life, and thus reviving pleasant remembrances of their childhood's home.

But when it is transplanted the Pine appears to be much more subject to the attacks of insects than when it is growing spontaneously. At least we meet with some kinds of these depredators upon cultivated Pines, which we have never been able to discover upon these trees when growing wild in our forests. One of these, a species of coccus infesting the bark, and named the Pine blight, was described in my first Report. We come now to treat of another insect of the same family Coccidæ, which fixes itself upon the leaves, exhausting them of their juices and thus causing them to perish and fall, and the ends of the limbs to die when thus defoliated. These insects pertain to the genus ASPIDIOTUS. No species of this genus has hitherto been discovered infesting any tree of the Pine or Fir family. I infer this to be different, therefore, from anything which has been as yet described, and accordingly name it the Pine-leaf scale insect, Aspidiotus Pinifolii. In size and shape these scales bear a marked resemblance to those of the Apple-bark louse (A. conchiformis) (see *Gard. Chron.* for 1843, p. 745), except that they are not curved as those are. Thus their form is like that of a muscle shell (Mytilus) rather than that of an oyster. Their colour moreover distinguishes them from any of the other kinds of scale insects which are known to me, it being pure white, with a small pale yellow spot upon the pointed end, which spot is readily discerned by the naked eye.

The leaves of the Pine are three-sided or shaped like a prism, and it is along one of the sides of these leaves that the scales are mostly placed, a few scattering ones, however, frequently being stationed on one of the other sides. In the specimens sent me they are crowded as closely as they can stow themselves, and frequently one scale overlaps the end of the next one. They are arranged lengthwise in a row, extending the whole length of the leaf, their width being just equal to that of the leaf. The small end in some is towards the base, in others towards the apex of the leaf.

When examined with a magnifier, those scales which are fully grown appear externally to be composed of three distinct scales, representing seemingly the head, thorax, and abdomen of the living insect—each being of an oval form with rounded ends, and overlapping each other like the tiles of a roof. The largest of these three segments is of a pure white colour, and of a somewhat waxy lustre, resembling in its appearance a small oblong drop of spermaceti tallow. Numerous parallel curved lines are sometimes perceptible across its surface. Overlapping the end of this is a pale dull yellow scale, a third or fourth of its size, and having a raised line along its middle. To this succeeds another, half the size of the preceding, this third segment being subhyaline, yellowish, and obtusely striated transversely. Beneath, this scale is white its whole

length, without any indication of those divisions which appear upon its upper side. It is the tenth of an inch in length. Specimens but half grown are interspersed with the others, and all the scales on some of the leaves are of this small size. These show a raised line or slightly elevated keel along the middle of the white portion. Other specimens still are merely minute oval dull yellow scales, without any whiteness at the end.

The scales which we have now described are the relics of the dead bodies of the female insects, forming a shield for covering and protecting their eggs. At the time the specimens before me were gathered the eggs had not become developed. Consequently on elevating one and another of these scales with the point of a needle, nothing is found beneath them except a small shapeless mass of dried black matter, the remains of the viscera of the insect. But at any time during the winter season the little cavity under these scales will undoubtedly be found filled with minute round eggs. And the transformations of this species will be similar to those narrated of the Apple-bark louse.

It is evident that an insect of the pernicious character of the one under consideration, when so abundant as this appears to have been upon the Pines from which the specimens before me were gathered, would soon cause the leaves to perish and the trees to die, if permitted to proceed unchecked in its career. But fortunately Nature has in this, as in most other analogous instances, provided means for restraining these creatures from becoming unduly numerous. A minute worm which feeds upon the eggs of the Apple-bark louse was noticed in our account of that species. Another insect, a species of lady-bird, or Coccinella, common throughout the United States, devours both the Apple-bark lice and those of this species. I have repeatedly met with this Coccinella upon Apple trees, but had not ascertained which particular kind of vermin it was in pursuit of upon those trees. For authentic information upon this interesting topic we are indebted to Mr. Kennicott, who has observed the larvæ of this lady-bird preying with tiger-like ferocity upon the Apple-bark lice, and who met with the same larvæ and also the pupæ and perfect insects upon the Pines on which the scale insects of which we are speaking occurred. Specimens of the insects and their pupæ which he sent me, enable me to present an account of the preparatory states of this species. The habits of the group of insects to which this belongs were narrated in my last report. The lice upon which this species feeds are so exceedingly minute that a large number of them will no more than suffice it for a single meal; and therefore, in the course of its life, each individual probably slaughters and devours such a multitude as can scarcely be computed. They thus render us a service of great value, and it is to be hoped that no one will fall into the enormous mistake of supposing that these lady-birds breed the lice among which they are found, and therefore undertake to exterminate them, as was once done where a similar species occurred upon Currant bushes.

In allusion to its habits this species may be named the Bark-louse Lady-bird. It pertains to the genus Chilocorus of the family Coccinellidæ and order Coleoptera. It was noticed more than a century ago by the Swedish naturalist Kalm, when travelling through this country, who supposed it to be identical with the European C. bipustulata. It was afterwards for a long time confounded with C. Cacti, Linn., a Mexican species closely related to it, which feeds upon the Cochineal insect (Coccus Cacti). We accordingly find it entered under this name in Dr. Harris's "Catalogue of the Insects of Massachusetts." Mr. Say corrected this error in an article in the "Boston Journal of Natural History" (vol. i., p. 202), published in 1835, in which he thus speaks of this subject: — "C. Cacti, Fabr. This species occurs abundantly in Mexico; it certainly resembles very closely the stigma, Nobis, so common in this country, and the renipustulata, Mull., of Europe; but it is more than twice the size of either of those insects, and may also be distinguished from the former by the superior magnitude of the rufous spot, of which the form is transversely oval, whilst that of the stigma is orbicular." Two years after this this same species was named bivulnerus in the third edition of "Dejean's Catalogue," and in 1851 Mulsant (Coleopt. Trimer. Securip., p. 460) published a description of it under this latter name, which is also the name under which it is entered in Dr. Melsheimer's Catalogue (p. 130) published by the Smithsonian Institution. Although the name stigma is but incidentally given by Mr. Say in the extract above quoted, it still is a published name, accompanied with such a description as makes it perfectly clear to what species this name is applied. This is all that is requisite, in my view, to establish Mr. Say's claim in the premises. In how many instances have authors bestowed names accompanied with no other description than a mere statement of one or two points in which the species designated differed from another known species. I consequently regard the correct scientific designation of this insect to be Chilocorus stigma.

The larvæ are of a dull white colour, with black shining heads, black legs and six rows of long black thorn-like spines running the whole length of the body, one spine of each of the rows arising from each segment. The spines are branched, sending off numerous small slender sharp points on every side. Covered thus formidably with prickles, it is probable that these little alligator-like animals are never devoured by birds, and are able to pursue their useful labours incessantly and without molestation from enemies.

At almost every step when studying this department of the works of Nature, we are meeting with phenomena which excite our astonishment and admiration. These lady-birds are destined to remain dormant and motionless in their pupa state, for a period of about two weeks, in the middle of summer, when all Nature around them is full of life and activity. We should expect they would at this time select some obscure retreat where they would not be apt to be noticed and devoured by birds or annoyed by any other creature.

We have already observed that the leaves of the Pine which are infested by the scale insect perish and fall, and that the twigs thus denuded become withered and dry. We should suppose that these dead leafless twigs, where it will be so conspicuously exposed, would be especially avoided by the lady-bird when seeking a place to repose during its pupa state. But, to our surprise, we find these insects at this time all crowding together upon the ends of these naked twigs. And they here fix themselves by their tails, and become motionless pupæ, retaining around them the prickly skins of their larva state. The appearance which they now present is truly remarkable, the twig thus covered bearing the most perfect resemblance to a stem covered with burrs or thorny seeds, like the ripened spikes of the Hound's Tongue (Cynoglossum officinale), or some more prickly plant. No bird will be disposed to approach anything having such a *noli-me tangere* aspect. And how curious it is that the scale insect by killing the leaves and making the twigs bare should be adapting them for the abode of its mortal foe. With such a discriminating eye has the Author of Nature planned the economy of these useful little creatures, making it on the one hand their especial work to destroy a pernicious family of insects, and on the other hand shielding them from being destroyed in their turn. They would thus appear to be under the special protection of Providence, and it is remarkable that long ago, in a superstitious age, and when the habits of this tribe of insects could have been but vaguely if at all known, they were regarded in this same light, and in different countries, and are supposed to have thus obtained in France the name of "God's cows" and "The Virgin's cattle," and in England "Our Lady's birds," and children were incited to regard them with kindness and leave them at liberty by chanting to them to "fly away home, your house is on fire, your children will burn."

In this family, as stated in my last Report, the pupæ remain partly enveloped in the prickly skin of the larvæ. In some species, however, the larva skin is thrown entirely off, as I stated it to be in the 15-spotted or Apple-tree lady-bird; and I observe Mr. Westwood (Introduction, vol. i., p. 396) describes the C. bipustulata as throwing off its skin in the same manner. In the species now under consideration the pupa appears from the empty skins to be almost entirely enveloped in the skin of the larva, with the rows of spines and their prickles protecting it in every direction, and the head and legs of the larva retaining their natural form, the latter being on the side towards the twig from which the pupa is suspended. The empty pupa skin is glassy and of a dull yellow colour with blackish clouds. It remains partly protruded from the lower or anterior part of the cleft in the back of the larva skin.

In its perfect state the Bark-louse lady-bird is 0.17 or 0.20 long, very convex, and almost hemispheric, highly polished and shining, covered with numerous very minute punctures. It is black, with a round red or reddish yellow spot on the middle of each wing-cover. Beneath it is black with the abdomen red or yellow, its basal segment black except upon each side.

It is probable that the scale insect of the Pine can be destroyed by thoroughly showering the leaves with a solution of soap or with tobacco-water immediately after the young larvæ have hatched from the eggs. Could we be so fortunate as to devise some mode by which we could multiply the lady-bird at pleasure, it would undoubtedly be the most effectual mode of ridding the Pine and also the Apple tree of these minute vermin, which are so pernicious to them.

## NEW GARDEN FERNS.

37. Pteris (pyrophylla) argyræa, *T. Moore.*

Fronds pedately bipinnatifid, *i.e.*, pinnate with pinnatifid pinnæ, the basal ones producing one or two posterior branches; segments bluntly linear falcate (1¼ in. long), spinulose on the rachides above, the terminal ones caudate; bases of the segments grayish-white, forming a broad central silvery stripe down the centre of the pinnæ.

This is the first well-marked variegated Fern which has been introduced to cultivation; and it is at once remarkable for its beauty, and for its entirely distinct and novel character, the latter resulting from the presence of a broad well-defined and conspicuous band or stripe of silvery gray along the centre of every pinna, and occupying both sides of the central rib or rachis. The plant, which is of vigorous habit, producing fronds 5 feet or more in length, forms an erect short caudex, from which the fronds arch out on all sides, as in several allied Pteridea — quadriaurita, nemoralis, felosma, and others, from all which, however, it differs, not only in its marking, which is its chief peculiarity, but in the larger size of its parts; in this latter respect it very much resembles P. longipinnula, but the basal segments of the pinnæ are not diminished as in that species. On the whole we think there can be little doubt it belongs to those enlarged forms related to P. quadriaurita, which some botanists unite with that species, but which probably may be regarded as fairly distinct, and to which the name pyrophylla seems to belong. The stipes is long and stout, scaly towards the base. The fronds are ovate in outline, about 2½ feet wide at the top of the stipes, and about the same in length from the upper end of the stipes to their point; they are pedately bipinnatifid, the two lowermost pairs of pinnæ usually, and sometimes the third also having a posterior basal branch, which is pinnatifid like the pinnæ themselves; the elongated segments, which are slightly wavy, are obtusely linear-falcate in outline, and their costa or midrib bears little spinulose points along its upper side. The pinnæ and branches terminate in a longish narrow tail-like point. The chief beauty of this entirely new Fern consists in its marking, but it is at the same time elegant both in form and habit. The base of each segment for a quarter of an inch or more of its length is silvery, the colour at this part on each side blending with the midrib into a broad longitudinal white stripe, about ⅛ of an inch in breadth. It was rewarded among the new ornamental plants at the Royal Botanic Society's recent exhibition, and received a First Class Certificate of Merit from the Floral Committee of the Horticultural Society. It is a native of Central India, and was introduced by Messrs. Veitch & Son, by whom it was exhibited.

38. Lygodium polystachyum, *Wallich.*

Primary branches in opposite pairs, ovate, sometimes with a smaller lateral basal branchlets; branches pubescent ovate, pinnato-pinnatifid, the segments of the sterile fronds obtuse oblong; fertile segments pyramidally attenuated with dorsal fructification, scarcely distinct and spike like.

This is a very distinct-habited and elegant Fern, belonging to a genus of which the other known species are climbing plants. We are not aware if this also will ultimately attain the climbing habit of its congeners, but it hardly appears likely to do so, for the well-grown plants of Messrs. Veitch & Son, by whom it has been introduced from Moulmein, though of vigorous growth, show no tendency to assume a scandent character, the fronds rather consisting of superposed pairs of lateral branches, resembling in this mode of growth (not in form or other characters) some species of Gleichenia or Davallia aculeata. It is a very ornamental species, quite unlike all other known Lygodiums, the downy primary branches being ovate in outline, with or without a smaller lateral basal branch, and divided in a pinnato-pinnatifid manner, the ultimate lobes when sterile being oblong and obtuse. When fertile the segments are somewhat pyramidally attenuated, and prettily decorated at the back with the scarcely imbricating bracts of the fructification, these bracts or bractiform indusia being dorsal and more distinct than usual. It has been exhibited before the Royal Botanic Society and the Floral Committee of the Horticultural Society, and in both cases was rewarded for its ornamental character. Mr. Lobb found it in Moulmein at an elevation of 1000 feet, and it also occurs in Penang. *T. M.*

## ATTAR OF ROSES.

Mr. Lawrence Smith, Professor of Chemistry at the University of Louisville, in a paper published in the American "Journal of Pharmacy," informs us that the attar of Roses is produced at Kisanlik, a city situated in a valley of the Balkan Mountains, about 60 miles north-west from Adrianople. The Rose cultivated in this valley, which consists of an extensive plain, shut in by elevated ridges, is a full red variety suited to the climate, and of such great fragrance as to be peculiarly adapted for the production of the oil. It is allowed to attain the height of from 4 to 6 feet, and sometimes more.

The Roses are gathered in the months of May and June; the time occupied in getting in the crops being generally about six weeks. They are gathered with the calyx at the dawn of day when the flowers are half-expanded, and the yield from each bush averages about 1½ lb. of leaves. The leaves are immediately sent to the distillers, as they cannot be advantageously kept more than a day, in consequence of their liability to fermentation, by which the oil is lost.

The Roses are placed in copper stills of about 30 gallons' capacity, in the proportion of 60 lbs. of Rose leaves to 15 gallons of water, and the still is immediately heated. One-half of the water is distilled over into several large bottles. The product is then placed in a second still, and about one-fifth passed over, on the surface of which all the oil is found to float, and is collected with a spoon.

The water remaining in the still with the leaves is strained off and added to a fresh supply of Roses, and what is distilled over, with the oil is sold under the name of Rose water.

The quantity of Rose leaves required to produce one metcal, or about 1½ drachm of the oil, varies, according to the weather, from 30 to 60 lbs. If the Roses open in wet weather, and flower slowly, the yield is at its maximum; but when the weather is hot and the bush blossoms vigorously, the yield diminishes, and unless the flowers are picked at an early stage they produce scarcely anything. In an experiment conducted under Mr. Smith's direction, 10,000 fresh Rose leaves produced 36 oz. of oil, at a cost of nearly 3*l.*, or about 18*s.* 10*d.* per oz.

The quantity of attar manufactured in this district is estimated at from 25,000 to 30,000 oz. per annum, but it is adulterated to more than double that quantity by the addition of Geranium oil. To such an extent is this adulteration carried, that it is next to impossible to procure the attar pure, and the oil of Geranium is

even itself sold for attar of Roses in very large quantities. The Rose is likewise cultivated for its perfume in many other parts of the world, but the produce of Kisanlik stands unrivalled, both for quantity and quality, while the Roses grown in the South of France yield scarcely any trace of oil by distillation. *Literary Gazette.*

## Home Correspondence.

*Golden Hamburgh Grape.*—Experience enables me to state that this new seedling is quite equal to all that has been said in its favour; gardeners are therefore unquestionably under an obligation to Mr. Veitch for bringing it so prominently before the public. When its true character shall have become better known, it cannot fail to take a high position among our standard varieties. Mr. Busby informed me that it is the result of a cross between the Black Hamburgh and Stillward's Sweetwater, but independent of any such information, persons at all acquainted with the habit of these two kinds would have no difficulty in determining its parentage. The Golden Hamburgh possesses a strong vigorous habit, the leaves have less substance than those of the Black Hamburgh, and are more transparent in colour. The length of a medium-sized bunch averages from 9 to 10 inches, the width of the shoulders a little less, and it should weigh about 2 lbs. The berries are round, and when well grown, measure from 3⅜ to 3¼ inches in circumference. Such is the general character of this Grape as produced at Tortworth during the present season, from a plant propagated from an eye during the spring of 1858. With the exception of the Muscat of Alexandria, we have no White Grape in which are combined so many desirable properties, the flavour being all that the most fastidious could desire—the flesh firm, juicy, and saccharine. It submits to early forcing in pots with the greatest facility, but requires a temperature of from 68° to 70° to set the berries thickly, and a rather dry atmosphere. During the present year I have ripened two successional crops in pots, one on the 24th of April, the second towards the end of June, and in each case the crop has been most satisfactory. I also observed the Golden Hamburgh exhibited at the last June show of the Stroud Horticultural Society, grown in pots by J. Biddell, Esq., Stratford Abbey, where it also produced large bunches with finely swelled berries. This therefore may be regarded as additional testimony in favour of its uniform character. My knowledge is not sufficiently extensive to enable me to state its qualities as a late Grape, but judging from the delicacy and thinness of the skin there is not resistance enough to overcome the foggy days of autumn and winter. *A. Cramb, The Gardens, Tortworth Court.*

*Calceolaria Disease.*—I should feel obliged if any of your correspondents could tell me the reason why my yellow Calceolarias are all dying. At first I thought the soil was at fault; but I obtained fresh plants from a nursery in large pots, which I plunged in the beds, and the result is just the same; in a short time they die off. In the evening they look in good health, next morning their leaves hang down, and before night they may be said to be dead, every part of them, root and branch. It is vexing, because it spoils the general effect of my flower beds and borders. *W. F. S.*

*Pear and Cherry Tree Grub.*—I have found strong lime-water a perfect cure on their first appearance for the slimy grub on Pear trees and Cherry trees. I had been for several years annoyed by the destruction of the foliage of my Pear trees by the caterpillars when I tried lime-water on the foliage, applying it with a painter's brush, and repeating its application afterwards by means of a common garden syringe. The result was a great diminution in the numbers and ravages of the insect in the first year, and its entire disappearance the following season. *W. D., Dereham.*——If your correspondent will mix some fresh slacked lime with water till it assumes the consistency of London milk, and will syringe his trees with it, he will find it kill the "slimy grub;" at least it has most effectually done so here this season. Apply the mixture in the evening, and wash it off with the engine the following morning. *D. Buchanan, Dyrham Park.*

*Large Sunflower.*—I beg to send you an outline sketch of a Sunflower, the exact dimensions it was on the 7th of August last. The diameter is now 16½ inches, and is beginning to diminish; on the 31st of July there were three leaves of the size represented by the white paper—they are now considerably less. The flower above referred to is in my garden at 24, Wellington Villa, Brighton. *Hy. Wright, War Department.* [The diameter of the representation of the flower sent was 15 inches; the leaf exclusive of footstalk measured 17 inches one way and 14 inches the other.]

*Transplanting Evergreens in Summer.*—The following is my experience in this matter. In the very hot weather of July, 1856, I set to work 10 men to remove old evergreens; viz., Yews, Junipers, Arbutus, Laurestinus, and Portugal and common Laurels. These were from 4 to 10 feet high. The plan I adopted was to make a hole first, not too deep, but sufficiently wide to allow all the roots to be laid out straight, then to prepare the shrub for removal, caring but little for the ball of earth, but getting all the small roots possible. Then move the plant into its new home, cover the roots with fine soil, tread a little to make the plant stand upright. Then fill up the hole with water as it sinks down, which it will soon do; fill in the soil all round the hole carefully as the water sinks away, never allowing it to run out, which it will do if the hole is filled up too fast. Next day tread the soil somewhat firmly, after which make a ridge all round the edge of the ball, in order, as it were, to form a dish; fill this with water three times during three successive days, then level the ridge down, covering the mud over with soil. After this no more water is required at the roots; if the weather be dry, syringe the shrubs over head three or four evenings. Nothing more will be required but to look at them now and then. The following spring they will grow away and be quite at home in their new situations. This July I have planted a young Laurel bank facing the west; the plants now look well, and there is not one dead among them. The young Laurels are treated the same as the large shrubs, except that they get no syringing. In my opinion the months of July and August are the very best for removing valuable large evergreens. Treated carefully as above they are sure to grow, and they get hold of the soil immediately, for the earth is like a hot-bed into which the young roots soon enter. I have removed deciduous trees in the summer months on dull days. Some have not grown; those that have now look well. The long branches are shortened in one half. During removal the sun causes the leaves to flag, but they soon recover. *Francis Lamb, Steward, &c., Oxburgh, Norfolk.*

*Water Rat.*—There have been several interesting communications in your Paper of late by Mr. Waterton, "Jael," and "B." respecting the animal called usually a water rat. It seems a pity that the group to which this belongs should continue to be classed with rats and mice, after they have been so long separated by naturalists from them, and when they so evidently differ from both. In Rev. Leonard Jenyns's "Manual of British Vertebrate Animals," and all other recent works on natural history, they are put in a genus by themselves after the true rats, under the head of Arvicola, and the three species we possess form a most natural little family. Every child that catches a "short-tailed field mouse" sees it is not a mouse at all, just as any one catching "the water rat" sees at once that it is no rat. I did not, however, mean to enlarge upon this point, but to add my mite to the contributions above mentioned. Was it really Arvicola amphibia, the water rat, which ate "B.'s" Vine roots and bark, or was it A. agrestis, the field one? I have known the latter destroy Vines several times in winter. Generally Vines are too far from water for A. amphibia to get to them. [It has now been explained that Osiers not Vines were destroyed.] Last winter A. agrestis ate two long rows of Celery in a garden at Hampstead. The gardener informed me, when I remarked upon the extraordinary appearance of his Celery, "that it was destroyed by wireworms," but upon applying a spade I found a gallery going its whole length, and all the white part eaten off by this little marauder. Both species (and the third also, the Bank Campagnol, which swarms in banks on the Continent, but is rare here) feed upon all roots and tender plants. In winter the field one often does much harm in gardens by destroying Broccoli and Cabbage plants by barking them, and in spring is very destructive to Peas. Mr. Waterton says the water one never strays from the water-side. I caught a very fine one last year three fields' length from its pond. The field Arvicola is often very destructive to young plantations. If it was not such a favourite with cats, owls, &c., which prefer it to any of its kind, we should soon be overrun by it, as it increases wonderfully. I think your correspondents will find that it is the smaller field species—the short-tailed field mouse, as it is usually called—which does the mischief generally, and that A. amphibia, the water rat, does little or no harm beyond boring through banks, in which it often becomes a sad pest. *W. D. Fox.*

*Bulbiferous Yarrow.*—I pulled the accompanying plant of Yarrow this afternoon, and observing at the axils of two of the leaves what appeared to me to resemble the bulblets in Lilium bulbiferum, I thought it best to send it to you before I had pulled it to pieces, lest I should first spoil the plant for further observation, and thus discover (I do not say that you will find it so) that the matter was worthy of a more practised observer than myself. If it prove to be the work of an insect, or a matter of daily occurrence, pray excuse me. I have never noticed such a thing before. *Diss, August* 5. [The axillary bodies are true bulblets. We have not before seen such a formation in either Yarrows or other Composite weeds. They do sometimes appear in the axils of the Jerusalem Artichoke.]

*Elton Strawberry.*—In your report of the meetings of the Pomological Society, at p. 638, this Strawberry is represented as being one of Mr. Myatt's seedlings. This is a mistake, as that useful late variety was raised by Mr. A. Knight, at Downton Castle. Mr. Myatt once sent out a Strawberry of the same class, named the "Deptford Pine," which I believe is not now much cultivated. *J. B. Whiting.* [Certainly the Elton was a seedling raised by Mr. Knight. The report was that of the Pomological Society itself.]

*Dickson's Early Favourite Pea.*—One of your correspondents asks, in a late Number, for information concerning the identity of the Auvergne and this Pea, but his question does not appear to have been answered. I can state that the two varieties are distinct, although much alike in quality and general characters. The pod of the Early Favourite is much less curved than that of the Auvergne; it also comes into use a few days earlier. They are both useful second-early sorts and good croppers, but not equal in quality to the Marrow-fat section. *J. B. Whiting.*

*Buckland Sweetwater Grape.*—Allow me to inform "Preston" (see p. 656) that from the knowledge I have of the merits of this variety after two seasons' fruiting, I consider it to be a decided improvement on the old Sweetwater, and I think it a variety that should be added to every collection of good Grapes. *Jas. Drever, Denbies, August* 10.

*Molucca Balm.*—Can any one inform me where I can procure seed of this Balm, a hardy annual now I believe very old-fashioned? There are two species, viz., Moluccella lævis and M. spinosa. It is wanted in order to obtain the seed vessel for skeletonising. *M. S.*

*Gigantic Puffball.*—There have sprung up in the garden of which I have charge some specimens of round Fungus balls, white and smooth on the surface, and of such enormous size as to astonish all who have seen them. I put a string round one, and found it over 4 feet in circumference, and it weighs nearly 11 lbs. If you care to see one pray let me know, and I will forward it to your office. *W.* [Pray do not. It is the common Bovista giganteum.]

## Societies.

Horticultural: *Aug.* 10.—At a meeting of the *Fruit Committee* of this Society held this day, Mr. Edmonds in the chair, Mr. Rivers exhibited a dish of Bourdine Peaches gathered from a tree growing in a pot. This was quite different from the Late Admirable, with which what is known as the Bourdine is usually classed. The flesh of the variety shown by Mr. Rivers was delicious in flavour, very juicy, and streaked with purple next the stone. From Mr. Turner, of Slough, came a Scarlet Gem Melon, which is universally admitted to be one of the very best of Scarlet-fleshed kinds. Mr. Turner likewise sent examples of a new Runner Bean, the majority of the pods of which measured 9 inches in length; also examples of what is called the New Zealand Running Bean with which the former was contrasted and very much to the disadvantage of the latter, whose pods only measured 4 inches in length.

*August* 11.—The Rev. J. Dix in the chair. At a meeting of the *Floral Committee* held on this occasion, various subjects of considerable interest were produced. Among new Dahlias, the best were Lady Douglas Pennant from Mr. Keynes, a bright primrose coloured kind. The same exhibitor also had 12 beautiful blooms of William Dodds, a golden yellow sort of fine form; likewise examples of Rev. Joshua Dix, a purple variety blotched and mottled with crimson. Mr. Turner sent Mrs. Col. Vyse, a promising white ground kind strongly tipped with purple; Mr. Dodds, Sir G. Douglas, and Mr. Green, a kind called Splendid. Mr. Chater sent a Seedling Hollyhock named Alfred, which promises to become a favourite. Messrs. Veitch furnished a very curious Odontoglossum, like Bictoniense, but quite distinct, some most remarkable hybrid Cattleyas, between C. Loddigesii and granulosa, and a handsome variety of the Fern Athyrium Filix-fœmina. Messrs. Carter sent a plant of yellow Tom Thumb Nasturtium, which was considered valuable for its dwarfness and free flowering habit, and a supposed new Nigella, which proved to be one of the forms of N. hispanica. A Pelargonium named Blackheath Beauty came from Mr. Halley. It is a dwarf zonale variety, with pale salmon flowers. Mr. Laing of Twickenham also sent a promising scarlet Geranium with horseshoe leaves. Of other subjects exhibited on this occasion a full report will appear hereafter.

The following Floral Regulations have been framed for the guidance both of the Committee and of exhibitors:—1. The Floral Committee of the Horticultural Society has before it the following objects: To examine and to report upon the merits of such New Plants and Flowers, whether imported species or seedling florists' varieties, as may be submitted for that purpose. 2. These objects the Committee will carry out by holding Meetings for the examination of flowers and plants, and by publishing reports of its Transactions as speedily as possible, in the monthly "Proceedings" of the Society. 3. The necessary expenses incurred in carrying out these objects shall be defrayed from a fund provided by the Council, and placed at the free disposal of the Committee. 4. The Committee will meet at the Society's rooms (8, St. Martin's Place, Trafalgar Square, London, W.C.), on the second and fourth Thursdays in the months of April, May, June, July, August, and September, and on the second Thursday in the months of January, February, March, October, November, and December, unless otherwise appointed. The chair to be taken at 2 P.M. Extra Meetings may be held if necessary at the discretion of the Chairman and Secretary. 5. The business of the Meetings shall be transacted in the manner and order following:—1. Minutes of previous Meeting read and confirmed; 2. Letters addressed to Chairman or Secretary, including notices of motion, read; 3. Motions of which notice has been given at a previous meeting, considered; 4. New plants and flowers examined, and reported on. 6. All persons, whether Fellows of the Society or not, are invited to send their new plants and flowers for examination. A report containing an announcement of the awards made at the several Meetings, to be sent to the respective exhibitors as soon as it appears in the Society's "Proceedings." 7. All subjects for the consideration of the

Committee are to be delivered free at the place of meeting, not later than 1 P.M. on the respective meeting days; and all necessary particulars respecting them are to be forthwith communicated, in writing, to the Secretary. *Note.*—The name and post address of the exhibitor; the name of the flower if a seedling; and that of the native country if an importation, will be considered essential particulars. Exhibitors are invited to communicate such further details of the origin or introduction or peculiarities of their plants or flowers as they may think interesting for publication. 8. The merits of the subjects exhibited shall not be discussed or decided on in the presence of the owners, or interested exhibitors thereof. 9. Sufficient examples of every subject exhibited, to enable the Committee to form a fair opinion of its qualities, are to be produced. In all practicable cases, the growing plant will be required. 10. The subjects of exhibition will be entered by the Secretary in the order in which the particulars mentioned under Rule VII. are furnished to him, and they will be examined by the Committee in the same order. Each kind will have to be separately numbered; and all seeding flowers must be named, as a means of future recognition. If not named, they will be passed over. 11. Newly imported or other new species of plants, not florists' varieties, will have to be submitted to the botanical advisers of the Committee, that they may be correctly named. Exhibitors of this class of plants will greatly facilitate the operations of the Committee by forwarding, whenever practicable, previous to the day of meeting, materials for this purpose; such materials to be sent to the Society's rooms, addressed to "The Botanical Advisers of the Floral Committee." If not so done, provision must be made for this object at the time of meeting. 12. Honorary Certificates of the first class, and Commendation Cards will be awarded, at the discretion of the majority of the members present, to such of the subjects exhibited before them as may be thought deserving thereof. 13. All new plants flowered in the Society's garden are to be submitted to the Floral Committee, for its opinion on their merits. 14. All packages of plants or flowers must be delivered carriage free, and must be forwarded at the risk of the sender. The subjects, whether plants or cut flowers, will be delivered up at the close of the Meeting to the owners thereof, or to such persons as may be duly authorised to receive them. If left, it will be at the entire risk of the senders. 15. The Committee will hold the power of examining with all necessary minuteness the subjects submitted for its opinion. 16. Exhibitors of seedling florists' flowers, and others, will facilitate the working of the Committee by the production of specimens and collections of known varieties to serve as references, and for comparison with new flowers.

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Royal Botanic, Regent's Park.—The 20th anniversary meeting of this society was held yesterday, Mr. David Jardine in the chair. The report from the council stated that the affairs of the society continued in the most prosperous condition. The total receipts of the year had been 12,254*l.* 14*s.* 10*d.*, and the expenditure, including 1050*l.* of the old debt paid off, 9352*l.* 7*s.* 1*d.*, leaving a balance in hand of 2902*l.* 7*s.* 9*d.* The total number of fellows elected since the last anniversary is 163; the number now on the books of fellows and members being 2277. The early spring exhibitions attempted for the first time during the past spring, and instituted for the introduction of new and rare plants, which come into flower in the early spring months, had met with the greatest success, and given general satisfaction. Although the old debt of the society was now so small as to be of no consequence, yet the council do not consider it expedient to undertake any expensive works of improvement until the whole of this debt has been extinguished. The reports from the secretary and curator stated that the gardens and conservatory had during the past year been in a higher state of cultivation than for several seasons past. The facilities afforded to students and artists had been enjoyed by 115 persons, beyond those attending the lectures of Professor Bentley and Dr. Lankester. The total number of visitors to the gardens during the past year was 155,951. The thanks of the society were voted to his Royal Highness the President, the Vice-Presidents, and other members of the council, and the auditors and executive officers of the society; and the proceedings terminated with thanks to the Chairman for his able superintendence of the business of the meeting. *Times.*

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Entomological, *July* 4.—The President in the chair. Mr. Jeakes exhibited a specimen of a North American species of Brenthus, lately taken flying in a garden at Camden Town, supposed to have been bred on the stem of a shrub from that country. Mr. F. Bond exhibited various Lepidoptera, taken at Freshwater in the Isle of Wight, including Setina irrozella, an apparently new species of Coleophora, Cochylis flaviciliana, &c.; also a beautiful living specimen of Calosoma sycophanti found on the coast of Freshwater a few days previous to the meeting. Mr. Shepherd exhibited specimens of Deleaster dichros, taken near London; and Mr. A. F. Sheppard specimens of Erastria venustula taken near Loughton, in Essex. Mr. Janson exhibited Stenus opticus, a new British species from Horning Fen; and Mr. Milford a fine series of Psyche fusca, lately reared from the larva, and Carabus intricatus from the neighbourhood of Bath. Mr. Stevens exhibited various beautiful Australian Microlepidoptera collected by Mr. Diggles, and a charming species of Gastrophasia, with a drawing of its curious larva; also some splendid butterflies, just received from Mr. Wallace, taken in the island of Balchiam, near New Guinea. Mr. Gorham exhibited Anchomenus livens found near Eltham. Mr. F. Smith read some remarks on the economy of the Ichneumon—genus Pezomachus, of which he had reared specimens from the egg-nests of spiders. Mr. Waterhouse read a memoir on the British species of the genus Cis. Mr. Westwood read the description of a butterfly received, brought from New Caledonia by Mr. M'Gillivray, which he was induced to regard as a local and permanent variety of Papilio Ulysses, and to which he applied the name of P. (Ulysses) Ulyssinus. The same gentleman also exhibited a very beautiful new Spectre insect just sent from the Upper Amazon by Mr. Bateson.

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# Notices of Books.

*A Guide to the Food Collection in the South Kensington Museum.* By E. Lankester, M.D., F.R.S.

When the Potato disease had arrived at its height and every one was speculating upon the possibility of procuring a substitute for the moribund esculent, it occurred to Professor Henslow that it would be useful to show to the eye itself of what constituents the tuber really consisted. He therefore ingeniously separated the more important substances, placed them side by side, and publicly exhibited them for the first time in this country. So happy a suggestion was not destined to fall on barren ground. Dr. Lyon Playfair, who had been long occupied with investigations of the kind, was not slow to perceive the interest that would attach to an extension of the Henslovian idea by applying it to all articles of food in the great museum of South Kensington. Before quitting his office in that important institution for the chair of Chemistry in Edinburgh he had formed a very large collection of the substances constituting food, and separated their constituents from each other by chemical processes; and his successor, Dr. Lankester, following in the same path, has at last brought the exhibition of articles of food at South Kensington to such a state of completeness that he has been able to publish what is modestly called a Guide to it, but what is in reality a good scientific catalogue, although costing no more than sixpence.

"All food," he observes, "is found to be composed of the same materials or elements as the human body. The necessity of the supply of food from day to day depends on the fact that the elements of the human body are daily wasted by the processes of life. As a fire cannot *burn* without a supply of *fuel*, neither can the human body *live* without its daily supply of food."

He then proceeds to show the elements and their quantities existing in a human body weighing 154 lbs., after which he analyses all articles of food, and shows how far they are capable of contributing to the maintenance of those elements in due proportion. From water he passes to salt and minerals, then takes up the carbonaceous or heat-giving substances, following which are the nitrogenous or flesh-forming substances, the whole concluding with a description of auxiliary foods considered under the heads of *stimulants*, such as spirits; *alteratives*, such as alkaloids and acids; *narcotics*, like tobacco and opium; and finally *accessories*, including gum, gelatine, &c.

The volume consists of 96 pages, forming not only a companion to a part of the S. Kensington Museum, but a valuable guide to the reader who wishes to know the actual value of the food he consumes. It is a pity that its utility should be diminished by the absence of a good index. The letter-press also demands here and there a more careful correction.

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*A Guide to the Town of Berne* (Longmans) is a carefully written pamphlet, describing all that is most interesting in this famous old city; and is accompanied by a good map. We extract the following rather important postscript:—

"Strangers desirous of residing at Berne will find some difficulty in procuring either houses or apartments; both are at present very scarce, and, as a matter of course, rents are exceedingly high. During the winter season, *i. e.*, from November to April or May, the proprietors of many of the hotels are willing to let suites of apartments, with kitchens, on moderate terms, and families engaging them are at liberty to provide for themselves just the same as if dwelling in their own houses. Excellent apartments may be had at the Villette Boarding House on reasonable terms. Every Tuesday and Saturday there is a well-supplied market; the one on Tuesday is more like a fair, every description of article being offered for sale, and country people attend by hundreds for the sake of business or pleasure. Provisions are not dear, as the following prices will prove:—Meat 4*d.* to 5½*d.* per lb., poultry, fowls, and ducks 2*s.* a couple; eggs 5*d.* a dozen, hares 3*s.* each; vegetables moderate in price; wild Strawberries abundant; grocery cheap; tea 3*s.* 4*d.* to 4*s.* 6*d.* per lb., sugar 6*d.* per lb., bread 1½*d.* to 2*d.* per lb.; wine at every price; beer 3*d.* per bottle. The Bernese are not remarkably hospitable to strangers; they visit a great deal among themselves; continual tea parties, *soirées dansantes*, and even card parties. The young ladies have their weekly receptions, to which they invite their friends, and even receive as well as entertain them without the assistance of papa or mamma. The aristocracy live excluded from the other classes, satisfied to mourn over their former greatness, and proud of the influence they once possessed; unlike the English nobility, they do not attempt to march with the times, but silently allow new and unknown men to take possession of every post of trust and power. It is to be hoped, for the welfare of the country, that the young generation will see the folly of this short-sighted policy, and will come forward to compete with the mass for official honours, and endeavour to regain by their talents and industry the respect and admiration of their countrymen, and so add new lustre to names which already shine bright in the page of history."

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*Hawker on Shooting; or Instructions to Young Sportsmen in all that relates to Guns and Shooting.* By Lieut.-Colonel Hawker, edited by his son, Major Hawker. Large 8vo, pp. 548. Longmans.

The shooting season is usefully introduced by the eleventh edition of this popular work, which all young sportsmen seem to consider as indispensable as a powder flask and shot bag. Of a work so well known to the public it is needless to say more than that it treats amply of everything relating to sporting firearms, except the rifle, of which very little is said, and to dogs, dresses, punts, decoys, &c. In this new edition the only novelty consists of a chapter on breech-loaders, the topic of the day. Major Hawker seems to prefer upon the whole the contrivance by Lang, although he speaks guardedly upon the subject, as a judicious writer must do when dealing with an invention at present so little known. He also thinks that for rifles, Prince's breech-loader has some advantage over Terry's; but he does not seem to be acquainted with Westley Richards's very ingenious and simple plan.

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*A Guide to the Quadrupeds and Reptiles of Europe, with Descriptions of all the Species, compiled from the latest writers.* By Lord Clermont. Van Voorst. Small 8vo. Pp. 277.

The noble lord has done good service by publishing this little work, which will doubtless become the travelling companion of all lovers of natural history. Struck by the absence of any decent scientific manual of those European animals called Vertebrates, excepting birds, Lord Clermont has supplied the deficiency by a careful, well arranged, well digested, well indexed series of descriptions, derived from the best authorities, of all that are found on this side the Caspian Sea and its affluents. Beginning with the Solitary Monkey of Gibraltar he proceeds to Bats, Insectivores, Carnivores, Rodents, Ruminants, Cetaceans, and Reptiles. Of each are given the principal modern names and synonyms, the description, measurement, habits of life, and geographical distribution. About 260 species in all are thus treated of.

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*Illustrations of the Nueva Quinologia of Pavon, with coloured plates, by W. Fitch, F.L.S., and Observations on the Barks described.* By John Eliot Howard, F.L.S., &c. Part I. Folio. Reeve.

"The present work is intended to illustrate those species of Cinchona which are described in the Nueva Quinologia of the celebrated Spanish botanist Don José Pavon. The MS. thus named was left unpublished at the decease of its author, and has recently been acquired by purchase (together with a collection of more than 10 specimens of Bark accompanying the above descriptions) by the author of the present 'Illustrations.' These are designed to extend over 8 to 10 parts, and the arrangement will be given when the whole is complete. The drawings are made from original sources, found in the Royal Museum at Madrid, and in this country." In these words Mr. Howard introduces a work which promises to be second to none in the literature of medical botany. The plates are in the best style of art; and the letterpress consists of minutely elaborate descriptions of varieties and samples of those "Jesuits" or "Peruvian Barks," which have for so long a time stood at the head of the remedial agents of their class.

There is probably no medico-botanical question so greatly in need of illustration as this; and it is understood that Mr. Howard brings to its discussion very great experience in the discrimination of the "Barks" of commerce, as well as the authentic materials above alluded to.

No one who is not at once a botanist and a connoisseur in drugs can pretend to offer any critical remarks on a work of this sort. We therefore only venture to suggest that Mr. Howard's Cinchona coccinea is the same species as the C. hirsuta of the *Flora Peruviana*, as it certainly is of Lindley's *Flora Medica*.

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The first Number of the third volume of Sir Wm. Hooker's valuable *Species Filicum* (Pamplin) has reached us. Another number, "to be published shortly," will complete the volume. That before us is entirely occupied by Lomaria and Blechnum, and has some excellent figures from the hand of Mr. Wm. Wilson.

We have also on our table the 10th livraison of Mr. Weddell's admirable *Chloris andina*, with figures by Riocreux, who, if possible, excels himself. This Part begins with Asclepiadeæ and ends with Polemoniaceæ.

The second Part of *Mr. Curtis's Farm Insects* (Blackie & Son) is chiefly occupied by the enemies of the Turnip crop.

Of *Le Jardin Fruitier du Muséum*, by M. Decaisne, Parts 22, 23, and 24, No. 22 is occupied by the

Princesse Royale and Sir Harry Strawberries; 23 by the Marquise, Fondante des Bois, Epargne, and Bassin Pears; 24 by Mouille Bouche (one of the sorts called Verte longue), and Jalousie Pears, and the Washington and Royale de Tours Plums. (No. 17 of this beautiful book has not reached us.)

*Nature and her Agents* (Pitman, a pamphlet) is a preposterous tirade against medical men, written in very bad taste.—*Once a Week*, the new and successful weekly rival of *Household Words*, is to be also published in monthly numbers. We are glad to see that science holds a place in its columns. Articles like that of Alpha on Man among the Mammoths, and Philonus on Wine, are especially noteworthy. The latter indeed is the only common-sense examination of the question "shall the duties on French wines be reduced?" that we have seen. No one really acquainted with English habits believes that French wines would be drunk by the multitude, even if they could be had for nothing. Why, they *are* had for nothing by the guests at middle-class dinner tables, and who drinks them?

TRADE LISTS RECEIVED.—*Messrs. Syme, Simms, & Smith's* (Glasgow) *Autumn List of Flowering Bulbs.* A useful list of the best sorts that can be recommended to buyers, accompanied by short notes upon colour, &c.

## Garden Memoranda.

ROYAL BOTANIC GARDEN, KEW.—Our readers will be pleased to learn that Government has at last granted to this establishment what has been so long wanted in it—viz. a conservatory capable of holding the noble Araucarias, Eucalypti, Acacias, and other "hard-wooded," half-hardy plants, for which the old Orangery and other houses in which they have hitherto been accommodated are so ill adapted. What precise form this new building may take is as yet uncertain; but the ground plan for it exhibits three parallelograms, divided by two octagons, each of the latter being 50 feet in diameter. The centre parallelogram is to be 212 feet in length and 137 feet in width, and the two end ones each 112 feet in length and 62 wide. It will thus be seen that the extreme length of the building will be 536 feet. As regards position, it is to be placed in the pleasure ground, between the great Palm-house and the Pagoda, a little to the right of the vista leading to the latter. A lake several acres in extent is also in course of formation on the left side of the Sion Vista; two important new features may therefore soon be expected to be added to this highly interesting portion of this great national establishment. The ornamental trees planted here during the last few years also begin to be attractive, more especially the Conifers, all of which have thriven remarkably well. In some of the large Elm trees with which this extensive portion of the grounds is decorated, we however regret to state that we observed symptoms of decay, an evil which the unusually dry summer we have just experienced may have served to accelerate.

In the Botanic Garden itself the grounds are at present extremely gay with flowering plants, especially the little garden in front of the large Palm-house, the vases, charmingly filled with scarlet Geraniums, which surround the little lake there, and the beds along the sides of the principal walks. The arrangements in regard to bedding plants observed last season, and fully reported at p. 687 of our volume for 1858, have proved so satisfactory that with one or two trifling exceptions they have been employed again this year, and even with better effect than last. Nothing in its way could possibly be more brilliant than the dwarf scarlet Geranium called Punch, which is even preferred here to Tom Thumb. Fine beds of it may be seen at the termination of the principal walk near the lake. Other masses of Geraniums, Verbenas, Calceolarias, Roses, Fuchsias, and Mignonette are also in great perfection; and of the purplish black-leaved Perilla nankinensis we observed some charming little circular beds, which when judiciously introduced as they are here into gay floral combinations are really very effective. For edgings to beds nothing appeared to be better than variegated Balm and Cerastium tomentosum. In the herbaceous ground there is also a tolerable amount of plants in flower, and the Grass, though here and there exhibiting signs of having been greatly burnt up, has very much improved in appearance since the late rains.

Lagerstrœmia indica, a shrub of extraordinary beauty, has flowered here this season in great perfection in a cool greenhouse. Although not uncommon in collections yet it is rare that one finds this in blossom, and for the following reason: it is usually treated as a stove plant and subjected to continual excitement all the year round, when in fact it is all but hardy and wants a season of rest. It is decidedly an autumn-blooming plant and will not flower well at any other time. It should be wintered dry and cool, and started in spring, when a brisk growing heat will be of service to it. Managed in this way it may be had in blossom every year; and when in that condition its beauty is unsurpassed by that of any other greenhouse shrub whatever.

Greenhouse plants being now for the most part out of doors their places are occupied by autumn flowering and fine-foliaged plants, among which we observed two handsome specimens of the tree Ferns Dicksonia antarctica and squarrosa. In the principal Fern-house itself are some fine examples of Platyceriums, Phymatodes, Gleichenias in square wooden boxes, and other rare genera; also some interesting Trichomanes. Among the latter were muscoides, the West Indian kind called Krausii, Bancrofti, reptans, radicans, and the New Zealand reniforme. Attempts have been made to introduce living plants of this class of Ferns into this country for years, but they have hitherto failed; it however now looks as if they might succeed. These Trichomanes are all under little hand glasses, having the form of ordinary Wardian cases, shaded and surrounded with Lycopod to keep them cool and moist. They are planted in square earthenware pans, which are said to suit them better than anything else. In a cool Fern-house facing the north there is now a rich and luxuriant vegetation tastefully set off by an edging of Lycopod, which gives to the whole a green and refreshing appearance. Here we noticed the climbing Ferns Platyloma flexuosum and cordatum, and a fine plant of Neottopteris australasica, probably the parent of all other plants of the kind in this country. This plant was introduced by Cunningham from the neighbourhood of Sydney in 1825.

Among Selaginellas one called serpens possesses a singular peculiarity in regard to colour. In the morning it is as green as a toothed Lycopod, but as evening approaches it assumes a peculiar white appearance which increases until darkness, when it again becomes green. This is the only species of the genus in which shifting colours of this kind have as yet been observed.

In the succulent house a young American Aloe is about to open its blossoms. Its flower stem, with candelabra-like top, is already 18 feet in height. Agave striata has also been in blossom; and we observed, what is somewhat uncommon in a cool house like this, Passiflora racemosa cærulea in fruit, the latter being about half the size of Coe's Golden Drop Plum, and in the greatest abundance. The Brazilian Dyckia rariflora is also in flower; the latter is produced on the end of long slender stems, rich orange in colour and rather handsome. Associated with these was an example of a kind of South African Water Rush, now called Prionium Palmita, a fibre-yielding plant which it is expected may some day form an important article of commerce. Fibre produced from this, white and every way good of quality, may be seen in the Museum.

Novelties are at present chiefly confined to plants the produce of the Niger Expedition, and of most of which mention has already been made in our columns. We however noticed some new Palms from the Mauritius and small islands in its neighbourhood, which appear to be different from any at present in cultivation. Of Borassus flabelliformis there is also a thriving plant, which it is to be hoped may continue in that condition. Many years have been spent in trying to get this to succeed at Kew; but hitherto without effect. While speaking of Palms we may mention that the great Palm of India (Corypha umbraculifera) has taken 35 years to acquire a height of little more than a foot. Of roots it makes plenty, but it seems impossible to get it to form a top, while in its native country the latter often arrives at a great size; of its trunk specimens exist in the Museum measuring nearly 3 feet in diameter.

In the Palm-house, which for these last two or three years has been undergoing progressive improvement in its arrangement, some important alterations are about to be made. Many of its noble occupants have already become all but too high for the house, lofty though it is, and therefore with the view of affording more head room as well as of saving the trouble and expense of frequent shifting, the huge masses of earth in which they are growing, tubs and all, are to be "let down" into a bed of soil prepared for them below the flooring. This will involve much labour; but when once accomplished no after disturbance will be necessary. We may add, that not only are the magnificent Cycads, Palms, and Musas in the most luxuriant health, but that other kinds of vegetation which the house contains are also in excellent condition. The gigantic Ensete of Bruce, or Abyssinian Plantain tree, although little more than five years old, now measures about 30 feet in height, and at the base of the trunk its girth is 7 or 8 feet. From whatever point of view this is looked at it is really a wonderful production. Several Palms have flowered here this season—a circumstance doubtless in some degree attributable to the unusually warm summer which we have just experienced, and among them the Ensete just mentioned; it is now decaying, but young ones are pushing on to take its place. Three or four Cycads have also flowered.

Scrambling over a portion of the interior of the back wall of a house, filled chiefly with Arads and Bromeliads, is a plant of Cereus MacDonaldiæ which this season has produced between three and four dozen blossoms, creamy white in colour, and each measuring some 14 inches in diameter. So fine a variety as this therefore surely deserves to be much better known than it is. It is one of the night-flowering kinds. Some of the species of the handsome genus Pitcairnia were also in flower here, and extremely showy they were, especially P. Olfersi, whose fine spikes of crimson blossoms are unequalled in brilliancy by any of its class. The singular-looking Arad Monstera deliciosa, whose large leaves are so grotesquely holed and divided into broad straps at the edge, has again produced fruit. Of the latter a woodcut representation will be found in our Volume for last year, p. 883.

Orchids, though still in an unsatisfactory state, appear to be slowly improving, especially those on blocks and baskets. We also observed indications of amendment in the genera Cattleya, Vanda, and Aerides in pots; most of them have been moved back to a lean-to house near the herbaceous ground, which was formerly their old quarters, and in which it is thought they will succeed better than anywhere else. But we cannot say that their revival is what was expected from the present foreman.

The Victoria house, which has been found to be altogether unfitted for the Royal Water Lily from which it derives its name, has been converted into a tropical swamp filled with Caladiums, large Ferns, Dracænas, and other plants remarkable for the beauty of their foliage, and the cultivation of the Victoria itself is now and has for the last year or two been wholly confined to a comparatively small slate tank in another house. Here it grows and blooms admirably; this season it has thrown up great rimmed leaves, but as yet it has not flowered. This, however, it may be expected soon to do. A fine specimen of the Madagascar Lattice plant (Ouvirandra fenestralis) used to occupy a corner of this tank, but lately it has fallen into ill health. Its roots have, however, been examined and some new soil added, and since that has been done it appears to be pushing afresh, and to be gradually recovering. A collection of Pitcher plants in pots placed here not only adds interest but variety. On the roof are trained Cissus discolor and other handsome-leaved climbers.

A fine stick of Douglas Fir brought from Vancouver's Island, and intended for a flag-staff, has unfortunately been broken in the hoisting, owing to the bungling of the workpeople employed by the Woods and Forests. It measured 119 feet in length and 14 inches in diameter at the base.

It may not be generally known that two nurseries exist in connection with this establishment—one for supplying the public parks with Elms and Chesnuts—the other for furnishing the Botanic Garden itself with hardy trees and shrubs of an ornamental character. Both appear to be skilfully managed; in the latter especially we found the produce of the most healthy and flourishing description.

We may add, in conclusion, that the 4-inch hot-water pipes with which the large Fern-house is heated having become furred up, the incrustation has been cleared out of them by forcing water through them from a fall of 60 feet. This plan has proved effectual, and might be adopted in other places where a fall of this kind can be obtained.

## Miscellaneous.

*University of Edinburgh. Botanical Class—Prize List. Summer Session* 1859:—I. For Herbarium collected within 20 miles of Edinburgh.—1. John Linton, Edinburgh (Silver Medal). This Herbarium contained 464 species and varieties, collected between 18th July 1858 and 18th July 1859. 2. William P. Drummond, Stirling. This Herbarium contained 282 species and varieties, collected between 18th May and 18th July 1859. II. Prize offered by Professor Simpson for Experiments on the Effects of Anæsthetic Agents on Sensitive Plants.—1. William Coldstream, Edinburgh (Silver Medal). Additional Prizes given by Professor Balfour.—2. John S. Livingston, Edinburgh; 3. Stephen James Meintjes, junior, Cape of Good Hope. III. Prize for Experiments on the Effects of Narcotic and Irritant Gases on Plants.—John S. Livingston, Edinburgh. IV. Prize given by Dr. W. A. F. Browne for an Essay on the Comparative Merits of the Linnean and Natural Systems of Classification.—1. Robert O. Cunningham, Prestonpans; 2. David Murray, Montrose. Additional Prizes given by Professor Balfour.—3. Robert Brown, Caithness; 4. William Broughton Davies, M.D., Sierra Leone. Certificate of Merit.—5. Thos. K. Renwick, Edinburgh. V. Prize given by Messrs. P. Lawson & Son for Dissections of 10 named varieties of Cultivated Oats. — 1. Archibald Hamilton, Edinburgh (Three Guineas); 2. William Coldstream, Edinburgh (One Guinea). Additional Prizes given by Professor Balfour.—3. John Drummond, Melbourne, Australia; 4. Peter White, Haddington. VI. Prize given by Messrs. P. Lawson & Son for Dissections illustrating the Structure and Germination of 10 named Species of Grasses.—John S. Livingston, Edinburgh (One Guinea and a Half); Peter White, Haddington (One Guinea and a Half), equal. Additional Prize given by Professor Balfour. — 3. John W. Brown, Glasgow. VII. For Monthly Competitive Examinations, conducted by Written Exercises in the Class Room, without the aid of Books or Notes. — Senior Division. (Number of competitors, 12; total value of answers, 216.) — Archibald Dickson, Edinburgh (value 236). Junior Division.—(Number of competitors, 58; total value of answers, 226.)—1. Kenneth M'Leod, M.A., Inverness-shire (value 206); 2. William C. M'Intosh, St. Andrews (196); 3. William Pringle Dickson, Berwick (194); 4. Thomas Brisbane, Dumfries (170); 5. David Ross, Portree, Skye (162); 6. Alexander Dewar, Kincardine-on-Forth (155). Certificates of Merit.—7. John Nairne, Perthshire (147); 8. Arthur G. Reid, Fochabers (143); 9. Colville Brown, Northumberland (141); 10. Robert B. Finlay, Edinburgh (115); 11. Robert O. Cunningham, Prestonpans (110); 12. John Wallace, Aberdeenshire (100). VIII. For a Series of Dried Specimens illustrating the Conformation and Venation of Leaves, with a Tabular View of their arrangement.—1. Colin S. Valentine, Brechin; 2. Kenneth M'Leod, M.A., Inverness-shire; 3. William James Dickson, Fifeshire. IX. For Assistance in conducting the Duties of the Class, more especially in the

Histological part of the Course.—1. R. J. B. Cunynghame, Edinburgh. Certificates of Merit.—2. S. H. Ramsbotham, Leeds; 3. Colin S. Valentine, Brechin; 4. Richard Lord, Cheshire; 5. David Murray, Montrose; 6. James Middleton, Edinburgh; 7. John Anderson, Colinsburgh; 8. Archibald Hamilton, Edinburgh; 9. James Africanus Beale Horton, Sierra Leone. X. Certificate of Merit for a Collection of Plants gathered during the Weekly Excursions.—William Sinclair, Leith.

*University of Edinburgh. Botanical Class—Prize List. Prizes offered in Summer Session* 1860.—I. Gold Medal for the best and approved Herbarium of Phanerogamous Plants and Ferns collected within 20 miles of Edinburgh. II. A Prize of Two Guineas is offered by Dr. W. A. F. Browne for the best and approved Essay on the Relations of Insects and Plants, illustrated by the connection of the Lepidoptera with species of Salix, Populus, Alnus, Corylus, and Urtica, in the district round Edinburgh. The Essay to be accompanied by specimens. III. A Prize will be given for the best and approved Essay on the Spontaneous Movements which take place in Plants, such as those observed in sensitive plants of various kinds, in cells, in the reproductive organs of some Cryptogams, in Oscillatoria, and in Diatoms. The author is expected to make original observations on the subject. Experiments may be conducted in the Botanic Garden. For references, see Class-Book of Botany, pages 321, 356, 493 to 500. IV. A Prize will be given for the best and approved Analysis of the British Plants in the natural order Rosaceæ, illustrated by specimens and dissections. V. A Prize will be given for the best and approved Essay on the Formation of the Placenta in Plants, illustrated by microscopic dissections, and by other specimens or models. All these Essays to be sent to the Botanic Garden on or before 1st July, 1860, and to be accompanied by mottoes and sealed notes as usual. VI. A Prize is offered by Dr. Gilchrist, Dumfries, for the best and approved Collection of Fossil Plants from Mid-Lothian. (To be given in on or before 1st July, 1860.) VII. A Prize will be given for Large Models illustrating the Composition of the Seed, with its coverings and contents; also the relation between the Cotyledons and the Radicle in the Embryo of Cruciferæ. (To be given in on or before 1st July, 1860.) VIII. A Book or Books of the value of Three Guineas will be given by Messrs. B. Lawson & Son for the best and approved Dissections of 10 named varieties of Cultivated Wheats. Specimens of Wheats for dissection may be had from Messrs. Lawson. IX. A similar Prize is offered by Messrs. P. Lawson & Son for Dissections illustrating the Structure and Germination of the following Grasses:—Festuca pratensis, Triticum repens, Briza media, Lolium italicum, Holcus lanatus, Bromus sterilis, Glyceria aquatica, Psamma arenaria, Aira cæspitosa, and Arrhenatherum avenaceum. These two sets of Dissections to be given in about the middle of June, 1860. It is understood that the successful collections shall be placed at the disposal of Messrs. Lawson. The specimens to be fastened on paper similar to that used in the dissections exhibited in the Museum at the Botanic Garden. Complete specimens of the Grasses to be shown along with the dissections. The Latin names and authorities to be given along with the English names. X. A Medal is offered by John M'Nab, M.D., Bunessan, near Oban, for the best and approved collection of British Marine Algæ, accompanied with remarks on their economical and medicinal properties. (To be given in at the end of June, 1860.) XI. A Prize will be given to the Pupil in the Senior Division of the Class who shall acquit himself best at the Monthly Competitive Examinations, which are to be conducted in the Class-room by means of written questions and answers, without any aid from books or notes. XII. A similar Prize will be given in the Junior Division of the Class. XIII. A Prize will be given in the Junior Division of the Class for Dissections executed during the Course. The nature of the Dissections to be intimated in May or June 1860. N.B. It is understood that the successful Essays, Models, Preparations, and Dissections (unless otherwise specified) shall be added to the public collection at the Botanic Garden.

***Effects of the narcotic called Hachisch, prepared from Hemp.***—Prof. Schroff, having obtained from Bucharest a form of this drug called Birmingi, said to produce laughter, gives the following account. Of this "Birmingi," Dr. Heinrich—who had fully tried most narcotics, and in my former experiments on Cannabis indica had taken several preparations of this drug without manifesting any particular susceptibility of them, but rather always served as a check if more violent effects had occurred from narcotics in other individuals when a steady excitability constantly manifested itself in him—took 10 grains at half-past 5 in the afternoon of the 6th of May, in the present year. He chewed this quantity for about an hour, during which it gradually dissolved and was swallowed; only the insoluble solid residuum, amounting to about two grains, was spit out. Irritation of the throat, eructation, and slight nausea ensued. The attempt to smoke a cigar in the open air had to be given up, on account of dryness and roughness in the throat. Dr. Heinrich took a walk in the town, and inspected the print-shops and play-bills without perceiving any change in himself. At the end of an hour and a half, that is, about 7 o'clock, he met an acquaintance, to whom he talked all kinds of nonsensical trash, and made the most foolish comparisons; from this, everything he looked at seemed to him ridiculous. This condition of excitement—in which his face and eyes got redder and redder, the subjective heat of the body considerably increased, and the feeling of facility of motion became constantly more distinct—lasted about 20 minutes. Suddenly a great degree of sadness came over him; everything was too narrow for him, he acquired a disturbed appearance, became pale; his sadness increased to a feeling of anxiety, accompanied by the sensation as if his blood was flowing in a boiling state to his head; the feeling as if his body was raised aloft, and as if he was about to fly up, was particularly characteristic. With the oppression of the chest was combined a sensation of compression and tightness in the præcordial region. His anxiety and weakness overcame him to such a degree that he was obliged to collect all the power of his will, and his companion had to seize him firmly under the arm, in order to bring him on, which was done in all haste, as he feared a new attack, and wished, if possible, first to reach a place where he could be taken care of; but in the course of three minutes, while he was still walking, the attack set in with increased violence. It was only with great difficulty he reached the Pharmacological Institute; here he immediately drank two pints of cold water, and washed his head, neck, and arms with fresh water, on which he became somewhat better. The improvement, however, lasted only about five minutes. He sat down on a chair, and unfortunately (as he observes in his Report) felt his pulse, which he found to be very small and slow, with very long intervals. He was no longer in a state to take out his watch to ascertain more exactly the frequency of his pulse, for the feeling of anxiety came over him again, and with it he traced the premonitory symptoms of a new and violent attack. He was brought into the adjoining chamber, stripped himself partly of his clothes, and gave over his things, directed what was to be done with them after his death, for he was firmly convinced that his last hour had struck, and continually cried out, "I am dying; I shall soon be undergoing dissection in the dead-room." The new attack was more violent than the former were, so that the patient retained only an imperfect degree of consciousness, and at the height of the paroxysm even this disappeared. After the fit, too, consciousness returned but imperfectly; only so much remained in his recollection that the images which rose within him constantly increased in ghastliness until they gave way to the unconscious state, and that gradually, with returning consciousness, less formidable figures appeared in their stead. Subsequently he stated that it appeared to him as if he were transported from the level surface to a hill, thence to a steep precipice, thence to a bare rock, and lastly to the ridge of a hill, with an immense abyss before him. From this time he could no longer control the current of ideas following one another with impetuous haste, and he could not avoid speaking uninterruptedly until a fresh attack came on, which quite deprived him of consciousness for some minutes. The patient recovered, and gave an account of his own sensations while under the influence of this dangerous narcotic, for which the reader is referred to the *Pharmaceutical Journal for August, p.* 127.

*Latex is present in the Spiral, Reticulated, Barred, and Dotted Vessels of Plants.*—Observers have hitherto looked upon latex as contained only in laticiferous vessels. Trécul, on the other hand, maintains that this fluid is found also in spiral, reticulated, barred, and dotted vessels. These vessels, according to him, elaborate the fluid, and distribute it through all parts of the plant. The latex assumes different colours; sometimes it is white or milky, at other times yellow or orange, at other times colourless. Trécul has selected plants with yellow or orange-coloured latex as subjects of experiment, such as Chelidonium majus, C. quercifolium, Agemone ochroleuca and A. grandiflora. This coloured latex is not found in all the vessels at once, nor even in all parts of the same vessels. There are great varieties in this respect. The coloured juice seems to be modified by the physiological action of the vascular tissues. The latex at certain times, as late in autumn, disappears from the spiral vessels, and becomes collected in the laticiferous vessels. Similar results were observed in plants with milky latex, as Ficus Carica, Morus alba, Euphorbia Characias, E. prunifolia, &c. He thinks that the latex is secreted by the spiral vessels and their modifications, and is afterwards received as an excretion by the laticiferous vessels. At the same time it appears that starchy matter is formed in the latter vessels, and is from them transferred into the other vessels in immediate contact with them. In Carica Papaya, he shows that small ramifications of the laticiferous vessels are prolonged to the surface of the reticulated vessels and terminate there. He is disposed to look upon the laticiferous vessels as analogous to the venous system of animals. He is confirmed in this view, by considering the place which the laticiferous vessels occupy in the midst of tissues where the greatest vital activity prevails,—the chief constituents of this juice being formed of substances little fitted for immediate assimilation, since they are carbo-hydrogen (caoutchouc), or slightly oxygenated products (resins, alkaloids, morphia, narcotine, codeine, &c.), which are produced from a sap already used for the purposes of nutrition. He thinks that thus carbo-hydrogen, and resins, and alkaloids, may be oxidated or more fully elaborated in the vessels, in order to return and take part in the production of starch, sugar, albuminous matter, and cells. These observations, he says, explain certain phenomena which have puzzled physiologists, viz., why plants absorb carbonic acid during the day and reject it during the night. There is a constant passage into the vessels, and there takes place during day and night, among other chemical reactions, a true oxidation in their interior. Plants take the oxygen of the air for the purposes of this combustion, and they reduce it to the state of carbon during day as well as night; but during the night the carbonic acid is exhaled, whilst during the day it is decomposed by the influence of light before being sent out, its carbon being fixed, and its oxygen only eliminated. The respiration of plants thus consists of two phenomena:—1. An absorption of carbonic acid during the day with the emission of oxygen. 2. An oxidation in the vessels at the expense of the oxygen of the air, with the formation of carbonic acid during the day as well as during the night, but with the exhalation of this acid during the night only, because during the day it is decomposed in passing through the leaves. Thus respiration and circulation in animals and plants have a greater analogy than is usually supposed. The laticiferous vessels represent the venous system, and the vessels properly so called the arterial system. Hence M. Trécul calls the former venous vessels, while the spiral, reticulated, barred, and dotted vessels are denominated arterial vessels. In the case of plants which have laticiferous vessels and no true vessels, it would appear that the cells take the place of the latter; and in cellular plants, having neither laticiferous nor other vessels, the cells perform the functions of both. *Edinburgh New Philosophical Journal.*

*Is the Female Redbreast Migratory?* We have a notion that in Scotland the female redbreast is migratory. At least, in the vicinity of Edinburgh, we recognise her not throughout the long-enduring winter. All the individuals then about our gardens sing and fight, till, in the month of March, some strangers show themselves, but do not sing, and are immediately followed and fed by the resident males, at which time they (the supposed females) utter a low hissing note, and flutter their wings like young dependent birds. This we have often seen, and vouch for. *From the Encyclopædia Britannica—New Edition.*

*Aid to Science Instruction.*—The following Minute has been recently passed by the Committee of Council on education: My Lords proceed to revise the Minutes which have been passed in the Science and Art department for the encouragement of scientific instruction among the industrial classes of this country who have already received primary education. I. All former Minutes relating to Science or Trade Schools, and Scientific class-instruction, except those referring to Navigation, Public Lectures, and the training of Teachers (as hereafter appended), are hereby cancelled, and the following regulations are substituted in their place. II. The Science and Art Department will hereafter assist the industrial classes of this country in supplying themselves with instruction in the rudiments of—1. Practical and Descriptive Geometry, with Mechanical and Machine Drawing, and Building Construction. 2. Physics. 3. Chemistry. 4. Geology and Mineralogy (applied to Mining). 5. Natural History. By augmentation grants in aid of salary to competent teachers, and by payments and prizes on successful results, and grants for apparatus, &c. III. Any School or Science Class, either existing or about to be established, and duly approved by the Science and Art Department, may apply, through its managers, for a certificated teacher, or for the certification of any teacher, in any one or more of the above named branches of Science. IV. Examinations for certificates of three grades of competency to teach any of the above-named Sciences will be held annually by the Department, in the last week of November, in the Metropolis: as follows:—Nos. 1, 2, and 3, at South Kensington; No. 3, at the Royal College of Chemistry, Oxford Street; No. 4, at the School of Mines, Jermyn Street. V. Annual Grants, in augmentation of salaries of Teachers so certified to teach in any of the above-mentioned Sciences, will be given as follows:—For the 1st Grade of Competency, 20*l.*; 2nd, 15*l.*; 3rd, 10*l.* Any teacher holding a certificate of competency to give primary instruction will receive, from the Science and Art Department, a sum equal to the augmentation grant which has been attached to such certificate, in addition to the grants above mentioned. VI. Such grants will only be made while the teacher is giving instruction in a School or Science Class for the industrial classes, approved by the Department. VII. The Department will require that suitable premises shall be found and maintained at the cost of the locality where the School or Class is held; that the names of ten students shall be entered whose fees for half a year shall have been paid in advance; and that the local managers shall guarantee, for the support of the Schools and Teachers, from fees or local funds, a sum at least equal to the grants so long as they shall be paid. If at any time neither fees of pupils nor local funds cover the requisite amount, it must be inferred that there is no demand for instruction in the above-named Sciences, in that locality, which the Government is justified in aiding; and the assistance of the Department will be withdrawn. VIII. Every School or Class having a certified teacher will be inspected and examined once a year by the Department, and Queen's prizes of an honorary kind will be awarded to successful students. IX. Payments will be made to the teacher on each first-class Queen's prize obtained by the student, 3*l.*; on each second class, 2*l.*; and on each third class, 1*l.* X. A grant towards the purchase of apparatus, fittings, diagrams, &c., of 50 per cent on

the cost of them, will continue to be afforded to Schools and Classes in Mechanics and similar Institutions.

*Sale of Dried Plants, Specimens and Sections of Woods, &c.*—The following, which were the property of the late Dr. Robert Brown, were sold the other day by Mr. Stevens. The prices they fetched per lot were as follows:—New Zealand plants, collected by Sir E. Home, Bart., 8*s.*; ditto, collected by Richard and Allan Cunningham, 10*s.*; ditto, from various collectors, 11*s.*; Norfolk Island, from Ferdinand Bauer, Backhouse, and others, 1*l.* 10*s.*; Congo, from C. Smith, 1*l.* 10*s.*; Equinoctial Africa, from Dickson, Wilford, Whitfield, and others, 16*s.*; Carolina, from Fraser, 5*s.*; California and North-west coast of America, collected by Douglas, 9*s.*; British Guiana and Berbice, collected by Schomburgk; and Cayenne, from Martin, 11*s.*; Extra-tropical South America, Straits of Magellan and Chili, from Capt. King, 3*l.* 5*s.*; Java, collected by Horsfield, Blume and Lobb, 2*l.* 6*s.*; West Indies, from Caley and others, 13*s.*; Brazil, from various collectors, 11*s.*; ditto, collected by Gardner, 1*l.* 1*s.*; South Sea Islands, from Barclay, Sir E. Home, and others, 2*l.*; Germany, from Hoppe and Hornschuch, 10*s.*; China, from Fortune and others, 6*s.*; South America, collected by Cuming, 5*l.*; Peru and Chili, collected by Bridges, 10*s.*; Russia, from the Imperial Academy of Sciences, Professor Fischer and others, 2*l.* 2*s.*; Canada, &c., collected by Pursh, 6*s.*; Philippine Islands, collected by Cuming, 14*s.*; South Africa, collected by Wallich, 2*l.* 10*s.*; Ferns, chiefly from various regions and collectors, 6*l.* 15*s.*; Isle of France and Madagascar, 1*l.* 16*s.*; plants received at different times from various foreign botanists, 2*l.* 1*s.*; North American, Arctic, &c., from Richardson, Franklin, Drummond, and others, 1*l.* 16*s.*; miscellaneous plants, from different quarters and from different collectors, 18*s.*; the Herbarium of Dr. Lightfoot, author of the "Flora Scotica," 17*s.*; South Africa, from various collectors, 1*l.* 12*s.*; Nubia and Egypt, collected by Kotschy; and Abyssinia, by Kohr, &c., 2*l.*; East coast of Africa, from various collectors, 19*s.*; East Indies, from Dr. Wallich, at various times, 14*s.*; ditto, collected by Griffith, 1*l.* 5*s.*; ditto, collected by Wight and others, 1*l.* 16*s.*; Ceylon, collected by Gardner, 1*l.* 1*s.*; Brazil, collected by Claussen, 8*s.*; ditto, collected by Sellow, 1*l.* 10*s.*; Peru, collected by Matthews, 13*s.*; Chili and Sandwich Islands, collected by McRae, 2*l.* 4*s.*; Peru and Chili, from Dombey's Herbarium, 1*l.* 18*s.*; South America, from various collectors, 5*s.*; European plants, from various collectors, 6*s.*; a Mahogany cabinet, with 16 slides, enclosed by folding panelled doors, containing a collection of plants from the East Indies and Nepaul, partly named by Don, 5*l.*; six small Deal cabinets, with shelves, containing a collection of Ferns made by the late Mr. Stokes, 6*l.* 6*s.*; 18 boxes containing a collection of Lichens, Mosses, and Jungermanniæ, 10*s.*; Schimper's Bryologia Europea, specimens, parts 1 and 2, 6*s.*; Drummond's North American Mosses, specimens, 6*s.*; Wyatt's Algæ Danmonienses, 5 parts, specimens, 2*l.* 2*s.* It will thus be seen that the lots were almost given away—a circumstance due to the deplorably sooty condition of the parcels, which rendered them unexaminable. A trunk of Kingia australis, R. Br., with a longitudinal section of the same, 8*s.*; large specimens of Thyrsopteris elegans, Kunze, and of several New Zealand and other Ferns, 4*s.*; a trunk of the Wax Palm of Brazil (Copernicia cerifera), with a section, 10*s.*; a trunk of a Tree Fern (Alsophila contaminans), with a section of Cyathea medullaris, 8*s.*; longitudinal sections of Dicksonia antarctica and another Tree Fern, 4*s.*; a stem of Bamboo, of a species of Clematis, from New Zealand, and a longitudinal section of a species of Xanthorrhæa, 5*s.*; a superb transverse section of the base of a Borassus Palm, 2*l.* 8*s.*; two transverse sections of Phytolacca dioica, from Gibraltar, and a section of the Gigantic Nettle (Urtica ferox) of New South Wales, 13*s.*; the heads of two large specimens of Kingia australis, R. Br., with three sections of the trunk, 8*s.*; a trunk and several sections of species of Xanthorrhæa, 8*s.*; longitudinal section of a branched trunk of a species of Xanthorrhæa and base of the stem of ditto and section, 8*s.*; two sections of species of Cycas, 12*s.*; two sections of Cork-tree and of the bark of Wellingtonia gigantea, 8*s.*; various Monocotyledonous stem and sections, 6*s.*; Coniferous and other woods, from the North-West Coast of America, collected by Dr. Gairdner, 11*s.*; Woods of New Holland, collected by Caley and others, 7*s.*; numerous sections of Tree Ferns, 5*s.*; numerous sections of Cycadeæ, 16*s.*; wood of Widdringtonia, 2 sections, 4*s.*; miscellaneous woods, 3*s.*; sections of Monocotyledonous stems, 6*s.*; section of Yarura wood (Aspidospernum excelsum), Lignum Aloes and other woods, 1*l.* 1*s.*; the contents of a drawer, full of miscellaneous woods, 5*s.*; ditto, chiefly Malpighiaceæ and Sapindaceæ, 4*s.*; ditto, Bignoniaceæ, &c., 4*s.*; ditto, 38 specimens of woods of New Zealand, 10*s.*; ditto, chiefly species of Bauhiniæ, 4*s.*; ditto, chiefly Menispermeæ, 4*s.*; ditto, miscellaneous, 4*s.*; ditto, ditto, 3*s.*; ditto, ditto, 5*s.*; ditto, specimen of disease or abnormal growth, 12*s.*; ditto, miscellaneous Australian woods, 8*s.*; ditto, timber trees of Australia and Norfolk Island, collected by Cunningham, 4*s.*; ditto, miscellaneous woods, Bergmehl and infusory animalcula, 16*s.*; ditto, miscellaneous woods, 4*s.*; ditto, miscellaneous climbers, 3*s.*; ditto, miscellaneous woods and climbers, 4*s.*; the contents of a drawer, miscellaneous climbers, from the Philippines, collected by Cuming, 7*s.*; ditto, miscellaneous climbers, Sapindaceæ, Malpighiaceæ, &c., 10*s.*; ditto, containing numerous specimens of Cactus, 4*s.*; ditto, miscellaneous seeds and seed vessels, 5*s.*; two double Cocoanuts and sundries. The whole of the lots, which amounted to 98, realised little more than 130*l.* For microscopes the following are some of the more important prices; viz., small microscope, by Carey, and an opera glass, 1*l.* 14*s.*; microscope, by Henkel, of Bonn, with two powers, &c., in case, 2*l.* 2*s.*; small microscope, in mahogany case, 2*l.*; a microscope, by Chevalier & Son, of Paris, with two powers, in ditto, 3*l.* 3*s.*; small microscope, with 6 eye pieces, in ditto, 2*l.*; microscope, by Chevalier, with 6 eye pieces, in ditto, 1*l.* 18*s.*; microscope, with 4 eye pieces, in ditto, 1*l.* 10*s.*; ditto, by Banks, with various powers, in mahogany case, 2*l.* 4*s.*; capital microscope, by Dollond, with two powers, eye pieces, objects and other apparatus, in mahogany case, 8*l.* 15*s.*; small silver microscope, in case, 3*l.* 15*s.*

## Calendar of Operations.

*(For the ensuing Week.)*

### PLANT DEPARTMENT.

CONSERVATORY, &c.—All kinds of soil used in potting and shifting should now be laid in without delay before the ground gets sodden with autumn rains. Store them up neatly in narrow ridges so as to be safe from wet and yet exposed as much as possible to the action of the air; and as success in plant growing very much depends upon having suitable soil for potting, no trouble or expense that may be necessary to procure this should be spared where well grown specimens are expected. Loam of moderately good quality may be obtained in most neighbourhoods, but good peat is not so easily got; this is absolutely necessary, however, for the growth of choice hard-wooded plants, and should be procured at the proper season so as to have it in a fit state for use at the right time. Stove plants flowering in the conservatory will require attention, especially Achimenes and things of that sort, which should be gone over every day in cloudy weather, carefully picking off decayed flowers, &c. Any of the twiners on the roof which have done flowering may be thinned out, so as to prevent their shading the house too much; for after this season permanent shade should be avoided as much as possible. Young stock in cold pits intended to flower next season should be exposed to sunlight in order to ripen the wood, taking care however not to do this so rashly as to injure the foliage.

### FORCING DEPARTMENT.

PINERIES.—Those who intend commencing the culture of Pines on the planting out system cannot begin at a more favourable season than the present. The bed should be from 18 inches to 2 feet deep, and should consist principally of good rich mellow turfy loam, well broken up, and carefully intermixed with a liberal sprinkling of clean sand, and a small proportion of leaf soil or good rich fibry peat; for when rough turfy soil is used and the bed is ever, from any cause, allowed to get thoroughly dry it is very difficult to moisten it again, as the water passes off through the lumps without penetrating them. But if the loam is well broken up and mixed with some leaf soil, or peat and sand, it will be found to take water freely enough, and the roots will be almost as much under command as when the plants are grown in pots. Persons commencing this method of growing Pines should also endeavour to avoid planting out pot-bound plants, for these, whether young or old, seldom strike freely into the fresh soil, and are very apt to fruit prematurely; but if such plants must be turned out, then care should be used to make the soil firm about the balls, so as to prevent the water passing off without moistening the balls. VINERIES.—Every possible attention must be afforded young Vines planted this spring where strong rods are expected. Let a vigorous root action be secured and endeavour to get the wood well ripened.

### FLOWER GARDEN AND SHRUBBERIES.

Go over the flower beds frequently and remedy any defects that may be perceptible without loss of time, for the bedding-out plants are enjoyed but for a comparatively short season; and now that they are in beauty every means should be used to render them as effective as possible by maintaining the most perfect order and neatness. Where the stock is clean and growing vigorously this will involve considerable labour, and it will be necessary to go over the beds, frequently pegging down where necessary, and cutting back such of the shoots as may incline to encroach upon the edging of the beds. Take advantage of leisure hours to put in cuttings, and use every possible dispatch with this work until there is a good stock in a fair way for rooting of such things as are known to be difficult to winter except in the shape of well established plants. Keep gravel walks perfectly clean and smooth by weeding, sweeping, and rolling as may be necessary. Keep climbers on walls within due limits.

### HARDY FRUIT AND KITCHEN GARDEN.

It may be advisable to go over such trees as are overluxuriant, and stop about half the shoots, beginning of course with the strongest, for a general stopping at this time would probably be of little further service than to induce the production of a mass of useless spray, whereas stopping the stronger shoots or those which incline to grossness will divert the sap into the weaker ones, which will be strengthed while the buds on the shoots that have been stopped will become full and pump without starting into growth. Should it be found that the roots after stopping incline to start into growth it will be advisable as soon as the fruit is gathered to open a trench at a moderate distance from the stem of the tree, cutting the stronger roots. This will be of the greatest service in checking growth, and will probably do more towards securing ripe wood than anything else that could be adopted. Get the Strawberry plantation intended to stand for next season trimmed as soon as convenient, cutting off and clearing away the runners so as to afford the leaves plenty of room. Attend to providing plenty of Lettuce, Endive, &c., for winter salads; also see that there is a good bed of Parsley secured in some sheltered spot where it can be readily protected in severe weather.

### COTTAGERS' GARDEN.

A few Cabbage plants got in now will be found useful. Green Kale may still be got in where blanks exist, and a few Dutch Turnips might yet be sown; a little of the Bath Cos Lettuce, a little of the American Cress, and a few Turnip Radishes. If a cow is kept it is an excellent plan to sow Rye and winter Vetches on spare ground intended for green crops next year. This at cutting will leave a fibre in the ground almost amounting to turf, and moreover will help in a great measure to keep down weeds.

### STATE OF THE WEATHER AT CHISWICK, NEAR LONDON.

For the Week ending August 11, 1859, as observed at the Horticultural Gardens.

| August. | Moon's Age. | Barometer. Max. | Barometer. Min. | Temperature of the Air. Max. | Min. | Mean | Of the Earth 1 foot deep. | Of the Earth 2 feet deep. | Wind. | Rain. |
|---|---|---|---|---|---|---|---|---|---|---|
| Friday 5 | ☽ | 30.015 | 29.995 | 78 | 41 | 59.5 | 66 | 65 | S.W. | .21 |
| Satur. 6 | 8 | 30.077 | 29.947 | 70 | 57 | 63.5 | 65 | 65 | S.W. | .21 |
| Sunday 7 | 9 | 29.843 | 29.725 | 77 | 61 | 69.0 | 66 | 65 | S.W. | .25 |
| Mon. 8 | 10 | 29.802 | 29.732 | 76 | 54 | 65.0 | 65 | 64½ | S.W. | .15 |
| Tues. 9 | 11 | 29.939 | 29.926 | 68 | 53 | 60.5 | 66 | 65 | N.E. | .13 |
| Wed. 10 | 12 | 29.979 | 29.959 | 71 | 54 | 62.5 | 64½ | 64 | N.E. | .23 |
| Thurs. 11 | 13 | 29.997 | 29.921 | 72 | 47 | 59.5 | 64 | 64 | E. | .30 |
| Average | | 29.950 | 29.913 | 73.1 | 52.4 | 62.7 | 65.2 | 64.6 | | .57 |

Aug. 5—Clear; fine; very clear and fine at night.
— 6—Fine; slight shower; overcast.
— 7—Cloudy; overcast; rain at night.
— 8—Showery; very heavy shower in forenoon; overcast.
— 9—Rain; cloudy; cold easterly wind; showery.
— 10—Overcast; showery; overcast at night.
— 11—Overcast; hazy; clear and fine.

Mean temperature of the week, ½ deg. below the average.

### RECORD OF THE WEATHER AT CHISWICK,

During the last 33 years, for the ensuing Week, ending August 20, 1859.

| August. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds. N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday 14.. | 72.0 | 51.0 | 61.5 | 11 | 0.63 in. | — | 6 | 6 | 1 | 2 | 10 | 6 | 2 |
| Mon. 15.. | 72.9 | 50.2 | 61.5 | 12 | 0.61 | 4 | 4 | 4 | 1 | 3 | 6 | 6 | 5 |
| Tues. 16.. | 73.7 | 52.0 | 62.8 | 13 | 0.58 | — | 3 | 5 | 2 | 4 | 7 | 8 | 4 |
| Wed. 17.. | 73.6 | 50.8 | 62.2 | 17 | 1.12 | 5 | 2 | 1 | 2 | 4 | 5 | 12 | 2 |
| Thurs. 18.. | 73.8 | 52.1 | 62.9 | 11 | 0.38 | 1 | 6 | 5 | 2 | 4 | 7 | 7 | 1 |
| Friday 19.. | 73.0 | 52.3 | 62.6 | 16 | 0.42 | 2 | 5 | 2 | 1 | 1 | 9 | 10 | 3 |
| Satur. 20 | 72.4 | 51.8 | 62.1 | 15 | 0.45 | 2 | 3 | 1 | 1 | 5 | 8 | 11 | 2 |

The highest temperature during the above period occurred on the 15th and 18th, 1842—therm. 92 deg.; and the lowest on the 15th, 1838—therm. 39 deg.

## Notices to Correspondents

HEATING: *H W B.* Don't use glazed drain-pipes. They do not answer.

INSECTS: *G E.* The little cells on your twig are the eggs of some kind of moth, arranged longitudinally, from most of which the young larvæ have escaped, leaving the egg-cases empty, resembling cells.—*J J.* The caterpillars on the Weeping Willow are the young brood of the Poplar hawk moth (Smerinthus Populi). Stainton's Manual is a cheap and good work on English moths, with woodcuts. Westwood and Humphreys give coloured figures of the moths and their caterpillars when known.—*Observing Eye.* The little mounds of sand are the mouths of the burrows formed by some species of sand wasp, and the flies of all kinds of which the wasp-like flies bury are destined for the food of the young grubs of the sand wasp. *W.*

NAMES OF FRUITS: *T Leslie.*—Your Plum is the Myrobalan or Cherry Plum, Prunus cerasifera, a native of North America.

NAMES OF PLANTS: We have been so often obliged to reluctantly decline naming heaps of dried or other plants, that we venture to request our correspondents to recollect that we never have or could have undertaken an unlimited duty of this kind. Young gardeners, to whom these remarks more especially apply, should bear in mind that, before applying to us for assistance, they should exhaust their other means of gaining information. We cannot save them the trouble of examining and thinking for themselves; nor would it be desirable if we could. All we can do is to *help* them—and that most willingly. It is now requested that, in future, not more than four plants may be sent us at one time.—*Cobham.* Dioscorea alata is so called from its stem having *ales* or wings; yours seems to be the male Dioscorea Batatas.—*H M G.* It is not possible to name bulbs unless they are in flower. If yours should be Ixiolirion montanum, and it is very like it, it is a fine thing and great rarity.—*G. I*, some Desmodium, apparently canescens; 2, Hypericum foliosum; 3, H. Kalmianum; 4, Buddlea globosa.—*J K.* 1, Dactylis glomerata; 2, Gloxinia tubiflora; 3, indeterminable; flowers gone; 4, Thalictrum minus.—*W B S.* Apparently fragments of Andropogon Schœnanthus.—*C L.* 1, Ononis spinosa, without spines; 2, An unspotted state of Chærophyllum temulentum.

SEEDS FOR EXPORTATION: *W.* You may send out the seeds of the Horse Chesnut by packing them in clay or loam, or sand, *made perfectly dry*, as soon as they are ripe, having first thoroughly dried the seeds themselves in the sun. Poplars must go out as cuttings; long rods of two or three-year-old wood, packed in chests with damp Moss rammed tight.

THE INCOME TAX. "*X* is the owner and occupier of a freehold nursery ground, he also occupies three farms; he pays income tax under Sch. A. for the property, and Sch. B. for the occupancy or profits. Is he liable under Sch. D.? The nursery is about 20 acres, and the trade consists in the sale of the stock produced in this nursery." In answer to this inquiry we reply that we imagine that he is; we must however beg our correspondents to consult their solicitors upon legal points; for we cannot assume the responsibility of advising them in such matters.

VINES: *T O G.* As far as any opinion can be formed without personally examining the Vinery, we should say that there is something wrong at the roots. The symptoms are those of suffering from want of moisture within reach of the roots.

WATER: *An Old Sub.* You cannot make hard pump water fit for watering plants.

*** As usual, many communications have been received too late, and others are detained till the necessary inquiries can be made. We must also beg the indulgence of those correspondents the insertion of whose contributions is still delayed.

CONSERVATIVE LAND SOCIETY.— Investment of Savings and Capital for all classes. The rate of interest on completed shares and shares paid a year in advance and upwards is now five per cent. per annum. The rate of interest on Deposits has been raised from three to four per cent. per annum. Prospectuses sent free.—CHARLES LEWIS GRINSTEAD, Secretary, 30, Norfolk Street, Strand, W. C.

THE LANDS IMPROVEMENT COMPANY.— Incorporated by Special Act of Parliament in 1853.—2, Old Palace Yard, Westminster, S.W. To Landowners, the Clergy, Estate Agents, Surveyors, &c., in England and Wales and in Scotland.

**The Directors beg leave to announce that the Company's Amendment Bill, 1859, has received the sanction of the Legislature. The Company now advance money, unlimited in amount, for the following works of Agricultural Improvement, the whole outlay and expenses in all cases being liquidated by a rentcharge for 25 years.**

1. Drainage, Irrigation and Warping, Embanking, Inclosing, Clearing, Reclamation, Planting for any beneficial purpose, Engines or Machinery for Drainage or Irrigation.
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Landowners assessed under the provisions of any Act of Parliament, Royal Charter, or Commission, in respect of any public or general works of drainage or other improvements, may borrow their proportionate share of the cost, and charge the same with the expenses on the lands improved.

No investigation of title is required, and the Company being of a strictly financial character do not interfere with the plans and execution of the Works, which are controlled only by the Government Inclosure Commissioners.

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For further information, and for forms of application, apply to the Honourable WILLIAM NAPIER, Managing Director, 2, Old Palace Yard, Westminster, S.W.

ARTIFICIAL MANURES, &c.—Manufacturers and others engaged in making ARTIFICIAL MANURES may obtain every necessary instruction for their economical and efficient preparation, by applying to J. C. NESBIT, F.G.S., &c., Principal of the Agricultural and Chemical College, Kennington, London, S. Analyses of Soils, Guanos, Superphosphates of Lime, Compounds, &c., and Assays of Gold, Silver, and other Minerals are executed with accuracy and despatch. Gentlemen desirous of receiving instruction in Chemical Analyses and Assaying, will find ample facility and accommodation at the College.

COLLEGE OF AGRICULTURE AND CHEMISTRY, AND OF PRACTICAL and GENERAL SCIENCE, 37 and 38, Lower Kennington Lane, Kennington, London, S.

*Principal*—J. C. NESBIT, F.G.S., F.C.S., &c.

**The system of studies pursued in the College comprises every branch requisite to prepare youth for the pursuits of Agriculture, Engineering, Mining, Manufactures, and the Arts; for the** Naval and Military Services, and for the Universities.

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MANCHESTER AND LIVERPOOL AGRICULTURAL SOCIETY.

*Patrons*—The Right Hon the EARL of DERBY, K.G., and LORD EGERTON.

*President for the Year*—The Right Hon. the EARL of SEFTON.

The TWELFTH ANNUAL SHOW of LIVE STOCK (including POULTRY), IMPLEMENTS, &c. will take place at Liverpool on THURSDAY and FRIDAY, September 8 and 9. Premiums amounting to nearly 1100*l.* are offered for competition; and the entry will close on August 20.—Prize Lists and Regulations may be obtained by application to

THOMAS B. RYDER, Secretary.

7, Eliot Street, Clayton Square, Liverpool, Aug. 13.

# The Agricultural Gazette.

*SATURDAY, AUGUST* 13, 1859.

THE "Crop Returns" in the following pages present a very different picture of the present harvest from that of previous years. Probably more food for man was never grown in the United Kingdom than it produced last year; and the contrast presented by previous abundance may have unreasonably deepened the disappointment which this year's appearances produce. We must not forget, however, that since the most of these returns were written several days of wet and steamy weather throughout southern, western, and mid-land England have done a good deal of injury, especially to the Barley crop, much of which was lying in swathe; and of this no mention could be made in the account now given.

It will be seen that an exceedingly rapid ripening in July has injured most of the grain crops in the south, and a dilatory harvest owing to want of hands has since exposed them to injury by wet and stormy weather. In the north and in Ireland Oats, which are there the most valuable crop, are unusually unpromising; all over the country Barley is a very uneven crop and of inferior quality; and Wheat where heaviest and best is more injured by being laid than has perhaps ever been known before.

The prospect as regards "food for beast" is equally unfavourable. There never was so little food in our pastures as during the past July. The Emerald Isle" is everywhere reported as being scorched, and barren, and bare; throughout Scotland and the north there never was so great a failure in the Turnip crop; and even in the south, where green crops look better and where Mangel Wurzels are good, great injury is being done in the Turnip fields by grubs and caterpillars. As to the other crops—Peas are unusually good, Spring-sown Beans are also good, Winter Beans have generally failed. Potatoes are as yet generally healthy—very promising indeed in the north—small but sound in the south. The disease is spoken of as yet only in a few places, and hardly mentioned in Ireland.

The following is a numerical abstract of the grain crop returns:—

| | Wheat. | Barley. | Oats. | Beans. | Peas. |
|---|---|---|---|---|---|
| Over average .. | 17 | 8 | 24 | 6 | 21 |
| Average .. . | 114 | 93 | 78 | 50 | 52 |
| Under average .. | 55 | 67 | 89 | 63 | 19 |
| Total .. .. | 186 | 168 | 188 | 119 | 90 |

WE lately made some remarks upon the disease which has been so prevalent amongst Winter Beans. We have since had an opportunity of examining it more minutely and extending our observations to the same disease as occurring on spring-sown Beans, in which it assumes in general a milder form, though occasionally taking such firm possession of the plant as to induce rapid decay, especially where the crop is thick, and consequently the haulm is not easily dried after heavy rains or dew. In either case it commences with a red, tolerably defined spot, which is pale in the centre. These spots often remain of a small size, though occasionally spreading far and wide, especially when occurring on the stem. Though, however, the red spots remain of small size, and therefore comparatively innoxious, the disease does not always cease entirely. Other spots of a brown tinge occur, irregular in outline but extending in concentric rings, so as frequently to leave slight traces behind, and involving in their course the smaller patches. Though the growth is evidently concentric the strictest search does not detect any fungoid growth, as might at first be suspected. If the brown patch extend to the stem decay rapidly ensues. This is not however always the case, but though the crop looks miserable the fruit may still be perfected, though not without exhibiting here and there traces of the disease in the shape of irregular brown spots affecting the subjacent tissues. The disease figured in this Journal, 1851, p. 531, is probably of a similar nature.

Supposing the disease to be arrested by weather unfavourable to its growth another enemy now steps in, completing the exhaustion of the plant. We have now before us specimens in which not only are the leaves covered with the red and brown blotches, but in which a third set of spots occurs, snuff-coloured in the centre, and white or pale in the circumference, the central mass consisting of perfectly smooth sub-globose brown stemless spores. These are in fact due to *Uredo Fabæ*, D.C. When possessed by the three kinds of blotches at once, the crop wears a very wretched aspect, and the prospect of the farmer is by no means encouraging.

It is well, however, that proper caution should be exercised before the crop is utterly condemned. We have this year seen a crop of Winter Beans which seemed in an utterly hopeless state, and which were accordingly destined one fixed day to be ploughed in. Happily, however, the farmer, who is very intelligent, thought that there were signs of the disease yielding, and he determined to let the crop stand a little longer. His neighbours all believed that he was losing time; but a few days showed that he was perfectly right, and the result is that he has an abundant crop, the Beans in general being large and well coloured, with a small admixture only of blotched or speckled individuals. An ordinary cultivator would undoubtedly have followed the example of others. This is but one amongst hundreds of examples which prove the necessity of close observation in agricultural and horticultural pursuits, where it is too often utterly neglected. *M. J. B.*

IN commenting upon the new manufacture of the so-called cattle foods, we have confined ourselves to the broad and general principles, that any idea of a concentration of feeding properties in them is to say the least a mistake, and that the immense advance in the price of the compound over the cost of the materials of which it is composed is not fair dealing.

In saying thus much however we would have it understood that there is one element in all these nostrums in favour of which much might be said, which element is a gently stimulating and palatable flavouring matter, which may give a taste to otherwise vapid materials. This however is by no means a new idea; we have advocated the same thing in this Journal some years since, and we would now simply point out how we may at least infer the desirability of imparting flavour to the food for our cattle, and having so done we would glance at the means by which this end may be simply and cheaply attained.

As a starting point in this inquiry we are aware how the sense of smell is employed to distinguish the flavour of hay, and it is interesting to know that the sample which is usually selected by the horsekeeper, and which is found to be the best for the animal as being the most nutritious qualities is ever found to contain a Grass which is rich in a highly aromatic principle. This Grass is the *Anthoxanthum odoratum* or Sweet Vernal Grass, the perfume of which is said to depend upon a peculiar organic compound to which the name of "*Coumarin*" has been applied by the chemist; this substance is found in several plants, and the following is a translation of the remarks of a German chemist upon its nature:—

"Coumarin, $C_{18} H_6 O_4$, is found in Touka Beans, in which it sometimes appears in the shape of crystals, in the flowers and whole plant of Melilotus, in Asperula odorata, and *Anthoxanthum odoratum*, and probably in other aromatic plants." *

The peculiarities of the Vernal Grass are thus recognised by Prof. BUCKMAN in "The Natural History of the British Grasses:"—"It is the presence of this Grass which imparts most of the grateful smell and flavour to meadow-hay, and which in all probability renders it not only more palatable but also more nutritious than 'seeds' or artificial hay." This odour resides to a very considerable extent in the common Melilot (*Melilotus officinalis*) and also the white Melilot (*M. leucantha*), on which account it has been recommended for admixture with Clovers and Grasses, or "seeds," in order to impart that flavour in which these are so deficient; and if the principle be once admitted, there will be no difficulty in rendering seeds as highly flavoured as meadow Grasses.

Here then is at least presumptive evidence that fodder is improved by the presence of a flavouring plant, and if we inquire into those foods the basis of which are farinaceous, we shall probably have that evidence more strongly corroborated.

It is well known that the faster a pig can be got to feed the more profitable he becomes, and hence it is not at all uncommon to mix Bean-meal with the ordinary food as a *stimulant*; it is, say the farmers, a "warmer food;" it does in fact contain a large proportion of a stimulating principle probably identical with Coumarin, which doubtless renders it grateful as well as feeding. But of all the matters in vogue for mixing with hogs' food, the seeds of the Fenugræc is the most constant, of which plant the following is an account from the "Flora Medica."—"It is a native of the south of France, Greece, Egypt, Barbary, and several other warm climates; and is occasionally cultivated in this country. It flowers from June to July.

"This plant was frequently employed for culinary purposes by the Egyptians, Greeks, and Romans; the seeds have been roasted as coffee, and are said to afford a yellow dye. The meal obtained from the seeds is used by grooms and farriers for horses, both as food and medicine, and for fattening rabbits.

"The odour of the seeds is fragrant, resembling that of Melilot; when bruised they are disagreeable, and have an unctuous farinaceous taste, accompanied with a slight bitterness. They contain so large a quantity of mucilage that an ounce boiled in a pint of water renders that liquid very thick and slimy." Here then is very important evidence of the fact we would now contend for, namely, that some aromatic admixture has long been in use in the food of our domestic animals, and it is interesting to observe that in all cases they contain a greater or less quantity of Coumarin as the flavouring ingredient. Now, as regards this Fenugræc, it may with great confidence be asserted that it forms the chief ingredient in the flavouring element of the so-called cattle foods. It is one of the cheapest of the dry seeds, though its recent extended use for cattle foods has caused a slight advance in its price; but its home cultivation is extremely simple, as we have at this moment a plot of great promise in our

* SCHLOSBERGER's Organic Chemistry.

experimental garden, which was thinly sown in drills of about 7 inches apart.

Now, we happen to know that the Fenugræc seed is being used by some of the manufacturers of cattle foods, for most important agricultural districts now contain a person of this sort, and a few pounds of these seeds ground with inferior Pulse, grain, or both, impart a flavour which it would seem is highly relished by cattle; and if experience should really confirm their use—and the principles which we have endeavoured to explain are those upon which their success depend—it will be no difficult matter to apply it with economy. The word concentrated however as applied to mixtures of this kind is a serious misnomer, for th most that can be said is that there is reason to believe that food judiciously flavoured is as favourably received by the lower animals as the higher, and in all probability it is as much more digestible and nutritious in the one case as in the other.

## RACING BY STEAM.

Let me describe, as nearly as I can, what I saw at my friend's factory.

In a large and convenient building to which I was introduced, there stood some new and beautiful steam-engines; these having been completed a few days previously in the shops, had been removed to this "Experimental Shed," as it was called, where they now awaited the trial of their capabilities. As the method of trial in each case was precisely similar, I shall speak only of the experiments made upon one of them, which may stand as the type of all the others. The boiler was first filled with water from pipes conveniently laid in the building for this purpose; the engine was then carefully oiled and cleaned down. A pair of scales stand by the wall of the shed; in these are weighed out first 20 lbs. of wood and then 1 cwt. of Welsh coal. The stoker (a young man in over-alls and jaunty cap, with wonderfully white hands for his calling) takes his wood and coal, and having first broken up the latter into pieces about the size of a walnut, handling each atom the while as if it were a thing of priceless value, proceeds to light his fire and get up the steam. Of the skill which he displays in this, as well as in firing, throughout the experiment, more hereafter. Meanwhile, an apparatus called a "friction-break," is adjusted to the fly-wheel of the engine.

As it will be needful to offer some explanation of the nature and uses of this friction-break, let us take the opportunity of the delay caused by raising steam to say a few words on the matter, which will involve some slight interpretation of the whole philosophy of a "trial."

*The first desideratum in an engine being economy of fuel, it becomes necessary in the comparison of the performances of two competing engines to determine* which of the two has done the greater amount of work with a given quantity of fuel, and this is ascertained thus:

The capability or strength of an engine is generally stated in horses' power. Now a "horse power" is only a technical mode of expression, representing a certain amount of weight lifted a certain height in a certain time. The unit of a horse power is fixed by general consent at 33,000 lbs. raised 1 foot high in 1 minute. It follows, then, that an engine able to raise 33,000 lbs. 1 foot high in 1 minute is of one-horse power.

The friction-break is an instrument for determining the horse power of an engine; without describing it too fully in detail, it will be sufficient to say that by means of the friction it produces on the fly-wheel of the engine, the weight due to the horses' power of such engine is practically lifted. Supposing, for example, that a "racer" be entered for trial as of eight horses' power, the friction-break will be applied in such a manner as to compel it to lift a weight equal to eight times 33,000 lbs. 1 foot high per minute; if, while this is being done, notice be taken of the time occupied in the consumption of 1 cwt. of coal, it is evident that we shall have as the result the length of time during which 112 lbs. of coal will produce a power equal to that of eight horses. It is, then, a matter of simple division to find the quantity of coal required to produce a power of one horse for the same time, and finally discover the quantity of coal required by the engine to enable it to give out a power equal to that of one horse for one hour. Thus, then, all engines may be brought to one standard, and the friction-break is the means by which we may discover how much coal per horse power per hour each competing engine requires, the lowest in consumption naturally standing first in the rank.

But the steam is up, and our friend in the over-alls, who has explained all this to us, opens the starting-valve and turns round to note upon a ruled memorandum sheet nailed to the wall, beside which hangs his watch, the precise time occupied in getting up steam—"25 minutes"—not bad to begin with.

The engine is off, the "break" compelling her to lift the weight due to her power, and the "trial" has fairly begun. Now, look at that little heap of coal beside the fire box; a most scanty morsel it seems; every energy has to be exhausted and every ingenuity to be resorted to, to make that little scuttleful of coals last as long as possible. She runs steadily along for 15 minutes, then the needle of the sensitive pressure gauge begins to tell of a slight fall in the pressure of the steam; more fuel must go on the fire. Now if you imagine that our friend the fireman is about to open that door and heave on his coal by the shovelful you are vastly mistaken. He first peeps through a small talc window about 2 inches in diameter, set like an eye in the furnace door, marks where the fire is thinnest, opens a tiny circular door immediately below the eye aforesaid, and with a hooked "pricker" gently spreads the fuel evenly over the fire bars; then, in an instrument of about the bigness of a good sized tablespoon, he takes a supply of coals and—hey presto—in the twinkling of an eye, while you were lost in astonishment at the smallness of the dose about to be administered, the fire door is opened, the infinitesimal shovelful "exhibited," and the door closed with a "cling," all with the quickness of light; in goes the hooked "pricker" again through the little circular door, spreading the fuel evenly; and he writes down "15 minutes to first firing"—very good indeed. The hand of the pressure gauge soon begins moving upwards again, and is slowly crawling beyond the appointed 45 lbs. per square inch, when the damper is closed in a moment and the combustion slightly checked. But the water in the boiler is getting lower and lower; it is time to put the pump to work.

A huge bucket stands beside the engine, to which the suction pipe of the pump is attached; into this bucket, which is kept supplied with cold water, a large portion of the waste steam is admitted, and the water thereby heated; the pump therefore on being set to work throws water already nearly at the boiling point into the boiler; after a few trials the quantity delivered is regulated to supply as nearly as possible the same amount as the constant evaporation converts into steam, and the pump is fairly at work. But this feed water, warm though it be, is cold in comparison with the heated water within the boiler, and a very few minutes suffice to show the cooling effect, and to indicate by the pressure gauge that the steam is again falling. Quick as thought, the damper is opened, and the increased draught soon brings the needle to its place again. Still the admission of the cold feed water makes itself felt, and this time the operation of administering the tiny scoopful of coals has to be repeated at an interval of ten minutes from the last; this, however is not bad. Up goes the damper again, after a few moments, and ten or twelve minutes pass, during which friend "Overalls" wipes and oils every working part of the engine, and surveys the tiny fire within the furnace through the little talc window with the deepest solicitude. Again the steam falls, and again the damper is opened; the needle crawls weakly and uncertainly upwards for a few moments, then begins slowly falling, then comes another infinitesimal dose of coal, [illegible] by another ten minutes or so of rest. So it goes on now, coal being administered about every twelve minutes. The pump is working well, keeping the water exactly at the required level, and everything goes smoothly on; the most noticeable thing being the fireman's anxious face, as he peers through the window, and rakes his fuel smooth, or as he looks with lingering eyes on the lessening heap of coals by his side. Half an hour has passed, and "Overalls" takes advantage of a few minutes' rest to sweep away every particle of cinder fallen from the furnace, carefully saves the remaining stock of coal; he mixes them as carefully together, and seeing a visible increase in his resources looks bright and hopeful. An hour passes thus in a series of repetitions of all these processes, still there seems but little diminution of the tiny heap of coals, and you begin to wonder when they will shrink. Another half-hour, and the little heap has grown visibly less. "Overalls" tries hard to make up the deficiency with ashes, but evidently feels his failure. All the while the engine goes monotonously on, and presently a second hour is completed, and now the heap is indeed lessened. Will she run another hour? In the interest of this question, you forget everything, and find comfort only in our young fireman's steadily face as he goes on quietly trying every dodge to husband his resources. Half-an-hour, three-quarters, an hour go slowly and anxiously by, and there is no still; another quarter of an hour, and there is but a handful remaining. Again the brush goes carefully round the ash-pan, and every particle of carbon treasured like gold. One more regretful look at the fire through the little window, and a glance at the falling hand of the steam gauge, and "Overalls" goes to the pump and stops the feed—there will be no need of more water now, and it will give him a few minutes more to live. Another scoopful of coals brings on the 15 minutes more; in all, three hours and a half are starting. Can it last another quarter-hour? Steadily and quietly, as at first, our fireman goes about his work, and holds now his last shovelful of coals ready the next fall of the steam. There! it is all in now and there is no more to be done but wait the result. The "pricker" is in again levelling the fire, the last fragment of cinder is thrown in at the fire door, and now, watch in hand, we note the needle as it creeps for the last time up the dial, wavers a moment, then surely drops lower and lower. Three hours 42 minutes—still she runs, lifting her weight steadily; 43 minutes, the weight begins to drag and oscillate; 44 minutes, 45! 46! 47!—"Stop her!"

It is all over, and you are wandering at your own excitement, and discovering, too late, that your enthusiasm has kept you for four hours in an atmosphere so terribly prejudicial to cleanliness, that you would be as pleased as I was to hear Plummer's cheery voice.

"Well, old fellow, it's not a bad run; let's go in-doors and have a wash and some lunch."

Half-an-hour afterwards we were deep in cold beef and bitter beer, when in came "Overalls" with his detailed memoranda of the trial,—no longer the grimed and silent fireman of the morning, but a well favoured and intelligent young gentleman, son of the Messrs. Block and Bolt, who, out of sheer love for the work, was only too happy to don the shop-coat and fire for experiments.

"Well, James," said Plummer, "what was the best time run with one cwt. of coal?"

"Three hours 47 minutes," said James. "I dare say we shall get another five minutes out of her on the next trial."

"Then you will have other experiments with the engine," I said, "before she is exhibited at Warwick?"

"Oh dear, yes," he replied, "this is only the first; I dare say we shall have from 20 to 30 experiments with her in all, and at each we hope for some slight improvement." *D. P. in "Once a Week."*

# HARVEST PROSPECTS.

## FROM CORRESPONDENTS WRITING ON THE 9TH OF AUGUST.

| COUNTIES. | WHEAT. | BARLEY. | OATS. | BEANS. | PEAS. | TURNIPS. | MANGEL. | POTATOES. | PASTURE. | HARVEST GENERAL. | NAME AND ADDRESS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **SCOTLAND.** | | | | | | | | | | | |
| CAITHNESS .. | Average | Average | Full average | .... | .... | Average | .... | Excellent | Good | Middle Sept | J. S. MacIver, [illegible] |
| INVERNESS .. | Light | Light | Very light | .... | .... | Late; promising | .... | Good | Miserable | August 20 | J. Mackenzie, Filenach |
| PERTHSHIRE | .... | Good | Average | .... | .... | Thin | .... | Good | Good | Sept. 1 | H. Ainslie, Forfar |
| | Very good crop | Light | Light | Failure | Failure | Very backward | Very light | Good | Improving | August 20 | —, Dumblane |
| ELGIN ..... | Much under average | One-third under average | Half an average | Bad | Bad | Look well | .... | Small | Very bare | August 8 | —, Forres |
| | Much under average | Hardly average | Very inferior | .... | .... | Fair | .... | Promising | Very bad | Begun | J. Hamilton, Perth |
| | Far under average | Under average | Not half a crop | .... | .... | Late | .... | Look well | Very scanty | August 10 | J. Grigor, Nurseries |
| BANFF ..... | Much under average | Thin and not average | Not half a crop | Not good | Light | Fair; late | .... | Promising | Very short | August 8 | J. Barclay, Fetlar |
| ABERDEEN .. | Fair crop | Average | One-quarter deficient | .... | .... | Late | .... | Good | Scorched | August 15 | J. Macdonald, Ellon |
| | .... | Under average | Not half a crop | .... | .... | Very late | .... | Very fine | Very bare | August 6 | J. Nicol, Turriff |
| | Average | Much under average | Half an average | Nearly average | .... | Miserable | .... | Excellent | Very poor | Sept 1 | J. Laing, Peterhead |
| | Under average | Not average | Never known so bad | .... | .... | Very late | .... | Fair | Very bad | August 20 | J. Davidson, Elgin |
| FORFAR ..... | Spring sown under average | One-quarter under average | One-quarter under average | Half a crop | .... | Unpromising | .... | Very good | Fair | August 15 | W. Smith, jun., Forfar |
| | Under average | Under average | Under average | Indifferent | .... | Very bad | .... | Promising | .... | August 20 | A. Bell, Ferryden |
| | Under average | Hardly average | Under average | Over average | Over average | Under average | .... | An average | Under average | August 16 | —, Arbroath |

## HARVEST PROSPECTS—*Continued.*

| COUNTIES | WHEAT. | BARLEY. | OATS. | BEANS. | PEAS. | TURNIPS | MANGEL | POTATOES. | PASTURE. | HARVEST GENERAL. | NAME AND ADDRESS. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| FIFE ..... | Under average | Regular but small | Under aver ge; improved | Light | Light | Various | .... | Very promising | Bare; fresh | August 15 | G. Edin, King's Kettle |
| | Under average | Under average | Light; improved | Bad | Light | Not promising | .... | Very good | Bare; fresh | August 15 | G. Edie, Aberuethy |
| | Sound: under average | Under average | Much under average | Very short | .... | Very late | Failure | Average | Bare | August 20 | W Veitch, Kinghorn |
| HADDINGTON | Full average | Average | Under average | Under average | .... | Late; bad | Failure | Over average | Good | August 10 | G. Hope, Drem |
| | Good; sound; upright | Average in quality and quantity | Light, but good | Average | Average | Late and light | .... | Good | Injured, but improving | August 8 | J. Steele, N. Berwick |
| MID-LOTHIAN | Under average | Much under | Very deficient | Very deficient | .... | Late and unpromising | Failure | Look well | Done ill | August 15 | J. Finnie, Swanston |
| | Nearly average | Under average | Light | Inferior | .... | Unpromising | Improving | Fair | Moderate | August 15 | J. Melvin, Ratho |
| | Rather under average | Average | Under average | Under average | .... | Late, but improving | .... | Over average | Improving | August 20 | J. Hislop, Mid Calder |
| | Under average | Nearly average | Under average | Very poor | .... | Very poor | Inferior | Good | Improved | August 25 | J. Morton, Dalkeith |
| STIRLING | Nearly average | Half to two-thirds of a crop | Very poor | Not half a crop | .... | Late | .... | Excellent | Various | August 15 | A. Buchanan, Stirling |
| RENFREW .... | Fair average | Under average | Under average | Bad | .... | Very bad | Bad | Average | Very poor | August 16 | G. Boyd, Renfrew |
| | About average | Under average | Under average | Under average | Under average | Much under average | Bad | Abundant | Scanty | August 20 | J. Gardner, Neilston |
| ARGYLE .... | Nearly average | Below average | Below average | Below average | .... | Under average | Failure | Very good | Improving | August 17 | D. Stewart, Campbel- |
| AYR ..... | Average | Average | Under average | Under average | .... | Late and inferior | Under average | Good | Short | August 20 | W. Orr, Beith [town |
| PEEBLES .. | Various | Light | Under average | .... | .... | Generally bad | Half a crop | Various | Improving | August 16 | W. M'Jannet, Irvine |
| | .... | Under average | About average | .... | .... | Late, but improving | .... | Good | Very poor | Middle Aug. | J. Lyle, Inverleithen |
| ROXBURGH .. | Under average | Under average | One-third under average | Under average | Under average | Late | .... | Well | Good | August 8 | P. Brodie, Clarilaw |
| | Average | Rather deficient | Much under average | Very poor | Hardly average | Very late | ... | Average | Not good | August 14 | J. Themson, Whitelee |
| DUMFRIES.... | Light | Very light | Very light | .... | .... | Too late | Nearly failure | Look well | Bare | August 10 | J. Little, Langholm |
| | Average | Under average | Under average | Under average | .... | Under average | Average | Full average | Under average | August 9 | W. Watts, Craigs |
| WIGTOWN .... | Short, but fine | .... | Very light | Middling | .... | Under average | Thriving | Good | Very poor | August 9 | A. H. McClean, Stranraer |
| BERWICK ... | Average | Average | Two-thirds of a crop | Half a crop | Average | Not half a crop | Failure | Average | Bare | August 9 | W. Hewett, Edrom |
| | Average | Not average | Not average | .... | .... | Bad | Bad | Good | Middling | August 15 | G. Logan, Stitchel |
| ENGLAND | | | | | | | | | | | |
| NORTHUMBERLAND | Average | Full average | Very light | Under average | Good | Great failure | Pretty good | Promising | Deficient | August 10 | J. Grey, Dilston |
| | Probably average | Full average | Deficient | Average | Good | Scanty | Good | Good | Short | August 12 | W. Glover, Newcastle |
| | Good | Light | Good | Good | Good | Indifferent | .... | Good | Bad | August 8 | W. Deans, Cornhill |
| | Average | Average | Very light | Good | Good | None | Few | Very good | Burnt | August 1 | T. P Dods, Hexham |
| DURHAM .... | Good average | Good | Fair | Good | Good | Fair | Good | Good | Droughty | August 13 | R. B. Dixen, Darlington |
| | Good | Good | Poor | Not average | .... | Very bad | Bad | Good | Bad | August 20 | G. Bell, Durham |
| CUMBERLAND | Average | Under average | Light | .... | .... | Very poor | Few | Average | Very poor | August 20 | T. Wilson, Ullswater |
| | Average | Under average | Poor | Failure | .... | Failure | Total failure | Various | Bad | August 1 | T Gibbon, Longtown |
| | Good | Light | Very light | .... | ... | Very bad | Failure | Not good | Bad | August 10 | T. Donald, Linstock |
| | Average | Not average | Not average | Not average | Not average | Not average | Not average | Not average | Bad | August 8 | J. Rigg, Wigton |
| | Average | Not average | Not average | .... | .... | Various | Bad | Various | Inferior | August 10 | —, Penrith [Thure |
| WESTMORELAND | Nearly average | Deficient | Poor | .... | .... | Very bad | Total miss | Short | Burnt | August 8 | J. Crosby, Kirkby |
| | Good | Very light | Very poor | Very poor | .... | Very bad | Very bad | Look well | Burnt | August 13 | W. Key, K. Lonsdale |
| | Average | Average | Under average | .... | .... | Not average | .... | Not average | Dried up | August 10 | J. Robinson, Warcop |
| YORK ..... | Full average | Over average | Average | Good | Good | Very bad | Bad | Moderate | Very bad | August 8 | T. Parrington, Middlesboro' |
| | Good average | Good | Fair | Fair | .... | Unpromising | Injured | Healthy | Very good | August 1 | H. Briggs, Wakefield |
| | Not average | Good | Fair | Bad | .... | Not good | Fair | Good | Various | August 6 | P. Stevenson, Thirsk |
| | Average | Average | Hardly average | Under average | Average | Various | .... | Average | Bare | August 10 | H. J. Turner, Richmond |
| | Average | Tolerably good | Bad | Under average | Very good | Inferior | Good; late | Good | Bad | August 1 | —, Doncaster |
| | 4 qrs. | 5 qrs. | 6 qrs. | Failure | 3 qrs. | Promising | Promising | Small | Bad | July 28 | —, Bawtry |
| LANCASHIRE | Thin generally | Very light | Very light | . . . | .... | Bad | Fair | Good | Very poor | August 6 | G. Drewry, Holker |
| | Full average | Not average | Thin | Short | .... | Late; poor | Late; poor | Full average | Scanty | August 11 | R. Robinson, Garstang |
| | Not average | Average | Average | .... | .... | Under average | Not average | Good; small | Very short | August 6 | G. W. Fowler, Liverpool |
| | Good | Good | Good | Bad | .... | Bad | Bad | Excellent | Bad | July 30 | M. Saul, Lancaster |
| | Average | Average | Light | Good | .... | Uneven | Uneven | Healthy | Short | August 4 | F. Twining, Wigan |
| DERBYSHIRE | .... | .... | Very good | .... | Good | Very good | Fair | Full | Bare | Mid. Aug. | B. Swaffield, Ashbourne |
| | Middling & laid; bulky; coarse | Not good | Good | Good | Good | Good | Good | Good; doubtful | Light | August 9 | J. Parkin, Wirksworth |
| LINCOLNSHIRE | Under average | .... | Good | Average | Average | .... | Good | Fair; diseased | Great crop | August 3 | T. Aitken, Deeping, St. Nicholas |
| | Not average | Not average | Not average | Bad | Not average | Good | Good | Diseased | Good | August 4 | E. Darby, Horncastle |
| | Various | Indifferent | Good | Average | .... | Good | Good | Good | Good | August 8 | Croft Sharpley, Louth |
| | One-fifth under last year; roughest crop | Heavy crop | Average | .... | .... | Good | Good | .... | .... | August 2 | F. Sowerby, Aylesby |
| | One-fifth under average | Fair average | Average | Spring sown average | Fair | Fair, but injured | First-rate crop | Fair, but diseased | Very rough | August 1 | J. Clarke, Long Sutton |
| CHESHIRE .. | Very good | Average | Good | Good | .... | Not good | Promising | Well | Very short | August 10 | H. Tipping, Northwich |
| | Fair average | Average | Average | Over average | .... | Various | Promising | Fair crop | Bare, but improving | August 9 | W. Palin, Tarvin |
| SHROPSHIRE | Good | Good | Good | Average | Average | Very good | Good | Good | Very bad | August 4 | J. Aston, M. Drayton |
| | Full average | Full average | Good | .... | .... | Very good | .... | Diseased | Very short | August 7 | E. Bowen, Bromfield |
| LEICESTER .. | Average | Average | Over average | Spring good | .... | Good | Very good | Good get | Very good | August 10 | T Spencer, Knossington |
| | Light | Inferior | Not average | Not average | .... | Average | Average | Diseased | Bare | July 28 | J. Buckley, Normanton Hill |
| NOTTINGHAM | 4 qrs.; inferior | 5 qrs.; thin | 8 to 10 qrs. | 3 to 4 qrs. | 4 to 6 qrs. | Good | Good | Diseased | Burnt up | August 1 | T. Stafford, Marnham |
| | Average | Under average | Not average | Not average | Average | Unpromising | Good | Good | Very bad | August 1 | C. Walton, Newark |
| RUTLAND .. | Fair | Light | Light | Very fair | Good | Promising | Very good | Light | Very bad | August 1 | J. Young, Coddington |
| | Average | Over average | Full average | Average | Over average | Good | Good | Full crop | Good | August 1 | W. Fancourt, Empingham |
| NORTHAMPTONSHIRE | Average in quantity | Average quantity | Good | Spring sown good | Good | Very promising | Promising | Good | Dry | August 1 | P. Love, Northampton |
| | Not average | Not average | Over average | Not average | Good | Good | Good | Bad | Good | August 1 | W. Gray, Courteen Park |
| | Laid & damaged | Average | Full average | Various | Fair | Good | Good | Good | Dry | August 1 | J. B. Smeeton, Welford |
| WARWICK .. | Average | Heavy | Very good | Various | Very good | Good | Tolerable | Indifferent | Very bare | July 26 | J Ford, Newbold Pacey |
| | Average | Average | Average | Not average | Average | Good | Good | Good | Want rain | August 6 | J. H. Burbery, Kenilworth |
| | Average | Average | .... | Not average | Average | Various | Good | Various | Bad | August 1 | W. Gibbs, Stratford-on-Avon |
| WORCESTERSHIRE | Average | Average | Average | Under average | Deficient | Various | Good | Good | Deficient | August 1 | W. Aitcheson, Bakewell |
| | Average; inferior quality | Very good | .... | Average | Good | Caterpillars | Very good | Small | Burnt up | August 3 | C. Randell, Evesham |
| HEREFORD .. | Fair | Middling | .... | Various | Various | Indifferent | Fair | Good | Very bare | July 30 | R. Smith, Droitwich |
| | Good | Average | Average | Over average | Not average | Various | Fair | .... | Under average | August 8 | P. N. Edwards, Brinsop Court |
| | Average | Various | .... | Good | Failure | Fair | Various | Deficient | Light | August 8 | W. Price, Ross |
| | Average | Average | .... | .... | Good | Good | Good | Diseased | Short | August 8 | J Mathews, Blakemere |
| MONMOUTHSHIRE ..... | .... | Good | Good | Blighted | .... | Good | Good | Blighted | Bare | August 8 | H. Pride, Monmouth |
| | Average; promises well | Good | Good | .... | .... | Fair | Good | Good | Short | August 8 | W. H. Little, Abergavenny |
| | Good | Light | Good | Average | Good | Good | Good | Good | Very short | August 1 | T. Beckenham, May Hill |
| | Full average | Average | Light | .... | .... | Even; late | Good; late | Promising | Very short | August 8 | G. R. G. Relph, Uske |
| CAMBRIDGESHIRE .. .. | Bulky; blighted | .... | Heavy | Average | Very good | .... | Very promising | Various | Burned up | August 1 | A. S. Ruston, Isle of Ely |
| HERTFORDSHIRE .... | Deficient | Laid; thin | Average | Fair | Fair | Average | Under average | Diseased | Bare | August 1 | —, St. Albans |
| NORFOLK .. .. | Barely average | Various | Over average | Barely average | Prolific | Various | Good | Indifferent | Drought | August 1 | W. H. Taylor, Wymondham |
| | Not so good | Very bad | Average | Hardly average | .... | Various | Good | Diseased | Scorched | August 1 | W. Cubitt, N. Walsham |
| | Not average | Average | Average | Not average | Average | Various | Good | Fair | Short | August 1 | T. Brown, Downham |
| SUFFOLK .... | Average | Short | .... | Not average | Average | Good | Very good | Diseased | Various | July 30 | H. Edwards, Woodbridge |
| | Average | Under average | .... | Fair | Good | Various | Very good | Going off | .... | July 30 | C. Welton, W. Market |
| | Good; various | Good; injured | .... | Good | Good | Promising | Good | Diseased | Good | July 30 | G. Edwards, Framlingham |
| | Average | Under average | Average | Not average | Average | Good | Very good | Diseased | Good | July 29 | L. O. Cottingham, Saxmundham |

## HARVEST PROSPECTS—*Continued.*

| COUNTIES. | WHEAT. | BARLEY. | OATS. | BEANS. | PEAS. | TURNIPS. | MANGEL. | POTATOES. | PASTURE. | HARVEST GENERAL. | NAME AND ADDRESS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| BUCKINGHAMSHIRE | Very bulky | Under average | Good | Various | .... | Promising | Fair | Good | Short | August 2 | A. Fraser, Cippit |
| | Well per acre | Well | Very well | Middling | Fair | Well | Very well | Fair | Well | August 2 | E. Evans, Wotto |
| | Under average | Average | Good | Various | .... | Good | Very good | Rotting | First rate | August 1 | W. G. Duncan, Stratford |
| BEDFORDSHIRE | Tolerably good; not as last year | Very variable; but improved | Good crop | Good | Good | Excellent | Excellent | Improved; but diseased | Very fair | August 1 | —, Silsoe |
| HUNTINGDONSHIRE | Under average | Various | Good | Various | Not average | Good | Good | Diseased | Good | August 1 | —, — |
| GLOUCESTERSHIRE | Under average | Quality various | Good | Various | Over average | Very good | Excellent | Small; sound | Now short | August 1 | J. Coleman, Cirencester |
| | Average | Various | Good | Partial | Very good | Partial | Good | Good | Short | August 1 | G. M. Hulbert, Gloucester |
| | Average | Over average | Very good | Good | Very good | Average | Very good | Very good | Good | August 1 | C. L. Dent, Brimpsfield |
| | Average; but one-quarter under 1858 | Full average | Abundant | Good | Excellent | Promising | Patchy | Good | Short now | August 5 | J. F. Pouncy, Cheltenham |
| SOMERSETSHIRE | Rather over average | Average | Very good | Underaverage | .... | Injured | Not so good | Partial | Dry | August 1 | J. W. Eastment, Wincanton |
| | Very good | Good | Average | Underaverage | Bad | Good | Very good | Partial | Good | August 1 | C. P. Colles, Devizes |
| WILTS | Bad and blighted | Good | Good | Average | Average | Good | Good | Average | Average | August 15 | G. Brown, Avebury |
| | Blighted and down | Average | Good | Average | Very bad | Good | Good | Bad | Very short | August 10 | J. R. Maskelyne, Calne |
| | Much under last year | Quality bad | Over average | Various | Good | Very good | Irregular | Diseased in places | Good | July 27 | T. Chandler, Alderbury |
| BERKSHIRE | Average | Good | Good | Various | Good | Promising | Fair | Diseased | Heavy | July 25 | T. Arkell, Goodrich |
| | Injured by midge & storms | Over average | Promising | Injured | Good | Successful | Good | Various | Hay good | August 1 | E. J. Lance, Kennet |
| | Various | Quality bad | Good | Average | Good | Good | Good | Good | Parched | July 25 | J. Williams, Aldermaston |
| | Average, laid | Average | Very good | Various | Good | Good | Excellent | Complaint | Good | August 1 | T. Fordham, Newbury |
| | Average | Average | Over average | Average | Average | Good | Good | Diseased | Short | July 21 | J. Adnam, Thatcham |
| OXFORDSHIRE | Indifferent | Average | Good | Partial | Good | Good | Good | Partial | .... | July 30 | R. Page, North Newington |
| ESSEX | Full average | Average | Average | Average | Average | (Black jack) | Very good | Abundant; injured | Good | July 22 | J. J. Mechi, Tiptree |
| | Average; coarse | Average; light | Over average | Average | Average | (Black jack) | Good | Diseased | Short | July 20 | W. Hutley, Witham |
| | Average | Average | Good | Good | Good | Good | Good | Blighted | Good | August 1 | C. Hall, Romford |
| | About average | Average; light | Average | Not average | Quite average | Looking well | Good | Half a crop | Average | August 1 | A. Barfield, Dunmow |
| | About average; inferior quality | Average; inferior | Good | Partial | Good | Partial | Very good | Very bad | Plentiful | July 20 | W. F. Hobbs, Colchester |
| KENT | Average, coarse | Average; coarse | Very good | Average | Over average | Very inferior | Good | Diseased | Average | July 25 | W. Manser, Rainham |
| | Half last year's crop | Various | Very good | Good | Excellent | Various | Very good | Very bad indeed | Very good | August 1 | R. Matson, Wingham |
| | Much injured | Inferior | Good | Good | Very good | Injured | Good | Improved | .... | August 1 | M. Sandford, Deal |
| SUSSEX | A little over average | Under average | Average | Under average | Average | Very bad | Average | Sound; small | Very short | July 20 | H. S. Hayward, Pulborough |
| | Over average | Not average | Not average | Not average | Fair | Suffering | Fair | Small | Fair | July 26 | J. Brotherton, Hove |
| HANTS | Bulky, laid | Bulky; coarse | Over average | Various | Average | Injured | Average | Diseased | Good | July 25 | H. Raynbird, Basingstoke |
| | Average | Average; thin | Over average | Average | Average | Promising | Good | Not much hurt | Average | July 20 | J. Twynam, Winchester |
| | Average quantity | Average quantity | Good | Average | Average | Injured | Very good | Diseased | Short | August 1 | J. W. Clark, Romsey |
| | Average | Average | Over average | Average | Average | Good | Good | Good | Average | July 25 | J. Blundell, Burbage |
| DORSETSHIRE | Under average | Various | Under average | .... | .... | Bad | Various | Pretty free | Barren | July 28 | R. Damen, Dorchester |
| | Good crop | Various | Light | Blighted | Good | Fair | Good | Promising | Improving | August 1 | W. J Pope, Bridport |
| | Deficient | Deficient | Deficient | Deficient | .... | Good | Good | Diseased | Dry | August 1 | J. Furmedge, Beaminster |
| DEVONSHIRE | Average | Average | Average | .... | .... | Injured | Average | Blight | Bare | August 1 | W. J Voss, Corfe Castle |
| | Various | Average | Thin sample | .... | Under average | Bad | Pretty good | Small | Burnt up | August 1 | G. Turner, Exeter |
| | Average | Under average | Under average | .... | .... | Inferior | Very inferior | Good | Injured | August 1 | —, Totnes |
| | Under average | Under average | Very bad | .... | .... | Improving | Bad | No disease | Dry | August 1 | S. Cornish, Stanerne |
| | Average | Under average | Under average | .... | .... | Very bad | Very bad | Promising | Very bare | August 1 | J. Benson, Tavistock |
| | Good average | Various | Under average | .... | .... | Various | Half a crop | Light | Dry | July 20 | R. W. Clark, Plymouth |
| CORNWALL | Quality good; quant. inferior | Uneven | Very bad | .... | .... | Very poor | Good | Fair | Burnt up | July 21 | J. Wills, Launceston |
| | Average | Under average | Full average | .... | .... | Various | Various | Diseased | .... | August 1 | J. Michell, Truro |
| WALES. | | | | | | | | | | | |
| CARNARVON | Average | Good | Good | Tolerable | Tolerable | Partial | Fair | Yet good | Scarce | August 10 | J. Williams, Llandeilo |
| BRECKNOCK | Good | Average | Light | .... | .... | Injured | Good | Short | Very short | August 2 | J. Muscott, jun., Brecon |
| CAERMARTHEN | Very good | Fair | Light | .... | .... | Half crop | Not good | Very good | Bare | August 9 | J. Burnell, Llandilo |
| IRELAND. | | | | | | | | | | | |
| DOWN | Good | .... | Bad | Very good | Bad | Bad | Bad | Good yet | Very bad | August 1 | W. Cleary, Portaferry |
| DERRY | Good | Average | One-quarter deficient | .... | .... | Very bad | .... | Good | Bad | August 25 | S. Orr, Coleraine |
| | Good | Good | Under average | .... | .... | Doubtful | Good | Doubtful | Very bare | August 25 | C. Pollock, Macosquin |
| ARMAGH | Fair | .... | Light | Blighted | .... | Missed | Very bad | Very good | Very bad | August 6 | R. B. Hardy, Tanderagee |
| DONEGAL | Thin | Light | Thin and short | Average | .... | Light | Good | Very good | Very bad | Sept. 1 | T. J. Atkinson, Ballyshannon |
| WESTMEATH | Good | Light | Very light | .... | .... | Promising | Not average | Very good | Very poor | August 18 | G. Bagnall, Killucan |
| | Good | Light | Short | .... | .... | Very good | Middling | Good | Light | August 15 | W. Newburn, Mullingar |
| FERMANAGH | Good | .... | Very good | Good | Very good | Very bad | Good | Very good | Very bad | August 25 | A. Mair, Brookeborough |
| ROSCOMMON | Good | Light | Very light | .... | .... | Middling | Middling | Very good | Very bare | Sept. 10 | J. Kelly, Roscommon |
| | .... | .... | Not average | .... | .... | Late | Late | Scarcely average | Half an average | Sept. 8 | D. Boyd, Sprucefield |
| LEITRIM | .... | Good | Promising | .... | .... | Healthy | Good | Good; blighted | Improved | Sept. 1 | J. Lindsay, Lurgan |
| MONAGHAN | .... | .... | Average | Very good | Very good | Very good | Very good | Excellent | Very bad | Sept. 1 | J. Smith, Castleblaney |
| | .... | .... | Light | .... | .... | Pretty good | Pretty good | Good | Very poor | August 20 | Rev. T Middleton |
| TYRONE | Good | .... | One-third deficient | .... | .... | Very bad | Very bad | Good | Very bad | August 14 | W. Paterson, Newry Stewart |
| MAYO | Average | Average | Good | .... | .... | Excellent | Excellent | Indifferent | Fair | End August | G. Hildebrand, Westport |
| GALWAY | Good | .... | Short | .... | .... | Good | Various | Diseased | Bare | Sept. 1 | G. Lamb, Mountshannon |
| QUEEN'S | Good | Middling | Bad | .... | .... | Bad | Good | Uncertain | Bare | August 7 | M. Dunne, Stradbally |
| KING'S | Average | .... | Under average | .... | .... | Under average | Under average | Good | Under average | August | E. Bewley, Mount Bellew |
| CLARE | Two-thirds of a crop | Two-thirds of a crop | Two-thirds of a crop | .... | .... | Average | Not average | Destroyed in places | Burned up | August 15 | E. Bennett, Kilmarket on Fergus |
| LOUTH | Good | Middling | Very deficient | Deficient | .... | Very bad | Very bad | Good | Short | August 8 | W. M'Culloch, Dunleer |
| LONGFORD | Very fine | .... | Very short | .... | .... | Bad and few | Good; few | Fine | Burned up | August 10 | J. M. Goodiff, Granard |
| | Good | .... | One-fifth under average | .... | .... | Good | Good | Good | Quarter under average | August 15 | E. Morgan, Lissan |
| CAVAN | Good | .... | Short; good | .... | .... | Bad | Fine | Very fine | No Grass | August 15 | J. H. Nesbitt, Tarbet |
| CLARE | Bare average | Very bad | Very light | .... | .... | Bad | Bad | Abundant | Bad | August 10 | W. Digan, Killaloe |
| WICKLOW | Very good | Good | Various | .... | .... | Late | Good | Good | Very short | August 1 | J. Daly, Enniskerry |
| CARLOW | Good | Very bad | Very short | Middling | .... | Very bad | Good | Healthy | Very bad | August 15 | P. J. Mosse, Carlow |
| LIMERICK | Very good | Very good | Very good | .... | .... | Very bad | Very bad | Good | Very bad | August 5 | J. De Renzy, Clonagh |
| MAYO | Very good | Very good | Very short | .... | .... | Various | Good | Very good | Brown | August 5 | —, Bruff |
| TIPPERARY | Well | Superior | Good | .... | .... | Average | Average | Diseased | Very good | End of Aug. | A. S. Perkins, Kilkeary |
| | Good | .... | Middling | .... | .... | Pretty good | Bad | Abundant | Very bare | August 1 | J. Fennell, Cahir |
| | Very good | Good | Good | .... | .... | Good | Good | Good | Good | August 3 | W. Ryall, Cashel |
| KERRY | Good | Good | Very good | .... | .... | Indifferent | .... | Good yet | Suffering | Very early | J. B. Massy, Ballywire |
| | Very good | Good | Good | .... | .... | Good | .... | Well | Now good | Middle Aug. | J. Creagh, Tarbert |
| KILKENNY | Good | Inferior | Very good | .... | .... | Good | Good | Fair | A famine of hay | August 18 | J. O'Sullivan, ? and V. G., Kenmare |
| WEXFORD | Under average | Very bad | Very light | Light | .... | Improved | Very bad | Very good | Bad | August 1 | D. A. Mulvard, Ross |
| | Very good | Good | Various | .... | .... | Failure | Failure | Poor | Very poor | August 6 | P. Grace, Freshford |
| | Very good | Not average | Various | .... | .... | Failure | Wretched | Very good | Very bad | August | G. Glasscott, Carrigaline |
| CORK | Good | Good | Short | .... | .... | Failure | Bad | Moderate | Very bad | August | H. Preston, Blarney |
| | Good | Good | Fair | .... | .... | Not good | Good | Good | Dry | August 20 | corthy |
| | Good | Middling | Bad | .... | .... | Not average | Average | Slight blight | Short | August 8 | S. Piddell, Kilbrew |
| | Over average | Good | Thin | .... | .... | Bad | Bad | Good | Bad | August 8 | H. Longfield, Longueville |
| | Fair | Not average | Light | .... | .... | Good | Fair | Partial | Very short | August 12 | D. Clancehy, Dunmanway |
| | | | | | .... | Good | Good | Pretty good | Light | August 8 | Charleville |
| | | | | | | | | | | | F. H. Twinam, Kanturk |
| | | | | | | | | | | | D. Barclay, Blarney |

## GOOD FARMING IN ESSEX.

I have been so much interested and pleased with my friend Mr. H. Davis's account of the farming operations at Aynho, that I cannot resist the inclination it has excited in me to give you an account also of some doings in my parish of Wix.

Some of your present readers will probably recollect the sharp controversies I some years since held with some anonymous correspondents on the subject of farming, I contending that the modern practice was far behind what it ought to be considering the great advantages English farmers now have over those of other nations, they having more capital, better workmen, and far better implements, better roads and better markets, and I may add, a better climate than most, and I may further add, equal or better land; and my opponents on the contrary contending that farming and farmers were now all perfect, because—and this was the burden of their arguments—in some few instances they had improved upon the practice of their forefathers, but in general adhered resolutely to it. One gentleman I recollect of this kind being like the rest, as I supposed he would be, ashamed of his name, dated his letter from a parish near the renowned city of Coventry, into which it will be remembered I precipitately sent him.

This pink of a farmer and champion of his class in reply to my contending for deep and thorough draining, deep and complete cultivation, and above all rational seeding, replied that he had sown his land twice, putting on 4½ bushels in the two sowings, but got no produce, not even fit for fowls, and then he innocently—like an innocent as he certainly was—asked me what would have been his produce if he had sown less! I recall to mind this champion of the stand-still race of farmers to show what materials my opponents were made of, for it will be recollected he had backers amounting almost to a legion.

But within the last two or three years another opponent rose up against me in the columns of the *Mark Lane Express*, who also like his compeers was ashamed of his own name, and so substituted for it that of the jealous goddess Juno's drowsy-headed servant Argus. This man wrote plausibly, and to gain credit to what he stated, said he had examined my bit of glebe, and learned from some persons he met with on his road, that my accounts of my doings were all fables. Now to show the animus which acted upon this champion's mind, I state that my bit of glebe as he termed it consists of 78 acres, and from his statements, should he read this article, I hereby tell him he never saw a rood of it; I would not however have made this statement had he handsomely shown wherein he disagreed with my farming practices and appended his own name to what he wrote, and not skulked under a fictitious one borrowed from an ancient mythological fable.

But, Mr. Editor, time has rolled on, and I have been pushed on with it; but it has not changed but confirmed the views I have for so many years held about farming. Your readers will recollect that I advocated nothing but what was within every farmer's reach, or that if from a want of means it was not within every one's reach, he ought not to have been the master but a labourer on his farm. But I said, to do justice to the land, insure good crops wherever required, it must be deeply and scientifically drained, completely and deeply cultivated, and not scratched over as it generally was, and is—3 or 4 inches deep only; it must be kept also as a wise and generous man always keeps his horse, in good heart and thorough working order; and above all, for without this all the rest would be of no avail, I added, the land, to make sure of a good crop, must be thinly and rationally seeded.

This, Mr. Editor, was my advocacy, and it brought down upon my devoted head much severe castigation, sometimes much misrepresentation, and even insult; but I freely forgive all my enemies, and hope by this time there is a little more wisdom in their brain-cases, that they are giving up their cherished prejudices, and in some way are taking advantage of the improved sciences of the age in at least some of their farming operations.

But it is time I come to the nearer object of this letter, which I must not spin out too long.

Of Wheat I never planted more than 2 pecks of seed per acre, and sometimes less; of Barley 2 pecks, and Oats 3, but I shall reduce the quantity of Oats.

Of produce I had on one field Wheat four years in succession, averaging 44 bushels an acre from 2 pecks of seed, or 176 bushels in four years from 2 bushels of seed. The crops were threshed by machine in the field in the presence of several persons, and three sceptical parties measured the land.

Of Barley from 2 pecks of seed I had 7⅞ths quarters which the maltster said was the finest he ever saw, and I sold it for 46*s.* a quarter; the Wheat also was always sold at the highest price of the market. I have now being reaped a field of Oats, half the field put in by the drill I invented and made, and the other half was dibbled to satisfy my neighbours in the common way, they being prejudiced in favour of their way of dibbling. The drilled Oats, which were below 3 pecks of seed an acre, are the finest I ever saw, they astonish every beholder; the dibbled were too thick, and consequently are much lodged, the straw being dark and brittle, and the grain miserably light.

But, dropping my own doings, I ask my readers to accompany me mentally to a farm in my parish, an account of which I give as a sequel to that of my friend Davis's at Ayrho. My parish has in it about 3000 acres of arable land, the farm I am alluding to is in the centre. Until the last 10 or 12 years this farm was in the hands of the proprietor, who told me that the average growth of Wheat crops on it was about 32 or 33 bushels from 2 to 2½ bushels of seed. The farm is about the size of the one at Aynho, and 10 or 12 years since it was let to the present tenant, who formerly had been a gardener, at an enormously high rent, full 18*s.* an acre higher than the average of my parish. Of course, all the farmers and others said the gardener was insane, and predicted his speedy ruin. But he is standing his ground, and I do not hesitate to say that he has made more money than any other farmer in this county in the same time and from the same quantity of land.

But he was a gardener, and though his farm had been under the proprietor's occupation, it was very foul, and consequently the first thing he did was to free it from all weeds, and so effectually he did this that now, and for several years, there has scarcely been a weed on it, in fact, no gentleman's garden is cleaner. He is also the best cultivator I have ever seen; he keeps also a great deal of stock; and to crown all he sows thin his seed for Wheat, being about 1 bushel an acre, and I have no hesitation in stating, and confirming what he himself states, namely, that one year with another, if not every year, his Wheat crops average 6 quarters an acre, and his other crops are equally as great; and an inquiry in the markets would show, as a miller told me, that his Wheats always fetch the highest market price there.

Last Thursday I went over his farm just as the Wheat fields were being cut, and I state without fear of refutation that this year also his Wheat crops will average 6 quarters or more of very fine Wheat, indeed, the grain must be plump and good where this quantity is obtained. But a part of his Wheat was put in with "Sigma's Dibbles," as my quantity of seed, viz., 2 pecks per acre, and the crops of which are as beautiful samples as I ever before saw, and so certain am I that the dibbled crops will be 6 quarters an acre, that I hereby publish that I myself will take them at the highest price in the market on a day to be named, except for Talavera, at that quantity. And all his other crops, roots and all, are equally as good as his Wheats, and the roots, Mangel, Swedes, and Potatoes, the last being the only ones I have seen not diseased this year, are as fine and regularly set out and as free from weeds as it would be possible to have a root of each in any pet garden. My parishioner also manages his stock, of which he has always a large quantity, and his manure, in exactly the same judicious way; of the latter not a quart of the liquid is wasted, and hence, without bird-dung from nobody knows where, his land is in the highest possible heart, and hence his crops are so fine. My readers also will perceive that the predictions about his coming to the hammer have not been realised, and I can inform them moreover that he has four fine daughters and a son at expensive boarding schools, and that his bankers smile upon him, and ask after his health, and the health of his family, and stretch out their hands over the counter to give him a hearty shake whenever he enters their bank to pay in or take out cash; and with such an index I need, I presume, Mr. Editor, say no more in favour of employing brains and hands for successful land cultivation, but subscribe myself your old friend and humble servant, *George Wilkins, Rectory, Wix, August* 1.

## IRISH AGRICULTURAL PROGRESS.

[The following are the remarks on this subject of the Lord-Lieutenant at the late annual meeting of the Irish Agricultural Society.]

It is rightly assumed that I must feel great pleasure in finding myself again among the members of your flourishing and vigorous society, and especially to have had the privilege of being present at an exhibition which in all respects has been so entirely worthy of their past renown and of their advancing usefulness. Nearly all the points connected with the present show and with the immediate condition of the society's affairs, I clearly shall do best to leave to those who from their familiar acquaintance with the whole subject of Irish agriculture, and from their having been, unlike myself, enabled by continuous and unbroken residence to keep their attention directed to the transactions of the society, will be thus qualified to speak with weight and authority on an occasion like the present. I may permit myself to say in passing that the spot for the exhibition appears to me to have been this year most happily chosen. Under these umbrageous glades in which we have clustered to-day, within reach of railway communication, close to an important town, whose very name shows its ancient origin—Dundalgan—the old fort of Dalgan, which, as far back as the year 1001, witnessed the battles of the great Brian Boirbeim; and even then the surrounding district was no stranger to agriculture, because it is specially recorded that the army destroyed the corn and tillage of the plain. Then afterwards, as the border land of the vale, it was ever a scene of exploit, in which Scot and Dane were mixed; and though we cannot precisely boast at the present day that feuds, and wars, and bloodshed have disappeared from the earth—witness the gigantic carnage of Magenta and Solferino—yet we may thankfully acknowledge that the show-yard of Dundalk, as we saw it to-day, with its long lines of stalled cattle, and its well-filled squares of peaceful implements, afforded a gratifying and delightful contrast, both to the barbarous broils of the old septs, and as to the more scientific yet the still deadlier massacres of modern warfare. Gentlemen, as our interest to-day is mainly centred on our Irish soil, perhaps you will allow me for a very short time to occupy the sort of vantage-ground which these annual meetings of the Royal Agricultural Society present to us, and glance at one or two of the leading features of the prospect we may thus take in of the general condition of the country. Now, in looking into authentic documents, I find that the land under tillage in Ireland in the first year when those returns were collected, in the year 1847—12 years ago—amounted to 5,238,575 acres, and in the year which has just elapsed—in the year 1858—they had increased to 5,882,152 acres, being an increase in those 12 years of 643,000 acres, or at a rate of 12 per cent. in 11 years. Now, the climate and circumstances connected with it have, with the true spirit of economy, produced that result in the different kinds of culture. The grain crops have given way in a great degree to those more succulent and humid vegetables which are classed as green crops, and accordingly I find in the same period to which I have referred that the cereal crops have diminished by not less than 565,000 acres, or 17 per cent. of the whole amount. The green crops have increased at nearly the same proportion. The live stock in Ireland, which was valued in 1841 at 19,375,000*l.* is valued now in the last year at 34,616,000*l.* With respect to the size of farms, the farms under 5 acres in 1841 amounted to 310,000. In 1858, instead of 310,000 they have decreased to 83,000. The farms above 30 acres in 1841 were 48,000, and in 1858 they have amounted to upwards of 156,000. Now, the absorption of small holdings I know well is considered by some in this country as injurious, by others it is looked upon as a step in advance; but it is a fact. The application of capital to land necessarily leads to this result, just as in manufactures. We see the factories draw to themselves the labour that was formerly expended upon cottage looms, I take this to be according to the inevitable course of events, and whatever we may think of it, surely it is our duty to watch all such tendencies, and to adapt our measures to them. Among other improvements in our country, I believe progress has been nowhere more remarkable than in the dwellings of the working classes. The subject is now under immediate consideration of the Imperial legislature, a bill having been brought in on the matter by an excellent gentleman of a neighbouring county, Sir William Somerville. I know that the subject has largely engaged the attention of another gentleman from the same country, whom I have the happiness of seeing at this board, Mr. Naper, and I find with great satisfaction that the Royal Agricultural Society of Ireland, which is particularly qualified by its position and its objects to take the lead on such a subject, announces it as one of the constituent and primary objects to promote improvement in the dwellings and domestic condition of the people of Ireland; and they have founded prizes for the best cottages. Equally, if not still more gratifying, has been the rapid diminution of pauperism in this country. It appears that in the Dundalk workhouse—in the town where we are now assembled—in the last 10 years the inmates have fallen from 1264 to 263. From 107 able-bodied males they have decreased to 31. The commissioners for inquiring into the condition of the poorer classes in Ireland, in the final report made in the year 1836, estimated the number of persons out of work and in distress during 30 weeks of the year, or upwards of half the year, as 585,000, and the persons depending on them to 1,800,000, or nearly one-third of the whole population. There are now in all the workhouses in Ireland only 37,000 inmates, with only 14,000 persons receiving out-door relief. Mendicancy is nearly completely extinct and wages are very nearly doubled. Now, the last element to which I will refer in this rapid contrast is crime. I do not seek, gentlemen, to deny that our ears are sometimes startled, and our minds shocked, by the occurrence of some fearful agrarian outrage, deepening occasionally into the darkest shade of guilt; but looking at the general amount of crime, and embracing in our view the country at large, the change is as remarkable of late years as it is a blessed one. In this county of Louth the criminal calendar this year has been, I believe, marvellously light. The system of reporting outrages by the constabulary is singularly full and complete, and it is a point in which we are far a-head here of anything of the kind in England. Now, take the period of the last 10 years. The outrages reported in Ireland in the year 1848 were 14,000; in 1858 they had sunk 3492. Those of an agrarian nature in 1848 were 795; in 1858, no more than 225. Now, taking all these various items that enter so largely into the condition of the country as a whole, surely we must feel that it presents a picture which may still to some extent be of a chequered character, and upon parts of which the shadows of scattered clouds may still be resting, but still in all its broader spaces it is bright with all the hues of hope, and has the sunlight of heaven to gild it and to gladden. I feel that this is not the time or place to pause upon such matters as these remarkable demonstrations which have of late excited much attention, and much anxiety, and much, I would fain believe, of hope in the northern districts of this island. This I am sure of, that the old anniversaries of the present month have passed off with less of mutual provocation and bitterness—with more of Christian calmness and consideration—than ever had been the case before. And if I may have appeared to some to have been too minute in thus summing up the

signs and omens of the present and future good before a company who are mainly brought together to promote the pursuits of agriculture, and to pay attention to what may at first sight seem only the national wealth and progress of the country, yet I do feel that this great pursuit of the science of agriculture acts with rapid and immediate contact upon all the fibres of Ireland's happiness and Ireland's glory; and that I have been addressing those who, besides the stake and interest which they feel, which they possess, in her green soil, are further keenly alive to all the yet even higher impulses which add to her just renown, and advance her in the scale of nations.

## Home Correspondence.

*Lucifer Matches.*—In corroboration of your remarks respecting the dangerous misuse of lucifer matches might be mentioned a trial at Winchester, not long since—A. B. against the South-Western Railway Co., for setting fire to certain farm properties, the real plaintiffs being one of the insurance offices. The cost of this trial was considered by the judge to be about 1000*l.*—a verdict was not given. Some short time after the clearest evidence, to the satisfaction, I believe, of all parties, was obtained showing that the fire had arisen from some children playing with lucifer matches. Allow me to ask through your Journal whether the increased charge for fire insurance on farm stock arises from these matches? In the war, when all expenses were considered at the highest, the insurance on farm stock I think was 1*s.* 6*d.* per 100*l.* paid to the office, and 1*s.* 6*d.* per 100*l.* paid as duty to Government, total 3*s.* per 100*l.* Now the duty is off the charge is raised from 1*s.* 6*d.* to 5*s.* per 100*l.*, just 33.3 per cent. more paid to the insurance offices than used to be. Or is a portion of this marked increase in the charge (which denotes the increase in the chances of fire) to be attributed only to the lucifer match, the other portion to be accounted for by the modern and dangerous custom of collecting the whole of the year's produce of the farm at the homestead, putting the ricks, &c., so close that if a fire occurs it becomes all but impossible to save any portion of the stock? Would it not be to the benefit of a fire insurance office to charge less premium and insist on some specific distance being maintained between each rick when built? It would appear to me that such a suggestion made through any fire insurance office would meet with immediate attention on the part of the insurer, and be consonant with the best interests of the public. *Correspondent.*

*Fecundity of Grain.*—The fecundity of grain, whether Wheat, Barley, or Oats, when Nature's laws during its growth are strictly observed and left uninterrupted appears to be beyond belief for want of experimental knowledge; and not unfrequently are *faithful descriptions of specimen roots grown and produced from single grains 100 to 1000 and 1000 fold,* (whilst average productions are not 20 where planted in clusters, and which is the general rule) pronounced as downright falsehoods, absurdities, and impossibilities, though ocular demonstration and statistical calculations and statements bear witness to the truth of it. Such specimens, say they, are not produced from single grains but from two, three, or more planted close together, and by a scheme of the cultivator ingeniously contrived to entwine the roots and shoots, so as to appear only the production of one grain. Sceptics however may rest assured that such palming upon the public mind is not the case, and is foreign to our wishes; moreover it cannot possibly be so, inasmuch as the laws of Nature defy it, and we challenge anybody to gain as much produce from two or any number more grains planted close together, as we ourselves or they themselves can grow from one planted singly. Our own frequent experience and (to remove arrogance) common sense will convince any one that neither two nor 20 grains planted in one small hole, will yield so much as one planted by itself, no more than as many Apple trees, Turnips, Mangel Wurzels, Potatoes, or anything else will produce as much measure or weight as if they had been planted separately—with this proviso however, that due time and space be allowed and allotted for each plant to perform its natural capabilities. August and September is the time directed by Nature for planting Wheat, when it will shed or sow itself, nicely separating and distributing it when wafted by the winds, each grain in an isolated manner, as if all-wise Providence had intended it for the imitation of man. Accordingly this is the time we have adopted for sowing Wheat, and October the best season for sowing Barley and Oats in order to produce extraordinary results. Hence the idea and utility of sowing grain singly, uniformly, and early, whatever quantity we or any other people may think proper to plant on any given space of land. Incredulous interested persons will do well to experience for themselves (for we do not desire to be arrogant in the matter) the truth of all such statements bearing on this point, by planting single grains, strictly adhering to proper time and space as here directed, in order to obtain satisfactory results, not placing dependence so much on ground highly manured for the purpose, (this may prove fallacious), as land thoroughly cultivated in the true sense of the word, and kept free from weeds. Surface solidity also after such thorough deep stirring of the soil will prove of more avail than continual loosening it around the plants during their summer's growth, which causes them to tiller unseasonably. Our own specimens for competition in 1860 are already planted and germinated, and to give fair play to nature, we have chosen some of our poorest land, which has not been stirred for a twelvemonth and has not had a particle of manure for four years since we have had it, nor we know not how long before. It is an old saying and a true one, "Solid ground for Wheat"—true, but it should be explained *surface* solidity, after perfect cultivation of the soil below; and not a rocklike under pan, trodden by horses for ages past, which prevent an essential point, the absorption and percolation or filtration of the rains, and which causes so much fuss about draining now-a-days. But the Steam Plough will no doubt eventually and we hope speedily set this argument at rest, and effect wonders in agricultural science never before achieved. Since our friend Bentall's Broad Share has been brought into general use, great wonders have already been performed by it in extricating weeds or Vetches in summer, preparatory for deep ploughing in autumn, in such a complete style as ordinary implements and manual labour could never have accomplished; but with all due difference to our neighbour Bentall's Broad Share, which may be faithfully declared an invention *pro bono publico*, Mr. Fowler's Steam Machine being on the advance may reasonably be expected ere long to supersede it, and every art and contrivance which human thought and ingenuity ever suggested to effect the perfect cultivation of the soil, and will no doubt ultimately annihilate all land cultivation by the present plans. All hail then to the all-powerful steam engine!—the masterpiece of human skill!—the most valuable present that philosophy has yet given to the arts of man!—approaching to the nature of an animal of leviathan power, incapable of pain or lassitude, yet can be put into the most rapid motion, even by the delicate finger of a child!—the noblest and most obedient and willing drudge that ever was employed for the benefit of man! ***Hardy and Sons, Seedgrowers, Maldon, Essex.***

*Smoking.*—I was gratified by your observations on lucifer matches, and you have perhaps seen in the *Times* of this morning accounts of two sad fires originating in the thoughtless pastime of children. I wish you would have an article on the detestable and dangerous habit of smoking, which every farmer should strictly forbid. *Surriensis.* ["Surely smoke becomes a kitchen farre better than a dining chamber; and yet it makes a kitchen oftentimes in the inward parts of men, soyling and infecting with an unctuous and oyly kind of soote, as hath been found in some great tobacco takers that after death were opened. A custom loathsome to the eye, harmfull to the braine, dangerous to the lungs, and in the black stinking fume thereof nearest resembling the horrible Stygian smoke of the pit that is bottomless." *Counterblaste by King James I.*]

*The Meetings of the Highland and the Yorkshire Agricultural Societies.*—I have just read your observations in reference to the concurrence of our Show with that of the Yorkshire Society. The interference of the one meeting with the other is undoubted, and has, I understand, led to repeated correspondence between the Societies, as yet without success. I think however that it is easy to show that the object in view is to be attained not by the postponement of the Highland Society's meeting, but by antedating the other by 10 days. 1st. The narrowest view of the matter is precedency. There are three national societies, and it is not too much to expect that, when arrangements clash, other associations should yield to them. 2d. A far more important one is the interests of the public. Your proposal would force an exhibitor to show at the Royal English, jump down to Scotland, and return to York. Ours would enable him to work northwards, taking York between the English and the Scotch, and in the end going over to Ireland. You will observe that there is time enough for the York to meet between the English and the Scotch. 3d. A week earlier could do York no harm, while a week or a month later ruins us. A week would throw us into the grouse. The *Times* lately quoted the 12th of August as an unconquerable difficulty in the way of protracting the sitting of Parliament. With us it is insuperable. A month would land us in the harvest. Of this the evil was demonstrated last year at Aberdeen. A longer period of postponement—say till October—involves short days and the greater risks of bad weather for work which commences at 4.30 A.M., and depends materially for its success on the state of the weather. 4th. You are wrong in supposing that the period of the Highland Society's meeting has "on many past occasions and for various reasons been shifted to and fro." There has, on the contrary, been but one such shift for many years, namely, that of last year at Aberdeen, when the Prince Consort was expected, and the results of that postponement were inconvenient and most unsatisfactory. 5th. It is no reason for the Highland Society's yielding that they have many objects besides a show. That only proves them to be the more important and greater body, and, after all, the show you would postpone is in reference to premiums and exhibitions on a much greater scale than that in whose favour you say it should succumb. 6th. The last inducement you offer, that of being able to try reapers, is conclusive against your conclusions. Ability to do so infers the prevalence of harvest, and last year's proceedings proved that harvest is inconsistent with success. It is reported that the Royal English talk of meeting a week earlier. If so, this makes the arrangement proposed all the easier for York. Something should certainly be done, and the three bodies ought mutually to accommodate each other and the public. *A Member of the Highland Society.*

*Berkshire Crops.*—The Wheat presented promise of a great crop, but the succession of storms sadly beat it down, and seriously injured the value of it. On the light lands a good average is obtained, but on the Wheat-growing lands a great bulk of straw, attended with heavy cost in harvesting, has seriously affected its value, and I fear it will prove much less than an average in quantity, with poor quality, on such soils. The Barley also is much injured in its quality by the rain blacking the ends, and some of it is very thin, having been housed up prematurely. The quantity will exceed that of last year. The Beans and Peas are above an average. Green crops are looking well. Great progress has been made in the harvest, having had much fine weather. Burgess & Key's reaper has helped to meet the scarcity of labour where it was used; I have found it a most valuable implement the two past harvests, cutting Wheat, Barley, Oats, and Beans with it to great advantage, even that which was much laid. To withdrawing the Berkshire militia just the three busiest weeks of harvest seems a most unaccountable error in the officials, to the country at large, the farmer and the worker. Surely this demands explanation. *James Williams, Northcourt, Abingdon.*

*Crops in Cheshire.*—As respects the harvest, cutting of Oats commenced in Speke on the 22d July. Saw Oats cut near Lymm, Warburton, Dunham, Altrincham, and Bowdon on the 26th, and saw many fields of Wheat ready for cutting in both Lancashire and Cheshire in the latter end of the week. Two fields near Tarporley were in reaping on the 22d. Mr. W. Longton, Rainhill, commenced cutting Oats to-day (August 1st). Several farmers about Newton, Kenyon, and Croft have commenced; in short, the harvest will be general this week, except the farmers neglect their business, which is sometimes the case from a wrong notion of what is maturity in their crops. Wheat, on the aggregate, will be above an average crop, and there is a full average breadth. Many fields are not so thick a crop as last year, but then there is very little lodged this year. All, or nearly all the crops are well fed, and will be a prime sample if well harvested. In the hilly districts this crop is well fed, although in many cases thin on the ground. Barley, on proper Barley soils, and where early sown, will be above an average, but where late sown, or not suitable soils, will be under an average. Perhaps an average in the aggregate. Oats will be below an average in Lancashire, but in Cheshire they are a full crop. They are far more extensively grown than Barley, or even Wheat, taking the whole of both counties. On light soils, sown early, this crop is a good one, but in nearly all other cases it is thin and unkindly, and will no doubt meal very badly. On account of the wet spring many fields were not sown before May. The hot weather will have injured these crops in their yield of well-fed corn. In the higher districts and on poor stiff clays the Oats are miserably poor and thin. Beans will be a little below an average crop. There are a few good crops, and but a few. The hot weather in the blooming season caused the bloom to fall off too soon, and the best part of the stalk is deficient in pods. The drilled crops at 27 inches are the best crops. Straw of all the corn crops is much shorter than last year, but it will be excellent in quality. Oat straw will be far better fodder. Clover of the first year and first cuttings have been generally light, but the hay excellent in quality. The second cuttings will be light in all cases where left to be cut, but many fields are pastured as not worth cutting. Upon very well cultivated farms the first cuttings were heavy. Old meadows have been light, but the hay good. I scarcely ever saw the hay crop generally good throughout both counties. Very little spoiled in the making or in the stack. In some parts of Cheshire the farmers were engaged in hay-making last week on the old meadows. In one or two cases I saw it spoiled or spoiling in the making. Potatoes at the beginning of July, in very many cases, looked very bad, but they have wonderfully improved in appearance. At least the winter varieties. There is every prospect at present of a good crop in these. Swedes generally an irregular crop. They may yet do well. Many will be a full crop where there are plenty of plants, but they are not so deficient in this respect as the Swede. Mangel likes hot weather. Its growth appears to be the increase. I have seen some very fine crops of this valuable root this season. Pastures are exceedingly bare everywhere, and in many cases the cattle have a great difficulty in getting water. *W. Rollinson, Rainhill.*

## Societies.

### HIGHLAND AND AGRICULTURAL

(*Concluded from p. 661.*)

Edinburgh: *Thursday, August 4th.*—This, the third day, attracted an immense number of visitors; some 28,000 to 30,000 having, we believe, been admitted. The proceeds of the two days (Wednesday 2[illegible] 7000) amounting to somewhere about 2000*l.* The Prince of Wales again visited the show-yard and remained a considerable time. The weather during the early part of the day was good, but towards the closing hour heavy showers fell, which not a little added to the discomfort of the visitors, and to the inconvenience of exhibitors who had highly finished machines on the ground; the absence of all "shedding

in the implement department being a marked and by no means a very business-like or creditable feature at the Highland Society's show.

*Friday: August 5th.*—The trial of the reaping machines took place this day at a field near Liberton. The state of the crops—unripe, thin, and badly laid, and twisted—was admirably adapted to show what the machines could *not* do as well as what they could—a very important point, be it noted. For adverse circumstances, which in this climate are as commonly met with as favourable, in the working of a machine bring out the deficiencies and show the necessity of obviating them. A crop which is all favourable to the working of a machine we do not look upon as the best for testing its capabilities; that machine is best which is calculated to work in unfavourable as well as favourable circumstances. A perfect reaping machine, or to use the American term which best conveys the notion of what is desiderated, a "harvesting machine," capable of doing its work in all the states in which crops are generally found in this country, is yet to be invented. Our farmers want machines which can meet all circumstances, and not only one, and that the most favourable to their mode of working which can be met with in practice.

Of the 11 machines entered for competition, Burgess & Key's took the first prize of 10*l.* for two-horse reapers; Bell (Inchmichael, Gowrie), the Bronze Medal. Of one-horse reaping machines, Gardner & Lindsay, Stirling, took the first prize of 10*l.* The difference of working when cutting the grain the reverse way was very observable; thus, while some cut well while going against the grain, that is, in the direction in which it was inclined, they cut very indifferently when going the opposite way.

The Horse Rakes were tried in the same field. Kirkwood, of Tranent, obtained the first prize of 2*l.*; Page, of Bedford, the Bronze Medal.

A trial of the Potato-raising machines was also entered upon. Much diversity of opinion exists amongst practical men as to their real utility and economy of working. Their high price will always act prejudicially and oppose their very wide introduction into practice. More can be said, we think, in favour of the mode of raising Potatoes by means of the double mould-board ploughs with graip or apparatus attached behind, many examples of which were exhibited in the show-yard. This apparatus is very simple in character, and consists of bars which are attached to the hinder part of the sole and are inclined upwards. The bars are generally three in number, of which the central one is straight or in a direction with the line of draught, the outer ones branching out at determinate angles. The central bar is usually round, the outer ones being flat with sharpened edges. The share of the mould-board passes under the drills, and splitting them the earth and Potatoes pass up the inclined bars; the former falling through leaves the Potatoes on the surface. The action of this implement is much more gentle and resembles more closely the processes of hand labour than the violent digging up and energetic throwing aside of the Potato-digging machines *à la* Hanson.

In concluding our notice of the "trials," we would draw attention to the necessity which exists for a modification of the classification now adopted by the Society so far as the "ploughs" and "reaping machines" are concerned. The trials would be much facilitated and the decision of the judges less perturbated by conflicting circumstances were the ploughs divided into two classes, "wheel" and "swing," and the reaping machines into "self-acting delivering" and "hand delivering." These two classes of implements and machines are sufficiently diverse in operation to justify this division of classification; and the want of it was sufficiently obvious during the trials at the Society's show this year.

The following are the awards of the judges:—

CLASS I.—CATTLE.

*Short-horns.*—Section 1. Old Bulls, 1st, George Shepherd, Tarnes, 20*l.*; 2d, James Gulland, Newton of Wemyss, Kirkcaldy; 3d, William Tod, Elphinstone Tower, Tranent. 2. Young Bulls, 1st, John Hunter, Fochabers; 2d, Thomas Rome, Annan; 3d, Alexander Bethune of Blebo. 3. Yearling Bulls, Lord Kinnaird; 2d, C. Smith & Co., Ardersier; 3d, G. H. Binning Home of Argaty, Doune. 4. Old Cows, James Douglas, Athelstaneford; 2d, William Tod, Elphinstone Tower; 3d, James Douglas. 5. Yearling Heifers, James Douglas; 2d, ditto; 3d, the Duke of Montrose. 6. Heifer Calves, Messrs. Turnbull, Dumbarton; 2d, the Duke of Montrose; 3d, Archibald C. Brodie, Haddington.

*Polled (Angus or Aberdeen).*—7. Old Bulls, the Earl of Southesk; 2d, Trustees of the late Robert Scott, Balwylo, Brechin; 3d, Lord Talbot of Malahide, 8. Young Bulls, Robert Walker, Mountblairton, Banff; 2d, Alexander Bowie, Mains of Kelly, Arbroath; 3d, James Leslie, Thorn, Blairgowrie. 9. Bull Calves, Trustees of the late R. Scott; 2d, George Brown, Westertown, Fochabers; 3d, Sir James Graham, Bart. 10. Old Cows, John Collie, Ardgay, Forres; 2d, do.; 3d, Wm. M'Combie, Tillyfour. 11. Yearling Heifers, Wm. M'Combie; 2d, George Brown, Westertown; 3d, Trustees of the late R. Scott. 12. Heifer Calves, Trustees of the late William M'Combie; 3d, John Collie.

*Polled (Galloway).*—13. Old Bulls, W. & J. Shennan, Balig, Kirkcudbright; 2d, Sir James Graham; 3d, George Riddick, Greenhillhead, Lochmaben. 14. Young Bulls, Samuel Thomson Blaiket, Dumfries; 2d, Alexander Jardine, Lockerby. 15. Bull Calves, John Cunningham, Kirkpatrick, Durham; 2d, do; 3d, James Graham, Dalbeattie. 16. Old Cows, John Cruickshank, Cloves, Forres; 2d, John Cunningham, Whitecairn; 3d, do. 17. Yearling Heifers, W. & J. Shennan, Balig; 2d, do. 18. Heifer Calves, Samuel Cunningham, Kirkcudbright; 2d, W & J Shennan, Balig; 3d, do.

*Ayrshire.*—19. Old Bulls, Sir James Colquhoun, of Luss; 2d, John Parker, Irvine; 3d, George Paton, Partick. 20. Young Bulls, John Parker; 2d, George Paton; 3d, Alex. Crighton, Dreghorn. 21. Old Cows in Milk, Lawrence Drew, Hamilton; 2d, John Marshall, Dalziel; 3d, George Pender, Kylayth. 22. Old Cows in Calf, Lawrence Drew; 2d, Robert Kirkwood, Kilmaurs; 3d, Alexander Murdoch, Cambuslang. 23. Yearling Heifers, George Pender; 2d, do.; 3d, H. D. B. Hyslop, Kirkconnel. 24. Heifer Calves, John Parker; 2d, George Pender; 3d, James Robertson, Beith.

*Highland.*—25. Old Bulls, Allan Pollock of Broom, Mearns; 2d the Marquis of Breadalbane; 3d, G. and J. G. Smith, Glenlivet. 26. Young Bulls, R. D. Campbell, of Jura; 2d, Allan Pollock; 3d, R. D. Campbell. 27. Old Cows, Allan Pollock; 2d, M'Laren, Kirriemuir; 3d, the Marquis of Breadalbane. 28. Heifers, R. D. Campbell; 2d, the Marquis of Breadalbane; 3d, Allan Pollock. 29. Yearling Heifers, the Marquis of Breadalbane; 2d, do.; 3d, do.

*Medals for Extra Stock.*—30. Cross-bred Cows, Almlie, Blackshiels, the Medium Gold Medal; 2d, Robert Hunter, Lasswade, the Silver Medal; 3d, do. 31. Cross-bred Heifers, John Hunter, Fochabers, the Medium Gold Medal; 2d, James Stewart, Aberdeen, the Silver Medal; 3d, do., the Bronze Medal. 32. 3-year-old Cross bred Ox, J. & W. Martin, Aberdeen, the Medium Gold Medal; 2d, John Balfour of Balbirnie, the Silver Medal; 3d, James Stewart, Aberdeen, the Bronze Medal. 33. 2-year-old Cross-bred Ox, calved after 1st January, 1857, James Stewart, Aberdeen, the Medium Gold Medal; 2d, George Brown, Cupar Fife, the Silver Medal; 3d, Robert Husband, Dunfermline, the Bronze Medal. 34. 3-year-old Polled Ox, William M'Combie, Medium Gold Medal; 2d, do., the Silver Medal. 35. 2-year-old Polled Ox, William M'Combie, the Medium Gold Medal; 2d, do., the Silver Medal. 36. Highland Ox, James Stewart, Aberdeen, the Medium Gold Medal; 2d, J. & W. Martin, the Silver Medal; 3d, Allan Pollock, the Bronze Medal. 37. 3-year-old Highland Ox, John Armstrong, Dumfries, the Medium Gold Medal; 2d, James Stewart, the Silver Medal; 3d, Allan Pollock, the Bronze Medal.

CLASS II.—HORSES.

*For Agricultural Purposes.*—1. Stallions, C. Graham, Inch Farm, Longtown; 2d, Alex. Sim, Keithhall; 3d, James Lawrie, Slateford, the Bronze Medal. 2. 3-year old Entire Colts, P. Crawford, Strathblane; 2d, D. Riddell, Duntocher; 3d, P. Wilson, Lesmahagow. 3. 2-year old Entire Colts, A. Logan, Kilbarchan; 2d, S. Clark, Kilbarchan; 3d, Colonel Ferguson, of Raith. 4. Yearling Entire Colts, J. Brown, Biggar; 2d, P. Crawford; 3d, John W. J. Paterson, Langholm. 5. Best Mare (with Foal at foot), J. Coubrough, Campsie; 2d, R. Morton, West Kilpatrick; 3d, T. Smith, jun., Dumfries. 6. Best Mare (in Foal), W. Jamieson, Liberton; 2d, W. Stirling of Keir, M.P.; 3d, R. Walker, Aberdeen. 7. 3-year-old Filly, J Adam, Stirling; 2d, James Salmon, Johnstone; 3d, J. Kerr, Midcalder. 8. 2-year old Filly, M. Gilmour, Paisley; 2d, W. Muir, Biggar; 3d, W. Stirling of Keir. 9. Yearling Filly, W. Aitkenhead, Pollockshaws; 2d, W. Park, Dumbarton; 3d, J. Kerr.

CLASS III.—SHEEP.

*Leicester.*—Section 1. Tups, T. Cockburn, Dunse; 2d, do; 3d, S. Wyley, Brandsby, York. 2. Shearling Tups, T. Cockburn; 2d, do.; 3d, S. Wyley. 3. Five Ewes, J. Collie, Ardgay, Forres; 2d, Thomas Watson, Gorebridge; 3d, D. Wallace, Leven. 4. Five Shearling Ewes, S. Wyley; 2d, T. Cockburn; 3d, the Duke of Richmond.

*Cheviot.*—5. Tups, T. Elliot, Jedburgh; 2d, C. Borthwick, Langholm; 3d, do. 6. Shearling Tups, J. Johnstone, Moffat; 2d, R. Turnbull, Hawick; 3d, J. Johnston. 7. Five Ewes, J. Brydon, Langholm; 2d, T. Elliot; 3d, S. Swan, Jedburgh. 8. Five Shearling Ewes, T. Elliot; 2d, T. C. Borthwick; 2d, J. Brydon.

*Blackfaced.*—9. Tups, J. Watson, Biggar; 2d, T. Murray, Eastside; 3d, W. Murray, Penicuik. 10. Shearling Tups, White, Biggar; 2d, T. Murray; 3d, J. Watson. 11. Five Ewes, J. Drife, Sanquhar; 2d, Allan Pollock; 3d, J. Maclaren, Blair-Athole. 12. Five Shearling Ewes, Allan Pollock; 2d, T. Murray; 3d, John Wilson, Roslin.

*Southdown.*—13. Tups, the Duke of Richmond; 2d, do.; 3d, J. Aitchison, Haddington. 14. Shearling Tups, the Duke of Richmond; 2d, J. Aitchison; 3d, the Duke of Richmond. 15. Five Ewes, John Hutchison, Peterhead; 2d, do.; 3d, R Scot Skirving. 16. Five Shearling Ewes, the Duke of Richmond; 2d, J. Hutchison; 3d, the Duke of Richmond.

*Long-woolled Sheep other than Leicester.*—17. Tups, Lord Kinnaird; 2d, E. Handy, Sierford, Cheltenham; 3d, E. Handy. 18. Shearling Tups, E. Handy; 2d, Lord Kinnaird; 3d, E. Handy. 19. Five Ewes, the Duchess of Gordon; 2d, Lord Kinnaird; 3d, R. Scot Skirving. 20. Five Shearling Ewes, the Duchess of Gordon; 2d, Lord Kinnaird; 3d, R. Scot Skirving.

CLASS IV.—SWINE.

Section 1. Boars of large breed, J. Harrison, jun., Stockport; 2d, W. Jamieson, Straiton; 3d, J. Gordon, Cathcart. 2. Boars of small breed, J. Dickson, Saughton Mains; 2d, G. Mangles, Ripon; 3d, J. Harrison, jun. 3. Sows of large breed, G. Robinson, Alnwick; 2d J. Harrison, jun.; 3d, John M'Kay, Barrhead. 4. Sows of small breed, G. Mangles; 2d, do.; 3d, John M'Kay. 5. Three Boar Pigs, G. Mangles; 2d, Miss Bell, Woodhouselees, Canonbie; 3d, J. Harrison, jun. 6 Three Sow Pigs, James Skinner, Aberdeen; 2d, J. Brown, Aspatria; 3d, Miss Bell.

CLASS VII.—IMPLEMENTS AND MACHINES.

Section 1. Two-horse Ploughs, J. & F. Howard; 2d, George Sellar & Son, Huntly. 2. Deep-furrow Plough, G. Sellar & Son; 2d, J. & F. Howard. 3. Subsoil Plough for Two Horses, J. Kirkwood, Tranent; 2d, G. Sellar & Son. 4. Subsoil Plough for Three or Four Horses, R. Law, Shettleston; 2d, J. Kirkwood. 5. Double Mould-board Plough, with attachment for lifting Potatoes, G. Ponton, Woolston, Linlithgow; 2d, J. Kirkwood. 6. Ribbing Plough, J. Kirkwood; 2d, Peter Macgregor & Sons, Keith. 7. Two-horse Grubber, Coleman & Sons, Chelmsford; 2d, J. Kirkwood. 8. Norwegian Harrow or other Pulverising Land roller, D Young, Kelso; 2d, Alex. Jack & Son, Maybole. 9. Consolidating Land-roller, R. Wright, Prestonpans; 2d, the Trustees of Wm. Crosskill. 10. Land presser for preparing Seed-bed, Smith, Brothers, & Co., Kinning Street, Glasgow; 2d, Young, Peddie, & Co., Edinburgh. 11. Ribbing-machine, Mrs. Thomas Sherriff, Westbarns, Dunbar; 2d, J. Kirkwood. 12. Harrows for Heavy Land, J. & F. Howard; 2d, J. Kirkwood. 13 Harrows for Light Land, E Page & Co., Bedford; 2d, J. & F. Howard. 14. Harrows for covering Grass Seeds, J. & F. Howard; 2d, E. Page & Co. 15. Draught bars for Two Horses, W Grey, Wishaw; 2d, G. Ponton, Linlithgow. 16. Equalising Draught-bars for more than Two Horses, W. Grey, Cambusnethan; 2d G. Ponton. 17 Broadcast Sowing Machine, G. Finlayson, Arbroath; 2d, A. Dick, Liberton. 18. Drill Sowing Machine for Grain, W. & J Hunter, Haddington; 2d, Mrs. Sheriff, Dunbar. 19. Sowing Machine for Grass Seeds, G. Finlayson; 2d, A. Tyrie, Errol. 20. Sowing Machine for Turnips, G. Finlayson; 2d, A. Jack & Son. 21. Sowing Machine for Turnips with Manure, R. & J. Reeves, Bratton Iron Works, Westbury; 2d, N. Smith, Thrapston. 23. Sowing Machines for Mangel, J. & T. Young, Newton Green, Ayr; 2d, Charles Hay, Ratho. 24 Sowing Machine for Carrots, Mrs. Sheriff, Westbarns. 25. Three-row Sowing Machine for Beans, Mrs. Sheriff; 2d, G. Hunter, Kippielaw-Dalkeith. 26. One-row Sowing Machine for Beans, Jack & Son; 2d, A. Tyrie. 27. Machine for Pulverising Guano, &c., J. Thomson, Stow; 2d, J. Mitchell, Fisher's Tryst. 28 Machine for Distributing Guano in drill or broadcast, R & J. Reeves, Westbury; 2d, Mrs. Sheriff. 29. Liquid Manure Distributing Machine, W. Crosskill; 2d, I. James, Cheltenham. 30. Liquid Manure Pump, W. Crosskill; 2d, Smith & Co., Glasgow. 31. Horse-hoe for Drilled Grain Crops, W. & J. Hunter, Haddington; 2d, Trustees of W. Crosskill. 32. Horse-hoe for Green Crops, W. Gray, Cambusnethan; 2d, J. Kirkwood. 33. Machine for Singling Turnips, P. M'Gregor & Sons, Keith; 2d, J. Eaton, Kettering. 34. Machine for Raising Potatoes, Smith & Co., Glasgow; 2d, R. Law, Shettleston. 35. Scythe, J. Smith, Lawhill, Auchterarder; 2d, J. Payne, Kirkcudbright. 39. Hand-stubble or Hay Rake, W. Kirkwood, Portobello; ... Young, Peddie, & Co. 40. Threshing Machine for Two or more Horses, William Brothers, Kendal. 41. Threshing Machine, with Steam power, W Foster, Lincoln; 2d, R. Robey & Co., Lincoln. 42. Machine for Winnowing Grain, J. Richardson, Carlisle. 43. Machine for Cleaning Grass Seeds, J. Richardson, Carlisle; 2d, R. Read, Arbroath. 44. Weighing Machine for Grain, Herriot & Co., Græme Street, Glasgow; 2d, D. & J. Thomson, Edinburgh. 45. Weighing Machine from 1 lb. to 2 tons, A. & W. Smith & Co., Glasgow; 2d, R. Forshaw & Co., Liverpool. 46. Straw Cutter for Hand Labour, Richmond & Chandler, Manchester and Liverpool; 2d, Picksley, Sims, & Co. 47. Straw Cutter for Power, Richmond & Chandler; 2d, Picksley, Sims, & Co. 48 Turnip Cutter for Cattle, Picksley, Sims, & Co.; 2d, J. Wingate, Alloa. 49. Turnip Cutter for Sheep, Picksley, Sims, & Co. 50. Turnip Cutter for Sheep, attachable to a cart, Mrs. Sheriff, Westbarns; 2d, J. Kirkwood, Tranent. 52. Root Washer, Trustees of W. Crosskill; 2d, G. Porteous, Haddington. 53. Linseed Bruiser for Hand Labour, Richmond & Chandler. 54 Oil-cake Bruiser, for Hand Labour, Richmond & Chandler; 2d, Smith & Ashby, Stamford. 55. Grain Grinder, or Bruiser for Power, Richmond & Chandler, Manchester; 2d, Smith Brothers & Co., Glasgow. 56 Steaming Apparatus for Food, Smith Brothers & Co., Glasgow; 2d, Richmond & Chandler. 57. Feeding Troughs for Byres, P. B. Muir Macredie, of Percetown; 2d, J Robson, Glasgow. 58 Feeding Troughs for Sheep, W Kirkwood, Duddingston; 2d, J. Robson. 59. Sheep Fodder Rack, James Kirkwood; 2d, Young, Peddie, & Co. 60. Churn worked by Hand, R. Tinkler, Penrith; 2d, P Hunter, Edinburgh. 61. Churn worked by Power, W. Lindsay, Edinburgh. 62. Cheese Press, J. & T. Young, Ayr; 2d Smith Brothers & Co., Glasgow. 63. Curd-cutter for Dairy Purposes, J. & T. Young. 64. General Set of Dairy Utensils, W. Lindsay, Edinburgh; 2d, P. Hunter, Edinburgh. 65. One-horse Cart, with Harvest Frame, R. Law, Shettleston; 2d, the Trustees of W. Crosskill, Beverley. 66. Harvest Cart, the Trustees of W. Crosskill; 2d, R. Law. 67. Light Spring Cart, the Trustees of W. Crosskill; 2d, do. 69. Divisions, Rack, and Manger, for Farm Stables, Adam Jack & Co.; 2d, Young, Peddie, & Co. 70. Farm Harness, H. Downie, Corstorphine; 2d, M. Berry, Leith. 71. Stone or Iron Stack Pillars, Young, Peddie, & Co.; 2d, J. Robson. 72. Field Gate, constructed entirely of Iron, J. M. Watson & Co., Edinburgh; 2d, do. 74. Dunghill Gate, to open at different elevations, James Denholm, Morningside, Edinburgh.

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ROYAL AGRICULTURAL IMPROVEMENT SOCIETY OF IRELAND, Meeting at Dundalk (see p. 644).

We proceed to take a cursory review of the principal classes of live stock exhibited, beginning with Short-horns. In section I., Bulls calved from January 1, 1854, to January 1, 1857, "Young Heir-at-law," a very handsome animal, obtained 1st prize. He was commended at Warwick, and stood first in his class at the Derry show last year. "Priam," a large bull calved June 30, 1855, got 2d prize. He is not thick enough behind the shoulders for an animal of such size, nor is he very handsome looking, but he makes up for these and some other deficiencies in the quality of his flesh. There are several animals in this section whose career has been so far marked by strange vicissitudes of fortune. Thus we have "Orpheus," which gained 2d prize at Derry in 1858, where he beat "Priam," which was not even commended; the "Beau of Kilbogget," which gained 2d prize in his class at the last spring meeting of the Royal Dublin Society, and has been only commended at Dundalk; and "Comet," a very handsome white bull bred by Viscount Monck, which got 1st prize at the spring show just named.

Section II., best Short-horn Bull calved in 1857.—1st, Mr. Barcroft, with "Sir Colin," a rich roan which obtained first prize at Derry in the yearling bull class. He continues to handle well, but the defect of his fore-legs which we pointed out last year continues. "Sir Colin" was bred by Mr. Tynte, of the County Wicklow. Mr. Barnes gained 2d prize with "Dr. M'Hale," a very handsome white animal got by Monk (11824), dam by Hopewell (10332). In this section we find "Bridegroom," which got 2d prize in his class at Derry, and we could wish his finely developed breast and other commendable points had been better appreciated.

Section III., best Bull calved in 1858.—1st prize, Mr. Tynte, County Wicklow, for "Clydesdale," a yearling of enormous size, and very fine quality; has the same defect in the fore-legs as "Sir Colin." If "Clydesdale" fills up as we anticipate (and at present he is not in high condition) we augur for him a good career. Mr. Lyndsay, who we understand is a tenant farmer, got 2d prize in this class with "Mystery," which does great credit to his owner.

Section IV., best Short-horn Cow of any age in Calf or in Milk.—1st prize, Mr. Tod, East Lothian, with "Volga," which got 2d prize in her class at Warwick, where Mr. Eastwood's cow "Rosette" beat her. Mr. Douglas, of Athelstaneford, exhibited two remarkable and well-known cows in this section—"Ringlet" and the "Rose of Sharon." The latter won for Mr. Douglas 2d prize, and is like all his exhibited stock, possessed of great width and symmetry.

Section V., best Heifer in Calf or in Milk, calved in 1856.—1st, Mr. Richard Eastwood, of East Lothian, with "Rosette," calved June 26, 1856. "Rosette" also gets the Gold Medal and the Purcell Challenge Cup, value 50 sovereigns. She has lost little, if any, of that unnatural fat which disfigured her at Warwick. It does appear strange that Mr. Eastwood's two cows—"Volga" (which is 8 years old) and "Rosette" (which is 5 years old) should have been exhibited in the same class at Warwick, and in two different classes in the same month at Dundalk. We desire to see greater uniformity of action, if not greater unity of purpose amongst our national agricultural societies, and certainly pervading their official documents. 2d prize, Mr. Douglas, with "Venus de Medicis," which got 2d prize at Derry. "Venus" was bred by Mr. Booth, of Killerby; has a tapering muzzle, a small bony head, a loin unusually full, and a back well covered with elastic flesh, but is not quite perfect at the setting on of the tail.

Section VI., best Heifer in Milk or in Calf, calved in 1857.—1st prize, Mr. Thomas Ball, for "Peahen 8th,"

which has a long quarter, and uncommonly good hair and general quality; 2d prize, Mr. James Douglas, with the "Maid of Athelstane," an animal of rare substance, has a round carcase, and stands "square." Mr. Douglas was highly commended for the "Lady of Athelstane," which has a well arched rib and an extraordinary sirloin. At Derry "Peahen 8th" was not commended, the "Maid of Athelstane" was highly commended, and the "Lady of Athelstane" won 1st prize—another instance of the vicissitudes of Short-horn exhibitions.

Section VII., best Heifer calved in 1858.—1st prize, Mr. Eastwood, for "Souvenir," a pretty well formed animal, but not of first quality; 2d prize, Mr. Thomas Ball, with "Letitia," whose most commendable point is her well-formed neck and head. This heifer together with "Josephine," which was highly commended, and "Agatha," won for Mr. Ball the Waterford Challenge Cup, value 100*l*.

On the whole the show of Short-horns at Dundalk is creditable to the improved state of agriculture in Ireland. We question very much if the Irish breeders are not bringing out their stock in a style of symmetry equal, if not superior, to our English breeders.

The Hereford Class was not as prominently represented as we could desire, and this is the more to be regretted as there are many strong lands in Ireland well suited to this fine breed. We do not look upon the Hereford breed as even comparable with the Durham in aptitude to fatten at an early age, nevertheless they form an excellent race of stock. Mr. Hewer, of Vern House, near Hereford, exhibited "Van Tromp," a 4-year old bull, for which he got the prize. His "Nelly," a 2-year old heifer, and "Penelope," a year old, obtained the prizes in their respective sections. We must caution their owners from again exhibiting one or two Herefords shown at Dundalk, which are not fair specimens of the breed, and can command attention only from the owners of curiosity shops.

In Section Devon Bulls calved on and after 1st January, 1854, Mr. R. Q. Alexander won the prize with "Inkerman," an animal of greater substance than we are accustomed to see in Ireland.

Of Devon Heifers in Calf or Milk, on or since 1st January, 1856, the prize was given to Sir Alan Bellingham, for "Marchioness the Third," a fair Devon. Mr. Prentice's "Moss Rose" got the prize in the Devon yearling Heifer Class. The show of Devons was far in advance of the Herefords.

In Class Angus or Galloway Bulls, "Lucullus," calved January, 1856, and belonging to Lord Talbot de Malahide, got the prize. "Lucullus" is a noble animal and has already gained many prizes for his noble owner. In substance and quality he ranks next to the Short-horns. His lordship took two other prizes with the "Maid of Angus," a 5-year-old cow, and "Grace," a well-shaped heifer, calved February, 1858. Sir F. Heygate obtained the running prize offered for Polled Cattle with "Moorhen," a Galloway heifer calved in 1856. The show of Ayrshires ranked next to the Short-horns in number and merit.

In Section 1, best Ayrshire Cow of any age in Calf or in Milk, the prize was awarded to Mr. Chambre, of Flurrybridge, for "Mabdia," which is as thin in the fore part as an Ayrshire ought to be.

Lord Clermont got the prize in next section for a most beautiful heifer calved April, 1856. His lordship's yearling also gained the prize in her class.

In Section Devon Bulls calved on or after January 1, 1854, Mr. Henry Harrison got the prize for "Madman," calved June, 1857. "Madman" has a more even back than we usually meet with among Devons in Ireland.

The show of Kerries somewhat disappointed us. "Ned of the Hills," the prize Kerry bull, is a handsome creature, which has been noticed on former occasions. We had expected, however, to find more than four Kerry bulls entered in the one section devoted to them.

In Section best Kerry Cow of any age in Calf or in Milk, Sir Edward Macdonnell got 1st prize for "Mealy Mouth," a nice animal, calved in 1856.

In the next Section the prize was awarded to the Commissioners of National Education for the Kerry heifer, "Norah," bred at the Albert Model Farm, Glasnevin. "Norah" has a quarter of uncommon substance for an animal of the size.

HORSES.—Section I., best Stallion of any breed foaled from 1st January 1852 to 1st January, 1857.—1st prize and Medal, Messrs. Moon, of Raheny, County Dublin, for "Sir William Wallace," foaled in 1849; 2d prize, Mr. Mill, Donabate, County Dublin, for "Royal Charter," a nice animal, foaled May 1854. Both these animals are Clydesdale. "Sir William" got 1st prize at Derry, for his then owner, Lord Dufferin; is a thick animal, of no remarkable quality, and too fat for a useful size. On the whole the Section was commendable, and contained a couple of fine Suffolk horses—"Caledonia," a fine Clydesdale, belonging to Mr. Hatch, Ardee, has a noble crest; "The Czar," which belongs to Mr. Wellesley Prendergast, and which was bred by Mr. Crisp, has excellent action, and should have at all events been highly commended.

Section II., best Draught Mare in Foal, or with a Foal, or having reared a Foal in 1859.—1st prize, Sir F. Heygate, with a thickset short-legged mare, possessed of little action; 2d prize, Mr. Archdale, for "Jessie," whose prize-taking qualities we have not been able to discover. We should prefer Mr. Sherrard's handsome mare "Jessie," which has gained several prizes before now, and whose action is light and free. Section generally indifferent.

Section III., best Draught Filly foaled in 1856.—1st prize, Lord Clermont, for "Victoria," a strong well-built 3-year old.

Section IV., best Draught Filly foaled in 1857.—1st prize, Mr. Steele, Co. Derry, for "Jess," foaled May 1857, a stout well-formed filly, of free action. Lord Clermont was commended in this class for an animal which we would also say was indifferent.

For the best Weight-carrying Thorough-bred Stallion.—1st prize, Mr. Morrow, of Tashinny, for "Young Colwick," foaled in 1851. "Young Colwick" got the Gold Medal and the Croker Cup, value 50*l*. This animal has good action, a well-formed shoulder, but his quarter does not indicate any remarkable breeding. This section contained three good racers.

*Leicester Sheep.*—Section I., best Shearling Ram.—1st prize, Mr. Thunder, for a very fine animal, said to have been recently purchased of Mr. Sandy, for 90 guineas. To this ram was deservedly awarded the Gold Medal as the best of all the prize rams. The 2d prize was also carried off by Mr. Thunder, with another fine animal. We have once more to congratulate Mr. Thunder on the excellent flock which he has collected. This section was most creditably filled.

Section II., best Ram of any other age not exceeding 3 years.—1st prize, Mr. William Owen, of Blesinton, for an animal bred by Mr. Owen himself, with a full chest and a well-formed neck; 2d prize, Mr. Marris, of Lincolnshire, for a heavy two-shear Ram, somewhat wanting in that handsome appearance which an even contour gives. Mr. Owen was highly commended for another ram in this section; Mr. Garde was also deservedly commended.

Section III., best pen of five Shearling Ewes.—1st prize, Mr. Thomas Roberts, of the farm, near Strokestown, for a particularly nice lot, which must have a neck-and-neck competition with the second prize lot, which belong to Mr. Owen.

Section IV., best pen of five Ewes, not exceeding 5 years old, that have reared lambs up to June 1, 1859.—1st prize, Mr. Roberts, for a lot whose palmy days belong to the past. Mr. Marris gets 2d prize. Mr. Owen commended.

Section V., best pen of five Ewe Lambs.—1st prize, Mr. Leslie, M.P., for a pen of promising lambs.

The show of Leicesters was very fair. The rams particularly good, but the pens of five ewes and five lambs might have been better.

Of *Cotswolds* there were some splendid specimens; Mr. Thomas Beale Brown's best Shear Rams being beaten by those of Mr. Carroll, of Nenagh, County Tipperary, which we believe were purchased at Warwick. Mr. Beale Brown got 1st prize for a Three-shear Ram; a second prize in the same section having been awarded to Dr. Rorke, of Fermoy Mr. Brown got 1st and 2d prize for two excellent pens (of five each) of Shearling Ewes.

In the other Sections of Cotswolds there was no competition. We would suggest to Irish flock-masters the propriety of giving this valuable breed, which has a more robust constitution than the Leicesters, a fair trial on the fine pastures of the Emerald Isle.

Lord Clermont got 1st and 2d prizes for Cheviot Rams; and the Marquis of Conyngham obtained 1st and 2d prizes in the Section devoted to pens of five Shearling Cheviot Ewes; and his lordship was equally successful in the class devoted to pens of five Ewes not exceeding 5 years old.

Of Black-faced Sheep there was no great display. Of the six prizes awarded, Sir F. Heygate took two 1st and one 2d; and Lord Clermont got two 2d and one 1st.

The show of Down Sheep was very much superior; indeed, fully in keeping with the most successful department of the Show. Might we raise our voice against the absurdity of grouping into one section for competition Southdown and Shropshire sheep? If such a grouping be correct all our ideas of distinctions between classes are worth very little.

In Section I., Shearling Rams, Mr. C. W. Hamilton, of Ham Wood, Dunboyne, got 1st prize for a very fine Shropshire, which has a good head and spacious chest, and excellent quality. Mr. Skirving, of Drem, N.B., gets 2d prize for a prime Southdown.

In the next Section, Rams of any other age not exceeding five years, Mr. Skirving got 1st prize for a good Southdown; and Mr. Hamilton 2d prize for a very fine two-shear sheep.

Mr. Marris won the prize with his nice pen of five-shearling Southdown ewes; and Mr. Hamilton the prize in the next Section with an excellent pen of five Shropshires.

We now approach the *Swine*, which for many years past have mustered in great numbers at the Irish exhibitions. At Dundalk there was scarcely a pig which was not fit for exhibition, while the great majority of them were highly commendable.

We have frequently had occasion to remark upon the classification of swine adopted by the Irish societies, namely, white and black breeds—a classification which is much more intelligible than that adopted by the Royal Agricultural Society of England.

BLACK BREEDS.—Section I. Boars under 18 months old.—1st prize and the gold medal to Mr. Robert Glen, near Londonderry, for a handsome square Berkshire, "Young Balaclava," farrowed 24th November last. To Mr. Joyce, of Abbey Farm, Waterford, was awarded 2d prize for a promising young Boar 4 months old.

Section II. Boars from 18 to 36 months old (only three entries).—1st, Lord Clermont, with a well-shaped Berkshire which had previously got prizes; 2d, Mr. Glen, for another good Berkshire.

Section III. Breeding Sows under 18 months.—1st, Lord Clermont, for a handsome pig; 2d, Mr. Glen.

Section IV. Breeding Sows over 18 months old.—1st, Mr. Joyce; 2d, Major McClintock.

WHITE BREEDS.—Section V. Boars under 18 months old.—1st prize, Mr. Wilkinson, Roundhay, Leeds, with "Wonder," one of his remarkably well-formed animals; 2d, Lord Clermont, for a Cumberland whole; tail is not nicely set on, but is otherwise excellent.

Section VI. Boars from 18 to 36 months old.—1st prize and medal awarded to Mr. Wilkinson for "Cato;" 2d, Mr. Wellesley Prendergast, for "Prince Ernest," Cumberland, pigged August, 1857; drops a little at the tail, but is of immense size for his age.

Section VII. Breeding Sow under 18 months old.—Mr. Prentice, for a Cumberland, bred by Mr. Allen Pollok; Lord Clermont got second place in this Section with a Yorkshire. Mr. Wilkinson exhibited one of the small breed in this Section, to whom life must be a burthen; her eyes are completely encased in wrinkles of fat.

Section VIII. Breeding Sows over 18 months old.—1st prize, Mr. Prentice, for a very fine 2-year old Cumberland; 2d prize, Mr. Russell Patteson, of Dundalk, for a fine 3-year old Yorkshire.

Of Poultry there was a small collection at Dundalk; and we regret to say that the collection of Farm and Dairy produce was still more limited.

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## YORKSHIRE AGRICULTURAL.

HULL. *Aug.* 5.—The following particulars of the Prize List are added to our last week's report:—

### CATTLE OF ANY BREED.

Best Cow for Dairy Purposes, roan, T Tutin, Winestar, Patrington; 2d, roan, W. Stead, Owlerton, Sheffield. Class generally commended. The best six Dairy Cows, the property of one owner, S. Beecroft, Anlaby Road, Hull; commended, J. Galloway, Southcoates, Hull.

### EXTRA STOCK.

1st, Diadem, roan, Lieut.-Col. Towneley, Towneley Park, Burnley (bred by him); 2d, Fat Ox, roan, H. Lambert, Wauldby, Brough (bred by him).

### HORSES.

Best Stallion for Hunters, J. Batty, Bishop Monkton, Ripon; 2d, T. Manfield, Thirkleby Bridge, Thirsk. Best Stallion for Coach Horses, William Burton, Murton, York; 2d, J. Scurfield, Skerne, Driffield. Best Stallion for Roadsters, L. Hodgson, Highthorne, Easingwold; 2d, K. B. Ridsdale, Watergate, Ripley. Best Stallion for Agricultural Purposes, B. Taylor, Peterborough; 2d, W. Simpson, jun., Burton Agnes, Bridlington. Best Mare and Foal for Hunting, C. Harrison, Melton, Brough. Best Mare and Foal for Coaching, J. Todd, Harome, Cottingham. Best Roadster Mare and Foal, F. Jordan, Eastburn, Driffield. Best Mare and Foal for Agricultural Purposes, S. W. Duggleby, Cotham, Driffield. Best 3-year-old Hunting Gelding, J. Walker, Danes Hill, Thetford. Best 3-year-old Hunting Filly, C. Harrison, Melton, Brough. Best 2-year-old Coaching Gelding, J. Maw, Howden. Best 3-year-old Gelding or Filly for Agricultural Purposes, W. Gofton, Pockthorpe, Driffield. Best 2 year-old Coaching Gelding, H. Savage, Hessle Grange, Hull. Best 2-year-old Coaching Filly, J. B. Thompson, Anlaby. Best 2-year-old Agricultural Gelding, T. [illegible] ton, Pallathorpe, Tadcaster. Best Yearling Gelding or Filly for Agricultural Purposes, H. Grantham, Scawby, Brigg. Best Pair of Horses, of either sex, for Agricultural Purposes, worked during the season, W. Angas, Neswick, Driffield. Best Hackney Gelding or Mare, not less than four years' old, nor exceeding six, J. T. Robinson, Leckley, Thirsk. Best 4-year-old Hunter Gelding or Mare, G. Holmes, Beverley.

### EXTRA STOCK HORSES.

Coaching Mare, — Jordison, Boreas Hill, Hedon. Cob, Mare, G. Holmes, Beverley.

### SPECIAL PRIZE.

A Silver Cup, given by the Right Hon. Lord Hotham, to Harrison, Cottingham.

### LEICESTER, OR LONG-WOOLLED SHEEP.

Best Shearling Ram, W Torr, Aylesbury, Grimsby (bred by W Sanday); 2d, J. Borton, Barton House, Malton (bred by him). Best Ram of any age, W. Sanday, Holme Pierrepont, Nottingham (two shear, bred by him); 2d, J. Borton, Barton House, Malton (two shear, bred by him). Best pen of five Ewes, J. Simpson, Spofforth Park, Wetherby (bred by him); 2d, W. Gofton, Pockthorpe, Driffield (three and four shear bred by him). Best pen of five Shearling Wethers, F. Jordan, Eastburn, Driffield (bred by him); 2d, W. Lovel, Manor Grange, Driffield (bred by him). Best pen of five Shearling Gimmers, F. Jordan, Eastburn, Driffield (bred by him); 2d, J. Simpson, Pilmoor House, Huntmanby (bred by him).

### SHORT-WOOLLED SHEEP.

Best pen of five Shearling Gimmers, T. Marris, the Elm, Ulceby; 2d, Hon A. Duncombe, Kilnwick Percy, Pocklington (bred by him).

### SHORT-WOOLLED OR CROSS-BRED SHEEP.

Best pen of five Shearling Wethers, J. Wells, Booth Ings House, Howden (bred by him). Extra Stock prize, J. Bell, Kiveton Park, Worksop (ewe, aged, bred by him). 2d, do., F. Jordan, Eastburn, Driffield (a fat ewe, six shear, bred by him).

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## Miscellaneous.

*Royal Agricultural Society of England.*—There is one important arrangement connected with the country meetings of this Society to which, we think, attention should be directed at once, in order that the views of exhibitors thereon may be made known to the Council before the plans for next year are finally settled. We refer to the days on which the exhibition is held. It is, of course, to the arrival of stock and its despatch at the close of the meeting. It is, we believe, the opinion of many persons who have given considerable attention to the subject, and who, from their position and experience, are enabled to arrive at a satisfactory conclusion, that a change in this respect is imperatively called for, and that it might be made with great advantage to all, and only to those for whom the claim is first raised, but to the permanent interest of the Society. The suggestion we have to offer is this: that in future all the stock should be on the show ground on Friday evening; that the prizes should be awarded on Saturday—the usual

of that day being given up for the purpose—and that the complete exhibition, stock and implements, should be opened on Monday morning, and closed on Wednesday evening. Were this suggestion adopted, we do not think the stock shown would be kept from home longer than it has, in many instances, hitherto been. It is, we need scarcely say, impossible that the whole of the animals can, in all cases, if in any, be sent back in one day; and as the second day after the close of the meeting, under present arrangements, is Sunday, the evil becomes one of still greater magnitude—every person in charge striving for the first opportunity to get away. Indeed, we believe that the system now carried out involves Sunday travelling both ways, at least to some extent. Exhibitors at Warwick had painful experience of the truth of what we are now stating; and they will neglect a duty which they owe to themselves and to each other if they fail to urge upon the Council a much-needed reformation. Some consideration is at the same time called for on account of the animals exhibited, for there can be no one so careless in this respect as not to make all possible efforts to prevent unnecessary suffering. The change now recommended would further, it is believed, have considerable influence upon the receipts of the show week, for on Tuesday the company is usually very limited, there were not 1700 persons on the ground at Warwick on this day; and Wednesday, from the uncertainty as to the time at which the cattle yard will be open, produces by no means so good a return as it would under the amended scheme. There are good grounds, also, for the opinion, that the manufacturers of implements would be greatly benefited by the change, as their yard might be open on Saturday at a small charge, as well as on the three days of the complete exhibition. It appears that at present the great mass of visitors are found on the ground on Thursday and Friday. Of the 55,567 at Warwick, only 10,219 were admitted on Tuesday and Wednesday; and it can scarcely be doubted that more business would be done amongst the implement sheds if the attendance were spread more equally over the three days. There are many other advantages which would arise from the proposed change to which we need not now more particularly refer; but we may add that it would be most agreeable to those gentlemen who are officially connected with the meeting to have a quiet Sabbath day's rest after the labour they have undergone in filling the show yard. If for once small things may be compared with great, we would mention that the altered arrangements at Birmingham, by which everything is required to be in Bingley Hall on Friday, and the show is closed on the following Thursday, has been found to work in all respects most satisfactorily, and is considered one of the most useful changes which the Council has ever made. What is approved at Birmingham would, we are sure, be still more valuable at the meetings of the Royal Agricultural Society; and we shall be gratified if some practical results shall arise from our having become the exponents of what we believe to be the opinions of many of the exhibitors and other members of the Society. *Midland Counties Herald.*

*Sewage.*—If we ask the opinions of different persons on the question of "sewage," we receive contradictory answers. All manufacturers of superphosphate of lime are quite agreed on the point, that only the fluid portions of sewage, or the matters dissolved in sewage water, are valuable in agriculture. They do not, in giving this opinion, deny the good effect of the solid matters, but only mean to say that they are not worth the trouble of being collected for manure, because they are ready to deliver from their manufactories these matters to agriculturists. The manufacturers of ammonia salts and the dealers in guano take an entirely opposite view. These hold that only the solid sewage matters are to be looked upon as important. There can, however, be no doubt that both the fluid and solid matters are valuable for agriculture. "The use of these fertilising matters is not confined to the estates and farms in the immediate vicinity of the centres of population and consumption. Our peasants go long journeys with their wretched carts to seek substitutes for the deficient quantity of their farm-yard manure. The industrious peasant of Lucca is worthy of ranking with the Chinese coolie. Enjoying the blessings of irrigation within a circle of 28 miles (English), the former, who has never even heard of the name of guano, manages to reap two crops in the year; and yet never allows his land to lie fallow. He goes, however, with his cart, not only to the neighbouring town of Lucca, but even as far as Pisa and Leghorn, to collect the contents of the sewers, with the aid of which he produces, by indefatigable labour, marvellous crops, and raises food sufficient for the most dense population of the old duchy. The boats of Viarreggio carry from this port the goats' dung of the Maremma, to manure the Olive trees of the Apuan coast. From the peculiar circumstances in which our Maremmas are placed, they are debarred from the benefit of a like restitution of the conditions of fertility. Cultivation slowly improves, and the amount of produce rapid increases every year; but the scanty and migratory population of a soil, deserted on account of the miasmatic exhalations, cannot yield an amount of fertilising matter in proportion to the quantity carried off from the land. The gradual introduction of the system of rotation of crops might slowly lead to the same impoverishment of the soil which has resulted in other places from the "high system of farming." The apprehension lest this should in reality be the result of it, has by no means escaped the attention of the proprietors and cultivators of the soil in the Grand Duchy, who are so earnestly endeavouring to make agriculture flourish in these parts. The barrenness and desolation which has so long been the fate of the Maremma may, perhaps, be partly attributable to the spoliation system of farming pursued by the ancient Romans and Etruscans. Agriculture in Tuscany, then, is based upon the principle of restoring to the soil those elements which science points out to be the most efficacious for the growth of plants; and in this respect it is far ahead of the system pursued in other countries," &c.—(*Sei nuove lettere chimiche sull' agricultura di Giusto Liebig, compendiate et annotate de Gustavo Dalgas, Dr. Philosoph. Firenze, Felice Paggi*, 1858, p. 93.) *Liebig's Letters on Modern Agriculture.*

## Calendar of Operations.

### AUGUST.

Isle of Ely.—Absence from home has prevented our report appearing at the proper time, but the delay occasioned thereby affords some advantages, as it enables us to give a more full and accurate statement respecting the harvest and its probable results. Reaping on our warm gravelly soils was very general on the 25th and 26th ult., and most of the Wheats on these lands are already cut, and the hands are working down to the black soils which are just getting ready for the sickle. Notwithstanding the abundance of hands we have had, and still have, we can scarcely keep pace with the work. The weather has been so warm and forcing that the Wheats appear to ripen much faster than was anticipated, and consequently require an immense supply of labour. But with fine weather we hope no loss will be sustained. Should we however have showers to occasion much interruption and delay, the consequences must be serious. We have a very bulky crop of Wheat, but by no means a promising one. Mildew and blight are prevalent, and will deteriorate the quality as well as lessen the quantity. We shall assuredly see many very inferior samples throughout the season. Oats are a heavy crop generally and cut up well. The quality will scarcely be fine as the crop is too bulky, but we think the yield will be good. Beans are an average crop and promise better than was expected. The top blossoms have set well and we have no fly to injure them. Peas have cut up well; are thickly podded, and indicate an abundant yield. Potatoes are not suffering largely from disease at present, but the time has now arrived when its ravages are generally apparent. A heavy rain would doubtless occasion great loss. Mangels are a good crop and flourish admirably. Grass-keeping from the heat of the weather is becoming scarce. Coleseeds grow as well as could be expected, the weather has been too hot for them. Showery weather and bad prospects of the Wheat crop have occasioned an advance in the price of Wheat. *Fen Reporter, August* 1.

Warwickshire: *August* 2.—Oats and Peas were cut early, some of them before the middle of July, and Wheat was pretty generally commenced last week. To a considerable extent, though perhaps not to the same extent as last year, the crops have ripened simultaneously, and several fields at once are thus demanding the husbandman's attention. This occasions a scarcity of labour, which even the late Show, and Burgess & Key's reaping machines, have been unable duly to meet. Bands of reapers from the other side the Channel, too, are not so readily met with as was the case 10 years ago. The Wheat crop is about an average, though under last year's extraordinary produce. Clay soils, where drained, and stiff land, have the greatest comparative yield, and in more than one case that we have seen, the additional produce would bear the expense of three-fourths of last season's drainage. In some instances, especially where lodged, the weight per bushel will be light. Spring sown varieties will be deficient in this respect, and the finest Wheats will probably be Golden Drop among red, and Rough Chaff White among white. Both are excellent varieties for Warwickshire, being stiff strawed, and not so likely to get lodged as the good old Red-Lammas, and other old-fashioned standard sorts. Of Barley we must also write a full average, with some prime samples, but a greater proportion of grinding qualities than farmers generally like to see. This simply arises from the quantity lodged at an early period of the season, a complaint which gets worse and worse each year. Surely this points to the adoption of another mode of culture, either by way of prevention or cure. Some fields of Barley are already in the rick, and more will be so in the course of the next few days. Beans are a variable crop, some of the winter sown being very good, and others equally indifferent. Spring varieties are generally good, and will probably all be harvested before the end of the month. Peas have escaped remarkably from many of their natural enemies, and being off early, have thus secured the advantage of an early opening for brush Turnips. For the past two years, these Turnips have done even better than where grown after a spring fallow, in the usual manner. White Peas are rather more in fashion this year than usual, a taste which we are glad to see on the increase, for several reasons that will readily suggest themselves. Towards the confines of the county bordering on Leicestershire, where our best Oats are mostly grown, one of the largest buyers informs us that a considerable deficiency will be seen. Those crops, on the other hand, which have come under our personal notice, both Polands and Black Tartarians, will be equal to last year, or nearly. And for the past four years our crop of the former has never been under 8 quarters per acre. If we turn to root crops the prospects are at present good. Mangels planted well, and look almost better than they have ever done at the end of July. Swedes were later sown, and thus escaped the fly, which last year proved so destructive. Of black caterpillar we have heard nothing, although many other districts have experienced their ravages. Field Potatoes continue good so far, and only in a few gardens, or highly cultivated allotments, is disease at present complained of. Carrots are good, and Cabbages also promising. Having grown half an acre of Holcus saccharatus by way of experiment, we take this opportunity of adding our testimony as to its general luxuriance, and the fondness of all domestic animals for it. But it is long in starting and makes little progress for a long time. *T. B., in Coventry Standard.*

## Notices to Correspondents.

Foreign Periodicals: *F.* We know of no weekly French agricultural journal. The "Journal d'Agriculture Pratique," edited by M. J. A. Barral, and which may be ordered of M. F. R. de la Trehonnais, at 39, New Bridge Street, Blackfriars, is published once a fortnight, and is a first class agricultural periodical.

Gas Lime: *Walthamstow.*—About 2 or 3 tons per acre may be spread, after lying in compost for a few months with mould road scrapings, &c., and being turned there once or twice. Its causticity is not due to what ammonia may be present in it. Or it may be applied over arable land in the quantity named, spread broadcast, and ploughed or cultivated in afterwards.

Grass Seeds: *Anon.* We will give particulars of management next week.

Rotation of Crops: *Cor.* Another week.

BURNARD, LACK, AND CO.'S CONCENTRATED SUPERPHOSPHATE OF LIME; guaranteed to contain Phosphoric Acid soluble, equivalent to 40 per cent. of Tribasic Phosphate of Lime.

CONCENTRATED TURNIP MANURE, equal in value to the preceding.

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Detailed analyses, with opinions of the late and present Chemists to the Royal Agricultural Society, with Testimonials, Prices, &c., may be had on application to Burnard, Lack, & Co., Sutton Road, Plymouth.

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| TURNIP MANURE .. .. .. | from | £7 | to | £6 | | |
| SUPERPHOSPHATE OF LIME .. | ,, | 7 | to | 6 | 6 | |
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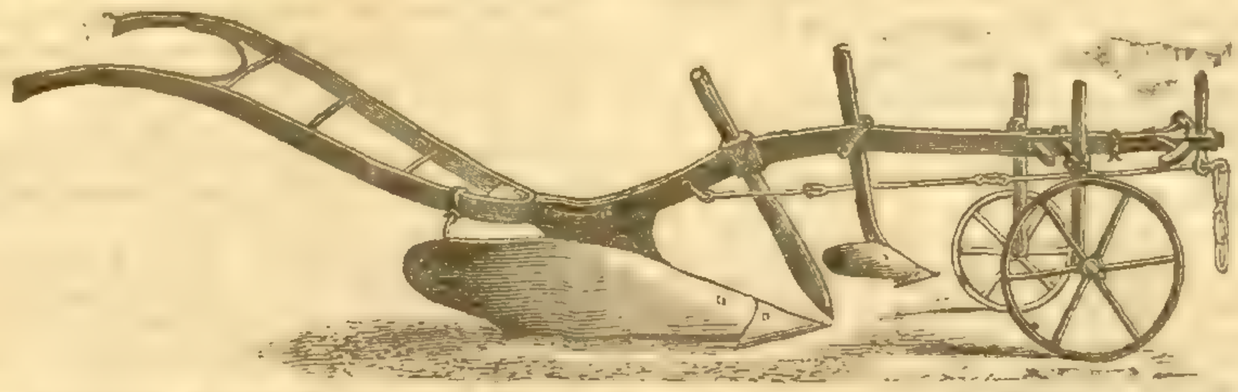
THE PLOUGH TRIALS AT WARWICK.

# HOWARD'S CHAMPION PLOUGH



**Gained the FIRST PRIZE as the Best Plough for General Purposes at Warwick,**

BEING the CHIEF PRIZE for PLOUGHS, awarded by the Royal Agricultural Society of England, at this Meeting. The importance of this Prize will be gathered from the fact that the GENERAL PURPOSE PLOUGHS are the only ones tried on BOTH LIGHT AND HEAVY LAND, and as HOWARD'S CHAMPION PLOUGH proved itself to be the best on both soils, the **FIRST PRIZE**, of the **HIGHEST AMOUNT** given by the Society for any kind of Plough, was awarded to J. & F. HOWARD.

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THE FIRST PRIZE FOR THE BEST PLOUGH FOR GENERAL PURPOSES, ALSO A PRIZE FOR THE BEST PLOUGH FOR LIGHT LAND, AND A PRIZE FOR THE BEST PLOUGH FOR HEAVY LAND; THE FIRST PRIZE FOR THE BEST LIGHT HARROWS, AND THE FIRST PRIZE FOR THE BEST HEAVY HARROWS.

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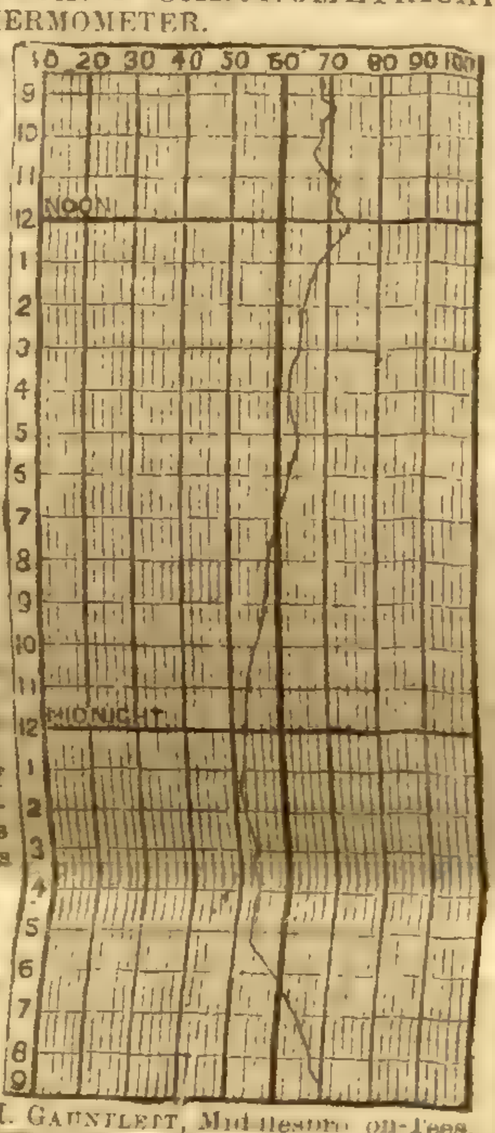
TO HORTICULTURISTS.

GAUNTLETT'S PATENT CHRONOMETRICAL THERMOMETER.




This instrument, which combines an eight-day clock of the best English make showing time, with a newly-patented Thermometer, wherein glass and quicksilver are dispensed with, writes down the temperature of the atmosphere on a slip of paper, and when placed in a Hothouse, Forcing House, or Conservatory, &c., supplies a valuable record of the temperature, with all its variations, showing the time when any change took place, and how long such change continued.

The above slip (reduced in size) exhibits the temperature of the Royal Agricultural Society's show yard at Chester, July 22, 1858, written off by one of these instruments, to which was awarded the Society's SILVER MEDAL.

*This is the only instrument that registers temperature continuously and writes it down*, and no horticulturist should be without it.

Orders received by W. H. GAUNTLETT, Middlesbro-on-Tees.



MAPPIN'S PRUNING KNIVES IN EVERY VARIETY.

WARRANTED GOOD BY THE MAKERS.

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MAPPIN'S "SHILLING" RAZORS Shave well for Twelve Months without Grinding.

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MAPPIN'S SUPERIOR TABLE-KNIVES maintain their unrivalled Superiority—handles cannot possibly become loose—the blades are all of the very first quality, being their own Sheffield manufacture.

| | Tble. Kns. | Dst. Kns. | Carvers. |
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| Ivory 3¾ in. Handle, balanced, | 20s. p. doz | 15s. p. doz | 6s. p. pair |
| Do. 4 in. do. .. | 25s. ,, | 18s. ,, | 9s. ,, |

MAPPIN'S SILVER-PLATED DESSERT KNIVES and FORKS, in Mahogany Cases.

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| 12 Pairs Knives and Forks, | Ivory Handles, in Case .. | 80s. |
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MAPPIN'S ELECTRO-SILVER PLATE.—MAPPIN BROTHERS, Manufacturers by Special Appointment to the Queen, are the only Sheffield makers who supply the consumers in London. Their LONDON SHOW ROOMS, 67 and 68, King William Street, London Bridge, E.C., contain by far the largest STOCK of ELECTRO-SILVER PLATE in the World, which is transmitted direct from their Manufactory, Queen's Cutlery Works, Sheffield.

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| 12 Table Forks, best quality | £1 16 0 | £2 14 0 | £3 0 |
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Messrs. MAPPIN BROTHERS respectfully invite buyers to inspect their unprecedented display, which, for beauty of design, exquisite workmanship, and novelty, stands unrivalled. Their Illustrated Catalogue, which is continually receiving addition of New Designs, sent per post on receipt of 12 stamps.—MAPPIN BROTHERS, 67 & 68, King William Street, London Bridge, E.C. Manufactory, Queen's Cutlery Works, Sheffield.



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WOTHERSPOON & Co, Glasgow and London.



JAMES PHILLIPS AND CO.'S PRICES of GLASS for the present month.

HORTICULTURAL GLASS, STOCK SIZES, in 100 feet boxes.

| | 3rds. | 4ths. |
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| 11 by 9, 12 by 9, 13 by 9, 14 by 9 .. / 12 ,, 10, 13 ,, 10, 14 ,, 10, 15 ,, 10 .. | 14s. 6d. | 12s. 6d. |
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Boxes included and not returnable.

PACKED IN CASES.

| | | |
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| 200 feet .. .. .. | £2 2 0 | 16 oz. |
| 300 feet .. .. .. | 3 3 0 | |
| 200 feet .. .. .. | 2 18 0 | 21 oz. |

ORCHARD HOUSE SIZES, as supplied by us to Mr. Rivers.

| | | 16 oz. | 21 oz. |
|---|---|---|---|
| 20 in. by 12 in. / 20 in. by 13 in. | Common .. .. | 14s. 0d. .. | £1 1s. |
| 20 in. by 14 in. / 20 in. by 15 in. | Superior do. .. | 16 6 .. | 1 5 |
| | English Glass .. | 18 0 .. | 1 |

Boxes included and not returnable.

SMALL SQUARES.—Per 100 feet.

| | | | | s. | d. |
|---|---|---|---|---|---|
| 6 by 4 / 8 ,, 6 / 10 ,, 8 | 6½ by 4½ / 8½ ,, 6½ / 10½ ,, 8½ | 7 by 5 / 9 ,, 7 .. | 7½ by 5½ / 9½ ,, 7½ .. | 11 | 6 |
| | | | | 12 | 6 |

JAMES PHILLIPS AND CO.,

**130, Bishopsgate St. Without, London, E.C.**



HORTICULTURAL GLASS—JUNE TARIFF.

THOMAS MILLINGTON'S reduced Tariff of GLASS, &c.

6 by 4, 7 by 5, 8 by 6, 9 by 7 / 6½ by 4½, 7½ by 5½, 8½ by 6½, 9½ by 7½ } 16 oz. to the foot, 11s. 6d. per 100 feet.

In 100 boxes,—4ths quality, 12s. 6d.; 3rds do., 14s. 4d.

| | | | | |
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| 10 by 8, | 12 by 9, | 12½ by 10½, | 14½ by 10½, | 13 by 11 |
| 10½ by 8½, | 12½ by 9½, | 13 by 10, | 15 by 10, | 13½ by 11½ |
| 11 by 9, | 13 by 9, | 13½ by 10½, | 12 by 11, | 14 by 11 |
| 11½ by 9½, | 12 by 10, | 14 by 10, | 12½ by 11½ | .. .. |

| | per 100 feet | 16 oz. | 21 oz. |
|---|---|---|---|
| 20 by 12 / 20 by 13 / 20 by 14 / 20 by 15 | Common .. | 16s. .. | 24s. |
| | Superior . | 18s. .. | 27s. |

All Boxes included.

Orchard House sizes as supplied to Mr. Rivers.

Hartley's Improved Rough Plate Glass from ½ to ¾ in thickness.

Coloured Glass in great variety, at 9d. and 1s. per foot.

Paints, Genuine White Lead, Linseed Oil, Boiled Oil, Turpentine, Putty, Colours, Varnishes, Brushes, Lamp Glasses, &c.

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GLASS FOR CONSERVATORIES, ETC.

HETLEY AND CO. supply 16-oz SHEET GLASS of British Manufacture at prices varying from 2d. to 3d. per square foot for the usual sizes required, many thousands of which are kept ready packed for immediate delivery.

Lists of Prices and Estimates forwarded on application, for PATENT ROUGH PLATE, THICK CROWN GLASS, GLASS TILES, and SLATES, WATER PIPES, PROPAGATING GLASSES, GLASS MILK PANS, PATENT PLATE GLASS, ORNAMENTAL WINDOW GLASS, and GLASS SHADES, to JAMES HETLEY & Co., 35, Soho Square, London, W.

See *Gardeners' Chronicle* first Saturday in each month.



LAWNS—IN USE IN THE ROYAL GARDENS.

SAMUELSON'S PATENT BOYD LAWN MOWING and ROLLING MACHINE, the only one that will cut wet as well as dry Grass, is guaranteed efficient in use, easily handled, and readily kept in working order. Doing the work of five or six men. Prices, including case and carriage to any railway station in England, from 4*l* 17*s* 6*d*, and upwards. Copies of testimonials post free on application to Mr. SAMUELSON'S London Warehouse, 76, Cannon Street West, City, E.C.; DEANE'S, London Bridge, E.C.; or the Works, Banbury, Oxon.



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EDWARD BECK MANUFACTURES in SLATE a variety of articles for Horticultural purposes, all of which may be seen in use at Worton Cottage, on application to the Gardener, Sundays excepted. PRICED LISTS of PLANT TUBS and BOXES forwarded on application.

GARDEN POTS AND PANS, in quantities of not less than 20 casts, delivered to the London Stations at the following prices:—Nos. Tubs, 60, 150, 54, 48, 40, 32, 28, 24, 16, per cast, 2*s*. respectively. 12, 3*s*.; 8, 3*s*. 6*d*.; 6, 5*s*.; 4, 5*s*.; 3, 5*s*.; 2, 7*s*.; 1, 7*s*. On lesser quantities, 6*d* per mile, for delivery to the Station, charged. The usual discount to the Trade. Square Propagating Pans, Kale and Plunging Pots, Strawberry and Border Tiles, &c., made to order.

J. & W. ADAMS, Kilns, Belle Isle, York Road, King's Cross, N.

VASES, PEDESTALS, SUNDIALS, FOUNTAINS, FLOWER BOXES, JARDINETS, FERN CASES, BALUSTRADES, EDGINGS AND CURBS FOR FLOWER BORDERS, SEATS, &c., in Imperishable Siliceous Stone, at reduced prices, for the adornment of the Villa Garden, the Mansion Grounds, or the private or public Park.

For Priced Illustrations apply to FREDERICK RANSOME, at the Show Rooms, Cannon Row, Westminster, S.W., or Patent Stone Works, Ipswich.



TANNED NETTING, for the Protection of Trees from Frost, Blight, and Birds: also security of fresh sown seeds, at 1*d*. per square yard; 12*s*.; 500 yards, 2*l*8*s*; Scrim Canvas, for wall trees; Mats.—At EDDINGTON & Co's., Rick Cloth, Tent, and Waggon Cloth Manufacturers, 17, Smithfield Bars, City, & 0

WASPS.—THE WASPS ARE COMING. Gentlemen who have Gardens or Hothouses to transmit their address to Mr. HAWTHORN, will forward free by post patterns testimonials, and HAWTHORN'S HEXAGON and CHISWICK NETS, to protect all kinds of Fruit from Wasps, Flies, Birds, used and recommended by all the principal gardeners

PEACHES, NECTARINES, PLUMS.—WORSTED NET to effectually protect the above from Wasps, Flies and the blossoms in the spring, 7*d*. per square yard, widths of 2 yards, very much approved. New GARDEN NET, 1½*d*. per yard. TANNED NETS, 6*s*. 3*d*. per 100 yards. RICHARDSON, White Horse Factory, Bidborough Street, W.C.; Office: 99, Euston Road, London, N.W.

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J. AMADIO'S BOTANICAL MICROSCOPE packed in mahogany case, with three powers, condenser, pincers, and two slides, will show the animalcule in water. Price 18*s*. 6*d*.—Address JOSEPH AMADIO, 7, Throgmorton Street, E.C.—A large assortment of Achromatic Microscopes.

"It is marvellously cheap, and will do everything which a lover of nature can wish it to accomplish either at home or in the open air."—*The Field*, June 6, 1857.

Just published, 2d Ed., an Illustrated Catalogue, with cases of 1500 Microscopic objects, free for 6 stamps.

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BOWER'S PATENT NATIONAL COAL GAS APPARATUS, for Private Residences, Farm Buildings, Churches, Chapels, Railway Stations, and all isolated places not yet lighted with Gas. The various parts are of the best materials and workmanship, are not liable to get out of order, and can be worked with a small degree of attention by any servant or labourer without materially interfering with other duties. Prospectuses with testimonials, &c., may be had on application to the Proprietors and Manufacturers,

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PRIZE MEDAL, PARIS EXHIBITION 1855.

METCALFE, BINGLEY, AND CO.'S New Patent and Penetrating Tooth Brushes, Penetrating and Flexible Hair Brushes, Improved Flesh and Clothes Brushes, and genuine Smyrna Sponges; and every description of Brush, Comb, and Perfumery for the Toilet. The Tooth Brushes search through between the divisions of the Teeth and clean them most effectually—the hairs never come loose. M., B., and Co. are also makers of the Oatmeal and Camphor and Orris Root Soap, sold in Tablets (bearing their names and address) at 6*d*. each, of METCALFE'S celebrated Alkaline Tooth Powder, 2*s*. per box, and of the New Bouquets.—Sole Establishment, 130*a* and 131, Oxford St., 2d and 3d doors west from Holles St., London.

DRESSING CASES, DRESSING BAGS, and highly finished elegancies for presentation in great variety; Ivory-handled Table Cutlery; every requisite for Toilet and Work Tables.—MECHI & BAZIN, 112, Regent St., and 4, Leadenhall Street, E.C.; and Crystal Palace, Sydenham.

TOURISTS AND TRAVELLERS, VISITORS AT THE SEASIDE, and others exposed to the scorching rays of the sun, and heated particles of dust, will find ROWLAND'S KALYDOR a most refreshing preparation for the complexion and skin, dispelling the cloud of languor and relaxation, and allaying all heat and irritability, and immediately giving the pleasing sensation attending restored elasticity and healthful state of the skin. Freckles, tan, spots, pimples, flushes, and discoloration are eradicated by the application. Price 4*s*. 6*d* and 8*s* 6*d* per bottle. The heat of the summer often induces a dryness of the hair, and a tendency to its falling off, which may be completely obviated by the use of ROWLAND'S MACASSAR OIL, a delightfully fragrant and transparent preparation for the hair, and as an invigorator and beautifier beyond all precedent. Price 3*s*. 6*d*.; 7*s*.; family bottles (equal to four small), 10*s* 6*d*; and double that size, 21*s*. ROWLAND'S ODONTO, or PEARL DENTIFRICE, bestows on the teeth a pearl-like whiteness, frees them from tartar, and imparts to the gums a healthy firmness, and to the breath a grateful sweetness and fragrance. Price 2*s*. 9*d*. per bottle.—Sold by A. ROWLAND & SONS, 20, Hatton Garden, London, E.C.; and by Chemists and Perfumers.—Beware of Spurious Imitations.

FRY AND SONS' CHOCOLATES AND COCOAS.—Victoria Chocolate, Bon Bons, Soluble Cocoa, &c., in great variety. These delicious beverages are now sold at moderate prices, and many of them are highly economical.

FRY'S HOMŒOPATHIC COCOA is an article of exceptionable quality. FRY'S SOLUBLE COCOA, in Tablet packets, and FRY'S PEARL COCOA, are strongly recommended.

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Liebig, the celebrated Chemist, asserts that nitrogen is essential to the healthy action of the bile, and therefore to sustenance, and invigoration of the body. No stronger recommendation of Cocoa and Chocolate can therefore be given than the following statement:—Caffeine and Theine each contain only about 20 per cent., whilst Theobromine (or essence of Cocoa) contains upwards of 35 per cent. of nitrogen.

HEALTH WITHOUT PHYSIC.—Nervousness effectually cured by a novel and most successful mode of treatment, discovered in America. The most confirmed invalid, of the efficacy of this wonderful remedy, with other books, will be sent to any address on receipt of one stamp.—Address Mr. HILL, 37, Alfred Place, Store Street, London, W.C.

HOLLOWAY'S PILLS.—SLIGHT AND SEVERE DISEASES. It is comforting and satisfactory to know that the operation of these famous pills is not limited to the cure of these violent internal distempers for which they are successfully administered in England and foreign countries. They act also as an immediate corrective in the lesser ailments incident to both sexes. Nothing excels them for children's diseases of children, such as colic, constipation, headaches, worms, and all diseases of the skin; they likewise regulate digestion and stimulate every organ to healthy action. In diseases of the liver, kidneys, and spleen they invariably effect immediate relief and ultimate cure. In fact, in all complaints to which mankind is liable no medicine is so efficient.

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**DOBSON'S SPLENDID HYBRIDISED CALCEOLARIA SEED.**

JOHN DOBSON AND SONS beg to offer the above, which they feel no hesitation in saying is unrivalled for its superior quality, being all hybridised under their own personal inspection, and warranted to produce a splendid collection of first-rate flowers. Lovers of this interesting and beautiful class of plants should not fail to possess a packet of this seed, as it may be relied upon to give satisfaction. In addition to our agents we have supplied most of the leading firms with seed for own growing, and hundreds of amateurs throughout the country; also in America, France, and Holland. In sealed packets with printed directions for sowing, 1s. 6d., 2s. 6d., 3s. 6d., and 5s. each, all of one quality. For list of agents see *Gardeners' Chronicle* of July.

Woodlands Nursery, Isleworth, W.; and High Street, Hounslow, W.

**BEGONIA QUEEN OF ENGLAND.**

WILLIAM BARNES has much pleasure in stating that he is now prepared to supply plants of this most beautiful Begonia, it being a hybrid between B. splendida and B. rex, partaking of the former in the splendid colour of its foot-stalks and under side of its leaves, with the markings of the latter upon the top of the leaf, but larger and more distinct in its colourings, having a belt round each leaf, finely dotted over the green part with white spots. It is of fine vigorous growth, and expands its leaves more perfectly than either of its parents. It has been exhibited at the Crystal Palace and Royal Botanic Flower Shows this season, and obtained a Prize at each place, where it was pronounced by the most competent judges to be one of the most beautiful and distinct varieties they had seen. Fine strong plants at 10s. 6d. each. The usual discount to the trade.

Camden Nursery, Camberwell, S.

**ARAUCARIA IMBRICATA.**

YOUELL AND Co. beg to inform the Trade they have to offer a fine and healthy stock of the above in 1-year-old plants.

GLADIOLUS BRENCHLEYENSIS.—An extensive stock of large flowering Bulbs of this magnificent Gladiolus, the colour of which is vermilion scarlet, the best and brightest variety known. Prices of the above on application.

Royal Nursery, Great Yarmouth.

TRIFOLIUM INCARNATUM, 5*d.* to 6*d.* per lb.; with hints on its successful cultivation, showing how 3 tons per acre of the most nutritive hay may be secured, the advantages of sowing it where broad Clover is thin, and its superiority to Tares as green food.

PAGE AND TOOGOOD having secured a large breadth of prime quality, offer it at the above low rate for cash.

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| New Turnip Seed, per lb. .. .. | 0*s.* 6*d.* | Italian Rye-grass, per bush., 5*s.* to .. .. | 7*s.* 0*d.* |
| New Rape, do. .. | 0 4 | Mustard, per lb., 4*d.* to 6 | 5 |

Calceolaria and Cineraria, in packets of 2*s.* 6*d.* and 1*s.* each, saved from one of the finest collections in Europe.

Seeds for exportation to all parts of the world.

PAGE & TOOGOOD, Seed Growers and Merchants, Oxford Street; and Above Bar, Southampton.

**NEW HYBRID RHODODENDRONS.**

ISAAC DAVIES, LARKFIELD NURSERY, Wavertree, near Liverpool, begs respectfully to draw the attention of the admirers of Winter and Early Spring Blooming Plants to the undermentioned handsome and novel HYBRID RHODODENDRONS, which were raised by him five years ago from R. atrovirens, hybridised with ciliatum, and which have proved perfectly hardy, having been grown two years in the open ground without being in the smallest degree injured by frost. The Plants form beautiful bushes, with dark green leaves, about the size of the Myrtle; in the open ground the flowers, which are produced in great abundance, expand about the end of March, and are as large as a moderate-sized Indian Azalea, and of the colours given below. These Plants will be found invaluable for forcing, from the fact that they may be got in flower at any time desired in the winter months, merely by placing them in a greenhouse or cold frame. The flowers last more than three weeks after expansion, and from the peculiar odour of its foliage, which it inherits from the mother parent, not a green fly will live upon it. A plant in flower was sent to London, where it was seen by Messrs. H. Low & Co., Waterer & Godfrey, and other leading Nurserymen, from whom I received very flattering opinions of its merits, which are sanctioned by the Certificates of that distinguished Rhododendron grower and raiser, Mr. George Cunningham, and Mr. James Grant, who saw the entire stock in bloom, of which the following are correct copies:—

"Oak Vale Nursery, Old Swan, near Liverpool,
"March 12, 1859.

"Dear Sir,—You wish to have my opinion of your Hybrid Rhododendron, raised between atrovirens and ciliatum, and which you call Precox. I have much pleasure in saying that I think it a handsome and successful cross, showing both parents very distinctly; its compact habit of growth, and its blooming so abundantly at this season of the year will make it an attractive acquisition to our early flowering plants, whether for the open ground or the conservatory.

"I am, dear Sir, yours faithfully,
"Mr. Isaac Davies. "GEORGE CUNNINGHAM"

"Olive Mount, Wavertree, March 10, 1859.

"Dear Sir,—I consider your Rhododendron Precox and its varieties the most novel and handsome hardy hybrids that have been raised for many years. They will be invaluable as Forcing Plants for winter blooming, and the most attractive early spring Flowers out of doors.—I am, dear Sir, yours respectfully, "JAMES GRANT, Gr. to A. S. Gladstone, Esq.
"Mr Isaac Davies"

Well established Small Plants, on own roots, will be ready for delivery early in September next, at the prices given below, under the following names:—

| | s. | d. |
|---|---|---|
| RHODODENDRON PRECOX, rosy lilac .. .. .. | 10 | 6 |
| ,, .. ROSEUM, pale rose .. .. .. | 15 | 0 |
| ,, .. SUPERBUM, rose, shaded with pink | 15 | 0 |
| ,, .. RUBRUM, deep pink .. .. | 21 | 0 |

The Trade will be allowed one plant over with every three taken of the same variety. A few larger plants of all except rubrum can be supplied at proportionately higher prices.

A Drawing, by Mr James Andrews, of the variety superbum, which differs very little from the others except in colour, may be seen at the Nurseries of Messrs. H. Low & Co., Upper Clapton, N.E.; Waterer & Godfrey, Knap Hill, Woking; E. G. Henderson & Son, St. John's Wood, N.W.; Rollisson & Sons, Tooting; William Wood & Son, Maresfield; Fisher, Holmes, & Co., Sheffield, and at the Nurseries of all extensive Rhododendron growers.

A CATALOGUE of all the best proved kinds of RHODODENDRONS and HARDY HEATHS is now ready and may be had on application.

**MUSCAT HAMBURGH GRAPE AND OTHER CHOICE SORTS.**

LUCOMBE, PINCE, AND CO. have now ready to send out fine strong healthy VINES, raised from eyes, 6 to 9 feet long, of this celebrated and much esteemed new Grape, together with all the leading kinds in cultivation, including that very superior variety

BIDWILL'S SEEDLING,

which is one of the finest Black Grapes ever raised, and being a very free bearer is especially adapted for pot culture, and several specimens of it fruiting in pots can now be seen in the Exeter Nursery; it is also perfectly hardy.

L., P., & Co. having a large experimental Vinery, have had the opportunity for several years of proving their Stock, and can therefore warrant all the sorts true to their names:—

| | | | |
|---|---|---|---|
| Strong Vines .. | 5*s.* 0*d.* each. | Very large extra-sized Fruiting | 10*s.* 6*d.* each |
| Extra strong .. | 7 6 ,, | | |

All are fit for immediate planting, and being well established in pots, can be packed securely, and safely sent to any distance, and Plants, fully to compensate for carriage, will be presented.

Exeter Nursery, Exeter.

J. CARTER AND CO.'S Select LIST OF CHOICE FLOWER SEEDS FOR PRESENT SOWING,

will be found on page 603 of *Gardeners' Chronicle* of July 16.

238, HIGH HOLBORN,
London, W.C.

CARTER'S CHAMPION CUCUMBER surpasses Sion House and Lord Kenyon's Favourite for winter and early spring use. Smooth, dark green, straight, and prolific; average length, 1 foot. Price per packet, 1*s.*

J. C. & Co. do not hold themselves responsible for the genuineness of the above unless obtained direct from

238, High Holborn, London, W.C.

CALCEOLARIA, 1*s.*, 2*s.* 6*d.*, 5*s.*
CINERARIA, 1*s.*, 2*s.* 6*d.*, 5*s.*
PRIMULA SINENSIS FIMBRIATA, 1*s.*, 2*s.* 6*d.*, 5*s.*
} All the same quality.

JAMES CARTER AND CO. beg leave to offer Seeds of the above of *this year's harvesting*, saved from SEVERAL UNRIVALLED COLLECTIONS, and they can with confidence recommend them as being of first-rate quality, both for form, colour, and variety.—JAMES CARTER & CO., Seedsmen, 238, High Holborn, London, W.C.

**NEW SEEDS.**

**TRIFOLIUM INCARNATUM**
**ITALIAN RYE-GRASS**
NATURAL GRASS SEEDS FOR PERMANENT PASTURE LAWNS, &c.

PETER LAWSON AND SON, the QUEEN'S SEEDSMEN, &c., are prepared to supply all kinds of SEEDS for AUTUMN SOWING of the best quality.

27, Great George Street, Westminster, S.W.

ROYAL BERKSHIRE SEED ESTABLISHMENT.

SUTTON AND SONS have just received a very unique Collection of HYACINTHS, ANEMONES, JONQUILS, CROCUSES, and numerous other Bulbous Flower Roots, direct from one of the most celebrated Florists in Haarlem. Prices very moderate. Lists gratis and post free.

**SEEDS FOR PRESENT SOWING.**

ROYAL BERKSHIRE SEED ESTABLISHMENT.

SEEDS DIRECT FROM THE GROWERS THE MOST CERTAIN MEANS OF PREVENTING DISAPPOINTMENT.

TRIFOLIUM INCARNATUM,
SIX WEEKS' TURNIP, MUSTARD SEED, COW CABBAGE,
GRASS SEEDS, RAPE SEED, EARLY CABBAGE,
CINERARIA, CALCEOLARIA, AND PRIMULA.

SUTTON & SONS have a good stock of New Seeds of the above kinds which they are now sending out at very moderate prices, as see Priced List. Carriage-free to all parts, and 5 per cent. allowed for cash payment.

Address, SUTTON & SONS, Seed Growers, Reading, Berks.

**DUTCH FLOWER ROOTS.**

JAMES VEITCH, JUN., ROYAL EXOTIC NURSERY, Chelsea, S.W., begs to announce that he has received his annual supply of BULBOUS ROOTS from Holland, and is pleased to say that they are PARTICULARLY FINE and in EXCELLENT CONDITION. Catalogues are now ready and will be forwarded on application.

J. V., Jun., desires to impress upon those who patronise him the great advantage of giving him their ORDERS EARLY, as the successful cultivation of Bulbs depends in a great measure upon their BEING PLANTED EARLY IN THE SEASON.

**SPLENDID NEW VARIEGATED FERN, PTERIS ARGYRÆA (MOORE).**

JAMES VEITCH AND SON have peculiar satisfaction in calling attention to the above-named most striking novelty, which is undoubtedly one of the greatest acquisitions of recent introduction to our now justly popular collections of Ferns.

It is of *noble aspect* and free growth, perfectly distinct and novel in its character, the pinnæ on every frond as well as their branches having a broad central stripe of glistening silver, which, in contrast with the bright green, produces a most charming effect. It may justly be called

THE VARIEGATED FERN.

It was exhibited at the Royal Botanic Garden on July 6, and before the Horticultural Society's newly appointed Floral Committee on July 7, and in both cases received the highest Prizes given to such novelties, and was universally admired.

Established Plants, 31*s.* 6*d.* each.
The usual allowance to the Trade.
Royal Exotic Nurseries, Exeter and Chelsea.—August 20.

THE ORIGINAL STOKE NEWINGTON FLORICULTURAL SOCIETY.—THE DAHLIA, ASTER HOLLYHOCK, AND MISCELLANEOUS EXHIBITION, open to all England, will be held at the Three Hats, Hare and Hounds Tavern, Stoke Newington Road, N., on TUESDAY, August 30, when Prizes will be awarded to the Growers of the Exhibitors, including Four Five Guinea Silver Cups. Extra Prizes and Certificates will be given for Seedling Dahlias.

Treasurer, Mr HUMBLE; Chairman Mr J. B. BAIN, F.H.S.; Secretary, Mr J. NICHOLLS, sen., 6, Myrtle Street, Dalston, N.E.

Further particulars can be had of the Secretary, or of Mr. ALLEN, at the above Tavern.

The Exhibition will Open to the Public at 1 o'clock. Admission 1 to 4 o'clock, 1*s.*; after 4, 6*d.* Omnibuses from the Elephant and Castle, S., and Flower Pot, Bishopsgate Street, E.C., every five minutes to Kingsland Gate, N.E., being within five minutes' walk of the Society's House. Fare 2*d.*

BANBURY HORTICULTURAL SOCIETY.—OPEN PRIZES.—The THIRTEENTH ANNUAL EXHIBITION of the Society is fixed for TUESDAY, August 30, when, in addition to the usual number of Prizes to be competed for by Members, the following are offered, open to all England, on payment of an entrance fee of 2*s.* 6*d.*:—

For the best Stove or Greenhouse Plants, either in flower or ornamental, of at least four different genera, but not Fuchsias or Annuals, 1st prize, 3*l.*; 2d prize, 2*l.*

For the best 24 Dahlias, 24 varieties, 1st prize, 3*l.*; 2d do., 2*l.*

For the best 18 Hollyhocks, 2 blooms of each, 1st prize, 3*l.*; 2d prize, 2*l.*

Intended Exhibitors must give notice to the Secretary before 12 o'clock on Monday, August 29. The Society will, if requested, convey the productions from and to the Railways.

The full BAND of the Royal Horse Guards will attend and play during the day.

High Street, Banbury, Aug. 20. HENRY STONE, Sec.

TOWCESTER FLORAL AND HORTICULTURAL SOCIETY.—*President:* The Earl of POMFRET.

The ANNUAL EXHIBITION OF FLOWERS, PLANTS, FRUITS, & VEGETABLES, will take place in the Grounds of T. W. Gurney, Esq., Towcester, on THURSDAY, Sept. 8, under the patronage of—

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| The Duke of Grafton, | Sir Charles Knightley, Bart. |
| The Earl of Euston, | Rainald Knightley, Esq., M.P. |
| The Earl of Pomfret, | Colonel Cartwright, M.P. |
| Lord Southampton, | &c. &c. &c. |

The Exhibition will be on a larger scale than that of last year, 374 Prizes being offered for competition open to all England. There will be distinct Classes for Nurserymen, Gardeners, Amateurs, Under Gardeners and Cottagers. There will also be a Class for Agricultural Roots.

The Committee wish to direct attention to the following Sweepstakes, the Premiums for which have been increased since the Schedule was printed. The Sweepstakes are open to all classes upon payment of the entrance fee before August 31.

| | Entrance Fee. | Premium added. |
|---|---|---|
| | *s.* *d.* | £ *s.* *d.* |
| For the best Collection of 50 Roses, in varieties, 3 trusses of each as gathered | 10 0 | 5 0 0 |
| For the best Collection of 36 Dahlias, in varieties .. .. .. .. | 10 0 | 4 0 0 |
| For the best Collection of 8 Fruit Trees, grown in pots or boxes, in fruit .. | 10 0 | 4 0 0 |
| For the best Collection of 12 Stove or Greenhouse Plants, Lycopodiums, or Ferns .. .. .. .. .. | 10 0 | 5 0 0 |

The Full Band of her Majesty's 2d Life Guards will perform during the Exhibition.

All Entries must be made in writing to the Secretary on or before the 31st of August. All productions entered for exhibition which may arrive by rail at Blisworth Station will be conveyed to and from Towcester free of charge, if previous notice has been given to the Secretary. Any exhibitor can send in his productions on the previous day, and the greatest possible care will be taken of them. Schedules can be obtained of SAMUEL COOPER TITE, Secretary.

HUNTINGDONSHIRE HORTICULTURAL SOCIETY.

*Patron*—The Earl of SANDWICH.
*President*—F. FELLOWES, Esq., M.P.

A GRAND AUTUMNAL OPEN AIR SHOW will take place on TUESDAY, September 6, by the kind permission of D. VEASEY, Esq., in the grounds of Castle Hill House, Huntingdon. In addition to the usual Prizes (a List of which may be obtained of the Secretary) TWO SILVER CUPS will be given for DAHLIAS; open to all England. A GOLD PENCIL CASE will be given for the most tastefully arranged BOUQUET, made by a Lady. The Band of the Coldstream Guards will attend, under the sanction of Colonel Lord Frederic Paulett, C.B.; conducted by C. Godfrey, Esq., Band Master, affording the enjoyment of A PROMENADE CONCERT. A Programme of the Music may be obtained on the Grounds. The Rooms of the Literary Institution will be open to Visitors. Refreshments:—Ices and Confectionary may be obtained in the Grounds. Admission Tickets may be had of the SECRETARY, and of Mr. Ellis and Mr. Wood, Printers. The Doors will be opened at Half-past 1 o'Clock, Tickets, 2*s.* 6*d.*, until 3 o'Clock; from 3 until Half past 4 o'Clock, 1*s.*; from Half-past 4 until 7 o'Clock, 6*d.*; when the exhibition will be closed to enable competitors to remove their productions. Children under 12 years of age and Schools admitted at half-price until Half-past 4 o'Clock. Subscribers will have Tickets forwarded to them. Cottagers exhibiting will be admitted at 6 o'Clock, Free. Notice in writing will be required to be sent to the Secretary by 10 o'Clock the day previous to the Show, by all Competitors for the Cups for Dahlias, and Collections of Plants. Entrance at the Gate near the Common, in St. Mary's Street. Railway Arrangements:—The Great Northern Railway Company will issue First and Second Class Tickets for a Single Fare for the Double Journey, from Hitchin, and also from Stamford, Peterborough, and intermediate Stations to Huntingdon. The Eastern Counties Railway Company will issue First and Second Class Tickets for a Single Fare for the Double Journey, from Wisbeach, and also from Cambridge, and intermediate Stations to Huntingdon. Subscriptions in aid of the Society will be received by G. M. FOX, Secretary.

**The Gardeners' Chronicle.**

*SATURDAY, AUGUST 20, 1859.*

"TIME telleth truth." What then has Time to say to ORCHARD HOUSES? This is a subject upon which we trust that our correspondents will enlighten each other. How do Orchard Houses best answer? What are the circumstances, that is to say, that have been found to cause one Orchard House to be more productive than another. Why do they fail, if indeed they have failed? That is to say, what have been the circumstances that have

led to failure and disappointment? That cases of each kind can be easily found is not to be doubted.

By way of commencement we may relate something of the history of a famous building of the kind constructed by "SIGMA," of horticultural and mechanical fame. Three or four years ago this gentleman built an Orchard House on Mr. RIVERS's plan, of the dimensions he recommended, and 75 feet long. It answered so well, except being too small, that he determined to enlarge it, and at first proposed to do so by adding another of the same size parallel with it and forming a part of it. Had this been done he would have had two span-roofs to one house. But it occurred to him that if one span were constructed for the two houses no more glass would be required, and not much more timber: so by a little alteration of uprights, and the addition of some diagonal braces, the breadth was doubled and the height in the centre so very greatly increased, that if we suppose the cubical contents of the first house to have been 6, those of the house as altered became 16, instead of 12, a very important circumstance as afterwards appeared. In its altered condition it has a walk 3 feet wide running all round, leaving a border next the side and a bed in the middle, as is usual; a door being provided at one end, and the side sashes, which are made of glass, hinged at their lower edge and falling outwards when open, which they have been day and night since the beginning of May. Other ventilation there is none except a narrow slit below the ridge of the roof.

In this place there has been this year a prodigious crop of Peaches, Nectarines, Plums, and Strawberries, all of the highest excellence; we doubt indeed whether Jeffreson Plums have ever before attained such an admirable condition. Even while we are writing a good deal of fruit remains to be gathered. What is most especially noteworthy is that this house received the full effects of the snowstorm of April, which destroyed the hopes of so many amateurs. Although unheated by artificial means not a blossom perished, nor at a later period did one refuse to stone. This shows that not only was the direct influence of the cold effectually warded off the blossoms, but the sap was not forced back towards the roots and that the earth itself retained warmth enough to ensure the stoning.

If we look for an explanation of this most important fact, it seems to be found in the presence of the very great volume of air previously heated by the sun, which had not lost its temperature before the snow arrived. In a smaller house the temperature would certainly have fallen too low, as it did in so many places. It could scarcely have been owing to any difference in the surface of glass exposed to the cold, for in "SIGMA'S" large single span house the glass surface is the same as if it had been low with a double span.

In consequence of the height that was gained it became possible to plant standard Peaches and Nectarines in the middle border of "SIGMA'S" house as well as trees in pots; and nothing could be more satisfactory than the result. The trees in pots are plunged in the earth among the standards, so that one would suppose them all to be growing in the open border. This has doubtless contributed to the success of the house. These standards are untrained; their pruning is of the slightest kind; their wood would be the consternation of some gardeners, for it is "gross" in the highest degree, one of the shoots made this year by a Peach tree measuring 8 feet in length. Yet this gross wood is precisely what is most fertile; for it is perfectly ripened, gorged with organisable matter, mucilage, sugar, starch, all secured within it for the food of the succeeding crop. Of course it is well ripened, for there is not an hour from the time when frosts are gone that this wood is not exposed to the full glare of the sun, and to perpetual currents of air. No shades are wanted here; there is no burning, no scorching, no mildew. In fact the house reminds us of those famous Virginian Peach orchards where pigs are required to consume the fruit that falls.

That Orchard Houses, when skilfully treated, most amply repay their cost is thus placed beyond all doubt. We hope one day to see them 20 feet high.

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SOME may wonder how the fact announced in last week's *Chronicle* can have any practical importance. That ROOTLETS form a skin at their points beneath which the process of growth is carried on may be an anatomical fact, but what is its application? Of what consequence can it be to a gardener to know what a microscope and a microscope only can reveal? As this has been already suggested to us by our correspondent *Lusor*, we answer it by asking him whether the invisible processes of digestion in the human stomach need not be understood because they cannot be seen? or whether it is perfectly indifferent to a gardener to know where the equivalent of a stomach is to be found in the plants he grows because it is impossible for him to view either the processes of assimilation themselves or the minute places in which they go on? Surely it must be admitted that if we are to understand the mode of treating plants properly we cannot learn too much about their ways of life and growth.

It is well known that the roots of plants increase in length solely by the continual addition of new matter to their points. Were it otherwise they would be bent and turned and distorted by the resistance of the soil itself, if indeed they could ever penetrate it at all. This will be easily seen by any one who endeavours to force a piece of twine through the loosest and softest earth that can be found. Hence the well understood fact that the youngest part of a rootlet is its tip, a part which is incessantly renewed during the period of growth; and which, acting like a sponge in absorbing whatever the earth can give up, had acquired at one time the name of Spongiole, Spongelet, or little sponge. But there always remained these questions: how does the soft young delicate nascent tissue of the rootlet manage to exist in contact with the earthy particles that it is perpetually displacing? and why does it never catch up such particles and entangle them in its substance? To this an answer is now returned; it is not, it is never, in absolute contact with the earth, but is screened from the earliest moment of its second life by an old skin, which it pushes forward, and gradually renews, forming its own matter of growth in security beneath it. Mr. HENFREY compares the skin to the *head of an arrow*, which can be pushed forward by the growing force behind. We would rather compare it to a screen or mantlet such as troops sometimes employ in their advance towards an enemy.

We may safely assume that this cap, hood, coif, screen, or whatever else it is called, is necessary to the root, and that its removal must be injurious, inasmuch as the forward growth of the root will be prevented by its removal. That being so, of what immense importance it must be to secure, with the utmost care, this delicate organisation on the safety of which so much depends. In the rude hands of ignorant persons, who transplant a bush by pulling it up, as if they were "pulling a Turnip," all this important structure must necessarily be destroyed. It is no wonder then if so many plants perish under the hands of common labourers. Only see how they "prick out" Cabbage plants or Celery, or any of the seedling taprooted crops; it is no wonder if they find great gaps in their rows. Instead of wreaking their anger on "the grub" they should blame their own ungentle ways.

But it may be said that plants are dealt with well enough in the rude mode that is so common, and that the care required by theory is not really demanded by practice. Winter-moved shrubs, or those which bear to be lifted in August without much care, may be pointed to in support of this notion. But these instances do not really affect the question. In the dry weather of August such plants as the Rhododendron and its allies are not growing; their roots are ripened, hard, and tough to the points of the fibres; and they will bear much rough usage without damage; moreover, a large part of their most delicate fibres is so firmly imbedded in earth that they come up with a "ball," and are not at all disturbed. So in winter, when trees are removed, the rootlets are hard and torpid. Nor is it to be forgotten that some plants have a wonderful power of repairing injury, if they have once acquired their woody organisation, and time is given them. When the roots of a winter-moved tree are broken the wounded ends may close up, and on the sides of the roots new rootlets with the requisite hood will gradually form before the period of vernal growth recurs. Others are constitutionally able to reproduce roots at all seasons, and under all circumstances, owing to what is called their strong vitality: as we see in the Willow, whose wands grow when stuck into the earth, although they neither have nor ever had a root.

It is not to cases such as these that rational gardeners will look. The skull of a negro will resist a blow that would smash that of a European; but no one would form an opinion of the general power of resistance by the skull from the case of a negro. We once knew a man who ate Belladonna berries with impunity; that was his constitutional peculiarity; his stomach was able to resist that dangerous poison; but we cannot infer from such a case that Belladonna berries may be eaten. So with the roots of plants; we are not justified in saying that the utmost care is not required to preserve their young points from injury because some plants succeed perfectly well without care.

But it is not merely on account of the extreme delicacy and importance of their points that roots require to be handled with the utmost gentleness. Another microscopical fact has been ascertained within the last few years and is of hardly less interest. When you look with the naked eye at the skin of a young root-fibre, nothing is seen except an apparently level uninterrupted surface. But in many cases there are present infinite multitudes of little hairs, through which food is imbibed; they are the mouths of the root. Through their agency the sucking or feeding power of the rootskin is very considerably augmented; to remove them is to diminish or destroy that power. But they are so delicate that any ungentle treatment of the root must destroy them. In the words of *Prof.* HENFREY, "they are mostly invisible to the naked eye, and their presence is chiefly betrayed by the adhesion of the soil to them. When young roots are carefully washed and placed under a magnifying glass their fibrils (root-hairs) are seen very clearly; and on such roots as those of Barley, for instance, they exist in enormous numbers."

We recommend all unsuccessful cultivators to turn these important facts over in their minds, and to consider well whether they have always thought about them. They have a very large application, to some points of which we must hereafter address ourselves.

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## PICEA NOBILIS.

THIS, which is still the most beautiful of all the Californian Firs, has for many years past been much admired and sought after by lovers of Conifers. From the small number of seedlings raised when it was first introduced to this country by the lamented Douglas good trees are scarce, and only in the hands of a few growers. Since its first introduction to Europe until very lately no good seeds have been imported, and notwithstanding the many plants which have been raised from cuttings or grafts, yet, from the barbarous custom of growing them in pots, good plants are still very expensive and difficult to be met with.

The gentleman who a few weeks ago inquired through the medium of your Journal whether any one besides himself had up to that time raised any cones has been answered to the effect that two of your correspondents have young plants now raised from cones produced last year. I need not have added to the above, as many of the constant readers of the *Gardeners' Chronicle* are aware, that five years ago I advertised plants at that time three years old from seed of my own growth.

I think without egotism I may venture to add, that having been the most extensive grower of Picea nobilis, I have also been the most successful. One reason for my obtruding upon you and your readers is to correct an erroneous report, which I find rather extensively circulated, viz., that "seedlings of Picea nobilis have been raised by me, which are not true; but hybrids between nobilis and the Silver Fir, or some other species." Seeing that few people like to acknowledge mistakes, and that the author of this blunder may not favour us with his name, allow me to say that it is untrue, as I never did myself nor allow any one else to fertilise the cones of P. nobilis except with pollen gathered from the same tree.

The same year (1851) in which I raised my first cones of P. nobilis, I had cones on Pinus monticola, but no male catkins. Having at the same time catkins on P. Lambertiana and P. Ayacahuite, I impregnated the cones on P. monticola with pollen gathered from these trees, and I had as the result three small trees distinct from each other, and from their respective parents. This experiment has been mentioned to several, and the plants have also been shown; whether this may have been confounded with P. nobilis or not I cannot say.

It is generally admitted, both in the animal and vegetable economy, that unhealthy parents generate a diseased progeny. But I think few have hitherto recognised the possibility of decidedly healthy parents bringing forth a diseased or debilitated offspring. Nevertheless this is the case when certain conditions are not fulfilled, which are indispensable for the production of a healthy progeny. I have long been convinced of the existence of this law in the vegetable, and I believe it equally applies to the animal economy. Having had cones on the Douglas Fir for some years before I could succeed in getting good seeds, I was convinced that either the cones or catkins, or both, were injured by our late spring frosts; consequently, about 14 or 15 years ago I had an awning raised over a fine healthy tree of Drummond's variety (a much deeper green than the one collected by Douglas*), and at the

* These plants are very distinct and of great value as a contrast to those who plant for pictorial effect. Douglas's variety is of a warm or yellow green, with cones when in a young state with dingy purple scales and bracts. Drummond's variety is of a deep yew green, and silvery under the leaf, with cones having their scales and bracts always green and free from the purple tinge.

right time I impregnated the cones, and was repaid by a few hundreds of young plants. Amongst these plants I soon observed a certain number much debilitated, and I found this as time went on to be constitutional debility. The same plants, though now 14 years old, are dwarf stunted unhealthy bushes; whilst those which showed constitutional vigour from the first are now healthy fine trees.

And amongst my first seedlings of Picea nobilis I had about the same per centage of plants which from the first manifested a constitutional weakness; by a stunted growth, and at a certain period of growth, the leaves became brown at the margins and tips. I have continued to grow these plants under the most favourable circumstances, and like the Douglas Firs before mentioned they remain unchanged, when those which were healthy, vigorous, and a good colour from the first, continued so. In a batch subsequently raised I have also a certain number which, from an early stage of growth, have shown the exact appearance already describe. These plants are now three years old.

Having some time ago discovered the true cause of this debility, viz., defective impregnation, I adopted means to secure a more certain and general distribution of good pollen, and now I have a magnificent lot two years old, free from all debility, without a single exception; some of which I send for your inspection. Be it understood, that in all the other lots I had from the same trees (other circumstances being equal) healthy and vigorous plants, also debilitated and diseased ones. This, I think, solves a problem for arborists, and at the same time explodes a pernicious theory now gaining ground, viz., "that trees raised from seeds of Douglas Firs of home growth are worthless compared with imported seeds." P. nobilis has exceeded 3 feet in growth with me this year, and in an avenue composed of Cedars of Lebanon, Araucarias, and Cryptomeria, the large plants of P. nobilis, with their very silvery hue, stand out in bold, and I may say enchanting relief. *William Barron, Elvaston Castle, Aug.* 15. [We endorse this statement. Some seedlings of Abies nobilis which have been submitted to us by Mr. Barron are perfectly genuine and in vigorous health.]

## STRAWBERRIES.

At Egglescliffe, near Yarm, Mr. W. Nicholson cultivates a most extensive collection of varieties of this fine fruit, a Catalogue of which is before us. Mr. Nicholson observes that in this Catalogue are many without having any observations appended to them. These may be divided into two sections: one, such as the Old Pine, Hautboy, Alpine, &c., because their qualities are so well known to cultivators as to render any remarks unnecessary; the other, being recently raised or introduced; and—although each has its circle of advocates and admirers—there has not been sufficient time, or circumstances have been unfavourable for testing their worth, as the rule observed has been, when the character of a variety is given, that it is either the result of personal experience, or from the most satisfactory evidence. He also points out that, in attempting to describe the properties of Strawberries, it must always be borne in mind that no fruit is more influenced by soil, locality, and climate, the difference between the produce of a dry and sunny season, compared with that of a wet and comparatively sunless one, being so great as to give it quite a different character. Mr. Nicholson, in order to prove the effect of difference of soil and climate as regards the kinds contained in his list, adds, under the signature of G., the results of the experience of a distinguished amateur cultivator, residing at Sablons, in France. The characters given of almost all the others have been, by the same gentleman, found to correspond with his own observations in the cultivation of the same sorts in that fine and warm climate. This Catalogue is so remarkable that we reproduce it without curtailment.

Ambrosia (Nicholson).—A very superior variety; fruit fine rich Mulberry flavoured, and remarkably juicy. Too much cannot be said of it. G.

Ajax (Nicholson).—When well grown the fruit is very large and fine, beautiful shape and very dark colour. At Egglescliffe it has been grown very large. One fruit weighing 3¼ ounces; measuring 9 inches round it; nine of them weighed 1 lb.

Admiral Dundas (Myatt).—Fruit very large; flavour flat.

Adair (Elphinstone).—Fruit large, firm, fine in shape and colour, and middling flavoured; plant strong and healthy.

Amazon (Salter).—Fruit of middle size, flavour bad. G.

Athlete (Salter).—Late, large, but not good.

Alpine [Monsieur Gloede].—Fine dark red colour, and flavour very good.

Alpine.—Lettuce-leaved. Fruit large and good; a great bearer.

Alpine.—White. Monsieur Gloede's new seedling; large and extra good.

Alpine.—Red Bush. Alpine.—White Bush. (The two preceding having the peculiar property of not producing runners, but forming compact bushy plants, and the foliage being very neat, they are admirably adapted for edgings to garden walks, beds, &c.)

British Queen (Myatt).—Of universally acknowledged excellence when properly cultivated.

Black Prince, or Malcolm's Seedling.—Early.

Beeche's Queen (Query, British Queen).—Fruit large and fine.

Belle de Paris (French).—Fruit very large, acid, but good. Forces well; in warm places, good. G.

Black Scarlet (Pitmaston).—Fruit medium size, of good flavour; plant of straggling habit and shy bearer.

Bicton Pine (Barnes).—Fruit white and large; plant a vigorous grower and prolific.

Birmingham (Query).—Fruit a deep red colour, good, irregular in shape; fruits a long time.

Bee-hive (Matthewson).—Very fruitful, fruit small; a good preserver. Very early and vigorous. G.

Boston Pine (American).—Early, prolific, and good. G.

Brighton Pine (American).

Bonté de St. Julian (Carre).—Of medium growth, good bearer; fruit very dark coloured, red throughout; fine form and superior flavour; a first-rate sort.

Belle Bordelaise.—Of exquisite flavour; a good forcer; allied to the Alpine.

Comtesse Kicka (French).—Fruit good; a vigorous grower.

Cremont's (French).—Fruit good size; plant prolific and healthy.

Comte de Paris (Pelvilain, French).—Fruit large; plants healthy and prolific; a good market sort.

Captain Cook (Nicholson).—A good bearer; fruit large; musky flavour.

Carolina superba (Kitley).—Very superior; plant tender and subject to canker in the North of England. Does well for pot culture. G.

Comtesse de Marne (Graindorge, French).—Fine, early, a good bearer and healthy.

Cook's Hybrid.—Late. Good for a late sort. G.

Chili.—The Old. Only good in warm situations. G.

Crystal Palace (believed to be Nimrod or Eleanor).—Very late. Resembles Nimrod or Eleanor. G.

Coles' Prolific.—Fruit dark coloured; a good sort. A seedling after Keens', but here preferable. G.

Champion (American). | Crimson Queen (Myatt).

Delices d'Automne (Belgian).—Fruit good, rather like Rivers' Eliza. A good bearer. By no means autumnal, as first stated. G.

Downton (Knight).—An old sort.

Deptford Pine (Myatt).—A good old sort. [And early. G.]

Duke de Malakoff (Gloede).—Fruit extremely large, sometimes cockscomb and angular shaped; colour light red or scarlet; early; plant very vigorous and healthy; a first-rate sort; excellent.

Duchesse de Trevisse (French).—Fruit small, round, deep red; good.

Eliza (Rivers).—Fruit round, and very good; plant healthy and a good bearer.

Emperor (Taylor).

Exhibition.—Very productive. [See Prince Albert and Prince Alfred.]

Excellente (Loris, Belgian).—Really excellent; a good bearer, of dwarf habit, and quite hardy; fruit large, red, and handsome.

Eleanor (Myatt).—Large and good; one of the best very late kinds.

Elton Pine.—A good late sort; acid.

Ewbank's Seedling.—A little known old sort, very hardy and prolific.

Fill-Basket (Nicholson).—Fruit large and good; an excellent sort for market gardeners.

Filbert Pine (Myatt).—Said to be good in the South of England, but very subject to canker in the North. The plants do only well the first year, then decay. G.

Goliath (Kitley).—Fruit large and pretty good; a free grower.

Gelineau (French).—Late and good. G.

General Havelock (Tiley).—Fruit red throughout.

Hendries' Seedling.—Fruit very fine; flavour after Myatt's British Queen.

Hudson Bay.

Hovey's Seedling (American).—Useful sort for market growers; very productive. G.

Henriette. | Hooper's Seedling.

Hautboy.—The original genuine. Esteemed on account of its musky flavour. G.

Hautboy (Monstreuse).—Large and excellent.

Hautboy.—Prolific. [Prince.

Improved Black Prince.—An improvement on the Black

Improved Black Prince (Toynes).—Not distinguishable from Ne Plus Ultra.

Incomparable (Blake).—Fruit light coloured, almost white; flavour very good, after the old Chilian race; healthy habit, but at Egglescliffe a shy bearer.

Jacunda (Salter).—Fruit large and handsome; hollow at the core; flavour not good; a noble fruit.

Jung Bahadoor (Nicholson).—Fruit well flavoured; remarkably hardy, and bears well; a very nice useful sort. I like this very much. G.

Jenny Lind (American).

Keens' Seedling.—One of the best of the old sorts; first-rate.

Kaminski. [for forcing.

La Constante (De Jonghe, Belgian).—The shape of the fruit always fine and even; large, firm, and compact; flavour first-rate; a splendid sort; one of the very best. Too much cannot be said in its praise.

L'Imperiale (Duval, French).—Very like Kitley's Goliath; questionable whether so good.

La Reine (De Jonghe, Belgian).—Fruit very long; white, shaded with pink; flavour exquisite; perfectly hardy.

La Chalonaise (Dr. Niceuse, French).—Excellent, of the Myatt's British Queen race.

La Delicieuse (Belgian).—Peculiar colour; flesh yellowish, rich, buttery; late. G.

La Perle (De Jonghe, Belgian).—Very good; fine flavoured.

La Liegoise.—Fruit like the Old Roseberry—of the Black Prince race.

Leopold (Belgian).—Fruit very dark coloured, very juicy, and deliciously flavoured; plant strong and bears well; one of the very best.

Le Baron (American).—Early and good. G.

Lucida (Californian).—Fruit too small, but of very vinous flavour; extremely curious, botanically speaking.

Marquise de Latour Maubourg (French).—A very good sort, remarkably healthy; very prolific and fine flavour.

Mrs. D. Neilson (Stewart & Neilson).

Magnum Bonum (Barratt).—Good; very similar to Myatt's Morris' New. [British Queen.

Monstrous Hautboy (Rivers').—Fruit large; flavour splendid.

Malcolm's Aberdeen Seedling (Query, Black Prince).

Monstreuse de Robine (French).—Fruit very large; flavour flat; plant hardy, dwarf, and productive.

Marylandica (American).

McAvoy's Superior (American).

Munroe's Scarlet (American).

Madame Eliza Vilmorin (Gloede, French).—A strong grower; fruit remarkably fine; flavour after Myatt's British Queen.

May Queen.—Very early; superior forcer. One of the earliest of all its race.—Horticultural Society's Gardens.

Nimrod (Pince).—Difficult to say whether it is different from Myatt's Eleanor.

Ne Plus Ultra (De Jonghe, Belgian).—Fruit nearly black; very large and firm; plant very healthy and a great bearer; flavour flat; first-rate for preserving whole.

Naimette (Belgian).—Fruit of irregular shape, rather musky flavour; colour dark red; plant beautiful; very hardy, low habit, good bearer; a very useful sort.

Omer Pacha (Ward).—Like Rival Queen. Fruit good, but a shy bearer. G.

Old Scarlet.—Fruit small, bright scarlet; very early.

Old White (Query, Old White Carolina).—Fruit nice round shape, juicy, rather acid, good size; its deep rich-coloured seeds make the fruit look very beautiful; the flesh pure white.

Oscar (Bradley).

Prince of Wales (Toyne).—Fruit round, dark coloured, and good flavoured; plant hardy.

Prince of Wales (Stewart and Neilson).—Early and good. G.

Prince of Wales (Cuthill).—Fruit a pretty conical shape, very acid, excellent for preserving; a good bearer.

Prince of Wales (Ingram).—A very good and useful sort.

Princess Royal of England (Cuthill).—Fruit good, a vigorous grower, but shy bearer and bad setter. G.

Princess Frederick William (Niven).—The flavour and perfume of the fruit peculiarly delicious: its colour scarlet; plant very healthy and a good bearer: first-rate as an extra early fruit, and one of the very best for forcing, filling the house with its grateful perfume. This will soon prove itself to be one of the very best out-door and forcing sorts ever introduced. (Not sent out till next year.)

Princess Alice Maud (Myatt).—Good shape, colour fine, and good bearer.

Prince Albert (Myatt).—The flavour of the fruit flat; very productive.

Prince Alfred (Scholfield).—Extremely like Exhibition, and Myatt's Prince Albert; pretty fruit.

Prince Alfred (Ingram).—Fruit large and good; plant very dwarf; leaves deep green.

Prince Imperiale (Graindorge, French).—Early and good.

Princesse Royale (French).—Very early and prolific. Rather acid, beautiful shape and colour. G.

Pine.—The Old.

Perde de Rastede (Haage, Prussia).—Difficult to distinguish from Sir W. Scott, Wonderful, and Myatt's Prolific.

Patrick's Seedling.—A strong grower; fruit fine flavoured.

Prolific (Myatt).—Resembles Sir Walter Scott. Fruit rather larger than it, but not quite so high flavoured; beautiful fruit.

Queen Victoria (Myatt).—Early and good.

Quinquefolia (Myatt).—Scarce. Of the British Queen race; useful for pot culture. G.

Royal Victoria (Stewart and Neilson).

Roseberry.—Early, but flat.

Ruby (Nicholson).—Fruit fine; shape and colour good; a great bearer.

Rival Queen.—See Scarlet Pine and Omar Pacha. Here a very shy bearer. G.

Sir Harry (Underhill).—Subject to canker, and only good in some localities; recommended to be grown as an Annual, or disbudded the first year. Forces well, and No. 1 with me. G.

Sir Charles Napier (Smith).—Fruit a beautiful vermillion colour; a good and hardy sort, and forces well; rather acid.

Stirling Castle Pine.—Fruit good size and finely flavoured; plant strong and hardy.

Scarlet Pine.—An old sort, so named by Dr. Roden; very similar to, if not Rival Queen. Fruit excellent flavour, and bears packing well for sending to a distance; a good bearer at Egglescliffe.

Surprise (Myatt).—Fruit very large, but flat in flavour, and sickly in colour.

Swainstone Seedling.—Fruit very large and excellent.

St. Lambert (Belgian).

Sir Walter Scott.—A sort raised in Scotland, very like Myatt's Prolific; and, although more prolific than it, not so robust a grower; a good late forcer; fruit fine; Pine flavoured.

Scarlet Nonpareil (Patterson).—In the North of England subject to canker.

Sir Colin Campbell (Stewart & Neilson).

Scott's Seedling (American).

Triumph (American).—A most abundant bearer, is very early, forces well, and is very hardy; best on damp ground.

Triomphe de Liege (Lorio, Belgian).

Victoria (Trollope).—Superior shape; very good in some localities. No. 1, on account of shape. G.

Versaillaise.—So similar to Myatt's Prolific that it is difficult to perceive any difference; and although a good variety is not equal in flavour and bearing to the Scotch seedling Sir Walter Scott.

Unique Scarlet (American).—Creeping habit; free grower; fruit very fine flavoured; seeds deeply imbedded. Good, but fruit not large. G.

Wellington.—A great favourite with the Market Garden Fruit Cultivators in Scotland, for its productive and other desirable qualities.

Wilson's Albany (American).

Wizard of the North (Query, Sir Walter Scott).

Wonderful.—(Joyce). Query, Sir Walter Scott, so like in every particular, but not so good perhaps.

Wilmot's Superb.—Late. Very fine and tolerably good, but not very productive. G.

## Home Correspondence.

*Golden Hamburgh and Bowood Muscat Grapes.*—The testimony borne by so able a horticulturist as Mr. Cramb to the excellence of the Golden Hamburgh Grape must be very gratifying to both Mr. Busby and Mr. Veitch; but without in the least detracting from the merits of that variety I must differ from Mr. Cramb when he says, "With the exception of the Muscat of Alexandria, we have no white Grape in which are combined so many desirable qualities." My own opinion is, judging from my present experience, that the best new Grape that has come before the public for the last quarter of a century is the Bowood Muscat, raised by Mr. Spencer. I grow it and the Golden Hamburgh in the same house. They were both planted in August, 1857; and this year I had five bunches on a rod of the Bowood Muscat, and the same number on one of the Golden Hamburgh; the bunches of the former weighed on an average 2 lbs., the latter 1 lb. The berries of the Bowood Muscat were very fine; they set as freely as Hamburghs, and had not a shanked berry amongst them. I exhibited three bunches of it at the July show at Regent's Park, and though not quite ripe they got the 1st prize in the class "any new sort." The Bowood Muscat ripens at least 14 days earlier than the common Muscat, sets much better, and has every good quality belonging to the Muscat family, such as being a good keeper and having the same high brisk flavour. I believe it is destined to displace both the common and Cannon Hall Muscats, which is saying a great deal in its favour. It has all their good qualities and none of their bad ones. *W. Thomson, Dalkeith.*

*Tom Thumb Nasturtium.*—I was glad to learn from your report at p. 672 that the floral censors in connection with the Horticultural Society had conferred on a variety of this Nasturtium a label of commendation. I am sure that no one who has grown the true Tom Thumb will regret allotting to it a small space of ground. To the amateur and cottage gardener it is a valuable acquisition, supplying a scarlet which, at a certain distance from it, resembles that of a Tom Thumb Geranium, and everybody knows how easy it is to grow a Nasturtium. I have five varieties at this place blooming most profusely; every one who sees them admires them; they are all quite dwarf; one or two intense scarlets resemble in compactness of growth a plant of the common hedgerow Primrose. *J. Edlington, Winch House, Seacombe.*

*Veitch's Perfection Pea.*—It would be obliging if some of your readers who have this year grown this Pea would report their opinion of its merits, and wherein it is considered to differ from Hair's Mammoth or Lord Raglan. I have myself had three different

sowings of all the three, treated all exactly alike, and for the life of me, I have not up to this hour been able to trace the least superiority of the one over the other. That they are all excellent I admit, nay more, they are probably the best late Peas in cultivation, but if my trial is corroborated by the experience of others, why have three named in our already overburdened seed lists when one might suffice? and that one should be the good old original Hair's "Mammoth." It would be an important addition to our stock of Peas to possess a variety equal to the one just named, and two weeks earlier. I ought to have stated that the Perfection Pea was procured direct from the Messrs. Veitch. *A Provincial Seedsman.*

*Battersea Park.*—On Sunday last I took an evening's walk to this park, and while wandering there was much struck with the appearance of a most extraordinary looking flower, but no names are affixed to the flowers or shrubs in this park, and of course no one could be found to tell me what it was. I will therefore attempt to describe it, in the hope that some of your correspondents may be able to tell me the name. The leaf was that of the Lilium lancifolium, throwing out a stem about the length and thickness of a Bulrush, with a head very much in shape and size like a spear head, the bloom formed of small pendent bells thickly studded; the upper part, about half way down, being of a bright crimson, and the lower half a deep yellow. I have never seen anything like it before, and should much like to know what it is. At the same time perhaps you could inform me the right pronunciation of the Gladiolus, whether the *i* is long or short. *Rus in Urbe.* [The *i* is sounded long, although really short, the *o* itself being also short. Whenever the last syllable but one of a Latin word is short the accent should be thrown on the previous syllable (the antepenultimate) whether that syllable is long or short.]

*Large Sunflower.*—Permit me to inform your Brighton correspondent that Sunflowers with leaves such as he describes may be found in nearly every cottage garden in this village. One in front of my window measures 9 feet 2 inches in height; circumference of stem 5 feet; from ground 6½ inches; leaf 18¾ inches by 15½ inches. The flowers have not yet expanded. *P. Fry, Addington, Kent.*

*Hot-water Pipes for Forcing Rhubarb.*—I am about to lay down some hot-water pipes for forcing early Rhubarb. Will some of your correspondents inform me at what depth they should be laid, and what would be proper to put on them? Whether it would be best to put any stones or only soil? *An Old Subscriber, Gloucester.*

*Gishurst Compound.*—My men have just been using some of this in the conservatory in the proportion of 2 oz. to the gallon, and whether it has destroyed the insects or not I find that it has played havoc with the paint and varnish. The paint (stone-coloured anti-corrosion) it has changed to the colour of iron rust, and the varnish (the best carriage) put on 12 months back is either washed off completely or so dulled as to be quite an eyesore. We tried to correct the evils by immediate washing with clean soft water and a scrubbing brush, but that was quite useless, and there is now no remedy but to repaint the parts injured and revarnish the woodwork. *Judex.* —— Greenfly had attacked our Muscle Stocks, 12,000. We tried a solution of ½ lb. to the gallon of this Compound on 500 Stocks as an experiment, and found that it surpassed our expectations. *Geo. Jackman & Son, Woking.* ——Having caused the Gishurst Compound to be thoroughly tested in the different departments of my establishment as a means for the destruction of greenfly and black fly, thrips, &c., I am now enabled to speak most confidently and satisfactorily as to its results. Amongst my fruit trees and fruit tree stocks, which are so frequently severely injured during the spring by the black and green fly, it has been most successfully used in the proportion of 2 oz. to the gallon, and the total absence at this moment of any insect or curl on the leaf incontestably proves how sure a remedy it is. In my plant houses, where it has been used in the proportion of from 2 to 4 oz. to the gallon, according to the judgment of the foreman, it has also proved equally successful. It therefore affords me much pleasure in thus adding my testimony to that of others, as to its good qualities. *James Veitch, Jun., Royal Exotic Nursery, Chelsea.* [We think enough has now been said on this subject.]

*Syphon Watering* (see p. 656).—Exhausting the air in the tube is accomplished very easily. After insertion in the barrel the delivering end is held a little lower than that in the water. The operator then applies his mouth to the tube, and keeps sucking until he feels the air rushing into his mouth. This is a sign to immediately desist, as the water is now coming along the tube, and to remain longer there would subject the operator to a mouthful of water and probably a wet face. If liquid manure is being used it is not so pleasant to apply the mouth. In that case we generally fill the syphon with water, keeping both ends stopped until one end is inserted in the barrel and the other in the position for delivery. This produces action just the same as if the mouth were employed. We brought the water-cart along some of our terraces, and with a tube 40 feet long watered successfully the beds beneath. With this length no diminution in the force of the water took place. That a syphon need not be confined to a bent tube having a long and a short end is evident from the many turns our Gutta Percha tubing took whilst in operation. In watering with the long tube near the cart at the bottom of slopes, we coiled the tube round the neck of the operator, without interfering in the least with the flow of water, the operator throwing off the coils at pleasure as he required to recede. Watering from a cart on this principle has many advantages to recommend it. One is, that it admits of as many syphons as it may be thought necessary to work, and being on the top of the cart they are kept clear and safe from the action of the wheels. Where gardens have not the advantage of a system of piping supplied from a high pressure, the syphon will be found a most invaluable acquisition. *William Miller, Gowran Castle Gardens, Kilkenny.*

*Gladiolus Brenchleyensis.*—We have forwarded to you a box of blooms of this Gladiolus, the bulbs of which when planted in March on our black sandy soils were not larger than swan shot. *Youell & Co., Royal Nursery, Yarmouth.* [The flower stalks sent measured on an average 20 inches in length, and were each ornamented with from eight to 12 blooms of most brilliant orange scarlet. This must certainly be regarded as one of the most showy and beautiful of the class to which it belongs.]

*Bees.*—The following account of the increase of honey in a hive suspended from a spring balance may be interesting to some of your readers:—

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| June | 7 | .. .. | 0 lbs. | July | 19 | .. .. | 27 lbs. |
| ,, | 14 | .. .. | 3 ,, | ,, | 26 | .. .. | 28 ,, |
| ,, | 21 | .. .. | 7 ,, | Aug. | 6 | .. .. | 29 ,, |
| ,, | 28 | .. .. | 10 ,, | ,, | 13 | .. .. | 27 ,, |
| July | 5 | .. .. | 12 ,, | ,, | 15 | .. .. | 27 ,, |
| ,, | 12 | .. .. | 18 ,, | | | | |

On which day the honey was taken. *W. W. Spicer, Itchen Abbas.*

*Blue Hydrangeas.*—In one of the houses in the Horticultural Society's Garden are a number of Hydrangeas in full bloom; part of these are of a fine pink, part of them of a pure blue, all equally healthy. The gardener who has charge of them says that he mixed some old nails and iron filings with the earth from which the blue flowers are produced. I have taken some of the pure pink flowers and applied to them a strong solution of sulphate of iron (with a little nitric acid to peroxidise the iron) and find that this turns them blue, as you will see by the enclosed specimens. Hence there seems to be no doubt that the blue colour may be produced by iron. I placed a cut bunch of pink blossoms with the stem in a weak solution of sulphate of iron, renewing the absorbing surface from time to time by slicing a piece off, but in the course of two days no alteration of colour has taken place; however, when the pedicels are crushed they assume a blue tint. Some of the flowers infused with boiling water had their pink colour discharged, and on adding sulphate of iron and allowing them to stand for some hours, they became coloured of a pale blue tint, darkest near the centre. The flowers generally when treated externally with the iron solution do not appear to become coloured unless the cellular tissue is crushed or otherwise injured. These facts seem to settle the vexed question of the production of blue Hydrangeas; it remains for the chemist to explain them. *Arthur Henfrey, Turnham Green, August* 13.

## Societies.

Botanical of Edinburgh: *July* 14.—The President in the chair. Dr. Aitken of the Inverness Asylum sent specimens of Hottonia palustris, and of Hydrocharis Morsus Ranæ, from Mordan Carrs, county Durham. The following donations to the museum were announced:—From A. Hewan, Esq., Old Calabar, stick made of African Teak; hats and mats made from the leaves of Pandanus odoratissimus; fibres, cloth, and musical instrument, made from Palm leaves; Sasswood or Krooman's Ordeal Bark; ornamented cupping Gourd (Cucurbitula), and other larger carved Gourds used by the natives of Old Calabar for domestic purposes; bird's nest, formed from the leaves of Elais guineensis, the Oil-palm, portion of pod of Entada scandens, and another large pod used as a varnish in Old Calabar. From A. Murray, Esq., root, showing natural grafting. From Mrs. Knapp, specimen of wood of Garrya elliptica. From T. C. Davies, Esq., a large collection of woods, fruits, extracts, and other materials used in the Lancashire cotton manufactory as dyes, arranged in glass cases. From J. G. Reid, Esq., dried Peaches from Cape of Good Hope. From H. Cowan, Esq., seeds of the Wax plant of Japan. From Dr. Oswald, Indian Service, specimen of Bamboo Rice and of Tabasheer, from India. From Dr. A. Hunter, Madras School of Industrial Arts, specimens of dyed cloths from Mangalore in India; also specimens of papers from India, with the fibres from which they are manufactured. From Mr. Sang and Mr. W. M'Nab, a series of stereoscopic representations of plants. From Miss M. Frome, large specimen of the fruit of Urania speciosa, or "Traveller's Tree," from Madagascar. The following communications were read:—I. "Statistics of Botanical Class in the University of Edinburgh from 1777 till 1859 inclusive." By Prof. Balfour. From this it appeared that the number of students had varied from 54 in 1777 to 115 in 1807, 180 in 1817, 200 in 1827, 227 in 1837, 199 in 1847, 192 in 1857, and in 1859 had amounted to 253. The largest number on record was 280 in 1828. —II. "On the Fruits of the Cucurbitaceæ and Crescentiaceæ, as the original Models of various Clay, Glass, Metallic, and other Hollow or Tubular Vessels and Instruments employed in the Arts." By Prof. Wilson. The author commenced by drawing a contrast between the plan of procedure of an animal artist, such as a bird or an insect, and that which guides a human workman when each is executing a design. Both classes of artists agree in eschewing chance, and following in their work a prearranged plan. They differ in this, that the human artist carries out his own conception, realising an idea which has arisen in his own mind, or at least a scheme which has been wrought out there; whilst the animal artist carries out a conception which is not its own, but a divinely implanted instinct, in other words, a thought of God's. Each animal instinct is thus equivalent to an infallible recipe or formula of guidance, furnished by God to the creature which follows it; and the instinctive workmanship which results, for example, in the exquisite cell of the bee, the geometric web of the spider, the caterpillar's resurrection-shroud, and the swallow's nest, is as truly the copy of a God-given pattern as were the mercy-seat or the golden candlestick of the Hebrew tabernacle which Moses constructed after the perfect models shown him on the Mount. However inferior, accordingly, the animal may be to the human workman, the work of the former, as an example of divine design, may serve the latter better as a pattern for his own work than anything he could devise himself. A conviction of this kind has always dwelt in the minds of the intelligent men of all ages, and has induced them to admire and to copy both the workmanship and the organs or tools of the lower animals, as in many cases not admitting of being surpassed or even equalled by human devices. From the animal it is but a step to the plant, and if we miss consciousness, and cannot assure ourselves of even the smallest amount of intelligence, we are still certain of the presence of a manifold energetic subtile life, which gives to each vegetable organism powers of transforming matter, still more marvellous in some respects than those of the animal. If, for example, the animal is more wonderful as a mechanician, the plant is more wonderful as a chemist. Nor do we fail to realise that the inner vegetable life which invests the plant with energies so far transcending those of the mineral on the one hand, and of the animal on the other, may be traced back from seedling to parent-plant through thousands of years, while we find for this life no beginning except in the will of God, and perceive that he is behind it guiding and controlling it wherever it appears. The flowers, fruits, leaf-appendages, and other organs of plants which have in all ages been resorted to by mankind as patterns, are thus, though in a different sense, as truly Divine patterns as the organs or workmanship of animals. Whilst thus to plants is given the unconscious realisation of Divine designs, and to animals the spirit of conscious and delightful obedience to perfect plans of work, to man has been granted the God-like power to create what in its degree shall bear his stamp as its maker, even as the universe shows everywhere the finger-touch of the Almighty. The human industrialist has thus plainly in his choice two modes of work; he may either fall back entirely upon his creative or inventive faculty and devise novel instruments, or he may imitate in whole or in part vegetable or animal organisms (including animal workmanship), accepted as Divine patterns ready to his hand. In reality, industrial man has constantly been following both modes, sometimes inventing, sometimes copying, often combining both. It is to certain of his imitative proceedings that reference will now be specially made; with, however, the proviso that those proceedings can in no case, from the difference of tool and material with which man works, be absolutely imitated, but only partly so. In endeavouring to ascertain what human instruments are copies of natural objects, we must not forget that certain forms are so common that mere similarity in shape between a particular industrial instrument or vessel, and a natural object, is not enough to show that the one has been imitated from the other. Thus a very familiar form of wine cup recalls closely the configuration of a truncated polished Cocoa-nut, but not more than it does an ostrich egg similarly treated; or the lower part of a Bottle Gourd. It also resembles the capsule of some species of Poppy, and also the theca or spore case of certain Mosses, whilst the calyx of the Rose gives the perfect contour of our wine cup. It might then have been modelled after any one of those patterns, and it may have been after none of them, for among the ovals of a mathematician would be found outlines which would exactly give the form we have been describing. Similarity, then, or even identity, of form, especially in the case of simple shapes, is no certain proof of the one having been copied from the other, but it is an important guide to the derivation of an artificial shape from a natural one. In seeking for further means of certifying the relation of similar forms to each other, it will be found that the name by which an industrial instrument or vessel is known often points to the form or material of its prototype, which it has long ceased to resemble in most particulars. Thus the brewer offers his visitor a horn of ale. If the offer is accepted, the horn makes its appearance in the shape of a tin mug, still indicating by its shape and name that the original drinking-vessel was made from the wider part of a cow's horn. A hunting horn again is now a brass trumpet, which in its more elaborate forms, completely conceals from us that it is but a lengthened modification of coiled and very wide-mouthed horn of brass. So also a shoe-horn is often a scoop of metal. We have in the same way the Latin name *tibia* applied to a musical pipe or flute, preserving the fact that it was originally made from the leg bone of an animal; and the name *avena*, applied to the pastoral pipe, recalling that it was

at first a straw or Reed. So also the Greek *alabastron*, primarily limited to a perfume box made of alabaster, came latterly among the ancient Orientals to signify any kind of box employed to contain a fragrant oil or ointment of high price. In addition to the name, we have an important means of identifying the originals of modern and familiar vessels which have been long in use among highly civilised nations, in observing the mode in which nations of another type of civilisation than ourselves, or little advanced in civilisation at all, supply the absence of such vessels as we use. Keeping those points in view, it would appear that our modern hollow and tubular vessels have been mainly modelled on three distinct types:—1st, the stems, leaves, flowers, and fruits of plants; 2dly, the bones, including the hollow horns, of the mammalia; 3dly, the shells of external skeletons of the mollusca. Omitting all reference to the two last heads, and limiting attention solely to fruits under the first, the relations of the Cucurbitaceæ and Crescentiaceæ may now be considered. No tribe of plants appears to have yielded so many different hollow vessels as the Cucurbitaceæ or Gourd family, with which, however, it will be convenient to include the Crescentiaceæ or Calabash trees, yielding the Calabash. This has apparently arisen—1st, from their wide distribution over the globe, which is so extensive that in all its hotter regions members of this family are indigenous, and they are easily cultivated in the warmer temperate regions; 2d, they yield fruits of great diversity of form, but possessed in certain varieties of firm, hard rinds; 3d, they are easily deprived of their pulp and rendered hollow; 4th, they can, whilst growing, be to some extent moulded in form, and though their rinds when dry are hard, they are easily cut and perforated. Next to the hollow horn of the mammalia, the Gourd, representing all the Cucurbitaceæ and the Calabashes, yields the greatest variety of vessels. In illustration, the following examples, along with others bearing on different references in the paper, were laid on the table, the specimens being taken from the Botanical and Industrial Museums:—An elaborately carved ovoid work-box; a basket with and one without a handle; various South and West African snuff bottles or boxes, plates, plate-covers, cups, bowls, water-jug, water jar, cooking pot, spoon or ladle, scoop or skimmer, vessel, with suction-tube and strainer, answering as teapot, cup and saucer in one (used by South American Indians for maté tea), funnel used for medical purposes by Africans at Old Calabar, flask-like bottle, constricted or hour-glass, pilgrim's bottle, cupping instrument as used at Old Calabar. Besides these, reference was made, on the authority of Dr. A. Hunter, of Madras, to the construction by the natives of India of a musical instrument resembling the guitar from a large flask-like Gourd; and to their conversion of a similar but much smaller Gourd into a suckling-bottle for children. Allusion was also made, on the authority of the same gentleman, and also on that of Mr. A. Hewan, of the Old Calabar mission, to the employment in India and Africa of empty Calabashes as floats, or the components of rafts, by means of which men, animals, and baggage were ferried across rivers. A single Calabash, it was stated, was quite sufficient to float a man, and the Africans contrived to balance themselves on one in a very adroit but, to white men, inimitable way. The author further reminded his audience that, according to an authority in whom they had much faith in their early days, Cinderella's friend the fairy made her a splendid coach out of a Pumpkin or immense Gourd. He was afraid this was a lost art, at least at this season. It can apparently be practised only at Christmas time, when the pantomime is in vogue. Nevertheless, it might be that Cinderella's pleasant story contains, besides much else, a cognition of the manifold uses to which a Gourd may be industrially applied. Without insisting on this, the Gourd might with confidence be regarded as having been in both hemispheres the precursor and natural model of the cup or bowl afterwards fashioned in clay and metal. In particular, however, it was the prototype of three hollow vessels. The first is the long-necked bottle, with an egg-shaped body, which has been imitated in clay from a Cucurbitaceous fruit by the Chinese, the natives of India, the ancient Egyptians, and various African tribes, as well as by the ancient Persians, to mention no others. The similarity of the clay bottles of these nations to Gourds has struck all observers, and the botanist, by the term Bottle-Gourd applied to the fruit of one particular plant, has implied his recognition of that species, as the best marked vegetable prototype of the artificial liquor flask. Recently Minton has produced a graceful copy of the Bottle-Gourd, in yellow majolica ware, with curling tendrils and leaves in green, as if in the name of the ceramic art to do homage to a natural model which it has followed in all countries for thousands of years. From clay the transition is ready to glass, in which the Bottle-Gourd, either as first or second-hand, has been constantly imitated. Secondly, the constricted or hour-glass Gourd is the accepted or traditional pilgrim's bottle, drawn by our artists as slung by its narrow waist over the shoulder of the wayfarer in their illustrated "Pilgrim's Progress" and "Palmer's Crusading Journeys." The Gourd is supposed by some to owe its constriction and hour-glass form to the effect of a ligature tied round it while growing, but such a process is certainly not necessary. Plants grown abroad under the eyes of botanists, as well as several raised in the Botanic Garden here by Mr. M'Nab, spontaneously produced fruit with the useful constriction which enables it to be hung by a string across the shoulder. In Europe this form of bottle is now little seen, but it is otherwise in the east, where it is copied in clay and porcelain as a convenient water vessel. For actual pilgrims the hollow Gourd itself has the advantage of being less fragile than its clay copies. Both, however, are used, in illustration of which two small porcelain figures of Chinese wandering beggars were shown, each with his hour-glass Gourd or its fac-simile in clay. The third, and perhaps the most curious, as certainly it is the most novel, relation of the Gourd to hollow vessels, is as the prototype of the cupping glass. The author was led to suspect this in consequence of receiving a year ago the gift of a small Gourd for the Industrial Museum. It had been sent to Dr. Greville by Mr. Hewan, the mission surgeon of Old Calabar, and was stated to have been used by the natives for cupping. The author was led to recall the fact that the Latin name for the cupping-glass was "Cucurbitula cruenta," and to surmise that the name was a standing memorial of the earliest cupping instrument having been a Gourd. This summer he had the opportunity of meeting Mr. Hewan, who is on a visit to this country, and from him he learned that the practice of cupping with Gourds is common in Western Africa, as well as among the negroes in Jamaica. Lexicographers have explained the Latin name of the cupping glass as referring to the resemblance in shape of the latter to a Gourd; but it does not more resemble a Gourd than various other objects. Moreover, a cupping instrument as ancient as the "Cucurbitula" was the tip of a cow's horn, perforated at the apex, so as to allow the air to be sucked out by the lips after the base had been applied to the scarified skin; yet no two shapes are more dissimilar than those of the egg-like Gourd and the conical horn. The author accordingly infers that alike the Latin Cucurbita, or Cucurbitula, and the Greek *Sicyos* were applied to the cupping-glass mainly because originally it was a Gourd, although unquestionably the permanency of the term was secured by the instrument retaining the Gourd form after it parted with the Gourd substance. The Gourd was thus in a twofold way the prototype of the cupping instrument. In illustration of these points the author showed three African cupping Gourds; a Shetland "Blude horn," or cupping horn as used at the present day; and drawings of the Gourd-shaped bronze Cucurbitulæ, found in the ruins of Herculaneum and Pompeii. A brief allusion was made to the cupping Gourd and cupping horn, as the earliest artificial vacuum producers and precursors of the air-pump; but this subject was reserved for a special investigation. Remarks were made on the paper by Mr. Hewan, of Old Calabar, who was present at the meeting.—Mr. M'Nab placed on the table a series of living Alpine plants, including 15 or 20 collected by Dr. Balfour's party in Switzerland. Also a specimen of Sabbatia stellaris, showing a peculiarity in the style, which lies at first flat on the corolla with the two stigmas close to each other, and after the pollen is applied becomes erect, with the stigmas separate.—Mr. M'Nab exhibited specimens of Helleborus niger or Christmas Rose in full flower; also a Hawthorn branch with the fruit of last year and of the present year attached to it.—Mr. Hewan exhibited a specimen of the flower of Aristolochia gigantea from Africa.

## Notices of Books.

*The American Home Garden*, by Alex. Watson. 8vo. Sampson Low & Co. Pp. 531.

A long account of the American way of Strawberry growing was lately transferred from this volume to our columns. It will therefore have been inferred that we find the book one in which gardeners may gather information. And so we do, when the way of cultivating plants in the United States requires to be considered. But it is chiefly calculated for the peculiar climate of that part of the world, and must not be taken as a certain guide on this side the Atlantic. Not but what its pages contain plenty of horticultural precepts which all may follow in all places; and therefore it may be recommended to those who can afford to buy many books on gardening. About 150 pages are filled by an account of American fruit trees, and are abundantly illustrated by outline figures. Here we get information regarding the orchard fruit of the States, and to this part the English reader will most frequently turn. A good deal of space is occupied by descriptions of insects, there is a well prepared index, and an abundance of woodcuts, some of which have, however, been engraved from extremely bad drawings. The following is Mr. Watson's advice upon a very common operation:—

"*Hoeing.*—The directions so often repeated in this work, to 'hoe frequently and deeply,' may seem to the inexperienced superfluous; it may be thought that hoeing is useful only for the purpose of killing weeds. The cultivator of a garden could scarcely make a greater mistake. It is admitted as a demonstrated fact in vegetable physiology that plants receive their food principally, if not entirely, by the spongioles, or extreme vessels of their root-fibres. Now in the deep hoeing of crops, the extending roots of the plant are cut, and every tender growing root thus cut will in a few hours throw out several new ones, pushing in various directions, and some of these being cut by subsequent hoeings, the ramifications of the roots are greatly increased, and in an equal, or perhaps even in a greater ratio, their spongioles or mouths are multiplied.

"Again: modern science has shown that ammonia is the great quickener and an essential supporter of vegetable life, and that the atmosphere is the reservoir or chief source for supplying it. By deep hoeing the soil is most thoroughly pulverised; it is so loosened that the young roots can seek their food with facility; it is opened to the air and dews of night, which bring with them at once the ammonia which furnishes the material of their food, and the moisture, combination with which is probably essential to its reception by the plant. This, however, like all other garden operations, may be performed wisely or unwisely. No set of rules will allow the cultivator to lay aside his judgment and common sense, and go on blindly to success; but the following suggestions will be found useful in practice:—

"1st. In the early stages of their growth, all garden crops should be frequently and deeply hoed; that is, in fruit or seed-bearing plants, as Cucumbers, Beans, &c., until the blossoms are about to appear; in heading vegetables, until the heads are about to form; and in root crops, until they are about to swell, or until they attain from ½ to ¾ of an inch diameter. Most crops, too, will be greatly benefited by being ploughed or dug through between the rows, wherever this is practicable, at least once during their growth.

"2d. Crops, when nearing maturity, if hoed at all, should be hoed shallow, unless it be at such a distance as will leave the larger roots entirely undisturbed. For this purpose, the thrust hoe may be used to advantage."

Messrs. Brunlees & Webb, civil engineers, struck with the manifest impossibility of either executing Mons. de Lesseps' plan of uniting the Mediterranean and Red Seas by a ship canal, or of maintaining it if executed, propose to substitute a railway on which ships may travel from sea to sea. They purpose erecting at each port a pier upon either disk or screw piling, running out far enough to obtain the necessary depth of water. When this position has been reached, a small harbour will be constructed containing one or more hydraulic lifts. The vessels will be raised on cradles by the lifts to the level of the railway, and lowered by the same means at the termination of their transit. Whilst on their cradles the ship's hulls can be examined, even during the passage from one sea to the other; and if repairs are needed, the vessels on their cradles can be taken to repairing yards on the main land. The railway will be practically level throughout, and they anticipate that a speed of 20 miles per hour will be maintained with ease and safety, especially since a ship would be able to make use of her sails on the railway. It is calculated that the cost of the works will amount to the sum of 4,800,000*l.*; while De Lesseps' projected canal, although it is impossible to frame a correct estimate for so precarious an undertaking, cannot be less than 30,000,000*l.* The details of the new scheme are given in a *Proposed Ship Railway across the Isthmus of Suez*, a pamphlet published by Reed & Pardon, Paternoster Row.

Trade Lists Received.—Hugh Low & Co.'s (Clapton) *Catalogue of Plants, Trees, Shrubs, &c.*, fills 76 pages of matter closely printed in double columns, and certainly forms one of the most remarkable of our English trade lists, whether we regard its extent or the great variety of fine things that it includes in every class, from Herbaceous and Alpine plants up to Ferns and Orchids.—Vilmorin & Co. (Paris), a List of seeds for field crops which can be sown at the present season (*Liste de quelques graines de grande culture, qu'il convient de semer en cette saison*), contains several new and improved varieties of Trifolium incarnatum, Rape, &c., of which mention will be made in our agricultural columns.

## Garden Memoranda.

Mr. Cuthill's, Denmark Hill, Camberwell.—Strawberries have been good here this season. The Black Prince suffered to some extent from the long continued cold north-east wind which prevailed in spring; but still bore a fair crop. Cuthill's Princess Royal proved hardier than the last-named sort, and bore abundantly. It is a general favourite on account of its fine flavour, and deserves to be better known than it is. His Prince of Wales, however, is the kind on which he most depends; it suffered less than any other this spring, and as a proof of its productiveness Mr. Cuthill informed us that he gathered several hundred lbs. weight from it in one week; 100 lbs. of it he sent one morning (30th of June) to the Wanstead Institution, in addition to that he gathered 20 lbs. more on the same day, and all from a very small plot of ground. Of Seedlings Mr. Cuthill has two, both of which he thinks may take a first-class place among Strawberries. Of one which he calls Highland Mary some account appeared in our Number of the 3d July last year. Richard the Second is the name given to the second sort. What fruit we saw of it was above the medium size, of a rich dark colour and good flavour; it is also reported to be very hardy, and a great bearer—both stand forcing well.

In March this ground resembles, as Mr. Cuthill says, a large manure heap, every inch being covered with plants, over which is put a layer of half-rotten horse-dung to the depth of from 1 to 2 inches; through this the plants gradually force their way, and it helps to keep weeds down, while during every shower of rain that falls it enriches the ground and feeds the plants at a time when they most want support. This plan is greatly superior to the old system of putting clean straw or Grass between the

rows, and it is more easily carried out, the straw being troublesome to apply after the plants have grown, besides, it is a bad conductor of heat. Grass is equally objectionable, and it gives a musty flavour to the fruit. The dung even during the heaviest storms effectually prevents grit from spoiling the fruit. Several hundred plants put out in April last have thriven remarkably well and borne fruit; these were planted with a trowel. Mr. C. never uses the dibble, which crams the roots into a small hole, thereby preventing the plants from pushing vigorously. His plan of making strong runners quickly is worth attention. As soon as the crop is gathered and the runners begin to meet between the rows, he throws a quantity of light mould over them; into this they strike root immediately, and make fine plants in a very short time.

In the culture of the Mushroom Mr. Cuthill is very successful. He has two old Vineries 45 feet in length, with a pathway along the centre, and beds on each side 4 feet wide, and about 16 inches deep. These are made up of dung and surfaced with mould. He has also a low span-roofed house with beds on each side, in which manure is laid to the same depth. In this he manages to keep the beds long in bearing during summer, by putting a covering of straw over the roof, which is of glass. During hot weather the straw is well watered every night, which helps to keep the inside comparatively cool, and in this way beautiful Mushrooms are obtained all summer, and singularly free from insects.

We noticed two rows of Asparagus grown by way of experiment. For this the ground was merely trenched and the manure dug in afterwards. The plants stood a foot apart in the rows, and the latter were 4 feet asunder, with a row of Seakale in the centre. Both Asparagus and Seakale received good soakings of manure-water in spring and summer. Plenty of salt was put on in March, and with a hoe soil was drawn up so as to cover the Asparagus to the depth of about 4 inches. The Seakale was also covered with mould, which is all that was done. This of course is for late Seakale, but Mr. C. is of opinion that large plantations of both these esculents might be made and managed cheaply enough on this plan to bring them within the reach of everybody. While Asparagus and Seakale beds are made as they usually are with enormous quantities of rich material to a great depth, the produce must of necessity remain dear. The culture of these, Mushrooms and other things mentioned in this report is very fully given in the form of pamphlets which are published by Mr. Cuthill.

Now that Cucumbers are being brought into our markets from Bedfordshire and Huntingdonshire, from 10 inches to a foot in length, straight, green, and solid, and sold by the growers at from a penny to twopence a dozen, frame Cucumbers are little sought after; but as in winter and spring the latter can only be had, some account of Mr. Cuthill's plan of growing them may not be uninteresting. He attributes failures generally to the application of too much, both of top and bottom heat, during the dark months. He states that when he took the ground he now occupies some 20 years ago he was "quickly brought to his senses in this matter by having no one's pocket to go to but his own." He found that a 4-inch hot-water pipe for top heat and a 3-inch one for bottom-heat was all he could afford. These kept all safe during many a cold and stormy night when he grew Cucumbers for Covent Garden market. Often in the morning his thermometer stood at 50°; but still the plants did well. He also found that short Cucumbers, and plenty of them, paid him better than long ones which took longer time to grow; he therefore cultivated exclusively his Black Spine, whose fruit is about 1 foot in length, and his more recent kinds, the White Spine and Highland Mary, also belong to what he calls "the cut-and-come-again breed." Of the latter, 300 Cucumbers are stated by Mr. Cuthill to have been cut from a 12-light pit in 15 days, and that without any artificial heat whatever. He therefore uses at all times as little of the latter as possible. In the case of early Cucumbers the plants are planted out into the soil over a slight bottom heat, four being put under each light; a short time suffices to show which of these is likely to take the lead when the weaker ones are removed. A stick thrust into the soil serves to conduct the young plants to a trellis which is placed about 3 feet above them. Mr. Cuthill grows wholly on trellises, which he says answers better than any other plan. As soon as the plants reach the trellis their points are nipped off, which causes them to branch and cover its surface, after which little more artificial management is required. Liquid manure is freely applied when the plants are in active growth and in full bearing, and woodlice are kept down by watering round the walls of the pit inside with boiling water. In this way excellent crops of fine fruit are secured, wholly free from speck or blemish.

## Miscellaneous.

*Death from Sting of Hornets.* (?)—In a letter by an Indian gentleman, living near Jubbulpore, it is stated that two European gentlemen belonging to the Indian Railway Company—viz., Messrs. Armstrong and Boddington—were surveying a place called Bundar Coode, for the purpose of throwing a bridge across the Nerbudda, the channel of which, being in this place from 10 to 50 yards wide, is fathomless, having white marble rocks rising perpendicularly on either side from 100 to 150 feet high, and beetling fearfully in some parts. Suspended in the recesses of these marble rocks are numerous large hornets' nests, the inmates of which are ready to descend upon any who may venture to disturb their repose. As the boats of these European surveyors were passing up the river, a cloud of these insects overwhelmed them; the boatman as well as the two gentlemen jumped overboard, but Mr. Boddington, who swam, and had succeeded in climbing to a marble block, was again attacked, and being unable any longer to resist the assaults of the countless hordes of his infuriated winged foes, threw himself into the depths of the water never to rise again. On the fourth day his corpse was discovered floating on the water, and was interred with every mark of respect. The other gentleman, Mr. Armstrong, and his boatmen, although very severely stung, are out of danger. *Pharmaceutical Journal.*

## Calendar of Operations.

(*For the ensuing Week.*)

### PLANT DEPARTMENT.

CONSERVATORY, &c.—It is now time to provide and encourage an assortment of flowers adapted for blooming late in autumn and early winter. Camellias, if forced into wood, will be tolerably forward. They should be kept out of doors in a good place on cool flags or cool ashes to prevent worms from deranging the drainage. Chrysanthemums should now receive their last shift if possible, using chiefly sound fibrous loam for the purpose with plenty of charcoal. This is the best way to keep them stiff in habit and to preserve their lower leaves. Any necessary amount of strength may be imparted to them when the flower buds are formed by good liquid manure. Successions of Brugmansias, Clerodendrons, Euphorbias, Poinsettias, &c., should receive a last shift in order that they may produce a rich display in the conservatory. Climbers on ornamental trellises should be occasionally cut back with the view of having a succession late in the season when flowers become scarce. A batch of such things as Thunbergias, Ipomœas, Jasmines, Stephanotis, Passifloras, &c., should be got up ornamental trellises without delay; Clematis bicolor and C. azurea grandiflora force well in early spring; rest them behind a shady wall in June and July, and they will flower again in October and November. These latter plants although perfectly hardy are well adapted for conservatory trellises. ORCHIDS.—Continue to top up late growth and to keep the plants at the warmest end of the house. Give air liberally in the early part of the day, and on very fine mornings syringe occasionally the whole of the stock.

### FORCING DEPARTMENT.

PINERIES.—Plants growing in dung pits must be freely supplied with air to prevent their getting drawn, and they should also be kept near the glass and not allowed to stand too closely together, for strong robust plants need hardly be expected unless this is attended to, and weakly drawn ones seldom or never yield fine fruit. Give careful attention to such as are swelling; afford them plenty of warmth and moisture, and as much manure-water at the root as the soil will bear. Remove useless suckers and gills as soon as they are perceived, which, if left, only rob the fruit and weaken the sucker which it may be necessary to leave on the plant for keeping up the stock. Do not allow young stock in free growth in the succession pits to stand too closely together, nor to sustain any check through neglect in watering, or the want of pot room. Plants growing in beds of soil must also be carefully attended to with water, keeping the soil in a nice moist state. Where rapid growth is required keep as warm and moist as can be done without drawing the foliage, and give plenty of strong clear manure water at the root, and the plants will make rapid progress for the next two months. VINERIES.—See that Vines from which the fruit has just been cut are free from insects, giving the foliage an occasional washing with the engine if red spider is at all troublesome; and use every precaution to keep the leaves in health as long as possible. Prevent the growth of laterals, which only shade and injure the principal foliage. Late Grapes colouring should be assisted with slight fires in cloudy weather, especially Muscats, which, after this season, where they are not already all but ripe, will require gentle fires, unless the weather should prove unusually fine.

### FLOWER GARDEN AND SHRUBBERIES.

In some neighbourhoods green fly has been troublesome to Verbenas, &c. Where such is the case tobacco-water and soap-suds may be used with advantage. The strength of the mixture should be tested by dipping some of the shoots worst affected into it and using it sufficiently strong to kill the insects, but not so much so as to injure the leaves. It should be applied in the evening when there is a prospect of a dry night, using a fine syringe or finely rosed watering-pot, and giving enough to moisten the whole of the foliage. Go over the beds frequently and remedy any defect that may be perceptible without loss of time, for bedding plants are enjoyed only for a comparatively short season, and now that they are in beauty every means should be used to render them as attractive as possible by maintaining the most perfect order and neatness. Where the stock is clean and growing vigorously this will involve considerable attention, and it will be necessary to go over the beds frequently, pegging down where necessary, removing decayed flowers, and cutting back such of the shoots as may incline to encroach upon the edging of the beds. Keep herbaceous plants neatly tied up, and cut off the flower stems of any that are becoming unsightly. Take advantage of leisure hours to put in cuttings, and use every possible despatch with this work until there is a good stock in a fair way for rooting of such things as are known to be difficult to winter, except in the shape of well-established plants. Keep gravel walks perfectly smooth and neat by weeding, sweeping, and rolling, as may be necessary. Keep climbers on walls within due limits.

### HARDY FRUIT AND KITCHEN GARDEN.

It may be advisable to go over such trees as are over luxuriant and stop about half the shoots, beginning of course with the strongest; for a general stopping at this time would probably be of little farther service than to induce the production of a mass of useless spray, whereas stopping the stronger shoots or those which incline to grossness will divert the sap into the weaker ones, which will be strengthened, while the buds on the shoots that have been stopped will become full and plump without starting into growth. The only effectual method, however, of curing a gross habit of growth when this is the case in ordinary seasons is root pruning, or keeping the roots within proper limits by means of shallow, well drained borders. Should it be found that the shoots after stopping incline to start into growth, it will be advisable as soon as the fruit is gathered to open a trench at a moderate distance from the stem of the tree, cutting the stronger roots. This will be of the greatest service in checking growth and will probably do more towards securing ripe wood than anything else that could be adopted. Get the Strawberry plantations intended to stand for next season trimmed as soon as convenient, cutting off and clearing away the runners so as to afford the leaves plenty of room. Attend to providing plenty of Lettuce, Endive, &c., for winter salads; also see that there is a good bed of Parsley provided in some sheltered spot, where it can be readily protected in severe weather.

### COTTAGERS' GARDEN.

As observed in former Calendars, let all spare ground from Potatoes or otherwise be followed up with winter crops of some kind. Amongst the most valuable stand the old Green Kale and Cottagers' Kale. The early Ulm Savoy is also very useful, provided it is got in sufficiently early and on well manured ground. A sloping bank may also be sown with winter Spinach.

### STATE OF THE WEATHER AT CHISWICK, NEAR LONDON.

For the Week ending August 18, 1859, as observed at the Horticultural Garden.

| August. | Moon's Age. | Barometer. Max. | Barometer. Min. | Temperature of the Air. Max. | Min. | Mean | Of the Earth 1 foot deep. | Of the Earth 2 feet deep. | Wind | Rain in. |
|---|---|---|---|---|---|---|---|---|---|---|
| Friday 12 | 13 | 29.99.. | 29.920 | 77 | 47 | 62.0 | 65 | 64 | S.W. | .. |
| Satur. 13 | ○ | 29.990 | 29.847 | 79 | 57 | 68.0 | 67 | 64½ | S.W. | .. |
| Sunday 14 | 15 | 29.817 | 29.812 | 74 | 53 | 63.5 | 67 | 64½ | S.W. | .. |
| Mon. 15 | 16 | 29.906 | 29.640 | 69 | 41 | 55.0 | 65½ | 64½ | S.W. | .. |
| Tues. 16 | 17 | 30.128 | 30.084 | 74 | 48 | 61.0 | 65 | 64 | S.W. | .. |
| Wed. 17 | 18 | 30.151 | 30.051 | 71 | 54 | 62.5 | 64 | 64 | W. | .. |
| Thurs. 18 | 19 | 30.064 | 29.991 | 74 | 52 | 63.0 | 65 | 64 | S.E. | .. |
| Average | | 30.007 | 29.905 | 74.0 | 50.2 | 62.1 | 65.5 | 64.2 | | .. |

Aug. 12—Foggy, and heavy dew; very fine; clear and fine.
— 13—Heavy dew; very fine; clear at night.
— 14—Overcast; rain, fine; overcast.
— 15—Rain, fine, clear and fine at night.
— 16—Very fine; partially clouded; clear and fine.
— 17—Slight drizzle; uniformly overcast; hazy.
— 18—Foggy; thick uniform haze; close and warm; overcast.
Mean temperature of the week, 1·5th deg. below the average.

### RECORD OF THE WEATHER AT CHISWICK,

During the last 33 years, for the ensuing Week, ending August 27, 1859.

| August. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday 21.. | 72·1 | 50.3 | 61·2 | 11 | 0.62 in. | 3 | 3 | 2 | 1 | 8 | 7 | 3 | 4 |
| Mon. 22.. | 71·3 | 50·6 | 60.9 | 12 | 0·07 | 2 | 3 | 4 | — | 4 | 1 | 10 | 9 |
| Tues. 23.. | 71.6 | 49·5 | 60.5 | 17 | 0.95 | 2 | 5 | 3 | 1 | 3 | 10 | 9 | 2 |
| Wed. 24.. | 71·4 | 48.2 | 59.8 | 15 | 0.23 | 1 | 6 | 3 | — | 5 | 8 | 6 | 2 |
| Thurs. 25.. | 71·0 | 50·6 | 60.8 | 13 | 0.30 | 2 | 1 | 1 | 1 | 6 | 3 | 6 | 4 |
| Friday 26.. | 72.5 | 48·7 | 60.6 | 10 | 0.51 | 2 | 2 | 3 | — | 6 | 8 | 4 | 1 |
| Satur. 27.. | 72·8 | 50·1 | 61.5 | 9 | 1.32 | 1 | 2 | 4 | — | 1 | 9 | 7 | 1 |

The highest temperature during the above period occurred on the 21st, 1855—therm. 88 deg.; and the lowest on the 22d, 1850—therm. 32 deg.

## Notices to Correspondents.

BOOKS: *Enquirer.* We do not recommend the book you mention. What is it you want to learn from such a book?—*T C.* Loudon's Arboretum Britannicum.

GAME LAWS: *Bond Fide* must consult his master.

HEATING: *D.* We fear you will not find any portable hot-water apparatus suitable to your purpose unless you can manage to work it by the flame of gas. In that case such a contrivance might be constructed of copper. You had better consult some of the great hothouse heating firms.

NAMES OF PLANTS: We have been so often obliged to reluctantly decline naming heaps of dried or other plants, that we venture to request our correspondents to recollect that we never have or could have undertaken an unlimited duty of this kind. Young gardeners, to whom these remarks more especially apply, should bear in mind that, before applying to us for assistance, they should exhaust their other means of gaining information. We cannot save them the trouble of examining and thinking for themselves; nor would it be desirable if we could. All we can do is to *help* them—and that most willingly. It is now requested that, in future, not more than four plants may be sent us at one time.—*D J.* Anchusa paniculata.—*Midge.* It is impossible to name such a plant until it is in flower.—*D D.* 1, Carex vulpina; 2, Hordeum pratense; 3, Bromus sterilis, drawn up and very young; 4, Poa pratensis.—*Tadenham.* Campto-orus rhizophyllus.—*Alpha.* 1, 3, and 4 are Mesembryanthemums, but no human being can name such morsels; 2, Gazania rigens.—*B D.* 1, Illecebrum argenteum; 2, Zamia horrida; 3, Galega officinalis; 4, some Cassia, apparently marilandica. Keep your Berberis Darwinii seed in damp silver sand till the spring, and then sow it in pans in a little heat.—*Lover M.* Pavia macrostachya.

SCIENCE AND PRACTICE: *Phalopirus.* Will you allow us to reply in the words of a very sensible man, and in his own Latin—"Uti ratio sine experimentis mendax, ita experientia sine ratione fallax."

TO OUR CORRESPONDENTS. Let us beg of you not to ask for answers through the post. With every wish to oblige our friends, we really cannot undertake the duty of private correspondence.

ARTIFICIAL MANURES, &c.—Manufacturers and others engaged in making ARTIFICIAL MANURES may obtain every necessary instruction for their economical and efficient preparation, by applying to J. C. NESBIT, F.G.S., &c., Principal of the Agricultural and Chemical College, Kennington, London, S. Analyses of Soils, Guanos, Superphosphates of Lime, Coprolites, &c., and Assays of Gold, Silver, and other Minerals are executed with accuracy and despatch. Gentlemen desirous of receiving instruction in Chemical Analyses and Assaying, will find ample facility and accommodation at the College.

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MR. LAWES begs to announce that he has this season reduced the price of the Manures manufactured by him, viz.:—

| | | | |
|---|---|---|---|
| TURNIP MANURE .. .. .. | from £7 | to £6 | 6 |
| SUPERPHOSPHATE OF LIME .. | ,, 7 | to 6 | 6 |
| MINERAL do. .. | ,, 6 | to 5 | 5 |
| BARLEY MANURE.. .. .. .. | .. | 8 | 0 |

Prof. Way and Dr. Voelcker have sampled from a bulk of 5000 to 6000 tons at his factories, and their report and analyses are given in full in Circular to be obtained on application at his office, 1, Adelaide Place, London Bridge, E.C., or of his local Agents.

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has gained the following prizes:—
The Royal Agricultural Society's Prize, at Warwick, July 1859, 50*l.*
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LAND IMPROVEMENTS.—The GENERAL LAND DRAINAGE AND IMPROVEMENT COMPANY are empowered by Act of Parliament to assist the Owners of Land in carrying into effect the following Improvements, and charging the whole outlay and expenses on the property improved:

I. All Works of Drainage, Irrigation, Warping, and Embankment.

II. The erection of Farmhouses, Cottages for Agricultural Labourers, and all Kinds of Farm Buildings.

III. The construction of Roads.

IV. The Grubbing and Clearing of Old Woodlands, Enclosing, Fencing, and Reclaiming Land.

The Landowners by whom any of these Improvements may be executed are—Tenants for Life, Trustees, Mortgagees in Possession, Guardians, Committees of Incompetent persons, Married Women, Beneficial Lessees for Lives or for a Term exceeding 14 years, Corporations, Ecclesiastical or Municipal, Incumbents, Sequestrators, Charitable Trustees, &c.

The Owners of Estates not entailed, who may be desirous to avoid the expense or inconvenience of a Legal Mortgage, may also avail themselves of the powers of the Company's Act to charge their estates with an outlay in improvements.

In all cases the whole cost of the improvements, with the attendant expenses, may be charged on the Estate, the term for Building Works being limited to 31 years, but for all other improvements being capable of extension to 50 years.

No investigation of title being required, and the charge not being affected by Incumbrances, no legal expenses are incurred.

Operations under the Company's Act are divided into two principal branches: one where the Landowner designs and executes the improvements by his own Agent and merely requires a loan from the Company to charge the Estate,—the other where the Company undertake the entire responsibility of the Improvement and obtain repayment by way of Rent Charge. In the first case the plans, specifications, and estimates prepared by the Landowner's Agent are forwarded to the Company to be submitted for approval to the Inclosure Commissioners. As soon as the sanction has been given the Landowner proceeds to execute the works, and the Company having conducted the business through all the official forms, complete the charge on the estate when the works have been passed by the Commissioners, and repay the Landowner the amount agreed upon.

In no part of the business is there any control upon a Landowner except by the Inclosure Commissioners. The Company never interfere, except at the special request of the Landowner or his Agent, and only to such extent as may further the objects he has in view.

In the other case, where the Company are required to execute the works, a report and estimate of the Improvement are sent to the Landowner, and having been approved, the plans are then prepared and the works—either submitted to public competition or entrusted to their own staff—are carried on to completion, and the amount of the actual expenditure only, approved by the Inclosure Commissioners with the Company's agreed commission and the Commissioners' expenses, finally charged on the Estate for the term fixed by the Landowner.

The Company also execute Drainage and all other Works of Land Improvement on Commission for the Owners of Estates not Entailed who may wish to charge the outlay on the property through the simple and inexpensive process of the Company's Act.

Applications to be addressed to WILLIAM CLIFFORD, the Secretary, at the Offices of the Company, 52, Parliament Street, London.

THE LANDS IMPROVEMENT COMPANY.—Incorporated by Special Act of Parliament in 1853.—2, Old Palace Yard, Westminster, S.W. To Landowners, the Clergy, Estate Agents, Surveyors, &c., in England and Wales and in Scotland.

The Directors beg leave to announce that the Company's Amendment Bill, 1859, has received the sanction of the Legislature. The Company now advance money, unlimited in amount, for the following works of Agricultural Improvement, the whole outlay and expenses in all cases being liquidated by a rentcharge for 25 years.

1. Drainage, Irrigation and Warping, Embanking, Inclosing, Clearing, Reclamation, Planting for any beneficial purpose, Engines or Machinery for Drainage or Irrigation.
2. Farm Roads, Tramways and Railroads for agricultural or farming purposes.
3. Jetties or Landing places on the sea coast or on the banks of navigable rivers or lakes.
4. The erection of Farm Houses, Labourers' Cottages, and other Buildings required for Farm purposes, and the improvement of and additions to Farm houses and other buildings for farm purposes.

Landowners assessed under the provisions of any Act of Parliament, Royal Charter, or Commission, in respect of any public or general works of drainage or other improvements, may borrow their proportionate share of the cost, and charge the same with the expenses on the lands improved.

No investigation of title is required, and the Company being of a strictly financial character do not interfere with the plans and execution of the Works, which are controlled only by the Government Enclosure Commissioners.

Under the Company's Acts, tenants for life, trustees, mortgagees in possession, incumbents of livings, bodies corporate, certain lessees, and other landowners are empowered to charge the inheritance with the cost and expenses of the above improvements, whether the money be borrowed from the Company or advanced by the Landowner out of his own funds, and owners in fee may effect these improvements of their Estates without incurring the expense and personal responsibilities incident to mortgagees, and without regard to the amount of existing incumbrances.

For further information, and for forms of application, apply to the Honourable WILLIAM NAPIER, Managing Director, 2, Old Palace Yard, Westminster, S.W.

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These Pumps are fitted with WARNER'S Patent Bucket and Valve, and cannot clog in action. The barrel is made of galvanised iron, not likely to corrode, and can be raised or lowered at pleasure on the stand, the legs of which fold together, and may be carried with ease by one man to tank or pond.

| | £ | s. | d. |
|---|---|---|---|
| Stand and Pump, with screwed tail pipe, fitted with strong brass union for suction pipe | 2 | 15 | 0 |
| If fitted with barrel of planished copper .. .. | 3 | 4 | 0 |
| Stand and Pump, with plain tail pipe, for tying on suction pipe .. .. .. | 2 | 9 | 0 |
| 2-inch patent rubber and canvas flexible suction pipe, on wires, either 10, 12, or 15 ft., per foot | 0 | 2 | 2 |

May be obtained of any Ironmonger or Plumber in town of country, at the above prices, or of the Patentees and Manufacturers, J. WARNER & SONS, 8, Crescent, Jewin St., London, E.C.

WARNER'S PATENT VIBRATING STANDARD PUMPS.

PATENT CAST-IRON PUMPS for Farms, Cottages, Stable Yards, &c., where the Well does not exceed 28 feet in depth; fitted with WARNER'S Patent Metal Bucket and Valve, which cannot clog in action. These Pumps can be made right-handed, left-handed, or with handle opposite the nose by removing four screws only.

| Diameter of Barrel. | Height. | | £. | s. | d. |
|---|---|---|---|---|---|
| 2½ in | short | 1 ft. 7 in. | 1 | 5 | 0 |
| 2½ ,, | long | 3 ,, 3 ,, | 1 | 10 | 0 |
| 3 ,, | ditto | 3 ,, 6 ,, | 2 | 4 | 0 |
| 3½ ,, | ditto | 3 ,, 6 ,, | 2 | 9 | 0 |
| 4 ,, | ditto | 3 ,, 6 ,, | 2 | 13 | 0 |
| Fitted for lead, gutta percha or cast iron flanged pipe as required. | | | | | |
| 2½ ,, | short, with 15 feet of Lead Pipe attached, ready for fixing .... | | 2 | 10 | 0 |
| 2½ in. | long ditto | ditto ditto | 2 | 14 | 0 |

The short barrel Pump is very convenient for fixing in situations of limited height and space, for the supply of coppers and sinks in Wash-houses with soft water from underground tanks, or in Hot, Forcing, and Plant Houses; they may be fixed, when desired, under the stage.

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Every description of Machinery for Raising Water by means of Wheels, Rams, Deep Well Pumps, &c.; also Fire and Garden Engines, &c. &c.—Engravings sent on application.

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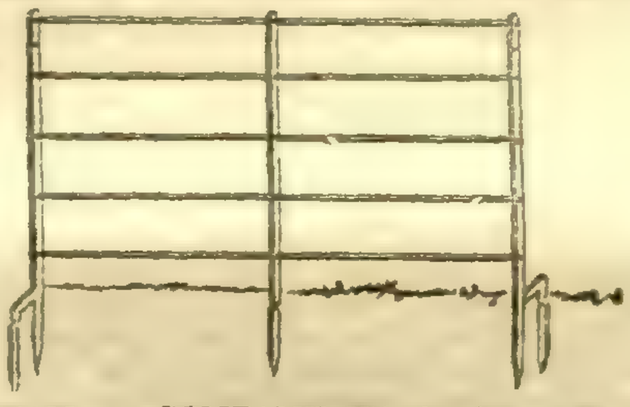

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E. R. AND F. TURNER, Ipswich, manufacture Prize Mills for Crushing Corn, Seed, Malt, &c.; Portable Grinding Mills, Steam Engines fixed and portable from 2 horse-power and upwards; Threshing Machines, Chaff Cutter, Oilcake Breakers, Horse Gears, Saw Tables, &c., all of a superior description and adapted for Home, Colonial, and Foreign use. Illustrated Price Lists sent free on application.

HAYMAKERS, possessing the best features of Nicholson's Prize Machines, with recent improvements peculiar to those supplied and manufactured only for
RICHMOND AND CHANDLER, Salford
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N.B. The celebrated Bedford and Stamford Prize HORSE RAKES always in stock, with latest Patented Improvements.

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NICHOLSON'S PATENT HAYMAKER, to which was awarded the First Prize of the Royal Agricultural Society of England at the last contested trial.

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INCORPORATED BY ROYAL CHARTER.

The WINTER SESSION of the Faculties of ARTS, MEDICINE, ENGINEERING, AND AGRICULTURE, will commence on MONDAY, October 3. The system of study pursued at the College constitutes a complete Course of Education (with Collegiate discipline) in Arts, Science, Medicine, Law, and Theology, without residence elsewhere, and the Courses of the different faculties are recognised in the Universities of London and Durham, with which the College is in connection; by the different Medical Examining Boards, and by those of Her Majesty's Army, Navy, and Indian Services.

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Agricultural Students are prepared by a special course of study for the Examination of the Royal Highland Agricultural Society.

Students in the Junior department of Medicine are prepared for the Matriculation Examinations of the University of London, College of Surgeons, Apothecaries' Hall, &c. Those who reside in the College may receive Indentures of Apprenticeship without premium.

For further information and Prospectuses, application may be made to the Dean of the Faculty; or to Dr. BOND, Hon. Sec. to the Medical Faculty, Queen's College.

COLLEGE OF AGRICULTURE AND CHEMISTRY, AND OF PRACTICAL and GENERAL SCIENCE, 37 and 38, Lower Kennington Lane, Kennington, London, S.
Principal—J. C. NESBIT, F.G.S., F.C.S., &c.

The system of studies pursued in the College comprises every branch requisite to prepare youth for the pursuits of Agriculture, Engineering, Mining, Manufactures, and the Arts; for the Naval and Military Services, and for the Universities.

Analyses and Assays of every description are promptly and accurately executed at the College. The terms and other particulars may be had on application to the Principal.

SHORT-HORN COWS AND HEIFERS FROM MELTON AND HORNCASTLE FAIRS.

MESSRS. JOHNSON, of the Manor Farm, Highgate, near London, beg to inform gentlemen and the Trade that they will show on TUESDAY next, August 23, from 200 to 300 first-class COWS and HEIFERS, together with a few YEARLINGS from the above noted Fairs. Exporters will here find some pure blood for breeding purposes.

STAFFORDSHIRE AGRICULTURAL SOCIETY.
STOKE-UPON-TRENT MEETING, 1859.

The POULTRY EXHIBITION in connection with this Society will take place on WEDNESDAY, September 14. The Entries will close September 1.

Prize Lists and Certificates of Entry may be obtained on application to WM. TOMKINSON, Secretary.
Newcastle-under-Lyme, Aug. 20.


# The Agricultural Gazette.

*SATURDAY, AUGUST* 20, 1859.

ONE of the most important subjects on which the English Agricultural Society asked for the experience of its members in its last year's essay prize list, was the CHEAPEST WAY OF MANURING THE FARM—whether by direct purchases of fertilisers, or by feeding the cattle and sheep of the farm on purchased food. Of course the answer to such a question depends on the relative prices of cattle food with live stock and of manures respectively. It depends also on the judgment used in purchasing live stock, and in adapting the food given them to both their character and their condition. There would be excessive waste in giving rich food to ill-bred stock, and there would be great folly in refusing well-bred cattle the food which would enable them the most quickly to exhibit their precocity and rapidity of growth. It is to an error of one or other of these two kinds that we attribute Mr. MECHI's account of the live stock of the farm as a necessary evil—necessary because, after all, the manure of the farm is required, whatever the facilities for the purchase of mineral and imported manures may be—but an evil because of the loss attending the manufacture of meat. There is however as a general rule no unavoidable loss in the manufacture of meat—it has often proved the largest source of the farmer's profit even without taking the value of the manure made at the same time into account, and in such a case there is of course no difficulty in determining whether the manure so provided or that procured directly from the market is the cheaper of the two.

It is, however, as giving general experience, and as comparing the enhanced value of the manure to be obtained by the use of an increased quantity of cattle food, with the cost of so much additional guano, used in its place, that the information sought would be so valuable. And this is what the essayists of the English Agricultural Society, judging from the report of the Journal Committee, have failed to give. It is a subject to which we should be glad if our correspondents would direct their attention; and as a contribution to it we here append an extract from a very interesting letter which appeared some months ago in the columns of the *Mark Lane Express*, and which we had hoped would have raised that discussion of the subject which is so desirable.

A correspondent writing from Kent asks—Ought we to make or to purchase our manures? Can we make farmyard dung at such a price, when compared with guano, rape-dust, or superphosphate, as to render it worth our while to undertake the task? He adds: "I bought in January last four *Dutch beasts for 45l., forward in flesh, and two years old.* They were fed exactly three months (13 weeks) at a cost of exactly 36*l.*, without labour, interest of money, or value of litter. The food, which rather increased in quantity as they would bear it, averaged about 9 lbs. Linseed-cake, half a gallon Bean-meal, half a gallon crushed foreign Barley, half a bushel pulped Wurzel or Swedes, 1 bushel chopped hay and straw, with a handful of long hay occasionally, per head per day. They were sold out, one by weight at 5*s.*, another by weight at 4*s.* 8*d.*, and two in the market, for a gross sum of 75*l.*, leaving a loss of 6*l.* on the cost of food and purchase, or, with attendance and shed rent very moderately reckoned, a loss of 7*l.* 10*s.*

"Can any one tell me, clearly and certainly, whether this transaction did involve a loss or not? In other words, is there any formula of reasonable accuracy, whereby I may determine what portion of the 36*l.* spent upon them in food was left behind in their excreta alone, in my sheds and dung pit?

"In one of my drawers is a pamphlet of Mr. MECHI's, in which he endeavours to prove, and does assert, that 1*l.* given to pigs in Beans will produce 20*s.* worth of pork. If true, who then could not make a fortune? But, unluckily, it is not true by a long way. On the table before me lies a pamphlet on guano, by Mr. NESBIT, wherein is written, 'It appears to be clear that, unless the oilcake affords a profit by the beef or mutton, a more expensive system (than making dung by cattle) of manuring could not well be pursued.' *Mr. Mechi's chief object, if I remember right, in more than one publication, is to affirm the principle that success in farming varies directly with the amount of stock kept.* On the other hand, we are told by an unanimous resolution of the Botley Farmers' Club, 'That where there is not sufficient dung for the Wheat (?) crop, it is more profitable to purchase concentrated manures than dung; and that an equal amount of money expended in the purchase of concentrated manures will raise more Wheat than the same amount expended in the purchase of oilcake or corn, and converted into dung by feeding cattle.' As it stands, the resolution means nothing, and involves a fallacy, as no one ever supposed that 12*l.* worth of oilcake would, after giving 8*l.* or 10*l.* worth of beef, still afford an increase in manure equal to 1 ton of guano; if it did even half this, the transaction would be largely profitable.

"While the bullock feeding above alluded to was going on, I commenced another experiment, by purchasing for the benefit of 2½ acres of light poor land intended for Wurzel, 54 two-year-old Kent sheep, and feeding them very liberally in folds upon it. The sheep cost 93*l.*, and they consumed in three months cake, Maize, Beans, Barley, and Turnips, with hay and straw chaff to the amount of 44*l.* 4*s.*, making a total cost, without hurdles and attendance, of 137*l.* 4*s.* I sold them out, chiefly at 5*s.* 8*d.* per stone in the wool, for 135*l.*; thus sinking 2*l.* 4*s.*, besides interest, &c., for the manure obtained. It is very probable that both with the bullocks and the sheep rather better results might have been obtained, especially at the present excellent prices, had the total cost for feeding been spread over a rather longer period of time, but that does not affect my present object, which is to elicit if possible an accurate and trustworthy estimate of the value per week of the actual droppings of a medium-sized bullock and sheep while being liberally fed on cake and corn."

Can any of our readers favour us with information on this subject?

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A FEW weeks ago we called attention to the danger of allowing lucifer matches in the hands of children, and to the extraordinary fact that they are now the commonest playthings of the children of our villages and cottages. Take the following from the *Times* of August 16 as an illustration of the risks thus run.

"FIRE AND LOSS OF PROPERTY.—*Woodford*, Monday, 6 P.M.—During the last 24 hours this town has been the scene of a destructive fire, which, during its progress, has reduced to ashes several thousand pounds worth of property. The premises in which the misfortune arose belonged to Mr. MACNAMARA, farmer, &c., and comprised a long range of stabling, a spacious farm house, a row of cottages, a number of cart-houses, several cow lodges, a spacious range of barns filled with grain, a row of timber sheds filled with agricultural implements. There were also standing on the ground several ricks of Wheat and other farming produce, the whole covering some acres of ground. The fire commenced shortly before 6 o'clock last night, and when the first discovery was made the flames were raging near or in the farmhouse, but the general supposition is that the misfortune commenced in one of the cottages, as some children had been seen a short time previously playing with lucifer matches. The moment the existence of the disaster became known the parish engine was sent for, and a telegraphic message was despatched to London for the aid of the fire brigade. The parish engine was soon on the spot, and the instant the news arrived in town Mr. Braidwood despatched Engineer Bridges with a body of firemen and a powerful engine to the scene. Unfortunately, the only supply of water that could be procured was from a pond, and that was found inadequate to subdue such a vast body of flame as then existed. The firemen, however, laboured the best way they could under the circumstances, but the flames continued to rage, and finally seized upon other property, including the dairy-house, the barns, the agricultural implement sheds, the cart and coach houses, two large stacks of Wheat and one of Clover, the whole of which were entirely consumed."

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## THE RABBIT PLAGUE.

[The following correspondence is taken from the *Monmouthshire Beacon.*]

(1). LET me be understood to write this letter from Yorkshire or any other county distant from yours. The plague complained of is probably pretty general, and therefore no particular locality and no particular persons need be called in question. Suffice it to say that such a plague exists, and that, like what was said of the power of the Crown in the days of George III., "it has increased, is increasing, and ought to be diminished." The depredations committed by game are an old topic of complaint, but never reached any great height in this neighbourhood. The preserving pheasants, hares, and partridges, is, too, far more intelligible and therefore excusable, than that of the semi-vermin I am speaking of; which are alike the most worthless and the most mischievous creatures which squires encourage the breed of as victims prepared for their guns. They eat up acres and acres of corn, which sometimes belongs to tenants of the lord of the rabbits, sometimes to neighbours. This happens frequently without any compensation; and when compensation has been offered, it is, I think, generally inadequate and unsatisfactory. Unsatisfactory it would be if fully equal to the damage, for scarcely any one could feel much pleasure in farming if he knew that the fruit of the labour of his hands would be destroyed. The sport (!) of shooting rabbits is dangerous from their quick turns and dodges; and their merits as an article of cookery are such that they are hardly producible on a handsomely supplied table. In point of fact I have reason to believe that country gentlemen are in most cases now willing to put an end to this pest, but I am told their "keepers" for reasons of their own, find means to frustrate their masters' wishes. With this hint, however, and my earnest assurance that this subject is one of great discontent to some worthy and respectable tenant-farmers, I hope that landed proprietors may be induced to take effective measures. *A. N.*

(2). The thanks of all rabbit-ridden occupiers are most justly due to "A. N." for his temperate and well-timed letter on a subject which he so truly terms "rabbit-plague." The public are often led to pooh-pooh the complaints of farmers (and far be it from me to justify an habitual grumbling spirit,) but it is only now and then that they are made acquainted with some of the real evils with which agriculturists have to contend, and not only to contend, but with the heaviest odds against them too—this is just one of those evils. I verily believe the rabbit to be one of the greatest curses which infests a neighbourhood: it is this "semi-vermin" (rightly so called) that first pops across his path to tempt the crow-boy: it is the first bait which that poor child has thrown in his way, and woe to him if he has not the strength to resist the temptation, for it will lead him on and on to poaching and sheep-stealing, crime, and misery. It is this "semi-vermin" that sows dissension between friends and neighbours, breeding suspicion and distrust where nought but amity and union should prevail. It is this "semi-vermin" which is at this moment rendering thousands and thousands of acres of valuable produce throughout England blank and desolate, produce which would save many and many a family from the debasing influence of Union pay. Wherever a rabbit feeds or haunts, the spot is actually poisoned and rendered profitless, and I believe all farmers will concur in this remark. "Very well," say the public, "destroy them, they are not game." No, Mr. Editor, I am happy to say that the term game no longer includes such worthless trash, but let a tenant try the experiment, and unless he rents under a liberal-minded and upright landlord his chances of quiet opposition to the insinuations of his landlord's underlings are poor indeed, and it is not a light thing for a man to change his farm upon which he has spent money, labour, and, perhaps, the best part of his life, and also brought up an honest and respectable family! If rabbits abound in Yorkshire as they do in parts of Monmouthshire, I pity our north [illegible] you will ask "Where is the remedy?" [illegible] the matter public, and if the "plague" is [illegible] let a few independent men throw up their [illegible] the evil will thus cure itself, and it may [illegible] perhaps more profitable to employ respectable [illegible] preservers upon liberal wages, as respectable [illegible] generally do, than to give inferior servants [illegible] and allow them to consider rabbits as their [illegible] which is the very best recipe for making bad [illegible] and dishonest servants. A landlord will find [illegible] can make his tenants as good game-preservers, [illegible] much better, than many of the so-called game-keepers [illegible] by trusting to their honour, and, what is more, [illegible] gain the respect, the esteem, and the regard of [illegible] of men with whom, if treated with proper consideration [illegible] he may consider it an honour to be connected—[illegible] these are things as much worth possessing as a long rent-roll or a tattered pedigree! To both sides the poet's words are applicable:—

"Worth makes the 'man,' the want of it the 'fellow,'
The rest is nought but 'leather' and 'prunella.'"

*An Admirer of A. N.*

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## THE THEORY OF AGRICULTURE.

BY DR EVAN PUGH.

(*See page 451*).

LETTER IV.—ON WHAT SCIENCE HAS DONE AND MAY YET DO FOR AGRICULTURE.

FEW things are more difficult than is the case [illegible] tracing to their ultimate courses all the various elements of progress that are operating upon the human race in any particular epoch, and to assign to each the proper circumstances in which it originated. And yet few subjects are fraught with more interest to humanity than those which relate to the ultimate causes by which man is gradually developed from the state of the untutored savage to that of an enlightened civilisation. The student of every particular branch of human inquiry will see in his own individual sphere of mental activity more than has tended to produce this result than he can discern in those spheres of thought to which he has not so specially devoted himself.

The politician and the statesman who have to do with the active present in human affairs, and who themselves are the children of causes, which they need not even stop to consider, may look upon those proximate causes which have operated immediately anterior to some great amelioration in the condition of our race as the ultimate causes to which we are now referring. They may feel that the world is only making substantial progress in such proportion as that progress becomes engraved on the statute-books of its several countries.

The philanthropist and the moralist may take a higher view, and feel that humanity owes its progress to the advocacy of great principles, embracing ideals of right and justice, which, at the time are considered by the politician as impracticable visionary notions, and which perhaps can never be developed into law, or [illegible] only after a lapse of generations.

The political economist may look at the more material aspect of the question. Throwing aside the lofty views of the statesman and the eloquence of the philanthropist, he sits down to a table of dry statistics, and calculates the value of the various courses which have tended, and which still tend, to the accumulation of wealth. Instead of contemplating the origin of human progress, he seeks for its ultimate causes all those proximate forces which have contributed to the development of the internal and external resources of a country—to the creation of commerce, to the extension of trade, and the formation of powerful colonies upon soil trod before only by savages. The entire question of human progress, morally and even materially, resolves itself into that of the best means of securing and making the most profitable use of the immortal dollar.

Amidst all this assumed importance, on the part of different orders of mind, for the particular species of activity to which they have devoted their thoughts, and the influence of those efforts by which men are more acquainted with the facts of the material world, almost entirely overlooked.

Sir Humphrey Davy, with that clear intuitive characteristic of his great genius, maintained that the permanent progress of the world was dependent upon the progress of its knowledge of material things. A fact with regard to the material world once discovered was so much acquisition to human knowledge, and as such could not be lost; but must ever after continue to exert its influence upon the human race. A single truth might be pointed out, or a grand system of human government conceived; but this could not [illegible] tically contribute to the development of the [illegible] race until the development of a knowledge of [illegible] things made it possible to do so. The man who discovered that salt would preserve meat confer[illegible] greater blessing upon his race than the man who taught that steam would move the piston of an engine, and both these elements of human knowledge were destined to do more towards bringing the [illegible] race to its present stage of progressive development than were the efforts of the first man who conceived the idea of a just legislation amongst men.

The student of science who has not examined the ultimate bearings of discovered facts upon the progress of the world, no less than the politician and the philanthropist who have only studied events as they [illegible] the living present, may not see the full force [illegible]

remarks of the philosopher and sage, whose name we have just referred to.

It is the assistance of science, and of all those efforts in which our knowledge of material things is extended, that they are not, and cannot be, fully appreciated until the knowledge they afford has been so long before the world that it is almost forgotten that they were ever discovered at all, or that they did not descend from an original legacy left to the race at its origin. And even where history records the discovery of an original fact on a principle, so varied and so complicated are the relations of the original discovery to its multifarious applications, that those who enjoy the latter seldom think of their relation to the former. We seldom think, when revelling in the luxury of lighted houses and "Crystal Palaces," and enjoying all the mental pleasure of that extension of our knowledge which is afforded by the telescope and microscope, of the vast importance of that discovery which first taught that an opaque constituent of common ashes when fluxed with a common opaque mineral substance would yield a transparent compound which can be used for all the purposes to which glass is now applied. It is not, however, until we come to contemplate such little discoveries in the full value of their bearing upon the human race, that we are capable of seeing what scientific and experimental research has done for all departments of human progress. It is in the spirit of such contemplation that we must examine what science has done for agriculture, and hope for what she may yet do.

In such contemplation it is not enough, as is usually done, to dwell simply upon the last stroke of a series of efforts which may have discovered a principle and reduced it to practice; when this is done we not unfrequently hear of the names of men not particularly known to the scientific world for great ability in research, associated with certain great results, which are pre-eminently the consequence of a vast deal of scientific research, which such men would have been incompetent to have gone through with. Thus, in the science of electricity, while the student will meet with the able researches of such profound investigators as Ampere, Oersted, Ohm, Faraday, and Gauss, who have made very few discoveries of the practical application of this subject, he will find the name of such practical minds as those of Steinheil, Morse, Wheatstone, House, and others most intimately associated with the discovery of the electric telegraph.

The first class of men have spent long lives devoted to able research into fundamental principles, which when developed the more practical character of the second class enabled them to apply. Each has performed an essential and an important part; but the importance of the former is vastly greater than that of the latter, yet the more practical phase of the latter causes the general eye almost entirely to lose sight of the former in its admiration of the latter.

In like manner, agriculture owes much to scientific research that does not appear to the casual observer. Much that science has conferred upon it does not stand out more clearly as advantages to the practical farmer, than do the researches of Ampere and Oersted to the merchant who uses the electric telegraph. We need not here dwell upon the question in its most general form, or that in which we would be obliged to consider the aid afforded by science to all those departments of human industry, that have tended to the development of agricultural practice by creating a demand for agricultural produce. We have but to mention this to show the magnitude of our question. Nor need we dwell at length upon the various stages of the development of our means of scientific research by which science has been made available for the purpose of solving many questions of practical agriculture. All the various processes afforded by the science of chemistry of analysing manures, soils, cattle foods, Rape-cakes, grains, &c., are the result of prolonged and purely scientific investigation. The farmer can readily appreciate the importance of a method by which he discovers a poisonous oil in a Rape-cake that might destroy a few hundred pounds' worth of stock, but he cannot with equal clearness see of what use to him are such purely scientific investigations as are those by which only the methods to discover such poisons are made known. Nothing is more easy for him than to discern the value of a method to estimate the amount of soluble phosphate of lime in a manure; and yet the combined interest of the Royal Agricultural Society of England in this question is doubtless not sufficient to induce them to invest money in investigations to discover reliable and easy methods for the estimation of phosphoric acid. Nor can we boast of greater consistency upon our side of the Atlantic until we have done more than has yet been done for science as applied to agriculture.

But passing by all the advantages afforded to agriculture by science, which are here suggested, there still remains the question of the supply, the discovery, and the manufacture of artificial manures.

This involves the question of the phosphates, the guanos, the saltpetres, the ashes, and a vast number of residual products of the various processes in the art, which chemistry, like a prudent housewife, has prevented from going to waste by collecting and pointing out their value to the agriculturist. The consideration of these questions would enable us to see why England is the first agricultural country in the world—why she has gone on developing and extending her agricultural resources upon a limited territory, in the face of a free trade which brings the products of her soil into competition with those of the cheap land of Russia and America. Science not only has pointed out all this source of wealth to agriculture but she guards it now. Spurious manures, quack "cattle foods," poisonous oil-cakes, &c., are all in turn allowed to flourish only amongst those who are too ignorant or too prejudiced to avail themselves of her teachings. The latter will have to learn wisdom as Ben. Franklin hoped George III. might, when he would not adopt the theory of pointed electrical conductors, because a Tory courtier and opponent of the republican philosopher contended that obtuse points were better than sharp ones for the upper end of lightning rods to protect buildings from the electric fluid.

It is true that there have been many questions in agriculture that science has not yet been able to answer—many that she has not at first answered correctly; and doubtless she has yet many corrections to make in her established notions. And here lies the direction for her future progress.

But aside from the practical question, the development of science as it relates to agriculture has done and is doing another service of vast importance. It is supplying important material for thought, in most intimate association with the daily labour of him who cultivates the soil. It is supplying material which must teach the agriculturist to think and cultivate his powers of thought, and thus develope the entire resources of his own mind, without giving him a distaste for an occupation, which, without this aid of science, would be so purely mechanical as to weary out an active mind.

It is a well-known fact, which our superior system of popular education in America has more fully demonstrated than could be possible under the very indifferent system of Great Britain, that the son of the labouring farmer (and all our farmers are such), who is a successful student at our schools, soon becomes a worthless boy at home, or rather he soon refuses to remain at home, but enters upon a professional career better suited to the active powers of his mind than the dull, monotonous, stupid exercises of an occupation so purely mechanical as that of the farmer, if he pay no regard to the principles involved in his art. These principles can only be studied with profit and pleasure as they are developed by science. As yet they are scarcely sufficiently developed to constitute a subject for close and connected thought, upon which the mind may receive that disciplinary training which will enable it to control its own powers; still, enough has been done to show what may be done, and how vastly important it is to the farmer that more should be done.

We want a science of agriculture so developed as to be taught in our schools, a system as rigidly scientific as that which is taught in our schools of engineering.

At present the farmer's son who attends our schools is, if he be at all a successful student, obliged to throw his mind so far out of all the associations of the occupation of his father that he creates a taste for a profession, not that he is qualified for it, but because he has been obliged to throw himself out of his natural sphere of activity, to find material for thought. If he return to that sphere he is disgusted with all its associations, because they are so purely mechanical and so wholly devoid of any theme for the exercise of his active thoughts. In leaving it agriculture loses a mind well calculated to develope her resources, the natural property succession from father to son is deranged, and some over-crowded profession receives a new accession to her numbers, not so much because of its attractions for him as in consequence of the repulsive character of the position upon which he had turned his back. Entering upon a career foreign to the associations of his family, with at most a talent slightly above mediocrity, he meets with but partial success or absolute failure, while the old farm at home, with an anxious parent, is called upon to foot the bills of his bad success or his unfortunate prodigality.

This is no forced sketch or extreme case; it is too painfully true, longer to be neglected in our system of education. And it is here that we may hope for science to yet do much for agriculture. And it is to this phase of the question that we would invite the serious attention of those farmers who do not see the importance of scientific agricultural research independent of the mere dollar and cent view of its value.

## SINGLING OF TURNIPS.

The singling or thinning of Turnips is an operation of greater importance than farmers are often inclined to attach to it. We do not require to enter into any calculations to prove that we will get from a field of soil in good condition much larger bulbs when they are thinned 12 inches apart than when they are thinned only 6. Some, however, will doubt whether we will get a larger crop upon the whole, seeing that in the latter case there will be nearly double the number of bulbs. Nothing but experiment will satisfy most farmers on this point; and therefore eschewing all mathematical calculations, we appeal at once to experiment for confirmation of the statement we now make,—that on soils of ordinary quality and in an average condition, a larger crop of Turnips will be obtained by singling out the plants to 12 inches than to 8 inches, if the manure has been liberally applied.

Mr. M'Lagan of Pumpherston said, in a paper which he read before the Highland Society some years ago:—"From an extensive correspondence which I have had with friends who take an interest in this question, I have arrived at the following conclusion, that in low-lying shaded localities, with the soil in high condition or liberally manured, the Swedish Turnip should never be singled less than 12 inches apart, and generally it will be found advantageous to do it at least 15 inches. The largest Swedes ever I saw were some that had been accidentally thinned 18 inches; unfortunately they were not weighed in comparison with the rest of the field. In high exposed districts, where the land is in good heart, or has received a good allowance of the light manures, 12 inches will also be found a good width. I performed a small experiment this season, but I am sorry that from some accidental circumstance I cannot authenticate the produce of the widest thinned portion. In a field not yet in high condition, nor very highly manured, I obtained at a width of 8 inches 2 tons 4 cwt. of shaws, and 15 tons 12 cwt. of bulbs per imperial acre, and at 9 inches I got 2 tons 1 cwt of shaws, and 16 tons 1 cwt. of bulbs, or 9 cwt. per acre in favour of the part thinned 9 inches wide. The produce of the portion thinned 12 inches was not weighed." Mr. M'Lagan in a succeeding year obtained 2½ tons more per acre from a portion thinned 12 inches wide than from one beside it thinned 9 inches wide.

It should be observed that wide thinning should be practised only where the soil is in good condition and the manure has been liberally applied. In such a case 14 or 15 inches will be found the most profitable width for Swedes, while for whites and yellows the plants may be left much closer. For in the latter case very large roots are not considered so nourishing as those of ordinary size, while it is said that the larger we grow Swedes the more nourishing the roots are. It has been found, after repeated trials regarding the comparative weights and sizes respectively attained by various Turnips, that "sound green-top yellows of 7 or 8 lbs. weight gave as their highest average 32 cubic inches per pound, which may be assumed as a medium standard of solidity or density, and being compared with the actual weight, will afford a just criterion of their value, and a correct idea of their sizes." Upon this principle, and after various trials with different varieties of Turnips, it was found that, "contrary to other sorts, greater size in the Swedish Turnip indicates also greater solidity, which agrees with the products which it has been found to afford of nutritive matter—being full 6 per cent. and in the largest roots nearly 7 per cent. of their whole weight; while the white varieties have afforded 4 per cent. and in the largest roots only 3½ per cent. of their whole weight." This agrees with the results obtained by Mr. G. Sinclair, as mentioned in the Hortus Gramineus Woburnensis, that 64 drachms of the largest roots of the Swedish Turnip produced 110 grains of nutriment, and the same weight of the small roots produced 99 grains of nutriment, and 64 drachms of the "common loaf variety, measuring 7 inches in diameter, gave only 72½ grains, while the same quantity of a root measuring only 4 inches afforded 80." This subject has been investigated by Professor Anderson, and particularly by Drs. Sullivan and Apjohn in Ireland, who have also determined that small Turnips contain more nutriment than large ones. But as we have not the particulars of these gentlemen's investigations before us at present, we will not allude farther to them, but will proceed to inquire as to the advantage of growing large Turnips when small ones contain more nourishment. Is the farmer a loser or a gainer by thinning wide, so as to grow large Turnips?

In the following remarks we do not allude to Swedes, for we are of opinion that the larger the bulb is the more nutriment it contains. Assuming then that the estimate of the relative proportions of nutriment in large and small Turnips mentioned before is correct, viz., that small Turnips contain on an average a ninth part more of nutriment than large ones, and taking as the basis of our calculations the results of Mr. M'Lagan's experiments, viz., that Turnips thinned 12 inches apart produced 2½ tons per acre more than those thinned only 9 inches apart, we arrive at the following conclusions. We find from the Agricultural Statistics Report for Scotland that the average crop of Turnips for the four years during which the inquiry was carried on was about 15 tons 10 cwt. per acre for the whole of Scotland. Now by the above estimate of nutriment contained in large and small Turnips, 20 cwt. of small Turnips will contain as much as 22⅔ cwt. of large ones. Supposing 15 tons 10 cwt. per acre, the average of the whole country, to have been the produce of a crop thinned 9 inches wide, then the produce, according to Mr. M'Lagan, would have been 18 tons if the width had been 12 inches. But the 15 tons 10 cwt. of small Turnips, we have seen, is equal to 17 tons 4 cwt. of large ones, or about 16 cwt. per acre less than is actually obtained by thinning 12 inches wide and growing large Turnips. Hence the farmer is a gainer in weight of nutriment by growing large instead of small Turnips. In addition to this, he is a considerable gainer in the ordinary operations connected with the management of the crop, such as thinning, topping and tailing, and filling the carts before carting home. We do not consider the results stated by Mr. M'Lagan to be extraordinary; on the contrary, we have heard of a much greater difference in produce between crops close and wide thinned; and we believe that the larger the crop is—that is, the higher the condition of the land—and the more liberal the application of the manure, the greater will be the difference in the produce between wide and close-thinned crops. The terms large and small are rather indefinite, and must vary according to the nature of the soil; thus a Turnip

grown on good clay-land will be more solid, or contain more nutriment, than one of the same size grown on light sandy soil. But on an average we find that a Turnip, say of 2 or 3 lbs. in weight, though more solid, will be much harder, containing more woody fibrous matter—will be more bitter and acrid to the taste, from the comparatively large proportion of skin or rind on it, and consequently will be less relished by the animals than a Turnip, say 8 or 9 lbs. in weight, which will be sweet and juicy, and more palatable to the animals. When the Turnips are of an extra size they are apt to become spongy in the heart, and not so sweet as those of a large medium size; but still we would infinitely prefer a crop of them to a crop of the smallest size mentioned first, though scientific men tell us that they are not individually so nourishing as the small ones. *Quarterly Journal of Agriculture.*

## Home Correspondence.

*Steam Cultivation.*—For many years you have kindly allowed the *Agricultural Gazette* to become the repository for my views on the steam tillage question; perhaps you will yet continue the privilege. It is 12 years or more since I projected my circular, or cellular system of steam agriculture—a system to which no agricultural experimenter has yet given trial. In the above period all manner of schemes have been tried, but not one has equalled or come up to public expectation. Out of the series, only two or three plans for steam ploughing are before the public; even these do not recommend themselves, but are obliged to be strongly puffed by the several projectors. This is not right, or rather, they are not right. When rendered in practice there was no necessity for enforcing the advantage of railway travelling over coaching, or electro-telegraphy over signboard-telegraphy. It should be the same with steam tillage. A really superior invention recommends itself at once — is bruited abroad —is spoken of by every tongue, and where possible adopted by every man whose business it affects. Steam culture may still be considered an unsolved problem. Since I invented my circular, or cellular, system of agriculture, upwards of 50,000*l.* has been expended by my brother inventors on the subject. As statistics of expenditure on steam cultivation may be useful to some now unborn historian, I will give him the benefit of my observations during a period of 13 years. The man who first attracted my attention was Mr. Osborn, he expended some 2000*l.*; Lord Willoughby d'Eresby, assisted by Mr. Gooch, railway engineer, 5000*l.*; Usher, 5000*l.*; Fowler, 15,000*l.*; Hoskyns, 1000*l.*; Romaine and friends, 12,000*l.*; Ricketts, 2000*l.*; Smith, of Woolston, 4000*l.*; Halkett, 6000*l.* Upwards of 50,000*l.* expended in futile efforts to unravel the knotty problem of steam culture. I have not included in the above list the outlay of Boydell, Williams of Baydon, or Collinson Hall: they must *speak for themselves of their great sacrifices on the shrine of agricultural invention. Of all these inventor* since 1846, the only person who approached my own system of agriculture was Mr. Halkett, but he broke down because he insisted upon saddling its really good points with an unnecessary and fatal expenditure—he will have a railway. It is in vain I have impressed upon him that his iron railroad would be all very well to carry a lot of ploughs from London to Birmingham and back several times a day, but it had no more to do with carrying a plough up and down a field, that is, in doing cheap work at short distances and after long intervals of time, than, as Talpa says, "a horse had to do with a spade." It was all in vain I told him that a cheap business like farming, with a cheap product like a Turnip, wouldn't stand it; that Cabbages and Carrots would not pay for an iron railway. He resisted, persisted, and I understand now retires from the field utterly discomfited.

"The railway ploughman homeward plods his way,
And leaves the farm to darkness and to me."

Really good inventions, like good trees, may be of slow growth; still I have been blamed by some for not making a bolder push to get my own plans tried. I do not wish for an ephemeral reputation or profit, as some do. Whenever my method invades the farm it will revolutionise British agriculture, and must succeed. I consider no time is lost by my allowing my competitors to exhaust their inventions, themselves, their possessions, and their prejudices: it will render the advent of my own system of circular agriculture more easy. It will be curious, and point an oft-repeated moral, if after such long waiting, that which has been rejected by the "master" builders, should yet become the chief corner stone with the "men." *C. Burcham, London.*

*Mangel Cultivation.*—It is reasonable to suppose that a stranger in this country venturing to offer a suggestion to British farmers on culture of any kind will excite smiles on the bland countenances of many of that fraternity; but at the risk of that not very improbable result, I will, with your permission, be bold enough to affirm that I am disappointed with your general mode of Mangel culture. The country of which I am a native has for some time been reduced to the sad alternative—Mangels or nothing. There the Cabbage and the Turnip have disappeared, I may say, before an aphis of whose destructive power Englishmen can have but a faint conception; consequently, as I said before, there it is—Mangels or nothing. But under our mode of cultivation Mangels are something. Now the difference in that mode and yours is simply this: you, judging from what I have seen, sow on the flat; we generally on the ridge. You thickly: we thinly. Our ridges are 27 inches apart; our plants 18 inches; but I have found the Long Red variety do better at 2 feet. Our climate is hotter and drier than yours; but by the ridge system and thin sowing we are successful cultivators. You will perhaps permit me to give another hint to those of your farmers who are "behind" in this matter. I have found the Mangel do well on very poor soils by hand dibbling the seed and covering in with a large handful of some light but generous manuring substance. Experience teaches me that in such cases light manures so applied have far greater effect than when dispersed and wasted in the usual way. It may be also serviceable to state that those who near my farm, on soil precisely alike, have attempted Mangel culture on the flat have signally failed; and whilst my crops have laughed and flourished theirs have drooped and died. *An Old Foreign Subscriber.*

## Notices of Books.

*Journal of the Manchester and Liverpool Agricultural Society.* Secretary, T. B. Ryder, Esq., 2, Elliot Street, Clayton Square.

We have long considered this as one of the most useful and efficient of our provincial Agricultural Societies. Their annual report exhibits energetic effort in so many useful directions that we have more than once commended it to the attention of those engaged in the establishment of similar associations as a model deserving very close imitation.

The pamphlet before us contains the rules of the Institution—a list of prizes for 1859 to be awarded at the forthcoming meeting at Liverpool next month—the report of the committee for 1858 (intimating that at Manchester the entries were double those of any previous year, and the show-yard receipts much more than double)—a general report of the inspection of farms —a table of meteorological observations—accounts, showing a large balance in favour of the Society—and a long list of awards of prizes during the past year. To many of these awards and the reports on which they were founded we shall hereafter direct attention. They include prizes for farms, for draining, subsoiling, irrigating, marling, liquid manure tanks, hedges, green crops, farm servants, implements, and live stock. For all these classes no less than 1209*l.* were last year offered as prizes in the Society's name.

We add here, as referring to one of the most important sections of the Society's proceedings, the report of the judges and inspectors of farms:—

"In making our report for this year the inspectors have, in the first place, to notice the influence of this Society in exciting the great exertions now made within the Society's range, in the spirited improvement of the land and farming generally. This fact is shown by the inspectors having travelled considerably more than 2000 miles in the present year in the fulfilment of their duties.

"The inspectors again feel called upon to remark upon the very inefficient draining on some estates and on many farms which came under our observation, from the circumstance as noticed in our general report of last year—viz., the inefficient draining of cohesive soils lying on a close textured subsoil—and beg to refer again to their last year's report, wherein is detailed a very simple practice for proving and showing beyond any doubt the great deficiency here noticed. One of the inspectors is in the occupation of a field which was drained in 1854. About one-half of the field in question is good loam on a broken subsoil of sand and clay; the other portion of the field is a more strong loam and recumbent on a subsoil less broken and more clayed and cohesive. The drains on this whole field are laid down on one general practice of 30 feet apart. Trial holes were opened equidistant between the drains in different parts of the field about three weeks ago; the holes so opened on the porous subsoil part are at present dry, showing clearly that drains 24 to 30 feet apart will effectually drain land of such open character. The trial holes, however, are on the other portion of the field filled with water to within 18 inches of the surface, and are still at the same depth of water, though there has been an unusually dry November, and also up to this time of the present month. All the drains are from 4 to 5 feet deep, and the facts here detailed—facts, we beg to observe that could be multiplied to almost any extent—pointing out the most unmistakable evidence that one uniform system of draining is not adapted to all lands, and also that depth of drains are in some degree inoperative in a close-textured subsoil, as compared with drains being laid down at nearer distances, say 12 to 18 feet apart, according to circumstances, and at about 3 feet deep.

"As regards the productive character of the year, the inspectors have seen great diversity in some crops and in the same localities.

"The hay crop under an average, except in particular cases. A great breadth of hay, however, was well got with such farmers as commenced hay harvest early. Some great first crops of Clover, but second crops light generally, unless cutting was put off late.

"Wheat generally a great produce and of good quality, except on the east and north-east parts of the county, those being higher range of Lancashire and Cheshire within the Society's limits. Oats, with exceptional cases, generally deficient in sample, and on many fields under an average crop. Barley, where the soil was well prepared and seed sown early, both a good yield and nice quality.

"Turnips generally under an average crop. Mangel more than average produce, and in some cases where carefully collected seed has been sown and the crop properly managed, this root has yielded most abundantly; the inspectors have this year weighed, in a few instances, more bulk, &c., of the best roots than at any former time in their experience.

"*Potatoes.*—This crop generally small in the roots: the quality however has everywhere within the Society's range been most superior.

"We never recollect pastures more luxuriant than this year up to the end of June. However, some cold nights soon in July put a stop, or very nearly so, to the growth in both meadows and pastures for a few weeks. There is nothing particularly requiring notice in the disease of the lungs in cattle. Still, we heard of some cases occasionally throughout the summer; also, of the epidemic foot complaint. We have had remarkably fine weather for autumnal and early winter operations, but though the temperature has generally been favourable, except a few days of frost about the middle of November, we never recollect October and November-sown Wheat being so long in showing itself above ground. *James Dixon, W. Rothwell, December 21, 1858.*"

## Farm Memoranda.

WHICHWOOD FOREST.—The following account of the disafforestation of Whichwood Forest, in the county of Oxford, is abridged from the *Midland Counties Herald.* At the commencement of this work the forest comprised an area of 3778A. 2R. 31P., and was subject to the rights of the Crown, the hereditary ranger, and the commoners, the ranger being Lord Churchill, of Cornbury Park, Charlbury. The Act for disafforestation was passed in 1853, which appointed Commissioners to carry it into effect. The survey shows that there were—

| | A. | R. | P. |
|---|---|---|---|
| Nineteen coppices, containing . | 1804 | 1 | 2 |
| Open forest much covered with timber and brushwood .. .. | 1766 | 3 | 12 |
| The lodges, with their enclosures .. | 195 | 3 | 33 |
| And a few encroachments .. .. | 11 | 1 | 30 |
| Total .. .. .. | 3778 | 2 | 31 |

The timber upon the forest was valued by Mr. Clutton at nearly 44,000*l.*, and all realised, except a small quantity left for ornament. The award of the Commissioners was executed on the 13th of June, 1857, by which the Crown acquired an allotment of 2543A. 1R. 15P., which was subsequently increased by purchase and otherwise to 2937A. 0R. 6P., of which about 1970 acres were unreclaimed forest land. The clearing of this land commenced in October, 1856, and was completed in January, 1858, having been in progress about one year and four months, at a cost of [illegible]. The outlay for reclamation and conversion was as under:—

| | |
|---|---|
| Clearing .. .. .. .. .. | £5815 |
| Fencing .. .. .. .. .. | 1135 |
| Water supply .. .. .. .. | 350 |
| New farm houses and buildings .. | 11,000 |
| Management .. .. .. .. | 700 |
| Contingencies .. .. .. .. | 1000 |
| Total .. .. .. | £20,000 |

including maintenance of roads and sundry small items of expenditure; making the cost, in respect of the 1970 acres converted to arable cultivation, little more than 10*l.* an acre. The new roads, about 10 miles in length, were made and fenced by the disafforesting Commissioners at a cost of 6985*l.*, which sum was provided out of a fund raised by the sale of portions of the forest lands. The entire estate is conveniently arranged in seven farms, which were let by tender, on leases for 31 years from the 10th of October, 1857, at an average rent of about 28*s.* per acre for the land, and an additional sum of 6*l.* per cent. on the cost of new houses and homesteads, which are built of the oolitic stone of the district. The members of the Land Surveyors' Club, which comprises gentlemen from every part of England, inspected this great work on the 13th of July last, upon the invitation of the Crown Surveyor, Mr. John Clutton, who accompanied them. They were much pleased with their visit, and derived considerable advantage from what they saw. The buildings are conveniently arranged, and constructed without any other ornament than they derive from excellent proportion, and the sites are judiciously selected in reference both to the occupation of the land and the beauty of the prospects; but the most extraordinary part of the scheme has been the marvellous rapidity of its execution. In the incredibly short space of 16 months nearly 2000 acres of wood were effectively converted into farming land; the timber cleared, the roots and underwood stocked and grubbed, the division fences made, the land prepared for cultivation, and the holdings arranged and let, and within 9 months afterwards the first corn crop harvested and the first rent paid. For promptitude of execution and quality of work this conversion of Whichwood Forest has hitherto been unequalled in this country; and whether it is regarded as an undertaking of interest or a lesson of instruction it is equally worthy of inspection by the landowner or the professional surveyor.

## Calendar of Operations.

AUGUST.

BERWICKSHIRE MERSE FARM: *Aug. 8.*—Bad as were the prospects of our Turnip crop at this time last year, they are we believe still worse at present. The soil was completely dess-

cated by the cold winds of May, and the Swede seed lay six weeks, until brairded by the rains of the end of June. The yellow and white Turnips being more recently sown are generally a good plant and growing luxuriously; but the deficiency of Swedes promises badly for spring feed. Mangels were sown for the first time on many farms, but unfortunately for the trial few have obtained a plant. Turnips are mostly thinned now, but there will be little time for further hoeing before harvest. Some pieces of Barley will be ready this week, and reaping will be general in 8 days. Winter Beans are short of straw and corn too, but spring sown are quite a failure. Oats are uncommonly thin and light and ripen fast. Barley where strong, is much laid and twisted by the storms of last month. Wheat will be a bulky crop, but much later than the other cereals. Pastures were quite burnt up but have improved since the rains three weeks ago. Lambs, however, are falling in price, although the produce of the ewe flocks was much below an average. *J. B.*

South Dorset: *Aug.* 8.—The harvest began with us some time before July was out, the continuance of dry sunny weather having enabled us to begin fully a fortnight earlier than usual, and there remains little more to be cut. What is left is chiefly Barley, although much even of this was harvested with the other corn, as this crop is now sown much earlier than it used to be, sometimes as early as February, instead of in March or April. I hear no complaints here of the mildew, which I see in this week's *Gazette* has attacked the above-named and other crops, but accounts seem generally favourable. Those Turnips and Mangels which are up look pretty well, and we are taking advantage of the gentle rain fallen last night to catch a crop of stubble Turnips (on light land) after Peas. The latter succeed very well here, but Beans we never grow, for they require a much heavier soil. There are not as yet many symptoms of the Potato disease. There is a good deal of green caterpillar in our flower gardens; this is probably to be attributed to the mild winter, and the little frost in consequence. The general accounts of the great heat this summer in the metropolis and elsewhere do not so much apply here, as with the exception of about a week or 10 days early last month when thunderstorms were so prevalent (though to no great extent here), the summer has been cool, certainly cooler than last year or the year before. We are however within only five miles of the sea, the air from which, wafted over our breezy heaths, contributes to make our summers generally very enjoyable.

## Notices to Correspondents.

Australia: *Mr Wells'* offer of "Report" is declined with thanks.

Black Caterpillar: *W Graham.* There are machines for brushing up caterpillars and for choking them with poisonous dust (Priest & Woolnough, Kingston, Surrey.) You may employ children to shake them off and trample on them, and ducks to devour them. Lord Cottenham says that five ducks per acre are the remedy! If you merely take ducks on the field you will be disappointed; but we are told that if you keep them on it long enough, and until they are forced to attack the caterpillar, they acquire an extraordinary voracity for them.

Cattle Food: *Cor.* The so-called Henri's meal mixture for cattle professes to be compounded as follows, the following being an extract from the specification of the invention claimed:—"I employ finely dried meal and powder obtained from the following vegetable matters, the husks being removed therefrom; namely, of—

| | | | | |
|---|---|---|---|---|
| Kidney Beans, about | 200 | parts, or | 20 | per cent. |
| Barley | 200 | ,, | 20 | ,, |
| Oats | 200 | ,, | 20 | ,, |
| Rice | 100 | ,, | 10 | ,, |
| Linseed | 200 | ,, | 20 | ,, |

The above ingredients are highly nutritious, containing on an average from 75 to 90 per cent. of nutriment. To these I add, of—

| | | | | |
|---|---|---|---|---|
| Peruvian bark, about | 10 | parts, or | 7-10ths | per cent. |
| Gentian | 15 | ,, | 1 5-10ths | ,, |
| Galingal | 4 | ,, | 4 7-10ths | ,, |

The above ingredients are employed for their tonic properties. To these I add, of—

| | | | | |
|---|---|---|---|---|
| Nitre, about | 14 | parts, or | 1 4 10ths | per cent. |
| Sulphur ,, | 28 | ,, | 2 8-10ths | ,, |
| Resin ,, | 10 | ,, | 1 | ,, |

The above ingredients, with the exception of the resin, are employed for their diuretic and deobstruent properties, and for their action upon the skin; the resin as being both diuretic and tonic. To these I add of the salt of commerce about 10 parts, or 1 per cent. To the above ingredients I add, of—

| | | | | |
|---|---|---|---|---|
| Liquorice root, about | 7 | parts, or | 7-10ths | per cent. |
| Carraway seed ,, | 10 | ,, | 1 | ,, |

The above ingredients are employed for their carminative properties, useful in dispelling flatulency, and for gently stimulating the stomach and digestive organs to healthy action. The whole of the above ingredients should be perfectly dry before mixing them together. The grain being placed in any convenient receptacle for that purpose, I prefer employing coke fires for drying the grain, as being well calculated to evaporate the moisture from the meal, thereby enabling it to be packed tightly without heating. When the grain is thoroughly dried it is sifted in an ordinary sieve to separate dust and other extraneous matters or substances therefrom. The ingredients are then thoroughly mixed and incorporated together in a vessel convenient for the purpose. The above mixture is then left in a heap for about 48 hours to ensure the absorption of the tonics, antacids, and carminatives by the meal, which, being effected, the mixture may then be made up into convenient packages ready for commercial purposes. I would here remark, that under certain circumstances I have found it desirable in practice to vary the proportions of the ingredients composing the above mixture; I do not therefore limit or confine myself to the precise proportions set forth, but vary them as found desirable, according to the constitution of the horse; for example, for a horse in low condition I prefer adding to the above mixture about 20 per cent. of the tonic, carminative, and nutritious ingredients; and for a horse of weakly constitution, I use 1-5th part less of the tonic, diuretic, antacid ingredients, and increase the quantity of the carminative and nutritious ingredients 1-5th." Of course such a mixture must possess considerable value; the question for purchasers of it, as of all other cattle food is whether or not it is worth the price demanded for it, while Barley and are Beanmeal to be had for about one quarter the cost. We do not believe it.

Rotation of Crops: *Tyro.* If only Oats, Barley, Turnips, and Vetches are needed you might grow them in a four-course rotation as for 100 acres, thus:—1, 25 acres of Barley. 2, 5 acres of Winter Vetches sown on the manured Barley stubble in autumn; 5 acres Spring Vetches sown in March, 5 acres Vetches sown in end of April. Of course if more Vetches are wanted you can divide the whole 25 acres of Barley stubble in three parts, so as to have a succession of green food, but if 15 acres suffice the remaining 10 may be planted with Potatoes or Mangel Wurzel for sale. 3, 25 acres Oats. 4, 25 acres in Turnips and Swedes to be fed off previous to the Barley crop.

Erratum: For "18s." in the tenth line from top of col. *b* to page 681, read "8s." The word "root" in the 50th line should have been "crop."

*** As usual, many communications have been received too late, and others are detained till the necessary inquiries can be made. We must also beg the indulgence of those correspondents the insertion of whose contributions is still delayed.


THE PLOUGH TRIALS AT WARWICK.

HOWARD'S CHAMPION PLOUGH

Gained the FIRST PRIZE as the Best Plough for General Purposes at Warwick,

BEING the CHIEF PRIZE for PLOUGHS, awarded by the Royal Agricultural Society of England, at this Meeting. The importance of this Prize will be gathered from the fact that the GENERAL PURPOSE PLOUGHS are the only ones tried on BOTH LIGHT AND HEAVY LAND, and as HOWARD'S CHAMPION PLOUGH proved itself to be the best on both soils, the FIRST PRIZE, of the HIGHEST AMOUNT given by the Society for any kind of Plough, was awarded to J. & F. Howard.

PRIZES awarded to J. & F. Howard, by the Royal Agricultural Society of England, at the WARWICK MEETING, 1859, being not only the LARGEST NUMBER of PRIZES, but the LARGEST NUMBER of FIRST PRIZES awarded to any Exhibitor.

THE FIRST PRIZE FOR THE BEST PLOUGH FOR GENERAL PURPOSES, ALSO A PRIZE FOR THE BEST PLOUGH FOR LIGHT LAND, AND A PRIZE FOR THE BEST PLOUGH FOR HEAVY LAND; THE FIRST PRIZE FOR THE BEST LIGHT HARROWS, THE SECOND PRIZE ALSO FOR THE BEST LIGHT HARROWS, AND THE FIRST PRIZE FOR THE BEST HEAVY HARROWS.

Every one of HOWARD'S Implements, tried at Warwick, gained a Prize.

CATALOGUES, with full particulars, sent post free on application to

J. & F. HOWARD, BRITANNIA IRON WORKS, BEDFORD.

DEANE & COMPANY'S

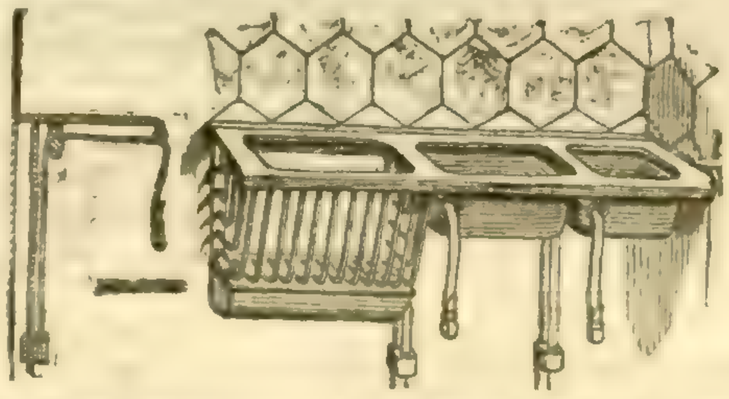
HORTICULTURAL TOOLS.

GARDEN ENGINES, Galvanized Iron
Prices 55s., 63s., 105s., 120s.
Ditto, Wood, 84s,, 105s, 130s.
Flower Stands, 4s. 6d. each.
Cast Iron Ornamental ditto, to hold 7 Vases, 27s.
Deane's Mowing Machines, with Boyd's Patented Improvements, £4 17s. 6d; £6 6s. 0d., £6 17s. 6d., £7 7s. 0d.
Green House Syringes, 8s., 10s., 18s. 6d
Garden Rollers, £1 14s. 6d., £2., £2 12s. £3 3s., £3 18s., £4 13s., £5 12s., £7 10s.
Garden Stools, 4s. 6d.
Garden Chairs, from 30s.
Boyd's Self-adjusting Scythe, 10s. 6d.
Wire Work, 18in. 4d. per yard run.

*Every Implement for Garden use on the lowest Terms.*

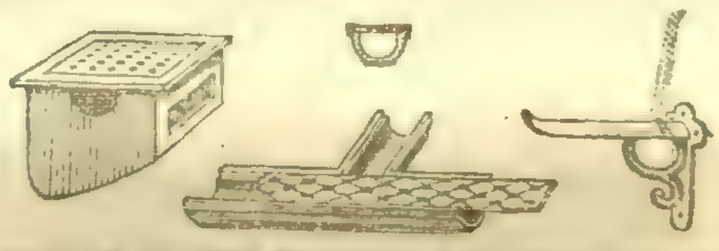
DEANES:—Opening to the Monument, London Bridge.

COTTAM'S PATENT INVENTIONS FOR STABLE REQUISITES, awarded a Prize at the Paris Exhibition, and patronised by the English and French Governments.



COTTAM AND COMPANY, Winsley Street, W., are the original inventors of the PATENT ENAMELLED MANGER, Water Trough, and Wrought Iron Rack, united to an iron top-plate, and forming one complete and useful fixture, having COTTAM'S patent noiseless halter guide and collar rein attached, which is taken to the back of the manger, and works with ease and freedom up or down the guide-bar.

COTTAM'S NEW PATENT SEED-BOX, an important addition to the above fittings, being simple in construction, light, and durable, promotes cleanliness, and is economical in its results.



COTTAM'S PATENT SADDLE and HARNESS BRACKET combined, can be used with great advantage where space is an object, as it can be turned up out of the way when not in use.

COTTAM'S IMPROVED SURFACE GUTTER, with perforated moveable cover, the use of which prevents accidents, and can be easily cleaned out.

COTTAM'S CAST-IRON SANITARY TRAP, from its improved construction, gives a full water passage, and does not allow any smell to ascend from the drain.

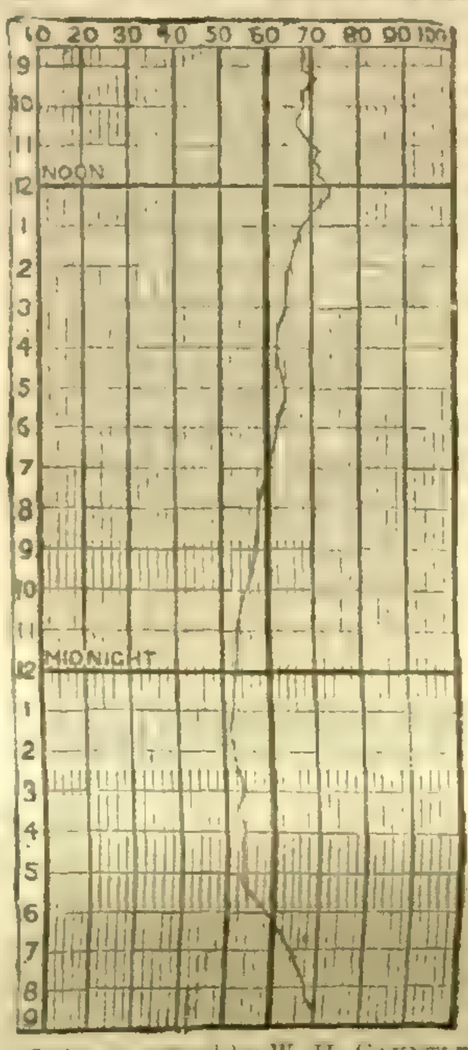
PATENT LOOSE-BOX FITTINGS, and every article for the harness-room and stable, kept in stock, plain, galvanised, and enamelled. Iron gates, fencing, hurdles, &c.

The New Illustrated Catalogue and Estimates, gratis, upon application to COTTAM and COMPANY, 2, Winsley Street, Oxford Street, W.

N.B. COTTAM & Co. beg to make it known that there is no longer an entrance to their establishment from Oxford Street, but that they have made a second entrance from 2, Winsley Street, Oxford Street, W., by the side of the old entrance to their works, opposite the Pantheon.

TO HORTICULTURISTS.

GAUNTLETT'S PATENT CHRONOMETRICAL THERMOMETER.




This instrument, which combines an eight day clock of the best English make showing time, with a newly-patented Thermometer, wherein glass and quicksilver are dispensed with, writes down the temperature of the atmosphere on a slip of paper, and when placed in a Hothouse, Forcing House, or Conservatory, &c., supplies a valuable record of the temperature, with all its variations, showing the time when any change took place, and how long such change continued.

The above slip (reduced in size) exhibits the temperature of the Royal Agricultural Society's show yard at Chester, July 22, 1858, written off by one of these instruments, to which was awarded the Society's Silver Medal.

This is the only instrument that registers temperature continuously and writes it down, and no horticulturist should be without it.

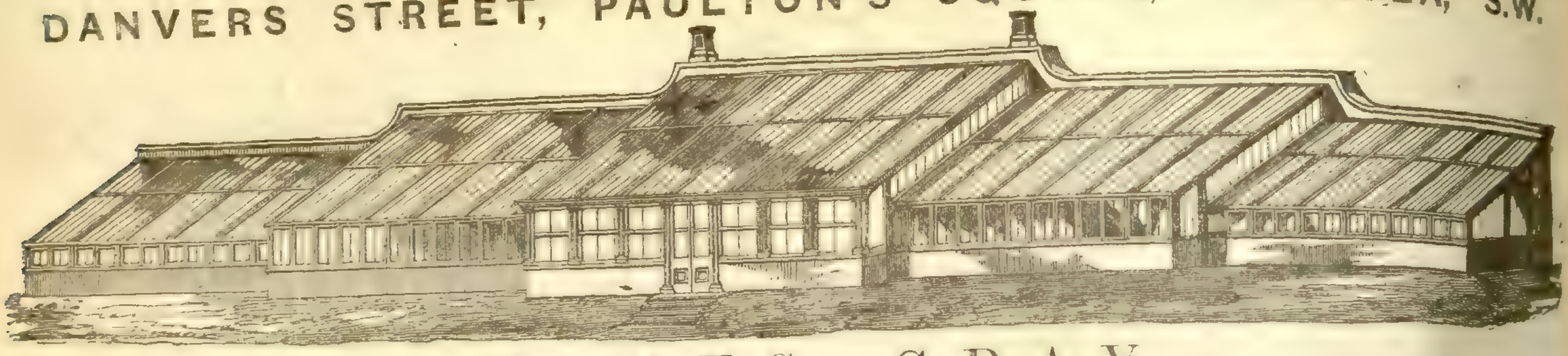
Orders received by W. H. Gauntlett, Middlesbrough-on-Tees.

HOW TO BREW SPLENDID STRONG ALE, at 7d. per Gallon, fine as Sherry, and as good a Cordial to Burton Tenpenny. This new Practical Treatise is by a Derbyshire man of 28 years' attendance at the spigot and bung in the best brewery in the county. No brewing utensils required, only those for household use. This is guaranteed to be the best and cheapest mode to produce fine Ale ever made public. The above beautifully printed in large type can be had of the sole publishers for 12 Penny Post stamps. Sent post free to any address. Direct to Fisher & Son, Publishers, Kingsland, London, N.E. Established 1847.

Notice.—Just appended to this universally prized Book, all the methods to make the improved Ærated Unfermented Ginger Beer, Soda Water, Lemonade, all the Cordials and Nectars, together with the Penny French Ices, the Delightful Summer Cooling Beverages, and all the French, American, and English cheap fruit drinks.

# HORTICULTURAL WORKS,

## DANVERS STREET, PAULTON'S SQUARE, CHELSEA, S.W.



# JAMES GRAY

RESPECTFULLY BEGS TO INFORM THE NOBILITY, GENTRY, NURSERYMEN, GARDENERS, AND OTHERS, THAT HE CONTINUES TO CARRY ON THE BUSINESS IN ALL ITS BRANCHES AT THE ABOVE OLD ESTABLISHED PREMISES.

## CONSERVATORIES, GREENHOUSES, FORCING HOUSES, VINERIES, PITS, &c.,

OF EVERY DESCRIPTION, ERECTED ON THE MOST APPROVED PRINCIPLES.

## HEATING BY HOT WATER.

J. G. having specially devoted his attention for many years to this part of the business, is now fully prepared to Heat every description of public and private buildings, viz :—Churches, Mansions, Warehouses, &c., as well as all structures connected with Horticulture, in the most efficient manner. His system is the most simple that can be adopted—which he has found from long experience to be the best—can be constructed at less cost, and is more easily managed than those of a complicated nature which have attracted the notice of the public.

J. G. begs to call attention to his CAST-IRON CORRUGATED ARCH BOILER, which from its simplicity of construction has not the liability to fracture to which those of a more complex design are always subject. They have been extensively used for many years, and have given the greatest satisfaction.

All business is conducted at this establishment on the principle of lowest remunerative profits consistent with best materials and workmanship.

## PLANS AND ESTIMATES FURNISHED ON THE SHORTEST NOTICE.

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VOKINS AND HURD,
Jubilee Place, King's Road, Chelsea, S.W

HORTICULTURAL BUILDERS and HOT-WATER APPARATUS MANUFACTURERS. Estimates forwarded on the shortest notice.
BOILERS of all sizes on sale.

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WEST OF ENGLAND HOTHOUSE AND HOT-WATER APPARATUS MANUFACTORY,
BRIDEWELL STREET, BRISTOL.

VINCENT SKINNER (late Partner in and for seven years connected with the firm of John Weeks & Co., of Chelsea), erects Conservatories, Forcing Houses, &c., of the best materials and workmanship. Whole Establishments heated on the ONE BOILER SYSTEM, and each division effectually regulated by his *improved valve*.

Upright Pipe Boilers of all sizes, from 18 inches diameter by 15 inches high. Garden Frames, &c.

Plans and Estimates free.

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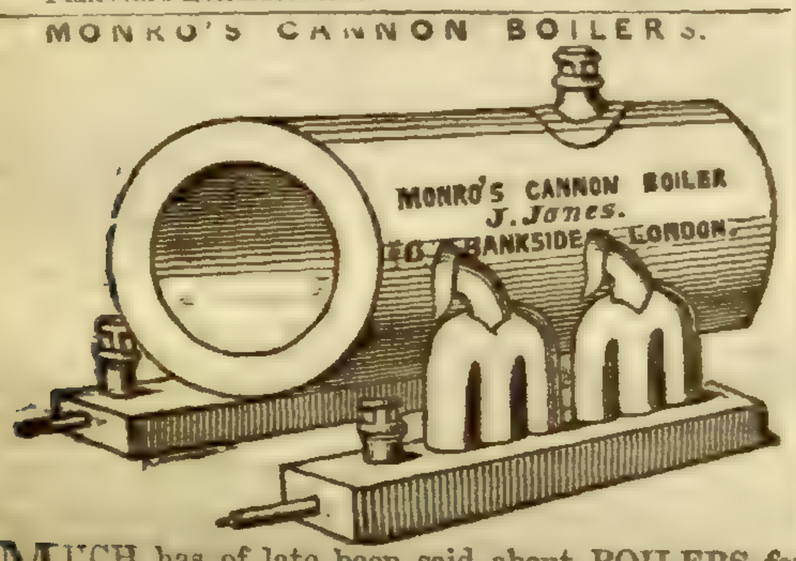
MONRO'S CANNON BOILERS.




MUCH has of late been said about BOILERS for Heating by Hot Water, but these Boilers have now proved themselves to be the best at present invented. They are adapted for heating every description of building, and are made of various sizes. The Price of the

| | | | | |
|---|---|---|---|---|
| 24-inch Cast Iron is | .. | .. | £5 10s. 0d. | each |
| 24-inch Wrought ditto | .. | .. | 6 10 0 | ,, |
| 36-inch Cast ditto | .. | .. | 8 0 0 | ,, |
| 36-inch Wrought ditto | .. | .. | 8 10 0 | ,, |

References to Gentlemen and Nurserymen where these Boilers are now at work. The Cannon Boilers are now kept in stock, and are to be had only of J. JONES, 6, Bankside. Also, every description of Saddle and Cylinder Boilers. Hot Water Pipes and Connections at prices lower than those of any other house in London. Estimates for Hot-water Apparatus erected complete in any part of the country, and an Illustrated Catalogue on application to J. JONES, 6, Bankside, Southwark, London, S.E.

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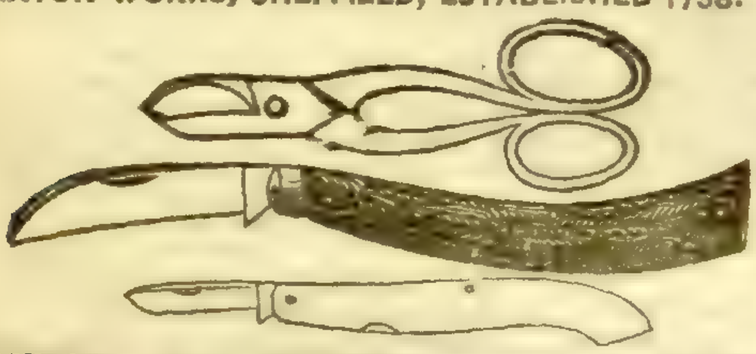
PAXTON WORKS, SHEFFIELD, ESTABLISHED 1738.



SAYNOR AND COOKE'S warranted PRIZE PRUNING and BUDDING KNIVES, SCISSORS, &c.—Sold by all respectable Nurserymen and Seed Merchants in the three Kingdoms.

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# WEEKS' ONE BOILER SYSTEM.

BY APPOINTMENT

## JOHN WEEKS & COMPANY,

## KING'S ROAD, CHELSEA, S.W.,

CHALLENGE THE WORLD to produce a Boiler not made in imitation of their Upright Tubular Boiler that will produce anything like the same effect with the same quantity of fuel in a given time.

The following unequalled statistics fully justify the challenge :—

| | Area of Houses in feet. | Total length of Piping. |
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| Messrs. E. G. Henderson & Co., Wellington Nursery | 1,200 | 5,500 |
| Messrs. F. A. Smith, Dulwich ... ... ... ... | ... | 11,000 |
| M. Van Houtte, Belgium ... ... ... ... ... | 3,300 | 13,000 |
| Our own Fruit Forcing Show Establishment ... | 1,000 | 7,000 |

Also the Nurseries of Mr. Woodroffe, Harrow Road, N.W.; Messrs. Rollisson, Tooting, S.; Messrs. Wood & Ingram, Huntingdon; Messrs. Wood & Son, Maresfield; together with numerous Public Buildings and Establishments of the Nobility and Gentry far too numerous for insertion.

**J. WEEKS & CO., Horticultural Builders and Hot-Water Apparatus Manufacturers, King's Road, Chelsea, S.W.**

PLANS AND ESTIMATES FREE ON APPLICATION.

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# J. WATTS & CO.,

## Hothouse Builders and Hot-Water Apparatus Manufacturers.

Horticultural Buildings of every description Heated on the most approved principles, combining great power with simplicity of construction. A Range of Houses containing 20,000 feet can be Heated as easily as the smallest Pit. Two Hundred Cucumber Boxes and Lights, and from Three to Four Hundred Lights of all sizes kept in stock, glazed and painted complete, ready for immediate use.

*References to the Nobility, Gentry, and the Trade in most of the Counties in England.*

**Claremont Place, Old Kent Road, London, S.E.**

**SELAGINELLA RUBRICAULIS** (New).

ROBERT SIM is now prepared to supply, at 10s. 6d. each, very nice plants of this distinct and very pretty novelty, of which he possesses the entire stock. Its stems are coral red, its leaves small, and of a shining variable green. In habit it resembles some elegant little Thuja Lobbii or Ayresii. It will form a very compact and handsome small specimen for exhibition.—Nursery, Foot's Cray, S.E.

**BUCKLAND SWEETWATER GRAPE.**

Report of Pomological Meeting, August 4, 1859, copied from the "Cottage Gardener," August 9.

MESSRS. IVERY, of Dorking, produced a noble bunch of their BUCKLAND SWEETWATER GRAPE, weighing certainly not less than 2 lbs., broadly shouldered, and remarkably well set. The berries were roundish, inclining to oval, and were just beginning to assume their amber tinge. They were very richly flavoured and vinous. Altogether this variety has stamped itself as one of particular excellence, and a valuable addition to the collection of White Grapes, which ripen perfectly in an ordinary Vinery.—Dorking, August 27.

TO THE TRADE.—The Subscriber, who has ample facility, is desirous of contracting to supply any given quantity of SCARLET GERANIUMS or other BEDDING-OUT PLANTS to be delivered as per arrangement in the spring of 1860.—W. C. WATSON, East Barnet, N.

TO THE TRADE.—A fine healthy Stock of GENTIANELLA, 10s. per 100; ALPINE AURICULAS, 10s. per 100.

J. SMITH, Sen., Tansley Nursery, Matlock, Derbyshire.

Unknown correspondents will please to enclose a reference, to save delay in the execution of their orders.

**TO THE TRADE.**

THOMAS JACKSON AND SON solicit an inspection of their Stock generally, and particularly their AZALEAS, ERICAS, EPACRIS, and POT PLANTS, which are this season they believe unequalled in their fine healthy condition. Good flowering plants of Azaleas, Ericas, and Epacris, 7s. per 100. T. J. & Son possess many large specimens of Stove and Greenhouse Plants, from 1 to 5 feet in diameter, suited for exhibition, prices according to size and kind. Berberis Beali, B. japonica, and Eugenia Ugni, good plants in 3-inch pots, 60s per 100.—Nurseries, Kingston, S.W.

**TO THE TRADE.**

S. PONSFORD would call the attention of all extensive planters to his stock of EVERGREEN and DECIDUOUS SHRUBS, particularly in Common Laurel, Aucuba, Arbutus, Evergreen Oak, Striped Holly, &c. Also, Standard Apples and Mulberries (these very fine), Pears, Plums, &c. Dwarf-trained Peaches, Nectarines, &c. A large stock of Red, White, and Black Currants, Gooseberries, &c. Fine Standard and Dwarf Roses, Limes in large quantities of all sizes.—Loughborough Park Nurseries, Brixton, Surrey, S.

**GERANIUMS, HERBACEOUS PLANTS, ETC.**

MESSRS. PARKER AND WILLIAMS beg to inform their friends and patrons that their new PRICED and DESCRIPTIVE CATALOGUE of the above, to which are added Supplemental Lists of Stove, Greenhouse, and Hardy Plants, Fruit Trees, &c (which include all the best new plants of the season), is now published, and will be forwarded post free on application.—Paradise Nursery, Seven Sisters' and Hornsey Roads, Holloway, London, N.

HUGH LOW AND CO. have now ready for distribution the PRICED CATALOGUE for present season of their extensive collection of PLANTS, TREES, &c. It extends to 76 pages, and contains Stove, Greenhouse, Orchidaceous, Hardy, Herbaceous, and New and Rare Plants; Camellias, Azaleas, Ferns (of this interesting tribe the collection is very complete), Conifers, Rhododendrons, Ericas, Fruit Trees, Florists' Flowers, and Bedding Plants of all kinds.

The Catalogue will be sent prepaid on application.

Clapton Nursery, London, N.E.

**ARAUCARIA IMBRICATA.**

YOUELL AND CO. beg to inform the Trade they have to offer a fine and healthy stock of the above in 1-year-old plants.

GLADIOLUS BRENCHLEYENSIS.—An extensive stock of large flowering Bulbs of this magnificent Gladiolus, the colour of which is vermilion scarlet, the best and brightest variety known. Prices of the above on application.

Royal Nursery, Great Yarmouth.

TRIFOLIUM INCARNATUM, 5*d.* to 6*d.* per lb.; with hints on its successful cultivation, showing how 3 tons per acre of the most nutritive hay may be secured, the advantages of sowing it where broad Clover is thin, and its superiority to Tares as green food.

PAGE AND TOOGOOD having secured a large breadth of prime quality, offer it at the above low rate for cash.

| | | | |
|---|---|---|---|
| New Turnip Seed, per lb. .. .. | 0*s.* 6*d.* | Italian Rye-grass, per bush., 5*s.* to .. .. | 7*s.* 0*d.* |
| New Rape, do. .. .. | 0 4 | Mustard, per lb. 4*d.* to 0 | 5 |

Calceolaria and Cineraria, in packets of 2*s.* 6*d.* and 1*s.* each, saved from one of the finest collections in Europe.

Seeds for exportation to all parts of the world.

PAGE & TOOGOOD, Seed Growers and Merchants, Oxford Street; and Above Bar, Southampton.

**NEW PANSIES.**

DICKSONS AND CO. will be prepared to offer the following NEW PANSIES on October 1, viz.:—

| | *s.* | *d.* |
|---|---|---|
| SERAPH.—White ground, with rich deep purple belt and top petals; a decided improvement on the Countess of Rosslyn .. .. .. .. .. .. .. | 5 | 0 |
| LAVINIA.—White and light purple, a large bold flower, fine form, and great substance .. .. .. .. | 5 | 0 |
| CONQUEROR.—Gold and rich deep chocolate, large and fine form; a first-class show flower .. .. .. | 5 | 0 |
| SIRIUS.—Yellow and maroon, medium size, constant, and fine quality .. .. .. .. .. .. | 5 | 0 |
| KING OF PURPLES.—A rich dark self. This will prove one of the finest show flowers yet out .. .. .. | 5 | 0 |
| GARIBALDI.—A dark self, exquisite form and texture .. | 5 | 0 |

The usual discount to the Trade.—Edinburgh, August 27.

JEAN VERSCHAFFELT, NURSERYMAN, Ghent, Belgium, begs respectfully to announce that he has a fine stock of the undermentioned healthy well grown Plants, which he offers at the following prices:—

CAMELLIAS, with flower-buds (including the best leading kinds) .. .. .. per 100 £5 0 0

Do. do. .. .. .. .. .. .. ,, £6 0 0

Do. do. stronger Plants, 2*s.*, 3*s.*, 4*s.*, & 5*s.* each and upwards.

AZALEA INDICA, with flower-buds (including the best leading kinds), at from 1*s.* to 4*s.* and 5*s.* each and upwards.

AZALEA INDICA, his seven new Seedling varieties, including three double-flowering ones at 3*l.* the set.

ARUNDO DONAX VERSICOLOR; fine grown plants at from 3*s.* to 5*s.* each.

ERYTHRINA CRISTA GALLI; strong plants at 1*s.*

50 sorts of GLADIOLI GANDAVENSIS, from 1*s.* to 2*s* each.

DAPHNE DAUPHIN, 1*s.* | DAPHNE CNEORUM MAX., 1*s.*

LILIUM LANCIFOLIUM RUBRUM, strong bulbs, p. 100, £4.

Do. do. ALBUM ,, £3.

Do. do. ATROSANGUINEUM MACULATUM ,, £2.

Advertiser invites all persons to send their orders directly to JEAN VERSCHAFFELT, Nurseryman, Ghent, Belgium.

JAMES CARTER AND CO., OF 238 HIGH HOLBORN, W.C., beg leave to inform their Customers that on and after the 1st of September next their present Establishment will be occupied by the Seedsmen of the adjoining House, "No. 237," and their staff of Assistants will be materially increased, so that all Orders with which they may in future be favoured will be executed with immediate despatch.—238, High Holborn, London, W.C.

CARTER'S CHAMPION CUCUMBER surpasses Sion House and Lord Kenyon's Favourite for winter and early spring use. Smooth, dark green, straight, and prolific; average length, 1 foot. Price per packet, 1*s.*

J. C. & Co. do not hold themselves responsible for the genuineness of the above unless obtained direct from

238, High Holborn, London, W.C.

CALCEOLARIA, 1*s.*, 2*s.* 6*d.*, 5*s.*
CINERARIA, 1*s.*, 2*s* 6*d.*, 5*s.*
PRIMULA SINENSIS FIMBRIATA, 1*s.*, 2*s* 6*d.*, 5*s.*
} All the same quality.

JAMES CARTER AND CO. beg leave to offer Seeds of the above of this year's harvesting, saved from SEVERAL UNRIVALLED COLLECTIONS, and they can with confidence recommend them as being of fine form, bold in form, colour, and variety.—JAMES CARTER & Co., Seedsmen, 238, High Holborn, London, W.C.

J. CARTER AND CO. beg to state that their TWENTY-FOURTH ANNUAL CATALOGUE OF DUTCH AND CAPE BULBS will be published on September 1, when it will be forwarded gratis and post free on application.

238, High Holborn, London, W.C.

J. CARTER AND CO. are now in receipt of their First Consignment of HYACINTHS, CROCUS, TULIPS, AND OTHER DUTCH BULBS, all of which are very fine and in good condition.

238, High Holborn, London, W.C.

**DUTCH FLOWER ROOTS.**

PETER LAWSON AND SON, THE QUEEN'S SEEDSMEN, &c., respectfully announce the arrival of a fine Stock of DUTCH FLOWER ROOTS, and they are now prepared to execute orders for the same.

27, Great George Street, Westminster, S.W.

**NEW SEEDS.**

TRIFOLIUM INCARNATUM
ITALIAN RYE-GRASS
NATURAL GRASS SEEDS FOR PERMANENT PASTURE LAWNS, &c.

PETER LAWSON AND SON, the QUEEN'S SEEDSMEN, &c., are prepared to supply all kinds of SEEDS for AUTUMN SOWING of the best quality.

27, Great George Street, Westminster, S.W.

**BUSBY'S STOCKWOOD GOLDEN HAMBURGH GRAPE.**

JAMES VEITCH, JUN., begs to intimate that as before announced he offers a PRIZE OF FIVE GUINEAS FOR THE THREE BEST BUNCHES of the above Grape to be exhibited at the Crystal Palace Show, September 7 and 8.

Royal Exotic Nursery, Chelsea, S.W.—August 27.

**DUTCH FLOWER ROOTS.**

JAMES VEITCH, JUN., ROYAL EXOTIC NURSERY, Chelsea, S.W., begs to announce that he has received his annual supply of BULBOUS ROOTS from Holland, and is pleased to say that they are PARTICULARLY FINE and in EXCELLENT CONDITION. Catalogues are now ready and will be forwarded on application.

J. V., Jun., desires to impress upon those who patronise him the great advantage of giving him their ORDERS EARLY, as the successful cultivation of Bulbs depends in a great measure upon their BEING PLANTED EARLY IN THE SEASON.

**SPLENDID NEW VARIEGATED FERN,**
PTERIS ARGYRÆA (MOORE).

JAMES VEITCH AND SON have peculiar satisfaction in calling attention to the above-named most striking novelty, which is undoubtedly one of the greatest acquisitions of recent introduction to our now justly popular collections of Ferns.

It is of *noble aspect* and free growth, perfectly distinct and novel in its character, the pinnæ on every frond as well as their branches having a broad central stripe of glistening silver, which, in contrast with the bright green, produces a most charming effect. It may justly be called

THE VARIEGATED FERN.

It was exhibited at the Royal Botanic Garden on July 6, and before the Horticultural Society's newly appointed Floral Committee on July 7, and in both cases received the highest Prizes given to such novelties, and was universally admired.

Established Plants, 31*s.* 6*d.* each.

The usual allowance to the Trade.

Royal Exotic Nurseries, Exeter and Chelsea.—August 27.

ROYAL BERKSHIRE SEED ESTABLISHMENT.

SUTTON AND SONS have just received a very unique Collection of HYACINTHS, ANEMONES, JONQUILS, CROCUSES, and numerous other Bulbous Flower Roots, direct from one of the most celebrated Dutch Growers. Prices very moderate. Lists gratis and post free.

THE ORIGINAL STOKE NEWINGTON FLORICULTURAL SOCIETY.—THE DAHLIA, ASTER, HOLLYHOCK, AND MISCELLANEOUS EXHIBITION, open to all England, will be held in the Floral Hall, Hare and Hounds Tavern, Stoke Newington Road, N., on TUESDAY, August 30, when Prizes will be awarded to two-thirds of the Exhibitors, including a Five Guinea Silver Cup. Extra Prizes and Certificates will be given for Seedling Dahlias.

Treasurer, Mr. HERRELL; Chairman, Mr. J. H. BIRD, F.H.S., Secretary, Mr. J. NICHOLLS, sen., 7, Myrtle Street, Dalston, N.E.

Further particulars can be had of the Secretary, or of Mr. ALLEN, at the above Tavern.

The Exhibition will Open to the Public at 1 o'clock. Admission 1 to 4 o'clock, 1*s.*; after 4, 6*d.* Omnibuses from the Elephant and Castle, S., and Flower Pot, Bishopsgate Street, E.C., every five minutes to Kingsland Gate, N.E., being within five minutes' walk of the Society's House, Fare 2*d.*

TOWCESTER FLORAL AND HORTICULTURAL SOCIETY.—*President:* The Earl of POMFRET.

THE ANNUAL EXHIBITION OF FLOWERS, PLANTS, FRUITS, & VEGETABLES, will take place in the Grounds of T. W. GARRARD, Esq., Towcester, on THURSDAY, Sept. 8, under the patronage of—

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| The Duke of Grafton, | Sir Charles Knightley, Bart. |
| The Earl of Euston, | Rainald Knightley, Esq., M.P. |
| The Earl of Pomfret, | Colonel Cartwright, M.P. |
| Lord Southampton, | &c. &c. &c. |

The Exhibition will be on a larger scale than that of last year, 374 Prizes being offered for competition open to all England. There will be distinct Classes for Nurserymen, Gardeners, Amateurs, Under Gardeners and Cottagers. There will also be a Class for Agricultural Roots.

The Committee wish to direct attention to the following Sweepstakes, the Premiums for which have been increased since the Schedule was printed. The Sweepstakes are open to all classes upon payment of the entrance fee before August 31.

| | Entrance Fee. | Premium added. |
|---|---|---|
| | *s.* *d.* | £ *s.* *d.* |
| For the best Collection of 50 Roses, in varieties, 3 trusses of each as gathered | 10 0 | 5 0 0 |
| For the best Collection of 36 Dahlias, in varieties .. .. .. .. .. | 10 0 | 4 0 0 |
| For the best Collection of 8 Fruit Trees, grown in pots or boxes, in fruit .. | 10 0 | 4 0 0 |
| For the best Collection of 12 Stove or Greenhouse Plants, Lycopodiums, or Ferns .. .. .. .. | 10 0 | 5 0 0 |

The Full Band of her Majesty's 2d Life Guards will perform during the Exhibition.

All Entries must be made in writing to the Secretary on or before the 31st of August. All productions entered for exhibition which may arrive by rail at Blisworth Station will be conveyed to and from Towcester free of charge, if previous notice has been given to the Secretary. Any exhibitor can send in his productions on the previous day, and the greatest possible care will be taken of them. Schedules can be obtained of SAMUEL COOPER TITE, Secretary.

HUNTINGDONSHIRE HORTICULTURAL SOCIETY.

*Patron*—The Earl of SANDWICH.
*President*—E. FELLOWES, Esq., M.P.

A GRAND AUTUMNAL OPEN-AIR SHOW will take place on TUESDAY, September 6, by the kind permission of D. VEASEY, Esq., in the grounds of Castle Hill House, Huntingdon. In addition to the usual Prizes (a List of which may be obtained of the Secretary) TWO SILVER CUPS will be given for DAHLIAS; open to all England. A GOLD PENCIL CASE will be given for the most tastefully arranged BOUQUET, made by a Lady. The Band of the Coldstream Guards will attend, under the sanction of Colonel Lord Frederic Paulett, C.B.; conducted by C. Godfrey, Esq., Band Master, affording the enjoyment of A PROMENADE CONCERT. A Programme of the Music may be obtained on the Grounds. The Rooms of the Literary Institution will be open to Visitors. Refreshments:—Ices and Confectionary may be obtained in the Grounds. Admission Tickets may be had of the SECRETARY, and of Mr. EDIS and Mr. WOOD, Printers. The Doors will be opened at Half-past 1 o'Clock, Tickets, 2*s.* 6*d.*, until 3 o'Clock; from 3 until Half-past 4 o'Clock, 1*s.*; from Half-past 4 until 7 o'Clock, 6*d.*; when the exhibition will be closed to enable competitors to remove their productions. Children under 12 years of age and Schools admitted at half-price until Half-past 4 o'Clock. Subscribers will have Tickets forwarded to them. Cottagers exhibiting will be admitted at 6 o'Clock, Free. Notice in writing will be required to be sent to the Secretary by 10 o'Clock the day previous to the Show, by all Competitors for the Cups for Dahlias, and Collections of Plants. Entrance at the Gate near the Common, in St. Mary's Street. Railway Arrangements:—The Great Northern Railway Company will issue First and Second Class Tickets for a Single Fare for the Double Journey, from Hitchin, and also from Stamford, Peterborough, and intermediate Stations to Huntingdon. The Eastern Counties Railway Company will issue First and Second Class Tickets for a Single Fare for the Double Journey, from Wisbeach, and also from Cambridge, and intermediate Stations to Huntingdon. Subscriptions in aid of the Society will be received by G. M. FOX, Secretary.


# The Gardeners' Chronicle.

*SATURDAY, AUGUST 27, 1859.*


MEETINGS FOR THE FOLLOWING WEEK.

THURSDAY, Sept. 1.—Pomological..... 2 P.M.

THE culture of the CUCUMBER in open fields is a subject which has hitherto received but comparatively little attention. Market gardeners in the neighbourhood of London have attempted it; but we believe most of them have now abandoned it, the result not having proved sufficiently encouraging for them to persevere in the matter. CUTHILL, in his pamphlet on "Market Gardening Round London," says—"I have seen 14 acres of ridge Cucumbers in one man's ground; they are grown under glass, and hardened off, and planted out 6 feet asunder, and 10 feet row from row; hand-glasses are put over them. When they

begin to grow the ground is well mulched with straw, to keep the earth moist and the fruit clean. Gurkens are sown in the open air at once, in well-prepared ground at the above distances; and I have known one party to cut in one day 200,000 fruit, which were all bespoke by pickle merchants. Ever since the commencement of the Potato disease, however, Cucumbers will not grow round London." This was written in 1855, exactly 10 years after the first outbreak of the malady just alluded to.

That Cucumbers form a somewhat uncertain crop in open fields all must admit, and that some localities are unsuited to their culture must also be conceded; but while their produce is in so much demand as it is not only in London but in all large towns, even among the working classes, we are of opinion that their culture might be profitably extended. At present it is confined to comparatively small spots in one or two counties, the soil and climate of which seem unusually well adapted for their growth. Small, however, as the area at present under Cucumber cultivation is, it is reported to furnish to the London markets not less than 600 tons a week. Of these upwards of 100 tons have been known to be sent to Covent Garden in a single day.

Passengers by the Great Northern Railway on reaching the station at Sandy, in Bedfordshire, or that of St. Neot's, in Huntingdonshire, cannot have failed to have remarked light carts laden with square baskets piled one above the other arriving at these stations as the train approached. These baskets are full of Cucumbers about to be conveyed to the London and other markets. In the neighbourhood of the stations just named Cucumbers are grown by the acre in the open field, many cultivators having as many as 10 acres at one time under this description of crop. The soil in the neighbourhood just indicated is for the most part a warm, lightish loam or gravel, in every way suited to the growth of this esculent. The ground to be planted is well prepared during winter, and again deeply stirred and otherwise put in good order in spring. The seed is then sown about the beginning of May, where the plants are intended to grow in rows some 4 feet apart, and the plants stand nearly 2 feet asunder in the row. In favourable seasons they soon push into active growth and cover the ground with Vines, which during the latter end of May, the whole of *June, and beginning of July, spread in all directions and come into bearing. During their growth* weeding and thinning the superfluous shoots are well attended to, and if the plants should not entirely cover the ground, or wherever blanks occur, Mangel Wurzel is planted in the vacant spaces. At certain distances apart are also rows of Onions, which being allowed to run to seed serve in some measure both for shade and shelter. Where Onions are not used for this purpose, Rye is employed instead. In this way the ground is induced to produce two or three kinds of crops at the same time, and if one should happen to fail, one or more of the others, as the case may be, to a certain extent takes its place.

By the middle of July or earlier according to the season, the crop is ready for a first gathering, and from that time to the end of September fruit varying in length from 10 inches to a foot, green, straight and solid, is continually being cut, sometimes to the extent of 3 tons at a time, and that from little more than as many acres. What an acre of Cucumbers realises in the way of money we are unable to say with certainty; but they are stated to yield a good profit to the grower, even if he should get no more than 1*d.* or 2*d.* a dozen for them. At these prices sums varying from 20*l.* to 60*l.* an acre according to the season are said to have been obtained for them. When gathered they undergo the process of sorting, the best being generally sent to London, second-rate kinds to the provincial markets, and what are small, crooked, or discoloured are given to pigs. Ripe ones are saved for seed, so that little or no waste is ever experienced with crops of this kind.

The baskets in which Cucumbers are sent to market are called "pads." In shape they resemble those used by wine merchants, *i. e.*, square with hinged lids, and they generally hold about 2 bushels. On Thursday last the wholesale price of such baskets filled with excellent Cucumbers was 3*s.* each in Covent Garden Market.

It has often surprised people who think Cucumbers cannot be grown without a frame, how cottagers were able to produce such fine specimens of them as they frequently do at local exhibitions. There is, however, no difficulty in the matter; indeed, the wonder ought to be that Cucumbers are not more extensively cultivated out of doors during summer than they are. The cottager selects the warmest corner of his garden for them. When the spot has been fixed on two or three circular holes are made 3 feet across and about 18 inches deep. These are filled with garden refuse mixed with some rough manure and covered about 8 or 10 inches deep with some of the richest and best of the soil that was thrown out of the holes. In the centre are sown four or five seeds an inch deep, and they are protected by a flower pot until they have vegetated. In the fields above alluded to, however, no such trouble is taken. The ground is merely, as we have stated, well stirred and worked, thrown into slight ridges, and the seed sown without any bottom-heat or artificial protection whatever.

Thus it will be seen how easy it is to have plenty of Cucumbers, and with comparatively how little expense in the way of preparation or labour; and that as a crop they are remunerative is evident from the fact that ground which would grow Cereals or root crops in perfection is devoted to Cucumbers even by large cultivators of grain crops. M.

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IT is not every day that examples occur to demonstrate the truths of MORPHOLOGY; and in the absence of such demonstration incredulity is not only pardonable but praiseworthy. We are no advocates of the bad habit of taking for granted that everything which science announces is true; what are called scientific facts are sometimes scientific dreams, and it is only when the most irresistible evidence has been collected that the world is called upon to embrace the doctrines of teachers. If ever there was a startling proposition it was the famous one that all the various organs of which a flower consists are formed by modifications of that part of the structure named a leaf; and that all the parts of the floral apparatus were interchangeable. That those exterior parts named by botanists calyx and corolla should be modified leaves was intelligible enough, but that a stamen and even the young seed-vessel itself should be a leaf was at first thought no less a fancy than the transformation of a Pumpkin into a carriage for the use of CINDERELLA. To say that a ripe Peach was only a Peach leaf transformed was equally incredible, and it was not to be wondered at that it was ridiculed by sophistical logicians.

Nevertheless these assertions were perfectly true, as all well informed persons now know. To

gardeners more especially they have become familiar through the instrumentality of these columns, which have been repeatedly employed to explain the strange facts now alluded to. Those facts have so direct a bearing upon practical horticulture that no intelligent cultivator can afford to be found unacquainted with them. So long as the forms and parts of a flower were believed to be as fixed and unchangeable as those of the human frame, no precautions to preserve them were thought needful or to alter them seemed possible. But as soon as it became known that very slight disturbances in the processes of development were followed by an entire change in the parts about, in their nascent state, to undergo those processes, the necessity of paying the utmost attention to maintaining vegetation in an undisturbed and perfectly natural condition became manifest. Rapid growth is most especially fruitful in the unnatural change of one part of a flower into another, especially in the formation of the fruit-parts as leaves instead of fruit; hence the necessity of checking exuberant growth while a plant is forming its flowers.

Nothing perhaps is more striking among morphological phænomena than the formation of pieces of the young seed-vessel (*carpels*) outside of the customary consolidated centre (or *pistil*). Of this many cases are known, especially among double Wallflowers and Oranges;* but we have seen nothing more remarkable than the instance here figured, for which we are indebted to our learned friend Dr. SEEMANN. That gentleman received it from Mr. JOHN GROENLAND at Paris, with the assurance that most of the plants raised from the seeds of this sport will again produce seed-vessels in the same state. We have heard a similar statement made with reference to the Oriental Poppy, but have seen no instance of it. The perpetuation of such a monster by seed is one of those curious facts of which the ingenious author of the *Vestiges* will know how to make use.

The instance before us is that of an opium Poppy which has produced, in addition to the seed-vessel which such a plant always bears, a brood of smaller seed-vessels around the first on every side. These latter represent the separate parts that are blended together into the globose seed-vessel in the middle; about 13 are so blended: between 70 and 80 separate ones stand around. But even these are not all single; many on the contrary are triple, or double, or even quadruple, in every conceivable state of deformity. They appear to have had no relation to the stamens, the scars left by the fall of which are clearly visible at the base of the additional seed-vessels. These last are therefore a swarm, as it were, thrown off by the hive in the middle. They all have long stalks, which have grown together into an irregular cup. Had the stalks been longer and the same kind of junction been effected among them as in the middle, a second Poppy-head would have buried the first in its own interior as sometimes happens in the fruit of the Orange.

* A case of the kind is figured in *Balfour's Class-book of Botany*, p. 294.

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THE proposed new Garden at KENSINGTON GORE is now pretty certain to become a reality. The Council of the Horticultural Society have made a final arrangement with H.M. Commissioners for a lease of the land, upon terms that are perfectly satisfactory. Subscriptions are coming in rapidly, and the Council are beginning to think of plans for laying out the ground. Messrs. CUNDALL have announced their intention of publishing a volume of photographs of the most celebrated ornamental gardens in the kingdom for the purpose of showing how such places are formed elsewhere among which will be included, by Royal permission, the terraces of Osborne. Names have moreover been mentioned in connection with the management of the new Garden; and everything up to the present time seems to indicate that operations may be commenced in the ensuing autumn. One of our correspondents has even suggested that the interest upon debentures taken after some fixed day should be reduced from 5 per cent. to 4 per cent.

All this shows the Garden to be a public want: and that being so it would be sure to find ample support, even if it required a hundred thousand pounds instead of fifty thousand.

## New Plants.

### 221. ARISTOLOCHIA SINARUM.

A. caule ramosissimo, foliis cordatis isosceli triangularibus atroviridibus glaberrimis apice angulisque rotundatis, floribus solitariis: tubo clavato limbo ovato acuminato recto intus hirto.

We received this from Mr. Glendinning, to whom it had been sent from China by Mr. Fortune. It is a hardy perennial with long branching scrambling stems, deep green leaves a little glaucous beneath, and dull green flowers about 2 inches long, with a dark dull purple stain at the mouth of the tube. The whole plant when bruised has the heavy oppressive smell of the genus.

Although the flowers have no beauty, the manner of growth is so graceful that it would be found extremely useful by those who know how to set off to the most advantage the flowers wanted for decorating the dinner table or drawing-room. In this respect it is more useful than Ferns, because the firm leaves do not wither very soon.

### 222. ANTIRRHINUM MAJUS (*var.* Peloria).

A correspondent whose signature we cannot decipher but which looks like *Henry Berhian*, has forwarded this most curious sport, which he intends to send into the market under the name of Antirrhinum "Wonder." It was raised, he says, from seed in 1857. The flowers are dull rose colour, rather less than an inch long, with a nearly cylindrical tube a quarter of an inch in diameter. The limb (or end) of the tube is perfectly regular, without the slightest tendency to be ringent; it is divided into 6 (we do not find 5) short, round, concave, dark purple lobes, corresponding with which is the same number of bright yellow projections. The stamens are 6 in number, and alike in size and direction. The sepals are, moreover, 6 in number. In the pistil there is nothing unusual. Here, then, we have a sudden conversion of a most irregular unsymmetrical flower into one of perfect regularity and symmetry. It is quite analogous to the common Peloria of Linaria vulgaris, and is a very pretty novelty.

### 223. ODONTOGLOSSUM (ROSKINNERI (hybrid?).

Messrs. Veitch, of the Exotic Nursery, have lately flowered this remarkable plant, which was sent them by

Mr. Skinner from Guatemala. After that indefatigable traveller it is named; but we refrain from giving it any specific character, because we have a strong conviction that it is really a wild mule between *O. Bictoniense* and some such species as *O. Cervantesii* or *O. Rossii*. In habit it is very like the first; and the general aspect of the tall slender spike of flowers is the same; but the flowers are larger, the sepals and petals are roundish oblong, and the lip is nearly circular, deeply cordate, distinctly toothed, and most delicately dotted with deep rose colour upon a paler ground of the same. As to the column and the appendages of the stalk of the lip, they are the same as in O. Bictoniense; but it is a much finer plant.

## THE ELM TREES IN THE CHAMPS ELYSÉES.

The mode of treatment adopted by the French foresters for curing the sickly Elm trees in the Champs Elysées, as described in a late number of the *Gardeners' Chronicle*, p. 620, is rather different from the one I saw them practise some two or three years ago. At that time I happened to be in Paris, and while walking through the Champs Elysées my attention was drawn to the odd appearance which many of the trees presented by having one or two dark stripes painted on them from top to bottom of their stems. On closer examination I found the bark had been removed from each of the stripes, which were for the most part about 2 inches wide, and the space it occupied filled up with a peculiar dark coloured composition resembling a mixture of tar, soap, and resin or wax. I could not conceive for what purpose this had been done, and the friend who was with me, although a Parisian, was unable to enlighten me on the subject. He however made inquiry of one of the workmen engaged in taking down the dead trees, and was informed that it was a recent discovery for checking the progress of the disease with which the trees were affected, and gradually restoring them to health. The experiment appeared not to have been attended with the good results that were anticipated from it, and early in the spring (1857) the one you have noticed of denuding the trees altogether of their outer bark was adopted. It was not simply a portion of the rough outer bark that was chopped off—but large masses of the entire bark—which, in justice to the operators, it is but fair to say they could scarcely avoid removing, as in numerous instances the myriads of destructive little pests with which the trees were infested had so bored and eaten away the portion of the bark next the wood, that hardly any more of it remained than was sufficient to keep it on the tree. It was very evident that the disease had gone too far for any one to entertain the hope of arresting it, and even if such had not been the case, it appeared to me that the means resorted to were more calculated to hasten the death of the trees than be of the slightest benefit towards restoring them to health. The result was exactly what I anticipated. As the season advanced the trees made an effort to put forth leaves, which soon withered, and by the month of June every one of those which had been disbarked were dead. In no instance did I see the stems covered with Moss and bound round with sack-cloth; but this plan was probably adopted afterwards on finding that it answered so well when applied to the trees that were planted to fill the vacancies occasioned by the removal of the Elms which had died the previous season.

If the French were unsuccessful in their attempt to renovate the Elms infected with scolyti, I am bound to say they deserve great credit for the manner in which they transplant large trees. I know that our friend Mr. McGlashan had been sent for some years ago to teach them how to use his transplanting machines; and here I had an excellent opportunity of seeing them in operation and forming an opinion as to their utility. A large vacant space adjoining the Place la Concorde was marked out in lines according to the French fashion; holes were dug at proper distances, and over each the machine with its load was drawn and the latter gradually lowered into the place it was intended to occupy. The ease with which this operation was performed seemed to astonish every one who witnessed it. In the course of rather more than a fortnight a grove of Horse Chesnuts was formed which could not possibly have been obtained under any other circumstances within a period of 25 or 30 years. Had the same sort of trees been planted in England it would have been thought quite sufficient to fill in the earth carefully about their roots, and afterwards perhaps to give them a good watering; but the French adopt another plan, which in some cases might be resorted to with advantage in this country, especially where there was a doubt of any particular tree surviving the operation of transplanting. They begin at the ground and bind the stem round with hay-bands to the height of 8 or 9 feet, and on the top a sort of funnel is formed of zinc, into which water is occasionally poured in order to keep the hay-bands moist. With this treatment during the first season after removal scarcely a tree ever fails, and forms a striking contrast to some examples of transplanting large trees, which I have seen in England. *B.*

## ANNUAL BOTANICAL EXCURSION OF THE STUDENTS AT THE ALBERT MODEL FARM, GLASNEVIN.

On Thursday, 4th inst. a party of about 60 of the young men of the Model Farm made their usual annual botanical excursion, under the guidance of their lecturer, D. Moore, Esq., Curator of the Royal Dublin Society's Botanical Garden, Glasnevin.

Before entering on the details of the ramble, it is, perhaps, well to remark, for the benefit of those who are unacquainted with the above institution, that there are two courses of lectures on botany delivered annually—the first, on the structure and growth of plants; the second (or summer course), on systematic botany. Towards the close of the latter, and when the young men have been taught the principal methods of modern classification, and have had numerous examples shown them of the natural orders best adapted for illustrating the system of Jussieu, De Candolle, and Lindley, they are taken out to the field for the purpose of enabling them to exercise the knowledge they have already acquired, among plants in their natural habitats, as well as to collect and name specimens of the ordinary wayside and field plants, such as are likely constantly to occur to them in after life.

The natural orders selected for demonstration afford the lecturer an excellent opportunity to supply a large amount of really useful practical information, which any youth, intending to make agriculture or horticulture the profession by which he is to live, ought to know, though few do. For example, the natural order, Rosaceæ, contains the original species from which most of our cultivated fruits have sprung, including the Apple, Pear, Peach, Plum, Cherry, Strawberry, Raspberry, &c., as well as the numerous varieties of the Rose. This alone opens a wide field for showing the successes which have been achieved in the improvement of these fruits, and the means used to procure them. Again, among the Cruciferæ, we have the originals of the Cabbage and Turnip, garden Stocks, Wallflowers, &c., which serve further to illustrate the improvements made by careful attention to the development and fixing of the varieties which have been obtained from the wild plants in this order. So, again, the order Umbelliferæ, with its cultivated products—the Carrot, Parsnip, Celery, &c.; and Leguminosæ, containing the Pea, Bean, Vetch, Clover, &c. In the Endogenous section of plants, Mr. Moore selects the natural order, Gramineæ, as it includes the originals of all our cereal grains; and although the early history of some of these is not well known, it is highly instructive to trace the progress which has been made in the improvement of the varieties themselves in modern times.

It may be easily imagined, then, with what anxiety the advanced portion of the class look forward to the excursion day, as it enables them to see, in their natural habitats, many of the plants whose acquaintance they have made in the lecture-room.

Having arrived at Bray (selected this year), we strolled along the beach, and picked up, among other commoner plants, Trifolium striatum, Erodium moschatum, and some good specimens of the pretty Cruciferous plant, Cakile maritima (Purple Sea Rocket). After a refreshing bathe, we wended our way across Bray Common to the far-famed Dargle. The way-side plants from Bray are both numerous and varied. Among the rarer species were Fœniculum officinale (common Fennel), Origanum vulgare (pot Marjoram), Reseda luteola (Dyer's Rocket), Saponaria officinalis (Soapwort), of which we passed a fine habitat, the plant, too, being in its normal or single state, which Mr. Moore observed is seldom the case, it being mostly found with double flowers.

The Dargle, after so long a drought, was not rich in plants, though we collected some Grasses which are usually found in woods, Melica uniflora, Festuca gigantea, and others. We were delighted with the appearance of the dell of the Dargle from the top of the Lover's Leap. At this spot we had the advantage of seeing the two British species of Oaks, Quercus sessiliflora and Q. pedunculata, and of having the chief points of difference between them explained.

After emerging from the Dargle woods we headed straight across the country, over hill and dale, through Brake and Furze (of which latter plant we have some very lively impressions), for the Sugar Loaf Mountains. On the slope of the river we noticed Erythræa centaureum and Linum catharticum; and in the rocky valley before the ascent to the Sugar Loaf we came on a fine nest of Anthemis nobilis (common Chamomile), growing truly wild and in great abundance.

As we had determined on gaining the summit of the Sugar Loaf, and had, therefore, over 1800 feet of elevation to climb under a burning sun, and on slippery Grass for a considerable way, we gave little heed to botanising, and gradually the unsocial feelings which generally attend mountain travelling stole over us. Each struck out a path for himself, and no one seemed to have much breath to waste on his neighbour. How some of us envied the bold adventurous fellow who was waving his hat from the topmost pinnacle, to which we had at least 200 feet yet to mount. And when we reached the top with what unmingled pleasure did we watch others slowly toiling up the rugged path where we were half an hour before.

As the day was remarkably clear, we enjoyed, probably, the most extensive and beautiful prospect which is to be had in the county Wicklow. Facing the west we had a bird's-eye view of the Powerscourt Waterfall, and onwards, in the same direction, the mountains which encircle Lough Bray; to the north, we looked directly through the Scalp; on the north-east Killiney Bay, and on to Howth and Ireland's Eye, appeared as a panorama. Then we had before us, towards the south, the beautiful glen of the Downs; and gazing over the great expanse of sea in the direction of Wales, some of those whose visual organs were most acute considered that they saw the Welsh mountains, which are said to be sometimes distinctly visible from this point.

As soon as we had rested, and refreshed ourselves, we began to descend. It was rather remarkable to notice the universal attention that was paid to Vaccinium myrtillus (Bilberry), and more especially to its black glaucous berries. Some were fortunate in lighting on some specimens of the pretty tiny Fern, Hymenophyllum Wilsoni, though suffering from the extreme dryness, and lower down, on the margin of a little rill, we observed Drosera rotundifolia (Round-leaved Sundew), and abundance of Lastrea oreopteris (Sweet Mountain Fern), and L. Fœniseeii (?), with some commoner Ferns and marsh plants.

We cannot close without expressing how much we owe to the Dublin and Wicklow Railway Company on the present, and to the Drogheda Railway Company on past occasions, for the liberality evinced in giving tickets to our party at very reduced fares.

## NOTES ON SOME RARE MEDICINAL PLANTS OF AUSTRALIA.

By Ferdinand Mueller, M.D., Ph.D.

(Abridged from the *Extra-Tropical Pharmaceutical Journal*.)

On a former occasion I alluded to the medicinal and chiefly diuretical properties of the numerous Diosmaceous plants, which ornament so many parts of this country. Lately, in a journey performed to the south-western portion of the Australian Alps, I noticed, at an elevation of more than 3000 feet, a species producing the essential oil (to which the medicinal virtues of these plants is to be attributed) in a very high degree, and, since it is unknown to botanical science, I thought a brief characteristic notice of it might be acceptable; and I have the less hesitation in furnishing it, as this plant will undoubtedly endure the British climate, and is, therefore, probably destined to be a future occupant of the home gardens.

—*Eriostemon lamprophyllus.*—Branchlets tubercled, slightly downy; leaves numerous, small, thin, coriaceous, oblong-lanceolate, acute, glabrous, entire, or in front slightly notched-repand, on short stalks, shining and of equal colour on both sides, flat on the margin; pedunceles terminal, and below the apex of the branches, one-flowered, or bearing a few-flowered umbel; teeth of the minute calyx deltoid, somewhat acuminate and ciliate; carpels rhomboid-ovate, beaked; seeds olive-black, polished.—On the rocky summits of some mountains, at the M'Allister River, Gipps Land. A widely-spreading shrub, a few feet high. Leaves mostly between 3 and 5 lines long, 1—1½ line broad. Carpels, with addition of their rostrum, 2 lines long. Seeds ovate, oblong, hardly longer than 1 line. Strophiole half as long as the seed.

I may add, on this occasion, that the Australian species of this family require, in part, an altered generical disposition. Zieria lanceolata, which might be called Boronia arborescens, being the only arborescent species we possess, and all its congeners ought to be transferred to the genus Boronia, both genera being clearly connected by those Western Australian species, which produce four fertile and four sterile stamens, and also habitually united by intermediate forms. Cyanothammus has to be reduced to the same genus, whilst numerous late discoveries have proved that all the species of Phebalium, and also of Asterolasia, have to be subordinated to the genus Eriostemon.

Amongst some plants recently collected by Walter Hill, Esq., the Director of the Botanic Garden of Brisbane, a gentleman who deserves the greatest praise for his zealous investigations into the botany of sub-tropical Western Australia, I noticed an Anopterus, of which genus the only species is acknowledged as endemic in Tasmania.

—*Anopterus Macleayana.*—Leaves chartaceous, large, long, lanceolate, blunt, serrate, with a toothless acumen, on rather long stalks; teeth of the calyx 6—9; ovary grey, tomentose; capsule of great size, with 8—11 very large seeds.—On the summit of Mount Lindsay, at an elevation of 4000 or 5000 feet, accompanied by high-stemmed trees of Todea africana, by Bursaria spinosa, and other southern plants.—A tree 30 feet high. Leaves longer and, in comparison to their length, narrower than in the Tasmanian species, sometimes fully a foot long, giving to the tree a most noble appearance: their gland-bearing teeth similar in both. Racemes 6 inches long, or shorter. Corolla unknown. Pedicles often an inch long. Bracteoles narrow-lanceolate, acuminate, 1½—2½ lines long, deciduous. Teeth of the calyx delta-shaped, acuminate, about 1 line long, with imbricate base. Style deeply two-cleft, 2 lines long; its base, together with the ovary, covered with a white velvet. Capsule not seen mature; in an unripe state already more than an inch long, and like that of Anopterus glandulosa, while in an immature state, almost perfectly above the calyx. Seeds and their wing together 6—9 lines long.

Mr. Hill having expressed a wish that some remarkable and ornamental species in his collection should be distinguished with the name of the Hon. William Sharp Macleay, his friend and patron, it has given me very great pleasure to respond to the request, and to give thereby also a public testimony of the great esteem in which that celebrated philosopher is held by myself.

—*Anopterus glandulosa* (*La Billardiere, Nov. Holl. spec. I.*, 86 *tab.* 112) may readily be recognised by the following diagnosis:—Leaves coriaceous, broad, lanceolate, to the very apex bluntly-serrate, on rather short petioles; calyx with 6 teeth; ovary glabrous; cap-

Scales not of large size, with numerous small seeds.—It occupies only the colder mountain regions of Van Diemen's Land.

Amongst the plants constituting part of the Brigalow scrubs in the depressed interior of New South Wales occurs a small tree, which on account of its spotted bark attracted the attention of Sir Thomas Mitchell when tracing the course of the Maranoa River; and the squatters on the Darling have very appropriately applied to it the name of "Spotted Tree."

It attains a height of about 20 feet. Its bark is irregularly areolate, the grey epiphlaeum separates in small pieces, thus uncovering partially the livid or cinnamon-coloured inner stratum of the bark, and thereby renders it singularly spotted. The wood is pale. Professor Lindley in describing this tree, evidently from flowering specimens only, referred it to the genus Elæodendron, among Spindleworts, and inserted it with a brief diagnosis as Elæodendron maculosum in Sir Thomas Mitchell's work on tropical Australia, p. 384.

The Rev. Mr. Goodwin and Mr. Dallachy, on travelling lately over the Darling Plains, towards Mount Murchison, noticed the same tree, which is stated to make its appearance first above Moninda, and specimens with young fruit collected on those localities being communicated, I ascertained that this curious plant belongs to that subgenus of Flindersia, which I have on account of habitual difference and its hard woody fruits separated as Strzeleckia in Sir William Hooker's Journal of Botany for 1857, p. 308 and 309, whilst with a more conservative view I united the only known Strzeleckia in the "Fragmenta Phytographiæ Australiæ," I. 4, 65 and 66, to Flindersia.

Although I have failed in finding any clear distinction in the flowers or in fruits of Strzeleckia dissosperma and Elæodendron maculosum, of which I examined original specimens in Sir Thomas Mitchell's collection, I have at present no hesitation in regarding these two plants as distinct on account of their foliage, until it is proved that, as in certain Boroniæ, simple and pinnate-leaved plants are produced by the genus Flindersia, all the specimens from near the Darling and its tributaries showing simple, all the tropical, compound leaves.

The following diagnosis would characterise sufficiently the Darling plant:—Flindersia maculata (Strzeleckia).—Leaves opposite, rather small, simple, oblong, with cuneate base, with blunt or emarginate apex, and with short petioles; with pellucid dots; branches of the panicle opposite; lobes of the calyx almost orbicular, ciliolate; sterile stamens, five or less; stigma peltate, hemispherical; capsule small, ellipsoid, echinately acute tubercles, glabrous; its sub-cells generally two-seeded, seeds around winged. The leaves are minutely dotted, but the dots rather concealed and not transparent. The capsules deserve notice for the strong aromatic scent by which they are pervaded.

## Home Correspondence.

*Large Orchard Houses.*—I have seen and much admire the Orchard House of "Sigma," described in your leading article of last week. The standards planted in the central border will have a grand effect, for in two or three years they will form large spreading trees. The idea of walking under the shade of one's Peach trees is most agreeable. I am however inclined to think that much loss of space will ensue, just as we find now if we plant standard trees in small kitchen gardens. In a few years two or three standard trees overshadow the whole garden, and only then we find how much more advantageous it is to plant espaliers, pyramids, or bushes. In like manner the beautiful central border in Sigma's house if planted with pyramidal Apricots, Peaches, and Nectarines, pinched in regularly during the summer and allowed to reach a height of 10 or 12 feet, would give a much larger quantity of fruit than standards—for five can be planted in the space allowed for one standard—and of finer quality owing to the full exposure of the fruit to sun and air, and the size of fruit is much increased by the constant summer pinching, as I have found this summer. Standard trees with large heads will be found inconvenient to prune, and more so to thin a large crop of fruit. *T. R.*

*Gardens in Ireland.*—Tourists, more especially those who take an interest in horticulture, would do well not to omit to see (amongst the various natural charms connected with the scenery of the demesne of the noble lord of Powerscourt), the beautiful gardens and new range of glass erected some short time since by Mr. Ormson of Chelsea. One could scarcely have believed that in so short a time so complete a transformation could have been brought about. I shall leave it to those more conversant with the subject to enter into the minutiæ of the parterres tastefully arranged by Mr. Robinson, the gardener, my object being merely to invite the attention of those who really take an interest in the improvement of the science of horticulture. The gardens are not open to the public generally, but to any one desiring to view them from motives of practical concern I have no doubt the same courtesy will be extended as that which I received. The tourist whilst in this neighbourhood would also be well rewarded by seeing the gardens at Hollybrook, (Sir George Hudson's), where by inquiry for Mr. Gardener, it will be found that the name he bears is not unworthy of the post he fills. *E. A. M., Dublin.*

*Diseased Grapes.*—I should be much obliged if you could say what the peculiar disease is which has attacked the inclosed Grapes, and the remedy for it, if any. My gardener, a clever, intelligent man, does not know it, and never saw an instance of it before. Only one Vine in a house of 12 is affected by it, and only two bunches on that Vine; the other bunches are quite good. The Vine is strong and healthy, and about three years old. None of the common Vine disease has shown itself in the house this year. The border is a very good one, on a sunny slope, concreted and drained, and protected by tarpaulin in cold or wet weather. I may add that the gardener is a very careful man and has been accustomed to Vines before he came to me, and appears to understand their management thoroughly well. *W. D., Bath.* [The berries are attacked by internal decay, which is not produced by external injury. Cases of the kind are abundantly common; and we never yet saw one that was not traceable to something wrong with the roots. The Frontignans are most especially liable to it.]

*Grapes and Tartaric Acid.*—"Bunches of Grapes inclosed, at the beginning of autumn, in paper bags steeped in a solution of tartaric acid, and exposed to the light of the sun, will be ripened much more quickly, and the quantity of sugar in the fruit will be greatly increased." My master has cut this out of the *Illustrated London News* of July 23d, 1859. Is the statement true? and if true how strong is the solution of tartaric acid? and in what way does the solution act? and is the advantage owing to the paper bag or the tartaric acid? *L. D. J.*——I should like to know the wherefore of this alleged discovery. *Rispo.*

*Tropæolum Lobbianum elegans.*—I believe this to be the true Crystal Palace Nasturtium, although a variety closely resembling Cattell's Dwarf Scarlet Nasturtium has by some been so called. T. Lobbianum elegans creeps along the ground, is very short-jointed, and a profuse bloomer. Here in the north I believe it will be found a most useful bedding plant, and it is easily propagated by cuttings. In the south it must bloom most abundantly. Very few plants will soon fill a good-sized bed, for it grows freely although of compact habit. *W. D., Bradford.*

*The Golden Hamburgh and Bowood Muscat Grapes.*—It is most important that those who test new varieties of fruits should publish their opinion of their merits; it is not every one who is placed in a position to exhibit their productions before the public, but their opinions nevertheless would be a valuable addition to those promulgated from time to time by the fruit committees of the Horticultural and Pomological Societies. It is an indisputable fact that great caution is now everywhere manifested by purchasers of new fruits, and much discontent prevails at the disappointment which in many instances has occurred, arising doubtless however in some cases from indifferent management; the concurrent testimony therefore of a majority of cultivaters would form a safe guide to buyers. It is well known that when an individual succeeds in raising anything new, in his opinion it is sure to be a black swan. This may be a weakness common to us all, we should therefore endeavour to control and limit all exaggerations, the result of which would be an unquestionable public benefit, and the trade would likewise escape many a castigation from their customers and be gainers, for after all in the end truth will prevail. I have been led to make these remarks from reading Mr. Thomson's article in your last Number, headed as above, where some opinions are advanced on White Grapes. I can quite endorse Mr. T.'s statement, that "the best new Grape that has come before the public for the last quarter of a century is the Bowood Muscat raised by Mr. Spence." Mr. Thomson's experience and success as a gardener renders his opinion one to be relied upon, and I believe with him that as far at least as the Cannon Hall Muscat is concerned it will eventually disappear, as all gardeners who cultivate this variety know the great difficulty they have in producing perfect bunches of it, to say nothing of the high temperature required to sustain and ripen the fruit. Then with regard to the Golden Hamburgh, if Hamburgh it is, when Mr. Busby first exhibited it at Chiswick he kindly gave me a berry. I confess that neither the taste of the berry nor the fruit exhibited by him left a favourable impression with me; I really thought that Golden must be a nickname, for they were as green as half-ripened Muscats. I think that the exhibitions of it last year did not produce the most favourable impressions of the high character given to it. This season I have been unavoidably prevented from attending any London show, and am not therefore in a position to offer an opinion on the merits of those produced. Not being however deterred myself from what I had seen or from what I had heard, I determined to give this Grape a trial. I therefore inarched a spindly plant on a duplicate Vine I had in my house. This year it presented me with three bunches, the last of the three while I write lies before me. In my Vinery is cultivated a collection only of the best varieties of Grapes, and amongst them the Black Hamburgh. The temperature and treatment (if treatment they had) as may be inferred were identical; I mention the temperature in particular as illustrating the force of my experiment. About the end of July two or three good and experienced judges of Grapes happened to drop in, when I cut a bunch of each, black and golden, for their opinion. The black were well coloured with berries above the average size. The bunch of the golden was small; the berries average size; the colour not that of a green Gooseberry, but of a deep amber and worthy of the name of Golden. The flavour of the former excellent; of the latter highly charged with most luscious sugary juice; so much so that during my experience I have tasted nothing that approaches it. With me the pulp is different from that of the Black Hamburgh, being softer and more juicy, and hence the doubt I have ventured to throw out as to its name. This Grape will eventually take a high position, and be found in all collections. I will now leave your readers to draw their own inferences from my "unvarnished" statement. Having read so much about new white Grapes, can none of your readers enlighten us upon the comparative merits of new black ones? *R. Glendinning.*

*Tom Thumb Nasturtium.*—Will some of your correspondents be so obliging as to say whether or not this variety is the same as Cattell's Dwarf Scarlet? The last-named kind is not so deep in colour as the Tom Thumb Geranium, but is of a very dwarf compact habit, and blooms abundantly, throwing its flowers well above the foliage; it is an excellent plant for a bed or riband. *W. D.*

*Underground Watering.*—Making some Strawberry beds last autumn I adopted a system of underground watering, and the results have been so satisfactory that the system only requires to be known to be generally used. I have endeavoured to give a plain description of my process, but first let me state the results—1st, a fine growth of plant; 2d, an abundance of fruit large in size and of fine flavour, and well coloured. Plants put out in October, 1858, were supposed by Mr. Turner, of the Royal Nursery, to be two years old in June last; in fact every person who saw them was surprised. My beds are 4 feet 6 inches wide, with three rows of plants 18 inches distant in the rows down the middle of each bed, and 6 inches below the surface I laid a row of 2-inch drain pipes upon a dead level, with one pipe fixed upright at each end in which to insert a funnel, into which I pour the water or liquid manure, which I used very freely when the plants were first put in, and also when they were in blossom, and until they had done fruiting; the cost is very trifling, being only 4*s.* for 100 feet. The pipes are merely laid end to end without mortar at the joints, so that the water can easily distribute itself under and amongst the roots of the plants. The upright pipes are set in brickwork to keep them firm, and the number of pipes laid longitudinally of course depends upon the length of the bed, as they reach from a few inches at each end the whole length. I have now some square wooden tanks made 12 inches long to serve as receivers, and find them much less trouble to fix; but for beds of 14 or 16 feet long I use only the drain-pipes, laying one pipe at each end at a sufficient angle to be above the ground, so that the water may be poured in. Where the inclined pipe meets the level the joints are made good with clay, so that the water cannot escape. *G. Kersland, Upton Cottage, Slough, Bucks.*

*Adhesive Composition* v. *Nails.*—Is there any composition that will secure shreds to walls, instead of using nails, for the purpose of fastening trees, leading climbers, holding Ivy, &c. My particular case is that I have Ivy planted round the house, but the fibrils will not adhere to the stuccoed walls, owing to their having been painted and washed over, and we cannot use nails or the stucco would be broken. I seek therefore some means of keeping the young Ivy shoots pressed against the wall, to allow the fibrils to form and gain strength, so as to eventually sustain itself. The composition ought to be of easy application, and to set so soon as applied, which glue fails to do. Loudon says: "The golden-leaved variety (of Ivy), when it thrives, is a splendid plant, appearing in spring after it has made its new leaves, like an immense mass of yellow flowers." Is this Loudon's foliis aureis, the Golden-striped Ivy, and is it to be procured in London? *H.* [No doubt. You should trellis your wall with wire.]

*Earthenware-lined Pipes.*—A year or more ago some account was given in your columns of the introduction of iron pipes lined with earthenware for the purpose of conveying water. Could any of your readers inform me whether the invention has been found to answer in practice, and where I might apply for information. The invention, if found to answer in practice, would certainly be invaluable in many cases. *Sub. Vet.*

*Kidney Beans.*—The so-called "New Zealand Running Bean" of which I send you a sample, is I find the Haricot Roulot or Coco of the Paris cornchandlers. *Antihumbug.* [The Beans sent exactly agree both as regards size and appearance with those formerly submitted to us by Mr. Cuthill.]

*Battersea Park.*—The plant your correspondent describes as flowering here is probably Tritoma uvaria, which is blooming profusely at present in the borders in Battersea Park. On each side the Tritoma are beds of Lilium lancifolium album, and rubrum. *An Original Subscriber.*

## Societies.

Horticultural: *August* 25.—Rev. J. Dix in the chair. At a meeting of the Floral Committee, which took place this day, a considerable number of Dahlias was produced. Of new kinds the following were the best, viz., Apollo (Turner), a medium-sized crimson fancy kind, tipped with white; Flower of the Day (Turner), and Mrs. Wellesley Pigott (Keynes), both white; Mrs. Bailhasche (Keynes), pale peach; Flag (Turner), purple, irregularly tipped with white; George Grapes (ditto), yellow, suffused with buff; and Nerida (Keynes). To the first four of these First Class Certi-

seates were awarded, and the last three were commended by the judges. A Verbena named Dr. Seibig, [illegible], received a First Class Certificate. It is a large rosy purple kind, with a lemon eye. A [illegible] Phlox, white with a well defined rosy eye, named Mrs. Standish, came from Mr. Standish, of Bagshot, as did also some charming cut spikes of new kinds of Gladioli. We also noticed a Seedling Scarlet Geranium, named Victor Emmanuel, a robust-growing, plain-leaved sort, apparently not different from others already in cultivation.

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ENTOMOLOGICAL: *August* 1.—J. O. Westwood, Esq., M.A., in the chair. Mr. MacLachlan exhibited several rare and interesting species of British Lepidoptera, which he had recently reared, including one species which inhabits the stem of the wild Carrot. Dr. Wallace also exhibited other species of the same order from Waterford and Killarney, together with a specimen of Deilephila lineata, taken at Tremore, in 1856; and Mr. Mitford exhibited Timandra petraria and other moths recently captured. Mr. F. Bond exhibited the larva of the curious genus of beetles, Drelus flavescens, taken on the Isle of Wight, crawling upon sand; its natural habit is however that of a parasite with the shells of the common snail, where also the large unwieldy female destitute of organs of flight is also to be met with. Mr. Lewis exhibited specimens of the rare beetle Chlænius Schrankii, from Luccombe, in the Isle of Wight. Mr. Westwood exhibited portions of the mass of cocoons of the social moth, Hithyra sociella, taken out of the stomach of a cow. As the caterpillars of this moth infest the nests of the moss-carder humble bees, it was supposed that the cow had taken the mass of cocoons into her mouth with her ordinary food, beneath which the bees had made their nest. He also mentioned a remarkable instance of the power of scent possessed by the Rose beetle, of which insect he had recently seen hundreds upon the trunk of a young Ash tree in a dying state, of which the exhausted sap was exuding, the scent of which had attracted the beetles. Mr. Bates, who has for nine years past been sojourning in the interior of Brazil for the purpose of collecting insects, was admitted a member on his return to England, and complimented by the Chairman on the benefits which he had rendered to entomology during his residence abroad. Mr. Tegetmeier described an interesting process in bee-keeping, recently practised for obtaining a hive of pure honey unmixed with brood, in the month of July. This was effected by driving the queen and half the bees out of the hive about the 25th June, when the remaining bees immediately set to work and reared a new queen from the brood comb, by which time all the remaining brood was hatched. The bees still remaining in the hive with the new queen were then driven into another hive, leaving the honey cells in the old hive full, and the brood cells empty.

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BRITISH POMOLOGICAL: *July* 21.—Mr. Hogg in the chair. The Secretary read a letter from Mr. W. J. Ward, of Headington Hill, near Oxford, concerning the identity of his Strawberry Omar Pacha with Rival Queen and Eliza. He affirmed his variety to have been raised from seed at Prospect Hill in 1851 from Caroline Pine impregnated with British Queen; sown in a pan as soon as ripe and planted out the following spring; that his late employer, W. Stephens, Esq., and he watched them with great interest, and selected Omar Pacha for its superior flavour: that he had sufficient stock in 1854 to gather from and exhibit, which he did at Regent's Park, Chiswick, Ashford, and Bath, sending fruit also to those whom he considered the best authorities of the day. He accompanied this letter by a copy of the circular which contained their opinions, to show that it was not sent out without a character. He further stated that he does not know Myatt's Eliza, being quite sure that it was never cultivated at Prospect Hill during the 14 years he was there. Also that he knows nothing of Rival Queen, and that Mr. Tiley bought Omar Pacha of him. It was further reported by a member present that Omar Pacha had been carefully compared with Eliza in a private garden at Winchester, where it had been obtained directly from Mr. Ward. Mr. Ward's letter was considered by the meeting sufficient to clear him from any knowledge of the mistake. Mr. Spary, of Brighton, sent a good and well-ripened bunch of Golden Hamburgh Grape, the fourth which he had cut from a graft inserted on the young wood last year.

*August 4th.*—Annual General Meeting. Mr. Hogg in the chair. The accounts for the past year were laid before the meeting and unanimously approved. They showed the receipts to have been 200*l.* 1*s.* 11*d.*, and the expenditure 194*l.* 19*s.* 2*d.*, which showed a balance to the credit of the Society of 5*l.* 2*s.* 9*d.* The secretary reported that, notwithstanding the loss of four members by death and resignation during the past year, the number now upon the list was 232, being 80 more than the corrected number reported at the last annual meeting. With reference to office-bearers, F. J. Graham, Esq., of Cranford, and H. Webb, Esq., of Redstone Manor, Reigate, were elected new Vice-Presidents; and the following names were added to the Council, viz., E. W. Cox, A. Scrutton, R. Frankum, R. Stains, and J. B. Haig, Esquires; Messrs. J. Fraser, S. Mart, G. Paul, J. Spencer, J. Cutbush, W. Davidson, E. Spary, G. Gordon, J. Ivison, J. Peel, and J. Milne. Messrs. J. Fraser, W. Paul, and R. A. Arnott, were elected auditors. This being the meeting on which premiums were offered for collections of Grapes, a very large and interesting collection was contributed by Mr. Newton, gr. to G. J. Graham, Esq., Enfield Chase, and which was awarded the first premium of Three Guineas. In the Muscat section the following varieties were contributed:—Muscat of Alexandria, a good bunch, well ripened, which served for comparing and testing other varieties: Muscat of Eschcolata: this variety in the Horticultural Society's catalogue has been confounded with the former one. It is, however, unquestionably distinct, as it appears to set better, and evidently ripens in much lower temperature, a bunch of Merrick's Victoria Hamburgh from the same house being scarcely so ripe; in every other respect the varieties are very similar. A Seedling Muscat, raised from White Syrian and Muscat of Alexandria appeared very similar to the last-mentioned variety, and from the evidence adduced, appeared suited to a cool house; the berries were very sweet and good, and the exhibitor affirmed it to be a better setter than the other kinds. The meeting, however, desired more conclusive evidence before they would express an opinion upon its merits. In this class should be mentioned Uva Troggin, a kind bearing some resemblance to Cornichon Blanc, but in form of berry about halfway between that and Muscat. It was a variety imported from Italy, and, although sweet, was thick-skinned and of no value. Allied to the Muscats was a fine and well ripened bunch of the White or Genuine Tokay. This Grape is a free grower, great bearer, good setter, hangs well, and is very hardy: as it is also a sweet and thin-skinned Grape, it is worthy of being more usually grown where an assortment is desired. In the Black Hamburgh section there was a bunch of the usual variety; also one called Coventan, which was too nearly similar to be considered distinct. Wilmot's Black Hamburgh, which is distinguished by the berries being much elongated, and having the appearance commonly called hammered. It is generally more compact in bunch than the original variety. And Meyrick's Victoria Hamburgh, which is generally very large in berry, and more round than the last mentioned, but is frequently less highly coloured. It approaches very nearly, if it is not identical, with the Mill Hill Hamburgh. A fine and well-set bunch of the Black Morocco included in the collection was not quite ripe. Of the St. Peter's section was a bunch of the original variety, quite ripe and very sweet; and one of Black Prince, in good condition but less ripe. A large bunch of that peculiar variety, Gros Gromier du Cantal, partaking of the qualities of Sweetwater and Hamburgh, with the colour of Grizzly Frontignan, had been cut some days, but was ripe, sweet, and very juicy. Of the White Frontignan, a bunch remarkably large and handsome, though scarcely ripe, was included in the collection. Of the Muscadine section were a bunch of the true Royal, mis-named White Sweetwater; also, one called Griffin's Royal Muscadine, which was undistinguishable save in the bunch being smaller. In the Sweetwater section were a good bunch of the Old Dutch, and one called Diamond Drop, which appeared to be a better setter, but was thicker skinned and inferior in flavour. A variety something like Esperione, but smaller and inferior, was not recognised. A Black Seedling, said to have been raised between Black Cluster and White Sweetwater, described as a great bearer, was straggling in bunch, small in berry, full of seeds, very thick skinned, and utterly worthless. Mr. Ivery exhibited a very fine bunch of his Buckland Sweetwater. The meeting was much gratified to find that it so fully maintained the high opinion which the Society had previously passed on it; the only peculiarity noted regarding it, which differed from the description given last year, was that the berries had reassumed the bluntly ovate form under which it had first been presented.

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# Notices of Books.

*The Rifle and How to Use it, &c.* By Hans Busk, First Lieutenant Victoria Rifles. Routledge; 12mo. Fourth Edition.

Mr. Busk, the author of this little work, possesses the merit of perfectly understanding the rifle question in all its bearings. He therefore stands before the public as an authority upon a subject that is much engrossing the attention of thinking men at the present moment. Notwithstanding the general belief that Government was not in earnest in sanctioning the formation of dismounted yeomanry corps in the shape of Rifle volunteers, and the doubt still felt upon the subject, there is very sufficient proof that among the middle classes a strong conviction exists that our home defences are by no means such as to secure our coasts even from hostile insult. And, notwithstanding the unfairness of calling upon men in discharge of a great public duty to volunteer to do at their own cost what should be paid for by the entire population, it seems evident that a large body of riflemen will soon be more or less completely organised. With fair encouragement from Government half a million men would answer to an appeal to arm and organise. As it is we may still expect that many thousands will fall into the ranks of this volunteer corps.

To such men a cheap, plain, practical manual like the present is most useful. They are not like common military recruits, content to be made into a machine, without understanding more than the routine of parade on an occasional field day. The persons who are now coming forward belong to the intelligent class, and the privates desire to understand what they are about as well as their officers. In this way [illegible] should it ever be necessary to send them into action. They will be masters of a most formidable weapon, the effectiveness of which however greatly depends upon the individual skill with which it is used. To Mr. Busk's pages we may refer for all that relates to this essential matter. He explains the faults of the old musket and the advantages of the rifle; he points out what in his opinion are the best kinds of rifled firearms; examines the various breech-loading arrangements, which will unquestionably by degrees put an end to muzzle-loading: then enters into minute details as to the manner in which rifles are to be used, and concludes with valuable practical observations on drilling and training. Upon the last subject we must allow Mr. Busk to speak for himself.

"At the present important crisis when the whole population of these islands is preparing to arm, any work on the rifle would be incomplete, which did not furnish simple, yet precise instructions, whereby the young volunteer may be taught the new manual and platoon exercise, as now practised by all British light infantry corps.

"It is a great mistake to suppose that proficiency at the target is all that is required to constitute an efficient volunteer. It is absolutely essential that he should, in addition, act with precision in concert with others; should learn that implicit obedience to his officers without which no man has any pretension to be considered a soldier, for without it he is worse than useless in the field.

"Any body of men, whatever their skill as shots might be, who should venture upon active service, under the supposition that each individual would be at liberty to act independently as might seem best to himself, would soon find, though too late, that their zeal and valour were wholly misplaced, that they would be continually in the way, without much chance of doing good, and would, perhaps, not unfrequently suffer as severely from the fire of their friends as their foes.

"Rifle clubs and rifle associations are invaluable institutions in their way, but their members must not imagine that, even after months of mere practice at the target, they can be deemed useful soldiers.

"They have, it is true, learnt an important branch of their duty, but they are then only fit to be drafted into a rifle corps. In fact, until they are so enrolled, and have taken the prescribed oath, all drilling and training is illegal, and subjects those concerned in it to serious penal consequences.

"All drill for volunteers should be as simple and as little irksome as possible. The great object is:—

"1st. That each individual should have sufficient knowledge of every part of his rifle to enable him to take it to pieces and put it together again when requisite.

"2d. That he should know how to load his gun properly.

"3d. That he should know the manner of regulating his aim according to the distance of the object to be hit.

"4th. That he should be practised in estimating distances within the ordinary range of his rifle.

"5th. That he should be able on all occasions to take up a position in which he will be enabled.

"To aim with facility;

"To keep his body steady without constraint;

"To be careful above all not to allow his sights to incline to one side or the other;

"To support the recoil.

"6th. When pressing or 'pinching' the trigger in the act of firing, to be particularly careful not to derange his aim.

"These few simple rules are all that are really necessary to enable any man to attain the maximum effect with his rifle."

We must however remark that one point, although of the first importance, is far too slightly dismissed by Mr. Busk. We allude to the preparation of ammunition. Unless bullets are properly adapted to the firelock no accuracy in firing is possible. Spherical balls being now obsolete the errors belonging to them may be passed by; but elongated bullets require to be made with the greatest care. Unless the hollow at the base is in proper proportion; or if the bullet mould is not made perfectly true, firing must necessarily be wild. Not long ago moulds were sold so carelessly turned that the bullet when placed on its end instead of being perpendicular stood leaning to one side, owing to the base not being at right angles with the sides: such bullets would deviate from a right line a full yard in 100 yards. Another cause of inaccurate firing is the use of *culots* or iron cups placed in the hollow of the base of the bullet. These ought never to be employed; if they stand ever so little obliquely in the hollow, the line of fire corresponds with the obliquity and the bullets will upset, that is, rise or fall or fly to the right or left, according to the position of the cup. There is no possibility of insuring the accurate insertion of such cups. A jolt in the cartridge box will of itself disturb them, to say nothing of errors in inserting them at first. If they are pressed forcibly into the hollow so as to fix them truly and steadily then the base of the bullet spreads and they become too large for the muzzle of the firelock. This indeed is what happens with the wooden plugs now used in government ammunition. As far as our experience goes there is nothing equal to a Pritchett bullet carefully cast, and used without a plug. We once saw a cupped bullet fired from a rest at the distance of only 100 yards by a practised shot, strike four-

teen paces to the right of the bull's-eye. Rather dangerous work.

Mr. Busk's advice respecting the relative value of rifles cannot be too strongly impressed upon the minds of those who mean to procure arms independently of the Government. The superiority of the Lancaster rifle to the Enfield had been on other occasions sufficiently proved; but in August, 1858, in Chatham marshes a final and, we should think, conclusive trial was made:—

"The arms made use of on the occasion were Lancaster's elliptical rifle, of the same construction as that used by the Royal and East India Company's Engineers, and the ordinary Enfield rifle in use by the troops of the line and the School of Musketry, Hythe. The persons selected to make the trial were several non-commissioned officers belonging to the Royal Engineers and an equal number of non-commissioned officers chosen from the depôts of the East India Company's regiments attached to the 2d Battalion, each of whom had undergone a regular course of instruction in the theory and practice of the rifle. Twenty rounds of ball cartridge were supplied to each. The practice commenced at 350 yards, the distance being gradually increased to 600 yards. The result of the trial again proved most conclusively the superior accuracy of the Lancaster over the Enfield rifle, although the skill of the contending parties was as nearly matched as possible. The practice of the non-commissioned officers was allowed to be very good, the target at 500 and 600 yards being repeatedly struck, and the general accuracy of the firing such as to elicit unqualified admiration. At the termination of the trial it was ascertained that the non-commissioned officers of the Royal Engineers, with the Lancaster rifle, had gained the large number of 17 out of 20 'points,' while the number of 'points' made by the non-commissioned officers of the 2d Battalion, with the Enfield rifle, was only 13.88. The finest practice which took place during the trial was that made by Colour-Sergeant Barrow, Royal Engineers, and Colour-Sergeant Gosling, 52d Light Infantry, each of whom made the astonishing number of 21 'points.'"

"A few days later than the experiments above recorded the final trial between the Lancaster and Enfield rifles took place at Chatham.

"A number of skilled non-commissioned officers from the 3d battalion of the line were provided with the Enfield, and a like number of non-commissioned officers belonging to the Engineers with the rifle arm.

"Each man had 20 rounds of ammunition. The targets were fixed at different distances varying from 350 to 600 yards.

"The Lancaster evinced its superiority from the first, and maintained it throughout the trial; at the close of which it was found that, out of the 20 rounds, the average number of 'points' made by the Royal Engineers was 15.66, the non-commissioned officers of the line only averaging 8.0. Sergeant Cann, R.E., made the finest practice of the day, gaining the unprecedented number of 23 'points.'

"The result of the whole series of experiments is, that the Lancaster rifle gained 15.88 'points,' the Enfield rifle only 12.62; showing a very decided superiority in favour of the Lancaster weapon."

With such evidence before us we cannot believe that Government intends to call upon volunteers who have Lancasters of their own to substitute Enfields in case of invasion. The nipples and calibre of each being the same Government ammunition should fit them equally well, which is all that the efficiency of the service demands.

As to the Whitworth rifles, respecting which such very favourable reports have been made, it is useless at present to inquire into their history, seeing that there has been no trial of them in the hands of soldiers under fire, and moreover that it must be a long time before they can come into the military market.

## Garden Memoranda.

MR. BERRENGER'S, ST. NEOT'S, HUNTINGDONSHIRE.—Visitors to this pretty little country village should not leave it without inspecting Mr. Berrenger's Graperies. Although a baker by trade he grows Grapes in great perfection, both indoors and out. His garden though small is a model of its kind. At present it literally glows with Scarlet Geraniums and other gay bedding plants, while the walls and adjoining roofs are clothed with Vines now loaded with fruit somewhat more than half swelled and perfectly free from mildew or other disease. From these Mr. Berrenger makes English champagne, in the manufacture of which he is considered very skilful. His best, however, is prepared from hothouse Grapes in a ripe state, of which he has great quantities. Immediately behind his house is a large Vinery, every rod in which is loaded with Grapes, chiefly black kinds, but more especially Black Hamburgh, some bunches of which weighed as much as 2½ lbs.; they were as black as Sloes, and covered with a beautiful bloom. These Vines, which are by no means young, have borne heavy crops without failure for years. They are close pruned on the spur system, and on the fruit-bearing branches more leaves are allowed to grow beyond the bunches than is usual; these Mr. Berrenger finds tend to make the colour of the fruit more perfect than would otherwise be the case. The border, which was made very deep in the first instance with rich material, is evidently not nearly exhausted; but in order to preserve its fertility unimpaired as long as possible, it receives copious waterings of liquid manure at all times during the summer, but more especially while the Vines are in active growth.

Being on gravel and the situation comparatively dry, the border was not bottomed. The Vines are planted inside the house. Another Vinery contiguous to the one just mentioned is managed in the same way and with equal success. Indeed Mr. Berrenger has acquired a more than local fame for his skilful Grape growing, and is consulted in cases of failure even by ladies and gentlemen who keep "practical" gardeners. Here then is an instance of Vine growing of the most successful description being carried on by an amateur who is daily actively engaged in another trade. He is fond of his garden, and does everything in it with his own hands. "It furnishes him," he says, "with profitable amusement for what leisure hours he may have to spare."

## Calendar of Operations.

*(For the ensuing Week.)*

### PLANT DEPARTMENT.

CONSERVATORY, &c.—No time should be lost in completing the repairs of the various structures devoted to the growth of plants, before the latter are put under the protection of glass. Continue to keep the house gay by a selection from the reserve houses of the showiest plants in bloom; carefully tie out, before they reach the blooming state, the different varieties of Lilium lancifolium; two other good autumn-flowering plants should likewise have the like attention; viz., Crowea saligna and Plumbago capensis, which are invaluable at this season. Attend to the proper regulation of climbers, and give weak liquid manure to plants in bloom, to maintain them in vigorous health, and assist the late flower-buds to open. After greenhouse plants have been placed under protection, whether of a permanent or merely temporary character, an unlimited supply of air must be given them day and night. Finish the potting of Chrysanthemums, and stake them securely as they advance. The stock of autumn and winter flowering plants should not be stopped after this, but have every encouragement to assist in ripening their wood early, that no difficulty may arise in getting them into bloom at the time wanted. Daphnes, Oranges (of different kinds), Myrtles, and Gardenias intended for forcing should be removed to a cool airy house to rest.

### FORCING DEPARTMENT.

VINERY.—Ripe Grapes should be occasionally looked over, to remove decayed berries. Wasps at this season are troublesome, and, to prevent their entrance, tack hexagonal or other netting on slight frames, and place them over the sliding sashes and ventilators; extra growths after this should be stopped back, but preserve the principal leaves untouched, until they die naturally. We allude to this, as we have seen large leaves frequently removed, to admit the sun to the ripening fruit. PINERY.—Finish off potting, both of the fruiting and succession plants, as soon as circumstances permit, that time may be allowed them to finish their growth before the dull days of winter. In re-plunging them allow plenty of room between the plants for their growth during the next three months, and keep them as near the glass as the form of the pit or house will permit. Keep up a steady bottom heat at 80°, to facilitate a quicker growth of the root after potting; it may gradually decline a few degrees as the plants advance. Syringing should be discontinued (unless in dry airy houses) as the days shorten, and the external air becomes moister, except to plants swelling their fruit, which will require a moist atmosphere. Air should be freely given the fore part of the day; but the plants will enjoy being closed up early in the afternoon at a temperature of 90° or 95° for three or four hours, giving as much air afterwards as will produce a gentle circulation through the night. Water fruiting plants with liquid manure when dry; where the fruit is cut from those kinds which do not produce suckers freely, the stools should be shaken out of their pots and repotted in deep and less-sized pots, plunging them in a brisk bottom heat; this will generally induce them to produce a supply.

### FLOWER GARDEN AND SHRUBBERIES.

Cuttings of choice herbaceous plants, Carnations, Picotees, &c., put in early, should be pricked out or potted immediately they are struck, to get established. Early struck Pansies may be planted out for autumn blooming. Young seedling Wallflowers, Brompton Stocks, Sweet Williams, and other biennials, should either be planted out into reserve beds, or where they are to flower. Continue the propagation of bedding out plants, making notes of desirable new things. The present will prove a favourable time to propagate by cuttings most kinds of Roses. Choose the ends of the shoots for the purpose, with the bottom part partly ripened. Noisettes, Bourbons, Chinas, and many Perpetuals will strike freely in sandy soil by the above means. Now, and during the whole of September and October, is the best season of the year for transplanting evergreens.

### HARDY FRUIT AND KITCHEN GARDEN.

Potatoes on wet soils should be taken up wherever the haulm is decayed, to prevent the sound ones from rotting. Where the tops show any appearance of vitality the crop may remain for a time, to stand the chance of becoming better ripened. Store the sound part of the crop in small quantities in sheds, lofts, &c., to dry, before attempting to pit them; for probably many will still turn diseased. If not already sown, [illegible] time in getting in the spring Cauliflower, Lettuce, &c. A bed of Onions may likewise be sown this month to stand the winter. A crop of dwarf French Beans should be sown under a south wall, for the chance of a late supply; and an empty Melon pit may be planted at the same time, keeping the sashes off until frosty nights come on. Prune off superfluous shoots from Tomatoes against walls, that they may not shade the ripening fruit. The leading shoots may be pinched out when sufficient fruit is set, which will assist to ripen the crop. Chilies, in pots or frames, should be kept free from green-fly; a little manure water will keep those in pots. Earth up Celery and Cardoons on dry days. The last crop of Peas will require sticking, and any appearance of mildew checked by dusting them with lime and sulphur.

### COTTAGERS' GARDEN.

Where a row or two of Celery has been planted let them be earthed up when the plants are dry. A few Cabbages may still be planted 9 inches apart, every alternate one to be drawn for greens, the rest to stand through the winter for late spring use. If a little Parsley has been sown during summer let it be thinned out so as to afford what remains strength to stand the winter. Fruit, if any, should be stored in a cool dry airy place, and be handled as little and tenderly as possible. It should not be laid on either hay, straw or Moss, all of which spoil its flavour; on a clean, dry wooden shelf is best.

STATE OF THE WEATHER AT CHISWICK, NEAR LONDON, For the Week ending August 25, 1859, as observed at the Horticultural Garden.

| August. | Moon's Age. | Barometer. Max. | Barometer. Min. | Temperature of the Air. Max. | Min. | Mean | Temperature of the Earth 1 foot deep | 2 feet deep | Wind |
|---|---|---|---|---|---|---|---|---|---|
| Friday 19 | 20 | 30.106 | 30.068 | 82 | 50 | 66.0 | 65 | 64 | SE |
| Satur. 20 | 21 | 30.153 | 30.070 | 83 | 48 | 65.5 | 66 | 64 | E |
| Sunday 21 | | 30.223 | 30.167 | 82 | 42 | 62.0 | 67 | 65 | NE |
| Mon. 22 | 23 | 30.302 | 30.273 | 81 | 44 | 62.5 | 66 | 64½ | NE |
| Tues. 23 | 24 | 30.176 | 30.036 | 82 | 46 | 64.0 | 66 | 64½ | W |
| Wed. 24 | 25 | 30.014 | 29.836 | 85 | 48 | 66.5 | 66 | 64½ | E |
| Thurs. 25 | 26 | 29.776 | 29.718 | 89 | 60 | 74.5 | 66½ | 64½ | SW |
| Average | | 30.107 | 30.009 | 83.4 | 48.3 | 65.8 | 66.0 | 64.4 | |

Aug. 19—Foggy; very fine; clear at night.
— 20—Foggy; exceedingly fine; hazy.
— 21—Fine; very fine throughout; cool at night.
— 22—Slight fog; exceedingly fine; quite cloudless.
— 23—Fine; very fine throughout.
— 24—Very fine; hot with bright sunshine; very fine at night.
— 25—Fine; very hot; thunder, lightning, with some hail at night.
Mean temperature of the week, 4·2 3ds deg. above the average.

RECORD OF THE WEATHER AT CHISWICK.
During the last 33 years, for the ensuing Week, ending Sept 3, 1859

| August and Sept. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds N. | NE. | E. | SE. | S. | SW. | W. | NW. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday 28. | 72.7 | 50.2 | 61.4 | 14 | 0·20 in. | 2 | 7 | 3 | 4 | 7 | 7 | 1 | 2 |
| Mon. 29. | 71.5 | 48.3 | 59.9 | 11 | 0.58 | 4 | 5 | 4 | 1 | 2 | 9 | 1 | 2 |
| Tues. 30. | 72.1 | 48.5 | 60.3 | 6 | 0.92 | 2 | 5 | 4 | 3 | 1 | 7 | 2 | 2 |
| Wed. 31. | 71.1 | 48.6 | 59.8 | 15 | 1.31 | 2 | 6 | 4 | 2 | 2 | 8 | 1 | 1 |
| Thurs. 1 | 70.3 | 48.0 | 59.1 | 17 | 1.50 | 2 | 4 | 3 | 4 | 3 | 7 | 2 | 2 |
| Friday 2. | 70.4 | 47.4 | 58.9 | 12 | 0.44 | 2 | 4 | 3 | 4 | 3 | 7 | 2 | 2 |
| Satur. 3. | 70.3 | 48.2 | 59.3 | 12 | 0.49 | 2 | 3 | 1 | 6 | 6 | 6 | 2 | 2 |

The highest temperature during the above period occurred in 1813—therm. 85 deg.; and the lowest on the 29th 1836—therm. 30 deg.

## Notices to Correspondents.

BOOKS: *Old Sub.* Dr. Lankester's book on food can be had at the museum at South Kensington, price 6*d*. We suppose it can also be obtained through the booksellers.

GREENHOUSE: *Quite a Beginner.* Shades must be outside. You received the other day a sample of a very nice material for the purpose from Mr. W. Hill, Builder, Brixton Hill. It is sold in pieces 50 yards long by 70 inches wide, at the rate of 1*s*. 2*d*. a yard. If you have shelter for your materials for potting, let those materials be peat, loam, and sand. We see no objection to the place you propose to put them in.

GRIFFIN'S ALMA LETTUCE.—Mr. Griffin has sent us three specimens of this Lettuce for this season of the year. At first sight it looks like the Brown Cos; but in reality very different from that variety. The specimens sent were little "run" and very bitter.

HOLLIES: *W C.* Top dress them in the end of November, forking in the manure.

INSECTS: *E S.* Your insect is the Humming Bird Hawk (Macroglossa stellatarum).—*J C.* Your caterpillars are those of the common Vapourer Moth. It is very unusual for it to appear in such numbers; but their size will allow them easily to be seen, and they will fall to the ground if the trees are well shaken, and may be caught on sheets.—*Castor.* Quite right. It is Asitus crabroniformis.—*Central.* The beautiful blue beetle is the common continental Hister farinosa. We have several allied species in England, but not this. *W.*

NAMES OF FRUITS: *F K.* 2, Nonesuch; 3, English Codlin; 7, Blenheim Pippin; 8, Golden Russet; 11, Scarlet Nonpareil; 12, Kentish Codlin; 16, Easter Pippin; 18, Yorkshire Greening; 22, Beauty of Kent; 23, Dutton Codlin. The Plum is the Orleans. Pears not known, when ripened.

NAMES OF PLANTS: *J Luff.* Nicotiana corinthifolia, sent.—*Peruvian.* As far as we can judge from Europe.—*Peruvian.* As far as we can judge your Chinese plant is Pardanthus chinensis.—*J Mere.* Here is your Chinese plant is Pardanthus chinensis. Pentstemon is P. Gaudinii.—*J E.* It is some Chenopodium and apparently C. Quinoa, but it is impossible to name species of this genus with certainty unless the specimens are very complete with all the forms of leaves which the plant bears perfectly preserved. Yours reached us in the state of a wisp of hay.—*A Subscriber.* Leycesteria formosa.—*Devon.* 1, Spiræa callosa, out of flower; 2, Saxifraga hypnoides; leaves, apparently of Cephalotaxus Fortunei; 4, Pyrola rudiana—very rare.—*W Wilson.* Some weed we suppose. The fragments in your letter, mashed in the post office, look like pieces of Charlock.—*A J.* 1, Physalis Alkekengi; 2, Lotus tetragonolobus; 3, Monarda didyma.—*Fuchsia.* Lysimachia vulgaris.

NEW ZEALAND: *Brecon.* No such letter has reached us. You shall have a answer next week.

SQUASHES: *J H.* Very little is known about them. We never saw yours before. If it is the best you have ever eaten pray let us have a seed or two for trial.

THE LOCUST BEAN OF SYRIA: *J Redwood.* It is the Ceratonia Siliqua, a great tree. The sweet pulp of the pods is man; but the pods and seeds are the food of many of the Cassia of horses, who thrive on them. Under the name of Algarobas they were used by the English cavalry during the Peninsular war; and are sometimes given to cattle food, but they are we believe in little [illegible]

ARTIFICIAL MANURES, &c.—Manufacturers and others employed in making ARTIFICIAL MANURES may obtain every necessary instruction for their economical and efficient preparation, by applying to J. C. Nesbit, F.G.S., &c., Principal of the Agricultural and Chemical College, Kennington Lane, London S. Analyses of Soils, Guanos, Superphosphates, Bones, Oil-cakes, &c., and Assays of Gold, Silver, and other Minerals are executed with accuracy and despatch. Gentlemen desirous of receiving instruction in Chemical Analyses and Assaying, will have ample facility and accommodation at the College.

LONDON MANURE COMPANY
(ESTABLISHED 1840).

Have the following MANURES ready for delivery:—
CORN MANURE FOR AUTUMN SOWING.
BLOOD MANURE FOR AUTUMN SOWING.
URATE
SUPERPHOSPHATE OF LIME.
SUPERPHOSPHATE MINERAL

The London Manure Company also supply PERUVIAN GUANO (direct from Messrs. Gibbs & Sons), SULPHATE OF AMMONIA, NITRATE OF SODA, CRUSHED BONES, and every other Manure of known value, all of which they warrant strictly genuine. Wholesale prices on application.

16, Fenchurch Street, E.C. LEW. PURSER, Secretary.

BURNARD, LACK, AND CO.'S CONCENTRATED SUPERPHOSPHATE OF LIME: guaranteed to contain Phosphoric Acid soluble, equivalent to 40 per cent. of Tribasic Phosphate of Lime.

CONCENTRATED TURNIP MANURE, equal in value to the [illegible].

Of these Manures Dr. Voelcker says:—"These results must be very gratifying to you, as they are the best proof of the very high agricultural and commercial value which characterises your concentrated superphosphate."

Detailed analyses, with opinions of the late and present Chemists to the Royal Agricultural Society, with Testimonials, Prices, &c., may be had on application to BURNARD, LACK, & Co., Sutton Road, Plymouth.

REDUCTION IN PRICE OF LAWES'S MANURES.

MR. LAWES begs to announce that he has this season reduced the price of the Manures manufactured by him, viz:—

| | | |
|---|---|---|
| TURNIP MANURE .. .. .. | from £7 to £6 | 6 |
| SUPERPHOSPHATE OF LIME .. | „ 7 to 6 | 6 |
| MINERAL do. .. | „ 6 to 5 | 5 |
| BARLEY MANURE.. .. .. .. | .. 8 | 0 |

Prof. Way and Dr. Voelcker have sampled from a bulk of 5000 to 6000 tons at his factories, and their report and analyses are given in full in Circular to be obtained on application at his office, 1, Adelaide Place, London Bridge, E.C., or of his local Agents.

N.B. Genuine Peruvian Guano direct from Messrs. GIBBS, Nitrate of Soda, Sulphate of Ammonia, and other Chemical Manures. American Cotton-seed Cake supplied.

REIGATE SILVER SAND.—Best quality for Florists, 16s. per ton; less quantities, 1s. 6d. per bushel, delivered to any London wharf or railway. Sacks for sand, 1s. 6d. each, or on hire 6d. each. (Five bold a ton).

JOHN KENNARD, Purveyor to her Majesty, Swan Place, Old Kent Road, London, S.E.

SOFT STUFF GREAVES ARE A CAPITAL MANURE FOR WHEAT LANDS.—The undersigned have sent large quantities to Norwich, where they are highly approved.—Price 4l. 10s. per ton in tierces (no charge for casks), delivered free to any railway station in London.

LOUIS WILLIAMS & SON, Soap Works, Clerkenwell, London, E.C.

TO PIG AND POULTRY FEEDERS.

RICE SWEEPINGS FOR CHICKENS, 8s. per cwt., in 1½ cwt. bags. SCREENED RICE, 11s. per cwt., in 1½ cwt. bags. RICE MEAL, 6s. 6d. to 8s. 6d. per cwt. OILCAKE, 10l. 10s. to 11l. 10s. per ton only. DOG BISCUIT, 14s. per cwt.—Sold for cash only by W. & R. JUPP, 6, Cross Lane, St. Mary at Hill, Eastcheap, City, E.C.

SHEEP.—FOOT-ROT OINTMENT, an original preparation, by JOHN OLDHAM, of Mansfield, a certain and safe remedy, having invariably cured when other remedies have failed. It is equally efficacious in Foul in Cows, Grease, Cracked Heels, and Thrush in Horses.

Numerous parties at a distance being inconvenienced in procuring it, the proprietor has appointed Messrs. SUTTON & Co., 10, Bow Churchyard, E.C., his London Agents, and it can now be procured through any respectable Chemist or Patent Medicine Dealer.

GUTTA PERCHA TUBING FOR WATERING GARDENS.

THE GUTTA PERCHA COMPANY have the pleasure to acknowledge the receipt of the following

*Testimonial from* Mr. J. FARRAH, *Gr. to* BOSWELL MIDDLETON JACKSON, Esq., *of Holderness House, near Hull.*

"I have had 400 feet of your Gutta Percha Tubing, in lengths of 100 feet each, with union joint, in use for the last 12 months to watering these gardens, and I find it to answer better than anything I have ever yet tried. The pressure of the water is very considerable, but this has not the slightest effect on the tubing. I consider this tubing to be a most valuable invention for Gardeners, inasmuch as it enables us to water our gardens in about one-half the time, and with one half the labour required."

Manufactured by the Gutta Percha Company, Patentees, 18, Wharf Road, City Road, London, E.C., and sold by their Wholesale Depôts throughout town and country.

SHAW'S TIFFANY is universally acknowledged to be the best, neatest, and cheapest material for shading Conservatories, and other Hothouses. Effectually securing Plants from the scorching rays of the sun without obscuring the light. Also, for protecting the Bloom of Wall Trees from spring frosts, and Fruit from bird and wasps. Sold in pieces.

No. 1.—[illegible] yards long, by 36 inches wide, 2s. per piece.

No. 2.—[illegible] strength, 18 yards long, by 39 inches wide, 7s. 6d. per piece.

No. 4.—Treble strength, 18 yards long, by 39 inches wide, 9s. per piece.

A liberal allowance to the Trade when ten or more Pieces are taken.—JOHN SHAW & Co., Princess Street, Manchester.

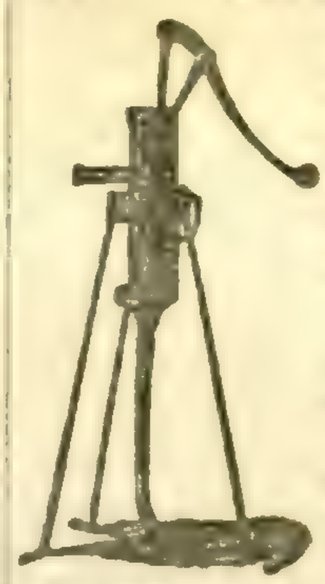
"FRIGI DOMO."—Patronised by her Majesty, the Queen, the Duke of Northumberland for Syon House, His Grace the Duke of Devonshire for Chiswick Gardens, Professor Lindley for the Horticultural Society, Sir Joseph Paxton for the Crystal Palace, Council Zoological Society, late Mrs. Lawrence of Ealing Park, and—Collier, Esq., of Dartford.

PROTECTION FROM THE SCORCHING RAYS OF THE SUN.

"FRIGI DOMO" is a Canvas made of patent prepared Hair and Wool, possessing the valuable property of Heat and Cold, keeping, when required, a most equable temperature. It is adapted for all horticultural and floricultural purposes, for preserving Fruits and Flowers from the scorching rays of the sun, from wind, from attacks of insects, and from morning frosts. To be had in any required lengths. Two yards wide, 1s. 6d. per yard run; four, 3s. per yard. Also, an improved make for Shading Purposes. Two yards wide, 2s. per yard run.

ELISHA THOMAS ARCHER, whole and sole manufacturer, 7, Trinity Lane, Cannon St., City, E.C., and of all Nurserymen and Seedsmen throughout the kingdom. "It is much cheaper than mats and answers as well."

WARNER'S IMPROVED LIQUID MANURE OR GENERAL PORTABLE PUMP



These Pumps are fitted with WARNER'S Patent Plunger & Valve, and lifting 19 gallons. The barrel is made of galvanised iron, and being thus proof against corrosion, it can be placed or inserted at pleasure on the stand, the legs of which fold together, and may be carried with ease by one man to tank or pond.

| | £ | s. | d. |
|---|---|---|---|
| Stand and Pump, with screwed tail pipe, fitted with strong brass union for suction pipe | 2 | 15 | 0 |
| If fitted with barrel of planished copper .. .. | 3 | 4 | 0 |
| Stand and Pump, with plain tail pipe, for tying on suction pipe .. .. .. | 2 | 9 | 0 |
| 2 inch patent rubber and canvas flexible suction pipe, on wires, either 10, 12, or 15 ft., per foot | 0 | 2 | 2 |

May be obtained of any Ironmonger or Plumber in town or country, at the above prices, or of the Patentees and Manufacturers, J. WARNER & SONS, 8, Crescent, Jewin St., London, E.C.

WARNER'S PATENT VIBRATING STANDARD PUMPS.

PATENT CAST-IRON PUMPS for Farms, Cottages, Stable Yards, &c., where the Well does not exceed 25 feet in depth, fitted with WARNER'S Patent Metal Bucket Valve, which cannot clog in action. These Pumps can be made right handed, left handed, or with handle opposite the nose by removing four screws only.

| Diameter of Barrel. | Height. | | £ | s. | d. |
|---|---|---|---|---|---|
| 2¾ in. short | 1 ft. 7 in. | Fitted for lead, gutta percha or cast iron flanged pipe as required. | 1 | 5 | 0 |
| 2¾ „ long | 1 „ 7 „ | | 1 | 10 | 0 |
| 3 „ ditto | 3 „ 6 „ | | 2 | 4 | 0 |
| 3½ „ ditto | 3 „ 6 „ | | 2 | 9 | 0 |
| 4 „ ditto | 3 „ 6 „ | | 2 | 12 | 0 |

2½ „ short, with 15 feet of Lead Pipe attached, ready for fixing ....2 10 0
2¾ in. long ditto ditto ditto 2 14 0

The short barrel Pump is very convenient for fixing in situations of limited height and space, for the supply of coppers and sinks in Wash houses with soft water from underground tanks, or in Hot, Forcing, and Plant Houses; they may be fixed, when desired, under the stage.

May be obtained of any Ironmonger or Plumber in Town or country, at the above prices, or of the Patentees and Manufacturers, JOHN WARNER & SONS, 8, Crescent, Jewin Street, London, E.C.

Every description of Machinery for Raising Water by means of Wheels, Rams, Deep Well Pumps, &c.; also Fire and Garden Engines, &c. &c.—Engravings sent on application.

JOHN WARNER AND SONS, Crescent, Jewin St., London, E.C.—GALVANISED IRON TUB GARDEN ENGINE, with WARNER'S Registered Spreader, as strongly recommended, for durability and low price, viz., 10 gallons, 2l. 15s.; 16 gallons, 3l. 15s.; 24 gallons, 5l.; or in strong oak tub, 14 gallons, 5l. 10s.; 24 gallons, 6l. 18s. May be obtained of any Ironmonger or Plumber in town or country, or of the patentees and Manufacturers; as also Machinery of all kinds for raising Water from any depth to any height by Steam, Horse, or Manual Power. Prices sent on application.

Syringes of various constructions and sizes from 9s. upwards. Metallic String from 1d. to 1s. 2d. per ft.

CAST-IRON GARDEN ORNAMENTS, VIZ. ORNAMENTAL VASES, of various sizes, do with pedestal, GARDEN CHAIRS and STOOLS, RUSTIC GARDEN SEATS and TABLES, both plain and bronzed, also GARDEN ROLLERS of all sizes.—Prices on application to J. JONES, Iron Merchant, 6, Bankside, London, S.E.

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GALVANISED IRON ROOFING

for Farm Buildings and other Roofs: the cheapest, most durable, and neatest Roofing in use; also Spouting at 1s. 6d. per yard.

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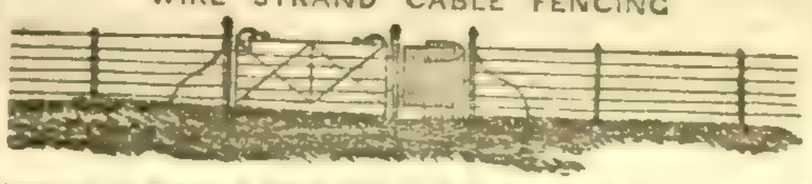

(formed of Twisted Wires like a rope or cable), the strongest, cheapest, and neatest fence in use, will resist the largest cattle and will not bend or get out of form by trespassing upon or over. Price, with five lines of the Galvanised Strand, iron main posts, and pronged Standards, 1s. 2½d. per yard.

This fence is far cheaper than posts and rails, or any kind of iron fencing; and possesses four times the strength of solid bars. Will not rust nor corrode. Upwards of 1200 miles of this Fencing supplied.

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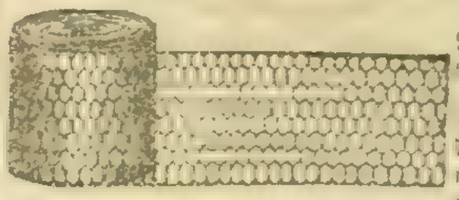

Galvanised, 24 ins. wide, 2-inch mesh, 5½d., 7½d. and 9½d. per yard.

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Strong CATTLE HURDLES from 2s. per yard.

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of all sizes for the use of Private Houses, Manufactories, Railway Stations, Mills, Collieries, Mines, Villages, &c. Works from 10 to 500 lights estimated for. The works can be entrusted to an ordinary labourer.—Apply to

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AGRICULTURAL MACHINERY

E. R. AND F. TURNER, Ipswich, manufacture Prize Mills for Crushing Corn, Seed, Malt, &c.; Portable Grinding Mills, Steam Engines fixed and portable from 2 horse-power and upwards; Threshing Machines, Chaff Cutter, Oilcake Breakers, Horse Gears, Saw Tables, &c., of a superior description are adapted for Home, Colonial, and Foreign use. Illustrated Price Lists sent free on application.

HAYMAKERS, possessing the best features of Nicholson's Prize Machines, with recent improvements peculiar to those supplied and manufactured only by RICHMOND AND CHANDLER, Salford.

Branch Establishment, South John Street, Liverpool.

N.B. The celebrated Bedford and Standard Prize HORSE RAKES always in stock, with latest Patented Improvements.

HAY HARVEST.

NICHOLSON'S PATENT HAYMAKER, to which was awarded the First Prize of the Royal Agricultural Society of England at the last contested trial.

The celebrated STAMFORD HORSE RAKE has lately been much improved, and has obtained 26 Prizes at competitive trials.

MOWING AND REAPING MACHINES are performing their work most satisfactorily, and fully justify public expectation, cutting about 10 acres per day, at a cost of 9d. per acre.

Orders for the above machines should be given at once to RICHMOND & CHANDLER, Salford, Manchester.

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THE LANDS IMPROVEMENT COMPANY.—Incorporated by Special Act of Parliament in 1853.—2, Old Palace Yard, Westminster, S.W. To Landowners, Clergy, Estate Agents, Surveyors, &c., in England and Wales and in Scotland.

The Directors beg leave to announce that the Company's Amendment Bill, 1859, has received the sanction of the Legislature. The Company now advance money, unlimited in amount for the following works of Agricultural Improvement, the whole outlay and expenses in all cases being liquidated by a rentcharge for 25 years.

1. Drainage, Irrigation and Warping, Embanking, Inclosing, Clearing, Reclamation, Planting for any beneficial purpose, Engines or Machinery for Drainage or Irrigation.
2. Farm Roads, Tramways and Railroads for agricultural or farming purposes.
3. Jetties or Landing places on the sea coast or on the banks of navigable rivers or lakes.
4. The erection of Farm Houses, Labourers' Cottages, and other Buildings required for Farm purposes, and the improvement of and additions to Farm houses and other buildings for farm purposes.

Landowners assessed under the provisions of any Act of Parliament, Royal Charter, or Commission, in respect of any public or general works of drainage or other improvements, may borrow their proportionate share of the cost, and charge the same with the expenses on the lands improved.

No investigation of title is required, and the Company being of a strictly financial character do not interfere with the plans and execution of the Works, which are controlled only by the Government Enclosure Commissioners.

Under the Company's Acts, tenants for life, trustees, mortgagees in possession, incumbents of livings, bodies corporate, certain lessees, and other landowners are empowered to charge the inheritance with the cost and expenses of the above improvements, whether the money be borrowed from the Company or advanced by the Landowner out of his own funds, and owners in fee may effect these improvements of their estates without incurring the expense and personal responsibilities incident to mortgagees, and without regard to the amount of existing incumbrances.

For further information, and for forms of application, apply to the Honourable WILLIAM NAPIER, Managing Director, 2, Old Palace Yard, Westminster, S.W.

EDINBURGH NEW VETERINARY COLLEGE.—Her Majesty has been graciously pleased, under her Royal Sign Manual, to place the New Veterinary College under the operation of the Charter of the Royal College of Veterinary Surgeons, and to "will and declare that the persons who now are or may hereafter become Students of the New Veterinary College of Edinburgh, and shall pass the Examination prescribed by the said Royal Charter, shall be Members of the Royal College of Veterinary Surgeons, and shall be entitled to all the privileges given to such Members by the said Charter."

Moreover, at the last General Meeting of the Highland and Agricultural Society, it was resolved that Students educated in any Veterinary College in Scotland, authorised by Government, shall be eligible for Examination for the Highland and Agricultural Society's Veterinary Certificate.

The WINTER SESSION for 1859-60 commences on November 2, on which day Professor JOHN GAMGEE will deliver an INAUGURAL LECTURE, at 2 o'Clock precisely.

Prospectuses may be obtained, and particulars as to Fees, &c., may be learned on application to Professor JOHN GAMGEE, New Veterinary College, Edinburgh.

COLLEGE OF AGRICULTURE AND CHEMISTRY, AND OF PRACTICAL and GENERAL SCIENCE, 37 and 38, Lower Kennington Lane, Kennington, London, S.

Principal—J. C. NESBIT, F.G.S., F.C.S., &c.

The system of studies pursued in the College comprises every branch requisite to prepare youth for the pursuits of Agriculture, Engineering, Mining, Manufactures, and the Arts; for the Naval and Military Services, and for the Universities.

Analyses and Assays of every description are promptly and accurately executed at the College. The terms and other particulars may be had on application to the Principal.

ROYAL AGRICULTURAL BENEVOLENT COLLEGE FOR THE RELIEF OF DECAYED FARMERS, THEIR WIDOWS AND ORPHANS.

Noblemen and gentlemen interested in Agriculture, desirous of promoting this object, will please fill up and forward Form, as annexed.

150 influential names are enrolled to this date.

Tiptree Hall, August 27.

Sir,—I hereby request you to place my name on the list of the Promoters of the Royal Agricultural Benevolent College, provided no pecuniary responsibility (beyond a subscription or donation) attaches to such Association. Name.....
Address.....
Date .....

To J. J. MECHI, Esq. Tiptree Hall, near Kelvedon, Essex.

# The Agricultural Gazette.

*SATURDAY, AUGUST* 27, 1859.

THE reports of seedsmen will, we believe, indicate a more rapid increase in the growth of Trifolium incarnatum than in that of almost any other recent addition to the plants of English farmers. Cultivated with hardly any labour and almost without risk, and yielding a very bulky and early

growth of green food of first-rate quality both for the stable and the feeding stall, it deserves the character it has so generally acquired; and there is now hardly any arable district of any extent in the southern and midland counties where during the next few weeks a portion of this Trifolium will not be sown for use next May and June.

Twenty pounds of seeds per acre sown broadcast now over a clean corn stubble and harrowed in after rain has fallen will, without further trouble, thus produce a valuable crop. If the land is foul with surface weeds it must of course be pared and cleaned; but this should be as much a merely surface operation as possible. If the land is well fallowed and loose, the seed sown does not vegetate so regularly as if sown upon a hard surface with hardly any tilth provided it be moist enough to let the harrow cover the seed.

The fault of the crop is that it is good only during a very short period of its growth. Just before fully in bloom it may be cut; but comparatively soon afterwards it becomes rough and coarse and hard, and if still carried in as food the half of it will be wasted. A comparatively small extent thus suffices on the largest farms. It makes coarse hay, and is, indeed, useful only as a forage crop. The shortness of the time during which it is available for this purpose is therefore a serious drawback from its value; and one which is hardly capable of being met by any attempt by various seed times through the autumn at obtaining a succession of crops. For it is right that you should sow so early as to obtain a thoroughly established plant before the winter, and if that be done the probability is that the latest sown may come as early to scythe as that which before winter frosts set in was more advanced. The only remedy must be to obtain varieties of the plant distinguished by a varying habit of growth in this respect. And we are glad to find that Messrs. VILMORIN-ANDRIEUX & Co., of Paris,* announce two varieties of this *Trèfle incarnat* characterised by a later growth.

Their *Trèfle incarnat tardif* is characterised by flowering a fortnight later than the ordinary variety, thus offering a second crop of forage at a time when during hot summers it is sometimes difficult to provide it. Their other variety is also a *Trèfle tardif*, but distinguished by its white flower—being specified in VILMORIN's Seed List as *Trèfle incarnat tardif à fleur blanche!*

M. LEJEUNE, to whom this variety is due, speaks of it as yielding an enormous quantity of forage of a finer quality, and capable of being cut at least eight days later than the ordinary Trifolium incarnatum. On both of these accounts it well deserves the attention of English farmers.

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THERE are few difficulties with which the farmer has to contend more tantalising to his feelings than the appearance of mildew amongst his Swedes. The crops which have been the most promising throughout the early part of the season are those which generally suffer most severely. Various opinions are entertained in different localities as to the cause of this diseased condition of the crop. Whatever may be the cause, still this undeniable result is frequently forced upon our notice, and thus the bright hopes of the cultivator are doomed to be disappointed. The mildew is caused by the growth of Fungi upon the leaves of the crop, and it has been frequently observed that those crops which have grown most rapidly under the stimulating influence of artificial manures suffer more from it than any other. On the other hand, those crops which are grown under the slower agency of farm-yard manure are generally much more exempt from it. At first view it would almost appear as if a high system of farming proved to be undesirable for the growth of Swedes. We are not, however, justified in accepting this view of the case, for other facts give evidence somewhat conflicting in its character. If, for example, the artificial manure were used for Swedes and these were sown late whilst the farmyard manure had been applied to a crop sown very early, it is more than probable that the latter would suffer and the former crop might be entirely free.

If a crop is examined which is attacked by mildew it will in all probability be found that it has in a great measure ceased to grow—not as a consequence of the attack but as a predisposing condition to it. We are well aware of the extended distribution of the germs of Fungi, and when we have either animal or vegetable matter in a condition favourable for their development they rapidly establish themselves upon any infirm and decrepid frame. When from any cause we have the growth of the Swede crop checked and its further development interrupted—whatever may be the agency—the vital energy of the plant fails to guard it against the establishment of these Fungi, and consequently the crop becomes a passive sufferer from the mildew. Such being the character of the disease it is evident that if we can avoid these checks in the growth of the crop there will be less opportunity for the Fungi establishing themselves.

There are various circumstances which have a tendency to check the growth. The maturity of the crop is one of these. This will be materially influenced by the time of sowing, for those which are sown early must necessarily have greater opportunities for coming to maturity before the cold weather of winter commences than another crop sown at a later period. This is observable in the practice of different districts, and no doubt the peculiarity of the soil or climate of the neighbourhood, combined with the general system of management there practised, renders a departure from the accepted time a source of disappointment. We must however combine these local influences with the general practice of the neighbourhood, for it is thus only that the circumstances are truly represented. Wherever a system of deep cultivation for the root crop is practised, there an earlier sowing may be safely ventured upon, even in districts where under the generally imperfect method of preparing the land an early sowing is sure to be followed by mildew. We do not presume by this entirely to ignore the influence of climate upon the time of sowing; we are, however, firmly convinced that the more imperfect the tillage of the soil may be the later the crop must be sown to avoid the mildew. Another important circumstance, namely, the weight of the crop, is also influenced by the same course of procedure. Thus we see the system which is adopted upon land that has been insufficiently worked to avoid the mildew causes an inferior crop of roots, and it brings one to the conclusion that to a considerable extent the freedom from mildew, as well as the weight of the crop, depends upon the land receiving a thoroughly deep and sufficient tillage—not being content with 4 inches of worked soil but rather securing double the depth. It will be evident on a moment's consideration that when the roots of the crop cannot penetrate beneath the 4 inches of soil which may have been worked out for them, the supplies of food must limit the weight of the crop, and the influence of hot weather being so much more operative under these circumstances than upon a deeper soil, we have the naturally languid growth soon checked and the mildew forthwith appears. When the soil has been thoroughly worked there is a good opportunity for the roots to spread through the land. The heat on the surface, which is so unfavourable in the case of a shallow soil, here causes the roots to strike more deeply into the ground; a more rapid growth is the result, and so long as this can be maintained there need be no fear of mildew injuring the crop. Other circumstances influence this disease, and to these we must refer on some future occasion. *T.*

* 30, Quai de la Megisserie, Paris.

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## THE LUCIFER MATCH.

HAVING seen in your Paper of the 30th ult. some allusions to the lucifer match I am induced to offer a few remarks upon it, although to many it may appear of too insignificant a character to bring before the public notice, but I think those ideas will soon vanish when its true character is seriously considered. I have always been a great advocate for improvement of every kind, and whether it be the change from the four-horse stage coach to the locomotive on the line of railway, the sailing vessel to steam navigation, or the old tinder box with flint and steel attached to the lucifer match—they are all greatly to be admired, and their inventors are fully entitled to the highest commendations that have or can be bestowed upon them. Referring, however, to the lucifer match, the subject of these remarks, I wish to call your attention to some of its abuses, and endeavour to show what I conceive the necessity of guarding against its increasing dangers, and of making it contribute to the revenue by imposing upon it a duty equivalent to its importance. Previous to March 25th last, the day on which the generality of premiums on fire insurances became due, circulars were issued from different offices informing parties that in consequence of the increased number of fires arising principally from incendiarism, smoking, and lucifer matches, the premium would be raised from 4 to 5 per cent.

This clearly shows the opinion of insurance companies respecting the lucifer match, and there is scarcely a week, I may say a day, without hearing through the papers of serious damage or a dreadful calamity by fire in consequence of the incautious use of the lucifer match. What I wish particularly to call your attention to is the great facilities placed within the reach of all persons, whether grown up or children, of doing serious injury to property or endangering the lives of whole families either from accident or design, by the cheapness and easy mode of obtaining the lucifer match. Boxes containing 80 or 90 of these matches may be bought for the small sum of 3*d.* per dozen, about 80 costing one farthing. Such being the case it is not to be wondered at that they find their way in great numbers, not only into every cottage but into the hands of every child, many of whom scarcely know the use of them, much less the danger, excepting that they blaze and cause a great deal of fun. Facts innumerable may be related of children (innocently enough on their part) setting fire to stacks with the lucifer match. Two such cases in Cheshire have recently come under my notice, and it is a notorious fact that hawkers give them to children as an inducement to spend a penny or twopence in the purchase of some toy. Under the head "assize intelligence" which I have just read in the last week's papers, there are no less than eight cases of arson in the Home Circuit, one at Chester and one at Oxford; all the parties charged (with the exception of one) were committed and sentenced to penal servitude, and in the case where the person was acquitted it was looked upon by the jury as accidental, a lucifer match having been dropped out of the pocket of the accused. It would be tedious to relate any more cases in support of my argument, therefore I will briefly lay before you my scheme for checking the fearfully increasing abuse of the lucifer, the fusee, and any of their kindred.

In the first place no person should be allowed to sell them without a special license. I would also impose a duty that would raise the price 300 or 400 per cent. above their present value, and hawkers should be prohibited selling them under a very severe penalty. In fact they should be dealt with as with a deadly poison, for an evil disposed or even a thoughtless person might accomplish in a few minutes without the least suspicion what it would take weeks to accomplish by the use of strychnine or other poisons.

Such cases as the following are of frequent occurrence: a lad is corrected by his master for some offence, he takes the first opportunity of avenging himself by thrusting into a stack or building a lucifer match; he is suspected and examined, and in his pocket are several lucifers, but there being no other proof the case falls to the ground, as almost every urchin above 12 years old carries with him lucifer matches, and it might have been purely accidental. *W. P.*

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## DAWES' MACHINE FOR CULTIVATING LAND.

AMONG the entries at the Warwick Implement Yard was one for cultivating or digging land, a model of which was to be seen, though the full-sized implement did not appear. Mr. Dawes claims as his invention, "for a new machine for cultivating land:—"That is to say, a machine consisting of a series of teeth, tines, forks, prongs, cutting blades, or diggers supported upon frames, the said frames being carried by cranked axles, by the motion of which, as the machine is drawn over the land, the said teeth, tines, prongs, or cutters are made to enter and rise again from the land by a nearly cycloidal motion. Secondly, actuating my new or improved agricultural machine, and other agricultural machines, by means of condensed air, the condensation of which is effected in convenient reservoirs, filled by any suitable source of power, the same being transferred as required to the agricultural machine to be actuated."

The following is an extract from his specification:—

"The said machine for cultivating land consists of one or more rows of teeth, tines, prongs, or cutters, fixed in an oblong or other suitably shaped frame, made of wood or iron. The said frame is made to work freely within a second strong frame, made either of wood or iron. The machinery by which the inner frame carrying the teeth is driven is fixed on the outer frame. The cultivator or inner moveable framework of teeth has such motion given to it as hereinafter explained, that the teeth enter the ground with a back movement, the driving carriage at the same time progressing slowly forward. The rows of teeth at every revolution of the wheels driving them are caused to strike and enter the ground at a point in advance of that at which the former stroke commenced. By a suitable arrangement of the depth and number of teeth in each row the land may be properly prepared by this one operation for the reception of the seed; the motion of the teeth is cycloidal or nearly cycloidal, and is obtained in the following manner:—The frame carrying the teeth is supported and moved by four cranks attached to spur wheels connected with the driving power. Two of the said cranks work in journals on each side of the frame carrying the teeth, which sides of the frame answer the purpose of connecting rods between each pair of cranks exactly as the driving wheels of a luggage locomotive are generally coupled together. The motion of the frame carrying the teeth resembles the motion of the connecting rods of the wheels of a luggage locomotive. By varying the form, length, and number of the teeth or prongs, or substituting cutters in place of the teeth or prongs, the machine described may be used as a hoe or a skim, or for cutting turf or peat.

"My new or improved method of actuating the machine herein-before described, and other machines used for like operations, consists in the use of condensed air, which said condensed air I use in place of steam. I condense air in portable reservoirs, which can readily be transported from the place where the condensation is effected to the machine to be actuated, and the reservoirs being suitably coupled or connected with the machine, the condensed air is allowed to act on

tion in a manner essentially similar to the action of steam.

"The machine is constructed and works as follows:—A series of teeth or fork tines, prongs, cutting teeth, or diggers, marked *a*, are arranged in one, two, or more rows, the said rows of teeth being carried by an oblong or other suitably shaped frame, or two or more frames *b*. The teeth *a* may be made of iron or steel, or of steeled iron, and the frame *b* may be made of wood or iron. The frame or frames *b* work freely within another strong frame of wood or iron *c*, which said frame *c* either forms part of the traction carriage by which the machine is drawn along, or is attached underneath or thereto. The frame *b* carrying the rows of teeth *a* are carried by cranked shafts or axles *d*, *d*, which said cranked shafts or axles work in journals or bearings in, on, or under the frame *c*. The cranked shafts or axles *d*, *d*, are coupled together on the outer sides of the machine; and the cranks *e* on one side of the machine are at right angles to the cranks *f* on the other side of the said machine. The size or throw of the cranks will depend upon the depth to which it is desired to cultivate the land. A length of 7 inches to a foot in the throw of the crank is sufficient for general purposes. As the machine is moved over the land to be cultivated, and motion given to the cranked axles by which the series or frames of teeth or tines are carried, the said teeth or tines enter the ground, and on rising again out of it throw the soil outwards. As the traction carriage by which the machine is drawn over the land progresses slowly forward, the teeth or prongs *a*, after leaving the ground, are caused to re-enter it at a short distance in advance of the point at which they previously entered. By different arrangements of the rows of teeth or tines, and by varying the length and form of the said teeth or tines, prongs or diggers, according to the nature of the soil to be operated upon, and the depth to which it may be desirable for the teeth or tines to penetrate the soil, almost any description of land may be completely prepared for the reception of seed by one operation of the machine. Some of the forms of teeth which are preferred are drawn. A drill may be conveniently attached to the machine preceded by a revolving harrow, and followed by a light roll if desired. The motion of the teeth being compounded of the progressive motion of the machine, and the motion of the cranked axles *d*, *d*, is of a cycloidal nature. The manner in which the machine is connected with the locomotive power by which it is drawn over the land, and by which motion is given to the cranked shafts or axles *d*, *d*, is illustrated in figures representing in side elevation an agricultural compressed air or traction engine with my new or improved machine connected therewith. The machine may be somewhat wider than the engine, so as to act upon a width of land rather broader than that over which the engine passes. At the after part of the machine a piston *g*, to be acted upon by steam or condensed air, or any other convenient apparatus may be applied for raising the machine or cultivator out of the ground, but as the construction of such apparatus, and also the requisite appliances for turning the machine at the headlands are well understood, and form no part of my invention, it is not requisite further to describe or allude to them. By varying the form and arrangement of the teeth or fork tines, cutting teeth, or diggers, the machine may be used for various operations on the farm, such as hoeing or skimming the surface, forking up Switch or Potatoes, digging out turves or peat. In the latter operations, and when broad cutters or diggers are required, it is convenient to turn such cutters or diggers on leaving the ground, which is readily effected by the crank motion. And also where such turves are required to be cut, it will be requisite that a row of fixed coulters, arranged according to the breadth of the turves to be cut, should precede the machine. Although I have represented the machine actuated by a traction engine, yet the said machine may be worked by any other means that may be found suitable."

These extracts, referring to figures which we are unable to give, will to some extent explain the idea of the inventor.

## THE OXFORDSHIRE DOWNS.

At the last Oxford Monthly Cattle Market there was such a display of rams of the Oxfordshire Down and long-woolled breed as is rarely to be seen. The first sales consisted of 40 Oxfordshire Down rams, belonging to Messrs. Druce, of Eynsham, which were offered for sale by Messrs. T. Mallam & Son. For many years the Messrs. Druce have ranked very high as breeders of this class of sheep. The fact, however, that they obtained at the Warwick Meeting a first prize of 20*l.*, and high commendations for their rams, gave the sale this year additional interest, and induced many breeders from a long distance to attend to it. The highest price obtained was 20½ gs., and the average of the whole sale was 9*l.* 8*s.* 6*d.*; the highest price which Messrs. Druce made last year was 17 gs., and the average was 7*l.* 6*s.* 5*d.*

Messrs. Mallam next submitted 20 Oxfordshire Down rams from the flock of Mr. John Hitchman, of Little Milton. The rams were unquestionably of a high character. The biddings were spirited, and the prices realised ranged from 10 gs. to 5 gs., the average of the sale being 7*l.* 5*s.* 6*d.* Messrs. Mallam's sales closed with 18 Oxfordshire Down rams, belonging to Mr. C. Hobbs, of Maiseyhampton near Cricklade. The highest price which these made was 17 gs., and the average was 6*l.* 17*s.* 10*d.* Mr. Jonas Paxton, of the firm of Messrs. J. & T. Paxton, of Bicester, then commenced the sales entrusted to them. The first lot consisted of 43 from the well-known Oxfordshire Down flock of Mr. Joseph Roberts, of Caswell, near Witney, which attracted much attention, and, after an active competition, were disposed of at prices yielding an average of 7*l.* 14*s.* 10*d.* per head. These were followed by 22 Oxfordshire Down shearlings, owned and bred by Mr. Charles Gillett, of Cote House, near Bampton. These sheep were much sought for, and produced an average of 10*l.* 10*s.* Next came 35 long-woolled shearlings, bred by Mr. R. Lord, of Stanton Harcourt, near Eusham, which, after a very spirited competition, were all sold at an average of 8*l.* 17*s.* 3*d.* These were succeeded by 40 Cotswold ram lambs, the property of Mr. William Gillett, of Southleigh, the prices of which averaged 5*l.* 5*s.* A draft of 14 Oxfordshire Down shearlings, from the celebrated flock of the Duke of Marlborough, were now introduced and produced an average of 8*l.* 15*s.* 6*d.*, the last being disposed of for 17*l.* 17*s.* Following these were 19 Oxfordshire Down shearlings from the old established flock of Mr. William Gillett, of Brize-Norton. This gentleman succeeded in taking the first and second prizes for shearlings at the recent Oxford Cattle Show, in addition to a prize for the best pen of sheep in the class; they realised an average of 6*l.* 15*s.* 3*d.* only, which may be accounted for by the fact of ten having been previously disposed of by private sale at an average of upwards of 17*l.*

The Oxfordshire Down shearling ram, which Mr. Gillett exhibited at the recent show of the Oxfordshire and Banbury Agricultural Societies, and to which the second prize was awarded, has been sold for 50 gs. Mr. John Bryan, of Southleigh, who succeeded the late Mr. W. Gillett, of the same place, and who has usually submitted a very choice lot from his celebrated flock, was unable to do so this year, having disposed of by private contract no less than 55, some of which were let for the season at 20 gs. each, and others were sold at the same price.

After the above sales a few Oxfordshire Down shearlings bred by H. L. Gaskell, Esq., of Kiddington Hall, were submitted, and yielded an average of 9*l.* 2*s.* The next lot consisted of 32 Oxfordshire Down ram lambs from the flock of Mr. Jas. Walker, of Begbroke Hill, near Oxford. The lambs were of extraordinary size, combined with fine quality, and produced the high average of 7*l.* 3*s.* The sales concluded with a small draft from the celebrated Cotswold grey flock of Mr. W. Smith, of Bibury, which realised an average of 6*l.* 18*s.* 3*d.* We have the assurance of the Messrs. Paxton that such is the *bonâ fide* character of these sales that, of 216 rams submitted by them, 213 were absolutely sold to the parties to whom they were knocked down, and 3 only were passed without prices being offered for their possession. After this statement, who will deny that the Oxford August Ram Market deservedly claims to be the first of its kind in the kingdom? *Abridged from Oxford Journal.*

## Home Correspondence.

*Gardeners, Farmers, and Labourers.*—To show the practical knowledge of the cultivation of the soil, take the gardeners as a body; their knowledge demonstrates they are reading men and men of study, the different soils required to cultivate so many varieties of plants keep them continually trying experiment. Are the gardeners paid for their energy and great perseverance? How often do we see wanted, gardeners to do this, that, and the other, wages 15*s.* a week? How can it be expected for a gardener to show any ability for 15*s.* a week, what all labourers ought at present time to have for his week's wages. Give a gardener according to ability from 24*s.* to 40*s.* a week, and few gentlemen will have to complain of bad managed gardens. The farmer (with some exceptions) how different a character to the gardener; the generality of farmers are not reading men, do not care for improvements; they will say "I shall not bother about new-fangled ways." The sons of farmers rarely talk but of shooting, coursing, trotting, cricketing, billiards, and preaching down labourers' wages, and the poor labourers are ground down to the lowest poverty with 9*s.* and 10*s.* a week for a man to support himself and his wife, and perhaps young family, and house rent. Reflect on this you who can afford to enter into the above sports and pastimes. I see in this county men eating dry bread and an onion for breakfast and dinner too. Let me remind all oppressors of labourers that if the labourers are not soon to be better paid and more cared for, the British farmers will soon know the want of men to do their work. Treat the hard working man well and he will in return be grateful and do you justice. *F. L. O.*

*Good Farming in Norfolk.*—In a late impression Mr. Wilkins speaks of the good farming of a certain gardener. Will you allow me to say that I believe there are many gardeners now farming for their respective employers who would be glad to send you their experience, but they are afraid of being thought presumptuous. I, like many more, believe that the writers in the *Gardeners' Chronicle* have done much for the improvement of agriculture. By the experience of practical men others learn: will you allow me to say a few words on what a gardener can accomplish by perseverance? It will be ten years ago next January I engaged to my present employer as gardener and bailiff, and to superintend the estate buildings, &c. In the month of February I was shown over the property by my employer. I expressed my disappointment to see in this county such moderate farming as on this estate "Can you get the tenants to improve?—times are low, and the rents not easily paid?" was the question. I answered, "There are two things can be done to benefit both landlord and tenant—fell the Ash timber on the arable lands, and keep down the game." The Ash timber still stands, but the game was immediately got down to a moderate stock. It is now the remark of all who have known this property for many years, they see nowhere more improvements. The stimulant to these improvements was thus accomplished: I inspected every field upon each farm yearly in the months of July and August, gave a correct report to my employer of each crop, the state of the farming, the appearance of the stock, and also the premises. The tenants immediately begun to stir themselves—artificial for Turnips, salt for Mangels, guano for Wheat used, the weeds looked after and destroyed; and now these farms are not like the same, the rents higher, and the same tenants satisfied and doing well. Looking over the estate at that time we came to a track of 500 acres of Fen land, partly under water. My employer said, "Look here, can you do anything with this, for I often wish I was without this track of miserable land," then let for 2*s.* 6*d.* and 7*s.* 6*d.* per acre, but so often were the crops washed away, the landlord got but little rent. I got consent, and immediately set to work, put up an embankment over a mile in length next to a river, the high-water mark of which is higher than the level of the land, put down a 6-horse power fixed engine, to pump the water out of the drains when required—this costs working upon an average 20*l.* a year. The final of this improvement is the 500 acres now lets readily for 20*s.* per acre, and now grows fine crops of Wheat, Oats, Beans, Mangels, and this season I have four acres of good Flax thereon,—total cost, 1300*l.* Another tract of 150 acres was shown me full of pit holes and covered with stunted trees and brushwood of but little value except for cover for game. This land I said was a disgrace to this county, and as regards game it will be equally as good cover when cultivated. I got consent to reclaim 50 acres of this. It has been under cultivation six years, and produces fine crops at the rent of 18*s.* per acre, the cost of reclaiming the trees, &c., paid for. Again I was to go into farming, which I did not object to, but was to farm some very bad land, black sandy soil, the very worst of land to cultivate profitably; the rent I was to clear 10*s.* an acre, 2*s.* an acre more than formerly. Suffice it to say the first year I took a prize at the Root Club for white Turnips, the second year sold the Barley to the maltster at the top price; four years afterwards my employer was offered 20*s.* per acre for the home farm, which I reluctantly gave up. The same tenant has it now and is very well satisfied with his bargain. During the time these things were carried out I had to superintend large kitchen and flower gardens, hot-houses, &c. I fear I have written what some people may think to extol myself, but my object is to show what a gardener can do taken by the hand of his employer, and I humbly beg to say that gardeners are the very men to improve bad land, and show farmers how land should be cultivated. In my opinion farms ought to be, as some in almost every county now are, managed like a good cultivated gentleman's garden. *F. L. O.*

*Climate of Scotland.*—The following remarks by Mr. Milne Home at a recent meeting of the Scottish Meteorological Society appear to me to deserve publication in your Paper:—He said that after ascertaining the mean temperature at 26 stations over Scotland, the average over the whole of Scotland for the whole year was found to be 47°, which agreed very nearly with Humboldt's isothermal line of 47°, which passed through the south of Scotland, but, according to these returns, it would pass a little more to the north. With regard to the means of months, the coldest month appeared to be January. In England, France, and other countries the extreme of cold appeared to be attained in the second week of January; in Scotland it was the last week of January, and last year it was the first week of February. The warmest month would appear to be August, thus differing from other countries where the warmest month was July. The mean range of temperature between the coldest and warmest month was 22°, being considerably less than it was in England and other countries. A marked difference was observable between the stations on the sea coast and those in the interior. In the coast stations the temperature was 1° or 2° warmer than the inland stations in winter, and 1° or 2° colder in summer. The average temperature of the whole was 46.4 in the inland and 46.9 in the coast stations. The progress of the seasons was also greater in the inland than in the coast stations, and the change of temperature was much more rapid. In winter, the warmest part of the country was the northern, and the coldest was the southern, as, for instance, in winter their warmest station was Sandwick in Orkney, and the coldest was Bowhill in Selkirkshire, the mean temperature in winter of the one being 39.5, and of the other 32.5. In summer the warmest place was Dalkeith, where the mean was 61.2, and the coldest was Sandwick, where the mean was 55.7. Sandwick was the station therefore which showed the smallest mean range of temperature, being only 16.2. The chief circumstance that affected the temperature of Scotland was its large proportion of sea coast in comparison to the area of the country, and the consequent proximity of that area to the sea. The atmosphere of Scotland derived its temperature from two causes—namely, from its contact with the sea, and

from the vapours communicated to it from the sea. The sea attained its greatest heat in August and September, and its greatest cold in March—thus showing that it was proximity to the sea which retarded the periods of greatest heat and cold in Scotland. It was found that the sea was warmer in winter on the west than on the east of Scotland, and still warmer on the north of Ireland—thus bearing out the theory of Humboldt and others as to the Gulf Stream striking on our west coast. The mean range at the inland stations was 21.1; at the coast stations, 20.5; and in the temperature of the sea, 14.2. The state of the soil also contributed in an important degree to the state of the temperature; and he need only refer to the fact that it had been found on their noble Chairman's estate that the effect of drainage and deep ploughing was to raise the temperature of the land about 3° to 4° at a height of about 700 feet above the level of the sea. They were aware that the temperature had an important bearing on the tables of the Registrar General—that in a severe winter, for instance, the mortality increased. There was also many ailments for which an equable climate was required, and invalids were frequently sent to Torquay, Hastings, and the Isle of Wight for the sake of warmth and an equable climate. If physicians were desirous of ascertaining where these benefits might be best enjoyed in Scotland, they ought to consult the tables of Mr. Everett. He had mentioned Sandwick as a place remarkable for an equable temperature, and here the temperature of winter was slightly higher than at Hastings or Torquay, and the range of temperature was much less, being only 16°. But the most important subject on which this had a bearing was agriculture. A theory was started some years since by continental writers, that it was only necessary to ascertain the amount of heat required to ripen any plant, and the temperature of any given locality, to know whether it would grow in that locality. That theory was to a certain extent proved by the circumstance that in the south of England, with a temperature of 60° during the four summer months, Wheat ripened in about 120 days. In Yorkshire, where the temperature was lower, it took a longer time, and in Scotland still longer, owing to the deficiency of heat; but, by multiplying the days and degrees of heat, they were able to ascertain whether in any given country it would be possible to introduce new cereals with advantage. There were several anomalies in this matter which could be explained by the investigations of Mr. Everett. It was said by the writer of an English agricultural journal that in the south of England, Wheat would not grow at 700 feet above the level of the sea, as the mean temperature at that height, 57.5, was too low; but in East Lothian the average summer temperature was below 57°, and the only way in which they could account for Wheat ripening there at a temperature which did not ripen it in the south of England, was that in East Lothian the day was longer in Midsummer by one hour and twenty minutes than it was in the south of England; and that in Inverness, where Wheat grew at a still lower temperature, the day was nearly two hours longer, and the plant had therefore a longer continuance of solar heat. As he already stated, their noble Chairman had been enabled to grow Wheat at 700 feet above the level of the sea, having raised the temperature of the soil several degrees by draining and deep-soil ploughing. *M. S.*

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*Harvest Prospects.*—The following paragraphs were received too late to publish with the other reports:—

BEDFORDSHIRE.—Wheat, under average; Barley, average quantity, but thin grain; Oats, good; Beans, average; Peas, average; Turnips, good; Mangels, good; Potatoes, very bad; pasture, good. *William Lavender, Biddenham, Bedford.*

BERWICK.—Wheat, average; Barley, average; Oats, part good but general crop under average; Beans, poor crop; Turnips late and unpromising; Mangels, good in the few cases where a plant was obtained; Potatoes good, taint just showing; pasture generally deficient. *John Wilson, Edington Mains, Chirnside, Berwickshire.*

COUNTY DOWN.—Wheat barely an average in quantity, quality fine. Barley under an average. Oats not more than two-thirds of an average. Beans scarcely an average. Peas little grown here. Turnips have suffered much from drought, but have recovered beyond expectation since we had rain; can scarcely become a fine crop. Mangels, same report as of Turnips. Potatoes good beyond all expectation; disease is attacking the haulm, but has not yet reached the tubers. Pasture wretched.

COUNTY TYRONE.—Wheat, one-fifth below the usual average; Oats, one-third below, or less than the anticipated or expected average; Turnips, one-third less than the ordinary average yield; Potatoes, one-fifth less than the expected yield, the word average not applying fully from the ravages of "blight" in former years being so variable; pasture, generally defective and dried up on all high lands; hay, one-quarter less than average. All the above deficiency arises in my humble opinion from the excessive drought we experienced in the spring and summer. *James Knox, Strabane, Tyrone.*

ESSEX.—The Wheat will be a full average crop; the quality will however be very variable most of it is housed well, and great bulk of straw. Barley is a heavy crop, but the malting quality is sprouted and very thin. Oats a full crop, and quality good. The Winter Beans defective were prematurely cut down, many pieces that were left producing an average crop. Common Beans are good. Grey and Dun Peas a good crop and well secured. Turnips plant well and are healthy, save where attacked by caterpillars. The Mangel Wurzel is generally very good, and a larger breadth than usual. Potatoes all diseased more or less, but for the most part slightly, and does not appear to increase. Pastures very bare from absence of rain; second math of Clover slight. *Robt Baker, Writtle.*

NORTHAMPTON.—Wheat, bulky in the fens, much of light quality, average; Barley, ripened prematurely, not much of first quality, full average; Oats, good quality, above average; Beans; winter Beans blighted, spring Beans average, Peas, full average; Turnips, good plant; Mangels, good plant; Potatoes, not much disease, very promising; pasture, hay a large crop, pastures getting scanty from dry weather. *John Whitwell, Peterborough.*

OXFORD.—Wheat, fair average; Barley fair average, but thin in berry; Oats, fair average; Beans, good; Peas, good; Turnips, good; Mangels, good; Potatoes, small, and show symptoms of disease; pasture, very much burnt up. N.B. A vast amount of all kinds of corn wasted on the ground owing to the shortness of labourers. *Samuel Druce, jun., Abbey Farm, Eynsham, Oxford.*

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## Notices of Books.

*The Form of the Horse, as it lies open to the Inspection of the ordinary Observer.* By James C. L. Carson, M.D. W. Robertson, 23, Upper Sackville Street, Dublin.

The substance of this small octavo volume appeared originally in a series of letters to the *Londonderry Standard* 10 years ago. With the exception of a few pages at the end on Breeding, the book is exactly described by its title; each chapter and section is a detailed examination of the right shape, position, and dimensions of the different parts of the animal in succession.

The following passages illustrate the manner in which the task is performed.

"*The Chest.*—Let it be particularly observed, moreover, that even in the draught-horse the chest should be deep as well as round, in order to afford sufficient space for lungs of the proper magnitude. Depth of chest is not so much sought after as it should be in the cart-horse; and hence it is no unusual thing to see people breeding from animals which are very faulty in this particular. A horse with a shallow chest is not desirable for any purpose.

"The reason of all this is very obvious, for, as Mr. Youatt observes, 'the circular chest could not expand, but every change of form would be a diminution of capacity,' because 'the circle is a figure which contains more than any other of equal girth and admeasurement.'"

"*The Fore-Leg.*—The part included between the knee and the pastern is called the leg. It is composed entirely of bone, skin, sinew, and ligament. There are no muscles attached to it, and, consequently, it acts merely as a lever for the support and propulsion of the machine. I have already alluded to the erroneous opinion which connects the idea of strength in the entire limb with the thickness of the bone under the knee. I might even go farther, and assert that a moderate-sized shank-bone is the best, provided its extremities are sufficiently expanded for the attachment of ligaments.

"Large muscles and moderate-sized bones are a sure indication of an active temperament, and *vice versa*. The tissue of the small bone is dense and firm, whereas in the large one it is light and spongy. Does any person ever think of comparing the ideas which he entertains regarding the proper size and proportion of the leg in the man and the horse? Are large bones immediately above the ankle and wrist-joints ever taken as indications of the strength and mettle of the man? Certainly not. They are generally found largest in men of soft, flabby constitutions. Let any person take a look at the likeness of some of the pugilistic champions of England, and he will certainly admire the smallness of his bones, when compared with the enormous muscles of his legs and arms. Has it not always been thought a point of great beauty that the bone above the ankle-joint should be small, and the ball of the leg large? And is not this conformation generally found in persons of tight, wiry, active, and indomitable constitutions? What reason is there, then, for wishing to see a fine shank-bone in the man, and a thick one in the horse? On what principle could we argue for the difference? I confess I never could see the advantage of having the body of this bone large in the horse; and there are not many, I imagine, who would admire the human leg, with the thick end of it next the ground."

We conclude with a passage on *Breeding*:—"There is not the slightest foundation for the strong prejudice which exists in the public mind against in-and-in breeding. Many of the best horses, as well as the best short-horned cattle, we have ever had, were very much and closely in-bred. To a certain extent this was unavoidable, when the studs and herds were first formed; but it makes little difference whether it was the result of necessity, or of choice. It has fully established the immense advantages of breeding in-and-in, when the stock is of the right sort; indeed, I can see no other possible way of retaining the perfections of any particular strain than that of returning frequently to the same blood.

"We must be careful, however, to observe that the individuals we select to breed from are as near perfection as possible, both in themselves and their ancestors. We will thus secure the transmission of their good qualities. On the other hand, if there is any special defect, it will be sure to pass down, when it is thrown in-and-in, and will hardly ever be got rid of. I think it is owing, in a great measure, to want of attention to this rule, that there is so much prejudice against close breeding. It will succeed only when the good qualities bear an immense preponderance over the bad ones.

"Experienced breeders very properly place great reliance on blood. In short, this just amounts to the fact, that good and bad qualities are all hereditary. "Like begets like." No person ever saw a Clydesdale foal got by a blood-horse out of a blood mare, or a short-horned calf by a long-horned bull out of a long-horned cow. Such a thing is never expected. If, then, these general characteristics are invariably transmitted, we not some reason at least to conclude, that all are hereditary. In fact, that the offspring will inherit either in whole or in part, the most trifling peculiarities of their ancestors, sometimes taking more after the parent, and sometimes more after the other, or in a mixture of both, as the case may be. Whatever peculiarities are—whether soundness, disease, temper, softness, strength, durability, speed, wind, any other thing—they pass down from generation generation.

"We should, by all means, keep to the good blood, but, at the same time, we must be careful to select best specimens of that blood, if we wish to attain high success. It is owing to a strict perseverance this plan that Mr. Booth now occupies an unrivalled position as a breeder of short-horned cattle. He not only kept to the right strain, but he also invariably selected the best specimens of that blood for his own use, and refused to part with them at any price. This was a wise course, and the consequence is, his stock now so highly prized, that he can command the market as he pleases. The fact of its having been bred by Booth is now sufficient to create a demand for any animal."

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## Farm Memoranda.

INGLISMALDIE, KINCARDINESHIRE.—We (*Builder's Journal*) had the pleasure of being shown by the tenant a farm-stead in Kincardineshire, lately erected by the Earl of Kintore on his property at Inglismaldie. We should think it is one of the most extensive and commodious in Scotland. It is capable of accommodating from 230 to 250 cattle, 130 of which can be tied up. We saw upwards of 100 fat cattle in it—many of them very superior—feeding upon Potatoes and a little bruised grain. We were told that upwards of 1500 bolls of Potatoes had been used for feeding cattle during the season. The steading covers an imperial acre of ground, the whole extent being roofed in, and slated with Welsh slates. There is a covered dung pit 6 feet below the level of the floors, and 100 feet by 30 in extent, into which all the liquid from the cattle falls and is retained amongst the manure. The steading is intersected by six lines of railway, on which waggons are used for carrying Turnips from the sheds to the cattle. A waggon runs along a line in front of each of two rows of tied beasts, loaded with wooden boxes containing Turnips or other food. It is very easily pushed along by the cattleman, when he empties the boxes before the cattle as he proceeds. Another line of rails passes behind each two rows of cattle where waggons are also used for carrying the manure to the dung-pit. In all, there are 600 yards of double rails for feeding, and 300 yards for removing the dung. There is very little mason-work in the shape of internal divisions in the steading, the roof being all supported by wooden and iron pillars. The state of temperature and ventilation can easily be made manifest by the fact, that, by taking a position in one of the doors between the stalled and court cattle, without shifting, a view can be got of the whole stock. So convenient is the arrangement that one man could easily attend to 100 beasts. The stable for the work horses is a most magnificent affair. It is 18 feet wide, a great height, with no lofting, contains 20 stalls fully 6 feet wide each, a hay barn in the centre; and a harness-room, 6½ feet wide, runs the whole length behind the horses, where all the harness is kept, and also horse corn chests. The horses are a splendid lot, having cost from 50*l.* to 70*l.* each. The manure from the stable is moved along one of the lines behind the cattle to the dung-pit. There is also 130 feet by 16 of Turnip houses; and a straw barn 120 by 20 feet in extent. Then there are a Potato house, artificial manure store, riding horses' stable, cow byre, calves' house, also a very complete steaming apparatus by Smith & Co., Glasgow, said to do its work in 20 minutes. There is 240 feet of granary lofts, 20 feet wide. On one side is a splendid row of cart sheds, all neatly arched. We were told this magnificent steading was erected at a cost of 3030*l.* exclusive of carriages. There was lately erected by Clayton & Shuttleworth's improved threshing and dressing fixed machines. The engine is a most complete and finished piece of workmanship, the cost being upwards of 400*l.* The whole steading was planned by the enterprising tenant, D. Dickson, Esq., Laurencekirk, and does great credit to his skill, ingenuity, and intelligence. We had likewise the pleasure of visiting another steading, also erected by Lord Kintore, on a out-farm of about 300 acres, tenanted by Mr. Scroggie, Auchcairnie. It is not nearly so extensive as the former, but is built on the same principle—is very neat and commodious—cost about 1000*l.* There is a dung pit also covered, 4 feet deep. The steading is divided into parts by a broad space, which is used as a Turnip shed; it forms two large and comfortable courts for loose cattle; the feeding cattle are very conveniently tied up around the sides of the dung-pit: there is a passage in front of the cattle for feeding them; and in cleaning them, the cattleman has nothing to do but walk along and throw the manure over a railing about three feet high. Mr. S. told us that, after some experience, he was convinced that, by having his manure trampled down by the loose cattle, with all the liquids retained and freed from rain, snow, and the effects of the atmosphere, it was worth 50*l.* a year additional. Is there not a hint here to the intelligent and enterprising farmers of Aberdeen and Banff shires, who, we think,

are in general very much behind in the management of their manures?

## Miscellaneous.

*Sheep Breeding.*—There are few persons, perhaps, aware of the circumstance that this is a branch, looking at it relatively, looking at it positively, which is of immense importance to our country. Permit me to state, upon the authority of one of the most able writers we have met with in this country—I mean the celebrated statist, Mr. Macqueen—that there are not less than 48,000,000 head of sheep in the United Kingdom. Just fancy the importance in a national point of view of carrying to the highest possible point of perfection the improvement of these 48,000,000 of sheep, yielding 246,700,000 lbs. of wool. And remember again, gentlemen, for it appears almost incredible, that the capital invested in this stock amounts to 66,573,335*l.*, according to Mr. Macqueen. Permit me also to state that the value of the wool grown in this country, leaving out fractions, is not less than 14,000,000*l.* per annum. Permit me further to state that the importation of foreign wool does not amount to more than 4,000,000*l.* So that out of the 18,000,000*l.* sterling worth of wool used by this country, which employs no less than 1,250,000 manufacturers and operatives, the large proportion of 14,000,000*l.* worth is provided by our agriculturists, thus affording means for the employment of labour, the investment of capital, and the increase of the wealth of this country. Allow me to say that we are deeply indebted to the sheep breeders of England, and to them is due every honour for thus adding to the common wealth of the United Kingdom. Well then, gentlemen, you have in that class such names as the Duke of Richmond, Mr. Jonas Webb, Mr. Rigden, our excellent friend Mr. Harding, and our honourable friend on my left, who has lately come with all his honours blushing about him, Mr. Wood. When, again, I look at the Vice-president, whose shelf is not wide enough for the number of cups he has won, I ask permission, honestly and conscientiously, to say that I do believe such men are not merely entitled to the passing thanks of the present moment—they are not merely entitled to those honours that old Dorset can offer, but I do believe they ought to be considered as benefactors to their country. *N. Yeatman, at Mr. Harding's Sale of Southdowns.*

## Calendar of Operations.

### AUGUST.

South Essex: *Aug.* 22.—The gleaning of Wheat is chiefly ended, and the threshing results are satisfactory, which augurs well for the main crop. Since the more general destruction of predatory birds and rats and mice in this district, where they have become a pest, the poor gleaner's prospects have been much more encouraging; and we find it necessary to have our Barley and Oat edishes gleaned where Clover is sown, as since the partial annihilation of birds, &c., Clover crops in spring have proved too much choked with self-sown corn, so as to render the stover unsaleable except at too reduced a price. This, however, pays well, and finds employment for workmen's wives and children after their Wheat gleaning is over. A half acre a day is considered a fair stint for one woman to glean over at half a bushel of corn for her employer. All this would otherways be lost where sufficient stock cannot be conveniently kept to stack it. A few more days and harvest operations will be completed hereabouts, and we shall, if fine weather continues, immediately set about in good earnest Bentalling (broadsharing), or shallow ploughing our foul Wheat and stubbles and burning them. This is a most important work on heavy lands at this season whilst it is dry. *Maldon, Essex.*

## Notices to Correspondents.

Alopecurus: *A B.* If the mixture, as we gather from your note, is to renovate an old but poor pasture, the *Alopecurus agrestis* will ultimately be of little importance, provided you adopt such expedients as rolling, harrowing, and manuring, as then it can hold no way in a good and matted turf—whatever therefore tends to better the turf will kill this Grass from it. In arable land too whatever tends to good farming overcomes this Grass in a short time. *J B.*

Drill Ploughs: *W H.* Drill ploughs containing in the framework behind the mould-board a hoe and drill for sowing Beans, or Beans in their wake are not uncommon. A very good one was shown at the Hull meeting of the York Society, by Charles Lambert, Sunk Island, Hull.

Flock of Lambs: *J Desfarges.* The mischief probably arises from impure water and perhaps too great deprivation of it at first, and too great profusion afterwards, or from impure or damaged food. You cannot do better than give them oil of turpentine and Linseed-oil; the former sparingly, the latter more freely. Linseed-cake may also be given as food. *W C S.*

Food for Cattle: *J G., Bury St. Edmunds.* We quite agree with you that there can be no profit in buying cattle food at 4*s.* to 5*6s* per cwt. We have repeatedly during this year called attention to the enormous charges thus made for what as food we believe to be worth no more than mixed Beans and Linseed-meal.

Grass Land: *Subscriber* says: "I have about 20 acres of arable land 10 miles from London in three fields, upon which I think of building a house, but wish first to have them in permanent Grass. No. 1 (gravel), Potatoes, 3 acres; 2 (clay), Clover and Turnips, half of each, 12 acres; 3, Wheat, 5 acres. I wish to know the best mode and proper time to carry out my views and the probable cost per acre for each field. Nos. 2 and 3 are not pipe drained, but lie well for drainage." You should drain the land first, which may cost 4*l.* or 5*l.* an acre. Feed your Turnips over the stubble, and plough all up and clean it thoroughly and then sow with a light crop seeding, say 1 bushel per acre of Barley. In the spring the following mixture: For clay land—Aira cæspitosa lutescens, 1 lb.; Alopecurus pratensis, 3 lbs.; Dactylis glomerata, 3 lbs.; Festuca duriuscula, 2 lbs.; F. heterophylla and F. elatior, 2 lbs.; F. loliacea, 2 lbs.; F. pratensis, 3 lbs.; Lolium perenne, 6 lbs.; L. natura, 4 lbs.; Phleum pratense, 3 lbs.; Poa trivialis, 3 lbs.; P. nemoralis, 2 lbs.; Medicago lupulina, 1 lb.; **Trifolium pratense perenne, 4 lbs.; T. repens, 5 lbs.** On the lighter soil leave out Aira, Arrhenatherum, Festuca elatior and loliacea, and Phleum, and sow one-half the quantity of Alopecurus, and add 2 lbs. of Festuca rubra. You had better read Lawson's pamphlet, "Agrostographia," and Mr. Thompson's paper on Grassland management in the last volume of the English Agri Society's Journal.

Meteorological Investigations: *Meteorites.* The offer has been made by the Society for two years, and no Essay has been forthcoming. Mr. Curtis is the person you suppose.


THE PLOUGH TRIALS AT WARWICK.

# HOWARD'S CHAMPION PLOUGH

**Gained the FIRST PRIZE as the Best Plough for General Purposes at Warwick,**

BEING the CHIEF PRIZE for PLOUGHS, awarded by the Royal Agricultural Society of England, at this Meeting. The importance of this Prize will be gathered from the fact that the GENERAL PURPOSE PLOUGHS are the only ones tried on BOTH LIGHT AND HEAVY LAND, and as HOWARD'S CHAMPION PLOUGH proved itself to be the best on both soils, the FIRST PRIZE, of the HIGHEST AMOUNT given by the Society for any kind of Plough, was awarded to J. & F. Howard.

PRIZES awarded to J. & F. Howard, by the Royal Agricultural Society of England, at the WARWICK MEETING, 1859, being not only the LARGEST NUMBER of PRIZES, but the LARGEST NUMBER of FIRST PRIZES awarded to any Exhibitor.

THE FIRST PRIZE FOR THE BEST PLOUGH FOR GENERAL PURPOSES, ALSO A PRIZE FOR THE BEST PLOUGH FOR LIGHT LAND, AND A PRIZE FOR THE BEST PLOUGH FOR HEAVY LAND; THE FIRST PRIZE FOR THE BEST LIGHT HARROWS, THE SECOND PRIZE ALSO FOR THE BEST LIGHT HARROWS, AND THE FIRST PRIZE FOR THE BEST HEAVY HARROWS.

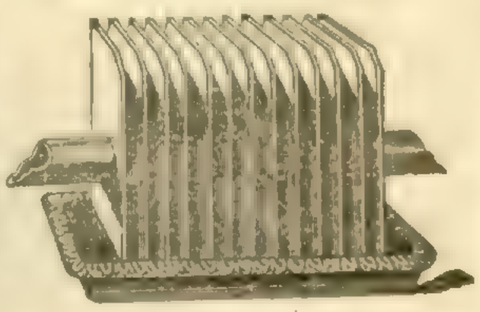
**Every one of HOWARD'S Implements, tried at Warwick, gained a Prize.**

CATALOGUES, with full particulars, sent post free on application to

**J. & F. HOWARD, BRITANNIA IRON WORKS, BEDFORD.**

IMPROVED HOT-WATER PIPE.

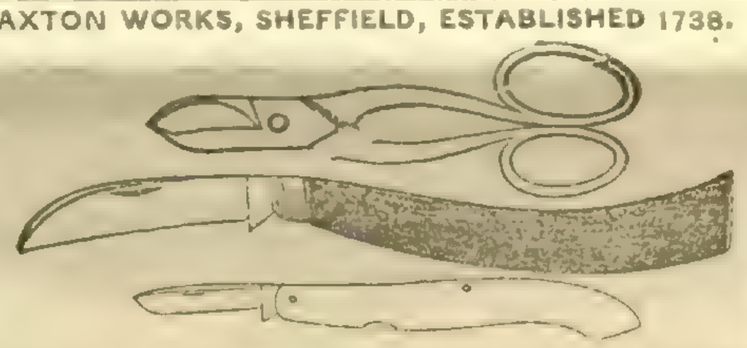
THE HORTICULTURIST will find herein an inexpensive instrument of new and very important powers. An atmosphere may be produced at will either perfectly dry, partially damp, or saturated with moisture. A space of 10 inches by 12 inches contains the power of 25 feet of 4-inch pipe and other numerous advantages.



The London Warming and Ventilating Company (Limited), 26, Great George Street, Westminster, S.W.

DAVIS'S WIREWORK MANUFACTORY, 135, King's Road, Chelsea, S.W. (Established 40 years).—The nobility and gentry are respectfully informed that the Executors of the late Mr. John Davis continue to carry on the above extensive works as heretofore, where every article of WIREWORK is manufactured in the very best manner; also every description of Wire and Iron Fences, Pheasantries, Aviaries, and Roseries on the most approved principles, fixed and erected by competent workmen in every part of the Kingdom. Every article requisite for Lawn, Conservatory, Drawing-room, and Garden supplied at the lowest prices possible. Orders attended to with punctuality and dispatch.

PAXTON WORKS, SHEFFIELD, ESTABLISHED 1738.



SAYNOR AND COOKE'S warranted PRIZE PRUNING and BUDDING KNIVES, SCISSORS, &c.—Sold by all respectable Nurserymen and Seed Merchants in the three Kingdoms.

MAPPIN'S PRUNING KNIVES IN EVERY VARIETY.
WARRANTED GOOD BY THE MAKERS.

MAPPIN BROTHERS, Queen's Cutlery Works, Sheffield; and 67 & 68, King William St., London, E.C.

MAPPIN'S "SHILLING" RAZORS Shave well for Twelve Months without Grinding.

MAPPIN'S 2*s.* RAZORS Shave well for Three Years.

MAPPIN'S 3*s.* RAZORS (suitable for Hard or soft Beards,) Shave well for Ten Years.

MAPPIN'S SUPERIOR TABLE-KNIVES maintain their unrivalled Superiority—handles cannot possibly become loose—the blades are all of the very first quality, being their own Sheffield manufacture.

| | Tble. Kns. | Dst. Kns. | Carvers. |
|---|---|---|---|
| Ivory 3¾ in. Handle, balanced, | 20*s.* p. doz.; | 16*s.* p. doz.; | 6*s.* p. pair |
| Do. 4 in. do. .. | 25*s.* ,, | 18*s.* ,, | 9*s.* ,, |

MAPPIN'S SILVER-PLATED DESSERT KNIVES and FORKS, in Mahogany Cases.

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|---|---|---|
| 12 Pairs Knives and Forks, | Ivory Handles, in Case.. | 80*s.* |
| 12 Do. | Pearl Handles, do. .. | 130*s.* |
| 12 Do. | Silver-Plated Handles, do. .. | 80*s.* |

MAPPIN'S ELECTRO-SILVER PLATE.—MAPPIN BROTHERS, Manufacturers by Special Appointment to the Queen, are the only Sheffield makers who supply the consumers in London. Their LONDON SHOW ROOMS, 67 and 68, King William Street, London Bridge, E.C., contain by far the largest STOCK of ELECTRO-SILVER PLATE in the World, which is transmitted direct from their Manufactory, Queen's Cutlery Works, Sheffield.

| | Fiddle Pattern. | Double Thread. | King's Pattern. |
|---|---|---|---|
| 12 Table Forks, best quality | £1 16 0 | £2 14 0 | £3 0 |
| 12 Table Spoons, best quality | 1 16 0 | 2 14 0 | 3 0 |
| 12 Dessert Forks, best quality | 1 7 0 | 2 0 0 | 2 4 |
| 12 Dessert Spoons, best quality | 1 7 0 | 2 0 0 | 2 4 |
| 12 Tea Spoons, best quality | 0 16 0 | 1 4 0 | 1 7 |

Messrs. Mappin Brothers respectfully invite buyers to inspect their unprecedented display, which, for beauty of design, exquisite workmanship, and novelty, stands unrivalled. Their Illustrated Catalogue, which is continually receiving addition of New Designs, sent per post on receipt of 12 stamps.—Mappin Brothers, 67 & 68, King William Street, London Bridge, E.C.; Manufactory, Queen's Cutlery Works, Sheffield.

GLASS FOR ORCHARD HOUSES & CONSERVATORIES.

JAMES PHILLIPS AND CO. beg to submit their prices of GLASS for the present month.

SHEET GLASS, in Crates, of superior quality, 16 oz. to the foot.

| | Best. | Seconds. | Thirds. | Fourths. |
|---|---|---|---|---|
| | 5½*d.* | 3¾*d.* | 2¾*d.* | 2¼*d.* |
| 21 oz. | Best. | Seconds. | Thirds. | Fourths. |
| | 7¼*d.* | 5*d.* | 3½*d.* | 3*d.* |

Packed in 200 feet cases, 16 oz. .. .. .. £2 2 0
Packed in 300 feet cases, 16 oz. .. .. .. 3 0 0
Packed in 200 feet cases, 21 oz. .. .. .. 2 18 0

ORCHARD HOUSE SIZES, as supplied by us to Mr. Rivers.

| | | 16 oz. | 21 oz. |
|---|---|---|---|
| 20 in. by 12 in. / 20 in. by 13 in. / 20 in. by 14 in. / 20 in. by 15 in. | Common .. .. .. | 14*s.* 0*d.* .. | £1 1*s.* |
| | Superior do. .. .. | 16 6 .. | 1 5 |
| | English Glass .. .. | 18 0 .. | 1 9 |

Boxes included and not returnable.

SMALL SQUARES.—Per 100 feet. *s. d.*

| | | | | |
|---|---|---|---|---|
| 6 by 4 | 6½ by 4½ | 7 by 5 | 7½ by 5½ | 11 6 |
| 8 ,, 6 | 8½ ,, 6½ | 9 ,, 7 | 9½ ,, 7½ | |
| 10 ,, 8 | 10½ ,, 8½ .. | .. .. | .. .. | 12 6 |

HORTICULTURAL GLASS, in Squares, cut to specific sizes.
16 oz. per foot, from 2*d.* to 3½*d.* | 26 oz. per foot, from 3*d.* to 7½*d.*
21 oz. ,, ,, 3 ,, 5 | 32 oz. ,, ,, 4 ,, 9½
Special prices quoted for large or specific quantities.

AGENTS FOR
HARTLEY'S PATENT ROUGH PLATE GLASS.
PAINTS.

Genuine White Lead, Linseed Oil, Boiled Oil, Turpentine, Putty, Colours, Varnishes, Brushes, &c.

JAMES PHILLIPS AND CO.,
**180, Bishopsgate St. Without, London, E.C.**
No Connection with any other House in Town.

HORTICULTURAL GLASS—JUNE TARIFF.

THOMAS MILLINGTON'S reduced Tariff of GLASS, &c.

6 by 4, 7 by 5, 8 by 6, 9 by 7 } 16 oz. to the foot, 11*s.* 6*d.*
6½ by 4½, 7½ by 5½, 8½ by 6½, 9½ by 7½ } per 100 feet.
In 100 boxes,—4ths quality, 12*s.* 6*d.*; 3ds do., 14*s.* 4*d.*
10 by 8, 12 by 9, 12½ by 10½, 14½ by 10½, 13 by 11
10½ by 8½, 12½ by 9½, 13 by 10, 15 by 10, 13½ by 11½
11 by 9, 13 by 9, 13½ by 10½, 12 by 11, 14 by 11
11½ by 9½, 12 by 10, 14 by 10, 12½ by 11½

| | per 100 feet | 16 oz. | 21 oz. |
|---|---|---|---|
| 20 by 12 / 20 by 13 / 20 by 14 / 20 by 15 | Common .. | 16*s.* .. | 24*s.* |
| | Superior . | 18*s.* .. | 27*s.* |

All Boxes included.
Orchard House sizes as supplied to Mr. Rivers.
Hartley's improved Rough Plate Glass from ⅛ to ¾ in thickness.
Coloured Glass in great variety, at 9*d.* and 1*s.* per foot.
Paints, Genuine White Lead, Linseed Oil, Boiled Oil, Turpentine, Putty, Colours, Varnishes, Brushes, Lamp Glasses, &c.
87, Bishopsgate Street Without, E.C., same side as Eastern Counties Railway.

GLASS FOR CONSERVATORIES, ETC.

HETLEY AND CO. supply 16-oz SHEET GLASS of British Manufacture at prices varying from 2*d.* to 3*d.* per square foot for the usual sizes required, many thousands of which are kept ready packed for immediate delivery.

Lists of Prices and Estimates forwarded on application, for PATENT ROUGH PLATE, THICK CROWN GLASS, GLASS TILES, and SLATES, WATER-PIPES, PROPAGATING GLASSES, GLASS MILK PANS, PATENT PLATE GLASS, ORNAMENTAL WINDOW GLASS, and GLASS SHADES, to James Hetley & Co, 35, Soho Square, London, W.

See *Gardeners' Chronicle* first Saturday in each month.

GLAZIERS' DIAMONDS FOR CUTTING HORTICULTURAL and other GLASS, to be had of the Wholesale Manufacturer, John Edwards, 20, Sharp's Alley, West Smithfield, London, E.C. Prices from 10*s.* to 27*s.* 6*d.*

TANNED NETTING, for the Protection of Fruit Trees from Frost, Blight, and Birds; also, for the security of fresh sown seeds, at 1*d.* per square yard; 200 yards, 12*s*; 500 yards, 25*s*; Scrim Canvas, for wall fruit; Garden Mats.—At Edgington & Co's., Rick Cloth, Tent, and Waterproof Cloth Manufacturers, 17, Smithfield Bars, City, E.C., and Old Kent Road, S.E.

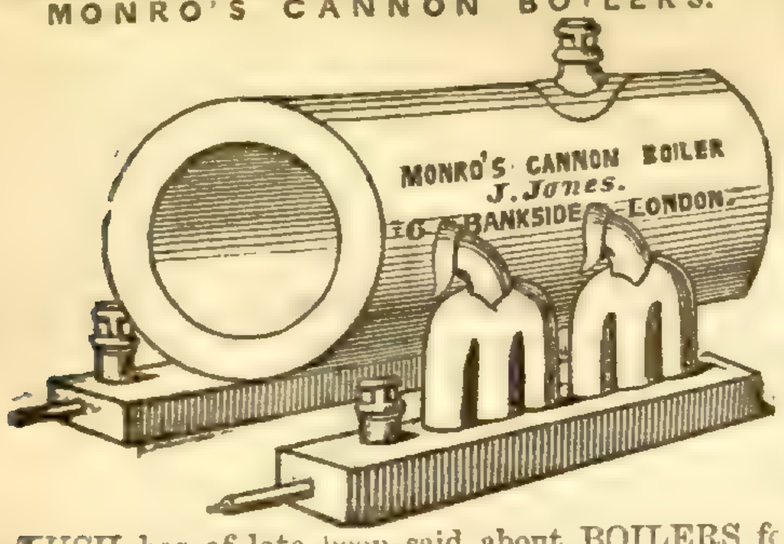
SLATE WORKS, ISLEWORTH, MIDDLESEX, W.

EDWARD BECK Manufactures in Slate a variety of articles for Horticultural purposes, all of which may be seen in use at Worton Cottage, on application to the Gardener, Sundays excepted. PRICED LISTS of PLANT TUBS and BOXES forwarded on application

VASES, PEDESTALS, SUNDIALS, FOUNTAINS, FLOWER BOXES, JARDINETS, FERN CASES, BALUSTRADES, EDGINGS AND CURBS FOR FLOWER BORDERS SEATS, &c., in Imperishable Siliceous Stone, at reduced prices, for the adornment of the Villa Garden, the Mansion Grounds, or the private or public Park.

For Priced Illustrations apply to Frederick Ransome, at the Show Rooms, Cannon Row, Westminster, S.W., or Patent Stone Works, Ipswich.

## MONRO'S CANNON BOILERS.



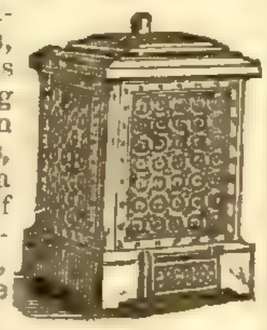

MUCH has of late been said about BOILERS for Heating by Hot Water, but these Boilers have now proved themselves to be the best at present invented. They are adapted for heating every description of building, and are made of various sizes. The Price of the

| | | | |
|---|---|---|---|
| 24-inch Cast Iron is | .. .. | .. £5 10s. 0d. | each |
| 24-inch Wrought ditto | .. .. | .. 6 10 0 | ,, |
| 36-inch Cast ditto | .. .. | .. 8 0 0 | ,, |
| 36-inch Wrought ditto | .. .. | .. 8 10 0 | ,, |

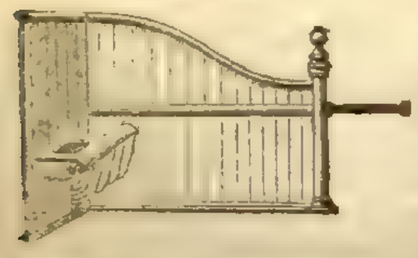
References to Gentlemen and Nurserymen where these Boilers are now at work. The Cannon Boilers are now kept in stock, and are to be had only of J. Jones, 6, Bankside. Also, every description of Saddle and Cylinder Boilers. Hot Water Pipes and Connections at prices lower than those of any other house in London. Estimates for Hot-water Apparatus erected complete in any part of the country, and an Illustrated Catalogue on application to J. Jones, 6, Bankside, Southwark, London, S.E.

## IMPROVEMENTS IN HEATING, &c.

MUSGRAVE'S PATENT SLOW-COMBUSTION STOVE, for Warming Public Buildings, Hall, Shops, Conservatories, Factories, Drying Rooms, &c. Will burn in Churches from Saturday till Sunday evening, avoiding attention during the hours of worship. In Halls will burn day and night for weeks, with little care. Capable of warming a large apartment for 24 hours, at a cost of 3d.; and deserving of special attention, because of its safety, healthfulness, durability, and extreme simplicity. This Stove is the nearest approach to warming by hot water.

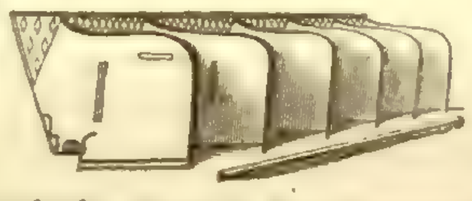


MUSGRAVE'S PATENT STABLE FITTINGS AND HARMLESS LOOSE BOXES have obtained the award of a large Council Medal from the R. I. A. Society for the following improvements:—1st, The Horse cannot injure himself or others in the same stable if he breaks loose in his stall. 2d, He cannot waste the hay. 3d, He can have cut or uncut hay at pleasure. 4th, He has clean water always before him. 5th, A pure and wholesome atmosphere is secured. 6th, The whole fittings are stronger than usual, without increase in price, and there is no risk of infection.



The Loose Box is really what its name denotes, and the most spirited Horse may be turned into it without danger.

MUSGRAVE'S PATENT IRON COW-HOUSE FITTINGS, as approved by the Board of Works, adopted in the *Ulster Model Farm*, and by many of the most eminent Stock Breeders in the Kingdom, are made wholly of iron, very durable, cleanly, and attractive in appearance. The fodder is always fresh, being freely exposed to the air, removed from the breath of the animal, and separated from the roots or damp food. The range of Troughs can be quickly filled with water for the use of the Cows, or for washing out in case of epidemic, and the cost is very moderate.



These inventions being distinguished for strength, simplicity, and practical usefulness will repay public inquiry.

MUSGRAVE BROTHERS are also Makers of Wire Fencing, Hurdles, Field and Entrance Gates, Corn Rick Stands, Conservatories, Hot-water Apparatus, Verandahs, Rural Bridges, &c.; and their works being favourably placed for cheap labour and materials, they can offer corresponding advantages in price.

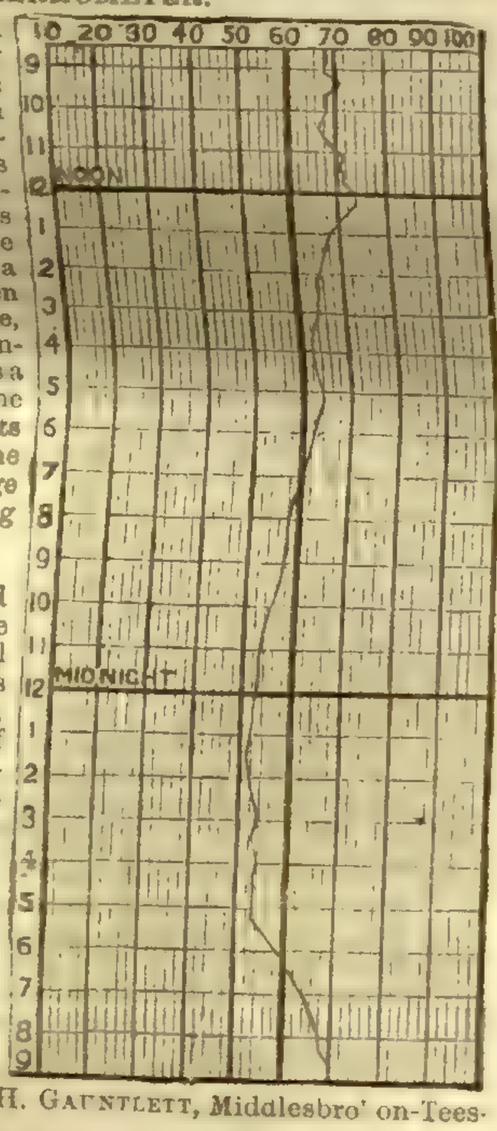
MUSGRAVE'S Patent Field Gates have gained the 1st Prize from the R. I. A. Society for strength, durability, and cheapness.

For particulars address MUSGRAVE BROTHERS, Ann Street Iron Works, Belfast.

## TO HORTICULTURISTS.

GAUNTLETT'S PATENT CHRONOMETRICAL THERMOMETER.

This instrument, which combines an eight-day clock of the best English make showing time, with a newly-patented Thermometer, wherein glass and quicksilver are dispensed with, writes down the temperature of the atmosphere on a slip of paper, and when placed in a Hothouse, Forcing House, or Conservatory, &c., supplies a valuable record of the temperature, with all its variations, showing the time when any change took place, and how long such change continued.




The above slip (reduced in size) exhibits the temperature of the Royal Agricultural Society's show yard at Chester, July 22, 1858, written off by one of these instruments, to which was awarded the Society's SILVER MEDAL.

**This is the only instrument that registers temperature continuously and writes it down, and no horticulturist should be without it.**

Orders received by W. H. GAUNTLETT, Middlesbro' on-Tees.

# WEEKS' ONE BOILER SYSTEM.

BY APPOINTMENT.

## JOHN WEEKS & COMPANY,

### KING'S ROAD, CHELSEA, S.W.,

CHALLENGE THE WORLD to produce a Boiler not made in imitation of their Upright Tubular Boiler that will produce anything like the same effect with the same quantity of fuel in a given time.

The following unequalled statistics fully justify the challenge:—

| Mark the enormous length of Houses and Piping heated by One Boiler. | Length of Houses in feet | Total length of Piping. |
|---|---|---|
| Messrs. E.G. Henderson & Co., Wellington Nursery | 1,200 | 5,500 |
| Messrs. F. A. Smith, Dulwich ... ... ... ... | ... | 11,000 |
| M. Van Houtte, Belgium ... ... ... ... ... | 3,300 | 13,000 |
| Our own Fruit Forcing Show Establishment ... | 1,000 | 7,000 |

Also the Nurseries of Mr. Woodroffe, Harrow Road, N.W.; Messrs. Rollisson, Tooting, S.; Messrs. Wood & Ingram, Huntingdon; Messrs. Wood & Son, Maresfield; together with numerous Public Buildings and Establishments of the Nobility and Gentry far too numerous for insertion.

J. WEEKS & CO., Horticultural Builders and Hot-Water Apparatus Manufacturers, King's Road, Chelsea, S.W.

PLANS AND ESTIMATES FREE ON APPLICATION.

## COTTAM & COMPY., Engineers, Founders, &c.,

2, WINSLEY STREET, LONDON, W.

A SHOW ROOM DEVOTED ENTIRELY TO ARTICLES OF HORTICULTURE.

THE NEW ILLUSTRATED CATALOGUE UPON APPLICATION.

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| Conservatories | Mowing Machines | Hand-glass Frames | Garden Engines | Flower Stands |
| Greenhouses | Fountains | Game Netting | ,, Syringes | Garden Borderings |
| Hot-water Apparatus | Ornamental Wire Work | Hurdles | ,, Rollers | Watering Pots |
| Garden Vases | Flower Stands | Garden Chairs | Flower Labels | Garden Arches, &c. |

**Iron Hurdles, Strained Wire Fencing, Game Netting, &c.**

*Every description of Plain, Ornamental, Cast and Wrought Iron, and Wire Work.*

**EXHIBITION PRIZE MEDAL GATES AND ENAMELLED MANGERS.**

N.B. COTTAM AND COY. beg to make it known that there is no longer an entrance to their establishment from Oxford Street, but that they have made a second entrance from 2, Winsley Street, Oxford Street, W., by the side of the old entrance to the works, opposite the Pantheon.

# ST. PANCRAS IRON WORKS,

## OLD ST. PANCRAS ROAD, N.W.

## IRON HURDLES, FENCING, AND GATES,

THE PROPRIETORS OF THE ST. PANCRAS IRON WORKS, OLD ST. PANCRAS ROAD, LONDON,

WERE AWARDED THE

**SILVER MEDAL of the Royal Agricultural Society for their IRON HURDLES & GATES**

which, by their peculiar construction, are more than twice as strong and durable as those in ordinary use.

Lists per post on application. Gates from 30s. to 50*l*.

**The Hurdles can be seen in process of Manufacture at the Works.**

## GAME WIRE NETTING.

## Professor Varnell's Enamelled and Wrought-iron Stable Fittings.

These Patent Mangers and Stable Fittings obtained the Commendation and the Silver Medal of the Royal Agricultural Society of England and the Royal Agricultural Society of Ireland, are adopted by the Royal Veterinary College, and Professor Spooner of that Institution states that they should be used by all who value the health and comfort of their horses. They can be had plain, galvanised, or enamelled.

A Show Room is devoted entirely to every description of Stable Furniture, and full-sized stalls and loose boxes are erected for inspection at St. Pancras Iron Works.

ADDRESS—THE MANAGERS,

ST. PANCRAS IRON WORKS, OLD ST. PANCRAS ROAD, LONDON, N.W.,

OPPOSITE OLD ST. PANCRAS CHURCH.

EARLY SHEEP FEED.

SUTTON'S IMPROVED ITALIAN RYE-GRASS has proved the best kind for general cultivation, being the most productive and hardy, growing freely in all soils.

*From* JOHN BALDWIN, Esq., *Linkingston, April* 11, 1859.

"It is certainly delightful to stroll about and witness the sheep up to their knees in your beautiful Italian Rye-grass."

*From* FREDERICK F HALLETT, Esq., *The Manor House, Brighton, March* 15, 1858

"I mowed your Italian Rye-grass at Christmas, 1856, within three months after sowing; again April 12, 1857; three times since, and am mowing it again now (March 15). The cut on April 12 was 4 feet high, and a perfect mass of Grass."

Messrs SUTTON have some seed of this sort now on sale; also new TRIFOLIUM INCARNATUM. Sow in August and September. Quantities to be sown per acre, 8 bushels.

Priced Lists post free.—Address SUTTON & SONS, Royal Berkshire Seed Establishment, Reading.

CINERARIA, HERBACEOUS CALCEOLARIA, AND HALF SHRUBBY DITTO SEED.—These have been saved from Turner's most beautiful varieties; in 1s. and 2s. 6d. packets. Primula and Hollyhock, from the newest and handsomest varieties, 1s. per packet. Agents for F. & A. Smith's splendid Cineraria, in 1s. 6d., 2s. 6d., and 5s. packets; also agents for Dobson & Son's splendid Calceolaria, in 1s. 6d., 2s. 6d., 3s. 6d., & 5s. packets.—Catalogues of the newest Flower Seeds, and newest Dutch and Cape Bulbs, sent post-paid.—BUTLER & MCCULLOCH, Seedsmen, Covent Garden Market, W C

STRONG ESTABLISHED PLANTS of the following:—

ACHIMENES Meteora, carminata, splendens, Parsonii, Gem, and other leading varieties, strong tubers and flowering plants, 6s. to 9s. per doz.

New TYDÆAS of VERSCHAFFELT, 6s. to 9s. per doz.

" " VAN HOUTTE, do. do.

" GLOXINIAS, strong bulbs, do. do.

" BEGONIA Rex, picta, miniata, hydrocotylifolia, Madame, Rayner, argentea, &c., very strong plants, 12s.

VARIEGATED PLANTS.—Croton, Hoya variegata, Dracæna, &c., 12s. to 18s.

Choice STOVE PLANTS, strong.—Allamandas, Ixoras, Æschynanthus bicolor, Stephanotis, &c., all the leading kinds, 12s. to 18s. per doz.

ERICAS, very healthy, of the leading and best, 9s. to 12s. per doz. List sent on application.

GREENHOUSE PLANTS.—Pimeleas, Dillwynias, Chorozemas, Aphelexis, Polygalas, &c., strong plants, 9s. to 12s., inclusive of the best creepers.

SEEDLING ERICAS, not flowered, raised from the finest variety, pretty bushy plants, 18s. per doz.

YOUNG SPECIMEN ERICAS AND AZALEAS, from 2 feet over and upwards. Sorts and specimens sent on application.

Also some noble specimens of Greenhouse and Stove Plants. Variegated Plants, Acacias, Camellias, &c.

EPPS's Nurseries, Maidstone and Ashford.

CUTHILL'S STRAWBERRY PLANTS will be sent out on and after August 15.

CUTHILL'S EARLY BLACK PRINCE, 5s.; selected, 7s. 6d. per 100.

CUTHILL'S PRINCESS ROYAL OF ENGLAND.—Good size, fine colour, Pine-apple flavour, great bearer, very hardy, good forcer. Per 100, 7s. 6d.; selected, 10s.

CUTHILL'S PRINCE OF WALES.—Good size, rich colour, cone shape, tremendous bearer, first rate for table and preserving. It is earlier and later than Elton on account of its numerous trusses, 7s. 6d. per 100; selected, 10s.

Dr. Lindley told J. C. that he never could depend upon having a Strawberry until he had his breed.

From Charles Hillhouse, Esq.—"Your 100 baskets of Strawberries have given great satisfaction.—June 30."

Best Mushroom Spawn.

CUTHILL'S Pamphlet on the Potato, with 20 more Articles, on the Strawberry, Asparagus, Sea Kale, &c., 2s.

CUTHILL on Market Gardening round London, &c., 1s. 6d.

CUTHILL on the Cultivation of the Mushroom, Killing of Woodlice, &c., 1s.

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Vegetable Meeting Paper gratis.

Post-Office Orders to be made payable to JAMES CUTHILL, Camberwell, London, S.

GENERAL HAVELOCK STRAWBERRY now ready for sending out.—20,000 plants of the above superb Strawberry, which was sent out for the first time last season.

EDWARD TILEY can with confidence recommend this variety as being the hardiest of all known kinds; it ripens as early as the Black Prince, the fruit is as large as Keens' Seedling, very firm and red throughout, first-rate flavour and very heavy cropper, and will colour well in the most unfavourable weather. Fruit of this variety will realise more than double the value of any other Strawberry in cultivation, as it comes in a fortnight earlier than Alice Maud, Keens' Seedling, Prince of Wales, or any of the larger sorts, which is a great advantage to parties growing for sale or requiring very early fruit. 20 perches of it grown last season realised a greater value than 50 perches of any other in consequence of its earliness and growing in less than half the quantity of ground. This is certainly the most superb Strawberry in cultivation. Plants, 10s. per 100; 6s. for 50; 4s. for 25. Postage free. The best of the older varieties can also be supplied at the usual low prices.

LORD KENYON'S CUCUMBER (true), the best winter variety in cultivation, 1s. per packet.

BATH COSS LETTUCE for winter sowing, 1s. per packet.

HOLLYHOCK SEED, saved from all the choicest and most distinct named varieties, 1s. per packet.

A remittance must accompany all orders either by cash or 1d. postage stamps.—EDWARD TILEY, Nurseryman, Seedsman, and Florist, 14, Abbey Church-yard, Bath.

RARE HARDY CONIFERS—PICEA (ABIES) AMABILIS, TRUE; PICEA (ABIES) GRANDIS, TRUE.

HUGH LOW AND CO. have great pleasure in announcing that they have this season been successful in obtaining from Seed imported by them direct from California a large supply of Plants of the above named most beautiful and thoroughly hardy Conifers. They are without exception two of the finest and most ornamental trees yet known to Botanists, and attain in Northern California a height of from 250 to 280 feet. Their perfect hardiness and adaptation to the climate of this country have been proved beyond a doubt, but up to the present time Seedling Plants have been rarely to be obtained. The quantity now raised being considerable, H. L. & Co. have decided on offering them by the dozen and 100 at such low prices as will induce lovers of hardy trees to plant them in large numbers. Prices can be had on application; as also of Seedling Plants of Cupressus Lawsonii, C. macrocarpa, C. Goveniana, C. M'Nabiana, Picea Pinsapo, P. Nordmanniana, P. Pindrow, P. nobilis, Abies Menziesi, A. cephalonica, A. Douglasi, both from Californian and Scotch seeds; A. Mertensiana, (taxifolia of Jeffrey), A. Williamsoni (Puttoni, Hookeriana), A. orientalis, Araucaria imbricata, Cedrus Deodara, Cedrus Atlantica (argentea), Cryptomeria japonica, C. Lobbi, Pinus Benthamiana, P. excelsa, P. insignis, P. Don Pedri, P. Pallasiana, P. Sabiniana, P. macrocarpa, P. Edgariana, P. Jeffreyi, P. Monticola, and many others; Podocarpus andina, P. nubigena, Thuja gigantea (Libocedrus decurrens); Thuja Lobbi (Menziesi), Torreya grandis, Wellingtonia gigantea, and many other fine Coniferous plants.—Clapton Nursery, London, N.E.

CARTER'S CHAMPION CUCUMBER surpasses Syon House and Lord Kenyon's Favourite for winter and early spring use. Smooth, dark green, straight, and prolific; average length, 1 foot. Price per packet, 1s.

J. C. & Co. do not hold themselves responsible for the genuineness of the above unless obtained direct from

238, High Holborn, London, W.C.

J. CARTER AND CO. beg leave to state that their TWENTY-FOURTH ANNUAL CATALOGUE OF DUTCH AND CAPE BULBS is now ready, and will be forwarded gratis and post free on application.

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J. CARTER AND CO. are now in receipt of their First Consignment of HYACINTHS, CROCUS, TULIPS, AND OTHER DUTCH BULBS, all of which are very fine and in good condition.

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DUTCH FLOWER ROOTS.

PETER LAWSON AND SON, THE QUEEN'S SEEDSMEN, &c., respectfully announce the arrival of a fine Stock of DUTCH FLOWER ROOTS, and they are now prepared to execute orders for the same.

27, Great George Street, Westminster, S.W.

NEW SEEDS.

TRIFOLIUM INCARNATUM

ITALIAN RYE-GRASS

NATURAL GRASS SEEDS FOR PERMANENT PASTURE LAWNS, &c.

PETER LAWSON AND SON, the QUEEN'S SEEDSMEN, &c., are prepared to supply all kinds of SEEDS for AUTUMN SOWING of the best quality.

27, Great George Street, Westminster, S.W.

ROYAL BERKSHIRE SEED ESTABLISHMENT.

SUTTON AND SONS have just received a very unique Collection of HYACINTHS, ANEMONES, JONQUILS, CROCUSES, and numerous other Bulbous Flower Roots, direct from one of the most celebrated Florists in Haarlem. Prices very moderate. Lists gratis and post free.

DUTCH BULBS.

MILNE, ARNOTT, AND CO. are now sending out, in the best possible condition, HYACINTHS, NARCISSUS, TULIPS, CROCUS, and other Flower Roots, imported direct from some of the most celebrated growers in Holland.

A PRICED and DESCRIPTIVE CATALOGUE just published will be forwarded free upon application.

Finest Hyacinths, by name, 5s., 6s., 7s. 6d., & 9s. per dozen.

Select Collections of Bulbs from 10s. 6d. upwards.

The Nursery, Wandsworth Road, London, S.

DUTCH FLOWER ROOTS.

JAMES VEITCH, JUN., ROYAL EXOTIC NURSERY, Chelsea, S.W., begs to announce that he has received his annual supply of BULBOUS ROOTS from Holland, and is pleased to say that they are PARTICULARLY FINE and in EXCELLENT CONDITION. Catalogues are now ready and will be forwarded on application.

J. V., Jun., desires to impress upon those who patronise him the great advantage of giving him their ORDERS EARLY, as the successful cultivation of Bulbs depends in a great measure upon their BEING PLANTED EARLY IN THE SEASON.

NEW PLANT CATALOGUE.

JAMES VEITCH, JUN., begs to intimate that his GENERAL PLANT CATALOGUE for the present season, including a DESCRIPTIVE LIST of NEW and RARE PLANTS is now ready and will be forwarded post free on application.

Royal Exotic Nursery, Chelsea, S.W.—Sept. 3.

BUSBY'S STOCKWOOD GOLDEN HAMBURGH GRAPE.

JAMES VEITCH, JUN., begs to intimate that as before announced he offers a

PRIZE OF FIVE GUINEAS FOR THE THREE BEST BUNCHES

of the above Grape to be exhibited at the Crystal Palace Show, September 7 and 8.

Royal Exotic Nursery, Chelsea, S.W.—Sept. 3.

NEW PINKS.

CHARLES TURNER (MACLEAN).—Dark purple, fine; 5s. per pair.

ELEANOR (TURNER).—Rose, fine; 5s. per pair.

EDITH (MACLEAN).—Reddish purple; 3s. 6d. per pair.

LITTLE GEM (MACLEAN).—Red; 3s. 6d. per pair.

MILLIE (MACLEAN).—Dark, fine; 5s. per pair.

MISS GLOVER (TURNER).—Purple, 3s. 6d. per pair

CHARLES TURNER can strongly recommend the above as first-class Pinks, and great acquisitions for exhibition purposes.

C. TURNER's general stock of Pinks are very healthy and strong, and are now ready for sending out at 2s., 12s., and 18s. per dozen.—The Royal Nurseries, Slough.

TRIFOLIUM INCARNATUM, 5d. to 6d. per lb.; with hints on its successful cultivation, showing how 3 tons per acre of the most nutritive hay may be secured, the advantages of sowing it where broad Clover is thin, and its superiority to Tares as green food.

PAGE AND TOOGOOD having secured a large breadth of prime quality, offer it at the above low rate for cash.

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| New Turnip Seed, per lb | 0s. 6d. | Italian Rye-grass, per bush., 5s. to | 7s. 0d. |
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Calceolaria and Cineraria, in packets of 2s. 6d. and 1s. each, saved from one of the finest collections in Europe.

Seeds for exportation to all parts of the world

PAGE & TOOGOOD, Seed Growers and Merchants, Oxford Street; and Above Bar, Southampton.

DUTCH FLOWER ROOTS. HYACINTHS, best quality, to name, 6s. per dozen; second do., mixed, 4s.; third do., 3s.; CROCUS and SNOWDROPS, 1s. 6d. per 100; Double VAN THOL TULIPS, 3s.; TOURNESOL, 5s.; NARCISSUS, large bulbs, 2s. per dozen; and all other kinds, best quality, equally cheap. Also a quantity of CAMELLIAS and AZALEAS, well set with flower buds, English grown, 18s. and 21s. per dozen; ORANGE TREES, 2s. 6d. to 5s. each; FOREIGN and BRITISH FERNS, 6s., 9s., and 12s. per dozen, &c.—R. GREEN, 154, Kingsland Road, N.E. No connection with any other house.

THE BRIGHTON AND SUSSEX FLORICULTURAL AND HORTICULTURAL SOCIETY will hold their GRAND EXHIBITION at the Royal Pavilion Grounds, on WEDNESDAY and THURSDAY, September 14 and 15. Nearly 350l. in PRIZES are offered for Plants, Cut Flowers and Fruits, including the RAILWAY CUP, value 10 Guineas, for the best 24 Dissimilar Dahlia Blooms for Amateurs and Gentlemen Gardeners.

Schedules of Prices can be had on application to E. SPARY, Queen's Graperies; or E CARPENTER, 96, St. James's Street, Brighton.

By permission of Lord Frederick Paulet, C.B., the celebrated BAND of the Coldstream Guards, under the direction of Mr. GODFREY; also the BAND of the 4th Royal Irish Dragoon Guards under the direction of Mr. JAMES will attend each day.

Through the liberality of the Directors of the South Coast Railway, the Committee have the pleasure to announce to Exhibitors that Plants, &c., for Exhibition, will be conveyed to Brighton from all Stations, and back whence they came, FREE OF CHARGE. The Plants, &c., from London must be delivered at Bricklayers' Arms Station, Willow Walk, Bermondsey, not later than 8 P.M. on the day preceding the Show, to be delivered up to the Exhibitors early on the following morning at the Brighton Station. Where plants are loaded in the owners' vans and carriages, trucks are required, of which notice should be given to the Superintendent at London Bridge or Bricklayers' Arms, at least 24 hours before to prevent disappointment. No van for transit on a carriage truck must be loaded more than 9 feet from the ground.

N.B. Vans will be in readines at the Brighton Station on the morning of the Show to convey Plants, &c., to the Pavilion at moderate charges.

P.S. Exhibitors accompanying their boxes of Fruits, Cut Flowers, &c., if such exceed the weight allowed, will, by booking them at the London Bridge Booking Office, have their productions conveyed to and fro Carriage Free.

By Order of the Committee.

THOS. ATTREE, Esq., Chairman of Committee.

E. SPARY, General Superintendent of Exhibitions.

E. CARPENTER, Secretary.

MR. EDWARD MILNER having constructed and laid out the Crystal Palace Gardens and Park, Sydenham, under the direction of Sir Joseph Paxton, and having managed them for the Company till last Midsummer (when owing to the pressure of other professional duties his engagement terminated), desires to express his acknowledgments to those Noblemen and Gentlemen who have honoured him with their patronage, and to state that he continues to undertake the execution of works of a similar character.

An active experience of upwards of 20 years enables Mr. MILNER to offer his services in the formation and improvement of Parks, Gardens, and Ornamental Grounds, also in preparing designs for Conservatories and other Horticultural Buildings; in establishing and thinning Plantations and Woods, with special reference to the trees most suitable for particular soils and aspects, the valuation of Timber, Draining, Road-making, &c.

Mr. MILNER is permitted to refer to Sir Joseph Paxton and to several Noblemen and Gentlemen for whom he has done work.—Address, EDWARD MILNER, "Oxford House," Anerley Road, Norwood, S.



# The Gardeners' Chronicle.

*SATURDAY, SEPTEMBER* 3, 1859.


MEETINGS FOR THE ENSUING WEEK.

WEDNESDAY, Sept 7 } Crystal Palace ..... Noon.
THURSDAY, — 8 }

OUR contemporary, *The Builder*, suggests that it would much improve the MUSEUM OF ECONOMIC BOTANY at Kew, if the contents were arranged commercially as well as scientifically. The idea is a good one. If all the gums, and spices, and oils, and narcotics, and stimulants, and textile plants, and timber, and so on were collected under their separate heads, a visitor who desired to consult the collection for mercantile purposes would find it more convenient to go at once to the class containing the commodity in which he deals than to search for it in a scientific arrangement.

The *Builder* illustrates his meaning by a reference to the class of timber; and we beg to quote his words:—

"Timber, which is far the most extensive of all vegetable products, would admit of several commercial subdivisions, such as ornamental woods, those used in naval architecture, those employed in buildings, dye-woods, medicinal woods, &c. The group of ornamental woods comprising the numerous fine specimens from Australia and New Zealand would be particularly interesting. At present these are scattered through a great many different families, and are necessarily located in separate and often distant parts of the building. A very curious and instructive group might be

formed of the ornamental woods of the ancients, from which we should learn that long before the introduction of Rosewood and Mahogany all the requirements of luxury were answered by woods of European or Mediterranean growth. This is more likely to be admitted now than would have been the case previously to the modern fashion for Walnut-wood, which was the old-fashioned standard furniture wood of the Romans, as we learn from JUVENAL, Sat. xi. 117:—

"'Tables made here at home those times beheld
Of our own wood: old Walnut that was fell'd
By some kind tempest, when the wind lay east.
Now our rich gourmands value not a feast
Unless the meats be served on Citrus board
Whose ample width rests on some rampant pard.'

"In ancient times much more attention seems to have been paid to the qualities possessed by certain parts of a tree than to the species of tree used. From PLINY we learn that the burrs produced by certain trees, on account of the variety of figure which they displayed, were chiefly sought after for ornamental purposes. It is only recently that this quality of wood has been turned to any account in modern cabinet-work. The Walnut furniture of the present day is an instance of the revival in favour of burr wood. Notwithstanding the important part which burr Walnut-wood plays in modern upholstery, it is somewhat surprising that no samples of it whatever, except a very insignificant piece of veneer, are to be found in the Kew Museum. This is a want which could be readily supplied from the Faubourg St. Antoine in Paris, where very curious and beautiful specimens are to be seen in the warehouses of the dealers.

"Many of our native trees produce extremely handsome burr woods, such as the Elm, Poplar, Yew, Oak, Willow, Ash, and Alder, which, when duly chosen and properly opened, furnish wood very much superior for effect to the ordinary run of foreign wood. Our country gentlemen, if possessed of the requisite information, could often produce, from their own estates, ornamental materials for furniture that would far surpass in beauty the wood usually furnished by their upholsterers. A collection formed to illustrate the ornamental woods of PLINY would exhibit some of our English trees, in certain circumstances, to possess many fine qualities. The Alder, for instance, ordinarily considered fit only for stakes in wet ground, when old and burry would appear to great advantage, bearing out the ancients in placing it among the veneer woods. In reference to this wood, Sir T. D. LAUDER, in his edition of 'GILPIN'S *Forest Scenery*,' observes—'*The old Alder trees which are full of knots, cut up into planks, have all the beautiful figure of curled Maple, with the advantage of presenting a deep, rich, reddish tint, and in this state they make very handsome tables.*' This is almost an amplification of PLINY'S words:—'Dat et alnus tuber sectile, sicut citrus, acerque.'

"Some of the other Plinian ornamental woods, of more southern growth, which are now rarely or never met with in this country, would, no doubt, likewise prove worthy of their ancient reputation. Among these are the Ilex, Palm, and Terebinth—Pistacia terebinthus. Only the latter figures at Kew, in the shape of a small sample of Plane wood, among the Anacards in case 21. It would be very interesting to have a specimen of burr Terebinth, which was a wood much esteemed by the Romans for small work. PETRONIUS mentions it:—'Sequebatur puer cum tabulâ terebinthinâ et crystallinis tesseris,'—a boy followed him with a draught-board of Terebinth wood, and crystal dice."

He goes on to point out the importance of the Citrus wood, yielded by *Callitris quadrivalvis*, and mentioned by us at p. 446 of the present year,* while noticing a small pamplet that originally appeared in the columns of our able contemporary, and thus proceeds:—

"The wood of the genus *Callitris* ought to have a special interest for us, on account of the great number of species which occur in some of our colonies; as, for instance, Australia, where no fewer than 20 are found. In the Museum are specimens of the wood of *Callitris robusta*, which exhibit, so far as plain wood can, many of the fine qualities of the North African Callitris. It is reported that none of the Australian species produce burrs; but we are inclined to think that an experienced '*loupeur*' or burr-finder would be able to discover them where an ordinary woodman would fail. The discovery of burr wood in the Australian Callitris would be of very great importance, because it is evident, from the qualities found in the plain wood of Callitris robusta, that it would probably closely resemble that of Callitris quadrivalvis, which, in the present condition of the Barbary States, it is almost impossible to procure."

With much of this we wholly agree. Indeed, in the early part of this century a great quantity of exquisitely beautiful furniture was manufactured by BULLOCK from Oak burrs, sliced into thin veneers, and it is certainly worth showing the capabilities of other British timber.

It so happens that the use of a commercially arranged Museum has been lately shown in another way. Some cattle at Wells having been poisoned by what was called Rape-cake an action was brought against the salesman, from whom the value of the cattle was recovered. It appeared that this Rape-cake was made of Mustard seed, sold under the name of Indian Rape. Nobody seemed at the trial to have known what Indian Rape-seed is. A collection of Indian Cruciferous seeds would have easily settled the question; and had they been accessible in any public Museum they might have been employed on the trial. But no such collection exists, as far as we are informed.†

But how is this object to be accomplished? That Sir WM. HOOKER would gladly carry it out there can be no doubt, but where is the building? The present mean and ill-contrived structure is full and more than full; so is the old museum. To form a new commercial classification would demand at least as much more space, and we doubt whether Parliament, liberal as its grants for Kew have always been, would at present look with favour upon a proposal to expend any considerable sum upon another Museum, however desirable it may be.

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IF one principle in gardening is fixed upon a more solid foundation than another it is that a bud or graft will always reproduce the variety from which it is taken, with all its peculiarities of whatever kind. M. CARRIÈRE, a justly distinguished French horticulturist, is however of a somewhat different opinion. The case upon which he takes his stand is the following.

It appears that under the name of *Crataegus digyna* M. LEROY grows in his nursery at Angers a sort of Whitethorn, remarkable for producing spines which branch so repeatedly that they at last become a most formidable defence, with an appearance absolutely murderous (*on pourrait même dire meurtrier*). The value of such a singular peculiarity, in forming hedges, is obvious, and we should be glad to see this sort of Whitethorn in England. M. CARRIÈRE having set about propagating a specimen which had been bought for the purpose, was surprised to find that his budded plants lost the peculiarity of their parent. Out of 30 plants, worked near the ground, and more than 9 feet high, every one proved to be like the common Whitethorn, without a trace of the strange complex spines of their parent. How was that?

It appears that the manner in which the buds were taken off was this: there was no obtaining buds from any part except the end of the young wood (*bourgeon*), where the spines were very little formed, and it was moreover necessary to cut away the spines themselves, in order to get the bud below the bark of the stock. M. CARRIÈRE therefore conjectures that the cause of his worked plants losing the habit of their race was to be ascribed to the buds not having acquired their natural character, and having been weakened moreover by the removal of the spines themselves, and infers that in grafting, as in other operations, it is necessary to take certain precautions in the absence of which quite a different result will follow from what might have been expected.

It is doubtless true that in grafting or budding some judgment must be exercised if the operation is to succeed; as, for example, in taking care that the eye of the bud is fully organised, that the wood of a graft is of sufficient age, that there is perfect contact between liber and wood, and so on. But these precautions only go to securing the success of the operation; and not to preserving the peculiarities of the scion, which if it takes preserves all the peculiarities of its parent. For ourselves we would suggest a different explanation of M. CARRIÈRE'S failure, and one which we submit is more consistent with other facts. The original *Crataegus digyna* must have gained its habit of complicating its spines in consequence of having remained in a stunted condition so long that the condition became constitutionally fixed. In order to preserve that peculiarity it is necessary to avoid everything capable of infusing new vigour into its system or that of its offshoots. Spiny grafts worked upon vigorous grown stocks would probably effect that object. But M. CARRIÈRE took an entirely opposite course. He selected young vigorous buds, and must have inserted them on young vigorous stocks or his plants would not have been 10 feet high. The effect of this was necessarily to concentrate the whole force of vegetation upon a single eye, destroying all that tendency to become dwarfed and stunted which had by degrees brought on the peculiar marks of M. LEROY'S *Crataegus digyna*. No change of nature was therefore produced, but a slow-growing branch was forced to grow rapidly. That, we take it, was all that happened; and then it is probable that the branches of the spineless robust plants obtained by M. CARRIÈRE will in time fall back into the dwarfed condition of the stock from which they were derived. It is the same as if a puny, diminutive, half-starved child were to shoot up into a giant under the influence of abundant wholesome food.

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IT will be seen in our advertising columns that Mr. MILNER has left the Crystal Palace, and is undertaking professional work on his own account. The skill of Mr. MILNER as a landscape gardener is loudly proclaimed by the great operation of laying out the grounds of the Crystal Palace, which, although executed under the general direction of Sir JOSEPH PAXTON, also owe much of their beauty to his own taste and skill. If the Crystal Palace has sustained a serious loss, it is satisfactory to feel that the public will be greatly benefited by the change.

## New Plants.

224. ODONTOGLOSSUM UROSKINNERI (see p. 7[illegible]).

We have been favoured by Mr. Skinner with the following memorandum respecting this plant:—"Seeing in the *Gardeners' Chronicle* of 27th inst. the publication of an Odontoglossum in which you honour me, I may be allowed to satisfy you that it is no hybrid, but is a very distinct species found on rocks near the village of Santa Catarina in the district of Solola, 28 leagues from Guatemala. I sent it to Mr. Veitch in 1[illegible] quantity, but from its habit, the size of pseudo-bulb, form, as well as leaf, then believed it to be an Oncidium ionosmum (?) On, however, flowering it I sent the enclosed drawing of three distinct colourings of labellum, and mentioned that it varied almost in every plant; it proves a very difficult plant to get over, but in several attempts a few survived, and I saw one at Chelsea the other day, but very late and artificially, a very imperfect example. When fine examples such as I have flowered in Guatemala have 12 and 14 flowers of the size shown in the drawing. had a sweet scent of a honeyish character. The are large, flat, and the rhizoma running, while Bictonense has them oblong, with narrow leaves, no rhizoma, but massed and always terrestrial, buried in mossy banks. I almost feel certain you dried specimens, and I was surprised to hear it was first time it had flowered at Chelsea. The incised drawing I found among some old papers here, have taken it from my communication to Mr. Veitch last in England in 1857 to show Mr. Bateman or Dorothy Nevill, who had specimens sent them the before."

We confess that our suspicion of the hybrid origin the plant remains undisturbed. We never intended suggest that it was a hybrid of home manufacture; that it was one naturally produced in Guatemala; *we strongly suspect is the case with many more reputed species*. Indeed the variety observable among the flowers, to which Mr. Skinner alludes, and of which coloured sketches furnish an illustration, itself points to such a conclusion. Those sketches represent

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* We take this opportunity of correcting an error we there made in saying that a table of the famous Citrus wood was to be found in the Museum at Kew; our memory misled us; the Callitris table there is made from the Australian not Barbary tree. On the same occasion we ventured to say that the Greek name of the Citrus was θυίον or θυιά, not θύον, as the author of the pamphlet wrote it. The editor of the *Builder* questions the justice of this remark, and refers to a passage in the Odyssey (5. 60) to show that the wood was really θύον. If, however, he will refer to THEOPHRASTUS (Hist. 5. 5.) he will find that instead of being "utterly wrong" we were perfectly right. The Citrus tree was θυία or θυίον, according to that ancient writer on trees. What HOMER'S θύον was is quite uncertain; VOSSIUS, indeed, thought it meant Citrus wood; but the word is quite as likely to have signified Thus, or Frankincense, or indeed any fragrant wood not Cedar of Lebanon.

† Upon the subject of Indian seed resembling Rape, we find the following statement by ROYLE, in his Botany of the Himalaya Mountains:—"From the medicinal and dietetic uses, as well as from the Arabic and Persian synonymes of this plant (*Lepidium sativum*, or Garden Cress), it is probable that it was introduced into India from Caubul or Persia, where also we must look for the route by which the Cabbage, Radish, and Turnip have found their way into India, as all were known and cultivated there long before they could have been introduced by Europeans. I have received the seeds of all from Cashmere, and grown them in the Botanic Garden of Saharunpore. The Turnips, moreover, in Kunawar, are described as being remarkably fine. Besides these, which are confined to gardens or the neighbourhood of villages, there are other species of this family, which form very extensive agricultural crops, but, like the former, only during the cold weather months. *The majority of these have been referred to the genus Sinapis* (Mustard), and one species, which agrees very closely with Brassica erucastrum, to both Brassica and Eruca; this is called *tira*; a variety apparently of the same is cultivated in the hills. The species or varieties referred to Sinapis still require careful revision. Sinapis ramosa of Dr. ROXBURGH appears to be the species whichis called *raee, Indian Mustard*, and is much used as a condiment. S. glauca may be the *toria*, S. dichotoma the *Ralee-sursoon*, and S. juncea the *bunga-sursoon*; the three latter, as well as *tira* and Sesamum orientale, being extensively cultivated for the oil which is afforded by their seeds, as the natives of the greater part of India depend upon them chiefly for oil for burning in lamps, as well as for that necessary for dietetical purposes."

three states; in the first the sepals and petals are oblong, acute, and blotched with brown on a yellow ground, the lip being sparingly marked with deep rose-coloured veins on a whole coloured ground of the same; in the second the sepals and petals are shorter, greener, less blotched, and the rose-coloured veins are both deeper and more numerous; in the third, which is evidently that flowered by Messrs. Veitch, the veins of the lip are scarcely visible, but the surface is speckled with rose. It is a charming thing, whether a wild hybrid or not.

## THE ORCHARD HOUSE AT AUDLEY END.

In a recent visit to this charming seat nothing struck me so vividly as the perfect success of the orchard-house culture. The orchard house under the management of Mr. Young, who has been head gardener at Audley End many years, is indeed a picture of fertility and beauty. It is one of the large span-roofed houses with a fixed roof, glazed with 16 oz. sheet glass in pieces 20 inches by 12, the rafters being 20 inches asunder. Its dimensions are as follows:—length 90 feet, width 20 feet, height 11 feet in the centre, 5 feet at the sides. In the centre is a bed of earth 7 feet wide and 20 inches high, supported by 4-inch brick walls. The side beds are each 3½ feet wide, and of the same height. The paths between the central and side beds are 3 feet wide and neatly paved. It is ventilated by side lights 2½ feet by 3 feet, fixed on pivots in their centres so that when swung open to their full extent they admit abundance of air; both ends are glazed with large glass. At each end is an aperture over the door for the exit of the heated air, and no roof or any other mode of ventilating is employed. The trees are all in the most perfect health, and never in the course of my experience have I seen exemplified the great superiority of low side ventilation to the old-fashioned mode of pulling down sliding lights to let in and let out air.

The kitchen garden here is in a low and sheltered situation, the soil light and warm, resting on a gravelly substratum; in spite of these favourable circumstances there is literally no fruit; the walls, the standards, and pyramids are alike bare. On entering the orchard house, what a charming contrast! It is, to speak poetically, overflowing with fruit; the Apricots are over, but Peaches, Nectarines, and Plums are in the different stages of ripeness and ripening, and the whole house is full of beauty. Standing *on* the central border—for none of the pots are plunged—is a row of very fine trees, from six to eight years old, in 18-inch pots (18 inches deep and the same in diameter); among them are some most charming umbrageous trees—5 to 6 feet high, and 4 to 5 feet in diameter—of Elruge, Violette Hâtive, and Murray Nectarines. The crops on these were nicely arranged in thinning the fruit, so that although each tree is bearing from seven to nine dozen they do not seem crowded or overloaded with fruit.

In this central row are some fine Peach trees of the same age and dimensions as the Nectarines. Among these are good specimens of Early Grosse Mignonne, Grosse Mignonne, Galanole, and other kinds; these with the exception of the former variety, which is an excellent early sort, are full of fine fruit. Among the central trees Mr. Young pointed out to me three large pyramid Plums, stout trees, well furnished with branches and 6 feet high, in 18-inch pots; these were removed from the open ground last November and potted. The Early Prolific, one of the kinds potted, had borne a plentiful crop. The Reine Claude de Bavay is now full of remarkably fine fruit; the Jefferson had shed its blossoms and is fruitless; not so however with two or three young trees of the Jefferson only two years old and 2 feet high—on these were from seven to eight dozen of very nice fruit. There is perhaps no Plum that better repays the orchard-house cultivation than the Jefferson, it bears so abundantly and gives such fine large fruit.

The late black Orleans Plum is in great favour with Mr. Young. Its deep purple bloom speckled with—with—well, perhaps amber, gives it a charming appearance; it is very late, but always rich and juicy, in fact a perfect orchard-house Plum which does not require to be removed out of doors to ripen its fruit, as is the case with the earlier sorts of Plums, if it is desired to have them high flavoured.

Among the Peach trees placed on the side borders I noticed with much interest a tree of the Mountaineer in an 18-inch pot, one of the sorts raised by the late T. A. Knight, and a good melting Peach, with 10 dozen good fair sized fruit on it. From this tree Mr. Young's foreman told me he had taken from 13 to 14 dozen when thinning, and I think I learned from the foreman that 400 dozen of Peaches and Nectarines had been taken from the trees in thinning.

The Apricot trees had not borne so large a crop this season as in 1858, but the fruit was remarkably fine, the Peach Apricots were like good-sized Oranges, so regularly and perfectly had they ripened. Some large robust bushes of this kind in 18-inch pots, and from 7 to 8 years old, are nearly 4 feet high, the same in diameter, and owing to their having been pinched in during the summer, they are like sturdy Oaks, every spur is full of blossom buds. Some of these trees are capable of bearing a peck of fruit; I have rarely seen such robust well grown specimens.

Mr. Young mentioned the Alberge de Montgarnet Apricot as a most delicious early kind, not large, but rich and excellent. The flavour he thought was much improved by placing the tree out of doors in the sun just as the fruit began to colour. With some kinds of Apricots this is good practice, but the Peach Apricot is so extraordinarily rich and good when ripened under glass that no further improvement can take place—in short the fruit is perfect.

Although the fruit trees of all kinds in this house are in the most luxuriant growth, and although many trees are growing in 10-inch and 12-inch pots only, scarcely any of them are rooted through; this is owing to their having been abundantly top-dressed with manure and manure water occasionally used, so that they have had abundance of food at home. Top-dressing twice or thrice in summer is one of the great essentials to success in the pot culture of fruit trees. Some quasi-gardeners are however inclined not to use it, only because it has been written in a book, and such persons call themselves "practical," making it a point to follow the too often foolish impulses of their own noddles to the great injury of their employers. I knew one gardener of this sort who would not give his Peach trees any water "till they asked for it," i.e., till their leaves withered. He used to grow a rare crop of red spiders, but could not manage to get any Peaches; of course he found fault with the system.

Mr. Young believes that his complete escape from the effects of the frost of the 1st of last April was owing to his having shut up his house early in the day of March 31, so that the large body of warm air and the radiation from the warm borders of the earth resisted the frost. In some of the small orchard houses near Saffron Walden, the blossoms of Peach Nectarine and the fruit already set of the Apricots were all entirely killed by the frost of that night. In these houses the pan of charcoal for *one* night only would have saved the crop. This is mentioned as being occasionally necessary in p. 102 of the 6th edition of the "Orchard House," yet how few I fear attended to it on that fatal to fruit night above alluded to.

The history of the Audley End orchard house has some little interest attached to it. In 1850-1 when such houses began to be talked about, written about, praised and abused, as usual under such circumstances, Mr. Young, a good sound gardener "frae the canny north" of a respectable amount of years, *i. e.* a little above the two-score and ten, heard about them and saw some of his neighbours building them. I think he now laughingly acknowledges to having looked at the mode of culture as childish, Chinese-like, playing at fruit tree culture, boshish, unfit for a respectable garden, &c., and fit only for very poor parsons and still poorer doctors and lawyers. In the autumn of 1855 the late estimable Lord Braybrook, his employer, expressed his wish to have an orchard house, to serve not only to grow fruit in but as a promenade house in the spring and autumn months, his health being delicate.

Mr. Young immediately threw his whole heart and mind into the matter. The house was built in the course of the autumn by Mr. Dixon, the builder attached to the estate; some extra-sized trees of four or five years' growth were purchased, and in the summer of 1856 a nice crop of fruit was gathered. Every season since the success has been perfect, and at this moment no sight can be more gratifying, for not a diseased leaf exists in the house and Mr. Young derives real pleasure from the successful results of his intelligence and perseverance. I may add that the house is remarkably well constructed, and has a light and finished appearance. If it were 12 feet high instead of 11 feet it would be an improvement.

I ought to add that Mr. Young uses his house in autumn for striking cuttings of his bedding plants in pots under the shade of the trees, and in early spring for placing the young plants to harden them off before planting them out. In winter the fruit trees alone occupy the house. *O. H.*

## A BELGIAN'S NOTION OF A COTTAGE GARDEN.

We reproduce from the Journal d'Horticulture Pratique the following, which serves to show the difference between our own notions of arrangement and those of some of our Continental friends:—

"It does not matter whether your piece of ground be square, oval, or round; plant in the centre a strong plant of Pyracantha. Its handsome red berries standing out against the white snow in winter will supply the place of flowers in the early part of the year.

In May surround your Pyracantha with a row of Phlomis Leonurus, which towards the end of the year blooms as freely as its flowers are handsome.

Canna indica, with its different varieties, should form your third row; for their beautiful foliage and magnificent flowers are charming objects to look at.

Follow up these plants with a collection of red Geraniums, zonale, roseum, and album, and they will afford you an abundance of flowers during many months of the year.

A row of Dielytra spectabilis, a charming Fumaria, should be placed next to the Geraniums, for the lovely clusters of pink flowers contrast well with the delicate glaucous green of its leaves. It is impossible to give an idea of the beauty of a large specimen of this plant.

A good many small patches of Deutzia gracilis should be arranged round the clusters of Dielytra.

Corydalis formosa produces its flowers in May and June, and its delicate foliage is seen to advantage against the deeper green of the other plants.

In January and February the amateur will be satisfied with a row of Hellebores. (Qu. Christmas Roses or Eranthis?)

Finally all round this flower bed, full as it is, plant a circle of Hepaticas, Snowdrops, and Primroses. In this manner you will have from the 1st of January to the 31st of December, without much expense and with very little labour, a spot of ground always covered with flowers.

The principal part in your flower bed will be played by Phlomis Leonurus, a superb Labiate, whose rich golden flowers arranged in whorls will furnish you with beautiful blossoms for the autumn. The flower spikes of this plant grow from 24 to 30 inches high. In November remove it with balls of earth round its roots into a greenhouse, a sitting room, or even into a cellar where vegetables are kept, provided it is protected from damp and from a very low temperature. This plant, considering the very little care it requires, deserves to be much more generally cultivated. It should be well cut in in the month of May before being planted in the open border. It may be propagated by cuttings or easily raised from seeds, which may be procured cheaply enough in the south of France.

"I admired," says Mr. Michel Kenens, "the Phlomis Leonurus* for the first time in October, 1857, at the chateau of Walbourg (in Dutch Limburg), the property of the Baroness de Bredeesel d'Eisenbach; and I was not a little surprised at the extraordinary effect produced by this plant. I must however, add, that the wonderful effect was quite accidental, and not owing to its having been grown according to rule; for instead of being planted in open ground it was placed in little flower pots, through the hole in which the strong roots had forced their way so as to derive abundant nourishment from the soil beneath, and thus produced the magnificent vegetation I was so much struck with." *Horticultural Academy of Ghent.*

## Home Correspondence.

*Out-door Cucumbers.*—I am glad you have called attention to the growth of Cucumbers on a large scale for the London and other markets. There is no crop (when they hit) which realises so much money. This season the produce has been enormous, and many will make upwards of 100*l.* per acre, or more than the land is actually worth, and leave it in good heart for any other crop. The Rye is sown in the autumn for shelter, and cut as soon as the Vines cover the ground. The Onions for seed and shelter stand 2, 3, or 4 yards apart; they are set early in the spring, and a good coat of manure not much decomposed is dug or ploughed in. Sometimes Peas are sown and stuck. The Rye is sown 3, 4, or 5 yards apart, and the land ploughed in small furrows by two horses single; men follow with iron rakes, and leave the ground fine and level for sowing. The drills are made by a hoe about 1½ inch deep, a man follows the sower and shuffles the mould over the seed lightly. They sow a second time in a week or ten days, and again, if they are fearful of not securing a plant; much wet after sowing will rot the seed, and frost occasionally kills the first plants. Those who get the earliest Cucumbers make the most money. The last week in April or first in May is the usual time for sowing. The manure is put on when the weather is suitable, but the best plan is to watch for a frost in March, get it on, then cover the heaps with a little mould till you plough it in for sowing. Cucumbers are not near the expense of a crop of Onions, make double the money, and leave the land, as I have stated, in first-rate order for any crop. What I state as to the value of the crop may be doubted by some, but it is the truth. *One in the Secret but not a Grower.*

*Cannon Hall Muscat Grape.*—My object in forwarding the enclosed bunch of this Grape is to show that under the most ordinary treatment it sets tolerably well. The bunch I have sent was grown in a house along with not less than twelve other kinds, and received exactly the same treatment as the others from the time the Vines broke until now. My system of pruning the Cannon Hall is probably not generally adopted. For the last five years however I have generally succeeded in securing a good crop of tolerably well set bunches; at the same time I confess that this Grape is the cause of much trouble amongst some of our most practical men, and I understand that many first class gardeners have given up its cultivation entirely. I am, however, of opinion that notwithstanding its numerous drawbacks it really deserves attention. I find it to thrive best when grown in a border inside the house, in fact, it does not succeed well when planted outside, as a plant here abundantly testifies, it never sets freely and it shanks more or less, producing unsightly bunches unfit for table. The enclosed was grown in a house 60 feet long by 20 feet wide, and from the time the Vines broke until now not more than 1½ ton of coal have been consumed, which will explain the cause of the bunch sent not being quite up to the mark in colour. I can scarcely concur in Mr. Glendinning's opinion with regard to the Cannon Hall requiring such a high temperature. I think that it is just too much heat which ruins it. *John Edlington, Winch House, Seacombe, Cheshire.* [The bunch sent was an excellent example of Grape growing; a foot long, perfectly thinned and regular; but it was not ripe. We should say it wanted to hang a month longer.]

*Morphological Cases.*—I have just read in your last week's Paper a notice of a remarkable "monstrosity"

* Phlomis Leonurus is more properly called, at the present time, Leonotis Leonurus, and is a Cape plant introduced into Europe about 1712.

of an Opium Poppy, and it is mentioned that "a similar statement has been made with reference to the Oriental Poppy," but of this the writer says he has seen no instance. By referring to the "Pharmaceutical Journal," vol. xv, p. 398, a description of a somewhat similar monstrosity by myself will be found. In the account I think I stated (but I have no means of referring to it here) that I observed a similar monstrosity for two years in succession, and that I should seek for it in future years. I have done so, but without success. This monstrosity was also exhibited at the Linnean Society's meeting, and is noticed in its Proceedings. *Robert Bentley, Prof. of Botany, &c., to Pharmaceutical Society.* [The case referred to by our correspondent occurred in Papaver bracteatum, a variety of P. orientale; and exhibited, what Mr. Groenland's did not, a curious transition from stamens to carpels.] —— Since writing the above I have found in my father's garden at Hitchin a monstrosity of the Common Honeysuckle (Lonicera Periclymenum). Probably such a monstrosity may be common, but of this you will be the best judge. I am not aware that the specimen is of any especial importance beyond its morphological interest, but to you, with your most extended knowledge of affinities in the vegetable kingdom, it may possibly prove of some value; I have therefore forwarded it. Upon a general examination I find the flowers vary somewhat; but in two of them which I examined the following characters might be noted:— 1st flower: calyx and corolla as usual. Within the proper irregular corolla there were five ligulate petals inserted upon and alternate with the lobes of the corolla, distinct, green above, yellow below; within these three ligulate bodies, of a green colour and distinct; then another whorl composed of three green ligulate bodies united below into a tube, from which five more or less imperfect stamens arose, and in the centre of the latter there was a filiform style divided irregularly above. 2d flower: calyx and corolla as above. Within the corolla and inserted upon it five somewhat ligulate yellow petaloid appendages, of which one was distinct, and the remaining four united in pairs; within these three ligulate petaloid bodies united below into a tube; then another whorl of four somewhat ligulate bodies united below into a tube, from which five staminal bodies arose, and in the centre of these a filiform style divided above into three stigmas. *Robert Bentley, Tilehouse Street, Hitchin.*

*White Muscat Grape.*—I am glad to see a report at page 672, respecting the Golden Hamburgh Grape, from Mr. Cramb, and a reply (which I expected) page 693, from Mr. Thomson of Dalkeith calling the attention of cultivators of Grapes to the Bowood Muscat and Golden Hamburgh varieties. I am induced to send you a few remarks of a crop which Mr. Biddard calls White Muscat. I think it is the sort called, 50 years ago, "Passeque Muscat of Alexandria," a very superior Muscat. Mr. Biddard's, Gardener at Tehidy Park, near Redruth, Cornwall, the seat of J. F. Bassett, Esq., house of Muscats is only three years old, and nearly covers the rafters of 18 feet long with immense bunches from 2½ to 3½ lbs. weight. It is not the size of the bunches only, but the uniform large size of each berry, as if they had been cast in a mould, without one inferior berry; and not one shanked, which Muscats are very liable to do. I have been a Grape grower for upwards of 40 years, but never saw such a crop of Muscats before. If the Bowood Muscat can be grown superior to this Muscat it will be a most valuable variety. Particularly, his report says, the variety is earlier and more hardy, and sets well. I noticed in the second house a fine crop of West's Black St. Peter's Grape. Mr. Biddard does not think the Barbarossa worth cultivating. In the third house I observed the Bowood Muscat, planted alternately with Cannon Hall Grape, to try the merits of each. They are making extraordinary large rods—we may expect to see some extra-sized fruit next year. If I am spared next season I will give you a report of the crop. I am desirous of hearing from some of your correspondents how the Muscat Hamburgh proves; if equal to the strong recommendation given it; also Lady Downe's and the White Hamburgh Grapes. Does any of your readers know the Grape I had some years ago by the name of "Obie?" I fear this is a very tender, shy bearing Vine. *Alex. Pontey, F.H.S., Plymouth Nursery.*

*Orchard Houses.*—During the summer of 1847 my employer erected one of these useful appendages to a garden of the following dimensions, viz., back wall, 12 feet; front, 3 feet 4 inches; width, 8 feet 6 inches; length, 280 feet (in the clear). The ventilation and arrangement of the trees differ from most other houses of the kind. The result, however, has proved most satisfactory. We have a passage in the centre and front and back doors which divide the house into two parts. In each half both in front and back walls are ventilators, which being connected by means of small iron rods run on iron rails enables one to stand at the doors, and in less than five minutes to ventilate the whole building. The walk or footpath is 27 inches wide, and consists of 9-inch tile resting on Oak bearers, which in bad weather affords a comfortable path. Trees are trained on the back wall; but those in front are placed at right angles to the wall, thus allowing the sun to shine on both sides of them, and also on the back wall from top to bottom and nearly the whole floor. These constitute the main features of the house; and I may add that the fruit is of the best description both as regards size and quality. *Samuel Bray, Court Cot Gardens, Stoodleigh, near Tiverton, Devon.*——I shall be much obliged to Mr. J. Green, of Burlington Villa, if he will state when he pots his orchard-house trees, and what treatment they receive after potting; with any other particulars of his management which he may be disposed to give. The report of his orchard house was very valuable. What kind of sulphur is best for gardening purposes, black or yellow? *W. C.* [The only sulphur fit for garden purposes is "flowers of sulphur."]

*Earthenware lined Pipes.*—I beg to inform your correspondent who inquires about these that about three years ago, finding the spring water which was conveyed from my pump from a well to the house (a considerable distance) was impregnated strongly with iron from the pipes of that material through which it was conveyed, I took them up and substituted vitrified iron pipes which I had from the Birmingham Patent Tube Company. The pipes in question are always charged with water, but I have found them excellent and quite effective. They are iron pipes of any desired bore, which are dipped in a kind of liquid glass, and are therefore coated both inside and out with that material. *C. Wilkinson.*

*Bowood Muscat Grape.*—I am glad to see Mr. Thomson's testimony to the many good qualities of this Muscat; but he has omitted one, which in my opinion enhances its value as much as any, viz., its property of setting well in a low temperature. This, in establishments like those at Dalkeith, may not be a consideration, but with a very large class of Grape growers it is a very material one. We well know how many persons are deterred from growing the Muscat of Alexandria from the expense which must be incurred to ensure success. The Bowood Muscat, however, as I can testify, needs no costly structure, and any one possessing a Vinery of the most ordinary pretensions may grow it with as certain assurance of success as he does the common Hamburgh or Sweetwater, by ordinary attention and the least possible amount of artificial heat. *Henry Manton, Sleaford.*——I beg to assure Mr. Thomson that he has not by any means over-rated the good qualities of this Grape, and that I quite agree with all he has said in its favour. In giving my experience of the properties of the Golden Hamburgh, I was led to use the expression, "With the exception of the Muscat of Alexandria we have no White Grape in which are combined so many desirable qualities" in a general way; I did not mean to compare it with the Alexandrian Muscat any more than others of its class, such as Bowood Muscat, Tottenham Muscat, Money's Muscat, and Muscat Escholata. I have thought it necessary to offer Mr. Thomson this explanation, as it is very desirable that we should endeavour at all times to make ourselves understood. The Golden Hamburgh belongs to an entirely different section; its parentage is distinct from the Muscat; hence it is impossible to institute a comparison where none exists. Its advent fills up a blank that has long existed, whether we value it for early forcing, or as a mid-season variety, and will at no distant period throw the whole race of Muscadines and Sweetwater out of cultivation, in the same proportion as the Bowood Muscat will displace other varieties of the same class. The Bowood Muscat does not possess a superiority in flavour above that of the Muscat of Alexandria, at least I have not been able to distinguish any difference. Its real merits consist in the larger size of the bunch and berries, and the accidental property of setting its fruit with as much freedom and as little care as the Black Hamburgh—qualities, let it be observed, of the first importance in so valuable a Grape. During a conversation I had with Mr. Spencer about the Bowood Muscat, he said that "reports say that it is a feeble grower." This I feel certain is wholly incorrect, as no Vine could show a more vigorous habit than it does here; true, it may grow weakly under unfavourable circumstances, but it would be wrong to affirm that the habit is uniform. *A. Cramb, Tortworth Court, Gloucester.*

*New Peas* (see p. 693).—I have not grown Veitch's Perfection. I have however grown Hairs' Dwarf Mammoth and also Lord Raglan, true to kind; both are excellent but quite different from one another. Dwarf Mammoth only grows from 1½ to 2 feet in height, while Lord Raglan grows not less than 3 feet; its pods are also even larger than those of Dwarf Mammoth. It is not very uncommon for some London seedsmen to substitute one for the other; there are however exceptions. Last year I received Hairs' Dwarf Mammoth for Lord Raglan from a seedsman, and from another Royal Green Marrow for Prizetaker, thinking I suppose that we countrymen knew no better, and that so long as we get a crop we would be satisfied; but not so with all of us, we sow for succession, and if we get a late Pea for a early one, it throws us out of supply for our customers, causing a serious inconvenience. I could mention numerous instances of this kind. It is a good plan to procure a new thing from the grower or raiser. I had a traveller called upon me some time since; I asked him about Sangster's No. 1 Pea, he said he had plenty of it, or at least he had plenty of Warner's Emperor, and that was the same thing; this satisfied me he knew nothing about them, as they are as different as light from dark. I have been in the habit of growing 15 or 20 sorts of Peas in one year side by side, sown on the same day on purpose to test their merits for my own satisfaction—one year I had almost an acre in this way. *Countryman.*

*Flowers in the Public Parks.*—In passing through Hyde Park and Kensington Gardens the other day I noticed that a great improvement has taken place this year with respect to the introduction of summer flowering plants into our parks. No fewer than from 30,000 to 40,000 bedding plants have been planted in various parts of them this season, and all have done remarkably well. They appear to give great satisfaction to the public; many have spoken to me on the subject, and have expressed how pleased they were at the great change that has taken place, and how glad they were to find that the working classes could see a display of summer flowers without going to Kew. The Wellington grounds have looked beautiful all the summer; there has also been a good show of different varieties of flowers along a slip on the east end of the principal drive, consisting of Geraniums, Calceolarias, Verbenas, &c. On the south side of Kensington Palace are a great many beds, some of which are exceedingly effective; all of them exhibit a blaze of bloom all the summer, and round the east end of a lodge near the bridge of the Serpentine there is a perfect mass of summer flowers. Nothing could look better than that spot does; the turf is complete worn bare by the public walking round the fence to look at them. This shows that under skilful management all summer bedding plants will succeed as well in the smoke of London as at a small distance from town. Now that gay flowering plants have succeeded so well in Hyde Park, we may hope to see a better display in St. James's Park than there has been this season. *Broome.*

## Societies.

THE ORIGINAL STOKE NEWINGTON FLORICULTURAL.—The usual autumn show of this Society took place at the Floral Hall, Stoke Newington Road, on Tuesday last, the 30th ult., and as far as can be judged proved highly successful. There was no want of flowers to sustain the reputation of the Society, and the placing and disposition of them seemed very satisfactory. The place of exhibition was well suited for the purpose, being a kind of conservatory, etc.: was found quite incapable of accommodating the quantity of plants and flowers shown, and the assistance of a large room contiguous had to be secured in which to display the surplus productions. On entering the room the first stand that attracted attention was that of Dahlias by Mr. Perry, of Camp Bromwich, Birmingham (Class 8, Amateurs); for it gained the Silver Cup. In it were certainly some magnificent blooms, including Touchstone, Miss Wells, Perfection, Lady Popham, and others. The 2d prize in this class was awarded to Mr. Pope for Mrs. Scholefield, Sir J. Paxton, Bathurst, and other fine blooms. The 3d prize was given to Mr. Green for Miss Forester, Sir Henry Havelock, &c. The 4th to Mr. Burgess for Lollipop, Duke de Malakoff, Dr. Lully, &c. The 5th was gained by Mr. Hunter for a very handsome stand. The 6th by Mr. Le May for beautiful blooms of Amazon, Admiral, Goldsmith, and Beauty of the Grove. The 7th by Mr. Cook for Pandora, Sir J. Paxton, Village Girl, and others. In the Nurserymen's Class of Fuchsias Mr. Legge, Lower Edmonton, was the most successful: he had Cleopatra, Butterfly, Miss Frampton, &c.; while Mr. Shenton gained the second prize for an excellent stand. In Class 9 (Amateurs, 12 dissimilar blooms of Dahlias, fancies) Mr. Perry gained the 1st prize for Oliver Twist, Charles Perry, Comus, Enchantress, and others. In Class 6 (Nurserymen), Mr. Legge, of Lower Edmonton, received the first prize for Sidney Herbert, Lord Palmerston, Lady Raglan, Edward, and Dr. Trotter, while the second was awarded to Mr. Shenton for Duke of Marlborough, Lady Middleton, Chance, and Mrs. Turner. We now come to Class 12 (Amateurs, 12 dissimilar, German). In Class 12 (Amateurs, 12 dissimilar, German) Mr. Smith gained the 1st prize for a beautiful set. In Class 4 (open to all, 6 pots), Mr. Hayes exhibited a beautiful group. In Class 10 (Amateurs, French), the prizes were given to Mr. Ward and Mr. Hayes for really beautiful specimens. In Class 11 (Nurserymen, French Asters), Messrs. Francis took the lead for 24 blooms, all exceedingly handsome. Miscellaneous articles consisted of some beautiful Fuchsias from Mr. C. E. Allen (1st prize); some very fine foliaged plants from J. Harker, Esq., though not in competition; some Verbenas in pots, which gained the 1st prize in Class 5, from Mr. Hayes; some Cockscombs gaining 1st prize in Class 3 from Mr. King, and other a new seedling Dahlia, "Chancellor," gaining 1st prize and 1st class certificate, came from Mr. Shenton; and "Mayflower," 2d prize and 1st class certificate, from Mr. Rawlings; some Verbenas gaining 1st prize in Class 16 came from Mr. Shenton; and above all a basket of Grapes sent by Mr. Bird, of the Green Lane, weighing 15 lbs. The same gentleman also gained the 1st prize in Class 18 (Cut Flowers), and a splendid set it was, consisting of Blue Hydrangeas, Mignonette, Roses, Verbenas, Asters, Fuchsias, Hollyhocks, and Dahlias, in all 56 sorts. Of Cut Roses, Messrs. Francis exhibited some beautiful bouquets. A Mammoth Gourd was also shown, 6 feet in circumference. A splendid Fuchsia was exhibited by Mr. Allen, named Venus de Medicis. It was struck in February last, and now measures 18 feet in circumference, grown in a 15-inch pot. This gained the extra "Challenge Cup."

NEW STOKE NEWINGTON FLORICULTURAL.—The exhibition of this Society was held on the same day as the one above, in grounds adjoining Abney Park, Stamford Hill. There were Dahlias from Mr. Legge, of Edmon-

ton, consisting of Princess Charlotte, Comet, Parpaillette, Annie Salter, Fanny, and Fearless; some by Messrs. Fraser named the Flirt, Comus, Duchess of Kent, and Dandy; others from Mr. Greening, High Cross, Herts, were Orb of Day and Miss Priestley. There were Asters from Mr. Radley, Stamford Hill, and Mr. George, which were excellent, as well as a stand not for competition; some from Mr. Wortley, Stoke Newington, also beautiful; others came from Mr. Hodson and Mr. Batten, who exhibited some excellent Anemone sorts. Mr. James and Mr. Batten gained the 1st and 2d prizes for Asters. Messrs. Fraser had some splendid kinds, and there were some good sorts from Mr. Butcher, of Upper Clapton. Messrs. Fraser, of Lea Bridge Road, also sent a handsome collection of Cut Roses, consisting of three cases, and one case of Dahlias, all good. They also gained an extra prize for a stand of Gladiolus, named Hebe, Neptune, Edith, and Mons. Vinchon. In the way of Fuchsias Mr. Rhodes was the most successful, showing Fairest of the Fair, Rose of Castille, Alpha, Duchess of Lancaster, Autocrat, and Wonderful; all excellent plants. The 2d prize was gained by Mr. Kendall, whose plants were very good; the 3d by Mr. James, and the 4th by Mr. Batten. Among miscellaneous plants were six Balsams sent by Mr. James, which were good; also plants remarkable for fine foliage from Mr. Rhodes, of Stamford Hill: Liliums from Mr. James, of Stoke Newington, forming one of the handsomest features of the show; seven stove and greenhouse plants from Mr. Rhodes; of Ferns Mr. Chitty, of Stamford Hill, sent a collection. A case of honey, weighing about 22 lbs., came from Shirley Hibberd, Esq.; three bunches of Grapes from Mr. James, and half a dozen Gourds from Mr. Meredith. We must also notice the plants grouped for effect from Mr. Rhodes; they were very handsome. There were also excellent Verbenas sent by Mr. Hodson, of Leyton, and Mr. Batten, as well as 12 bunches of cut flowers from Mr. J. George, of Stamford Hill, consisting of Liliums, Pelargoniums, Roses, and Calceolarias. A label of commendation was awarded to Miss Sarah Boyce.

## Notices of Books.

*A Manual of British Butterflies and Moths.* By H. T. Stainton. 2 vols., 12mo. Van Voorst.

The reproach that has been so often conveyed to English entomologists that they have not produced a systematic account of the insects of this kingdom in the same way as is done by botanists with plants, no longer applies to the Lepidopterous class. In the two excellent volumes now before us, we have a complete systematical account of all the butterflies and moths that inhabit Great Britain, clearly stated in scientific language, and illustrated by a considerable number of extremely well executed engravings on wood. We have always looked to Mr. Stainton, one of the most zealous, active, and distinguished entomologists of the day, to set an example, and we are happy to see that the manner in which he has done so calls for unqualified praise. Let us hope that he may take up other classes of insects in the same manner, and by degrees provide what is certainly the great desideratum in the Natural History of Great Britain. As matters now stand, the young entomologist must provide himself with a library before he can ascertain the name of a Curculio or a wild bee.

Mr. Stainton's first volume is occupied by an account of butterflies and stout-bodied moths; the second is devoted to the slender-bodied and small moths. The descriptions of the species are made as short as is consistent with exactness, and the characters of the various groups under which the species stand are so analysed and tabulated that the young student can scarcely fail to find his way through the Lepidopterous labyrinth, if he has but a reasonable amount of perseverance and intelligence. In these respects the manual before us is a scientific model; but it sadly wants an alphabetical index, the absence of which those whose time is valuable will find an inconvenience.

As an example of the skilful manner in which the author handles his subject, we take the first words of his first volume, which fairly represent the method adopted throughout the work:—

"'Butterflies and Moths' are insects; but bees and wasps, beetles and flies are likewise insects. How, then, are butterflies and moths distinguished from other insects? *By the wings being clothed with scales.* The wings of a butterfly are not transparent like those of a bee, a fly, or a dragon-fly, nor are they horny like the elytra or wing-cases of a beetle; but both surfaces are thickly covered with small scales, which, if removed, would leave the membrane of the wing colourless. It is therefore the colour of these scales which imparts the beauty to these insects which compels our admiration. It is from the two Greek words, λεπις, a scale, and πτερον, a wing, that the scientific term Lepidoptera, used to denote 'Butterflies and Moths,' is derived. Butterflies and moths have always four wings (the exceptions of undeveloped hind-wings, or of specimens entirely wingless, being comparatively rare). The mouth is furnished with a long spiral sucker, or tubular tongue, by means of which these insects imbibe the nectar of flowers. All butterflies and moths have, previous to their appearance in that state, been successively eggs, caterpillars or larvæ, and chrysalides or pupæ. It is only while in the caterpillar state that they grow: from their first exclusion from the egg to their becoming full-fed caterpillars they increase vastly in bulk: and the caterpillars are therefore very voracious eaters. When the caterpillars have attained their full size they seek some secluded corner, or penetrate into the earth, and then change to the chrysalis state. The chrysalis has no power of locomotion, having no legs, and being generally firmly attached to some solid substance, or enclosed in a cocoon of silk. If handled it testifies its annoyance by a wriggling of the hinder part of the body. After the insect has remained in the chrysalis state a determinate time, varying according to the species, or to the time of year, the butterfly or moth, as the case may be (then called the perfect insect or imago), appears, with all its parts fully developed, except the wings, which are at first short and limp. The insect crawls to some convenient place, so as to rest with its wings hanging down; and, in a short time, rarely (except in large species) exceeding an hour, the wings are fully expanded, but still limp; in a little while, however, they become stiff and fit for flight, and the insect wings its way to the woods and fields.

"Having thus briefly sketched the various changes through which each of these insects passes, the next point to which our attention is drawn is—

"HOW DO WE DISTINGUISH A BUTTERFLY FROM A MOTH?

"*The antennæ* (or horns) *of a butterfly have always a knob or club at the tip*; those of a moth have not. It is a common notion that butterflies are more gaily coloured than moths; and many imagine that the Tiger Moths on that account are butterflies; but it is not so: many butterflies are of dull colours, and many moths are adorned with most beautiful and varied markings. All butterflies (with one or two exceptions) repose with the wings meeting over the back; very few moths repose in this position.

"All butterflies fly by day; the great bulk of moths fly by night, though many fly by day, some species flying both night and day.

"The caterpillars of butterflies may also in most instances be distinguished at first sight; for, except the caterpillars of the first family of butterflies, all the others are of peculiar forms, either spiny or with two projecting horns at the head, one on each side, or with two short tails, or fat and short (like a woodlouse), or with the head much larger than the segments behind it. They feed on a variety of plants, from the Oak to the Cabbage of our market gardens.

"When we first have our attention attracted to a beautiful insect we naturally want to know something about it; *but there is the difficulty*: we see the insect, we admire its beauty; but, unless some kind friend who is acquainted with the insect would introduce us, we are at a loss to obtain a more intimate acquaintance. It is a trite saying, *everything has a name*; but how am I to ascertain the name of this butterfly which I have caught? That is the important question: if I could ascertain its name I might refer to some book, and learn something of its habits and history. Now, the question, so far as relates to a British butterfly, is not a difficult one to answer, if we set about it *determined* to ascertain the name of the species. The British butterflies are only 66 in number, and, considering their variety in form, colour, marking and size, it cannot be very difficult to point out in a short-hand way the distinctive characters of each species.

"For instance, they may be roughly tabulated thus:—

† Distance between the insertion of the antennæ one-fourth the width of the head.

A. Hind-wings with a long tail. Genus PAPILIO.

AA. Hind-wings with no tail.

B. Wings yellow. Genera GONEPTERYX, COLIAS.

BB. Wings white. Genera APORIA, PIERIS, ANTHOCHARIS, LEUCOPHASIA.

BBB. Under side of the anterior wings with a small eye-like spot near the tip. Genera ARGE, LASIOMMATA, HIPPARCHIA, EREBIA, CŒNONYMPHA.

BBBB. Under side of the anterior wings with no small eye-like spots near the tip.

C. A pale band across the middle of the dark posterior wings. Genera LIMENITIS, APATURA.

CC. Anterior wings more or less angulated. Genera CYNTHIA, VANESSA, GRAPTA.

CCC. Wings rich tawny, with black streaks and spots.

D. Under side of posterior wings with silvery streaks or spots. Genus ARGYNNIS.

DD. Under side of posterior wings with no silvery streaks or spots. Genera MELITÆA, NEMEOBIUS.

CCCC. Wings coppery red. Genus CHRYSOPHANUS.

CCCCC. Wings blue or brown, beneath with numerous small eye-like spots. Genus, POLYOMMATUS.

AAA. Hind-wings with a short tail. Genus THECLA.

†† Distance between the insertion of the antennæ fully one-half the width of the head. Genera THYMELE, THANAOS, STEROPES, PAMPHILA.

"Having ascertained in this way to which genus the species we have caught *must* belong, or at least that it belongs to one of three or four genera, we have but to glance at the table of species for that genus or those genera, and our difficulty is removed."

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The following minor works have lately reached us. *The New Zealand Handbook* (5th edition, Stanford) is a full and reliable account of the colony, prepared for the use of emigrants. The author ought, however, to have given the botanical names of the trees he speaks of. What is Tutu, what Purui, what the White Pine, rata, pohutukawa, Karaka, Nikau, ngaio, and the like. Such words convey no ideas whatever. The botanical names are perfectly intelligible, and therefore useful.—*Catechism of Photography: How to colour a Photograph* (Cassell), little treatises, reprinted from the "Photographic News," and useful as instructions to amateurs.

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TRADE LISTS RECEIVED.—L. Van Houtte (Ghent) *Catalogue No. 77 of Bulbs, and other plants.* Although Hyacinths, Tulips, Crocuses, and other bulbs stand first in this list, as the season requires, yet it is chiefly occupied by a complete list of plants of all kinds, hardy and tender, which Mr. Van Houtte has now to offer for sale; 106 pages are thus occupied.—Cuthbush & Sons (Highgate) *Bulb Catalogue for* 1859 contains descriptions of all the best bulbs which it is worth the while of amateurs to grow. It is announced that in March next there will be a free exhibition for a week in the Highgate nursery.—Parker & Williams (Holloway), *A Catalogue of Hyacinths and Bulbous Roots*; also *A Catalogue of Pelargoniums, Herbaceous and Alpine Plants, &c.*, deserves to be consulted by all buyers of such things. There is a long descriptive list of Geraniums, in which this nursery abounds.—Lynes and Arthur Dickson & Sons (Chester) *Catalogue of Flower Roots* is strictly limited to such plants. We are glad to see the nurserymen all urging their customers to get their bulbs immediately; and buyers, if wise, will take the advice.—Transon-Forteau & Son (Orleans) *Trade List for* 1859-60, is only suited to the purposes of nurserymen, who will find fruit trees, fruit tree stocks, and a few other articles worth their attention.

## Garden Memoranda.

PALACE GARDENS, HAMPTON COURT.—In no previous season do we recollect having seen these in better condition than they are at the present time; and that their noble avenues, broad gravel walks, closely mown verdant lawn, and shady retreats are appreciated by the public is evident from the number of visitors who daily frequent them. The flower beds are just now at their best, and having been within these last three years very greatly increased in numbers, upwards of 100 having been added to them, make a grand display which is well worth seeing.

All round the fountain and in front of the Palace, borders which formerly consisted of little else than rubbish, that was not only offensive to the eye but which was literally destroying the old Yew trees, with the exception of about 50 yards, which yet remain, have all been converted into beds, and are now planted with gay flowering plants. The size of these and all other beds is regulated by the distance between the trees, and is apparently 13 feet by 15 feet. It will thus be seen that they are nearly square. Between each bed is a Grass alley, 4 feet wide, throughout the whole garden. The greater part of the beds, except where trees are, was trenched 2½ feet deep last winter, the result of which has been most satisfactory. During such a dry season as the past, and in such a dry place as Hampton Court, had it not been for the trenching which helped to retain moisture things would have been all but burnt up, whereas every bed so treated and planted early enough has succeeded excellently during the whole season. The following plants, each of which fills a bed, are now in beautiful condition, viz.: Verbenas:—Impératrice Elizabeth (Maonetti), striped; Lord Raglan, scarlet; Gen. Simpson, scarlet; Purple King and Ariosto, Andre and Rougeri, Mrs. Holford, Conqueror of Europe, lilac; Rose Souvenir de la Malmaison, three-year-old plants, transplanted in trenched ground this season, now blooming a second time; Glyce maritima-variegata, white; Calceolaria Kayii, mixed with Tagetes nana; Vinca elegantissima, mixed with Mangles's variegated Geranium; Calceolaria integrifolia and C. angustifolia. These are all full of flower and extremely showy.

The following have not succeeded so well, viz., Verbena Miss Trotter, planted late; Boule de Neige, white, also planted late, after yellow Alyssum; Géant des Batailles; thus failed entirely, as did also Victory planted after Arabis; Pentstemon purpureum, died after flowering; Salvia patens is also unsatisfactory and the same may be said of Verbena Matchless and Calceolaria amplexicaulis. Delphinium formosum has been very gay, and is now blooming a second time This bids fair to displace the blue Salvia, which t resembles in colour.

Of colours and their arrangement the following is the order observed round the large semicircle in front of the palace, viz.:—1. Glyce maritima variegata; 2. Purple King Verbena; 3. Calceolaria angustifolia; 4. Heliotrope; 5. Tom Thumb Geranium; 6. Mangles's variegated Geranium; 7. Andre Verbena; 9. Calceolaria amplexicaulis mixed with Tagetes; 9. Conqueror of Europe Verbena; 10. Lord Raglan Verbena; 11. Glyce variegata and Purple King Verbena; 12. Tagetes nana. This arrangement is also repeated throughout the whole garden.

That which must be gratifying to every one who visits this fine old place is the recovery of the Yew trees which line the borders. These had evidently fallen into ill health. Many, however, which had become quite brown, except where they were clothed with Ivy and apparently dead, are now assuming a dark green colour and promise to be as good as ever. This has been effected by clearing away the tall plants and

rubbish from under them, forking in leaf mould and planting only such things as Geraniums, which do not impoverish the soil to the same extent as has been done. It may be worthy of remark too that these succeed better under Yews than under Hollies. Under the latter they make little progress compared with what they do under the former, although in both cases the soil is equally suitable.

The noble walks with which this garden is embellished are in excellent order and beautifully clean. This is effected by never giving weeds a chance of appearing, which in the end saves much labour. In dry weather salt is put on dry; in moist weather hand-picking is resorted to, regularly rolling to keep down stones. The walk parallel with the east front of the Palace is 39 feet wide and half a mile in length; formerly it was 2½ feet wider at one end than at the other, but this is now rectified. The most striking improvement perhaps in this respect is the re-adjustment of the large semicircular walk in front of the Palace. This had got very much out of position and was put right last winter. This walk, which is now 20 feet wide (2 inches wider than it had originally been), had in several places become 28 feet in width, while in others it was only 16 feet. Having to contend with so many trees these defects could not be remedied without actual measurement, which proved that the semicircle had a radius of 410½ yards, and that it had at first been laid down with great accuracy. The alterations in question have now restored it to its original position, and very much enhanced its appearance.

In the Wilderness, too, evident improvements are in actual operation. Old walks which through time had become more like ditches than walks are being filled up with brick rubbish and surfaced with gravel, and the shrubs along their sides are being rearranged. Wild flowers might also be introduced with advantage to this part of the garden, which in spring and summer is by no means uninteresting. It will thus be seen that Mr. Donald has not been idle since he was appointed to the superintendence of the place, although much has yet to be accomplished before all is finished.

The great Vine, for which this place has so long been celebrated, is producing a heavy crop of fruit, which is spread over the house with wonderful regularity. The bunches are, however, we think scarcely so good as they were last year, being apparently smaller and the berries not so well swelled. They are for the most part nearly coloured, but not quite ripe. No fire-heat, we believe, is ever employed; but a little of it now would evidently do no harm. This Vine at the present time is well worth inspection.

## Miscellaneous.

*Grape Growing.*—The *Stockport Advertiser* gives the following account of a Vinery in that borough, measuring 20 feet long and 10 feet wide, belonging to Mr. George Hayward, market gardener. Five years ago a young Vine, of the Black Hamburgh kind, was planted, and for four years it fruited in an ordinary manner, but this year there are now upon it 200 bunches, which are expected to average 1 lb. each when ripe. It should also be stated that 100 bunches were taken off in the early stage of their growth, and that the bunches now growing have been lately thinned by at least one-third of the berries.

## Calendar of Operations.

*(For the ensuing Week.)*

### PLANT DEPARTMENT.

CONSERVATORY, &c.—It will hardly be safe to depend upon a continuance of fine weather after this time, therefore preparations should be made at once for protecting all plants of any value from heavy rains or slight frosts at night. Where there is proper accommodation for plants under glass there certainly is no utility in keeping greenhouse stock out of doors as late in autumn as can be done without positive danger from frost, but in cases where many plants have to be wintered in Vineries it is often necessary to make every possible shift to keep the plants out of doors until the state of the Vines, &c., allows of managing the houses with something like regard to the well-being of the plants. And with the aid of skeleton frames or pits, constructed so that they will ward off a few degrees of frost, and a waterproof cloth, old sashes, or anything for covering that will throw off heavy rains, most greenhouse plants may be kept safely enough for some time yet, unless the weather should prove more unfavourable than ordinary, and will be found to do much better under such shelter than crowded too thickly together in a greenhouse, or in houses where fire-heat must be used. Indeed where plants have to be wintered under make-shift circumstances, as in forcing-houses, &c., which cannot always be had in a fit state for their reception at the proper time, some temporary shelter is indispensable to save the plants from drenching rains and cold winds in autumn; and a very suitable one would cost but little and would be found useful at most seasons. Should heavy rains occur before the plants can be afforded any protection, be careful to prevent their getting too wet at the root. Luculias and other winter flowering things growing in the border of the conservatory must be freely exposed to light and air, in order to get the growth well ripened and insure a fine display of bloom. Also see that all plants are clear of thrips, for this pest is particularly active at this season wherever it is allowed to gain a footing, especially on Luculias and such things as are in a growing state.

STOVE.—Where there is but one house for the accommodation of tropical plants, considerable care and attention are necessary to properly manage these at this season, as some having completed their season's growth require to be keep cool and rather dry, in order to ripen the wood, while others in free growth require to be encouraged with warmth and moisture. If there is no convenience for removing to a cooler house such things as have made their growth, these should be placed together at one end of the stove, keeping them sparingly supplied with water at the root, and giving air rather freely, which will generally serve to prevent any attempt at a second growth; those requiring to be kept warm and moist should also be placed together at the opposite end of the house, where very little air should be given, using every care to keep the atmosphere about them moist, &c. Allamandas, Clerodendrons, &c., which have done blooming, may be removed to a Vinery where the Grapes are ripe or ripening, for as these will require very little water, they will not do much mischief in the way of causing damp, and their room will be found very useful for other things. See that everything is free from insects, and keep the foliage of such things as Ixoras, &c., clean by washing with a sponge and soapy water when necessary.

### FORCING DEPARTMENT.

PINERIES.—Take advantage of favourable weather while it continues, to encourage free growth where this is desirable, giving the plants a liberal supply of water at the root, using manure water for such as are moderately well rooted, and keeping the atmosphere warm and moist. Shading will of course be dispensed with by this time—at least it should be, as growing plants will require exposure to all the light possible, in order to induce fine strong foliage and a dwarf stocky habit. See that the succession stock is properly supplied with water at the root, as any neglect in this respect while the weather continues bright would be liable to cause some of the plants to fruit prematurely. Also keep the atmosphere moist by frequently sprinkling the paths, &c., and syringe them lightly over-head, and shut up early in the afternoon, so as to husband the solar heat as much as possible: be careful, however in syringing to spare plants in flower, as syringing these over-head would probably cause deformed fruit. Give plants swelling their fruit plenty of clear strong manure water, and young plants growing in open beds will enjoy an occasional soaking of the same. VINERIES.—If bright weather continues, it will be advisable to shade fruit that is thoroughly ripe and expected to hang for a considerable time; for although the quality of the fruit may be rather improved by warmth, &c., some sorts soon lose their fresh plump appearance. Give air freely, and keep the house as cool and dry as circumstances will admit. Stop laterals in the late house, and keep the foliage regularly exposed to light, so as to have it as healthy and vigorous as possible. Fruit beginning to colour should be encouraged with plenty of warmth and air, as Grapes ripened during this fine weather will be very superior in quality, and more like to hang well than such as have to be ripened by artificial means late in the season, when there will be comparatively little sunshine. Keep thrips in check where at all troublesome by repeated fumigations, and use every means to preserve the foliage from red spider. Vines planted this season, and which are growing freely, will probably be found to be getting too dry at the root; and where this is found to be the case, if it is desirable to encourage free growth for some time longer, give the border two or three slight waterings to moisten it about the surface roots, but by no means give it a soaking.

### FLOWER GARDEN AND SHRUBBERIES.

That the present month is a favourable time for transplanting large-sized shrubs and trees is seldom disputed, nevertheless, it annually happens that a great amount of this kind of work is put off until so late that the plants have no chance of pushing a few fresh roots to enable them to resist the cold drying winds of March; we would therefore strongly advise all who intend to move shrubs or trees to commence as soon as circumstances will admit, and they will find that things shifted during this month will require but little attention in the way of watering next spring and summer, compared with others transplanted in winter and spring. Also get ground intended to be planted with young stock from the nursery turned up as soon as possible, especially in the case of strong adhesive soils, which are quite unfit for planting until they have been some considerable time exposed to the mellowing influence of sun and air. Give diligent attention to the propagation of bedding out stock, and get cuttings that are sufficiently rooted potted off at once, keeping them close and moist until they become established. Those that have been potted off some time and have got established in their pots should be gradually inured to exposure to the open air, stopping the shoots to keep them dwarf. But plants that are not very strong should be shaded from bright sunshine for a few hours in the middle of the day, or placed in a shady situation out of doors. If any of the beds appear to be suffering from want of water, give a good soaking at once, and see that late Hollyhocks are afforded a liberal supply, which will greatly assist in prolonging their beauty.

### HARDY FRUIT AND KITCHEN GARDEN.

Any of the Peach or Nectarine trees which are observed to be growing too freely should be gone over, stopping all the stronger shoots, and those that were treated in this way a few weeks ago should also be looked over again, stopping a further portion of the shoots if this appears necessary, to prevent the formation of gross strong wood. Pear, and indeed, all trained fruit trees should also be gone over, removing all superfluous wood, so as to expose the trees to sun and air as fully as possible, which will be of service towards getting the fruit spurs and bearing wood well matured before winter. Pears that are so unripe as to be unfit to eat should be treated as directed below in our "Notices to Correspondents." Where mulching has been used for Peach and Nectarine trees, this should be removed at once, if not already done, for the fruit seldom flavours well if the roots are excluded from the action of sun and air.

STATE OF THE WEATHER AT CHISWICK, NEAR LONDON, For the Week ending Sept. 1, 1859, as observed at the Horticultural Gardens.

| August. and Sept | Moon's Age. | Barometer. Max. | Barometer. Min. | Temperature of the Air. Max. | Temperature of the Air. Min. | Temperature of the Air. Mean | Temperature of the Earth. 1 foot deep. | Temperature of the Earth. 2 feet deep. | Wind |
|---|---|---|---|---|---|---|---|---|---|
| Friday 26 | 28 | 29.726 | 29.687 | 75 | 52 | 63.5 | 67 | 65 | S.W |
| Satur. 27 | 29 | 29.809 | 29.793 | 77 | 49 | 63.0 | 67 | 65 | S.W |
| Sunday 28 | ● | 29.918 | 29.771 | 72 | 42 | 57.0 | 66 | 64½ | S.W |
| Mon. 29 | 1 | 29.860 | 29.547 | 72 | 45 | 58.5 | 65 | 64½ | S.W |
| Tues. 30 | 2 | 29.553 | 29.549 | 63 | 43 | 53.0 | 66 | 63½ | S.W |
| Wed. 31 | 3 | 29.608 | 29.546 | 62 | 49 | 50.5 | 62 | 65 | S.W |
| Thurs. 1 | 4 | 29.618 | 29.573 | 65 | 42 | 53.5 | 61 | 62 | S.W |
| Average | | 29.727 | 29.638 | 69.4 | 44.6 | 57.0 | 64.5 | 63.7 | |

Aug. 26—Cloudy and warm; calm and overcast; fine.
— 27—Uniformly overcast; very fine; rain.
— 28—Partially overcast; very fine; slight rain.
— 29—Very fine; partially overcast; rain.
— 30—Partially overcast; fine; thunder in afternoon; lightning at night.
— 31—Overcast; cloudy; cold at night.
Sept. 1—Fine; partially clouded; fine but cool.
Mean temperature of the week, 3½ deg. below the average.

RECORD OF THE WEATHER AT CHISWICK,
During the last 33 years, for the ensuing Week, ending Sept 10, 1859

| Sept. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds |
|---|---|---|---|---|---|---|
| Sunday 4.. | 70.2 | 47.0 | 58.6 | 14 | 0.58 in. | 5 7 4 1 4 6 1 |
| Mon. 5.. | 69.7 | 47.1 | 58.4 | 14 | 0.30 | 3 6 8 — 5 4 4 |
| Tues. 6.. | 69.9 | 45.8 | 57.8 | 14 | 0.70 | 1 9 4 — 1 1 6 |
| Wed. 7.. | 69.5 | 47.6 | 58.5 | 16 | 0.55 | 1 5 5 2 4 3 1 |
| Thurs. 8 | 68.6 | 47.2 | 57.9 | 13 | 0.64 | 3 6 2 2 3 3 4 |
| Friday 9.. | 68.7 | 48.9 | 58.8 | 14 | 1.09 | — 5 2 3 5 2 — |
| Satur. 10.. | 69.7 | 47.3 | 58.5 | 18 | 1.27 | — 4 4 1 5 — — |

The highest temperature during the above period occurred on the 4th, 1848, and 7th, 1843 and 1846—therm. 83 deg.; and the lowest on the 4th and 6th, 1850—therm. 30 deg.

## Notices to Correspondents.

BOOKS: *Veoril.* Paxton's Botanical Dictionary.

FLOWER GARDEN: *W. F.* We cannot possibly give plans for flower gardens. Consult Mr. Lovell's papers published this year in the *Gardeners' Chronicle.*

HARD PEARS: *Guinever.* If Beurré Diels or other Pears too unripe to eat raw are properly treated they become quite as good as if ripened—perhaps better. Send them to the oven, in jars closed with lids, *without water or sugar*, and there let them remain all night or longer. They will stew in their own juice, and form not only an excellent dish for dessert, but a wholesome and delicious food for children. Try the experiment and tell us what you find the result to be.

HEATING: *A Constant Reader.* If you employ the flue of your present chimney to heat your pit you must have the means of stopping the passage of warm air when that is necessary, otherwise you will bring your bedding plants forward at a time when they should be at rest. With this proviso, the plan is a good one.

NAMES OF PLANTS: We have been so often obliged to reluctantly decline naming heaps of dried or other plants, that we venture to request our correspondents to recollect that we never have or could have undertaken an unlimited duty of this kind. Young gardeners, to whom these remarks more especially apply, should bear in mind that, before applying to us for assistance, they should exhaust their other means of gaining information. We cannot save them the trouble of examining and thinking for themselves; nor would it be desirable if we could. All we can do is to *help* them—and that most willingly. It is now requested that, in future, not more than four plants may be sent us at one time.—*Robin Hood.* Artemisia pontica.—*Rockford.* Brunsvigia multiflora.—*Cobham.* There is no difference between your seedling Lavender from Hyères and the common kind.—*F H M.* The flowers are withered, and nothing remains to show what your plant is. We suspect it to be a Ferraria of some sort.—*M.* The common small-leaved silver blotched Ivy and Hedera Rögneriana.

NEW ZEALAND. *F J, Ireland.* Take to Port Lyttelton all such seeds as you would grow in your garden in Wales. Add the seeds of all sorts of fruit trees, and of as many forest trees as you can get—Acorns, Hazel Nuts, Chesnuts, Whitethorn, Ash, Sycamore, and the like. You should read the New Zealand Handbook (price 6*d*.), published by Stanford.

ORCHARD HOUSES: *C M.* Rivers's pamphlet relating to these will furnish you with the information you seek. You will also find the dimensions of one given in our "Home Correspondence" of to day.

SUPPOSED NEW ORCHIDS: *Morsus.* Lælia xanthina is quite new and very handsome. Of Cattleya Rangelii we know nothing, that name not being in any work of authority that we have seen. As for C. Trianæi it is said to be identical with Reichenbach's C. Warczewitzii, a very fine thing, totally different from the plants sold under the latter name at Mr. Stevens's sale of Feb 6, 1852, which were C. Luddemanniana, also a very fine species, but one that we believe has not yet flowered.

THE HOLLYHOCK: *S Freeman.* The following are "Suggestions for the guidance of Exhibitors," printed by the committee of the Grand Hollyhock Show held at the Surrey Zoological Gardens, in August 1855, as given in Mr. Wm. Paul's pamphlet on this flower. 1. Quality, rather than the size of individual flowers or length of spike, should be the first point of consideration. 2 The petals of the flowers should be of a thick substance, the edges smooth and even. 3. The florets forming the centre or ball should be compact, closely set, rising in the middle to the form of half a globe, with a stiff guard petal extending about half an inch around the base, or in proportion to the size of the centre ball, so that the different parts of the flower may have a uniform appearance. 4. The arrangement of the flowers on the spike should be regular, not crowded together in a confused mass, nor loosely hanging with open spaces between them, but so disposed that the shape of each may be distinctly seen. 5. When the spike is fully blown, the uppermost flower should crown or cover the top. 6. A few small green leaves projecting between the flowers increases the beauty of the spike. 7. As a last point, it is highly important that the colours be bright, strong, and distinct.

TREE ONION: *A Subscriber.* It is very common for the Allium to produce bulbs among the flowers or instead of them. This, which is commonly called the Tree Onion, is a variety of Allium Cepa

ARTIFICIAL MANURES, &c.—Manufacturers and others engaged in making ARTIFICIAL MANURES may obtain every necessary instruction for their economical and efficient preparation, by applying to J. C. Nesbit, F.G.S., &c., Principal of the Agricultural and Chemical College, Kennington, London, S. Analyses of Soils, Guanos, Superphosphates of Lime, Coprolites, &c., and Assays of Gold, Silver, and other Minerals are executed with accuracy and despatch. Gentlemen desirous of receiving instruction in Chemical Analyses and Assaying, will find ample facility and accommodation at the College.

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URATE
SUPERPHOSPHATE OF LIME.
SUPERPHOSPHATE MINERAL.
The London Manure Company also supply PERUVIAN GUANO (direct from Messrs Gibbs & Sons), SULPHATE or AMMONIA, NITRATE OF SODA, CRUSHED BONES, and every other Manure of known value, all of which they warrant strictly genuine. Wholesale dealers supplied
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BURNARD, LACK, AND CO.'S CONCENTRATED SUPERPHOSPHATE OF LIME; guaranteed to contain Phosphoric Acid soluble, equivalent to 40 per cent. of Tribasic Phosphate of Lime.
CONCENTRATED TURNIP MANURE, equal in value to the preceding.
Of these Manures Dr. Voelcker says:—"These results must be very gratifying to you, and are the best proof of the very high agricultural and commercial value which characterises your concentrated superphosphate."
Detailed analyses, with opinions of the late and present Chemists to the Royal Agricultural Society, with Testimonials, Prices, &c., may be had on application to BURNARD, LACK, & Co., Sutton Road, Plymouth.

REDUCTION IN PRICE OF LAWES'S MANURES.
MR. LAWES begs to announce that he has this season reduced the price of the Manures manufactured by him, viz.:—

| | | | |
|---|---|---|---|
| TURNIP MANURE .. .. .. | from £7 | to £6 | 6 |
| SUPERPHOSPHATE OF LIME .. | ,, 7 | to 6 | 6 |
| MINERAL do. .. | ,, 6 | to 5 | 5 |
| BARLEY MANURE .. .. .. .. | | .. 8 | 0 |

Prof. Way and Dr. Voelcker have sampled from a bulk of 5000 to 6000 tons at his factories, and their report and analyses are given in full in Circular to be obtained on application at his office, 1, Adelaide Place, London Bridge, E.C., or of his local Agents.
N.B. Genuine Peruvian Guano direct from Messrs GIBBS, Nitrate of Soda, Sulphate of Ammonia, and other Chemical Manures. American Cotton-seed Cake supplied.

SHEEP.—FOOT-ROT OINTMENT, an original preparation, by JOHN OLDHAM, of Mansfield, a certain and safe remedy, having invariably cured when other remedies have failed. It is equally efficacious in Foul in Cows, Grease, Cracked Heels, and Thrush in Horses.
Numerous parties at a distance being inconvenienced in procuring it, the proprietor has appointed Messrs. SUTTON & Co., 10, Bow Churchyard, E.C., his London Agents, and it can now be procured through any respectable Chemist or Patent Medicine Dealer.

HAYMAKERS, possessing the best features of NICHOLSON'S Prize Machines, with recent improvements peculiar to those supplied and manufactured only for
RICHMOND AND CHANDLER, Salford.
Branch Establishment, South John Street, Liverpool.
N.B. The celebrated Bedford and Stamford Prize HORSE RAKES always in stock, with latest Patented Improvements.

HAY HARVEST.
NICHOLSON'S PATENT HAYMAKER, to which was awarded the First Prize of the Royal Agricultural Society of England at the last contested trial.
The celebrated STAMFORD HORSE RAKE has lately been much improved, and has obtained 26 Prizes at competitive trials.
MOWING AND REAPING MACHINES are performing their work most satisfactorily, and fully justify public expectation, cutting about 10 acres per day, at a cost of 9d. per acre.
Orders for the above machines should be given at once to RICHMOND & CHANDLER, Salford, Manchester.
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HENRY J. MORTON AND CO.,
2, Basinghall Buildings, Leeds.
GALVANISED IRON WATER CISTERNS
for Cottage Houses, &c., to contain 50 gallons, 25s.; 80 gallons, 30s. each; and 140 gallons, 35s., and fitted with tap, keeping the water perfectly sweet and clean; will not rust or corrode. Cisterns of all sizes.
GALVANISED IRON PUMPS
for Liquid Manure or Domestic Use, 3 inches diameter, 30s. and 32s. 6d. each; Tail Pipe for same at from 10d. per foot.
GALVANISED IRON SWING WATER BARROWS
for Garden or Farm use, containing about 20 gallons, entirely formed of iron, 32s. 6d. each.

"FRIGI DOMO."—Patronised by her Majesty, the Queen, the Duke of Northumberland for Syon House, His Grace the Duke of Devonshire for Chiswick Gardens, Professor Lindley for the Horticultural Society, Sir Joseph Paxton for the Crystal Palace, Royal Zoological Society, late Mrs. Lawrence of Ealing Park, and —Collier, Esq., of Dartford.
PROTECTION FROM THE SCORCHING RAYS OF THE SUN.
"FRIGI DOMO," a Canvas made of patent prepared Hair and Wool, a perfect non-conductor of Heat and Cold, keeping, wherever it is applied a fixed temperature. It is adapted for all horticultural and, floricultural purposes, for preserving Fruits and Flowers from the scorching rays of the sun, from wind, from attacks of insects, and from morning frosts. To be had in any required lengths. Two yards wide, 1s. 6d. per yard run; four, 3s. per yard. Also, an improved make for Shading Purposes. Three yards wide, 2s 6d. per yard run.
ELISHA THOMAS ARCHER, whole and sole manufacturer, 7, Trinity Lane, Cannon St., City, E.C., and of all Nurserymen and Seedsmen throughout the kingdom. "It is much cheaper than mats as a covering."

GUTTA PERCHA TUBING FOR WATERING GARDENS.
THE GUTTA PERCHA COMPANY have the pleasure to acknowledge the receipt of the following
*Testimonial from* Mr. J. FARRAH, *Gr. to* BOSWELL MIDDLETON JALLAND, Esq., *of Holderness House, near Hull.*
"I have had 400 feet of your Gutta Percha Tubing, in lengths of 100 feet each, with union joint, in use for the last 12 months for watering these gardens, and I find it to answer better than anything I have ever yet tried. The pressure of the water is very considerable, but this has not the slightest effect on the tubing. I consider this tubing to be a most valuable invention for Gardeners, inasmuch as it enables us to water our gardens in about one-half the time, and with one-half the labour required."
Manufactured by the Gutta Percha Company, Patentees, 18, Wharf Road, City Road, London, E.C., and sold by their Wholesale Dealers in town and country.

ROYAL AGRICULTURAL BENEVOLENT COLLEGE FOR THE RELIEF OF DECAYED FARMERS, THEIR WIDOWS AND ORPHANS.
Noblemen and gentlemen interested in Agriculture, desirous of promoting this object, will please fill up and forward a Form, as annexed.
420 influential names are enrolled to this date.
Tiptree Hall, Sept. 1.
Sir,—I hereby request you to place my name on the list of the Promoters of the Royal Agricultural Benevolent College, provided no pecuniary responsibility (beyond a subscription or donation) attaches to such Association. Name.....
Address.....
Date.....
To J. J. MECHI, Esq., Tiptree Hall, near Kelvedon, Essex.

WEST OF ENGLAND AND SOUTH WALES LAND DRAINAGE AND INCLOSURE COMPANY.
Established in 1844.
INCORPORATED BY ACT OF PARLIAMENT IN 1848.
Draining, Inclosing, Irrigating, Warping, Road Making, and all kind of Land Improvements, executed on Entailed, Mortgaged, or other Properties, and the whole cost can be made a Permanent Charge on the Lands, or redeemable in a certain number of years. BIDWELL & BROWN, Secretaries.
Offices: Exeter; and 30, Parliament Street, London, S.W.

THE LANDS IMPROVEMENT COMPANY.—Incorporated by Special Act of Parliament in 1853.—2, Old Palace Yard, Westminster, S.W. To Landowners, the Clergy, Estate Agents, Surveyors, &c., in England and Wales and in Scotland.
**The Directors beg leave to announce that the Company's** Amendment Bill, 1859, has received the sanction of the Legislature. The Company now advance money, unlimited in amount, for the following works of Agricultural Improvement, the whole outlay and expenses in all cases being liquidated by a rentcharge for 25 years.
1. Drainage, Irrigation and Warping, Embanking, Inclosing, Clearing, Reclamation, Planting for any beneficial purpose, Engines or Machinery for Drainage or Irrigation.
2. Farm Roads, Tramways and Railroads for agricultural or farming purposes.
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**Landowners assessed under the provisions of any Act of Parliament, Royal Charter, or Commission, in respect of any** public or general works of drainage or other improvements, may borrow their proportionate share of the cost, and charge the same with the expenses on the lands improved.
No investigation of title is required, and the Company being of a strictly financial character do not interfere with the plans and execution of the Works, which are controlled only by the Government Enclosure Commissioners.
**Under the Company's Acts, tenants for life, trustees, mortgagees** in possession, incumbents of livings, bodies corporate, certain lessees, and other landowners are empowered to charge the inheritance with the cost and expenses of the above improvements, whether the money be borrowed from the Company or advanced by the Landowner out of his own funds, and owners in fee may effect these improvements of their estates without incurring the expense and personal responsibilities incident to mortgagees, and without regard to the amount of existing incumbrances.
For further information, and for forms of application, apply to the Honourable WILLIAM NAPIER, **Managing Director, 2, Old Palace Yard, Westminster, S.W.**

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**I. All Works of Drainage, Irrigation, Warping, and Embankment.**
II. The erection of Farmhouses, Cottages for Agricultural Labourers, and all kinds of Farm Buildings.
**III. The construction of Roads.**
**IV. The Grubbing and Clearing of Old Woodlands, Enclosing, Fencing, and Reclaiming Land.**
**The Landowners by whom any of these Improvements may** be executed are—Tenants for Life, Trustees, Mortgagees in Possession, Guardians, Committees of Incompetent persons, Married Women, Beneficial Lessees for Lives or for a Term exceeding 14 years, Corporations, Ecclesiastical or Municipal, **Incumbents, Sequestrators, Charitable Trustees, &c.**
**The Owners of Estates not entailed, who may be desirous to** avoid the expense or inconvenience of a Legal Mortgage, may also avail themselves of the powers of the Company's Act to charge their estates with an outlay in improvements.
In all cases the whole cost of the improvements, with the attendant expenses, may be charged on the Estate, the term for Building Works being limited to 31 years, but for all other improvements being capable of extension to 50 years.
No investigation of title being required, and the charge not being affected by Incumbrances, no legal expenses are incurred.
Operations under the Company's Act are divided into two principal branches; one where the Landowner designs and executes the improvements by his own Agent and merely **requires a loan from the Company to charge the Estate,—the** other where the Company undertake the entire responsibility of the Improvement and obtain repayment by way of Rent Charge. In the first case the plans, specifications, and estimates prepared by the Landowner's Agent are forwarded to the Company to be submitted for approval to the Inclosure Commissioners. As soon as the sanction has been given the Landowner proceeds to execute the works, and the Company having conducted the business through all the official forms, complete the charge on the estate when the works have been passed by the Commissioners, and repay the Landowner the amount agreed upon.
In no part of the business is there any control upon a Landowner except by the Inclosure Commissioners. The Company never interfere, except at the special request of the Landowner or his Agent, and only to such extent as may further the objects he has in view.
In the other case, where the Company are required to execute the works, a report and estimate of the Improvement are sent to the Landowner, and having been approved, the plans are then prepared and the works—either submitted to public competition or entrusted to their own staff—are carried on to completion, and the amount of the actual expenditure only, approved by the Inclosure Commissioners with the Company's agreed commission and the Commissioners' expenses, finally charged on the Estate for the term fixed by the **Landowner.**
**The Company also execute Drainage and all other Works** of Land Improvement on Commission for the Owners of Estates not Entailed who may wish to charge the outlay on the property through the simple and inexpensive process of the **Company's Act.**
Applications to be addressed to WILLIAM CLIFFORD, the Secretary, at the Offices of the Company, 52, Parliament Street, London.

AGRICULTURAL MACHINERY
E. R. AND F. TURNER, Ipswich, manufacture **Prize Mills for Crushing Corn, Seed, Malt, &c.; Portable** Grinding Mills, Steam Engines fixed and portable from 2 horse-power and upwards; Threshing Machines, Chaff Cutter, Oilcake Breakers, Horse Gears, Saw Tables, &c., all of a superior description and adapted for Home, Colonial, and Foreign use. Illustrated Price Lists sent free on application.
IMMEDIATE ORDERS WILL PREVENT DISAPPOINTMENT.
"SIGMA'S" UNIVERSAL SEED PLANTERS (Dibbles), vastly improved since the Prize of the Royal Agricultural Society was awarded them. The "MULTUM IN PARVO," forming eight perfect implements, highly commended, see testimonials. The Manure Distributor carried off the Prize Medal in 1852, recently much improved, see *Gardeners' Chronicle*, July 30 and August 6th. "Simple, promising, and ingenious." The STEEL DRAW SHAVE HOE clears a row between Turnips at one sweep. Engravings sent.—C. POWELL, Hurstgreen, Sussex. All Patented.

FOWLER'S PATENT STEAM PLOUGH
has gained the following prizes:—
The Royal Agricultural Society's Prize, at Warwick, July 1859, 50*l.*
The Royal Agricultural Society's Prize at Chester, July 1858, 500*l.*
The Highland Society's Special Prize at Stirling, Oct. 1857, 200*l.*
And at other Agricultural Meetings in the United Kingdom, Prizes amounting to 175*l.*
For further particulars, prices, and Catalogues apply to JOHN FOWLER, JUN., 28, Cornhill, London, E.C.

SHAW'S TIFFANY is universally acknowledged to be the best, neatest, and cheapest material for shading Conservatories, and other Hothouses. Effectually securing Plants from the scorching rays of the sun, without obscuring the light. Also, for protecting the Bloom of Wall Trees from spring frosts, and Fruit from birds and wasps. Sold in pieces.
No. 1.—20 yards long, by 38 inches wide, 5*s.* per piece.
No. 3.—Double strength, 18 yards long, by 39 inches wide, 7*s.* 6*d.* per piece.
No. 4.—Treble strength, 18 yards long, by 39 inches wide, 9*s.* per piece.
A liberal allowance to the Trade when ten or more Pieces are taken.—JOHN SHAW & Co., Princess Street, Manchester.

COLLEGE OF AGRICULTURE AND CHEMISTRY, AND OF PRACTICAL and GENERAL SCIENCE, 37 and 38, Lower Kennington Lane, Kennington, London, S.
Principal—J. C. NESBIT, F.G.S., F.C.S., &c.
**The system of studies pursued in the College comprises every branch requisite to prepare youth for the pursuits of Agriculture, Engineering, Mining, Manufactures, and the Arts; for the Naval and Military Services, and for the Universities.**
Analyses and Assays of every description are promptly and accurately executed at the College. The terms and other particulars may be had on application to the Principal.

EDINBURGH NEW VETERINARY COLLEGE.—**Her Majesty has been graciously pleased, under her** Royal Sign Manual, to place the New Veterinary College under the operation of the Charter of the Royal College of Veterinary Surgeons, and to "will and declare that the persons who now are and may hereafter become Students of the New Veterinary College of Edinburgh, and shall pass the Examination prescribed by the said Royal Charter, shall be Members of the Royal College of Veterinary Surgeons, and shall be entitled to all the privileges given to such Members by the said Charter."
Moreover, at the last General Meeting of the Highland and Agricultural Society, it was resolved that Students educated in any Veterinary College in Scotland, authorised by Government, **shall be eligible for Examination for the Highland and Agricultural Society's Veterinary Certificate.**
The WINTER SESSION for 1859–60 commences on November 2, on which day Professor JOHN GAMGEE will deliver an INAUGURAL LECTURE, at 2 o'Clock precisely.
Prospectuses may be obtained, and particulars as to Fees, &c., may be learned on application to Professor JOHN GAMGEE, New Veterinary College, Edinburgh.

MANCHESTER AND LIVERPOOL AGRICULTURAL SOCIETY.
The ANNUAL SHOW of HORNED CATTLE, HORSES, SHEEP, PIGS, POULTRY, VEGETABLES, SEEDS, ROOTS, IMPLEMENTS, &c., will take place at Liverpool on THURSDAY, the 8th, and FRIDAY, the 9th September. Premiums amounting to nearly 1100*l.* will be competed for. (Entries close on August 20.)
On WEDNESDAY, the 7th inst., there will be a PUBLIC TRIAL of COMBINED REAPING and MOWING MACHINES, and of CULTIVATORS, &c., on Farms near Liverpool; commencing with the Reapers, at 11 A.M.
T. B. RYDER, Secretary.
**2, Elliot Street,** Liverpool, September 3.

STAFFORDSHIRE AGRICULTURAL SOCIETY.
STOKE-UPON-TRENT MEETING, 1859.
The POULTRY EXHIBITION in connection with this Society will take place on WEDNESDAY, September 14.
Prize Lists and Certificates of Entry may be obtained on application to WM. TOMKINSON, Secretary.
Newcastle-under-Lyme, Sept. 3.



# The Agricultural Gazette.
*SATURDAY, SEPTEMBER* 3, 1859.


MEETINGS FOR THE FOLLOWING WEEK.
THURSDAY, Sept. 8 } Manchester and Liverpool Agricultural
FRIDAY, — 9 } Society at Liverpool.

A SERIES of questions relating mainly to the value of agricultural labour in Ireland has been issued by the Royal Dublin Society, answers to which are requested from any who may be able and disposed to state experience on the several subjects specified. There can be no doubt of the value of the information sought; and we cordially hope for the success of this effort to obtain it. The questions may be obtained by an application to the Society, and the answers must be returned before the end of October to Dr. STEELE, Secretary.

Though convinced with the Society that the information desired will be of advantage to the community, we are bound to add that we do not expect it will be thus obtained. Having had considerable experience in procuring and tabulating information on agricultural experience obtained by means of circular inquiries, we know that unless the questions put admit of the simplest and shortest

possible answer—unless they be few and direct, needing no calculation or research, they will not be answered. But here are nearly 200 questions, and many of them most difficult and abstruse, relating too, not directly to the case of the farmer questioned, but to his experience per 100 acres, and needing lengthened thought and calculation and research. We do not hesitate to say that the time of any one who is competent to answer all these questions is worth at least three guineas a day, and it would take him a week to treat them with any kind of justice.

Let us not however add, by any further objection, to the undoubted difficulty of the undertaking. The Society would in our opinion have done better, if they had directed the attention of their correspondents to one section at a time of the large field on which they have entered; and the questions on it should have been both simpler and fewer; but if any one is disposed to help them in the execution of the plan they have adopted, he can do so by applying for the questions issued at the office of the Society, Dublin.

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GRENVILLE *v.* BRIGGS & Co.—This action, which was lately tried at Wells Assizes, is so full of interest that we are induced to lay before our readers an abstract of the proceedings with a view to a few comments upon the whole matter.

It would appear from the evidence that the Messrs. BRIGGS & Co. have sold to Mr. GRENVILLE a quantity of Rape-cake as FOOD for cattle, the result of using which is that four cows partaking of it all die or are obliged to be killed in the short space of 24 hours. The veterinary surgeon who examines the beasts pronounces that they have all died of inflammation, and the chemist (Dr. VOELCKER) who analyses the cake finds it to consist almost entirely of Mustard, and indeed is so purgent as to have blistered his assistant's arm by the application of it in the shape of a poultice. The Professor's evidence is confirmed by Mr. HEREPATH, who states that having examined the cake under the microscope he found it to be composed almost, if not entirely, of Mustard.

Scientific evidence of this kind is further strengthened by the information of an eminent practical farmer who informs the jury that four years ago he had two bullocks killed by Rape-cake (?) which also proved to be full of Mustard, and that the party who supplied it paid a compensation for his loss.

For the defence it is stated by Mr. BRIGGS that the cake in question was made from Indian Rape, which contains the same volatile oil as Mustard, and he considered it good as a stimulant. On cross-examination he admits that Mustard-cake is made upon the same premises, but kept up stairs separate. He has never had any complaint, although he has sold many hundred tons of Indian Rapecake. This evidence is fully confirmed by other seed-crushers, all of whom admitted that a large amount of Indian Rape-cake is sold as cattle food.

From testimony of a like kind from Prof. WAY and others it was thus attempted to show that the article sold was Rape-cake, but with the prefix of *Indian*, from which we suppose the defendant would have it inferred that if Indian Rape did not act the same as other Rape the fault was none of his.

The ruling of the Court was that if the jury thought that the animals died of the cake the plaintiff had reasonable grounds for a verdict as the defendant had not fulfilled his contract, but if the jury were of opinion that the animals died from any other cause then the verdict must be for the defendant.

That the verdict was for the plaintiff will not excite surprise, and in a legal point of view the result of this trial is of great importance.

We would now, however, glance at the evidence as to the nature of the cake in dispute and upon it we would remark that there can be but little doubt of the fact that honest Rape-cake is a really wholesome feeding material and does not contain the stimulating qualities of the so-called Indian Rape; the question, therefore, is—what is this Indian Rape? We have reviewed it before in this Journal as having been offered—a common commercial article—as "good for mixing." Yes, good for mixing with, *i.e.*, adulterating Turnip seed. We have procured some of it in order to make out what kind of plant such seed might develope, but NOT ONE SEED COULD BE GOT TO GERMINATE. Indian Rape then is *prepared* for the seedsman. It seems to be an article of extensive commerce with the seed-crusher, and its cake is proved both by a microscopic examination, as well as by its peculiar pungent qualities, to be that of a Mustard, a circumstance which can readily be demonstrated by making a paste of some of the seeds themselves or of a portion of the cake by means of a little luke-warm water, when in a short time, varying from a few minutes to two or three hours, the peculiar pungent odour of Mustard is fully developed.

We incline from these facts to a belief that to call this Rape is a misnomer, which, if expressed with a guilty knowledge, is simply a lie purposely to defraud.

We have shown that Charlock, which is far too much grown with English crops, now finds its way into the market and is an article of commerce with the dishonest seedsman, who finds this also *good for mixing!*—no less than with the equally culpable and disreputable seed-crusher, and though the cake resulting from this may possibly be kept in a separate room we may safely predict that it does not stay there always. Again, that it is simply put aside in this separate room merely to occasionally add its quota to the pollution of the Thames is hardly tenable, or why go to the trouble of storing it at all?

But no, it can be turned to a profit. Farmers, good trusting men, don't examine these matters critically. A cow or two may occasionally die, but then, as the traditional doctor is made to say if they die, Nature kills them. That deaths often take place from improper food we have little doubt, and we can easily see how an isolated case may occur, if we suppose that some of the cakes from the separate room are *got off* by putting a few of them with even an otherwise genuine lot of Rape-cake.

That the article under the name of Indian Rape is one in great and constant demand by the seed-crusher the evidence on this trial has fully established; that the cake made from it is much used, not however with the avowal that it is anything but really good Rape, there can be no doubt. We believe this Indian Rape seed to be trash, very different in its species and in its effects from genuine Rape seed, and therefore the conclusion is obvious that in purchasing the immense quantities of this, which farmers are reported to do, they have an inferior or fictitious article palmed upon them for a genuine one, with a like result in this as in other cases of adulteration, viz., an increase of profit to the vendor. It therefore behoves the consumer to look well about him in this matter, and so to be cautious how he makes his purchases of Rape-cake; for although there may be a remedy by an action at law, yet we know that this is at best a tedious and unsafe, because uncertain satisfaction.

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## WEXFORD AND WATERFORD.

FROM the end of April to the end of July, 1859, no rain has fallen, excepting some of a few hours' duration on the 20th June, and a light shower on the 2d of July, in the south-east portion of the county of Wexford. Since the year 1826 no such drought has occurred in the district to which I am referring, and it must be added the want of moisture throughout the adjoining coast line has been subject of lamentation; in no quarter within my knowledge has the want of rain been so remarkable as here. In the interior of the county within the influence of the mountain range some fertilising showers have dropped at seasonable periods, but this—the best Barley district within a very extended area—has not been so favoured by Providence. Neither Mangels, nor Swedes, nor Carrots have even germinated on our farms. Potatoes could not be generally planted until May, from the bad condition of the heavy loams saturated with the previous long prevailing rain—and the subsequent drought has in many instances prevented their free vegetation. Late sown Barley has miserably failed, and generally the straw will be short, even though the cast of grain may prove reasonably good, which it probably will be on favourable soils, and after early sowing.

The Tawny or Dun Winter Oats have succeeded marvellously on all sorts of soils, though the spring sorts have failed. Wheat promises well; Beans likewise—seldom better. The hay crop has been short. Pasturage is dried up. Cattle and sheep are in present difficulties, and seem to be ruminating seriously as to the results to them of what is likely to be a general failure of green crops. Water is very scarce in many places, and lambs are said to have died from want of drink, and I know that some have frequently rushed to a pond in order to satisfy their thirst. Violent thunderstorms have occurred elsewhere in Ireland, but none here. May not this fact be assigned as the presumptive cause of the uncommon healthfulness of our Potato crop? We have not heard of or seen this season even a single case of plague-stricken haulm, ear, or tuber. Although the amount of produce will be greatly below that of last year, the quality of the tubers will be excellent. Potato sets planted early and on dry friable soil properly treated in all respects will be however of more than average yield; but neither our soil nor the spring season favoured my locality (with some exceptions) with the necessary facilities. The variety generally cultivated here attains an early maturity, and the season is now too far advanced to allow ground for hoping that future showers will enlarge the tubers to become much larger than they now are.

The Turnip crop has totally failed, and very few Mangels are to be seen. I had sown some of the latter between the 17th and 20th May, the seed did not vegetate at all. On the 25th June, I sowed Purple-topped Turnip seed on the same drills, and with the aid of a mechanical friend I constructed a watering machine. The old hind-wheels of a worn-out mail coach, an axle a whiskey puncheon pronounced unfit for service in a distillery, and a 10 foot treble Deal, with a few trifling pieces of timber, were the nearly entire materials.

The shafts are 10 feet by 3 inches thick, the bolsters (3 feet 9 × 5 × 3 inches) rest on the axle casing, a pair of transom pieces 6 feet by 3 feet 4 inches long, are hollowed to fit the curvature of the puncheon; 4 iron bolts ½ inch square, with screw nuts (under) secure the transoms; and 4 other bolts of the same thickness secure the shafts and bolsters on the axle. A small trough pierced with holes (burnt out to keep them clear for the liquid) to suit the distances at which the drills and plants are apart, extends across behind, suspended from the shafts by slips of timber. The bottom of this trough is divided by a cross-board in the centre, and inclined from the middle to each end; each division has its own wooden cock or spigot supplying the liquid to it.

When the riders, as commonly is the case, are placed on the top of the shafts instead of being, as here, under them, the height of the barrel is dangerously high for such concentrated weight, and inconvenient as regards the labour of lifting water to fill it. By lowering the bolsters this work is lightened, and with ordinary care there is no danger of upsetting the vessel on such inequalities.

The waterings, though given at a late hour in the evening, and applied three or four times, proved useless. The moisture was soon evaporated, the surface dried up; the work of re-sowing (with some late sorts) must be recommenced whenever we shall be favoured with rain. Ordinary watering, though copiously and frequently in my garden, has proved almost a failure also. I have not obtained thereby even a dish of Turnips. In one respect the cart has I believe been serviceable; I have used it for watering Potato drills 100 yards long. Four cart-loads of water easily watered 2 drills in each evening (from half-past 6 to 9 o'clock). Thus the entire piece was watered in two evenings; by repeating the process the crop has been watered twice in the week. The most decided effect was observed after watering, when the moulding plough immediately followed the water-cart. By this means the water falling from the machine was prevented from rapid evaporation, and in a great measure absorbed by the plants.

Desirous of examining the state of the crops and the general aspect of the interior of the county of Wexford, on the west, I drove across the range of rocky hills termed the mountain of Ferth, from some geological reasons beyond my depth, though it is barely 500 feet above the sea level.

Reaching the poor and bleak hilly country about Adamstown, I was surprised to see that Oats and Potatoes were looking so well; they had evidently had some rain; but unless where a "bit" of undrained land in some valley presented pools or dykes of water the cattle were in a pitiable state; the owners not compassionating their sufferings under a scorching sun, and tormenting flies buzzing about and stinging them. By keeping them under a shed or some protection. This however would increase the hungry sensations of the poor animals, for whom there was no green fodder to be obtained. Immediately about Clonroche, if the soil be light, not infertile, owing to the care bestowed upon it. Many of the tenants of Lord Carew hold large farms, and also keep stock on a corresponding scale. From the description of some of these farms it may be inferred that the occupiers have beneficial interests in them, and as they deserve to be, sufficiently independent. Two or three Scotch farmers have settled near Clonroche, and are among the best examples of good farming. The scenery of the country is extremely interesting from the abundance of woodland, the respectable appearance of the homesteads, and especially from the grandeur of the trees about Lord Carew's beautiful grounds and mansion house, and the newly created demesne and naturally tasteful house of F. Bruen, Esq., on a most picturesque slope.

The fertilising properties of calcined limestone are fully appreciated in the districts through which I was then passing. The quarried stone is frequently carted from the vicinity of New Ross to farms at a considerable distance, on which small kilns are built to burn the lime on the farms to which it is to be applied. This obviates the difficulty of carting the calcined stone in rainy weather, when its causticity and tendency to expand in bulk are such inconvenient and even dangerous impediments to its conveyance from place to place. By far the greater portion, however, is calcined in the numerous kilns of Ballyanne. This village is situated a short distance from the bridge at Ferrymount on the river, and within two miles of New Ross; and also on the high road leading from this beautifully situated and thriving town to Newtown Barry there are 16 lighters of 15 tons burthen constantly employed in bringing the stone from quarries between New Ross and Waterford. The average quantity of limestone annually delivered by them at the Ballyanne Quay, to which a short canal from the river Barrow gives access, is about 30,000 tons. This, however, is an inconsiderable portion of the whole quantity used. [illegible]

brought into the north-west part of the county of Wexford from Ballyellin and other contiguous parts of the county of Carlow by heavy land carriage. One of the anticipated benefits derivable from the extension of the railway from Bagnalstown through Borris in the latter county by Ballywilliam in the other, and onwards to Wexford, will be free railway access to the inexhaustible limestone quarries of Ballyellin, from a very large and poor district on the western side of the county of Wexford, stretching from 15 to 20 miles east and north of Ballyanne. At the southern extremity of the mountain range separating those two counties, at the elevation of 300 feet above the Barrow, the line of railway communication is being made. When this shall be extended towards Wexford there will be a two-fold supply of lime, viz., from the county of Waterford—by water as at present—on the south, and from Carlow on the north, readily available to the bleak and poor parts of the barony of Bantry. The railway station for this object will be about five miles north of Ballyanne. The very large estate of Lord Carew, and some minor not unimportant properties will be much benefited by this railway.

Passing along the hilly tracts and very inferior soil about Adamstown, and from Clonroche to Ballyanne by an excellent coach road, of which eight miles of the 13 intervening between Clonroche and New Ross are very dreary, and dispiriting to the eye of a farmer, or of a traveller in search of the picturesque, I was surprised to see the winter Oat crop in such good condition. Some was being reaped, and the quality of the grain unobjectionable as in any previous year.

From Ross to Waterford a steamer leaving at 8 A.M. bore me along the beautiful, and in some parts very deep and widely expanded river, which has a course of 24 miles downwards. This boat plies every day, Sundays excepted, and leaves Waterford on the return trip at 4 P.M. It carries to Waterford large supplies of cattle, sheep, pigs, and poultry. That city is not only the soul of Waterford county but in a great measure that of the counties of Wexford and Tipperary also. It receives from Clonmel vast quantities of grain and other food for human consumption, and the manufactured calicoes from the vast establishment of the Messrs. Malcolmson at Portland, on the banks of the Suir, a manufactory to which I shall in my next communication more particularly advert. For the present it is enough to state that the export trade from Waterford in agricultural produce during the year ending April 30, 1859, has been as follows:—Bacon, 87,091 bales; firkins of butter, 240,181; Oats, 203,233 bushels; pigs, 87,881; cows, 5225; sheep, 28,277.

An increase will appear in the ensuing year, if we may judge from the exports from May 1st to July 9th of the present year:—Pigs, 11,698; cows, 6221; sheep, 8387; boxes of fish, 1159; packages of poultry, 1372; cases of eggs (2 cwt. each), 2994. *M. D.*

## MACHINES, CROPS, AND CATTLE FOOD.

AT the late annual meeting of the Yorkshire Agricultural Society, the President, Lord Herries, referring to the progress of the past 20 years during which the Society has been at work, referred to the implements of the show-yard—"Twenty years ago the tile machine was the most attractive part of the implement yard; while it worked its way, and by cheapening the price of tiles, this machine has been the cause of draining a vast extent of country which would not have been drained. Again, the engineer's skill introduced the portable steam-engine; what benefit has that not been for the country at large? The machine we have seen in the show-yard which has come rapidly into use—the reaping machine—what advantage will it not be on crops where labourers are difficult to be procured, and where bushels and bushels would have been wasted? The same may be said with respect to all others, but there are too many for me to name. There is everything in these show-yards which would tend to the improvement of agriculture in every way, and the increase of the engineering department of the country. I am sure when we look back to the past we must feel gratified and satisfied that we have done our utmost to promote the interests of agriculture."

Mr. H. S. Thompson, of Kirby Hall, said: "Those who, like myself, have been present at the earlier meetings of this society, can recollect the very wonderful changes that have taken place, and to the best part of them Lord Herries has called your attention. I believe, however, that we are on the eve of improvements quite equal to those which have taken place since the time when Turnips and Clovers were introduced, and turned light blow-away lands into the most fertile sort of agricultural lands. Now I believe that the great clay districts, the great expanse of clay in the middle of which Hull stands, eastward into Holderness and northwards towards York, are about to be improved. I believe that we are on the eve of as much improving as we were when we changed from growing sands into the most fertile sheep farms. The great drawback to the cultivation of clays is the difficulty of growing sufficient food to keep the stock upon it. Now we have, by finding out the right way of growing Mangel Wurzel, at the same time found out to grow a large quantity almost unfailingly. I have been trying for some years past this cultivation, and last winter on clay land, with only three nights' frost—which was all we had last winter—we got a very good crop with only one ploughing, which I have done, and I think I have a right to show that this is the turning point in our being able to grow Mangel Wurzel upon a stiff clay. In ploughing up clay we sometimes meet with this difficulty—that it has to be done in a very short time—and upon farms which chiefly consist of clay that cannot be done by the ordinary force of the farms. Then comes to the rescue that great power of steam, and I believe that upon these level tracts we shall very shortly see steam brought into regular use in the autumn ploughing of clay. I don't like prophesying, but I do not hesitate to express my entire conviction that, in a very few years, you will see almost universally the use of steam cultivators, perhaps not in the hands of each farmer, but hired and used upon all clay farms for the autumn ploughing of these lands. By this means I believe that most crops may be grown the following year, and that, too, effectually and economically; and, as I said before, I do believe that we are going to effect a great revolution in the cultivation of strong clays. In regard to light lands, I may mention a small point, which is the introduction of a new plant for blowing sands. It is but one of many which we are now making in the best beginnings of improvement. Where I find Clovers will not grow, I grow Lupin, which is an exceedingly good sheep feed, and of which I can grow a sufficient crop after the roots have failed. The Lupins then produce a crop for sheep food, and nothing is a better preparative for corn. This is a very valuable crop for what is almost a hopeless sort of soil."

Mr. Heneage, of Lincolnshire, said: He had been very much gratified with the very splendid show of stock in the yard, and he thought it had been well said by Mr. Thompson that they were on the eve of great improvements. He was also of opinion that clay lands might be made to pay, and he trusted that before many years had elapsed there would be a very small portion of strong lands in which Turnips might not be grown as well as Mangel Wurzel. With regard to reaping machines, he considered that Burgess and Key's would suit the large farmers, and that manufactured by Mr. Cuthbert, of Bedale, the small farmers. As to drainage, it had not yet been sufficiently applied all over the kingdom, but they had ascertained the depth at which land could properly be drained. All, however, could not drain land exactly in the same manner; but in order to do it properly, according to the locality, a farmer must make use of his own eyes and his own experience. He thought it advisable, in drainage, to cut off the water from the springs; and with regard to food, he had been told by a practical farmer that cake made of the seeds collected from the Cotton plant would fatten stock very nearly as well as oilcake.

Mr. Alderman Blundell, as a seed crusher and manufacturer of oilcake, wished to make a few observations upon what had fallen from Mr. Heneage. He quite agreed with that gentleman that Cotton seed, when they could get it in a certain state, was very fair food for cattle. He had spent nearly three years in the backwoods of North and South Carolina, and had become intimately acquainted with the use of the Cotton seed. Where they had that seed in excess, they were in the habit of using it in winter, when the cattle are starving and scarcely sufficient food can be found for them, even with Maize. The seed was boiled in water, and given with the leaves of the Maize. They are mixed up together, and given to the cows, which are kept in a tolerable state of health in the winter. The seed had the effect of causing heat, and where there is not a proper supply of water, cattle suffer from too large a use of Cotton seed. Where it is grown, it is of a very different character to that collected in Egypt, where it lies in heaps and loses those mucilaginous and nutritious properties which it inherits in its pure state. He thought that when tried it would be found that 1 lb. of Linseed-cake would do far more good than 3 or 4 lbs. of Cotton-seed cake. It was not a very safe thing to keep on their premises, for if it was left in a moist place it was liable to ignite.

Mr. H. S. Thompson said that, with respect to the Cotton seed, he might state the experience he had had with it for feeding purposes, He had used Cotton-seed cake and the best Linseed-cake in the feeding of from 70 or 80 head of cattle, during the last winter, namely, cows, feeding beasts, and store cattle, and he used a good many tons of the Cotton-seed cake during the period he had mentioned. Those cattle which had been fed with Cotton-seed cake and those which had been kept upon Linseed-cake in equal quantity were equally good for the butcher. He was, however, only speaking from his own experience when he said that the Cotton-seed cake was available for feeding cattle, and it was only good when a fine sample of it could be obtained. The cake should not be made from the whole Cotton seeds, because the husk of the Cotton seed is hard and woody, and dangerous to feed cattle upon; many deaths of animals have occurred in consequence of its use. Farmers, in using Cotton-seed cake for their cattle, must be careful in procuring a proper description—the shelled Cotton-seed cake; but he hoped they would not purchase it in very large quantities, because he would perhaps not be able to buy it for his cattle next winter.

## Home Correspondence.

*Steam Cultivation.*—In your publication of the 20th inst. there is a letter from Mr. C. Burcham on steam ploughing, in which he mentions a plan of his own, the nature of which is not sufficiently explained by him to render it comprehensible to a stranger. I am led however to think from what he does state, that his plan like all the others, with one exception, embraces ploughing only, and in that case, whatever may be its merits, in other respects it will like the rest prove a failure, so far as economy is concerned, and also as not approaching that comprehensive mission which steam power has to fulfil in husbandry, as well as in every other industrial employment. The writer has also referred to the "Halkett guideway" system, which, after praising, or rather "damning with faint praise," he condemns with the rest for that which constitutes the essence of the system, and upon which its utility entirely hinges, viz., the railway. Having paid a great deal of attention to the subject of steam culture (although not an engineer nor in any way whatever connected with either Mr. Halkett or any other patentee), and having particularly made myself thoroughly acquainted with the practical bearing of Mr. Halkett's invention, I have arrived at a totally different opinion from Mr. Burcham, and if you will oblige me with a sufficient space in your pages, will tell you upon what grounds it is formed. The question now in course of solution, I conceive, is, whether the processes of husbandry are or can be made amenable to the same laws of mechanical power, and especially steam power, as are applied in manufactures and other branches of industry. In determining this question it will be necessary to divide the industries into two distinct classes, the first of which embraces those in which the raw material is brought to the power, the second in which the power is brought to the raw material. Under the first class we place every kind of manufacture, whether textile, such as cotton, silk, linen, woollen, &c., or mechanical, as turning, nail, pin, needle, &c., making, with a hundred other operations formerly done by hand, and in all of which the steam power is fixed, and the material brought under its influence by the working machinery. The second class embraces those branches of industry in which the power becomes locomotive and is brought to the material that is to be worked upon, as the road, the water, and the land. It is with this class only that we have at present to do. The application of steam power in the first and second of these branches has now for many years been successfully carried out, as it has also in every branch of industry in the first class; and it is only in the case of the land that any difficulty now remains, although, before the railway system was adopted, a similar obstacle presented itself but was sooner overcome. The only question, therefore, that remains to be solved is, what obstacles present themselves to the application of steam power to the land on the same principle as has been applied to the road? So far as I can judge by Mr. Burcham's letter, he objects to the Halkett system on account of the expense of laying down the rails; but the system is an impossibility without them, and therefore he concludes the plan is withdrawn, or has broken down. I believe he will find himself mistaken in this; but that is not the question. I ask him what was it that induced the projectors of railways to expend from 10,000*l.* to 50,000*l.* per mile upon railways, and to carry out the system until the whole country is intersected with a network of rails at an outlay of 400 millions sterling? He will reply, because the projectors and shareholders were convinced that it would reduce the expense of travelling, and eventually pay them for the outlay. The result has proved that, in the main, they were right, although some lines have been attended with a loss; not however because of the failure of the system, but from the extravagance and cupidity of those concerned in their construction. Now the Halkett system will involve an outlay of 20*l.* per acre for laying down the rails; and when the facility this will afford for performing all the operations of husbandry at an average cost of only one-third of the present outlay of a farm, I ask what is to prevent its answering the purpose to carry out the system? I can find no difference whatever between the condition of the roads and that of the land. Both are the raw material to which the power of steam must be brought before it can be applied. Gurney's & Hancock's steam carriages for the common roads and the various steam ploughs now before the public are upon a par, and are both, in my opinion, mistakes. The railroad which fulfils every operation that was formerly carried on upon the old turnpike roads, at less than one-third the expense, is now the almost exclusive mode of locomotion, whether for men and women, cattle or goods; and when the full mission of steam power in agriculture is accomplished, it will embrace every operation of husbandry, and not, as in the case of the steam coaches of Gurney & Co., one only. But the expense; ay, there's the rub, or rather the bugbear. Does Mr. Burcham know that many farmers expend as much as 10*l.* per acre on drainage, which does not cheapen a single operation of husbandry? But it increases the produce and renders the land workable at times when it would not otherwise be possible. Now the Halkett system will not only do this to a far greater extent, but it will cheapen every branch of labour that is done on the farm, besides enabling the husbandman to do the work, upon a press, by night as well as by day, and thus concentrate the power upon any given operation. Why a "lot of ploughs" cannot be carried on a rail over a farm, as well as "on a railroad to Birmingham," I am at a loss to conceive. Has Mr. Burcham ever seen the guideway at Kensington? His opinion is certainly at variance with that of a great number of the first engineers and other scientific gentlemen in this kingdom, as well as out of it

Whether he is an engineer or not I cannot gather from his letter; but I am quite sure that if his own system embraces only one operation of husbandry, like those now before the public, it will go "to the tomb of all the Capulets" before the Halkett system. To conclude: I believe it may be laid down as an axiom, that no system of steam agriculture that does not, like the railway, supersede every other power and perform every operation of husbandry, can be rendered economic, or will ever become general; and that, at whatever expense, this can only be provided by adopting the rail, by which a basis is obtained that will enable steam-power to fulfil that mission it has so universally accomplished in every other branch of industry. *Agricola, London.*

## Societies.

### ROYAL AGRICULTURAL OF ENGLAND.

[We resume our reference to some of the stands of implements at the Warwick meeting.]

At Stand 77 Messrs. Barrett & Exall, of Reading, exhibited steam engines, horse power chaff-cutters, grain mills, hay-making machines, horse rakes, and broadcast sowing machines, endless saws, &c. Their patent safety horse gear has all its working parts inclosed in a cylinder, so that no harm can come *of* it or come *to* it. Upwards of 3000 have been sold. Their drum beaters for threshing machines are perforated at an angle of 45° from the spindle, enabling, so it is said, the air drawn in by its revolution to escape the more easily, and thus avoiding waste of power.

A farm gate was exhibited (78) by Mr. Betteridge, of Wellsbourne, near Warwick, made of Oak, the top hanging so placed that the back and the top bar each take a portion of the weight, and so made that by turning this top hanging it can be raised or sunk at pleasure.

— (79.) Messrs. Clarke, of Sheffield, showed another gate.

The improvements of this gate consist in making those parts which are known as the head and heel in two pieces each instead of one. The bars are placed between the pieces which form the head and heel, and are fastened with screw-pins: the object of this plan is—if in case a bar gets broken, a new one can easily be replaced, by removing the pins on that bar, without removing the head and heel, which has to be done in other gates. It is also fitted with an improved bottom hinge, so as to prevent the gate from dragging, which is frequently the case after hanging some time. It can be easily raised by any labourer by shifting the nuts, so as to increase the length of the hinge and prevent the head wearing away. Price 1*l.* 2*s.* 6*d.*

— Cooch of Harleston exhibited (80) his well-known seed-dressing machine. A great display of articles of domestic economy appeared at the next stands—Roberts of Northampton, and Flavel & Co., of Leamington. At stand 83 Messrs. Garrett, of Saxmundham, exhibited *clod-crushers, threshing machines, mills, steam engines, corn-drills.* Their threshing machine is unusually compendious and compact, owing to one winnower instead of three as heretofore being used to throw a blast in the three different places where it is required.

This machine is intended for being worked by a 5-horse power engine, and is fitted with drum 54 inches long; the winnowing and screening apparatus in this machine is on an entirely novel principle, whereby the size and weight of the machine are reduced more than one-third; and only one-third of the ordinary spindles, bearings, and pulleys is required for the efficient performance of the various operations. The pressure of the blast employed for chaffing and winnowing the corn is regulated by valves, under the direct control of the attendant, and readily adjusted to the different kinds and conditions of grain. Price 85*l.*

There is a large competition in farm gates owing to the offer of a special prize by the Local Committee. Mr. Palmer, of Hargrave, Hunts, exhibits a very long and effective one.

Very light and strong, 11 feet long, to admit Burgess & Key's reaper; constructed on the lattice or diagonal principle, each piece acting in the direction of its length, there is consequently no cross strain on any of the timber, and the usual heavy wood, with mortise-holes which admit the weather, is dispensed with. The upper eye is furnished with a screw, by which the gate can be raised or lowered as the spring fastening requires. It is stiffened laterally by the capping which surrounds it. Price, with posts, fastenings, and lock, complete, 1*l.* 4*s.*

Bray's traction engine was exhibited at stand 85. It is manufactured to go at two speeds, 2½ and 5 miles an hour respectively, costs from 678*l.* to 875*l.*, and is capable of drawing 20 to 40 tons on common roads.—Heywood, of Derby, exhibited (86) steam engines, threshing machines, &c.—Holmes, of Norwich, showed drilling machines, manure distributors, saw benches, &c.—(90) D. Prosser, of Harescomb, near Stroud, Gloucestershire, exhibited an iron pig trough.

Instead of being open from end to end, or fitted with immoveable partitions, this trough has moveable partitions, which can be shifted at pleasure, to give more or less room between each, as may be desired. It is convertible into three different sets of spaces, whereby each class of animals can have a special area provided so as to suit its requirements exactly, which prevents them putting their feet in the trough. By this arrangement the food is economised to a considerable extent, and enables nearly double the quantity to feed together. Price 16*s.*

Messrs. Reeves, of Bratton, showed (95) their drills for dry and liquid manure: the latter will drill any thick manure from cattle sheds, &c., or any artificial manure mixed with water. The quantity can be varied from 2 to 10 hogsheads per acre. It is fitted with three of Chambers's patent drop levers, for dropping the seed and manure in bunches at different distances, or running it continuous. Price of drill without the droppers, 26*l.*; Chambers's patent drop levers, 2*l.* 15*s.* each.

Richmond & Chandler exhibit (96) their well-known chaff-cutter with newly patented improvements. The steel mouth-piece is an improvement deserving attention; being harder than the knives it is not, as in other machines, worn away by friction, but offers always a straight sharp edge for the knives to cut against. The rollers have been improved, and the whole machine remodelled and simplified—every movement being obtained in the most direct and mechanical manner. (97) Smith of Kettering shows winnowing machines and horse-hoes.—Tasker, of Andover, shows threshing machines, steam engines, &c.; and ploughs, with their arrangement for allowing independent motion to the wheels at the plough beam.—Wallis & Haslam, of Basingstoke, exhibit steam engines, threshing machines, straw elevators, corn screens (Boby's patent), Barley hummellers, &c.—Ball, of Rugby (101), exhibits the ploughs invented by W. Ball of Rothwell.—Bentall, of Maldon, exhibits a great variety of tillage implements, including of course his harrows and his broadshare.

The former are made of iron rolled especially for the purpose, and which is of the description known as double-angle iron. The object obtained by this is, that, with the exception of pointing the teeth and rounding for the screw, these harrows are made entirely by machinery; precision of make and ease of duplication are thus ensured, and which could not be obtained on the ordinary hammer-and-tongs principle. This set covers 8 feet. A point of great importance in the construction of harrows is that the teeth should exactly fit the hole in the beam—that the nut should fit the thread of the screw, and that when the nut is screwed down it should always remain tight; this is effectually accomplished by the addition of a keep or guard riveted through the beam close to the nut. This set covers 8 feet. Price 3*l.* 13*s.*

—Cambridge, of Bristol (108) exhibits ploughs, his well-known roller, steam engine, and threshing machine.—Coleman, of Chelmsford (110) exhibits clod-crushers, cultivators, and Hanson's Potato digger, which is adapted for taking up Potatoes and other root crops grown in drills. The share passes under the roots, and at the same time the revolving forks throw the tubers on the surface ready for the pickers. With two horses it will raise from 3 to 4 acres per day without injury to the crop. Price 17*l.* 10*s.*—Comins, of Southmolton, exhibits his simple turnwrest plough and other tillage implements.—Cranston, of 11, New Road, London, exhibits Wood's well-known combined reaper and mower.

At stand 113 Messrs. Eddington, of Chelmsford, exhibited Mr. Fowler's draining plough, and received the Society's prize for it.—Goulding, of Leicester (117), showed their ploughs and cultivators, harrows, drills, and pulpers, &c.

At stand 126 Mr. Monday, of Carton Denham near Sherbourne, exhibited a clever but somewhat dear straw fabricating machine.

Combines straw or other fibres of any desirable thickness upon two or more longitudinal wires, and if saturated with liquid bitumen, makes a cheap and durable tile for sheds, &c.; or simply with galvanised wire, is a most economical material for expeditiously thatching ricks. Well adapted for brickyards and horticultural purposes, and forms an inexpensive and superior matting for omnibuses, damp floors, &c. Price, including royalty, 25*l.*

Hill and Smith, Dudley (128), exhibited tillage implements of all kinds, including their efficient paring skim, also mills and chaff-cutters and a great quantity of iron fencing and wirework.

Tuxford & Sons, of Boston (131), exhibited many steam engines, threshing machines, saw tables, and mills.

Mr. Williams, of Baydon, exhibited a 3-furrow one-way plough for steam cultivation.

Consists of a frame carried on two large wheels in the centre, and one small one at each end. Three right-hand and three left-handed lever ploughs are attached to the frame, each set with their heads towards the centre of the frame; a windlass is placed over the centre, so that when one set of ploughs is let down to their work, the other is taken up. Price 50*l.*

Messrs. Woods, of Stowmarket (138), exhibit mills, pulpers (4000 have been sold during the last four years), rakes, carts, &c.—Ball, of Bothwell, has a stand for his well-known ploughs.

— Barnards, of Norwich, show a root pulper.

The cutting parts are formed of cast-iron rasps, which (barring accidents) sharpen themselves by use, and can be replaced at a trifling cost. These machines are now so simplified that no gear-work is necessary. This size is adapted for one man, and will pulp a bushel of Mangel in 80 revolutions; or can be adjusted to be worked by one lad, or man and lad. Price 4*l.* 10*s.*

— The Busby Agricultural Implement Company, Bedale, show ploughs, horse-hoes, Turnip cutters, &c.—Cornes, of Nantwich, shows his well-known chaff-cutters, &c.—Eddy's (Exeter) turn-wrest plough at stand 152 gained the Society's prize for the best of its class — Ferrabee, of Stroud (154), exhibits steam engines, chaff-cutters, and mowing machines in large numbers. — Kensmare, of Leighton Buzzard, show threshing machines (159), corn drills, ploughs &c.—Romaine's steam rotary cultivator is exhibited at stand 162. It is stated to travel over the land and perform perfect spade husbandry, digging at the rate of about 6 acres per day, at a cost of about 7*s.* per acre. It turns in its own length, requires no assistance from horses, and only two men to work it, besides a man with horse and water-cart to fetch water. Price 800*l.*

Rickett's (Buckingham) steam cultivator is exhibited at 168.

It has two 8-inch cylinders, 22-inch stroke; the engines are placed beneath the boiler, propelling on both sides by pinion-wheels. The cultivator is driven direct from the crank-shaft by connecting rods, and has independent wheels or sledges for maintaining a uniform depth on uneven ground; it is raised and lowered at the end of the land by an hydrostatic piston, worked by a steam pump; and is arranged to cultivate to 10 inches deep, 2½ yards wide, 1 acre per hour. Is carried by small wheels, working within an elastic metal roadway, which increases the convexity and extent of the bearing surface, as to prevent any injurious compression of the soil. The cultivator is detached at pleasure. Price 750*l.*

makers, rakes, chaff-cutters, &c.—Ransome & Sims, Ipswich, exhibit Fowler's steam ploughs, their ordinary ploughs, harrows, scarifiers, rollers, chaff-cutters, mills, root-cutters, &c. A very large assortment of implements.

Messrs. Howard, of Bedford (128), exhibit their well-known ploughs. We extract their description of one of them:—

"It is on the same principle as No. 1, but somewhat smaller, and recommended as a light two-horse plough, but strong enough for four horse. The handles and beams are made throughout in one piece, which effectually prevents them shaking loose, rendering them less expensive to keep in repair, and the accumulation of soil in the hinder part of the plough is avoided. The wheel fixings are strong and durable; the land wheel may be expanded as well as the furrow wheel, and the slides being now tightened in a line with the beams (a plan recently patented by the exhibitors), all objection to the wheel fixings becoming loose through wear is removed. Price 4*l.* 2*s.* 6*d.*; skim-coulter, 5*s.* 6*d.*; drag-chain, 2*s.*; if fitted with steel breast 7*s.* extra.

A great variety of other tillage implements are shown at this stand. At the next stand Smith of Woolston's steam cultivator is shown by the same exhibitor.

At stand 193 H. Pain, of Bedford, exhibits a patent cattle fastening, invented by G. W. Baker, of Woburn, and manufactured by the exhibitor. The object of this invention is to facilitate the release of cattle in case of fire. By its means a single person, without even entering the building, has the power of releasing a whole shed of animals at one and the same time. This is done by means of a lever at the end of the building outside, which, when pulled, opens all the fastenings simultaneously, being connected with each one continuously by ordinary iron gas piping of ¾-inch diameter. Price 4*s.* 6*d.*; lever for outside of building, 7*s.* 6*d.* extra.

Priest & Woolnough, of Kingston-on-Thames, show (205) corn drills, horse hoes, and Rowley's fly destroyer and Turnip duster.—W. Torr, of Aylesby, near Grimsby, exhibits (207) the field gate which received the prize in its class.

A waggon gate made of red wood deal bars, and Oak bars with six bars, one support bar and two upright bars, and iron on top bar, put together with small bolts and screws, at first points, the whole combining lightness and strength. These gates have been for some years in use at Aylesby, and have been much copied. Price 1*l.*; gate and irons under 20*s.* as required for prize. Irons at will.

Models of Halkett's system of guideway steam agriculture were shown (210) by E. Weir, of 296, Euston Road, London.—Nicholson, of Newark, shows a hay-making machine capable of conversion to a number of other uses.

A patent combined revolving harrow, weed extirpator, Thistle cutter, manure spreader, and haymaker; invented, improved, and manufactured by the exhibitor. Is on the principle of Nicholson's well-known prize haymaker, which by a different and extended arrangement of tines, and addition of blades, is made available for a variety of other important farm uses, such as bringing weeds and Twitch to the surface after broadsharing; raking and pulverising; spreading manure improving growing crops; Poppy, Hariff, and weed extirpating; and cutting, bruising, and breaking Thistles, Nettles, &c., &c. It can be altered in a very short time to a double-action haymaker, of extra strength, and all improvements. Price, with Thistle-blades, &c., complete, 19*l.*

E. Cockey & Sons, of Frome, Selwood, exhibit a quantity of dairy apparatus; among others—

A patent cheesemaking apparatus, consists of an improved boiler, which, in ordinary cases, is set in brickwork. A cast-iron cistern to contain water for dairy use. A patent cheese tub, having a double bottom, forming a chamber beneath, through which a circulation of hot or cold water may be made to flow, and the temperature of the milk or whey thereby raised or lowered without removal from the cheese tub. The boiler cistern, and cheese tub are connected by pipes, provided with taps, by which the flow of hot or cold water may be regulated as required. The pipes may also serve for warming the cheese room if required. Price 35*l.*

Mr. Chamberlain, of Kempsey, Worcester, exhibits his brick-making machine, which has been already described.—An atmospheric hammer, which by its energetic and somewhat boisterous action, created more notice and attention than anything else in the yard, was shown by Messrs. Dawson, of Barnsley. It appeared to be cleverly under control.

The blow of this hammer is given by atmospheric pressure, which can be increased or diminished as required; peculiarly adapted to the forging of iron work connected with portable engines and agricultural implements generally.

AGRICULTURAL IMPROVED SOCIETY OF IRELAND.—At the late monthly meeting of this Society, arrangements were made for carrying out the next annual meeting (1860) at Cork. Suggestions were considered for increasing the number of members; the resignation of the secretary, Mr. Wm. Royse, who has been appointed agent over Mr. La Touche's property, was accepted; and it was—

"Resolved — That in consequence of the resignation of Mr. Royse, our present secretary, he be directed to advertise in the usual papers, stating the Council will take into consideration the election of a secretary, on the 10th October, and requesting that candidates will forward their testimonials."

The testimonial which has been procured for the late secretary, Captain Croker, by members of the Society was then presented to him, and was gratefully acknowledged by him.

## Notices of Books.

*The Dog in Health and Disease.* By Stonehenge. Longman, Green, & Co.

This is a portly octavo volume, handsomely illustrated with capital woodcuts of the various breeds described. It treats of the natural history of the animal, and of its character, treatment, and performances of the various

authority, especially on Coursing, and his chapter on the Greyhound is interesting and full, but not in more detail than those on other hounds. A large portion of the book is on the diseases of the dog and their treatment. It is thus a very useful as well as an elegant and ornamental work.

## Miscellaneous.

*Teaching Common Things.*—Mr. Nockolds, at the late meeting of the Farmers' Club, said:—The power of observing and recording facts and phenomena was a most valuable portion of a farmer's education. He remembered that when he quitted school, and was placed to learn his business, his master would, as opportunities occurred, point out particular trees, explain their distinctive characteristics, the purposes to which the timber might be applied, and make other observations, relative to familiar objects, which he could not fail to treasure up in his mind; and he believed that he had acquired more information by these practical means than he could have done by any amount of mere theoretical teaching. He had two sisters, who exercised a sort of double Queen Victoria power over him. They were very clever, and were well versed in chronology, from the days of Adam down to the present time. In short, they knew everything. On one occasion, the conversation happening to turn upon Henry the Eighth's wives, he had forgotten what was their number, and could only recollect that he was brute enough to cut off the heads of one or two of them. "Don't you know how many wives he had?" was the question. "No, I don't," he replied, "but do you see that little bird?"—"Yes."—"Do you know what it is?" The young ladies confessed they did not. "That," he rejoined, in triumph, "that is a hen chaffinch; and, I think, my dears, you had better make the acquaintance of the common things by which you are surrounded, than trouble yourselves about Henry the Eighth and his wives."

## Calendar of Operations.

### AUGUST.

WESTER ROSS: *August* 29.—We are now in the very midst of the hurry and bustle of harvest operations, and weather more seasonable could not be desired. The crop is falling so rapidly before the scythe, the sickle, and the reaping machine, that already two-thirds of the whole crop is cut; but behind these implements the fields are presenting a very different appearance from what they have done for many years. Of all kinds of grain the stooks are unusually few, and the sheaves are unusually diminutive. Wheat is under an average, Barley greatly under an average, and Oats are little, if anything, more than half a crop. This is literally true in regard to the bulk, and we believe it will not be far from the truth in regard to the quantity realised. After all has been gathered in our stackyards will present a deserted appearance. Straw has already become a very precious commodity. At all our public sales of corn and straw the price obtained this year is some 25 per cent. beyond the price reached last year. Our Turnips are now making good progress, but will apparently fall far short of a full crop. Potatoes continue quite sound, and are now abundantly partaken of. Meanwhile we must cast the pen aside, and betake ourselves to more pressing avocations.

## Notices to Correspondents.

FARM BOOK-KEEPING: *Bailiff.* Blackwoods have published a set of books by Mr. Stephens, author of the "Book of the Farm," and Relph Brothers, of Aldersgate Street, are publishing a set by Mr. Coleman, of the Cirencester College. Perhaps you had better apply to the latter.

FISH MANURE: *N.* The following analyses of Osler's fish manure far exceed in richness any other published analyses we have seen:—

ANALYSES FROM VARIOUS DESCRIPTIONS OF FRESH AND SALTED FISH.

| | By Professor Way, 15, Welbeck Street, Cavendish Square. | By Dr. Stockhardt, of College, Tharand, Dresden. | By Dr. Medlock, Great Marlborough Street. | By Dr. Voelcker, Agricultural College, Cirencester. | By Messrs. Sichcher & Hausmann, 17, Eastcheap. | By Mr. Nesbit, Kennington. |
|---|---|---|---|---|---|---|
| Moisture .. . | 11.22 | 11.09 | 14.28 | 13.11 | 8.21 | 8.00 |
| Organic matter .. | 78.48 | 77.35 | 76.60 | 64.59 | 80.73 | 81.00 |
| Silica .. .. | 0.72 | 1.21 | 0.53 | 1.56 | 1.51 | 1.65 |
| Phosphate of lime . | 7.55 | 6.73 | 6.24 | 6.86 | 5.94 | 3.95 |
| Sulphate of lime .. | .... | 0.77 | .... | .40 | 3.61 | 3.96 |
| Alkaline salts .. | 2.03 | .... | .... | 13.48 | .... | .... |
| Chloride of sodium | .... | 2.85 | 2.35 | .... | .... | .... |
| | 100. | 100. | 100. | 100. | 100. | 100. |
| Containing Nitrogen .. .. | 12.76 | 10.59 | 10.07 | 9.11 | 8.09 | 7.68 |
| Equal to Ammonia .. .. | 15.50 | 13.06 | 12.02 | 11.56 | 10.58 | 9.32 |

Average:—Nitrogen 9.72, Ammonia 12.01.

POULTRY SHOW AT THE CRYSTAL PALACE: *Cor.* The Show has been held during the past week. The present exhibition, being the usual summer show, consists of this year's birds. There are upwards of 100 pens of birds more than in any previous summer show. Among the best are the Spanish breed. The Cochin Chinas are also very good, and of such a size and height as renders it exceedingly difficult to believe that they can really be chickens of 1859. The different classes of Hamburg, gold and silver, pencilled and spangled, contain some admirable young birds, some of them so forward as to have actually commenced moulting. The several classes of game fowl are pronounced to be as near perfection as they can possibly be. There is a very fine show of bantams, and some beautiful birds of the fine old-fashioned Dorking breed. Among the ducklings is one pen of three of the Rouen class, which weigh 18lb., while another three birds of the Aylesbury breed weigh no less than 23lb., though only a few weeks old. Near them are three goslings in one pen which weigh upwards of 48lb. The judges pronounce the rabbit show to contain some of the finest specimens of the long-eared class which have ever been brought together. Among them is one which weighs over 18lb. There is a fair show of turkeys, and a numerous and most valuable collection of pigeons of every variety known to the fancy.

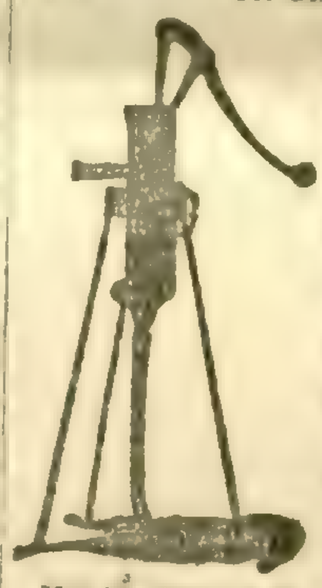

LIQUID MANURE.

JAMES'S PATENT LIQUID MANURE DISTRIBUTOR OR WATER CART, warranted not to choke up or otherwise get out of order. It is thoroughly adapted for Drill Crops, or Pasture Land, or for Watering Streets; has been awarded SIX FIRST PRIZES.

Full Particulars and Testimonials may be obtained of the Patentee, ISAAC JAMES, Tivoli Waggon Works, Cheltenham.

Improved LIQUID MANURE PUMPS supplied.

WARNER'S IMPROVED LIQUID MANURE OR GENERAL PORTABLE PUMP.



These Pumps are fitted with WARNER'S Patent Bucket and Valve, and cannot clog in action. The barrel is made of galvanised iron, not likely to corrode, and can be raised or lowered at pleasure on the stand, the legs of which fold together, and may be carried with ease by one man to tank or pond.

| | £ | s. | d. |
|---|---|---|---|
| Stand and Pump, with screwed tail pipe, fitted with strong brass union for suction pipe | 2 | 15 | 0 |
| If fitted with barrel of planished copper .. .. | 3 | 4 | 0 |
| Stand and Pump, with plain tail pipe, for tying on suction pipe .. .. .. | 2 | 9 | 0 |
| 2 inch patent rubber and canvas flexible suction pipe, on wires, either 10, 12, or 15 ft., per foot | 0 | 2 | 2 |

May be obtained of any Ironmonger or Plumber in town or country, at the above prices, or of the Patentees and Manufacturers, J. WARNER & SONS, 8, Crescent, Jewin St., London, E.C.

WARNER'S PATENT VIBRATING STANDARD PUMPS.

PATENT CAST-IRON PUMPS for Farms, Cottages, Stable Yards, &c., where the Well does not exceed 25 feet in depth; fitted with WARNER'S Patent Metal Bucket and Valve, which cannot clog in action. These Pumps can be made right-handed, left-handed, or with handle opposite the nose by removing four screws only.

| Diameter of Barrel. | Height. | | £. | s. | d. |
|---|---|---|---|---|---|
| 2½ in. | short 1 ft. 7 in. | Fitted for lead, | 1 | 5 | 0 |
| 2½ ,, | long 3 ,, 3 ,, | gutta percha | 1 | 10 | 0 |
| 3 ,, | ditto 3 ,, 6 ,, | or cast iron | 2 | 4 | 0 |
| 3½ ,, | ditto 3 ,, 6 ,, | flanged pipe | 2 | 9 | 0 |
| 4 ,, | ditto 3 ,, 6 ,, | as required. | 2 | 13 | 0 |
| 2½ ,, | short, with 15 feet of Lead Pipe attached, ready for fixing .... | | 2 | 10 | 0 |
| 2½ in. | long ditto ditto ditto | | 2 | 14 | 0 |

The short barrel Pump is very convenient for fixing in situations of limited height and space, for the supply of coppers and sinks in Wash-houses with soft water from underground tanks, or in Hot, Forcing, and Plant Houses; they may be fixed, when desired, under the stage.

May be obtained of any Ironmonger or Plumber in Town or country, at the above prices, or of the Patentees and Manufacturers, JOHN WARNER & SONS, 8, Crescent, Jewin Street, London, E.C.

Every description of Machinery for Raising Water by means of Wheels, Rams, Deep Well Pumps, &c.; also Fire and Garden Engines, &c. &c.—Engravings sent on application.

MAPPIN'S PRUNING KNIVES IN EVERY VARIETY.
WARRANTED GOOD BY THE MAKERS.

MAPPIN BROTHERS, Queen's Cutlery Works, Sheffield; and 67 & 68, King William St., London, E.C.

MAPPIN'S "SHILLING" RAZORS Shave well for Twelve Months without Grinding.

MAPPIN'S 2s. RAZORS Shave well for Three Years.

MAPPIN'S 3s. RAZORS (suitable for Hard or soft Beards,) Shave well for Ten Years.

MAPPIN'S SUPERIOR TABLE-KNIVES maintain their unrivalled Superiority—handles cannot possibly become loose—the blades are all of the very first quality, being their own Sheffield manufacture.

| | Tble. Kns. | Dst. Kns. | Carvers. |
|---|---|---|---|
| Ivory 3½ in. Handle, balanced, | 20s. p. doz.; | 16s. p. doz.; | 6s p. pair |
| Do. 4 in. do. .. | 25s. ,, | 18s. ,, | 9s. ,, |

MAPPIN'S SILVER-PLATED DESSERT KNIVES and FORKS, in Mahogany Cases.

| | | |
|---|---|---|
| 12 Pairs Knives and Forks, | Ivory Handles, in Case .. | 80s. |
| 12 Do. | Pearl Handles, do. .. | 130s. |
| 12 Do. | Silver-Plated Handles, do. .. | 80s. |

MAPPIN'S ELECTRO-SILVER PLATE.—MAPPIN BROTHERS, Manufacturers by Special Appointment to the Queen, are the only Sheffield makers who supply the consumers in London. Their LONDON SHOW ROOMS, 67 and 68, King William Street, London Bridge, E.C., contain by far the largest STOCK of ELECTRO-SILVER PLATE in the World, which is transmitted direct from their Manufactory, Queen's Cutlery Works, Sheffield.

| | Fiddle Pattern. | | | Double Thread. | | | King's Pattern. | | |
|---|---|---|---|---|---|---|---|---|---|
| 12 Table Forks, best quality | £1 | 16 | 0 | £2 | 14 | 0 | £3 | 0 | |
| 12 Table Spoons, best quality | 1 | 16 | 0 | 2 | 14 | 0 | 3 | 0 | |
| 12 Dessert Forks, best quality | 1 | 7 | 0 | 2 | 0 | 0 | 2 | 4 | |
| 12 Dessert Spoons, best quality | 1 | 7 | 0 | 2 | 0 | 0 | 2 | 4 | |
| 12 Tea Spoons, best quality | 0 | 16 | 0 | 1 | 4 | 0 | 1 | 7 | |

Messrs. MAPPIN BROTHERS respectfully invite buyers to inspect their unprecedented display, which, for beauty of design, exquisite workmanship, and novelty, stands unrivalled. Their Illustrated Catalogue, which is continually receiving addition of New Designs, sent per post on receipt of 12 stamps.—MAPPIN BROTHERS, 67 & 68, King William Street, London Bridge, E.C.; Manufactory, Queen's Cutlery Works, Sheffield.

GLASS FOR ORCHARD HOUSES & CONSERVATORIES.

JAMES PHILLIPS AND CO. beg to submit their prices of GLASS for the present month.

SHEET GLASS, in Crates, of superior quality, 16 oz. to the foot.

| | Best | Seconds. | Thirds. | Fourths. |
|---|---|---|---|---|
| | 7½d. | 6½d. | 5½d. | 4½d. |
| 21 oz. | Best. | Seconds | Thirds. | Fourths. |
| | 7½d. | 6d. | 5½d. | 4½d. |

| | | | | |
|---|---|---|---|---|
| Packed in 200 feet cases, | 16 oz. .. .. | .. | £2 | 2 0 |
| Packed in 200 feet cases | 16 oz. .. .. | .. | 2 | 0 0 |
| Packed in 200 feet cases, | 21 oz. .. .. | .. | 2 | 18 0 |

ORCHARD HOUSE SIZES, as supplied by us to Mr. Rivers.

| | | 16 oz. | | 21 oz. |
|---|---|---|---|---|
| 20 in. by 12 in. | | | | |
| 20 in. by 13 in. | Common .. .. .. | 14s. 0d. | .. | £1 1s. |
| 20 in. by 14 in. | Superior do. .. .. | 16 6 | .. | 1 5 |
| 20 in. by 15 in. | English Glass .. .. | 18 0 | .. | 1 9 |

Boxes included and not returnable.

SMALL SQUARES.—Per 100 feet.

| | | | | s. | d. |
|---|---|---|---|---|---|
| 6 by 4 | 6½ by 4½ | 7 by 5 | 7½ by 5½ | 11 | 6 |
| 8 ,, 6 | 8½ ,, 6½ | 9 ,, 7 | 9½ ,, 7½ | | |
| 10 ,, 8 | 10½ ,, 8½ .. | .. .. | .. .. | 12 | 6 |

HORTICULTURAL GLASS, in Squares, cut to specific sizes

| | | | |
|---|---|---|---|
| 16 oz. per foot, from | 2d. to 3½d. | 26 oz. per foot, from | 5d. to 7½d. |
| 21 oz. ,, .. | 3 ,, 5 | 32 oz. ,, .. | 4 ,, 9½ |

Special prices quoted for large or specific quantities.

AGENTS FOR
HARTLEY'S PATENT ROUGH PLATE GLASS.
PAINTS.
Genuine White Lead, Linseed Oil, Boiled Oil, Turpentine, Putty, Colours, Varnishes, Brushes, &c.

JAMES PHILLIPS AND CO.,
180, Bishopsgate St. Without, London, E.C.
NO CONNECTION WITH ANY OTHER HOUSE IN TOWN.

HORTICULTURAL GLASS—JUNE TARIFF.

THOMAS MILLINGTON'S reduced Tariff of GLASS, &c.

6 by 4, 7 by 5, 8 by 6, 9 by 7 } 16 oz. to the foot, 11s. 6d.
6½ by 4½, 7½ by 5½, 8½ by 6½, 9½ by 7½ } per 100 feet.

In 100 boxes,—4ths quality, 12s. 6d.; 3ds do., 14s. 4d.

10 by 8, 12 by 9, 12½ by 10½, 14½ by 10½, 13 by 11
10½ by 8½, 12½ by 9½, 13 by 10, 15 by 10, 13½ by 11½
11 by 9, 13 by 9, 13½ by 10½, 12 by 11, 14 by 11
11½ by 9½, 12 by 10, 14 by 10, 12½ by 11½

| | | 16 oz. | 21 oz. |
|---|---|---|---|
| 20 by 12 | per 100 feet | | |
| 20 by 18 | Common .. | 16s. | 24s. |
| 20 by 14 | Superior . | 18s. | 27s. |
| 20 by 15 | | | |

All Boxes included.

Orchard House sizes as supplied to Mr. Rivers.
Hartley's improved Rough Plate Glass from ¼ to ½ in thickness.
Coloured Glass in great variety, at 9d. and 1s. per foot.
Paints, Genuine White Lead, Linseed Oil, Boiled Oil, Turpentine, Putty, Colours, Varnishes, Brushes, Lamp Glasses, &c.
87, Bishopsgate Street Without, E.C., same side as Eastern Counties Railway

GLASS FOR CONSERVATORIES, GREENHOUSES, PIT FRAMES, ETC.

HETLEY AND CO. are supplying 16-oz. Sheet Glass of British Manufacture, packed in boxes, containing 100 square feet each, at the following REDUCED PRICES for cash. A reduction made on 1000 feet.

| Sizes.—Inches. | | | Inches. | | | Per foot. | | Per 10 feet. |
|---|---|---|---|---|---|---|---|---|
| | | | Under 6 | by | 4 | at 1½d. | is | £0 12 6 |
| From 6 | by | 4 | ,, 7 | ,, | 5 | ,, 2d. | ,, | 0 16 8 |
| ,, 7 | ,, | 5 | ,, 8 | ,, | 6 | ,, 2½d. | ,, | 0 18 9 |
| ,, 8 | ,, | 6 | ,, 10 | ,, | 8 | ,, 2½d. | ,, | 1 0 10 |
| ,, 10 | ,, | 8 | ,, 12 | ,, | 9 | ,, 2½d. | ,, | 1 2 11 |

Larger sizes, not exceeding 40 inches long.
16 oz. from 3d. to 3½d. per square foot, according to size.
21 oz. ,, 3½d. to 5d. ,, ,, ,,
26 oz. ,, 3½d. to 7½d. ,, ,, ,,

PATENT ROUGH PLATE, THICK CROWN GLASS, and PATENT PLATE GLASS, for Horticultural purposes, at reduced prices, by the 100 square feet.

GLASS TILES AND SLATES made to any size or pattern, either in Sheet or Rough Plate Glass.

Propagating Glasses, Beehive Glasses, Cucumber Tubes, Glass Milk Pans, Glass Water Pipes, and various other articles not hitherto manufactured in Glass.

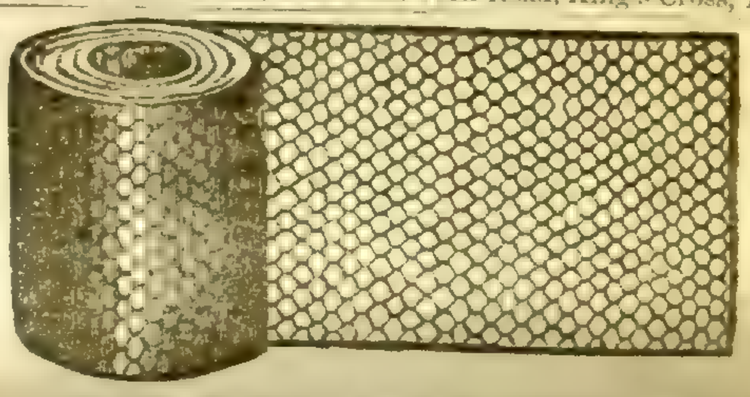
PATENT PLATE GLASS.—The present extremely moderate price of this superior article should cause it to supersede all other inferior window glass in a gentleman's residence. No alteration connected with the sash is required.

GLASS SHADES, as ornamental to, and for the preservation of every description of goods susceptible of injury by exposure. Prices, since the removal of the excise duty, reduced one half. List of Prices and Estimates forwarded on application to

JAMES HETLEY & Co., 35, Soho Square, London, W.

GARDEN POTS AND PANS, in quantities of not less than 20 casts, delivered to the London Stations at the following prices:—Nos. 1lbs. 60, 1½0, 54, 48, 40, 32, 28, 24, 16, per cast, 2s. respectively. 12, 3s.; 8, 3s. 6d.; 6, 5s.; 4, 5s.; 3, 5s.; 2, 5s.; 1, 5s. On lesser quantities, 6d. per mile, for delivery to the Station, charged. The usual discount to the Trade. Square Propagating Pans, Kale and Plunging Pots, Strawberry and Border Tiles, &c., made to order.

J. & W. ADAMS, Kilns, Belle Isle, York Road, King's Cross, N.



BARNARD, BISHOP, AND BARNARD, Market Place, Norwich, in consequence of improvements in their machinery for the manufacture of the above article, have been enabled to make a great reduction in the prices.

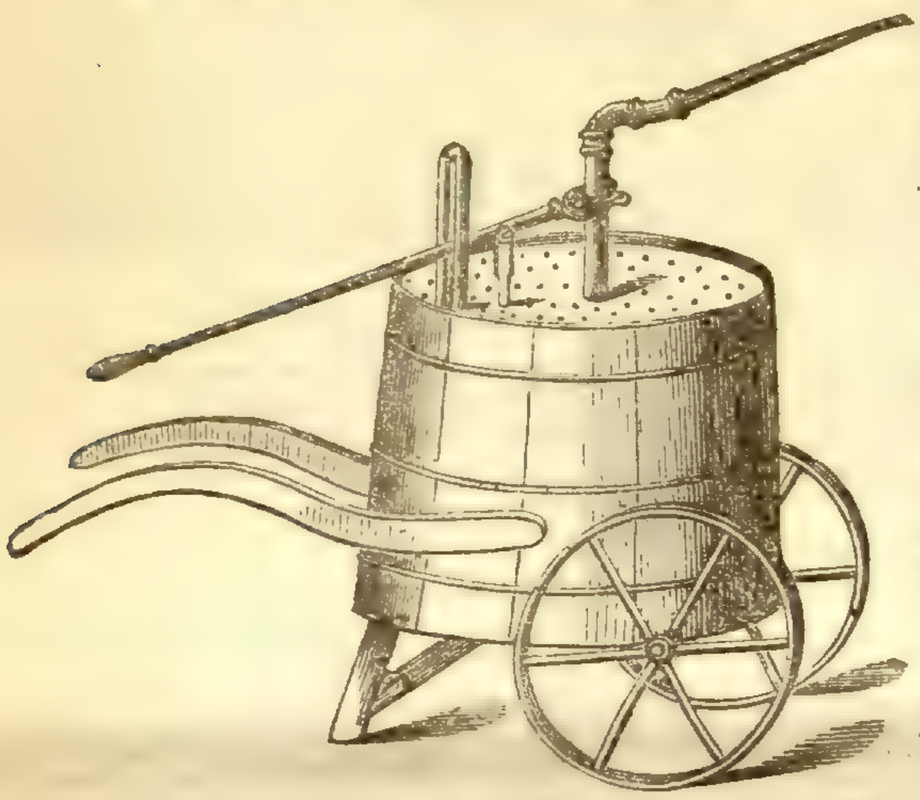
| | | Galvanised. | | Japanned Iron. | |
|---|---|---|---|---|---|
| 2-inch mesh, 24 inches wide .. .. | | 5d. | per yd. | 4d. | per yd. |
| 2-inch ,, strong do. .. .. | | 6 | ,, | 4½ | ,, |
| 2-inch ,, intermediate, do. .. | | 7 | ,, | 5½ | ,, |
| 2-inch ,, extra strong, do. .. | | 9½ | ,, | 7½ | ,, |
| 1⅝-inch ,, 24 inches wide .. .. | | 5½ | ,, | 4½ | ,, |
| 1⅝-inch ,, strong, do. .. .. | | 6½ | ,, | 5½ | ,, |
| 1⅝-inch ,, intermediate, do. .. | | 7½ | ,, | 6 | ,, |
| 1⅝-inch ,, extra strong, do. .. | | 10 | ,, | 8 | ,, |

All the above kinds can be made of any width (under 8 feet) at proportionate prices. If the upper half is of a coarser mesh than the lower, it will reduce the prices about one-fifth.

Strong Galvanised Poultry Netting, 8½d. per yard, 3 feet wide Galvanised Sparrow-proof Netting for Pheasantries, 2½d. per square foot. Delivered free of expense in London, Peterborough, Hull, or Newcastle. Manufacturers of Improved Strained Wire Cattle and Deer Fencing, Iron Hurdles, &c.

Illustrated Catalogues and Patterns forwarded by post.

# *DEANE & COMPANY'S*
## HORTICULTURAL TOOLS.



GARDEN ENGINES, Galvanized Iron
Prices 55s., 63s., 105s., 120s.
Ditto, Wood, 84s., 105s, 130s.
Flower Stands, 4s. 6d. each.
Cast Iron Ornamental ditto, to hold 7 Vases, 27s.
Deane's Mowing Machines, with Boyd's Patented Improvements, £4 17s. 6d; £6 6s. 0d., £6 17s. 6d., £7 7s. 0d.
Green House Syringes, 8s., 10s., 18s. 6d
Garden Rollers, £1 14s. 6d., £2., £2 12s. £3 3s., £3 18s., £4 13s., £5 12s., £7 10s.
Garden Stools, 4s. 6d.
Garden Chairs, from 30s.
Boyd's Self-adjusting Scythe, 10s. 6d.
Wire Work, 18in. 4d. per yard run.

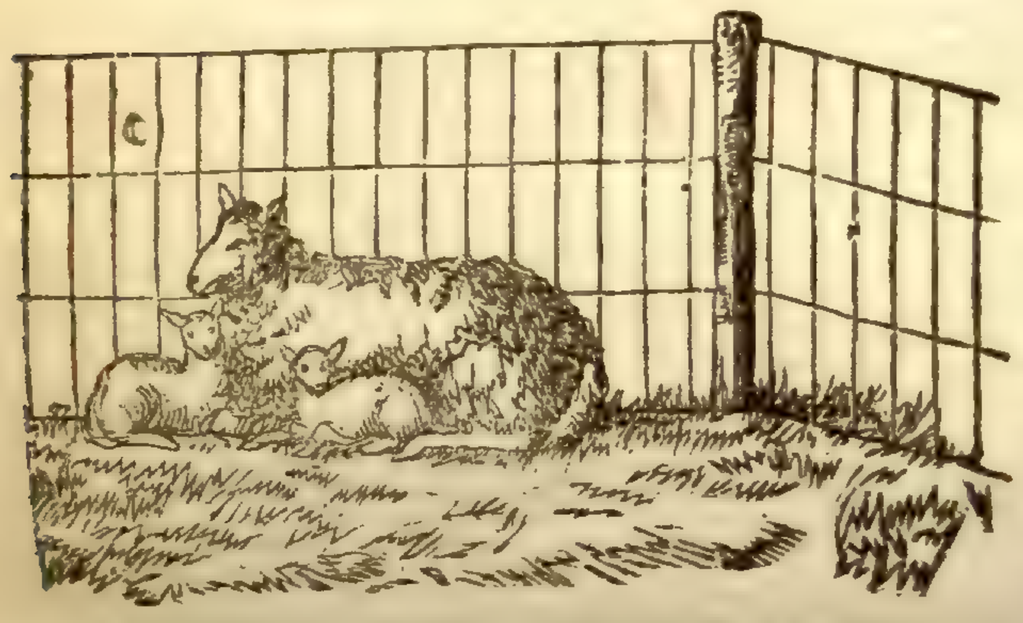
*Every Implement for Garden use on the lowest Terms.*

**DEANES:—Opening to the Monument, London Bridge.**



# GREENING & COMPANY'S
## PATENT WIRE FENCES.

PATRONISED BY HIS ROYAL HIGHNESS THE PRINCE CONSORT.



No. 7 B VARIETY.—PATENT SHEEP-FOLDING FENCE.

SPECIFICATION.—Height 3 feet; four horizontal bars of strong, tough, pliable fencing wire, intersected by vertical bars of lighter wire, woven firmly on at regular intervals of 4 inches.

**9d. per lineal yard.**

From "Report of the Judges" on the Exhibition and Trial of Implements at the Salisbury Meeting, 1857. Royal Agricultural Society of England.

"The Iron Wire Sheep-fold Fence of Messrs. GREENING was cheap and excellent. It can be very easily fixed, and was well coated with a bright and durable-looking varnish." (High commendations were awarded.)

G. & Co.'s NEW ILLUSTRATED CATALOGUE is now ready. It contains descriptions of the above, and other IRON and WIRE FENCES for PARKS, FARMS, GARDENS, GAME PRESERVES, POULTRY COURTS, &c., also of IRON GATES, IRON HURDLES, &c.
Post free on application.

***GREENING & Co., Victoria Iron and Wire Works, 81, Oxford Street, Manchester.***



### THE PLOUGH TRIALS AT WARWICK.
# HOWARD'S CHAMPION PLOUGH

**Gained the FIRST PRIZE as the Best Plough for General Purposes at Warwick,**

BEING the CHIEF PRIZE for PLOUGHS, awarded by the Royal Agricultural Society of England, at this Meeting. The importance of this Prize will be gathered from the fact that the GENERAL PURPOSE PLOUGHS are the only ones tried on BOTH LIGHT AND HEAVY LAND, and as HOWARD'S CHAMPION PLOUGH proved itself to be the best on both soils, the FIRST PRIZE, of the HIGHEST AMOUNT given by the Society for any kind of Plough, was awarded to J. & F. HOWARD.

PRIZES awarded to J. & F. HOWARD, by the Royal Agricultural Society of England, at the WARWICK MEETING, 1859, being not only the LARGEST NUMBER of PRIZES, but the LARGEST NUMBER of FIRST PRIZES awarded to any Exhibitor.

THE FIRST PRIZE FOR THE BEST PLOUGH FOR GENERAL PURPOSES, ALSO A PRIZE FOR THE BEST PLOUGH FOR LIGHT LAND, AND A PRIZE FOR THE BEST PLOUGH FOR HEAVY LAND; THE FIRST PRIZE FOR THE BEST LIGHT HARROWS, THE SECOND PRIZE ALSO FOR THE BEST LIGHT HARROWS, AND THE FIRST PRIZE FOR THE BEST HEAVY HARROWS.

**Every one of HOWARD'S Implements, tried at Warwick, gained a Prize.**
CATALOGUES, with full particulars, sent post free on application to
**J. & F. HOWARD, BRITANNIA IRON WORKS, BEDFORD.**



PARKES' STEEL DIGGING FORKS.

BURGESS AND KEY, 95, Newgate St., E.C., London, being the Wholesale and Retail Agents for these celebrated TOOLS have always a large Stock on hand from which their Customers may select what they may require.

ANTHONY'S PATENT AMERICAN CHURN.—The FIRST PRIZE was again awarded to this Churn in Competition with several others at the Chester Meeting of the Royal Agricultural Society; it has obtained the First Prize given by the Society at every Meeting since 1850.

Messrs. BURGESS & KEY, 95, Newgate Street, E.C., strongly recommend it as the most perfect Churn now in use. Full particulars sent on application.

MICROSCOPES.

JOSEPH AMADIO'S Improved Compound MICROSCOPE, 2*l.* 2*s.*; Students', 3*l.* 13*s.* 6*d.*

"Both these are from Amadio, of Throgmorton Street, and are excellent of their kind, the more expensive one especially."—*Household Words*, No. 345.

A large Assortment of Achromatic Microscopes.

Just published, 2d ed., an Illustrated Catalogue, with the names of 1500 Microscopic objects, free for 6 stamps.

GLAZIERS' DIAMONDS FOR CUTTING HORTICULTURAL and other GLASS, to be had of the Wholesale Manufacturer, JOHN EDWARDS, 20, Sharp's Alley, West Smithfield, London, E.C. Prices from 10*s.* to 27*s.* 6*d.*

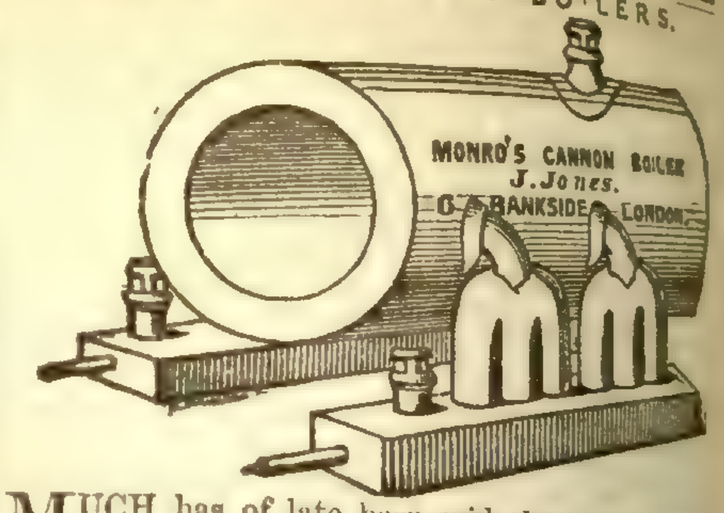
VASES, PEDESTALS, SUNDIALS, FOUNTAINS, FLOWER BOXES, JARDINETS, FERN CASES, BALUSTRADES, EDGINGS AND CURBS FOR FLOWER BORDERS, SEATS, &c., in Imperishable Siliceous Stone, at reduced prices, for the adornment of the Villa Garden, the Mansion Grounds, or the private or public Park.

For Priced Illustrations apply to FREDERICK RANSOME, at the Show Rooms, Cannon Row, Westminster, S.W., or Patent Stone Works, Ipswich.

EPPS'S HOMŒOPATHIC COCOA.—Produced, in 1839, specially for the use of Homœopathic Patients, to provide them with a beverage highly nutritious and free from those effects of Coffee and Tea which to many persons are pernicious. Rendered attractive to the taste by its delicious aroma and grateful smoothness, it has become adopted by the public generally for breakfast, luncheon, and supper. It is sold by the principal Grocers at 1*s.* 6*d.* per lb., in 1 lb., ½ lb., and ¼ lb. packets. Each packet is labelled, "JAMES EPPS, Homœopathic Chemist, London."



MONRO'S CANNON BOILERS.




MUCH has of late been said about BOILERS for Heating by Hot Water, but these Boilers have now proved themselves to be the best at present invented. They are adapted for heating every description of building, and are made of various sizes. The Price of the

| | | | |
|---|---|---|---|
| 24-inch Cast Iron is | .. | .. | £5 10s. 0d. each |
| 24-inch Wrought ditto | .. | .. | 6 10 0 " |
| 36-inch Cast ditto .. | .. | .. | 8 0 0 " |
| 36-inch Wrought ditto | .. | .. | 8 10 0 " |

References to Gentlemen and Nurserymen where these Boilers are now at work. The Cannon Boilers are now kept in stock, and are to be had only of J. JONES, 6, Bankside. Also every description of Saddle and Cylinder Boilers. Hot Water Pipes and Connections at prices lower than those of any other house in London. Estimates for Hot-water Apparatus erected complete in any part of the country, and an Illustrated Catalogue on application to J. JONES, 6, Bankside, Southwark, London S.E.

IMPROVEMENTS IN HEATING, &c.

MUSGRAVE'S PATENT SLOW-COMBUSTION STOVE, for Warming Public Buildings, Hall, Shops, Conservatories, Factories, Drying Rooms, &c. Will burn in Churches from Saturday till Sunday evening, avoiding attention during the hours of worship. In Halls will burn day and night for weeks, with little care. Capable of warming a large apartment for 24 hours, at a cost of 3*d.*; and deserving of special attention, because of its safety, healthfulness, durability, and extreme simplicity. This Stove is the nearest approach to warming by hot water.

MUSGRAVE'S PATENT STABLE FITTINGS AND HARMLESS LOOSE BOXES have obtained the award of a large Council Medal from the R. I. A. Society for the following improvements:—1st, The Horse cannot injure himself or others in the same stable if he breaks loose in its stall. 2d, He cannot waste the hay. 3d, He can have cut or uncut hay at pleasure. 4th, He has clean water always before him. 5th, A pure and wholesome atmosphere is secured. 6th, The whole fittings are stronger than usual, without increase in price, and there is no risk of infection.

The Loose Box is really what its name denotes, and the most spirited Horse may be turned into it without danger.

MUSGRAVE'S PATENT IRON COW-HOUSE FITTINGS, as approved by the Board of Works, adopted in the Ulster Model Farm, and by many of the most eminent Stock Breeders in the Kingdom, are made wholly of iron, very durable, cleanly, and attractive in appearance. The fodder is always fresh, being freely exposed to the air, removed from the breath of the animal, and separated from the roots and damp food. The range of Troughs can be quickly filled with water for the use of the Cows, or for washing out in case of epidemic, and the cost is very moderate.

These inventions being distinguished for strength, simplicity, and practical usefulness will repay public inquiry.

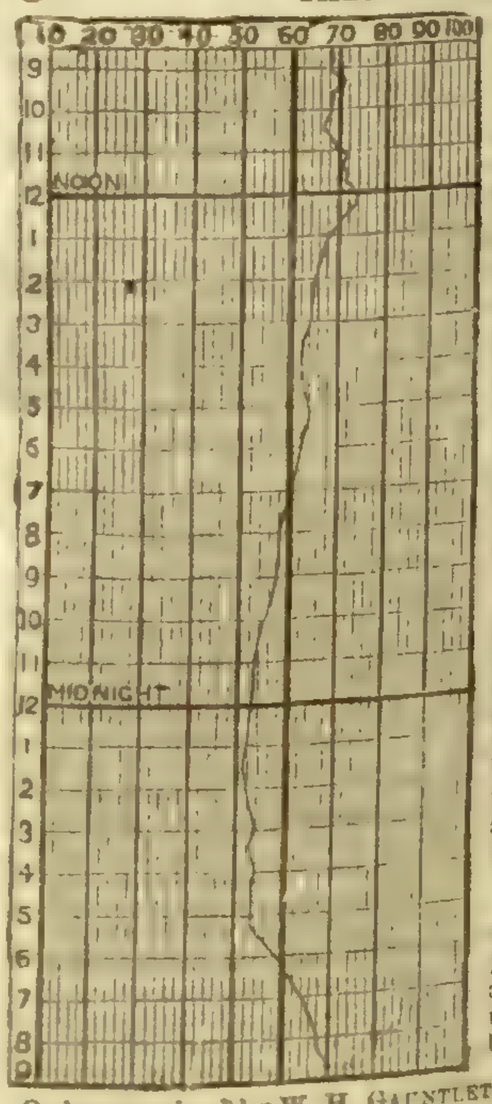
MUSGRAVE BROTHERS are also Makers of Wire Fencing, Hurdles, Field and Entrance Gates, Corn Rick Stands, Conservatories, Hot-water Apparatus, Verandahs, Rural Bridges, &c., and their works being favourably placed for cheap Labour and materials, they can offer corresponding advantages in price.

MUSGRAVE'S Patent Field Gates have gained the 1st Prize from the R. I. A. Society for strength, durability, and cheapness.

For particulars address MUSGRAVE BROTHERS, Ann Street Iron Works, Belfast.

TO HORTICULTURISTS.

GAUNTLETT'S PATENT CHRONOMETRICAL THERMOMETER.




This instrument, which combines an eight-day clock of the best English make showing time, with a newly-patented Thermometer, wherein glass and quicksilver are dispensed with, writes down the temperature of the atmosphere on a slip of paper, and when placed in a Hothouse, Forcing House, or Conservatory, &c., supplies a valuable record of its temperature, with all its variations, showing the time when any change took place, and how long such change continued.

The above slip (reduced in size) exhibits the temperature of the Horticultural Society's show yard at Chester, July 22, 1858, written off by one of these instruments, to which was awarded the Society's SILVER MEDAL.

This is the only instrument that registers temperature continuously, and writes it down, and no horticulturist should be without it.

Orders received by W. H. GAUNTLETT, Middlesbro'-on-Tees.

CINERARIA, HERBACEOUS CALCEOLARIA, AND HALF SHRUBBY DITTO SEED.—These have been saved from Thomson's most beautiful varieties, in 1s. and 2s. 6d. packets. Prize, and Hybrid, from the newest and handsomest varieties, 1s. per packet. Agents for E. G. A. Smith's splendid Cinerarias, in 1s. 6d., 2s. 6d., and 5s. packets; also agents for Dobson & Son's splendid Calceolaria, in 1s. 6d., 2s. 6d., 3s. 6d., & 5s. packets.—Catalogues of the newest Flower Seeds, and newest Dwarf and Cape Bulbs, sent post paid.—BUTLER & M'CULLOCH, Seedsmen, Covent Garden Market, W.C.

TO THE TRADE.

THOMAS JACKSON AND SON solicit an inspection of their Stock generally, and particularly their AZALEAS, ERICAS, EPACRIS, and POT PLANTS, which are this season they believe unequalled in their fine healthy condition. Good flowering plants of Azaleas, Ericas, and Epacris, 7s. per 12. T. J. & Son possess many large specimens of Stove and Greenhouse Plants, from 1 to 5 feet in diameter, suited for exhibition, prices according to size and kind. Berberis Bealii, B. japonica, and Lagerstroemia Indica, good plants in 3-inch pots, 6s. per 12.—Nurseries, Kingston, S.W.

NEW PINKS.

CHARLES TURNER (MACLEAN.)—Dark purple, fine; 5s. per pair.
ELEANOR (TURNER.)—Rose, fine; 5s. per pair.
EDITH (MACLEAN.)—Reddish purple; 3s. 6d. per pair.
LITTLE GEM (MACLEAN.)—Red; 3s. 6d. per pair.
MILLIE (MACLEAN.)—Dark, fine; 5s. per pair.
MISS GLOVER (TURNER.)—Purple; 3s. 6d. per pair.
CHARLES TURNER can strongly recommend the above as first-class Pinks, and great acquisitions for exhibition purposes.
C. TURNER'S general stock of Pinks are very healthy and strong, and are now ready for sending out at 9s., 12s., and 18s. per dozen.—The Royal Nurseries, Slough.

GERANIUMS, HERBACEOUS PLANTS, ETC.

MESSRS. PARKER AND WILLIAMS beg to inform their friends and patrons that their new PRICED and DESCRIPTIVE CATALOGUE of the above, to which are added Supplemental Lists of Stove, Greenhouse, and Hardy Plants, Fruit Trees, &c. (which include all the best new plants of the season), is now published, and will be forwarded post free on application.—Paradise Nursery, Seven Sisters' and Hornsey Roads, Holloway, London, N.

TO THE TRADE.

S. PONSFORD would call the attention of all extensive planters to his stock of EVERGREEN and DECIDUOUS SHRUBS, particularly in Common Laurel, Aucuba, Arbutus, Evergreen Oak, Striped Holly, &c. Also, Standard Apples and Mulberries (these very fine), Pears, Plums, &c. Dwarf trained Peaches, Nectarines, &c. A large stock of Red, White, and Black Currants, Gooseberries, &c. Fine Standard and Dwarf Roses. Limes in large quantities of all sizes.—Longborough Park Nurseries, Brixton, Surrey, S.

T. LOCKHART, FLORIST, Fulham, London, S.W., begs to offer his celebrated collection of EARLY TULIPS, in 50 sorts, of the brightest and most varied colours, for 36 postage stamps per dozen, or 21s. per 100; also the Scotch collection of RANUNCULUS, in 50 splendid sorts, for 30 postage stamps per dozen, or 17s. per 100. The above are perfectly unique and warranted.
LOCKHART'S IMPROVED WHITE COS LETTUCE, this year's seed, free by post for 13 postage stamps per packet. The largest and finest variety in cultivation.
Roots of SCILLA PRÆCOX, 3s. 6d. per dozen.

THE BRISTOL NURSERY, KEMP TOWN, BRIGHTON.

ALEX. McKENZIE, for some time Gardener, &c., at Woodlands, Blackheath, begs to inform his friends and the public that he has taken the above Nursery on Lease, and hopes by strict attention to his business to obtain a share of the patronage so liberally bestowed on the late Mr. Mitchell.
Having taken the whole Stock, he will be prepared to execute orders at once, and begs to offer the following, which are in fine condition:—VINES, from Eyes, fit for forcing or planting.
FRUIT TREES, trained and in pots.
Extra large RHUBARB, for immediate forcing.
FIGS, in pots, fit for forcing.
STOVE and GREENHOUSE PLANTS.
A fine very select collection of TULIPS.—September 10.

GENERAL HAVELOCK STRAWBERRY now ready for sending out.—20,000 plants of the above superb Strawberry, which was sent out for the first time last season.
EDWARD TILEY can with confidence recommend this variety as being the hardiest of all known kinds; it ripens as early as the Black Prince, the fruit is as large as Keens' Seedling, very firm and red throughout, first-rate flavour and very heavy cropper, and will colour well in the most unfavourable weather. Fruit of this variety will realise more than double the value of any other Strawberry in cultivation, as it comes in a fortnight earlier than Myatt's Queen Mand, Keens' Seedling, Prince of Wales, or any of the larger sorts, which is a great advantage to parties growing for sale or requiring very early fruit. 20 perches of it grown last season realised a greater value than 50 perches of any other in consequence of its earliness and growing in less than half the quantity of ground. This is certainly the most superb Strawberry in cultivation. Plants, 10s. per 100; 6s. for 50; 4s. for 25. Postage free. The best of the older varieties can also be supplied at the usual low prices.
LORD KENYON'S CUCUMBER (true), the best winter variety in cultivation, 1s. per packet.
BATH COS LETTUCE for winter sowing, 1s. per packet.
HOLLYHOCK SEED saved from all the choicest and most distinct named varieties, 1s. per packet.
A remittance must accompany all orders either by cash or 1d. postage stamps.—EDWARD TILEY, Nurseryman, Seedsman, and Florist, 14, Abbey Church-yard, Bath.

NEW STRAWBERRIES.

ROBERTSON'S WIZARD OF THE NORTH AND NONSUCH

DANIEL ROBERTSON, Linside Nursery, Paisley, is now sending out the above-named superb varieties, at 63s. per 100 plants, or 9s. per dozen. The Wizard of the North is a magnificent large variety, of superior quality, of very fine colour and shape, and an immense bearer. Succeeds Keens' Seedling and continues long in production. It is exceedingly hardy both in growth and in blossom. It was named in 1857, when a Certificate of Merit was awarded to it by the Paisley Horticultural Society; and a drawing made of the plant then exhibited is in the hands of the lithographer, copies of which, when ready will be sent to the principal Seed shops in the country.
Nonsuch is an early Strawberry, of fine size and colour, a great bearer, juicy and rich in flavour, swelling off its later berries well.
These fine varieties were raised by Mr. John Robertson, at Linside, and their high character has been most satisfactorily established by several years' cultivation. They are confidently recommended as a valuable acquisition to Strawberry growers, whether they cultivate on a large or small scale. Strong plants are now ready and orders will be promptly executed.
Testimonials in favour of these fine Strawberries from the most eminent cultivators in the west of Scotland, who have seen them in bearing here, will be supplied on application.
Having a large stock of the Wizard of the North, Nurserymen and Market Gardeners ordering in quantity will be dealt with on favourable terms. A remittance or reference required.—DANIEL ROBERTSON, Linside Nursery, Paisley, N.B.

CARTER'S CHAMPION CUCUMBER surpasses Sion House and Lord Lenyon's Favourite for winter and early spring use. Smooth, dark green, straight, and prolific, average length, 1 foot. Price per packet, 1s.

J. C. & Co. do not hold themselves responsible for the genuineness of the above unless obtained direct from
2 s, High Holborn, London, W.C.

J. CARTER AND CO. beg leave to state that their
TWENTY FOURTH ANNUAL CATALOGUE
OF
DUTCH AND CAPE BULBS
is now ready, and will be forwarded gratis and post free on application.
238, High Holborn, London, W.C.

J. CARTER AND CO. are now in receipt of their First Consignment of
HYACINTHS, CROCUS, TULIPS, AND OTHER DUTCH BULBS,
all of which are very fine and in good condition.
238, High Holborn, London, W.C.

DUTCH FLOWER ROOTS.

PETER LAWSON AND SON, THE QUEEN'S SEEDSMEN, &c., respectfully announce the arrival of a fine Stock of
DUTCH FLOWER ROOTS,
and they are now prepared to execute orders for the same.
27, Great George Street, Westminster, S.W.

NEW SEEDS.

TRIFOLIUM INCARNATUM
ITALIAN RYE-GRASS
NATURAL GRASS SEEDS FOR PERMANENT PASTURE LAWNS, &c.

PETER LAWSON AND SON, the QUEEN'S SEEDSMEN, &c., are prepared to supply all kinds of SEEDS for AUTUMN SOWING of the best quality.
27, Great George Street, Westminster, S.W.

ROYAL BERKSHIRE SEED ESTABLISHMENT.

SUTTON AND SONS have just received a very unique Collection of HYACINTHS, ANEMONES, JONQUILS, CROCUSES, and numerous other Bulbous Flower Roots, direct from one of the most celebrated Florists in Haarlem. Prices very moderate. Lists gratis and post free.

DUTCH FLOWER ROOTS.

JAMES VEITCH, JUN., ROYAL EXOTIC NURSERY, Chelsea, S.W., begs to announce that he has received his annual supply of BULBOUS ROOTS from Holland, and is pleased to say that they are PARTICULARLY FINE and in EXCELLENT CONDITION. Catalogues are now ready and will be forwarded on application.
J. V., Jun., desires to impress upon those who patronise him the great advantage of giving him their ORDERS EARLY, as the successful cultivation of Bulbs depends in a great measure upon their BEING PLANTED EARLY IN THE SEASON.

NEW PLANT CATALOGUE.

JAMES VEITCH, JUN., begs to intimate that his GENERAL PLANT CATALOGUE for the present season, including a DESCRIPTIVE LIST of NEW and RARE PLANTS is now ready and will be forwarded post free on application.
Royal Exotic Nursery, Chelsea, S.W.—Sept. 10.

DUTCH BULBS.

MILNE, ARNOTT, AND CO. are now sending out, in the best possible condition, HYACINTHS, NARCISSUS, TULIPS, CROCUS, and other Flower Roots, imported direct from some of the most celebrated growers in Holland.
A PRICED and DESCRIPTIVE CATALOGUE just published will be forwarded free upon application.
Finest Hyacinths, by name, 5s., 6s., 7s. 6d., & 9s. per dozen.
Select Collections of Bulbs from 10s. 6d. upwards.
The Nursery, Wandsworth Road, London, S.

TRIFOLIUM INCARNATUM, 5d. to 6d. per lb. with hints on its successful cultivation, showing how 3 tons per acre of the most nutritive hay may be secured, the advantages of sowing it where broad Clover is thin, and its superiority to Tares as green food.
PAGE AND TOOGOOD having secured a large breadth of prime quality, offer it at the above low rate for cash.

| | | | |
|---|---|---|---|
| New Turnip Seed, per lb. | 0s. 6d. | Italian Rye-grass, per bush., 5s. to | 7s. 6d. |
| New Rape, do. | 0 4 | Mustard, per lb., 4d. to | 0 5 |

Calceolaria and Cinraria, in packets of 2s. 6d. and 1s. each, saved from one of the finest collections in Europe.
Seeds for exportation to all parts of the world.
PAGE & TOOGOOD, Seed Growers and Merchants, Oxford Street; and Above Bar, Southampton.

FLOWER GARDENS AND GARDENERS.

MR. GLENNY will present every reader (who will send him a directed envelope to Dungannon House, Fulham, S.W.), with a packet of Seed of the true DELPHINIUM FORMOSUM, the most handsome of all hardy perennials: intense blue. BALSAMS, mixed, acknowledged to be the finest ever offered, 50 seeds, 13 stamps, and any single colour; 12 seeds, 7 stamps; a new tricolor, 12 seeds, 13 stamps.
GLENNY'S GARDENERS' GAZETTE for September, most important to Gardeners of all classes, 3d., or by post 4d.

THE BRIGHTON AND SUSSEX FLORICULTURAL AND HORTICULTURAL SOCIETY will hold their GRAND EXHIBITION at the Royal Pavilion Grounds, on WEDNESDAY and THURSDAY September 14 and 15. Nearly 350l. in PRIZES are offered for Plants, Cut Flowers and Fruits, including the RAILWAY CUP, value 10 Guineas, for the best 24 Dissimilar Dahlia Blooms for Amateurs and Gentlemen Gardeners.
Schedules of Prizes can be had on application to E. Spary, Queen's Graperies; or E. CARPENTER, 8, St. James's Street, Brighton.
By permission of Lord Frederick Fitzclarence, C.B., the celebrated BAND of the Coldstream Guards, under the direction of Mr. GODFREY; also the BAND of the 4th Royal Irish Dragoon Guards under the direction of Mr. JAMES will attend each day.
Through the liberality of the Directors of the South Coast Railway, the Committee have the pleasure to announce to Exhibitors that Plants, &c., for Exhibition, will be conveyed to Brighton from all Stations, and back where they came, FREE OF CHARGE. The Plants, &c., from London must be delivered at Bricklayers' Arms Station, Willow Walk, Bermondsey, not later than 8 P.M. on the day preceding the Show, to be delivered up to the Exhibitors early on the following morning at the Brighton Station. Where plants are loaded in the owners' vans and carriages, trucks are required, of which notice should be given to the Superintendent at London Bridge or Bricklayers' Arms, at least 24 hours before to prevent disappointment. No van for transit on a carriage-truck must be loaded more than 9 feet from the ground.
N.B. Vans will be in readiness at the Brighton Station on the morning of the Show to convey Plants, &c., to the Pavilion at moderate charges.
P.S. Exhibitors accompanying their boxes of Fruits, Cut Flowers, &c., if such exceed the weight allowed, will, by booking them at the London Bridge Booking Office, have their productions conveyed to and fro Carriage Free.
By Order of the Committee.
THOS. ATTREE, Esq., Chairman of Committee.
E. SPARY, General Superintendent of Exhibitions.
E. CARPENTER, Secretary.

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JAMES CARTER AND CO.'s CATALOGUE OF DUTCH AND CAPE BULBS, &c.


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237 and 238, High Holborn, W.C.


# The Gardeners' Chronicle.

*SATURDAY, SEPTEMBER 10, 1859.*


SOME startling statements respecting THE PRESENCE OF ARSENIC IN PLANTS CULTIVATED FOR FOOD have been lately made by Dr. EDMUND DAVY, Professor of Agriculture and Agricultural Chemistry to the R. Dublin Society, which, if they should be confirmed, will most seriously affect all medico-legal evidence in cases of suspected poisoning. It is well known that plants will absorb anything fluid that may be presented to their roots, and hence gardeners are always anxious that the soil in which their plants are growing should be perfectly free from contamination by poisonous substances. Solutions of lead, of zinc, of mercury, of copper, even in minute doses, are regarded with the utmost apprehension. Even lime itself is a notorious poison to some plants—such, for example, as Heaths, Rhododendrons, and their allies. It would however appear from

Dr. DAVY's statement that arsenic must be regarded as an exception.

"Knowing that sulphuric acid containing arsenic was so largely employed in making superphosphate and other artificial manures, and that they therefore must contain variable quantities of that substance, I have for some time thought that it was not improbable that plants grown with such manures might imbibe or take up from the soil where those substances had been employed, a certain quantity of arsenic, and in this way be rendered more or less unwholesome as articles of food.

"As a preliminary experiment to ascertain if plants had the power of taking up arsenic when it was presented to their roots in the soil, I transplanted into a flower-pot in June, 1857, three small plants of Peas, and when they had recovered the transplanting, I commenced watering them every second or third day with a saturated aqueous solution of arsenious acid; and this treatment was continued for more than a week without its appearing to exercise any immediate injurious effects on the plants. At this time, however, I was obliged to leave home for some months, so that I was unable to continue longer the watering with the arseniacal solution, or to observe further its effects on those plants. On my return I found that they had grown to about their full size, had flowered, and produced seed, showing that arsenic, though so very destructive a substance to animal life, had not apparently exercised any decided injurious effects on those plants."

To this very unexpected result we shall advert presently.

The crop thus obtained was at a later period examined chemically, and Dr. DAVY found that arsenic could be readily detected in it, and was present even in the seeds, showing clearly that arsenic had been freely taken up, and that every portion of the plants had imbibed the poison.

He then proceeds to relate the result of another trial:—

"This experiment having shown me that arsenic might be taken up in considerable quantity by plants without its destroying their vitality, or appearing even to interfere with their proper functions, I proceeded to ascertain if the arsenic, as it existed in different artificial manures (such as the superphosphate), would in like manner be taken up by plants growing where those manures had been applied. To determine this, I transplanted, last April, a small Cabbage plant into a flower-pot in which I had previously put a mixture of one part of superphosphate to four parts of garden mould. The Cabbage after a short time appeared to recover the transplanting, and when it had been growing in the mixture for three weeks, I cut off the top of the plant, which looked perfectly green and healthy. On examining it for arsenic, I obtained the most distinct indications of the presence of that substance, though only a very small amount of Cabbage, viz., 113 grains, was used in the experiment. This result was therefore perfectly conclusive as to the power possessed by some plants, at least, of taking up arsenic from manures containing that substance. As in this experiment I was aware that I had placed the plant in a most favourable condition for absorbing the poison, and that a larger proportion of superphosphate had been employed than was used in practice, my last experiments were to ascertain if the presence of arsenic could be detected in our crops grown with superphosphate in the ordinary way."

Turnips taken from fields in which superphosphate had been used were next examined, and still gave the most unmistakeable evidence of having been arseniated. The facts thus collected appear to Dr. DAVY "to have some important bearings, for though the quantity of arsenic which occurs in such manures is not large when compared with their other constituents, and the proportion of that substance which is thus added to the soil must be small, still plants may during their growth, as in the case of the alkaline and earthy salts, take up a considerable quantity of this substance, though its proportion in the soil may be but very small. Further, as arsenic is well known to be an accumulative poison, by the continued use of vegetables containing even a minute proportion of arsenic, that substance may collect in the system till its amount may exercise an injurious effect on the health of man and animals." See for further particulars the London Dublin and Edinburgh Philosophical Magazine, in which the original paper is to be found.

That these statements deserve the name of startling will hardly be denied. They lead to the following important inferences:—1st, that plants, or at least Peas and Turnips, are not injured by arsenic in the soil; 2d, that they absorb this dangerous substance; 3d, that they detain in their tissues what they absorb; 4th, that arsenic may thus be introduced into the animal system with daily food; and 5th, that it may accumulate there till dangerous consequences ensue.

Is this really so? Is there no error in Dr. DAVY's experiments, which are quite opposed in their results to the evidence obtained by others? It is known, indeed, that the Potato crops near the smelting houses at Swansea remain healthy although the atmosphere is said to be contaminated by arseniacal fumes; but no exact experiments have been recorded on the subject; on the other hand, it is certain that vegetation perishes round the arsenic works of Cornwall.

Dr. DAVY watered his Pea plants with a *saturated aqueous solution* of arsenic; and it did them no harm. Therefore it was not the minuteness of the dose of arsenic that failed to produce an injurious effect. Yet we have the evidence of others that very small doses are fatal to vegetable life. MARCET found that when the shoot of a Kidney Bean was dipped in water containing only two grains of arsenic in two ounces of water it perished in 36 hours. JÄGER, when he watered plants with an arseniacal solution, killed them; nor could he or HUMBOLDT or CARRADORI induce seeds to grow when sprinkled with arseniated water; LINK found even that a whole plant was killed by only dipping a branch in arseniated water. Others have found that these injurious effects diminished as the dose of arsenic was reduced. There is a case of the kind mentioned in *Poggendorf's Annals* (1830, p. 488), where Vetches were treated with infinitesimal doses, even, as is asserted, with some advantage! (See *Decandolle's Physiologie végétale.*)

The last mentioned cases may be analogous to the poisoning by ill-made superphosphate of lime described by Dr. DAVY; but our difficulty lies in comprehending how it should be possible for Peas to bear such a dose of arsenic as must exist in the "saturated aqueous solution" employed by that gentleman; and we cannot but think that some explanation might be found that would be consistent with the experience of others.

Still remains the other alarming fact that food crops raised with manure containing minute doses of arsenic may both directly and indirectly cause injurious effects upon the animal system; directly, as when vegetables are taken into the stomach; indirectly, when animals that have fed on such vegetables become the food of man.

This seems to be a matter deserving—let us rather say demanding—immediate and rigorous examination.

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WE collect anew from the French Horticultural Journals such small items as only require a passing notice.

—— The Paris Horticultural Society has been occupied by a short discussion of the real value of certain *insect-killing agents*. A M. WILLEMOT having complained that he did not receive a medal in acknowledgment of his having introduced the Pyrethrums that furnish the flea powder of Caucasus and the Levant, was in the first place very properly informed that such an introduction did not deserve such a reward; and secondly, that his powder did not kill green-fly as was asserted. The President, M. PAYEN, said that if the powder was properly applied the insects dropped no doubt, but after a short time reappeared. M. WILLEMOT was not satisfied with this report, and rejoined that his powder did kill insects, such even as the caterpillars of the slug Tenthredo (Selandria Æthiops?) as well as green-fly. M. PAYEN maintained that this could not be, because the aphides had been found to be quite lively when put into a bottle of the powder. Others thought that they were merely knocked off, and falling to the ground were unable to get back, and so perished of hunger; what good was done might therefore be reasonably ascribed to mere mechanical action, and might have been effected just as well by syringing with mere water. A gentleman upon this remarked that birds were of more use in killing green-flies than all the insect powders that had ever been proposed; and he quoted the instance of a tame sparrow, which a friend of his had once fed with them, and which soon cleared all the plants in his garden. Another member extolled the virtues of syringing with a cold decoction of tobacco. A third observed that 10 or 12 scruples of Aloes dissolved in a quart of water wholly destroyed the green-fly after twice syringing the trees. Some other gentlemen were of opinion that tobacco and Aloes must be excellent because they remained sticking to trees, at least for some time, and so prevented the return of the insects.

—— It appears that a *Dielytra spectabilis* with white flowers has been obtained by M. ROLLAND, a gardener at Meaux.

—— It has been found that *Grapes sulphured* in very hot weather and very hot places become burnt as it were by the sulphur, but that this never happened elsewhere or at other times.

—— M. PAYEN proposes to drive off *caterpillars* and grubs attacking fruit by means of a watering preparation of oil dashed upon the trees. He mixes a few scruples of whale oil in a quart of water, adding some drops of ammonia; the mixture is beaten up into an emulsion, which is thrown upon the trees by a garden engine.

——A M. GALFIN, a gardener at Nantes, uses *collodion* to cover the wounds in fruits that have been bitten or wounded by insects or otherwise and that are beginning to spread in a state of decay. For this purpose he scrapes away carefully with a silver knife all the injured part, and then gently paints the place with collodion applied with a camel's-hair pencil. He assures us that the decay of injured fruit is thus effectually arrested. Collodion, which is merely gun-cotton dissolved in ether, may be prepared in the following manner:—Put into a glass or porcelain vessel 150 grammes of sulphuric acid and 75 grammes of nitre reduced to powder; stir the mixture with a glass rod, and when it is cold add little by little 5 grammes of cotton wool. At the end of a quarter of an hour the cotton is taken out and washed in plenty of water till there is not the slightest trace of an acid taste. It then is dried on blotting paper in the sun, and afterwards dissolved in a well-stoppered bottle in a mixture of 50 grammes of ether and 5 grammes of alcohol. This solution is what is called collodion.

——An amateur wishing to destroy the *transparency* of the glass roof of his greenhouse hit upon the following plan. He melted a tallow candle over a gentle fire, poured the liquid grease into a pot, and let it stand till it became unctuous—neither too soft nor too hard. On a warm day when the condensation on the glass was all dried up, he smeared the glass in the *inside* with the grease applied by a cotton dabber. He rubbed and daubed the glass until he brought the grease to a uniform surface. After which he gently passed the same dabber of cotton lightly over the glass perpendicularly, which gave the glass the appearance of being finely furrowed. The roof thus prepared so completely prevents the direct rays of the sun from passing that nothing in the inside could be seen from the outside, although when in the inside the light was clear and bright without the least glare. We are assured that this is an effectual prevention of all burning or scorching which so much disfigures plants kept under glass in summer.

——When you have to *bud a shoot* laid close to a wall there is no difficulty in raising the bark at the cut next the wall, but there is no getting the straight handle of the budding knife under the bark on the side next the operator. So M. FORNEY who had a good deal of this work to do on trees, has contrived a curved instrument like a button hook, but broad and flat, and with the shank at right angles to the shank instead of being hooked. This he found an extremely handy instrument.

—— Beautiful a tree as is the hardy *Sophora japonica*, it is little cultivated either in this country or elsewhere; and yet it does well in all sorts of soils except those which are cold, heavy and undrained. It appears that its buds are of great importance in dyeing. The Chinese use them for a pure yellow, or with the addition of Indigo for one of their greens. The yellow is particularly valuable for dark orange yellow. The flowers may be used in the same way, and indeed are richer in colouring matter; but the tint they give is browner than that of the buds. What very remarkable is, that neither the bark, nor the wood, and scarcely the leaves, are capable of yielding this dye. (For further particulars see the *Rev. Hort.* 1859, No. 16.)

## New Plants.

225. CALADIUM (?) VEITCHII.

When Mr. Thomas Lobb was in Borneo he sent to Messrs. Veitch an Araceous plant of singularly beautiful foliage, a specimen of which was exhibited at the Horticultural Society's rooms last Tuesday? It is stemless like Colocasia esculenta, the stalks of the leaves are 2 feet long, green slightly scratched with purple; the leaf itself a foot long, peltate, arrow-headed, of a firm texture, rich deep purple on the under side, dark green above, with a white border and white diagonal veins. It is a beautiful example of a "fine foliaged" plant, but not having flowered there is no saying whether it is a Caladium or not. Nevertheless, a name has been necessary to it, and we venture to propose for it which is here given.

## DEATH OF PROFESSOR HENFREY.

It is our melancholy duty to record the death of this gentleman, at his residence at Turnham Green, on the morning of the 7th inst. Prof. Henfrey has long been known as an excellent histologist and sound vegetable physiologist. Especially conversant with the botanical literature of the Germans, it has been to his pen that we owe many valuable dissertations upon subjects little attended to in England. The papers in the *Micrographic Dictionary* of himself and his friend Dr. Griffith are justly celebrated for their accuracy as well as skilful condensation. The physiological part of his *Elementary Course of Botany*, and the papers on Vegetable Structure now in course of publication in the *Journal of the Royal Agricultural Society*, will always be regarded as the productions of one who was not only familiar with the truths of science, but able to render them attractive to those who are little accustomed to think upon such subjects. In private life he was endeared to his friends by the gentleness of his manners and the genuine kindness of his nature; while to his young family his loss is irreparable. Professor Henfrey was a Fellow of the Royal and Linnean Societies, a Member of the Council of the Horticultural Society, Professor of Botany in King's College, London, and Examiner in Natural Science to the Royal Military Academy and the Society of Arts. He died in the 39th year of his age.

## BELGIAN GARDENS.

No. I.—The collections of Baron De Man de Lennick have a European reputation. What amateur is there, Belgian or foreign, who does not know the beautiful estate of Bierbais, the turrets of which may be seen close to the railway station of Mont-Saint-Guibert; with its modern chateau built upon an eminence in the midst of a park full of fine old trees; its magnificent conservatories and ranges of fruit-houses, where the finest Grapes, Strawberries, Pine Apples, Apricots, and Peaches, thrive and bear spontaneously, and at all seasons, side by side with the most beautiful specimens of Asiatic, African, and American vegetation.

The principal conservatories of Baron De Man de Lennick form a continuous parallelogram of nearly 50 yards long by 10 in height and width. The body of the building has a glazed roof, with upright sashes on the south side, and is divided into three compartments, the first of which serves as a greenhouse, and contains a collection of the rarest Conifers and other plants belonging to this class. Among them are specimens of the most beautiful species of Podocarpus and Araucaria, amongst others A. excelsa and Cunninghamii, large enough to bear cones; of exotic Pinus, Cupressus, Taxodium, and Cryptomeria, perfectly cultivated and of grand dimensions. The centre compartment contains collections of such Camellias and Azaleas as even our greatest Ghent growers might envy. Choice collections of Fuchsias, Ericas, and Sikkim Rhododendrons decorate the front of this conservatory, the uniform appearance of which is relieved by magnificent greenhouse Palms and Tree Ferns. Extremely rare species of Chamærops, Balantium, and Marattia, in the form of gigantic specimens, extend their long fronds above the smaller plants, which thus expand their flowers beneath the shadow that plays above them. The third and easterly compartment is devoted to Orchids, and to plants which inhabit hot regions and love great heat and a damp atmosphere. But there are none of those stages or wooden boxes which destroy all effect, and are such an eyesore in our conservatories. Here we have a perfect flower garden, intersected by paths and ornamented with basins, rockwork, and jets of water, which play amongst the green verdure. This is the place in which to see Orchids, Tillandsias, Æchmeas, Heliconias, Caladiums, Aroids, and Ferns as they really appear amidst the strange and magnificent variety of the most luxuriant vegetation of the tropics.

The collection of Orchids, although not extensive, is composed of the most beautiful genera and species, and is especially remarkable for the unequalled health and vigour of the specimens. Let us mention more particularly a Sobralia macrantha, which measured 4 feet in diameter at the base, and whose stems rose more than 2 yards high, occupying a space of 12 yards in circumference; Aërides crispum and odoratum majus; Cattleya crispa, purpurata and Mossiæ, with a Lælia superbiens, and Grammatophyllum speciosum, of uncommon vigour. Between the rocks are placed numbers of rare Orchids, now alternating with Tillandsias and Ferns, now with Caladiums, or species of Pothos and Philodendron; amongst them were most especially remarkable Cattleya Trianæi and elegans; Odontoglossum nebulosum, Pescatorei, and grande; Cœlogyne maculata and Wallichii, Saccolabium violaceum and retusum, Schomburgkia crispa and marginata; Huntleya meleagris, Vanda Batemanni, Oncidium Lanceanum, and many other striking species. Two beautiful Heliconias and a Rhopala Jonghii, 3 yards high, furnished with leaves down to the very bottom; magnificent Tree Ferns, and great numbers of plants, with either ornamental foliage or beautiful flowers, make of this place a perfect paradise. *From the Journal d'Horticulture Belge.*

## Home Correspondence.

*Cucumbers.*—While out-door Cucumber growing is fresh in the minds of so many growers, I would call attention to a system practised here, and with very good results. I start a three-light frame on a dung bed early enough to cut the Cucumbers in March, and continue to do so until the middle of June, when the plants get a liberal supply of guano water; in a few days afterwards the frame is taken away and the plants left to the mercy of the weather—the sort grown is the Sion House. In a very short time the Cucumbers came on the plants as if by magic. I am sorry I did not keep an account of the quantity cut, but it would have been thought incredible as it was immense; after supplying the wants of the kitchen they were given to the labourers and to all comers by the half dozen. I counted over threescore on the plants at one time and the most of them straight fruit averaging from 8 to 12 inches in length. For the last few days in August the weather was very cold and the nights damp, so that the plants lost some of their vigour, but they are now doing good work. Ridge Cucumbers I have not grown successfully for several years. They die off just when they come to a bearing state without any appearance of disease in the Vines. *Thorp Perrow.*

*Tom Thumb Nasturtium.*—Being the raiser of this Nasturtium, I beg to inform your correspondent (see p. 693) that it is in every respect superior to Cattell's Dwarf Scarlet kind, both as regards brilliancy of colour, shape, and substance. It also possesses the good quality of throwing its blooms well up above the foliage. This season I grew a plot of Cattell's Dwarf Scarlet near my Tom Thumb, in order that London seedsmen might have an opportunity of comparing the respective merits of the two, and their decision has been unanimously in favour of Tom Thumb. *W. H. Dunnett, East House Farm, Dedham, Essex.* —— In your Number of August 27 "W. D." asks "whether or not Tom Thumb Nasturtium and Cattell's Dwarf Scarlet are the same?" Both last season and this I have seen the two varieties growing side by side at Mr. Dunnett's. I have carefully examined the flowers of each, and can assure "W. D." that Tom Thumb is very superior in every respect to Cattell's. *P. Barr, Covent Garden Market.*

*Plumbago Larpentæ.*—I should be glad to know from some of your readers whether this Plumbago would do as a bedding-out plant, and if so, when should cuttings of it be struck, and would it flower well? Permit me also to inquire whether or not the Tom Thumb Nasturtium will come true from seeds? *S. H. F.*

[It will not do for bedding out, in our opinion.]

*Scolytus in Elm Trees.*—Does the woodpecker feed on this vermin, and could it be domesticated in this populous locality? *C. R., Hampstead.*

## Societies.

Horticultural: *Sept.* 8.—A meeting of the Floral Committee of this Society took place this day. The subjects of exhibition consisted chiefly of Dahlias, most of which are noticed in another column. The best were Neville Keynes, Beauty, George Elliott, compacta, Rev. J. Dix, and Mrs. Howard Vyse. Fuchsia Marquis of Bath from Mr. Wheeler, of Warminster, was recommended as the finest of double-flowered varieties, which had come under the notice of the committee. A pretty rose-salmon coloured Verbena, with a yellowish green eye, surrounded with crimson, also came from the same grower. Caladium Veitchii, described in another column, was furnished by Mr. Veitch; and Messrs. Backhouse, of York, sent an extremely handsome variety of Cattleya Schilleriana. The sepals and petals have a green ground colour, richly spotted and barred with reddish brown. The labellum is purple, fringed with white, showy and beautiful.

Crystal Palace Horticultural Exhibition.—The third great display of flowers, fruits, and vegetables for the season, held under the auspices of this Company, took place on Wednesday and Thursday last, and was tolerably well attended. The exhibition itself was scarcely so good as it was last year, owing doubtless to the peculiar season we have just experienced. Collections of flowering plants were scarce, but there were some very good lots of plants remarkable for fine foliage, Ferns, and Lycopods. Of Orchids a very few were shown. Dahlias and Asters were good and plentiful, and of Fuchsias and Japan Lilies there were some fine banks. Pine Apples were scarce, but of Grapes, Peaches and Nectarines, Apples, and Pears exhibitions were numerous. As this part of the show was the most attractive, we will begin with it.

Collections of fruit were tolerably numerous. The best came from Mr. Frost, gr. to E. L. Betts, Esq. and was in every way well deserving of the first prize which was awarded it. It consisted of a Queen Pine Apple, excellent Black Hamburgh and Muscat Grapes, Ickworth Imperatrice and Coe's Golden Drop Plums, King's Green-fleshed Melon, Morello Cherries, Barrington Peaches, Elruge Nectarines, and Williams's Bon Chrétien Pear. The next lot in point of merit came from Mr. Page, gr. to W. Leaf, Esq. Streatham. It contained an Otaheite and smooth-leaved Cayenne Pine Apple, Greengage Plums, Golden Perfection and Incomparable Melon, Barrington Peaches, and Elruge Nectarines, Muscat and Black Hamburgh Grapes, and Brown Ischia Fig. A third collection came from Mr. Kaile, gr. to Lord Lovelace. It contained Black Hamburgh and Muscat Grapes, a Queen Pine Apple, Improved Green-fleshed Melon, Williams's Bon Chrétien Pears, Brown Turkey Figs, Denyer's Victoria Plum, Chancellor and Noblesse Peaches, and Pitmaston Orange Nectarine. Another collection arranged for artistic effect came from Messrs. Wortley. It consisted of a basket of fruit, out of the midst of which shot up a long glass tube filled with cut flowers nicely put together, and altogether very pretty. Exhibitions of this kind deserve encouragement.

Of collections of 8 dishes the best was contributed by Mr. Dawson, gr. to Earl Cowper. It contained two very good Pine Apples, Black and White Grapes, Pears, Peaches, Nectarines, and Figs. Scarcely inferior to that just named was a collection from Mr. Bailey, gr., Shardeloes; it consisted of Black Hamburgh Grapes, three bunches of which weighed 8 lbs., White Muscadine Grapes, a Queen Pine Apple weighing 4 lbs., Noblesse Peaches and Elruge Nectarines, Bailey's Green-fleshed Melon, Williams's Bon Chrétien Pears, and Lee's Perpetual Figs. A third lot from Mr. Eckford, Highworth, Wilts, contained a smooth-leaved Cayenne Pine Apple, Black Hamburgh and Muscat Grapes, Brown Turkey Figs, Kensington and Royal George Peaches, Pitmaston Orange Nectarine, and Williams's Bon Chrétien Pear. Mr. Ingram, gr. to J. J. Blandy, Esq., Reading, also contributed a nice exhibition, in which were Royal Muscadine and Black Hamburgh Grapes, Cocoa-nut Melon, Barrington Peach and Elruge Nectarine, Morello Cherries, Coe's Golden Drop Plum, and White Doyenne Pear.

Of Pine Apples fine fruit came from Mr. Dawson, gr. to Earl Cowper, and Mr. Bailey, Shardeloes; the latter sent a Black Jamaica, weighing 5 lbs. Messrs. Page & Davies also showed good fruit of the last-named variety. The best Queen came from Mr. Rattray, gr. to J. Back, Esq., Cobham—it weighed 4 lbs. 10 ozs. The next in point of merit came from Mr. Solomon's garden at Peckham Rye.

Of Grapes in baskets of 12 lbs. each, the best was contributed by Mr. Solomon, and consisted of Black Hamburgh finely ripened and well coloured, and Muscats. Messrs. Kay, Spary, Harrison, and Jackson also exhibited good baskets of Black Hamburgh and Muscats

In the class of 2 dishes of Black Grapes, the best were sent by Mr. Hill, gr. to R. Sneyd, Esq.; they consisted of Black Prince and Black Hamburgh, beautiful bunches, more especially the former. The next best fruit, finely grown but a little deficient in colour, came from Mr. Frost, and good bunches also came from Messrs. Kay & Sage.

For White Grapes a first prize was awarded to Mr. Drewitt, gr. at the Denbies, near Dorking, for admirable bunches of Cannon Hall Muscat. They indicated unusual vigour; there was no evidence of bad setting, and each berry was stated to measure above 2 inches in circumference, while the bunches themselves were quite a foot in length. They were, we understand, from Vines grown on a chambered border heated with hot-water pipes. Scarcely inferior, and evidently rather riper, were some very finely grown bunches of the same kind of Grape from Mr. Frost, of Preston Hall. The latter had also beautiful bunches of Muscat of Alexandria. Mr. Frost, gr., Chigwell, and Mr. Smith, gr., Liscard Hall, likewise furnished very good examples of Muscats.

The heaviest bunch of Grapes came from Mr. Strachan, gr. to Captain Senhouse, Northampton. It appeared to be Black Hamburgh badly coloured. The next best, also a Black Hamburgh, came from Mr. Snow, gr. to Earl de Grey, at Wrest Park, and weighed 4¼ lbs. Mr. Summers, gr. to A. Mongredien, Esq., showed White Nice.

The prize offered by Mr. Veitch for the best Golden Hamburgh Grapes produced some magnificent specimens which cannot have failed to dispel all doubt concerning the great excellence of this variety. They came from Mr. A. Scott, gr. to Lord Sherborne. One bunch weighed 3¾ lbs., and the three together weighed 9 lbs. Other bunches were shown by Mr. Kay, of Finchley, and others; but not so good as those just mentioned. This Grape may therefore now be expected to take a prominent place in every collection.

Of Vines in pots two collections were shown.

Peaches and Nectarines were present in abundance; but for the most part small in size. The best in the class of 4 dishes came from Mr. Hazell, of Denmark Hill. The sorts were Late Admirable, very fine, and Noblesse Peaches and Newington and Elruge Nectarines. Mr. Turner, gr. to J. Hill, Esq., of Streatham, sent fine specimens of Bellegarde and Grosse Mignonne Peaches and Violet Hâtive and Murray Nectarines. Mr. Little, gr. to A. Darby, Esq., of Slough, had Late Gallande and Admirable Peaches, and Pitmaston Orange and Oldaker's Black Nectarine. From Mr. Kaile came Noblesse and Barrington Peaches, and Elruge and Violet Hâtive Nectarines.

In the class of 2 dishes of Peaches and Nectarines the most successful exhibitor was Mr. Little, who contributed Elruge Nectarines and Walburton Admirable Peaches. Mr. Dawson and Mr. Eckford both showed well in this class. The latter had Murray Nectarines and Royal George Peaches. Mr. Wortley, gr. to Mrs. Maubert, had Noblesse Peaches and Elruge Nectarines. Some Peach trees in pots were also shown.

Beautiful examples of the Brunswick Fig came from Mr. Rust, gr. to the Right Hon. L. Sulivan, of Broome House, Fulham; and Mr. Goldsmith, gr. to Sir W. Farquhar, Bart., Dorking, also sent a good dish of Figs.

Cherries, consisting of Morellos, were exhibited in very fine condition by Messrs. Betteridge, Snow, and Leslie. We also noticed a dish of Carnation Cherry, small, but still plump and good.

The best Plums came from the neighbourhood of Margate. They consisted of Magnum Bonum, Washing-

ton, Jefferson, Black Diamond, Coe's Golden Drop, and last, "though not least," Greengage.

Apples, notwithstanding that most growers this year have only dozens instead of bushels, were tolerably numerous. The best 6 dessert sorts came from Mr. Whiting, the Deepdene, near Dorking. They consisted of Adams' Pearmain, Ribston Pippin, Sweeney Nonpareil, Yellow Ingestrie, Franklin's Golden Pippin, Old Golden Pippin, and Fearns's Pippin. These were one and all fine specimens, not very large; but there was a cleanness and beauty about them which was quite remarkable. The next lot in point of merit came from Mr. Mortimore, gr., Carshalton; the sorts were Celina, Ribston and Downton Pippins, Nonpareil, Nonesuch, and Claygate Pearmain. A third lot came from Mr. Holder, of Reading, who furnished King of the Pippins, Golden, Ribston, and Fearns's Pippins, and old and Scarlet Nonpareil.

In the class of Kitchen Apples, Mr. Mortimore had the best exhibition, which consisted of Golden Noble, Celina, Gloria Mundi, Hoary Morning, Codlin, and Flower of Kent. From Mr. Frost, of Preston Hall, came beautiful specimens of Hawthornden, Northern Greening, Alfriston, Gloria Mundi, Wellington, and Celina. Mr. Newton, gr. to G. Graham, Esq., of *Enfield Chase, sent Emperor Alexander, Dutch Codlin,* Kentish Fillbasket, Gravenstein, Brabant Bellefleur, and Hollandbury. From Mr. Turner, gr. to J. Hill, Esq., came Blenheim Pippin, Wellington, Alfriston, Flower of Kent, Yorkshire Greening, and Golden Noble.

Of Pears, Mr. Harrison, of Oatlands, had magnificent specimens of Williams's Bon Chrétien, Chaumontel, Marie Louise, Passe Colmar, Beurré Diel, and Duchesse d'Angoulême. Mr. Holder, of Reading, sent smaller fruit of Williams's Bon Chrétien, Brown Beurré, Beurré Rance, Duchesse d'Angoulême, Louise Bonne of Jersey, and Marie Louise. Mr. Hally, Blackheath, sent Williams's Bon Chrétien, Marie Louise, Duchesse d'Angoulême, Beurré Clairgeau, B. Diel, and Grosse Calebasse. From Mr. Whiting came Marie Louise, Beurré d'Amanlis, Brown Beurré, and other well known kinds.

In the class of three dishes of Pears, Mr. Rattray contributed fine fruit of Dunmore, Williams's Bon Chrétien, and Marie Louise. Mr. Park, gr. to G. H. Vernon, Esq., of East Retford, and Mr. Mortimore also showed good dishes in this class.

For single dishes of Pears for weight, the first prize was awarded to Mr. Harrison, of Oatlands, who sent 6 fruit of Duchesse d'Angoulême, weighing together 5 lbs. 2 oz. Mr. Hally had 12 fruit of the same variety, whose united weight was 8 lbs. 8½ oz. Mr. Park showed Williams's Bon Chrétien.

Of single dishes of Pears shown for flavour, the best was Williams's Bon Chrétien, contributed by Mr. Elliott, gr. to C. Davidson, Esq., Sydenham. The next best was Beurré d'Amanlis from Mr. Hutcheson, gr. to H. P. Cotton, Esq. Margate, and Williams's Bon Chrétien, over ripe, from Mr. Harrison, of Oatlands.

Among miscellaneous fruits we observed a well *fruited plant in a pot of Eugenia Ugni;* and some *skilfully managed dwarf Orange trees in pots from Mr. Waters, gr. to A. F. Moore, Esq. of Sydenham.*

*As regards miscellaneous* stove and greenhouse plants, collections came from Messrs. Baxendine, Kaile, Page, Green, Peed, Rhodes, Reid, and Chilman. These collections consisted chiefly of Allamandas, Vincas, Ixoras, Cyrtoceras, Croweas, the handsome Pleroma elegans, and Cape Heaths. Of Vallota purpurea there was a grand specimen from Mr. Carson. It had eight flower spikes, each of which was surmounted by from three to five lovely scarlet blossoms, measuring quite 3 inches in diameter. We also noticed in Mr. Green's group a plant of the beautiful, but now seldom grown Lisianthus Russellianus.

Plants remarkable for the beauty of their leaves were shown in good condition by Messrs. Young, Rhodes, Oubridge, Nicholson, Jackson, Colgate, Bunney, and Summers. Among these we observed little new. There were, however, some well grown examples of Palms, intermixed with such plants as Monstera pertusa, with singularly pierced leaves; Cycas revoluta, Dasyliriums, the finer-leaved varieties of Berberis, Dracænas, Tillandsias, Cissus discolor, Dioscoreas, Dieffenbachias, Crotons, variegated Hydrangeas, Sansevieras, Marantas, variegated Yuccas, Caladiums, Aspidistrums, Coleus Blumei, Rhopalas, and Begonias. Among the last was a noble-looking kind called Marshalli, with large silvery blotched leaves.

Of Orchids one collection only was furnished. It came from Mr. Carson, gr. to W. F. G. Farmer, Esq., of Nonesuch Park. It consisted of some good Cattleyas, Dendrobium Farmeri, an Aerides, and other plants.

Among Cape Heaths we noticed nothing requiring special remark.

Ferns were generally good as well as plentiful. Exotic kinds were contributed by Messrs. Baillie, Lavey, Summers, and Oubridge, and in the Nurserymen's Class, by Messrs. Bunney, Woolley, Milne, Arnott, & Co., and Hally. Among these were beautiful plants of different sorts of Gleichenia, Cyathea medullaris and microlepis, Dicksonia antaretica, Nephrolepis davallioides, some good Cheilanthes, Aspleniums, Davallias, Adiantums, Gymnogrammas, Cænopteris fabiana, Hypolepis Dicksonioides, and others.

British Ferns came from Messrs. Sim, Lavey, and Baillie. Among them were some charming varieties but little different from what has been recorded by us in former reports.

The remark just made also applies to Lycopods, among which there were, however, several splendidly grown specimens measuring not less than 3 feet across. The best came from Mr. Higgs, gr. to Mrs. Barchard.

Novelties were chiefly contributed by Messrs. Veitch. Among them were the Hybrid Cattleyas raised between C. granulosa and intermedia, formerly noticed by us; C. granulosa and intermedia, formerly noticed by us; the hardy evergreen shrub Chamæbatia foliolosa, Pothos argyræa, and Pteris argyræa, fully described the other day at p. 671; Spraguea umbellata, a hardy pretty annual; and two handsome Selaginellas—one atroviridis, a dwarf-growing species from Borneo, with singularly forked branches; the other Lobbi, also a beautiful Bornean kind, partaking of the habit of S. inæqualifolia, but possessing the rich metallic lustre of cæsia. It is also remarkable for the Fern-like character of its branches. These form charming additions to this now deservedly favourite class of plants.

Of new Hybrid Achimenes Messrs. Milne, Arnott, & Co. sent an interesting collection, chiefly with rosy pink-coloured flowers charmingly spotted with brilliant crimson. Of some of the best of these a full account has already been given in our pages.

Fuchsias were contributed in excellent condition by several growers. The best came from Messrs. Cannell, Elliott, Oubridge, and Rhodes. They were for the most part in the form of pyramids, and beautifully *covered with bloom.*

Scarlet Geraniums were exhibited in considerable numbers from the neighbourhood of Sydenham, Croydon, Dulwich, and Hampstead. Among them there was nothing new. They consisted of Brilliant, Punch, Tom Thumb, Cerise, Unique, Trentham Hybrid, Lady Middleton, Kingsbury Pet, and one or two other pink and salmon sorts.

Of Balsams there was an extensive display. They were generally well grown, with flowers large and double, and of all shades of colour. The best came from Mr. Brown, of Dulwich.

Some good Cockscombs came from the neighbourhood of Edmonton. Their combs, though fine, were, however, scarcely so large as we have seen them.

Of Japan Lilies there was a noble bank; but owing to want of variety among them they made but little display. They were however all fine plants, and tolerably well matched as to height.

Some handsome varieties of Gladioli and Phloxes came from Mr. Standish, of Bagshot.

Dahlias both from amateurs and professional growers were excellent. The three first stands in each class contained blooms above the average in size and general merit. Fancies were also good and in great variety. Of 50 blooms the best came from Mr. Turner, Royal Nursery, Slough. They consisted of Robert Bruce, Seedling, Flower of the Day, Pioneer, Commander, Sir Jos. Paxton, Sidney Herbert, Midnight, Mrs. Church, The Flirt, Constancy, Seedling, Deutsche, Duchess of Kent, Mentor, Chairman, Triomphe de Secq, three very pretty Seedlings, Pre-eminent, Hon. Mrs. Trotter, Emperor, Col. Wyndham, Enchantress, Seedling, Miss Watts, Bravo, Goldfinder, Mr. Charles Waters, Seedling, Disraeli, Lady Popham, King, Standard Bearer, Cherub, Adam Bede, Yellow Beauty, Purple Standard, Mrs. H. Vyse, Lollipop, Lord Palmerston, Lady Franklin, Miss Pressley, Touchstone, Seedling, Lord Eversley, Seedling, Lady Taunton, George Elliott. Mr. Kimberley, of Stoke, Coventry, and Mr. J. Keynes, of Salisbury, also showed in this class. Of 24 Dahlias the best came from the Rev. C. Fellowes, of Shottesham near Norwich. They consisted of Pre-eminent, Wallace, Miss Caroline, Touchstone, Miss Watts, Satirist, Lord Palmerston, Rosebud, Pandora, Chairman, Duchess of Marlborough, Fanny Keynes, Deutsche Würde, Mentor, Golden Drop, Robert Bruce, Standard Bearer, Lady Franklin, Goldfinder, Emperor, Dr. Gully, Lady Popham, Mr. Critchett, Purple Standard. From Mr. W. Dods, of Salisbury, came Duke of Roxburgh, Pandora, Chairman, Lord Bath, Royal Lilac, Lord Clyde, Golden Drop, Cherub, Dr. Simpson, Emperor, Mrs. Church, Sidney Herbert, King, Lord Derby, Hon. Mrs. Trotter, Sir H. Havelock, Venus, Miss Pressley, Lord Palmerston, Seedling, Sir G. Douglas, Touchstone, Lady Franklin, Mr. Critchett.

In the class of Fancy Dahlias the best came from Mr. C. Turner, of Slough. The sorts were Ethel, Tiger, Elizabeth, Pluto, Madame Alboni, Butterfly, Comus, Jessie, the Flirt, Duchesse de Brabant, Queen Mab, Charles Perry. From the Rev. Charles Fellowes came Souter Johnny, Madame Alboni, Charles Perry, Triomphe de Roubaix, Countess of Bective, the Flirt, Jupiter, Oliver Twist, Jessie, Conqueror, Mark Antony, Elizabeth. Mr. J. Keynes and others also showed in this class.

Of Seedling Dahlias there was a large collection, and in most instances several blooms of each variety were shown. The judges selected 11 kinds for certificates, namely, George Elliot, light purple, of fine build; Mrs. Howard Vyse, white, with rosy purple edge or tip; Beauty, pale cream, shaded; Queen Mab, a fancy, scarlet and white; Pluto, a dark fancy, of great depth and fine form, and Harlequin, a large striped fancy. These were shown by Mr. C. Turner. Mr. Keynes had Wm. Dodds, a deep yellow of good shape; Lady Douglass Pennant, primrose; Wellesley Piggot, fine white; Neville Keynes, pale yellow, edged with purple, fine; and Sir Geo. Douglass, yellow, deeply tipped with red, very showy. There were some promising kinds, however, to which no awards were made, viz., Miss Boyce, white, tipped with crimson purple; Purple Standard, deep, finely-formed purple; Mr. Boshel, salmon; and Lady Taunton, white, edged with crimson.

Among Cut Flowers, in addition to Dahlias were Roses, Hollyhocks, Verbenas, and Asters. Of the latter, both German and French, there were some fine blooms. In the garden the French are the greatest favourites; but on the show-boards at exhibitions the German sorts appear to be most admired.

Among miscellaneous subjects were some dwarf Cockscombs, and we observed some Sunflowers from Mr. Bragg very double and of great size.

The Amateurs' and Cottagers' department was highly satisfactory. The whole of the collections contained fruits, flowers, and vegetables, and in some of them the flowers were neatly arranged in the form of bouquets.

In the class of Amateurs employing two gardeners, the best collection came from Mr. Ellis, of Edmonton. It contained good Black Hamburgh Grapes, Peaches, Plums, Apples and Pears, fruit of the Egg Plant, very fine Onions, Shallots, Turnips, Carrots, Parsnips, Beet, French Beans, Rhubarb, Red Cabbage, Vegetable Marrows, Radishes and pot herbs, and among plants in pots some good Achimenes, Balsams and Geraniums. Mr. Nicholson, of Stamford Hill, and Mr. Lee, of Eltham, also showed in this class.

Where one gardener only was kept, Mr. Bennett, of Upper Tulse Hill, had the best group. It contained a collection of pot herbs, some very good Potatoes, Globe Onions, Shallots, Carrots, Parsnips, Custard Vegetable Marrow, Forty-fold, Regent and Early-frame Potatoes, Capsicums, and some well-grown plants in pots. Mrs. Sweetlove, of Maidstone, also showed a good collection. Mr. Smith, of Basingstoke, with the assistance of a gardener one day in the week, had a nice group, in which were various cut flowers, Figs, Apples, Pears, Plums, French Beans, Cucumbers, Vegetable Marrows, Onions, Potatoes, Parsnips, Carrots, and Turnips.

Among Cottagers the most successful was Mr. Downing, of Merton, in whose group were Apples, Pears, Plums, red and white Kidney Potatoes, Onions, Turnips, Carrots, Parsnips, Beet, Celery, and some tastefully arranged cut flowers. In other collections were Red and White Currants, Warrington Gooseberries, and among vegetables some very fine specimens of Parsnips, Carrots, and Mushrooms.

Onions were chiefly White Lisbon and Spanish. Among Cabbages there was nothing remarkable. Of Savoys there were good specimens of Early Ulm, and we noticed some very fine large Flag Leek.

Among Potatoes was a large fine-looking kind called Stafford Hall. This is reported to be one of the best Potatoes in existence. Also very fine Lapstones.

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HITCHAM LABOURERS' AND MECHANICS' HORTICULTURAL SHOW.—Programme for Sept. 14.—8 to 10 A.M. Specimens for competition received at the Rectory.—12. Marquee Museum ready for inspection. N.B. Lecturets as opportunities may occur. Among novelties observe—*Animal:* Skulls of Albatross, Condor, Toucan; Whales'-Food. Vertical Wasp-comb from Mexico. *Vegetable:* Grater and Sieve for Manihot, with Cassava, from Brazil. Palmite Brushes from S. Africa. Chinese Sugar-grass grown at Hitcham. Skeleton leaves from China. *Mineral:* Iron Pyrites (from Essex, by H. Fisher), changing to Green Vitriol. Lava from Monah Rowah, Owyhee. *Miscellaneous:* Jamaica Rat-trap. A Glass Pebble found at Ringshall. Stereoscopic Photographs on a stand near the Museum.—1 P.M. Show-booth ready for inspection.—2½ P.M. Prizes to Village Botanists for—(1) Wild-fruit Posies. The species not to exceed 20, and to be named and classed. (2) Dried Grass Posies. The species to be named and classed. (3) Herbarium Specimens prepared since last year. Any one who has been in the First Class, whether resident or not in Hitcham, may compete for this prize. School Report.—3 P.M. Allotment Report; the prizes awarded for—(1) Superior Allotment Culture. (2) Hatcher Sweepstakes. (3) Specimens exhibited at this day's Show. (4) The Cottage Barometer (by Dr. Lindley), and a Metal Teapot (by G. Knight, Esq.), to the two Members of the Society who shall have obtained the greatest and next greatest number of marks for all prizes during the year. Thanks to the Judges, Donors of Prizes, and to all others aiding and abetting our proceedings.—4 P.M. No specimens to be removed from the Show-booth before 4 P.M. Short memories are then to remind their owners to return all Check and Prize Tickets to one of the Stewards. Short days necessitate sharp movements, or we shall not have time by—5 P.M. To take our tea orderly and sociably. Rules for "ticketless babies" (0 to 2 years) and for "ticketed ditto" (2 to 4 years) continue as heretofore.—6 P.M. God save the Queen. Good night. May every one present at the Show rise to-morrow with a conscience void of offence towards God and Man, in respect to any thing said or done during a day devoted to innocent and rational recreation.

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## Notices of Books.

*Paris and its Environs: an Illustrated Handbook.* Edited by Thomas Forester. Bohn. Small 8vo, pp. 448.

A really good guide to the infinite number of objects contained in Paris must always be acceptable to the traveller, whether the ancient churches, or the modern architecture, the antiquities in which it is so rich, the military establishments, the noble palaces, the public gardens, the social habits, or any other of the thousand peculiarities of the great city are an object of inquiry. Working upon a foundation skilfully laid by Mrs. Gore, the author of the work before

has produced a volume which seems to fulfil every reasonable purpose; while some thirty well-executed [illegible] engravings add a real embellishment to his pages.*

Mr. Forester takes the traveller to Paris by way of both Havre and Dieppe, dwelling long upon the old magnificence of Rouen; he moreover includes all the environs of Paris as far as even Fontainebleau, adds the particulars of an excursion to Troyes, and Epernay and Rheims, and closes his book with useful advice about passports, hotels, domiciles, and other miscellaneous matter.

In a volume containing something about everything we ought not perhaps to expect much gardening information; nor do we find much. We however extract a few passages which may serve as useful indications to horticulturists about to visit Paris.

*Jardin des Plantes.*—"Closely adjoining is the Jardin des Plantes, founded by Louis XIII. in 1635, at the suggestion of his two physicians, Hérouard and De la Brosse. Tournefort, Vaillant, Jussieu, and many other naturalists contributed to the early prosperity of the institution; and in 1739 the great Buffon became its superintendent. In our own time, the name of Cuvier has imparted almost equal distinction to the appointment. When the universities and other learned bodies were suppressed, during the Reign of Terror, it was apprehended that the name of Jardin du Roi would be fatal to the interests of natural history. But the populace, on being assured that the botanical garden was devoted to medicinal purposes, and the laboratory to a saltpetre manufactory, satisfied themselves with declaring them national property. Under the reign of Napoleon, the establishment was restored to more than its original importance; and immense additions were made to the collections of the museum, by purchase, as well as by foreign conquest. The establishment of the Jardin des Plantes is under the control of the Minister of the Interior, and contains a botanical garden with superb conservatories, a gallery of anatomy, a series of collections illustrating the three grand departments of natural history, a gallery of botany, a menagerie of living animals, and a succession of laboratories and lecture-rooms for every branch of national science. The menagerie was originally added to the Jardin du Roi on the removal of Louis XVI. from Versailles; when the animals contained in the Royal collection being neglected, it was proposed that shelter should be afforded to them in the Jardin des Plantes, and a large portion of the collection was eventually lodged in enclosures and sheds provided for the purpose, and are now the principal attraction of the place. Near them are steam conservatories for the reception of tropical plants. On a rising ground stands a fine Cedar of Lebanon, the first grown in France, presented by Dr. Collinson in 1734. The conical hill on the side of which the tree is planted commands a beautiful view of the city of Paris and the surrounding landscape. Two fine Palm trees, 26 feet high, which stand on either side the door of the botanical amphitheatre, were sent from Sicily to Louis XIV., more than a century ago. It must be admitted that the Jardin des Plantes has not kept pace with the other improvements which have recently shed so much lustre on the capital of France. It is very inferior to the Gardens at Kew, and, indeed, to many of the private gardens within a few miles of London. Neither in the extent or variety of *the menagerie*, nor in the laying out and keeping of the ground devoted to the public recreation, has this Jardin any pretensions to vie with the Zoological Gardens in the Regent's Park; but it is understood that the Emperor, among his various plans for the embellishment of Paris, entertains the design of rescuing this fine establishment from its somewhat neglected state, and raising it to the position which it ought to assume among the other creations of his genius for great and artistic works."

The changes here alluded to consist, we believe, in extension of the garden over the *Rue Copeau*, and present *Halle aux vins*, which latter is to be re-established in some other place.

*Gardens of the Luxembourg.*—"Adjoining the palace are the noble gardens of the Luxembourg, the *bel respiro* of the Faubourg Saint Germain, originally planted by Desbrosses, at the time of the erection of the palace. In 1792 the finest trees were cut down, and the ground was materially encroached upon by the construction of cafés and restaurants during the utilising period of the Revolution, when, by order of the Convention, a large portion of the gardens was ploughed up and sown with corn. The ground thus cleared remained waste till 1801; since when great improvements have been made. Near the entrance, opposite to the Rue Soufflot, a new parterre has been constructed and decorated with a fountain, built by Catherine de Médicis after the designs of Jacques Desbrosses. It is surmounted by a naïad, and has received a new basin of large dimensions. In the adjoining parterre is a beautiful marble group of Cain and his family after the death of Abel, sculptured by Garrand. The old statues and ornaments, which were of a peculiarly graceful and elegant nature, as if expressly intended for the gratification of the princesses, by whom, for upwards of a century, the palace was inhabited, and which had been mutilated during the first revolution, have been replaced by new works of the best Parisian masters, and distributed along the eastern and western terraces. A new charm was conferred on the gardens of the Luxembourg during the first Empire, as the fountain-head of all the Roseries in Europe. For the gratification of Josephine, a portion of the gardens was devoted to this interesting branch of horticulture, and many of the finest modern Roses have had their origin at the Luxembourg, where, from May till October, a succession of these beautiful flowers will be found in bloom. Hardy, the celebrated horticulturist, is head gardener here, and resides on the spot, surrounded by upwards of 2000 varieties of the queen of flowers—from the double-thorned and single-leaved monophylla, which some people mistake for a Barberry bush, to standards of perpetual Roses, 30 feet high. In consideration, however, of the large portion of experimental ground subjoined to the gardens, the Government instituted on the spot a school more important to the interests of the country than the cultivation of Roses, which, nevertheless, forms a thriving branch of national commerce. The Ecole des Vignes is devoted to experiments on the growth and amelioration of the vintage of France; and if the same admirable results are to be expected which have manifested themselves in the floral school, serious advantages will reconcile the grumbling horticulturists to the loss of a portion of the funds and territory they formerly monopolised. Nothing, meanwhile, can exceed the beauty of the gardens adjoining the palace, at the period of the blossoming of its celebrated Lilacs and Standard Rose trees."

We regret to add that Mr. Hardy, mentioned in this extract, has resigned his office.

"The *Bois de Boulogne* is now the Hyde Park of Paris, where the most splendid equipages and finest horses of the capital are displayed. The fortifications which pass along its eastern side have caused the destruction of one of its finest avenues. This delightful plantation, which, by order of the present Emperor, has been receiving considerable embellishments, at the cost of 1,400,000 fr., is best entered from the Porte Maillot, situated at a short distance from the Barrière de l'Etoile. From this gate there are two principal avenues: the one to the right is the Allée de Longchamp, whence secondary avenues branch out to Bagatelle and Madrid. This part of the Bois de Boulogne, intersected as it is with numerous cross-roads and alleys, offers delightful rides. But the visitor who is pressed for time should at once take the avenue to his left, when a delicious half-hour's walk under the cool shade of thickly-studded, though not magnificent, trees will bring him to the scene of the improvements now in progress. Here an artificial lake, 1200 metres in length, and 250 in breadth at its centre, stocked with fish, extends between groves of Fir and Beech trees, while rocks, tastefully scattered along its banks, form an agreeable contrast with the green turf. In the middle of the lake are two wooded islands connected by a bridge. On one of these a sort of promontory forms a belvidere, commanding a view of the whole lake, the banks of which on either side are intersected with gravel-walks. On the other stands an ornamental Swiss cottage. Opposite the promontory are two artificial cascades, feeding the lake. The water falls from a considerable height over rocks picturesquely arranged, between which a rustic flight of steps descends to the level of the water. An esplanade separates this lake from a smaller one, 430 metres in length and about 100 in breadth, where boats await the visitor desirous of navigating these still waters. Both these lakes are encircled by a spacious carriage-way, meeting at the Rond Mortemart, now transformed into an elevated mound graced with a Cedar, and bearing the rather pompous name of Mont Saint Bernard. The lakes are fed by the reservoirs of Chaillot, through an iron pipe 16 inches in diameter, which passes under the Porte de la Muette. From the Mont Saint Bernard, commanding a good view of the whole, seven walks or avenues branch out in as many directions. The avenue leading to Longchamp passes the beautiful villa of Bagatelle, which became the property, by purchase, of the Marquis of Hertford, having belonged before to the Comte d'Artois, for whom it was erected, before the Revolution, by Bélanger, in less than two months, in consequence of a wager between the Comte and the Prince Regent of England that the house could not be built in 60 days. It was finished in 58."

Mr. Forester should have added something about the new Zoological Garden established here under the direction of Mr. Mitchell; the whole account indeed of this place, in its present state, is far too meagre, considering the fondness of us Englishmen for park scenery. It strikes us that they would have been far more interested in knowing what to look for in the new Bois de Boulogne, than in the hacknied description of Versailles, on which every old guide-book expatiates.

*Fontainebleau.*—"If you understand what you are about, you will not leave Fontainebleau without going through the forest, which is one of the most beautiful and most picturesque in France. You ought to see the forest of Fontainebleau in the morning at a very early hour, when the bird sings, when the sun shines, when all the points of view extend themselves to infinity before your delighted eyes, when all these stones heaped up beneath these aged trees take a thousand fantastic forms, and give to the forest the appearance of the plain on which the Titans fought against heaven. The forest of Fontainebleau is full of mystery, of noises, of byways, of light, of obscurity; there are profound caverns, there are little paths which sweetly wind beneath the shade upon the flowery turf; [illegible] there are [illegible] which [illegible] spread [illegible], there is a drop of [illegible] which [illegible] self-murmurs from on most hill, there are a thousand strange forms as there must have been [illegible] earth after the Deluge, when the waters had [illegible] at pleasure everything in creation; and [illegible] you take in these mysteries you meet some of those [illegible] as old as the world, but the effect of which is always powerful. The artists, the poets, the lovers, the lovers—these great poets—have, from time immemorial, made the forest of Fontainebleau the empire of their dreams. It is composed of nearly 40,000 acres of ancient and majestic trees; it is bounded on the west by the Seine, on the south by the canal de Briare, and is no less than 28 leagues in circumference.

"In the midst of this admirable confusion of rocks, and lawns, and old Oaks, several of which are called Saint Louis, Charlemagne, or Clovis; in the thick groves at the bottom of these deep dells, in the depth of these caverns, on the summit of these aerial palaces, far from the scene which sparkles at a distance, or on its very borders; beneath the shadow of the Pines or the Birch trees, the Maple or the Beech, the Firs or the Elms; upon the Heath, among the Rose trees, on the Moss, or the gravel; by the cry of the ravens, the joyous songs of the lark, the plaintive notes of the nightingale; whether the wider expanse of the sea, [illegible] or whether the deer vanishes with a bound, after having thrown upon you one animated and [illegible] glance—do not forget to seek the favourite sites of the princes and poets, the famous rocks, the Repos de Cerisse, the very sight of which recals so many old legends. There is a certain art in visiting Fontainebleau, without which all is chance and confusion. Go then, step by step, from the Table du Roi to the Vallée de la Solle; from the Rocher de Saint Germain to the Mare aux Evées; from the Carrefour de Belle Vue to the Gorge aux Loups. Among all these magnificent horrors, covered with beautiful shadow, do not fail to visit Franchard, the most romantic of all these picturesque valleys. At Franchard they will tell you legends; they will show you the ruins of a monastery; you will hear the history of the monks; then, by coasting a little lake, upon which floats a young Oak of some 20 years of age, overturned by the wind, you will soon behold with delight the Roche qui Pleure. The Roche qui Pleure is a hill naturally placed amongst several others of smaller height. Around it all is desolation, silence, and aridity; you feel thirsty at the mere fact of finding yourself upon these sands, amongst these rocks, beneath this burning sun. But listen! Do you hear the silvery sound of a drop of water, which falls from the sky into a nacre shell? It is strange this pearl which detaches itself from this vast rock, this drop of pure water which falls with a murmur from this immense granite! At all times, in all seasons, beneath the hottest sun, in the coldest winter, the same rock eternally gives the same drop of pure and unalterable water, never more, never less! There are still, among the renowned places, the Mont de Henri IV., the Rocher d'Avon, the Mont Aigu, the Ventes de la Reine, the Erables, the Table du Grand Veneur, the spectre huntsman who leads the midnight chase to the barking of his ghostly dogs; the Grande Taille, the Village d'Avon, the Pressoirs du Roi, the Bouquet du Roi Henri IV. et Sully, two old Oaks admirable amongst all the Oaks, and the Rocher des Deux Sœurs. Oh! what terrible and touching histories—stories of hunting and of love, of treason and of vengeance—this aged forest has covered with its shadow, an ancient, silent, profound shadow, reached by no other noise than the stag braying, the bird singing, the horn resounding through the wood!"

For this last clever sketch Mr. Forester acknowledges his obligation to the author of *The American in Paris*.

* We must, however, remark that the "View of the Tuileries from the *Place du Carrousel*" is in truth a mere view of the latter; and that "A Scene at Versailles" conveys no idea at all except that of an actor and actress before some footlights.

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TRADE LIST RECEIVED.—Carter & Co.'s (High Holborn) *Autumn Catalogue of a choice collection of Dutch and Cape flowering Bulbs.* This very large and well arranged list is not confined to bulbs, but includes a great variety of hardy perennials and ornamental shrubs. Excellent instructions for management are prefixed to the list of each kind of bulb.

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## Garden Memoranda.

HORTICULTURAL SOCIETY'S GARDEN, TURNHAM GREEN.—The great conservatory at this place is now well worth inspection. It will be remembered that about two years ago the ornamental plants which it contained were removed, and that it was planted with Vines, which were intended to cover the inside of the roof, and produce a profitable return, it having been determined that the garden should be made as much as possible self-supporting. For this purpose Vine borders were constructed both inside the house and out all round it. Those inside merely consisted of good Wimbledon loam mixed with charred turfy soil from the orchard, and some dung laid over the old stone pathway to the depth of about a foot, with bricks set on end in front to keep the earth in its place. In this one set of Vines was planted. The others were put outside in a border consisting of the same material but made 20 inches deep, and at first only 4 feet in width, it being the intention to widen it from time to time as the roots appeared to require more room. These Vines were introduced into the house through holes in the low wall all round the house, and have grown with such vigour that they now cover three-fourths of the roof, which is nearly 30 feet high. This season they have made young

wood measuring 2 inches in circumference, hard and well ripened, and at the same time many of them are producing a crop of fruit averaging 10 bunches to a Vine. The sorts are chiefly Black Hamburgh, some bunches of which look as if they might weigh upwards of 2 lbs., and though not yet quite ripe are, nevertheless, as black as Sloes, and beautifully covered with bloom. Those inside the house were planted much later than those outside, and though not quite so strong, are also bearing fruit. The border for the latter being shallow, (not more than a foot deep), drain pipes set on end and open at top have been inserted into it down to the bottom at certain distances apart. These from time to time as may be required are filled with water which, reaching the bottom of the border, at once keeps the roots there in a proper state as to moisture, and liquid manure can be supplied in the same way when wanted. From what has been stated it will be seen that most satisfactory results have followed the attempt to grow Grapes on a large scale in this house, and that with inexpensively made borders consisting of no richer materials than those above-mentioned.

In the old curvilinear Vinery there is also a good crop of Grapes now ripening. Among them a kind called *Raisin de Calabre deserves notice.* It is a good looking white Grape, somewhat resembling the White Hamburgh in size and form of bunch, and is reported to hang long on the Vine without shrivelling. Another sort named Hubshee, an amber-coloured Indian variety, with oblong berries flat at the points, and in the form of a bunch presents a very singular appearance.

Peaches and Nectarines in the orchard house have borne a good crop this season. The trees are now placed out of doors to harden their wood. Plums have also done well; one tree of Reine Claude de Bavay is now loaded with fruit nearly ripe. This is an excellent Plum, but though larger is not equal to the old Green-gage in flavour.

With the exception of the curvilinear stove, a green-house, and the old Orchid-house, the different glass houses here are now nearly all turned into places for fruit growing. The few Orchids which were left after the sale are looking remarkably well, as do also some good specimens of Ferns which are associated with them in the same house.

The different pits are filled with Cucumbers, young Vines in pots, and plants coming forward for distribution; of the last there appears to be a considerable number. A great many seeds, principally of New Holland plants, have also just been received from Dr. Mueller, and we noticed some excellent varieties of Balsams, from which seeds are about to be saved.

A plant of Clianthus Dampieri planted out of doors against a south wall about the middle of June last has thriven remarkably well; it is now in flower and is expected to produce seeds. A little mulching put over the roots during the very hot weather, and an occasional watering constitute all the attention it has received until lately when, the nights having become colder, a sash has been put over it; it has however been left open at the sides, and as yet nothing could possibly look better.

Out-door fruit here as elsewhere has been a deficient crop this year. Peaches on walls however have been good and plentiful. In the case of orchard trees standards have suffered less than dwarfs. On some Pears, as the Eyewood, there is a good sprinkling on most trees, and among Apples Court Pendu Plat has suffered the least. It is a late flowering kind, and thus doubtless escaped the spring frosts.

The pyramidal Pear trees planted along the sides of the walks in the old experimental garden are now from 10 to 14 feet in height, and very handsome. On some of them where they were a little sheltered there is also a few good fruit.

Of Pears on walls there is a fair crop on Beurré Diel, Glou Morceau, Duchesse d'Angoulême, and Beurré Rance. The fruit is, however, scarcely so large as usual; the first and strongest blooms got killed in spring, which left only the secondary or weaker ones to produce the crop.

The kitchen garden is well stocked with vegetables, both for a crop and with new things for trial. Of the latter full reports will be published in the Society's Journal. Of two beds of Dioscorea, one had the stems led up stakes like Peas, while those of the other were allowed to scramble over the ground. The result of these different ways of growing it will also be recorded. In the meantime we may, however, state that the stakes, which were 3 feet in height and literally a thicket of shoots and leaves, are little more than half high enough. It might therefore be a good plant for placing at certain distances apart among other crops for the purpose of shelter.

The following important fact in connection with mildew is worthy of notice. Of three Apricot trees growing against the same wall, and every way alike circumstanced, two are nearly divested of their leaves by mildew; but the third is perfectly green and healthy. This last received the following treatment:—Early in the season a trench was cut lengthwise along the border as far as the branches extended about 3 feet out from the trunk of the tree and down to the roots, or as deep as the latter would permit it to be cut without injuring them. This trench was well supplied with water all through the season, so as to thoroughly moisten the subsoil, and the result has been as has just been stated. This tree has remained healthy while the others have suffered severely from mildew. Drought, therefore, is clearly the cause of the evil in this instance, for no mere surface watering could possibly reach the subsoil under the trees which have suffered; on the contrary, it has been ascertained that all below them is as dry as bone, and so hard that it would take a pick to break the soil in pieces.

In the Arboretum a great many trees are having their roots cut round preparatory to removal to the proposed new Garden at Kensington Gore.

## Calendar of Operations.

*(For the ensuing Week.)*

### PLANT DEPARTMENT.

CONSERVATORY, &c.—The decline of summer flowering plants will point out the necessity of looking more closely to those which are intended to supply a floral display during the autumn and winter. Let the stock of Begonias have another shift if not already in pots sufficiently large. Keep the plants thin that their foliage may be kept from injury. Crowea saligna and Plumbago capensis are both valuable autumn-blooming plants, the latter almost indispensable for cut flowers. Attend to Chrysanthemums, water freely with liquid manure; good specimens should be aimed at rather than fine blooms. The earliest started winter flowering Heaths and Epacrises should now be placed under glass, as it will forward their blooming; give air, however, freely. The potting of Hyacinths, Narcissus, &c., for forcing, should now be done at once; about equal portions of good soft loam and decayed leaf-mould with silver sand will be the best soil for potting the bulbs if for forcing, but well-decomposed cow-dung must be substituted for the leaf-soil when the bulbs are intended for late flowering. After potting place them on a dry bottom and cover the pots 2 or 3 inches deep with old tan or ashes, preserving them at the same time from heavy rains; under this treatment they will fill their pots with roots, and will be in readiness for forcing when wanted.

### FORCING DEPARTMENT.

PINERIES.—A rather dry state of the soil about the roots and also of the atmosphere is essential during the ripening of the fruit where high flavour is an object, therefore be careful not to over-water plants on which the fruit is approaching maturity, and it will be advisable to use slight fires on dull days, so as to allow of giving sufficient air to prevent a stagnant state of the atmosphere, for fruit of first-rate quality cannot be expected from plants growing in a sodden soil or a damp unhealthy atmosphere. Endeavour to afford growing stock a steady bottom-heat of about 85°, and keep it well supplied with manure-water at the root, but avoid getting the soil too wet. As fire-heat will now be necessary to a considerably larger extent than has been the case during the summer, care must be exercised to secure a properly moist state of the atmosphere, keeping the evaporating pans or troughs regularly supplied with water, and moistening the floors, &c., frequently, as any sudden change from a moist to a dry state of the atmosphere would be most injurious to growing stock, and also to plants swelling their fruit. Be as sparing of fire-heat, however, as circumstances will allow, and shut up early on the afternoons of bright days, so as to husband the sun's influences as much as possible. Where young stock is grown in dung-pits care must be exercised after this season not to get the plants weakly through keeping too close and warm, giving air freely on every favourable opportunity, and sufficient command of warmth should be secured from the linings to allow of giving a little air at night and on cloudy days.

### FLOWER GARDEN AND SHRUBBERIES.

As the season is now considerably advanced, the propagation of all the more important bedding-out plants should be brought to a close as quickly as possible; late struck cuttings are bad to keep through the winter through having an insufficient number of roots and ill-matured wood. Let Scarlet and other Geraniums struck in the open ground be taken up and potted immediately they have made roots; they will require a close frame for a week or two, when they should be placed on a dry bottom in a southern exposure to harden them for the winter. For the same purpose Verbenas, Petunias, &c., struck in pans and intended to be kept in them through the winter, should be placed in a similar situation, at the same time stopping the points of the shoots. It should in fact be a point to keep them as hardy as possible by fully exposing them, until they are placed in their winter quarters. Mignonette for winter and spring flowering may yet be sown. Asters, Phloxes, &c., will now be making a fine show, and should have care bestowed on them. Let the borders be cleaned and neatly raked over, filling up vacant places with spare Chrysanthemums, spring struck Pansies, or spring flowering bulbs. In our last week's Calendar large-sized shrubs and trees were recommended to be moved as soon as circumstances would permit the operation to be performed; this advice was intended to apply to evergreens only, although that word was inadvertently omitted. Deciduous shrubs and trees, as a matter of course, should not be transplanted until they have shed their leaves. The roots may, however, now be cut round preparatory to removal.

### HARDY FRUIT AND KITCHEN GARDEN.

The earliest Apples and Pears should be gathered as they ripen. Early fruit more particularly is the better for being gathered a few days before it ripens on the tree, as in the latter case it usually turns mealy directly. Protect late Peaches, Nectarines, Plums, and Figs from wasps. Peaches and Nectarines should likewise be gathered a day or so before they are quite ripe

STATE OF THE WEATHER AT CHISWICK, NEAR LONDON
For the Week ending Sept. 8, 1859, as observed at the Hort.-cultural Gardens

| Sept. | Moon's Age. | Barometer. Max. | Barometer. Min. | Temperature Of the Air. Max. | Min. | Mean | Of the Earth 1 foot deep | 2 feet deep | Wind |
|---|---|---|---|---|---|---|---|---|---|
| Friday 2 | 5 | 29 790 | 29.575 | 65 | 54 | 59.5 | 61 | 61½ | S W |
| Satur. 3 | 6 | 29.908 | 29.805 | 70 | 39 | 54.5 | 62 | 61½ | S W |
| Sunday 4 | 7 | 29.995 | 29.921 | 71 | 41 | 56.0 | 63 | 61½ | S W |
| Mon. 5 | 8 | 30.130 | 29 994 | 70 | 48 | 59.0 | 62 | 61½ | S W |
| Tues. 6 | 9 | 29.858 | 29 697 | 65 | 45 | 55.0 | 62 | 61½ | S W |
| Wed. 7 | 10 | 29.878 | 29.839 | 67 | 53 | 60 0 | 61½ | 62 | S W |
| Thurs. 8 | 11 | 29.975 | 29 922 | 71 | 57 | 64.0 | 62 | 61½ | S W |
| Average | | 29.933 | 29.822 | 68.5 | 49.1 | 58.3 | 61.9 | 61.5 | |

Sept. 2—Lightly overcast; rain; rather boisterous at night.
— 3—Light clouds and fine; very fine; clear; cold at night.
— 4—Fine; sultry; cloudy.
— 5—Clear; very fine; overcast.
— 6—Uniformly overcast, rain; thunder and heavy rain 3 p.m. noon; clear.
— 7—Cloudy and fine; very fine throughout.
— 8—Fine; very fine; cloudy; slight rain.
Mean temperature of the week, ½ deg. below the average.

RECORD OF THE WEATHER AT CHISWICK
During the last 33 years, for the ensuing Week, ending Sept 17

| Sept. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Wind |
|---|---|---|---|---|---|---|
| Sunday 11.. | 68.4 | 45.8 | 57.1 | 10 | 0.68 in. | |
| Mon 12.. | 68.6 | 45.2 | 56.9 | 13 | 0.49 | |
| Tues. 13.. | 67.9 | 46 0 | 57.0 | 14 | 0.40 | |
| Wed. 14.. | 67.4 | 46.5 | 56.9 | 16 | 0.84 | |
| Thurs. 15 .. | 67.2 | 46.6 | 56.9 | 15 | 0 63 | |
| Frida 16.. | 68.5 | 48.2 | 58.4 | 13 | 0.50 | |
| Satur 17.. | 69 1 | 46.9 | 58.0 | 12 | 0.90 | |

The highest temperature during the above period occurred on the 17th, 1858—therm. 86 deg.; and the lowest on the 12th, 1849—therm. 41 deg.

## Notices to Correspondents.

BOOKS: *Maria.* Perhaps a child of 12 years old will find ... man's Woodlands, Heaths, and Hedges (Routledge) or ... Wild Flowers (Houlston & Wright) suitable.—*H H.* The ... lishers of the best editions, not abridged, of Loudon's Encyclopædia of Trees and Shrubs, and Arboretum et Fruticetum Britannicum, are Messrs. Longmans. Gordon's ... published by Bohn is a very useful book.—*J L.* Those ... name may be recommended. Add Paxton's Botanical ... tionary.—*A W.* Quite right. You could not have made a ... choice.

DISEASED GRAPES: *Homerton.* Either the roots are in cold ... soil, or too deep. It also seems as if there had been ... proper ventilation.

EGG PLANT: *Ireland.* The common plant known by this name is useless, its fruit being too bitter and ill flavoured to be eaten. But if under this name you grow the Brinjal Aubergine, a large succulent fruited Egg Plant, then with good cooking, which it deserves and must have, the fruit is a great delicacy.

ELM TREES: *C R.* Scolytus attacks your trees because they are out of health. Were it possible to restore the vigour of the trees you would probably get rid of the pest. The subject has very often been discussed in our columns, especially at p. 342, 1857; 192, 1858; 709, 1859. The woodpecker feeds on such insects, but we do not know whether it could be domesticated at Hampstead.

GRAPES: *J M.* The Grape which you suppose to be new because you are unacquainted with it is the Black Morocco. Now imagine that what is unknown to yourself is equally so to others.

KENSINGTON GORE: *Ardens.* No one will be taken on until the plan is settled and a superintendent appointed. ... not be at present. Then apply to the superintendent.

LAURELS: *J C Y.* We perceive no insects. The leaves will be reported on next week.

MILDEWED PEACH TREES: *Enquirer.* They ought to have been sulphured long ago—or well washed with Gishurst Compound. All you can now do is to cut them back at the proper time and destroy the mildew as soon as it reappears on the young wood. Also wash the shoots in the winter with Gishurst—4 lbs. to the gallon of water. Are not the roots dried up?

MORPHOLOGY: *J E.* In the case of the Composite flower ... you have forwarded, although it appears as if the floret of the disc had been here and there converted into ray florets resembling those of the involucre, yet, in reality the circle is of another kind. Round the base of each floret there grows a minute cup forming a socket or alveola; that is ... a rudimentary floral leaf or bract. What has happened in your specimen is that these rudimentary leaves have acquired length and breadth and colour, and are in ... approaching the state of the common leaves of the plant.

NAMES OF PLANTS: *M C.* Solidago canadensis.—*H S. 1, Ar...* zanthus rufa; 2, requires careful examination. We will ... it next week.—*A T.* Blitum virgatum, the Straw ... Blite.—*G T M.* Angræcum arcuatum, a fine and very ... plant. We never before saw it alive.

PRIVATE PUPIL: *Exeter.* Enquiries of this nature are ... out of our way. Since however you are desirous that your son should be placed where he may become acquainted with Natural History, we may say that there are two clergymen who take pupils, and who are eminently qualified to ... that subject a part of the education. One lives in ... the other in Northamptonshire. We can give you ... addresses privately, but not otherwise.

VINE LEAVES: *Garstang.* Your Frontignan leaves have the appearance of suffering from too cold or too wet a ... the roots. It should never be forgotten that Frontignans are more susceptible of injury from such a cause than ... other common sorts.

VINES FOR NORTH OF SCOTLAND: *A H F C.* In your green-... 12 feet by 12 you may plant two Royal Muscadines and one Black Hamburgh outside. For these in the ... Scotland you may collect sun heat enough in your very ... summer days to raise the thermometer to 90° or more ... in dull weather, and when the nights are cold, you can ... give the assistance of a little fire heat. Rich turfy ... partly charred and mixed with farmyard manure, will be ... suitable for the border in which the Vines are intended to be planted.

WELLINGTONIA: *Gloucester.* Notwithstanding the many ... blings of scientific and unscientific gentlemen this name will ... surely stand. It is as idle to call it Sequoia as Washingtonia, unless indeed Abies is jumbled with Pinus, Cryptomeria ... Arthrotaxis with Cupressus. Sequoia with Taxodium, ... Torreya with Taxus. Do that and you may add to the ... Wellingtonia itself under the name of Sequoia; but no ... will look at such a mess after it is made. Objectors ... treat of Wellingtonia scientifically assume that the differences between the genera of what are termed *incomplete* ... like Conifers depend upon characters of the same nature ... those which separate plants like Rosaceæ. And yet ... adopt without scruple the numerous genera now ... among Ferns, Mosses, and other low forms of vegetation, although what are called the "characters" of such ... are as slippery as those of certain classes among ... race. Naturalists, or those who wish to be ... should be consistent.

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|---|---|---|---|
| TURNIP MANURE .. .. .. | from £7 | to £6 | 6 |
| SUPERPHOSPHATE OF LIME .. | ,, 7 | to 6 | 6 |
| MINERAL do. .. | ,, 6 | to 5 | 5 |
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PROTECTION FROM THE SCORCHING RAYS OF THE SUN.
"FRIGI DOMO," a Canvas made of patent prepared Hair and Wool, a perfect non-conducter of Heat and Cold, keeping, wherever it is applied, a fixed temperature. It is adapted for all horticultural and floricultural purposes, for preserving Fruits and Flowers from the scorching rays of the sun, from wind, from attacks of insects, and from morning frosts. To be had in any required lengths. Two yards wide, 1*s.* 6*d.* per yard run: four, 3*s.* per yard. Also, an improved make for Shading Purposes. Three yards wide, 2*s.* 6*d.* per yard run.
ELISHA THOMAS ARCHER, whole and sole manufacturer, 7, Trinity Lane, Cannon St., City, E.C., and of all Nurserymen and Seedsmen throughout the kingdom. "It is much cheaper than mats as a covering."

WARNER'S IMPROVED LIQUID MANURE OR GENERAL PORTABLE PUMP.

These Pumps are fitted with WARNER'S Patent Bucket and Valve, and cannot clog in action. The barrel is made of galvanised iron, not likely to corrode, and can be raised or lowered at pleasure on the stand, the legs of which fold together, and may be carried with ease by one man to tank or pond.

| | £ | s. | d. |
|---|---|---|---|
| Stand and Pump, with screwed tail pipe, fitted with strong brass union for suction pipe | 2 | 15 | 0 |
| If fitted with barrel of planished copper .. .. | 3 | 4 | 6 |
| Stand and Pump, with plain tail pipe, for tying on suction pipe .. .. .. | 2 | 9 | 0 |
| 2-inch patent rubber and canvas flexible suction pipe, on wires, either 10, 12, or 15 ft., per foot | 0 | 2 | 2 |

May be obtained of any Ironmonger or Plumber in town or country, at the above prices, or of the Patentees and Manufacturers, J. WARNER & SONS, 8, Crescent, Jewin St., London, E.C.

WARNER'S PATENT VIBRATING STANDARD PUMPS.
PATENT CAST-IRON PUMPS for Farms, Cottages, Stable Yards, &c., where the Well does not exceed 28 feet in depth; fitted with WARNER'S Patent Metal Bucket and Valve, which cannot clog in action. These Pumps can be made right handed, left handed, or with handle opposite the nose by removing four screws only.

| Diameter of Barrel. | Height. | | £ | s. | d. |
|---|---|---|---|---|---|
| 2½ in short | 1 ft. 7 in. | Fitted for lead, gutta percha or cast iron flanged pipe as required. | 1 | 5 | 0 |
| 2½ ,, long | 3 ,, 3 ,, | | 1 | 10 | 0 |
| 3 ,, ditto | 3 ,, 6 ,, | | 2 | 4 | 0 |
| 3½ ,, ditto | 3 ,, 6 ,, | | 2 | 9 | 0 |
| 4 ,, ditto | 3 ,, 6 ,, | | 2 | 13 | 0 |
| 2½ ,, short, with 15 feet of Lead Pipe attached, ready for fixing .... | | | 2 | 10 | 0 |
| 2½ in long | ditto | ditto ditto | 2 | 14 | 0 |

The short barrel Pump is very convenient for fixing in situations of limited height and space, for the supply of coppers and sinks in Wash-houses with soft water from underground tanks, or in Hot, Forcing, and Plant Houses; they may be fixed, when desired, under the stage.
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Every description of Machinery for Raising Water by means of Wheels, Rams, Deep Well Pumps, &c.; also Fire and Garden Engines, &c. &c.—Engravings sent on application.

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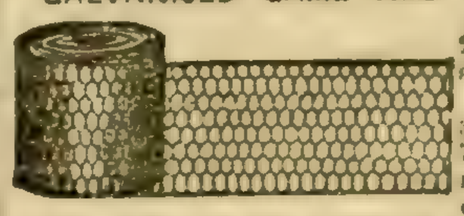
GALVANISED IRON ROOFING
for Farm Buildings and other Roofs; the cheapest, most durable, and neatest Roofing in use; also Sponting at 10½*d.* per yard.
WIRE STRAND CABLE FENCING

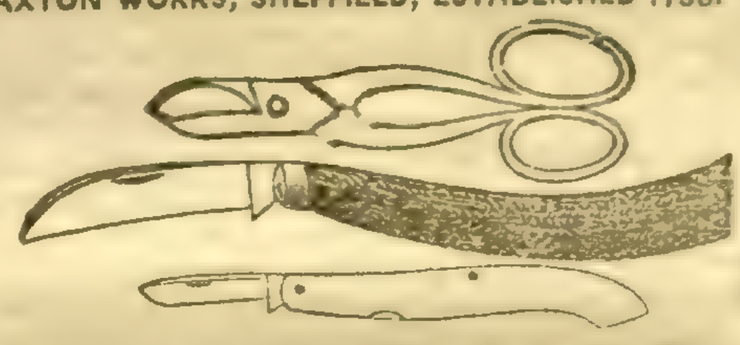
(formed of Twisted Wires like a rope or cable), the strongest cheapest, and neatest fence in use, will resist the largest cattle and will not bend or get out of form by trespassing upon or over. Price, with five lines of the Galvanised Strand, iron main posts, and pronged Standards, 1*s.* 2½*d* per yard.
This fence is far cheaper than posts and rails, or any kind of iron fencing; and possesses four times the strength of solid bars. Will not rust nor corrode. Upwards of 1200 miles of this Fencing supplied.
CALVANISED GAME AND POULTRY NETTING.



Galvanised, 24 ins. wide, 2-inch mesh, 5½*d.*, 7½*d.* and 9½*d.* per yard.
Galvanised, 24 ins. wide, 3-inch mesh, 4*d.*, 5*d.*, and 7*d.* per yard. The Netting made any width, and with openings of any size.
GALVANISED IRON CHAIN CAMP STOOLS & CHAIRS, POULTRY FOUNTAINS & FEEDERS, PRONGED DAHLIA RODS AND ROSE STAKES, &c.
Strong CATTLE HURDLES from 2*s.* per yard.

PATENT IMPROVED GAS WORKS,
of all sizes for the use of Private Houses, Mansions, Railway Stations, Mills, Collieries, Mines, Villages, &c. Works from 10 to 500 lights estimated for. The works can be entrusted to an ordinary labourer.—Apply to
HENRY J. MORTON & Co. 2, Basinghall Buildings, Leeds.

PAXTON WORKS, SHEFFIELD, ESTABLISHED 1738.



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THE GUTTA PERCHA COMPANY have the pleasure to acknowledge the receipt of the following
*Testimonial from* Mr. J. FARRAH, *Gr. to* ROSWELL MIDDLETON JALLAND, Esq., *of Holderness House, near Hull.*
"I have had 400 feet of your Gutta Percha Tubing, in lengths of 100 feet each, with union joint, in use for the last 12 months for watering these gardens, and I find it to answer better than anything I have ever yet tried. The pressure of the water is very considerable, but this has not the slightest effect on the tubing. I consider this tubing to be a most valuable invention for Gardeners, inasmuch as it enables us to water our gardens in about one-half the time, and with one half the labour required."
Manufactured by the Gutta Percha Company, Patentees, 18, Wharf Road, City Road, London, E.C., and sold by their Wholesale Dealers in town and count

ROYAL AGRICULTURAL BENEVOLENT COLLEGE FOR THE RELIEF OF DECAYED FARMERS THEIR WIDOWS AND ORPHANS.
Noblemen and gentlemen interested in Agriculture desirous of promoting this object, will please fill up and forward a Form, as annexed.
470 influential names are enrolled to this date.
Tiptree Hall, Sept. 15.
SIR,—I hereby request you to place my name on the list of the Promoters of the Royal Agricultural Benevolent College, provided no pecuniary responsibility (beyond a subscription or donation) attaches to such Association. Name ....
Address ....
Date ....
To J. J. MECHI, Esq., Tiptree Hall, near Kelvedon, Essex.

WEST OF ENGLAND AND SOUTH WALES LAND DRAINAGE AND INCLOSURE COMPANY.
Established in 1844.
INCORPORATED BY ACT OF PARLIAMENT IN 1848.
Draining, Inclosing, Irrigating, Warping, Road Making, and all kind of Land Improvements, executed on Entailed, Mortgaged, or other Properties, and the whole cost can be made a Permanent Charge on the Lands, or redeemable in a certain number of years. BIDWELL & BARRY, Secretaries.
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THE LANDS IMPROVEMENT COMPANY.—Incorporated by Special Act of Parliament in 1853.—2, Old Palace Yard, Westminster, S.W. To Landowners, the Clergy, Estate Agents, Surveyors, &c., in England and Wales and in Scotland.
The Directors beg leave to announce that the Company's Amendment Act, 1858, has received the sanction of the Legislature. The Company now advance money, unlimited in amount, for the following works of Agricultural Improvement, the whole outlay and expenses in all cases being liquidated by a rentcharge for 25 years.
1. Drainage, Irrigation and Warping, Embanking, Inclosing, Clearing, Reclamation, Planting for any beneficial purpose, Engines or Machinery for Drainage or Irrigation.
2. Farm Roads, Tramways and Railroads for agricultural or farming purposes.
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4. The erection of Farm Houses, Labourers' Cottages, and other Buildings required for Farm purposes, and the improvement of and additions to Farm houses and other buildings for farm purposes.
Landowners assessed under the provisions of any Act of Parliament, Royal Charter, or Commission, in respect of any public or general works of drainage or other improvements, may borrow their proportionate share of the cost, and charge the same with the expenses on the lands improved.
No investigation of title is required, and the Company being of a strictly financial character do not interfere with the plans and execution of the Works, which are controlled only by the Government Enclosure Commissioners.
Under the Company's Acts, tenants for life, trustees, mortgagees in possession, incumbents of livings, bodies corporate, certain lessees, and other landowners are empowered to charge the inheritance with the cost and expenses of the above improvements, whether the money be borrowed from the Company or advanced by the Landowner out of his own funds, and owners in fee may effect those improvements of their Estates without incurring the expense and personal responsibilities incident to mortgagees, and without regard to the amount of existing incumbrances.
For further information, and for forms of application, apply to the Honourable WILLIAM NAPIER, Managing Director, 2, Old Palace Yard, Westminster, S.W.

COLLEGE OF AGRICULTURE AND CHEMISTRY, AND OF PRACTICAL and GENERAL SCIENCE, 37 and 38, Lower Kennington Lane, Kennington, London, S.
Principal—J. C. NESBIT, F.G.S., F.C.S., &c.
The system of studies pursued in the College comprises every branch requisite to prepare youth for the pursuits of Agriculture, Engineering, Mining, Manufactures, and the Arts; for the Naval and Military Services, and for the Universities.
Analyses and Assays of every description are promptly and accurately executed at the College. The terms and other particulars may be had on application to the Principal.

SMITHFIELD CLUB CATTLE SHOW, 1859.—The ANNUAL SHOW of FAT CATTLE, SHEEP, and PIGS will take place on the 6th, 7th, 8th, and 9th December, at the Bazaar, King Street, Portman Square.
The Prize List contains separate classes for Devons, Herefords, Short-horns, Sussex, Norfolk or Suffolk polled, Long horns, Scotch horned, Scotch polled, Irish, Welch, and cross or mixed breeds. Also Long woolled Sheep, cross breeds, Short wools, and Pigs. In addition to the large amount offered in money prizes, there are also 50 Silver and 5 Gold Medals. The following forms of Certificates are now ready, and intending Exhibitors in applying for them need only quote the letters and state how many of each they require.

| CATTLE | SHEEP |
|---|---|
| Form A. Ox or Steer. | Form D. Pen of 3 Wethers. |
| ,, B. Cow or Heifer. | |
| ,, C. Ox or Cow in Extra Stock. | ,, E. One Wether or Ewe in Extra Stock |

PIGS.
Form F. Pen of 3 Pigs. | Form G. One Pig in Extra Stock
The Entries finally close on November 1.
Prize Lists with rules and regulations and Forms of Certificates to be obtained of B. T. BRANDRETH GIBBS, Hon. Sec., corner of Half Moon Street, Piccadilly, London, W.
N.B. All communications on the Club's business should have the words "Smithfield Club" outside, to distinguish them from private letters.


# The Agricultural Gazette.

*SATURDAY, SEPTEMBER* 10, 1859.

MEETINGS FOR THE FOLLOWING WEEK.
WEDNESDAY, Sept. 14 { Staffordshire Agricultural Society at Stoke-on Trent.

THE natural history of the parasitic plants belonging to the genus *Cuscuta* (Dodder), which attack our Flax and Clover crops, is a subject of no less practical importance than scientific interest; and as of late years some species of this plant are much on the increase, we purpose in the present paper to detail some experiments and observations more especially upon the two following species:—*Cuscuta Epilinum*, WEIHE (Flax Dodder), and *Cuscuta Trifolii*, BAB. (Clover Dodder). These are both of them very injurious to the Flax or Clover crop which may be infested by its peculiar species; and the following notes

upon them give such results of experiments upon their growth and habits as lead to deductions for their destruction.

The quantity of Dodder which is grown in Flax may be gathered from a note in an early Number of the *Agricultural Gazette* for the present year, to the effect that one grower had separated as much as 70 bushels of Dodder seed from his Flax. Of this a sample of somewhat over a bushel was sent to Dr. VOELCKER, at the Royal Agricultural College, for analysis and experiment, and of this sample we procured a quantity for the purpose of sowing, with a view to observe its method of growth, the observations upon which are now to be detailed as preliminary to remarks upon its agricultural history.

*Experiment* 1.—On sowing some seeds in a saucer with fine mould, the following appearances presented themselves. (Diagram 1.)

DIAGRAM 1.

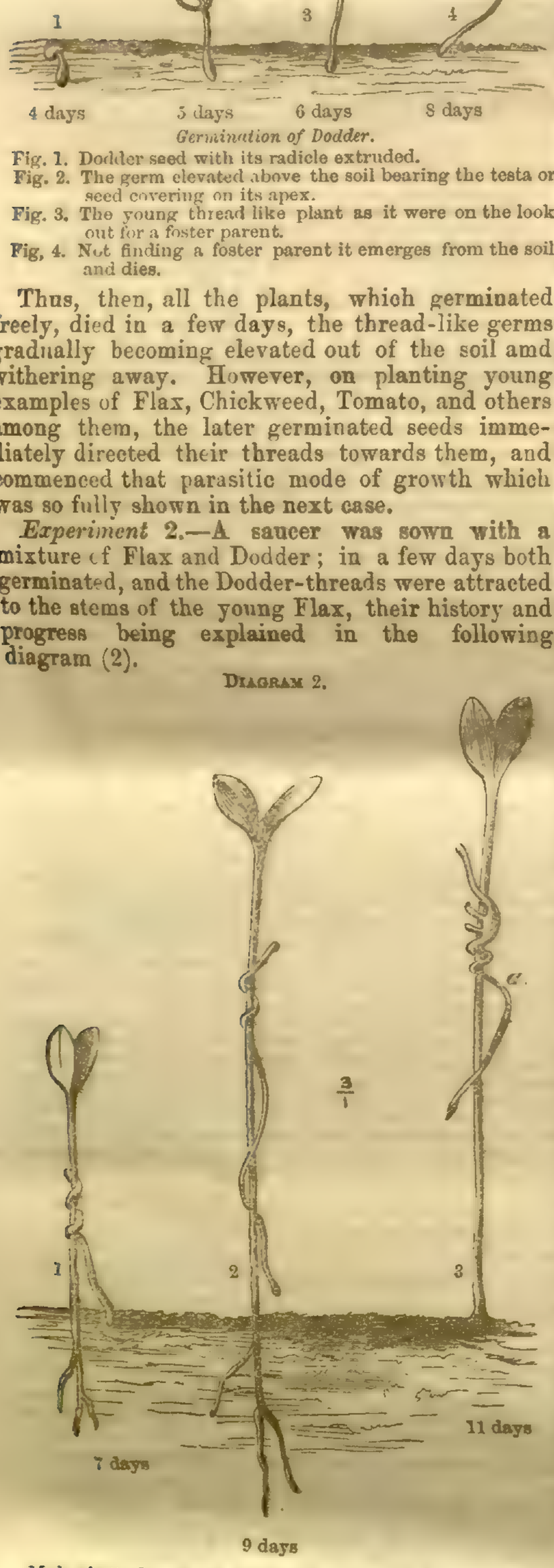
*Germination of Dodder.*

Fig. 1. Dodder seed with its radicle extruded.
Fig. 2. The germ elevated above the soil bearing the testa or seed covering on its apex.
Fig. 3. The young thread like plant as it were on the look out for a foster parent.
Fig. 4. Not finding a foster parent it emerges from the soil and dies.

Thus, then, all the plants, which germinated freely, died in a few days, the thread-like germs gradually becoming elevated out of the soil amd withering away. However, on planting young examples of Flax, Chickweed, Tomato, and others among them, the later germinated seeds immediately directed their threads towards them, and commenced that parasitic mode of growth which was so fully shown in the next case.

*Experiment* 2.—A saucer was sown with a mixture of Flax and Dodder; in a few days both germinated, and the Dodder-threads were attracted to the stems of the young Flax, their history and progress being explained in the following diagram (2).

DIAGRAM 2.




*Mode of attachment and progress of Dodder on the young Flax Plant.*

Fig. 1. The Dodder has just clasped a Flax plant.
Fig. 2. Both the Dodder and the Flax have grown, the elevation of the Flax stem having now lifted the firmly attached Dodder out of the soil.
Fig. 3. The Dodder is now throwing out buds for new shoots, and the lower unattached part dies away.

Here, then, we have the method explained by which the Dodder first becomes attached to the plant upon which it grows. It makes one or two tight coils around its future support, and as during the time these coils are progressing the foster parent is increasing in size the compression of the former around the latter becomes tighter, thus causing the bark of the foster parent to be more delicate, while the parasite is preparing a series of aërial roots to penetrate it, and having done this its position is firmly established, its own natural root dies quite away, and thenceforward its true parasitic growth is astonishingly rapid.

Now it is not our present object to trace the further growth of the plant until it again produces its seeds, but it is important to note that when once firmly attached it appropriates the juices of the plant upon which it grows to the augmentation of the new structure, which sends out new tendrils in every direction, each of which clings to the plant near it as the first single tendril had done before; and soon a hundred arms are clasping the surrounding plants in every direction. If left alone the plant rapidly produces its clusters of delicately formed flowers which progress to seed, and these on being scattered again germinate, and if any young plants be near them they attack them as they had done the first crop, but if not they die soon after germination in the manner explained in our first experiment; and it would appear that so far there is an end of the pest, for there seems no reason to think that the seeds lie dormant in the soil ready to attack the same kind of crop when sown in another rotation, although we have heard it asserted that some land is "natural" to it.

The question then arises—whence is the Dodder derived? and the simple answer is, it is sown with the crop; and this assertion is proved by the following facts:—The two forms of Dodder we have under consideration are neither of them natives of Great Britain, they have both of them been introduced with Clover or Flax seed; and though so common now, a friend assures us that at one of Mr. MECHI's agricultural gatherings some 10 years since, the whole party collected around some patches of the Cuscuta trifolii which had made its appearance in the Clover crop, and only one in a party of about 300 was able to explain its nature; and as these gentlemen had come from all parts of England, that is sufficient evidence of its comparative rarity at that time.

Again, the Cuscuta epilinum was not heard of in this country until the commencement of Flax cultivation. Some few years since this crop was introduced to the farm of the Royal Agricultural College by the sowing of a few acres of foreign Flax seed. In this we observed some small patches of Dodder, and as the seed of this crop was afterwards sown in another part of the farm without the separation of the accompanying Dodder seeds, we need not wonder that this second crop of Flax was comparatively worthless, a presumption which has been fully proved as follows:—

*Experiment* 3.—One of our experimental plots has been this year occupied by a pure Flax seed, and by its side another bed has been sown with the same kind of seed, purposely intermixed with a sprinkling of Flax Dodder seed, whilst a third plot has been added of Flax seed unseparated from its usual weeds. The difference in the growth and produce of these has been as follows:—

Plot 1. *Flax Seed.*—Came up regularly, and now at seeding time is of the average height of 36 inches. The stems are clean and uninjured, and three of the best selected plants yielded 600 well-formed seeds.

Plot 2. *Flax Seed and Dodder.*—The Flax cotyledonous (first) leaves and the thread-like embryos of the Dodder made their appearance simultaneously. The Dodder soon embraced the young Flax plants, and the result is that it has been completely choked; the stems are dirty, the bark pierced with the aerial roots of the Dodder, their average height is 30 inches. Three of the best plants yielded 315 comparatively poor seeds. The whole crop now in the middle of August is rotting on the ground.

Plot 3. *Dirty Flax Seed.*—This is now scarcely half a crop of Flax, and even that has been injured by being choked up with Charlock, Black Mustard, Gold of Pleasure, Climbing Buckwheat, and a plant or two of Dodder, which are the usual attendants upon a sample of dirty Flax seed.

We may remark upon these results that in all probability the fibre of dirty and especially of Dodder Flax is decidedly inferior, but this is a matter which we only infer; one thing however is quite certain, namely, that its quantity will be considerably less than that of clean-grown samples.

As regards the growth of seed we may remark that the capsules of the Dodder Flax will uniformly be found to be thinner as being less developed, and as containing an average of fewer seeds than those of the clean samples, and besides there is usually a smaller number of seeds, as thus—

| | Capsules. | | Seeds to each Capsule. | | Seeds. |
|---|---|---|---|---|---|
| Plot 1. Three selected plants of clean-grown Flax, have .. .. | 75 | × | 8 | = | 600 |
| Plot 2 Three selected plants of Dodder Flax, have .. .. | 45 | × | 7 | = | 315 |

So that the produce of seed in Dodder Flax is scarcely half that of the clean sample, as many plants are so badly mauled by their parasitic enemy as to be all but seedless.

If we now refer to the Clover Dodder we find that this crop is often so injured as that the Clover is scarcely perceptible, but the Dodder is seen in matted tangled masses, occupying circular spots of varied magnitude, which when looked upon has much the sickly aspect which the sward presents when Clover hay has lain in heaps upon it during a long spell of wet weather. In this case the first crop is considerably lessened in quantity and injured in quality, and after mowing so great is the injury done to the plant by the parasite that those which have been attacked die out gradually, leaving bald spaces for the next season.

This plant, like the Flax Dodder, is introduced with the seed, and foreign Clover seed is seldom entirely free from it. It makes the most rapid progress in strong deep soils such as those of the lias and London clay; light or thin soils seldom encourage its growth to the same extent.

Now, as regards the keeping in check so great an enemy as Dodder, either in Flax or Clover, two modes of action as usual are open to us, namely, one which aims at curing the evil when it exists, and the other which succeeds in preventing its existence. Young crops of Flax and Clover should always be carefully gone over with a view of cutting off Thistles, creeping Crow-foot, and other weeds common in these crops; and wherever the thread-like fibres of Dodder are observed every plant to which it adheres should be removed from the field; a sharp eye will soon detect it, and stopped now it is done for for ever. This is easy, because it is seldom universally distributed over the crop, but usually starts from distant centres. As respects Flax it should always be drilled, as a little weeding which is then practicable greatly improves the amount of the crop itself and the absence of weeds in the straw much facilitates its profitable conversion.

If, however, Dodder has fully established its clusters in Clover, the best plan is to mow these down and burn them. A trench of a foot or so wide around them will completely isolate it so that it cannot spread any further; or these may be burnt. Of course prevention can best be carried out by carefully selecting your seed. On no account should a Clover or Flax sample be sown from an infected field: however in so far as Dodder or Clover is concerned it cannot be too widely known that crops containing weeds, and especially Dodder, are often seeded because of the damage which has by their means been done to the herbage; hence it is considered more profitable to get a dirty seed than a poor crop, as in these cases dirt and all sells. Farmers who are so stupid as to buy dirty seed are usually of that class who believe that weeds don't come from seed but are the natural and spontaneous generation of the soil. Dodder seeds are less in size than either Clover or Flax seeds, but they are more easily separated from the latter than the former because the difference is greater; still in a sample of Flax which has lately come before our observation we detected no less than 100 seeds of the Dodder in a pint, a quantity quite sufficient to occupy the soil, so that its presence is a matter not difficult to understand if a crop infested with the parasite be not cleaned; for on a single plant of Flax now before us we make out the sum of 28 clusters of capsules of Dodder seed having an average of seven capsules to a cluster each of two seeds ($28 \times 7 \times 2 = 392$); and as the same plant had before been estimated as producing only 315 seeds of the crop (Flax), we see that the parasite produces seed more prolifically than the plant upon which it feeds.

The presence of Dodder in Flax seed may easily be determined by any one who has ever examined separate seeds of the parasite, but such as have not will perhaps find it easier to separate every foreign kind of seed from the Flax or Lint seed. Place a few of the suspected seeds in some moist soil in a hothouse or any warm corner, and the thread-like plants will peep up in two or three days, and will soon attach themselves to any of the flax plants which may come up at the same time.

That looking into seeds or crops in the manner indicated presupposes that some care and trouble is to be expended on this subject is quite true, still the importance of the matter renders it worthy of any amount of time and observation, and the intelligent agriculturist should moreover be desirous of acquiring information upon such valuable points connected with his profession, not merely from this cause but because it is education and knowledge which distinguish a man from his fellows.

## FLAX CULTURE IN IRELAND, 1859.

The following returns shew in statute acres the extent under Flax in Ireland in 1858 and 1859, compiled from returns obtained by the Irish Constabulary.

| Counties and Provinces. | Extent of Land under Flax | | Difference between 1858 and 1859 | |
|---|---|---|---|---|
| | 1858 | 1859 | Increase. | Decrease. |
| ULSTER. | Acres. | Acres. | Acres. | Acres. |
| Antrim .. .. | 3,677 | 7,450 | 3,953 | |
| Armagh .. .. | 10,469 | 14,558 | 4,089 | |
| Cavan .. .. | 3,252 | 5,680 | 2,428 | |
| Donegal .. .. | 16,480 | 17,972 | 1,792 | |
| Down .. .. | 12,256 | 21,295 | 9,039 | |
| Fermanagh .. | 1,719 | 3,214 | 1,495 | |
| Londonderry .. | 12,665 | 17,549 | 4,884 | |
| Monaghan .. .. | 10,812 | 14,498 | 3,686 | |
| Tyrone .. .. | 15,107 | 23,022 | 7,915 | |
| Total of Ulster .. | 86,385 | 130,258 | Increase 43,873 acres | |
| MUNSTER. | | | | |
| Clare .. .. | 612 | 518 | .. | 94 |
| Cork .. .. | 368 | 428 | 60 | |
| Kerry .. .. | 476 | 521 | 45 | |
| Limerick .. .. | 196 | 130 | .. | 66 |
| Tipperary .. .. | 86 | 98 | 12 | |
| Waterford .. .. | 35 | 38 | 3 | |
| Total of Munster .. | 1,773 | 1,733 | Decrease 40 acres. | |
| LEINSTER. | | | | |
| Carlow .. .. | 53 | 8 | .. | 45 |
| Dublin .. .. | 1 | 1 | | |
| Kildare .. .. | 3 | 2 | .. | 1 |
| Kilkenny .. .. | 41 | 28 | .. | 13 |
| King's .. .. | 247 | 262 | 15 | |
| Longford .. .. | 274 | 359 | 85 | |
| Louth .. .. | 349 | 523 | 174 | |
| Meath .. .. | 185 | 229 | 44 | |
| Queen's .. .. | 29 | 25 | .. | 4 |
| Westmeath .. | 172 | 278 | 106 | |
| Wexford .. .. | 148 | 74 | .. | 74 |
| Wicklow .. .. | 1 | 4 | 3 | |
| Total of Leinster .. | 1,503 | 1,793 | Increase, 290 acres. | |
| CONNAUGHT. | | | | |
| Galway .. .. | 317 | 326 | 9 | |
| Leitrim .. .. | 203 | 550 | 347 | |
| Mayo .. .. | 593 | 726 | 133 | |
| Roscommon .. | 266 | 383 | 117 | |
| Sligo .. .. | 306 | 247 | .. | 59 |
| Total of Connaught | 1,985 | 2,532 | Increase, 547 acres. | |

| | 1858 | 1859 |
|---|---|---|
| Total acreage under Flax in Ireland | 91,646 acres | 136,316 acres |
| Increase in 1859 .. .. | 44,670 acres. | |

Extent of Flax growing in Ireland in each of the following years:—

| 1851. | 1852. | 1853. | 1854. | 1855. |
|---|---|---|---|---|
| Acres. | Acres. | Acres. | Acres. | Acres. |
| 140,536 | 137,008 | 174,579 | 151,403 | 97,075 |

| 1856. | 1857. | 1858. | 1859. |
|---|---|---|---|
| Acres. | Acres. | Acres. | Acres. |
| 106,311 | 97,721 | 91,646 | 136,316 |

*Wm. Donnelly, Registrar-General, Agricultural Statistics Office, 5, Henrietta Street, Dublin, Aug. 20.*

## REAPING MACHINE COMPETITIONS.

(1) *Inchture.*—Eight machines were entered for the competition, including four of Lord Kinnaird's, three of Mr. Bell's, and one of Burgess & Key's; and they were all set to work on a field of Wheat. The work done was in nearly every case first-class, the grain being even and clean cut, and laid out with the greatest regularity and order. The only exception to this was in the case of the Burgess & Key's screw machine, which, owing to the heaviness of the grain, was several times obstructed in its working, and did not give such satisfaction as the others. There was also on the spot, though not for competition, a M'Cormack machine, which can be driven by a boy, while a man is stationed behind with a rake, and removes the grain in quantities sufficient for sheaves. This machine attracted considerable attention from those on the field, and its working was very satisfactory. The following is the list of prizes:—1st prize, Highland Society's Medal, Peter M'Donald, servant of Mr. Bell, Inchmichael; 2d, David Galloway, servant to Lord Kinnaird; 3d, John Bruce, servant to Mr. Brough, West Mains, Inchture, a Bell's machine; 4th, James Sharp, servant to Peter Constable, Esq., Ballindean, a Lord Kinnaird's machine; 5th, Peter Bruce, servant to Mr. Suttie, a Lord Kinnaird's machine; 6th, Robert Hutton, servant to Lord Kinnaird; 7th, Wm. Anderson, servant to Colonel R. Knox Trotter, a Burgess and Key's machine. An extra prize to James Crichton, 10 years of age, for driving a M'Cormack machine.—*Dundee Courier.*

(2) *Hexham.*—The weather, though cloudy in the morning, fortunately cleared up towards the middle of the day. The situation of the ground was in every way favourable to a fair and equal competition, being a large flat field of standing Wheat. Ten machines were entered for trial, but only seven arrived upon the ground. They were as follows:—One of Burgess & Key's, belonging to Mr. Freeman, Carlisle; another of Burgess & Key's, belonging to Mr. Dods, Anick Grange; a third of Burgess & Key's, belonging to Mr. Stephenson, Fourstones; Bell's machine, belonging to Mr. Freeman, Carlisle; Trotter's ditto, belonging to and invented by Mr. William Trotter, Bywell; Cuthbert's ditto, belonging to Mr. Gregory, Westoe; Samuelson's Britannia self-raking Reaper, belonging to Mr. Dixon, Newcastle, agent to the North of England Implement Company. Mr. Dods has had his machine for two years, and during that time it has done the work of his farm to his entire satisfaction. Both last year and the year preceding, it had awarded to it the first prize offered by the Hexham Farmers' Club. Mr Stephenson's is of precisely the same description as Mr. Dods's; he also has had it for two years, and during that time it has regularly done his reaping on the farm, and Mr. Stephenson is well satisfied with the way in which it is done. Mr. Freeman's Burgess & Key's is two year's older than that of Mr. Dods, and consequently is not furnished with the conical side screw in dividing the corn, and assisting on heavy Wheat crops and on Barley crops the action of the Archimedian screws on the platform, which deliver the crops. Mr. Trotter's machine was designed by himself, and was executed by his direction by the village blacksmith. It was a competitor last year for the Hexham Club's prize, but owing to an accident it did not finish its work. Since last year it has been improved in the workmanship, but the principle is in every respect the same as before. It has also been in daily operation on Mr. Trotter's farm during the present season. It can be worked with one or two horses, and lays the corn in sheaves. Mr. Bell's machine differed from the others in being driven from behind. It is too well known to require any further description. The Britannia competed on the previous Thursday at Bilton, and seems to be a favourite in the north. Two were sold to gentlemen in the neighbourhood of Bilton at the close of the trial there, and the company's Berwick agent has sold nearly a dozen this season. Its special peculiarity is that, while it is self-delivering, it deposits the grain in sheaf and not in swathe. Mr. Cuthbert's can be worked with one or two horses, and can be so adapted that either side or end delivery can be obtained. Mr. Wright, Southwaite, Carlisle; Mr. Anderson, Hetton House, Wooler; and Mr. Bleckett, Esh, Durham, acted as judges. The reapers were each tried, first upon an acre of Wheat, and afterwards upon some Barley. The following is the time which each machine took to cut its acre; and the price of each machine:—

| | Minutes. | | Price. | | |
|---|---|---|---|---|---|
| Mr. Dods's .. .. .. | 42 | .. | £42 | 0 | 0 |
| Mr. Trotter's .. .. .. | 45 | .. | 22 | 0 | 0 |
| Mr. Freeman's (Bell's) .. | — | .. | 42 | 0 | 0 |
| Mr. Freeman's (Burgess & Key's) | 48 | .. | 42 | 0 | 0 |
| Mr. Stephenson's .. .. | 49 | .. | 42 | 0 | 0 |
| Mr. Dixon's .. .. .. | — | .. | 32 | 10 | 0 |
| Mr. Gregory's .. .. .. | 28 | .. | 24 | 0 | 0 |

Samuelson's machine, by an unfortunate breakage, was prevented from finishing its work. This machine is furnished with a self-acting rake, which is intended to descend and take off the corn when sufficient has accumulated for one sheaf. The principle is good, but it will require many improvements before it will become of much practical use to the farmer. Bell's machine, by a similar misfortune to Samuelson's, was prevented from completing its work. After due consideration the judges arrived at the following decisions, which were read by Mr. Lee, the secretary, at half-past 2 P.M.:—

| | | | |
|---|---|---|---|
| Mr. Stephenson, first .. .. .. | £15 | 0 | 0 |
| Mr. Gregory, second .. .. .. | 7 | 0 | 0 |
| Mr. Trotter, third .. .. .. | 3 | 0 | 0 |

The day was very pleasantly spent and all parties seemed satisfied with the very interesting spectacle which they had witnessed. *North British Agriculturist.*

(3) *North Northumberland.*—The trial took place close to Bilton Station for the accommodation of exhibitors. Sixteen machines had been entered, and at 10 A.M. nine of them commenced their labours in a field of Wheat. There appeared to be two distinct classes of machines—the one adaptations of M'Cormack's American reaper, and the other—the most numerous—those on Hussey's principle. Of the former, there were two constructed with Burgess & Key's latest improvements, which more especially arrested the attention of the spectator, the one belonging to Mr. Wilson of Woodhouse, and the other to Mr. Pearson, Low Moor, Durham. They both were fitted up with a set of fanners for laying the corn on to the machine and an Archimedian screw for delivering it in swathe, and both did their work beautifully—cutting clean, low, and regular, and leaving an elegant and symmetrical swathe. They began with two horses, but afterwards were furnished with a third, the labour requiring additional power. There was another, the property of Messrs. Thompson & Wright of Alnwick, manufactured by B. Samuelson, Britannia Works, Banbury, which also was a splendid machine, one peculiarity of which was that by a beautiful mechanical contrivance a self-acting rake had been introduced, which, by a motion similar to that of the human hand, laid the bundles outside of the track of the horses, delivering it in sheaves, ready for binding, in contradistinction to the swathe delivery. One of the conditions of the competition was that each exhibitor was to provide a sufficient staff to work his machine; but though there was sufficient for this purpose, provision had not been made by the exhibitors of labourers to build and set up the corn for this machine, and from this cause its peculiar action was not seen to sufficient advantage. The next class of machines, as we are informed, are all to some extent different modifications of Hussey's principle. Among these was one manufactured by R. Cuthbert & Co., Newton-le-Willows, Bedale, worked by one horse, and did its business well, delivering its corn regularly, and leaving a clean level stubble. Mr. Wilkinson, of Boston, had a machine manufactured by Messrs. James Stoke & Sons, Newton, Stocksfield, which distinguished itself by the rapidity, regularity, and cleanness with which it performed its various operations. Mr. John Turner, of Alnwick, exhibited one of his own manufacture, which was much commended. There were several other machines on the field of Mr. Turner's manufacture. Messrs. Wilkin & Parkinson also exhibited one of their own manufacture; it is equally available for the cutting of corn or Grass. Under the direction of Mr. Robert Deeken, who managed it, it went through its work in excellent style. It may be observed that nearly all failed in cutting satisfactorily where the corn was either lodged or inclined in an opposite direction to the course of the machine. Taking the exhibition as a whole, the quantity of work done, and style in which the machines generally went through the operations, it must have been gratifying to the exhibitors, and not less so to the enterprising gentlemen of the society. The following was the award of the judges: The first prize of 20*l.* to be equally divided between Mr. Wilson and Mr. Pearson (Burgess & Key) 10*l.* each, their machines being considered of equal merit; the second prize of 10*l.* between Mr. Stoke and Mr. Cuthbert, 5*l.* each, for the same reason. The judges also highly commended other machines. *Berwick Warder.*

(4) *Blackburn.*—At the meeting of the Lancashire Agricultural Society three reaping machines were put in competition. The crop selected for the trial was a field of Oats, short and thin (indeed, it is a poor season for Oats), and sadly too full of Grass and Weeds. Last year, at Ulverston, the machines were tried upon a crop of Wheat, one most admirably chosen for proving their adaptability; this year the crop was the reverse, and was more suitable for the scythe than the reaping-machine—indeed, as is proved, it was only those machines that were able to cut Grass as well as corn that showed to advantage. The three machines tested on Wednesday were—one belonging to Mr. R. Cookson, of Layton Hawes, and formerly the property of Mr. Billington, of the Bull Hotel, Preston. The inventor of Mr. Cookson's machine is a Mr. Wood; the maker, Mr. Clayton, of London. Next, we had a machine from Miss Ffarington, of Worden Hall, Leyland. It is Hussey's, improved by Mr. Dray, of London, and is similar to the one tried last year at Ulverston. The third, "Crosskill's Improved Reaping Machine," was exhibited by the makers, the trustees of Mr. W. Crosskill, of the Beverley Iron Works, Beverley. The machines were set at work in the following order:—1st, Wood's; 2d, Hussey's; 3d, Crosskill's. Previous to commencing operations, Crosskill's was put into motion down the furrows to cut a way through for the other two to commence working. Both Wood's and Hussey's succeeded in cutting the extent allotted to them in very fair style, and the very superior form in which the latter left the cut corn was much noticed. We heard several farmers remark that it was left in far better form for binding up than could have been accomplished by either scythe or sickle. Crosskill's machine did not succeed on Wednesday; it made far more frequent stoppages than the others, left a portion of the corn in several places uncut, did not deliver neatly, and the appearance of the plot which it cut, when compared with that gone over by the other machines, was somewhat slovenly. Crosskill's is strictly a reaping machine, and the other two are not intended for mowing; they were, however, tested, but the Grass was too short, so that the result proved nothing as to their capabilities for cutting Clover or Rye-grass.

The prize was awarded to Dray's Hussey—medal and 20*l.*—Miss Ffarington, Worden Hall.

## Home Correspondence.

*Thin Seeding.* Since you published my last article in your valuable Journal I have received several kind and friendly letters (four in one day), asking for further information on the points of husbandry which I for many years have endeavoured to impress upon agriculturists. I wish also to correct several mistaken notions which many persons have fallen into respecting what I have often publicly stated and written. The first and principal of these is that I consider thin seeding alone to be a panacea for all kinds of farming, bad and good, and for everything connected with farming; but the reverse exactly has been the case; for, on the contrary, I have for a thousand and one times stated and published that I considered no kind of seeding, neither thick nor thin, would compensate for slovenly and imperfect cultivation. From my first advocacy, now very many years since, of agricultural improvements, I have said to farmers and gentlemen, Deeply and thoroughly drain your lands wherever there is stagnant water in them; then completely cultivate them wherever the soil will permit, at least twice as deeply as you now let your ploughs go. Keep your lands free from weeds also, and let them grow nothing but what you intend they should, and thus take care they are in good heart; then greatly diminish the quantity of your seed of every kind." But I have never advocated a uniform quantity of any kind of seed; I have shown what quantities I myself put into the ground, and the produce they produced; and also the quantities my friends, who think as I do on these points, put in, and their products; but I have never advocated the same quantities for all kinds of lands, nor for all kinds of tillage, nor of all sorts of the same kinds of grain. Of Wheat, for example, there are short-strawed sorts and long-strawed sorts, and there are sorts neither one nor the other, just as there are of Peas, &c.; to plant dwarf Peas as wide apart in the rows as the tallest kinds ought to be everybody would say would be absurd; and it is the same with Wheat and everything else exactly. Some lands also, that is, deep stapled kinds, produce very luxuriant grain with very tall

straw, and here also the seeds throw out more branches; whilst light lands always produce short straw, nor does the seed tiller and throw up so many branches as it does in the deep staples and rich land; and hence my opinion always has been that on light and poor land more seed should be sown than on deep stapled and rich land; but some farmers think differently: but this is my opinion. But on all kinds of land and of all kinds of seed, I should be a thin-seeder, in no case putting in half the seed that is generally sown. Having, Mr. Editor, so far cleared away this objection to my system or the system of the thin-seeders, I will just add that in my neighbourhood and many others the winter Bean crops and the Barley crops are very indifferent, and some of them very bad; the Beans having been very badly podded, and the Barley crops laid flat on the ground and some much grown, and the grain generally very thin—and why has this been? The cause entirely was over-seeding; and I may add, that had Providence sent wet instead of this unusually fine weather nine-tenths of these crops would have been fit only for dung; but the goodness of Almighty God counteracts so frequently the obstinacy, the prejudices, and shall I say the ignorance of men; and he has singularly shown his mercy towards them in this way this year. The crops of Beans were so thick that neither sun nor air could reach the blossoms, and so they fell off, and of course had no pods. The Barley crops also were the same as to thickness, and consequently so weak in the straw that the most balmy zephyrs laid them flat on the ground, where the Clover and Grass grew through them, causing the grain to sprout, and in some cases spoil, or fit only for grinding for hogs. But I merely touch upon these points in my present letter; and now I go to another matter, though not exactly agricultural, yet I hope I shall be excused for drawing attention to it. In my last article, kindly published August 13, I touched upon the opposition I had met with from farmers or their advocates; but they have not been my only opponents, for men of my own profession have risen against me and brought to my charge things that I knew not. Among others some short time since, a bigot, professing to be a clergyman, dated a letter to me from the Athenæum, stating how shocked he was that I, a clergyman, should write such letters about farming, and last week another narrow-minded man sent me a long rhapsody of the same kind, to which, after his feigned name, he added "D.D." This man is surprised that my diocesan has not long since interfered and called me to account for spending so much time on secular matters, and "talking and writing about things I can know nothing about," or if I "do know anything about them the knowledge must have been obtained at the expense of my spiritual duties." [Our correspondent proceeds to argue at considerable length and with unquestionable force the propriety of a clergyman taking a part in all true human and social interests; but this is not likely to be questioned by readers of the *Agricultural Gazette*, and we have therefore taken the liberty to publish the former portion only of his letter.] *G. Wilkins, Wix Rectory, Manningtree.*

*The Lucifer Match.*—Apropos of this, which is now receiving attention in your columns, a young girl of 14 has just died here, and it has been proved before a coroner's jury that she poisoned herself with eating the ends off a box and a half of lucifer matches. *J. N. D., Cumberland, Sept.* 1.

*Caution about Winter Barley for sheep.*—Last spring a farmer in Hants fed his sheep on this dry plant, after it was in ear, and his flock have not recovered the effects of it yet. In August it first scoured them, and he has lost some 23 ewes and several lambs; they dwindle away, and the shepherd says when they die they have not drop a of blood in their veins. * * *

## Farmers' Clubs.

CHEADLE: *Salt and Lime.*—At the annual meeting of this society Mr. Cargey said he had been in the habit of dressing land that was to be sown with Wheat in autumn with a manure made of a ton of lime to half a ton of salt, well mixed together some weeks before it was used. Lord Harrowby had sent him the recipe down from London, and it had been applied to summer fallow for a long period with invariable success. Whenever he was afraid of a crop of Wheat going down he always applied a dressing of lime and salt, and the same dressing had always secured a good crop of Clover. Generally ploughed the land and then applied the manure to the surface. The lime and salt should be mixed some time before they were used, for the more completely they were amalgamated the better. The largest crop he ever grew was in a field which had been manured in this manner. The Wheat was sown broadcast in autumn, and produced, according to the Staffordshire measure, 16 bags per acre, and there was not one bit of it that was lodged, nor did the lime and salt make the land stiff, as some persons had predicted. He had never dissolved the salt but once. They generally laid a load of lime down and then shovelled the salt upon it and turned it over. If the weather was dry they put water upon it, but if not they let the rain fall upon it and turned it over three or four times. He did not know that any chemical change was thereby produced, but the lime and salt were well amalgamated. He had found this plan invariably a preventive of the great plague of falling Wheat. When he first went to Sandon he was troubled a great deal with falling Wheat, but now he never had any.

Mr. Knight had applied lime and salt on his light land, and found them answer. The Vice-Chairman said he had done the same on his farm, and had found it succeed admirably. He had also found that it saved the Clover from the attacks of the slug. In Wheat it strengthened the straw, and thus prevented it from going down. If to one part of a field the lime and salt were applied, and not to the other, it would be found that the straw in that part of the field to which they had been applied would be of a brighter and better colour than that which grew where they had not been applied. He had applied them in the same proportion as Mr. Cargey.

Mr. Cargey said he had recommended the application to many of his neighbours, but they were afraid to use the same quantity of salt as he had done, so that they had not tried the experiment in its integrity. He had seen Wheat mildew both on land to which the lime and salt had been applied and on land to which it had not been applied. In the latter case the Wheat had suffered permanently, but in the former it had ripened off as bright as possible. Many of his neighbours had used 4 or 5 cwt. of salt, but he had never known the proportion he had named make the land stiffer.

Mr. B. Bond said the farmers had had a very early harvest this year, and he strongly recommended them to have an autumnal cultivation by working the lands during that season, and endeavouring to get it cleared preparatory to the next spring crop. They would find that course one of immense advantage. He was strongly opposed to the sale of straw. If a man kept upon his farm a fair amount of stock he would have no straw to sell, though if he lived within a mile or a mile and a-half of the Potteries he might be able to sell his straw to advantage.

The Vice-Chairman differed from Mr Bond. He was a tenant farmer, and he was proud of it; but let them give him his liberty, without any nonsensical restrictions, to cultivate his farm in a manner most conducive to his own interests, and then it would be cultivated to the best advantage for the landlord. As a tenant farmer he was not fond of seeing a 10*l.* penalty for this thing and a 20*l.* penalty for the other. He would ask, how was a man, who grew a large quantity of straw, to consume it upon his farm? His cattle could not consume it; and perhaps he might not have the means of converting it into manure. Then what is he to do with it? Why, it was to remain in the stackyard until it rotted down, when there was a market for it at his very doors, where he might turn it into money. He would appeal to them whether it would not be very much better to convert it into money with which to enrich the land for succeeding crops. A gentleman had handed to him a slip of paper, on which it was written that bone was the best manure for pastures. Probably that gentleman was a bone merchant, but he was quite right, for he had used it for many years. But bone manure was very expensive, and how could they buy artificial manures if restrictions like that to which he had referred were placed upon them? They had to contend with foreign growers who were under no restrictions, and with wheat 1*d.* per lb. and guano 13*l.* 10*s.* a ton, vexations restrictions ought to be abolished. It was very hard upon the poor farmer that when he had spent a large sum of money upon bone or guano, the landlord should step in and say, "Not one straw shall you remove, though you have a market at your own door."

The Chairman said the information they had received from Mr. Cargey would be most valuable to the farmers of that neighbourhood, and he was not sorry that the feelings which existed in the breasts of many present on another subject had been shown. Every man ought to be allowed to carry on his calling with the least possible restriction, and if a landlord got a bad tenant or a tenant a bad landlord, the sooner they separated the better. He read over the agreements when his tenants and he signed them, but he knew perfectly well that they would not be enforced. It would be utterly impossible to enforce them all, for the tenants would not stand it, but would rather leave their farms. Then with regard to the particular question of selling the straw, he thought it fully deserved consideration. He was not quite sure that the restriction might not be sound as a general rule, but what he had said was that in that peculiar locality it appeared to be highly injudicious to maintain the restriction with regard to the sale of straw. In the Potteries 3*l.* a ton might be got for Oat straw; and by what process—chemical, natural, or physical—could they get the same money for it any other way? Three pounds worth of artificial manure would be worth 3 or 4 tons of Oat straw manure. Then how could they consume Wheat straw, unless like him they had six sons who kept a number of hunters? There was much force in Mr. Adamthwaite's remarks, for to throw straw into the yards was a most miserable and wasteful way of disposing of most valuable produce,

The Rev. J. K. Dunne thought the man who was able to consume all that he grew upon his farm was likely to be the most successful farmer, but he agreed with Mr. Adamthwaite that in the present age it was perfectly ridiculous to bind men to trample down straw, which they could sell at 3*l.* or 3*l.* 10*s.* a ton; when trampled down it would, perhaps, not be worth 10*s*. If such a thing was narrated of Russia, they would say that it could only happen in a nation of serfs: and if it had happened in Austria, it would have been attributed to Austrian misrule; but that it should continue in this enlightened country he did think a kind of disgrace. *Abridged from the Staffordshire Gazette.*

## Notices of Books.

*A Word of Advice to the Farmer in Selecting, Analysing, and Buying Guano and Artificial Manures; with tables showing the money value of the respective constituents.* By Lonsdale Bradley, M.R.A.C., F.G.S. Routledge.

This pamphlet contains in a simple form the information which the agriculturist needs before he can understand the precise meaning of any tabular statement of the composition of a manure.

It contains the money value at given rates of valuation of every proportion of nitrogen, ammonia, superphosphate, gypsum, salt, &c. from 0.5 to 100 per cent. rising by increments of .5 in the more valuable substances, and by additions of 1. in other cases.

We are bound to add that the author could have done all this quite as effectively though he had not quoted the speech of an ignorant man as characteristic of the intelligence of the class whom he addresses, or flippantly spoken of them as "descendants of Cain." He might have really liberated their minds from prejudice, without parading the inferiority he believed himself about to remove.

The following memoranda are given for the guidance of the man who would understand the analyses given by the manure dealers.

"*Of Manures.*—1. That all manures are compounds, or contain more than one substance. 2. That these substances exist in different proportions. 3. That each of these several substances possesses different fertilising powers. 4. That, according to their fertilising properties, they have each distinct commercial values. 5. From the proportions in which these ingredients exist, so is it a good or a bad, a dear or a cheap manure, at the price at which it is offered for sale.

"*Of Analyses.*—1. On the left-hand side is a tabulated form of the substances which the chemist in his investigations discovered in the manure. 2. On the right-hand side, opposite each substance, is recorded in decimals, the proportions in which these substances were found to exist. 3. In accordance with the proportions of the good or bad substances, so it indicates a good analysis or a bad analysis, *i.e.* a good manure or bad manure, one worth purchasing or the contrary. 4. An analysis of itself, therefore, is no guarantee, no warrant as to the goodness of a manure, unless it is rightly read, and its value understood by the purchaser.

"*The application.*—5. There is one way left, however, which I think may be useful for your guidance: that in buying manures, you should obtain an analysis from the dealer, and examine it by the tables. 6. If you are satisfied with the result, then purchase your manure under a guarantee from the dealer, that he will supply you with a manure equal to that analysis. 7. On obtaining your purchase, take an average sample from the bulk, and send that sample to some analytical chemist of known accuracy; upon the receipt of his examination, compare it with the analysis produced by the dealer; if they do not correspond, the dealer, of course, has not fulfilled his contract."

## Miscellaneous.

*Barnet Cattle Fair, September* 5.—The great annual fair at Barnet was opened for the sale of cattle, nearly all counties were represented by the principal stock breeders and dealers. The counties of Hereford and Devon contributed some of their best grazing beasts, and were the principal suppliers of cattle to the demands. Yorkshire was fully represented by a field of excellent and choice bred milch cows. Ireland imported some large droves of well-bred stock to the fair; Scotland gave an additional importance to this great mart by its production of choice polled Scots and well-bred steers; Wales sent some large herds of black cattle, which occupied a large portion of the fair. There was a good demand for best description of grazing stock, and, notwithstanding the high prices asked, an active business commenced early and continued throughout the day, so that money to a very large amount changed hands. Stock prices were as follows:—Hereford beasts.—Well-bred bullocks for stall feeding, 16*l.* to 18*l.*; useful grazing steers, 11*l.* to 14*l.*; stock heifers, 8*l.* to 11*l.* Devon steers.—Well grazed beasts, 15*l.* to 16*l.*; plain ditto, 12*l.* to 15*l.*, and cross-bred ditto, 9*l.* to 12*l.* Durham beasts made 15*l.* to 17*l.*; ditto, cows, 13*l.* to 15*l.*; Lincolns and half-breds varied in price from 14*l.* to 16*l.*, and well-grazed steers 20*l.* Sussex beasts.—Well-conditioned steers for stall-feeding, 14*l.* to 15*l.*; aged beasts accustomed to the yoke and agricultural work, 18*l.* to 20*l.* each. Irish cattle.—Well-grown steers, 11*l.* to 13*l*; choice selections 15*l.*; and useful heifers, 8*l.* to 10*l.*; yearlings, 4*l.* to 5*l.* Scotch cattle.—This description of stock met buyers very quickly; best quality of polled Scots in high condition made 20*l.* to 22*l.* a head; ditto for feeding up, 15*l.* to 17*l.*; and small steers, 13*l.* to 14*l.* Runts.—These Lilliputian beasts, fresh from the Highlands, were in active request; those fresh from grazing quarters made 5*l.* to 9*l.*, and well-conditioned ditto, 10*l.* to 12*l.* Welch cattle.—Many large herds of black stock sold off at 7*l.* to 9*l.* a head; three-year-old bullocks fetched 9*l.* to 11*l.*; heifers, 7*l.*; and Welch cows in full milk, 8*l.* to 10*l.* Milch cows.—This class of stock was in high demand, in consequence of the eagerness of London millmen to

secure them; choice-bred Short-horn cows in full milk and a calf by their side made from 17*l.* to 20*l.*; large-framed Yorkshire cows in full profit, 20*l.* to 23*l.*; and selections of choice beasts, 25*l.*; cows down calving, 14*l.* to 18*l.*; country bred cows for dairying purposes, 11*l.* to 15*l.*; Alderney cows in full milk, 18*l.*; half-bred and aged ditto, 8*l.* to 10*l.*; well-bred Short-horn heifers (in calf), 8*l.* to 12*l.*; stock ditto, 7*l.* to 10*l.* Bulls.—Well-bred young bulls, York or Short-horn, 15*l.* to 18*l.*; ditto, for home purposes, 11*l.* to 14*l.*; ditto, steers, 16*l.* to 18*l.*

## Calendar of Operations.

AUGUST.

ISLE OF ELY: *Aug.* 30.—The fine weather of the last two weeks has enabled nearly all our farmers to complete their harvest operations. The dreaded 20th and 21st passed over without those teeming rains and violent electrical displays which some of our meteorologists had predicted, and our fears were the more largely excited from the fact that so many of these meteorological assertions have on previous occasions been so fully verified. Happily in this instance some of these prognosticators miscalculated, and the result has been a continuance of beautiful and brilliant harvest weather, without interruption from either storm or tempest. Very little corn now remains in the fields, and nearly the whole has been secured in good condition. This has been one of the most anxious and exciting harvests we remember, considering it commenced in July and terminated before the end of August. The crop has been so bulky and so much laid and twisted, and generally so bad to cut, that it has taken nearly five men to do the work of three in many instances. This combined with a scarcity of labourers in many of our off lying fen districts, so largely dependent upon strangers, and the fact of the intensely hot weather of July occasioning nearly all the corn to ripen together, has compelled exorbitant prices to be paid for reaping, and has occasioned an immense amount of disagreeable and vexatious annoyance, and has made the present one of the most, if not *the* most expensive harvest of modern times. But all these inconveniences and unwonted anxieties would soon be forgotten were the produce and quality of the grain at all comparable to the quantity and bulk of the straw. But here, alas! we have a much more painful tale to unfold. The threshing machine makes terrible revelations in many, perhaps we should say in all, our fen districts. We yesterday saw a sample of Wheat which had been sold, and the following particulars were given to us, namely, that it represented 50 quarters, which was the produce of 16 acres, and had been sold at 32*s.* per quarter, and had cost about 1*l.* per acre cutting. Our own observation leads us to believe that this is by no means a solitary case; but will find a parallel on many a fen farm. We have ourselves threshed one field of Wheat from our high lands to test the yield on this description of soil, and found the produce from one-fourth to one-fifth less than could have been reasonably expected from the appearance of the crop. We therefore arrive at the conclusion that the yield throughout this entire district will be very bad indeed, and the quality in the majority of cases miserably inferior. Several samples in fine condition now weigh only between 16 stone and 17 stone per coomb, and what they will be when damp in the winter we dread to contemplate. The price, too, of the new Wheat seems as unsatisfactory to the producer at present as the yield and the quality. Much is selling at 1*s.* and 1*s.* 1*d.* per stone—32*s.* to 34*s.* per quarter. If these prices continue, this must be one of the worst years fen farmers have known lately; and we fear the labourers who have demanded such exorbitant wages during the weeks of harvest will find but little employment during the winter, and it will be well for them if they possess foresight and discretion enough to prompt them to husband some of those excessive earnings against the coming day of adversity. The Oat crop is in most instances as bulky as the Wheat, but whether it will give a more satisfactory yield remains to be proved by the threshing-machine. We have not ascertained this fact at present; but from general appearances should conceive there will be a good average quantity, but of light and inferior quality. Beans are scarcely as good as we anticipated; but will probably afford an average yield; but the corn will be small, being dried up so rapidly by the hot weather in July. Potatoes are diseased a good deal in some instances, and we have heard of one farmer beginning to take them up for immediate use for feeding purposes before they become soft and useless. An examination of three of our own fields to-day shows fully one-third to be already diseased. Mangels are looking well, and with occasional showers during the next month, promise to be one of the best crops we have known for some years. The showers during the present month have imparted new vigour to our pastures, and they once more look green and fruitful. Beef and mutton sell well, and are not liberally supplied. Store sheep and lambs keep advancing in price; and from the favourable reports we receive of the Norfolk and Lincolnshire Turnip crops, we think they are not likely to be cheaper, but rather dearer. Our Coleseeds this year are more promising than usual. We have just had sufficient rain to keep them thriving thoroughly. We forbear to say one word more about the corn trade, it is so bad. *Your Fen Reporter.*

## Notices to Correspondents.

AGRICULTURAL EDUCATION: *A B.* The high reputation of Scottish agriculture and Scottish agriculturists has justly arisen out of the intelligence, skill, wealth, enterprise, and character of those farming certain districts in Scotland, as compared with the general run of English farmers and English farming. You can however find in England districts of a great extent as well farmed. You can find almost in any county men capable of teaching their profession; and there is no need of sending a young man into Scotland to learn it. Scotch bailiffs are generally better educated than men of the same class in England; and after three or four years of English experience they are to be preferred.

FLAX: *J N D* says—"An Irish drover from the county Down told me the other day that he had two acres of this crop last year, which he sold for 35*l.* per Irish acre, grown on land for which he pays 30*s.* per acre rent." It might answer as far north as Cumberland. It requires much labour and manure in its cultivation.

GRAZING CATTLE: *J N D.* We have no doubt that it is better to change from pasture to pasture rather than give the whole range at once; but as you ask the opinion of our correspondents, perhaps they will say "whether they have found it better to allow a herd of grazing cattle the full range of all the pastures at once during summer, or to confine them for a certain time in each field, changing them periodically out of one field into another."

LAWS OF PARTNERSHIP: *Stockwell.* Partnership in a farm is a very rare arrangement; but we presume that an agreement between two or more, whether contributing shares of capital, or skill and capital respectively, can be drawn explicitly enough to insure the avoidance of dispute. As to the law of such matters, we imagine the question for decision, if ever it arises, must hinge on the interpretation of a written agreement; and will therefore apply alike to commercial and agricultural partnerships.


# ST. PANCRAS IRON WORKS,

OLD ST. PANCRAS ROAD, N.W.

## IRON HURDLES, FENCING, AND GATES.

THE PROPRIETORS OF THE ST. PANCRAS IRON WORKS, OLD ST. PANCRAS ROAD, LONDON,

WERE AWARDED THE

**SILVER MEDAL of the Royal Agricultural Society for their IRON HURDLES & GATES,**

which, by their peculiar construction, are more than twice as strong and durable as those in ordinary use.

Lists per post on application. Gates from 30*s.* to 500*l.*

**The Hurdles can be seen in process of Manufacture at the Works.**

## GAME WIRE NETTING.

## Professor Varnell's Enamelled and Wrought-iron Stable Fittings.

These Patent Mangers and Stable Fittings obtained the Commendation and the Silver Medal of the Royal Agricultural Society of England and the Royal Agricultural Society of Ireland, are adopted by the Royal Veterinary College, and Professor Spooner of that Institution states that they should be used by all who value the health and comfort of their horses. They can be had plain, galvanised, or enamelled.

A Show Room is devoted entirely to every description of Stable Furniture, and full-sized stalls and loose boxes are erected for inspection at St. Pancras Iron Works.

**ADDRESS—THE MANAGERS,**

**ST. PANCRAS IRON WORKS, OLD ST. PANCRAS ROAD, LONDON, N.W.,**

OPPOSITE OLD ST. PANCRAS CHURCH.

JOHN WARNER AND SONS, Crescent, Jewin St., London, E.C.—GALVANISED IRON TUB GARDEN ENGINE, with WARNER'S Registered Spreader, is strongly recommended, for durability and low price, viz., 10 gallons, 27*s.* 15*s.*; 16 gallons, 3*l.* 15*s.*; 24 gallons, 5*l.*; or in strong oak tub, 14 gallons, 5*l.* 10*s.*; 24 gallons, 6*l.* 18*s.* May be obtained of any Ironmonger or Plumber in town or country, or of the patentees and Manufacturers: as also Machinery of all kinds for raising Water from any depth to any height by Steam, Horse, or Manual Power. Prices sent on application.

Syringes of various constructions and sizes from 9*s.* upwards. Metallic String from 10*d.* to 1*s.* 2*d.* per lb.

CAST-IRON GARDEN ORNAMENTS, viz., ORNAMENTAL VASES, of various sizes, do. with pedestal, GARDEN CHAIRS and STOOLS, RUSTIC GARDEN SEATS and TABLES, both plain and bronzed, also GARDEN ROLLERS of all sizes.—Prices on application to J. JONES, Iron Merchant, 6, Bankside, London, S.E.

TRANSPARENT WAXED SHEETING, nearly 2 yards wide, 1*s.* per yard run; Thick Canvas do., quite 2 yards wide, 1*s.* per square yard; Waterproof Tarpaulings, Aprons, Loin Cloths, Waggon Covers, &c.—R. RICHARDSON, White Horse Factory, Bidborough Street, Judd Street; Office: 99, Euston Road, London, N.W.—N.B. Large size Gardeners' Capes, 3*s.* each. Second-Hand Police Capes from 18*s.* to 24*s.* per dozen.

GREENHOUSES.

HENRY FREEMAN, HOTHOUSE BUILDER and HOT-WATER APPARATUS MANUFACTURER, Triangle, Hackney, N.E. Established 20 years. Good substantially built GREENHOUSES, fixed in any part of the kingdom, for cash, 42 feet long by 13 feet, 90*l.*; 21 feet by 13 feet, 50*l.*; 12½ feet by 10 feet, 30*l.* A first-rate CONSERVATORY, 30 feet by 16 feet, 130*l.* A large assortment kept. Estimates for Heating, or any branch in Wood or Iron or Park Fencing.

HOT-WATER PIPES at wholesale prices, with Elbows, Syphons, Tee Pipes, and every other connection. Wrought and cast iron Boilers, Saddle, Conical, Cylinder, and Elliptic, from 24*s.* each. Boilers and Iron Stands to use without brickwork. Valves from 12*s.* each. Coil Boxes, Furnace Doors, Furnace Bars, Supply Cisterns, and Builders' Castings of every description in stock, at Mr. LYNCH WHITE'S Iron Wharf, Upper Ground Street, Blackfriars Bridge, London, S.

HORTICULTURAL BUILDINGS AND HEATING BY HOT WATER.

JOHN R. PEILL, 17, New Park St., Southwark, S.E., Manufacturer of every description of Buildings for Horticultural purposes, and Inventor of the Improved Conical Boiler for heating the same, is prepared to undertake works of any magnitude, and refers among others to the celebrated range of FORCING HOUSES at HER MAJESTY'S GARDENS, FROGMORE, and at SIR ROBERT PEEL'S, DRAYTON MANOR, constructed under the superintendence of his Manager, Mr JOHN JONES; and also to his BOILERS fixed at the CRYSTAL PALACE, the ROYAL BOTANIC GARDENS, REGENT'S PARK, and KEW, and at several hundreds of the Nobility's seats, Public Establishments, and Manufactories in London and the provinces. J. R. P. also manufactures every description of Iron Roofs, Iron Houses, and Iron Fencing, plain and ornamental. Strong Iron Hurdles for Sheep (6 ft. long, 3 ft. high, with 5 bars), 4*s.* 3*d.* each; ditto for cattle, 4*s.* 9*d.* each. Prices and other particulars forwarded on receipt of one postage stamp.

HOW TO BREW SPLENDID STRONG ALE, at 7*d.* per Gallon, fine as Sherry, and an aroma equal to Burton Tenpenny. This new Practical Treatise is by a Derbyshire man of 28 years' attendance at the spigot and tun in the best brewery in the county. No brewing utensils required, only those for household use. This is guaranteed to be the best and cheapest mode to produce fine Ale ever made public. The above beautifully printed in large type can be had of the sole publishers for 12 Penny Post stamps. Sent post free to any address. Direct to FISHER & SON, Publishers, Kingsland, London, N.E. Established 1847

NOTICE.—Just appended to this universally prized Book, all the methods to make the improved Ærated Unfermented Ginger Beer, Soda Water, Lemonade, all the Cordials and Nectars, together with the Penny French Ices, the Delightful Summer Cooling Beverages, and all the French, American, and English cheap fruit drinks.

MICROSCOPES.

J. AMADIO'S BOTANICAL MICROSCOPES, packed in mahogany case, with three powers, condenser, pincers, and two slides, will show the animalculæ in water. Price 18*s.* 6*d.*—Address JOSEPH AMADIO, 7, Throgmorton Street, E.C.—A large assortment of Achromatic Microscopes.

"It is marvellously cheap, and will do everything which the lover of nature can wish it to accomplish either at home or in the open air."—*The Field*, June 6, 1857.

Just published, 2d Ed., an Illustrated Catalogue, with names of 1500 Microscopic objects, free for 6 stamps.

ALLEN'S PATENT PORTMANTEAUS AND TRAVELLING BAGS, with SQUARE OPENING; Ladies' Dress Trunks, Dressing Bags, with Silver Fittings; Despatch Boxes, Writing and Dressing Cases, and 500 other articles for Home or Continental Travelling, illustrated in their New Catalogue for 1859. By post for two stamps. J. W. & T. ALLEN, Manufacturers of Officers' Barrack Furniture and Military Outfitters (see separate Catalogue), 18 & 22, Strand, W.C.

GLENFIELD PATENT STARCH, used in the Royal Laundry, and pronounced by Her Majesty's Laundress to be the finest Starch she ever used. When you ask for Glenfield Patent Starch, see that you get it, as inferior kinds are often substituted. Sold by all Chandlers, Grocers, &c.

WOTHERSPOON & Co., Glasgow and London.

HANDSOME BRASS AND IRON BEDSTEADS.—HEAL & SON'S Show Rooms contain a large assortment of Brass Bedsteads, suitable both for Home use and for Tropical Climates; handsome Iron Bedsteads with Brass Mountings and elegantly Japanned; Plain Iron Bedsteads for Servants; every description of Wood Bedstead that is manufactured, in Mahogany, Birch, Walnut tree Woods, Polished Deal and Japanned, all fitted with Bedding and Furniture complete, as well as every description of Bedroom Furniture.

HEAL AND SON'S ILLUSTRATED CATALOGUE, containing Designs and Prices of 100 Bedsteads, as well as of 150 different articles of Bedroom Furniture, sent free by post.—HEAL & SON, Bedstead, Bedding, and Bedroom Furniture Manufacturers, 196, Tottenham Court Road, W.

THE PERFECT SUBSTITUTE FOR SILVER.—The REAL NICKEL SILVER, introduced more than 25 years ago by WILLIAM S. BURTON, when PLATED by the patent process of Messrs. Elkington & Co., is beyond all comparison the very best article next to sterling silver that can be employed as such, either usefully or ornamentally, as by no possible test can it be distinguished from real silver. A small useful plate chest, containing a set, guaranteed of first quality for finish and durability, as follows:—

| | Pattern. | Thread or Brunswick Pattern. | Lily Pattern. | King's or Military Pattern. |
|---|---|---|---|---|
| | £ s. d. | £ s. d. | £ s. d. | £ s. d. |
| 12 Table Forks | 1 13 0 | 2 4 0 | 2 16 0 | 2 15 0 |
| 12 Table Spoons | 1 13 0 | 2 4 0 | 2 10 0 | 2 15 0 |
| 12 Dessert Forks | 1 4 0 | 1 12 0 | 1 15 0 | 1 17 0 |
| 12 Dessert Spoons | 1 4 0 | 1 12 0 | 1 15 0 | 1 17 0 |
| 12 Tea Spoons | 0 16 0 | 1 2 0 | 1 5 0 | 1 7 0 |
| 6 Egg Spoons, gilt bowls | 0 10 0 | 0 13 6 | 0 15 0 | 0 15 0 |
| 2 Sauce Ladles | 0 6 0 | 0 8 0 | 0 9 0 | 0 9 6 |
| 1 Gravy Spoon | 0 6 6 | 0 10 0 | 0 11 0 | 0 12 0 |
| 2 Salt Spoons, gilt bowls | 0 3 4 | 0 4 6 | 0 5 0 | 0 5 0 |
| 1 Mustard Spoon, gilt bowl | 0 1 8 | 0 2 3 | 0 2 6 | 0 2 6 |
| 1 Pair of Sugar Tongs | 0 2 6 | 0 3 6 | 0 4 0 | 0 4 6 |
| 1 Pair of Fish Carvers | 1 4 0 | 1 7 6 | 1 10 0 | 1 12 0 |
| 1 Butter Knife | 0 2 6 | 0 5 6 | 0 6 6 | 0 7 0 |
| 1 Soup Ladle | 0 10 0 | 0 17 6 | 0 17 0 | 1 0 0 |
| 1 Sugar Sifter | 0 3 3 | 0 4 6 | 0 5 0 | 0 5 6 |
| Total | 9 19 9 | 13 10 2 | 14 19 6 | 16 4 0 |

Any article to be had singly at the same prices. An oak chest to contain the above, and a relative number of knives, &c., 2*l.* 15*s.* Tea and coffee sets, cruet and liqueur frames, waiters, candlesticks, &c., at proportionate prices. All kinds of re-plating done by the patent process.

WILLIAM S. BURTON'S GENERAL FURNISHING IRONMONGERY CATALOGUE may be had gratis, and free by post. It contains upwards of 400 Illustrations of his illimited Stock of Electro and Sheffield Plate, Nickel Silver and Britannia Metal goods, Dish Covers and Hot-water Dishes, Stoves, Fenders, Marble Chimney-pieces, Kitchen Ranges, Lamps, Gaseliers, Tea Urns and Kettles, Tea Trays, Clocks, Table Cutlery, Baths and Toilet Ware, Turnery, Iron and Brass Bedsteads, Bedding, Bedroom Furniture, &c., with Lists of Prices and Plans of the 16 large Show Rooms at 39, Oxford Street, W.; 1, 1A, 2, and 3, Newman Street, W.; and 4, 5, and 6, Perry's Place, W., London.—Established 1820.

# WEEKS' ONE BOILER SYSTEM.

BY APPOINTMENT.

## JOHN WEEKS & COMPANY,

### KING'S ROAD, CHELSEA, S.W.,

CHALLENGE THE WORLD to produce a Boiler not made in imitation of their Upright Tubular Boiler that will produce anything like the same effect with the same quantity of fuel in a given time.

The following unequalled statistics fully justify the challenge:—

| Mark the enormous length of Houses and Piping heated by One Boiler. | Length of Houses in feet | Total length of Piping. |
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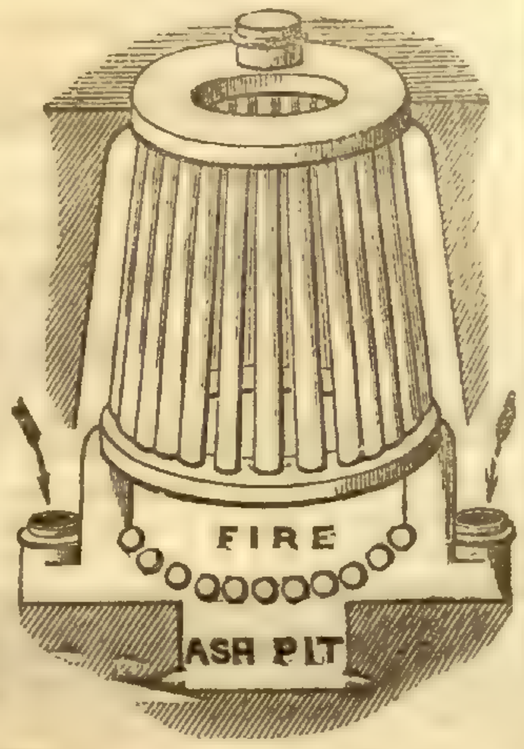
| Messrs. E. G. Henderson & Co., Wellington Nursery | 1,200 | 5,500 |
| Messrs. F. A. Smith, Dulwich ... ... ... ... | 3,000 | 11,000 |
| M. Van Houtte, Belgium ... ... ... ... ... | 3,300 | 13,000 |
| *Our own Fruit Forcing Show Establishment* ... | 1,000 | 7,000 |




Also the Nurseries of Mr. Woodroffe, Harrow Road, N.W.; Messrs. Rollisson, Tooting, S.; Messrs. Wood & Ingram, Huntingdon; Messrs. Wood & Son, Maresfield; together with numerous Public Buildings and Establishments of the Nobility and Gentry far too numerous for insertion.

**J. WEEKS & CO., Horticultural Builders and Hot-Water Apparatus Manufacturers, King's Road, Chelsea, S.W.**

PLANS AND ESTIMATES FREE ON APPLICATION.

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## COTTAM & COMPY., Engineers, Founders, &c.,

2, WINSLEY STREET, LONDON, W.

### A SHOW ROOM DEVOTED ENTIRELY TO ARTICLES OF HORTICULTURE.

THE NEW ILLUSTRATED CATALOGUE UPON APPLICATION.

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| Conservatories | Mowing Machines | Hand-glass Frames | Garden Engines | Flower Sticks |
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**Iron Hurdles, Strained Wire Fencing, Game Netting, &c.**

*Every description of Plain, Ornamental, Cast and Wrought Iron, and Wire Work.*

**EXHIBITION PRIZE MEDAL GATES AND ENAMELLED MANGERS.**

N.B. COTTAM AND COY. beg to make it known that there is no longer an entrance to their establishment from Oxford Street, but that they have made a second entrance from 2, Winsley Street, Oxford Street, W., by the side of the old entrance to their works, opposite the Pantheon.

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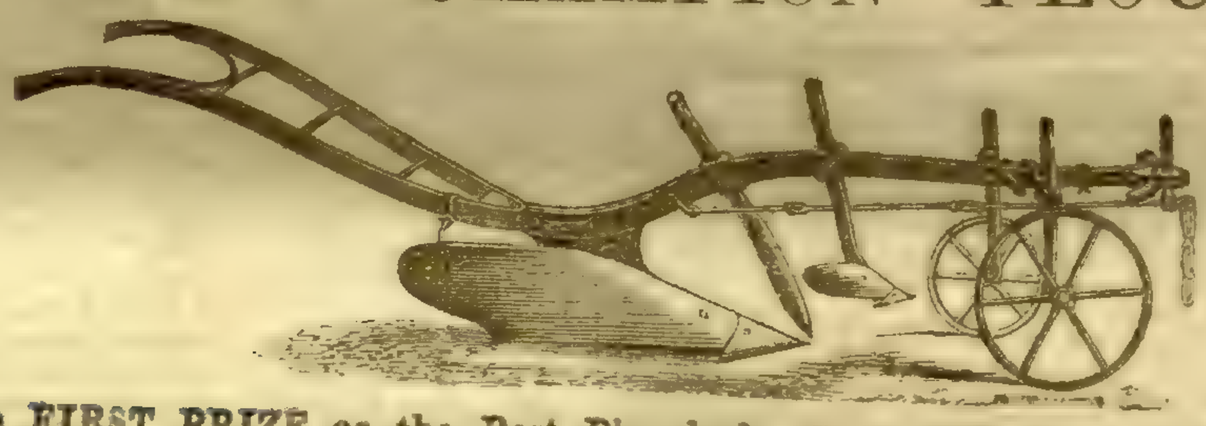
### THE PLOUGH TRIALS AT WARWICK.

# HOWARD'S CHAMPION PLOUGH



**Gained the FIRST PRIZE as the Best Plough for General Purposes at Warwick,**

BEING the CHIEF PRIZE for PLOUGHS, awarded by the Royal Agricultural Society of England, at this Meeting. The importance of this Prize will be gathered from the fact that the GENERAL PURPOSE PLOUGHS are the only ones tried on BOTH LIGHT AND HEAVY LAND, and as HOWARD'S CHAMPION PLOUGH proved itself to be the best on both soils, the FIRST PRIZE, of the HIGHEST AMOUNT given by the Society for any kind of Plough, was awarded to J. & F. HOWARD.

PRIZES awarded to J. & F. HOWARD, by the Royal Agricultural Society of England, at the WARWICK MEETING, 1859, being not only the LARGEST NUMBER of PRIZES, but the LARGEST NUMBER of FIRST PRIZES awarded to any Exhibitor.

THE FIRST PRIZE FOR THE BEST PLOUGH FOR GENERAL PURPOSES, ALSO A PRIZE FOR THE BEST PLOUGH FOR LIGHT LAND, AND A PRIZE FOR THE BEST PLOUGH FOR HEAVY LAND; THE FIRST PRIZE FOR THE BEST LIGHT HARROWS, THE SECOND PRIZE ALSO FOR THE BEST LIGHT HARROWS, AND THE FIRST PRIZE FOR THE BEST HEAVY HARROWS.

**Every one of HOWARD'S Implements, tried at Warwick, gained a Prize.**

CATALOGUES, with full particulars, sent post free on application to

**J. & F. HOWARD, BRITANNIA IRON WORKS, BEDFORD.**

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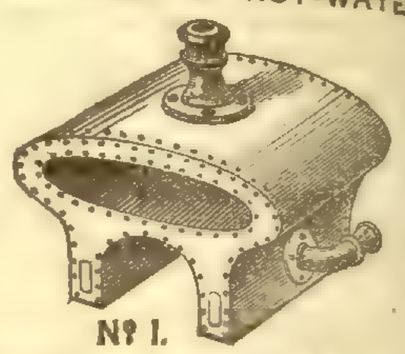
IMPROVED HOT-WATER APPARATUS.




T. SCOTT (formerly in the employ of Messrs. John Penn & Son) manufactures and fits up complete Apparatus for Heating Buildings by Hot Water, also Bath and Kitchen Apparatus of every description.

T. SCOTT manufactures Improved Hot-water Boilers, Stop Valves, Thermometers, &c., and having lately fixed several of the Boilers (No. 1), can confidently recommend them as particularly adapted for Heating Churches, Chapels, Schools, extensive Ranges of Foreing Houses, &c., efficiently, and with great economy of fuel; also the PORTABLE BOILER (No. 2, ...), requiring no brickwork, for Small Conservatories, Pits, Stoves, &c.

Estimates, references, &c., on application to THOMAS SCOTT, Blackheath Road, Greenwich, S.E.

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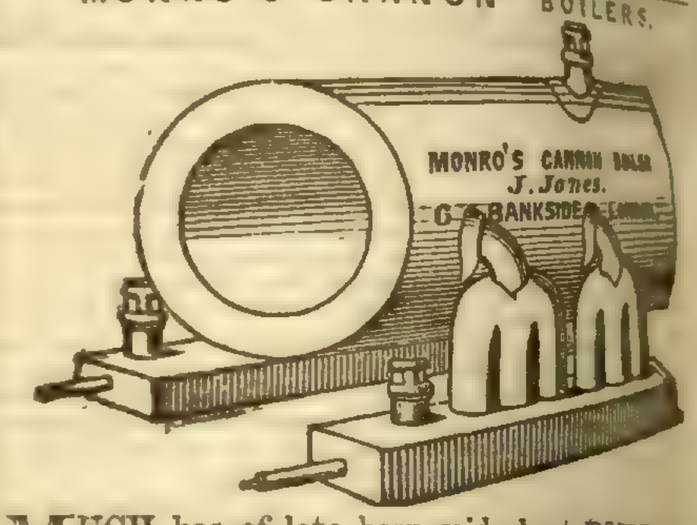
MONRO'S CANNON BOILERS.




MUCH has of late been said about BOILERS for Heating by Hot Water, but these Boilers have now proved themselves to be the best at present invented. They are adapted for heating every description of building, and are made of various sizes. The Price of the

| | | | |
|---|---|---|---|
| 24-inch Cast Iron is | .. | .. | .. £5 10s 0d. each |
| 24-inch Wrought ditto | .. | .. | .. 6 10 0 ,, |
| 36-inch Cast ditto .. | .. | .. | .. 8 0 0 ,, |
| 36-inch Wrought ditto | .. | .. | .. 8 10 0 ,, |

References to Gentlemen and Nurserymen where these Boilers are now at work. The Cannon Boilers are now kept in stock, and are to be had only of J. JONES, 6, Bankside. As every description of Saddle and Cylinder Boilers. Hot Water Pipes and Connections at prices lower than those of any other house in London. Estimates for Hot-water Apparatus erected complete in any part of the country, and an Illustrated Catalogue on application to J. JONES, 6, Bankside, Southwark, London, S.E.

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IMPROVEMENTS IN HEATING, &c.

MUSGRAVE'S PATENT SLOW-COMBUSTION STOVE, for Warming Public Buildings, Hall, Shops, Conservatories, Factories, Drying Rooms, &c. Will burn in Churches from Saturday till Sunday evening, avoiding attention during the hours of worship. In Halls will burn day and night for weeks, with little care. Capable of warming a large apartment for 24 hours, at a cost of 3d.; and deserving of special attention, because of its safety, healthfulness, durability, and extreme simplicity. This Stove is the nearest approach to warming by hot water.

MUSGRAVE'S PATENT STABLE FITTINGS AND HARMLESS LOOSE BOXES have obtained the award of a large Council Medal from the R. I. A. Society for the following improvements:—1st, The Horse cannot injure himself or others in the same stable if he breaks loose in his stall. 2d, He cannot waste his hay. 3d, He can have cut or uncut hay at pleasure. 4th, He has clean water always before him. 5th, A pure and wholesome atmosphere is secured. 6th, The whole fittings are stronger than usual, without increase in price, and there is no risk of infection.

The Loose Box is really what its name denotes, and the most spirited Horse may be turned into it without danger.

MUSGRAVE'S PATENT IRON COW-HOUSE FITTINGS, as approved by the Board of Works, adopted in the Ulster Model Farm, and by many of the most eminent Stock Breeders in the Kingdom, are made wholly of iron, very durable, cleanly, and attractive in appearance. The fodder is always fresh, being freely exposed to the air, removed from the breath of the animal, and separated from the roots damp food. The range of Troughs can be quickly filled with water for the use of the Cows, or for washing out in case of epidemic, and the cost is very moderate.

These inventions being distinguished for strength, simplicity, and practical usefulness will repay public inquiry.

MUSGRAVE BROTHERS are also Makers of Wire Fencing, Hurdles, Field and Entrance Gates, Corn Rick Stands, Conservatories, Hot-water Apparatus, Verandahs, Rural Bridges, &c., and their works being favourably placed for cheap labour and materials, they can offer corresponding advantages in price.

MUSGRAVE'S Patent Field Gates have gained the 1st Prize from the R. I. A. Society for strength, durability, and cheapness.

For particulars address MUSGRAVE BROTHERS, Ann Street Iron Wofks, Belfast.

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SHAW'S TIFFANY is universally acknowledged to be the best, neatest, and cheapest material for shading Conservatories, and other Hothouses. Effectually securing Plants from the scorching rays of the sun, without obscuring the light. Also, for protecting the Bloom of Wall Trees from spring frosts, and Fruit from birds and wasps. Sold in pieces

No. 1.—20 yards long, by 38 inches wide, 5s. per piece.

No. 3.—Double strength, 18 yards long, by 29 inches wide, 7s. 6d. per piece.

No. 4.—Treble strength, 18 yards long, by 39 inches wide, 9s. per piece.

A liberal allowance to the Trade when ten or more Pieces are taken.—JOHN SHAW & Co., Princess Street, Manchester.

# JAMES CARTER & CO.

BEG LEAVE TO OFFER THE FOLLOWING

## NEW LARGE-FLOWERED PINKS FROM JAPAN:—

**DIANTHUS CHINENSIS HEDDEWIGII, 1s. and 2s. 6d. per packet.**

**DIANTHUS CHINENSIS MONSTROSUS, 1s. and 2s. 6d. per packet.**

*Seeds sown during September and October in pans, and afterwards pricked out in 48-pots and kept in Greenhouse during the winter, will flower early in the summer.*

☞ PRICE TO THE TRADE UPON APPLICATION.

GUERNSEY LILIES, per dozen .. .. .. 5s. 0d. | BELLADONNA LILIES, per dozen .. .. 5s. 0d.

### BULBS FOR FORCING.

| | | | |
|---|---|---|---|
| HYACINTHS, best named vars. | Per doz.—6s., 8s., 10s. 12s 0d. | JONQUILS, single, sweet-scented .. | .. Per doz.—1s 6d |
| POLYANTHUS NARCISSUS | 8 best sorts, 1 root each 2 6 | DUC VAN THOL TULIPS, single .. | .. ,, 0 9 |
| JONQUILS, largest double .. .. | .. Per doz. 2 0 | ,, ,, double .. | ,, ,, 0 6 |

### BULBS FOR OPEN BORDERS.

HYACINTHS, Single or Double, from named varieties, suitable for forming large masses of colours in beds.

| | | | |
|---|---|---|---|
| Crimson .. .. .. .. .. | Per doz.—4s. 0d. | Dark blue .. .. .. .. .. | Per doz.—4s. 0d. |
| Pink .. .. .. .. .. | ,, 4 0 | Light blue .. .. .. .. .. | ,, 4 0 |
| Purple .. .. .. .. .. | ,, 4 0 | Pure white .. .. .. .. | ,, 4 0 |

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THE VARIEGATED FERN

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BRITISH POMOLOGICAL SOCIETY.—NOTICE.—The next Meeting will be held on THURSDAY, September 22, when the following Premiums are offered for Fruit exhibited according to the Society's regulations:—

Two Guineas, One Guinea, and Half a Guinea, for Collections of GRAPES, in dishes of one bunch of each variety. It is desired in this exhibition to bring under one view, for comparison and classification, as many varieties as possible; therefore it is not necessary that they be all grown by the exhibitor.

The following must be exhibited by the growers:—

One Guinea and Half a Guinea for the best and second best dishes of six SECKEL PEARS.

One Guinea and Half a Guinea for the best and second best dish of six DESSERT PEARS of any other kinds in season.

One Guinea and Half a Guinea for the best and second best dish of six DESSERT APPLES of any kinds in season.

One Guinea and Half a Guinea for the best and second best Culinary varieties of APPLE, fit for present use, exhibited in tens.

At the following Meeting to be held on THURSDAY, Oct. 6, Premiums are offered as follows:—

Two Guineas for the best Late Seedling APRICOT.

Two Guineas for the best Late Seedling PEACH.

Two Guineas for the best Late Seedling NECTARINE.

The following must be exhibited by the growers:—

One Guinea and Half a Guinea for the best and second best dishes of six MARIE LOUISE PEAR.

Similar premiums are also offered for fruit in season of other kinds of Dessert Pears, and for Dessert and Culinary Apples, in the same manner as at the meeting of September 22.

Copies of rules, regulations for exhibitors, forms to be filled up, or other information, may be obtained of

Mr. W. DAVIDSON, Secretary *pro tem*

2, Randolph Road, Maida Hill, London, W.

MR. EDWARD MILNER having constructed and laid out the Crystal Palace Gardens and Park, Sydenham, under the direction of Sir Joseph Paxton, and having managed them for the Company till last Midsummer (when owing to the pressure of other professional duties he engagement terminated), **desires to express his acknowledgments to those Noblemen and Gentlemen who have honoured him with their patronage, and to state that he continues to undertake the execution of works of a similar character.**

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# The Gardeners' Chronicle.

*SATURDAY, SEPTEMBER 17, 1859.*


MEETINGS FOR THE ENSUING WEEK.

TUESDAY, Sept. 20 { Horticultural (Fruit Committee at the Garden, Chiswick) .. 2 P.M.

"THE following important fact in connection with MILDEW is worthy of notice. Of three Apricot trees growing against the same wall, and every way alike circumstanced, two are nearly divested of their leaves by mildew, but the third is perfectly green and healthy. This last received the following treatment:—Early in the season a trench was cut lengthwise along the border as far as the branches extended about 3 feet out from the trunk of the tree and down to the roots, or as deep as the latter would permit it to be cut without injuring them. This trench was well supplied with water all through the season, so as to thoroughly moisten the subsoil, and the result has been as has

just been stated. This tree has remained healthy while the others have suffered severely from mildew. Drought, therefore, is clearly the cause of the evil in this instance, for no mere surface watering could possibly reach the subsoil under the trees which have suffered; on the contrary, it has been ascertained that all below them is as dry as bone, and so hard that it would take a pick to break the soil in pieces."

We reproduce this statement respecting an experiment tried by Mr. THOMPSON in the Garden of the Horticultural Society, because of its great importance. Never was mildew with its attendant evils more mischievous than during the present season; first of all fruit trees, Roses, and similar plants were attacked by incredible numbers of aphides and grubs, which could only be subdued by incessant attention; and now their leaves and very branches are becoming hoary with the common white mildew of autumn. Both these affections are probably referable to the same cause; a want of vigour sufficient to enable trees to resist such attacks or to outgrow their consequences. This, at least, is the inference to be drawn from the experiment before us. All round London that part of the soil in which the roots of trees extend has been in a state of dryness quite unprecedented. Rainfall is enormously in arrear; no snow has fallen in sufficient quantities to saturate the ground when thawed; and what rain does fall is largely and rapidly drained away in consequence of the inability of the hardened soil to absorb it. When ground is opened deeper than a few inches it is found to be beyond the action of the spade. The earth which is loosening round the roots of trees preparing for removal in another year must be broken up by pickaxes, even in worked garden ground. The inevitable effect of this is to deprive trees of their needful food; for water is that food; and it is unnecessary to say that when food is withheld plants become feeble and exhausted as well as animals.

This is no new doctrine, although very little thought of.

The late Mr. ANDREW KNIGHT long ago stated that the causes of common white mildew appeared to him to be the want of a sufficient supply of moisture from the soil at the same time attended with excess of humidity in the air, especially where plants are exposed to a temperature below that to which they have been accustomed. When damp and cold weather in July succeeds that which has been warm and bright, without the intervention of sufficient rain to moisten the ground to some depth, the Wheat crop is generally much injured by mildew. He suspected that, in such cases, an injurious absorption of moisture by the leaves and stems took place. Under such circumstances much water would be absorbed by leaves and carried downwards through their alburnum; although the sap rises through this substance under other circumstances. He thought that in this way a retrograde motion of the fluids might be produced, and the ascent of the true sap or organisable matter so retarded as to become the food of parasitical Fungi, rendering them unusually luxuriant and injurious.

This view of the subject, whether true or false, led him to the following method of cultivating the Pea late in the autumn, by which his table was always as abundantly supplied during the months of September and October as in June and July; and his plants were very nearly as free from mildew. "The ground," he said, "is dug in the usual way, and the spaces which will be occupied by the future rows are well soaked with water. The mould upon each side is then collected, so as to form ridges 7 or 8 inches above the previous level of the ground, and these are well watered; after which the seeds are sowed, in single rows, along the tops of the ridges. The plants very soon appear above the soil, and grow with much vigour, owing to the great depth of the soil, and abundant moisture. Water is given rather profusely once in every week or nine days, even if the weather proves showery; but if the ground be thoroughly drenched with water by the autumnal rains, no further trouble is necessary. Under this mode of management the plants will remain perfectly green and luxuriant till their blossoms and young seed vessels are destroyed by frost; and their produce will retain its proper flavour, which is always taken away by mildew."

By adopting this plan he rarely failed in having his table well supplied till the end of October, unless indeed a severe frost in the beginning of that month proved fatal to his later crops.

Mr. KNIGHT's long experience led him to the opinion that the mildew of the Peach and other fruit trees originates in the same causes as the mildew of the Pea, and might be prevented by similar means. When the roots, which penetrate most deeply into the soil, and are consequently best adapted to supply the tree with moisture in the summer, are destroyed by a noxious subsoil, or by excess of moisture during the winter, he often observed the mildew to become a formidable enemy. When, on the contrary, a deep and fertile dry loam permitted the roots to extend to their proper depth, and where the situation was not so low as to be much infested with fogs, he found little of the disease: and in a forcing-house he found it equally easy, by appropriate management, to introduce or prevent the appearance of it. When he kept the mould very dry, and the air in the house damp and unchanged, the plants soon became mildewed; but when the mould had been regularly and rather abundantly watered, not a vestige of the disease appeared.

These are great practical truths, whatever may be the true value of the explanations that have been given of them. They prove to demonstration in what way the common white autumn mildew may be prevented, or at least mitigated. It must not, however, be supposed that the Vine mildew and the Potato blight will yield to the same remedial measures.

One thing, however, must be remembered by those who carry out the experiment standing at the head of this article. The water employed must be of the same temperature or nearly so as that of the roots. In the spring the heat of the water of wells and that of the soil are much the same, and therefore any water may be used to soak the ground; but as the season advances the temperature of the soil is much higher than that of wells, and then it becomes necessary to draw water from ditches, or ponds, or tanks. Cold water in July and August will do more harm to roots than the absence of water.

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A NEW KIND OF MANURE is coming into the market which seems to deserve the serious attention of gardeners. It consists of *wool-combers' dressings*, and is so favourably spoken of by Mr. Scott of Crouch End, Hornsey, an experienced and trustworthy amateur, that we are induced to give his letter on the subject as prominent a place as we can find.

"Mr. J. SMITH, the gentleman who recently forwarded you a sack of manure, the combings or dressings of wool, has forwarded me your letter requesting to be informed the quantity required per rod of ground. I have made no exact experiment, but should say that a third of a cwt. would be ample. Whilst writing on the subject I may as well state that my experience of this stuff, either as a manure mixed with the ordinary compost for the growth of Vines, the borders being either in or out of the Vinery and in pots, is most satisfactory. Its use as a manure is twofold: firstly, as a manure; and secondly, and by far the most important, it is a most excellent mulching material—being a non-conductor, it keeps the warmth within the border, and prevents to a *very* considerable extent the evaporation which it is almost impossible to prevent in other materials used also as manures. I have this summer top-dressed all my Vines in pots with the exception of a few omitted by way of experiment, and the contrast in favour of those mulched was most marked—the effect of the mulching being to keep the entire soil in the pot warm and moist, and to encourage to an incredible extent the growth of rootlets on the surface of the mould, the roots forcing themselves up into the shoddy, and having the appearance of bristles, so thick and compact were the roots under the surface of the stuff. In a Vinery of 60 feet, the Vines of which are planted inside the house, I have hitherto found a difficulty in getting the borders into a sufficiently moist state; I now find no difficulty by giving them a good dressing of this stuff, 3 inches deep, water being required only once, where, without the material, I should have had to have watered at least three or four times. It is also very serviceable in the growth of Scarlet Runners, and I should say any kind of crop where the roots are of a fibrous character and keep close at home. My own experience however goes no further than its application to Vines. I have however no hesitation in believing that it would be equally applicable to fruit trees in pots generally."

We have no personal experience of the action of this substance, which we understand may be had for about 4*l.* a ton; but a sample sack that we have lately received from Messrs. HAYTER & Co., of Bromley-by-Bow, under the name of "Bromley Stercus," leads us to think that the action of woolcombers' refuse must be advantageous, and that it will probably act in the same way as woollen rags, so largely and advantageously employed in our Hop gardens. Similar substances, such as horn, hair, shavings of horn, have peculiar value, not only because of their richness in nitrogen, amounting to as much as 17 per cent. on an average, but because they decompose slowly, and thus maintain land in a permanent state of fertility. Moreover they keep the soil open, and this makes them preferable to blood. We conceive that this new manure may be particularly useful as a mulching in autumn, to be forked into the ground in spring.

## New Plants.

226. MYOSOTIDIUM NOBILE, *Hooker, Bot. Mag., t.* 5137.

"This very lovely Boragineous plant, which cannot fail to call to mind the favourite Forget-Me-Not of Europe, is an inhabitant of Chatham Islands, off New Zealand, S. lat. 44°, whence it was introduced to Europe through the medium of Mr. Watson, of St. Alban's, by whom a living flowering plant was exhibited at a meeting of the Horticultural Society of London, in March, 1858, and attracted much attention. With the inflorescence of a Myosotis, it has a fruit which, in the state of ovary, induced Dr. Hooker to refer the plant to Cynoglossum: but the fruit is quite different from the characters of both, approaching Omphalodes in the winged achenia or nuts, yet differing in the nature of that wing, not being in any way introflexed, nor are the nuts attached to the style, as in that genus. Its foliage is quite unlike any species of those genera, and we think it may justly be considered a new genus, ranking very near the Forget-Me-Nots. The whole stock of this choice plant is (we believe) in the possession of Mr. Standish, who sent the plant here figured to us in April, 1859.

"*Descr.*—Root perennial. Stem herbaceous, a foot or a foot and a half high, stout, succulent, terete, simple, leafy, glabrous below, pubescent above. Root-leaves numerous, very large (as large as a small Cabbage, *J. D. H.*), cordate, very obtuse and even retuse, quite glabrous, succulent, glossy, parallelo-venose, on very long thick petioles, which are grooved on the upper side, sometimes tinged with purple: upper leaves gradually smaller, at length sessile and obovato-spathulate. Corymb terminal, large, 4 inches across, compound, leafless. Calyx deeply cut into five, oblong lobes, hispid on the outside. Corolla with a short tube and large spreading limb, more than half an inch across, of five rounded lobes, of a blue colour, gradually becoming paler and almost white towards the margin, the disc with a dark-purple ray. Five yellow glandular scales (as in Myosotis, &c.) close the mouth of the tube. Stamens included, on very short filaments, arising from near the mouth of the tube. Ovary 4-lobed, depressed and quite flattened at the top. Style very short. Stigma two-lobed. Fruit of four, dorsally-compressed, nearly erect, sub-cordate, broadly-winged nuts or achenia, attached to a quadrangular receptacle, which is terminated by the short remains of the style. Seed ovate, acuminate, laterally attached."

This is the handsome perennial provisionally named *Cynoglossum nobile* by Dr. Hooker in our last year's volume, p. 240. It is quite deserving all the encomiums that have been passed upon it.

## GOODWOOD.

FOUR miles north-east of the city of Chichester, and on the southern slopes of the South Downs, is situated the princely demesne of Goodwood, containing as it does the beautiful classic structure, one of the principal residences of his Grace the Duke of Richmond. The road is over a flat and fertile country, highly cultivated, and yielding crops of no ordinary character, from which some delightful peeps are obtained of the noble mansion—its domes and parapets peering over the magnificent trees in which it is so gorgeously embosomed.

The park comprises an area of 2300 acres of a highly varied character, the background extending over the top of the Downs—a chain of hills which skirts the south coast of Sussex—the mean altitude of which, according to "Mantell" is 500 feet above the level of the sea; they are covered with a beautiful description of turf, composed of the finer Grasses, and for which the mountain masses of the chalk formation are so remarkable. It is magnificently wooded. The summits of some of the hills are well clothed with native Beech and Oaks; that on the eastern side is admirably covered with excellent specimens of Scotch Fir, which at this period of the season wear a decidedly glaucous and silvery hue, and are at all times exceedingly interesting by reason of the striking contrast they present to the large masses of deciduous native wood. The foreground is admirably broken into groups and masses of remarkably fine trees; many of the former are bordered with evergreen Oaks, which here form famous nursing trees and thrive remarkably well. The hoary under-surface of its beautiful leaves, too, contrasts admirably with the varied foliage of the other trees, producing a kind of neutral tint, which has a very pleasing effect. There are also many exquisite specimens of single trees distributed in commanding positions through the park, among which may be named in particular some enormous forms of Cedars of Lebanon, of the history of which Peter Collinson has left the following MSS. memorandum in his copy of "Miller's Dictionary."

"I paid John Clarke (a butcher, at Barnes, who was

very successful in raising Cedars and other exotics) for 1000 Cedars of Lebanon, June 8, 1761, 79*l.* 6*s.* in behalf of the Duke of Richmond. These 1000 Cedars were planted at five years old, in my 67th year, in March and April, 1761. I was at Goodwood in September, 1761, and saw these Cedars in a thriving state. This day, October 20, 1762, I paid Mr. Clarke for another large portion of Cedars for the Duke of Richmond. The Duke's father was a great planter, but the young duke much exceeds him, for he intends to clothe all the naked lofty hills above him with evergreen woods; great portions are already planted, and he annually raises for that purpose infinite numbers of Pines, Firs, and Cedars." (*MSS. notes communicated by Mr. Lambert to the Linn. Soc. Transactions*, vol x., p. 275.)

There is also a MSS. memorandum on the title-page of Miller's "Gardeners' Dictionary," in the library at Goodwood, to nearly the same effect, but adding the *locale* in the park and grounds where the trees were planted, and which was also probably inserted by Collinson's own hand. It is also recorded by Loudon in the "Arboretum et Fruticetum Britannicum," vol. iv., p. 2414, "Of the Cedars at Goodwood, the present Duke of Richmond informed us, in 1837, that 139 remain." Of these there are now some noble examples, and from the above record it would appear that they were raised from seeds 103 years, and planted in their present position 98 years since. In a low part of the park and near one of the carriage drives there are three beautiful specimens of somewhat formidable dimensions; one which had apparently lost its leader at the height of 5 feet, and from which have proceeded 80 other leaders; the whole is of a pyramidal character and forms as it were a clump of itself; it girths 24 feet and covers an area of 315 feet in circumference; it is named the sheep-shearing tree from the circumstance of the Duke's prize sheep being annually shorn under the ample shade of its magnificent branches. Another noble example girths 26 feet, and covers an area of 324 feet in circumference. The third is a singularly beautiful specimen, of a glaucous and silvery hue, contrasting admirably with the dense and deep green foliage of its noble compeers, in close proximity; it girths 22 feet, and covers with its spreading branches and massive foliage an area of 300 feet in circumference! Many other splendid examples of these magnificent trees are scattered about the park and pleasure ground, producing with their dark and densely covered horizontal forms a very decided and exquisite contrast to the vast masses and groups of noble trees with which this noble park and grounds are so richly adorned. Of late years many Deodars have also been planted in prepared ground on well-chosen spots, where they are sheltered and protected by fencing and nurse plantations; they are thriving well, and will soon wear an air of grandeur; their upright and weeping forms, densely covered with foliage of a pale green colour, will present a very striking contrast to the other trees, whether of a deciduous or evergreen character. On the left of the principal approach road, and immediately in front of the mansion, there is an admirable group of Cork trees, nearly 40 feet in height, the largest of which girths 10 ft. 6 inches, and the diameter of the space covered with its branches is 60 feet, thus rivalling in size the celebrated Cork trees of Spain. One of these trees had been earthed up the trunk some 3 or more feet on the formation of the road; it however got into ill health. The ground has since been removed from the bole, and the tree stands as it were in a well; the foliage again assuming the same healthy colour and appearance as the other trees. It is an interesting group, the dark green luxuriant foliage contrasting finely with the frosted fungous character of the swellings and rifts of the deeply furrowed rind.

The principal approach is that from Chichester, which enters the park on the south side by a simple gate and neat lodge, the latter constructed of dressed flints. This has a very clean appearance, set off as it is by the profuse way in which all about is gaily decorated with beautiful flowering plants. There are two other approaches from the eastern and western sides respectively, the gates and lodges of which are of the same useful and enlivened character as the other. The roads are broad and well directed; they unite immediately in front of the mansion at the southern and entrance point; the eastern approach is bordered on the right hand, a considerable length of its course, by a line of thriving Lime trees; and on the other by a wood which screens the northern side of the kitchen garden. From this approach an exquisite view is obtained, not only of the park itself and its highly varied surface, tastefully adorned as it is with gorgeous masses and noble forms of stately trees; but also of the whole frontage of the magnificent mansion, which is situated in the very lowest position in the park, in front of which there is a wide expanse of beautiful turf, which since I last saw it had been very much improved. I have seen the Duke of Richmond, with his distinguished visitors on a "Goodwood morning," inspecting his inimitable flock of Southdown ewes on this noble lawn, and that too with the dried Bents reaching nearly to their knees. A better management has since obtained, and under the direction of Mr. Clark, the present bailiff, the whole is now mown, an operation which not only produces a more dressed and suitable appearance, but also improves the quality of the pasture. From the entrance point the road winds across the open space, and bearing to the left is led by an easy ascent towards the summit of the Downs, at a considerable elevation. On the left hand side is situated the pheasantry, a relinquished chalk pit which had been formed on the side of the hill; it is of considerable dimensions, and is now enclosed by lofty flint walls. In the lowest part of the chalk excavation a pond has been formed, which is well stocked with gold and silver fish; the remaining portion has been turfed, and walks are led towards the summit, which is crowned with a noble specimen of Lebanon Cedar; the internal walls are well screened with evergreen shrubs, and the whole is interspersed with numerous examples of fine trees. At the northern end is the keeper's house, a very pretty building, and in an open space a little to the left is a long aviary, in which are numerous specimens of foreign birds remarkable for gay plumage, whilst white and green peafowl, gold and silver pheasants, with other glittering species, range or congregate at will, and give animation to this enchanting spot. A little further up the ascent, and near the top of the hill, is situated a very striking belvidere, locally known as "Cairney's seat," in the classic style of Venetian Italian architecture; it is built of Portland stone, and has an open portico or colonnade in front, and a banqueting room of considerable size on the second floor; it stands on a broad Grass terrace enclosed by a sunken wall. By the special kindness of the Duke of Richmond this beautiful building is placed at the disposal of the public, and is much resorted to by pleasure parties. From this spot a very extensive view of the coast of Sussex, as well as a portion of that of Hampshire, is obtained—a glorious panorama in a delicious climate—the vast intervening highly cultivated and well wooded plain beneath being studded on either side with towns, villages, substantial homesteads, and cheerful cottages with well-cultivated gardens; these latter nestle almost in every nook as well as along the line of every bay. In the centre the pointed spire of Chichester Cathedral rises up majestically over all, a noble object in this lovely scene. On the distant right lie the well-clothed islands of Hayling and Thorney, in their irregular and beautifully fringed outlines, severed as it were from the mainland by strips of ocean, brilliant by the reflection of the southern sun; beyond these the bare headlands of the Isle of Wight towering above the tide form the harmonising boundary. Looking onwards to the far east the whole is encircled by the blue waters of the English Channel, softening into sky, and lost in the horizon.

"And there the stately vessels come and go,
Spangling the waves, and spreading wings of snow."

Within this inclosure there is a shell grotto of architectural design and admirable workmanship; its length including an alcove or recess is 15 feet 6 inches, its breadth is 10 feet 6 inches, and the height to the top of the coved ceiling is nearly 11 feet. The lines of its cornices and plinths, as well as those of the pilasters, arches, and niches are of a purely Grecian character; the whole is covered with myriads of shells, of various colours and sizes, and all is arranged so as to preserve intact not only the severe geometric lines, but also to form panels of colouring on the walls, from which vases, wreaths, and cornucopias of flowers project—exquisitely formed of the same beautiful material, and conferring a certain degree of taste and finish on the whole apartment. The niches are filled with mirrors, and the floor is composed of black and white marble with panelling of horses' teeth. The whole was executed previously to the year 1750 by the delicate hands of Sarah the second Duchess of Richmond and those of her two daughters, exhibiting a degree of patient skill and untiring industry altogether unequalled, and one sees with regret the inroads that the silent hand of Time has already worked on this unique and superbly finished structure. From here the road ascends somewhat more rapidly, and is clothed on either side with masses of native wood until it reaches the top of another hill on which is situated the unrivalled racecourse, the embankments and levellings of which over the summit of these Downs have been formed at an enormous expense. The turf is of the most beautiful kind, and is kept in the most perfect order. The grand stand was built for the present Duke of Richmond about the year 1830, and is a very beautiful and appropriate erection capable of containing 3000 spectators; it is situated on an elevated and enclosed turfed terrace; it is 120 feet long, 70 feet wide, and 50 feet high. The refreshment rooms and offices are on the lower floor; a beautiful Doric colonnade adorns the front and ends of the building, and the principal floor as well as the roof are formed of a series of raised benches, from which without the least obstruction the most perfect view of the whole course is obtained. Near here is St. Roche's Hill, a conical Down, the summit of which is some 700 feet above the level of the sea, and is surmounted by a large circular encampment of unknown date. It has a deep fosse, with an inner and outer vallum, raised to the height of several feet, and inclosing an area of something like 5 acres in extent. There are also numerous barrows or tumuli to be met with on the range of these Downs, as well as the remains of an ancient British village, the pits and excavations of which had at a former period, when covered with turves or branches of trees, afforded shelter and habitation to some primitive race.

The mansion stands in a position altogether unmarked, and, as already noted, in almost the lowest situation in the park—a dead level. It is a noble pile erected at various periods, and in different forms of the classic style. It forms four sides of an irregular hexagon, the angles of the three principal fronts being terminated with circular towers, carried up to the height of the roof, and surmounted with hemispherical domes, which has an exceedingly good effect, adding a degree of dignity and elegance to the whole mass. The south or entrance front presents a façade of 160 feet; it has a projecting portico of Doric columns, supporting another of equal number of Ionic of Portland stone, and surmounted by an open balustraded parapet, over which, when in residence, the flag of his Grace the Lord-Lieutenant of the great county of Sussex flutters in the breeze. The other principal fronts extend on either side to a distance of 106 feet each; that on the western side was built by Sir William Chambers for the first Duke of Richmond. It is of Portland stone with a pediment in the centre. The south and eastern fronts were erected from the designs and under the superintendence of Mr. James Wyatt, for the third Duke of Richmond about the year 1800. They are built of squared flints, the corners are without bond of stone or bricks, and the whole being of the very best workmanship, has a very clean and beautiful appearance. The eastern front has a projecting centre surmounted by an open balustraded parapet.

The stables are situated at right angles to the western front, and with other offices unite in the general mass of building. They form a very handsome quadrangular structure, erected from a design of Sir William Chambers, by the third Duke of Richmond, of dressed flints with brick facings. The entrance is on the south side, under a noble pediment, supported on either side by Doric columns of Portland stone. The eastern side is surmounted by a cupola, with clock and sun-dial. These stables are admirably fitted up, and contain sufficient room for 54 horses. Before the windows of the western front of the house there is a very beautiful flower garden—the design of which is copied from the ceiling of the large library. It is well filled with the usual description of bedding plants, and the colours are in excellent contrast with each other. This garden is bounded on the right by the long line of stable buildings and offices, on the left by a lofty Holly hedge from the middle of the tower, the direction being in a straight line from the centre of the hexagon, of which the external walls of the mansion are the figure. The other side is separated from the approach road and the park by a substantial iron fence. The garden of the eastern front is bounded on the north by a range of conservatories, and by a lofty hedge and iron fence as on the western side. This garden is laid out in simple figures of considerable size, with ample Grass space between, and has in addition several raised baskets of different form and character, and all was exceedingly gay with choice flowering plants, and in the very best style of keeping and management.

The interior of the house is admirably arranged and fitted up; it contains an excellent suite of apartments alike noble in their proportions and superbly furnished; exceedingly rich in articles of *virtù* and taste; the walls of many of the rooms, galleries, and corridors are profusely adorned with beautiful paintings by celebrated masters, and many of the subjects are of the greatest historical interest and nature. The entrance is from the Doric portico on the south into a hall of noble proportions, 38 feet in length, 35 feet in width, and 18 feet high; it is divided by six Corinthian columns of Guernsey granite, the shaft of each being 13 feet high and 18 inches in diameter, the plinths being of black and white marble and the capitals of bronze. It contains many busts and other works of art, as well as the colours of the Royal Sussex Light Infantry Militia, of which his Grace is colonel, presented by his late Majesty William IV.; a tri-coloured banner with the inscription "Champ de Mai," taken after the capture of Paris in 1815, and also a banner of the great Gordon Clan with its motto "Animo non Astutia;" its walls are also adorned with many admirable paintings, amongst which are portraits of Robert Bruce and Charles I. and II.

The dining room and drawing room are apparently of the same size, 45 feet in length, 24 feet in width, and 18 feet in height. The walls of the former room are of scagliola, resembling polished Sienna marble and adorned with classical ornaments in bronze; there is an alcove at one end, in which are four busts by Nollekens. The walls of the latter room are hung with amber-coloured silk, striped, the curtains of the three windows, ottomans, sofas, chairs, &c., are of the same beautiful material, and the woodwork and cornices are gilt, producing an effect of a singularly magnificent character. There are four brilliant plate glasses of noble proportions, and two splendid highly polished Sienna marble tables, supported by florid carved work, finely gilt, the whole being replete with articles of great value, alike of interest and taste; conspicuous amongst which, under a glass shade, was an embroidered shirt of Charles I., the collar pointed and open. The room is lighted by two superb chandeliers suspended from the roof, as well as candelabra on the marble tables. The music room is a plain but elegant apartment, the walls of which are closely covered with some of the choicest productions of the old masters. In this room there is also a striking full length portrait of the present Duchess of Richmond, by Sir Thos. Lawrence. The libraries are beautiful rooms; the smallest contains a well selected collection of books, especially rich in volumes of prints, illustrated works, and foreign literature; they are arranged on open shelves, with a light staircase and gallery to obtain access to the books. The large

library is 35 feet long and 25 feet wide; the ceiling formed into compartments, which are filled with paintings by Riley, the subjects being taken from those discovered in the baths of Titus at Rome. A superb lamp is suspended from the ceiling; the walls are of salmon-colour, ornamented with gold medallions in bas-relief; and the drapery to the windows and furniture is composed of the richest silk of the same colour. This library contains 9000 volumes, and the books are arranged in lofty cases, inclosed in front by doors filled with light brass wire-work; the panels of the closet doors beneath them are painted with subjects taken from Sir William Hamilton's vases found in Herculaneum, and executed by the artist who painted the ceiling. These two rooms are also profusely ornamented with articles of taste and historical interest, as well as busts and many family portraits and miniatures. The billiard room is of noble proportions and replete with works of art, among which is the celebrated "Darnley picture." The tapestry drawing room is 35 ft. long and 23 ft. wide, the ceiling with the cornice and moulding are richly carved and gilt; the walls are hung with magnificent Gobelin tapestry, representing four scenes in the history of Don Quixote, admirably executed, and in excellent preservation. In this room under a glass case is a plaster cast by Nollekens from the face of William Pitt, taken a few hours after death. From here there is an excellent view through a vista to the dog kennels, a beautiful stone building, presenting a façade of 148 feet, having a massive centre with wings and connections on either side; the height of the centre portion of the building is 28 feet and that of the wings 18 feet. The duke's study and the duchess's boudoirs are neat rooms, and filled with works of art; the latter is circular, and contains a cabinet of the choicest agates set in gold, and amongst other beautiful pictures with which the walls are adorned there is an admirably executed cabinet-specimen of the present Duke of Richmond.

The supper room is a noble apartment, lighted by ormolu chandeliers from the roof; it is simply yet magnificently fitted up, the drapery of yellow satin, edged with gold, and the cornices are also gilt. The banqueting or ball room is a very magnificent room, and truly grand in its proportions, being 90 feet in length, 30 feet in width, and 25 feet in height; in the centre of the eastern side there is a recess, carried out for several feet, to nearly half its length, in which there are five large windows from which the room is lighted; in the centre of this recess, on an elevated stand, and under a lofty glass shade, is the trophy presented to the Duke of Richmond by the Peninsular veterans, as an acknowledgment of his services in advocating in his place in Parliament their claims to the war medal—a magnificent work of art executed in frosted silver, the subscription to which was restricted to the amount of 1*l.* to the officers, and to that of 1*d.* to the non-commissioned officers and privates. The entablature over the open space thus obtained is supported by four beautiful granite columns, the shaft of each being 13 feet high and 18 inches in diameter, the plinths and tori are of statuary and veined marble, and the Corinthian capitals of white scagliola. Pilasters corresponding with these terminate the walls on either side; they support a highly enriched entablature, which is carried round the room forming the cornice, the mouldings and enrichments of which are superbly gilt; the mouldings of the base of the columns are also continued round the room to form the skirting, and are gilded to correspond with the cornice. The orchestra gallery is at the lower end of the room, the railings in front of which are of a scroll pattern, also richly gilt. Four splendid mirrors adorn the apartment, one over each of the two chimney pieces, which are of statuary marble with Corinthian columns and cornice; another is in the centre of the room on the same side; and the fourth is placed at the upper end between the two doors opening into the drawing-room—a noble plate, with its massive frame nearly 16 feet in height, reaching from the marble step on which it rests to the lower member of the cornice. The drapery is white satin damask edged with gold. The dining table when laid out to its greatest extent for the visitors during the races, is decorated with gold and china vases—the former won at various periods by the duke's horses, the latter filled with choice plants in flower. All this has an exquisite effect, contrasting admirably with masses of crystal and silver with which the whole table is profusely adorned, and producing a scene of wonderful magnificence. The dinner on these occasions is served from the sideboard in the Russian style. Three magnificent ormolu chandeliers, each bearing 12 lamps, are suspended from the ceiling, and when lighted up the effect of the room is said to be exceedingly chaste and brilliant.

A door opens into the adjoining turret room, which is fitted up in a corresponding style, and leads into the conservatories, which extend eastward a distance of 137 feet, being half-span roofed, 14 feet 6 inches in width, and in three divisions; that compartment nearest the house is devoted chiefly to flowering plants or others remarkable for fine form or beautiful foliage, of which the Duchess of Richmond is said to be passionately fond. A row of beautiful china vases occupies the front of this house, and when I saw it in the early part of July, they were filled with excellent specimens of such plants as Dipladenia crassinoda, Croton pictum, Achimenes, sp., Ardisia crenulata, Cattleya Mossiæ, &c., and the stage behind was profusely covered with nice plants of Rhynchospermum, Farfugium, Cloves, Carnations, Pteris, Adiantum, Knight's Brugmansia, and Achimenes, with a host of other graceful plants in beautiful condition. The other two houses are principally devoted to the cultivation of Oranges, Camellias, &c., chiefly growing in the free soil, and in rude health; the back walls were densely covered with Heliotrope, the pillars with Luculia, Jasminum, Fuchsias, Clematis, &c., and baskets of Countess of Ellesmere Petunia, suspended from the roof, had a very good effect. There is a large stock of Azaleas, Camellias, Cytisus, Primula, and other winter-flowering plants, specially cultivated for the decoration of these houses during the winter and spring months. In an inclosed square a little distance behind these conservatories are to be found some very nicely constructed glass erections. An Orchid-house 30 feet in length and 15 feet in width is replete with some very nice specimens in excellent health, and in the early part of July I found many specimens of Aërides, Brassias, Stanhopeas, Oncidiums, Cattleyas, Saccolabiums, &c., finely in flower. A large pit used for forcing purposes in winter, and several ranges of frames and other pits were filled with excellent specimens of Heaths and other hard-wooded plants.

The mansion is well backed by a magnificent wood of *40 acres in extent*, containing many noble examples of highly interesting trees, interspersed along the glades, drives, and avenues by which it is broken. A Turkey Oak, 95 feet in height, 8 feet 6 inches in girth, covering with its spreading branches and beautifully laciniated foliage and prickly fruit an area of 162 feet in circumference, is a splendid specimen. A Tulip tree is 90 feet in height, 8 feet in girth, and covers with its branches an area of 171 feet, densely and beautifully clothed with saddle-shaped leaves. An Evergreen Oak is 45 feet in height, 9 feet in girth, and the spread of its branches is 162 feet; there is also a remarkable growth of American Oaks, nearly 90 feet in height, the largest of which at 4 feet from the ground girths 10 feet; their beautiful broad shining foliage contrasts admirably with other Oaks, and they would no doubt have attained much greater dimensions had they been planted less closely together. An Oriental Plane in an open space in the park is also an object of great beauty; it girths 12 feet at some distance from the ground, and covers with its picturesque spreading branches an area of great extent. The whole of these beautiful trees have been planted 120 years. A number of Magnolia grandiflora, Sassafras, and Service trees were planted 100 years ago; but only one of the former remains, a mere wreck; the last of the Sassafras was destroyed by a storm three years since. A considerable portion of the eastern angle of this wood is fenced by a brick wall, which is covered with Roses and other climbing plants; the outside is screened from the park by beautiful specimens of Evergreen Oak; in the interior are the remains of an orchard, the centre of which is gay with flowers in symmetrically disposed clumps, and the other portion has been planted with ornamental trees, chiefly of an evergreen character. Here Pinus filifolia has attained a height of 26 feet, and is an admirable specimen; its beautiful branches prostrate to the turf. A large healthy plant of Paulownia has flowered here freely for several years past. I also observed in this portion of the ground fine plants of Wellingtonia, Sequoia, Cupressus, Juniperus, &c. A little to the south of this spot there is an opaque roofed Orangery, 65 feet in length and 18 feet in width; a rectangular portion of ground in front being neatly arranged in symmetrical beds and gay with flowers. The Orange trees are also arranged in this garden during the summer months. A little onward to the right, and in an excavation of considerable size, subterranean passages have been formed, and the whole of the hollow surface covered with blocks of stone in confused arrangement, intended to represent the scene of an earthquake, but showing unmistakably how puerile are the efforts of man in imitating the effects and desolations of the great convulsions of nature. On the edge of this excavation there is a small thatched building intended to represent a hermitage, and also the side wall of a chapel or abbey in ruins—a simple abortion, producing no other image on the mind than that of mere stage trick. In this wood are also situated a temple and a few works of art. The outskirt is nicely broken towards the house on a beautiful ogee ground line, and has an admirable effect. At the head of a valley within the park, on the eastern side, is situated Molecomb, a very pretty villa or secondary residence in the classic style, occupied by the Earl of March, the view from which is terminated at a considerable distance by the new buildings of the dairy farm near the eastern entrance.

The kitchen garden, as already noted, is favourably situated on the southern side of the eastern approach road, and at some considerable distance from the mansion. The entrance is by wide doors, on the right of which is the gardener's house, a commodious building, the walls of which are slightly covered with nicely trained flowering plants, amongst which are Myrtles, Roses, Clematis, Golden Jessamine, and Passionflower. It contains 7 acres of excellent land of irregular surface and form, the ground sloping to the middle alike from the south and northern sides; it is surrounded by lofty brick walls tolerably well covered with excellently trained and highly productive trees. The south aspect borders are kept well mulched during summer, an operation from which the very best results are obtained. The garden is well sheltered by plantations on the north and western sides, and is bounded on the east by a noble tennis court, and the stables and loose boxes of the inn at Waterbeach, so well known to the frequenters of Goodwood Races. The walks are broad and firm; they are bordered by lines of dwarf standards and pyramidal fruit trees, alike of Plums, Pears, and Apples in excellent condition, and kept in a fruitful state by frequent removal. Coe's Golden Drop Plums were a heavy crop, and, in this fine climate, usually ripen well. On the eastern side, in front of the tennis court, there was an admirable row of Fig trees laden with fruit. A little distance from the entrance there is an excellent building, containing an office, seed room, Mushroom house, root cellars, and fruit rooms. A little onward is an excellently constructed range of glass in two divisions, each 50 feet long and 16 feet wide, skilfully heated by hot-water pipes—the first house a Vinery, was loaded with an excellent crop of beautifully coloured and well ripened Grapes. In a Peach house the trees of considerable size, planted in March, bore notwithstanding a tolerable crop, and were making short-jointed strong wood. In an enclosed square immediately in front of these houses is the Pine ground, it contains a span-roofed fruiting pit, 40 feet long and 7 feet wide, heated by hot water in brick gutters running round its entire length, with 2-inch return pipes under the beds; it has also the advantage of an external dung lining. This pit contained some remarkable specimens of good cultivation; the plants were growing in large-sized pots. Amongst others I observed a seedling Pine just then ready, which was described as being an excellent sort ripening equally well in the winter or summer months. In appearance it bears a striking resemblance to the Stubton Seedling, described in the Transactions of the Horticultural Society. There are several other ranges of pits, pigeon-holed and heated by dung linings from without and filled with admirable plants, clean and of a robust character. There is also a Cucumber house the same length as the other pits, heated by brick gutters and 2-inch return pipes, which answers exceedingly well. In the lower part of the garden on the right hand side there are two ranges of pits, 150 feet long each and of considerable width. One of these ranges was about to be repaired and remodelled with a span roof and improved heating apparatus. In front of these there are two houses of span-roofed construction—one a Vinery having an excellent crop of well ripened Grapes; the other a Peach house, in which the fruit was then ripening on a tree planted in the latter part of December. It had produced a heavy crop of beautiful fruit, remarkable in being a seedling equal in size and appearance to the best Noblesse. The colour appeared to me to be of a somewhat yellow tinge. These houses also contained several pots of Vines; they were well laden with very good well coloured and ripened fruit. A large open reservoir occupies the centre of the garden, supplied by rain-water from the ample roof of the tennis court.

There are two pieces of ground of some 4 acres in extent, which have of late years been reclaimed from a waste condition, and are now used as a nursery for raising trees and underwood, for supplying deficiencies in this portion of the estate. During the last 24 years I have made frequent visits to this delightful place, and have invariably found the gardens and grounds in the best style of keeping and management, and they have during the greater portion of this lengthened period been under the able superintendence of Mr. Cameron, under whose unwearied exertions they have been much improved, and of late years since the finer fruits and choice pot plants have been grown at Goodwood, he has produced many admirable examples of skill and perseverance. *D.*

## Home Correspondence.

*Tropæolum Lobbianum elegans.*—Your correspondent "W. D." of Bradford, speaking of this Tropæolum, says he believes it to be the true Crystal Palace Nasturtium. I saw it in those grounds last year; it took my fancy much, and I was greatly at a loss how to obtain it. This spring I saw it advertised in your paper at a cheap rate, under the name of Tropæolum elegans, the true Crystal Palace variety. I lost no time in ordering a dozen, which arrived in due time, and truly pleased I am with it, for it well merits a place in every flower garden. Its brilliant flowers are seen at a great distance in mass. "W. D." is quite correct in his observations as to its habit. I may here add that it blooms abundantly with me. *J. Robertson, Holderness.*

*Bowood Muscat Grape.*—I was much disappointed at not seeing this Muscat at the Crystal Palace Show the other day, more especially as so much has been said about its being so superior to any other White Grape grown. One of your correspondents says, at page 736, that it needs no costly structure, and that any one possessing a Vinery of the most ordinary pretensions may grow it with as certain assurance of success as it does the common Hamburgh or Sweetwater, by ordinary attention and the least possible amount of artificial heat. Now, if that had been universally known, surely some growers would have exhibited it in opposition to the Golden Hamburgh. I think from what was seen of the Golden Hamburgh that it cannot fail to become a great favourite. The bunches shown, fine, however, as they were, were not so good as specimens of this Grape I have grown this year; my bunches were not quite so large certainly, but the berries were larger and better coloured. *J. B., Lincolnshire.*

*Tom Thumb Nasturtium.*—In your Number of Sept. 10, "S. H. F." asks whether or not this Nasturtium will come true from seed. As the raiser of it, I beg to say that it will come true from seed, and I believe this to be the only successful way of propagating it. I

require to be sown and how the seed is. The best way is to sow the seed where it is intended it should bloom. I am sorry to have to remark that some that was sold under this name last season was not the true variety. *W. H. Bennett, East House Farm, Dedham.*

*Warmth of the Season.*—We spread some ashes (from a grocer's house) over part of the garden here; the ashes contained seeds of Orange, Citron, Lemon, and Vine, all of which have vegetated in numbers in the open air. *Wincombe, Somerset, Sept. 8.*

*Pampas Grass.*—When a plant of the Pampas Grass develops a host of flowering stems is it advisable to reduce the number, with a view to invigorate those that remain? Can anything be done to accelerate the flowering? *T.* [We do not think there would be any advantage in the first plan; and we do not see how the second object could be attained unless the plant is grown in a greenhouse. Give every plant a barrow of manure in autumn as a mulching.]

*Plumbago Larpenta.*—Some years ago this was stated to be a half-hardy bedding plant, and was cultivated as such, but soon became generally discarded. It may however not be universally known that the plant is perfectly hardy, and that its beauty depends on its being long established in one spot. Two large clumps on rockwork at our nursery have stood for years; they commence flowering early in August, and continue to bloom abundantly till stopped by the winter frosts, presenting a dense mass of beautiful blue, admired by every one who passes. *Stephen Brown, Sudbury, Suffolk*

## Societies.

BRIGHTON HORTICULTURAL.—The sixth annual exhibition of this Society took place in the Pavilion on Wednesday and Thursday last, and although the weather was somewhat unfavourable was well attended. The show itself was in every respect all that could be desired. Collections of flowering plants and of others remarkable for fine foliage were numerous; cut flowers were plentiful, and there was a good display of fruit. The great bulk of the plants was accommodated in the Pavilion itself, but others for which there was not room indoors were staged in tents on the neatly kept lawn which surrounds it.

Fine foliaged Plants were furnished by Messrs. Scougall & Miles of Brighton, Young of Dulwich, and others. Among them were fine specimens of Dracænas, Rhopalas, Palms, Araucarias, Cissus, Caladiums, variegated Hydrangeas, Aspidistra, Marantas, Crotons, Dieffenbachias, Farfugium, variegated Begonias, among which was the handsome B. Rex, Graptophyllum, and others.

Among Miscellaneous Stove and Greenhouse Plants were some well-grown specimens. They were contributed by Messrs. Miles, Parsons, Atkins, Gilbert, and Cameron. They consisted chiefly of Vincas, Rondeletias, Ixora coccinea and aurantiaca, Allamanda Schotti and cathartica, Cyrtoceras reflexum, the handsome Meyenia erecta, with large violet and white Gloxinia-like flowers; Crowea saligna, different varieties of Cape Heath, Clerodendron splendens, Dipladenia crassinoda and splendens, the latter remarkably well flowered; and Begonias.

Cape Heaths were contributed, but not in first-rate condition. The best came from Mr. Rhodes, of Stamford Hill. They consisted of Irbyana, verticillata, retorta major, M'Nabiana, exsurgens, and one of the better varieties of ampullacea. Mr. Young sent large plants of Ewerana, retorta major, M'Nabiana, tricolor rubra, Templeana, and Irbyana.

Orchids were confined to a collection from Mr. Cameron, gr. to the Duke of Richmond at Goodwood. It contained a nice specimen of Cattleya Harrisoniæ, loaded with beautiful lilac and white blossoms; Peristeria elata, Miltonia Clowesii, a good Stanhopea saccata, and Gongora aurea.

Of Fuchsias there were several extremely well-grown collections. That to which the prize was deservedly awarded came from Messrs. Balchin & Nell. They were conical plants about 4 feet in width at the base, and as much in height. The sorts were Queen of Hanover, Souvenir de Chiswick, Fairest of the Fair, Little Bo-Peep, Snowball, and Wonderful. The same firm also furnished a handsome plant of Venus de Medici, which was shown as a single specimen. Mr. Winton sent Fairest of the Fair, Wonderful, Rose of Castile, Tristram Shandy, and V. de Medici. From Mr. Gilbert came Banks's Glory, Venus de Medici, Souvenir de Chiswick, Pearl of England, Autocrat, and Silver Queen. Among other lots were some very tall plants, which being well furnished with bloom produced a fine effect.

Of Begonias there was a fine bank, the only fault of which was that the colours were too much alike. The plants were, however, well grown and beautifully flowered, especially those from Messrs. Scougall, to which a first prize was awarded.

Of Achimenes there were several collections, the best of which came from Mr. Holman. The sorts, which consisted wholly of well-known kinds, were literally masses of flower, and therefore unusually effective.

Gloxinias were also present. The best came from Mr. Miles, in whose group were fine plants of rubra, imperialis, white blotched with blue; Marie Van Houtte, white blotched with crimson; and cærulea.

Of Verbenas the best came from Mr. Evans. They were trained over flat wire trellises fixed on the rims of the pots, and when well flowered, as these were, had a fine effect. Contrasted with the upright system of growing them it was evident that this is the most natural way of managing them.

Among single specimens was a noble one of Cycnoches chlorochilon magnificum. It was some 4 feet in height and had leaves not less than 2½ feet in length and 16 inches across. This was furnished by Mr. Miles, gr. to Messrs. Hannington & Sons, of Brighton, who were, as will be seen, large contributors to this show.

Dahlias were shown in admirable condition by Messrs. Turner, Keynes, Hopkins, Perry, Cook, Knibbley, and others. Seldom have been shown finer blooms than those contained in Mr. Turner's first stand of 36 varieties, and being well arranged as to colour they had a fine effect. The sorts on the whole were not very different from those shown at the Crystal Palace on the 7th inst. and therefore their names need not be repeated here. The following seedlings were shown in good condition, viz. Conqueror, Flower of the Day, Pluto, Queen Mab, Sir George Douglas, Dr. Boshell, delicata, Earl of Shaftesbury, Mrs. W. Piggott, J. Edwards, Neville Keynes, Wm. Dodds, Mrs. P. Bailhache, Lady Douglas Fennant, Salamander, Leopard, and the Rev. J. Dix. Of most of these descriptions have already appeared, and we were glad to see the good character formerly given them fully maintained on the present occasion.

Of Cut Roses there was a fine display. The best came from Mr. Mitchell, of Piltdown. Among his sorts were — HYBRID PERPETUALS: Auguste Mie, Cardinal Patrizzi, Comte de Nanteuil, Comtesse de Chabrillan, Evêque de Nîmes, General Jacqueminot, Gustave Coraux, Jacques Lafitte, Jules Margottin, La Reine, Lord Raglan, Louise Odier, Madame Domage, Madame Knorr, Madame Rivers, Madame Vidot, Mathurin Regnier, Monsieur Montigny, Pauline Lansezeur, Prince Léon, Souvenir de la Reine d'Angleterre, Triomphe de l'Exposition, Victor Trouillard, William Griffiths. TEA SCENTED: Auguste Vacher, Comte de Paris, Gloire de Dijon, Louise de Savoie, Madame de Vitry, Souvenir d'Elise. NOISETTES: Cloth of Gold, Lamarque, Miss Gray, Narcisse, Solfaterre, and Triomphe de Rennes.

Messrs. Paul also showed fine blooms of most of the leading sorts of Roses.

Hollyhocks, both spikes and cut blooms, were exhibited, but neither were first-rate. It was evident that their season was past.

Of German Asters there were two charming collections, and of French kinds the display was equally good. Some of the blooms of the latter were as large and fine as those of Chrysanthemums shown in a cut state at exhibitions, and quite as double and showy.

Scarlet Geraniums made, as they always do, a grand display. The plants were both well grown and bloomed. Among the sorts there was nothing new. There were, however, some very fine specimens of Brilliant, and of the variegated varieties of Lady Plymouth and Prince of Orange.

Ferns were not sufficiently different from those mentioned in former reports to render a record of their names here desirable. They were, however, mostly finely grown plants, and served to add increased variety and interest to the exhibition.

The prizes offered for designs for flower gardens produced some five or six model gardens, some of them on a tolerably large scale. None of them, however, showed much skill in the art of designing. That to which the first prize was awarded consisted of beds on gravel arranged in a parallelogram. The second in addition to the usual flower garden had in connection with it miniature lakes, bridges, fountains, and rockery work. The third was what is termed a sunk panel, octagonal in shape, with Grassy sides and having flower beds on gravel in the bottom, which was reached by flights of stone steps in the banks. About the rest there was nothing worthy of remark, except perhaps that one designer had in his hurry forgotten to leave any entrance at all to the garden he had formed. Its boundary was circular and without opening! Hung up against the walls we noticed a tastefully executed plan of a terrace garden from Mr. Sanders, of Tedworth, who had also a perspective view of the interior of the fine conservatory at that place.

Fruit, both from the county of Sussex and from other quarters, was good. Pine Apples were however scarce; the best was a Queen, weighing upwards of 4 lbs., finely swelled and ripened, from Mr. Cameron, of Goodwood. Of Grapes there was a fair display. A beautiful basket of 12 lbs. of Black Hamburgh came from Messrs. Balchin & Nell, and Messrs. Lucas & Parsons also showed fine fruit of the same variety. Mr. Gilbert produced three beautiful bunches of Black Hamburgh, and the same kind of Grape was also shown in good condition by Mr. Fillery. The best Muscats were furnished by Mr. Gilbert, and we also noted some fair fruit of this description from others. On the whole however the best were very inferior to those shown the other day at the Crystal Palace by Messrs. Drewitt and Frost. Of Royal Muscadine good bunches came from Mr. Fowler, and of Barbarossa there were three good bunches.

Peaches were good for the season. Among them were fair examples of Kirke's & Walburton Admirable, Barrington, and Noblesse. Of the first-named sort beautiful specimens were shown by Messrs. Lambert and Daniels. Nectarines were scarce; the best was Pitmaston Orange.

Of Plums, good fruit of Coe's Golden Drop came from Mr. Lambert, and we also noticed Greengage, Jefferson, and Magnum Bonum in fine condition from other growers.

Cherries were chiefly contained in [illegible] which several fine dishes were shown.

Figs, for which Brighton and its neighbourhood are celebrated, were but scantily shown, but what were produced were really fine. Unusually large and fine figs of the Brown Turkey came from Messrs. Dennis & Sharpe.

Melons were plentiful. Among them the best were Golden Perfection, Bromham Hall, and Beechwood.

Of Miscellaneous collections of fruit there were four. They came from Messrs. Keble, Young, Barnet, and Gadd & Son. Mr. Keble sent Cox's Golden Drop Plum, Walburton Admirable and Barrington Peaches, Black Hamburgh and Muscat Grapes, the latter unripe, Imperial Scarlet Melon, a Queen Pine Apple, and Williams's Bon Chrétien Pears. From Mr. Young came Late Admirable Peaches, Cox's Golden Drop Plum, Muscat and Black Hamburgh Grapes, a Queen Pine Apple, Brown Ischia Figs, Golden Perfection Melon, and Gansel's Bergamot Pear. In the other collections were Black Jersey and Queen Pine Apples, Muscat and Black Hamburgh Grapes, Late Admirable Peaches, Golden Drop and Beechwood Melons, Morello Cherries, Blue Impératrice Plums, Williams's Bon Chrétien Pears, and Brown Turkey Figs.

Of out-door fruit considerably the best were some Ribston Pippin Apples from Mr. Cameron, of Goodwood. These were unusually large and fine. Other fruit of this variety, with a beautiful warm yellow ground colour suffused with red, were shown by Mr. Starr, of Brighton. Among kitchen Apples the best was a dish of Knight's Grange, a large and fine-looking variety, from Mr. Cameron. Others consisted principally of Alfriston, Hawthornden, and Emperor Alexander.

Pears were chiefly Williams's Bon Chrétien, of which we observed some fine fruit. Marie Louise was likewise shown in good condition, as was also Louise Bonne of Jersey.

Red and white Currants were furnished in excellent condition by Messrs. Lambert and Evans, and we also noticed a few Warrington Gooseberries. From Mr. Cameron came a dish of Guavas.

We must add that the award of the judges, a very important point in these meetings, was made public inconveniently late.

## Notices of Books.

*The Young Lady's Book.* Bohn, 12mo, pp. 581. We are informed in the preface that this is a new edition of a work which it had become necessary to revise "in accordance with the improved condition of science." Without pausing to inquire how far costume, embroidery, writing, archery, riding, dancing, and similar subjects belong to the domain of science, we turn to science itself. Botany is one of the subjects revised "in accordance with the improved condition of science," and done it is in a rather extraordinary way. It opens with an account of the Linnean classes and orders of plants, a subject belonging to the obsolete "condition of science;" and these are accompanied by woodcuts which certainly do not represent any improved condition of art or any extraordinary advance in scientific knowledge; for we find in the very first page the anther of some Heath (?) drawn as that of a Potato, another of a Salvia called Ginger, and that of some Laurus given for the stamen of a Berberry! The meaning of the word pistil is illustrated by two styles! Then at page the second the order *Monogynia* is said to be characterised by having only one pistil, while *Digynia* has two pistils!!—and so the learned gentleman proceeds in his task of revising Botany "in accordance with the improved condition of science." Can blundering go further? Let us hope that other subjects have fallen into better hands. A young lady at our elbow says: "I think the part about embroidery is very nice." Upon that point we willingly surrender our judgment.

*Flora of Tasmania*, Part IX. (Reeve), will, with one more part, complete this most important scientific work. The letter-press extends from Fungi into Algæ; the former from the pen of Mr. Berkeley, the latter from that of Dr. Harvey. The exquisite plates consist of Grasses, Ferns, Mosses, and Jungermannias. Of Fungi, out of 275 species no fewer than 133 are either British or European, while 95 others, although Tasmanian, belong to European types, thus leaving only 47 extra European forms. The common Mushroom (*Agaricus campestris*) is wild in the island.

Part 2 of Mr. Howard's *Illustrations of the Nueva Quinologia* (see page 673) contains figures of Cinchona micrantha, villosa (in fruit only), and macrocalyx, with a most elaborate examination of the commercial "barks" supposed to be produced by those species.

We have before us *Walpers' Annales Botanices Systematicæ*, vol. v. fasc. 3, in which will be found a long account of the classifications of Gamopetalous plants by Hanstein and by Oerstedt. It goes as far as Ebenaceæ.—Maximowicz's *Primitiæ Floræ Amurensis*, a thick 4to extracted from the Memoirs of the St. Petersburgh Academy. To this we shall advert hereafter.—Routledge's *Illustrated Natural History*, Part VI., chiefly occupied by Dogs.—*A Catalogue of the Libraries of Varnhagen v. Ense and Dr. Ernest Meyer*, (Williams and Norgate), which will be sold by auction at Leipsig on October 3, 1859. These are very rich in works on Natural History, Gardening, Forestry, and Rural

Economy. It is also announced that Dr. Meyer's Herbarium of about 19,000 species is to be disposed of for 300*l*. It is rich in plants from the Cape of Good Hope and Eastern Siberia.—*Celestial Objects for Common Telescopes.* By the Rev. T. W. Webb (Longmans), an extremely useful guide to inexperienced astronomers by one whose experience is considerable. It is accompanied by a capital map of the moon.—*Reminiscences of Scottish Life and Character.* By Dean Ramsay, 3d edition, (Edmonston & Douglas). One of the most amusing as well as interesting volumes that have been published in illustration of the peculiarities of the Scotch. No one acquainted with the nation can fail to enjoy the venerable author's lively, racy, capital anecdotic style. The book is a treasure to those who love quiet harmless fun.

TRADE LISTS RECEIVED.—Jas. Veitch, Jun. (Royal Nursery, King's Road) *Plant Catalogue.* Fifty-one pages of names closely printed in double columns sufficiently show the extent to which the collections in Mr. Veitch's nursery are carried. We believe we are right in saying that there is not a species among newly introduced hothouse or greenhouse or hardy plants that it does not include. We observe that Chamæbatia foliolosa, Pentstemon Jaffrayanus, Pothos argyræa, Spraguea umbellata, Abies (Picea) bracteata, and Thujopsis dolabrata are now procurable. The catalogue has also a Thuja Lobbii, said to be distinct from T. gigantea; but with that we are unacquainted.—Vilmorin and Cie. (Paris) *Catalogue des Ognons de Fleurs, et Fraisiers.* A large list of bulbs and bulb-like plants, to which is added a list of Strawberry plants, with brief descriptions. Madame Vilmorin is known to have made the varieties of Strawberry her special study, which renders this part of the list particularly interesting.—Edward Taylor (Malton), *Catalogue of Dutch Flower Roots and other Plants.* A nice little collection of good useful things.—Charles Turner (Slough), *Catalogue of Imported Bulbous Flower Roots and Tulips.* Mr. Turner's established reputation as a florist is a guarantee of the goodness of the sorts here selected.—Sutton & Sons (Reading), *Catalogue of Fresh Imported Bulbous Roots and other Sorts for Autumn Planting.* In addition to Dutch bulbs this list includes Pelargoniums, Carnations, Roses, and other things now likely to be wanted.—Dickson's and Brown (Manchester) *Catalogue of Flower Roots.* In addition to the usual lists of Dutch roots for autumn planting we find here many miscellaneous articles not always offered for sale, as well as some annual flower seeds. The Catalogue contains practical instructions for growing Hyacinths and Gladioli. Tye's Hyacinth glasses are recommended, and they deserve to be so.

## Miscellaneous.

*New Horticultural Garden at Kensington Gore.*—A model showing how the grounds will be laid out in terraces for the garden of the Horticultural Society has just been placed in the South Kensington Museum, at the north end, near the entrance to the ornamental art rooms. Between the Kensington Road and Cromwell Road the ground falls about 40 feet, and using this fact in aid of a general effect, the ground has been divided into three principal levels. The entrances to the gardens will be on the lower level, in Exhibition and Prince Albert's Roads, and the central pathway upwards of 75 feet wide, ascending through terraces to the third great level, will lead to the winter garden. The whole garden will be surrounded by Italian arcades, each of the three levels having arcades of a different character. The upper or north arcade, where the boundary is semi-circular in form, will be a modification of the arcades of the Villa Albani at Rome. The central arcade will be almost wholly of Milanese brickwork, interspersed with terra cotta, majolica, &c., while the design for the south arcade has been adapted from the beautiful cloisters of St. John Lateran at Rome. None of these arcades will be less than 20 feet wide and 25 feet high, and they will give a promenade sheltered from all weathers more than three-quarters of a mile in length. The arcades and earthworks will be executed by the Commissioners for the Exhibition of 1851, at a cost of 50,000*l*., while the laying out of the gardens and construction of the conservatory or winter garden will be executed by the Horticultural Society, and will cost about the same sum, the greater part of which has been already raised. *Times, September* 13.

*Toad* versus *Snake.*—On the gardener of a gentleman living at Runcton going to work a few mornings ago he was surprised to find a snake lying in one of the paths, wriggling about in a very uneasy manner, and evidently, to use a familiar phrase, "in a fix." He quickly got an implement, and without difficulty despatched the intruder, which was above 3 feet in length. But the singular part of the affair is to come. On examining the dead snake, his jaws and the parts which "there adjacent lie" were found to be enormously distended, and the cause of this was soon ascertained to be a large toad—still alive—which, in order to prevent the unpleasant operation (to it) of being swallowed by the snake, had evidently resorted to its well-known power of blowing itself out, and thus at the time the gardener came upon the scene there was a deadly conflict going on between snake and toad, the former exerting its faculty of almost unlimited distension of the jaw, the latter its almost unlimited power of bodily expansion. The snake, at the moment of the gardener's interference, was clearly in a very uncomfortable position; it had got more than it could eat The toad, too, could not have been easy in its feelings, finding itself gradually going down, down. However, it survived the contest, and was extricated and set at liberty by its good friend the gardener. *Brighton Herald.*

## Calendar of Operations.

(*For the ensuing Week.*)

### PLANT DEPARTMENT.

CONSERVATORY, &c.—As formerly recommended pay particular attention to plants for autumn blooming; they should be placed in a favourable position to perfect growth, when they may be gradually brought into bloom. In addition to Aphelandras, Justicias, Eranthemums, Poinsettias, and other winter blooming plants, a good stock of Begonias should be pushed on, as scarcely any plants are more useful for the purpose. A few Oranges, Gardenias, and Franciscеas, which have been a long time at rest, may be removed to warmer quarters for an early bloom. Let everything be done slowly, or a start into growth will be the result, without bloom. A few dozens of Calceolarias, Salvia patens and gesneræflora, and the tall scarlet Lobelias, should now be shifted into their blooming pots. They will add much to the display in the conservatory during the late autumnal months. In addition to the above the scarlet and pink-flowered Horse-shoe Geraniums in pots should be removed under cover and kept growing. Water Chrysanthemums with liquid manure. Where dwarf blooming plants are wanted a quantity may be layered in 3-inch pots; for this purpose plant the old stools in the open border, when the layering can be easily managed. The potting of Hyacinths, Tulips, and Narcissus for forcing should now be proceeded with; select firm, well-ripened bulbs; after potting plunge them in ashes behind a north wall, and place a frame over them. Guernsey Lilies should now be obtained and potted forthwith, keeping them cool till the blooms are fairly open. Make a good sowing of Mignonette for the winter and early spring supply.

### FORCING DEPARTMENT.

VINERY.—Grapes ripe, or approaching that state, will require abundance of air. If the weather should prove wet make fires by day, and allow free ventilation during night. Means for ventilation should be contrived independent of the sashes, and when such is the case a thorough circulation of air can be maintained in all weathers; the advantages of this will be known by those who are obliged to keep Grapes through the damp dark weather of November and December, which in houses imperfectly ventilated is difficult. The apertures should also be protected by copper-wire netting or some material which, while it will admit air freely, will prevent the admission of insects. Bunches of ripe Grapes should be frequently looked over, to remove decayed berries. Where very early Grapes are desired, and the wood is perfectly ripened, means should be taken to throw the Vines into a state of rest; to assist this the Vines should be tied together and protected from the sun by mats or a temporary framing of boards, exposing them at night to the coolness of the atmosphere. Vines to be started in October may be pruned at once. For the above reasons Vines in pots for early forcing, which have well ripened their wood, should be removed to the shade of a north wall; the practice applies equally to Peaches, Nectarines, or Cherries in pots, intended to be started early. The trees in the early Peach houses should be lightly brushed over with a small bunch of spray, to remove any ripe leaves from the shoots, that the sun and air may get free access to the wood. Pay every attention to the last crop of Melons; let the walls be washed once or twice with sulphur wash, to keep down red spider. As the fruit will be set, fresh growths should be pinched out, that the energies of the plant may not be uselessly diverted from the swelling fruit. Keep up the bottom-heat to 85°, and allow air liberally in fine weather; those in frames must have the top-heat kept up by linings, to guard against checks by rain or cold weather.

### FLOWER GARDEN AND SHRUBBERIES.

The usual routine to insure good keeping in every department must be continued; leaves now begin to fall, and daily attention will alone serve to keep everything in order; as most of the new things on trial are in bloom and have grown sufficiently for their habit to be ascertained, notes of such as appear worthy of future notice should be made, and their propagation at once proceeded with. Phloxes, Pentstemons, Delphiniums, Pansies, and similar things struck early should now be transferred to nursery beds, to wait till the regulation of the herbaceous ground and borders; make memoranda of the height, colour, time of flowering, &c., of each new plant in this way that comes under notice, that in re-arranging them a proper admixture of colours may be planted; and at the same time regard can be paid to the time when the borders are expected to look the most gay, by selecting kinds accordingly. Beds for early spring bulbs should now be got in readiness; a mixture of sandy loam and decomposed leaves or cow-dung will form a good compost, adding sharp sand where the loam is at all strong; in this Hyacinths, Narcissus, Tulips, Gladiolus, Anemones, &c., will thrive. Obtain some of the spring-flowering varieties of Scilla; the blue of these charming little plants is very striking in early spring. This is a good time to divide and plant out Pansies for spring bloom. Polyanthuses, too, will require some care. Dahlias are now in full glory, consequently will require considerable attention; shading blooms for exhibition, trapping vermin, watering, &c., with a sharp look-out for those blossoms from which it is intended to gather seed; early flowers, provided they are well formed, are the most desirable, and as they die off the decayed petals should be removed. Look well after Carnation and Picotee seed; when well swelled, the calyx may be slit down on one side, to allow the escape of moisture which otherwise would prove injurious.

### HARDY FRUIT AND KITCHEN GARDEN

Proceed with gathering the more early kinds of Apples and Pears as they ripen, and see that the fruit rooms are properly cleaned for their reception. Peaches, &c., should be gone over each morning, and those gathered that appear getting ripe. The above, and the better sorts of Plum, are always higher in flavour when gathered and kept in the fruit room a day or two before being sent to table. In the Kitchen Garden the principal work will consist in carrying out the culture of growing crops, directions for which will be found in former Calendars. Endive, Bath Cos, and one or two sorts of hardy Cabbage Lettuce should be still planted on warm slopes to afford a supply for winter. A good plot should likewise be planted with Cabbage plants.

STATE OF THE WEATHER AT CHISWICK, NEAR LONDON
For the Week ending Sept. 15, 1859, as observed at the Horticultural Gardens.

| Sept. | Moon's Age. | Barometer. Max. | Barometer. Min. | Temperature Of the Air. Max. | Min. | Mean | Of the Earth 1 foot deep. | Of the Earth 2 feet deep. | Wind. | Rain in inches. |
|---|---|---|---|---|---|---|---|---|---|---|
| Friday 9 | 12 | 29.876 | 29.805 | 69 | 42 | 55.5 | 63 | 61½ | S W | |
| Satur. 10 | 13 | 30.181 | 30.054 | 69 | 33 | 51.0 | 61 | 62 | W. | |
| Sunday 11 | 14 | 30.290 | 30.222 | 68 | 34 | 51.0 | 60 | 61 | W. | |
| Mon. 12 | 15 | 30.238 | 29.959 | 71 | 47 | 59.0 | 60 | 60½ | S W | |
| Tues. 13 | 16 | 29.748 | 29.614 | 61 | 40 | 50.5 | 61 | 60½ | W | |
| Wed. 14 | 17 | 29.550 | 29.477 | 62 | 43 | 52.5 | 59 | 60 | S.E | |
| Thurs. 15 | 18 | 29.596 | 29.459 | 66 | 41 | 53.5 | 59 | 59½ | N | |
| Average | | 29.925 | 29.789 | 66.6 | 40.0 | 53.3 | 60.4 | 60.7 | | |

Sept 9—Cloudy; fine; very fine.
— 10—Quite clear; fine; dry air; cold at night.
— 11—Clear; fine; cold; nearly freezing at night.
— 12—Foggy; very fine; rain at night.
— 13—Overcast; cloudy and fine; heavy rain.
— 14—Rain; showery; fine at night.
— 15—Fine; very fine throughout.
Mean temperature of the week, 4 deg. below the average.

RECORD OF THE WEATHER AT CHISWICK.
During the last 33 years, for the ensuing Week, ending Sept 24, 1859

| Sept. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday 18.. | 66.6 | 44.9 | 55.7 | 15 | 0.84 in. | 2 | 7 | 2 | 1 | 2 | 9 | 5 | |
| Mon. 19.. | 66.6 | 45.9 | 56.3 | 15 | 0.60 | 3 | 8 | 3 | 1 | 5 | 6 | 4 | 1 |
| Tues. 20.. | 66.9 | 44.0 | 55.5 | 14 | 0.45 | 3 | 6 | 3 | 3 | 3 | 6 | 5 | |
| Wed. 21.. | 66.9 | 45.1 | 56.0 | 16 | 0.50 | 2 | 4 | 6 | 2 | 6 | 3 | 3 | 1 |
| Thurs. 22.. | 67.2 | 46.2 | 56.7 | 15 | 0.40 | 1 | 3 | 9 | 2 | 5 | 7 | 3 | |
| Friday 23.. | 66.5 | 46.7 | 56.6 | 16 | 1.21 | 1 | 6 | 7 | 2 | 6 | 6 | 5 | |
| Satur. 24.. | 65.7 | 45.3 | 55.5 | 15 | 0.75 | 2 | 7 | 2 | 1 | 4 | 10 | 5 | |

The highest temperature during the above period occurred on the 20th, 1843, and 24th, 1832—therm. 81 deg.; and the lowest on the 20th, 1836—therm. 29 deg.

## Notices to Correspondents.

BOOKS: *Pool.* Certainly; Lindley's School Botany.—*H R.* There are some useful gardening articles introduced into Knight's excellent and very cheap English Cyclopædia of Arts and Sciences, of which vol. 2, with 1013 pages, is just completed up to the word "Cohort."

CLOVER SEED: *H V.* It is the Cuscuta trifolii or Clover Dodder, the subject of a leading article last week on the Agricultural side of this Paper.

CRICKETS: *Sub.* Trap them by means of wide-mouthed pickle bottles baited with a little treacle and water; the bottles being so sunk or placed that the crickets can get into them. Penny's paste has also been used for destroying them with complete success. See p. 154 of our volume for 1856.

DISEASES: *J C Y.* Your Laurel leaves in an early stage of growth were affected by spots of water settling upon them, and chilling the tender tissue beneath. We have seen many similar cases. There is no insect on your specimens. *M J B.*

FUCHSIAS: *W Green.* Your seedlings are handsome; but not more so than others possessing the same colours already in cultivation.

GISHURST COMPOUND.—When wood is hard and leaves are off, as is the case *in winter*, 4 oz. to a gallon is not too strong. It was an accidental oversight to say 4 lbs.

GRAPES: *J O W* says—Some of my Black Hamburgh Grapes, not yet ripe, are beginning to shrivel and become sour. And he asks, what this is owing to? The shanking spoken of is brought on by the roots being unable to feed the Grapes from some cause or other. Probably the roots are in deep cold subsoil, or have been.

INSECTS: *A R.* The little caterpillar found on the Scabious is that of one of the smaller Geometrideous moths, most probably an Eupithecia or pug moth; we doubt whether its colours are modified by its food. It is one of the many interesting cases of deception produced by similarity with the food of the insect. *W.*

MR. VAN HOUTTE'S SCHOOL OF HORTICULTURE. We shall take an early opportunity of adverting to this important establishment.

NAMES OF PLANTS: We have been so often obliged to reluctantly decline naming heaps of dried or other plants, that we venture to request our correspondents to recollect that we never have or could have undertaken an unlimited duty of this kind. Young gardeners, to whom these remarks more especially apply, should bear in mind that, before applying to us for assistance, they should exhaust their other means of gaining information. We cannot save them the trouble of examining and thinking for themselves; nor would it be desirable if we could. All we can do is to *help* them—and that most willingly. It is now requested that, in future, no more than four plants may be sent us at one time.—*H S.* Potamogeton compressum. You can only keep it down by frequently harrowing the bed of the river, and so tearing it up by the roots. But it is surely not a great eyesore, and remember that it feeds water fowl and keeps the water sweet.—*H S.* No. 2 is Phytolacca heptandra, a rare weed.—*Henry Jephson.* 1, Acer cretieum; 2, Quercus pubescens; 3, Quercus Ægilops, the Valonia Oak.—*Béche. New:* on the contrary the plant is one of the oldest in our gardens; it is Molucella lævis.—*Ambergate.* Corylus rostrata.—*C P and R D.* Next week.—*H R.* Chenopodium Botrys; this is marked No. 2, but was not accompanied by No. 1.

SCARLET GERANIUM: *A Z* Apparently a fine kind; but not in sufficiently good condition to judge accurately of its merits.

TYDEAS: *Plymouth.* Very few of the plants thus named are worth growing. For the most part they are mere rubbish, and the best are too much alike. One sort is as much as any one will care to grow.

*** As usual, many communications have been received too late, and others are detained till the necessary inquiries can be made. We must also beg the indulgence of those correspondents the insertion of whose contributions is still delayed.

ARTIFICIAL MANURES, &c.—Manufacturers and others engaged in making ARTIFICIAL MANURES may obtain every necessary instruction for their economical and efficient preparation, by applying to J. C. NESBIT, F.G.S., &c., Principal of the Agricultural and Chemical College, Kennington, London, S. Analyses of Soils, Guanos, Superphosphates of Lime, Coprolites, &c., and Assays of Gold, Silver, and other Minerals are executed with accuracy and despatch. Gentlemen desirous of receiving instruction in Chemical Analyses and Assaying, will find ample facility and accommodation at the College.

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|---|---|---|---|
| TURNIP MANURE .. .. .. | from £7 | to £6 | 6 |
| SUPERPHOSPHATE OF LIME .. | „ 7 | to 6 | 6 |
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Branch Establishment, South John Street, Liverpool.

SHAW'S TIFFANY is universally acknowledged to be the best, neatest, and cheapest material for shading Conservatories, and other Hothouses. Effectually securing Plants from the scorching rays of the sun, without obscuring the light. Also, for protecting the Bloom of Wall Trees from spring frosts, and Fruit from birds and wasps. Sold in pieces.

No. 1.—20 yards long, by 38 inches wide, 5*s.* per piece.
No. 3.—Double strength, 18 yards long, by 29 inches wide, 7*s.* 6*d.* per piece.
No. 4.—Treble strength, 18 yards long, by 39 inches wide, 9*s.* per piece.

A liberal allowance to the Trade when ten or more Pieces are taken.—JOHN SHAW & Co., Princess Street, Manchester.

"FRIGI DOMO."—Patronised by her Majesty, the Queen, the Duke of Northumberland for Syon House, His Grace the Duke of Devonshire for Chiswick Gardens, Professor Lindley for the Horticultural Society, Sir Joseph Paxton for the Crystal Palace, Royal Zoological Society, late Mrs. Lawrence of Ealing Park, and —Collier, Esq., of Dartford.

PROTECTION FROM THE SCORCHING RAYS OF THE SUN.

"FRIGI DOMO," a Canvas made of patent prepared Hair and Wool, a perfect non-conductor of Heat and Cold, keeping, wherever it is applied, a fixed temperature. It is adapted for all horticultural and, floricultural purposes, for preserving Fruits and Flowers from the scorching rays of the sun, from wind, from attacks of insects, and from morning frosts. To be had in any required lengths. Two yards wide, 1*s.* 6*d.* per yard run; four, 3*s.* per yard. Also, an improved make for Shading Purposes. Three yards wide, 2*s.* 6*d.* per yard run.

ELISHA THOMAS ARCHER, whole and sole manufacturer, 7, Trinity Lane, Cannon St., City,, E.C., and of all Nurserymen and Seedsmen throughout the kingdom. "It is much cheaper than mats as a covering."

WARNER'S IMPROVED LIQUID MANURE OR GENERAL PORTABLE PUMP.

These Pumps are fitted with WARNER'S Patent Bucket and Valve, and cannot clog in action. The barrel is made of galvanised iron, not likely to corrode, and can be raised or lowered at pleasure on the stand, the legs of which fold together, and may be carried with ease by one man to tank or pond.

| | £ | s. | d. |
|---|---|---|---|
| Stand and Pump, with screwed tail pipe, fitted with strong brass union for suction pipe | 2 | 15 | 0 |
| If fitted with barrel of planished copper .. .. | 3 | 4 | 0 |
| Stand and Pump, with plain tail pipe, for tying on suction pipe .. .. .. | 2 | 9 | 0 |
| 2-inch patent rubber and canvas flexible suction pipe, on wires, either 10, 12, or 15 ft., per foot | 0 | 2 | 2 |

May be obtained of any Ironmonger or Plumber in town or country, at the above prices, or of the Patentees and Manufacturers, J. WARNER & SONS, 8, Crescent, Jewin St., London, E.C.

WARNER'S PATENT VIBRATING STANDARD PUMPS.

PATENT CAST-IRON PUMPS for Farms, Cottages, Stable Yards, &c., where the Well does not exceed 26 feet in depth; fitted with WARNER'S Patent Metal Bucket and Valve, which cannot clog in action. These Pumps can be made right-handed, left-handed, or with handle opposite the nose by removing four screws only.

| Diameter of Barrel. | Height. | | £ | s. | d. |
|---|---|---|---|---|---|
| 2½ in. | short 1 ft. 7 in. | Fitted for lead, gutta percha or cast iron flanged pipe as required. | 1 | 5 | 0 |
| 2½ „ | long 3 „ 3 „ | | 1 | 10 | 0 |
| 3 „ | ditto 3 „ 6 „ | | 2 | 4 | 0 |
| 3½ „ | ditto 3 „ 6 „ | | 2 | 9 | 0 |
| 4 „ | ditto 3 „ 6 „ | | 2 | 13 | 0 |
| 2½ „ | short, with 15 feet of Lead Pipe attached, ready for fixing .... | | 2 | 10 | 0 |
| 2½ in. | long ditto ditto | ditto | 2 | 14 | 0 |

The short barrel Pump is very convenient for fixing in situations of limited height and space, for the supply of coppers and sinks in Wash-houses with soft water from underground tanks, or in Hot, Forcing, and Plant Houses; they may be fixed, when desired, under the stage.

May be obtained of any Ironmonger or Plumber in Town or country, at the above prices, or of the Patentees and Manufacturers, JOHN WARNER & SONS, 8, Crescent, Jewin Street, London, E.C.

Every description of Machinery for Raising Water by means of Wheels, Rams, Deep Well Pumps, &c.; also Fire and Garden Engines, &c. &c.—Engravings sent on application.

TO MILLERS AND OTHERS.

BOVILL'S PATENTS FOR GRINDING CORN INTO MEAL AND FLOUR.—A Bill in Chancery for an injunction to restrain the Patentees, their inspectors, mortgagees, and those claiming under them, from receiving any royalties or other payments from licencees and other persons using the inventions protected by the above letters patent, was on the 26th day of August inst. filed by me, the undersigned JAMES PONSFORD, and such injunction will be moved for as early as practicable. A receiver and manager will also be applied for to collect all royalties and premiums due, and to become due, from licencees, and all other persons in any way using the said inventions. All persons using the said inventions and liable to pay royalties, premiums, and other monies, in respect of the said letters patent, are hereby required not to pay the same to the Patentees, or to the inspectors of their estate, mortgagees, or incumbrancers, but to keep an account of such monies, to abide the result of the said suit.

Dated the 29th day of August, 1859.

JAMES PONSFORD, 66, Queen's Gardens, Paddington.

WEST OF ENGLAND AND SOUTH WALES LAND DRAINAGE AND INCLOSURE COMPANY.
Established in 1844.
INCORPORATED BY ACT OF PARLIAMENT IN 1848.

Draining, Inclosing, Irrigating, Warping, Road Making, and all kind of Land Improvements, executed on Entailed, Mortgaged, or other Properties, and the whole cost can be made a Permanent Charge on the Lands, or redeemable in a certain number of years. BIDWELL & BRODIE, Secretaries.

Offices: Exeter; and 30, Parliament Street, London, S.W.

THE LANDS IMPROVEMENT COMPANY.—Incorporated by Special Act of Parliament in 1853.—2, Old Palace Yard, Westminster, S.W. To Landowners, the Clergy, Estate Agents, Surveyors, &c., in England and Wales and in Scotland.

The Directors beg leave to announce that the Company's Amendment Bill, 1859, has received the sanction of the Legislature. The Company now advance money, unlimited in amount, for the following works of Agricultural Improvement, the whole outlay and expenses in all cases being liquidated by a rentcharge for 25 years.

1. Drainage, Irrigation and Warping, embanking, Inclosing, Clearing, Reclamation, Planting for any beneficial purpose, Engines or Machinery for Drainage or Irrigation.
2. Farm Roads, Tramways and Railroads for agricultural or farming purposes.
3. Jetties or Landing places on the sea coast or on the banks of navigable rivers or lakes.
4. The erection of Farm Houses, Labourers' Cottages, and other Buildings required for Farm purposes, and the improvement of and additions to Farm houses and other buildings for farm purposes.

Landowners assessed under the provisions of any Act of Parliament, Royal Charter, or Commission, in respect of any public or general works of drainage or other improvements, may borrow their proportionate share of the cost, and charge the same with the expenses on the lands improved.

No investigation of title is required, and the Company being of a strictly financial character do not interfere with the plans and execution of the Works, which are controlled only by the Government Enclosure Commissioners.

Under the Company's Acts, tenants for life, trustees, mortgagees in possession, incumbents of livings, bodies corporate, certain lessees, and other landowners are empowered to charge the inheritance with the cost and expenses of the above improvements, whether the money be borrowed from the Company or advanced by the Landowner out of his own funds, and owners in fee may effect these improvements of their Estates without incurring the expense and personal responsibilities incident to mortgagees, and without regard to the amount of existing incumbrances.

For further information, and for forms of application, apply to the Honourable WILLIAM NAPIER, Managing Director, 2, Old Palace Yard, Westminster, S.W.

LAND IMPROVEMENTS.—The GENERAL LAND DRAINAGE AND IMPROVEMENT COMPANY are empowered by Act of Parliament to assist the Owners of Land in carrying into effect the following Improvements, and charging the whole outlay and expenses on the property improved.

I. All Works of Drainage, Irrigation, Warping, and Embankment.
II. The erection of Farmhouses, Cottages for Agricultural Labourers, and all kinds of Farm Buildings.
III. The construction of Roads.
IV. The Grubbing and Clearing of Old Woodlands, Enclosing, Fencing, and Reclaiming Land.

The Landowners by whom any of these Improvements may be executed are—Tenants for Life, Trustees, Mortgagees in Possession, Guardians, Committees of Incompetent persons, Married Women, Beneficial Lessees for Lives or for a Term exceeding 14 years, Corporations, Ecclesiastical or Municipal, Incumbents, Sequestrators, Charitable Trustees, &c.

The Owners of Estates not entailed, who may be desirous to avoid the expense or inconvenience of a Legal Mortgage may also avail themselves of the powers of the Company's Act to charge their estates with an outlay in improvements.

In all cases the whole cost of the improvements, with the attendant expenses, may be charged on the Estate, the term for Building Works being limited to 21 years, but for all other improvements being capable of extension to 50 years.

No investigation of title being required, and the charge not being affected by Incumbrances, no legal expenses are incurred.

Operations under the Company's Act are divided into two principal branches; one where the Landowner designs and executes the improvements by his own Agent and merely requires a loan from the Company to charge the Estate,—the other where the Company undertake the entire responsibility of the Improvement and obtain repayment by way of Rent Charge. In the first case the plans, specifications, and estimates prepared by the Landowner's Agent are forwarded to the Company to be submitted for approval to the Inclosure Commissioners. As soon as the sanction has been given the Landowner proceeds to execute the works, and the Company having conducted the business through all the official forms, complete the charge on the estate when the works have been passed by the Commissioners, and repay the Landowner the amount agreed upon.

In no part of the business is there any control upon a Landowner except by the Inclosure Commissioners. The Company never interfere, except at the special request of the Landowner or his Agent, and only to such extent as may further the objects he has in view.

In the other case, where the Company are required to execute the works, a report and estimate of the Improvement are sent to the Landowner, and having been approved, the plans are then prepared and the works—either submitted to public competition or entrusted to their own staff—are carried on to completion, and the amount of the actual expenditure only, approved by the Inclosure Commissioners with the Company's agreed commission and the Commissioners' expenses, finally charged on the Estate for the term fixed by the Landowner.

The Company also execute Drainage and all other Works of Land Improvement on Commission for the Owners of Estates not Entailed who may wish to charge the outlay on the property through the simple and inexpensive process of the Company's Act.

Applications to be addressed to WILLIAM CLIFFORD, the Secretary, at the Offices of the Company, 52, Parliament Street, London.

COLLEGE OF AGRICULTURE AND CHEMISTRY, AND OF PRACTICAL and GENERAL SCIENCE, 37 and 38, Lower Kennington Lane, Kennington, London, S.
Principal—J. C. NESBIT, F.G.S., F.C.S., &c.

The system of studies pursued in the College comprises every branch requisite to prepare youth for the pursuits of Agriculture, Engineering, Mining, Manufactures, and the Arts; for the Naval and Military Services, and for the Universities.

Analyses and Assays of every description are promptly and accurately executed at the College. The terms and other particulars may be had on application to the Principal.

ROYAL AGRICULTURAL BENEVOLENT COLLEGE FOR THE RELIEF OF DECAYED FARMERS, THEIR WIDOWS AND ORPHANS.

Noblemen and gentlemen interested in Agriculture, desirous of promoting this object, will please fill up and forward a Form, as annexed.

450 influential names are enrolled to this date.

Tiptree Hall, Sept. 17.

Sir,—I hereby request you to place my name on the list of the Promoters of the Royal Agricultural Benevolent College, provided no pecuniary responsibility (beyond a subscription or donation) attaches to such Association. Name.....
Address.....
Date .....

To J. J. MECHI, Esq., Tiptree Hall, near Kelvedon, Essex.

SMITHFIELD CLUB CATTLE SHOW, 1859.—The ANNUAL SHOW of FAT CATTLE, SHEEP, and PIGS will take place on the 6th, 7th, 8th, and 9th December, at the Bazaar, King Street, Portman Square.

The Prize List contains separate classes for Devons, Herefords, Short-horns, Sussex, Norfolk or Suffolk polled, Longhorns, Scotch horned, Scotch polled, Irish, Welch, and cross or mixed breeds. Also Long-woolled Sheep, cross breeds, Short-wools, and Pigs. In addition to the large amount offered in money prizes, there are also 50 Silver and 5 Gold Medals. The following forms of Certificates are now ready, and intending Exhibitors in applying for them need only quote the letters and state how many of each they require.

CATTLE.
Form A. Ox or Steer.
„ B. Cow or Heifer.
„ C. Ox or Cow in Extra Stock.

SHEEP.
Form D. Pen of 3 Wethers.
„ E. One Wether or Ewe in Extra Stock.

PIGS.
Form F. Pen of 3 Pigs. | Form G. One Pig in Extra Stock

The Entries finally close on November 1.

Prize Lists with rules and regulations and Forms of Certificates to be obtained of B. T. BRANDRETH GIBBS, Hon. Sec., corner of Half Moon Street, Piccadilly, London, W.

N.B. All communications on the Club's business should have the words "Smithfield Club" outside, to distinguish them from private letters.


# The Agricultural Gazette.

*SATURDAY, SEPTEMBER* 17, 1859.

AN angry discussion has been proceeding during the past month, chiefly between two of our leading agricultural implement makers, though others have taken part with one or other of the disputants—the relative merit of rival ploughs being the point of disagreement. Messrs. HORNSBY, conceiving themselves hindered by the terms of a bond

under which the principal agricultural machine makers had voluntarily placed themselves, could not compete at Edinburgh for the prize offered by the Highland Society for the best plough, and accusing Messrs. HOWARD, who did compete, and who won the prize, of disregarding the bond in question, they challenge them for 100*l.* to submit the two ploughs to the judgment of three gentlemen well qualified as judges whom they name. Messrs. HOWARD in their reply point out that the terms which bound Messrs. HORNSBY and themselves were no hindrance to the Edinburgh competition, and they very reasonably decline submitting their plough to judges nominated by their opponents.

No advertisement of the plough-making capabilities of the two firms could be devised better calculated to draw the attention of agriculturists to the particular merits of this or the other implements of their construction than a controversy into which the correspondents of the Agricultural Journals should be drawn, and about which the interest of their readers should be thus excited. We believe, however, that the columns of this and other journals set apart especially for advertisements are sufficiently well adapted for their purpose, and feeling certain that whatever its importance to any new competitor for custom, the discussion has had little real importance for the agriculturist, we have left those interested to take the usual way of obtaining any publicity they might desire.

—— Another unusually severe illustration of the extreme danger of allowing children the use of lucifer matches as playthings has lately occurred at Willingham, in Cambridgeshire, where houses, cottages, barns, and the rickyards of six or eight farms were destroyed to the amount in all it is estimated of 10,000*l.* The following is the report:—

"It now appears, from the inquiries instituted, that the disaster, which originated on the premises of Mr. R. READ, was caused through the carelessness of a lad nine years of age, his son. This boy, on the morning of the fire, left home to tend some pigs in the field, and took a box of matches with him, telling his mother that he intended to light a fire in the field. He did not do so, but on his return put the pigs into the stye, assisted by his grandmother, who then left him and proceeded into the house. The boy then went down the stackyard, intending to get some Pears from the orchard, and when near one of the stacks he foolishly struck a match on a stone and threw it in a burning state on the ground. Some loose straw unfortunately ignited, the flames spread to the stacks, and the whole village in a few hours was in a blaze. The hapless author of all the mischief went in and told his grandmother, and, what he had done being strongly suspected by the police, he was taken before one of the local magistrates. The facts stated having been elicited, he was discharged on his father's entering into recognisances that he should appear for judgment when called upon. The offices which have suffered by the fire are the *Unity, Suffolk, County, Manchester and Liverpool, Yorkshire, Norwich Union, and Alliance.*"

—— A letter in the *Times* of September 12 revives the question as to the lowness of farm wages in Dorsetshire. The writer quotes a paragraph to the effect that a labourer in the harvest field, on whom a fine had been inflicted for having a hare in his possession, was allowed a fortnight in which to pay the same because his wages were only 8*s.* a week. And on this he adds:—

"It cannot be denied that other cases might be found of wages even at 7*s.* or 6*s.* a week in this county, and some of them cases of great injustice. But a question, nevertheless, should, in all instances, be asked on each of these points:—

"Whether the man be an able-bodied labourer?

"Whether he be a diligent and honest one?

"Whether his children living with him do not earn nearly or entirely their own maintenance?

"And whether his wages be calculated on the basis of ten or eight hours' labour in the course of the day?

"It is evident that the answers to the first two questions will determine the adequacy or otherwise of the remuneration. The answer to the third will show what are the aggregate earnings of the family (three children, for instance, at 4*s.*, 5*s.*, or 6*s.* a week each, adding greatly to the common stock), and a reply to the fourth is of particular importance, because a system has existed from time immemorial in several parts of our southern counties of making engagements at so much a week for eight, and not for ten hours of daily work.

"This last is one cause of the lowness of wages; yet the labourers are so attached to the system that when my principal tenant in the parish in which I reside, being desirous to put his arrangements on the footing of those to which he had been accustomed, offered an increase of wage in proportion to the increase of work, his offer was universally rejected.

"It should, moreover, be asked whether the 8*s.* or 7*s.* a week, or whatever it may be, represent the full receipts of the labourer; because we have a system in these parts—a bad one, it is true—of giving part in money and part in assistance of fuel, Potatoes, &c."

It is evident that only the 1st, 2d, and 4th of the above questions will help to ascertain the value of labour in Dorsetshire—the third is entirely irrelevant, and the cases subsequently quoted in which the family of "G. P." earns 1*l.* 6*s.* 7*d.* weekly, and that of "W. F." 15*s.* 1*d.* a week do not throw any light on the remuneration given by the master for a certain period or quantity of labour. The allotments, too, which the labourers receive cannot, unless indeed these plots be given free of rent, be considered as remuneration given for labour done upon the farm.

It is plain from the letter in the *Times*, and from the way in which it there appears that wages in Dorsetshire are paid only partly in money and partly in the form of perquisites, as cottage, fuel, Potatoes, &c., that labourers there are more liable to treatment according to the will of the master and the personal feeling which he bears towards his servants individually than is generally the case. Of course there are two opinions of the merits of such a condition of things. One will say: "And a very fortunate thing for them, too. Merit is thus sure to be rewarded; a man is not so able to waste his means at the public-house, and the quiet, steady workman and good parishioner is certain to get on." Another will reply: "Poor fellows, in any case it makes and keeps them children more or less. They are more completely under the control of a sort of patriarchal master. Certainly, if he be an intelligent and kind-hearted man nothing can be better than their lot; but if he be a selfish, hard, and good-for-nothing fellow, nothing can be worse."

We must add we sympathise with the latter view of the case rather than with the former. The condition of the labourer is, we believe, in more favourable circumstances for ultimate growth and improvement where they are less dependent on the will and character of their master—where, owing to this independence, they have more perfectly their remedy against the "injustice" of which the *Times* correspondent speaks—where it depends upon themselves alone, and in no degree on partiality or favouritism how they succeed. It is plain that in no way—by no such device as making the condition of the labourer dependant on the will and judgment of any one "above" him (whether the foreman, the master, or the clergyman)—can you get rid of the defect that after all it hinges on the character and will of imperfect human nature. Better accept at once the natural inevitability and let it hinge where, along with this defect, the greatest responsibility (a man's responsibility for the use of his own powers and opportunities) and the strongest motive (personal self-interest) exist as the guides of conduct. The more a labourer—the more that any one sees that his prosperity depends upon himself and GOD alone, the more likely, other things being equal, is he to act aright and obey those great laws on which the well-being of his own and every other rank alike depends. To make prosperity, on the other hand, depend upon the favour of a master, whether he be the owner of the property or the head of the parish, is to encourage what is called "eye service"—it is to direct the man to a code or model for guidance or for imitation, which is good only in so far as it resembles that one to which his less dependant neighbour appeals or goes direct.

—— Let us confess again, however, that nothing can be more delightful than the effect of a patriarchal rule where the head of the parish or the property is a right-minded man. And it is well that the same county which does, we think, fairly give occasion for the above remarks should repeatedly illustrate the bright side of the picture which patriarchal rule presents.

The *Dorset County Chronicle* again reports the enjoyments and success of a harvest home at Symondsbury,* where we cannot doubt that the hearty and universal mutual goodwill displayed was the genuine fruit of the best possible understanding amongst all classes in the locality. This was well shown by the address of Mr. POPE, the principal tenant of land in the parish, who was spokesman on its behalf on the occasion. "They were all assembled together as one family, having for a time dispensed with those distinctions which were doubtless essential to the order, regularity, and well-being of society; and he especially felt gratified at that moment, because on looking around he was reminded of the great pleasure he had felt in directing those willing hearts and hands during the past year, and the pride with which he had witnessed those strong arms gathering a bountiful crop of corn. He felt that they were thus promoting that good understanding, that mutual confidence which exists and ever ought to exist between master and man, between the employer and the employed."

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IT is by no means unfrequent for us to hear at this season of the year serious complaints from breeders of cattle as to the great difficulty experienced in keeping their cows and heifers in calf. Day after day brings fresh instances of this kind, in some cases where the animal has been supposed to have been in calf for two, three, or even four months. Various and mysterious are the causes which may produce these results, but they are worthy our observation; indeed their importance demands an inquiry. The peculiar speed with which this evil spreads is too well known, and the pecuniary losses to many of our breeders are so heavy that we have no deficiency of evidence in support of our statements in almost every part of England. The loss of the calf (or fœtus) in its early period of growth is often unaccompanied even by indications which excite our doubts, and the instances are exceedingly rare in which we have direct ocular proof of the loss of the fœtus. The result however still appears, and by the necessity of the cow again being put to the bull we have proof of the loss which has arisen. Some of the causes are of a secondary character, being communicated from other animals. During the period of pregnancy the senses are peculiarly excitable, and the rapidity with which abortion spreads through a herd is so well known that it is almost unnecessary to give an illustration of its apparently contagious character. A cow or heifer which by some accident has from purely mechanical injuries suffered abortion, has been the cause of disseminating the same evil, and other cows of the same herd have consequently follow the example. Thus we have proof that when once abortion has made its appearance in a herd there is great danger of its spreading. In overcoming this serious evil we have to adopt preventative as well as remedial measures.

We have especially referred to this subject because it is important that one cause, which is exceedingly powerful, but we regret to say very much overlooked, should receive greater attention. The cause to which we refer is the diseased herbage of our pastures. All are familiar with the fact that much of our Grass land, however carefully it may have been fed, will throw up seed stems during the summer months, which the stock refuse to eat, and these consequently remain after the green and fresh Grass has been consumed, presenting the appearance of small straws, or, as they are frequently called, Bents. Thus far the Grasses follow the growth of our cereal Grasses or corn crops, in throwing up a seed stem of a straw character; but the similarity does not end here, for these straws carry the seed of the Grass, and these seeds, like corn, are subject to disease. The Rye furnishes us with the most familiar illustration of this diseased character in the Ergot of Rye, which is produced upon it. This Ergot is a variety of fungus which establishes itself upon the seed and produces an action upon the animal system of most important character. Rye-grass bears a similar Ergot, and most, if not all, other Grasses have their peculiar ergotised forms.

The circumstances which predispose the Rye to produce its Ergot, act with even greater energy upon our Grasses. The seed when it approaches maturity, and is then exposed to the action of moisture, is liable to become the passive agent in producing the ergot. Thus we find that the Grass seeds ripened by the summer warmth, and subsequently exposed to the rains become ergotised, and thereby rendered injurious to stock. Although stock avoid the tough-grown seed stem they are quite disposed to consume the seed it bears, and in this manner this injurious matter is introduced into the system, there to work most prejudicially upon the health of the animal and the welfare of the herd, causing loss, difficulty, and disappointment to the breeder, and materially retarding the increase of many of our best herds.

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## RELATIONS OF FOOD AND MANURE.

THE following is an estimate of the quantity of stock which may be produced on a farm of 300 acres, and the quantity of manure which the stock will make from the consumption of the food. The farm to consist of 240 acres of arable land and 60 acres of good productive pasture, capable of fattening a 100 stone six or seven sheep per acre during the summer months. The whole of the land to be deeply and perfectly drained, and the 240 acres of arable land to be subsoiled ploughed from 16 to 18 inches deep, and the arable land to be cultivated under the alternate system of grain for sale, and of root and fodder crops for beasts and sheep, bred and kept on the farm in boxes or stalls till they are fat and sold to the butcher, the oxen to be sold before they are 4 years old, and the sheep before they are 2 years old.

*The kinds of Crops produced under the Alternate System.*—It has been found that when the same kinds of plants are grown on the same ground at short intervals of time they do not produce such good and heavy crops as they do when there is a longer time between the first and second planting on the same land; and some plants, such as Turnips and Clover, are subject to disease

* See p. 757, *Agricultural Gazette*, 1858.

they are repeated on the same land every four years, but if these plants are grown on the same ground every eight years they are not subject to the same disease, and they produce as large and good crops as at the first.

We have therefore adopted the following alternate system of cropping:—1st, Mangel; 2dly, Barley; 3dly, Clover and Italian Rye-grass; 4thly, Wheat; 5thly, Swedes; 6thly, Oats; 7thly, Beans, Potatoes, and Carrots; 8thly, Wheat. By this system Wheat is planted on the same ground once every four years, but all the other crops once every eight years; we thus secure good and large crops of Turnips and Clover as well as of all kinds of grain.

*The Value and Weight of each Crop: The first Crop is Mangel.*—It is the best of all the fodder crops grown on the farm, and all kinds of stock are fond of it. The produce of this crop is not only the greatest per acre, but it is the most nutritious, and it may be kept without any deterioration for double the length of time of any other roots which are produced on the farm. We may begin to use it in August (when food is scarce) by taking off the two lowest leaves from each plant, and this may be repeated in September and in October. In the east of Essex I have seen lambs and old toothless ewes folded in the Mangel field eating off the whole of the leaves in the month of November, before the roots were lifted and taken to the store. The bulbs may be given in September to all kinds of stock, and may be continued till the Clover be ready to be cut; the proper time is to give the Mangel after the Swedes are all consumed, but the longer the Mangel is kept it becomes richer and more nutritive, during summer it becomes drier and lighter, the watery part being evaporated, but not the saccharine matter; it becomes sweeter and the stock are fonder of it, and the same weight of it is more nutritive than at harvest. It never becomes dry and woody as the Turnips become in the spring.

The weight of a crop of Mangel has been stated at 40, 50, and even 60 tons per acre by persons who have estimated the weight of an acre from the weight of the roots grown on a perch or two; but we have never been able to grow 40 tons of roots per acre, although we have grown 30, 33, and once 37 tons of bulbs, and 8 tons of leaves; but we shall take 30 tons as an average crop of roots and 8 tons for the leaves; 30 tons per acre over 30 acres gives 2,016,000 lbs. of nutritious food for stock during the eight winter months from September till June.

*The second Crop is Barley,* after the Mangel; and as the land has been under deep and continued cultivation for the last 12 months, first in preparing it for the crop, and in deep horse-hoeing during the growth of the Mangel, we have it in our power to plant the Barley early in the spring—in January or February—so that by early planting there is less risk of an over abundance of straw, and less risk of the Clover and Rye-grass seeds being choked by the Barley crop, and the Barley will be early harvested, and the quantity and quality of the Barley much better. We may estimate the average produce of the crop at 50 bushels per acre, and the weight of straw at 1½ ton. The 30 acres of straw at 1½ ton will give 100,800 lbs. of straw as litter for the stock.

*The third Crop is Clover and Italian Rye-grass.*—If we have 20 acres of Clover and Rye-grass and 10 acres entirely of Italian Rye-grass, we have had three cuttings of Clover and Rye-grass, and I have seen five cuttings of Italian Rye-grass; from these 30 acres of Clover and Rye-grass cut green we have no difficulty in getting 16 tons per acre of rich nutritive food for the stock. The 30 acres at 16 tons per acre will give 1,065,200 lbs. of food during the summer months, from May till October.

*The fourth Crop is Wheat.*—We are justified in estimating the Wheat crop at 38 bushels, and 2 tons of straw per acre; this gives 134,400 lbs.; one-half, or 67,200 cut into chaff as food for the stock, the other half, 67,200 lbs., cut into 4-inch chaff as litter. The straw is given to the stock as food while they are eating the roots during winter, and the litter to be used daily in the boxes or stalls throughout the year.

*The fifth Crop is Swedes.*—The land must be deeply ploughed before winter, and repeatedly cultivated before it is planted, and repeatedly horse-hoed during the growth of the crop. Large crops of Swedes have been grown by some farmers 30, 35, and even 40 tons per acre; but we have never been able to grow 30 tons, although we have often grown 20 tons, and once 28 tons per acre over a 10-acre field. I take this crop to average 20 tons over 30 acres, which gives 1,344,000 lbs. as food for stock during the eight winter months; but as they get dry and weedy in the spring, and the stock refuse them, they should be all consumed by the 1st of March, and the Mangel will supply their place.

*The sixth Crop is Oats.*—The land left by the Swedes is in excellent condition; should be ploughed as soon as it can be after the Swedes have been lifted and taken to the store, for it to get firm before seed time, as the Oat, like the Wheat, require a firm and rather solid bed to root in. The Oat should be sown early in the spring, the first fine weather when the land is in a proper state of dryness; January or February is a much better time than in March. We have had 90 and once 113 bushels of Tartarian Oats after Swedes; we may take the average of the Oat crop at 72 bushels per acre, and the straw at 2 tons over the 30 acres. This is equal to 134,400 lbs. of straw cut into chaff as winter food for the stock.

*The seventh Crop is Beans,* 10, *and Potatoes,* 15 *acres, and* 5 *acres of Carrots.*—The 10 acres of Beans we average at 50 bushels per acre, and 1½ ton of straw per acre, which is 33,600 lbs. of excellent food for stock when boiled.

*The* 15 *acres of Potatoes* may average 8 tons or 70 sacks per acre (9 tons or 80 sacks per acre was the average crop on Mr. Dimmery's farm for 20 years). This crop may either be consumed by the beasts or sold, and cake or Linseed purchased, the price which would buy 36 tons of cake, or the whole may be sold if the market price is the most profitable of disposing of this crop.

*The* 5 *acres of Carrots* we estimate at 18 tons per acre; this is 201,600 as food for the horses and milk cows—this will give 50 lbs. daily to each of 16 beasts for 240 days.

*The eighth crop is Wheat.*—After the Beans, Potatoes, and Carrot, we average as before at 38 bushels and 2 tons of straw, being 67,200 lbs. as food, and 67,200 lbs. as litter.

The 60 acres of good rich pasture, such as will fatten a 100 stone ox or 7 sheep per acre, will produce 5 tons of fattening food for 4 months. This is equal to 672,000 lbs. of fattening food for four summer months.

*J. M.*

*(To be continued).*

## STEAM CULTIVATION.

THE letter of "Agricola," in your Paper of Sept. 3 on this subject, requires notice on my part. Steam culture must be well ventilated before as a science it can shine by its own light. Now that the field is clear of all competitors (who have each had a fair trial) I shall proceed more fully to explain my doctrines and my circular system of agriculture to your readers. In this I must only beg space enough to touch upon certain points of "Agricola's" letter. He seems to be well acquainted with all those plans for steam-ploughing and steam culture which have recently been tried.

He asks me to repeat my plan, and say whether it be an entire system of field practice, or only intended to fulfil the operation of ploughing? To a discerning mind it is only necessary to hand over main principles, since from these can be deduced the consequences, whether they affect details or practice. The main principles of any system, practice, or proceeding like the main operations of Nature are, or should be simple, however complex the variations may be. Nature's variations are innumerable, her governing principles few and simple, although we sometimes find it difficult to discover this simplicity. My circular or cellular agriculture introduces a system to be applied to the whole practice of the field; and the system involves a machine through which every operation of tillage is to be performed from cultivation to irrigation. It is the only plan for steam culture (with the exception of Halkett's of more recent date) which has involved a system properly so called; all others have been mere ploughing plans invented expressly to gear on to the present system of agriculture, not to supersede it.

Mine would alter the whole economy of our field practice; Mr. Halkett's would do the same, but not in so complete a manner. On the score of economy in first application, and continuous after working, mine will be found as superior to Mr. H.'s as a railway would be, without the expensive permanent way, over one which rejoiced in sleepers and disunted bridge rails. "Agricola" writes: "So far as I can judge by Mr. Burcham's letter, he objects to the Halkett system on account of the expense of laying down the rails, but the system is an impossibility without them." Now I hope to show "Agricola" that results equal to Mr. H.'s system can be obtained without the expensive rails.

My circular or cellular system of agriculture may be thus stated: I propose to divide any given number, or let us say for an example, 200 acres of arable land into 400 parts, each part to be a circular plot; we thus get a congeries of circles touching each other, on which to grow in alternate circles (or otherwise) corn and roots. In the centre of each circle I place a post, or which is far more economical dig a hole, permanently retained. I then build a gallery cultivating machine, in length a semi-diameter of the circle; it is roofed in with canvas or asphalt, so that all hands work under cover in unfavourable weather. One end of the machine has several wheels, the other only two (carrying wheels). At this, the carrying wheel end, an Archimedean screw can be protruded, which enters the hole mentioned as being dug in the middle of each circle. One end thus becomes a fixture, and the power of steam (or horses) being applied to the outer end, it revolves around a fixed axis, thus tilling the land by what may be termed a horizontally-circular movement.

Now to draw a picture to the mind's eye, the agricultural result of this mode of operating would be thus: our fields would appear as if composed of a congeries of circular allotments, and a hillside would resemble "the diamond cut with facets." This sub-division of land into minute parts (like so many mole-hills) and the using a tillage machine equal to only one of those parts at one time, would introduce the allotment system, the most productive of all systems, to our large farmers.

Now let me compare in economy and mechanical superiority the advantages of my circular system over Mr. Halkett's guideway. I am obliged to allude to him because, whilst his plan is superior to all the others, it is also the only one which has resemblance to or affords a sufficient standard of comparison by which my own can be estimated. In examining the problem to my great delight Mr. Halkett found out, what I had so long known, that machinery could not be worked on a plane surface like the soil with efficiency or economy without a "guide." So important did he evidently consider this that he entitled his plan Guideway Agriculture, to indicate its nature and value. But to obtain this necessary guide, as "Agricola" knows, Mr. H. is obliged to lay down a double line of rails, which costs 20*l.* per acre. Now it will at once be observed that the post which I place, or the hole dug in the middle of my circle, is a guide—a permanent guideway—from which when at work there can be no deviation by machinery, and it would not cost 20*s.* per acre. Here is Mr. H.'s grand result of a guideway obtained at a minimum expenditure by my more simple mode of proceeding! Of course a cultivator could be worked by night as well by my plan as by his.

The next point to be alluded to is this. I am inclined to think "Agricola," in common with divers engineers, attaches very great value to Mr. Halkett's plan, because it includes a railway, upon which it is easy to run heavy loads. Yes; but heavy loads, unless they are moved at considerable velocity, or the price obtained for them artificial and exclusive, will not alone pay for an iron roadway.

Now, there are not, or ought not to be, heavy loads in farming: 2 to 4 tons is generally the outside weight, and what is that? Will that pay for an iron roadway? Again, even a railway would not pay, unless the road were comparatively level. Finally, however paradoxical it may appear, velocity, whilst it is the source of destruction, is also the very basis of profit to an iron roadway; but agricultural operations resemble those of the parent they attempt to aid, viz., Nature's, in which, except on rare occasions, there is not, nor ever need be, velocity.

"Agricola" will see I possess the power of providing a good natural roadway around every one of my circles for the moderately broad wheels of a steam cultivator; it may be in the form of a firm green sward, or layer of concrete material. The rim of the circle will not be broken up every year. However, it will be seen my system provides the fixed guideway, as well as the permanent roadway for steam-culture, without the vast expenditure required by Halkett's.

It is a main point with Mr. Halkett that by his railway he can do the cartage of a farm. Now, by my system of field practice I can, comparatively speaking, prevent cartage altogether, and everybody will allow that prevention is better than cure.

"Agricola" will observe there are blank spaces left, where three of my circles conjoin, thus. ○○○. On these I store all crops in the field, and manufacture manures, both solid and liquid, thus saving cartage. In truth, as the chief result of my investigation of the steam-culture problem, I may here state that it will be surprising what an immense number of expensive labours on the farm steam power will prevent; it will prevent cartage, it will prevent wholesale manuring, it will prevent "ploughing" by preventing consolidation and weeds, it will prevent cattle fattening on layers of straw or rafters of wood at the homestead, it will prevent droughts in the soil through its reservoirs of water, it will prevent flooding over the soil by its intercepting drains; in fact, it will prevent subsoil drainage in a measure, as well as all expensive homestead construction. Instead of being destined to encounter and overcome the present heavy labours as they stand, as other inventors have supposed, I find it will vanquish them by anticipation, that is, by rendering them light, manageable, and co-equal. "Agricola" seems inclined to stick up for the railway on arable land. I do not deny the merit of the iron rail for certain purposes, but I repeat that on a farm it is not necessary, since there is neither excessive weight to be carried, nor extreme velocity to be attained. I should like to hear from him again on this subject. *C. Burcham, London.*

## Home Correspondence.

*Extirpation of Thistles.*—Various suggestions have lately been offered by several correspondents for the destruction of the Nettle, for which many thanks are due. May we ask advice through the same channel for the extirpation of that much more formidable king of weeds the Thistle? It appears from our observations that certain seasons are congenial to its growth; and that the two last years have been most remarkable for this. No one perhaps has had more to do in battling with the Thistle than the writer, who is ready at any time to wage war in an army of bayonetted Thistles with any man for a sovereign, without gloves or any other defence save his hands. For many years he regarded the Thistle as a biennial, and to annihilate it recommended the constant cutting off its tops and roots for two years as often as it appeared, and not allowing it to seed, as a specific means of destroying it. So far good, as is illustrated by the following circumstance: "A breadth of land which had been badly farmed by predecessors, was laid down with Lucerne three years ago after common ploughing (it ought to have been double trenched); it was in consequence completely smothered with Sow-thistles, Gut-weed, Nettles, Colt's-foot, Cat's-tail, Docks, and other monster and deep-rooted weeds during the first and second years; but by cutting them off, or bleeding them, as it were, three or four times every year with the Lucerne during summer, when flowering, all such trash now in the third year have ceased to make their appearance, except Grass, which is no detriment to the Lucerne, but more serviceable for cattle; and it would have been better if a select kind of Grass had been intro-

duced the second year or after the Lucerne had established itself." Broadcasting Lucerne equally we find to be more profitable than by sowing it thicker in rows, which like crops of corn, &c., huddles the plants together too much and renders them weak and sickly, too often to be killed from various casualties, and by the hoe when keeping them clean, which, too, is altogether unnecessary and too expensive. We know of no better plan to expunge those monster Thistles than by repeatedly drawing them with the hands, or to Bentall them up at all convenient seasons when they are most luxuriant in growth, which bleeds and weakens them to a certain degree so that they will not rally to do much more mischief for several years afterwards, though their stools or roots we believe are still alive and ready to shoot again in full vigour in after years when favourable opportunities offer amongst crops, where they cannot be eradicated without too much damage, expense, and valuable time. The steam plough, however, may yet effect wonders in breaking up their stools, which have stood it may be for generations past. A contemporary writing on the same subject has declared that to extirpate them entirely is impossible, since a Scriptural prophet has foretold that "Thorns, Thistles, and Briars, shall for ever spring out of the earth." This passage we think is figurative, and applies to weeds generally and not to Thorns and Thistles particularly, since many gardens and fields are as perfectly free from them as of other weeds when perseverance and assiduity in eradicating them is at all times observed, and where they spontaneously spring np alike.
*Hardy & Son, Seedgrowers, Maldon, Essex.*

## Societies.

MANCHESTER AND LIVERPOOL.—The annual meeting of this Society took place last week (Friday) at Liverpool, too late for a report to be given in last week's Number of our Journal. The following prizes have been awarded for the best cultivated farms:—Mr. R. Birch, Netherton, near Liverpool (one claimant), 12*l.*; T. Williamson, Linacre (near Liverpool, (three claimants), 8*l.*; S. Cook, Linacre (two claimants), 5*l.*; Joseph Gorst, Garston, near Liverpool (one claimant), 4*l.*; C. Musker, Bootle, near Liverpool (one claimant), 3*l.*; Samuel Davies, Eardswick Hall, Cheshire (one claimant), 10*l.*; J. Birch, Sefton, near Liverpool (five claimants), 12*l.*; Gilbert Halsall, Halewood (six claimants, one withdrawn and one ineligible), 8*l.* The Silver Medals for farms were not awarded, the claimant for the first having withdrawn, and there being no claimant for the second. The prizes for draining were then awarded as follows:—Silver Medal (two claimants), the Right Hon. Edward Cardwell, Ellerbeck; 8*l.*, Thomas Bebbington, Oulton Lane, Tarporley; 4*l.*, J. Aspinall, Kenyon, near Manchester (one claimant). *There was no claimant for the Silver Medal for subsoiling; and of the two claimants for the 3l. prize, one was disqualified, the prize being awarded to Messrs. James Longton & Son, Woolton Mills, near Liverpool.* The Silver Medal for irrigation was not claimed; but the 4*l.* prize was awarded to Mr. Silas Dorning, of Little Wardley, Swinton, near Manchester, the only claimant. The Silver Medal for laying down land to Grass was awarded to Mr. T. W. Dutton, Northenden, near Manchester; the 5*l.* prize (two claimants) to Mr. Thomas Atherton, Speke, near Liverpool; the 4*l.* prize (three claimants) to Mr. James Langshaw, Speke; the 3*l.* prize (two claimants) to Mr. Thomas Langshaw, Speke. A 3*l.* prize for marling was awarded to Mr. W. Palm, Stapleford Hall, near Chester. A 3*l.* prize for eradicating old hedges was awarded to Mr. James Kerr, Woodchurch, near Birkenhead; a 4*l.* prize to Mr. John Kilshaw, Great Sankey, near Warrington; 5*l.*, Messrs. James Longton & Son, Woolton. The following prizes were awarded to farm servants and labourers:—3*l.* to James Bond, of Mr. G. Alker, Upholland, near Wigan; 4*l.* to Josiah Owen, Dunham, 36 years' service; 4*l.* to William Eaton, Much Woolton, near Liverpool, for bringing up the greatest number of legitimate children (12) without parochial relief; Mary Bailey, at Mrs. Mary Mee's, Withington, near Manchester, 27 years' service.

*Reaping Machine Competition.*—A trial of reaping and mowing machines took place at the farm of Mr. Tipping, near Smithdown Lane, on Wednesday last. There were five machines on the ground; namely, four of Woods' (American) combined reaping and mowing machines, and one of Dray's Champion reaping machines. The grain selected for trial was Barley, in a very ripe condition, thus rendering the mowing more difficult, as the stems, instead of being hard or erect, were nearly half rotten or very pliable. Wood's machine cut very clean—in some places the stubble were not more than ½ inch high, while the corn was laid close and ready for binders. Dray's machine, though a new one, did its work very well. After some hours had been spent in testing the machines as reapers, they were removed to a Clover field, to be tested as mowers: it was evident that here they differed in their success, probably from the state of the knives. Some cut close and clean, whilst one or two left rather a thick crop behind. The machine of Richmond & Chandler (Woods's) seemed to give general satisfaction. The mowers were not tied to time, the quality of the cutting was the object sought.

*The Show of Stock and Implements* took place on Thursday, in a field in Wavertree Road, near the Edge Hill station. A large sum had been collected in subscriptions and donations for the purpose of giving special prizes, the total amount distributed in premiums being 1100*l.* The horned cattle numbered 96 entries, and could scarcely have been surpassed for quality in any district. The horses were numerous. The multiplication of special prizes out of the local fund produced too much division, and it would have been better had the general prizes been increased in amount, so as to have concentrated the competition. There was a large show of implements, comprising various novelties in this branch of manufacture. There were 50 exhibitors, whose stands comprised about 600 different articles. Among the prizes taken were:—For horned cattle—1, Viscount Hill, of Hawkstone, 10*l.*; and 2, Thomas Forrest, Tarporley, 5*l.*, for Short-horn bulls. For Short-horn cows: 1, James Dickinson, of Wigan, 5*l.*; 2, James Parr, Warrington, 2*l.* 10*s.* For Short-horn heifers: 1, Captain Gunter, Wetherby, 5*l.*; 2, R. C. Lowndes, Anfield, Liverpool, 2*l.* 10*s.* Three entries. For Short-horn yearling heifer: 1, Captain Gunter, 3*l.*; 2, George Stone, Fairfield, Liverpool, 1*l.* 10*s.* Extra Stock: Medal to Captain Gunter, for red heifer, "Red Blossom."—Considerable confusion and disorder prevailed owing to the unfinished condition of the arrangements for receiving the stock. This appears to have been owing to the entire inexperience of the General Director of the show, on whom the responsibility of making these arrangements does, we understand, exclusively rest. That portion of the confusion which was due to the frequent repetition of prizes offered for the same class of animals arose out of the fact that the prizes offered by the Local Committee were made known after the list of the Society had been published. The authors of the original list are not to be blamed for repetitions over which they had no control.

At the dinner in the course of the evening of Thursday, the toast of "the Judges" was proposed by the Earl of Sefton, the Chairman, who humorously observed that when a boy at Eton, being a light weight, he was put down to steer, and a judge was like a steersman; if the boat won, no thanks to the steersman, but it was his fault if it lost; and if an exhibitor won a prize, no thanks to the judge, but if he did not, it was the judge's fault. Mr. Grey, in responding, said: It was the cultivation of stock which he conceived the British farmer was now peculiarly called upon to look after—not only that he should have a certain amount of stock on his ground, but that he should have that description of stock which his ground was capable of keeping, and which would turn him over his money to the greatest advantage. Two things were necessary to the profitable feeding of cattle; first of all, to get the best description of animals they could, and when they had got those animals they must combine it with that good cultivation which would produce all the year round a good, nutritious food to bring those animals to maturity and to perfection. It was evident now that the production of butcher's meat and wool was to be the most remunerative production of the British farmer's produce. They could be brought into competition with many countries in the production of grain. Some countries were better calculated to mature Wheat than ours was; but no country in the world was better calculated than ours was to produce butcher's meat. It was a happy thing that the operatives in our day were fed with beef and mutton, and that a butcher's shop met us everywhere. Long might that continue. It was therefore the duty of farmers, individually and nationally, to feed and maintain the dense and ever-increasing population of the country on the produce of the country itself. He had observed that sheep were not much cultivated in this part of the country, and that the land was not prepared for them. Sheep would not thrive upon Rushes, nor did they like damp beds. They required the land to be drained; and he was sorry to see in this district several fields still luxuriating in tall Rushes. Those farms which were most productive were those farms which were well stocked with sheep; and he was quite sure that no country could compete with us in our oxen and our sheep. He was equally sure that if more attention were paid to stock and to the production of nutritious roots for their support, it would put more money into the pocket of the farmer and effect a national good.

Among the prizes offered for implements the following awards were made:—For the best cultivator, or grubber, capable of being worked by two horses, 5*l.*—Messrs. Coleman & Sons, of Chelmsford; for the best combined mowing and reaping machine, 10*l.*—Messrs. Richmond, Chandler, & Norton, 62, South John Street, Liverpool; for the best two-horse cart, not exceeding 18 cwt., with shelvings complete; not painted, and the price to be stated, 5*l.*—Messrs. Richmond, Chandler, & Norton, 62, South John Street, Liverpool; for the best one-horse cart, not exceeding 13 cwt., with thrippers or shelvings, complete; not painted, and the price to be stated, 5*l.*—Henry Gibbons, of Greenbank Farm, Toxteth Park, near Liverpool.

## Farm Memoranda.

IMPERIAL FARM AT VINCENNES.—The *North British Agriculturist* recently described some of the government farms near Paris, and the following is an abridgment of its account of one near the castle of Vincennes and the forts of Toinville and Graville. The distance from the barrier of Paris is about two miles. Previous to October 1858 the whole was a comparative waste, used as parade ground. The farm consists of about 600 acres; of this 169 acres are cultivated, the remainder in Grass. It has only been formed since October last. From October to April the whole was reclaimed at an expense of about 4*l.* per acre. The outlay was incurred in digging up and removing the stones, the roots of trees, and other obstacles to the progress of the plough. The lands in Grass were levelled in parts by the spade and handbarrow. The land is generally of a very inferior description. The whole farm is consequently extremely liable to injury from drought. The buildings are constructed for a dairy and sheep farm. They appeared to us to be admirably adapted for this purpose. The whole were erected and finished for the stock between the 20th of February and the 29th of April. They are durable erections, the walls of stone and lime, the roofing the best materials—wood and slate—the work finished in the best manner. The byres appeared the most perfect cowhouses we had examined. The temperature was much below that without, while there was an absence of nearly all offensive smells so frequently felt in byres. The arrangements for facilitating feeding the stock, milking the cows, and cleaning the byres, are so perfect that one man superintends 26 cows, performing all the labour connected with feeding, milking, and cleaning.* No part of these duties are lightly passed over. All is performed regularly and with due regard to cleanliness. The sheep houses and stable are equally well arranged for the stock kept. The dairy stock consists of cows of the Schwitz breed; the stock was obtained direct from Switzerland, for the Emperor, and purchased from the most celebrated breeders. The price paid averaged from 16*l.* to 20*l.* each; the bulls 20*l.* to 24*l.* The herd was for a time kept on other two farms, and was removed to Vincennes at the end of April last. There are at present 92 cows, two bulls, 18 young cattle, and several calves in the byres. The calves are generally sold when dropped—those of the best cows being kept to supply the vacancies which will occur in the herd. It is intended to keep 100 cows. Of sheep, there are 250 of all ages—Southdown. The herd was purchased from M. Allier, obtained nearly all from Mr. Jonas Webb of Babraham. There are six work horses, and one for conveying the milk from the farm to the Imperial Laiterie in the Rue de Richelieu, near to the Palais Royal, Paris. Besides conveying the milk in the morning in a spring carriage, this horse is at the service of the farm manager. The number of persons constantly employed on the farm is as follows—Four cattle men, three ploughmen, one shepherd with two boys, and one farm steward. The whole are boarded on the farm, and sleep on the premises. The shepherd's wife furnishes and cooks the food. The payment is at the rate of about 1*s.* 2*d.* a day. The men have four meals daily, are allowed animal food twice, and one litre quart of wine per day. The average wages are equal to between 16*l.* and 17*l.* per annum. Shepherd, without food, equal to 40*l.*; boys, about 1*l.* per month, with food; the Dutch cattle man, with his wife, receives with food, 84*l.*; the labourers generally 3*s.* 4*d.* a day, without food. The manager receives about 100*l.* a year. The cattle men have a sleeping apartment over the place in which the forage is placed for the stock; the room is reached by a trap ladder. The cattle men while in bed can hear and see what is going forward in that part of the byre in which the stock they have in charge are kept. An opening in the wall enables them to overlook the row of cows, the bed being placed beside the opening. The cows are milked twice in the 24 hours. As the milk is taken from the cows it is seethed into large white iron vessels. These as they are filled are placed in a large stone tank containing water to reduce the temperature as speedily as possible to prevent a change in the milk. This change is rapid when the milk is not speedily cooled down as it is taken from the cow, when the temperature of the atmosphere exceeds 75 deg., F. The sheep are kept in four houses, and on the same forage as the cows—a mixture of plants Sorgho, Oats, Beans, Tares, and Barley. In addition they are supplied with bran and Oats at the rate of ½ lb. per day, or an equal weight of cake. The temperature of the houses is regulated by openings in the walls and roofs. The flock is in fair condition. there are no pigs nor poultry kept on the farm. The cropping of the land is so arranged as to supply green food for the stock during summer and autumn and dry forage during winter and spring. It is intended to lay down pipes to irrigate a portion of the lands. Tanks are constructed to contain liquid manure from the byre. A full command of water is obtained from a conduit which supplies the lakes in the park of Vincennes. In addition to the manure of the farm, the barracks supply a considerable quantity; this is in a liquid form. During the winter about 4000 tons of liquid manure was put upon the lands, applied at the rate of 15 to 18 tons per acre. The cultivated portion was first ploughed, afterwards the manure was applied, and incorporated with the surface soil by the use of a grubber. Seeding the land followed, when the harrow and roller completed the mixing of the manure with the soil. The expense of conveying and applying the manure was at the rate of 2*s.* 11*d.* per ton. The following is the cropping of the arable lands:—In November, 10 acres were seeded with Rye—this for early green cutting; by the first week of March, the same quantity was seeded with a mixture of Barley, Tares, Peas, and Beans; a second portion seeded by the third week of March. In April, two sowings of a mixture of Maize, Beans, Tares, Peas, and Oats. In May, two sowings of

[* He would be six hours a day in milking these.]

40-days' Maize, Sorgho, Peas, Beans, and Rape. In June, two sowings of 40-days' Maize, Rape, Buckwheat, Moha (Hungarian Grass). In July, upon the removal of the first crop, a second is sown, the land being ploughed, reduced, and manured. The following mixture is sown in summer—40-days' Maize, Rape, white Mustard, and Sorgho. The forage from a mixture of plants is very superior to that from any one of the plants singly, both as to quantity and quality. The British cultivator has here a hint as to the growing of forage. The supply has been ample from the end of April until August, and would have continued, but the army from Italy is now encamped on the farm. The number of men is stated to be about 60,000. There were this season 62 acres of Oats, one of the varieties being Avoine de Brie, grain black, in very common cultivation in France. The other portion was a variety known as Russian Oat. The land was broken up for the first time during last winter. The crop was bulky, but the grain had evidently been injured by the heat and drought of the season. Two plots of Mangel, consisting of about 25 acres—plants irregular, but generally large for the period of the year; 12 acres of Potatoes, a full crop, and quite free from the blight. In addition to the straw of the cereals to furnish fodder, there are stacked between 200 and 300 tons of hay. This cut early in the season, from parts of the lands in Grass. When pipes for irrigating part of the land are laid and in use, a large supply of green food will doubtless be obtained from the application of the liquid manure. The weight of the Mangel crop will also be greatly increased; consequently, a regular and full supply of succulent food for the stock will be secured during the whole year—a condition very essential for the profitable results from a dairy farm.

## Calendar of Operations.

### SEPTEMBER.

BERWICKSHIRE MERSE FARM: *Sept.* 10.—The labours of an early harvest are now brought to a close in this district. Reaping was general about the 12th August, and quite kept pace with the ripening of the crops, though retarded at times by showery weather. Attracted by the high wages of last year, the Irish came over in great numbers, and the moderate rates consequent on this influx diminish the comparative economy of machine work. In the prospect, however, of a less liberal immigration in future years, the various reaping machines are viewed with increasing favour, which is only limited by the too frequent want of substantiality of construction—a quality that may be reasonably demanded in a high-priced implement. During the dry breezy days of last week a large part of the crop was carted in fine condition; and the remainder, being secured in the early part of this week, is now safe under "thack and rape." This does not apply to the Lammermuir district, where the earliest places only are all cut, and but little in stack. A strong gale too blew all yesterday, and has (we understand) caused serious loss by shaking in exposed situations. Little has yet been done in the way of testing the yield of the new crop. To judge from appearances, one would expect the various grains to be of good quality in general. Considerable portions of White Wheats, however, are mildewed, and of Winter Beans prematurely decayed from the root. We would estimate the Wheat and Barley at a good average yield per acre; but Oats, and especially Beans, as light. Swedes have recovered considerably during harvest, stimulated by occasional showers and moderate temperature; they have as yet escaped the mildew which is devastating neighbouring counties, but are certainly too backward to be anything like a full crop. Pastures, too, are by no means equal to the acquirements of well-conditioned stock; nor have they done much all summer. The Potato haulm is withering rapidly, and the disease has appeared in many places. Our great district meeting at Kelso, for the sale of rams by auction, was held yesterday; and the numbers shown being some hundreds fewer than for several years past, all the best flocks experienced an animated competition, and realised high averages. *J. T.*

## Notices to Correspondents.

BARRENNESS IN MARES: *A Subscriber.* The fault most probably is with the horse. The mare should be in good condition, but not too fat, the horse vigorous and not too old. *W C S.*

BLINDNESS IN CALVES: *F Hale.* Bleeding from the eye vein or neck, the same side as the affected eye, and warm fomentation in the first instance and cold applications afterwards are the proper remedies. The mischief is probably occasioned by some external irritant. *W C S.*

GORSE: *A Constant Reader* says: "I have lately broken up some acres of old Gorse and turned it into permanent Grass. In spite of three or four crops and the necessary intermediate ploughings the Gorse comes up as thick as ever. Can any of your readers suggest a remedy for this?" [Break up the Grass and give it a course of cropping and lay it down again.]

MANGEL SEEDING: *A Learner.* The later you sow the less liable are plants to run to seed. Seed from transplanted bulbs should be used. Deep tillage and rich soils are less likely to provoke seeding than hard and poor ground. Probably at Montrose your climate is at fault.

PIGS: *A Victim.* Your remedy is to send stray animals to the pound, to be released only on paying the damage. Of course if the fence is insufficient a herd boy should be employed. All farmers will admit that.—*Southsea.* The pigs are too much confined, and probably the litter becomes very much heated. We have known the effect complained of where straw chaff at the usual length has been used as litter, fermentation being kept up in the manure by the disturbance of the pigs' feet. The chaff, if cut, should be as long as possible, or if for other objects cut short, a separate space without litter should be given to the pigs. The litter ought either to be removed daily, or otherwise remain consolidated and undisturbed till the pigs are fatted. The shortest remedy will be to give more space and more exercise. *W C S.*

PRODUCE OF ENGLAND: *W H, Oriental Club,* says:—"Liebig, in his last work of 1859, on 'Modern Agriculture,' states, p. 197, that the *Times* commission obtained information (quoted by an American writer) that in the year 1850 there were two millions of quarters of corn less produced than in the year 1774. The census of population first took place in 1801; but I know that in the year 1850 (just before the census of 1851) the population must have been double that of 1774. Now, though England was at one time to a certain extent an agricultural exporting country, still it was not so (except in partial cases) in 1850. We, I believe, have brought more land into cultivation since 1774, and with the increase of population must have produced more corn; besides the guano manure and other manures would cause an increase of produce. I simply wish to know the fact whether the produce of corn could, by any possibility, have been less in 1850 than in 1774." [The statement must be mistaken.]


THE PLOUGH TRIALS AT WARWICK

HOWARD'S CHAMPION PLOUGH

**Gained the FIRST PRIZE as the Best Plough for General Purposes at Warwick,**

BEING the CHIEF PRIZE for PLOUGHS, awarded by the Royal Agricultural Society of England, at this Meeting. The importance of this Prize will be gathered from the fact that the GENERAL PURPOSE PLOUGHS are the only ones tried on BOTH LIGHT AND HEAVY LAND, and as HOWARD'S CHAMPION PLOUGH proved itself to be the best on both soils, the FIRST PRIZE, of the HIGHEST AMOUNT given by the Society for any kind of Plough, was awarded to J. & F. HOWARD.

PRIZES awarded to J. & F. HOWARD, by the Royal Agricultural Society of England, at the WARWICK MEETING, 1859, being not only the LARGEST NUMBER of PRIZES, but the LARGEST NUMBER of FIRST PRIZES awarded to any Exhibitor.

THE FIRST PRIZE FOR THE BEST PLOUGH FOR GENERAL PURPOSES, ALSO A PRIZE FOR THE BEST PLOUGH FOR LIGHT LAND, AND A PRIZE FOR THE BEST PLOUGH FOR HEAVY LAND; THE FIRST PRIZE FOR THE BEST LIGHT HARROWS, THE SECOND PRIZE ALSO FOR THE BEST LIGHT HARROWS, AND THE FIRST PRIZE FOR THE BEST HEAVY HARROWS.

**Every one of HOWARD'S Implements, tried at Warwick, gained a Prize.**

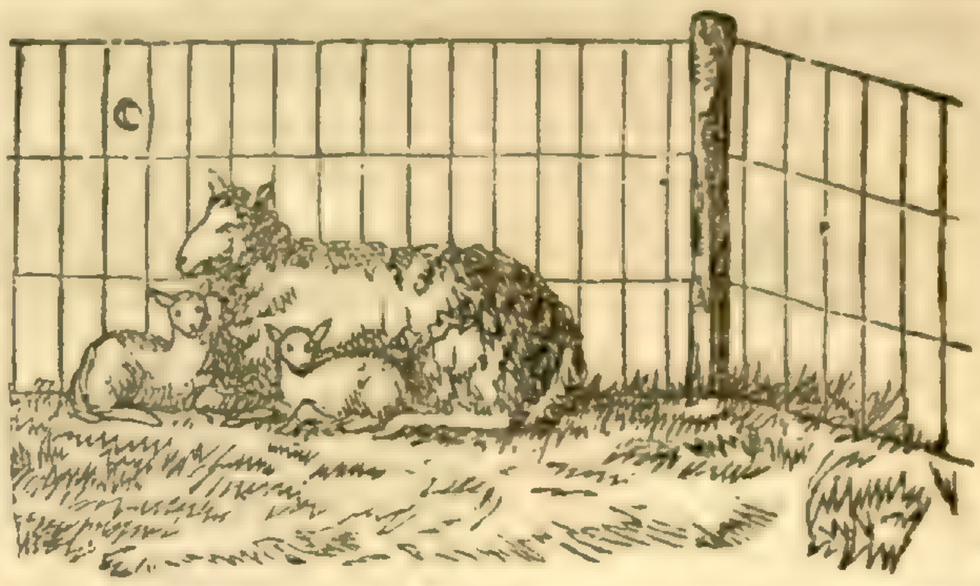
CATALOGUES, with full particulars, sent post free on application to

J. & F. HOWARD, BRITANNIA IRON WORKS, BEDFORD.

GREENING & COMPANY'S

PATENT WIRE FENCES.

PATRONISED BY HIS ROYAL HIGHNESS THE PRINCE CONSORT.



No. 7 B VARIETY.—PATENT SHEEP-FOLDING FENCE.

SPECIFICATION.—Height 3 feet; four horizontal bars of strong, tough, pliable fencing wire, intersected by vertical bars of lighter wire, woven firmly on at regular intervals of 4 inches.

**9d. per lineal yard.**

From "Report of the Judges" on the Exhibition and Trial of Implements at the Salisbury Meeting, 1857. Royal Agricultural Society of England.

"The Iron Wire Sheep-fold Fence of Messrs. GREENING was cheap and excellent. It can be very easily fixed, and was well coated with a bright and durable-looking varnish." (High commendations were awarded.)

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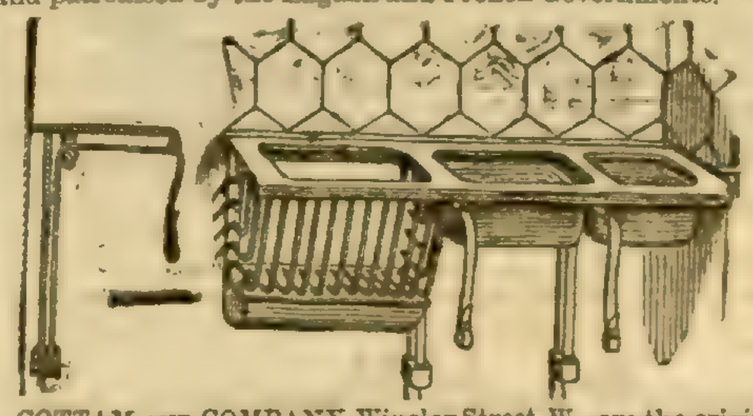
Post free on application.

**GREENING & Co., Victoria Iron and Wire Works, 81, Oxford Street, Manchester.**

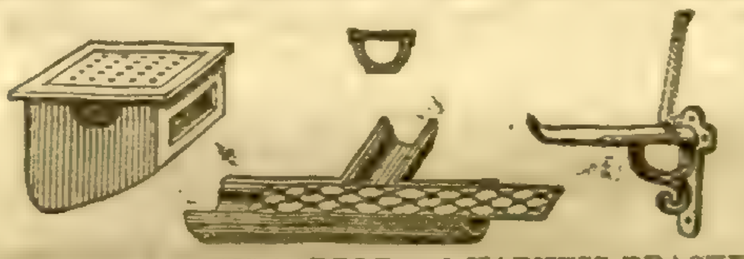
TO BE SOLD, Bargains, SAW TABLE and BORING MACHINE for TIMBER, and TWO IRRIGATING or FORCE PUMPS, on Wheels, with Hose Pipes. Also a few first-class Agricultural Implements equal to new at about half price.—EDWARD WEIR, 296, Euston Road, London, N.W.

COTTAM'S PATENT INVENTIONS FOR STABLE REQUISITES, awarded a Prize at the Paris Exhibition, and patronised by the English and French Governments.



COTTAM AND COMPANY, Winsley Street, W., are the original inventors of the PATENT ENAMELLED MANGER, Water Trough, and Wrought Iron Rack, united to an iron top-plate, and forming one complete and useful fixture, having COTTAM'S patent noiseless halter guide and collar rein attached, which is taken to the back of the manger, and works with ease and freedom up or down the guide-bar.

COTTAM'S NEW PATENT SEED-BOX, an important addition to the above fittings, being simple in construction, light, and durable, promotes cleanliness, and is economical in its results.



COTTAM'S PATENT SADDLE and HARNESS BRACKET combined, can be used with great advantage where space is an object, as it can be turned up out of the way when not in use.

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PATENT LOOSE-BOX FITTINGS, and every article for the harness-room and stable, kept in stock, plain, galvanised, and enamelled. Iron gates, fencing, hurdles, &c.

The New Illustrated Catalogue and Estimates, gratis, upon application to COTTAM and COMPANY, 2, Winsley Street, Oxford Street, W.

N.B. COTTAM & Co. beg to make it known that there is no longer an entrance to their establishment from Oxford Street, but that they have made a second entrance from 2, Winsley Street, Oxford Street, W., by the side of the old entrance to their works, opposite the Pantheon.

GARDEN POTS AND PANS, in quantities of not less than 20 casts, delivered to the London Stations at the following prices:—Nos. 9 lbs. 60, 60, 54, 48, 40, 32, 28, 24, 16, per cast, 2s. respectively. 12, 3s.; 8, 3s. 6d.; 6, 5s.; 4, 5s.; 3, 5s.; 2, 5s.; 1, 5s. On lesser quantities, 6d. per mile, for delivery to the Station, charged. The usual discount to the Trade. Square Propagating Pans, Kale and Pumping Pots, Strawberry and Border Tiles, &c., made to order.

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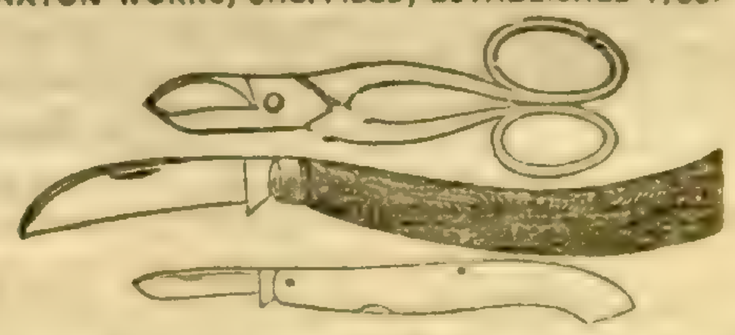
PAXTON WORKS, SHEFFIELD, ESTABLISHED 1738.



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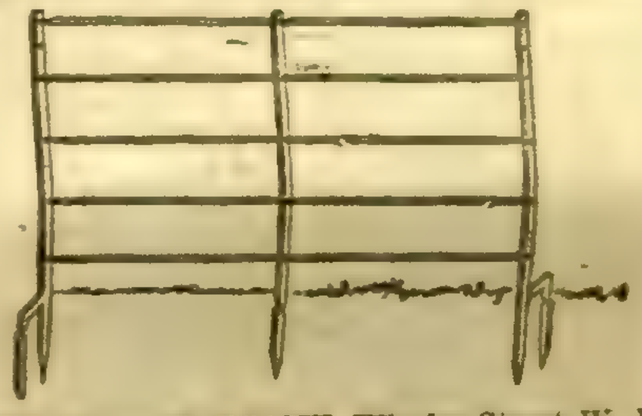
IRON HURDLES, FENCING, &c., MADE BY MACHINERY.



COTTAM AND COMPANY, Winsley Street, W., have invented machinery for making Hurdles, &c.; the bars, instead of being pointed by hand in the old fashioned style, are nippled down by the machine, leaving a shoulder so as to more effectually tighten the standards when riveted. They are made of superior iron only, and will compete in price with those made by hand from cinder or common iron which so frequently break. Iron Fencing, Gates, and Iron Work of all kinds, both Plain and Ornamental, Conservatories, Hot Water Apparatus and Garden Implements.

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# HORTICULTURAL WORKS,

## DANVERS STREET, PAULTON'S SQUARE, CHELSEA, S.W.

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RESPECTFULLY BEGS TO INFORM THE NOBILITY, GENTRY, NURSERYMEN, GARDENERS, AND OTHERS, THAT HE CONTINUES TO CARRY ON THE BUSINESS IN ALL ITS BRANCHES AT THE ABOVE OLD ESTABLISHED PREMISES.

## CONSERVATORIES, GREENHOUSES, FORCING HOUSES, VINERIES, PITS, &c.,

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J. G. having specially devoted his attention for many years to this part of the business, is now fully prepared to Heat every description of public and private buildings, viz :—Churches, Mansions, Warehouses, &c., as well as all structures connected with Horticulture, in the most efficient manner. His system is the most simple that can be adopted—which he has found from long experience to be the best—can be constructed at less cost, and is more easily managed than those of a complicated nature which have attracted the notice of the public.

J. G. begs to call attention to his CAST-IRON CORRUGATED ARCH BOILER, which from its simplicity of construction has not the liability to fracture to which those of a more complex design are always subject. They have been extensively used for many years, and have given the greatest satisfaction.

All business is conducted at this establishment on the principle of lowest remunerative profits consistent with best materials and workmanship.

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CHALLENGE THE WORLD to produce a Boiler not made in imitation of their Upright Tubular Boiler that will produce anything like the same effect with the same quantity of fuel in a given time.

The following unequalled statistics fully justify the challenge :—

| Mark the enormous length of Houses and Piping heated by One Boiler. | Length of Houses in feet | Total length of Piping. |
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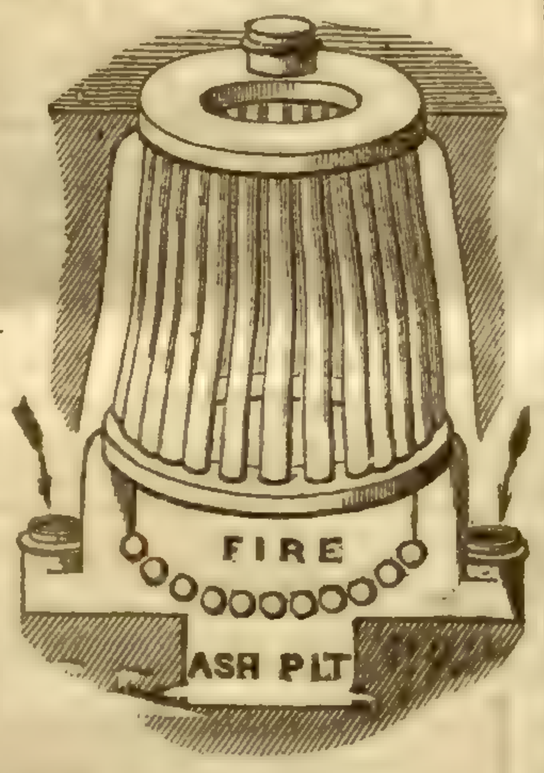
| Our own Fruit Forcing Show Establishment ... | 1,000 | 7,000 |

Also the Nurseries of Mr. Woodroffe, Harrow Road, N.W.; Messrs. Rollisson, Tooting, S.; Messrs. Wood & Ingram, Huntingdon; Messrs. Wood & Son, Maresfield; together with numerous Public Buildings and Establishments of the Nobility and Gentry far too numerous for insertion.

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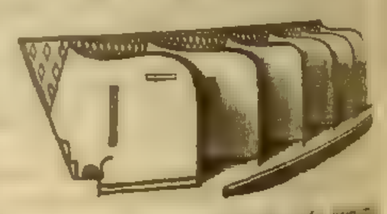
MUSGRAVE'S PATENT SLOW-COMBUSTION STOVE, for Warming Public Buildings, Hall, Shops, Conservatories, Factories, Drying Rooms, &c. Will burn in Churches from Saturday till Sunday evening, avoiding attention during the hours of worship. In Halls will burn day and night for weeks, with little care. Capable of warming a large apartment for 24 hours, at a cost of 3*d.*; and deserving of special attention, because of its safety, healthfulness, durability, and extreme simplicity. This Stove is the nearest approach to warming by hot water.

MUSGRAVE'S PATENT STABLE FITTINGS AND HARMLESS LOOSE BOXES have obtained the award of a large Council Medal from the R. I. A. Society for the following improvements :—1st, The Horse cannot injure himself or others in the same stable if he breaks loose in his stall. 2d, He cannot waste the hay. 3d, He can have cut or uncut hay at pleasure. 4th, He has clean water always before him. 5th, A pure and wholesome atmosphere is secured. 6th, The whole fittings are stronger than usual, without increase in price, and there is no risk of infection.

The Loose Box is really what its name denotes, and the most spirited Horse may be turned into it without danger.

MUSGRAVE'S PATENT IRON COW-HOUSE FITTINGS, as approved by the Board of Works, adopted in the Ulster Model Farm, and by many of the most eminent Stock Breeders in the Kingdom, are made wholly of iron, very durable, cleanly, and attractive in appearance. The fodder is always fresh, being freely exposed to the air, removed from the breath of the animal, and separated from the wet or damp food. The range of Troughs can be quickly filled with water for the use of the Cows, or for washing out in case of epidemic, and the cost is very moderate.



These inventions being distinguished for strength, simplicity, and practical usefulness will repay public inquiry.

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WARNER'S SWING WATER-BARROW (HOLDING ABOUT 35 GALLONS), MOUNTED ON WHEELS 20 INCHES HIGH, will save much of the Gardener's time and labour. May be obtained of any Ironmonger for 5*l.* 5*s.*

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Also a great variety of effective Machines for Hydraulic purposes, and to supply Gardens, Hothouses, Cottages, Farms, Mansions, or Boards of Health, with every requisite connected with the conveyance and distribution of Liquids.

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*Seeds sown during September and October in pans, and afterwards pricked out in 48-pots and kept in Greenhouse during the winter, will flower early in the summer.*

☞ PRICE TO THE TRADE UPON APPLICATION.

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| HYACINTHS, best named vars. | Per doz.—6s., 8s., 10s. 12s. 0d. | JONQUILS, single, sweet-scented .. .. | Per doz.—1s. 6d. |
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MIXED VARIETIES, Single or Double.

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| Blue .. .. .. .. | Per 1000—12s. 0d. | Per 100—1s. 4d. | | Variegated .. .. .. | Per 1000—15s. 0d. | per 100—1s. 8d. | |
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| Purple .. .. .. .. | ,, 12 0 | ,, 1 4 | | Yellow .. .. .. | ,, 18 0 | ,, 2 0 | |
| Scotch .. .. .. .. | ,, 21 0 | ,, 2 6 | | Very fine mixed .. .. | ,, 12 0 | ,, 1 4 | |
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| Very fine mixed EARLY .. | Per 1000 50s. | Per 100 6s. 0d. | REX RUBRORUM, double scarlet .. .. Per 100—7s. 6d. |
| ,, ,, DOUBLE .. | ,, 50s., | ,, 6s. 0d. | TOURNESOL, red and yellow .. .. ,, 7s. 6d. |

*For other varieties see* CATALOGUE, *which will be forwarded gratis, and post free upon application to*

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## DIANTHUS HEDDEWIGII.

# MESSRS. E. G. HENDERSON & SON

OFFER for Sale SEED of this truly beautiful dwarf-flowering plant for the Greenhouse and Flower-garden, surpassing all others of its tribe, and for the exhibition of which a Medal and Certificate for Distinguished Merit was awarded to E. G. HENDERSON AND SON, the former at the Exhibition in the Royal Botanic Gardens, Regent's Park, and the latter by the London Horticultural Society. A full description of this species is given at p. 722 (*Gardeners' Chronicle*).

**Seed Packets, 1s., 2s. 6d., and 5s. each.**

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*An extensive and Select Collection of Herbaceous and Alpine Plants is attached to the above Catalogue.*

**E. G. HENDERSON & SON, Wellington Nursery, St. John's Wood, London, N.W.**

TO THE TRADE.

THOMAS JACKSON AND SON solicit an inspection of their Stock generally, and particularly their AZALEAS, ERICAS, EPACRIS, and POT PLANTS, which are this season they believe unequalled in their fine healthy condition. Good flowering plants of Azaleas, Ericas, and Epacris, 75s. per 100. T. J. & Son possess many large specimens of Stove and Greenhouse Plants, from 1 to 5 feet in diameter, suited for exhibition, prices according to size and kind. Berberis Beali, B. japonica, and Eugenia Ugni, good plants in 3-inch pots, 60s. per 100.—Nurseries, Kingston, S.W.

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CAMELLIAS, CHINESE AZALEAS, EPACRIS, ERICAS, of various sizes and all in unusually fine condition. Many thousands of these plants can be seen at the Nursery of the Subscribers.

DWARF OTAHEITE ORANGES in fruit.

CATALONIAN JASMINE (Jasminum grandiflorum).—Fine plants, grafted on short stems, and full of flower buds.

SPRAGUEA UMBELLATA, introduced by H. L. & Co. from California, is now finely in flower in the open ground.

Inspection respectfully invited.

HUGH LOW & Co., Clapton Nursery, London, N.E.

SPLENDID NEW ORNAMENTAL FOLIAGED PLANT—

CONATANTHUS, OR CALADIUM CUPREUS.

HUGH LOW AND CO. have now in their Nursery a magnificent specimen of the above-named new plant, which was imported by them from Borneo. It was exhibited at the July Show of the Royal Botanic Society, where a Certificate was awarded to it, but the plant was then newly imported, and was consequently small. It has now developed itself, and proves to be the finest ornamental foliaged plant introduced up to the present time. No description can convey an adequate conception of its surpassing beauty, and therefore H. L. & Co. invite an inspection. They will have pleasure in showing it to any gentleman who may favour them with a visit.—Clapton Nursery, London, N.E.

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MESSRS. PARKER AND WILLIAMS beg to inform their friends and patrons that their new PRICED and DESCRIPTIVE CATALOGUE of the above, to which are added Supplemental Lists of Stove, Greenhouse, and Hardy Plants, Fruit Trees, &c. (which include all the best new plants of the season), is now published, and will be forwarded post free on application.—Paradise Nursery, Seven Sisters' and Hornsey Roads, Holloway, London, N.

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YOUELL AND CO. beg to inform the Trade they have to offer a fine and healthy stock of the above in 1-year-old plants.

GLADIOLUS BRENCHLEYENSIS.—An extensive stock of large flowering Bulbs of this magnificent Gladiolus, the colour of which is vermilion scarlet, the best and brightest variety known. Prices of the above on application.

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HOLLYHOCK SEED of the finest quality, saved from Bragg's new set of this year and other new varieties, at 1s. and 2s. 6d. per packet. Also new CALIFORNIAN SUNFLOWER, PANSY, AND CINERARIA SEED, of the finest quality, at 1s. the packet. Also a large quantity of double HOLLYHOCKS, at 2s. 10s. per 100.

FRUIT TREES of all the leading varieties trained at the lowest prices. Carriage paid to London.—E. SHENTON, Hendon Park Nursery, N. W.

BOX EDGING

MR. JAMES VEITCH, Jun., of the ROYAL EXOTIC NURSERY, Chelsea, S.W., being again in want of 2000 or 3000 yards of BOX EDGING, will be [illegible] offers stating quantity and price from such persons as have any to part with. It must be dwarf and good, and warranted to plant at least 3 yards for 1. The terms to include delivery into a railway truck at the nearest station. To expedite the transaction, parties replying to this advertisement may send 1 yard as sample, carriage paid to London, to be forwarded by Parcels Delivery.—Sept. 24.

CAMELLIAS AND AZALEA INDICA

F. AND A. SMITH beg to offer the above well set with flower buds, dwarf, bushy, and thoroughly ripened off. Having been grown in this country they are most suitable for packing, and are strongly recommended to country Amateurs and the Trade in general. An inspection invited. Prices on application.—Dulwich, Surrey, S.

SELLING OFF.

THE VALUABLE NURSERY AND PLANT STOCK OF BASS AND BROWN, SUDBURY, SUFFOLK, is offered at a very large reduction on the usual prices for cash, in order to the discontinuance of that part of the business.

The stock is in the finest possible condition, and the Fruits, of which there is a large collection, consist of none but the choicest and most esteemed.

A VERY FINE IMPORTATION OF DUTCH BULBS has been received, and are also offered very low.

CATALOGUES OF BULBS, with the Nursery and Plant Stock [illegible] Peach, Seed and


NEW PINKS.

CHARLES TURNER (MACLEAN).—Dark purple, fine, 5s. per pair.

ELEANOR (TURNER).—Rose, fine; 5s. per pair.

EDITH (MACLEAN).—Reddish purple, 3s. 6d. per pair.

LITTLE GEM (MACLEAN).—Red; 3s. 6d. per pair.

MILLIE (MACLEAN).—Dark, fine; 5s. per pair.

MISS GLOVER (TURNER).—Purple; 8s. 6d. per pair.

CHARLES TURNER can strongly recommend the above as first-class Pinks, and great acquisitions for exhibition purposes.

C. TURNER'S general stock of Pinks are very healthy and strong, and are now ready for [illegible] at 6s., 12s., and 18s. per dozen.—The Royal Nurseries, Slough.

BRITISH POMOLOGICAL SOCIETY,

HANOVER SQUARE ROOMS, LONDON, W.

The next Meeting will be held on THURSDAY, October 6, when the following Premiums are offered for special subjects, exhibited according to the Society's regulations:—

Two Guineas each for the best Late Seedling APRICOT, Late Seedling PEACH, and Late Seedling NECTARINE

The following must be exhibited by the growers:—

One Guinea and Half a Guinea for the best and second best dishes of six MARIE LOUISE PEAR.

The like for the best and second best dish of six DESSERT PEARS of any other kinds in season; for the best and second best dish of six DESSERT APPLES of any kinds in season; and for the best and second best Culinary varieties of APPLE, fit for present use, exhibited in tens.

The Meeting next succeeding will be held on THURSDAY, October 27, when the following premiums are offered:—

One Guinea for the best dish of six SALWAY PEACHES, and One Guinea and Half a Guinea for the best dish of six SUFFOLK THORN PEAR.

Premiums are also offered for other kinds of DESSERT PEARS and APPLES in the same manner as at the meeting of October 6.

The Carriage of Parcels is paid by the Society. The Room will be open at 2 o'clock, and the chair taken punctually at half-past 2. It is requested that Fruit intended for examination may be sent, if possible, not later than 12 o'clock.

Gentlemen desiring to become Members are respectfully invited to intimate their wish previous to the Meeting. Entrance, 10s.; Annual Subscription, 10s. Copies of the Rules and further information can be obtained from

WILLIAM DAVIDSON, Secretary.

2, Randolph Road, Maida Hill, London, W.

HORTICULTURAL SOCIETY OF LONDON.—The FLORAL COMMITTEE, at its meeting on Sept. [illegible], made the following awards:—

FIRST-CLASS CERTIFICATE.

Caladium Veitchii, from Messrs. Veitch & Son, Chelsea.
Cattleya Schilleriana, var., from Messrs. Backhouse & Son, York.
Dahlia Neville Keynes, from Mr. J. Keynes, Salisbury.
Dahlia Beauty, from Mr. C. Turner, Slough.

COMMENDED.

Dahlia compacta, from Mr. G. Rawlings, Bethnal Green.
Dahlia George Elliot, from Mr. Turner, Slough.

At its Meeting on Sept. 22d, the Committee made the following awards:—

FIRST-CLASS CERTIFICATE.

Gonatanthus (Caladium) cupreus, from Messrs. Low & Co. Clapton.
Sphærostema sp., from Messrs. Low & Co.
Anæctochilus (Macodes) petola, from Messrs. Low & Co.
Begonia Lowii, from Messrs. Low & Co.
Begonia bliardia, from Messrs. Parker & Williams, Holloway.
Dahlia Miss Stead, Beyer, from Mr. G. Rawlings, Bethnal Green.

COMMENDED.

Begonia Gem, from Messrs. Low & Co.
Begonia Zebra, from Messrs. Low & Co.
Scarlet Pelargonium Queen Rose, from Mr. Kingham, Richmond.

The next meeting of the Committee will take place on Oct. 13, at 2 P.M. Subjects for examination must be at St Martin's Place by 1 P.M. Any person may exhibit. New plants and flowers of all kinds are invited.

8, St. Martin's Place, Trafalgar Square, W.C.—Sept. 24.

# The Gardeners' Chronicle.

*SATURDAY, SEPTEMBER 24, 1859.*

THE subject of VILLAGE HORTICULTURAL SHOWS is so full of interest to many readers that the following account of one of the most successful cannot fail to be highly suggestive. On the 14th of this month the autumn show of the Hitcham Society was held in the grounds of the rector, the Rev. Prof. HENSLOW. On this occasion there were no fewer than 97 exhibitors, many of whom sent several different kinds of produce, principally vegetables, all of which were excellent, and many first-rate. They were ranged along each side of a very long booth, which was flanked by 30 large Gourds, of various sizes, one

weighing 98 lbs. forming the most striking feature in the scene. Next to these were especially remarkable four baskets of vegetables. By the rules each basket should contain "not less than six kinds," but every one much exceeded this number; and the largest, which was arranged with great taste, contained nearly 40 different sorts. To this was allotted the highest money prize of the day, viz., 3*s*. 6*d*. This sum is especially deserving of mention, because it shows that satisfactory results are not obtained in our villages through the stimulus of mere money reward. It is found, indeed, that a great number of small prizes are more successful in arousing a spirit of emulation than a few large ones; which, in fact, tacitly act as a discouragement to the majority of those who show.

It is the practice at Hitcham, twice in the season, to inspect the cottagers' allotments, and to award some gardening implements to the owners of those best cultivated. Here too the improvement is steady and marked; year by year the inspectors find less fault, while the best are like neatly kept gardens. The first prizeman had 46 crops on his allotment, yet of this variety none were neglected, as was proved by his also taking 10 prizes for different articles.

But these horticultural shows are not confined to mere exhibitions by the villagers themselves. There is added at Hitcham a very noticeable feature, the "Marquee Museum," where various interesting and attractive objects are arranged, on which Prof. HENSLOW gives "lecturets," whenever he has a half hour to spare from the more immediate business of the day. With this assistance the visitors are at no loss to fill up the time until 6 o'clock, by which hour the members of the Society to the number of 300, each of whom pays sixpence annually, have replaced the Wheat and Potatoes in a long booth; and tea, bread and butter, and cake are served out to them. "God save the Queen" closes the entertainment, and the lawn is soon cleared in a quiet and orderly manner.

Frequently these shows are enlivened by the presence of numerous visitors from the neighbourhood, but on the late occasion the day was unfortunately thoroughly rainy, consequently few beyond the villagers made their appearance. But their spirit was so little damped by the fear of wet jackets that upwards of 400 thronged the booth and marquee, remarking on the various objects with much interest. All behaved admirably, as they always do, and save in the weather not a *contretemps* occurred.

It is, we think, impossible to overrate the good effects produced on a village population by a well organised system like this of allotments and horticultural shows; it furnishes a never-failing subject of interest, and at least two pleasant days in the year to look forward to and to talk over. It gives the men and women a common occupation and enjoyment, and tends not only to wean the former from the public-house, but to throw them into the society of the most industrious set.

All however depends upon the tact and perseverance with which such associations are managed. Not only is a little zeal necessary, but a good deal of knowledge of human nature, especially village nature. And as more is to be learned in a couple of hours' inspection of such a gathering than by all the reading in the world, we strongly recommend any one who may be endeavouring to establish a similar horticultural society to go to Hitcham and investigate the working of that which has now, for so many years, proved to be so thoroughly successful.

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IN the neighbourhood of Ghent, in the village of Gendbrugge, there exists a HORTICULTURAL SCHOOL, of which little or nothing is known in this country, but which appears to deserve some description, especially since we have nothing of the sort in England. Our attention having been drawn to it by an advertisement in our columns a fortnight ago we have obtained the necessary information, of which what follows is the substance.

The Belgian Government, in its desire to foster the art and science of gardening, made an agreement in the year 1849 with Mr. VAN HOUTTE, the celebrated nurseryman at Ghent, under which the Government pays certain expenses, such as the salaries of professors, the construction of buildings, &c., and provides 12 scholarships (*bourses*) of 500 francs each, which may be divided into half scholarships (*demi-bourses*), the pupil in that case paying half his expenses. M. VAN HOUTTE on the other hand provides board and lodging, fire, lighting, washing, &c. The pupils on their part work gratis in the cultivation of the place, gradually learning all departments of gardening, including forestry and market gardening. It is however arranged that no one shall be put to work beyond his strength, and that plenty of time shall be allowed for teaching in the class rooms.

The nature of the education thus provided is arranged in great detail and with much minuteness. In the first place no pupil can be admitted who cannot pass a fair examination in French, the elements of arithmetic, decimals, the metrical system, and the elements of geography. A health certificate, and a certificate of good conduct (from the proper communal officer) are also required, and no one can be admitted on the establishment who is under the age of 15 years.

There are five kinds of punishment: 1, private admonition; 2, confinement during play hours; 3, confinement on holydays; 4, public reprimand; and 5, expulsion; but no one can be expelled without the express authority of the Minister (of State) of the Interior, to whose department the school belongs.

The subjects taught in the school are these:—

IN THE FIRST YEAR, Botany and the Theory of Horticulture, including botanical geography; physical geography, especially the nature of climate; inorganic chemistry; the elements of natural philosophy, mineralogy and zoology; mathematics and arithmetic.

IN THE SECOND YEAR, Anatomy and Vegetable Physiology, including the germination of seeds, and all the important phenomena connected with it; the main facts belonging to the growth of plants, especially timber; the nature and use of leaves, and all that relates to fruit; botanical geography; inorganic chemistry, including the properties of metals; natural philosophy in higher branches; meteorology, or the phenomena of weather; mineralogy, that is to say the different properties of soil in its relation to horticulture; zoology, as to useful or injurious animals, insects, &c.; and mathematics, as regards arithmetic and plane geometry.

IN THE THIRD YEAR, the Theory of Horticulture as it relates to soils, nutrition, working land, sowing, planting, propagation in all its branches, and the diseases of plants; organic chemistry, especially what concerns manures; natural philosophy, including heat, light, electricity, and the use of philosophical instruments; meteorology; geology; zoology; elements of algebra, and solid geometry.

It is thus seen that during the three years which pupils are expected to pass at this school they may be thoroughly grounded in a good practical education applicable to other matters besides gardening.

In addition to this, what are called THEORETICO-PRACTICAL SUBJECTS are studied, such as drying plants and forming herbaria, chemical operations, philosophical experiments, linear drawing, land surveying and mapping, garden architecture, heating, the management of water supplies, and other matters, to which is added drawing plants from nature.

Then there is TRADE HORTICULTURE, such as gathering, preserving, and packing up seeds or living plants; buying and selling, letter writing and book-keeping.

Finally PRACTICAL GARDEN WORK is continually attended to in Mr. VAN HOUTTE'S extensive nursery grounds, as has been already stated. This includes kitchen gardening, the management of trees and shrubs, corn and forage crops, annual and herbaceous plants, greenhouse and hothouse plants, with every department of forcing. Add to this all methods of propagating, improvement of breeds by crossing, muling, &c., and experiments upon new plants expected to prove of general utility, and it must be confessed that those who leave the establishment with all the knowledge they *may* have gained in their three years' study must be as well grounded in the theory and practice of cultivation as is in the nature of things possible.

We fear there is little chance of such an establishment being formed in this country.

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IT appears from a statement in the *Photographic News* that there is at last a probability that sun pictures on copper plates may be so treated as to acquire the condition required for printing purposes. In other words the sun is to become not only our painter but our engraver; and the slow, difficult work of the engraver is to be reduced to instantaneous action. Impressions so obtained are to be called PHOTOGLYPHS; they are to have the accuracy of photographs combined with the cheapness of woodcuts. Our active contemporary says that "a most important consideration in estimating the value of this discovery is the extreme comparative cheapness with which, by its means, perfectly stable photographs of paintings or other works of art may be produced. A photograph at present is a somewhat costly article, which necessarily follows from the expensive nature of some of the chemicals employed, and the time and labour involved in its production; but when photographs can be printed with printers' ink, with the same facility as from a metal plate engraved in the ordinary manner, without the preliminary cost of engraving, there can be no reason why the most beautiful prints should not be sold at a price but little above the cost of the paper on which they are printed. Not only has this method of engraving a vast advantage over the ordinary process as regards cheapness, but it has the additional and most important advantage of giving a perfectly faithful reproduction of the scene or object without omitting the most minute details." In confirmation of this opinion the *Photographic News* has given to its subscribers a photoglyphic engraving of the Tuileries, as a specimen of the result now obtained.

We have been long aware that Mr. FOX TALBOT was directing his attention to the possibility of effecting what has now been accomplished up to a certain point. In May, 1853, he favoured us with copperplate engravings of Grasses, Ferns, leaves, and other things produced by the process in question; and as examples of the dawn of a new art nothing could be more interesting. They led to the probability that plants, the most intractable of subjects in the hands of the photographer, would be some day delivered up to the public with every feature impressed upon copper and ready for the printer's use. But they were not in that condition at that time; all that could be said of them was that they were shadows of some great coming event. The *Photographic News* thinks that the event has arrived. We regret our inability to acquiesce in that judgment. The photoglyph circulated by our able contemporary is a prodigious advance upon the attempts of 1853; some parts of it indeed are exquisitely minute and perfect, such as the face of the clock over the central arch, and some of the window-frames of the building; but as a whole it is what an engraver would call blurred.

We cannot however doubt that the scientific knowledge of Mr. FOX TALBOT, aided by the practical skill of some of our artists, will in the long run bring photoglyphy up to photography, and when that happens we may expect to have acquired "the power of producing an unlimited number of photographs of an object at an exceedingly small cost, and of undoubted permanency." But not till then.

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## THE SCOLYTUS IN ELM TREES.

(See *Gardeners' Chronicle*, Sept. 10, 1859.)

"C. R.," Hampstead, asks: "Does the woodpecker feed on this vermin, and could it be domesticated in this populous locality?" Woodpeckers not being fly-catchers do not feed on the Scolytus, when this insect is in its flying state; and they cannot get at it when it is a grub. You shall see why. The Scolytus makes its oval hole in the living tree, and deposits its eggs at the bottom of the hole. Now, as the wood which intervenes betwixt these oval holes is hard and solid, the woodpecker never attempts an entrance through it; and thus, the grub of the Scolytus lies in safety at the bottom of its snug cradle.

The woodpecker only seeks for food, and forms its nest in holes and branches of trees already in a state of decomposition. To be convinced of this, we have merely to examine the ground, after the woodpecker has been hammering on the tree above it. There we shall find chips of diseased wood, soft, and somewhat spongy. They will show that the woodpecker has been exercising its usual calling at the proper place. I am quite satisfied in my own mind that the woodpecker does not prey upon the Scolytus at all, while it is in its flying state; and that when in its grub state, it cannot.

As to the remainder of "C. R.'s" question, viz. could the woodpecker be domesticated in this populous district of Hampstead? I answer, it might possibly be domesticated; but the odds would be fearfully against it. This charming bird has cruel enemies on every side. In order to advance the desired object, "C. R." must manage to get every gamekeeper hanged within fifty miles of the chosen spot; and then whip, twice a week, with a new birch rod, those pilfering boys who are everlastingly persecuting our poor harmless denizens of air.

Whilst I mourn over the disappearance (I fear for ever) of the kite, the buzzard, the raven, and the woodpecker from this part of Yorkshire, I cannot refrain from drawing the reader's attention to a modern preparation of frightful import. Druggists are in the habit of selling poisoned corn to kill the noisy sparrows. This dangerous experiment must bring ruin and destruction on poultry yards, wherever it is used. It would be no easy task to prevent pigeons, ducks, and fowls from partaking of the treacherous repast. *Charles Waterton, Walton Hall, Sept.* 17.

## VEGETATION AND CLIMATE OF THE ANAMALLAY MOUNTAINS IN THE MADRAS TERRITORY.

[We extract the following interesting account of this almost unknown country from a report made to Government by Dr Cleghorn, Conservator of Forests. The party consisted of J. W. Cherry, Esq., Acting Collector of Coimbatore, Drs. Macpherson and Cornish, Major D. Hamilton, 21st N.I., Captain Fane, Lieut. R. H. Beddome, 42d N.I., T. B. French, S. L. Koe, W. Fraser, civil engineer, and O. B. Irvine, Esq., Assistant Collector, accompanied with seven elephants. Anamallay lies in north latitude 10° 27', east longitude 77°. They started at 4 A.M., Sept. 15, 1858, and arrived at the Anamallay river at 20 minutes past 5 o'clock.]

"By the light of early dawn, we distinguished the Candelabrum-like stems of Euphorbia antiquorum, and the drooping foliage of Salvadora indica, which in habit resembles the Weeping Willow, and here attains a large size, the trunk being 10 inches in diameter.

"After crossing the river, which was deep and rapid, in leaky basket boats, we traversed a number of Paddy fields, and entered the Bamboo and tree jungle, which lies in the hollow between the river and the ascent to Poonachy. The bluff rock overhanging the Tooracoodoo river is reddish porphyrite. The hills, like the Neilgherries and the Coimbatore district generally, consist of gneiss, and belong to the 'metamorphic rocks,' veins of felspar and quartz were common, some of them very large, crossing the foliated gneiss at right angles. The gneiss was generally of a grey colour, but in some places it was reddish. No crystalline limestone such as is found associated with the gneiss in Coimbatore was observed.

"The Khaders had prepared three huts and stabling for us. These huts were admirably constructed, very much superior to their own dwellings, and quite watertight; the uprights were made of jungle trees tied together by strips of bark, the cots of Bamboo, and the thatch of the glabrous leaves of a species of Saccharum.

"Teak occurred for the first time on some undulating knolls, 2 or 3 miles before reaching the village, and on the slopes of the basin leading to the river. Being in flower, the white cross-armed panicles formed a striking feature in the landscape. We saw further up the valley much Vengay (Pterocarpus marsupium) and Blackwood, which became more abundant as the elevation increased. These trees seem to prefer an altitude somewhat greater than Teak, whilst the Vellah Naga (Conocarpus latifolius), of great size, occurs with the Teak or prefers a lower range. The sholas (jungles) near Poonachy, between 3000 and 4000 feet above the sea, are very dense and rich in their Flora. The following are a few remarkable forms observed—Solenocarpus indicus; a tree called by the Khaders Palle-ille, the leaves of which are eaten; Elæocarpus monoceros; a new species of Cookia (Moor Kooringee), with a delicious fruit; Glycosmis pentaphylla; Pierardia macrostachya, with an edible fruit; Scepa, a new species, a good sized tree (Walle); Mesua, with very large fruit; Calophyllum, a species with narrow lanceolate leaves; Orophea, a new species; Unona pannosa, and two other Anonaceous trees; Garcinia; Pterospermum obtusifolium; Sterculia guttata; Machilus; Casearia, a new species; Euonymus, two apparently new forms, one with downy leaves and the other much like a Lime tree; Agrostemma, three species, one with very handsome large blue flowers; Ophioxylon, a new species, with falcate bracts; and Pothomorphe subpeltata. Many of the trees in the dark sholas are covered with beautiful Epiphytes, especially the Hoya pauciflora, Æschynanthus Ceylanicus, and Sarcanthus filiformis; the dripping rocks with Klugia, two species, Epithema, &c. Cardamoms with rich aroma, and the true Ginger plant abound in these sholas. The rocks in the beds of all the rivers from 3000 to 4500 feet are quite covered with a showy orange-coloured Balsam (Impatiens verticillata). It often forms a fringe at the line of watermark, or appears in patches between the forks of a cascade. At a higher elevation other species seemed to take its place, especially one to be figured in the Madras Journal of Science, 'Impatiens Tangachee,' of Beddome.

"16th.—Started at 8 A.M.; after two miles came to a river. There is a large body of water 100 feet wide, 1½ to 2 feet deep. Immediately below the ford is a chucklers' village. Much time was lost in crossing on elephants and afterwards in cutting a road through tangled brushwood, each man being furnished with a billhook or shikaree knife. In the bed of the river was observed Entada Pursætha and Adelia neriifolia. At 4 P.M. we agreed to bivouac and rigged up temporary huts. About two miles after crossing the river we made a detour to avoid a mass of rocks which descend to the water edge. Here we found few Bamboos and no Saccharum, and had to look for other hutting materials. Some gigantic Crotalaria and Indigofera stems were largely used for the walls, the stems being interwoven between the uprights, and the thatch was made of Andropogon Schœnanthus, L. (Ginger Grass). Opposite our bivouac was a remarkable rock called Coondita-mullay, apparently 200 feet in height, on the precipitous scarp of which was a Rattan cable 80 feet long securely fixed above. This chain was formed of large rings of the Calamus stem, connected by another straight Rattan which passed down through the centre of the loops; by means of this the Khaders descend the face of the rock to collect honey, &c.

"17th. Started at a quarter to 8, and reached the huts near the Tooracoodoo waterfall at half-past 9, which are picturesque, and very beautiful. About two miles below these falls, Captain Hamilton discovered an ancient cairn or cromlech, a quarter of a mile to the left of the path, similar to those found in other parts of Coimbatore, and consisting of four immense stones, the upright slabs about 5½ feet high, and the covering stone 11 feet by 5 feet. Opposite the encampment is an Erooler village of 8 or 10 houses, with a patch of Raggee (Cynosurus Coracanus, L.) cultivation. The day was fine, sometimes rather hot at night. Blankets were necessary, as it became cold towards morning. Very little dew fell and at 6 A.M. there was none.

"18th, 9 A.M. We now ascended a steep rugged hill, impassable for horses on account of the immense masses of detached rocks; one, in particular, resembling a haystack, about 40 feet high, from the summit of which a Rattan chain similar to that described was suspended. We proceeded through dense sholas for three miles, in the middle of which we crossed the river by a temporary bridge formed of a large tree felled by the Khaders for the purpose. Rubus (Bramble) first seen here. After walking six miles round the base of the Tungachee, we emerged from the woods, in which were traces of elephants, upon a steep open Grass hill. The Rhododendron was first seen here, the elevation ascertained by Mr. Fraser to be about 5000 feet. We continued to ascend the steep side of the hill till we arrived at the huts. Thick mist and violent rain came on soon afterwards.

"Sunday, 19th. Nothing seen. Thermometer 54° minimum, 60° maximum. Elevation calculated to be 5600 feet. Cold wind whistled freely through the Grass huts, the stakes were loosened, and the temporary erection nearly came down.

"Monday, 20th. It rained all morning. The Khaders were unwilling to proceed. However, we started at 10 A.M., and in an hour reached a beautiful ridge, shooting out from the base of Ukka-mullay; there was short sweet pasture and numerous indications of Bison. The weather continued unfavourable, and so misty, that excepting during a few gleams of sunshine we did not see much of the country. The previous afternoon some of the party ascended the shoulder of the Ukka, which was very considerably higher; unfortunately, owing to the mist being dense, they were not rewarded by a good view of the surrounding country. The rocky Ukka mountain, which is probably upwards of 8000 feet, is quite covered near its summit with several new species of Impatiens. The only other new form observed was a curious Crassulaceous plant with fleshy peltate leaves, growing in sheltered moist nooks of the rock. Balsams are very abundant on these hills. Impatiens Balsamina, dasysperma, albida, maculata, campanulata, fasciculata, tomentosa, verticillata, oppositifolia, Kleinii, filiformis, tenella, and rivalis. Having proceeded several miles along this range, the summit of which was hidden in mist, we turned to the south east. The mist suddenly cleared and we got a glimpse of numerous Ibex on the rocks above, and saw a valley which appeared to be five miles long and two broad, with large sholas on the other side. The wind and rain increased as we proceeded. The weather having been very unfavourable, our attendants fatigued, and our provisions exhausted, it was necessary to retrace our steps. Some of the herbaceous plants observed adorning the higher hillside pastures were:—Flemingia procumbens, Phaseolus Pulniensis, Anemone Wightiana, Lysimachia Leschenaultii, deltoidea, Utricularia, Ranunculus reniformis, Gentiana pedicellata. This list might be extended, but the examples are sufficient to show the similarity of the Flora to that around Ootacamund.

"Tuesday, 21st. We left early; a favourable change took place, and we much regretted our inability to remain another day.

"Wednesday, 22d. Major Hamilton and Messrs. Koe and Fraser descended into the gorge to examine the entrance to the hills by the valley of the Tooracoodoo river. The day of our departure was fine and bright, and we obtained a clear view of the higher ranges from the lower valley of the Tooracoodoo. (About a month after, 8th November, Lieut. Beddome rode up in one day to the higher ranges and had a clear fine view of the summit. He writes: 'I ascended the Tungachee Peak, which is very different in character from the Ukka; the ascent lies through dense sholas till within half a mile of the summit; thence the mountain is covered with almost impenetrable brushwood 6 to 10 feet in height, consisting chiefly of Rhodomyrtus, Dodonæa, Rubus, Litsæa, and Atylosia.' Again, under date 25th February, 1859, Lieutenant Beddome writes, 'that the highest peak of the Anamallays below which there appears to be table land is at least 25 miles beyond the valley, and seems to be very difficult of access. *We had white frost in the valley.*'")

The following are Dr. Macpherson's views on the eligibility of this range for a sanatarium and for future colonisation:—"The general appearance and character of these high lands resemble very much that found on the Neilgherries. Here are the same rounded eminences and dense sholas, extending continuously for miles, their edges fringed and ceasing abruptly; conical hills and slopes covered with short rich Grass abounding with medicinal plants, such as the Exacum and Ophelia elegans (Gentians), and Hymenodictyon excelsum, a species of the Cinchona family, and other productions precisely similar to that found there. Heavy rains, evidently the breaking up of the south-west monsoon, fell continuously during the period of our stay on these upper regions. Three distinct tribes inhabit the Anamallay hills; they are denominated Khaders, Paliars, and Mulcers. The Khaders will perform no menial labour; as their name implies, they are the lords of the hills; they will carry a gun, and load also as a favour, and are expert at stalking game, but are deeply offended if they are called coolies. They are a truthful, trustworthy, and obliging tribe, and exercise some influence over the Paliars and Mulcers. Small in stature, their features resemble the African; they have his curly hair tied in a knot behind, and they file the four front teeth of the upper jaw to a point as a marriage ceremony. The Paliars are chiefly herdsmen and merchants, while the Mulcers are cultivators of the soil. None of these tribes reside at a higher elevation than 4000 to 5000 feet above the sea. All deal in the rich produce of these hills, and barter with the people in the plains their Cardamoms, Turmeric, Ginger, honey, wax, resins, Millets, Soap-nuts, Gall-nuts, &c., &c., for Rice, tobacco, &c. They are very expert in climbing trees, and the precipitous face of rocks in search of honey. To accomplish the former, where there are no boughs, they drive short Bamboo spikes into the tree, and thus form a ladder by means of which they ascend the highest forest trees; and they reach the latter by means of chains formed by rings made with Rattan, which being secured to a point above, drop down the face of the rock. We observed some of these chains full 50 and 80 feet in length. The upper ranges are in undisturbed possession of wild beasts; we saw a herd of bison, elk, and ibex in numbers, and also traces of wild elephants. The soil on the summit of these fine mountains is many feet in depth, and covered with rich short Grass. Streams of water are numerous, and appear as if they flowed throughout the year. From the extent and altitude of these hills, I believe they are suitable for the cultivation of Coffee on a large scale, and for colonisation of small communities of Englishmen, a measure which would be attended with the happiest results, as it adds at once to our military strength, and in course of time would give us the means to a certain extent of recruiting our army."

Captain J. Michael, superintendent of the Anamallay Forests, further reports—"that he explored the high range of the Anamallay Hills above Poonachy, and that there is a large extent of high mountain land, similar in appearance and height to some parts of the Neilgherries. The vegetation and climate was precisely like that on the Neilgherries, the Rhododendron growing to a large size, at by no means the greatest elevation, and *the cold at night being very intense.*"

A beautiful valley about 6000 feet above the level of the sea the same intelligent officer found covered with slopes of short Grass, full of flowers of the same description as are usually found on the Neilgherries, or rather at Coonoor. A stream ran through small swamps, and was fringed with the Rhododendrons, Ferns, &c. Anemone, Pedicularis, Exacum, Salep Misree, and large white Lilies were in great abundance; the thermometer stood at 56° in the morning, and *at night the cold was very intense.*

[The coldness of the nights referred to in these extracts is especially noteworthy by gardeners, who will also see what the climate is in which Tree Rhododendrons delight to dwell.]

## HOW TO GROW LILLIPUTIAN PLANTS.

*From the Journal de la Société Impériale et Centrale d'Horticulture.*

CHINESE gardeners are famed for the skill with which they reduce plants which are naturally of some considerable size, and even large forest trees to the very smallest dimensions. Dwarf plants are in great demand all over the Celestial Empire, and are generally very expensive. The custom of keeping in sitting rooms little stages ornamented with different things, and even with living plants, induced the gardeners of Europe to imitate the Chinese gardeners, although at a great distance, and to raise plants in tiny pots, generally choosing succulents, of which it is easy enough to obtain very small specimens. As experiments in this mode of cultivation increased, different kinds of plants were taken, and in Germany they at last succeeded in reducing hard-wooded plants and even forest trees themselves to a dwarf state. Thus, this art of the Chinese gardeners is transferred to Europe, and though the result is of no great importance, yet in a general horticultural point of view it is very curious.

The first gardener in Germany who cultivated Lilliputian plants, that is to say, plants with all their parts reduced to the smallest dimensions, was M. Boekel, from whose account we borrow the description of the method by which he attained this curious result. As examples of what he produced, he mentions a plant of Ivy, with 22 leaves, which together with its pot, might be covered by a large leaf of common Ivy; also an Oak (Quercus robur) 13 inches high, whose head formed a ball 6 inches in diameter. The details of his mode of operation are as follows:—

He had pots made of a very porous clay, the proper material for which was obtained by mixing equal portions of the clay used in making red and white pots, and adding 4 per cent. of ashes and 1 per cent. of sulphur. For woody plants such as Oaks or others, the pots are very shallow, from about 2 to 2½ inches high, and 6 to 6½ wide; for other plants he used pots from 1 to 2 inches high and broad. These pots he filled with soil or earthy mixtures such as are used in common cultivation; only he adds a third part of very small flinty gravel. The pots are filled up to the brim, and watered from below, by placing them in a dish containing water, or in a tin vessel made expressly for that

purpose, with a tap, by means of which the water that is not absorbed is drawn off.

In order to make dwarfs of such plants as Oaks, Elms, &c., it is best to take one-year seedlings. In the spring their ends should be pinched off, to make them form laterals; then when these have grown about 2 inches long, they are to be served in the same way, and the ends of all those which come afterwards are continually pinched off; the plants are then put into a cool place to prevent their shoots becoming too much drawn up; otherwise, in general, they like a sunny situation best. From herbaceous plants cuttings are taken and treated in the same manner. Climbing plants cannot be thus cultivated. To all plants which can bear this sort of treatment liquid manure should be given every 3 or 4 weeks; but care must be taken in administering this powerful stimulant, otherwise you may kill your plants.

## Home Correspondence.

*Lomaria chilensis.*—Having cultivated this with I believe more than usual success, I am tempted to send you its dimensions:—Length of fronds, both fertile and barren, 4 feet 2 inches; number of leaflets on barren fronds, 28 pair; breadth, 1 foot; diameter of plant, 5 feet; growing in an 18-inch pot. The whole appearance of the plant is rather that of some strong growing Zamia than of a Fern, and it is a magnificent thing for adorning any shady forecourt in summer. I treat it as a greenhouse Fern; but I have a strong plant out of doors of whose success I am as yet unwilling to speak, as it has only been planted out about three months. I fear it may lose its fronds in winter. I did not appreciate my own plant until I inquired for the same species at Kew, where Ferns are grown so successfully, but I found that their best specimen was not so large as the small offset of mine which is growing out of doors. In fact the specimen I saw there would convey no idea of the beauty of the plant when well grown. It is unquestionably hardy as it grows out of doors with Mr. Sim, but from what I saw of his specimen, I doubt whether it will attain full beauty without protection in spring. It would be a glorious thing in the Crystal Palace, where Dicksonia antarctica flourishes so nobly, as it is scarcely less conspicuous than that species. *J. R., Sevenoaks.*

*Wool Manure.*—Having observed your article on shoddy or wool manure, I take the liberty to say that I shall be happy, at any time, to supply you with large samples for any experiments you may wish to make with it, or any of the readers of the *Gardeners' Chronicle*, as I am in the habit of supplying large quantities from abroad at much lower prices than those mentioned by you. *Wm. Lorberg, 34, St. Mary at Hill, London, E.C.*

*Transplanting Evergreens.*—As great diversity of opinion exists as to the best time for removing evergreens, and having read your article in the *Chronicle* of the 6th ult., on removing Rhododendrons, &c., perhaps the following facts may not be uninteresting to your readers. I have long been of opinion that summer was the best time for the operation, but never having had the opportunity until the last few years of testing it to any extent, it merely remained an opinion. During the last three years I have tested it most thoroughly, and have no hesitation in saying that the months of June, July, and August are the best three months in the year for the operation. We have transplanted many hundreds at the time named, and mostly of a large size, Hollies for instance more than 20 feet high; Pinuses (generally bad to manage) from 15 to 20 feet high—not lost one; Deodars, 15 feet; Araucarias, 5 feet; Hemlock Spruces, 10 feet; common Spruces, 20 feet; many plants of Arborvitæ 10 feet, Yews 15 feet, very many Portugal Laurels from 7 to 8 feet high, and 10 feet through; Berberis, many 7 feet high; Phillyreas, Arbutus, Irish Yews, &c., of rather smaller sizes. Our loss has never in any of the three years exceeded one in fifty, and in almost every case the cause of failure could be easily explained. With the majority of the plants not the least sign was visible of their having been transplanted; the very young growth of some removed earliest in the season would sometimes droop during very hot sunshine, but a good sprinkling with water over head from the garden engine soon put all right again. Our practice has been to give a thorough watering at the time of planting, both to the roots and leaves, and to continue watering the foliage every evening for a week or ten days; by that time the plant is perfectly safe, and will require little further attention with the exception perhaps of one or two good waterings at the root should the weather prove very dry. At the season named, when a plant does fail, it is generally within a week from being planted, and can consequently be easily replaced, whilst the operation is in hand, thus making any after disturbance of the ground unnecessary, a great point generally where the plants have to be removed a considerable distance, thus necessitating their being out of the ground for a considerable time (more than a day and a night for instance); perhaps rather later in the season, say September, might be safer, as the roots would be less liable than during the hotter months to get dried sufficiently to injure the plants. Nearly the whole of the evergreens planted at this place during the last three years have been merely removed from one part of the grounds to another; in nearly every instance they have been planted the same day as they were taken up, and so little do they show any sign of having been removed, that a stranger would never for an instant suppose that such had been the case. In fact several who have seen them lately could scarcely believe that plants of such a size had been so recently planted. We have removed plants of a similar size at nearly all times of the year; but at no other period can anything like the same amount of success be obtained—at no other time do they appear to "push away" with the same "freeness." Many of the large Yews, Deodars, and similar things, removed this summer, have made a beautiful growth since being planted; and on baring down to the roots two or three weeks after planting, we have found thousands of "rootlets" actively at work, leaving little room to doubt that the plants would soon be in a more robust state of health than they would have been, had they never been moved. As to Rhododendrons, we have planted many hundreds at nearly all times in the year, very many of a large size this last June, and I do not recollect ever having lost one. Should any of your readers doubt these facts, they are at liberty to come and see for themselves. So fully am I satisfied of the three months named being the best time for removing evergreens of every description, that I have no hesitation in predicting that in a very short time it will become general to transplant at that season. *Henry Groom, Gardener to Sir John H. Lowther, Bt., Swillington House, Woodlesford, near Leeds.*

*Black Hamburgh Grapes.*—I take the liberty of inquiring through your columns what is the cause of Black Hamburgh Grapes not stoning. For three years the defect has progressed annually, about one-third each year of a house 35 feet long. *A Constant Subscriber.* [Pinus excelsa, after being stationary 12 years, having outgrown its position, and being 30 feet high, cannot be moved without great risk. All you can do is to cut round the roots now, at 6 feet from the stem, and then wait till next August or September to make the trial.]

*Gardeners and their Employers, &c.*—I have been much gratified with the very judicious remarks of "F. L. O." upon gardeners, farmers, and labourers, and also upon his successful experience in farming. I feel quite certain that were employers to act upon what he has said, they would find it conducive to their interests. Unfortunately the gardener appears very often to be the one in whom the employer places the least amount of confidence, and yet I dare affirm that there is no class of men more intelligent or trustworthy, or who study more their employers' interest if fair play be given them. There are many reasons that might be adduced to show that it would generally prove to be to the interest of employers were the offices of gardener and steward combined. The antagonism that frequently exists between the two would be destroyed, for gardeners and stewards seldom act in concert with each other. This arises from the steward exercising his authority in an undue manner, and frequently (as I have known, and could show) in a way inimical to the well conducting of the gardening operations. Employers are sometimes "penny wise and pound foolish." I have known cases of positively useless expenditure on the farm, or elsewhere, while at the same time the gardener has been so closely dealt with as to render it impossible for him to keep up the place in a way creditable to his employer. This is not right. All men wish to obtain credit, and therefore a gardener; but how can he do this if he is not allowed means sufficient to keep in order the garden, &c., intrusted to his charge? Employers must of course consider their means and act accordingly, but how to do this judiciously is not always understood. Employers would be better advised if they reduced in extent their gardens and pleasure grounds, so that what they retained might be kept in due order as well as within their means. This seems to me the rational view of the matter, and there are many places where it would be a highly judicious proceeding to adopt it. I know a gardener of great experience, who when engaging himself to a gentleman who intended making extensive improvements and additions, candidly told him that he could not enter his service except with the assurance that whatever he took in hand should be kept up properly afterwards. Common sense tells us that the gardener was right, and his candour was appreciated by the gentleman. I know a first class gardener who after many years' service in his present situation is leaving because he cannot keep up the place with about two-thirds of the means that it demands. Another gardener will be engaged, who will attempt to execute with four men what demands the labour of six, and ultimately another change will be tried. It is surely deplorable to see so many changes as occur in some establishments—a fresh gardener perhaps every 12 or 18 months, in others perhaps every two or three years. Now, is it likely that a gardener will take any deep interest in a place where his employer never, as it were, takes him by the hand, and where he soon finds that he has no prospect of remaining with any degree of comfort, or credit to himself? Permit me just to relate as a fact my own experience in the service of a worthy baronet, now gone to his account. The place was very susceptible of improvements, but any proposal of mine to my employer was referred to the steward—a person wholly incompetent to judge; nevertheless he invariably overruled my proposals, which all fell to the ground, although frequently of a trifling nature as regards expense, for I knew it would be positively useless to allow my views of improvement to assume any magnitude. Now if I ceased to make any proposals at all, who was to blame? Yet I know of a truth that her lady-ship complained that I never proposed anything. Every one can draw his own inference from such a contradictory state of things. *H. A. W. D.*

*Portland Stone Garden Basins.*—Will one of your correspondents kindly inform me if a basin finished inside with Portland cement would be injured by frost? If so, if any and what precaution is necessary as a preventive? It is in the open ground and contains fish and a fountain. *A very old Subscriber.*

*Sick Acacia.*—I have an Acacia measuring 7 feet in circumference at 3 feet from the ground, and branches from outside to outside, 45 feet. Till the heavy storms two months since it flourished with its usual luxuriance. About a month afterwards I observed a strip say 5 or 6 feet in width through the centre of the branches begin to fade, the leaves dropped, and a second crop appeared which also faded and fell. Since then the whole tree has shed its leaves, and has the appearance of a dying tree. Qy. Is the tree dying? Was it struck by lightning, or has it been destroyed wilfully? I have examined the bark and can find no appearance of decay, nor any insects. Two years since I cut away the lowest limb and painted the wound; could this have done mischief? *W. C., Dartford.* [We suspect your tree to have been struck by lightning. There was a most remarkable case of the kind this year with an Acacia in the garden of Mr. Banting, of Kensington. Only in his case the tree was shivered to pieces. We hope some day to give an account of that remarkable occurrence.]

## Societies.

BRITISH POMOLOGICAL: *September* 1.—Mr. [illegible] in the chair. The Lord Chief Baron Pollock, D. C. Thompson, Esq., Mr. T. Osborne, Mr. J. Scobie, and Mr. McBey, gr. to R. Ellison, Esq., Sudbrooke Holme, Lincoln, were elected members. A donation of 10*l.*, to be used in such a manner as might seem most desirable, in stimulating the raising of improved varieties of Grapes, was given to the society by R. Ellison, Esq., of Sudbrooke Holme, Lincoln. At this meeting the following premiums were offered for special subjects; but there was no exhibition in the first or second class. Two Guineas for the best seedling late Strawberry. This premium has been offered for several years without calling forth anything worth of the award. It will, however, be continued at about the same period in future years, until a variety sufficiently good is produced. One Guinea for the best bunch of Golden Hamburgh Grape, to be exhibited by the grower. Two Guineas and one Guinea for the best and second best collections of fruit, comprising not less than two dishes, to be exhibited by the grower. In the third class, the prizes for which were offered by Messrs. Bohn and Frazer, the first was awarded to Mr. Whiting, of the Deepdene, for a collection comprising Trebbiana and Raisin de Calabre Grapes; Bellegarde and Noblesse Peaches; Violette Hâtive and Elruge Nectarines; Belgian Purple, Cooper's Large Red, and Imperial Diadem Plums. The second premium was awarded to Mr. Newton, of East Lodge, Enfield Chase, for a collection containing Black Hamburgh and Black Morocco Grapes; Grosse Mignonne Peaches; Violette Hâtive Nectarine; Williams's Bon Chrétien Pears; Kirke's and Jefferson Plums; Red Quarrenden and Kerry Pippin Apples; and Red Dutch Currants. A large and interesting collection, not for competition, was exhibited by Mr. E. Spary, of Brighton, comprising Grapes, Peaches, Apples, and Pears.

Mr. Rivers, of Sawbridgeworth, again brought the Seedling Peach he exhibited last year, and which he at present distinguishes as No. 6; it was raised from the largest of all the Pavies—namely, the Pavie de Pompone, a late clingstone variety. The flowers (large) and leaves (with small round glands) are like the parent, but the flesh is red near the stone, from which it parts freely, and is melting and delicious; its season being intermediate between the Royal George series and the later October kinds. Mr. Rivers reported that it ripens about a fortnight after the Grosse Mignonne, a tree of which stood beside it in the same house. Last year it was pronounced promising, and at this examination it was considered to have sustained the favourable impression formed of it; Mr. Rivers, however, expressed his determination to give it a further trial, and bring it again before the Society. Mr. Rivers also brought a Seedling Peach raised from the Pitmaston Orange Nectarine; the fruit was very juicy, and possessed in a great degree the flavour of the parent. He exhibited these fruits to show the interesting results which sometimes occur in raising seedling Peaches and Nectarines. The tree from which the specimens were gathered is now five years old, and has borne a fine crop. Like its parent, it has large, bright, pink flowers, but differs in its glands, which are reniform. It is strange to find that a Nectarine with bright orange-coloured flesh should give a tree like itself in habits and flowers, but producing a Peach without the least tint of orange in colour, and with all the qualities of a good melting Peach. Mr. Rivers stated that he had in bearing this season a white Peach raised from the White Nectarine, but it unfortunately ripened between the meetings of the Society. Mr. Pye, gr. to G. S. Wintle, Esq., of Hucclecote, near Gloucester, exhibited a Seedling Peach which had been raised by the late Mr. Holbert, of that town. It was a large, melting fruit, but rather too ripe for critical examination; leaves serrated without glands; having been grown on an open wall, and in a cold locality, it evinced great earliness,

and the flavour appeared so good, that a desire was expressed to see it again.

On the subject of Peaches, Nectarines, and Apricots, Mr. Pye desired to call attention to an old but almost forgotten method by which he had retarded and protected the blossoms of the trees on walls for several years past. About the middle or end of January, he selected the longest of the unbarbed brushwood intended for Pea sticks, such as Hazel or Elm; the stick end thereof being sharpened the same as if intended for Pegs; he had them fixed in the ground in front of the trees, about 18 inches from the bottom of the wall, and leaning against it at top; affording a partial shade to the trees, preventing the blossoms from expanding too early in spring, and remaining until the fruit begins to swell. Under such treatment the blossom is about three weeks later than if uncovered, and during and after flowering a slight protection is afforded; and by these means he had secured this year a fair average crop, while his neighbours had lost all. When the sticks are taken from the wall they are cut up for Pea sticks, so that nothing is lost. This is, of course, a very cheap method, and may be used with a chance of advantage in ordinary seasons; but is not to be compared to glass or a covering fixed on rollers of light shooting, frigi dcum, or some similar material; as they not only furnish a more perfect shade or shelter respectively, as the case requires, but they admit of full exposure to cold when retarding is desired, and to warm spring sunshine when it is beneficial.

Mr. Pye exhibited a specimen of a variety of Melons which was laid before the Society, August 6th, 1857, under the name of Hucclecote Prolific, but now called Comet. He stated that the fruit sent was grown out of doors, the plant having been treated the same as a Vegetable Marrow; planted out under a hand-light about the middle of May on a mound formed with two barrow loads of hot dung, and covered with about 4 inches of prepared soil. The first week in June the hand-lights had been taken quite away, and since that time the plants had produced 32 fruits, four of which had been cut. The specimen sent was not fully ripe, and was, therefore, thick-skinned; but for a Melon grown in the open air was considered of very fair quality, and the variety was deemed worthy of trial, with a view to the origination of a hardier race of the Persian type.

Of Grapes, Mr. Whiting exhibited Trebbiana, a variety of the Syrian or Tokay section, not much known, but worthy of cultivation, as it produces a large, handsome, well-shouldered and compact bunch, is moderately hardy, sets well, and keeps good without shrivelling or becoming spotted until March. The berry is of full medium size, and oval; colour pale amber; skin rather thick; flesh melting, very juicy, and sweet; seeds very few, frequently none. He also exhibited Raisin de Calabre from the same house as the above, over ripe, and somewhat shrivelled; the berry was watery, and the flavour very deficient in comparison with the preceding. Mr. Scrutton brought a bunch of Sweetwater nearly ripe, from a very old tree which appeared almost exhausted a few years ago, but which he had revived and brought into a healthy, bearing state, under Hoare's system. Mr. Swinerd, gr. to J. Swinford, Esq., Minster Abbey, Ramsgate, sent Royal Muscadine from a greenhouse, and from an open wall, the latter well swelled, and very ripe for the time of year. F. G. Graham, Esq., of Cranford, brought a seedling raised between White Sweetwater and White Muscat from the back wall of an orchard house. It proved to be the same as Chasselas Musqué, which reproduces itself very constantly from seed or from the original cross. This bunch was very nice in flavour, though not quite ripe in colour, and showed no tendency to split. It has been remarked in former reports that this variety is rarely or never subject to this defect, except when grown in a temperature which is really too great for a Grape of its hardy character. Mr. Graham also exhibited some well ripened Black Hamburghs from the same orchard house. Both varieties were growing in a common border against a wall, to which a glass lean-to roof was fixed in April last: no fire heat had been used. Mr. Newton, gr. to G. J. Graham, Esq., Enfield Chase, again exhibited the Black Morocco from a very old tree. On this occasion they were riper than before; but the fruit had not acquired the vinous, Raisin-like flavour which they attain when fully matured.

## Notices of Books.

*A Little Tour in Ireland, being a visit to Dublin, Galway, Connamara, Athlone, Limerick, Killarney, Glengariff, Cork, and elsewhere.* By an Oxonian. With Illustrations by John Leech. Square 8vo. (Bradbury & Evans.) This capital volume is introduced by a picture of the market-place of Galway and its inhabitants which we should say was worthy of Frith, if Leech had not shown himself to be even more skilful in the delineation of character. Nowhere else in this world is to be found such a collection of pigs and poultry, ragged urchins sprawling in the mud, and good-looking peasant girls dancing among it, crones and countrymen, cabins without chimneys, women without stockings, hens without feathers, a market-place without pavement. A girl putting the spout of a teakettle into an old woman's mouth, and a boy beating a pig with the remains of a broom, are capital examples of quiet drollery. Nor are the numerous other cuts that accompany the letter-press in any way inferior to the best works of this our modern Hogarth. As to the letter-press, it is all sparkle and fun—but the sparkle and quiet fun of a gentleman. Silly sentiment and silly criticism, nonsensical admiration of the barbarous descendants of barbarous ancestors, and snobbish complaints that travelling and living in Connamara are not like those of Camberwell or Islington are equally absent from the pages of our Oxonian, who went to Ireland to enjoy himself, did enjoy himself thoroughly, and returned to tell the world how to go and do likewise.

We are tempted to extract what is said of the last Irish famine as an example of the serious style of our lively author, who was about to quit Galway for Connamara.

"As schoolboys, to whom 'next half' begins tomorrow—sailors on the eve of a voyage—invalids, expecting a physician, who, they know, will prescribe an unwelcome diet—yea, even as criminals before execution—amplify their meals, and, from their dreary expectations, chose a keener relish,—so we, awfully anticipating the *cuisine* of Connamara, made a mighty dinner at Galway. It was brought to us, moreover, by a dear old waiter, who evidently had a proud delight in feeding us, as though he were some affectionate sparrow, and we his callow young, taking off the covers with a triumphant air, like a conjuror case of live birds, and pouring out our Drogheda ale, with quite as much respect and care as Ganymede could have shown for the Gods.

"'Was the salmon caught this morning, waiter?'

"'It was, sir. Faith, it's not two hours since that fish was walking round his estates, wid his hands in his pockets, never draming what a pretty invitashun he'd have to jine you gintlemen at dinner.'

"This was followed by a small saddle of 'Arran mutton, y'r onner;' and 'what can mortals wish for more,' except a soupçon of cheese?

"Ah, but we felt almost ashamed of being so full and comfortable, when our conversational attendant began to talk to us about the Great Famine. 'That's right, good gintlemen,' he said, 'niver forget, when ye've had yer males, to thank the Lord as sends them. May ye niver know what it is to crave for food, and may ye niver see what I have seen here in the town o' Galway. I mind the time when I lived yonder' (and he pointed to Kilroy's Hotel), 'and the poor craturs come crawling in from the country with their faces swollen, and grane, and yaller, along o' the arbs they'd been ating. We gave them bits and scraps, good gintlemen, and did what we could (the Lord be praised!), but they was mostly too far gone out o' life to want more than the priest and pity. I've gone out of a morning, gintlemen,' (his lip quivered as he spake), 'and seen them lying dead in the square, with the green Grass in their mouths.' And he turned away (God bless his kind heart!), to hide the tears which did him so much honour.

"Can history or imagination suggest a scene more awfully impressive than that which Ireland presented in the times of the Great Famine? The sorrows of that visitation have been recorded by eloquent, earnest men; but they come home to us with a new and startling influence, when we hear of them upon Irish ground. Most vividly can we realise the wreck, when he, who hardly swam ashore and escaped, points to the scene of peril; and while the storm-clouds still drift in the far horizon, and the broken timbers float upon the seething wave, describes, with an exactness horrible to himself, that last amazement and despair.

"In the beautiful land of the merry-hearted, 'all joy was darkened—the mirth of the land was gone.' In the country of song, and dance, and laughter, there was not heard, wherever that Famine came, one note of music, nor one cheerful sound—only the gasp of dying men, and the mourners' melancholy wail. The green Grass of the Emerald Isle grew over a nation's grave. The crowning plague of Egypt was transcended here, for not only in some districts was there in every house 'one dead,' but there were homes in which there was but one living—homes, in which one little child was found, calling upon father, mother, brothers, and sisters to wake from their last long sleep—homes from which the last survivor fled away in wild alarm from those whom living he had loved so well. Fathers were seen vainly endeavouring (such was their weakness) to dig a grave for their children, reeling and staggering with the useless spade in their hands. The poor widow, who had left her home to beg a coffin for her last, lost child, fell beneath her burden upon the road and died. The mendicant had now no power to beg. The drivers of the public cars went into cottages, and found all dead, or Rachel weeping for her children, and praying that die she might. By the sea side, men seeking shell-fish fell down upon the sands, and impotent to rise, were drowned! First they began to bury corpses, coffinless, then could not bury them at all. Of indignities and mutilations which then befel, I will not, for I cannot, speak.

"Indeed, it may be asked, wherefore should we repeat at all these sad, heart-rending details? Because the oftener they are had in painful remembrance the less likely they are to recur in terrible reality; because—

> 'Never did any public misery
> Rise of itself; God's plagues still grounded are
> On common sins of our humanity;
> And to the flame which ruineth mankind
> Man gives the matter, or at least the wind;'

and because, when we know the cause and the symptoms, we can the more readily prevent and prescribe."

"It was on the shores of this lake [illegible] that the old gentleman showed us two of those contrivances, which are used by the Irish for sundry of my several purposes, and in which, I am ashamed to say, we professional anglers take little interest, themselves, as my cabman friend, as we left the gardens, 'what a crowd was!' He repeated that, prior to inspection. His idea had always been that it was a species of antediluvian buffalo!

"Then we saw the lake

> 'That is stored with perches,
> And [illegible]
> [illegible]
> All [illegible]'

"They say that from this gold enclosed cows, snow white and of wondrous beauty, come forth in the summer mornings, and wander among the dewy meads, to the intense astonishment and admiration, doubtless, of the cockney Irish Bulls.

"And they say, moreover, that beneath these waters (which we ventured to designate Cocos Harbour, in allusion to the mysterious keys), lies the plate chest of the Macnallys, about the size of a pantechnicon, and never to be raised [illegible] a Macnally shall be lord of the manor. It will be a lucky day for the settler, and a happy one for those who dwell [illegible] when once this restoration shall occur.

"Our driver gave us, as we returned, a taste of his autobiography. I wish that I could repeat it *verbatim*, for Irish humour loses its bloom if it is not faithfully rendered, but my memory only retains the incidents, and, here and there, a phrase of his story.

"He was in England several years ago, at the time of harvest, travelling, sickle in hand, with a dozen of 'the boys,' and looking out for employment in the neighbourhood of, or, as he termed it, 'contagious to th'ould castle of Newark-upon-Trent.' A hot wind blew the dust along the road, for 'the good people were a-going their journeys;' and they were resting awhile, and looking at a fine crop of Wheat, by the wayside, when two young men on horseback stopped, and asked them 'whether they wanted work?'

"Now, it seems that there lived in those parts, at the period of our history, one of those unhappy malcontents whose counsel, like Mol Roch's, is for open war with everything and everybody about them; who can believe no good of their neighbours, because they find none in themselves; who murmur at the rich, and are mean and merciless to the poor; who go to meeting-house to spite the parson, and to church to vex the preacher; who attend parish-meetings to stir up quarrels, and to set one class against another; who poison foxes, and put their great ugly boots into partridge-nests; and sedulously devote themselves in every way to promote the misery of mankind.

"A bear of this calibre, calling himself a farmer, was tenant of the field on which the Irishmen gazed; and a plan occurred to the merry young gentlemen, by which they might amuse themselves, occupy the reapers, and annoy 'that mangy old lunks.' Accordingly, they at once retained our friend the car-driver, and his company, to cut the crop before them, giving them particular directions to get it down as quickly as they could, and agreeing to pay them liberally by the acre, as 'their father was anxious to get it tackled, and would not mind their doing the work a bit slovenly, if only they lost no time.' And then, having warned them 'not to take any notice of a half-witted fellow, who lived near, and who, fancying that all the land about was his own, might possibly try to interrupt their proceedings,' the horsemen wished them 'good-day.'

"They had been at work for nearly an hour, and had left behind them, in their anxious haste, such an untidy example of sheaf and stubble as would have broken Mr. Mechi's heart, when a loud bellowing in the distance announced the arrival of the unhappy lunatic. He came on, roaring and raving, shaking his fist, and foaming at the mouth. He actually danced with rage among the sickles, until the reapers fearing the excision of his legs forcibly removed him, and with twisted straw-ands secured him to his own gate. There, trussed and pinioned, he sent forth such howlings through the 'alarmed air' as scared every crow from the parish, and very speedily attracted the surprised attention of the British public travelling upon the Great North Road.

"The reapers eventually found it expedient to retire with considerable agility, much disgusted and discomfited at being 'sich a distance on the wrong side of the wage, bedad,' until they were met by their delighted employers, who not only presented them with a couple of sovereigns, but introduced them, with the anecdote, to a jolly old gentleman hard by from whom they had employment until the end of harvest."

But to enjoy this book it must be read throughout.

TRADE LISTS RECEIVED.—Butler & McCulloch's (Covent Garden) *Autumn Catalogue of a choice collection of Dutch and Cape flowering bulbs, &c.* An excellent list with abundant practical instruction for the inexperienced, telling them how to grow every class of bulbs and bulb-like plants included in the catalogue.—E. G. Henderson & Son's (Wellington Road) *List of bulbs and other flower roots.* Another very long and useful list with directions for cultivation. The amateur should compare the instructions in these trade catalogues; the task would be both interesting and profitable. We

doubt, however, whether the winter Achimenes called Tydæas will satisfy purchasers. They are not very handsome, and the varieties are so much alike that few would care for having more than one at a time in his greenhouse.

## Garden Memoranda.

TEALING HOUSE, NEAR DUNDEE.—What a change 30 years make! It was only the other day I had again the pleasure of visiting this fine old place, now the property of Mrs. Yemon. The garden is nearly square, consisting of about 2 acres, surrounded by a high stone wall, well covered inside with Apple, Pear, and Plum trees, all in excellent health and bearing. There are also a Vinery and Greenhouse, both in good keeping. Like all old-fashioned kitchen gardens in that part of Scotland every walk is verged with a narrow flower border. In former days this was planted with herbaceous plants, such as Celandine, Marsh Mallow, Golden Rod, Meadow Rue, &c., and many a specimen have I got from this border for my herbarium with names as long as my arm, and which I have not yet been able to pronounce. I knew the gardener; he was a tall man and wore a black velveteen surtout with four large outside pockets, and when in full dress a drab waistcoat and a blue shalloon apron put on in such a way as to unmistakeably indicate his trade. It was generally believed that this old-fashioned functionary knew every plant in the garden, and that he had instructed old Tommy Greeves, the herb doctor, many a time, although Tommy had got Culpepper pretty well "by heart:" be that as it might, it is not my intention to dispute the point; suffice it to say that both men are dead; peace to their memory. In looking round this once famous border I could see here and there an old residenter peeping out from the background as if ashamed to show its face; and well it might; for here were Verbenas, Calceolarias, Petunias, &c., all of first-rate quality, not fettered with pegs, but growing away as if they were at home. What a change! On leaving the garden by the south door, we came to what I had forgotten all about, viz., a south border of about 18 or 20 feet in width, which runs all the length of the garden. If I recollect rightly, when I was a boy this border was partly under crop, partly fallow, and partly flowers; now the latter have full possession. It is at present a mixed border, in which the plants are arranged according to height. Along the back is a line of first-class Dahlias trained on wires, then come Salvias, Delphiniums, among which D. formosum was conspicuous; Calceolarias, Ageratums, Geraniums, &c., and next the Box-edging a line of Stocks, which I considered the best I ever saw in my life. Among the latter were Verbenas, planted to fill the ground when the Stocks came off. Talk about ribbon-borders, why this bank of flowers put them all in the shade. On leaving this we passed on to the pleasure-grounds. What a change was also observable here! *Irish Yews, which at one time I might have jumped over, are now apparently 20 feet high; Variegated Hollies growing as if for timber;* Horse Chesnuts in huge masses, some of them with branches 6 inches in diameter, hanging down and rooting into the ground, and thus forming one of the most handsome trees for a lawn imaginable; Portugal Laurels, too, were numerous, and I may add magnificent. One plant which I measured was 32 yards round, a perfect model in shape; another (a little one-sided) had a stem 3 feet in diameter, about 2 feet from the ground. I also noticed a splendid Weeping Ash, but too much crowded by other trees to be seen to advantage; indeed the only fault one can find with this place is, that good things are by far too near each other, and if one-half were cut down, those left, would be better and even look better than they do at present. If this were done, what a change another 30 years might make! But perhaps these noble ornaments by that time may be cut down, and the ground replanted with quite a different race of things, among which Wellingtonia may be raising its majestic head. The verge too round the kitchen garden may in that time be changed also. Geraniums, which the present gardener may consider the zenith of perfection, may all be swept away. Verbenas too, with high-sounding names such as Defiance, Matchless, Incomparable, Eclipse, Victory, Pre-eminent, &c., may all be buried in oblivion, and something more fashionable occupying their places. As for Golden Rods and Meadow Rues, floral generals of the 18th century, they too might as well be ranked in the same group with Sigillaria and Lepidodendron, extinct genera of the carboniferous era, for what use they are now or ever will be in the decoration of flower gardens. Their day has gone by. *An Old Showman.*

## Calendar of Operations.

(*For the ensuing Week.*)

### PLANT DEPARTMENT.

CONSERVATORY, &c.—A little fire-heat will soon be indispensable here during damp and cold weather, in order to allow of admitting a little fresh air to carry off superfluous moisture without lowering the temperature too much; this should, however, be applied during the day, and all watering should be done in the morning, so that the atmosphere may get moderately dry before night, when a damp stagnant atmosphere is especially injurious to flowers. But although some care is necessary at this season to preserve plants in bloom from being injured by damp, it is easy enough to fall into the opposite extreme, and as excessive dryness is much more injurious to plants generally than the amount of damp which would ruin flowers, this must also be guarded against. Unless where fire-heat is used too freely, however, there is little danger to be apprehended from the want of sufficient moisture in the atmosphere at present.

### FORCING DEPARTMENT.

PINERIES.—The plants expected to show fruit early next year will be greatly benefited by being kept in a comparatively dry state for a few weeks previous to subjecting them to a warm moist temperature. The atmosphere should be kept dry, also allowing the soil about the roots to become as dry as can be done with safety; do not, however, subject the plants to a very low temperature, but keep this at from 60° to 65° by artificial means, for although the plants will bear a considerably lower temperature without any apparent injury, those not subjected to any unnecessary extreme will produce the finest fruit; and a short period of comparatively dry treatment will ripen the growth, and just as effectually induce a tendency to show fruit as checking the energies of the plants by an unnaturally low temperature, and without any of the ill effects of the latter method. No dependence can be placed on the weather after this time, therefore see to plants in pits with insufficient means of heating being protected by means of covering at night, and maintain the command of a rather high temperature by frequently renewing the linings, &c., so as to be prepared for any sudden decrease of the external temperature; avoid anything approaching excess of atmospheric moisture among young stock, whether in pits heated by linings, or in better arranged structures, which only tends to promote a too free rate of growth for the amount of light, and weakly blanched foliage is the result.

VINERIES.—Where early forcing is intended, follow previous directions as to keeping the atmosphere moist, as there will be some difficulty in getting Vines to break freely after this season except this is attended to. If circumstances allow of having a bed of fermenting manure inside the house, this will be found the best means of keeping the atmosphere regularly moist, but if this cannot be used the house must be sprinkled with the syringe frequently, and the evaporating troughs kept full. Also see that the roots are afforded a steady gentle warmth until the buds are fairly swelled; keep the temperature about 50° by fire-heat at night, and 60° by day, letting it rise to 70° on the forenoons of sunny days. Get succession houses cleaned, the Vines pruned, painted, and put into order for work, and see that the heating apparatus is in perfect order, as if this or anything else requires repairs this should be done while the house is idle.

### FLOWER GARDEN AND SHRUBBERIES.

Except where alterations are in hand, there will be little requiring attention here at present beyond the clearing up of leaves and putting the borders, &c., into neat order for the winter. Get this done, however, with the least possible delay, in order that the place may be rendered trim and neat and as enjoyable as the season will admit; also sweep and roll walks frequently, so as to keep them clean and smooth, for without hard dry walks pleasure ground is next to useless at this period of the year. Turf will also require rolling frequently to keep it smooth and firm, and to prevent its being disfigured by worm casts. If any of the turf requires levelling take advantage of any leisure time which may occur to get this done.

### HARDY FRUIT AND KITCHEN GARDEN.

Continue to gather Pears and Apples as they become ready, and give careful attention to the fruit room, which should be kept as cool as possible at this season, with just sufficient top ventilation to carry off the exhalation from the fruit. Some varieties of Pears may be had considerably later in season than their ordinary period of ripening, by allowing them to hang on the trees after the usual time of gathering; but they should be covered with a net, to protect them from birds and to catch any fruit that may fall and prevent their being bruised. If there is not already a good breadth of Cabbage planted out this should be seen to at once, choosing a piece of deep heavily manured land. Also see to planting Cauliflowers where they can be protected from frost, and a bed might be tried under the shelter of a west or south-west wall. A good stock may be safely wintered this way, but the plants should not be allowed to grow too freely in the autumn, and should be transplanted as often as may be necessary to keep them dwarf and hard. This checks growth, and prevents the plants being so soft and sappy as if they were allowed to grow unmolested throughout autumn, and with the protection of a mat or a waterproof cloth thrown over them in severe weather, plants, treated in this way, will do as well as those under glass, and they often grow more freely after planting out in spring. Lettuces treated in the same way will withstand the severest winter if the soil is not too damp.

STATE OF THE WEATHER AT CHISWICK, NEAR LONDON.
For the Week ending Sept. 22, 1859, as observed at the Horticultural Gardens

| Sept. | Moon's Age. | Barometer. Max. | Barometer. Min. | Temperature Of the Air. Max. | Min. | Mean | Of the Earth 1 foot deep. | 2 feet deep. | Wind | Rain. |
|---|---|---|---|---|---|---|---|---|---|---|
| Friday 16 | 19 | 29.478 | 29.439 | 66 | 50 | 58.0 | 59½ | 59½ | N.E. | .07 |
| Satur. 17 | 20 | 29.888 | 29.662 | 66 | 36 | 51.0 | 60 | 59½ | N.E. | .00 |
| Sunday 18 | 21 | 30.012 | 29.934 | 66 | 49 | 57.5 | 59 | 59 | W. | .23 |
| Mon. 19 | 22 | 29.869 | 29.825 | 65 | 35 | 50.0 | 59½ | 59 | N. | .00 |
| Tues. 20 | 23 | 29.896 | 29.724 | 66 | 49 | 57.5 | 59 | 59 | N.W. | .22 |
| Wed. 21 | 24 | 29.458 | 29.348 | 61 | 43 | 52.0 | 59¼ | 59 | S.W. | .18 |
| Thurs. 22 | 25 | 29.703 | 29.566 | 64 | 46 | 55.0 | 58½ | 58½ | S.W. | .11 |
| Average | | 29.758 | 29.642 | 64.8 | 44.0 | 54.4 | 59.3 | 59.1 | | .83 |

Sept. 16—Fine; shower; cloudy and fine; boisterous.
— 17—Flying clouds; low white clouds; boisterous; clear and fine.
— 18—Fine; very fine; overcast; rain.
— 19—Very fine; clear; cold at night.
— 20—Slight fog; very fine; overcast; rain.
— 21—Rain; cloudy; overcast.
— 22—Clear; rather boisterous; rain at night.
Mean temperature of the week, 2½ deg. below the average.

RECORD OF THE WEATHER AT CHISWICK.
During the last 33 years, for the ensuing Week, ending Oct. 1, 1859

| Sept. and Oct. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday 25.. | 65.9 | 44.4 | 55.2 | 15 | 0.30 in. | | | | | | | | |
| Mon. 26.. | 65.3 | 44.9 | 55.1 | 16 | 0.72 | 2 | 4 | 3 | | | | | |
| Tues. 27.. | 65.1 | 45.3 | 55.7 | 19 | 0.57 | | 3 | 6 | 1 | | | | |
| Wed. 28.. | 64.7 | 44.4 | 54.6 | 16 | 0.80 | | 2 | 4 | | | | | |
| Thurs. 29.. | 65.2 | 45.2 | 55.2 | 21 | 0.46 | | 4 | 4 | 1 | | | | |
| Friday 30.. | 64.4 | 43.4 | 53.9 | 20 | 0.58 | 1 | 3 | 3 | 1 | | | | |
| Satur. 1 | 63.1 | 44.9 | 54.0 | 17 | 0.53 | 3 | 2 | 3 | | | | | |

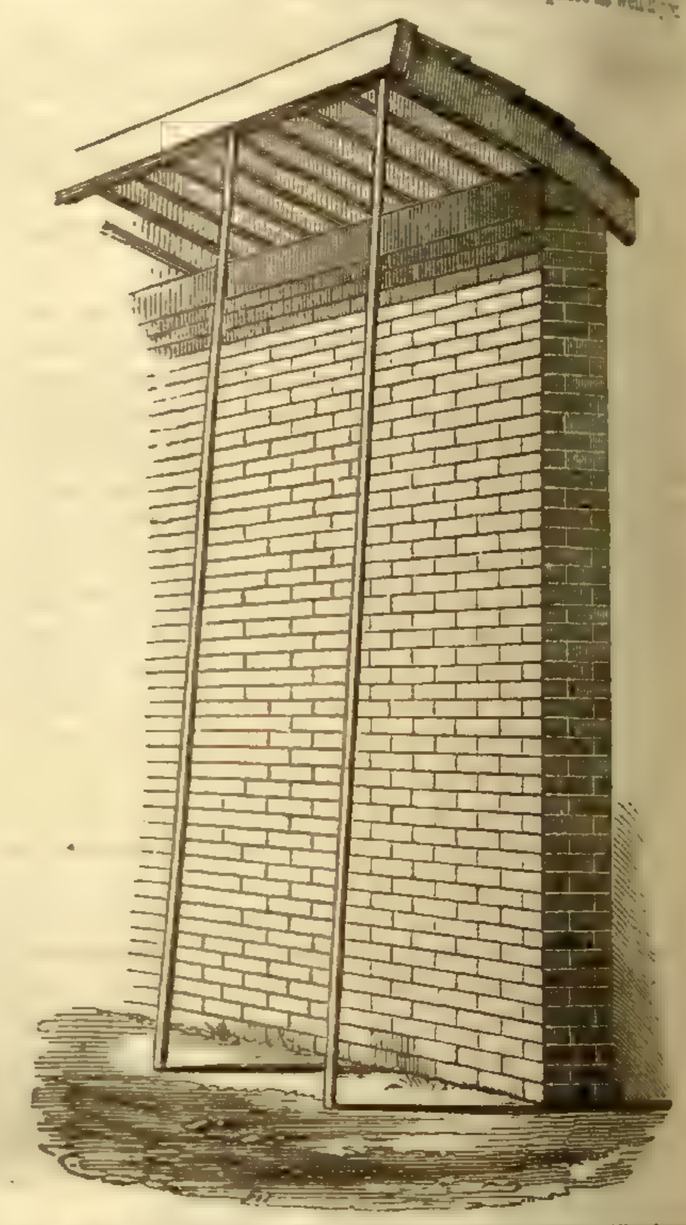
The highest temperature during the above period occurred on the 3rd, 1832—therm. 82 deg.; and the lowest on the 27th, 1828—therm. 24 deg.

## Notices to Correspondents.

BOOKS: *G N A F.* Sanders's Practical Treatise on the Vine, price 5*s.*

BOTANY: *E J F.* Make yourself master of Lindley's School Botany, and when you have done that inquire again.

COPING: *T N.* Let it project 9 inches if you can. Many use 9-inch boards placed temporarily on sloping iron brackets set into the top of the wall: and they answer quite as well if you



can only remember to put them on in time. The above is another excellent plan of making a coping for Apricots. It is described at p. 389 of our volume for 1854.

HOW TO COOK AUBERGINES: *J Gadd.* They must be perfectly ripe. Split them; take out the stalk; leave on the shell or skin; sprinkle them with pepper and fine salt; add enough salad oil; then leave them in this sauce for half an hour, the cut side downwards. Then grill them on a gridiron, basting them all the time with the oil, pepper, and salt. When done serve them plain or with Tomato sauce. Another and more skilful way is this. Cut them in two; scoop out the inside, which is to be chopped fine, with the addition of Parsley and minced Shallots; put the whole into a saucepan with a bit of butter; let them stew. Then put your Aubergine shells into a dish; fill them with the mince prepared as above, and let them cook in an oven, or in an iron kettle with fire above and below. Make them look neat and serve. We prefer them last, as they are sent to table in Paris.

NAMES OF PLANTS: We have been so often obliged to reluctantly decline naming heaps of dried or other plants, that we venture to request our correspondents to recollect that we never have or could have undertaken an unlimited duty of this kind. Young gardeners, to whom these remarks more especially apply, should bear in mind that, before applying to us for assistance, they should exhaust their other means of gaining information. We cannot save them the trouble of examining and thinking for themselves; nor would it be desirable if we could. All we can do is to *help* them—and that most willingly. It is now requested that, in future, no more than four plants may be sent us at one time.—*R D.* Two different plants have been called Isolepis gracilis. One is an Indian plant with the spikelets in heads; the other is a South American plant belonging to the genus Fimbristylis. Yours is neither; but a real Isolepis, allied to Isolepis setacea.—*C P.* 1, Nepeta micrantha; 2, Felicia tenella. 3, some Gypsophila, and apparently G. elegans.—*W. Chee* podium Botrys, once grown in gardens as a hardy annual. —*Ciro.* Phytolacca icosandra, a common hothouse herbaceous plant, and much more worth growing than half the things found in hothouses.

ORCHARD HOUSES: *An Inquirer.* It requires a dissertation on this subject to answer your inquiries properly. All you want to know has been repeatedly explained and is to be found collected in *Rivers on Orchard Houses*, a little work to be had of any bookseller.

PEACH BORDER: *H J.* The front wall of your house should be on arches. Remove the mould to the depth of 2½ feet, and concrete the bottom, which must be well drained and slope to the front; over the drainage place a layer of turves with the Grassy side downwards, and then fill in with good fibry loam. In planting see that the roots are well spread out and do not cover them in too deeply.

RUNNING KIDNEY BEAN: *J C.* Yours seem to be exactly the same as the New Zealand one. We find your seeds white marked with red, as in that sort, and not white as you mention.

THE HORTICULTURAL SOCIETY: The Secretary begs to acknowledge the receipt of 3*s.* in postage stamps from "M. O." "as conscience money for fruit, &c., purchased in the and after."

TWISTED STEM: *Cobham.* All stems are more or less twisted We cannot find any bulbs. If present they would be axillary tubers which Dioscoreas have the habit of producing. Such an arrangement as you suggest would be interesting, but impracticable without much more ground and money. You will find something approaching it at Kew.

ARTIFICIAL MANURES, &c.—Manufacturers and others engaged in making ARTIFICIAL MANURES may obtain every necessary instruction for their economical and efficient preparation, by applying to J. C. NESBIT, F.G.S., &c., Principal of the Agricultural and Chemical College, Kennington, London. S. Analyses of Soils, Guanos, Superphosphates of Lime, Coprolites, &c., and Assays of Gold, Silver, and other Minerals are executed with accuracy and despatch. Gentlemen desirous of receiving instruction in Chemical Analyses and Assaying, will find ample facility and accommodation at the College.

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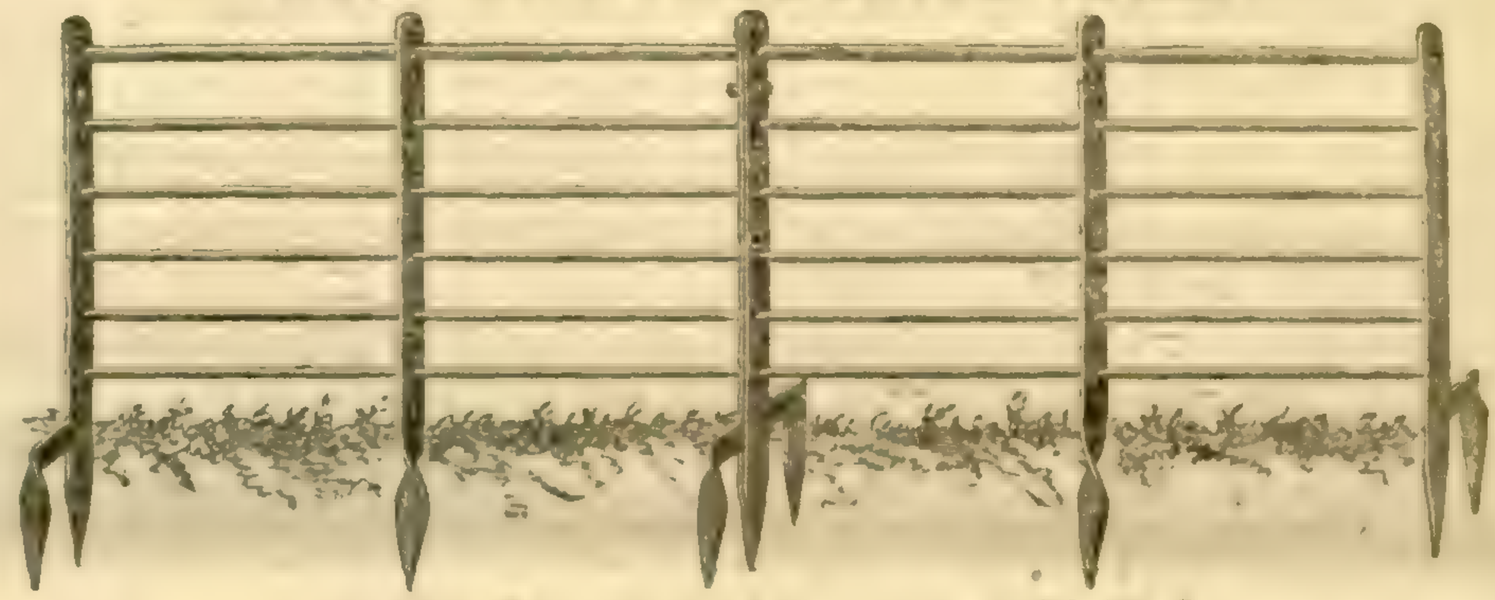

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THE BIRMINGHAM CATTLE AND POULTRY SHOW, 1859.—The ELEVENTH GREAT ANNUAL EXHIBITION OF CATTLE, SHEEP, PIGS, DOMESTIC POULTRY, AND ROOTS, will be held in Bingley Hall on MONDAY, TUESDAY, and WEDNESDAY, November 28, 29, and 30, and THURSDAY, December 1, when Prizes, Cups, or other Articles of Silver Plate, and Gold and Silver Medals, to the amount of 1250*l*. will be awarded.

Prize Lists and Certificates of Entry are now ready, and may be obtained at the Offices, or by letter to
JOHN MORGAN, Secretary.
Offices: Unity Buildings, Upper Temple Street, Birmingham.

SMITHFIELD CLUB CATTLE SHOW, 1859.—The ANNUAL SHOW of FAT CATTLE, SHEEP, and PIGS will take place on the 6th, 7th, 8th, and 9th December, at the Bazaar, King Street, Portman Square.

The Prize List contains separate classes for Devons, Herefords, Short-horns, Sussex, Norfolk or Suffolk polled, Long-horns, Scotch horned, Scotch polled, Irish, Welch, and cross or mixed breeds. Also Long woolled Sheep, cross breeds, Short-wools, and Pigs. In addition to the large amount offered in money prizes, there are also 50 Silver and 5 Gold Medals. The following forms of Certificates are now ready, and intending Exhibitors in applying for them need only quote the letters and state how many of each they require.

| CATTLE. | SHEEP. |
|---|---|
| Form A. Ox or Steer. | Form D. Pen of 3 Wethers. |
| „ B. Cow or Heifer. | |
| „ C. Ox or Cow in Extra Stock. | „ E. One Wether or Ewe in Extra Stock. |

PIGS.
Form F. Pen of 3 Pigs. | Form G. One Pig in Extra Stock

The Entries finally close on November 1.

Prize Lists with rules and regulations and Forms of Certificates to be obtained of B. T. BRANDRETH GIBBS, Hon. Sec., corner of Half Moon Street, Piccadilly, London, W.

N.B. All communications on the Club's business should have the words "Smithfield Club" outside, to distinguish them from private letters.

The Agricultural Gazette.
*SATURDAY, SEPTEMBER 24, 1859.*

THE existence of Ergot on many varieties of Grass has been proved beyond all doubt, and in like manner we have strong evidence of its influence upon breeding cattle. Two conditions appear necessary for its production: first, the formation of the seed; and secondly, that peculiar condition of climate which predisposes the seed to favour the development of the Ergot. In the

western climate of this kingdom, the existence of this disease in the Grasses of our pastures is by no means uncommon in the autumn of the year. An examination of the seed stems of our meadows will generally give evidence of this disease, but it is only when it is abundant that its influence is so manifest. Unfortunately much of the Grass land in the moist climate of the West is too frequently the cause of trouble and loss by causing the abortion of the cows fed thereon. The disease is seldom found upon Grass land which has been mown in the same season, and even when it is found its appearance is so casual as to be of little importance. The land which has been grazed during the summer is that upon which the ergotised Grass is found to exist most abundantly, because the stock having avoided the seed stems these have been enabled to fulfill their special functions and produce seed which has subsequently become diseased. It is clear that if prevention is the object to be aimed at, this will be best attained by keeping breeding stock from land thus bearing a diseased produce. This may be accomplished on the majority of farms by removing the breeding cows and heifers from their summer pasturage, say in July and keeping them afterwards upon land which had been mown that season. The removal of the stock should not be delayed until any case of abortion has positively occurred, because having once commenced it rapidly spreads through any herd and often in opposition to every care. As soon as there is seed formed upon the seed stems of the Grass, the prudent breeder may take notice of danger, and his wisest policy will undoubtedly be to put his cows and heifers upon the after Grass. There are very many districts where the climate from being dry does not render this precaution necessary, but at the same time there are numerous tracts of land where the moisture of the climate acts upon the Grass seeds, and favours the growth of ergotised Grass, and such land is noted for the difficulty experienced in keeping the stock in proper breeding order. The age of the fœtus appears to be a matter of small importance, for it varies from two months upwards at the time when the abortion takes place. Some stock are much more sensitive to its influence than others, and this is doubtless dependant upon their health and vigour; and thus stock which are well bred, *i.e.*, nearly related, are more liable to injury in this way than those which are inferior in this respect: for although by judicious breeding we improve the general character of an animal, yet at the same time this altered character is generally accompanied by diminished vigour.

This explains how the best bred cows and heifers will often throw their calves, whilst some common stock about which the breeder is indifferent will frequently escape, although their treatment and food may be similar, and each may have partaken of this ergotised Grass. Knowing as we do the action of this diseased form of Grass seed, it becomes highly important that we should avoid a cause so prolific of trouble and loss to many of our best breeders. The preventive treatment is simple and readily available, and we trust that attention having been drawn to this very much overlooked cause of abortion, it may help our readers to avoid a recurrence of the losses and disappointments which we regret to know have been so frequent.

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IT is no part of our business to urge the formation of companies, whether on "limited liability" or any other principle, for the prosecution of agricultural improvement. The profitableness of that, if it can be shown, will quicken individual owners and occupiers of land to effort in this direction quite as much as the national interest demands; and facilitated as their operations are by land improvement companies which will give money, advice, and skill in exchange for a rent-charge for a term of years upon the land improved, one does not see what more than individual effort can be desired. There will nevertheless always be men sanguine enough, and with energy sufficient to seek to gather all the profits reaped during this process of improvement into their own lap—and so at once enjoy the benefit of owning, cultivating, and lending money upon land themselves.

The data upon which their expectations of success are based are of general interest, although their scheme be aimed, as of course it is, merely at the attainment of personal gain.

Here then are "Suggestions for the Formation of a Limited Liability Company for the Use and Improvement of land!" Whatever the difficulties in the way of such a scheme, whether legal or otherwise, it is at any rate of general interest to examine the grounds on which it is believed to command success, and to expose them for general criticism and discussion for the sake of their influence on individual effort. The idea is—to raise among shareholders a sum of money with a view to the purchase, cultivation (for a term of years), and ultimate re-sale, of a considerable tract of land, if a sufficient quantity, say 3000 to 5000 acres of improvable quality and favourably placed, can be found lying together and bought advantageously, in any part of England. The principle of the project is stated thus:—"Land poor and out of condition, though perhaps intrinsically good, is usually to be had in the market at a price even lower than its poverty would necessitate: *i.e.*, it is relatively at a discount; at the same time, where the staple is right and the management judicious and liberal, the expenditure requisite to bring such land into first-rate order, even including the erection of buildings, may be pretty certainly repaid by annual returns during a short term of cultivation, leaving the enhanced value of the property itself (often amounting to 100 per cent. on the cost price) as pure profit." This we are bound to say is not our valuation of risks and returns, but that of the projector. It is nevertheless well urged that while agriculture is not a largely lucrative branch of national industry, the reason, probably, why accumulations of money are not more commonly made by the holding or the using of landed property, is this: that a sufficient breadth is not usually held, or sufficiently developed by one individual to support adequately the domestic and social claims of the position in which such holding places him. The owner of 1500 acres (let at 1*l.* an acre) in any of the cultivated districts of England is a man of some mark; and even should it happen, which it almost never does, that he holds the property free of mortgage, charges and collateral claims (deriving from it a clear income of 3½ per cent. upon the value) he is by no means so easily off cash, in proportion to the exigencies of his county station, as the individual who draws his 1500*l.* a year from the Funds or similar sources. So again with the tenant farmer who often bewails the pressure of low prices and adverse times, declaring emphatically, and in one sense truly, that farming does not pay. If he be an occupier of, say 200 acres, worth in the market 6000*l.*, out of which he coaxes and coerces 7 per cent. per annum, half for his landlord and half for himself, his income would be 200 guineas a year. Now, if in a semi-unconscious way he allows the domestic expenditure in goods and money to reach 300*l.*, a very moderate figure for his standing in life, his position is of course a losing one directly. Hence the great advantage therefore that would arise in the case of a large non-resident firm or society using a tract of land; they would receive singly the returns usually divided between distinct parties, the landlord and the tenant; and such returns would escape being taxed before they appeared as profits, by an inevitable and sometimes large consumptive expenditure; this being limited, in the case we suppose, to the salary of one first-rate manager and a few bailiffs, while even such salaries would be spread over an extent of business vastly exceeding the average amount. Other considerations are urged in favour of the extensive style of business in agriculture, such as the profits allowed as discount on large dealings in the manure and other markets, and the consideration that land of all sorts, whether bettered or not, must increase in price every few years in this densely populated and rigidly circumscribed island of ours.

We give these memoranda publication here as claiming consideration, whatever their intended application may be, and as deserving criticism and discussion by our correspondents. They will not fail to notice that against all the advantages of conducting operations on a large scale there must be placed the great disadvantage of the want of interested superintendence in detail which is given in smaller farms, with no doubt great advantage to their productiveness.

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## THEORY OF AGRICULTURE.

BY DR. E. PUGH.

(*See page 698*).

LETTER V.—ON AGRICULTURAL EDUCATION.

SOME views upon this subject have been enunciated in the preceding letter, and as we expect before very long to publish in another form a somewhat extended work upon it in connection with the subject of the present state of agricultural education in Europe and America, we shall not attempt to give it more than a general review here.

Agricultural science when fully developed must embrace within itself all that the several other sciences can bring to explain the facts or develope the resources of agriculture. It must draw largely upon the resources of the natural sciences, and the sciences of political and national economy. And the science thus developed must constitute the subject of education in our agricultural schools and colleges.

As yet both the natural and political sciences, in regard to agriculture, are in such an infantile state of development, that taken together they do not yet constitute a complete course of instruction, upon which the mind in youth can receive that mental training, and contract those habits of application so essential to clear thought upon all subjects in after life.

It is difficult to decide which of the two great divisions of science which bear upon agriculture is in the most unsettled state. The student of political economy in England, who has only looked at the subject from the English point of view, has no difficulty in satisfying himself that the doctrine of free trade embraces a fundamental principle applicable to all nations, as well as to England, and good for all times as well as for the present. In France and Germany, where the people have manufacturing towns surrounded by agricultural districts, and where the distance between the producer of grain and the consumer in the manufactory is thus shortened, the advantages of protection appear more manifest, while those of our iron manufacturers in America who were ruined by the introduction of foreign iron, on the reduction of the tariff of 1842, are strongly impressed with the importance of protection, and quite recently an able political economist in America has attempted to show that the late panic was due in part to the influence of free trade. We need not stop to discuss here which of these views is the correct one, but it must be remarked that these subjects embrace principles worthy of a higher place than amongst the category of things which opposing parties adopt in their "platforms," with a view of defeating one another for some ulterior purpose. They should be taught in our schools, not as political creeds, but as fundamental principles of national economy, to be understood by every man who exercises the elective franchise.

A consideration of the differences of opinion upon many important points in the natural sciences with regard to agriculture would show how very unsettled many things, about which our knowledge is quite extended, are in the minds of those who have given their attention to the subject, while, as has been before observed, our total ignorance upon a great number of points is most marked.

While such a state of things exists it is by no means easy to decide what should constitute the course of instruction in agricultural institutions of learning. A question may well arise as to whether or not the science of agriculture is yet sufficiently developed to constitute a subject worthy the organisation of special institutions for its promulgation. If we look about us for books on this subject we certainly will be at a loss to find such as the importance of the subject demands; and if we examine amongst the researches of scientific men we find only incomplete and imperfect material from which to construct books or lectures for our classes. If we turn to the agricultural investigation stations which have for their object the development of the scientific principles which must ultimately constitute the subject of tuition in our schools, we find them patiently and slowly working away, but their importance is not appreciated, and consequently they are not adequately supplied with funds, and therefore do not enlist a sufficient amount of talent in the cause to which they are devoted.

In our last we alluded to the practical phase of the agricultural mind. This peculiar quality has given rise to several attempts in different parts of the world to organise institutions for the purpose of teaching the practical duties of the farm, and for combining such teaching with tuition in such branches as constitute an ordinary education without foreign languages. In such institutions the material taught is valued more as a source of practical knowledge to the mind than as a means of the development of its powers, and more as source of facts than of principles. In this respect agricultural science has been passing through the same stages that nearly every human effort must pass. Chemistry was once only viewed as a means of manufacturing gold. Astronomy owes much of the labours that it has received to the practical results that were expected from astrological calculations, and of so great importance were these calculations in the minds of the patrons of this science, that even Kepler was not allowed to devote his time to the development of the great laws which now bear his name, but was obliged to waste his efforts upon such practical questions as astrology proposed. Electricity when first discovered in connexion with the Leyden jar was viewed only in its supposed direct relations to the practical necessities and luxuries of life. Geometry, as the name of the science implies, was originally looked upon simply as a means of neighbours fixing their landmarks, and determining the amount of land which they possessed, while the science of mechanics was considered valuable as enabling men like Archimedes to construct engines for the protection of cities and the destruction of their fellows. But as time has left the anticipations and aspirations of these practical men far back upon the pages of history, we are now prepared to see how far their hopes have been realised, and how far the struggle for the practical, to the neglect of the principle which lies at the bottom of that which is to be made practical, has extended to the final results which afford such inexhaustible sources of wealth and power to the present age. The chimeras of the alchemist are almost forgotten

the Egyptian geometer is only remembered for the principles he taught; and the great mathematician of Syracuse is more honoured for having first penetrated the simple relations involved in the spiral which bears his name, than for having taught others that his globe did not move.

And while we admire the beauty of those laws which point out the course of planets in the heavens, and show the relation between the areas over which the radius vector sweeps, and the time in which a planet moves, we pity the immortal Kepler for having been obliged by the gross ignorance of the time in which he lived to waste his time with the barbarian considerations of astrology. Although the science of electricity has not yet taught us how to "heal the sick, to give sight to the blind, and restore the lame," to the extent that the practical mind hoped it would at its origin, yet the cultivation of its principles has done more than this, in affording a means of communication between different nations and races of men, which by bringing them nearer together must give rise to more mutual good-will and thus bring our race one step nearer to that universal brotherhood which corresponds to our highest conceptions of human relations.

Experience has taught that the study of chemical principles has developed chemical science, and that a knowledge of those principles is conferring a thousandfold greater blessings upon the human race than could possibly have been done by the most potent philosopher's stone that ever entered into the conceptions of the alchemist's brain; and in the absence of that fully developed science which the labours of the agricultural investigation stations must ultimately bring forth, different agricultural schools throughout the world must adopt different substitutes, embracing more or less of scientific instruction, accordingly as the teachers place a higher or lower estimate upon what science has already done for agriculture.

But he is hardly worthy the name of a philosopher who expects that the human mind has made so much progress that it can yet appreciate the full value of principles in contradistinction to the practical application of them. Although no more astrological calculations are required by the practical mind, it is not to be supposed that corresponding efforts may not be demanded in such sciences as are yet in their infancy.

It is not to be expected that the future student when in the possession of a fully developed science of agriculture can look back upon the history of its development, and see that it formed an exception to the development of those we have just been considering.

The fact that agricultural education is demanded, and that agricultural institutions to correspond to this demand are springing up in all parts of the civilised world, together with the fact that the science of agriculture is not yet fully developed, would indicate that a state of things necessarily must exist in our agricultural schools and colleges, which will not correspond to our highest ideal of what is desirable. Yet if those who have the control of these institutions are but sufficiently impressed with the importance of agricultural principles, and if a proper spirit of investigation pervade the minds of these professors, and this spirit meet with the sympathy and support of those who control the pecuniary affairs of the institutions, we may expect much progress in the development of the subjects to be taught in our agricultural schools.

Perhaps the man who has been in the habit of looking upon agriculture simply as the art by which he could secure the greatest and most certain profit to himself by farming land upon a yearly rent, and who perchance is obliged to reckon amongst the elements of success or failure the Quixotic tendencies of some crotchety landlord, may not see the full force of the importance which we have attached to the subject of agricultural education. And equally obtuse must be any landlord, if there be any such left, who looks upon agriculture as an art by which a tenantry are secured as "his own," to be used for political purposes as he "may please to use them."

But we have insisted upon the importance of agricultural education as the turning point upon which the future success of agricultural practice depends.

If we cannot teach the farmer the principles of agricultural practice, the efforts of science for agriculture must be to a great extent paralysed.

In order before leaving Europe to get a general idea of the state of agricultural education in England, France, and Germany, I visited the principal agricultural educational establishments upon the Continent, and having had the pleasure of exchanging opinions with several persons interested in this subject, I purpose to devote a few letters to the result of this visit. They shall relate principally to the subject of agricultural education, though several other allied subjects may at times be touched upon.

## RELATIONS OF FOOD AND MANURE.

(*Concluded from p. 768.*)

THE following is a recapitulation of the estimates of the food for live stock produced upon our farm, as given last week:—

| Winter food for 245 days. | Lbs. |
|---|---|
| Mangel, 30 acres | 2,016,000 |
| Swedes, 30 acres | 1,344,000 |
| Carrots, 5 acres | 201,600 |
| | 3,561,600 lbs. |

Thus we have 3,561,600 lbs. of roots daily for 245 days to 726 sheep.

[illegible] from the middle of May to the middle of September:—

| | Tons. |
|---|---|
| 28 acres of Clover and Italian Rye-grass | 1 [illegible] |
| 60 " 4 pasture | [illegible] |
| Thus we have | 1 [illegible] |

of Clover and pasture, which will give 25 lbs. daily for 120 days to each of 726 sheep.

The quantity of straw as food for the stock for 240 days during winter:—

| | Lbs. |
|---|---|
| Wheat straw, half of 30 acres | 67,200 |
| Oat straw, 30 acres | 134,400 |
| Bean straw, 5 acres | 33,600 |
| Wheat straw, half of 30 acres | 67,200 |
| Thus, when cut into chaff, we have | 302,400 lbs. |

This will give daily 726 sheep 1¼ lbs. daily for 240 days.

The quantity of straw for litter is—

| | Lbs. |
|---|---|
| Wheat straw, half of 30 acres | 67,200 |
| Do. do. half of 30 acres | 67,200 |
| | 134,400 lbs. |

This quantity of straw cut into 4 inch lengths will give ½ lb. of litter to 726 sheep daily throughout the year.

From an estimate of the food required by the various ages of our breeding stock and sheep, it has been ascertained that a cow requires as much food as seven sheep (weighing 100 lbs. of mutton each when fat); a calf will require as much as two sheep, a year old as much as four sheep, a two-year-old as much as six sheep, a three-year-old as much as six sheep, and a horse as much as six sheep.

Adopting that principle we may have as our stock:—

| | | | | | |
|---|---|---|---|---|---|
| 10 milch cows | each equal to | 7 | sheep, say | 70 | sheep |
| 10 calves | " | 2 | " " | 20 | " |
| Buy in Short horn year olds | | | | | |
| 20 year-old Short horns, equal to | | 4 | " " | 80 | " |
| 20 two-year-old do. | " | 6 | " " | 120 | " |
| 20 three-year-old do. | " | 6 | " " | 120 | " |
| 8 horses | " | 6 | " " | 48 | " |
| 88 Those will require as much food as | | | | 458 | " |

We may therefore have a flock of Sheep, say,
80 ewes
94 lambs
94 wethers sold fat
268 — 268

726 sheep

The kinds of food given daily to the various ages of our stock—

| | Lbs. of Roots daily. | Lbs. of Straw daily. | Lbs. of Litter daily. |
|---|---|---|---|
| A cow | 140 | 10½ | 3½ |
| A sheep | 20 | 1½ | ½ |
| A calf | 40 | 3 | 1 |
| A year-old | 80 | 6 | 2 |
| A two-year-old | 120 | 9 | 3 |
| A three-year-old | 120 | 9 | 3 |
| A horse | 120 | 9 | 3 |

The crop of Beans from the 10 acres at 50 bushels is 500 bushels, at 64 lbs. per bushel gives us 32,000 lbs. This will give 1 lb. of Bean meal daily for 160 days to each of our 94 fattening sheep, and 6 lbs. daily for 160 days to each of our 20 fattening oxen. It has been ascertained by experiment with an ox which consumed 112 lbs. of Swedes daily, that when 4½ lbs. of Bean-meal were given to him he only consumed 67 lbs. of Swedes, so that while the stock for the last 160 days of their fattening, there is a saving of half the quantity of the Swedes they previously consumed; thus 4½ lbs of Beans as food for fatting stock is equal to 65 lbs. of Swedes.

The probable return from the sale of the 20 fat beasts and 10 cows may be, say—

| | |
|---|---|
| 20 fat beasts nearly 4 years old, say 25*l.* each | £500 |
| 10 cows, with returns from pigs and offal | 100 |
| | £600 |
| From 94 fat wethers, say 57*s.* each | £267 |
| 188 fleeces at 6 lbs. each = 1128 lbs., at 1*s.* 3*d.* | 70 |
| | 337 |
| | £937 |
| Add to this the value of Potatoes, 120 tons, at 3*l.* | 360 |
| Money value of the fodder crop of 120 acres | £1297 |

The probable return from the Wheat, Barley, and Oats:—

| | | | |
|---|---|---|---|
| 60 | acres of Wheat, at 38 bush. = 2280 bush., at 6*s.* | | £684 |
| 30 | " Barley, at 50 bush. = 1500 bush., at 4*s.* | | £300 |
| 30 | " Oats | = 2160 bush., at 3*s.* | £324 |
| | | | £1308 |

The following is an estimate of the quantity of animal and vegetable manure which may be produced on a farm of 240 acres of arable land from the consumption of the root and fodder crops, and the straw as food and litter for the stock, and the proper care of all the refuse leaves, &c., of the crop, also of the excrements, dung and urine.

There is a certain proportion between the excrements of animals and the kind of food they consume; thus dry food, such as straw, hay, Beans, Oats, and meal, produce a greater proportion of excrement, because the animal must have a greater quantity of water daily with his dry food, and the excrements being moist will weigh much more than the dry food which the animal consumed; but the excrements from moist food, such as roots, green Clover, and pasture, will bear a less proportion to the weight of this moist food. If an animal in a given time consume a certain weight of food, including the water drunk, and if the animal be of the same weight at the end of the period as it was when it began, then the excrements it has voided must be of the same weight as the food and water it consumed, *minus* the perspiration through the skin and the exhalation through the lungs which carries off the watery vapours and other gases which have been formed during the consumption of the food in the animal system.

Boussingault has in a very satisfactory way ascertained by experiment this proportion, and has shown the quantity of the several matters it takes to balance the account between the food and water taken into the system and the dung and urine voided, and this balance has been exhaled by the pulmonary and cutaneous transpiration. In the tables which he has given us, we find in the excrements all the mineral the elements which the food contained; but as part of it has been exhaled, we can only calculate on the quantity which is to be found in the dung and urine of the animal. The most valuable practical result from these tables is that from 100 lbs. of dry fodder, the horse and the cow having water to drink, will give 216 lbs. of fresh manures, and the sheep 126 lbs.; that Mangel, Turnips, and Carrots give about half this weight of moist manure; and that Potatoes and green Clover give more than half their weight of moist manures.

From these facts we may estimate the quantity of manures produced from the consumption of dry food at 200 per cent. of the food consumed, and from the Mangel, Swedes, Clover, or other green food, we may estimate the manure at 50 per cent. of the food consumed. The manures produced from the litter given to stock we may reckon at 400 per cent.; from its being cut into 4-inch lengths it imbibes the urine more readily, and holds it firmer than when the straw is used in its full length.

On these facts we have made the following calculation to ascertain the quantity of manure which this farm of 240 acres of arable land may produce by the consumption of the root and fodder crops by stock kept in boxes or in stalls:—

All the dry food consumed by the Stock.

| | Tons. | Tons. |
|---|---|---|
| 500 bushels of Beans | 9 | |
| 30 acres of Oat straw, 2 tons | 60 | |
| 30 acres of Wheat straw, 2 tons | 60 | |
| 10 acres Bean straw, 2 tons | 20 | |
| | 149 tons, which will give | |
| us 200 per cent. of manure | | 298 |

Straw for litter.

| | | |
|---|---|---|
| Wheat straw, 30 acres, at 2 tons | 60 | |
| Barley straw, 30 acres, at 1½ ton | 45 | |
| | 105 tons, which will give | |
| us 400 per cent. of manure | | 420 |
| Manure from dry food | | 718 |

Roots and green food given to the stock.

| | | | | |
|---|---|---|---|---|
| Mangel, | 50 | acres at | 50 tons | 900 |
| Swedes | 30 | " | 20 " | 600 |
| Clover, | 30 | " | 16 " | 480 |
| Carrots | 5 | " | 18 " | 90 |
| | | | 2070 tons, which at 50 per | |
| cent. will give | | | | 1035 |

The leaves of roots.

| | Tons. | Tons. |
|---|---|---|
| 30 acres of Mangel leaves at 8 tons per acre | 240 | |
| 30 acres of Swede leaves at 7 tons per acre | 210 | |
| 5 acres of Carrot leaves, at 5 tons per acre | 25 | |
| 15 acres of Potatoes at 1 tons per acre | 15 | |
| 490 of leaves will give us 50 per | | |
| cent of manure | | 245 |
| Of moist manures | | 1998 |

This estimate is about the quantity which was made on Whitfield Farm of 240 acres of arable land. From 2220 to 2850 cubic yards of dung once turned was the quantity yearly made from the consumption of the root and Clover crops by stock and sheep in box.

With respect to the relative value of the natural manure from the consumption of the root and fodder crops produced on the farm and of mercantile manure we take bonedust, as we have a good experiment with them.

I find in the fifth report of the East Lothian Agricultural Society that Mr. James Allan gives the result of an experiment made by him in 1834 with farmyard manure and bone-dust in the production of Swedish Turnips, the particulars of which are the following:—

"First, 1 acre with very fine home-made dung 12 double cartloads, at say, 7*s.* 6*d.* per load .. .. £4 10
The weight of the Turnips 27 tons 14 cwt.
Second, 1 acre with 5 quarters of bone-dust, at 18*s.* per quarter .. .. .. .. .. .. .. 4 10
The crop weighed 26 tons 7 cwt."

By this experiment the crop was in favour of the 12 double cartloads (say 12 tons) of fine home-made manure charged at 7*s.* 6*d.* per load. But these 1998 tons of manure are fresh, and if it be fermented and turned twice it will lose one-fourth of its quantity, but its value will thereby be greatly increased and become equal in value to Mr. Allan's.

"Very fine home-made dung," say 1500 tons or double cartloads which at the value of manure in East Lothian, say 7*s.* 6*d.*, is 562*l.* 0*s.* 0*d.*, the money value of the natural manure of an arable farm of 240 acres; and it has been found to be equal to 562*l.* 10*s.* 0*d.* worth of bone-dust in the production of Swedes. This is equal to 1*l.* 13*s.* 0*d.* worth of manure to each of our 120 acres of root or green crops.

The expense of cultivating the 120 acres of root or fodder crop is necessarily much greater than that of the 120 acres of grain, but every farmer agrees that part of the expense of his Turnips must be charged to the corn crop. I think it right to charge one-half of the expense of the cultivation of the whole farm to the grain crop and the other half to the root and fodder crop, so that the expense attending either crop of grain or roots is not taken into account. *J. M.*

## Home Correspondence.

*Wexford and Waterford.*—In the brief report which I wrote at the very commencement of this harvest of my limited tour through parts of the counties of Wexford and Waterford, I hazarded some anticipations of the qualities and quantities of the crops then being in course of harvesting or advancing to maturity. At that time it was impossible to foresee when the drought would end, and what would be the results of the later rain falling on the area of country to which my inspection referred. In the Barley district of Skilmore and its vicinity the produce is about two-fifths under a good average. Much excellent malting grain has been sold in market at a good price, but the acreable produce has in most cases much disappointed the farmer. In some instances the straw was so short that the labourers pulled it out of the ground with the roots. Deficiency in Beans in the same ratio is also complained of. Wheat and Oats, winter especially, have been abundant. As usual at this season, the eye is offended by the vast quantities of tall weeds and Couch Grass in the Bean stubbles. Even farmers on a large scale and very wealthy are apathetic on the important matter of destroying weeds, though a very insignificant amount of time and labour would suffice for at least removing Docks and Thistles before seed time: they are left to ripen on the land in frequent instances. The early Potatoes have proved to be generally good in all respects, though a few cases of slight malady are noticed. In the late sort, called here Scotch Downs, a second growth of tubers commenced when the rain fell, and the result is as yet unascertained; whether these secondary tubers will arrive at sound maturity will depend on the condition of the weather during the ensuing two or three weeks. The market price of Potatoes is unusually high at this season. The great failure in Mangels and Turnips will, under any conditions of the Potato crop, render this a valuable one, if only for pig feeding with the small and inferior tubers. Turnip seed, of the later sorts, has been sown after rain fell, where the Swede had failed to grow, and fields are green with young plants, now being thinned out; but with little prospect of becoming serviceable unless we shall be favoured with two or three months of very mild weather.* *M. D.*

*Experiments with Wheat.*—Mr. Pawlett, of Beeston, has again given his experiments publication in *Bell's Messenger;* you generally quote them, and I think they are this year as interesting as ever. *M. S.* [The following is the letter referred to:—

"Having during the last few years tried the relative value of a great many kinds of Wheat, I have latterly selected only the most approved sorts to confirm my opinion which are the most profitable varieties to grow. I therefore selected the following, and drilled them on the 20th of October last, on an old white Clover lea, at the rate of about 2 bushels per acre of seed, in rows 8 inches asunder, the result of which is as follows:—

| | Quantity per Acre. | Present Value per Quarter. | Value per Acre. |
|---|---|---|---|
| | bus. pk. gal | *s.* | £ *s.* *d.* |
| Grace's White.. .. .. | 39 1 1 | 43 | 10 11 6 |
| Tibbald's Wonder Red .. | 36 3 1 | 41 | 9 6 6 |
| Hunter's White .. .. | 35 3 0 | 43 | 9 12 0 |
| Rough Chaff, whits .. .. | 33 3 1 | 45 | 9 10 0 |
| Davis Red .. .. .. | 29 0 1 | 40 | 7 5 6 |

"The yield of Wheat this year is likely to be very indifferent. Indeed, my produce is not near so much as formerly, owing to the very dry weather, which set in just as the Wheat was getting ripe, and dried it up prematurely, so that the quality is very inferior to former years. Prices being so very low it will, I fear, be a very bad year for farmers. T. E. PAWLETT.

"Beeston, Sandy, Beds, Sept. 7."

"P. S. The Browick red was tried against the above sorts of Wheat, but having lost plant much through some unknown cause I do not think it proper to give it a place with the others in the account, lest it might mislead. This kind of Wheat having for many years proved for me the most profitable sort of red to grow, I do not intend to give it up for not having done so well for me this year."]

*Dodder.*—I have enclosed a specimen of a plant which is troubling me sadly; it grows numerously on a piece of Lucerne, which I have for my cattle. It is getting so plentiful that it is totally destroying my plant of Lucerne. I can discover no way of destroying it, neither can I find that it has any roots, or that it is in any way bred in the soil. It seems to derive all its nourishment from the Lucerne, to which it is closely connected. If you could oblige me with the name and means of destroying it I should feel greatly obliged. *G. H., Sept.* 20. [It is Dodder. We must beg to refer you to the very full account of such plants given in our columns only a fortnight ago.]

## Farmers' Clubs.

KINGSCOTE: *Sept* 9 (*Second Annual Meeting*).—There is no question but that this and similar societies have a great tendency not only to improve the cultivation of the soil by applying those implements which the progress of science has made practical, but they have a still greater tendency to bring together and thereby to unite in their social relationship the capitalist, the farmer, and the labourer. Such an effect is being produced in the neighbourhood of Kingscote. There is every probability from the powerful influence which is being afforded to the association by the landed proprietors, principal farmers of the neighbourhood, and many warm advocates of the improvement of the land, that this association will at no distant day become one of the most valuable of its class in the county. There is one feature connected with the association which does infinite credit to the individual who introduced it, and that is, prizes for improving the mental and moral condition of agricultural servants. The society originated in a plain and almost accidental manner. The subject was talked of by two or three of the neighbourhood, and as the thing became mooted abroad a desire seemed to exist that such an experiment should be tried. Much of its success is due to Mr. E. Drew, of Calcot, the present secretary. Monthly meetings are held at which subjects of a scientific and useful character are introduced and discussed by the members, and every facility is afforded for promoting the objects of the association. The annual ploughing match took place in a field of 35 acres of old lea in the occupation of Mr. E. Drew, of Calcot; 50 ploughs had entered, 47 of which started. The competition was exceedingly good. The annual dinner was held the same day. Prizes were awarded (1) to the best ploughman more than 18 years of age with a pair of horses and no driver; (2) to the best ploughman with a team of oxen and a driver; (3) to the shepherd who from a flock of not less than 50 ewes shall rear the greatest number of lambs and save the greatest number of ewes in proportion to the number put to the ram, the lambs and ewes being alive on June 1; (4) farm servants, for long servitude; (5 & 6) for written passages from Scripture bearing on given subjects, accompanied with remarks!

The Right Hon. S. Estcourt presided at the annual dinner. He said that in the course of his life he had known something of agricultural associations, and he must say that these associations depended so much on the superintendence and continual support of gentlemen in the neighbourhood, that if that support was withdrawn—if gentlemen looked coldly on the society, did not pay regularly their subscriptions, or neglected to attend these anniversaries, these associations were failures. They must, as he had, have heard a great deal of criticism on small local meetings of this kind. "What good are they?" some people ask; "if we are to have anything of the sort, let us have it on a grand scale." If he was not mistaken, the object of the members of this society was principally by means of a ploughing match to induce their servants to take more pains with their work than they had hitherto done, and to give to give to those who could write a little, and knew a little about practical agriculture, an opportunity of imparting information to their neighbours, and reaping knowledge in return. He understood that meetings were held by this association during the winter evenings, at which gentlemen read essays, or spoke upon some useful subject, out of which the most stupid man might pick up something. Great good was brought about in this manner, and according to the best of his judgment he believed the projectors of this society had pursued a useful, sensible, and moderate course of management. He sincerely hoped that the society would continue to flourish, dispensing those benefits to which it had already given rise, encouraging industry and honest service, and keeping up that good feeling which he was sure united everybody here this day.

Mr. Harrison, of Frocester Court, was elected chairman for next year. He spoke in the course of the evening, and contended that it was necessary that tenants should also be encouraged to improve their land. It was a great injury to the landlords, to the tenants, and to the country that the tenants had no greater tenure on their land than they had at present. It was of importance that the position of the tenant should be improved, and by making their tenancy more certain raise them to one of comparative independence.

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CHESHIRE.—At the late annual meeting of this Society, Mr. Tollemache said he could see that to carry on large and extensive agricultural improvements, it was necessary for the landlord and tenant to work together, as they were important parts of a whole that was for the benefit of the public. It was the duty of the landlord to provide his tenants with a good house, with press house, cheese-house, milk-house, and store-room, so that the dairy proceedings may be carried on in the most efficient and economical manner. The milk-house should be large enough to enable the tenant, if he pleased, to give up the practice of Sunday cheese-making. He believed also that it was the duty of the landlord to give agreements containing clauses for compensation to tenants in the case of unexhausted improvements, and he believed no improvements on a large scale could be carried on without such agreements or leases. With the extraordinary fluctuations to which the Wheat and grain markets were liable—70 to 80 per cent.—and not being able to tell what the effect of the construction of railways on the continent and in America would be, he was in favour of annual agreements, containing clauses for compensating tenants for unexhausted improvements. He had tried them, and knew that they worked well, giving every satisfaction to tenants who had been accustomed to leases. Without such agreements he did not think it possible for extensive improvements to be carried on.

Mr. Humberston, M.P., referred to the agricultural meeting at Chester last year:—

"He believed that a great stimulus had been given to the farming interest by that exhibition. The Cheshire farmers then had the opportunity of seeing specimens of the best stock brought from every part of the country; and upon that occasion also was brought together one of the most interesting and extensive collections of agricultural implements that ever were enclosed within the walls of a show-yard. From that occasion he thought they might date one of the most valuable improvements to agriculture, viz, the application of steam-power to the cultivation of land. At Chester the first prize for the successful application of steam-power to agriculture was awarded, and now that our threshing machines by steam will turn out 300 measures a day threshed, winnowed, and bagged fit to send to the mill out of the stack-yard, who would say that such power applied to the plough or cultivator would not bring about a speedy revolution in farming? But one of the most interesting features of that great show at Chester was the unexampled exhibition of cheese, upon which Mr. Wright, of Warrington, who acted as steward of that department, had written a most valuable report, which every dairy farmer ought to read. He would quote from the report a few extracts peculiarly worthy of observation, as forming the results that had been obtained from the inquiries that had been made, and the information that had been elicited on that occasion. First, Mr. White states, 'as to whether Cheshire cheese is better or worse now than it was 20 years ago, I feel incompetent to decide; but I am persuaded that, on the whole, it is not so good as it ought to be, and that thousands of pounds are lost annually by farmers in Cheshire and the adjoining counties, in consequence of their making it of an inferior quality which compels them to submit to an inferior price.' Again, as to the effect of bone manure on cheese:—'There is an impression on the minds of many cheesefactors and others that Cheshire cheese has deteriorated in quality ever since, if not in consequence of, the very general application of bone manure to the Grass lands; and there is, I believe, no doubt that the sweet herbage which this application induces does render more care necessary in the management of the produce of the cows when converted into cheese. But if any proof be wanted that excellent cheese of the first quality can be made on farms on which bone manure has been freely applied, we have it in the fact that Ridley Hill Farm, where the champion cheese was made, and most, if not all, the farms on which the other prize cheeses were made, are bone manured. All, therefore, that is required is, that more care, skill, and intelligence should be exercised in the manufacture; with these, and proper utensils and offices, good cheese may be made on any Cheshire farm.' Lastly, with reference to a most important subject, the application of scientific knowledge to the manufacture of cheese, Mr. White states as follows: 'At the same time I think that the importance of cheese-making is such as to demand more scientific investigation than has hitherto been bestowed upon it; and I hope ere long that either the Royal Agricultural Society, or some other, will cause that investigation to be made.'"

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KELSO.—After the award of prizes for sheep, the great sale of Leicester Rams took place. The number entered for public auction amounted to 1518—of which 681 were in the ring presided over by Mr. Fairbairn, auctioneer, Kelso; 467 in that presided over by Mr. Donkin, auctioneer, Bywell; and 370 in that of Mr. Embleton, auctioneer, Broomhouse, and Mr. Oliver, auctioneer, Hawick. The sales commenced very soon after 9 o'clock, and continued without intermission until the whole were disposed of, and so great was the number of purchasers in attendance, that not a single sheep was taken back unsold. It was the brisket sale we have yet had at this meeting, and prices generally were considerably higher than those of last year, ranging from 3*l.* to 38*l.* a head; the latter price being reached by one of Lord Polwarth's sheep. When Mr. Fairbairn got through his large lot, the bidders were as prompt as ever; in short, towards the end of the day prices were rather improving, thus showing that great as the number of sheep was it was not equal to the demand. Mr. Fairbairn finished his lot soon after 5 o'clock, and in a very short time afterwards the showground was completely cleared. We may safely affirm that this market for Leicester rams is unequalled in any part of the kingdom, and consequently the attendance of purchasers from all quarters is most numerous; otherwise it would be impossible to dispose of so large a lot. The following are the average prices of many of the lots:—

| No. of Tups. | Name. | Average. £ *s.* *d.* |
|---|---|---|
| 44 | Right Hon. Lord Polwarth .. .. .. | 11 4 0 |
| 50 | Mr. Stark, Mellendean .. .. .. .. | 12 14 3 |
| 40 | Mr. Thomas, Rutherford .. .. .. .. | 6 0 3 |
| 40 | Mr. Roy, Nenthorn .. .. .. .. | 5 18 0 |
| 80 | Mr. Purves, Linton Burnfoot .. .. .. | 8 4 6 |
| 50 | Mr. Nisbet, of Lambden .. .. .. | 6 17 4 |
| 52 | Mr. Thomson, Mindrum .. .. .. .. | 5 17 9½ |
| 36 | Mr. Cockburn, Sisterpath .. .. .. | 10 12 3 |
| 50 | Mr. Simpson, Courthill .. .. .. .. | 7 11 5 |
| 65 | Mr. Robeson, Springwells .. .. .. | 6 6 3 |
| 24 | Mr. Wellbank, Keighley .. .. .. .. | 4 7 5 |
| 15 | Mr. Nisbet, Elwick (long wools) .. .. .. | 5 3 9 |
| 19 | Mr. Peake, Craigend (half-bred) .. .. .. | 6 6 6 |

The number of tups sold by Mr. Fairbairn was 670, and the average of the whole was 6*l.* 1*s.* 2½*d.*

## Notices of Books.

*Journal of the Royal Agricultural Society.* Vol. II. Part I. John Murray.

The first part of this volume for the year should have appeared nearly two months earlier than it has. Gentlemen are supposed to take it with them to the moors after the London season, and to meet the second part on their return to town before Parliament meets. It seems to us that it would be a better arrangement if the first part should be presented to the Society annually at their annual meeting held during the month of May, and that the second part should be published at this time of the year, or even later if that be necessary, in order to the publication in it of the results of the annual meeting in the country. Certainly it is a disappointment to those who take up the part which has just appeared to find that it contains no reference, beyond the mere award of the judges, to the Warwick meeting. There are a number of interesting and valuable papers given in its pages, but the absence of all reference to what is of paramount and immediate interest spoils the reader for their enjoyment, however valuable they may be.

Among the subjects new to the work are a Report on the Preservation of Timber, by Dr. Richardson, to the South-Eastern Railway Company; Beetroot Distil-

* By misprints caused no doubt by the indistinctness of my penmanship in my former communication, the city of Waterford was stated to be the "soul" instead of the "port" of the counties of Waterford and Tipperary; and Portlaw was named "Portland."

lation, discussed by Mons. Tréhonnais; and American Agricultural Implements, by Dr. Eddy. The papers by Mr. Clarke on Steam Cultivation; by Mr. Russell, on Climates; by Dr. Voelcker, on Liquid Manure; by Messrs. Lawes & Gilbert, on Grass Land Manure; and by C. P. le Cornu, on the Agriculture of Jersey and Guernsey will be read with interest, though the volume does not appear to us to exceed the average merit of the series.

## Calendar of Operations.

SEPTEMBER.

South Essex: *Sept.* 12.—We are now very busy crossing and paring our Beans, Peas, and seed eddishes for Wheat and Winter Beans, which we trust to be able to get sowed by the end of this month; but for harvest work these operations might and ought to have been accomplished four weeks ago, and enabled us to have sown our Wheat and Winter Beans at the beginning of the present month, instead of being obliged to defer it to the end, when probably it may be wet, and we shall be necessitated to defer it to a still later period, and to hurry it in disadvantageously by hook or by crook, as thousands of acres often are in this country, when it is too late for it to tiller, and to take firm root hold of the subsoil before winter. It may not be generally known, neither believed, nor will it be credited now by sceptics and those who are prejudiced to "new fangled notions," as they are often sarcastically called, that Wheat and Beans sown rationally as to thickness, equally, singly, and early in September, will penetrate their main roots 2 feet into the subsoil before Christmas, in search of alimentary winter food or sustenance when the earth is warm below, though freezing and covered with snow on the surface; whereas if the sowing is deferred till November they will scarcely germinate or lay hold of the iron like pan at all till March or April, when it is too late for them to perform their natural capabilities. Every plant then makes a grand effort to form blades and seed stalks by respiration of the atmosphere, and cannot from the dryness and hardness of the subsoil then form sufficiently deep roots to enable them to fully mature, and stand erect, and so bid defiance to storm and other incidents towards their final developement. We are also very busy as dry days permit, burning our Wheat stubbles, with the weeds, and portions of the clotty earth, on our heaviest land, for our root and seed crops the ensuing season, which we "Bentall" or "broadshare" up a day or two previous. This could, and ought to have been done a month ago, when the weather was hot and dry, and the days long, and as profitably then as now, even at harvest wages, dear as they were, if the manual labour could have been spared. Had the corn not been so dreadfully laid and twisted, so as to prevent the use of the reaping machine, labourers could have been spared to have done this important work timely, which in former ages has been unforeseen and neglected. Another season we trust it will be otherwise, when we must be watchful to get our stubbles burned earlier, before many of the weeds have shed their seeds, and insects have deposited their eggs and larvæ deep in the soil. On light lands where burning the earth is useless, many acres of stubbles, with the weeds, seeds, and insects, and in short, everything that has life on the surface animate and inanimate from the grasshopper to the snail, and no doubt the larvae of the insect that destroys the Turnip may be burned up in one dry and calm day (not windy) by the following expedient. First, strew the land all over with a small quantity of chaff or other dry short material, (we use coulder or seed pods), next, dash a small quantity of gas or Stockholm tar, (the former is the cheapest), or any other inflammable liquid, or gunpowder over the surface with exactness; and lastly, a small quantity of loose dry haulm or other litter uniformly over the stubble; then, by setting fire to the field in divers parts with a piece of paper and lucifer match, the whole field will exhibit a sheet of wildfire in a jiffy [!!], leaving the ashes very regularly all over the surface, and not extending beyond its due limits, if buildings are not contiguous. More litter will answer the purpose instead of any tar; but it is more expensive. This is the very best month to plant the true dwarf Russian Winter Beans, that have been most successfully grown of late years, for if they are planted early they will get firm rooting in the subsoil, and will stand any winters, when if they should be cut down by frosts a foot high, so as not a vestige of them can be seen, save their stumps, yet in spring they will sprout again, and branch in full vigour more than if the frost had not smitten them. It ought to be distinctly understood however, that they are subjected to other disasters in winter, as are cereals, if they are planted in November or October, such as stagnant wet, rooks, pigeons, partridges, rats, mice, birds, snails, &c., common to all the infant vegetable family in winter; yet in point of frost, early crops are safe for the most part, being constitutionally inured to the cold, and wet, and other casualties by degrees during the autumn months. *Maldon, Essex.*

West Sussex: *Sept.* 13.—We have now got to a rather dull part of the year, harvest all over, and as yet little done in the way of preparing for Wheat sowing. The ground is so hard and dry that it is nearly impossible to plough the leas, and some may wait a little longer to see if we get a shower. All kind of food is now quite dried up with us, and the hay must already come in to help to keep the cattle from losing flesh, and it is well that there is a good supply of it. Swedes and Turnips are suffering from the drought, and will be a very light crop, unless we have a change soon. There has been already a good supply of new Wheat in our market, and the quality, upon the whole, is good, but all say that the quantity per acre is one-fourth or even one-third below last year. Barley begins to come in, but as was expected the quality varies, and the price from 30*s.* to 42*s.* The supply of beef and mutton has not been so good lately, and anything good sold off at a high price; and beef especially is not likely to be plentiful for some time, at least good beef, as stock have hardly maintained their own lately, and it will take some time to get stall-fed ones into the market. But though we have had the weather very much against our stock, it has not been so on the higher lands, where there is plenty of Grass still, and the effect will be that ewes at Weyhill fair will cost more than we in this neighbourhood ought to give. *G. S.*

## Notices to Correspondents.

Holcus Saccharatus: *H C.* The fullest published account of it is in the pamphlet advertised in our columns, and called "A Visit and a Plant." You should procure that, and learn the best English experience of the plant. Perhaps some of our correspondents may say what has been their practice and experience regarding it.

Italian Ryegrass: *Subsoil.* It will soon die out after once seeding, and is of little service after the second year.

Weeds: *A R C.* In pastures weeds are discouraged by drainage, close pasturage, and artificial top-dressings, and by perseverance in spudding or pulling large plants at all seasons of the year, especially in the spring and summer, and before their seed time. If these means will not avail, the land must be ploughed up, well fallowed, and laid down again.

*** As usual, many communications have been received too late, and others are detained till the necessary inquiries can be made. We must also beg the indulgence of those correspondents the insertion of whose contributions is still delayed.


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OPPOSITE OLD ST. PANCRAS CHURCH.

PRICES REDUCED.

H. J. MORTON AND CO., Galvanised Iron Works, 2, Basinghall Buildings, Leeds.

GALVANISED IRON ROOFING

for Farm Buildings and other Roofs; the cheapest, most durable, and neatest Roofing in use; also Spouting at 10½*d.* per yard.

WIRE STRAND CABLE FENCING

(formed of Twisted Wires like a rope or cable), the strongest cheapest, and neatest fence in use, will resist the largest cattle and will not bend or get out of form by trespassing upon or over. Price, with five lines of the Galvanised Strand, iron main posts, and pronged Standards, 1*s.* 2½*d.* per yard.

This fence is far cheaper than posts and rails, or any kind of iron fencing; and possesses four times the strength of solid bars. Will not rust nor corrode. Upwards of 1200 miles of this Fencing supplied.

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Galvanised, 24 ins. wide, 2-inch mesh, 5½*d.*, 7½*d.* and 9½*d.* per yard.

Galvanised, 24 ins. wide, 3-inch mesh, 4*d.*, 5*d.*, and 7*d.* per yard. The Netting made any width, and with openings of any size.

GALVANISED IRON CHAIN CAMP STOOLS & CHAIRS, POULTRY FOUNTAINS & FEEDERS, PRONGED DAHLIA RODS AND ROSE STAKES, &c.

Strong CATTLE HURDLES from 2*s.* per yard.

PATENT IMPROVED GAS WORKS,

of all sizes for the use of Private Houses, Mansions, Railway Stations, Mills, Collieries, Mines, Villages, &c. Works from 10 to 500 lights estimated for. The works can be entrusted to an ordinary labourer.—Apply to

Henry J. Morton & Co. 2, Basinghall Buildings, Leeds.

CAST-IRON GARDEN ORNAMENTS, viz.—ORNAMENTAL VASES, of various sizes, do. with pedestal, GARDEN CHAIRS and STOOLS, RUSTIC GARDEN SEATS and TABLES, both plain and bronzed, also GARDEN ROLLERS of all sizes.—Prices on application to J. Jones, Iron Merchant, 6, Bankside, London, S.E.

FRUIT TREES, POULTRY, RABBIT NETS, and CATTLE FENCING.—WOOL NETTING to Protect the Bloom of Peach, Nectarine, and other Trees, Flower or Seed Beds from Frost, Blight, and Birds, 40 inches wide, 8*d.* per yard. NEW TWINE NETTING, ½-inch mesh, 2 yards wide, 8*d.* per yard. ELASTIC HEXAGON GARDEN NET and SCRIM CANVASS, 4½*d.* per square yard. COCOA-NUT FIBRE, or Hemp Sheep-folding Net, of superior quality, 4 feet high, 4*d.* to 6*d.* per yard. Rabbit Net, 4 feet wide, 2*d.*; 6 feet wide, 3*d.*; 8 feet wide, 4*d.* per yard. Each edge corded ½*d.* per yard extra, suitable for Poultry Fencing. Galvanised Wire Netting, 2 feet wide, 5*d.* per yard. Batt-folding Nets, with Bamboo Poles, 20 feet long, 20*s.*, at W. Cullingford's, 1, Edmund Terrace, Ball's Pond Road, Islington, London, N.

SHAW'S TIFFANY is universally acknowledged to be the best, neatest, and cheapest material for shading Conservatories, and other Hothouses. Effectually securing Plants from the scorching rays of the sun, without obscuring the light. Also, for protecting the Bloom of Wall Trees from spring frosts, and Fruit from birds and wasps. Sold in pieces.

No. 1.—20 yards long, by 38 inches wide, 5*s.* per piece.

No. 3.—Double strength, 18 yards long, by 39 inches wide, 7*s.* 6*d.* per piece.

No. 4.—Treble strength, 18 yards long, by 39 inches wide, 9*s.* per piece.

A liberal allowance to the Trade when ten or more Pieces are taken.—John Shaw & Co., Princess Street, Manchester.

GUTTA PERCHA TUBING FOR WATERING GARDENS.

THE GUTTA PERCHA COMPANY have the pleasure to acknowledge the receipt of the following

*Testimonial from* Mr. J. Farrah, *Gr. to* Boswell Middleton Jalland, Esq., *of Holderness House, near Hull.*

"I have had 400 feet of your Gutta Percha Tubing, in lengths of 100 feet each, with union joint, in use for the last 12 months for watering these gardens, and I find it to answer better than anything I have ever yet tried. The pressure of the water is very considerable, but this has not the slightest effect on the tubing. I consider this tubing to be a most valuable invention for Gardeners, inasmuch as it enables us to water our gardens in about one-half the time, and with one-half the labour required."

Manufactured by the Gutta Percha Company, Patentees, 18, Wharf Road, City Road, London, E.C., and sold by their Wholesale Dealers in town and country.

GLASS FOR ORCHARD HOUSES, as supplied by us to Mr. Rivers.

ORCHARD HOUSE SIZES, as supplied by us to Mr. Rivers.

| | | 16 oz. | 21 oz. |
|---|---|---|---|
| 20 in. by 12 in. } 20 in. by 13 in. } | Common .. .. | 14*s.* 0*d.* .. | £1 1*s.* |
| 20 in. by 14 in. } 20 in. by 15 in. } | Superior do. .. | 16 6 .. | 1 5 |
| | English Glass .. | 18 0 .. | 1 9 |

Boxes included and not returnable.

JAMES PHILLIPS AND CO.,

**180, Bishopsgate St. Without, London, E.C.**

No Connection with any other House in Town.

GLASS FOR CONSERVATORIES, ETC.

HETLEY AND CO. supply 16-oz SHEET GLASS of British Manufacture at prices varying from 2*d.* to 3*d.* per square foot for the usual sizes required, many thousands of which are kept ready packed for immediate delivery.

Lists of Prices and Estimates forwarded on application, for PATENT ROUGH PLATE, THICK CROWN GLASS, GLASS TILES, and SLATES, WATER-PIPES, PROPAGATING GLASSES, GLASS MILK PANS, PATENT PLATE GLASS, ORNAMENTAL WINDOW GLASS, and GLASS SHADES, to James Hetley & Co., 35, Soho Square, London, W.

See *Gardeners' Chronicle* first Saturday in each month.

HORTICULTURAL GLASS—JUNE TARIFF.

THOMAS MILLINGTON'S reduced Tariff of GLASS, &c.

6 by 4, 7 by 5, 8 by 6, 9 by 7 } 16 oz. to the foot, 11*s.* 6*d.*
6½ by 4½, 7½ by 5½, 8½ by 6½, 9½ by 7½ } per 100 feet.

In 100 boxes,—4the quality, 12*s.* 6*d.*; 3ds do., 14*s.* 4*d.*

| | | | | | |
|---|---|---|---|---|---|
| 10 by 8, | 12 by 9, | 12½ by 10½, | 14½ by 10½, | 13 by 11 |
| 10½ by 8½, | 12½ by 9½, | 13 by 10, | 15 by 10, | 13½ by 11½ |
| 11 by 9, | 13 by 9, | 13½ by 10½, | 12 by 11, | 14 by 11 |
| 11½ by 9½, | 12 by 10, | 14 by 10, | 12½ by 11½ | |

| per 100 feet | 16 oz. | 21 oz. |
|---|---|---|
| 20 by 12 } 20 by 13 } 20 by 14 } 20 by 15 } Common .. | 16*s.* .. | 24*s.* |
| Superior . | 18*s.* .. | 27*s.* |

All Boxes included.

Orchard House sizes as supplied to Mr. Rivers.

Hartley's Improved Rough Plate Glass from ⅛ to ¾ in thickness.

Coloured Glass in great variety, at 9*d.* and 1*s.* per foot.

Paints, Genuine White Lead, Linseed Oil, Boiled Oil, Turpentine, Putty, Colours, Varnishes, Brushes, Lamp Glasses, &c.

87, Bishopsgate Street Without, E.C., same side as Eastern Counties Railway.

GLAZIERS' DIAMONDS FOR CUTTING HORTICULTURAL and other GLASS, to be had of the Wholesale Manufacturer, John Edwards, 20, Sharp's Alley, West Smithfield, London, E.C. Prices from 10*s.* to 27*s.* 6*d.*

GARDEN POTS AND PANS, in quantities of not less than 20 casts, delivered to the London Stations at the following prices:—Nos. Thbs. 60, 60, 54, 48, 40, 32, 28, 24, 16, per cast, 2*s.* respectively. 12, 3*s.*; 8, 3*s.* 6*d.*; 6, 5*s.*; 4, 5*s.*; 3, 5*s.*; 2, 5*s.*; 1, 5*s.* On lesser quantities, 6*d.* per mile, for delivery to the Station, charged. The usual discount to the Trade. Square Propagating Pans, Kale and Plunging Pots, Strawberry and Border Tiles, &c., made to order.

J. & W. Adams, Kilns, Belle Isle, York Road, King's Cross, N.

VASES, PEDESTALS, SUNDIALS, FOUNTAINS, FLOWER BOXES, JARDINETS, FERN CASES, BALUSTRADES, EDGINGS AND CURBS FOR FLOWER BORDERS, SEATS, &c., in Imperishable Siliceous Stone, at reduced prices, for the adornment of the Villa Garden, the Mansion Grounds, or the private or public Park.

For Priced Illustrations apply to Frederick Ransome, at the Show Rooms, Cannon Row, Westminster, S.W., or Patent Stone Works, Ipswich.

MICROSCOPES.

J. AMADIO'S BOTANICAL MICROSCOPES, packed in mahogany case, with three powers, condenser, pincers, and two slides, will show the animalculæ in water. Price 18*s.* 6*d.*—Address Joseph Amadio, 7, Throgmorton Street, E.C.—A large assortment of Achromatic Microscopes.

"It is marvellously cheap, and will do everything which the lover of nature can wish it to accomplish either at home or in the open air."—*The Field*, June 6, 1857.

Just published, 2d Ed., an Illustrated Catalogue, with names of 1500 Microscopic objects, free for 6 stamps.

STEELL'S PATENT WROUGHT-IRON DOUBLE-BACKED DOUBLE BOILER, for HEATING CHURCHES, HORTICULTURAL BUILDINGS, WAREHOUSES, &c., is the most powerful, most economical, and quickest actioned Boiler in existence, and may now be seen ready for use at their Nurseries, Richmond, Surrey, S.W., the only place where they can be procured.

Testimonial.

"Rectory, Barnes, Sept 10, 1859.

"Gentlemen,—I can readily bear my testimony to the excellence of your Boiler; indeed to that of the whole heating apparatus which you have supplied for our church. It combines great heating power with economy of fuel and facility of management.—I am, Gentlemen, yours faithfully,

"Messrs. G. & W. Steell." "R. E. Copleston."

# WEEKS' ONE BOILER SYSTEM.

BY APPOINTMENT.

## JOHN WEEKS & COMPANY,

### KING'S ROAD, CHELSEA, S.W.,

CHALLENGE THE WORLD to produce a Boiler not made in imitation of their Upright Tubular Boiler that will produce anything like the same effect with the same quantity of fuel in a given time.

The following unequalled statistics fully justify the challenge:—

| Mark the enormous length of Houses and Piping heated by One Boiler. | Length of Houses in feet | Total length of Piping. |
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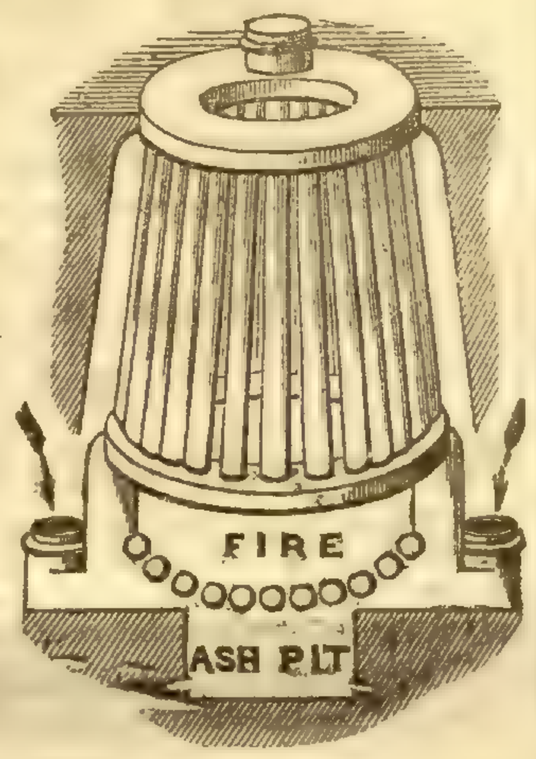
| Messrs. E. G. Henderson & Co., Wellington Nursery | 1,200 | 5,500 |
| Messrs. F. A. Smith, Dulwich ... ... ... ... | 3,000 | 11,000 |
| M. Van Houtte, Belgium ... ... ... ... ... | 3,300 | 13,000 |
| Our own Fruit Forcing Show Establishment ... | 1,000 | 7,000 |




Also the Nurseries of Mr. Woodroffe, Harrow Road, N.W.; Messrs. Rollisson, Tooting, S.; Messrs. Wood & Ingram, Huntingdon; Messrs. Wood & Son, Maresfield; together with numerous Public Buildings and Establishments of the Nobility and Gentry far too numerous for insertion.

**J. WEEKS & CO., Horticultural Builders and Hot-Water Apparatus Manufacturers, King's Road, Chelsea, S.W.**

PLANS AND ESTIMATES FREE ON APPLICATION.

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## COTTAM & COMPY., Engineers, Founders, &c.,

2, WINSLEY STREET, LONDON, W.

### A SHOW ROOM DEVOTED ENTIRELY TO ARTICLES OF HORTICULTURE.

THE NEW ILLUSTRATED CATALOGUE UPON APPLICATION.

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| Conservatories | Mowing Machines | Hand-glass Frames | Garden Engines | Flower Sticks |
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| Garden Vases | Flower Stands | Garden Chairs | Flower Labels | Garden Arches, &c. |

**Iron Hurdles, Strained Wire Fencing, Game Netting, &c.**

*Every description of Plain, Ornamental, Cast and Wrought Iron, and Wire Work.*

**EXHIBITION PRIZE MEDAL GATES AND ENAMELLED MANGERS.**

N.B. COTTAM AND COY. beg to make it known that there is no longer an entrance to their establishment from Oxford Street, but that they have made a second entrance from 2, Winsley Street, Oxford Street, W., by the side of the old entrance to their works, opposite the Pantheon.

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### THE PLOUGH TRIALS AT WARWICK.

# HOWARD'S CHAMPION PLOUGH

**Gained the FIRST PRIZE as the Best Plough for General Purposes at Warwick,**

BEING the CHIEF PRIZE for PLOUGHS, awarded by the Royal Agricultural Society of England, at this Meeting. The importance of this Prize will be gathered from the fact that the GENERAL PURPOSE PLOUGHS are the only ones tried on BOTH LIGHT AND HEAVY LAND, and as HOWARD'S CHAMPION PLOUGH proved itself to be the best on both soils, the FIRST PRIZE, of the HIGHEST AMOUNT given by the Society for any kind of Plough, was awarded to J. & F. HOWARD.

PRIZES awarded to J. & F. HOWARD, by the Royal Agricultural Society of England, at the WARWICK MEETING, 1859, being not only the LARGEST NUMBER of PRIZES, but the LARGEST NUMBER of FIRST PRIZES awarded to any Exhibitor.

THE FIRST PRIZE FOR THE BEST PLOUGH FOR GENERAL PURPOSES, ALSO A PRIZE FOR THE BEST PLOUGH FOR LIGHT LAND, AND A PRIZE FOR THE BEST PLOUGH FOR HEAVY LAND; THE FIRST PRIZE FOR THE BEST LIGHT HARROWS, THE SECOND PRIZE ALSO FOR THE BEST LIGHT HARROWS, AND THE FIRST PRIZE FOR THE BEST HEAVY HARROWS.

**Every one of HOWARD'S Implements, tried at Warwick, gained a Prize.**

CATALOGUES, with full particulars, sent post free on application to

**J. & F. HOWARD, BRITANNIA IRON WORKS, BEDFORD.**

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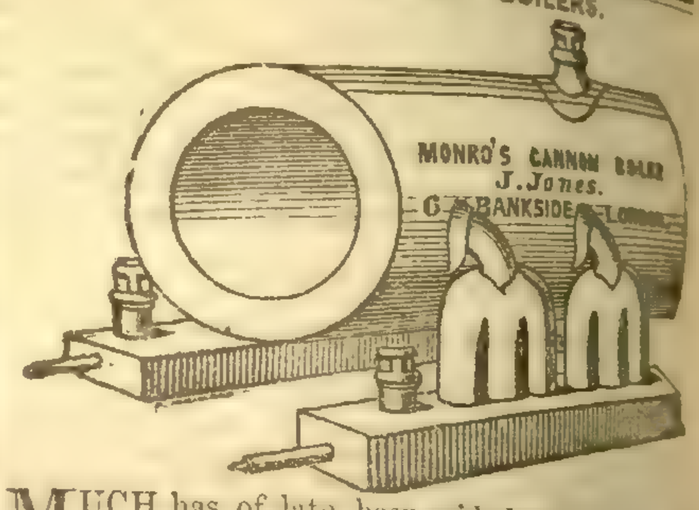
MONRO'S CANNON BOILERS.




MUCH has of late been said about BOILERS FOR HEATING BY HOT WATER, but these Boilers have now proved themselves to be the best at present known. They are adapted for Heating every description of Building, and are made of various sizes. The price of the

| | | | | |
|---|---|---|---|---|
| 24-inch Cast Iron is .. | .. | .. | .. | £5 10s. each |
| 24-inch Wrought Iron is | .. | .. | .. | £5 10s. ,, |
| 36-inch Cast Iron is .. | .. | .. | .. | £8 16 ,, |
| 36-inch Wrought Iron is | .. | .. | .. | £8 0 ,, |
| | | | .. | £8 10 ,, |

References to Gentlemen and Nurserymen where these Boilers are now at work. The Cannon Boilers are now kept in stock, and are to be had only of J. JONES, 6, Bankside, S.E. Also every description of Saddle and Cylinder Boilers. Hot-water Pipes and Connections at prices lower than those of any other house in London. Estimates for Hot-water Apparatus erected complete in any part of the country, and an Illustrated Catalogue on application to J. JONES, 6, Bankside, Southwark, London, S.E.

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IMPROVED HOT-WATER APPARATUS.

T. SCOTT (formerly in the employ of Messrs. John Penn & Son) manufactures and fits up complete Apparatus for Heating Buildings by Hot Water, also Bath and Kitchen Apparatus of every description.

T. SCOTT manufactures Improved Hot-water Boilers, Stop Valves, Thermometers, &c., and having lately fixed several of the Boilers (No. 1), can confidently recommend them as particularly adapted for Heating Churches, Chapels, Schools, extensive Ranges of Forcing Houses, &c., efficiently, and with great economy of fuel; also the PORTABLE BOILER (No. 2), requiring no brickwork, for Small Conservatories, Pits, Baths, &c.

Estimates, references, &c., on application to THOMAS SCOTT, Blackheath Road, Greenwich, S.E.

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VOKINS AND HURST,
Jubilee Place, King's Road, Chelsea, S.W.

HORTICULTURAL BUILDERS and HOT-WATER APPARATUS MANUFACTURERS. Estimates forwarded on the shortest notice. BOILERS of all sizes on sale.

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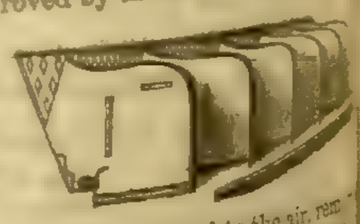
IMPROVEMENTS IN HEATING, &c.

MUSGRAVE'S PATENT SLOW-COMBUSTION STOVE, for Warming Public Buildings, Hall, Shops, Conservatories, Factories, Drying Rooms, &c. Will burn in Churches from Saturday till Sunday evening, avoiding attention during the hours of worship. In Halls will burn day and night for weeks, with little care. Capable of warming a large apartment for 24 hours, at a cost of 3d.; and deserving of special attention, because of its safety, healthfulness, durability, and extreme simplicity. This Stove is the nearest approach to warming by hot water.

MUSGRAVE'S PATENT STABLE FITTING AND HARMLESS LOOSE BOXES have obtained the award of a large Council Medal from the R. I. A. Society for the following improvements:—1st, The Horse cannot injure himself or others in the stable if he breaks loose in the stall. 2d, He cannot waste his hay. 3d, He can have uncut hay at pleasure. 4th, He has clean water always before him. 5th, A pure and wholesome atmosphere is secured. 6th, The whole fittings are stronger than usual, without increase in price, and there is no risk of infection.

The Loose Box is really what its name denotes, and the most spirited Horse may be turned into it without danger.

MUSGRAVE'S PATENT IRON COW-HOUSE FITTINGS, as approved by the Board of Works, and in the Ulster Model Farm, and by many of the most eminent Stock Breeders in the Kingdom, are made wholly of iron, very durable, cleanly, and attractive in appearance. The fodder is always fresh, being freely exposed to the air, removed from the breath of the animal, and separated from the rotting damp food. The range of Troughs can be quickly filled with water for the use of the Cows, or for washing out in case of epidemic, and the cost is very moderate.



These Inventions being distinguished for strength, simplicity, and practical usefulness will repay public inquiry.

MUSGRAVE BROTHERS are also Makers of Wire Fencing, Hurdles, Field and Entrance Gates, Corn Rick Stands, Conservatories, Hot-water Apparatus, Verandahs, Rural Buildings, and their works being favourably placed for cheap delivery of materials, they can offer corresponding advantages in price.

MUSGRAVE'S Patent Field Gates have gained the 1st Prize of the R. I. A. Society for strength, durability, and cheapness.

For particulars address MUSGRAVE BROTHERS, Ann Street Iron Works, Belfast.

### RHODODENDRONS.

JOHN WATERER'S CATALOGUE of HARDY, SCARLET, and other choice RHODODENDRONS, as actually exhibited in the Royal Botanic Gardens, Regent's Park, is now published, and will be forwarded on application. Faithful descriptions of all the esteemed varieties will be found detailed, with a list of the popular kinds of AZALEAS and other AMERICAN PLANTS, as well as a selection of CONIFEROUS TREES, with height and prices.

The American Nursery, Bagshot, Surrey, near Sunningdale Station, South-Western Railway.

### GERANIUMS, HERBACEOUS PLANTS, ETC.

MESSRS. PARKER AND WILLIAMS beg to inform their friends and patrons that their new PRICED and DESCRIPTIVE CATALOGUE of the above, to which are added Supplemental Lists of Stove, Greenhouse, and Hardy Plants, Fruit Trees, &c. (which include all the best new plants of the season), is now published, and will be forwarded post free on application.—Paradise Nursery, Seven Sisters' and Hornsey Roads, Holloway, London, N.

### CHOICE GERANIUMS.

JOHN DOBSON AND SONS' Annual DESCRIPTIVE LIST of all the leading kinds of SHOW, FANCY, and SPOTTED GERANIUMS, together with a SELECT LIST of CINERARIAS and FUCHSIAS, is now ready, and may be had post free on application; it includes several new varieties now offered for the first time.

Woodlands Nursery, Isleworth, and High Street, Hounslow.

CINERARIA, HERBACEOUS CALCEOLARIA, AND HALF SHRUBBY DITTO SEED.—These have been saved from Turner's most beautiful varieties; in 1s. and 2s. 6d. packets. Primula and Hollyhock, from the newest and handsomest varieties, 1s. per packet. Agents for F. & A. Smith's splendid Cineraria, in 1s. 6d., 2s. 6d., and 5s. packets; also agents for Dobson & Son's splendid Calceolaria, in 1s. 6d., 2s. 6d., 3s. 6d., & 5s. packets.—Catalogues of the newest Flower Seeds, and newest Dutch and Cape Bulbs, sent post-paid.—BUTLER & M'CULLOCH, Seedsmen, Covent Garden Market, W.C.

ARAUCARIA IMBRICATA.—The finest lot of trees in the world of this noble plant, from 1 to 10 feet high, are to be seen at H. LANE & SON'S Nurseries, Great Berkhampstead, and they strongly recommend gentlemen and planters to view them. This forms the most noble tree for Avenues and Plantations. There is a most beautiful specimen at Dropmore, which the intelligent gardener, Mr. Frost, feels great pleasure in showing.

They also have a fine stock of CEDRUS DEODARA, ABIES DOUGLASII, IRISH YEW, &c., from 5 to 10 feet high, for immediate effect.

### BEGONIA MARSHALLI.

WILLIAM COLE begs to announce that he will send out the above beautiful variety, raised by Mr. Franklin, Gardener to J. G. Marshall, Esq., Headingley, near Leeds, on and after the 26th inst. It has been exhibited at the Regent's Park, Kirkstall, Halifax, Shipley, and other Exhibitions, and Certificates have been awarded to it. It is universally admitted to be by far the handsomest of all the Begonias, and will be invaluable for Exhibition purposes.

For further particulars see *Gardeners' Chronicle* of July 16, page 606; also Sept. 10, page 742; also "Cottage Gardener" of July 19 and Sept. 13.

Strong plants 15*s.* each, with the usual discount to the Trade. Post-office Orders payable at Manchester.

Nursery, Withington, near Manchester.—Oct. 1.

### CINERARIA, CALCEOLARIA, AND PRIMULA.

F. AND A. SMITH are now sending out SEED of their splendid varieties of the above in sealed packets, without which none are genuine, at 1s., 1s. 6d., 2s. 6d., and 5s. each. To be had also of most respectable Nurserymen and Seedsmen in the Kingdom.—Dulwich, Surrey, S.

### CAMELLIAS AND AZALEA INDICA

F. AND A. SMITH beg to offer the above well set with flower buds, dwarf, bushy, and thoroughly ripened off. Having been grown in this country they are most suitable for packing, and are strongly recommended to country Amateurs and the Trade in general. An inspection invited. Prices on application.—Dulwich, Surrey S.

NEW HARDY GHENT RHODODENDRON "JEAN VERSCHAFFELT"

This superb Rhododendron, that was so much admired by all who saw it in flower last year, is to be sent out before the 15th of October next. Price 20, 30, and 50 francs per plant. Each Subscriber will receive post free a coloured plate of said Rhododendron. All orders to be addressed direct to JEAN VERSCHAFFELT, Nurseryman, Ghent, Belgium.

### DUTCH FLOWER ROOTS.

E. P. DIXON will supply the following Collection of Bulbs, package included, on receipt of a Post-office Order for 21*s*

| | |
|---|---|
| 12 choice Polyanthus Narcissus | 12 choice named Hyacinths |
| 1 col Crocus, 20 varieties | 100 Turban Ranunculus |
| 12 Tournesol double Tulips | 12 Rex Rubrorum Tulips |
| 12 Yellow Rose ,, | 12 Pæony Gold ,, |
| 12 Parrot Tulips | 12 sweet-scented Jonquils |
| 50 Double Snowdrops | 50 Winter Aconites |

CATALOGUES gratis on application.
Seed Establishment, 57, Queen Street, Hull.

### DUTCH FLOWER ROOTS.

TIMOTHY BRIGDEN, SEEDSMAN and FLORIST, 10, Railway Arcade, London Bridge, London, E.C., begs most respectfully to inform his Friends and the Public generally that he has just returned from Holland with his unrivalled collection of HYACINTHS, CROCUS, TULIPS, NARCISSUS, JONQUILS, &c., of which a PRICED LIST may be had upon application. T. B. further begs to state that, having selected them from the best growers in Holland himself, he can guarantee them finer than any other house in London.

A large assortment of Aquaria, Wardian Cases, and Gold and Silver Fish always on sale.

### NEW AND CHOICE GERANIUMS.

GEORGE SMITH offers strong plants of the following, selected from those sent out in the Autumn of 1858. The plants are remarkably healthy and fine, and now require potting on. Price 30*s.* per dozen, stronger plants at 36*s.* per dozen, viz:—(Hoyle's) Belle of the Season, Excellent, Lady Canning, Leviathan, Monarch, Prince of Wales, Rajah, Star, Tom Brown; (Foster's) Criterion, Golden Hue; (Turner's) Excelsior, Fisherman, Guido, Jung Bahadoor, Osiris, Picnic, Peacock, The Belle; (Fraser's) Echo; (Beck's) Fairest of the Fair, The Bride, Vestal; (Dobson's) Ringleader, Spotted Pet; (Fellowes') Ariel, Desdemona, and (White's) Blink Bonny. Fancies: (Turner's) Beauty, Captivator, Circle, formosum, Marchioness of Tweeddale, modestium, Negro, and Othello.

G. S. has also a splendid stock of all the leading kinds of former years, of Show, Fancy, and Spotted.

A DESCRIPTIVE CATALOGUE will be forwarded in exchange for one postage stamp.

Tollington Nursery, Hornsey Road, Islington, London, N.

### WINTER BLOOMING PLANTS

CAMELLIAS, CHINESE AZALEAS, EPACRIS, ERICAS, of various sizes and of unusually fine cultivation. Many thousands of these plants can be seen at the Nursery of the Subscribers.

DWARF ORANGE in fruit.

CATALONIAN JASMINE (Jasminum grandiflorum.)—Fine plants, grafted on short stems, and full of flower buds.

SPRAGUEA UMBELLATA, introduced by H. L. & Co. from California, is now in flower in the open ground.

Inspection respectfully invited.

Hugh Low & Co., Clapton Nursery, London, N.E.

### ARAUCARIA IMBRICATA.

YOUELL AND CO. beg to inform the Trade they have to offer a fine and healthy stock of the above in 1-year-old plants.

GLADIOLUS BRENCHLEYENSIS.—An extensive stock of large flowering Bulbs of this magnificent Gladiolus, the colour of which is vermilion scarlet, the best and brightest variety known. Prices of the above on application.

Royal Nursery, Great Yarmouth.

### SELLING OFF.

THE VALUABLE NURSERY AND PLANT STOCK of BASS AND BROWN, SUDBURY, SUFFOLK, is offered at a very large reduction on the usual prices for cash, in order to the discontinuance of that part of the business.

The stock is in the finest possible condition, and the Fruits, of which there is a large collection, consist of none but the choicest and most esteemed.

A VERY FINE IMPORTATION of DUTCH BULBS has been received, and are also offered very low.

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# The Gardeners' Chronicle.

*SATURDAY, OCTOBER 1, 1859.*


MEETINGS FOR THE ENSUING WEEK.

THURSDAY, Oct. 6—Pomological ..... 2 P.M.

IT is generally admitted that the true progress of a nation in prosperity is to be measured better by the condition of such arts as bear upon domestic comfort than by reference to any amount of fiscal evidence. Assuming this to be true, then we must feel that the once sinking Colony of TASMANIA is rising rapidly to the same level as its parent. The Exhibition of all nations in 1851 in Hyde Park bore powerful testimony to its abundant resources in all that Nature produces without the aid of man.

An Exhibition of another kind on its own soil, in the month of April last, shows us distinctly that the skill of our countrymen in their antipodean homes is rapidly bringing out the capabilities of the Colony to bear the productions imported from the old world.

We perceive from the *Launceston Examiner* of April 12, that the Autumn Show of the Gardeners' and Amateurs' Horticultural Society took place in that month, simultaneously with an exhibition of the Northern Agricultural Society. The attendance of visitors in the afternoon, owing to the presence of country people, was unusually large, and in the evening there was a perfect crush. Besides 400 subscribers, admitted by tickets, 250 shillings were received for admission. The show of fruit is described as having been very superior; and the varieties to be more numerous every season.

The list of prizes tells us that an autumn show at Launceston in April is very like an autumn country show in England in September or October, except that it includes a few things which unreasoning fashion is driving out of the field with us. Thus we have Petunias, Fuchsias, Roses, Dahlias, China Asters, and Hollyhocks, with the addition of African and French Marigolds, Salpiglotts, Calceolarias, and Cockscombs. But as if to show that after all Tasmania will not become too much like old England, we find Heartsease there holding up their heads when with us they are drooping or gone.

Fruits were represented by Grapes, Apples, and Pears in profusion, Plums, Damsons, Mulberries, Peaches, Medlars, Quinces, Melons, Nuts, and Walnuts—and for these no fewer than 92 prizes were awarded. As to the sorts, they were such as would be found in the highest ranks of English exhibitions—Marie Louise, Winter Nelis, Napoleon, and Knight's Monarch Pears; Wellington, Dutch Mignonne, Court Pendu Plat, Kirke's Incomparable, Golden Harvey, Ribston Pippin, Nonpareil, Reinette du Canada and Margil Apples; Black Hamburgh, White Sweetwater, Muscat of Alexandria, and Black Frontignan Grapes. What more can the garden of an English nobleman produce, with the exception of Pine Apples, which are not mentioned? It may also be noted, in passing, that there is not in the list one single example of any native fruit having been taken into domestication. Is there really no plant in all Tasmania whose fruit can be amended by patience and skill?

Vegetables consisted of Cabbages, Turnips, Carrots, Parsnips, Onions, Potatoes, Peas, Kidney Beans, Gourds and Vegetable Marrows, Tomatoes, Capsicums, Lettuces, Celery, Spinach, Cardes Beet, and common Beet, Rhubarb (in autumn!), Artichokes, and Radishes. Oddly enough however there were no Cucumbers. Judging from the names the very best varieties of all these esculents are now in the gardens of Tasmania; so that the English correspondents of the colonists keep them well supplied.

We observe that, as has been already stated, 92 prizes were given for fruit; to which must be added 24 for flowers, and 90 for esculents—in all 206. It may interest their friends in England to know that of these prizes 16 were won by W. JOHNSTONE, 21 by — FRAZER, 10 by Mrs. MACKENZIE, and 5 by Archdeacon REIBEY; besides whom HUTCHINS, BRYANT, HORNE, HURST, and WHATMORE, seem to have particularly distinguished themselves.

Surely we cannot have been wrong in adducing this little event as a very gratifying proof of increasing Tasmanian prosperity.

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No one has yet forgotten the outbreak of the Vine disease; how it seized upon the produce of our English Vineries, and rapidly spread over all the wine countries of Europe, covering the Vines and the berries with its snow white dust, and destroying the hopes of the cultivator. Nor have we ceased to remember how like it was in its action to the dreaded Potato disease, corroding the foliage, and corrupting the juices till the wine makers were actually driven from the wine press by the intolerable smell of putrid fermentation.

If the symptoms attending these two calamities were the same, so was the treatment of the cases by the public. In both instances, theories sprang up like Mushrooms from the spawn of perverted imagination. All sorts of causes were assigned to that whose cause no rational being ever attempted to explain. The less men knew of the subject the more eagerly they pretended to understand it. From the learned gentleman who solved the mystery by giving a new name to a well-known insect, just created as he seemed to think for the purpose of biting Potato leaves, down to the ignorant rustic who everywhere smelt out "that new-fangled stuff" called guano at the bottom of the mischief, we had quite a little squad of philosophers, each with his own notion of what made the Potatoes rot, and what would cure them. Even the medical ranks did not furnish a greater contingent to quarrel about the cause and cure of cholera.

We had hoped that this rage for explaining the inexplicable had burnt out, extinguished in its own ashes. But we see that the Vine disease has brought forth a new philosopher, to whose opinions we presume that our scientific friends on the other side of the Channel must attach some importance, since they have received a place in the Journal of the Horticultural Society of Paris.

A M. CASTERAT has discovered that the Vine disease is caused by poverty of soil, owing to the exhaustion of its mineral constituents, and especially of potash; or to the perspiration of the Vine being too active; or else to its being too sluggish; or else, or in addition, to the bad quality of the manure used in Vineyards. He thinks that soil may be exhausted by the Vine abstracting yearly from the soil more potash than the soil receives back; and he points out the Vineyards of Chablis and the Beaujolais as places where this occurs. In the Vineyards of Bordeaux moreover are Vine stocks more than a hundred years old, and they must have exhausted the soil. Then if the leaves of the Vine are so placed that they are badly ventilated and kept unduly damp, then, says M. CASTERAT, "perspiration is little or nothing, and *the result* of this is the commencement of decomposition"—a kind of logic which we do not often find in the intelligent writings of the French school.

We wonder that it should never have occurred to this ingenious gentleman that Vines have been exhausting land every hour since the day when NOAH began to be a husbandman and planted a Vineyard. And yet the Vine disease is but six or seven years old. So that it is only after a lapse of some thousand years that soil has become deprived of its potash.

Or it might have occurred to him that Vine leaves have been unventilated and their perspiration checked for an equally long period; so that according to M. CASTERAT it has taken some thousand years to render them susceptible of such influences. In this respect, however, he would have learned something from a visit to an English Vinery, forcing in the month of February, for he would there have found that in an ill-ventilated atmosphere, damp enough to cause the tissue of leaves to rise up in blisters, Vines are not peculiarly liable to disease, perhaps less liable than elsewhere. The gardener, too, would have informed him that in such a forcing house neither he nor his forefathers ever saw the disease till it came down everywhere a few years since.

Did M. CASTERAT'S notion rest upon any foundation it would lead to the inference that putting sulphur on the leaves and berries of a Vine is equal to putting potash into the soil, and to the most exquisite management of atmospheric humidity—rather an odd conclusion it must be owned. It is a fact, not a notion, that one of the worst cases of Vine disease in this country occurred to the late John WILMOT, of Isleworth, one of our most experienced market gardeners. His Vines, perfectly well managed, on a south wall, in thoroughly unexhausted land, became in a few days as white as if a miller had been covering them with flour. What had that to do with a deficiency of potash, or obstructed perspiration?

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## New Plants.

### 227. CALLA? OCULATA.

C. *oculata*: acaulis, foliis oblongis cordatis obtusè sagittatis setaceo-acutis scapo brevioribus, spathâ erectâ cucullatâ campanulatâ apiculatâ basi subapertâ, spadice incluso undique floribus omninò nudis tecto superioribus masculis inferioribus fœmineis, antheris sessilibus inordinatim sparsis carnosis cuneatis poro duplici dehiscentibus vertice cereo dilatato, ovariis depressis basi mutuâ pressione angulatis bilocularibus ovulis utroque loculo geminis telâ spongiosâ crystallinâ immersis, stigmate sessili circulari simplici.

To what modern "genus" of the great order of Arads this plant may be referable it passes our skill to determine. With none of the characters assigned to their genera by Schott & Endlicher does it wholly agree, and it will possibly be regarded as another new type of structure, almost every species of Arad now being looked on as a "genus." For ourselves we prefer to place it in the old genus Calla, leaving it to be transferred elsewhere by others if they think it advisable. In foliage it resembles Richardia africana, except that it is smaller; colour and texture are the same. The spathe which rises above the leaves is about 3 inches long, and 1½ across the mouth; in form it is bell-shaped, with an oblique limb; in colour a clear, rich, yellowish green, with a deep purple eye like that of a Bladder Ketmia. Messrs. Veitch & Co. received it from Natal in 1857 with the following remarks:—"I send you bulbs of a yellow Calla, which, from its smallness and beauty, and being also hardy, will be much prized. You must not give too much water; it grows here in stiff marl and sand on high ground under shade, consequently merely damp soil, whilst the white grows in bogs." The plant exhibited was one taken up from the open ground in a west border, where it stood last winter without any shelter; it was a second flower, the first being larger; a plant also which bloomed in a pot produced a larger flower.

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## BEDDING PLANTS AT THE CRYSTAL PALACE.

OUT of doors the grounds belonging to this establishment have been extremely gay this season. Both vases and beds in the terrace garden, though now somewhat tarnished by the weather, are nevertheless still highly attractive, the Scarlet Geraniums being extremely brilliant and showy. The vases, too, on account of their large size, have a truly noble appearance, and they are sufficiently numerous to be highly effective; they are filled with Trentham Scarlet, Commander-in-Chief, and Punch Geraniums, arranged in such a manner as to form perfect bouquets of flower. Round the two large semicircles on the terrace the beds are planted with Cottage Maid, a pretty horseshoe-leaved scarlet Geranium; Trentham Scarlet Geranium, which is excellent both for early and late display; edged with Flower of the Day Geranium and variegated Alyssum. The little circular mounds round the bases of the Araucarias and Deodars, which have been so liberally planted in this part of the garden, are occupied by the dwarf-growing Lobelia ramosoides grandiflora, whose dense masses of charming blue flowers are admired by all who see them, and harmonise well with the gay scarlet beds with which they are associated. Beds in straight lines, 100 yards in length along the sides of the principal terrace walk, are planted as follows:—In the centre is Trentham Scarlet Geranium, with a broad belt of Purple King Verbena round it, and edged with Tropæolum Lobbianum grandiflorum, or what is usually called Crystal Palace Nasturtium. These form beautiful masses, which are varied and broken up here and there to advantage by little circular beds round Deodars and Standard Acacias filled with white Alyssum, variegated Geraniums, such as Flower of the Day, Alma, and Brilliant, and Verbenas. The effect of the chain beds round the sunken panels at each end of the terrace garden has been greatly impaired by the failure of the yellow Calceolarias, which here as elsewhere has occurred to a very considerable extent. The centre consists of Scarlet Geraniums surrounded by a belt of Yellow Calceolarias and edged with Mangles's Variegated Geranium. On the raised ground in the neighbourhood of this chain are square masses of Flower of the Day Geranium mixed with variegated Alyssum. Others consist of Tropæolum Lobbianum grandiflorum edged with variegated Alyssum and Flower of the Day Geranium. A third is occupied by Lady Mary Fox Pelargonium edged with the two last-named plants. A fourth is filled with Lucia rosea Geranium, and edged with white Alyssum and Flower of the Day Geranium. The clumps of Rhododendrons on the terrace have also all been bordered with Geraniums and Calceolarias, which serve to beautify and "light them up," as it were, a little at this season of the year. The robustness and beauty of the Geraniums in the terrace garden especially have been the subject of general remark. They were planted in well prepared soil in the first instance, but in addition to that great attention has been paid to pinching in the leading shoots and removing all decayed flowers and stalks as soon as their beauty is over. This has tended greatly to invigorate and improve their appearance. To give some idea of the time expended in this kind of work, we may state that the entire gardens contain about 150,000 plants, and that these have all to be gone over and examined in the manner just mentioned not less than twice a week.

The more effective beds on either side of the main walk leading from the terrace towards the water temples are planted as follows:—1, a square, has Crystal Palace Scarlet Dahlia, Purple Zelinda Dahlia surrounded with blue Ageratum, yellow Calceolaria, Trentham Scarlet Geraniums, and edged with the grey Cerastium tomentosum. The effect of this arrangement is in every way excellent. 2, a circle, is filled with Lady Mary Fox Pelargonium, Calceolaria amplexicaulis, Shrubland Rose Petunia, Heliotrope, and is edged with blue Lobelia. 3, likewise a circle, is planted with Boule de Neige Geranium is edged with blue Lobelia, and is also very striking. Another white bed consisted of Nierembergia gracilis. We noticed that some of the circular beds in this part of the garden were edged with variegated Ageratum, which, when pinched in as this was so as not to allow it to flower, forms as compact an edging as that of Box. Other beds had their centres filled with it pinched in in the same manner, and surrounded with an edging of flowering plants. In large places like this such beds may be admirable for the sake of variety; but the propriety of introducing them into smaller places might be questionable. One of the most brilliant masses in the whole grounds was one of Cottage Maid Geranium, edged with Cerastium. Another with the same kind of edging, filled with the old compactum Geranium, was however equally good, and literally covered with fine trusses of flowers. A bed of Dahlia Zelinda was literally a mass of purple flowers. This had been allowed to grow upright in its natural way;

when pegged down it does not seem to bloom so freely. Another bed of the Crystal Palace Scarlet Dahlia was also in beautiful condition; the same remark also applies to this variety.

Round the Rosery the banks are literally masses of flowering plants, which however in some places showed the ill effects of the dry weather to which they have been subjected this season. Some of the circles dotted about this part of the grounds are also very pretty. One of the best of them was filled with Tropæolum Lobbianum grandiflorum. This, when pegged down and kept neatly within bounds, makes a capital bed whose colour is that of a pleasing orange scarlet, striking, but still by no means oppressive to the eye. Another consisted of white Alyssum and Flower of the Day Geranium edged with pink Ivy-leaved Geranium. A third had the centre filled with yellow Calceolarias, edged with Tom Thumb Geraniums. A fourth filled with Mangles's Variegated Geranium has been fine, but its beauty is now over. A fifth contained some hybrid variety of Veronica speciosa, which, though a good late blooming plant for many purposes, is too sombre in a bed to be effective. It was edged with V. angustifolia. Inside the Rosery the beds have been excellent; one of the best had a mass of Purple Nosegay Geranium in the centre, then a belt of yellow Calceolarias, round which were broad bands of Trentham Scarlet Geranium, Blue Bonnet Verbena, and Lucia rosea Geranium, the whole being edged with the white Verbena called Mrs. Holford. Beds of Salvia patens, though a charming blue, have proved unsatisfactory, and will probably not be tried again.

Near the railway station was an admirable mass of Purple Nosegay Geraniums edged with Cerastium. The heads of bloom on this Geranium were unusually large and the effect good. A good Verbena bed consisted of Robinson's Scarlet Defiance in the centre, edged with Blue Bonnet and Mrs. Holford, which is one of the best of whites. The large round Dahlia clumps to the left when passing from the railway station to the centre transept have succeeded well this season. They are edged with yellow Calceolarias and Scarlet Geraniums, and are very effective. The freshness and beauty of these, however, as well of many of the other beds, is somewhat impaired by the wet and stormy weather we have lately experienced; nevertheless, on account of the grounds here lying so high in ordinary seasons, the plants generally look well even as late as the end of October or beginning of November.

The different trees and shrubs throughout the grounds have thriven remarkably well. Most of the Conifers, especially the Deodars, have made great progress. Among others we noticed an excellent Wellingtonia not less than 7 feet high, growing in great luxuriance. The Araucarias also seem now to have got quite established though their progress in growth is but slow.

Inside the Palace two plants of Dicksonia antarctica opposite the Sheffield Court have acquired a size and vigour which is quite remarkable. They are both truly noble specimens, and would indicate that other Ferns might be introduced more liberally into the beds and borders here than they are, and with evident advantage. The various Musas and other plants in the warm department have acquired considerable size, and their large leaves add richness and beauty to that part of the building. The Aquaria, both warm and temperate, are really charming. The different Water Lilies with which they are well stocked grow with a vigour which is quite astonishing, and go when one will some of them, either red, white, or blue, are almost always in flower.

We may add that the keeping and general management of the place, both out-doors and in, reflects the highest credit on Mr. Eyles, whose skill as one of the most successful of our cultivators is universally acknowledged. *M.*

## Home Correspondence.

*Remarkable Conifers.*—Few persons I imagine have had the opportunity of beholding finer specimens of the Cembra Pine and of Abies canadensis (the Hemlock Spruce) than those now growing in the pleasure grounds at Osberton Hall. The Pinus Cembra is nearly 50 feet in height, and measures at 20 feet from the ground 60 feet in circumference, and the trunk at bottom girths 8 feet. Few of the Pinus tribe are more beautiful than this; its handsome conical shape, and short rigid horizontal branches, combined with its colour, render it particularly attractive. It certainly deserves more extensive cultivation than it receives, for planted as a single specimen it is really magnificent. Opposite this tree stands the Hemlock Spruce above alluded to; its height is nearly equal to that of Cembra, and it measures at 1 yard from the ground 160 feet in circumference; its graceful boughs bending down to the ground and forming one of the most delightful objects I ever saw. Both specimens are in the best of health and growing vigorously. The soil these trees are in is very light, and the subsoil sand and gravel. *Edward Bennett, Gr. to G. S. Foljambe, Esq., Osberton Hall, near Worksop, Notts.*

*Bowood Muscat Grape.*—Equally with "J. B." I feel some surprise that there was no exhibition of this Muscat at the late Crystal Palace Horticultural Show. Perhaps it has not been sufficiently long before the public, or come into general cultivation. No doubt both Mr. Spencer and Mr. Thompson are in a position to show fine specimens, but there are many establishments like those of Bowood and Dalkeith, from which fruit is never publicly exhibited. When I expressed my opinion that the Bowood Muscat might be grown with Hamburghs in an ordinary Vinery I only spoke from my own experience. Three years since I inarched it upon a Hamburgh, and this being the first of its fruiting I have allowed it to bear one bunch. All I can say is that at the time of its flowering, which was, I think, in April, when we had little sun, and the weather was cold and foggy, notwithstanding I had no fire-heat, and the temperature of the house was quite low, it set all its berries exceedingly well, much better than a White Muscat of Alexandria, upon which I bestowed all the heat I could command. It promises to ripen well with natural sun heat, aided by a little fire at night, and as far as I can judge seems much less disposed to shank than its congener the Muscat of Alexandria. I have no doubt in my own mind that it will fully realise the expectations of those who will give it a trial. There is another new Grape, of which much has been said, and of which there was a flattering drawing in the "Florist"—the Muscat Hamburgh. It has not that I know of been exhibited this summer. Perhaps however to sustain the high character which has been given of it, and to make assurance doubly sure, it will yet make its appearance, and so dispel all doubt respecting it. An inquiry is made about another Grape, the Lady Downe's seedling. I have it fruiting with me this year, and if I may venture to give an opinion about it, it is a noble Grape, of excellent flavour, and in regard to keeping long yielding to none, whilst it is greatly superior to some in being a certain bearer and free setter. *H. M., Sleaford.*

*Cure for Mildew.*—Five years ago I erected a greenhouse, 32 feet by 16 feet, and planted a Vine to every rafter. These grew vigorously, but without, I would observe, the application of animal matter to the border, and bore fruit in due course. The year before last mildew appeared, but not to a great extent. Last year, however, it came with such virulence as to baffle the repeated applications of sulphur, to tire the patience of myself as well as my gardener, and ultimately, in spite of all our efforts, to spoil two-thirds of the crop. Up to this point the house had been kept stocked with flowers; in the spring Camellias and Azaleas in the centre pit, and Geraniums and other things on the front shelf, after which the pit was filled with Fuchsias and the shelf with Balsams. This year the disease again made its appearance, but in addition to sulphur only once used and that dry, a small increase was made to the fire-heat, the flowers were removed from the front shelf, but the pit remained full, and quick lime was freely strewed about and left under the front shelves by the pipes. The result has been most satisfactory—not a berry has been injured and a fine and good crop is now hanging. Whether the combination of remedies has effected the cure, or any one alone, I am at a loss to decide; the facts of the case, however, may be useful to some of your readers. I should remark that there is a strip of earth between the tiled walk in front and the pipes, which induces me to attribute a large portion of the agency to the lime in destroying the stagnant atmosphere created in the early part of the summer before the fires were lighted. *A. M., Dorsetshire.*

*Gardeners and their Employers.*—There is a great deal of good sense in the remarks of your correspondent "H. A. M. D." respecting gardeners and their employers. I differ from him entirely as to its being desirable to combine the offices of steward and gardener. A friend of mine who had a large establishment said to me many years ago, when I was asking his advice about a gardener, "At all events don't have your steward and gardener in one, for it is the worst thing you can do." I have often thought of his words and how sound his advice was; for I fancied I knew better than he did, and made the same man gardener and steward; it would not work. I have seen others try it, and in no one case have I known it to answer. "No man can serve two masters." The farm must either be neglected for the garden or the garden for the farm. But while I differ from your correspondent in this point I agree with him entirely in his other remarks. It very often happens that gardeners have not fair play. Their employers expect "bricks without finding the straw," and then say "ye are idle," or "ye are ignorant." When flowers and fruit are required in abundance and in succession, there must be houses in proportion to what is demanded, and no lack of hands. And again, when a large extent of garden and pleasure ground is expected to be kept in first-rate order, how utterly impossible is this without a large staff of men. It is the "first-rate order" which takes up the time and the labour. A large breadth of ground may be kept after a fashion with few hands; but I quite agree with your correspondent that if a gentleman has a garden larger than he has the means to keep up thoroughly well, the sooner he reduces it to the level of his means the more satisfactory for all parties concerned. *An Employer.*

*Abies Douglasii.*—Notwithstanding Mr. Barron's experience and with every respect for his opinion on all matters Coniferous, I think he is at fault in making more than one variety of Abies Douglasii (see your Number for August 20). Sixteen years ago I had charge of two plants from Douglas's first consignment, one answering Mr. Barron's description of Drummond's and the other that of Douglas's variety, viz., dark green and silvery, and a "warm yellow green," but this "warm yellow green" must have arisen from the less favourable locality in which it was planted, the dark variety being in a rich free soil with plenty of natural moisture, but not too much, the "warm yellow green" on an abrupt rise or bluff, such as would apparently carry off the rains before the roots had time to satisfy themselves, and the soil in the immediate vicinity of the plant wearing a sort of hardened appearance, and of that nature that would not readily allow the rains to permeate or the roots to spread. The consequence was that the tint of this tree compared with others was a sort of sickly or "warm yellow green," with no silvery hue under the leaf, but now that the roots have in all probability got beyond this unfavourable zone or belt it is assuming the dark green hue and bright silver on the under side of the leaf like the others, a proof that both are the same variety. I may add that the seeds from each tree produce plants bearing the characteristics of both, the dark variety furnishing plenty of the "warm yellow green," and *vice versâ*. No plans have been tried to induce fertility, as we consider them fertile enough, one tree in 1853 having yielded 2000 cones, which produced 5½ lbs. of good seed, and last year 1300 cones and 2¼ lbs. of good seed. The other tree, "the warm yellow green," produced about a tithe of that quantity, and a much larger per centage of fertile seeds. There being a great many trees of all ages from 1 to 30 or 33 years, of all sizes from 6 ins. to nearly 60 feet, of all shades from the dense green to the almost sere and yellow, of every rate of growth from not more than ½ inch to 3 feet per annum, in every description of soil from the poorest moorland to the richest alluvial deposits—below the coal measures—in every situation from the most exposed to the most sheltered, the most open to the most crowded; on every density of level from the bank of 40° to the level plain, from the lowest sandy soil to the stiffest clay, and on every altitude from 20 to 30 feet to 200 or 600 feet, and every aspect from the cold north to the sunny south; and wherever a free vigorous growth is obtained the dark green tints prevail, and where a stunted or less free growth exists they invariably assume the "warm yellow green." *Knollibus.*

*Melley's Manifold Potato.*—This is confidently expected by Mr. Robertson, of Powerscourt, to prove one Potato yet capable of resisting disease. It certainly presents a striking contrast in the fields and gardens around here. While the stalks of all others are quite dead weeks ago, this variety stands up in full luxuriance, blooming and seeding, and to all appearance equal to what the Potato was in its most vigorous and healthful days. Its keeping and cooking properties have yet to be tested. It is evidently a new and distinct variety, with every appearance of proving valuable, and I think this may be a favourable time for calling attention to it. *J. Buckham, Thornhill Bray, Dublin.*

*Mulberry.*—It is stated in Loudon's "Encyclopædia of Gardening," p. 927, that "any branch of a Mulberry firmly inserted in the ground like a post will grow." In the autumn of 1858, and again in the spring of this year, I had branches sawn off a Mulberry tree and placed firmly in the ground, and made fast to stout poles to prevent the wind disturbing them. There is however no appearance of growth in either case. Can any of your correspondents give me any information on the subject beyond what Loudon gives as to the time when the branches should be taken off, or the mode of cutting them; or can any one suggest the probable cause of my failure. I may add that one of the branches had water given it from time to time, through the dry weather of the past summer. *A Subscriber, Bath.*

*Wellingtonia.*—We have here many Wellingtonias varying from 1½ to nearly 10½ feet in height. To me this season it has been an interesting employment to watch their daily and weekly growth, their periodical rests, the turns which their leading shoots take when starting to grow again, and the remarkably vigorous growth of some of our largest and most uniform specimens. When I walk through the Pinetum and observe such plants as Pinus insignis, excelsa, and Lambertiana, Abies Douglassi, Pinsapo, and the delicate forms and varied hues of some of the lower growing kinds of Conifers, I am led to wonder what is to become of those graceful ornaments if we allow our little family of Wellingtonias to stand and make their annual strides, and fear lest in a few years we shall be obliged to cut them away in order to allow the giants of the forest to extend their noble branches upward and outward unimpeded by their neighbours who vie with them in colour and form, but not in altitude and strength. One plant of the many we possess which I consider deserves special notice is the eldest of the family; it was a seedling 6 inches high when planted in January, 1854, and when measured September 20, 1858, was 8 feet 1 inch high, 6 feet was its greatest diameter, with 1 foot 6 inches girth, and when measured September 20, 1859, its height was 10 feet 5 inches, its greatest diameter 10 feet 3 inches, and girth 2 feet 3 inches. In the second week of July last the leading shoot grew at the rate of ¼ inch a day, and then took eight days rest, and started to grow again. But what is most remarkable the growth of this plant is unlike that of all the others we possess, the point of the leading shoot is always 6 inches in advance of the branches, and when growing makes a bend, which affords the tender tip a little protection. During its resting period it gradually becomes erect, but not quite straight, and on the whole length of the bole can easily be seen those curves or bends made when the plant was growing fast, so that if the stock was perfectly straightened it would stand many inches higher than it does at present. It presents no symptom of disease. It is growing in a very rich sandy loam, and fully exposed to wind and weather

from every quarter. Would your correspondents who possess Wellingtonias be good enough when forwarding their dimensions to say if anything remarkable has been noticed in their growth during the past summer? *J. Moon, Gardener to R. E. Thompson, Esq., Kenfield Hall, near Canterbury.*

*Chasselas Musqué Grape.*—In the report of the proceedings of the British Pomological Society at p. 775, it is stated that this Grape seldom or never cracks except from too much heat. This statement certainly surprises me; I attribute the cracking to a sudden accession of moisture, particularly after a season of drought. The same cause produces the same effect on other fruits, as Greengages, Figs, and Gooseberries. The obvious mode of cure is to supply sufficient moisture both to the roots and atmosphere while the Grapes are swelling, and as soon as they begin to ripen, to dry them off. In order to do this effectually artificial warmth is necessary in our climate. I had a Chasselas Musqué in a Vinery without heat. Its roots unfortunately were outside, and the Grapes split. I placed a framework of boards over the roots, but the damp must have got in laterally, and the Grapes still split. I then destroyed the Vine, and planted another inside the house. This year I have not seen a single split Grape, as the roots are kept dry, but from the atmospheric moisture, which I am unable to control, the berries, after ripening and showing an amber colour, often rot at the point where they are connected with the footstalk. Some years' experience in the growth of other Grapes in the same Vinery has led me to form an opinion as to the cause of shanking. I believe it commonly to arise from a sudden reduction of temperature. At least I have observed, year after year, that when the Frontignans are ripening, if the wind veers to the north with rain, they shank immediately. We must suppose that the footstalks are peculiarly sensitive during the ripening period, and the weaker the vitality of the plant, the less is it able to resist deleterious influences. Hence, if a Hamburgh or other hardy Grape be planted in an ill drained or otherwise unhealthy border, the plant will be liable to suffer from a reduction of temperature which it could, under more favourable circumstances, have withstood. I find that bunches of Frontignans excessively thinned are more liable to shank, probably from want of the protection afforded by the berries. *G. S.*

*Culture of Mushrooms on Lawns.*—Some months ago there was a discussion in your paper as to the impossibility of growing Mushrooms on Loudon's plan of inoculating lawns with spawn. If done simply as Loudon directs it has always failed with me. But if a square of turf be lifted, and a few inches of the soil removed, and old manure rammed down in its place, then the spawn put into this manure and covered over with the turf will, in ordinary seasons, produce a crop. But I cannot recommend the plan on a well-kept lawn, for the Grass will grow rank and coarse for several years afterwards. *G. S.*

*Transplanting Evergreens.*—I can bear practical testimony to Mr. Groom's statement respecting transplanting evergreens in summer. In the middle of last July I had moved a quantity of evergreen Oaks from 4 to 7 feet in height; these trees had grown without lifting in the same place five years. On being removed the young shoots drooped for a day or two, but with twice sprinkling and four times watering they got upright, and every plant succeeded. I need not say that this is one of the worst trees to move, and I believe that if the operation had been performed at the usual time, scarcely one of the plants would have lived. I also had planted three years since a quantity of Pinus austriaca, large trees, in the latter end of June. These succeeded better than any I ever had planted before, either in the autumn or in the spring, though some died, principally through there not being any water to water them with. I intend giving the principle a more extended trial in my nursery next summer. *George Davison, Hereford.*

*Gold Fish.*—I should feel greatly obliged if any of your readers would kindly advise me on the following points. I have a basin holding about 1200 gallons of water in an exposed situation containing gold fish. These have lately spawned, and the youngsters are now about an inch long, some smaller. Are they subject to the attack of the old fish? Do they require feeding? and what food? Will they live in the pond (which is always frozen over, although the ice is kept broken) during the winter? Or if taken out, where and how can they be kept? *Old Subscriber, Maidstone.*

*The Acherontia Atropos, or Death's Head Moth.*—This season has produced in this locality many specimens of this very interesting insect, both in the larva and pupa state, many of which are now forming their last stage of metamorphosis, the imago. The place sought for them was a Potato field, having previously met with the larvæ there. I have now six or eight perfect insects. The most curious act in their natural history is a faint noise they make like unto a young mouse, if interfered with by moving them. The specimens are beautiful, and in this part of the country rare. *T. F., near Newbury, Sept.* 28.

*Large Pears.*—Although the past summer has not been of the most favourable character for the growth of fruits in general, a few have been of unusual size; this however has been the exception. In point of flavour I should say such fruits as Peaches, Nectarines, Figs, &c., have been unsurpassed. The crop of Pears is a very partial one, but our neighbours tell [us we possess more than a neighbour's sprinkling; many are pretty large. The following are the weights of two or three which I gathered to-day:—Duchesse d'Angoulême, 1 lb. 10 oz.; Napoleon, 10 oz.; Passe Colmar, 8 oz. The Duchesse d'Angoulême was gathered from a small tree on the Quince stock trained against a dwarf wall, with a S.W. aspect. The Napoleon was also from a wall, but the tree is large, and for some years had grown strongly, bearing but little fruit, most of which were either badly spotted or cracked. Two years ago it was root-pruned, and the roots which had gone deep were raised, by placing old bricks under them; this year it has borne a tolerable crop, many of which are equal to the one weighed, and beautifully clean. *W. S. Symons, Carclew, Sept.* 28. [The weight of this Duchesse d'Angoulême was surprising. The heaviest of which we have any record weighed 21½ oz. and was grown in Guernsey. The heaviest Chaumontel was also Guernsey born, and weighed only 24 oz. Greater weights than these have only been gained with Kitchen Pears, such as the Catillac and Uvedale's St. Germain.]

*Large Mushroom.*—On Tuesday September 27, I cut a Mushroom in one of my fields at Loughton, Essex, measuring 11 inches in diameter, of perfectly circular form, the underside being quite level and the top domed; it weighed 1 lb. 10 oz. A similar one weighing 1 lb. 5 oz. was cut from the same field a few days previously. When cooked they were found excellent. *John Hill, 3, Bartholomew Lane, E.C*

*Moss on Walks.*—In one of the early Numbers in your Vol. for 1841, page 36, there is a letter from Prof. Henslow, recommending the use of sulphate of copper for destroying Moss on gravel walks, and in page 753 of the same volume, it is recommended for preventing the growth of Moss on soft sandstone. Can any one say what proportions of water should be added to the saturated solution of the sulphate? *An Original Subscriber, Tonbridge Wells.*

## Societies.

HORTICULTURAL: *Sept.* 22.—At a meeting of the Floral Committee which was held on this occasion several highly interesting new plants were exhibited by Messrs. Low, of Clapton. Among these, Gonatanthus, or Caladium cupreus was remarkable for its strikingly handsome bronzy-tinted leaves, and its dwarf though vigorous growth. A species of Sphærostema, a climbing plant with fine grey mottled leaves, was also very handsome. Myrsine picta had lance-shaped, serrated leaves, purplish, with a white central rib. These were all recent importations from Borneo. A beautiful gold-veined Anæctochilus (Macodes petola), from Java, quite new, was also exhibited by the same firm, who had, moreover, several interesting Ferns, which as they were not fully developed we shall probably see again. Along with these came a group of dwarf hybrid variegated Begonias, into which the fresh blood of B. Thwaitesii had been infused with good effect; of these the varieties called Lowii, Gem, and Zebra, all smaller growing than the now abundant varieties of Rex, were particularly beautiful. Messrs. Parker & Williams, of Holloway, also had a batch of seedling Begonias, among which blanda was the most novel in character and the most beautiful in marking. Several seedling Dahlias were exhibited, but the only award made was to Miss Sarah Boyce, shown by Mr. G. Rawlings, which had been commended at one of the early meetings of the season. A good dwarf, sturdy, horse-shoe-leaved, cerise-scarlet Pelargonium was shown by Mr. Kinghorn, of Sheen Nursery, Richmond.

BRITISH ASSOCIATION AT ABERDEEN.—[We condense the following scraps of information likely to interest our readers from the full and admirable report in the columns of the *Athenæum*.]

ARRANGEMENT.—A large and pleasant meeting began on Wednesday September 14, at Aberdeen, under the immediate auspices of the PRINCE CONSORT, whose speech occupied the evening, and whose presence was rendered still more gracious by an invitation of the members to an excursion and lunch at Balmoral during the week. The old Scottish loyalty broke out in the counties adjoining Aberdeenshire and Kincardineshire. Two thousand tickets were speedily sold, and by Tuesday morning every available nook in the Music Hall being filled, the sale of associate tickets had to be stopped. Here was a flush of prosperity! The local arrangements were admirable,—reviving dreams of that old Scottish hospitality so amusingly celebrated by Ben Jonson and Taylor the Water Poet. The Clubs and News Rooms were generally thrown open to the scientific visitors. Non-resident members of the Association got admission to the Northern Club, and the Union Club, Market Street, without the forms of introduction. The committees of the Athenæum News Rooms and of the News Rooms, Corn Exchange, opened their rooms to all members of the Association on producing their tickets. A crowd of exhibitions also were open to members on producing their tickets, such as the Exhibition of Historical Portraits and Objects of Antiquity, in the Music Hall Buildings; the Photographic Exhibition, in the Music Hall Buildings; Collections illustrating the Geology of the North of Scotland, in the Museum of Marischal College; and the Horticultural Exhibition. King's College, Marischal College, Free Church College, Advocates' Hall, Medico-Chirurgical Society's Library and Hall, and the various prisons, reformatories, and asylums were likewise opened, as were also most of the great manufactories. The company from a distance was large and brilliant; the papers promised of scientific importance. Nothing was wanting to make the meeting at Aberdeen pleasant and memorable. Before the opening of the doors of the Music Hall the number of tickets issued to the public amounted to more than 2500.

THE NATURE OF INDUCTIVE SCIENCE.—To define the nature of science, to give an exact and complete definition of what that science, to whose service the Association is devoted, is and means, has, as it naturally must, at all times occupied the metaphysician. He has answered the question in various ways, more or less satisfactorily to himself or others. To me, science, in its most general and comprehensive acceptation, means the knowledge of what I know,—the consciousness of human knowledge. Hence, to know is the object of all science; and all special knowledge, if brought to our consciousness in its separate distinctiveness from, and yet in its recognised relation to the totality of our knowledge, is scientific knowledge. We require, then, for science—that is to say, for the acquisition of scientific knowledge—those two activities of our mind which are necessary for the acquisition of any knowledge—analysis and synthesis: the first, to dissect and reduce into its component parts the object to be investigated, and to render an accurate account to ourselves of the nature and qualities of these parts by observation; the second, to recompose the observed and understood parts into a unity in our consciousness, exactly answering to the object of our investigation. The labours of the man of science are therefore at once the most humble and the loftiest which man can undertake. He only does what every little child does from its first awakening into life, and must do every moment of its existence; and yet he aims at the gradual approximation to divine truth itself. If, then, there exists no difference between the work of the man of science and that of the merest child, what constitutes the distinction? Merely the conscious self-determination. The child observes what accident brings before it, and unconsciously forms its notion of it; the so-called practical man observes what his special work forces upon him, and he forms his notions upon it with reference to this particular work. The man of science observes what he intends to observe, and knows why he intends it. The value which the peculiar object has in his eyes is not determined by accident, nor by an external cause, such as the mere connection with work to be performed, but by the place which he knows this object to hold in the general universe of knowledge, by the relation which it bears to other parts of that general knowledge. To arrange and classify that universe of knowledge becomes therefore the first, and perhaps the most important, object and duty of science. It is only when brought into a system, by separating the incongruous and combining those elements in which we have been enabled to discover the internal connection which the Almighty has implanted in them, that we can hope to grapple with the boundlessness of His creation, and with the laws which govern both mind and matter. The operation of science then has been systematically to divide human knowledge, and raise, as it were, the separate groups of subjects for scientific consideration into different and distinct sciences. The tendency to create new sciences is peculiarly apparent in our present age, and is perhaps inseparable from so rapid a progress as we have seen in our days; for the acquaintance with and mastering of distinct branches of knowledge enables the eye, from the newly gained points of sight, to see the new ramifications into which they divide themselves in strict consecutiveness and with logical necessity. But in thus gaining new centres of light, from which to direct our researches, and new and powerful means of adding to its ever-increasing treasures, science approaches no nearer to the limits of its range, although travelling further and further from its original point of departure. For God's world is infinite; and the boundlessness of the universe, whose confines appear ever to retreat before our finite minds, strikes us no less with awe when, prying into the starry crowd of heaven, we find new worlds revealed to us by every increase in the power of the telescope, than when the microscope discloses to us in a drop of water, or an atom of dust, new worlds of life and animation, or the remains of such as have passed away. * * * I will not weary you by further examples, with which most of you are better acquainted than I am myself, but merely express my satisfaction that there should exist bodies of men who will bring the well-considered and understood wants of science before the public and the Government, who will even hand round the begging-box and expose themselves to refusals and rebuffs to which all beggars are liable, with the certainty besides of being considered great bores. Please to recollect that this species of bore is a most useful animal, well adapted for the ends for which Nature intended him. He alone, by constantly returning to the charge, and repeating the same truths and the same requests, succeeds in awakening attention to the cause which he advocates, and obtains that hearing which is granted him at least for self-protection, as the minor evil compared to his importunity, but which is requisite to make his cause understood. This is more particularly the case in a free, active, enterprising, and self-determining people like ours, where every interest works for itself, considers itself the all-important one, and makes its way in the world by its own efforts. Is it, then, to be wondered at, that the interests of science, abstract as

science appears, and not immediately showing a return in pounds, shillings, and pence, should be postponed, at least, to others which promise immediate tangible results? Is it to be wondered at, that even our public men require an effort to wean themselves from other subjects in order to give their attention to science and men of science, when it is remembered that science, with the exception of mathematics, was until of late almost systematically excluded from our school and university education;—that the traditions of early life are those which make and leave the strongest impression on the human mind, and that the subjects with which we become acquainted, and to which our energies are devoted in youth, are those for which we retain the liveliest interest in after years, and that for these reasons the effort required must be both a mental and a moral one? A deep debt of gratitude is therefore due to bodies like this Association, which not only urges the wants of science on the Government, but furnishes it at once with well-matured plans how to supply them with the greatest certainty and to the greatest public advantage. We may be justified in hoping, however, that by the gradual diffusion of science, and its increasing recognition as a principal part of our national education, the public in general, no less than the Legislature and the State, will more and more recognise the claims of science to their attention; so that it may no longer require the begging-box, but speak to the State, like a favoured child to its parent, sure of his parental solicitude for its welfare; that the State will recognise in science one of its elements of strength and prosperity, to foster which the clearest dictates of self-interest demand. *Opening Speech of his Royal Highness Prince Albert, President of the Association.*

HUMBOLDT.—If the activity of this Association, such as I have endeavoured to describe it, ever found or could find its personification in one individual—its incarnation, as it were—this had been found in that distinguished and revered philosopher who has been removed from amongst us in his 90th year, within these last few months. Alexander von Humboldt incessantly strove after dominion over that universality of human knowledge which stands in need of thoughtful government and direction to preserve its integrity; he strove to tie up the *fasces* of scientific knowledge to give them strength in unity. He treated all scientific men as members of one family, enthusiastically directing, fostering, and encouraging inquiry, where he saw either the want of, or the willingness for it. His protection of the young and ardent student led many to success in their pursuit. His personal influence with the courts and governments of most countries in Europe enabled him to plead the cause of science in a manner which made it more difficult for them to refuse than to grant what he requested. All lovers of science deeply mourn for the loss of such a man. Gentlemen, it is a singular coincidence that this very day on which we are here assembled, and are thus giving expression to our admiration of him, should be the anniversary of his birth. *The Prince's Opening Speech.*

*(To be continued).*

## Notices of Books.

*Geology in the Garden, or Fossils in the Flint Pebbles.* By the Rev. Henry Eley, M.A. Bell & Daldy, 1859. 12mo. Pp. viii and 212. Tab. lith. xii.

This is a very pleasing little book and one which will repay a perusal to such persons as are not deeply read in Geology. It contains in fact far more than it promises at first sight. Flint pebbles may be expected to turn up in the garden in some of our eastern, southern, and midland counties alone, but the interest of the book is not confined to the fossils which may chance to be imprisoned in the flint stones or to surround them in the form of a chalky powder. The author in his desire to give a complete history of his favourite minerals enters into geological questions relative to their formation, the strata in which they are contained, the manner in which they have been drifted or transported over the surface of the soil, which are directly or indirectly applicable to other minerals, and which contain a large portion of the general facts presented by geology. Indeed had he entered upon the subject of the formation of the primitive and volcanic rocks, little would be wanting to make the work an excellent introduction to geology.

Such observers of nature indeed as may chance to live in districts where flints abound may find employment for years in the study of the various organisms, whether animal or vegetable, which flints have preserved in a greater or less degree of perfection. We suspect however that the members of the vegetable world are few in comparison. Desmidiaceæ are scarcely found in salt water at all, and as most of the fossils which flints contain are marine, unless we suppose that the habits of those curious Algæ in ancient days were different from what they are now, we must assign to the Xanthidia some different origin from that of the spores of Algæ. This however is a mere matter of opinion, and there are high authorities for either view.

Mr. Eley touches with much good sense upon the theological questions which are involved in geology, and we wish that he had gone a little deeper into the subject. It would be a great advantage to have the real difficulties attendant on geological consideration fairly stated. The day is past when any attempt to reconcile the Scripture account of the Creation and subsequent Deluge with the appearances presented to the geologist, can bring conviction to any mind already disposed to doubt. The wisest course we are convinced is to state the case plainly, and then to show that the difficulties involved in it are not such as ought to disturb any sensible mind in its reliance on the great truths of Christianity. There is no fear for truth, but distortion of truth is always dangerous, as it leaves an impression that there is a want of simple confidence on the part of those who distort it. No one is disturbed because Scripture contains statements contrary to our present state of knowledge of the planetary system to which we belong. A person who should be turned aside from his faith by such considerations would justly be thought a simpleton, and the same argument applies to the difficulties of geology. We should feel much gratified if these remarks should lead our author to take up the subject as an especial matter for future instruction. Meanwhile we recommend his little book to our readers, as one whose principles are sound, and from which, however unpretending it may be, a good deal of instruction and entertainment may be derived. *M.*

*Natural History for Beginners.* By James Owen. (Longmans.) Parts 1 & 2. These form a portion of the Rev. G. R. Gleig's school series. They are abundantly illustrated with small woodcuts, and have not only a useful glossary, explaining the meaning of technical words, but a good index. We suppose they will be found in most schoolrooms.

*The Biblical Reason Why* (Houlston & Wright) is one of those question and answer compilations which find favour with a certain class of readers. There are 324 pages of this kind of matter upon subjects mentioned in the Bible, and a good many woodcuts.

We have before us the fourth volume of Mr. Stainton's *Natural History of the Tineina* (Van Voorst), in which, with the assistance of Professors Zeller and Frey, and Mr. Douglas, we have the commencement of the descriptions of the tiny moths called Coleophorans, whose grubs live in the interior of leaves or seeds into which they mine their way in the most extraordinary manner, eventually cutting out the two skins of a leaf and sewing them together with a degree of accuracy which nothing but unerring instinct renders possible. Twenty-four of these little creatures are minutely described in English, French, German, and Latin, and illustrated by excellent coloured engravings. In all respects this is a publication that does honour to even the admirable series of works on British Natural History produced by the intelligent enterprise of Mr. Van Voorst.

TRADE LISTS RECEIVED.—John Cattell's (Westerham) *Catalogue No. 7 of Dutch and other Bulbs.* In addition to bulbs, of which this is a nice selection, we have here some very good things for forcing and early flowering, among which we now find Berberis Darwinii, quite a new feature in the forcing line.—Jackman & Son's (Woking) *Wholesale Catalogue of Plants.* This establishment is too well known to the trade, for whom alone the catalogue is intended, to require any description. Nurserymen will find in it plenty of things worth their attention.—Wm. Chater's (Saffron Walden) *List of Superb New Double Hollyhocks* consists of eleven pages of names, with a full description of the colour of each sort, and concludes with excellent practical instructions for cultivation.—Samuel Yates's (Manchester) *Catalogue of Flower Roots imported.* A good strong list of useful things.—J. Linden's (Brussels) *Supplément et extrait du Catalogue No.* 14. On two 4to leaves we have the novelties of 1859, whether stove or greenhouse; and also fine foliaged plants, ornamental plants, tropical fruit trees, among which are two species of Parinarium which deserve a trial, and an Adansonia and Lecythis, which do not belong to the class, if by fruit is meant something good to eat; useful plants, new and rare Ferns, Orchids, and Palms and their allies, of which there is a great many. Buyers of rare plants should always consult Mr. Linden's lists.

## Garden Memoranda.

BROUGHTON HALL, NEAR SKIPTON, YORKSHIRE.—Few who travel up the valley of the Aire on their way to Scotland dream that one of the brightest and most beautiful of gardens in the north of England lies embosomed amongst magnificent Beeches and time-honoured specimens of Yews, away, quite out of sight of those to whom the spot is unknown.

Broughton Hall, the seat of Sir Charles R. Tempest, Bart., forms a spacious mansion with a handsome portico in front, and close to it on the east side is a beautiful scroll-patterned garden designed by Nesfield, in which various coloured gravels, blue and purple slate, play a conspicuous part. This garden occupies an area of 43 by 27 yards, is sunk in the hill side, and has a handsome stone pavilion at the north-east corner.

This style of gardening is particularly suited to the north of England where the summers are so short, because it forms the nucleus of a winter garden, and only requires the additional aid of variegated and evergreen dwarf shrubs to make up a telling and highly interesting decorative garden for the winter months. Such plants as striped Hollies, Juniperus prostrata, Aucubas, Rhododendrons, &c., move readily in autumn and spring, and can easily be made available for winter gardening. On the occasion of our visit the garden just alluded to was brilliant with gay flowers, the outside beds were planted alternately with Tom Thumb Geraniums and aurea floribunda Calceolarias, and it is impossible to estimate too highly the value of this variety of yellow Calceolaria for the north of England. The beds were literally dense masses of flower.

The interior of the design consists chiefly of parti-coloured walks and Box edging. The beds or rather divisions that require floral decoration were filled chiefly with Flower of the Day Geranium, Saponaria calabrica, Prince of Orange Calceolaria, blue Lobelia, Purple King Verbena, and other Verbenas of different colours. This style of gardening it may be remarked severely taxes the ingenuity of the gardener, inasmuch as he is necessarily restricted to a very limited choice of plants. A portion of the design is filled up with the pretty white spar obtainable from the lead mines to be found at Lothersdale, a district of close proximity to Broughton, and this necessarily excludes white Verbenas and other flowers of the same colour. The blue and purple slate also interfere with the use of purple Verbenas, and the yellow and red gravel divisions plainly intimate that care must be exercised in contrasting colours so as to create harmony. Another difficulty arises in the necessity for preserving the outlines of the beds in this style of gardening, without which the effect is more or less lost. Dwarf-growing plants are therefore indispensable, and of course the range of colours available more contracted. Mr. Daniels, the head gardener here, has however surmounted all difficulties of this description in a most creditable manner.

On the south side, close to the mansion, is a second flower garden immediately in front of a very handsome and commodious conservatory, flanked by a fountain and steps rising to a terrace, on which is to be found one of the most beautiful and telling ribands we have ever met with. It is planted thus: 1st row, Variegated Balm; 2d do., Geranium Tom Thumb; 3d do., Calceolaria amplexicaulis; 4th do., Dahlia Zelinda, the purple variety; 5th do., blue Ageratum. These colours formed, as we have said, one of the brightest of ribands, in which the purple Zelinda Dahlia played a conspicuous part. This plant should be universally cultivated, being dwarf in habit, an abundant bloomer, and standing as it does quite alone in its peculiarly rich shade of colour. Nothing could be more beautiful than it was at Broughton Hall; all that is necessary is to get it forward early and to keep it from "drawing" when the plants are young. Rising above the riband which extends along the east and south terraces are banks of Rhododendrons and other shrubs gaily ornamented with autumn-blooming plants, forming altogether a gay and most effective flower garden.

Not the least conspicuous feature of this fine place is the elegant and spacious conservatory. By means of a crank and lever easily worked, full and ample ventilation can be given both at top and sides. Here, rambling freely across the roof and hanging in festoons, were Passifloras and Tacsonias of various kinds, and Habrothamnus elegans was blooming profusely. This plant deserves to be more generally cultivated than it is. Abutilon striatum was also in great beauty, and Orange and Citron trees were clothed with abundance of blossoms. This conservatory is a modern structure 75 feet in length, 29 feet in width, and 20 feet in height, the dome rising to a height of 30 feet.

Not far from the mansion is a kitchen garden with flued walls, on which a moderate but still enviable crop of Peaches and Nectarines was to be seen, and in a range of frames was a capital crop of "Orion" Melon, a variety which Mr. Daniels esteems very highly. In one of the greenhouses was a plant of Eugenia Ugni in full fruit, large and deliciously flavoured. The colour was nearly white; but notwithstanding this the flavour was unexceptionable. The new Golden Hamburgh, Bowood Muscat, and Muscat Hamburgh Vines are all under trial here. On a border devoted to the trial of new bedding plants and annuals a fine patch of the beautiful Linum grandiflorum rubrum was in full beauty. Mr. Daniels stated that the seed of this had been soaked for 24 hours in water and then sown in the open ground.

## Miscellaneous.

*Sale of Plants at the Crystal Palace, Sydenham.*—A considerable quantity of Camellias and other plants, belonging to the Company, was sold here the other day by Messrs. Protheroe & Morris. Of the Camellias, which varied from 4 ft. to 6 ft. in height, a large portion consisted of Double White kinds, well furnished with bloom buds. They realised from 1*l.* to 2*l.* 15*s.* per lot of from two to six plants each. Araucaria excelsa, 9 feet high in a pot, fetched 3*l.* 10*s.*; others from 3 feet to 6 feet in height fetched from 1*l.* 15*s.* to 2*l.* 10*s.* each. Araucaria Bidwilli, 8 feet in height, fetched 4*l.* 10*s.*; other lots of smaller plants from 1*l.* 10*s.* to 2*l.* per lot. Hybrid Rhododendrons fetched from 7*s.* 6*d.* to 13*s.* a dozen; choice varieties, 21*s.* a dozen; and some large hardy hybrid kinds in tubs, from 35*s.* to 2*l.* 10*s.* each. Standard Bay trees in tubs, good specimens, fetched from 37*s.* to 3*l.* 10*s.* each. The total number of lots was 214. We understand the Orange trees were not sold.

*Important Sale of Plants at Cooper's Hill, Englefield Green.*—The first portion of a magnificent collection of Azaleas and other stove and greenhouse plants was brought to the hammer here on Tuesday last by Mr. Stevens. Of Azaleas, Glory of Sunning Hill, 3 feet 6 inches high and as much through, fetched 11*l.*; Mur-

rayana, 9*l.*; Perryana, 7*l.* 10*s.*; optima, 6*l.* 10*s.*; Gladstanesi, 5*l.* 15*s.*; variegata, 6*l.*; lateritia, 5*l.* 5*s.*; alba magna, 5*l.* 15*s.*; sinensis, 5*l.*; and other lots from 2*l.* 2*s.* to 3*l.* 10*s.* Of other plants, Acrophyllum venosum, 3 feet high and about as much through, fetched 7*l.* 10*s.*; the Willow-leaved Ixora, 6*l.*; Genetyllis macrostegia, 5*l.* 10*s.*; Aphelexis macrantha rosea, one of the finest plants in the country, 9*l.*; A. m. purpurea, 5*l.* 10*s.*; A. m. grandiflora, 4*l.* 15*s.*; Rondeletia speciosa, 4*l.* 10*s.*; Tetratheca ericoides, 3*l.* 7*s.* 6*d.*; Erica jubata, 2*l.* 4*s.*; Maranta zebrina, 2*l.* 10*s.*; Pandanus javanicus variegatus, 3*l.* 10*s.*; Epacris miniata grandiflora, 3*l.* 10*s.*; E. m. splendens, 2*l.* 6*s.*; Pimelea mirabilis, 2*l.*; P. Hendersoni, 2*l.* 6*s.*; Eriostemon buxifolium, 2*l.* 2*s.*; and Adenandra speciosa, 2*l.* 6*s.* Other lots, of which there were in all 202, fetched from 10*s.* to 30*s.* per lot; and the produce of the whole sale amounted to upwards of 300*l.* A second portion will, we understand, be sold on Thursday the 13th inst.

*Large Melon.*—At a late meeting of the Paris Horticultural Society a CANTALOUP MELON was exhibited, weighing 2¼ lbs. It was produced by a M. Pageot, a market gardener at Vannes. This is the largest Melon we have any account of except one mentioned by the Rev. T. Phillpotts of Porthgwidden, near Truro, near where it was grown, which weighed 32 lbs.

*The Buansuah, or Wild Dog.*—In the Wild Dog, which ranges Nepal and the whole of Northern India, the primitive type of the dog was thought to be found. This animal, the Buansuah, presents many points of similarity to the Dhole, and is said to rival the latter creature in its tiger-killing propensities. Like the Dhole, it is a shy animal, and never willingly permits itself to be seen, preferring to take up its residence in the thickest coverts which are afforded by the luxuriant vegetation of its native land. It hunts in packs, but unlike the preceding animal, gives tongue continually as it runs, uttering a curious kind of bark, which is quite distinct from the voice of the domestic dog, and yet has nothing in common with the prolonged howl of the wolf, the jackal, or the foxes. The number of individuals in each pack is not very great, from eight to twelve being the usual average. They are possessed of exquisite powers of scent, and follow their game more by the nose than by the eye. When captured young, the Buansuah readily attaches itself to its keeper, and, under his tuition, becomes a valuable assistant in the chase. Unfortunately, the dog will too often refuse its confidence to any one except its keeper, and therefore is not so useful as it might otherwise be rendered. It is probable that the keeper himself has some hand in this conduct, and wilfully teaches his charge to repel the advances of any person save himself. In the chase of the wild boar, the peculiar character of the Buansuah exhibits itself to great advantage, as its wolf-like attack of sudden snap is more destructive to its prey than the bite of an ordinary hound. For other game this creature is but an uncertain assistant, as it will often give up a chase just at the critical moment, and is too apt to turn aside from its legitimate quarry for the purpose of immolating a tame sheep or goat. *Routledge's Illustrated Natural History.*

## Calendar of Operations.

*(For the ensuing Week.)*

### PLANT DEPARTMENT.

CONSERVATORY, &c.—Many of the stove plants which have lately been the principal ornaments of the conservatory will now be getting out of bloom, and foresight must be exercised, to be prepared with specimens in flower to supply their places. Some of the most forward Camellias should, if necessary, be placed in a rather close house, to induce them to open their buds, giving them a regular supply of manure-water; and the most forward Epacrises may be placed in a close part of the greenhouse, where they will soon open their blossoms; as also Daphnes and many other plants, provided their flower-buds are prominent. Aim at keeping the atmosphere of this house rather dry, using just sufficient fire-heat on damp cold nights to allow of giving sufficient air to keep the atmosphere in motion, so as to prevent damp being injurious. STOVE.—The twiners on the roof should now be more than ever kept within bounds, cutting back all shoots that have done flowering, and tying the others so as to obstruct the light as little as possible. Place specimens ripening their wood in the coolest part of the house, and water sparingly at the root. Achimenes, Gloxinias, Gesneras, &c., that are properly ripened off may be stored away in any dry place where they will be secure from frost, but take care to place them where they will be free from damp, and they should not be exposed to a lower temperature than about 45° to 50°; many valuable plants of this kind have been lost through storing them in dry sheds, &c. Hard-wooded plants, such as Ixoras, &c., that have not made their wood after flowering, should be encouraged with a warm moist temperature, syringing them lightly overhead, and shutting up the house early in the afternoon. Get any growing plants that require more pot room shifted as soon as convenient, in order to get them well rooted into the fresh soil before winter. Keep a sharp look out for insects, especially thrips, which are often very troublesome at this season on such plants as Ixoras, &c., growing in a close warm house, and either fumigate the house or remove the affected plants and thoroughly clean them immediately this pest is perceived, for if left to its own way with growing tender-foliaged plants, it soon disfigures the finest specimens.

### FORCING DEPARTMENT.

PINERIES.—Plants showing fruit at this season are so valuable as to be well worth any amount of necessary care, for they will afford ripe fruit at a season when the best-furnished gardens cannot supply much variety in the way of fresh fruit. While favourable weather continues, they will however require no particular attention; but in the event of cold damp weather setting in, the shows must be carefully protected from damp, and should be kept rather warm and dry until after blooming, when they will not be readily injured by a damp rather low temperature. Those who grow their Pines in pots should gather all those showing fruit together, so as to be able to treat them more judiciously than can be done when they are scattered throughout the whole stock. Plants that have been kept cool and dry for some time past, in order to prepare them for fruiting, should now be placed in a brisk heat, taking care to thoroughly moisten the soil about their roots, so as to get the fruit fairly set and safe before the sunless days of November. Continue to afford young growing stock a warm moist temperature, with plenty of manure water at the root; but use fire-heat sparingly, and avoid drawing the plants by a high night temperature. With proper management and convenience, 70° will be quite safe while the present favourable weather lasts. Successful growers, our forefathers, recommended a low temperature and dry atmosphere, in order to prevent growth after this season, and under their circumstances this was the most judicious practice, but tan beds and dung linings have given place to hot-water tanks and pipes, and the small squares of glass, with their wide black laps and heavy timbers, have been replaced by roofs which hardly intercept a ray of light, and to adopt the practice of former days would be an unpardonable waste of means. It is hardly too much to say that with modern facilities we ought to produce two crops of fruit in the time that was necessary to produce one under the old regime of houses and heating, but this cannot be done by those who are afraid to keep their plants growing after the decline of the season. Those, however, who have still to contend with the disadvantages of dung pits, will do well to regulate the temperature so as to avoid weakly growth, and this must also be attended to under any circumstances. VINERIES.—Take advantage of fine weather while it lasts for getting the wood of young Vines well ripened: use moderate fires with a free circulation of air, and where the object is to ripen the wood keep the atmosphere as dry as possible. Late Grapes not yet ripe should also be assisted with fire-heat and a free circulation of air, in order to forward the ripening as much as possible while the weather is favourable. Keep ripe fruit cool with plenty of air, to prevent any injury from damp, and cut out any decaying berries directly they are perceived. Houses in which the wood is thoroughly ripe can hardly be kept too cool, and the ventilators of these should be left open night and day in dry weather. This will prevent the continuance of growth, and is the best means of getting the Vines into a dormant state ready for pruning. The border of the early house should be covered with something to protect it from wet; for although there is no immediate necessity for this it will be better done while the border is in a dry, healthy state.

### FLOWER GARDEN AND SHRUBBERIES.

Those who have many scarce plants in the borders which they intend to pot must be careful observers of the weather; and to ensure being safe, must cover when there is the slightest appearance of frost. Give careful attention to the young stock, and recollect that sturdy, well-rooted plants are much easier to winter than large plants with long-jointed soft wood, therefore keep the stock cool and exposed to the sun and air as soon as it is well established after shifting into the pots in which it is to be wintered. With good convenience late-rooted cuttings may still be potted off; but unless they are very thick in the cutting pots we would prefer wintering them in these to shifting at this season, for they occupy much less space in the cutting pots, and having more space for their roots, they are frequently more healthy and require less attention in winter than those that are potted singly. Square 12-inch wide and 5-inch deep pans are very suitable for wintering cuttings of Verbenas, Lobelias, and other plants which can be kept in a small state. One of these will hold some 20 good plants, and with care, to prevent their being injured by damp, they will winter quite as well treated in this way as if potted singly in 4-inch pots, and a vast quantity may be wintered in a small space. Where things of this kind have to be wintered in cold frames or pits, the plants should be potted singly, as they would be very liable to damp off, despite every care, if placed thickly together in pans, and placed where it may be impossible to give air for weeks together. Let us, however, protest against the system of wintering bedding stock in such unsuitable places. This practice is generally adopted from some mistaken notion of economy; but if a fair calculation of the time required to attend to plants wintered in this way could be made, and all the losses, &c., taken into account, it would be found to greatly overbalance the trifling cost of fixing a proper heating apparatus and a few bushels of coke or coal annually. To the majority of the parties concerned the outlay would be unworthy of consideration, and would be repaid in one season by the saving of labour, &c., and the economising of space which would be effected. Where alterations are projected or in hand, these should be proceeded with in the meantime in a judicious manner.

### HARDY FRUIT AND KITCHEN GARDEN.

Take advantage of the first dry state of the ground to get Celery earthed up. On heavy soils it is sometimes necessary to surround the plants with sifted ashes to prevent their rotting off in winter, which they are apt to do if surrounded with soil that holds much water. Thin young crops of Turnips, Spinach, &c., before they become weakly and drawn by standing too closely together. Stir the surface soil deeply among growing crops to admit air to the roots, and keep down weeds. Recently planted Strawberries will be benefited by occasional applications of manure-water. Get spare ground manured and dug or trenched for another crop, whenever time can be spared for that kind of work.

### STATE OF THE WEATHER AT CHISWICK, NEAR LONDON

For the Week ending Sept. 29, 1859, as observed at the Horticultural Gardens

| Sept. | Moon's Age. | Barometer. Max. | Barometer. Min. | Temperature of the Air. Max. | Temperature of the Air. Min. | Temperature of the Air. Mean | Temperature of the Earth. 1 foot deep | Temperature of the Earth. 3 feet deep | Wind |
|---|---|---|---|---|---|---|---|---|---|
| Friday 23 | 26 | 29.751 | 29.578 | 70 | 51 | 60.5 | 58½ | | |
| Satur. 24 | 27 | 29.836 | 29.773 | 78 | 51 | 64.5 | 61 | | |
| Sunday 25 | 28 | 29.842 | 29.787 | 69 | 51 | 60.0 | 62 | | |
| Mon. 26 | ● | 30.076 | 29.831 | 68 | 51 | 59.5 | 62 | | |
| Tues. 27 | 1 | 30.001 | 29.894 | 65 | 45 | 55.0 | 61 | | |
| Wed. 28 | 2 | 29.809 | 29.625 | 66 | 42 | 54.0 | 61 | | |
| Thurs. 29 | 3 | 29.730 | 29.638 | 65 | 44 | 54.5 | 60½ | | |
| Average | | 29.863 | 29.732 | 68.7 | 47.9 | 58.3 | 60.8 | | |

Sept. 23—Foggy; overcast; cloudy; boisterous at night
— 24—Densely overcast and warm; exceedingly fine throughout
— 25—Partially overcast; rather boisterous; overcast, fine aurora borealis.
— 26—Fine; densely overcast; constant and very heavy rain.
— 27—Cloudy and fine; hazy; foggy.
— 28—Slight fog; fine; very fine; lightning at night; rain.
— 29—Clear; low white clouds; slight shower; very clear at night.

Mean temperature of the week, 2 4-5ths deg. above the average.

### RECORD OF THE WEATHER AT CHISWICK,

During the last 33 years, for the ensuing Week, ending Oct 4 th

| October. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds |
|---|---|---|---|---|---|---|
| Sunday 2.. | 63.9 | 43.6 | 53.7 | 17 | 0.48 in. | |
| Mon. 3.. | 63.1 | 44.5 | 53.8 | 16 | 1.01 | |
| Tues. 4.. | 63.6 | 43.0 | 53.3 | 18 | 1.06 | |
| Wed. 5.. | 62.6 | 40.9 | 51.7 | 17 | 0.82 | |
| Thurs. 6.. | 61.1 | 43.6 | 52.4 | 19 | 0.78 | |
| Friday 7.. | 61.9 | 43.9 | 52.9 | 16 | 0.58 | |
| Satur. 8.. | 60.4 | 41.5 | 50.9 | 16 | 0.55 | |

The highest temperature during the above period occurred on the 8th, 1834—therm. 80 deg.; and the lowest on the 8th, 1858—therm. 5 deg.

## Notices to Correspondents.

AUBERGINES: We are reminded that this vegetable should be scored and rubbed with salt before being prepared for cooking. This is we believe necessary in this country because it does not ripen well; but it is not done in France and would not to be needed after such a summer as this. If, however, the dish is found to be bitter the application of salt will draw out the bitter juice.

COMMON IVY: *An Irish Subscriber* inquires from what nurseryman he would be likely to obtain good plants, in pots, of the common Ivy, Hedera Helix. He has hitherto tried in vain to procure this plant, as nobody seems to think it worth keeping.

GARDENERS: *Equus.* It is impossible to answer your question satisfactorily. In rough reckoning it is usual to say that a garden requires a man to each acre, but then if an acre of land is covered with forcing houses it may be necessary to allow 20 men for it. On the other hand, if a place consists largely of rough plantation, one man may manage several acres.

GRAPES: In our report of the late exhibition at the Crystal Palace it was inadvertently stated that the berries of Mr. Drewitt's fine Cannon Hall Muscat Grapes could not measure less than 2 inches in circumference. A berry has since been sent us by Mr. Drewitt, and we find its actual measurement to be 3¼ inches in girth one way, and 4 inches the other. It was also added that this berry was not one of the largest.

MILDEWED GRAPES: *B G.* All that you can do with Vines or Grapes attacked with mildew is to smother the fungus with flowers of sulphur. After the fruit is cut, and the leaves fall, wash the Vines well with Gishurst Compound mixed with water in the proportion of 4 oz. to the gallon. See also our remarks on the destruction of mildew in our Home Correspondence of to day!

NAMES OF FRUITS: *F Kelly.* 64, Cockle Pippin; 66, Scarlet Kenting.—*J Bradshaw.* 1, Belle et Bonne; 2, Doyenné; 3, Dunmore; 5, Hessel; 6, 8, 9, Jersey Gratioli; 3, Real d'Hiver.—*Dobbs.* 16, King of the Pippins; 3, Cockle Pippin; 4, Northern Greening; 5, Dutch Codlin; Uvedale's St. Germain. It is not a perfect specimen, although of fair size. The young fruit has probably received a check from frost in spring.

NAMES OF PLANTS: We have been so often obliged to peremptorily decline naming heaps of dried or other plants, that we venture to request our correspondents to recollect that we never have or could have undertaken an unlimited task of this kind. Young gardeners, to whom these remarks especially apply, should bear in mind that, before applying to us for assistance, they should exhaust their other means of gaining information. We cannot save them the trouble of examining and thinking for themselves; nor would it be desirable if we could. All we can do is to *help* them, and that most willingly. It is now requested that, in future, not more than four plants may be sent us at one time. *Abergele.* Not the Olive tree; it looks like a bit of Cupressus prunifolia.—*Rim Castle Cary.* Arauja sericifera—a pretty plant.—*Derwent.* Not Oxalis corniculata, but a leaf of O. nankinensis now cultivated among bedding plants. *G* Phygelius capensis a purplish black is required.—*G* Phygelius capensis is a hardy perennial from the Cape of Good Hope, and one of the handsomest of all bedding plants, where a crimson of 2 feet high, is required. It stands all weather, but not peat.—*Anonymous.* It is the Male Pampas Grass.—Cyanotis vittata.—*Rabon.* Roccella tinctoria, the Cudbear plant.—*Josephus.* The true Colchicum Byzantinum.—Eugenia apiculata, not E. Ugni, although like it. The is worthless.

NYMPHÆAS: *M Whitby.* Nymphæa cœrulea, stellata, Lotus ensis, rubra, and odorata; Richardia africana, Aponogeton distachyon.

VINES: *Howarton.* We thought our opinion would be confirmed. When the leaves are off you must lift the roots very carefully, so as not to break any that remain, and replace them carefully by spreading them over the bottom of the border. Then throw over them 6 inches of good soil, and finally cover the whole with a mulching of good litter or woolcombers' refuse.

*** As usual, many communications have been received too late, and others are detained till the necessary inquiries are made. We must also beg the indulgence of those correspondents the insertion of whose contributions is still delayed.

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"FRIGI DOMO."—Patronised by her Majesty, the Queen, the Duke of Northumberland for Syon House, His Grace the Duke of Devonshire for Chiswick Gardens, Professor Lindley for the Horticultural Society, Sir Joseph Paxton for the Crystal Palace, Royal Zoological Society, late Mrs. Lawrence of Ealing Park, and —Collier, Esq., of Dartford.

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"FRIGI DOMO," a Canvas made of patent prepared Hair and Wool, a perfect non-conductor of Heat and Cold, keeping, wherever it is applied, a fixed temperature. It is adapted for all horticultural and, floricultural purposes, for preserving Fruits and Flowers from the scorching rays of the sun, from wind, from attacks of insects, and from morning frosts. To be had in any required lengths. Two yards wide, 1*s.* 6*d.* per yard run; four, 3*s.* per yard. Also, an improved make for Shading Purposes. Three yards wide, 2*s.* 6*d.* per yard run.

ELISHA THOMAS ARCHER, whole and sole manufacturer, 7, Trinity Lane, Cannon St., City, E.C., and of all Nurserymen and Seedsmen throughout the kingdom. "It is much cheaper than mats as a covering."

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These Pumps are fitted with WARNER'S Patent Bucket and Valve, and cannot clog in action. The barrel is made of galvanised iron, not likely to corrode, and can be raised or lowered at pleasure on the stand, the legs of which fold together, and may be carried with ease by one man to tank or pond.

| | £ | s. | d. |
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| Stand and Pump, with screwed tail pipe, fitted with strong brass union for suction pipe | 2 | 15 | 0 |
| If fitted with barrel of planished copper .. .. | 3 | 4 | 0 |
| Stand and Pump, with plain tail pipe, for tying on suction pipe .. .. .. | 2 | 9 | 0 |
| 2 inch patent rubber and canvas flexible suction pipe, on wires, either 10, 12, or 15 ft., per foot | 0 | 2 | 2 |

May be obtained of any Ironmonger or Plumber in town or country, at the above prices, or of the Patentees and Manufacturers, J. WARNER & SONS, 8, Crescent, Jewin St., London, E.C.

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JAMES'S PATENT LIQUID MANURE DISTRIBUTOR OR WATER-CART, warranted not to choke up or otherwise get out of order. It is thoroughly adapted for Drill Crops, or Pasture Land, or for Watering Streets; has been awarded SIX FIRST PRIZES.

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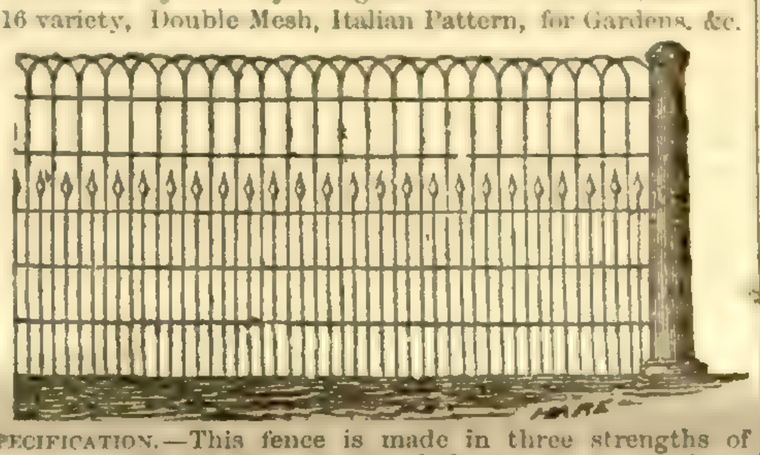

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Prices: For Cattle—3 feet 10 inches high, 2*s.* 6*d.* per yard.
,, 3 feet 4 inches high, 2*s.* 3*d.* ,,
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G. & Co.'s Illustrated Catalogue contains descriptions of the above and other Iron and Wire Fences for Parks, Farms, Gardens, Game Preserves, Poultry Courts, &c., also of Iron Gates, Iron Hurdles, &c. Post free on application.

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Draining, Inclosing, Irrigating, Warping, Road Making, and all kind of Land Improvements, executed on Entailed, Mortgaged, or other Properties, and the whole cost can be made a Permanent Charge on the Lands, or redeemable in a certain number of years. BIDWELL & BRODIE, Secretaries.

Offices: Exeter; and 30, Parliament Street, London, S.W.

HIGHLAND AND AGRICULTURAL SOCIETY.

EDINBURGH VETERINARY COLLEGE.—The Committee of the Highland and Agricultural Society of Scotland, appointed to superintend the Veterinary College, hereby intimate that the SESSION will commence on WEDNESDAY, November 2, at 4 P.M.

The Course of Study includes the following Classes:—

| | |
|---|---|
| 1. Zoiatrics, Veterinary Medicine and Surgery | Professor DICK. |
| 2. Zootomy, or Veterinary Anatomy, and Anatomical Demonstrations | Mr. STRANGEWAYS. |
| 3. Chemistry, embracing Veterinary Materia Medica, and Pharmacy | Dr. ALLEN DALZELL. |
| 4. Practical Chemistry .. .. .. | Dr. ALLEN DALZELL. |
| 5. Microscopic Zootomy, Physiological and Pathological | Dr. YOUNG. |
| 6. Practical Pharmacy and Clinical Instruction | Prof. DICK, assisted by Mr. WORTHINGTON, V.S. |

Edinburgh, October 1. JN. HALL MAXWELL.

AGRICULTURAL IMPROVEMENTS, LAND DRAINAGE, ROAD MAKING, & FARM BUILDINGS

MR. BAILEY DENTON maintains a large staff for the execution of these works by commission or contract. He also prepares Working Plans to enable Landowners to carry out such improvements themselves.—2, Parliament Street, S.W.

LAND IMPROVEMENTS.—The GENERAL LAND DRAINAGE AND IMPROVEMENT COMPANY are empowered by Act of Parliament to assist the Owners of Land in carrying into effect the following Improvements, and charging the whole outlay and expenses on the property improved.

I. All Works of Drainage, Irrigation, Warping, and Embankment.

II. The erection of Farmhouses, Cottages for Agricultural Labourers, and all kinds of Farm Buildings.

III. The construction of Roads.

IV. The Grubbing and Clearing of Old Woodlands, Enclosing, Fencing, and Reclaiming Land.

The Landowners by whom any of these Improvements may be executed are—Tenants for Life, Trustees, Mortgagees in Possession, Guardians, Committees of Incompetent persons, Married Women, Beneficial Lessees for Lives or for a Term exceeding 14 years, Corporations, Ecclesiastical or Municipal, Incumbents, Sequestrators, Charitable Trustees, &c.

The Owners of Estates not entailed, who may be desirous to avoid the expense or inconvenience of a Legal Mortgage, may also avail themselves of the powers of the Company's Act to charge their estates with an outlay in improvements.

In all cases the whole cost of the improvements, with the attendant expenses, may be charged on the Estate, the term for Building Works being limited to 31 years, but for all other improvements being capable of extension to 50 years.

No investigation of title being required, and the charge not being affected by Incumbrances, no legal expenses are incurred.

Operations under the Company's Act are divided into two principal branches; one where the Landowner designs and executes the improvements by his own Agent and merely requires a loan from the Company to charge the Estate,—the other where the Company undertake the entire responsibility of the Improvement and obtain repayment by way of Rent Charge. In the first case the plans, specifications, and estimates prepared by the Landowner's Agent are forwarded to the Company to be submitted for approval to the Inclosure Commissioners. As soon as the sanction has been given the Landowner proceeds to execute the works, and the Company having conducted the business through all the official forms, complete the charge on the estate when the works have been passed by the Commissioners, and repay the Landowner the amount agreed upon.

In no part of the business is there any control upon a Landowner except by the Inclosure Commissioners. The Company never interfere, except at the special request of the Landowner or his Agent, and only to such extent as may further the objects he has in view.

In the other case, where the Company are required to execute the works, a report and estimate of the Improvement are sent to the Landowner, and having been approved, the plans are then prepared and the works—either submitted to public competition or entrusted to their own staff—are carried on to completion, and the amount of the actual expenditure only, approved by the Inclosure Commissioners with the Company's agreed commission and the Commissioners' expenses, finally charged on the Estate for the term fixed by the Landowner.

The Company also execute Drainage and all other Works of Land Improvement on Commission for the Owners of Estates not Entailed who may wish to charge the outlay on the property through the simple and inexpensive process of the Company's Act.

Applications to be addressed to WILLIAM CLIFFORD, the Secretary, at the Offices of the Company, 52, Parliament Street, London.

THE BIRMINGHAM CATTLE AND POULTRY SHOW, 1859.—The ELEVENTH GREAT ANNUAL EXHIBITION OF CATTLE, SHEEP, PIGS, DOMESTIC POULTRY, AND ROOTS, will be held in Bingley Hall on MONDAY, TUESDAY, and WEDNESDAY, November 28, 29 and 30, and THURSDAY, December 1, when Prizes, Cups, or other Articles of Silver Plate, and Gold and Silver Medals, to the amount of 1250*l.* will be awarded.

Prize Lists and Certificates of Entry are now ready, and may be obtained at the Offices, or by letter to

JOHN MORGAN, Secretary.

Offices: Unity Buildings, Upper Temple Street, Birmingham.

SMITHFIELD CLUB CATTLE SHOW, 1859.—The ANNUAL SHOW of FAT CATTLE, SHEEP, and PIGS will take place on the 6th, 7th, 8th, and 9th December, at the Bazaar, King Street, Portman Square.

The Prize List contains separate classes for Devons, Herefords, Short-horns, Sussex, Norfolk or Suffolk polled, Longhorns, Scotch horned, Scotch polled, Irish, Welch, and cross or mixed breeds. Also Long-woolled Sheep, cross breeds, Short-wools, and Pigs. In addition to the large amount offered in money prizes, there are also 50 Silver and 5 Gold Medals. The following forms of Certificates are now ready, and intending Exhibitors in applying for them need only quote the letters and state how many of each they require.

| CATTLE. | SHEEP. |
|---|---|
| Form A. Ox or Steer. | Form D. Pen of 3 Wethers. |
| ,, B. Cow or Heifer. | |
| ,, C. Ox or Cow in Extra Stock. | ,, E. One Wether or Ewe in Extra Stock. |

PIGS.
Form F. Pen of 3 Pigs. | Form G. One Pig in Extra Stock

The Entries finally close on November 1.

Prize Lists with rules and regulations and Forms of Certificates to be obtained of B. T. BRANDRETH GIBBS, Hon. Sec., corner of Half Moon Street, Piccadilly, London, W.

N.B. All communications on the Club's business should have the words "Smithfield Club" outside, to distinguish them from private letters.


# The Agricultural Gazette.

*SATURDAY, OCTOBER* 1, 1859.

A CORRESPONDENT wants a change of seed. He has asked advice from one of his neighbours, who recommends him to go to the north and obtain from a colder climate the change he needs: he has asked another of his neighbours, and by him he is recommended to go to the south and obtain his seed from Surrey, Kent, or Sussex, where the harvest is three weeks earlier than it is in Scotland. Whose recommendation is he to adopt?

Let it, in the first place, be admitted that a healthily grown, thoroughly ripened seed is perfect of its kind, and that, these conditions being fulfilled, it matters nothing whether it be grown on chalk, or

clay, or sand. A "change" from one geological formation to another, or from one farm to another, is not, as some seem to think it, necessarily an advantage. But you can obtain healthily grown and thoroughly ripened Wheat in any county in the kingdom, and if, having it, you have that which is perfect of its "kind" it is plain that you need not travel for a "change." The question, however, is—what of the character of a grain is involved in this term "kind;" and the answer we presume to be—all that it inherited or can transmit. Now nothing is more certain in agricultural experience than that besides those characters of plants which botanists admit as the permanent distinctions of species, there are other habits or features of greater or less permanence which plants acquire by the constant treatment of the cultivator or the constant influence of habitat and climate, and which though capable of alteration and ultimate extinction by other treatment, are yet not altogether transient, but will re-appear in subsequent seasons in greater or less degree according as the circumstances of the locality or season are favourable or otherwise. Thus we doubt not that a "kind" distinguished for several years under good cultivation for extraordinary productiveness will be more likely than one of inferior character in this respect to yield well even under inferior cultivation. And the advice which we should offer to our correspondent would be, simply to look out for seed of a sort which has been known for many years to yield most bushels per acre of good grain. If he can get it from his neighbour then he will be saved the trouble of sending to either end of the island for it.

There are, however, characters which grain from Sussex and from Aberdeen respectively are likely to bring with them in addition to the quantity or quality of the produce; and if a choice must be made between the two it must hinge upon the relative value of those characteristics which the respective climates of those counties are likely to have encouraged, and as it were imprinted. Is hardiness and ability to withstand severity of winter and spring especially desired, then seed from the northern county will probably be preferred. Is earliness of ripening desired, then though this is probably a less certain character than the other, yet it is more likely to be found in grain from Sussex than in that from Aberdeen. It is probable that the latter is generally in this country the most valuable character of the two, and that if our correspondent cannot get what he wants at hand he had better apply to some Wheat grower in the south.

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THE following is from Inverness-shire:—"You will have noticed from Scotch agricultural reports that we are very short of straw, and that it is doubtful if Turnips will come up to half an average crop in weight, while mildew has set in, which of course will deteriorate their *feeding* qualities. Our resource is to diminish at any sacrifice our live stock, which of course will react on future years' fertility. Could you not bring out the saving of Turnips and fodder from pulping the former and chaffing the latter? Against either operation there is a very strong feeling even among the crack men of the Lothians, and I do not believe there is one establishment in Scotland in which these operations are systematically followed out—a contrast to your Norfolk and Lincolnshire feeders."

We commend this subject to the attention of those of our readers whose experience will throw light upon it. There can be no doubt that the use of pulping machines and chaff-cutters does enable the more complete consumption of inferior fodder, and does economise the Turnips consumed. Perhaps some of our readers may be able to state from their experience what is the average consumption daily by cattle and sheep of straw and Turnip and other richer food under this method of preparing food, and under circumstances such as our correspondent describes, where it is necessary to save both straw and Turnip as much as possible; adding what information they can on the labour involved in this additional work to be done.

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THE healthy growth of our root crops appears to be much influenced by the physical condition of the soil. A careless and imperfect tillage of the land gives evidence of its unsatisfactory influence not only by a small crop but also by its liability to mildew. In fact we have already shown that where the condition of the soil is favourable to the growth of the crop less injury arises from this disease, but we may with some advantage examine more fully other circumstances which also influence this result. The great point to be attained is to keep Swedes growing up to the commencement of winter so that neither the hot weather of autumn, nor indeed any other cause, shall stop their growth and thus give the Fungi an opportunity of establishing themselves upon the tissues of the plant. A deep bed of soil through which the roots can traverse and gain the required supplies of food is a necessary condition, and this must be secured not only by good cultivation before the seed is sown, but by the repeated use of the horse hoe afterwards. The passage of the rain through the soil, and its natural gravitating powers, tend to consolidate the soil, and to overcome this we must disturb its repose even when the soil may be free from surface weeds. If these are present there is a double necessity for the work, but after a shallow hoeing the soil must be moved deeply. It is the deep stirring which favours the growth of the crop, and it may be confidently relied upon as one of the results of the more perfect cultivation of land by steam power that we shall secure the soil in such superior working order that the growth of our root crops will be far less liable to be impeded than even upon our best farmed land when worked by horse labour.

The influence of manure is also very important, and the results are almost as dependent upon the mode of its use as upon its composition. You may employ farmyard manure or its substitutes in the form of our various artificial manures and thus supply nourishment in an equally desirable condition; but the result will be materially influenced by the mode in which the plants gain their supplies from it. If for example the farmyard manure were spread between ridges, and thus distributed over only half the ground, it is clear that although the crop may have free access to the manure thus presented to it, still its powers of search are seriously impeded. There is no inducement for the roots to strike out into the soil around and draw therefrom additional supplies. This is a decided objection to this mode of using such manure. If the manure were spread upon the land and more generally distributed through the soil, the roots in following after the manure secure portions of the soil which would not otherwise come within their reach. Thus we more fully realise the advantages of stimulating manures, or in other words, manures which give energy to the plant to take up other matter in addition to the excitant itself. The advantages of a general distribution through the soil are very evident in those cases in which the manure is applied in the autumn and ploughed in before winter. Here the spring tillage causes it to be generally distributed throughout the soil, and the manure thus exerts its stimulating powers to the greatest advantage, because the excitant action is accompanied by supplies of food ready to be used. We do not pretend to say that this condition—important though it be—is sufficient to set aside the use of manure in ridges; but its influence is decidedly objectionable, and therefore we are not surprised to find many farmers opposed to this system of applying dung when the peculiar advantages of the practice are not necessary.

In the use of artificial manures we observe similar results equally at our disposal. How frequently do we see—in cases where no dung remains for the root crop—the whole of the manure applied to consist of a narrow and thin line of artificial manure drilled immediately under the seed. As soon as the plant gains access to it, it makes a rapid development, and the early period of growth is generally satisfactory. After a time, much to the regret of the cultivator, the growth becomes more slow, ultimately it becomes quite sluggish, and the appearance of the mildew endorses the final result, for further growth ceases. The rootlets of such plants, extending somewhat in proportion to the growth of the plant, as they increase in length so they become more distant from the supply of food, for as they strike into the soil they become dependent upon it in its unmanured condition. The result is that as soon as the artificial manure is used up so the growth gradually diminishes; and at the very time when you need a vigorous circulation and an active growth to defend the crop from the mildew you have the plants in a feeble state, quite unprepared to do battle with the enemy. This results not only from a deficiency of food but more especially from the fact of its supervening upon a period of rapid growth. A corresponding example is seen in those cases where farmyard manure has been liberally employed; but in consequence of a defective tillage of the soil the early luxuriant growth has been succeeded by a check which has enabled the mildew to gain the day. In like manner the moist and humid air in some districts favours a rapid growth of roots; these when checked by frosty nights coming between hot days, such as are by no means uncommon in the autumn, have a tendency to produce a similar result, and even under good management certainly favour the mildew. It may be very well when farm-yard manure has been well intermixed with the soil to drill the artificial manure, because then you push forward the early growth, and there is enough distributed in the soil to continue its later and more complete development. If, however, artificial manure is solely relied upon it would appear desirable to drill only a portion of it—sufficient to push forward its early growth—and spread the residue over the land. To avoid mildew you should maintain a continued growth until the winter weather commences, and this will be most satisfactorily done by combining a thorough and long-continued working of the soil with a general distribution of the manure used. *T.*

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A VALUABLE paper by Dr. MACADAM, read before the chemical section of the British Association at Aberdeen, calls attention to the need of simplifying the reports of the composition of manures, so as to confine the attention of the purchaser to those items on which alone the value of his purchase depends. Thus instead of speaking of soluble phosphates, insoluble phosphates, hydrated sulphate of lime, alkaline salts, silica, organic matters, water, and ammonia—let the analysis name ammonia, insoluble and soluble phosphates alone.

In valuing the ingredients again, ammonia, put at 56*l.* a ton, is so valuable only in the forms of organic matter which yield it easily. Some kinds yield it so slowly, by so tedious a putrefactive process, that their value is proportionally smaller. Soluble phosphates are fairly worth 28*l.* per ton, and insoluble phosphates, if derived from bones, are worth 7*l.* a ton, while that of mineral origin is of very little value.

Dr. MACADAM referred further to the sale of adulterated manures. He said:—"During the last season I have had forwarded to me for analysis and valuation a considerable number of samples of guano which had been sold as Peruvian guano, which were of so inferior quality that they contained in the average 50 per cent. of unmistakable sand; and a calculation of these manures showed their average value to be about 2*l.* per ton, instead of 12*l.*, which they were sold at. Now, it would be manifestly incorrect to regard 6 tons of the inferior guano as equal to 1 ton of the superior; for, though possessing the same money value of manurial ingredients, yet the question of carriage from the market town or seaport to the farm, cartage from the farmer's store to his fields, and distribution thereon, are all multiplied six times over, to get the same manurial value and probable effects. In such circumstances it is my common practice to calculate the value of all very inferior manures according to the rates previously referred to, but with proviso, that at the 2*l.* or other low figure, the manure must be delivered to the farmer carriage paid; in other words, that the manure is only worth that sum to the farmer when it is delivered on his premises."

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## ARSENIC IN SUPERPHOSPHATES.

THE alleged discovery of arsenic in superphosphates and in the produce raised with it, as referred to in the *Gardeners' Chronicle* of the 10th inst., being likely to excite unnecessary apprehension, or at least to rekindle the prejudice but scarcely extinguished in the minds of some persons against the above-named invaluable manures, I venture to offer some additional evidence on this matter.

That arsenic is likely to be present in superphosphates will be admitted by every one who is acquainted with the sources whence the manures are prepared; but that its presence in these substances is rare, and that its quantity when present is generally exceedingly small, may not be so well known as to render its announcement unproductive of satisfaction.

With the view of ascertaining to what extent we are likely to suffer from the presence of arsenic in manures of this description, I made some experiments, the results of which may perhaps be interesting, and may possibly tend to allay any anxiety which the mere announcement of such an apparently startling fact as that above-mentioned is not unlikely to create.

I first examined for arsenic several samples of white and brown sulphuric acid, the material most likely to contaminate superphosphate with arsenic. These samples were taken from different sources, and although this acid not unfrequently contains arsenic, none of these samples contained any. As is well known sulphuric acid is prepared not only from sulphur, but also from iron pyrites, a mineral that often contains arsenic, and which is therefore likely to impart this substance to the acid prepared from it. But the iron pyrites commonly used for this purpose do not contain so much arsenic as is generally supposed; indeed of

[illegible] I have analysed for manure makers [illegible] of which, I need scarcely say, prepare the acid [illegible] for the manufacture of superphosphate), [illegible] of these, several have contained no arsenic, others [illegible] traces, and few more than 50 per cent.

I next examined for arsenic several samples of superphosphate obtained at different times from some of the [illegible] makers; the samples used in two or three cases had been taken from very large quantities of this article. Of eight samples examined seven contained *no* arsenic, the eighth contained faint traces. In order to check the correctness of these negative results I prepared a solution of arsenious acid of known strength, by means of which small quantities of the poison might be added to the materials employed in the experiments.

I may remark that the means I used for testing these matters was the test known as "Marsh's," but should have proceeded to employ other tests had the results obtained by this one been positive, or seemed to require further evidence. I should also have examined a larger number of samples had the results obtained from a few been different to what is above stated.

By using the solution of arsenic above noticed, strong reactions for arsenic were obtained from quantities considerably smaller than [illegible] of a grain, and this in the presence of superphosphates, so that any objection that might be raised from the possible occurrence of materials in superphosphates which prevent or retard the elimination of arsenic by this test might be overcome. But in order still further to be secure on this point some arseniate of lime was prepared (the compound of arsenic that would probably occur in superphosphates) and minute quantities tested in the same manner in the presence of superphosphate, and with equally good results.

The sample of superphosphate which contained arsenic was made at a manure works where pigments occasionally containing arsenic are known to be used, but the quantity of arsenic present was far beyond the limits of a quantitative determination, and must have been exceedingly minute. Even supposing it to be as much as .01 per cent. (although the comparative experiments above described showed it to be much less), and assuming that plants are capable of taking up arsenious acid in the same ratio as they do phosphoric acid (a matter that certainly requires to be further investigated), we may calculate that the quantity of arsenic likely to be present in a Turnip crop is by no means formidable. Supposing an acre of land to yield 20 tons of Swedes, and that 3 cwt. of superphosphate, containing 33 per cent. of phosphate of lime and .01 per cent. of arsenious acid have been used, each cwt. of roots would contain about half a grain of arsenic—a proportion of not more than .00006 per cent. *Alfred Sibson, Royal Agricultural College, Cirencester.*

## ON AUTUMN CULTIVATION.

By autumn cultivation that change in soils which must precede restoration to fertility is begun at once, and this change—call it transformation, pulverisation, disintegration, or "mellowing"—is more efficiently accomplished in the months of September and October than at any other time of the year. Thus while the soil is better tilled by this practice, many months of time are gained. If soils by being broken in the autumn can be made in better order by Christmas than they would otherwise be by the following Midsummer, two restorative, or green crops, as Rape and Turnips, or one slower growing but more largely producing crop, as Mangel, may be sown wherever this method is impracticable.

I practice autumn cultivation because I have found that no amount of harrowing, rolling, scarifying, and ploughing in the spring will compensate for neglecting to break land subsequently to harvesting. My governing rule is, when fields have been subjected to a course of cropping, to break them up at once; in August if I can; but if the season and ordinary machinery of a farm will not allow that advantage, I make the best of September. I break these soils too as deeply as it is intended to plough them during the year of tillage and green cropping, for I do not like to have the fresh vegetable substances contained in the roots of the last crop exposed to the heat of the autumn sun, and made as tough as whipcords, but I turn them a few inches down, when they remain moist and quickly exercise whatever organic qualities of a fermentative kind they may possess. In most cases I harrow directly after the plough, and if the soil be light and the season dry, I follow up with a middle sized roller. I find that this plan facilitates that decomposition of the roots of the last crop which is necessary to produce rapid and perfect tillage. It is not "rest" that restores soils to fertility, or to a condition that will produce restorative crops, but it is a change or transformation of what vegetable substances may remain in them, and their action on the soils they are blended with, when again brought up and exposed to free air. If a piece of land be sown with Rye and Tares, and these be fed off in April, and the land be ploughed after feeding, then harrowed and rolled lightly, and left so for a fortnight or three weeks, that land will become in better order after another ploughing or two with harrowings, than a neighbouring piece would be by the end of May or beginning of June, after a winter ploughing and much labour in spring cultivation. This shows the pulverising efficiency of turning the roots of the last corn crop in when fresh, and the greater power of green roots to produce that chemical change which brings about a state of perfect tillage. The process of that chemical change is absorption of oxygen from the atmosphere. It is well known that decomposition and disintegration of any object is the result of exposure to free air under conditions that will admit of its being a prey to oxygenation. Earth in that pure form found in "subsoils" is but little affected, chemically considered, by exposure to free air. Its physical arrangement when brought up is deranged by the action of sun, wind, and rains, and frosts and thaws, but the chemical change produced in it is little more than would take place in the still, or non-fermentative, carbonaceous substances called coals and chalk, if these were simply exposed to atmospheric changes. An introduction of some fresh vegetation is required to make earth of a character to absorb oxygen, when rapid absorption of it, and that disintegration which produces a fine tilth, ensue on its re-exposition to free air.

On the strength of these views, I make a point of breaking all my exhausted land once, in preference to expending a month's labour on half of it, and leaving the remainder untouched till after Wheat sowing. I do not mind seeing ploughed fields get green in October, from the growth of shelled corn and what annual weeds may then grow, for I know that whatever vegetable substances were turned in are decomposing and charging the earth with organic acids, for absorbing oxygen when exposed in the spring to free air. I know also that the germinating and living plants are collecting carbon and elaborating additional volumes of organic acid, which will be yielded, as the plants decompose in the winter time, after the next ploughing. This deposit will act in a similar way, and equally if there be much shelled corn, to the roots left in the soil after a crop of green Rye has been removed.

There are exceptions to be made to the above method; as, for example, where soils or fields are, what is commonly called, sour. The more these cases are exposed to the autumn sun by rough tillage the better, as they already possess enough organic acid for the absorption of large volumes of oxygen, and therefore for having their mineral atoms or crude substances liberated, or made soluble, which is all they require to restore them, or make them physically conditioned for producing carbon-collecting or restorative crops. Where land is very foul, too, the system of deep ploughing at once is objectionable, but as land is not expected to be in this condition at the present time nothing further need be said on this point.

On clay or heavy land autumn cultivation is especially necessary, for green crops cannot be grown here if its chemical disintegration or pulverisation be left to take place in the spring; and there is no method of restoring clay lands so effectual and economical as producing carbon-collecting crops, such as Rape, Mustard, and white Turnips, and ploughing them in. By introducing vegetation it absorbs oxygen, which disintegrates it, makes it active or soluble in water, when it is fitting food for domestic plants. The staple soil, as it is called, of a field is that portion of the surface which has been deprived of the proportion of crude carbon that now exists in the subsoil, and which has been partly displaced by decayed vegetation, that mostly exists there in the form of humus, giving to this staple that darker colour by which it is distinguished. When this surface was left in its last geological position, it was of the same character even to the top. Living vegetation made the staples or soils that now rest on the crude earths commonly called "sub-soils." Thin-skinned clays are so for two reasons; the first is, they are composed of an earth that has a small proportion of calcareous or carbonaceous matters in them; the second is, they have had no artificial means bestowed on them to make them "thick-skinned," or of a deeper friable staple. Autumn cultivation, the growth of green crops, and ploughing them in, constitutes a method for producing a soil or staple of a deeper and darker, and therefore more corn-productive character than they now possess. When it will be more profitable to feed summer crops on the soil with sheep, than to plough them in, must depend on the manner they are forced and the weight they will grow.

I have pressed the above point, because there is evidently some great misconception by practical men, as to the process whereby clay soils are restored, or their latent constituents developed; and no scientific writer that I am aware of has done full justice to this part of our subject.

If autumn cultivation be practised on mixed soils, or lands more especially employed for growing Swedes, much of the cause for recent failures of this valuable crop may be obviated. But something more than autumn cultivation is now required for this end. As the best Swedes may be grown after a crop of green Rye—that is, where a collection of fermentative organic matter has recently existed in the soil—it has been made clear that this system must be extended. Autumn cultivation is the first step, applying farmyard manures in the winter, or artificials in the spring, and sowing a crop of Rape and Mustard for ploughing in or feeding off young, is the next part, for the reasons previously given; or to fold the land over while feeding sheep with Mangel, will supply that organic acid to the soil which will have the present desired end. Stubble Turnips, too, sown in the autumn, where the land is clean, is good practice, and the land will be more developed and better fertilised than it would be by all the bare mechanical action that could be bestowed.

With light sandy or gravelly soils the practice necessary is quite different. These are naturally sterile because they contain no fixed carbonaceous substances or compounds in them. All they require is to have vegetable substances and organic acids imparted to or deposited in them. By these means are the mineral and metallic constituents that they can supply to plants made soluble. They are naturally porous—too porous—and air is circulated freely through them with every fall of rain and return to dryness. Therefore, the less they are exposed to free air by barren tillage the better. A succession of green crops is the only method whereby these soils can be economically restored. Rye-grass, followed by white Turnips, or stubble Turnips, followed by summer Rape, and then by "green round;" or winter Tares, followed by spring Tares or summer Rape, and then white Turnips: these are some of the methods that can make these soils fertile, and which partake largely of what is meant by the term autumn cultivation.

When I, or any one else, shall be able to hire a steam cultivator from near by, one and all of the advantages attempted to be set forth above may be practised much more readily and efficiently, with more telling results, and at a less direct cost. *W. G.*

## IS NOT LIVE STOCK A NECESSARY EVIL?

I AM at issue with you when you say in your leading article of August 20, "There is, however, as a general rule no unavoidable loss in the manufacture of meat; it has often proved the largest source of the farmer's profit, even without taking the value of the manure made at the same time into account."—Will live stock pay the market price for their food?

To simplify the matter—did you ever know of any person "keeping stock only as a matter of profit and purchasing *all* their food?" If so, such person would certainly tell you that the balance was sadly on the wrong side. This fairly settles the question. I remember a correspondent writing to me that he intended to keep pigs as a matter of profit on a large scale, and wishing to know my opinion as to the best mode of proceeding. I told him that there would be no profit, but on the contrary, he would lose 10 per cent. on the purchased food besides shelter and attendance. I need hardly say he gave up the idea of pig-feeding as a profitable undertaking. If we farm we must have manure, and I am sure there is no way of obtaining it so cheaply and effectively as by feeding stock, and therefore I am a strong advocate for keeping a great deal, but we must look for our profit indirectly in the increased quantity of produce resulting from increased manure. Valuers only charge two-thirds of the market price of hay, &c., to the incoming tenant who is to consume it with stock, knowing full well that the stock will hardly pay him that amount.

Mr. John C. Morton in his able paper, "On Increasing our Supplies of Animal Food," says at page 359, vol. x., Royal Agricultural Society's Journal, "There was thus on the whole 4 years a profit on the oxen of 322*l.*, on a cost of 2916*l.*, or 11 per cent.; sheep 103*l.*, on a cost of 2476*l.*, or 4½ per cent.; pigs 253*l.*, on a cost of 751*l.*, or 33 per cent. Do not let me be mistaken, however, these sums are not net profit. It is merely the cost of purchase, of attendance, and of bought food (a very large item), with which these accounts are debited, the expense of cultivating the green crops on which the animals were fed has not been charged on them at all; had that been accounted for here a great apparent loss would have been exhibited instead of this apparent profit." He then goes to say—"This 678*l.* is all that we have got for 4000 tons of green food. This is about 3*s.* 4*d.* per ton, a result singularly similar to some other tolerably extensive and very trustworthy specimens of experience given hereafter."

It requires no conjuror to prove that we cannot grow green food and roots at 3*s.* 4*d.* per ton—10*s.* is a nearer estimate. Therefore, Mr. Morton himself proves indubitably that stock are necessary evils profitable only by their manure. Farmers of Grass lands must of course depend upon stock for their returns, and as an average derive a profit on their capital invested either in meat, butter, milk, or cheese; but Mr. Morton's paper tends to show the advantages of a mixed husbandry. Mr. Morton's account singularly confirms my statement (see my book, page 237) that no animals lose so little money as pigs.

Turn again to Mr. Lawes' "Experiments on Fattening Sheep," Society's Journal, vol. xii., page 440. He says, "From these balance tables it appears that the prices of the fat sheep and their wool covered within a few shillings their cost and that of their purchased food, &c. In both cases we have therefore the manure of this food and of the Turnips consumed to pay for those Turnips and for attendance on the animals."

In conclusion I say, keep plenty of stock; get it well bred, and feed it well, but consider its manure as very costly and worth taking every care of as a means of growing corn and seed crops for market, but do not delude yourself that you can get from your animals the same price for the food they consume as though you sold it to go off the farm. Having proved my case I hope there will be no mistake about the question for the future. *J. J. Mechi, Sept.* 22.

P.S. The most profitable mode of feeding cattle is decidedly that pursued by Mr. Horsfall, viz., by a large consumption of steamed straw with a moderate proportion of roots, cake, bran, and malt-combs. We fancy, even in Essex, that we can distinguish between an ill bred and a well bred animal. Oddly enough farmers consider pigs the least profitable of their stock when

they have to buy food for them, or give them their own corn at a well-known market price. In this opinion I quite differ from them. I hope that your correspondents will furnish ample facts on the feeding question.

## Home Correspondence.

*Implicit obedience in a Bailiff.*—A sensible farmer will not object to hear the opinions of his labourers; for myself I am convinced farming is never learnt, and I confess I have been often guided by the notions of my men, and occasionally saved from loss. The following incident occurred to the writer's knowledge. Mr. Brook, a wealthy merchant of London, had an estate in North Hants, and farmed it on his own account; on hiring a bailiff he promised good wages on one condition: "implicit obedience" to any and every order sent him; no reply, "would not this or that be better?" In the autumn of the year 18—, Mr. Brook visited his farm and saw two trips of pigs, one three months old, and the other five. In about two months after his return to London he sent orders to have two of the youngest trip in the yard killed for bacon, dried, and sent up to town. It seems the sow had had another fallow of pigs, now about six weeks old, which of course was the youngest trip in the yard. What was the man to do? No remonstrance, "implicit obedience;" which he followed out to the letter, and in due course sent up the four sides of bacon, which he might have packed in a good sized office envelope. The landlord henceforward relaxed a little, and gave the bailiff liberty in such a case "to drop him a line," convinced as all the world was before, that there is no rule without an exception. * * *

*The Rabbit Nuisance.*—I fully concur in all that has been written on this subject; but when gentlemen think it is impossible to extirpate rabbits they are certainly in error. A few years back I went to a situation where rabbits abounded so plentifully that I could at any time stand at my cottage door in the evening and count them by the hundred. The same autumn the proprietor (a non-resident one) gave the rabbits to his keeper, and a few weeks afterwards the same personage had six months' notice to quit. This set the man of guns, and traps, and nets and snares, so busily to work, that a war of extermination was waged with such vengeance, that in the following season a party of six or eight guns might be at the woods and traverse 4000 acres of land for a whole day without seeing a brace of the vermin. In this case the keeper for the purpose of annoyance hunted out the breeding burrows up to the following midsummer and destroyed both old and young, sometimes boasting that he had a stew or hash of 40 or 50 young rabbits for his dinner. Speaking of dinners reminds me of the droll story told by Charles Lamb of an eastern Prince who, first tasting roast pig from the ruins of a burnt house, used frequently to sacrifice a house for the sake of the delicacy; and I have no doubt there are hundreds of tenant farmers who would equally rejoice if their landlords would occasionally sacrifice a keeper for the purpose of exterminating the rabbits. Rabbits are a plague in the fullest sense of the word; and if put to my choice I would rather keep the same quantity of hares, as they, instead of foraging constantly upon my land, would occasionally take a bite with my neighbours. There is, however, a condition upon a large estate in this neighbourhood where the winged game is preserved for the landlord, rabbits and hares go to the tenants; and the steward of the property told me a short time back that the birds being liberally distributed among the tenants, the hares and rabbits sent in return to the landlord were more than sufficient for the supply of a large family. Here the keeper has his house and 5*l.* per month, finding his own ammunition and certificate. He has also the privilege of breeding and selling dogs. The tenants are the watchers, and thus for a mere trifle the establishment is well supplied with game, all cause for grumbling on the part of the tenant is removed, and all go on amicably and comfortably together. Gentlemen are frequently very remiss in the distribution of game; the game feeder ought to be a game eater; but for a gentleman to tax his tenants by feeding a large quantity of game for the purposes of sale, as is the case on some estates, is neither honest nor honourable. *Judex.*

*"Sigma's Dibble."*—I have just threshed out my Wheat, "Red Straw White," planted with this implement, and find it averages 48 bushels per acre throughout. I sold immediately 10 quarters for seed. I believe the average yield here will not be more than 32 bushels. I shall certainly adopt the same plan of planting in future, but I should use only 3 pecks of seed instead of 4, which I did last year. *Senex, Weald of Kent.*

*Cinders for Pigs.*—A long experience has taught me that pigs are very fond of coal ashes or cinders, and that you can hardly fat pigs properly on boarded floors without giving them a moderate supply daily or occasionally. In the absence of coal ashes burned clay or brick dust is a good substitute. If you do not supply ashes they will gnaw or eat the brick walls of their sheds. I leave to science to explain the cause of this want. It is notorious that coal dealers, where pigs have access to the coals, are generally successful pig feeders. Those who find that their pigs when shut up do not progress favourably will do well to try this plan; a neighbour of mine found that a score of fat pigs consume quite a basket of burned clay ashes daily; we know that there is abundance of alkali in ashes. I wish some of your practical correspondents would communicate their experience on this matter, and I also want them to state how many lb. of Barley meal it takes to make 1st. of pork, not dead weight. It will tend to elucidate the question of profit on feeding stock as raised in your leading article of the 20th August. *J. J. Mechi, Tiptree.*

## Farmers' Clubs.

RIPLEY, YORKSHIRE.—At the annual show of this society, Mr. I. D. Dent proposed "Success to the Ripley Agricultural Society," in doing which he congratulated the company on the fact that these meetings were for mutual interchange of thought, and the communication of practical knowledge as to agricultural operations. It was a most important and interesting inquiry to ascertain how far English farmers were supplying the wants of the English people as to food and clothing, and the figures he should quote as bearing on this question would surprise those who had not before directed their attention to the subject. In the articles of butter and cheese alone they were paying the foreigner, according to the returns of 1857, three millions per annum; for bacon, hams, lard, and pork, they were paying 1,800,000*l.*; and for eggs, poultry, and quills, 390,000*l.* Now, he thought it would be well if greater attention were paid to these productions on the small farms throughout that district, which were well adapted for the purpose. With these facts before them, and the knowledge of this large expenditure for foreign produce, it was surely worth their while to try whether their means of production as to butter, cheese, bacon, and eggs could not be increased. This, however, was not the only expenditure on account of agricultural imports, and he found on reference to the same return that they were paying annually for foreign manures 396,496*l.* in the form of bones, and 3,613,074*l.* for guano; and for cattle food and seeds nearly 2,000,000*l.*, making a total of more than 6,000,000*l.* for agricultural produce and manure imported into this country. There was no doubt that English farmers were paying as much at home for manures, cattle food, and seeds, so that at a moderate estimate they might put down 12 millions a year as the amount expended for the articles required to augment the productive power of the soil alone. This showed that farmers had manfully taken the position in which they were placed by the abolition of the corn laws, and were prepared to maintain their ground, but still there was scope for further improvement. He had recently had an opportunity of examining the farms in the East Riding of Yorkshire and in Lincolnshire, and he must say that in this part of the country they were much behind. He congratulated them on the mutual confidence which existed between the landlord and tenant throughout Yorkshire and which led to results equally as satisfactory as the Midlothian system of leasing, and said that when he saw tenant farmers introducing the steam plough, the reaper, the steam threshing machine, and the various mechanical means for facilitating their operations, he felt that the spirit there manifested was as enterprising as was to be found in their manufacturing districts.

## Farm Memoranda.

AYLESBY, NEAR GREAT GRIMSBY.—Mr. Wm. Torr occupies several farms, inall covering an area of 2100 acres, and supporting, among other objects of interest, a most extensive and valuable herd of Shorthorns, and a thrifty flock of Leicester sheep.

The land he occupies varies considerably in character, but is generally rather strong, underlaid by clay or chalk, and capable of yielding quite remarkable crops under good management. The system followed is, generally speaking, the four-course shift, although Mr. T. does not bind himself to it, and varies it by occasionally putting some fields in Wheat that would naturally come under a Barley crop, thus increasing the area covered by the former, without ever taking two white crops in succession.

Upon his land he finds that to manure for the Wheat causes frequently too much luxuriance of growth, and he consequently prefers to manure mainly or entirely for the root crop. Not only is the immense bulk of straw which he converts into fertilising wealth thus employed, but he also spends liberally for oilcake, guano, and superphosphates—buying to a great extent, in lieu of the two latter, a kind of "blood manure," which seems to be now in quite general esteem—and his bill, he told me, for the past year for these materials was near 2000*l.*

The wool he clipped this spring, however, would have sufficed to cover no immaterial proportion of this large sum, for he sheared no less than 2000 sheep. The extent of business incurred in the management of such a farm may also be estimated from the disposition of the land and the crops it returns. There are about 500 acres in permanent Grass, and the other 1600 are divided into Wheat 500, Barley 250, Oats 100, roots 415, and seeds 335. Last year the Wheat crop was a very good one, and averaged throughout this large surface nearly 40 bushels per acre; Mr. T. estimates his average, bad years with good, not far below this figure —perhaps at 36 or 38, while he considers the average of all Lincolnshire as varying from 30 to 32. Two adjoining fields of his best Wheat aggregating 67 acres averaged all through full 48 bushels, and of the Barley there were 28 acres which produced 183 quarters, that is, six and a-half (52 bushels) to each.

Mr. T. annually shears about the number mentioned above, but they do not comprise the flock at this time, which includes about 1000 ewes, the same number each of yearlings and and perhaps 100 tups. He is to have his Show and Letting on the 7th of September, probably reduce his stock before winter above usual numbers. Having so much land in Grass, he is enabled to graze through the summer almost any desired extent. He generally disposes about 400 fat sheep per year, and the rest of the breeds are sold I presume to other breeders who them, or some perhaps to other farmers for feeding purposes. In the summer he also grazes bullocks, but does not feed beasts to any extent winter, because generally his Short-horn herd is enough to consume, with the sheep, all the straw he has to give them.

The mode of applying the manure to the Turnips to open a furrow where each row is to grow; in the "muck" or farm-yard manure is thrown, and, from 1½ to 2 cwt. to the acre of guano; after a of earth has been turned over this with the plough seed is drilled—the machine dropping at the same with it from 4 to 8 bushels of ground bones per as the case is thought to require, mixed to about 24 bushels per acre with sod ashes. The ashes or charred earth play a most important Lincolnshire agriculture, and appear to be in universal use upon the root crop, whatever other tions it may or may not receive. Between 50 tons of guano were used last year, at a cost of 14*l.* per ton; and 330 quarters (8 bushels each) ground, I was given to understand, to what is called half-inch size, and costing about 1*l.* per quarter.

The cost of labour in the country generally is 2*s.* sterling per day; the men who care for the are taken under a different way from other labourers are generally what is called "confined" hands; they have a cottage furnished, and receive a part of their wages in kind,—altogether, at any getting a considerably higher sum than others, because their services are necessary, more or less seven days in the week, and partly because they a position of more responsibility. One such engaged to every four horses, and if my memory me, there are employed upon the place 40 or 50 it may be rather above the latter figure even.

Mr. T.'s land, with probably the sole exception of the "Riby farm," is situated similarly to, if not actually included in what is called the "fen district"—a district not requiring here the machinery of wind-mills or steam to effect its drainage, as it does on some lying lowest and nearest the sea; but much the for a judicious under-ground dressing of pipe Indeed, my host looked upon the introduction of drainage as one of the greatest agricultural improvements the last few years have seen; while in times of draining, 2½ feet was considered ample, 4 is now reached wherever circumstances admit, and T. has on one of his farms about 300 acres, all laid at this depth, at a cost of about 1500*l.* sterling It is such fen lands, when well drained and properly managed, that will return, in a fair season, the largest Wheat crops compatible with standing straw—they must be allowed to get into such a condition that the straw will never stand, and, of course, the great end is to that medium which runs between too great luxuriance of growth and too little fertilising material to admit the fullest and thickest heads of grain. Two cwt. of salt per acre may be applied to strengthen the straw, and if thought best, 1½ cwt. of guano —or if the land will bear it, 2 cwt. of guano and proportionably larger amount of salt—either put in the time of seeding in the autumn, or sometimes broadcast in spring.

Mr. Torr took the prize at Warwick, for a farm gate "not to cost with the irons above 24 shillings sterling" —the prize 10*l.* Its dimensions, as made by him, as follow:—outside length at top, 8 feet 9 inches; at bottom, 8 feet 11 inches; heads, 4 feet 8 inches; that at the hinge end 6 by 4 inches, and the other by 2½ inches; six bars, a fraction over an inch and 3 inches wide, except the highest one, which is wide, and then topped with a cap bar 3 inches in bevelled slightly on the upper side to produce a finish. There are two uprights of the same stuff size as the bars, and a support, or sag bar, from the lower corner at the heel towards the corner opposite, 1½ by 3 inches in size, and 8 feet inches long. In making the gate, the top and bottom bars are parallel, and at right angles to the head, but the bottom bar being 1½ inch longer, the other head which supports the gate is course thrown a little out of an exact perpendicular and in hanging the gate, which is done on the and not on the side of the heel post, the butt of lower hinge is put enough further back than that of upper one to let the gate stand horizontally when shut of course the end rises when opened, and this just enough to make the gate close itself with certainty. The bars are all of them inserted in mortices through the heads—the mortice being of the full size of the bar pins here, and a wrought nail where each upright intersects a bar, make the whole as firm as possible. Although rather a heavier gate than we should require want, it could be made lighter on the same principle and certainly seems to be one of the best for use I have met with, although my description may not be perfect enough to carry the same idea to the mind of

…der. Bolts, I think, are employed to fasten the sag … the horizontal ones. This gate has been some … in use at Aylesby Manor, and often imitated by … who have seen it there; and, as it has now taken … for which there was considerable competition, … "make" must at least "look right" to practical Englishmen.

Mr. Torr's predecessor at Aylesby Manor was Philip …worth, who established the flock of Leicestershire …p, having obtained some Dishley bred ewes it is …d; and, about 1810 or 1812, such was the fame of …s highly improved breed—having given the extra…ant price of 600 gs. for the use of a single ram—an …n figure, indeed, but exceeded by the combination …four of his neighbours to make up a thousand guineas …the hire of another ram "of the same sort." It is …about 70 years since the flock was commenced, and …breeders have successfully manifested a similar …termination not to be outdone in securing the best, …d as constantly exercised their own judgment in pre…nting its deterioration. The farm came into Mr. Torr's …nds in 1848. This year at Holme Pierrepont he was …hirer of the 70 guinea ram, the only one which …nt higher having been taken to Ireland. As we stroll …m paddock to paddock where the rams are grazing, …e shall find that they are generally a little larger in …me than the Sunday flock, as though the air of …Lincolnshire, or perhaps a touch in the foundation …d three or four score years ago, had brought them …little nearer to the style of sheep indigenous to the …untry. The sheep of Lincolnshire as they now exist …e doubtless almost universally tinged with Leicester …od, and this in a greater degree I observed on the …r than on the high lands—the latter preferring to …here more to the old type, and inclined to think it …e only one at all suited to their wants.

As to Short-horns, Mr. Torr is entitled to precedence …extent of herd, while he has not many rivals in its …racter. He numbers at present 120 females, and 26 …ls, young and old. He is disposed to swear by Mr. …oth in all Shorthorn matters, and thinks the cow "Bracelet," and bull "Duke of Northumberland," …ver surpassed in all the pedigreed members of this …w widely-spread breed, There is a noticeable pro…tion of handsome roans in this herd, and not a few …them fully able to back their colour with all …irable style and substance. It is fifteen years since …T. began, in 1844, to hire exclusively from Warlaby; …ing for the services of the bulls from 60 up to 200 …ineas each, and including among them "Leonard," …Baron Warlaby," "Vanguard," and other good stock…tters. The last was in use for seven seasons, and …or 50 out of the 180 calves he bred still bear witness …their parentage. A half-dozen of noble bovine …trons are left among the best fruits of the Warlaby …od, their sire having been the "Baron" of that ilk. …deed, of all the cows and heifers there are but eleven …ich do not trace back their origin to Booth bulls, and …t one of them not included in the trio mentioned …ove. "Hopewell," by name, is the father of a tribe …twenty or thirty daughters, and several particularly …e young sons. Take, as an example of the latter, …breeder's especial pride, "Booth Royal" and …lden Hope," both 14 months old, and "Gay Hope," …younger, his blood particularly precious to the …iated in geneological mysteries, for in it are mingled …s of a whole quartet of Boothian bulls. *Albany …ntry Gentleman.*

## Notices to Correspondents.

Leicester Rams: *M S.* At Mr. Brydon's Cheviot sale at Beat…ock the total proceeds were as follow:—

| | | | |
|---|---|---|---|
| …five-year-old rams .. .. .. | £117 | 0s. | 0d. |
| 14 four-year-old do. .. .. .. | 131 | 5 | 0 |
| …three-year-old do. .. .. .. | 559 | 0 | 0 |
| 55 two-year-old do. .. .. .. | 435 | 15 | 0 |
| 28 one-year-old do. .. .. .. | 99 | 15 | 0 |
| 35 top lambs .. .. .. .. | 49 | 18 | 6 |
| Total .. .. .. | £1392 | 13 | 6 |

…e average of 170 rams is 7*l.* 16*s.* 9½*d.*; in 1857 the average …170 was 10*l.* 2*s.* 9*d.*; and in 1855, 7*l.* 17*s.*

Clamp for Roots: *Hardy & Son.* We do not see in what way …our clamp, requiring some degree of skill to erect and more …pense to cover, is better than simply a large circular heap …roots left piled on the ground for a month before being …ally covered over with straw and earth.

Cow Keeping on a Small Scale: *Paterfamilias* has "about …stone of hay, straw for the asking, half an acre of kitchen …rden, with some good Carrots, and a few good Cabbages …ing and to cut (a quarter sown with Rye and Vetches for …ring, as your *Chronicle* advised a fortnight ago), bran and …ake for purchasing, a straw cutting machine, and a …ler."—He has ample provision for a cow. She must be …d well while giving milk, and must depend on the straw …handful of hay daily when dry. We do not know when …e will calve again, and can hardly advise in detail without …owledge. If the calf does not come till the Rye and …ones are ready then the garden stuff may all be used in …autumn and January, and towards the end of February …ow may run dry; about 20 stones of the hay may be used …the 70 or 80 days during which she will give no milk; with …and straw *ad lib.* and water she will do very well while …Till the end of February, *i e*, about 140 days, 8 or 9 lbs. …ay may be given daily, and if the supply of green food is …as much as 3 or 4 tons altogether, as probably it is, she can …40 or 50 lbs. of green food daily, using the most perish…able sort first. In addition to this if 20 or 30 lbs. of clean …w be cut up daily into chaff, and (buying 3 cwt. of oil…, *i.e*, about 140 cakes) one cake be boiled daily in as …much saltish water as this 30 lbs. of straw chaff will take up, …e will be a capital supply. Of course towards the end of …milking, the richer food must be diminished gradually, …she must be put gradually on the hay and straw, which …as well continue to be cut into chaff. When she calves …e oilcake and straw should be given in addition to her …n food, so as to let changes of food come gradually.


## NEW PINKS.

CHARLES TURNER (Maclean).—Dark purple laceing, large and fine; 5*s.* per pair.
ELEANOR (Turner).—Rose, fine; 5*s.* per pair.
EDITH (Maclean).—Reddish purple; 3*s.* 6*d.* per pair.
LITTLE GEM (Maclean)—Red; 3*s.* 6*d.* per pair.
MILLIE (Maclean).—Dark, fine; 5*s.* per pair.
MISS GLOVER (Turner).—Purple; 3*s.* 6*d.* per pair.

Charles Turner can strongly recommend the above as first-class Pinks, and great acquisitions for exhibition purposes.

C. Turner's general stock of Pinks are very healthy and strong, and are now ready for sending out at 9*s.*, 12*s.*, and 18*s.* per dozen pairs.—The Royal Nurseries, Slough.

## FLOWER GARDENS AND GARDENERS.

MR. GLENNY will present every reader (who will send him a directed envelope to Dungannon House, Fulham, S W.), with a packet of Seed of the true DELPHINIUM FORMOSUM, the most handsome of all hardy perennials; intense blue. BALSAMS, mixed, acknowledged to be the finest ever offered, 50 seeds, 13 stamps, and any single colour; 12 seeds, 7 stamps; a new tricolor, 12 seeds, 13 stamps.

Glenny's GARDENERS' GAZETTE for September, most important to Gardeners of all classes, 3*d*., or by post 4*d*.

HYBRID SWEET WILLIAMS.—Seedling Plants from the magnificent collection exhibited by James Ewen this last summer, the admiration and astonishment of private and eminent professional growers, colours varying from most delicate white, pink, and purple to the darkest crimson and black, beautifully laced in each colour, and spotted; clear cut edge of dwarf habit with dark broad foliage (the great acquisitions to Dianthus, and qualities possessed by these offered in perfection), 2*s.* 6*d.* per dozen. A limited quantity of seed, 1*s.* per packet (sown now for bloom next season), free by post on receipt of stamps or Post-office Order, payable to James Ewen, Springfield Watercress Ground, Wandsworth Road, London, S. The Trade supplied.

## TO THE TRADE.—

| | Per doz. | *s.* | *d.* |
|---|---|---|---|
| Begonia Miranda .. | 12 | 0 | |
| ,, Reichenamii .. | 12 | 0 | |
| ,, splendida argentea .. .. .. | 12 | 0 | |
| Begonia Madame Wagner .. .. .. | 12 | 0 | |
| Begonia Rex, strong, per 100 .. .. .. | 50 | 0 | |
| Begonia umbelica .. | 6 | 0 | |
| ,, riciniifolia maculata .. .. .. | 6 | 0 | |
| Begonia grandis, each .. | 5 | 0 | |
| ,, Virginia, each .. | 5 | 0 | |
| ,, Isis, each .. | 5 | 0 | |
| ,, nebulosa, each | 5 | 0 | |
| Ligustrum ovalifolium, per 100 .. .. .. | 25 | 0 | |
| Ligustrum japonicum, per 100 .. .. .. | 75 | 0 | |
| Weigela rosea, p. 100 | 16 | 0 | |
| ,, amabilis, p. 100 | 16 | 0 | |
| Ash, weeping, and Elm | 18 | 0 | |

| | Per doz. | *s.* | *d.* |
|---|---|---|---|
| Pears, standards, p. 100 | 75 | 0 | |
| Plums, ditto ditto | 75 | 0 | |
| Graptophyllum pictum | 9 | 0 | |
| Gesneria cinnabarina, p. 100, 40*s.* per doz. .. | 6 | 0 | |
| Pittosporum variegatum | 12 | 0 | |
| Croton discolor .. .. | 12 | 0 | |
| Cissus discolor .. .. | 6 | 0 | |
| Torenia pulchella .. | 6 | 0 | |
| New Bouvardias .. | 6 | 0 | |
| Vines in pots, leading kinds.. .. 12*s.* to | 30 | 0 | |
| Lobelia fulgens, per 100 | 16 | 0 | |
| Arbor-vitæ, China, 9 to 18 inches, per 100 .. | 25 | 0 | |
| Cedar, red, 9 to 12 ins. | 25 | 0 | |
| Laurustinus .. 16*s.* to | 40 | 0 | |
| Laurel, common, per 1000 .. .. 16*s.* to | 120 | 0 | |
| Viburnum, strong, p. 100 | 25 | 0 | |
| Currants, red Dutch, superior kind, p. 1000 | 60 | 0 | |
| Apples, standards, p 100 | 50 | 0 | |

MARTIN and SONS, Cottingham and Hull.

## "WONDERFUL" STRAWBERRY, raised by

JOHN JEYES, Nurseryman, Northampton.
Price 10*s.* 6*d.* per 100.

The above Strawberry is a week later than British Queen, and perfectly hardy. The fruit is produced in such abundance that it is necessary to place a stick near the centre of each plant, and from it support the long clusters of fruit from covering the surrounding ground. The plant is naturally a small grower. The following testimonials from three of the most eminent cultivators of fruit are respectfully referred to:—

"Althorp Park, October 6, 1857.

"Sir,—Your Seedling Strawberry is by far the greatest bearer I ever saw. I cannot speak too highly of it for colour, size, flavour, and productiveness. I was delighted with the wonderful crops of ripe fruit I saw in your nursery. Send me 100 plants as early as you can.—Your obedient servant,

"Daniel Judd, Gr. to the Right Hon. Earl Spencer."

"Castle Ashby, October 6, 1857.

"Sir,—I beg to acknowledge the receipt of 100 plants of your 'Wonderful' Strawberry. I am very pleased that you have been able to increase it so as to send it out this season, as I think it a very extraordinary fruit, so good in flavour, fine colour, and wonderfully productive.—I am, Sir, yours respectfully,

"Wm. Hardie,
"Gardener to the Most Noble the Marquis of Northampton."

"Moulton Grange, July 31.

"Sir,—In justice to you as the raiser I must affirm that your Strawberry is the best extant. Its productiveness is, as its name implies, really wonderful, whilst its flavour partakes of a fine-flavoured sugary Pine Apple, heightened with that of the old British Queen Strawberry. This variety will supersede all others, and become our leading and main cropper when its high merits become better known, which time and its own qualities will assuredly accomplish. "J. Ransley Tanton,
"Gardener to H. O. Nethercote, Esq., F.H.S."

"Blisworth Gardens, Northampton, Sept. 28, 1859.

"I have grown your 'Wonderful' Strawberry for two years, and for flavour, size, and colour it is quite equal to anything out, and for productiveness it far surpasses anything I have ever grown or seen. This last season my plants were very fine, and I repeatedly gathered one gallon from a single plant, and I can truly say I never was so proud of anything in my life as with my crop of your Strawberries.—I am, dear Sir, yours truly, "William Bawcutt."

## NEW STRAWBERRIES.

ROBERTSON'S WIZARD of the NORTH and NONSUCH.

DANIEL ROBERTSON, Linside Nursery, Paisley, is now sending out the above-named superb varieties, at 63*s.* per 100 plants, or 9*s.* per dozen. The Wizard of the North is a magnificent large variety, of superior quality, of very fine colour and shape, and an immense bearer. Succeeds Keens' Seedling and continues long in production. It is exceedingly hardy both in growth and in blossom. It was named in 1857, when a Certificate of Merit was awarded to it by the Paisley Horticultural Society; and a drawing made of the plant then exhibited is in the hands of the lithographer, copies of which when ready will be sent to the principal Seed shops in the country.

Nonsuch is an early Strawberry, of fine size and colour, a great bearer, juicy and rich in flavour, swelling off its later berries well.

These fine varieties were raised by Mr. John Robertson, at Linside, and their high character has been most satisfactorily established by several years' cultivation. They are confidently recommended as a valuable acquisition to Strawberry growers, whether they cultivate on a large or small scale. Strong plants are now ready and orders will be promptly executed.

Testimonials in favour of these fine Strawberries from the most eminent cultivators in the west of Scotland, who have seen them in bearing here, will be supplied on application.

Having a large stock of the Wizard of the North, Nurserymen and Market Gardeners ordering in quantity will be dealt with on favourable terms. A remittance or reference required.—Daniel Robertson, Linside Nursery, Paisley, N.B.

## SPLENDID NEW ORNAMENTAL FOLIAGED PLANT—CONATANTHUS, OR CALADIUM CUPREUS.

HUGH LOW and CO. have now in their Nursery a magnificent specimen of the above-named new plant, which was imported by them from Borneo. It was exhibited at the July Show of the Royal Botanic Society, where a Certificate was awarded to it, but the plant was then newly imported, and was consequently small. It has now developed itself, and proves to be the finest ornamental foliaged plant introduced up to the present time.

The Floral Committee of the Horticultural Society of London in awarding it a First-class Certificate appended to it the following remark:—"One of the most strikingly beautiful of Ornamental Foliaged Plants." No description can convey an adequate conception of its surpassing beauty, and therefore H. L. & Co. invite an inspection. They will have pleasure in showing it to any gentleman who may favour them with a visit.—Clapton Nursery, London, N.E.

CONIFERÆ.—All transplanted this last spring:—

Abies Deodara
,, Menziesii
,, Nordmanniana
Cupressus Lawsonii
Cephalotaxus Fortunii, male and female
Juniperus sphærica
Libocedrus chilensis
Pinus austriaca
Pinus Benthamiana
,, Cembra
,, insignis
,, Sabiniana, &c.
Taxus fastigiata
Thuja gigantea
Thujopsis borealis
Wellingtonia gigantea,

and nearly every other hardy Conifer worthy of cultivation. Many of the above are fine specimens from 1 to 10 feet high.

These are a few things selected from the general stock, which Charles Noble flatters himself will bear comparison with any in the kingdom. Gentlemen wishing to inspect the above will find the Nursery only a few minutes' walk from the Sunningdale Station, South-Western Railway, which is one hour's ride from London.—Charles Noble, Bagshot, Surrey.

## CAMELLIAS AND INDIAN AZALEAS, with flower-buds, AND OTHER USEFUL PLANTS.

A. VAN GEERT, Nurseryman, Ghent, Belgium, begs to offer the following:—

Fine CAMELLIAS, with flower-buds of the best and showiest varieties, 5*l.* to 6*l.* per 100.
Fine INDIAN AZALEAS, with flower-buds, of the choicest varieties, 4*l.* to 6*l.* per 100.
New French and Belgian Herbaceous PÆONIES, 25 vars., for 1*l.*
LILIUM LANCIFOLIUM RUBRUM, strong bulbs, 4*l.* per 100.
,, ,, ALBUM ,, 3*l.* per 100.
,, ,, PUNCTATUM, 3*s.* 6*d.* each.
,, JAPONICUM (true), 5*s.*
,, CORDIFOLIUM, 5*s.*
ASCLEPIAS TUBEROSA, flowering roots, 1*l.* 1*s.* per 100.
GLADIOLUS GANDAVENSIS, strong roots, 10*s.* 6*d.* per 100.
,, ,, a collection of 25 new distinct varieties, for 1*l.* 5*s.*
Ghent and English Hardy RHODODENDRONS, fine young plants grafted, 6*l.* per 100.
GHENT AZALEAS, with flower-buds, 4*l.* to 5*l.* per 100.
The new MEXICAN PINES, 50 varieties, 5*l.*
PINUS VEITCHI, 5*s.* each.
,, DON PEDRO, 5*s.* each.
TILLIA EUROPEA foliis variegatis (new), 15*s.* each.

## FRUIT TREES.

THOMAS RIVERS begs to submit to the public the following synopsis of his FRUIT TREE CULTURE, which he flatters himself will be found on inspection most complete and extensive.

The DESCRIPTIVE CATALOGUE of FRUITS, which is so arranged as to point out the most select varieties to those commencing fruit culture, is now ready for delivery. It contains 32 pages of original and useful matter, and will be sent free on receipt of six stamps; to customers gratis on application. Carriage of all packages paid to London.

APPLES on CRAB STOCKS.—Standards for orchards, dwarfs, dwarfs horizontally trained for espaliers, and pyramids in a bearing state.

APPLES on PARADISE STOCKS, for GARDENS.—Pyramids, dwarf bushes, dwarfs horizontally trained for espaliers, and dwarf bushes in pots.

APRICOTS.—Standards, standards trained, half standards trained, half standards in pots, dwarfs, dwarf bushes for potting, dwarfs trained for walls, and dwarfs in a bearing state in pots, for orchard houses; pyramids in pots, bearing trees.

CHERRIES on BLACK CHERRY STOCKS.—Standards, standards trained, dwarfs, dwarfs trained, strong pyramids in a bearing state, and dwarfs in pots, bearing trees.

CHERRIES on the MAHALEB STOCK.—Dwarf bushes for potting and culture as bushes, dwarfs trained for walls, dwarfs and pyramids in pots, bearing trees, and pyramids in a bearing state.

CURRANTS.—Dwarf bushes, including some new and fine varieties.

FIGS in pots in a bearing state, and trained trees for walls.

GOOSEBERRIES.—Small, high-flavoured, old sorts, and all the large new Lancashire varieties.

GRAPES for VINERIES, from Eyes, in Pots.—Strong plants, 2 and 3 years old, 8 to 9 feet high; ditto in pots, dwarf bushes for orchard houses; ditto hardy sorts from the open ground for walls.

MEDLARS.—Standards, pyramids, and dwarfs.

MULBERRIES.—Standards and dwarfs trained for walls.

NECTARINES and PEACHES.—Standards, standard trained, half standards trained, half standards in pots, dwarfs, dwarfs trained, dwarfs trained from walls, and dwarfs in a fruiting state in pots for orchard houses or for forcing; pyramidals in pots, bearing trees.

NUTS and FILBERTS.—Dwarf bushes, and standards 4 feet high, grafted on the Hazel-nut.

PEARS on PEAR STOCKS.—Standards, standards trained, dwarfs, dwarfs horizontally trained for espaliers and walls, pyramids six years old (twice or thrice removed), in a bearing state; these are well adapted for gravelly and chalky soils unfavourable to pyramids on the Quince stock.

PEARS on QUINCE STOCKS.—Standards trained for walls, pyramids, pyramids root-pruned in a bearing state, dwarf bushes in a bearing state for potting or for culture as bushes, dwarf bushes and pyramids in pots in a bearing state for orchard-houses, dwarfs horizontally trained, and dwarfs upright trained, bearing trees.

PLUMS.—Standards, standards trained, dwarfs, dwarf bushes for potting or for garden culture, dwarfs trained for espaliers and walls, dwarf bushes, bearing trees in pots for orchard-houses, and pyramidal trees.

QUINCES.—Standards of the common Quince, and pyramids and standards of the large Portugal Quince.

RASPBERRIES.—Canes of the finest varieties.

STRAWBERRIES.—Runners of the finest varieties.

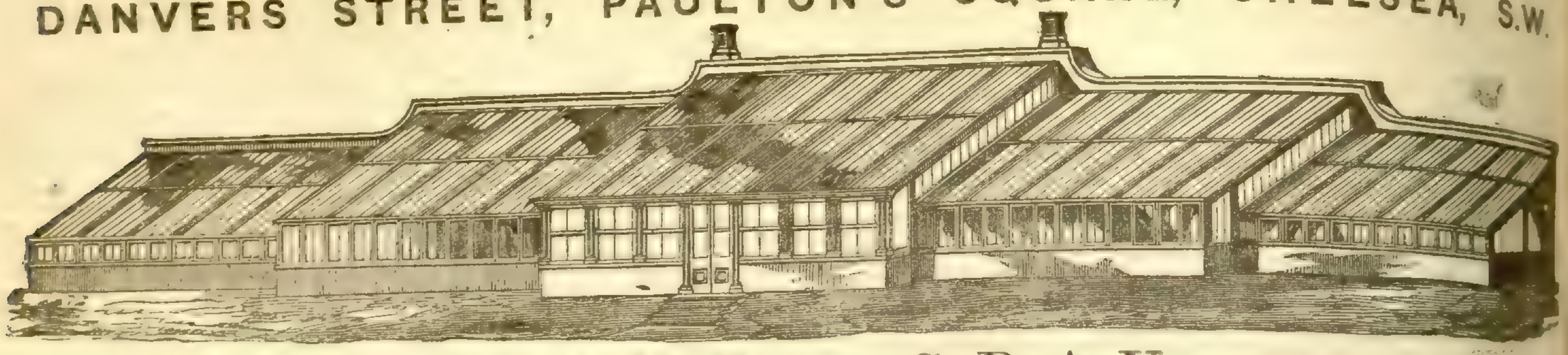
WALNUTS.—Dwarfs for gardens of the Dwarf Prolific, other sorts as standards for orchards.

Nurseries, Sawbridgeworth, Herts.—October 1.

REIGATE SILVER SAND.—Best quality for Florists, 16*s.* per ton; less quantities, 1*s.* 6*d.* per bushel, delivered to any London wharf or railway. PEAT, LOAM, and LEAF MOULD, in large or small quantities. Sacks for Sand, 1*s.* 6*d.* each, or on hire 6*d.* each (five hold a ton).

John Kennard, Purveyor to her Majesty, Swan Place, Old Kent Road, London, S.E.

# HORTICULTURAL WORKS,
## DANVERS STREET, PAULTON'S SQUARE, CHELSEA, S.W.



# JAMES GRAY

RESPECTFULLY BEGS TO INFORM THE NOBILITY, GENTRY, NURSERYMEN, GARDENERS, AND OTHERS, THAT HE CONTINUES TO CARRY ON THE BUSINESS IN ALL ITS BRANCHES AT THE ABOVE OLD ESTABLISHED PREMISES.

## CONSERVATORIES, GREENHOUSES, FORCING HOUSES, VINERIES, PITS, &c.,
OF EVERY DESCRIPTION, ERECTED ON THE MOST APPROVED PRINCIPLES.

## HEATING BY HOT WATER.

J. G. having specially devoted his attention for many years to this part of the business, is now fully prepared to Heat every description of public and private buildings, viz.—Mansions, Warehouses, &c., as well as all structures connected with Horticulture, in the most efficient manner. His system is the most simple that can be adopted—which he has found by long experience to be the best—can be constructed at less cost, and is more easily managed than those of a complicated nature which have attracted the notice of the public.

J. G. begs to call attention to his CAST-IRON CORRUGATED ARCH BOILER, which from its simplicity of construction has not the liability to fracture to which those of complex design are always subject. They have been extensively used for many years, and have given the greatest satisfaction.

All business is conducted at this establishment on the principle of lowest remunerative profits consistent with best materials and workmanship.

## PLANS AND ESTIMATES FURNISHED ON THE SHORTEST NOTICE.

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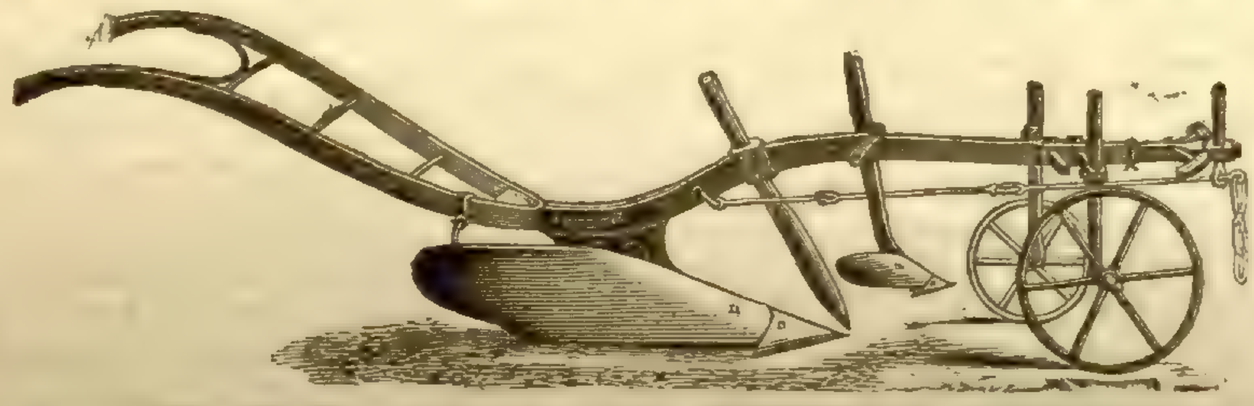
### THE PLOUGH TRIALS AT WARWICK.

# HOWARD'S CHAMPION PLOUGH



**Gained the FIRST PRIZE as the Best Plough for General Purposes at Warwick,**

BEING the CHIEF PRIZE for PLOUGHS, awarded by the Royal Agricultural Society of England, at this Meeting. The importance of this Prize will be gathered from the fact that the GENERAL PURPOSE PLOUGHS are the only ones tried on BOTH LIGHT AND HEAVY LAND, and as HOWARD'S CHAMPION PLOUGH proved itself to be the best on both soils, the **FIRST PRIZE**, of the **HIGHEST AMOUNT** given by the Society for any kind of Plough, was awarded to J. & F. HOWARD.

PRIZES awarded to J. & F. HOWARD, by the Royal Agricultural Society of England, at the WARWICK MEETING, 1859, being not only the LARGEST NUMBER of PRIZES, but the LARGEST NUMBER of FIRST PRIZES awarded to any Exhibitor.

THE FIRST PRIZE FOR THE BEST PLOUGH FOR GENERAL PURPOSES, ALSO A PRIZE FOR THE BEST PLOUGH FOR LIGHT LAND, AND A PRIZE FOR THE BEST PLOUGH FOR HEAVY LAND; THE FIRST PRIZE FOR THE BEST LIGHT HARROWS, THE SECOND PRIZE ALSO FOR THE BEST LIGHT HARROWS, AND THE FIRST PRIZE FOR THE BEST HEAVY HARROWS.

**Every one of HOWARD'S Implements, tried at Warwick, gained a Prize.**

CATALOGUES, with full particulars, sent post free on application to

## J. & F. HOWARD, BRITANNIA IRON WORKS, BEDFORD.

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C. STEPHENSON, late STEPHENSON AND SONS, 61, Gracechurch St., London, E.C., Manufacturer of Iron Hurdles, Fencing, &c., Improved Iron and Copper Conical Boilers and Apparatus for Warming Buildings of every description by Hot Water.

Prices and Estimates furnished upon application.

---

T. G. MESSENGER, HORTICULTURAL BUILDER and PATENT HOT-WATER APPARATUS and GARDEN ENGINE MANUFACTURER, Loughborough.

T. G. MESSENGER'S Divisionless Horticultural Erections, ventilated with screw mechanism by which the top or front lights are opened the entire length of the house momentarily, do not fail to give complete satisfaction (as numerous Testimonials can show), for the following reasons:—They are much lighter in appearance, more durable, much stronger, and cheaper than any other can possibly be.

Three years' trial has proved his PATENT BOILER to be superior to any hitherto invented; a great number of houses can be heated at once with this Boiler, with the facility of heating any separately.

Illustrated descriptions and prices of his Patent and greatly approved GARDEN ENGINES sent free upon application; also Plans, Estimates, and Testimonials for Building or Heating. See *Gardeners' Chronicle*, May 21.

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### HORTICULTURAL BUILDINGS AND HEATING BY HOT WATER.

JOHN R. PEILL, 17, New Park St., Southwark, S.E., Manufacturer of every description of Buildings for Horticultural purposes, and Inventor of the Improved Conical Boiler for heating the same, is prepared to undertake works of any magnitude, and refers among others to the celebrated range of FORCING HOUSES at HER MAJESTY'S GARDENS, FROGMORE, and at SIR ROBERT PEEL'S, DRAYTON MANOR, constructed under the superintendence of his Manager, Mr. JOHN JONES; and also to his BOILERS fixed at the CRYSTAL PALACE, the ROYAL BOTANIC GARDENS, REGENT'S PARK, and KEW, and at several hundreds of the Nobility's seats, Public Establishments, and Manufactories in London and the provinces. J. R. P. also manufactures every description of Iron Roofs, Iron Houses, and Iron Fencing, plain and ornamental. Strong Iron Hurdles for Sheep (6 ft. long, 3 ft. high, with 5 bars), 4*s.* 3*d.* each; ditto for cattle, 4*s.* 9*d.* each. Prices and other particulars forwarded on receipt of one postage stamp.

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### GREENHOUSES.

HENRY FREEMAN, HOTHOUSE BUILDER and HOT-WATER APPARATUS MANUFACTURER, Triangle, Hackney, N.E. Established 20 years. Good substantially built GREENHOUSES, fixed in any part of the kingdom, for cash, 42 feet long by 13 feet, 90*l.*; 21 feet by 13 feet, 50*l.*; 12½ feet by 10 feet, 30*l.* A first-rate CONSERVATORY, 30 feet by 16 feet, 130*l.* A large assortment kept. Estimates for Heating, or any branch in Wood or Iron or Park Fencing.

---

HOT-WATER PIPES at wholesale prices, with Elbows, Syphons, Tee Pipes, and every other connection. Wrought and cast iron Boilers, Saddle, Conical, Cylinder, and Elliptic, from 24*s.* each. Boilers and Iron Stands to use without brickwork. Valves from 12*s.* each. Coil Boxes, Furnace Doors, Furnace Bars, Supply Cisterns, and Builders' Castings of every description in stock, at Mr. LYNCH WHITE'S Iron Wharf, Upper Ground Street, Blackfriars Bridge, London, S.

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STEELL'S PATENT WROUGHT-IRON DOUBLE-BACKED DOUBLE BOILER, for HEATING CHURCHES, HORTICULTURAL BUILDINGS, WAREHOUSES, &c., is the most powerful, most economical, and quickest actioned Boiler in existence, and may now be seen ready for use at their Nurseries, Richmond, Surrey, S.W., the only place where they can be procured.

TESTIMONIAL.

"Rectory, Barnes, Sept 10, 1859.

"Gentlemen,—I can readily bear my testimony to the excellence of your Boiler; indeed to that of the whole heating apparatus which you have supplied for our church. It combines great heating power with economy of fuel and facility of management.—I am, Gentlemen, yours faithfully,

"Messrs. G. & W. Steell." "R. E. COPLESTON."

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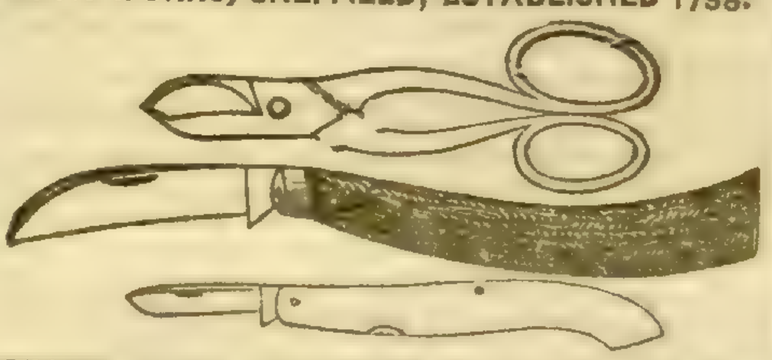
PAXTON WORKS, SHEFFIELD, ESTABLISHED 1738.



SAYNOR AND COOKE'S warranted PRIZE PRUNING and BUDDING KNIVES, SCISSORS, &c.—Sold by all respectable Nurserymen and Seed Merchants in the three Kingdoms.

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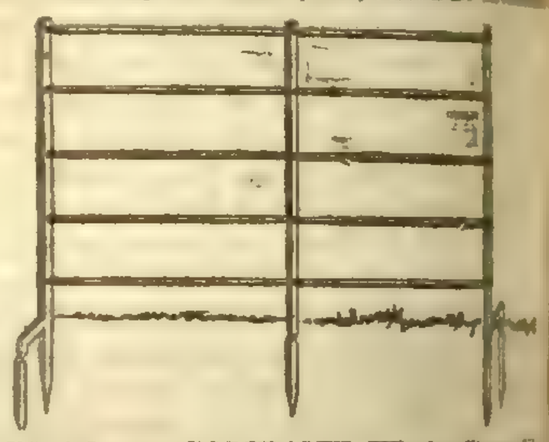
IRON HURDLES, FENCING, &c., MADE BY MACHINERY.



COTTAM AND COMPANY, Winsley Street, W., have invented machinery for making Hurdles, &c., in which the rails instead of being pointed by hand in the old fashion, are nipped down by the machine, leaving a shoulder which more effectually tightens the standards when riveted. They are made of superior iron only, and will compete in price with those made by hand from cinder or common iron, which frequently break. Iron Fencing, Gates, and Iron Work of all kinds, both Plain and Ornamental, Conservatories, Horticultural Apparatus and Garden Implements.

Illustrated CATALOGUES free on application to COTTAM AND COMPANY, Ironfounders, 2, Winsley Street, Oxford Street, W.

N.B. COTTAM & Co. beg to make it known that they have no longer an entrance to their establishment from Oxford Street, but that they have made a second entrance from Winsley Street, Oxford Street, W., by the side of the old entrance to their works, opposite the Pantheon.

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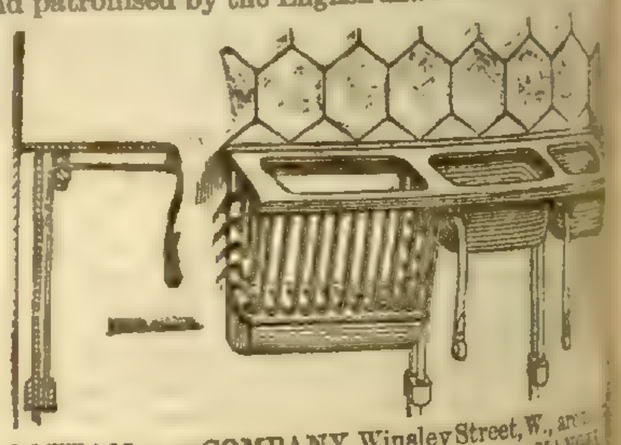
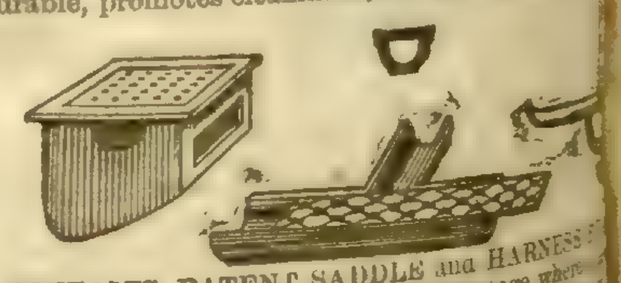
COTTAM'S PATENT INVENTIONS FOR HORSE REQUISITES, awarded a Prize at the Paris Exhibition, and patronised by the English and French Governments.



COTTAM AND COMPANY, Winsley Street, W., are the inventors of the PATENT ENAMELLED MANGER Trough, and Wrought Iron Rack, united to an iron post, and forming one complete and useful fixture, having the patent noiseless halter guide and collar rein attached, taken to the back of the manger, and works with freedom up or down the guide-bar.

COTTAM'S NEW PATENT SEED-BOX, an improvement to the above fittings, being simple in construction, durable, promotes cleanliness, and is economical in



COTTAM'S PATENT SADDLE and HARNESS PEG combined, can be used with great advantage where an object, as it can be turned up out of the way when not rated moveable cover, the use of which prevents accumulation can be easily cleaned out.

COTTAM'S IMPROVED SURFACE GUTTER, which proved construction, gives a full water passage, and allow any smell to ascend from the drain.

COTTAM'S CAST-IRON SANITARY TRAP, for harness-room and stable, kept in stock, plain, galvanized enamelled. Iron gates, fencing, hurdles, &c.

The New Illustrated Catalogue and Estimates, on application to COTTAM and COMPANY, 2, Winsley Street, Oxford Street, W.

N.B. COTTAM & Co. beg to make it known that they have no longer an entrance to their establishment from Oxford Street, but that they have made a second entrance from Winsley Street, Oxford Street, W., by the side of the old entrance to their works, opposite the Pantheon.

# BUCKLAND SWEETWATER GRAPE.

THIS fine early WHITE GRAPE received the Premium offered by the Pomological Society for the best Seedling hardy Grape, Sept. 9, 1858, also received an extra Prize at the Crystal Palace Exhibition, Sept. 8 and 9, 1858; it was favourably noticed at that time by all the leading journals, and is recommended by the under-mentioned Gardeners. It has been exhibited again this season, and fully maintained the high opinion previously passed on it. See report as follows:—

*Pomological Society's Report, copied from the* Cottage Gardener, *August* 9, 1859.

"Mr Ivery, of Dorking, produced a noble bunch of his Buckland Sweetwater Grape, weighing certainly not less than 3 lbs., broadly shouldered and remarkably well set. The berries were roundish, inclining to oval, and were just beginning to assume their amber tinge. They were very richly flavoured and luscious. Altogether this variety has stamped itself as one of particular excellence, and as a valuable addition to the collection of White Grapes which ripen perfectly in an ordinary Vinery."

We, the undersigned Gardeners, having seen Messrs. IVERY's new Grape called the Buckland Sweetwater, growing with other varieties, and tasted the fruit thereof, are unanimously of an opinion that it is a very desirable early White variety, and likely to supersede the White Muscadine in general cultivation. The berry is much larger than that of the Muscadine, and the bunch resembles that of the Hamburgh in form and appearance.

Drewett, James, Denbies Gardens, Dorking.
Dore, W., Juniper Hall Gardens, near Dorking.
Hill, Wm., Keele Hall Gardens, Staffordshire
Hill, J., Norbury Park Gardens, near Dorking.
Ingram, A., Highgrove Gardens, Reading.
Kemp, W., Albury Park Gardens, near Guildford.
Robinson, Mr., Englefield House Gardens, near Reading.
Roby, Thos., Bury Hill Gardens, Dorking.
Simmonds, Thos., Mickleham Hall Gardens, near Dorking.
Snow, S., Wrest Park Gardens, Silsoe, Beds.
Underwood, W., Broome Hall Gardens, near Dorking.
Whiting, J. B., The Deepdene Gardens, Dorking.

Messrs. IVERY AND SON, of Dorking and Reigate Nurseries, feel great pleasure in introducing this fine early White Grape, and beg to intimate that nice young plants, in two sizes, are now ready at 21s. and 31s. 6d. each; also plants of all the new and old esteemed varieties of Grapes at moderate prices.

## List of Trade Subscribers for (Ivery's) Buckland Sweetwater Grape,

from whom Plants may be obtained:—

Atlee, Mr. R., Clapham Road
Backhouse, J. & Son, York
Barnes, Mr. W., Camberwell
Bell, Mr. J., Norwich
Butler, Mr. D., Widcombe, Bath
Cattell, Mr. J., Westerham
Charlwood & Cummins, Covent Garden, London
Clark, Mr. R., Manchester
Cole, Mr. W., Withington, Manchester
Dickson & Turnbull, Perth
Dickson, F. & A., Chester
Dickson, J. & Son, Chester
Fisher, Holmes, & Co., Sheffield
Finney, Mr. S. & Co., Gateshead
Foster, Mr. W., Stroud
Fraser, J. & J., Leytonstone
Garraway, Mayes, & Co., Bristol
Godwin, Mr. F., Sheffield
Halley, Mr. J., Blackheath
Henderson, A. & Co., Pine Apple Place, London
Henderson, E. G. & Co., St. John's Wood, London
Henderson, Mr. W., Birkenhead
Hurst & McMullen, 6, Leadenhall Street, London
Ivery, Mr. W., Peckham
Jackman, Mr. J., Woking
Jackson, T. & Son, Kingston
Lee, J. & C., Hammersmith
Lucombe, Pince, & Co., Exeter
Marshall, Mr. G., Leamington
Maule, W. & Sons, Bristol
Meldrum, Mr. J., Kendal
Milne, Arnott, & Co., Wandsworth Road
Moore, J. & Sons, Perry Bar, Birmingham
Osborn & Sons, Fulham
Parker & Williams, Hornsey Road, London
Paul, A. & Sons, Cheshunt
Perkins, Mr. J., Northampton
Pope, Mr. H., Gib Heath, Birmingham
Rollisson, W. & Sons, Tooting
Shaw, Mr. J., Manchester
Spary & Campbell, Brighton
Sutton & Sons, Reading
Turner, Mr. C., Slough
Veitch, Mr. J., Chelsea
Watkinson, Mr. H., Manchester
Wheeler, Mr. G., Warminster
Wilson, Mr. R., Warwick
Wood & Ingram, Huntingdon
Yates, Mr. R. S., Manchester

**DORKING NURSERY.—October 8.**

# BUTLER & McCULLOCH,

COVENT GARDEN MARKET, W.C.

## COLLECTIONS OF BULBS.

| | | £ | s. | d. |
|---|---|---|---|---|
| No. 1. | A Choice Collection of Bulbs, for Greenhouse and Border Culture (see p. 29) | 5 | 5 | 0 |
| ,, 2. | do. do. do. do. .. .. | 2 | 12 | 6 |
| ,, 3. | do. do. do. do. .. .. | 2 | 2 | 0 |
| ,, 4. | do. do. do. do. .. .. | 1 | 1 | 0 |
| ,, 5. | do. do. do. do. .. .. | 0 | 10 | 6 |
| ,, 6. | A Choice Collection of Named Hyacinths, in 100 extra fine sorts | 5 | 0 | 0 |
| ,, 7. | do. do. in 100 very fine sorts | 4 | 0 | 0 |
| ,, 8. | do. do. in 50 extra fine sorts | 2 | 10 | 0 |
| ,, 9. | do. do. in 50 very fine sorts | 2 | 2 | 0 |
| No. 10. | A Choice Collection of Named Hyacinths, in 25 extra fine sorts | 1 | 5 | 0 |
| ,, 11. | do. do. in 25 very fine sorts | 1 | 1 | 0 |
| ,, 12. | do. do. in 12 extra fine sorts | 0 | 15 | 0 |
| ,, 13 | do. do. in 12 choice sorts | 0 | 12 | 0 |
| ,, 14. | do. do. in 12 very fine sorts (these we confidently recommend | 0 | 9 | 0 |
| ,, 15. | do. do. in 12 good sorts | 0 | 6 | 0 |
| ,, 16. | Best double mixed Border Hyacinths, per 100, do. do. 21s.; per dozen | 0 | 3 | 0 |
| ,, 17. | Best single mixed do., p. 100, 21s.; do. | 0 | 3 | 0 |

A DESCRIPTIVE AND PRICED CATALOGUE OF DUTCH AND CAPE BULBS now ready and forwarded free and post paid on application. For Contents of Catalogue see advertisement in last week's *Gardeners' Chronicle*.

## AGENTS FOR TYE'S REGISTERED HYACINTH GLASSES.

No. 1. No. 2. No. 3.

No. 1, 10s. 6d. to 25s. 6d. per doz. No. 2, 4s. 6d. to 6s. 6d. each. No. 3, 3s. 6d. to 12s. per doz.

**COVENT GARDEN MARKET, W.C.**

### NEW AND CHOICE GERANIUMS

GEORGE SMITH offers strong plants of the following, selected from those sent out in the Autumn of 1858. The plants are remarkably healthy and fine, and now require potting on. Price 30s. per dozen, stronger plants at 36s. per dozen, viz:—(Hoyle's) Belle of the Season, Excellent, Lady Canning, Leviathan, Monarch, Prince of Wales, Rajah, Star, Tom Brown; (Foster's) Criterion, Golden Hue; (Turner's) Excelsior, Fisherman, Guido, Jung Bahadoor, Osiris, Picnic, Peacock, The Belle; (Fraser's) Echo; (Beck's) Fairest of the Fair, The Bride, Vestal; (Dobson's) Ringleader, Spotted Pet; (Pellowes') Ariel, Desdemona, and (White's) Blink Bonny. Fancies (Turner's) Beauty, Captivator, Circle, formosum, Matchless of Tweedside, modestium, Negro, and Othello.

G. S. has also a splendid stock of all the leading kinds of former years, of Show, Fancy, and Spotted

A DESCRIPTIVE CATALOGUE will be forwarded in exchange for one postage stamp.

Tollington Nursery, Hornsey Road, Islington, London, N.

### PLANTING.

A. PAUL AND SON respectfully invite the attention of gentlemen improving their Estates or forming new Gardens to the following TREES, &c., which they are prepared to sell at the lowest remunerating prices for a good standard quality. It is their practice to transplant every second year, in order that little or no loss may be incurred by removal. Many things are grown in large quantities and offered on advantageous terms to the Trade. An inspection of the stock is invited

Abies alba, 2 to 6 feet
,, ,, glauca, 1 to 2½ feet
,, Clanbrasiliana and other dwarf Firs, 9 in. to 1½ ft.
,, canadensis, 3 to 6 feet
,, Douglasii, 2 to 6 feet
,, fine onensis, 2 to 3 feet
,, Menziesii, 1½ to 6 feet
,, monstrosa, 2 to 7 feet
,, Morinda, 2 to 10 feet
,, orientalis, 1 to 2 feet
,, rubra, 2 to 4 feet
,, 20 other sorts, 1 to 6 feet
Araucaria imbricata, 1½ to 6 ft.
Arbor-vitæ (see Thuja).
Alaternus silver & gold striped, 1½ to 4 feet
Arbutus, 6 sorts, 1 to 3 feet
Aucuba japonica, 1 to 3 feet
Box, 6 sorts, 1½ to 6 feet
Berberis Darwinii, 1 to 1½ foot
Cedrus africanus, 2 to 10 feet
,, Deodara, 1 to 12 feet
Cedar of Lebanon, 1 to 12 feet
,, Red, 2 to 5 feet
,, White, 3 to 5 feet
☞ The largest and finest stock of Cedars in the country.
Cistus, 12 sorts, 1 to 3 feet
Cryptomeria Lobbiana, 3 to 6 ft.
,, nana, 9 inches
Cupressus Corneyana, 1½ to 3 ft.
,, Knightii, 3 to 4 feet
,, Lambertiana, 3 to 7 feet
,, Lawsoniana, 9 in. to 1 foot
,, torulosa, 1½ to 3 feet
,, 12 other sorts, 1 to 4 feet
Daphne pontica, 2 to 3 feet
Furze, double, 1 to 1½ foot
Garrya elliptica, 1½ to 3 feet
Holly, green and variegated, 30 sorts, 1 to 6 feet
,, green standards, 5 ft. stems
Juniperus chinensis, 2 to 6 feet
,, communis pendula, 2 to 3 ft.
,, excelsa, 1 to 2½ feet
,, fragrans, 2 to 4 feet
,, glauca, 2 to 3½ feet
,, oblonga, 2 to 6 feet
,, ,, pendula, 2 to 8 feet
,, thurifera, 1½ to 6 feet
,, tamariscifolia
,, virginiana aurea, 1 to 2 feet
,, ,, pendula, 1½ to 3 feet
,, viridis, 1½ to 2½ feet
,, weeping, 5 feet stems
,, 20 other sorts, 1 to 6 feet
Laurel, Common, 1 to 5 feet
,, Portugal, 1½ to 4 feet
,, ,, Standards, 8 feet
Laurustinus, 1 to 2 ft. (bloom)
Ligustrum lucidum, 3 to 4 feet
,, japonicum 1½ to 3 feet
,, ovalifolium, 5 feet
,, evergreen, 2 to 4 feet
Mahonia aquifolia, 1 to 3 feet
,, 6 other sorts, 1 to 3 feet
Phillyreas, of sorts, 1½ to 7 feet
Picea amabilis, 1 to 1½ foot
,, nobilis, 1 to 4 feet
,, Nordmanniana, 1 to 4 ft.
,, Pinsapo, 1½ to 4 feet
,, Webbiana, 2 to 3 feet
,, 6 other sorts, 1 to 6 feet
Pinus austriaca, 2 to 4 feet
,, Benthamiana, 2 to 5 feet
,, calabrica, 3 to 4 feet
,, Cembra, 1½ to 4 feet
,, excelsa, 1½ to 12 feet
,, insignis, 3 to 6 feet
,, Llaveana, 2 to 5 feet
,, Laricio, 2 to 4 feet
,, macrocarpa, 2 to 3 feet
Pinus monticolor, 2 to 3 feet
,, monspeliensis, 3 to 5 feet
,, muricata, 3 to 5 feet
,, Montezumæ, 3 years seedlings
,, nivea (Snow Pine), 1½ to 3 ft.
,, Pallasiana, 2 to 3 feet
,, pinaster, 3 to 6 feet
,, pyrenaica, 4 to 6 feet
,, Sabiniana, 4 to 5 feet
,, 40 other sorts, 1 to 6 feet
Quercus (Oak), Evergreen, 3 to 5 feet
,, Fordii, 4 to 6 feet
,, latifolia, 3 to 6 feet
,, Mirbeckii, 2 feet
,, Suber (Cork Oak), 3 to 4 ft.
Ruscus hypoglossum
Santolina chamæcyparissus, 1 foot
Taxodium distichum, 3 to 6 ft.
Taxus (Yew), adpressa, 2 to 4 ft.
,, canadensis, 1½ to 3 feet
,, cheshuntensis, 1½ to 6 feet
,, elegantissima, 1½ to 4 feet
,, gold striped, 1½ to 5 feet
,, ,, standards, 5 feet
,, Jackson's Weeping, 1½ foot
,, japonica, 1 to 2 feet
,, nana, 2 to 4 feet
,, nigra, 3 feet
,, stricta, 5 feet
,, yellow-berried, 2 feet
,, common, round, and fair, 2 to 7 feet
,, Irish, 2 to 7 feet
,, 12 other sorts, 1 to 4 feet
Thuja americana, 3 to 8 feet
,, aurea, 1 to 6 feet
,, Chinese, 2 to 4 feet
,, gigantea, 2 to 3 feet
,, Wareana, 1 to 5 feet
,, 12 other sorts, 1 to 3 feet
Thujopsis borealis, 2 to 3 feet
Salisburia adiantifolia, 3 feet
Wellingtonia gigantea, 1 to 3ft.

Acer negundo variegata, 2 to 6 feet
Acacia, of sorts, 4 to 10 feet
Ash ,, 6 to 10 feet
Alder ,, 6 to 10 feet
Ailanthus ,, 8 feet
Almonds ,, 6 to 8 feet
Beech, purple, best variety, 5 to 8 feet
Birch, of sorts, 6 to 10 feet
Chesnut, Horse, of sorts, 1½ to 6 feet
,, Spanish, of sorts, 2 to 8 ft.
Catalpas, 6 to 8 feet
Caragana arborescens, 6 to 8 ft.
Cerasus padus aucubæfolius, 6 to 8 feet
Cornus mas variegata, 2 feet
Elms, 12 sorts, 6 to 8 feet
Gleditschias, 1½ to 8 feet
Kolreuteria paniculata, 3 to 6 feet
Laburnums, 8 feet
Lilacs, Persian, 6 feet stems
Liquidambars, 2 to 3 feet
Limes, of sorts, 8 to 10 feet
Maple ,, 5 to 10 feet
Planes ,, 7 to 10 feet
Poplar ,, 6 to 10 feet
Oak ,, 6 to 10 feet
Robinia ,, 6 to 8 feet
Sophora japonica, 10 feet
Sycamore, 6 to 10 feet
Thorns, of sorts, 6 to 8 feet
Tulip Trees, 2 to 10 feet
Willows, American, and other
Quick, 2-year transplanted, fine

WEEPING AND LAWN TREES in very great variety.

FLOWERING TREES AND SHRUBS, in 300 species and varieties, including Althæa, Cytisus, Berberis, Daphne, Deutzia, Lilac, Purple Nut, Pyrus, Ribes, Rose Acacia, Syringa, Spiræa, Wiegela, &c.

ROSES, an unrivalled collection. Standards, 12s. per dozen and upwards; dwarfs, 6s. per dozen and upwards. See separate Catalogue.

HARDY CLIMBING PLANTS, a large collection.

AMERICAN PLANTS, including Azaleas, Heaths, Kalmias, Magnolias, Rhododendrons, &c.

FRUIT TREES, consisting of all the choicest sorts, warranted true to name. The trained Peaches, Nectarines, Apricots, &c., particularly fine.

GRAPE VINES, from eyes, well ripened, short jointed canes 6 to 10 feet

HERBACEOUS PLANTS, in 500 species and varieties

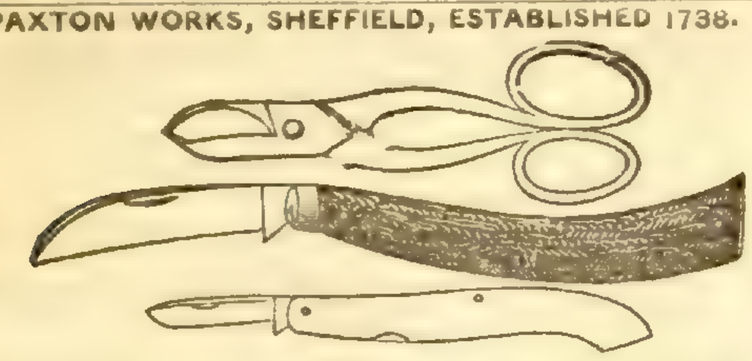
HOLLYHOCKS, a fine stock of healthy and well established plants. See separate Catalogue.

☞ Particulars of Prices, &c., furnished on application. Carriage of all packages free to London; if a ton weight or upwards placed free on the Railway at any London Terminus. An inspection of the stock invited.

Nurseries, Cheshunt, Herts.,
13 miles N.E. of London, Eastern Counties Railway.

GARDEN POTS AND PANS, in quantities of not less than 20 casts, delivered to the London Stations at the following prices:—Nos. Thbs. 60, L60, 54, 48, 40, 32, 28, 24, 16, per cast, 2*s.* respectively. 12, 3*s.*; 8, 3*s.* 6*d.*; 6, 5*s.*; 4, 5*s.*; 3, 5*s.*; 2, 5*s.*; 1, 5*s.* On lesser quantities, 6*d.* per mile, for delivery to the Station, charged. The usual discount to the Trade. Square Propagating Pans, Kale and Plunging Pots, Strawberry and Border Tiles, &c., made to order.
J. & W. ADAMS, Kilns, Belle Isle, York Road, King's Cross, N.

PAXTON WORKS, SHEFFIELD, ESTABLISHED 1738.



SAYNOR AND COOKE'S warranted PRIZE PRUNING and BUDDING KNIVES, SCISSORS, &c.—Sold by all respectable Nurserymen and Seed Merchants in the three Kingdoms.

WARNER'S PATENT VIBRATING STANDARD PUMPS.
PATENT CAST-IRON PUMPS for Farms, Cottages, Stable Yards, &c., where the Well does not exceed 28 feet in depth; fitted with WARNER'S Patent Metal Bucket and Valve, which cannot clog in action. These Pumps can be made right-handed, left-handed, or with handle opposite the nose by removing four screws only.

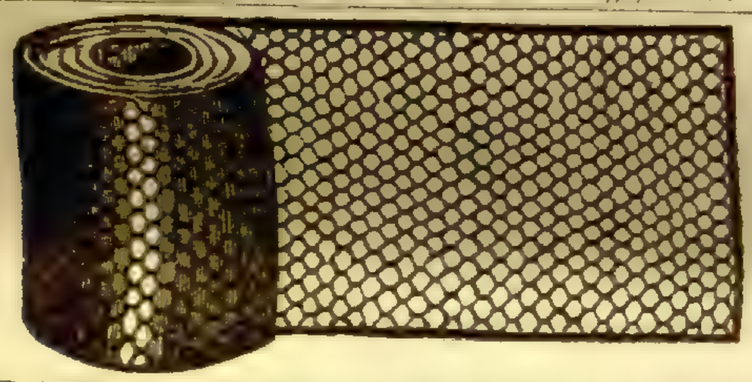
| Diameter of Barrel. | Height. | | £. | s. | d. |
|---|---|---|---|---|---|
| 2½ in. | short 1 ft. 7 in. | Fitted for lead, gutta percha or cast iron flanged pipe as required. | 1 | 5 | 0 |
| 2½ ,, | long 3 ,, 3 ,, | | 1 | 10 | 0 |
| 3 ,, | ditto 3 ,, 6 ,, | | 2 | 4 | 0 |
| 3½ ,, | ditto 3 ,, 6 ,, | | 2 | 9 | 0 |
| 4 ,, | ditto 3 ,, 6 ,, | | 2 | 13 | 0 |
| 2½ ,, | short, with 15 feet of Lead Pipe attached, ready for fixing .... | | 2 | 10 | 0 |
| 2½ in. | long ditto ditto ditto | | 2 | 14 | 0 |

The short barrel Pump is very convenient for fixing in situations of limited height and space, for the supply of coppers and sinks in Wash-houses with soft water from underground tanks, or in Hot, Forcing, and Plant Houses; they may be fixed, when desired, under the stage.
May be obtained of any Ironmonger or Plumber in Town or country, at the above prices, or of the Patentees and Manufacturers, JOHN WARNER & SONS, 8, Crescent, Jewin Street, London, E.C
Every description of Machinery for Raising Water by means of Wheels, Rams, Deep Well Pumps, &c.; also Fire and Garden Engines, &c. &c.—Engravings sent on application.

PRICES REDUCED.
H. J. MORTON AND CO., Galvanised Iron Works, 2, Basinghall Buildings, Leeds.
GALVANISED IRON ROOFING for Farm Buildings and other Roofs; the cheapest, most durable, and neatest Roofing in use; also Spouting at 10½*d.* per yard.
WIRE STRAND CABLE FENCING

(formed of Twisted Wires like a rope or cable), the strongest cheapest, and neatest fence in use, will resist the largest cattle and will not bend or get out of form by trespassing upon or over. Price, with five lines of the Galvanised Strand, iron main posts, and pronged Standards, 1*s.* 2½*d.* per yard.
This fence is far cheaper than posts and rails, or any kind of iron fencing; and possesses four times the strength of solid bars. Will not rust nor corrode. Upwards of 1200 miles of this Fencing supplied.
GALVANISED GAME AND POULTRY NETTING.

Galvanised, 24 ins. wide, 2-inch mesh, 5½*d.*, 7½*d.* and 9½*d.* per yard.
Galvanised, 24 ins. wide, 3-inch mesh, 4*d.*, 5*d.*, and 7*d.* per yard. The Netting made any width, and with openings of any size.
GALVANISED IRON CHAIN CAMP STOOLS & CHAIRS, POULTRY FOUNTAINS & FEEDERS, PRONGED DAHLIA RODS AND ROSE STAKES, &c.
Strong CATTLE HURDLES from 2*s.* per yard.
PATENT IMPROVED GAS WORKS,
of all sizes for the use of Private Houses, Mansions, Railway Stations, Mills, Collieries, Mines, Villages, &c. Works from 10 to 500 lights estimated for. The works can be entrusted to an ordinary labourer.—Apply to
HENRY J. MORTON & Co. 2, Basinghall Buildings, Leeds.

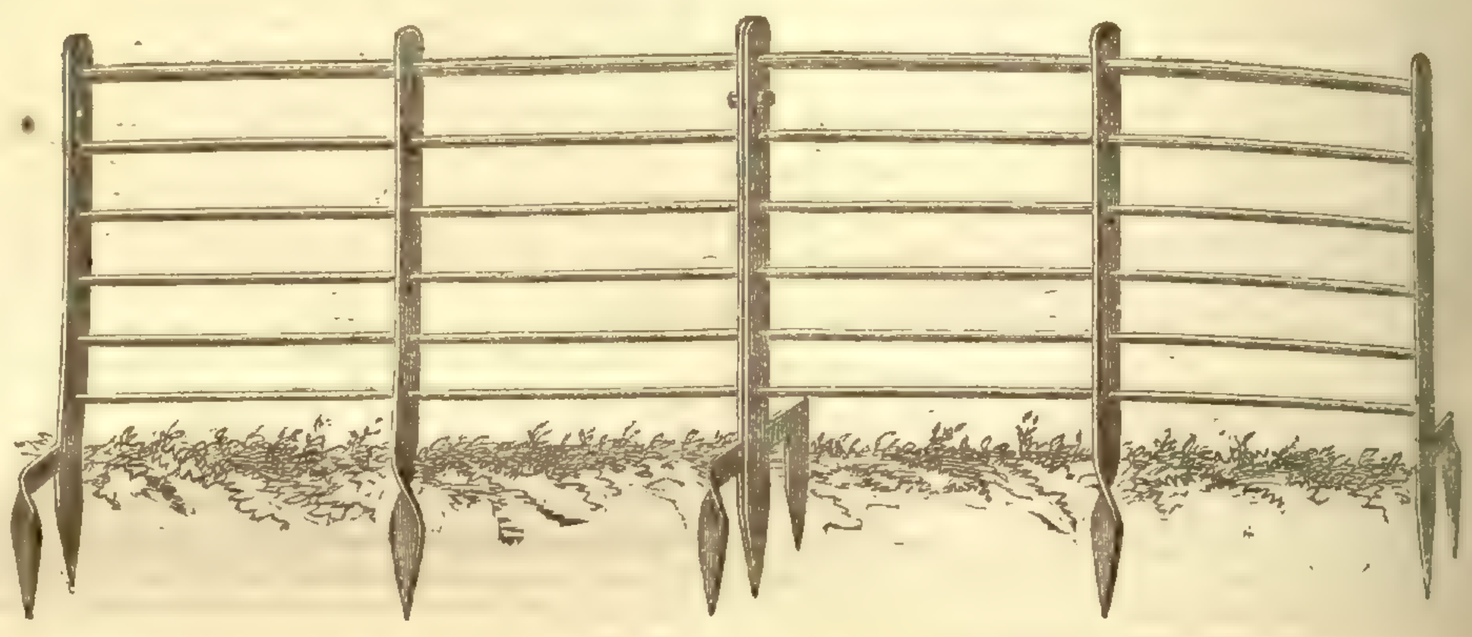


BARNARD, BISHOP, AND BARNARD, Market Place, Norwich, in consequence of improvements in their machinery for the manufacture of the above article, have been enabled to make a great reduction in the prices.

| | Galvanised. | Japanned Iron. |
|---|---|---|
| 2-inch mesh, 24 inches wide .. .. | 5*d.* per yd. | 4*d.* per yd. |
| 2-inch ,, strong do. .. .. | 6 ,, | 4½ ,, |
| 2-inch ,, intermediate, do. .. | 7 ,, | 5½ ,, |
| 2-inch ,, extra strong, do. .. | 9½ ,, | 7½ ,, |
| 1⅝-inch ,, 24 inches wide .. .. | 5½ ,, | 4½ ,, |
| 1⅝-inch ,, strong, do. .. .. | 6½ ,, | 5¼ ,, |
| 1⅝-inch ,, intermediate, do. .. | 7½ ,, | 6 ,, |
| 1⅝-inch ,, extra strong, do. .. | 10 ,, | 8 ,, |

All the above kinds can be made of any width (under 8 feet) at proportionate prices. If the upper half is of a coarser mesh than the lower, it will reduce the prices about one-fifth.
Strong Galvanised Poultry Netting, 8½*d.* per yard, 3 feet wide Galvanised Sparrow-proof Netting for Pheasantries, 2½*d.* per square foot. Delivered free of expense in London, Peterborough, Hull, or Newcastle. Manufacturers of Improved Strained Wire Cattle and Deer Fencing, Iron Hurdles, &c.
Illustrated Catalogues and Patterns forwarded by post.

# MESSRS. J. B. BROWN & CO.'S
## IMPROVED WROUGHT IRON HURDLES
OF
## BEST STAFFORDSHIRE IRON.



### SPECIFICATIONS AND PRICES.

No. 1.—Very useful for general purposes, combining strength with good appearance. 3 feet 6 inches high, six bars round iron, top bar ⅝ inch diameter, five under bars ½ inch; two side uprights flat iron, 1¼ inch by ¼ inch, and middle upright 1½ by ¼ inch. Weight about 48 lbs. Present price delivered in London and at most of the principal Railway Stations, 2*s.* 5*d.* per yard, or about 5*s.* 3*d.* each hurdle of 6 feet 6 inches long.

No. 3.—Stronger and more suitable for heavy stock. 3 feet 9 inches high, five bars, top bar ⅝ inch diameter, four under bars ⅝ inch, end standards 1¼ inch by ⅜ inch, centre standard 1½ inch by ¼ inch. Weight about 63 lbs.; price 6*s.* 9*d.*, 6 feet 6 inches long, delivered as above.

No. 6.—Extra strong and high for heaviest stock. 4 feet high, six bars, top bar ⅝ inch diameter, five under bars ⅝ inch, end and two centre standards 1¼ inch by ⅜ inch. The weight of this strong Hurdle is about 84 lbs. and the price 8*s.* 10*d.*, 6 feet long.

No. 7.—Light Hurdle for sheep and lambs. 3 feet 4 inches high, five bars ½ inch diameter, standards 1¼ inch by ¼ inch. Weight about 39 lbs.; price 4*s.*, 6 feet long.

No. 8.—Light Sheep Hurdle. 2 feet 6 inches high, three bars ½ inch diameter, standards 1¼ inch by ¼ inch. Weight about 24 lbs.; price 2*s.* 9*d.*, 6 feet long.

### Strong Wrought-Iron Continuous Round Bar Fence for Horses, Cattle, and Sheep.

4 feet high with six bars of round Iron in 16 feet lengths connected in every fourth standard by an improved ferrule-joint firmly joining them by Wrought Iron pins passing through the ferrule and the bars. The top bar is of ¾ inch diameter, the five under bars ⅝ inch. Strong Wrought Iron intermediate standards, 1½ inch wide by ⅜ inch thick, placed every 4 feet apart with strong double prongs to fix into the ground; also with strong Wrought Iron joining standards, 1¾ inch wide by ⅜ inch thick, with improved ferrule-joints, and with strong double prongs, placed every fourth standard, or 16 feet apart. The price of this Fence, which is highly recommended as a very strong and useful one indeed, is 3*s.* 4*d.* per yard.

This Fence for Horses and Cattle 3 feet 6 inches high, with five bars instead of six, but in every other respect the same as the above specification, 2*s.* 9*d.* per yard.

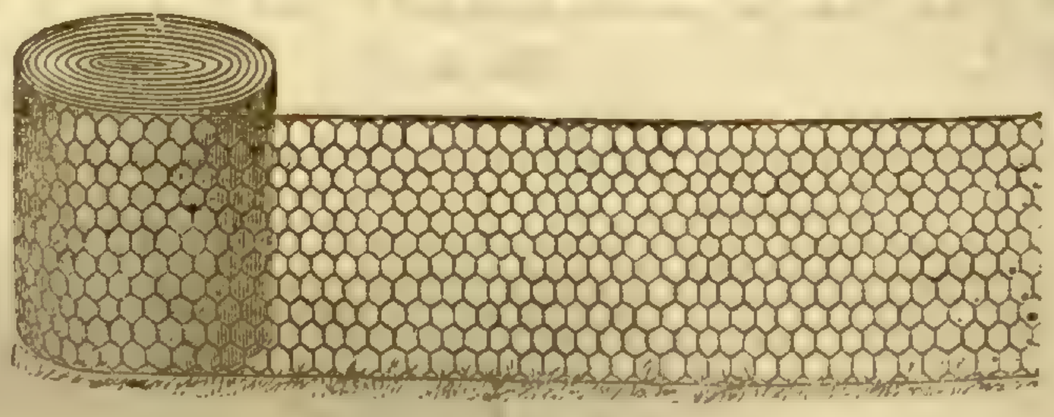
### Strong Strained Iron and Wire Fence, for Horses, Cattle, Sheep, and Lambs.

Much in use through Pleasure Grounds along the sides of approaches, and in other situations where comparative invisibility and fine appearance are desirable—3½ to 4 feet high, with from 5 to 7 strong horizontal rods of the best prepared Fencing Wire, in long lengths, with Wrought Iron intermediate uprights placed every 6 to 7 feet apart, and strong Wrought Iron straining pillars every 80 or 100 yards—from 1*s.* 6*d.* to 2*s.* 6*d.* per yard—the prices varying according to the weight, strength, and number of Wires, and dependent also on the description and extent of the line of Fence. The prices include the time and travelling expenses of thoroughly experienced workmen erecting the fence in any part of England, where the order amounts to 25*l.* or upwards. These prices are exclusive of wooden or stone blocks for the Iron pillars and standards, these being furnished and put into the ground by the proprietor, under the superintendence of Messrs. BROWN & Co.'s workmen.

*Fully Detailed and Illustrated Catalogues of Iron and Wire Fencing, Hurdles, Gates, Wire Netting, Garden Rollers and Engines, Ornamental Vases, &c., on application.*

J. B. BROWN & CO., 18, CANNON STREET, CITY, LONDON, E.C.

# IMPROVED PREMIUM WIRE NETTING.



PRICES PER LINEAL YARD, 24 INCHES HIGH:—

| Size of mesh. | Mostly used for | Light. | | Medium. | | Strong. | | Extra strong. | |
|---|---|---|---|---|---|---|---|---|---|
| | | Japanned. | Galvanized. | Japanned. | Galvanized. | Japanned. | Galvanized. | Japanned. | Galvanized. |
| 2¼ inch | Hares, Dogs, Poultry ..... | 3½*d.* | 4½*d.* | 4½*d.* | 5½*d.* | 5*d.* | 6½*d.* | 6*d.* | 8*d.* |
| 2 inch | Game Netting..... | 4*d.* | 5*d.* | 4¾*d.* | 6*d.* | 5½*d.* | 7*d.* | 7½*d.* | 9½*d.* |
| 1⅝ inch | Small Rabbits, Hares, &c. ..... | 4½*d.* | 5½*d.* | 5½*d.* | 6½*d.* | 6*d.* | 7½*d.* | 8*d.* | 10*d.* |
| 1½ inch | Smallest Rabbits..... | 6*d.* | 7½*d.* | 7½*d.* | 9*d.* | 9*d.* | 11*d.* | 11*d.* | 13*d.* |

Quantities of 100 yards or upwards delivered free at nearly all the principal Railway Stations and Shipping Ports in England; and 200 yards or upwards delivered free to most parts of Scotland or Ireland. Any width of Netting under 8 feet made at proportionate prices.

☞ *Every description of Netting warranted to give satisfaction, and if not approved will be exchanged, or may be returned unconditionally.*

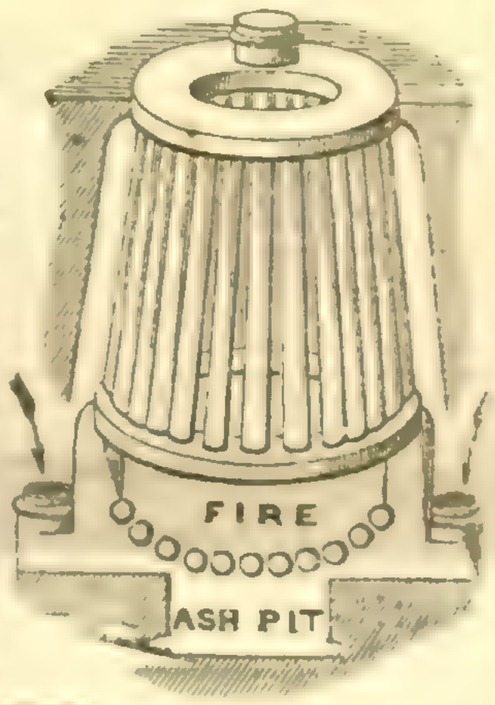
J. B. BROWN & CO., 18, CANNON STREET, LONDON, E.C.

# WEEKS' ONE BOILER SYSTEM.

BY APPOINTMENT.

## JOHN WEEKS & COMPANY,

### KING'S ROAD, CHELSEA, S.W.,




CHALLENGE THE WORLD to produce a Boiler not made in imitation of their Upright Tubular Boiler that will produce anything like the same effect with the same quantity of fuel in a given time.

The following unequalled statistics fully justify the challenge:—

| Mark the enormous length of Houses and Piping heated by One Boiler. | Length of Houses in feet | Total length of Piping. |
|---|---|---|
| Messrs. E. G. Henderson & Co., Wellington Nursery | 1,200 | 5,500 |
| Messrs. F. A. Smith, Dulwich ... ... ... ... | 3,000 | 11,000 |
| M. Van Houtte, Belgium ... ... ... ... ... | 3,300 | 13,000 |
| Their own Fruit Forcing Show Establishment ... | 1,000 | 7,000 |

Also the Nurseries of Mr. Woodroffe, Harrow Road, N.W.; Messrs. Rollisson, Tooting, S.; Messrs. Wood & Ingram, Huntingdon; Messrs. Wood & Son, Banstead; together with numerous Public Buildings and Establishments of the Nobility and Gentry far too numerous for insertion.

J. WEEKS & CO., Horticultural Builders and Hot-Water Apparatus Manufacturers,
King's Road, Chelsea, S.W.

PLANS AND ESTIMATES FREE ON APPLICATION.

## COTTAM & COMPY., Engineers, Founders, &c.,

2, WINSLEY STREET, LONDON, W.

### A SHOW ROOM DEVOTED ENTIRELY TO ARTICLES OF HORTICULTURE.

THE NEW ILLUSTRATED CATALOGUE UPON APPLICATION.

| | | | | |
|---|---|---|---|---|
| Conservatories | Mowing Machines | Hand-glass Frames | Garden Engines | Flower Sticks |
| Greenhouses | Fountains | Game Netting | ,, Syringes | Garden Bordering |
| Hot-water Apparatus | Ornamental Wire Work | Hurdles | ,, Rollers | Watering Pots |
| Garden Vases | Flower Stands | Garden Chairs | Flower Labels | Garden Arches, &c. |

**Iron Hurdles, Strained Wire Fencing, Game Netting, &c.**

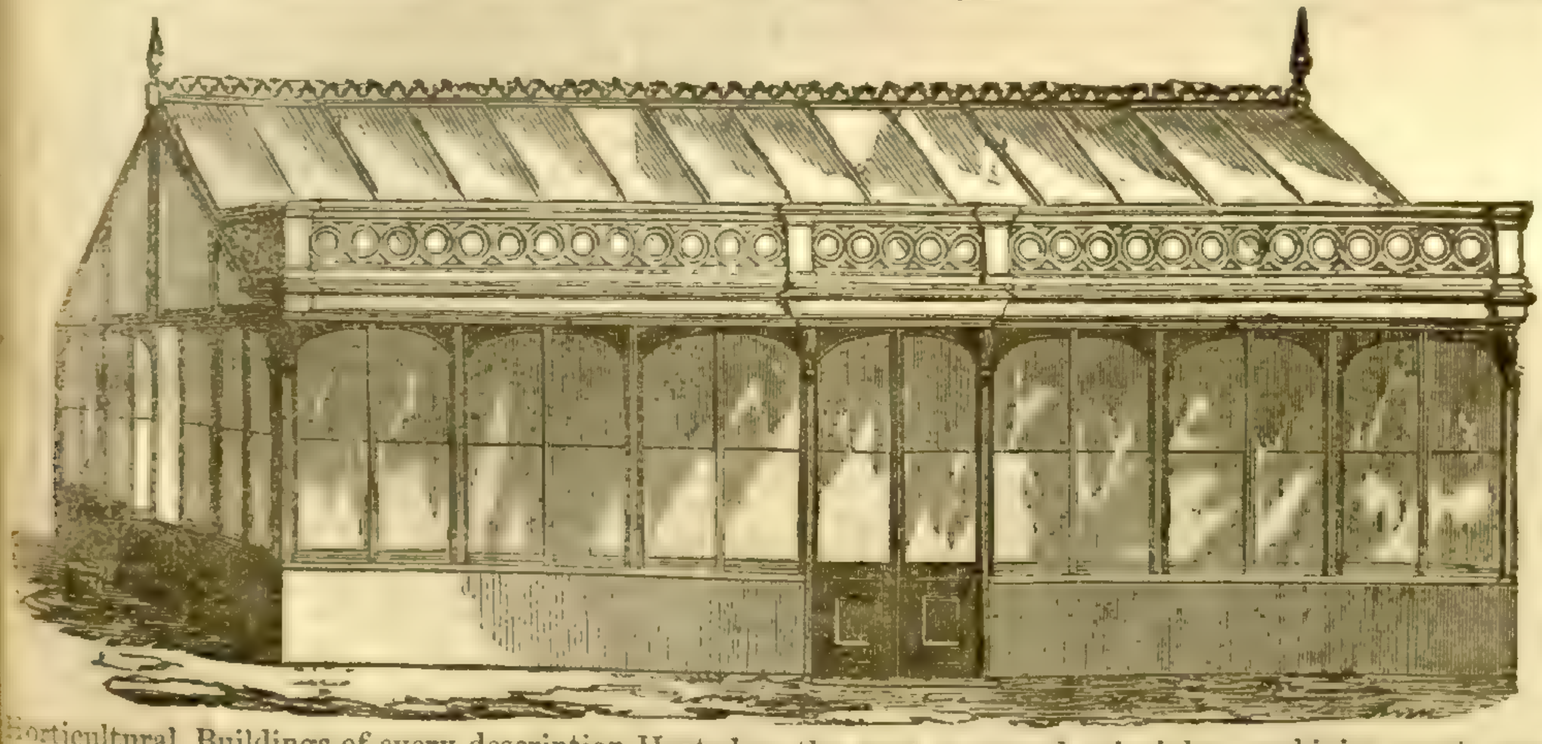
*Every description of Plain, Ornamental, Cast and Wrought Iron, and Wire Work.*

**EXHIBITION PRIZE MEDAL GATES AND ENAMELLED MANGERS.**

N.B. COTTAM AND COY. beg to make it known that there is no longer an entrance to their establishment from Oxford Street, but that they have made a second entrance from 2, Winsley Street, Oxford Street, W., by the side of the old entrance to their works, opposite the Pantheon.

## J. WATTS & CO.,

### Hothouse Builders and Hot-Water Apparatus Manufacturers.



Horticultural Buildings of every description Heated on the most approved principles, combining great power in simplicity of construction. A Range of Houses containing 20,000 feet can be Heated as easily as a smallest Pit. Two Hundred Cucumber Boxes and Lights, and from Three to Four Hundred Lights of sizes kept in stock, glazed and painted complete, ready for immediate use.

*References to the Nobility, Gentry, and the Trade in most of the Counties in England.*

**Claremont Place, Old Kent Road, London, S.E.**

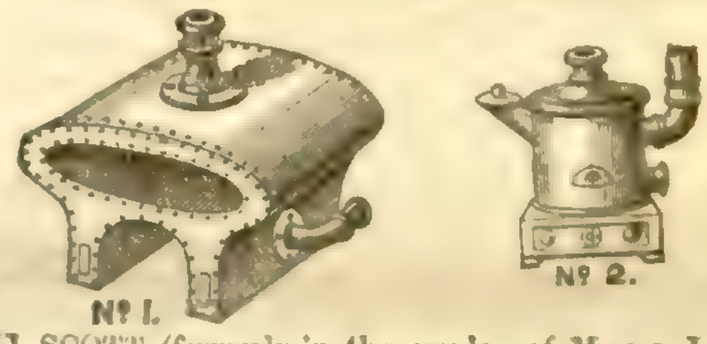
## VOKINS AND HURD,

Jubilee Place, King's Road, Chelsea, S.W.

HORTICULTURAL BUILDERS and HOT-WATER APPARATUS MANUFACTURERS. Estimates forwarded on the shortest notice.

BOILERS of all sizes on sale.

### IMPROVED HOT-WATER APPARATUS.

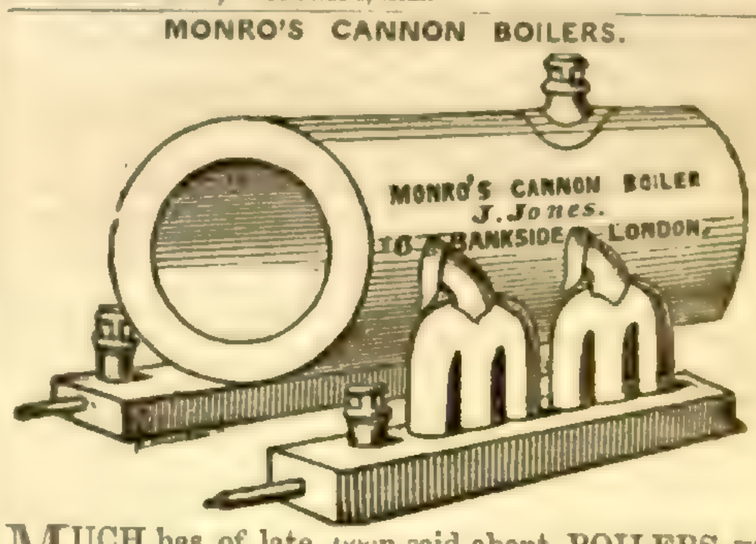



T. SCOTT (formerly in the employ of Messrs. John Penn & Son) manufactures and fits up complete Apparatus for Heating Buildings by Hot Water, also Bath and Kitchen Apparatus of every description.

T. SCOTT manufactures Improved Hot-water Boilers, Stop Valves, Thermometers, &c., and having lately fixed several of the Boilers (No. 1), can confidently recommend them as particularly adapted for Heating Churches, Chapels, Schools, extensive Ranges of Forcing Houses, &c., efficiently, and with great economy of fuel; also the PORTABLE BOILER (No. 2), requiring no brickwork, for Small Conservatories, Pits, Baths, &c.

Estimates, references, &c., on application to THOMAS SCOTT Blackheath Road, Greenwich, S.E.

### MONRO'S CANNON BOILERS.




MUCH has of late been said about BOILERS FOR HEATING BY HOT WATER, but these Boilers have now proved themselves to be the best at present invented. They are adapted for Heating every description of Building, and are made of various sizes. The price of the

| | | |
|---|---|---|
| 24-inch Cast Iron is .. .. .. .. | £5 10s. | each. |
| 24-inch Wrought Iron is .. .. .. | 6 10 | ,, |
| 36-inch Cast Iron is .. .. .. .. | 8 0 | ,, |
| 36-inch Wrought Iron is .. .. .. | 8 10 | ,, |

References to Gentlemen and Nurserymen where these Boilers are now at work. The Cannon Boilers are now kept in stock, and are to be had only of J. JONES, 6, Bankside, S.E. Also, every description of Saddle and Cylinder Boilers. Hot-water Pipes and Connections at prices lower than those of any other house in London. Estimates for Hot-water Apparatus erected complete in any part of the country, and an Illustrated Catalogue on application to J. JONES, 6, Bankside, Southwark, London, S.E.

### IMPROVEMENTS IN HEATING, &c.

MUSGRAVE'S PATENT SLOW-COMBUSTION STOVE, for Warming Public Buildings, Hall, Shops, Conservatories, Factories, Drying Rooms, &c. Will burn in Churches from Saturday till Sunday evening, avoiding attention during the hours of worship. In Halls will burn day and night for weeks, with little care. Capable of warming a large apartment for 24 hours, at a cost of 3d.; and deserving of special attention, because of its safety, healthfulness, durability, and extreme simplicity. This Stove is the nearest approach to warming by hot water.

MUSGRAVE'S PATENT STABLE FITTINGS AND HARMLESS LOOSE BOXES have obtained the award of a large Council Medal from the R. I. A. Society for the following improvements:—1st, The Horse cannot injure himself or others in the same stable if he breaks loose in his stall. 2d, He cannot waste the hay. 3d, He can have cut or uncut hay at pleasure. 4th, He has clean water always before him. 5th, A pure and wholesome atmosphere is secured. 6th, The whole fittings are stronger than usual, without increase in price, and there is no risk of infection.

The Loose Box is really what its name denotes, and the most spirited Horse may be turned into it without danger.

MUSGRAVE'S PATENT IRON COW-HOUSE FITTINGS, as approved by the Board of Works, adopted in the Ulster Model Farm, and by many of the most eminent Stock Breeders in the Kingdom, are made wholly of iron, very durable, cleanly, and attractive in appearance. The fodder is always fresh, being freely exposed to the air, removed from the breath of the animal, and separated from the roots or damp food. The range of Troughs can be quickly filled with water for the use of the Cows, or for washing out in case of epidemic, and the cost is very moderate.

These inventions being distinguished for strength, simplicity, and practical usefulness will repay public inquiry.

MUSGRAVE BROTHERS are also Makers of Wire Fencing, Hurdles, Field and Entrance Gates, Corn Rick Stands, Conservatories, Hot-water Apparatus, Verandahs, Rural Bridges, &c.; and their works being favourably placed for cheap labour and materials, they can offer corresponding advantages in price.

MUSGRAVE'S Patent Field Gates have gained the 1st Prize from the R. I. A. Society for strength, durability, and cheapness.

For particulars address MUSGRAVE BROTHERS, Ann Street Iron Works, Belfast.

### AMERICAN PLANTS, &c.

MESSRS. WATERER AND GODFREY'S CATALOGUE for the present season is now ready, and may be had on application. It describes fully all Rhododendrons worth growing, and contains a List of Azaleas, Hardy Heaths, and other American Plants, as well as a summary of the general stock of the most extensive Nurseries in England.

The Catalogue may also be had at Messrs. MAY'S & Co., 1, Wellington Street, Strand, W.C.

Knap Hill Nursery, near Woking, Surrey.

### HARDY RHODODENDRONS.

MESSRS. WATERER AND GODFREY invite attention to their Seedling RHODODENDRONS, which they are selling without names, and which they strongly recommend as being very superior in point of HABIT, FOLIAGE, COLOUR, and GENERAL HARDINESS. They are from 1½ to 2 feet high, and as much through, and no plants can possibly be in finer health. They will be sold at very liberal prices, and purchasers can select from a stock of many thousands.

Knap Hill Nursery, near Woking, Surrey.

### RHODODENDRONS.

JOHN WATERER'S CATALOGUE OF HARDY, SCARLET, and other choice RHODODENDRONS, as annually exhibited at the Royal Botanic Gardens, Regent's Park, is now published and will be forwarded on application. Faithful descriptions of all the esteemed varieties will be found detailed, with a list of the popular kinds of AZALEAS and other AMERICAN PLANTS, as well as a selection of CONIFEROUS TREES, with height and prices.

The American Nursery, Bagshot, Surrey, near Sunningdale Station, South-Western Railway.

### NEW HARDY GHENT RHODODENDRON "JEAN VERSCHAFFELT."

This superb Rhododendron, that was so much admired by all who saw it in flower last year, is to be sent out before the 15th of October next. Price 20, 30, and 50 francs per plant. Each Subscriber will receive post free a coloured plate of said Rhododendron. All orders to be addressed direct to

JEAN VERSCHAFFELT, Nurseryman, Ghent, Belgium.

### SCARLET RHODODENDRONS, IRISH YEWS, &c.

L. T. DAVIS begs to offer the following, in quantity, SCARLET and CRIMSON RHODODENDRONS, IRISH YEWS, LAURUSTINUS, HARDY HEATHS, PERNETTYAS, &c. These can be had of various sizes, and are in the best possible condition for safe removal, having been recently transplanted. Prices on application (carriage free to Belfast).—Ogle's Grove Nursery, Hillsborough, County Down.

### TO THE TRADE, ETC.

L. T. DAVIS has a very large stock of 1 and 2-year SEEDLING THORN QUICKS, which he offers at moderate prices; also a large quantity of 3-year SEEDLING ASH. Prices, &c., on application. Carriage free to Belfast.

Ogle's Grove Nursery, Hillsborough, County Down.

### MAIDEN AND CUT-BACK FRUIT TREES. STANDARD AND PYRAMID FRUIT TREES. EXTRA FINE TRAINED FRUIT TREES.

RICHARD SMITH has this season 23 acres of the above. Price on application.

St. John's Nurseries, Worcester.

### PLANTING SEASON.

SEEDLING AND TRANSPLANTED FOREST TREES AND SHRUBS, ROSES, AURICULAS, BORDER FLOWERS, AND FERNS.—Priced List on application to

WM. URQUHART & SONS, Dundee.—Oct. 8.

### SPRAGUEA UMBELLATA.

HUGH LOW AND CO. have pleasure in offering healthy plants, well established in pots, of the above-named beautiful novelty, introduced by them from California, and exhibited at the July meeting of the Royal Botanic Society in the Regent's Park. Price 12s. per dozen. It can be seen finely in flower in the open ground at the Clapton Nursery, N.E.

### CINERARIAS.

CHARLES TURNER is now sending out the 10 fine new varieties so successfully exhibited by him last spring. Price of the set, 50s. Strong plants of all the best named kinds at moderate prices.

If procured and repotted at once these will make fine specimens for early spring decoration.—The Royal Nurseries, Slough.

### CINERARIA, CALCEOLARIA, AND PRIMULA.

F. AND A. SMITH are now sending out SEED of their splendid varieties of the above in sealed packets, without which none are genuine, at 1s., 1s. 6d., 2s. 6d., and 5s. each. To be had also of most respectable Nurserymen and Seedsmen in the Kingdom.—Dulwich, Surrey, S.

### CAMELLIAS AND AZALEA INDICA.

F. AND A. SMITH beg to offer the above well set with flower buds, dwarf, bushy, and thoroughly ripened off. Having been grown in this country they are most suitable for packing, and are strongly recommended to country Amateurs and the Trade in general. An inspection invited. Prices on application.—Dulwich, Surrey, S.

### CHOICE GERANIUMS.

JOHN DOBSON AND SONS' Annual DESCRIPTIVE LIST of all the leading kinds of SHOW, FANCY, and SPOTTED GERANIUMS, together with a SELECT LIST of CINERARIAS and FUCHSIAS, is now ready, and may be had post free on application; it includes several new varieties now offered for the first time.

Woodlands Nursery, Isleworth, and High Street, Hounslow.

### TO THE TRADE.

GLADIOLUS BRENCHLEYENSIS BY THE 1000.

J. MORGAN having this season grown a very extensive stock of this most beautiful Gladiolus, the bulbs of which are exceedingly large and well matured, is enabled to offer them at unusually low prices, which may be had on application.—Horticultural Establishment, Torquay.

SEED WHEAT FROM THE CHALK.—Selected samples of CHIDHAM, WHITE TRUMP, ROUGH CHAFF, HUNTER'S WHITE, RED-CHAFF WHITE, GRACE'S WHITE, TALAVERA, RED BROWICK, RED NURSERY, GOLDEN DROP, and all the best kinds of Wheat, supplied by RAVENBIRD & HARVEY, of Basingstoke, and 89, Seed Market, Mark Lane, London, E.C. Samples and prices on application.

SELECT HARDY HERBACEOUS PLANTS at very reduced prices, and a further large discount for cash, according to the quantity of goods taken.

200 Plants in 200 fine sorts, including many new and scarce £3 10 0
400 Plants in 200 fine sorts ditto ditto 6 0 0
100 Plants in 100 fine sorts ditto ditto 2 0 0
200 Plants in 100 fine sorts ditto ditto 3 10 0

Selections 4s., 6s., 9s., 12s., and 18s. per dozen.
50 fine sorts, selected for rock, 20s.; or per dozen, 5s. to 9s.

CATALOGUES sent on application to STEPHEN BROWN, Nursery and Seed Establishment, Sudbury, Suffolk.

### NEW DUTCH FLOWER ROOTS.

CHARLES TURNER'S CATALOGUE of these valuable spring flowers is now ready, and may be had free on application.

The Hyacinths, Tulips, Crocus, &c., have been selected with the greatest care from the best growers, and have arrived in fine condition.

C. T. will be able to execute any orders intrusted to him with punctuality.—The Royal Nurseries, Slough.

HYACINTHS, &c., FOR PRESENT PLANTING.—The following collection (H) for 21s.;—12 Superior named Hyacinths, 6 mixed Hyacinths, 6 Polyanthus Narcissus, 50 Border Narcissus, 25 Sweet Scented Tulips, 50 Double Tulips, 100 Crocus, 100 Double Snowdrops, 12 beautiful Iris, 25 Ranunculus, 12 Double Anemones, half of the above for 10s. 6d. All orders amounting to 21s. and upwards sent carriage paid.—BUTLER & MCCULLOCH, Covent Garden Market, W.C.

### DUTCH FLOWER ROOTS.

TIMOTHY BRIGDEN, SEEDSMAN and FLORIST, 10, Railway Arcade, London Bridge, London, E.C., begs most respectfully to inform his Friends and the Public generally that he has just returned from Holland with his unrivalled collection of HYACINTHS, CROCUS, TULIPS, NARCISSUS, JONQUILS, &c., of which a PRICED LIST may be had upon application. T. B. further begs to state that, having selected them from the best growers in Holland himself, he can guarantee them finer than any other house in London.

A large assortment of Aquaria, Wardian Cases, and Gold and Silver Fish always on sale.

### DUTCH FLOWER ROOTS.

E. P. DIXON will supply the following Collection of Bulbs, package included, on receipt of a Post-office Order for 21s.

| | |
|---|---|
| 12 choice Polyanthus Narcissus | 12 choice named Hyacinths |
| 1 col. Crocus, 20 varieties | 100 Turban Ranunculus |
| 12 Tournesol double Tulips | 12 Rex Rubrorum Tulips |
| 12 Yellow Rose ,, | 12 Pæony Gold ,, |
| 12 Parrot Tulips | 12 sweet-scented Jonquils |
| 50 Double Snowdrops | 50 Winter Aconites |

CATALOGUES gratis on application.
Seed Establishment, 57, Queen Street, Hull.

### DUTCH FLOWER ROOTS.

JAMES VEITCH, JUN., ROYAL EXOTIC NURSERY, Chelsea, S.W., begs to announce that he has received his annual supply of BULBOUS ROOTS from Holland, and is pleased to say that they are PARTICULARLY FINE and in EXCELLENT CONDITION. Catalogues are now ready and will be forwarded on application.

J. V., Jun., desires to impress upon those who patronise him the great advantage of giving him their ORDERS EARLY, as the successful cultivation of Bulbs depends in a great measure upon their BEING PLANTED EARLY IN THE SEASON.

### DUTCH BULBS.

MILNE, ARNOTT, AND CO. are now sending out, in the best possible condition, HYACINTHS, NARCISSUS, TULIPS, CROCUS, and other Flower Roots, imported direct from some of the most celebrated growers in Holland.

A PRICED and DESCRIPTIVE CATALOGUE just published will be forwarded free upon application.

Finest Hyacinths, by name, 5s., 6s., 7s. 6d., & 9s. per dozen.
Select Collections of Bulbs from 10s. 6d. upwards.

The Nursery, Wandsworth Road, London, S.

### DUTCH FLOWER ROOTS.

PETER LAWSON AND SON, THE QUEEN'S SEEDSMEN, &c., respectfully announce the arrival of a fine Stock of DUTCH FLOWER ROOTS, and they are now prepared to execute orders for the same.

27, Great George Street, Westminster, S.W.

### NEW SEEDS.

TRIFOLIUM INCARNATUM
ITALIAN RYE-GRASS
NATURAL GRASS SEEDS FOR PERMANENT PASTURE LAWNS, &c.

PETER LAWSON AND SON, the QUEEN'S SEEDSMEN, &c., are prepared to supply all kinds of SEEDS for AUTUMN SOWING of the best quality.

27, Great George Street, Westminster, S.W.

THUJA JAPONICA.—Scale, ½-inch to the foot.

J. WRIGHT AND CO. beg to inform the Trade and Public generally that they have a large Stock of the above, including a few 1000 SEEDLINGS, saved from their specimen, as above, and acknowledged to be the most beautiful of all the Thujas by many or all that have seen it.

Also THUJA AUREA, 2 to 3 feet; ditto SEEDLINGS; GIGANTEA; fine LAURUSTINUS, LAURELS, a quantity of BOX EDGING, &c. Prices upon application.

Nurseries, Mill Hill and Edgware, N.W.

JAMES CARTER AND CO., 237 and 238, HIGH HOLBORN, LONDON, W.C.—HYACINTHS for colours for ribands and beds—double and single.

| | |
|---|---|
| Crimson | Purple |
| Pink | Blue |
| Flesh | Porcelain |

At 4s. per dozen.

The old system of offering HYACINTHS for colour for beds prevents anything like a true display as the early and late, tall and dwarf varieties are mixed together. We have great pleasure in offering 6 distinct decided colours, equal height, and same time of flowering, which our customers will be enabled to have a fine display for early spring. The following extract from our Catalogue will be found the most approved method of preparing the ground for planting. "When the bedding plants are removed the ground should be immediately dug up to the depth of 12 or 15 inches; when finished the beds should stand rough and even with the level, as moisture is injurious. Five inches deep of soil should be removed, the ground marked out in squares of 6 inches, the bulbs placed thereon with some silver sand between and about them, and the soil which has been removed put back over them. Or, without removing any soil, mark out the beds as before, and take out the place of each bulb with a small old-fashioned Tulip planter, which makes a hole 6 inches deep and 3 inches wide; drop some silver sand in the hole, place more sand laid thereon, and the holes filled with soil. On the approach of severe weather it would be advisable to protect the beds with a covering of 2 or 3 inches of rotten leaves; or, when the green leaf of the bulb appears above ground, immediately cover with silver sand."

TULIPS for edging Hyacinth beds and also for

| Per 100—s. d. | | | |
|---|---|---|---|
| Tournesol, red and yellow | 7 6 | La Candeur, pure white | |
| Rex rubrorum, scarlet .. | 7 6 | Yellow Rose, magnificent | |

COMMON HYACINTHS for mixed borders, single

| | | |
|---|---|---|
| Red | Blue | White |

21s. per 100.

LILIUM SPECIOSUM or LANCIFOLIUM, quite hardy, very effective for forming centres in beds.

ALBUM, extra large roots, per doz., 17s. 6d.; each 1s. 6d.
RUBRUM, ,, ,, 22 0
PUNCTATUM, ,, ,, 20 0

CROCUS (LARGE DUTCH ROOTS).

| | Per 1000. | Per 100. | | Per 100. |
|---|---|---|---|---|
| Blue .. .. | 12s. 0d. | 1s. 4d. | Versicolor .. | 1s. |
| Blue, light .. | 12 0 | 1 4 | White .. | 1s. |
| Cloth of Gold | 15 0 | 1 8 | Yellow, large | 1s |
| Purple .. .. | 12 0 | 1 4 | Very fine mixed .. | 1s |
| Scotch .. .. | 21 0 | 2 6 | Yellow, second size .. .. | 1s |
| Striped .. .. | 15 0 | 1 8 | | |
| Variegated .. | 15 0 | 1 8 | | |

GLADIOLUS BRENCHLEYENSIS, vermilion, very fine, 5s. per dozen.

We beg to refer our customers to our CATALOGUE OF BULBS (which will be forwarded gratis and post free) for descriptions of Bulbs for Drawing-room, Greenhouse, and Border, with practical directions as to culture and treatment.

New large-flowered PINKS from Japan. For description and cultivation see Catalogue. Price 1s. and 2s. 6d. per pair.

JAMES CARTER & Co., 237 and 238, High Holborn, W.C.

CONIFERÆ.—A very choice collection of the finest possible condition, including also several specimen plants.

THE BULB AND NURSERY CATALOGUE sent on application to STEPHEN BROWN, Seed and Nursery Establishment, Sudbury, Suffolk.

CINERARIA, HERBACEOUS CALCEOLARIA, AND HALF SHRUBBY DITTO SEED.—The finest that has been saved from Turner's most beautiful varieties. 2s. 6d. packets. Primula and Hollyhock, from the newest and handsomest varieties, 1s. per packet. Agents for F. Smith's splendid Cineraria, in 1s. 6d., 2s. 6d., and 5s. packets; also agents for Dobson & Son's splendid Calceolaria in 2s. 6d., 3s. 6d., & 5s. packets.—Catalogues of the newest Flower Seeds, and newest Dutch and Cape Bulbs, sent gratis. BUTLER & MCCULLOCH, Seedsmen, Covent Garden Market, W.C.

### ARAUCARIA IMBRICATA.

YOUELL AND CO. beg to inform the Trade they have to offer a fine and healthy stock of the above 1-year-old plants.

GLADIOLUS BRENCHLEYENSIS.—An extensive stock of large flowering Bulbs of this magnificent Gladiolus, the spike of which is vermilion scarlet, the best and brightest yet known. Prices of the above on application.

Royal Nursery, Great Yarmouth.

### NEW PANSY.

ROBERT REA, NURSERYMAN, &c., Ipswich, begs to announce that he intends sending out fine established plants in pots of his unrivalled Seedling JOHN HINES the second week in October. Colour orange yellow, top petals very rich puce, lower petals margined with the same colour, a perfectly round, full-sized flower with very dense eye. Received First Certificates at the Ipswich Horticultural and Floral Societies, and pronounced by the most competent in this locality to be the best flower in its numerous class. 5s. each, with the usual discount to the Trade; by post

TRAINED PEACHES, NECTARINES, APRICOTS, PLUMS, APPLES, CHERRIES, AND PLUM TREES, to be had of E. R. GREENUS, RAILWAY NURSERIES, Warrington, the best quality and on the most reasonable terms. Instructions gratis as to soil, planting, and treatment of trees so as to insure success.

STANDARD AND DWARF ROSES, EVERGREENS, and all sorts of NURSERY STOCK.

Cash, or reference from unknown correspondents.

### FRUIT TREES.

B. WHITHAM, of the Clough Nursery, Middleton, near Manchester, has now ready for disposal 1000 fine trained SUFFIELD APPLE TREES, and about 4000 fine standards, including 96 of the best sorts in cultivation, all at 4s. per dozen.

Also a large quantity of best LANCASHIRE SHOW GOOSEBERRIES (160 sorts), at 4s. per dozen; Common kinds, CATALOGUES on application, distinguishing Kitchen and Dessert kinds, and the time each will keep. Cash with order or known reference.

SPLENDID NEW ORNAMENTAL FOLIAGED PLANT.
CONATANTHUS, OR CALADIUM CUPREUS

HUGH LOW AND CO. have now in their Nursery a magnificent specimen of the above-named new plant, which was imported by them from Borneo. It was exhibited at the July Show of the Royal Botanic Society, where a certificate was awarded to it, but the plant was then small. It has now imported, and was consequently small. It has now grown itself, and proves to be the finest ornamental plant introduced up to the present time.

The Floral Committee of the Horticultural Society, in awarding it a FIRST CLASS CERTIFICATE appended the following remark:—"ONE OF THE MOST STRIKING OF ORNAMENTAL FOLIAGED PLANTS." No description can convey an adequate conception of its surpassing beauty; therefore H. L. & Co. invite an inspection. They will take pleasure in showing it to any gentleman who may favour them with a visit.—Clapton Nursery, London, N.E.

BRITISH POMOLOGICAL SOCIETY

[illegible] Rooms, Regent Street, W. [illegible] will be held on THURSDAY, [illegible] Premiums are offered for [illegible] to the Society's regulations:

[illegible] for the best dish of SALWAY PEACHES. [illegible] by the growers:—

[illegible] for the best and second best [illegible] PEAR.

[illegible] for the best and second best [illegible] PEARS of any other kinds in season, [illegible] exhibited [illegible] in the meeting [illegible] award of the [illegible] during the interval.

The Meeting next ensuing will be held on THURSDAY, November 17, when the following Premiums are offered for special subjects exhibited by the growers:—

Half a Guinea (by Mr. Turner), for the best dish of COX'S ORANGE PIPPIN APPLE.

A Guinea and Half a Guinea for the best and second best dishes of PASSE COLMAR PEAR.

Similar Premiums are also offered for fruit in season of other kinds of Dessert Pears, and Dessert and Culinary Apples, in the same manner as at the meeting of October 27.

Copies of Rules, Regulations for Exhibitors, Forms to be filled up, or other information may be obtained on application to

W. DAVIDSON, Secretary.

2, Randolph Road, Maida Hill, London, W.

# The Gardeners' Chronicle.

*SATURDAY, OCTOBER 8, 1859.*

MEETINGS FOR THE ENSUING WEEK.

TUESDAY, Oct. 11 { Horticultural (Fruit Committee at St. Martin's Place) ..... 3 P.M.

THE success of English gardeners which has attended the growth of ORCHIDACEOUS PLANTS inhabiting trees and rocks in tropical or subtropical countries has been one of the most signal marks of horticultural skill. Plants thought in 1820 to be uncultivable have been brought as much under command as Heaths or Ferns. In that year in the Royal Botanic Garden of Kew, into whose lap the British colonies had been pouring their treasures for a quarter of a century, nothing was to be found except Cymbidium sinense and aloifolium, Epidendrum cochleatum, Rodriguezia secunda, Oncidium altissimum, and a few more vulgar species, which it was more difficult to kill than to keep alive. Now, go where we will, these plants so much abound that some have even come to be hawked about London streets.

Nevertheless it must be owned that if some succeed most admirably others fail deplorably, and we are beginning to discover that Epiphytes after all demand to be treated with some attention to their peculiar nature. It is not enough to tie them to a block of wood or to pot them among peat or leaves or potsherds, or to keep the air about them always damp, as some imagine. There is always a principle behind, which principle must be looked at and studied, and so understood as to be rightly modified according to the nature of the plants. Some grow on trees, some on stones, many on the ground itself. Some bask in the hottest sun, others luxuriate in the open places of deep forests, or ride aloft on the branches of trees. There are also highland races that can only exist on the sides of mountains where clouds are always condensing, or that even struggle onwards towards the limits of alpine vegetation; such for example as Epidendrum frigidum, which lives on damp rocks at a short distance below the limits of eternal snow; while the curious Masdevalls are found in but a little better climate, and on their very heels tread Pleurothalls, Odontoglots, Stelids, Pachyphylls, Epidendrum, and Telipogons. Some curious facts connected with this subject have been collected by the author of the Orchidaceæ Lindenianæ, in speaking of the species which inhabit that northern portion of the South American continent now called Colombia. Here, says the writer, "a species of Epidendrum is found where the mean temperature of the year is about 40°, where trees are wanting, pastures only being found, and where it occasionally snows. This would be incredible upon worse testimony than Mr. LINDEN'S, if we did not know from Professor JAMIESON that one Oncidium (nubigenum) is found in Peru at the height of 14,000 feet, and rarely below it. Mr. LINDEN tells us that his plant, which grows at only a short distance from eternal snow, is covered all over, flowers included, with a varnish, which is perhaps intended for its safeguard. It is remarkable that all the Epidendrums, with one exception, occur above 5000 feet, and that they form a continued chain of species up to the ground of E. frigidum. It is, however, the Pleurothalls that principally occur in such elevated regions: Masdevallia, Restrepia, Stelis, and Pleurothallis itself constituting the most striking feature of the Orchidaceous flora until the mean temperature rises to 56°, *where they begin to disappear*. The genus Odontoglossum appears to be more impatient of heat than its nearly allied genus Oncidium, for a species is found where the mean temperature is only 49°, and where it sometimes even freezes; the others are scattered over the mountain slopes till they reach the lowest limits of their order, where the mean temperature rises to 75°, where it is never cooler than 55° nor hotter than 80°: in such a climate not one of the race is found except a Schomburgkia, a Burlingtonia, an Odontoglossum, and an Ionopsis. *In the hot lands on a level with the sea Orchids do not seem to be able to exist.*"

It is thus evident that he who would grow these plants successfully must have a good deal of intelligence, as well as the practical skill of a gardener. "Rule of Thumb" has nothing to say to Orchid growing; it is only effective in Orchid killing, as many a costly collection can testify.

One thing, however, is constant amidst all this diversity of nature. Let their climate vary ever so much, their manner of growth is in one respect the same. That this is so may be learned from even the dead refuse which is thrown away in the auction rooms, where species imported from their native haunts are sold. A wise gardener will find a most interesting field of study and learning in such a place. That uniform manner of growth is—*never to bury their roots* below the surface of what they grow on. The roots of Orchidaceous Epiphytes invariably *creep upon the earth, or leaves, or trunks that bear them*. Their peculiarly spongy surface renders it impossible for them to grow otherwise. Of this the examination of many thousand examples, during nearly 40 years, has convinced us. Of course we do not here speak of terrestrial species, which are quite of another nature. The Herbarium of Orchids collected by Mr. FENDLER in Venezuela affords us such excellent illustration of this most important fact that we cannot do better than describe the state of some of his more striking species.

*Gongora Jenischii.*—Roots form a superficial patch of 36 square inches; some as thick as a crowquill, the remains of others much longer; the rest as close as hair, forming an entangled mass lying flat upon bark, and mixed with Hypnum and Jungermannia.

*Liparis*, some undescribed species; stem slender, more than 18 inches long without leaves; it had laid flat upon something, and like Ivy has thrown out myriads of little conical roots consisting of a network of absorbing fibres from every part of its surface. Such a stem is provided to carry no more than seven or eight thin leaves.

A *Maxillaria.*—Roots form a close superficial tuft, born among Jungermannias, and spreading at least 6 inches round the common centre.

Another *Maxillaria*, only 4 inches high, leaves included. Roots innumerable, thread-like, spreading for at least 5 inches all round among Jungermannias, Trichomanes, and the dead flowers of some Inga. These Maxillarias in all cases spread their roots over bark, or among Moss, five or six times wider than the pseudo-bulbs are high.

An *Oncidium* with a prostrate flower stem 8 or 10 feet long throws out from below the leaves a root as thick as a crowquill, little branched, and more than a foot long where broken, at which place it spreads flat as if it had grown in the interstice of a rock. Many such roots had come from the same part. It has a young shoot rising for 18 inches, like a shoot of Asparagus, and then forming new leaves.

A *Warczewiczella* forming a tuft only 7 inches high is held down by spreading roots above 10 inches long, with their underside covered with bits of rotten wood on which they have pressed themselves.

A beautiful *Chondrohyncha* is in the same state, with the roots entangled among bits of rotten wood on which they have laid.

Finally a *Telipogon*, one of the most lovely of Epiphytes, has been clasping the mossy bark of some tree with roots looking like great white earthworms.

Abundance of other examples of the same fact are given by the same collection, but it is needless to enumerate them. We will only add that even the little Stelids form roots in the same way and to the same extent. We have now before us a *Stelis purpurascens* from Mexico, the roots of which formed a superficial plate certainly not *less than a yard in circumference!* Such are the means that Nature provides for the production of these tropical gems. Look at the specimens at —— and at ——, and elsewhere, and judge whether all men think of that.

Let those who are intrusted with the management of Orchids think upon two things growing out of natural facts. Let them in the first place consider whether an atmosphere dry enough for succulents is likely to suit plants whose thin leaves can only retain their freshness while the air around them is as damp as that of a Vinery forced in February. And in the next place let them try to reconcile their senseless system of "hard potting" with the peculiar habits of plants whose roots cannot bear to exist, either under pressure, or unless freely exposed to the action of a suitable atmosphere. We know that this hard potting has been used by first-rate growers in the case of Vandas and species of similar habit. But how is it used by them? Not for compelling roots to grow when and how Nature peremptorily forbids, but as a contrivance to steady long straggling stems which throw their arm-like roots into the air, and never attempt to produce them below the ground level. The application of this method of hard potting to cases having no sort of analogy is one of the most striking illustrations of the fatal effect of substituting ignorant practice for intelligent skill.

## FORTUNE'S YELLOW CAMELLIA.

IT was only the other day that I had an opportunity of examining at Kew the famous Yellow Camellia, mentioned by Fortune in his "Journey to the Tea Countries of China," and noticed in your Paper for 1852, p. 259, and may be allowed to say here a few words respecting its systematic position, as that seems to involve a question of practical tendency. The Yellow Camellia does not constitute a new species, as has been supposed, nor is it to be regarded as a variety of Camellia japonica. It is merely a form of C. Sasanqua (which I hold to be identical with C. oleifera, of Abel). C. japonica flowers towards the spring, and has quite glabrous leaf-buds, petioles, leaves, and ovaries; whilst C. Sasanqua flowers in the autumn and has pubescent leaf-buds, petioles, and veins of the leaves, and a woolly ovary. The characters of the latter fully agree with Fortune's Yellow Camellia; and it may therefore be safely referred to it as a Warratah or Anemone-flowered variety, the stamens of which are transformed into short, spathulate petals of a primrose colour. Hitherto the Warratah state was only known to occur in C. japonica, and the yellow colour is certainly quite a new feature in this genus, deserving the greatest attention of horticulturists. That C. Sasanqua has a tendency to assume a yellow tinge is evident even from the single flowering state, as will be seen from the excellent figure in the Botanical Register, t. 942, where the outer series of stamens displays the primrose colour peculiar to the Yellow Camellia. I may add that the plate quoted represents the form nearest approaching the plant under consideration; the leaves of the Yellow Camellia always being more acuminate than those of the ordinary form of C. Sasanqua found in the gardens, and the styles are generally (but not always) entirely free.

The Yellow Camellia has generally a sickly appearance. This I think may, in a great measure, be accounted for by its being almost invariably grafted upon C. japonica. If that process is resorted to at all, C. Sasanqua should be selected. There is another Camelliaceous plant that is in most gardens in rather a precarious state; I mean Thea maliflora, fl. pleno (= Camellia maliflora, or Palmer's Double Sasanqua), either grafted upon Camellia Sasanqua or C. japonica, with which it can claim only a distant relationship. Its normal type I have ascertained to be the Camellia euryoides of the gardens (not of Lindley!) figured in the Botanical Magazine, t. 5044, a fast growing, generally healthy-looking plant, upon which this so-called Double Sasanqua would no doubt thrive better than upon the species upon which it has hitherto been grafted with such indifferent results. *Berthold Seemann, October 2.*

## STRAWBERRIES.

[WE extract the following from Messrs. Vilmorin & Co.'s new catalogue. It is the selection made by Madame L. Vilmorin of the sorts of Strawberry that prove best in France. The opinion of a lady so conscientious and thoroughly acquainted with the races of this plant cannot fail to be read with interest.]

When the soil is not too cold and damp in winter, Strawberries should be planted in the autumn in preference to the spring, because by doing so they bear a better crop the following year. The species or varieties marked * are the best adapted for forcing in either greenhouses or frames. We advise those who receive their Strawberry plants a little withered, which cannot always be avoided, to restore them by plunging them into water for some hours before planting them. Anyhow they should be well watered after planting, let the time be when it may, and shaded for a week at least, if the weather be warm and dry, in order to facilitate their taking root again. When the Strawberry plants arrive very much jagged, in consequence of a long journey, it is advisable to prick them out under a cold frame, which must be carefully shaded during the day, and regularly aired; when the plants have well taken, they may be removed with balls of earth round their roots and planted out, or still better left alone till the spring, when success will be more certain. In fact, this last mode of cultivation is the best for all Strawberry beds made rather late in the autumn, particularly if the soil is cold and damp in the winter. Those who have not frames may prick out their Strawberries in the open ground, provided the place is perfectly well sheltered from the north wind, and the plants are placed about 8 inches apart; it is then easy to protect them from severe cold, and especially snow by straw mats or straw alone. In light soils the frequent frosts of the early spring are apt to draw out the plants and expose their roots to the air; this

inconvenience may be partially prevented by treading down the earth, or by rolling it, in order to make it solid before planting, and doing so every time that frosts raise the roots and loosen them; but care must be taken that the earth is dry enough not to stick to the feet.

AJAX (Nicholson).—Fruit very large, round, deep red, flesh red streaked with white, firm, sweet, high flavoured, a good early Strawberry.

ADMIRAL DUNDAS (Myatt's).—Fruit very large, of irregular form, of a scarlet red colour, flesh white, edged with orange, sweet, high flavoured, perfumed; a late sort which appears not to bear freely till it has been planted two years.

BARNES'S LARGE WHITE.—Fruit large, round, amber white, tolerably perfumed, prolific, very late, and remarkable for the colour of its fruit.

*BELLE BORDELAISE.—Obtained from the seed of the old Hautbois (*musqué*), fertilised by the Alpine (*quatre saisons*); the fruit has a delicious perfume, and the plant is a good bearer. This variety is perfectly well suited for forcing, as well as the open ground; sometimes produces a second crop in the autumn.

*BELLE DE PARIS.—Fruit very large, of a conical form, bright red colour, flesh rosy white, very firm, sweet and high flavoured, comes to maturity the second season; a strong and fertile variety, easily forced.

*BLACK PRINCE (Cuthill).—The value of this variety is its precocity, fertility, the length of time it continues to bear, and the deep colour of its fruit, which is tolerably good; the flesh is juicy, rather sour, pretty good, but in some light dry soils it forms its fruit badly. It is well calculated for forcing.

BRITISH QUEEN (Myatt's).—Fruit very large, of an irregular oblong, light vermilion red, flesh solid, tolerably firm, white or a rosy white, sweet, watery, perfumed, delicious; late. This variety, whose fruit is one of the very finest, and perhaps the best of the large-fruited sorts, has the fault of being delicate in the ground; it prefers a virgin sandy soil.

CAROLINA SUPERBA (Kitley).—An excellent Strawberry, large, of a vermilion red colour, seeds prominent, flesh white, firm, and of a delicious perfume, something like the British Queen, but stronger and more hardy.

CRYSTAL PALACE (Nicholson).—Enormous fruit of a beautiful elongated form, flattened, bright red colour, flesh rosy, firm, juicy, and of a rich flavour; a very late and very prolific variety.

DEPTFORD PINE (Myatt's).—Fruit large, firm, flesh white, rose in the centre, rather sweet, high flavoured, pretty good; very early.

*RED MEUDONNAISE, ALPINE.—A beautiful variety with large fluted leaves; fruit more regular and generally larger than that of the common Alpine, producing less at a time, but for a longer period.

WHITE ALPINE (or *quatre saisons*).—Perhaps rather sweeter and more perfumed than the red.

BUSH ALPINES (or *quatre saisons—de Gaillon*), with both red and white fruit, being without runners, are best suited for cultivating as border edging; they bear abundantly at the end of autumn.

*DUC DE MALAKOFF (Gloede).—A very vigorous and fertile plant, fruit middle early, of the largest size, irregular form, very deep red, seeds prominent, flesh red streaked with pale red; of a rich vinous flavour.

ELEANOR (Myatt's).—One of the most beautiful and largest fruits, of elongated form, and a bright red colour, flesh rather firm, slightly acid and high flavoured; a fertile variety, and one of the latest.

ELIZA (Myatt's).—Fruit middle-sized, conical, light vermilion red, juicy, high flavoured, very perfumed and peculiar; ripens early. This sort prefers fresh land; it is not prolific, but bears fruit during a month or six weeks. Its fruit is one of the best for preserving or for making into sweetmeats.

EMPRESS EUGENIE (Knevett).—Extremely large fruit, many of them measuring 6 inches in circumference; the flesh is of a beautiful red, very juicy, and its perfume superior to most large Strawberries.

EXCELLENTE (Lorio).—Fruit large, generally oval, deep red, flesh white streaked with red; flavour of the wood Strawberry; early.

EXHIBITION (Nicholson).—Very fine fruit, of an odd form, vermilion red colour, seeds prominent, flesh whitish yellow, sweet and perfumed. Remarkable for the length of time it continues to bear.

GOLIATH (Kitley).—Fruit middling size, conical, vermilion red; flesh firm, rosy white, high flavoured, very perfumed, excellent; one of the best sorts for preserving or making into sweetmeats; prolific and hardy; ripens late.

HOVEY'S SEEDLING.—Fine large fruit, or of a very large rounded form, scarlet red colour, flesh rosy, of a good quality though slightly pasty. This sort can bear drought better than most.

IMPÉRATRICE EUGÉNIE (Gauthier).—Fruit of a fine conical form, bright rose coloured, white prominent seeds, flesh rosy white, sweet and perfumed. Appears to be strong and prolific.

* KEENS' SEEDLING.—Fruit of middling size, bright red, flesh firm, sweet, juicy, high flavoured, of good quality; early, hardy, and prolific; well suited for forcing, but after the first gathering, the remainder is too small.

LA CHÂLONNAISE (Dr. Nicaise).—Large vermilion red coloured fruit, flesh white, delicate, dissolving, of a delicious flavour; middle season.

LA CONSTANTE (De Jonghe).—Large fruit of a fine conical form, bright red colour, shiny looking, seeds prominent, flesh white, very firm, of a sweet and perfumed flavour; ripens late. Strong dwarf plant and very prolific. A very interesting variety, which has hitherto succeeded well in different situations and soils.

LA REINE (De Jonghe).—Large fruit, of a long flattened form, rosy white colour, flesh firm, white, very perfumed, and of a delicious flavour.

MARQUISE DE LA TOUR MAUBOURG (Jamin and Durand).—Fruit beyond the average size, bright red colour, flesh pale red, sweet and high flavoured, of good taste. Strong and prolific plant.

MONSTRUEUSE DE ROBINE (Baumann).—Fruit of an odd form, often enormous, vermilion colour, white fleshed, slightly edged with red, sweet, acid, and high flavoured. A very prolific variety.

NEC PLUS ULTRA (De Jonghe).—A very beautiful and good Strawberry of an odd form, sometimes of an enormous size, seeds prominent, black red colour, flesh red with pale streaks, hollow, sweet, pasty, without juice, ripens early.

NIMROD (Lucombe & Co.)—Beautiful and good fruit, of an elongated flattened form of the largest size; the same kind as Eleanor. Flesh red, pink in the centre, sweet, and high flavoured; one of the latest to ripen.

PRINCE ALFRED (Ingram).—Very large fine fruit of a pointed heart shape, deep red glossy colour, flesh hollow, red veined with white, sweet, high flavoured, slightly acid.

PRINCE ARTHUR (Willmot).—Very large elongated fruit slightly flattened at the end, regular, red, flesh white to the centre, a little acid, high flavoured, ripens late. A strong and prolific variety.

PRINCE IMPERIAL (Graindorge).—A good variety with fine cone shaped fruit of an average size, red, flesh of an even rose colour, hollow, sweet, perfumed, high flavoured, a strong and prolific variety, earlier than Keens' Seedling. It appears to be well suited for forcing.

*PRINCE OF WALES (Ingram).—Average sized Strawberry, most frequently conical, red coloured, flesh white streaked with red, hollow, sweet and high flavoured, early and very prolific.

PRINCESS ROYAL OF ENGLAND (Cuthill).—Strong early and prolific variety, its fruit is large or middling sized, of a conical form, orange red colour, seeds prominent, flesh of a delicate white, sweet, very high flavoured, having a slight musky taste.

*PRINCESSE ROYALE (Pelvilain).—Large fine elongated fruit, bright red glossy colour; flesh full and firm, rosy white, rather high flavoured, tolerably sweet; an early prolific sort, better calculated for forcing.

*QUEEN VICTORIA (Myatt's).—Fruit very large, almost round, vermilion red and glossy, flesh red veined with white, slightly and sufficiently perfumed; ripens about the middle of the season. A hardy and prolific variety.

RIVAL QUEEN (Tiley).—Very strong plant, the largest sized fruit, of a conical form, orange red colour, seeds prominent, flesh white, very delicate, sweet and perfumed.

*SIR CHARLES NAPIER (Smith). — Pointed heart-shaped fruit, regular, with white flesh, firm, good tasting, a little acid and high flavoured, a prolific variety, and appears to be easily forced; ripens the second season.

*SIR HARRY (Underhill).—Fruit very large, almost round, of a deep red colour, flesh white, sweet and perfumed. A prolific variety and easily forced. We have seen perfectly enormous fruit of this sort from English growers.

*SIR WALTER SCOTT (Nicholson).—Beautiful variety with very large fruit of an elongated form, pointed, deep red colour, seeds prominent, flesh white, firm, sweet and perfumed, a very great bearer and well suited for forcing.

STIRLING CASTLE PINE. — Large long fruit, red, flesh tolerably solid and firm, pale red, sweet, high flavoured and perfumed; half early. A very valuable variety on account of the firmness of its fruit, which enables it to stand travelling, and keep good longer after it is gathered than most sorts.

SURPRISE (Myatt's). — Splendid fruit, elongated, flattened, and square at the end, light red colour, with white tips, flesh white, sweet; seeds prominent, does very well in dry soils, tolerably early.

TRIOMPHE.—An American sort, bearing well even the first year, the fruit of an average size, but of a very good flavour, and forces well.

VICOMTESSE HÉRICART DE THURY (Jamin and Durand).—Fruit middle-sized or large, elongated, cone shaped, often flattened at the end, red, flesh rosy and pale red, high flavoured, sweet, good. A prolific early variety.

*VICTORIA (Trollope).—Fine large fruit, round and regular, vermilion red colour, flesh slightly hollow, juicy, sweet, of good flavour, tolerably precocious and hardy. Forces well, and is also cultivated in open fields, in some places near Paris.

## PLANT PROPAGATION.

WHEN we glance at the plants scattered over the surface of the globe we cannot fail to perceive that they may be divided into two great groups; the one, comprising those which are provided with vessels and therefore called VASCULAR plants; the other, without vessels, but composed of cells only, and for that reason called CELLULAR plants. We might even say, metaphorically, that the first are all nerve, and the second all marrow.

This difference in the structure of plants, notwithstanding its importance in a scientific point of view, has hitherto had no practical application. Nevertheless it leads to a rational theory supported by experience, and may be regarded as a fundamental principle upon which depends the principle of the multiplication of plants.

In the first place assuming the principle, we draw our conclusions; if we say that the presence of vessels is necessary to the formation of roots in the parts of plants exposed to the air, we immediately exclude from multiplication by buds the whole of those plants which belong to the group of *Acotyledons*.

Again, in looking at the organisation of the vegetable world, we cannot but see that *vascular* plants divide themselves divided into two classes; the one comprising those which have only longitudinal vessels (Wheat, Maize, Yucca, Dracæna, Lilies, Orchids, &c.); the other includes all those which, independently of their longitudinal fibres, show when their stem is cut across transverse lines running from the centre to the circumference; these lines are called by botanists *medullary rays*, on account of the manner in which they are arranged. In fact they radiate from the medullary *sheath*, which encloses the pith, and terminate at the most external part of the alburnum, where they find themselves in contact with a substance of a particular nature, the *cambium*, placed between the wood and the bark. To this class belong all our fruit and forest trees as well as those cultivated for ornamental purposes.

Nearly all the plants belonging to these two groups can with more or less ease be propagated by cuttings of the parts exposed to the air, that is to say, such cuttings have the power of forming roots, although there is nevertheless in this respect a very great difference amongst the plants which belong to these two groups. In fact, some of the species of the family of Palms, *Chamædorea* and certain other Palms, &c., which have longitudinal vessels, are not capable of producing roots except from parts which are almost entirely roots called *nodes*, which form, at certain distances upon the stem, a kind of partition or network composed of vessels interlaced in every possible manner. Between these nodes roots never make their appearance. These nodes are to be met with sometimes in certain other species which by their organisation, appear rather to belong to dicotyledons; such as Dracænas, certain arborescent Colocarias, and species of *Pandanus*, &c., and in all these cases either these roots proceed from the axils of the leaves, or else they appear to occupy the place of the leaves themselves, as in certain caulescent orchids.

We observe also in striking cuttings from monocotyledonous plants that the roots are always produced from the circumference of the part cut; there is not a callus, properly speaking, formed, for this, which is the result of the accumulation of sap between the bark and the alburnum, can only be formed in those plants in which the bark is distinct from the alburnum.

If we now examine the second division of vascular plants, which includes all the Dicotyledons, we find quite a different order of things. In fact in these experience proves that nearly all their parts (when young and growing and placed under conditions suitable to their nature, such as all gardeners understand) are more or less inclined to produce roots, and consequently may be propagated from cuttings, and moreover that the roots generally proceed from the callus, which forms at the base of the cutting.

From what has been now stated, the reader will have perceived that the plants which are wholly cellular, and which have not the power of forming roots from the parts above ground, are quite incapable of being multiplied by cuttings; that only plants provided with longitudinal vessels possess this power within certain limits; but there is an important fact to which we especially wish to draw attention—that when they have no medullary rays, it is almost impossible to multiply them by grafts. Indeed whatever has been done to effect this object, nothing has ever succeeded except in appearance; and we can but consider the few examples which have been brought forward to prove the contrary as of no value, since although the operations were performed under exceptional circumstances and upon plants belonging to a high order (Dracænas), they still met with no success, although every possible care was taken, and grafting by approach was even resorted to. Indeed shortly after being separated the stock and scion parted from each other, thus proving that there was *attachment*, but not *union*. Every time that the operation has been attempted with separate success, or in other words when there has been a solution of continuity, that is to say, a separation of parts, whatever may have been the care taken, or whatever the plant that has been operated upon, it has always ended in failure without even the smallest appearance of success. As to dicotyledonous plants, every one knows that according to the species, and according to their cases, they may almost always be multiplied more or less easily either by cuttings or grafts, or even in most cases by both means.

From all these considerations we may draw this conclusion, which from its strictness we may regard as a law or rather as an axiom; 1stly, it is indispensably necessary, if the parts of plants are to produce roots, that those parts should contain vessels; hence cellular or *utricular* plants cannot be multiplied by cuttings. 2dly, plants having only longitudinal vessels may be multiplied in certain cases either by cuttings or

* I do not here include Ferns, or indeed certain other plants which, though they belong to this same group of acotyledons, still have quite a peculiar organisation and a different mode of growth.

…ge, but never by grafts; 3dly, medullary rays being …principal organs by the assistance of which the different parts of the plant are enabled to unite, all plants …which do not contain medullary rays refuse to be multiplied by grafts. Dicotyledons are therefore the only plants that can be multiplied in that manner. If by …, management, or expense it shall be proved that there may be exceptions to the above rules, I maintain that although such cases will be interesting in a scientific point of view, they will practically have no value, and be mere curiosities.

I finish with a table, which as it indicates the principal characters of the groups adverted to will render it easier to see at a glance the inferences which I wish to draw :—

| | | |
|---|---|---|
| Cellular .. .. .. | | Are incapable of producing roots from the parts exposed to the air, and therefore cannot be multiplied by cuttings. |
| …are | | |
| Or Vascular | Have no medullary rays | Are capable of producing roots from the parts exposed to the air and may be multiplied by cuttings but not by grafts. |
| | Have medullary rays | Are capable of producing roots from the parts exposed to the air, and may be multiplied both by cuttings and grafts. |

*…ely translated from a paper by Carrière in the …ue Horticole.*

## Home Correspondence.

*…hrysanthemums at the Crystal Palace.*—In the pro…ting ground I remarked an immense stock of …ddily grown plants in pots, numbering I should …pwards of 1000, and all well trained. Many of …measure from 2 to 3 feet across, some 4 feet, and …t 1 foot high; they have fine healthy foliage, and well furnished with shoots, there being scarcely a …plant among them. They promise well, both large …small varieties, to make a fine show in November. …are trained in all forms—standards, pyramids, and …; in fact when collected together they will of …selves make a very complete exhibition. *S. Broome.*

*…morphism of Leaves.*—Enclosed are branchlets two plants raised from the same Australian seed; …pecimen with the pinnate appendage is from a plant in a conservatory; the other is from a tree …d out, and now about 20 feet high. What is the …? The older tree has quite lost the pinnate …lage; what is its nature, and which are the true …? The tree flowers freely. *Lisslan.* [The plant …Acacia, and resembles A. Sophora. The pinnate …are the early condition of those organs, the others …e old condition, and are merely leafstalks, minus …flets, flattened laterally. Such leaves are called …les, and such Acacias phyllodineous. The cause …difference between the infancy and adult state of …, or of their dimorphism, is wholly unknown.]

*…ering of Melons.*—I have been long accustomed …w Melons, and occasionally with good success. …w years past I have grown them in two-light …ph good bottom heat, supplied by hot-water pipes, …th due surface heat which enables me to give …ntilation. The sort I grow is the Green-…elon. But I find that the plants grow very …wind the fruit prospers very favourably …becomes nearly ripe, when the plant begins …to …up, the leaves wither away, and the …plies before the fruit has perfectly ripened. …ently the flavour is vapid and disappointing. …Ca give me any advice which may enable me so …to…ge the plants that they may remain perfect till …the fruit has matured? *An Essex Man.* [We …suppose there can be no doubt that your fruit withers …bec…t and the leaves cannot obtain from the roots …the they demand at the ripening season. That …foo…water. The hot-water pipes dry the soil too …mu…

*…matophyllum speciosum.*—I inclose for inspec…tion…lower from Grammatophyllum speciosum, or the …Leviant. Has this very remarkable and striking …Easian Orchid hitherto flowered satisfactorily in …Eng… We have a noble specimen of it flowering …here…the first time, although we have had the plant …10 …ears. It is a very imperial-looking Orchid, …with…strong thick fleshy Palm-like stems, measuring …from…7 feet in height. The flower spikes, two in …num…pring from the base of the pseudo-bulbs or …stem…in Houlletia or Cyrtopodium; they are …stron… erect, of a pale green colour, and measure …from… 5 feet high. They have not however yet …arriv… their full length; they have from 40 to 50 …flowe… a spike, each flower measuring from 4½ to …5 in…across, solitary, alternating from the base …of th…er spike upwards. The peduncle is white, …groun…bur of flower yellow, profusely spotted or …blote…ith purple or chocolate, the lip rather small, …but F… From what I have stated you will perceive …that… an uncommonly fine thing, although a very …shy b…r. When induced to flower however it well …rewar…e patience of the cultivator; its appearance …being…ging in the extreme. I may add that we have …growi… the lawn a superb specimen of Gynerium …argen… or Pampas Grass, with 60 flower spikes, …many…em 12 feet high. *S. M. Carson, Gardener to W. F. G. Farmer, Esq., Nonsuch Park, Surrey.* [This superb plant flowered some years ago with Messrs. Loddiges, when it was figured in Paxton's Flower Garden. But it was far inferior to Mr. Farmer's specimen, only one flower having been produced and that not more than 3 inches across, while Mr. Farmer's measured 5 inches. It is indeed worth waiting for.]

*The Gishurst Compound.*—I should not have ventured to have troubled you any further on the subject of this Compound, had I not been reading only last night in your Paper some queries on the subject of mildew, and this morning found the note of which the following is a copy, referring more especially to this pest, from an experienced and careful authority, *George Wilson*, Oct. 4. [I did not immediately answer your inquiry of March 24, as to my experience with the Gishurst Compound, because I had not then given it a sufficient trial. I now beg to say that I have found it extremely useful in keeping in check and also destroying various kinds of insects injurious to garden plants; such as the black and green aphis on outdoor fruit trees, red spider, and above all mildew. Some considerable care is necessary in mixing the composition. I prefer the mixture made by dissolving 2 ozs. to the gallon of hot water, even if I have to repeat the application, as in some cases I have seen a stronger dose affect the foliage when applied; this is more particularly necessary when the foliage is young and tender—with older leaves 3 ozs. to the gallon may be used. On the whole I consider you have invented a valuable composition for assisting the gardener in keeping his plants, &c., free from those animal and cryptogamic pests, which, unless kept down, so materially interfere with cultivation. *John Spencer, Bowood*].

*Pruning Fruit Trees.*—In soliciting insertion of the following remarks, perhaps I ought to say that I am what is sometimes called an "amateur gardener" of the old school, cautious in adopting any new practice, but very ready to find fault with what has the appearance of novelty or innovation. The constant pruning of fruit trees is a practice of too long standing for any amateur to put it down with a few strokes of the pen. I have no such wish, convinced that judicious pruning is attended with results that most gardeners wish to encourage. At the same time I am strongly of opinion that Nature, either in the animal or vegetable kingdom, furnishes few superfluous parts, and no tendency in either animal or plant is more apparent to a careful observer than that of an endeavour to reach a healthy vitality. Numbers of instances might be given to prove this from anatomical researches in the animal kingdom; but we have to do with plants, which in the manner their roots appear instinctively to run after suitable food, and their leaves to make their way to the light, show abundant signs of this inherent tendency. How is it then that the gardener finds so much use for his knife? Do plants every year form shoots to their own prejudice, incompatible with their healthy condition? No philosopher will admit this. Why then do we prune so freely is the theoretical inquiry we would now make? "The object of life," says a great German, "is life itself," and a plant placed in a suitable soil and duly supplied with light, air, and moisture, will fulfil its destiny better without the knife than with it. It will grow to maturity, produce its seed in greater abundance, and live to a longer period without pruning than with it. It is a mistaken idea that any plant requires to be robbed year after year of the shoots it has been at the pains to form; but the cultivator's object is not seed, but a large amount of parenchymatous matter; not the vital kernels, but the pulp; and with this object in view winter pruning is well directed. A Gooseberry bush growing *ad libitum* will produce abundance of small fruit each containing its quota of seed, but none such as suits the market gardener. The roots suffering nothing from moderate winter pruning afford to such fruit buds as remain a superabundance of support, and this increases the pulpy matter. The same practice applies to other fruit trees. What are we to say, then, about root pruning and summer (thumb) pruning? Simply that it is a decidedly bad practice, were the health and vigour of the tree alone to be considered. Root-pruning or lifting the trees tends to check or threatens to destroy their vitality; and as plants instinctively attempt to fulfil their destiny, this practice, as the phrase is, puts them into bearing, but they become stunted trees. I was walking a short time ago through a gentleman's orchard that had been planted about 10 years. The gardener pointed out to me one kind of Apple trees that were ill-thriven, stunted objects; "these," said he, "bear every year, but make no wood; they will soon be old trees." In my own garden this spring a cat undertook to scratch up one or two Larkspurs (annuals); I found them when they had been out of the ground two or three hours and replanted them; they grew; that is, they kept alive, flowered, and seeded long before any of the rest, but they were decrepid dwarfs ever afterwards. Such is the effect of root-pruning. Trees so treated are made sooner productive, but are diminutive and short-lived; considerations these of little moment. Thumb-pruning is virtually root-pruning. Take away the leaf in summer and the roots will supply food less plentifully. When the lungs of an animal are injured the alimentary viscera do little; the same doctrine applies to plants. Of this any one may be soon satisfied. Let him grow an Acorn in a glass vessel; he can thus see buds and leaves develop themselves, and will find after he has pinched off the former, the latter will be checked in their growth. In fact, nothing can be truer than this—when a tree is making wood rapidly it is making roots rapidly also. Some years ago in transplanting a tree I had injured most of its rootlets; the next year it was covered with bloom, but had scarcely any foliage. The tree died. A friend of mine, experimenting on a Pear tree with thumb-pruning one summer, carried it so far that the next season every bud became a fruit bud, and the tree died. These are extreme cases, but in point. Such I take to be the true theory of the various systems of pruning—each serves the end contemplated, and is so far to be adopted. Principles in Nature are thus directed by the cultivator to his benefit, and the better such principles are understood the more effectual will culture become. In most operations practice has been the forerunner of theory; but the latter, though late in the field, has ever been a valuable assistant to the cause of real progress. *Edward Burlent, Holly Wood Cottage, Swillington, near Leeds.*

*Callirhoë digitata.*—My attention having been directed to Messrs. Carter's advertisement of new annuals in your last issue, I beg permission to state with reference to the so-called Callirhoë digitata that if it be, as I have reason to believe, the same plant as that offered by the leading seedsmen in this country last spring, under the name of Callirhoë pedata, Messrs. Carter are hardly likely to be in possession of the whole stock of seed. Their statement contains indeed its own refutation, seeing that the notice in a contemporary, from which they quote an extract, related to Messrs. E. G. Henderson's Nursery. I have myself had the plant under cultivation in my garden for two years, and as seeds were freely sold in spring it must have been pretty generally grown. I beg to inclose a specimen, which, though very inferior, and considerably affected by the recent wet weather, may suffice as evidence of its cultivation. It certainly does not agree with the published figures of Nuttallia digitata, but I will leave it for you to decide whether it be the true pedata. The colour of its flowers is not a violet purple, but what is generally termed rosy or crimson purple, as you can judge from enclosed specimen. It seems to be only of annual duration, and succeeds well treated as a hardy annual. I presume that it is not generically distinct from Malva, though there is something apparently distinct in the habit. *Iota.* [The specimen sent was unexaminable.]

*Mushrooms.*—Can you tell me how I can distinguish true Mushrooms from others? My fields abound with them, yet we are afraid to touch them; they are a very large kind. *D. F. C.* [Cap brownish, thick, with many little bits peeling off; gills reddish violet, very fragrant.]

*New Self-acting Ventilator.*—"An invention capable of being made useful in ventilating hothouses has been patented, and is now exhibited at the Crystal Palace by Messrs. Taylor & Grimshaw, of Southampton. It was first employed as a self-acting ventilator in Mr. Taylor's Cucumber houses. It consists of a cylinder containing air and a diaphragm of India-rubber which moves up or down, according to the amount of heat applied to the cylinder. A ventilator attached to it therefore opens at any required degree of temperature and closes again when the temperature falls to that of the starting point. No manual labour is therefore required, and gardeners are saved the vexation of having tender or choice plants injured by an excess of heat at a time when it is not wanted. But this invention regulates the temperature not only of a hothouse, it will also govern the fire by which it is heated by attaching it to a damper so as to shut off the draught or admit it, as might be required. If the fire burns too slowly it will open the damper, and thus keep up the temperature desired. To agriculturists it will also be useful. By inserting it in ricks of any kind it will indicate the temperature, and its employment will also be found of importance where choice and valuable cattle require nice management as to heat or cold. The same principle is also applicable to dwelling-houses, factories, or other places. This is pointed out by merely placing the hands upon the cylinder, which sets the machinery in operation directly. At the same time it shows that under an increased degree of temperature it will ring a bell or fire a gun, and thus become a fire alarm. It detects any increase or decrease of heat at all times and in all places, whether in the deepest mine or on the surface, in the hold of a ship or on the deck." *A communication from Mr. Taylor, one of the Patentees.*

## Societies.

British Association: *Continued from page 791.*—The Antiquity of Man.—No subject has lately excited more interest among geologists and the public than the antiquity of the human race; whether or no we have sufficient evidence to prove the former co-existence of man with certain extinct mammalia, in caves or in the superficial deposits commonly called drift or "diluvium." For the last quarter of a century, the occasional occurrence, in various parts of Europe, of the bones of man or the works of his hands, in cave-breccias and stalactites associated with the remains of the extinct hyæna, bear, elephant, or rhinoceros, have given rise to a suspicion that the date of man must be carried further back than we had heretofore imagined. On the other hand, extreme reluctance was naturally felt on the part of scientific reasoners to admit the validity of such evidence, seeing that so many caves have been in

habited by a succession of tenants, and have been selected by man, as a place not only of domicile, but of sepulture, while some caves have also served as the channels through which the waters of flooded rivers have flowed, so that the remains of living beings which have peopled the district at more than one era may have subsequently been mingled in such caverns and confounded together in one and the same deposit. The facts, however, recently brought to light during the systematic investigation, as reported on by Falconer, of the Brixham Cave, must, I think, have prepared you to admit that scepticism in regard to the cave evidence in favour of the antiquity of man had previously been pushed to an extreme. To escape from what I now consider was a legitimate deduction from the facts already accumulated, we were obliged to resort to hypotheses requiring great changes in the relative levels and drainage of valleys, and, in short, the whole physical geography of the respective regions where the caves are situated—changes that would alone imply a remote antiquity for the human fossil remains, and making it probable that man was old enough to have co-existed, at least, with the Siberian mammoth. But, in the course of the last 15 years, another class of proofs have been advanced, in France, in confirmation of man's antiquity, into two of which I have personally examined in the course of the present summer, and to which I shall now briefly advert. First, so long ago as the year 1844, M. Aymard, an eminent palæontologist and antiquary, published an account of the discovery in the volcanic district of Central France of portions of two human skeletons (the skulls, teeth, and bones), imbedded in a volcanic breccia, found in the mountain of Denise, in the environs of Le Puy en Velay, a breccia anterior in date to one, at least, of the latest eruptions of that volcanic mountain. On the opposite side of the same hill the remains of a large number of mammalia, most of them of extinct species, have been detected in tufaceous strata, believed, and I think correctly, to be of the same age. The authenticity of the human fossils was from the first disputed by several geologists, but admitted by the majority of those who visited Le Puy and saw with their own eyes the original specimen now in the museum of that town. Among others M. Pictet, so well known to you by his excellent work on Palæontology, declared after his visit to the spot his adhesion to the opinions previously expressed by Aymard. My friend Mr. Scrope, in the second edition of his "Volcanoes of Central France," lately published, also adopted the same conclusion, although after accompanying me this year to Le Puy, he has seen reason to modify his views. The result of our joint examination—a result which, I believe, essentially coincides with that arrived at by MM. Hébert and Lartet, names well known to science, who have also this year gone into this inquiry on the spot, may thus be stated. We are by no means prepared to maintain that the specimen in the museum at Le Puy (which unfortunately was never seen *in situ* by any scientific observer) is a fabrication. On the contrary, we incline to believe that the human fossils in this and some other specimens from the same hill were really imbedded by natural causes in their present matrix. But the rock in which they are entombed consists of two parts, one of which is a compact, and for the most part thinly laminated stone, into which none of the human bones penetrate; the other containing the bones is a lighter and much more porous stone, without lamination, to which we could find nothing similar in the mountain of Denise, although both M. Hébert and I made several excavations on the alleged site of the fossils. M. Hébert therefore suggested to me that this more porous stone, which resembles in colour and mineral composition, though not in structure, parts of the genuine old breccia of Denise, may be made up of the older rock broken up and afterwards re-deposited, or as the French say *remané*, and, therefore, of much newer date, an hypothesis which well deserves consideration; but I feel that we are, at present, so ignorant of the precise circumstances and position under which these celebrated human fossils were found, that I ought not to waste time in speculating on their probable mode of interment, but simply state that, in my opinion, they afford no demonstration of man having witnessed the last volcanic eruptions of Central France. The skulls, according to the judgment of the most competent osteologists who have yet seen them, do not seem to depart in a marked manner from the modern European or Caucasian type, and the human bones are in a fresher state than those of the Elephas meridionalis and other quadrupeds found in any breccia of Denise which can be referred to the period even of the latest volcanic eruptions. But, while I have thus failed to obtain satisfactory evidence in favour of the remote origin assigned to the human fossils of Le Puy, I am fully prepared to corroborate the conclusions which have been recently laid before the Royal Society by Mr. Prestwich, in regard to the age of the flint implements associated in undisturbed gravel, in the north of France, with the bones of elephants, at Abbeville and Amiens. These were first noticed at Abbeville, and their true geological position assigned to them by M. Boucher de Perthes, in 1849, in his "Antiquités Celtiques," while those of Amiens were afterwards described in 1855 by the late Dr. Rigollot. For a clear statement of the facts, I may refer you to the abstract of Mr. Prestwich's Memoir, in the Proceedings of the Royal Society for 1859, and have only to add that I have myself obtained abundance of flint implements (some of which are laid upon the table) during a short visit to Amiens and Abbeville. Two of the worked flints of Amiens were discovered in the gravel-pits of St. Acheul—one at the depth of 10, and the other of 17 feet below the surface, at the time of my visit; and M. Georges Pouchet, of Rouen, author of a work on the Races of Man, who has since visited the spot, has extracted with his own hands one of these implements, as Messrs. Prestwich and Flower had done before him. The stratified gravel resting immediately on the chalk in which these rudely fashioned instruments are buried belongs to the post-pliocene period, all the fresh-water and land shells which accompany them being of existing species. The great number of the fossil instruments which have been likened to hatchets, spear-heads, and wedges is truly wonderful. More than a thousand of them have already been met with in the last ten years, in the valley of the Somme, in an area 15 miles in length. I infer that a tribe of savages, to whom the use of iron was unknown, made a long sojourn in this region; and I am reminded of a large Indian Mound, which I saw in St. Simond's Island, in Georgia—a mound 10 acres in area, and having an average height of 5 feet, chiefly composed of cast-away oyster shells, throughout which arrow-heads, stone-axes, and Indian pottery are dispersed. If the neighbouring river, the Alatamaha, or the sea which is at hand, should invade, sweep away, and stratify the contents of this mound, it might produce a very analogous accumulation of human implements, unmixed perhaps with human bones. Although the accompanying shells are of living species, I believe the antiquity of the Abbeville and Amiens flint instruments to be great indeed if compared to the times of history or tradition. I consider the gravel to be of fluviatile origin; but I could detect nothing in the structure of its several parts indicating cataclysmal action, nothing that might not be due to such river-floods as we have witnessed in Scotland during the last half century. It must have required a long period for the wearing down of the chalk which supplied the broken flints for the formation of so much gravel at various heights, sometimes 100 feet above the present level of the Somme, for the deposition of fine sediment including entire shells, both terrestrial and aquatic, and also for the denudation which the entire mass of stratified drift has undergone, portions having been swept away, so that what remains of it often terminates abruptly in old river-cliffs, besides being covered by a newer unstratified drift. To explain these changes I should infer considerable oscillations in the level of the land in that part of France—slow movements of upheaval and subsidence, deranging but not wholly displacing the course of the ancient rivers. Lastly, the disappearance of the elephant, rhinoceros, and other genera of quadrupeds now foreign to Europe implies, in like manner, a vast lapse of ages, separating the era in which the fossil implements were framed and that of the invasion of Gaul by the Romans. *Sir Chas. Lyell in the Geological Section.*

*(To be continued.)*

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BRITISH POMOLOGICAL: *Sept* 22.—Mr. Hogg in the chair. Twelve new members were elected.

Of Grapes an interesting collection was contributed by Mr. Hill, gr. to R. Sneyd, Esq., Keele Hall, Staffordshire, comprising the following varieties: Muscat of Alexandria, not quite ripe, berries very large; White Frontignan, a large and well-ripened bunch; Chasselas Musqué, very ripe; Royal Muscadine, not ripe; Muscat Hâtive de Saumur—this, like most of the so-called Muscat varieties of the French, is only a Muscadine; but Mr. Hill reports that the bunch (which was very much over-ripe), had been grown almost without artificial heat, and would, he believed, prove a very hardy and early variety for walls in the warm counties. The bunch is large, well-shouldered, rather thin in berries, which are medium sized, round, very sweet, and solid in flesh; Golden Hamburgh, over-ripe, but sweet and tender in flesh; Sahibee: this was a large, well-shouldered bunch, but the oval berries are rather small, watery, and deficient in saccharine quality; Old Tokay, much uncertainty exists regarding the Tokay varieties; but it is hoped that, at a later Meeting during the autumn, they will be brought together and carefully compared: the variety sent in this collection was long-bunched, shouldered, round, and large-berried; thick-skinned, very sweet, and solid-fleshed; Black Hamburgh, the usual variety; Bidwell's Seedling not quite ripe; but tender-fleshed, very sweet and vinous, and reported to be a good setter, and to keep well; Trentham Black, this variety received an important premium from the Society two years ago, and fully maintains the opinion formed of it: the flesh is remarkably tender, very sweet, and leaves a most agreeable after-taste on the palate—the bunch exhibited, however, was not well set; Lady Downe's Seedling, unripe, but a good keeping variety, very favourably reported on in February last: the berry is large, ovate, very vinous in flavour; and, being thick-skinned, will hang till March without shrivelling; Black Prince, a remarkably fine bunch, ripe, and excellent in flavour. The above were generally well ripened, excepting those marked otherwise; and were fine, well-grown bunches, displaying well the peculiarities of the respective varieties. All the Grapes in this collection were, however, more or less injured in flavour; and it was supposed that they had been syringed with something which made them taste as if impregnated with highly-sized whitewash. (The query was raised whether ... Compound had been used.) To this collection a ... prize was deservedly awarded.

A second premium was awarded to Messrs. H. Lane ... Son, of Berkhampstead, for a collection of 15 kinds grown (excepting where it is otherwise stated) in the great span-roofed orchard-house, the ends and one side of which have been left quite open during the whole the season, and where they had been planted against the front posts and trained under the rafters ... and down the other. The object had been to test the accuracy of the varieties, and to ascertain their respective qualities and distinctness. Of the varieties the bunches are well formed, compact, exceedingly well coloured; but those from the ... house appeared to want about a fortnight of ... ripe. The varieties included were:—Muscat of Alexandria, a fine bunch from forced house, well set with the aid of artificial means. Bowood Muscat, a fine bunch from a young plant in a pot grown in a Vinery, very well set, no artificial means having been used. Royal Muscadine from a wall, unripe; and White Sweetwater (misnamed Sahibee); in the Black Hamburgh section there were the usual variety—that which produces compact, well-shouldered bunches, and as well as sweet in flavour—it appeared under its own name, and also undistinguishable therefrom were Gros Hamburgh and Ashbridge Hamburgh. Nearly allied, but not identical, was Hammond's Richmond Victoria Hamburgh. Next to these in affinity came the Prince Hamburgh, a variety introduced into England some years ago from Rome, by —— Fitzherbert, Esq., of Swinnerton, in Staffordshire; it was believed at the meeting to be identical with Frankenthal. Near in general characteristics, but less shouldered and looser in habit of bunch, was the Esperione which seems to be a link between the Hamburgh and St. Peter's sections. A good bunch was exhibited of the large-berried, but rather coarse, and sweet only (vinous), variety, known as Mill Hill, and which appears to be identical with Wilmot's and Dutch Hamburgh. Bunches called Black Lombardy and Black St. Peter were unquestionably the same, but much ... existed in their unripe state what they were. There was the same doubt regarding a ... called Black Prince, but which was scarcely distinguishable from the two former. The collection concluded by a bunch of that large, oval-berried, ... skinned, stiff-shouldered, and very shy-setting ... commonly known as Black Morocco, but ... called Tripoli. Mr. Lane promised to repeat the interesting exhibition a few weeks later, when the ... would be riper, and when it was hoped other specimens would be obtained to meet them, and thereby ... the Society to determine several important ... regarding their general nomenclature.

Amongst Grapes not exhibited in competition for premiums, the following were the most remarkable:

From Mr. G. Cooper, the Palace Gardens, Armagh, a bunch of the large black variety he sent to the Society in March last, and which he was requested to send again. The bunch was large, long and loose shouldered, very different in this respect from the Black Morocco, the side branchlets being very stiff and rigid; differing also in that it appears to set freely; the berries large, oval, extremely large, one three-sixteenth of an inch in their longest, and seven-eighths in their transverse diameter, skin thick, seeds very few, flesh very tender, not ripe enough to pronounce on as regards flavour; promising to be sweet and slightly vinous. This remarkable variety was not at all recognised, but appears likely to be worthy of cultivation if ... its magnificent appearance. From the same came a variety under the name of White St. Peter, evidently of the Tokay section, and similar in respect to that from Mr. Hill, except that the ... are oval instead of round. Mr. Cooper is invited to send both varieties again on the 27th of this month.

From Mr. P. Davidson, gr. to F. Bell, Esq., ... Hall, Yorkshire, several bunches of the Parsley-leaved Vine, a variety of Chasselas, having small, very deeply incised-leaves, and bearing large, stiff-shouldered bunches, thinly furnished with small amber-coloured and very transparent berries, but which, though sweet, did not appear good enough to render the variety worthy of cultivation, except as a curiosity.

From F. J. Graham, Esq., with a good example of Hamburgh, another bunch of a Seedling exhibited at the last meeting, in a riper state. The bunch is ... and formed like the White Frontignan, the ... round and of a pale-yellow colour, in flavour resembling the Chasselas Musqué; but Mr. Graham considers it much hardier as well as a far better setter, and that it is not so liable to crack; as he had often tried to grow that variety under a glass, without fire-heat, ... ever being able to produce a perfect bunch. He ... on the other hand that his Seedling has brought a heavy crop to perfection in the first year of its ... on the north side of a span-roofed orchard-house, ... fire heat, although the house was not glazed ... middle of April. Mr. Graham proposes calling ... Cranford Muscat. The meeting fully appreciated ... quality of the Grape as regards flavour, but ... more conclusive evidence as to its superiority in ... to hardiness, setting, and cracking, over the ... Musqué: Mr. Graham proposed, therefore, to ... latter variety on to his Seedling, and lay the ... before the Society as soon as he should be able.

From H. Wright, Esq., of Twickenham ... collection of seven kinds, amongst which were

spread, solid-fleshed, thin-skinned, and very sweet-flavoured variety of the Tokay section; which is to be brought again along with another example in a ripe condition at the Worthy Hall Seedling, a very large oval-berried, thin-skinned, and sweet grape, which is very little known, but comes very near the large sort mentioned above from Mr Cooper.

From A. Scrutten, Esq., contributed by L. Richardson, Esq., of Eltham, a basket of Muscadine, well swelled, though not quite ripe, from a Vine of very great age, which was never known to ripen its fruit until the garden came into the hands of Mr. Richardson, who treated it (as nearly as circumstances permitted) after Mr. Hoare's system, never permitting any branch to bear grapes more than once; and always after their ripening cutting away the branch which had borne them to the last two buds, in order that it might produce during the following year, bearing wood for the year next succeeding. This principle of treatment fully developed, although it was found impossible to manure the soil or in any way interfere with the roots, as they were situated under a gravel walk.

For Pears a first premium was awarded to Mr. Whiting, of the Deepdene, for a very excellent dish of Brown Beurré, from an old tree against a south wall. The fruit was large, very oblate, just ripe, melting, sweet, and very delicious.

Mr. Swinerd, gr. to Jno. Swinford, Esq., Minster Abbey, near Ramsgate, sent a dish of Gratioli, which would unquestionably have taken the first prize, but the fruit was just so much over ripe, that, in every fruit save one, decay had commenced at the core. The single fruit mentioned was deliciously melting and highly flavoured; the same gentleman sent a dish of remarkably fine Williams's Bon Chrétien, some of which were 5 inches in length, but they also were, unfortunately, over ripe.

Another dish was of Marie Louise, from Mr. H Miers, of Bradford, from a south wall, soil rich loam over a subsoil of sandy gravel, fruit very fine in size and colour, and promising excellent flavour, but not quite ripe enough to compete.

Of Pears not sent for competition, the most interesting were Archdeacon's Seedling Gansel, from J. Moorman, Esq., very like the parent in appearance, less gritty in texture; but, although very melting, acid in flavour and void of aroma.

Of Apples three dishes were exhibited, one of which, Hicks's Fancy or Summer Nonpareil (No. 1), from Mr. Swinerd, was unripe, and of the remaining two dishes, both Ribston Pippin, that which received the first premium was from Mr. Whiting, and the second from Mr. Swinerd. Both were very large, handsome, and rich in flavour; and it would have been a difficult matter to decide between them, but the latter had been laid on hay or some other pernicious material which had imparted its flavour to the fruit.

Of Plums, Mr. Whiting exhibited Belgium Purple, in fine order for table, although this is generally esteemed only a culinary fruit. The same remark applies to Kirke's brought by Mr. John Newton. Very fine Diamond Plums were sent by Mr. Swinerd.

Of Pears, Mr. Newton exhibited from a standard Williams's Bon Chrétien, fine, large, very melting and delicious in flavour. H. Webb, Esq., brought from a pyramid on a Quince stock, sandy soil and subsoil, Belle et Bonne; large and sweet, but decaying at the heart before they were fully ripe; and Flemish Beauty, from a south wall, Quince stock, fruit small, melting, but thick-skinned and rather gritty.

Mr. Spary brought branches of a very handsome variety of American Crab, with bright, red, oval fruit, about the size and shape of pigeons' eggs.

Of Nuts Mr. Swinerd sent specimens of four kinds:—the Red Filbert, a variety he received as a new Filbert, but which proved to be Lambert's Cob; the common Kentish Cob, and an unnamed variety bearing large clusters of fruit with a short beard, and which was recognised as Pearson's Prolific; this is a useful and very free-bearing but little known variety, which has been confounded with the Common Cob by some, but is very distinct, and worthy of more abundant cultivation.

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National Dahlia for 1859.—This exhibition took place at Aston Hall, Birmingham, on September 20. Late as the day was, the flowers were very large, and in many instances very fine. The nurserymen's classes consisted of 50 and 24 varieties, exhibitors in the former not being allowed to show in the latter. In the fifties, the first prize was awarded to Mr. Turner, of Slough, for Commander, Lady Mildmay, Mrs. Huntley, Lord Bath, Sir R. Bruce, John Dorey, Lord Palmerston, Pandora, Chairman, Rosebud, Duchess of Kent, Sir Henry Havelock, Dr. Gully, Daughter of the Morning, Peerless, Disraeli, Goldfinder, Midnight, Emperor, Flower of the Day, J. Franklin, Sir Charles Napier, Mrs. Church, Mentor, Conqueror, Lord Cardigan, Hon. Mrs. Trotter, Triomphe de Pecq, Lord Eversley, Miss Pressley, Pluto, Merveille, Rachael Rawlings, Eclipse, Lollipop, Touchstone, Sidney Herbert, Beauty, Standard Bearer, Cherub, Pre-eminent, Miss Watts, Perfection, Lady Taunton, and six seedlings; 2d, Mr. Keynes, Salisbury. In 24 varieties, the first prize was awarded to Mr. Walker, Thame, Oxon, for Empress, Colonel Windham, Miss Pressley, King, Marmion, Triomphe de Pecq, Sidney Herbert, Chairman, Miss Chetwode, Sir J. Paxton, Venus, Grand Sultan, Touchstone, Satirist, Mrs. Wheeler, Fanny Keynes, Goldfinder, Admiral Dundas, Annie Rawlings, Hon. Mrs. Trotter, Lollipop; 2d, Messrs. Wood and Ingram, Huntingdon. Fancy varieties, 24 blooms: 1st, Mr. Keynes, with Baron Alderson, Countess of Derby, Zebra, Charles Perry, Cleopatra, Oliver Twist, Leopard, Flirt, Triomphe de Roubaix, Madame Alboni, Favourite, Marc Antony, Bayadere, Duchess of Kent, Lady Paxton, Conqueror, Sportsman, Miss Frampton, Jessie, Pretty Polly, Rev. Joshua Dix; 2d, Mr. Turner. In 12 Fancies for Nurserymen not exhibiting in the class for 24, the first prize was awarded to Mr. Legge, for Marc Antony, Lady Paxton, Miss Herbert, Triomphe de Roubaix, Papilio, Pigeon, Baron Alderson, Cleopatra, Tiger, Duchess of Kent, Comus, Butterfly.

If nurserymen mustered well, which they did, amateur growers were equally well represented. The first prize for 24 varieties was awarded to the Rev. C. Fellowes, for Pre-eminent, Venus, Mentor, Chairman, Touchstone, Peerless, Fanny Keynes, Sir J. Paxton, Miss Pressley, Triomphe de Pecq, Pioneer, Satirist, Sir Robert Bruce, Miss Caroline, Commander, Lord Cardigan, Lemonade, Knight of the Bath, Golden Drop, Rosebud, Lady Popham, Wallace, Lord Palmerston, Mrs. Church; 2d, Mr. C. J. Perry, Birmingham. In 12 varieties, the first prize was awarded to Mr. J. Lofley, Brigg, Lincolnshire, for Pandora, Admiral Dundas, Miss Watts, Mrs. Church, Lord Cardigan, Gold Drop, Commander, Chairman, Lord Palmerston, Fanny Keynes, Sir H. Havelock, Venus; 2d, R. Hopkins, Esq., Brentford. In fancy varieties the first prize was awarded to Mr. C. J. Perry, who exhibited Lady Paxton, Countess of Derby, Cleopatra, Charles Perry, Flirt, Duchess of Kent, Miss Frampton, Favourite, Butterfly, Oliver Twist, Inimitable, Countess of Bective; 2d, Rev. C. Fellowes. Six Fancies: First prize, Mr. Hobbs, with Baron Alderson, C. Perry, Lady Granville, Lady Paxton, Gloire de Kain, Jupiter; 2d, Mr. Cooper.

Seedlings formed an interesting feature, they were both numerous and good. Not less than three blooms each were shown. First class certificates were awarded to Harlequin (Grant), a striped fancy, yellow ground, with bright red marking, the colour most evenly and beautifully distributed, form fine, Lilac Queen (Grant), pale lilac, finest form; Lady Taunton (Turner), white edged with bright crimson, full size, great depth, and new; Sir J. Radcliffe (Grant), maroon; Pluto (Turner), dark fancy, maroon tipped with white, of great depth; alba multiflora (Turner), a pure white kind for bedding; Queen Mab (Turner), fancy, scarlet and white, large and fine; Mrs. H. Vyse (Church), white edged with purple. The two latter received second class certificates. The above were contributed by Mr. Turner, of Slough; Mr. Keynes also sent a large number of seedlings. First class certificates were awarded to Lady Pennant (Keynes), pale yellow; Mrs. Wellesley Piggot (Keynes), pure white, very fine flower; William Dodds (Keynes), deep yellow; Sir Geo. Douglass (Dodds), yellow tipped and veined with red;—and second class certificates to Leopard (Keynes), striped fancy; Mr. Boshel (Rawlings), buff; and Jenny Austin (Keynes), lilac. Mr. C. J. Perry received a first class certificate for Acme, a pleasing light flower, of good form; and Earl of Shaftesbury a light mottled purple, of good size and form. Mr. S. Hodges, Cheltenham, received a first class certificate for Model, a small buff flower, of good outline. The same award was made to Mr. Addis, Gospel End, Wolverhampton, for Oscar, a red flower, with fine petal and outline.

In addition to the certificates just enumerated, eight money prizes were awarded for seedlings, six blooms of a kind. These were awarded as follows:—1, Lady Taunton (Turner); 2, Acme (Perry); 3, Lady D. Pennant (Keynes); 4, Jenny Austin (Keynes); 5, Mrs. W. Piggot (Keynes); 6, William Dodds (Keynes); 7, Miss Chetwode (Walker); 8, Sir G. Douglass (Dodds).

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## Notices of Books.

*The Culture of the Peach and Nectarine.* By George M'Ewen, late Superintendent of the Horticultural Society's Gardens, at Chiswick. Edited and enlarged by John Cox, F.H.S. Octavo, pp. 52. Groombridge.

This work, we are informed, was in an advanced stage when the death of the author took place; but it does not appear that more than 27 pages of it had been written by him; the rest has been chiefly supplied by Mr. Cox, well known to be an excellent fruit cultivator. We cannot say that this combination of experience has been very happy. The author was a man much overrated, and his editor would have done better to publish a treatise on the Peach tree without assistance, if he thought such a book was wanted. At all events Mr. Cox would have avoided such absurdities as talking about "the pulses of a plant becoming weak."

After a careful examination of this thin volume we scarcely find a page that is not open to objection of one sort or another. Even the list of varieties does not supply the present demands of gardeners, who want above all things to know what sorts of Peaches and Nectarines to select, and which are best adapted to their climate or the objects they wish to attain. Surely such Peaches as the Catherine might have been dispensed with, and good melting Nectarines substituted for the Old Newington, Early Newington, and Red Roman, all clingstones. In a special treatise, such as this aspires to be regarded, full instructions for overcoming the difficulty of growing the Queen of Nectarines—the Stanwick—ought to have been given instead of a miserable paragraph teaching nothing; and it would have been better to have spelt the names of some of the new kinds correctly. It is rather too bad to be told that the Peach called *à bec* by the French was named after its raiser, unless indeed he had a beak instead of a nose; or to disguise their *Dlesse tardive* under the queer name of *Desse tardine*. It is not, however, to these minor matters that we take objection so much as to the practical directions with which the reader is favoured.

What we are told about borders and soils is all very well; and the addition of one-fourth of charred earth to the main constituents of a "rich unctuous loam, free of manure, not pulverised, but roughly mixed up with turf or cut straw," is doubtless advantageous. We do not, however, see much use in the cut straw, for if the soil is of proper texture it will remain permanently open enough; and if it is not it will again become too adhesive when the straw decays in the course of a few years. Nor do we understand what the author meant by recommending gardeners to use "singed" earth. Speaking of stocks we are informed that "the practice of budding upon the Plum stock is no doubt the best that can be followed, particularly for such trees as are intended for the open walls, on account of their superior hardiness;" thus leaving the inexperienced to imagine that it is of no consequence on what a Peach or Nectarine is budded, provided it is a Plum; than which a more pernicious doctrine could not have been insinuated. The author then proceeds to express his opinion that dwarf trees for walls are not desirable, because "the atmosphere so near the surface is always some degrees colder than 4 feet up the wall; consequently, a hardier stock, say a half standard Plum stock, would not be so likely to suffer from the spring variations of temperature. From whatever cause it may arise I cannot divine, but I have long observed that standard trees in general succeed better than dwarfs, and therefore I feel justified in commending them." A shrewd observer once said to his son: "My dear Tom, express any opinion you like, but never give a reason for it." It is a pity that no one should have given the author such advice.

That the atmosphere near the foot of a wall is always some degrees colder than at 4 feet up the wall is an assertion entirely the reverse of the fact, unless, indeed, the lower part of a wall is shaded improperly by tall vegetables. An open wall, fully exposed to the sun's rays, is actually hotter up to 4 feet from the ground than it is above that distance. It is true that in wet seasons and in damp situations fruits situated at a foot or less from the ground are scarcely so rich as those which are higher, but that has nothing to do with temperature. No good gardener thinks of training the branches of a Peach tree lower than about a foot from the ground; but it is a gardener's business to take care that all above this should be occupied by well-trained branches, and that cannot be done by using standards. Walls are expensive articles; and when a gentleman has paid their cost, he ought to have the satisfaction of seeing them progressively covered with healthy productive trees from within a foot of the ground to the very top. In any favourable climate this is perfectly possible, provided the nature and *mode* of vegetation of the Peach tree is understood—a knowledge which renders all the operations connected with its cultivation comparatively easy.

If there is one circumstance which more than all others tends to the fruitfulness, health, and longevity of fruit trees in general, but of the Peach most especially, it is the equal distribution of the sap. We often see a tree pushing strong gross shoots in the centre, and at top, where they are not unfrequently permitted to rise, like a series of young stems, above the top of the wall; whilst the lower part is so weak that the branches there occupying a horizontal position are languishing and scarcely able to maintain their vitality; for if left to its natural course the sap flows very sparingly, right or left, into weak horizontal branches provided it can pass into vigorous upright ones. This fact is incontestible; and every system of training in which it is not recognised must be considered faulty, until such time as it may be thought no defect to have the lower and hottest part of a wall naked or badly furnished, and thus rendered useless except to support the upper part.

The mode of training recommended in the work before us is illustrated at p. 24 by a woodcut, representing a wall tree with a tall stem, from the top of which branches radiate in all directions; and on paper those branches that point downwards appear as strong as those that have an opposite direction. All that we shall say upon this point is, that very good gardeners think they do well when, by skill and attention, they can maintain sufficient vigour in branches extending horizontally; to do so in the case of branches trained downwards is rarely attempted with the Peach; for even the branches of the Pear tree trained in that direction become too weak to bear.

It is notorious that frost and drought affect compact soils to a greater depth than loose soils. The practice of treading over the borders recommended at p. 18 is not exactly in accordance with this fact. "Where light soils abound, or from circumstances the operator has been obliged to use them, it is a good plan to add marl or some other stiffening medium to give body to the compost; and when the weather is dry and evaporation excessive I frequently tread over open soils to give them a *firedness* and prevent waterings. This operation should be regulated by the growth of the tree and the state of the weather. It is most

useful when the tree is in active growth, and during the prevalence of a dry and arid atmosphere. This treading is in many cases preferable to mulching, inasmuch as it does not intercept the sun's rays from the border. It is easily accomplished, and no objection can apply to it; for if the composition of the soil has been attended to, it will have a kind of elasticity which in a healthy root action will cause the soil to rebound, as it were, to its original openness." The meaning of all this is not very clear; but the scope of it seems to be that treading soil prevents the necessity of watering. This is contrary to the practice of the most experienced gardeners, who, in order to save watering, in very dry weather endeavour to keep the surface of the soil loose by plying the hoe and rake.

Under the head of disbudding, there appears to have been some mispunctuation in the following sentence:—"I usually go over the trees three times at the final thinning, which is when the young shoots are being laid in. I only leave the terminal bud and the one at the base of the shoot." What was meant must have been: "I usually go over the trees three times. At the final thinning, which is when the young shoots are being laid in, I only leave the terminal bud and the one at the base." What is done ultimately with the shoots so disbudded is not stated. Disbudding is termed "a most important operation, since by its careful performance winter pruning is almost entirely avoided." This quite passes our comprehension, especially since due stress is properly laid on not overcrowding the tree with shoots. If the tree is furnished with a sufficient quantity of bearing shoots they ought certainly after they have once borne to be removed at the winter pruning, in order to make room for succession shoots for bearing in the following season, otherwise the bearing shoots of the year would be crowded with naked branches which bore the fruit in the preceding season, and which do not bear a second time. To our limited apprehension these ought to be removed, and consequently there must be a considerable amount of winter pruning. But this most important part of the subject is forgotten. Perhaps it forms a part of the mystery of pruning not to be revealed to the uninitiated, but to be dealt with by "the final touches of the master," which the author modestly compares to the finishing strokes of a sculptor with his statue.

If it were worth while we should extend these remarks; but enough has been said to show the general character of the volume. We shall therefore only add that an excellent calendar of operations has been appended by Mr. Cox, who will we trust in future stand on his own stout legs instead of the crutches of other people.

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TRADE LISTS RECEIVED.—Ambrose Verschaffelt's (Ghent) *Prix courant pour l'automne* 1859, *et le printemps et été* 1860. Mr. Verschaffelt's nursery, which is 15 minutes' walk from the railway station, appears from this catalogue to be rich in rare and valuable plants of all countries. Among others he offers, without naming price, the Tree Fern of N. Zealand, Cibotium Billardieri, 8 and 10 feet high, a very large collection of Palms, and at 10 fr. each a new winter Pear called General Totleben, which is stated to be one of the best in the world (*un des meilleurs qui existent*).

## Miscellaneous.

*Whitaker's Mowing Machine.*—A sub-committee, which met from time to time at the Horticultural Society's Garden at Chiswick to examine samples of vegetables grown for comparison, made several trials of a new patent lawn mowing machine, which had been sent to the Society for the purpose of being tested by the manufacturer, Mr. J. Whitaker, Bedford Mill Iron Works, Leigh, Lancashire. After repeated trials the sub-committee were fully convinced that this machine was one of the best that had been brought forward. It was easily drawn and turned, and both cut and cleaned off the Grass in a perfectly satisfactory manner. They came therefore to the unanimous decision that Mr. Whitaker's was a first-rate machine. *Horticultural Society's Proceedings.*

*The Irish Greyhound* is a remarkably fine animal, being 4 feet in length, and very firmly built. Its hair is of a pale fawn colour, and much rougher than that of the smooth English greyhound. Unless excited by the sight of its game, or by anger, it is a very peaceable animal; but when roused, exhibits a most determined spirit. In former days, when wolves and wild boars infested the Irish forests, this dog was used for the purpose of extirpating those animals; but in these days their numbers are comparatively few. When fighting, it takes its antagonist by the back, and shakes the life out of its foe by main strength. One of these dogs measured 61 inches in total length; 28½ inches from the toe to the top of the shoulder, and 35 inches in girth. *Routledge's Illustrated Natural History.*

## Calendar of Operations.

(*For the ensuing Week.*)

### PLANT DEPARTMENT.

CONSERVATORY, &c.—Whatever watering may be necessary here should be done early in the day so as to allow of getting the superfluous moisture dried up before night, for there is much more danger from damp among plants in flower at this season than from a rather low temperature, and on cold dull cloudy days it will be advisable to use a little fire-heat with air during the day so as to secure a moderately dry state of the atmosphere before night. Use fire-heat very sparingly, however, and only when it may be necessary to prevent injury from damp, or to prevent the temperature falling below 40°, or where things are brought from warmer houses it will hardly be safe to allow the night temperature to average below 45°, but in houses containing a mixed collection of plants there is more danger to be apprehended from a high night temperature than from keeping it somewhat lower than may be suitable for some of the inmates.

### FORCING DEPARTMENT.

PINERIES.—Plants swelling their fruit must be assisted with a warm moist atmosphere, for it is difficult to get Pines to swell properly after this season under any circumstances, and unless the atmosphere can be kept warm and moist they will make but little progress. Therefore use sufficient fire-heat to secure a night temperature of at least from 65° to 70°, and 75° by day, allowing it to rise considerably with sunshine, and admit a little fresh air during the day when the weather is mild, using sufficient fire-heat to allow of doing this without lowering the temperature, and if there is the means of admitting fresh air so as to bring it into contact with the pipes on its entrance into the house, a little may be admitted with advantage in all states of the weather, and in the case of houses which have to be kept warm in winter there should always be some contrivance for admitting fresh air under or against the heating apparatus so that it may get warmed before coming into contact with the plants, and with proper arrangement a moderate supply may be admitted constantly without requiring any extra amount of fuel to keep up the temperature. Also endeavour to secure a steady bottom-heat of about 85°, and endeavour to keep the soil about the roots in a properly moist state, giving clear, rather strong, manure-water when necessary; but if the atmosphere is kept properly moist the soil will not require much water for some time. It is very difficult however to get Queen Pines to swell properly after this season, and any plants of this variety showing now should, unless in cases where ripe Pines of any size or quality will be valuable early next spring, be kept cool and dry as soon as they have done flowering, until the middle or end of January, and then be afforded a brisk moist temperature; and treated in this way, we have often found them to swell off exceedingly well, and where ripe Pines in winter are in demand Cayennes, Black Jamaica, and Montserrats should be grown to furnish the supply from November to April, for those not only swell better in winter than Queens, and the larger sorts of blacks, but are also less liable to be hard and inferior in quality. Fruit approaching maturity must also be kept warm, but the atmosphere should be kept rather dry, admitting fresh air freely on every favourable opportunity, for anything like moderately well-flavoured fruit will not be obtained at this season without a liberal use of fire-heat. If any of the young stock in pots appear to want shifting examine these at once, and shift such as are found to be at all pot-bound, for young plants if kept short of pot room through the winter will be apt to start into fruit instead of growth in spring. But in repotting at this season be careful to have the balls and soil to be used in a healthy state as to moisture, and place the soil where it will get warmed before using it, so as to avoid checking the roots. VINERIES.—Use gentle fires when the weather is damp in houses where the fruit is ripe; but only just sufficient to keep the atmosphere dry. Use brisk fires in houses where the fruit is not yet ripe, giving air freely, and be careful to guard the foliage from insects, particularly where the fruit has to be kept for any length of time after it is ripe. PEACHES.—As the trees will now be freely exposed to the air day and night, very little attention will be required here for the present. The foliage should, however, be kept clear of red spider, by an occasional washing with the engine where necessary, so as to preserve it in health until it has performed its functions and decays naturally.

### FLOWER GARDEN AND SHRUBBERIES.

Scarlet Geraniums, Fuchsias, &c., which it may be intended to winter for use next season, must soon be taken up and placed in safe quarters. Plants, however, which are still in good condition, may be left for some weeks longer; variegated Geraniums will not bear much frost, and where the plants have to be wintered in situations which are not very suitable for them they should be taken up before they are at all injured, as they will be much more liable to damp and die back in winter if the wood is at all touched by frost. Unless where there is a sufficient stock of these they should not be cut back, as is usually done with the old Scarlets, but should be kept over the winter just as they are lifted from the beds, and cut back early in spring after starting them into growth, when the cuttings will root very freely in heat, and in the case of Flower of the Day, or other free growers, will make useful sized plants by turning out time, and even the strongest growers of these do not cover a bed very quickly unless planted thick, and the plants should therefore be wintered in as large a state as the accommodation will permit. The autumn rooted stock of Verbenas, &c., must be well attended to, keeping them perfectly clear of greenfly, and exposing them freely to the air on every favourable opportunity, so as to prevent anything like growth after this season, and keep the plants hard, in which state they will be much less liable to fog off under a week or two's confinement [illegible] than if they were kept in a growing soft state [illegible] overtaken by severe weather. Things which are [illegible] sufficiently established must, however, be treated [illegible] what more kindly, for there is but little chance [illegible] carrying such things over a severe winter unless [illegible] are at least well rooted, and these might with advantage be placed upon a gentle bottom-heat to encourage the roots, but do not keep the atmosphere close and moist, for growth should not be encouraged after the season.

### HARDY FRUIT AND KITCHEN GARDEN.

Where wasps are troublesome means must be taken to preserve ripe fruit from their depredations; look frequently over any varieties of Pears ripening, and gather those that are fit, for if allowed to hang on the tree they are ripe wasps are sure to find them, and will attack the fruit before it is fit for gathering. Where Currants are covered with mats, which, by the by, are very inferior to close nets for this purpose, and are more expensive, the trees should be uncovered occasionally on fine dry days, so as to expose the fruit thoroughly to the air, in order to prevent their being injured by damp, &c. Trim and dress Strawberry plantations, and be careful to injure the leaves of the plants as little as possible, and avoid deep digging between the rows which is of no farther use than to injure the roots, as the Strawberry rather prefers a somewhat firm soil. Take advantage of dry days, when the ground is in working order, to take up and store Carrots, Beet, Parsnips, &c., and stack them in sand in a cool place where they will be conveniently got at when wanted for use.

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STATE OF THE WEATHER AT CHISWICK, NEAR LONDON
For the Week ending Oct. 6, 1859, as observed at the Horticultural Gardens

| Sept. and Oct. | Moon's Age. | Barometer. Max. | Barometer. Min. | Temperature of the Air. Max. | Min. | Mean | Temperature of the Earth 1 foot deep | Temperature of the Earth 2 feet deep | Wind |
|---|---|---|---|---|---|---|---|---|---|
| Friday 30 | 4 | 29.789 | 29.768 | 65 | 51 | 58.0 | 60 | 59½ | [illegible] |
| Satur. 1 | 5 | 29.929 | 29.733 | 67 | 53 | 60.0 | 60 | 59½ | [illegible] |
| Sunday 2 | 6 | 30.136 | 30.106 | 73 | 55 | 64.0 | 60½ | 59½ | [illegible] |
| Mon. 3 | [illegible] | 30.124 | 29.918 | 75 | 45 | 60.0 | 61½ | 60 | - |
| Tues. 4 | 8 | 29.866 | 29.803 | 80 | 47 | 63.5 | 61 | 60 | - |
| Wed. 5 | 9 | 29.959 | 29.947 | 74 | 53 | 63.5 | 61½ | 60 | [illegible] |
| Thurs. 6 | 10 | 29.979 | 29.842 | 74 | 57 | 65.5 | 62 | 60½ | [illegible] |
| Average | | 29.968 | 29.873 | 72.7 | 51.5 | 62.1 | 60.9 | 59.8 | |

Sept. 30—Rain; clear and fine at night
Oct. 1—Densely clouded; boisterous; fine, with Aurora Borealis.
— 2—Densely overcast; very fine throughout.
— 3—Fine; clear, quite cloudless and exceedingly fine.
— 4—Very fine; broad band of fleecy clouds from N. to S.
— 5—Foggy, heavy dew; exceedingly fine throughout.
— 6—Slight fog; very fine; clear at night.
Mean temperature of the week, 8 4-5ths deg. above the average.

RECORD OF THE WEATHER AT CHISWICK,
During the last 33 years, for the ensuing Week, ending Oct. 15, [illegible]

| October. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds: N. | N.E. | E. | S.E. | S. |
|---|---|---|---|---|---|---|---|---|---|---|
| Sunday 9.. | 59.7 | 42.9 | 51.3 | 17 | 0.52 in. | — | 6 | 1 | 1 | [illegible] |
| Mon. 10.. | 61.2 | 43.4 | 52.3 | 18 | 0.68 | 2 | 5 | 5 | — | [illegible] |
| Tues. 11.. | 61.8 | 43.2 | 52.5 | 16 | 0.34 | 2 | 5 | 3 | 2 | [illegible] |
| Wed. 12.. | 60.1 | 42.1 | 51.1 | 18 | 1.00 | 4 | 4 | 2 | — | [illegible] |
| Thurs. 13.. | 60.2 | 42.2 | 51.2 | 16 | 0.33 | 4 | 4 | 4 | — | [illegible] |
| Friday 14.. | 59.3 | 41.5 | 50.4 | 16 | 0.50 | 1 | 4 | 3 | 2 | [illegible] |
| Satur. 15 | 57.9 | 40.5 | 49.2 | 15 | 1.04 | 2 | 3 | 3 | 1 | [illegible] |

The highest temperature during the above period occurred on the 1845—therm. 76 deg.; and the lowest on the 15th, 1850—therm. 24 d

## Notices to Correspondents.

AUBERGINE: *Ignoramus* What is thus called is the egg state of the common Egg-plant. The former is excellent, latter uneatable.

EMIGRATION: *F B M.* For all works on emigration to Mr. Stanford, bookseller, Charing Cross, London, or your bookseller. We do not recollect anything treating of the agriculture of those colonies.

INSECTS: *W D.* The smaller grubs found in your lawn young state of the larvæ of the common Cock-chaffe takes more than one year, sometimes three, to un transformations. The larger grubs are the larvæ (fu of the Rose Beetle (Cetonia aurata).—*H L.* Your lawn infested with the young larvæ of the Cock-chaffer be better to pare off the sound turf and fork t ground so as to expose the grubs to the birds. with gas-tar water might be effectual in rendering of the Grass unpalatable to the grubs, but not recommend its use.—*J E (Seacombe).* Your are attacked by the Black Caterpillar of th thredo, often called Niggers. Lime-water wi them, or a water-cart should be run over the row plants immediately dusted with lime *W.*

IVY: *J E, Richmond*, begs to inform our correspon Irish Subscriber," that he lately purchased some Ivy," at Mr. Laing's Nursery, Twickenham, Middl adds that his plant was one of a collection of well-gr mens in pots, some 3 or 4 feet high, with three bra tied up to a stick. His plant, he states, cost 9*d.*

NAMES OF FRUITS: *W B H.* Your Pear, 8 inches in very probably the Grosse Calebasse, judging from you sent. It is reckoned an eating Pear, though rate. The Uvedale's St. Germain, a baking Pear, similar form. If you send a leaf it will enable us

NAMES OF PLANTS: We have been so often obliged tantly decline naming heaps of dried or other plants venture to request our correspondents to recollect never have or could have undertaken an unlimited this kind. Young gardeners, to whom these remarks especially apply, should bear in mind that, before a us for assistance, they should exhaust their other gaining information. We cannot save them the examining and thinking for themselves: nor would desirable if we could. All we can do is to help that most willingly. It is now requested that, in more than four plants may be sent us at one *Inquirer.* Abies Menziesii—*A B* Euonymus europ common Spindle Tree.—*H S C.* Mirabilis Jalapa, of Peru, an old-fashioned tender annual.—*J B* cuspidatum, a Japanese species, useful as forming summer covert, but having the fault of disappear the first frost.—*A B.* Physalis edulis.—*A Z.* Dubious tas.—*Henry B.* Amanita muscaria, one of the sonous of all fungi.

PEACHSTONES: *Querist* would be glad to know defects in the stones of Peaches when getting sioning a hollow which becomes a nest for woodlice.

THE HITCHAM VILLAGE SOCIETY: If *Querist* will Rev. J. S. Henslow, Hitcham, Bildestone, he will receive the information he seeks.

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Established in 1844.
Incorporated by Act of Parliament in 1848.
Draining, Embanking, Irrigating, Warping, Road Making, and all kind of Land Improvements, executed on Entailed, Mortgaged, or other Properties, and the whole cost can be made a Permanent Charge on the Lands, or redeemable in a certain number of years.
Offices, Exeter, and 10 Parliament Street, London, S.W. Bidwell & Beddie, Secretaries.

## AGRICULTURAL EDUCATION.

HIGHLAND AND AGRICULTURAL SOCIETY.—The Society's AGRICULTURAL DIPLOMA will be granted in terms of the following Bye-Laws enacted by authority of Royal Charter:—

"That it shall be competent for the Board of Examiners from time to time to receive for examination, and to recommend for the Society's Agricultural Diploma, Candidates who shall have attained their 21st year, and who shall exhibit the vouchers, and pass an examination on the subjects hereinafter prescribed.

"That the vouchers to be exhibited shall be such as to afford satisfactory evidence to the Board—1st, That the Candidate has attended a farm, and been engaged in the practical operations thereof, for a period of two years, or for two separate periods of not less than one year each. 2dly, That the Candidate has attended, for another period of two years, or for separate periods of not less than one year each, the following classes in some seminary recognised by the Board as sufficient:—Agriculture, Chemistry, Natural History, Botany, Veterinary Medicine, and Surgery.

"That the Candidate's knowledge of Practical Husbandry and of the foregoing Branches of Study, as well as of Technology, Field Engineering and Surveying, Farm Mechanics and Architecture, and Book Keeping, shall be established to the satisfaction of the Board by means of a strict examination.

"That upon a Report made by the Board to the Council on Education, stating that a Candidate has exhibited the vouchers and passed the examination required, the Council shall issue, in favour of such Candidate, a diploma bearing the corporate seal of the Society, and certifying his proficiency in the Arts and Sciences connected with Agriculture."

Examinations are held annually towards the close of the Winter Session of the Edinburgh University. Detailed information may be had by applying to Mr. Hall Maxwell 6, Albyn Place, Edinburgh.

SMITHFIELD CLUB CATTLE SHOW, 1859.—The ANNUAL SHOW of FAT CATTLE, SHEEP, and PIGS will take place on the 6th, 7th, 8th, and 9th December, at the Bazaar, King Street, Portman Square.

The Prize List contains separate classes for Devons, Herefords, Short-horns, Sussex, Norfolk or Suffolk polled, Long-horns, Scotch horned, Scotch polled, Irish, Welch, and cross or mixed breeds. Also Long-woolled Sheep, cross breeds, Short-wools, and Pigs. In addition to the large amount offered in money prizes, there are also 50 Silver and 5 Gold Medals. The following forms of Certificates are now ready, and intending Exhibitors in applying for them need only quote the letters and state how many of each they require.

| Cattle. | Sheep. |
|---|---|
| Form A. Ox or Steer. | Form D. Pen of 3 Wethers. |
| „ B. Cow or Heifer. | |
| „ C. Ox or Cow in Extra Stock. | „ E. One Wether or Ewe in Extra Stock. |

Pigs.

Form F. Pen of 3 Pigs. | Form G. One Pig in Extra Stock

The Entries finally close on November 1.

Prize Lists with rules and regulations and Forms of Certificates to be obtained of B. T. Brandreth Gibbs, Hon. Sec., corner of Half Moon Street, Piccadilly, London, W.

N.B. All communications on the Club's business should have the words "Smithfield Club" outside, to distinguish them from private letters.

# The Agricultural Gazette.

*SATURDAY, OCTOBER* 8, 1859.

—— The recent terrible explosion of a locomotive agricultural steam engine at Lewes, which has resulted in the death of six persons, has drawn attention to the risks attending the use of such engines by people unaccustomed to their management. The remedy which our correspondent, Dr. Eddy, recommends in an adjoining column is to adopt those simple American horse powers to which the attention of the Agricultural Society was called some years ago by Mr. Chadwick, and to which he has himself recalled attention in the current number of the Agricultural Society's Journal. They are no doubt a simple and efficient method of making horse power available for chaff-cutting or for threshing, but that they can compete with steam power for such purposes on any but a very limited scale we do not believe.

The verdict of the coroner's jury declared "That the deaths were occasioned by the explosion of a steam-engine boiler, on the Wallands, September 21, 1859, caused by the non-action of a safety-valve; and that the said engine, from subsequent examination, has been found to be of inferior quality and construction, and not properly repaired and examined before it was used. The jury feel it their duty to recommend that every portable steam-engine should have an indicating pressure-gauge; and that the present system of employing unskilled persons as engineers requires that all persons so employed should be properly examined and certificated; and that a periodical inspection of such engines should be made by competent persons."

It is plain that the accident has arisen from a very badly constructed boiler, and such ill-management of it as resulted in excessive pressure. The evidence of Mr. Amos is sufficiently re-on after Christmas, we would recommend to substitute for the greater part of them "Borecole," or other gross-growing open-hearted kind; we believe there is nothing better than the common Scotch Kail or Curlies. These would carry on the Cabbage or winter feeding till the Rye was ready, assuring as to the exceptional character of the circumstances out of which this accident has arisen. Let us here recommend that the instructions by Messrs. Ransome for the management of a locomotive engine be placed by the owners of such engines in the hands of all the foremen in their employ. They are published in the last number of the Journal of the English Agricultural Society, Vol. XIX., Part II.

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It is an unquestionable fact that in Ireland the economy of the tillage of farms, with the exception of some few that are in the hands of men of superior intelligence, of liberal views, and abundant capital, is very defective; the prevailing system is still as it was before the appearance of the Potato disease, which, as a dispensation of Providence, was to have worked a wonderful reformation in Irish agriculture. Potatoes in beds alternate with Oats, very often in successive crops, and are continued till the land, at least the surface which is scratched over, is found unable to return a crop of three or four times the amount of the seed, and this by the bye, in order to keep down the weeds and to compensate for the want o tillering, is necessarily heavy. The land is then manured for Potatoes, or left waste, as it is very significantly called, to recover an imperfect fertility. This waste is the last stubble left unploughed and mostly unseeded and unproductive, and on it the cows of the farm depend for their summer support, the rent and taxes having to be defrayed out of the land under crops, supplemented however by what little butter cows so fed may yield. When restored to a sufficient fertility, this waste land is manured for Potatoes with such manure as cattle fed on straw and coarse hay in the winter along with such scanty herbage as they can pick up in the fields can make, with the addition, perhaps, of straw spread in a bye lane or in the farm passages.

This is our own observation of the present day, and it is sustained by a recent statement of the Professor of Agriculture of the Queen's College, Cork, in the *Weekly Agricultural Review*. His words are: "The system of culture has been Potatoes followed by two or more crops of corn, and the land, when refusing to yield more than about three times the amount of the seed, is laid down to 'rest;' generally without having Grass seeds sown with the last crop of corn. Very many of the fields so treated, which I have gone over, produce in the first year, off their 'rest,' a miserable crop of weeds. An acre of such land hardly yielded sufficient pasturage for a goat; the herbage, three-fourths of which is composed of weeds, may be capable in the second year of affording grazing for a sheep per acre, and in the third year for two sheep; and being by this time, as it is supposed, sufficiently rested, the land is again manured for Potatoes, with such manure as is produced when cattle is half starved, and the exhaustive process is repeated. This shocking system of farming, which is so detrimental to individual and public prosperity, applies, I regret to have to state, over almost every part of this great county" (Cork).

Does not such a state of agriculture call loudly for some strong measures that may promote a change? The want has been seen, but only seen—evidently not supplied. Agricultural societies, model farms, have been established, practical instructors have been sent abroad, simple and abstruse publications issued, all with little if any effect; vain have been the efforts to improve, vain because they have not come home to the people; vain because possibly they have attempted too much, have been on too large a scale, or have been attended with a cost that alarmed rather than conciliated farmers, as being far beyond their means. The very cattle shows, introduced no doubt to give a taste, are viewed with indifference, even with distrust by the great body of the people. "They look upon these exhibitions as intended to benefit the wealthy, regardless of consequences to the less fortunate; and as promoting the successful production of cattle at the expense and removal from the country of people," says a writer on the late exhibition at Dundalk. It is rarely, indeed, that any of the ordinary tillers of the soil can compete at these exhibitions, and they rarely attemp it.

Even among the most intelligent and enlightened to break out of old and confirmed habits is a very difficult matter; how much must it not be so with an uninformed people disposed to view in a ridiculous or suspicious light every innovation, who pique themselves upon their cunning, wit, and sarcasm, and are strongly attached to old faiths, who will not read, and indeed have little respect for the opinions of writers and for works on farming? How are we to convey information to them, how induce them to change their old preoccupations for a new light? Surely there can be none so likely to effect it as that which operated on the Norfolk farmer, although it took a long while to do it—the ocular demonstrations afforded by the great Coke. Establish through the length and breadth of the land such simply conducted example farms as shall speak at once to the minds of the masses, through the most sensitive of their organs and through the most sensitive of their concerns—their pockets; throw a net-work of these farms over the whole land, one at least in every parish or on each property, the size of them to be regulated by that of the average extent of farms in the neighbourhood, under the management of the more enlightened of the local farmers, men on reading, willing to learn themselves and forward to share their knowledge with and to give instruction to their neighbours, men whose capital shall not greatly exceed that of those to whom they are intended as examples, and who will live by their farms, not salaried men employing the capitals of their masters, for then the old quip would come in, "that money does it."

It must be made plain to spectators that the system exhibited is not bolstered up, but that its whole value lies in the success of the operations carried on by their equals, that are taking place before their eyes. There are no doubt some public-spirited men who, if convinced of the value of such establishments, would foster and promote them, but the great reliable machinery for carrying out the plan must be provided by the landed proprietors under the supervision and assistance of their agents, agriculturists, and stewards. To many landlords this would be but an agreeable duty, as augmenting the wealth of the country and improving the condition of their tenantry, and even eventually increasing the amount of their own rentrolls.

The object of the farms we contemplate would be to effect improvement by a very gradual progress, one that would not shock existing prejudices, one for which more or less the minds of the people are prepared, one that does not very widely depart from long established practices. Thus, however desirable it may be to cultivate Potatoes in drills we would not insist on it, for the people are not prepared to adopt that cleanliness of tillage so essential to drill culture—we would continue the old bed plan. So, however desirable an extended system of rotation and home feeding may be, we would not seek to institute it, since neither the occupiers of the land, nor even many landowners are convinced of the practicability and beneficial consequences of it; much less would we introduce the more advanced and perhaps better founded practice of Lois-Weedon. We will begin with the most simple forms, content with introducing a partial green feeding in such way as will impose least change. Cabbages have become of late years almost as familiar as Potatoes, upon them then we will rest for our winter-feeding crop, and these grown in the way that has become common. Red Clover, although rarely sown but in small patches, is somewhat estimated; on this then we would much rely for summer feeding, aided by Vetches, which are not quite unknown, and winter Rye, which as a green food, except to support winter Vetches, is quite a novelty. Now all these crops may be considered rather as smothering weeds than hoeing them, and they are therefore more suitable to the habits of the people and the existing foul state of the land, for a hoeing crop would be neglected and the land perhaps left fouler than ever after it. The Potatoes in beds are not of course a hoeing crop; neither are Cabbages in the way they are now planted and which we do not propose to alter.

Shortly after the Potato failure the people, who formerly had been used to feed their swine solely on the refuse of their Potato crop, found out that Cabbage was a good substitute for that root and commenced planting Cabbages on the brows of the Potato ridges; this has now become a common custom and prevails everywhere. It is asserted not to be detrimental to the chief crop, the Potato, and indeed we have not been able to discover any inferior produce of tubers under those Potato plants that have been in closest proximity to the Cabbage, and as, from the effects of the disease, the Potato haulm begins to decay very early, the Cabbages soon have the whole air room to themselves, and possibly the earth room too: and notwithstanding the early oppression of the Potato plants and the ill prepared state of the land, it is wonderful how well the Cabbages succeed; there are indeed very many fine heads among them. The Cabbages most generally planted are the large-hearted, but as these cannot be depended

and, although the close-hearted may frequently afford heavier individual weight, yet we are persuaded that, in connection with the Potato ridge, the acreage weight of the curly-pated fellows will exceed that of the hard-hearted ones. To Cabbages then may succeed Winter Rye, Winter Vetches, Red Clover, or Spring-sown Vetches, all in such proportions at first as may prove rather an introduction to house feeding and a help to the ordinary system than a full establishment of it. Such a plan, although constituting an evident improvement on the old one, would not make any great extraordinary demand on the exertion, the intelligence, or the pecuniary abilities of our farmers. Examples by ocular demonstrations are so much more effective than any other mode of conveying instruction that we may expect very favourable effects from them; the benefits that would result from having a supply of artificial green feeding to supplement the natural sources on which the farmer now depends would become so evident that we must expect good consequences to ensue, and the shame of our backwardness to be covered. *G.*

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We cannot allow the publication in another page of an article ON CATTLE COOKERY by a correspondent who defends the use of condiments as adding to the nutritive effect of food, and classes Mr. HORSFALL and Mr. THORLEY together as alike the leaders of agricultural progress and teachers of sound agricultural practice, without adding a word of comment. These two men stand in very different relations to the agricultural public. Let it be conceded for the moment that both advise sound practice; the one reaps a profit from every one who takes his advice, the other is purely disinterested. Mr. HORSFALL has related in this and other journals his experience in combining dairy produce with the meat manufacture by rich and skilful feeding, submitting without reward to considerable literary labour for the public good, and to the annoyance of hostile criticism. Mr. THORLEY covers all our railway stations and broadsheets with invitations to purchase a very costly article of his manufacture, the cost of *making* which is by that very system of advertisement proved to be much below the price at which it is offered, and the nutritive value of which does not in our opinion justify any one in paying for it, as they do, many times the value of Bean-meal.

Mr. THORLEY has just issued another elaborate advertisement in the shape of a sixpenny almanac, in almost every page of which the reader is taught that his success as a cattle feeder is dependent on the material given to the stock being "properly seasoned with THORLEY'S cattle food." It is plain that the two men whom "W. B." thus names together, stand wide apart as to the nature of their claims upon the confidence and regard of agriculturists.

Let us repeat our recommendation to any one who believes in the necessity of "condiment" for cattle food, to consult a competent veterinary adviser, and purchase what he needs direct from the druggist. He will find it an immense saving to his pocket if by adopting this plan he can medicate his Bean or Barley-meal to the proper pitch without sharing in the cost to Mr. THORLEY'S customers of Mr. THORLEY'S advertising, and Mr. THORLEY'S profits.

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## HIGH-PRESSURE STEAM *v.* THE AMERICAN RAILWAY HORSE-POWER.

THE recent lamentable explosion of an agricultural steam-engine at Lewes, by which six persons have been in a moment hurled into eternity, ought to be a serious warning to the agricultural community against needlessly employing so dangerous an agent as high-pressure steam. The use of these engines appears indeed almost criminal when we reflect that not only is the safety of all concerned with them dependent each moment on such trivial circumstances as whether a valve has got rusted in or has been screwed down too tightly, or "got stuck," whether a proper supply of water is kept up in the boiler, and the inside of the boiler duly cleaned of the coating of "fur," which if the water contains certain salts, is apt to accumulate and burn the plates, and that all these small but momentous details are in agricultural engines usually left to the care of men who, to say the least, are not trained and experienced engineers; but besides all this it now appears from the evidence given on the inquest at Lewes, by no less an authority than Mr. Chas. Craven, the Locomotive Engineer to the London and Brighton line, that there is some occult cause of these explosions not yet understood by engineers; and hence accidents are liable to occur even under the most careful management. Mr. Craven is also reported to say in his evidence that in high pressure boilers the pressure increases so rapidly after reaching 45 lbs. to the square inch, that in 10 minutes it may be increased from 50 to 80 lbs. What an imminent and frightful source of danger is this, if the safety-valve be not in perfect order. There is, moreover, apart from this risk of explosion the further danger, especially in threshing with these engines, arising from the presence of fire in an open straw-yard; nor is this danger inconsiderable, especially in gusty, blowing weather. When we add to these risks the fact ascertained now by general experience, that there is no economy in the use of these engines, and that the only advantage they confer is the saving of time and the convenience of getting grain threshed out rapidly to take advantage of the state of the market, it is surprising that a substitute for this expensive and dangerous agent has not yet come into use in England, and the more so when it is known that there is a substitute for it both safe and economical, which is most extensively used in the United States, and has been favourably recommanded by a Commissioner appointed to report on it to the Royal Agricultural Society; this is the American railway horse-power for one or for two horses. It is an application of that power which every farmer must possess and may as well use. The economy and efficiency of it are so well known and thoroughly appreciated in America that it is not only used to the exclusion of steam power on almost all the northern farms, but even by the railway companies for such purposes as cutting up wood for fuel for the locomotives. One of these two-horse powers will thresh and winnow 175 bushels of Wheat per day, at a cost of 2½*d.* per bushel; the only manual labour required being such as is necessary to feed the thresher and remove the straw, and this latter office is frequently performed by a straw elevator, which is run by the same "horse-power." No water-cart with its horse and man is required to keep this at work, no skilful engineer to attend to it, for there is here no dangerous accumulation of explosive force. The great success and extensive employment of these "powers" in the States is a sufficient warrant for their adoption in England. A description of them, with a drawing, may be seen in the just published number of the Royal Agricultural Society's Journal. They are manufactured in this country by Hartas, of Pickering, Yorkshire; and by Hughes, of the Falcon Works, Loughborough, Leicestershire. *C. W. Eddy, M. A., Oxford.*

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## THEORY OF AGRICULTURE.

BY DR. EVAN PUGH.

(*See page* 778).

LETTER VI.—ON AGRICULTURAL EDUCATION ON THE CONTINENT.

### A CONTINENTAL EXCURSION.

TIME, space, and force are important elements in everything we have to do, and the first instance in which they enter into the considerations we are about to enter upon is that which relates to when, how, and on what route a traveller is transported from the muddy, stinking cesspool that passes under London Bridge to the quaint old town of Hamburg. Overcharged by the cabman, and cheated by the boatman on the river, as usual, I succeeded in getting on board a steamboat in the middle of the Thames a short distance below London Bridge one morning in the early part of last August, and in less than a quarter of an hour we were upon our journey down the Thames. To say that we had a stormy, disagreeable passage would be but to repeat what everybody knows must be the case on the German Ocean; and to say that a motley group of passengers, part English, part German, part American, and part French, with no sympathies in common, and quite as much selfishness as refinement, all a little sea sick and cooped up in a close cabin on a wet day, did not constitute a pleasant company would be to assert an equally self-evident truth. And no doubt that on landing in Hamburg after a 48 hours' passage each one was as glad to get rid of all the rest as I was to get away from them all, to leave Hamburg by the first train for Berlin.

By no route could a traveller enter upon a continental tour that would give him so bad an impression of German agriculture as by that which we are now going. None would give a stronger contrast with the agriculture of England; the week before leaving England I had been across the island between Liverpool and London on two distinct routes. The richness of the agriculture, the deep green of the forests and the meadows, the ever-changing aspect of the landscape, the miniature scale of its physical geography and geology which combine to give England the most pleasant landscape scenery of any country in the world, contrast most strongly with the monotonous, and, comparatively speaking, barren sand plains between Hamburg and Berlin. Immediately in the neighbourhood of Hamburg, these remarks may not apply with such full force as at a greater distance on the road, since here the land is divided into small gardens, and these are surrounded by open ditches, full almost to the top with water, which serve to drain the land; and these gardens produce much larger crops than the sand plains to which we have alluded. But even they will not compare well with the general agriculture of England.

As the geological character of the soil remains the same, its agricultural qualities are unchanged, except in isolated patches, as where the transition from sandy to marshy or peaty soil takes place and then the change is most abrupt, not unfrequently in these very limited areas giving dry sand plains almost destitute of organic matter, and extensive marshes covered with stagnant water and large peat beds which are used for fuel. On the other hand we see patches of land that are worked, patches that are left fallow, portions with straggling trees, and these with the peat bogs and marshes and ditches all mixing and intermingling without any definite line of separation between them, thus indicating a most careless and slovenly husbandry. The crops that were growing upon the land were entirely characteristic of the land itself. In many places where the latter is not cultivated the natural coating of Grass and weeds is not sufficient to cover the soil and prevent the wind from blowing the sand about.

Such is the character of the land over hundreds of square miles in Prussian Germany. The far extending sand plains on first acquaintance remind one of the prairies of the Mississippi valley, but an examination of the soil or its crops is sufficient to show the marked difference between the rich alluvial deposits of the one and the clean washed sand of the other. The black peaty soil which often lies upon these beds of sand is not darker in colour than the loamy deposits of the Mississippi; but the one is due to organic matter passing rapidly to the last stages of its decomposition, while the other is the result of organic matter arrested in the course of decomposition, and thus prevented from either improving the physical texture of the soil, or from yielding up its elements to plants in the latter.

Through the kindness of Prof. H. Rose, known in the chemical world as the highest authority on chemical analysis, I was introduced to Dr. Schultz Fluth, the professor of agriculture in the University of Berlin, and the latter gentleman was kind enough to make me acquainted with the object and the present state of the department over which he presided in the University, as also to allow me to visit a manufactory for artificial manure in the neighbourhood of Berlin, in which he had an interest. This manufactory had formerly been used for preparing mixtures of common salt, peat, and the human excrements from the town, making a mixture with a large part of common salt, much organic matter, a little phosphate, and 1.5 to 2 per cent. of ammonia. Here, as in England, common salt produces remarkably good results upon certain kinds of sand, and none at all upon others, and consequently this manure answered the expectations of some who of course could recommend it to every one, and disappointed others who therefore could advise no one to use it. The consequence was a loss of confidence on the part of the farmer in the manure, and its manufacture was finally abandoned. They now make a manure in which the ammonia comes from blood and ground horns, and from the products of the distillation of old leather, woollen rags, &c., and the phosphoric acid from bones dissolved in sulphuric acid; and the sale of this, which contains 12 to 15 per cent. of ammonia and a large per centage of soluble phosphate, is gradually restoring that confidence which the turf, excrement, and salt effort lost. If the question of the use of the sewage of towns cannot be solved for a town like Berlin, situated in the midst of a desert sand plain, almost destitute of organic and nutritious mineral matter, one may well despair of the sewage of a town like London being used for agriculture. Professor Schultz Fluth informed me that several attempts to utilise the sewage of other towns in Germany had not been successful. Notwithstanding the sandy nature of the soil the addition of manure to the land enables it to produce good crops, as the Potatoes, Beets, and garden vegetables around this manure manufactory indicated, but it is quite improbable that any kind of farming would bring the land to that high state of cultivation that it is in England or even in the valleys of the more mountainous districts in southern Germany. Several persons with whom I conversed assured me that money invested in land did not yield over 3 per cent. interest to the owner in the most favourable circumstances, and very frequently much less than this was obtained from such investment. And this after all must be the rational test of the character of the agriculture in all communities. It is not simply a question of how to improve the land, or by what means it may be brought to a maximum degree of productive power, but a question of at what point in the gradual increase of the amount of capital invested in improving land will the sum total of capital yield the largest per centage of interest? If the agriculture of a community has reached the point at which it will yield this maximum per centage, whatever the character of the crops may be which correspond to it, the agriculturist has done all we can expect him to do. It remains for science to point out better methods of applying the capital to land, and for the political economist to so regulate the relations of trade as to maintain a rational relation between the per centage yielded by investments in land and that obtained from investments in manufacturing and commerce. Several Germans who have visited England, and who are perhaps over-anxious not to have the difference of agriculture in the two countries attributed to any fault of the inhabitants of fatherland, maintain that the superiority of English agriculture is due simply to the greater amount of capital at the disposal of the English agriculturist, and that the German farmer with as much money would raise as large crops and as fine stock as his neighbours on the other side of the North Sea. But this is only another way of admitting the superiority which a peculiar combination of circumstances has given to English agriculture—a superiority due in part to the inherent energies of the Anglo-Saxon race, and partly to the accidental geographical position of Great Britain. We shall see before we are through with our considerations on German agriculture that large investments in land in Germany will not yield an amount of interest at all commensurate with the value

of the capital invested, and that therefore the high farming of Great Britain is not practicable in Germany. On visiting Prof. Mitscherlich I was pleased to find that the old man, who for 40 years has enjoyed a European reputation for his purely scientific efforts, also had a deep interest in agriculture, and was well acquainted with its practical details. Most particularly was he interested in the source of nitrogen to plants, and the question of the assimilation of gaseous nitrogen by the latter. The large quantity of nitrogen obtained from some source by leguminous crops, and most particularly by white Lupins (a Bean) when growing upon the sandy soils around Berlin without any manure, and yet the quantity of combined nitrogen increasing in the soil at the same time, seemed to indicate that plants must be able to assimilate the gaseous nitrogen of the atmosphere. He did not feel that the researches of Boussingault upon this question were conclusive, but he did not attach any value to the researches of George Ville in Paris, which tended to invalidate the conclusions of the former. As yet the question of agricultural education in the University of Berlin is in its infancy, but it promises fair to develope itself into a distinct and well established branch in the University. But before going further with this subject a few general remarks upon the character of German agricultural institutions will not be out of place. These institutions are of three distinct kinds.

1st. EDUCATIONAL, in which the object is to teach students and young people generally the facts and principles of agriculture.

2d. SCIENTIFICALLY INVESTIGATING; the object of which is to develope the principles involved in agricultural practice by scientific investigations, chemical, physical, and physiological investigation, &c.

3d. POPULAR.—Embracing agricultural unions, the object of which is to bring the farmers and the peasantry together to hear discourses on agriculture, and thus to infuse a spirit of progress and intelligence into the older people of communities.

A. EDUCATIONAL INSTITUTIONS.—The educational institutions fall into four different classes, which, though quite distinct in many respects, have points at which the transition from one to the other is not abrupt. They are—

(*a*). Educational departments in connection with universities in which agricultural principles are specially taught on the assumption that the student has availed himself of certain advantages of the university, in consequence of which it may be assumed that he already possesses a certain amount of a certain kind of knowledge. Some of the advantages of these institutions are, that they enable the student to avail himself of all the well-developed educational resources of an old institution, and to combine them with whatever agricultural science is prepared to teach. They enable the professor of the agricultural department to confine himself more particularly to his own department, fully conscious the student will have ample opportunities for getting a knowledge of the auxiliary sciences in the lectures of the general university course. The knowledge of these auxiliary sciences can be more thoroughly and more economically obtained than where special professors must be appointed for teaching each one of them simply in relation to agriculture. The student in connexion with the university is more likely to contract habits of careful and systematic thought, as the result of the more thorough manner in which everything is taught, and he gets a more definite idea of the importance of principles, in consequence of having studied them more, than when his attention is more distracted by the practical affairs of more popular institutions. The simplicity of the arrangements of such institutions makes it possible to have one in connexion with every university, and thus offer a great variety of locality and circumstances enabling the student to proceed with his studies in almost any particular agricultural district he may choose; or at any kind of an institution as regards morality and religion that he may desire. Such agricultural institutions are already associated with the Universities of Griefswalde, Berlin, Jena, Göttingen, and Bonn, while professorships of agriculture are instituted at several other universities, as Munich, Vienna, Brunn, Gratz, and Klagenfurt.

*b. High Schools for Agricultural Instruction*, the object of which is to give a thorough knowledge of the theory and practice of agriculture, for which purpose the institution is located in an agricultural district, and is associated with a farm, upon which all the various processes of the best agricultural practice are in operation. The student is at liberty to learn how to perform the manual labour of the farm by doing it himself, or he may simply see how it is done. In most of these institutions however, previous to admittance, he must have in some way made himself familiar with agricultural practice, best by a residence of a year or two upon some well-conducted farm. All the sciences which bear upon agriculture are taught, and to facilitate this teaching, a chemical laboratory, Zoological, Mineralogical, Botanical, Geological, Anatomical, and Physical Cabinets are arranged, as also large collections of models of the different kinds of agricultural implements and machines used in different parts of the world. Political and national economy and agricultural jurisprudence are also taught, but the ancient and modern languages, history, literature, &c., are not studied, so that the course is not complete for the finished education of a highly intelligent agriculturist, yet the qualifications necessary to enter these institutions supply the deficiencies here indicated. Some of the disadvantages under which this class of institutions must labour will appear evident from the advantages enjoyed by those in connexion with the universities. As to the relative advantages of the two, there is quite a wide difference of opinion in the minds of different persons in Germany, who have been interested in the subject; we shall have occasion to refer to this difference again. There are a number of these schools already established in Germany.

*c. Agricultural Manual Labour Schools*, (*German, Ackerbauschulen.*)—In these institutions the practical element stands out much more prominently than in either of the two above noticed. Their object is to teach the children of the peasantry and others the best methods of practical farming, the various improvements that may be introduced from foreign countries, and the best means of adopting them in the German system of agriculture. The pupils are obliged to perform manual labour during the principal part of each day during the summer, and a few hours, varying with the nature of the work, during the winter. In some of the schools they are not admitted until they have been on some farm in the country long enough to learn all that can be learned in the ordinary agricultural practice of the country. They also receive during a few hours each day a certain amount of elementary instruction in the principles involved in the labours they are performing. This instruction must necessarily be very meagre; it can neither serve as a mental training for the pupil, nor enable him to fully appreciate the value of agricultural principles. But as such schools are often in connexion with the higher schools to which we have alluded, it is possible for the pupil to avail himself of the advantages of both in succession. He is under much stricter rules than in the higher institution, and has much less choice as to how he will employ his time, and is obliged to perform manual labour in each of a great number of departments, until he can do it skilfully and properly. He receives no remuneration for his labour, it being viewed in the same light as that of the student in the chemical laboratory, a source of expense to be borne as that of the other tuition, and not a source of revenue. We shall have occasion to discuss this part of the question more fully in connexion with the opinions of some of the professors and teachers in these institutions.

*d. Manual labour Institutes* (*Arbeiterschulen*).—Perhaps to the Anglo-Saxon mind the German analysis with regard to this and the last may appear a distinction without a difference, yet in origin and object the present differs in a marked degree from the last, although owing to practical difficulties these distinctions are falling away. These institutions originated in the philanthropic ideas of German and Swiss reformers, who hoped to bring about a more intimate association between teacher and the taught. The teacher should eat, sleep, work, and live constantly with the pupil; he should teach them moral, religious, social, and scientific truths from his own lips while engaged at manual labour, &c., with them. He should be to them as a parent, and they should live with him in his house as children. It is needless to say that an idea or rather an ideal so fine has scarcely found a second person to the one with whom it originated, who has had the perseverance and self-sacrificing spirit in connexion with the necessary moral and intellectual qualities to carry it out.

*e.* There are in Germany a number of other agricultural schools of minor importance that are devoted to special departments of agricultural teaching, as that of the dairy, the brewery, the preparation of flax, wool, &c., but at present we need not refer to them.

B. INVESTIGATION STATIONS.—The object of these is distinct from that of the last, in that they are devoted to the development of knowledge of what we are to teach, instead of to teaching. The necessity of such institutions will be evident from what was said in our last letter upon the undeveloped state of agricultural science. They are devoted to scientific experiments to develope our knowledge of the laws that govern the phenomena which are manifested in the various processes of agricultural practice. Such experiments require a great deal of time, patience, labour, and expense, so much so that it is difficult for a purely practical mind to see that the results are commensurate with the efforts expended to obtain them, and the consequence is that most of these institutions are so poorly provided for that they are incapable of leaving such results as the importance of the subject to which they are devoted demand. There are several of these Investigation Stations in Germany, but they are all quite limited in their efforts for want of pecuniary aid. Some of them are in connexion with educational establishments, and others are not. These are similar in aim and object to that which Mr. Lawes has, with such unexampled liberality, established, and for a number of years maintained at Rothamsted, England. They are most important auxiliaries in connexion with the higher class of agricultural schools, since much of the apparatus requisite for one is necessary for the other, and by uniting the teacher and the investigator in the same person, he is rendered better qualified both to teach and to investigate.

C. AGRICULTURAL SOCIETIES.—A great number of these have for a long time existed in Germany; their object is partly social, partly practical, partly educational, and to some extent intellectual. They serve to cultivate a more general intelligence, and to penetrate the almost impenetrable exterior of the peasant mind, to arouse him to a sense of the improvements of the age, and to urge upon him the importance of adopting them, and show him the necessity of giving his children a good agricultural education.

## CATTLE COOKERY.

ALLOW me to take Alderman Mechi by the horn on the subject of feeding "live stock." In the English capital and in all our large towns daily, cows pay more than "the market price for their food." We ourselves have frequently purchased both stock and food for the sake of making profit—stock for breeding, and also stock for the shambles. Incoming tenants very frequently have to purchase both, and if they "pay well," profit is no unfrequent thing. Of course success depends upon how animals are bought, and afterwards fed and managed. The fact of an Alderman's pigs eating cinders is proof practical that something is wrong in the cooking of their food, and any successful feeder who has examined Mr. Lawes's experiment from a practical point of view must have seen that he, however good a chemist, is yet no authority in feeding sheep—for this experiment of his, quoted by Alderman Mechi, is a practical failure, similar to that which he made relative to Lois-Weedon husbandry. The soil in the one case, and the digestive and other organs of the animal system in the other are two great laboratories, and we hope Mr. Lawes will devote a little more attention to them than he appears yet to have done. What we want at present is not failures, but successes.

Buy well, feed well, manage well, and live stock will pay a fair market price for their food. Against the truth of this proposition we cannot allow Alderman Mechi, Mr. Lawes, or any one else even to throw a stone. But when we enter the market to buy well, how few animals do we find that will really pay for their food? And when we visit Tiptree Hall, Rothamsted, or any other crack establishment, how far is cattle cookery and management from what it should be, might be, and we hope from what it soon will be?

Progress is the master spirit of the age, and certainly no branch of husbandry affords greater scope for advance than cattle cookery and the general management of live stock, so as to enable animals to turn their food to a better account than they now do. In this department Mr. Horsfall and Mr. Thorley* are making rapid strides in the march of improvement, and we hope their successful example will receive more attention experimentally than it has yet done; for those who are thus taking a lesson of them find that animals which did not pay for their food on the old system pay well for it on the new. Ought not Alderman Mechi, therefore, to season the food of his live stock with "Thorley's cattle food condiment?" Would not this be preferable to giving "coal-ashes or cinders" to his pigs? And is not Lawes's great sheep failure attributable to improper cooking and mismanagement?

Alderman Mechi's question, "a necessary evil," is one which we fear is not generally very well understood, and we dare say little less can be said of the improved system of cooking food for live stock to which we have just referred. Both branches of the subject have long engaged our serious attention, scientifically and practically, but from their magnitude, importance, and the fact that they are, as it were, inseparably connected together, and beset with such a diversity of circumstances, we cannot enter upon the practical details of either at present so as to give the readers of the *Agricultural Gazette* the benefit of our experience. Our object in taking up the pen is to prevent fruitless opposition being thrown before the wheel of progress, and to solicit co-operation in the experimental investigation of this most important subject so as to extend the benefits which it is calculated to confer with the least possible delay. Landlords require this to enable them to erect proper homesteads for stock; for unless stock pay for their food they will not pay for household accommodation. Tenants require this to enable them to invest capital in live stock more profitably and largely than they now do; and the public require this so as to procure a larger supply of butcher's meat and daily produce than they now do from our provinces. To oppose progress, therefore, directly or indirectly, is a national sin—nothing less; but a helping hand the reverse—a national blessing.

The first division of the subject, the non-payment of food, may be resolved into the practical question—what is the difference between this animal which pays for its food and that animal which does not pay for its food? From the dung of the former we find the food is properly digested; from the urine that the waste upon the body is not greater than it should be; and from the sweet breath, the lively eye, the healthy coat, the firm active step and muscular energy generally, that the great laboratory is in a proper working state and doing its duty. On the other hand, we find from the dung of the latter that the food is imperfectly digested; from the urine that the waste upon the body is greater than it should be, and from the nauseous breath, the dull yet troubled unsettled eye, the hard coat, the slow feeble trailing step, and want of muscular energy generally, that the whole apparatus of the laboratory is out of order; the nerves and involuntary muscles upon whose action healthy vitality so much depends com-

* See leading article.

manding special attention. Look on this living picture and then on that, and who can doubt the difference?

As to the kind of food, having pointed out "the seat of the disease," we shall say very little on it. Mr. Horsfall's success and Mr. Thorley's success, it will readily be seen by those who know anything about pharmaceutical chemistry, stand upon a common foundation, so that he who lauds the one should approve of the other. We must here nail Alderman Mechi's ear to Thorley's door-post in passing. Again, it will be seen that stimulants to make animals eat more food is not sound doctrine, for the majority of those animals which do not pay for their food consume more than those which do pay for their food. What is wanted is less food consumed, but a greater result from it, or a greater result from a given quantity of food, and to obtain this we must keep our laboratory apparatus (involuntary muscles, &c.,) in sound working order, by improving our practice of cattle cookery as above suggested. *W. B., London, Oct.* 4.

## THE FEEDING OF STOCK.

A LECTURE by Professor T. Anderson, of Glasgow, chemist to the Highland and Agricultural Society, was given on this subject in the Society's museum during the recent Edinburgh meeting of the Society.

He said:—The feeding of stock, and its relation to the general management of the farm, is a subject of the very highest practical importance, and one of those in which definite information is most essential; and yet there is probably no branch of agricultural practice in which more difference of opinion exists—so much so that while one class of persons believe it to be a highly remunerative department of farming, others with equal confidence maintain that cattle are chiefly valuable as mediums for the manufacture of manure. Even regarding details much doubt exists, and there are really but few points on which absolute unanimity exists. Looking at the magnitude of these differences, it was not without some diffidence that I ventured to select it as the subject of my address on the present occasion. Those matters, however, in regard to which doubts and differences of opinion exist, are, on the other hand, specially suited to discussion, for it is incumbent upon us to sift our information, and to ascertain what can be relied upon and what requires to be elucidated by further experiment. When this is done it appears that there are many points on which we are very imperfectly informed, and others on which statements of the most conflicting nature have been made. A great point is gained when we admit that both may be right, and when we set to work cordially to trace out the cause of the discrepancy. All branches of agriculture are now going through this phase of their existence, and principles are being gradually established. The feeding of stock is exactly one of those subjects which can be most successfully advanced by studying the principles on which it depends; and though these involve many most complex chemical and physiological questions, we have obtained some foundation on which to go. The food which an animal consumes is partly assimilated and partly excreted, but if it be properly proportioned to its requirements, its weight remains constant, and hence we learn that the food does not remain permanently in the body. If, now, an animal be deprived of food it loses weight, owing to the substances stored up in the body being used to maintain the process of respiration and the waste of the tissues. The course of events within the body is, so far as known, somewhat of this kind. The food is digested, absorbed into the blood, and deposited in the form of flesh and fat in the body, a certain quantity being consumed to support respiration. If the food be properly adjusted to the requirements of the animal, its weight remains unchanged—the quantity absorbed and that excreted exactly correspond to one another; but if we increase the food, a part of the excess will be deposited in the tissue and add to its weight. Now the quantity absorbed depends upon the state of the animal—a lean beast thoroughly exhausting its food, while, when it is nearly fat, it takes only a small proportion. So, likewise, if the quantity of food be greater than the digestive organs can well dispose of, a certain quantity escapes digestion altogether, and is practically lost. The problem which the feeder has to solve is, how to supply his cattle with such food, and in such proportions, as to insure the largest increase with the smallest loss. In solving this problem we must, in the first place, consider the general nature of the food of all animals, the constituents of which may be divided into three great classes—the nitrogenous matters, which go to the formation of flesh; the saccharine and oily, which support respiration and form fat. It is sufficiently obvious that as the two great functions of nutrition and respiration must proceed simultaneously, the most advantageous food will be that which supplies them in the most readily assimilable forms, and in proper proportions. In regard to the first of these matters, it will be obvious that if two foods contain the same quantity of nutritive matters, but in one they are associated with a larger quantity of woody fibre or other non-nutritious matter, the latter will have considerably less value than the former. The necessity for a proper balance of the two great classes of nutritive constituents is also sufficiently obvious; for if, for example, an animal be supplied with a large quantity of nitrogenous matters, and a small amount of respiratory elements, it must, to supply a sufficiency of the latter, consume a much larger quantity of the former than it can assimilate, and there is practically a great loss. We may determine the proper proportion of these substances in three different ways: 1st, We may determine the composition of the animal body; 2d, we may examine that of the milk, the typical food of the young animal; and 3d, the results of actual feeding experiments may be examined. The composition of the animal body is a subject on which, as it appears from the recent experiments of Lawes and Gilbert, great misapprehension has hitherto existed. It has always been supposed that by far the larger proportion consisted of nitrogenous matters; but that is quite an error, and even on lean animals the fat greatly preponderates over the lean. A lean sheep, for instance, contains 1½ lb. of fat for every pound of dry nitrogenous matter, and when very fat it may contain six times as much fat as lean. The inference obviously is that the food must contain a very large quantity of non-nitrogenous matters. The milk, which contains a number of each of the three great classes of nutritive matters, also affords us instruction, although, of course, more especially as regards the feeding of young stock, when the conditions are different from those existing in the mature animal. But, however valuable the data derived from these experiments may be, they are less important than those derived from actual feeding experiments. In fact, it by no means follows that the proportions in which the different substances are found in the animal are exactly those in which they ought to exist in the food. On the contrary, it appears that while one-tenth of the saccharine and fatty matters are assimilated by the animal, only one-twentieth of the nitrogenous compounds, and one-thirty-third of the mineral substances in the food are assimilated by the animal. On the other hand, however, it must be remembered that the particular compounds also exercise a very different influence. Thus, 1 lb. of fat in the food when assimilated will produce 1 lb. of fat in the animal; but it requires about 2½ lbs. of sugar or starch to produce the same effect. The broad general principle arrived at is, that we must afford a sufficient supply of readily assimilable food, containing a proper proportion of each class of nutritive substances. But there are other matters also to be borne in mind, for the food must not only increase the weight of the animal, but also support respiration and animal heat; and the quantity of food required for this purpose is large. It appears from Boussingault's experiments that in a cow 18 oz. of nitrogenous matters are required to counterbalance the waste of the tissues—a quantity contained in about 10 or 12 lbs. of Wheat flour; and it is well known that an ox expires 4 or 5 lbs. of carbon daily, to supply which 100 lbs. of Turnips are required. We see from this the large quantity relatively to that used up which is required for the maintenance of these functions, and the importance of adopting such measures as, by restraining them within the narrowest possible limits, produce a saving of food. The diminution of muscular exertion, and keeping the animals warm, so that a small quantity of food may be required to act as fuel to maintain the animal heat, are the most important considerations. Although the presence of a sufficient quantity of nutritive matters is an essential qualification of all foods, their mechanical condition is not unimportant, for unless its bulk be such as to admit of the stomach acting upon it properly there must be an appreciable loss; and there is no greater fallacy than to suppose that the best results are to be obtained by the use of those which contain their nutritive matters in a very small bulk. As a practical question, the principles of feeding are restricted to determining how the staple food produced on the farm can be most advantageously used to feed the cattle kept on it, and on this point much requires to be said. It appears that they can be best made use of when combined with more highly nutritious food, such as oilcake or Rape; and when this is properly done, a very great advantage is derived. It appears from experiments that sheep which, when fed on hay only, attain a weight of 90 lbs., reach 100 lbs. when Rape is added. The subject cannot be completed without referring to the value of the dung produced, which has been very variously estimated. The experiments referred to in the course of the address appear to show that, of food generally, about one-third to one-fourth of the money value and seven-eighths of the valuable matter appear in the dung. Dr. Anderson concluded by saying that he had by no means attempted to exhaust the subject, but had given only a sketch, trusting that the observations of others might fill up the details.

## BELGIAN IMPLEMENTS.

(*Continued from p.* 531).

RESUMING our description of the Flemish plough, we have to notice the next feature in its construction, the *avant-soc*, a member which is represented in our wheel-plough by the skim coulter of Howard's plough. This is carried by a branch of iron descending from the beam, and capable of adjustment by passing through an eye and fixed at any desired point by a key. The hinder part of the *avant-soc*, sometimes also called the *petit-soc*, is of the same curve as the mould-board. The feature now under consideration is deemed of high utility in causing weeds and roots of plants to be inverted by the action of the mould-board. It is not used in the ploughs of some districts, although it is difficult to say with what reason, as there is little doubt of its utility in cleaning the land of weeds and foul choking roots of plants.

The stranger with little time or opportunity to examine in practice the various implements used in the different provinces of Belgium, has an admirable opportunity presented to him of examining their peculiarities in the Musée de l'Industrie de Bruxelles, situated near the middle of the Rue Montagne de la Cour. It is open three days in the week, free of all charge; on the other three days, English travellers can obtain admission on presentation of their passports. We propose a glance at its interesting contents. The implements which compose the collection are comprehended under three grand divisions—1st, the machines principally employed in the *grand* or large cultivature, 2d, those in the *petite* culture; and 3d, those adapted for market gardening and horticulture generally. Each of these are subdivided into sections, for which nine take up the machines of the 1st division, or those for the "*grand culture*," viz.—Section A., Instruments of Culture, as ploughs, grubbers, weed extirpators, harrows, rollers, clod-crushers, horse-hoes, &c.; Section B., Implements and Machines for Seed Sowing, as drills; Section C., Implements and Machines for Harvesting, as scythes, reaping machines, haymakers, horse-rakes, &c.; Section D., Threshing and Winnowing Machines; Section E., Implements of Transport; Section F., Instruments of Drainage and Irrigation; Section G., Implements of Rural Economy, as straw-cutters, root-cutters, root-washers, Oat-crushers, Bean-crushers, oilcake breakers, malt-mills, churns, &c.; Section H., Instruments employed in Agricultural Industry, as mills for hand and power, Barley hummellers; Section I., Divers instruments. Although these sections comprise implements and machines adapted for large, we shall, as we go along, notice those implements adapted to the *petite culture*.

Returning to the ploughs, which are under Section A, and in connection with which we have already described the Flemish plough, we have to notice that the different specimens of Belgian ploughs exhibited are—the *charrue* (plough) *à pied*, manufactured by M. D'Omalias-Thierry, at Liège. The price of this implement is 67 to 72 francs; it takes a furrow 15 centimètres in depth and 25 in breadth, with a draught of 210 kilogrammes—this result was obtained in strong land. The Brabant plough, manufactured by M. Delstanche at Marbais, Brabant. It closely resembles in its arrangement of parts the Flemish plough which we have already described. The Malines plough, manufactured by M. Berckmans of Antwerp and of which the price is 80 francs, the depth of furrow cut by it on light land being 20, and the breadth 25 centimètres—the draught as shown by the dynamometer being 150 kilogrammes. The Omnibus plough, manufactured by M. D'Omalias at Arthisnes, Liège, is, as its name implies, one of those convertible implements which can be easily modified to serve different purposes, as a double mould-board plough, a subsoil plough, or a horse-hoe. While used as an ordinary plough, of which the price is 53 francs, the foot or *avant soc* is dispensed with and a small wheel substituted. Of the Flemish plough, manufactured by M. Van Maele at Shielt, West Flanders, the price of which is 55 francs, the depth of furrow taken in light land previously once worked is 20, and breadth 25 centimètres, the draught being 140 kilogrammes. A turn-wrest plough, adapted exclusively for mountainous districts, is exhibited by M. Focroulle at Esneax, Liège, the price of which is 65 francs. Proved by the dynamometer, the depth of furrow taken 20, and breadth 23 centimètres; draught 210 kilogrammes.

Generally speaking, the ploughs in Belgium are on the "swing" principle, although in some of the provinces the *avant-train*, as it is termed, is used. This consists of two wheels of equal diameter, running on axes at the ends of a central bar; a rounded indentation is made in the centre of the upper side of this bar, in which rests the end of the beam of the plough; the connection between the two being formed by chains. The wheels being of equal diameter, while one is running on the land and the other on the furrow, the former is tilted up, so that the central bar is at an angle, turning as on a centre on the end of the plough beam which rests in the rounded indentation above mentioned. The reputation of the wheel adjunct to ploughs is, we believe, not increasing. An able authority states that where it is added to the plough it renders it more complicated, more easily put out of repair, and by consequence more costly. It augments, he remarks, considerably the resistance, and occasions a loss of the motive force. Where the wheels are of the same diameter, the inclination of the central bar induced by the difference of elevation between the land and the bottom of the furrow-slice throws all the pressure upon the furrow wheel; on the other hand, where one of the wheels is made of less diameter than the other, their inequality offers great inconvenience when the plough cuts the first furrow on the summit of a raised stetch, the right wheel finding itself upon a higher level than the left. The plough used in the Polders, where the soil is generally hard, coherent, and not easily divided, is of larger and stronger dimensions than the plough used in lighter lands—it has generally an *avant train*, but of a different construction from that already described; the central bar carrying the wheels being connected with the beam by a vertical bar of wood worked into the beam. The adjustment of the wheels to the different levels of the land upon which they run is very simply provided for.

As we have before mentioned in more than one of our articles on Belgian agriculture, the soil is stirred and pulverised to a great depth, this holding more especially

true of the provinces of East and West Flanders. To aid in this deep ploughing, the subsoil plough (*charrue à sous-sol*) is an implement of growing importance. The manufacturer and cultivator to whom Belgium was indebted for the introduction of a (native) subsoil plough was M. D'Omalius, of Liège. This is destined to work in the furrow worked by the ordinary plough, stirring the subsoil without raising it, and mixing it with arable seed-bed above. The whole arrangement of parts of this subsoil plough are of great weight and strength: it takes considerable power, two horses in some soils not being able to work it easily. Taking a depth of 15 centimètres it requires a traction force of 355 kilogrammes. The beam and stilt are of wood bound with iron; the former carries a small wheel at its forward extremity. The *soc* or share resembles that of Read's subsoil plough, which by the way enjoys a high reputation amongst scientific agriculturists, and is united to the beam by a frame or body of open wrought iron work*. A chain passes from the top of this to the regulator or bridle in front. The price of the implement is 120 francs.

## AGRICULTURAL STATISTICS (IRELAND).

The following are Mr. Donelly's figures:—

| | 1858. Acres. | 1859. Acres. | Increase. Acres. | Decrease Acres. |
|---|---|---|---|---|
| Wheat .. .. | 546,964 | 465,497 | .. | 81,467 |
| Oats .. .. | 1,981,241 | 1,981,197 | .. | 44 |
| Barley . | 190,768 | 177,519 | .. | 13,249 |
| Bere and Rye | 16,472 | 13,242 | .. | 3,230 |
| Beans and Peas | 12,935 | 14,841 | 1906 | .. |
| Total .. .. | 2,748,380 | 2,652,296 | 1906 | 97,990 |

Decrease on Cereal crops in 1859 .. .. 96,084 acres.

| | 1858. Acres. | 1859. Acres. | Increase. Acres. | Decrease. Acres. |
|---|---|---|---|---|
| Potatoes .. | 1,159,707 | 1,200,144 | 40,437 | .. |
| Turnips .. .. | 338,202 | 322,266 | .. | 15,936 |
| Mangel Wurzel and Beet root | 29,731 | 27,108 | .. | 2623 |
| Cabbage .. .. | 33,132 | 31,580 | .. | 1552 |
| Carrots, Parsnips, other green crops | 23,399 | 22,056 | .. | 1343 |
| Vetches and Rape .. .. | 33,360 | 33,207 | .. | 153 |
| Total .. | 1,617,531 | 1,636,361 | 40,437 | 21,607 |

Increase on green crops in 1859 .. .. 18,830 acres.

From these figures may be deduced the following general result:—

| | | | |
|---|---|---|---|
| Decrease on cereal crops .. .. .. .. | | | Acres. |
| | | in 1859 .. | 96,084 |
| | Acres. | | |
| Increase in green crops .. .. | 18,830 | | |
| Ditto ditto on Flax .. .. | 44,683 | in 1859 .. | 75,698 |
| Ditto on meadow and Clover | 12,185 | | |
| Total decrease in the extent of land under crops in 1859 .. | | | 20,386 |

The following table represents the total number of live stock:—

| | No. of horses. | No. of cattle. | No. of sheep. | No. of pigs. |
|---|---|---|---|---|
| 1858 .. | 611,321 | 3,667,304 | 3,494,993 | 1,409,883 |
| 1859 .. | 628,916 | 3,810,136 | 3,588,356 | 1,262,873 |
| Increase or decrease | Increase. 17,595 | Increase. 142,832 | Increase. 93,363 | Decrease. 147,010 |

The value of the live stock in Ireland is estimated at:—

| | Horses. £ | Cattle. £ | Sheep. £ | Pigs. £ | Total. £ |
|---|---|---|---|---|---|
| | 5,031,328 | 24,765,884 | 3,947,192 | 1,578,591 | 35,322,995 |
| Increase or decrease from 1855 to 1859. | Increase. £ 581,082 | Increase. £ 1,597,284 | Decrease. £ 15,384 | Increase. £ 106,585 | Increase. £ 2,269,517 |
| Increase or decrease from 1858 to 1859. | Increase. £ 140,760 | Increase. £ 928,408 | Increase. £ 102,700 | Decrease. £ 183,763 | Increase. £ 988,105 |

The entire number of holdings in Ireland, from all of which returns have been obtained, is nearly 600,000.

## FISH MANURE.

Some years since public attention was directed to the large quantities of fish unsuited for human food, and of offal collected at the large fish-curing establishments existing in various parts of the coast. The good effects obtained by their application as manure by farmers in the neighbourhood suggested the importance of converting them into a portable form so as to insure the use of that large proportion for which there existed no demand in their natural state; and it was pointed out that if this could be done, the supply of refuse fish might be greatly increased, it being at present a common practice among fishermen to throw into the sea all the inedible fish, whereas if a demand existed for them, they would all be brought to shore. The result of this suggestion was, that a large number of patents for methods of treating fish and offal were taken; but few, if any, of them have come into operation on the large scale; and, at all events, the manufacture has attained no extension, and the prospects of an abundant supply of manure from this source are at the present moment as distant as ever. The principal cause of this result appears to be the too great complexity of the methods of manufacture which were suggested, and which required, in many instances, expensive and complicated machinery, or too costly materials. The former of these is a difficulty of the most serious character, because there are few, if any, places where the supply of fish is sufficiently large to enable expensive machinery to be worked with profit; and the irregularity of the supply, and the total cessation of fishing during a considerable part of the year, render it impossible to carry on the works with that regularity which is the soul of all manufacturing processes in which machinery is employed.

As a necessary consequence of these expensive processes, the cost of the manure produced was excessive; and farmers, contrasting it with guano and other manufactured manures, and finding that they were materially cheaper, naturally evinced a preference for those which they had been accustomed to use, and refused to give a price which would remunerate the manufacturer.

The failure of these processes, however, should not lead to the conclusion that it is impossible to convert fish into a dry manure, but should rather direct attention to the contrivance of simpler and easier processes. The truth is, that there has been a great deal of misunderstanding as to what is required to make such substances portable. The manufacturers of manures are rarely familiar with the principles of the art they practise, and being strongly impressed with the importance of rendering manures soluble, have most commonly made treatment with sulphuric acid in some way or other a fundamental part of their process; whereas, in this case, at least, all that is requisite is to remove the water, and to reduce the dry residue to a pulverulent state. To effect this object, no complicated apparatus is necessary, all that is required being a stove or flat drying surface, heated either by a small furnace, with flues passing backwards and forwards, or by means of steam, the latter being preferable. A thin layer of the moist fish or offal being laid upon this, might be rapidly dried and converted into a proper state before putrefaction commenced, and a manure be produced which would have comparatively little smell. As regards its value, there is some difficulty in forming an opinion; but some guide may be afforded by reference to the composition of such manures of this kind as have appeared in the market, analyses of several of which have at different times been made in the laboratory. The first of them to which I shall refer are two samples made on the east coast of England, by a process with the nature of which I am unacquainted. They were found to contain:—

| | I. | II. |
|---|---|---|
| Water .. .. .. .. | 9.77 | 12.15 |
| Organic matter .. .. .. | 53.55 | 55.27 |
| Phosphates .. .. .. | 4.72 | 6.44 |
| Sulphate of lime .. .. .. | 1.63 | 1·71 |
| Common salt .. .. .. | 26.49 | 22.29 |
| Sand .. .. .. .. .. | 3.84 | 2.14 |
| | 100.00 | 100.00 |
| Ammonia .. .. .. .. | 6.20 | 7.63 |

If we estimate these according to the plan used for guanos, then No. I. is worth about 4*l.* 12*s.*, and No. II. 5*l.* 10*s.* per ton—values which are certainly not very high. We must take into account, however, the large quantity of common salt, which materially reduces the value; and if it were possible to exclude this substance, which we shall immediately see can be done, then the value of these samples would be about 5*l.* 15*s.* and 6*l.* 18*s.* respectively.

Another sample, the source of which I have been unable to ascertain, but which I believe to have been offered for sale in Liverpool, contained:—

| | |
|---|---|
| Water .. .. .. .. .. .. | 7.55 |
| Organic matter .. .. .. .. .. | 87.45 |
| Phosphates .. .. .. .. .. | 0.55 |
| Carbonate of lime .. .. .. .. | 0.45 |
| Alkaline salts .. .. .. .. .. | 2.55 |
| Sand .. .. .. .. .. .. | 1.45 |
| | 100.00 |
| Ammonia .. .. .. .. .. .. | 7.29 |

The absence of common salt in this case, except to a very small extent in the alkaline salts, shows the possibility of producing a manure without that substance; but in this case the value is somewhat lower, owing to the trifling proportion of phosphates. It does not exceed 4*l.* 16*s.* per ton. It is probable that in this case some charcoal or other organic matter had been mixed with the fish, with the view of its acting as an antiseptic during the process of manufacture; but on this point I am unable to speak positively.

The last sample to which I shall refer was manufactured on the Portuguese coast, whence it was imported into this country. It is of a totally different nature from the others, sulphuric acid having obviously been used to some extent in the process, and sulphate of lime apparently added as a drier. For this reason its value must be estimated on the same principle as that of a superphosphate, which, indeed, it somewhat resembles in composition.

| | |
|---|---|
| Water .. .. .. .. .. .. | 14 04 |
| Organic matter .. .. .. .. .. | 27.77 |
| Biphosphate of lime equivalent to 7.00 bone-earth made soluble .. .. .. .. | 4.48 |
| Insoluble phosphates .. .. .. .. | 1.60 |
| Sulphate of lime .. .. .. .. .. | 36 17 |
| Alkaline salts .. .. .. .. .. | 6.14 |
| Sand .. .. .. .. .. .. .. | 9.80 |
| | 100.00 |
| Ammonia, .. .. .. .. .. .. | 2.10 |

This manure is worth only 3*l.* 16*s.* per ton, and this value is chiefly derived from the biphosphate of lime it contains.

Fish manures have usually been offered for sale at from 8*l.* to 9*l.* per ton; and at this price there is obviously no inducement to buy them, and hence the failure of the manufacture. But it is still a question whether, setting aside all complex processes, and simply confining the process to drying the fish and offal, it might not be possible to produce a manure which could be sold at a price sufficiently low to create a demand. The point on which this must mainly depend is the price at which the raw material can be obtained. At present we believe fish-refuse may be got for 8*s.* or 10*s.* per ton; and as it will require 4 or 5 tons to make 1 ton of manure, the raw material may be taken to cost about 2*l.* per ton; and allowing the same sum for the cost of manufacture, the price at the works would be 4*l.* per ton, which would be increased, by retailer's profit, &c., to 6*l.* when it came into the hands of the farmer. This price would exceed the value of any of the samples of which the analyses have been given above; but then it is probable that the quality of the manure would also greatly exceed any of them; in fact, if properly manufactured, it can scarcely be doubted that a manure fully equal to that value might be produced. It is extremely desirable, for the interests of agriculture, that some trial should be made, so as to ascertain whether it be practicable to produce such a manure with profit. One thing, however, is certain, that if it is to be done at all, it ought not to be taken up as a separate branch of manufacture, but should be carried out by the fish-curers, who ought to convert their own refuse into manure. Any other plan, involving, as it must necessarily do, considerable cost in transporting the raw material from one place to another, is not likely to succeed. On the coast of Scotland, there are many places where abundance of fish is to be obtained; and it is much to be desired that some enterprising persons could be found to make a trial of this manufacture. *Dr. Anderson in the Highland Society's Transactions.*

## COTTAGES IN SCOTLAND.

At the late General Assembly of the Free Church of Scotland a report on this subject was read, from which we make the following extracts:—

"The attention of your Committee has been more particularly directed to the rural districts. They have found that although a number of good cottages have been erected of late, this is still the exception, and not the rule. Even where cottages exist, they are generally very inadequate in point of accommodation, having often only one apartment for a whole family, thus setting means of decency and proper opportunities for devotion equally at defiance, and resulting in many forms of social evil. This is the state of the ploughmen's houses in many of the most highly improved agricultural districts of Scotland, even where matters are supposed to be upon a tolerably good footing. In this one apartment the whole family must remain, in health and sickness in life, and till the funeral in death. To this it may be added, that in some districts what has been called the 'bondager' system exists—in other words, the ploughman is forced to accommodate in his inadequate cottage an additional labourer, whose services are required upon the farm. Many evils result from this plan. The miserable inadequacy of the houses of the people, and its sad results, seem also to exist even in a grosser form in some parts of the Highlands. Mr. Briscoe, at the instance of the Board of Supervision for the Poor, visited part of the Highlands lately, to ascertain the actual state of matters, and the result of his observations is contained in an appendix to the last Report of the Board. He says—'It is very deplorable to see the filthy habits and demoralising condition in which the great mass of the population exist. The houses, however small, could at least have the means of separate sleeping places for the sexes. When visiting, I had ample opportunities of observing the sleeping arrangements—young and old of both sexes often sleeping in the same beds, and with few exceptions, in the same room.' Examples are given by him which are too shocking to be mentioned in a public report.

"The attention of your Committee, however, has especially been directed, according to the remit of the Assembly, to what has been called the bothy system, or a plan of lodging a number of ploughmen and other labourers, generally unmarried, and of either sex, in a hut or outhouse called a bothy, and thus virtually rendering all the humanising influences of domestic life impossible. Your Committee issued a series of queries on this subject to the districts in which the evil was understood chiefly to prevail, which were very cordially responded to; and from the answers thus received, and other sources, they beg to submit the following abstract:—

"The bothy system prevails more or less in the eastern districts of Scotland, in East Lothian, Fife, Angus, Kincardine, Aberdeen, Banff, Moray, and Caithness, and partially even in other counties. It was ascertained by a strict inquiry in 1841 that in 30 parishes within the bounds of the Synod of Perth and Stirling, '825 men, almost all unmarried, were lodged in bothies.' By a return which this Committee has obtained, certified by the superintendent of police for Aberdeenshire, it appears that in that county there are at present 99 bothies, inhabited by 569 males and 159 females. It appears that in East Lothian there are not fewer than 600 Highland girls lodged in bothies. A similar state of things exists in connection with the bleach-fields in the west of Scotland. The prevalence of bothies is sometimes very great even in single parishes. Some of the returns mention that there is a bothy on every farm. In the parish of Monikie it is said that there are 20 bothies, and many additional in harvest for the accommodation of shearers. In the parish of Wick

* The *soc* is of gre h, round in section, and pointed in front.

there are 21 bothies, containing 77 young men and 65 young women.

"The system is of comparatively recent introduction. In truth, in some districts it is being now introduced for the first time. Your Committee have ascertained that one or two bothies have recently been introduced for the first time into Kirkcudbrightshire, one into Dumfriesshire, a few into Mid Lothian, one into Orkney. Unless arrested, they are likely to multiply in all these and other districts, and thus thoroughly to demoralise the population; for there is reason to believe that the great mass of them have sprung up in Scotland during the present century.

"Various causes are assigned in the returns for the introduction of bothies at first. In many of them the cause is said to have been the introduction of improved farming, the throwing of several farms into one, and the demolition of the old cottages, as being no longer necessary under the new system of husbandry—nay, as being likely to harbour a population that might become burdensome in the way of poor's rates. Bothies for unmarried men supplied the lack of cottages, and were supposed to be less dangerous in respect to pauperism. It is also frequently alleged in the returns that the cause of the bothies has been the elevation of the social position of the farmer and of his family, in consequence of which it became impossible for master and man servant any longer to sit at the same table, as in more primitive times. And some allege that the cause has been the unreasonable and discontented spirit of the servants themselves, who became in consequence disagreeable inmates of the farmers' houses, and required to be thrust out into a separate place. There is probably truth in all these suggestions.

"None of these reasons, however, will sufficiently account for the existence and spread of such a degrading and demoralising alternative as that of bothies. We fear that the real reason for this sad result, and that frankly given in many of the returns, must be found in a false idea of economy. Bothies are supposed to be the cheapest form in which servants can be housed. The landlord is often non-resident, and the farm is given to the man who offers the highest rent, and makes the smallest demand for buildings. The farmer is naturally anxious to have a good house for himself; and a regard to his own interest makes him equally careful to have his cattle suitably accommodated, otherwise their disease and death will soon destroy his profits. Therefore, if he is sparing in his demand for buildings, with a view to secure the farm, he is naturally induced to spare in asking the erection of cottages, as no immediate penalty results from the want of them; whilst the idea has been widely spread that the placing of servants in bothies, whilst it thus saves an immediate demand upon the landlord, is also much more economical for the tenants.

"Even as a matter of economy, such ideas are extremely short-sighted; but, what is infinitely worse, such calculations have been made in defiance of all moral considerations, for the nearly unanimous testimony of the returns is to the effect that almost every form of moral evil has sprung from the bothy system, and especially that it has been a great foster-parent of Sabbath-breaking, drunkenness, and illegitimacy in the districts in which it prevails.

"The subject is as yet only partially understood; and probably a Government Commission of intelligent men, to examine into the state of matters on the spot, might serve fully to arrest public attention upon the existing evils, and secure their remedy. In some instances that remedy, in so far as it is a physical one, is being applied by some of our noblemen and gentlemen, including Lord Kinnaird, the Duke of Buccleuch, and others, in the erection of suitable cottages in connection with farm steadings, although as yet they are seldom erected in sufficient numbers in any case. Your Committee regard this, after all, as the grand beginning of improvement, and they cordially adopt the sentiments embodied in the Report to the Synod of Perth and Stirling, to which they have already referred.

"After mentioning a number of subordinate remedies, the Committee says—'All other remedies, however, which have now been specified for correcting the evils connected with the present condition of farm servants would, in the opinion of this Committee, be in a great measure inefficient without the abolition of the bothy system. From all the inquiries that they have made, from all their own observation and all the information they have received, they are deeply impressed with the conviction that the bothy system is the main source of those evils which are connected with the present state of farm servants. They are persuaded that when that system was introduced, it was chiefly with the view of avoiding the expense of erecting and upholding so many separate cottages for married farm servants and farm labourers.'

"Considering the great increase in the rental of Scotland of late years, the enormous expense of our growing pauperism and crime, and the great advantages to all classes that would spring from the erection of suitable cottages, it seems not unreasonable to expect that the landlords of Scotland will erect as many as are necessary when their attention is properly directed to the subject, and the existing difficulties are removed. One great difficulty is a legal one, inasmuch as the Court of Session have found that it is impossible to burden entailed estates for the erection of farm cottages, whilst they may be burdened for the erection of dog-kennels. This legal difficulty must be swept out of the way. Another difficulty consists in the expensive style in which architects often insist that cottages shall be erected. This is totally unnecessary where it cannot be conveniently done. Immense sums have no doubt been lately expended for the purpose of erecting numbers of beautiful cottages by some of the wealthy noblemen of England. The Duke of Bedford is understood to have spent not less than 70,000*l.* in the erection of cottages within a few years, and the Duke of Northumberland not less than 100,000*l.* Many of our own proprietors have lately spent considerable sums for this purpose. But if the object in view is to be generally secured, cheapness must be studied, in so far as it is compatible with comfort, and the necessary amount of accommodation. Your Committee have had a very valuable communication from Dr. Mackenzie, of Eilenach, in which he states that he has erected a large number of cottages, with three or four apartments—of which he sends a plan—the actual outlay on each of which, apart from carting and some of the materials, was much smaller than any sum generally supposed to be sufficient for the purpose. The grand object to be aimed at is, by getting separate houses for the people, to secure the restoration of the family system, and that in connection with suitable accommodation for decency and devotion. There seems little reason to doubt that, by a combined and vigorous effort to arouse and direct public opinion, this result may, by the blessing of God, be speedily accomplished.

"In addition to this it is strongly urged in many of the returns that large gardens or small crofts should be given along with the cottages, and that small farms should be mixed with large. This would give the ploughman a greater motive to industry, and add much to the comforts of his family. It is also urged that the feeing markets should be entirely abolished by the introduction of an effectual substitute; and that at all events the sale of intoxicating drink should be superseded as far as possible by the introduction of wholesome and necessary refreshments on such occasions. It is also proposed, in some of the returns, that a Saturday half-holiday should be given to the agricultural labourers, to prevent the pretext which at present exists for visiting their friends, and engaging in other distracting occupations on the Sabbath day. A better and more universal system of education is also strongly recommended, and especially an education by which our females might be trained to domestic work, and to gain their bread by in-door employments. One of our ministers has commenced an undertaking of this nature, and with decided success; but the object will only be fully accomplished by the introduction of a well planned and supported national system of education."

## Home Correspondence.

*On the Absorption of Arsenic by Plants.*—The statements of Dr. Edmund Davy (referred to in the leading article of the *Gardeners' Chronicle* of Sept. 10), to the effect that certain Pea plants which he had watered with a cold saturated solution of arsenious acid, not only absorbed the poison, but actually throve in it, came to perfection, and matured seeds, in which and in every other portion of the plants arsenic could be readily detected, were, as you justly observed, of so startling a nature that I was induced at once to make a few experiments on this subject, the results of which I now beg to lay before you. The late period of the season prevented my trying upon Peas, but in default of these I transplanted two Broccoli plants, two Cabbage plants, and four Lettuces, into six separate pots, and sowed in two other pots seeds of Mustard and Cress, and allowed several days to elapse, in fact until the seeds had germinated. I then watered all these various plants with a saturated solution of arsenious acid (made with cold water), and after about eight hours the plants all dropped their leaves, though care was taken not to touch the leaves with the solution. On the second day I did not water them, but they did not seem to recover at all. On the third day a second dose was given them, and on the fourth day all the plants were quite dead, and the Mustard and Cress (which had already sprouted) had shared the same fate. I next watered a small piece of Grass and that died also, and the shoot of a Rose bush which I dipped into the same solution soon turned black, and at the end of two days was completely withered. These results being apparently quite opposed to the statement of Dr. Davy, I thought perhaps that it might be objected that the plants had not been transplanted long enough to afford a fair trial. I therefore watered with the same solution a Broccoli plant which was growing in the garden very luxuriantly, perhaps a foot high, and very strong. This was watered on the 17th Sept., and after 10 hours it fared the same fate as the other plants. I continued to water this plant every other day, and on the 6th day very little of the plant was remaining. It appeared as it were burnt up, a section of the stem presenting a black morbid appearance. My next experiment was on three other Broccoli plants growing in the same piece of ground as the one just mentioned, and planted at the same time, and these I watered with solutions of different strengths. No. 1 was watered with a solution made of 30 grains of arsenic and 60 oz. of water, and this solution was divided into six parts, and one part given every other day to the roots of the plant. No. 2 was treated with a solution made of 15 grs. of arsenic and 60 oz. of water; and this also was divided into six portions as in the first case. In No. 3 a very dilute solution of 7½ grs. of arsenic to 60 oz. of water was applied. I consider therefore that No. 1 had 30 grs. of arsenic, No. 2, 15 grs., and No. 3, 7½, applied to the roots; and this I thought would be amply sufficient for the detection of arsenic if absorbed by them at all. The plants continued to look healthy, and as no signs of their having been poisoned was visible I cut them off just above the ground, and examined them chemically for arsenic. A section of the stem showed nothing uncommon, and after a very careful examination I failed to detect any trace of arsenic in either of these three plants. Under these circumstances I cannot help doubting very much the correctness of the statement that plants will absorb arsenic at all; and even if they could I see no ground for apprehension that they could derive it in any quantity worth noticing from any of the superphosphates now in general use; and I am greatly confirmed in this view of the case by the interesting and able remarks by Mr. Sibson in your last week's paper to the same effect. *E. S. Kensington, F.C.S., F.R.A.S., Dartmouth, October* 3.

*St. John's Day Rye.*—Under the impression, which has been realised, of the continued drought causing a scarcity of cattle fodder in Ireland, early in June last I drew attention in an Irish paper to the St. John's Day Rye, as affording an early spring supply of good succulent food, and under high culture of a cutting before and probably during winter. Unfortunately a difficulty arose in getting the seed, the Irish houses were not supplied, and a house in the south of England having been applied to could not supply it till after harvest, and—we must believe in much ignorance of it and of this country—replied that there existed no necessity for its culture as an autumnal forage plant, "and as to the probability of its being earlier in spring than a crop sown in October, it is manifestly absurd; it would be in ear and die an abortive crop." Now, as if in corroboration of this assertion, one at least, if not two, of the experiments with it that have been made this year of sowing at the end of June have actually come into ear, which may probably be attributed to the drought and heat of the summer, and therefore only a casualty arising under extraordinary circumstances. Is this supposition correct? I would ask such of the correspondents of this periodical as would be kind enough to give their experience. Indeed, I would beg for every information they can give about this interesting variety of Rye, for we are in utter ignorance of it in Ireland, and it appears by this seedsman's account not very generally known even in England. Discredit has also been thrown on its superiority to common Rye by Mr. Murphy, professor of agriculture in Queen's College, Cork; in 1852, having got seed from Edinburgh, he says: "I sowed it in the model farm in drills 12 inches apart, having at the same time, viz. June 24, an equal quantity of common Rye in similarly good ground. I had a heavy cutting of both in October, and a good cutting again in the following April; but the St. John's Day Rye was not at all superior to the common Rye in either cutting." Now is it not, or is it, that the equality may be attributed to the richness of the soil forcing the common Rye to assume for the nonce the larger tillering property of the St. John's Day; experience on this point is also solicited. In one respect Mr. Murphy's experiment is very decisive, in Rye affording both an autumnal and a vernal cutting; he also gives no notice of its premature starting to seed. If its true character is to afford such cuttings it must be a most valuable plant, as being easily and surely cultivated, not liable to disease, and giving a late and early Grass feeding. It might follow winter Vetches with little preparation and would be off the ground in time for either Turnips or for the new plant Holcus saccharatus. In Ireland these crops, the Vetches and Rye, would be very valuable indeed, as they are rather smothering than hoeing crops and therefore admirably accommodated to Irish customs and to the Irish soil in its present foul condition. *J. M. G., Granard.*

*A Word for the Rabbits.*—I cannot help thinking that the mischief said to be done by rabbits must be rather exaggerated; nor can I quite agree with the gentlemen who have lately written to you on the subject, in considering them as "semi-vermin." Of course where they are so numerous they should be kept down, and every reasonable facility be given tenants and their labourers for the purpose (I myself confess to setting traps for them in my garden with much success); still, I must say I consider the idea of ruthlessly exterminating the whole race a strong measure. I am no enemy to farmers; on the contrary, I sympathise with their grievances, and am a bit of an amateur myself, but I do not hear such complaints of the harm done by rabbits here in Dorsetshire, though they abound in our heaths, and as I sometimes meet the labourers returning from work in the present season with rabbits in their hands and the farmers about here all shoot, and use their guns to good purpose both as regards them as game. I fancy they are pretty well kept down. There is a story goes that the farmers (in some place or other) fancying their crops suffered much from rooks, voted these birds a pest, and formed a battue to exterminate them. They accomplished their purpose; but what was the consequence? Their crops gradually deteriorated year by year, and they then when too late found out their mistake, and did all they could to encourage them back; but it was years before their quondam friends could be induced to return and build. I dare say this would be the case with rabbits; but I for one as a lover of nature and animal life, should certainly miss them from the landscape. Possibly also some

as would miss them on the table; for notwithstanding the dictum of "A. N." and his admirers as to these animals having no merits as articles of cookery, I venture to hint, "tastes differ," and that a rabbit "smothered in Onions," or dressed and stuffed like a hare, is not to be despised: at the same time I so far agree with your correspondents that the tenants might be made game preservers instead of the inferior game keepers. By all means, as "Judex" says is the custom on an estate in his neighbourhood, let the winged game be preserved for the landlord and rabbits and hares go to the tenants, and (I would add) their labourers. Thin them out then, but do not hunt them out of their burrows, nor by mercilessly destroying the whole species take away an article of food from the mouth of the poor man, and one of God's most handsome creatures from the earth. "The hills are a refuge for the wild goats, and so are the stony rocks for the coneys." *Clericus.*

*On the Vitality of Seeds.*—It was incidentally mentioned in one of your late articles that Turnip seed would grow a second year; not long since I sowed some many seasons old, quite mouldy, and it grew very well. As for Charlock seed, which you observe is of the same nature, I suppose it would grow after 20 years' keeping. I once fancied, having bushels of this troublesome weed, that by boiling it I should procure a nice oleaginous mixture, but to my surprise the seed was not at all affected by the hot water, nor was the water soiled; afterwards I pressed some between blotting paper and found no particle of oil. A friend of mine not long since sold his Charlock for 5*s.* a bushel! For what use? As it has a black coat, it would hardly do for mustard for the table; did my friend re-purchase it for Turnip seed? I offered mine to the same dealer, and as he would only give me 2*s.* a bushel, I did not trouble myself to send it to him. Sainfoin seed will not keep over the second season. The growth of broad Clover is uncertain the second year, unless, it is said, it has been double sacked to keep it from the air. Sainfoin seed and Mangel Wurzel are both safe in the field, as no bird will touch either, but I find mice are very fond of the latter, and will eat out the heart very ingeniously and leave the husk. When the Mangel is in bloom it smells like a strong honey pot. It would be a useful contribution if any of your intelligent readers would send a more correct list of the vitality of seeds, as I do not remember having seen anything of the kind * * *

*Bean Stalks as Food for Cattle.*—To-day, being wet, my folks are cutting up by steam a large supply of Bean straw, as stiff as small walking sticks, into chaff to be steamed for my bullocks; when moistened with hot water or steam it becomes soft and mucilaginous, and cattle relish it, preferring it to other straw. This is a great agricultural economy. I believe in Mr. Horafall's statement that it is worth, as feeding stuff, 40*s.* per ton. It is notorious that the bare stalk is merely made into manure as a general rule, thus sacrificing three-fourths of its value. *J. J. Mechi.*

## Farmers' Clubs.

WOKINGHAM: *Condition of the Labourer.* — The usual ploughing match of this association, now established more than 30 years, took place on Friday last. In the afternoon Sir Erskine Perry, the President of the association, distributed the prizes to the successful ploughmen, and to labourers who had distinguished themselves as yardsmen in their attention to cattle, for rick-building and thatching, shepherding, to male and female servants of good moral character and conduct for length of service on the same farm, and to parents for having brought up the greatest number of children independent of parochial relief. The prizes for length of service varied in amount from 15*s.* to 1*l.* 10*s.*, and from 1*l.* to 2*l.* for rearing families without the aid of the parish. 16 prizes were given away to ploughmen, from 10*s.* to 2*l.* The latter prizes excited a keen competition, there being as many as 33 teams engaged at one time. At the annual dinner the Rev. T. Morres said he looked upon this association as established for the moral improvement, as well as the temporal comfort of the labouring classes in the several parishes in this district. They gave rewards to yardsmen, shepherds, and female labourers, the principles upon which they acted being that a testimonial to character should be produced. With respect to ploughmen and boys, he thought that the matter was somewhat different. Those were rewards for skill, and he thought there should be ploughing matches, and that every improvement that could be made should be attended to and encouraged. It had, however, struck him that much might be done to improve the condition of the labourers generally. He would give them a case. A man on a wet day was unable to do his ploughing or other work of his master; he was sent home, and was it not a great hardship that he should have to walk a distance of two miles? And when he got home what sort of place was it? Great improvements had of late years been made in farmyards, stables, and other buildings; efficient systems of draining and ventilation had been carried out for their horses and cattle; but he maintained that many of the cottages in which the poor, hard-working labourer had to live were not to be compared with the excellent condition of many farmyards.

The chairman proposed "The Health of the Members for the County," alluding to the example Mr. Walter presented in remedying the evils pointed out by the rev. gentleman, in constructing cottages for his labourers.

Mr. Walter, M.P., said, Mr. Morres had spoken with great feeling upon the two great objects of the association. With respect to one of them he must venture to differ from him. Associations of this kind were not only eminently useful in bringing men together, but as a means of rewarding public trials of agricultural skill. For instance, he might mention the giving of rewards to the best ploughmen, for the best skill in any agricultural operations, for the best specimens of crops, and, he might add, such proofs of agricultural skill as were implied in the building of ricks of any description were very fit objects for any public society to encourage. They were rewards for merit of skill. They conferred no obligation which in any way could humble a man or diminish his self-respect, or assert any superiority of one class over another. But when they came to reward a man for moral conduct, it appeared to him it was doing that which no society could do. To his mind it was interfering with the sacred function of the relation between master and man, which he considered to lie at the bottom of the social fabric, any interference with which he was extremely jealous of. He had been in the habit of employing a great number of men, and he had never found that there was any necessity for the encouragement of them beyond what lay in his power to afford; and he must say that, as regarded the agricultural labourer, he did not understand why he should be singled out by associations as an object for reward. He did not find in manufacturing districts that that encouragement was ever thought necessary, or that an artisan was thought to be incapable of being intrusted with the good offices of his employer. But it so happened that about 25 years ago there was a strong feeling in this country that the agricultural labourer was going to the bad, that pauperism was to be the order of the day, that the land was to be untilled, the workhouses to be filled, and the poor-rates to become heavy. It was though, however, by some that giving the labourer such sops by associations of this kind, and rewarding him for bringing up his family without parochial relief, and for moral conduct, would in a great measure check the apprehended evil. He (Mr. Walter) never shared in that opinion. Those who went before him, and whose opinion he had a great respect for, never entertained such fears, and did not regard such special encouragement as necessary. Both he and they always thought they ought to look to themselves to reward the merits of their own labourers as they thought best. It appeared to him that the idea of giving prizes for moral conduct implied a kind of moral superiority or authority on the part of the person so rewarded, which ought to be very clearly established before it was asserted. They understood the relationship of a parent and a child, of a Queen and her army, as sometimes brought on the carpet as affording some sort of precedent for these associations, but they afforded no precedent whatever, because the army was a servant of the public or the Queen, and the Queen rewarded them on behalf of the public; but, on the other hand, the agricultural labourer was not the servant of the public, but of the person who employed him, and it appeared to him that no association ought to constitute itself judges of the conduct of labourers at large any more than any committee of gentlemen should elect themselves as judges of the conduct of the army or navy. He only wished it might be found possible that the *status* of the labourer might be so improved that he would no longer require to be treated in that way, and that they might all get back to that which he mentioned at first—to give prizes for trials of agricultural skill, and such acts of husbandry as were of unquestionable utility. Certainly in some of the objects of this association, as he had already stated, he most cordially agreed; but he saw that a very large proportion of the prizes, more than half that had been given, fell within that class which he had ventured to express an opinion upon as not being legitimate objects of a public society to interfere with—prizes having reference not to skill, but to the moral character and conduct of the labourer. The best way in which he could illustrate his position was by asking what would be thought of a body of private gentlemen, however respected and highly esteemed among them, who should meet together for the purpose of conferring rewards on each other's cooks, footmen, housekeepers, coachmen, or gamekeepers. He wanted some one to show what was the difference between the servant who had lived in his house 30 or 40 years and the labourer who worked in his farmyard. The feeling had unfortunately got abroad that an agricultural servant was public property, and not the servant of a private person. It was said that every person could not afford to reward a deserving labourer. He, however, felt bound to say that, according to the small prizes given by the association, such an experiment would not ruin him; for he found that 2*l.* were given for seven years' service. In the earliest account of agriculture, in the book of Genesis, they found that a certain person, rather shrewd in his way, and whose name was Laban, had a very different idea of rewarding a servant, not in husbandry, but one who had led a shepherd's life. They would find that his nephew had two of his daughters for wives and the best part of his cattle for 20 years' service. He, of course, did not expect every employer of labour to do that, but it seemed that even with that arrangement Jacob was not very well satisfied. Still he thought, on the whole, masters were more competent, and ought to feel it to be their duty to reward their labourers as much as domestic servants. Mr. Morres had called their attention to a very important feature in the question between a landlord and a labourer—the improvement of their cottages. He had very strong feelings upon this matter, but that was a thing which associations of this kind could not undertake to do. There was one thing he had thought about, and that was, whether, for the encouragement of labourers, they could not give them a small holding of land. That appeared to be within the more legitimate mode of rewarding servants. It was a matter that must rest between a master and his servant, and could not be settled by this association.

Sir E. Perry made a very brief reply. He sympathised in many of the views which had been expressed, and it so happened that he ventured to take those views before the committee, but was outvoted. Now, had his hon. friend been an active member of the association, and attended the meetings of the committee, they might probably have produced a very different bill of fare to what they had had. However, he hoped some good would come out of the discussion of the topics which had been brought under their notice.

## Notices of Books.

*The Journal of Agriculture. Transactions of the highland Society.* October, 1859. Blackwood & Sons. This is an unusually interesting number. The Report of Mr. McLagan on the Show at Edinburgh, and of Mr. Scott Burn on the Show at Warwick make one the more regret the delay which has attended the official publication of our own Society's annual report. In addition to these we have, among other things, a paper on Steam Culture, chiefly descriptive of Mr. Halkett's guideway system. There is also a valuable and instructive paper by Mr. Russell on the Absorption by Soils of Ammoniacal Substances as Food for Plants, in which the researches of Way, Liebig, Brustlein, and W. S. Johnson are discussed and compared with suggestions by the author. The most probable explanation of this phenomenon, to which Mr. Thomson, of Kirby Hall, first called attention, is that the power of soils to retain ammonia depends upon simply that surface attraction which is more a mechanical than a chemical phenomenon. A soil possessing organic matter present in any quantity throughout it possesses the power of absorbing and retaining simple ammonia. And if it has such substances in it as carbonate of lime, which can decompose ammoniacal salts and set free their ammonia, this mechanical force then comes into operation for the retention of the ammonia, which is thus set free. If no such substance as carbonate of lime be present, then whatever may be the power of the soil over ammonia in its simple form it exercises none over solutions of its salts which may be passed through it.

The following extract from the "Farmers' Note Book" relates to dipping sheep in arsenical solutions, the danger of which seemed to be established by the case Black *v.* Elliott, when 860 sheep died in 1858 after dipping in an arsenical solution. The writer, Mr. Young, of Kirkliston, speaks of his Australian experience. He says:—

"There are two solutions which I have been in the habit of using, although not equally extensively, for reasons which will presently appear. One of these is made by dissolving from half an ounce to 6 drachms of arsenic in a gallon of water; and in a solution of this strength I have dipped as many as 2000 sheep a day, with, during cold weather, no fatal consequences ensuing. In warm weather, however, and especially if the sheep be in fine condition, the use of this solution is very dangerous; so much, that in one instance, on using, during the summer, a solution containing only 2 drachms of arsenic to the gallon of water, 10 per cent of the sheep (fat wethers) died. I have always had a few deaths from dipping in an arsenical solution during warm weather, although not to the extent just mentioned, as on subsequent occasions I took care to make the solution very weak. In the case of sheep belonging to other individuals, I have known instances where death took place to a dreadful extent from the incautious use of arsenical solutions in warm weather. As an instance I may mention that a neighbour, in December of last year (summer time in Australia), dipped a flock of picked ewes and lambs in an arsenical solution, the strength of which, however, I do not know, and the result was that 1300, being exactly one-half of them, died."

"The application of these remarks to the case of Black *v.* Elliot is, I think, sufficiently obvious. The plaintiff's sheep, 869 in number, of which 860 died, were in fine condition, and were dipped, during the month of August, in a solution containing half an ounce of arsenic to the gallon of water. I am not surprised at the result. Had I been consulted in the case, I could have predicted what would happen, as indeed I have in other cases done. The experiments of the defendant's witnesses were made in January and February, therefore when the weather was cold; and although in some of them the arsenical solution was much stronger than the defendant's, no fatal consequences ensued. I am not surprised at this either; but I am well assured that if the witnesses alluded to will take the trouble of repeating their experiments during the hot season, they will arrive at very different conclusions from those which they stated at the trial."

The volume contains, beside the articles just named, a valuable paper by Professor James, of Birmingham, on Manures, and a full report of Dr. Anderson's Address on Cattle Feeding, of which a *resumé* is given elsewhere.

## Miscellaneous.

*Death of the Rev. Charles Thomas James.*—We greatly regret to announce the death of the Rev. C. T. James, well known in the agricultural world. He was formerly curate of Ermington, and had been recently appointed Government inspector of model lodging-houses and factory schools. He was staying at the Railway Hotel, Taunton, on Tuesday night, and intended to start next morning for Tiverton. He had been unwell for several days, and was suffering from indisposition when he retired to rest. The following morning, as he did not make his appearance, the servants entered his room and found him lying on the bed quite dead. Several phials were found in his room—one containing soap liniment and castor oil, another the sediment of mixed prussic acid and almond emulsion, and another containing about half an ounce of prussic acid of Scheele's strength. Lieutenant Charles D. James, 36th Regiment, stationed at Devonport, was immediately telegraphed for, and on Thursday an inquest was held before Mr. Monckton, coroner. It was shown in evidence that the deceased took prussic acid under medical prescription. Several letters which the deceased had written on Tuesday night were read. One of them, addressed to his son, said that his indisposition almost mastered him, but appointed to meet his son at Plymouth on Thursday. The jury returned a verdict that the deceased died from the effects of an overdose of prussic acid, taken to relieve himself from pain. The deceased was well-known and much respected in agricultural circles, not only in this county but throughout England, and had always manifested a deep interest in the welfare of the farm labourer. *Western Times.*

*The Shropshire Sheep.*—It is, I find, a rather general impression among persons unacquainted with these sheep, that they are the result of a cross between the Leicester and the Southdown breeds. So far, however, is this from being the case, that it is probable that no Shropshire flock of eminence has, within the memory of man, been crossed with Leicester blood; and, although I would not speak so strongly with regard to the occasional use of Southdown blood, yet, I will venture to say, that no man possessing a good flock of Shropshires ever resorted to the Southdown cross without repenting it, and without endeavouring as speedily as possible to repair the error. Of Leicesters indeed it is unnecessary to speak, so palpably distinct are they from the Shropshires. And with regard to Southdowns, they have their merits, but these merits, eminent as they are, are not those of our sheep. I assume it to be a fact, well known to the breeders of Shropshire sheep, that they are a distinct breed. Of their origin, this is not the place to treat; but it may be casually mentioned that centuries ago the sheep of Morse Common, in Shropshire, were celebrated for the fineness of their wool. It is probable that the sheep found on the other high grounds of the county have been gradually improved into their present type. In like manner the unenclosed hills of Staffordshire, Cannock, Whittington Heath, and elsewhere, have from time immemorial possessed a grey or blackfaced mountain sheep very similar in character to the Shropshires. Like them, they are hardy in constitution, their mutton is of first-rate quality, and their wool fine in texture. When moved to better land, they increase in size without losing their original character. Care and judgment in selection improves their symmetry, as has been the case with nearly every other breed which the British agriculturist has deemed worthy of his attention. When I mention that a ram from a Staffordshire flock (that of Mr. Coxon, near Lichfield) took the first prize at Warwick in the class of short-woolled sheep not being Southdowns, it suffices to show the high character which the sheep of this county have reached. Another flock remarkable for the purity of its blood is that of the Hon. R. Curzon. These sheep, which have frequently won prizes at the Birmingham Christmas shows, have adhered for nearly a century to their own blood, until their recent infusion of that from Mr. Adney's flock. During the whole of that lengthened period they have preserved their character, and have been constantly resorted to for rams by neighbouring breeders. It is no small test of merit, that, after so long a probation, they now stand higher than ever. Among the other flocks of this county I may name those of Mr. Byrd, Mr. Masfen, Mr. Bradburne, Mr. Stubbs, Mr. Hollis, of Eland Lodge, and my own, which with several others have long been remarkable for purity of blood. It may be questioned indeed whether any sheep of this class are superior to those which exist in the neighbourhoods of Rugeley, Lichfield, Wolverhampton, &c. As compared with the Shropshire flocks, it is my impression that the Staffordshire sheep are on a somewhat larger scale, with a longer staple of wool. The latter is a point of no inconsiderable importance at the present day. The characteristics of the numerous Shropshire flocks have been so well described in the article on this subject in the Royal Agricultural Journal, that I need not dilate upon them here. Suffice it to remark that the rams from the most eminent of these flocks have of late years fetched higher prices than those of any other breed. The demand for them has especially extended since the memorable victory at Salisbury by Mr. Adney over all other short-woolled sheep, with Downs excepted. Since that time, the rams of that veteran breeder have been used in nearly every flock of importance, and always with beneficial effect. The Shropshires are hardy, and succeed under the most opposite climates and conditions, as is proved by the sheep exhibited by Lord Wenlock, in Yorkshire, and by Mr. Holland, of Dumbleton, at Warwick. They are excellent nurses, very prolific, and attain heavy weights on ordinary keep. The flavour of their mutton is surpassed by no other breed, and therefore in markets where they are found they render the white-faced sheep difficult of sale. For farmers whose object it is to produce early lambs or wethers of large size, it is found advantageous to put these ewes to a Leicester or Lincoln ram. The excellent suckling powers of the ewes, combined with the tendency to early maturity imparted by the sire, and the fine quality of the offspring, present a combination of advantages which renders this cross unrivalled as fat lambs. Indeed, for crossing with long-woolled sheep, the Shropshires are superior to the Southdowns, as possessing larger frames and heavier fleeces. With the growing demand for mutton of fine quality, these ewes will doubtless spread every year into new districts, and farmers may advantageously put a certain number to a Leicester ram for the sake of producing wethers which will yield a larger amount of profit in mutton and wool than any other kind. In conclusion, I will hint at another purpose to which these sheep may be applied, namely, to crossing with the unimproved mountain breeds. Of these, the flavour and the hardihood are the principal merits, and their smallness, slow growth, and coarse wool, the most prominent defects. The cross usually resorted to for the purpose of improving mountain sheep has been the Leicester. The first cross answers well, obtaining increased size, improved wool, and earlier maturity, without losing the mountain flavour and the lean flesh of the dams. The second cross would, in a great measure, obliterate all trace of the mountain breed, leaving a tallow-producing, heavy sheep, wanting in the hardihood requisite for upland districts, and destitute of the flavour which attracts customers of a superior grade. But supposing the first cross, for instance, between the Scotch black-faced sheep and a Leicester ram (which is so extensively cultivated on the hills of the North Riding of Yorkshire) were put to a Shropshire ram, then the result would be a cross of lambs equal in size and value of wool to that produced by a second Leicester cross, and of a quality of mutton even superior to that of the first cross. It is worthy of remark that the flesh of the Shropshires presents a firmness of texture and richness of flavour which are not attained by the half-bred sheep above alluded to as prevailing in Yorkshire. The Shropshire cross could not fail to produce sheep of great individual value, while their hardihood and activity would eminently fit them for hill pasturage. And the variety found in Staffordshire, tracing its origin back to the flocks which have for ages flourished on the bleak hills of Cannock chase, would be particularly suited to this purpose. *Willoughby Wood, in Bell's Messenger.*

*Reclamation of Land.*—The Earl of Leicester has for the last two years been engaged in a work of some interest and importance—viz., the reclamation from the sea of 700 acres of the vast tract of low marshy lands near the little port of Wells, Norfolk. For this purpose a great embankment, involving an outlay of about 12,000*l.*, has been carried from the Hookham side of Wells in a straight line towards the sea, which has been, it is hoped, effectually shut out by this means from the land sought to be reclaimed. The bank forms a marine road of considerable width, more than a mile long, and upwards of 20 feet in height, and it is stated that the cubic content of the work exceeds anything of the kind attempted in England, although there are some longer embankments of a similar character. With the view of assimilating the bank to an ordinary beach, the slope next the sea for the first 15 feet of the height is five to one, while for the remainder of the elevation attained, it is only four to one. It is not expected that ordinary tides will rise higher than the point at which the five to one slope terminates; but as the tides sometimes attain an extraordinary height at Wells, flowing over the quay, and almost drowning the inhabitants, the bank has been carried up about 7 feet more. The embankment has already had the effect of increasing the scour, and consequently deepening the channel in the harbour, and it is expected that ships of a greater burden will now be enabled to get up. Further works of a similar character in the direction of Stiffhey and Blakeney, between which places and Wells about 3000 acres await reclamation, are talked of.

*Ballinasloe Fair.*—The sheep fair on Wednesday has been largely supplied. Prices are 2*s.* or 3*s.* lower than last year. The following figures indicate the business done:—

| | Sold. | Unsold. | Total. |
|---|---|---|---|
| 1854 .. .. | 67,285 | 12,614 | 79,899 |
| 1855 .. .. | 77,390 | 4096 | 81,486 |
| 1856 .. .. | 91,774 | 5570 | 97,344 |
| 1857 .. .. | 60,849 | 924 | 67,773 |
| 1858 .. .. | 81,318 | 13,131 | 94,449 |
| 1859 .. .. | 72,065 | 19,854 | 91,919 |

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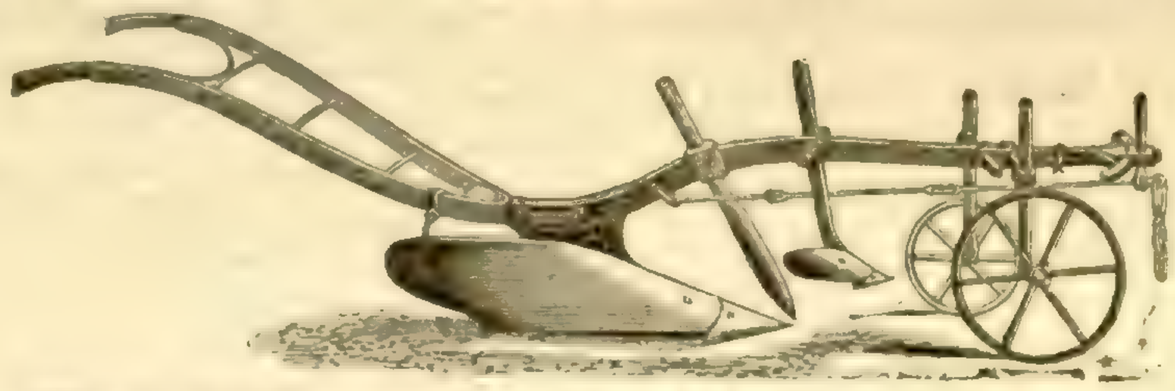

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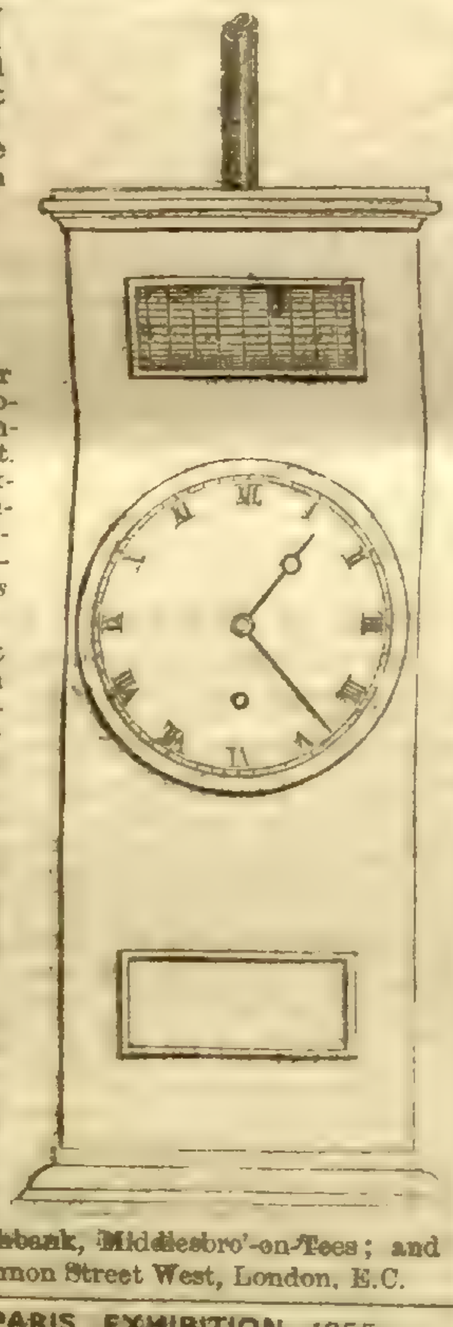

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Out Door Training
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Peaches in Pots.
Insects and their Cure.
Mildew.
General Treatment.
Influence of Sunlight.
Calendarial Directions.
Lists of Sorts, Early Peaches.
Midseason Peaches.
Late Peaches.
Nectarines, Early Sorts.
Midseason ditto.
Late ditto.

To which is added a Descriptive List of New and Valuable Varieties of American and French Peaches, By Mr. Rivers, of Sawbridgeworth.

LONDON: GROOMBRIDGE AND SONS, 5, PATERNOSTER ROW, E.C.

GERANIUMS, HERBACEOUS PLANTS, ETC.

MESSRS. PARKER AND WILLIAMS beg to [illegible] that their new PRICED and DESCRIPTIVE CATALOGUE of the above, to which are added Supplemental Lists of Stove, Greenhouse, and Hardy Plants, Fruit Trees, &c. (which include all the best new plants of the season) is now published, and will be forwarded post free on application.—Paradise Nursery, Seven Sisters' and Hornsey Roads, Holloway, London, N.

AMERICAN PLANTS, &c.

MESSRS. WATERER AND GODFREY'S CATALOGUE for the present season is now ready, and may be had on application. It describes fully all Rhododendrons worth growing, and contains a List of Azaleas, Hardy Heaths, and other American Plants, as well as a summary of the general stock of the most extensive Nurseries in England

The Catalogue may also be had at Messrs. May's & Co., 1, Wellington Street, Strand, W.C.

Knap Hill Nursery, near Woking, Surrey.

HARDY RHODODENDRONS.

MESSRS. WATERER AND GODFREY invite attention to their Seedling RHODODENDRONS, which they are selling without names, and which they strongly recommend as being very superior in point of HABIT, FOLIAGE, COLOUR, and GENERAL HARDINESS. They are from 1½ to 2½ feet high, and as much through, and no plants can possibly be in finer health. They will be sold at very liberal prices, and purchasers can select from a stock of many thousands.

Knap Hill Nursery, near Woking, Surrey.

RHODODENDRONS.

JOHN WATERER'S CATALOGUE OF HARDY, SCARLET, and other choice RHODODENDRONS, as annually exhibited at the Royal Botanic Gardens, Regent's Park, is now published and will be forwarded on application. Faithful descriptions of all the esteemed varieties will be found detailed, with a list of the popular kinds of AZALEAS and other AMERICAN PLANTS, as well as a selection of CONIFEROUS TREES, with height and prices.

The American Nursery, Bagshot, Surrey, near Sunningdale Station, South-Western Railway.

CATALOGUE.

YOUELL AND CO.'S GENERAL AND DESCRIPTIVE PRICED CATALOGUE for this season is now ready, and will be sent free on application.

It contains detailed Lists of Greenhouse Plants, Conifers, Shrubs, as well as all the newest introductions in Soft-wooded Plants.—Royal Nursery, Great Yarmouth.

CHOICE GERANIUMS.

JOHN DOBSON AND SONS' Annual DESCRIPTIVE LIST of all the leading kinds of SHOW, FANCY, and SPOTTED GERANIUMS, together with a SELECT LIST of CINERARIAS and FUCHSIAS, is now ready, and may be had post free on application; it includes several new varieties now offered for the first time.

Woodlands Nursery, Isleworth, and High Street, Hounslow

ERICAS.

F. AND A. SMITH'S Stocks of the above are this season unusually fine, comprising most of the leading winter and spring-flowering varieties. Prices on application.

Dulwich, Surrey, S.

CAMELLIAS AND AZALEA INDICA.

F. AND A. SMITH beg to offer the above well set with flower buds, dwarf, bushy, and thoroughly ripened off. Having been grown in this country they are most suitable for packing, and are strongly recommended to country Amateurs and the Trade in general. An inspection invited. Prices on application.—Dulwich, Surrey, S.

CINERARIA, CALCEOLARIA, AND PRIMULA.

F. AND A. SMITH are now sending out SEED of their splendid varieties of the above in sealed packets, without which none are genuine, at 1s., 1s. 6d., 2s. 6d., and 5s. each. To be had also of most respectable Nurserymen and Seedsmen in the Kingdom.—Dulwich, Surrey, S.

CARNATIONS, PICOTEES, ETC.

CHARLES SCHOFIELD has now ready first-class varieties of the above Flower at 12s. per dozen pairs; also PINKS, 4s. to 8s. per dozen. CATALOGUES may be had free.

Knowsthrope, near Leeds, Yorkshire.

CARNATIONS.

J. HARRISON begs to inform his friends and the public generally that he has a stock of several Thousand pairs of the choicest and best CARNATIONS AND PICOTEES in cultivation to dispose of, at 1s. to 1s. 6d. per pair. The stock are in most beautiful health and well rooted, a CATALOGUE of which will be ready in a few days.

Darlington Nursery.—October 15.

TO THE TRADE.

GLADIOLUS BRENCHLEYENSIS BY THE 1000.

J. MORGAN having this season grown a very extensive stock of this most beautiful Gladiolus, the bulbs of which are exceedingly large and well matured, is enabled to offer them at unusually low prices, which may be had on application.—Horticultural Establishment, Torquay.

TO NURSERYMEN AND AMATEURS.

TO BE SOLD, the property of a gentleman, deceased, about 100 ORCHIDS and STOVE PLANTS in good condition, pair of fine CROTONS, 7 feet; also six bushy ORANGE TREES, from 5 to 7 feet.—Mr. J. LEGG, Nurseryman, Gosport.

JUST ARRIVED, a fine lot of ORANGE TREES, CAMELLIAS and AZALEAS; handsome ORANGE TREES, with Fruit and Bloom, 2s. 6d. and 3s. 6d. each; do., 1s. 6d. and 2s.; CAMELLIAS and AZALEAS, well set for Bloom, 18s. and 21s. per dozen; DUTCH FLOWER ROOTS, 20 per cent. under the usual prices.—R. GREEN, 154, Kingsland Road, N.E., 55 doors from Shoreditch Church. No connection with any other house.

TO PLANTERS OF CONIFERS.

YOUELL AND CO. can supply 50 species of RARE AND HARDY CONIFERS in good plants for 5l., package included, and carriage paid to London, Manchester, Newcastle-on-Tyne, Hull, or to any Railway Station within 150 miles of the Nursery. A List of the above can be had on application.

Royal Nursery, Great Yarmouth.

ARAUCARIA IMBRICATA.

YOUELL AND CO. beg to inform the Trade that they have to offer a fine and healthy stock of the above in 1-year-old plants. Prices on application.

Royal Nursery, Great Yarmouth.

ARAUCARIA IMBRICATA.—The finest lot of trees in the world of this noble plant, from 1 to 10 feet high, are to be seen at H. LANE & SON'S Nurseries, Great Berkhampstead, and they strongly recommend gentlemen and planters to view them. This forms the most noble tree for Avenues and Plantations. There is a most beautiful specimen at Dropmore, which the intelligent gardener, Mr. Frost, feels great pleasure in showing.

They also have a fine stock of CEDRUS DEODARA, ABIES DOUGLASII, IRISH YEW, &c., from 5 to 10 feet high, for immediate effect.

BUTLER AND McCULLOCH.

HYACINTHS, &c.—A DESCRIPTIVE AND PRICED CATALOGUE, with practical Cultural directions, is Autumnal, sent free and post paid on application. Orders amounting to 21s. sent carriage paid. The following choice collection (A) for Conservatory and out door Culture, for 21s., or the half for 10s. 6d.:—11 Superior named Hyacinths, 6 mixed Hyacinths, 6 Polyanthus Narcissus, 50 Border Narcissus, 25 Sweet Scented Tulips, 50 Double Tulips, 100 Crocus, 100 Snowdrops, 12 beautiful Iris, 50 Ranunculus, 25 Anemones, 12 Fritillarias.—Covent Garden Market, W.C.

BUTLER AND McCULLOCH'S DESCRIPTIVE AND PRICED CATALOGUE OF DUTCH AND CAPE BULBS, WITH PRACTICAL CULTURAL DIRECTIONS FOR AMATEURS, SENT FREE AND POST PAID ON APPLICATION

ALL ORDERS AMOUNTING TO 21s. AND UPWARDS SENT CARRIAGE PAID.

The lovers of the Gladioli will find in B. & McC.'s Catalogue descriptions of the most beautiful of this highly ornamental and favourite genera.

For the contents of B. & McC.'s Catalogue, see *Gardeners' Chronicle* of Oct. 1, page 786.

For collections of Bulbs, see *Gardeners' Chronicle* of Oct 8, page 805.

Agents for Tye's new registered Hyacinth Glasses, see woodcut group of glasses, page 103, of *Gardeners' Chronicle*

The early Handsworth Potato, the earliest and best for forcing, very dwarf and very prolific, 3s. 6d. per peck.

Imperial Kidney, the best late Potato, the most prolific, and of very superior quality, 2s. 6d. per peck.

Covent Garden Market, W.C.

NEW DUTCH FLOWER ROOTS.

CHARLES TURNER'S CATALOGUE of these valuable spring flowers is now ready, and may be had free on application.

The Hyacinths, Tulips, Crocus, &c., have been selected with the greatest care from the best growers, and have arrived in fine condition.

C. T. will be able to execute any orders intrusted to him with punctuality.—The Royal Nurseries, Slough.

DUTCH FLOWER ROOTS.

PETER LAWSON AND SON, THE QUEEN'S SEEDSMEN, &c., respectfully announce the arrival of a fine Stock of DUTCH FLOWER ROOTS, and they are now prepared to execute orders for the same.

27, Great George Street, Westminster, S.W.

NEW SEEDS.

TRIFOLIUM INCARNATUM

ITALIAN RYE-GRASS

NATURAL GRASS SEEDS FOR PERMANENT PASTURE LAWNS, &c.

PETER LAWSON AND SON, the QUEEN'S SEEDSMEN, &c., are prepared to supply all kinds of SEEDS for AUTUMN SOWING of the best quality.

27, Great George Street, Westminster, S.W.

SORGHUM, OR HOLCUS SACCHARATUS.

ROYAL BERKSHIRE SEED ESTABLISHMENT.

SUTTON AND SONS having introduced this useful plant to their customers five years ago, and having confidently recommended it in their "Amateur's Guide," have great satisfaction in observing the very general cultivation of the crop this season.

SUTTON & SONS will be obliged by any communications from their customers containing particulars of their success in cultivating the Sorghum this season, including the kind of soil, manure, time of sowing and cutting, weight of crop per acre, &c.—Reading, Oct. 15.

SUTTON'S CHAMPION SWEDE AND IMPROVED MANGEL WURZELS.—THREE MORE SILVER CUPS and several other prizes have already been awarded THIS SEASON to SUTTON'S CHAMPION SWEDE and Improved Mangel Wurzels.

Messrs. SUTTON & SONS will feel obliged by any additional information as to Prizes awarded to Roots raised from their seeds. New Seeds are now ready for delivery. Champion Swede, 1s. per lb., 45s. per bushel. Mangel Wurzel, 9d. per lb., or cheaper by the cwt.

N.B. The Royal Berks Root Show will be held at Reading in November, at which numerous Prizes will be awarded as usual to pulled roots of Swedes, Turnips, Mangels, Carrots, Kohl Rabi, &c., from any part of the kingdom.

Royal Berkshire Seed Establishment, Reading.

PAMPAS GRASS.—The present is the most favourable time for planting out this charming Plant. No one can imagine the grand effect of a mass of its silvery plumes unless they see it, nor is its value confined to the ornamental, but is likely to become useful as Cover for Game. It grows in any soil or situation, attaining the height of from 6 to 10 feet.—Any quantity can be supplied by C. NOBLE, Bagshot, Surrey.

SPRAGUEA UMBELLATA.

HUGH LOW AND CO. have pleasure in offering healthy plants, well established in pots, of the above-named beautiful novelty, introduced by them from California, and exhibited at the July meeting of the Royal Botanic Society in the Regent's Park. Price 12s. per dozen. It can be seen finely in flower in the open ground at the Clapton Nursery, N.E.

ROBERT NEAL, NURSERYMAN, Wandsworth Common, S.W., begs to call the attention of buyers to his large and well-selected stock of EVERGREENS and FLOWERING SHRUBS, ORNAMENTAL TREES, AMERICAN PLANTS, FRUIT AND FOREST TREES, STANDARD AND DWARF ROSES of every description. A large stock of BOX-LEAF EVERGREEN PRIVET, from 1 to 6 feet for hedges; GREEN HOLLY, 1 to 6 feet; RICH BOG and LOAM for American Beds; LEAF MOULD. The Nursery is 10 minutes' walk from Clapham Common, and New Wandsworth Station, Crystal Palace Line.

BEGONIA MARSHALLI.

WILLIAM COLE will send out the above beautiful variety, raised by Mr. Franklin, Gardener to J. G. Marshall, Esq., on and after the 26th inst. It has been exhibited at the Regent's Park, Kirkstall, Halifax, Shipley, &c., and Certificates have been awarded to it. It is universally admitted to be by far the handsomest of all the Begonias, and will be invaluable for Exhibition purposes. Drawings by Mr. Andrews free by post for eight stamps.

For further particulars see *Gardeners' Chronicle* of July 16; also Sept. 10; also "Cottage Gardener" of July 19 and Sept. 13.

Strong plants 15s. each, with the usual discount to the Trade.

Post-office Orders payable at Manchester.

Nursery, Withington, near Manchester.—Oct. 15.

THE BEST FRAME CUCUMBER.

SUTTON'S BERKSHIRE CHAMPION 1s. per packet

CARTER'S CHAMPION, 1s. per packet.

IMPROVED SION HOUSE, 1s. per packet

Free by post from SUTTON & SONS, Royal Berkshire Seed Establishment, Reading

WINTER BLOOMING PLANTS.

CAMELLIAS, CHINESE AZALEAS, EPACRIS, ERICAS, of various sizes and all in unusually fine condition. Many thousands of these plants can be seen at the Nursery of the Subscribers.

DWARF OTAHEITE ORANGES in fruit

CATALONIAN JASMINE (Jasminum grandiflorum).—Fine plants, grafted on short stems, and full of flower buds.

SPRAGUEA UMBELLATA, introduced by H. L. & Co. from California, is now finely in flower in the open ground.

Inspection respectfully invited.

HUGH LOW & Co., Clapton Nursery, London, N.E.

VIOLETS.

ROBERT SHACKELL begs to offer very strong plants in bloom of his

| | | |
|---|---|---|
| Russian superb VIOLET .. .. .. per dozen | 12s. | 0d. |
| Small Plants .. .. .. .. .. " | 4 | 0 |
| Very strong Plants of the Double Perpetual Tree Violet, in bloom .. .. .. .. " | 6 | 0 |
| Small ditto .. .. .. .. .. .. " | 4 | 0 |
| White Tree Violet .. .. .. .. .. " | 4 | 0 |
| White Double Violet .. .. .. .. " | 4 | 0 |
| Spring Double Violet .. .. .. .. " | 4 | 0 |
| Neapolitan Violet .. .. .. .. .. " | 4 | 0 |
| Old Russian, per hundred, 10s .. .. .. " | 2 | 0 |

Lockbrook Nursery, or 5, Broad Street, Bath.

QUICKS, QUICKS.

WANTED, 1,000,000 SEEDLINGS, one-year-old.—Price and samples to be sent to B. WHITHAM, Clough Nursery, Mottram, near Manchester.

COMMON LAURELS.

R. GADD AND SON have to offer 50,000 of the above from 2 to 6 feet high, extra stout and well rooted; 30,000 Seedling and Bedded Evergreen Oaks; Bays, 1 to 4 feet; Laurustinus, 1 to 2½ feet. Price on application.

Salvington Nurseries, near Worthing.—October 15.

SPLENDID NEW ORNAMENTAL FOLIAGED PLANT—CONATANTHUS, OR CALADIUM CUPREUS.

HUGH LOW AND CO. have now in their Nursery a magnificent specimen of the above-named new plant, which was imported by them from Borneo. It was exhibited at the July Show of the Royal Botanic Society, where a Certificate was awarded to it, but the plant was then newly imported, and was consequently small. It has now developed itself, and proves to be the finest ornamental foliaged plant introduced up to the present time.

The Floral Committee of the Horticultural Society of London in awarding it a FIRST CLASS CERTIFICATE appended to it the following remark:—"ONE OF THE MOST STRIKINGLY BEAUTIFUL OF ORNAMENTAL FOLIAGED PLANTS." No description can convey an adequate conception of its surpassing beauty, and therefore H. L. & Co. invite an inspection. They will have pleasure in showing it to any gentleman who may favour them with a visit.—Clapton Nursery, London, N.E.

MR. EDWARD MILNER having constructed and laid out the Crystal Palace Gardens and Park, Sydenham, under the direction of Sir Joseph Paxton, and having managed them for the Company till last Midsummer (when owing to the pressure of other professional duties his engagement terminated), desires to express his acknowledgments to those Noblemen and Gentlemen who have honoured him with their patronage, and to state that he continues to undertake the execution of works of a similar character.

An active experience of upwards of 20 years enables Mr. MILNER to offer his services in the formation and improvement of Parks, Gardens, and Ornamental Grounds, also in preparing designs for Conservatories and other Horticultural Buildings; in establishing and thinning Plantations and Woods, with special reference to the trees most suitable for particular soils and aspects, the valuation of Timber, Draining, Road-making, &c.

Mr. MILNER is permitted to refer to Sir Joseph Paxton and to several Noblemen and Gentlemen for whom he has done work.—Address, EDWARD MILNER, "Oxford House," Anerley Road, Norwood, S.


HORTICULTURAL SOCIETY OF LONDON.—Notice is hereby given that the Council are about to appoint a SUPERINTENDENT to take entire charge of the Gardens at Kensington Gore and Chiswick. Persons desirous of offering themselves as Candidates are requested to apply IMMEDIATELY by letter, addressed to "The Chairman of the Sub-Committee for selecting a Garden Superintendent." The salary proposed, if a thoroughly competent person should offer, will be 300*l.* a year and a residence, or allowance in lieu of it. No one should apply who has not been engaged in the highest class of similar appointments.

8, St. Martin's Place, W.C., London.—Oct. 15.

# The Gardeners' Chronicle.

*SATURDAY, OCTOBER* 15, 1859.

THE subscription to the NEW GARDEN AT KENSINGTON GORE has now arrived at a point which leaves no doubt that the sum required, 50,000*l.*, large as it is, will be speedily forthcoming. Last night the amount announced was estimated at about 44,200*l.*, viz.:—

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| Donations .. .. .. | £1860 |
| Life Subscriptions .. .. | 7750 |
| Debentures bearing 5 per cent. interest and carrying personal privileges .. .. .. | 34,600 |
| | £44,210 |

We say estimated, because it is sometimes uncertain whether the new Life Members intend to pay 21*l.* or 42*l.*; and such uncertain cases are taken at 26*l.* 5*s.* But it is probable that many of these are in reality intended for 42*l.*; and moreover several gentlemen who have announced their intention to support the measure generally have not yet determined in what form their subscription shall be given. All things considered, it may be

assumed that 45,000*l.* out of 50,000*l.* has been already secured; and fresh subscriptions are announced almost daily.

Under these circumstances it is clear that operations will soon commence, and that the present winter will not pass over without progress having been made in the ground work. Something indeed has already been effected, a considerable number of trees likely to bear removal having been prepared under the direction of the Garden Committee by having their roots cut back both at Chiswick and Kensington Gore. When the time shall come for transplanting such heavy masses to their positions we shall see some better method of moving adopted than that employed just now by the ingenious people at work in the grounds about to be added to Chelsea Hospital, where, the other day, *seventeen labourers* were struggling in vain to get some old Lilac bushes on a truck. Four men and a M'GLASHAN tree lifter would have carried off in 10 minutes a mass five times as heavy.

Matters of this kind obviously demand the direction of some most skilful practical officer, and it will excite no surprise to see in our advertising columns a notice from the Council of the Horticultural Society, announcing their intention to proceed immediately to the appointment of a Garden Superintendent. So much will depend upon the conduct and skill of this officer that the selection of a fitting person is one of the most important duties the Council have now to fulfil. He must be a thoroughly practical gardener, versed in every department of horticulture, and known to be so by his works; not a fine gentleman who imagines that fruit growing is the great art and whole duty of man. He must be a skilful ground workman, and experienced manager of men, young enough and active enough to bear the strain which the work of such a Superintendent must render inevitable for at least the few first years. Nor is this all; he must be popular with his brother gardeners, familiar with the management of public exhibitions, and with such an appearance and address as will enable him to receive visitors of all ranks in a manner becoming the magnitude of his charge.

With no lower qualifications than these ought the Council to be satisfied. If they can command a higher standard so much the better. The enterprise in which the Horticultural Society is now engaged is of such vast importance that no means can be neglected to secure the highest talent that this country is able to supply. We hope soon to announce that a Superintendent equal to so great a trust has been found.

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THE influence of Fungi in the production of disease both in the animal and vegetable kingdom is now acknowledged by almost every person who has made their pathology a specific study. In the vegetable kingdom the Fungi which induce disease are extremely numerous and of very different affinities; in the animal kingdom, on the contrary, they are few, closely allied, and, as far has been ascertained, belonging to the most common and widely diffused forms. Many indeed have received distinct names, but we believe that they are for the most part referrible to the very common species of Mucor Aspergillus and Penicillium, and it is remarkable that Dr. LOWE has induced certain skin diseases, which beyond doubt are ascribable to Fungi, by inoculation with the granules of yeast, which, as is well known, is a mixture of the spores or germs of species belonging to those genera.

One of the most curious forms which occur in animal pathology is the *Sarcina ventriculi*, which consists of square quadripartite bodies, wearing the aspect of an Alga rather than of a Fungus. This strange production we have always regarded as an anomalous condition of one of the common moulds above mentioned, and our notion is confirmed by an observation of Dr. W. TILBURY FOX, in the *Lancet* of Sept. 17, that he has found bodies exactly resembling Sarcina in severe *Tinea tonsurans*, a very unlikely condition for the development of a stomach fungus, except there be some closer relation between these organisms than is generally supposed.

It is beyond our province to enter at length into the observations which he brings forward to show the identity of parasitic Fungi affecting the human surface, and of several of the skin diseases which are commonly believed to be distinct, as it would involve details which belong to medical matters which would necessarily be unintelligible and uninteresting to the majority of our readers. We have however an important observation of Dr. LOWE before us, which tends to show that our notion as to the origin of Sarcina is correct. He had placed some months ago some crystals of cholesterine in water. On examining the contents of the phial a few days since he found that they were full of Sarcina, a specimen of which is now upon the field of our microscope. This observation, combined with that of Dr. Fox, tends to show very clearly that the Sarcina is no peculiar plant, but a mere condition of some common mould. It is true that no one has yet seen the bodies of which it is composed germinate; as however it appears under such different circumstances, it is all but certain from analogy that it is but some abnormal form, and the more so when it is remembered that a closely allied production of a bright orange colour has been found on putrid bones by Mr. STEPHENS.

The subject is not without its bearing on vegetable economy. If the parasitic growths which do so much mischief in the animal kingdom assume such varied forms, we may be prepared for similar phenomena amongst vegetables. The history of the Hop and Grape mildews indeed presents us with facts and changes scarcely less surprising, and bids us keep our eyes open when investigating other diseases amongst the objects of cultivation. Again, if the elementary organs of plants are capable of such change, need we be surprised at the instability of so many species, and the uncertainty which attaches itself to so many of the generic divisions proposed by authors. Botanists of the present day are more and more alive to the changes of which species are capable, and till the extent of them is generally felt, we shall have science overwhelmed with a host of forms, of which even the authors themselves have no definite notions. *M. J. B.*

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CAN any of our correspondents lend a helping hand to their brethren in Tasmania, where A PLAGUE OF THISTLES has invaded the land and threatens as much mischief as clouds of locusts? We learn from one of the principal proprietors in this important colony that acres and acres are already overrun, and that the mischief is spreading at such a rate that the landowners are seriously alarmed and asking for legislative interference. But what shape can such interference assume? These pests are not merely in open plains but swarm in the thickets and dense forests.

It appears that three species of Thistle have taken up their residence in the island; viz., 1, Carduus lanceolatus; 2, C. palustris; and 3, C. arvensis; the first a biennial, the second an annual, and the third a perennial. How are these to be dealt with? That is the question.

It is evident that continual destruction of the flower heads before the flowers open fully would ultimately expel the two first; but it would have no effect upon the last and worst, or perhaps might make it spread faster than ever. It would therefore seem better to depend upon mechanical contrivances for clearing the land of all at the same time, care being also taken to destroy all flower heads the moment they are distinguishable—a business that would suit children—if children there be available for such work. In a common near where we are writing Carduus arvensis has almost disappeared under the influence of geese, donkeys, and horses, except where the turf has been skinned off for the surrounding gardens; in such bare places it is as rampant as ever.

But it would be of very great value to Tasmania if some of the intelligent correspondents of this Paper, whether horticultural or agricultural, who have themselves had to deal practically with a plague of Thistles, would have the kindness to state how they proceeded. Some of our Irish, or even Yorkshire friends must remember when such a duty devolved upon them, and we venture to promise beforehand the hearty thanks of our distant fellow-countrymen for all such advice upon the subject as may be communicated.

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## HOLLY TEA.

SOME years ago I wrote a letter which was published in the Journal of the Horticultural Society of London on this subject; that letter was afterwards copied into many of the provincial newspapers, and may therefore be said to have prepared the public mind for the present communication. Should I be able to succeed in getting the people of this country "addicted" to drinking this species of liquid food as the people of the finer country of Paraguay are "addicted" to the use of Holly Tea, it would be worth years of toil, and would eventually wrench from sin and Satan myriads of men who are handed over to every vice from the besetting habit of intemperance. What would the drunkard's wife and family give to see the husband and father of the family addicted to drinking the costly Chinese Tea with all its heavy duty and sea-borne expenses? But what should we say if the healthy and cheerful beverage for a family could be got of the highest quality as a Tea and without the heavy duty and sea-borne expenses of the Chinese Tea? The bare fact of a nation of highly civilised Christians "addicted" to drinking Holly-leaf Tea is [illegible] being engraven in golden letters and holden before the eyes of old and young till they can spell the marvellous import of its mission. I tell you plainly now, however you may smile at the sentence, that it has seldom fallen to the lot of any single individual to have it in his power to do so much good in a little time as may be done by the introduction of such social reform, coupled with its economy; for, mind you, the drunkard's poverty falls heavily upon his innocent family, and upon parish relief, as well as the drunkard's crimes and bad example. A beverage therefore free from the intoxicating character of alcoholic drinks and the costly character of Chinese Tea is by no means an ordinary boon to mankind, and I have no doubt that our wise and bountiful Providence gave us the native Holly for our food, and gave it an evergreen character so that, like the tree of life, it should never fail, summer or winter, to yield the necessary supply. It has no need of being gathered into barns like the Olive, the Vine, or the bread corn; I believe that I have seen Holly leaves seven years old upon the tree, as if they were granaried there by Him who feeds the "young of the raven" and "clothes the Lily," to feed the offspring of Eve (the mother of all living). The Jesuits directed the manufacture of Holly-leaf Tea, so as to make it excellent and so agreeable to the taste that it might take hold of the habit which the natives already had of this species of drink; for the decoction of the leaves of certain plants has been habitual to the Indians from time immemorial, and right glad should all well meaning people be to see drunkenness dethroned and this idol set up in its stead, for as long as hunger and thirst craves so long will a supply be wanted, and let us not offer our fellow-creatures who they cry for thirst a draught to do them grievous bodily harm any more than if they asked for bread to offer them a stone.

The highest chemical authorities agree that Holly Tea contains "theine," the active ingredient in Chinese Tea and Arabian Coffee; the article is moreover extensively manufactured and traded in, carried thousands of miles to the consumers, and drunk by young and old at all times of the day. As I have already stated my views upon this subject in the letter above referred to, I would only now remark that the geographical range of the Holly is perhaps without a parallel in the distribution of plants. The species of Ilex lately introduced into this country and known only to botanists and such parties as may have seen them exhibited at the Chiswick fêtes are beautiful in the highest degree; and that mind must be dull indeed that can see no beauty in our own native Holly adorned with its coral fruit to hail the birth of Christ and feed the blackbird and other birds of song. But what most concerns us now is the argument that the plant being scattered in high latitudes as well as in low latitudes, and growing luxuriantly everywhere, cannot be looked upon as an affair of chance but a gift of God, for we see Wheat succeeding to admiration in all soils and situations, and even where it will hardly ripen a nearly allied corn plant steps in to make up the deficiency, and so it seems to be in the case with Tea (Thea), Coffee (Coffea), Paraguay Tea (Ilex).

I have prepared Holly Tea in all sorts of ways for years, and have amused my friends with trials of its qualities. I have roasted old leaves and young ones, and have charred some quite dark brown, and find this to be the only safe way of using the article in our present state of information and manipulation of the article. If I were to throw down unroasted Coffee of the highest quality to some maid of all work to be for my breakfast I fear I should not relish the Coffee thus roasted; still if it were baked enough the unpleasant and perhaps unhealthy flavour would be got rid of, but this is all I can say at present. It must be distinctly borne in mind that Chinese Tea is baked in a particular manner by experienced hands, as Mr. Fortune's work on China has clearly told us, and we must in some manner bake our native leaf so as to preserve all its good qualities for our use, and never think of laying the blame due to our own bungling to the fault of the Holly-leaf, which has been proved to be excellent in good hands. I calculate that very good Tea may be made now (before Christmas) at one farthing per ounce, and even at this low figure a fair margin may be realised as profit to the maker.

If it be true that 25,000 tons of Chinese Tea are used in this country, and that moderately-priced tea is sold at 4*s.* per lb., what a gathering does this represent! Poor old creatures in the decline of their days labouring for when they have years ago been unfit for work, to get the money to buy Tea—their only solace; think only of the aching limbs, and the aching heads, the [illegible] hours of labour, that have gone to make up the [illegible] times 500,000*l.* that have to be paid for the Tea leaves only, not to speak of the sugar, for that has to be sacrificed. During the last 30 years I have cultivated every Holly that could be purchased for money in this country, and having had a first-class education as a gardener, and being a corresponding member of the Horticultural Society of London, I may be considered a fair judge of this time of life of the nature of Hollies, and as the result of dearly paid for experience, I may now be allowed to state that I know of no good reason why the leaves of our native Holly (Ilex Aquifolium) should not henceforth be our Tea leaves. I have compared the flavour of roasted Holly leaves used as Tea, and can assure any one that I have paid 4*s.* a pound for worse Tea from the shops. If

Holly Tea leaves should be as brown as the crust of well-baked bread, yet not burnt black like charcoal. Holly Tea leaves are not fit for food raw. They have to be baked; they have to be kept after they are baked; age improves the Tea. Young leaves differ essentially from old leaves, and when very young have little or no flavour. Holly-leaf Tea should be drunk in weak solutions, not strong tea at first. Try it with a good will and no prejudice, convinced that better men and women too than we are have used it during the term of their natural lives, and blessed God for bestowing it upon them. I might say a great deal more respecting the plant, its cultivation, propagation, and the like, but my brothers of the gardening trade, and particularly the nurserymen, are in no need of my advice on this head, and I commend it to their interest to forward the good work. To the landed proprietor I would beg of him to plant Hollies of all sorts for their beauty, and for God's sake to benefit the poor, to whom the Holly will one day prove an inestimable blessing. *Alexander Forsyth*, 13, *Islington Square, Salford, Manchester.*

## Home Correspondence.

*Abies Douglasii.*—"Knollibus" commences his remarks in your Number for August 20, thus—"Notwithstanding Mr. Barron's experience, and with every respect for his opinion on all matters Coniferous, I think he is at fault in making more than one variety of this Fir." "Knollibus" then takes a rather extensive ramble over the hills, valleys, and forests of his own California, and then assuming a bolder tone, he tells us outright that "wherever a free vigorous growth is obtained the dark green tints prevail, and where a stunted or less free growth exists they invariably assume the 'warm yellow green,' as described by Mr. Barron. "Knollibus" we have little doubt has succeeded in convincing himself that he is right, but we wish to tell him that because his observations have been confined to free and stunted growing trees of the same kind, varying in colour, owing to local circumstances, it still does not follow that all of us are identical. We are here many brethren, and have grown side by side in the same soil; our character never varies, as you will perceive by specimens of lateral branches sent from eight trees, four from the dark blue green, and four from the "warm yellow green." You have an example of five years' growth, our leading shoots of both kinds running from 2½ to 4 feet yearly; generally speaking, the light variety makes the longest leaders. Our cones are distinct in colour when young, and form or size when full grown. Such is our experience. A visit to Elvaston might be of service to "Knollibus," as it has been to others before him. *The Douglas Firs, Elvaston Castle.* [We can confidently endorse this statement. Douglas Firs vary in colour no doubt, like other Conifers, according to the conditions under which they grow. But it is a great mistake to say that only one form of the species exists. The two above spoken of are permanently distinct, the dark green one having leaves whiter on the under side. We believe that it is the original Abies taxifolia, a name which its dark leaves render peculiarly appropriate. There is even a third form, that found in Mexico, to which the name of Tsuga Lindleyana has been given, which is by no means the same as Mr. Barron's dark-leaved sort—to which the name taxifolia should be applied. The latter is by far the finer of the two northern forms.]

*Supposed Dimorphism in Portulaca.*—The enclosed flat-leaved Portulaca came up with a great number of P. Thellusoni. The peculiarity consists in the plant producing ripe and apparently perfect seeds without any flowers preceding. Will you examine it and give some account of it in the next number of the *Gardeners' Chronicle?* Only two seedling plants of the kind came up in a large bed of the P. Thellusoni. *Ely, Oct.* 5. [It is very certain that if the specimen sent us were really a transformation of Portulaca Thellusoni it would be quite extraordinary; for a plant with flat blunt broad leaves and no petals appears instead of one with slender leaves and large brilliant petals. It is however not a case of dimorphism; for the stranger is only common Purslane, the seeds of which had been *mixed* with the other.]

*Gossamer.*—Can you inform me what is the cause of that appearance so frequent in autumn, consisting of threads resembling spider webs, commonly called gossamer? If it be the production of that insect, how do you account for their hanging apparently unsuspended in the air, as it is seen 50 or 60 feet high, without a tree or any other object near to which it could be attached? *A Young Inquirer.* [The following passage in Rees's Cyclopædia solves our correspondent's enigma:—"The general method of these creatures (spiders) spinning and weaving the webs is by letting down the thread, then drawing it after them, and so disposing it as they think proper; but in the midst of their work of this sort, if they are closely observed, they will be sometimes found to desist, and turning the tail to the contrary way of the wind they will emit a thread with great violence; no less than that with which a jet of water is discharged from a cock. In this manner they continue darting forth the thread, which the wind takes, and carrying it forwards, it soon becomes many yards long. Soon after this the creature will throw herself off from the web, and trusting herself to the air with this long tail, will ascend swiftly and to a great height with it. The fragments of these lines, or the whole lines, and the spiders attached to them, though unobserved, make these air-threads, and the use nature destines them for is evidently the wafting of the creature along the air, and giving it an opportunity of preying on gnats, and many other insects that inhabit the air, out of the reach of these creatures by any other means."]

*Summer Transplanting of Evergreens and Trees.*—I have been much interested in the notices you have published relative to transplanting trees and shrubs during summer. My garden and shrubberies average about 920 feet above the level of the sea, and are situated on the north slope of a hill which rises to a height of 1237 feet, and are so thoroughly inland as to be nearly equidistant from the Atlantic and German Oceans. Though common evergreens are difficult to rear in this neighbourhood, they all grow with me in the wildest luxuriance; and having occasion to transplant these at various seasons, either in forming new shrubberies, or removing old ones, I experienced so many losses of, or damage to, valuable plants by transplanting them during winter, that three years ago I determined to give a fair trial to transplanting during summer, when the growth was vigorous. During the first year I limited my trials to young plants varying from three to five years old, including Yews, Portugal and common Laurels, Rhododendrons, Berberis, as also deciduous shrubs and trees of the same age, as Ash, Lime, Horse Chesnut, Plane, Guelder Rose, &c. All these plants were lifted without balls, with naked roots, as in winter planting, as the object was to compare the results with similar removals during winter. These plants were removed at various times from the last week of May till the end of August. To my great delight not one of the summer-moved trees or shrubs failed; all took root readily; and some even made considerable growths before winter. Encouraged by this success, this year, though a most unfavourable one for the purpose, I transplanted many shrubs of from 15 to 20 years of age, as Irish Yews, Chinese Arbor-vitæ, tree Box, Portugal and common Laurels, and Rhododendrons; also several Spruce Firs of the same age, a Wallnut (which just lives at this height), and some Limes, Yews, Silver Firs, and Deodars, from 5 to 10 years old. To my great surprise not one has failed; all appear vigorous and well established, and on examination I find the new soil filled with vigorous new rootlets. Winter planting has never had the same success with me, and some of my neighbours cannot get a single winter-planted Laurel of any kind to grow. A few winters ago I myself lost 50 plants of Portugal Laurel, which had been planted during winter. Not having a McGlashan transplanting machine, the plan I follow is this:—Previous to touching the tree or shrub a pit is prepared in the place where it is to stand from 18 to 20 inches deep, and the bottom is covered about 2 inches deep with fine loam mixed with an equal quantity of well-rotted manure or decayed leaves. The plant is then dug round at the distance of about 3 feet from the stem, if 15 or 20 years old, and when I get below the roots work inwards with a pick till the tree is undermined, when it is pulled over. If the soil be moist and adhesive a good ball is thus got; but if, as this year, the ground be parched, it is nearly impossible to get a ball of soil; but this seems to be of little importance if care be taken not to injure the roots. The tree or shrub is then carried to the pit prepared for it, and its roots carefully spread out and covered with fine soil mixed with plenty of well-rotted manure* and decayed leaves. Two or more pitchers of water are then poured over the loose soil covering the fibres, so as to wet it thoroughly and settle the soil about the roots; the rest of the soil is then put on, and the whole gently firmed with the foot. In the afternoon a pailful of water was thrown over the leaves, and the operation was finished. This year, in consequence of the excessive drought, every large plant so transplanted was twice watered during the first week after removal, and was then left to itself. From my experience I have no hesitation in saying that in this high part of the country summer transplanting of evergreens and trees of moderate height is far superior to winter planting. Whether it would do for general planting of forest trees I am not yet prepared to say; though I may mention that the planting of the hill above alluded to was not finished till the end of June, and more flourishing trees it would be difficult to meet anywhere. *James Stark, M.D., Huntfield, by Biggar, Upper Ward of Lanarkshire.* [* Does our correspondent use dung for his Conifers?]

*Mushrooms.*—As regards "D. F. C.'s" query in your last Number, I would add a remark that although the autumn set in with promise of a great Mushroom season, the appearance of them ceased all at once, and a large fungus very difficult to distinguish from the true Mushroom abounded in our meadows. I passed through a field and saw so many and so promising that I sent my man to gather them; but my cook would not deal with them; though there was no mark of distinction to be pointed out, except that they had no fragrance at all. Your mark, therefore, "very fragrant," is the safest and most valuable, for I assure you the gills of these were of bright reddish violet colour, quite as true Mushrooms ought to be. The poor folks who gather Mushrooms about this town tell me that when they see these large funguses abound, which they call "cow Mushrooms," they never find any more of the true Mushroom, and no more of them appear that season. *W. M. R., Bishop's Castle, Salop.*

*Spergula pilifera.*—Ought there not by this time to be reports from all parts of the country about this Spergula? Is it not time we heard how it is affected by climate, aspect, soil, and cultivation, and had for reference a body of evidence as to its physiology and botanical relations? It was no sooner announced than I destroyed a piece of turf on a slope under the drawing-room window on purpose to make room for a circle of it, and that circle is now a close velvet-like turf, and I am more than satisfied that it will accomplish all that was predicted of it, provided it be fairly dealt by. My circle surrounds a bed of 50 Roses planted on purpose to make a feature of the Spergula. The Roses are in a circular bed 13 feet across, and the ring of Spergula measures 4½ feet on 70 feet in circumference. The whole of the ground was newly made to a depth of 3 feet of maiden loam and turf, well broken up, and in levelling the ring for the Spergula, about half a yard of Hyacinth compost was used for a surface dressing, on the principle that as all we knew about it was that it was an alpine, sand and leaf-mould would be the right stuff in which to give it a start. Five shillings' worth of seed was sown in pans in rich sandy compost, and the pans covered with squares of glass and put on a top shelf till the minute seedlings made their appearance. They were then allowed a little air, and when the plant had made half a dozen of its fine wiry leaves the pans were transferred to a frame. The growth was very slow in the earlier stages; but a pan that was sown three weeks before the rest looked fit for planting out, and was planted out on the 25th of April, making the first ring of plants next the edge of the Rose bed; cold and drought followed; the plants were allowed to chance it, and in four weeks all had perished. Other pans, in which the plants had grown about an inch long, were planted out successively, and the last planting was made on the 2d of June, when the circle that had missed was made good. The 5*s.* worth of seed furnished enough to cover the circle at about 4 inches apart all over. During the whole time the circle of Spergula was not supplied with a single drop of water. I was determined to test its merits severely; and during the drought of June and July it looked anything but promising, for though some of the early planted pieces had grown to patches 3 inches diameter, the bare dry spaces between and the very thin state of the plant generally gave no promise of a speedy surfacing. But since the middle of August the growth has been so rapid that except on one edge, where light rains are kept off by a neighbouring tree, it is now a thick close turf of mossy felt, the separate plants having extended themselves horizontally, rooting at every point with great regularity, and when meeting mixing their growths together in the fashion of some textile fabric. Some of the patches from single plants from the seed pans are now 8 inches in diameter, and I can already afford to remove rooted patches from the best places to plant elsewhere. My experience so far enables me to advise intending planters not to sow in the open ground, for weeds and worms are powerful enemies to this close growing alpine in all its earlier stages. The labour of weeding my piece has been immense; every tuft of Grass, Groundsel, &c., has its own way to tower above the Spergula, and mix its roots with it; and to use the hoe is quite out of the question. The best mode is to hand-weed with the help of an old dinner-fork, to plant at once any scraps of Spergula that come out with the weeds, and then to roll every part of the surface at least half a dozen times. If worms abound in the soil they make their casts under the decumbent stems till they form miniature mole-hills, which the roller does not crush, and hence lime-water, or some other extirpator, must be used to preserve a level surface. If intended to be sown broadcast the ground ought to be got ready long before to allow time to start all weed-seeds, and clear them off before sowing, as also to get rid of earth-worms. When well established, worms may be of no consequence, but I expect weeds will always find encouragement in the moist felt, and weeding will be the chief labour in keeping the Spergula in condition. I ought to add that my piece is in a north aspect, has only the afternoon sun; soil deep moist loam, and the circle elevated 9 inches above the Grass turf, with the Spergula turning over the edge to meet the Grass. If we take the mean between the 25th of April and the 2d of June, during which mine was planted, and allow to this present period, 11th of October, we may conclude that to form a compact turf of Spergula pilifera requires a period of 21 weeks. *Shirley Hibberd, Stoke Newington.*

*Will Rhododendrons flower in Autumn?*—I enclose you blossoms of R. hirsutum which will answer this question. They were gathered from plants now in full flower by the side of a walk in the grounds of Woodstock Park, the seat of the Right Hon. W. F. Tighe. The grounds in question are famed for the quantity and great variety of Rhododendrons which they contain, and are much admired by all who visit them. Scarlet hybrids commenced flowering last December, and ever since one or more of the varieties have kept up a succession of bloom. Some years ago Sir James and Lady Matheson made efforts to have Rhododendrons in flower in autumn, when they went down to their seat at Stornaway. Could any correspondent inform us what success attended the experiment? The Tussac Grass succeeded in the Lews; the peculiar deep, black peat there may also favour the late flowering of Rhododendrons. Some of the experiments—such as cutting out the flower buds in spring, were of a doubtful nature to secure a good blow in September. *Charles M'Donald, Woodstock, near Inistiogue, Kilkenny.* [The blooms of R. hirsutum sent along with this communication were bright in colour, fresh, and beautiful.]

*Conifers at Beauport.*—Admirers of Conifers will be

glad to have their attention directed to Beaufort, the beautiful seat of Sir Charles Lamb, Bart., near St. Leonards, to which equestrians are kindly allowed free access. Here is a park of very considerable extent, in which the more rare kinds of Pinus, Cupressus, and other evergreens are growing wildly in all the luxuriance of their native woods, and in great beauty and variety. It is difficult to conceive a richer collection. Of the numerous Araucarias there is one near the mansion, which although not so high as that at Dropmore (being about 45 feet), surpasses it in the beauty of its growth, the lower branches drooping down with the laterals curving upwards in the most graceful form. A Wellingtonia, 2 feet high when planted in April 1857, is now 11½ feet, according to the observation of the steward (who by the way has a fine collection of cones at his beautifully situated house, on the south of the Park). It seems this plant has frequent intervals of rest, thus confirming the opinion of your correspondent in last week's *Gardeners' Chronicle*. The soil in which these trees luxuriate is a near approach to clay. *F. H. S.*

*Gourds.*—Two fine specimens of "ornamental Gourds" caught my attention on passing through Yniscedwyn, near Swansea, a short time back, on a tour through South Wales. One of a large size, pale yellow, and orange-shaped, measured upwards of 50 inches in circumference, and weighed between 50 and 60 lbs. The plant with its luxuriant growth and fine foliage (some of the leaves measuring more than 2 feet across) was trained over a cottage porch, and had a striking effect. The other, having the size and figure of an ordinary Vegetable Marrow, was elegantly striped with dark green and golden yellow. I also noticed a tall specimen of Sunflower, a new variety lately introduced from California, said to attain the height of 20 feet, showing a bloom nearly 4 feet in circumference. Altogether they formed an interesting group, which must have been highly satisfactory to the cultivator, Mr. James Bird. *An Old Subscriber.*

*Yucca gloriosa.*—I have in my garden a plant of this Yucca now exhibiting six flower spikes, with a profusion of blossoms on each spike. I wish to ask whether it is not an unusual circumstance to have so many spikes on one plant. They began to emerge from their respective birth-places on the last day of August, and the lateness of their appearance after so hot a summer and within a few miles of the south coast surprised me. The plant is much more than 20 years old. *J. P., Oct.* 13.

*Gardeners and their Employers.*—Your Correspondent "An Employer" (see p. 789) says that he has combined the offices of steward and gardener, and has known others do the same, but in no one case has it answered. Now permit me to inform him that within a circuit of 4 miles from where I reside, there are no fewer than five instances of one man filling both situation; and three of those are from 10 to 15 years' standing—sufficient proof I think to show that the combination can be successfully carried out. But your correspondent has experienced the same difficulty which others sometimes have in getting a man to fill one or the other place separately. The secret is in getting "the right man in the right place;" let him accomplish that and increase his salary in proportion to his new duties, and "An Employer" will find that there is at least a difference of 150*l.* per annum in wages. *Equity.*

## Societies.

HORTICULTURAL: *Sept.* 20.—Mr. Edmonds in the chair. On this occasion the Fruit Committee met at the Garden of the Society, chiefly for the purpose of examining the varieties of Grape in fruit in the large conservatory, of which a report will appear hereafter. It was intimated to the Committee that C. W. Dilke, Esq., proposed to place at their disposal for 1860 two prizes of five guineas each for the best specimens of such new fruits as the Committee may select. Mr. W. P. Ayres sent from Orchardleigh Park, Frome, a fruit of his Improved Cashmere Melon, the usual weight of which he stated to be from 4 lbs. to 7 lbs.; it was very handsome, of an oval form, 10 inches in length and 5½ inches in diameter, obscurely ribbed, and slightly netted; yellow, mottled with green; rind exceedingly thin. The flesh was white, crisp, tender, melting, and very good; but the Committee were of opinion that it was shown too late in the season for the full development of the excellence in flavour which it appeared likely to have possessed at an earlier period. Messrs. Veitch exhibited a collection of Syrian Peaches and Nectarines, ripened on an open south wall at Exeter without glass. With one exception they were all sweet kernelled. This class of fruits was originally sent to this country from Syria, by J. Barker, Esq., of Suedia, formerly her Majesty's consul at Alexandria; and they were grown in the garden of his relative, Mr. Warmington, at Kensington, until wholly removed to the Exeter nursery. Peach No. 9; fruit large, roundish oblong, with very deep suture; skin, pale greenish yellow where shaded, marbled and dotted with red next the sun; flesh melting, parting from the stone, at which it is slightly rayed with red, rich and sugary; kernel bitter; leaves crenated, with globose glands. This proved a delicious fruit. Peach No. 12; fruit middle-sized, round, greenish yellow on the shaded side, and mottled with dull red next the sun; flesh parting from the stone; kernel sweet; leaves crenated, with reniform glands. Probably a good Peach, but it was not in condition, being over ripe. Peach No. 13; fruit like a large Noblesse, pale yellowish green, except next the sun, where it is mottled with dull red; flesh adhering firmly to the stone, sweet but not rich, and considered not superior to the old Catherine; kernel sweet; leaves crenated, with reniform glands. The same firm also sent Nectarine 22 A; externally this resembles the Stanwick, but the flesh adheres to the stone, nevertheless it is half melting, rich, sugary, and delicious, with a fine aroma; kernel sweet. An excellent fruit. Nectarine 22 B; between this and the preceding no decided difference could be observed, and as far as could be judged from the fruit, it was presumed they are the same variety.—From Mr. G. Hood, gardener, Mamhead Park, near Exeter, a dish of Stanwick Nectarine, accompanied by the following note: "The fruit sent is not so large nor well coloured as we have had them in other years. They are part of a crop of 120 fruits on a bush tree in a 13-inch pot, and ripened this season without the aid of fire-heat." The specimens, although not so large as the variety usually becomes, were of medium size, about as large as the Elruge. The flavour was very good, but of course not so rich as those ripened with more heat. From this exhibition it is evident that fruit of the Stanwick Nectarine may be abundantly produced without the defect of cracking, to which it is liable. J. Allnutt, Esq., sent a well-grown fruit of the Stanwick from the garden at Clapham. He stated that it was grown in a pot in a house without fire-heat, and that none of the fruit exhibited any sign of cracking.

*Oct.* 11.—Rev. L. V. Harcourt in the chair. At this meeting were large, finely-grown Beurré Diel Pears from Mr. Vinall, gr. to M. G. Thoyts, Esq., of Reading; and Scagglethorpe Queening Apples, a red kind with little or no flavour, from C. W. Strickland, Esq., Hildenley, near Malton. A kitchen Apple, called Large Cockpit, also came from the same gentleman. Halldoor Apple from Mr. Webb, of Reading, did not appear to be different from Hormead's Pearmain. The same exhibitor also sent Eve Apple, Emperor Alexander, and very fine specimens of Blenheim Orange. From the same grower came, moreover, very fine bunches of a seedling Grape from the Black Hamburgh, ripened out of doors without any protection. Some Pears were furnished from the Society's garden, the best of which was Rousselet Enfant Prodigue, which was juicy and melting, and well worthy of further trial. A specimen of the Salway Peach from the open wall proved dry and flavourless. Some Kidney Potatoes—not free from disease—and two large Cucumbers came from Mr. Webb of Reading.

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BRITISH ASSOCIATION.—*Continued from page* 810.—NEW MODE OF BREAD-MAKING.—By this process the carbonic acid is produced independently of and superadded to the flour, which consequently undergoes no modification whatever. The carbonic acid gas is stored in an ordinary gas-holder, and is pumped therefrom into a cylindrical vessel of water, whereby the water becomes charged with gas. This soda-water is mixed under pressure with the flour, and the resulting dough becomes vesicular on removing the pressure. It is then divided into loaves and baked. This process is so rapid that in an hour and a half from the first wetting of the flour a sack of flour is made into 2 lb. loaves. The advantages of this new mode are—its cleanliness; from the beginning to the end of the operation neither the flour nor the water is touched by the human feet; it conduces to the health of the work-people, it is a very rapid process, it is certain and uniform, and it prevents any deterioration of the flour, so that by this process you can use flour which would require alum in the ordinary process. *Dr. Odling in Chemical Section.*

THE ELEPHANT REMAINS AT ILFORD.—The first fossil to which I wish to direct attention is the tusk of an enormous mammoth, which was discovered about two years since. It was lying on its side, about 14 feet below the present surface of the soil; and I had the honour of inviting Sir Charles Lyell and other eminent geologists to see it before it was disturbed. It belonged to an animal of the species Elephas primogeneus, and is identified with the Siberian mammoth, and, I believe, with the one found in Behring Straits. The tusk was decayed at each end, the extremities being gone, but the part preserved was over 9 feet long, and of proportionate bulk. Some idea may be formed from this of the huge size of the animal of which it formerly formed a part. It was very much incurved, being so much bent back that the bone was not more than 4 feet 2 or 3 inches across in any part. Owing to the nature of the soil, the whole tusk was very friable, most of the gluten of the ivory being decayed, so that great care was required in moving it to prevent it falling to pieces. This was done in the usual manner by the authority of the British Museum, to whom, by permission of Mr. Curtis, I presented the fossil; it was, however, I regret to say, much damaged by removal, notwithstanding the care bestowed. It was nearly a year afterwards before any more bones were found. I then obtained a large tibia, and two molar teeth, probably belonging to the same animal, as they were not a great way from the tusk. One of the latter was very large, weighing about 12 lbs., though, from long use, much worn. From this, I infer that the mammoth to which it belonged must have been of great age. About the same time, I obtained several bones of a large rhinoceros. These, from their more compact nature, were less decayed; and the tibia and one side of the jaw were very perfect, several teeth being *in situ*. The other half of the jaw was smashed by the workman's pick before I saw it; but I saved several teeth. Like those of the mammoth, they were very much worn. Two of them I gave to the College of Surgeons. The rhinoceros has been referred to the genus Leptorhinus. Associated with these remains were some of the bones of a large ox, the horns and skull of which were very perfect, with several teeth *in situ*. There were also turned up, within the last month or two, some bones of a large ruminant, which I believe to be of the Minocero, or Irish elk; but I have not yet been able to get them exhibited. About 30 years since the late Dr. Buckland discovered the bones of a mammoth in this locality; and about the same time the late Mr. Gibson obtained the beautiful collection of bones now in the Royal College of Surgeons. Associated with the remains of those giants of ancient days are the skulls of Planorbis, Mico, Cyclon, Paludina, &c. Are there are now living in the Roden, and other tributary brooks in the neighbourhood, the lineal descendants of these fossils, the ancestors of which enjoyed the same sunshine as the mammoth and rhinoceros, the aristocracy of those days. We boast not of the primary rocks of Scotland, but we have amongst us, living on the same estate as their ancestors, the humble Paludina, Planorbis, &c. They are interesting, for they form, as it were, the link between the past and the present order of things. *Mr. Brady in Geological section.* The President expressed his opinion of the very interesting nature of this paper, showing, as it did, how near to the existence of man on earth those huge creatures lived, the vegetation of their time being such as we are acquainted with. He did not by any means suggest that they were contemporaneous with man, and they must disabuse their minds of the opinion that anything said or published by geologists was calculated to destroy any rational belief. They did not and could not say—because they had no evidence—that man lived 15,000 or 20,000 years ago; but they produced evidence to show that those creatures lived nearer to our own time than had been supposed; whether to the exact chronology of 6000 years, or thereby, is a matter of indifference.

*(To be continued.)*

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ENTOMOLOGICAL: *Sept.* 5.—Dr. J. E. Gray, President, in the chair. R. W. Fereday, Esq. was elected a member. The President exhibited on behalf of Dr. Power a number of rare Coleoptera taken by the latter during the present season. Mr. Stevens exhibited a portion of a collection of Lepidoptera, made by Mr. Trimmings in South Africa, containing a fine series of Pieridæ; he also exhibited a living example of Locusta migratoria, taken near Brighton, where the species had been unusually common this season. Dr. Knaggs exhibited a specimen of Polia occulta, taken at Camden Town, and some fine *Lepidoptera*, taken this season in the south of England, including Clostera anachoreta, a species hitherto considered as a doubtful native of this country; Emmelesia tæniata, Nonagria concolor, Eupithecia expallidata, Simaëthis vibrana, &c.; he also exhibited the living larva of Timandra prataria, feeding on Polygonum aviculare. Mr. McLachlan exhibited a fine specimen of Hadena peregrina lately taken at Freshwater, Isle of Wight. Mr. Stevens exhibited a box of beautiful Longicorn Coleoptera, sent from Sierra Leone by Mr. Foxcroft. Mr. Allchin exhibited a specimen of Leucania musculosa taken at Brighton, and Nola Centonalis from Folkestone. Mr. Janson exhibited a fine new species of Adelops, a genus of minute beetles destitute of eyes, found by Mons. Jacquelin Duval in the Pyrenees. Mr. Pascoe announced that the collection of insects of all orders belonging to the United Service Museum was about to be disposed of by private contract. Mr. Tegetmeier had recently noticed that bees resorted to a chalybeate spring for water in preference to all others.

## Notices of Books.

*Journal of a Voyage to Australia and round the World for Magnetical Research by the Rev. W. Scoresby, D.D., F.R.S.* Edited by Archibald Smith, Esq., M.A., F.R.S. London: Longman & Co. 8vo. Pp. 318.

The volume of which the above is the title consists 1st, of an introduction stating the object and result of Dr. Scoresby's voyage; 2dly, of a concise statement of those magnetical principles which bear upon the action of the mariners' compass in an iron ship; and 3dly, of the journal of a voyage made by Dr. Scoresby to Australia and back in the year 1856.

The introduction tells us that the voyage of which this volume contains the journal was undertaken by Dr. Scoresby, with the object of observing the changes which take place in the maguetic state of an iron ship proceeding from a northern to a southern magnetic latitude, and of deciding certain questions as to the best mode of correcting the deviations of the compass in such a ship.

The particular questions to which Dr. Scoresby's attention was directed during the voyage had been the subject of controversy between him and the Astronomer Royal; and related to the nature of the magnetism of the rolled and hammered iron of which an iron vessel is chiefly composed, the changes which that magnetism undergoes, and the mode of correcting the deviation of the compass caused thereby; and particularly to the well-known mode of correcting the deviation by the application of magnets and soft iron. This mode of correction Dr. Scoresby, in common with many others, considered to be not only erroneous in principle,

not dangerous in practice. He protested strongly against it on all occasions, and his sense of its danger was one of the motives which induced him to undertake the voyage.

The Royal Charter was an iron ship of 3,000 tons burthen, and was built with her head in the direction N. 30° W. (magnetic). When newly launched, there was, therefore, a strong tendency of the north point of the compass to the port side; the blows and strains which the Royal Charter experienced in her voyage diminished or, so to speak, "shook out" that inequality to such an extent that the standard compass, which had originally a deviation of nearly 20° to the port side when the ship's head was north, had this deviation reduced to 3° 22′ on the ship's return to Liverpool; while the steering compass, which originally had been rather over corrected, returned with an increase of 20° 42′; while the companion compass, originally rather under corrected, returned with a change of 19° 23′. This change shows the complete failure in such a voyage of the correction by fixed magnets. Whatever difference of opinion may be entertained as to applying correctors to the steering compasses of iron ships, it can hardly admit of question that every iron ship should have at least one compass removed as much as possible from the influence of iron, and not corrected by magnets, and should be swung at the beginning and end of every voyage of any length, and the deviation of the uncorrected and corrected compasses, (if any) observed. The journal of the voyage is printed at length and will be found interesting not only to those engaged in magnetical researches, but also to the general reader. The following extracts relate to the spouting of whales and sea-serpents.

"In a former part of my journal, I have remarked on the prevalent error and persuasion of the spouting of water by whales, a persuasion which in one of my earliest essays on Natural History I showed was founded on mistake, for nothing like water, much less fountains and jets of water, is to be seen in the respiration of this order of animals. Yet the error is not only a popular one, but even to this day is supported by many of our eminent naturalists. In again noticing the subject, it is with the purpose of adding the experience, gained in this voyage, of the blowing of several kinds of whales previously unknown to me. In the whales of the Indian Ocean, of the South Pacific, of the South Atlantic, as well as of the North, and of tropical regions, the 'spouting' is but the respiration common to animals breathing the atmospheric air, except in being more dense and steam-like in its expirations!"

Next as to sea-serpents:—"Sometimes the manner of congregating and swimming in the more gregarious or sociable tribes enables us to discriminate the species at very considerable distances. Thus, when on one occasion I was crossing the Atlantic to the United States, the attention of the passengers was called to a very striking assemblage of the whale tribe, pursuing a sportive course nearly parallel to that of the ship, though they were at a considerable distance. One series of society was arranged in a straight line, extending for near a quarter of a mile as in Indian file, and they rose to the surface much about the same time, and pursued for some distance a somewhat systematic undulating course. This peculiar manner and aspect suggested the conviction that they were of the globocephalus species, the Delphinus deductor, described in my account of the Arctic Regions; in which species the forming in line, or following a leader, is a characteristic, and was suggested by my friend Professor Traill as a good demonstrative trait in the habits of the animal. The same appearance struck me as likely to give the impression of the sea-serpent. It is not, however here my intention to express any decided opinion against the various statements which have been made of sea-serpents of prodigious magnitude having been seen."

We are sorry to see a work like this published without an index. It has however an excellent chart.

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We have received the following since our last:—No. 6 of *Moore's Index Filicum* (Pamplin), carrying the table of genera as far as Marattia, and advancing the Index itself beyond the middle of the great genus Asplenium. The book continues to be remarkably well done.—Part II. of *Thwaites and Hooker's Enumeratio Plantarum Zeylaniæ;* in this are included the great Leguminous, Myrtaceous, Melastomaceous, and Cinchonaceous orders, and Compositæ are begun. The following account of Pachycentria Walkeri, a Medinilla-like plant, will we trust secure that plant for gardens. "This is one of the most beautiful plants of the island, covering the trunks and branches of forest trees with a mantle of the most lovely rose-colour." The species inhabits the central province of Ceylon at an elevation of 3000 to 5000 feet. No fewer than 15 species of the pretty genus Sonerila are also enumerated. At the present rate of publication this very useful work will soon arrive at completion.—Messrs. Routledge have brought out a shilling edition of Moore's Handbook of British Ferns, popularised by the author under the name of *British Ferns* and their allies. Mr. Moore has simplified the original so as to render it a first book for beginners, and has omitted the endless varieties, or rather forms, which so abound in the eyes of the Fern collector. There are plenty of characteristic wood engravings which will assist in making the little volume popular, in the proper sense of the word.—Buckland's *Elements of Botany* (Hall, Virtue, and Co.), is a very small shilling pamphlet for the use of children. It would have been called more correctly, First Steps to Botany, for it is nothing more. Mrs. Buckland's object has been to simplify to the utmost a very simple subject, and in doing so she has wisely avoided teaching too much. We would however suggest that Dictyogens have no business in a child's book, and that she does not always seize the simplest marks of distinction. The idea is good, but it is not quite successful in execution.

Under the name of the *Fern Collector's Album* Mr. Hardwicke, of Piccadilly, has produced a handsomely printed 4to Portfolio bound in scarlet and gold, with blank leaves on which dried specimens may be glued by the collector, and short accounts of the structure, habitation, and cultivation of each species on the opposite page. When filled by the collector it will be a little repository of pleasant souvenirs to beguile many a weary hour. We think the beautiful volume bears unmistakeable marks of a lady's hand, on which account, as well as because of its intrinsic merits, we heartily recommend it to those who are looking out for acceptable presents.

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Trade Lists Received.—Richard Bradley & Son's (Halam Nursery, near Southwell, Notts) *Catalogue of Plants, Shrubs, Trees, &c.*, rich in Roses, and hardy trees and shrubs, with the addition of a few useful stove and greenhouse plants; among other things Douglas Firs are offered, "fine plants, 10 to 12 and 15 feet."—Wm. Urquhart & Son's (Dundee) *Nursery Priced List*; 11 pages of prices of seedling forest trees and shrubs, the same transplanted, herbaceous plants, greenhouse and hardy Ferns, Roses and florists' flowers.—Wm. Wood & Son (Woodlands, Maresfield), *a Descriptive Catalogue of Roses;* also *General Catalogue of Ornamental Trees and Shrubs;* also *Wholesale Lists of Roses, Fruit Trees, Ornamental Trees and Shrubs, &c. &c.* These three lists taken together form one of the largest catalogues of country nurseries; Roses alone occupy 23 pages, exclusive of unenumerated old sorts which it is stated are also kept.—Croux (établissement d'horticulture à la ferme de la Saussaye, Villejuif, Seine) *Extrait des Prix-courants pour Marchands;* a trade list of fruit trees, fruit tree stocks, and ornamental trees and shrubs grown near Paris.

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## Garden Memoranda.

The Royal Exotic Nursery, King's Road, Chelsea.—Among the many sights to be seen in the neighbourhood of London, few can exceed in interesting the intelligent observer more than the justly celebrated nursery of Mr. J. Veitch, jun., in the King's Road, Chelsea. No high-domed conservatory or architectural display calls the attention of the passer by to the world of treasures contained within. A plain yet elegant conservatory somewhat Grecian in its style, whose paths form broad commodious promenades, on each side of which are stages filled with the hardier kinds of Palms, Ferns, minature Orange trees laden with golden fruit, fine specimens of Stadmannia australis, whose light brown downy leaves and fine symmetric form eclipse the brighter hues of many gaudy flowers; here too in every stage of growth are Araucarias and other tender beauties of the Coniferous family. On the columns and supports of this conservatory are trained in elegant festoons climbers of various hues and clime;* jardinières, suspended from the roof, filled with graceful drooping plants, the whole forming with their glowing colours and vigorous health a *toute ensemble* rarely, if ever, surpassed. Following the centre promenade of the above-mentioned conservatory, a turn to the right at the end brings us to a house filled with rich, rare, and delicate Ferns; at first sight one scarcely knows which to admire the most.

To attempt to name or describe the vast number of plants here brought together, denizens of the tropical forests, swamps, hills, and plains, by the indefatigable exertions of Messrs. Veitch and their collectors, the brothers T. & W. Lobb, would be a work of too much time and space; but for the information of those who may not have an opportunity of seeing themselves, I will endeavour briefly to describe the general arrangement, appearance, and effect, as well as some of the most striking individual plants. One thing which tells more than any other in the nursery is the successful and effective manner in which the plants are arranged and cultivated; each in accordance to their varying climes and habits are wondrous examples of the perfection to which the art of gardening has brought so many different and difficult subjects in the untoward climate of England.

To return to the Fern house, in which are one or two plants deserving honourable mention. First and most distinguished is a lovely plant of Gymnogramma argyrophylla, the most silvery of all silver-leaved Ferns; some fine plants of Gleichenia speluncæ, with quaint foliage reminding one of a mass of light green coral; a Gymnogramma lanata with soft downy leaves, a thing of quietness and repose; whilst Mohriæ, Nothochlænas, Stemionitis, and Lygodiums are plants that cannot fail to fire the imagination of the most cool observer.

Whether Mr. Veitch has an hospital to which the sick are taken at first symptoms I did not stay to inquire, but judging from the appearance of the Ferns in this house, it did not appear likely he would ever have many on the sick list.

* One of them, Lapageria rosea, smothered with cup-like flowers of bright rose marbled with white; a climber no conservatory should be without.

Passing from this temperate Fern house, you are among a host of Vireas, Aroids, and ever and anon Orchids filling a house devoted entirely to their cultivation; here are plants in every stage of growth all glowing with health, whilst the air is laden with a delicious perfume such as the beautiful wax-like flowers of these Orchids alone can give. Another turn, and you are among a swamp of Pitcher plants, looking as healthy and as much at home as if in the thick dank air of their native lands, and it is quite evident from the numerous and fine Pitchers hanging from the tips of the leaves that Mr. Veitch has found out the exact manner in which these plants should be treated. In the same house I noticed some beautiful and tree-like Lycopods of the Selaginella class; amongst the most conspicuous were Selaginella Lyalli, Lobbii, and atroviridis, all plants of erect growth, reminding one of miniature Arbor-vitæ with a kind of polished steel foliage. Leaving this house and crossing the centre path of the nursery to an opposite door, I found a house filled with Cattleyas, without speck or blemish, and looking as happy and as much at home as any of the afore-mentioned.

An adjoining house is filled with Cypripediums, Dendrobiums, Oncidiums, Cymbidiums, and other parasitical natives from tropical forests. From this house a turn to the left brings us into another in which are some fine examples of Tree Ferns, and Orchids requiring temperate treatment. Here I saw a blaze of Odontoglossum grande, a perfect bank of butterfly-like flowers, the finest of the kind I have ever seen. Among them I noticed some variation, several having larger and much more handsomely marked flowers than the general lot.

I may here remark that a son of the proprietor, who kindly showed me over the nursery, informed me that a great deal of the success that attended their Orchid growing arose from a careful consideration of the climate and habits of the plants in their native countries, and assimilating as much as possible that state here, instead of jumbling them up together as is often done, to the utter ruin and destruction of many valuable plants. Leaving the house last-mentioned, you enter a kind of court in which is a somewhat classical arrangement of vases, standing on high pedestals, filled with Aloes, Bonaparteas, Yuccas, &c.; and arranged in parterres on the ground are vast numbers of Araucarias, Azaleas, Camellias, Ilex, variegated Ivy, and a host of things I had not time to note.

Continuing along the centre walk of the nursery I came to another house of glowing interest—the Palm house, in which are some rich and rare objects of those monarchs of the tropical forest. This house is varied in interest with plants whose leaves, instead of flowers, "are of all hue;" here too stands a splendid plant, probably the finest in England of its kind, viz., Angiopteris evecta, which, without close inspection, might easily be mistaken for a monarch too—it certainly is a monarch among Ferns.

I cannot follow correctly the labyrinth of houses through which I was shown, but in passing through a house filled with a splendid stock of Indian Azaleas to the stove I noticed a well-flowered plant of the beautiful though much neglected Lisianthus Russelianus.

On entering the stove, although these houses have not been built for showing off plants, one cannot fail being struck with the gorgeous mass of foliage that here presents itself. Foremost stands a beautiful plant, Cyanophyllum magnificum, with leaves 18ins. in length and about half that in diameter, resembling figured velvet, lined, interlined, and fringed with stripes of purple and white. A plant of this 12 feet high and nearly as much through is almost too glorious a thing to imagine.

This stove is entirely devoted to fine-foliaged plants, and noble things they are. Here are Begonias that would require a greater connoisseur than myself to name the different colours in their leaves, some bright, some dingy, but all singular and interesting; here are Crotons, of golden yellow and bright red stripes and blotches; Dracænas, with bright red leaves; Theophrastas, with leathery leaves, thick enough to make a buff jerkin jacket for a Cromwellian. Among these majors are many minor beauties, such as the golden and silver striped leaved Anæctochiles, Maranta rosea lineata, and vittata, and another gem that will, from its adaptibility and easy culture, become a special favourite, namely Pothos argyræa, a plant that may from its habit be trained to any purpose. Passing over innumerable objects of great interest, line upon line of closely studded plants, propagating houses, and other offices all active with busy workmen, I was shown into a kind of hardy Fernery, with which, for fear I should occupy too much time and space in the *Gardeners' Chronicle*, I must conclude this notice. This hardy Fernery is arranged on quite a novel principle, at least so to me, and is formed with a span-roofed house, the ends standing north and south; the whole is of a rustic construction just in character with the object in view, and is about 8 yards by 6 in dimension. The roof is formed with glass having thick shading fixed inside to obscure the strong sunlight of summer, the roof only being glass. The angles in the gables of the Fernery are made to work for ventilators by the simple means of a cord and pulley, and the whole is of such simple construction that any ingenious person might easily construct a similar one; no artificial heat is used. I fear my descriptive power will fail to convey to the

reader the interior effect, which certainly surpasses anything of the kind I have seen.

In the centre is raised a circular mound of rockwork, tastefully planted with Woodwardia radicans, a Fern having large graceful drooping fronds; Lomaria chilensis, whose bold angular and erect fronds of the deepest green stand boldly out in relief; Struthiopteris germanica, a noble flowering Fern; the larger and strong growing kinds occupying the higher places, whilst the portion near the ground is planted with Scolopendriums of such curled, twisted, and undulated foliage as almost to defy description; Woodsias, Aspidiums, and Aspleniums all occupy their places. The whole is covered with that beautiful green Moss, Lycopodium denticulatum, with here and there a piece of brown rock peering through. The four corners are similarly arranged. In one nook I noticed a fine mass of our own Queen Fern Osmunda regalis, lovely patches of Maiden's Hair, Hymenophyllum tunbridgense and Wilsoni, &c., the whole forming the most Mossy and Ferny nook imagination could picture.

From here I went to the experimental ground on the opposite side of the King's Road, a piece of land recently added by Mr. Veitch for the purpose of proving all kinds of hardy fruit, flowers, and vegetables previous to letting them out to customers. Here I noticed two noble plants of Araucaria imbricata, about 20 feet high, and proportionately robust, which were transported last spring upwards of 100 miles, and there planted, without sustaining the slightest check.

So much have I left undescribed that I would recommend every one to seize an opportunity of visiting the nursery, particularly young gardeners, ay and old ones too, who I feel sure would leave with greater love for their business than they had previously ever felt. *Asmodeus, Sept.* 26. [*From an occasional Country Correspondent.*]

## Miscellaneous.

*Botanical Prize.*—A prize of 100*l.* has been placed at the disposal of the Council of the Society of Arts, by Sir W. C. Trevelyan, Bart., to be awarded for "the best Essay on the Applications of the Marine Algæ and their products, as Food or Medicine for Man and Domestic Animals, or for Dyeing and other Manufacturing Purposes." *Pharmaceutical Journal.*

*Belladonna Fruit mistaken for Blackberries.*—Last week some children belonging to the town of Sevenoaks went out Blackberry gathering, and one of them, a lad about 10 years of age, was induced to eat some berries which he found growing in Knole Park, and which proved to be the Belladonna, or Deadly Nightshade, one of the most dangerous of the "narcotico-irritant" class. The poisonous effect of the berries soon became visible, and shortly after his arrival home he appeared in a state of extreme intoxication. This was afterwards followed by great delirium and total blindness, although the eyelids were widely extended, as if in earnest gaze. For some time his life was despaired of, but owing to the unremitting attention of the parish surgeon, the lad is going on favourably, although still in a precarious condition. *Pharmaceutical Journal.*

*Bite from an Adder.*—A singular accident occurred in the village of Kingsley on Wednesday to a man named Charles Chandler. It appears that three men were digging Potatoes on some ground the property of Mr. Charles Maybee, between 10 and 11 A.M.; two girls were also there, and seeing a rabbit start from a hedge and run into a hole, the girls called the men and told them of it. Chandler went to the hole and put his arm in, when an adder bit his forehead. A man named Colver, who was there, immediately killed the reptile. The poor fellow's face commenced swelling to a fearful extent. He was conveyed to Alton at once, and on reaching Binsted he was nearly blind. Mr. Daniel Inwood, on making inquiries what was the matter with the man, and on being told the nature of the case, supplied the poor fellow with some adder's fat, and applied it to his face, which relieved him to a great extent. He was taken to a medical man, who gave him some medicine and other remedies, which relieved him. We are happy to say the man is now doing well. *West Sussex Gazette.*

## Calendar of Operations.

(*For the ensuing week.*)

### PLANT DEPARTMENT.

CONSERVATORY, &c.—Summer flowering twiners, which usually become unsightly by this season, should be cut back rather freely, as also any others that will bear this treatment, so as to afford the plants underneath every possible ray of light. The shade afforded by luxuriant twiners may be rather beneficial to plants in bloom in the house when the sun is powerful; but not a spray that can be spared should be left to obstruct the light after dull cloudy weather sets in. Acacias, and other winter-flowering plants, having been subjected to a period of comparatively dry treatment, to ensure their blooming profusely, should now be liberally supplied with water at the root, in order to get them into flower during the dull season, when they will be much more esteemed than in spring, when flowers are becoming plentiful. Manure water, if it can be used, should be given frequently to Chrysanthemums, for these will bloom but poorly if their supply of manure-water is withheld. Give air freely on every favourable opportunity, avoiding cold draughts against plants that have been brought from a warm house, and guard against damp by using gentle fires with a little top air on wet days. Let pot specimens in bloom be frequently re-arranged, so as to make the most of these, for the finest specimens become too familiar to be interesting when allowed to remain too long in one place. Be careful not to over-water things brought from the stove, and also to use water at a temperature of 70° or 80° for these; as watering plants with cold water that has just been brought from a warm house injures the young tender roots, shortens the duration of the blossoms, and often ruins the plant. Use weak manure-water for Salvia splendens, so as to preserve the plants in a vigorous state, and keep them blooming as long as possible. Give attention to securing a plentiful succession of things for maintaining the gaiety of the house during winter.

### FORCING DEPARTMENT.

PINERIES.—As stated last week plants swelling their fruit should be assisted with a brisk temperature, say from 65° to 75° at night, regulating this according to the state of the external temperature, keeping the house rather close on sunny days and allowing the thermometer to rise to 80° or 85° before giving air freely. Also endeavour to proportion the moisture to the temperature, for a high dry temperature is not favourable to the swelling of the fruit, and there is no chance of getting well swelled heavy fruit without plenty of warmth and moisture. Maintain a steady bottom-heat of about 85°, and use every care to keep the soil in a healthy state as to moisture. When watering is necessary, use clear manure-water, and give sufficient to moisten the whole of the soil, and avoid frequent dribblings, for when this system of watering is practised it is nearly impossible to keep the under soil, where the principal roots should be, in a healthy state. Use the syringe very sparingly, and only to dew the plants, as heavy syringing after this season is apt to keep the surface soil so moist as to render it difficult to judge as to when water should be given. Any young stock growing in pots which may require re-potting should be seen to at once so as to allow of getting them established in their fresh pots, while they can be kept moderately warm. See that the balls are in a proper state as to moisture before re-potting, as neglect of this is a frequent cause of young plants fruiting prematurely. Keep moist and rather warm for a time after shifting, so as to encourage the formation of fresh roots. VINERIES.—Should wet weather set in we would advise covering the borders of the early house with dry stable litter, Fern, or whatever can be obtained most conveniently that will answer the purpose of keeping the border dry. Nothing answers better for this purpose than clean straw, provided the border slopes from the front of the house, and in this case it is easily thatched so as to throw off the wet entirely. But straw is too valuable in most parts of the country to be used for this purpose, and wooden shutters would be found cheaper in the end; nevertheless, where straw can be obtained, it will be found to answer the purpose perfectly. It will also be advisable to cover the borders of houses in which it is intended to keep ripe Grapes for any length of time, so as to prevent the soil getting saturated about the roots. Look over ripe Grapes frequently, particularly in damp weather, cutting out any tainted berries immediately they are perceived, and keep the atmosphere as dry as possible, using gentle fires when necessary with a free circulation of air; but a warm temperature is nearly as injurious as damp, therefore use no more fire-heat than may be absolutely necessary. Let no pot plants requiring watering remain in houses where the Grapes are ripe and expected to hang for any length of time.

### FLOWER GARDEN AND SHRUBBERIES.

Unless where alterations are in hand the principal work in this department for the present will be mowing and clearing up of leaves, &c.; and if anything like neatness is to be maintained, this will require daily attention; also see to getting gravel walks thoroughly cleared of weeds and Moss, &c., and roll them frequently when wet, to keep the surface hard and smooth. Continue to afford young stock in pits and frames the most careful attention, and endeavour to get it well rooted and strong without keeping so close or warm as to render it sappy and liable to fog and damp off on the first approach of winterly weather, as is the case with stock got up in heat late in autumn and then stored away in cold pits for the winter. Therefore admit air freely to all plants that are sufficiently rooted to bear it without flagging. Newly potted-off things should, however, be placed on a gentle bottom heat which will impart a little warmth to the soil and encourage the formation of roots, but sufficient air should be given to prevent anything like weakly growth. Cuttings of Calceolarias, Scarlet Geraniums &c., may still be put in where the stock is deficient. Scarlet Geraniums will root almost anywhere, but Calceolarias are not quite so accommodating, as cuttings taken from plants in the open ground are very liable to damp off in heat; these will be found to do very well, however, in a close pit or frame where there is the means of applying a little warmth when necessary to dispel damp. See to securing as many cuttings as possible of any scarce plants which it may be desirable to increase while there is a fair chance of rooting them, and also be prepared to protect Scarlet Geraniums and other things which it may be intended to take up and winter, for we may expect frost any time after this season, and if such things can be protected so as to prevent the foliage and young wood being much injured they are much more easily wintered.

### HARDY FRUIT AND KITCHEN GARDEN

As formerly recommended, look over fruit remaining out of doors frequently, and gather it as it becomes fit. Also examine that stored in the fruit room frequently, as there will occasionally be a few decaying fruit found for a few weeks after housing, and these should be removed as soon as they can be perceived. Keep the fruit room cool and airy, in order to allow the escape of the moisture given off by the fruit, which is considerable for a few weeks at first. Examine fruits protected by covering occasionally, to see that they are not spoiling. Where it is intended to make fresh plantations of fruit trees this season, the ground should be prepared at the earliest convenience, and the fresh soil to be used for planting should be thoroughly exposed to the action of the weather so as to have it in a mellow state when wanted for use. If not already done clean and dress Strawberry plantations, clearing away all useless runners, giving a good dressing of manure where necessary, but be careful to select that which is thoroughly decayed, and which can be dug in without the necessity of digging deep or injuring the roots. The principal crop of Celery should now be kept rather closely earthed up, using quick lime and soot freely to destroy slugs, and if these are troublesome go over the lines every morning for several successive days and apply quick lime or pick up the pests.

### STATE OF THE WEATHER AT CHISWICK, NEAR LONDON

For the Week ending Oct. 13, 1859, as observed at the Horticultural Garden

| October. | Moon's Age. | Barometer. Max. | Barometer. Min. | Temperature of the Air. Max. | Min. | Mean | Of the Earth 1 foot deep. | 2 feet deep. | Wind |
|---|---|---|---|---|---|---|---|---|---|
| Friday 7 | 11 | 29.806 | 29.759 | 73 | 55 | 64.0 | 62 | 60½ | S.E. |
| Satur. 8 | 12 | 29.870 | 29.844 | 74 | 46 | 60.0 | 62 | 60½ | S.E. |
| Sunday 9 | 13 | 29.854 | 29.603 | 64 | 50 | 57.0 | 61½ | 60½ | E. |
| Mon. 10 | 14 | 29.609 | 29.491 | 58 | 50 | 54.0 | 61 | 60½ | E. |
| Tues. 11 | ○ | 29.543 | 29.422 | 60 | 42 | 51.0 | 60½ | 60½ | S.W. |
| Wed. 12 | 16 | 29.657 | 29.656 | 63 | 46 | 54.5 | 60 | 60 | S.E. |
| Thurs. 13 | 17 | 29.743 | 29.616 | 59 | 44 | 51.5 | 59 | 59½ | S.E. |
| Average | | 29.726 | 29.627 | 64.4 | 47.6 | 56.0 | 60.8 | 60.3 | |

Oct. 7—Foggy; fine; cloudy; rain at night.
— 8—Rain; overcast; foggy.
— 9—Foggy; hazy; windy; rain at night.
— 10—Foggy; slight rain; hazy; boisterous.
— 11—Overcast; drizzly; overcast.
— 12—Rain; overcast; foggy at night.
— 13—Foggy; hazy; overcast; foggy.

Mean temperature of the week, 4 1-5th deg. above the average.

### RECORD OF THE WEATHER AT CHISWICK,

During the last 33 years, for the ensuing Week, ending Oct. 22, 1859

| October. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday 16.. | 58.3 | 40.4 | 49.3 | 14 | 0.56 in. | — | 4 | 6 | 1 | 4 | 6 | 5 | 3 |
| Mon. 17.. | 58.1 | 41.4 | 49.8 | 13 | 0.31 | 1 | 3 | 5 | — | 5 | 9 | 4 | 2 |
| Tues. 18.. | 58.0 | 41.8 | 49.9 | 16 | 0.85 | 2 | 4 | 2 | 1 | 4 | 6 | 11 | 3 |
| Wed. 19.. | 59.3 | 40.0 | 49.6 | 15 | 0.60 | 1 | 3 | 5 | 3 | 3 | 6 | 6 | 2 |
| Thurs. 20 | 59.4 | 40.7 | 50.1 | 14 | 0.34 | 1 | 5 | 1 | 3 | 5 | 7 | 5 | 2 |
| Friday 21.. | 58.6 | 40.3 | 49.5 | 14 | 0.64 | 3 | 3 | 3 | 3 | 3 | 5 | 7 | 3 |
| Satur. 22.. | 58.8 | 43.9 | 51.3 | 19 | 1.96 | 1 | 1 | 5 | 1 | 6 | 11 | 5 | 1 |

The highest temperature during the above period occurred on the 21st, 1830—therm. 73 deg.; and the lowest on the 21st, 1842—therm. 20 deg.

## Notices to Correspondents.

CONIFERS: *Hibernicus.* Your trees are suffering from the attacks of Hylesinus (Hylurgus) piniperda, one of the commonest of our native beetles. You will find a full account of it in our Volume for 1846, p. 740; and it has been repeatedly noticed since. You cannot kill it except by picking off the shoots that it infests and *immediately* burning them. As early as the year 1816 it had committed great ravages among Scotch Firs.

DISEASES: *J N E N.* The leaves have evidently been suffering from damp and cold, probably also from insufficient ventilation.

INSECTS: *M F.* Your Orchids are infested by a small, polished black scale insect (Coccus), which is new to Mr. Westwood. The ants found running about the plants are in search of the saccharine matter discharged by the Cocci.—*L D.* The small, flossy, white masses on the Vine leaves sent are the young of the Vine-fretter or Coccus Vitis, the parents of which, of a much larger size, will probably be found on the stems of the plant. They must be carefully removed and the stems washed with warm soapsuds. *W.*

NAMES OF FRUITS: *J W.* Kentish Codlin.—*J O W.* 14 is the true Old Golden Pippin; 39, Burr-knot.

NAMES OF PLANTS: We have been so often obliged to reluctantly decline naming heaps of dried or other plants, that we venture to request our correspondents to recollect that we never have or could have undertaken an unlimited duty of this kind. Young gardeners, to whom these remarks more especially apply, should bear in mind that, before applying to us for assistance, they should exhaust their other means of gaining information. We cannot save them the trouble of examining and thinking for themselves; nor would it be desirable if we could. All we can do is to *help* them—and that most willingly. It is now requested that, in future, not more than four plants may be sent us at one time.—*A H.* Your plant not being in flower cannot be named with certainty. We however believe it to be a bit of Anisostramonifolius.—*B H.* Araujа (Physianthus) albens.—2, Tropæolum minus; 3, Lithospermum officinale; 4, Silene Armeria.—*Curiosa.* Coronilla Emerus, and some North American Eupatorium.—*Enquirer.* The Beech tree.—*Kenilworth W.* not recognise your Bean; in short, Kidney Beans can seldom be named from mere specimens; yours is unknown in the London seed trade.—*G W.* It is the real Artemisia vulgaris *Iota.* It is the beautiful Callirhöe pedata, exactly as figured by Dr. Asa Gray.—*An Original Subscriber.* Some species of Solidago, probably from North America, and quite hardy. The species cannot be ascertained without a more perfect specimen, including the lowest or root leaves.

NEW ZEALAND SEEDS: *Norwood.* Seeds are dead when they reach New Zealand because they are badly packed. All the great London seedsmen will pack them properly, but we cannot say which, because we never recommend one house rather than another. The great point in packing is to send the seeds in canvas bags loosely packed in a case and to get it placed anywhere that is properly ventilated, but not down in the hold, among the dead cargo.

POTATOES: *An Old Subscriber* asks the following question: "Should the cultivation and supply of Potatoes for a Gentleman's family be included in the expenses of the Garden?" We confess our inability to understand this question.

*** As usual, many communications have been received too late, and others are detained till the necessary inquiries are made. We must also beg the indulgence of those correspondents the insertion of whose contributions is still delayed.

**ARTIFICIAL MANURES, &c.**—Manufacturers and others engaged in making ARTIFICIAL MANURES may obtain every necessary instruction for their economical and efficient preparation, by applying to J. C. NESBIT, F.G.S., &c., Principal of the Agricultural and Chemical College, Kennington, London, S. Analyses of Soils, Guanos, Superphosphates of Lime, Coprolites, &c., and Assays of Gold, Silver, and other Minerals are executed with accuracy and despatch. Gentlemen desirous of receiving instruction in Chemical Analyses and Assaying, will find ample facility and accommodation at the College.

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|---|---|
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For further particulars, prices, and Catalogues apply to JOHN FOWLER, JUN., 28, Cornhill, London, E.C.

THE LANDS IMPROVEMENT COMPANY.—Incorporated by Special Act of Parliament in 1853.—2, Old Palace Yard, Westminster, S.W. To Landowners, the Clergy, Estate Agents, Surveyors, &c., in England and Wales and in Scotland.

The Directors beg leave to announce that the Company's Amendment Bill, 1859, has received the sanction of the Legislature. The Company now advance money, unlimited in amount, for the following works of Agricultural Improvement, the whole outlay and expenses in all cases being liquidated by a rentcharge for 25 years.

1. Drainage, Irrigation and Warping, Embanking, Inclosing, Clearing, Reclamation, Planting for any beneficial purpose, Engines or Machinery for Drainage or Irrigation.
2. Farm Roads, Tramways and Railroads for agricultural or farming purposes.
3. Jetties or Landing places on the sea coast or on the banks of navigable rivers or lakes.
4. The erection of Farm Houses, Labourers' Cottages, and other Buildings required for Farm purposes, and the improvement of and additions to Farm houses and other buildings for farm purposes.

Landowners assessed under the provisions of any Act of Parliament, Royal Charter, or Commission, in respect of any public or general works of drainage or other improvements, may borrow their proportionate share of the cost, and charge the same with the expenses on the lands improved.

No investigation of title is required, and the Company being of a strictly financial character do not interfere with the plans and execution of the Works, which are controlled only by the Government Enclosure Commissioners.

Under the Company's Acts, tenants for life, trustees, mortgagees in possession, incumbents of livings, bodies corporate, certain lessees, and other landowners are empowered to charge the inheritance with the cost and expenses of the above improvements, whether the money be borrowed from the Company or advanced by the Landowner out of his own funds, and owners in fee may effect these improvements of their Estates without incurring the expense and personal responsibilities incident to mortgagees, and without regard to the amount of existing incumbrances.

For further information, and for forms of application, apply to the Honourable WILLIAM NAPIER, Managing Director, 2, Old Palace Yard, Westminster, S.W.

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The Landowners by whom any of these Improvements may be executed are—Tenants for Life, Trustees, Mortgagees in Possession, Guardians, Committees of Incompetent persons, Married Women, Beneficial Lessees for Lives or for a Term exceeding 14 years, Corporations, Ecclesiastical or Municipal, Incumbents, Sequestrators, Charitable Trustees, &c.

The Owners of Estates not entailed, who may be desirous to avoid the expense or inconvenience of a Legal Mortgage, may also avail themselves of the powers of the Company's Act to charge their estates with an outlay in improvements.

In all cases the whole cost of the improvements, with the attendant expenses, may be charged on the Estate, the term for Building Works being limited to 31 years, but for all other improvements being capable of extension to 50 years.

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Operations under the Company's Act are divided into two principal branches; one where the Landowner designs and executes the improvements by his own Agent and merely requires a loan from the Company to charge the Estate,—the other where the Company undertake the entire responsibility of the Improvement and obtain repayment by way of Rent Charge. In the first case the plans, specifications, and estimates prepared by the Landowner's Agent are forwarded to the Company to be submitted for approval to the Inclosure Commissioners. As soon as the sanction has been given the Landowner proceeds to execute the works, and the Company having conducted the business through all the official forms, complete the charge on the estate when the works have been passed by the Commissioners, and repay the Landowner the amount agreed upon.

In no part of the business is there any control upon a Landowner except by the Inclosure Commissioners. The Company never interfere, except at the special request of the Landowner or his Agent, and only to such extent as may further the objects he has in view.

In the other case, where the Company are required to execute the works, a report and estimate of the Improvement are sent to the Landowner, and having been approved, the plans are then prepared and the works—either submitted to public competition or entrusted to their own staff—are carried on to completion, and the amount of the actual expenditure only, approved by the Inclosure Commissioners with the Company's agreed commission and the Commissioners' expenses, finally charged on the Estate for the term fixed by the Landowner.

The Company also execute Drainage and all other Works of Land Improvement on Commission for the Owners of Estates not Entailed who may wish to charge the outlay on the property through the simple and inexpensive process of the Company's Act.

Applications to be addressed to WILLIAM CLIFFORD, the Secretary, at the Offices of the Company, 52, Parliament Street, London.

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INCORPORATED BY ACT OF PARLIAMENT IN 1848.

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EDINBURGH NEW VETERINARY COLLEGE.—Her Majesty has been graciously pleased, under Her Royal Sign Manual, to place the New Veterinary College under the operation of the Charter of the Royal College of Veterinary Surgeons, and to "will and declare that the persons who now are and may hereafter become Students of the new Veterinary College of Edinburgh, and shall pass the Examination prescribed by the said Royal Charter, shall be members of the Royal College of Veterinary Surgeons, and shall be entitled to all the privileges given to such Members by the said Charter."

Moreover, at the last General Meeting of the Highland and Agricultural Society, it was resolved that Students educated in any Veterinary College in Scotland, authorised by Government, shall be eligible for Examination for the Highland and Agricultural Society's Veterinary Certificate.

The COURSE OF INSTRUCTION undertaken during the WINTER SESSION is the following:—

1. Descriptive Anatomy of the Domestic Animals. By Dr. A. MONASTIER.
2. Physiological Anatomy and Physiology. By Professor JOHN GAMGEE and Dr. MONASTIER.
3. Chemistry. By Dr. STEVENSON MACADAM.
4. Materia Medica and Practical Pharmacy applicable to Veterinary Purposes. By Professor JOHN GAMGEE.
5. Veterinary Medicine and Surgery. By Professor JOHN GAMGEE.
6. Principles and Practice of Shoeing. By Mr. GAMGEE, Sen.
7. Clinical Instruction. By Mr. GAMGEE, Sen., and Professor JOHN GAMGEE.
8. Anatomical Demonstrations.

The WINTER SESSION for 1859-60 commences on the 2d of November, and ends the 3d week in April.

Particulars as to Fees, &c., may be learned on application to Professor JOHN GAMGEE, at the New Veterinary College, Edinburgh.

Professor GAMGEE has a vacancy for a House Pupil.

QUEEN'S COLLEGE, GALWAY.
DEPARTMENT OF AGRICULTURE.

A Matriculation Examination will be held on October 21. In the Department of Agriculture four Scholarships of the value of 15*l.* each are appropriated; two to Students of the first year, and two to students of the second year. The College is also empowered to award at the same examinations Two Prizes of 10*l.* to Students of the first year, and Two of 10*l.* each to Students of the second year.

In addition to the scientific education given in the Lecture Rooms of the College, the most ample means are now possessed for giving practical instruction to Students in Agriculture. The Professor will exhibit on his own Farm, as well as on a large property of which he has the management, the best examples of land improvement, and superior cropping on waste worn-out bog and mountain land, with specimens of the crops raised thereon.

Further information may be had on application to the Registrar, from whom Copies of the Prospectus may be obtained. By order of the President.

October 15. W. LUPTON, A.M., Registrar.

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Principal—J. C. NESBIT, F.G.S., F.C.S., &c.

The system of studies pursued in the College comprises every branch requisite to prepare youth for the pursuits of Agriculture, Engineering, Mining, Manufactures, and the Arts; for the Naval and Military Services, and for the Universities.

Analyses and Assays of every description are promptly and accurately executed at the College. The terms and other particulars may be had on application to the Principal.

SMITHFIELD CLUB CATTLE SHOW, 1859.—The ANNUAL SHOW of FAT CATTLE, SHEEP, and PIGS will take place on the 6th, 7th, 8th, and 9th December, at the Bazaar, King Street, Portman Square.

The Prize List contains separate classes for Devons, Herefords, Short-horns, Sussex, Norfolk or Suffolk polled, Long-horns, Scotch horned, Scotch polled, Irish, Welch, and cross or mixed breeds. Also Long-woolled Sheep, cross breeds, Short-wools, and Pigs. In addition to the large amount offered in money prizes, there are also 50 Silver and 5 Gold Medals. The following forms of Certificates are now ready, and intending Exhibitors in applying for them need only quote the letters and state how many of each they require.

| CATTLE. | SHEEP. |
|---|---|
| Form A. Ox or Steer. | Form D. Pen of 3 Wethers. |
| ,, B. Cow or Heifer. | |
| ,, C. Ox or Cow in Extra Stock. | ,, E. One Wether or Ewe in Extra Stock. |

PIGS.
Form F. Pen of 3 Pigs. | Form G. One Pig in Extra Stock

The Entries finally close on November 1.

Prize Lists with rules and regulations and Forms of Certificates to be obtained of B. T. BRANDRETH GIBBS, Hon. Sec., corner of Half Moon Street, Piccadilly, London, W.

N.B. All communications on the Club's business should have the words "Smithfield Club" outside, to distinguish them from private letters.

The Agricultural Gazette.
*SATURDAY, OCTOBER* 15, 1859.

—— AN unfortunate accidental transposition of six lines from the foot of the third column to that of the first column of page 813 in last week's Paper has doubtless puzzled many of our readers. The

leading article on that page is continued in the second column from the 7th line above the foot of the first; and the remaining six lines of that column are to be read between the third column of that page and the first column of the next.

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On paying a visit the other day to the Laboratory of the Royal Agricultural College, we were much interested in observing a mass of earth and plants which we were informed consisted of the contents of a square yard of soil taken from a patch of "old seeds," the land of which may be described as a thin calcareous soil resting on the brash of the great oolite, a formation which enters so largely into the composition of the southern half of the "Stony Cotteswolds." The soil and plants were collected for the purpose of a chemical analysis, but as the plants themselves were so numerous both in species and specimens, they struck us as containing matter of interest for another kind of analysis, and we proceeded at once to take note of them in order for further remark and inquiry, and the following is so far the result of this investigation.

*List of Plants from a square yard of old Seeds on the Great Oolite Brash, taken August* 31, 1859.

| | Botanical name, | Trivial name. | No. |
|---|---|---|---|
| 1 | Plantago lanceolata .. | Narrow-leaved Plantain .. | 7 |
| 2 | Ranunculus repens .. | Creeping Crowfoot .. | 8 |
| 3 | Centaurea scabiosa .. | Hardhead .. .. .. | 2 |
| 4 | Leontodon Taraxacum .. | Dandelion .. .. .. | 2 |
| 5 | Apargia autumnalis .. | Autumnal Hawkbit .. | 1 |
| 6 | Glechoma hederacea .. | Ground Ivy .. .. .. | 6 |
| 7 | Prunella vulgaris .. .. | Self Heal .. .. .. | 4 |
| 8 | Convolvulus arvensis .. | Small Bindweed .. .. | 1 |
| 9 | Æthusa cynapium .. .. | Fool's Parsley .. .. | 1 |
| 10 | Cerastium arvense .. | Mouse Ear .. .. .. | 2 |
| 11 | Sherardia arvensis .. | Field Madder .. .. | 6 |
| 12 | Triticum repens .. .. | Common Couch .. .. | 2 |
| 13 | Agrostis stolonifera .. | Creeping Bent .. .. | 4 |
| | Total of Weeds .. .. .. .. | | *46 |

The Clover and Rye Grasses had nearly died out—a result which is soon secured in "seeds" by too great tardiness in commencing to make seed hay on the one hand, and the increase of weeds by seeding on the other. As regards the first cause, we have experimented as follows:—a patch of Clover was half seeded and half cut down on the appearance of the first few flowers; the first half was extinct in three years, the other was a fair plant for six years. Now taking the facts presented by this analysis as a fair sample for the field, and in doing so we should recollect that it had not been chosen with a view to this botanical investigation, but partly with reference to a chemical one, we see that the "seeds" have gradually succumbed to a host of invaders; the crop it is true has nearly died out, but the land has still sufficient of tenants for its occupation, and though these must be looked upon to a considerable extent as usurpers, a few remarks upon whence they come and how they increase cannot be considered other than interesting. The cropping has been Wheat, Turnips, Barley, seeds; the patch we have now under review we presume was sown with the Barley of 1857, and from it was taken a crop of hay in 1858; they are now old leas designed no doubt for Wheat. Now if we look at the list of the 46 plants we have just enumerated, there is not one but must come under the denomination of weeds, as not a single species is there as the result of design; and yet there is not a species whose seeds could not have been sown with the seed admixture. In all probability however the rhizomatous plants, that is those with the creeping underground stems, may partly or even wholly have been derived from slips left after the last ploughing; such are those numbered 8, 12, and 13, whilst 4 and 5 are such as may or may not owe their origin to a dirty wayside, whence they may have been wafted by flying (pappiform) seeds.

Still with these allowances we can only conclude that the majority, if not all, may not only have been sown with the seed, but in fact are merely a few of the species of weeds which samples of Clover and Grass seeds usually contain, in proof of which we offer the following list of the botanical contents of three fields of "seeds" on the same farm, premising that in all cases we have disregarded examples from the hedgerows, such as wild Parsnips, common Nettles, and the like, and have confined our list as nearly as may be to the enumeration of what may truly be termed "agrarian weeds." As regards the lists themselves, they have been prepared during the last month, when many of the spring weeds have died out, but as some of these have left colonies of in many cases thousands of young plants, we have been thus enabled to make them out, not forgetting the significancy of such a prolific progeny.

The three lists then are as follows:—

1. Old Clover and common Ryegrass.
2. Not far remote from 1. Old Seeds, Clover, Dutch Trefoil, common and Italian Rye-grass.
3. New seeds, Clover and Rye-grass, adjoining No. 2.

1. Examined on the 31st August; 2 and 3 examined on the 24th September.

*List of Weed Plants in Seeds:—*

| No. | Botanical Name. | Trivial Name. | Old. 1 | Old. 2 | New. 3 |
|---|---|---|---|---|---|
| 1 | Knautia arvensis .. | Corn Scabious .. .. | .. | | |
| 2 | Centaurea Jacobea .. | Hard Head .. .. .. | .. | .. | .. |
| 3 | ,, nigra .. .. | Black Head .. .. .. | .. | | |
| 4 | Achillea millefolium .. | Milfoil .. .. .. | .. | | |
| 5 | Chrysanthemum leucanthemum .. | Ox-eye .. .. .. | .. | | |
| 6 | Tussilago farfara .. .. | Coltsfoot .. .. .. | . | | |
| 7 | Gnaphalium Germanicum .. .. | Cudweed .. .. .. | .. | .. | .. |
| 8 | Anthemis arvensis .. | Corn Chamomile .. .. | .. | | |
| 9 | Bellis perennis .. .. | Daisy .. .. .. | . | | .. |
| 10 | Senecio vulgaris .. .. | Groundsel .. .. .. | .. | .. | .. |
| 11 | Leontodon taraxacum .. | Dandelion .. .. .. | .. | .. | .. |
| 12 | Apargia hispida .. .. | Rough Hawkbit .. .. | .. | | |
| 13 | ,, autumnalis .. | Autumnal ditto .. .. | .. | | |
| 14 | Sonchus arvensis .. | Corn Sowthistle .. .. | .. | .. | .. |
| 15 | Carduus arvensis .. | Corn Thistle .. .. | .. | .. | .. |
| 16 | ,, lanceolatus .. | Lancet-leaved Thistle .. | | .. | |
| 17 | ,, nutans .. .. | Nodding or Musk Thistle | .. | .. | .. |
| 18 | ,, acanthoides .. | Welted Thistle .. .. | | | .. |
| 19 | Arctium lappa .. .. | Burdock .. .. | .. | .. | .. |
| 20 | Sinapis arvensis .. | Charlock .. .. | .. | | .. |
| 21 | Sisymbrium officinale .. | Treacle Mustard .. | .. | | .. |
| 22 | Rumex obtusifolius .. | Round-leaved Dock .. | .. | .. | |
| 23 | ,, crispus .. .. | Curled-leaf Dock .. | .. | .. | .. |
| 24 | Veronica serpyllifolia .. | Thyme-leaved Speedwell | .. | .. | |
| 25 | ,, agrestis .. .. | Field Speedwell .. | .. | | .. |
| 26 | ,, Buxbaumii .. | Buxbaum's ditto .. | .. | | .. |
| 27 | Euphorbia exigua .. | Petty Spurge .. | .. | .. | .. |
| 28 | Geum urbanum .. . | Common Avens .. | .. | .. | |
| 29 | Prunella vulgaris .. | Self Heal .. .. | .. | .. | .. |
| 30 | Acinos vulgaris .. .. | Bastard Thyme .. | .. | .. | |
| 31 | Polygonum aviculare .. | Knot Grass .. .. | .. | .. | .. |
| 32 | ,, convolvulus .. | Climbing Buckwheat .. | | | .. |
| 33 | Plantago media .. .. | Broad-leaved Plantain | .. | .. | .. |
| 34 | ,, lanceolata .. | Lancet-leaved ditto | .. | .. | .. |
| 35 | Ranunculus repens .. | Creeping Crowfoot .. | .. | .. | .. |
| 36 | Geranium molle .. .. | Soft Cranesbill .. | .. | .. | .. |
| 37 | ,, Columbinum . | Long-stalked ditto | .. | | .. |
| 38 | Galeopsis Ladanum .. | Red Hemp Nettle .. | .. | | .. |
| 39 | Glechoma hederacea .. | Ground Ivy .. .. | .. | .. | |
| 40 | Stachys sylvatica .. | Hedge Stachys .. | .. | .. | |
| 41 | Stellaria media .. .. | Chickweed .. .. | .. | | .. |
| 42 | Cerastium arvense .. | Mouse-ear .. .. | .. | .. | .. |
| 43 | Arenaria serpyllifolia .. | Thyme-leaved Sandwort | .. | .. | .. |
| 44 | Lychnis dioica .. .. | White Campion .. | .. | | .. |
| 45 | Convolvulus arvensis .. | Small Bindweed .. | .. | .. | .. |
| 46 | Urtica dioica .. .. | Nettle .. .. | .. | .. | .. |
| 47 | Petroselinum segetum .. | Corn Parsley .. | .. | .. | |
| 48 | Torilis anthriscus .. | Hedge Parsley .. | .. | .. | |
| 49 | ,, nodosa .. .. | Knotted Parsley .. | .. | | .. |
| 50 | Anagallis arvensis .. | Pimpernel .. .. | .. | .. | .. |
| 51 | Capsella Bursa-pastoris .. | Shepherd's Purse .. | .. | .. | .. |
| 52 | Sherardia arvensis .. | Field Madder .. | .. | .. | .. |
| 53 | Chenopodium polyspermum .. | Goosefoot .. .. .. | .. | | .. |
| 54 | Potentilla anserina .. | Silver Weed .. .. .. | .. | | |
| 55 | Bartsia odontites .. | Red Bartsia .. .. .. | | .. | .. |
| 56 | Linaria spuria .. .. | Round-leaved Toad Flax | .. | | .. |
| 57 | ,, Elatine .. .. | Fluellen ditto .. .. | | | .. |
| 58 | Myosotis arvensis .. | Corn Forget-me-not .. | | | .. |
| 59 | Lamium amplexicaule .. | Henbit .. .. .. | | | .. |
| 60 | Poa annua .. .. .. | Annual Meadow Grass .. | | | .. |
| 61 | Agrostis stolonifera .. | Creeping Bent .. .. | .. | .. | |
| 62 | Bromus mollis .. .. | Lop or Soft Brome-grass | .. | | |
| 63 | ,, ,, var. racemosus | ,, Smooth Brome-grass | | .. | |
| 64 | Triticum repens .. .. | Couch .. .. .. | .. | | |
| | | | 44 | 39 | 38 |

The dots .. in the three columns intimate the occurrence of the plant signified in the fields 1, 2, and 3 respectively.

From this list it will be seen at a glance that three fields all within a bow-shot of each other, and all situate on the stonebrash of the great oolite, yet nevertheless differ immensely in the weeds which the same crop and farming may present. A further scrutiny will show that out of a list of 64 species observed in the three fields, only 24 species or a little more than one-third are common to all, and yet we would answer that the aboriginal flora of any three fields of the district would scarcely offer half a dozen species in one field that could not be found in all.

How then do we account for the differences in these fields? They are simply the result of obtaining the seed from different seedsmen. It was grown in different localities. This is clearly illustrated by the Lop Grass: the true Bromus mollis is found in one field out of the three; the Smooth Lop, Bromus racemosus, in another; whilst the third has neither. Several instances of a like kind may be cited, the which if we examine different samples of seeds will serve to specify them.

Further, if we look well into the list, we shall soon see that it presents few examples of plants the seeds of which we cannot make out in different samples of Clover and Grass seeds, and this may, therefore, be taken as further evidence upon the point that the farmer sows most of his weed pests. They come with his seed of various kinds. In the case of the Clover crop each weed seed sown not only subtracts from the sum of the Clover seed, and this is not all, as very many of the weeds grow so fast as to smother and kill (or at least so much weaken that winter kills) many of the Clovers in the weed vicinity; and lastly, many weeds seed the first year and are succeeded in the next by an immense increase—three circumstances which in a great measure will account for much of the so-called Clover-sickness of the soil.

* The number of weeds has reference to the separate heads of the plants named, but probably as in Ranunculus and Glechoma they may have been scions.

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## DIRECTIONS FOR WORKING PORTABLE STEAM ENGINES.

The following memoranda are given by Messrs. Ransome under this head in the last volume of the Agricultural Society's Journal. We give them here as being proved by recent events to be especially needed for the instruction of those in charge of agricultural steam engines:—

"*Preparing Engine for Work.*—Place the engine as near dead-level as possible, and in such a position that the dust caused by threshing may not be blown upon it. The wheels should all have an even bearing on the ground, so as to prevent any rocking motion when at work.

"*Filling the Boiler.*—Care should be taken to procure water as clean as possible for the use of the engine; water from ponds or ditches, into which the drainage of the farmyard is taken, should be avoided. The water must be poured into the boiler through the opening provided for that purpose by means of the iron funnel furnished with the engine, till it appears about half way up the glass gauge tube.

"*Glass Water-gauge Apparatus.*—The water-gauge cocks should always be tried before the fire is lighted, to ascertain that there is no obstruction in the passages, which would prevent the water finding its proper level in the glass tube. In case the water does not appear to move freely in the tube, by opening the small cock at the bottom of the gauge, take out the two screws opposite the passages to the boiler, and insert a wire through the holes into the boiler, till the water issues freely; the screw-plugs may then be put in again, and the fire lighted. Great care should be taken to prevent either of the cocks between the boiler and the glass tube becoming shut when the fire is burning and the steam up.

"*Use of Gauge-Cocks.*—It is possible that the glass gauge may become choked up when the engine is at work, so that it cannot be cleaned out without letting down the steam; if the water does not appear to move freely in the glass tube, the small cock at the bottom of the gauge must be opened, so as to let the steam and water blow out of the gauge; if it is then evident that the gauge is choked, the gauge-cocks must be used to ascertain the height of the water in the boiler: the bottom one should discharge water only, and the top one steam; the level of the water in the boiler being somewhere between the two gauge-cocks.

"*Lighting the Fire.*—The fire-bars must be well cleaned from dirt and clinkers before the fire is laid; a few dry shavings and a small quantity of firewood should then be spread over the bars, and some small coal scattered over them; a light may then be applied to the shavings from beneath the grate bars, and the fire will soon burn briskly; with some fuel it is better to place the fire-door a little way open till the coal is ignited; coal may then be put on in small quantities at a time, the fire-bars being kept covered to a depth not exceeding 3 inches; the fire must be clear, but the bars must not be allowed to become bare of coal in places, for the cold air will then pass through the tubes and check the formation of steam; all wet straw and damp wood should be avoided for lighting the fire. As soon as the fire is lighted a few pails of water should be poured into the ash-pan; it tends to prevent the formation of clinkers, and greatly preserves the fire-bars by keeping them cool; it also decreases the danger of fire in the stack-yard, because all the hot cinders, as they fall from the grate, are instantly extinguished; if the weather be very windy, it may be necessary to close one of the doors of the ash-pan, and to open the other; experience will soon point out which door should be closed.

"*Raising Steam.*—The fire as it burns up should be kept thin and bright; the coal must never be heaped up against the tubes; too much coal should not be thrown on at a time, or it will tend to delay the production of steam; a careful engine-man will soon find out the best mode of firing with the different descriptions of coal he will be required to use.

"*Brushing-out Tubes.*—If the coal is bad, or of a kind which emits a large quantity of smoke, the tubes should be well brushed out during the dinner hour; this can easily be done without dropping the fire, by allowing it to burn low, and raking it into one corner of the grate. The tubes may be easily brushed out from the smoke-box end. Before commencing to light the fire in the morning, the tubes must always be well brushed out.

"*Safety-valve and Spring-balance.*—As soon as the water begins to boil, the safety-valve should be opened by hand and examined, to make sure that it is not obstructed in any way; the spring-balance may then be screwed down to about 10 lbs., and when the steam blows off at that point it may be gradually screwed down to 45 or 50 lbs. as the steam rises. The spring-balance should on no account be left always screwed down to the full pressure when the engine is not at work, and the steam not up, because the elasticity of the spring is thus destroyed; and it is very possible, if the engine remains long out of use, that the valve may become set fast, which would cause danger when the steam was next got up.

"*Oiling the Engine.*—Before starting put a little oil into the cylinder through the cock provided for the purpose, and move the engine round by hand, by means of the fly-wheel, to ascertain that it is all in working condition; all the oil-cups must be filled up, and the syphon-wicks examined, to make sure of their being in good condition. A little oil should be put upon the guide-bars themselves, as well as into the oil-cups attached to them; the pump-plunger, and all the eccentrics, must also be oiled.

"*Starting and Working the Engine.*—The piston should be placed at about the half-stroke, and the regulator-valve opened gradually, the two relief-cocks on the cylinder being previously opened; after the engine has made a few revolutions these cocks may be shut, and the regulator-valve set full open, so that the speed of the engine may be controlled by the governors. The feed-pump should be tried as soon as the engine is in motion, to ascertain that it is in working condition, before the water has had time to diminish. To set the pump to work the suction-cock may be opened, and the small pet-cock must also be opened and shut a few times; if water does not issue from the pet-cock at every stroke of the plunger, the finger should be applied so as to stop the hole in the pet-cock for a few strokes, and then be taken off it again; this operation should be so performed that the hole in the cock may be closed by the finger on the plunger going out of the barrel of the pump, and opened on the return stroke when the plunger is forced in again. If, after repeated trials, no water is thrown by the pump, and steam or hot water only issues from the cock, something is wrong with the valves, and they must be carefully examined.

"*Pump out of Order, Valves to be examined.*—The engine must be stopped, the cock connecting the feed-pipe to the boiler must be shut, the covers of either or both valves may then be taken off, and the valves examined or cleaned; the engine must on no account be moved round after the valve-covers are put on again, before the cock connecting the feed-pipe to the boiler be opened, or the pump and pipes may be seriously damaged. The use of this cock is to enable the pump-valves to be examined when the steam is up, without the danger of scalding those about the engine.

"*Supply of Water to Boiler.*—It is desirable to have a constant supply of water always going into the boiler from the feed-pump; a little experience will soon point out to the engine

[illegible] of the ash pan [illegible] to be used to clean the grate of [illegible] fire-bars off for some time, and then nothing of the sort should never be adopted, for by this means the formation of steam is rendered irregular and much coal wasted.

"*Bars or Fittings.*—The fire must be kept constantly bright and clear, the bars must be covered, but never more than [illegible] and the coals must not be heaped up against the mouth of the tubes, coal must be put on the fire in small quantities, and frequently, and not all at once, and coal, allow the fire to burn quite low; experience will show how often the fire must be supplied with coal, as it much depends upon the quality of the coal and the amount of work that the engine is doing.

"*Water low in Boiler.*—There should never be less than 2 inches of water visible in the glass gauge-tube when the engine is at work. If by accident or neglect, the water should become so low as only to show a mist in the glass tube, the fire should instantly be dropped: by lifting the fire bars from their pendent by means of the tools furnished for the purpose, the burning coals will fall into the water in the ash pan, and be extinguished; water should never be thrown into the fire box to put out the fire, as it is apt to scald those who do so, and to injure the tubes; the fire must on no account be again lighted until the boiler has been filled up.

"*Bearings to be oiled and examined when Engine is at work.*—The bearings and guide-bars should be carefully examined from time to time to see that they are properly supplied with oil from the oil-cups attached to them; it is a good plan to put a little extra oil upon the guide-bars, in addition to filling the [illegible] upon them. Whenever the engine is stopped, the bearings should be felt to make sure that they have not heated; if there be any heating, the bearings having been a trifle too tight may be loosened a little, but they must not be too slack or it will occasion a disagreeable knocking, which is very objectionable; sometimes it becomes necessary to take the top brasses quite off to free them from grit, which will cause heating in the brasses; the parts requiring most attention are the two ends of the connecting rod and the bearings of the crank shaft; the eccentrics also should be oiled occasionally when the engine is working, the brass rings should be slackened a little if they become warm: after taking the cap off a bearing, care must be taken that, on replacing it, it is not screwed down too tightly, or it will be sure to cause friction, and increase the mischief sought to be avoided.

"*Preparations for Moving the Engine.*—When the day's work is over, and the engine is going to be moved to another place, the water should be run out of the boiler when the steam is quite down; the practice of blowing all the water out of the boiler directly the fire is dropped is a very bad one, for the sudden contraction of the tubes caused by the rapid cooling makes them leaky, and does much mischief; the boiler should never be re-filled when hot; for the same reason the water should never be left in the boiler when the engine is going to travel over a hard road; if it is merely going to be moved on soft ground for a short distance, no harm will be done beyond adding greatly to the weight; care should be taken that the fire-bars do not shake out, and thus be lost, when the engine is travelling.

"*Governor Balls.*—It is a good plan to take the levers carrying the balls off when the engine is going to travel, as the jolting on roads is very apt to break these levers; they may be carried conveniently in the smoke-box, wrapped up in hay or shavings to prevent injury.

"*Road Wheels to be occasionally examined.*—Before the engine travels any great distance the road wheels should be taken off, and the axles examined and cleaned. If the axles are much cut they should be dressed over with a smooth file to take off all roughness; they should be well greased with a mixture of oil and melted tallow before going on a journey; and if the journey be long, the small screws in the naves of the wheels should be occasionally taken out, and fresh oil be poured into the axle-boxes.

"*Cleaning Engine.*—After the day's work is done the engine should be well rubbed over with Cotton waste, and all dust and grit should be removed, also all superfluous oil which may have accumulated during working; the chimney should be lowered down, and the engine be covered over with the tarpauling furnished for that purpose; the engine should always be carefully covered up when travelling, to prevent the working parts from becoming injured by dust or mud.

"*Washing out Boiler.*—The boiler must be well washed out and cleansed after about 12 or 14 days' working; to do this the brass plugs and mud doors round the bottom of the outside shell of the fire-box must be taken out; water must be poured freely into the boiler through the opening where water is poured in, the mud and scales being at the same time loosened and pulled out with a small iron rod, the end of which should be made like a hoe; at the same time the plug beneath the tubes in the smoke-box should be taken out, and the man-hole cover be lifted off, a long rod being pushed backwards and forwards through the hole under the tubes, so as to loosen the dirt and sediment. Water should be poured into the man-hole plentifully, so as to wash out all that may be collected in the boiler through the various mud-holes, which should all be open during this operation. On again putting in the brass plugs, be careful not to cross the threads; they must be entered with the fingers only, and not screwed up with the spanner until they have been screwed in several turns by hand.

"*Preparing the Engine for Lying-out of Work for a considerable time.*—If the engine is not going to be used for some length of time (say a month), the cylinder-cover should be taken off, and the cylinder well rubbed dry and oiled; the fly-wheel should then be turned round a few times by hand, to ensure every part of the piston and slide becoming well covered with oil; the cylinder cover may then be put on again; the joint only requires a little red-lead cement to be spread around it; but the red-lead must not be so placed as to squeeze into the cylinder itself when the cover is screwed up: care must be taken to screw the bolts up very equally. The whole of the bright work of the engine must be well dressed over with a mixture of white-lead and hot tallow, put on with a painter's brush. The packings from the piston-rod, slide-rod, and pump-plunger should be taken out, for they injure the rods by causing corrosion to take place from the moisture of the hemp packing.

"*Packing the Engine.*—This operation cannot easily be described, and must be seen to be comprehended thoroughly; the engine-man who is sent from the works with the engine will instruct the person who is about to take charge of the engine how to do the packing, and many other things which require practice to do properly. None but the best white spun-yarn and white hemp must be used for packing, and it must be quite free from all gritty particles. The packing before being put into the stuffing-boxes must be well soaked in hot tallow.

"*Oil for Engine.*—Neatsfoot or sperm-oil should be used; but if this cannot be procured, olive-oil will answer the purpose. Hot tallow should never be poured into the cylinder, for much dirt is thereby introduced, which will cut and injure the piston and cylinder.

*General Remarks.*—The more care and attention the engine receives the longer it will work without extensive repairs. Very frequently great damage is done, and heavy expense incurred, through the carelessness and ignorance of the person who acts as engine-man; no person should be sent out to work these engines who has not had previous experience with high-pressure engines of some kind. Wood should never be used as a fuel when the engine is at work, on account of the great quantity of ignited pieces blown out of the top of the tunnel by the steam-blast; the foolish and dangerous practice of [illegible] fire from the engine by the stack yard for the purpose of lighting the fire should never be allowed. All tools and spanners must always be kept in the tool box with the engine ready for use, and everything should be kept clean and in its place.

"*Slack Requires.*—Those parts that will require repairing most frequently are the brasses of the connecting rod and crank shaft; the guide bars also occasionally require adjusting; but all these things should be done by an engineer who is accustomed to the work, and the file and chisel must never be used by the engine man, or more harm than good will be done."

## INFLUENCE OF WEATHER ON LIVE STOCK.

The influence of a continuous hot or cold temperature, a moist or dry atmosphere, or a very variable condition of the weather, in the production of prevailing diseases, is a circumstance far too lightly thought of by many practitioners. Not only in some seasons, but likewise at particular periods of the year, certain diseases are so frequently occurring as to call forth remarks even from the least observant. That many of the maladies of domesticated animals are dependent on the locality and soil they inhabit, as well as on the quantity and quality of their provender, all practitioners are ready to admit; but the immediate, as well as the ultimate, influence of the weather, in mitigating or increasing the effects of these local causes, is often too little regarded by them.

For upwards of a year the fall of rain throughout the greater part of England has been remarkably small; so much so, that many agriculturists have experienced the greatest difficulty in procuring a sufficiency of water, both last summer and this, for their cattle, while that which was obtained was often of the worst kind possible for the maintenance of health, being charged with vegetable matters in a state of decay. From the same cause, also, the pasture lands at the latter part of the summer of last year were so scorched, that they yielded a very insufficient supply of herbage. The immediate result of this state of things was a great fall in the condition of cattle and sheep, which ill adapted them to withstand the privations and chilling blasts of winter; and the ultimate result the loss of hundreds of sheep during the winter, although the weather remained dry, and as such, according to ordinary experience, well suited for these animals. *Post mortem* examinations showed an emaciated state of the body, accompanied with local congestions, particularly of the lungs, as the direct cause of death.

Next to sheep, young cattle suffered the most, the major part dying from diarrhœa, running on to dysentery. It is also worthy of note that in numerous cases, where persons by too generous feeding with oil-cake, Mangel Wurzel, &c., attempted quickly to restore the loss of condition of their young stock, the animals fell a sacrifice to attacks of hæmato-sepsis, commonly called black quarter, or quarter garget, from a gangrenous condition of a considerable part of the body, due to a septic state of the blood.

The last summer also has been remarkable both for its heat and dryness. The *Observer* newspaper of the third week in July, alluding to the subject, says that:—

"For the last 46 years it has not been so hot in the metropolis as during the last fortnight. All at once we seem to have passed into a tropical climate. For two or three days there has been experienced a temperature equal to that of India. Several persons have been prostrated with sun-stroke, and perished during the week, and among others two poor little children, left in a perambulator by a careless nurse girl in the sun. To follow the ordinary avocations of life has been a most weary and irksome task; men, women, and children seemed almost to gasp for breath. In the House of Commons, especially in the committee rooms, which face the river, the temperature was something frightful, as every crevice through which air could be admitted was stopped up, in order to exclude the pestilential odour of the Thames. In one of the courts of law the presiding judge could endure the heat no longer; he dashed his wig from his head, and invited the members of the bar to follow suit. In the country the effect of the high temperature has been most marvellous. The crops, which 10 days ago were quite green, are now ready for the sickle: in fact, in many parts harvesting is in full operation. The most serious results of the hot weather, however, are to be found in the greatly increased rate of mortality, especially in the metropolis, during the week ending the 16th inst. The deaths in that week amounted to 1400; in the three previous weeks they had been respectively 970, 1024, and 1226. The average rate of mortality during the past 10 years in the corresponding week was 1160. The comparison, therefore, gives a most unfavourable result, as it shows that the deaths in the present return are higher by 300 than the number which the average rate of mortality for the second week in July should have produced. Diarrhœa has been unusually fatal."

As was to be expected, animals likewise suffered greatly from the extraordinary elevation of temperature, particularly those depastured in exposed situations, where little protection could be afforded by shade. Many cases of sudden death occurred; the *post mortem* examinations showing the vessels of the meninges of the brain turgid with blood, and also the cavities of the heart filled to repletion with soft and dark-coloured coagula. The most serious consequences, however, of the long-continued heat are still being experienced in the loss of lambs. For many weeks these animals have been dying by scores, especially in several of the eastern counties, so as to threaten, in some instances, the loss of the whole flock. Their death is usually preceded by wasting, an ill-conditioned state of the wool, irregular bowels, fastidious appetite, pallid membranes, and husky cough. They thus gradually "pine away," to use an agricultural expression; no ordinary treatment sufficing to arrest the fatal result. On examination, death, in the greater number of instances, is found to depend on structural changes of the pulmonary tissues, and sometimes of the liver. The edges of the lungs, in particular, are consolidated, impervious to air, and often infiltrated with a purulent fluid, seemingly caused by passive congestion, leading to effusion and slow degeneracy of the *liquor sanguinis*, as results of the exhausting influence of the long-continued heat. Besides this cause of death, great numbers of lambs are likewise being lost from the presence of filariæ, hair-like worms, in the *abomasum*—the true digestive stomach. The animals present analogous symptoms to those whose lungs are organically diseased; and as such, the cause being overlooked, we are often told that nothing can be discovered to account for death. I do not now stop to go into further particulars of these cases of worms within the stomach, because in the present state of science we cannot satisfactorily trace their connection with either a paucity of rain or an elevated temperature. There are, however, two remarkable instances of the destruction of animals depending upon the latter cause, which, notwithstanding they have already appeared in the pages of the "Veterinarian," I think are of sufficient importance to be repeated in this address. The record of one runs thus:—

"*Death of Sheep from the Sucking of their Wool after being Dressed.*—A singular circumstance has just occurred in the parish of Cudham, Kent, on Lusted Farm, in the occupation of Mr. James Francis. Mr. Francis has been in the habit for several years of using a wash to his sheep, containing mercury and soft soap, as a preventive against flies. He has generally had it applied by dipping them; but this year he had them laid on their side, and poured the wash—one pint to a sheep—over them. The flock (about 128) having been thus dressed, were turned into a barren part of a field to drip. About an hour or so afterwards the shepherd noticed some of them looking badly, and in a short space of time they began to die, and by the morning only 10 remained alive out of the entire number. It is supposed that they had sucked the moisture from each other's wool, there being no water in the field, and the great heat causing them much thirst."

The other is an equally interesting and instructive a case, as likewise showing that animals when pressed by thirst will take the most deleterious and unpalatable fluids. It is headed

"*Poisoning of Pigs by an Accidental Partaking of Sheep-Dipping Mixture.*—Within the past month (August) we (the editors) have been consulted in a similar case to the preceding in the accidental poisoning of some valuable pigs, the property of an influential member of the Royal Agricultural Society. It appears that the shepherd emptied some 'sheep-dipping mixture,' which he had to spare after dressing the sheep, into the yard where the pigs were kept, and that the animals, driven by extreme thirst consequent on the great heat which prevailed, drank some of the fluid. In this way 22 were killed. One of the animals was sent to the College, and examined by Assistant-Professor Varnell, who found that the immediate deleterious effects of the agent were produced on the mucous membrane of the mouth and fauces. These parts were intensely inflamed, and covered over with a thick layer of effused lymph, which likewise extended into the larynx and a short distance down the trachea, caused death by asphyxia. The entire lining membrane of the œsophagus was similarly covered with lymph, down to the cardiac orifice of the stomach, which organ, however, was scarcely diseased. The mixture was composed of arsenic, sulphur, and soft soap in solution."

I must here leave this part of my subject, although numerous other proofs could be adduced of the ill effects produced on animal life by the extreme drought and heat of the weather. *Professor Simond's Inaugural Lecture, Royal Veterinary College.*

## Home Correspondence.

*Round Clamp for Roots.*—You do not perceive the utility of our proposed "circular" clamp for roots compared with a long one of same dimensions, or the common round lump. But we gain by it in convenience and save in space, and in so much expense as covering with straw and earth. The covering of a round top with haulm or rubbish in a conical form would avoid all this, and the expense would be trivial, and not exceed the price of covering a long clamp of the same size (and especially of a smaller size in diameter), even if it were only for one year's standing; but it might be permanent, and besides it would secure a clamp house for all necessary work attending the roots in winter, for the cattle always in the dry and out of the way of cold. But if it were only a circular clamp without a permanent covering above, it would be much better confined in one small circular space, to be well covered with haulm, and a slight thatching (which always keeps out the frost sufficiently), instead of the great expense of covering it with clay, it may be, forming deep ditches on each side, full of water on retentive soils, especially if of smaller dimensions in diameter. But this would knock aside our idea of preparing the roots for the cattle at home, or near the cattle yard, in the central part of the clamp, as we suggest. *A. Hardy & Son.*

*Cinders for Pigs.*—I am a pig breeder and rear a large number. For nine years past I have been in the habit of giving my pigs some small fragments of coal or coal ashes. They devour them greedily, especially when feeding upon store food, raw vegetables, and the "swill" of the house. I believe it to be a natural instinct, for the removal of some felt bodily sensation—perhaps acidity in the stomach; but it is easier to guess than to determine, especially as neither coal or coal ash possess alkalies stronger than chalk, still chalk and earthy matter may of themselves meet their requirements as an antacid. Young sucking pigs are very fond of nibbling and eating coal ashes. The fact itself is valuable, if we cannot at present determine its "rationale" or cause. Dogs often eat Grass and vomit afterwards. Practical observations are at present much in advance of science. I have never met with a medical man who could tell me why or how quinine cured ague, although most medical men admit that it is one of the best established facts in medicine. The art of agriculture owes so much to the enterprise and talent of Mr. Mechi that I regret I cannot answer his question as to the amount of Barley-meal required to make 1 stone of

pork, live weight; but this I know that it will vary immensely in two varieties of the pig trade. I have tested many pigs, and find that a well-bred Berkshire pig will make a stone weight upon one-sixth less food than a Shropshire or Yorkshire pig bought out of the market. *J. H., Mickleover.*

*How many tons to the acre?*—A neighbour has laid a very considerable bet that he will grow 40 tons of Mangel to the acre this season, on a light loamy soil. Farmers smile and say "let him grow 30 tons first," and yet by reference to an old book—"Lawrence's Farmer's Calendar," published many years since, 11th edition, 1809, 12*s.*, and a work of some authority in times past—you may read, page 318, that a crop of Turnips drilled on ridges 11½ inches from row to row, weighed 55 tons. The account in Lawrence's book is interesting in the highest degree, as to the culture and the use made of them, drawn, and perfectly sound, the 5th day of March. I would extract the whole but it occupies two pages of his work. * * *

*The value of my Steam-engine*—If by chance I hire a portable steam-engine the charge, with two men, is, *two guineas per diem*, I finding the coals. As I work *my own engine about 200 days in the year* the total charge or saving is thus, at 35*s.* per day, 350*l.* per annum! I am quite sure that my wear and tear and repairs do not exceed 25*l.* per annum. Who, after this, will say that it not preferable to have one's own engine? After nearly 11 years' work, my engine and boiler appear likely to last another 20 years. *J. J. Mechi, Tiptree.*

*Cattle Cookery.*—Your "word of comment" last week obviously demands a reply, but although the subject requires ventilation I have not time to discuss either the individual merits of Horsfall's system or Thorley's system of feeding, much less the writings of the former and "advertisements" of the latter. All I wish is to justify myself from the fallacious view taken of my classing these two gentlemen together in the great work at which they are now actually both engaged, and this I trust you will allow me space to do. Mr. Horsfall is as much self-interested in his practice (the feeding of his own stock) as Mr. Thorley is in his practice—the manufacture and sale of his condiment. Both, we presume, try to make as large a profit as they can. The former pockets his profit, while the latter, as yet, has spent all his, and much more than all his profit in bringing a most important article before the public. You have therefore certainly no right to hold up Mr. Horsfall as the "disinterested" man you do, insinuating the reverse of Mr. Thorley at the same time. In the article (Oct. 8) when I state that "the improved system of cooking food for live stock" is not generally "very well understood," I include Mr. Horsfall's system. From the first time it was made public I have supported Mr. Horsfall's practice against much opposition in the columns of the agricultural press, for which at the time I was almost expelled the British capital! I could never, however, support Mr. Horsfall's writings as a fair exposition of his practice. In short, his writings are contrary to established science in many points, and therefore I condemn them as unworthy of public confidence. He appears too fond to be seen in print. [!!] I am now, again, it appears in a similar box as to Thorley's condiment, and what I shall say on this head at present is in the language of the poet—

"Lay on, Macduff,"

if you have aught to say against me in the shape of facts. As to the use of a "condiment" "direct from the druggist," it would be well to consider what the former means before the advice of the latter is taken. For my own part I shall continue to use condiment and shun the druggist's shop as much as possible. In Morton's Cyclopædia of Agriculture salt is recommended as a condiment, and Alderman Mechi, in the *Agricultural Gazette*, brings under our notice "coal ashes and cinders!" but is this all the length we can go in cattle cookery? I trust not. As to economy, Thorley's practice has the advantage of Horsfall's even at the high price we are now paying for the condiment of the former. This however is not the proper view of the subject under this head—that which ought to be discussed in the columns of a journal professing to be the exponent of agricultural science, although "it is one calculated to chime softly in the ear" of too many farmers. The proper view is this:—The articles in Thorley's condiment can be grown in warm climates to any amount, and cheap so that we have a suitable supply to our demand; consequently as prejudice and opposition disappear, and justice is done to manufacturing and commercial enterprise, and industry, the present price which Mr. Thorley is compelled to charge will be reduced—supply and demand regulating the market in this as in every other case. It is otherwise with some of the articles used by Mr. Horsfall, for they are limited in supply (not to mention the fact that they are less efficacious than those used in Thorley's practice); consequently the conclusion is therefore manifest that Mr. Thorley has higher "claims upon the confidence and regard of agriculturists" than Mr. Horsfall. To bring the subject home, which is always the practical and best plan, I blame the *Agricultural Gazette* for the high price we are paying Mr. Thorley, and not Mr. Thorley himself, and I dare you to justify your leading columns from the heavy charge I now prefer against them. *W. B., London, Oct.* 10. [Let this be taken for what it is worth, and the measure of its value may be pretty well determined by the absurdity of its charge of vanity on Mr. Horsfall.—One man having proved the value of a remedy publishes his experience for the benefit of all, and him we call *philanthropist*. Another man has proved the value of a remedy, he keeps the knowledge of it to himself, but offers it for sale to all and sundry; to him an altogether different name is given. There is difference enough between them.—Mr. Thorley may have proved the value of his cattle food and reaped profit from its use, and Mr. Horsfall has no doubt done the same; so far then they are alike—the difference arises after this; the latter publishes his experience in full detail, describes his practice, and recommends its adoption; the former establishes a manufacture upon his experience, and makes people pay him if they would make that experience their own. Is there no difference between the two? And this is putting the contrast in the most favourable light for Thorley and his food; for it is assuming that the article which he makes and offers to his customers at many times the price of the most nutritive of known foods possesses all the properties it claims. We hope that the readers of a Journal "professing to be the exponent of agricultural science" will listen to the advice of Messrs. Lawes and Gilbert, of Professors Anderson and Cameron, Voelcker and Way, and let "W. B.," unlistened to, amuse himself, if so he please, with any further defence he may have to offer of high-priced cattle condiments, though it must be in other columns than these for the future.]

## Farm Memoranda.

LOUGH FOYLE, when first I saw it, some 30 years since, formed at full tide a sheet of water of some 18 or 20 miles in length, by about 10 miles in its widest part, and at the recess of the tide, and especially in spring tides, a tract in extent as far as the sight could reach was left bare. Some attempt had even then been made to enclose portions of this immense slob, but they were on a small scale as compared to the subsequent efforts. A tract of about 1400 acres was enclosed on the eastern or Magilligan side some 20 years ago; at a more recent period, an embankment for the Londonderry and Coleraine railway was carried through the lough, shutting off the tide from an immense tract of slob; an embankment still farther out at sea was afterward constructed; and now some thousands of acres, over which a few years since rolled the waves of the ocean, are rewarding industry and enriching the state by their abundant productiveness. Induced by the results which accrued from previous attempts, a company was formed years since for the purpose of extending on an immense scale the work of reclamation. An embankment was commenced which was to have added more than 20,000 acres to the conquests already obtained over the lough; the embankment, the result of this grand project, and on which a quarter of a million of money was expended, is seen afar, apparently in mid-ocean, where it appears, little affected by the waves with which both its faces are lashed; but unfortunately money became scarce; funds to complete the undertaking could not be obtained, and the work was abandoned; but the slob, both within the embankment and beyond its termination, is being raised by deposition, and by the growth and decay of fields of unlimited extent of Grass-wrack (Zostera marina), so that in the course of another generation, or sooner, the certainty of a highly productive return for the capital necessary for the embankment will effect the completion of this noble project.

I proceeded to my inspection of these interesting reclamations by the Londonderry and Coleraine railway, and stopping at the junction, about 16 miles from Londonderry, was laid down on the farm of an old and kind friend, Mr. Campbell, for 23 years director of the Templemoyle Agricultural School, to whom very many prosperous farmers are indebted for the knowledge which has secured for them success in their calling, and to whom also it was very gratifying to me to learn the same pupils presented, on his resignation of office, an enduring and valuable token of their gratitude and regard.

Robinson's level or slob, on which Mr. Campbell's farm is situated, comprises about 1400 statute acres, and was enclosed some 20 years since; the railway intersects it, and affords in its fences a good opportunity of investigating the nature of the land, which is found to be composed of a mixture of sand and clay, similar to that forming the soil of the reclamations on the shore of Lough Swilly; in the reclamation at present under revise, the sand is for the most part overlain by a stratum of darkish-coloured clay, the result of a mixture of fine mud and decomposed sea-wreck, the clay varying in depth from an inch or two to 2 or 3 feet, and forming, when mixed by cultivation with the underlying sand, a soil of considerable fertility, and adapted to the culture of agricultural crops of all kinds. Over a considerable extent of land along the embankment, and on the eastern side of the reclamation, however, this upper stratum is wanting, and then the comparatively pure sand, although inexpensive to labour, requires heavy dressings of manure, without which its cultivation would be the reverse of profitable. That this is so appears patent by inspection of a farm of some 250 acres of this sandy soil, and which I believe is now to be let; much of the miserable Wheat crop of the current year on this farm lies, having been mown, so thin on the ground, so short and so poor, as to be hardly worth the trouble and expense of gathering, whilst on adjoining and similar, but more judiciously treated land, the crop will average eight barrels per statute acre of very beautiful white Wheat. The rent of the land of this level varies from 10*s.* to 2 l*s.* per statute acre.

Much of the land is cultivated in ridges similar to those on the Lough Swilly levels, before described; the water in the furrows, or open drains, which divide the ridges, stands at depths varying from 12 inches, contiguous to the embankment, to more than 2 feet at a considerable distance from it (for the land rises as it recedes from the sea), being kept at that low level by a 12-horse power steam-engine, which works a scoop wheel about 16 feet diameter, making five revolutions per minute, and capable of raising 18,000 gallons of water per minute to a height of 4 feet. The engine works only during the period that the exterior water is below the level of half-tide; it consumes 7 lbs. of coal per horse-power per hour, and keeps the 1400 acres permanently, and, with the exception of some land in the vicinity of the rampart, sufficiently dry, at a cost of about 3*s.* per acre per annum. At the period of my visit (22d of September) Mr. Campbell was sowing Wheat, broadcast, on Clover lea, a furrow-presser following each pair of ploughs; the seed (7 stones per acre) was sufficiently covered by a couple of strokes of the harrows, but to ensure a fair crop a dressing of Peruvian guano is harrowed in in spring. The Potato, Turnip, Bean, corn, and Clover crops on this farm are usually good, the fertility of the land being greatly promoted by the large quantity of Grass-wrack up by the waves and rolled on and left at the foot of the embankment; and in addition to the large amount of manure produced by the stall feeding of a number of cattle, town manure is brought by rail from Derry at a cost for carriage of 1*s.* 8*d.* per ton for the 16 miles, and these sources of fertility are still further augmented by the purchase of from 100*l.* to 150*l.* worth annually of concentrated manures, principally guano. Bone manure is not efficacious on this land.

Mr. Drennan, to whom Mr. Campbell kindly introduced me, holds an adjoining farm of 600 acres, most of which has been tile-drained; the crops are excellent; the Swedish Turnips amongst the very finest I have seen this year.

A commodious farm-steading, with stalls for 60 head of cattle, has been erected by the landlord, the tenant paying 6½ per cent. interest on the outlay of 500*l.* A most comfortable and gentlemanly residence has been erected by the tenant. The team consists of 12 very beautiful and powerful horses. Large numbers of cattle are fattened annually, and a flock of Cheviot sheep appear to find themselves unusually well circumstanced in the luxuriant Clover and Rye-grass pastures of those level lands. The greater part of the corn was cut down this year by the reaping machine; the threshing and preparation of the corn for market is here effected by steam, and doubtless only a short time will elapse before the ploughing of these stoneless, flat, and large fields will be performed by the same power.

Tyrell's reclamation, comprising another 1400 acres, is situated some miles nearer to Derry than Robinson's, to which the foregoing observations have reference, but my arrangements unfortunately did not permit me to examine it. About 900 acres of it, I understand, are rented by Mr. M'Cormack, for which he pays 30*s.* per statute acre; large tracts of it, I was informed, are let on the con-acre system for growing Flax, for which it is extremely well suited. The land, as well as I could judge of it, as I was twice whirled past it in the railway carriage, appeared of a darker colour, and much superior in quality to the more eastward level, and an enormous stackyard gave evidence that the fertility of the land is not permitted to lie dormant.

To the west of, and abutting against Mr. M'Cormack's farm, are 400 acres of slob, nearly inclosed by an embankment; the land is fast rising by deposition within the embankment, and when this work of accumulation, which is proceeding rapidly, has progressed sufficiently far, the breach that now admits the tide will be closed, and a tract at present yielding at the recess of the tide a chance meal to a few sea-gulls will, with its golden harvests and luxuriant Flax fields, meadows, and pastures, abundantly reward the engineering skill and laborious industry by which such nationally important results will have been effected. *Agricultural Review, Dublin.*

## Miscellaneous.

*Weyhill Fair, (Hants) Oct.* 11.—This celebrated fair not only ranks high as a stock and sheep fair, but is one of the greatest Hop fairs in this country. Sussex, Kent, and Worcestershire contribute their growth of Hops to this great sale, and Surrey consigns its highly-famed "Farnhams" for competition at this great Hop mart. The fair will last the whole week. Yesterday and to-day are for the sale of sheep, stock, and horses, and the four last days are exclusively for Hops, cheese, &c. The Hop barns and offices are in readiness for Hops, and several miles of ground are under canvass, taking in the bulk of Hop plantations. The Sheep Fair.—The side hills were hidden by the sheep pens, which were well filled, and it is estimated that between 300,000 and 400,000 sheep were hurdled in for sale. The western counties contributed largely with some of the choicest and best bred sheep, and Sussex sent the pure Southdown. The fair opened with a brisk business, and prices asked exceeded the value obtained at the late Wilton Great Sheep Fair. The following were the figures made by the various breeds of sheep:—West-country sheep—useful well-conditioned wethers, 40*s.* to 45*s.* a head; store sheep, for folding on Turnips, 36*s.* to 40*s.*; strong tegs varied according to breed, and

made from 28*s.* to 34*s.* Southdowns—prime wethers, 37*s.* to 43*s.*; cross-bred ditto, 30*s.* to 36*s.* and 38*s.*; well-bred Southdown ewes, 32*s.* to 37*s.* a head; choice ditto of celebrated flocks, 38*s.* to 43*s.*; lambs (wethers), 23*s.* to 28*s.*; ditto (ewes for stock), 21*s.* to 26*s.*; and plain lambs, 21*s.* to 23*s.* a head.

*Death of Cattle from eating Yew Branches.*—At Red House, Hursley, lately occupied by Mr. Fowlie, bailiff to Sir W. Heathcote, Bart., there is a Yew hedge cut to fancy shapes and figures. This operation was performed during the past week, and the cuttings, which Mr. Fowlie during his occupation always had carefully collected and burnt at once, were on this occasion suffered to lie on the Grass of the field. Alongside in this field Mr. Newton, of Ashley, had about 30 heifers to feed, and on Thursday morning some boys out picking Mushrooms found eight of them lying dead at different places. A ninth was apparently in great pain, and a strong emetic given to it showed the cause of the death of the others—namely, the eating of the Yew cuttings from the hedge. *Hampshire Independent.*

## Calendar of Operations.

### OCTOBER.

Wester Ross *Oct* 10.—On the 14th of last month we completed one of the finest harvests we have ever had. There was little interruption from bad weather from beginning to end. We have little to boast of however, save the fineness of the weather, and the cheapness of the harvest. Take the following as a specimen of what can be done by the scythe, with a light crop, and having all the hands well fitted for the different parts of the work. On Saturday the 20th of August, we commenced cutting 140 acres of Wheat, Oats, and Barley, with 6 scythes. In 12 days of working time the whole 140 acres were gone over—each man having cut little less than 2 acres per day. There were employed in all 6 scythemen, 6 women for gathering, 6 men for binding, and 3 boys for raking. The 6 scythemen and 2 of the rakers were engaged for the half year; all the others were engaged for the harvest. A few of the hands were discharged when the cutting was completed; the others were retained to assist in carting home and in stacking the crop. This operation occupied 7 additional days, on which days some 55 stacks were carted to the stackyard. The scythemen and 2 of the rakers being, as I have already said, half-year servants, were not, of course, then paid. The binders had from 2*s.* 3*d.* to 2*s.* 6*d.*, and the women and boys 1*s.* 9*d.* per day. The whole outlay amounted to 20*l.*, the cutting, reaping, binding, raking, leading, and stacking being about 2*s.* 11*d.* per imperial acre. We would have greatly preferred a more costly harvest, with a better filled stackyard. Wheat bulked less than usual; Barley considerably less, and of Oats there is less than half the usual bulk. Straw will be a scarce and costly commodity until another harvest; and, to add to the evil, our Turnips, which were never at any time very promising, have, from the continued drought, been overtaken with mildew, and must now be a very deficient crop; consequently, from the want of keep, numbers of cattle will be thrust on the market, and for the remainder of the season prices will be very low. Wheat and Barley are spoken of as threshing out satisfactorily, but Oats are turning out soberly both as to quantity and quality. A more abundant and satisfactory crop of Potatoes has not been lifted since the commencement of the disease, and although the breadth planted was small, a large quantity might be exported from the north.

Tyneside: *October* 10.—Now that farmers have had time to test the produce of the cereals by threshing, we are able to give a more probable estimate of the yield. Wheat, the staple crop of the district, bulked well, and the produce is a good average in quantity, the quality however is quite inferior to last year, both colour and weight being deficient. Barley in exceptional instances cut up a heavy crop, but in the majority of cases will be deficient in yield per acre, but the quality superior. Oats in almost every stackyard occupy far too little room, and the produce is generally light in weight and husky. The breadth under Beans is annually increasing, the winter variety being viewed with considerable favour on the drier soils; the crop is very various as to bulk, but the produce quite under an average. Potatoes are a sound crop, but on the warmer soils are not taking up well, having a large proportion of small ones. Turnips on all the best soils are a great failure, though with a continuance of open weather they may improve to half a crop; while in the colder and later districts they approach a fair average. Keep for stock has been scanty throughout the season, and the rains though copious came too late to improve the pastures much. Considerable progress has been made with cleaning of stubbles, both by grubbers and skim ploughs. The comparatively settled weather of last week and this have been employed in sowing winter Beans and preparing the land for their reception. A considerable breadth of Wheat has also been sown on the "bare" fallows, too often I am afraid "bare" of manure if not of weeds. Now that the nights are cold we are turning our attention to the housing of cattle, with a grudge at the thought of such short provisions for their maintenance. *W. C. T.*

## Notices to Correspondents.

Blood Manure: *T J.* It is a superphosphate containing probably a little more ammoniacal or nitrogenous matter than usual, as it is made with blood instead of water.

Cows: *Henry Gauthorpe.* Give Bean-meal instead of oil-cake and gruel made with wheaten flour once a day, and with it the following powder:—Prepared chalk, 1 oz.; powdered opium, 1 scruple; gum catechu, 1 drachm. *W C S.*

Name of Grass: *W C M.* The Grass sent is the Agrostis stolonifera, a variety of A. alba—the Fiorin Grass. In the position indicated it may be described as useless; and if it has possession of the field it is an evidence of the land being out of condition; in short, what is called a "hungry clay." From these conditions it may be concluded that any ill effects upon animals feeding in the meadows is not so much the result of eating this so called "sour" Grass, but from the general poverty of the herbage.

Sorts of Wheat: *R.* Velvet ear and Fenton (white) and Piper's thick set (red) are short strawed; Talavera (white) and April (red) are early; Fenton, Red Straw, and Hunter's are good white sorts; Lammas, Browick, Spalding, and Nursery are good red sorts.

Trifolium incarnatum: *Cairnhill.* We doubt if it will answer in Berwickshire; but you should try it. Apply to any of the seedsmen advertising in our columns.

Young Pasture: *T S.* Don't mow it. Graze it with young stock for two or three years; diligently gather their droppings; don't let sheep in till the pasture is established. Read Mr. Thompson's experience in Vol. 19 of the Agricultural Society's Journal.

*** As usual, many communications have been received too late, and others are detained till the necessary inquiries can be made. We must also beg the indulgence of those correspondents the insertion of whose contributions is still delayed.


THE BRISTOL NURSERY, KEMP TOWN, BRIGHTON.

ALEX. McKENZIE, for some time Gardener, &c., at Wadenhoe, Blackheath, begs to inform his friends and the public that he has taken the above Nursery on Lease, and hopes by strict attention to his business to obtain a share of the patronage so liberally bestowed on the late Mr. Mitchell.

Having taken the whole Stock, he will be prepared to execute orders at once, and begs to offer the following, which are in fine condition:—VINES, fruit Eyes, fit for forcing or planting

FRUIT TREES, trained and in pots.

Extra large RHUBARB, for immediate forcing

FIGS, in pots, fit for forcing.

STOVE and GREENHOUSE PLANTS

And a very superior collection of TULIPS.—October 8.

JOHN STEWART, (of the late firm of Mackie and Stewart,) NURSERYMAN and SEEDSMAN, begs respectfully to inform his friends and the public generally that he opened his new premises at 6, Exchange Street, Norwich, two doors from the Corn Hall, in the last week in September, with an entire NEW STOCK of everything connected with the trade.

John Stewart's DUTCH BULBS have arrived, having been selected especially for him by some of the first houses in Haarlem. A List is now ready, and will be franked to any address upon application. He solicits the favour of early orders for the same, so as to secure Roots of the best quality; and pledges himself that every order entrusted to his care shall receive his personal attention. All Bulb orders to the amount of 20*s.* will be sent, carriage paid, to the nearest Railway Station.

SEED WHEAT FROM THE CHALK.—Selected samples of CHIDHAM, WHITE TRUMP, ROUGH CHAFF, HUNTER'S WHITE, RED CHAFF WHITE, GRACE'S WHITE, TALAVERA, RED BROWICK, RED NURSERY, GOLDEN DROP, and all the best kinds of Wheat, supplied by Raysbird & Harvey, of Basingstoke, and 89, Seed Market, Mark Lane, London, E.C. Samples and prices on application.

IMPROVED RIVET WHEAT FOR SEED.

MR. T. BENTALL invites the attention of Farmers to his new Stock of RIVET WHEAT, the produce of a handsome and well-formed ear, selected from the variety usually known as the "Golden Rivet" or "Payne's Defiance," and which contained no less than One Hundred and Twenty-one Grains.

Mr. B. confidently recommends the above to all growers of Rivet Wheat on account of its great productiveness, and the esteem in which it is held by Millers. Great care has been taken to preserve the stock as pure as possible. Price 4*s.* per quarter. New sacks, 1*s.* 6*d* each. May be obtained of Mr. T. Bentall, Percels, Halstead; also of Mr R. Emson, Secretary to the Essex Agricultural Society, Halstead, by whom samples will be shown at Braintree, Colchester, and Sunbury Markets. Remittances requested from unknown correspondents.

THUJA JAPONICA.—Scale, ½-inch to the foot.

J. WRIGHT and CO. beg to inform the Trade and Public generally that they have a large Stock of the above, including a few 1000 SEEDLINGS, saved from their specimen, as above, and acknowledged to be the most beautiful of all the Thujas by many or all that have seen it.

Also THUJA AUREA, 2 to 3 feet; ditto SEEDLINGS; GIGANTEA; fine LAURUSTINUS, LAURELS, a quantity of BOX EDGING, &c. Prices upon application.

Nurseries, Mill Hill and Edgware, N.W.

AMBROISE VERSCHAFFELT, Nurseryman, Ghent, Belgium, begs to offer the following plants:—

| | £ | s. | d. |
|---|---|---|---|
| BEGONIA CHARLES WAGNER (finer than Begonia Rex) | 0 | 6 | 0 |
| LAPORTEA CRENULATA, splendid ornamental plant | 0 | 8 | 0 |
| MYRISTICA GHIESBREGHTII, fine foliage | 0 | 14 | 0 |
| CIBOTIUM PRINCEPS, one of the finest Tree Ferns yet introduced | 3*l.* to | 8 | 0 |
| ALSOPHYLLA AUSTRALIS, Tree Fern for greenhouse | 0 | 10 | 0 |
| CLEMATIS SOPHIA FLORE PLENO | 0 | 4 | 0 |
| MUSSCHIA WOLLASTONII | 0 | 4 | 0 |
| LILIUM GIGANTEUM, flowering bulbs | 2 | 0 | 0 |
| PÆONIA ARBOREA, ALEXANDRE II., one of the finest dark Tree Pæonias | 1 | 0 | 0 |
| New Pear GENERAL TOTLEBEN, of which a drawing can be obtained | 0 | 8 | 0 |
| RHODODENDRON BYLSIANUM | 0 | 8 | 0 |
| ROSE hyb. rem. IMPERATRICE EUGENIE, splendid white flower | 0 | 3 | 6 |

A. Verschaffelt's NEW CATALOGUE, No. 66, is just printed, and may be obtained free of Mr. R. Silberrad, 5, Harp Lane, Great Tower Street, London, E.C.

CAMELLIAS AND INDIAN AZALEAS, WITH FLOWER-BUDS, AND OTHER USEFUL PLANTS.

A. VAN GEERT, Nurseryman, Ghent, Belgium, begs to offer the following:—

Fine CAMELLIAS, with flower-buds of the best and showiest varieties, 5*l.* to 6*l.* per 100.

Fine INDIAN AZALEAS, with flower-buds, of the choicest varieties, 4*l.* to 6*l.* per 100.

New French and Belgian Herbaceous PÆONIES. 25 vars., for 1*l.*

LILIUM LANCIFOLIUM RUBRUM, strong bulbs, 4*l.* per 100.
" " ALBUM " 3*l.* per 100.
" " PUNCTATUM, 3*s.* 6*d.* each.
" JAPONICUM (true), 5*s.*
" CORDIFOLIUM, 5*s.*

ASCLEPIAS TUBEROSA, flowering roots, 1*l.* 1*s.* per 100.

GLADIOLUS GANDAVENSIS, strong roots, 10*s.* 6*d.* per 100.
" " a collection of 25 new distinct varieties, for 1*l.* 5*s.*

Ghent and English Hardy RHODODENDRONS, fine young plants grafted, 6*l.* per 100.

GHENT AZALEAS, with flower-buds, 4*l.* to 5*l.* per 100.

The new MEXICAN PINES, 50 varieties, 5*l.*

PINUS VEITCHI, 5*s.* each.
" DON PEDRO, 5*s.* each.

TILIA EUROPEA foliis variegatis (new), 15*s.* each.

TRAINED PEACHES, NECTARINES, APRICOTS, APPLES, CHERRIES, and PLUM TREES, can be had of E. R. GREENUS, Railway Nurseries, Watford, of the best quality and on the most reasonable terms, with instructions gratis as to soil, planting, and treatment of the Trees so as to insure success.

STANDARD and DWARF ROSES, EVERGREENS, and all sorts of NURSERY STOCK.

Cash, or reference from unknown correspondents.

REIGATE SILVER SAND.—Best quality for Florists, 16*s.* per ton; less quantities, 1*s* 6*d* per bushel, delivered to any London wharf or railway. PEAT, LOAM, and LEAF MOULD, in large or small quantities. Sacks for Sand, 1*s* 6*d.* each, or on hire 6*d.* each (five hold a ton).

John Kennard, Purveyor to her Majesty, Swan Place, Old Kent Road, London, S.E.

HOT-WATER PIPES at wholesale prices, with Elbows, Syphons, Tee Pipes, and every other connection. Wrought and cast iron Boilers, Saddle, Conical, Cylinder, and Elliptic, from 24*s.* each. Boilers and Iron Stands to use without brickwork. Valves from 12*s* each. Coil Boxes, Furnace Doors, Furnace Bars, Supply Cisterns, and Builders' Castings of every description in stock, at Mr Lynch White's Iron Wharf, Upper Ground Street, Blackfriars Bridge, London, S.

HORTICULTURAL BUILDINGS AND HEATING BY HOT WATER.

JOHN R. PEILL, 17, New Park St., Southwark, S.E., Manufacturer of every description of Buildings for Horticultural purposes, and Inventor of the Improved Conical Boiler for heating the same, is prepared to undertake works of any magnitude, and refers among others to the celebrated range of FORCING HOUSES at HER MAJESTY'S GARDENS, FROGMORE, and at SIR ROBERT PEEL'S, DRAYTON MANOR, constructed under the superintendence of his Manager, Mr. John Jones; and also to his BOILERS fixed at the CRYSTAL PALACE, the ROYAL BOTANIC GARDENS, REGENT'S PARK, and KEW, and at several hundreds of the Nobility's seats, Public Establishments, and Manufactories in London and the provinces. J. R. P. also manufactures every description of Iron Roofs, Iron Houses, and Iron Fencing, plain and ornamental. Strong Iron Hurdles for Sheep (6 ft long, 3 ft. high, with 5 bars), 4*s.* 3*d.* each; ditto for cattle, 4*s.* 9*d.* each. Prices and other particulars forwarded on receipt of one postage stamp.

TO THE NOBILITY, GENTRY, AND HORTICULTURISTS.

H. McCALLA (late principal Draughtsman to Messrs. Weeks & Co.), Civil Engineer and Farm Architect, begs to inform the above that the Horticultural Buildings being confined to so few, exorbitant prices are charged; that he prepares Working Drawings and Specifications, so that they can have their own constructed by any country carpenter, at 1*s.* 6*d.* per foot super, or upon their own estates at 1*s.* 4*d.* per foot. Plans also upon the same rule for erecting Hot Water Apparatus. Plans for all kinds of Farm Buildings, Homesteads, Labourers' Cottages, Laying out of Estates, Drainage. Plans &c., prepared for all the above Works and submitted to competition.—Office: 7, Upper Cheyne Row, King's Road, Chelsea, S.W.

STEELL'S PATENT WROUGHT-IRON DOUBLE-BACKED DOUBLE BOILER, for HEATING CHURCHES, HORTICULTURAL BUILDINGS, WAREHOUSES, &c., is the most powerful, most economical, and quickest actioned Boiler in existence, and may now be seen ready for use at their Nurseries, Richmond, Surrey, S.W., the only place where they can be procured.

Testimonial.

"Rectory, Barnes, Sept 10, 1859.

"Gentlemen,—I can readily bear my testimony to the excellence of your Boiler; indeed to that of the whole heating apparatus which you have supplied for our church. It combines great heating power with economy of fuel and facility of management.—I am, Gentlemen, yours faithfully,

"Messrs. G. & W. Steell." "R. E. Copleston."

T. G. MESSENGER, Horticultural Builder and Patent Hot-Water Apparatus and Garden Engine Manufacturer, Loughborough.

T. G. Messenger's Divisionless Horticultural Erections, ventilated with screw mechanism by which the top or front lights are opened the entire length of the house momentarily, do not fail to give complete satisfaction (as numerous Testimonials can show), for the following reasons:—They are much lighter in appearance, more durable, much stronger, and cheaper than any other can possibly be.

Three years' trial has proved his PATENT BOILER to be superior to any hitherto invented; a great number of houses can be heated at once with this Boiler, with the facility of heating any separately.

Illustrated descriptions and prices of his Patent and greatly approved GARDEN ENGINES sent free upon application; also Plans, Estimates, and Testimonials for Building or Heating. See *Gardeners' Chronicle*, May 21.

FOR SALE, about 15 lengths of HOT-WATER PIPES of the best quality, also Elbows and Bends of every sort. One Stop Valve. All in good order; only been in use 2 years.—Mr. Head, Nurseryman, Upper St., Islington, N.

GREENHOUSES, CONSERVATORY, &c., for Sale. A large Stock, Glazed, ready for Fixing, at Henry Freeman's, Hothouse Builder, Triangle, Hackney, N.E.

TANNED GARDEN NETTING for Preserving Fruit Trees from Frost, Blight, Birds, &c., and as a Fence for Fowls, &c. One yard wide 1½*d.*, 2 yards 3*d.*, 3 yards 4½*d.*, and 4 yards 6*d.* per yard, in any quantity, may be had at C. Wright's, 376, Strand, W.C.

A liberal allowance to Nurserymen.

HENRY J. MORTON and CO., 2, Basinghall Buildings, Leeds.

CALVANISED IRON WATER CISTERNS

for Cottage Houses, &c., to contain 50 gallons, 25*s.*; 80 gallons, 30*s.* each; and 140 gallons, 36*s.*, and fitted with tap, keeping the water perfectly sweet and clean; will not rust or corrode. Cisterns of all sizes.

CALVANISED IRON PUMPS

for Liquid Manure or Domestic Use, 3 inches diameter, 30*s.* and 32*s.* 6*d.* each; Tail Pipe for same at from 10*d.* per foot.

CALVANISED IRON SWING WATER BARROWS

for Garden or Farm use, containing about 20 gallons, entirely formed of iron, 32*s.* 6*d.* each.

IRON FENCING AND HURDLES.

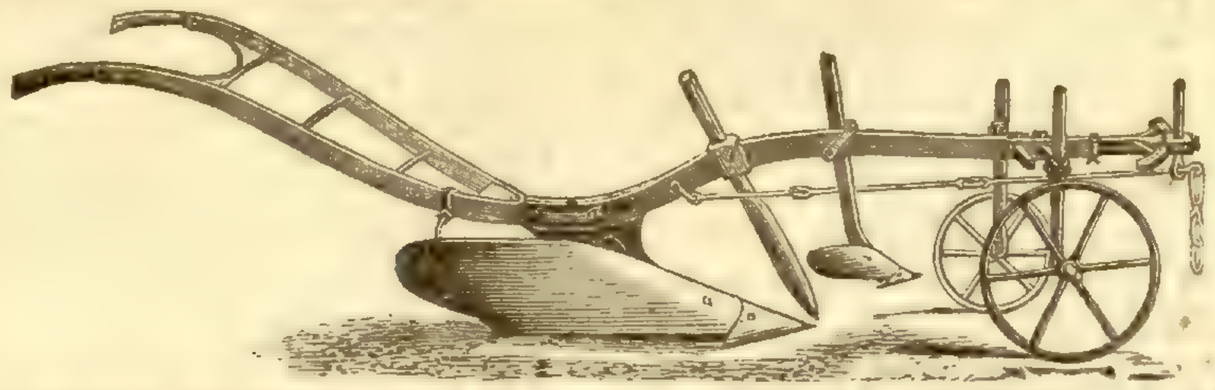
HILL and SMITH'S Patent Continuous IRON FENCE is adapted for every variety of situation, and is much superior to, and cheaper than, Iron Hurdles of equal strength.

Many miles of this Fence have been erected on the London and North-Western Railway between Camden Town and Bletchley. The Patent principle is applied to Iron Hurdles, whereby their strength is much increased and the cost reduced.

Illustrated Priced Catalogues will be sent on application to Hill & Smith, Brierly Hill Iron Works, near Dudley; or 40, Broad Street Buildings, City, London, E.C.; or 23, Enoch Square, Glasgow, where specimens may be seen; or to Mr. B. Samuelson, 76, Cannon Street West, London, E.C.

## THE PLOUGH TRIALS AT WARWICK.

# HOWARD'S CHAMPION PLOUGH



**Gained the FIRST PRIZE as the Best Plough for General Purposes at Warwick,**

BEING the CHIEF PRIZE for PLOUGHS, awarded by the Royal Agricultural Society of England, at this Meeting. The importance of this Prize will be gathered from the fact that the GENERAL PURPOSE PLOUGHS are the only ones tried on BOTH LIGHT AND HEAVY LAND, and as HOWARD'S CHAMPION PLOUGH proved itself to be the best on both soils, the FIRST PRIZE, of the HIGHEST AMOUNT given by the Society for any kind of Plough, was awarded to J. & F. HOWARD.

PRIZES awarded to J. & F. HOWARD, by the Royal Agricultural Society of England, at the WARWICK MEETING, 1859, being not only the LARGEST NUMBER of PRIZES, but the LARGEST NUMBER of FIRST PRIZES awarded to any Exhibitor.

THE FIRST PRIZE FOR THE BEST PLOUGH FOR GENERAL PURPOSES, ALSO A PRIZE FOR THE BEST PLOUGH FOR LIGHT LAND, AND A PRIZE FOR THE BEST PLOUGH FOR HEAVY LAND; THE FIRST PRIZE FOR THE BEST LIGHT HARROWS, THE SECOND PRIZE ALSO FOR THE BEST LIGHT HARROWS, AND THE FIRST PRIZE FOR THE BEST HEAVY HARROWS.

**Every one of HOWARD'S Implements, tried at Warwick, gained a Prize.**

CATALOGUES, with full particulars, sent post free on application to

**J. & F. HOWARD, BRITANNIA IRON WORKS, BEDFORD.**

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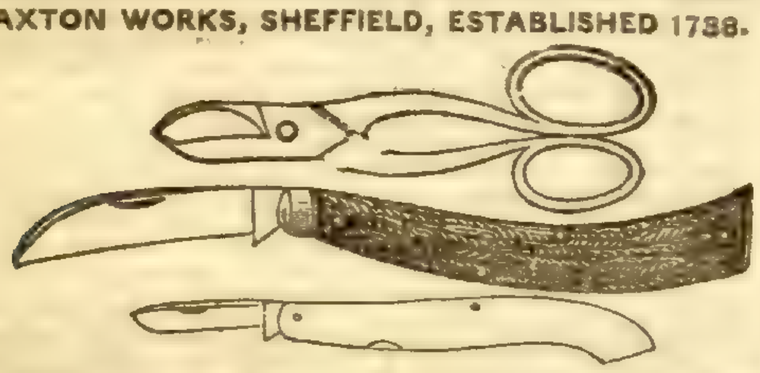
**PAXTON WORKS, SHEFFIELD, ESTABLISHED 1738.**

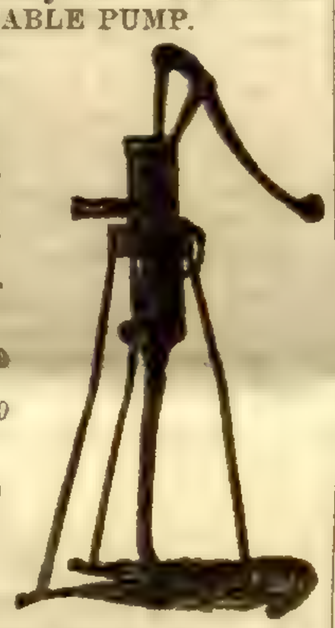


SAYNOR AND COOKE'S warranted PRIZE PRUNING and BUDDING KNIVES, SCISSORS, &c.—Sold by all respectable Nurserymen and Seed Merchants in the three Kingdoms.

---

WARNER'S IMPROVED LIQUID MANURE OR GENERAL PORTABLE PUMP.

These Pumps are fitted with WARNER'S Patent Bucket and Valve, and cannot clog in action. The barrel is made of galvanised iron, not likely to corrode, and can be raised or lowered at pleasure on the stand, the legs of which fold together, and may be carried with ease by one man to tank or pond.



| | £ | s. | d. |
|---|---|---|---|
| Stand and Pump, with screwed tail pipe, fitted with strong brass union for suction pipe | 2 | 15 | 0 |
| If fitted with barrel of planished copper .. .. | 3 | 17 | 0 |
| Stand and Pump, with plain tail pipe, for tying on suction pipe .. .. .. | 2 | 9 | 0 |
| 2-inch patent rubber and canvas flexible suction pipe, on wires, either 10, 12, or 15 ft., per foot | 0 | 2 | 2 |

May be obtained of any Ironmonger or Plumber in town or country, at the above prices, or of the Patentees and Manufacturers, J. WARNER & SONS, 8, Crescent, Jewin St., London, E.C.

---

PARKES' STEEL DIGGING FORKS.

BURGESS AND KEY, 95, Newgate St., E.C., London, being the Wholesale and Retail Agents for these celebrated TOOLS have always a large Stock on hand from which their Customers may select what they may require.

ANTHONY'S PATENT AMERICAN CHURN.—The FIRST PRIZE was again awarded to this Churn in Competition with several others at the Chester Meeting of the Royal Agricultural Society; it has obtained the First Prize given by the Society at every Meeting since 1850.

Messrs. BURGESS & KEY, 95, Newgate Street, E.C., strongly recommend it as the most perfect Churn now in use. Full particulars sent on application.

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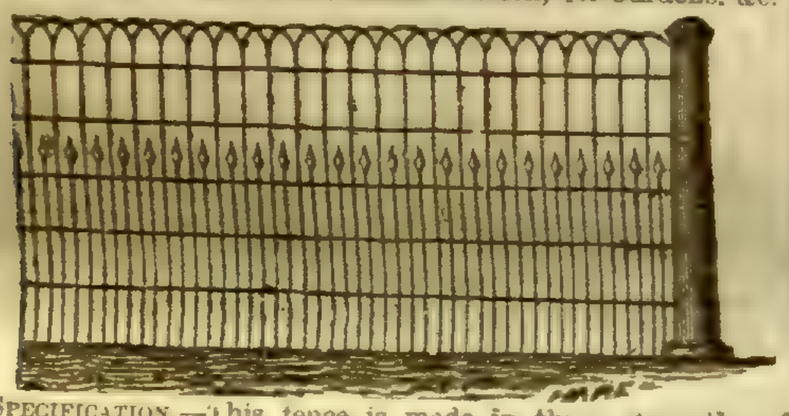
GREENING AND COMPANY'S PATENT WIRE FENCES.

Patronised by His Royal Highness the Prince Consort.

No. 16 variety, Double Mesh, Italian Pattern, for Gardens, &c.



SPECIFICATION.—This fence is made in three strengths of wire corresponding to the patent cattle fences, the patent sheep fences, and the patent rabbit fences.

Prices: For Cattle—3 feet 10 inches high, 2s. 6d. per yard.
" 3 feet 4 inches high, 2s. 3d. "
For Sheep—2 feet 10 inches high, 2s. 0d. "
For Game—2 feet 4 inches high, 1s. 9d. "
" 1 foot 10 inches high, 1s. 6d. "

The Silver Medals of the Royal Dublin and the Manchester Botanical Societies have been awarded to GREENING & Co. for the application of their patent to horticultural purposes.

*From* RICHARD BURTON PHILLIPSON, Esq., *Dunstan House, Penbridge.*

"Your fence for my flower garden is everything I could have desired, and has met with the commendation of all that have seen it. I am perfectly content with the price, and enclose you a cheque for the amount."

G & Co.'s Illustrated Catalogue contains descriptions of the above and other Iron and Wire Fences for Parks, Farms, Gardens, Game Preserves, Poultry Courts, &c., also of Iron Gates, Iron Hurdles, &c. Post free on application.

GREENING & Co., Victoria Iron and Wire Works, 81, Oxford Street, Manchester.

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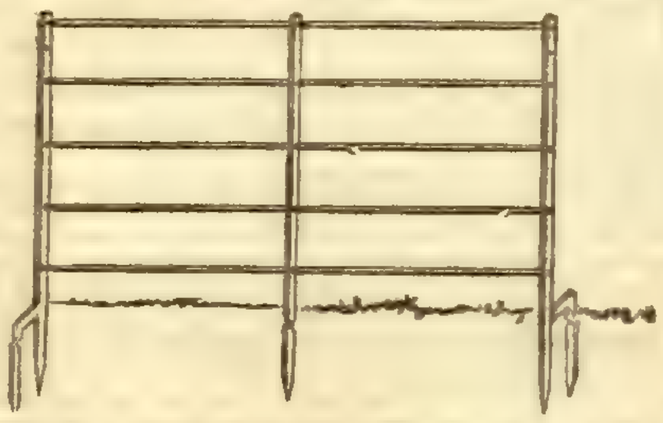
**IRON HURDLES, FENCING, &c., MADE BY MACHINERY.**



COTTAM AND COMPANY, Winsley Street, W., have invented machinery for making Hurdles, &c.; the bars, instead of being pointed by hand in the old fashioned style, are nipped down by the machine, leaving a shoulder so as to more effectually tighten the standards when rivetted. They are made of superior iron only, and will compete in price with those made by hand from cinder or common iron which so frequently break. Iron Fencing, Gates, and Iron Work of all kinds, both Plain and Ornamental, Conservatories, Hot Water Apparatus and Garden Implements.

Illustrated CATALOGUES free on application to COTTAM & COMPANY, Ironfounders, 2, Winsley Street, Oxford Street, W.

N.B. COTTAM & Co. beg to make it known that there is no longer an entrance to their establishment from Oxford Street, but that they have made a second entrance from 2, Winsley Street, Oxford Street, W., by the side of the old entrance to their works, opposite the Pantheon.

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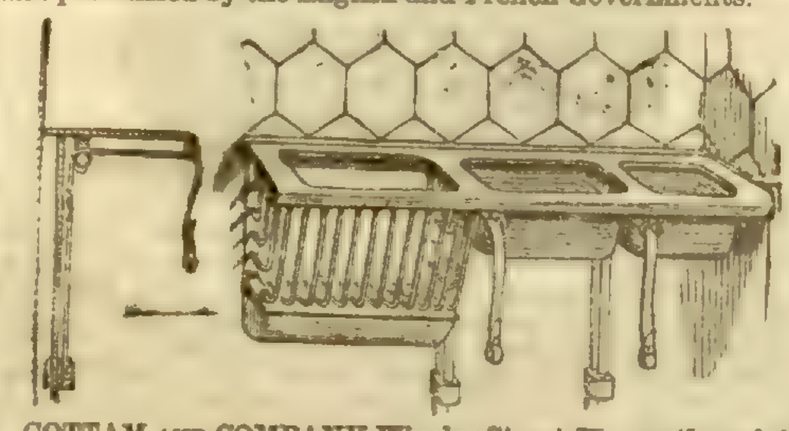
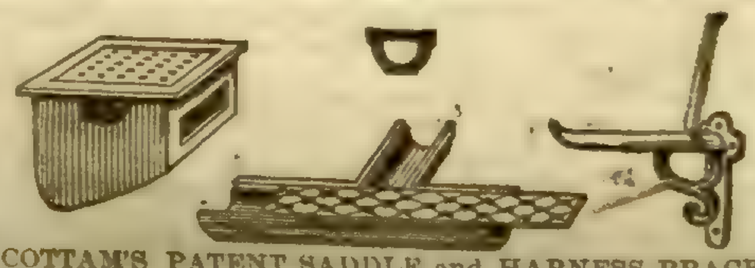
COTTAM'S PATENT INVENTIONS FOR STABLE REQUISITES, awarded a Prize at the Paris Exhibition, and patronised by the English and French Governments.



COTTAM AND COMPANY, Winsley Street, W., are the original inventors of the PATENT ENAMELLED MANGER, Water Trough, and Wrought Iron Rack, united to an iron top-plate, and forming one complete and useful fixture, having COTTAM'S patent noiseless halter guide and collar rein attached, which is taken to the back of the manger, and works with ease and freedom up or down the guide-bar.

COTTAM'S NEW PATENT SEED-BOX, an important addition to the above fittings, being simple in construction, light, and durable, promotes cleanliness, and is economical in its results.



COTTAM'S PATENT SADDLE and HARNESS BRACKET combined, can be used with great advantage where space is an object, as it can be turned up out of the way when not in use.

COTTAM'S IMPROVED SURFACE GUTTER, with perforated moveable cover, the use of which prevents accidents, and can be easily cleaned out.

COTTAM'S CAST-IRON SANITARY TRAP, from its improved construction, gives a full water passage, and does not allow any smell to ascend from the drain.

PATENT LOOSE-BOX FITTINGS, and every article for the harness-room and stable, kept in stock, plain, galvanised, and enamelled. Iron gates, fencing, hurdles, &c.

The New Illustrated Catalogue and Estimates, gratis, upon application to COTTAM and COMPANY, 2, Winsley Street, Oxford Street, W.

N.B. COTTAM & Co. beg to make it known that there is no longer an entrance to their establishment from Oxford Street, but that they have made a second entrance from 2, Winsley Street, Oxford Street, W., by the side of the old entrance to their works, opposite the Pantheon.

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PAINTS OF ALL COLOURS, mixed ready for use from 5s. 6d. per gal., will cover 54 sq. yds. Superior MANURES, equal to Guano, from 5s. 6d. per cwt. Efficacious SHEEP WASH, 1s. 6d. per gal. Patent CART GREASE, 10s. per cwt. PORTLAND CEMENT WASH for outside of buildings, prevents greenness and vegetation, also absorption of wet, 1s. 6d. per gal. Genuine COLZA OIL, 3s. 10d. per gal. The PEOPLE'S LIGHT LAMPS, 2s. PETROLEUM OIL, 3s. per gal.—G. SPILLS, Colour and Oil Works, Saint George Street, London Docks, E.

---

GLASS FOR ORCHARD HOUSES & CONSERVATORIES.

JAMES PHILLIPS AND CO. beg to submit the prices of GLASS for the present month

16-oz. SHEET GLASS, in boxes of 100 feet.—3rds

| | | | | | |
|---|---|---|---|---|---|
| 12 by 9, | 13 by 9, | 14 by 9 | .. | .. | 14s. 6d. |
| 12 " 10, | 13 " 10, | 14 " 10, | 15 by 10 | .. | |
| 13 " 11, | 14 " 11, | 15 " 11, | 16 " 11 | .. | |
| 14 " 12, | 15 " 12, | 16 " 12, | 17 " 12 | .. | 16s. 6d. |
| 18 " 12, | 19 " 12, | 20 " 12 | " | .. | |
| 16 " 13, | 17 " 13, | 18 " 13 | " | .. | |
| 19 " 13, | 20 " 13, | 21 " 13 | " | .. | |
| 16 " 14, | 17 " 14, | 18 " 14 | " | .. | |
| 19 " 14, | 20 " 14, | 21 " 14 | " | .. | |

Boxes included and not returnable.

GLASS for ORCHARD HOUSES, supplied by us to Mr. Rivers

| | | | | |
|---|---|---|---|---|
| 20 in. by 12 in. / 20 in. by 13 in. / 20 in. by 14 in. / 20 in. by 15 in. | Common .. .. | 16 oz. | .. | 9d. |
| | Superior do. .. .. | 14s. 6d. | .. | 11d. |
| | English Glass .. .. | 16 6 | .. | 13 |
| | | 18 6 | .. | 14 |

Boxes included and not returnable

SMALL SHEET SQUARES, in 100 feet boxes.—

| | | | |
|---|---|---|---|
| 6 by 4 | 6½ by 4½ | 7 by 5 | 7½ by 5½ |
| 8 " 6 | 8½ " 6½ | 9 " 7 | 9½ " 7½ |
| 10 " 8 | 10½ " 8½ .. | .. | .. |

Boxes 2s. each, returnable at full price.

JAMES PHILLIPS AND CO.,

**180, Bishopsgate St. Without, London, E.C.**

NO CONNECTION WITH ANY OTHER HOUSE IN TOWN

---

GLASS FOR CONSERVATORIES, ETC.

HETLEY AND CO. supply 16-oz SHEET GLASS of British Manufacture at prices varying from 9d. per square foot for the usual sizes required, many thousands which are kept ready packed for immediate delivery.

Lists of Prices and Estimates forwarded on application. PATENT ROUGH PLATE, THICK CROWN GLASS, GLAZING TILES, and SLATES, WATER-PIPES, PROPAGATING GLASSES, GLASS MILK PANS, PATENT PLATE GLASS, ORNAMENTAL WINDOW GLASS, and GLASS SHADES to JAMES HETLEY & Co., 35, Soho Square, London, W.

See *Gardeners' Chronicle* first Saturday in each month.

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HORTICULTURAL GLASS—JUNE TARIFF.

THOMAS MILLINGTON'S reduced Tariff of GLASS, &c.

6 by 4, 7 by 5, 8 by 6, 9 by 7 } 16 oz. to the foot, viz.
6½ by 4½, 7½ by 5½, 8½ by 6½, 9½ by 7½ } per 100 feet.

In 100 boxes,—4ths quality, 12s. 6d.; 3ds do., 14s. 6d.

10 by 8, 12 by 9, 12½ by 10½, 14½ by 10½, 13 by 11
10½ by 8½, 12½ by 9½, 13 by 10, 15 by 10, 13½ by 11½
11 by 9, 13 by 9, 13½ by 10½, 12 by 11, 14 by 11
11½ by 9½, 12 by 10, 14 by 10, 12½ by 11½

| | per 100 feet | 16 oz. | 21 oz. |
|---|---|---|---|
| 20 by 12 / 20 by 13 / 20 by 14 / 20 by 15 | Common .. | 16s. | 24s. |
| | Superior . | 18s. | 27s. |

All Boxes included.

Orchard House sizes as supplied to Mr. Rivers.

Hartley's Improved Rough Plate Glass from ⅛ to ¾ in thickness. Coloured Glass in great variety, at 9d. and 1s. per foot.

Paints, Genuine White Lead, Linseed Oil, Boiled Oil, Turpentine, Putty, Colours, Varnishes, Brushes, Lamp Glasses, &c.

87, Bishopsgate Street Without, E.C., same side as Eastern Counties Railway.

---

GLAZIERS' DIAMONDS FOR CUTTING HORTICULTURAL and other GLASS, to be had of the Wholesale Manufacturer, JOHN EDWARDS, 20, Sharp's Alley, West Smithfield, London, E.C. Prices from 10s. to 27s. 6d.

---

SHAW'S TIFFANY is universally acknowledged to be the best, neatest, and cheapest material for shading Conservatories, and other Hothouses. Effectually screens Plants from the scorching rays of the sun, without obscuring the light. Also, for protecting the Bloom of Wall Trees from spring frosts, and Fruit from birds and wasps. Sold in pieces

No. 1.—20 yards long, by 38 inches wide, 5s. per piece.

No. 3.—Double strength, 18 yards long, by 39 inches wide, 7s. 6d. per piece.

No. 4.—Treble strength, 18 yards long, by 39 inches wide, 9s. per piece.

A liberal allowance to the Trade when ten or more Pieces are taken.—JOHN SHAW & Co., Princess Street, Manchester.

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MICROSCOPES.

J. AMADIO'S BOTANICAL MICROSCOPE packed in mahogany case, with three powers, condenser, pincers, and two slides, will show the animalculæ in water. Price 18s. 6d.—Address JOSEPH AMADIO, 7, Throgmorton Street, E.C.—A large assortment of Achromatic Microscopes.

"It is marvellously cheap, and will do everything which a lover of nature can wish it to accomplish either at home or in the open air."—*The Field*, June 6, 1857.

Just published, 2d Ed., an Illustrated Catalogue, with price of 1000 Microscopic objects, free for 6 stamps.

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DR. DE JONGH'S

(KNIGHT OF THE ORDER OF LEOPOLD OF BELGIUM)

LIGHT-BROWN COD LIVER OIL administered with the greatest success in cases of CONSUMPTION, BRONCHITIS, COUGHS, RHEUMATISM, GOUT, NEURALGIA, GENERAL DEBILITY, DISEASES OF THE SKIN, RICKETS, INFANTILE WASTING, AND ALL SCROFULOUS AFFECTIONS,

is the most efficacious, the most palatable, and, from its superior curative effects, unquestionably the most economical of all kinds. Its immeasurable therapeutic superiority over every other variety is attested by innumerable spontaneous testimonials from Physicians and Surgeons of European reputation.

OPINION OF BARON FOUQUIER,

Professor at the University of Paris, Physician to the Majesty Louis Philippe, &c.

"You have rendered an eminent service to science by acquainting practitioners with the cause of the frequent irregularity in the effects of Cod Liver Oil, and dire[cting] attention to a proper choice. You have thus shown us the means of rendering highly effectual the administration of one of the most powerful medicines we are acquainted with."

Sold ONLY in IMPERIAL half pints, 2s. 6d.; pints, 4s. 9d.; quarts, 9s., capsuled, and labelled with Dr. DE JONGH'S stamp and signature, WITHOUT WHICH NONE CAN POSSIBLY BE GENUINE, by most respectable Chemists.

WHOLESALE AND RETAIL DEPOT:

ANSAR, HARFORD, & CO., 77, Strand, London, W.C.

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HOLLOWAY'S PILLS AND OINTMENT.—BILIOUS DISORDERS.—As the autumn advances, liver complaints are certain to prevail and those are wise who give attention to the early symptoms, and check them by the immediate use of HOLLOWAY'S Pills and Ointment, which, rightly applied, never fail in arresting and discharging the impurities which contaminate the blood and produce sickness, fever, and numerous other ailments. For liver and stomach complaints this invaluable Ointment should be well rubbed twice a day over the regions of the stomach and liver, on both of which it acts beneficially. Loss of appetite, weariness, headache, and indigestion all yield before these restorative Pills and purifying Ointment, which frequently effect a cure and renew health after every other means have failed.

# WEEKS' ONE BOILER SYSTEM.

BY APPOINTMENT.

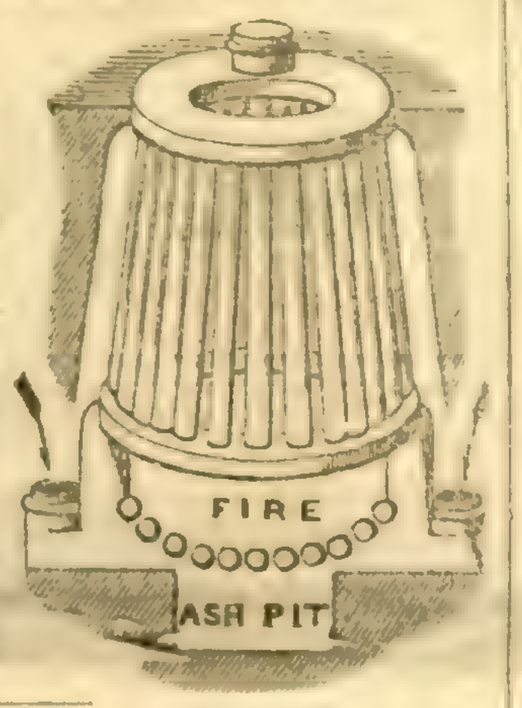
## JOHN WEEKS & COMPANY,

### KING'S ROAD, CHELSEA, S.W.,

CHALLENGE THE WORLD to produce a Boiler not made in imitation of their Upright Tubular Boiler that will produce anything like the same effect with the same quantity of fuel in a given time.

The following unequalled statistics fully justify the challenge:—

| Mark the enormous length of Houses and Piping heated by One Boiler. | Length of Houses in feet | Total length of Piping. |
|---|---|---|
| Messrs. E. G. Henderson & Co., Wellington Nursery | 1,200 | 5,500 |
| Messrs. F. A. Smith, Dulwich ... ... ... ... | 3,000 | 11,000 |
| M. Van Houtte, Belgium ... | 3,300 | 13,000 |
| Our own Fruit Forcing Show Establishment | 1,000 | 7,000 |




Also the Nurseries of Mr. Woodroffe, Harrow Road, N.W.; Messrs. Rollisson, Tooting, S.; Messrs. Wood & Ingram, Huntingdon; Messrs. Wood & Son, Maresfield; together with numerous Public Buildings and Establishments of the Nobility and Gentry far too numerous for insertion.

**J. WEEKS & CO., Horticultural Builders and Hot-Water Apparatus Manufacturers, King's Road, Chelsea, S.W.**

PLANS AND ESTIMATES FREE ON APPLICATION.

# MESSRS. J. B. BROWN & CO.'S
## IMPROVED WROUGHT IRON HURDLES
OF
## BEST STAFFORDSHIRE IRON.

### SPECIFICATIONS AND PRICES.

No. 1.—Very useful for general purposes, combining strength with good appearance. 3 feet 6 inches high, six bars round iron, top bar ⅝ inch diameter, five under bars ½ inch; two side uprights flat iron, 1½ inch by ¼ inch, and middle upright 1½ by ¼ inch. Weight about 48 lbs. Present price delivered in London and at most of the principal Railway Stations, 2*s.* 5*d.* per yard, or about 5*s.* 3*d.* each hurdle of 6 feet 6 inches long.

No. 3.—Stronger and more suitable for heavy stock. 3 feet 9 inches high, five bars, top bar ¾ inch diameter, four under bars ⅝ inch, end standards 1¼ inch by ⅜ inch, centre standard 1½ inch by ¼ inch. Weight about 63 lbs.; price 6*s.* 9*d.*, 6 feet 6 inches long, delivered as above.

No. 6.—Extra strong and high for heaviest stock. 4 feet high, six bars, top bar ¾ inch diameter, five under bars ⅝ inch, end and two centre standards 1½ inch by ⅜ inch. The weight of this strong Hurdle is about 84 lbs.; and the price 8*s.* 10*d.*, 6 feet long.

No. 7.—Light Hurdle for sheep and lambs. 3 feet 4 inches high, five bars ½ inch diameter, standards 1¼ inch by ¼ inch. Weight about 39 lbs.; price 4*s.*, 6 feet long.

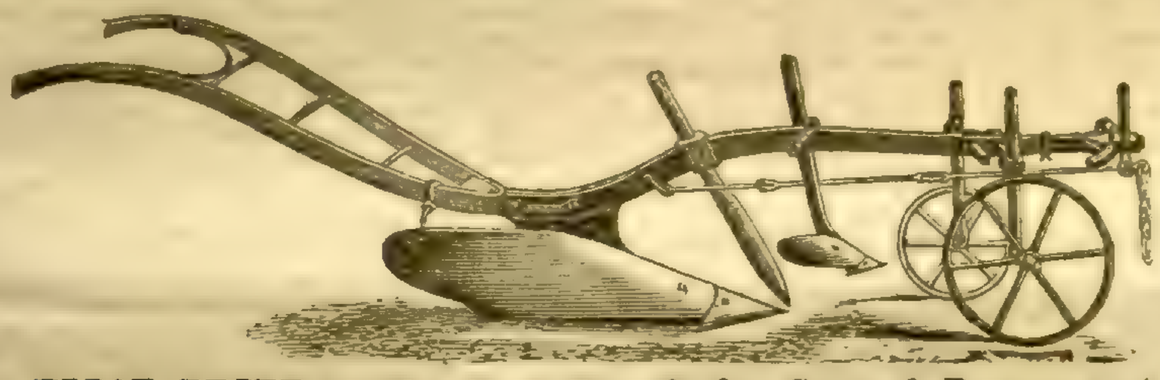
No. 8.—Light Sheep Hurdle. 2 feet 6 inches high, three bars ½ inch diameter, standards 1¼ inch by ¼ inch. Weight about 24 lbs.; price 2*s.* 9*d.*, 6 feet long.

*Fully Detailed and Illustrated Catalogues of Iron and Wire Fencing, Hurdles, Gates, Wire Netting, Garden Rollers and Engines, Ornamental Vases, &c., on application.*

**J. B. BROWN & CO., 18, CANNON STREET, CITY, LONDON, E.C.**

### THE PLOUGH TRIALS AT WARWICK.

# HOWARD'S CHAMPION PLOUGH



**Gained the FIRST PRIZE as the Best Plough for General Purposes at Warwick,**

BEING the CHIEF PRIZE for PLOUGHS, awarded by the Royal Agricultural Society of England, at this Meeting. The importance of this Prize will be gathered from the fact that the GENERAL PURPOSE PLOUGHS are the only ones tried on BOTH LIGHT AND HEAVY LAND, and as HOWARD'S CHAMPION PLOUGH proved itself to be the best on both soils, the FIRST PRIZE, of the HIGHEST AMOUNT given by the Society for any kind of Plough, was awarded to J. & F. HOWARD.

PRIZES awarded to J. & F. HOWARD, by the Royal Agricultural Society of England, at the WARWICK MEETING, 1859, being not only the LARGEST NUMBER of PRIZES, but the LARGEST NUMBER of FIRST PRIZES awarded to any Exhibitor

THE FIRST PRIZE FOR THE BEST PLOUGH FOR GENERAL PURPOSES, ALSO A PRIZE FOR THE BEST PLOUGH FOR LIGHT LAND, AND A PRIZE FOR THE BEST PLOUGH FOR HEAVY LAND; THE FIRST PRIZE FOR THE BEST LIGHT HARROWS, THE SECOND PRIZE ALSO FOR THE BEST LIGHT HARROWS, AND THE FIRST PRIZE FOR THE BEST HEAVY HARROWS.

**Every one of HOWARD'S Implements, tried at Warwick, gained a Prize.**

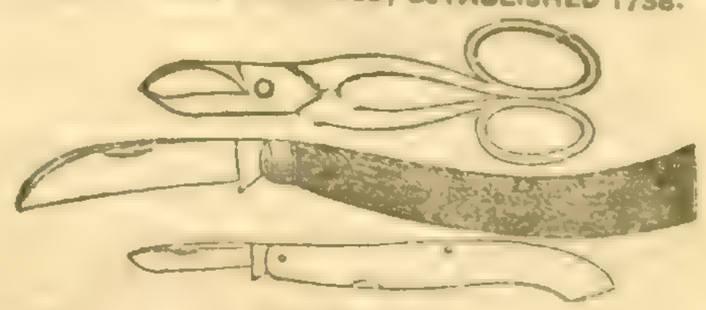
CATALOGUES, with full particulars, sent post free on application to

**J. & F. HOWARD, BRITANNIA IRON WORKS, BEDFORD.**

AGRICULTURAL IMPLEMENTS.

BURGESS AND KEY, 95, Newgate Street, London, E.C., have always on hand Ploughs, Harrows, Carts, Waggons, Turnip Cutters and Pulpers, Cake Breakers; and their Improved Chaff Cutters, 50*s.* Galvanised Game Netting, 4*d.* per Yard. Price Lists sent free.—Illustrated Catalogues on receipt of six postage-stamps.

PAXTON WORKS, SHEFFIELD, ESTABLISHED 1738.



SAYNOR AND COOKE'S warranted PRIZE PRUNING and BUDDING KNIVES, SCISSORS, &c.—Sold by all respectable Nurserymen and Seed Merchants in the three Kingdoms.

PRICES REDUCED.

H. J. MORTON AND CO., Galvanised Iron Works, 2, Basinghall Buildings, Leeds.

GALVANISED IRON ROOFING

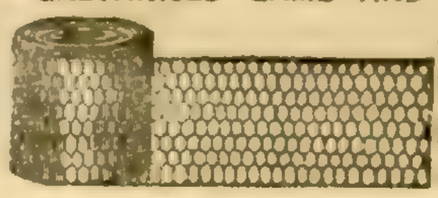
for Farm Buildings and other Roofs; the cheapest, most durable, and neatest Roofing in use; also Spouting at 10½*d.* per yard.

WIRE STRAND CABLE FENCING

(formed of Twisted Wires like a rope or cable), the strongest cheapest, and neatest fence in use, will resist the largest cattle and will not bend or get out of form by trespassing upon or over. Price, with five lines of the Galvanised Strand, iron main posts, and pronged Standards, 1*s.* 2½*d.* per yard.

This fence is far cheaper than posts and rails, or any kind of iron fencing; and possesses four times the strength of solid bars. Will not rust nor corrode. Upwards of 1200 miles of this Fencing supplied.

GALVANISED GAME AND POULTRY NETTING.



Galvanised, 24 ins. wide, 2-inch mesh, 5½*d.*, 7½*d.* and 9½*d.* per yard.

Galvanised, 24 ins. wide, 3-inch mesh, 4*d.*, 5*d.*, and 7*d.* per yard. The Netting made any width, and with openings of any size.

GALVANISED IRON CHAIN CAMP STOOLS & CHAIRS, POULTRY FOUNTAINS & FEEDERS, PRONGED DAHLIA RODS AND ROSE STAKES, &c.

Strong CATTLE HURDLES from 2*s.* per yard.

PATENT IMPROVED GAS WORKS,

of all sizes for the use of Private Houses, Mansions, Railway Stations, Mills, Collieries, Mines, Villages, &c. Works from 10 to 500 lights estimated for. The works can be entrusted to an ordinary labourer.—Apply to

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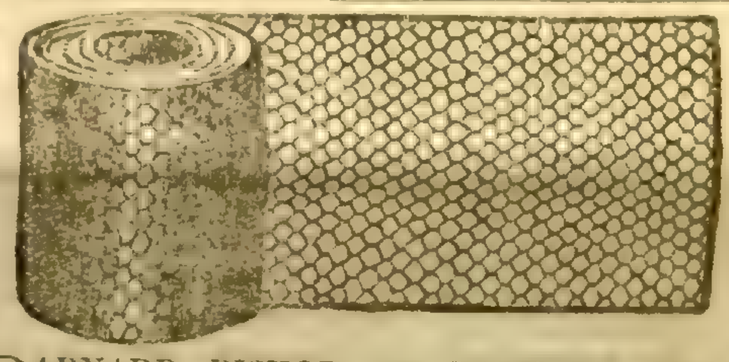

BARNARD, BISHOP, AND BARNARD, Market Place, Norwich, in consequence of improvements in their machinery for the manufacture of the above article, have been enabled to make a great reduction in the prices.

| | | Galvanised. | Japanned Iron |
|---|---|---|---|
| 2-inch mesh, | 24 inches wide .. .. | 5*d.* per yd | 4*d.* per yd. |
| 2-inch ,, | strong do. .. .. | 6 ,, | 4½ ,, |
| 2-inch ,, | intermediate, do. .. | 7 ,, | 5½ ,, |
| 2-inch ,, | extra strong, do. .. | 9½ ,, | 7½ ,, |
| 1⅝-inch ,, | 24 inches wide .. .. | 5½ ,, | 4½ ,, |
| 1⅝-inch ,, | strong, do. .. .. | 6½ ,, | 5½ ,, |
| 1⅝-inch ,, | intermediate, do. .. | 7½ ,, | 6 ,, |
| 1⅝-inch ,, | extra strong, do. .. | 10 ,, | 8 ,, |

All the above kinds can be made of any width (under 8 feet) at proportionate prices. If the upper half is of a coarser mesh than the lower, it will reduce the prices about one-fifth.

Strong Galvanised Poultry Netting, 8½*d.* per yard, 3 feet wide Galvanised Sparrow-proof Netting for Pheasantries, 2½*d.* per square foot. Delivered free of expense in London, Peterborough, Hull, or Newcastle. Manufacturers of Improved Strained Wire Cattle and Deer Fencing, Iron Hurdles, &c.

Illustrated Catalogues and Patterns forwarded by post.

WARNER'S PATENT VIBRATING STANDARD PUMPS.

PATENT CAST-IRON PUMPS for Farms, Cottages, Stable Yards, &c., where the Well does not exceed 28 feet in depth; fitted with WARNER'S Patent Metal Bucket and Valve, which cannot clog in action. These Pumps can be made right-handed, left-handed, or with handle opposite the nose by removing four screws only.

| Diameter of Barrel. | Height. | | £. | *s.* | *d.* |
|---|---|---|---|---|---|
| 2½ in. | short 1 ft. 7 in. | Fitted for lead, | 1 | 5 | 0 |
| 2½ ,, | long 3 ,, 3 ,, | gutta percha | 1 | 10 | 0 |
| 3 ,, | ditto 3 ,, 6 ,, | or cast iron | 2 | 4 | 0 |
| 3½ ,, | ditto 3 ,, 6 ,, | flanged pipe | 2 | 9 | 0 |
| 4 ,, | ditto 3 ,, 6 ,, | as required. | 2 | 18 | 0 |

2½ ,, short, with 15 feet of Lead Pipe attached, ready for fixing .... 2 10 0

2½ in. long ditto ditto ditto 2 14 0

The short barrel Pump is very convenient for fixing in situations of limited height and space, for the supply of coppers and sinks in Wash-houses with soft water from underground tanks, or in Hot, Forcing, and Plant Houses; they may be fixed, when desired, under the stage.

May be obtained of any Ironmonger or Plumber in Town or country, at the above prices, or of the Patentees and Manufacturers, JOHN WARNER & SONS, 8, Crescent, Jewin Street, London, E.C.

Every description of Machinery for Raising Water by means of Wheels, Rams, Deep Well Pumps, &c.; also Fire and Garden Engines, &c. &c.—Engravings sent on application.

## GERANIUMS, HERBACEOUS PLANTS, ETC.

MESSRS. PARKER AND WILLIAMS beg to inform their friends and patrons that their new PRICED and DESCRIPTIVE CATALOGUE of the above, to which are added Supplemental Lists of Stove, Greenhouse, and Hardy Plants, Fruit Trees, &c. (which include all the best new plants of the season), is now published, and will be forwarded post free on application.—Paradise Nursery, Seven Sisters' and Hornsey Roads, Holloway, London, N.

CINERARIA, HERBACEOUS CALCEOLARIA, AND HALF SHRUBBY DITTO SEED.—These have been saved from Turner's most beautiful varieties; in 1*s.* and 2*s.* 6*d.* packets. Primula and Hollyhock, from the newest and handsomest varieties, 1*s.* per packet. Agents for F. & A. Smith's splendid Cineraria, in 1*s.* 6*d.*, 2*s.* 6*d.*, and 5*s.* packets; also agents for Dobson & Son's splendid Calceolaria, in 1*s.* 6*d.*, 2*s.* 6*d.*, 3*s.* 6*d.*, & 5*s.* packets.—Catalogues of the newest Flower Seeds, and newest Dutch and Cape Bulbs, sent post-paid.—BUTLER & MCCULLOCH, Seedsmen, Covent Garden Market, W C.

## VIOLETS.

ROBERT SHACKELL begs to offer very strong plants in bloom of his

| | | | |
|---|---|---|---|
| Russian superb VIOLET .. .. .. | per dozen | 12*s.* | 0*d.* |
| Small Plants.. .. .. .. | ,, | 4 | 0 |
| Very strong Plants of the Double Perpetual Tree Violet, in bloom .. .. .. | ,, | 6 | 0 |
| Small ditto .. .. .. .. .. | ,, | 4 | 0 |
| White Tree Violet .. .. .. .. | ,, | 4 | 0 |
| White Double Violet .. .. .. | ,, | 4 | 0 |
| Spring Double Violet .. .. .. | ,, | 4 | 0 |
| Neapolitan Violet .. .. .. .. | ,, | 4 | 0 |
| Old Russian, per hundred, 10*s.*; .. .. | ,, | 2 | 0 |

Locksbrook Nursery, or 5, Broad Street, Bath.

## WINTER BLOOMING PLANTS.

CAMELLIAS, CHINESE AZALEAS, EPACRIS, ERICAS, of various sizes and all in unusually fine condition. Many thousands of these plants can be seen at the Nursery of the Subscribers.

DWARF OTAHEITE ORANGES in fruit.

CATALONIAN JASMINE (Jasminum grandiflorum).—Fine plants, grafted on short stems, and full of flower buds.

SPRAGUEA UMBELLATA, introduced by H. L. & Co. from California, is now finely in flower in the open ground.

Inspection respectfully invited.

HUGH LOW & Co., Clapton Nursery, London, N.E.

ROBERT NEAL, NURSERYMAN, Wandsworth Common, S.W., begs to call the attention of buyers to his large and well-selected stock of EVERGREENS and FLOWERING SHRUBS, ORNAMENTAL TREES. AMERICAN PLANTS. FRUIT AND FOREST TREES, STANDARD AND DWARF ROSES of every description. A large stock of BOX-LEAF EVERGREEN PRIVET, from 1 to 6 feet for hedges; GREEN HOLLY, 1 to 6 feet; RICH BOG and LOAM for American Beds; LEAF MOULD. The Nursery is 10 minutes' walk from Clapham Common, and New Wandsworth Station, Crystal Palace Line.

## CLAPHAM.—EVERGREEN SHRUBS.

CHARLES SOUTHBY begs to inform the Gentry of Clapham and its neighbourhood, that he has a healthy Stock of COMMON LAUREL, PORTUGAL do., BOX-LEAVED PRIVET, ARBOR VITÆ, UPRIGHT CYPRESS, GREEN HOLLY, 1 to 6 feet, &c, all of which removes well from his Nursery, Manor Street, S.

SEEDS and DUTCH FLOWER ROOTS supplied at his Warehouse (late Fairbairn's), High Street, S., where he respectfully solicits all orders to be sent.

SELECT HARDY HERBACEOUS PLANTS at very reduced prices, and a further large discount for cash, according to the quantity of goods taken.

200 Plants in 200 fine sorts, including many new and scarce £3 10 0

| | | | | | |
|---|---|---|---|---|---|
| 400 Plants in 200 fine sorts | ditto | ditto | 6 | 0 | 0 |
| 100 Plants in 100 fine sorts | ditto | ditto | 2 | 0 | 0 |
| 200 Plants in 100 fine sorts | ditto | ditto | 3 | 10 | 0 |

Selections 4*s.*, 6*s.*, 9*s.*, 12*s.*, and 18*s.* per dozen.

50 fine sorts, selected for rock, 20*s.*; or per dozen, 5*s.* to 9*s.*

CATALOGUES sent on application to STEPHEN BROWN, Nursery and Seed Establishment, Sudbury, Suffolk.

## NEW PINE APPLE—HURST HOUSE SEEDLING.

H. WILLIAMS, late Gardener to A. Fairrie, Esq., is now prepared to send out this fine and useful variety of PINE APPLE; habit similar to Nidularia and Veresia splendens; foliage recurved, making the plant quite ornamental; fruit large and conical, and of good flavour.

H. W. can with confidence recommend this variety to all Pine growers. It is invaluable to the Market grower, as the plants take up so little room. Numerous testimonials could be given, but H. W. thinks it sufficient to add Mr. G. Fleming's, of Trentham:—"An acquisition."—Orders made payable to H. WILLIAMS, Nurseryman, Fortes Green, Muswell, Finchley, N. Price Three Guineas, Two Guineas, and One Guinea, according to the size of the plants.

SEED WHEAT FROM THE CHALK.—Selected samples of CHIDHAM, WHITE TRUMP, ROUGH CHAFF, HUNTER'S WHITE, RED-CHAFF WHITE, GRACE'S WHITE, TALAVERA, RED BROWICK, RED NURSERY, GOLDEN DROP, and all the best kinds of Wheat, supplied by RAYNBIRD & HARVEY, of Basingstoke, and 89, Seed Market, Mark Lane, London, E.C. Samples and prices on application.

## IMPROVED PROLIFIC RED WHEAT FOR SEED.

JOHN MOSS, JUN., invites the attention of Farmers to his new stock of PROLIFIC RED WHEAT, the produce of a careful selection from the highly esteemed variety of the Essex Red, known as "Hall's," and very highly appreciated by millers. J. M., jun., confidently recommends this selection for its prolific properties, as well as for weight and quality. Amount seeded 4 pecks; yield this season, 48 bushels per statute acre. Price 48*s.* per quarter, at Kelvedon Station. New sacks, 1*s.* 6*d.* each.

May be obtained of Mr. JOHN MOSS, jun., Kelvedon and Feering; and of Mr. T. C. WILSON, Kelvedon; by whom samples will be shown at Chelmsford, Braintree, and Colchester Markets.—Feering, Oct., 1859.

Remittances expected from unknown correspondents.

## IMPROVED RIVET WHEAT FOR SEED.

MR. T. BENTALL invites the attention of Farmers to his new Stock of RIVET WHEAT, the produce of a handsome and well-formed ear, selected from the variety usually known as the "Golden Rivet" or "Payne's Defiance," and which contained no less than ONE HUNDRED AND TWENTY-ONE GRAINS.

Mr. B. confidently recommends the above to all growers of Rivet Wheat on account of its great productiveness, and the esteem in which it is held by Millers. Great care has been taken to preserve the stock as pure as possible. Price 48*s.* per quarter. New sacks, 1*s.* 6*d.* each. May be obtained of Mr. T. BENTALL, Perces, Halstead; also of Mr. R. EMSON, Secretary to the Essex Agricultural Society, Halstead, by whom samples will be shown at Braintree, Colchester, and Sunbury Markets. Remittances requested from unknown correspondents.

## SUTTON'S CHAMPION SWEDE AND IMPROVED MANGEL WURZELS.

—THREE MORE SILVER CUPS and several other prizes have already been awarded THIS SEASON to SUTTON'S CHAMPION SWEDE and Improved Mangel Wurzels.

Messrs. SUTTON & SONS will feel obliged by any additional information as to Prizes awarded to Roots raised from their seeds. New Seeds are now ready for delivery. Champion Swede, 1*s.* per lb., 45*s.* per bushel. Mangel Wurzel, 9*d.* per lb., or cheaper by the cwt.

The ROYAL BERKS ROOT SHOW will be held at Reading in November, at which numerous Prizes will be awarded as usual to pulled roots of Swedes, Turnips, Mangels, Carrots, Kohl Rabi, &c., from any part of the kingdom.

Royal Berkshire Seed Establishment, Reading.

## GREEN HOLLY, EVERGREEN OAK, AND BAYS.

M. A. LAKE having a large stock of the above, 3 years seedlings, will render them at moderate prices.

Likewise a large and choice collection of Dwarf Trained Peaches, Nectarines, Apricots, Apples, Pears, Plums, and Cherries; also Standard Pears, Plums, Cherries, Apples, &c.

All the best varieties of Goosberries, Currants, and Raspberries; Rhubarb, Seakail, and Asparagus Roots for Forcing.

Several thousand Standard Cider Apple Trees.

Prices on application. The Trade supplied.

The Nurseries, Bridgwater.—October 22.

## CHOICE CONIFERS,

ALL SEEDLING PLANTS GROWN IN POTS.

| | Per dozen.—*s.* | *d.* | | Per dozen.—*s.* | *d.* |
|---|---|---|---|---|---|
| Pinus Don Pedri, 2 years | 60 | 0 | Pinus Lerdoi, 2 years .. | 18 | 0 |
| ,, Veitchii, 2 years .. | 60 | 0 | ,, resinosa, 2 years .. | 18 | 0 |
| ,, Popacatepetli, 2 years | 60 | 0 | ,, corvea, 2 years .. | 18 | 0 |
| ,, macrocarpa, fine, 9 in. | 24 | 0 | ,, patula, 2 years .. | 9 | 0 |
| ,, Llaveana, 2 years .. | 18 | 0 | ,, Ehrenbergii, 2 years.. | 12 | 0 |
| ,, tuberculata, 2 years.. | 18 | 0 | ,, popelini, 2 years, each | 1 | 6 |
| ,, Benthamiana, 2 years | 9 | 0 | ,, insignis, fine, 2 feet . | 18 | 0 |

Abies religiosa, 2 years, 21*s.* per dozen.

Cupressus McNabiana, true, 6 inches, 9*s.* per dozen.

,, macrocarpa, 2 feet, fine, 6*s.* per dozen.

Taxodium sempervirens, very fine, 2 feet, 24*s.* per dozen.

Wellingtonia gigantea, fine specimen plants, in 24 pots, 2 feet high, 21*s.* each.

J. HENCHMAN, Edmonton, London.

MESSRS. WATERER AND GODFREY respectfully refer planters to the following LIST of well-known good hardy Plants:—

ARAUCARIA IMBRICATA, 1 foot, stout, healthy, 5*l.* per 100; larger, up to 8 feet.

CEDRUS DEODARA, 2½ to 3 feet, very handsome, 10*l.* per 100; larger, in any quantity, up to 10 and 15 feet.

PICEA NOBILIS, Seedlings, in quantity, 1 foot, stout.

Ditto larger and in every way perfect plants, up to 4 feet.

NORDMANNIANA, from seed, 2, 3, 4, and 6 feet.

PINSAPO, 2½ to 3½ feet, and as much through.

Ditto magnificent plants, 8 and 10 feet high.

CUPRESSUS LAWSONIANA, fine bushy seedling plants, 2½ feet high.

JUNIPERUS, CHINESE, 3 feet up to 8 and 10 feet.

,, IRISH, 5, 6, and 7 feet.

YEWS, IRISH, 5, 6, 7, and 8 feet.

,, GOLDEN, from 2 to 7 and 8 feet.

,, COMMON ENGLISH, in large quantities, 4 to 6, 7, and 8 feet.

THUJA AUREA.—Several hundred magnificent specimens, 3, 4, and 5 feet high, and measuring 10 to 15 feet in circumference.

THUJOPSIS CÆREOLIS, 2½ to 3 feet.

WELLINGTONIA GIGANTEA, all from seed, 1½ to 3 feet, and as wide.

HOLLY GREEN, in quantities, 5, 6, and 8 ft.; VARIEGATED, especially the best gold striped, of all sizes, up to 6 feet.

All the plants referred to in this advertisement were removed in April last, and they are in a condition to travel any distance with perfect safety.—Knap Hill Nursery, near Woking, Surrey.

## OSCAR STRAWBERRY.

CHARLES TURNER can still supply strong plants, warranted to fruit next season, at 42*s.* per 100.

For full particulars of this fine early variety see previous Advertisements. It can also be supplied by the following in Trade who have received plants:—

Backhouse, Messrs., York
Barnes, Mr. W., Camberwell
Baskerville, Mr., Bristol
Bell, Mr., Norwich
Brind, Mr., Marlborough
Bunting, Mr. W., Colchester
Bunyard, Mr., Maidstone
Burbury, Mr. J., Kenilworth
Butler & McCulloch, Messrs., Covent Garden Market, London, W.C.
Campbell, Mr. A., Glasnevin, Dublin
Carpenter, Mr. E., Bath
Cook, Mr. H., Handsworth Woodhouse, by Sheffield
Day, Mr., Oxford
Dean, Mr., Bradford
Dickson, Messrs. F. & A., Chester
Dickson, Messrs., Sons & Co., Manchester
Dickson & Turnbull, Messrs., Brechin
Dreghorn & Aitken, Messrs., Kilmarnock
Ewing, Mr., Norwich
Finney, Messrs., & Co., Gateshead, Durham
Fraser, Messrs. J. & J., Lea Bridge Road, Leyton, Essex
Garaway, Mayes, Messrs., & Co., Bristol
Gloede, M. Ferdinand, Aux Sablons, near Moret sur Loing, France
Griffin, Mrs., Bath
Hally, Mr., Blackheath, S.E.
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Ivery, Messrs., Dorking, Surrey
Jackson, Messrs., Kingston, Surrey [Bath
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Keynes, Mr., Salisbury
Kimberley, Mr., Stoke by Coventry
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Laing, Mr. A., Beverley
Low, Messrs. Hugh & Co., Clapton, N.E.
Lucombe, Pince, Messrs., & Co., Exeter
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Pope, Mr. H., Gib Heath, Birmingham
Rivers, Mr., Sawbridgeworth, Herts
Rylance, Mr. C., Aughton by Ormskirk
Scott, Mr., Bathford, Bath
Shaw, Mr. J., Manchester
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Sollis, Mr. H. G., City Fruit Stores, Bath
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Veitch, Mr., Jun., Chelsea
Verschaffelt, Mons., Ghent, Belgium
Wood & Ingram, Messrs., Huntingdon
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## PINE APPLES, GRAPES, &c.

PINE PLANTS, Fruiting and Succession.

GRAPE VINES, from Eyes, for Fruiting in Pots or Planting

JOHN WEEKS AND CO. can now supply any quantity of very fine strong healthy Pine Plants, either Fruiting or Succession; also remarkably fine strong Grape Vines from Eyes, all the best sorts.

JOHN WEEKS & Co.'s Horticultural Show Establishment is now entirely devoted to the Growing and Forcing of Fruits in great variety, thereby showing the most improved plans of construction, and the most superior system of Hot-water Apparatus.

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HYACINTHS FOR BEDS AND BORDERS.—

| | | | |
|---|---|---|---|
| DOUBLE RED, fine Dutch Roots, 3*s.* 6*d.* per dozen. | | | |
| DOUBLE BLUE | ,, | 3 | 6 ,, |
| DOUBLE WHITE | ,, | 3 | 6 ,, |
| ALL COLOURS, mixed | ,, | 3 | 6 ,, |

All other BULBS cheap, as see Priced List."

SUTTON AND SONS,

Royal Berkshire Seed Establishment, Reading.

HARDY HEATHS.—A Collection of 20 sorts name, of the above favourite autumnal flowers, in good plants, at 30*s.* per 100, or 12*l.* 10*s.* per 1000.

JOHN WATERER, The American Nursery, Bagshot, Surrey.

CONIFERÆ.—A very choice collection of these in the finest possible condition, including also several fine specimen plants.

THE BULB AND NURSERY CATALOGUE sent on application to STEPHEN BROWN, Seed and Nursery Establishment, Sudbury, Suffolk.

PAMPAS GRASS.—The present is the most favourable time for planting out this charming Plant. No one can imagine the grand effect of a mass of its silvery plumes unless they see it, nor is its value confined to the ornamental, but is likely to become useful as Cover for Game. It grows in any soil or situation, attaining the height of from 6 to 10 feet. Any quantity can be supplied by C. NOBLE, Bagshot, Surrey.

## WHOLESALE CATALOGUE.

GEORGE JACKMAN AND SONS' PRICED DESCRIPTIVE CATALOGUE for 1859, & SPRING, comprising Fruit Trees of all the leading kinds; New Selected Roses; fine varieties of American Plants; Choice & Rare Conifers; Evergreen and Deciduous Trees and Shrubs, and a fine stock of transplanted Forest Trees, &c., can be had free on application.—Woking Nursery, Surrey.

DWARF MAIDEN FRUIT TREES.—

| | | |
|---|---|---|
| | APPLES. | |
| PEARS. | CHERRIES. | PEACHES. |
| PLUMS. | APRICOTS. | NECTARINES. |

Prices moderate.

Fine and clean grown; and all the leading sorts can be supplied in quantities by GEORGE JACKMAN & SON, Woking Nursery, Surrey.

DWARF TRAINED FRUIT TREES.—

| | | |
|---|---|---|
| | APPLES. | |
| PEARS. | CHERRIES. | PEACHES. |
| PLUMS. | APRICOTS. | NECTARINES. |

Prices moderate.

Great care is taken in the formation of these fine, healthy free-grown trees. Particulars can be obtained of GEORGE JACKMAN & SON, Woking Nursery, Surrey.

## CAMELLIAS AND AZALEA INDICA.

F. AND A. SMITH beg to offer the above well set with flower buds, dwarf, bushy, and thoroughly ripened off. Having been grown in this country they are most suitable for packing, and are strongly recommended to country Amateurs and the Trade in general. An inspection invited. Prices on application.—Dulwich, Surrey, S.

EARLY POTATOES, LEMON KIDNEYS.—This early and excellent variety (see article on Cultivation of Early Potatoes, by the Rev. E. F. Manby, in Royal Agricultural Journal, Vol. XVIII.), may be had on early application to Author's Bailiff, JOHN HELM, Morecombe, price 2*s.* 6*d.* per stone. As also Copy of Article, 3d edition enlarged, price 1*s.*

N.B.—Late removal being injurious to the sprouts, orders should be at once supplied.

## BEGONIA MARSHALLI.

WILLIAM COLE will send out the above beautiful variety, raised by Mr. Franklin, Gardener to J. G. Marshall, Esq., on and after the 26th inst. It has been exhibited at the Regent's Park, Kirkstall, Halifax, Shipley, &c., and Certificates have been awarded to it. It is universally admitted to be by far the handsomest of all the Begonias, and will be invaluable for Exhibition purposes. Drawings by Mr. Andrews free by post for eight stamps.

For further particulars see *Gardeners' Chronicle* of July 16, also Sept. 10; also "Cottage Gardener" of July 19 and Sept. 13, and "Book of Beautiful Leaves," by E. J. Lowe, Esq.

Strong plants 15*s.* each, with the usual discount to the Trade. Post-office Orders payable at Manchester.

Nursery, Withington, near Manchester.—Oct. 22.

NOTICE IS HEREBY GIVEN, that the PARTNERSHIP heretofore subsisting and carried on between the undersigned EPHRAIM SYMS DODWELL and JOHN BAYLEY, as GARDENERS and FLORISTS, at Bradshaw Gardens, near Middleton Junction, in the County of Lancaster, under the firm of "Holland, Dodwell, & Bayley," is this day DISSOLVED by mutual consent. All DEBTS due to and owing by the concern will be received and paid by the undersigned JOHN HOLLAND and JOHN BAYLEY, by whom the business will in future be carried on under the firm or style of "Holland & Bayley:" As Witness our hands the 19th day of October, 1859.

Signed by the said Ephraim Syms Dodwell, and John Bayley, and John Holland, in the presence of } E. S. DODWELL, JOHN BAYLEY, JOHN HOLLAND.

J. F. TWEEDALE, Solicitor, Oldham.

## NOTICE.

E. S. DODWELL begs to inform his friends and the public, that the PARTNERSHIP heretofore subsisting between himself and JOHN BAYLEY for the carrying on the business of FLORISTS was this day DISSOLVED, and that he is trading on his sole account in the said business at the undernoted address, where all letters, and communications are for the present requested to be forwarded.—Mills Hill, Chadderton, Manchester, Oct. 19.

SALE OF NEW CHINESE AND JAPANESE PLANTS.—In consequence of the termination of the Agreement between Mr. FORTUNE and Mr. GLENDINNING they have decided upon offering the entire Stock of two new, hardy, Ornamental Plants for sale. The one a RHODODENDRON from the North of China. This is a new and undescribed species, with fine large foliage, of which there are about 500 vigorous young plants, in fine health, bushy, and fit for immediate sale. The other a new TAXUS from Japan (apparently Taxus cuspidata) as described by Siebold, but never before introduced into European gardens, and is a very interesting species of Yew. There are about 66 healthy young plants, including the original imported plant from Japan. Private offers may be made for the entire stock of either or both of the above, and may be inspected at Mr. R. GLENDINNING's, Chiswick Nursery, London, W.

# BUTLER & McCULLOCH'S

## Descriptive and Priced Catalogue of Dutch and Cape Bulbs,

WITH PRACTICAL CULTURAL DIRECTIONS FOR AMATEURS.

SENT FREE AND POST PAID ON APPLICATION.

☞ *All orders amounting to 21s. and upwards sent Carriage paid.*

THE lovers of GLADIOLI will find in B. & McC.'s CATALOGUE descriptions of the most beautiful of this highly ornamental and favourite genus.

For the CONTENTS of B. & McC.'s CATALOGUE, see *Gardeners' Chronicle* of October 1, page 786.

For Collections of BULBS, see *Gardeners' Chronicle* of October 8, page 803.

Agents for Tye's new registered HYACINTH GLASSES. See woodcut group of Glasses, page [illegible] of *Gardeners' Chronicle*

The EARLY HANDSWORTH POTATO, the earliest and best for forcing, very dwarf and very prolific, 3s. 6d. per peck

IMPERIAL KIDNEY, the best late Potato, the most prolific, and of very superior quality, 3s. 6d. per peck.

**COVENT GARDEN MARKET, W.C.**



# JAMES CARTER & CO.,

237 AND 238, HIGH HOLBORN, LONDON, W.C.

## HYACINTHS OF DECIDED COLOURS FOR RIBANDS AND BEDS—DOUBLE AND SINGLE.

| | | | |
|---|---|---|---|
| CRIMSON PINK | FLESH PURPLE | BLUE PORCELAIN | PURE WHITE WHITE (Purple Eye) |

At 4s. per dozen.

The old system of offering HYACINTHS of mixed shades of colour for beds prevents anything like a tasteful arrangement, as the early and late, tall and dwarf varieties are all mixed together. We have great pleasure in offering Bulbs of separate decided colours, equal height, and same kind of flowering, by which our customers will be enabled to form effective groups for early spring. The following extract from our CATALOGUE will be found the most approved method of preparing the beds for planting. "When the bedding plants are removed the beds should be immediately dug up to the depth of a foot or 18 inches; when finished the beds should stand considerably above the level, as moisture is injurious. Five inches of soil may be removed, the ground marked out in squares of from 6 to 9 inches, the bulbs placed thereon with some silver sand under and about them, and the soil which has been removed cast back over them. Or without removing any soil mark the beds as before, and take out the place of each bulb with the old-fashioned Tulip planter, which makes a hole about 5 inches deep and 3 inches wide; drop some silver sand in each hole; more sand laid thereon, and the holes filled up. On the approach of severe weather it would be advisable to put on a covering of 2 or 3 inches of rotten leaves; or, when the growth of the bulb appears above ground, immediately cover it with silver sand."

### TULIPS for edging Hyacinth Beds and also for clumping:—

| | Per 100—s. d. | | Per 100—s. d. |
|---|---|---|---|
| Tournesol, red and yellow | 7 6 | La Candeur, pure white | 18 0 |
| Rex rubrorum, scarlet | 7 6 | Yellow Rose, fragrant | 10 0 |

### COMMON HYACINTHS for mixed borders, single and double:—

RED ... BLUE ... WHITE .. 21s. per 100.

### LILIUM SPECIOSUM or LANCIFOLIUM, quite hardy, and very effective for forming centres in beds.

| | | |
|---|---|---|
| ALBUM, extra large roots, per doz. | 17s. 6d.; each | 1s. 6d. |
| RUBRUM, " " | 22 6 | 2 0 |
| PUNCTATUM, " " | 20 0 | " 2 0 |

### CROCUS (large Dutch Roots).

| | Per 1000. | Per 100. | | Per 1000. | Per 100. |
|---|---|---|---|---|---|
| Blue | 12s. 0d. | 1s. 4d. | Variegated | 15s. 0d. | 1s 8d. |
| Blue, light | 12 0 .. | 1 4 | Versicolor | 18 0 .. | 2 0 |
| Cloth of Gold | 15 0 .. | 1 8 | White | 18 0 .. | 2 0 |
| Purple | 12 0 .. | 1 4 | Yellow, large | 18 0 . | 2 0 |
| Scotch | 21 0 .. | 2 6 | Very fine mixed | 12 0 .. | 1 4 |
| Striped | 15 0 .. | 1 8 | Yellow, second size | 12 0 .. | 1 4 |

### GLADIOLUS BRENCHLEYENSIS, vermillion, very effective, 5s. per dozen.

We beg to refer our customers to our CATALOGUE OF BULBS (which will be forwarded gratis and post free) for all descriptions of Bulbs for Drawing-room, Greenhouse, or open Border, with practical directions as to culture and treatment. New large-flowered PINKS from Japan. For description and cultivation see Catalogue. Price 1s. and 2s. 6d. per packet.

No. 7. FLORAL ILLUSTRATION (by ANDREWS) is now ready and will be forwarded post paid upon application, price 1s. 6d.

**JAMES CARTER & CO., 237 & 238, HIGH HOLBORN, LONDON, W.C.**



FRUIT TREES.

B. WHITHAM, of the Clough Nursery, Mottram, near Manchester, has now ready for disposal 1000 LORD SUFFIELD APPLE TREES, and about 1000 fine strong Trees, including 96 of the best sorts in cultivation, all at 9s per dozen.

Also a large quantity of best LANCASHIRE SHOW GOOSEBERRIES (160 sorts), at 4s per dozen; Common kinds, 2s. do CATALOGUES on application, distinguishing Kitchen and Dessert kinds, and the time each will keep. Cash with order, or known reference.

GLADIOLUS BRENCHLEYENSIS.

YOUELL AND CO. are now sending out strong flowering Bulbs of this magnificent showy variety, the colour of which is bright vermilion scarlet. A box of the spikes of bloom was forwarded to the Editor of this Paper in August last, whose opinion of it will be found in the publication of August 20, page 784 as follows:—

"This must certainly be regarded as one of the most showy and beautiful of the class to which it belongs."

Price 6s per dozen, 40s per 100. Trade price on application. Royal Nursery, Great Yarmouth, Norfolk.

CARNATIONS AND PICOTEES.

YOUELL AND CO. are now sending out strong well-rooted Plants of the above at the following prices:—

CARNATIONS, finest first-class show varieties by name, 18s. and 24s. per dozen pairs.

PICOTEES, ditto ditto, 18s. and 24s per dozen pairs.

" on yellow grounds, 20s. and 30s. per dozen pairs.

Finest mixed Border CARNATIONS and PICOTEES, 9s. per dozen pairs.

True old CLOVE CARNATION, 12s. per dozen pairs.

Scarlet " " 18s. "

White " " 24s. "

(Our extensive stock of the above enables us to offer them to the Trade on most advantageous terms.)

PINKS, finest first-class varieties, by name, 9s. and 12s. per dozen pairs, or fine mixed border, 6s per dozen.

Royal Nursery, Great Yarmouth.

AMERICAN PLANTS, &c.

MESSRS. WATERER AND GODFREY'S CATALOGUE for the present season is now ready, and may be had on application. It describes fully all Rhododendrons worth growing, and contains a List of Azaleas, Hardy Heaths, and other American Plants, as well as a summary of the general stock of the most extensive Nurseries in England.

The Catalogue may also be had of Messrs. MAY'S & Co., 1, Wellington Street, Strand, W.C.

Knap Hill Nursery, near Woking, Surrey.

HARDY RHODODENDRONS.

MESSRS. WATERER AND GODFREY invite attention to their Seedling RHODODENDRONS, which they are selling without names, and which they strongly recommend as being very superior in point of HABIT, FOLIAGE, COLOUR, and GENERAL HARDINESS. They are from 1½ to 2 feet high, and as much through, and no plants can possibly be in finer health. They will be sold at very liberal prices, and purchasers can select from a stock of many thousands

Knap Hill Nursery, near Woking, Surrey.

RHODODENDRONS.

JOHN WATERER'S CATALOGUE OF HARDY, SCARLET, and other choice RHODODENDRONS, as annually exhibited at the Royal Botanic Gardens, Regent's Park, is now published and will be forwarded on application. Faithful descriptions of all the esteemed varieties will be found detailed, with a list of the popular kinds of AZALEAS and other AMERICAN PLANTS, as well as a selection of CONIFEROUS TREES, with height and prices.

The American Nursery, Bagshot, Surrey, near Sunningdale Station, South-Western Railway.

CHARLES DALY AND SON will sell COMMON LAUREL, 1 to 2 feet, at 12s. 6d. per 1000; Transplanted do., 15s. per 1000; PORTUGAL do., 1 to 1½ foot, 3s. per 100; HAWS, to sow this autumn, 5s. per bush.; HOLLY BERRIES, 5s. per bushel. A List of Prices of Seedling Forest Trees and Shrubs sent free by post.—Nursery, Seed, and Agricultural Implement Warehouse, Colemine, Ireland.



DUTCH FLOWER ROOTS.

PETER LAWSON AND SON, THE QUEEN'S SEEDSMEN, &c., respectfully announce the arrival of a fine Stock of DUTCH FLOWER ROOTS, and they are now prepared to execute orders for the same.

27, Great George Street, Westminster, S.W.

NEW SEEDS.

TRIFOLIUM INCARNATUM

ITALIAN RYE-GRASS

NATURAL GRASS SEEDS FOR PERMANENT PASTURE LAWNS, &c.

PETER LAWSON AND SON, the QUEEN'S SEEDSMEN, &c., are prepared to supply all kinds of SEEDS for AUTUMN SOWING of the best quality.

27, Great George Street Westminster, S.W.

THE BEST FRAME CUCUMBER.

SUTTON'S BERKSHIRE CHAMPION, 1s. per packet.

CARTER'S CHAMPION, 1s. per packet.

IMPROVED SION HOUSE, 1s. per packet,

Free by post from SUTTON & SONS, Royal Berkshire Seed Establishment, Reading.

NEW GARDEN SEEDS, GROWTH OF 1859.

ROYAL BERKSHIRE SEED ESTABLISHMENT.

SUTTON AND SONS are now prepared to execute orders for all kinds of GARDEN SEEDS, and can warrant them genuine.

Royal Berkshire Seed Establishment, Reading.—Oct. 22.


HORTICULTURAL SOCIETY OF LONDON.—The next Meeting of the FRUIT COMMITTEE will be held at 8, St Martin's Place, Trafalgar Square, W.C., on TUESDAY, November 1, at 8 P.M.

At this meeting Prizes will be awarded as follows:—ONE POUND for the best, and TEN SHILLINGS for the second best dish of each of the following varieties of PEARS:—

CLASS A.—Marie Louise.
" B.—Suffolk Thorn.
" C.—Beurré Rose
" D.—Louise Bonne of Jersey.
" E.—Van Mons Léon le Clerc.
" F.—Thompson's.
" G.—Any other Variety

ONE POUND for the best, and TEN SHILLINGS for the second best dish of each of the following varieties of APPLES:—

CLASS H.—Ribston Pippin.
" I.—Cox's Orange Pippin.
" K.—Early Nonpareil or Hicks's Fancy.
" L.—Blenheim Pippin
" M.—Any other Dessert variety

The carriage of Packages of Fruit will be paid.

All fruit exhibited must be fit for table, and accompanied by forms exhibiting the circumstances under which the fruit was produced. Blank forms may be obtained on application to Mr. ROBERT THOMPSON, Horticultural Society's Garden, Chiswick, London, W.


# The Gardeners' Chronicle.

*SATURDAY, OCTOBER 22, 1859.*


MEETINGS FOR THE ENSUING WEEK.

THURSDAY, Oct. 27—Pomological ..... 2 P.M.

A PEAL is rung in our editorial ears that might drown the voice of Big Ben of Westminster. East, west, north and south, the cry is the same—"my Nectarines crack;" "my Apples crack;" "my Pears crack;" "my Bullaces are all cracked;" "my Grapes are cracked;" "my Cabbages are rent asunder;" "even my Oak trees are bursting their bark;"—what can be the history of all this? Surely there must be something in the air, seeing that Big Ben himself has met with a similar misfortune? To such a lament it is impossible to turn a deaf ear; and yet what answer can be given?

The best reply, we believe, is to show *why* plants burst their skins, and then perhaps a clue may be found to the mystery rather more satisfactory than blaming the nurseryman for bad plants or the seedsman for bad seeds. Let the following experiment be tried:—tie a piece of parchment over the mouth of a strong jar, to which an apparatus for filling it with water has been adapted. Pump the water in very slowly; it will be seen that the parchment gradually stretches to make room for the water; but pump in the same quantity of water suddenly, and the parchment will tear, or burst. Now, we have only to substitute natural suction for the pump, the skin of a plant for the parchment, and sap for water, and the phenomenon is explained.

The skin of a plant, whether on a leaf or a fruit, or elsewhere, is a highly extensible delicate membrane, having the power of perspiring gently in addition to its other work. Roots suck water out of the ground, also gently. That water, when it enters into the plant, becomes sap, and rises upwards till it reaches the skin, where it is partly changed and detained, but also to a great extent restored to the air by the perspiration of the skin. With what force this ascent of sap takes place at certain times is familiar to all who have ever witnessed the bleeding of a Vine. Let any one cut back the main stem of a Vine in the spring, and bind down the wounded end with a bladder

or a piece of leather; he will soon find the covering beginning to swell up, and in a few days, if not actually forced off, it will burst with the report of a pistol. One effect of this ascent of the sap is the formation of the fleshy matter of fruits and leaves, a very slow operation as we all know; the skin is perpetually enlarging to make room for this fleshy matter as it accumulates; and it does so under ordinary circumstances without a trace of tearing or splitting.

But if the skin of a plant is killed, as happens in what is called the rust of Grapes, or in the Vine disease, then, being unable to stretch so as to make room for the sap that rushes upwards, it bursts. That, however, will not explain the innumerable instances of cracking which have occurred during the present summer.

We apprehend that the real cause of what has been taking place this year was the peculiarly dry summer, succeeded by sudden deluges of rain. For weeks and weeks we had nothing like the usual quantity of rain; the earth became dry by the perpetual removal of its water by vegetation; the water however was supplied very slowly, and consequently the skin of plants became tougher and less extensible than usual. At last down comes a flood; the empty roots hasten to gorge themselves; up rushes the sap, till it is stopped by the skin. Then the skin, not being able to grow fast enough to dispose of the water accumulating beneath it, at last gives way in the form of the cracks we have witnessed. There can be no doubt about the matter. It was the over supply of water to the roots, suddenly acting upon a tough unyielding skin, that did the mischief.

If we want examples under ordinary circumstances let us look at the Stanwick Nectarine, which has been half abandoned, although the finest fruit we have. In the old Vinery at Stanwick the trees were loaded with fruit, which never cracked; the young plants propagated from it, full of vegetable blood, were unable to hold their contents and the skin cracked in all directions. The Nectarines at Stanwick, carried by a tree comparatively old and weak, had no over supply of water, and what they had was readily disposed of by the large perspiring surface of a heavy crop. Now that the plants of Stanwick Nectarine have lost their exuberance, and that the crop is larger, and care is taken not to let them have too much water, they have ceased to crack, as was lately seen in the exquisite specimens ripened by Mr. W. P. AYRES at Orchardleigh Park, and by Mr. GEORGE HOOD at Mamhead. So with the Chasselas Musqué *Grape, which has a very tender skin: withhold water when the fruit is swelling and it does not crack; let it have as much as will not* hurt a Muscat or a Black Hamburgh, and nothing can save it from cracking.

This is undoubtedly the history of the mischief so widely felt this year in fleshy fruits. In Cabbages the principle in which an explanation is to be sought is the same; but it is differently applied. The Cabbage does not burst its skin, but bursts its heart. The heart is gradually formed by leaf being accurately applied under leaf, the whole forming a firm compact mass, and the outer enlarging as the inner grow. So long as the rate of growth in the inside is the same as that of the outside, things remain in their usual state. But a sudden heavy fall of rain upon ground heated by the sun to 66°, and therefore literally a hot-bed, causes a violent enlargement of the inner leaves. They grow much faster than the old ones on the outside, giving them no time to slide over each other, and the whole mass rends asunder.

It is evident that if this explanation is just the cracking of fruits and vegetables is only preventible where land is entirely under control, as in fruit tree borders or with potted plants; but that crops in the open quarter must take their chance; no one being more blamable for a Cabbage bursting or an orchard crop cracking and becoming worthless than for the destruction of a bridge by a sudden flood. We therefore hope to hear no more of blame for such events being thrown upon innocent gardeners or nurserymen or seedsmen.

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WE learn with much satisfaction that the Earl of CARNARVON has consented to preside at the next anniversary dinner of the Gardeners' Benevolent Institution, to be held in 1860.

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IT is from no wish to discourage Mr. FORSYTH's attempt to induce people to use HOLLY TEA that we offer the following remarks. On the contrary, should he prove right, and the leaves of our favourite evergreen be found deserving of all he claims for them, the labouring classes might certainly be relieved from a heavy tax, unless indeed some obdurate CHANCELLOR of the EXCHEQUER should cry "Veto." But if in other matters it is necessary that projectors should proceed upon a sure foundation it is most especially so when food is the article to be experimented on.

It will have struck every one that when a proposal is made to substitute something of unknown value for another in universal consumption there are two points above all others that require to be substantiated; one, that the new article has the same properties as the old one, another, that it shall be equally palatable. For argument's sake we will admit that the latter is made out, firstly because Mr. FORSYTH says so, and secondly, because the taste of man is so admirably organised that it is capable of becoming accustomed to anything from train-oil or caviare up to tainted game or tobacco. The other question is of higher interest. Do Holly leaves possess those properties which render Tea and Coffee valuable, and do they possess any other property?

According to Mr. FORSYTH "the highest chemical authorities agree that Holly Tea contains Theine," the organic base, or proximate principle on which the dietetic value of Tea and Coffee is allowed to depend. Let us confess at once our ignorance of that fact. On the contrary, so far as we know, the proximate principle of the Holly is Ilicine, a bitter substance composed of brown crystals, and quite different in appearance from the fine white silky needles of Theine. What the composition of this Ilicine may be we do not find stated; but the fact that while Theine is soluble in ether, Ilicine is not, points to their being essentially different principles. Some writers even assert that Ilicine is similar in its effect upon the constitution to Quinine. Is it possible that Mr. FORSYTH has somewhere seen it stated that Ilex paraguayensis or Maté yields Theine; and has therefore concluded that the same principle must exist in Ilex Aquifolium? If so he may have made a great mistake. It is true that both Maté and Holly are placed by botanists in a genus which they call Ilex; but that does not prove Maté and Holly leaves to have the same properties. It may be a reasonable inference that they have similar properties, but it is an inference that demands verification.

If we assume that Maté and Holly leaves necessarily contain theine because one does, we must go a little further and also assume that our Holly tree has the same properties as all other species of Ilex. Now, one of the most general peculiarities of the genus Ilex is to possess emetic qualities. Ilex opaca and Aquifolium are so active in this way as to bring their berries within the denomination of poisons. Ilex vomitoria takes its name because the American Indians, who call it Cassina, prepare *from its roasted leaves* a black drink which acts as a powerful vomit. Another Ilex, called Dahoon, is used as a substitute for the Cassina. Even the Ilex paraguayensis itself is "medicinal" when the infusion is taken in large quantities. We are far from asserting that the leaves of our wild Holly would produce the same effect; but we have no right to say they would not, in the absence of direct experiment. Those, however, who desire to judge for themselves need not fear danger from their use. The Indians find their Cassina quite refreshing.

Another point that should not be overlooked in this question is the effect of the Maté or Paraguay Holly on the system. Mr. Forsyth trusts that English Holly will put an end to the use of intoxicating beverages among the poor. Nothing can be more laudable than attempts to diminish the chances of men getting drunk or even tippling. But what if the Holly Tea of Paraguay is only Opium in disguise? and what if the English Holly should also be its likeness? In Hooker's Journal of Botany, Vol. I., where there is a very full account of Paraguay Holly Tea, drawn up from the most authentic sources, there is the following rather important announcement:—"To individuals who accustom themselves to it the habit (of drinking Maté) becomes second nature, and to break it off, or even diminish the customary quantity, is almost impossible. Like Opium it certainly appears to rouse the torpid and calm the restless; but, as in the case of that noxious drug, the immoderate use is apt to occasion diseases, &c."

Should any of our readers now desire to make experiments in preparing Holly Tea, we venture to advise them to try two different plans:—1. To roast the leaves immediately after being gathered, taking care that they are as dry as possible. This is the way that the Paraguay Tea is prepared. 2. To throw the leaves in a heap, and press them enough to bring on a slight degree of heating or fermentation before they are roasted. This would probably effect some change in the quality of the leaves, and might possibly render wholesome what before was unwholesome; just as the stimulating narcotic qualities of Green Tea are destroyed by the Chinese when they ferment the leaves of the Tea tree in order to prepare Black Tea.

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## BELGIAN GARDENS.

No. II. GARDENS OF THE DUKE OF ARENBERG.—One of the most remarkable general collections of plants of which Belgium can boast is that of the Duke of Aremberg. Its value is somewhat lessened by being divided amongst his various residences, which makes it more difficult to judge of it as a whole.

There is nothing remarkable about the construction of the greenhouses annexed to the palace of the Duke at Brussels; they are simple and without pretention; but one for Ferns so perfectly combined all that is necessary for this class that it particularly attracted our attention. It is a low, narrow, and rather long house, containing a very varied collection of Ferns and Lycopods, which are arranged with great taste, and extremely well cultivated. The wall at the end is concealed by large blocks of rough Cork, to which cling pretty species of Pteris and graceful Adiantums, whose finely cut delicate green fronds form festoons amongst the whitish leaves of Gymnograms and Nothochlænas, and the stiff dark leaves of Polypodium, Blechnum, and Acrostichum, which, with a great number of other elegant species, decorate a long bank extending the whole length of the wall at the bottom, and corresponding with a second bank in front of the house. In the centre are two masses of rockwork edged by Lycopods and Selaginellas. Although not possessing any of the newly-introduced novelties, it is one of the richest amateur collections in Belgium.

The Camellias are also very varied and choice. A new lean-to greenhouse with upright sashes contains more than 300 varieties grown upon stages; the bottom of the wall is ornamented by a row of these plants pruned *en espalier*, which has a charming effect. With respect to this mode of growing Camellias, we think, setting aside the fine effect produced, it is scarcely favourable to their flowering; for most of those that we have seen thus cultivated produce their flowers merely at the extremities, the rest of the plant having none. Besides this collection there are a hundred pyramid Camellias, varying in height from 3 to 6 yards; unfortunately, for want of room, some of the largest are placed where dampness and want of light is enough to kill them. It will be really a crime, although almost excusable under the circumstances, if these matchless specimens should die for want of a proper place to put them in.

The conservatory is very rich in ornamental plants provided for the decoration of the walks in the parks during the summer. There are Orange trees which date at least from the time of Louis XIV., Viburnum Tinus, Clethras, Magnolias, perfect in size and form; beautiful Azaleas and Rhododendrons as well as the larger part of the pyramid Camellias, than the appearance of which nothing can be finer. Some New Holland Acacias and a Sophora tetraptera were also conspicuous for their health and vigour.

Two old greenhouses placed back to back, separated by a glazed vestibule, contain the hothouse plants. A hundred Orchids grow there, either hung up or in pots, in the midst of other tropical plants, such as Palms, Begonias, Bromelias, Melastoms, Ficus, Aroids, &c. We were delighted to find here in flower two pretty plants of that graceful Centradenia floribunda which was so widely cultivated not many years ago, and is now so seldom met with; a Begonia Rex displayed its brilliant silvery edged leaves; Chysis bractescens and Oncidium Papilio were the only Orchids in flower. Of this strange family of plants there are only a few species, such as Cattleyas Urseli, reflexa, and Pescatorei [what are these?], and Lælia purpurata which deserve notice.

The castle of Enghien is the favourite abode of the Duke of Aremberg. We call it castle, though there is little more of it remaining than an old tower, the exterior walls of which form ruins of antiquity. A new mansion was built on the site, but this fell a prey to the flames, and what remained was turned into a farm. The present residence of the duke consists of some extremely simple modern square pavilions, the two which form the front communicating with each other by a corridor or glazed gallery. From the beautiful Grass plot in the centre of these pavilions the eye wanders over an extensive park of little less than 700 acres, entirely inclosed by walls, and containing venerable trees, which show how religiously the living relics of the past have been respected. In one part of the park which was laid out by Le Nôtre there still stands an octagonal pavilion of curious architecture, from which diverge eight large avenues intersecting a forest of fine old trees, which reminds one of the time of Louis XIV. Everything about the place is on a grand scale. Some of the Oaks we measured are from 9 to 12 and even 15 feet in circumference; the Beeches, Tulip trees, Elms, Ashes, Birches, Larches, and Fir trees are all of *taille à l'avenant*. Magnificent purple Beeches scattered here and there form a charming contrast with the dark and uniform tint of the forest trees, and the bright green of the turf and meadows. A Cedar of Lebanon, the lower branches of which touch the ground, stands alone in the centre of a Grass plot, and forms a pyramid nearly 60 feet high. Nearly all the new Conifers recently in-

troduced are already planted out here in the open air, upon trial.

Vast meadows, intersected by canals and water-courses; ponds and running streams, walks and avenues, each composed of different kinds of trees; orchards and kitchen gardens, hunting-boxes, statues, more or less well preserved, ruins stamped with age, two farm-houses surrounded by corn fields, sheep of English breed, Enghien cows inferior in nothing to the best Durhams graze here and there, and give to the whole a country appearance, which, although sometimes a little rough, yet on the whole has a grand and noble appearance.

The old tower forming part of the ancient castle of Enghien is particularly beautiful; it has been turned into a chapel, and its rich sculptures and stone frescoes may be looked upon as marvels of art. No one would doubt that artistic riches abounded in this place when looking on the massive walls of this old feudal tower, now, however, covered with a close growth of Honeysuckle.

It was not until we had wandered for hours through the avenues and winding roads of this vast possession that we reached the hothouses, which in architecture and extent are in keeping with the rest of this lordly residence.

The principal conservatory, facing the south, is built in the most substantial manner, all the foundations being constructed of hewn stone. In the centre of this immense glazed parallelogram rises a pavilion nearly 15 yards high, where Palms and other tropical plants which require space are kept. With the exception of the Peacock Island near Potsdam and Herrenhausen in Hanover, perhaps there are not in all Europe finer and larger specimens of Palms. Here we find Sabal umbraculifera, Diplothemium campestre, Arenga saccharifera, Corypha umbraculifera, and Latania borbonica, the stems of which do not measure less than 3 feet in circumference, and the fronds of which threaten to break through the glazed roof. We observed also superb specimens of Cocos flexuosa, plumosa, fernambucensis, oleracea, coronata, nucifera, and chilensis; Areca lutescens, rubra, and paraguayensis; Diplothemium australe (Cocos australis) and argentea; Sabal Adansoni and glaucescens; Elaeis melanococca, Corypha rotundifolia, Latania rubra, Astrocaryum Airi and mexicanum, Livistona mauritiana, Saribus subglobosus, Oreodoxa regia, Chamærops excelsa, Wallichia caryotoides, besides a great number of graceful Chamædoreas; some gigantic specimens of Cycas circinalis and revoluta; Pandanus utilis, furcatus, glaucus, rigidus, purpurascens, amaryllidifolius and odoratissimus; Dracæna umbraculifera, marginata, arborea, ferrea, terminalis, and nigrescens; Urania speciosa and guayanensis; Strelitzia augusta, and seven species of Musa, which with the Palms combined to give to this conservatory the appearance of a tropical forest. A specimen of the rare Corypha australis must be noticed, for it has scarcely its equal in Europe. Most of these specimens were planted in the open ground and were all of unusual vigour. A great number of them were old inhabitants of the conservatories of the late M. Parmentier, of Enghien, who is known to have had one of the finest and most extensive collections. The sashes of this conservatory are of fluted glass, and measure not less than a yard square by $\frac{3}{4}$ of an inch thick. We think that these sashes would have answered the purpose better if they had been half the size; experience also has proved, though unfortunately too late, that their thickness was not in proportion to their other dimensions; most are cracked in many places, but will still last for years.

The house forming the right wing of this pavilion contains a quantity of plants not to be met with in common collections, and for that reason very interesting. Here are to be found, pell-mell, Dracæna Boerhavii, Draco, and arborea; Bonapartea juncea and gracilis, Ficus elastica, Araucaria excelsa, imbricata and Cunninghami; Dacrydium cupressinum, Aralia integrifolia, quinquefolia, and trifoliata; Agnostus sinuatus, Banksia ericoides, integrifolia, and latifolia; Tamus elephantipes, Thea Bohea and viridis, Laurus camphora, Melaleuca linearifolia, Agave americana, mexicana, and fœtida; Protea cynaroides, Belis lanceolata (from 18 to 21 feet high), Pinus canariensis and maritima, Banksia serrata, Cussonia spicata, &c. &c. [We cannot say much for the rarity of some of these.]

The left wing contains the bulk of the hothouse and greenhouse plants, comprising many very fine species; those which we particularly remarked for their beauty and rarity were Theophrasta imperialis (Curatella), Brownea erecta, Cupania australis, Theophrasta mexicana, Chrysophyllum macrophyllum, Phyllanthus juglandifolius, Paratropia farinifera, Rhopala corcovadensis and elegans, Xanthochymus speciosus, Aralia elegans, papyrifera, guatemalensis, and Sieboldi; Galactodendron utile (the cow tree) and G. speciosum; Sterculia Balanghas, Portea (?) Kermesina, Coffea opulina (?) and mauritiana, Pincenectitia tuberculata, stricta, and glauca; Cinnamomum aromaticum, as well as several Dracænas, Hechtias, Agaves, and Bromeliads, besides most of the new Begonias. This conservatory is kept in perfect order, and the plants are in fine health and form. More than 50 plants of Ixora coccinea in first-rate condition form a splendid *coup d'œil*, with their large bunches of red coral flowers. We have rarely seen this species so well cultivated and flowered except in England.

About 50 paces from this last gallery there is a low span-roofed greenhouse situated a little in front, and in a south direction, at right angles with the principal body of the building. This greenhouse is divided into three equal compartments; the first, a cold house, contains a large collection of seedling Calceolarias and Cinerarias; the Cinerarias alone were in flower, and we must say they were extremely pretty. The centre compartment is devoted to a large collection of Ferns; amongst them there are fine specimens of Balantium antarcticum, Angiopteris evecta, and Acrostichum inæquale. The third compartment contains some hundred young Palms, some of which are still rare; amongst others Calamus micranthus, niger, viminalis, and Rotang; Zalacca Blumeana, Maximiliana regia, Martinezia caryotæfolia, Phytelephas macrocarpa (ivory Palm), Chamædorea elegans and pygmæa, Thrinax parviflora, Bactris setosa and caryotæfolia, besides some very rare Plectocomias. The back of this house was decorated with Orchids, placed there on trial.

Vis-à-vis to this conservatory, or rather facing it, and also at right angles to the right wing of the body of the principal conservatory, his Highness has recently had a most beautiful glazed gallery built, for the cultivation of aquatic plants. This gallery, the framework of which is of wrought iron, has a charming appearance. The centre forms a rotunda, with a hemispherical dome, surmounted by a graceful cupola. Under it there is a large circular basin, with the immense round leaves of the celebrated Victoria Regia floating on its waters. This place has been most ingeniously contrived, so that persons walking there are not inconvenienced by the high temperature that necessarily attends such a place. To effect this, there are placed round the basin upright glazed sashes, which allow visitors to pass around the Victoria Regia, and admire it without being annoyed by the oppressive atmosphere. The two wings of this rotunda also have their basins, but of an oblong square shape; as yet there are few aquatic plants in them. On the other hand the approaches are decorated with a considerable collection of succulent plants, which produce a singular effect; here are Cereuses and Opuntias from 9 to 12 feet high, Echeverias, Crassulas, Agaves, Aloes, Stapelias, &c., producing a striking effect.

We can only find one fault with this conservatory, and that is the absence of a running stream of water. Victoria Regia, as well as most Nymphæas, will only flourish under the influence of moving water which is imperceptibly renewed. Let us hope that this small objection will be removed; the park of Enghien may then boast of containing the most elegant and best contrived building of the kind upon the Continent. *From the Journal d'Horticulture Pratique.*

## TRANSPLANTING LARGE EVERGREEN AND DECIDUOUS TREES.

Having had considerable experience within the last three years in transplanting very large evergreen and deciduous trees, perhaps a few observations may not be uninteresting, as the subject has been lately mooted in your columns. Some of the trees operated upon here have been of a large size, with balls of earth from one to eight tons in weight, and requiring nine strong horses to draw the machines with the heaviest trees. We have two machines of different sizes made by Mr. Barron, of Elvaston, on improved principles, and they answer the purpose admirably. Considerable dissatisfaction has occurred in some places where large evergreens have been transplanted, from the expectation that such trees would suffer no change in their transplantation. My experience has been that, however carefully and well planted such very large evergreens have been, it takes two or three years after transplantation for them to look themselves again. In dry, hot summers, copious waterings every second or third week will do much to keep them growing; but all the watering possible will not make up for their mutilated roots in the first year of transplantation. In the second year new roots and fibres will be vigorously at work, and if properly planted in good soil they will be quite recovered by the third year's growth.

Some sensible observations on the transplanting of evergreens in the summer months have lately appeared in your columns from several correspondents. Although large evergreens can be planted with the machine any time in the year when the weather is open, I find that May, June, and August are the best months for the purpose. In July Yews, Cedars of Lebanon, Hemlock Spruces, and other evergreens are making their growths, and if transplanted then no amount of waterings or syringing at night will keep the young shoots from flagging and being injured in very hot days on large trees from the great amount of surface exposed to the sun and their loss of roots. With smaller evergreens, such as a truck would shift, I have no doubt that plenty of watering and syringing in July would keep them from flagging until root action took place.

Having transplanted upwards of 300 large evergreen and deciduous trees here in 1857, 1858, 1859, perhaps a list of the largest of the different varieties may be of use to intending planters. The first I shall name was a Mulberry, with a stem 5 feet 4 inches in circumference; this tree was removed from the old kitchen garden to a new one which was formed here in March, 1858, and bore a good crop of fruit the same summer. In the past summer it bore another excellent crop, and the fruit was larger and finer than usual. This tree is known to be above 100 years old, and the late Mr. Mearns, when gardener here, commenced training it to a high wall, it being originally a standard and unproductive. A second tree moved was a Pinus ponderosa, 45 feet in height, with the circumference of the stem 3 feet 10 inches. This tree required nine strong horses to remove it to its place.

The largest Holly transplanted was 40 feet in height with three stems, 6 feet 11 inches in circumference. This tree was brought from a plantation some distance off, the weight of the ball and tree being above 8 tons.

Immense numbers of large Yews were transplanted here in 1857, '58, and '59. The largest had a stem 4 feet 10 inches in circumference, and of the branches 84 feet.

Quantities of Cedars of Lebanon were brought from plantations some distance off, the largest being 30 feet high and the circumference of the stem 3 feet 3 inches. Some large Red Cedars were transplanted this spring, but to be successful with large trees requires great caution. The trees were prepared the year before by cutting the large roots to induce them to make fibres, so as to get the ball of earth to hold together. The largest tree shifted here was 32 feet in height, and the circumference of the stem 5 feet 7 inches.

About 23 large Arbor-vitæ were transplanted, but they are easy and safe trees to shift, being so fibrous-rooted. The largest tree shifted here was 25 feet in height, and the circumference of the stem 4 feet 8 inches, and of the branches 49 feet; a large Weeping Ash, 30 feet high, the circumference of the stem 3 feet 6 inches; a Cedrus Deodara grafted on the Cedar of Lebanon, 30 feet high, circumference of stem, 2 feet 6 inches. Numbers of large Hemlock Spruce were shifted here in 1857, but with less success than any of the other evergreens, owing to their being planted in an exposed situation. I find they will not bear any windy place after being grown in sheltered situations. As a lawn plant the Hemlock Spruce is one of the most graceful evergreens known, but it must be sheltered by other trees and in a damp situation. *William Tillery, Welbeck.*

## Home Correspondence.

*Thistles in Tasmania.*—The most likely country where hints about the destruction of Thistles might be picked up would be the United States, where, as in the rich plains of South America, these weeds have multiplied to an incredible extent. When in the autumn of 1857 I visited the Western States, our train often passed through districts where the air was literally loaded with pappus, and one could scarcely open the mouth without the intrusion of those feathery organs. For miles and miles the sides of the railroads were densely crowded with these emblems of Scotland, growing with surprising vigour. The Yankees, like the good people of Van Diemen's Land, look upon them as a perfect plague. I have not heard what remedy they have adopted to check or destroy them, but a careful search of American journals devoted to agriculture may probably lead to the discovery of some passage bearing upon this subject. *Berthold Seemann.*——Some years ago I had placed under my charge several hundred acres of old park and pasture land very much overrun indeed with luxuriant batches of strong Thistles, old and well-established. I was told these could never be eradicated. Nothing daunted however I set to work in the spring, as soon as the Thistles appeared above ground, no matter what variety, and with old men and lads with paddles, I had them cut off just under the surface of the soil. Behind each pair of paddle cutters, who kept pretty close together, a little boy with a box of salt applied a pinch to each cut Thistle. After warm weather and genial rains set in some that had not been salted made their appearance again as luxuriantly as ever, and also some of those that had been salted, but the latter were much more puny, and in a weak and yellow state. The ground was once more run over, and the operation persevered in, till I had the pleasure of seeing the whole eradicated and perfectly cleared. There were at my first commencement of operations more waggon-loads of Thistles than there have since been hatfuls. Instead of Thistles, Nettles, and an old rubbishing Mossy bottom, I have the pleasure of seeing a most beautiful herbage. Arable land is easily kept clear of all such pests by persevering in good, *i. e.*, deep cultivation, drilling each succeeding crop at a good distance, and constantly at the proper season and on every favourable opportunity applying the horse-hoe. My method of eradicating Nettles and some scores of acres of Moss I hope to give on another occasion. *Jas. Barnes.*——I have just read your article on the "Plague of Thistles," which interests me much. You ask, "But what shape can such (legislative) interference assume?" The question is easily answered. Pass an Act declaring Thistles a nuisance, and subjecting every proprietor convicted of not exerting himself to abate the nuisance to the utmost to the penalties prescribed by the Act, and my belief is that the Thistle nuisance in Tasmania will soon be as effectually reduced as the smoke one is in London. Until that or something of that kind is done to systematise the exertions of the colonists they will I fear labour in vain. On my small farm I am a determined enemy to Thistles of all kinds, and from time to time employ people to go over my fields digging up and destroying every one they can find; making sure as much as possible to prevent their ripening their seed. In this way I manage to keep them pretty well down, but only pretty well, for I seem to be the only person here who looks upon these pests with a decidedly "evil eye;" hence the road-sides, hedge-rows, and surrounding fields are all abundantly stocked with them, and a windy day towards the end of summer or early in autumn restocks the ground as fast as I clear it. A moderately stringent

enactment of the kind suggested would soon put an end to this state of things here, and I dare say, with greater certainty there, now that the pressure of the evil is so severely felt and well understood. Of course public or Crown lands must be cleared and kept clean at the public expense. *R. W., Grazeley Lodge, Reading.*

*The Sale of Plants at Cooper's Hill, Staines.*—In your Paper of Oct. 1 Mr. J. C. Stevens advertised that the remaining portion of the plants at Cooper's Hill was to be sold by auction on Thursday, Oct. 13. In consequence of this advertisement I travelled 150 miles to be present at the sale; but on my arrival in London I was informed that it was postponed. Now I think there must be great neglect of somebody in not publicly advertising that the sale was postponed. I am not the only one who has cause to complain of such treatment. Not only is a great expense incurred in travelling, but there is also a great loss of time. I must admit that I was much surprised at the way in which the first sale was conducted; the catalogues distinctly stated that the sale would take place without any reservation, yet I read in the second portion of the plants advertised the names of some of the very same Azaleas knocked down at the first sale; these must of course have been bought in again or at least a price set on them. For the future the word reserve had better be omitted in the auction catalogues. *E. Bennett, Nottinghamshire.*

*Holly Tea.*—Your intelligent correspondent, Mr. Forsyth, has said so much in favour of Holly Tea that we may soon hope the subject to receive the attention it seems to demand. Meanwhile it may not be uninteresting to remark that Holly leaves are already used as a substitute for Chinese tea by the people of the Black Forest in Germany, as pointed out some years ago by Hugo Von Mohl (see Bonplandia for 1855, p. 44), but whether they had come into use only of late years, since Maté has become known, or whether their employment dates from a more ancient period, has not been ascertained. The leaves are dried in the sun, and in order to extract their principle a simple infusion is not considered sufficient, but they are boiled. Mohl, though no tea-drinker and averse to every species of substitute, thinks Holly-tea not to be despised, superior to the Maté he has tasted, and deserving of the attentive consideration of experimentalists. ***Berthold Seemann.***

***Autumn flowering Horse Chesnut.***—A curious instance of a tree flowering out of its usual season may now be seen on Kew Green in front of the Coach and Horses Inn. A common Horse Chesnut which I was informed was planted about three years ago is now producing large, healthy, well-formed blossoms. The leaves of the tree have evidently suffered during the summer, and perhaps that has caused it to flower at this season; the sap not having been consumed by them has had the effect of forcing the flower buds into premature action. Some adduce it as an instance of the mildness of the season. It was stated a week or so ago in the daily papers that some Horse Chesnut trees in France were then in flower. We have Strawberries here in flower now, not an uncommon thing, and some kinds of fruit trees often flower twice, but I never recollect seeing the Horse Chesnut in flower in autumn before. *C. Edmonds, Chiswick House.*

*Potato Growing.*—I am surprised you should not have understood my question about the Potatoes, as I think it was so simple. In looking over my gardener's accounts of the last year I observed a heavy charge for planting and digging up Potatoes, &c. I observed I could save money by buying them, as they increased the garden expenses so much. He answered that Potatoes were never included in the usual garden expenses, as Cabbages, Carrots, &c., but were considered extra, and not to be charged to the garden except when they were grown in frames. *An Old Subscriber.* [The representation that has been made to you is one that we have never heard of before. Potatoes are a garden crop, and their setting and raising form part of the ordinary work of all gardens. Not that we recommend Potatoes to be grown in gardens. It is cheaper to buy them out of the open field, where their quality is also superior.]

*Wellingtonia gigantea.*—I have a plant of this about 4 feet 6 inches high, and the same in width, which has three small cones upon it. Have any other plants in this country thus early produced cones? *E. C., Glen Eyre, near Southampton.*

*Spergula pilifera.*—Mr. Shirley Hibberd asks for the experience of your readers as to the behaviour of this Spergula. I bought a 2*s.* 6*d.* packet of seed in April, and according to Mr. Henderson's directions mixed it with some 20 times its bulk of fine sand and sowed it in a bed with very little heat. It was slow in making its appearance, but at last came up thickly and evenly over the bed, when it was shaded with a screen of cloth thrown over stakes to protect it from the sun, but with free access to the air. As long as it was carefully watered it made good progress, though slow; but eventually through neglect of watering, owing to the illness of my man, who has since left me, by the end of May nearly every plant was dead; so much so, indeed, that I gave orders for the removal of the bed. Happily, however, this was not persevered in; for by subsequent care what remained were planted out in health and strength late in June, and some more plants made their appearance in the seed-bed. The former were watered for a fortnight after their removal, and then left to their own resources, and are now patches of from 4 to 6 inches in diameter, the whole under side of which is a dense mass of rootlets, so that they will divide into from six to 12 patches each. To-morrow I purpose laying down one of the three divisions of my lawn with them, and by next summer I hope to show any one a good specimen of a Spergula lawn. The seed-bed is now a complete velvet mat, one-half of which consists of seven plants originally, before they ran together, and is now about a square yard of pile. Both these plants and those which were removed have seeded freely, and I regret I did not save the seed, because seedling plants have with me done better than rooted cuttings. In both cases, however, the progress at first has been most slow, and the plants have required when young, as Messrs. Henderson advised me they would, great care and attention. But when well established they are hardy enough, though they fully appreciate any attention paid to them. A fortnight ago I pulled up a plant of Groundsel from the seed bed, and around it were about 40 small branches of Spergula from half an inch to an inch and a half long, each with many rootlets; these I had planted under a hand-glass and shaded, but they have not yet begun to move, though I have no doubt they will all do so. Worms have apparently done no injury to either those in the seed bed or those planted out. Weeds give some trouble at first, and perhaps, as Mr. Hibberd says, the thick pile may be a *nidus* for the seed of weeds. But I doubt if even its own minute seeds can penetrate through to the ground, for no Turkey carpet is so thick and matted. On the whole, I expect from it all that has been promised. *Iota, Oct.* 18.

*Plants now in Flower Out-of-doors.*—I was greatly surprised a few days ago to find in every garden I saw in and around London that nearly all the bedding plants had ceased to blossom, and that many of the ornamental plants which usually flower in autumn were not likely to develop their blossoms this season, when at the same time plants in this neighbourhood continue as attractive as in the month of August. We have at present in our own garden many highly interesting plants which continue not only to supply us with showy but also fragrant flowers. Amongst others that well known Rose, Géant de Batailles, stands conspicuous. A few days ago I cut a good handful of blooms of Rose Cloth of Gold from a plant half hid among Hedera Regneriana, both plants being on a brick column 15 feet high. Heliotropes still perfume the air of the flower garden; good beds of those plants may be had late by sowing in spring some seeds of Ageratum amongst them, which grow and flower later than plants from cuttings. The Ageratum rises about a foot above the Mignonette, and having flowers of a lively blue makes a pretty mixture. Variegated Fuchsias and Salvias are blooming well. A plant of Paulovnia imperialis, 18 feet high, is studded with globular inconspicuous downy flower buds, which I expect will fall with the leaves or be pushed from their seats undeveloped by the first frost we get. Plants of Pampas Grass are very effective, their silvery plumes associating well with evergreens and Coniters. A male plant, which has 42 spikes of flowers on it, bears heavy rains much better than the female, which grows by its side; the flowers of the former being of a more coarse and open texture, soon become dry and feathery, whereas the latter, with its delicate downy inflorescence thoroughly moistened, remains for days closed up like camel-hair pencils. Farfugium grande flowers well. I hope to obtain ripe seed from one of them. The last on my list, but not least, is an Aralia japonica 13 feet high, with 28 branches, each crowned with a garland of flowers and ripe black fruits about half the size of Currants; so that half-ripened red and green leaves, black fruit, and white flowers make up a highly interesting plant well adapted for garden decoration. ***J. Moon, Gardener to R. E. Thomson, Esq.,*** *Renfield Hall, near Canterbury.*——I have Lilacs and Strawberries now in full bloom in my garden on the north-west of London. As a proof I send you a few of the blossoms. ***A. Brown, Rose Villa, Hanger Hill, Ealing.***

*Flower Show for the People at the Manchester Botanical Gardens.*—During the past summer floral exhibitions have assumed a somewhat new aspect at these gardens. The following is the scheme that has been successfully carried out, and I think, to say the least of it, it is suggestive and worthy of imitation; large quantities of plants have been grown in the garden, such as Pelargoniums, Fuchsias, Cinerarias, Schizanthus, Achimenes, Gloxinias, and ornamental plants. These have been collected and tastefully arranged by the superintendent in the commodious exhibition house, and a very complete exhibition they made. I believe there have been three of these shows held during the summer, and about 14,000 persons have availed themselves of the treat afforded them, the charge being 6*d.* each. I attended one of them myself, and was much pleased with the interest evinced by the working men present. I cannot help thinking that this is a step in the right direction, creating as it does a taste for plants and flowers amongst the artisan population, and there have been likewise two competitive exhibitions, which, I understand, have been successful. *A Gardener.*

*Summer Transplanting of Shrubs, &c.*—In reference to my remarks on this subject you put the very pertinent query whether I use dung for my Conifers? I answer no, only decayed leaves. You evidently put the question in consequence of the printer having mistaken ***an or for an and,*** and thus made me state that the roots were "covered with fine soil mixed with well rotted manure and decayed leaves," whereas it ought to have been manure or decayed leaves, as it is rightly printed in a previous paragraph. I may mention, however, that several years ago from inattention to this point I lost several Conifers; and indeed could not explain why some succeeded and some failed, until attention was directed to the subject by some remarks in your own journal; and I am now, and was then, thoroughly convinced that it was the manure which was put at the roots of these trees which induced their decay. *James Stark, M.D., Huntfield.*

*Peas.*—In February last I sowed Dickson's Favourite Peas. I had a good crop the third week in June, and on the 25th July again I sowed some of the same Peas, the produce of February's sowing, which I again gathered on the 8th of October. As a further illustration of quick growth, I also sowed Carter's Early Peas on the 20th July, which I gathered for table on the 28th September. *Thomas Davies, Prospect Villas, Twickenham Common, October* 20.

## Societies.

SUDBURY COTTAGERS' VEGETABLE SHOW: Oct. 14.—The Sudbury Association for rewarding the industrious agricultural labourers connects with its distribution of prizes to the meritorious poor, and with its ploughing matches, a Show of the vegetable produce of cottagers' gardens. The spectacle is one of great interest. On the 14th 57 ploughs, each drawn by two of the fine admired Suffolk horses gaily decorated, contended in amicable emulation for the prizes offered, and the men, especially of the boys, was declared by the judges to be surprisingly excellent. While these interesting operations were going on in a large field close to the town the handsome Corn Exchange was the scene of the exhibition of the fruits of the poor men's gardens. One side of the building was completely occupied by them, and in the centre there was a regular grove of rare Plants in pots from the nursery of Messrs. Rose & Brown, while the other side and a portion of the middle was appropriated to specimens of roots sent by the farmers. The Turnips were exceedingly fine, and there were many lots of Globe Mangel Wurzel, averaging from 18 lbs. to 20 lbs. weight each. But the chief attraction was the cottagers' table. All who inspected it were surprised at the examples of the poor men's skill in gardening, and the gentlemen's gardeners present fairly acknowledged themselves surpassed. The Potatoes, Onions, Parsnips, Carrots, and Savoys were extremely fine; not an inferior specimen was to be seen, and the Potatoes readily sold at large prices for seed. There were also good out-of-door Cucumbers, excellent Green Peas, and gigantic sticks of Celery. The Kidney Potatoes, York Regents, and Shaws looked almost like waxwork, they were so clean, and the quality was excellent. Prizes were offered for baskets of vegetables tastefully arranged by the inmates of the cottages in the gardens of which they grew, and the results were several of remarkable produce and excellent taste. One in particular, shown by a man named Golding Hunt from Bures, the parish of the Rev. A. Hanbury, where much encouragement is given to field gardening and cottage gardening, attracted great attention. It was composed of Caulitlowers, Grapes, Green Peas, Kidney Beans, Apples, Red Cabbage, Lettuce, Endive, Horse Radish, Parsnips, Carrots, culinary herbs, Turnips, Potatoes, Celery, Onions, tastefully intermingled with bouquets of Dahlias and other autumnal flowers. There were others also equally pretty, though not so large. The owner of one said with pride, "My daughter did it." At 3 o'clock the President, N. C. Barnardiston, Esq., took his place at a desk surrounded by several ladies, by Major Parker, M.P., and many gentry and clergy of the neighbourhood. The successful candidates were then led up one by one by the Rev. Edwin Sidney, to receive their prizes, and the merits of each stated. When it is mentioned that one young woman received a reward for nearly 11 years' service, and men for services ranging from 50 years to 26 years, and boys under 18 for good conduct for periods from 11 to 9 years, it will be seen that in the county of Suffolk there is much of that feeling between employers and employed. Several also had rewards for honest and industrious maintenance of large families in honourable independence of the parish, a class of great merit. When these prizes had been received amidst the well-deserved applause of the spectators, and many kind words from the respective president, Mr. Sidney brought forward the veteran exhibitors. No less than 62 prizes were awarded to these poor men, a proof that they deserved the encouragements passed upon the produce of their little plots of garden ground. Besides money from the Association many extra prizes were given by the President, Major Parker, the Rev. E. Sidney, the Rev. J. Hanbury, W. R. Bevan, Esq., E. S. Benet, Esq., J. W. Poley, Esq., J. Sikes, Esq., W. Atkinson, Esq., the Misses Hallifax, J. Gowad, Esq., and C. Townshend, Esq., all anxious to encourage the laudable skill of the cottage gardener. Those who witnessed the grateful manner and respectful bearing of these humble men could not fail to be struck with the benefit and culturists could not fail to be struck with the benefit and influence on their character of the interesting pursuit which fills their leisure hours and keeps them at home. At the dinner many observations were made by the President on the decrease of crime amongst the labouring classes, which as the chairman of the Quarter Sessions at Chelmsford he was well qualified to do. He attributed this happy sign of the times to the exertions of the clergy, and to the agency of such associations. The Rev. E. Sidney also mentioned that he had been

formed in Norfolk that rural crime had greatly decreased, and could not but feel that the gospel, good education, harvest homes, and rural gatherings for good objects were instruments which alone could effect such encouraging results. He spoke also of the importance of mixing industrial with other instruction of the rural peasantry, of teaching them to fear God, honour their Sovereign, read their Bibles, and learn those things which best fitted them for their respective stations, which was true education—the training of man as a moral agent for the ends of his existence, eternal and temporal. He rejoiced, he said, to find that the Committee of Council were disposed most wisely to make special educational grants to kitchens, washhouses, and bakehouses for girls, and workshops and field gardens for boys. This would be found a great social benefit. Ample proof indeed had been given of it this day. The intelligence displayed by the rural exhibitors, the taste of their arrangement, the quality of their vegetables, were noticed and admired by all present, and we sincerely hope that examples in Suffolk, such as are found at Hitcham and Sudbury, will be extensively imitated, and become in many places equally successful.

## Notices of Books.

*Letters from Alabama, chiefly relating to Natural History.* By P. H. Gosse, F.R.S. 12mo. Morgan and Chase. Pp. 306.

So good an observer as Mr. Gosse is sure to write an interesting volume, provided he drops the character of Omphalos; on this occasion he has produced one that cannot fail to be a universal favourite, but would have been more useful for reference by the professed naturalist had it had an index.

It appears that the author was induced to visit Alabama, one of the most southern of the United States, for the purpose of opening a school; while there he communicated to a magazine, called the "Home Friend" the letters which are collected into the present volume, and form a striking picture of the country, the people, and its natural productions. Considering that Cotton is one of the most important of its agricultural crops, and that even the Sugar Cane may be grown there it will be obvious that Alabama must abound in objects unfamiliar to Europeans, and perhaps the more interesting on that account. Accordingly we have descriptions of curious trees and flowers, Slave Cookery, Butterflies and Wild Hogs, Southern Farming, Bears, Opossums, and Racoons, Blue Herons, Devil's Walking Sticks, Spectres, Humming Birds, Rifle shooting, Scorpion lizards, Battues of Deer, Great Eagle Owls, and a thousand other striking subjects. In the midst of such a mine of information we scarcely know where to stop in our extracts; justice to the author however forbids us to go far in working it. Let the following then suffice.

*Wild Turkeys.*—"If you will come a little way further into the forest, I will show you a very curious contrivance for taking turkeys. It is called a pen, and it is a common and very successful trap: this one was set up, 'fixed,' by some of my schoolboys in the winter, but it is not baited in summer, when the bird is not in season. It consists of an inclosure about 10 feet square, made with rails resting on each other at the corners, covered in also by rails. A hole or passage is dug, leading from some distance outside to the midst of the pen, under the bottom rail, the part next the rails, within the pen, being covered with a board, or with sticks. Corn is then scattered around the hole and within the pen: the turkeys follow the corn, eating as they go, until they get into the pen; when, finding themselves inclosed, they endeavour to get out, running round and round, looking for an opening above, but are so stupid that they never think of getting out at the hole by which they got in, but remain there until the hunter comes, who goes in and knocks them on the head."

*The Sweet Gum Tree.*—"One of our commonest trees is the Sweet Gum (Liquidambar styraciflua), which grows to a large size both in swamps and in dry woods. Its foliage much resembles that of a Maple, the leaves being five-lobed, but the lobes are more regular than in that genus, and finely toothed. They are of a beautiful green hue, and give out, when rubbed, a fragrance something like that of the Lemon tree, but inferior. In the angles formed by the main nerves, which diverge from the base of the leaf, there is a little mass of down, which is characteristic of the genus. The flowers are inconspicuous, the barren and the fertile ones being on distinct branches: the latter succeeded by a singular fruit, consisting of numerous capsules agglomerated into a ball of an inch and a half in diameter, from which the points of the capsules project in every direction; it hangs from a petiole 2 or 3 inches long. These globes are green, but become yellow when ripe, and then the capsules burst, and allow the exit of little winged seeds, like those of the Ash. The bark of old trees is full of deep furrows: if wounded in summer, it distils a fluid gum or resin in very small quality, possessed of an agreeable fragrance. The wood being strong and tough, and of close texture, is sometimes cleft into rails, and used for building, but having little durability, it is not much valued."

*The Sour Gum Tree.*—"This must not be confounded with the Sour Gum or Black Gum (Nyssa sylvatica), a tree of a very different genus. This thrives best on the high grounds, where it becomes a noble tree of 70 or 80 feet in height. The leaves are long-oval, rather crumpled; the fruit, from which it derives its commonest appellation, is a beautiful oval berry of a deep blue, generally arranged in pairs at the end of a long pink footstalk. They look very tempting to the eye, but like the apples of Sodom, they are nauseous to the palate, for though the first taste of their acidity is agreeable, they are found to be intensely bitter. The berry contains a largish flattened stone, marked with longitudinal lines. The wood is exceedingly hard to split, the fibres being singularly interwoven, like a braided cord—a very remarkable peculiarity of this genus. There is a joke current of a poor Irish emigrant, who having engaged himself to cut and split fence rails, unfortunately selected a Sour Gum tree as the subject of his dissective power; but having toiled all day with indomitable perseverance, he accomplished the manufacture of but a single rail."

*The Chinquapin Chesnut tree and Yellow Rat.*—"By the side of the narrow winding path, which I traverse every day, there is, a little way within the forest, a Chinquapin tree (Castanea pumila). It is a miniature representative of the gigantic Chesnut, agreeing with it in almost every respect except in size, rarely exceeding twenty feet in height, the leaves, the fruit, and everything in proportion. The little nuts are now ripening, and about the size of a small marble. In the centre of this small tree there is a structure whose dimensions would seem to have better suited the magnitude of the towering Chesnut; an enormous nest composed of sticks, thorny twigs, Briers, dried weeds, and similar trash, interwoven into a mass as big as a half-hogshead, strong and impenetrable. There is a small hole near the bottom of the structure, into which the owner and builder finds access; but it is impossible for any one else to make acquaintance with the interior except by cutting it to pieces with an axe. This is the dwelling of the Yellow Rat (Mus Floridanus), a little sylvan creature, quite common in this part of the state, but rarely seen, doubtless because its activity is principally nocturnal. Such nests as this are frequently found in the woods, almost always being built in the Chinquapin tree; but as the little creature (or rather, *varmint*) does no manner of harm, the people are averse to any interference with it by destroying its nest. It lives on nuts, berries, and roots; is a pretty cleanly little thing, about the size of our English rat, but far more prepossessing, clothed in soft fur of a pale yellowish grey on the back, buff on the sides, and white on the belly."

*Walking Leaf and Spectre insects.*—"Of the former, belonging to the genus Mantis, we have two or three species of large size. They bear a resemblance to a cockroach, but have the thorax greatly elongated, so as to be equal in length to the whole body besides; the wings and their covers are, however, more delicate than in the Blatta, and the whole insect is more slender. They are predatory and fierce, and are furnished in an extraordinary manner with weapons for the warfare they wage upon other insects. The fore-legs are of great length and stoutness. The tibia is set with sharp spines or teeth, and one long curved one at the extremity. The femur is armed with similar spines along its edge. The insect stations itself on a leaf or twig, with its fore parts elevated, and its armed limbs stretched widely apart. On the passing of any fly, the warrior makes a cut at it, as if with a drawn sword, and with so true an aim as frequently to seize the prey, the tibia folding back upon the femur, and the spines interlocking. With these the Mantis can grasp very hard, so as to drive the spines through the skin of the human hand, while the flying insects on which it preys are pierced and cut through by the merciless blow, and are immediately handed to the mouth, to be munched into mince-meat by the horny jaws. The tarsi, in the act of making the stroke, are doubled back out of the way. The voracity of these creature was shown by one which I kept confined for a few days in a box. During that time he ate off a great part of one of his own fore-legs, leaving only the haunch and a small piece of the thigh. The Spectres, Walking Rods, or Devil's Walking sticks, as they are variously called (Phasma), are curious for their almost linear slenderness and great length. One species, which was given me the other day, is about five inches long, exclusive of the antennæ and limbs, and as thick as a goose-quill. It was when alive of a lavender grey hue, marbled all over with a faint netted pattern. The legs are long, and set far apart, so that it crawls with great length of stride, and with rapidity, though awkwardly. The insect, when touched or annoyed, turns up the tail over its back, in a threatening attitude, which has given it a reputation for being highly venomous—an altogether erroneous notion. This specimen was a female, and laid several eggs while I had it. These were about as large as Sweet Peas, oval, somewhat flattened, partly black and partly whitish, with a curious arched dome, made of transparent network, thrown over one extremity, which is flat, with a kind of rim. This little vaulted chamber looks like the lantern of a light-house."

*Rifle Shooting.*—With the following account of American Rifleshooting we conclude. It is to be regretted that Mr. Gosse should have omitted to mention the distance at which such feats as he describes are performed. "Skill as a marksman is not estimated by quite the same standard as in the old country. Pre-eminence in any art must bear a certain relation to the average attainment; and where this is universally high, distinction can be won only by something very exalted. Hence, when the young men meet together to display their skill, curious tests are employed, which remind one of the days of old English archery, when splitting the peeled wand at a hundred paces, and such like, were practices I had read of, but here I find them in frequent use. 'Driving the nail' is one of these; a stout nail is hammered into a post about half way up to the head; the riflemen then stand at an immense distance, and fire at the nail; the object is to hit the nail so truly on the head with the ball as to drive it home. To hit it all on one side, so as to cause it to bend or swerve, is failure; missing it altogether is out of the question. Another feat is 'threading the needle.' An auger-hole is pierced through the centre of an upright board; the orifice is just large enough to allow the ball to pass without touching; and it is expected to pass without touching. A third is still more exciting—'snuffing the candle.' It is performed in the night, and the darkness of the scene adds a wildness to the amusement that greatly enhances its interest. A calm night is chosen; half a dozen ends of tallow candle and a box of matches are taken out into the field, whither the uproarious party of stalwart youths repair. One of them takes his station by the mark; a stick is thrust perpendicularly in the ground, on the top of which a bit of candle is fixed either in a socket, or by means of a few drops of grease. A plank is set up behind the candle, to receive the balls, which are all carefully picked out after the sport is over, being much too valuable to be wasted. The marker now lights the candle, which glimmers like a feeble star, but just visible at the spot where the expectant party are standing. Each one carefully loads his rifle; some mark the barrel with a line of chalk to aid the sight in the darkness; others neglect this, and seem to know the position of the 'pea' by instinct. There is a sharp short crack, and a line of fire; a little cloud of smoke rises perpendicularly upwards; an unmerciful shout of derision hails the unlucky marksman, for the candle is still twinkling dimly and redly as before. Another confidently succeeds; the light is suddenly extinguished; his ball has cut it off just below the flame. This won't do; the test of skill is to snuff the candle, without putting it out. A third now steps up; it is my friend Jones, the overseer on the plantation where I am residing; he is a crack shot, and we all expect something superb now. The marker has replaced the lighted candle; it is allowed to burn a few minutes until the wick has become long. The dimness of the light at length announces its readiness, and the marker cries 'Fire!' A moment's breathless silence follows the flash and the report; a change was seen to pass upon the distant gleam, and the dull red light has suddenly become white and sparkling. 'Right good!' cries the marker; the ball has passed through the centre of the flame and 'snuffed the candle,' and whoops and shouts of applause ring through the field, and echo from the surrounding forest. This extraordinary feat is usually performed two or three times in every contest of skill. A common exploit is 'barking off' a squirrel. My worthy friend Major Vanner, the other day, at my request, performed this. A couple of fox squirrels were playing far up on a towering Beech in the yard, little suspecting what was coming 'for the benefit of science.' My friend went in, and brought out his trusty rifle; waited a moment for one of the little frisky gentlemen to be rightly placed, for it is needful to the feat that the squirrel should be clinging to the bark of the tree. The first shot was a failure; the squirrel fell dead indeed, but it was pierced with the ball, which was not the object. Perhaps the creature had moved a little at the instant, or perhaps the planter had been too carelessly confident; however, his mettle was up, and he took care that the second should be all right. The ball struck the trunk of the tree just beneath the belly of the animal, driving off a piece of the bark as large as one's hand, and with it the squirrel, without a wound or a ruffled hair, but killed by the concussion."

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Trade Lists Received.—A. Paul & Son's (Cheshunt) *Rose Catalogue for* 1859-1860. An excellent list, full of useful advice. Extra large standards and dwarfs are offered to those who require immediate effect. It is also announced that prices have been reduced 20 per cent.—E. P. Francis's (Hertford) *Descriptive Catalogue of Select Roses.* Here again we have a valuable assortment well arranged, as was to be expected from Mr. Francis's success as a Rose exhibitor. The following remarks on Manetti-worked plants deserve attention:—"The sale of Dwarf Roses budded on the Manetti Stock continues undiminished. Of the vast number sold annually from this nursery, not one complaint has been made as to the unsuitableness of the Manetti Stock for Roses; on the contrary, they have uniformly met with the greatest surprise and admiration when in flower. When an occasional disappointment has occurred, it has arisen from their not being planted deep enough in the ground, and the soil not sufficiently prepared. I here give a few hints as to the cultivation of Roses on the Manetti Stock. On receiving Roses from the nursery, care should be taken to remove every eye from the stem and root before planted out. The soil where they are to be planted should be of a deep rich loam, well mixed with rotten manure, rotten leaf-mould, decomposed night soil, and a small portion of guano. The Roses should then be planted up level with the eye of the bud, so that the Rose itself may have the chance of rooting into the ground as well as the stem of the Manetti, which it will do if carefully planted. The first season the Manetti (as well as the Briar) is apt to throw up suckers; this arises from the Rose not

having arrived at sufficient strength to carry the lead. These suckers being carefully removed with a spud, the second year the Rose will be master of the stock, and no more suckers will appear. Amongst the many thousands budded on the Manetti in these nurseries, only here and there is a sucker to be observed, and these will quickly disappear when transplanted and carefully attended to." —A. Campbell & Sons' (Glasnevin, Dublin) *Descriptive Catalogue of Roses, Hollyhocks, &c., and Fruit Trees.* We have here 55 pages of what printers call solid matter, filled with names, prices, and descriptions of Roses, Pelargoniums, and other florists' flowers, hardy and tender, Dutch roots, fruit trees, and a considerable variety of miscellaneous articles. It is the most extensive Irish catalogue we have seen.

## Miscellaneous.

*Deaths from eating "Mushrooms."*—Mr. Newton, coroner, held an inquest a few days ago at Collingham, Notts, on the body of Thomas Batter, a boy 8 years of age. The father of the deceased said his son Thomas had accompanied his brother into the fields to look for Mushrooms. They found a quantity and returned home with them. At dinner time the boy complained of a pain in his head and could not eat anything. At 7 o'clock the same evening, upon his parents undressing him, he screamed every time he was touched, and appeared in great agony, shrinking from every one. His mind became affected, and at midnight he expired. The surgeon made a *post mortem* examination of the body of the deceased, and arrived at the conclusion that the deceased met with his death from partaking of a poisonous fungus which he mistook for Mushroom.—Last week an elderly man in the marshes near Midhurst, who had been previously in robust health, was suddenly seized with violent vomiting, &c., which caused his wife to send off for their medical attendant, who, on arriving and having made the requisite inquiry, without hesitation pronounced the symptoms to arise from the man having, 30 hours before, eaten a quantity of large, or what are commonly called "Horse Mushrooms." After a short stay the medical man left his patient comparatively tranquil; a few hours after, however, he was again sent for, but before he reached the house the poor man had breathed his last; and this in less than 60 hours from the time of eating the Mushrooms. The appearance of the corpse was remarkable as indicative of the cause of death; inasmuch as besides considerable frothy exudation from the mouth, which smelt strongly of fungine, advanced decomposition had taken place within 24 hours. The body was of a dark purple hue, and so frightfully swollen that not a single feature of the countenance was discernible.

## Calendar of Operations.

*(For the ensuing week.)*

### PLANT DEPARTMENT.

CONSERVATORY, &c.—Hyacinths and other Dutch bulbs, if not already got, should be procured and potted without delay. Oranges meant for forcing in winter for the decoration of this house should now be attended to. The Mandarin being a free grower, with a dwarf bushy habit and small foliage, and a most abundant bloomer, is probably the best for ordinary purposes, but any of the varieties flower profusely provided the wood is thoroughly ripened in autumn. These and the deliciously fragrant Daphne indica are invaluable for winter blooming, and should be largely grown for this purpose wherever sweet-scented flowers are in demand. Also see to having plenty of the old Salvia splendens, which is an exceedingly gay plant and useful for mixing among Chrysanthemums in the show-house. It is a good practice to place the largest plants of Salvias in a shady situation out of doors for a few weeks in autumn; plants so treated will be found to bloom more strongly, and last longer in beauty than others run up in a warm house. GREENHOUSE.—Look carefully after the watering of large specimens of hard-wooded things, especially Heaths and other fine-rooted plants, which are soon injured by being either over or under-watered. Examine the specimens often and carefully, and where they are found to be dry water thoroughly, so as to moisten the whole of the ball; also look sharply after mildew on soft-wooded Heaths, and dress the plant with sulphur directly the enemy is perceived. Get Azaleas tied into form as soon as can be done, in order to give them a neat appearance. Also attend to the staking and training of other things as leisure time can be found. Look carefully after red spider on Bossiæas, Chorozemas, and anything else found to be liable to that pest, and see that it is eradicated before the plants get disfigured. Red spider is easily got rid of by laying the affected plant on its side, and well washing the under sides of the leaves with the engine, applying the water with as much force as the foliage will bear. Repot strong growing Pelargoniums; plants that are fairly established after repotting can hardly be too freely exposed to air, or kept too cool. Also keep Cinerarias cool and moist, and attend to repotting such as require it, and fumigate immediately aphides are perceived upon any of the plants. Primulas must also be carefully attended to, in order to encourage them to make rapid growth, particularly the double varieties, which are hardly surpassed as useful subjects for winter decoration. Keep Tree Violets clear of their great enemy, red spider, by a liberal use of the syringe, and give them plenty of manure-water, which will assist in keeping them in vigorous health.

### FORCING DEPARTMENT.

PINERIES.—Any of the stock which may appear to require repotting should be examined and shifted at once, if this is found necessary, in order that the roots may get hold of the fresh soil before dull weather sets in, when it will not be safe to encourage free growth. And any necessary re-arrangement of plants growing in the open bed should also be effected as soon as possible, as with a little care in shading and keeping the atmosphere moist, this can be carried out at present with very little risk of checking the plants, so as to throw them into fruit. Encourage plants expected to show fruit next January to make vigorous growth, for these should be sufficiently advanced by the beginning of next month to allow of keeping them rather cool and dry, so as to check and thoroughly mature their growth, as unless this is attended to there will be considerable risk about getting them to show fruit at that season. Plants which have been prepared for fruiting, and which it is desired to get up at once, should be encouraged with a moist warm atmosphere, keeping the soil about their roots in a healthy state as to moisture. Some have a dread of applying water at the root in the case of plants that have been kept dry for a time to check growth, and withhold it until the fruit is perceptible; but this is a mistake, causing loss of time as well as injuring the plants, as unless root action is encouraged, plants cannot be expected to start freely. If artificial treatment must be resorted to in order to get the plants to fruit at the desired time, there is no method so certain or so little injurious as keeping them cool and dry for a month, and then affording them a moist warm temperature and a brisk bottom-heat, giving sufficient water at the root to properly moisten the soil. Take off and pot, or plant out suckers at short intervals as they can be obtained of sufficient strength, for having a regular succession of plants is the most likely way to secure a regular supply of fruit. VINERIES.—Take advantage of the present dry weather to give air freely in houses where the ripening of the wood is the object, and if a little fire-heat is used, with the air, this will be much more efficacious now than later. But except in the case of young Vines with a very gross habit it will hardly be necessary to use fire-heat while the weather continues dry. Keep the surface of the border in a free open state, so as to encourage evaporation, for keeping the roots too wet is the main cause generally of the wood being backward in ripening at the proper time. FIGS.—Where any are ripening keep the atmosphere as dry as can conveniently be done, and also let the trees be on the side of dryness at the root, but avoid such a degree of dryness as would be likely to injure the foliage or the bearing wood for next crop. Keep the shoots thin and neatly tied in, so as to expose them fairly to light and air, but avoid stopping young shoots at this season. Keep the atmosphere moist where the fruit is swelling, giving the foliage a good washing with the syringe frequently to prevent red spider, and give plants in pots or tubs a liberal supply of manure-water.

### FLOWER GARDEN AND SHRUBBERIES.

Cuttings should be carefully looked over to see that nothing has been omitted, and that a sufficient quantity of everything is in a promising state for making nice stocky plants before winter, and if it is found that the stock of anything is insufficient not a day must be lost in getting in cuttings, for it is already too late in the season for this kind of work, and it will be well to bear in mind that plants of things which are at all difficult to winter rooted after this season may be considerably thinned before spring, and also that they will not be sufficiently strong to furnish many cuttings for spring propagation, and consequently to provide a larger quantity than would have been necessary had the cuttings been put in a month ago. But if there is a reserve stock of strong plants in pots, which is a safe practice where there is a large quantity of bedding stuff required, and proper convenience for growing them and propagating in spring, these will furnish a large quantity of cuttings next March which will form equally good plants by turning out time as cuttings put in now. In the case of such things as Ageratums, Heliotropes, and dwarf Lobelias, it is useless wintering young stock, as these grow so freely in heat, and are so easily propagated from soft cuttings that a few good-sized old plants which require but little room or attention in winter will furnish a very large quantity of plants by bedding out time. See, however, where there are not plants to furnish spring cuttings, that plenty are got in at once, so as to provide while it can be done against the risk of being short of stock at turning out time. Attend to the potting of such cuttings as are sufficiently rooted, and give every after attention to these in order to get them well established. Persevere with leaf-sweeping and other routine work.

### HARDY FRUIT AND KITCHEN GARDEN.

Pay every attention to getting the wood of Peaches and Apricots well ripened, by exposure, shortening, &c. Prepare for planting all kinds of fruit trees, by getting the ground in good order for the different kinds. On cold stiff soils it is advisable to plant on hillocks, 1 foot or 18 inches higher than the surrounding surface. The trees will not grow so fast in consequence, and will require more attention in summer in the way of mulching, but they will form short-jointed, well ripened, fruitful wood, which is the best preventive of canker, gum, &c., and will save the labour of resorting much to root-pruning. No opportunity should now be lost for getting Potatoes, Parsnips, Carrots, Beet, &c., out of the ground, and stored up in a dry condition. Potatoes may either be kept in narrow pits with a little dry earth sprinkled among them, or in airy dark sheds, according as it is desired, either to have them with the flavour and consistence of fresh lifted Potatoes, or in as dry and mealy a condition as possible. Pull Cauliflower before it gets too large, and prepare a shed or pit to plant a quantity on the approach of frost. French Beans may require a slight protection at night. Remove those growing in pots where they can have the protection of glass; lay in strong growing Broccoli, so that the stems may be covered with earth; plant out Lettuces and Endive for spring use. If planted on the sloping sides of wide ridges they will stand better, damp being quite as destructive as frost. Take the precaution of securing a quantity either in pits or frames, or have the means of protection in readiness. Remove the leaves from Rhubarb and Seakale, that you intend forcing very early, and keep a look-out for slugs and weeds.

STATE OF THE WEATHER AT CHISWICK, NEAR LONDON For the Week ending Oct. 20, 1859, as observed at the Horticultural Gardens

| October. | Moon's Age. | Barometer. Max. | Barometer. Min. | Temperature Of the Air. Max. | Min. | Mean | Of the Earth. 1 foot deep. | 2 feet deep. | Wind |
|---|---|---|---|---|---|---|---|---|---|
| Friday 14 | 17 | 29.502 | 29.470 | 60 | 47 | 53.5 | 59 | 59 | E. |
| Satur. 15 | 18 | 29.510 | 29.427 | 63 | 50 | 56.5 | 59 | 59 | E. |
| Sunday 16 | 19 | 29.490 | 29.417 | 64 | 46 | 55.0 | 59 | 59 | S.W. |
| Mon. 17 | 20 | 29.838 | 29.578 | 56 | 41 | 48.5 | 59 | 59 | S.W. |
| Tues. 18 | 21 | 29.938 | 29.892 | 58 | 41 | 49.5 | 58½ | 58½ | E. |
| Wed. 19 | | 29.916 | 29.753 | 59 | 40 | 49.5 | 58 | 58½ | W. |
| Thurs. 20 | 23 | 29.583 | 29.294 | 60 | 35 | 47.5 | 58 | 58 | W. |
| Average | | 29.638 | 29.547 | 60.0 | 42.8 | 51.4 | 58.6 | 58.7 | |

Oct. 14—Foggy; fine; overcast.
— 15—Overcast; fine; hazy; rain.
— 16—Rain; frequent showers; heavy rain at night.
— 17—Rain; slight showers; clear and fine.
— 18—Dense fog; hazy; overcast at night.
— 19—Foggy; overcast; foggy at night; rain.
— 20—Overcast; very fine; rain at night.

Mean temperature of the week, 1¼ deg. above the average.

RECORD OF THE WEATHER AT CHISWICK, During the last 33 years, for the ensuing Week, ending Oct. 29, 1859.

| October. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Wind N. | NE. | E. | SE. | S. | SW. | W. | NW. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday 23.. | 58.3 | 41.0 | 49.6 | 18 | 0.56 in. | 3 | 1 | 1 | 3 | 4 | 12 | | |
| Mon. 24.. | 56.3 | 39.8 | 48.0 | 15 | 0.88 | 2 | 3 | 3 | — | 8 | | | |
| Tues. 25.. | 55.5 | 38.0 | 46.7 | 15 | 0.72 | 4 | 5 | 5 | 3 | 4 | 3 | | |
| Wed. 26.. | 55.1 | 37.0 | 46.0 | 12 | 0.52 | 5 | 4 | 3 | 2 | 6 | 7 | 4 | |
| Thurs. 27.. | 55.0 | 39.0 | 47.0 | 22 | 0.92 | 3 | 4 | 3 | 1 | 5 | 5 | | |
| Friday 28.. | 54.3 | 36.6 | 45.4 | 19 | 1.06 | 1 | 6 | 3 | — | 6 | 10 | 1 | |
| Satur. 29.. | 53.5 | 35.2 | 44.4 | 16 | 0.63 | 3 | 6 | 3 | 1 | 6 | 11 | | |

The highest temperature during the above period occurred on the 30th, 1833—therm. 68 deg.; and the lowest on the 26th, 1850, and 29th, 1852—therm. 23 deg.

## Notices to Correspondents.

BOOKS: *G A A.* Kemp's How to Lay Out a Garden is an excellent guide to landscape gardening. Barron's British Winter Garden will tell you how to plant; cultivation may be learned from 50 practical books, of which Loudon's Encyclopedia, Mackintosh's Book of the Garden, and Thompson's Gardeners' Assistant, are the best; the latter is just completed. If you wish for landscape gardening books of higher pretentions then we advise you to add the works of Repton, Smith, and Uvedale Price to your library—*Attleborough.* Do not trust to great names. The book is a thoroughly bad one, and mere waste paper.

CHASSELAS MUSQUÉ GRAPE. An inquirer will find an answer to his question in another column. Plant Peach trees 20 feet apart on the wall; that is the usual distance.

FUNGI: *T E.* There is no way of preserving these in a perfect state except by making a section of each perpendicular through the stipes, soaking the section in a solution of corrosive sublimate, and then drying it under gentle pressure. Sowerby's Fungi, a very dear book, is the only English work on these plants, with coloured plates. Sometimes Bolton's Funguses, an obsolete work in 2 vols., 4to, may be had of the second-hand booksellers, and is useful as far as it goes, which is not very far. You will also find Funguses figured occasionally in Greville's Scottish Cryptogamic Flora—a work in 6 volumes, 8vo, filled with coloured plates.

INSECTS: The insects on the Vine leaves sent are young specimens of the mealy bug. The leaves should be burnt, and the rods carefully cleaned.

MIGNONETTE: *G H M.* There is no question as to this being the proper way of spelling this common word.

NAMES OF FRUITS: *H Lowr.* 1. Very like Augustus Pearmain; 3. American Sops of Wine; 4. Golden Reinette; 5. Beauty of Kent; 6. Crimson Queening.‖

NAMES OF PLANTS: We have been so often obliged to reluctantly decline naming heaps of dried or other plants, that we venture to request our correspondents to recollect that we never have or could have undertaken an unlimited duty of this kind. Young gardeners, to whom these remarks especially apply, should bear in mind that, before applying to us for assistance, they should exhaust their other means of gaining information. We cannot save them the trouble of examining and thinking for themselves; nor would it be desirable if we could. All we can do is to *help* them—and that most willingly. It is now requested that, in future, not more than four plants may be sent us at one time.—*G M B.* *Edmund Conolly.* Polygonum complexum.—*G M B.* Begonias are so muled that it is almost impossible to know what species a given plant can be referred. 1, albo-coccinea; 2, some cross from fuchsioides; 3, Cacalia tomentosa. 2, Gymnogramma brasiliense, apparently, but the frond was not developed.—*J D M.* 1, Polygonum complexum; 2, Gymnogramma Calomelanos; 3, Lastrea patens; 4, Adiantum cuneatum, a large pinnuled form.—*M. F.* Pedilanthus tithymaloides.—*P P.* Abies Douglasii, certainly; Selaginella helvetica.—*P P.* Abies Douglasii, certainly; A. cephalonica, we believe. The latter, however, is in a very poor condition.—*A J.* 1. Linaria triphylla; 2. Antirrhinum paniculata.—*T C.* Tagetes signata, from Mexico.

SEEDS FOR AUSTRALIA: *B M.* Seeds are dead when they reach Australia because they are badly packed. Any of the London seedsmen can doubtless pack them properly for you. The great point is to send the seeds in canvas bags, not packed in a sack, and to get it placed anywhere that is properly ventilated, but not down in the hold among the dead cargo.

TOBACCO: *Sub.* There is nothing illegal in drying the leaves and keeping them for your own use; but you must not sell them!

MISC: *G J.* It is not the New Zealand Running Bean. We are sorry to say that thepreserved Citron Gourd is very inferior to other preserves.

*** As usual, many communications have been received too late, and others are detained till the necessary inquiries are made. We must also beg the indulgence of those correspondents the insertion of whose contributions is still delayed.

COLLEGE OF AGRICULTURE AND CHEMISTRY, AND OF PRACTICAL and GENERAL SCIENCE, 37 and 38, Lower Kennington Lane, Kennington, London, S.
Principal—J. C. Nesbit, F.G.S., F.C.S., &c.
The system of studies pursued in the College comprises every branch requisite to prepare youth for the pursuits of Agriculture, Engineering, Mining, Manufactures, and the Arts; for the Naval and Military Services, and for the Universities.
Analyses and Assays of every description are promptly and accurately executed at the College. The terms and other particulars may be had on application to the Principal.

ARTIFICIAL MANURES, &c.—Manufacturers and others engaged in making ARTIFICIAL MANURES may obtain every necessary instruction for their economical and efficient preparation, by applying to J. C. Nesbit, F.G.S., &c., Principal of the Agricultural and Chemical College, Kennington, London, S. Analyses of Soils, Guanos, Superphosphates of Lime, Coprolites, &c., and Assays of Gold, Silver, and other Minerals are executed with accuracy and despatch. Gentlemen desirous of receiving instruction in Chemical Analyses and Assaying, will find ample facility and accommodation at the College.

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CONCENTRATED TURNIP MANURE, equal in value to the preceding.
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Detailed analyses, with opinions of the late and present Chemists to the Royal Agricultural Society, with Testimonials, Prices, &c., may be had on application to Burnard, Lack, & Co., Sutton Road, Plymouth.

PERUVIAN GUANO.—The present price of this valuable Manure is 12l. per ton for 30 tons and upwards; 13l. 5s. per ton for 1 ton up to 30 tons.
And, in order to protect themselves against the purchase of adulterated mixtures and of inferior Guanos purporting to produce results equal to Peruvian, consumers are recommended to apply either to ourselves, to our Agents Messrs. Gibbs, Bright, & Co. of Liverpool and Bristol; or to Dealers of established character, in whose honesty and fair dealing they can place implicit confidence. Anty. Gibbs & Sons.
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Offices: Exeter; and 30, Parliament Street, London, S.W.

THE LANDS IMPROVEMENT COMPANY.—Incorporated by Special Act of Parliament in 1853—2, Old Palace Yard, Westminster, S.W. To Landowners, the Clergy, Estate Agents, Surveyors, &c., in England and Wales and in Scotland.
The Directors beg leave to announce that the Company's Amendment Bill, 1859, has received the sanction of the Legislature. The Company now advance money, unlimited in amount, for the following works of Agricultural Improvement, the whole outlay and expenses in all cases being liquidated by a rentcharge for 25 years.
1. Drainage, Irrigation and Warping, Embanking, Inclosing, Clearing, Reclamation, Planting for any beneficial purpose, Engines or Machinery for Drainage or Irrigation.
2. Farm Roads, Tramways and Railroads for agricultural or farming purposes.
3. Jetties or Landing places on the sea coast or on the banks of navigable rivers or lakes.
4. The erection of Farm Houses, Labourers' Cottages, and other Buildings required for Farm purposes, and the improvement of and additions to Farm houses and other buildings for farm purposes.
Landowners assessed under the provisions of any Act of Parliament, Royal Charter, or Commission, in respect of any public or general works of drainage or other improvements, may borrow their proportionate share of the cost, and charge the same with the expenses on the lands improved.
No investigation of title is required, and the Company being of a strictly financial character do not interfere with the plans and execution of the Works, which are controlled only by the Government Inclosure Commissioners.
For further information, and for forms of application, apply to the Honourable William Napier, Managing Director, 2, Old Palace Yard, Westminster, S.W.

RUGBY AND DUNCHURCH CATTLE SHOW, THURSDAY, November 24.—A PRIZE of 15l. is open to all England for the best FAT BEAST of any description, the property of the exhibitor for six months prior to the Show. Entrance, 10s.; to close on November 12. For forms of Certificates, apply to the Secretaries, Messrs. W. & E. Harris, Rugby
N.B. Covered Booths will be provided for the Beasts shown for the above Prize.

THE BIRMINGHAM CATTLE AND POULTRY SHOW, 1859.—The ELEVENTH GREAT ANNUAL EXHIBITION OF CATTLE, SHEEP, PIGS, DOMESTIC POULTRY, AND ROOTS, will be held in Bingley Hall on MONDAY, TUESDAY, and WEDNESDAY, November 28, 29, and 30, and THURSDAY, December 1, when Prizes, Cups, or other Articles of Silver Plate, and Gold and Silver Medals, to the amount of 1250l. will be awarded.
The ENTRIES finally CLOSE on TUESDAY, November 1.
Prize Lists and Certificates of Entry are now ready, and may be obtained at the Offices, or by letter to
John Morgan, Secretary.
Offices: Unity Buildings, Upper Temple Street, Birmingham.

SMITHFIELD CLUB CATTLE SHOW, 1859.—The ANNUAL SHOW of FAT CATTLE, SHEEP, and PIGS will take place on the 6th, 7th, 8th, and 9th December, at the Bazaar, King Street, Portman Square.
The Prize List contains separate classes for Devons, Herefords, Short-horns, Sussex, Norfolk or Suffolk polled, Long-horns, Scotch horned, Scotch polled, Irish, Welch, and cross or mixed breeds. Also Long-woolled Sheep, cross breeds, Short-wools, and Pigs. In addition to the large amount offered in money prizes, there are also 50 Silver and 5 Gold Medals. The following forms of Certificates are now ready, and intending Exhibitors in applying for them need only quote the letters and state how many of each they require.

Cattle.
Form A. Ox or Steer.
" B. Cow or Heifer.
" C. Ox or Cow in Extra Stock.

Sheep.
Form D. Pen of 3 Wethers.
" E. One Wether or Ewe in Extra Stock.

Pigs.
Form F. Pen of 3 Pigs. | Form G. One Pig in Extra Stock

The Entries finally close on November 1.
Prize Lists with rules and regulations and Forms of Certificates to be obtained of B. T. Brandreth Gibbs, Hon. Sec., corner of Half Moon Street, Piccadilly, London, W.
N.B. All communications on the Club's business should have the words "Smithfield Club" outside, to distinguish them from private letters.

**The Agricultural Gazette.**
*SATURDAY, OCTOBER 22, 1859.*

The local agricultural societies are meeting and awarding their prizes to agricultural labourers for character and skill. Men and women who have lived for 10 years in one service (a fact which on the very face of it proves considerable personal worth) receive such a reward as shows sufficiently that these societies approve their conduct and would gladly see it general. That is one side of the picture.

The other is represented by what was on Wednesday of last week almost universal over large districts in England. Old Michaelmas Day witnesses the meetings and the partings of masters and servants. Household servants more especially, but young lads also very generally, who have been hired for the year, having partial board and perhaps living on the premises, leave as a general rule on October 11th, after one year's service. New hands come in and a twelvemonth's service in a new place commences, to terminate as that preceding it had done, without one particle of regret or indeed emotion of any kind whatever on either side.

We are persuaded that these provincial associations for the reward of long servitude are utterly useless for inducing that which they reward. The majority of the very men who assemble on these festive days and unite in paying their 2l., 3l., or 4l., to deserving labourers have just parted with all their young men and young women servants, and will not keep those hired in their room beyond the year for which they have engaged.

If instead of subscribing to societies, and shifting upon an association that which is a personal responsibility, masters would give their thoughts and some little personal labour to the personal interests of their younger servants, the purposes now professedly sought by these associations would be infinitely better served. Let a master correct the faults of his servant, and not consider them merely as an annoyance to himself to be got rid of by the threat of a dismissal. He will ultimately be the better served for his patience and forbearance now. Though common enough this annual parting is not universal. Some men keep their servants, and the reward for long servitude in such cases is really often due to the master as much as to the labourer. It is the original difference between the employers, not that originally existing between their servants, which has resulted in the continuance of these with one and their constant succession under another. We have known tenant-farmers who could say that but one or two in the course of a long experience had ever left their service voluntarily, and after crossing the breadth of England they have found the labourers of Sussex just the same in character with those of Gloucestershire—the secret of this success lying in their own character and management. And others, stationary in one parish, have thrown off an annual crop of dissatisfied men and boys from their employ as regularly as they have gathered in the annual harvest from their fields.

The class thus made restless and dissatisfied, or domesticated and good neighbours, numbers hundreds of thousands throughout the country. They are as deserving the regards of the philanthropist on the score of mere numbers as any he can name, and there is enough in their present lot to excite his interest. It would well deserve the discussion of a future gathering of the Social Science Association which has just met at Bradford whether the agricultural employers of Great Britain are more likely to make good labourers and induce them to remain in their service by the annual award of prizes for good character on an annual gala day, or by individually interesting themselves in the character and intelligence and skill of the servants under their individual employ.

It will be with the best influence both on ourselves and our labourers if we can show them that these qualifications are regarded, by the value set on character, whether in hirings or dismissals, by retaining those old men in our employ by whose labour we have been benefitted in the past, and by such proofs of interest and fellow-feeling as the encouragement of evening schools and wholesome occasional recreation afford.

—— At a very interesting meeting last week of the Long Sutton (Lincolnshire) Agricultural Society, one of the most energetic of our local farmers' clubs, a prize of 50l. was awarded to one of the competing steam cultivators, all of them being essentially forms of Smith of Woolston's apparatus.

The interesting fact connected with this competition is that all of these steam ploughs were exhibited by tenant farmers of the neighbourhood. We are told that the prize was awarded to Mr. T. B. Dring, of Gedney Marsh, for the work done by what is called Chandler's application of Mr. Smith's principle. "The new improvement consists in the windlass being combined with the engine, and driven by cog-gear direct from the fly-wheel shaft, by which arrangement the strap is dispensed with, and with it many hindrances that arise in wet and windy weather, when the engine and windlass are separate. This engine is of 10-horse power, and produced by Messrs. Robey, of Lincoln. From the drums hung upon the hind axle, the ropes proceed through a double-snatch block, right and left, to the extreme corners of the field or space to be cultivated, the engine thus forming the apex of the triangle, whose base is formed by the implement's line of draught. Two implements were worked—the ordinary Smith's cultivator, with improved spud points; and Chandler's three-furrow balance plough, which did not show good work."

Among the competing engines was one by Mr. Walker, of Terrington, which, dispensing with the use of horses, travelled six miles to the trial ground and returned after work, carrying with it seven hours' supply of water. When the plan which it so successfully illustrated shall be carried out in an apparatus of greater power, it will doubtless command attention.

—— A case of some agricultural interest was lately decided before the Monmouth County Court, in which an incoming tenant was sued for the seed and labour of a piece of young Clover to which he had entered, but which according to his

reply had failed, owing to the carelessness and mismangement of the plaintiff. The judge said:

"If the plaintiff sowed good seed in regular course, at the proper time and in a proper manner, and afterwards treated the Clover stock as a prudent farmer of competent knowledge would do, I think he would be entitled to recover whatever sum the custom would give him, although the crop ultimately failed; for having done everything which could be reasonably required of him to secure a good crop for his successor, he would have fully performed his duty towards the incoming tenant, and would be entitled to recover the customary remuneration for his services; and if the crops afterwards failed from an unfavourable season, or from any of those natural causes to which a Clover crop is liable notwithstanding the best arrangement, his right to recover would not be affected. Again: if he sowed the Clover out of regular course, as, for instance, on a field of autumn-sown Wheat, which, according to the prevailing course of tillage, would be followed by a crop of Turnips, then I apprehend the plaintiff could not recover, though the stock of Clover, when the incoming tenant took possession, was as promising as possible. If, however, the crop turn out to be ultimately good, it would go to show that those rules of husbandry, which the outgoing tenant had disregarded, were not under all circumstances absolutely essential; but inasmuch as the outgoing tenant's cause of action must be complete at the time of his giving up possession, his right to recover must be determined by the state of facts *at that time*; that is to say, it can only be established by his showing that he has done everything which can be reasonably required of a prudent farmer with reference to that particular crop, everything which farmers of ordinary skill and judgment think it necessary to do in order to secure a good crop for their own use. Applying these views to the facts of this case, I am of opinion that it was clearly proved that the plaintiff did turn his sheep on these seeds up to a considerably later period of the year than it is prudent to turn such animals upon young Clover, and that he also suffered the outer fence to get out of repair, so as to admit the horses and cattle breaking in, to a still later period of his tenancy; but this probably caused far less damage to the crop than the depasturing them with sheep during the frosts of November. And the plaintiff having so acted, I am of opinion that he cannot recover, because having failed to prove that he had done what the rules of good husbandry and common prudence required of him with reference to this particular crop, he has not satisfied the court that he has fully performed his duty to his successor, and has therefore well earned that customary remuneration which is consequent only on the full performance of that duty."

—— An elaborate examination of recent Irish agricultural statistics appears in last week's *Irish Farmers' Gazette*, which leads the writer to the conclusion that Irish agriculture has of late years been gradually resuming the former character of its produce, from which it was driven by the famine. The following figures bear him out in his assertion that the extent under Cereals and Turnips and Mangel Wurzel has been rapidly decreasing, and that under the Potato has been rapidly increasing. The falling off in Cereals will be seen, from the following statement, to have been regular, although in some of the items the statistics of various years show a considerable rising and falling in the acreage under these crops, ruled evidently by the range of prices. Still, the general result shows that a steady decrease in the cultivation of cereals has taken place in Ireland during the last 11 years.

| Years. | Total extent under Cereals. |
|---|---|
| 1849 .. .. .. .. .. .. | 3,174,424 |
| 1850 .. .. .. .. .. .. | 3,140,556 |
| 1851 .. .. .. .. .. .. | 3,099,401 |
| 1852 .. .. .. .. .. .. | 2,976,600 |
| 1853 .. .. .. .. .. .. | 2,833,387 |
| 1854 .. .. .. .. .. .. | 2,743,736 |
| 1855 .. .. .. .. .. .. | 2,832,564 |
| 1856 .. .. .. .. .. .. | 2,785,206 |
| 1857 .. .. .. .. .. .. | 2,787,128 |
| 1858 .. .. .. .. .. .. | 2,748,350 |
| 1859 .. .. .. .. .. .. | 2,652,296 |

The following statement exhibits the progress of Potato cultivation in Ireland since 1849:—

| Years. | Acres. |
|---|---|
| 1849 .. .. .. .. .. .. | 716,608 |
| 1850 .. .. .. .. .. .. | 875,357 |
| 1851 .. .. .. .. .. .. | 868,591 |
| 1852 .. .. .. .. .. .. | 870,532 |
| 1853 .. .. .. .. .. .. | 898,733 |
| 1854 .. .. .. .. .. .. | 989,660 |
| 1855 .. .. .. .. .. .. | 982,901 |
| 1856 .. .. .. .. .. .. | 1,104,704 |
| 1857 .. .. .. .. .. .. | 1,146,647 |
| 1858 .. .. .. .. .. .. | 1,159,707 |
| 1859 .. .. .. .. .. .. | 1,200,144 |

Again the returns from 1847 showed a steady and progressive increase in the acreage under Turnips and Mangel Wurzel until 1853, when the extent under Turnips and Mangel amounted to 432,660 acres. Ever since that year there has been a progressive decrease; thus—

| Years. | Acres. |
|---|---|
| 1853 .. .. .. .. .. .. | 432,660 |
| 1854 .. .. .. .. .. .. | 350,521 |
| 1855 .. .. .. .. .. .. | 389,520 |
| 1856 .. .. .. .. .. .. | 376,652 |
| 1857 .. .. .. .. .. .. | 371,676 |
| 1858 .. .. .. .. .. .. | 367,033 |
| 1859 .. .. .. .. .. .. | 349,374 |

These figures appear to the *Irish Farmers' Gazette* to throw a doubt on the generally asserted healthy condition of Irish agriculture; and the writer contrasts the gradual falling off of cultivation in Ireland with the progress made in such an outlying portion of HER MAJESTY'S dominions as the Orkneys, whence a landed proprietor writes as follows:—

"My tenants have reclaimed some 20,000 acres from the Rush and Heather, in little more than 10 years, and in Shapinshay alone, where the agitation commenced, the arable land has been enlarged from 730 acres to more than 5000 since the winter of 1848, with an acreable produce even more than proportional. It may well be said, if this little island can do so much with its scanty population, and limited means and area, what might not Ireland do, with her boundless fertility and teeming population?"

—— Australian papers give us figures indicative of agricultural progress in Victoria, Tasmania, and South Australia. It appears that in the first-named colony there were 11,534 holdings extending over 2,492,443 acres, of which 297,035 were under cultivation in 1859, as compared with 10,259 holdings of 2,113,134 acres, of which 237,728 acres were cultivated in 1858. The results of the statistical inquiry into the extent of cropping are given as follows;—

ACREAGE IN GRAIN CROPS.

| | Wheat. | Oats. | Barley. | Maize. | Pulse, &c. |
|---|---|---|---|---|---|
| 1859 | 77,705 | 76,935 | 5296 | 489 | 132 |
| 1858 | 87,230 | 40,222 | 5409 | 445 | .. |

ACREAGE IN GREEN CROPS.

| | Potatoes. | Turnips | Mangel Wurzel. | Carrots. | Cabbages. | Fallow. |
|---|---|---|---|---|---|---|
| 1859 | 29,822 | 331 | 184 | 95 | 51 | 26,426 |
| 1858 | 20,697 | 355 | 118 | 56 | .. | 21,239 |

ACREAGE IN FORAGE CROPS.

| | Grain, Wheat, and Barley. | Maize | Lucerne | Clover | Sorghum. | Artificial Grass. |
|---|---|---|---|---|---|---|
| 1859 | 3809¾ | 278¾ | 285 | 370 | 32½ | 2508½ |
| 1858 | 1277 | 357 | 163¼ | 277¼ | .. | No return. |

ACREAGE IN HAY AND OTHER CROPS.

| | Grasses Wheat, Oats and Barley. | Rye. | Garden. | Tobacco. | Vines | Other crops. | Orchard |
|---|---|---|---|---|---|---|---|
| 1859.. | 85,330 | 506 | 5475 | 66½ | 530¼ | 297¾ | 387¾ |
| 1858.. | 75,373 | 163 | 4657⅜ | 71 | 401⅜ | 4 | 310 |

We learn that the rapidity of progress in cultivation in the colony exceeds even that of its population: 44 acres of land were under cultivation in 1857 for every 100 inhabitants, 50 acres in 1858, and 58 acres in 1859.

The following table indicates the acreage and produce of the cultivated lands in Tasmania and South Australia respectively:—

STATISTICS OF TASMANIA.—*A Table showing the number of acres in crop, and the produce:—*

| | No. of Acres. | | Bushels. | |
|---|---|---|---|---|
| | 1857. | 1858. | 1857. | 1858. |
| Wheat .. .. .. | 63,357 | 50,463 | 1,213,807 | 930,297 |
| Barley .. .. .. | 11,735 | 10,849 | 198,085 | 202,631 |
| Oats .. .. .. | 31,940 | 47,729 | 676,877 | 925,110 |
| Peas .. .. .. | 854 | 1,050 | 17,797 | 21,803 |
| Beans .. .. .. | 118 | 177 | 1,988 | 2,653 |
| Potatoes .. .. .. | 7,803 | 8,147 | .. | .. |
| Turnips .. .. .. | 5,312 | 2,069 | .. | .. |
| English Grasses .. .. | 11,960 | 8,912 | .. | .. |
| Tares .. .. .. | 597 | 402 | .. | .. |
| Carrots .. .. .. | 130 | 243 | .. | .. |
| Onions .. .. .. | 85 | 222 | .. | .. |
| Colonial hay .. .. | .. | .. | .. | .. |
| Mangel Wurzel .. .. | 213 | 285 | .. | .. |
| Tobacco .. .. .. | .. | 97 | .. | .. |
| Total number of acres in cultivation in 1857 .. .. | | | 206,119 | |
| " " 1858 .. .. | | | 229,489 | |
| Increase .. .. .. .. | | | 23,370 | |

SOUTH AUSTRALIAN STATISTICS.

*The following amended Statistical Returns for 1858 have just been issued:—*

| | Acres. | Produce. |
|---|---|---|
| Wheat .. .. .. .. .. | 188,703 | Bushels. 2,100,514 |
| Barley .. .. .. .. .. | 14,526 | 239,318 |
| Oats .. .. .. .. .. | 39,344 | 76,340 |
| Potatoes .. | | Tons. |
| Hay .. .. .. .. .. | 27,774 | [illegible] |
| | 45,914 | 52,893 |

The area in Vineyards in the two Australian colonies appears to be increasing, having nearly doubled during the last two years in Victoria, where there are now 530 acres under Vines; while in South Australia the following was in 1858 the area of Vineyards and their produce:—

AREA OF VINEYARDS.

| Acres. | No. of Vines. | Quantity of Wine made 1857-8. |
|---|---|---|
| 1628 | 2,523,580 | Gallons. 140,970 |

## DEODORISATION OF SEWAGE.

THE following are passages from a report addressed by Dr. Hofmann, F.R.S., and Dr. Frankland, F.R.S., to the Metropolitan Board of Works:—

Having been requested by a resolution of your Board, bearing date the 27th of May, 1859, to undertake the duty of advising the Board as to the best [illegible] from the various schemes proposed for the deodorisation of sewage, of a process combining both efficiency and economy, we now beg leave to report to you the result of a minute inquiry into this subject.

In conducting our investigation, we have constantly kept in view the final plan of dealing with the sewage adopted by the Board, the principal features of which were lucidly described to us in a letter from [illegible] engineer.

Of all the proposals, old and new, referred to us, there is only one which appears to satisfy in the necessary degree the conditions involved in the circumstances of the case.

The agent to which we allude is that described as "Dales' Muriate of Iron," essentially a concentrated solution of perchloride of iron, the disinfectant properties of which were some years ago pointed out by Mr. Ellerman. This we have submitted to an extensive series of comparative trials with the well-known disinfectants, lime and chloride of lime, which, particularly owing to their long-established character, are also included in the proposals before us.

These trials lead to the conclusion that the deodorisation of sewage may be effected either by the perchloride of iron, chloride of lime, or lime; but that, if quantities of equal value * be applied, the perchloride of iron is markedly superior to either of the others, while chloride of lime acts much more powerfully than lime.

These statements refer both to the immediate action of the three agents upon sewage, and to the permanency of the effect produced; but when examined from the latter point of view, the superiority of the perchloride of iron is exhibited even in a still more marked degree.

It may be stated that these results were obtained by operating upon sewage, such as flows from the mouths of the chief metropolitan sewers during the hotter months of the year, our experiments having been performed during the latter half of the month of July.

Since the calculations as to the cost of deodorisation are based upon these experiments, it may not be out of place here to mention briefly the mode in which they were conducted. In order to enable us to operate on a sufficiently large scale, brickwork tanks, lined with cement, and holding 7500 gallons each, were constructed at the outfall of the King's Scholars' Pond Sewer. The sewage was lifted into these tanks by means of a steam pump, and the various deodorising agents were incorporated, either by their gradual introduction into the shoots during the process of filling, or by diffusing them through the mass of the liquid by means of mechanical agitation.

From a number of experiments thus conducted, it appears that each of the three agents above-mentioned will effect the immediate deodorisation of 7500 gallons of sewage when applied in the following proportions:—

| | |
|---|---|
| Perchloride of iron .. .. .. .. | ½ gallon. |
| Chloride of lime .. .. .. .. .. | 3 lbs. |
| Lime .. .. .. .. .. .. | 1 bushel. |

From these results it follows that 1,000,000 gallons of sewage require respectively:—

| | £ | s. | d. |
|---|---|---|---|
| 66 gallons of perchloride of iron, costing .. | 1 | 17 | 9 |
| 400 lbs. of chloride of lime .. .. .. | 2 | 2 | 10½ |
| 132½ bushels of lime .. .. .. .. | 3 | 6 | 0 |

During the performance of these experiments, which as already stated, were made during the hottest portion of a dry season, we were surprised to find that the liquid flowing from the outfall of the sewer was by no means strongly offensive; it was only after preservation in the tanks for 24 hours, or upwards, that a really powerful odour manifested itself. This circumstance rendered it of the highest importance to inquire more closely into the degree of permanency of the effect produced by the several agents under consideration.

For this purpose, three equal quantities of sewage were collected, and perfectly deodorised respectively by perchloride of iron, chloride of lime, and lime; they were then allowed to stand. After two days, the sewage disinfected by lime became slightly tainted, whilst that deodorised by chloride of lime and perchloride of iron remained perfectly odourless. At the end of three days the limed sewage had become decidedly offensive, whilst the other two specimens still remained free from smell. After four days, the odour of the limed sewage had become worse, but that treated with chloride of lime likewise began to exhibit an offensive character, whilst the sewage to which perchloride of iron had been added remained perfectly inodorous. Even after the lapse of nine days, the condition of the latter had not changed. In other experiments the same relative permanency of effect has been observed.

Another important element in estimating the comparative fitness of an agent for the treatment of sewage is the time required for clarification after the addition of the disinfectant. In this respect, also, the results of the preceding experiments lead us to give a decided preference to perchloride of iron.

The subjoined table gives the quantities of sewage

* We have endeavoured to arrive at the average prices of these three agents. It appears that they are subject to considerable fluctuation. As the average result of our inquiries we have taken the value of lime at 9s. per cubic yard = 18 bushels; the value of chloride of lime of 50 per cent (the strength of that used in our experiments) at 12l. per ton; and that of the perchloride of iron solution, Specific gravity 1.45, at 6d. per gallon. Probably these prices would be reduced to a certain amount of reduction if very large quantities were consumed. We should state further, that the estimation of the value of perchloride of iron is founded upon our knowledge of the price of its ingredients and the cost of manufacture; although Messrs. Ellerman & Dales, who have proposed the liquid, quote 1s. 6d. as their maximum price per gallon.

[illegible] present daily, according to Mr. Bazalgette's estimate, and likewise the quantities anticipated in future years:—

| | | Present. | Prospective. |
|---|---|---|---|
| Discharge of Sewage at Barking Creek | | 56,536,875 | 62,500,000 |
| 1st | Crossness Point | 20,066,250 | 35,937,500 |
| Do. | The outfall of Western Division | [illegible] | [illegible] |
| | Total | [illegible] | [illegible] |

The sewage discharged at Barking Creek and Crossness Point would probably not require deodorisation, except during the hot season of the year—say during three months. Supposing the deodorisation to be effected by perchloride of iron, the disinfection of this portion of the sewage at the present rate of flow would involve an expenditure of 11,620*l.* 13*s.* 9*d.* for the three months. We are, however, of opinion that in practice the sewage discharged into the river at this distance from the metropolis would rarely require deodorisation for so long a period as three months. In fact, we are not without hope that the sewage, supposing it to arrive at these outfalls in a condition similar to that in which it is at present discharged from the King's Scholars' Pond Sewer, would, when properly freed from suspended matter, only require deodorisation under particularly unfavourable circumstances.

With regard to the sewage discharged at the outfall of the Western Division, it will be indispensable to submit it to a systematic deodorisation the whole year round. Owing to the comparatively small fraction of the sewage delivered at this point, a very moderate sum would cover the expense—2821*l.* 3*s.* 0*d.* being the cost of the disinfectant for the year.

It is not within our province to enter into details respecting the mechanical arrangements necessary for the application of the disinfectant, or for the filtration and subsidence of the sewage; but we beg to express our opinion, based upon the experience acquired during this investigation, in manipulating with comparatively large quantities, that the disinfection of vast volumes of sewage can be more easily accomplished than is generally believed, and than we ourselves anticipated at the commencement of our inquiry. The actual process of deodorisation will probably present less difficulty than the mechanical separation of the deposit by filtration or subsidence. This separation will involve the temporary storage of immense quantities of sewage, the rapid removal of large quantities of deposit, and a number of operations which can be successfully carried out only with considerable system and under strict inspection. Operations of this kind should be as far as possible conducted at a distance from densely populated districts; and we consider it therefore a happy feature of the scheme adopted by the Board, that a small fraction only of the total amount of sewage requires to be manipulated in the immediate neighbourhood of London. (Signed) A. W. Hofmann.
London, August, 1859 E. Frankland.

The following are the few among the many suggestions received by the reporters which contemplate the utilisation of the disinfected sewage:—

G. Lindsey Blyth, Esq., recommends that superphosphate of magnesia should be mixed with the sewage, which should then be precipitated with lime, or another alkaline earth, the object being the production of a manure.

W. Burness, Esq., recommends separate systems of drainage for sewage and for surface water. The latter he would filter, if necessary, before its discharge into the Thames; the sewage he would pump to the proper level, and pass through suitable pipes for distribution in the surrounding agricultural districts, completing the distribution before the sewage had time to putrefy and become offensive. He is of opinion that the value of liquid manure is much greater than that indicated by its constituents, because "during the process of decomposition of animal and vegetable matter oxygen is worked up both from water and the atmosphere; consequently hydrogen is liberated from the former and nitrogen from the latter; so that these two uniting, form ammonia, one of the best fertilisers."

Gurney Burt, Esq., states that he will shortly make a proposal for utilising the London sewage without deodorisation, by distributing it over the country by means of the railways.

John Hitchman, Esq., gives his arguments in favour of

"The rainfall to the river,
The sewage to the land."

M. Louis Napoleon Legras states that he has invented a deodoriser which is applicable to London sewage water, and which produces a valuable manure.

A. McDougall, Esq., and Dr. Angus Smith propose the use of carbolate of lime in solution, and also of a solid mixture of sulphites and carbolates. These substances are to be added to the sewage to produce immediate and permanent deodorisation.

F. C. Maguire, Esq., advises to convey the sewage to railway stations, and then to transmit it to the surrounding agricultural districts through earthenware or iron pipes. If necessary and practicable he would filter it through dry sewers constructed over the present drains, converting the solid matter into manure, and deodorising the filtered liquid in subterraneous deodorising docks; the deodorised fluid to be then pumped into reservoirs at levels, sufficient to allow of its being conveyed in pipes along the various lines of railway to the provinces. He proposes no method of deodorisation.

Rudolph Tavaki, Esq., states that he has discovered a material which enables him to disinfect excrementitious matters, and to convert them into manure; but he does not state the nature of the materials which he employs.

## THEORY OF AGRICULTURE.

By Dr. Evan Pugh.

(*See page* 816).

### No. VII. Agricultural Education on the Continent.

### A CONTINENTAL EXCURSION.

Having in our last left the reader in Berlin, while we took a general preliminary review of the character of the agricultural schools of Germany, we are now prepared to proceed upon our journey towards Dresden. Leaving Berlin we see the same sandy plains, with occasional peat bogs, marshes, and clusters of trees, and open ditches with banks covered with bushes and weeds, alternating with cultivated patches, that would strike the eye of a tidy systematic English or American farmer so prominently between Berlin and Hamburgh—a vast extended sand plain better qualified to afford a battle-field of nations, on which [illegible] emperors and jealous princes can settle their disputes, than enable the quiet farmer to raise good crops. As we approach Dresden the aspect of the country suddenly changes, and the eye of the geologist will recognise that the change corresponds to a change in the geological formation of the country. As the express train hurls us along the iron road across the hills and valleys of England, we have scarcely time to get the most indefinite idea of the general configuration of each geological formation over which we pass, so rapid is the transition from one to another, until the whole series from the most recent formations to the oldest rocks have been beneath our feet. But here, as in America, we can travel for hundreds of miles and see only the deposits of a single geological period, and the monotony of this is rendered still more oppressive by the barrenness of the soil that covers the whole. Immediately around Dresden the landscape is more varied, the scenery very much more beautiful, and the state of agriculture much more prosperous and encouraging; indeed few cities in Europe have more pleasant agricultural suburbs than has Dresden.

In the small village of Tharand located about a dozen miles south of Dresden, and surrounded by the most beautiful and picturesque scenery, is one of the best agricultural schools in Germany. It is approached by a railroad which follows the winding course of a small stream that flows down the narrow valley, and receives its water from the high hills and narrow gorges upon either side, and from the mountainous regions to the south. The effect of the high hills, in some places presenting rugged rocks, and in others cultivated up the steep ascent or covered with trees of luxuriant growth, and at repeated intervals broken by narrow ravines, is most refreshing after the dreary ride in the sand plains to the north. I spent several hours at this institution and although it was during the vacation, I had the good fortune to meet the director, Hofrath Dr. Stockhardt, well known for his valuable works upon agriculture, who was kind enough to furnish me with a number of interesting details with regard to the aim and object of the institution, together with the state of its present prosperity. The school was founded in 1811, or more than a quarter of a century before there was anything known about agriculture that was worthy of a place amongst the things that should be taught at an educational establishment. But, like all old educational institutions, the progress of modern science has made great inroads into its original plans, so that its programme of lectures at the present time exhibits a complete recognition of all that science has done for agriculture, and certainly no one can visit it now and see the general spirit of scientific inquiry that pervades its several departments without being pleased with the progress that such institutions may make towards a general system of sound scientific instruction.

The institution is under the general direction of the Minister of Finance of the Government of Saxony. It embraces a department of agriculture and of sylviculture (*Forstwirthschaft*), or the cultivation of trees and forests. The latter department was formerly the only one that existed in the institution, it being that for which it was founded, but since 1830 the two departments have been united. It would be difficult in a country like America, where the question of how to get rid of the wood upon land is often of more importance than that of cultivating forests, to excite much interest in the question of sylviculture. But in a country like Germany, where it is difficult to find a tree, or a shrub, that has not been placed in the position we find it by the hand of man, and where coal is not so abundant as with us, and there has not been much ingenuity expended in adopting it to the ordinary purposes of life, the question of how to keep up a constant supply of wood to correspond to the constant consumption becomes of great importance.

Each of the two departments has a director, although the entire general superintendance of the united departments is intrusted to them in common. The students enjoy the academical privileges of the university, which implies very much more freedom as to the manner in which they shall dispose of their time than is allowed in lower schools. As in the university, a certain preparatory knowledge must be exhibited, and if certain degrees are to be taken, particular studies must be followed; but if the student do not wish to follow such a course, he is at liberty to select another. And he is not looked after with that constant degree of attention which characterises the course of instruction in primary schools, where daily recitations are heard.

The laxity of government which characterises most of the higher institutions of learning in Germany meets with much criticism from moralists and friends of education, who have been brought up under the English or American systems; and even a Frenchman (M. Royer), who was commissioned by the Minister of Agriculture of France in 1844 to visit the schools of Germany, expresses his disapprobation of the absence of rigid moral discipline in this institution at that time. But perhaps persons foreign to Germany are hardly capable, without having resided some considerable time in the country, to do justice to their systems of government in institutions of learning. If we can lay aside our prejudices for a time, and passing by the obnoxious systems, we can but consider their results, we will find that they compare well with those of any other country in the world. Amongst those beer drinking, tobacco smoking, midnight carousing students, we find scholars who, for patient and laborious thought, for deep and subtle penetration, and for prolonged exhausting mental effort, are equalled by those of no other country.

I certainly should be sorry to see any such habits tolerated in Anglo-Saxon institutions, yet the early training in the family circle, and the discipline of the elementary schools, and the natural character of the German mind, are such that we cannot judge of the moral influence of particular circumstances upon the German mind by what experience teaches us would result to the Anglo-Saxon or the French, brought up under a different system. These drunken German students have already had a good mental training in the iron discipline of the gymnasium or the Polytechnic School. They are often capable of conversing in Latin, or discussing questions in fluxions across the beer table, and this carousing character is but a stage in existence that is soon passed—it is the turning point of life, from that course in which everything is enforced by discipline to that in which the student lays out his own plan and follows up the studies of his choice with an energy and an interest inherent in himself, and with a well disciplined mind which resulted from the early training to which we have referred.

But if the student had not had the advantage of the early training, he could not afford to lose time in the college or the university. He must then submit to a system of discipline there, such as the German student went through before coming there, and if he do not the result will be disastrous to himself in leaving his mind simply impressed with a few striking facts which, like the prominent points in a novel, have served to interest for a time, but which have not strengthened the mind, because they have not rigidly and systematically taxed its powers.

Many, and perhaps one might say most, of the students in the purely agricultural institutions of Germany have not had the mental training to which reference has just been made, and yet they are generally rather clamorous for academical privileges. There certainly is here some danger that the student may get through his course, under the lax discipline which these privileges imply, without much thoroughness, and the professors of such institutions would certainly do well to guard against results of this kind which must ultimately bring their schools into discredit, as affording superficial instruction instead of thorough training and sound education.

In Tharand, while all the students have the freedom to which we have alluded on the one hand, they are obliged to submit to certain definite courses of study on the other, if they wish to leave the school with credit to themselves; and that they should do so is almost a necessity in a country like Germany, where it is a disgrace to be ignorant—where the greatest insult that one can heap upon a man is to say that he is dumb—where there is an aristocracy of brains, and where the honourable offices of state, as also all the prominent positions in the arts and general industry, must be filled by men who are able to produce evidence of industrious habits and successful application at one or more of the several institutions of learning in the country.

The entire social and political arrangements of society combine to assist the school in enforcing a system of thorough education, so that such rigid discipline is not necessary as where these causes do not operate.

The academy is open to foreigners as well as to natives of Saxony. The latter who wish to enter into the service of the State must produce certificates or other evidence of their having already gone through a particular course of instruction such as certain specified schools are capable of giving. And, for the service of sylviculture, they must have had, at least, one year's practical experience in the manipulative details of the production of forest trees.

Those who do not wish to enter the service of the State, but yet wish to graduate, must produce evidence of their possessing the knowledge required of those that do wish to do so.

Those who do not wish to graduate, but who wish simply to devote a certain amount of time to a definite part of the course of instruction, are admitted upon easier terms, and are not required to follow so definite a course. Indeed grown up men, married men, and men who have already been on farms of their own, can

and do embrace the advantage here afforded of getting that knowledge so essential to them, which the circumstances of youth prevented them from obtaining.

Foreigners who, like myself, are travelling to see the agriculture of the country, may stop and fall into the general course of instruction for a term, and get out and go on again without deranging the latter.

It is further required that the students be over 16 years of age—"that they produce evidence of their having been born"!!—that since the event of birth they have behaved themselves properly—and that in case of minors the consent of parents or guardians be obtained for entering the academy.

It is further strongly recommended that agricultural students, before coming to the institution, should have been so long upon a farm as to have become familiar with all the ordinary practical details of the latter, for which at least a year is requisite. And it is required that all should produce testimony to the effect that they are capable of understanding the different courses of lectures they expect to hear.

*The course of instruction* extends through two years, and when desirable it may be extended to a third year. The students who graduate, or who wish to enter the service of the State, must make the two years' course, and in addition to the knowledge afforded by this course, for some of the services of State they must have availed themselves of the teaching of the university.

*The subjects taught* embrace mathematical sciences, land surveying, levelling, drawing, perspective, and science of building, &c.; also physics, chemistry, constitution of soils, technology, geognosy, botany, zoology, and social economy (*Volkswirthschaftslehre*).

This list is far too formidable for a two years' course, if anything like thoroughness is to be attained in any of these sciences; but the object of the course is simply to treat of their more direct relations to sylviculture, scientific agriculture, the health and disease of agricultural animals, and the jurisprudence of agriculture.

The teaching is done, as in all the higher institutions in Germany, by lectures; of course certain books are recommended to the students, yet so detailed is the course that if the student rely on the lecture only, he will be enabled to get the subject entire, and much more compact and better up to date in its details and in much less time than he can from books alone.

An objectionable feature that usually attaches itself to this system of instruction, but which does not necessarily belong to it (and yet it runs through the entire German University system), is that there is not a sufficiently distinct and definite arrangement for seeing what progress the student is making, and how far he is understanding what he hears. So great is this difficulty felt to be that I have known numerous instances of students either combining together to examine one another, or to get a private teacher to do it, and the want of some such auxiliary in the form of an examining system is felt and expressed by large numbers of German students. The high position which the student may take in society, and the consequent intimate relations between his professor and himself, in a measure compensates for this loss; but still it is felt greatly in the university and it must to some extent be felt here. A book of 17 well-filled pages gives the general outline of the several subjects which are taught; we need not stop here to dwell upon it, but those who have an interest in the subject and who do not read German will find it in the work we propose to publish upon the agricultural schools of Germany.

*Educational Auxiliaries.*—The success of a modern educational institution is very much dependent upon the quality and the quantity of these auxiliaries that it has at its disposal, and the efficient use that is made of them. In this respect the institution at Tharand occupies a first-class position. For sylviculture and the chase it has an extensive forest, where all the processes of propagating and growing trees and clearing forests, so as to economise the fuel and let the wood grow again, &c., are carried out; for agriculture a farm, on which the various practical farm operations are going on, to be seen by the students. There is also an experimental field, a botanical garden, a library, natural history collection, collections of physical, chemical, and mathematical apparatus and instruments, chemical laboratory, collection of models of apparatus, &c., for sylvi- and agricultural practice, &c.

The director of the agricultural department, being a chemist, has been able to appreciate the importance of chemistry in an institution of this kind, and he has obtained for it an excellent laboratory, with not only all the appliances for chemical lectures but for extensive investigations into questions in agricultural chemistry and vegetable physiology; the latter department is entrusted to the care of a special investigator, Dr. Sachs, who was kind enough to show me a number of interesting and highly instructive experiments on vegetable growth in which he was engaged. He had a great number and variety of plants growing in clear water in glass vessels so as to exhibit all the roots and rootlets. A stalk of Indian Corn held in a wooden clamp with its roots thus in water was several feet high, and appeared as healthy as if in the best soil. The water of course was supplied with the necessary mineral matter for the growth of the plant. This property of land plants to take up substances from solutions will tend, in connection with a great many other facts, to lead scientific agriculturists to call in question some of the new views of Liebig upon the subject of vegetable nutrition, which he has drawn from the able researches of Way upon the absorptive properties of soils. With all the facts which science now affords these views, which have recently been very highly lauded by some parties in England, they will hardly be accepted as satisfactory by those who are cognisant of all the facts involved.

But I must leave Tharand with thanks for the kindness with which its educational machinery was explained to me, and proceed to Leipsic and Möckern.

## IMPORTATIONS: JANUARY TO AUGUST, 1859.

THE following is an extract from the official returns:—

| ARTICLES. | | IMPORTATIONS. | | ENTERED FOR HOME CONSUMPTION. | |
|---|---|---|---|---|---|
| | | 1858. | 1859. | 1858. | 1859. |
| Animals, living:— | | | | | |
| Oxen, Bulls, and Cows .. | number | 24,813 | 27,650 | Free. | Free |
| Calves .. .. .. | ,, | 13,893 | 15,499 | .... | .... |
| Sheep and Lambs .. | ,, | 66,302 | 131,908 | .... | .... |
| Swine and Hogs .. .. | ,, | 5,457 | 4,885 | .... | .... |
| Bones (whether burnt or not, or as animal charcoal .. | tons | 54,107 | 52,099 | .... | .... |
| Corn:—Wheat .. | ..Total qrs. | 3,120,216 | 2,885,245 | 3,120,216 | 2,885,245 |
| Barley .. .. .. | ,, | 1,079,228 | 981,049 | 1,079,228 | 981,049 |
| Oats .. .. .. .. | ,, | 1,032,100 | 1,001,756 | 1,032,100 | 1,001,756 |
| Peas .. .. .. .. | ,, | 80,999 | 51,888 | 80,999 | 51,888 |
| Beans .. .. .. | ,, | 248,816 | 181,367 | 248,816 | 181,367 |
| Indian Corn, or Maize .. | ,, | 1,040,582 | 652,704 | 1,040,582 | 652,704 |
| Wheatmeal and Flour | Total cwts. | 3,039,855 | 2,741,257 | 3,039,855 | 2,741,257 |
| Indian Corn Meal.. .. | ,, | 3,318 | 2,178 | 3,318 | 2,178 |
| Flax .. .. .. .. | ,, | 648,468 | 773,694 | .... | .... |
| Guano .. .. .. .. | tons | 244,497 | 61,433 | Free | Free |
| Hemp .. .. .. .. | cwts. | 392,378 | 584,344 | .... | .... |
| Hops .. .. .. .. | ,, | 11,357 | 1,435 | 13,582 | 1,535 |
| Oil seed cakes .. .. | tons | 45,170 | 53,440 | .... | .... |
| Potatoes .. .. .. | cwts. | 1,271,292 | 472,527 | .... | .... |
| Provisions:—Bacon and Hams | ,, | 165,347 | 81,104 | .... | .... |
| Beef, salt .. .. .. | ,, | 131,606 | 170,919 | .... | .... |
| Pork, salt .. .. .. | ,, | 66,028 | 119,520 | .... | .... |
| Butter .. .. .. | ,, | 266,961 | 268,192 | 270,079 | 269,717 |
| Cheese .. .. .. | ,, | 222,013 | 229,182 | 227,673 | 233,339 |
| Eggs .. .... .. .. | number | 101,936,000 | 115,538,600 | 102,031,800 | 115,692,600 |
| Saltpetre .. .. .. | cwts. | 174,029 | 264,867 | Free | Free |
| Cubic Nitre .. .. | ,, | 284,652 | 348,247 | .... | .... |
| Seeds:—Clover .. .. | ,, | 124,798 | 74,748 | .... | .... |
| Flaxseed and Linseed .. | qrs. | 375,809 | 616,011 | .... | .... |
| Rape.. .. .. .. | ,, | 89,119 | 249,733 | .... | .... |
| Wool .. .. .. | .. Total lbs. | 77,549,151 | 88,668,386 | .... | .... |
| Alpacca .. .. .. | ,, | 906,006 | 1,980,271 | .... | .... |

## MANURE MAKING AND PROFITS ON STOCK.

THIS is the season for taking up the subject of "manure making and profits on stock." The former is mainly completed, or ought to be, between Michaelmas and Lady Day; and we have now before our eyes all the products, or we can fairly estimate the growing ones, that we shall have to dispose of during the next six months. When Mangel and Turnips have done growing, the winter's supply for making meat or manure will have been completed. These productions are so variable in quantity and quality on different occupations that no rules can be laid down, nor facts given, for certain guidance. Every farmer must make his own calculations, as to cost of methods in feeding what he has got or can get. Straw, hay, oil-cake, some corn, Turnips, and Mangel are the resources we have to convert into meat, or manure, or partly into both.

Straw is the main point in regard to manure. The whole of the extraneous stimulants and fertilisers that can be found at anything like a tempting price during the next twelve months will not amount to a tenth part of the value of the straw in hand for restoring exhausted soils and producing healthy plants. Science has not as yet discovered methods that will substitute materials for straw. If the straw of this country had during the last 10 or 20 years been steamed and eaten by animals, and formed into bone and muscle, and thus entered nearly all at once into human consumption, the complaints about our domesticated crops degenerating would have been far greater than they now are. Not one farm in a hundred can afford to have its straw fed and carried off direct. It may be necessary, and more profitable altogether, to use some at times to prevent acid food from injuring the digestion of animals, but the future yield of most farms will be proportionately lessened in sustaining and fattening food. The more stimulating fertilisers we can get, the more straw manure we require.

Straw as manure, independently of what inorganic or earthly constituents it may contain, is of a quality which will give form and substance to plants that have their juice greatly forced by stimulants. Mangel, for example, grown partly or wholly with well-rotted straw, will keep much better and longer than had guano alone been used. It is a carbonaceous substance that modifies the organic acid that would otherwise be formed in living plants. If, therefore, an increase of plants be produced, and their qualities improved by giving them straw for food, it must be a good investment to dispose of it in this way. The constituents of it come back to us in another and better form: as heavier green Clover, Tares, and Rye, and bigger Mangel and Turnips, and these of a better quality too. As this is so, if a farmer have a partial failure of Turnips from any cause, and he is left with more mouths than he has food for, he had better quietly reduce the number of his store cattle than to largely consume his straw in hand, for if he were to do that with a view to maintain his usual quantity of animals this year, he would most surely lessen the capacity of his farm to produce animal food in future years.

The reasoning in respect to straw holds good in 99 cases out of 100. If an occupation be composed of alluvial soil that contains large proportions of organic substances, and the corn crops are disposed to fall and rot instead of maturing, even here it is very narrow sighted practice to feed it largely directly [illegible]. In this case it ought to come to them in a[illegible]. This is an instance where store animals sh[illegible]. Every one who possesses ordinary practical [illegible] knows the difference to the soil where sto[illegible] fatting animals are produced; and also that animals will now-a-days pay nearly double as direct profit as fatting ones will. The [illegible] per stone of fat and animals constitutes a [illegible] tial and agreeable [illegible] tion for any one who [illegible] cupation that requires the organic proportions soil reduced or drawn [illegible].

The next step is the tion of straw into a form, or as food for [illegible]. There are two methods doing this economically other circumstances favourable. The first is to make the straw an [illegible] to convey the dung and [illegible] of well-fed animals to [illegible] to be amended or [illegible] and this without allowing volatile compounds to [illegible] by fermentation in a [illegible]. For this purpose [illegible] covered sheds are used this method must be practised on a very limited scale, as [illegible] penses will be too great pay. A great deal of [illegible] may, however, be [illegible] down in a short time upon plan, and if the raw materials for yielding ammonia [illegible] plentiful on the farm [illegible] render the purchase of [illegible] unnecessary, a supply this manure to apply the winter and spring [illegible] plough in at once for Mangels and Swedes, will not be expensively produced as a dressing. Straw so charged will soon decompose in the soil, and in ordinary seasons, no soluble compounds will be washed away by rains. Manure so made should in no case be heaped, or half its stimulating and fertilising qualities will be off, and be scattered no one knows where.

The other method is to charge straw with just enough fermentative matter to cause it to decompose—and no more. The loss of the most valuable fertilisers by the common practice of making "rich" farmyard manure and then heaping it to rot, is enormous in this country.

Now that portable steam-threshing machines are easily come-at-able, the cost of reducing straw may be lessened one-half, at the least. I make a great point of doing this all I can. My simple object is to rot my straw, and as much of it as is practicable as early as I can. To do this I arrange stacks of corn in a close corner, and as I thresh them I make a rough fold of poles or hurdles and stakes, and the straw to be reduced. If I can get burned earth to cover the bottom so much the better. In this yard I put store cattle, or at the season, if the Turnip field be far from the homestead, store cattle and fatting cattle alternately, the former by day, the latter at night to have a cake and a few Turnips. This plan prepares them for better feeding in closer quarters. The store cattle I feed on the straw twice a day, foddering with fresh straw before spreading the Turnips. The Turnips I throw down just as they are drawn from the field, blades and all. But little is left uneaten, and that little helps to rot the straw where it is heaped, although it may not be so powerful as it would have been had a vital process of uniting oxygen with it been produced by its passing through the systems of the living animals. [?] But although nothing is gained by that not eaten, nothing is lost; and it will be conveyed to the land the manure is intended for. One cartload of juicy autumn Turnips so fed will be instrumental in rotting—perfectly enough for any dressing for Clover or Tares, or whatever may require help—a waggon-load of straw by January. By thus reducing much straw in the field, near by the carrots food, or the spot it will be required for, we gain more advantages than my present space will allow me to specify. The yards of the homestead may be reduced to half their present size, and thereby be made warmer for cattle, and with a less surface for receiving winter rains. The expensive tank system may be superseded. If there be superfluous food after the bulk of the straw has been simply rotted, the place to feed it, let it be Swedes, Mangel, or corn, is on the Tare and Rye land, on Rye-grass layer, or on a mixed soil field where Swedes are to be sown.

At the present and threatening price of wages expenses must be cut down in disposing of productions, the weekly expenses will overlap annual profits. *W. G.*

## Home Correspondence.

*Irish Farming.*—The leading article in your Paper of the 8th, signed "G." does not give a true view of the present state of Irish farming. My experience is in a country district of the county Cork. No doubt there is plenty of room for better farming, yet the contrast between the present farming and that of 20 years ago is great. Every farmer now grows Turnips, from 1 to 5 and even 5 acres, and from the fitness of the climate for

...crops, they succeed in getting crops of them, wheat, ...ing as well as I can and on a large scale, I can hardly beat. Many grow Carrots as well and a few Mangels. Clover is universally and largely grown. The little patches of it I speak of were things of 20 years ago, as was also the practice of leaving land to rest without sowing Grass seeds. In this district I do not believe there is such a thing as a field laid out without grass seeds of some sort—often inferior seeds no doubt, mere sweepings of lofts, but still better than nothing, and, as I said before, Clover and proper seeds are largely used. Successive corn crops from the same land have greatly diminished in frequency. The better farmers only do it in this case, viz., where the first crop is Potatoes after Grass, the second is Wheat, and the third Oats or Barley, with Clover and seeds. When the Potatoes are well manured, this is not a more exhausting course than—1, Lea Oats; 2, Potatoes; 3, Wheat with seeds, and the Wheat does better when there has been no previous crop of Lea Oats, and the seeds do better with Oats or Barley than with Wheat. Guano is largely and unceasingly used both with Potatoes and Turnips. A man in whom I am interested has this year sold 1500*l.* worth in this neighbourhood, chiefly to farmers. The improvement in cattle is beyond belief. Twenty years ago every fair was full of a set of wretched, large-headed, hard-hided, brindled stock, whose only merit was that they did not die under the starvation and exposure they underwent. Now the stock would bear comparison with those of many parts of England. Sheep and pigs are improved in almost the same degree. No doubt still the farming is dirty and inferior, more green crops and more manure are wanted; yet the returns in another part of your same Paper of the increasing number and value of stock in Ireland are conclusive proof that the farming is improving, and rapidly too. *W.*

*Leicestershire Agricultural Ploughing Match.*—This agricultural meeting came off last Friday on land belonging to Lord Berners; his lordship afterwards very kindly opened his mansion to a large party of neighbours and farmers to dinner. To elicit information from those from a distance the healths of many distinguished guests were drunk, and they were invited to give their opinions freely of what they had been witnessing. This led to some useful discussion, and it is hoped that the native farmers will benefit from the criticism freely cast upon their work. The farming of this county is more particularly governed by the great extent of its rich pastures, and the large amount of stock they carry. It is therefore not surprising that arable farmers from the neighbourhood of Bedford should find fault with the ploughs and the work executed, although admitting some Swedes and Mangel Wurzel on his lordship's farm to be the finest they had seen this season. A stranger coming into the county must at once see the land is not so well adapted for corn as for pasture; and that the farmers are led to pay more attention to the raising and feeding of stock than to the growth of corn. The irregularity of its surface, its natural tendency to produce good Grass, and the subdivision of the fields by strong timber fences for the protection of the stock, advisedly limit the breaking up of its Grass land. The contrast in the treatment of the pastures of this county with what they elsewhere receive is remarkable, and is very deserving of general consideration; for to this much of their rich quality must be ascribed. The Leicestershire farmers, not content with the natural feeding quality of their Grass, assist their stock with corn and cake while grazing, and in this way the land is constantly receiving a nourishing dressing, which greatly helps their land, and which would go far to make any land rich, and rapidly convert much second-rate land into first-rate. Lord Berners pointed out a field, which, from a contrary treatment in the hands of a tenant (the ordinary treatment elsewhere), had fallen in value to less than 1*l.* an acre, but which in his lordship's hands, assisted by drainage, is now cheap at 40*s.* When we consider the benefit conferred on farmers by such a gathering, by such an exposition of agricultural improvements, superior implements, and machinery, as was exhibited on Lord Berners's estate, we cannot but regret that so few are following so noble an example. In this way farmers are to be shown the value of expensive improvements, and the importance of good implements and machinery to assist them in growing corn at free-trade prices. They will learn from examples what they cannot be taught by teaching; and now that peace and increasing facilities of communication are opening new supplies of corn to us at lower prices than have ever prevailed since this ceased to be an exporting country, and rent and wages are not likely to bear reduction, his lordship's zeal and kindness should be highly appreciated. In these times of declining prices farmers must seek in improvements the means to increase fertility and lessen expenses, for in each of these ways may they reduce the cost of growing corn. *Hewitt Davis, 3, Frederick's Place, Old Jewry, London, Oct.* 18.

*"Rational Seeding."*—The writer can well remember in his youth 3 bushels of Wheat was commonly used for seed, and it is still, even in this enlightened age, practised in some districts, and sometimes more than this. The most reasonable excuse for not sowing Wheat earlier and thinner is, "that their crops get so shockingly foul with weeds before winter, especially the Black Grass." All this we admit is feasible, and not false reasoning, and we ourselves have sometimes (though very reluctantly) been induced to follow their example and sow in the same beat, sowing as much as two bushels, because it should "smother the weeds," but the time is come that we must secure means to avoid this evil, in order to compete with those that do so already. By perseverance and assiduity this evil may be very much if not entirely obviated. If Wheat, Winter Beans, Barley, Oats, or Peas are to be sown on fallowed land, or after early crops of Beans, Peas, &c., the land should be once well ploughed, and perfectly and repeatedly comminuted by Bentalling or scarifying, also by harrowing, and lastly by rolling, all under one operation, or at one time, not later than the end of July or beginning of August, thus obtaining a beautiful tilth or seed bed for all kinds of indigenous and spontaneous seeds to germinate in, as if it were for nursing the most tender annual flowers to be sown in our gardens. In short every facility should then be brought into requisition to obtain abundance of weeds, which will then not have time to ripen their seeds, to be fed off with sheep at Michaelmas time, or to be ploughed in as vegetable food for the Wheat plants. In fact it is not extravagant to manure for the weeds before the summer ploughing, instead of for the Wheat in autumn, as they will then be encouraged to germinate in more abundance, and at no loss whatever. We have a piece of land at the present time thus cultivated after one of our early crops, so completely covered with seedling weeds of all descriptions, the progeny of many years' sowing no doubt, that we are ashamed our brother farmers should look upon it, but we ourselves regard it as a beautiful crop, and anomalous as it may appear, this very piece of land we flatter ourselves will prove the cleanest of our Wheat crops, feeling assured that no other process would have paid us so well, and effected so good a cure or destruction for the weeds, it may be for many years to come; whereas if the land had been repeatedly ploughed at great expense till the present time, and the Wheat sown now early as it should be, most of the seeds of the weeds would have lain dormant, and not have germinated till now, with the Wheat, or in the spring, and the crop must have been inevitably smothered, and attended with much labour and expense and loss; in fact no human art could then have devised means to eradicate them from the corn, not even with considerable expense and amount of manual toil which cannot now in these times of low prices be afforded. All must then "grow together until the harvest," hence arises the chief motive farmers in general have for adhering to thick sowing, "to choke the weeds," at the expense of not much more, very often, than half crops of corn. If Turnips are to be taken as a stolen crop, as they may be with profit on fallow and stubble, they should be sown at the time of the last operation of harrowing and rolling, whether for pot boiling, or for sheep feeding, and hoed out to uniform distances, whether somewhat thick for sheep, or thin for marketing. The weed crop may be left to flourish till the middle of September; or later, if they do not begin to ripen their seeds. If they should show signs of this in some of the quick growing kinds, when the summer holds out till October, and when the land was ploughed and tilthed early by fallowing, they should at once be ploughed in, with a skim coulter attached to the plough to bury the weeds more effectually, and the Wheat sown immediately (if it was not ploughed in, which by the bye is a good plan) as singly as possible, at not more than 1 bushel, or at most 5 pecks per acre, which is half a pint for a square rod; common sense however dictates that even this is unnecessary; but some people will sow double that quantity! Imagine (which is equivalent to 2½ bushels per acre,) 1 pint to be sprinkled equally over 1 rod of ground. *Hardy & Son.*

*Mr. Hannam's Harvest Carts.*—Mr. Mechi mentions in his useful little book "How to Farm Profitably," that the carts on his farm "are long, low and light, not exceeding 7 cwt.; 12 feet long, 7 feet wide; in fact they are Mr. Hannam's harvest cart." With them Mr. Mechi carts "coals (2 tons), corn (Wheat 80 bushels, Barley 100 bushels)," lime, hay, straw, planks, bricks, &c. He adds, "I do not find the Scotch cart so useful; it is not large or low enough. Our light Essex three-quarter carts do well for dung only, but Hannam's are always wanted, and at harvest we never use more than one horse in them, and a boy to drive. They are made for 10*l.* each; I used to pay 14*l.* or 15*l.*" I am personally grateful to Mr. Mechi for all he has attempted for agriculture; and others with myself must acknowledge we have much to thank him for. He will however confer on me an additional favour, if he will communicate through your journal the name and direction of the man he employs to make him these carts, or whether he knows whom Mr. Hannam employed for this purpose. I have read Mr. Hannam's account of his cart in the Royal Agricultural Society's Journal, vol. 2, but though my cart-maker is willing to try his hand at anything, I am so convinced of the advantages of Mr. Hannam's proposition and of Mr. Mechi's recommendation, that I prefer to have the principle carried out as completely as possible by employing the original maker of Mr. Hannam's carts, if I can. If Mr. Mechi can oblige me in this respect, I believe I can send the maker many customers. Will Mr. Mechi also mention whether he considers these carts useless for manure? He says that he uses the Essex three-quarter cart for dung. I shall feel obliged if he will add the direction of the maker of these carts, as well as that of Mr. Hannam's. *G. P.* [Mr. Mechi's carts are made by Mr. Eley, Wheelwright, Tolleshunt Knights, near Kelvedon, Essex.]

*A Word against Rabbits.*—In conversation with farmers who had read "A Word for Rabbits" in your Paper, one of them stated that he suffered to the amount of 100*l.* per annum by them. Another said, "I would gladly pay double my present rent if I had a lease and the rabbits and hares put down." Another said his land was adapted for a flock of sheep, but he kept none, as it was impossible to provide for them—Tares, &c., all eat off as soon as above ground if sown in the autumn, and if he got Turnips he was obliged to take them off the land instead of feeding them on it, or they would be all spoiled by the rabbits and hares. A steward to —— said that in one year damage to the amount of 500*l.* was done to their woodlands by rabbits eating off thousands of young Chesnuts and the young growing underwood. That instead of a poor man walking home with a rabbit he was walked to prison if found with one in his possession, his family kept by the parish during his confinement—a great addition to the heavy county rates—and perhaps forbid employment by any of the tenants on his release. We calculated that a rabbit spoiled ten times more than he eat, and eat ten times more than he was worth. Are landlords who thus preserve to the injury of their tenants, of their parish, and their country at large, proper representatives for an agricultural county? I subscribe myself what I am, *A Small Farmer.*

*Manuring Grass Land.*—What is the best manure for meadow land not lying contiguous to water for irrigation, of equal cost, that will produce the most Grass. I now top-dress my meadow with six cart-loads of farm-yard manure per acre every spring of the year, which I estimate at 24*s.*; as an annual dressing it shou'd not exceed that cost, my meadow without the manure will cut about 18 cwt. to the acre, with the manure 28 cwt. to the acre. I know several manures highly spoken of, especially guano, new manure, and the Economical Manure, with some thousand testimonials. I have received much valuable information from your *Gazette* of tested artificial manures for arable land, but no tested manures for Grass land. *C. H. D.* [We have the very highest opinion of guano, and the very poorest of the Economical Manure, and for the grounds of the last you may consult our Volume for 1854.]

*"Piper's Thickset Wheat."*—It appears that this variety of Wheat is become nearly extinct. For what reason? it is often asked. Allow us to reply what we believe about it. By cultivation it has degenerated or retrograded to the same variety from whence it originated, viz., "Smoothy's thickset, short-strawed Red," exactly in every form, growth, and habit, the ears being nearly as large again as was "Piper's Thickset," which was said to be the shortest strawed then extant. The origin of Piper's Wheat, as we were informed by our late friend Mr. Piper himself, was, that he at first selected it from a field of "Smoothy's," which proved constant only for a few years, a circumstance which he could not explain or understand, till he visited us some few years before his death, purposely to view a plot we were growing on a rich piece of land on our usual thin-seeded plan, from seed we received directly from himself. On seeing it he was surprised, and pronounced it as fine a piece of "Smoothy" as he ever saw, and flatly denied that it could possibly be grown from the stock he sent us, but such was the fact, and we believe it has, ever since he first let it out, been retrograding or going back again to its original "Smoothy." It is, however, a very common, dwarfy or short-strawed, and thick-set and prolific variety, which, strange as it may appear, like all other prolific kinds, especially red varieties, adds very little to its reputation amongst purchasers and consumers. No, not although it produces on an average nearly one quarter more per acre than the smaller-grained white varieties, so much appreciated by the millers; and no marvel, as they can obtain a better and heavier article (flour) from this than any coarser varieties, as they call the prolifics. But does the better price they and the merchants give for the one compensate the grower so satisfactorily as if he had grown one quarter per acre more of a coarser or larger-grained variety? Query. Tell us of growing quantity even without quality, if the price of the latter is not equivalent with the value of the former. *Hardy & Son, Maldon, Essex.*

## Societies.

CHEMICO-AGRICULTURAL: *Ulster, Oct.* 7.—*Arsenic in Manures and Crops.*—Professor Hodges said that his attention had been directed to some newspaper extracts, and also by a letter published in the *Belfast Daily Mercury*, to a communication to the Royal Dublin Agricultural Society, by Professor Davy, on the introduction of arsenic into the Turnip and other crops grown upon superphosphates prepared from oil of vitriol (sulphuric acid) manufactured from pyrites. The presence of arsenic (Dr. Hodges remarked) in vitriol made from some varieties of pyrites had long been known, but it was also known that many kinds of pyrites used in the manufacture did not contain any arsenic. The impregnation by arsenic of Wheat which had been grown from seed which had been steeped in arsenical solutions for the destruction of the spores of the smut, had at several times occupied the attention of chemists, especially in France, where it was at one time alleged that the practice might be attended with injurious consequences. The numerous investigations which had been made had led to the conclusion that no arsenic could be detected in the crops raised from grain which had been so prepared, and in one of these experiments M. Girardin had

failed, even whilst employing 4 lbs. of corn grown from seed treated with arsenic, to obtain any evidence of the presence of poison. Even, therefore, did the manure contain a small amount of arsenic, which was, however, not always the case, little apprehension need be entertained of any injury to health from its employment. In reasoning on this subject, it must not be forgotten that if arsenic was likely to be introduced into the animal system by the use of vegetables grown upon arsenical superphosphates, traces of it would be the more frequently discovered in the course of the delicate analytical investigations required in medico-legal investigations, even where no criminal administration of that poison had taken place. Yet, in an experience of 20 years during which he (Dr. H.) had made more than a hundred toxicological examinations, he had not discovered its presence in any case in which there was not good reason to suppose that death had been produced by criminal doses. He was entirely opposed to the statement that arsenic was what is termed an accumulative poison; that is, that by the continued use of vegetables containing a minute trace of it, the poison may collect in the system, till its effect may exercise an injurious effect on the health of man and animals. People were easily alarmed by such statements, and occasionally nervous individuals were made very uncomfortable by them. Some time ago accounts of the production of disease by room-papers coloured by arsenical compounds excited great uneasiness. He had been requested by a physician in Belfast to examine some room-papers which, it was asserted, had produced on an individual a long train of serious symptoms, precisely resembling those of arsenical poisoning. Yet the papers, on examination, did not contain a trace of arsenic. It was true that many room-papers did contain arsenic, and also that in superphosphates there might occasionally be a small amount of arsenic; but we require further investigation on this subject before the apprehension of death in the pot obliged us to abandon the use of vegetables grown on artificial manures.

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CUMBERLAND.—*Half a Century of Progress—Turnip Failure—Autumnal Cultivation.*—At the late annual meeting of this society, Mr. John Grey, of Dilston, said:—It is now nearly 50 years since I resided in the vale of Lorton, one of the loveliest spots the sun ever shone upon, and which still remains in my recollection with all the native ardour of youth and imagination. When a boy I lived there with an old clergyman. I took the opportunity yesterday of revisiting the scenes of my youth. I found the lovely vale there as of old, unchanged in all its beauty; the same familiar mountains rearing their majestic heads over the peaceful lake of Buttermere, which was once the joy of my youth. I don't wish to impose upon you the sentimentalism which inspires my own breast, but that visit recalled to my mind the kind of stock and cultivation there used to be in those days, and showed how great was the contrast of the present day. I recollect that the worthy parson with whom I lodged kept a cow. It was of a type now gone out. I see none of its progeny in the present day. It was one of those respectable matronly animals, with red sides and long white streaks, with horns so adjusted that it was necessary for it to go with mathematical precision in order to enable it to get its head within the door of its byre. I remember to have seen specimens of a breed of cattle at Mire House and Workington, whose place have since been almost entirely superseded by the usurping Short-horn. Nor is it to be lamented that these relics of a former time are gone, for, though they were certainly picturesque objects in the surrounding scene, they did not possess the advantages of early feeding and quick maturity which the farmers of the present day find absolutely essential to the supply of the fast-increasing population of this country. That population, I am happy to say, are now able by their earnings to indulge in beef and mutton, which was not so much the practice at the time I have mentioned. We know that early pay is the thing now to be aimed at—a quick return for the money laid out; not to wait till they are four or five years old, but to feed them from their birth upwards, so as to bring them quickest to maturity. That, however, is a subject which I need not enlarge upon; but there is one thing peculiarly appropriate to the season which I may be permitted for a moment to advert to. My time and experience are now of considerable extent, but I never saw so great a failure in the root crop as there has been this year in all the northern counties of England and parts of Scotland. This is accounted for in various ways. Some tell you it is owing to the excessive drought of the past season; others will say it is from the extreme mildness of the winters we have had of late years, and the absence of those severe frosts and snows which destroy the insects which are so inimical to roots; but one thing I should wish to impress upon your minds is this, that wherever there has been any great exception from a failure so general, I have always found it to be in those situations where autumn cultivation has been attended to. The land has been made up in the previous autumn, on the removal of the crop, and allowed to become mellow under the winter rains and frosts; in all cases where this course has been adopted there have been abundant crops; whereas on land differently treated, however well managed and well manured during the heat of summer, Turnips have not grown at all. The circumstances of the present early harvest give farmers a great opportunity for observation and experience of this description, and I am glad to find that in my neighbourhood many agriculturists are taking advantage of what they have seen, and are now making up their land into drill rows for the reception of their crop.

Mr. Gillbanks said, it had afforded him much pleasure to observe that agricultural implements were daily becoming less massive, less cumbersome and more compact, lighter and cheaper—much cheaper and more practical in every sense of the word. They might depend upon it that light, practical, and cheap machinery was the great pivot upon which all agricultural success must eventually turn. It was not the rich nobleman spending 40*l.* upon a new implement to please a favourite tenant; it was not the enthusiastic amateur squandering his money without calculation; nor was it the man who simply spent his money in order to astonish his neighbours, and usually concluded by astonishing them in a very different way to what they anticipated; but it was the comparatively poor but honest men—the horny-handed practical farmers, who were determined to avail themselves of these improvements. He heard of 10 or 15 of these men clubbing together for the purpose of going to Warwick to lay out their money in the purchase of some agricultural implement, worth from 50*l.* down to 5*s.*, for their mutual benefit and for the benefit of the locality in which they farmed. These were the men who generally prospered, and he hoped they would always continue to prosper. When he contrasted this conduct with, he would not say the laziness or want of skill of some of the Cumberland farmers, but with the prejudice and obstinacy of some, he could not help feeling ashamed to see them still plodding on in the beaten track of the Fellside forefathers of an age gone by. What was the career of a small holder who never stirred out of the beaten track? He had a small farm, worked like a galley slave for 40 or 50 years, eating the bread of carefulness and taking no rest, till at length, having saved some 200*l.* to 300*l.*, he had reached the summit of his ambition, and, to use a homely and familiar Cumberland phrase, was enabled to retire and live, theoretically and practically, "upon his own bottom."

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STOW-ON-THE-WOLD: *Labourers.*—Mr. Langston said: During the late harvest there had been a great scarcity of labour in all parts of the country; he was, however, glad to learn that, in consequence of the fineness of the weather, no great loss had occurred to those who were unable, at the moment they required them, to find hands. Under those circumstances, they must begin to learn the real value of labour, for they must no longer trust to the Irish and Welsh labourers. In his capacity of Chairman of the Chipping Norton Board of Guardians, it had grieved him, in winter time, to find that no proper exertions were made by those who had the land to employ their labourers for that period. The consequence was, that the men became discontented, and when they knew that their services were required, they went elsewhere. The fact was, that the same result would occur another year. He could recollect the time when the harvest was an affair of many weeks, whereas now it was done in a short period. What with the assistance of machinery, and the skill which was brought to bear in the cultivation of the land, the seed was put in the ground within a shorter time, and it was ready for the harvest also at the same time, and he was of opinion that unless they kept their men, their difficulties, instead of diminishing, would increase. It was, in his opinion, the duty of those who occupied the land to deal with this matter in a proper spirit, and remedy the evil complained of. Many persons went away because they could not find cottages, and he thought the landlords, instead of pulling down their cottages, as some had done, ought no longer to do so, but endeavour to keep in their parishes those men who were so valuable to them. He considered this question one of the deepest importance, and he trusted that many persons would be led to reflect upon what had occurred.

Mr. Holland said the condition of the labourer must be considered in connection with the land, their holdings, and their tillage, and in improving one they must endeavour to improve all. As tenant farmers, it was indispensable that they should have some security in the land, so as to be induced to expend their capital, and they must not expect, in investing their money, to get much profit in the first year or two. He (Mr. Holland) was now farming at a profit; but he had no hesitation in saying that if he had gone out of his farm two or three years after he took it he should have left it comparatively a ruined man. With respect to their labourers, if they intended to avail themselves of improved machinery they must at the same time secure men who were competent to use such machinery, and it was by educating them they would get a better sort. It was generally admitted that every one who went to school was brought into training, and acquired proper habits, and he believed that it would have the same effect with the labouring class, and make them better servants; they were the only class that had not moved on with the times, and while others have been helped forward, they had been kept back. The farmer, not living in towns, laid in from that source his stock of domestic requirements for a time, and there he also obtained his stock of labour for the year, and that might be said to be the origin of statute fairs. In consequence, however, of increased facilities, the farmer was no longer obliged to supply his domestic necessities on those particular occasions, when he and his labourers made their journey to the statute fair; but even so he was supplied with labour there, for it was there where he sought for it, and where the labourer went for obtaining employment. He was happy to find this system did not extend all over England; where it prevailed in this neighbourhood, and he was sure they would agree with him, that there was a large amount of drunkenness and vice, and a greater number of blackguards at a statute fair than on any other occasion. He suggested that they should hire the labourers in the same way as domestic servants are hired—by the year, but allowing them extra wages time, so as to induce them to remain, instead of causing them to leave when their services were most wanted and would command elsewhere a better rate of remuneration.

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CRAVEN: *Yorkshire Agriculture.*—At the meeting of this society, Skipton, Sir J. W. Ramsden said: We are accustomed to boast of this West Riding of ours that it presents an epitome of the whole life of England—that in the West Riding are represented commerce and manufactures of every branch and agriculture of every description. If this boast of ours be true, the functions we in Craven exercise may be taken as representing the pastoral state. Now this district is divided into two separate divisions; one, that in which we are now assembled, viz., Skipton, the capital of Craven, and in this lower region perhaps there is very great room for improvement. We see here the fertility of the soil, and the skill of those who cultivate it, that farming has attained to a very high pitch in the agriculture of England. But those, as I do not, who come from the barbarous mountain regions, will derive the greatest benefit from the establishment of this society. We have, I fear, a rather different tale to tell. As far as we are concerned, there has been very little or no improvement. As you go up among those mountains, you will find that our pastures are still undrained, our roads in many places bad and impracticable, our hill-sides devoid of shelter, our few buildings of a most primitive description, and, in short, that we have a great deal to learn: and I can only hope that we shall have the will to learn it. But if as to our districts we are very much behind-hand, compared with the rest of the world, in agricultural improvement, at least we have two mainstays from which our future improvement may be developed. We are tolerably "wide awake," and we are tolerably "well-to-do." If, then, we have these two requirements of agricultural improvement—that is to say, material resources and intelligence to know how to make use of them, I think the prospect for us is not a very dismal one. All we want is to have present before us, and forced upon our notice, the great advantage which agricultural improvement brings with it. We want to see, in short, that we can drain, and improve our roads; and when all this is done, I think it will pay us well. That is, after all, the long and short of the matter; and I think that is precisely the function which such a society as this is best calculated to afford. We come down from this barbarous region and can meet our neighbours who live in the more fertile and improved district, and converse with them; they hear our antiquated prejudices, and laugh at them for them; they tell us what they have done, and we see what they have done, and they point out to us that we can choose, if we have energy and spirit to profit by the example, we may do just the same; and when we see thousand acres of fertile land on those hills which are now lost in wet ridges, and are covered with nothing but Bent and Ling, and see the wonderful improvement wherever an open ditch is cut to let the water off, I think the evidence of our own senses will show us that everything is ready to our hands, and that we only want energy, spirit, and skill to make use of the advantages which we possess, I must say that in passing through the exhibition to-day I was lost in amazement at the high quality not only of the prize animals exhibited but of the high average which has been attained. It is not only such men as Sir C. R. Tempest, who is pre-eminent in agricultural societies throughout the kingdom, but we see that the smaller owners of the land and the farmers throughout the country are seeing the advantage of improving the quality of their stock, and that they are associated to do it. But upon it the whole matter rests in their hands. It is not by a large landed proprietor here and there setting an example by laying out his money, and perhaps considering whether it will pay or not, but the improvement of a district must rest in the hands of those who cultivate that district; and it is not until they are able to show them that they can cultivate and derive a great profit by introducing improvements that we shall see any material advance in agriculture take place. It is just because I believe this society is calculated to perform that function that I look forward so hopefully to its success in future years.

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RUGELEY.—At the late annual meeting of this agricultural society, Mr. C. Chawner, in proposing the principal toast of the evening, "Success to the Rugeley Agricultural Society," remarked:—At this season of the year societies like their own were holding meetings in all parts of the kingdom, and men of all ranks and of all opinions were assembled at these meetings, all joining in the toast, "Success to Agriculture." This being the case, a very important question suggested itself for consideration, and that was, whether

...ers of England as a class were doing all that the ...ry of progression might be expected from them, ...lking of the position in which they were placed; ...whether in fact, they were not cultivating their farms ...s prejudicial to the highest system of farming which experience had shown to be practicable, ...ed to promote not only their own interests but ...ose also of the great body of consumers. He ...found it stated, as the result of careful observation, ...at at present this was not the case. He might be ...ld that this was an old story of his own. It was not ...ly an old story, but a true one; and as they now had ...e importations of all kinds of agricultural produce ...m every quarter of the globe, it was most desirable ...at they should ascertain whether they were taking up the ...ht position as regarded stock. If they referred to the ...ords of even preceding generations, they were ...mpelled, from what we had imported, to acknowledge ...at they could supply superior and better varieties of ...ery thing could be produced in this country for bread ...one, but if they looked at the supply of fat stock, ...ey came to the conclusion that no country could ...mpete with them in the production of animal food. ...om time the question whether they were doing the ...st they could for themselves and the consumer in ...is direction. He (Mr. Chawner) considered that they ...re not. Take, for instance, an example. When they ...me going to lay in the raw material (if he might so ...ll the feeding stock or barren beasts, they met ...gether in the month's time might be a short supply, ...d the cost of the raw material was often so high, ...at if they added to it the cost of feeding, they would ...ave to live by the loss rather than the gain. Well, ...ow, was there any remedy? For his own part he ...new of but one; and that was, the rearing a greater ...umber of animals, both cattle and sheep, than they ...ere now doing. He believed they might lower the ...ice of butchers' meat in the country, and yet obtain ...much better profit for themselves. During the last ...o years he had reared 100 calves. He found that ...any of his neighbours were glad to get rid of their ...lves, and he had purchased many of them from the ...iry farms. He had found in the rearing of calves ...ry little milk was necessary; some small quantity ...as required, but the real thing to rely upon was good ...inseed cake, and he had found from experience that ...early the same nutritive properties existed in the ...ake as in the milk of the cow. The steers reared in ...at way were fed off and sold at about two and a half ...ears old; the heifers came in with their calves at two ...ears old, and they were fed off the next winter. The ...ubject on which he was speaking was a most important ...ne. A man might do as he liked with reference to ...e improvement of his land, but he must also produce ...n increased number of cattle and sheep if he intended ...o do better for himself, and to do what was his plain ...uty to the consumer also. He should be most happy ...t any time to show any practical person the details of ...is plan, and remove whatever misgivings he might ...ave as to its practicability; for if they could only ...crease the number of stock two-fold they would be ...oing a great thing, as they could never obtain a suffi...ient supply of animal food from other countries. One ...ore remark he would make with regard to the ...isposal of stock at the market. He thought all stock ...ould be sold by auction. Sales of stock were now ...eing generally established, and they had a very good ...onthly sale in that town, at which a ready market ...as found for the disposal of cattle. He thought the ...stablishment of that sale was one of the reasons why ...e society had revived, and the show that day had ...en so good. The great majority of animals exhibited ...ould not have disgraced the Royal Agricultural ...ociety of England. In fact, they had several Short...orns which took prizes at the exhibition of the Royal ...ociety this year; and if they were still assiduous in ...romoting the prosperity of the society, they would ...ake it one of the best in the kingdom.

In the course of the evening, the labourers who ...ad competed in the ploughing matches, &c., and ...e shepherds and others, were introduced for the ...rpose of hearing the awards read; after which ...e chairman addressed a few very kind and appro...riate remarks to them, urging especially that ...ey should make themselves fully acquainted with ...ery department of skilled labour in connection with ...griculture. In this respect they were at pre...nt deficient as a class, for they did not take the ...me pride in their work, or the same pains to obtain ...formation which might be useful to them, as the ...rtisans in our manufacturing districts. "A very con...derable change had already taken place in agricul...ral labour in connection with the use of machinery, ...d they would find that it would be speedily applied ...every department of the more laborious descriptions ...work; but this would have a tendency to multiply ...bour in every other department. They must ...member that, if a man lacked intelligence and ...riety, he was not fit to be anywhere near a machine; ...t, if he possessed those qualifications, he became ...re and more valuable every day. He trusted that ...y would do their utmost to maintain good characters, ...d improve themselves in every department of skilled ...our."—*Midland Counties' Herald.*

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COMBE ST. NICHOLAS: *Labourers and Cottages.*—...the late annual meeting of this society Mr. Aplin ...ke on this subject. He said:—Their object was ...e promotion of general skilled labour. For that ...society went up little further than a ploughing match, ...t aimed galore for ploughing, and the most ...portant branch of husbandry the skilful hoeing of ...ots. He trusted that they should be able to go still ...rther in the encouragement of skilful labour. The time was come when the labourer must be better cared for than he has hitherto been. Let them think of the generally too cheerless homes of the creators of England's wealth. Ride where they would, they would find many of them comfortless and neglected. Too often were the eyes shut, as it were, and the back turned upon them as if they did not concern us. But are not our domestics drawn principally from the cottage of the labourer? Could we expect suitable servants, trained as they too often are? What, may be asked, was the remedy for all this? The removal of that barrier to progress, the law of parochial settlement—the substitution of a fair union rate, with no removal of paupers. Under such a change they might expect cottages to be built on the estates of gentlemen who are now deterred by a feeling that they should be incurring a charge on their property by an increase of the poor rate. But, he would ask, is not land let the dearest where population is most abundant, and the reverse where population is scarce, examples of which are plentiful enough in the southern counties? Of course improvements in agriculture can only be applied by an increased number of labourers, who surely ought to have comfortable cottages, with large gardens attached, so that they might feel that they are men—that they are cared for, and that they have masters whom they can regard with respect—that they have really "sweet homes" in which to raise the family altar, at which to thank Providence for the blessings they enjoy. Let them compare a man so situated with the mere wandering hireling—a "time server,"—coming, his employer knew not whence, and when he had done with him leaving him to go he cared not whither. High wages to these men can hardly be said to better their condition, for experience shows that they are not better off even after a good summer, than those who are regularly employed. What he wanted to see was, that the labourer might be able to sell his only commodity—labour—in the best market, and to feel that he is not bound by the law to any particular parish. In a word, give him Free Trade. Let the voice of the people rise to press the legislature to fulfil what has long been wanting—the removal of the parochial settlement. They might then expect the labourer to be cared for as he ought to be—as a servant and as a man.

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## Reviews.

*Our Farm Crops: Part I. The Wheat Crop.* By John Wilson, F.R.S.E., Professor of Agriculture in the University of Edinburgh, &c. Blackie & Son, Warwick Square, London, E.C.

Professor Wilson is to discuss the whole subject of farm crops in 12 such parts as the one before us—each being complete in itself. The present specimen of the series comes perfectly up to the plan of the prospectus; and if any one wishes to know the history of the Wheat crop as cultivated in this country, to be acquainted with the varieties most grown, the details of their cultivation, growth, ripening, and harvesting, the diseases and insect attacks to which they are liable, he will find all he wants in this pamphlet, given, as is the case with all Professor Wilson's publications that we have seen, in simple unpretending English, so as to be intelligible to all.

He will find more than what we have named—references to the history of the plant from the earliest ages; repeated allusions to the maxims of Roman agriculture, and to the experience of even Grecian cultivators are sprinkled through the pages of the pamphlet, but these, except as meeting the taste of those literary men who shall consult its pages, are in our opinion of little service towards the object of the author. The experience of our own cultivators for the guidance of their contemporaries and successors is all the latter need or can reasonably desire.

The theory of Wheat growth and of Wheat as food is sufficiently detailed in Professor Wilson's pages. The composition of the soil, its due preparation by cultivation, the selection of the seed, *its* preparation before sowing, the manner of its germination, the quantity to be sown per acre, the mode of sowing, the cultivation of the land during the growth of the crop, the period and process of harvesting, the operation of threshing, the nature of parasitic fungi, and of the mischievous insects which in all stages of its growth attack the plant—all these particulars are discussed in sufficient detail; and the pamphlet concludes with nine or ten pages on the chemistry of the Wheat crop.

We may add as indicating a defect which in the further issues of the work may, if the author pleases, be corrected, that most readers will regret the absence of fuller information on the statistics of the Wheat crop—on the extent of land occupied by it in this country, the deficiencies in the home growth of Wheat as indicated by grain importation from abroad, the proofs from experience of the possibility of vastly exceeding our present annual growth by more generally extending the produce per acre of good cultivation. Fuller information on the effect of the various manures which are applied to this crop might have been given—the effect of land drainage might have been illustrated—the place of the crop in the rotation might have been more fully discussed—and an index to the contents of the work might have been given. The reader has the advantage of coplet engravings of ears of the different varieties of Triticum, and of the insects to whose attacks the plant is obnoxious. The following passage is extracted as a specimen of the author's style:—

"The *Chemistry* of the Wheat plant, owing to its importance as the first of our food grains, has received more attention than that of most of our other cultivated plants. Numerous analyses of its organic as well as inorganic constituents have been made by continental, as well as by our own chemists: all of them add greatly to our store of knowledge, though some of them have a more practical application than others. In the early days of agricultural chemistry, the composition of the soil was thought to claim our first consideration, and soil analyses were looked upon as the keystones of the new system. These failed, however, to secure the results expected—not that the chemist was unable to determine the exact constituents of the sample submitted to him, but because it was impossible to supply him with any sample that should fairly represent the mass of the soil whose composition we wished to have made known to us. Every one conversant with farming must have noticed the variations in the soil of different fields on the same farm, and frequently even of different parts of the same field. A sample taken, therefore, from one part alone might be widely different from the soil of the other parts of the field, while a number of samples drawn from these differing soils and mixed together, might still more mislead, and represent no portion of the surface-soil whatever. Again, take the same soil under different conditions: take a sample in the early spring, after the rains of winter have acted upon the surface, and carried its most soluble constituents down into the subsoil, or away altogether in the drainage; and take a sample from the same spot at the close of autumn, when no rain has passed through the soil for months, but has passed off by evaporation, leaving behind in the surface-soil the soluble salts it had met with in its upward passage—submit these two samples to the laboratory tests, and see what different indications of fertility they would give you of the same soil. The spring analyses would indicate a soil poor in available food for the crop, while that of autumn would place the same soil very high in the scale of fertility. Even if the analyses of soils had furnished us with all the reliable data we expected, we should have failed to apply them profitably, until we were equally acquainted with the composition and constituents of the plants we wished to cultivate, so that we might know whether those ingredients which the plant required for its growth were to be met with in the soil in which it was to be placed. The importance to be attached to a chemical investigation into the composition of our farm plants was at once recognised, and the subject was taken up with great energy and liberality by the Royal Agricultural Society, whose Journal promptly made known to the agricultural community, abroad as well as at home, the valuable and very interesting results obtained. In the investigations carried out under their auspices, most of our crops are comprised; those especially relating to Wheat will be found chiefly in Vol. vii. These investigations showed us, that although the constituents of any individual plant are always the same, still that there is well-nigh as great a variety in the composition of different plants as in that of different soils; which at once gives us a reason—not only one though—why certain plants thrive better on certain soils than on others. They also showed us, that although the constituents of a plant—Wheat, for instance—were always the same, still their relative proportions might vary in different specimens or varieties; and thus indicated the probability that one variety might be more advantageous than another for cultivation under certain conditions. In twenty specimens of Wheat examined (sixteen English and four foreign), a variation was shown in the amount (per centage) of silica assimilated of from 1.34 to 9.71, the one grown on calcareous rubble, the other on a greensand loam. In phosphoric acid the proportion differed from 34.44 to 49.22; some contained 26.7 of potash, while in another it amounted to 36.6 per cent. In lime and soda a greater difference was shown, the lowest proportion of lime being 1.15 and the highest 8.21, and of soda .07 and 9.06 per cent. These points of different proportions may have a practical value, as indicating varieties of Wheat more or less suitable for soils of different qualities, those varieties with the least percentage of phosphoric acid and potash being evidently better suited for cultivation in poor soils than the others, which require larger proportions of those salts for their growth."

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## Farm Memoranda.

DEIGHTON NEAR WETHERBY.—On Monday evening last the workpeople employed upon the farms occupied by Messrs. John and William Hannam, at Kirk and North Deighton, celebrated the feast of the ingathering—the harvest home. The entertainment took place in one of the large out-houses, which was most tastefully fitted up for the occasion. The roof and walls were decorated with flowers and evergreens, and a large number of flags, banners, and mottoes, artistically arranged, still further improved the *tout ensemble*. At six o'clock upwards of 70 persons, comprising the labourers, their wives and families, and guests, sat down to an excellent tea. Mr. John Hannam occupied the chair, and welcomed the invited guests. "The labourers he welcomed as old friends. There were families amongst them, that had been employed for 60 years in his

family; and individuals present representing, respectively, 36, 35, 15, &c., &c. years of employment with him and his father, and he hoped his own children and theirs would, in years to come, meet to tell a similar tale." Mr. Hannam explained what is "harvest home," and sketched the customs connected with such feasts from the earliest age to the present day. How it degenerated from a thanksgiving festival to a play and a mummery, in the middle ages, and in the last century, merely a scene of dissipation. Now we were sufficiently advanced to make the meeting one for the "feast of reason and the flow of soul"—an evening of enjoyment and instruction—of gladness and gratitude. He then traced the importance of the agricultural produce annually given by God in return for our labours—its enormous amount—its influence on trade, commerce, and the happiness of the nation: comprising Queen, Lords, and Commons, Merchant, Mechanic, Farmer, and Labourer. How the products of agriculture were at once the materials of art, the capital which kept machinery in motion, the sinews of war, and the means which gave the labourer a "fair day's wages for a fair day's work," and made her Majesty the sovereign of a happy people and a powerful nation. He then showed how the labourer and every one had cause of gratitude for the national advantage and the individual benefit conferred by this unprecedented fine harvest; and showed how agricultural improvement in this district had changed its face, and bettered the condition of all those who cultivated the soil. He contrasted the serf of the fourteenth century and the wretched "houserow" men of 30 years ago, with the hearty, happy, and he was proud to say sober as well as well-paid labourers present. He thanked them for this, and for their intelligence; in proof of which he had this year introduced a reaper amongst them, and instead of offering opposition to its use, they had done their best to work it efficiently, and he had cut about 100 acres of corn at 6*s*. per acre. This cheap harvest was not their loss, but the loss of the Irish emigrant, who would be better at home; and the profit or gain, he, Mr. H., had made by using machinery, they knew would enable him to employ them more constantly in more productive labour, that would repay him for his outlay. Threshing, reaping, and such work were unproductive labour, they did not increase produce. Field labour, weeding, manuring, trenching, draining, &c., did increase production, aud benefited the country; hence it would be beneficial when all heavy, unproductive work was done by machinery, and men with heads on their shoulders were employed on work that required sense as much as sinew, and intelligence as much as muscle. His men understood this, and they welcomed the reaper—as they had welcomed the steam engine and threshing machine some few years ago—and they had accomplished what in some parts of England could scarcely be believed—the cutting of 100 acres of corn in ten days at 6*s*. per acre: for he held in his hand the Report of the Evesham Agricultural Show, at which the Hon. F. Charteris alludes to this statement made by him (Mr. H.) at Liverpool a few weeks ago as something surprising, and adds that "they in the South have been paying from 20*s*. to 30*s*. per acre for harvest work." The labourers here, however, know that where such exorbitant wages are paid at harvest but little will be paid afterwards; and therefore they say more machinery, more work—the more work master gets done for his money, the more work he will find to do, and the more men he will employ as he increases his production and lessens his expenses in unprofitable labour. The manufacturers have found this out. It has been illustrated by the progress of this parish during the last 20 years, and he was proud his men had found out the secret, and were, like him, thankful for a good harvest, glad it had been done cheaply and satisfied to go hand in hand with their employers, in accomplishing the duties that belonged to their occupation. *Wetherby Journal.*

## Miscellaneous.

*The Four-course Rotation of Crops.*—The Norfolk, or four-course, shift is going out of favour in its native county. At any rate it is not so rigidly adhered to as formerly. For many years two white straw crops in succession have been taken in some of the good deep soils of East Norfolk, but, until recently, such a deviation from the established rule was considered bad farming in the west. The very mention of such a thing was a perfect shock to some landlords. But what is the use of artificial food and manures, of new implements, of extra capital, and of all our recent improvements, if we cannot grow more corn, ay, and grow it more frequently too? Already the land is stimulated to such an extent that it is dangerous to force it further, unless some means be discovered to keep the straw from lodging. As it seems impossible to grow more corn in one year with any certainty, the next step is to grow it in more frequent rotation. As long as a tenant keeps his land clean and in good heart, the conditions of good farming are complied with, even if an extra white straw crop be taken. Even on the Holkham estate—that fostering parent and stanch supporter of the four-course rotation—the tenants are allowed to grow as many Oats on their Wheat stubbles as they consume on the farm. In order to show that these extra crops can be grown without in any way injuring the fertility of the soil, a field of Oats, which in 1856 attracted much notice at Castle Acre, is brought forward as a successful instance. The field in question contains 46 acres, and soon after the harvest of 1855 the little Couch Grass that was in the Wheat stubble was forked out. During the winter Turnip tops, &c., were thrown on the land for the ewes, which were removed at night, and in February the field was regularly folded over with 2000 sheep, eating 5 tons of Mangels per acre and ½ lb. of oil-cake each per day. The ground was then ploughed, and 2 cwt. of guano an acre sown on the weakest portion of the field; white Tartarian Oats were drilled in March, and were afterwards top-dressed with 1 cwt. of nitrate of soda and 2 cwt. common salt. The result was one of the most level and glorious crops of grain ever seen in Norfolk. The yield of Oats was nearly 15 quarters to the acre. and the field on being cleared was as clean as a garden, Last year the same field produced the best crop of Swedes in the county, and the Barley which follows now shows signs of over-luxuriance. This is the perfection of farming: to grow such excellent and profitable crops, and yet keep the land free from weeds and increasing in fertility. The usual mode of growing such Oats is to clean the Wheat-stubbles directly after harvest, and to sow 2 cwt. of guano before the Oats are drilled in the spring. A top-dressing of nitrate of soda is often added, for Oats will stand plenty of manuring, and the grain, if the crop lodge, is not necessarily spoiled. It is the general practice to take Oats after Wheat, but it is questionable if Barley is not a better grain to grow as a second corn-crop. The quality of Wheat stubble Barley is invariably finer than that of the Turnip lands, and Oats could be grown after the late Swedes when the sheep had consumed an extra quantity of cake, and the land was in too rich a condition to be safe for Barley. *Journal of the Royal Agricultural Society.*

## Calendar of Operations.

### OCTOBER.

Agricultural Report for the Isle of Ely.—The month of September this year scarcely maintained its character as one of the most lovely and beautiful months of the year, but was stormy rather than calm, and cold at intervals rather than mild and genial. Storms of wind and rain prevailed very largely throughout the whole of the month, which gave it a strong resemblance to March, and made us almost forget that the "queen of summer months" was here. October however brought with it a return to summer weather, and on some of the days of the first week the sun shone as brilliantly and the temperature was as high as in July. This gave a fresh impetus to vegetation, and clothed our pasture fields with a spring-like verdure. During the last few days we have had a return to stormy weather, and a good deal of rain has fallen. Whilst we write the rain falls copiously, and promises to continue, as the barometer is very low, and the clouds indicate a heavy downfall. This season contrasts very favourably in this respect with the last. We have had refreshing showers at short intervals throughout the whole of the last few months, which have prepared the soil for the reception of the seed; whereas last year we suffered much at seed time for want of moisture, and many lands were sown in a state too dry to vegetate the seed until rain should fall. Many of our farmers commenced sowing Wheat last week; others are beginning this week, and should the weather prove favourable the bulk of the Wheat will be put into the ground during the next fortnight. We have now as fine a seed-bed as could well be desired, especially on our fen soils; some of the high lands are now quite wet enough, and with more rain will soon begin to work badly. The dry seasons which are generally so beneficial to strong tenacious clay soils are exceedingly prejudicial to our light and dusty fen soils. Consolidation, which is such an important element in fen farming, cannot be obtained; but every particle of the soil becomes so completely disintegrated and pulverised, until the whole surface becomes a mere dust heap, and as a consequence, vegetation becomes less luxuriant and we get a weak and sickly plant. Moderately wet seasons, especially during the winter and spring months, conduce very much to render our fen soils fruitful, and to make their cultivation remunerative. The present seems likely to be one of those old-fashioned seasons, and in this locality will be an agreeable change from the excessively dry and parching weather of the last year or two. As the threshing proceeds we find our worst fears as to the yield of the new crop of Wheat more than realised. The grower of Wheat in this immediate district has three bad things to contend against which combined must prove very ruinous, viz. a bad yield, a bad quality, and a bad price. We are still unable to report very accurately as to the yield of the Oat crop, but it cannot be much below an average we conceive from the bulk and general appearance of the crop. The heavy arrivals of foreign Oats have considerably depreciated the value of our own produce, but we shall not be surprised to see ere long a slight reaction in the value of this description of grain. The trade in lean cattle and sheep at the autumnal fairs has not been brisk, but for any but the best qualities has been very slow, and prices have declined. Keep is very plentiful. Grass grows rapidly. Mangels are a good crop. Coleseed is various, but is now growing well, and where there is an adequate plant will be a heavy crop. Mutton maintains its value, and sheep are going away from the Coleseeds with great firmness of hand. Potatoes are a light crop, and are mostly secured. There is a smaller amount of disease than was apparent some time since, but this attributable to the fact that many of the diseased tubers have become soft, and have rotted away and disappeared. The corn trade appears to be struggling for some improvement The inferior crop of Wheat in so many counties is beginning to exert some influence, and prices point upwards. *Your Fen Reporter.*

## Notices to Correspondents.

Blood Manure, &c.: *J V.* Next week.

Disease in Cows: *C J.* Mr. Spooner will report on your case. Meanwhile house them at night and give them warm Linseed mashes in addition to their ordinary food. We see no fault in the recipe you quote.

Lambs: *Amateur.* You will find oil-cake as good as anything; begin with a very little daily.

Liquid Manure: *Amateur.* You may cart it on Grass land. It will pay for the operation if the land be drained and not too distant.

Mildew: *J S.* The mildewed leaves may be removed, but if the cause of mildew still remains the disease will reappear

Mr. Horsfall's Writings: *B M.* They are the subject of dairy management and the feeding of dairy cows. See Vols. XVII and XVIII. of the Journal of the Agricultural Society.

*** As usual, many communications have been received too late, and others are detained till the necessary inquiries can be made. We must also beg the indulgence of those correspondents the insertion of whose contributions is still delayed.

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In Mr. W. J. Nicholson's Catalogue, published in the late Number of the *Gardeners' Chronicle*, a kind appears under the name of Wizard of the North, no raiser's name given, and queried as Sir Walter Scott. Not knowing any Strawberry named Wizard of the North besides our Seedling, this matter became the subject of immediate and frequent communication with Mr. Nicholson, and in a letter from that gentleman dated September 22, he writes:—"I have had some inquiries about the Wizard of the North to know if it is really different from the Sir Walter Scott, to which I have said yes, after comparing the plants sent by you with those of Sir Walter Scott. I see it is different, though a good deal alike, and I think of the same race. In my next Catalogue this will be made all right." Having seen growing in a nobleman's garden here plants of the Sir Walter Scott (obtained from Mr. Nicholson direct), beside plants of our seedling the Wizard of the North, D. R. feels astonished that Mr. N. or any other grower should have compared the two sorts, they are so dissimilar in growth, and can only account for Mr. Nicholson's error by concluding that the plants he compared with Sir Walter Scott in the first instance were in reality not the Wizard of the North at all. He had no plants of this kind from D. R. until after the appearance of his Catalogue.

D. R. begs to state that Messrs. Dickson and Co. of Edinburgh, and Mr. R. Pollock of Kilmarnock, had plants of the Wizard of the North in the autumn of 1858, to propagate stock for themselves, and which they have honourably retained until after he advertised it out. They are the only Nurserymen who could have been in honest and lawful possession of this kind previous to the 16th of August last. The appearance of its name in any Catalogue previous to that date was quite unwarranted.

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| 200 | Paul Dupuy |
| 100 | Reine des Fleurs |
| 500 | Souvenir de la Reine d'Angleterre |
| 500 | Souvenir de Leveson Gower |
| 200 | Triomphe de l'Exposition |
| 500 | " de Paris |
| 500 | William Griffiths |
| 100 | Amandine |
| 100 | Augustine Mouchelet |
| 500 | Baron Prévost |
| 50 | Comet |
| 100 | Duchess of Sutherland |
| 100 | Jacques Lafitte |
| 500 | La Reine |
| 100 | Louis Buonaparte |
| 100 | Madame Laffay |
| 100 | Robin Hood |
| 50 | Sydonie |
| 50 | William Jesse |

TEA-SCENTED.

| | |
|---|---|
| 500 | Comte à Paris |
| 500 | Devoniensis |
| 100 | Elise Sauvage |
| 1000 | Gloire de Dijon |
| 100 | Goubault |
| 100 | Jaune |
| 150 | Madame Willermorz |
| 100 | Niphetos |
| 100 | Pauline Plantier |
| 100 | Sombreuil |
| 150 | Souvenir d'un Ami |
| 100 | Vicomtesse de Cazes |

The above are all fine grown plants, strong and vigorous; they are all budded close to the ground, within 3 and 4 inches of the root, and are admirably adapted either for clumps or potting. Smaller quantities are grown of all the other varieties in their different classes.

## GLADIOLUS BRENCHLEYENSIS.

YOUELL AND CO. are now sending out strong flowering Bulbs of this magnificent showy variety, the colour of which is bright vermilion scarlet. A box of the spikes of bloom was forwarded to the Editor of this Paper in August last, whose opinion of it will be found in the publication of August 20, page 694, as follows:—

"This must certainly be regarded as one of the most showy and beautiful of the class to which it belongs."

Price 5s. per dozen; 40s. per 100. Trade price on application.

Royal Nursery, Great Yarmouth, Norfolk.

## CARNATIONS AND PICOTEES.

YOUELL AND CO. are now sending out strong well-rooted Plants of the above at the following prices:—

CARNATIONS, finest first-class show varieties by name, 18s. and 24s. per dozen pairs.

PICOTEES, ditto ditto, 18s. and 24s. per dozen pairs.

" on yellow grounds, 20s. and 30s. per dozen pairs.

Finest mixed Border CARNATIONS and PICOTEES, 9s. per dozen pairs.

True old CLOVE CARNATION, 12s. per dozen pairs.

Scarlet " " 18s. "

White " " 24s. "

(Our extensive stock of the above enables us to offer them to the Trade on most advantageous terms.)

PINKS, finest first-class varieties, by name, 9s. and 12s. per dozen pairs, or fine mixed border, 6s. per dozen.

Royal Nursery, Great Yarmouth.

## CRIMSON PERFECTION RHUBARB.

ROBERT SALT begs to announce that having on hand a good quantity of the above excellent variety of RHUBARB, he is prepared to offer them at the following low prices:—

| | | | |
|---|---|---|---|
| One-year old Roots.. .. .. | 8s. | 0d. | per doz. |
| Two-year do. .. .. .. | 15 | 0 | do. |
| Three-year do. .. .. .. | 20 | 0 | do. |

With usual discount to the Trade.

R. S. has much pleasure in recommending the above, it being very early and productive, and the interior of the stalks a crimson colour. Orders forwarded to Robert Salt, Longton, Staffordshire, or to the undermentioned, will receive prompt attention:—Messrs. Hurst & M'Mullen, Seedsmen, 6, Leadenhall Street, London, E.C.; Burgess & Kent, Nurserymen, Penkhull, Staffordshire; Mr. Chas. Turner, Royal Nursery, Slough; Francis & Arthur Dickson, Nurserymen, 106, Eastgate Street, Chester.

A remittance from unknown correspondents.—Longton, Oct. 29.

## HYACINTHS, TULIPS, CROCUS, ETC.

JAMES CARTER AND CO. have just received a fresh supply of BULBS from Holland in first-rate condition:—

| | | | | |
|---|---|---|---|---|
| HYACINTHS for pots or glasses, 6s., 8s., 9s., and 10s. 6d. per doz. | | | | |
| " for open borders, single and double mixed, red, various shades .. | 2 | 0 | | do. |
| " blue, do. .. .. .. .. | 2 | 0 | | do. |
| " white .. .. .. .. .. | 2 | 0 | | do. |
| Crimson .. .. .. .. .. .. | 4 | 0 | | do. |
| Blue .. .. .. .. .. .. .. | 4 | 0 | | do. |
| Purple .. .. .. .. .. .. .. | 4 | 0 | | do. |
| Pink .. .. .. .. .. .. .. | 4 | 0 | | do. |
| White .. .. .. .. .. .. .. | 4 | 0 | | do. |
| POLYANTHUS NARCISSUS for pots, 6 fine varieties, one of each for .. .. .. | 2 | 0 | | |

CROCUS

| | Per 1000. | Per 100. | | Per 1000. | Per 100. |
|---|---|---|---|---|---|
| Blue .. | 12s. | 1s. 4d. | White .. | 18s. | 2s. 6d. |
| Cloth of Gold .. | 15s. | 1 8 | Large Yellow .. | 18s. | 2 0 |
| Purple .. | 12s. | 1 4 | Yellow .. | 12s. | 1 4 |
| Striped .. | 15s. | 1 8 | | | |

TULIPS for open borders and pots

| | Per 100—s. d. | | | Per 100—s. d. |
|---|---|---|---|---|
| Very fine mixed single .. | 6 | 0 | Duc Van Thol .. .. | 8 6 |
| Very fine mixed double .. | 6 | 0 | | |
| Tournesol, scarlet and yellow .. .. .. | 7 | 6 | Spanish Iris, finest named | 4 0 |
| Rex rubrorum, scarlet .. | 7 | 6 | Ranunculus, Scarlet Turban .. .. .. | 2 0 |

James Carter & Co., 238, High Holborn, London, W.C.

## NEW GARDEN SEEDS, GROWTH OF 1859.

Royal Berkshire Seed Establishment.

SUTTON AND SONS are now prepared to execute orders for all kinds of GARDEN SEEDS, and can warrant them genuine.

Royal Berkshire Seed Establishment, Reading.—Oct. 29.

## DUTCH FLOWER ROOTS.

PETER LAWSON AND SON

The Queen's Seedsmen, &c.,

respectfully announce the arrival of a fine Stock of

DUTCH FLOWER ROOTS,

and they are now prepared to execute orders for the same.

27, Great George Street, Westminster, S.W.

## NEW SEEDS.

TRIFOLIUM INCARNATUM

ITALIAN RYE-GRASS

NATURAL GRASS SEEDS FOR PERMANENT PASTURE LAWNS, &c.

PETER LAWSON AND SON, the Queen's Seedsmen, &c., are prepared to supply all kinds of SEEDS for AUTUMN SOWING of the best quality.

27, Great George Street, Westminster, S.W.

MR. EDWARD MILNER having constructed and laid out the Crystal Palace Gardens and Park, Sydenham, under the direction of Sir Joseph Paxton, and having managed them for the Company till last Midsummer (when owing to the pressure of other professional duties his engagement terminated), desires to express his acknowledgments to those Noblemen and Gentlemen who have honoured him with their patronage, and to state that he continues to undertake the execution of works of a similar character.

An active experience of upwards of 20 years enables Mr. Milner to offer his services in the formation and improvement of Parks, Gardens, and Ornamental Grounds, also in preparing designs for Conservatories and other Horticultural Buildings; in establishing and thinning Plantations and Woods, with special reference to the trees most suitable for particular soils and aspects, the valuation of Timber, Draining, Road-making, &c.

Mr. Milner is permitted to refer to Sir Joseph Paxton and to several Noblemen and Gentlemen for whom he has done work.—Address, Edward Milner, "Oxford House," Anerley Road, Norwood, S.

HORTICULTURAL SOCIETY OF LONDON.—The next Meeting of the FRUIT COMMITTEE will be held at 8, St. Martin's Place, Trafalgar Square, W.C., on TUESDAY, November 1, at 3 P.M.

At this meeting Prizes will be awarded as follows:—One Pound for the best, and Ten Shillings for the second best dish of each of the following varieties of PEARS:—

Class A.—Marie Louise.
" B.—Suffolk Thorn.
" C.—Beurré Bosc.
" D.—Louise Bonne of Jersey.
" E.—Van Mons Léon le Clerc.
" F.—Thompson's.
" G.—Any other Variety.

One Pound for the best, and Ten Shillings for the second best dish of each of the following varieties of APPLES:—

Class H.—Ribston Pippin.
" I.—Cox's Orange Pippin.
" K.—Early Nonpareil or Hicks's Fancy.
" L.—Blenheim Pippin.
" M.—Any other Dessert variety.

The carriage of Packages of Fruit will be paid.

All fruit exhibited must be fit for table, and accompanied by forms exhibiting the circumstances under which the fruit was produced. Blank forms may be obtained on application to Mr. Thompson, Society's Garden, Chiswick, London, W.

# The Gardeners' Chronicle.

*SATURDAY, OCTOBER 29, 1859.*

MEETINGS FOR THE ENSUING WEEK.

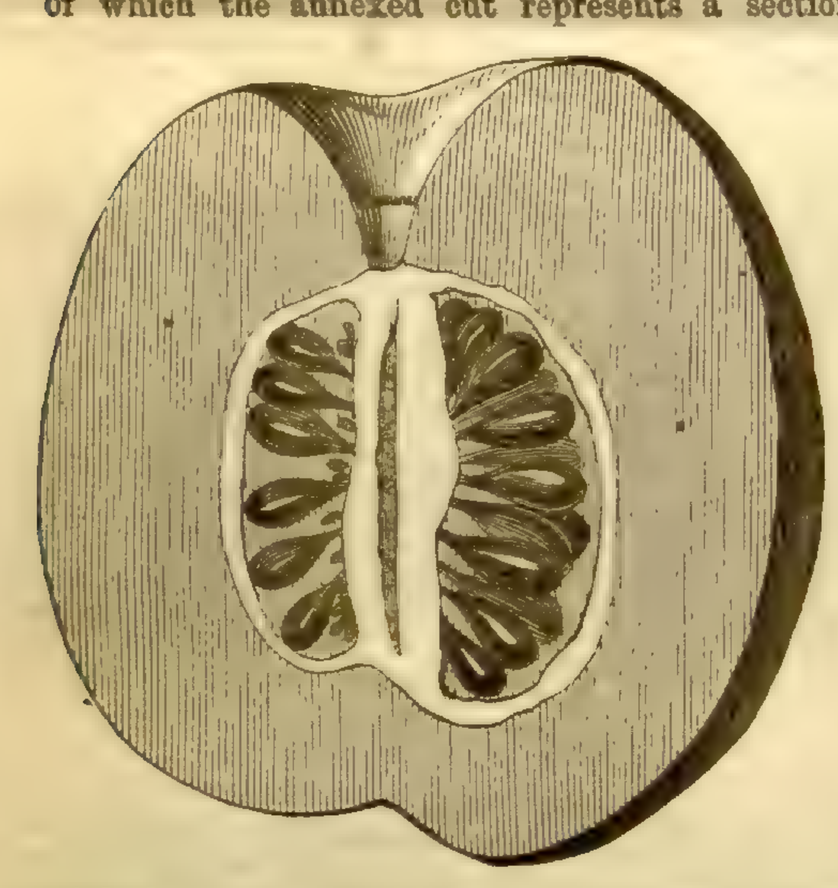
Tuesday, Nov. 1 { Horticultural (Fruit Committee at St. Martin's Place) ..... 3 P.M.

It has often struck us as a singular omission on the part of gardeners that they have not attempted to domesticate the Japan Crab, or Pyrus japonica as it is improperly called, the plant being in reality a Quince, or Cydonia. This most beautiful of all hardy shrubs except the Rose is now in precisely the same state as when it first, about the year 1815, arrived from China; the poor pallid variety called "white" having been also an importation and not of home production. Here was a plant unsurpassed for hardiness, for brilliancy of colour,

and for the durability of its blossoms, a winter flowerer and an evergreen, propagated moreover with the greatest ease, left disregarded by those who would have expended a life in experimenting upon the Rose. And what is the more remarkable it was a species evidently having a tendency to change, as its two or three unimportant varieties plainly indicated, and most nearly related to the Apple and Pear on the one hand, and the Rose itself on the other, all three of which are among the most domesticable (*s. v. v.*) of plants, as all men know.

It has perhaps been owing to the unwillingness of the plant to ripen its fruit here that the opportunity of raising seedlings has been neglected. And yet it does sometimes produce good seeds, more often perhaps than has been suspected, the fruit itself being worthless and disregarded. Attention has moreover been turned more in the direction of the fruit, whose qualities have been thought hopelessly bad, than towards the flowers, which appear to possess all the elements of mutability. When we think of the poor field Rose, with its red blossoms, not broader than a florin, which, when transferred from an Austrian cornfield, grew up from generation to generation in increasing beauty till it stood revealed what it now is—the loveliest of flowers, there is surely every inducement to subject the Pyrus japonica to the same discipline.

We have been led to these remarks by the examination of a case of very marked improvement actually effected in the plant before us. Not in the flowers, however, but in the fruit. The Quince which the species bears is described by THUNBERG as having the size of a Walnut in Japan, where it grows wild on the mountains. With us it sometimes becomes twice as big—a rugged angular unattractive thing, which none pause to look upon. But we received the other day from Messrs. LOWE & Co. some specimens of an improved variety raised by one of their correspondents in the south of France, which presents so very marked an advance towards change as to hold out great encouragement to skilful breeders. Instead of the shapeless, angular, rugged fruit that we see here, the specimens in question were very exactly oblong, as large at one end as the other, without any angles whatever, and clean-skinned like a Nectarine. The largest specimen, of which the annexed cut represents a section,



weighed 4½ oz., and was 8 inches round when measured lengthwise. The flesh was very firm, sub-acid, but rather austere, with a weak fragrance. As it did not promise to be eatable when raw it was made into a preserve with sugar in the usual way, and it proved to be admirably suited for that purpose, becoming semi-transparent and having a very delicate flavour resembling that of Quince marmalade.

It is now clear that to Pyrus japonica does not belong one of those unchangeable natures that defy attempts at alteration; but that like others of its Rosaceous kindred it is capable of yielding to the influence of the arts of cultivation. To what extent it will yield can only be ascertained by experiment; but considering the changes already brought about in China in its flowers, and in Europe in its fruit, there is surely no extravagant enthusiasm in anticipating the appearance of it, some day, with flowers as double and as large as those of the China Rose. This at least is certain—that there are now sufficient grounds to justify serious attempts at operating upon it.

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LAST Tuesday "HIS ROYAL HIGHNESS THE PRINCE CONSORT presided at a meeting of the Council of the Horticultural Society, held at Windsor Castle, at 3 o'clock. There were present Lord DUCIE, Mr. J. J. BLANDY, Mr. WENTWORTH DILKE, Colonel CHALLONER, Dr. LINDLEY, Mr. WILSON SAUNDERS, Mr. GODSON, Mr. J. R. SCOTT, Mr. BOHN, Mr. VEITCH, and Mr. EDMONDS." So says the *Court Circular*. The business of the meeting was to decide upon some preliminary points connected with the plans for the New Garden at Kensington Gore. The Council sat nearly three hours.

## New Plants.

228. CORDYLINE INDIVISA, *Kunth. Hooker, fil. Flora of New Zealand, I.*, 258.

This is very different from the plant thus called in gardens, or otherwise known by Forster's name of Dracæna indivisa, which is merely C. australis, as Dr. Hooker pointed out in his valuable Flora of New Zealand. It has now been introduced to Europe for the first time by Messrs. Lee, of the Hammersmith Nursery, who have communicated the following history of it:—

"Our correspondent describes the tree as being the only one he could find near the neighbourhood of Canterbury settlement, and he describes it as the most beautiful of all the trees or plants of the forest, having a large umbrageous head with many branches and fine long leaves (over 3 feet long). Their colour is a golden bronzy green, and the mid-rib, which is prominent and broad near the base, is of a tolerable crimson hue and very conspicuous. The country was searched for above 100 miles round and no other specimen met with."

That it is very rare in the country that produces it is shown by Dr. Hooker never having seen it alive, but described it from dried specimens. We transcribe our learned friend's account from the work above quoted:—"Inhabits the Northern and Middle Islands; Dusky Bay, according to Forster: the foot of Ruahine mountains, according to Colenso; Thomson's Sound, according to Lyall. Native name, 'Tikapu.' Trunk 10 feet high, according to Colenso (20 in the Middle Island), nearly a foot in diameter, undivided. Leaf very thick and coriaceous, 4 to 5 feet long, 5 inches broad, often glaucous below. Panicle 4 feet long, stout, drooping. Branches 8 to 10 inches long, very stout, densely covered with crowded pedicellate flowers. Perianth white, bell-shaped; segments oblong, one-fifth of an inch long, recurved. Mr. Colenso says that the fibre of the trunk of this plant is extensively used in the manufacture of mats and garments called 'Toii,' of which he has communicated one now exhibited in the Kew Museum of Economic Botany."

The leaves sent to Messrs. Lee resemble in form Yucca aloifolia, but are thinner. The inflorescence which accompanied them, from which however all the flowers had fallen, was a dense oblong panicled spike, not in the least like the loose pyramid of C. australis, the side branches curving gracefully upwards, like the arms of a candelabrum, and not being set on more than half an inch apart.

229. SYRINGA OBLATA.

We refrain from giving a specific character to this plant on account of the uncertainty under which we labour as to its distinctness as a species from S. vulgaris. Mr. Fortune informs us that it was first discovered in a garden near Shanghae, but it was evidently rare in that part of the country. "The Chinese informed me it came from the North and was common in the gardens of Pekin. Full grown specimens are about the size of our English Lilac, but more tree-like in the general outline; the leaves also are very striking, being large, rather fleshy, and oblately cordate. The species blooms profusely, and its fine bunches of purple flowers are very ornamental. There is a white variety equally interesting found in the same country which I have succeeded in getting home alive, and which is now under the care of Messrs. E. G. Henderson & Son, St. John's Wood. Both these varieties will be found perfectly hardy in England, and will no doubt prove attractive objects in our parks and gardens. I may mention that the Chinese nurserymen propagate them by grafting on the Privet (Ligustrum lucidum)."

It differs from the common Lilac in its leaves being as broad or even broader than they are long, and in the flowers, which are not more than half the size, forming a thin loose panicle nearly destitute of the down of the common Lilac. The cup of the calyx is also more acutely four-toothed. It appears from Mr. Fortune's specimens in our herbarium that a purple variety occurs in the gardens in the north of China, and that a white one is in cultivation at Shanghae.

Mr. Glendinning's nursery contains the only specimens of the purple variety of this species alive in Europe.

230. RHODODENDRON FORTUNI.

There has been for two or three years in the Nursery of Mr. Glendinning, of Turnham Green, a very striking Rhododendron, which is quite distinct from any others in cultivation. It has not yet flowered, but its leaves show that it is unknown in gardens, and, as far as we can discover, in books and herbaria also. Its leaves are very exactly oblong, perfectly flat, about 6 inches long by 2½ inches broad, rather heartshaped, and cuspidate. They are deep green and not at all shining on the upper side, white on the under. Their foot stalk is very strong, purplish, and about ¾ inch long. We cannot say more about it for want of flowers, but name it in order that it may not be confounded with others in cultivation; as it must very soon find its way into the trade. Its aspect will cause it to be likened to R. campanulatum; but it is wholly distinct, and possesses the great merit of being as hardy as Rhododendron ponticum, as we can state of our personal knowledge, a plant in our possession having stood the last three winters and even the snow storms of the late spring, without the least protection, in a shrubbery facing the N. W.

Mr. Fortune has furnished us with the following memorandum concerning this plant, which promises to be worthy to bear his name. "When on one of my long journeys in the province of Chekiang (West from Ningpo), I accidentally met with this fine species amongst the mountains, about 3000 feet above the level of the sea. The discovery was most unexpected, as although the lower parts of these mountains are covered with the allied genus Azalea, no Rhododendron had been known to exist in this part of China. The specimens I met with were of all sizes, from a year's seedlings to full-grown plants, the latter being 10 or 12 feet in height. The large plants had been covered with flowers a short time before, and the ground under the branches was now strewed with decayed blossoms, but not in a state fit for examination. I was told on all sides by the natives that the plants were most beautiful objects when in full bloom. When I returned to the same place in the autumn I found an abundance of the seed, which has vegetated freely in Mr. Glendinning's Nursery at Chiswick. The only other species of Rhododendron known in China is *R. Championæ* (Hook.), a pretty plant discovered by the lamented Col. Champion on the Hongkong Hills."

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## HISTORY OF AN ORCHARD VINERY.

THE following are the particulars as to the cost and results of a cheap or orchard Vinery, which, for very moderate cost and ultimate utility are considered, will I think prove interesting to many. I do not presume to instruct people either how to grow Grapes or how to erect cheap orchard-houses as separate matters, as this information can be better obtained elsewhere; my object is simply to inform your readers what has been done and at what cost, and to show that much more has been realised than could possibly have been expected either by employer or gardener, the former especially being unfavourably predisposed to the contrivance, though now it is much in favour, its merits having been fully tested. The idea occurred thus: early in the spring of 1855, having on previous seasons felt the want of more convenience for wintering bedding plants, I had permission of my employer to expend a small sum for a pit, frame, or other building, which should supply what was required. I came to the conclusion that a erection would be so useful as a cheap building, which would answer the purpose of a hybernatory and Grapery without fire-heat. Four Vines had been planted in a small greenhouse three years previously, which owing to shading the plants had never produced fruit and had been otherwise very unsatisfactory, and as the intended cheap wooden orchard Vinery it was thought these might be removed with advantage. I confess I was very anxious to give a fair trial to the principle of connecting these two purposes with small cost of erection, and that such can be done is proved satisfactorily, both as to quantity and quality of the Grapes as well as the preservation of bedding plants.

The result of a consultation with a master carpenter was that 12 lights, 6 feet 9 inches long by 3 feet 6 inches wide, were prepared and glazed with 16 oz. sheet glass, size 9 by 7 inches, with glazed ends, a door at one end, 7 rafters and 16 posts* for the front and ends, 3 feet 3 which were fixed in the ground, and 2½ feet out, each a straight edge, to the outside of which are nailed half-inch deals; these form the front wall, four boards 9 inches wide from ground to wall plate; the house measures inside 22 feet 10 inches long, by 11 feet 9 inches wide, the back wall is 9 feet clear inside, giving ample head room for path; the rafters rest upon wall plate 3 by 5 inches back and front.

So far as carpenter, bricklayer, painter, and glazier were concerned the Vinery was finished April 2: the border was then made by taking the soil all out inside to the depth of 2½ feet, and within 1 foot of the posts there were 6 inches in depth of rough brick rubbish placed for drainage, with a fall of from 3 to 4 inches toward the front, in which a common red 2-inch drain pipe was laid. Two-thirds of the soil which was taken out were mixed up with five cart-loads of fresh loam, two loads of rotten dung, and two of brick rubbish and brick bats broken up so as not to exceed the size of a hen's egg; no other material whatever was used. On April 18 following, the four unsatisfactory Vines alluded to were lifted from the greenhouse; they consisted of Muscadine, Black Hamburgh, West's St. Peter's, and Raisin de Calabre; they had when removed made shoots from 4 to 5 inches long, and bled profusely on removal. These Vines were planted up the back wall to which the house was built, having nearly a south aspect. They now come down the rafters and up again; planted within a foot of the front posts were also five Black Hamburgh Vines, which had been raised and grown the previous season. The crop of 1855 consisted of 47 bunches or ¾ lb. each. The lifted the young Vines only, averaging Vines of course received a considerable check, and made no wood thicker than the little finger the first season, but that was good and well ripened. In 1856 the house contained about 90 bunches of good quality. In 1857 there were upwards of 200 bunches; the first were cut August 3, though the average time of commencing cutting has been the middle of August

* We found the posts, the carpenter the labour of cutting and preparing.

and when the weather became damp towards the end of October, having no heat whatever, I cut about 100 bunches with part of the wood attached, sealed the ends and hung them up in a dry room of south aspect with occasional fire. These were in use till Christmas. In 1858 the crop exceeded 280 bunches; I began cutting August 16; many of the bunches were 1¼ lb. weight, and the whole would average 1 lb. each. Thinking that a small Arnott stove would keep the Grapes best, I now had one placed in the centre of the Vinery with pipe carried through the back wall, and this season the crop was too large; and owing to the absence of the family during part of November and December, the crop hung too long. They however kept well until the middle of January of this year, and the present season, though the crop is not so large or good, we have had upwards of 200 bunches, several weighing from 1¼ to 1½ lb. I began cutting August 22, and I have at this time (October 25) upwards of 120 bunches, which will average as many pounds; no fire has been used until the recent damp days. The stove is employed with air, and only to dry the atmosphere, as well as not to injure the bedding plants which occupy the floor of the house, which is as useful as any of the same superficial contents for keeping various plants from October to May, during which time I use a cover of rough Manchester cotton sheeting. It is in lengths suitable for this house from top to bottom, and five sheets sewed together cover the roof at a cost of 2*s*. 6*d*. each, or 12*s*. 6*d*. for the whole; these I find stronger than Frigi Domo, and at about half the cost. This is easily drawn up by sewing four rings to the cover and corresponding pulleys at the top of the house.

After the house is cleared of bedding plants, the border is forked up, and during the summer is very useful for newly-potted plants owing to its shade. I usually give the border two thorough soakings of water during the growing season. I continue watering until I can see that it has passed through the whole of the soil and drainage, having a tub sunk for the purpose. From the end of July the border is allowed to become as dry as possible, when the house forms a good shelter for drying seeds, herbs, Onions, &c.

This cheap orchard Vinery has, as has been stated, much more than answered what was expected, the best proof of which is the desserts furnished to my employer and the cost of production. The average crop of the season would more than pay the entire cost of the house, and in some seasons has exceeded that, for the entire cost was something under 20*l*., and the carpenter's bill included raising the back wall a foot at one end to get the level, also pointing, plastering, and lime-washing, for the wall was very old, and full of nail holes. The Arnott stove was an after expense, 2½ years after erection, and was 1*l*. 14*s*., including about 13 feet of pipe for chimney. I may remark that I give all the air possible in the spring with a view to retard the breaking of the Vines, and in a secondary point of view the better for the plants, lest the frost, which sometimes does injury at the end of April and early in May, should find the young Vine shoots unable to resist it. But with the covering I have hitherto had no reason to fear, and from the end of May for the next three months I shut up early and economise heat as much as possible, checking growth as long as I can while I have the power, but when unable to further retard assisting to obtain and retain heat, closing the house early, frequently forking the border, and sprinkling soot, ashes, and very rotten dung on the border. *M.*

## BELGIAN GARDENS.

No. III. Not long agowe had an opportunity of visiting the magnificent residence of M. Warocquié, of Mariemont. We need not speak of either the fine park, in the midst of which still stand the ruins of the spacious palace, formerly inhabited by the Archduke Albert of Austria, or of the new mansion quasi royal, from the top of which there is an extensive view for many miles round. Our business is with the beautiful gardens, the fruit trees growing under glass, and the conservatories, partly finished and partly in the course of construction.

Close to the mansion is a kitchen garden covering a space of more than 5 acres of ground; borders of annual and perennial flowers, mingled with pyramid fruit trees, which are of unexceptionable health, break the monotony of the square beds. A walk 4 yards wide runs the whole length of this garden, and brings you to the front of a glazed pavilion, flanked on two sides by long ranges of almost perpendicular forcing houses, under which a network of Black Hamburgh Grapes bends down beneath the weight of the numerous beautiful bunches.

In the central pavilion are many very fine Apricot and Peach trees planted in the open ground. In the front of these forcing houses, and for more than 80 feet in length, are several ranges of hot beds for growing Pine Apples and early plants requiring heat. This extensive kitchen garden is almost entirely enclosed by a very high wall, literally covered with choice trained fruit trees, in perfect health and admirably cultivated. At some distance behind the forcing houses, across an orchard where the trees are supported against the wind by strong iron wires fixed to the ground and the trees themselves, you come to a spot which richly deserves the name of a Rose garden, containing as we were told more than 500 different varieties of Roses. Large masses of Rhododendron ponticum, Azalea pontica, Roses, Kalmias, &c. in exact proportion to the size of the park, destroy the monotony of the Grass.

Not far from the chateau, on the left, and in front of the kitchen garden, a "monumental" greenhouse is being raised upon a vaulted base, the doors and sashes being made of galvanised iron, 6 yards high. Beneath this greenhouse, warmed by means of a hot-water apparatus, partly of iron and partly of copper, are spacious cellars for preserving fruit. From the sides, in front of this building and at right angles to it, are two span-roofed greenhouses for Camellias. In front of these and parallel to the greenhouse, two other houses are backed up to the foot of the vault, one of which is to be for Azaleas; the other, which is finished, contains the commencement of a collection of Orchids, and judging from the rarity and vigour of the specimens already there, promises to be very fine. Amongst the latter we noticed a Vanda tricolor and a V. tricolor formosa, 5 feet high; a Vanda cærulea, nearly 13 inches; a gigantic Aerides odoratum majus bearing more than 30 bunches of flowers; Saccolabium violaceum and Blumei majus, in great beauty; a Chysis Limminghii, with 12 bulbs, really something to be looked at; very fine specimens of Lælia purpurata, Cattleya labiata, crispa, Leopoldi, Aclandiæ, and Skinneri; most beautiful Oncidiums, Odontoglossums, Stanhopeas, Huntleyas, &c., in fact nothing common-place, all chosen by a master hand. Many Tree Ferns and other plants with finely divided leaves, Marantas, Tillandsias, and Caladiums, alternated with Orchids, which they protect with their shade and to which they form a tropical enclosure. In the centre of the greenhouse is formed a row of arches, 2 yards high, ornamented with climbing plants such as Cissus, Dioscoreas, Bignonias, and Thunbergias, in the centre of all which are groups of ornamental and variegated leaved plants. We observed among other things most of the new hot-house Marantas and Draceenas. *From the Journal d'Horticulture Belge.*

## Home Correspondence.

*Bees in London.*—This has been a curious season with bees in all parts of the country. The terrible frost which occurred at the end of March upset their economy, and was probably the cause of the scarcity of swarms during the subsequent May and June. Those who got good swarms, however, had them early; but the season has been characterised by a small increase of stocks and a very large honey harvest. So vigorously did my bees work during June and July, that stocks newly supplied with Stewarton supers of great capacity persisted in working in the open air as well, and I had a number of large combs formed under the board. This was very generally the case throughout the south of England, and many who had never before seen such freaks were in a quandary what to do. Some bee-keepers turn this propensity to account, and enclose the open air combs with a bit of rough woodwork. I prefer to leave the bees alone, and as soon as damp and chilly weather makes them quit the combs, I cut them away and fix them on the bars of boxes as guide combs, but such examples should teach us the policy of nadiring as well as supering, so as to turn to account the whole of the work accomplished during the very short season bees enjoy in this country. In my description of the Indicator Bee Stand (*Gardeners' Chronicle*, May 28, 1859), I stated that in 1858 the increase of store ceased on the 15th of July. This year it was continued till the 10th of September, and on the 12th I took a second Stewarton box from a swarm of the previous year, making a total of 36 lbs. from one stock. Bee-keepers who pasture good Heather will see nothing remarkable in that, but my bees are just 3 miles from St. Paul's as the crow flies, and I should reckon a take of 10 lbs. per stock a very fair result in such a locality. True, the locality is a good one, and the new combs of this season are only a shade less white than those that come from the New Forest, which is perhaps the best bee country in the south of England. According to a recent note in the *Builder* there is scarcely a street in the city of London in which you may not get sight of living trees, and the gardens of the Temple, the Bank, and the Inns of Courts prove that London need not be utterly destitute of rural embellishments. So in regard to bees, they may be kept almost anywhere within moderate distance of open country, but the nearer you take them towards the town, the more soot you get along with the honey. Last year one cup of honey taken here was so discoloured that it took two months to settle, and then the bottom of the jar was coated with a black deposit, when the honey became moderately clean. In all moderately open suburbs, supers put on strong stocks in June, and taken in July, will be of a passable colour, and the metropolitans may therefore enjoy all the pleasures that arise out of bee-keeping as a pastime, even if they now and then have to deplore that the honey is not bright enough to set before their friends. It is time we got rid of all cottage hives and erased straw from the catalogue of apiarian appliances. Nothing like boxes of considerable capacity and double swarms to stock them. Then there need be no feeding, no ventilating, no swarming, for two or three years, or perhaps never with supering and nadiring; and instead of cups of 8 lbs. or 10 lbs., boxes of 20 lbs. to 30 lbs. might be taken in equal number and in a similar brief space of time. *Shirley Hibberd, Stoke Newington.*

*Monstrous Cardamine.*—We have received from Mr. Wheeler, of Chelmsford, the following interesting account of the singular and very important monstrosity mentioned at page 626 of this year's volume. We understand that the writer, Mr. Gibbs, is an enthusiastic botanist, who, in addition to his other pursuits, also teaches a botanical class in connection with the Mechanics' Institution of Chelmsford. "As the monstrous flowers of Cardamine pratensis appear to be as new as they are interesting, I purpose telling you what I know of their history. I think it was in April when I noticed a flower of a rather deeper colour than the others of that species, and gathered it; after which I saw that though it seemed perfectly to resemble its kind in calyx, corolla, and stamens, the pistil was very different from what it usually is, being raised upon a stalk and swollen so that it might almost be called sub-globular. I could make out nothing of its internal structure, so that I could only regret having gathered it prematurely, and resolve that if anything like it should again attract my notice I would allow it to develope its peculiarities before gathering it. Some time after I was gratified with the sight of many similar flowers, and noticed that there were no ovules, but that the deformed carpels seemed to have become the calyx of a second flower, consisting wholly of petals without any trace of sexual organs. But this carpellary calyx did not resolve itself into separate sepals, but opened by a slit on one side. This second flowering is perfectly distinct from the first, which takes place in the regular course of indefinite inflorescence from the base upwards; some of the flowers near the top of the raceme being yet in bloom, while the double flowers of the second series are beginning to expand below. But I notice much irregularity in the order of expansion of the second flowers, as might have been expected from their monstrous character. The upper flowers of the raceme showed some alteration of the stamens, indicating a tendency to such doubleness as is common in Ten-week Stocks, with which I presume that this case has some analogy. I had noticed most of these particulars previously to the 20th May, on which day I alluded to the case in the examination paper, for which the Society of Arts have awarded me a certificate of proficiency. It is remarkable that this transformation affects all the flowers of the raceme in which it occurs, and nearly all the plants which grow in the particular field where they grow, which may be accounted for on the supposition that the pollen from the first altered flowers, not being affected by the change, fertilises other perfect flowers in its neighbourhood, and so the monstrosity is propagated by seed." *John Gibbs, Moulsham.*

*Death of Mr. Barter.*—Intelligence has been received of the death of Mr. Charles Barter, botanist to the Niger expedition, which took place on the 15th July at a place called Rabba, on the river Niger. His brother received the sad news from Dr. Baikie before the 22d of September. *Gilbert Macaulay.* We, in common with all who knew Mr. Barter, deeply regret his untimely fate. The letters from him published in our columns in the early part of the present year showed him to be a man of great intelligence; and the very valuable collections of both living and dried plants sent by him to Kew proved that his intelligence was accompanied by much zeal and untiring energy. We believe that his death was caused by dysentery, a dreadful scourge in such climates as the banks of the Niger. He has been succeeded by Mr. Gustave Mann, a young Hanoverian, who sailed for Lagos last Monday. May he do as well as poor Barter, and meet with a better fate.

*Potatoes are considered a Garden Crop.*—This we cannot deny, yet it is easy to solve the question asked by your correspondent (see pp. 832 and 850). I would here remark that Potato planting, moulding, and storing generally take place during the busy time of the season; and I believe where the principal crop is grown for the family under the sole charge of the gardener, say 1 or more acres, it is frequently necessary that extra help should be allowed. For my own part, when gardener to the late Sir O. P. Wakeman, Bart., Perdiswell, Worcester, the Potato crops that had previously been grown by the farm bailiff were in consequence of complaints respecting quality and quantity (the former quite likely to occur through careless cooking) placed under my management. I found it impossible for me to bear this extra burden (although it is well known to have been once my great hobby) without additional help; consequently, whenever I found it necessary I put on extra men, but the extra expense was not booked in my garden account but charged as extra labour for Potato planting, storing, &c. I am acquainted with many gentlemen's places where only 1 acre of Potatoes is planted annually, yet extra help is always allowed the gardener to plant and store his crop. *Edward Bennett, Osberton, Notts.*

*The Weather in Yorkshire.*—On Thursday night, the 20th inst., severe frost set in and our thermometer indicated 4° of frost at 6 in the morning of Friday, and 10° at 7 o'clock. A clear sunny day followed with a considerable amount of lightning in the evening. Dahlias, Calceolarias, Verbenas, and all soft-wooded things were a total wreck. Friday night brought another severe frost, which terribly cut up Chrysanthemums, Eugenia Ugni, &c., in exposed places. A tolerable fall of snow on Saturday, and severe frosts at night on Saturday and Sunday nights. This night (Monday) snow on the hills, and the thermometer indicating 6° of frost. Dahlias and bedding plants were in full flower on the morning of the 20th and it was a fine mild day. *W. Dean, Bradford, Yorkshire.*

*Weather in Staffordshire.*—Thursday, Oct. 20, therm.

53°, barom. 29.8 inches, heavy rain, which continued till midnight; wind then veered to N.W., and found us Friday, Oct. 21, with black frost, therm. 28°. Saturday, 22d, clear, frost, therm. 27°. Sunday, 23d, clear, frost, therm. 22°; Dahlias, Fuchsias, and tender vegetables black and withered. Monday, 24th, hoar frost and fog, therm. 20°. Tuesday, 25th, hoar frost and fog, therm. 19°; P.M. thaw, succeeded by rain, heavy gale of wind from S.E. Wednesday, 26th, therm. 36°, heavy gale from W. with rain; the Horse-chesnuts, Walnuts, Mountain Ash and Ash trees quite denuded of leaves. The barometer gradually sinking during the week till this morning, when it had fallen to 29 inches. *Old Subscriber, Oct.* 26, 4 P.M.

*The Weather in Ireland.*—Since Friday last, the 21st, we have had very severe weather in this quarter. It commenced snowing on the 21st to the west of Cork, and on Saturday last Mangerton Mountain, the Paps, Glenflesk mountains, and the Noen range were covered with snow. The weather here is intensely cold. The oldest inhabitants never recollect anything like it so early. Smart frosts at night. *An Old Subscriber, Cork.*

*Field Mushrooms.*—We have not had a season equal to the past for heat and dryness for many years. Your leading article, which every one must understand, in last week's Paper will at once prove what I am about to state with regard to the field Mushroom. It is true that the Mushroom did not burst like the skin of a tree, nor like that of fruit, nor did it burst like a Cabbage; but this is simply because the vessels of Mushrooms, if they have any, expand to such an enormous size that people well understanding them under ordinary circumstances thought that they must be Cow or Horse Mushrooms. It is true that we have had a few very well shaped, firm, and moderately sized ones, with that unboiled rumpsteak fragrance which any Mushroom grower can tell in a moment, but the crop was soon over; the weather became very cold, and again very hot and dry, making Mushrooms strong and most abundant. Still they were Mushrooms real and genuine, but simply much over fed. A poisonous Fungus is never met with in the open fields. They are not found under Oak, Beech, Hornbeam, or Thorn trees in the centres of fields. But the very finest Mushrooms are gathered under those trees on account of cattle getting under their shade in hot weather. Poisonous Fungi are to be found along hedges and sides of ditches, and in plantations, where vermin have died and other refuse has been collected, as well as on decayed roots of certain trees. They are entirely divested of that fine meat-like fragrance which characterises the Mushroom. Salt put on their gills has no effect as on the true Mushroom. The true kind gets black in an hour or two by salting, and gets quite black in the gills like an old overgrown one. Some kinds of poisonous Toadstools are so pernicious in their smell that venomous things will not even approach them. The whole race of poisonous Fungi has a stinking bad smell, their caps generally have a dirty, yellow, and sickly appearance. Hawkers no doubt may gather them to help to fill their baskets for the London market. I think that the time has now arrived when something ought to be done to put a stop to such filth entering London to risk the lives of people, or even to flavour the broth of the horse-flesh boiler, which is made into catsup. *James Cuthill, Camberwell.*

*Frigi Domo.*—I find this most useful in the protection of fruit trees against a wall, but it is rather fragile. Can any of your readers suggest to me anything wherewith to bind it, so as to strengthen it, which will be durable and resist the weather? Would unbleached tape answer the purpose? Perhaps some of your correspondents, who have used the "Frigi Domo," may be able to give me the required information. *G. P.*

*Two Crops of Pears in one Season.*—Enclosed is a Pear that has just been gathered at Twickenham, being part of a second crop this year. The first crop was spoilt by frost which we had about April. You will see by the specimen in question, which is an average-sized one, that it is rather a fine sort; I think the St. Catharine. *Thomas Daries, Prospect Villa, Twickenham Common.* [The fruit was as large as a medium-sized Duchesse d'Angoulême, and appeared to be that sort. ]

*Tomatoes in Pots.*—I have not planted out Tomatoes for the last five years, but have had instead good crops from plants in pots, with no trouble in training, or stopping, and no failure as to production or ripening. I sow at the end of February in a 60-pot. The plants are kept starving under glass till the middle of April, then shifted into thumbs, and put on the potting bench for a week. They are then packed together under a warm fence, and when they want it are shifted into 60's and allowed to get quite pot-bound. Another shift into 6-inch pots starts them into bloom at less than a foot high, and their further growth entirely depends on their amount of root room. If left alone and allowed to root through their pots they swell their fruit well and make no more growth, and every plant bears from half-a-dozen to nine good fruit which are ripe by the end of September. To swell them off give liquid manure once a week and allow no succession of blooms. Any that are not quite ripe when sun heat begins to fail may be put under glass for a week; or if of good size, cut off th fruit with a good length of stem and hang them in a warm room and they soon ripen. For small consumers who want only a dozen or two this plan is far preferable to planting out. The pot plants are entirely under control, and require almost no attention at all. I should think market growers might make a good thing by growing Tomatoes in pots for Covent Garden market; they would pay better than Egg plants for the London windows if got ripe before the foliage began to change colour. *Shirley Hibberd, Stoke Newington.*

*Gossamer a Money Spider.*—Your "Young Inquirer" has got from your quotation from Rees's Cyclopædia some account of the manner by which spiders throw out their webs and ascend into the air. Many years ago I was taught by a Mr. Murray, a chemical lecturer, how to see the process of the ascent of the gossamer spider, and having often tried it with success, I now send you a description of it. This spider, although small, has a round jet black body of considerable weight, for if you allow one to spin from your finger and cut the web, it will instantly fall to the ground; but if after suspending itself on a web of 6 or 8 inches long, you leave it to act for itself, it will often be found to originate a vibratory motion, and in a little time will swing to the horizontal. It will then cut the web which attaches itself to your finger, and steadily ascend perpendicularly until out of sight; wind has nothing to do with it, for it is always best tried in still weather. In gossamer days, which we get sometimes in autumn, when a cloudless sky with great heat prevails, then you see floating in the air large flakes of gossamer, being accumulations of web. Mr. Murray considered these threads to be electrical, and said he had seen the spider throw out many threads whilst swinging from his finger, and that they acted as a balloon to cause the spider to ascend; but I never could discover this—of the fact of the ascent there is not the slightest doubt. That the surface of the earth is the spider's ordinary abode there can be no doubt; their webs spread over the whole earth at times, and are rendered visible by reflection; but what the spider does in the air I cannot tell, he may feed himself, or the swallows may feed on him. I hope your "Young Inquirer" will himself study this interesting subject, and give us the result. My inquiries have left much to be desired; but I have gained what he may gain—a moral, which I beg to hand him for his encouragement:—

Who taught the little gossamer to fly?
Quit the green earth, and mount into the sky,
Make the fair canopy of heaven his home,
And in cerulean fields of ether roam?
Fearless in space his little body fling,
And mount in tranquil air without a wing?
His silver threads to sunbeams can he tie,
Or hang his webs like clouds upon the sky,
A bright pavilion, radiant with the light,
Spread for a day a palace of delight.
Did instinct teach thee that the winds were still,
That thou for one short day might take thy fill
Nearer to heaven's bright gate, and Zion's heavenly hill?
Is it that thou whose meaner dwelling's found
Spread lowest on the surface of the ground,
Might teach this moral to the passer-by,
Humility 's alone the passport to the sky?

—*Thos. C. Brown, Further Barton, Cirencester.*

*Culture of the Camellia in open Borders.*—Last week I went to look at some finely cultivated Chrysanthemums in the gardens of Miss Williams, Stamford Hill, under the skilful management of Mr. Taylor. The garden is small, but tastefully laid out. At the south-east corner and on the north-side of a south wall is a pretty piece of rockwork filled with a collection of British Ferns in excellent condition, and on the north side of the pleasure ground, a short distance from the garden wall, I was somewhat surprised to find a large oval clump of well-grown Camellias, with good foliage, and covered with bloom. Mr. Taylor informed me that they had been planted seven years, and that they bloomed profusely every season; they are exposed to all weathers, and never have had the least artificial covering since they were planted, and generally they come into bloom about the middle of April. The bed consists of nearly 40 plants; the centre ones are from 8 to 9 feet high, and the front and back from 3 to 7 feet. The bed when made for their reception consisted of peat and rotten cow-dung, 2 feet deep. The roots have never been disturbed since planting time, except merely by surface hoeing to keep down weeds. The plants are never allowed to get dry in summer, and the only shelter they have are two or three trees on the east side about 10 feet back from the bed. The sorts are Pæoniflora (double striped), Carolina (double white), Prince Leopold, Perfection, imbricata, Dahliaflora, Eclipse, Duchesse d'Orleans, imbricata alba, and Bealii. I also noticed a fine collection of plants in pots. In the adjoining ground, the residence of Mr. Foster, is a small conservatory that has been planted some years back. In this is as fine and healthy a bed of plants as any in England, a perfect gem in its way, and a credit to the gardener, Mr. Oubridge. I mention this to show that although so near town and subject to London smoke occasionally when the wind is in the south, still plants are as healthy as one might expect to find them 20 miles in the country. *Samuel Broome, Temple.*

*The Ivy Tree.*—Last Sunday week on taking a quiet stroll after church time, and just where an old cottage had been pulled down, I perceived a faint but most pleasant and spring-like odour of flowers, and on looking up saw an old Ivy bush in full blossom, and covered with an infinite number of insects. I was not aware till then that the Ivy was sweet-scented; the odour was exactly that of the Black Sallow blossom in early spring. On the bush I saw numbers of the beautiful peacock butterfly busily engaged in extracting the honey with their long delicate trunks which they wielded with infinite cleverness and dexterity, all the time keeping an exceedingly sharp look out. The honey bee, the humble bee of various sorts, the drone, wasps of various kinds, and flies of all colours and sizes including the blue-bottle, were there. It was a day, and they all seemed to be enjoying themselves thoroughly without molesting one another. I am a very great lover of Nature, and delighting in such matters, I had never seen this before. I do not know if the honey extracted from the Ivy would be good or not, but if so, a vast deal might be collected by the honey bee from this source in autumn, when Ivy grows strong on ruins, as on our own beautiful castle, which is clothed from head to foot on the north side of the keep by magnificent specimens of Ivy covered with blossoms. *F. N., Ludlow, October* 20.

## Foreign Correspondence.

GARDENER WANTED IN GEORGIA.—*New York, September* 26, 1859.—My residence is situated about four miles due south from Savannah, and the locality considered more healthy than any in the neighbourhood with the exception of the immediate sea coast. I have there 300 acres of land, about 120 of which are appropriated to the cultivation of vegetables for the markets of Savannah, New York, Philadelphia, and Boston, and of provisions for my family and the hands employed on the place. In 8 or 10 weeks I shall remove some hands from a Rice plantation in South Carolina, and shall then have a force there of 15 or 20 hands. I am desirous of procuring a practical gardener to superintend the cultivation of the vegetables and their preparation for market. I will enumerate the requirements, peculiarities of character and disposition, the possessor of which would be most likely to suit me, the salary, accommodations, and the expectations I could experience, and, if you know of a suitable person willing to try his fortunes with me, I would consider myself under an obligation, if you would send him out in a vessel bound direct either to Savannah or Charleston. A married man would be more contented to make the place his home. He must be intelligent, industrious, steady, energetic, willing, and anxious to please, and should have been employed in a market garden and understand the management of hot-beds and frames.

An opinion prevails in Europe, and during a sojourn there of 10 years I have remarked it, that a slaveholder must be harsh, exacting, even cruel, and accustomed to drive unwilling labourers to work. This is erroneous, and does us injustice. It is not the case with myself. One who would have an eye to my interest and wishes, be discreet and attend to his business from goodwill, would suit me best. If he should understand the management of fruit trees, Grape Vines, and flowers, so much the better; but these are somewhat of secondary considerations. Salary 300 dollars per annum, payable monthly. I will advance his passage, pay him the three first months in full, deduct then one-third of the three following, which he forfeits if he leaves me before the end of one year from the date of engagement. Should he give entire satisfaction, and we suit each other, I will increase his pay to 30 dollars after the end of the first six months, and from the commencement of the second year allow him 10 per cent. of the nett income from the sale of truck. This should pay him between 500 dollars and 1000 dollars, depending of course very much upon his own exertions and industry. He will be found in vegetables, fuel, and a house. In a couple of years I may pay a second visit to Europe, and I am therefore desirous of procuring a perfectly trustworthy person under whose control I could leave the place. He will at first have little or nothing to do with the negroes, and they must not deter any one from accepting my offer.

No. 35 of the *Gardeners' Chronicle* contains an article on Field Cucumbers. During my visit north this summer I visited several truck farms (market gardens) on Long Island. One farmer had 13 acres, another 18 acres of Cucumbers under cultivation—White-spined variety. From a 3½-acre field 60,000 Cucumbers had been picked in one day, and 1000 dollars' worth sold from it in one week. They are planted in hills 4 feet by 4½ feet apart, with no other crop in the intervals, five plants being left in each hill. Generally four or five plantings are made with a weekly interval, so that one may escape the frost and a good stand be secured. *M. D., Savannah, Georgia.*

## Societies.

ENTOMOLOGICAL: *October* 3.—Dr. J. E. Gray, F.R.S., President, in the chair. Mr. S. Stevens exhibited a specimen of Pieris Daplidice, lately captured on the Kentish coast. Mr. Bond exhibited a number of rare moths from the Isle of Wight, including two new to the British lists—Leucania extranea and Noctua flammatra; other rare species were exhibited by Messrs. Matthews and Lynch. Mr. F. Smith exhibited a number of the original drawings made by Rösel for his great work on the insects of the Netherlands. Mr. James exhibited the rare Emus hirtus, taken at Southend; also Anchomenus elongatus, new to this country, from Southwold, Suffolk. A specimen of the beautiful butterfly, Lycæna Boetica, taken near Brighton in August, being the first specimen known to have been found in this country, was exhibited by Dr. Allchin. Mr. Stainton gave an account of a larva which resides in the inside of the pods of Peas in the island of Guernsey, and exhibited a drawing of a new species of Lithocolletis, from Ratisbon; and Mr. Frimins a number of rare and

...species captured by himself in South Africa. Mr. J. Moore exhibited living specimens of the caterpillars of the Eria Silk Moth of Bengal, and of the hybrid between it and the Chinese Eria, which had been fed upon the Castor-oil plant. Dr. Kinggs exhibited a species of Ips, apparently distinct from the recorded British species; and also the curious Cluster of galls of the Mhorgaster silvarius. Letters were read from Henry Moore, Esq., of Mornarra, Madras Presidency, giving an account of the insects injurious to the Coffee plantations, the chief of which appeared to be a species of Coccus, allied to the mealy bug. The trees had been treated with coal-tar and charcoal, as many as 17,000 having thus been cleared in three days. A letter was also read from Mr. J. Swann, giving an account of the extraordinary tenacity of life of the larvæ of the common gnat during some chemical experiments. A paper was also read by Mr. S. Stone, on the habits of Sitaris humeralis, a beetle parasitic in the nests of mason bees. The third Part of the current volume of the Society's Transactions was announced as just published.

British Association: *Continued from page* 830).—The Vegetation of Aberdeenshire.—Remarks on the physical characters of Aberdeenshire being necessary as an introduction to an account of its Flora. The county of Aberdeen occupies a position between 56° 52' and 57° 42' N. and 1° 49' to 3° 48' W. long.; it embraces a surface of 1950 English square miles. A line drawn from Calder, on the borders of Kincardineshire, to Pennan, on the borders of Banffshire, divides it into two portions, presenting very great difference in physical characters. To the east of this line the surface, though undulating, does not present any point exceeding 900 feet in elevation, and no part of this section is more than 20 miles distant from the German Ocean. The more inland part, to the west of the line above mentioned, has in general a very different aspect, there being a gradual rise of the surface towards the south-western extremity of the county. This is very obvious on tracing the levels of the two principal rivers, the Dee and the Don. The former has an elevation of 1640 feet at a distance of 70 miles from the sea; the Don, about 55 miles inland, is 1240 feet above the sea. The river Muick, in the course of 10 miles only, from its source at Loch Muick to its connection with the Dee at Ballater, presents a difference of level amounting to more than 500 feet. These facts are singularly in contrast with observations made on the course of the river Ythan, which drains part of the more eastern district; at 22 miles from its termination in the German Ocean, it is only 124 feet above the level of that sea. Some of the passes from one glen to another illustrate the same point; the highest level of the path on the east shoulder of Mount Battock, 28 miles from Aberdeen, is about 2000 feet, while that on the west shoulder of Mount Keen, 10 miles further inland, attains an elevation of 2400 feet. Again, if we take a general view of the heights of the mountains in sections of 10 miles from east to west, we observe a steady increase of elevation, till we reach a zone in which few of the numerous mountains are lower than 2000 or 3000 feet, and many exceed 4000, the extreme elevation being that of Ben Muich Dhui, viz., about 4320 feet, and therefore in Britain second only to Ben Nevis. Omitting here other details respecting the shore line, prevailing rocks and soil, temperature, rain, &c., the following is a summary of conclusions respecting the vegetation:—Excluding upwards of 40 species, many of which though now extensively diffused have doubtless been introduced at a comparatively recent period, the indigenous flowering plants amount to 635, consisting of 458 Dicotyledons and 177 Monocotyledons; these are distributed among 53 natural orders of the former and 11 of the latter. The Flora, therefore, is not rich as regards mere numbers, nevertheless it comprehends many species of great interest. *Dr. Dickie in Natural History Section.* Prof. Balfour called attention to the exceptional character of the Flora on the Coial Hills, and accounted for it by the presence of serpentine in these hills. He had found there Arenaria verna, and the same plant on the green hill of Strathdon.—Mr. Babington observed on the comparative poverty of the Flora as compared with the fenny county of Cambridgeshire, where double the number of species of plants existed.

*(To be continued.)*

Indian Cotton.—We learn from the *Madras Spectator* that the following letter has been addressed by Mr. Thwaites to the Secretary of the *Agri-Horticultural Society of Madras.*

"Peradenia, Ceylon, March 24th, 1859.

"I am glad to hear that a decided effort is to be made to give an impetus to an extensive cultivation of Cotton, for the English market, in the Madras Presidency, and I trust it will be attended with every wished for success. It has occurred to me, as there would probably be some difficulty in getting the superior descriptions of American Cotton acclimated in any moderate space of time, that attempts to improve the native Cotton are well worthy of consideration, and I would suggest that systematic experiments should be made of crossing the native kinds with the Bourbon, Sea Island, and New Orleans varieties. In conducting the operation the same plan should be adopted and the same precautions observed that are taken in crossing valuable flowers and fruit, with such signal success in Europe. An intelligent, active and conscientious person should be employed, who would give the experiment a fair trial. If, if the result should be the obtaining a variety of Cotton hardy, prolific, and of superior staple the benefit would be almost incalculable, whilst, if the experiment should not end in so favourable a manner as could be desired, a problem of very great interest would have been solved, as to the affinity the several varieties of Cotton bear to one another. The following is the plan I should recommend being adopted in carrying out the experiment. A moderate number of each of the several varieties of superior Cotton should be planted and carefully cultivated; each kind being kept separate. The native Cotton should be planted in a certain number of rows, and of so many of these rows all the plants should have their flowers crossed by one description of superior Cotton;—the plants of so many other rows by another description of superior Cotton, and so on:—and each flower, when crossed, might be marked by a small piece of coloured twine being tied to its stalk. The rice seeds obtained from these crossed flowers should be sown in distinct patches,—that is to say—those resulting from the cross with the Bourbon in one place, those from the New Orleans in another, and so on for the rest. When the plants raised from these seeds come into bearing, a great diversity would probably be exhibited by them respectively, as regards healthy appearance, prolificness and the quality of the staple. The inferior ones should be pulled up and thrown away, and the better kinds retained and numbered and their comparative qualities well examined and recorded. If it should be found that real progress had been made towards improvement of the native Cotton, the system of crossing might be still further carried on, using the plants of the already improved stock, instead of those of the original native kind, for crossing upon: and this operation might be carried on for several generations of plants until the maximum improvement should be considered to have been realised."

The Committee considered the foregoing proposition as exceedingly ingenious and likely to prove a means of improving native Cotton so as to produce from it an article of good staple. In recording their thanks to the Chamber of Commerce, for the opportunity afforded them of perusing Mr. Thwaites's letter, the Committee determined to draw up a brief memorandum of the best method of hybridising (or crossing) Cotton: and also to make inquiry as to how far the results of the experiments in Cotton by Dr. Wight can be made known to, and rendered useful to, the public.

## Notices of Books.

*Handbook of Geological Terms and Geology.* By David Page, F.G.S. Blackwood. 12mo. pp. 116.

The title of this valuable volume scarcely does justice to its contents. It is in reality an elaborate and excellent Dictionary of words used in geological writings, preceded by sketches of Natural History classifications connected with Geology. For students there are carefully prepared lists of the synonyms of all known formations at home and abroad, in itself a most acceptable addition. We have tested Mr. Page's volume repeatedly, and not only found every word that was sought for, but such full and clear explanations of their meaning as to leave nothing to criticise. A book like this is as necessary in a library as Johnson's Dictionary itself.

We find on our table a few accumulations among which the following are most in arrear. The *New Exegesis of Shakspeare* (Black), 8vo, is an interpretation of the principal characters and plays on the principle of races. The author takes Iago as the type of the Romano-Italic race, Hamlet of the Teutonic, Macbeth of the Celtic, and Shylock of the Hebrew. The whole concludes with a dissertation on the supernatural machinery of the great author. We suspect that Shakspeare, if he revisited the earth, would be rather surprised at the labours of his ingenious, and dare we add fanciful commentators and illustrators. — *Routledge's Illustrated Natural History*, part VII., is wholly occupied by dogs and foxes.—*The Climate of Brighton*, by Dr. Kebbell (Longmans), is a small volume of 180 pages devoted to showing the extreme salubrity of the town, and pointing out what class of patients it does not suit. The author is a resident physician.—*Cassell's Illustrated Almanack* for 1860 is a thin royal 8vo of 44 pages, containing in addition to the usual contents of an almanack, a considerable number of woodcuts mostly relating to the events of the day, especially to those in the late war in Italy. It only costs 6*d.*

Trade Lists Received.—John Waterer's (Bagshot) *Catalogue of American Plants as exhibited at the Royal Botanic, &c.* This is by no means a mere list of Rhododendrons, Azaleas, and the like, as its name implies, but a very extensive catalogue of all sorts of ornamental hardy plants, fruit trees included. Mr. Waterer can supply among other things fine specimens of Portugal Laurels, Bays, Hollies, &c., trained as standards with stems 3 to 10 feet high.—John Cranston's (Hereford) *Descriptive Catalogue of selected Roses;* a capital collection worthy the reputation of the proprietor as one of our greatest Rose growers.—James Mitchell's (Maresfield) *Descriptive Catalogue of Roses;* Benjamin Cant's (Colchester) *Descriptive Catalogue of Roses* are two more very useful lists; nothing shows more plainly the rage that exists for Roses than the increasing number and excellence of the trade collections that are now springing up all over the country.

## Garden Memoranda.

Drummond Castle Gardens, N.B.—Drummond Castle is situated at the distance of about 3 miles south of the town of Crieff, on the road to Dunblane and Stirling, and is approached from the high road through an avenue (about a mile in length) of majestic old Beeches, the stems of some of which are of enormous size. Emerging from this avenue, the castle comes suddenly into view on the left of the drive; and passing under an archway into the court-yard, a view is obtained from the top of a flight of steps of the whole of the gardens, which are some 30 or 40 feet below this point. Beyond this the park is seen extending in a southerly direction. Descending these steps a terrace is reached which extends the whole length of the castle on the south side. On this there is a straight walk 10 or 12 feet in width, and between it and the wall is a border filled with herbaceous and bulbous plants, which are mostly arranged in masses of single colours. Among these was particularly noticeable a large patch of Tritoma Uvaria, with something like 200 spikes of its gorgeous orange scarlet flowers in full bloom. Two or three beds of very highly coloured Gladioli also tended to give much brilliancy to this part of the garden. The wall at the back of this border was covered with a good selection of Climbers. A plant of Clematis lanuginosa, with its large pale lilac flowers, was very attractive. Among recent introductions perhaps no plant deserves more attention as a hardy or nearly hardy climber than this. Nothing can exceed the beauty of its very delicately coloured flowers, which are so large as to render them conspicuous in the choicest collection. In the middle of the terrace and underneath the flight of steps (which is a double one, the steps descending on either side), is a large cavity, in which are placed pieces of spar, shells, &c., the roof and sides being thickly covered with tufts of the common Spleenwort (Asplenium Trichomanes). Those only who have seen this elegant little Fern growing in profusion as it is here, and as it is occasionally but rarely met with in its wild state, can form any idea of the extreme beauty of its appearance. And yet, where a due amount of shade can be secured (of which it appears to be particularly fond), it is not difficult to establish this plant, a task by no means easy of accomplishment with many of our British Ferns, especially those which, like this species, are usually found on old walls and buildings. Between the terrace and the garden below is a steep bank planted with various evergreen and deciduous shrubs, the side towards the walk being filled with masses of Geraniums, Verbenas, and other summer flowers. Descending again another broad flight of steps with a balustraded wall and vases filled with flowering plants on either side, a straight walk conducts to an open space, in the centre of which, and in a line with the flight of steps, is a stone obelisk about 15 or 20 feet in height. From this six walks diverge, opposite to one another. That in a line with the flight of steps is a broad gravel walk, terminated by another cavity formed of pieces of quartz and spar, and in which is a small fountain of clear water. The remaining four walks, which take an oblique direction, are laid down in Grass. On each side of these Grass walks is a border with masses of herbaceous and summer flowers, mostly arranged with one kind of plant in each mass, in a similar manner to those on the terrace, and backed by evergreen shrubs. A quantity of Colchicum autumnale now in flower was very conspicuous in these borders. Some particularly fine specimens of Irish Yew, Siberian Arbor-vitæ, Irish Juniper, green and variegated Hollies, and a very handsome variegated Oak, all regularly trained and cut into a pyramidal form, and from 10 to 12 feet in height, are placed at a distance of about 15 feet apart at the back of these borders. As these walks are of a considerable length, the effect of so many plants of a pyramidal or conical form is very striking, and imparts a peculiar character to the whole garden. The plan of the garden is a regular parallelogram, and in addition to the six walks already mentioned, there is a straight walk at each side and end, with several narrower ones at right angles to these, which lead to small flower gardens laid out in beds of geometric form. These appear to be chiefly used for spring flowering bulbs. At the east and west ends of the garden is a circular Grass plot, having a fountain in the middle, around which are disposed beds of hardy Heaths of various kinds. These fountains have each a fine piece of marble statuary in the centre, and the water in the basins is remarkably pure and clear.

From one of the towers of the castle a most interesting bird's eye view is obtained of the whole garden, the design of which, as may be supposed, is well seen from such a commanding position. The park, with its numerous and varied undulations, and fine groups of Beech and Wych Elm, now in all the glory of their autumn foliage, forms a suitable background to a garden scene of so much beauty, and beyond, in a southerly direction, the faint outline of the Ochil Hills terminates this delightful prospect.

But it is in a northerly direction that the most comprehensive view is obtained. Here the ground falls rapidly from the castle into a deep dell, the sides of which are clothed with some very fine Spruce Fir and Oaks. Below, on the right, is seen a large sheet of water or small loch, the banks of which are thickly

covered with Oak, Birch, and other trees, while here and there a bold mass of rock juts out into the lake, giving to the shore a very broken and rugged outline. Beyond this, from east to west, the view embraces the whole of the celebrated valley of Strathearn, deriving its name from the river Earn, which flows from the loch of the same name, about 12 miles distant. The lofty range of mountains south of Loch Tay, among which Benchonzie with its irregular outline and deep glens is especially prominent, completes a scene which for richness of wooding and pastoral beauty is perhaps not excelled by any of a similar kind in Scotland.

The castle, formerly the residence of the Dukes of Perth, but now the property of Lord and Lady Willoughby d'Eresby, has undergone considerable restoration within the last few years. It is much resorted to by visitors during the summer season, who are most kindly permitted at all times to inspect the gardens; and happily, in the present instance, this privilege appears to be in no way abused, the most perfect order and neatness being everywhere observable. The extreme kindness and liberality displayed in thus allowing strangers at all times to view the place may perhaps be best understood by the answer of the porter, who, on being asked at what time the gates were closed, replied—"Oh, we never send any one away." May this generosity always be appreciated as it deserves. *J. W. Chapman, Dulwich.*

BENNINGBOROUGH HALL, THE SEAT OF THE HON. PAYAN DAWNAY.—This place, which is situated close to the river Ouse, is about 6 miles west from York. The grounds are extensive and beautiful; the flower garden was very gay at the time of my visit. There are some very good ribbon borders here, and many of the Scarlet Geraniums used in these ribbons are from 15 to 20 years old. Nothing can exceed the amazing profusion of flowers.

The kitchen garden was in excellent order. In two late Vineries were good crops of Grapes, and among them the now justly celebrated "Lady Downe's Seedling," which was raised here. The parent plant is still growing against a trellis on the back wall. On some young Vines were some splendid bunches of it, which I have little doubt will keep in excellent condition until April next. Close to Lady Downe's Seedling is a white Grape called Foster's White Seedling. This and Lady Downe were raised at the same time and from the same parents. Foster's Seedling is a deliciously sweet white Grape, and an abundant bearer. It is worthy of extensive cultivation.

On one of the south walls is a splendid lot of Peach trees which do Mr. Foster great credit. They have been covered with fruit this season. The gardener commenced gathering ripe fruit the first week in August, and he finished pulling the last only on the 6th inst. I saw some of the fruit, and nothing could be finer.

Plants of all descriptions are extensively grown. Of Heaths and Indian Azaleas there are numbers of fine specimens. There is also a small but choice collection of Ferns. Stove plants are largely grown; among them I observed several good specimens of that splendid old stove plant, Aphelandra cristata. On looking over the stock of young "bedding plants," my attention was attracted to a frame full of a variegated plant, which I did not at first recognise, but on closer inspection I found it to be a strikingly variegated Agathea. Those who know the old Agathea cœlestis will easily form an idea of its compact habit of growth. That it will be much sought after when it has got into the trade I have no doubt, but at present the entire stock is to be found here. There is a good collection of the best Roses grown here. Mr. Foster likes them best on their own roots for pot culture. His mode of propagating them is very simple. He takes off cuttings of the young wood early in August, puts them in a cold frame under a north wall, and in about a month they are fit for potting off. Ninety-nine out of every hundred will strike in this manner. *S.*

## Miscellaneous.

*Fruit of the Night-blowing Cereus.*—We have received this from J. M. Clarke, Esq., of Trowbridge. It is the size of a hen's egg, very pale pink, with a greenish pulp abounding in black seeds. The flavour of the pulp is rather pleasant, but not very much so.

*Effects of Chloroform on Bees.*—Mr. Annan, builder, Downfield, says the *Dundee Advertiser*, wishing to have honey taken from a hive without killing the bees, and having before heard of chloroform being used, felt anxious to try the experiment. He first closed the doorway, then covered the hive with a cloth to shut out the light as much as possible, after which he commenced to blow chloroform into the hive. When it was discovered that the bees had fallen asleep, they were easily removed to another hive without harm to any one, and next morning were all awake and in a lively state, humming around their hive. *Pharmaceutical Journal.*

*Ferocity and Courage of the Otterhound.*—Such needful courage is found in the otter dog, but is sometimes rather prone to degenerate into needless ferocity. There are few animals, with the exception of the bull-dog, which fight so savagely as the otterhound, or bite so fiercely and with such terrible results. The attack of the otterhound is even more dangerous than that of the bull-dog, and its bite more to be dreaded. As is well known, where the bull-dog has once fixed his teeth there he hangs, and cannot be forced to loosen his hold without the greatest difficulty; but when the otterhound bites, it instantly tears its teeth away without relaxing its jaws, and immediately seizes its prey with a second grip. The wounds which it inflicts by this ferocious mode of action are of the most terrible description, lacerating all the tissues, and tearing asunder the largest and most important vessels. The reason for this very savage mode of attack is evident enough. The otter is so quick and agile, that if the dog were to retain his hold, the otter would twist round and inflict a severe bite, so the dog bites as fast and as often as he can, in order to give his antagonist the fewest possible chances of retaliation. When a number of these dogs are placed in the same kennel they are sadly apt to fight, and to inflict fatal injuries on each other from the sheer love of combat. If two of the dogs begin to quarrel and to fight, the others are sure to join them; so that, from the bad temper of a single dog, half the pack may lose their lives. As these dogs are obliged to endure the most turbulent weather and the coldest streams, they are furnished with a very strong, rough, and wiry coat, which is capable of resisting the effects of cold and storm, and is also of much service in blunting the severity of the otter's bite. The face and muzzle are guarded with a profusion of longish and very rough 'whisker' hairs. *Routledge's Illustrated Natural History.*

## Calendar of Operations.

(*For the ensuing week.*)

### PLANT DEPARTMENT.

CONSERVATORY, &c.—Summer-flowering twiners, which usually get unsightly at this season, should be cut back freely, as should also any others that will submit to that kind of treatment. Shade which they afford in summer is not now required. In the case of cold pits, if not already done, get straw shutters or whatever else it may be intended to use for coverings for these put in readiness for use without delay. Straw shutters if well made are expensive in the first instance, but are considered by many to be the most efficient of any kind of covering in use, and taking into account the time they last they are perhaps as cheap as any. Expose the stock here freely to air on every favourable opportunity, so as to check growth and get the wood firm. Very little water will be required at the root, but look over the stock every few days, withholding water until it is absolutely necessary, and then giving a moderate soaking, which is the only safe method of watering at this season. Heaths and other things subject to the attacks of mildew must be closely watched, and sulphur applied the moment the enemy is perceived.

### FORCING DEPARTMENT.

PINERIES.—The trying period for those who have to winter their young stock in pits heated by fermenting materials has now arrived, for with sunless weather and frost it is a very difficult matter to preserve Pines in a healthy state, where warmth must be accompanied by excessive moisture. Keep the linings sufficiently strong to maintain the temperature at about 65°, which will allow of giving air rather freely on fine days, and a little must also be given in all states of the weather, when doing so does not cause the thermometer to sink under 55°. There should be no attempt made at inducing growth with the present amount of light, but the linings should be kept rather strong, so as to be prepared against the occurrence of severe weather, and also to allow of giving sufficient air to prevent excess of moisture. See that efficient coverings are prepared, and endeavour to keep the bottom-heat steady at about 75°, and the soil in a rather dry state. This system of Pine growing is now, however, but little practised, and it would be economy on the part of those who adopt it to supersede it at once by means of a hot-water apparatus.

VINERIES.—The night temperature to begin forcing with should range about 50° by fire-heat, raising it to 60° by day, or to 70° with the assistance of the sun. Also endeavour to secure a little warmth for the roots in the outside border, and if fermenting materials be used watch these narrowly, and endeavour by timely additions and frequent turnings to secure a regular gentle warmth of 60° or 65° at a foot below the surface of the soil. If fermenting materials are employed, there will be a great saving of labour, &c., by thatching them with a good coat of something to throw off wet, and preserve them from the weather.

### FLOWER GARDEN AND SHRUBBERIES.

Cover Fuchsias and such things if not already protected for the winter. Dry Fern is an excellent material for covering the stems, &c., of plants that require a slight protection in winter. Choice sorts of Hollyhocks, of which there is not sufficient stock of well established young plants in pots, should be taken up, potted now, and wintered in a cool house, they will be exceedingly useful for furnishing cuttings, and these if got in early in spring will make excellent plants for next season. Be very careful to secure transplanted things against wind, especially large plants, which should never be left until they are properly staked or otherwise made fast, for when this is put off it frequently happens that the roots get injured through the tops being rocked about by the wind. Get ground intended to be planted with Dahlias and Hollyhocks next season deeply trenched and ridged up so as to expose the soil as much as possible to the weather, putting in plenty of good rotten manure, especially where the Hollyhocks are to stand, for they require a deep rich soil.

### HARDY FRUIT AND KITCHEN GARDEN

The forcing of Seakale and Rhubarb must be attended to, and where there is a good stock of roots, a supply of these will be easily kept up. If there is room to spare in the Mushroom house that is a very suitable and convenient place for forcing. The roots should be placed on a slight bed of dung, filling up the places between them with tan or the soil and manure mixed from an old hot-room bed, giving a good watering to wash it in among the roots. The bottom-heat should not exceed 70°; too much heat is not favourable to securing good growth, but except for the first crop it may be dispensed with altogether. Take advantage of wet days for making fresh Mushroom-beds, and clearing out those that are spent; also collect and prepare droppings for forming fresh beds by spreading them in a shed and turning them every day until they are sufficiently dry to prevent excessive fermentation after putting up.

STATE OF THE WEATHER AT CHISWICK, NEAR LONDON
For the Week ending Oct. 27, 1859, as observed at the Horticultural Gardens

| October. | Moon's Age. | Barometer. Max. | Barometer. Min. | Temperature of the Air. Max. | Min. | Mean | Temperature of the Earth. 1 foot deep | 2 feet deep |
|---|---|---|---|---|---|---|---|---|
| Friday 21 | 24 | 29.304 | 29.282 | 45 | 23 | 34.0 | 57 | 57 |
| Satur. 22 | 25 | 29.481 | 29.438 | 53 | 21 | 37.0 | 56 | 57 |
| Sunday 23 | 26 | 29.424 | 29.346 | 41 | 17 | 29.0 | 53 | 56 |
| Mon. 24 | 27 | 29.623 | 29.401 | 40 | 23 | 31.5 | 51 | 56 |
| Tues. 25 | ● | 29.473 | 29.034 | 53 | 40 | 46.5 | 50 | 56 |
| Wed. 26 | 1 | 29.664 | 29.161 | 48 | 23 | 35.5 | 50 | 56 |
| Thurs. 27 | 2 | 29.829 | 29.803 | 44 | 29 | 36.5 | 49 | 49 |
| Average | | 29.588 | 29.352 | 46.3 | 25.1 | 35.7 | 52.3 | 53.6 |

Oct. 21—Clear; cold and dry air; clear; frosty.
— 22—Clear and frosty; fine; much lightning at night.
— 23—Frosty and foggy; hazy; clear, lightning; severe frost.
— 24—Sharp frost; densely overcast; thick fog.
— 25—Dense fog; foggy and drizzly; boisterous with heavy rain.
— 26—Very boisterous; cloudy; clear and frosty.
— 27—Foggy; rain; foggy; slight frost at night
Mean temperature of the week, 12½ deg. below the average.

RECORD OF THE WEATHER AT CHISWICK,
During the last 33 years, for the ensuing Week, ending Nov. 5

| October and Nov. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds N. | NE. | E. | SE. | S. | SW. | W. | NW. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday 30.. | 55.0 | 38.3 | 46.7 | 16 | 0.98 in. | 3 | 7 | 1 | 2 | 4 | 7 | 5 | 4 |
| Mon. 31.. | 53.7 | 38.2 | 46.0 | 18 | 0.98 | 3 | 2 | 5 | 1 | 4 | 7 | 6 | 5 |
| Tues. 1.. | 54.4 | 38.4 | 46.4 | 18 | 0.38 | 1 | 2 | 5 | 4 | 3 | 7 | 6 | 5 |
| Wed. 2.. | 54.5 | 38.8 | 46.6 | 14 | 0.61 | 2 | 2 | 7 | 1 | 3 | 7 | 6 | 5 |
| Thurs. 3.. | 53.3 | 37.4 | 45.3 | 16 | 0.82 | 3 | 4 | 6 | 2 | 4 | 7 | 5 | 4 |
| Friday 4.. | 51.4 | 36.9 | 44.1 | 17 | 0.44 | 2 | 4 | 7 | 2 | 5 | 7 | 5 | 3 |
| Satur. 5.. | 53.0 | 38.3 | 45.7 | 15 | 0.23 | 2 | 2 | 4 | 2 | 5 | 7 | 6 | 5 |

The highest temperature during the above period occurred on the 31st, 1833, and 31st, 1854—therm. 67 deg.; and the lowest on the 3d, 1838—therm. 20 deg.

## Notices to Correspondents.

ABIES BRACTEATA: *X.* We will attend to your suggestion

BOOKS: *Clericus.* In forming the nucleus of a library of books useful to young gardeners we should take the following as a beginning; viz., Loudon's Encyclopædia of Gardening; ditto Self-Instruction for Young Gardeners; Lindley's Theory of Horticulture; Neill's Fruit, Flower, and Kitchen Gardener; Glenny's Manual of Practical Gardening; Barron's British Winter Garden. Divide your Pampas Grass in March and give the young plants plenty of rotten dung.—*Argus.* Sweet's Hothouse and Greenhouse Cultivator.

DISEASES: *E W.* The appearance on the leaves of your Scarlet does not arise from parasitic Fungi, but from some disease in the cellular tissue. It is true a few Fungus spores exist on the spots, but they are, we believe, accidental. We have often seen precisely the same affection before. *M J B.*

GRAPES: *N Devon.* In our judgment the course taken by your gardener was perfectly right. You must not censure him for consequences which no one could have foreseen, considering how entirely exceptional the last summer has been.

KENSINGTON GORE: *Brompton.* You are misinformed in every particular; as might have been expected, considering the source from which your information was derived.

LANDSCAPE GARDENING: *Longchamps* There is not a work on this subject so perfectly useful as Kemp's "How to lay out a Garden;" we mean the edition of 1858, which is a beautiful volume even regarded as a library book. Its distinguishing peculiarities are good taste, which means good sense, and absence of crotchets.

NAMES OF FRUITS: *H Stenhouse.* Doyenné blanc.—*S Jay.* 1. Louise Bonne (of Jersey); 2, Crassane; 3, Prince d'Orange, (of no merit); Apple No. 1, probably Brabant Nonpareil; 2, Pigeon. In this variety there are only five at the core, disposed like a Maltese cross, instead of the usual number.—*E G.* Early Nonpareil.—*W. Margill.* Your Grapes produced out of doors have been considerably affected by mildew. They are perhaps the Black Hamburgh, but they are not so large nor so well ripened as some of that sort which we have seen grown on the open wall this season.

NAMES OF PLANTS: We have been so often obliged to reluctantly decline naming heaps of dried or other plants, that we venture to request our correspondents to recollect that we never have or could have undertaken an unlimited duty of this kind. Young gardeners, to whom these remarks especially apply, should bear in mind that, before applying to us for assistance, they should exhaust their other means of gaining information. We cannot save them the trouble of examining and thinking for themselves; nor would it be desirable if we could. All we can do is to *help* them—and that most willingly. It is now requested that, in future, not more than four plants may be sent us at one time.—*A M G.* Your Fern.—*P B* Tropæolum tuberosum.—*A M G.* Your Fern is maculata is Gloxinia caulescens!; the Caladium is bicolor var. pictum Williams on Orchids.—*J H L.* Verbena phœniceum.—*W D* It appears to be some Indigofera, but so large a genus the species cannot be determined with much better materials than you have forwarded: the flowers are all imperfect, and there is no fruit, which is indispensable.

NEW PLANTS: *S.* Chamæbatia is a Rosaceous plant. Pothos an Orontiad. Plants cannot be named unless in flower; your shrivelled leaves may possibly belong to Hydrocleys Commersoni.

*** As usual, many communications have been received too late, and others are detained till the necessary inquiries can be made. We must also beg the indulgence of those correspondents the insertion of whose contributions is still delayed.

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Elisha Thomas Archer, whole and sole manufacturer, 7, Trinity Lane, Cannon St., City,, E.C., and of all Nurserymen and Seedsmen throughout the kingdom. "It is much cheaper than mats as a covering."

BEDFORDSHIRE AGRICULTURAL SOCIETY, 1859.

J. AND F. HOWARD have much pleasure in informing the public that at the Ploughing Matches of the above Society, just concluded, HOWARD'S CHAMPION PLOUGH gained SEVEN out of EIGHT FIRST PRIZES, and SEVEN out of EIGHT SECOND PRIZES, thereby more than ever sustaining its position at home, while at the recent Meetings of the Royal Agricultural Society of England and the Highland and Agricultural Society of Scotland, it also gained the TWO CHIEF PRIZES as the best PLOUGH for GENERAL PURPOSES.

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BURGESS AND KEY, 95, Newgate Street, London, E.C., have always on hand Ploughs, Harrows, Carts, Waggons, Turnip Cutters and Pulpers, Cake Breakers, and their Improved Chaff Cutters, 50*s.* Galvanised Game Netting, 4*d.* per Yard. Price Lists sent free.—Illustrated Catalogues on receipt of six postage stamps.

IMMEDIATE ORDERS WILL PREVENT DISAPPOINTMENT.

"SIGMA'S" UNIVERSAL SEED PLANTERS (Dibbles), vastly improved since the Prize of the Royal Agricultural Society was awarded them. The "MULTUM IN PARVO," forming eight perfect implements, highly commended, see testimonials. The Manure Distributor carried off the Prize Medal in 1851, recently much improved, see *Gardeners' Chronicle*, July 30 and August 6th. "Simple, promising, and ingenious." The STEEL DRAW SHAVE HOE clears a row between Turnips at one sweep. Engravings sent.—C. Powell, Hurstgreen, Sussex. All Patented.

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The Royal Agricultural Society's Prize, at Warwick, July 1859, 50*l.*
The Royal Agricultural Society's Prize, at Chester, July 1858, 500*l.*
The Highland Society's Special Prize at Stirling, Oct. 1857, 200*l.*
And at other Agricultural Meetings in the United Kingdom, Prizes amounting to 175*l.*

For further particulars, prices, and Catalogues apply to John Fowler, Jun., 28, Cornhill, London, E.C.

WARNER'S IMPROVED LIQUID MANURE OR GENERAL PORTABLE PUMP.

These Pumps are fitted with Warner's Patent Bucket and Valve, and cannot clog in action. The barrel is made of galvanised iron, not likely to corrode, and can be raised or lowered at pleasure on the stand, the legs of which fold together, and may be carried with ease by one man to tank or pond.

| | £ | s. | d. |
|---|---|---|---|
| Stand and Pump, with screwed tail pipe, fitted with strong brass union for suction pipe | 2 | 15 | 0 |
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| 2-inch patent rubber and canvas flexible suction pipe, on wires, either 10, 12, or 15 ft., per foot | 0 | 2 | 2 |

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*Testimonial from* Mr. J. Farrah, *Gr. to* Boswell Middleton Jalland, Esq., *of Hobberness House, near Hull*

"I have had 400 feet of your Gutta Percha Tubing, in engths of 100 feet each, with union joint, in use for the last 12 months for watering these gardens, and I find it to answer better than anything I have ever yet tried. The pressure of the water is very considerable, but this has not the slightest effect on the tubing. I consider this tubing to be a most valuable invention for Gardeners, inasmuch as it enables us to water our gardens in about one-half the time, and with one-half the labour required."

Manufactured by the Gutta Percha Company, Patentees, 18, Wharf Road, City Road, London, E.C., and sold by their Wholesale Dealers in town and country.

BUILDING AND DRAINING.—Noblemen and gentlemen who contemplate Building or Draining, and who are desirous of making Bricks and Tiles upon their own Estates, can have their Clays practically tested, the necessary arrangements for Manufacture made, and if wished the Manufacture undertaken, by a Member of a Firm extensively engaged in the Manufacture of Bricks and Tiles of every description.—Apply, Terra Cotta, Wood's Hotel, Furnival's Inn, E.C.

THE LANDS IMPROVEMENT COMPANY.—Incorporated by Special Act of Parliament in 1853.—2, Old Palace Yard, Westminster, S.W. To Landowners, the Clergy, Estate Agents, Surveyors, &c., in England and Wales and in Scotland.

The Directors beg leave to announce that the Company's Amendment Bill, 1859, has received the sanction of the Legislature. The Company now advance money, unlimited in amount, for the following works of Agricultural Improvement, the whole outlay and expenses in all cases being liquidated by a rentcharge for 25 years.

1. Drainage, Irrigation and Warping, Embanking, Inclosing, Clearing, Reclamation, Planting for any beneficial purpose, Engines or Machinery for Drainage or Irrigation.
2. Farm Roads, Tramways and Railroads for agricultural or farming purposes.
3. Jetties or Landing places on the sea coast or on the banks of navigable rivers or lakes.
4. The erection of Farm Houses, Labourers' Cottages, and other Buildings required for Farm purposes, and the improvement of and additions to Farm houses and other buildings for farm purposes.

Landowners assessed under the provisions of any Act of Parliament, Royal Charter, or Commission, in respect of any public or general works of drainage or other improvements, may borrow their proportionate share of the cost, and charge the same with the expenses on the lands improved.

No investigation of title is required, and the Company being of a strictly financial character do not interfere with the plans and execution of the Works, which are controlled only by the Government Enclosure Commissioners.

For further information, and for forms of application, apply to the Honourable William Napier, Managing Director, 2, Old Palace Yard, Westminster, S.W.

WEST OF ENGLAND AND SOUTH WALES LAND DRAINAGE AND INCLOSURE COMPANY.
Established in 1844.
Incorporated by Act of Parliament in 1848.

Draining, Inclosing, Irrigating, Warping, Road Making, and all kind of Land Improvements executed on Entailed, Mortgaged, or other Properties, and the whole cost can be made a Permanent Charge on the Lands, or redeemable in a certain number of years. Bidwell & Bright, Secretaries.

Offices: Exeter; and 30, Parliament Street, London, S.W.

LAND IMPROVEMENTS.—The GENERAL LAND DRAINAGE AND IMPROVEMENT COMPANY are empowered by Act of Parliament to assist the Owners of Land in carrying into effect the following Improvements, and charging the whole outlay and expenses on the property improved.

I. All Works of Drainage, Irrigation, Warping, and Embankment.

II. The erection of Farmhouses, Cottages for Agricultural Labourers, and all kinds of Farm Buildings.

III. The construction of Roads.

IV. The Grubbing and Clearing of Old Woodlands, Enclosing, Fencing, and Reclaiming Land.

The Landowners by whom any of these Improvements may be executed are—Tenants for Life, Trustees, Mortgagees in Possession, Guardians, Committees of Incompetent persons, Married Women, Beneficial Lessees for Lives or for a Term exceeding 14 years, Corporations, Ecclesiastical or Municipal, Incumbents, Sequestrators, Charitable Trustees, &c.

The Owners of Estates not entailed, who may be desirous to avoid the expense or inconvenience of a Legal Mortgage, may also avail themselves of the powers of the Company's Act to charge their estates with an outlay in improvements.

In all cases the whole cost of the improvements, with the attendant expenses, may be charged on the Estate, the term for Building Works being limited to 31 years, but for all other improvements being capable of extension to 50 years.

No investigation of title being required, and the charge not being affected by Incumbrances, no legal expenses are incurred.

Operations under the Company's Act are divided into two principal branches; one where the Landowner designs and executes the improvements by his own Agent and merely requires a loan from the Company to charge the Estate,—the other where the Company undertake the entire responsibility of the Improvement and obtain repayment by way of Rent Charge. In the first case the plans, specifications, and estimates prepared by the Landowner's Agent are forwarded to the Company to be submitted for approval to the Inclosure Commissioners. As soon as the sanction has been given the Landowner proceeds to execute the works, and the Company having conducted the business through all the official forms, complete the charge on the estate when the works have been passed by the Commissioners, and repay the Landowner the amount agreed upon.

In no part of the business is there any control upon a Landowner except by the Inclosure Commissioners. The Company never interfere, except at the special request of the Landowner or his Agent, and only to such extent as may further the objects he has in view.

In the other case, where the Company are required to execute the works, a report and estimate of the Improvement are sent to the Landowner, and having been approved, the plans are then prepared and the works—either submitted to public competition or entrusted to their own staff—are carried on to completion, and the amount of the actual expenditure only, approved by the Inclosure Commissioners with the Company's agreed commission and the Commissioners' expenses, finally charged on the Estate for the term fixed by the Landowner.

The Company also execute Drainage and all other Works of Land Improvement on Commission for the Owners of Estates not Entailed who may wish to charge the outlay on the property through the simple and inexpensive process of the Company's Act.

Applications to be addressed to William Clifford, the Secretary, at the Offices of the Company, 52, Parliament Street, London.

COLLEGE OF AGRICULTURE AND CHEMISTRY, AND OF PRACTICAL and GENERAL SCIENCE, 37 and 38, Lower Kennington Lane, Kennington, London, S.
Principal—J. C. Nesbit, F.G.S., F.C.S., &c.

The system of studies pursued in the College comprises every branch requisite to prepare youth for the pursuits of Agriculture, Engineering, Mining, Manufactures, and the Arts; for the Naval and Military Services, and for the Universities.

Analyses and Assays of every description are promptly and accurately executed at the College. The terms and other particulars may be had on application to the Principal.

RUGBY AND DUNCHURCH CATTLE SHOW, THURSDAY, November 24.—A PRIZE of 15*l.* is open to all England for the best FAT BEAST of any description, the property of the exhibitor for six months prior to the Show. Entrance, 10*s.*; to close on November 12. For forms of Certificates, apply to the Secretaries, Messrs. W. & E. Harris, Rugby.

N.B. Covered Booths will be provided for the Beasts shown for the above Prize.

THE BIRMINGHAM CATTLE AND POULTRY SHOW, 1859.—The ELEVENTH GREAT ANNUAL EXHIBITION OF CATTLE, SHEEP, PIGS, DOMESTIC POULTRY, AND ROOTS, will be held in Bingley Hall on MONDAY, TUESDAY, and WEDNESDAY, November 28, 29, and 30, and THURSDAY, December 1, when Prizes, Cups, or other Articles of Silver Plate, and Gold and Silver Medals, to the amount of 1250*l.* will be awarded.

The ENTRIES finally CLOSE on TUESDAY, November 1.

Prize Lists and Certificates of Entry are now ready, and may be obtained at the Offices, or by letter to

John Morgan, Secretary.

Offices: Unity Buildings, Upper Temple Street, Birmingham.

# The Agricultural Gazette.

*SATURDAY, OCTOBER* 29, 1859.

Our advertising columns have repeatedly intimated the inducements offered by the Smithfield Club, and also by the Midland Counties Association to exhibitors of fat stock in their several classes. We have now to call attention to the fact that the first day of November is the last day on which entries of such stock can be made for these shows. Intending exhibitors who have not yet done so, should at once therefore apply to Mr. B. T. Brandreth Gibbs, the Honorary Secretary to the Smithfield Club, at the corner of Half-Moon Street, Piccadilly, London, W.; or to Mr. J. Morgan,

Cattle Show Offices, Unity Buildings, Upper Temple Street, Birmingham.

—— At the last weekly meeting of the Royal Agricultural Improvement Society of Ireland, Captain JOHN B. THORNHILL was elected to the vacant office of Secretary. Seventeen candidates were in attendance.

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THE HOLCUS SACCHARATUS (*Sorghum saccharatum*), North China Sugar Cane, the Sorgo sucré of the French, has of late attracted so much attention that we offer no apology for inserting a few remarks upon some experiments on the growth and economy of this plant with which we have been engaged during the present season. The examples alluded to are as follows:—

Firstly, a patch of about a quarter of an acre sown on the farm, in soil of a tolerably good depth, resting on the brash of the great oolite, the previous crop having been Potatoes. The only manure employed was ashes from burnings of road side parings and the refuse of hedgerows. The seed was drilled on the 13th of May in rows 14 inches apart, and at a depth of about 3 inches; it came up very well and evenly, and through the summer went on growing very luxuriantly, and its large flags presented a most handsome appearance.

About the same time we sowed one of our experimental plots with seed of Holcus obtained from the Messrs. SUTTON, of Reading, the soil here being forest marble clay resting on the great oolite, and ashes from garden refuse being the manure. The distance apart was in this instance 20 inches, depth not more than 3 inches. This came up soon and for the first month did not at all promise the fine aspect it afterwards showed, but as soon as the warm nights came on it made rapid growth, and we were thus led to infer that too early sowing is by no means a saving of time, though we are not quite sure whether getting strong plants early by germinating in a hothouse or under glass with artificial heat and gradually exposing them to harden before transplanting would not be advisable, especially where the growth of Holcus is attempted in cold, exposed, or late growing situations, and in this case of course the operation of transplantation should be done in wet weather, the saving of seed and the ensuring of a well regulated equidistant plant being taken as no bad equivalent for the extra labour and expense. In this as in the other case the crop was hoed, but this is a delicate operation in the Sorghum, as it sends out adventitious roots from the joint immediately above the ground, which dip into the soil, and if not interfered with aid immensely in forwarding the growth and development of the plant. Hoeing then before this process commences encourages it, but by no means can it be properly done when this is in progress. When, however, the new roots are fully established a careful stirring of the ground between the rows, not between the individual plants, appears very much to facilitate a larger and, what is more important, a quicker growth. Thus, then, have we brought up the history of both plots until about the middle of August, when trials were made of the feeding properties of the field crop, or rather of the tastes of cattle in regard to it. Food parcels of the whole plant were cut close to the ground and carried at once to the farmstead and tried, with the following effect:—

Horses would not touch it.

A two-year-old bull ate it greedily, and could scarcely be induced to eat anything else.

The milking cows partook of it very sparingly.

The pigs had no prejudice with regard to it.

Having ourselves made trial of some of the produce of the experimental plot at this time with some cows, we conclude that matters were with it pretty much as with the farm crop.

Now, on applying the same test to our own palate, we did not wonder at the general coolness of the cattle towards it, as even the most forward parts of the crop were at this time intensely bitter, and we began to fear that the cold climate of at least some part of England was inimical to the development of the saccharine matter which this plant is known to possess when grown in warm climates, a circumstance which we still think will militate against this plant succeeding in perfection —at least over a great part of the United Kingdom.

In September we again employed the trial by taste, and in the larger or central stalk we then found a great change; these had become very sweet and the cows then partook of it at least with an apparent relish, but while this was so with the principal or main stem the stolons or side shoots were still bitter, and it was not until the present month that the major part of these became sufficiently sweet to warrant one in the conclusion that the feeding qualities of the plant had made any great advance towards their full development.

Now these facts seem to point to some rather important conclusions with regard to the use of this Grass, namely that it does not all ripen together, the central or oldest stem is perfect before the lateral shoots, so that while this is sweet those are even intensely bitter, and if we wait until the sweet matter is developed in all, the central stem will by that time be so hard and woody as not to be capable of being used as a cattle food—hence then we would advise that the central stem be the first to be gathered. This can easily be done by boys who can readily detach it with some kind of knife, and this done the other shoots will at once make accelerated growth, so that by adopting this expedient we have a better chance of deriving the full benefits from the whole of the crop.

As regards the amount of the crop our calculations founded upon the results of the smaller experiment would lead us to infer that the weight per acre in the second week of September was somewhere about 50 tons to the acre, and the farm produce seemed to us to be very nearly of the same quality and quantity. This is a large yield, and this season it is not very likely to have improved beyond that time, as the first cold nights played sad havoc with the flags of our plants, from which we may conclude that the slight frosts towards autumn are as prejudicial to the older plants as the spring frosts to the younger ones.

With only this evidence before us it may perhaps be considered premature to judge of the agricultural merits of the Holcus saccharatus, but we yet cannot help expressing the opinion that the changeable nature of our climate is opposed to its growth in anything like full perfection. If summer suddenly commenced and kept on uniformly warm until near winter, there would be a chance, but while

"Saint Bartholomew
Brings cold dew,"

and this has such effect upon the growth of the plant that we have not seen a case of ripening of seed, scarcely, indeed, of flowering, we shall have some difficulty here in acclimating this denizen of a warmer and more steady temperature.

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AMONG recent interesting additions to the plants of the farm, the Lupine appears to be one of unusual value. It yields a large produce of seed of a very nutritive character, and is adapted for the poorest of sandy soils. Mr. CRISP, of Butley Abbey, states in the recent number of the Journal of the Agricultural Society:—

"In 1858 I drilled about 1 bushel per acre of seed, upon 18 acres of poor land; from which I obtained 50 waggonloads of sheaves. The luxuriance of this crop quite astonished all that were acquainted with the sterility of the soil; and the quantity of grain, before harvesting, was estimated by various persons at from 40 to 50 bushels per acre."

The seed was in this case obtained from Baron HERM. VON NATHUSIUS, of Hundisburg, Prussia, who in the same volume describes the plant and its cultivation. He speaks of both the blue and yellow Lupine as cultivated for the purposes of being ploughed in as green manure, of being folded over with sheep while still succulent, and of yielding a crop of seed which is of great use as food for sheep. "What makes these plants so very important for agriculture," he says, "is their growing luxuriantly on light, poor, sandy soils, in situations where no other of our leguminous plants could live. We have some districts in the northern parts of Germany and Prussia where a miserable crop of Rye was nearly the only production, and where even Buckwheat would fail in dry seasons; and it is in such situations that farming has become profitable by the cultivation of the Lupines, and where, in consequence, the rent has been much more than doubled. For such poor dry land it has been proved a good plan to sow the yellow Lupine (especially this because it is more succulent) in June; to roll it down when it is in full flower, the first pods beginning to show; to plough the field and to sow a corn crop some weeks after ploughing, and very often a better crop has been raised than after manuring with cattle-dung, a stuff of course not abundant in such poor situations. There may be some conditions when such a manner of 'green-manuring,' as it is called, may be advisable, but generally I think it a much better plan to fold off the plant with sheep, which, not at first, but after they had been accustomed to it, are very fond of the yellow Lupine in this state, and thrive remarkably well on it. If the seeds are sown in spring, which we here dare not do before the end of April or the beginning of May, sharp night-frosts being destructive to the young plant, the vegetation is slow in the first weeks, but soon becomes very rapid. In the poorest soil, if any rain falls, the plants grow to the height of 3 or 4 feet, and a great quantity of beautiful flowers cover the whole field. The seeds of the first flowers begin to ripen when the top of the plant is still blooming, and for that reason the plant must be cut before finishing its growth; even then there is always some loss of seeds, the ripe pods being very prone to open by the heat of a sunny day."

An analysis is given of the air-dried seeds, showing that they are particularly rich in nitrogenous substances. The cultivation is something like that of Rape. Drilled in May at the rate of 1 or 1½ bushel per acre, in rows 12 inches or more apart, so as to enable the use of the horse-hoe until the plants meeting keep the ground clean, it yields a crop of 6 or 7 quarters per acre.

"The seeds of both varieties form very superior food for sheep, lambs, and fattening wethers. After they had been weaned to it, I have often seen them refusing cake if they had plenty of Lupines. The straw and chaff is excellent for store sheep. It has been found by many persons that Lupine hay, straw, and corn, are in some degree preventatives of the rot, and even sometimes remedial, if the danger is just beginning and the disease not far advanced. We know of no other plant which, generally speaking, is so peculiarly adapted for sheep.

"The seeds have been used for horses and cattle, and undoubtedly it has been found profitable to mix them with Oats or Beans, but they generally refuse a greater quantity. Some small farmers now begin to give Lupine-meal with milk to the weaning calves, and they are said to do well, and that the grown cattle afterwards are fond of the plant. Swine generally refuse them, and some experiments to extract their peculiar bitterness by water or chemical agents have not succeeded.

Baron VON NATHUSIUS adds of the crop:—

"There is no doubt that it is a real boon for the poorest sandy and gravelly soils, but for soils of a better description it is no less a very profitable plant."

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## ON CONVERTING OLD PASTURES.

IN October, 1854, you published in the *Agricultural Gazette* the statistics of 15 dairy farms in the Vale of Gloucester, stating the number and kind of stock kept, the quantity of cheese, butter, bacon, calves, and old cows produced. And last week you have given us the statistics of an arable farm of 300 acres, the system of cultivation adopted, the quantity and kind of stock kept, the grain produced, and also the return from the stock and from the grain separately. Were we to compare the statistics of this arable farm with those of the 15 dairy farms, we may learn what would be the consequence of converting natural pasture into arable land under such a system of cultivation. But to come to a correct comparison between the dairy and the arable farms we must enter into the particulars of each system.

The 15 dairy farms consisted of 1974 acres, of which 1716 acres were in natural Grass, and 258 acres in arable land; but as it is necessary for every dairy farm to have a small portion of arable land to provide bread corn for the family and Potatoes for the pigs, we shall add to the 1716 acres of pasture 5 per cent., say 84 acres of arable, thus making altogether 1800 acres, and we shall give to these 1800 acres the credit of all the produce mentioned in the statistics of the 15 dairy farms, and take no notice of 174 acres of arable land nor of the 127 sheep mentioned in the report.

The capital employed in the management of these 15 dairy farms is stated at 9868*l.*, or about 5*l.* per acre. The rent averaged 1*l.* 14*s.*, and the parochial taxes were 6*s.*, so that the gross rent would be 2*l.* The stock kept was 439 cows, 85 calves, 85 year old heifers, 85 2-year old heifers, and 38 horses.

The return of the produce is stated as under:—

| Goods. | Weight. | The money value I have added the market price. |
|---|---|---|
| Cheese .. | 1604 cwt., at 56*s.* per cwt. .. | .. £4491 |
| Milk butter .. | 5268 lbs., at 1*s.* per lb. .. | .. 263 |
| Whey butter, | 11,428 lbs., at 10*d.* per lb. .. | .. 476 |
| Bacon .. | 1756 score lbs. at 9*s.* per score .. | .. 790 |
| 354 calves sold a week old at 20*s.* each .. | | .. 340 |
| 85 dry cows or young heifers in calf, at 9*l.* each .. | | .. 765 |
| The money return from the 1800 acres is .. | | .. £7129 |

And if we divide the sum by the 1800 acres we shall have the return per acre from the dairy farm, which is 3*l.* 19*s.* per acre.

We now propose to divide the 1800 acres of the dairy farms into six arable farms of 300 acres each, to be managed the same way as the one you have stated in your last week's Paper. It will therefore consist of 60 acres of pasture, and 240 acres of arable land; we will therefore suppose the statistics of each of these six arable farms to be the same as the one you have just published, and from it we shall estimate the return from land under arable culture and compare it with land under natural pastures and the dairy system.

But can the same number of cows and breeding stock be kept on 120 acres of roots and Clover and the 60 acres of pasture of the arable farm, as there were

cultivated, on 300 acres of natural pasture under the dairy farm management in the Vale of Gloucester?

This question may be answered by adopting the principle of getting at the quantity of food which each of the several kinds of animals consumed, as was done on the arable farm of 300 acres.

As we have divided the 1800 acres of pasture land into six arable farms, we must also divide the stock which they maintained by six, so as to ascertain the quantity and kind of stock which each of the six arable farms are required to maintain:—

| The Stock maintained on the 300 Acres of Pasture | | | | The Stock which 300 acres of Arable land is required to maintain |
|---|---|---|---|---|
| 47 cows | ÷ | 6 | = | 73½ |
| 21 calves | ÷ | 6 | = | 14½ |
| 21 year-olds | ÷ | 6 | = | 14½ |
| 21 two-year-olds | ÷ | 6 | = | 14½ |
| 9 horses | ÷ | 6 | = | 6 |
| 129 | | | | 122 beasts, which the 300 acres of arable land must maintain throughout the year |

The principle adopted in obtaining the quantity of food required for the maintenance of each of the kinds of stock of different ages on the arable farm is from the knowledge of the quantity of food which the sheep consumes, and the number of sheep kept it requires to maintain beasts of every age; thus we find the food required by a cow is equal to that required by seven sheep, a calf requires the food of two sheep, a year-old the food required by four sheep, a two-year-old the food required by six sheep, and a horse requires as much as six sheep besides the corn he gets. We reckon the sheep to consume 20 lbs. of Swedes daily. Adopting the same table as that of the arable farm mentioned, we shall have—

| | | | | | | | Sheep. |
|---|---|---|---|---|---|---|---|
| 73½ | Cows require the food of | 7 | sheep, or | 140 | lbs. each, equal to | | 512 |
| 14½ | Calves | ,, | 2 | ,, | 40 | ,, ,, | 28 |
| 14½ | year-olds | ,, | 4 | ,, | 80 | ,, ,, | 56 |
| 14½ | two-year-olds | ,, | 6 | ,, | 120 | ,, ,, | 84 |
| 6 | horses | ,, | 6 | ,, | 120 | ,, ,, | 36 |
| | | | | | | | 716 |

The food required by these 122 beasts is equal to the food required by 716 sheep, but the food produced on the arable farm from the 180 acres of roots, Clover, and pasture is equal to the maintainance of 726 sheep in a fattening condition, which is equal to the food of 10 sheep more than the 300 acres of natural pasture maintained, and therefore the same number of cows, calves, year-olds, two-year-olds, and horses, may be kept upon the produce of the arable farm of 300 acres, and of course the same quantity of cheese, butter, bacon, calves, and old cows may be expected, viz., one-sixth of 7139*l.* 16*s.* 0*d.*, or 1189*l.* 19*s.* 4*d.*, as was the return from the produce of 300 acres of natural pasture under the dairy system.

But of the 300 acres of the arable farm there are only 240 under the plough, and as 120 acres produce roots and Clover, there are 120 acres yearly producing grain; one-half is in Wheat, one-fourth in Barley, and the other fourth in Oats.

| Acres | | Bushels per acre. | | Quan.—price | | | £. |
|---|---|---|---|---|---|---|---|
| 60 | in Wheat .. | 36 | .. | 2160 at 6*s.* | per bushel | .. | 648 |
| 30 | in Barley | 50 | .. | 1500 at 4*s.* | ,, | .. | 300 |
| 30 | in Oats .. | 72 | .. | 2160 at 2*s.* | ,, | .. | 324 |
| 120 | acres | | | | | | £1272 |

Thus the return from the grain produced on the 120 acres is more than the return from the 300 acres of natural pasture under the dairy system, so that the return from land under arable cultivation is more than double what is got from dairy management.

It is clear from these statements that by converting pasture land into such a system of arable cultivation the fodder crops produced on half of the land will maintain all the stock which the whole of the land maintained when it was in pasture, and the stock may produce the same quantity of cheese, butter, bacon, &c., and the other half will produce as great a money value of grain, so that double the money value may be produced by turning it into arable land.

But the capital required to cultivate arable land is equal to 10*l.* per acre, while that which is employed in the management of the 15 dairy farms is only 5*l.* so that the farmer will require double the capital before he undertakes to become an arable farmer.

There will also require more buildings on the arable farm for keeping the stock in boxes, stalls, or courts, and also much of the land will require to be drained, so that the landlord will have to lay out his capital in these permanent improvements.

| | | | |
|---|---|---|---|
| We shall take 8*l.* as the expense of the permanent improvement which the landlord will have to invest, which on the 300 acres amount to 2400*l.*; and if we allow him the same per centage which Government requires in lending money borrowed for the drainage of land, viz. 6 per cent., which is .. .. .. .. .. .. | £144 | 0 | 0 |
| And the additional capital which the farmer will require at 5*l.* per acre, which amounts to 1500*l.*, which at 10 per cent. .. .. .. .. .. | 150 | 0 | 0 |
| And the additional labour required may cost 35*s.* more per acre .. .. .. .. .. .. | 525 | 0 | 0 |
| The additional yearly expense will be .. | £819 | 0 | 0 |
| And this additional expense of capital invested is met by the additional return from the Wheat, Barley, and Oats, equal to .. .. .. .. .. | 1272 | 0 | 9 |
| Leaving a profit of .. .. .. .. .. | £453 | 0 | 0 |
| Whereas under the dairy system the rent and expense of the 300 acres of dairy land may be as under. Rent, say 2*l.* per acre .. .. .. | 600 | 0 | 0 |
| Farmer's capital, 5*l.* per acre, 1500*l.* at 10 per cent. | 150 | 0 | 0 |
| Labour at 15*s.* per acre .. .. .. .. | 225 | 0 | 0 |
| The expense under the dairy system .. .. | £975 | 0 | 0 |
| The return is shown to be .. .. £1189 | 19 | 4 | |
| Leaving a profit of .. .. .. .. .. | £214 | 19 | 4 |

If these statements are at all correct the profit to the farmer by this outlay of capital in converting pasture land into arable is evident, but this additional profit will not be returned until the whole of the land has been brought into a proper state of cultivation, and this will take at least two if not four years before this has been effected; but after this has been done the landlord may then have a right to claim an additional rent, say from 8*s.* to 12*s.* per acre, equal to 120*l.* or 180*l.* a year.

It requires a farmer not only of greater capital, but of different habits and of a greater capacity and talents to manage an arable than to manage a dairy farm. The milking and foddering seem to be the only duties and labour which the dairy farmer has to perform in converting the natural produce of the land into a marketable article, and consequently there is an idle space between each of these imperious duties, and it is quite a question if the indolent habits of the dairy farmer can be formed into the active, industrious, careful, and anxious habits of the profitable arable farmer whose business is to use the best means of raising the largest crops, and of adopting the best and most profitable way of converting the produce into the best and most profitable marketable article.

Let us apply the system to the Vale of Gloucester, which extends from Bristol to Evesham in Worcestershire, containing at least 300,000 acres of pasture used as dairy farms.

| | | |
|---|---|---|
| If this pasture was converted in arable land under this system of cultivation there would be one-fifth of it or .. .. .. .. .. .. | Acres 60,000 | |
| of it in pasture, and .. .. .. .. | 120,000 | |
| producing roots and Clover; | | |
| That is .. .. .. .. .. .. | 180,000 | |
| Giving sufficient food for the same number and kind of stock as are at present maintained on the whole of the dairy farms in the district; and they would produce the same quantity of cheese, butter, bacon, &c., and be of the same money value as at the present time | | |
| And in addition to this there would be producing Wheat, Barley, and Oats. .. .. | 120,000 | |
| | 300,000 | |

The return from the grain crops we shall estimate as before. There would be—

| Bushels. | | Bushels. | £ |
|---|---|---|---|
| 60,000 of Wheat, at 36 per acre | = | 2,160,000, at 6*s.* .. | 648,000 |
| 30,000 of Barley, at 50 ,, | = | 1,500,000, at 4*s.* .. | 300,000 |
| 30,000 of Oats, at 72 ,, | = | 2,160,000, at 2*s.* .. | 324,000 |
| 120,000 | | 5,820,000 | £1,272,000 |

| | | |
|---|---|---|
| But to do this there would require an additional capital laid out by the landlord of say 8*l.* per acre, which is .. .. .. .. .. .. .. | £2,400,000 | |
| And by the farmer an additional capital of 5*l.* per acre will be required to cultivate the arable land of say .. .. .. .. .. .. .. | 1,500,000 | |
| | £3,900,000 | |

| £ | | |
|---|---|---|
| The landlord to have 6 per cent. on his | | |
| 2,400,000 will be a yearly charge of .. .. . | £144,000 | |
| And the farmer to have 10 per cent. on his | | |
| 1,500,000 will be a yearly charge of .. .. .. | 150,000 | |
| 3,900,000 And an additional 35*s.* per acre for labour amounts to .. .. .. .. | 525,000 | |
| Amounting in all to the yearly sum of .. . | 819,000 | |
| But this sum would be repaid by the produce from the 120,000 acres of grain, which at the market price amounts to 1,272,000*l.*, and leaves a profit of . | 453,000 | |
| | £1,272,000 | |

And if this system were generally adopted in the conversion of pasture land into arable, we should soon be independent of foreign grain without decreasing in any degree the present produce of cheese, butter, pork, beef, or mutton; indeed the increase of grain would enable us to produce a much greater amount of fat beef and mutton by the consumption of the Oats and Barley, or of Beans and Peas which may become part of the grain crop. *Gloucestershire Bottoms, Sept.* 30.

## THEORY OF AGRICULTURE.

By Dr. Evan Pugh.

(*See page* 814).

No. VIII. Agricultural Education on the Continent.

### A CONTINENTAL EXCURSION.

Leaving Tharand late in the afternoon of the 16th of August, it was quite dark before the train reached Dresden, and at an early hour the next morning I left that town for Leipsic intending to take Chemnitz on the way, as there is an important industrial school here, and by this route a better view of the agriculture of Saxony is obtained than on the direct route between the two cities. German agriculture appears to better advantage as seen upon this route than almost anywhere else in Northern Germany. The soil is naturally of a good quality, and, as a rule, appears to lay well for cultivation. The land is very much divided up into small farms, or garden patches, many of which do not exceed an acre, yet it exhibits a degree of cultivation which is not surpassed, and often not equalled on large farms. Even when the peasantry are possessed of large quantities of land it is scattered about in different places, so that only the system of the small farm or garden work can be applied to its tillage. Recently the government has taken the matter in hand, and has been attempting by surveys and appraisement of the value, to bring the several small tracts of each peasant together. There are many reasons why this would be desirable, yet experience here certainly does go to show that an idea almost universally accepted in England, that small farms are incompatible with good agriculture, is not unusual in its application.

It is an assumption which is hardly ever questioned in England, that in order to develope a high degree of agriculture the land should be divided into large farms, of which 400 to 600 acres should be a minimum. It is contended that the farmer who would take less could not afford to avail himself of the advantages of agricultural improvements, and could not invest sufficient capital in draining and manuring his land.

There is undoubtedly a semblance of truth in this idea, and a peculiar combination of circumstances in England tends to make it seem more true. But as a general truth I cannot see that it has any foundation whatever. On our American farms of 50, 100, and 150 acres, we have adopted drilling, reaping, mowing, hayraking, and threshing machines, much more generally than they are adopted anywhere in England. English authors like to refer to the miserable system of agriculture in France, in connection with the division of property which is universal there. But the poverty of French agriculture may be traced to other causes. The pernicious system of centralisation which characterises the policy of those who control the destinies of France has exhausted the rural districts. The capital which should exist in the land has been drawn to Paris, to accumulate in expensive palaces, and fine streets, and spacious quays, and grand boulevards, not to count the millions that have been expended for military purposes. Besides, Montesquieu told a great truth which we must not lose sight of when comparing the agriculture of England and France:—"Les pays ne sont pas cultivés en raison de leur fertilité, mais en raison de leur liberté."*

It is not intended to go into this question here, but merely in passing to express dissent from a commonly received notion upon the subject in England. The work of uniting the small lots in Saxony proceeds but slowly, and while government is labouring to bring them together, it has not power to prevent the peasant from making new purchases of isolated small lots.

A three hours' ride at the deliberate rate of a German railroad brought me to Chemnitz. Since 1850 there has been an agricultural department in connection with the school (*Gewerbschule*) here. Its course of instruction is similar to that at Tharand, and its auxiliaries, though not so complete, are alike in character. In connection with it is a chemical laboratory under the management of my friend and old university associate, Dr. Wunder, who also is conducting a series of agricultural experiments on a portion of land near the institution specially adapted to that purpose. About 200 students attend the institution, and a little more than one-fourth of these take the agricultural course.

Leaving Chemnitz by a rather circuitous route through a fine agricultural district in which the Clover and green crop looked flourishing, after a four hours' ride we behold the domes and spires of Leipsic. Just before we get to Leipsic the land appears to be divided into large plots, yet these do not correspond to an improvement in the agriculture. The farm implements visible in the fields or laid up in the farm storehouse, here as elsewhere, looked as if made from a pattern as old as the town itself. Ploughs with wooden mould-boards, wooden harrows with teeth, wooden spades with a sheet-iron edge, and shovels, forks, hoes, and scythes on the same scale. In ploughing the virgin subsoil is allowed to sleep quietly where its mother ocean deposited it thousands of centuries before a creature existed upon the earth that was destined to live by the cultivation of the soil. The latter is disturbed only to the depth of about 4 inches, and very often the wooden plough does not go so deep. This deplorable state of things is gradually being changed for a better by the intelligent and persevering efforts of Messrs. Hamm, Cousins, and others, of Leipsic, who place within reach of the agriculturist the improved implements, &c., of English farming, and by encouraging agricultural associations and scientific agricultural investigations, endeavour to awaken an intelligence amongst the peasant population that will enable them to see and avail themselves of the advantages of the improvements of modern agriculture.

The stranger on visiting Leipsic just now will be surprised to see the improvements that are going on in an old town that one might have thought would have rested quietly satisfied with its old houses and antiquated streets, after it had repaired the damage done in driving Napoleon out of it in 1813, after the first marked defeat that that man encountered from the Germans. But, except Paris, there is scarcely a town in Europe that manifests such an enterprising spirit of improvement as has Leipsic during the last few years. The environs have been extending by new buildings, and within its old walls the spirit of improvement has been sacrificing the old ones to make room for new, with an energy which one cannot help thinking the quiet sentimental spirit of the Germans must feel is sacriligious.

Once within its walls and comfortably (as the English say) provided for at an hotel, I attempted to hunt up some of the old acquaintances of a former 18 months' residence, as a student in the University here. I found the Royal Laboratory as clean and as orderly arranged as when I left it three years ago, and its professor as kind, affable, and obliging as then.

The professor in geology, minerology, &c. (Naumann), has not received the three years that have fallen upon him since I bid him what I then thought was my last farewell in Leipsic, without marked effect, which assure one that the old man is drawing near the close of his long, laborious, and useful life, yet he is as active as

* Countries are not cultivated in consequence of their fertility, but in consequence of their liberty.

ever, and is now engaged with a new edition of the 2000 pages of his great work on Geognosy. It was a source of satisfaction to find that the Professor of Botany whom I had left, rather envying what then seemed to be his power to withstand the temptations of this nether world, and live on enjoying a state of single blessedness, has since fallen a victim to the fascinating powers of a daughter of Eve, and is now but the part of a whole, in which a wife is the better half. A walk with him around the very large and well-filled botanical garden sufficed to assure me that it was not his intention to sacrifice the scientific to the social; here, as in the town, improvement and extension were marked features. In no place in Germany have I found rooms for scientific lectures so crowded as were those on botany by Prof. Mettenius—in no place are the advantages for studying botany greater—in none is the professor more earnest in his desire that the student shall learn, nor his efforts more indefatigable in enabling him to do so. Few minds are so powerfully constituted for the duties of a teacher on botany as is his. I have often seen him standing in the middle of a busy group of 20 to 30 students on a botanical excursion, and the latter running to him with every grade of vegetable matter, from a Lichen to an Oak, and he without the least hesitation giving the names of each almost as soon as his eye fell upon them; or if the species was not distinguishable without the microscope he was ready to point out exactly what little characteristic was to be looked after if we had the latter instrument.

## FROSTED MANGEL WURZEL.

THE frost of last week came on so suddenly, and for the time of year so sharply, that it caught my Mangels unsecured. All the upper side has suffered, the frost-bite extending over about an eighth part of their surface. I have placed them in rows, covered them with the tops, and ploughed a furrow on either side over them. Is there anything I can do to arrest decay by steaming or otherwise? The answer of any grower will much oblige *G. B. Hudson, Wick, near Pershore, Worcestershire, Oct.* 23.

[We have numerous requests for information on the possibility of saving frosted Mangel Wurzel: and we have simply to add our own to the number. If any correspondent can describe an experience capable of encouraging the many who are now anticipating the loss of a great part of their winter food for stock, it will be very acceptable. Certainly our own experience is not encouraging, a very little frost having always ultimately destroyed the root. In the meantime, however, we can only recommend that the roots if piled together be put in small heaps, and while protected from any further frost by straw that they be not covered over at the top with earth for a week or two. The plan described above by Mr. Hudson in which the roots are not piled in heaps at all, but for the present lie in rows, is better still. If notwithstanding after a week or two they appear to be rotting, they must just be used as quickly as possible.]

## Home Correspondence.

*Bailiff and Gardener.*—A good deal having been written respecting the necessity for combining the offices of farm steward and head gardener, owing to such a bad feeling prevailing between so many bailiffs and gardeners, I have no hesitation in stating that it is the result of a jealous spirit too often on the bailiffs' part, and in some instances is caused by ladies or gentlemen causing bailiffs and gardeners to interfere with each other's duties; consequently the bailiff has it in his power to annoy the gardener. But first class gardeners have very vague ideas repecting agriculture. For instance, Sir Joseph Paxton stated in his speech before a meeting held in behalf of the Gardeners' Benevolent Institution, that, "horticulture is 100 years in advance of agriculture." Bearing in mind the respective professed objects of the higher branches of agriculture and horticulture, in what respects can horticulture be said to be in advance of agriculture at the present day? Gardeners introduced a deep system of culture and the sowing of seeds in rows instead of broadcast; but the sowing of seed and trenching is labourers' work. Farmers had, previous to a comparatively recent date, to trust to the statements of dealers in artificial foods and artificial manures; but farmers of the present day have no one to blame, except themselves, if they are duped by artificial food or manure manufacturers. You have entered fully into the relative value of a great many different articles which are intended for sale amongst farmers. You have shown what losses farmers, who have not suitable accommodation for feeding cattle, incur by so much food being wasted in supporting respiration and keeping up the heat of the animal system. The statements of chemists respecting the value of the different component parts of artificial food and the fertilising properties of artificial manures are now regarded as final by the majority of the most intelligent practical farmers. But for the advanced point to which chemical analysis has now reached what golden harvests artificial food and manure manufacturers would have reaped! Since gardeners appear to be anxious to monopolise the most lucrative appointments in rural districts, allow me to request some first class gardeners to show that they are competent to undertake such onerous duties? As a *bonâ fide* farm labourer I rejoice to see such an interest taken in agriculture, and beg to thank your correspondent "F. L. O." for writing in behalf of the working classes; nevertheless, what practical information has he imparted respecting the Norfolk system of farming? You state that "Its faults are many; Turnips ultimately fail, become diseased, attacked by Finger-and-Toe, and so on, if taken so often from the same land." You insert a letter from a farmer in Bedfordshire, who shows the system of management on a 1000-acre farm. Since I know of a great many farms, one-fifth of which has been cropped every year with Turnips on the five-course system, these last 50 years, and as these farms grow as sound healthy Turnips at the present day as they did 50 years ago, I, notwithstanding the statements of eminent agriculturists that Turnips fail when taken so often from the same land, am yet to convince that land will become "Clover sick," and "Turnip sick," on the four-course system. Having had opportunities of observing the nature of a farm manager's duties connected with a mixed rotation of cropping, and having been employed by nine different head gardeners, I have had opportunities of observing that they are an intelligent class of men. Nevertheless it is quite ridiculous for a first-class gardener, who from early boyhood to manhood devoted his attention chiefly to horticultural pursuits, to state that he is competent to act as a farm manager, unless he is conversant with the principal details of farm management. What connection has the rotation of cropping a garden or a farm with the rearing, feeding, buying and selling of cattle, sheep, and horses, and the superintendence of permanent improvements? The concreting of the bottoms of the floor and outside borders of a Vinery is sufficient proof that a good many first-class gardeners have vague ideas respecting land drainage, which is the basis of land improvement. A garden and a home farm being necessary appendages to a gentleman's residence, I acknowledge that a gardener is competent to superintend a garden of medium extent and a small home farm; but since a man is considered incompetent to superintend a garden unless he is practically acquainted with the growing of soft and hard-wooded plants, the management of standard and wall fruit trees, the forcing of fruit and vegetables, the formation of and the keeping of kitchen and flower gardens in order, how can he be regarded as competent to act as farm manager unless he has mastered the details of farm management under an intelligent agriculturist? Since I have been employed in a garden, the superintendent of which is an accomplished gardener, who, after he had gone through all the different branches of practical horticulture in first class gardens, placed himself under a superintendent of labour connected with the executing of permanent improvements, and attended markets and devoted his attention to practical farming, I do not wish to be regarded as trying to prejudice employers against such an intelligent class of men further than naming details to show that a first class gardener knows no more about the details of farm management than any other class of intelligent men who have not made practical farming a branch of special study. *W.*

## Societies.

EAST DERBYSHIRE: *Cattle Breeding.*—At the late annual meeting of the society, Dr. Hitchman spoke on this subject. He said:—We are living in an age of intense competition, and need all the aid we can afford to each other. Other nations are emulating our industry; our brother Jonathan, on the other side of the Atlantic, is "going ahead" as to agricultural matters, in boldness—if not in discretion. His agricultural implements are of the most simple and effective character; and his zeal is shown in the fact, that he does not hesitate to give a thousand guineas for a very first class Short-horn bull. This is, indeed, a "fancy price," and one which few even ardent patriots could afford, yet, nevertheless, Jonathan is wise in his generation. The consumption of meat in this country is becoming enormous. London alone requires two millions of sheep and upwards of five hundred thousand beasts for its annual supply. And, again, when we reflect upon the energetic labours that are going on in our mining districts, when we learn that Derbyshire, with some aid from its sister county, Nottingham, raises nearly four millions of tons of coals annually, we cannot but conclude that the men who perform these enormous labours must require a large supply of animal food. The Short-horn tribe of animals is peculiarly adapted to the rich lands of Kentucky, and America is determined to cope with us in "meat-stuffs," as she already does in "bread-stuffs," and as a nation we must look to our laurels. Mr. Russell, of Kilwhiss, in Scotland, states that he saw at Springfield, in America, a very large show of Short-horn cattle, and he does not think that at the Royal Agricultural Show at Windsor, in 1851, the general stock was so universally good. The American, by importing such bulls as the "4th Duke of York," and such cows as those of the "Duchess" tribe, places himself at once in the same position for success as England was in 1810—when Charles Collins's magnificent bull "Comet" was almost the sole fountain, from whence have sprung the hundreds of fine animals which now graze in the valleys and uplands of this beautiful country. America acts wisely in selecting well formed animals of the "Duchess" tribe to found a race, for they possess intense vital force, and impress their own characteristics upon their offspring; as a proof of this, I may mention, that three years ago, prior to a sale at which, among many [illegible] alleged animals of the "Duchess" tribe were [illegible] I went into the field where the ticketed [illegible] feeding, and giving the catalogue, into [illegible] had not looked, to a friend, I said: "Now, [illegible] see whether I cannot pick out for you every [illegible] that is alleged to be descended from the '4th [illegible] of Oxford,' through a cow that is [illegible] bred;" and I did so without a single [illegible] I mention the fact as an illustration of how [illegible] qualities are handed down from generation to [illegible] tion by special individuals. But, gentlemen, [illegible] unspeakably valuable, as is a long descent; [illegible] esteem and love a pedigree, yet I hold it to be the [illegible] folly to give high prices merely for a pedigree; [illegible] an inferior animal merely because it has descended [illegible] fine race. Such folly will almost always end [illegible] appointment. I have known heifers purchased [illegible] guineas, which were not worth 20*l.* in any market [illegible] England; they were small, misshapen animals [illegible] quality; they had narrow chests, hollow shoulders, [illegible] sides, and thin flanks, but wherewithal a pedigree [illegible] long, that it bothered the printer to find "g's" enough and "r's" enough to print the catalogue in which [illegible] detailed the great, great, great ancestors of these [illegible] tions. No lineage, however high, can compensate [illegible] such defects. One deformity, in a cow of strong [illegible] vital force, may be impressed upon its offspring [illegible] many generations, just as the good qualities of an [illegible] greed bull—a bull without a registered maternal [illegible] father, "Hubback"—have been handed down for [illegible] 80 years, and are seen in some of his progeny to [illegible] very hour. Some people are perfectly infatuated [illegible] the "Herd Book;" they are spell-bound by its [illegible] and seem to disregard other circumstances, if we [illegible] accept their purchases as the tests of their opinion [illegible] but this of itself will not suffice to produce a first-class [illegible] herd of cows, or sheep, or pigs. Secure pedigree [illegible] ever you can, but do not omit form, quality, and [illegible] what, for want of a better term, I will call lifeness [illegible] and by this I mean strength, activity, and a [illegible] lively carriage, and if to these you can join [illegible] of temper so much the better. I repeat, [illegible] animals imprint their own characteristics [illegible] their offspring through many generations, and [illegible] you have a good animal of this kind it becomes [illegible] less, and with care and proper management [illegible] serviceable for many years. We deal with artificial [illegible] forms; special and even accidental characteristics [illegible] been arrested in the individual, and been stamped [illegible] upon its progeny: what we term our best-formed [illegible] animals are wide departures from the primitive [illegible] type, and we could secure for our successors, [illegible] not to ourselves, still wider deviations from existing [illegible] forms, if such were deemed advisable. These [illegible] facts, I think, prove how very particular we ought [illegible] be as to the qualities of the individual animals from [illegible] which we rear stock. For practical purposes it is [illegible] enough that an animal should be pure bred. It should [illegible] itself be symmetrical, full-sized, handsome, of good [illegible] "touch," and vigorous, if retained for breeding purposes. [illegible] No pedigree, however high, can be an equivalent substitute for these qualities—in short, we desire form with [illegible] pedigree; but pedigree without good form and without [illegible] quality we hold to be a mockery, a delusion, and a [illegible] snare. Having secured a good calf, or young animal of [illegible] any kind, it almost entirely depends upon the owner [illegible] whether it shall be a stunted or a full-sized animal. [illegible] No after treatment can ever compensate for [illegible] management in the early stages of the animal's growth. [illegible] If at any time food be stinted and warmth be withheld, [illegible] or if, as sometimes happens, warmth is given but [illegible] is withheld, or if warmth be secured only by [illegible] ventilation, mischief is done, and a check to growth [illegible] takes place which is never fully recovered from. [illegible] and proper warmth are essential elements of [illegible] Exclude a young growing animal from light, keep it [illegible] warm by means only of the heated carbonic acid [illegible] which he has thrown from off his lungs, and of the [illegible] ammoniacal gases which emanate from his evacuations, [illegible] and you will plant the seeds of "scouring," "black-leg," [illegible] and those other mysterious complaints which carry off [illegible] calves suddenly and hopelessly. You may produce [illegible] scrofula ("king's evil"), rickets, or consumption in the [illegible] animal, by excluding it from light, giving improper [illegible] food, and surrounding the creature with an impure [illegible] atmosphere. See how a flower in a darkened room [illegible] creeps towards the light from some stray sunbeam. [illegible] See how Grass loses its green hue when artificially [illegible] cluded from the light—and animals require it in a similar [illegible] manner for the healthy performance of the functions of [illegible] life. You may retard, and in some cases arrest, the [illegible] higher changes which certain creatures have to pass [illegible] through to their full development, by simply excluding [illegible] them from light; tadpoles, for instance, have been kept [illegible] for months as tadpoles, without reaching the higher [illegible] development of the frog, by keeping them in darkness [illegible] —and the young calves, which are pent up in close [illegible] spring, in dark and ill-ventilated places, are prevented [illegible] from attaining that full health and perfect development [illegible] which under happier circumstances would be reached. [illegible] If required for the butcher, the diseased blood—the [illegible] blood deprived by darkness and an improper atmosphere [illegible] sphere of much of its colouring matter and its nutriment [illegible] may cause the veal to be whiter, but if the animal be [illegible] destined for a useful life, then let in upon him the [illegible] glorious sunshine; let him breathe the pure, life-[illegible] giving oxygen of the skies; surround him with [illegible] some warmth; give him good food at regular intervals, [illegible] and then, oh! then, in his sparkling eye, his [illegible]

soft coat, his elastic skin, his rounded form, his frisking motions, he will testify his gratitude, and in his growth proclaim that he has a master who has had wisdom enough to comprehend, and kindness enough to supply the conditions upon which health, and strength, and beauty, and fertility can be obtained. *Derby Mercury.*

## Miscellaneous.

*The Birmingham Cattle and Poultry Show.*—Now that the autumn meetings of our numerous local agricultural societies are terminated, attention will be given, and that immediately, to what are called our Christmas exhibitions, but which, from the early period they are fixed for this year, scarcely deserve that title. With regard to our own gathering in Bingley Hall, we must remind intending exhibitors that they should at once obtain the requisite certificates, as the entries in all departments will close on the 1st of November. Already, indeed, the applications of this nature to the secretary have been very numerous, in some cases from gentlemen who have not previously been exhibitors, and we have every confidence that the show of stock will prove to be quite equal if not superior to any which has been yet held in this town. With regard to the collection of Poultry there can be no doubt that, as in former years, still further improvement will be manifested in all our principal breeds, the number of zealous and intelligent breeders of poultry increasing every year, and the competition for prizes becoming consequently more severe at each succeeding meeting. With respect to the general arrangements, but few changes have been made from last year, and the programme already issued supplies all the information which exhibitors can require. *Midland Counties Herald.*

*Pebbles in a Cow's Stomach.*—The Rev. W. Symonds exhibited 30 pebbles, one of them weighing ¾ lb., found in the stomach of a cow lately killed at Barton-under-Needwood, Burton-on-Trent. The pebbles belong to the northern drift of geologists which abundantly overlies the new red sandstone of the district; and they are remarkably glazed and polished by the action of the cow's stomach. The weight of the pebbles is 5 lbs., and the animal appeared perfectly healthy and fat when killed by Mr. Goodman, butcher, of Barton-under-Needwood, to whom reference may be made.—Dr. Lankester thought this was an instance of a morbid appetite, and quoted many instances of the same nature. *British Association, Natural History Section.*

*Pleuro-Pneumonia in Sheep.*—In July I came home, and found that I had lost several ewes: one was ill at the time, and presented all the appearances that a cow does under this disease. I had her killed, and examined her carefully, and found her sound, with the exception of the parts about the lungs, which were just like those of cattle that have died of pleuro-pneumonia. Some time afterwards, in my absence, my wife heard of another ewe being ill, and had it brought in. She found it apparently in the last stage of the disease, and and my steward and shepherd both thought it past recovery. She, however, determined to try the homœopathic treatment, beginning with phosphorus, and continuing with bryonia, and, finally, sulphur. The sheep perfectly recovered. Since then I have had two more cases, a ewe and a wether. The first was taken in time by my steward, and recovered. The latter was very ill indeed; but under his treatment, following the directions of the little pamphlet by Turner of Manchester, he also was recovering, when he was put out in a field with a ram. The ram attacked him, and he was found nearly dead, and was for some days hardly able to breathe, but is now recovering, and almost well. *C. G. Grey, Portnard, Cappamore.—Irish Farmers' Gazette.*

## Notices to Correspondents.

Blood Manure: *Coventry.* The blood manure is a superphosphate in which the sulphuric acid used is mixed with twice or three times its weight of blood instead of being diluted with water, and in which, therefore, the constituents of so much blood form a small addition to an ordinary superphosphate. Professor Anderson has analysed a so called blood manure, which is a very poor superphosphate, and that is the only analysis we can find. It contained 11 per cent. of soluble phosphate and 16 of the insoluble phosphate, no less than 35 per cent. of sulphate of lime, and only 0·2 per cent. of ammonia. Well-made blood manure of this kind may, however, be a very good superphosphate.

Cows: *Cur.* We cannot tell whether your cows are suffering from Pleuro-pneumonia or from a simple inflammatory disease. Most probably the former, which if one were to die would show itself by the lungs being of unusual size, solid and heavy. The remedy you mention we consider as too stimulating. We should prefer Spts. Nit. Æther, 1½ oz.; Camphor, ½ drachm; Tartarised Antimony, ½ do. Twice a day with warm water or gruel. Blisters to the sides, setons in the brisket, Linseed boiled or Linseed-cake as food. *W. C. S.*

Mare's tail: *Mr. Fox, of Wellington, Somerset,* writes as follows: I hold a piece of ground of nearly 17 acres in allotment grounds, for the convenience of the artisans and labourers of a large manufactory with which I am connected. They have given universal satisfaction for many years, and are considered a great advantage by the holders; but I fear this will soon be affected by the rapid spread of the common Equisetum or "Mare's tail," which the men seem unable to eradicate, and which has this past season overpowered the other crops, and is in some places a dense rank growth. The soil is a light sandy loam, through which the roots run in all directions and to a great depth. [The drainage of wet, sandy soils, combined with deep and thorough tillage, has in instances of farms within our knowledge eradicated this pest; one cannot help thinking that deep and thorough tillage in gardens must be even more effectual.]

Mr. Hannam's Harvest Cart.—Mr. J. I. Ody, of Clifton Hampden, near Abingdon, is the name of the original maker of Mr Hannam's carts. "He will not, I think, make them for so little as Mr. Mechi states; but I know that the wear proves the goodness of the stuff and construction. An ordinary wheelwright would probably fail in making such carts, even had he one before him. *J. C. C., Long Wittenham.*"

Pigs: *E C L.* Next week.


SEED WHEAT FROM THE CHALK.—Selected samples of CHIDHAM, WHITE TRUMP, ROUGH CHAFF, HUNTER'S WHITE, RED CHAFF WHITE, GRACE'S WHITE, TALAVERA, RED BROWICK RED NURSERY, GOLDEN DROP, and all the best kinds of Wheat, supplied by Reynolds & Harvey, of Basingstoke, and 89, Seed Market, Mark Lane, London, E.C. Samples and prices on application.

IMPROVED PROLIFIC RED WHEAT FOR SEED.

JOHN MOSS, Jun., invites the attention of Farmers to his new stock of PROLIFIC RED WHEAT, the produce of a careful selection from the highly esteemed variety of the Essex Red, known as "Hall's," and very highly appreciated by millers. J. M., jun., confidently recommends this selection for its prolific properties, as well as for weight and quality. Amount seeded 4 pecks; yield this season, 48 bushels per statute acre. Price 48s. per quarter, at Kelvedon Station. New sacks, 1s. 6d. each.

May be obtained of Mr John Moss, jun., Kelvedon and Feering; and of Mr. T. C. Wilson, Kelvedon; by whom samples will be shown at Chelmsford, Braintree, and Colchester Markets.—Feering, Oct., 1859.

Remittances expected from unknown correspondents.

EARLY HANDSWORTH POTATO.

FISHER, HOLMES, and CO. beg to offer their EARLY HANDSWORTH POTATO, a very superior kind for forcing in pots and frames, the very earliest for open ground, and a great acquisition for market gardening purposes. It is very dwarf, growing not more than from 4 to 8 inches high, price 8s. per peck. It is thus reported in the *Gardeners' Chronicle* 1858, p. 477: "Out of 14 varieties grown for trial in the Horticultural Society's Gardens the Early Handsworth was by 10 days the earliest." also, at p. 626, "Among Potatoes the Early Handsworth deserves particular notice. It comes in some 10 days earlier than the Ash-leaf Kidney, is excellent in quality and a very prolific, round, white kind; six plants produced 6 lbs. of Potatoes; its great recommendation, however, is its earliness," to which may be added testimonials from many of the leading Gardeners and Nurserymen in the country.

F., H., & Co. having made provision for a large supply this season they are enabled to offer it to the Trade. Price on application. The following Nurserymen and Seedsmen have already purchased:—

Mr. James Veitch, jun., Chelsea
,, Denyer, London
,, W. Skirving, Walton Nursery, Liverpool
,, Charles Turner, Slough
,, Watkinson, Manchester
,, Henderson, Birkenhead
,, John Soden, Middle Barton, Oxford
,, Ivery, Peckham, London
,, Wm. Foster, Stroud
,, Darby, Cirencester
,, Perkins, Leamington
,, Matheson, Gloucester
,, J. Sealey, Bristol
,, Harris, Bristol
,, Wm. Hood, Ashby-de-la-Zouch
,, Wardle, Burton-on-Trent
,, Thos. Warner, Leicester
Messrs. Hurst & M'Mullen, London
,, E. G. Henderson & Son, St. John's Wood, London
,, James Carter & Co., London
Messrs. Henderson & Co., Pine apple Place, London
,, Butler & M'Culloch, London
,, Hooper & Co., London
,, Osborn & Sons, Fulham
,, J. & C. Lee, Hammersmith
,, H. Low & Co., Clapton
,, James Veitch & Son, Exeter
,, Garraway, Mayes & Co., Bristol
,, F. & A. Dickson & Sons, Chester
,, Finney & Co., Gateshead
,, Thomas Davies & Co., Wavertree, Liverpool
,, Peter Lawson & Son, Edinburgh
,, Downie & Laird, Edinburgh
,, Dickson, Hogg, & Robertson, Dublin
,, Wood & Son, Maresfield, Uckfield
,, J. & C. Wheeler & Son, Gloucester
,, Maule & Son, Bristol

WILLIAM YOUNG begs to call attention to his extensive NURSERY STOCK, which is in fine condition for removal, and which will be found well worth notice of those engaged in any kind of planting.

Having large quantities of the undermentioned, all well grown, good rooted plants, he can offer them at very moderate prices.

SPECIMEN CONIFERÆ.

Abies Douglassii, 8 to 12 feet
,, canadensis, 8 to 12 feet
,, Menziesii, 6 to 10 feet
,, nigra, 6 to 8 feet
,, Pinsapo (very handsome), 6 to 8 feet
Pinus Cembra, 6 to 10 feet
,, excelsa, 8 to 10 feet
,, insignis, 6 to 8 feet
Cedrus Deodara, 6 to 12 feet
,, Libani, 6 to 12 feet
Araucaria imbricata, 4 to 6 ft.
Cryptomeria japonica, 6 to 8 ft
Juniperus chinensis, 6 to 8 ft.
,, hibernica, 6 to 8 ft.
Taxodium sempervirens, 6 to 10 feet

LARGE DECIDUOUS TREES AND EVERGREENS.

Ash, Weeping, 8 to 10 feet
Beech, common, 6 to 10 feet
,, copper, 6 to 10 feet
,, Fern leaf, 6 to 8 feet
,, weeping, 6 to 8 feet
Horse Chesnut, 8 to 12 feet
Limes, 6 to 10 feet
Poplar Abele, 8 to 10 feet
,, black Italian, 8 to 10 ft.
Maple, Norway, 6 to 8 feet
Oak, English, 10 to 12 feet
,, Fordii, 8 to 10 feet
Oak, exoniensis, or New Leucombe, 8 to 12 feet
Oak, evergreen, 8 to 10 feet
Weeping Willows, 8 to 10 feet
Spruce Firs, 10 to 12 feet
Silver Firs, 10 to 12 feet
Arbor-Vitæ, American, 6 to 8 ft
,, Chinese, 6 to 8 ft.
,, Ontario, 5 to 7 ft.
Hollies, green, 8 to 12 feet
Yews, 8 to 12 feet

STANDARD ROSES.—A fine collection of all best varieties.

RHODENDRONS and other AMERICAN PLANTS of all the leading varieties.

FOR ORNAMENTAL GAME COVER.

Azalea pontica
Common Laurels
Evergreen Privet
Mahonia Aquifolium
Juniper, Common
Juniper sabina
Rhododendron ponticum

FOREST TREES.—Larch, Scotch, Alder, Ash, Birch, Hazel, Chesnut, Willow, &c., from 2 to 4 and 5 feet, in any quantity for Coppice planting.

A NEW DESCRIPTIVE CATALOGUE of New Plants, Coniferæ, Deciduous Trees, Evergreens, Flowering Shrubs, Roses, American Plants, and general Nursery Stock, with heights and prices, forwarded on application.

N.B.—Good Railway communication to any part of England.
Milford Nurseries, near Godalming, Surrey.

REIGATE SILVER SAND.—Best quality for Florists, 16s. per ton; less quantities, 1s. 6d. per bushel, delivered to any London wharf or railway. PEAT, LOAM, and LEAF MOULD, in large or small quantities. Sacks for Sand, 1s. 6d. each, or on hire 6d. each (five hold a ton).

John Kennard, Purveyor to her Majesty, Swan Place, Old Kent Road, London, S.E.

NURSERYMEN SUPPLIED WITH THE BEST TOBACCO PAPER at 4d. per cwt.: any quantity less than ½ cwt., 10d. per lb. Warranted genuine.—Address Tom Bryant, Messrs. Jackson & Son, Tobacco Manufacturers, Lady Lane, Leeds.

TO PIG, POULTRY, AND GAME FEEDERS.

JUPP'S RICE FOOD, POULTRY AND GAME.—RICE SWEEPINGS, 7s. 6d. per cwt., in 1½ cwt. bags; SCREENED RICE, 10s. per cwt., in 1¾ cwt. bags; DOG BISCUITS, 14s. per cwt.; OIL-CAKE, per ton only; RICE MEAL for PIGS, 6s. and 8s. per cwt., in 1 cwt. bags, at the mill. Orders must be accompanied by a remittance to insure delivery.—W. & R. Jupp, 6, Cross Lane, Eastcheap, E.C.

GLASS FOR ORCHARD HOUSES & CONSERVATORIES

JAMES PHILLIPS AND CO. beg to submit their prices of GLASS for the present month.

16-oz SHEET GLASS, in boxes of 100 feet.

| | 3rds. | 4ths. |
|---|---|---|
| 12 by 9, 13 by 9, 14 by 9 .. .. | 14s. 6d. | 12s. 6d. |
| 12 ,, 10, 13 ,, 10, 14 ,, 10, 15 by 10 .. | | |
| 13 ,, 11, 14 ,, 11, 15 ,, 11, 16 ,, 11 .. | | |
| 14 ,, 12, 15 ,, 12, 16 ,, 12, 17 ,, 12 .. | | |
| 18 ,, 12, 19 ,, 12, 20 ,, 12 .. .. | | |
| 16 ,, 13, 17 ,, 13, 18 ,, 13 .. .. | 16s. 6d. | 14s. 6d. |
| 19 ,, 13, 20 ,, 13, 21 ,, 13 .. .. | | |
| 16 ,, 14, 17 ,, 14, 18 ,, 14 .. .. | | |
| 19 ,, 14, 20 ,, 14, 21 ,, 14 .. .. | | |

Boxes included and not returnable.

GLASS for ORCHARD HOUSES, supplied by us to Mr. Rivers.

| | 16 oz. | 21 oz. |
|---|---|---|
| 20 in. by 12 in. / 20 in. by 13 in. / Common .. .. | 14s. 0d. .. | £1 1s. |
| 20 in. by 14 in. / Superior do. .. | 16 6 .. | 1 5 |
| 20 in. by 15 in / English Glass .. | 18 0 .. | 1 9 |

Boxes included and not returnable.

SMALL SHEET SQUARES, in 100 feet boxes.—s. d.

6 by 4, 6½ by 4½, 7 by 5, 7½ by 5½ / 8 ,, 6, 8½ ,, 6½, 9 ,, 7, 9½ ,, 7½ / 10 ,, 8, 10½ ,, 8½ .. .. .. .. .. — 11 6, 12 6

Boxes 2s. each, returnable at full price.

JAMES PHILLIPS AND CO.,
**180, Bishopsgate St. Without, London, E.C.**
No Connection with any other House in Town.

GLASS FOR CONSERVATORIES, ETC.

HETLEY AND CO. supply 16-oz SHEET GLASS of British Manufacture at prices varying from 2d. to 3d. per square foot for the usual sizes required, many thousands of which are kept ready packed for immediate delivery.

Lists of Prices and Estimates forwarded on application, for PATENT ROUGH PLATE, THICK CROWN GLASS, GLASS TILES, and SLATES, WATER PIPES, PROPAGATING GLASSES, GLASS MILK PANS, PATENT PLATE GLASS, ORNAMENTAL WINDOW GLASS, and GLASS SHADES, to James Hetley & Co., 35, Soho Square, London, W.

See *Gardeners' Chronicle* first Saturday in each month.

HORTICULTURAL GLASS—JUNE TARIFF.

THOMAS MILLINGTON'S reduced Tariff of GLASS, &c.

6 by 4, 7 by 5, 8 by 6, 9 by 7 / 6½ by 4½, 7½ by 5½, 8½ by 6½, 9½ by 7½ } 16 oz. to the foot, 11s. 6d. per 100 feet.

In 100 boxes,—4ths quality, 12s. 6d.; 3ds do., 14s. 4d.

10 by 8, 12 by 9, 12½ by 10½, 14½ by 10½, 13 by 11
10½ by 8½, 12½ by 9½, 13 by 10, 15 by 10, 13½ by 11½
11 by 9, 13 by 9, 13½ by 10½, 12 by 11, 14 by 11
11½ by 9½, 12 by 10, 14 by 10, 12½ by 11½

| per 100 feet | 16 oz. | 21 oz. |
|---|---|---|
| 20 by 12 / 20 by 13 / 20 by 14 / 20 by 15 — Common .. | 16s. | 24s. |
| Superior . | 18s. | 27s. |

All Boxes included.

Orchard House sizes as supplied to Mr. Rivers.

Hartley's improved Rough Plate Glass from ¼ to ½ in thickness.

Coloured Glass in great variety, at 9d. and 1s. per foot.

Paints, Genuine White Lead, Linseed Oil, Boiled Oil, Turpentine, Putty, Colours, Varnishes, Brushes, Lamp Glasses, &c.

87, Bishopsgate Street Without, E.C., same side as Eastern Counties Railway.

GLAZIERS' DIAMONDS FOR CUTTING HORTICULTURAL and other GLASS, to be had of the Wholesale Manufacturer, John Edwards, 20, Sharp's Alley, West Smithfield, London, E.C. Prices from 10s. to 27s. 6d.

HENRY J. MORTON AND CO.,
2, Basinghall Buildings, Leeds.

GALVANISED IRON WATER CISTERNS

for Cottage Houses, &c., to contain 50 gallons, 25s.; 80 gallons, 30s. each; and 140 gallons, 36s., and fitted with tap, keeping the water perfectly sweet and clean; will not rust or corrode. Cisterns of all sizes.

GALVANISED IRON PUMPS

for Liquid Manure or Domestic Use, 3 inches diameter, 30s. and 32s. 6d. each; Tail Pipe for same at from 10d. per foot.

GALVANISED IRON SWING WATER BARROWS

for Garden or Farm use, containing about 20 gallons, entirely formed of iron, 32s. 6d. each.

TREE TRANSPLANTING BY MACHINE, Landscape Gardening, Ornamental Planting, Land Draining, Lakes, and Road making, &c. Plans and Estimates. W. H. Rumbold, Grange, Tunbridge Wells.

GREENHOUSES, CONSERVATORY, &c., for Sale. A large Stock, Glazed, ready for Fixing, at Henry Freeman's, Hothouse Builder, Triangle, Hackney, N.E.

HOT-WATER PIPES at wholesale prices, with Elbows, Syphons, Tee Pipes, and every other connection. Wrought and cast iron Boilers, Saddle, Conical, Cylinder, and Elliptic, from 24s. each. Boilers and Iron Stands to use without brickwork. Valves from 12s. each. Coil Boxes, Furnace Doors, Furnace Bars, Supply Cisterns, and Builders' Castings of every description in stock, at Mr. Lynch White's Iron Wharf, Upper Ground Street, Blackfriars Bridge, London, S.

C. STEPHENSON, late STEPHENSON AND SONS, 61, Gracechurch St., London, E.C., Manufacturer of Iron Hurdles, Fencing, &c., Improved Iron and Copper Conical Boilers and Apparatus for Warming Buildings of every description by Hot Water.

Prices and Estimates furnished upon application.

TO THE NOBILITY, GENTRY, AND HORTICULTURISTS.

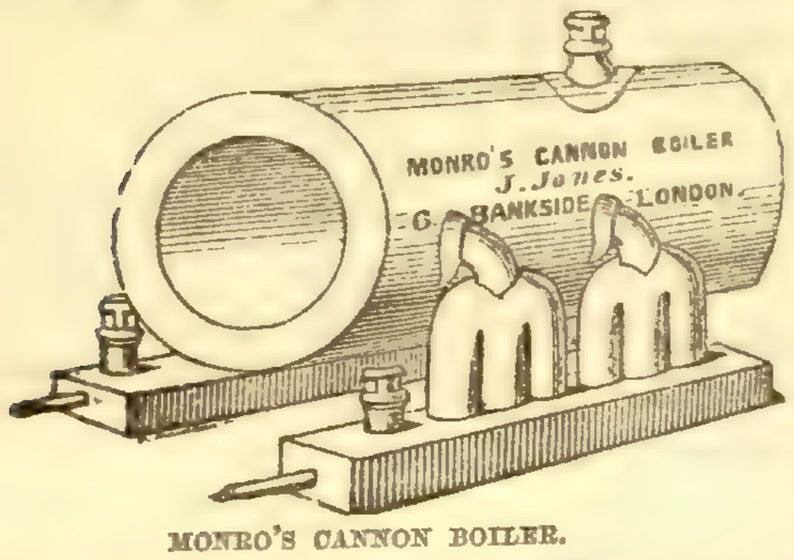
H. McCALLA (late principal Draughtsman to Messrs. Weeks & Co.), Civil Engineer and Farm Architect, begs to inform the above that the Horticultural Buildings being confined to so few, exorbitant prices are charged; that he prepares Working Drawings and Specifications, so that they can have their own constructed by any country carpenter, at 1s. 6d. per foot super, or upon their own estates at 1s. 4d. per foot. Plans also upon the same rule for erecting Hot Water Apparatus. Plans for all kinds of Farm Buildings, Homesteads, Labourers' Cottages, Laying out of Estates, Drainage. Plans &c., prepared for all the above Works and submitted to competition.—Office: 7 Upper Cheyne Row, King's Road, Chelsea, S.W.

HORTICULTURAL BUILDINGS AND HEATING BY HOT WATER.

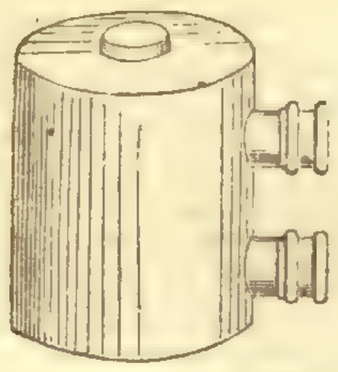
JOHN R. PEILL, 17, New Park St., Southwark, S.E., Manufacturer of every description of Buildings for Horticultural purposes, and Inventor of the Improved Conical Boiler for heating the same, is prepared to undertake works of any magnitude, and refers among others to the celebrated range of FORCING HOUSES at HER MAJESTY'S GARDENS, FROGMORE, and at SIR ROBERT PEEL'S, DRAYTON MANOR, constructed under the superintendence of his Manager, Mr. John Jones; and also to his BOILERS fixed at the CRYSTAL PALACE, the ROYAL BOTANIC GARDENS, REGENT'S PARK, and KEW, and at several hundreds of the Nobility's seats, Public Establishments, and Manufactories in London and the provinces. J. R. P. also manufactures every description of Iron Roofs, Iron Houses, and Iron Fencing, plain and ornamental. Strong Iron Hurdles for Sheep (6 ft. long, 3 ft. high, with 5 bars), 4s. 8d. each; ditto for cattle, 4s. 9d. each. Prices and other particulars forwarded on receipt of one postage stamp.

## TO NURSERYMEN, GARDENERS, AND OTHERS.

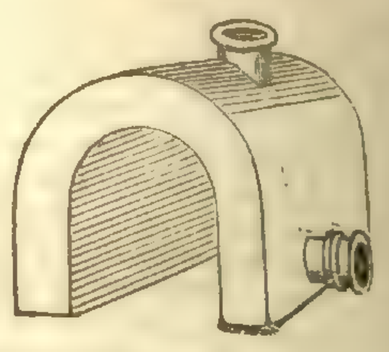
# HOT-WATER APPARATUS.




MONRO'S CANNON BOILER.



CYLINDER BOILER VARIOUS SIZES.



SADDLE BOILERS OF WROUGHT AND CAST IRON, OF ALL SIZES.

THE LARGEST STOCK OF

# HOT-WATER PIPES & CONNECTIONS, BOILERS, &c.

OF THE BEST QUALITY AND AT THE LOWEST PRICES.

**THE WHOLE OF THE ABOVE KEPT IN STOCK READY FOR IMMEDIATE DELIVERY.**

PRICES WILL BE SENT ON APPLICATION, OR ESTIMATES FOR

## HOT-WATER APPARATUS

ERECTED COMPLETE IN ANY PART OF THE COUNTRY.

**J. JONES, 6, BANKSIDE, SOUTHWARK, LONDON, S.E.**

# HORTICULTURAL WORKS,

## DANVERS STREET, PAULTON'S SQUARE, CHELSEA, S.W.

# JAMES GRAY

RESPECTFULLY BEGS TO INFORM THE NOBILITY, GENTRY, NURSERYMEN, GARDENERS, AND OTHERS, THAT HE CONTINUES TO CARRY ON THE BUSINESS IN ALL ITS BRANCHES AT THE ABOVE OLD ESTABLISHED PREMISES.

## CONSERVATORIES, GREENHOUSES, FORCING HOUSES, VINERIES, PITS, &c.,

OF EVERY DESCRIPTION, ERECTED ON THE MOST APPROVED PRINCIPLES.

## HEATING BY HOT WATER.

J. G. having specially devoted his attention for many years to this part of the business, is now fully prepared to Heat every description of public and private buildings, viz.—Conservatories, Mansions, Warehouses, &c., as well as all structures connected with Horticulture, in the most efficient manner. His system is the most simple that can be adopted—which he has found by long experience to be the best—can be constructed at less cost, and is more easily managed than those of a complicated nature which have attracted the notice of the public.

J. G. begs to call attention to his CAST-IRON CORRUGATED ARCH BOILER, which from its simplicity of construction has not the liability to fracture to which those of a more complex design are always subject. They have been extensively used for many years, and have given the greatest satisfaction.

All business is conducted at this establishment on the principle of lowest remunerative profits consistent with best materials and workmanship.

**PLANS AND ESTIMATES FURNISHED ON THE SHORTEST NOTICE.**

# WEEKS' ONE BOILER SYSTEM.

BY APPOINTMENT.

## JOHN WEEKS & COMPANY,

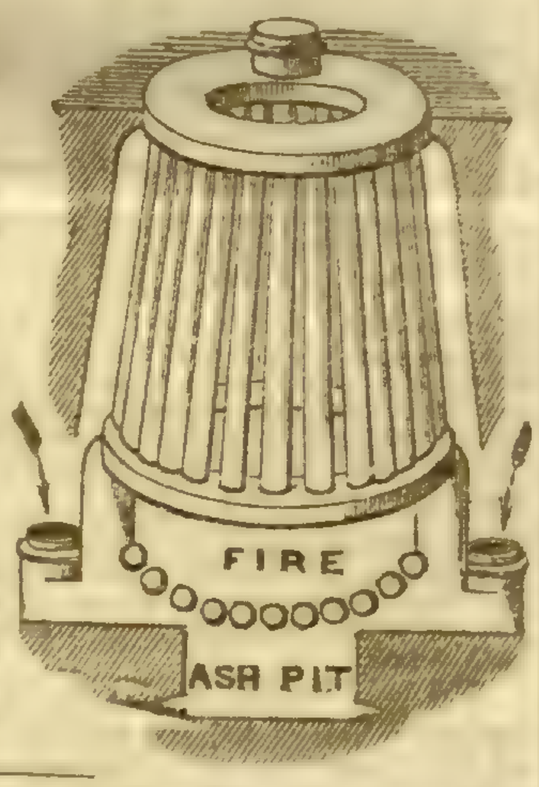
### KING'S ROAD, CHELSEA, S.W.,

CHALLENGE THE WORLD to produce a Boiler not made in imitation of their Upright Tubular Boiler that will produce anything like the same effect with the same quantity of fuel in a given time.

The following unequalled statistics fully justify the challenge:—

| Mark the enormous length of Houses and Piping heated by One Boiler. | Length of Houses in feet | Total length of Piping. |
|---|---|---|
| Messrs. E. G. Henderson & Co., Wellington Nursery | 1,200 | 5,500 |
| Messrs. F. A. Smith, Dulwich ... ... ... ... | 3,000 | 11,000 |
| M. Van Houtte, Belgium ... ... ... ... ... | 3,300 | 13,000 |
| Our own Fruit Forcing Show Establishment ... | 1,000 | 7,000 |

Also the Nurseries of Mr. Woodroffe, Harrow Road, N.W.; Messrs. Rollisson, Tooting, S.; Messrs. Wood & Ingram, Huntingdon; Messrs. Wood & Son, Maresfield; together with numerous Public Buildings and Establishments of the Nobility and Gentry far too numerous for insertion.

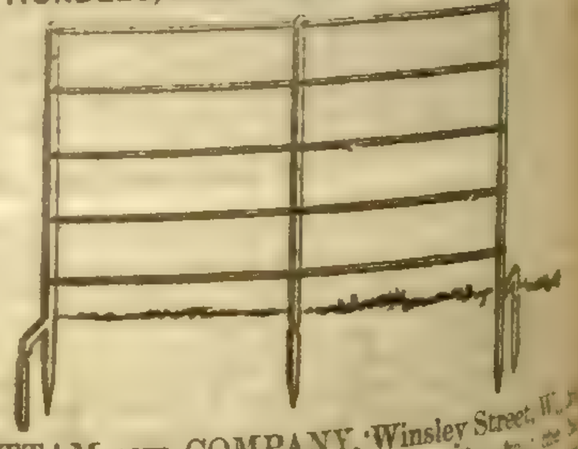



J. WEEKS & CO., Horticultural Builders and Hot-Water Apparatus Manufacturers, King's Road, Chelsea, S.W.

PLANS AND ESTIMATES FREE ON APPLICATION.

LOOMES AND CO.'s CABLE PATTERN GARDEN EDGING may be obtained of Messrs. HOOPER AND CO., Covent Garden Market, W.C.

IRON HURDLES, FENCING, &c., MADE BY MACHINERY.



COTTAM AND COMPANY, Winsley Street, W., invented machinery for making Hurdles, &c., the bars instead of being pointed by hand in the old fashioned way are nipped down by the machine, leaving a shoulder which more effectually tighten the standards when inserted. They are made of superior iron only, and will compete in price with those made by hand from cinder or common iron which frequently break. Iron Fencing, Gates, and Iron Work of all kinds, both Plain and Ornamental, Conservatories, Hot-Water Apparatus and Garden Implements.

Illustrated CATALOGUES free on application to COTTAM AND COMPANY, Ironfounders, 2, Winsley Street, Oxford Street, W.

N.B. COTTAM & Co. beg to make it known that there is no longer an entrance to their establishment from Oxford Street, but that they have made a second entrance from 2, Winsley Street, Oxford Street, W., by the side of the old entrance to their works, opposite the Pantheon.

# WEEKS' ONE BOILER SYSTEM.

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| Messrs. E. G. Henderson & Co., Wellington Nursery | 1,200 | 5,500 |
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| M. Van Houtte, Belgium ... ... ... ... ... | 3,300 | 13,000 |
| Our own Fruit Forcing Show Establishment | 1,000 | 7,000 |

Also the Nurseries of Mr. Woodroffe, Harrow Road, N.W.; Messrs. Rollisson, Tooting, S., Messrs. Wood & Ingram, Huntingdon; Messrs. Wood & Son, Maresfield; together with numerous Public Buildings and Establishments of the Nobility and Gentry far too numerous for insertion.

**J. WEEKS & CO., Horticultural Builders and Hot-Water Apparatus Manufacturers, King's Road, Chelsea, S.W.**

PLANS AND ESTIMATES FREE ON APPLICATION.

## COTTAM & COMPY., Engineers, Founders, &c.,

2, WINSLEY STREET, LONDON, W.

**A SHOW ROOM DEVOTED ENTIRELY TO ARTICLES OF HORTICULTURE.**

THE NEW ILLUSTRATED CATALOGUE UPON APPLICATION.

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| Conservatories | Mowing Machines | Hand-glass Frames | Garden Engines | Flower Sticks |
| Greenhouses | Fountains | Game Netting | ,, Syringes | Garden Bordering |
| Hot-water Apparatus | Ornamental Wire Work | Hurdles | ,, Rollers | Watering Pots |
| Garden Vases | Flower Stands | Garden Chairs | Flower Labels | Garden Arches, &c. |

**Iron Hurdles, Strained Wire Fencing, Game Netting, &c.**

*Every description of Plain, Ornamental, Cast and Wrought Iron, and Wire Work.*

**EXHIBITION PRIZE MEDAL GATES AND ENAMELLED MANGERS.**

N.B. COTTAM AND COY. beg to make it known that there is no longer an entrance to their establishment from Oxford Street, but that they have made a second entrance from 2, Winsley Street, Oxford Street, W., by the side of the old entrance to their works, opposite the Pantheon.

# ST. PANCRAS IRON WORKS,

### OLD ST. PANCRAS ROAD, N.W.

## IRON HURDLES, FENCING, AND GATES.

THE PROPRIETORS OF THE ST. PANCRAS IRON WORKS, OLD ST. PANCRAS ROAD, LONDON,

WERE AWARDED THE

**SILVER MEDAL of the Royal Agricultural Society for their IRON HURDLES & GATES,**

which, by their peculiar construction, are more than twice as strong and durable as those in ordinary use.

Lists per post on application. Gates from 30*s.* to 500*l.*

**The Hurdles can be seen in process of Manufacture at the Works.**

## GAME WIRE NETTING.

## Professor Varnell's Enamelled and Wrought-iron Stable Fittings.

These Patent Mangers and Stable Fittings obtained the Commendation and the Silver Medal of the Royal Agricultural Society of England and the Royal Agricultural Society of Ireland, are adopted by the Royal Veterinary College, and Professor Spooner of that Institution states that they should be used by all who value the health and comfort of their horses. They can be had plain, galvanised, or enamelled.

A Show Room is devoted entirely to every description of Stable Furniture, and full-sized stalls and loose boxes are erected for inspection at St. Pancras Iron Works.

## ADDRESS—THE MA AGERS,

### ST. PANCRAS IRON WORKS, OLD ST. PANCRAS ROAD, LONDON, N.W.,

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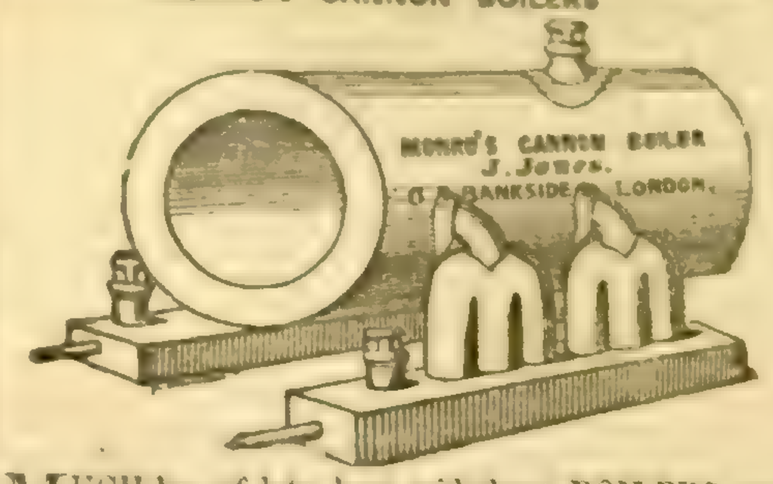
MONRO'S CANNON BOILERS




MUCH has of late been said about BOILERS FOR HEATING BY HOT WATER, but these Boilers have now proved themselves to be the best at present invented. They are adapted for Heating every description of Building, and are made of various sizes. The price of the

| | | | |
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| 24-inch Cast Iron is ... ... ... ... | £5 | 10*s.* | each |
| 24-inch Wrought Iron is ... ... ... | 6 | 10 | ,, |
| 36-inch Cast Iron is ... ... ... ... | 8 | 0 | ,, |
| 36-inch Wrought Iron is ... ... ... | 8 | 10 | ,, |

References to Gentlemen and Nurserymen where these Boilers are now at work. The Cannon Boilers are now kept in stock, and are to be had only of J. Jones, 6, Bankside, S.E. Also, every description of Saddle and Cylinder Boilers. Hot-water Pipes and Connections at prices lower than those of any other house in London. Estimates for Hot-water Apparatus erected complete in any part of the country, and an Illustrated Catalogue on application to J. Jones, 6, Bankside, Southwark, London, S.E.

### IMPROVEMENTS IN HEATING, &c.

MUSGRAVE'S PATENT SLOW-COMBUSTION STOVE, for Warming Public Buildings, Hall, Shops, Conservatories, Factories, Drying Rooms, &c. Will burn in Churches from Saturday till Sunday evening, avoiding attention during the hours of worship. In Halls will burn day and night for weeks, with little care. Capable of warming a large apartment for 24 hours, at a cost of 3*d.*; and deserving of special attention, because of its safety, healthfulness, durability, and extreme simplicity. This Stove is the nearest approach to warming by hot water.

MUSGRAVE'S PATENT STABLE FITTINGS AND HARMLESS LOOSE BOXES have obtained the award of a large Council Medal from the R. I. A. Society for the following improvements:—1st, The Horse cannot injure himself or others in the same stable if he breaks loose in his stall. 2d, He cannot waste the hay. 3d, He can have cut or uncut hay at pleasure 4th, He has clean water always before him. 5th, A pure and wholesome atmosphere is secured. 6th, The whole fittings are stronger than usual, without increase in price, and there is no risk of infection.

The Loose Box is really what its name denotes, and the most spirited Horse may be turned into it without danger.

MUSGRAVE'S PATENT IRON COW-HOUSE FITTINGS, as approved by the Board of Works, adopted in the Ulster Model Farm, and by many of the most eminent Stock Breeders in the Kingdom, are made wholly of iron, very durable, cleanly, and attractive in appearance. The fodder is always fresh, being freely exposed to the air, removed from the breath of the animal, and separated from the roots or damp food. The range of Troughs can be quickly filled with water for the use of the Cows, or for washing out in case of epidemic, and the cost is very moderate.

These inventions being distinguished for strength, simplicity, and practical usefulness will repay public inquiry.

MUSGRAVE BROTHERS are also Makers of Wire Fencing, Hurdles, Field and Entrance Gates, Corn Rick Stands, Conservatories, Hot-water Apparatus, Verandahs, Rural Bridges, &c; and their works being favourably placed for cheap labour and materials, they can offer corresponding advantages in price.

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For particulars address MUSGRAVE BROTHERS, Ann Street Iron Works, Belfast.

HOT-WATER PIPES at wholesale prices, with Elbows, Syphons, Tee Pipes, and every other connection. Wrought and cast iron Boilers, Saddle, Conical, Cylinder, and Elliptic, from 24*s.* each. Boilers and Iron Stands to use without brickwork. Valves from 12*s.* each. Coil Boxes, Furnace Doors, Furnace Bars, Supply Cisterns, and Builders' Castings of every description in stock, at Mr. LYNCH WHITE'S Iron Wharf, Upper Ground Street, Blackfriars Bridge, London, S.

TO THE NOBILITY, GENTRY, AND HORTICULTURISTS.

H. McCALLA (late principal Draughtsman to Messrs. Weeks & Co.), CIVIL ENGINEER and FARM ARCHITECT, begs to inform the above that the Horticultural Buildings being confined to so few, exorbitant prices are charged; that he prepares Working Drawings and Specifications, so that they can have their own constructed by any country carpenter, at 1*s.* 6*d.* per foot super, or upon their own estates at 1*s.* 4*d.* per foot. Plans also upon the same rule for erecting Hot Water Apparatus. Plans for all kinds of Farm Buildings, Homesteads, Labourers' Cottages, Laying out of Estates, Drainage. Plans &c., prepared for all the above Works and submitted to competition.—Office: 7 Upper Cheyne Row, King's Road, Chelsea, S.W.

HORTICULTURAL BUILDINGS AND HEATING BY HOT WATER.

JOHN R. PEILL, 17, New Park St., Southwark, S.E., Manufacturer of every description of Buildings for Horticultural purposes, and Inventor of the Improved Conical Boiler for heating the same, is prepared to undertake works of any magnitude, and refers among others to the celebrated range of FORCING HOUSES at HER MAJESTY'S GARDENS, FROGMORE, and at SIR ROBERT PEEL'S, DRAYTON MANOR, constructed under the superintendence of his Manager, Mr. JOHN JONES; and also to his BOILERS fixed at the CRYSTAL PALACE, the ROYAL BOTANIC GARDENS, REGENT'S PARK, and KEW, and at several hundreds of the Nobility's seats, Public Establishments, and Manufactories in London and the provinces. J. R. P. also manufactures every description of Iron Roofs, Iron Houses, and Iron Fencing, plain and ornamental. Strong Iron Hurdles for Sheep (6 ft. long, 3 ft. high, with 5 bars), 4*s.* 3*d.* each; ditto for cattle, 4*s.* 9*d.* each. Prices and other particulars forwarded on receipt of one postage stamp.

## PINE APPLES, GRAPES, &c.

PINE PLANTS, Fruiting and Succession.
GRAPE VINES, from Eyes, for Fruiting in Pots or Planting.

JOHN WEEKS AND CO. can now supply any quantity of very fine strong healthy Pine Plants, either Fruiting or Succession; also remarkably fine strong Grape Vines from Eyes, all the best sorts.

JOHN WEEKS & Co.'s Horticultural Show Establishment is now entirely devoted to the Growing and Forcing of Fruits in great variety, thereby showing the most improved plans of construction, and the most superior system of Hot water Apparatus.

JOHN WEEKS & Co., Horticultural Builders and Hot-water Apparatus Manufacturers, King's Road, Chelsea, London, S.W.

## AMERICAN PLANTS, &c.

MESSRS. WATERER AND GODFREY'S CATALOGUE for the present season is now ready, and may be had on application. It describes fully all Rhododendrons worth growing, and contains a List of Azaleas, Hardy Heaths, and other American Plants, as well as a summary of the general stock of the most extensive Nurseries in England.

The Catalogue may also be had at Messrs. MAY's & Co., 1, Wellington Street, Strand, W.C.

Knap Hill Nursery, near Woking, Surrey.

## HARDY RHODODENDRONS.

MESSRS. WATERER AND GODFREY invite attention to their Seedling RHODODENDRONS, which they are selling without names, and which they strongly recommend as being very superior in point of HABIT, FOLIAGE, COLOUR, and GENERAL HARDINESS. They are from 1½ to 2½ feet high, and as much through, and no plants can possibly be in finer health. They will be sold at very liberal prices, and purchasers can select from a stock of many thousands.

Knap Hill Nursery, near Woking, Surrey.

## RHODODENDRONS.

JOHN WATERER'S CATALOGUE OF HARDY, SCARLET, and other choice RHODODENDRONS, as annually exhibited at the Royal Botanic Gardens, Regent's Park, is now published and will be forwarded on application. Faithful descriptions of all the esteemed varieties will be found detailed, with a list of the popular kinds of AZALEAS and other AMERICAN PLANTS, as well as a selection of CONIFEROUS TREES, with height and prices.

The American Nursery, Bagshot, Surrey, near Sunningdale Station, South-Western Railway.

## GERANIUMS, HERBACEOUS PLANTS, ETC.

MESSRS. PARKER AND WILLIAMS beg to inform their friends and patrons that their new PRICED and DESCRIPTIVE CATALOGUE of the above, to which are added Supplemental Lists of Stove, Greenhouse, and Hardy Plants, Fruit Trees, &c. (which include all the best new plants of the season), is now published, and will be forwarded post free on application.—Paradise Nursery, Seven Sisters' and Hornsey Roads, Holloway, London, N.

SELECT HARDY HERBACEOUS PLANTS at very reduced prices, and a further large discount for cash, according to the quantity of goods taken.

| | | | |
|---|---|---|---|
| 200 Plants in 200 fine sorts, including many new and scarce | | | £3 10 0 |
| 400 Plants in 200 fine sorts | ditto | ditto | 6 0 0 |
| 100 Plants in 100 fine sorts | ditto | ditto | 2 0 0 |
| 200 Plants in 100 fine sorts | ditto | ditto | 3 10 0 |

Selections 4s., 6s., 9s., 12s., and 18s. per dozen.
50 fine sorts, selected for rock, 20s.; or per dozen, 5s. to 9s.
CATALOGUES sent on application to STEPHEN BROWN, Nursery and Seed Establishment, Sudbury, Suffolk.

## WHOLESALE CATALOGUE.

GEORGE JACKMAN AND SONS' PRICED and DESCRIPTIVE CATALOGUE for 1859, & SPRING 1860; comprising Fruit Trees of all the leading kinds; New and Selected Roses; fine varieties of American Plants; Choice and Rare Conifers; Evergreen and Deciduous Trees and Shrubs; and a fine stock of transplanted Forest Trees, &c, can be had free on application.—Woking Nursery, Surrey.

## THE SALWAY PEACH.

CHARLES TURNER can supply fine Trained Trees of this superior late variety, Dwarfs or Standards.

At the meeting of the Pomological Society, October 6, the Society reports as follows:—"MR. TURNER, of Slough, exhibited Salway, very large and fine, very melting and delicious for a Peach at this season. This is another case in which the Society has to congratulate itself on its carefully pronounced opinion of the merits of a new fruit being fully sustained by after experience."—The Royal Nurseries, Slough.

## GERANIUM "ZEPHYR."

JOHN SCOTT, FLORIST, Bathford, near Bath, can supply good plants of the above, and can with the greatest confidence recommend it as a first-rate Geranium for exhibition purposes, a first-rate habit and free bloomer, with very strong foot stalks, showing every bloom to the best advantage. Colour, lower petals, clear pink, crimson purple blotch in upper petals, surrounded with carmine, edged with rosy pink, with a very distinct white throat. It received a first-class Certificate at the Bristol and Clifton Horticultural Society.

Plants 10s. 6d. each, with the usual discount to the Trade.

SPERGULA PILIFERA.—The past summer has again proved the great superiority of the above Plant for Lawns, Terrace Gardens, Steep Banks, Verges, Edgings, &c., never requiring mowing or turning up in such situations during the warmest weather. Strong Plants, 1s., 2s., 3s., or 4s. per dozen. Having the Gardens at Forest Hill (in which Spergula was first introduced as a Lawn Plant) under our care, we are able to send full instructions for Culture with the Plant.

BRITISH FERNS, ALPINE AND ROCK PLANTS in great variety, 6s. to 9s. per dozen.

J. A. SUMMERS, Howard Park Nursery, Ferry Hill, Sydenham, [S.E.

## GLADIOLUS BRENCHLEYENSIS.

YOUELL AND CO. are now sending out strong flowering Bulbs of this magnificent showy variety, the colour of which is bright vermilion scarlet. A box of the spikes of bloom was forwarded to the Editor of this Paper in August last, whose opinion of it will be found in the publication of August 20, page 694, as follows:—

"This must certainly be regarded as one of the most showy and beautiful of the class to which it belongs."

Price 5s. per dozen; 40s. per 100. Trade price on application.

Royal Nursery, Great Yarmouth, Norfolk.

## BEGONIA MARSHALLI.

WILLIAM COLE will send out the above beautiful variety, raised by Mr Franklin, Gardener to J. G. Marshall, Esq., on and after the 26th inst. It has been exhibited at the Regent's Park, Kirkstall, Halifax, Shipley, &c., and Certificates have been awarded to it. It is universally admitted to be by far the handsomest of all the Begonias, and will be invaluable for Exhibition purposes. Drawings by Mr. Andrews free by post for eight stamps.

For further particulars see *Gardeners' Chronicle* of July 16; also Sept. 10; also "Cottage Gardener" of July 19 and Sept. 13; and "Book of Beautiful Leaves," by E. J. Lowe, Esq.

Strong plants 15s. each, with the usual discount to the Trade.

Post-office Orders payable at Manchester.

Nursery, Withington, near Manchester.—Nov. 5.

## NEW ANNUALS.

JOHN GEORGE WAITE, SEED MERCHANT, 181, High Holborn, London, W.C., has great pleasure in offering SEEDS of the following new hardy Annuals:—

CLARKIA PULCHERRIMA,
SCHIZANTHUS GRANDIFLORUS OCULATUS,
HELIOPHILA CŒRULEA STRICTA.

Coloured Drawings and prices of which (to the Trade only) can be had on application.

Seed Establishment, 181, High Holborn, London, W.C.

## NEW PINE APPLE—HURST HOUSE SEEDLING.

H. WILLIAMS is now prepared to send out this fine and useful variety of PINE APPLE; fruit large and conical, and of good flavour.

H. W. can with confidence recommend this variety to all Pine growers. Numerous testimonials could be given, but H. W. thinks it sufficient to add Mr. G. Fleming's, of Trentham: "An acquisition." Price on application.

Fortes Green, Muswell Hill, Finchley, N.

## SPLENDID NEW VARIEGATED FERN, PTERIS ARGYRÆA (MOORE).

JAMES VEITCH AND SON have peculiar satisfaction in calling attention to the above-named most striking novelty, which is undoubtedly one of the greatest acquisitions of recent introduction to our now justly popular collections of Ferns.

It is of *noble aspect* and free growth, perfectly distinct and novel in its character, the pinnæ on every frond as well as their branches having a broad central stripe of glistening silver, which, in contrast with the bright green, produces a most charming effect. It may justly be called

THE VARIEGATED FERN.

It was exhibited at the Royal Botanic Garden on July 6, and before the Horticultural Society's newly-appointed Floral Committee on July 7, and in both cases received the highest Prizes given to such novelties, and was universally admired.

Established Plants, 31s. 6d. each. The usual allowance to the Trade.—Royal Exotic Nurseries, Exeter and Chelsea.

## NEW GARDEN SEEDS, GROWTH OF 1859.

ROYAL BERKSHIRE SEED ESTABLISHMENT

SUTTON AND SONS are now prepared to execute orders for all kinds of GARDEN SEEDS, and can warrant them genuine.

Royal Berkshire Seed Establishment, Reading.—Nov. 5

## THE LARGEST AND FINEST STOCK OF TEA-SCENTED ROSES IN ENGLAND.

50,000 PLANTS IN POTS AND IN THE OPEN GROUND.

WM. WOOD AND SON invite attention to their very extensive and superior stock of the above, which they feel certain are unsurpassed in the Trade.

| | | |
|---|---|---|
| Dwarfs, from 48 pots | per dozen | 9s to 12s |
| ,, in 6-inch or 24 pots | ,, | 24 to 30 |
| Standards, very fine | ,, | 18 to 24 |

Specimen Plants, in 8-inch pots, for exhibition, each, 3s 6d to 5s.

DESCRIPTIVE CATALOGUES on application

Woodlands Nursery, Maresfield, near Uckfield, Sussex

## ROSES AT REDUCED PRICES.

WM. WOOD AND SON refer with pleasure to their enormous stock of many thousands of STANDARD and DWARF ROSES, which they will be happy to supply at the following remarkably low prices, viz.:— Per doz.—s

| | |
|---|---|
| Selected tall Standards, with three to six best varieties of Perpetual and Climbing Roses in each sort | 24 to 30 |
| Standards and Half Standards | 12 to 18 |
| Dwarfs and Dwarf Standards | 9 to 12 |
| Dwarfs on own roots | 9 to 12 |
| ,, ,, without names | 3 |
| Climbing Dwarfs, ,, | 3 |
| ,, with names | 6 to 9 |

DWARF ROSES, from 48-sized pots, or from open ground a la peal for potting.

BOURBON, CHINA, TEA-SCENTED, NOISETTE & HYBRID PERPETUAL, 9s to 12s per dozen

CATALOGUES gratis on application. Extra plants presented with each order to compensate for carriage.

Woodlands Nursery, Maresfield, near Uckfield, Sussex.

## ROSE NURSERIES, HERTFORD.

E. P. FRANCIS invites attention to his splendid stock of DWARF ROSES budded on the Manetti Stock, of which he possesses the following quantities:—

| HYBRID PERPETUALS. | |
|---|---|
| 250 | Adelaide Fontaine |
| 200 | Alexandrine Bachmeteff |
| 500 | Auguste Mie |
| 100 | Arthur de Sansal |
| 100 | Baron Hallez |
| 150 | Baron Heecheren |
| 150 | Baron Larray |
| 200 | Caroline de Sansal |
| 50 | Charles Bessiere |
| 500 | Colonel Rougemont |
| 500 | Comte de Nanteuil |
| 150 | Comte Odart |
| 50 | Doctor Henon |
| 250 | Duchess of Norfolk |
| 500 | ,, of Orleans |
| 1500 | Géant des Batailles |
| 200 | General Castellane |
| 150 | ,, Cavaignac |
| 1000 | ,, Jacqueminot |
| 100 | ,, Pelissier |
| 100 | ,, Simpson |
| 200 | Gloire de France |
| 100 | Imperatrice Française |
| 1000 | Jules Margottin |
| 500 | Louis Peyronny |
| 100 | Lion des Combats |
| 50 | La Ville de St. Denis |
| 500 | Lord Raglan |
| 100 | Madame Pepin |
| 250 | ,, Domage |
| 150 | ,, Hector Jacquin |
| 100 | ,, Knorr |
| 500 | ,, Masson |
| 150 | ,, Cambacères |
| 500 | ,, Vidot |
| 300 | Mathurin Regnier |
| 200 | Mrs. Rivers |

| HYBRID PERPETUALS | |
|---|---|
| 100 | Pius IX. |
| 100 | Prince Leon |
| 200 | Paul Dupuy |
| 100 | Reine des Fleurs |
| 500 | Souvenir de la Reine d'Angleterre |
| 500 | Souvenir de Leveson Gower |
| 500 | Triomphe de l'Exposition |
| 500 | ,, de Paris |
| 500 | William Griffiths |
| 100 | Amandine |
| 100 | Augustine Mouchelet |
| 500 | Baron Prévost |
| 50 | Comet |
| 100 | Duchess of Sutherland |
| 100 | Empress Eugénie |
| 500 | La Reine |
| 100 | Louis Bonaparte |
| 100 | Madame Laffay |
| 100 | Robin Hood |
| 50 | Souvenir |
| 50 | William Jesse |

| TEA SCENTED. | |
|---|---|
| 500 | Comte de Paris |
| 500 | Devoniensis |
| 100 | Elise Sauvage |
| 1000 | Gloire de Dijon |
| 100 | Gonbault |
| 100 | Jaune |
| 150 | Madame Wilhermerz |
| 100 | Narcisse |
| 100 | Pauline Plantier |
| 100 | Souchet |
| 150 | Souvenir d'un Ami |
| 100 | Vicomtesse de Cazes |

The above are all fine grown plants, clean and vigorous; they are all budded close to the ground, within 3 and 4 inches of the root, and are admirably adapted either for cluming or potting. Smaller quantities are grown of all the other varieties in their different classes.

## HYACINTHS FOR BEDS AND BORDERS.

| | | |
|---|---|---|
| DOUBLE RED, fine Dutch Roots, 3s. 6d per doz. | | |
| DOUBLE BLUE | ,, | 3 6 |
| DOUBLE WHITE | ,, | 3 6 |
| ALL COLOURS, mixed | ,, | 3 6 |

All other BULBS cheap, as see Priced List.

SUTTON AND SONS,
Royal Berkshire Seed Establishment, Reading

## HYACINTHS, TULIPS, CROCUS, ETC.

JAMES CARTER AND CO. have received a fresh supply of Bulbs from Holland in first-rate condition:—

HYACINTHS, for pots or glasses, 6d., 9d., & 1s. each, 10s. 0d. per dozen.
,, for open borders, single mixed, red, various shades, per dozen.
,, Blue, do., 3s. p. doz. | ,, White do., 3s. p. doz.

| | | | |
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| Crimson .. | per dozen | 4s. 0d. | Purple .. per dozen |
| Blue .. | ,, | 4 0 | Pink .. .. |
| | | | White .. .. |

POLYANTHUS NARCISSUS for pots, 8 fine varieties, one of each for .. .. .. .. 2s. 6d.

CROCUS.

| | Per 1000. | Per 100. |
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| Blue .. | 12s. | 1s. 4d. |
| Cloth of Gold .. | 15s. | 1 8 |
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| Striped .. | 15s. | 1 8 |

| | Per 1000. | Per 100. |
|---|---|---|
| White .. | 18s. | 2s. |
| Large Yellow .. | 18s. | 2s. |
| Yellow .. | 12s. | 1s. 6d. |

TULIPS for open borders and pots.

| Per 100—s. d. | | Per 100. |
|---|---|---|
| Very fine mixed single .. | 6 0 | Duc Van Thol .. |
| Very fine mixed double .. | 6 0 | |
| Tournesol, scarlet and yellow .. .. .. | 7 6 | Spanish Iris, finest named, Ranunculus, Scarlet Turban .. |
| Rex rubrorum, scarlet .. | 7 6 | |

JAMES CARTER & Co., 238, High Holborn, London.

## DUTCH FLOWER ROOTS.

PETER LAWSON AND SON, THE QUEEN'S SEEDSMEN, &c., respectfully announce the arrival of their Stock of DUTCH FLOWER ROOTS, and they are now prepared to execute orders for the same.

27, Great George Street, Westminster.

## NEW SEEDS.

TRIFOLIUM INCARNATUM
ITALIAN RYE-GRASS
NATURAL GRASS SEEDS for PERMANENT PASTURE LAWNS, &c.

PETER LAWSON AND SON, QUEEN'S SEEDSMEN, &c., are prepared to supply all kinds of SEEDS for AUTUMN SOWING of the best quality.

27, Great George Street, Westminster.

## AZALEA INDICA.

F. AND A. SMITH beg to offer the above with flower buds, dwarf, bushy, and thoroughly established. Having been grown in this country they are most suitable for packing, and are strongly recommended to Amateurs and the Trade in general. An inspection invited. Prices on application.—Dulwich, Surrey, S.

## CHOICE BULBS.

50 varieties choice imported Hyacinths, 30s. per 100 named, 6s., 9s., and 12s. The roots of the above collection have this season been received in unusual fine and sound condition.

EARLY GLADIOLI.

The varieties of this class are very free flowering and the best sorts to grow in pots for forcing, for which purpose they should be planted early, and well rooted previous to being placed in heat. To give a pleasing effect they should be planted three to six of a sort in each pot. They also make very showy clumps in beds, and are very attractive flowers in borders.

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|---|---|
| 12 splendid early dwarf varieties .. .. | |
| 12 splendid early dwarf varieties, three of each | |
| 12 splendid early dwarf varieties, new selection | |
| Splendid early, in best mixture, 3s 6d p. doz.; p. | |
| Splendid early, second mixture, 2s 6d p. doz.; p. | |
| Leadi gean, deep pink, crimson and white stripe, p. | |
| Spectabilis, shaded rose, very dwarf and fine | |
| Prince Albert, fine bright pink, striped white | |
| Brownii, fine lively pink, with white feather, large | |
| of the early varieties .. .. .. .. | Each |
| British Queen, a fine pure white and very early | |

GLADIOLUS RAMOSUS HYBRIDS.

| | |
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| 12 superb varieties .. .. .. .. | |
| 12 superb varieties (three roots of each .. | |
| Formosissima, rich crimson, per dozen .. | |
| Gen Von Wedden, a splendid large crimson, with white mark .. .. | |
| Queen Victoria, fine rosy scarlet .. .. | |
| Ramsesi, fine light rose crimson, flamed .. | |

GLADIOLUS GANDAVENSIS HYBRIDS.

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|---|---|
| 12 superb varieties, as Admiral Dundas, Brenchleyensis, Monsieur Rhoutz, &c .. .. | |
| 12 superb varieties, name selection .. | |

GLADIOLUS (VARIOUS).

| | | | |
|---|---|---|---|
| Floribundus, per doz. | 2s. 6d. | Gandavensis, per doz. | 1s. 6d. |
| Psittacinus .. | 1 6 | Colvillii .. .. | per dozen 1s. 6d. |
| Colvillii roseum .. | .. | .. | per dozen 1s. 6d. |
| 12 splendid early and late varieties of Gladiolus .. | | | |
| 12 ,, ,, ,, ,, .. .. | | | |
| 12 ,, ,, ,, ,, .. .. | | do. | newest selection |

40 rare beautiful English Iris, 14s.; per doz. 2s. 6d.
40 varieties beautiful German Iris .. ..
20 varieties do. .. ..
6 rare Iris pumila, very dwarf, early, and showy
6 varieties do. do. of each
(The above beautiful in clumps in front of shrubberies.)
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JOHN SALTER'S unrivalled Collection of CHRYSANTHEMUMS ... blooms; also several splendid Seedlings of his own, and other growers which will be sent out next spring. The flowers in the WINTER GARDEN having been protected from the late severe frosts present a magnificent display of all the best varieties in cultivation. The Gardens are open every day except Sunday.—Versailles Nursery, William Street, near Hammersmith Turnpike, W.

CHRYSANTHEMUMS.

W. HOLMES begs to offer strong plants of every known good variety of CHRYSANTHEMUM at 2s. per dozen; including Golden Queen of England, Aurora, Cassandra, Curtius, Queenius, Excelsior, Fabius, Fortune's Two Coloured Incurved, Gloriosa, Glory, Jane Lancaveire, Madam Cos, Model, Vestris, Orange Brilliant, Prince Albert, Remus, Sulphurea superba, Cris. Andromeda, Ariel, Astrea, Baron Ackward, Esmeralda, Maid of Saragossa, Miss Julia, Miss Talbard, Mrs. Dix, Shirley Hibberd, Rose Trevenna, &c.

Frampton Park Nursery, Hackney, N.E.

GERANIUM FLORIBUNDUM (SMITH).

F. AND A. SMITH beg to offer the above-named as an acquisition, colour bright rose, upper petals pink with crimson spot, dwarf free habit, a continuous and abundant bloomer, without exception the best first early variety ever offered; obtained two Certificates of merit at the Botanical Society's Meetings in March and April 1859. Strong plants, 7s. 6d. each. The usual allowance to the Trade.—Dulwich, Surrey, S.

MONRO'S PROLIFIC CUCUMBER.—Seeds of the above may now be had in packets 2s. 6d. each. First-prize Certificates have been awarded it, both by the Horticultural Society and Crystal Palace Company, at the grand exhibitions of this season, where as many as 36 fruit were shown on one branch 2 feet long, six fruit averaging about 20 inches long. Special notice was also taken of it in the leading article of the *Gardeners' Chronicle* of May 14. Upwards of 1000 fruit have been cut this season from April 4 to July 4 out of a house 40 feet long. The usual allowance to the Trade.

G. MONRO, Colney Street, St. Albans, Herts.

THE BEST FRAME CUCUMBER.

SUTTON'S BERKSHIRE CHAMPION, 1s. per packet.

CARTER'S CHAMPION, 1s. per packet.

IMPROVED SION HOUSE, 1s. per packet.

Free by post from SUTTON & SONS, Royal Berkshire Seed Establishment, Reading.

SUTTON'S CHAMPION SWEDE AND IMPROVED MANGEL WURZELS.—THREE MORE SILVER CUPS and several other prizes have already been awarded THIS SEASON to SUTTON'S CHAMPION SWEDE and Improved Mangel Wurzels.

Messrs. SUTTON & SONS will feel obliged by any additional information as to Prizes awarded to Roots raised from their seeds. New Seeds are now ready for delivery. Champion Swede, 1s. per lb., 45s. per bushel. Mangel Wurzel, 9d. per lb., or cheaper by the cwt.

The ROYAL BERKS ROOT SHOW will be held at Reading in November, at which numerous Prizes will be awarded as usual to pulled roots of Swedes, Turnips, Mangels, Carrots, Kohl-Rabi, &c., from any part of the kingdom.

Royal Berkshire Seed Establishment, Reading.

CRIMSON PERFECTION RHUBARB.

ROBERT SALT begs to announce that having on hand a good quantity of the above excellent variety of RHUBARB, he is prepared to offer them at the following low prices:—

| | | | |
|---|---|---|---|
| One year old Roots | .. .. .. | 8s 0d | per 100 |
| Two year do. | .. .. .. | 15 0 | do. |
| Three year do. | .. .. .. | 20 0 | do. |

With usual discount to the Trade.

R. S. has much pleasure in recommending the above, it being very early and productive, and the interior of the stalks a crimson colour. Orders forwarded to ROBERT SALT, Longton, Staffordshire, or to the undermentioned, will receive prompt attention:—Messrs. HERBST & M'MULLEN, Seedsmen, 6, Leadenhall Street, London, E.C.; BURGESS & KENT, Nurserymen, Penkhull, Staffordshire; Mr. CHAS. TURNER, Royal Nursery, Slough; FRANCIS & ARTHUR DICKSON, Nurserymen, 106, Eastgate Street, Chester.

A remittance from unknown correspondents.—Longton, Nov. 5.

SALE OF NEW CHINESE AND JAPANESE PLANTS.—In consequence of the termination of the Agreement between Mr FORTUNE and Mr GLENDINNING, they have decided upon offering the entire Stock of two new, hardy, Ornamental Plants for sale. The one a RHODODENDRON from the North of China. This is a new and undescribed species, with fine large foliage, of which there are about 800 vigorous young plants, in the best health, bushy, and fit for immediate sale. The other a new TAXUS from Japan (apparently Taxus cuspidata) as described by Siebold but never before introduced into European gardens, and is a very interesting species of Yew. There are about 66 healthy young plants, including the original imported plant from Japan. Private offers may be made for the entire stock of either or both of the above, and may be inspected at Mr. R. GLENDINNING'S, Chiswick Nursery, London, W.

SCOTTISH ARBORICULTURAL SOCIETY.—The Sixth Annual Meeting of this Society was held in the Rooms, 6, York Place, Edinburgh, on Wednesday, October 5, Mr. Cameron Corrie, Auchtertyre, in the Chair. Premiums were awarded for Essays on the following subjects for the year:—

I. Introduction and Cultivation of Ornamental Deciduous and other Forest Trees, with special reference to the Climate of Great Britain and Ireland (Silver Medal).

II. Preparation of Waste Land for Planting (Silver Medal).

III. The Improvement, Planting, and Management of Woods, Plantations, and Moorland; the crop reported on to be cut and fenced in proper time (Silver Medal).

IV. The best method of Felling Timber, and preserving it from decay, as regards Durability (Silver Medal).

V. The best method of planting and maintaining Live Fences, with an enumeration of the plants most suited for laying up gaps in old hedges (Silver Medal).

The following Office Bearers were elected for the year:—

*President*—Sir JOHN HALL, Bart., Douglas.

*Vice-Presidents*—

Lord [illegible], Edinburgh.

The Right Hon. the Earl of ARDEER, Castle Castle, Forfarshire.

Mr JAMES BROWN, Grandtully, Strathspey.

Mr W. THOMSON, Chapelhill, Dalkeith.

Mr [illegible] PATTLE, Aberdeen, Treasurer.

Secretary—Mr R. M. STALK, Edgehill Nursery, Edinburgh.

Treasurer—Mr JOHN ANDERSON, Nurseries, Perth.

Auditor—Mr THOMAS MELVILLE, Stanwell Nursery, Edinburgh.

The next ANNUAL MEETING will take place on the first WEDNESDAY of October, 1860.

THE STOKE NEWINGTON ORIGINAL CHRYSANTHEMUM SOCIETY (Instituted 1846) will hold its 13th ANNUAL EXHIBITION at the Manor Rooms, Church Street, Stoke Newington, N., on MONDAY and TUESDAY November 7 and 8, when the Flowers will be in perfection. PRIZES, including SIX SILVER CUPS, will be awarded.

*President*—John Edwards, Esq., F.H.S.

*Treasurer*—Mr Wm Harrell | *Secretary*—Mr Joseph Paxton

*Committee.*

| | | |
|---|---|---|
| Mr. S. Allen. | Mr Laidlaw. | Mr. Nicholls. |
| Mr. Argent | Mr. Morgan. | Mr. Onlridge. |
| Mr. Bird, F.H.S. | Mr. D. Monk. | Mr Putnam. |
| Mr Broome, F.H.S. | Mr. Mardon | Mr. Peachey |
| Mr. Collins. | Mr. Merry | Mr. Scruby. |
| Mr. Hutt. | Mr. McElroy. | Mr. Ward. |

Doors open at 12 o'Clock on the first day, and 9 o'Clock on the second day. Admission—First Day, 1s.; Second Day, 6d. Schools admitted Free by applying to the Secretary, 12, Devonshire Place, Green Lanes, Stoke Newington, N. Omnibuses to and from the Flower Pot, Bishopsgate, every five minutes.

# The Gardeners' Chronicle.

*SATURDAY, NOVEMBER 5, 1859.*

It seems to be a very general opinion that the late frost, the first frost of autumn, has occurred at an unusually early period. In all directions you hear the remark—"I never knew a frost so early as this." But the records of weather tell a different tale, and the first frost, instead of being unusually early, was in reality much later than is sometimes the case. The following Table prepared by Mr. R. THOMPSON, from the Chiswick registers, shows that during the last 20 years there have been four hard frosts even in September, on one occasion as early as the 7th; that in 14 years out of the 20 considerable frost visited us between the 20th and 30th of October; and that in 10 years noteworthy frosts were registered earlier in October than the 20th. Frosts in the end or middle of October are therefore the rule, at least in the valley of the Thames, and not the exception.

*First Frosts of Autumn in which the Thermometer fell below 30°.*

| Year. | Date. | Minimum Temperature. | Duration. | Year. | Date. | Minimum Temperature. | Duration. |
|---|---|---|---|---|---|---|---|
| | | Deg. | Days | | | Deg. | Days |
| 1840 | Sept. 17 | 29 | 1 | 1851 | Oct. 16 | 28 | 1 |
| | Oct. 20 | 29 | 1 | 1852 | Oct. 8 | 28 | 1 |
| | 25 | 28 | 1 | 1853 | Oct. 2 | 27 | 2 |
| 1841 | Oct. 21 | 26 | 1 | | 3 | 28 | |
| 1842 | Oct. 4 | 29 | 1 | 1854 | Oct. 11 | 28 | 2 |
| | 19 | 25 | | | 12 | 29 | |
| | 20 | 22 | 3 | | 26 | 24 | 1 |
| | 21 | 20 | | | 28 | 26 | 1 |
| 1843 | Oct. 14 | 29 | | 1855 | Sept. 7 | 28 | 1 |
| | 15 | 25 | 3 | | 25 | 27 | 2 |
| | 16 | 27 | | | 26 | 26 | |
| | 18 | 24 | 2 | | Oct. 27 | 26 | 1 |
| | 19 | 22 | | 1856 | Sept. 20 | 29 | 1 |
| 1844 | Oct. 7 | 29 | 1 | | Oct. 25 | 26 | 4 |
| 1845 | Oct. 23 | 27 | | | 26 | 25 | |
| | 24 | 29 | 3 | | 27 | 25 | |
| | 25 | 29 | | | 28 | 26 | |
| 1846 | Oct. 23 | 29 | 1 | 1857 | Oct. 30 | 27 | 1 |
| 1847 | Sept. 27 | 28 | 1 | 1858 | Oct. 8 | 26 | 1 |
| | Oct. 25 | 26 | 1 | | 11 | 26 | 1 |
| 1848 | Oct. 21 | 29 | 1 | | 29 | 26 | 3 |
| 1849 | Oct. 8 | 29 | 2 | | 30 | 27 | |
| | 9 | 28 | | | 31 | 24 | |
| 1850 | Oct. 5 | 28 | 1 | 1859 | Oct. 21 | 23 | 8 |
| | 12 | 27 | 1 | | 22 | 21 | |
| | 15 | 24 | 1 | | 23 | 17 | |
| | 26 | 23 | 1 | | 24,26 | 23 | |
| | 29 | 24 | 1 | | 27,28 | 29 | |
| | | | | | 29 | 28 | |

There is however this peculiarity in the present season, that the frost has lasted longer than at any time during 20 years, and the thermometer has fallen lower. The duration of these early frosts seldom extends beyond three days; usually it is limited to one. This year we had eight days of it. The lowest temperature in the 20 years was 20°, and that only in 1847, usually the thermometer marks from 25° to 29°; on the late occasion it fell to 17°, a very material difference. The effects we see in the woeful condition of our gardens. Autumn frosts seldom produce much mischief: wood is ripe; herbaceous vegetation is torpid. But now Celeworts, Cabbages, Celery, even the hardy Kale itself appears as if parboiled; and wherever a second growth was made by shrubs and trees the young wood is destroyed. This is most especially the case with autumn-planted evergreens, such as Rhododendrons and Laurels, and the autumnal Roses. Even certain hardy trees with ripe wood will be found hereafter to have lost the ends of their shoots. There are now before us shoots of the Oriental Plane and the Indian Pavia, which, although green and fair to the eye, are dead to the heart. Gardeners must therefore be prepared to see hereafter many casualties among plants that seem to have passed through the late ordeal uninjured.

If we inquire why that is, the meteorological registers supply the answer. Never within our recollection has the earth been heated as it was in last October. At the end of August the thermometer at 2 feet below the ground stood at 62°; at the end of September it was still 59½, and on the 20th October, the day before frost set in, it was no lower than 58°, instead of 52°, the usual average. Now during the months of August, September, and October rain fell in unusual quantity for those months:—

1859. *Rainfall at Chiswick.*

| | August. | September. | October. |
|---|---|---|---|
| | Inches. | Inches. | Inches. |
| 1st week | 0.39 | 0.48 | 0.18 |
| 2d ,, | 0.86 | 0.50 | 0.51 |
| 3d ,, ... | 0.05 | 0.87 | 0.58 |
| 4th ,, | 1.19 | 2.20 | 1.28 |
| Amount | 2.49 | 4.05 | 2.55 |

And, finally, coincident with the setting in of frost was a deluge. Here then we had temperature of air 17° and earth 58° soaked with water, which was therefore warm. Leaves and young active shoots were thus gorged with moisture, and the inevitable consequence was the destruction that surrounds us.

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A FEW weeks ago (see August 15 and 22) some remarks were made in these columns upon the extreme importance of paying more attention to the condition of ROOTS than many gardeners imagine. And we availed ourselves of a recent paper of the late lamented Prof. HENFREY, and some new French observations, to explain why so much more care of roots was demanded than is generally suspected. Two circumstances more especially were referred to in connection with the subject; one, the continual formation of new matter beneath or within the point of a root; the other, the universal production of very delicate absorbing hairs upon its surface. It is true that neither of these facts was wholly new to vegetable anatomists. It had been long known that the aerial roots of Orchids are clothed with minute hairs for absorption from the atmosphere. But this was far from being suspected to be a general condition of the root. SCHLEIDEN, indeed, expressly states (*Principles of Botany*, p. 218) that in such plants it is "a peculiar investment." And so with respect to the cap at the end of the root, which Nature provides to guard the tender matter there from injury, and the removal of which must necessarily be productive of mischief; that also had been long since ascertained to occur in certain cases, but was not regarded as an universal fact. It had been asserted indeed by the writer just quoted that in forming a root the point is pushed forward, and the youngest most delicate cells are *always* situated immediately beneath it; but this was a mere assertion, unsupported by details, and considering this author's trenchant style, not accepted as a rule of organisation, especially since he at the same time warned his readers not to confound the structure in question with the root cups of certain plants, which, however, are certainly the same. We therefore gladly availed ourselves of HENFREY'S carefully written and elaborate paper on roots in the Journal of the Royal Agricultural Society, to draw attention to these important points. For they have the most direct bearing upon a very large part of the practical operations of husbandry.

We revert to the subject now for the sake of

doing justice to one of the most able observers of the age, who nine years ago, in a work we had overlooked, pointed out the facts of which we are speaking. In his Botanical Text Book Dr. ASA GRAY, the learned Professor of Natural History in Harvard University, speaks of the root in the following words—

"The primary root is the descending axis, or that portion of the trunk which, avoiding the light, grows downwards, fixing the plant to the soil, and absorbing nourishment from it. The examination of any ordinary embryo during germination, such as that of the Sugar Maple, will give a good idea of the formation and entire peculiarities of the root. Its radicle or pre-existing axis first of all grows in such a way as to elongate throughout its whole extent (thus showing that it is not itself *root*, but the first joint of stem); this lengthening, while it thrusts the root-end downwards a little deeper into the soil, at the same time raises the cotyledons to the surface, and at length elevates them above it, where they expand in the light and air, and begin to perform the office of leaves. Contemporaneous with this elongation of the radicle, a new and different growth takes place from its lower extremity in a downward direction, which forms the root. The root is therefore a new formation from the root-end of the radicle. It begins by the production of a quantity of new cells (by division) at the extremity of the radicle; not on its surface, however, but beneath its thin epidermis and the superficial cells. The multiplication of cells at this point proceeds from below onwards; those behind quickly expanding to their full size, and then remaining unaltered, while those next the apex continue to multiply by division. In this way the root grows onward by continual additions of new material to its advancing extremity; lengthening from the lower end entirely or chiefly, so that this part of the growing root always consists of the most newly formed and vitally active tissue.

"The new cells, however, do not occupy the very point, as is commonly, but incorrectly, stated. This is capped, as it were, by an obtusely conical mass of older cells, consisting of the superficial tissue of the end of the radicle, pushed forward by the cell-multiplication that commenced behind it, as already mentioned. As the original cells of this apex wear away or perish, they are replaced by the layer beneath: and so the advancing point of the root consists, as inspection plainly shows, of older and denser tissue than that behind it. The point of every branch of the root is capped in the same way. It follows that the so-called *spongioles* or *spongelets* of the roots have no existence. Not only are there no such special organs as are commonly spoken of, but absorption evidently does not take place, to any considerable extent, through the older tissue of the point itself.

"As to absorption by roots, the inspection of the root of a germinating plantlet, or of any growing rootlet, even under a low magnifying power, shows that they must imbibe the moisture that bathes them by endosmosis, through the whole recently formed surface, and especially by the hair-like prolongations of the exterior layer of cells, or *fibrils*, as they may be termed, which are copiously borne by all young roots. These capillary tubes, of great tenuity and with extremely delicate walls, immensely increase the surface which the rootlet exposes, and play a more important part in absorption than is generally supposed; for they appear to have attracted little attention. These fibrils perish when the growing season is over, or when the root gets a little older; at the same time, the external layer of cells that bears them, at first undistinguishable from the parenchyma beneath, except perhaps in the size of the cells, hardens and thickens into a sort of epidermis, or firmer skin, so as to arrest or greatly restrain the imbibition. This epidermis of the root consists of less compressed cells than in parts exposed to the light, and is destitute of stomates or breathing-pores.

"The growth of the root and its branches keeps pace with the development of the stem. As the latter shoots upward and expands its leaves, from which water is copiously exhaled during vigorous vegetation, the former grow onward and continually renew the tender, hygrometric tissue through which the absorption, required to restore what is lost by evaporation or consumed in growth, is principally effected. Hence the danger of disturbing the active roots during the season of growth. In early summer, when the sap is rapidly consumed by the fresh leaves, the rootlets are also in rapid action. The growth of the branches and roots being simultaneous, while new branchlets and leaves are developing, the rootlets are extending at a corresponding rate, and their tender absorbing points are most frequently renewed. They cannot now be removed from the soil without destroying them, at the very time when their action is essential to restore the liquid which is exhaled from the leaves. But towards the close of summer, as the leaves grow languid and the growth of the season is attained, the rootlets also cease to grow, the loose tissue of their extremities, not being renewed, gradually solidifies, and absorption at length ceases. This indicates the proper period for transplanting, namely, in the autumn after vegetation is suspended, or in early spring before it recommences."

This extract from one of the best works we have, clearly shows that Dr. ASA GRAY had distinctly described facts which had before him been regarded as particular to be in reality general, and had thus anticipated by several years the recent observations both of England and France.

## ENTOMOLOGY.

### — THE MOTTLED UMBRE MOTH.

AMONGST the various trees which have been employed for the formation of avenues either in town or country none are more ornamental in their growth than the Lime, and certainly whilst in bloom none can compare with that tree. No wonder then that we find it a favourite whenever it has been thus planted, and nowhere is it more cherished than in the grand avenue in Berlin, which takes its name from this tree "Unter den Linden."

In general also this tree is but rarely subject to the attacks of insects to an objectionable extent; occasionally however, outbreaks, so to speak, of some particular species do take place, and we have had our attention directed to one such instance in which an avenue of Limes of great beauty was attacked during two years to such an extent by the larvæ of the mottled umbre moth that we understand that some of the trees actually died in consequence of the injury which they received from the complete defoliation of the branches and the consequent injury to the internal economy of the trees. The caterpillar of this moth belongs to the tribe which is termed loopers or geometers, from the habit it has of walking along by the bending of the body into a loop, and then extending it to its whole length. This family is of great extent, and is scientifically known under the name of Geometridæ, and the particular species in question has received the name of Hybernia defoliaria, the generic name being an allusion to the late period of the year, when the perfect insect makes its appearance, and the specific name indicating the powers of the insect in stripping trees of their leaves. In France and Germany it occasionally is very injurious upon fruit trees, especially Apples; and it is sometimes found on the Whitethorn, Oak, Alder, &c., although the Lime is its favourite food. When full grown the caterpillar is marked with a row of large chesnut-coloured patches along the back, the sides of the body having a brimstone yellow streak with a slender dark line, beneath which are a row of small rusty dots, each enclosing a small breathing pore; the head and three following segments are uniformly brown. It is in the months of April and May, as soon as the young leaves of the trees are developed, that the caterpillars are hatched and commit their ravages on the trees. By the end of May they are full grown, when they let themselves down to the ground by a thread and descend below the surface, where they fasten small particles of

earth with a slight web so as to form a cocoon, within which they are transformed to a brownish red chrysalis.

The moth appears from the end of October until the middle of December. The male has a slender body, and large ochre-coloured wings, the anterior pair of which are marked near the base with a brown bar, and another wider and more irregular crosses them beyond the middle; there is also a black dot in the middle of the wings, and a few small brown dots on the fringe. The hind wings are paler, with a dark dot in the middle. It is extremely variable, however, not only in the general colour of the wings, which varies from cream coloured to umbre; but also in the strength of the markings, which are sometimes almost obliterated. This description is however only applicable to the male, since the female is wingless, of a pale yellow or cream colour, with numerous black dots varying in size and arranged in transverse rows.

This peculiarity of the female being destitute of wings affords an easy means of preventing the injuries caused by the attacks of this species. When the perfect female has made her way out of the earth, [illegible] instinct directs her to ascend the trunk of the tree upon which she sits, and where pairing takes place, after which the female crawls to the young branches (where the leaves will be most numerously developed in the following spring) in order to deposit her eggs in the places where the young larvæ will obtain an abundant supply of food. All, therefore, that is necessary to accomplish, is to prevent the females from ascending the trunks of the trees; this has been accomplished in France by washing a space round the base with a glutinous matter, in which the females are entangled, whilst in Germany a kind of boot is formed round the base of the trunk with pieces of board, upon the top of which is fixed a narrow flat rim, the under surface of which is smeared with tar which is thus defended from the action of rain. We understand that in the instance of the avenue above mentioned this plan has been successfully adopted, and as each female deposits about 300 eggs it may easily be conceived how much good is obtained by the destruction even of a few of the females. This plan is also much preferable to that of beating the branches in the month of May when the caterpillars are full grown, as many must escape. When this process is adopted and when applied to fruit trees the buds and young fruit must also be injured considerably. *W.*

## PLAGUE OF THISTLES IN TASMANIA.

(*See p.* 828.)

THERE are strange occurrences from time to time in the animal and the vegetable world. They often render all researches unavailing on the part of naturalists, and they set the speculations of philosophers at utter defiance. In the year 1806, I planted 3 acres of rich land, in alternate rows of Oaks and Larches. They throve surprisingly. But in the summer of 1814 the Oaks were damaged in a singular manner. Having observed unusual numbers of the kestrel hawk hovering all day long over this plantation, I was led by curiosity to examine the locality.

I found the Grass which had been allowed to grow betwixt the Oaks and Larches dotted with little round holes, evidently the lodgments of mice. "Continue your attacks," said I to the hawks which were soaring above my head. "I see at once what has brought you hither. You are much wanted." It was the short-tailed field mouse which had attracted the hawks. They literally swarmed during the summer. The Larches continued in their usual vigour, but the Oak plants began to fade and lose their leaves; and they all died by the end of autumn. Upon examination, I found that the mice had gnawed through the bark of the Oaks from the soil, as far as they could reach on their hind legs. Having ordered that the dead stems should be cut off in the winter, the roots (which apparently had not been touched by the mice) sent forth strong and healthy shoots in the returning spring.

From that time to the present, these Oaks have been free from the depredations of the short-tailed field mice, which disappeared that year, and have been seen no more.

Again, in this immediate neighbourhood, occasionally a tract of land will be covered with Poppies, as though it had a scarlet mantle on; and then whole years will pass away ere the Poppies show their heads again.

Now, I venture an opinion, that, if the plague of Thistles in Tasmania should merely prove to be an occasional visitation, the worthy colonists need not despair. But if, on the other hand, it should visit them annually, and become as it were perpetual, just as hordes of hungry Hanoverian rats swarm amongst us here in England the year throughout; ah! well o' day, relief must not be looked for. In our own country, which may be considered a mere spot when contrasted with the boundless extent of land in far Tasmania, our dandy farmers, in certain localities, have made such a smash amongst the Thistles, that the poor goldfinches have been forced to leave their ancient haunts and have migrated into other parts to find their favourite food.

For these last 15 years not a single solitary individual of this lovely and melodious tribe has been observed in our park, where all birds are protected — Hiatus valde deflendus!" *Charles Waterton, Scarborough, Oct.* 31.

## ORCHARDS IN CHEAPSIDE.

AND why not? We stall-feed milch cows in upper-stories of London houses, bring deep sea fishes and zoophytes under inspection in our drawing-rooms, and grow choice Ferns in domestic glass cases, and we contend it is quite as easy to pick our own fruit from our own trees in the centre of the city as from the south Peach-wall of some snug country house. Our reader, of course, is incredulous, but we mean what we say, and hope, before we have done, to convince him that we speak the words of truth and soberness. The cultivation of fruit trees in pots in hothouses has long been practised by nurserymen in this country, in the same manner as Grapes are cultivated; this process is necessarily expensive, and entails the necessity of employing highly-skilled gardeners. Mr. Rivers, of Sawbridgeworth, in Hertfordshire, was the first, however, we believe, who proposed to simplify the growing of rare fruits—such as the Peach, Nectarine, and Apricot—so as to render their culture within the means and knowledge of persons of very moderate incomes. To grow Peaches at the cost of 2*s.* a-piece has never been a difficulty; to

grow them at 1*d.* a-piece is a triumph, and that he has taught us all to do. In this country the production of the rare stone-fruits out of doors has always been a lottery. We rejoice greatly at seeing our walls one sheet of blossom in early spring; and then comes a day of wet and a nipping frost, as in this very year, and all our hopes are blighted. To afford protection during the few trying weeks of March and April, and to produce a temperature like the dry yet varying atmosphere of the East, the natural home of our finest wall-fruit, without delivering us into the hands of the professed gardener—with his stoves, hot pits, boilers, and other horticultural luxuries, which the rich only can afford—was the desideratum, and that Mr. Rivers has accomplished with, what he terms, his "orchard-houses."

These are not the elaborate pieces of carpentry work we meet with in great gardens, but glass-houses, constructed so simply that any person of an ingenious turn may construct them for himself; they are nothing more, in fact, than low wooden-sided houses, with a glass roof. As there is no window-framing, planing, mortising, or rebating required, the cost is very inconsiderable. A span-roofed orchard-house, 30 feet long by 14 feet wide, with a height to the ridge in the middle of 8 feet, sloping down to 4 feet on either side, can be constructed by any carpenter for 27*l.* 10*s.*; smaller lean-to houses for very considerably less; estimates for which our more curious reader who may feel inclined to make an experiment in home fruit growing will find carefully set forth in Mr. Rivers's original little work "The Orchard House," published by Longman. One of these houses gives the fruit grower an atmosphere as nearly as possible resembling the native one of the Peach, Nectarine, and Apricot. The glass affords abundance of light through its ample panes, and its protection gives a dry atmosphere, in which the fruit is sure to set and come to maturity; whilst the vigour of the tree is insured by the wide openings or shutters in the opposite side walls, which admit a constant and abundant current of air through the house when it is thought desirable to do so. The atmosphere produced, beds are made, composed of loam and manure, on either side of the sunken central pathway, not for our orchard to grow in but upon. And here begins the singularity of this new method of culture. Any one who has grown fruit trees must be aware that their roots are great travellers: they penetrate under the garden wall, crop up in the gravel path, and penetrate into the old drains; they seek their food, in fact, as the cow does in the meadow, moving from place to place, and, like the cow, they, to a certain extent, exhaust themselves in so doing. Under such circumstances artificial aid is of little avail, you cannot give nourishment to roots that have run you don't know where; but you can confine the roots and stall-feed them, as we do animals, with a certainty of producing the effect we desire, and this we accomplish by putting our orchards into pots.

But Pomona has still an infinity to learn. It clearly will not do to allow our fruit-trees to fling about their arms as they do in a wild state; in the orchard-house we have to economise room; there must not be an inch of useless wood. A little time since, small standard trees, about 4 feet high, were thought to be the best form for the orchard-house, but Mr. Rivers has come to the conclusion that most light and heat is gained by training his trees perpendicularly—in the form of a small Cypress—thus a stem, 4 feet high, supports a large number of short lateral branches, pinched back to five or six fruit-buds. This somewhat formal shape has the great advantage of allowing a large number to be congregated together, and of ripening their fruit better, inasmuch as they are not so much shaded with leaves as those having straggling branches. And now for the manner of feeding them. The pots in which the roots are encased may be considered the managers of the tree; to these nutriment is given in the autumn of every year, in the shape of a top-dressing of manure, in addition to which, instead of one hole, three or four are made in the bottom of the pot, to allow the roots to emerge into the rich compost of two-thirds loam and one of manure, forming the border.

"But," says our reader, "this, after all, is but a round-about way of making the roots seek mother earth."

It may appear so, but in reality it is a very different thing. In the first place, the zone of baked clay placed round about the roots, in the shape of the pot, is a good conductor of heat, which highly stimulates the tree. In the second place, the roots, although allowed to strike into the border, are within call; when the branches are pinched back in the spring, these roots also are pruned; thus the vegetation, which otherwise would be apt to run riot and fill the house with useless leaves and wood, is checked at will. To provide still further nourishment to our nurslings, every two years the earth is picked out of each pot, 2 inches all round, and 6 inches deep, and fresh compost is rammed into its place.

Our reader will perhaps smile when he thinks of the old grey and mossy orchards of the country, with their tumble-down trees leaning in every direction, and spreading over acres of ground, and hundreds of yards of wall trees being compressed into a little glass-house, and thus made so shockingly tame by the hand of man, that they are forced to depend upon him, like barn-door fowl, for their daily nourishment; but he would smile, and that with delight, to see the town of orchard-houses in Mr. Rivers's nursery, thus filled with obedient trees, and bearing educated crops, such as no open orchard or garden ever dreamed of doing.

Trees, once potted and placed in the orchard-house, the trouble attendant upon them is not very much, and does not require any special gardening qualifications. A lady might, with advantage, relieve the monotony of making holes upon cambric and sewing them up again, by this delightful occupation. In the winter and spring months protection should be given against frosts by closing the shutters; very little water should be allowed in winter, as the trees require to hibernate, and water acts as a stimulant. About March, pruning should commence, and should continue through the season until the final autumn pruning, when the orchard is once more put to sleep. All these are matters which afford infinite pleasure to all persons of healthy tastes. The trees are all brought microscopically, as it were, before us; we watch the buds perfected into the blossom, and an orchard-house of Peaches in full bloom is one of the most beautiful sights in horticulture. We watch with still greater interest the gradually ripening fruit. Some one has wittily said, "that the orchard-house is the ladies' billiard-table;" and certainly a more pleasurable occupation for them could not well be devised. Peaches, Nectarines, or Apricots grown on these pyramidal trees, as they are somewhat incorrectly called, are charmingly ornamental, especially the Apricot, the golden fruit of which contrasts beautifully with the green leaves, and what can be more quaint or delicious than to pluck your own fruit from the living tree ornamenting the dessert-table? It will be impossible within the limits of this article to attempt any directions with regard to the management of the different fruit that may be grown in these domestic orchards, we would rather refer the reader to Mr. Rivers's little volume for these particulars.

It is essential to inform our reader, however, that failure, with even the most moderate care, is the exception rather than the rule. We all know how difficult it is to keep the Peach and the Nectarine trees clear of the brown aphis blight which infest them. These and all other kinds of blight, including the red spider, the pest of hothouses, can now be most readily destroyed by the application of the new patent composition, termed Gishurst, a kind of sulphur soap, which readily dissolves in water. One or two applications of this compound clears the most shrivelled leaves of these parasites at once without injuring the points of the tender growing shoots, as the fumes of sulphur or the decoction of tobacco-water are sometimes apt to do. But it may be asked, what is the actual gain resulting from this domestic method of treatment? We reply, in point, size, quantity and quality, the fruit is greatly superior to that given by the old method of wall training.

An orchard house 30 feet long and 14 feet wide will hold, say 40 perpendicularly trained Peach trees, or two rows on either side the centre pathway. These trees in the third year, and henceforth for many years (Mr. Rivers has them still luxuriantly bearing in the twelfth year), will produce two dozen fruit each, or 80 dozen altogether, and by the selection of various sorts and the retardation of the ripening, by the simple expedient of removing some of the trees to an out-of-door north aspect, a constant succession of this fine fruit may be maintained from August to November. The trees should be placed alternately, thus—· . . . . . in the double row, so as to give them the utmost amount of light and air. By this arrangement the fruit is ripened all round, instead of simply on its outer surface, as it often happens with wall-fruit. Another important matter is to shift the trees now and then, let the pot in the north-east end of the house be taken to the south-west; a little visiting in fresh air is quite as beneficial to trees as to humans; and this locomotive quality is another advantage that orchard-house trees have over those planted against walls.

Apples, Pears, Grapes, Figs, and Oranges are grown in this manner with the same facility, certainty, and cheapness, as the choicer stone fruit; and, be it remembered, these orchard-houses are designed for small gardens and for small gardeners. All that is required is a slip of ground open to the sun, just large enough to find room for the orchard-house, which should, if possible, lie south-east by north-west, in order that the full summer sun may, in the course of the day, fall upon all sides of the trees.

There is scarcely a suburban road-side slip of garden which may not find room for its Peach-orchard, and where room and expense is an object, a small lean-to house may be erected for a very few pounds, which will ripen its fruit as well as the larger ones. And where there are no gardens we may make them on the roofs of our houses, as they do in the East. Where there are flat-leads the erection of glass orchard-houses is a simple matter enough. "But what about the blacks?" interposes my reader. Simply this: we must treat the orchard-houses in such situations as we do persons with delicate lungs; we must provide them with respirators; over all the openings left in the sides for the free circulation of air, woollen netting with ¾-inch meshes must be stretched. The small fibres projecting from these meshes filter the air in the most surprising manner, as will be evidenced by the soot entangled within them by the time they have done their work for the season. Moderate frosts are intercepted in the same manner. A gentleman living at Bow, in the midst of the smokiest suburb of London, has in this way produced abundant crops of the rarest fruit for many years; and Mr. Rivers informs us, that he would engage to produce excellent fruit in City orchard-houses, if required to do so. Glass is now so cheap, that we see no reason why the roofs of the houses should not be glazed instead of tiled. By an arrangement of this kind every citizen may, if he likes, possess his attic garden blooming with fruit, and after it is gathered with autumn flowers, such as Chrysanthemums. Such glass-roofed attics (only far more lofty and expensive ones) already meet the eye in all directions, built for the use of photographers. We see no manner of reason why Peaches as well as pictures may not be produced in such situations; and indeed there is nothing to prevent the construction of very fruitful "Orchards in Cheapside." *Reprinted from Once a Week.*

## Home Correspondence.

*The Pampas Grass.*—About a year ago I had the pleasure of writing to you from Scotland in reference to this very showy and interesting autumn plant, and was then gardener to the Earl of Wemyss and March. I spoke of it as being suitable for shrubberries, and that even plots of it in Grass would be interesting. And from what I have seen of the plant here I am satisfied I have not said one word too much in its favour. There is a handsome specimen of it in full bloom here at present and has been for a month past, and it is certainly by far the finest I have ever seen or heard of, a description of which I believe will be acceptable to many of your readers. The circumference of the plant is about 55 to 60 feet, there are 85 flower stems on it, and there were a few cut off; height of stems 9 to 11 feet, length of flower 2 to 3 feet or nearly. It is one mass of bloom and has a very picturesque effect. In point of locality it is admirably situated; it is planted in Grass and in one of the shrubbery gardens, and is surrounded by Cedrus Deodara and other interesting evergreens which grow very kindly here. My employer the Earl of Shannon informs me it was planted 4 years ago, and his lordship, who takes a great interest in horticulture, and still more amongst rare Conifers and Evergreens generally, advised me to give the plant a good dose of rotted manure, and a trench was cut round about it and filled in with manure, and also about the interior of it, and the result has been very satisfactory and was of great importance in such a hot dry summer. The plant is evidently fond of moisture, and is not easily affronted with a large share of what is sometimes called the Mother of Gold. *John Addison, Gardener to the Earl of Shannon.*

*Railway Charges on Nursery Goods.*—The excessive charges made by the railway companies for the conveyance of plants compared with their charges for other descriptions of goods, the conveyance of which is attended with a similar risk, demand the attention of nurserymen. It may not be known to many that for plants two scales of charges exist; viz., for plants in pots, 3*s.* 4*d.* per cwt., or 3*l.* 6*s.* 8*d.* per ton; for trees and plants not in pots, 40*s.* per ton. I have seen several instances of Rhododendrons, Cedrus Deodara, and other plants not in pots, but packed in matted baskets charged at the rate of 3*s.* 4*d.* per cwt., but reduced to 2*s.* when the consignee refused to pay the greater charge. Hundreds of buyers are not aware that two degrees of charges exist, and should be informed which rate of charge they may have to pay. The railway companies have four or more classes of charges, and each commodity used in trade is placed in one of these classes, as the companies have thought fit to arrange them, each class having a specified rate per ton. Ale, porter, molasses, oils of all kinds, rice, sugar, garden seeds, &c., at 23*s.* 4*d.* per ton; candles, butter, &c., 25*s.* per ton; machinery, 33*s.* 4*d.* per ton; wines and spirits, 40*s.* per ton; fresh meat, 55*s.* per ton; toys, 56*s.* 8*d.* per ton. It will thus be seen that trees and shrubs not in pots are on a level with wine and spirits, and that plants in pots are at a higher rate than fresh meat or toys, the former incurring great risk from delay, and the latter of a very precarious nature for travelling. I cannot pretend to estimate the many thousands of pounds paid annually for the carriage of plants, but the sum is of such magnitude and capable of considerable extension by a reduced scale of charges that I think nurserymen should take some steps towards seeking a reduction. The heavy rate of carriage, 3*s.* 4*d.* per cwt., with the cost for carriage, is causing many of the country gentry to apply to a local nurseryman, and throw upon him these costs. Others refuse to order so liberally as they otherwise would do because of the heavy tax for carriage. Three crates of Rhododendrons came into this neighbourhood the other day, with carriage at the rate of 3*s.* 4*d.* per cwt., to the tune of 4*l.* 11*s.* 3*d.* I recommended the consignee to refuse payment unless the charge was reduced to 2*s.* per cwt., about 2*l.* 14*s.* It would perhaps help the railway companies if nurserymen were to adopt two different headings to their directions—"plants in pots," "plants not in pots." I however think that about 25*s.* per ton would be a sufficient charge for trees and plants, and I think some steps should be taken to get some concession from the railway companies. *W. Dean, Bradford Nursery, Yorkshire.*

*Frigi Domo.*—For strengthening this material for the protection of wall-trees your correspondent will find nothing better than unbleached tape 1 inch wide. *George Thompson, Bramham Park, Yorkshire.*—After nine years' experience of this material as a covering for pits, frames, and fruit trees, I have not found anything so useful as strong twine for strengthening it. I have bound with tape and with carpet binding, but neither of them stand wind and weather like twine. The edge of the Frigi Domo must be sewn over the twine, passing the needle through the twine

about every inch to prevent it from drawing out. *Thomas Cope, Gardener to Sir Watkin W. Wynn, Bart., Wynnstay.*

*Wellingtonia gigantea* (see p. 850).—I beg to state for the information of your correspondent that we have a plant here not more than a yard high, which has a cone on it. *H. Muggleton, Gardener to W. Cubitt, Esq, M.P., Penton Lodge, Andover, Hants.*

*Culture of the Pompone Chrysanthemum in 8-inch Pots for Exhibition.*—Chrysanthemums are now exciting a large amount of interest both in town and country, in consequence of the great number of exhibitions of them about to take place this month. Unfortunately the days fixed for most of them are too early on account of the severe weather we have experienced lately, which has stopped their growth. I was favoured last week with a treat I shall not soon forget, viz., an inspection of 12 of the best plants I ever witnessed, in Mr. Beck's garden at Isleworth. They were grown by Wiggins, Mr. Beck's gardener, under a range of glass at the north end of the grounds about 44 feet in length; there are 12 trained Pompones, grown in 8-inch pots, and these occupied the whole length, touching each other, and if room had been afforded would have averaged 4 feet 6 inches each; as it is they are rather cramped for space, their height is 15 inches, and the average number of blooms about 1500. They are furnished with fine dark foliage down to the rim of the pot. Mr. Wiggins informed me that he struck the cuttings the first week in December; he put them in thumb-pots, plunged them in ashes in a cold or light box, where they remained till they were well rooted. When fully established he gave them a shift into 48-inch pots, and stopped them. As soon as they threw out laterals he carefully pegged them down and continued to repot, stop, and peg down till the last week in July, when they received their final shift into their blooming pots. They were then plunged in a sheltered part of the garden, sinking the pots three parts down, and placing them on slates to prevent the roots growing out at bottom. When the plants had become well rooted weak liquid manure was used three times a week, and the foliage syringed night and morning. The pegs were all taken out and the plants removed to the house the first week in October to guard against frost. They will be in perfection by the middle of this month. I also noticed three Geranium houses containing 2000 healthy seedling plants raised this year, and there is also a very pretty little house of Orchids, as well as a fine healthy collection of choice Cinerarias. The houses were scrupulously clean and neat. *S. Broome.*

*Celery.*—We beg to forward two heads of our Celery (Monarch), and shall feel obliged by your opinion of them. We have grown several thousands of Ellison's Mammoth and Manchester Giant by the side of it, both of which sorts it greatly excels. The two heads sent are of an average size. *G. Adams & Son, Domino Cross Nursery, East Retford, Oct. 29.* [When stripped of their outside leaves and dressed as for market, we found one of these heads to measure 18 inches in length and 8½ inches in circumference near the base, and the other to be of the same length and 8 inches in circumference. One weighed 1¼ lb.; the other 1 lb. 1 oz.

## Foreign Correspondence.

UNITED STATES GARDENING; WILD BLACKBERRY; FORTUNE'S TEA PLANTS; NATIVE WINE.—*Extracts from a Letter from H. Christy, Esq., to Sir William Hooker.*—In the course of a brief revisit to the United States, I met with a variety of Blackberry under extensive and profitable cultivation; and it seemed worth while, as it has continued the same class of fruit for 10 years, and under varied treatment and different circumstances of soil and climate, to attempt its introduction into England. Messrs. George Seymour & Co., South Norwalk, Connecticut, are the cultivators of it; and I had from them also these facts, that this year off 3¼ acres they picked over 400 bushels, which netted on an average 7 dollars per bushel. The canes were planted in squares, 6 feet apart, on good land, well hoed, and the land kept clean; they grew 6 feet high, two or three are allowed, and these kept side pruned.

At Washington I saw in one range of houses, in what they call the Propagation Garden, 35,000 Tea plants, which Fortune brought from China, through the help of our friend Ward's glazed cases. Most of them were planted as seed, and vegetated on the way or shortly after their arrival; the latter are now the best and healthiest plants. They are destined for the hill country from Texas to the Alleghanies, on all of which at varying elevations the climate is considered to be suited to them. I asked how it was possible, as labour was too dear in England to allow of our cultivating Tea, they could, with their dearer labour, do so profitably in the States. The reply was nationally characteristic; that they rely on inventing a machine by the time the trees are grown which shall perform, in competition with Chinese hand labour, all but the picking. I learn that a planter in the South, either in Alabama or Florida, has for years attempted the cultivation of Tea by negro slave labour, but without success.

The Vine culture is making rapid progress in the United States. When I was there three years ago the total yield for that year was estimated at 500,000 gallons. I hear that California alone will yield this year near three million gallons; the climate is especially suited to the Vine, and the European sort, introduced by the Jesuits two centuries ago, produces bunches of the weight of 12 to 14 lbs. They are now collecting the wild Grapes of the country, which abound throughout the northern states as well as the southern, and sugaring them for champagne. In the small state of Massachusetts, one man has got a contract taken for 100 tons of wild Grapes, and in some of the states they are much more abundant. At Washington they are now trying to improve the native Grapes by impregnation with foreign varieties; they have obtained all foreign species, and aim at keeping them back till the flowering of the native ones outside, when they aim at impregnating them, and obtaining on the old hardy stock some improved fruit.

At Niagara I was very much interested in the great variety of plants, which usually affect such very different localities, growing within a short distance of each other; here a rock plant where the rock was dry, there a water plant where the spray of the falls was borne against the rock, and made it perpetually damp.

## Societies.

HORTICULTURAL: *Nov.* 1.—Mr. Edmonds in the chair. At a meeting of the fruit committee which took place on this occasion, prizes were awarded to Mr. Smith, gardener to S. Ricardo, Esq., Sunning Hill, for a dish of Marie Louise Pears, and to Mr. Ingram, gardener to J. J. Blandy, Esq., of High Grove, Reading, for Beurré Bosc Pears. The Marie Louise were very fine, some of the specimens weighing ¾ of a lb.; they were much russetted, and upon trial proved finely flavoured. The tree was stated to be planted on the north side of a wall with the branches trained over the top and turned down the south side, and it was from the last-named aspect that the fruit in question was gathered. The Beurré Bosc were from an espalier and were also fine examples of that variety of Pear. They were, however, scarcely "up to the mark" in flavour. Of Ribston Pippin Apples for which prizes were offered, there were five dishes, but all of them were comparatively dry and mealy, and some of them badly spotted. The best came from Mr. Whiting, gr. to H. Hope, Esq., of the Deepdene; and the second best from W. Strickland, Esq., of Hildenley, Yorkshire. Some from Woodstock Park, Kilkenny, were stated to have been from very old trees, whose produce was much affected with spot. They were, however, root-pruned last autumn, and had charred earth and weeds added to the border, and this year the spotting is stated to have been less severe. The fruit was, however, still spotted, very mealy, and deficient in flavour. The soil was stated to be a clayey slate. Of other dessert Apples the best were Adams's Pearmain, from Mr. Whiting, and the second best, King of the Pippins, from Mr. McDonald, Woodstock Park, Kilkenny. The last-named exhibitor also sent some very fine examples of Blenheim Orange, one of which weighed 10 oz.; they were however not good in flavour. Mr. Cox, of Redleaf, sent some very high coloured fruit of the same variety, the largest of which weighed 8 oz. Of other Apples we noticed Sweeney Nonpareil, Golden Reinette, Golden Knob, Alexander, Manks Codlin, and Cox's Pomona, all good specimens of their respective kinds.

STOKE NEWINGTON CHRYSANTHEMUM.—This exhibition took place on Wednesday and Thursday last, at the Manor Rooms, Church Street, and was tolerably well supported both in the way of plants and cut blooms. The first prize for 24 cut blooms was awarded to S. Wortley, Esq., for Themis, Duke, Aristée, Golden Yellow, Lysias, Hermione, Christophe Colomb, lucidum, M. André, Queen of England, Marshal Duroc, Aimée Ferrière, Leon Leguay, Vesta, Glory, formosum, Beauté du Nord, formosum luteum, Princesse Marie, Rosa mystica, Clarence, Goliath, Pio Nono, and General Negrier. Mr. Sanderson was second, with Aristée, Pio Nono, formosum luteum, Anaxo, Goliath, Dupont de l'Eure, Campestroni, Trelby, Themis, M. Miellez, C. Colomb, Aregina, Arc en Ciel, Gem, Queen of England, Lysias, M. Lebois, Nonpareil, Hermione, Miss Kate Raymond, Stella globosa, and formosum. The next best in point of merit came from Mr. James, who showed Queen of England, Marshal Duroc, Imperial, Goliath, Trelby, Plutus, Themis, Two-coloured Incurved, M. Miellez, Raymond, formosum, Lysias, Pio Nono, M. Lebois, Aregina, Hermione, formosum luteum, Vesta, C. Colomb, Glory, Fabius, Duke, and Dupont de l'Eure. In the class of 12 blooms, the first prize was awarded to Mr. Sanderson, for a fine stand, which consisted of Themis, Trelby, Pio Nono, Aregina, Stella globosa, M, Miellez, Raymond, Lysias, M. Lebois, Nonpareil, Dupont de l'Eure, and formosum luteum. Mr. Wortley took the second prize with Themis, Pio Nono, formosum, Delight, Duke, Hermione, Marshal Duroc, C. Colomb, Aristée, Golden Queen, M. André, and Lysias. In the class of 6 blooms, Mr. Radley, of Stamford Hill, had a good stand, in which were Leon Leguay, Queen, Voltaire, Aristée, Delight, and formosum. Mr. Wortley sent Themis, Golden Queen, Princesse Marie, formosum, Columbus, and Lysias. From Mr. Sanderson came Aregina, Themis, Lysias, Raymond, M. Lebois, and Hermione. In the class for "Maiden Growers," Mr. Bones, of Woodford, sent good blooms of M. Lebois, Aregina, Lysias, Columbus, Duke, and Hermione. Anemone-flowered kinds were not remarkable either for good growth or novelty. The finest bloom in the whole show, as far as size was concerned, was Queen of England from Mr. Wortley. Plants in pots came from various growers. Considerably the best in all respects were from Mr. George, of Stamford Hill. They consisted of Aregina, in lieu of Christine, Madame Camerson, Annie Salter, and Queen of England. The next best group came from Mr. James; it consisted of Defiance, Annie Salter, Christine, Mount Etna, Vesta, and Prince Albert. The best Pompone came from Mr. Kendall. It was Cedo Nulli, a fine plant well furnished with bloom. Mr. George sent Helene in good condition. In the class of six Pompones, Mr. Walker, of Clapton, sent La Vogue, Bob, Trophée, Cedo Nulli, St. Thais, and Berrol. Mr. Forsyth, of Shacklewell, had Cedo Nulli, Duruflet, Duval, M. Philippine, Brilliant, and Surprise. Mr. George showed the large-flowered sort Christine, as a single specimen beautifully flowered and well grown. The number of plants shown was less than last year, and those that were produced were not, as a whole, sufficiently in flower.

SOUTH LONDON (CAMBERWELL) CHRYSANTHEMUM: *Nov.* 3.—The annual exhibition of this Society was held on Thursday last, at the Assembly Rooms, Rosemary Branch, Peckham, and was well attended. There were several stands of cut blooms, many groups of specimen plants, and a space set apart for bouquets. Among the first named Mr. Potts contributed considerably, and we may mention some in particular, namely in the class of 12 cut blooms there were admirable specimens of Albin, Plutus, Hermione, Anaxo, luteum formosum, and others; while in the 6 cut bloom class (gaining the 1st prize as well as those just enumerated) were George Sand, Eclipse, Louis Bonamy, and others. In the class of 24 cut blooms, Mr. Potts was also first with Madame Lebois, Gem, Aristée, Themis, Dupont de l'Eure, &c. Mr. Champion exhibited six very good dissimilar blooms, among which were Vesta and Anaxo. In the 3d class Mr Pink showed Stella globosa, Racine, Themis, and Campestroni; and in Class 4 he also produced good flowers of Antigone, Astrolabe, insigne, Auguste Mie, and others. Mention must be made of the several stands of cut blooms exhibited by Mr. Fenton, of the Park Road, Peckham, though they were particularly notified as not being for competition; they consisted of Pio Nono, Queen of England, Versailles Defiance, formosum, Cassy, C. Colomb, Albin, Dupont de l'Eure, Hermione, Christine, Astrolabe, Madame Guillon, and many others; also a stand of six admirable Anemone-centered Glucks. All these were highly commended, and though not awarded prizes formed no inconsiderable portion of the exhibition. Mr. Holland supplied four blooms of an extremely handsome Primrose-coloured seedling, named Miss Augusta, which promises to become a great favourite. Among the specimen plants in pots we may mention those sent by Mr. Broome, of the Temple Gardens, all very beautiful and showing the care bestowed upon them; others by Mr. Mortram, the celebrated pyrotechnist, completely filling one corner of the room; others, again, by Mr. Bickley, very good; and some well grown and flowered by Mr. Potts. Mr. Clarke also contributed some very fine specimen Pompones, grown without stick or tie, among which were Surprise, Cedo Nulli, Hector, &c. Mr. Morgan, of Lincoln's Inn Fields, furnished some plants grown as standards, all very good, and which being placed by the side of an immense one sent by Mr. Broome, and two or three others belonging to Messrs. Mortram and Potts, completely filled the end of the apartment. There were also six very pretty miniature Pompones by Mr. Boulton, as well as a quantity of bouquets. There were many other plants of interest, but as they bore unmistakeable signs of being frost-bitten, they were not placed very prominently forward.

## Notices of Books.

*The Orchard House;* by Thomas Rivers. Sixth Edition. 18mo. Longmans.

It is to be hoped that the prejudices of anti-orchard-housists have by this time softened down; and especially that the very respectable slow gardeners who thought Mr. Rivers crazed when he opened his campaign have, like the Austrian Kaiser, the wisdom to acknowledge themselves fairly beaten. That they answer all that has been expected from them would be shown by the large sale that has attended the little book before us, if the fact had not become notorious by the experience of the whole kingdom.

Mr. Rivers states in this new edition that "In the fifth edition the cultivation of Peaches and Nectarines as close pyramids was recommended. This method has proved so highly successful that in the present edition I have gone more fully into it; I fully believe it is likely to make quite a revolution in orchard-house culture. The pruning of orchard-house trees is a simple operation, and appears so when it can be shown. It is however difficult to describe; many words must be employed, so that the learner often becomes fatigued with the description before he can comprehend how to prune a branch. In this edition it will be seen how easy it is to prune a pyramidal Apricot or Peach tree by pinching off the ends of its young shoots during the summer. The same method of pruning, with a very slight change, may be applied to bush trees, making them stout, robust, better adapted for small orchard houses, and removing all anxiety about winter pruning. I fear it will be thought I have been very slow in bringing on these improved methods of culture; I can only offer as

an excuse the gentle pace of Nature,—she will not hurry or be hurried; so that often, with very trifling gardening experiments, one or two seasons must pass before results can be known.

"The article 'Orchards in Cheapside,'* as given in 'Once a Week,' No. 9, has doubtless brought forth smiles of incredulity. It is however a fact that our finest fruits may be grown in any garden or open space in or about London, or any other smoky city, in orchard houses, simply by 'keeping out the blacks' with the woollen netting mentioned in pp. 108, 109 of this edition. The day is not far distant, when Peaches, Nectarines, and Apricots, at present far beyond the reach of the merchant's clerk, will be to him familiar things, and thousands of little suburban gardens will have their cheap orchard houses, in which the tired *employé* will feel refreshed in the pleasant evenings of summer, by the mere act of pinching off the young and tender shoots of his Peach trees, and inhaling their sweet perfume."

As to the manner of managing pyramid trees the directions which are given leave nothing to be desired on the score of clearness, and they will we are sure be eagerly read—for of all stone fruit the Apricot is in some districts the most precarious, owing to the very early time of the year in which that tree expands its flowers. We extract a few of the author's instructions:

"The management and pruning of pyramidal Apricots is pruning 'made easy,' so that any lady may attend to her trees without fear of committing herself by taking off a wrong shoot.

"Pyramids in pots may now be bought in the nurseries. They should be potted in October or November in 13-inch pots, and if they have been properly managed they will bear a fine crop of fruit the first season after potting. The fruit should be thinned exactly as recommended for bush trees, and as soon as the trees put forth their young shoots in May pinching must be commenced. What a pleasing pastime it is! Every shoot as soon as it has made four leaves must have its fourth leaf with the end of the shoot pinched or cut off with a penknife, leaving three young leaves. The leading shoot only must be pinched so as to leave six leaves. Two or three shoots will break out; all but one of these should be pinched down to three leaves, and when the young leading shoot has made seven leaves pinch down to six; this will require to be done two or three times during the summer, the tree gradually increasing in height. All the pinched shoots growing from the stem of the tree after the first pinching will put forth numerous young shoots; all these must be pinched off to three leaves as soon as they have made four. This must be constantly attended to till the trees cease growing. Many of my trees have up to this time (Sept. 10th) been pinched from four to five times, and every branch from bottom to top of the stems is a cluster of blossom buds."

"Our market gardeners, at present wedded to their wall culture of fruit-trees, will do well to cover a few acres of ground with cheap orchard houses, and to plant out in them pyramidal Apricot trees. These may be suffered to make trees 7 to 8 or 9 feet in height. If pinched in incessantly their growth will be much arrested, they will not require annual lifting, and they will bear abundantly. Covent Garden will then be supplied with such Apricots as have rarely been seen there. They may be sold cheaply, and yet yield a fortune to the growers. The Peach-Apricot is the only kind adapted for this profitable mode of culture."

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A new part of *Weddell's Chloris andina* is before us, containing the Polemoniaceæ, Boraginaceæ, Solanaceæ, and part of the Scrophulariaceæ, with the usual number of exquisitely drawn figures. We observe that Dr. Weddell inclines to place the puzzling genus Desfontainia among the Gentianworts. In speaking of the Potato we have the following interesting remarks:—"I never found the Potato in Peru so circumstanced as to satisfy me that it is really wild in that country. Neither do I believe that it is wild in the distant stations on the extra-Chilian Alps where it has hitherto been thought so. When we consider that on the arid Cordilleras the Indians often fix their patches of cultivation on points that would appear almost inaccessible to our European farmers, it is easy to imagine how a traveller visiting one of these stations which had been long abandoned, and finding the Potato accidentally surviving, would conclude that it must be really wild there. But where is the proof? For my own part, after reading all that has been written on the subject, I am forced to conclude that its real native country is Chili rather than Peru. There can be no doubt that the cultivation of the Potato is of great antiquity, seeing that at the time of the conquest it was found in every part of the temperate portions of Western America from Chili to New Grenada and even Mexico, and I am very much inclined to think that it was everywhere the same species; for although the Potato grown on the high plains of Peru possesses some degree of acridity, and resists frost better than those with which we are familiar, it does not appear from its botanical characters that it can be distinguished as a species rather than a simple race.——D'Orbigny brought from the summit of the Cerro de Potosi, and consequently from an elevation of 14,610 feet, a form of the Potato which might be called Alpine. The leaves grow in rosettes and the flowers sit perfectly close upon the root. I found the same form in a piece of ancient cultivated ground on the Peruvian plateau at the height of 12,000 feet."

* Reprinted in another column.

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*The Octavo Nature-printed British Ferns, being figures and descriptions of the species and varieties of Ferns found in the United Kingdom.* By Thomas Moore, F.L.S. Nature-printed by Henry Bradbury. In two volumes. Vol. I., royal 8vo. Bradbury & Evans.

The Nature-printing process is making rapid progress under the management of Mr. Henry Bradbury. We have hardly ceased turning over the beautiful pages of the Nature-printed Seaweeds when another volume appears upon our table, now commencing the illustration of Ferns. How well suited are such plants to this curious process has been abundantly shown by the magnificent work in folio on the same subject, which has already appeared from the same publishers. The present work is very similar to the larger one, except that it is reduced to an 8vo size, and that it is greatly expanded by the introduction of a complete account of the numerous forms, varieties, monstrosities, or whatever else they may be, on which the Fern collector loves to dwell. The plants are now accompanied by dissections useful in pointing out the characters by which the species are to be distinguished, and are prepared from specimens so skilfully selected that nothing is lost by their diminished size. The impressions and the colour of the leaves are also improved, as was to be expected from further experience. The plate of *Polypodium alpestre, flexile* is one of the most beautiful things we ever looked on. Even those who have no taste for natural history must be delighted to see such charming volumes in their library.

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Trade Lists Received.—Peter Lawson & Son's (Edinburgh) *List of Forest Trees, Shrubs, &c.* Here we find one of the largest collections in the kingdom arranged in so peculiar a manner that we reprint its table of contents:—"Seedling and transplanted Forest Trees—Firs for Timber Trees—Transplanted Fruit-tree Stocks—Plants for Shrubberies and Underwood—Extra strong Bushy Trees—Selection of Hardy Plants of the Fir Tribe—New Pines—Pendulous or Weeping Trees—Ornamental Trees and Shrubs—Fruit Trees—Grape Vines—Culinary Plants—Strawberries—Roses—Roses, Selections—Table for Planters." The whole occupies 24 quarto pages.—Wm. Young (Milford, near Godalming) *A Catalogue of New or Rare Plants, Conifers, &c.;* 40 pages 8vo are filled with the particulars of this collection, which is well worth the attention of buyers. The lists are headed by the following account of a new Azalea aurea grandiflora:—"This beautiful Azalea, of which I possess the entire stock, is a hybrid raised between A. pontica and the best variety of A. sinensis; the flowers are of a beautiful bright yellow with a rich orange flake on the upper petal; the individual blooms are of an immense size, and the truss very large; it flowers very freely, and is perfectly hardy. A small plant with three trusses was exhibited at the Royal Botanic Society's Exhibition in the spring of 1858, and obtained a silver medal as a new and rare plant, which is a sufficient guarantee of its merits. It is a first class plant for growing in pots for exhibition, as in size and colour it is far superior to Azalea sinensis, and as a hardy plant it will prove a valuable acquisition to every collection of American plants, as it grows freely in the open ground."—Thomas Rivers (Sawbridgeworth) *A Descriptive Catalogue of Fruits;* ditto, *Catalogue of Roses for Autumn, 1859, and Spring, 1860.* The catalogues of the Sawbridgeworth Nursery have too great a reputation to require any further notice than the announcement of their appearance. As usual, they abound in novelties for the eager and good selections for the less impatient amateur.

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## Garden Memoranda.

Mr. Bird's Nursery, Stoke Newington.—At the present time of year, when but little is to be found to decorate the town and suburban gardens except the now popular and almost universally cultivated Chrysanthemum, whose growth the late frosts and winds have also put an effectual stop to out of doors, a visit to the above nursery will greatly repay the admirer for all expense, time, and trouble that he may incur to procure a view of three large greenhouses devoted to the blooming of the above-named flower. In these are placed hundreds of pots, and taking the average number of blooms to each pot at 10 or 12, the result furnishes an astonishing quantity of all colours, shades, and sizes. Amongst some admirable specimens of names now familiar and well known to us there are others, in a great measure surpassing them, brought in the beginning of the year by the enterprising proprietor from Guernsey, to which place he paid a visit for the express purpose of procuring new sorts. In this latter collection will be found a beautiful purple Alma; a very handsome bloom of Alarm; a Negro Boy, nearly black; pictorium roseum (measuring 6 inches across), of a dark rose colour; Pearl, white; Novelty, a French white; Beauregarde, dark deep crimson; Yellow Perfection, a perfect gem; General Harding (called after the Governor of Guernsey), of a splendid Indian gold tint; and Comet, looking like a brilliant bronzed star. The above are only a few of the most successful importations, but they suffice to show the enthusiast in this flower where to see enough to satisfy his curiosity, and we have high authority for stating that such flowers as those above-mentioned are not to be found elsewhere in the kingdom. Mr. Bird has also been able to procure a new specimen from among his own which he styles White Beauty, being a sport obtained from the old Beauty. It is of the purest white, and more nearly resembles wax than a flower. A number of new seedlings are being cultivated, but as yet little can be said further than that a few promise to become very handsome plants, of which indeed Mr. Bird seems to have every hope. As we have already stated, the admirers of this plant will be fully recompensed by paying a visit, though had the weather been more favourable and not so severe for the last week or two their pleasure would have been greatly enhanced; for there are thousands of plants lying about the grounds destroyed by the frost.

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Cadlands, the Seat of Mr. Drummond.—Some account of what the difference of climate can do for plants may perhaps not be uninteresting to your readers. Cadlands is pleasantly situated on one of the many undulating hills on the west shore of Southampton Bay. Entering by a lodge from the New Forest, some two miles from the house, the drive leads through plantations of Firs, Holly, evergreen Oak, and some fine old trees in the open places, and terminates at the south side of the house, which is the chief entrance; from the portico is a fine view of the Isle of Wight, through a vista of trees, commencing with large Cedars of Lebanon on each side.

The house is a large plain structure of white brick, with Portland stone corners; and thence, entering from the front, we come to the east and north, the latter being the main or principal flower garden front. At the east side the house is surrounded by broad gravel walks, and from this, all round the two fronts, are beautiful views across the bay, Southampton, in the distance, looking bright with the setting sun, and the bay between covered with numerous steamers, yachts, and smaller craft of all descriptions, their white sails glittering in the sun, and their movements adding life and interest to the view; further up the shore is Netley Abbey, nestling among the trees, the Royal Military Hospital, and the shore as far as the eye can reach is studded with fine villas and trees. Every care has evidently been bestowed upon the cutting and keeping of these views, as the trees below rise sufficiently high to render this necessary. The lawn is extensive, and almost completely covered on both fronts with beds; and lower down the lawn are various designs with rustic baskets and rustic edgings to the beds, and such other variations as this easy style admits of; among others a small Rosery, where we found mildew quite covering the plants: Mr. Arnott, the gardener, told us it was occasioned by hot dry weather, and that the common kinds of Roses were always the greatest sufferers.

The beds near the house were mostly filled with Geraniums, with edgings, as generally used; but no person who has not seen Geraniums round here, or at the Isle of Wight, can credit the difference between them and those grown in less favoured climates; they were one intense blaze of colour, with scarcely a leaf to be seen. In the lower and mixed beds we saw fine Myrtle bushes, Coronilla, Plumbago, Veronica Lindleyana, Hydrangea—fine bushes on the Grass, which take the form of shrubs, and other varieties, standing the winter and blooming abundantly—the old lemon-scented Aloysia, and several others also winter here. Among the mixture in these beds we saw quantities of the old-fashioned herbaceous plants, as Golden Rod, tall Phloxes, &c., making quite a show; in some of the beds round the baskets the dwarf French Asters, not more than 6 inches in height, made good compact beds. On the lawn are some fine Cedars and other trees, one of the former terminating the broad front walk where it branches into two, one leading to the forest and the other to the park in front of the lawn, which suddenly terminates here on the west side at the top of a deep dell. The sudden contrast from gay and dressy to Nature's wildest forms of heath, with Furze up the opposite hill mixed with stunted Firs, &c., is quite startling. In returning to the house, on the right hand is a good-sized garden in front of a temple, laid out in stone, with a large fountain in the centre; the beds full and fine. A back border here was filled with conservatory plants in pots, and mossed to the level of the pots—a good plan.

On the west side of the house there is a conservatory of large dimensions in communication with the rooms of the house. A fine plant of Mandevilla suaveolens in full bloom completely scented the air with its beautiful fragrance. Some large plants of the old Brugmansia suaveolens also aided. Fuchsias trained Mushroom-shaped looked novel and well. This house is principally for Orange trees, of which there is a fine lot of clean-stemmed young trees, set at present round the house, and covered with fruit; Mr. Arnott told us they were used for dessert, and greatly prized; we tasted one and found little difference from those imported.

The kitchen garden is some distance from the house on a slope to the south, nearer the shore, and divided into sections, with good high walls. At the entrance are two large fish ponds, with a walk all round. A fine border of shrubs, with Apple, Pear, Medlar, and other standard fruit trees for a backing, divides this from the park. In this border are fine trees of the Magnolia grandiflora 25 feet high, and most of them, as is the habit of this plant, with a few flowers in different stages; these, from the flower, I thought were the Exmouth variety; some of the stems at the ground were like a good aged forest tree. At the top of this pond is a fine

specimen of the deciduous Cypress, 60 feet high and 12 feet round the stem above a seat. In the houses we found plenty of Grapes in different stages. The first Vinery the gardener had lifted, putting a bed of heating materials over the roots of the new border; only one Vine, a Muscat, had shown any signs of flagging.

In the small stove we found, planted out and covered with bloom, Allamanda, Stephanotis, and other stove plants in good condition. Apricots had been nearly a failure; Peaches and Nectarines plentiful; a fair sprinkling of Pears and Plums, and fine crops of Apples. Figs grow and ripen their fruit as standards anywhere in the garden. We also saw Raspberries in great quantities; Mr. Arnott said they keep bearing until frost comes.

In most of the cottage gardens we saw Myrtle bushes. In the village of Hythe, close by, one or two were completely covered with the broad-leaved variety, forming low hedges in front similar to the evergreen Privet, even in exposed situations open to the sea. *F.*

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TEMPLE GARDENS.—The Chrysanthemums in these gardens are nearly now in their prime, and will no doubt be visited by thousands of persons. They are decidedly the finest grown out of doors in the neighbourhood of London, though they have been somewhat damaged by the late gales and injured by frost. It is to be regretted that from the latter cause some of the blooms are not so fine as we have been accustomed to see them; but still there is one of the finest borders of the large-flowering kinds in the Inner Temple we remember to have witnessed, while the garden of the Middle Temple is almost exclusively devoted to very handsome groups of Pompones.

## Miscellaneous.

*Sale of Books and Dried Plants.*—A sale took place at Mr. Stevens's the other day of a collection of dried plants and some fine books. The former were not at all suited to the English market, and consequently a herbarium, which appeared to have belonged to some Belgian gentleman, and which was described as "most extensive and valuable, containing more than 38,000 species of phænogamous plants, each in most cases represented by several (sometimes as many as a score or even more) well preserved specimens from various countries and by various collectors; generally speaking in excellent order and preservation, arranged in their natural families and placed within (but not fastened down to) separate sheets of paper, strapped up in convenient sized bundles, of which the number amounts to upwards of 430 parcels," produced only 205*l.* It was bought by Mr. Pamplin for Trinity College, Dublin. The books were in excellent order and well bound. The more remarkable lots obtained the following prices:—Horsfield's (T.) Zoological Researches in Java and the neighbouring Islands, royal 4to, 65 finely coloured plates and 7 of anatomy, 3*l.* 10*s.*; Andrews' Botanists' Repository, 10 vols., 4to, bound in 5, calf, 5*l.* 10*s.*; Batemann's Orchidaceæ of Mexico and Guatemala, elephant folio, black morocco, gold borders, 13*l.*; Cavanilles Icones et Descriptiones Plantarum quæ, aut sponte in Hispania crescunt aut in hortis hospitantur, 6 vols., folio, with 600 plates, red morocco, 8*l.* 10*s*; Pescatorea ou Choix Iconographique des Orchidées, par Linden, 10 parts, folio, 4*l.* 6*s.*; Decandolle Historia Plantarum Succulentarum, 180 beautifully coloured plates, gold borders, black morocco, together with Duhamel Traite des Arbres et Arbustes, 7 vols., folio, with 500 beautifully coloured plates, bound, 12*l.*; Flora Danica, 14 vols., folio, with 2520 coloured plates, and the supplement, unbound, 15*l.* 10*s.*; Humboldt Monographie des Mélastomacées, folio, with 120 coloured plates, bound in red and blue morocco, 4*l.* 10*s.*; Jacquin Selectarum Stirpium Americanarum Historia, the original drawings, folio maximo, 264 plates (only 18 copies made), 25*l.*; Jacquin Icones Plantarum Rariorum, 3 vols., folio, bound in 4, with 648 coloured plates, calf, 10*l.*; Jacquin Plantarum Rariorum Horti Cæsarei Schönbrunensis Descriptiones et Icones, 4 vols., folio, morocco, gold borders, 500 coloured plates, 12*l.* 12*s.*; Martius Genera et Species Palmarum, 3 vols., elephant folio, with 245 coloured plates, gold borders, black morocco, a perfect copy, 22*l.*; Martius et Endlicher Flora Brasiliensis, viz., fasciculus 1 to 9, with 154 plates, bound in 2 vols., folio, gold borders, brown morocco, and fasciculus 10 to 22, with about 352 plates and 2 maps, unbound (all published), 11*l.*; Plenck Icones Plantarum Medicinalium, 6 vols., folio, gold borders, with 600 coloured plates, 5*l.*; Pohl Plantarum Brasiliæ Icones et Descriptiones, 2 vols., folio, with 200 plates, brown morocco, gold borders, 4*l.* 10*s.*; Redouté les Liliacées, 8 vols., atlas folio, with 486 exquisitely coloured plates, magnificently bound in red morocco, 17*l.* 10*s.*; Redouté and Decandolle Plantarum Succulentarum Historia, 2 vols., folio, gold borders, black morocco, with 185 coloured plates, 4*l.* 10*s.*; Reichenbach Flora Exotica, 5 vols., 4to, with 360 coloured plates, black morocco, gold borders, 8*l.*; Roscoe Monandrian Plants of the order Scitamineæ, 1 vol., atlas folio, with 112 large and finely coloured plates, very rare, 3*l.* 15*s.*; Roxburgh's Plants of the Coast of Coromandel, 3 vols., atlas folio, 300 coloured plates, splendidly half-bound morocco, 17*l.* 10*s.*; Royle's Illustrations of the Botany and Natural History of the Himalayan Mountains, 2 vols., imperial 4to, 100 coloured plates, half-bound morocco, gold borders, 4*l.* 12*s.* 6*d.*; Saint Hilaire Flora Brasiliæ Meridionalis, 3 vols., folio, half-bound morocco, gold borders, with 192 coloured plates, carefully retouched, vellum paper, 11*l.* 10*s.*; Wallich Plantæ Asiaticæ Rariores, 3 vols., imperial folio, 300 coloured plates, half-bound in black morocco, 11*l.* 5*s.*; Wight Icones Plantarum Indiæ Orientalis, 6 vols., 4to, with 2100 plates, half-bound, 24*l.*; Wight Spicilegium Neilgherriense, 2 vols., 4to, 100 coloured plates, 2*l.* 17*s.* 6*d.*; Wight's Illustrations of Indian Botany, 2 vols., 4to, with 134 coloured plates, 6*l.* 5*s.*; Griffith's Palms of British East India, 1 vol., folio, with 139 plates, 2*l.* 10*s.*; Palissot de Beauvois, Flore d'Oware et de Benin, 2 vols., folio, with 120 coloured plates, rare, half-bound, 4*l.* 10*s.*; Blume Rumphia, 4 vols. in 2, folio, with 200 coloured plates of Orchids, &c., half-bound morocco, 15*l.*; Martius Nova Genera et Species Plantarum, 3 vols., folio, with 300 coloured plates, 12*l.* 12*s.*; Poeppig et Endlicher Nova Genera et Species Plantarum, 3 vols., folio, with 300 coloured plates, 10*l.*; De Vriese Illustrations d'Orchidées des Indes Orientales Niederlandaises, 3 parts, imperial folio, with 18 plates, coloured (all published), 3*l.* 5*s.*

*Grapes in Ireland.*—There was brought to this office the other day a very fine specimen of Black Hamburgh Grape grown against a wall in the open air at Durrus Court, near Bantry, a seat of the Earl of Bandon. They were large and good, and very creditable to the culture of his lordship's gardener. *From the Cork Constitution.*

## Calendar of Operations.

(*For the ensuing week.*)

### PLANT DEPARTMENT.

CONSERVATORY.—In most places Chrysanthemums will be the chief feature of attraction at present, and where these are largely grown, which they should be whenever there is a demand for flowers at this season, they make a fine display, and are worth every necessary attention to preserve them in beauty as long as possible. They are very impatient of a close, rather warm atmosphere, and if the house contains plants requiring this treatment, the Chrysanthemums should as far as practicable be placed in the coolest part, where air can be given freely on every favourable opportunity; for except they can be rather freely exposed to air their foliage soon gets attacked and disfigured by mildew, especially if the plants are bushy and well grown. See also that they are kept well watered at the root. Use fire-heat only when absolutely necessary either to prevent the temperature from falling too low or to dry the atmosphere. If such things as Geraniums, Cinerarias, and Calceolarias must be wintered in the same house with Heaths and other hard-wooded plants, they should be kept as much as possible by themselves, as they will require a somewhat closer temperature than hard-wooded plants, but where circumstances admit of it these should occupy a house or pit by themselves. Cinerarias and Geraniums intended for late flowering will do very well in a cold pit if the weather should not prove very severe, but those intended for flowering early should be placed at once where fire-heat can be used at will, so as to be able to preserve the foliage from damp. Roses for early forcing should be pruned by this time, and placed where they will at least be safe from heavy rains. Where American and other shrubs are used for forcing, these should be taken up and potted without delay, placing them in a cold pit until they are wanted for forcing, or in a turf pit where they can be protected from severe weather by straw mats, shutters, or other covering.

### FORCING DEPARTMENT.

PINERIES.—The plants expected to show fruit early next year will be greatly benefited by being kept in a comparatively dry state for a few weeks previous to subjecting them to a warm moist temperature. The atmosphere should be kept dry, also allowing the soil about the roots to become as dry as can be done with safety; do not, however, subject the plants to a very low temperature, but keep this at from 60° to 65° by means of fire-heat, for although the plants will bear a considerably lower temperature without any apparent injury, those not subjected to any unnecessary extremes will produce the finest fruit; and a short period of comparatively dry treatment will ripen the growth, and just as effectually induce a tendency to show fruit as checking the energies of the plant by an unnaturally low temperature, and without any of the ill effects of the latter method. No dependence can be placed on the weather at this season, therefore see to plants in pits with insufficient means of heating being well protected by means of covering at night, and maintain the command of a rather high temperature by frequently renewing the linings, &c., so as to be prepared for any sudden decrease of the external temperature; avoid anything approaching excess of atmospheric moisture among young stock, whether in pits heated by linings, or in better arranged structures, which only tends to promote a too free rate of growth for the amount of light, and weakly blanched foliage is the result. VINERIES.—Where forcing is commenced, attend to previous directions as to keeping the atmosphere moist, as there will be some difficulty in getting Vines to break freely at this season except this is attended to. If circumstances allow of having a bed of fermenting manure inside the house, this will be found the best means of keeping the atmosphere regularly moist, but if this cannot be used the house must be sprinkled with the syringe frequently, and the evaporating troughs kept full. Also see that the roots are afforded a steady gentle warmth until the buds are fairly swelled; keep the temperature about 50° by fire-heat at night, and 60° by day, letting it rise to 70° on sunny days.

### FLOWER GARDEN AND SHRUBBERIES.

Where the land is not too wet alterations of grounds and planting should be carried on with dispatch, but on no account attempt planting when the soil is in a state of puddle; the drier soil is when placed round the roots of newly planted trees and shrubs (provided they are judiciously watered in) the sooner they will emit fresh roots. Mulching is, however, requisite to keep out frost, and earlier in the season to prevent evaporation. As tree leaves are always in request either as a fermenting material or for leaf soil, they should at this season be carefully collected. If they are required only as a manure they may be stowed away in any bye place and left to rot; but if, as is generally the case, they are in demand as a cheap mode of furnishing bottom heat to Pines as well as for forcing different kinds of vegetables, some pains should be taken to keep them dry. For this purpose they should be stacked up in some back place or behind the garden walls, where access can be had to them at all times, and after allowing time for them to settle, put on a coat of thatch to effectually secure them from rain. By these means they will be found in a state fit for use for a twelvemonth to come.

### HARDY FRUIT AND KITCHEN GARDEN.

Pruning and nailing may be proceeded with where the leaves are off, even though it should delay some of the other work, which can be done with more comfort in bad weather than nailing; it is most important to get the latter done while the weather is favourable. Look over fruit stores frequently to see that all is keeping well, and remove any fruit that may show symptoms of decay, so as to prevent the mischief from spreading. A good stock of Lettuce fit for use should be put into cold frames or turf pits, where they can be protected from frost by means of straw mats or some other efficient covering; also take care to secure a good supply of Endive for winter use. Cauliflowers coming in must be frequently examined; those not wanted for use should be taken up and stored till wanted, for these cannot be safely trusted to the weather after this time. Take advantage of frosty mornings should they occur to get manure wheeled on quarters where it will be wanted, and get all spare ground trenched and ridged as soon as possible.

### STATE OF THE WEATHER AT CHISWICK, NEAR LONDON.

**For the Week ending Nov. 4, 1859, as observed at the Horticultural Gardens.**

| October and Nov. | Moon's Age. | Barometer. Max. | Barometer. Min. | Temperature of the Air. Max. | Min. | Mean | Of the Earth 1 foot deep. | Of the Earth 2 feet deep. | Wind. | Rain. |
|---|---|---|---|---|---|---|---|---|---|---|
| Friday 28 | 2 | 29.786 | 29.361 | 53 | 29 | 41.0 | 48 | 50 | S.W | |
| Satur. 29 | 3 | 29.407 | 29.318 | 55 | 28 | 41.5 | 49 | 50 | S.W. | |
| Sunday 30 | 4 | 29.520 | 29.006 | 48 | 38 | 43.0 | 49½ | 50 | S | |
| Mon. 31 | 5 | 29.306 | 28.800 | 57 | 43 | 50.0 | 49½ | 50 | E. | |
| Tues. 1 | 6 | 29.204 | 28.714 | 58 | 43 | 50.5 | 50 | 50 | S.W | |
| Wed. 2 | 7 | 29.778 | 29.659 | 55 | 31 | 43.0 | 51 | 50 | S.W. | |
| Thurs. 3 | 8 | 29.714 | 29.572 | 55 | 33 | 44.0 | 50½ | 50½ | W. | |
| Average | | 29.531 | 29.204 | 54.4 | 35.0 | 44.7 | 49.6 | 50.1 | | |

Oct. 28—Foggy; shower; cloudy; rain at night.
— 29—Slightly overcast; fine; clear; slight frost.
— 30—Clear; rain; very boisterous.
— 31—Overcast, boisterous with rain at night.
Nov. 1—Boisterous; rain; excessively boisterous.
— 2—Partially overcast; cloudy; overcast; rain.
— 3—Clear and fine; hazy; rain at night.
Mean temperature of the week, 1 deg. below the average

### RECORD OF THE WEATHER AT CHISWICK,

**During the last 33 years, for the ensuing Week, ending Nov. 12, 1859.**

| November. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday 6.. | 53.3 | 39.5 | 46.4 | 15 | 0.76 in. | 1 | 3 | 2 | 4 | 4 | 11 | 4 | 4 |
| Mon. 7.. | 52.4 | 38.3 | 45.3 | 17 | 1.02 | 1 | 3 | 2 | 3 | 4 | 11 | 4 | 3 |
| Tues. 8.. | 51.0 | 35.5 | 43.3 | 16 | 0.58 | 2 | 4 | 1 | 2 | 2 | 12 | 5 | 4 |
| Wed. 9.. | 50.9 | 35.6 | 43.2 | 13 | 0.28 | 2 | 3 | 3 | 3 | 5 | 9 | 3 | 4 |
| Thurs. 10.. | 51.0 | 35.7 | 43.4 | 19 | 0.67 | 3 | 4 | 2 | 4 | 6 | 8 | 2 | 4 |
| Friday 11.. | 51.3 | 36.4 | 43.8 | 14 | 1.02 | 3 | 5 | 1 | 4 | 3 | 8 | 3 | 1 |
| Satur. 12 | 50.9 | 34.9 | 42.9 | 15 | 0.50 | 3 | 5 | 2 | 3 | 3 | 6 | 1 | 3 |

The highest temperature during the above period occurred on the 6th, 1834, and 12th, 1841—therm. 63 deg.; and the lowest on the 9th, 1864—therm. 18 deg.

## Notices to Correspondents.

DISEASES: *J R E R.* There is little doubt that your Tea leaves are in the same condition with those of Portugal Laurels all over the country. The spots arise from water which has at some period of growth chilled the tissues on which it rested and ultimately destroyed them. You do not say what the other plant is. The spots are apparently due to the attack of an *Æcidium*, which is however abortive. We should, however, speak with more confidence if we knew what the plant is *M J B.*

GARDENER FOR GEORGIA, U S. Applicants are requested to observe that it is impossible for the Editor to answer their numerous letters. The person who may eventually be recommended will be duly communicated with; and notice will be given when the place is filled up. We will add that men of bad character are not so little known in London as one applicant imagines.

INSECTS: The woodborer sent by a correspondent near Ryde, without any note, is the caterpillar of some great moth. It is very like what Ratzeburg has figured in his Forstinsekten as the caterpillar of Cossus Æsculi.—*M S.* Your insect is not a mealy bug. It seems to be a mouldy shrivelled up Millepede. *W.*

MANCHESTER FLOWER SHOW: *Looker-on* must not expect us to insert statements that are not only self-contradictory but dispute motives to gentlemen. He begins by charging the Council with having no other object in view than to extract sixpences out of poor men's pockets; and he ends by declaring that the Council richly deserve the thanks of all exhibitors. Such letters are discreditable to the writers.

NAMES OF PLANTS: *G T M.* 1, Dendrobium cumulatum. 2, D. aqueum.—*R S & Co.* The species of Oak is the Cut-leaved Alder.

THE COTTON PLANT: *W J S.* The great book on this subject is Royle on the Culture and Commerce of Cotton in India, published by Smith and Elder, but we fear it will be hardly found sufficiently practical. Then there is Porter's Tropical Agriculturist; and a great deal of valuable information is scattered through the United States Patent Office Report for 1855.

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CRYSTAL PALACE. — AGRICULTURAL ROOT SHOW.—A Show of Agricultural Roots and other Produce will be held on TUESDAY to SATURDAY, the 6th, 7th, 8th, 9th, and 10th December next. Schedules of Prizes, and Regulations are now ready.—All communications to be addressed to Mr. W. HOUGHTON, Secretary to the Show, Crystal Palace, Sydenham, S.E.

# The Agricultural Gazette.

*SATURDAY, NOVEMBER 5, 1859.*

A GREAT deal of injury has been done by the frost of last week to Mangel Wurzel crops in various parts of the country. Where the roots have been pulled and laid in rows upon the land preparatory to carriage to the heaps they are destroyed. Where still standing and partially sheltered by their leaves, those leaves are only partly injured, and it is probable that the roots may last. The best plan to treat them in that case probably is to run a large double mouldboard plough down the intervals of the rows, and thus throw earth enough up each side of each row as a protection to the roots, until in a week or two it shall be seen whether the plants are destroyed. The useless expenditure of harvesting a worthless crop will thus be saved, and each root that has been injured past remedy will rot by itself and not infect the rest. If, after a slight frosting, this protection could at once have been given to the slightly frosted roots, there would have been less chance of immediate injury than where the frozen roots were subjected to a rapid thawing. We must, however, express the fear that injury by frost over the surface of a Mangel Wurzel root is fatal, and that no remedy for its effects is possible. Whether such roots would keep after steaming and being thrown together in a heap or pit as rotting Potatoes will, we cannot say. If superheated steam were used in cooking them, so as to drive off a portion of the enormous quantity of water they contain, there would be greater chance of success in such a scheme. Under the ordinary cooking process we should think the chance of turning roots to useful account for longer than a week in this way to be extremely small.

THE period at which any green crop can be most advantageously consumed is a subject worthy of careful consideration—second only in importance to the best method of producing it. In some cases it is even of greater importance, and it is probable that few of us as carefully consider this as our interest renders desirable. The full growth of a crop can by no means be taken as an indication of its maturity. If we look at our root crops we find very clear and convincing proof of this fact. The Mangel Wurzel is a root which has been as carefully noticed as any of its class, and may be taken as some indication of results which yet await fuller examination of other roots. The facts connected with this root are simply these—that at the time the crop has completed its growth, it contains an acrid body within it which has a tendency to produce considerable irritation in the stomach of the animals fed upon these newly grown roots. When it is freely used in this condition it produces a considerable amount of purging in the animal, accompanied by griping pains. The result is that the animal pines away and loses condition by the use of this food, instead of reaping any benefit from its use. As a consequence of this character it has become a general practice not to give these roots until they have been stored away for some two or more months; and it is then found that they are free from these injurious effects and valuable as food. Upon examination it has been found that the acrid matter which was present in the fresh root and produced such pain and inconvenience has been changed into sugar or starch, which are prepared to do good service in the support of the animal and in promoting its growth. To use a common simile, we might compare the fresh root to unripe fruit, which although it may have attained its full size, has by no means arrived at that condition in which it is most valuable for use. Its sourness has to be removed by the more perfect ripening of the fruit and its acrid character transformed into a sweetness at once grateful to the palate and innoxious to the system. This is the change which we know takes place in the ripening of fruit, and we have a parallel example in the ripening of the roots of Mangel Wurzel; both if used before the completion of this change produce an inconvenience which is not experienced from its subsequent use.

It is more than probable that what has been said respecting the Mangel Wurzel may be applied to a more extended group of farm produce. There is no reason why this root should be an exception to other root crops, and the result of our observation leads us to the conclusion that similar influences are more frequently operative than is generally imagined. If, for example, we take the Swede crop, we cannot but have observed that its early use is never so productive of increased weight as it is at a later period in the season. The tendency upon stock fed upon this root when in its fresh-grown condition is to scour them, and care is generally necessary to avoid this result. The use of dry food is generally resorted to as a palliative, and this shields the stomach to a great extent from the powerful action of the acrid matter present. To overcome this prejudicial action, and to use the Swede to advantage, it is necessary to allow it to ripen before it is used. In proportion as it is unripe, and produces diarrhœa in the same proportion, is it valueless as food, being calculated rather to decrease the animal's weight than to further its growth. Observation shows that those Swedes which from being sown early have come to their growth, and had an opportunity of ripening afterwards before their feeding has been commenced—such roots invariably carry on the stock more rapidly and with less injury to health than where such an interval has not been allowed before their consumption.

The common Turnip is no exception from the same rule, for we find exactly the same results attending their early use. Much of the loss of sheep which happens when they are first put upon Turnips may, without doubt, be traced to the fact of their being unripe, or, in other words, their consumption has been commenced before they are ready for food. This in some measure explains the advantages which attend the consumption of Turnips which have been sown as early as the Swedes; for these have better opportunity of attaining their full growth, and then have time to ripen before they are wanted for use. So far as we have observed we believe that roots have no constant value as food independent of the time when they are used. As a general rule, Swedes are

of less value in November than common Turnips, and equal quantities of each being used the former will produce less increase of weight than the latter, and yet if you wait until the Swede has ripened a very different result is gained, for then the Swede increases the weight more rapidly than the common Turnip. We might extend our observations to the Rape crop, and here also we have reason to believe that the loss of stock arising from its use may be traced to the unripe condition of the plant. The value of a food is clearly dependent upon its power of supporting life and administering to the growth of the animal consuming it. So far as it is capable of performing these duties so far will it be valuable; but if when we have produced a crop for this specific purpose we consume it before it has attained its greatest feeding power, we clearly make an unnecessary sacrifice of food, and endanger the health of the stock by which it is consumed.

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THAT the quantity and quality of the solid and liquid excrements voided by an animal vary with the nature of the food on which it is fed is a fact generally known. If a beast is fed on food deficient in nitrogen, the dung obtained from it will not be capable of producing any marked effect under circumstances where nitrogenised manures are essential. On the other hand if the animal, and especially in the fattening process, be fed liberally on oilcake, Bean-meal, or some other feeding materials rich in the albuminous compounds, the excrements may reasonably be expected to prove efficacious in the production of our farm crops. General statements of this kind are very useful in their way; but they do not convey that scientific precision which alone can constitute "exact" knowledge. And until formulæ are established by which to indicate the proportions of a given quantity to be charged to the animal and the field respectively, our information on feeding remains in a semi-chaotic state.

The farmer has been taught to know that certain crops are more valuable than others — that the functions of these crops in the animal economy are referable to simple laws—that such proximate constituents of plants, as starch, sugar, gum and fat, produce fat in the animal and support the combustion which maintains the animal heat—that the albuminous compounds or those containing nitrogen go to form flesh. Upon all these points the intelligent farmer of the present day has clear and satisfactory ideas. But when he comes to estimate the exact balance which his live stock pay he is completely at sea. "A day with the chemists" will prove of little avail in satisfying his inquiring mind. In vain may we search chemical volumes, from BERZELIUS to VOELCKER, for an answer to the question—"How much of the first cost of my oilcake and hay is to be charged to the cattle, and how much to the manure heap?"

Some months since Mr. CHARLES WILLIAM HAMILTON, of Hamwood, near Dublin, undertook to elucidate the subject, and went to considerable expense in paying for the analytical portion of the investigation. The result of his inquiry appeared first in a paper on "Sheep Feeding" which he contributed to the "Monthly Agricultural Review," and it was transferred soon after to the columns of the *Agricultural Gazette*. Some of these results were so startling that Mr. W. SPOONER, jun.,* seeks to correct what he considers an important error in Mr. HAMILTON's paper.

Mr. HAMILTON fed some wethers for the last fat stock show of the Royal Dublin Society on oilcake and Oats, at the rate of 1½ lb. of the former and ½ lb. of the latter *per diem*. It occurred to him, among other ideas, to compare the solid and liquid excrements of sheep so fed with others which never had any food but Grass. One of the cake-fed wethers and a Grass-fed ewe were placed in a sheep shed for 24 hours for the purpose of collecting their droppings. The daily yield of excrement was—

| | Solid. lbs. oz. | | Liquid, lbs. oz. |
|---|---|---|---|
| Wether .. .. .. | 3 3½ | .. | 2 11½ |
| Ewe .. .. .. | 2 15½ | .. | 3 11 |

Dr. APJOHN valued the solid dung of the wether at 1*s.* 1½*d.* per cwt., and the ewe's at 8½*d.* This is a difference of great magnitude, but sinks into insignificance when compared with the marvellous difference between the urine of the animals experimented upon. Indeed, we thought it probable that, as Mr. SPOONER suggested, Mr. HAMILTON might have made some clerical error; and with the view of eliciting the truth, we have placed ourselves in communication with that gentleman, who has forwarded to us Dr. APJOHN's original report of the analyses, from which we find that Mr. HAMILTON's conclusions were strictly deduced from the data before him. Making one or two corrections by the aid of Dr. APJOHN's manuscript, we find that the urine of the ewe had a specific gravity of 1.009. After being strongly acidulated with muriatic acid and evaporated down, until upon cooling it was converted into a solid, the residuum was weighed, and found to constitute 2.609 per cent. (or 2.609 grains in every 100 grains). Such amount of it (2.609 grains) was then burned with soda lime, and was thus found to yield 0.542 grains of ammonia = 0.393 grains of nitrogen. Urine of wether was sp. gr. 1.057; treated in the same way it gave a larger residuum, consisting of 25.43 per cent. of the urine, 9.165 per cent. of ammonia = 7.45 of nitrogen. This comparison gives—

| | Sp. gr. | Per cent. Ammonia. | Per cent. Nitrogen. |
|---|---|---|---|
| Urine of ewe .. .. | 1.009 | 0.542 | 0.393 |
| „ wether .. | 1.057 | 9.165 | 7.450 |

"We thus arrive at the conclusion," continues Dr. APJOHN, "that the urine of the wether yields nearly 17 times as much ammonia as that of the ewe; and that, using the ammonia as our guide, the value of the urine of the wether is to that of the best Peruvian guano in the ratio of 9 to 17."

Mr. SPOONER, forgetful or ignorant of the fact that Mr. HAMILTON used Dr. APJOHN's very words and figures in quoting the analysis, thinks it "probable that Mr. HAMILTON has mistaken the per centage of ammonia in the solid matter for the per centage of ammonia in the whole bulk of the urine." We are now in a position to say that no such mistake has occurred; and that Mr. HAMILTON's papers deserve the most careful consideration. It is highly probable that the majority of those who have read that paper labour (like Mr. SPOONER) under the impression that the urine of wethers is, according to Mr. HAMILTON's investigations, weight for weight, seventeen times richer in nitrogen than that of ewes, when the animals of both sexes are fed and treated alike. Such, however, is not the case. The ewe whose urine Mr. HAMILTON collected "never received any other food" but Grass, while the wether was highly fed with concentrated feedings. That some difference would exist in the composition of the urine of ewes and wethers (and of the sexes generally) is what everybody would expect; but that the quantity of nitrogen in wethers' urine could be seventeen times the proportion in ewes' urine when the two animals are fed alike is highly improbable if not impossible. But every student of agricultural chemistry knows that there must be a wide difference in the per centage of nitrogen in the urine of two animals, when the one is fed on Grass which contains a very low per centage of nitrogen, and oilcake and corn, which are rich in that element. Viewed in this light Mr. HAMILTON's first experiment does not appear so startling after all.

That we are correct in supposing that the difference commented upon is not so much due to a difference of sex as many have imagined is most clearly evidenced by the second experiment conducted by Mr. HAMILTON, in which he weighed and had analysed the urine of two wethers that had been equally fed on oilcake and Oats; the artificial food was stopped from one of them for three days previous to their being shut up for 24 hours. The urine was found to contain per lb.—

| | Grains. |
|---|---|
| No. 1. Which continued to receive oilcake during the three days mentioned .. .. .. .. .. | 252.80 |
| No 2. Fed on Grass alone during those three days | 33.12 |

Estimating their value by their nitrogen we find from this experiment that the urine of the cake-fed wether is nearly eight times as valuable as that of the Grass-fed one. This is a marked differential value in favour of the former; and completely refutes Mr. SPOONER's suggestion, if any such refutation were needed. An interesting question remains unanswered by either of these experiments, namely, the relative value of the urine of ewes and wethers treated in every way alike. Conjointly, however, the HAMWOOD experiments throw some light upon this point. The second experiment reduced the influence of concentrated feeding and Grass on the quantity of ammonia in the urine to the ratio of 8 to 1; the first experiment gave the ratio of 17 to 1 as the combined influence of feeding and sex, which reduces the influence of sex to modifying the per centage of nitrogen in the urine to the ratio of 5 (wethers) to 2 (ewes.) We have at present in hand an extensive series of experiments for determining the quantity and quality of the excrements of different animals. In one case it has been found that the per centage of nitrogen—

| | |
|---|---|
| In the urine of a Grass-fed ewe was .. .. .. | 0.612 |
| „ „ wether .. .. .. .. | 0.986 |

Or, in other words, the urine of the wether contains over 50 per cent. more nitrogen than that of the wether, which is a curious result; but we will not dilate at present further than to say that we hope ere long to be in a position to give the influence of sex in modifying the value of animal excrements for manure.

In these remarks we have not ventured to determine how much of the value of the feeding is to be charged to the manure heap or the field. HAMILTON's paper enters into the subject so far as sheep are concerned. And Professor A. has addressed himself to the same subject in a lecture of the 2d August last. We ask the co-operation of those who have the will and the means to aid us in elucidating a subject of such great and practical importance; knowing of how great service towards the establishment of a general law is any experience, however carefully recorded, of single animals.† *B.*

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* *Agricultural Gazette*, Aug. 6, 1859.

## TITLE BY INSURANCE.

[Mr. Hoskyns has addressed the following letter to us upon the social and agricultural benefits which would follow free trade in land.]

Some degree of public interest has attached to the approaching election of a secretary to the Royal Agricultural Society of England. It is, however, scarcely known beyond the land-owning and land-using world that the election falls almost contemporaneously with the commencement of a second 20 years' career of this association of English agriculturists, whose first re-opening at Warwick—almost the central town of the kingdom—offered perhaps the largest exhibition of the kind ever seen in Europe, probably in the world. The first campaign commenced at Oxford in 1839, and terminated last year at Chester.

The long course of "Practice with Science" has itself, somewhat singularly on review, into two distinct periods—the former having been received by the public husbandry under protection, and the latter under free trade. It is not necessary to draw any comparison. The relative progress during the two periods, and under the two systems, is matter of familiar knowledge to almost all classes of the public.

But I would ask your aid to give expression to a want which the Royal Agricultural Society was formed to supply for the soil of England—a want which presses upon it with increasing severity every year, and which now meets the ear directly or inferentially at every conversation among thinking men upon the future of agriculture in this country. It may be stated briefly. It does not broach complicated questions of steam ploughing machinery, or elaborate systems of cultivation; it does not plunge into schemes of education for farmers' sons, or of the suitable wages for a class of labourers who never strike. It shapes the one thing wanted in this short phrase—freedom for land.

It is not too much to say that the actual bearing of this question upon the whole community is not known or suspected by one man out of 10,000 in it. Hardly a benefit of this could be given than the very terms of the Act with which the late Solicitor-General Sir Hugh Cairns was received by the greater portion of the press, as chiefly characterised as a boon to the owners of land, that they ought to have long ago used their Parliamentary power to obtain; and, for the rest, crumbs of comfort were thrown to the lawyers in the prospect of an increased, though brief, business. If the 70,000,000 acres of the United Kingdom existed solely for the benefit of landowners and lawyers there would be little left to say; and I would not have to say it, for who can help those who will not help themselves? But this, which is so commonly taken as the whole of the question, is its narrowest and least deserving part. The land of this country, and of every other country in the world, however it may pass from hand to hand as property, is in one sense, and a very obvious sense, the common right of labour. It is the ultimate source of all wealth, and the origin of all employment. No country, much less such a one as this, can measure what it loses by the denial or stoppage of commerce in land. It stops or contracts the means of supply the whole system of trade, internal and external. It is a "strike," indeed, of the most fundamental kind, affecting thousands upon thousands who have no means of knowledge—no suspicion whatever of the cause of the evil that insidiously reaches their own hearth. If the master be compelled to blow out half his furnaces, or the owner to turn off half his hands, we may lament it, but for his sake; but our sympathies do not begin or end with him. We think of the thousands who are thrown out of employment, and the other thousands whose trade is affected directly and indirectly. But what is this? It is a system of established law, or custom having the force of law, which deliberately closes the most natural, the largest, some, and most extensive field of labour that we have for the labourer, and its produce from the community. It ties up the hands of its proprietors from the employment of the complement of labour it is capable of employing. The owner himself, like any other capitalist, is perhaps the first and the last. He may be idle enough to care to do so, or to even prefer half labour, half crops, half income, for want of capital or time; but the labourer's family are starving around him meanwhile. Has he no vested interest in the employment which the soil should afford? Now, in spite of this otherwise improved and well-ordered England, the capitalist cannot buy land, and the embarrassed owner cannot sell it, and the improving owner cannot borrow on it, for the torture of expenses and delays that every one in anything of business knows to be a virtual denial of action, and destructive of the motives which lead men to all. Who would fatten an ox, or sheep, or print a book, if, before he could sell it, it had to go through a dozen hands, coming in between the seller and the buyer, and nipped off that little increment of value that made it? The carcass price is not the thing men barter for, but that addition which skill or labour puts upon it. Take this and all markets may as well be closed. The whole matter lies in this. Our system of conveyance, obsolete coinage of an age when the investment of land was almost a thing unknown, operates as a

† See Mr. SPOONER's remarks in another column.

[illegible] paralyses the motive which should be the main-[illegible] of all traffic in land, compelling its retention in the hands that are unable to make the best use of it, and would willingly part with it, and denying it to those who have capital to invest in it and are able to employ labour in its improvement. This might be of less moment if no one but the buyer and seller were concerned, but let any one say if that be so who has seen the condition of a landed estate whose owner was too poor to improve it, and that same estate when it has been at length dragged through the fiery ordeal of the conveyancer's office into the hands of a wealthy purchaser. One sight of this is worth a hundred arguments.

There is a kind of toadyism that is fond of coining imaginary pleas for the "ancient owners," the "old aristocracy" of the soil, cheating the ear with the false assumption that slow and costly transfer of land has a tendency to keep estates in old families. They forget, kind advocates, that the same impediments which shackle a seller embarrass an owner wishing to improve and save his property; that the high price of money to [illegible] of "green-field security"—though allowed [illegible] of all—is due to that very complexity and [illegible] which make the sale so troublesome. For, what [illegible] mortgage but a sale with power of redemption? Make that power short, simple, certain, and inexpensive, and many an owner of land would be able to hold and improve, partially or entirely, who under the present system is ultimately driven to sell under every disadvantage. An assumption more perniciously erroneous than that dear conveyancing keeps land in old families it would be difficult to conceive. It is more like the kiss of an enemy than the error of a friend.

The result lies grievously the other way. Not only are the owners of land restrained from the power to employ labour by the dearness of capital on their particular class of security, even where the ownership is unfettered by entail or settlement (a subject on which I should like to address you again), the continued operation of this impediment begets a kind of generic or class idleness. A landed estate is a business; and for an improvement that will pay 10 per cent. on the outlay it will pay 5; and were capital for agricultural enterprise obtainable at the rates of interest that the merchant pays for shipping, dock warrants, and Government securities, and were this govern his investments, it would produce a revolution in the employment of agricultural and estate labour, the building of cottages, and the application of capital to every permanent improvement of the soil. Of all the taxes that can press upon land, that of expensive and protracted transfer is the most extensively grievous. It impoverishes the labourer first, the public who profit by his labour second, the capitalist, both large and small, seeking investment third, and lastly, the landowner himself. For what? Not to aid the public exchequer, but to support an obsolete system of fiction and quackery in the so-called "practice of conveyancers," whose conveying lies in the wonderful art and ingenuity of obstruction, by virtue of the assumption that every title to land is bad until the ransacking of the accidents of 60 years' possession has enabled them to give a negative that, after all, it is not bad; therefore the conveyance may proceed! Will such a thing be believed hereafter, when the present "system" has been consigned to the limbo of "fines and recoveries," and "outstanding terms," and the conveyancers are walking hand in hand with John Doe and Richard Roe in the plains of Elysium.

But it is only justice to a noble profession to say that its most eminent members have been among the first advocates of a reform of this greatest unreformed abuse in this country. Conveyancers of the highest standing and experience admit that a really bad title to land is a thing of the most infrequent occurrence; that the risk is, to use the language of insurance, so small, taking one title with another, that it would be a matter of scarcely calculable appreciation. Yet by the very same authorities the doubt is often expressed (whether speaking professionally) any effectual remedy will ever come from within.

Every experience is in favour of that belief. Already the practice is obtaining among the wealthier class of buyers, in the case of small purchases, to take a simple conveyance, and be their own insurers of the title. Why should not this hint be acted on? We have insurance offices in abundance, ready to undertake every species of risk, and not too full of business at present; and here is a risk declared by the best authorities to be, not, like life insurance, a mere question as to the time when an event, certain in itself, will take place, but the infinitesimal risk of a thing which rarely ever happens at all. The Great Eastern is a floating property of tolerable magnitude, yet she can be insured. The poor Royal Charter, so lately lost, will cost each of her insurance offices the price of a handsome landed estate. Why should not landowners take a leaf out of the ledger of commercial prudence and sagacity, and by a Landed Title Insurance Company free themselves for ever from the tyranny of shadowy claims upon their titles that have such fearful power for mischief, yet no reality or substance, except for the benefit of those who raise them?

By such an association, composed of landowners themselves, this question might be set at rest, and every parcel of land in the kingdom be reduced to the simplest form a conveyance can assume; not by an elaborate and vexatious investigation of title-deeds, such as that proposed by the Bill of last session, but by enabling every vendor and purchaser to make at once the conveyance they have agreed upon, and to insure the title, at a trifling cost, until the lapse of a statutorily determined period shall have rendered it indefeasible. *C. Wren Hoskyns.*

## PULPING ROOTS.

A REPORT of a recent meeting of the Haddington Farmers' Club is given in the *North British Agriculturist*, from which we extract the following particulars on this important subject: Mr. Shirreff, of Saltcoats, presided and said:—He observed that the district of the railway from Dunbar to Edinburgh presented this appearance, that while there is not one single field of good Turnips of any variety, there is a great difference as to the extent of the failure, and to his mind that diversity is the most puzzling feature in the case. Near Drem the Swedes, the seed of which had long lain dormant in the utterly dry soil, came up at last without their full natural vigour. He is convinced however that it is not the long drought which is the secret cause of this disease. He has some fields sown after the rain which rushes away at once, and, indeed, nearly the whole of his Turnips were most luxuriant and vigorous at the time they were singled. The period of their being sown made no difference. There is one field, portions of which were sown at four different times; they did well at first, all became yellow at once, and drooped their leaves, and died at once, but the dissolution of the younger ones was by far the most rapid. The manure had nothing to do with the disease. This he thought was clearly proved by the Club's experiments, which he had tried, together with a portion of farm-yard manure.

Mr. Sadler, Ferrygate, said:—The question is, what are we to feed our cattle with this season? Oilcake is cheap, and we have now straw-cutters, steamers, and Turnip pulpers to call to our aid. He had tried pulping, and thought that it would interest the meeting to hear his experience of that system, which has been so much recommended in England for its economy of Turnips in the feeding of cattle, that one manufacturer alone has sold no less than 4000 machines. The plan recommended is to mince or grate the Turnip into a pulp, which, either fresh or fermented is mixed and given to cattle along with cut straw. He then read the following paper, containing the details and result of his experiments:—

This time two years ago I obtained one of the most approved pulpers of the day on trial, and I would advise this plan of getting a trial with all new and unknown machines before purchasing. The machine in question was made to pluck the roots into small pieces, without apparently pressing out any of their juices. I selected eight Short-horn cattle bought at Dalkeith fair, and up to the end of the year fed them upon sliced Turnips and a few Potatoes. Before being weighed and marked for trial, they were divided as equally as possible into two lots of four each, and for some weeks each lot was fed upon the respective food intended for it during the trial.

The experiment commenced on the 22d January, the cattle being in fair thriving condition. They were then all weighed singly upon a steelyard, and notes began to be taken of the food commenced—Lot No. 1 getting sliced Swedes, *ad libitum*, with uncut Wheat straw, and lot No. 2 pulped Swedes, *ad libitum*, mixed, and given fresh with cut Wheat straw, the daily quantity of the latter allowed being 7 lbs. per head, or as much as the pulp would amalgamate with, without rendering the mixture over dry. For the first month the lot feeding upon the pulp seemed to take the lead, but ultimately, as will be shown, they did not exhibit any superiority. During the last four weeks of the trial, both lots had an allowance of 4 lbs. of oilcake per head daily. The experiment was continued until the 22d April, when the beasts were all again weighed. The lot on sliced food was found to have consumed, in 88 days, 25 tons 1 cwt. 2 qrs. of Swedish Turnips, and to have increased in weight 7 cwt. 31 lbs. and the lot upon pulp had consumed 23 tons 13 cwt. 1 qr., and had increased in weight 6 cwt. 46 lbs.

The following is a table showing the weight of each beast at the commencement and end of the experiment, and also the improvement on each:—

LOT No. 1.—FOUR CATTLE ON SLICED SWEDES.

| Nos. | Weight, January 22. | Weight, April 22. | Increase. |
|---|---|---|---|
| | cwt. lbs. | cwt. lbs. | cwt. lbs. |
| 1 | 9 7 | 11 28 | 2 21 |
| 2 | 7 28 | 9 42 | 1 56 |
| 3 | 9 84 | 11 94 | 2 10 |
| 4 | 9 0 | 10 56 | 1 56 |
| | 35 77 | 42 108 | 7 31 |

LOT No. II.—FOUR CATTLE UPON PULPED SWEDES MIXED WITH CUT STRAW, AND GIVEN FRESH.

| Nos. | Weight, January 22. | Weight, April 22. | Increase. |
|---|---|---|---|
| | cwt. lbs. | cwt. lbs. | cwt. lbs. |
| 1 | 9 2 | 11 14 | 2 12 |
| 2 | 9 15 | 10 77 | 1 62 |
| 3 | 9 28 | 10 84 | 1 56 |
| 4 | 8 84 | 10 0 | 1 28 |
| | 36 17 | 42 63 | 6 46 |

TABULAR VIEW OF THE RESULTS.

| | Kinds of food. | Weight at Jan. 22 | Weight at April 22 | Increase in weight. | Comparative value of increase at 6d. per lb. | Weight of Turnips consumed in 88 days. | Value of Oilcake consumed in four weeks | Extra Turnips consumed by lot upon sliced food. | Value of extra Turnips | Cost of slicing, &c., 4d. per head per week. | Cost of pulping, 6d., and cutting straw 1d. per head per week. | Total for extra food and labour. | Return on each lot of Turnips consumed, taking increase at 6d. per lb. per week. | Payment on Turnips per ton, taking value of increase at 6d. per lb. per week. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lot 1. Four Beasts. | Sliced Swedes | cwt. lbs. 35 77 | cwt. lbs. 42 108 | cwt. lbs. 7 31 | £ s. d. 20 2 6 | ts. ct. qr. 25 1 2 | s. d. 10 0 | tons. ct. 1 8 | £ s. d. 0 14 0 | £ s. d. 0 10 0 | | £ s. d. | £ s. d. 10 9 6 | £ s. d. 0 14 6 |
| Lot 2. Four Beasts. | Pulped Swedes | cwt. lbs. 36 17 | cwt. lbs. 42 63 | cwt. lbs. 6 46 | £ s. d. 17 19 0 | ts. ct. qr. 23 13 1 | s. d. 10 0 | | | | £ s. d. 1 11 6 | £ s. d. 2 1 6 | £ s. d. 15 17 6 | £ s. d. 0 13 6 |

From the tables it would appear that, putting the cost of pulping against the saving of Turnip, in my case I got 1*s.* per ton less for the pulped Turnips than for those given in the ordinary way. It is to be hoped now, when our roots are so far from plentiful, other experiments may shortly be made upon this subject, as it would be rash to rest satisfied with even one or two trials. We all know that in a lot of beasts even one animal from being a dull feeder would effect a great difference in a trial of this sort, and in future ones it may be desirable to increase the quantity of cut straw, and to add, perhaps, a little Linseed gruel to damp the mixture.

I may mention that a friend of mine in the south of England, who had a good crop of Swedes last year, preferred giving them all to his sheep, and fed his oxen entirely on Mangel, cake, and Barley meal; and, as he observed, he had every reason to be satisfied with the result. I have some idea that he was correct; at least, I have always found a better return from sheep than from cattle. Should this be so in general, perhaps the diminution of our Turnip crop this season may, like the loss of the Potato in Ireland in 1846, lead to a profit in the end, by turning our attention to a more profitable method of feeding our cattle than that we have hitherto adopted.

In England the pulping system has progressed beyond all measure, although we are still without any comparative trials; yet, if we credit the vendors of these machines, something even superior to Thorley's cattle feed is being spurned from our feet.

Mr. Durie, Standingstane, understood the subject before the club to be what to grow instead of Turnips, but it seemed to him to have merged into what to buy. If we are to have the present emergency supplied, there is nothing in the market just now as good as oilcake at its present price. With respect to Mr. Sadler's last substitute, it is rather a kind of Irish resort to substitute "pulped Turnips and straw" for Turnips, especially after Mr. Sadler himself has shown the club that he got 1*s.* per ton less for pulped Turnips. In fact, he did not approve of pulping at all, as by it the amount of nourishment in the Turnip may be diminished, but cannot be increased, and as it supersedes the process of chewing, which promotes digestion. The animal cannot fatten better on the same weight of roots. But what are we to grow instead of Turnips, as they are getting every year more liable to disease? The great cause of the deficiency this year is the want of rain, which has produced mildew. It is worst in the low district of this county, where there was most drought; not quite so bad in the middle district, where there is more heavy land, which drought does not affect so much; and in the higher district, where they had more rain, Turnips are a fair crop. He thought members ought to try various mixtures of manures, and see if any of them will check the tendency to mildew in dry weather. Last year, where he had mixed ¾ cwt. per acre of nitrate of soda, the mildew almost stopped. He thought the best substitute for Turnips is undoubtedly Mangel. It requires more manure than Turnips, but it grows well on all deep soils, and once brairded it is not liable to disease, and drought has very little effect on it. The only thing against Mangel is, that it will not grow well on light Turnip soils.

After remarks from various other members, it was agreed to confine the resolutions of the meeting to the present emergency, and to take another opportunity of discussing what is the best substitute for the Turnip crop in time to come. It was then moved by Mr. Sadler, seconded by Mr. Shirreff, and unanimously agreed to, "That in the present emergency, caused by the deficiency of the Turnip crop, the club recommend experiments to be made in feeding cattle with Mangel, alone, and also with the various feeding substances now in the market, and that trials be made with steamed cut straw, bran, Linseed-cake, Rape-cake, and Barley meal, separately or mixed, and also, although not hitherto successful in Scotland, with pulped Turnips mixed with cut straw."

## PROGRESS—MATERIAL AND MORAL—SINCE 1700.

[Sir J. K. Shuttleworth's Discourse on Social Economy, before the Association at Bradford contains the following passages.]

In a century and a half the exports of England and Wales had risen from less than 7,000,000*l.* in 1699 to nearly 60,000,000*l.* in 1849, while the whole exports of the United Kingdom amounted to 116 614,331*l.* in 1858, and the imports to 163,795,803*l.* in that year. The population of England increased from about 6,000,000 in 1700 to nearly 18,000,000 in 1851, and probably upwards of 20,000,000 in 1858.

The actual value of the cotton manufacture in 1787

was estimated at 3,304,371*l.*, while Mr. M'Culloch, in the latest edition (1849) of the "Commercial Dictionary," gives 36,000,000*l.* as the value of the goods annually made, and 47,000,000*l.* as the estimate of the capital employed. Mr. Baines in 1833 estimated the persons employed at 237,000, supporting 1,500,000 by upwards of 6,000,000*l.* of annual wages; whereas, in 1849, Mr. M'Culloch calculates that 542,000 spinners, weavers, bleachers, &c., and 80,000 engineers, machine-makers, smiths, masons, joiners, &c., were employed at annual wages, amounting to 17,000,000*l.* for 622,000 workmen. The exports of woollens in 1699 were estimated as amounting to nearly 3,000,000*l.* of value, whereas Mr. Baines estimated the annual value of woollen and worsted exported in 1857 as 13,645,175*l.*, the number of individual workers as 275,000, the number of persons supported as 837,500, and the annual value of the woollen manufacture as 20,290,079*l.*

It was not till the close of the 18th century that Flax-spinning mills were erected in England or Scotland. The Irish exports of linens to Great Britain and foreign parts increased from 34,000,000 yards in 1800 to 55,000,000 in 1825, and the declared value of linen goods and yarn exported from the United Kingdom increased from 2,579,658*l.* in 1834 to 4,225,895*l.* in 1849, and to 5,870,696*l.* in 1857.

The quantity of iron made in England and Wales in 1740, estimated at 17,130 tons, had increased in 1858 to 8,040,959 tons.

English canals date from 1755. Though only a century has elapsed, the navigable canals of England alone exceed 2200 miles, while the navigable rivers exceed 1800 miles in length, making a total of 4000 miles of inland navigation. The first steamboat worked for hire in Great Britain was the Comet, which plied with passengers on the Clyde in 1811. In 1814 six steam-vessels were built and registered in the United Kingdom and her colonies with a burden of 672 tons. In 1822 169 British and foreign steam-vessels of 15,017 tons burden cleared inwards. In 1858 the tonnage of steam-vessels cleared inwards had increased to 2,115,052.

In 1803 the vessels of all classes belonging to the United Kingdom and its dependencies numbered 20,803 ships, with 2,000,000 tons burden; and in 1858 to 20,071 ships, with 4,325,242 tons burden, exclusive of river steamers in the last return.

Thirty years have not elapsed since the first public railway was made in England; whereas on the 31st of December, 1858, there had been constructed in the United Kingdom 9,506 miles and Parliamentary powers exist for the construction of 2,070 more. The existing railways have been constructed at a cost of 325,375,507*l.*, and in 1858 conveyed 139,193,699 passengers, upwards of 73,000,000 tons of merchandise and minerals, and 11,326,006 of live stock, with an aggregate gross income of 23,956,749*l.*, and at an annual outlay of nearly 12,000,000*l.* (11,738,807*l.*)

During a century of mechanical invention the home and foreign trade in coal have advanced until in 1858 65,008,649 tons of coal were raised in Great Britain.

Two strong tendencies have accompanied the growth of the population from 6,000,000 in 1700 in England and Wales to upwards of 20,000,000 at the present time. The first has been the growth of great towns (some of which have increased their population six or eightfold), the aggregation of the people on the coal-fields, by migration from the agricultural and moorland districts and from Ireland, as well as by the extraordinary stimulus given to natural increase by higher wages, early employment, and early marriages. The second has been that hitherto the sudden checks in commercial prosperity caused by wars, by defective harvests, by the errors of our commercial legislation, by the very eagerness of enterprise, have all been met by the silent influence of colonisation, which in dangerous crises have enriched our colonies and the United States with the transiently surplus labour of the United Kingdom. There is scarcely a more touching incident in our national history than the fact that the Irish emigrants to North America have, since the failure of the Potato crop and the famine of 1846, sent 9,000,000*l.* sterling to their relations in Ireland to enable them to follow.

The migration, immigration, and vast increase in the numbers of the people—their gathering from comparative isolation in rural districts to close aggregation on the coal-fields under the stimulus of higher wages—began at a period when the schooling of the common people had been uncared for. Raikes commenced his Sunday-school in Gloucester in the latter end of the last century. The people during 50 years of the last, and 20 of the present century, were chiefly educated in the workshop.

The Legislature was ignorant of the true principles of finance and of commercial legislation to such an extent that, but a century ago, it prohibited by sumptuary laws the wearing of printed calicoes; and, with a limited area of culture, until a very recent period, deprived our vast mechanical force of the opportunity to purchase cheap bread. We should not, then, wonder at those outbursts of the fury of a population whom we had neglected to instruct, and who met each severe though transient embarrassment in the labour market by the "Luddite" riots of Yorkshire, and the successive efforts to destroy the spinning-jenny, the carding-machine, and the power-loom in Lancashire. Our workpeople, taught rather by the press, by the influence of public opinion, and by personal experience, than as yet acquainted with any abstract principles, are ready now to protect the machines which they formerly destroyed.

In like manner, the attempt to regulate wages by associations of workmen has, under similar influences, undergone successive forms of amelioration. Secret associations, bound by terrible oaths, and issuing orders of assassination, are apparently not extinct, if the recently reported attempts in Sheffield are to be received as evidence of the existence of these ruthless gangs. But the recent strikes in Preston and other parts of Lancashire have passed off without tumult and without the picketting of mills. There remain forms of interference with personal freedom of workmen almost as effectual. Moral intimidation has succeeded to violence, the isolation of the "knobstick" or "black sheep" who will not join the union is substituted for personal assaults, the Trades Unions attempt to dominate in their own class by refusing to work with "knobsticks" or "black sheep," and thus to subordinate the whole body of the workmen in any trade to the orders of the directing committee. If the representative system of such associations were perfect; if the committee were always disinterested and pure; and if they had a more comprehensive knowledge of general principles than they have ever shown, it is clear that this social control of individual action would constitute at best that tyranny of the majority which De Tocqueville has conclusively shown to be the fatal crime against public and private liberty of any purely democratic constitution. * * * *

The first effect of a rise of wages among a rude people has commonly been the increase of the coarser forms of sensual enjoyment. Thus Mr. Porter, some years ago, estimated the amount of beer, spirits, and tobacco consumed by working men in the United Kingdom at 53,411,615*l.*; the spirits amounting to 20,810,208*l.*, the beer and porter to 25,383,165*l.*, and the tobacco and snuff to 7,218,242*l.* Probably no standard of the moral and intellectual condition of our population is so sure as this inordinate and unnecessary use of intoxicating drinks and tobacco. This is fatal proof that, though the pauper bound by the law of settlement is our last actual slave, some of the worst consequences of serfdom remain. The workman is free to emigrate from the moorland cottage, or the hut in the fens, or the mud hovel in a stagnating agricultural district, or from an Irish bog. He may settle in the midst of the vigorous life of the English coalfields. He may be trained gradually with better food, lodging, and clothing, by the discipline of toil, till he has a muscular energetic frame for outdoor work, or has gained a wiry, highly nervous organisation for the skilled manipulations of the factory. He may submit his will to the regulated system of the division of labour and to the influence of opinion on society. He may combine with perfect respect to the law to adjust the relations of labour and capital. But, though in all this there is gain, the animal nature of the ancient serf reappears. Ages ago his progenitor was a beast of burden, sold as a chattel of his owner, when life was subject even to his caprice. He has not risen to real freedom until he has acquired self-control. Emancipated from the *mund* of his lord, he has become his own master without the power to control his appetites.* In his new life the mind of the workman is mainly developed by his industrial and social training. The workshop and the press have done more for him than any other agency, and, next to these, the Sunday School. But it is to be confessed that that portion of the workmen who spend their evenings in sensual excesses have not yet become freemen. The tendencies to democratic change are so obvious, and are so strongly indicated by the origin, history, and theory of our constitution, that they are in some form ultimately irresistible. We have, therefore, to determine for ourselves whether we value the personal liberty of opinion and action which we enjoy under the mixed political power of this country, and whether we cannot preserve it, while we proceed to fulfil the apparent destiny of our race, by completing the freedom of the mass of our countrymen, by raising them to the dignity of freemen in the power of self-control, and to the intelligent exercise of the rights of freemen by the recognition of their claim as a class to a more direct influence in our representative system. Something has been done towards this result. The cities, towns, and villages of our coal-fields into which in the last century the population have migrated were irregularly constructed, unpaved, unsewered, the houses often rude and unhealthy. There was bad scavenging, little lighting, no sufficient water supply. Great advance has been made during the last 20 years in these forms of improvement both in town and country. The physical condition of the people has also been greatly ameliorated by the cheapening of food and clothing and all the other necessaries of life, while their habitations and wages have improved. The protection of women and children under 13 from excessive hours of labour, the prohibition of the employment of women in mines, have had a practical effect beyond the mere letter of the law. Excessive hours of work for men are discountenanced by public opinion; factories and mines are subject to regulations for the protection of life and health; and what the law does not require an intelligent sense of Christian duty often effects. The new hamlets, villages, and towns have in the last half-century, and especially in the last 25 years, been organised as centres of Christian influences by the building of [illegible] chapels, and schools. We have spent many [illegible] these buildings.

We probably now expend about 2,000[illegible] on the education of the people.

In the last quarter of a century literature [illegible] cheapened for the use of the masses by such [illegible] that for Diffusing Useful Knowledge, over which [illegible] Brougham has presided since its origin. The [illegible] become the great instructor of the people in [illegible] and political topics. An earnest practical effort [illegible] been within the same period made to foster [illegible] working population habits of prudence by [illegible] banks, in which 50,000,000*l.* are accumulated [illegible] and benefit societies, in which large funds are [illegible] accumulated; by the possession of cottages and [illegible] freeholds; by temperance leagues; by [illegible] mutual improvement and mechanics' institutes [illegible] advice, remonstrance, and example.

The chief object of this brief review of the [illegible] history of the most numerous class of our [illegible] trymen will have been attained if it tend to [illegible] lively faith in their destiny; if it teach us [illegible] in our history how all the elements of our [illegible] inevitably react on each other; how each advance [illegible] order, in peace, in social polity, in civil and [illegible] freedom, in the power of mind over matter, and [illegible] cially in the Divine influence of Christian charity [illegible] slowly but surely emancipated our humblest [illegible] serfdom, from villenage, from pauperism, and [illegible] tends to lift them up to the enjoyment of [illegible] privileges of intelligent freemen. Nor have we [illegible] without hope that while such a review may [illegible] strengthen our faith in the beneficent tendency [illegible] providential laws, we may in contemplating the [illegible] tion learn to restrain a short-sighted impatience. [illegible] 1500 years have elapsed in our history, and the [illegible] theory of our Saxon constitution is only [illegible] realised. The schools of Edward VI. and Elizabeth [illegible] only partially educate our middle class. Some [illegible] tions must pass before home education in the [illegible] will generally worthily co-operate with the [illegible] school. How long a time will be required before [illegible] vast annual waste on intemperance is converted [illegible] into a means of rational enjoyment, domestic comfort, [illegible] or into capital for the elevation of those who work [illegible] their hands! Whatever be the time required, we [illegible] to maintain our faith in the beneficent tendency of the [illegible] great providential laws, whether in the great [illegible] material forces and animal life, or in the epochs of [illegible] change. All history teaches us that as the earth [illegible] in the vast ages of geological development she was [illegible] pared by one great design for the habitation of man [illegible] in the history of our race whatever have been the [illegible] catastrophes which have overwhelmed empires [illegible] internal ferments which have appeared for a time [illegible] cause a social chaos—slowly but surely, in the eye of [illegible] Him with whom a thousand years are but as one day [illegible] man has been making a conquest of nature, and [illegible] and exercising the dominion of mind over matter, [illegible] emancipating himself from debasing animal [illegible] raising class after class from serfdom, ignorance, [illegible] brutishness, and preparing for that reign of Christ [illegible] the hearts and institutions of mankind, when [illegible] man shall sit under his own Vine and his own Fig [illegible] none daring to make him afraid.

* It appears to us that this should be read with the consciousness that it does not apply exclusively, as it seems here exclusively to be applied, to the so-called working class. The "animal nature of the ancient serf" is just the animal nature of all mankind alike; and when uncontrolled by higher influences tyrannises and asserts itself in individuals of all classes. ED. *Agricultural Gazette.*

## Home Correspondence.

*Hoeing Clover.*—Your recent *exposé* of the [illegible] of seed weeds in Clover suggests the necessity [illegible] moving those weeds so that they may not interfere [illegible] the growth of Clover. For many years I have [illegible] hoed my Clovers with the best results. About April [illegible] when the Clover and weeds develop themselves the [illegible] cut out the weeds with their hoes, the Clover [illegible] its rapid growth soon covers the ground. So [illegible] operation is most profitable, the neglect of it very [illegible] I fear it is by no means customary to hoe [illegible]
*J. J. Mechi, Oct.* 25.

*Storage of Roots.*—The following opportune [illegible] are taken from the *Coventry Standard*:—"The [illegible] coming on so suddenly, many of us have been [illegible] napping as far as regards the storage of the roots. [illegible] Every farmer was getting comfortably satisfied [illegible] the appearance of his Mangel field, thinking of [illegible] them up before Guy Fawkes' Day, and congratulating [illegible] himself on the prospect of a nice lot of roots to [illegible] his stock from February till a good flush of [illegible] showed itself about May Day. But these hopes [illegible] partially doomed to disappointment. Some [illegible] perience has hitherto told us that frosted Mangel [illegible] safely booked for early decay. The very fact [illegible] containing some 85 per cent. of water in its [illegible] tion, which adds to its keeping properties, is [illegible] chief cause of its speedy liability to injury from [illegible] The reason we take to be this: water expands [illegible] freezing, and the cellular formation of the bulb [illegible] fractured, decomposition is readily induced by [illegible] ing warmth. We were fortunate enough to [illegible] couple of hundred tons stored prior to the frost; [illegible] these we should think of keeping for later spring [illegible] sumption, using the unstored lot at an earlier [illegible] But we may all learn a lesson here. Let the [illegible] make a point of completing their storage by the [illegible] middle of October, and a recurrence of such [illegible] will not probably be experienced in a generation. [illegible] Other roots have done moderately well. The only [illegible] plaint respecting Swedes is the prevalence of [illegible] They were later sown than usual, and those which [illegible]

...in earliest have suffered most. Of common Turnips ... are very diverse. The best crops are those ... were sown after seeds, about the end of July, and ... are generally far a-head of those which followed a ... prepared winter fallow. After Peas, the crop is ... so good as usual—the dry weather at the close of ... having prevented a free germination. Carrots, ... and Kohl Rabi—where grown—are over a ... average, and Potatoes have proved comparatively ... from disease, though of less size than usual. The ... summer prevented a due enlargement of the tuber ... the usual period of their most rapid growth, notwithstanding which they this year prove a paying crop. We subjoin the culture and produce per acre of a crop of Fluke Kidneys—a variety which does not stand in the highest repute with those who grow for the general market. The reason is, that although the quality is generally excellent, and more free from disease than most others, yet the produce is far less in quantity than the Farmer's Glory and other old-fashioned sorts. Hence, in a season like the present, when little disease has prevailed, the larger bulk brings a greater return, even at a lower price per bushel.

| Culture. | | | |
|---|---|---|---|
| Manure, 10 loads at 5s. .. .. .. .. | £2 | 10 | 0 |
| Deep ploughing—4 horses and 2 men .. | 0 | 15 | 0 |
| Ridging, planting, and summer labour .. | 1 | 10 | 0 |
| Seed, 15 cwt. at 80s. per ton .. .. .. | 3 | 0 | 0 |
| Rent and taxes .. .. .. .. .. | 2 | 2 | 0 |
| Digging and storing .. .. .. .. | 1 | 10 | 0 |
| | £11 | 7 | 0 |

| Produce. | | | |
|---|---|---|---|
| 95 bushels (84 lbs.) at 4s. .. .. .. | £19 | 0 | 0 |
| 60 ditto ditto, second quality, at 2s. 3d. .. | 6 | 15 | 0 |
| 20 ditto ditto, third ditto, at 1s. 3d. .. .. | 1 | 5 | 0 |
| | £27 | 0 | 0 |
| Deduct cost of culture, &c. .. | 11 | 7 | 0 |
| Profit, &c. .. .. .. .. | £15 | 13 | 0 |

The above is no fictitious arrangement of figures, though the cost of culture would probably be differently arranged by other growers. There might be more spring labour charged, but the deep ploughing early autumn has not at any time rendered this needful in our own case. A single turn of Coleman's digger, followed by the harrow and roll, will, in land free from weeds, be sufficient before ridging. And as regards the produce, which is fully 6½ tons per acre, it need only be said that the second two lots were sold to a Potato dealer, at the prices named; while the first—equal in quality and size to the best Covent Garden—were entered for the consumption of a large establishment, at the figure quoted. Many growers might secure a larger acreable return, and we should adduce the instance as remarkable either way; it represents our usual produce during the past four years, under the ordinary routine of farm management. *T. B.*

*Can we not get abundance of Nitrogen and Carbon from the Atmosphere?*—A careful study of the recent work on Modern Farming by that great man Baron Liebig, taken in conjunction with his former admirable productions, has still further confirmed my belief in his so-called mineral theory. In seeking for additional facts to justify my convictions I select the following:—A successful farming friend of mine never manures for his Turnips, but depends entirely on cultivation, and I never know him to fail in growing a good crop of White Turnips. These are fed off by sheep, eating no oil-cake or corn; Barley sown with seeds succeed the Turnips, and are followed by Wheat, thus completing the four years' rotation. In the second course or rotation Beans or Peas take the place of Clover, so that it is only grown once in eight years. He ploughs his land at least five times before sowing the Turnips, and, no doubt, herein lies the secret of his success. We have (at any rate I know that I have) been apt to condemn so many ploughings, but Liebig's recent scientific explanation of fallow (which every agriculturist should study) has completely removed my objection and convinced me of the advantage of a very frequent stirring, admixture, and separation of the granules of soil; and it has also convinced me unalterably in the conviction that if the inorganic or incombustible food of broad-leaved or fallow plants exist in the soil in an available condition, and in sufficient quantities, all the combustible substances can be furnished by the atmosphere. Could I doubt this when wading through a dense vegetation of stems and leaves as high as my knees on a soil to which no organic manure had been applied for that crop. What an abundant supply of carbon and nitrogen must the fallow crop have accumulated for the succeeding crop. Then comes the question, is it not cheaper to obtain this supply of nitrogen and carbon by three extra ploughings, rather than by the purchase and application of carbonaceous and nitrogenous manures? I think it is better. What an insight to the mysteries of fallow and tillage do we obtain from the Baron's discoveries! Let us then profit by them. *J. J. Mechi, Oct.* 27.

*Sheep Feeding.*—I am glad to see from remarks of which I have been favoured with a sight that the letter I wrote some time back in reference to Mr. Hamilton's paper on sheep-feeding and manure has called a reply, since it may be a means of ascertaining the truth on this highly important subject. You say that "Mr. Spooner, forgetful or ignorant of the fact that Mr. Hamilton used Dr. Apjohn's very words and figures in quoting the analysis, thinks it possible that Mr. Hamilton has mistaken the percentage of ammonia in the solid matter for the percentage of ammonia in the whole bulk of the urine. We are now in a position to state that no such mistake has occurred, having placed ourselves in communication with that gentleman, who has forwarded to us Dr. Apjohn's original report of the analysis, from which we find that Mr. Hamilton's conclusions were strictly deduced from the data before him." Since such is the case I at once withdraw a supposition which appeared to me as the readiest mode of explanation of an error which I thought, and still think, has been committed; but I beg leave to say that I never for one moment entertained the idea that the two sheep were fed on the same food and that the difference, therefore, arose from the difference of sexes, as the writer imagines must have been my idea. I will now endeavour to give my reasons for believing that the results derived from Mr. Hamilton's experiments are indeed startling and highly improbable. In the first place it appears that the wether on which Mr. Hamilton experimented received daily 1½ lb. of oilcake, and ½ lb. of Oats, whilst the ewe received nothing but Grass. Accepting, then, the analysis quoted by Mr. Hamilton, the 1½ lbs. of oilcake contain 533.4 grains, and the ½ lb. of Oats contains 77 grains of ammonia, making altogether 610.4 grains of ammonia in one day's food, let us now take a glance at the amount of ammonia which, according to Mr. Hamilton, is contained in the solid excrements and the urine. The amount of dung voided by the wether in one day was 3 lbs. 3½ oz. = 24,720, or dry 10,145 grains, which, at 2.49 per cent. (dry), contains 252.6 grains of ammonia. The amount of urine voided by the same *per diem* was 2 lbs. 11½ oz. = 20,880 grains, which at 9.165 per cent., contains 1913.65 grains of ammonia. Thus the amount of ammonia contained in the solid and liquid excrements = 2166 grains, making 1556 grains over and above all the ammonia contained in the food from which it was derived, besides that portion (5 per cent.) expended in laying on flesh on the animal itself. Therefore without ignoring the fact that oil-cake and Oats contain considerably more ammonia than Grass, am I not justified in considering Mr. Hamilton's conclusions, that 610.4 grains of ammonia goes in with the food and 2166 grains comes out with the excrement during the same period, are startling in the highest degree? The reporter then brings forward the second experiment made by Mr. Hamilton, which he asserts "completely refutes Mr. Spooner's suggestion if any such refutation were needed." Now, we cannot exactly understand by what peculiar logic he has convinced himself that it is refuted by that particular experiment, for in our eyes it tends rather to confirm it, most certainly it bears us out in our opinion that a mistake of some kind or other has been committed. The second experiment was made on two wethers, one receiving concentrated food and the other Grass. The food given to the former per diem was 2 lbs. of oilcake and ½ lb. of Oats, and contained 788.2 grains of ammonia. The urine voided (quantity as before) contained 687.3 grains of ammonia, which is 1226 grains less than in the first experiment, the proportion stands nearly in the ratio of three to one, which is a vast difference, although there was ½ lb. less oilcake given in the first than in the second experiment. The reporter has also made a slight mistake in asserting that the first experiment gave the ratio of 17 to 1, and the second experiment of 8 to 1. If he will refer to Mr. Hamilton's paper he will see that considering the greater quantity of urine voided by the ewe than the wether, which he appears to have overlooked, the ratio is reduced to 12 to 1, and if he will work out the experiment in the same manner (quantity as before) the ratio will be reduced to 5.6 to 1. He likewise endeavours to account for the greater difference in the first than in the second experiment by estimating the difference of the sexes (in 1st experiment) at the ratio of 5 (wethers) to 2 (ewes). If however we compare the urine of the ewe of the first experiment with that of the wether in the second experiment, both being fed on the same food (namely Grass), an altogether different result than the one imagined presents itself to our notice. Urine of ewe 3 lbs. 11 oz. = 28,320 grs., at 0.542 per cent. contains of ammonia 153.4 grains. Urine of wether 28,320 grains, at 33.12 grains per lb., contains of ammonia 1221 grains. Thus the urine of the ewe actually contains 31.8 grains of ammonia more than that of the wether, although both were fed on the same food, with the exception that the latter (wether) received oilcake previously to being shut up, whilst the former (ewe) never received anything but Grass, by which circumstance the writer, Mr. Hamilton, seeks to account for the fact that in the second experiment there is less difference between the oilcake-fed and Grass-fed sheep than in the first experiment since he supposes that the concentrated food previously received told in some degree on the secretions of the animal fed on Grass. What now becomes of the ratio of "five (wethers) to two (ewes)?" There is another point in Mr. Hamilton's paper which I cannot agree with. He asserts that when "the farmer gives the artificial food to his sheep, out of every 10*l.* expended at least, at least 8*l.* 15*s.* goes to the improvement of the land. We will make a few calculations to show the utmost value of artificial manure than can be derived from a certain portion of artificial food. In Mr. Hamilton's first experiment, the wether received 14 lbs. of Oats and 42 lbs. of oilcake per month, which will be found to contain 17,091.2 grs. of ammonia. If we subtract from this the 5 per cent. assimilated by the animal, namely 354.5, it leaves 16,235 grs. = 2 lbs. 1 oz. 6 drs. 35 grs., which may pass out in the manure. Ammonia being valued at 60*l.* a ton = 6½*d.* a lb.; the value of the solid and liquid excrements which may be ejected by the wether in one month equals 1*s.* 1½*d.*, whilst the food given in the same time will be worth about 4*s.* 6*d.* Thus instead of Mr. Hamilton's calculation that for every 10*l.* expended in food 8*l.* 15*s.* is returned as manure, we find that for every 10*l.* expended only 2*l.* 10*s.* is returned in the manure. Indeed how could we possibly expect any other result when we remember that it is the nitrogen alone (with the exception of a little phosphate of lime) which is valuable as manure, and this nitrogen itself is worth nearly twice as much when contained in food as when it exists in manure, for the nitrogren in manure may be estimated at 72*l.* per ton, and in food at 123*l.* (albumen being reckoned at 20*l.*). Were Mr. Hamilton's statement correct, sheep feeding would indeed be a profitable undertaking, for not only would the nitrogen cost no more in food than in manure, but the starch and oil would be obtained almost for nothing. It must be remembered also that the chief reason why artificial food is found to pay is owing to the increased value of the different constituents as they exist in mutton than as they exist in the food itself. We have we trust in our preceding remarks shown that some great error must have been made in Mr. Hamilton's experiments. 1st. Because the food consumed by the wether in his experiment contained considerably less than the ammonia stated to be voided in the excrement. 2nd. Because the second experiment differs remarkably from the conclusion of the first, inasmuch as although the sheep consumed half a pound more cake per day, his urine is stated to contain one-third of the ammonia in the first experiment. 3rd. That the difference in the quality of the urine voided by the ewe and wether when living on the same food is very doubtful, inasmuch as the urine of the Grass-fed ewe in the first experiment contained more ammonia than that of the Grass-fed wether in the second experiment. 4th. That the statement of the urine of the oilcake-fed sheep being worth 4*s.* per month is obviously incorrect, inasmuch as whilst the value of the food consumed during the period is only 4*s.* 6*d.*, if the whole of this were converted into manure it would not be worth 1*s.* 3*d.*, not even 1*s.* 2*d.*, after the usual quantity had been assimilated by the animal. *W. Spooner, Jun.*

*The Economical Manure.*—You are not singular in your opinion of the Economical Manure, with its long array of a thousand testimonials. May I ask "C. H. D." whether there are any from the parish of Broadwoodwidger, Devon? In that parish the manure is universally condemned as inert and useless. I have always observed that a good, serviceable article will speak for itself; and that it does not require a thousand testimonials to bring it into notice. On this ground I cannot help thinking, that if Mr. Thorley had had perfect confidence in the utility of his much-vaunted cattle-food, he would not have invented the new puffing machine, "Thorley's Farmers' Almanack for 1860;" the sole and entire object of which is apparent almost in every page, viz., to recommend the Thorley cattle-food as a panacea for all the ills that cattle-flesh is heir to. Do, Mr. Editor, reproduce your article of 1854 on Manures. It may be the means of opening the eyes of many a Mr. Verdant Green located in the rural districts. *Anti-Puffer.*

*Do Live Stock pay the Market Price for their Food?*—In order to remove any doubt upon this question, we may fairly suppose the case of persons, not being farmers or holding land, fattening animals with purchased food as a source of profit, placing no value on the manure. If there are any of your correspondents so circumstanced I trust they will communicate their experience. No doubt in towns where grains and other such food may be cheaply obtained, and high prices paid for milk, there may be such cases, but I allude to fattening animals with farm produce. I have obtained many "balance sheets" from village tradesmen who have fattened pigs, but they invariably show a loss, more or less, besides the shelter and attendance—without any allowance for casualties. Mr. Morton's experience, as well as mine, shows that pigs lose less than other animals for obvious reasons. *J. J. Mechi, Oct.* 26.

*Irish Agriculture.*—In the *Agricultural Gazette* of October 22d "W.," from a district in the county of Cork, expresses an opinion that the leading article of the 8th, signed "G.," "does not give a true view of the present state of Irish farming." We are happy to hear so favourable an account as "W." gives of any district; there are no doubt many such sunny spots in our landscape, and the wish of our heart is that they were more extended over it, but we fear that the dark shades more commonly prevail. We have taken our view from the more general aspect, from more common opinion, borne out by our statistical returns, and from what is brought under our own notice. In giving our view to the public we have adduced an evidence, even in the very county from which "W." writes, which we hardly expected could have been questioned, the Professor of Agriculture in the Queen's College. To this we may now add the opinion of the able editor of the first agricultural periodical of Ireland. The *Irish Farmers' Gazette* in commenting on a leading article of the *Freeman's Journal*, a paper certainly too Irish to admit untruly unfavourable accounts of her progress, observes: "For some time we stood almost alone in considering that the valuable information which was derived through the exertions of the Registrar-General pointed rather to a state of *retro-*

*gression* than progression . . . . . It now affords us considerable satisfaction to find that the weak points in our agricultural condition, to which we have frequently directed attention, are now beginning to force themselves upon the notice of our contemporaries." It is true that looking on the cattle, pigs, and sheep of 20 years ago and those of to-day, a very great improvement is to be observed, so no doubt in the farming community, for the famine thinned it out, and looking on our tillage a consequent improvement has no doubt taken place. But is our progression equal to what the true lovers of agriculture and of fatherland would desire to find; and is not this progression, such as it is, confined to certain favoured spots? Take the breadth under Turnips. It is reduced in the general, and if in the particular it has increased this has only diminished the proportion in the general. Let us take the statistical accounts of the last seven years, and we find a progressive decrease in the breadth of land under Turnips and Mangel Wurzel from 432,660 acres in 1853 to 394,374 in 1859. This is surely no indication that tillage is improving, nor is it so in the return of the breadth of land in cereals, which has diminished in 13 years from 3,174,424 acres in 1849 to 2,652,296 in 1859, and these returns also show a serious falling off in Wheat from 1858 to 1859, a crop which notoriously requires finer tillage than Oats, which in both years is near about the same; nor will it be thought by some to be a sign of progression the great increase of a crop, little used for cattle feeding, the much and we believe unjustly despised Potato, in the same period of 13 years from 718,608 acres in 1849 to 1,200,144 in 1859. This increase in the breadth of the Potato crop has been in almost exact proportion to the decrease in Turnips and Mangel Wurzel—surely indicative of a shortcoming in manure, which does not appear to be made or supplied in sufficient quantities for both crops; nor indeed can be till a change takes place in our mode of feeding cattle on our tillage farms—the first step to progress. Low as is the breadth of land under cereals it is nearly double that under fallow crops; surely, then, if in some places a regular rotation of cereal and green crops obtain, in others there must exist a repetition of cereal after cereal, and the wider the regular rotation is spread the more must be the number of grain crops raised in succession where this rotation does not obtain. In a country containing an area of over 20,000,000 acres, it affords us no satisfactory proof of agricultural health to find less than 400,000 of Mangels and Turnips, and little more than two millions and a half of corn, mostly of an inferior kind. *G.*

## Societies.

### ROYAL AGRICULTURAL OF ENGLAND.

At a Monthly Council held November 2, the Right Hon. Lord Walsingham, President, in the chair, 20 new members were elected.

Reports were received from the Finance Committee from which it appeared that the present current cash balance in the hands of the Society's bankers is 2206*l.* 12*s.* 10*d.*; also from the Journal Committee, and the Veterinary Committee, and from Mr. Humberston, M.P., the Steward of Refreshments at Warwick.

On the motion of Mr. H. S. Thompson, a Committee was appointed to consider and report on the future editorship of the Journal.

The Honorary Secretary reported and laid before the Council the applications and testimonials he had received from candidates for the vacant office of Secretary to the Society. The Council appointed a Committe of 13 to take into consideration the testimonials of the different candidates who have come forward, and to place before the Council such names as they may think eligible (not less than 10), from which list the Council shall choose the secretary.

The Council then determined the method in which the election should take place.

The Hon. Secretary reported that the agreement with the city of Canterbury relative to the Society's country meeting in 1860 had been duly signed by the Mayor, and the corporate seal affixed. The Council authorised the Hon. Secretary to sign and affix the Society's seal to the same.

A communication was received from Mr. Smith relative to steam cultivators.

The Council appointed the General Canterbury Committee, his Grace the Duke of Marlborough being the Chairman.

A communication was received from the Hon. Secretary of the Local Committee at Canterbury, relative to Local Prizes which they propose to offer. The subject was referred to the General Canterbury Committee to report on.

A communication having been received from Mr. Richard Stratton, stating that he had made an unintentional error of 12 days in the age of the bull calf to which the second prize at Warwick had been adjudged, the Council decided that the prize should go to the "Reserve Number," given in the judges' award, viz., No. 91, Lieut.-Col. Towneley, of Towneley Park, for his bull calf "Bow Bearer," by Baron Hopewell, out of Frederick's Victoria.

A communication was received from the Foreign Office by direction of Lord John Russell, accompanied by an album (containing portraits of horned cattle shown at the Vienna Exhibition in 1857), the Imperial Ministry having transmitted the album for presentation to the Society. The Council ordered thanks to be returned for this and other presents of books which were laid on the table.

The Council adjourned to its monthly meeting on Wednesday, the 7th December.

## Farmers' Clubs.

INVERNESS.—At the annual meeting of this association the following question was submitted for discussion, viz., "The mode of letting farms; and the terms and conditions of entry best calculated to preserve and advance the interests of landlord and tenant, and to promote those of the country at large."

Mr. Sinclair, Borlum, thought the mode of letting generally adopted was satisfactory. As far as possible it should be by private bargain and without advertising.

Mr. Gentle, Dell, said he was not prepared to recommend any change either in the mode of letting land, or as to the term of admission or demission. Landlords were entitled to the same freedom as other vendors in bringing their properties into the market so as to make the most by them. They, as tenants, had a horror at advertising, particularly in regard to the farm possessed; but if they needed a farm they had no objection to see the bread-sheet full of advertisoments. Altogether landlands had the vantage ground, and they, as tenants, were in the condition of the person flogged. If racking hard was to be adopted, no way of laying it on was pleasant—and they would want a change. As to the term of entry, Whitsunday was decidedly best for sheep-farms, and he rather inclined to think so in rogard to arable farms too.

Mr. Simpson, Teawig, said: Nine-tenths, he believed, of the farms whose leases expired were relet by private arrangement between landlords and tenants. So that practically what all would recommend was the course followed by the large majority of cases. But the subject as stated for discussion to-night called upon them to express an opinion, how good rents could be paid to landlords—good profits obtained by tenants, and an increasingly large supply of home agricultural produce furnished to the rapidly growing millions of our population. Those millions were more able now to consume butcher meat and butter and cheese than they had been in past times, and it was chiefly from home production that the supply of these articles must come, while of corn there would always be large importations from abroad. As to the advantage to landlords of large rents for their lands, he need not say a word; but he believed that the paying a full rent for his occupancy was not, on the whole, detrimental to the farmer; for it quickened his energies, made him more alive to the spirit of improvement around him—and that spirit was as active in agriculture as in any other branch—and, moreover, the knowledge that he was paying the full money value of his occupation was the best means of setting him free from the trammels of the old feudal feeling that a tenant should be politically and socially subservient to his landlord. But a fair condition to the landlord obtaining, or the tenant being able to pay, a full rental for land, was that that land should be in a state of fitness in houses, enclosures, and drainage, for profitable occupation. For it was no more monstrous to suppose that a manufacturer could produce cotton or woollen goods with machinery which wanted here a wheel and there a shafting, or which had no motive power, than to suppose that a farmer, who was after all just a manufacturer, prosecuting the largest of all manufactures, the manufacture of a nation's food, could produce corn on undrained land, or butcher-meat without the necessary accommodation for stock. The attempt—to continue the illustration—to repair the machinery and to work it at the same time, an attempt in which too large a proportion of the land occupants of Britain were even at this moment engaged, was one prejudicial to their own interests, and no less so to those of the population who are principally fed by them, and it was one which there was now no necessity for. There were in vigorous operation Land Improvement Companies who furnish money on terminable rent charges, for the drainage of lands, for the construction of buildings; in fact, for everything that was necessary to bring the farming machine into working order, and co-operation between landlord and tenant was all that was wanted to bring forth any amount of capital necessary for this purpose. He would allude to another point as essential in the settling of the lease of a farm, viz., that the lease should be self-interpreting, that is, that it should distinctly express that every point on which a difference arose should be referred to the decision of an arbiter named in the lease. It was well known that, however carefully the conditions of a lease had been gone over, differences of construction would arise. These differences were at times carried before the Court of Session, where they ended, of course, in loss even to the winning party, and in the yearly working together of tenant and landlord, or factor, there were smaller points which, if not giving rise to litigation, gave rise to discussions or dissensions in which the weaker party went to the wall. Now litigation and unpleasantries would be alike prevented by the appointment of an arbiter. One of the most fertile sources of dispute—the rotation of cropping—was being, he thought, removed by the progress of events. With Wheat at rather less than 10*s.* per cwt., with a languid demand—beef and mutton at 60*s.* per cwt., with a demand which the supply cannot overtake—with wages for agricultural labour yearly advancing—he thought there was little question that Grass land would now give better and surer returns than land under corn crops, and thus [illegible] danger of too little than of too much [illegible]

Mr. Smith, factor, Glen-Urquhart, [illegible] a reasonable period indispensable, and [illegible] of a lease the farm should be gone over [illegible] person and revalued. Reference should [illegible] made to the unaided improvements made [illegible] in the valuation, and if the farmer was [illegible] the new rent proposed, he should have [illegible] but if not the farm should be advertised [illegible] the most suitable and acceptable candidate [illegible] the second part of the subject, the houses [illegible] on a farm should belong to the landlord, and [illegible] made suitable for the farm, and be handed [illegible] tenant in good condition, free of all [illegible] tenant binding himself to keep the buildings [illegible] antable condition. The regulations and [illegible] were asked to subscribe, when taking a farm [illegible] some cases, full of unnecessary or absurd restrictions [illegible] burdened with vexatious obligations. He would [illegible] let there be no regulation at all, in particular [illegible] cropping, but allow every tenant to crop as he [illegible] as farming having now come to that position [illegible] tenant of skill and intelligence would improve [illegible] land, knowing well that he could not do so with [illegible] and that the only way to make a farm pay was [illegible] high. But they must remember that among farmers [illegible] as among all other classes, there were good and [illegible] men, some of whom would manage or crop their [illegible] not only to the injury of their landlord, but [illegible] to their own loss. Some regulations were necessary [illegible] They could not be too few for good tenants [illegible] prevent abuse, it was advisable to lay down [illegible] that a certain rotation of cropping be agreed upon [illegible] this understanding, that if the tenant showed [illegible] to be an intelligent and persevering agriculturist [illegible] after trial, he found that, from some cause or [illegible] farm could not be profitably cultivated by [illegible] adhering to the rotation of cropping he bound [illegible] to, and if he could suggest some alteration for [illegible] and not disadvantageous to the landlord, it should [illegible] adopted.

Mr. Fraser, Balloch, said he saw no reason why [illegible] lords should not know accurately the value of [illegible] and put their value upon them. The speech [illegible] delivered by the Duke of Richmond was one [illegible] of which he thought should pervade all property [illegible] the country. Farms were not like any other [illegible] dise, for the merchant dealt in many articles, and [illegible] lost by one, he might retrieve himself by another [illegible] the farmer took his subject on a long lease, and [illegible] gave too high a price he could not recover [illegible] The proprietor should ascertain what was the [illegible] of a farm, all things considered, and if he was [illegible] capable of valuing it himself he should employ [illegible] a competent person to do so; and after consulting [illegible] ing what were the claims of an old tenant, [illegible] fix the rent. He had no respect for an old tenant [illegible] of a farm simply as an old tenant, if he would [illegible] give what the place was worth; but give an old tenant [illegible] a fair chance of the farm, and if he refuses to [illegible] then let it be put forward to public competition [illegible] to the terms and conditions of entry, he found [illegible] Whitsunday had been the usual time in the country [illegible] a great many years, and was on the whole the most [illegible] suitable. Any term would have advantages and disadvantages, but Whitsunday seemed to have most [illegible] one and fewest of the other. He agreed with Mr. [illegible] Smith that houses and buildings should belong to [illegible] proprietor and be erected by him. The farmer could [illegible] not do without them, but the proprietor was entitled [illegible] charge a fair price for the outlay in the amount of [illegible] rent. The old system of investing capital in land [illegible] with the prospect of meliorations was a bad one [illegible] one that would soon be ranked among the things that [illegible] were. Every tenant should get his farm unburdened [illegible] let him have suitable accommodation for working [illegible] farm and let him pay accordingly. He disapproved [illegible] of restrictions as to the rotation of crops [illegible] means might be taken to protect the landlord [illegible] yet leave the tenant full scope for developing [illegible] resources of the farm. As a general rule [illegible] farming could be expected where two Wheat crops [illegible] taken off the land in succession, and the landlord [illegible] fairly demand that a certain portion of his land [illegible] be laid down in Grass or green crop every year. [illegible] say that a farmer was told on his lease what he [illegible] do with every field on his farm was to make [illegible] mere machine. Besides, changes and discoveries [illegible] made every day. Under the Lois-Weedon system [illegible] Wheat had been grown on the same field for [illegible] years successively. They did not know what [illegible] accomplished by steam culture, and it was very [illegible] indeed absurd, to bind a man down to grow Wheat [illegible] this field, Barley in that, and Turnips in a third [illegible] the whole science of agriculture was undergoing a [illegible] great revolution. *Abridged from Inverness Courier.*

## Notices of Books.

*Peat's Farmers' Diary and Account Book for* [illegible]
Simpkin, Marshall, & Co.

This quarto pamphlet of 104 pages contains [illegible] almanack and calendar of operations, alternate [illegible] memoranda and cash account for the several [illegible] forms for recording the extent, crop, and [illegible] the several fields, and for recording the [illegible] horses, cattle, sheep, and pigs respectively, [illegible] several crops, on manures, and wages; [illegible]

[illegible] of labourers, their wages, &c., during [illegible] different weeks of the year, and pages in which to enter the returns. There are pages containing useful [illegible] list of fairs, &c., and blank leaves for memoranda. [illegible] will prove useful, and be just [illegible] farmer wants.

## Farm Memoranda.

MACKNADE, NEAR FAVERSHAM.—Mr. Frederick Neame [illegible] about 270 acres, divided nearly as follows:—

| | | | |
|---|---|---|---|
| [illegible] | acres in | Wheat. | 28 acres in Turnips. |
| [illegible] | " | Barley. | 25 " Mangels. |
| [illegible] | " | Hops. | 24 " Clover. |
| [illegible] | | Beans. | Remainder in pasture. |

The system of rotation pursued is one of nine years, for example 1, Turnips; 2, Barley or Oats; 3, Wurzel; 4, Wheat; 5, Red Clover; 6, Wheat; 7, Barley or Oats; 8, Beans or Peas; and 9, Wheat—thus securing five white crops, three of them Wheat, to four green crops. [illegible] From the beginning, the Turnip crop will have been preceded by Wheat; after that was harvested, a kind of plough or cultivator, called a broadshare, was passed over the land, a flat edge 18 inches wide being carried about 3 inches below the surface, not turning over the ground at all, but cutting [illegible] the weeds. By this operation and the subsequent harrowing, the ground is so stirred that the seeds of noxious plants, as well as those self-sown by the last crop, will vegetate. Immediately after the broadshare, the harrow is twice used to free the ground from the stubble, which is gathered in rows [illegible] 15 or 20 rods, according to quantity, and if [illegible] with the labour, or in default of straw enough, [illegible] carried to the yards, to be trodden into manure; otherwise it is burnt. A second ploughing takes place, if possible, before the middle of October, say 8 inches deep, turning any vegetation that has started, and leaving the soil into furrows as rough as possible, in order that the frost may act upon it; for the rougher and the larger lumps in which it lies, the better will a [illegible] disintegration be effected during winter. The next process is a ploughing the last of March or the first of April, after which the land is harrowed [illegible] and rolled. The second spring-ploughing is done with the broad-share, and after another harrowing and rolling, the manure is carted out and spread, and [illegible] ploughed in 6 or 7 inches deep. Then there is another harrowing and rolling and the land lies about a fortnight, when, if the weather is dry, the broad-share may be once more employed. Swede Turnips are sown about the first week in July, and White Turnips about the third week—about half and half of each being grown. If Mangels be the crop, the preparation of the land for it is similar, except that [illegible] ploughing would be omitted, as the seed is sown the second week in May.

The White Turnips make good bulbs in 6 or 8 weeks after sowing, and in 10 are fit for feeding, being the earliest root on which the sheep are put. The Swedes succeed, and when they are gone, which should not be until late winter or early spring, the Mangels come in season, their merit being their keeping qualities. I saw through June and July, here and there, the last of the Mangel crop of the preceding year not yet entirely exhausted, although they were said to be suffering [illegible] more from decay than usual. The Turnip [illegible] sell in spring the sheep fatted during winter upon roots, while the March farmers winter their [illegible] in the highlands and take them back again upon the pasturage during a second summer, so that they finally come to market toward the close of the year.

The second crop in the rotation will produce in seasons at all favourable, on this rich loam, 56 bushels to the acre of Barley, or 80 of Oats. If the Turnips are [illegible] instead of that the ground is clear of them by Christmas, the Barley is put in before that date, and that is sown thus early almost invariably yields the [illegible] sample of grain. Living so nearly adjacent to [illegible] communication with London, my host often disposes there of his hay and root crops, particularly Mangels, and purchases in return manure from the [illegible] stables and other sources—transportation being [illegible] cheap enough to admit of this being a better policy than the home manufacture of fertilising material, by the feeding of stock and the purchase of oilcake. But [illegible] generally keeps 150 sheep to take care of the [illegible] and will perhaps feed a dozen bullocks. Beyond [illegible] miles from the water the cartage of manure is found too heavy to make it profitable to buy, instead [illegible] making the necessary dung. The agricultural year [illegible] at Michaelmas, October 11, about which date he [illegible] his cattle, and they will be ripe for the butcher [illegible] in spring. Soon after harvest the purchases of sheep are [illegible], and they graze upon the grain stubbles in the day-[illegible] and in the night upon the Clover fields, from which crops have previously been cut, until Michaelmas, when they are put upon the Turnips for the whole 24 hours, having in addition, in troughs, about equal quantities [illegible] of Clover and straw, with oilcake. The first [illegible] of the lambs is about an average of 18s. sterling per head, and they are sold along after shearing, pro-[illegible] during the month of May, for perhaps 55s. Of [illegible] about two dollars, as I understood, is received for [illegible] wool, which yields an average of 6 lbs. per head, and [illegible] in price from 20 to 36 cents. per lb.

The cattle grazed are principally the Irish or Welsh [illegible] that comes into the county in spring at about [illegible] months old, is grazed in Romney Marsh during the summer months, and about the middle of October again [illegible] hands, then coming to the stall feeders for final preparation for market. In the application of manure, whether manufactured or purchased, Mr. Neame expressed the belief that a moderate supply for every crop was a better system than an infrequent application, however profuse. Wheat after Clover is perhaps the only crop which receives nothing, but the Clover has been manured, and the grain itself, if the land is too rich, will be liable to lay, particularly in a season tolerably wet and windy.

Kent is not regarded as a county of "high farming" in comparison with some other districts—Norfolk for example I think; and still upon not quite 270 acres my host was spending no less than 351*l.* a year for fertilising materials; his pay roll for labour was about 760*l.*, and his rent, tithes, and rates amounted to 990*l.* In the rotation mentioned Mangels are sometimes substituted for Beans, and a greater bulk of manure can be put on the latter, and more if it will be left for the succeeding Wheat crop. Ten pounds sterling of manure should yield 30 tons of Mangels, while it would only produce 6 quarters of Beans. The former will sell in London for about 18*s.* per ton, while the latter are worth perhaps 45*s.* per quarter. Clover hay sells for about 4*l.* 10*s.* per ton, and 2½ tons may be depended on as the yield per acre for two cuttings. This is a low estimate, both as to quality and price, for they reckon on a good Clover field to bring sometimes 16*l.* per acre. The cost of cutting is 1.25 dollars per acre, and an equal sum in addition will cover the expense of curing and hauling. About 40 bushels of soot per acre is recommended for the Clover crop, and it costs 6*d.* sterling per bushel.

The hay for the London market is cut from the stack in trusses of exactly 56 lbs., 3 feet long, 18 inches wide, and 18 inches deep. Thirty-six of these trusses I think count for a ton or "load." All the hay and grain is stacked, and to the neatness and regularity with which these stacks are made I shall have occasion elsewhere to refer. Stacks, rectangular in shape, cut up better for hay, but round ones are often preferred for "corn" as having less surface exposed. *Luther Tucker, in Albany Country Gentleman.*

## Miscellaneous.

*Competition for Land in Scotland.*—The Earl of Airlie writes on this subject to the *Economist*, which had commented on the following passages from a Dundee paper:—"The farms recently advertised on the Airlie estates have been let to excellent tenants. West Mains of Auchterhouse brings 515*l.*, being a rise of the odd notes; Kirklandbank has more than doubled the old rent, so has Newton of Lintrathen." The *Economist* had said: "Thus it is plain that the cost price of land, the main agent or instrument of agricultural production, is constantly advancing in price, at the same time the necessity of increased produce to pay the advanced rent compels the farmer to invest more and more capital in the work of cultivation." His lordship thus replies:—"Now, sir, though your statement is perfectly accurate as to matters of fact, I deny that the inference which you seek to draw follows necessarily from your facts. Before you can draw any such inference, you must show that the farms on which increased rents have been obtained are in the same condition as when they were last let. Now, during the last thirty years a very large sum has been laid out by my father and myself, both on drainage and on farm-buildings. And in almost every instance in which a large advance of rent has been obtained upon any of my farms, I have entered into engagements to lay out considerable sums on improvements. The farm of West Mains of Auchterhouse, to which you refer, has been for a very long time in the occupation of one family. It had been let at what was considered a fair rent, but circumstances to which I need not here refer caused it to be brought into the market this year, and it has been let at an advance of 3 per cent., not a very extraordinary rise, certainly. Newton of Lintrathen was for many years (I am writing from memory, not having any papers by me to refer to) in the occupation of a tenant who carried on improvements with great energy and judgment, and on that account the farm was let to him at a very low rent. On his death the farm was advertised, and it is not at all surprising, considering that it had previously been let at a rent far below what it was worth, and that large sums had been laid out on improvements, that a large increase of rent has been obtained. I should not have troubled you with a reference to my private affairs, were it not that I believe that my case is very much the case of the other landowners of Scotland, and that wherever a large increase of rent has been obtained, it will be found, on investigation, to be owing either, as in the case of the pastoral districts, to the fact of the rise which has taken place in the prices of butcher's meat and of wool, or to the circumstance that large sums have been expended on improvements."

*Newly Introduced Pheasants.*—After a sketch of the distribution of the family of gallinaceous birds, Mr. Gould gave an account of the species of Phasianus (pheasant), which had been introduced into England. All the species were from Asia. The oldest English species was the P. Colchicus, which came from Asia Minor. The next was P. torquatus, from Shanghai, which was introduced about 100 years ago, and had recently been reintroduced. Specimens of this kind reared in Bedfordshire were exhibited. The crosses between these two birds produced remarkably fine and strong birds. The other true species were P. Mongolicus from Mongolia, P. Laemmenigii from Japan, P. Reevesii from China, and P. versicolor from Japan. P. Reevesii is remarkable for a tail 6 feet in length; whilst the last species had been successfully introduced into England, and bred freely with P. Colchicus, and the crosses between that bird and P. torquatus; and the result had been greatly to improve the strength and weight of the birds. *Nat. Hist. Section, Brit. Assoc.*

*The Composition of Liquid Manure.*—Since the intrinsic value of all manuring substances is mainly dependent upon the amount of nitrogen, phosphoric acid, and potash which they contain, some idea of the relative merits of these six kinds of liquid manure may be formed by comparing the proportions of these constituents which each kind contains. I have, therefore, grouped together these determinations of nitrogen, potash, and phosphoric acid, as well as some other data which will facilitate comparison. In the first place, I would observe that five of the liquid manures possessed the following specific gravities at 62° Fahr.:—

| | | |
|---|---|---|
| Liquid manure from | Westonbirt .. .. .. | 1.006 |
| " | Badminton .. .. .. | 1.007 |
| " | College Farm, 1858 .. .. | 1.0014 |
| " | Tiptree Hall, clear liquid .. | 1.0006 |
| " | Tiptree Hall, with sediment .. | 1.001 |

The specific gravity of these five liquids corresponds with the amount of solid matters which each kind contains in solution. To a certain extent the specific gravity of different kinds of liquid manure may serve as an indication of their relative fertilising value.

*Proportion of dry Organic and Inorganic Matters in 1 gallon of—*

| Liquid Manure from | Organic Matters. | Mineral Matters. | Total. |
|---|---|---|---|
| Westonbirt . .. .. | 155.44 | 262.81 | 418.25 |
| Badminton .. .. .. | 289.22 | 361.90 | 601.12 |
| College Farm, 1857 .. .. | 47.157 | 73.943 | 121.10 |
| College Farm, 1858 .. .. | 20.59 | 91.27 | 111.86 |
| Tiptree, clear liquid .. .. | 7.70 | 21.49 | 29.19 |
| Tiptree, with sediment .. | 50.19 | 45.57 | 95.76 |

The difference in the amount of solid matters contained in liquid manure are much greater than I expected to find them, and, curiously enough, the liquid manure from Tiptree Hall, which I anticipated would be very concentrated, was by far the weakest of all; the clear liquid contained in reality not more than 1-20th part of the amount of solid fertilising substances which I found in the Badminton manure, and between one-fourth and one-fifth of the amount contained in the Cirencester tank-liquid, which I always considered very poor stuff, though it smelt extremely disagreeable. In the next place I shall group together—

*The proportion of Nitrogen, ready-formed Ammonia, and total Nitrogen in 1 gallon of—*

| Liquid Manure from | Nitrogen in Organic Matters. | Nitrogen as Ammonia. | Total Nitrogen. | Equal to Ammonia. |
|---|---|---|---|---|
| Westonbirt .. | 4.78 | 89.24 | 94.02 | 114.16 |
| Badminton .. | 8.98 | 9.40 | 18.38 | 22.32 |
| Cirencester, 1857 .. | 3.033 | 18.911 | 21.944 | 26.647 |
| Cirencester, 1858 .. | 1.49 | 29.31 | 30.80 | 37.39 |
| Tiptree, clear liquid | .52 | 2.77 | 3.29 | 3.99 |
| Tiptree, muddy do. | 2.17 | 2.34 | 4.51 | 5.476 |

In the Government Report by Mr. Austin, C.E., on the Means of Deodorising and Utilising the Sewage of Towns, published in 1857, the author gives a short account of a visit to Mr. Mechi's farm, and, amongst other particulars referring to the working expenses for distributing liquid manure at Tiptree, states on page 57:—

"The quantity delivered daily in ten working hours would be 130 tons of water; but Mr. Mechi estimates that the cost of delivery may be fairly placed at from 1½*d.* to 2*d.* per ton, the specific gravity of liquid manure being so much greater than water. There will be distributed over the whole farm on the average from 45,000 to 50,000 gallons of liquid manure per acre per annum."

Assuming the composition of the liquid manure not to vary materially at different periods, 50,000 gallons of liquid manure, with the sediment, would yield 50,000 × 5.476 grains, or 273,800 grains of ammonia, or in round numbers 39 lbs. of ammonia. Peruvian guano yields from 16 to 18 per cent. of ammonia. To produce the above-mentioned 39 lbs. of ammonia, we should require 2 cwt. of Peruvian guano of the best quality. At 13*l.* per ton, the 2 cwt. would cost 26*s.* For this outlay of money the same amount of ammonia would be obtained which is yielded by 50,000 gallons of Mr. Mechi's muddy tank-liquid. Deducting the clay and earth which swell the amount of solid matter in the muddy tank-liquid, and taking no account of the suspended organic matter, which may be done with propriety, since account has been taken of the nitrogen, the only valuable portion in it, we have as nearly as possible the same weight of solid matter in 2 cwt. of Peruvian guano which is contained in 50,000 gallons of the Tiptree liquid manure. But the solid constituents of Peruvian guano being more valuable than those in the liquid, a balance would be left in favour of guano. Allowing 4*s.* for sowing 2 cwt. of guano, 30*s.* would cover the cost price and expense of applying the guano. If one ton of liquid manure, according to Mr. Mechi's estimate, costs for delivery 2*d.*, 50,000 gallons = 500,000 lbs., will cost 1*l.* 17*s.* 2*d.* The fertilising matters in 50,000 gallons of liquid manure thus will cost for delivery 7*s.* 2*d.* more than the price of the materials and expenses of application would amount to were they put upon the land in the shape of Peruvian guano. Whether or not it is good economy to spend 1*l.* 17*s.* 2*d.* for the delivery of fertilising materials which are intrinsically worth about 26*s.*, or at the most 30*s.*, is a question which may be safely left in the hands of practical men. It is a question which, I think, cannot be answered in a general way. On some

soils I believe even a larger expense for delivery may be incurred, whilst on others less than a quarter the expense may be ruinous. Many persons, deceived by the bad smell and dark colour of liquid manure, entertain very extravagant notions respecting the amount and intrinsic value of the fertilising matters which it contains. Such notions are a great bar to the fair adjustment of the question so frequently asked—Will liquid manure pay or not? It is well, therefore, to remember that 50,000 gallons may not contain more fertilising matter than 2 cwt. of good Peruvian guano; and that this opinion is based on analytical facts which are quite independent of any theoretical reasonings. In the following Table I have placed side by side the—

*Amount of phosphoric acid, potash, and chloride of potassium, expressed in grains and fractions of grains, in 1 imperial gallon of—*

| | Phosphoric Acid. | Potash and Chloride of Potassium together. |
|---|---|---|
| Liquid Manure from | | |
| Westonbirt .. .. .. | 2.70 | 175.23 |
| Badminton .. .. .. | 9.51 | 189.64 |
| Cirencester College, 1857 .. | 2.304 | 21.123 |
| Cirencester College, 1858 .. | 4.83 | 19.66 |
| Tiptree, clear liquid .. .. | 2.36 | 2.41 |
| Tiptree, with sediment .. | 3.72 | 2.30 |

Even a superficial reader will be struck with the great variations which are exhibited in any of the Tables in which is contrasted for convenience of comparison the relative amount of the more important fertilising substances contained in a gallon of liquid manure. It is evident that the practical effects which it is capable of producing depend upon the nature and amount of fertilising matters which enter into its composition; and as the composition of the different kinds differs so very widely, we cannot feel surprised to hear that in one instance it has done marvels, and in others little or no good. *Dr. Voelcker, in the Journal of the Royal Agricultural Society.*

## Calendar of Operations.

### NOVEMBER.

CHESHIRE: *Oct.* 31.—All field operations have to a considerable extent been retarded by the severe winterly weather we have had within the last fortnight. Wheat sowing had commenced under very favourable auspices, the land being in the finest possible condition, and was progressing rapidly when the sudden change to frost and snow put a stop to all proceedings, but we still consider it soon enough to sow Wheat, excepting upon the tenacious and undrained clay soils. And when land of this description has been ploughed up into "butts," it has been rather benefited than otherwise by the frost, which for two nights, the 23d and 24th inst., was unusually severe for the time of year, and which we fear has injured the Mangel Wurzel crops, most of them being then on the ground. The general impression was that the whole crop was entirely destroyed, and we are of opinion that such would be the case where the roots were taken up immediately and thrown into heaps whilst the frost was still on them; but where they have been left in the ground for the frost to go out gradually and entirely, we are induced to believe that a great portion of the crop will be saved, provided there is due caution in separating as far as possible the good from the bad at the time of pulling and storing the roots. We think, however, that the amount of injury is not yet fairly ascertained, and that it will remain in doubt for some time to come. Mangel Wurzel has of late years become a most important crop to the farmers of this country, and the entire loss of it would be serious indeed, more especially as the Turnip crop this season is generally very deficient; we therefore recommend Mangel growers to examine the roots carefully at the expiration of a fortnight or three weeks from the time of storing; and if they are not keeping well, to separate all that appear injured and make use of them to prevent any further loss. Grass has been plentiful during the autumn, and cattle have been doing well up to the time of the great change in the weather when the cold foggy nights brought on coughs and lung complaints of a very serious character; and it is to be feared that "pleuro-pneumonia" has been increased to some extent. Potatoes are a moderate crop, and the disease much worse than last year; but the prices keep low in consequence of too great a supply being taken direct from the field to the market. The floods in many of the meadows have been very high, consequently much Grass has been destroyed, and the cattle therefore have been forced into the market prematurely, to the great disadvantage of their owners. *W. P.*

WEST SUSSEX: *Nov.* 1.—We have had a very sudden change from the mildness of summer to the piercing cold of winter—frost, wind, and rain alternating nearly every 24 hours; at present there is no appearance of a change to more settled weather. And as there was not much Wheat sown before the alteration took place, there has been no chance to do much since, so that there is not much Wheat sown yet. But though we have had a good deal of rain, yet the land is not very wet, as it was formerly so dry, and with fair weather over head sowing will proceed rapidly, for the ground works freely, and is all nearly ready for the seed, so that we are not yet uneasy about the matter. I see that choice samples for seed are hard to obtain in some parts, but such is not the case here, for the quality is good, though not perhaps up to last year's mark, and the supply is abundant; and those in want would do well to pay Chichester market a visit. But perhaps the sort that we generally sow may not suit all; I believe it is peculiar to this district, being a mixture of white and fine red which grows white straw. The only name it goes by here is "old-fashioned white and white-strawed Wheat;" and it is said that it is best adapted for rich land, as it will bear a good heavy crop without lodging, and the quality is good; it is preferred here by the millers to any other sort. Yet other sorts are now more common than they lately were. Golden Drop is the most common of the coarser sorts of red Wheat, and there are many samples of Chidham, and of Morton's red straw, also of spring or nursery. The sudden frosts that we have had have blackened the Mangel tops, but we do not think that the roots are yet hurt; we have found that they do not suffer much from frost if not pulled, the tops partly protect them, and so it appears do the roots when they have hold of the ground; and though it may be running a risk, yet I think it is better to let them stand a short time longer, and then we shall see if any damage is done. In ours at least there does not appear to be any. The Swedes and Turnips also have got a sudden check, but the latter ones may yet grow a little. However, there does not appear to be any misgiving respecting winter food, for all kinds of wintering stock are very dear. Sheep are 2*s.* to 3*s.* dearer than last year. Cattle perhaps are not much higher. Beef is very scarce and of poor quality, but dear. Mutton is more plentiful, but very dear and in good demand. Perhaps there will not be so many cattle fatted this winter as usual, but there is not likely to be any falling off in sheep, so we may expect that beef will be dear. Pig jobbing has gone out of favour very much lately, as they are generally found not to pay. Formerly, when all the threshing was done by hand, the pigs lived at the barn-door and cost nothing; but since the steamers were employed to thresh the pig has been fed through the bushel, and has given a sad account of itself, but it is likely the corn crop has yielded rather better. If we had not a liberal supply from the Irish market pork would be dear. The quality of Barley is worse than last year, and varies in price from 28*s.* up to 48*s.*, rather a wide range, but it is, as formerly, the late sown that has turned out badly. Oats are also inferior. Peas look better than usual, but are not so heavy per bushel as last year, but the crop is good. Work now with suitable weather will be Wheat sowing, to the exclusion of everything else for a time, and the Mangel must soon be taken up. *G. S.*

## Notices to Correspondents.

AGRICULTURE IN FRANCE: *N Smith.* In answer to your question we give the following particulars from the Quarterly Journal of Agriculture:—In France one-fourth of the entire, and one-third of the cultivated, land is under cereal crops; whilst in the United Kingdom, one-sixth of the whole, and one-fourth of the cultivated land, is so occupied. The produce of Wheat in France is 13½ bushels per acre—that of the United Kingdom is 28 bushels. The 15,000,000 acres of Wheat in the former country produce only 25,315,500 qrs., whilst the 4,500,000 acres in the latter yield 15,750,000:—

ANIMALS KEPT.

*United Kingdom.*

Sheep .. .. 30,000,000, or 1 to 2½ acres.
Bullocks .. 8,000,000, or 1 to 9½ acres.

*France.*

Sheep .. .. 30,000,000, or 1 to 4½ acres.
Bullocks .. 10,000,000, or 1 to 13 acres.

ANIMALS SLAUGHTERED.

*United Kingdom.*

Sheep .. .. 10,000,000, producing 80 lbs. of meat each, or 800,000,000 lbs.
Bullocks .. 2,000,000, weighing 560 lbs. each, or a total of 1,120,000,000 lbs.

*France.*

Sheep .. .. 8,000,000, producing 40 lbs. of meat each, or 320,000,000 lbs.
Bullocks, cows, and calves .. 4,000,000, weighing 220 lbs. each, or a total of 880,000,000 lbs.

It is necessary to state here that both oxen and milch cows are employed in France as beasts of burthen and in field labour; the next results will therefore be at once accounted for:—

MILCH COWS KEPT.

*England.*

3,000,000, producing 656,250,000 gallons of milk, or 218¾ gallons each.

*France.*

4,000,000, producing 437,500,000 gallons of milk, or 109¾ gallons each.

The cattle are kept either until they are from four to seven years old before they are slaughtered, or killed as calves at a month or six weeks old. This latter practice will in part account for the low average produce of beef per head. Out of the four millions slaughtered annually, the calves are stated to amount to 2½ millions.

Cows: *R C Lewis.* The disease appears to have been hepatitis or inflammation of the liver principally connected with peritonitis; the latter is often produced by exposure to external wet or cold, but the former rather points to the food as the origin. *W C S.*

DISEASED FEET: *R C Lewis.* Apply the following ointment frequently:—Plaster of Paris, 8 ozs; coal tar, ½ oz.; Olive-oil sufficient to make an ointment. *W C S.*

EARTHENWARE PIPES: *J W.* 27 feet of water will not burst well-made earthenware pipes of 4-inch bore. How long they will remain sound at the joints under that pressure depends on the care and material used in putting them together.

ESTIMATED CROP OF WHEAT IN FRANCE: *R.*

| | | | Quarts. |
|---|---|---|---|
| 1846 .. .. | 60 millions | hectolitres, or | 20,634,000 |
| 1847 .. .. | 97 | ,, ,, | 33,358,300 |
| 1848 .. .. | 88 | ,, ,, | 30,263,200 |
| 1849 .. . | 90 | ,, ,, | 30,951,000 |
| 1850 .. .. | 88 | ,, ,, | 30,263,200 |
| 1851 .. .. | 86 | ,, ,, | 29,575,400 |
| 1852 .. .. | 86 | ,, ,, | 29,575,400 |
| 1853 .. .. | 63 | ,, ,, | 21,665,700 |
| 1854 .. .. | 97 | ,, ,, | 33,369,212 |
| 1855 .. .. | 73 | ,, ,, | 25,104,700 |
| 1856 .. .. | 85 | ,, ,, | 29,231,500 |
| 1857 .. .. | 110 | ,, ,, | 37,829,000 |
| Average .. .. .. | | | 29,318,384 |

The crop of Wheat in 1858 was a full average, but of 1859 it is estimated to be nearly one-third below average. *Leonce de Laverne.*

GRASS FIELD: *J B* says:—"I have to acquaint you that the larvæ of the Melolontha are busy in the Grass fields of this district. I yesterday saw a field of about 20 acres, in which I counted nearly a hundred rudely circular patches of damaged Grass, varying from 3 to 13 feet diameter. Much of the Grass had been killed by the larvæ eating away the roots; the rest had been torn up by rooks and starlings in search of this just now abundant food in this place. It would appear that the encouragement of these birds is a most complete check upon the ravages of this insect." [We would advise the mending of these dissightly patches by sowing the seeds of the species of Grass of the meadow, pressing it well in the ground and consolidating the soil by a Crosskill].

PRICES OF BUTCHERS' MEAT AT THE METROPOLITAN MARKETS: *L L.* During the autumn of 1858 the best beef varied from 6¾*d.* to 7½*d.* per lb.; the best mutton from 6¾*d.* to 7¾*d.* per lb.; and veal from 5½*d.* to 7*d.* The highest prices were reached on Dec. 13, the great Christmas market. During the spring of 1859 beef of the best quality ranged from 7*d.* to 7¾*d.*; and mutton was towards Midsummer as high as 8*d.*, and lamb as high as 10*d.* per lb. At present the prices are for the best beef, 7*d.* to 7½*d.*; for the best mutton, 8*d.*; veal, 7*d.* to 7½*d.*; Pork, 6*d.* to 7½*d.*

WEIGHT OF CATTLE: *L.* The following is the rule which may be estimated by measurement as follows:—The girth is to be taken where it is smallest, squarely round the body, immediately behind the shoulder; the length, from the front of the shoulder to the insertion of the tail. Multiply the square of the girth in feet and inches, with the length in feet and inches, and the product by .24, .26, .28, .30, according to the fatness of the animal; the result will be the weight of the carcass in imperial stones. The weight of the carcass is to the live weight of an animal as 1 to 2—or a little more than 1 to 2 in cattle—as 8 to 14 or thereabouts in fat sheep; as 2 to 3 in the case of well fattened pigs. These proportions vary according to the condition and breed of the animal.

*** As usual, many communications have been received too late, and others are detained till the necessary inquiries can be made. We must also beg the indulgence of those correspondents the insertion of whose contributions is still delayed.

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THORLEY'S FOOD FOR CATTLE can only be had from Mr. THORLEY or his accredited Agents. As spurious imitations are now being sold giving rise to disappointment, purchasers cannot be too cautious; for some of those patent foods contain mineral substances to produce a favourable effect at first, the upshot is injurious to animal health. To avoid fraud and disappointment, kind Mr. THORLEY supplies his Food in cases containing packages, each packet having the signature of JOSEPH THORLEY engraved thereon and containing one feed; and loose packets with a one-feed measure, having his signature burnt thereon.

Price of case, containing 448 packages, 5*s.*; and 448 feeds, 50*s.* Orders to be accompanied by a remittance. Post-office Orders made payable to JOSEPH THORLEY, Post Office, St. Martin's-le-Grand, E.C.

Offices: 77, Newgate Street, London, E.C. Manufactory and Steam Mills, Caledonian Road, N.

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BEG LEAVE TO OFFER THE FOLLOWING :—

**DOUBLE AND SINGLE BORDER HYACINTHS, 21s. per 100, 3s. per dozen.**
**DITTO DITTO named, 6s., 8s., 9s., and 10s. per dozen.**
**POLYANTHUS NARCISSUS, 8 sorts, 10s. ; each, 2s. 9d.**

| | Per 1000. | Per 100. |
|---|---|---|
| CROCUS, blue | 12s. 0d. | 1s. 4d. |
| ,, light blue | 12 0 | 1 4 |
| ,, purple | 12 0 | 1 4 |
| ,, yellow | 12 0 | 1 4 |
| ,, large yellow | 18 0 | 2 0 |
| ,, white | 18 0 | 2 0 |
| ,, striped | 15 0 | 1 8 |

| | Per 100. |
|---|---|
| TULIPS, Tournesol | 7s. 6d. |
| ,, Rex Rubrorum | 7 6 |
| ,, La Candeur | 14 0 |
| ,, Yellow Rose | 10 0 |
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LILIUM LANCIFOLIUM (extra large)—red, per doz., 22s. ; each, 2s. 3d. White, per doz., 17s. 6d. ; each, 1s. 6d. Spotted, per doz., 20s. ; each, 2s.

## GLADIOLUS—FRENCH SEEDLINGS FROM GANDAVENSIS.

| | Each—s. | d. |
|---|---|---|
| Adonis, cherry, lower petals yellow and carmine | 0 | 6 |
| Agleia, salmon colour | 0 | 6 |
| Archimède, light red, carmine striped | 0 | 6 |
| Aristote, carnation rose, variegated | 0 | 6 |
| Bérénice, beautiful rose red, variegated | 1 | 0 |
| Calandulaceus, sanguin | 1 | 6 |
| Comtesse de Bresson, red, sometimes variegated | 0 | 6 |
| Delphin, cherry striped white | 0 | 9 |
| Docteur Andry, bright orange | 0 | 9 |
| Don Juan, orange red, yellow spots | 0 | 6 |
| Edith, carnation rose, dark stripes | 0 | 9 |
| Egerie, salmon, dark rose stripes | 0 | 6 |
| Endymion, purple rose | 1 | 0 |
| Galathée, carnation striped | 1 | 0 |
| Gil Blas, cherry red, variegated | 0 | 9 |
| Goliath, light red, carmine striped | 1 | 0 |
| Hebe, carnation striped, carmine | 1 | 0 |
| Hélène, French white, purple striped | 0 | 6 |
| Impératrice, carnation striped, french white | 1 | 6 |
| Janire, orange red | 0 | 6 |
| Madame Herincq, yellowish white, lilac striped | 0 | 6 |
| Mazeppa, rose, striped yellow and red | 1 | 0 |
| Monsieur Corbay, orange red, purple striped | 0 | 6 |
| Monsieur Vinchon, salmon red, white striped | 1 | 0 |
| Neptune, red, variegated carmine | 1 | 3 |
| Ninon de l'Enclos, carnation rose var. | 1 | 6 |
| Oracle, cherry rose | 1 | 6 |
| Pallas, rose var., carmine and orange | 0 | 6 |
| Pégase, carnation, spotted purple, and chamois | 1 | 0 |
| Penelope, French white, carmine striped | 1 | 0 |
| Pollonia, variegated rose, carmine shaded | 0 | 6 |

The above splendid collection, 22s. 6d.

## GLADIOLUS FOR CLUMPING.

**The following collections are particularly adapted for clumping and bedding. The Gandavensis seedlings are now offered for this purpose for the first time, and can be strongly recommended for robust habit and varied brilliancy of colour.**

We have added two scarce and beautiful varieties to the other assortment, which we think will be found desirable, as forming an effective contrast to those already offered :—

| | Doz. s. | d. |
|---|---|---|
| Couranti fulgens, crimson | 4 | 0 |
| Eugenie, salmon, rose striped | 5 | 0 |
| Fulgens aureus pictus | 5 | 0 |
| Madame Coudere, carmine shaded | 4 | 0 |

12 each above 8 sorts, 28s.

| | Doz. s. | d. |
|---|---|---|
| Mdlle. Fanny Rouget, rose, white, and carmine | 5 | 0 |
| Mons Blouet, rose, shaded carmine | 4 | 0 |
| Mons. Georgeon, salmon rose | 4 | 0 |
| Triomphe d'Enghien, carmine var. | 4 | 0 |

6 each above 8 sorts, 15s.

3 each above 8 sorts, 8s.

| | 5s. | 6d. |
|---|---|---|
| Brenchleyensis, vermillion | | |
| Cardinalis, scarlet, white mark | 3 | 0 |
| Formosissimus, beautiful red | 3 | 6 |
| Gandavensis, scarlet and yellow | 3 | 0 |
| Insignis, carmine spotted | 5 | 6 |
| Magnifique, purple, white mark | 2 | 0 |

12 each above 11 sorts, 30s.

| | 1s. | 6d. |
|---|---|---|
| Natalensis, yellow and red | | |
| Oppositiflorus, white and rose | 2 | 6 |
| Prince Albert, bright rose | 3 | 6 |
| Ramosus, salmon rose | 3 | 0 |
| Victoria Regina, bright scarlet | 3 | 6 |

6 each above 11 sorts, 15s. 6d.

3 each above 11 sorts.

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THE LARGEST AND FINEST STOCK OF
**TEA-SCENTED ROSES IN ENGLAND.**
50,000 PLANTS IN POTS AND IN THE OPEN GROUND.

**WM. WOOD AND SON invite attention to their very extensive and superior stock of the above, which they feel certain are unsurpassed in the Trade.**

| | | |
|---|---|---|
| Dwarfs, from 48-pots | per dozen | 9s. to 12s. |
| ,, in 6-inch or 24 pots | ,, | 24 to 30 |
| Standards, very fine | ,, | 18 to 24 |

Specimen Plants, in 8-inch pots, for exhibition, each, 3s. 6d. to 5s

DESCRIPTIVE CATALOGUES on application.
Woodlands Nursery, Maresfield, near Uckfield, Sussex

**ROSES AT REDUCED PRICES.**

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|---|---|
| Selected tall Standards, with three to six best varieties of Perpetual and Climbing Roses in each stem | 24 to 30 |
| Standards and Half Standards | 12 to 18 |
| Dwarfs and Dwarf Standards | 9 to 12 |
| Dwarfs on own roots | 9 to 12 |
| ,, ,, without names | 3 |
| Climbing Dwarfs, ,, | 3 |
| ,, with names | 6 to 9 |

**DWARF ROSES, from 48-sized pots, or from open ground adapted for potting.**

BOURBON, CHINA, TEA-SCENTED, NOISETTE & HYBRID PERPETUAL, 9s to 12s. per dozen.

CATALOGUES gratis on application. Extra plants presented with each order to compensate for carriage.

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**FINEST STANDARD ROSES, 3l. per 100.**—HYB. PERP : Alexandrine Bachmeteff, Auguste Mie, Abbé Feytel, Bacchus, Baron Hallez, Baron Prevost, Belle Lyonnaise, Beauté Vive, Belle Anglaise, Belle Jardinière, Caroline de Sansalles, Comte de Nanteuil, Cardinal Patrizzi, Clemence de la Rue, Count Bobrinski, Charles Boisseul, Dr. Marx, Duchess of Norfolk, Duchess of Sutherland, Ernest Bergman, Etendard de Sebastopol, Edward Desfosse, Géant de Batailles, General Simpson, General Pelissier, Gloire de Lyon, General Jacqueminot, Gloire de France, Gustave Coreaux, Glorieux, Jules Margottin, Lady Stuart, Lord Raglan, La Belle Egarée, Lafontaine, La Reine, Le Lion des Combats, Louis Bonaparte, Madame Cambacères, Madame A. Gilbon, Madame Heraud, Madame Laffay, Madame Pepin, Madame Th. Martel, Madame Vidot, Madame A. Leroy, Madame H Jacquin, Madame de Trottaire, Madame F. Regeaux, Madame Knorr, Marquise de Murat, Mathurin Regnier, Mrs. Elliott, Mrs. Rivers, Mrs. Standish, Marie Thierry, Monsieur Pigeron, Paxonia, Pauline Lansezeur, Pius Ninth; Prince Leon, President Menoux, Prince Noir, Paul Dupuy, Prince Chiptowszikoff, Robin Hood, Rosine Margottin, Robert Newton, Reine des Fleurs, Souvenir de la Reine d'Angleterre, Standard of Marengo, Thomas Rivers, Triomphe de l'Exposition, Triomphe des Beaux Arts, William Griffith. Moss : Lancii, crested ; H. C. Chénédolé ; HYB. BOURB. : Charles Duval, Paul Perras, Elize d'Henning, Austrian Brier, Persian Yellow. BOURBON : Adelaide Bougère, Acidale, splendens. TEA : Gloire de Dijon.

100 superior Standard ROSES, purchaser's selection, from above-named, 60s., or 10s. per dozen.

HENRY MAY, the Hope Nurseries, near Bedale, Yorkshire.

ROSE NURSERIES, HERTFORD.

**E. P. FRANCIS** invites attention to his splendid stock of DWARF ROSES budded on the Manetti Stock, of which he possesses the following quantities :—

| HYBRID PERPETUALS. | | HYBRID PERPETUALS | |
|---|---|---|---|
| 250 | Adelaide Fontaine | 100 | Pius the 9th |
| 200 | Alexandrine Bachmeteff | 1000 | Prince Leon |
| 500 | Auguste Mie | 200 | Paul Dupuy |
| 100 | Arthur de Sansal | 100 | Reine des Fleurs |
| 100 | Baron Hallez | 500 | Souvenir de la Rein d'Angleterre |
| 150 | Baron Heccheren | 500 | Souvenir de Leveson Gower |
| 150 | Baron Larray | 200 | Triomphe de l'Exposition |
| 200 | Caroline de Sansal | 500 | ,, de Paris |
| 50 | Charles Bessiere | 500 | William Griffiths |
| 500 | Colonel Rougemont | 100 | Amandine |
| 500 | Comte de Nanteuil | 100 | Augustine Mouchelet |
| 150 | Comte Odart | 500 | Baron Prévost |
| 50 | Doctor Henon | 50 | Comet |
| 250 | Duchess of Norfolk | 100 | Duchess of Sutherland |
| 500 | ,, of Orleans | 100 | Jacques Lafitte |
| 1500 | Géant des Batailles | 500 | La Reine |
| 200 | General Castellane | 100 | Louis Buonaparte |
| 150 | ,, Cavaignac | 100 | Madame Laffay |
| 1000 | ,, Jacqueminot | 100 | Robin Hood |
| 100 | ,, Pelissier | 50 | Sydonie |
| 100 | ,, Simpson | 50 | William Jesse |
| 200 | Gloire de France | | |
| 100 | Imperatrice Française | | TEA-SCENTED. |
| 1000 | Jules Margottin | 500 | Comte à Paris |
| 500 | Louis Peyronny | 500 | Devoniensis |
| 100 | Lion des Combats | 100 | Elise Sauvage |
| 50 | La Ville de St. Denis | 1000 | Gloire de Dijon |
| 500 | Lord Raglan | 100 | Goubault |
| 100 | Madame Pepin | 100 | Jaune |
| 250 | ,, Domage | 150 | Madame Willermorz |
| 150 | ,, Hector Jacquin | 100 | Niphetos |
| 100 | ,, Knorr | 100 | Pauline Plantier |
| 500 | ,, Masson | 100 | Sombreuil |
| 150 | ,, Cambacères | 150 | Souvenir d'un Ami |
| 500 | ,, Vidot | 100 | Vicomtesse de Cazes |
| 300 | Mathurin Regnier | | |
| 200 | Mrs. Rivers | | |

The above are all fine grown plants, strong and vigorous ; they are all budded close to the ground, within 3 and 4 inches of the root, and are admirably adapted either for clumps or potting. Smaller quantities are grown of all the other varieties in their different classes.

**FLOWER, VEGETABLE, AND TREE SEEDS.**

**C. PLATZ AND SON, SEED GROWERS and NURSERYMEN, Erfurt, Prussia,** beg leave to inform their friends and patrons that their New CATALOGUE (52d annual) of FLOWER, VEGETABLE, and TREE SEEDS from the last growth is now published, and may be had post paid on application.

**FRUIT TREES.**—STANDARDS AND PYRAMIDS, DWARF-MAIDEN AND CUT-BACK, DWARF-TRAINED, &c.

**WM. WOOD AND SON solicit especial attention to their enormous stock of FRUIT TREES, occupying an area of many acres of land, which for vigour and uniformity of growth are unsurpassed in the Trade ; the Trained Trees especially are most beautifully grown.**

DESCRIPTIVE CATALOGUES may be had on application.

An immense stock of beautifully Trained DWARF MAY DUKE AND MORELLO CHERRIES, with 10 and 12 branches to each tree, admitted to be among the finest in the kingdom.

Woodlands Nursery, Maresfield, near Uckfield, Sussex.

**HEDENHAM ROSARY, BUNGAY, SUFFOLK.**

IN CONSEQUENCE OF A DISSOLUTION OF PARTNERSHIP,

**R. B. BIRCHAM** is desirous of clearing off a portion of his stock, consisting of 35,000 STANDARD and DWARF ROSES, including all the best and leading sorts of Perpetuals in cultivation. To effect a clearance this autumn R. B. B. begs to offer them at the following very reduced prices —

| | | |
|---|---|---|
| 50 Dwarfs of the best Perpetuals | £0 18 | 0 |
| 50 Half standards, do. | 1 5 | 0 |
| 50 Standards, do. | 1 15 | 0 |

R. B. B will be happy to supply Amateurs requiring half the quantity of each. Trade orders at a still lower rate per 100. Carriage paid to London and Peterborough.

**EDWARD TAYLOR, NURSERYMAN, Malton, Yorkshire,** has to offer as under :—

500,000 Transplanted LARCH.
10,000 2 year GIANT ASPARAGUS, 1s. 3d. p. 100, 10s. p. 1000.
GOOSEBERRIES and CURRANTS, best vars., 8s. to 10s. p. 100.
EVERGREEN CYPRESS, twice transplanted, 2 feet, 3s. per dozen, 20s per 100.
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CATALOGUES gratis on application.

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**MESSRS. PARKER AND WILLIAMS beg to** inform their friends and patrons that their new PRICED and DESCRIPTIVE CATALOGUE of the above, to which are added Supplemental Lists of Stove, Greenhouse, and Hardy Plants, Fruit Trees, &c. (which include all the best new plants of the season), is now published, and will be forwarded post free on application.—Paradise Nursery, Seven Sisters' and Ramsey Roads, Holloway, London, N.

**BEGONIA MARSHALLI.**

**WILLIAM COLE will send out the above beautiful** variety, raised by Mr Franklin, Gardener to J. G. Marshall, Esq., on and after the 26th inst. It has been exhibited at the Regent's Park, Kirkstall, Halifax, Shipley, &c., and Certificates have been awarded to it. It is universally admitted to be by far the handsomest of all the Begonias, and will be invaluable for Exhibition purposes. Drawings by Mr. Andrews free by post for eight stamps.

For further particulars see *Gardeners' Chronicle* of July 16 ; also Sept. 10 ; also "Cottage Gardener" of July 19 and Sept. 13 ; and "Book of Beautiful Leaves," by E. J. Lowe, Esq.

Strong plants 15s. each, with the usual discount to the Trade. Post-office Orders payable at Manchester.

Nursery, Withington, near Manchester.—Nov. 12.

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Clarkia pulchella integripetala
Callirhoe digitata.
Œnothera biennis hirsutissima.
Lobelia gracilis rosea.
Anagallis grandiflora "Eugenie."
,, ,, "Napoleon."
Nigella hispanica alba.
,, ,, atropurpurea.
Phacelia tanacetifolia alba.
Dianthus chinensis laciniatus, fl. pl.
Ditto Heddewigi
Captain Clarke's Blue Sweet Pea.
Nemophila discoidalis marmorata.
Lupinus mutabilis varicolor.
Yellow Tom Thumb Nasturtum
Tom Thumb "Beauty" ditto.
Datura chlorantha, fl. pl.
Thunbergia coccinea.
Impomœa limbata elegantissima.
Spergula pilifera, new substitute for Grass.

Price to the Trade and Coloured Drawings may be had on application to JAMES CARTER & Co., 237 and 238, High Holborn, W.C.

**QUICKS, FOREST TREES, &c.**

**JAMES DICKSON & SONS,** NURSERYMEN and SEEDSMEN, the Newton Nurseries (close to the Railway Station), Chester, offer many millions of the above, of EXCELLENT QUALITY and at VERY MODERATE PRICES.

The Trees and Plants, consequent upon the Nursery Grounds (which cover an area of about 60 acres) lying in an exposed situation, and a routine of regular transplanting being carried out, are WELL ROOTED, HARDY and VIGOROUS, hence are calculated to remove with great success.

PRICED LISTS, post paid, upon application, or in cases where LARGE QUANTITIES are required SPECIAL PRICES will be given.

Newton Nurseries, and 102, Eastgate Street, Chester ; also at 23, Market Place (late Deansgate), Manchester, and Newtown, Montgomeryshire.

**CRIMSON PERFECTION RHUBARB.**

**ROBERT SALT begs to announce that having on** hand a good quantity of the above excellent variety of RHUBARB, he is prepared to offer them at the following low prices :—

| | | | |
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| One-year old | Roots | 8s. 0d. | per doz. |
| Two-year | do. | 15 0 | do. |
| Three-year | do. | 20 0 | do. |

With usual discount to the Trade.

**R. S. has much pleasure in recommending the above, it** being very early and productive, and the interior of the stalks a crimson colour. Orders forwarded to ROBERT SALT, Longton, Staffordshire, or to the undermentioned, will receive prompt attention :—Messrs. HURST & M'MULLEN, Seedsmen, 6, Leadenhall Street, London, E.C. ; BURGESS & KENT, Nurserymen, Penkhull, Staffordshire ; Mr. CHAS. TURNER, Royal Nursery, Slough ; FRANCIS & ARTHUR DICKSON, Nurserymen, 106, Eastgate Street, Chester. A remittance from unknown correspondents.—Longton, Nov. 12.



# The Gardeners' Chronicle.

*SATURDAY, NOVEMBER* 12, 1859.


**MEETINGS FOR THE ENSUING WEEK.**

THURSDAY, Nov. 17—Pomological ..... 3 P.M.

**FEW seasons perhaps have been so productive as the present in Mushrooms. The ketchup merchants have been almost inundated, and the gatherers who in general are not scrupulous as to what goes into the Mushroom can, have for once**

confined themselves pretty strictly to legitimate species, without having recourse to such doubtful trash as passes under the name of "Numprellas" or "Numperells." * One or two cases of poisoning from eating Fungi have been reported, but nothing can be looser than the evidence on which it was asserted that death arose from this particular cause, and the † terms employed in the report indicate a very imperfect knowledge of the subject.

It should be remembered as regards alleged cases of poisoning by Fungi, and that by species usually considered wholesome, that large meals consisting almost entirely of Fungi are frequently taken upon an empty stomach, and when it is borne in mind that pork, shell-fish, and even eggs are positively poisonous to certain constitutions, we need not be surprised that instances should occur of evil arising from the use of Mushrooms, especially when it is so possible that deleterious species may be mixed with the most wholesome.

So far is it from being true, as asserted by a valued correspondent, that "a poisonous Fungus is never met with in the open fields," that the most poisonous of all, *A. semi-globatus*, constantly occurs in such situations, and is often mistaken for the species known under the name of Champignons (Agaricus Oreades). No person who had once seen a true Champignon could by any chance make such a mistake, but it is very possible to make an equally fatal mistake as regards another species. The pleasure-grounds at Kew absolutely swarmed last autumn with the true Champignon; but mixed with this, which is the safest and best of all Fungi, was a species, *Agaricus urens*, extremely difficult to distinguish on a superficial view. The gills, however, were narrower, closer, and of a pale brownish tint, instead of being broad, distant, and cream-coloured, and the hot pungent taste of the one, from whence it takes its name, as compared with the delicate aroma of the other, placed the matter beyond all doubt. The case was so important, that accurate drawings of each were prepared by Mr. FITCH, whose artistic talents are so well known, and will shortly be published.

There are several very distinct varieties of the common Mushroom (*Agaricus campestris*), and several closely allied species, some of which are of doubtful character. The garden Mushroom, with which every one is so well acquainted, is scarcely to be found in a state of nature. A person who should judge of the wholesomeness of what he finds in the fields from a comparison with this, would be greatly disappointed in his search. It is most curious that this form should not occur universally, as some of the most successful Mushroom growers never use anything except horse-droppings. Mr. INGRAM, for instance, at Belvoir, employs, we believe, exclusively the straw which is trampled under the horses' feet in the riding-school, and we have seen masses consisting of many loads entirely threaded with healthy spawn.

The most generally approved variety of Mushroom, and the one almost exclusively employed in many establishments where Mushrooms are not raised artificially, is of a pure white, not changing to yellow when rubbed or bruised, with a silky coat, and gills of a rich pink, even in the button state, which changes to a purplish brown in age. The aroma of these is exquisite, and the species may in general be eaten with perfect safety, though it is condemned as highly poisonous, and excluded from the markets in Italy.

There is however a variety of this which is but little known which far exceeds it in excellence, and it has been this year very abundant. Externally it resembles the garden Mushroom, though often less scaly, but it is easily distinguished by its pouring out a rich red juice when divided. This usually grows under trees, and a family with which we are well acquainted have fed largely on it two or three times a day during the greater part of this autumn without the slightest inconvenience.

Another variety with browner gills is abundant in woods, approaching *Agaricus sylvaticus* in character, and distinguished from the common form principally by a disagreeable pungent odour and browner gills, of which, like the species just named, we should be sorry to partake.

Besides *A. campestris* there is another very useful and more abundant species, *A. arvensis*, known under the name of Horse Mushroom, which by many is accounted poisonous, but which is consumed to a very great extent with safety, though occasional accidents are reported, either from the admixture of dangerous species, or from causes above indicated. This species appears in the London markets very frequently to the exclusion of all others. We have seen specimens this year 13 inches in diameter, weighing 2 lbs., and yielding more than two-thirds of a pint of ketchup.‡ The aroma is not so fine as that of *A. campestris*; The gills in the buttons are nearly white, and when the cap is expanded they do not assume the beautiful pink of the common Mushroom, though in age they are nearly as dark. This is well known in France under the name of *boules de neige*, and is so esteemed in Italy that it is named by VITTADINI, the great Italian authority on such matters, *Agaricus exquisitus*. We should not counsel our friends to partake largely of a stew made of buttons of this species, as it is apt to be tough, and in that state is indigestible, but the flaps are excellent, as also is the ketchup which runs from it.

It should be observed that there is a closely allied species, *A. cretaceus*, with even more persistently white gills, which are, however, distinguished by coming to a very fine point behind and not reaching the stem, which may be confounded with *A. arvensis*, and is of doubtful quality. This might very easily be substituted by careless gatherers for the true Horse Mushroom.

The Blewits which are now abundant in the fields, and which are sometimes sold in London, distinguished by the stem being tinged with lilac, are of such a bad quality that they are scarcely worth notice. Several persons died at Cambridge some years ago after eating largely of this mixed with other species.

Many other species as *A. nebularis*, *A. grammopodius*, *A. geotrapus*, &c., are consumed by enthusiastic Fungus eaters, but for our own part we think most of them detestable, though we have partaken of them prepared under the immediate auspices of Dr. BADHAM, in whose work and in that of Mr. HUSSEY they will be found well figured and described. We are inclined to pass the same judgment on the Puff-ball tribe, though we must confess that we have had no opportunity of trying the Giant Puff-ball, which is *said* to be exquisite.

*M. J. B.*

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There are certain points in the great BELGIAN EXHIBITION OF AGRICULTURAL AND HORTICULTURAL PRODUCE, held at Brussels on the 23d, 24th, 25th, and 26th of last September, which seem to deserve notice in this country. We therefore glean from the official report now before us, a pamphlet of 72 pages, the following facts, from which some idea may be formed of the state of horticulture in that prosperous country, the gardens of which have a reputation beyond any others on the continent. The exhibition was arranged under the immediate authority of the Duke de BRABANT, by the Royal Linnean Society of Brussels, an association to which any one may belong by paying 4*s*. 2*d*. a year.

The subjects of exhibition were divided into four sections; the 1st Agricultural, the 3d Pomological, the 4th Horticultural; what the 2d was the official report does not state. Let us examine each in some detail.

In the agricultural division, in addition to the usual agricultural produce, there was included kitchen garden-stuff of all kinds, including even Capsicums, Tomatoes, sweet herbs; plants of this kind being excluded from the horticultural class. Even fruits, termed *fruits d'agrément*, whatever they may be, were admitted here. There was also Hemp and Flax, raw, prepared, half prepared, and manufactured, Maize, Sorghum in seed, Tobacco from many persons, Hops, butter, Osiers, Potatoes, of which one person produced 54 varieties; Jerusalem Artichokes, artificial manures, wine of the country, machines, brushes required in the Vine disease, books relating to cultivation, hives and honey, Gourds, &c. In addition to which were the following novelties, viz., *Panicum altissimum*, a Grass yielding several cuts in the year; *Paspalum elegans*, another Grass; the *pois oléifère* of the French, called by us the Soy Bean; and a plant named Saradelle—no doubt our Serradilla, a little known species (*Ornithopus sativus*), cultivated successfully 40 years ago as a green crop instead of Vetches on the blowing sands near Thetford, but now we believe forgotten. Upon none of these plants, however, does the official Belgian report condescend to afford even a particle of information.

The Pomological section was wholly occupied by Pears, Apples, Peaches, Grapes, Pine Apples, and Melons. The Pears were innumerable. Our correspondent, M. DE JONGHE, stood at the head with 150 sorts; and many of the exhibitors furnished collections not very much less extensive. What the value was of all this display the report is silent; for ourselves we venture to suspect that their quality was of that uniform kind which we have become accustomed to find in Belgian collections sent hither—very good, size small fruit, no better, however, than Chaumontel, Marie Louise, Napoleon, and Duchesse d'Angoulême, and immeasurably inferior to those varieties in beauty, with us a most essential attribute. If otherwise the reporter, who here guides us, is to blame, for not giving the public the smallest scrap of information. Apples were of no importance. The same may be said of Peaches. Among Grapes we find the following names with which we are unacquainted, and on which the official report throws no light; viz., Chasselas rouge de Vibert, Chasselas F. Muller, Chasselas Vroege Vanderlaen, Quesi noir, Chasselas des Antonis, Fromental de la Corrèze, Klauenberg rose, Muscat rose, Muscat Alexandre and Muscat blanc, Sion Vanhamme, Brusselloos, Montesclivia, Chasselas Napoleon, Saint Bernard, &c. Of Pine Apples there was but one exhibition, in which ranked what are called La Trinité and Trois fontaines, whatever they may be.

Finally, there is the Horticultural section, properly so called. Here we find ourselves more assimilated to our Belgian brethren, and we have less to notice. There was a great many Ferns and Orchids, and Palms; some Mallows, Dahlias, and China Asters; a good many Fuchsias, garden implements, plans of gardens, Roses, Begonias, and the like. But in the enumeration of these plants we again find that disregard of explaining what the so-called novelties are which renders the return unintelligible. What, for example, were Massovia cannæfolia, Halicomia metallica, Erivirema ænea, Curcuma deodora, Daphne Delphinii, and many more? Horticulture knows nothing about them. Science repudiates them. They are only produced by authority in Belgium for the annoyance of well-informed people. As to the general orthography it is barbarous. Upon the whole we must say that the report before us is discreditable to any Society, to say nothing of one presided over by a Prince of the Blood. Its proceedings ought to be worthy of its patron. But let this pass and proceed we to the prizes.

We have nothing to remark upon those which were given in the Agricultural section, except that a Medal was awarded to an exhibitor of Agricultural Machines—for their number!—and one of which was tried; and that those machines were classed among esculents. When we come to the Pomological section we are struck by the remarkable fact that although the exhibition of Apples and Pears alone would seem to have been very large, there were only 15 prizes awarded out of 33. No Medals were given for miscellaneous collections of fruits; 3 were refused for Pears, 1 for Apples, and 1 for Grapes, in the very middle of the season for those fruits. Here, however, there is one marked exception in the case of our able correspondent M. de JONGHE, who would not show for competition, and of whom very honourable mention is made.

When we come to what is called Horticulture, by which is meant the cultivation of ornamental plants, the report shows again an extraordinary want of merit in the exhibitors. All the medals except one are refused to collections of plants in flower; none were given for Orchids, though three were offered; Palms and Ferns and Gesnerads shared the same fate, every medal being withheld; nobody who showed hardy plants in flower was decorated; and so on with various other classes. It is not for a stranger to assign a reason for this; but we certainly may be permitted to remark that upon the face of the report it would seem either that the great Belgian Society has managed very unskilfully, or that the merits of Belgian gardeners and the riches of Belgian gardens have been excessively overrated.

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## CULTIVATION ROUND MARSEILLES.

I FIRST visited the establishment of M. Rougié Sarrette, a skilful horticulturist. His is a very small garden, but quite a model as far as management and cultivation goes. There is a greenhouse for Azaleas, with a winter garden containing Camellias, both of which are in the best possible condition. I should say that these are the only plants of this kind which are well adapted to this country. Peat being scarce at Marseilles (it is brought

* The price this year has scarcely exceeded three farthings a pound, whereas in some years it is as high as 5*d*., and even at the present low rate, some of the collectors have hundreds of gallons of salted Mushrooms on their hands for which they can obtain no sale.

† It is said for example in one case that there was a strong smell of Fungin. Fungin is a term employed by BRACONNOT to indicate the fleshy part of Fungi after everything soluble has been washed out, It is highly nutritious and in itself not poisonous. It is now generally acknowledged that it is not a vegetable principle. The poisonous element is probably in all cases "amanitin."

‡ Twenty-five pounds of Mushrooms, which by the dealers are called a bushel, yields, according to the state of the weather, from 6 to 12 pints of ketchup. *A. campestris* yields more abundant and richer juice than *A. arvensis*, but the variety of the true Mushroom, which is red when cut or bruised, is the richest and most productive.

from Belgium) M. Rougié tried the experiment of using Chesnut earth instead, which he found answered very well. I cannot pass over in silence a hedge of Chorozema varium, separating the greenhouses, 8 yards long by 2½ high, so covered with flowers that it was the most ornamental thing of the kind I had ever seen.

All the avenues or drives in Marseilles are planted with Plane trees. It is the only tree which does well in town, in the country it is quite different; there you may see fine Mulberry trees, Elms, and forests of Aleppo Pines. Abies excelsa and pectinata will not grow there; if you see any, they are poor miserable dying specimens, 1 or 2 yards high; Cedars, on the contrary, grow very well, especially the Deodar, nevertheless, few are to be met with except at the Marquis of Foresta's, at the Chateau de Trois Tours, about 8 kilometres from Marseilles. I observed in the same garden an Abies Pinsapo about 5 yards high. I think it would be as well to try some Mexican Conifers in this country, such as Pinus leiophylla, Montezumæ, filifolia, Hartwegii, Wincesteriana, &c., and Cupressus Benthamiana, Knightiana, Lindleyana; this climate would suit them far better than Spruces. [The writer should have visited Mr. Philip Taylor's residence.] Many plants which are delicate in Paris live very well planted out in the open air at Marseilles; Oleanders (Nerium), Mespilus japonica, Erythrina Crista-galli, are second class trees there; Fabiana imbricata becomes 3 yards high there; Agave americana grows everywhere upon the rocks—it is wonderfully strong and requires no shelter in the winter. There are also beautiful specimens of Poinciana Gilliesii, Mandevilla suaveolens, which decorate the south walls. At Madame Benausse's, at St. Barthélemy, I observed Pelargonium zonale in the open ground, a yard high, which had been for many years at the foot of a flight of steps, without any shelter, but screened from the violent winds (mistral) by the château. Marseilles is the very country for Pittosporum; one sees there clumps of nothing else. Rhododendrons generally do badly. I think that arises from their not being planted in suitable situations, for I saw some very fine ones at M. Hathan's on the Course de Prado. Would it not be as well to try arboreum and the Sikkim species?

If on one hand the Marseilles gardeners have a great deal of trouble in protecting their plants from the destructive effect of violent winds, they have on the other hand the immense advantage of being able to irrigate their gardens with the water from the Durance, which has been conducted at great expense into a reservoir on the top of the town. Permission is granted to all proprietors to use it, which enables them to water their grounds twice a day—an all-important matter in such a dry country. It is to the formation of this reservoir that the town owes the beauty of its avenues of Plane trees, whose roots are refreshed continually by means of drains through which the water filters wherever it is wanted.

I must remark, however, that notwithstanding the great quantity of water used by the gardeners, vegetables are very scarce at Marseilles, so that Strawberries are brought there from Toulon in earthen jars. *M. Malet in the Revue Horticole.*

## ENTOMOLOGY.

### JUMPING SEEDS.

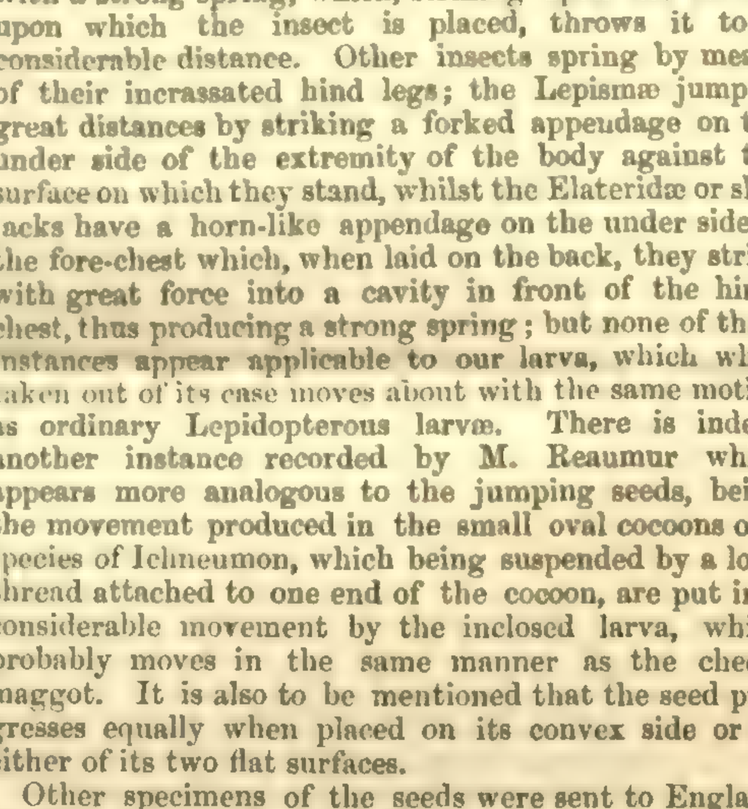
During the early part of the last year considerable interest was excited in the horticultural world by the arrival in England of the seeds of an apparently new species of plant, from Mexico, which seeds had the singular habit of jerking themselves along, with considerable alacrity, often to the distance of an inch or an inch and a half when laid upon a flat surface. Such a circumstance produced of course much curiosity and speculation, and some of the seeds were kindly placed in my hands for examination by Sir William Hooker. The seeds themselves are about four-tenths of an inch long, with a smooth surface, each resembling the third part of an Orange (which has been cut into three pieces), three seeds evidently growing together and forming a globular mass. On examining the interior of one of them, however, it was found that it was occupied by a fat grub or larva, which had consumed the whole of the inside of the seed (leaving however no excrement within).

The natural size of this larva is shown in the curved line in the accompanying figures, and it will be noticed that the larva has a small head marked with two small dark dots, and furnished with small but strong jaws, and the other parts of the mouth of a lepidopterous larva. The legs are very short, consisting of three pairs attached to the first three segments of the body behind the head; the fourth and fifth segments are footless, but each of the four following has a pair of very short membranous feet surrounded with a circle of very minute spines, and there is another pair at the extremity of the body. This larva is of a yellowish white colour, with the head chesnut brown.

The fact of this larva being found full grown within the seed (the inside of which it nearly occupied), of which the outer surface exhibited not the slightest evidence of its introduction, is easily explained, a nearly similar instance occurring in the case of the Nut Weevil; the only difference between the two instances being that the female weevil bores a hole into the very young Nut and introduces an egg into the wound, which quickly heals over, and is not visible when the Nut is full grown, whereas in the case of the jumping seeds, the parent insect, as we shall subsequently find, has no instrument sufficiently strong to bore into the young seed, and must deposit her eggs in its immediate vicinity, and the young grub (as we imagine) must itself burrow into the embryo seed as soon as hatched.

How the very peculiar motion exhibited by these seeds is produced is not easy to be conceived. Many well-known insects indeed are capable of taking strong leaps, which are effected in different methods. The common cheese maggot jumps to a considerable distance by laying hold of its tail with its mouth and compressing its body; it then suddenly lets its tail go with a strong spring, which, striking upon the surface upon which the insect is placed, throws it to a considerable distance. Other insects spring by means of their incrassated hind legs; the Lepismæ jump to great distances by striking a forked appendage on the under side of the extremity of the body against the surface on which they stand, whilst the Elateridæ or skip jacks have a horn-like appendage on the under side of the fore-chest which, when laid on the back, they strike with great force into a cavity in front of the hind-chest, thus producing a strong spring; but none of these instances appear applicable to our larva, which when taken out of its case moves about with the same motion as ordinary Lepidopterous larvæ. There is indeed another instance recorded by M. Reaumur which appears more analogous to the jumping seeds, being the movement produced in the small oval cocoons of a species of Ichneumon, which being suspended by a long thread attached to one end of the cocoon, are put into considerable movement by the inclosed larva, which probably moves in the same manner as the cheese maggot. It is also to be mentioned that the seed progresses equally when placed on its convex side or on either of its two flat surfaces.

Other specimens of the seeds were sent to England by different persons, and on the 5th October the Mexican Chargé d'Affaires, W. G. Lettsom, Esq., forwarded some specimens to the Entomological Society, stated to have been obtained from the neighbourhood of Tepic, and it was supposed that the plant which produced them was a species of Euphorbia. Subsequent



information has led us to infer that the seeds are in fact Peruvian and had been carried to Mexico, and that they are the fruit of a plant called Colliguaja.

In some of the seeds at a later period the insect was found to have undergone its change to the chrysalis state. The chrysalis is furnished (like that of the goat moth, wood leopard, and others residing in wood) with transverse rows of small reflexed spines on the segments of the abdomen, by the help of which the chrysalis pushes itself forward.

The seeds produced specimens of the moth, of which the larvæ were the immature state, at the beginning of the following summer, one of which having been communicated to us by Sir William Hooker, was exhibited at the meeting of the Entomological Society on the 7th June, 1858, when a description was read of it (published in the Proceedings of that date), under the name of Carpocapsa saltitans, the genus to which it is evidently referrible belonging to the Tortricidæ, and containing other species of which the larvæ reside in seeds and fruits, including the acorn moth and the codling moth. The following is a description of the perfect moth, which measures ¾ inch in the expanse of the fore-wings:—Fore-wings greyish-white, faintly marked with pale ashy undulating lines, the fore-margin with about 16 small oblique dashes, the tip of the wings black with a small white oval spot; the hinder margin, near the base of the wings, with a small square black spot and with a large conical ashy spot near the outer angle, having its edges and middle marked with black lines; the apical margin varied with grey, leaden, and white colours, and a double row of minute black dots; the hind wings are brown, the head and collar reddish brown, and the palpi outwardly brown and inwardly whitish.

Specimens of the seeds were also forwarded in the spring to Paris, where they were exhibited at the Academy of Sciences, and the inclosed larvæ were erroneously described as those of a Coleopterous insect, a mistake which the existence of membranous prolegs in the larvæ ought to have prevented. Subsequently, however, the perfect insect has been reared, and its transformations have formed the subject of an interesting Paper in the Revue Zoologique, by M. Lucas, who, not aware that the insect had already received a name in this country, described it under a new one. The accompanying woodcut represents the caterpillar, chrysalis, and moth, magnified, the lines indicating the natural lengths, together with one of the seeds. *J. O. W.*

## Home Correspondence.

*Out-door Grapes.*—I have this year grown on a brick wall without any covering, on a Vine planted two years ago, five bunches of good Grapes (Black Hamburgh); one of the bunches weighed ¾ lb., with berries measuring 2¼ inches in circumference, well coloured, with a good bloom on them. They may now be seen in the shop window of Mr. George Barry, Seedsman, 13, South Castle Street, Liverpool. *J. Wignall, Alpha Cottage, Ticebrook, West Derby, near Liverpool, Nov.* 10. [Surely this is not surprising in so hot a summer.]

*Holly Tea.*—The earnest way in which Mr Forsyth recommended the use of this substitute for Chinese Tea induced me to make a trial of it, and as he specially recommended it to be roasted before use, I had the leaves roasted "as brown as the crust of well-baked bread," and on trying the infusion found such an oleaginous smell as strongly to remind me of a floor-cloth manufactory. I nevertheless endeavoured to get over this difficulty, applied milk and sugar in the usual way, and with a prejudice rather in favour of the discovery than opposed to it, could not by any means bring my palate or the palates of my family to accommodate themselves to it. Indeed, there was so much of a *primâ facie* emetic about the drink, that I think there is very little danger of people laying out a farthing an ounce for it after one taste, though I really am sorry at the result. *J. J. Foster, Edgware Nurseries.*

*The Late Frost.*—You say truly that frost in October is no novelty. Almost every year there is sufficient cold in that month to cut off Dahlias, Scarlet Runners, and such like tender plants; but the frost this season has done more mischief in the kitchen garden than in any other within the recollection of the "oldest inhabitant." Salading will, I expect, be very scarce in consequence. Lettuces, both Cos and Cabbage, Endive, especially that which is full grown, and even Celery where not well earthed up, are greatly injured. Cardoons are almost entirely spoiled, the heavy snow having weighed down the large leaves till the stalks, previously weakened by the frost, are broken and split into fragments. All the late Cauliflowers that had formed heads were destroyed here, and the more tender leaves of Broccoli, Greens, &c., considerably damaged. All tender bedding plants which had not been taken up were killed as a matter of course, and I hear that in some extensive places the loss in this line has been great. The large quantity of rain (over 4 inches) which has fallen in this district since Oct. 24 has made matters worse by increasing the tendency to rot in the frost-bitten vegetables. *J. B. Whiting, The Deepdene, Dorking.*—"I never knew a frost so early as this" surely cannot be the expression of a practical gardener, as he must have small experience and less weather knowledge who calls it early (21st October) to have his Dahlias, Heliotropes, and similar tender plants killed. The fact is that this is very like the rule, and to stand over this date, the exception. I myself have been an anxious observer of weather as to its effect on plants, and I can say that I never saw the like at the same date before, and this I can have corroborated by men of 50 years' experience. By the bye, I should be glad to hear from our worthy Chrysanthemum friend Broome as to the state of his plants in the Temple Gardens. I much fear his year of toil and labour has been entirely thrown away this season, judging from what I see in so many places. I quite agree with his remark that Chrysanthemum shows are too early, for how very few full blown plants does one see in the first week of November. *North Notts.*

*Eriobotrya japonica, or Loquat.*—The effect of the two last hot summers in ripening wood is somewhat remarkably shown by the appearance of several bunches of flower upon a large plant of the Loquat growing here on a south wall. The plant is about 15 years old and upwards of 20 feet high, and has never received any protection; but until the present autumn it has never formed any visible flower buds. Those now put forth are sufficiently expanded for the petals to be visible, and should the weather continue mild may perhaps open fully. Its natural season of flowering in the south of Europe is November, so that it is only in very favourable summers that it ever flowers in England. The plant in question is grafted, I believe, on a Pear stock, and its foliage is very large and fine. *J. Rogers, River Hill, Sevenoaks.*

*Australian Cress.*—I see that a new harvest of what is called "Australian Cress" seed is announced in your pages. Will the advertiser be kind enough to inform the public wherein the difference lies between this reputed new Cress and a kind which has been cultivated in this country for probably half a century? I am aware that this Cress has been exhibited at horticultural meetings, and (if my memory is correct) has received "high commendations," if not "certificates of merit." But these distinctions do not make it what it is said to be—a new salad-herb; they only show that the judges who conferred them have more oil in their composition than vinegar. *W.*

*Gardeners' Education.*—Several articles have recently appeared in the *Gardeners' Chronicle* relative to gardeners and their employers, to the general good sense of which I cordially subscribe. In speaking of gardeners your correspondent "H. A. W. D." (p. 774) says: "I dare affirm that there is no class of men more intelligent or trustworthy, or who study more their employers' interest if fair play be given them." Now this statement (the correctness of which I believe few will deny)

fairly assumes that a gardener must be an educated man; and, from the varied and responsible nature of his duties, and the respectability of the position that he is expected to occupy, it is of the last importance that he should really be so. However we often discover that this essential element has been in a great measure neglected as a preliminary preparation; and it is therefore with a view of supplying in some measure the means of improvement to young men during the period of their apprenticeship that I am now desirous, through the medium of the *Gardeners' Chronicle*, of submitting for the consideration of others a practice which I have myself adopted for several years, and with results so satisfactory that I am induced to recommend to others the adoption of a similar course. During the winter season, or say from November till March, I arrange with any young men under my charge that they shall meet with me for three hours, five nights of the week, for the purpose of receiving such instruction as my humble abilities enables me to afford, or their more immediate requirements demand. I also make occasional selections of practical subjects on which they are required to prepare Essays, and, the more effectually to test their knowledge and abilities, I strictly prohibit all reference to books or periodicals on gardening during the preparation of such essays. My own experience is, that, as a general rule, young men are only too happy to avail themselves of such facilities for improvement; nevertheless exceptions to this rule will occur; in such cases a judicious exercise of authority must be resorted to. Let us who have passed our probation afford all the assistance we possibly can to those who are just entering upon the path that we have trod for many years. They place themselves under our care; let us, on our part, be faithful to our trust. It is a duty we owe to their future welfare; it is a duty we owe to our own individual credit, and to the respectability of the profession; and let me also add, that it is a duty we owe to the mutual interests of gardeners and their employers. *A. M'Intosh, Castlerea, Ireland, Nov.* 1.

*Vineyards in England.*—There is no question that in very early times Vineyards were plentiful in England, and that abundance of good wine was produced from them. Soon after the Norman conquest, however, the wines of France were largely imported into England, and it is expressly recorded that "a passion for French wines became a characteristic of the court and the nobility in the reign of Henry III." But the monks of many an abbey in the south of England continued to cultivate their Vines in famous Vineyards in the southern counties of England; and what are now cornfields and meadows retain in hundreds of places the name of "Vineyards" to this day. They gradually succumbed, however, especially after the dissolution of the monastic establishments, under the more bountiful supplies from the coast of France. The reasons for this are not material. I am only so far concerned with the facts as to prove that the Grape having been formerly successfully grown in England for the purpose of making wine, there is nothing in the soil or climate of England to prevent its being grown for the same purpose now, especially with the improved knowledge which we possess of the mode of its cultivation and treatment, added to the increased mildness of our climate. Such being the case, I have no doubt you or some of your numerous practical correspondents would be conferring a great boon on many of those who dwell in the warm, sunny valleys of the south of England, if you would allow your valuable *Chronicle* to be the medium of conveying to them information on the choice of situation, soil, and its preparation, kinds of Grape best suited to the purpose, distance, mode and time of planting, age and cost of plants, after treatment of the Vines, &c. In ordinary seasons the Sweet Water, Black Cluster, &c., ripen well against a south wall in the south-west of England; and though they might not attain the same degree of perfection in a Vineyard, they would in the most unfavourable seasons at least produce a wine far superior to green Gooseberry, Rhubarb, or any other imitations of Champagne, or indeed anything that is called wine made from other English fruits. *Y., Devonshire.* [Surely it is hopeless to make wine in England so good as even the worst of what may be called low-priced French wines, and for the same money.]

*Transplanting Large Trees.*—At page 849 Mr. Tillery states that he has had much experience in removing large trees with machines. He will greatly oblige me by giving a description of the machines, and mode of operation. *Inquirer, Stockwell.*

*Monro's Cannon Boiler.*—A great deal has been advertised about Monro's cannon boiler, sold by J. Jones, of Bankside, for 5 guineas. My employer sent me to purchase one, of cast-iron, when I was told they only kept wrought iron, which were 6 guineas each. So I said I would take one of them; the answer I received was: "Don't you want the top connecting piece and elbows, furnace bars and doors?" I then asked what difference that made, as the boiler was advertised for 5 guineas. He said to have it all completed would be 10*l.*, at which I was greatly surprised. That furnace bars and doors and connecting piece should be charged extra, I consider is most extraordinary. Others in the trade are all complete for the price they fix. So those that want to purchase a cheap boiler may profit by my experience. They told me it don't answer their purpose to sell them under the amount above. *James Ellis, Gardener, Edmonton.*

## Societies.

CRYSTAL PALACE CHRYSANTHEMUM EXHIBITION, *Nov.* 9, 10, and 11.—This exhibition took place on Wednesday, Thursday, and Friday last, and the display presented was all that could possibly be desired. The first day was fine, and, this, as well as the prospect of seeing our now almost national autumnal flower in perfection, no doubt tended in no insignificant way to entice many visitors, who we feel assured could not have departed without experiencing very great satisfaction with the objects they had witnessed. The following will show what kind of flowers were to be found in the winning stands:

*Cut Blooms.*—In Class 10, 24 Cut Blooms, Mr. Bird, Nurseryman, Stoke Newington, gained the first prize with Plutus, Novelty, Themis, Yellow Perfection (far superior as a yellow to Plutus), Madame Andry, Goliath, Raymond, Pio Nono, Nonpareil, and Marshal Duroc. These were very justly placed in the first rank, for anything more nearly allied to perfect symmetry there could not be. The second in this class was awarded to Mr. J. Wilkinson, of Bow, who exhibited Themis, Goliath, Madame Mullier (very small but compact), Marshal Duroc, and Dupont de l'Eure. These were all somewhat smaller than the foregoing, but still excellent. The third award was given to Mr. Merry, Nurseryman, Stamford Hill, for specimens of lucidum, Raymond, and Defiance.

In Class 8, 24 Cut Blooms, the second prize was awarded to Mr. J. Sanderson, of Regent's Park, for Beauty, Arc en Ciel, Plutus, Aristée, Dupont de l'Eure, Pio Nono, Raymond, Cassy, insigne, and Lysias. The third to Mr. Robert Oubridge, gr. to J. Foster, Esq., Stamford Hill, for Nonpareil, Themis, Madame Andry, Plutus, Anaxo, Aimée Ferrière, Lysias, Cyclops, formosum, and Two-coloured Incurved. The fourth prize was given to Mr. Chas. Ward, gr. to W. Fowler, Esq., Tottenham Green, for Dupont de l'Eure, Plutus, Marshal Duroc, and Nonpareil. In this class the best flowers were those just enumerated; the others though good were not up to the standard of perfection.

In Class 9 (12 Cut Blooms), Mr. Sanderson was first with Queen of England, Themis, Anaxo, Cassy, and Madame Mullier. Mr. Oubridge was second, with Themis, Nonpareil, Marshal Duroc, Dupont de l'Eure, and others; third, Mr. Arthur Wortley, of Stoke Newington, who showed some excellent specimens of Goliath, Plutus, Pio Nono, Dupont de l'Eure, and Lysias; the fourth was awarded to Mr. Sanderson, of Hermitage Terrace, Bow, for Hermione, formosum, Gloire de Toulouse, &c. In this Class there were stands from Mr. Joseph Monk, gr. to C. J. Heath, Esq., Balham Hill, containing good flowers of Anaxo and Goliath; Mr. George, of Hanger Lane, Stamford Hill, had a good yellow formosum and Plutus.

In Class 11 there were many entries. Among the most successful were Mr. Sanderson, of Bow, who exhibited good flowers of Nonpareil and formosum; Mr. Isaac Delvalle, of Stoke Newington Green, showed Dupont de l'Eure, Princesse Marie, formosum, and Annie Salter; blooms were also shown by Mr. Butt, of Milton Terrace, Stoke Newington; and by Mr. E. Sanderson, of Regent's Park, whose specimens consisted of Raymond, Plutus, Themis, Nonpareil, and others; some excellent blooms likewise came from Mr. Wortley, among which were Plutus, Pio Nono, Nonpareil, and Lysias. Among others from Mr. George we found Trilby, Goliath, and Plutus. Mr. E. Merry, Stamford Hill; Mr. J. Wilkinson, Bow; Mr. Ward, and lastly Mr. Monk also showed in this class.

In Class 12 (24 Cut Blooms) were to be found some really good flowers from Mr. Wortley, consisting of Themis, Queen of England, Marshal Duroc, Pio Nono, Glory, Goliath, white formosum, Curtius Quintus, Rosa Mystica, and Arc en Ciel, and on another stand we found some admirable Anemone-centered specimens from the same exhibitor entitled Rose Marguerite, Jean Achette, Eugene Langayle, and Madame Senta. In this class Mr. George showed Antonius Fouchette, Rose Marguerite, and Regulus.

Amongst cut blooms not sent for competition especial mention must be made of an immense stand from Mr. Bird in another portion of the building. There were long separate rows of Themis, Nonpareil, Plutus, and mixed specimens, and above all an admirably designed device bearing an inscription in variously-coloured blooms. This stand formed one of the principal attractions, as well it deserved, for anything more beautiful at this time of the year than these blooms were can scarcely be conceived. Beside this stand, though not for competition, was one by Mr. J. Wilkinson, of Bow, who showed good specimens of Progne, Marshal Duroc, and Nonpareil.

*Specimen Plants.*—In Class 7, Pompones grown in pots, for the best six plants in 8-inch pots Mr. Forsyth gained the first prize, with Doctor Bois Duval, Aurora Borealis, Brilliant, Mdlle. Celestine Philopel, Ninon, and Golden Cedo Nulli. In Class 6 the first prize was awarded to Mr. Shrimpton, gr. to A. J. Doxat, Esq., Putney Heath, for a beautiful single specimen of Cedo Nulli, full to repletion with bloom, and looking as white as if covered with snow. Mr. John Tandy, gr. to E. Sanders, Esq., Fair Lawn, Wimbledon Park, showed some really excellent specimens of Madame Rousillon, Bob, Requiqui, Helène, Cedo Nulli, and Brilliant, and this being his first appearance at any show he deserves great credit. Mr. Ward exhibited Mustapha, Cedo Nulli, Trophée, Gen. Canrobert, Requiqui, and Durufflet, good well grown plants, somewhat cramped in the training, but evidently the largest in the exhibition. Mr. Hutch, of Stoke Newington, produced two admirable specimens of Adonis and Christine, which deserve commendation. Mr. Wiggins exhibited an admirable Cedo Nulli.

In Class 5 Mr. Wiggins showed a brilliant pair of Bob, Gen. Canrobert, St. Thais, Helène, Cedo Nulli, and Durufflet. In Class 6 Mr. George had a very large plant, but somewhat wanting in brightness.

Among large-flowering specimen plants we found Mr. F. Bennett, of Upper Tulse Hill, exhibiting Annie Salter, Beauty, Themis, Albin, Christine, and Trilby; Mr. Adam Forsyth, nurseryman, Shacklewell, sent Gen. Negrier, Pilot, Defiance, Auguste Mie, Vesta, and Annie Salter; Mr. E. Merry, of Stamford Hill, showed Beauté de Nord, Christine, Havelock, Chevalier Dumas, Voltaire, and Albin. Mr. Ward furnished a single specimen of Pilot; Mr. Oubridge, an excellent Dr. Maclean, beautifully variegated, as well as an excellent Phidias; and some came from Mr. Oubridge, among which were Progne, Defiance, Pilot, Vesta, Annie Salter, and Christine; Mr. Hutch also showed some good specimens of Annie Salter, Christine, Madame Cameron, General Havelock, Chevalier Dumage, and Mount Etna; as did also Mr. George a Plutus, Christine, Aregina, and Queen of England. There was likewise a well grown plant of Queen of England sent by Mr. Brown, gr. to J. C. Thurn, Esq., of Dulwich.

Among plants put up for effect by the Company, one of the most attractive objects was an immense basket placed under the centre transept, but which, owing to the Schiller festival taking place on Thursday, was necessarily removed to another site on that day. It measured about 8 feet across, and was formed of rope and wood very tastefully combined. The outer ring was filled with the yellow Pompone Solfaterre, Sacramento, and Drin Drin, inside which were placed the almost white Cedo Nulli, and the pretty Madame Rousillon; in the next row were placed some plants of President Decaisne and Helène, the whole being surmounted by three handsome standards of Bob and a Brilliant, the centre being filled up with a large General Canrobert. This was continually surrounded by visitors. About four dozen standards were placed in different parts of the Palace, freely grown, and showing no cramping in their cultivation. There was also a table about 200 feet long, almost entirely devoted to the Company's plants, miscellaneously placed, but forming a very pleasing collection taken as a whole. Some were grown dwarf, while towering above their heads were many handsome specimens in the shape of standards. This table viewed from end to end formed a very pretty picture.

Among matters not exactly for competition, but which may in no small measure influence future displays of this flower, must have been noticed a very beautiful seedling of Mr. Holland's, gr. to R. W. Peak, Esq., Spring Grove, Isleworth, named Miss Augusta; this gained a First-class Certificate as it richly deserved, and not only in this instance, but it has also gained a like award at five other exhibitions, thus fully establishing its merits. First-class Certificates were also awarded to seedlings named by Mr. Salter, Mr. Holborn, and Arthur Wortley. There were also on this stand of Mr. Salter's some good Pompone seedlings, named Emperor, Bouquet des Fleurs, Alarm, Lara, Snowflake, Distinction, mirandum (excellent), Augusta, Christina (very pretty), and others named Favourite, Lord Harding, Wonderful (a great acquisition), and Belmont.

There was also a beautiful stand of 24 cut bunches of Pompones, sent by Mr. George, Stoke Newington; among them were Helène, Bijou d'Horticulture, Trophée, Requiqui, Cedo Nulli, and others. We must not omit mentioning some excellent Standard Pompones, sent by Mr. Morgan, of Lincoln's Inn Fields, which were pleasingly placed in vases, &c., among which were two good Vestas, and a Cedo Nulli.

We may mention in conclusion that the numerous groups of Camellias scattered about the Palace are now in full bud, and no doubt about April next will form objects of great attraction.

STOKE NEWINGTON CHRYSANTHEMUM.—The 13th annual exhibition of this, the oldest of all the Chrysanthemum societies now so numerous in the neighbourhood of London, took place on Monday and Tuesday last, in the Manor Rooms, Church Street. There was a fair attendance of company, and the room was literally crowded with plants and cut flowers, among both of which were specimens which for beauty and symmetry could not possibly be excelled. In the Class of Cut Blooms, Mr. Bird obtained a silver cup for the best collection of 36. It contained Queen of England, Themis, large and fine; Anaxo, Madame Lebois, Goliath, Duke, Princesse Marie, Nonpareil, Beauty, Plutus, and the following new varieties, viz., Alarm, Alma, pictoreum roseum, Novelty, a beautiful white; Pearl, Yellow Perfection, and Beauregarde, all of which are flowers of great promise. The next best 36 blooms came from Mr. Wilkinson, of Old Ford. It contained Queen, Goliath, Progne, King, lucidum, and Madame Andry, in excellent condition. In the class of 24 blooms by far the best came from Mr. Bird. The following were the admiration of everybody, viz., Nonpareil, Hermione, Dupont de l'Eure, Anaxo, Raymond, Trilby, Albin, Goliath, Novelty, Aregina, Marshal Duroc, Perfection, Themis, pictoreum roseum, Pio Nono,

Andry, Stella globosa, formosum luteum, Duke, Plutus, Queen, formosum, and Madame Andry. Mr. Williams produced a good stand of 24, in which were good blooms of Themis, Goliath, Dupont de l'Eure, Plutus, and Golden Queen, a new kind raised by Mr. Salter, of Hammersmith. It is very large, but in this state is somewhat coarse; some blooms of it shown by the raiser himself were however in rather better condition. Mr. Elliott, of Stamford Hill, showed 24 good flowers, among which Themis, Queen, formosum, Dupont de l'Eure, Defiance, Trilby, and Anaxo were conspicuous both for size and beauty. Mr. Oubridge and Mr. Monk also showed well in this class. The kinds did not differ much from those enumerated above. In the Class of 12 Blooms, the best came from Mr. Oubridge, who sent Trilby, Anaxo, Themis, Nonpareil, Hermione, Plutus, M. Andry, Duke, Marshal Duroc, formosum luteum, Dupont de l'Eure, and Stella globosa, all evenly grown and in every way excellent. Mr. Elliott had the second best 12, among which were fine specimens of M. Andry, Lysias, Themis, Queen, Anaxo, Goliath, Alfred Salter, Dupont de l'Eure, Defiance, Duke, Stella globosa, and formosum. Mr. Monk sent Goliath, Aregina, Raymond, Themis, Marshal Duroc, Duke, M. Andry, Dupont de l'Eure, Stella globosa, Plutus, and formosum luteum, all good examples of skilful cultivation. In the class for Maiden growers, Mr. Taylor of Enfield showed handsome blooms of Lysias, Goliath, Nonpareil, Plutus, formosum, and Marshal Duroc. From Mr. Harris, of Dalston, also came some good blooms, which were not dissimilar to those just mentioned. Anemone-flowered kinds came from Messrs. Oubridge, Monk, and Bird. Among them were King of Anemones, Gluck, Georges Sand, Margaret of York, M. Godereau, Louis Bonamy, Eclipse, and Marguerite d'Anjou. With respect to plants in pots some of the collections were really magnificent. Among large-flowered kinds the best came from Mr. Oubridge, to whom was awarded, and deservedly, a silver cup, for fine specimens of Christine, Annie Salter, Pilot, Defiance, Vesta, and Dr. Maclean. From Mr. Scruby came Salter's Annie, Progne, Christine, General Havelock, Pilot and Vesta. Mr. Hutch sent Christine, Mount Etna, Chevalier Dumas, and Annie Salter, both well grown and flowered. Among Pompones the best we ever remember to have seen were from Wiggins, gr. to Mr. Beck, of Isleworth. They fully bore out all that was said in their praise last week by Mr. Broome. They were trained on horizontal wire trellises, some 4 or 5 feet in diameter, and were literally masses of bloom, intermixed with just sufficient green leaves to relieve and set it off to advantage. The sorts were Bob, a brilliant kind; Durufflet, Cedo Nulli, Helene, General Canrobert, and St. Thais. These being well contrasted as to colour had an excellent effect. The next best group came from Mr. Ward, of Tottenham. They consisted of Cedo Nulli, Durufflet, Riquiqui, Trophée, Gen. Canrobert, and Mount Etna. Six nice Pompones came from Mr. Scruby, and of plants in 8-inch pots Mr. Eden, of Kingsland, sent some pretty bloomed specimens. From Mr. Holland came the seedling named Miss Augusta, with remarkably fine petals; it is pure white and promises to be a favourite. We also noticed a sport from Aregina with yellow flowers; it was however not in a condition to fairly judge of its merits. In the centre, opposite the entrance, was an immense plant of Adonis, and specimens of a striking character as to size also occupied the corners. Altogether the arrangement was excellent, but the room is too small to admit of visitors moving about with comfort.

[We shall next week publish reports on the South Metropolitan Amateur, South Eastern, and other Chrysanthemum Societies, our space for to-day being exhausted.]

## Notices of Books.

*Cybele Britannica; or, British plants, and their Geographical relations.* By H. C. Watson. Vol. IV. 8vo. Longmans. Pp. 527.

Well might a distinguished botanist, upon looking at this volume, exclaim, "*Que signifie ce mot Cybele, que l'auteur a introduit dans la science?*" What indeed could have led to the selection of a name concerning which we shall only say that it was given to a goddess whose festivals were the most beastly in even heathen mythology. Mr. Hewitt Watson has, however, a very peculiar turn of mind; and it would seem as if he had adopted the name in order to show how high he stands above the scientific throng in even so small a matter as the selection of a title; or it may be that *Cybele* was chosen because of its resemblance in sound to *cynic* and *cynical*, an idea that has struck others as well as ourselves.

The object of the work is to reduce to certainty the manner in which the plants wild in Great Britain are distributed, and the causes (or as Mr. Watson says the causal conditions) "by which plants and places are connected together." How *Cybele* and such a subject are "connected together" passes our comprehension.

In truth the volume before us is the fourth of a treatise on what Brown, Humboldt, Alphonse De Candolle, and other less eminent men than Mr. Watson call botanical geography. The author inquires into the nature of what are termed Orders, Genera, and Species; he attempts to determine which species now supposed to be aboriginal have been introduced; he describes the superficial peculiarities and climate of Britain, goes into a variety of statistical questions, and closes the subject by general remarks on miscellaneous matters. It is impossible not to admire the industry shown by Mr. Watson in travelling over this ground. He has brought together a very large amount of evidence as to the range of species; put together with skill, and commented upon with a good deal of acuteness. The notes collected in order to enable him to form his calculations of numerical numbers must alone have consumed years of patient research. But when we inquire for the results to which so much labour and so many years have been sacrificed we ask in vain. The object was to ascertain "the causes by which plants and places are connected;" in other words to discover the reason why one plant or race of plants is only found under one set of conditions, and some other plant or race under a different set; and to show moreover, we imagine, why certain forms of vegetation are characteristic of certain countries or regions, as for instance Palms of tropical countries, the genus Cinchona of the western slope of the Cordillera, phyllodineous Acacias of Australia; or, to confine ourselves to this country, why Spiranthes gemmipara is only found in the south-east of Ireland, Erica ciliaris on the Cornish serpentine, Simethis bicolor in Kerry (?) and Dorset.

To this highly curious subject Mr. Watson's pages do not appear to us to offer a reply. Instead of precise results we have elaborately learned disquisitions, which really, when dissected, end in nothing. We are far from blaming Mr. Watson for this termination of his toil. To us it seems hopeless to expect any other; the question no more admits of a solution than the origin of the plants under consideration. We all know, without the aid of much research, that there is something peculiar in the constitution of species which determines their power of existence. Plants like animals have their idiosyncracy, as it is called. But what is idiosyncracy? a word and nothing more. Why does South Australia produce a Pelargonium or two; the range of Taurus another; Abyssinia one or two more; while the great mass of the species occurs only in Southern Africa? Why, where one is found, are not others also numerous? If the form of vegetation called Pelargonium depends upon "causal conditions," what are those conditions; and why should not a Pelargonium be found at the foot of Olympus as well as on the Bulgar Dagh? Agrimonia Eupatoria occurs in Ceylon; probably a mere form of it is in the Himalayan range. What similarity of condition is there between the hills of Ceylon and Northern India and a Norfolk ditch, sufficient to bring about the appearance of the plant at such distant points? Look again at Cressa cretica, found wild in the Mediterranean and on the Murray in Australia. How is that? Those are points worth elucidation, if elucidation is possible; and we had hoped that Mr. Watson might at least have furnished a clue.

He has failed; and it would seem from remarks frequently repeated as if he attributed his want of success to the vagueness and inexactness of botanists; he complains of the vagueness and inexactness of Humboldt, Brown, and others of that rank; of the inextricable confusion introduced into statistical questions by the clashing opinions of systematical writers. But he does not perceive that such "inexactness" arises out of the very nature of the things dealt with. We are certainly no advocates of that system of species-splitting of which Mr. Watson so much and so justly complains; at the same time we cannot shut our eyes to the fact that to bring the words species, or genus, or order within a strict definition is chimerical. To these names a certain more or less clear conventional meaning is attached, which is not only convenient but necessary if order is to prevail in botanical arrangements. But no botanist of any mark attaches a positive meaning to them. They represent artificial divisions and nothing more. Whether or not even species really exist is by some questioned. We do not ourselves concur in the opinion that there are no species in nature; but we are obliged to confess that it is extremely difficult to say in all cases what it is that absolutely separates one form from another. And so of genera. A botanist may say that Conium, Æthusa, and Rosa have all the appearance of being precisely limited genera; but what of Anthriscus and Fragraria and Lepidium?

Mr. Watson talks thus about species after speaking of orders and genera—

"Have botanical species an existence in nature more real and definite than the groups above named? Perhaps *without exception every technical botanist* will affirm that species have such an existence; that they are realities in nature, as definite and distinct in their way as the man and the chimpanzee, or the tiger and the lion, are believed to be by ordinary observers. But technical botanists—that is to say, describers of genera and species—*are seldom profound reasoners*; and those cultivators of science, who wish to have sound reasons for the faith that is in them, will do better by examining the practices, than by accepting the opinions of the mere describers of species, so many of whom *are unequal to any other object in science.*

"Two questions are involved in an inquiry as to the reality of species. It may first be asked, whether species do actually exist in nature? And secondly comes the inquiry, whether botanists know the species so existing, or supposed to exist? Although essentially distinct in kind, the two queries are practically inseparable. We cannot reply to the first question positively and logically in the affirmative, unless we can also answer the second question positively and certainly. The only certainty that species do exist in nature, definite and distinct from each other, must be derived through our knowledge of them as true species. If it should appear, on rigorous investigation, that we do not know such and such assemblages of individuals to be species, according to our abstract definition of the term species; but that we only infer from incomplete data and proofs that they are so; then, it seems quite logically to follow that the existence of species in nature is equally an inference or supposition, and not a certain fact, so far as human knowledge yet reaches.

"This appears to be the actual condition of technical botany. The existence of real species, according to a strict definition of the term, has not been fully and logically proved. But it is assumed and believed to be a truth, because the arguments advanced in support of the previously assumed truth, under present knowledge, appear to be more weighty, and more nearly conclusive, than any which are adduced against the belief. It may be said further, that such arguments appear thus weighty and conclusive, not solely *to the unreasoning minds* of the mere describers of species, but also to the minds of many highly reasoning men (namely, we presume, to Mr. Hewitt Cotterell Watson). Though the latter, be it here observed, *are not usually adepts* in the knowledge of species so-called; and they must thus rely rather too much upon the representations of the species-men, for the data from which their conclusions or convictions are deduced." The italics are our own. And then he goes on to propose a definition which to those who are curious enough to read it will be found as misty as any for which it is substituted.

Well then—he does not know what is a species—nobody knows—and yet out of this no knowledge he produces four octavo volumes, which, as we have already said, tell us nothing positive. Had he arrived at a single solid axiom he might have been forgiven. But he has been working according to his own showing in a fog, which he has left as dense as he found it.

The term "technical" botanists, so often employed in the foregoing extract, is doubtless used in contradistinction to "philosophical." The former, Mr. Hewitt Watson, with that courtesy so peculiar to him, declares to be "seldom profound reasoners," and to be "unequal to any other object in science." Philosophical botanists on the other hand, to which class Mr. Hewitt Watson evidently claims to belong, are profound reasoners, and equal to any object in science. It is painful to undeceive him. But surely the man who asserts that a correct knowledge of species is the foundation of all his "philosophy," and at the same time announces that there is no correct knowledge of species, should have seen that *therefore* there is no philosophy. We should have thought so great a philosopher would have himself set to work to acquire a correct knowledge of species, rather than have abused others for not furnishing him with the object of his desires. The assertion that "every technical botanist without exception" will affirm that botanical species have a real and definite existence in nature, we beg to deny in the most positive manner; unless he confounds botanists with botanophilists. If so we venture to refer him to his Linnæus. What are called botanical species are forms, the importance of which is estimated differently by different observers. Nobody doubts that the Wood Strawberry, the Raspberry, the Apple, the Pear, the Plum, the Gooseberry, the Black Currant, Conium, Æthusa, Groundsel, &c. &c., are natural species as real and imperishable in the vegetable kingdom as man, the sparrow, the squirrel, the horse, the ass, the goose, the lady-bird, the cockchafer, the oyster, are natural and imperishable in the animal kingdom. Upon these indeed all botanists are agreed; but when we come to botanical species, such as Prunus insititia and spinosa, Fragraria elatior and chilensis, Ribes spicatum, Elms, Willows, Brambles, and swarms of Senecios and Solanums, then we find ourselves in debateable land, where instead of unanimity we have *quot homines tot sententiæ.*

Mr. Watson writes as if he expected the world to have been created to suit his own peculiar turn of mind; not as if he had to deal with the world as it is. His eternal complaint is of the vagueness and inexactness of botanical writings, quite forgetting that physical geography is far more vague than genera, species, and orders; and that if his view of the *mutability* of these last is correct, then vagueness is inseparable from the subject with which he has attempted to deal. He talks as if anything short of absolute exactness was worse than useless, bringing contempt on authors and mischief into science; not appearing to perceive that natural history sciences are, as we have just remarked, inexact from their very nature; and that all men can do is to improve classifications by degrees as evidence accumulates.

We are sorry not to be able to appreciate the merits of this Cybele Britannica. And before we dismiss it we must draw attention to the extraordinary language which its author employs when speaking of others. Poor Forbes he calls blundering and false, a plagiarist, a man of reckless hardihood of assertion. Gentlemen who hold botanical chairs are accused of filling them for the mere sake of putting money into their pockets, botany being "useless to medical practitioners;" an assertion which shows that Mr. Watson really knows very little about the subject on which he has undertaken to write. It is announced that very few English botanists (?) seek more than a petty amateur knowledge of species. We are informed that the prevailing peculiarity of the botanical mind is

not always reasoning with strict accuracy and soundness; M. Alphonse De Candolle cannot reason on "causation and dependence;" and so on. If Mr. Hewett Watson can condescend to take advice he will employ another tone hereafter.

TRADE LISTS RECEIVED.—John Cattell's (Westerham, Kent) *Catalogue, No. 8, descriptive of the Collection of Select Roses;* Part I., *Roses that flower in June and July;* Part II., *Roses that flower from June till November:* 20 full pages of names, descriptions, and very useful directions for cultivation.—Stewart & Son's (Dundee) *Catalogue of Roses, Seedling and Transplanted Forest and ornamental Trees Shrubs, Fruit Trees, &c.* Although not like our metropolitan and southern lists this includes as much as is likely to be asked for in a country nursery. It is particularly well off for shrubs, but we cannot approve of the orthography.—John Carter's (Keighley) *Catalogue of Forest and Fruit Trees, American and other Shrubs.* The remark on the last list applies equally to this.—George Chivas's (Chester) *Priced List of Trees and Plants.* This is more ample than the two last Catalogues; and in addition Mr. Chivas makes the important announcement that he keeps on view a large collection of agricultural implements. The pages are neatly printed; but the spelling is the worst we have yet seen.

## Garden Memoranda.

CORD COCH GARDENS, DENBIGHSHIRE. — These charming gardens, the property of J. Wynne, Esq., are situated at the mouth of a little valley which carries a portion of the water from the high grounds which border the Conway, and ultimately pours it after passing under the magnificent rocks of Bryndulas into the sea, beneath the viaduct which is so conspicuous an object between Abergele and Colwyn. The valley itself about two miles above the gardens, though on a small scale, is remarkable for its rich covering of wood and precipitous banks, and contains in its recesses a very pretty waterwall. Its ancient name of Dawn is expressive of its native beauty. The mountain stream Dulas, a name synonymous with Douglas or dark grey, runs completely through the gardens with a moderately rapid fall, leaving a sloping bank of charming turf on either side laid out after the modern fashion, but with great taste, in beds, intermixed with beautiful specimens of Conifers and other hardy trees and shrubs; and on either side rises a steep-wooded bank continued from the higher defiles of the valley, along which the most delightful walks are conducted profusely ornamented with Rhododendrons and an admirable collection of rare and beautiful flowering shrubs.

The Rhododendrons indeed are one of the most striking charms of the place. Not only do they flourish in the utmost luxuriance amongst the Wenlock Shales of the district, but they spring up everywhere from seed, and the choicest sorts give no more trouble in the nursery beds than so many Whitethorns. This is the more remarkable, as in the carboniferous limestone of Gwrwch Castle, at a distance only of five miles, separated from the Shales by a very narrow strip of old red sandstone, they will scarcely grow, though great pains are bestowed upon the extensive plantations with which that noble mansion is ornamented.

Amongst other objects of interest are the Conifers, which, though of recent introduction, are making great progress. A fine Wellingtonia, a magnificent Cupressus torulosa, and one of the most thriving Pinsapos we ever saw are amongst the most observable. The plan is adopted here of planting the Conifers amongst the brushwood and gradually clearing it away as it ceases to perform the office of a nurse or more air is wanted. The woods happily are not troubled much with rabbits, and though they swarm with hares, the young Pines do not seem to suffer in consequence.

We should not omit to notice the extensive collection of spring-flowering plants, which, in addition to the Rhododendrons, make these gardens as attractive in the early months as most are in autumn.

The adjoining park, though not equalling in size many of our English parks, is very beautiful, commanding a fine view of the two Moelfres, and in one point of the range running from Conway to Lake Ogwen, and is remarkable for the magnificent specimens of Quercus sessiliflora, the ramification of which is so different from that of the more common English Oak that the general effect is totally different. We observed a very few specimens of Quercus pedunculata, intermixed; but the sessile fruit is not a constant character of the other species, so that unless attention be paid to the ramification, mistakes may easily be made. The timber of the Welsh Oak is certainly less valuable than that of Q. pedunculata, but the growth is so much more rapid that the return is probably far greater. In a specimen before us the growth in five years has been $\frac{15}{12}$ths of an inch in radius, or $2\frac{1}{2}$ inches in diameter, while in an unusually vigorous piece of English Oak the growth has been under 2 inches. In ordinary cases it would be far less rapid. The Spanish Chesnut thrives here wonderfully. A block which we have secured as a specimen shows an increase of $3\frac{1}{2}$ inches in diameter during the same period.

The gardens are under the care of Mr. Clarke, to whom they do great credit; but the skill with which they have been laid out, the judicious combination of art and nature, and the admirable general effect produced by the details are in great part ascribable to the lady of the house, who combines considerable scientific knowledge with the most excellent taste. *M. J. B.*

## Calendar of Operations.

*(For the ensuing week.)*

### PLANT DEPARTMENT.

CONSERVATORY, &c.—Some of the very earliest Chrysanthemums may probably be getting past their best, and these should be replaced at once by something of a more showy character. While the principal collection is in bloom a selection should be made of the best and most useful sorts, for there are many worthless varieties in cultivation, and it is better to grow duplicates of the really good kinds than to retain such as are but indifferent, merely for the sake of having a long list of names. Give timely attention to providing a succession of bloom with which to keep this house gay, and avoid as far as possible the expense of hard forcing, which is moreover so very injurious to most plants. Be careful not to let things in bloom suffer for the want of water, giving weak clear manure water to Chrysanthemums, Salvias, Camellias, &c., and use every means to preserve the beauty of specimens in bloom as long as possible. GREENHOUSE.—Damp and mildew are the great enemies to be guarded against here, and these must be sharply looked after, especially in the case of plants that have not well ripened their growth, and are in a rather soft state. If the former is troublesome it must be got rid of by means of free ventilation on mild days, using a little fire-heat at the same time, and for the latter a dry airy atmosphere is the best preventive, but the plants should be frequently examined, applying sulphur on the first appearance of the enemy. Very little water will be required here at present, but the plants should be carefully looked over about twice a week, so as to make sure that nothing is allowed to feel the want of it. If not already done, get the plants tied with the least possible delay, for it is very difficult to tie a plant so that it will not look somewhat stiff and unnatural, and the sooner all this kind of work is done the better the specimens will look when in bloom.

### FORCING DEPARTMENT.

PINERIES.—Plants in bloom will require very careful management to prevent their being injured by damp, and the atmosphere must be kept dry, with a rather brisk temperature, admitting a little fresh air on every favourable opportunity; and if there is the means of admitting air over the pipes, so that it may get warmed before coming in contact with the plants, a little should be admitted constantly. Plants in bloom should also be near the glass, and where they will catch every ray of sunshine. It is nearly impossible to get fruit to swell anything like properly at this season, therefore unless a succession of ripe fruit is indispensable, and cannot be secured save by driving plants that bloomed late in autumn these had better be kept rather quiet until the sun gains a little more power. Where an attempt must be made at present to get fruit to swell, a moist warm temperature of about 70° at night and 75° by day must be maintained, allowing it to rise to 80° with the assistance of sunshine, and the bottom-heat must be kept regular at about 85°, taking care to keep the soil in a healthy state as to moisture. But it is difficult to get the fruit to make much progress at present, and a little time lost now will be easily overtaken in spring when the plants will enjoy a high moist temperature, and the fruit will increase more in weight in one month then than in two at present. VINERIES.—As soon as the early house is closed for forcing, be careful to secure a thoroughly moist state of the atmosphere by frequently sprinkling the floors and every available surface, but as observed previously, a regular moist state of the atmosphere is most effectually secured by means of a slight bed of fermenting materials in the house, which will also afford a little warmth, and the moisture from this is much more congenial to vegetation than anything that can be effected by the most careful use of the syringe or evaporating pans.

### FLOWER GARDEN AND SHRUBBERIES.

The weather is still comparatively favourable for executing alterations; and where these are in hand they should be prosecuted with the greatest possible despatch, taking advantage of frosty mornings, &c., for wheeling Planting, or the removal of large trees or shrubs, cannot be finished too soon; for it is of the utmost importance that the plants should be afforded some chance of making fresh roots before the trying winds of March. See to even small plants being secured against the wind; for these are often greatly injured by being blown about after planting, which a small stake and a few minutes' work would prevent. Get in a stock of Briars for budding upon next season. Let the roots be well trimmed, cutting back closely the strong ones; for these, if left, will be of little use except to furnish an endless supply of suckers.

### HARDY FRUIT AND KITCHEN GARDEN.

If any transplanting or root pruning of fruit trees has yet to be done let this be attended to without further loss of time, and see that those exposed to the wind are securely staked before leaving them. Also get the ground prepared for fresh plantations, and the trees planted as soon as possible. Take every opportunity of pushing forward pruning and nailing. Give air freely to Lettuce and Cauliflower plants under glass; indeed the sashes should merely be used to exclude frost, and throw off rains, for they will do all the better in spring for being kept hard and stocky over the winter. If not already done make a sowing of Peas and Beans on well sheltered dry ground, and do not spare the seed of the former, for it will be some time exposed to the depredations of mice, &c. In favourable localities a second sowing may be made if the first sowing is through the ground. Take advantage of the first dry day that may occur with the ground in a rather dry state; earth up closely any of the Celery that may have grown the previous soiling, and be prepared to protect the ridges in case of severe frost. Dry stable litter answers very well for this purpose, but where that cannot be afforded, light straw or Reed shutters are preferable as being more easily applied, causing less litter, and these are also useful in excluding wet. It will soon be time to be providing seed for the early crop of Celery next season, and for this purpose we know no variety equal to Cole's dwarf white. This is, as its name indicates, a dwarf variety, and cannot be grown to a large size, but where quality is preferred to size it will give satisfaction, for it is very crisp, soon blanched, and the flavour is everything that could be wished. Attend to keeping up a regular succession of Seakale, Asparagus, and Rhubarb, by introducing moderate quantities at short intervals into heat.

STATE OF THE WEATHER AT CHISWICK, NEAR LONDON For the Week ending Nov. 10, 1859, as observed at the Horticultural Garden

| Nov. | Moon's Age. | Barometer. Max. | Barometer. Min. | Temperature of the Air. Max. | Min. | Mean | Of the Earth 1 foot deep. | Of the Earth 2 feet deep | Wind. |
|---|---|---|---|---|---|---|---|---|---|
| Friday 4 | 9 | 29.227 | 29.000 | 56 | 38 | 47.0 | 50 | 50½ | S. W. |
| Satur. 5 | 10 | 29.406 | 29.262 | 58 | 49 | 53.5 | 49 | 50 | S. W. |
| Sunday 6 | 11 | 29.480 | 29.318 | 57 | 40 | 48.5 | 52 | 50½ | S. W. |
| Mon. 7 | 12 | 29.669 | 29.568 | 60 | 39 | 49.5 | 52 | 50½ | W. |
| Tues. 8 | 13 | 29.830 | 29.665 | 53 | 31 | 42.0 | 52 | 51 | S. W. |
| Wed. 9 | 14 | 30.452 | 30.202 | 46 | 21 | 33.5 | 51 | 50½ | N. |
| Thurs. 10 | ○ | 30.631 | 30.595 | 45 | 26 | 35.5 | 50 | 50 | N. |
| Average | | 29.813 | 29.658 | 53.6 | 34.8 | 44.2 | 50.8 | 50.4 | |

Nov. 4—Rain; overcast; cloudy.
— 5—Clear and fine in forenoon; boisterous with heavy rain.
— 6—Cloudy; showery; very boisterous; thunder and lightning in afternoon and at night.
— 7—Boisterous; very fine throughout.
— 8—Clear; fine; clear at night.
— 9—Slight frost; very clear and fine; frosty.
— 10—Sharp frost; fine; foggy; overcast; frosty and foggy.
Mean temperature of the week, ½ deg. below the average.

RECORD OF THE WEATHER AT CHISWICK, During the last 33 years, for the ensuing Week, ending Nov. 19, 1859

| November. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Wind N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday 13.. | 50.3 | 36.2 | 43.3 | 18 | 0.66 in. | — | 4 | 3 | 4 | 5 | 5 | 5 | 3 |
| Mon. 14.. | 48.5 | 34.3 | 41.4 | 17 | 1.24 | 6 | 6 | 3 | 5 | 2 | 5 | 3 | 1 |
| Tues. 15.. | 48.5 | 35.2 | 41.9 | 16 | 0.34 | 2 | 5 | 4 | 2 | 5 | 7 | 3 | 1 |
| Wed. 16.. | 48.6 | 33.1 | 40.8 | 12 | 0.41 | 6 | 3 | 3 | 3 | 5 | 7 | 2 | 1 |
| Thurs. 17.. | 48.0 | 34.8 | 41.4 | 16 | 0.40 | 6 | 6 | 3 | 1 | 6 | 7 | 1 | 1 |
| Friday 18.. | 48.3 | 34.0 | 41.1 | 19 | 0.56 | 3 | 6 | 3 | 2 | 1 | 10 | 2 | 1 |
| Satur. 19.. | 48.5 | 34.7 | 41.6 | 16 | 0.35 | 1 | 4 | 4 | 4 | 3 | 10 | 2 | 1 |

The highest temperature during the above period occurred on the 19th, 1840—therm. 62 deg.; and the lowest on the 16th, 1841—therm 15 deg.

## Notices to Correspondents.

BEE HIVES: *C W S* will feel obliged by some of our correspondents giving him the address of the maker of the "Stewarton Bee Boxes" in Scotland.

BOOKS: *J D.* To understand law books a man must be a lawyer. There is, however, the "Cabinet Lawyer" which you may consult. Take our word for it Sweet Peas will not turn to Vetches until peacocks turn to geese.—*Busy Bee.* Herbert's Amaryllidaceæ was published by Ridgway; we do not know the price. It contains a good deal about hybrids and hybridisation.—*W M R.* The best book for an amateur to procure for management of a small conservatory, containing instruction for judicious selection of plants and for their management, is Sweet's Hothouse and Greenhouse Cultivator—not however what it ought to be.

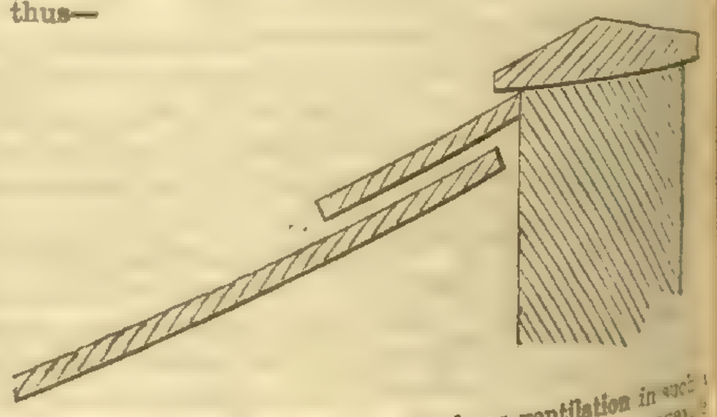
GARDENER FOR GEORGIA, U. S. The applicants for this place are informed that a gardener has been selected.

INSECTS: *Anon.* The Pear branch contained a living caterpillar of the Wood Leopard Moth (Zenzera Æsculi) which had burrowed nearly through its entire length. *W.*

NAMES OF PLANTS: We have been so often obliged to reluctantly decline naming heaps of dried or other plants, that we venture to request our correspondents to recollect that we never have or could have undertaken an unlimited duty of this kind. Young gardeners, to whom these remarks more especially apply, should bear in mind that, before applying to us for assistance, they should exhaust their other means of gaining information. We cannot save them the trouble of examining and thinking for themselves; nor would it be desirable if we could. All we can do is to *help* them—and that most willingly. It is now requested that, in future, not more than four plants may be sent us at one time.—*J U.* It is seldom possible to name Conifers from fragments unaccompanied by Cones. We therefore have no answer to Nos. 1 and 2. As to No. 3, it is Cupressus Goveniana, and the "white lumps or excrescences" are male flowers unexpanded. No. 2 *may* be Cupressus Lambertiana, a tall and right massive dark green tree. We do not know what book you mean. The best on Conifers is Gordon's Pinetum published by Bohn.—*Edmund Conolly.* As we have stated over and over again, no one can name bits of cultivated plants not in flower.—We regret to be obliged to return the same answer to *An Underling.*

OAK LEAVES: *W.* They are covered with what are called Oak spangles, the history of which has been fully given in former volumes.

VENTILATION: *S.* We conceive your glazed wall might be effectually ventilated by placing a 9-inch board over the place where the sloping roof comes in contact with the wall, thus—



Both would be permanently fixed, as ventilation in such a place would be desirable at all times. Add to this moveable flaps at the foot of the front sashes, or a permanent opening if you please, and you will have all the ventilation you can need or desire.

*** As usual, many communications have been received too late, and others are detained till the necessary inquiries can be made. We must also beg the indulgence of those correspondents the insertion of whose contributions is still delayed.

ARTIFICIAL MANURES, &c.—Manufacturers and others engaged in making ARTIFICIAL MANURES may obtain every necessary instruction for their economical and efficient preparation, by applying to J. C. NESBIT, F.G.S., &c., Principal of the Agricultural and Chemical College, Kennington, London, S. Analyses of Soils, Guanos, Superphosphates of Lime, Coprolites, &c., and Assays of Gold, Silver, and other Minerals are executed with accuracy and despatch. Gentlemen desirous of receiving instruction in Chemical Analyses and Assaying, will find ample facility and accommodation at the College.

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| | |
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The Royal Agricultural Society's Prize, at Warwick, July 1859, 50*l.*

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"SIGMA'S" UNIVERSAL SEED PLANTERS (Dibbles), vastly improved since the Prize of the Royal Agricultural Society was awarded them. The "MULTUM IN PARVO," forming eight perfect implements, highly commended, see testimonials. The Manure Distributor carried off the Prize Medal in 1851, recently much improved, see *Gardeners' Chronicle*, July 30 and August 6th "Simple, promising, and ingenious." The STEEL DRAW SHAVE HOE clears a row between Turnips at one sweep. Engravings sent.—C. POWELL, Hurstgreen, Sussex. All Patented

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BURGESS AND KEY, 95, Newgate Street, London, E.C., have always on hand Ploughs, Harrows, Carts, Waggons, Turnip Cutters and Pulpers, Cake Breakers; and their Improved Chaff Cutters, 50*s.* Galvanised Game Netting, 4*d.* per Yard. Price Lists sent free.—Illustrated Catalogues on receipt of six postage stamps.

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The Owners of Estates not entailed, who may be desirous to avoid the expense or inconvenience of a Legal Mortgage, may also avail themselves of the powers of the Company's Act to charge their estates with an outlay in improvements.

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In no part of the business is there any control upon a Landowner except by the Inclosure Commissioners. The Company never interfere, except at the special request of the Landowner or his Agent, and only to such extent as may further the objects he has in view.

In the other case, where the Company are required to execute the works, a report and estimate of the Improvement are sent to the Landowner, and having been approved, the plans are then prepared and the works—either submitted to public competition or entrusted to their own staff—are carried on to completion, and the amount of the actual expenditure only, approved by the Inclosure Commissioners with the Company's agreed commission and the Commissioners' expenses, finally charged on the Estate for the term fixed by the Landowner.

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(LIMITED).

*Directors.*

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FOWLER, JOHN, Esq., Patentee of the Steam Plough, 28, Cornhill, London, E.C.
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With an ample Capital and the best and most extensive premises in London at its disposal, the Company can offer to Shippers, Colonists, Agriculturists, Foreign Buyers, Amateur Farmers, Gardeners, &c., the following *exclusive* advantages:—

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# The Agricultural Gazette.

*SATURDAY, NOVEMBER* 12, 1859.

——THE London Farmers' Club discussed last Monday at their first meeting for the season the difficult subject of a substitute for Clover as a remedy for its diseases. A short account of the opening paper by Mr. MARSHALL will be found in another page. The well-known fact that land "tires" of Clover if sown too frequently upon it was abundantly verified in the experience of the speakers. But beyond the well-known expedient of taking a crop of Beans in place of Clover every

alternate or third course of the four-field system, bringing the repetition of the Clover in the one case down to once in every eight years, and in the others, the Cowgrass and the smaller Clovers being sown alternately, to once in every 12 respectively, nothing was elicited by way of remedy. Mr. MARSHALL objected to the use of Italian Rye-grass on the ground of its spoiling the land for a subsequent Wheat crop.

The fact we believe to be that it, like every other crop, needs a climate and a treatment proper to itself. In the moister western climate of this island Italian Rye-grass yields an abundance of succulent herbage, though in a dry summer in Lincolnshire its growth may be of less use as food. As regards the breaking of it up for Wheat too, it is very probable that those differences which do exist in the experience of its cultivators under this head—for there are some with whom it answers, although with the great majority it proves injurious—may arise from the land in the one case being repeatedly ploughed and cultivated so as thoroughly to break up and disintegrate the soil; and in the other from its being subjected to the single ploughing and harrowing which is all that our Clover leas generally receive before Wheat sowing.

On the general subject of Clover sickness, Mr. NESBIT expressed his regret that its cause was not better understood, and that the attention of scientific and practical men had not been systematically and effectively turned to it. Where soils are not favourable to the growth of Clover even every eighth year, he suggested the propriety of having an intermediate root crop, or Beans, or other Pulse crop as a preparation for the Wheat, so as to bring the land in Clover only once in 12 years. He also stated that as the roots of the Red Clover increased with the growth of the plant, it was desirable to let the Clover crop grow to its full maturity, and not break it up too soon, their roots being of so much the more advantage as a manuring to the ensuing Wheat crop.

Mr. OWEN gave a decided preference to Red Clover over all other expedients as a preparation for the succeeding Wheat crop. His light soils, however, had not been capable of growing Clover alone at short intervals, and he had therefore been induced to try Italian Rye-grass with the Clover. This, however, he denounced as a failure, as it proved unfavourable to the subsequent crop of Wheat. His usual plan had been to sow 12 lbs. of Red Clover, with 4 lbs. of Trefoil, and a peck of common Rye-grass, planting the land with this addition and that of White Clover in alternate cases.

Mr. COUSSMAKER referred to the occurrence of Dodder in his Clover, which he found very injurious to the second cut of Red Clover, destroying it in patches, and the same thing was referred to by subsequent speakers.

The whole subject of Clover and Flax Dodders was elaborately treated some weeks ago in these columns. It is sufficient now to say that the mischief done by these parasites is an accident, so to speak, perfectly capable of avoidance, and a subject of an entirely different order from that far more serious difficulty, which is every year pressing more urgently for a solution, which is ordinarily termed the "Clover sickness" of our lighter soils.

——MR. MECHI again calls attention to the loss of fertilising matter which this island sustains by our neglect of what may be called the manure heaps of its towns. It would seem as if no other way presented itself to enthusiastic minds of sufficiently exciting attention to any subject than that of depicting it in colours gloomier or brighter—as the case may be—than actually belong to it. There can be no doubt of the main position than an enormous waste of fertilising matter annually takes place from the Thames and the other sewers of our other towns, but as little can there be that notwithstanding this enormous waste our island is increasing annually in fertility. It is indeed a startling consideration that notwithstanding, as we know, the processes of vegetable growth depend essentially on the existence of soluble matters and their availability as food for plants, and notwithstanding, as we know, that in the soil these soluble fertilising matters are spread out in a layer some 6 inches thick over the surface of the country, which is there washed year after year by five or six times its bulk of rain water, yet year by year there seems to be more and more of this fertilising matter present and available for each year's vegetable growth. The explanation does of course for the most part hinge upon the fact that this rain water which one would expect to wash away to waste that on which fertility depends does really bring to the soil even more than it removes — more at least of that on which the plant-growing powers of our soils essentially depend. That there are other circumstances helping to explain the anomaly is of course well understood, and that one of them is an enormous importation of guanoes, nitrates, and phosphates, to meet the loss of similar substances from our towns, is of course admitted. It may seem, and really is, a great absurdity that we should carry carefully to waste our home-made guano — and expend millions annually in procuring guano from abroad—but so long as we can afford to do it, the question nationally is whether or not the life saved by the effectual accomplishment of this process is worth its cost. Towns must get rid of the putrifying filth which will naturally accumulate if not removed; and agriculturists each for himself must look about for the cheapest means of increasing the fertility of their land. The upshot of these necessities at present is that town drainage schemes are prospering and guano importation is increasing. We have no fear of the fertility of Great Britain, notwithstanding the waste of the manure heaps of her towns; and to prophesy the ruin of the empire as its consequence is not the only way of drawing attention to the undoubted loss we thus sustain.

——"The cental is, we regret to say, no longer in use in the Liverpool market for any description of grain except Wheat." That is to say, the difficulties and annoyances of a change have proved insuperable: and its advantages have failed to conciliate its opponents. The *Liverpool Albion* in announcing this fact declares the struggle to establish this new unit of weight to have been a gallant one, animated only by the desire to make a practical beginning in that reform of our grain measures which has so long been deemed desirable, alike in Parliament, in the trade, and by the public. And it has ceased, for the present, in the face of an opposition of which the best we can say is that it proceeds from motives more powerful because more personal, and of a lower order.

"The trade deliberately resolved on trying it, and after the trial had fairly begun, nearly all the leading houses signed a declaration in its favour. A large number of the buyers, however, did not share either the convictions or the common sense of this majority; the market became openly divided; and the more consistent advocates of the change found themselves sacrificing, not only time, trouble, and expense in the common cause, but even a portion of their business itself. This could not last long. Accordingly, at a recent general meeting of the Corn Association, two resolutions were proposed, by way of bringing the matter to a final issue. The first proposed simply to rescind the resolution establishing the cental (on the 1st of February last) as the common weight of the market. This was passed by a large majority. It relieved many of the members of the discomfort attending a wilful breach of their own rule. The second came from the original opponents of the cental. It went a step further, and proposed a return to the old system. But this was at once negatived by a large majority. So that the net result, in accordance with the apparent desire of the meeting, was simply to release the members from any pledge to use the cental, and to leave all free to act as they might deem fit. Hence, as we have said, the use of the new method is now very generally abandoned, except for Wheat. This, however, is the most important article by far, and its use for this only, if continued, cannot fail in the end to bring about a general change."

——Messrs. BURGESS & KEY have published reports of their reaper by 11 gentlemen farming in Yorkshire and Cambridgeshire, who have cut on the whole more than 2000 acres of corn at an expense for repairs on the whole of 23*s*., and with an average performance of from 14 to 20 acres cut per 12 hours of work. The crops are described as being "heavy," "good," "fair," "average," "very good," and occasionally "very heavy," "much laid;" nevertheless the reaper worked "remarkably well," is "capable of cutting all wold crops," is "an excellent implement," and furnishes "the best and cheapest way of cutting corn."

## PREVENTIBLE DISEASE.

[The following is a portion of the address on this subject by the Hon. W. Cowper, M.P., at Bradford.]

MAN'S life is a struggle, and the very existence of his body is the result of an unceasing contest between destructive and repairing influences. At every breath he exhales, at every action of muscles and of nerves, a portion of his substance wastes away and is cast off, and at every breath that is drawn in and every mouthful that is digested that waste is repaired and that loss is supplied. The forces of nature must be directed by his skill, lest they injure, instead of serving him. He must never rest in his unceasing struggle to overcome the tendency he finds in everything around him to get into a wrong place. Even cleanliness, the most obvious of simple duties, is the result of the never-ending removal of impurities from places they defile, to their proper receptacle, and the cleanliness most important to health is just that which is least regarded—cleanliness of the air that is breathed. The most refined persons, who would indignantly refuse to enter a room with soiled walls, and muddy floor, and dirty company, sit complacently in ballrooms and theatres where every one is breathing impure air, soiled with the fumes of gas or wax candles, and with other pernicious exhalations. The impurities in which they are steeped are disregarded because they are not visible, and people who are most particular about the materials of their dinner cannot spare a thought for what they are breathing; and yet one is no less important than the other. The accurate fitting of modern houses leaves few crevices for the passage of air, and builders are well satisfied when they have prevented any escape of air, except up through the chimney. But the law of expansion by heat has provided that vitiated breath shall rise towards the great ocean of air rolling for a height of 50 miles above us, in which all impurities are lost by dilution; but our impervious ceilings stop the intended ascent, and drive down the cooled carbonic acid gas to be again inhaled with injurious result. But a hole in the ceiling and a hole in the wall, permitting the natural movement of air, makes Nature our friend again, instead of our enemy; and if we take the precaution of admitting the external air by a channel round the back of the fireplace our current of air flows in warm, instead of cold.

But cleanliness in the atmosphere of towns is not so easily obtainable. From tall chimneys and short chimneys, from furnaces and chemical works, from sinks and gully-holes, from back yards and middens, from gutters and laystalls, innumerable pollutions are continually pouring. Nature has provided against all these defilements of the air, if we will but investigate her laws and take the trouble of obeying them. The smoke that shrouds our great towns in perpetual gloom might be rolled away to let the sunshine appear if we would but take the trouble, for opaque smoke is but unburnt coal that ought to have been consumed in the furnace. With reference to the refuse of towns the theory is clear, but the practice is lax and careless. Every animal and vegetable is nourished by assimilating to its own use particles of the material substances, such as air, water, and food, which are continually circulating through its organism; but by a general law the substance which has been so used is rendered unfit for a repetition of the same use until it has been decomposed and has entered into a new combination. Care is, therefore, required to hasten and render harmless the decomposition of the refuse which might accumulate near the habitations of animals and men. Nature is fond of moving in circles, and the elements which rose from the earth for the nourishment of plants, and thence nourished animals, and thence nourished men, will, if restored directly to the earth, afford nourishment and fertilisation to the soil whence they proceeded, while if allowed to wander in the air, they will exercise a poisonous influence. So also water brought from rivers or wells for distribution through a town should, after passing through the houses, complete its sanitary course by washing the refuse into the earth, and ultimately regain its original purity by percolating into the river or spring. At Rugby and at Watford this law of Nature is strictly observed; an apparatus of pipes and hose conveys the liquid sewage from the streets to the farm, which it irrigates with profit. But in the case of large towns where the drains carry away a great bulk of water and gravel from the surface drainage, and where irrigation is not in request, this natural method is inapplicable. The most tempting arrangement is at once to convey all into the nearest river, and thus outrages against the purity of rivers that ought to be the pride and pleasure of towns are everywhere attempted to be perpetrated. The Thames, being the thoroughfare of literary as well as business men, and having on its banks, within reach of every whiff of odour, the Houses of Parliament, has found competent defenders, and has by Act of Parliament been declared exempt from the filthy task of receiving the contents of the sewers, and is hereafter to become a river again instead of a gigantic drain. But the Medlock, at Manchester, and numberless rivers of other towns, large and small, still want defenders, and it is necessary to declare and maintain that the cleansing of houses and streets must not lead to the pollution of rivers. The necessity which the Metropolitan Board of Works believe to exist of casting into the sea, at enormous expense, that which, if separated from the water and gravel with which it is mixed, would fertilise half a country, is discreditable to the mechanical and chymical skill of the nation; but I am still in hopes that so wasteful and clumsy a proceeding may be rendered unnecessary, and that, if the attention of competent persons be drawn to so important a matter, means of deodorisation will before long be discovered by which those salutary processes which the soil is adapted by Nature to produce will be artificially attained without too much inconvenience or undue cost.

Sanitary science is still in its infancy, for, though rules for health were inculcated at the time of Moses and of Hippocrates, yet it is only within a few years that discoveries in chymistry, improvements in mechanics, and the collection of vital statistics have enabled this subject to be treated scientifically. It is not very long since men became aware that the air we breathe is as much a material substance as the food we eat and the water we

food, consisting of the same elements in different combinations, and equally capable of conveying poisons. The recent discovery of ozone, and the slight knowledge we yet possess of the meaning of its presence or absence, is an indication of how much has still to be learnt about the composition of the air. A deeper acquaintance with the processes of decomposition and putrefaction is greatly desired. The microscope is revealing sights as astounding and as interesting as any that the telescope can unfold. Not only is it useful in tracing the hidden incitements to disease, but it is making its way to the witness-box. Every purchaser of articles that may be adulterated—and into what articles of food has not perverse and dishonest ingenuity found some means of adulteration?—ought to have within reach some analysts to whom he might refer for an authoritative decision on the genuineness of the articles offered for sale. I don't care much about penalties. If only fraudulent admixtures could be exposed. Let the public know from authority that the cayenne pepper sold at a particular shop is coloured with red lead, and the green pickles with copper; that the leaf, which to the naked eye seems made of the best tea, is not. Wheat flour, owes its whiteness to the alum, which gives a fine appearance to damaged and unwholesome flour; and that the beer which seems so strong has been diluted with water, then strengthened with narcotic drugs and salted, so as to increase the thirst it seems to quench, and the public may safely be left to itself. When the snare becomes visible to the bird, the fowler will have but an empty bag; and, if the purchaser could be enabled to see with the eyes of the analyst, everything necessary would be accomplished for his protection.

Invigorating manly exercises are needful for the health of men who are employed in sedentary or monotonous occupations. Gymnastic grounds have been established near Primrose Hill, in London, and also in Liverpool by the munificence of an individual. The pastimes of races, running in sacks, and dancing, which are being revived at harvest homes and similar gatherings, show that the universal taste for trials of strength and for humorous games is not wanting even to this grave generation; and the success which has attended the revival of old English sports at Wenlock, under the name of Olympian games, is very encouraging. Every town should have its parks, where the population may disport themselves on holydays and Sundays, and get health as well as recreation from the beauties of Nature. It cannot be expected that many towns will receive gifts as noble as that which was conferred on Halifax by Mr. Crossley, on Derby by Mr. Strutt, and on Birmingham by Mr. Adderley; but every town may secure a park for itself by the imposition of a moderate rate to repay the loan by which the land is purchased.

*(To be continued.)*

## THE SEWAGE QUESTION.

[Mr. Mechi once more calls attention to this subject in the columns of the *Times*.]

I CONSIDER it a public duty to direct attention to a danger of great magnitude which threatens British agriculture, and through it the nation at large. I mean the gradual but sure exhaustion of the soil of Great Britain by our new sanitary arrangements, which permit the excrements (really the food) of 15,000,000 people who inhabit our towns and cities to flow wastefully into our rivers. The continuance of this suicidal practice must ultimately result in great calamities to our nation.

Science has shown us that the land, to the depth at which it is ordinarily cultivated, contains but a limited and measurable quantity of the elements of our food; that these elements may be readily exhausted, and that they can only be profitably restored by the application of human and animal ordure such as we now waste. A century of abstraction without replacements has reduced the old and once fertile States of the American Union to comparative barrenness, and although by extensive purchases of guano, bones, and feeding stuffs, we are trying to mitigate the evil, we are warned by that great man Baron Liebig (the Sir Isaac Newton of agricultural science), that these attempts are but as a drop, compared with what we waste.

By a false delicacy and want of knowledge we have been accustomed to deprecate as indelicate the very mention of our *excreta*, but the stern requirements of a rapidly increasing population imperatively demand of us the only profitable and available means of providing food for the people. Increase of population would, but for our sewer system, bring with it increased means of production. Such has been the case in China, where the commercial value of human excrement has ever been most wisely appreciated and availed of.

Of course our Boards of Health very properly consider their only duty is to cleanse our towns and cities. It is for our landlords and agriculturists to associate their will and means to convey to the land those precious streams which now exhaust our soil, contaminate our livers, and impoverish our agriculturists, and those dependent upon them. It may be said we are producing more food than we used to do; no doubt we are, by enclosing wastes, removing trees and fences, cleaner and deeper cultivation, &c., but by these very means and by the application of stimulating substances we are more rapidly hastening the exhaustion of our country.

A very large proportion of our population would be starved but for the enormous importations of foreign food. I trust that you will bring your powerful pen to bear upon this important subject. *J. J. Mechi, Tiptree Hall, Kelvedon, Essex, Nov.* 3.

Baron Liebig on Modern Agriculture (p. 122) says —

"In the year 1856 there were about 14 million cwt. of guano were imported, of which the greater portion is consumed in England. In the course of half a century above 70 million cwt. of bones have been imported into that country, yet all this mass of manure is not worth mentioning when considered in relation to the arable surface of Great Britain, and is but as a drop when compared to the sea of human excrements carried by the rivers to the ocean."

The same author, speaking of the Romans, who also had their sewers and wasted their human excrements, says—(p. 241-242.)—

"All these rules had, as history tells us, only a temporary effect: they hastened the decay of Roman agriculture, and the small farmer ultimately found that he had exhausted all his expedients to keep his fields fruitful, &c., and, as the history of the three first centuries of our era informs us, there ensued a condition of the population the most calamitous and frightful into which a nation can fall. It is true that many causes co-operated in producing this result, but assuredly one of these was the exhaustion of the soil by the spoliation system of agriculture then pursued."

He says of the Chinese (p. 243):—

"I will show the teachers of agriculture another nation, who without the aid of Science have found the philosopher's stone which those very teachers in their blindness vainly seek. I will point out to them a land the fertility of which has for 3000 years never decreased, but on the contrary, has been ever on the increase, and where more men are crowded together on a square mile than are to be found on the same space in Holland or England. . . . . It is quite impossible for us in Europe to form an adequate conception of the great care which is bestowed in China upon the collection of human excrements. In the eyes of the Chinese these constitute the true sustenance of the soil (so Davis, Fortune, Hedde, and others tell us), and it is principally to this most energetic agent that they ascribe the activity and fertility of the earth. . . . . The estimation in which it is held is so great that everybody knows the amount of excrements voided per man in a day, month, or year, and a Chinese would regard as a gross breach of manners the departure from his house of a guest who neglects to let him have that advantage to which he deems himself justly entitled in return for his hospitality. . . . . Except the trade in grain and in articles of food generally there is none so extensively carried on in China as that of human excrements. Every system of farming based on the spoliation of the land leads to poverty. The country in Europe which in its time most abounded in gold and silver was nevertheless the poorest. All the treasures of Mexico and Peru brought to Spain by the richly laden silver fleets melted away in the hands of the nation, because the Spaniards had forgotten, or no longer practised, the art of making the money return to them which they had put into circulation in commerce to supply their wants: because they did not know how to produce articles of exchange required by other nations, who were in possession of their money. There is no other way of maintaining the wealth of a nation, the deplorable effects of the spoliation system of farming is nowhere more strikingly evident than in America, where the early colonists in Canada, in the States of New York, in Pennsylvania, Virginia, Maryland, &c., found tracts of land which for many years by simply ploughing and sowing yielded a succession of abundant Wheat and Tobacco harvests; no falling off in the weight or quality of the crops reminded the former of the necessity of restoring to the land the constituents of the soil carried away in the produce. We all know what has become of these fields. In less than two generations, though originally so teeming with fertility, they were turned into deserts, and in many districts brought to a state of such absolute exhaustion that even now, after having lain fallow more than 100 years, they will not yield a remunerative crop of a cereal plant."

## Home Correspondence.

*Farm Manure.*—The communication of "W. G." in your Number for October 22, p. 856, furnishes considerable matter for reflection, and I thought it would have produced or provoked some reply, as his theory and practice of "rotting straw" does not seem based upon principles that can be generally recommended. His plan of "a rough fold of poles or hurdles and stakes," would, I think, require more room than "pits or covered sheds," although he states "the yard of the homestead may be reduced to half their present size and made warmer," by feeding store cattle in his "rough folds," with "Turnips thrown down just as they are drawn from the field." This surely is not intended to supersede the use of cake or offered as more advisable than fattening beasts!—as nearly all farmers now find it most serviceable if not most profitable to put up a few beasts, say five or ten to the 100 acres irrespective of any young stock they may raise or any additional stores they may buy for treading down straw for manure; and even supposing none but store stock kept, I contend that all farms ought to have their permanent buildings so arranged as to afford shelter from north and easterly winds, for such young and growing stock as are only supplied with straw or roots. Where such buildings or properly fenced yards do not exist we commonly see at least a stubble wall as a protection during winter. It is true that some farmers make a point of not using all their straw in this way; indeed where a demand exists for straw near a large town they scarcely retain enough to bed down their horses and pigs, if at liberty to sell it; but presuming that all the straw is kept on the farm and turned into manure, "W. G." has only to pay a visit to a covered homestead on a large scale to satisfy himself that it may be *all* profitably used or consumed, and that the value of that under beasts fed with Linseed-cake far, very far, surpasses any of equal bulk drawn from "rough folds," or by any other scheme that can be adopted. "W. G." says "manure so made should in no case be heaped;" but if he allows his horses to run in a yard attached to their stable, he will find it advantageous to mix the two sorts of manure so made with that from cattle in alternate layers so as to induce fermentation, regulated by heavier materials spread over the top, and he may then have the luxury of "spit dung," to strengthen his weak lands and keep up the vigour of his strong ones. Plenty of straw under store stock makes them comfortable, and with a portion of roots I admit that they may be kept going while thus making manure, but it is after all a secondary resource, the first importance being attached to the concomitant of fattening stock with as much oil cake as they will eat and a due proportion of roots and fodder. Then as to the profit arising from feeding beasts, it all depends upon the judgment of the buyer; if he select well-bred thriving stock they will repay him. I have been often advised to buy them big enough, and the advice is good if the price is not too big; good old beasts must have a first rate pasture, and a good market to make them pay. Younger beasts well bought and well selected often bring a larger return with less risk, but this still depends very much upon the knowledge and judgment of the purchaser. Some men can hardly make mistakes, others hardly ever lay out their money to advantage; the latter class yearly diminish in number in proportion to the increased value of the animals bought and the improved treatment of them when bought. It is quite clear that beasts must be fattened in increasing numbers to meet the requirements of the farm, and we are happy to add there are growing probabilities of this process being made to pay by the increasing requirements of consumers. *J. W., Peterborough, Nov.* 1.

*Mangel Wurzel.*—On passing through the Eynsham Hall estate, the property of the Countess of Macclesfield, last week, my attention was drawn to an extraordinary crop of Mangel Wurzel—the Red Tankard. I inquired of Mr. Williams, the manager, the weight per acre; he could not tell; so I measured off exactly 2½ poles. The men pulled up the produce, and to my surprise this small piece of land produced 1 ton 1 cwt. 17 lbs., or at the rate of 67 tons 13 cwt. per acre. They grew on a small farm set apart for her ladyship's use. Mr. Williams considered the whole piece will contain an equal weight. *Viator.*

*The Husk in Young Stock.*—Two of my cows and several of my young stock have this summer been affected with a cough which yielded to none of the usual remedies, and which though they fed as usual reduced them to mere skeletons. The wife of a retired farmer in the parish suggested that they had worms in their windpipe, but as nobody whom I consulted in the neighbourhood had heard of such a thing, I laughed at the idea until one died, when the various passages of the lungs were found full of small worms an inch long, a little thicker than a coarse thread, and white. I see that in a book on the Homœopathic Treatment of Cattle, mentioned in your last Number, "Bronchitis from Worms" is mentioned, and it is suggested that chloroform should be poured into the nostril. Would some of your correspondents kindly give their experience on the subject? How do the worms get there and what is the best remedy? I have tried turpentine but I am not sure in what quantity I may give it, and, whether one or two strong doses or repeated small ones would be best. *C. J.* [The disease is "hoose," which has several times been alluded to in this Paper, and is often produced by bad or scanty provender, or insufficient or impure water. Linseed oil 4 ozs., oil of turpentine 1 oz., oil of Carraways 20 drops; give every 10 days, and a free allowance of Linseed-cake as food. *W. C. S.*]

*Treatment of Mangel Wurzel.*—The frost from October 21 to October 25 will be long remembered by its effects upon Mangel Wurzel and Coleseed. The latter having grown very rapidly during the last month was for the most part young and tender, and therefore highly susceptible for a frost of 20° Fah. The Mangel also suffered much, many persons were raising them, and in numerous fields they lay in long rows out of the ground quite unprotected; these are rendered useless for storing. But where the tops are growing and the Mangels allowed to remain in the ground a few days undisturbed, we do not apprehend much mischief, as they appear to recover gradually from the effects of the frost. We are now busy having them pulled, and topped, and stored in the usual way, with a slight coating of straw or stubble, to be well covered with earth in a week or a fortnight's time. *J. W., Peterborough.*

## Farmers' Clubs.

LONDON: *Nov.* 7. *The growth of Seeds in alternate Husbandry, without the admixture of Trefoil or Rye-Grass.* A paper on this subject was read by Mr. J. Marshall of Riseholme, Lincolnshire. He said: The four-field system being that almost universally adopted on the light-land soils of England, and the intervening growth of a Pulse crop in lieu of seeds not altogether a popular introduction—though, with clean cultivation, by no means as a change to be lost sight of—it necessarily follows that the seed crop, involving as it does one-fourth of the production of the whole farm, should be so arranged as to grow no description of Grass which shall be liable at any period of the year to disorder or disagree with the animals (ewes and lambs) depastured on it, on the one hand, or risk the filling of your fields with Twitch or Couch-grass on the other. The custom of sowing large quantities of Trefoil, on account of its cheapness, and, since its introduction of late years, of Italian Rye-grass mixed with other small seeds, has long since prevailed in the northern and midland counties; and I am inclined to think, from my own experience, which has been pretty generally confirmed by that of others, that to the superabundant growth of Trefoil at particular seasons of the year, and under certain circumstances, may be attributed the immense loss of lambs sustained by flockmasters during the disastrous autumns of 1857 and 1858, when thousands of lambs died, as I am fully convinced, from feeding on Trefoil seeds, under certain conditions, in

July and August. I believe no Grass hitherto discovered will bear a comparison in produce, upon dry chalky or stony soils (or perhaps upon any other description of soil), that will give the same amount of sheep-feed in dry hot weather, or that will bear close feeding with the same impunity in alternate husbandry, as Trefoil; and by the same rule, no Grass with which I am acquainted grows with the same degree of rapidity, or produces in a short time so luxuriant or dangerous a pasture in warm, damp, showery weather, and it is to this condition of its growth that I am so particularly anxious to direct your attention. So long as you keep your three or four ewes and lambs per acre upon it without removal, you have perhaps little to fear, because they necessarily keep it extremely bare, and in that state it must always be kept, even though it inflict upon you the necessity of giving a little corn or cake to supply what may appear a deficiency in the pasture; but since there appears no absolute necessity of growing it amongst your seeds, I recommend you to abandon it altogether. The objection I have to Italian Rye-grass is chiefly founded on the effect produced on the subsequent crop of Wheat; and when we take seriously into our consideration the fact that in many instances one-third, and in most one-fourth, of the crop is jeopardised, if not entirely destroyed by it, if we are to continue its growth, it becomes a matter of some moment to discover a remedy for so fearful an evil. Italian Rye-grass is by far the most valuable variety as sheep-food, and produces perhaps double or treble more than any other variety of Rye-grass; it is relished and eaten with avidity by every description of cattle, and they all appear to thrive upon it; still you cannot afford to sacrifice the integrity of your corn crop. I attribute the loss of the Wheat plant, of late years so much complained of, to the increased growth of Italian Rye-grass, and to no other cause. You scarcely ever see the same effect produced after a crop of Beans or Peas; there is no waste then, no dead plants to be pulled up by yards, and almost by acres together, but a healthy tillering and gradual increase, and in the end a full and productive crop. I am, however, glad to be able—even under circumstances of compulsion to cultivate this objectionable plant—to point out to you a remedy, as far as the Wheat crop may be influenced by its growth, and it is simply this: to plough your seed lands intended for Wheat early enough, say the last week in August or the first in September, and to sow it not later than the 14th October. This system has been adopted to some extent in Lincolnshire the last two years, and with the best and most marked effect. In order to prove this theory, I left 2 acres in the middle of a 60-acre seed field, which was finished ploughing on the 4th September, until the 4th October, the day before it was drilled; the entire field was then pressed with a Cambridge roller, and drilled across; and that portion recently ploughed lost plant, and was at harvest, to all appearance, at least one quarter per acre less than the remainder of the field. I have seen the same effect produced by growing other varieties of Rye-grass; that portion of the field sown with small seeds having no admixture of Rye-grass, or any kind of Bent whatever, lost no plant, and yielded, apparently, 25 per cent. more than the remainder of the field sown with different varieties of Rye-grass and other small seeds. There is one other objection to the growth of Rye-grass, which, in the minds of some men—and those very good judges too—must always operate against its general cultivation, and that is, the difficulty of procuring a sample of the seed entirely free from the seeds of Couch-grass. Now, in the substitute I shall propose, and I know of only one variety of Grass at all adapted to "alternate husbandry," I mean Timothy Grass, the seeds are so dissimilar, and the facility of dressing out any extraneous matter so easy, that a perfectly clean sample may always be obtained, and no risk of an increased growth of Twitch Grass hazarded. I am, however, free to confess that even Timothy Grass will not produce so good a pasture as Rye-grass, and that perhaps the middle course—that of growing a little of both—might in the end prove the most advantageous. In laying lands down in seeds in many districts far too little seed is commonly sown. A gentleman from Crediton, in Devonshire, says that there, a mixture of 6 lbs. of Red Clover, and 1 lb. of White, with 2 pecks of Eaver [?], is considered a good seeding. Now here, from 14 to 21 lbs. is not thought too much; and whether drilled or sown broadcast should be adhered to, as the best system of depositing the seeds, is still a very open question. I rather incline to drilling, inasmuch as the seeds get a certain depth into the soil; whereas when sown broadcast much remains on the surface, and often does not vegetate at all. The mixture I propose for feeding purposes would be as follows: 12 lbs. of White Clover, 2 lbs. of Parsley, 2 lbs. of Rib-grass, 4 lbs. of Timothy, ½ a peck of dwarf Rye-grass, ½ a peck of Italian; the latter the sheep will eat to the very earth; the former they will not eat much of, but it will serve as a shade for the other Grasses, and keep out the drought. For mowing, I would recommend 14 lbs. of Red Clover and 2 lbs. of Timothy or ½ a peck of Italian Rye-grass. In these minute quantities, Rye-grass may be grown as an adjunct without perhaps much danger to the succeeding crop; and so far, and no farther, is it safe to cultivate it, though perhaps it might be wiser to omit it altogether; nor do I mean to say that 2 or 3 lbs. of Trefoil per acre, amongst other Grasses, would endanger the health of a flock of sheep in ordinary seasons, but I am quite sure they would be safer and far more healthy without it.

## Notices of Books.

*Dixon's Law of the Farm.* Second Edition. Stevens & Norton, 26, Bell Yard, Lincoln's Inn.

That there is a large number to whom this book will be welcome is plain from the constant questions of the law relating to agricultural circumstances which are every week addressed to the agricultural papers. The volume contains an extended notice of the agricultural customs of the English and Welsh counties, forms of agreement for all manner of sales and purchase of any agricultural interest, and definitions of all kinds of property of either landowners or tenants. Its chapters are on Interests in Land, Easements, Trees and Fences, Dangerous Animals, Water, Servants, Conveyance of Cattle, Distress, Husbandry Covenants, Trespass and Game, Tithes, Landlord and Tenant, Contracts and Sales, Horses and Cattle, and various appendices. It is a volume of 600 pages densely packed—with a capital index to its contents—full of illustrative cases, so cited and epitomised as to interest the reader; and of such number and variety as to furnish a parallel to almost every possible case of legal difficulty of which a solution is desired. It ought to be in the hands of all business men in the agricultural world. The following extracts from the last pages of the book may be taken in illustration of the style in which the cases are reported, and of the kind of interest which attaches to the work:—

"The case of cows being poisoned in their pasture was the subject of Lathbury *v.* Earle. The plaintiff was a large dairy farmer at Stratton, and the defendant a railway contractor, who was engaged in making a railway through the plaintiff's farm. The wood for the line was pickled with creosote and oil of tar, and the defendant had a tank for this purpose near the plaintiff's farm. When the pathway was laid down, the stuff in the tank was pumped out into a culvert, which passed under the canal and to a watercourse going through the plaintiff's field where the cattle were watered.. This was in the autumn of 1852, and in April 1853, when the cattle were turned out, their mouths in five days became burnt and black, and their hocks affected. On a request being made the defendant cleaned out the watercourse, the length of the plaintiff's field, but not the culvert under the canal, and promised compensation, and plaintiff put the cows into a field he had saved for mowing. At the end of a month the cows were put back, but did not recover till after calving. They fell off so much in their milk that the deficiency was calculated at 7000 quarts at 7*d.* per gallon, for the first three months, the loss being 182*l.* odd, as they ought to have given during May, June, and July 16 quarts a day, and for the next four months 204*l.*, calculating the milk at 10 quarts a day. Besides this, his loss on the hay was 40*l.*, but 30*l.* was deducted for cheese he had made, and milk used on the premises. It was attempted to show that his cows were affected with the 'mouth disease,' but he denied that they had the running and blisters in the mouth consequent upon it; and Professor Spooner stated that the effect of creosote was to suspend the secretions of the body, especially the secretions of milk, and stated that none of the symptoms from which the cows were described to have suffered were analogous to those of 'mouth disease.' It was attempted to show for the defence that other cattle drank of the stream, and were uninjured, but the plaintiff had a verdict for 266*l.* 8*s.*"

"Stevens *v.* Boswell was a similar case to Lathbury *v.* Earle. The plaintiff had a dairy farm, on which he kept 30 or 40 cows near certain lead works, which had a blasting and three calcining furnaces, and in 1851-53 four cows, 48 lambs, and six colts died, poisoned with sulphate of lead, which was found in their insides, as well as in the hay, the hedges, and the weeds on the arm. It was also detected in the milk, after it had passed through the cow; though it did not affect vegetation, but only animal life. On examination the carcases had oxide of lead in the mucous membrane, as well as in the lungs and liver, in great black patches. There was also a black streak round the gums; and one pig's kidneys were bare of fat. It was urged by the counsel for the defence that the land on the farm was of a poisonous nature, and had been for centuries, and that the smelting works had nothing to do with it. A juror was withdrawn, and the plaintiff was to receive 500*l.* damages, and the defendants to purchase the farm at full value. The nearest point of the farm which was thus injured by the lead fumes was half a mile from the works, and the most distant a mile; and the white smoke from the blast furnace gave a small proportion of oxide of lead, and the remainder of carbonate and sulphate of lead.

"Professor Herapath described the effect as 'a stunted growth, and leanness, shortness of breathing, paralysis of the extremities (particularly the hinder ones), the flexor muscles of the forelegs, affected so that the beasts stand on their toes, swelling of the knees, but no constipation or colic, as in the human race. In a few days death followed. If the injured beasts were removed to another farm they never throve. In the young the symptoms were more conspicuous and the mortality greater. Lambs were yeaned paralytic: when three weeks old they could not stand, although they had made great efforts to do so; in attempts to feed out of a bottle they were nearly suffocated from paralysis of the glottis, and 21 died early out of 23. Colts also died; and those that lived could not be trotted 150 yards without distressed breathing. Pigs confined to the stye were not injured; but if allowed to roam were soon affected. The milk of cows and sows was reduced in quality and quantity; and cheese made from the former had less fat in it. I find in the milk of both minute traces of lead. It will be observed that of the symptoms, those of emaciation, paralysis, and the blue line in the gum of the lower jaw, are similar to those of the human subject, that constipation and colic are absent, and that we get two new ones—soreness of breath and swelled knees.'"

*Tillage a Substitute for Manure, illustrated by the principles of modern Agricultural Science, and the precepts and practice of Jethro Tull, &c.* By Alexander Burnett, M.A., Land Agent. Whittaker & Co.

This is a book upon the most important agricultural question of the day. Mr. Burnett collects all the evidence of Tull's experience, and that of the Rev. Smith, of Lois-Weedon, of Mr. J. A. Clarke, and many others, in illustration of the question—whether and to what degree tillage is a substitute for manure:

We have from him in the first place a description of root growing and cattle feeding as a means of fertility, then a biography of Tull, who was the earliest advocate of what may be called, not that it necessarily is, the other side of the question, viz., the fitness of tillage to restore productiveness to the soil. Chapters 3 and 4 describe the experience of English agriculturists up till the time of Tull. The theory of manure and of tillage is then elucidated at great length, and the Rothamsted experiments on the subject are analysed and shown not to have affected the conclusions drawn from the experience of others in favour of Tull's views.

If any one wishes to become acquainted with the doctrines on this subject of Mr. Smith of Lois-Weedon and of Jethro Tull, and with the experience which has been recorded since his time in relation to those doctrines, he had better study Mr. Burnett's book. If it had been written with less dash and in a less ambitious style, the purpose of the author would probably have been better served; but there are many who will be interested in his arguments and facts in whatever manner they may be dressed.

## Farm Memoranda.

YEW TREE FARM, PENKRIDGE.—The farm contains 360 acres. In tillage 300 acres, meadow 18 acres, and pasture 42 acres. Soil sandy, gravelly, and light loam. Subsoil chiefly gravel. I have tried the subsoil plough, but have not derived much benefit beyond making the land work more easily. I cultivate Wheat, Mangels, Swedes, Turnips, Barley, seeds, and Vetches. The four-course system of Wheat, roots, Barley, and seeds is best suited to the farm. Of the green crops Mangels have answered best lately, and for these crops I have found artificial manures to answer the best, and farmyard manure for permanent pasture. Very few cows are kept in summer, in winter about 40. 160 ewes are turned to the rams, which, with their followers, make a flock of about 500. The sheep are kept on pasture in summer, and have Swedes cut to them in winter. The feeding sheep and rams have ½ lb. of Linseed-cake per day, which helps to manure the land and keep it in condition. In permanent improvement, several miles of old hedges have been grubbed up, and new ones planted where required. Nearly the whole of the farm has been drained. Water power has been effected, which threshes, cuts chaff, grinds, and pulps roots. The landlord has paid for the buildings, the water-wheel, service pipes, and draining tiles. I hold the farm from year to year.—*Charles Reynolds Keeling, Yew Tree Farm, Penkridge, September* 10.

The Judges of the Staffordshire Agricultural Society report as follows:—

"This farm belongs to the Right Hon. Lord Hatherton, and lies in the parish of Penkridge, and the homestead about two miles east of that village. The farm is bounded on the east by Cannock Chase, consequently it lies at a considerable elevation, as the highest part of the Chase is 700 feet above the sea. The water fall is into the River Penk, which feeds that longest English rivers, the Trent. The climate, considering the elevation, is a good one; the air in the spring must be very keen, but dry. The surface has very slight inclination, in many parts level; the general aspect westerly. The fall in parts sufficient to ensure perfect drainage, and which appears to be complete on the whole farm. The soil is light and easy to cultivate, but requires great assistance in manure, and much attention and good management to keep it in condition, and free from weeds. The subsoil is a flint gravel, and on most parts of the farm lies near the surface, many of the pebbles very large. There are good roads through the farm, and a canal about a mile and a half distant. There has evidently been a new arrangement of the fields, roads, and fences. The fields are large and square, and the fences and roads new and straight; the fences, except the boundary ones, all parallel to each other. The farm is in 20 inclosures. The fences are in good and proper order, and trimmed in a hogmane shape, and from 4 to 5 feet high. There are good gates and posts to every field, in convenient situations for convenience. All the fields can be approached from the roads. The homestead is very central; the house fronting the south and the road, with garden and pleasure ground laid out with taste between it and the road. The farmyards and buildings are behind, with the yards open to the south. The house roomy, substantial, and neat. The offices buildings are tolerably well arranged for convenience, and the whole in very good repair, and in neat order. The same remark as to neatness and good order will apply to the well filled stack yard and premises around. Mr. Keeling has a good selected stock of implements, in good condition, similar to the farm, both in the field and the farmyard—in the latter for threshing, cutting, chopping, crushing, steaming, and pulping. For power a two-horse steam-engine, water wheel 25 feet diameter and 2 feet wide, a large reservoir with a plentiful supply of water, but unfortunately the service pipes of rather too small a diameter for some portions of the farm. The following is the extent of the crops cultivated this year: Swedes, 31 acres; yellow common Turnips, after a crop of

[illegible] winter Vetches cut twice, 2 acres; White Tankard [illegible], 12 acres; Mangels, 12 acres; Potatoes, 2 acres; and Cabbage, 1 acre: total green or root crops, 77 acres. Barley, after root crops, 71 acres, all seeded; seeds, after Barley, pastured, 67 acres; Wheat, after seeds, 57 acres; Oats, after pastured, 67 acres; Wheat, after seeds, 57 acres; Oats, after seeds, 18 acres; total corn, after seeds, 75 acres. Meadow, 18 acres; pasture, 5 orchards, orchard, and garden, 42 acres. This shows a very equal distribution of the crops in their proper place in the rotation. The root crops are cultivated in [illegible] drills, are very clean, and under good management; the plants thinned to about 12 inches in the rows; the Swedes on a portion of this field much mildewed, and had the finger and toe disease: the greater portion a fair average crop of healthy good shaped bulbs. Mr. Keeling draws one half the Swedes to consume at home; the other half eaten on the land. The Mangels are a fine crop, both the yellow and the red; the White Tankard healthy and growing. The same may be said of the common yellow, but which will not be so heavy a crop as the Tankards. Cabbage not a heavy crop, the soil not very suitable for them. Potato part a light crop, with a few weeds in them. The Barley stubbles are very clean, and the young seeds beautifully thick and uniform. Near thirty acres had a good dressing of farmyard manure given since the Barley was removed. The seeds, pastured this season and now in ploughing up for Wheat, had a good appearance, the soil turning up very clean and in good condition. The Wheat and Oat stubbles, after seeds, very strong and thick, and generally clean, one portion of the Wheat stubble showing some Thistles and a little Couch Grass. We were told that the land on which the Mangels grow had been fallowed and well cleaned in the autumn, the dung applied and [illegible]ed in, in the spring grubbed, harrowed, and [illegible], and then ridged, and the intervals, between the ridges, subsoiled before the artificial manure and salt were applied. After applying these, reversed the ridges, and then the seeds sown; the new intervals then subsoiled, and the crop summer cultivated on the usual plan. We should recommend this mode of management in the cultivation of Swedes. The winter Vetches, we were told, had been mown twice, the land then fallowed, and the Wheat in sowing when we were going over the land, after the artificial manure had been applied immediately before. The soil particularly clean. Mr Keeling says he never sows Red Clover oftener than once in eight years, but seeds alternately, if not more often, with a mixture of White Clover, Ribgrass, and Trefoil. He has 55 acres this season seeded with this mixture, which are now looking beautiful. The Oat stubbles are to be sown with Rye, winter and spring Vetches—the latter in succession portions—and the whole to be fallowed next season with Turnips. The Rye and winter Vetches are now above ground. They are each sown on separate ground. The land is dressed before sowing with Wheat after seeds. Mr. Keeling, in his certificate, says nothing of the number of horses or pigs kept. He keeps eight farm horses, a pony, and hack, and five working bullocks. He considers the bullocks profitable. Works them two or three years. The horses are well selected, of the native breed, stout and active, stepping along at a good pace whether in plough or waggon. The sheep are mostly of the Shropshire breed, of a good sort generally, but many are prime samples of that excellent breed, as the various premiums won at numerous shows will testify. Seventy acres of the land, we were told, had only been laid to the farm six years ago. This lies up to Cannock Chase, and was drained and the new fences planted by the landlord. All the remaining part of the farm had been in the occupation of the present tenant six years, and of his father twelve years before, but during that twelve years had been under the management of the son, the father living four miles distant. By a statement given us, it appears upwards of 30 miles of tile drains have been put in at the father's expense. A very great length of old fence stocked up, new ones planted, and 22 acres of Gorse forked up. All the pits and ditches are filled up, and converted into arable land. Bad management on such a soil will soon make it miserably poor, and filled with Thistles, Couch, and other weeds. But the whole at this time shows great perseverance and industry applied in a true practical manner and to good purpose, and with, no doubt, favourable results to the tenant. We have, therefore, awarded him the prize of 10*l.* and the society's silver medal. Inspected October 13, 1859."

## Notices to Correspondents.

AGRICULTURE: *Agricola.* 1000*l.* might enable you to manage 80 or 90 acres of arable land and 20 or 30 of pasture. You had better reside on a farm for a year before undertaking one for yourself. The Cyclopedia published by Blackie, Stephens's Book of the Farm, &c., are suitable books.

FOODS: *D.* We may make it the subject of a fuller discussion hereafter; meanwhile it appears to us that Wheat at 1*s.* 2*d.* per stone is as cheap as anything you name. Oilcake, however, at 1*s.* 3*d.* per stone is, as they say, "hard to beat."

LACTOSCOPE: *F R S.* An ingenious method of distinguishing the value of milk is based upon the fact, that opacity of milk depends upon the corpuscles of fatty matter which are suspended on it, and that consequently the more cream it contains the greater will be the obstacle opposed to the passage of the rays of light. The lactoscope on this principle is an instrument for determining the degree of transparency which the milk possesses. It consists of two tubes, one of which may be pushed into the other like the joints of a telescope, and the end of each tube is closed with glass, so that when milk is poured into the outer tube by a small opening on the side, by pushing in the inner tube a layer of milk of any thickness may be obtained. The apparatus is placed on a stand, the value of the milk is estimated by the thickness of the layer of it through which the light of a small wax taper at a fixed distance can be observed, the value of the milk being in the inverse ratio of the transparency; the larger the amount of fat present, the greater, of course, will be the opacity. The thickness of the layer of milk is measured by a scale on the instrument, and a table sold with it shows the percentage of cream to which it corresponds.

RECIPES: *R.* The following are the memoranda which you ask for:—*To make Potato Soup.* Boil 3 lbs. of Potatoes and 7 good sized Onions in 3 qts. of water; after rubbing it through a sieve add a pint of good cream and 3 ozs. of butter with pepper and salt.—*To make Plain Gingerbread.* Mix 3 lbs. of flour with 4 ozs. of moist sugar, ½ oz. of powdered ginger, and ½ lb. of warm treacle, melt ½ lb. of fresh butter in it, put it to the flour and make it a paste. Then form it into nuts or cakes, or bake it in one cake.—*Strengthening Jelly for an Invalid.* 2 oz. of white sugar candy, 1 oz. of isinglass, 1 oz. of gum arabic; put these ingredients into a basin, cover them with cold water, let it stand all night, the next morning put it on the fire and let it simmer until all is dissolved. Then add 1 pint of port wine and boil it all together half-an hour; strain it and let the patient take a tablespoonful three times a day.

THE DRESSING WHEAT: *G R A.* Nitrate of soda 1 cwt. per acre, a crop with 2 cwt. of common salt, is a good dressing. Notwithstanding its price we would apply genuine Peruvian Guano in preference to almost anything else.

WEIGHTS AND MEASURES: *Early.* There is no immediate prospect of a law to assimilate weights and measures. The "cental" in use at Liverpool has been abandoned.

WEIGHT OF COW: *C J.* Your letter is in another column.

*** As usual, many communications have been received too late, and others are detained till the necessary inquiries can be made. We must also beg the indulgence of those correspondents the insertion of whose contributions is still delayed.

EDWARD TAYLOR begs to offer the following collection of FLOWER ROOTS on receipt of a Post-office Order for 20*s.*; or half the quantity of each sort for 10*s.*, package included; or any of the articles separate at the prices attached:—

| Per dozen— | *s.* | *d.* |
|---|---|---|
| 12 Hyacinths, best named, for pots or glasses, or at | 6 | 0 |
| 12 mixed Hyacinths for beds, 20*s.* per 100 .. | 3 | 0 |
| 12 double Due Van Thol Tulips, 4*s.* 6*d* per 100 | 0 | 6 |
| 12 mixed Parrot Tulips .. | 1 | 0 |
| 12 double mixed Tulips .. | 1 | 0 |
| 12 finest single mixed Tulips .. .. .. | 1 | 0 |
| 12 double Rex Rubrorum Tulips .. .. .. | 1 | 0 |
| 12 double yellow Tulips .. | 1 | 0 |
| 24 Anemones .. .. | 1 | 0 |
| 12 Jonquils .. .. .. | 1 | 0 |
| 12 Narcissus .. .. | 2 | 0 |
| 12 Dog's-tooth Violets .. | 1 | 0 |
| 50 Winter Aconites, per 100 | 3 | 0 |
| 50 double Snowdrops .. | 1 | 6 |
| 50 mixed Ranunculus .. | 5 | 0 |
| 100 Crocus, in 25 named varieties .. .. | 3 | 0 |
| 100 mixed Crocus .. .. | 1 | 0 |

If any sorts in the foregoing collection are not required, increased quantities of those most desired will be sent. CATALOGUES gratis on application.

Seed and Plant Establishment, Malton, Yorkshire.

EARLY HANDSWORTH POTATO.

FISHER, HOLMES, AND CO. beg to offer their EARLY HANDSWORTH POTATO, a very superior kind for forcing in pots and frames, the very earliest for open ground, and a great acquisition for market gardening purposes. It is very dwarf, growing not more than from 4 to 8 inches high, price 3*s.* per peck. It is thus reported in the *Gardeners' Chronicle*, 1858, p. 457: "Out of 74 varieties grown for trial in the Horticultural Society's Gardens the Early Handsworth was by 10 days the earliest;" also, at p. 656, "Among Potatoes the Early Handsworth deserves particular notice. It comes in some 10 days earlier than the Ash-leaf Kidney, is excellent in quality and a very prolific, round, white kind; six plants produced 6 lbs. of Potatoes; its great recommendation, however, is its earliness," to which may be added testimonials from many of the leading Gardeners and Nurserymen in the country.

F., H., & Co. having made provision for a large supply this season they are enabled to offer it to the Trade. Price on application. The following Nurserymen and Seedsmen have already purchased:—

Mr. James Veitch, jun., Chelsea
,, Denyer, London
,, W. Skirving, Walton Nursery, Liverpool
,, Charles Turner, Slough
,, Watkinson, Manchester
,, Henderson, Birkenhead
,, John Soden, Middle Barton, Oxford
,, Ivery, Peckham, London
,, Wm. Foster, Stroud
,, Darby, Cirencester
,, Perkins, Leamington
,, Matheson, Gloucester
,, J. Sealey, Bristol
,, Harris, Bristol
,, Wm. Hood, Ashby-de-la-Zouch
,, Wardle, Burton-on-Trent
,, Thos. Warner, Leicester
Messrs. Hurst & M'Mullen, London
,, E. G. Henderson & Son, St. John's Wood, London
,, James Carter & Co., London
,, Henderson & Co., Pine-apple Place, London
,, Butler & M'Culloch, London
,, Hooper & Co., London
,, Osborn & Sons, Fulham
,, J. & C. Lee, Hammersmith
,, H. Low & Co., Clapton
,, James Veitch & Son, Exeter
Messrs. Garraway, Mayes & Co., Bristol
,, F. & A. Dickson & Sons, Chester
,, Finney & Co., Gateshead
,, Thomas Davies & Co., Wavertree, Liverpool
,, Peter Lawson & Son, Edinburgh
,, Downie & Laird, Edinburgh
,, Dickson, Hogg, & Robertson, Dublin
,, Wood & Son, Maresfield, Uckfield
,, J. & C. Wheeler & Son, Gloucester
,, Maule & Son, Bristol
Mr. G. Chivas, Chester
Messrs. Peter Lawson & Sons, London
Mr. Vertigern, Birmingham
,, Thomas Wild, Ipswich
Messrs. Minier, Nash, & Co., London
,, Morrison, Brothers, Aberdeen
,, Morrison & Son, Elgin
Mr. W. Crowder, Horncastle, Lincolnshire
,, G. Wheeler, Warminster
,, William May, Leaming Lane, Bedale [Leeds
Messrs. Walker, Buslingthorpe, Handsworth Nursery, Sheffield.

WALTON NURSERY, LIVERPOOL.

WILLIAM SKIRVING begs to announce that in consequence of part of the Land of one of his Nurseries being required for building purposes, he intends CLEARING OFF the TREES and SHRUBS thereon as soon as possible, to accomplish which he is willing to submit to a great reduction in their value.

The Stock consists of many hundreds of fine well-grown specimen plants of such Trees as the Araucaria, the Cedrus Deodara, the Cryptomeria, and many other Choice Hardy Coniferous Trees lately introduced, with very large quantities of smaller sizes of the same. There is also a very extensive Stock of Evergreen and Flowering Shrubs on the land to be cleared, amongst which are fine large specimen plants of the varieties of Green and Variegated Holly, the English and Irish Yew, Cedars, Cypress, Arbor-vitæ, and Rhododendrons, with many thousands of ordinary planting sizes.

W. S. invites the particular attention of Planters of Public or Private Parks, Cemeteries, Garden or Pleasure Grounds, to inspect the Stock now offered, feeling certain such a collection of Trees and Shrubs, for extent and variety, has seldom or ever been offered to the public.

At the same time W. S. begs to offer his extensive Stock of Fruit and Forest Trees, and several acre of Transplanted Thorn Quicks, at his adjoining permanent Nursery. Catalogues on application.

TO NOBLEMEN, GENTLEMEN, AND OTHERS PLANTING EXTENSIVELY.

WHITEHOUSE AND WHITTAKER beg to call attention to their Stock of FOREST TREES in general, and particularly to their extensive Stock of LARCH, SPRUCE, AND SCOTCH FIRS. The Larch this season is very strong and suitable where Game abounds, being from 3 to 6 feet high, Spruce from 1½ to 3 feet, and Scotch from 1½ to 4 feet, all of which, from the peculiar nature of the soil, lift with fine fibrous roots. Their Stock of Transplanted GREEN HOLLIES exceeds 200,000 from 6 inches to 4 feet, a large portion of which are handsome plants with leaders. The whole having been recently removed, will move with safety. Their Stock of Transplanted QUICKS is also large and very strong.

The General NURSERY STOCK of Ornamental Trees, Flowering Shrubs, Evergreens, American Plants and Coniferous, &c., are varied and extensive:—Cedrus Libani, 8 to 11 feet, with fine leaders; Cedrus Deodara, from 1 to 5 feet; Araucaria imbricata, 1 to 6 feet; Cupressus macrocarpa, 2 to 5 feet; Variegated Hollies, fine specimens; Arbor-vitæs, of sorts, 1 to 8 feet; Pinus insignis, 5 feet; Hemlock Spruce, 3 to 8 feet; Standard and Portugal Laurels, Balm of Gilead, Austrian Pines, Pinus Cembra, &c. The whole of these having been shifted within the last 18 months will insure their complete success in moving to a distance.

Their Stock of FRUIT TREES is this season of very fine growth, consisting of Standard and Dwarf-trained Peaches, Nectarines, Apricots, Plums, Cherries, Pears, &c.

Horticultural and Agricultural Seeds of the best quality; Greenhouse, Bedding, and Herbaceous Plants, Dutch Bulbs, Seakale, Asparagus, Russian Mats, Mushroom Spawn, Gishurst Compound, and all other articles connected with the Nursery and Seed business.

Brereton Nursery, Rugeley, Staffordshire, is conveniently situated, being two miles from Rugeley Station, on the Trent Valley Line.

MONRO'S PROLIFIC CUCUMBER.—Seeds of the above may now be had in packets 2*s.* 6*d.* each. First-prize Certificates have been awarded it, both by the Horticultural Society and Crystal Palace Company, at the grand exhibitions of this season, where as many as 36 fruit were shown on one branch 2 feet long, six fruit averaging about 20 inches long. Special notice was also taken of it in the leading article of the *Gardeners' Chronicle* of May 14. Upwards of 3000 fruit have been cut this season from April 4 to July 4 out of a house 40 feet long. The usual allowance to the Trade.

G. MONRO, Colney Street, St. Albans, Herts.

CARTER'S PROLIFIC RASPBERRY.

JOHN CARTER, JUN., has pleasure in again offering the above Raspberry to the notice of the Horticultural world. It is a beautiful red fruit, very large, of fine flavour, and most abundant bearer. It was named by Mr. Glenny, after he had grown some plants one season, and he has since confirmed all he said in its favour, both in the "Garden Almanack" and in *Lloyd's Newspaper*.

J. C. has many testimonials of its excellence, and feels quite confident no one who may favour him with an order can be disappointed. Strong Canes, 5*s.* per dozen, or 33*s.* per 100, at the Nursery, or of the agents, HURST & MCMULLEN, 6, Leadenhall Street, E.C., or GEORGE GLENNY, Fulham, S.W. A CATALOGUE of general NURSERY STOCK may be had on application.—Keighley Nursery, Yorkshire.

TO THE TRADE.

THOMAS CRIPPS, NURSERYMAN, Tunbridge Wells, Kent, respectfully offers the following in fine strong well-rooted Plants:—

Standard Roses, 2 feet to 3½ and 4 feet stems, really good kinds, 50*s.* per 100; superior ditto, 2½ ft. to 4 ft. stems, 63*s.* per 100.
Dwarf Gallica Roses, &c., on own roots, by name, 20*s.* per 100.
Dwarf-worked Perpetual Roses, by name, 40*s.* per 100.
Dwarf Blush Pink China Roses, 15*s.* per 100, or 500 for 63*s.*
Dwarf Crimson do. do. 25*s.* per 100, or 500 for 100*s.*
Rhododendron ponticum stocks, fine strong for spring working, 20*s.* per 100.
Rhododendron ponticum, fine healthy stuff, the greater portion showing from 1 to 6 or 7 flower-heads, and from 9 in. to 2 feet in height, 25*s.* to 50*s.* per 100.
Rhododendron maximum album, fine large bushy stuff, 18 to 30 inches high, many well set with bloom buds, 9*s.* per doz. or 60*s.* per 100.
Rhododendrons.—Choicest named kinds can be supplied by the 1000 if required.
Hardy Heaths.—A fine collection, and beautiful large healthy plants, 20*s.* per 100.
Double Yellow Primroses, 20*s.* per 100 or 60*s.* for 400.
Manetti Stocks.—Fine strong, 40*s.* per 1000 or 70*s.* for 2000.
Larch Fir, 3 to 5 feet, 25*s.* per 1000.
Spanish Chesnut, 4 feet to 6 feet, fine, 40*s.* per 1000.

From unknown correspondents either a remittance or respectable London reference must accompany the orders. Five per cent. on cash accounts. When less than half-quantities herein quoted are ordered at once, an advance in price will be charged.

REIGATE SILVER SAND.—Best quality for Florists, 16*s.* per ton; less quantities, 1*s.* 6*d.* per bushel, delivered to any London wharf or railway. PEAT, LOAM, and LEAF MOULD, in large or small quantities. Sacks for Sand, 1*s* 6*d.* each, or on hire 6*d.* each (five hold a ton).

JOHN KENNARD, Purveyor to her Majesty, Swan Place, Old Kent Road, London, S.E.

DESIGNS FOR FLOWER BEDS AND GARDENS—In consequence of numerous applications J. MARSHALL, 2, Goldsmith Street, Nottingham, has been induced to prepare another set of Designs. They comprise upwards of 80, diversified in style, and will be forwarded to any address on receipt of 24 postage stamps.

MR. EDWARD MILNER having constructed and laid out the Crystal Palace Gardens and Park, Sydenham, under the direction of Sir Joseph Paxton, and having managed them for the Company till last Midsummer (when owing to the pressure of other professional duties his engagement terminated), desires to express his acknowledgments to those Noblemen and Gentlemen who have honoured him with their patronage, and to state that he continues to undertake the execution of works of a similar character.

An active experience of upwards of 20 years enables Mr. MILNER to offer his services in the formation and improvement of Parks, Gardens, and Ornamental Grounds, also in preparing designs for Conservatories and other Horticultural Buildings; in establishing and thinning Plantations and Woods, with special reference to the trees most suitable for particular soils and aspects, the valuation of Timber, Draining, Road-making, &c.

Mr. MILNER is permitted to refer to Sir Joseph Paxton and to several Noblemen and Gentlemen for whom he has done work.—Address, EDWARD MILNER, "Oxford House," Anerley Road, Norwood, S.

NURSERYMEN SUPPLIED WITH THE BEST TOBACCO PAPER at 4*l.* per cwt.: any quantity less than ½ cwt., 10*d.* per lb. Warranted genuine.—Address TOM BRYANT, Messrs. Jackson & Son, Tobacco Manufacturers, Lady Lane, Leeds.

GENUINE TOBACCO PAPER FOR FUMIGATING.

H. APPLEBY (Foreman to Messrs. Ivery & Son, Nurserymen, Dorking, Surrey), has always a stock of the above in 4-lb. packets at 1*s.* 3*d.* per lb. A liberal discount allowed to the Trade. Testimonials too numerous for insertion, but may be had on application.

SHEET IRON POTS FOR FUMIGATING, 3*s.* 6*d.* each.

N.B. All orders to be accompanied with a Post-office Order, payable to HENRY APPLEBY, Dorking, Surrey.

GLAZIERS' DIAMONDS FOR CUTTING HORTICULTURAL and other GLASS, to be had of the Wholesale Manufacturer, JOHN EDWARDS, 20, Sharp's Alley, West Smithfield, London, E.C. Prices from 10*s.* to 27*s.* 6*d.*

PATENT GUTTA PERCHA SOLES.—IMPORTANT TO GARDENERS.—The Gutta Percha Company have the pleasure to acknowledge the receipt of the following letter from G. GLENNY, Esq., the celebrated Florist:—

"420, Strand, London.

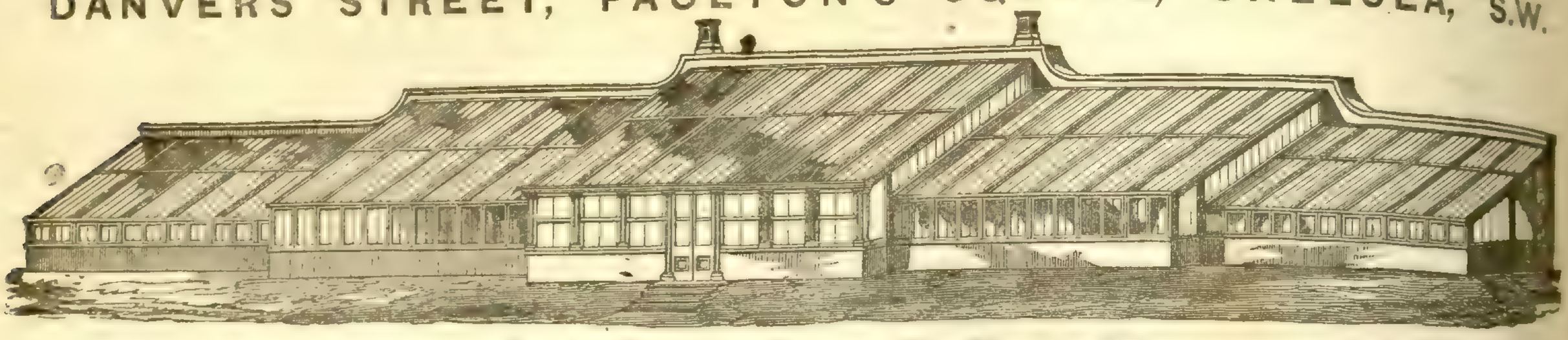
"Gentlemen,—I have worn Gutta Percha Soles and Heels these two years, and being so much in a garden as I necessarily am in all weathers, and with the ground in all states, I would on no account be without them. As a matter of economy I would recommend Gardeners to use them, for they may repair the worn part at all times by warming the material at the fire, and pressing it from the thick parts to the worn parts, as easily as if it were so much dough. I think it the duty of all persons who must occasionally wet their feet to adopt a material that completely defies damp. Many a gardener would escape colds and rheumatism by the use of Gutta Percha Soles.

"Your obedient servant, G. GLENNY."

Every variety of Gutta Percha articles, such as Mill Bands, Tubing, Soles, Sheet, Pump Buckets, Fire Buckets, Bosses, Union Joints, Flasks, Bottles, Bowls, Chamber Vessels, Toilet Trays, Sponge Bags, Curtain Rings, Galvanic Batteries, Talbotype Trays, &c., manufactured by the Gutta Percha Company, and sold by their wholesale dealers in town or Country.—The Gutta Percha Company, Patentees, 18, Wharf Road, City Road, E.C., London.

# HORTICULTURAL WORKS,

## DANVERS STREET, PAULTON'S SQUARE, CHELSEA, S.W.



# JAMES GRAY

RESPECTFULLY BEGS TO INFORM THE NOBILITY, GENTRY, NURSERYMEN, GARDENERS, AND OTHERS, THAT HE CONTINUES TO CARRY ON THE BUSINESS IN ALL ITS BRANCHES AT THE ABOVE OLD ESTABLISHED PREMISES.

## CONSERVATORIES, GREENHOUSES, FORCING HOUSES, VINERIES, PITS, &c.,

OF EVERY DESCRIPTION, ERECTED ON THE MOST APPROVED PRINCIPLES.

## HEATING BY HOT WATER.

J. G. having specially devoted his attention for many years to this part of the business, is now fully prepared to Heat every description of public and private buildings, viz :—Town Mansions, Warehouses, &c., as well as all structures connected with Horticulture, in the most efficient manner. His system is the most simple that can be adopted—which he has found by long experience to be the best—can be constructed at less cost, and is more easily managed than those of a complicated nature which have attracted the notice of the public.

J. G. begs to call attention to his CAST-IRON CORRUGATED ARCH BOILER, which from its simplicity of construction has not the liability to fracture to which those of a more complex design are always subject. They have been extensively used for many years, and have given the greatest satisfaction.

All business is conducted at this establishment on the principle of lowest remunerative profits consistent with best materials and workmanship.

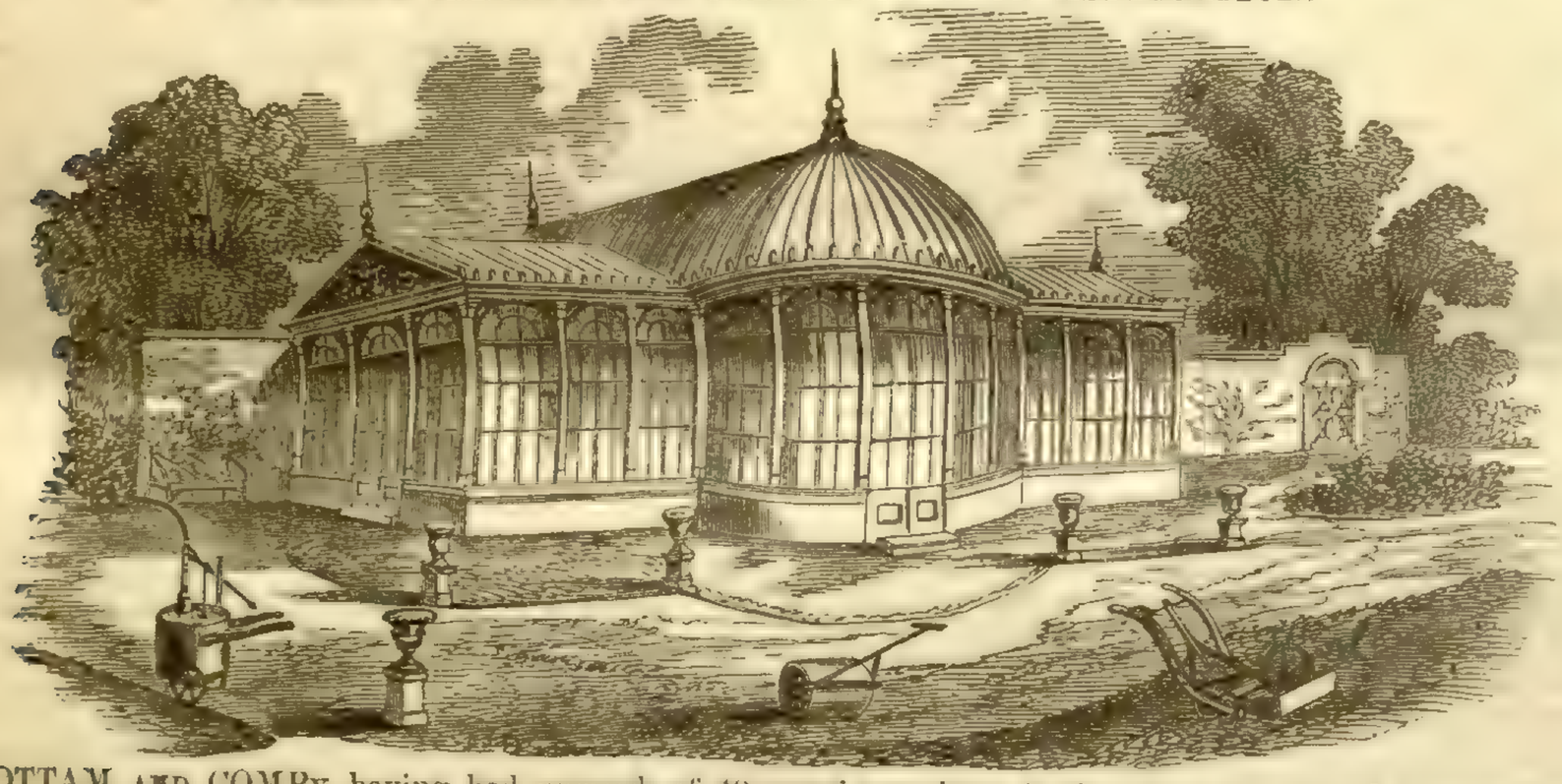
## PLANS AND ESTIMATES FURNISHED ON THE SHORTEST NOTICE.

# COTTAM & COMPY., Engineers, Founders, &c.,

2, WINSLEY STREET, LONDON, W.

☞ **A SHOW ROOM DEVOTED ENTIRELY TO ARTICLES OF HORTICULTURE.**

THE NEW ILLUSTRATED CATALOGUE UPON APPLICATION.



COTTAM AND COMPY. having had upwards of 40 years' experience in the arrangement and construction of every description of HORTICULTURAL BUILDINGS AND HEATING BY THE CIRCULATION OF HOT WATER, are well qualified to guarantee the perfect execution of any works entrusted to them in the erection of

| | | | |
|---|---|---|---|
| Conservatories | Summer Temples | Orchid Houses | Apricot and Peach Houses |
| Conservatory or Glass Walls for the protection of plants or ripening wall fruit | Arbours, &c. | Conservatories for Window or Balcony Gardening | Tropical Fruit Houses |
| | Greenhouses | Vineries | Forcing Pits and Frames |
| | Orangeries | | Cucumber and Melon Houses |

☞ *Drawings and Estimates free upon application.*

ORCHARD HOUSES, combining cheapness of construction with suitability of purpose—portable or otherwise.

EXHIBITION PRIZE MEDAL GATES AND STABLE FITTINGS.

**Iron Hurdles, Strained Wire Fencing, Game Netting, &c.**

*Every description of Plain, Ornamental, Cast and Wrought Iron, and Wire Work.*

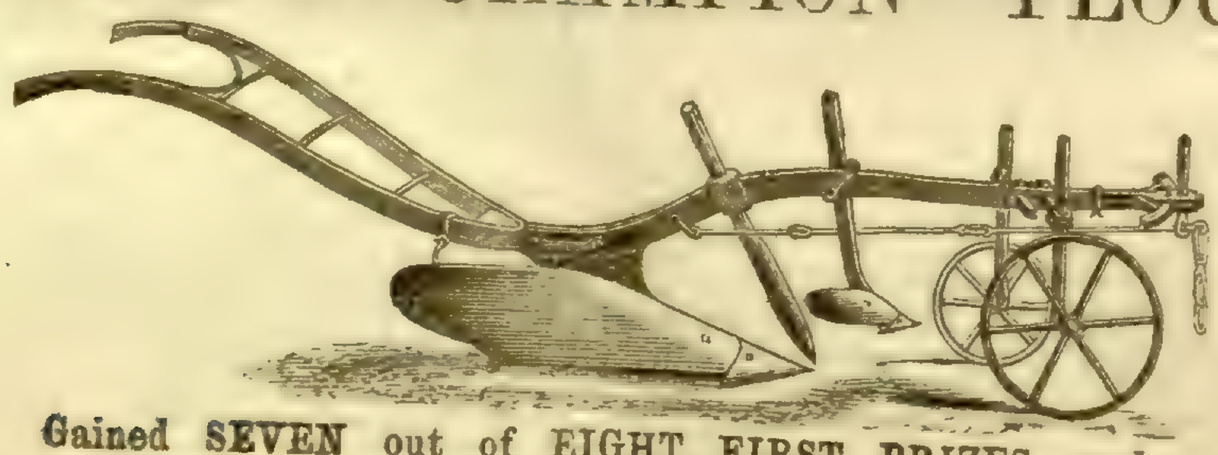
SEE SEPARATE LISTS UPON APPLICATION.

**COTTAM & COMPY, Iron Works, 2, Winsley Street, Oxford Street, W.** (opposite the Pantheon).

## BEDFORDSHIRE AGRICULTURAL SOCIETY, 1859.

J. AND F. HOWARD have much pleasure in informing the Public that at the Ploughing Matches of the above Society, just concluded,

# HOWARD'S CHAMPION PLOUGH



**Gained SEVEN out of EIGHT FIRST PRIZES, and SEVEN out of EIGHT SECOND PRIZES,**

Thereby more than ever sustaining its position at home, while, at the recent Meetings of the Royal Agricultural Society of England and the Highland and Agricultural Society of Scotland, it also gained the

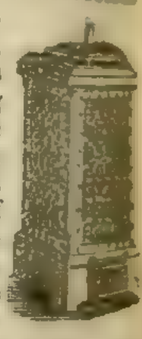
**Two Chief Prizes as the Best Plough for General Purposes.**

CATALOGUES, with full particulars, sent post free on application to

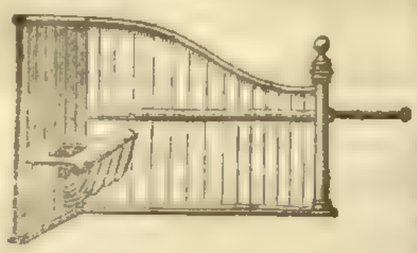
**J. & F. HOWARD, BRITANNIA IRON WORKS, BEDFORD.**

IMPROVEMENTS IN HEATING, &c.

MUSGRAVE'S PATENT SLOW-COMBUSTION STOVE, for Warming Public Buildings, Hall, Shops, Conservatories, Factories, Drying Rooms, &c. Will burn in Churches from Saturday till Sunday evening, avoiding attention during the hours of worship. In Halls will burn day and night for weeks, with little care. Capable of warming a large apartment for 24 hours, at a cost of 3*d.*; and deserving of special attention, because of its safety, healthfulness, durability, and extreme simplicity. This Stove is the nearest approach to warming by hot water.



MUSGRAVE'S PATENT STABLE FITTINGS AND HARMLESS LOOSE BOXES have obtained the award of a large Council Medal from the R. I. A. Society for the following improvements:—1st, The Horse cannot injure himself or others in the same stable if he breaks loose in his stall. 2d, He cannot waste his hay. 3d, He can have his uncut hay at pleasure. 4th, He has clean water always before him. 5th, A pure and wholesome atmosphere is secured. 6th, The whole fittings are stronger than usual, without increase in price, and there is no risk of infection.



The Loose Box is really what its name denotes, and the most high-spirited Horse may be turned into it without danger.

MUSGRAVE'S PATENT IRON COW-HOUSE FITTINGS, as approved by the Board of Works, adopted in the Ulster Model Farm, and by many of the most eminent Stock Breeders in the Kingdom, are made wholly of iron, very durable, cleanly, and attractive in appearance. The fodder is always fresh, being freely exposed to the air, removed from the breath of the animal, and separated from the refuse or damp food. The range of Troughs can be quickly filled with water for the use of the Cows, or for washing out in case of epidemic, and the cost is very moderate.

These inventions being distinguished for strength, simplicity, and practical usefulness will repay public inspection.

MUSGRAVE BROTHERS are also Makers of Wire Fencing, Hurdles, Field and Entrance Gates, Corn Rick Stands, Conservatories, Hot-water Apparatus, Verandahs, Rural Bridges, &c., and their works being favourably placed for cheap labour and materials, they can offer corresponding advantages in price.

MUSGRAVE'S Patent Field Gates have gained the 1st Prize from the R. I. A. Society for strength, durability, and cheapness.

For particulars address MUSGRAVE BROTHERS, Ann Street Iron Works, Belfast.

C. STEPHENSON, late STEPHENSON AND SON, 61, Gracechurch St., London, E.C., Manufacturer of Hurdles, Fencing, &c., Improved Iron and Copper Cottage Boilers and Apparatus for Warming Buildings of every description by Hot Water.

Prices and Estimates furnished upon application.

HOT-WATER PIPES at wholesale prices. Elbows, Syphons, Tee Pipes, and every other connection. Wrought and cast iron Boilers, Saddle, Conical, Cylinder, Elliptic, from 24*s.* each. Boilers and Iron Stands to set without brickwork. Valves from 12*s.* each. Coil Boxes, Fire Doors, Furnace Bars, Supply Cisterns, and Builders' Castings of every description in stock, at Mr. LYNCH WHITE'S, Wharf, Upper Ground Street, Blackfriars Bridge, London.

TO THE NOBILITY, GENTRY, AND HORTICULTURISTS.

H. MCCALLA (late principal Draughtsman to Messrs. Weeks & Co.), CIVIL ENGINEER and HORTICULTURAL ARCHITECT, begs to inform the above that the Horticultural Buildings being confined to so few, exorbitant prices are charged; that he prepares Working Drawings and Specifications so that they can have their own constructed by any local carpenter, at 1*s.* 6*d.* per foot super, or upon their own estates at 1*s.* 4*d.* per foot. Plans also upon the same rule for Conservatories, Hot Water Apparatus. Plans for all kinds of Farm Buildings, Homesteads, Labourers' Cottages, Laying out of Estates, Drainage. Plans &c., prepared for all the above Works and submitted to competition.—Office: 7 Upper Cheyne Row, King's Road, Chelsea, S.W.

### AMERICAN PLANTS, &c.

MESSRS. WATERER AND GODFREY'S CATALOGUE for the present season is now ready, and may be had on application. It describes fully all Rhododendrons [illegible], and contains a List of Azaleas, Hardy Heaths, [illegible] American Plants, as well as a summary of the [illegible] of the most extensive Nurseries in England.

The Catalogue may also be had at Messrs. MAY'S & Co., [illegible] Strand, W.C.

Knap Hill Nursery, near Woking, Surrey.

### HARDY RHODODENDRONS.

MESSRS. WATERER AND GODFREY invite attention to their Seedling RHODODENDRONS, which they [illegible] without names, and which they strongly recommend as being very superior in point of HABIT, FOLIAGE, [illegible] and GENERAL HARDINESS. They are from 1½ to 2½ feet [illegible], and no plants can possibly be in better health. They will be sold at very liberal prices, and purchasers can select from a stock of many thousands.

Knap Hill Nursery, near Woking, Surrey.

### RHODODENDRONS.

JOHN WATERER'S CATALOGUE OF HARDY, SCARCE, and other choice RHODODENDRONS, as [illegible] at the Royal Botanic Gardens, Regent's Park, is now published and will be forwarded on application. Full descriptions of all the esteemed varieties will be found [illegible] with a list of the popular kinds of AZALEAS and other AMERICAN PLANTS, as well as a selection of CONIFEROUS TREES, with height and prices.

The Knaphill Nursery, Bagshot, Surrey, near Sunningdale [illegible] South Western Railway.

### GERANIUMS, HERBACEOUS PLANTS, ETC.

MESSRS. PARKER AND WILLIAMS beg to inform their friends and patrons that their new PRICED and DESCRIPTIVE CATALOGUE of the above, to which are added Supplemental Lists of Stove, Greenhouse, and Hardy Plants, Fruit Trees, &c. (which include all the best new plants of the season), is now published, and will be forwarded post free on application.—Paradise Nursery, Seven Sisters' and Hornsey Roads, Holloway, London, N.

### GLADIOLUS BRENCHLEYENSIS.

YOUELL AND CO. are now sending out strong flowering Bulbs of this magnificent showy variety, the colour of which is bright vermilion scarlet. A box of the spikes of bloom was forwarded to the Editor of this Paper in August last, whose opinion of it will be found in the publication of August 20, page 694, as follows:—

"This must certainly be regarded as one of the most showy and beautiful of the class to which it belongs."

Price 4s. per dozen; 40s. per 100. Trade price on application.

Royal Nursery, Great Yarmouth, Norfolk.

### FLOWER, VEGETABLE, AND TREE SEEDS.

C. PLATZ AND SON, SEED GROWERS and NURSERYMEN, Erfurt, Prussia, beg leave to inform their friends and patrons that their New CATALOGUE (52d annual) of FLOWER, VEGETABLE, and TREE SEEDS from the last growth is now published, and may be had post paid on application.

### GERMAN STOCKS AND ASTERS, &c.

APPELIUS'S 27TH ANNUAL TRADE LIST now ready.—Apply to his London Agency, 132, Upper Thames Street, E.C.

N.B. All Flower Seeds delivered free of carriage within 14 days.

### TO NURSERYMEN AND OTHERS.

THORN QUICKS FOR SALE.—1,500,000 of 1-year old Thorn Quicks, extra fine. 1,000,000 of 1-year old Thorn Quicks, stout and well rooted. Very suitable for transplanting.—Application to be made to MICHAEL FAULKNER, Nurseryman, Collon, Co. Louth, Ireland. N.B. Satisfactory reference required from unknown correspondents.

### SUPERB DOUBLE HOLLYHOCKS.

WILLIAM CHATER'S CATALOGUE is now ready, and can be procured by inclosing One Postage Stamp, on application to the Nurseries, Saffron Walden, Essex.

See also other Advertisements in this Paper.

### SUPERB DOUBLE HOLLYHOCKS.

BOWLER AND WARD have great pleasure in announcing that they have a large stock of the choicest varieties in cultivation. The plants are well established and in the finest possible health. Orders to any extent can now be executed. For description, &c., see printed Catalogue, which will be forwarded on application.

Ipswich Rosery, Foxhall Road, Ipswich.

### CHOICE HOLLYHOCK SEED.

BOWLER AND WARD have given especial attention to the gathering from those varieties only which they know to be productive of good and satisfactory seedlings. Separate sorts in packets by name, 1s. each; mixed, 2s. 6d. to 5s. The Trade supplied by the ounce, price on application.

Ipswich Rosery, Foxhall Road, Ipswich.

### MAGNIFICENT DWARF-TRAINED MORELLO AND MAY DUKE CHERRIES.

WM. WOOD AND SON invite especial attention to their very extensive stock of the above, which are well worthy the attention of the Trade. The trees offered are most beautifully trained, each tree having from 9 to 12 branches, measuring from 6 to 8 feet across the plant, clean-grown, and remarkably handsome. Sample trees sent on application.

Woodlands Nursery, Maresfield, near Uckfield, Sussex.

### NEW PINE APPLE—HURST HOUSE SEEDLING.

H. WILLIAMS is now prepared to send out this fine and useful variety of PINE APPLE; fruit large and conical, and of good flavour.

H. W. can with confidence recommend this variety to all Pine growers. Numerous testimonials could be given, but H. W. thinks it sufficient to add Mr. G. Fleming's, of Trentham: "An acquisition." Price on application.

Fortes Green, Muswell Hill, Finchley, N.

### FOREST TREES.

JOHN WATERER has to offer upwards of a Hundred Thousand of each of the following, from 2 to 4½ feet high, and all good rooted:—

| | | |
|---|---|---|
| CHESNUT | LARCH | BIRCH |
| HAZEL | ASH | ALDER |
| SCOTCH | LAURELS | WITHY, &c. |

Samples with prices sent on application. Planting done by contract.—The American Nursery, Bagshot, Surrey.

ROBERT NEAL, NURSERYMAN, Wandsworth Common, S.W., begs to call the attention of buyers to his large and well selected stock of EVERGREENS and FLOWERING SHRUBS, ORNAMENTAL TREES, AMERICAN PLANTS, FRUIT AND FOREST TREES, STANDARD AND DWARF ROSES of every description. A large stock of BOX-LEAF EVERGREEN PRIVET, from 1 to 6 feet for hedges; GREEN HOLLY, 1 to 6 feet; RICH BOG and LOAM for American Beds; LEAF MOULD. The Nursery is 10 minutes' walk from Clapham Common, and New Wandsworth Station, Crystal Palace Line.

### CARTER'S LIST of NEW ANNUALS and PERENNIALS:—

Clarkia pulchella integripetala
Callirhoe digitata,
Œnothera biennis hirsutissima.
Lobelia gracilis rosea.
Anagallis grandiflora "Eugenie"
" "Napoleon."
Nigella hispanica alba.
" atropurpurea.
Phacelia tanacetifolia alba.

| | |
|---|---|
| Dianthus chinensis laciniatus, fl. pl. | Yellow Tom Thumb Nasturtium |
| Ditto Heddewigi | Tom Thumb "Beauty" ditto. |
| Captain Clarke's Blue Sweet Pea. | Datura chlorantha, fl. pl. |
| Nemophila discoidalis marmorata. | Thunbergia coccinea. |
| Lupinus mutabilis varicolor. | Ipomœa limbata elegantissima. |
| | Spergula pilifera, new substitute for Grass. |

Price to the Trade and Coloured Drawings may be had on application to JAMES CARTER & Co., 237 and 238, High Holborn, W.C.

### JAMES CARTER AND CO. beg leave to offer the following:—

DOUBLE AND SINGLE BORDER HYACINTHS, 21s. per 100, 3s. per dozen.

Do. Do., named, 6s., 8s., 9s., and 10s. per dozen.

POLYANTHUS NARCISSUS, 8 sorts, 10s.; each, 2s. 9d.

| | Per 1000. | Per 100. |
|---|---|---|
| CROCUS, blue | 12s. 0d. | 1s. 4d. |
| " light blue | 12 0 | 1 4 |
| " purple | 12 0 | 1 4 |
| " yellow | 12 0 | 1 4 |
| CROCUS, large yellow | 18 0 | 2 0 |
| " white | 18 0 | 2 0 |
| " striped | 15 0 | 1 8 |
| TULIPS, Tournesol | | 7 6 |
| " Rex Rubrorum | | 7 6 |
| " La Candeur | | 14 0 |
| " Yellow Rose | | 10 0 |
| " very fine double single | | 6 0 |

LILIUM LANCIFOLIUM (extra large)—red, per doz., 22s.; each, 2s. 3d. White, per doz., 17s. 6d.; each, 1s. 6d. Spotted, per doz., 20s; each, 2s.

GLADIOLUS FOR CLUMPING.—The following collections are particularly adapted for clumping and bedding. The Gandavensis seedlings are now offered for this purpose for the first time, and can be strongly recommended for robust habit and varied brilliancy of colour.

We have added two scarce and beautiful varieties to the other assortment, which we think will be found desirable, as forming an effective contrast to those already offered:—

| | |
|---|---|
| Couranti fulgens, crimson | Per dozen 4s. 0d. |
| Eugenie, salmon, rose striped | " 5 0 |
| Fulgens aureus pictus | " 5 0 |
| Madame Coudere, carmine shaded | " 4 0 |

12 each above 8 sorts, 28s.

| | |
|---|---|
| Mdlle. Fanny Rouget, rose, white, and carmine | 5 0 |
| Mons Blouet, rose, shaded carmine | 4 0 |
| Mons. Georgeon, salmon rose | 4 0 |
| Triomphe d'Enghien, carmine var. | 4 0 |

6 each above 8 sorts, 15s. | 3 each above 8 sorts, 8s.

| | |
|---|---|
| Brenchleyensis, vermillion | 5s. 0d. |
| Cardinalis, scarlet, white mark | 3 0 |
| Formosissimus, beautiful red | 3 6 |
| Gandavensis, scarlet and yellow | 3 0 |
| Insignis, carmine spotted | 5 6 |
| Magnifique, purple, white mark | 2 6 |

12 each above 11 sorts, 30s.

| | |
|---|---|
| Natalensis, yellow and red | 1s. 6d. |
| Oppositiflorus, white and rose | 2 6 |
| Prince Albert, bright rose | 3 6 |
| Ramosus, salmon rose | 3 0 |
| Victoria Regina, bright scarlet | 3 6 |

6 each above 11 sorts, 15s. 6d. | 3 each above 11 sorts.

CARTER'S FLORAL ILLUSTRATIONS, Plate No. 7, now ready, 1s. 6d.

JAMES CARTER & Co., 237 & 238, High Holborn London, W.C.

### DWARF MAIDEN FRUIT TREES.—

APPLES.

| | | |
|---|---|---|
| PEARS. | CHERRIES. | PEACHES. |
| PLUMS. | APRICOTS. | NECTARINES. |

Prices moderate.

Fine and clean grown; and all the leading sorts can be supplied in quantities by GEORGE JACKMAN & SON, Woking Nursery, Surrey.

### DWARF TRAINED FRUIT TREES.—

APPLES.

| | | |
|---|---|---|
| PEARS. | CHERRIES. | PEACHES. |
| PLUMS. | APRICOTS. | NECTARINES. |

Prices moderate.

Great care is taken in the formation of these fine, healthy, free-grown trees. Particulars can be obtained of GEORGE JACKMAN & SON, Woking Nursery, Surrey.

### HOLLAND AND BAYLEY are now sending out in Strong Plants the heaviest Lancashire Show—

| | Per doz. | s. | d. | | Per doz. | s. | d. |
|---|---|---|---|---|---|---|---|
| Gooseberries | | 6 | 0 | White Currants (strong) | | 3 | 0 |
| Black Currants (strong) | | 2 | 6 | Apple, Lord Suffield, extra fine | | 12 | 0 |
| Red " | | 2 | 6 | | | | |

H. & B.'s CATALOGUE of Florists' Flowers, &c., is now ready, and may be had on application.

Bradshaw Gardens, Chadderton, near Manchester.

### TRANSPLANTED SHRUBS & FOREST TREES.

MARSH AND PERKINS call the attention of the Trade to the undernamed, which are strong and healthy:

| | | |
|---|---|---|
| Laurels, common | 12 to 18 inches, | 50s. per 1000 |
| Do. do | 18 to 24 " | 60s. " |
| Berberis Aquifolium | 9 to 12 " | 20s. " |
| Privet, evergreen | 1 to 2 feet | 15s. " |
| Box, green | 9 to 12 inches, | 50s. " |
| Fir Larch | 1½ to 2 feet | 10s. " |
| " 1 year's transplanted | | 3s. 6d. " |
| " Scotch | 1½ to 2½ feet | 18s. " |
| Quick, fine transplanted | | 8s. to 10s. " |

Samples sent on application to 42, Drapery, Northampton.

### MAGNIFICENT STANDARD AND PYRAMIDAL PORTUGAL LAURELS.

—The above are well adapted for planting out on lawns or where immediate effect is required. The Standards range from 4 to 6 feet, with large well formed heads; and the Pyramids are most beautifully shaped plants, from 5 to 7 feet. Prices on application.—WM. WOOD & SON, Woodlands Nursery, Maresfield, near Uckfield, Sussex.

### TO THE TRADE.

FRUIT TREES, MAIDEN APRICOTS, PEACHES, NECTARINES, PEARS, APPLES, PLUMS, CHERRIES, &c.; also Standard and Dwarf-trained, in great variety, and correct to name.

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Pyramidal PEARS and APPLES in fine health, coming into a bearing state. Prices on application.

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GEO. WHEELER, having saved a limited quantity of Seed from the finest DOUBLE FUCHSIA ever offered, viz., his SIR COLIN CAMPBELL, which from such a Stock may reasonably be expected to produce a considerable proportion of double flowers, is prepared to forward, post free, in return for cash or postage stamps, packets containing 24 Seeds each, at 2s. 6d. per packet.—Warminster Nursery, Nov. 19.

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F. AND A. SMITH beg to offer the above well set with flower buds, dwarf, bushy, and thoroughly ripened off. Having been grown in this country they are most suitable for packing, and are strongly recommended to country Amateurs and the Trade in general. An inspection invited. Prices on application.—Dulwich, Surrey, S.

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It is of *noble aspect* and free growth, perfectly distinct and novel in its character, the pinnæ on every frond as well as their branches having a broad central stripe of glistening silver, which, in contrast with the bright green, produces a most charming effect. It may justly be called

THE VARIEGATED FERN

It was exhibited at the Royal Botanic Garden on July 6, and before the Horticultural Society's newly-appointed Floral Committee on July 7, and in both cases received the highest Prizes given to such novelties, and was universally admired.

Established Plants, 31s. 6d. each. The usual allowance to the Trade.—Royal Exotic Nurseries, Exeter and Chelsea.

### SNOW'S MUSCAT HAMBURGH GRAPE.

MESSRS. ARTHUR HENDERSON AND CO. beg to give notice that TWO PRIZES will be awarded by them at the Pomological Meeting in August, 1860, for the production of the three best bunches of the above Grape. The first Prize Three Guineas; the second Two Guineas. They will also give a Prize at the Crystal Palace Show in September, 1860, of Five Guineas for the best dish of Grapes, and Three Guineas for the second best.

A. HENDERSON AND CO., Pine Apple Place, W.—Nov. 19.

# The Gardeners' Chronicle.

*SATURDAY, NOVEMBER* 19, 1859.

LET us congratulate the Horticultural Society: let us congratulate the public. The creation of a NEW GARDEN AT KENSINGTON GORE is no longer doubtful. It will be seen by the following letter that the subscription list has been filled up, and a lease of the ground is about to be executed.

(COPY of a letter from the Secretary of the Horticultural Society to the Royal Commissioners.)

November 14, 1859.

SIR,—I have now the pleasure to report for the information of her Majesty's Commissioners for the Exhibition of 1851, that the sum of 50,000*l.* for the formation of the new garden at Kensington Gore has been subscribed for, and that the Council are ready to execute the lease.—I have the honour to be, Sir,

Your obedient Servant,

(Signed) JOHN LINDLEY.

Edgar Bowring, Esq., &c., Whitehall.

We have also to report that Mr. GEORGE EYLES has been appointed Superintendent; that plans for the construction of a place of business, including a spacious meeting and committee room at Kensington Gore, are to be immediately prepared;

and that the Council have already under consideration a scheme for the re-organisation of the Society upon a scale of efficiency commensurate with the importance of the new position it is about to assume. We are enabled to give the following list of the subscriptions here referred to, from which the public will learn who are the present supporters of this great design.

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Upon the completion of the subscription the following letter to every Fellow of the Society was decided on:—

Horticultural Society,
8, St. Martin's Place, London, W.C.
November 18, 1859.

SIR,—In reference to the proposed garden at Kensington Gore, the Council have the satisfaction to announce to the Fellows that without once publicly advertising the arrangements contemplated in forming this great establishment, they have received promises of the whole sum required, 50,000*l.*—partly by donations, (including her Majesty 1000*l.* and H.R.H. the President 500*l.*) 1936*l.*—partly by various Fellows and their friends undertaking either to become themselves Life Members or to propose various branches of their family as such, to the number of 300; and the remainder by offers of money on debentures to the extent of 39,000*l.* The Council therefore, acting on the resolutions of the last special general meeting, have this day given notice to her Majesty's Commissioners that the Society is prepared to commence its portion of the works.

In making this communication I am to say that in the opinion of the Council it would be more to the interest of the Society if a larger sum could be raised by Life Memberships, because it would relieve the Society from having to pay interest on debentures, and therefore if Fellows are acquainted with any persons who propose to aid in forming the new garden, the Council would be obliged by their mentioning their intentions before the first ballot for Fellows in 1860, which is fixed for Friday, January 20.

I forward two lists of those who have promised to contribute the before mentioned 50,000*l.* in case you should wish to give one away.—I am, Sir,

Your obedient Servant,
WILLIAM B. BOOTH, Assistant Secretary.

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Now that the long evenings have arrived, and with them plenty of leisure time for gardeners, the time seems opportune for laying before our readers the following remarks, by a correspondent, upon a subject that we are glad to see attracting attention. THE EDUCATION OF YOUNG GARDENERS is a most interesting question, and the writer, himself familiar with the wants and possibilities of such young men, being competent to form a correct opinion upon the matter, we submit his views to those whom they concern.

"There are those who say, 'Why should a gardener know anything but gardening?' As well might they ask why an apothecary should know anything beyond the administration of drugs. The answer is in both cases obvious—more is required of them. The world is not standing still; knowledge is rapidly increasing; all classes are improving, and must improve, and in no pursuit is general knowledge more necessary than in gardening. If we inquire how this general improvement has been brought about we find that it has not been effected by doing exactly what our fathers did and nothing more. Railroads and modern engineering were not so brought to their present state; chemistry, geology, and the other applied sciences have not been created by looking backwards. All such sciences have been advanced and continue to advance by the steady application of *principles*. Their motto is that of the famous Prussian Marshal—FORWARDS. And it will always be found that where gardeners do not advance like their neighbours it is because they are unacquainted with the principles on which their art depends, and are consequently unable to apply them.

"*Via trita via tuta* is the maxim of what are called mere practical men; to that they stick, despising improvement because were they to adopt any they would not do as their fathers did, and 'their fathers got on very well.' There is no maxim more true than the above, but like all good thing it may be and often is abused. Let it not however be supposed that we wish a gardener to leave his old tried ways every time some new scheme is started. All that we insist upon is that he should know *why* practices shown by experience to be good *are* good; and why those condemned by experience deserved condemnation. First principles teach him this, and nothing else can do so. So, again, in considering new processes, be they what they may, no sound judgment can spring from those who have no idea of the first principles on which such judgment must depend. An unacquaintance with first principles is the evil to be remedied, and any steps taken with this for their object are to be hailed as the greatest boons that can be bestowed on the rising generation of gardeners.

"Now to understand any one subject really well, it is absolutely necessary to go something beyond the strict limits of that subject. To understand the principles on which gardening operations, however simple they may appear, depend, a rather considerable knowledge of vegetable physiology is indispensable. Vegetable physiology cannot be well studied without first obtaining some idea of the elements of physics and chemistry; the latter require both study and careful observation. A gardener is always in a position to observe; he sees, or would see if he knew them when before his eyes, constant examples of, or exceptions, real or apparent, to established principles, and if these were carefully noted and examined he would soon find himself stored with such a stock of really useful knowledge as would save him from difficulty when anything not in the common routine of business occurs.

"It must not be thought that we want to have every gardener a botanist and a chemist and a natural philosopher and a hundred other things besides; that such should be the case, even if desirable, would be impossible; but although an intimate acquaintance with such subjects cannot be gained and would be of little use if it could, it by no means follows that their elements may not be acquired, and without more labour than industrious young men can spare. Some indeed say that it is unreasonable to expect men who work hard all day should spend their evenings in study; but the urgers of this objection forget that a man has a mind as well as a body, and that while one is being cultivated the other may rest. Moderate study, so far from being wearisome, is a great relaxation.

"The French understand these things better than we do. On the continent, in France especially, public lectures are given in every town of importance; nobody has to pay to attend, nobody is obliged to attend; nevertheless the lecture rooms are filled, and by whom? By workmen, by common labourers, who go after their work is done to refresh their bodies by exciting their minds. To be sure this is sometimes carried rather far; we were acquainted with a person, who, when he applied for a place as a porter, was refused because he had not attended the public lectures on chemistry! But Englishmen are not likely to push matters quite so far.

"There are hundreds of young gardeners through the country who will endorse all that has now been said. It is for those who employ them, especially for the head gardeners in great places, to assist them in gaining the knowledge they are thirsting for; and the long evenings of winter offer the most favourable opportunity of doing so. The only advice we have to offer beyond the suggestions thus thrown out may be conveyed in the language of Lord BACON:—'Read not to *contradict* and *confute*, nor to *believe* and *take for granted*, nor to *find talk and discourse*, but to WEIGH and CONSIDER.' These words of wisdom should be painted in letters of gold in every reading room.'

So far our correspondent. Considering the importance of such a question as education, we venture to reproduce our own views, as expressed about 20 years ago in the Theory of Horticulture:—

Vegetable anatomy is no doubt the foundation of all correct views of physiological action; chemistry is of the first importance, when the general functions of plants are considered in a large and general way; and electricity probably exercises an important influence over the vital actions of all living things. But these are the refinements of science, belonging to the philosopher in his laboratory, and not to the worker in gardens; they are indispensable to the correct appreciation of physiological phenomena, but not to the application of those phenomena to the arts of life; electricity, in particular, appears to be, in the present imperfect state of our knowledge of its relation to vegetable functions, altogether incapable of forming a part of any horticultural theory.

What the gardener wants is, not a treatise upon botany, nor a series of speculations upon the possible nature of the influence on plants of all existing forces, nor an elaborate account of chemical agencies inappreciable by his senses and obscurely indicated by the visible results; but an intelligible explanation, founded upon well ascertained facts which he can judge of by his own means of observation, of the general nature of vegetable actions, and of the causes which, while they control the powers of life in plants, are themselves capable of being regulated by himself. The possession of such knowledge will necessarily teach him how to improve his methods of cultivation, and lead him to the discovery of new and better modes.

It is very true that ends of this kind are often brought about by accident, without the smallest design on the part of the gardener; and there are, doubtless, many men of uncultivated or idle minds, who think waiting upon Providence much better than any attempt to improve their condition by the exertion of their reasoning faculties. For such persons books are not written.

In conclusion, let us, in impressing upon the minds of gardeners the importance of attending to first principles, also caution them against attempting to apply them, except in a limited manner, and by way of safe experiment, until they fully understand them. The difference between failure and success, in practice, *usually depends upon slight circumstances*, very easily overlooked, and not to be anticipated beforehand; even by the most skilful; their importance is often unsuspected till an experiment has failed, and may not be discovered till after many unsuccessful attempts, during which more mischief may be done by extensive failures than the result is worth when attained. No man understood this better than the late Mr. KNIGHT, the best horticultural physiologist that the world has seen, whose experiments were conducted with a skill and knowledge which few can hope to equal. So fully was he aware of the uncertain issue of experimental investigations in Horticulture, that he thought it necessary, in recommending a new mode of cultivating the Pine Apple, and in objecting to methods at that time commonly in use, to express himself in the following words:—"I beg it to be understood that I condemn the machinery only which our gardeners employ, and that I admit most fully their skill in the application of that machinery to be very superior to that which I myself possess. Nor do I mean, in the slightest degree, to censure them for not having invented better machinery, for it is their duty to put in practice that which they have learned; and, having to expend the capital of others, they ought to be cautious in trying expensive experiments, of which the results must necessarily be uncertain; and, I believe, a very able and experienced gardener, after having been the inventor of the most perfect machinery, might, in very many instances, have lost both his character and his place before he had made himself sufficiently acquainted with it, and consequently become able to regulate its powers."

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## STRAWBERRY FORCING.

HAVING been very successful with forcing Strawberries, perhaps the means employed may be interesting.

As soon as the runners can be obtained, which they may generally be by the beginning of June, we commence by laying them in small pots. When sufficiently rooted they are taken off, placed for a few days in a rather shady situation, and kept sufficiently watered to prevent flagging. After a few days they begin to grow freely, when they are potted into the pots in which they are intended to fruit, generally 5 or 6-inch ones, using rather strong, rough soil, rotten sod with a little rotten

manure added, except for Keens' Seedling, which we find does much better with road scrapings (from a limestone road) added instead of manure. They are potted firmly, and placed rather closely together on rough coal-ashes, and watered sparingly until they begin to grow freely; they are then removed to an exposed situation, and placed in rows running east and west and much thinner, perhaps 2 feet from row to row, and quite clear of each other in the row. They are kept here, sometimes turning them round, until the end of September, when the pots are plunged up to the rims in sifted coal-ashes and kept without water, or nearly so, until put into force. A few stakes driven into the ground, with a top rail nailed on to support any spare lights, the glass being kept 9 inches or a foot above the foliage, with the sides left open so that the plants may have a thorough ventilation, is all the protection necessary, the glass being put over them principally to keep them dry.

We begin forcing by plunging the necessary quantity into a pit of leaves with a bottom-heat of about 70°, and covered with glass. We ventilate freely until they begin to make new foliage, after which more cautiously, either wholly at the back or wholly at the front, never back and front at the same time, except late in the season; and even then it is better to have the lights off entirely for an hour or so in the middle of the day, as tilting lights alternately front and back induces a current, which is injurious. We water sparingly at first, little water being necessary until the plants have made some full-sized new foliage. We keep a small portion of back air on constantly, even when so frosty as to require covering with mats.

As soon as a sufficient quantity of plants to fill the shelf, or space they are to occupy, shows their trusses, they are taken out of the leaf bed, a few of the yellow leaves taken off, the surface stirred and a top-dressing of old Mushroom bed or something similar given; the pots are then inserted into others a trifle larger, having about 2 inches of similar material to the top-dressing in the bottom of each; the pot containing the plant just touches, does not press on the manure in the outer pot. They are now removed to their places and as they are allowed to get rather dry, before being taken out of the pit of leaves a good soaking of water, of the temperature of the house, is given. For a few days before taking the plants out of the pit of leaves the temperature (top-heat) of the frame is made to approximate as near as circumstances will admit to that of the house they are put into, as the Strawberry whilst being forced is very impatient of any great change of temperature. After being placed in the house the plants are syringed morning and evening on fine days, until they begin to expand their blossoms; after which (for early crops) the house is kept rather dry until a sufficient quantity is set. With later crops we syringe or engine regularly, regardless of their being in bloom. As soon as a sufficient quantity of blossoms has set their fruit, the remainder is cut off. We have from 8 to 10 fruit on a plant, for early crops of the larger kinds such as British Queen, Ingram's Prince of Wales, Keens' Seedling, &c., and from 10 to 15 on a plant for later crops. After being thinned they are removed to a warmer house, thus making room for a succession from the pit. As soon as they begin to colour they require more air; great care is necessary that they never suffer from want of water; if once they droop, they never do much good. Weak manure water is used every watering after the fruit is set; plants put in the beginning of January ripen their fruit about the end of April. *Henry Groom, Gardener to Sir John H. Lowther, Bt., Swillington House, near Leeds.*

## NOTES UPON CALIFORNIAN TREES.

*(From a Paper by Andrew Murray, Esq., published in the Edinburgh New Philosophical Journal.)*

*Abies bracteata, Don.*—Having been for some time desirous to obtain seeds and cones of this singularly beautiful Pine, I interested my brother in the subject; and although his other avocations prevented his undertaking the expedition himself, he caused two different expeditions to be made to procure it, one in 1856, and the other last season.

The first of these expeditions was conducted by his old fellow traveller and co-explorer Mr. Beardsley; the latter by Mr. William Peebles, a gentleman who, in addition to his other qualifications for the task, appears to possess much talent as an artist, for it is to his pencil that we owe the graphic view of this tree as seen on its native mountains.

Before extracting one or two passages from their notes, I should perhaps first remind the reader of what was previously known regarding it.

The tree was first discovered by Dr. Coulter, who spent 10 years of his life in exploring the wilds of California and Mexico, at a time when they were still undisturbed by the hordes of gold seekers who have since turned much of the country into vulgar ground. He discovered many new trees and plants, some of which (and among them A. bracteata) were described by Mr. Don in the "Linnean Transactions," vol. xvii. (1835). Mr. Don there says, "This curious and interesting species of Fir was discovered by Dr. Coulter on the sea side of the mountain range of Santa Lucia, about 1000 feet lower down than Pinus Coulteri. The trunk rises to the height of about 120 feet, is very slender, not exceeding 2 feet in circumference, and as straight as an arrow. The upper third of the tree is clothed with branches, giving it the appearance of an elongated pyramid. The branches are spreading, the lower ones are decumbent." I quote these remarks of Mr. Don, because there are some slight discrepancies (nothing material, but still discrepancies) between his account and those given by Hartweg and Beardsley, to be presently adverted to. He goes on,—"The bracts are long and recurved, and but little changed from the ordinary leaves, which give the cones a singular appearance. The seeds are remarkable for a peculiarity in their structure, in having the nucleus exposed at the inner angle of the seed through a considerable opening in the outer testa, as if the junction of the two sides had been prevented by the rapid enlargement of the nucleus." I may remark that the same peculiarity is to be found in the seeds of Abies grandis, A. nobilis, and the allied species. Mr. Don adds, that it is only the middle branches which bear cones, a circumstance which reminds me of a similar remark made by my brother, on one of his former expeditions, regarding Pinus tuberculata, on which he plucked very ancient cones within reach of the ground, growing on the main stem of a great tree. The next botanist who saw this fine tree was Hartweg, who was sent out by the London Horticultural Society in search of plants and seeds in 1847. He describes his various expeditions in reports sent to the London Horticultural Society, which were published from time to time in the Journal of that Society. In vol. iii., p. 225 (1848), he gives the following account of his attempt to obtain seeds of A. bracteata. "On September the 20th I again left Monterey for the southern parts, which, on account of the disturbed state of last year, I could not visit before. As guide, I engaged the services of a man who had accompanied me on my last excursion to Santa Cruz, and who, from his profession of a hunter, was well acquainted with the intricate mountain paths of the district I intended to visit. On the day of our starting we reached the mission of La Solidad, an ill-constructed, half ruined building, situate in the Salinas Valley, and encamped towards evening on the banks of the Salinas River, within a short distance of the mission. By sunrise the following morning we were again on horseback, and leaving the main road on the right, we entered a mountain defile leading to the mission of San Antonio. . . . . From San Antonio a range of mountains extends along the coast, attaining a great elevation, which, though apparently barren, as seen from the mission, I was assured on the western flank towards the sea is covered by large Pines." Mr. Hartweg at last reaches the mountain range, where he goes on—"Descending the western flank of the great mountain range, I found at last the long-wished-for Abies bracteata occupying exclusively ravines. This remarkable Fir attains the height of 50 feet," (the reader will remember that Dr. Coulter stated it at 120 feet, and he will presently find that Beardsley states it at 130 feet), "with a stem from 12 to 15 feet in diameter." This must be a mistake for 12 to 15 inches Dr. Coulter saying that the largest were only 2 feet in circumference, instead of 15 in diameter, which would give 45 in circumference; "one third of which is clear of branches, and the remainder forming an elongated tapering pyramid, of which the upper part for 3 feet is productive of cones." These must have been bad specimens, for Mr. Beardsley's account describes them as branched to the ground, and Mr. Peebles's drawing, although it represents one or two devoid of branches at the base, represents others feathered nearly to the ground. "Having cut down some trees, I found to my regret that the cones were but half grown, and had been frost-bitten. In more sheltered situations towards the sea-shore, the same happened to be the case; and I was thus precluded from introducing this remarkable Fir into Europe."

The next attempt to obtain seed of it was that made by Mr. Beardsley in 1856—(Jeffrey was not so far south)—and I cannot do better than quote that part of his notes which relates to this tree. He made his attempt in the middle and latter part of October:—"After finishing my collections in this vicinity (Monterey), I set out for the Santa Lucia mountains below the mission of San Antonio; our equipage from Monterey consisted of a waggon drawn by two horses, three loose animals, to ride and pack into the mountains, one Dutchman, one greaser, one rifle, two revolvers, two bowie knives, camping utensils, &c., and provisions for 12 days," (a preparation which indicates that, however much the rest of California is crowded, this part is still in its primitive wildness). "We reached the mission the third day; here we left our waggon, and proceeded on horseback into the mountains, in search of Abies bracteata, which we found on the second day, on the western slope of the range, about 30 miles from the mission, and about 10 miles from the sea-coast, by the worst trail that I ever travelled in this or any other country. After passing the divide, and descending to the west, I fell in with the tree, occupying the mountain sides as well as the ravines, and not 'exclusively the ravines,' as described by Hartweg; I was greatly disappointed in finding the cones too ripe to be able to obtain a supply of seed; I tried cutting the top off; but a few strokes of the hatchet shattered the cones in pieces, and scattered the seeds to the winds. The only plan was to climb to a most dangerous height and pick off the few cones which could be reached. They went to pieces in my hand the moment they were touched. The cones only occupy a few feet of the top, hence the difficulty and danger of obtaining them. I have never seen any description that does justice to this most beautiful of all the Firs; it rises to the height of [illegible] feet, straight as a line, the trunk tapering regularly from the ground to the top; clothed with branches which are slim and graceful, down to the ground. The outlines of the branches taper almost as regularly as the trunk, giving the appearance of an 'elongated pyramid,' as Hartweg describes it; but I would call it a tall spire with a pyramidal base of two-thirds of the lower part of the tree; the pencil of the artist could not give it a more regular shape than it appears in nature. I saw no tree deprived of its lower branches, except in thickets where it was impossible for them to grow; there was none, with the above exceptions, that I could not step from the ground on to its branches. Not the least remarkable thing is that these branches bear fine foliage down to the ground, and the branchlets often touch the ground. I never found it occupying exclusively the calcareous districts, abounding with ledges of white, veined, and coarse marble. We encamped for the night on the point of a ridge, the only place to be found level, and not steep enough to make down our beds; in the evening it commenced raining, and increased into a regular driving storm. We passed the most horrible night that ever fell to my lot to experience; we were badly unprovided, as there was no appearance of a storm when we lay down a short time after dark. We had provided wood only to cook with, and we were obliged to get it with great labour, and at the risk of breaking our necks, to keep from freezing. With great difficulty we kept our fire up until morning. The mountains here are as steep as the laws of gravity will allow, and in a state of decomposition; rocks from the heights above were set at liberty by the rains, and were tumbling down past us, making a fearful crashing among the trees, increasing in speed until they landed among the rocks at the bottom of the ravine below, with a noise which sent its reverberations up among the hills like peals of thunder. The impenetrable darkness of the night, the howl of the tempest, the crashing of falling rocks, together with the severity of the cold rain, almost snow, made the night truly awful. We saw a large grizzly bear just before dark, and plenty of fresh tracks everywhere, which added not a little to the enjoyments of the night; day-light came at last, and with it a clear sky, which I hailed with more gratitude, I think, than I ever did in my life, thankful that I was alive.

"I had intended to have spent a portion of the day collecting what few seeds I could; but the storm had beaten them off, so that all attempts in this vicinity were useless. After breakfast, we packed up and took the back track. After passing the first ridge we descended into a deep gulch where there were a few trees, and found the seeds all gone. I descended again on the north side, and found one small tree that had a few shattered cones left, and obtained about a handful. I attempted to cut off the top, but the first few strokes of the hatchet knocked them all off, and I was obliged to give it up for the season. We reached Monterey after an absence of nine days. We had killed on the trip four deer, three antelopes, one hare, one wild cat, and seen two grizzly bears."

This account of Mr. Beardsley's gives an important hint to cultivators in this country. The tree being confined to a calcareous soil, would indicate that it would be well adapted to our chalk districts, which, for another reason, may be more suitable to it than the Scottish hills, namely, from their better climate. From its locality south of San Francisco, and Dr. Coulter's remark that it grows 1000 feet lower on the mountains than Coulteri, it is probably less hardy than the general run of Californian Pines. Still Hartweg finding the cones frost-bitten, and Beardsley not getting frost-bitten himself, would seem to indicate that it grows in a climate not free from a considerable degree of cold.

Next year (1857) Mr. Lobb, the collector, paid a visit to the spot, but was scarcely more successful than Mr. Beardsley. He found that the seeds were, like those of P. nobilis, subject to the attacks of an insect in their green state, from which, of course, no precaution in the way of gathering, drying, or packing can protect them.

Last year Mr. Peebles's expedition has produced more than Mr. Lobb's. Notwithstanding that he was a month earlier than Beardsley, he was still too late.

He returned on the 17th of September. He found that the cones were so ripe that the trees could not be cut (which was the usual method adopted in procuring cones from the Pines in former expeditions) without scattering all the cones to the winds, so that all the seed was obtained by climbing the trees and carefully collecting the cones. This difficulty in reaching the cones at the right time is explained by a remark of Hartweg's in regard to other plants. "Being now aware of the rapidity of Californian vegetation, I lost no time in collecting such seeds as were worth taking, and returned to my head-quarters by the beginning of May. Many kinds had during the fortnight after I first saw them in flower ripened their seeds." For the benefit of any future expedition, I may mention that a man of the name of Miers accompanied both Lobb and Peebles as guide, and he knows the station perfectly. It is exceedingly unlikely, however, that any fresh expedition will be tried until the country is more opened up, as the expense, danger, chance of bad seed, &c., and small returns, will deter any one from trying it as a mercantile speculation, and there is little in the dis-

induce an explorer to try such difficult ground which has been already examined.

Mr. Peebles mentions that the padres of the Mission use the resin of the tree for incense. My brother sent me a little of it, which I have tried, and find the odour exactly terebinthine.

He also sent me a beautiful photograph of the cone taken by Mr. G. Johnston, one of the principal photographic artists in San Francisco, which suggests a convenient and rapid mode of procuring information as to species from scientific head-quarters, without the expense and delay of sending bulky specimens, which may possibly be of no value.

*Torreya myristica, Hooker (Californian Nutmeg).*—This interesting genus was first correctly described and put upon its present basis by Dr. Walker Arnott in the "Annals of Natural History" (1st series), Vol. I., 1838. There are two Californian species: one, the *T. taxifolia*, or stinking Cedar, is common both to the east and west sides of North America; the other, the *T. Myristica* or Californian Nutmeg, is confined to the western sides of the Rocky Mountains. It receives its vernacular appellation, not from its spicy qualities, nor from possessing any of the intrinsic properties of the Nutmeg, but from its fruit bearing a very close external resemblance to that fruit, more especially in the ruminated appearance of its seed. Although known to my brother several years before, it was only first sent home by Lobb in 1857, and described by Hooker in the "Botanical Magazine," No. 4780. The fruit and leaves are there figured, but not the tree itself. It grows to a height of 30 or 40 feet, and it will be seen that it bears considerable resemblance in habit to an old Larch.

This paper is accompanied by excellent pictorial representations of the trees now described.

## Home Correspondence.

*Gooseberry Buds and Sparrows.*—Can any of your correspondents inform me of a simple and effectual means of protecting the buds of Gooseberry trees from the attacks of birds? We are here so pestered with sparrows that they attack the buds even before the trees have entirely shed their leaves. Many of our trees have already lost more than half their buds. We lost last season the entire crop of fruit from the same cause, and many of the bushes are rendered useless. The peculiar situation will not permit the usual plan of shooting the destroyers. Encircling each tree with straw has been suggested, but I fear that such would induce the buds to swell prematurely. Perhaps some of your readers can enlighten me by a hint on the subject. *G. E., Ford Abbey.*

*Cottagers' Kale.*—Amidst the almost general wreck occasioned by the late frost, it is some consolation to find one valuable vegetable unscorched. It would therefore, I think, be well for gardeners to bear in mind that the Cottagers' Kale withstood the frost of 23d Oct., 1859, when Savoys and Broccoli of all kinds appear parboiled. Mine in this place, though planted in a very wet and retentive soil, are looking as fresh and strong as before the frost, already clothed from the ground to the crown of the stem with beautifully green and succulent shoots. *H. S. T., Thornborough, Buckingham.*

*Blanching Celery with Sawdust.*—Having had some trouble in the winter of 1857 in keeping late Celery from rotting in a new kitchen garden, where the soil was very retentive and damp, and the plants earthed up in the usual manner, I have since used sawdust for the purpose, and find that it answers perfectly. Last winter all the late Celery here was earthed up with sawdust, and it kept quite sound till April, and no slugs or insects attacked it underground, the heads being very solid, clear and crisp, and well flavoured. I had some doubts that the sawdust from resinous trees might give the Celery a disagreeable flavour, but on trial I found this not to be the case, and the sawdust is now taken indiscriminately from the sawpits, where different kinds of trees are sawn up. Before the late severe frost occurred in October I had just finished the earthing up of all the late Celery with sawdust, and I find it is now wonderfully fresh, the frost not having penetrated far through the surface to the hearts. This practice of using sawdust may not be new to some, yet I often hear of the difficulty of keeping late Celery from rotting in winter, and the more extended use of sawdust may be of advantage to other gardeners who, like myself, have stiff and damp soils to manage. *William Tillery, Welbeck.*

*Vine Borders.*—Will any of your correspondents do me the favour to say whether it is desirable to cover an outside Vine border during the winter and early spring months with any kind of waterproof material, as tarpauling or roofing of any kind as a protection to the roots against the snow and cold rains of those months? I have covered the border with stable litter; but of course this can protect the border from frost only. The Vines are not intended to be forced before February. I should also be glad to know which is the best treatise of the day on Grape culture. *R. C., Manchester.* [Sanders on the Vine, published by Lovell Reeve.]

*Stewarton Bee Boxes.* — Your correspondent "C. W. S." is informed that Mr. Eaglesham, of Stewarton, who first introduced the Stewarton Bee Boxes to public notice, and who manufactured them for sale, fell a victim to the American crisis of 1858, and was shortly after carried to his grave. I believe there are a few spare sets at the apiary, Muswell Hill, respecting which information may be obtained by addressing a note to Mr. W. B. Tegetmeier, the manager there. *Shirley Hibberd, Stoke Newington.*

*Transplanting large Evergreen Trees.*—I beg to inform your Stockwell correspondent that he will find a full description of the tree transplanting machines I used, and the whole *modus operandi* in Mr. Barron's "British Winter Garden." From page 31 to 48 the whole system is as perfectly described as it can be in writing, with figures of the different sized machines and trucks employed. *William Tillery, Welbeck.*

## Societies.

HORTICULTURAL: *Nov.* 10.—At a meeting of the Floral Committee held on this occasion, Messrs. Veitch exhibited another of the hybrid Cattleyas raised by their foreman, Mr. Dominy. This had been produced between labiata and amethystina, and was very handsome, the flower being large, blush-coloured, with a delicately veined lip. It was awarded a First-class Certificate. They had also a dwarf variegated-leaved Orchid, with dull coppery tinged leaves, named Nephelaphyllum pulchellum, which was commended as a distinct variegated plant. Aralia Sieboldi, a noble species exhibited in flower for the first time, also came from Messrs. Veitch, as did a young plant of the beautiful crimson-ribbed Dracæna indivisa, of New Zealand. The Aralia bears a large panicle of small whitish flowers in umbels resembling those of the Ivy, and is an ornamental fine-foliaged plant of very considerable character. From Messrs. E. G. Henderson were two Pelargoniums of the horse-shoe class; one named Novelty had the petals salmon below, white in the upper half; the other, named Advance, had fine, large, bright salmon-rose flowers, remarkable for their circular outline. They were both considered promising; but blooming out of season no exact opinion was formed as to their merits.

BRITISH ASSOCIATION: *Concluded from page* 871.—ON HUMAN REMAINS IN SUPERFICIAL DRIFT.—Undoubted cases exist of human remains inclosed in hard compact concretionary rocks, buried deep in the silts of rivers, and high up in caverns associated with the bones of elephants, lions, tigers, hyenas, and other extinct carnivora now only existing in southern latitudes. One is startled at the idea of a North Briton inhabiting the same cave with an African lion, or Indian mammoth, or a huge Polar bear, and all apparently contemporaneous occupants, according to their different species, of the British Isles. Sir Charles Lyell's remarks in his opening address, not only deepened vastly the importance of the subject, but added fresh difficulties to the more recent historic views which he (Dr. Anderson) strongly entertained. As to the instances occurring in beds of lakes, rivers, and seas, and which have become mineralised, he contended that a few years, or even months, often sufficed for the formation of a compact durable mass of calcareous and silicious rock, in which human bones, skeletons, pottery, coins, and implements were imbedded. He referred to a case betwixt Aberdour and Burntisland, in Fife, which he examined a few weeks ago, where an incrustation was now forming of great depth, and in which are imbedded land shells, branches of trees, and where on the face of the incrusted cliffs, twigs of the living trees are becoming entangled in the calcareous breccia. The Rev. Doctor quoted the case of a cannon-ball—a 32-pounder—lately presented to him by a fellow townsman—deeply incrusted with ferruginous mud, and completely indurated, which was raised on his anchor in the harbour of Copenhagen; and, he doubted not, an identical bullet of our naval attack of 50 years ago. The skulls of Amiens and Abbeville, the remains in the caverns of Torquay and those in Sicily, the flint weapons in veined limestone in Cantire, and the arrow-heads with elephant remains in Suffolk, were then successively brought under review in the paper—the solution of all these given by Dr. Anderson being, that from the action of petrifying springs, the subsidence of tracts of country, the falling in of the roofs of caverns, the undermining of cliffs and headlands, the superficial soil is incrusted or buried beneath the strata on which it was originally superimposed. He saw no evidence deducible from the superficial drifts to warrant a departure from the usually accepted data of man's very recent introduction upon the earth. We have more positive evidence that his first appearance was characterised by many proofs of high intellectual condition which our sacred beliefs attach to his origin, and that he was not primarily the ignoble creature that arrow-heads and flint-knives and ossiferous caverns would so lamentably indicate. The mighty ruins spread over the plains and great river water-sheds of the East clearly indicate his Oriental cradle-land, when in conjunction with the traditions of all nations in the most remote times, he dwelt in palaces, luxuriated in gardens, worshipped in temples of solemn grandeur, and reared towers and pyramids enduring as the rocks from which they were hewn. The arts and sciences and commerce accompanied the progress of his terrestrial occupation, bringing in their train the elegancies, luxuries, and perfected implements of defence or attack which the highest stages of civilisation imply. Races of the human stamp have perished—are perishing; and, as if it were a law of nature, where a race cannot rise and maintain itself beyond a certain standard, civilisation, instead of benefiting, only leads to their more rapid extirpation from the face of the earth. Certain it was, that islands and tribes in the Pacific, which in Cook's time were enumerated by hundreds of thousands, can now be counted by their tens or twenties; and just as certain that, where the Christianising element accompanied it, the onward progress of civilisation would know no limits until the Divine principle in man should vindicate its heaven-chartered claims to universal earthly dominion.—*Dr. Anderson in Geological Section.* Sir C. Lyell agreed with Dr. Anderson as to the necessity of using extreme caution in arriving at conclusions as to the antiquity of the human race founded on the association of bones in caverns with human remains; also that it was impossible, from the data at present acquired, to pretend to calculate the exact period; but he thought the evidence was very strong in favour of a very high antiquity, as would be seen when other papers were read.

ON THE DISTRIBUTION OF BRITISH BUTTERFLIES.—Among the insect tribes, the "scale-wings" or order Lepidoptera has always attracted a considerable amount of attention. The variety and beauty of the Butterfly tribe is a matter of notoriety. The order Lepidoptera includes two great divisions, butterflies and moths,—the former group all fly by day, whereas most of the moths are nocturnal in their habits. It has been calculated that there are not less than 50,000 different species of Lepidoptera on the globe. More than 3000 species of butterflies are already known, and it has been computed that the moths are sixteen times as numerous. In this country the proportion of moths is much greater, being nearly 30 to 1, but then we are remarkable throughout Europe for our poverty in butterflies. As already observed, in the whole world 3000 species of butterflies are already known; of these only one-tenth occur in Europe, the tropical parts of Asia and America being by far the most numerously populated with this beautiful tribe of insects. In central Europe or Germany, 186 species of butterflies have been observed, the remaining 120 European species being peculiar to Spain, Italy, Greece, Russia, or Lapland. Of the German species 94 occur in Belgium, but only 65 in England, though we possess one species, Erebia Cassiope, which does not occur in Belgium. All the British butterflies occur in England, but little more than half (only 33) are found in Scotland, and scarcely more in Ireland. Twenty-five species may be considered as generally distributed and common; but it should not be understood that these are everywhere to be met with, but simply that their geographical range is not limited, and that where they find suitable localities we may expect to meet with them from Norfolk to Killarney, and from the Isle of Wight to Caithness,—some frequent gardens, some meadows, some heaths, some woods, and some hedge-rows and lands. Twenty-five other species, which all occur in the south-east of England, thin out as we advance northwards and westwards,—only five of them occurring in Scotland, only fourteen in Ireland. Three species, two of which are common in the mountainous parts of Scotland, do not occur at all in the south of England. Seven species are local to particular limited districts in the midland counties or the south of England. Three species of rare occurrence in this country must be looked upon as stragglers from the Continent; one of them, Vanessa Antiopa, has occurred in the south-west of Scotland and at Dunbar. Two other species, which formerly occurred in restricted English localities, now appear to be extinct there. *Mr. H. T. Stainton in Natural History Section.*

BORING FOR WATER IN THE NEW RED SANDSTONE, NEAR SHIFFNAL.—The supply of water to Wolverhampton being found insufficient, new works have been constructed by the author for bringing the water from the River Worth, nine miles from Wolverhampton and three from Shiffnal. The River Worth, at the place where the pumping-works are erected, is not more than 40 or 50 feet above the Severn, which it joins at Bridgwater, eight or ten miles distant. It may therefore be considered as the bottom of a basin little above the level of the sea. From the character of the surrounding hills, and the inclination of the beds of New Red Sandstone, it appeared to the author of the paper likely, that although the wells previously sunk on the high plateau of Wolverhampton had proved comparative failures, a considerable quantity of water might be found in the sandstone at the lower level, and that some might overflow, as an artesian well. A bore well was accordingly commenced near Shiffnal, 12 inches in diameter, and continued for 70 feet, when it was diminished to 7 inches, and carried down to a total depth of 260 feet from the surface. Water was met with first at a depth of 22 feet, and from that time it rose with increasing supply to the surface, and flowed over as an artesian well, giving a supply in the end of 210,000 gallons daily. Throughout the whole depth of boring the work varied little in character. It was nearly all hard rock, sometimes very hard, with occasional beds of soft stone. For the last 40 feet or so the soft beds were thicker; but otherwise there was little change from top to bottom. As the whole well is charged with water to the level of the river, which forms its natural outlet, as the boring shows that the lower beds receive their supplies from distant sources, the supply may reasonably be expected to be inexhaustible with the limits of that which is due to the percolation of the rain upon the collecting area. *Mr. J. F. Bateman in Geological Section.*

SOUTH EASTERN CHRYSANTHEMUM: *Nov.* 8 *and* 9.—The annual exhibition of this Society took place in the St. James's School Rooms, Bermondsey, on Tuesday and

Wednesday last. There were several prizes offered for competition, and they appeared to be well contested. In the 12 Cut Bloom Class, the first prize, a silver cup, was awarded to Mr. Potts, Old Kent Road, for Lysias, Themis, Aimée Ferrière, Goliath, Plutus, and six others; the second in this class was awarded to Mr. Marshall, of Bermondsey, for Madame Lebois, Plutus, Marshal Duroc, and others; the third to Mr. Day, of Bermondsey, for Nonpareil, Vesta, Dupont de l'Eure, Racine, Stella globosa and others; the fourth to Mr. Gueran, for Albin, Etoile Polaire, Aristée, Christophe Colomb, Pio Nono, &c.; the fifth to Mr. Huggins, of the Blue Anchor Road, for Aregina, Incidum, Trilby, and Leon Leguay; the sixth to Mr. Greenwood, Peckham, for Phidias, Versailles Defiance, Nonpareil, Albin, and others; and the seventh to Mr. T. Mars, Jun., Bermondsey, for Miss Kate, Gem, Anaxo, and Aristée.

There being a maiden class, we find Mr. Pink, of the Old Kent Road, exhibited Dupont de l'Eure, Campestroni, and Vesta, gaining first prize; Mr. Harper, the second, for Aregina and Vesta, and Mr. Ling, of Bermondsey, the third, with a good Cassy and Vesta. There were also some good stands sent by Mr. Walker and Mr. Read; in the latter there was rather too much eye visible, but they were not sent for competition. Mr. Parry, Grange Road, Bermondsey, contributed six Anemone-centered blooms, as did also Mr. Potts, of the Kent Road, an excellent Madame Godereau, Louis Bonamy, and Eclipse. Mr. Mortram and Mr. Walker also sent stands, though not entered for competition. In the 6 Cut Bloom Class we find Mr. Pink, Mr. Harper, Mr. Ling, Mr. Marshall (who exhibited Arc en Ciel, Madame Lebois, and Madame Andry), Mr. Huggins, Mr. T. Mars, Mr. Gueran, Mr. Payne, of Walworth, and Mr. Day, of Bermondsey. Both in this and in the 12 Cut Bloom Class the prizes were ably contested. Mr. Holland also exhibited his new seedling Miss Augusta.

There were also some stands with no names attached to them; we are unable therefore to record one or two very excellent cut blooms. In the specimen classes we could not help remarking the beautifully grown plants of Mr. Clyma; they gained the silver cup, and richly deserved the award, having a more natural appearance than those trained and tied to hoops; those of Mr. Bartlett, of Walworth, which are spoken of below in our report of the South Metropolitan; those of Mr. Rose, the secretary; those of Mr. Walker, of Stoke Newington; those of Mr. Gueran; and those of Mr. Bartlett were excellent. Among standards Mr. Perfect, gr. to C. Nicholls, Esq., was the only exhibitor. The room was well decorated with miscellaneous specimens, and altogether the exhibition must be spoken of as somewhat successful.

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SOUTH METROPOLITAN AMATEUR CHRYSANTHEMUM: *Nov.* 7.—This Society has only been 12 months in existence, dating from about this time last year, and this its first show may be deemed a thorough success. The place for exhibition (the Horns' Assembly Rooms, Kennington) showed a judicious selection, the room was filled to the utmost with objects of interest, and the ability displayed in the growth and culture of the Chrysanthemum will place this association second to none in London. There were to be found a formidable assortment of specimen plants, both large and Pompones grown in pots, in the shape of standards, dwarfs, and bushes. There were cut blooms enough to afford the critic in these matters food for consideration for many a day, and there were handsome bouquets of the small Pompones in the arrangement of which good taste could be discerned. The principal exhibitors and their productions were as follows. In the classes set apart for Six Cut Blooms, Mr. Mortram, the pyrotechnist, showed some admirable specimens of William Tell, as well as Christine, Temple of Solomon, and Annie Salter; Mr. Fletcher some beautiful Anemone-centered blooms, gaining the second prize in Class 9, while Mr. Potts, of the Kent Road, won the first in this class with Madame Godereau, Gluck, Georges Sand, and Louis Bonamy. Mr. James, of Stoke Newington, as well as Mr. George, contributed extensively in this division, though not for competition, their specimens all being very beautiful. In Class 7 Mr. Greenwood showed Nonpareil, Themis, and Hermione, gaining the first prize; Mr. Fletcher, the second; the third being awarded to Mr. Bartlett, for Dupont de l'Eure, Plutus, Anaxo, Vesta, and others; the fourth to Mr. Champion, for Auguste Mie, Goliath, Plutus, and Anaxo. In Class 17 *a*, Mr. Joseph Monk, gr. to C. Heath, Esq., Balham Hill, exhibited some splendid blooms of Madame Andry, Racine, Marshal Duroc, and others. In Class 6 (12 Cut Blooms), T. Potts, Esq., was first, with luteum formosum, Albin, Fabius, &c.; Mr. Gueran second, with a very handsome stand; and Mr. Greenwood third, with Arestie, Phidias, Versailles Defiance, Dupont de l'Eure, and others. In Class 16 *a* (for 12 Cut Blooms), Mr. Joseph Monk stood pre-eminent; and Mr. James, of Stoke Newington, sent some pretty flowers, not for competition, but which were recommended by the censors for an extra prize. Mr. George also sent a stand which received a similar commendation from the judges. In spikes of Pompones Mr. Sears exhibited some good specimens, though not equal to those of Mr. Fletcher, gr. to Dr. Young, which were excellent. Before leaving this department of the show, too great praise cannot be given to the magnificent stands of Mr. Bird, nurseryman, of Stoke Newington, and others from Mr. Ball, of Kennington; these combined forming one of the principal attractions in the room. There was also a stand of 12 Anemone-centered Pompones sent by Mr. James, of Stoke Newington, extremely beautiful and well worthy of mention.

The specimen plants, which may be said to have formed the display portion of the exhibition, deserve every praise. Mr. Sears showed some admirable Pompones, as did also Mr. Bartlett, the latter gaining first prize in Class 3 for Brilliant, Cedo Nulli, Aurora Borealis, and others. Mr. Hill sent three pretty plants, but one of the best groups was to be found from Mr. Forsyth, nurseryman, Shacklewell, in which were Duruflet, Madame Celestine, Philopal, Dr. Boisduval, Vesta, Annie Salter, Mount Etna, Union, Brilliant, Golden Cedo Nulli, and others. Mr. James, of Stoke Newington, sent Plutus, Mount Etna, Defiance, Annie Salter, Vesta, Christine, and others; Mr. Walker, Brook Street, Clapton, a Cedo Nulli, Bob, and Antonius; Mr. Morgan forwarded for Mr. Russell, of the Caledonian Road, some specimens; Mr. Mortram a splendid Adonis, and Mr. Wiggins a magnificent plant, for the culture of which we must refer our readers to page 890. There were also many others from Mr. Taylor, Mr. Hill, Mr. Sears, Mr. H. Perfect, gr. to C. Nickles, Esq., of Camberwell (highly recommended by the Censors), as well as some from Mr. Fletcher, among which were La Rousse, Requiqui, and others.

There were in addition to the above two very noticeable objects, one a most superb specimen plant shown by E. Grove, Esq., not for its quantity of bloom, though there was no want of that, but for its beautiful foliage, which called forth general commendation from the delicacy and regular manner in which it was trained, not a leaf appearing out of its place; the other the Standard Pompones of Mr. Morgan and Mr. Perfect, having much more the appearance of handsomely-shaped floral umbrellas than anything else. The censors awarded a prize to Mr. Morgan for his standards as well as recommending his pyramidal plants to the consideration of the committee for award.

The arrangement of the room and the disposition of the plants we believe were under the management of Mr. Morgan, of Lincoln's Inn Fields, and most ably and efficiently did he perform his duty. The sides were well and closely filled with large flowering kinds, fronted by the smaller Pompones; and the centre was occupied in a great measure with the cut blooms and bouquets (of which some very excellent ones were sent by Mr. Taylor). It is only surprising after the late severe weather that such a mass of bloom and plants could have been brought together in a great measure from amateurs, but if the Society progresses in the time to come as it has during the last 12 months, some other and larger exhibition room must be found, for it was crowded to excess the whole evening. An excellent band was in attendance, and enlivened the company with many musical selections.

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EAST LONDON CHRYSANTHEMUM.—This Society held its annual meeting at Dalston on Monday last, and was one of the best within the London district. There was an abundant supply of cut blooms, and some of the specimen plants nearly equalled those at the Crystal Palace. Amongst the former were some remarkable specimens from Mr. Harrison, Mr. Home (a good Aimée Ferrière), from Mr. Scarrott, Mr. Hutchings, and Mr. Vile. In Class 5 Mr. D. Cole showed a good Louis Bonamy and Gluck, and Mr. Butt a good Regulus. Mr. Bolton exhibited a fine Goliath, Plutus, and Racine; Mr. Harrison Dupont de l'Eure and Etoile polaire; and Mr. Pratt a Stellaris globosa and Anaxo. But by far the handsomest stands were from Mr. Hutt, who gained the first prize, and very deservedly so. As the names of the flowers that have become favourites so nearly approximate each other at all the exhibitions, we will not enumerate them further than by saying that all were good with perhaps one or two exceptions. Among blooms not sent for competition may be mentioned a handsome group of 30 from Mr. Forsyth, and some good reflexed from Mr. Yeowell. Mr. Salter also produced some new varieties, Anemone-centered, as did also Mr. James, of Stoke Newington, consisting together of four very choice stands.

Among specimen plants we again find Mr. Hutt first; his plants were the best in the hall, consisting of good well shaped, well grown Adonis, Cedo Nulli, Bob, Drin Drin, and Helène. Mr. Hutchings, Mr. Pratt, Mr. Swainson, and Mr. Charles Bolton had some choice specimens. The sides were all filled with the large-flowering sorts, principally grown by the exhibitors already mentioned. Altogether it was an excellent show, and we could not help noticing a marked improvement upon last year. The judges were Mr. Morgan, Mr. Kendall, and Mr. Holland, for plants; and Mr. Taylor, Mr. Paxton, and Mr. Dale, of the Temple Gardens, for blooms.

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PECKHAM AND HATCHAM CHRYSANTHEMUM.—The annual exhibition of this Society took place on Friday last. It is an amateur society in the full acceptance of the word—for prizes are not only given for the productions of the garden, but also for the best kept gardens themselves. These are awarded by a visiting committee, and we are assured that many a commendation has been bestowed on the founders, as a principal means of retaining at home the cottager in his garden, who would in all probability have been spending his leisure hours in a tavern. On the present occasion there was a good and plentiful assortment of cut blooms and specimen plants, and among the exhibitors in the first named class may be mentioned Mr. F. Mitchell, Mr. [illegible], Mr. Reston, and Mr. Kirby. We may also [illegible] Mr. Anderson and Mr. Orlidge as successful [illegible] but by far the handsomest blooms came from Mr. [illegible] of the Old Kent Road, consisting of 48, [illegible] number of Nonpareils was most conspicuous. [illegible] Fenton also produced a stand of 72 cut blooms [illegible] more remarkable that they appeared but very [illegible] attacked by the frost, though grown in the open [illegible] These were highly commended by the judges [illegible] generally admired by the visitors. Mr. Mortram [illegible] East Lane, also exhibited some very good blooms [illegible] incurved and reflexed; as did also Messrs. Green, [illegible] Pink, and Barnes. There were many specimen [illegible] but the most remarkable were the standards sent [illegible] Mr. Morgan, of Lincoln's Inn Fields, showing fine [illegible] of flower. There were also some 40 pots of well-grown Pompones sent for decoration by Mr. Clark, of the Commercial Inn, Peckham.

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NORWOOD CHRYSANTHEMUM: *Nov.* 15.—The exhibition of this Society took place on Tuesday last in the Working Man's Institute, Lower Norwood, and received the patronage of the most wealthy inhabitants of the neighbourhood. Among the successful exhibitors were Mr. S. Miles, gr. to Miss Pering, Lower Norwood, who showed a good Aurore and Cedo Nulli; Mr. [illegible] of Camberwell, some good Pompones; and Mr. Hayes, gr. to O. J. Jones, Esq., Tulse Hill. One [illegible] most prominent objects was a handsome plant of [illegible] from Mr. Joseph Parker, of Lower Norwood, and [illegible] conjunction with this may be mentioned 6 beautiful Pompones from Mr. W. Parker, gr. to F. Doulton, Esq., of Dulwich, among which were Helène, Bob, Cedo Nulli, and La Vogue. Mr. Webb, gr. to H. Walmsley, Esq., Clapham Park, obtained a prize in the miscellaneous class for the sort called Bob. Among large specimen plants Mr. Harper, gr. to F. Bennett, Esq., Tulse Hill, exhibited a good Stellaris globosa, Alfred Salter, the Queen of England, and in a separate class a good Anaxo. Plants for decoration were sent by Mr. Fletcher, of Kennington.

Among cut blooms, spikes, and bouquets, we find Mr. Knight showing a pretty box of flowers, and Mr. Wood gained the first prize for blooms of Queen of England (very fine), Astrolabe, Vesta, and Plutus. Mr. Lee, of Lower Norwood, and Mr. Harper also exhibited in these classes. Mr. Webb also produced a fine large specimen plant of Astrolabe, Mr. Miles some good spikes of Pompones highly recommended by the judges, and Mr. Taylor some handsome bouquets. In the centre of the hall was to be found a large Gourd, grown by Mr. Wood, gr. to W. Gilpin, Esq., of East Sheen, and exhibited by Mr. Dore, it weighed 260 lbs.

This is the first exhibition of this Society, and seemed to be well attended, the large room being crowded with visitors. The judges were Mr. Morgan, of Lincoln's Inn Fields, and Mr. Davis, of Norwood.

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TOWER HAMLETS CHRYSANTHEMUM.—This was a well-conducted exhibition, at which beautiful cut blooms were shown by Messrs. Vile, How, and Fisher. In Pompones, Messrs. Courcha, Stonestreet, and Farmer furnished handsome stands. Of plants in pots, Messrs. Fisher, Farmer, and Vile contributed skilfully managed plants. Mr. Courcha exhibited a beautiful half-standard Pompone, called Zebra, with 300 well-shaped blooms on it and good foliage down to the pot. It attracted much attention, being without stick or tie. Among plants sent for decoration were finely grown specimens from Mr. Forsyth, consisting of Pilot, Annie Salter, Christine, Vesta, and Mount Etna. Of Pompones there were Gen. Canrobert, Helène, Cedo Nulli, Madame Roussillon, a splendid specimen very tastefully trained, and evidently the best in the exhibition, not being so flat as the others. Mr. Broome, to whom was entrusted the arrangement of the room, took a vanload of plants for decoration. Mr. Morgan sent three Pyramidal plants, all handsome. More than 1700 visitors were present, and the show was in every way satisfactory. Floriculture in this district appears to flourish. As a consequence of the success attending this show, we understand that a general summer exhibition will be held here next year.

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## Notices of Books.

*The Rose Annual for* 1859 *and* '60. By W. Paul, F.H.S. Large 8vo. Piper & Co.

We gladly welcome Mr. Paul's excellent annual report upon the state of the Rose question; for he fairly, faithfully, and skilfully puts together all that has been most important in the history of the queen of flowers during the previous year. On the present occasion we have reports of exhibitions, comments on the weather as affecting the Rose, returns of prizes, and a very useful list of the number of times each Rose was shown in first-prize collections—a safe guide to buyers. From this return we learn that the favourites of the year have been:—

| | | | | | |
|---|---|---|---|---|---|
| Paul Perras, | shown | 10 | times | Mrs. Rivers, | shown 15 times |
| Paul Ricaut, | ,, | 12 | ,, | Prince Leon, | ,, 13 ,, |
| Baronne Prevost, | ,, | 11 | ,, | Triomphe de Paris, | ,, 11 ,, |
| Caroline de Sansal, | ,, | 10 | ,, | William Griffith, | ,, 10 ,, |
| Gen Jacqueminot, | ,, | 14 | ,, | Souvenir de Malmaison | ,, 11 ,, |
| Jules Margottin, | ,, | 16 | ,, | Devoniensis, | ,, 15 ,, |
| Lord Raglan, | ,, | 16 | ,, | Gloire de Dijon, | ,, 14 ,, |
| Madame Masson, | ,, | 10 | ,, | | |
| Madame Vidot, | ,, | 11 | ,, | | |

In addition to this Mr. Paul speculates on the forthcoming brood of novelties, and presents for public

...illustrated figures of his own four favourites, namely, Mme de Dombasle (H.P.), President (T.), Empress Eugénie (H.P.), and Queen of Denmark (H.P.). Of these the Evêque de Nîmes is a superb flower, coloured like Lord Raglan, and formed something like a hexangular Camellia.

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*Ure's Dictionary of Arts, Manufactures, and Mines.* Longmans. 8vo.

Of this very valuable work Messrs. Longmans have commenced the publication of a new edition, chiefly rewritten and greatly enlarged, under the care of Mr. Robert Hunt, Keeper of the Mining Records. It is to be completed in 14 Parts, price 5s. each, and forming three volumes. Each part consists of 192 pages, very closely printed, and illustrated by numerous engravings on wood. A long list of contributors, all eminent in their own branches of knowledge, amply guarantees the soundness of the information conveyed; and the name of Mr. Hunt, as the editor, is a pledge that the many trade interests affected by a work like this will be honestly dealt with. The number before us extends from Asia, as affected and manufactured in Turkey, to ARTESIAN WELLS, the construction of which is commenced, and contains a highly interesting account of the new metal of clay called aluminium.

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*British Timber Trees.* By John Blenkarn. Small 8vo. Pp. 275. Routledge.

In this volume the author undertakes to teach all that is required in the rearing and subsequent management of British timber trees "in woods, groves, and plantations, including remarks on soil and situation, the general improvement of landed estates and mountainous districts, with directions for the management and valuation of standing timber." At p. 86 we are further informed that the author's "first intention was to include only such trees as are actually cut down and sold for timber, and no others;" a wise resolution which should have been adhered to, for it is evident that Mr. Blenkarn's knowledge often goes no further—if so far. The "cobbler should not go beyond his last" is a very old and very wise proverb, which had the author remembered it would have rendered the volume before us smaller, cheaper, and better, and would have spared us the necessity of expressing an unfavourable opinion of it. When we find a writer calling himself agricultural engineer and surveyor, and professing to teach all that the title-page of the volume announces, informing his readers that owing to their elasticity the increasing rings of timber exert great pressure on the heartwood! that the Laburnum is Cytisus sessilifolius!! that the timber of the Sweet Chesnut was formerly used for the roofs of churches!!! and recommending to attention as ornamental trees the flowering Oak, the Indian Date Plum, the African Cypress, whatever they may be, we are bound by our duty to the public to protest against such rubbish being cast before the world. Passing by these matters, and turning to what must be called the practical part of the subject, we are surprised to see how meagre, ill-arranged, and incomplete is even that portion of the volume. Surely those who want such instruction as a book like this professes to give, ought at least to have been introduced to such great matters as timber felling and barking, bark curing, Larch rot, dry rot, and similar details of the utmost importance to the young and inexperienced forester. Upon the whole Mr. Blenkarn's book is a very crude affair; the best part of which is an account of the method of planting adopted (qy. practised) by the late Duke of Portland on the Welbeck estates.

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*Favourite Flowers; How to Grow them.* By A. G. Sutton, F.H.S. Routledge. Price 1s.

This is a useful volume because the author writes of what he understands, and of nothing more. We only regret that so much is in the language of others instead of being instruction founded on personal experience. The flowers treated of are the Dahlia, Hyacinth, Hollyhock, Auricula, Camellia, Cineraria, Roses, Fuchsia, Pelargonium, Carnation and Picotee, Chrysanthemum, Tulip, and annuals in general; the latter very poorly done. Interspersed with the above are instructions as to managing a greenhouse and mixed borders; meagre, but good as far as they go.

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*A Class-book of English Prose, comprehending Specimens of the most distinguished Prose Writers from Chaucer to the present time.* By R. Demaus, M.A. 8vo. Pp. 552. Black.

The "Elegant Extracts" of former days are here supplanted by a far better book, having however the same end in view. Mr. Demaus gives short extracts from the works of our best prose writers down to Mr. Ruskin, prefacing them by a short account of the writers themselves. The extracts are well selected, and the volume deserves a large share of popular favour.

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*Der Cacao und die Chocolade.* By Alfred Mitscherlich. 8vo. Berlin. Hirschwald.

The author of this Treatise names the geographical limits of the tree which furnishes the Cacao Bean, the foundation of chocolate, narrates its history, describes its cultivation, exhibits the minute anatomy of the bean or seed, and its chemical composition, treats of its action on the system, and finally explains the manner in which chocolate is made. It is illustrated by a map, a figure of the Cacao tree, which we think we have seen elsewhere, some anatomical details, and a figure of a chocolate mill.

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*Silva capensis.* By Dr. Pappe. (Capetown: Taats; Leipsic: Köhler) is a thin pamphlet describing South African forest trees and arborescent shrubs used for technical or economical purposes. It forms a useful companion to the author's Flora Medica, but is sadly in want of an index to the Colonial names.

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Under the title of *Zur Kenntniss der Vinca Mocanera*, Dr. Hermann Schacht has published a treatise to show that this paradoxical plant belongs to the order of Heathworts, and is near Clethra. The author has examined the question carefully, and his views, though not new, deserve the attention of botanists.

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## Garden Memoranda.

VERSAILLES NURSERY, HAMMERSMITH.—A visit to this nursery at the present time will amply repay all lovers of Chrysanthemums; for Mr. Salter's splendid collection of these flowers is now in full beauty, and after 20 years' attention and careful selection from thousands of seedlings it is well worth seeing. It contains various new and improved varieties, many of which were raised in this nursery, and there are also several seedlings from Guernsey, whose rich colours and fine form make them peculiarly desirable, and no well chosen collection will soon be considered complete without them. The extremely neat arrangement of the plants and general effect of the whole house in which they are placed, displays a taste which might with advantage be imitated at this time of the year in some of our large conservatories. To the house usually set apart for the exhibition of Chrysanthemums another compartment has been added, in which the larger specimens are placed. For the first time Mr. Salter has disbudded some of his specimen plants to procure large flowers, and in this he has fully succeeded. He has usually exhibited them as they were removed from the open ground to the greenhouse. One prominent feature in this collection is worthy of remark, and that is, the flowers are grown naturally, they have not had their faces bowed down to the ground to produce an incurved petal, and no tweezers are permitted to touch them; their qualities good or bad, are therefore fairly and honestly presented to view. Mr. Salter has for many years devoted his attention to this most useful flower; and to him must be ascribed the credit of having introduced to our gardens many of the best varieties.

Of new Pompones, the following are well worth attention:—Christiana, clear yellow, with small brown tips, very double, and dwarf; a valuable acquisition; received a certificate at Nottingham. Edith, reddish rose or rose salmon, free flowering, double, and distinct; Queen Mab, deep red and dark orange, in the way of Dr. Bois Duval, but brighter colour; Emily, rose salmon with lighter centre, quite new in colour, double, and distinct; Mrs. Turner, pure white, very double, and of first-rate form; a fine plant for purposes of exhibition. Eva, golden yellow, double and good; Distinction, blush, or silver lilac, flowers very full in form, and habit like Madame Fould; mirandum, deep rose, or rose carmine, a very distinct and pretty variety, the flowers, which are produced in great abundance, being regularly fringed, which give this plant a very novel appearance; Lara, pale yellow, tipped bright rose, fine form, double, and good; Musidora, chesnut and orange, small flowers of perfect form; Madame Victor Verdier, rose lilac changing to white, very pretty, quite double, and very attractive; Augusta, blush white, early flowering, very dwarf, and a first-rate plant for the conservatory or exhibition; Andromeda, pale sulphur yellow, tipped brown, quite double, and very free; a perfect gem, and for specimens invaluable. Astrea (Anemone), lilac blush, one of the best of this class; Golden Cedo Nulli (Anemone), golden yellow and brown points, very fine; Mrs. Dix, pale yellow, bordered rose, full size, very double, and first-rate; Miss Talfourd, pure white, abundant flowerer, in the way of Argentine; Emma, rose purple, and yellow centre, free, and of good habit.

Among Seedlings raised by Mr. Salter, the following appeared to be improvements on old varieties:—Arthur Wortley, cinnamon and red, very full and beautifully incurved; received a First Class Certificate at the Crystal Palace and also at Nottingham. Emperor (Anemone), guard petals blush, with yellow and rose centre; a noble flower. Mrs. W. Holborn, pure white, large, full, and beautifully incurved; received a First Class Certificate at the Crystal Palace, and also at Nottingham. Ajax, Indian red, large, double, and well incurved; Purity, paper-white, large, and showy; Rosa (Anemone), guard petals bright rose pink and yellow centre; Queen of the Isles, white-tinted blush, incurved and good; received a Certificate at Nottingham. Mr. Murray, deep rose-violet, or plum colour—a new colour and very attractive; Ethel, deep rose-violet, very close and full—new shade of colour; John Bunyan, bright rose-lilac, very full, and incurved; Dr. Rozas, dark rose-carmine, very full and incurved; Crista-galli, orange-scarlet, and yellow back—a very showy tasselled variety, an improvement on Duc de Conegliano.

Among other novelties, the following raised by an eminent cultivator in Guernsey, will be found very good:—Jewess, red and orange, free, early, and very showy; Comet, bronzed orange; Bouquet de Fleurs, red crimson, with yellow back, very large, incurved, and splendid; pictoreum roseum, dark rose, fine in form and colour; Yellow Perfection, a splendid flower in form and colour, an improvement on Plutus; General Hardinge, Indian red and gold; Alma, rose purple, broad petals, incurved, and good; Alarm, rich crimson, large, and good; Beauregard, deep crimson maroon; Novelty, blush white, full, and incurved in the way of Goliath; Grand Sultan, dark cinnamon, large, and incurved; Clipper, red carmine, gold back, incurved, and fine; Jardin d'Hiver (Anemone), rose purple; Wonderful, light carmine crimson, very attractive.

Among older varieties were very large flowers of the following:—Queen of England, Auguste Mie, Hermione, Plutus, Alfred Salter, Dupont de l'Eure, King, Versailles Defiance, Leon Leguay, Golden Queen, Christine, Golden Cluster, Julie Lagravere Progne, Prince Albert, Annxo, Goliath, Princess Marie, Lysias, Nonpareil, Themis, Vesta, Trilby, Madame Cammerson, Cassy, and sulphureum superbum.

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## Miscellaneous.

*Raising Rhubarb from Seed.*—Specimens of two sorts seedling Rhubarb were exhibited to the Horticultural Society in July last, by the Rev. Charles Mackie, Quorley Rectory, Andover, Hampshire, accompanied by the following communication:—"As Rhubarb is a plant which produces seed very freely, almost the whole of which will germinate, it is impossible, with the largest space of ground, to have the whole of them planted out so as to put the qualities of the seedlings to the test. As the readiest way of ascertaining which of them are most likely to repay the trouble of cultivating, I have found it a most excellent plan to sow the seed in pots as soon as it is gathered. These being kept under cover during the winter months, not so much as a protection to the plants as for the sake of preventing the pots from being injured by the frost, the young plants will be found to vegetate very early in the spring; showing from the first a difference of character, not only as to precocity, but in other respects also, as to growth and habit. Even at this time, therefore, some may be selected as the subject of experiment, and planted out; but the preferable plan, I think, is to allow the whole to remain in the seed-pots till the end of the season, when the difference of character is more decidedly marked. Those of the earliest and strongest habit will then have gained greatly on the others in point of size, and will otherwise show the qualities which should determine the selection as to which are most likely to reward the cultivator by turning out a new and valuable variety. The qualities in question I hold to be, chiefly, a stalk that is thick, succulent, and of a red colour; and a leaf that is round in shape, smooth on the surface, and of a fleshy texture. In this way, the plants which make the best promise may be selected; but my remarks as to subsequent treatment apply equally, if not more, to the best of the varieties already in cultivation. The mode which I pursue is this:—Having chosen ground with a warm aspect, I have the soil dug out down to the subsoil, which, in the instance now referred to, is chalk at no great depth, say from 18 inches to 2 feet. The space so dug out is about 2 feet in diameter. Of the earth dug out, I reject the lower and poorer portion, mixing the rest with leaf-mould, and with fresh soil of as good a quality as I can procure. The soil thus improved I further enrich with guano, superphosphate of lime, soot, and bone-dust; all, or as many of them as I can at the time command, not forgetting some well-made stable manure. The whole of these being thoroughly incorporated with the soil, I place at the bottom of the hole, above the subsoil, a layer of bones of a considerable size, over which is put some of the mixture to the depth of 6 inches, then a few more bones with more earth alternately, till the hole is not only filled up but there is a hillock, say of 1½ foot above the level of the ground. In the centre of this I make an opening and fill up with leaf-mould, or any other good unmixed earth, for the reception of the plants, in order that the roots may not touch the richer soil until they are in a growing state, before which they might be injured by the strength of the manure. As a proof how well this has answered with myself, I may state that soon after the Prince Albert Rhubarb was introduced, now, I should imagine, at least 12 or 14 years ago, I had three small plants of it, which I treated in the manner here recommended. Though put in at a distance of 6 feet from each other, they now appear like one large plant, the heads being joined together, and the crowns of the roots approaching very near. As a further proof that they have not otherwise degenerated in that length of time, I may mention that last year I sent a leaf taken from one of them to a very intelligent practical gardener in the neighbourhood, with a request that he would measure it, and let me know the size. His answer when he had done so was, that it was 14 feet 6 inches in circumference, the largest Rhubarb leaf he had ever seen, though he had certainly seen them with a thicker stalk. I may perhaps also be permitted to state that of the two sent, the one marked No. 2 was raised from seed grown in 1856. It was sown with others in a small pot, in which it remained till the month of October, 1857, when, thinking it promised well, it was planted out, being at the time not much larger than my hand. In the spring of last year it took a very early, and made a very rapid growth, so that in the course of the summer the leaves covered a space of ground 9 feet in circumference. This year it was also very early, and has increased pro-

portionally in size. All this, it is to be remembered, is in a situation where the soil is naturally shallow as well as poor, and on that account by no means favourable to the growth of the plant. The above observations are, of course, not expected to be of use to the professional cultivator, but may perhaps be of some service to the amateur, who may be desirous of ascertaining how new varieties may be obtained, or the established varieties may best be grown, without either going to any great expense or having much ground to spare. By treating them in the way described, and allowing them ample room, say 6 feet at least from plant to plant (but it were better to give them more), and by giving every season a top-dressing of a mixture the same as that recommended in planting, to be carried down by the winter rains, he will ensure himself a supply of this most excellent and wholesome esculent, from the s ting in of spring till nearly the end of autumn." Specimens of the seedlings referred to, Nos 1 and 2, were exhibited. The stalk of No. 1 was 18 inches long and 5 inches in circumference. That of No. 2 was 21 inches long, but only 3½ in circumference; it was tinged with red, and although not so thick as the other, the substance was more tender, and in point of quality it was therefore doubtless the finer of the two. *Horticultural Society's Proceedings.*

*The Tomato.*—To many persons there is something unpleasant in the flavour of this excellent fruit. It has, however, long been used for culinary purposes in various parts of Europe. Dr. Bennett, a professor of some celebrity, considers it an invaluable article of diet, and ascribes to it very important medicinal properties. He declares—1. That the Tomato is one of the most powerful deobstruents of the "Materia Medica;" and that, in all those affections of the liver and other organs where calomel is indicated, it is probably the most effective and least harmful remedial agent known in the profession. 2. That a chemical extract will be obtained from it, which will altogether supersede the use of calomel in the cure of diseases. 3. That he has successfully treated diarrhœa with this article alone. 4. That when used as an article of diet, it is almost a sovereign remedy for dyspepsia and indigestion. 5. That persons in ordinary should make use of it, either raw, cooked, or in the form of a ketchup, with their daily food, as it is the most healthy article in the *materia alimentaria*. A writer in the *Farmers' Register* says: "It has been tried by several persons with decided success. They were afflicted with chronic cough, the primary cause of which, in one case, was supposed to be diseased liver—in another, diseased lungs. It mitigates and sometimes checks a fit of coughing. The method most commonly adopted in preparing this fruit for daily use, is to cut them in slices, and serve them with salt, pepper, and vinegar, as you do Cucumbers. To stew them, remove them ripe from the Vines, slice up, and put them in a pot over the fire without water. Stir them slowly, and when done, put in a small piece of good butter, and eat them as you do Apple sauce. Some add a little flour, and fine crumbs of bread." *Victorian Agricultural and Horticultural Gazette.*

## Calendar of Operations.

*(For the ensuing week.)*

### PLANT DEPARTMENT.

CONSERVATORY, &c.—Next to Camellias, Azaleas are perhaps the most showy plants that can be had in bloom early in the season, and where there is a good stock to select from some of the most forward plants should be placed in heat soon, moistening them overhead two or three times a day. Unless, however, plants can be had which made their growth and set their buds early, they need hardly be expected to flower so finely as under more natural circumstances in spring, and unless the buds are plump there will be some danger of the plants starting into growth instead of flowering. Dutch bulbs should be largely used for forcing at this season, and where hardy shrubs are forced for the decoration of this house, these should be got into flower as soon as circumstances admit. Do not forget to introduce into gentle heat by degrees a good batch of Roses, choosing the most promising plants of Teas, Bourbons, and Hybrid Perpetuals, which are the best kinds for winter flowering; a gentle bottom-heat will be of service to these as also to most other plants subjected to heat in order to get them into flower early, and a moist state of the atmosphere must be secured, admitting a little air freely on every favourable opportunity. In greenhouses damp or insects soon do irreparable injury to soft-wooded plants at this season, and these must be carefully attended to if they are to be wintered in first-rate condition. Pelargoniums should be kept rather cool and dry, giving whatever water may be necessary on the mornings of fine days, so that the superfluous moisture may be removed before the evening, avoiding the use of fire-heat except when necessary to prevent the temperature falling below 40°, or to dispel damp when this cannot safely be done by giving air. Calceolarias require very similar treatment, except that they are very subject to the attacks of thrips, unless afforded a moist atmosphere; they must therefore be narrowly watched, and smoked lightly two or three evenings successively if this pest makes its appearance, keeping the atmosphere moist and giving air on every favourable opportunity to prevent the foliage from flagging. Cinerarias for late blooming must also be kept cool and airy, and should not be allowed to suffer for want of pot room. These must not be trusted in cold pits after this season for they cannot endure much frost. Plants intended to flower early should be encouraged with a gentle heat, keeping them near the glass and admitting air on every favourable opportunity.

### FORCING DEPARTMENT.

PINERIES.—If circumstances should render it necessary to subject a portion of the stock intended for fruiting to a brisk temperature at once to induce it to start, the most promising plants should be very carefully selected, and placed in a small house or pit by themselves; and, where anything like a regular supply of ripe fruit is required, several houses, or separately heated compartments, should be at command; and without this convenience no gardener can reasonably be blamed for having too many ripe at one time and none at others. It is not by any means desirable to start more plants into fruit at this early season than may be absolutely necessary, for they will produce finer fruit later in the season than can possibly be obtained from them now; and where a separate house cannot be commanded for those which must be subjected to a high temperature, we would advise that the plants selected for fruiting should be placed in the warmest part of the house at command, filling the rest of the house with young stock. The former should be afforded a bottom-heat of about 85°, and the latter about 10° or 15° lower; the atmosphere should range from 68° to 75° by fire-heat, allowing it to rise 5° with the assistance of sunshine, keeping the young plants near the glass, and properly supplied with water at the root. This temperature will be considerably too high for young stock at this season, but we have seen this system practised with considerable success; and although the young plants may get somewhat drawn, they will gain substance as light increases, and the evil will be less than running the risk of starting at this early period of the season the greater portion of the plants that are at command for keeping up the supply throughout the summer. VINERIES.—Until the buds are fairly broken the points of the shoots should be kept nearly on a level with the lowest part of the Vine; and if this should not be found sufficient to induce the buds to start equally throughout the length of the Vine, the rod should be bent so as to bring the most forward buds to the lowest level, elevating those that are backward. Maintain a thoroughly moist atmosphere by frequently sprinkling the floor and passages, &c.; and syringe the Vines lightly at least twice a day until the leaves begin to appear, when the amount of moisture must be moderated. Give every attention towards securing a gentle warmth for the roots: turning the litter, and adding fresh as may be requisite, and keeping it well protected from the effects of heavy rains and severe weather. Be satisfied with a moderate night temperatnre until the buds begin to push, when it may gradually be raised to 60° by the time that the leaves fairly begin to open.

### FLOWER GARDEN AND SHRUBBERIES.

Tenderer kinds of Roses are found in some places to be injured by the late frosts; protection should therefore be applied at once to such plants as are yet safe. Also get in the stock of Briers for budding upon next year without delay, for unless these are planted before spring they seldom furnish strong shoots for early budding. Many object to planting shrubs or trees in winter, believing that the roots if hurt at that season are liable to rot, and certainly early in autumn is a very preferable season; but with weather like the present we would not delay such work a single day, and if the soil is properly prepared by draining, &c., where necessary, as should always be done before planting, there will probably be fewer failures from planting now than if the work was delayed until March. Where however the ground to be planted is of a clayey nature, and in an unkind state at present, it will undoubtedly be better to defer planting until spring, meantime using every means to improve the state of the ground; and soils of this nature should always be dug or trenched some considerable time before planting, as neither draining nor anything but exposure to the action of the atmosphere will bring them into a fit state for planting. While, however, we would not hesitate to plant small "stuff" generally at present, things which are at all tender had better be left until the chance of severe frost is past, and the transplanting of large evergreens which has unfortunately been delayed until now should be put off until the weather becomes mild in spring, especially things which are known not to be perfectly hardy. Roll walks and lawns after frost to keep them firm and smooth. There will be comparatively little to be done in the flower garden at present, except sweeping and cleaning, and any spare time will be well spent in going over the stock of plants in pits for next season's use, removing every decaying leaf, and where the surface soil has got green, removing this and top-dressing with sandy loam. There is nothing so unfavourable to these plants at this season as damp, therefore take every opportunity you can of admitting fresh air.

### HARDY FRUIT AND KITCHEN GARDEN.

It is always desirable to get as much of the pruning and nailing done before the approach of spring as possible; lose no favourable opportunity therefore of forwarding these operations; for, besides the advantage of having that kind of work done before the busy season, the garden will present a much neater appearance after the wall trees are nailed and the borders made trim, and the small fruit-bearing [illegible] and the ground among them turned over. [illegible] standard trees which have been recently moved or pruned are firmly secured against injury from [illegible] and also get any root-pruning or transplanting [illegible] ing to be done this season executed as soon as [illegible] Endeavour as far as circumstances will permit [illegible] good supply of Parsley under save protection; [illegible] is generally a large demand for this, and in the event a severe winter it is difficult to save it by the [illegible] protection of hoops and mats. It has already injured by the late frost. Lettuces, Cauliflowers in frames should be freely exposed on all favourable occasion. See to maintaining a regular supply Seakale, Rhubarb, and other forced vegetables, for which it is likely there may be a considerable demand. Look over root stores occasionally to see that nothing is wrong, and be very careful of any Broccoli that may fit for use or turning in. As has been recommended take advantage of frosty weather to get manure wheeled on spare ground, and see to keeping a good supply well rotted and fit for use when wanted. Trench dig, and ridge every spare inch of ground whenever the weather will permit these operations to be advantageously performed. This is particularly to be observed in gardens, the soil of which is of a clayey nature.

### STATE OF THE WEATHER AT CHISWICK, NEAR LONDON

For the Week ending Nov. 17, 1859, as observed at the Horticultural Gardens

| Nov. | Moon's Age. | Barometer. Max. | Barometer. Min. | Temperature of the Air. Max. | Min. | Mean | Of the Earth 1 foot deep | 2 feet deep. | Wind |
|---|---|---|---|---|---|---|---|---|---|
| Friday 11 | 16 | 30.645 | 30.481 | 48 | 26 | 37.0 | 48 | 49 | S E |
| Satur. 12 | 17 | 30.436 | 30.335 | 49 | 24 | 36.5 | 47 | 48½ | S E |
| Sunday 13 | 18 | 30.327 | 30.237 | 41 | 18 | 29.5 | 47 | 48 | E |
| Mon. 14 | 19 | 30.281 | 30.203 | 28 | 19 | 23.5 | 46 | 47 | E |
| Tues. 15 | 20 | 30.297 | 30.241 | 42 | 25 | 33.5 | 44 | 47 | E |
| Wed. 16 | 21 | 30.239 | 30.130 | 47 | 31 | 39 0 | 44 | 46½ | E |
| Thurs. 17 | ( | 30.185 | 30.162 | 48 | 25 | 36.5 | 44 | 46 | N E |
| Average | | 30.344 | 30.255 | 43.2 | 24.0 | 33.6 | 45.7 | 47.4 | |

Nov. 11—Dense fog; fine; overcast; slight frost.
— 12—Foggy; hazy; slightly overcast; foggy; frosty.
— 13—Foggy throughout; sharp frost at night.
— 14—Frosty, with thick fog; below freezing throughout the day
— 15—Frosty and foggy; clear and frosty at night.
— 16—Partially overcast; fine; heavy clouds; overcast.
— 17—Fine; very fine; frosty and foggy at night.
Mean temperature of the week, 11 deg. below the average

### RECORD OF THE WEATHER AT CHISWICK,

During the last 33 years, for the ensuing Week, ending Nov 2[illegible]

| November. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday 20.. | 48.8 | 35.7 | 42.3 | 13 | 0.35 in. | 1 | 7 | 2 | — | 5 | 5 | — | — |
| Mon. 21.. | 49.0 | 37.1 | 43.1 | 20 | 0.37 | 6 | 4 | 5 | 3 | 1 | 2 | — | — |
| Tues. 22.. | 48.8 | 34.8 | 41.8 | 19 | 0.62 | 3 | 4 | 6 | 2 | 4 | 6 | — | — |
| Wed. 23.. | 47.3 | 34.7 | 41.0 | 14 | 0.36 | — | 5 | 4 | 1 | — | — | — | — |
| Thurs. 24.. | 47.2 | 32.4 | 39.8 | 11 | 0.61 | 5 | 5 | 2 | 3 | 3 | 3 | 4 | 4 |
| Friday 25.. | 46.0 | 33.2 | 39.6 | 17 | 0.34 | 5 | 4 | 4 | 4 | 4 | 2 | 2 | — |
| Satur. 26.. | 46.7 | 33.2 | 40.0 | 17 | 0.70 | 1 | 5 | 6 | 1 | 3 | 3 | 2 | — |

The highest temperature during the above period occurred on the 21st, 1843, and 21st, 1828, 1833—therm. 59 deg.; and the lowest on the 23d, 1852—therm 9 deg.

## Notices to Correspondents.

ACTION OF FROST ON LEAVES: *Belgravus.* You will find the leaves and branches always droop in very cold weather. Their doing so is no indication of their suffering from frost. The phenomenon is probably owing to the contraction of the air that fills their tissues, and which, expanding as temperature rises, again restores them to their former position.

BOOKS: *W S.* Curtis's Botanical Magazine has now (including the volume for the present year) reached vol. 85. To the first 53 there is a complete index. Then at the end of vol. 62 there is an index to that and the nine preceding volumes, and after that an index only to each separate volume. Such is the fact; and therefore if you want to ascertain something about a plant and with this view go to Curtis, you must have recourse to all these indexes. We cannot but think that it would be to the interest of the proprietor of that important work if he would now publish either a complete index or a further one?—*D.* The Scottish Gardener is a good periodical. Of the American monthly we know nothing. The Reports of the Horticultural Society are only circulated among the Fellows. We suppose the same rule to be observed in the Pomological. Dr. Asa Gray's Botanical Text Book is excellent and cheap, but we do not know the price.—*B J, Reigate.* Thompson's Gardeners' Assistant.

CHINESE YAMS: *S H.* Cook them like Potatoes, but do not [illegible] more than 10 minutes. More or less spoils them.

CIGARS: *Fumosus.* The fragrance of Havannah cigars is not owing merely to the quality of the Tobacco, but according to Ramon de la Sagra, to the action of Eupatorium aromaticum employed in their preparation. We should like to see that plant in cultivation here.

MUSHROOMS: *J S P.* You will find Agaricus urens mentioned in the English Flora under A. peronatus. Agaricus silvaticus is a species figured long since by Schæffer, and is known from A. campestris by its thin pileus, hollow stem, &c. It is not mentioned in the English Flora. *M J B.*

NAMES OF PLANTS: We have been so often obliged to refuse constantly decline naming heaps of dried or other plants, that we venture to request our correspondents to recollect that we never have or could have undertaken an unlimited duty of this kind. Young gardeners, to whom these remarks more especially apply, should bear in mind that, before applying to us for assistance, they should exhaust their other means of gaining information. We cannot save them the trouble of examining and thinking for themselves; nor would it be desirable if we could. All we can do is to *help* them.—and that most willingly. It is now requested that, in future, not more than four plants may be sent us at one time.—*Bath X.* The plant whose blossoms are *now* numerous, with a faint aromatic odour, and which bore the late hard frost without injury is, as you conjecture, an Elæagnus. It is E rufa, a plant from the N. of India, and hardly different from the E. Loureiri of Hong Kong.—*J S P.* Gomphocarpus arborescens from the Cape of Good Hope.

REBATING: *G M B.* Your nearest carpenter can inform you what rebating is. It belongs to carpentry, not, as you imagine, to arithmetic.

SCORZONERA—SALSAFY: *Diss.* We do not think that either of these vegetables is likely to succeed at Calcutta, Bombay or Kurrachee, unless they can be reared as a cold weather crop. That should be tried.

*** As usual, many communications have been received too late, and others are detained till the necessary inquiries can be made. We must also beg the indulgence of those correspondents the insertion of whose contributions is still delayed

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NOTE.—Agricultural Implement Makers will find this an unusually advantageous opportunity for exhibiting during the Show.

**PRIZE CATTLE SHOW OF THE SMITHFIELD CLUB.**

The Annual Exhibition of PRIZE CATTLE, SEEDS, ROOTS, IMPLEMENTS, &c., commences on TUESDAY MORNING and closes on FRIDAY EVENING, 6, 7, 8, and 9th December, —Baker Street Bazaar, King Street Entrance. Open from daylight till nine in the evening. Admittance 1*s.*

**The Agricultural Gazette.**

*SATURDAY, NOVEMBER* 19, 1859.

—— **We are informed that the breeders of Shropshire sheep mean to move for a "status" at future shows of the Royal Agricultural Society and Smithfield Club. The following circular, which has been issued to all interested in this movement, is signed by names of sufficient influence to ensure attention to their purpose:—**

CIRCULAR ADDRESSED TO BREEDERS OF SHROPSHIRE SHEEP.

Sir,—Your attendance is requested at a meeting proposed to be held at the Birmingham, on the Dec. (being the day of the Show-week), when the propriety of bringing before the Council of the Royal Agricultural Society the claims of the Shropshire breed of sheep to be exhibited as a distinct class (at the annual meetings of the Society) will be taken into consideration.

We are, Sir, faithfully yours (signed) DARTMOUTH.
AYLESFORD.
W. O. FOSTER.
ED. HOLLAND.

—— During the discussion on Clover failure at the Central Farmers' Club, a remarkable degree of ignorance was displayed with reference to the true nature of Dodder as a parasite on Clover. The idea that its seeds are mere germs attaching themselves to the surface of Clover seed as those of the Bunt Fungus do to the grain of Wheat—and that therefore the mischief is to be avoided by a preparation of the Clover seed similar to the pickling which Wheat undergoes—is entirely mistaken. Dodder blooms and forms its seeds, and these are sown with those of the Clover along with which it has been mown and dried and threshed; they grow in the soil and cling like a Bindweed to the neighbouring Clover plant, piercing its stem at every contact, with the rootlets which are there put forth, and ultimately deriving all its nourishment from the juices of the plant which it thus destroys; before which time its attachment to the ground withers away. On this and all other points connected with its history, see No. 37 of the *Agricultural Gazette*, p. 746.

—— **Mr. J. SHEPHERD, C.E., pursues in the columns of the *Times* the subject of Town Sewage, to which Mr. MECHI's letter had drawn attention. The following are his facts:—**

"It is a fact, if we take the whole of London sewage as it flows into the Thames at 70,000,000 tons annually, and apply it at the rate of 40 tons per acre, it would manure 1,750,000 acres, or 2734 square miles, of land annually, without the aid of a single cartload of farm-yard manure; and wherever the sewage has been employed it has increased the fertility of the land more than 100 per cent. It is also a fact that 750 tons of the rich sewage of London can be delivered to a distance of 100 miles round London, and on every farm included in that area, at a less cost than the farmer is now paying for 1 ton of guano, while the 750 tons of sewage contain

more fertilising matter than 5 tons of guano. It is equally a fact that the soil almost instantly deodorises the sewage the moment it is applied. Water and soil are the only true disinfectants. To apply the sewage of all our towns for agricultural purposes there is ample investment for 100,000,000*l.* of capital at a remunerative rate of interest at home, instead of lending it to despotic Governments. And if the sewage is properly applied, England will gratefully yield ample food for a population of 30,000,000, with less cost and labour than she supplies her 15,000,000 children with agricultural produce."

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THE Mangel Wurzel is so valuable a root that hardly anything connected with its growth can fail to be a matter of interest. We, therefore offer no apology for the insertion of the following record of experiments upon Mangels made during the present year, to which we shall append some remarks upon the general condition of this year's crop deduced both from our experiments and from observations upon field examples. We have before placed on record the important fact that Mangels deprived of any of their green leaves whilst in a growing state are curtailed in their root development in proportion to the amount of leaf injury; still we are so repeatedly asked questions both by students and farmers relating to the possibility of feeding from the leaves and growing a crop of roots at the same time, that we have experimented several times in a manner similar to that which has now to be related, in order both to test the soundness of our results as also to have growing examples to appeal to in our daily teaching. In April of the present year we sowed two of our experimental plots with Yellow Globe Mangel, depositing the seed in ridges but without manure. The plant on coming up was thinned and hoed in the usual way, and in the middle of August the one which appeared the best plot had each plant stripped of its large outer leaves, an operation which was repeated in the middle of September, and again in the middle of October. In the other plot the plants were left intact.

On the 27th October the topped and tailed roots were weighed, and the result will be gathered from the following:—

TABLE I.—*Results of the Stripped Mangels.*

| | | Weight of single root. | Circumference of single root. |
|---|---|---|---|
| | lbs. oz. | lbs. oz. | Inches. |
| 6 largest roots.. .. | 10 10½ | 1 8 | 12 |
| 6 smallest do. .. .. | 3 9 | 0 8 | |
| 9 remaining do. .. | 10 1 | | |
| 21 roots .. .. .. | 24 4½ | | |

TABLE II.—*Results of Intact Mangels.*

| | | | |
|---|---|---|---|
| 6 largest roots.. .. | 27 4½ | 5 8 | 19 |
| 6 smallest do. .. .. | 11 10 | 1 4 | |
| 8 remaining do. .. | 22 7 | | |
| 20 roots .. .. .. | 61 5½ | | |

Here then we see the immense preponderance of root growth of the unstripped over the stripped roots, and from it we deduce the following important conclusion:—*That as long as a Mangel leaf is in a fit state to be wholesome or useful as food for cattle, so long is it important to the well-being of the root.*

All our experiments upon this subject have tended to the same conclusion; and indeed, the effect of taking away a few leaves from a growing root is so quickly made manifest, that on comparison with others we have more than once been quite unprepared for the result. In the case before us the last stripping in October could have had but little effect, as the frost so soon followed and stopped the growth altogether, so that the wide difference in the production of the two plots has been in reality caused by two strippings. It will further be remarked that in the best plot the crop is not large; in fact the average of the neighbouring field cultivation has afforded roots considerably larger than our best specimen. This difference is easily accounted for in the fact of the absence of manuring in our plots, whilst in the field good farmyard dung and superphosphate were plentifully employed.

It will be noticed that our crop was gathered on the 27th October, four days after the late severe frost, which on the 23d registered 12° of freezing, and we are enabled to state that they were little affected by the frost. This may arise partly from the cause suggested in a late Number, viz., the partial shelter afforded by the leaves to the then standing roots; but still we incline to the belief that another cause was active in producing the difference observed in this respect between these and the field crops which have been very seriously damaged, and that is—that our plants in the experimental plots were less artificially stimulated. Our own observations certainly lead to the conclusion that with roots of all kinds, and especially with Mangels, inordinate and over stimulated growth tends to a delicacy of constitution easily affected by external causes, and so tending to disease and premature decay; for if to be too lean on the one hand or too fat on the other be signs of want of perfect health in animals,* it is especially so in plants, whilst in the one as in the other the tendency of high breeding is to a constitutional enervation.

If in the case before us we look at the natural history of the Mangel, we shall find that it is derived from a wild native plant, the *Beta maritima*. BENTHAM says that "the white and red Beets or Beetroots of our gardeners and the *Mangel Wurzel* (*Root of Scarcity*) of our agriculturists, are cultivated varieties of the wild Beet;" and speaking of the rootstock he remarks that "the wild Beet has a short hard stock of a few years' duration." In fact the Beet in a wild state is perfectly hardy, and its rootstock stands winter after winter, yet in the garden the rootstock requires the most careful protection from frost, whilst year by year as the cultivation of the Mangel extends in the fields we find in it an increasing delicacy of constitution. We incline then to the opinion that, with Mangel as with Turnips, we should be satisfied with something less than the fullest amount to which this root can be developed, and look for a paying crop rather to the following circumstances—*good form, uniformity in size, regularity in the rows*, and better keeping powers—conditions which we cannot help thinking will also result in a larger amount of feeding property in proportion to water; but we await the analyses which we have reason to know are in progress upon Mangels by Professor VOELCKER for fuller evidence upon this point.

As regards the effects of the recent early frost upon the Mangel, judging from the appearance of our crop the day after they were touched so severely, and the present state of those left standing, we are inclined to think that great improvement has taken place. Many only slightly injured have recovered with the mild warm weather; our directions, therefore, of last week are fully borne out, and we still think that a great part of this valuable crop may be well stored for the winter. We would, however, suggest great care in this operation, as the external leaves are rendered almost putrid, and in many merely the core of the stem is beginning to decay; topping then should be done with even greater freedom than usual. So again the wet weather will cause a quantity of moist dirt to cling about the rootlets, which latter will soon decay, and thus decay of the crop when in mass will be likely to be commenced. Our notion is, then, that Mangels this year should be cleanly topped and tailed, and afterwards left to get as dry as possible; and any circumstance which will tend to this result will not only cause a healing or callosity to the wounded surfaces we make in trimming, but will to a great extent have a like effect upon the scalded spots of the rootstock.

Finally, with respect to the much injured roots, we cannot help thinking that the frost-biting may have facilitated such changes as to induce premature ripeness, at least the affected roots that we have examined are much sweeter to the taste than the others; we should therefore employ them, and that as speedily as possible, without any fear of evil from want of ripeness. Our plan of dealing with them would be to give them to swine in quantity, by which they would be turned into manure; and should any tendency to purging or any symptom indicating that disagreement which is not uncommon with a new kind of food appear, we would correct this by the addition to the wash of a little powdered *Fœnugreek seeds, Turmeric root, Gentian*, or any aromatic and stimulating substance of a like kind.

Again, we might suggest that carting these Mangels to a poor upland but dry pasture and thickly stocking with sheep would greatly enhance the value of the land, and we cannot but think that the sheep would do better than draggling in poached Swede lands.

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## BREAKING-UP GRASS LAND.

THE *Times* of the 29th September last gives us a statement of the disafforesting of Whichwood Forest, and after giving to all those who had a claim of forest rights, there remained 2000 acres left to the Crown, and after all the trees were cut down, their roots grubbed up, and all the rubbish cleared away, the 2000 acres were inclosed by stone walls, divided into seven arable farms, convenient and substantial farmhouses and homesteads erected, and seven miles of excellent roads made to connect each farm with the public roads. And all this was done at the expense of 10*l.* per acre, and the farms were let on lease for 32 years at the yearly rent of 28*s.* per acre. And, says the *Times*, "by this act 2000 acres of productive land is added to our isle."

They say "that the parks belonging to the great proprietors are unproductive of good to the population;" and, we therefore infer that they think by [illegible] the New Forest, the Forest of Dean, and all the [illegible] forests, is the only means we have of adding [illegible] more productive land to our island.

But the additions of all the forests to our arable [illegible] would go a very short way towards producing food [illegible] our yearly increasing population.

We must have other and much better sources [illegible] the disafforesting of all the forests in the kingdom [illegible] draw upon, although the sooner they are all converted into productive arable land the better, for "the forest [illegible] are generally a school of crime and a real advantage [illegible] no one."

The increase of the population has for the [illegible] years been at the rate of 15 per cent. every 10 years, that in 1851 it was more than double what it was [illegible] 1801. And this increase is still going on, and [illegible] 26,000,000 of inhabitants may be double that [illegible] in 1901.

But the present produce of all the land [illegible] cultivation is not able to supply us with all the [illegible] which we require, for in 1842 we imported [illegible] foreign parts 3,775,984 qrs. of grain, and I believe [illegible] present importation is considerably greater.

From the statistics of England and Wales published by the Poor Law Commissioners, we find that [illegible] the 37,324,915 acres, there were in 1854

| | | |
|---|---|---|
| | Acres. | |
| | 3,807,019 | of Wheat which I estimate at 3 qrs. per acre .. .. |
| | 2,767,776 | of Barley, which at 4 qrs. .. |
| | 1,302,782 | of Oats which at 5 qrs. .. |
| | 73,731 | of Rye which at 3 qrs. .. |
| | 7,851,306 | |
| There were | 7,379,541 | producing Turnips, Beans, Peas, and Clover, as food for stock. |
| So that | 15,230,849 | are under arable cultivation in England and Wales, and the produce was .. .. |

From the agricultural statistics of Scotland, published by Mr. Hall Maxwell, in 1857, we have the following return:—

| | | |
|---|---|---|
| | Acres. | |
| | 223,152 | in Wheat and .. .. .. |
| | 225,983 | in Barley and .. .. .. |
| | 938,613 | in Oats and the crop .. .. .. |
| So that | 1,387,748 | yielded |
| There were | 2,025,555 | acres producing Turnips, Potatoes, [illegible] and Beans, and Clover as food for stock |
| There were | 3,413,303 | acres under arable cultivation in Scotland and its produce. |

In the agricultural statistics of Ireland, published by Mr. Donelly, in 1857, we have the following return:—

| | | |
|---|---|---|
| | Acres. | |
| | 551,386 | in Wheat, the return is .. .. |
| | 207,489 | of Barley, the return is .. .. |
| | 1,976,929 | of Oats, the return is .. .. |
| So that | 2,735,804 | acres produce |
| There are | 3,067,194 | acres producing Potatoes, Turnips, [illegible] and Clover. |
| There are | 5,802,998 | acres under arable cultivation in Ireland and its produce. |

From the foregoing statements we have the amount of land under arable cultivation, and its produce in food for man.

RECAPITULATION.

| | Acres under cultivation. | Wheat and Rye. | Barley. | Oats |
|---|---|---|---|---|
| | quarters. | quarters. | quarters. | quarters. |
| England .. .. | 15,230,849 | 11,645,250 | 10,671,104 | 4,[illegible] |
| Scotland .. .. | 3,413,303 | 769,373 | 904,536 | 4,[illegible] |
| Ireland .. .. | 5,802,998 | 1,662,957 | 976,588 | 3,[illegible] |
| | | 14,077,580 | 12,532,228 | 12,[illegible] |
| | | | | 14,[illegible] |
| So that | 24,447,150 | acres produce | | [illegible] |

quarters of grain. But we have had of late years [illegible] nearly 9,000,000 quarters, so that we required [illegible] of grain to maintain our population.

Now, as this is really the quantity of grain [illegible] our present inhabitants require for their [illegible] and if the population continue to increase at the [illegible] 1½ per cent. per annum, how can this rapid increase [illegible] the population be supplied with the food which [illegible] require? This is the question.

Mr. Spackman, in the Statistics of the United Kingdom of Great Britain, has given us the following table of the quantity of land:—

| | Acres cultivated | Acres uncultivated | Acres unprofitable |
|---|---|---|---|
| England .. .. | 25,632,000 | 3,454,000 | 8,[illegible] |
| Wales .. .. | 3,117,000 | 530,000 | 1,[illegible] |
| Scotland .. .. | 5,2[illegible] | 5,950,000 | 8,[illegible] |
| Ireland .. .. | 12,125,280 | 4,900,000 | 2,[illegible] |
| British Isles .. | 383,690 | 166,000 | [illegible] |
| | 46,522,970 | 15,000,000 | 15,871,469 |
| By deducting from the land, and from the | 46,522,970 acres of cultivated<br>15,000,000 acres of uncultivated | | |
| land, together .. .. | 61,522,970 acres, | | |
| the .. .. .. | 24,447,150 acres of land under | | |
| cultivation, we have .. | 37,075,820 acres, which we may bring under arable cultivation | | |

We may increase the productiveness of this land by converting the natural pasture, all the cultivated and unproductive land into a much more productive soil, by bringing it into an alternate system of arable culture.

It has been shown that this can be done in a [illegible] you published the other day relative to the conversion

* See GREGORY'S "Conspectus of Medicine."

pasture land in the Vale of Gloucester into arable land, under the alternate system, one-half always to be in corn and fodder crop as food for stock, and the other half to be in grain—Wheat, Barley, Oats, &c.; and it was shown that with one-fifth of the land being left in permanent pasture, that the half of the land under cultivation producing roots and fodder crops will produce food for the maintenance of all the number and kind of stock which were kept on the whole of the land when it was in its natural pasture, and that the remaining two-fifths may produce Wheat, Barley, and Oats, of more money value than the natural pasture produced before.

Now, if we apply this principle to the 37,075,820 acres which we have shown may be brought under arable cultivation, we shall have no fear that our increasing population shall not be provided with food for their maintenance.

| The statistics of England and Wales show us that | Acres. |
|---|---|
| there are .. .. .. .. .. .. .. | 28,749,000 |
| of cultivated land, and that there is .. .. | 3,981,000 |
| of uncultivated land, making in all .. .. | 32,733,000 |
| From which, if we deduct the .. .. .. .. | 15,230,849 |
| which are under arable cultivation, we shall have | 17,502,151 |

Which is in permanent pasture, water meadows, sheep walks, commons, and waste. Of this we shall take 11,000,000 acres, which we may convert into the system of arable culture before mentioned, and dividing it into five parts, we shall take all the water meadows and the best of the pasture land, say one fifth of the whole .. .. 3,000,000
to be in perpetual pasture; two-fifths or .. .. 6,000,000

to be producing roots and fodder crops .. .. 9,000,000
will give food for all the stock which are at present maintained on the land in its natural state; the remaining two-fifths will produce grain:—

| Acres. | | Quarters. |
|---|---|---|
| say 3,000,000 | in Wheat, at say 3 quarters per acre | 9,000,000 |
| say 1,500,000 | in Barley at 4 quarters per acre .. | 6,000 000 |
| say 1,500,000 | in Oats at 5 quarters per acre .. | 7,500,000 |
| 6,000,000 | | 22,500,000 |
| 9,000,000 | in fodder crops. | |
| 15,000,000 | | |

| | Acres. |
|---|---|
| In Scotland there are said to be cultivated .. .. | 5,265,000 |
| and uncultivated .. .. .. .. .. | 5,950,000 |
| Total .. .. .. .. .. | 11,215,000 |
| From this deduct the land in cultivation .. .. | 3,413,303 |
| And there remains .. .. .. .. .. | 7,801,697 |

Of this we shall only take 5,000,000 acres, and leave the rest in its natural state.

We shall adopt the same system of cultivation as before, taking one-fifth for permanent pasture and two-fifths to produce root and fodder crops for stock, and of the remaining two-fifths we propose to have—

| Acres | | Quarters. |
|---|---|---|
| 200,000 | in Wheat, at 3 quarters per acre .. .. | 600,000 |
| 200,000 | in Barley, at 3½ quarters per acre .. .. | 700,000 |
| 1,600,000 | in Oats, at 4 quarters per acre .. .. | 6,400,000 |
| 2,000,000 | producing of Grain .. .. .. .. | 7,700,000 |
| 3,000,000 | producing food for stock. | |
| 5,000,000 | | |

| In Spackman's Statistics of Ireland there is said to be | Acres. |
|---|---|
| | 12,125,288 of cultivated land |
| and .. .. .. .. | 4,900,000 of uncultivated land |
| In all .. .. .. | 17,025,281; from this we |
| must deduct the .. .. | 5,802,729 under cultivation. |
| Which leaves .. .. .. | 11,222,551 in a natural state. |

Of this we shall take 10,000,000 acres and place them under the following system of arable cultivation:—

| | Acres. | |
|---|---|---|
| One-fifth, or .. | 2,000,000 | under permanent pasture. |
| And two-fifths, or | 4,000,000 | in roots and fodder crops. |
| Three fifths, or .. | 6,000,000 | producing food for stock. |

| Acres. | | Quarters. |
|---|---|---|
| 700,000 | of Wheat, at, say 3 qrs. per acre | 2,100,000 |
| 300,000 | of Barley, at, say 4 qrs. per acre | 1,200,000 |
| 3,000,000 | Oats, at, say 4½ qrs. per acre | 13,500,000 |
| 4,000,000 | | |
| 10,000,000 | producing | 16,800,000 |

The conversion of the natural pastures into arable land may produce the following result:—

| | Acres. | Quarters of Wheat. | Quarters of Barley. | Quarters of Oats. |
|---|---|---|---|---|
| England .. | 15,000,000 | 9,000,000 | 6,000,000 | 7,500,000 |
| Scotland .. | 5,000,000 | 600,000 | 700,000 | 6,400,000 |
| Ireland .. | 10,000,000 | 2,100,000 | 1,200,000 | 13,500,000 |
| | | 11,700,000 | 7,900,000 | 27,400,000 |
| | | | Barley .. | 7,900,000 |
| | | | Wheat .. | 11,700,000 |
| So that the | 30,000,000 | may produce .. | .. | 47,000,000 |

of grain under this system of culture.

Thus by converting 30,000,000 acres of land from its natural pasture, and adopting the alternate system of cultivation we may produce 47,000,000 quarters of grain, which is equal to the produce of grain from 24,446,681 acres at present under cultivation; and by this means, and improvement in the present mode of cultivation we have it in our power to produce a sufficient amount of grain to maintain double our present population.

But to do this we must invest a large capital, not only in the permanent improvement of the soil but in the system of cultivation proposed. Part of this outlay will fall upon the farmer and part upon the landowner. This process is every year going on, and the results of it show themselves in a gradually increased produce.

The land will require to be drained, additional buildings will be required to house the stock, besides other permanent improvements which may be required.

| | |
|---|---|
| To do this 8*l.* per acre may be the expense .. | £240,000,000 |
| And to cultivate this arable land the farmer will require an additional 5*l.* per acre to his capital, which will amount to .. .. .. .. | 150,000,000 |
| It will therefore require .. .. | £290,000,000 |

to be invested in the conversion of 30,000,000 acres of land into arable cultivation.

There will be no difficulty in the landlord finding his portion because of power granted to various companies to lend money in the draining or otherwise improving land, and because he may receive 6 per cent. on his outlay for the first three or four years, and after a time this may be increased. The interest which the farmer must get should not be less than 10 per cent., which is but a fair per centage on his capital, as he can only turn over his capital once in 12 months.

It is astonishing that landowers do not see the advantage to themselves as well as to the community which the permanent improvement of their estates would produce in a pecuniary point of view. The draining of the land, the erecting of necessary buildings, and the converting of the worthless pasture land into arable would employ capital to a greater advantage than any of the present speculations. *J. M.*

## PREVENTIBLE DISEASE.

(*Continued from p.* 915).

COMPREHENSIVE and minute records of the number and causes of sickness and death are absolutely necessary for a sure and steady advance on this subject. The official supply of statistics, which is quite accurate as to numbers, is at present insufficient for our purpose. The registration districts are not set out with any view to produce vital statistics, but simply follow the subdivisions required for Poor Law relief. They are not coincident with the limits of any sanitary jurisdiction, and do not separate people according to the conditions or occupations we desire to compare; so that in local or detailed inquries the Registrar-General's reports will often not avail. An improvement in the registration of the causes of death is urgently needed, and there is no reason why it should be combined with the registration of marriages; but it should be placed as far as possible in the hands of medical men. We want a registration of sickness that do not terminate fatally. The easiness with which this might be procured is shown by the weekly publication of illnesses occurring in the public establishments of the metropolis, which was for some months published by the General Board of Health from information gratuitously supplied by the medical officers of health of the metropolis. But though the returns of mortality are not as complete as might be desired, yet, under the able interpretation of Dr. Farr, they give us broad and intelligible results. In fixing the aim to which we should direct our efforts it is desirable to ascertain as far as we can the proportion of the annual mortality which is preventable by means within our reach. It is estimated that if all the population were living in healthy condition, and life were only terminated by natural decay, the ordinary age at which men and women would depart would be 80. But it is more important to know that in 64 out of 628 registration districts the average annual death rate is less than 17 in 1000 persons living. These districts are salubrious in their natural features, and their population, amounting to 1,000,000, are chiefly employed in agriculture; but, on the other hand, the cottages are exposed to many of the evils that we most denounce; they are not model districts, but they are districts from which the chief evils we are seeking to remove are absent, and they furnish a fair practical standard of what is possible to attain. While, then, persons die at the rate of 17 in 1000 in these standard districts, above 22 in 1000 die on the average of all England, and 36 in the worst urban district; and as 419,815 persons died in 1857, if the mortality of the rest of England had been no greater than it was in these 64 districts, 91,652 lives would have been preserved in that year.

England has been divided by the Registrar-General into two classes of districts of about equal populations, one consisting mainly of urban and the other of rural inhabitants, and it is found that the rural death-rate reaches only 22 in 1000, while the urban is 26. The facts we possess at present support the theory that unhealthiness prevails in proportion to the density of population; but this, like other branches of the subject, requires elucidation. An examination of the soils on which epidemic mostly prevail would, I believe, lead to some remarkable conclusions, for the different influence exercised over certain diseases by clay and gravel soils has been too much overlooked. But the light we now possess is sufficient to prove the startling fact, that in England alone a hecatomb of victims, at least 100,000 of our people, are being annually sacrificed to ignorance or disregard to the laws of health, and that in addition to these 100,000 deaths, far more than a million of persons are suffering from serious illness from the same cause. For the more complete confirmation of this fact we require that the total mortality should be separated and distinguished according to the diseases by which it is occasioned. An important contribution to this knowledge has been made by Dr. Greenhow. He has extracted from the general returns the mortality occurring from diseases which prevail under those evil conditions of life which are most within the power of the community to remove. These are—1, typhoid fever; 2, diarrhœal diseases; 3, pulmonary affections; 4, contagious diseases of children, consisting of scarlatina, measles, and whoopingcough; and 5, the nervous diseases of infants. On comparing the mortality of districts at the top and bottom of the scale of health it appears that the difference between them is nearly equal to that mortality which occurs exclusively from the five classes of disease thus selected:—

AVERAGE MORTALITY TO 1000 LIVING.

| | Total. | By Preventible Diseases. | Exclusive of those Diseases. |
|---|---|---|---|
| In selected rural districts | 16 .. | 5 .. | 11 |
| England and Wales .. | 23 .. | 12 .. | 11 |
| London .. .. .. | 27 .. | 16 .. | 11 |
| Birmingham .. .. | 27 .. | 16 .. | 11 |
| Leeds .. .. .. | 31 .. | 20 .. | 11 |
| Manchester .. .. | 34 .. | 22 .. | 12 |
| Liverpool District .. | 37 .. | 25 .. | 12 |

From this it appears that if the excessive mortality from these more preventible diseases could be reduced everywhere to the amount which is found in these selected rural districts, one-half the deaths in England would be prevented, and two-thirds of the deaths in the district at the bottom of the scale. I think no one will deny that the prevalence and fatality of these five classes of disease could be checked by the energetic employment of comprehensive sanitary measures. Typhoid fever has its home in ill-drained places, and requires for an ally some impurity in the air. It never springs up in the homes of the wealthy, though it sometimes invades them by means of contagion. The nature and locomotion of the cholera poison has not yet been discovered, but all experience shows that only amid the decomposition of organic substances can it develope its crushing power and acquire its full virulence. This is also notoriously the case with its kindred diseases. A large proportion of fatal pulmonary diseases arise from persons working in overheated or too dry workshops, and from inhaling dust, fluff, or other aerial impurities. The death-rates of young children afford an instructive test of sanitary circumstances, allowing for the different demands upon the time and attention of the mothers in different places. The sensitive and delicate frames of very young children show more directly the influences of their dwellings than the more hardened and resisting constitutions of adults. It is naturally found that where most deaths of infants are recorded there also are more weakly and scrofulous children, who drag on a debilitated existence and perpetuate a race deficient in stamina and vigour both of body and mind. In Mr. Simon's report to the Board of Health in 1858 it is stated that every year more than 23,000 children under 5 years of age die of inflammation of the respiratory organs, besides nearly 4000 whose deaths are attributed to phthisis, and these 27,000 deaths are so unequally distributed that the corresponding death-rate, in proportion to the infantine population, ranges from 213 in the healthiest district of England to 2,897 in the unhealthiest.

The acute non-infectious diseases, which hold their chief sway in towns, and in large manufacturing towns, destroy annually 72,000 young children, and the death-rate they produce in one urban district is seven times as great as in the most healthy rural districts. And if we make a much broader comparison, and compare the average taken from the 2,500,000 who occupy the north-western counties with that from the 4,000,000 who occupy the south-eastern portion of England, we find the infantile death-rate from these disorders in the north-wastern counties to be about 2½ times as high as throughout the south-eastern counties. In the case of infants we have to calculate the proportion of the mortality which arises from the poverty of the parents, and from work which takes mothers away from their homes, leaving their infants without proper nursing, while the cries of those infants for food and change of posture are quieted by opiates, so prized in manufacturing towns for the calm they produce, though it is only a prelude to the deeper calm of the tomb, to which they are hastening the child; and after deductions have been made under this head, the remaining mortality, attributable to impure air, is quite sufficient to afford a safe test of the want of proper sanitary conditions.

But statistical records tell us not only of the penalty we are paying in the lives and comfort of our people by the breach of sanitary laws, but also of the lives that have been saved and the strength that has been preserved by the practical application of sanitary science. Returns from 19 towns in which drainage works have been executed under the Public Health Act show that the mortality, which previous to those sanitary measures averaged 28 in 1000, fell after them to 21 in 1000; and as these towns contained a population of 468,000, the saving amounted to 3200 lives annually. Croydon is one of the most instructive cases. Tubular drainage was adopted there at a moment when the controversy respecting that system was raging, and grave mistakes having been made in the application of the plan, Croydon became a battle field for the contending parties. Commissioners inquired, heavy bluebooks were published, and all the circumstances of the place have been minutely investigated and recorded. Dr. Carpenter gave at our meeting last year a summary of the results, showing Croydon to be one of the healthiest towns in the kingdom. Notwithstanding an imperfection which still exists in the outfall of the drains, the cleansing of the town, the rapid removal of the sewage, and the supply of pure water have diminished the zymotic diseases to such an extent that the death-rate, which in 1848 was 28.16, was in the first half of the present year only 15.75, and, comparing the mean of five years before the works came into complete action, and that of five years after, the death-rate is

found to have fallen from 28 to 22.9—an annual saving of 196 lives. The outlay, too, has been compensated by such corresponding diminution of expense that the total amount paid in rates is only 4*s.* 11*d.*, while the average of other neighbouring towns is 5*s.* 9*d.* Bradford furnishes a striking example of improvement. The death-rate, which, on the average of five years previous to 1853, was 28½, has been reduced on the average of the last five years to 22 in 1000. Liverpool, about which much controversy has been excited, owing to the different boundaries included in different calculations, has obtained a reduction of the death-rate of the municipal area from 39 to 27 in 1000 by the expenditure of three and a quarter millions of money during the last 11 years. In Glocester the death-rate has been reduced from 27 to 24.

## Home Correspondence.

*Irish Agricultural Statistics.*—In drawing practical inferences from Irish agricultural statistics one or two points are not sufficiently borne in mind—1. The great fitnesss of the climate for Grass; 2. That in the exact proportion the climate is favourable for Grass it is unfavourable for corn. A glance at a rain map of Europe will show that the rain-fall of most part of Munster has no equal, except a small part of Cornwall, Brittany, Cumberland, and the west of Scotland. Add to this a winter temperature of great mildness. The average annual temperature of Cork is said to be the highest recorded in the British Isles, and this solely from high winter temperature, for the summers are cool enough. Frost we have scarcely any. I do not suppose there are 10 boys in a county who can skate. Some good farmers leave Mangels in the ground all winter. The result is that Grass grows all the year round, except in the east winds in spring. A field laid down in good condition to Grass in five years gets covered with a rich thick close sole of Grass, that would hardly be got in 10 times as many years in the dry climate of the east of England. All this of course influences farmers, rather it forces them, whether they like it or not, out of corn growing into grazing. I think this fully accounts for the decrease of corn crops mentioned lately in your Paper, as shown from the official returns. You did not mention that it appears from the same returns that "Meadow and Clover" had increased from 1,314,807 acres in 1855 to 1,436,680 acres in 1859. There is no return of land used for grazing, but this would probably show a still larger increase. In fact both large farmers and small find it to their profit as fast as the land gets in condition to put it in Grass and leave it so. The only really bad point shown in the returns is the diminution of Turnips and Mangel, and increase of Potatoes. This I believe has arisen from the Potato crop having gone on improving in soundness for several years past. (This year however, after great promise, it has rotted more than ever.) Farmers and labourers accordingly applied their manure to growing more Potatoes, and so could grow fewer Turnips. It has been so far a relapse into old habits. On the whole, I believe the increased number and value of cattle and sheep is the true test of agricultural progress in Ireland, and no one denies that the return in this respect is satisfactory. Archbishop M'Hale and the patriots declaim against the increase of pasture and stock, as a device of the enemy for exterminating the Roman Catholic tenantry and peasantry, but in truth it is the mild moist climate, producing the bright green of the Emerald Isle of which they are so proud, that is the true *causa causans*, by making it unprofitable to grown corn and most profitable to grow Grass in Ireland. *W.* We have received a further letter on the subject, which shall appear next week.

*Mangel Wurzel.*—The following account of transplanted Mangel Wurzel may possess some interest for your agricultural readers; more especially a correspondent, who a few weeks ago professed himself somewhat incredulous of 40 tons per acre. Having satisfied myself last year by a small experiment in my garden that Mangel of first-rate quality was to be grown by transplanting in a particular mode, I desired this year that one ridge in a field of 8 or 9 acres might be left for repeating the experiment. The ridge previous to planting was treated in every respect like the rest of the field, and a day or two after the first portion had been drilled, the plants, then from 2 to 3 inches long above ground and rather weak, were put in. The rows were 30 inches apart and the plants set at 13 inches in the rows. The transplanted row contained 398 plants. Some few that failed were afterwards filled up and the result is as follows:—398 roots taken up on the 5th of November and cleaned; the weight without the top 1 ton, 1 cwt., and 12 lbs., or over 42 tons per acre—the quality again unexceptionable. Although this may seem to some of your readers an unusual weight, I beg to inform them that the prize for acres of Mangel at the Hadleigh Farmers' Club was given last year for more than 50 tons per acre; and I can certainly promise them that 40 tons will not win the same prize this. The mode adopted in transplanting was to raise the plants in a box in my striking house; a board covered with 4 or 5 inches of mould and placed in a frame or on a warm dung heap would do equally well. The plants were turned out topsy-turvy, so as to secure the fine rootlets from injury, and then planted like young Cabbages. This mode of filling up the rows where the seed has failed, whether drilled or dibbled, will I am inclined to believe in most instances secure a full crop of this valuable root. *Wm. Gurdon, Brantham, Suffolk, Nov.* 9

## Farmers' Clubs.

LONDON: *Nov. 7.—Substitutes for Clover.*—The following is abridged from the published reports of the discussion which followed the paper read by Mr. Marshall, and given in our columns last week.

Mr. Thomas, Lidlington, said to grow Grasses in alternate husbandry without fear of failure every eight years was not at all difficult; but now that sheep farming was so rapidly overtaking tillage, it became a matter of importance to learn the best means of keeping the largest possible quantity of stock on a farm. He was happy to say that he scarcely recollected a single instance in which he had lost his seeds. He had never adopted the plan of mixing them; but he thought that, whenever the farmer was bound by his lease to keep to the four-course system, it was essential to discover the best method of obtaining, if possible, a pasture every fourth year. This he had only been able to do by rejecting Rye-grass altogether, because in his early attempts he found that not only the Wheat crop, the Turnips, Oats, Barley, and Clover, but the next Wheat crop, four years afterwards, never recovered the damage occasioned by Italian Rye-grass to the land, and that in spite of large applications of liquid manure. The plan which had proved successful with his seeds, was to grow White Clover and ribbed Grass one four years, and Red Clover and Trefoil the next four years. When the Red Clover had been mowed, the Trefoil seldom rose a second time: thus he got a better article to place his lambs upon for weaning than anything that could be supplied on a tillage farm. By placing lambs upon White Clover, which had been previously fed off by sheep in the autumn, an immense mortality amongst the lambs was almost inevitable; and he believed that a large portion of the losses of lambs in Lincolnshire and elsewhere, during the last two years referred to by Mr. Marshall, must have arisen from putting them on White Clover leas previously fed off by sheep. The same remark would apply also to Red Clover, which had been so fed off; but not to that which had been mown. Therefore, where they were obliged to follow the four-course shift, they would not find a better than the alternate system he had just described. Those who, like himself, farmed hot or sandy lands, knew that, in order to ensure a Wheat crop afterwards, it was well to keep the land shaded, by not allowing it to grow seeds in too great abundance. He wished he could add his testimony to that of Mr. Marshall, that the harvest had been a productive one this year; but, however it might be in Lincolnshire and some other places, it was very different in the counties with which he was more particularly acquainted.

Mr. Mechi said that 16 years' practice had convinced him of the undesirableness of mixing anything with Red Clover. In Essex they almost invariably sowed Red Clover alone, once in eight years, taking especial care late in April or early in May to hoe out any weeds that appeared in it, so that the Clover might have all the ground to itself. It very soon asserted its rights, and took care that no neighbour should intrude. His own practice was, to mow the Clover, hoe once, let it grow well a second time, and then when high feed it off, the sheep eating oilcake. He believed that a better crop of Wheat was grown after the Clover had been allowed to reach its full size; and that over-close feeding prevented the development of the root, which was the food of the Wheat. On his light land he also adopted the plan suggested by Mr. Thomas, namely, to have a crop of White Clover; and if the land were very saucy, he sometimes took it for seed. With regard to Italian Rye-grass, the utmost attention should be given to obtaining genuine seed, free from Couch or Twitch Grass. He had reason to know that a large quantity of Couch-grass seeds was exported from this country, and afterwards sent home as Italian Rye-grass, with which it was mixed. That he had been told by a friend who was in the trade, and consequently in its secrets. It was, therefore, of importance that they should buy of a respectable person, who was careful in the selection of his seed. He purchased his from Mr. Dickinson, and found that it was really Italian Rye-grass, and nothing else. It was a plant, however, which was very greedy in its desire for moisture, and he thought it a bad preparation for Wheat in the general acceptation of the term. He always grew some, however; irrigated it thoroughly, and his cattle liked it. Everything thrived upon it; nothing was scoured; and the animals did well, provided the Grass had an ample supply of moisture, which it had by his system of irrigation, putting on 6000 gallons an hour. By the fallowing process, too, it was not a bad preparation for Wheat. He kept it two years, broke up the second year's growth in the beginning of July, then sowed Rape, and when that had risen to a certain height he either fed it off or ploughed it in. Acting upon this system on some miserably poor land, he had this year been able to produce 4½ qrs. of very fine Wheat to the acre. If he were not able to break that land up in the dry weather, so as to take an intermediate crop of Rape, he would sow 5 cwt. of Rape-cake and 2 cwt. of salt; and then, although the ground might be covered with tens of thousands of wireworms, not a single stem of the Wheat plant would be lost. This he had proved by experiment. One thing was certain, the wireworms would disappear. They ate into the Rape-cake, and gorged and killed themselves. As a general rule, he thought they would be quite safe in drilling Clover. It was certainly the more economical plan; for 8 lbs. of Clover drilled would give as thick a crop as 16 lbs. broad-casted.

Mr. Owen, Hungerford, said Red Clover was [illegible] the best and most valuable preparations for the [illegible] crop; White Clover, however, was anything but a [illegible] lea. He would refer subsequently to White [illegible] After Red he would certainly plough one ea[illegible] did not think it would be safe to do that with [illegible] As to Italian Ryegrass, in his opinion it was [illegible] the Wheat crop; and a friend of his having recommended him to mix it with his seeds, he did so, and repented of it ever since. Where he put the Rye-grass, he lost a quarter of Wheat per acre. The common Pacey Rye was bad enough for the Wheat, but the Italian was ten times worse. As to Clover, however, it was half the manure of a Wheat crop, provided they had a true plant; but wherever upon soils they saw a deficiency in the Grass crop, they might rely upon seeing a similar deficiency in the Wheat crop. They could not, therefore, as a general rule, [illegible] upon Red Clover as a lea for the Wheat crop. The [illegible] he usually adopted was to mix 12 lbs. of Red Clover, 4 lbs. of Trefoil, and a peck of common Pacey Rye. On land which he could depend upon, he sowed Red Clover; but as a preparation for Wheat, he [illegible] 4 lbs. of Trefoil and the peck of Pacey Rye. Some years he sowed 150 acres of Wheat, he had a certain [illegible] which came in White Clover, Ryegrass, Hop, Rag, and so on. He sowed White Clover merely for food, in the proportion of 16 lbs. to a peck of Rye-grass; and, of course, the White Clover was sowed distinct from the Red.

Mr. Coussmaker, Guildford, said:—The practice in his neighbourhood was to mix all the seeds together; but the preferable plan would be to take Red Clover once in eight or 10 years, and a mixture of other seeds in an alternate course. One evil connected with Red Clover, from which he had suffered for the last few years—and he regretted to say, it was on the increase—was Dodder. He remembered some years ago seeing patches of Dodder here and there in his Clover, but he never regarded it as a matter of consequence. Its ravages was not great in the first crop, but it injured the second cutting. Within the last two or three years he had seen it in both the first and second crop; and in the second crop this year, he had lost one-third by it. Where the Dodder grew the Clover was killed. It was evidently a parasitic plant. It grew in a fairy ring, and went on continually increasing. In the first instance they would see a patch 5 or 6 feet in diameter, which on the next cutting would have expanded to 12 or 15 feet, and where it killed the Clover up would come a patch of weeds, no matter how clean the land might otherwise be. But that was not all the mischief it did, for where the Clover failed the Wheat would fail; consequently, where from this cause there was a failure of the Clover there was a similar result ensued with the after crop. Great as had been the injury already occasioned by Dodder, he looked forward to its being still greater next year, immediately after the Barley was cleared off he sowed seed in the Barley lea. There were not less than a dozen patches in a 10-acre field, of 3 or 4 feet diameter each. He had sent the men into the field to pull it up by the hand, and every particle had been cleared away that they could find, but he feared that would not stop it. He had never seen it before it made its appearance in the Clover, and all his neighbours suffered from its ravages in the same manner as he did.

Mr. Bradshaw, Guildford, said that the result of his experience was, that the failure of Wheat after Italian Rye-grass did not arise entirely from the use of the latter, but from its abuse. Italian Rye-grass was the most productive and valuable food for sheep and cattle, but it should be kept down and not allowed to seed, because the same result would ensue as to perennials as to the Rye-grass. He knew instances in which last year six quarters of Wheat per acre were grown after Italian Rye-grass and Red and White Clover; and this year he had been told that in the midland counties the result had been equally [illegible] He had introduced Italian Rye-grass upon his farm, which was situated in the southern part of the county of Surrey, just approaching the [illegible] and he invariably grew it both with Red and White Clover, two pecks to the acre, but if he [illegible] it, he endeavoured to keep it down. He was at [illegible] engaged in manuring a splendid crop of 30 acres of White Clover, which he should feed off with ewes and lambs next year, and either plough up and make a bastard fallow of it, or plough and sow it with Wheat and Beans, and have a good result in Wheat. This year he grew 110 acres of Wheat, the produce of which was 180 loads, or nearly five quarters to the acre. After Italian Ryegrass, with Red and White Clover, Wheat and Beans and Peas. He repeated that it was the abuse, not the use, of Italian Ryegrass that was injurious; and it should always be borne in mind that what might succeed in the midland counties might succeed in the south. If, for example, he were to farm in Surrey as they did in Lincolnshire, he should soon be a ruined man; and he felt that he could not too strongly impress upon his brother farmers that a practice which might be very good in one county might be ruinous in another. No man had smarted more than himself in consequence of having discarded practices which prevailed on the other side of his fence, and adopted those which were most successful in the midlands; but

plan now was to borrow from his neighbour, and endeavour to improve upon it.

Mr. J. Williams (Haydon) said, that a few years ago a friend of his told him that which he had never heard before, that Italian Rye-grass would bear mixing with Red Clover. But, to his mind, the two seemed like spring and winter; for his idea of Italian Rye-grass was, that it would become seed long before the Red Clover was fit to cut as hay. At all events his friend sowed his whole crop, and to his astonishment, upon looking for the results, he found on cutting the Red Clover that the Rye-grass was infinitely more tender than his own common Rye-grass at the same time. He looked upon it, therefore, as rather a crop of hay than as a preceding crop for Wheat; and he was certain that if it were permitted to grow to any length, it would be the worst possible preparation for Wheat. With the limited varieties of seed which they had at command—for if they dispensed with Italian Rye-grass and Trefoil, he only knew of Red and White Clover, the Cow Grass, and the Cow Clover, the two latter of which, although not mentioned to-night, were a very useful kind—he was utterly at a loss to divine what the light land farmers on the hills of Berkshire, Hampshire, and Wiltshire would have to depend upon for their sheep produce. With Wheat at the low figure of 40s. a quarter, and comparing the price of stock and wool with that, the question which presented itself to his mind was, whether he ought to dispense with the growth of an article which was one of the most valuable for sheep produce. He had a piece of Italian Rye-grass which was fed off in the spring, subsequently mowed for hay, and fed off again; he had now carted dung to it, and as Wheat was out of the question at the present price, he intended sowing it with Oats, for at 40s. a quarter he despised a crop of Wheat. And he knew he could grow a magnificent crop of Oats upon the ground.

Mr. Nesbit, with regard to sickness in Clover, said the fact that Clover would not grow on some soils more than once in a certain number of years was, in the present state of our knowledge, utterly unexplainable. He had tried various chemical manures on land which was termed "Clover sick," but without producing the least sensible benefit. He apprehended, therefore, that it had something to do with the physiology of the plant, and did not come within the province of chemistry. The nature and habits of Clover were not thoroughly understood, and he believed they never would be understood, until the practical farmer turned his attention to the study of his Clover crops, and learned what their habits were, and how they were injured. One thing which certainly did mischief to Clover was the sowing it with Barley, thus covering it up, and preventing it from having the light of the sun during a great portion of the year. In the West of England, therefore, they had resorted to the practice of sowing Clover with Wheat; and by this means they obtained a much better crop of the former. Again, after the Barley or Wheat was taken away, it would be judicious to allow time to the Clover plant, when it got a due supply of light and air, to disseminate its roots and foliage, and acquire strength; whereas the usual course was to feed it off with sheep before the plant had had time to get root and strength. With respect to these Grasses generally, in the practice of agriculture, they ought to be varied and kept as far asunder as possible; and, upon soils that would bear it, a crop of Beetroot or Mangels might be interpolated between the two. In the same manner with Turnips, he would use two or three varieties in rotation every three or four years, in order not to have on the same soil the same kind of Turnip too frequently. The question of laying down land for more than a year was a very important one. A variation from the four-course shift was quite necessary in two ways. On those excessively well cultivated lands in Norfolk, where two much oil-cake had been used, probably they could not get good malting Barley without taking it out of the Wheat crop; and by taking off the sharp edge of the manure, and imparting it to the Wheat, they had everything left that would secure a good crop after the Wheat. As to Trefoil, they could not well do without it, or Rye-grass, as one of the courses of husbandry, especially on the light chalky soils of Wilts, Hants, and Dorset; and the conclusion to which he had arrived, from the present discussion, was, that the greater amount of variation in the Grasses the better would be the result, not only with the Grasses themselves and their roots, but the interpolated crops of Beans and Peas, or other Pulse; that by the judicious application of proper manures they would be able to grow these at alternating periods; and especially he would recommend practical men to see if they could not discover something in the habits of the Clover plant itself which would teach them how to treat it. Upon nearly all the plants which were Clover sick he had detected very small Fungi, which grew upon the plant, and were easily discernible by the microscope. Still, that did not bring him nearer to the solution of the question, why the Fungus grew upon the plant, and why the plant was in a condition to receive it. All he could say was, that he knew the plant was in an unhealthy state, that it was seized upon by one or two varieties of Fungi, and that then it died

The Chairman: Every farmer ought to have a knowledge of his own business, and of what was most productive upon the land he tilled, whether Italian Rye-grass, Red or White Clover, or other Grasses. He had been a farmer for a considerable time, and was satisfied that there was nothing like Red Clover on heavy land. If they could manage, with convenience to their stock, to mow twice, he believed they would, as a general rule, get a better crop than if they merely mowed once, or fed off once with sheep. The roots were developed much more from cutting the top, and threw out more fibre; and this vegetable matter being turned over in the soil a better crop of Wheat was produced. His own experience was, that he always grew the best Wheat where he had cut the Clover twice. He occupied both strong clay and gravelly land, and upon the latter he usually sowed a mixture of Red and White Clover and Trefoil, in the proportion of something like 10 lbs. of Red, 5 lbs. of White, and 3 lbs. and 4 lbs. of Trefoil. He had never known any misfortune happen to his lambs through feeding upon it, which they invariably did, for he could not afford to mow it; and he found that he got as good a crop of Wheat after feeding on this description of land, as he could if he had mowed it; but he could not say the same with regard to the strong heavy lands. Rye-grass he had discarded for several years. He tried it on various occasions, but it proved defective, and where it grew his Wheat crop was greatly deficient in comparison with other portions of the land. Consequently, he had not grown Rye-grass for a considerable period.

## Reviews.

*The Quarterly Review*, October, 1859. John Murray.

The current "Quarterly" contains an interesting paper on Weeds, which might have appeared in the *Agricultural Gazette*, so directly professional it is, and to which therefore the attention of agriculturists should be directed.

Bearing sufficient evidence in the course of it that it is from the pen of Professor Buckman of Cirencester, it collates all the facts connected with weed growth, most of them due to his own research, which have been discussed in the pages of this and other agricultural periodicals during the past few years. It commences with the definition of a weed, refers to its natural multiplication by seed and sprouts, and to its extension by the process of hoeing when already full of ripe seed, and by actual sowing in the seeds supplied to the farmer. Most of the paper, so far as the substantial framework of facts which it clothes is concerned, has, we may say, already appeared in the *Agricultural Gazette*.

The following are the introductory remarks:—

"Cobbett says that 'Ants are a pretty subject for poets, but a dismal subject for gardeners.' Weeds are a still more dismal subjects for farmers. Man has had to do battle with these competitors for the possession of the soil ever since the original sentence went forth to Adam:—

> 'Cursed is the ground for thy sake; thou in sorrow
> Shalt eat thereof, all the days of thy life;
> Thorns also and Thistles it shall bring thee forth
> Unbid.' *Paradise Lost*, book x. 201.

"In the preparation of the land for every crop weeding is an essential operation; and when the seed is committed to the ground its first germinal life is sadly interfered with by its 'unbid' rivals, whose greater vigour has caused it to be held as a proverb that 'Ill weeds grow apace.' As the crop ripens, so do the weeds. Their seeds have to be separated from our grain, or go with it to the grinding, when they manage to escape, and again become a nuisance. Others of the weed tribe have creeping underground stems, like Couch and some Thistles. Others spread along the surface, and establish a scion, like the Buttercup. As they are all endowed with wonderful powers of vitality, farmers quietly view them as a necessity, and are content to palliate an evil they cannot prevent. Nay, Sir John Sinclair considers this never-ending, still-beginning conflict with the wild produce of the soil a positive advantage, and believes that land would go out of cultivation except for the perennial crops of weeds:—'What,' he says, 'is the inference from the fact that Couch-grass and Thistles can by no means be extirpated? Is it not perpetual exertions, fallowing and agricultural labour? Some may be inclined to say, "A melancholy reflection!" But I say, No, not at all. Providence could not have better contrived than that exertions should be perpetual, and that success should be in proportion. There is not a weed that we ought to wish out of our fields unless we remove and destroy it; because, if there were none, or very few all fields would be clean, and no praise could light on superior modes of tillage. Some may say again, "So much the better!" But I say, No. Does any man think that our various soils would have been sufficiently pulverised and worked, had there been no enemies of this sort to challenge forth our labours? Sterility would have seized upon our Turnip lands, which are only continued in a state to bear the rotation of crops by the necessary periodical renewals of their fertility. So might all our clays have gone to perpetual Grass, for neglect of proper tillage would have rendered them unprofitable. The necessity of subsistence produces industrious hands for every department of labour, but the sluggish nature of man requires every stimulus to exertion. The weeds of the field excite emulation among farmers, and foul fields are always a reproach to the occupier. Thus we are compelled by an unseen hand to better habits and more active industry.'—*Sinclair on Grasses*, pp. 324-5.

"Yet we have seen weedless flower-gardens where the soil nevertheless was kept carefully pulverised, and kitchen-gardens so destitute of interlopers to interfere with the vegetables, that it was necessary to cultivate Groundsel for the purpose of feeding a pet bullfinch. If, as Sir John Sinclair says, 'neglect of proper tillage would have rendered clays unprofitable,' what need is there of weeds as an incentive to exertion? The stimulus to toil and till exists independently of them, and by his own argument they are in this respect a superfluity. That, like everything else in creation, they answer many wise and necessary ends, no believer in Providence and no observer of nature can for an instant doubt. But man would plough, and sow, and reap, even though he could succeed in relieving his land of these robbers of the soil, and the illogical moralisings of Sir John Sinclair need not deter the most zealous improver from acting upon the maxim that 'prevention is better than cure.'

"What is a weed? Everybody in England would pronounce the Dandelion, commonly called Dandy Lion, an unmitigated pest. Yet we recollect reading in some Australian newspaper that a plant of it in full bloom attracted crowds of pleased spectators at a flower-show. How we should smile here at a Dandelion in a pot, or at the publication by an eminent gardener of a treatise on its cultivation! The lexicographers have not been very successful in their definitions of a weed. Johnson calls it 'A herb noxious or useless.' The agriculturists in their definitions look only to practical results, and confound things which, both in popular and scientific language, are distinct. 'When,' says Stephens, in his 'Book of the Farm,' 'any plant is found growing where it should not be, it is a weed. For example, a stalk of Wheat in a bed of Tulips in a garden is a weed, and would be removed; and, in like manner, a Tulip in a Wheat-field is a weed, and should be eradicated.' To the same purpose speaks the author of the article 'Weeds,' in Morton's 'Cyclopædia of Agriculture:'—'Every plant different from the crop, and growing with the crop to its hindrance, is a weed. Regarded in this light, most of our wild, and even cultivated, plants may take the place of weeds; thus Potatoes left in the soil may completely smother a succeeding crop, or the shed seeds of a former crop may germinate amid a new one, and, in both cases, their removal by weeding will be necessary to success.' This will serve for the farmer's view of the subject. These extraneous plants, which mingle with crops, cost him large sums of money to keep them in check, and often through ignorance of their peculiarities he employs fancied methods of extirpation which are in truth rather modes of propagation."

## Farm Memoranda.

Haymount in Kelso.—As an instance of the high pitch to which the science of agriculture has reached in the Border district, we give the following interesting facts regarding the drainage operations which have for some time past been going on upon the farm of Haymount, near Kelso. There is lying in the shop of Messrs. J. and J. H. Rutherfurd, for binding, a plan or atlas of the drains on the farms of Haymount and Manorhill, executed by Thomas Wilson, Esq. Haymount has been long under cultivation, and was always considered one of the crack farms in the south of Scotland—nevertheless, the contents of this interesting and unique volume, inform us that these farms lying contiguously, and consisting of 845¼ acres of arable ground, have been perforated by 56,021½ roods, or 190 miles, 1729 yards of drains, the common ones all 4 feet deep, and the leading ones 4½ feet. These drains have been all most judiciously planned under the immediate superintendence of Mr. Wilson and his able steward, William Cairns. Every field, too, has been properly limed. In the atlas every park [field] has a page assigned to it, and all are laid down upon the same scale (2 chains to the inch). Every drain is visible at a glance. The length of every hedge is marked, and the contents in arable, dykes, and total, all separately noted in imperial acres. In the onstead, which is upon an extended scale, the manure drains leading into the tank are marked with ink of one colour, and the rain water collected in roans from the roofs, and conveyed into the common drains, with ink of a different shade. We cordially recommend the adoption of this plan to our agricultural friends, especially proprietors, to whom it must prove a valuable record as an unerring directory for future reference. The survey has been very neatly and carefully executed by Mr. Dods, schoolmaster, of Makerstoun; and this part of the work deserves special commendation. The plans are all drawn by hand, with ordinary writing materials, and as specimens of caligraphy alone, are worthy of inspection, All parties concerned in this great work have exerted themselves to the utmost, and the result has been the production and working out of a scheme of thorough drainage as near perfection as possible. The sum expended on drains, lime, buildings, and other improvements on the farm of Haymount is about 15,000*l.*; and in view of these improvements we may well conclude that farming has attained a climax never before approximated in this, or perhaps in any other country. We sincerely wish Mr. Wilson may live to see himself amply rewarded, by the reimbursement of currency which he has so liberally expended. *Kelso Mail.*

## Miscellaneous.

*The Crops in Norfolk.*—Messrs. Mealing & Mills, in their annual circular on the crops in Norfolk, issued on Saturday evening, observe, "There is a great variety as respects Wheat, particularly in the weight,

which is often 1 lb. to 2 lb. less per bushel than had been expected from the appearance of the samples. The weights are generally from 58 lb., 60 lb., 61 lb., up to 62 lb. per bushel. The larger portion was providentially secured before the rain, and is coming to hand generally in good condition. The production, taking into account the quantity which is dressed off in many cases, must be considered something below an average. In respect to the crop of Barley, from its being exposed to great heat in July, the quality has been much deteriorated. In that which was exposed to the rain where it was laid, and on the swathe, sprouting soon took place, and the grain is unfit for malting purposes. That which was housed off good soils before the rain is very fine, but the quality is comparatively small, and, upon the whole, there will be much less of malting sorts than we have been accustomed to have. The weight varies from 46 lb., 48 lb., 50 lb., 51lb., 52 lb. to 53 lb. per bushel. The produce is not quite an average. Beans, Peas, and Oats are about an average production. They were housed in good condition, and the quality is fine. There was a fair stock of old Wheat in the farmers' hands at harvest, but of Barley there was none remaining."

## Calendar of Operations.

### NOVEMBER.

WESTER ROSS: *Nov.* 7.—The long continued drought of summer has at length been succeeded by an unusually early and severe snow storm and torrents of rain; so that the springs, long dry, have again begun to flow, water mills are now abundantly supplied, and the soil that was dry as dust is now thoroughly saturated. In some of the later districts of the county the snow storm overtook the crofters with their crops still exposed, and rendered harvest work no pleasant occupation. Last month, from the brokenness of the weather, outdoor labour progressed but slowly A pretty large breadth of the green crop lot has received its winter furrow, and perhaps one-half of the Wheat has been sown. Being desirous to have the Wheat sowing completed in time to admit of its coming above ground ere the severity of winter sets in, we will for some time be busily occupied in preparing the remainder of the ground, and in having the seed cast in. With these tremendous falls of rain more of our time has been occupied with threshing than we would have liked, and already pretty large inroads have been made upon our scantily supplied stackyards. Our Turnip crop is the poorest we have had for many years. With the severe drought it had made little progress up till the end of harvest, and shortly thereafter the snow storm with severe frost came, which cut off a large portion of its usual growing season; and now being necessitated from the continued severity of the weather to put our stock at this early season upon a full supply of Turnips and straw, we are beginning to wonder what will become of us in spring. Hill farmers have extreme difficulty in getting a sufficient supply of Turnips for sheep, and long prices are being paid. Throughout the winter and spring both straw and Turnips will be fetching inordinate prices, and will by-and-bye be difficult to be had at any price. Notwithstanding the scarcity of keep we believe that the Ross-shire farmer will reach the end of the year in circumstances certainly not worse than he was at the beginning. Although Oats are inferior both in quantity and quality, the stacks of Wheat and Barley are yielding satisfactorily, the grain is of the finest quality with scarcely any dressings, the prices of Wheat and Barley put together are higher than they have been for some years, whilst fat continues to fetch its extreme figure.

## Notices to Correspondents.

BERKSHIRE PIGS: *Idellier, of Lisieux.* Mr. Morland, of Chilton, Harwell, Abingdon, is a good breeder; so are Mr. E. Bowley, of Siddington, near Cirencester; and Mr. W. J. Sadler, Rentham, Calcot, near Cricklade. The prize holders for Berkshire pigs at Warwick were Messrs. Morland and Sadler named above; also Sir R. G. Throckmorton, Bart., Buckland, near Farringdon.

DINGLE *v.* HARE: *R.* The following paragraph proves the certainty and facility of obtaining justice in the case of dealings in worthless manures:—This was an action on a warranty of some manure sold by one Wilson as agent for the defendant, and who sold it to the plaintiff instead of some blood manure, not approved, with a warranty that it contained "30 per cent. of phosphate, and was equal to Lawes's." Ten tons of this manure were sold to the plaintiff at 5*l.* a ton. It turned out very inferior stuff, and did not contain anything like 30 per cent. of phosphate, and a field of Turnips failed which was manured with it. The plaintiff brought his action to recover back the price, and it was contended that the agent Wilson who sold it to him on behalf of the defendant had no authority to make the guarantee he had done. The jury found that Wilson had such an authority, and that such an article could not be sold without a warranty, and that the manure he sold was only worth 2 guineas per ton, and they found a verdict for the plaintiff for 31*l.* 10*s.* A rule having been obtained to set aside this verdict as against the evidence, the Court were of opinion that the rule ought to be discharged. There was very strong presumptive evidence indeed that a party authorised to sell goods for another principal would be authorised to make all the guarantees which were usual in the business. The Court thought that there was evidence to go to the jury, and that the verdict ought not to be disturbed.

GUANO FOR WHEAT: *H.* Sow 2 or 3 cwt. per acre broadcast in March and harrow it in

HUSK IN CALVES: *R B H.* The dose named is, we believe, for a calf—but we will ascertain before next week.

LIQUID MANURE: *G R A.* There is a considerable demand for manuals on different sections of farm practice which ought to be better supplied. The strength of liquid manure is to be ascertained by an analysis for ammonia which it contains. Mr. Meem's "Sayings and Doings" have been published by Routledge.

MANGEL WURZEL CULTURE: *H S W.* In reference to the cultivation of Mangels "on the ridge," advocated lately in our columns by "An Old Foreign Subscriber," the following extract of a letter received by last mail from Geelong may be considered conclusive evidence as to the propriety of that mode of culture in Australia:—"Your Mangels (on the ridge) are splendid I have just weighed one of 45 lbs."

SHORT-HORNS: *H S W.* We regret to state that the celebrated bull "Master Butterfly," purchased from Colonel Towneley by Mr. Ware, of Geelong, died in September last, on his way to the great yearly cattle exhibition of Melbourne.

SULPHURIC ACID: *H S wants* You cannot make it on a small scale on a farm at a smaller price than you can buy it for, even though you send from Australia to England for it. The process of manufacture is well known. See Ure's Dictionary.

*** As usual, many communications have been received too late, and others are detained till the necessary inquiries can be made. We must also beg the indulgence of those correspondents the insertion of whose contributions is still delayed.


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| History | Illustrations of Chaucer and Early English Literature | Writings of English and Continental Reformers | Anglo-Saxon Literature |
| Biography | Glossarial Notes | History of London and its Neighbourhood | Fine Arts |
| Topographical Illustrations | [illegible] Hallam, Macaulay, &c. | Ballads and Old Poetry | Natural History |
| Popular Manners and Customs | [illegible] and Heraldry | Remarkable Events in English, Scotch, and Irish History | Photography, especially in its Relation to Archæology, &c. |
| Origin of Proverbial Sayings | [illegible] Antiquities | | &c. &c. |
| Folk Lore | [illegible] Ecclesiastical History | | |
| Illustrations of Shakspeare | | | |

"As a mass of curious, out-of-the-way information upon almost every matter that may be supposed to be of interest to educated minds, a Volume of NOTES AND QUERIES is of itself a literary curiosity, and quite an out-of-the-common pleasure. Wholly apart from its very great value as a manual to the literary labourer who [illegible] upon unbeaten ground—a point so well recognised that it need not be urged—we would suggest that the reader for amusement scarcely could take up a miscellany that contains more anecdote and quaint accounts of odd things new to his mind, than a Volume of NOTES AND QUERIES.... It may lead to the formation of some notion on the point if we state that the Index to the Fifth Volume contains not many less than three thousand five hundred references to subjects upon which there is information given in its pages."—*Examiner.*

GEORGE BELL, No. 186, FLEET STREET; AND BY ORDER OF ALL BOOKSELLERS AND NEWSMEN.

# LIST OF NEW WORKS,

## RECENTLY PUBLISHED AND PREPARING FOR PUBLICATION,

# BY MESSRS. LONGMAN, GREEN, & CO.

I.

### THE SCHILLER CENTENARY.

## SCHILLER'S LIFE AND WORKS.

### BY EMIL PALLESKE.

Translated by LADY WALLACE. Dedicated by permission to Her Majesty QUEEN VICTORIA. Two Volumes post 8vo, with Two Portraits, price 24*s.*

THIS Work has been received with great approbation in Germany. Schiller's daughter wrote to the author about it as follows:—"Deeply affected and touched, but gratified beyond measure, I have just laid down your 'Life of Schiller.' Would that I could express all my warm feelings. You have depicted him admirably—with sympathy, tact, and truth. You are worthy to write such a life." And Varnhagen Von Ense has expressed the following opinion of its merits:—"We have many biographies of Schiller of various degrees of merit; but none that has hitherto fully satisfied the claims of history and criticism, the subject, or the sympathies of the nation. At length we joyfully welcome a truly valuable delineation of our great Poet, and one worthy of the object. It is that we have long required." Lady Wallace's Translation, for which the copyright has been in England, was published on Thursday, the 10th instant, being the hundredth anniversary the birthday of the Poet.

II.

### PICTORIAL EDITION OF THE PILGRIM'S PROGRESS.

## BUNYAN'S PILGRIM'S PROGRESS,

With 126 Illustrations engraved on Steel and Wood from Original Designs by C. BENNETT; and a Preface by Rev. CHARLES KINGSLEY. In One Volume, fcp. 4to, price 21*s.* cloth, gilt edges, or 31*s.* 6*d.* bound in morocco by Hayday.

"The principle on which the book is illustrated gives it an entirely novel character, and makes it the most interesting pictorial BUNYAN that has yet appeared. The execution of the plates and wood-cuts, and the style of typography, are quite perfect. The book ought to become one of the most popular of the illustrated gift-books of the coming season; but has also, we persuaded, a higher and more enduring place awaiting it." *Nonconformist.*

III.

### JACOB CATS' AND ROBERT FARLIE'S BOOK OF EMBLEMS.

## MORAL EMBLEMS,

### WITH APHORISMS, ADAGES, AND PROVERBS OF ALL NATIONS.

FROM JACOB CATS AND ROBERT FARLIE.

Comprising 60 large Illustrations and 60 Tail Pieces engraved on Wood. The *Illustrations* freely rendered from designs found in the works of Cats and Farlie JOHN LEIGHTON, F.S.A., and engraved under his superintendence. The *Text* translated and edited with additions by RICHARD PIGOT. Imperial 8vo, in Grolier bind designed by the Artist, price 31*s.* 6*d.*; or bound in morocco by Hayday, 52*s.* 6*d.* [*Early in Decemb*

THE Emblems and other Works of Dr. Jacob Catz, or Sir James Cats, have for two centuries been household books in Holland, and were well known to our forefathers; who highly prized them, both for their moral doctrine, and for the ingenious designs with which Adrian Van De Venne symbolised their teachings. Sir Joshua Reynolds, when a boy, was much influenced by these compositions, of which he made careful copies. Sir W. Beecher, in his Life of Reynolds states that Sir Joshua's "richest store was Jacob Catz' Book of Emblems, which his grandmother a native of Holland, had brought with her from that country." The Tail Pieces are derived Farlie's "Lights, or Morall Emblems," a rare book of poems and primitive woodcuts printed London in 1638.

IV.

### THE SHILLING FAMILY SHAKESPEARE.

## BOWDLER'S FAMILY SHAKESPEARE:

To which nothing is *added* to the Original Text; but those words and expressions are *omitted* which cannot with propriety be read aloud in a family. Illustrated with 36 Vignettes from original Designs by G. Cooke, R.A., R. Cooke, H. Howard, R.A., H. Singleton, R. Smirke, R.A., T. Stothard, R.A., H. Thomson, R.A., R. Westall, R.A., and R. Woodforde, R.A. A New Edition, to be published in 36 weekly Parts, each containing a Play complete with an Illustration, price One Shilling.

PART I. THE TEMPEST, price 1*s.*, *on the 30th inst.*

LORD JEFFREY in 1821 expressed his opinion in an article in the *Edinburgh Review* that "it required nothing more than a notice to bring this very meritorious publication into general circulation;" and the work, which was immediately successful, still commands a steady sale both in one volume for the library and in six volumes for the pocket. The Publishers trust that a re-issue of the thirty-six Plays, each to be had separately complete for a shilling, will this favourite edition of SHAKESPEARE within the reach of a still wider circle of readers.

V.

### SIR JAMES EMERSON TENNENT'S WORK ON CEYLON.

## THE ISLAND OF CEYLON:

An Account of Ceylon—Physical, Historical, and Topographical; with Notices of its Natural History, Antiquities, and Productions. By Sir JAMES EMERSON TENNENT, K.C.S., LL.D., &c. Illustrated with 7 Maps, 17 Plans and Charts, and 101 Engravings on Wood. 2 vols. 8vo, 2*l.* 10*s.*

"The most copious, interesting, and complete monograph which exists in our language on any of the possessions of the British Crown." *Edinburgh Review.*

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"Sir E. Tennent, who has closed the long list of writers on Ceylon by an exhaustive work in which fine taste and literary excellence give life and grace to the fruits of vast and rare researches, presents an authentic picture of the island which more than verifies the best in the ideal picture our fancy had traced." *Spectator.*

VI.

### ENTIRELY NEW EDITION OF DR. URE'S DICTIONARY.

## DR. URE'S DICTIONARY OF ARTS, MANUFACTURES, AND MINES

A New Edition, chiefly rewritten and greatly enlarged; illustrated with nearly Two Thousand Engravings on Wood. Edited by ROBERT HUNT, F.R.S., Keeper of Mining Records, &c. Assisted by numerous Gentlemen eminent in Science and connected with the Arts and Manufactures. A complete List of the Contributors' Names is printed on the wrapper of PART I., and in the PROSPECTUS, which may be had gratis of Messrs. LONGMAN & Co., and all Booksellers. In course of publication in 14 Monthly Parts, price 5*s.* each. PART I., 5*s.*, is now ready. [PART II. *on the 30th*

VII.

### NEW EDITION, EDITED BY H. WATTS, B.A., F.C.S.

## DR. URE'S DICTIONARY OF CHEMISTRY.

A New Edition, entirely revised, and for the most part rewritten, bringing the Knowledge of the Science up to the most recent Discoveries, with especial application to the requirements of Manufactures. While the work will thus, it is hoped, fully represent the Science of Chemistry in its present state, it is intended that it shall be written in a style sufficiently elementary to be intelligible to Amateur Students of the Science. By HENRY WATTS, B.A., F.C.S., Editor of the "Quarterly Journal of the Chemical Society." [*In preparation*

LONDON: LONGMAN, GREEN, LONGMAN, AND ROBERTS, PATERNOSTER ROW, E.C.

## DUTCH AND OTHER BULBS.

MESSRS. PARKER AND WILLIAMS beg to inform their friends and patrons that their CATALOGUE of the above is now ready, and will be forwarded post free on application. Early orders are solicited, as their successful cultivation depends in a great measure on early planting.

Paradise Nursery, Seven Sisters' and Hornsey Roads, Holloway, London, N.

## SUPERB BALSAMS.

F. AND A. SMITH are sending out seeds of their well-known superior BALSAMS, in collections of nine distinct colours, six seeds of each, 2s. 6d.; the same mixed 1s.; and the quantity, mixed, 1s.

The flowers are selected from a stock of 24,000 plants, for purity and brightness of colour, size and doubleness of the blooms, and general good habit of the plant. A liberal allowance to the Trade when 12 Packets are taken.—Dulwich, Surrey, S

ROBERT NEAL, NURSERYMAN, Wandsworth Common, S.W., begs to call the attention of buyers to his large and well-selected stock of EVERGREENS and FLOWERING SHRUBS, ORNAMENTAL TREES, AMERICAN PLANTS, FRUIT AND FOREST TREES, STANDARD AND DWARF ROSES of every description. A large stock of BOX-LEAF EVERGREEN PRIVET, from 1 to 6 feet for hedges; GREEN HOLLY, 1 to 6 feet; RICH BOG and LOAM for American Beds; LEAF MOULD. The Nursery is 10 minutes' walk from Clapham Common, and New Wandsworth Station, Crystal Palace Line.

## NURSERY GROUNDS, ABERGAVENNY.

JAMES SAUNDERS begs to invite attention to his general stock of all kinds of FOREST and ORNAMENTAL TREES, EVERGREEN and FLOWERING SHRUBS of all descriptions and of all sizes. A large stock of Chichester Elm, Sycamore, Horse Chesnut, Norway Maple, Turkey Oak, Spanish Chesnut, Cedar of Lebanon, and other fine specimens suitable for Parks and Avenues, 12 to 20 feet high; quite safe to move, having been replanted every two years. A large quantity of Standard, Half-Standard, and Dwarf Roses of all the best kinds in cultivation; all kinds of Flowering Plants suitable for Flower-beds and Borders, Stove and Greenhouse Plants: about 20 extra fine specimens of Azalea indica, first-class plants and sorts, 3 to 6 feet high; several thousands of choice kinds of Pears worked on Quince stocks; 10,000 Gooseberry trees in 150 named kinds; Currants in sorts; Seakale, Rhubarb, &c. The whole of the stock is young and thriving. A liberal discount for cash.—November 26.

## SUTTON'S CHAMPION SWEDE AND MANGEL WURZEL.

*From* J. G. IVE, Esq., *The Trenches, Langley, Bucks, Oct.* 19, 1859

"Messrs. SUTTON & SONS,—Your Yellow Globe Mangel and Champion Swede Seeds have proved excellent, having two years in succession obtained for me the Cups given by H.R.H. the Prince Consort, at the Meeting of the Royal South Bucks Agricultural Association held in 1858 and 1859.

(Signed) "J. G. IVE."

Messrs. SUTTON in publishing the above, have the gratification of stating also that the other Silver Cup presented this season to the Royal East Berks Agricultural Association was awarded to J. T. Mills, Esq., of Cookham, for 5 acres of "THE CHAMPION SWEDE," making, with those of former seasons, 10 large Silver Cups to the SUTTON'S Champion Swede, value 25 Guineas.

N.B. The new Seed is now ready of Champion Swede and Mangel Wurzel, 1s. per lb.; or cheaper in large quantities.

Royal Berkshire Seed Establishment.—November 26.

MESSRS. WATERER AND GODFREY respectfully refer planters to the following LIST of well-known good hardy Plants:—

ARAUCARIA IMBRICATA, 1 foot, stout, healthy, 5l. per 100; larger, up to 8 feet.
CEDRUS DEODARA, 2½ to 3 feet, very handsome, 10l. per 100; larger, in any quantity, up to 10 and 15 feet.
PICEA NOBILIS, Seedlings, in quantity, 1 foot, stout.
Ditto larger and in every way perfect plants, up to 4 feet.
NORDMANNIANA, from seed, 2, 3, 4, and 6 feet.
PINSAPO, 2½ to 3½ feet, and as much through.
Ditto magnificent plants, 8 and 10 feet high.
CUPRESSUS LAWSONIANA, fine bushy seedling plants, 2½ feet high.
JUNIPERUS, CHINESE, 3 feet up to 8 and 10 feet.
" IRISH, 5, 6, and 7 feet.
YEWS, IRISH, 5, 6, 7, and 8 feet.
" GOLDEN, from 2 to 7 and 8 feet.
" COMMON ENGLISH, in large quantities, 4 to 6, 7, and 8 feet.
THUJA AUREA.—Several hundred magnificent specimens, 3, 4, and 5 feet high, and measuring 10 to 15 feet in circumference.
THUJOPSIS CÆREOLIS, 2½ to 3 feet.
WELLINGTONIA GIGANTEA, all from seed, 1½ to 3 feet, and as wide.
HOLLY, GREEN, in quantities, 5, 6, and 8 ft.; VARIEGATED, especially the best gold striped, of all sizes, up to 6 feet.

All the plants referred to in this advertisement were removed in April last, and they are in a condition to travel any distance with perfect safety.—Knap Hill Nursery, near Woking, Surrey.

MESSRS. J. & H. BROWN offer the following selection of choice PLANTS, which they will forward to any part:—

| | s. | d. |
|---|---|---|
| Andromeda floribunda, winter flowering, per doz. .. | 15 | 0 |
| 25 Azaleas, new hardy Belgian varieties, one of a sort, on their own roots, by name, well set for bloom, fine for beds or pot culture for forcing .. .. | 20 | 0 |
| 25 Azaleas, hardy American varieties, do. do. .. | 15 | 0 |
| 12 hardy Rhododendrons, including red, white, and rose colour .. .. .. .. .. .. | 12 | 0 |
| Fine hardy Scarlet Rhododendrons, 2 feet, for beds, per dozen .. .. .. .. .. .. .. | 10 | 6 |
| New Yellow Rhododendrons, each, 3s. 6d. to .. .. | 5 | 6 |
| Roses, best sorts, Standards and Half-standards, per dozen, 12s. to .. .. .. .. .. | 15 | 0 |
| Climbing Roses of best sorts, rapid growers, per doz. | 6 | 0 |
| Fine hardy Magnolias, one of a sort .. .. .. | 10 | 0 |
| Greenhouse Azaleas, fine varieties, per doz., 10s. to .. | 12 | 0 |
| Camellias, best double varieties, well set with buds, per dozen .. .. .. .. .. .. | 28 | 0 |
| 24 Fuchsias and Ericas, one of a sort, in small pots .. | 16 | 0 |
| Hyacinths and other Dutch Bulbs of all kinds, cheap. | | |

FRUIT TREES.

| | | |
|---|---|---|
| Fine Standard and Dwarf-trained Peaches, Nectarines, Apricots, Cherries, Plums, and Pears, each, 2s. 6d.; or per dozen .. .. .. .. | 24 | 0 |
| Dwarf plants of all the above kinds, grown especially for pot culture in orchard-houses, &c., per dozen | 18 | 0 |
| Best sorts of Gooseberries, Currants, and Raspberries, per dozen .. .. .. .. .. | 3 | 0 |
| Mulberries, Medlars, Quince, and Walnuts, each .. | 2 | 0 |
| Filberts, Red and Thin-shell, per dozen .. .. | 3 | 0 |
| Choice Grape Vines from eyes and layers, strong. | | |
| Evergreen Shrubs and ornamental Trees of all kinds, cheap. | | |

Albion Nursery, Stoke Newington, London, N.

## NEW GARDEN SEEDS, GROWTH OF 1859.

ROYAL BERKSHIRE SEED ESTABLISHMENT.

SUTTON AND SONS are now prepared to execute orders for all kinds of GARDEN SEEDS, and can warrant them genuine.

Royal Berkshire Seed Establishment, Reading.—Nov. 26.

PETER LAWSON AND SON,
THE QUEEN'S SEEDSMEN AND WOOD FORESTERS,

respectfully announce that they have now issued their

NURSERY CATALOGUE OF FOREST TREES, CONIFERÆ, SHRUBS, &c.,

which they will be happy to forward free by post on application.

27, Great George Street, Westminster, S.W.

PETER LAWSON AND SON,
THE QUEEN'S SEEDSMEN AND WOOD FORESTERS,

will be glad to communicate with parties engaged in Planting extensively, with whom special agreements may be effected.

27, Great George Street, Westminster, London, S.W.

## QUICKS, FOREST TREES, &c.

JAMES DICKSON & SONS, NURSERYMEN and SEEDSMEN, the Newton Nurseries (close to the Railway Station), Chester, offer many millions of the above, of EXCELLENT QUALITY and at VERY MODERATE PRICES.

The Trees and Plants, consequent upon the Nursery Grounds (which cover an area of about 60 acres) lying in an exposed situation, and a routine of regular transplanting being carried out, are WELL ROOTED, HARDY and VIGOROUS, hence are calculated to remove with great success.

PRICED LISTS, post paid, upon application, or in cases where LARGE QUANTITIES are required SPECIAL PRICES will be given.

Newton Nurseries, and 102, Eastgate Street, Chester; also at 23, Market Place (late Deansgate), Manchester, and Newtown, Montgomeryshire.

CARTER'S LIST of NEW ANNUALS and PERENNIALS:—

Clarkia pulchella integripetala
Callirhoe digitata.
Œnothera biennis hirsutissima.
Lobelia gracilis rosea.
Anagallis grandiflora "Eugenie."
" "Napoleon."
Nigella hispanica alba.
" atropurpurea.
Phacelia tanacetifolia alba.

Dianthus chinensis laciniatus, fl. pl.
Ditto Heddewigi
Captain Clarke's Blue Sweet Pea.
Nemophila discoidalis marmorata.
Lupinus mutabilis varicolor.
Yellow Tom Thumb Nasturtium
Tom Thumb "Beauty" ditto.
Datura chlorantha, fl. pl.
Thunbergia coccinea.
Impomœa limbata elegantissima.
Spergula pilifera, new substitute for Grass.

Price to the Trade and Coloured Drawings may be had on application to JAMES CARTER & Co., 237 and 238, High Holborn, W.C.

JAMES CARTER AND CO. beg leave to offer the following:—

DOUBLE AND SINGLE BORDER HYACINTHS, 21s. per 100, 3s. per dozen.
Do. Do., named, 6s., 8s., 9s., and 10s. per dozen.

| | | Per 1000. | Per 100. |
|---|---|---|---|
| POLYANTHUS NARCISSUS, 8 sorts, 1 (root) of each, 2s. 9d. | | | |
| CROCUS, | blue .. .. .. | 12s. 0d. | 1s. 4d. |
| " | light blue .. .. | 12 0 | 1 4 |
| " | purple .. .. .. | 12 0 | 1 4 |
| " | yellow .. .. .. | 12 0 | 1 4 |
| CROCUS, | large yellow .. .. | 18 0 | 2 0 |
| " | white .. .. .. | 18 0 | 2 0 |
| " | striped .. .. .. | 15 0 | 1 8 |
| TULIPS, | Tournesol .. .. .. | .. .. | 7 6 |
| " | Rex Rubrorum .. .. | .. .. | 7 6 |
| " | La Candeur .. .. .. | .. .. | 14 0 |
| " | Yellow Rose .. .. .. | .. .. | 10 0 |
| " | very fine double and single .. | .. .. | 6 0 |

LILIUM LANCIFOLIUM (extra large)—red, per doz., 22s.; each, 2s. 3d. White, per doz., 17s. 6d.; each, 1s. 6d. Spotted, per doz., 20s.; each, 2s.

GLADIOLUS FOR CLUMPING.—The following collections are particularly adapted for clumping and bedding. The Gandavensis seedlings are now offered for this purpose for the first time, and can be strongly recommended for robust habit and varied brilliancy of colour.

We have added two scarce and beautiful varieties to the other assortment, which we think will be found desirable, as forming an effective contrast to those already offered:—

| | | |
|---|---|---|
| Couranti fulgens, crimson .. .. .. | Per dozen | 4s. 0d. |
| Eugenie, salmon, rose striped .. .. | " | 5 0 |
| Fulgens aureus pictus .. .. .. | " | 5 0 |
| Madame Coudere, carmine shaded .. | " | 4 0 |
| Mdlle. Fanny Rouget, rose, white, and carmine .. .. | | 5 0 |
| Mons Blouet, rose, shaded carmine .. .. .. | | 4 0 |
| Mons. Georgeon, salmon rose .. .. .. .. | | 4 0 |
| Triomphe d'Enghien, carmine var. .. .. .. | | 4 0 |

6 each above 8 sorts, 15s. | 3 each above 8 sorts, 8s.
12 each above 8 sorts, 28s.

| | |
|---|---|
| Brenchleyensis, vermillion .. .. .. .. .. | 5s. 0d. |
| Cardinalis, scarlet, white mark .. .. .. .. | 3 0 |
| Formosissimus, beautiful red .. .. .. .. | 3 6 |
| Gandavensis, scarlet and yellow .. .. .. .. | 3 0 |
| Insignis, carmine spotted .. .. .. .. .. | 5 6 |
| Magnifique, purple, white mark .. . .. .. | 3 6 |
| Natalensis, yellow and red .. .. .. .. .. | 1s. 6d. |
| Oppositiflorus, white and rose .. .. .. .. | 2 6 |
| Prince Albert, bright rose .. .. .. .. .. | 3 6 |
| Ramosus, salmon rose .. .. .. .. .. | 3 0 |
| Victoria Regina, bright scarlet .. .. .. .. | 3 6 |

6 each above 11 sorts, 15s. 6d. | 3 each above 11 sorts.
12 each above 11 sorts, 30s.

CARTER'S FLORAL ILLUSTRATIONS, Plate No. 7, now ready, 1s. 6d.

JAMES CARTER & Co., 237 & 238, High Holborn, London, W.C.

## NEW ANNUALS.

JOHN GEORGE WAITE, SEED MERCHANT, 181, High Holborn, London, W.C., has great pleasure in offering SEEDS of the following new hardy Annuals:—

CLARKIA PULCHERRIMA,
SCHIZANTHUS GRANDIFLORUS OCULATUS,
HELIOPHILA CŒRULEA STRICTA.

Coloured Drawings and prices of which (to the Trade only) can be had on application.

Seed Establishment, 181, High Holborn, London, W.C

## NEW AND CHOICE PLANTS.

JOHN STANDISH, in offering the following Plants, can assure his customers that they are now in fine condition for sending out:—

MYOSOTIDIUM NOBILE, or Antarctic Forget-Me-Not, each 31s. 6d.—This plant, from the Chatham Islands, is one of the most remarkable that has been introduced for some years, being totally distinct from all others. It has large thick leaves, 8 or 9 inches across, of a dark glossy green, and sends up magnificent trusses of bloom of the most beautiful blue and white, similar to a Forget me not, but of a giant form. A Drawing of it is published in Curtis's "Botanical Magazine" for September. A description taken from the above is also published in the *Gardeners' Chronicle* of Sept. 17, 1859, wherein Dr. Lindley says:—"This is the handsome perennial provisionally named Cynoglossum nobile by Dr. Hooker in our last year's Volume, page 240. It is quite deserving all the encomiums that have been passed upon it."

GLADIOLI, named varieties, from the choicest and largest collection in England, 6d. to 5s. each. Also a fine lot of bulbs raised from seeds saved from the best flowers, all of which will flower in the summer of 1860. 7s. 6d. per dozen, or 50s. per 100. These are strongly recommended.

RHODODENDRON LIMBATUM.—Pale blush, bordered with bright crimson. This has received several medals at the exhibitions for Rhododendrons, being very distinct and one of the most free flowering. 21s. each.

RHODODENDRON MINNIE.—White, very large blotch of chocolate coloured spots, a fine flower, and remains a very long time in bloom. This is one of the most curiously marked Rhododendrons amongst all the white; it bears a noble truss of blooms, which cannot fail to be admired. 21s. and 31s. 6d. each. Selections can be made from one of the finest collections in Europe.

ROSE HYBRID PERPETUAL EUGENE APPERT.—Fiery scarlet crimson, 10s. 6d. each. This beautiful new Rose is in the hands of J. S. only, and is now ready to send out. It has received a First-class Certificate at the Grand National Rose Show, also at the Regent's Park. It is the most brilliant of all Roses and the finest grown, being well adapted for pot culture and for poles, growing most rapidly, sending up its flowers stiff and erect. They can be seen at a long distance. Besides this, J. S. has a fine lot of both Standards and Dwarfs of the newest and most select Roses in cultivation, which are offered at very reasonable prices.

PHLOX MRS. STANDISH.—The purest white, with a large red eye, 5s. each. Also a large collection of the finest kinds which J. S. has shown during the last summer and in every case received the First Prize. Plants from 1s. to 2s. 6d. each.

A CATALOGUE containing a full description of the best Hardy Plants in cultivation will be forwarded on application to The Royal Nursery, Bagshot.

MR. EDWARD MILNER having constructed and laid out the Crystal Palace Gardens and Park, Sydenham, under the direction of Sir Joseph Paxton, and having managed them for the Company till last Midsummer (when owing to the pressure of other professional duties his engagement terminated), desires to express his acknowledgments to those Noblemen and Gentlemen who have honoured him with their patronage, and to state that he continues to undertake the execution of works of a similar character.

An active experience of upwards of 20 years enables Mr. MILNER to offer his services in the formation and improvement of Parks, Gardens, and Ornamental Grounds, also in preparing designs for Conservatories and other Horticultural Buildings; in establishing and thinning Plantations and Woods, with special reference to the trees most suitable for particular soils and aspects, the valuation of Timber, Draining, Road-making, &c.

Mr. MILNER is permitted to refer to Sir Joseph Paxton and to several Noblemen and Gentlemen for whom he has done work.—Address, EDWARD MILNER, "Oxford House," Anerley Road, Norwood, S.

## BRITISH POMOLOGICAL SOCIETY,

Hanover Square Rooms, Regent Street, W.

The next MEETING will be held on THURSDAY, December 15, when growers generally are invited to send specimens of interesting Fruits in season. The following premiums are offered for special subjects, exhibited by the growers, according to the Society's regulations:—

One Guinea and Half a Guinea for the best and second best bunches of Retarded GRAPES, accompanied by information as to the manner in which they have been treated.
The like for the best and second best dishes of six GLOU MORCEAU Pear.
The like for the best and second best dish of six DESSERT PEARS of any other kinds in season.
Half a Guinea (by Mr. Turner) for the best dish of six COX'S ORANGE PIPPIN Apple.
The like (by Mr. Newton) for the best dish of six OLD NONPAREIL Apple.
One Guinea and Half a Guinea for the best and second best dish of six DESSERT APPLES of any kinds in season, excepting those for which the above special prizes are offered.
The like for the best and second best Culinary varieties of APPLE, fit for present use, exhibited in tens.

On this occasion the days of Meeting and Lists of Prizes will be arranged for the year 1860.

Copies of the Rules, Regulations for Exhibitors, Forms to be filled up, or other information, may be obtained on application to the Secretary, WILLIAM DAVIDSON, 2, Randolph Road, Maida Hill, London, W.

## HORTICULTURAL SOCIETY'S GREAT WINTER FRUIT SHOW.

NOTICE is hereby given, that in consequence of the unusual earliness of all kinds of Fruit in the present exceptional season, also on account of the very deficient crops which have been obtained in most localities, the Council have determined that the EXHIBITION of FRUITS intended to have been held during the present year, on December 7, 8, and 9, shall NOT take place.

# The Gardeners' Chronicle.

*SATURDAY, NOVEMBER* 26, 1859.

FOR several years past reports have occasionally reached Europe of fruits and vegetables being produced in CALIFORNIA of incredible size. On the 8th of January of the present year an extract from the American "Country Gentleman" inserted in our columns described Pears weighing 4 lbs.

each; and Mr. SEYD, in his account of that State, mentions Beetroots weighing 73 lbs., Carrots 10 lbs., bunches of Grapes 14 lbs., Apples 1½ lb., Lettuces as big as Cabbages, and Cabbages weighing 32 lbs., after being stripped of the outside leaves. Some have questioned the truth of these statements, setting them down to the credit of that fertile imagination which sometimes makes us doubt whether occidental descriptions are more trustworthy than oriental. But we are assured by perfectly credible witnesses who know California well and are well acquainted with her productions, that there is nothing in the reports alluded to that is at all beyond the strict truth.

The *Alta California* newspaper of Sept. 20 now brings us a very detailed account of a recent Horticultural Exhibition at San Francisco which is worth describing if it were only to show the energy with which the inhabitants are availing themselves of the capabilities of that fertile soil and magnificent climate. "The fair of the State Horticultural Society" as it is termed, was opened on the evening of Wednesday, Sept. 7, and lasted five days. The exhibition room was the Musical Hall, which we are informed was tastefully and appropriately decorated. Evergreens, garlands, and wreaths ornamented the walls, and hung in festoons over the numerous tables, interspersed with the national ensign—"always a beautiful decoration." At the south end of the Hall was a painting representing Pomona and Flora, the Goddesses of Fruit and Flowers, of whose great handiworks the exhibition consisted. Tables about 4 feet wide extended along the walls of the room, with two of equal width placed about the centre, extending nearly the whole length of the Hall, leaving however, an open space in front of the rostrum, which was occupied by a circular pyramidal stand about 12 feet across, rising by steps from the circumference to the centre, which was covered with flowers and ornamental plants, and presented a very beautiful appearance. "The display of fruits was truly magnificent, and the exhibition of flowers and vegetables formed a *tout ensemble* of more than ordinary effect."

The first day's proceedings seem to have been of a formal character, but were distinguished by an address by Mr. WADSWORTH, the Secretary of the Society, copious extracts from which will be found in another column.

On the second day business really commenced; and large additions were made to the Show. It seems indeed that every succeeding day increased it, the exhibitors who were not ready at first having been permitted to send their produce up to even the last day. One of the articles that attracted most attention is thus described:—

"Perhaps the most wonderful article in the Fair is the monster Red Beet, weighing 115 lbs. It beats all. It is two years old, and after having been exhibited last fall, by Mr. JOHN LEWELLING, when it weighed 42 lbs., it was stuck in the ground a second time to produce seed, and in 12 months it has gained 175 per cent. in weight without attaining that object. If the owner should pursue the same policy for several years more, and it should grow in the same proportion, it would weigh 315 lbs. in September, 1860, 855 in 1861, 2300 in 1862, and so on. It is now about 4 feet long and nearly a foot through. California *beets* the world."

Mention is made of a collection of eighty sorts of Grapes from the Vineyards of Mr. DELMAS, of St. Jose, and large quantities of Apples, Pears, Plums, Peaches, Nectarines, Apricots, "Blackberries," of which there was more than one eatable sort, Raspberries, Gooseberries, Currants. We borrow the editor's description of what was regarded as the most notable display:—

"Oak Knoll, Napa, J. W. OSBORNE.—Much was to be expected from the President of the Society, and the display he made of unirrigated fruit is certainly encouraging. He exhibited 57 varieties of Pears, of very choice character; 40 of Apples, among which we note the Golden Ball, Gloria Mundi, Danvers' Winter Sweet, Hubbardston's Nonsuch; 5 of Grapes, in quantity, they being festooned on the Vines across the table; 16 of Peaches, 10 of Plums, 4 of Nectarines and Apricots. Several branches of trees with fruit thereon also ornamented the table; on one was a cluster of 33 Plums, and on another 30 Pears."

Besides the fruits there was "a truly splendid" collection of pot plants, of which the Golden Gate Nursery, W. C. WALKER, contributed 396 pots, 264 varieties; the United States Nursery, O'DONNELL'S, 300 pots, among which were several Orange trees with native fruit, the *Stephanotis floribunda*, and a large variety of evergreen and ornamental shrubs. "Mr. SONTAG contributed a glorious collection of cut Roses, embracing some 100 varieties," and others followed in the same line.

In addition to these matters we find that samples of Californian wine and brandy were exhibited, but only in a few instances, which is unexpected considering that California last year produced between 300,000 and 400,000 gallons of wine made by Germans and French from European (not American) Grapes. The vegetables exhibited were not numerous, but "what was shown was very choice."

The third day was a continuation of the arrangements of the second, except that the various committees were busy during the morning in adjudging the awards. Mr. H. JEROME VALLIBONIA, Mission Dolores, also brought two monstrous Cabbages, and two Cauliflowers to match, plucked hap-hazard and without any design to cultivate for exhibition. One Cabbage was 3 feet 7½ inches in circumference.

On the fourth day the attendance of visitors "exhibited a decided increase;" and the awards for vegetables were announced. Among the prize Gourds is mentioned the Custard Squash.

On the fifth day, which brought the "Fair" to an end, the final awards of the judges were published, and some additions were still made to the exhibition tables. Of these by far the most interesting consisted of specimens of the Chinese Tea Plant from Mr. SILVER. "They are part," says the reporter, "of a lot of 24 which came this summer from Canton, through LESTER CLARKE, in their native earth. The transplanting there and here has retarded their growth; but they are making healthy roots. There can be no doubt of their adaptation to the climate of California; and attention is asked to the culture of this most useful household necessity. Every lady may raise her own Tea. The process of curing is not anything to deter us. It will be curious enough if we do not soon teach the Chinese how to make Tea better than any we have ever received from themselves. It is, perhaps, fair to say, that we seldom get Tea from them that is free from great adulteration. And the day we substitute our own purer articles neuralgic disorders will, probably, begin to decline."

While the "Fair" was advancing, a meeting of another kind, called the "Fruit Growers' Convention," was being held "to exchange opinions on the operations of last year, and suggest the best and tried varieties of various fruits," and continued for three days. In his opening address one of the members observed that "Fruit growing in California at present is creating a world-wide repute, for in the last fifty years great revolutions have occurred, but none so great as has been demonstrated with us. Within the past ten years, the changes by the advance of the science have been very great, as has been evidenced in Europe and the Atlantic States. Why, even in California, few believed that what was termed her arid plains and barren hills, bleak mountains and mining regions, could ever produce fruit. But now they teem with the choicest varieties known." And then the Convention proceeded to discuss the merits of Peaches, Apples, and Pears. The second day was dedicated in the forenoon to Strawberries, Raspberries, Blackberries, Gooseberries, Plums, Figs, Currants, Apricots, and Nectarines; and in the afternoon to Grapes and Cherries. On the third day came on a discussion about Artesian wells and minor matters, when the Convention was closed with a speech from the president. As a specimen of the way in which the discussions were conducted, we select the following:—

On motion, the recommendations of last year's Convention in regard to Peaches were taken up.

The following varieties of Peaches were taken up one by one, as recommended for general culture:

Crawford's Early.—No objections being noted, it was retained in the list.

Yellow Rare Ripe.—Mr. DANIELS inquired how this Peach had done this year? Mr. OSBORN said it was spoken well of in Napa. Retained.

Bergen's Yellow.—No satisfaction having been given by this variety, it was struck from the list.

Mixon Free.—Messrs. LEWELLING, of Alameda, and OSBORN, of Napa, gave this variety a good name. Retained.

Early York.—Mr. OSBORN, of Napa, said the Peach had thriven well in Napa. It was a great favourite with consumers, known as the "Strawberry Peach." Retained.

Mixon's Cling.—Mr. LEWELLING stated that it never developed on the east side of the bay (Alameda). Put on list for further trial.

Stump of the World.—This variety elicited a lengthy discussion. There being two colours, white and yellow, Judge DANIELS recommended the yellow as the superior. Mr. Fox, of San Jose, stated his conviction that the white was undoubtedly the true fruit; the yellow he considered an old Mexican with a new name. Judge DANIELS thought some authority necessary, as the sole point of objection seemed to be the colour. Mr. LEWELLING remarked that some trees he obtained from New York had turned out alike to the Crawford Peach, similar to that cultivated at Marysville. The question of colour was allowed to stand. Retained.

Crawford Late.—Retained.

President.—Ripens in September, and was free from curl in Alameda. Retained.

Evard's Late free.—Put on list for further trial.

Fox's Seedling.—Erased from the list.

Smock's Free.—No curl this year. Retained.

Heath Cling.—Judge DANIELS stated that in San Jose it was subject to curl, and he thought it would not bear a crop in four or five years in the vicinity of the bay. It was a good Peach, however. Put on list for further trial.

Cannot we English pick up a few crumbs dropped from the Californian table?

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WE observe that a considerable sale of PLANTS INTRODUCED FROM CHINA by Mr. FORTUNE is to take place on the 20th inst., by direction of Mr. GLENDINNING, of Chiswick. The catalogue mentions among other things a large quantity of Abies Kæmpferi, a Juniper from the North, said to be new; the Syringa oblata, lately described in our columns; an evergreen Oak, Quercus banbusifolia, reported to be hardy; a Chesnut, with the appearance of Castanea vesca, but with downy wood, and apparently undescribed; together with the beautiful new Camellias and Camellia-flowered Peaches, of which the public has already heard. In all there are 474 lots.

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## New Plants.

231. CATTLEYA DOMINIANA (*Garden Hybrid*).

Another hybrid has been added to the list of garden Orchids, and a new shock has been given to the old ideas of botanists as to species. At the meeting of the Floral Committee of the Horticultural Society, Messrs. Veitch produced the plant at the head of this memorandum, bred by their clever foreman, Mr. Dominy, between Cattleya labiata and C. amethystina. The latter name is given in gardens to a form of C. Loddigesii; so that this hybrid is between a one-leaved and a two-leaved species. Its flowers are as large as small states of C. Mossiæ; the colours of the lip, with a pale citron centre, are comparable to those of a pale Mossiæ; and what is curious the appendage of the column behind the anther is also that of C. Mossiæ not of C. labiata. In general aspect the flowers, which are pale rose colour and very handsome, resemble C. intermedia, (another form of C. Loddigesii); but the petals are thin, membranous, and wavy as in C. labiata.

A very remarkable plant.

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## SPEECH OF MR. WADSWORTH

### AT THE OPENING OF THE "THIRD ANNUAL FAIR OF THE STATE HORTICULTURAL SOCIETY OF CALIFORNIA."

AGRICULTURE, in its broadest sense, has ever been deemed an ennobling pursuit, worthy the special favour and countenance of kings, and of the rulers of the peoples of all countries. If agriculture is that high and honourable pursuit, entitling its votaries to the world's praises, what may we not say of horticulture which is but the refinement of all there is good in agriculture, without any of its evils; for agriculture, as practised in the Atlantic States, and in this State, differing widely from European agriculture—has its evils; horticulture, few or none.

Horticulture, technically speaking, differs materially from agriculture in this: that whilst the former is adapted to the production in the highest degree of perfection and in the greatest abundance of all the multiplied products of the garden, the orchard, and the vineyard, including, not only the fruits and flowers, but all the more succulent and perishable—though none the less desirable—vegetables; agriculture is that branch of the soil's economy, occupancy, and culture, that supplies the world abroad as well as at home with the products of the dairy, the flesh, food, and clothing of our people, and annually fills to overflowing the granaries of the country with the more substantial and indispensable products of the grain fields.

But it may be asked, in what consists the evil of our American agriculture, as differing from European, that it is not equally a concomitant of our horticulture? To which answer, horticulture, as practised amongst us, or on the Atlantic side, improves the soil; the suburban gardens of every city in the Union, though devoted to the constant production and reproduction of fruits and flowers and vegetables, are as abounding in every element constituting a fertile horticultural soil now as they were fifty years ago.

But agriculture, in the Atlantic States, has impoverished the soil, and it is already doing the same in California. In this then we find the evil of our American agriculture, and that our soils are naturally yielding less of the more important cereals, than European soils, with an European culture, are now more productive than they were a century ago. But it is not our purpose here to discuss the principles or the practices of agriculture. Of the principles and practices of horticulture, as applicable to California, we claim to have a right to speak, to endorse or recommend, unless the display of fruits and flowers now on exhibition here, does not disarm of argument every opponent to our modes of culture, by its gorgeousness, ness, beauty and perfection. And, though these fruits and flowers may excel in every attribute of perfection the best the world has ever known before, yet no one except he who believes he knows more than all his compeers, will deny that there is yet vast room for improvement, and that that improvement must be based upon our own experience and practice rather than upon the dogmas of learned horticultural book writers of other countries.

If we can obtain all the information necessary to practical and perfect horticulture in a country in which even its climate is yet an anomaly, a mystery, by study

ing the works of even our best authors, why all that would be really necessary for the man desirous of turning his attention to the culture of fruits, trees, plants and flowers in California, would be to purchase a few books, and from them learn all that can be learned of horticulture.

No, gentlemen, we cannot learn a system of horticulture, adapted to the soil and climate of California, from any printed book extant. If we can, why this society, or any other for the promotion of our horticulture? Is it for the purpose merely of annually gathering together a few fine specimens of fruits, and exhibiting them here as the mountebank does his show, for the gain of a few paltry dollars? Rather let it be said that it is for the improvement of our horticulture, by assembling together the practical working horticultural producers, and by a comparison of products and the imparting of the knowledge gained by the experience of the more successful, stimulating others to renewed efforts at improvement, by adopting the practices of those who, discarding old theories and systems, are leading the way in a new and successful horticulture, adapted to our own peculiar condition of soils, climates, and circumstances.

Who among you, what horticulturist here present, we ask, ever thought of writing home to his friends in the Atlantic States or England, for information as to the best mode of cultivating a garden here, in a country in which the sun shines perpetually by day, and no rain falls—or next to none—during the whole six months of summer?

It is for us to learn from our own experience, and not for them to tell us.

Thus it is that we find horticulturists entertaining directly opposite opinions on the same subject; and yet both may be right. We will instance the practice of irrigation. One possesses soil that a ten years' experience has clearly demonstrated is better without irrigation than with; but this does not make it true that irrigation is undesirable, because we are at once met by some of the best and most successful horticulturists and fruit growers in the State with the declaration that irrigation is the basis of their success; that without it they might as well abandon their now successful and profitable pursuits. But because we have no experience with another's practice, which has grown out of circumstances that have not surrounded us, we should not always condemn; for though we would dispense with irrigation everywhere if we could, and believe it can be in very many localities where it has been deemed necessary, yet after all irrigation will make beautiful thousands of acres of our valley lands; irrigation will yet plant and sustain forests of orchard trees on, around, and among our foot-hills, where trees were never grown before; and irrigation will yet transfer acres and acres of Vineyards from the grosser alluviums of our valleys, and hang them in luxuriance and richer juices upon the mountain sides.

And what is true of one locality will apply to a large part of California, for hardly any two places have the same climate, and should their climates happen to be similar, their soils are almost sure to differ. But it is no disparagement to the present, and much less to the future of our horticulture, that we have these varied circumstances of soils and climates; they secure to us the fruits of the temperate zones, mingled with those of the tropics. Here, in this Hall, as the products of California, we find the Orange, the Lemon, the Fig, and the Pomegranate, that have grown almost side by side with the luscious Peach, the more hardy Apple and the Pear, and, as your tables show, all truly excellent of their kind; and these again interspersed with flowers so beautiful in form and brilliant in their colouring, and yet so chaste and pure, even Nature in them would have excelled herself, but for the presence of your wives and daughters.

Indeed, but for woman, the beautiful in horticulture would hardly be known amongst us; what cares man for flowers? He may think he loves them, and he does cultivate them now; but did he before woman came amongst us? Or were not his efforts in horticulture almost exclusively confined to the production of Onions, Cabbages, and Potatoes?

But suppose California should produce more fruit than can possibly be consumed at home, and it should be found necessary to export the surplus; is there any fear that such export will injure us? Has it come so suddenly to this, that California can export a large surplus of agricultural and horticultural products, that her corn, her fruits, her wines, and her wool are flooding the markets of the world, that she must necessarily be verging upon bankruptcy? Political economists seldom say this of any country; but they do say, and it has been the experience of the world, that where a country is found abounding in horticultural products, and able to export a large surplus of all the finer fruits, the people of that country must necessarily be well fed; which constitutes one of the first elements of happiness with all the animals or animate creations with which we have anything to do.

As a society, you have reason to be pleased at the progress you have made. This is your third annual exhibition; the second was better than the first, and this is an improvement upon both; and though the present has been a season unpropitious, beyond an average for California, for the fullest development of her horticultural products, yet we believe the display of fruits here presented, taking their size, beauty, fairness or freedom from imperfection, and good qualities in every sense into account could a comparison be made, would be found without its equal in any clime or country.

This one fact alone, that as a society you are able to beat the world in horticultural products, ought of itself to be a sufficient encouragement for your continued, combined effort. You have reason to be proud of your success; with no experience in Californian culture, or knowledge of the constituents of her soil or effects of climate, you have mastered, in a great degree, many of the previously unknown conditions of both; and if you have not made them entirely subservient to your purposes, you have discovered some of their capabilities, and turned them to good account, as this exhibition most clearly proves.

Go hence, then, once more to your noble work, nor let your pride nor your ambition flag; let your valleys lift their Vineyards to the foot-hills, and let the hills pass them on and upwards to the mountains, until their very gorges and cañons shall burst forth with new wine; and this, the evening coast of our country, the land of gold, sunshine, and flowers, be recognised and acknowledged as the Italy of America, the Vineyard of the continent, the floral and pomological garden of the world. *Abridged from the Alta California, Sept.* 20.

## NOTES ON STRAWBERRIES GROWN FOR TRIAL AT CHISWICK.

The examination of the collection of Strawberries growing at the Garden, at Chiswick, was deputed to a sub-committee of the Fruit Committee, which met from time to time during the fruiting season, and tested the qualities of such kinds as were in a condition for examination. The excessively hot dry weather was, however, unfavourable to some of the late varieties which had been planted, and prevented satisfactory notes being taken of them. The sub-committee, moreover, thought it desirable that much more complete collections should in future seasons be planted out for the especial purpose of obtaining more complete information on the subject. The following are the notes and observations made:—

*Ajax* (Nicholson).—Fruit large, roundish, deep red; calyx small, reflexed; seeds slightly embedded; flesh pale red, juicy, and tolerably rich. Leafstalks hairy, very tall and strong; leaflets, of which there are sometimes five, very large, broad, widely serrated. Altogether the plant is of extraordinary vigour, but a shy bearer, growing too much to leaf in the open ground; yet it answers well in forcing, its excessive vigour being checked in consequence of the confinement of its roots in the pots.

*Belle Bordelaise.*—This is said to have been obtained from the old Hautbois fertilised by the Alpine. It appeared, however, to be exactly the same as the Prolific or Conical Hautbois.

*British Queen Seedling.*—Fruit middle-sized, obtusely conical, dark red. In point of flavour, this variety was found to be so much inferior to the British Queen, that it was pronounced to be not worth growing.

*Captain Cook* (Nicholson).—Fruit generally roundish-ovate, but irregular, red with frequently a green point; flavour scarcely second-rate. Habit of the plant rather dwarf. Leafstalks hairy; leaflets small, oval, sharply serrated, glaucous beneath.

*Comte de Paris* (Pelvilain).—Fruit large, roundish heart-shaped; flesh pale red throughout, firm, and very acid. Leafstalks slightly hairy, the hairs depressed; leaflets roundish obovate. The fruit was considered too acid for dessert.

*Duchesse de Trévise.*—See Vicomtesse Héricart de Thury.

*Eliza* (Myatt).—Fruit middle-sized, ovate, with a neck, light red; flesh pale red next the outside, whitish towards the centre, juicy, rich, sweet, and very excellent. Leafstalks hairy, the hairs spreading horizontally; leaflets roundish-oval, obtusely serrated. A good bearer, ripening about the middle season. It is hardier than the British Queen, and will therefore survive in cold situations where occasionally the last-named sort does not completely withstand very severe winters. It was highly approved when tried in comparison with other sorts. Omar Pacha, as received in the Garden of the Society, proved to be exactly the same as Myatt's Eliza.

*Excellente* (Lorio).—Fruit large, roundish-ovate, pale-red, with numerous small prominent seeds. Leafstalks hairy; leaflets broad and thin, widely and sharply serrated. A good bearer, but not well-flavoured.

*Exhibition* (Nicholson).—Fruit middle-sized, oblong, ovate, or irregular, bright red; seeds prominent; flesh dull yellow, and of bad flavour. Leafstalks dwarf hairy; leaflets roundish, rather sharply serrated. A good bearer, notwithstanding which it cannot be recommended, owing to its inferior quality.

*Filbert Pine* (Myatt).—Fruit above middle-size, conical, pale-red on the shaded side, and dull purplish red on the exposed side; seeds prominent; flesh firm, solid, and rich, pale, with a pink core. Leafstalks slightly hairy, the hairs adpressed; leaflets roundish oval. The quality of the fruit of this variety is variable, but often remarkably good.

*Fill-basket* (Nicholson).—Fruit rather large, roundish, sometimes flattened on the sides; flesh pale red, with a hollow core, and possessing but little flavour. Leafstalks very heavy; leaflets deeply and sharply serrated, glaucous beneath.

*Highland Chief.*—Fruit large, roundish or roundish ovate, light red; flesh pale red, soft, rich, and very excellent, with an agreeable mild acidity. Leafstalks rough and very hairy; leaflets obovate, coarsely serrated. A first-rate sort.

*La Reine* (De Jonghe).—Fruit middle-sized, of a longish shape, light red; flavour good. The variety cannot, however, be recommended at present, as it appears to be a shy bearer. Further trial is therefore necessary.

*Marquise de la Tour Maubourg.*—See Vicomtesse Héricart de Thury.

*Ne Plus Ultra* (De Jonghe).—Fruit large, of a singular oblong form, dark red; flesh solid, rich, and pleasant. Leafstalks hairy, the hairs depressed; leaflets roundish, obovate, rather widely serrated.

*Omar Pacha.*—See Eliza.

*Prince of Wales* (Cuthill).—Fruit middle-sized, conical, bright red; flesh firm, but rather acid. Leafstalks very hairy, the hairs spreading horizontally; leaflets ovate or obovate, pale green, glaucous beneath. An extraordinary bearer, ripening late.

*Princess Royal of England* (Cuthill).—Fruit middle-sized, conical or roundish ovate, with a neck, red next the sun, pale red where shaded; seeds prominent; flesh pale red, whitish near the centre, tolerably rich, with an agreeable aroma. Leafstalks hairy, the hairs spreading or horizontal; leaflets rather small, obovate, sharply serrated. An abundant bearer, and worthy of general cultivation.

*Ruby* (Nicholson).—Fruit large, roundish, dark red; flesh pale, soft, with a large core. Leafstalks hairy, the hairs depressed; leaflets oval, sharply serrated. The flavour of this proved bad.

*Sir Walter Scott.*—Fruit large, oblong, pointed, deep red, with prominent seeds; flesh pale, firm, but its quality was not approved. The plant is of dwarf, robust habit. Leafstalks very hairy; leaflets roundish or roundish obovate, widely but not deeply serrated.

*Stirling Castle Pine.*—Fruit large, ovate, dark red; flesh pale red, firm, but of second-rate quality. Leafstalks rough and likewise hairy, becoming brownish-red when old, resembling in these respects the old Hudson's Bay Strawberry, from which it seems to have been bred; leaflets obovate.

*Triomphe.*—This so much resembles the Hudson's Bay, as to lead to the conclusion that it is probably a seedling from it. Its aroma somewhat resembles that of the Vicomtesse Héricart de Thury, but the latter is in every respect superior to it.

*Vicomtesse Héricart de Thury* (Jamin).—Fruit middle-sized or large, conical, deep scarlet; seeds bright yellow, slightly imbedded; flesh pale red, with scarcely any core; flavour brisk, rich, and sweet. Ripens early, or about the same time as Keens' Seedling. Leafstalks moderately tall, hairy, the hairs disposed horizontally, but on the scapes and runners they are depressed; leaflets obovate, obtusely serrated, smooth above, somewhat hairy beneath. The plant is hardy, a free grower, and a very abundant bearer. The Marquise de la Tour Maubourg, and the Duchesse de Trévise, proved to be the same as this, in the Garden of the Society. *Horticultural Society's Proceedings.*

## Home Correspondence.

*New Japanese Oak—Fertile Spike of Q. glabra.*—This is sent for fear the winter should cut it off, as though growing it has evidently another season to pass through before filling and ripening the Acorns. The flower which produced them appeared in August, 1858, so this is their second autumn; during all summer they appeared stationary. No fresh flowers have come out this year. Is this *fructificatio biennis* the same as that of certain North American Oaks? Some of the Acorns seem confluent by their cups, like Chesnuts. *I., Abbotsbury.*

*Monro's Cannon Boilers.*—Seeing a notice in your paper of the 12th inst. relative to this boiler, the remarks on which are entirely without foundation, I shall be glad if you will insert the following. In the first place when Mr. Ellis called at my wharf, I told him that the price of the 24-in. wrought iron boiler was 6*l.* 10*s.* I then asked him what pipes or connections he would require. His reply was that he was going to take out a small cylinder boiler for the purpose of putting in the 24-in. Cannon boiler. This being the case I told him he must have new furnace doors, bars, plates, cistern, &c., the cost of which would be 3*l.* 10*s.*, as the furnace fittings used for a cylinder boiler would not be of any use for the Cannon boiler, and without proper fittings the working of the boiler would be interfered with. Secondly, Mr. Ellis must be quite unaware of the usual custom to suppose that elbows, connecting pipes, &c., are included in the prices of boilers advertised, as not two houses require the same connections, and therefore the price is for the boiler only, just the same as stating a price for a saddle or cylinder boiler. Had Mr. Ellis been taking out a saddle boiler of the same size as the Cannon, he could have had the boiler and plates only. Having sold so large a number of these boilers, in all cases the fittings having been charged extra, I am anxious that this matter should be explained; and at the same time I should advise Mr. Ellis to be more careful in future about writing on subjects he does not understand, and more particularly if they are, as in this case, without foundation. *J. Jones,* 6, *Bankside, London.*

*Cattleya labiata.*—As this really beautiful Orchid is now in bloom, or will shortly be so in most collections where it has been successfully grown, a few remarks respecting it may not be unacceptable. In the first place, it dislikes being removed when once established; like C. crispa and others of the same habit, it

is often reduced to a weak state by so doing; indeed, such plants are often killed by over-potting. It is best grown in a pot half filled with potsherds, charcoal, or what is preferable, common brickbats broken in pieces about the size of a hen's egg, or even larger, according to the size of the pots. Over these place a layer of Moss; then fill the pot with good fibrous peat, broken in pieces, not cut in square lumps as some even now do, such pieces being very apt to get sour or sodden in the growing season; when the plant requires water frequently the roots always die as soon as they come in contact with them. Elevate the plant above the rim of the pot at least an inch, after which fasten down with strong pegs, or what is still better, when you have imported plants or plants otherwise deprived of their roots, insert some good sticks (previously charred) in the drainage, to tie the pseudo bulbs to, as all after-cure is of no avail unless the plant is made secure on what it is to grow upon. By no means allow any portion of the pseudo bulbs to be under the peat, as the plant loves to creep on the surface of what it has to grow upon. There are three very distinct varieties of this plant in cultivation, but all require similar treatment; they like the heat of the Indian or stove-house, but will not do well with much moisture about the leaves, even in the growing season. They come from Brazil and La Guayra, considerably above the sea-level. This plant when in good health frequently makes two growths in a year, and blooms are formed on both, often having as many as five and six flowers on a spike. The finest specimen I ever saw was in the collection of R. Hanbury, Esq., but it is lost to the country. The only other plant perhaps worthy of special remark is in the collection of G. Reed, Esq., of Burnham, which was said last year to have produced 36 flowers measuring from 4 to 5 inches across. *Gleanings.*

*Charred Earth* v. *Sawdust for Blanching Celery.*—I would suggest to "Mr. Tillery" the use of charred earth in preference to sawdust fresh out of the pit for blanching Celery. To use sawdust in sufficient quantity for blanching Celery is calculated to prepare the soil for a splendid crop of Fungi to the exclusion of everything else. Charred earth would not only answer the purpose of blanching as well as sawdust, but it would allow the rain water to percolate more freely to the roots of the plants, and would likewise be of infinite service to soil of a damp retentive nature. *Thomas Gell, St. Lawrence, Ventnor.*

*Gooseberry Buds and Sparrows.*—I would recommend your correspondent to use scarlet worsted twined round his Gooseberry bushes. I always employ it with complete success. *H. M., near Worcester.*——Procure a ball of red worsted, and tie a few yards of it round about each bush at distances of, say a foot apart, crossing and recrossing it. *J. Edlington; & J. C., St. Albans.*——Fasten one end of a piece of small twine, from 5 to 6 yards long, to one of the outer branches; then pass the twine through to the opposite side, and so from branch to branch, forming a skeleton net-work through the tree. I have found a very few intersections sufficient to alarm the depredators and prevent a repetition of their visits. In the same way young Peas just appearing above the ground may be protected. *W. R.*—— In autumn about this time I prune the trees, gather the branches of each plant together, and tie them at top and middle with a piece of rope yarn. I then stick a few Laurel branches round each plant, and tie them at top, so that the trees are completely enveloped in Laurel leaves. In spring as soon as the buds are sufficiently forward to be no longer food for birds, I untie the Laurels; a few days later remove them, and as soon as the first young leaves are fairly formed, undo all the ties, and place the branches in their natural positions. I prefer thus to guard against birds to destroying them. *A. Moffat, Easton Lodge.*—— Limewash put on with a brush made of strips of cloth and tied on a stick, will keep off birds; always draw it upwards so as not to injure the buds. *H. J., Brantridge.*——Your correspondent should prune his trees as soon as he can in autumn; then mix equal parts of soot and lime and give the trees a good dusting with it on a damp morning; if well done this will render the buds distasteful to sparrows, and also destroy the greater part of the Mosses, &c., which disfigure and weaken the trees. As a further preventive get some white cotton and encircle each tree with it. For young Peas I always run two or three lines along the row, about 3 inches high and the same apart, as soon as the Peas show themselves above ground; and the same with Radishes, Cabbages, &c. Sometimes I only use the cotton; at others the soot and lime; but the two combined I hardly ever knew to fail. The cotton I procure at the draper's, in balls No. 16, best sewing, at 10*d.* the ½ lb. *H. W. Nutt, Flitwick Manor Gardens, Beds.*—— A thin limewash syringed on your correspondent's trees will effectually prevent sparrows from attacking their buds; it takes but little time, and answers a double purpose, freeing at the same time the trees from Moss. *J. Sheppard, Wolverstone Park.*——Let the trees be pruned immediately; get some fresh slacked lime, water with a fine rose watering-pot, and apply as much of the powdered lime as will adhere to the trees. If your correspondent has not a proper dredger he may enlarge the holes of a large watering pot rose, and it will answer the purpose equally well. *Old Jasper, Bourton.*

*Railway Embankments.*—I have often thought in travelling by railway what an improvement it would be to the country if the sides of cuttings, and still more of embankments were planted with evergreen shrubs. The sides of some railways have been planted with forest trees, which are clearly out of place there, and have to be cut down or headed down, before they get to be 20 feet high; but evergreen shrubs, especially low kinds such as the common Gorse or Broom, or the varieties of evergreen Berberry, would never interfere with the railway, and in the case of cuttings which are inclined to slip, these and larger ones such as the Yew tree and Holly would help considerably to keep the clay in its place. But in these days when Englishmen talk of the possibility of invasion there might possibly be another use in having them so planted; a railway cutting (such, for instance, as that between Pimlico and the Crystal Palace), filled thick with Gorse would be no mean impediment in the way of an invading army; and the common Gorse, which is a beautiful plant when in flower, and that is almost all the year round, would only require to be sown broadcast, at a very trifling expense. I wish that you would use your influence to induce some of the railway companies to undertake something of the kind. The North-Western Railway Company spent more money in a very ineffectual attempt to beautify their embankments than would have sufficed, if economically applied, for converting a large part of the banks and cuttings in the neighbourhood of London into handsome shrubberies. In many instances I should think that the occupiers of neighbouring houses would undertake this if the railway companies would give them permission to do so. *C. W. Strickland, Hildenley.*

*Chrysanthemum Fence.*—At this season, when all gardens must look dull, the Chrysanthemum supplies a void which would otherwise be much felt. I have just seen a hedge of this flower in a kitchen garden, the effect of which is surpassingly beautiful, brilliant in colour, and pleasing from its variety. It is made very simply; thus:—Plant any number of Chrysanthemums, taking care to mix the colours, in a row 18 inches apart. Behind them form a rough wire fence, which is easily made with a few rough stakes supporting four rows of wire, to which the plants are trained out about September, espalier fashion, but the branches so laid in as to cover the whole surface. The result is, as I have said, singularly effective. *V. P.*

*Nuts.*—Permit me to ask a question or two relative to the produce of the Kentish Cob. What weight per acre has ever been produced, and what money value has an acre yielded? I have myself just planted several acres, and shall be very much obliged to any of your correspondents if they will give me any information respecting them. I have planted my trees half a pole apart, consequently it takes 640 plants to the acre; now, if every tree produces 1*s.*, there is at once 32*l.* per acre, and if, as I am confident they will do, they produce 10*s.* per tree, see what amount of money may be obtained from 1 acre, 300*l.* and upwards. I beg also to state that I have had the produce of one tree, 84 lbs., sold for 4 guineas. I shall be very happy to enter into a correspondence with any of your readers who may be able to supply any more information than I am already acquainted with. *Richard Webb.*

*Cottagers' Kale.*—I am happy to be able to bear testimony to the great hardiness of this Kale. Here, on the 23d Oct., when exposed to 14° of frost, all the Brassica tribe, including Celery, Parsley, and salading, was much injured; not a leaf of the Cottagers' Kale received injury. It is now growing rapidly, and to all appearance is as hardy as British Oak. Happily for me I have a large plantation of it this season. As the Black Hamburgh is the gardener's friend in the Grape family so is the Cottagers' Kale in the way of Cabbage. *J. B., Missenden, Bucks.*

*Grapes.*—A bunch of Grapes was grown here and cut on Friday, the 18th of September, which measured 42 inches in circumference and 16 inches long; the shoulders of the bunch which are very large had previously been tied up, but were let down before the bunch was measured; and when measured the bunch was nearly round and the berries hung as close together as they could well do. The bunch was measured by Lord Charles Fitzroy, in the presence of Lord Thurlow and my employer, and was considered extraordinary. The variety is Charlesworth Tokay. The stem of the Vine is about 8 feet long, and it produced three bunches this season about the same size. *T. Burnett, Baynards Park, near Guildford, Surrey.* [But what was its weight?]

## Foreign Correspondence.

VINES.—ST. OMER, FRANCE: *Nov.* 17, 1859.—An incident has occurred in my Vinery this year that may interest some of your readers. My Vines began to move in March, and I then began fire-heat. Among my Vines is the White Tokay, which with the others grew most luxuriantly, but showed very little fruit. When the new wood had grown some 2 feet 6 inches in length I reduced it to 15 inches, and immediately from the last eye a new shoot sprung forth loaded with two and some with three bunches. I left of course but one bunch to each shoot and thinned severely. They have come to perfect maturity and but little inferior as to size to the first crop. I put no animal manure to the roots of my Vines—planted outside—only stable dung well rotted, and sow heavily common soda on the border in April or May, which the Vines seem to absorb greedily, and I feel assured by experience, that if sufferers from carrion feeding would neutralise its effects with soda they would cause their Vines speedily to recover from their diseased condition. *H. St. Bertin.*

## Societies.

LINNEAN: *Nov.* 3.—Prof. Bell, President, in the chair. Dr. Alexander Carte was elected a Fellow. Mr. Joseph Wood exhibited specimens of Leersia oryzoides, gathered in a new locality, at Tillingbourne, near Shalford, Surrey. The following papers were read:—1. "Description of a new species of Hymenopterous insect, collected by A. R. Wallace, Esq., at Celebes," by F. Smith, Esq. 2. "On the Zoological Geography of the Malay Archipelago," by A. R. Wallace, Esq. This was an extremely interesting paper. The author commenced by observing that Mr. Sclater, in treating of the geographical distribution of birds, some time since, had pointed out that the western islands of the Archipelago belong to the Indian, and the eastern to the Australian region of ornithology. His own researches in these countries led him to believe that the same division would hold good in every branch of zoology; and the object of the paper was to mark out from actual observation the precise limits of each region, as well as to call attention to certain inferences of great general importance, in the study of the laws of organic distribution. Mr. Wallace then mentioned numerous facts showing the strongly contrasted characters of the two zoological regions above referred to. The exact limits of these regions were indicated by the fact that in a short stay at the island of Baly he found various genera of birds all characteristic of the Indian region, and abundant in Malacca, Java, and Borneo; while on crossing over to Lombock not one of them was seen during three months of collecting, neither had they occurred in Celebes or in any of the more eastern islands he had visited. This, taken in conjunction with the fact that certain other genera have their western limit in Lombock, led him to the conclusion that the Straits of Lombock, only 15 miles wide, abruptly separate two of the great zoological regions of the globe. Indeed, he observed, the eastern and western islands, as thus divided, belong to regions more distinct and contrasted than any other of the great zoological divisions. South America and Africa, separated by the Atlantic, do not differ so widely as Asia and Australia—Asia with its abundance and variety of large mammals and no marsupials, and Australia with scarcely anything but marsupials; Asia with its gorgeous Phasianidæ, and Australia with its dull-coloured Megopodidæ; Asia the poorest tropical region in parrots, and Australia the richest—such striking characteristics being almost unimpaired at the very limits of their respective regions, so that in a few hours' passage an amount of difference may be experienced which weeks or even months of travel alone could give in other parts of the globe. There is nothing, he stated, in the aspect or physical character of the islands to lead to the expectation of such a difference, for their physical and geological characters do not coincide with their zoological differences. There is, indeed a striking homogeneity in the two halves of the Archipelago; the great volcanic chain runs through both parts; Borneo is the counterpart of New Guinea, and yet in Borneo and New Guinea respectively, the Asiatic and Australian zoological regions find their highest development. Mr. Wallace then adverted to certain cases of identity or resemblance in species inhabiting the several islands, with the view to show that there was no transition in the proper sense of the word, the natural and limited amount of resemblances only showing more strongly the absolute and original distinctness of the two divisions. Peculiar genera, having little affinity with those of adjacent islands, were stated to be almost confined to Celebes. Cynopithecus, a genus of baboons, the extraordinary Babirusa, and the singular ruminant Anoa depressicornis have nothing in common with Asiatic mammals, but seem more allied to those of Africa. A congeneric perhaps identical quadrumanous animal occurs in the little island of Batchian, which forms the extreme eastern limit of the highest order of mammalia. This occurrence of Quadrumana in the Australian region, it was argued, proved nothing whatever as regards a transition to the western islands, which among their numerous monkeys and apes have nothing at all resembling them. The species of Celebes and Batchian have the high super-orbital ridge, the long nasal bone, the dog-like figure, the minute ear, tail, the predacious habits, and the fearless disposition of the true baboons, and find their allies nowhere nearer than in tropical Africa. The Anoa seems also to point towards the same region, so rich in varied forms of antelopes. Of 103 species of Hymenoptera collected during his first residence in Celebes, only 16 are known to exhibit any of the western islands of the Archipelago, while 18 are identical with species of continental India, China, and the Philippine Islands, two identical with insects hitherto only known from tropical Africa, and another allied to one from the Cape. These phenomena of distribution the author held to be altogether unique. In no other case, he said, are the species of a genus or the genera of a family distributed in two distinct areas separated by countries in which they do not exist; and that it has come to be considered a law in geographical distribution that "both species and groups inhabit continuous areas." Facts such as the above could only be explained by a bold acceptance of vast changes in the surface of the earth. "They teach us that the island of Celebes is more ancient than most of the islands now surrounding it, and obtained some part of its fauna before they came into existence. They point to the time when a great continent occupied a portion at

[illegible] of what is now the Indian Ocean, of which the [illegible] of Mauritius, Bourbon, &c., may be fragments; with the Chagos bank and the Keeling Atolls [illegible] its former extension eastward to the [illegible] of what is now the Malayan Archipelago. The Celebes group remains the last eastern fragment of the now submerged land, or of some of its adjacent islands, indicating its peculiar origin by its [illegible] isolation, and by still retaining a marked affinity with the African fauna." The great Pacific [illegible], of which Australia and New Guinea are no [illegible] fragments, probably existed at a much earlier period, and extended as far westward as the Moluccas. The extension of Asia as far to the south and east as the Straits of Macassar and Lombock must have occurred subsequent to the submergence of both these great southern continents, and the breaking up and separation of the islands of Sumatra, Java, and Borneo has been the last great geological change these regions have undergone. That this has really taken place the author believes to be proved by the following considerations. Not more than 20, probably a smaller number, out of about 100 land birds of Celebes at present known, are found at Java or Borneo, and only one or two of 12 or 15 mammalia. Of the mammalia and birds of Borneo, however, at least three-quarters, probably five-sixths, inhabit also Java, Sumatra, or the peninsula of Malacca. Now looking at the direction of the Macassar Straits running nearly north and south, and remembering that they lie in the district of the monsoons, a steady S.E. and N.W. wind blowing alternately for about six months each, it will at once appear that Celebes is more favourably situated than any other island to receive stray passengers from Borneo, whether drifted across the sea, or wafted through the air. The distance too is less than between any other of the large islands, and numerous islets in mid-channel offer stations which might rescue many of the wanderers, and admit of fresh migrations after repose. Between Java and Borneo the width of sea is much greater, the intermediate islands are fewer, and the direction of the monsoons *along* and not *across* the Java Sea must render accidental communication between the two islands exceedingly difficult. Nevertheless where the facilities for intercommunication are greatest, the number of species common to the two islands is least, and *vice versâ*. Moreover, the mass of the species inhabiting Borneo, Java, &c., even when not identical are congeneric, indicating identity at an earlier epoch; whereas the great mass of the fauna of Celebes is widely different from that of the western islands, consisting mostly of genera, or even of entire families, altogether foreign to them. This clearly points to a former total diversity of forms and species. In the case of the great western islands a former more complete identity is indicated, the present differences having arisen from their isolation during a considerable period, allowing time for that partial extinction and introduction of species which is the regular course of Nature. If the very small number of western species in Celebes is all that the most favourable conditions for transmission could bring about, the complete similarity of the faunas of the western islands could never, with their far less favourable conditions, have been produced by the same means. And what other means can we conceive but the former connection of these islands with each other, and with the continent of Asia? There is physical evidence of a very striking nature in confirmation of this view. These countries are, in fact, still connected, and that so completely, that an elevation of only 300 feet would nearly double the extent of tropical Asia. Over the whole of the Java Sea, the Straits of Malacca, the Gulf of Siam, and the southern part of the China Sea, ships can anchor in less than 50 fathoms. A vast submarine plain unites together the apparently disjointed parts of the Indian zoological region, and abruptly terminates exactly at its limits in an unfathomable ocean. The deep sea of the Moluccas comes up to the very coasts of Borneo on the north, to the Straits of Lombock in the south, and to near the middle of the Straits of Macassar. The various islands of the Moluccas, though generally divided by a less extent of sea, have fewer species in common; but the separating seas are in almost every case of immense depth, indicating that the separation took place at a much earlier period. Thus, two of the common birds of Paradise are found only in New Guinea, and the islands of Aru, Mysol, Waigiou, and Jobie, all of which are connected with New Guinea by banks of soundings; while they do not extend to Ceram or the Ké Islands, which are no further from New Guinea but separated from it by deep sea. Again, the chain of small volcanic islands to the west of Gilolo, though divided by channels of only 10 or 15 miles wide, possess many distinct representative species of insects and birds; and the baboons of Batchian have not passed to Gilolo, a much larger island, though only separated from it by a channel 10 miles wide, and in one part almost blocked up with small islands. Passing on, the author observed that most writers on geographical distribution have completely overlooked its connection with well established geological facts, and have thereby created difficulties where none existed. The peculiar and apparently endemic faunæ and floræ of the oceanic islands, *e. g.*, Galapagos and St. Helena, have been considered anomalous and inexplicable. It has been imagined that the more simple condition of such islands would be to have their productions identical with those of the nearest land, and their actual condition, so different from this, was therefore regarded as an incomprehensible mystery. The very reverse of this is, however, the case. Such phenomena are the logical results of well-known laws of nature. The regular and unceasing extinction of species and their replacement by allied forms is now no hypothesis but an established fact, and it necessarily produces such peculiar fauna and flora in all but recently found or newly disrupted islands. These and similar views were argued in much detail, and supported by a goodly array of facts and observations.

## Reviews.

*The Archæology of Berkshire*, by the Earl of Carnarvon. (Murray).

As temporary President of the Archæological Association meeting at Newbury, Lord Carnarvon found himself called upon to address that body, and the present little pamphlet is a report of the speech as it was delivered. We do not presume to say that the matter is in every way worthy the acknowledged talents of the noble lord; but we may at least remark that no one interested in the History of Berkshire, or in antiquarian inquiries in general can read it without pleasure as well as instruction. Adverting to Stonehenge the noble author spoke thus:—

"Who were the builders? Were they wanderers from the Phœnician coasts, or pagan Anglo-Saxons, or the aboriginal Cymry of Britain, or a later and a more skilful race? Were they architects of a generation that preceded, or that followed upon, Roman rule in this country? These are questions as yet unanswered, and perhaps unanswerable. None but those who, unrequited by public praise, have devoted years of patient study to a dark, a perplexed, and perhaps an uninviting subject can pronounce an opinion; and meanwhile we the uninitiated, bewildered and doubtful, wander in a trackless labyrinth, and tread a magic circle surrounded by the spectres and mocking phantoms of the past.

"But it may be asked, is no exception to be made in favour of Arthur, the legendary hero of Britain? Did not a conclave of British chiefs at Silchester elect him the Basileus of Britain? Was it not at Winchester that he built his castle, that he instituted his Round Table, that he installed his knights? Were not the neighbouring downs the scene of his battles, and has not Stonehenge legends connected with his name? Will none of these plead for his victories, for his adventurous exploits, or even for his existence? Or must we, in spite of the monks of Glastonbury, say that King Arthur never lived nor ruled,—that his Round Table was but an allegory,—that the Seat Perilous, which none might take, was a mystic representation of the knowledge from which all but the wise hierarchy were excluded, and that his name was but a myth, under which was veiled a strange and monstrous revolution of religious faith, in which Christianity for awhile perished, and the mysteries of a semi-oriental magianism were enthroned?

"Who can tell? The brazen head is thrown down and shattered, and none now knows the spell which may replace the oracle or bid it speak. And so we see the barrows, the mounds, the earthworks—monuments of successive races, records of successive struggles, which for the most part probably belong to the Saxon period, but which two centuries afterwards our Saxon ancestors attributed to the work of the giants—and we know of their origin or history nothing but what some vague legend may preserve, or some ingenious conjecture suggest. We see and we wonder; we know that the men who constructed them have passed away, their lives of action and adventure unchronicled, their virtues and their faults unremembered, as our own will probably be with some future generation: and we sum up all that we can know or feel in the mournful saying of the preacher, as true now as it was 3000 years ago, 'There is no remembrance of the wise more than of the fool for ever, seeing that which now is in the days to come shall be all forgotten.'"

Surely this is true eloquence.

Trade Lists Received.—Charles Turner's (Slough) *Catalogue of Pelargoniums, Spotted Pelargoniums, Fancy Pelargoniums, and French Pelargoniums, also Cinerarias, Azaleas, &c.* A carefully prepared list of all the best varieties of florists' flowers, filling 20 8vo pages. Mr. Turner possesses all the finest novelties of such growers of Pelargoniums as Hoyle, Foster, and Beck, which are offered at from 15*s.* to 31*s.* 6*d.* each. The last sum is placed upon Foster's Lord Clyde, described as the brightest scarlet as well as best formed of all Pelargoniums. A figure of it is given in the Florist for December, 1859. The new Cinerarias range from 5*s.* to 7*s.* 6*d.* each.

## Garden Memoranda.

Messrs. Lee's Nursery, Hammersmith.—Since we last visited this nursery several important improvements have been effected. By the side of the principal walk near the entrance a large span-roofed house is now being built; it is, we understand, to be a kind of winter garden, in which are to be tastefully arranged among other plants fine specimens of standard and Portugal Laurels, Bays, Laurustinus, Box, Hollies, and Orange trees, all of which have of late years been so much in demand for the decoration of terraces and for forming prominent features in other conspicuous situations. Of these kinds of plants Messrs. Lee have an excellent stock. This house is 75 feet in length, and 30 feet in width, and when finished and furnished with the description of plants just indicated, it cannot fail to be highly attractive. In a border of coniferous plants running parallel with the house just named are some fine specimens of Araucaria imbricata, measuring from 5 to 8 feet in height, very healthy and beautifully symmetrical in growth. Of the compact little Thuja aurea there were also some handsome examples, together with pretty plants of Cupressus Lawsoniana and Thujopsis borealis. Of Wellingtonias we likewise noticed many thriving specimens in pots both indoors and out.

In a cool house was a beautiful assortment of Epacrises, some of which are already coming into bloom, and of Cape Heaths Messrs. Lee have an immense quantity. Among them the cheerful-looking winter-flowering gracilis was literally one mass of round purple blossoms not larger than common gun shot, and in an ornamental point of view hiemalis was scarcely less effective. These two kinds, common though they must be admitted to be, are not half so extensively grown as they deserve to be, especially for the decoration of small greenhouses at this comparatively dull season of the year. Of other plants, invaluable for the ornamentation of cool houses in winter, may be mentioned tree Carnations, examples of which we saw just coming into bloom. Among these there is now great diversity of colour; they are easily grown, and the more they are cut the longer is the succession of blossom, each young shoot that is produced furnishing a bloom. Of the New Zealand Cordyline indivisa, of which a full account will be found at p. 868, we remarked multitudes of young plants in small pots, looking like so many examples of young Pampas Grass. This may probably become a good plant for placing out of doors in summer in conspicuous positions, such as those in which Cannas and plants of that description are found to succeed. Be that as it may, however, it will certainly make a handsome ornamental conservatory plant. Of Ferns Messrs. Lee possess some rare kinds both British and Exotic, and in a little frame in an intermediate house was a small group of New Zealand Mosses.

In another house was a batch of the red-leaved Dracæna terminalis, consisting of some 400 or 500 plants, and we also noticed specimens of the pretty winter blooming Gesnera cinnabarina. To Camellias and Azaleas whole houses are devoted. Both were nicely set with bloom buds, and among them were some fine specimens of Myrtle-leaved and other small growing Oranges. We observed many pretty plants, well furnished with fruit, both in a ripe and unripe state. Of Eugenia Ugni were numbers of plants in pots; they had been exposed to the late frost, which had injured the young wood, but no further harm had befallen them. This is the less remarkable, as even common Laurels in some places have suffered in a similar manner. A small damp stove was literally a forest of rich and luxuriant vegetation, not only in the shape of plants remarkable for fine foliage in pots, but also in that of Orchids and trailing plants swung from the roof in baskets and on blocks; their long pendulous branches producing an excellent effect. Among variegated plants, of which there is here a good assortment, we noticed Marantas, Begonias, Caladiums, and all the kinds usually to be met with at our great exhibitions, to which Messrs Lee largely contribute, while on the roof were Clerodendron splendens and on the walls near the entrance Ficus barbata and repens. The latter fix themselves to stones like Ivy, completely clothing them with small green leaves, against which the other occupants of the house are seen to advantage.

In light wooden span-roofed houses were numbers of Variegated Geraniums, not only of Golden Chain, Flower of the Day, Brilliant, Mountain of Light, and Alma; but also of kinds of more recent date. These houses form excellent hybernatories for these and other bedding plants.

Vines in pots are largely cultivated in this nursery, and within the last three years two new span-roofed houses have been put up for their growth. They are efficiently warmed and ventilated, and otherwise well adapted for the employment to which they are devoted. They contain hundreds of Vines in pots, strong, healthy, and in good condition for fruiting next season. Between the houses just mentioned is a potting shed over the furnace, and covered with glass, so that in shifting and repotting the young Vines are never exposed to cold or draughts. In one of them were quantities of Geraniums in pots cut back and divested of their leaves. These had been lifted out of the open ground before the late frost came on. Being uninjured therefore they will winter with safety.

A large house is set apart for the culture of fruit trees in pots, of which Messrs. Lee have an excellent collection, and on which much care and pains are bestowed. Finer trees for fruiting next season could not be had; they are at present plunged in beds in the open ground. Of Figs in pots we also noticed great numbers. During the fruiting season they here form a most interesting feature. Both this year as last the crop has been excellent.

## Miscellaneous.

*Mr. Peter Wallace*, formerly the Government gardener on the island of Ascension, has been appointed to the very important charge of the Gardens of the Viceroy of Egypt at Cairo. In addition to his knowledge

of gardening Mr. Wallace speaks French fluently, which has rendered him the most eligible man that could be found. Salary, 240*l*.

*Superiority of the Russian Setter.*—"The Russian setter is a curious animal in appearance, the fur being so long and woolly in texture, and so thoroughly matted together, that the form of the dog is rendered quite indistinct. It is by no means a common animal, and is but seldom seen. It is an admirable worker, quartering its ground very closely, seldom starting game without first marking them; and possessed of a singularly delicate nose. In spite of its heavy coat, it bears heat as well as the lighter-clad pointer, and better than the ordinary English setters with their curly locks. When crossed with the English setter it produces a mixed breed, which seems to be as near perfection as can be expected in a dog, and which unites the good properties of both parents. A well-known sportsman, when trying these dogs against his own animal, which he fondly thought to be unrivalled, found that the Russian animals obtained three points where his own dog only made one, and that from their quiet way of getting over the ground, they did not put up the birds out of gun range, as was too often the case with his own swifter footed dogs. The muzzle of this animal is bearded almost as much as that of the deerhound and the Scotch terrier, and the overhanging hair about the eyes gives it a look of self-relying intelligence that is very suggestive of the expression of a Skye terrier's countenance. The soles of the feet are well covered with hair, so that the dog is able to bear plenty of hard work among heather or other rough substances." *Routledge's Illustrated Natural History.*

*Treatment of Tetanus by the Woorara Poison.*—M. Vella, of Turin, says the Lancet, arguing from the fact shown by M. Bernard, in 1850, that the Woorara poison is a direct sedative of the motor nerves, undertook a series of experiments which clearly show the antagonism between strychnine and Woorara. Being appointed to the French Military Hospital of Turin during the late campaign, and seeing several cases of tetanus which had resisted opiates, ether, &c., M. Vella resolved to try Woorara. The first trials were made upon two patients who had been suffering from tetanus for four or five days respectively, in consequence of gun-shot wounds. They were both in a semi-asphyxiated and desperate state. The Woorara produced general relaxation of the muscular system, whereupon the patients felt much relieved; but they both died. The same treatment was however employed upon a third patient, who recovered. He was a sergeant, 35 years old, tetanic from a gun-shot wound of the foot. Two grains of Woorara were dissolved in nine drachms of water, and compresses moistened with the solution were applied to the wound; the strength being gradually increased to 15 grains in 14 drachms of water. For the first four days the compresses were renewed every third hour; afterwards every fifth hour, up to the twelfth day, when the changes were reduced to three and two in the 24 hours. In 22 days the patient could leave his bed, and returned to France 36 days after the first application of the Woorara. *Pharmaceutical Journal.* [This Woorara is prepared from a species of Strychnos.]

## Calendar of Operations.

*(For the ensuing week.)*

### PLANT DEPARTMENT.

CONSERVATORY, &C.—Attend carefully to specimen hard-wooded plants, which it may be necessary to winter in this house; many of these are impatient of fire-heat and a confined atmosphere. Use no more artificial warmth, therefore, than is absolutely necessary, and endeavour to counteract its drying effects either by means of evaporating pans, or by sprinkling the borders, &c., in order to prevent anything like a dry parched state of the atmosphere. It is in many cases difficult to maintain a sufficiently moist atmosphere without causing drip, as the moisture in the house gets condensed upon the glass, and unless provision is made by means of inside gutters and pipes to catch the condensed moisture and carry it off, it is nearly impossible during frosty weather to preserve the beauty of flowers for any length of time; and in cases where there is no provision made against this kind of moisture falling upon the plants, the temperature should be kept as low as may be consistent with safety, avoiding moisture in the atmosphere as far as possible whenever the glass is affected by frost. Plants in cold pits that may have been excluded from light and air for a few days must not be too suddenly uncovered; on the contrary, they should be very gradually inured to exposure. Take advantage, however, of mild days to give air freely and keep the plants very sparingly supplied with water at the root so as to prevent the production of weakly sappy wood. Look frequently over anything subject to the attacks of mildew, apply sulphur the moment this pest makes its appearance, and see that everything is perfectly free from insects. If there is any prospect of a scarcity of bloom next May, a portion of the Achimenes and Gloxinias should be repotted at once and placed in a warm part of the stove, choosing such as have been the longest at rest; and a few Clerodendrons, Allamandas, a plant or two of Echites splendens and Dipladenia crassinoda, may also be started; but unless plants of these are at command with well-ripened wood, and that have been some time at rest, there will be nothing gained by attempting to start them into growth at present, for in most cases it is difficult at this season to maintain a sufficiently warm temperature to secure anything like free growth from these unless the plants have been well prepared for an early start. A gentle bottom-heat of about 80° or 85° will be of great service to such things in inducing a healthy root action, and if this can be secured there will be little difficulty about obtaining free vigorous growth. Let Ixoras and all other hard-wooded plants that have made sufficient growth be kept rather dry at the root in order to check their growth, and induce a tendency to form bloom buds; but do not let the soil in the pots get so dry as to affect the foliage.

### FORCING DEPARTMENT.

PINERIES.—The supply of ripe fruit from May until August being usually obtained from plants that start into fruit without making growth in spring, a fair proportion of the stock should therefore be in a well matured state by or shortly after this season, and any sudden changes of temperature which might induce too many of them to show fruit at once should be carefully avoided. That portion of the stock expected to furnish the autumn supply of fruit should not be too much checked at present, indeed these may be kept growing slowly all the winter, which is perhaps the most certain method of preventing their fruiting too early in spring. Where the stock of plants likely to fruit without making farther growth is considered insufficient to meet the demand until August, the stronger plants of those for autumn fruiting should be encouraged to make growth as early as can be done without weakening the foliage, with the view of preparing them for showing fruit in April. Examine the soil occasionally about young stock growing in the open bed, and do not allow it to become unhealthily dry, for this would probably result in a great portion of the stock showing fruit prematurely, and it is also a work of some difficulty properly to moisten the bed if it is once allowed to get too much dried up. Use no more fire-heat for the present than will suffice to maintain the requisite temperature, which, for the general stock, need not be high for some time yet. VINERIES.—As soon as the buds in the early house are fairly started the temperature should be increased to 60° at night and 65° by day, allowing it to rise 10° on bright days. Take every opportunity of admitting a little fresh air, but recollect that the foliage will not bear exposure to cold drying winds, therefore air should be admitted in contact with the heating apparatus, and when it may be necessary to give back air the sashes or ventilators must be opened but very little, and if pieces of netting could be nailed over the openings this would greatly assist in preventing cold currents blowing into the house. Where the border cannot be warmed, see that it is well protected from wet, &c., by a thick covering of dry litter, or whatever more efficient covering can be recommended. Look over ripe Grapes often, removing any decaying berries, and aim at securing a dry atmosphere with the least possible application of fire-heat. PEACHES.—Until the trees are fairly on the move do not keep the night temperature higher than from 40° to 45° by means of fire-heat; but an advance of 10° early in the day, with plenty of moisture in the atmosphere, should be secured. Syringe the trees frequently, and secure a thoroughly moist atmosphere. Also see that the inside border is in a moist healthy state, and if this is not the case, two or three applications of tepid water should be given. It is becoming very much the order of the day to have Peach trees and most other things which are wanted for very early forcing in pots; and this plan offers the advantage of being able to afford the roots a mild regular bottom-heat, which is of the greatest importance in early forcing, and excellent crops are thus obtained. But the trees must be prepared for this purpose by having been grown some time in pots; and where these are not at hand, unless they can be purchased from the nurserymen who prepare them, nothing can be done this season except to procure and pot the trees, and prepare them for next year. STRAWBERRIES.—Where ripe fruit is wanted early, a portion of the most promising plants should now be selected and placed in a pit where they can be afforded a gentle bottom-heat; or if this cannot be commanded, a Peach-house or Vinery which has just been closed for forcing will do. They must, however, be kept close to the glass, for they require all the light that can possibly be afforded them at this season, and a free admission of air on mild days, with a low temperature until the fruit is fairly set, and if these conditions can be combined with bottom-heat, success will be more certain than under any other circumstances, and this will be more easily done in a small pit than in a house, the temperature of which must be regulated by other things.

### FLOWER GARDEN AND SHRUBBERIES.

If not already done, get all borders neatly trimmed up for the winter; in doing this, places intended for Hollyhocks, Dahlias, &c., next summer should be prepared by deep digging and working in plenty of good rotten manure; there is generally as much time to spare now for that kind of work as at planting time. See that coarse growing plants which may be encroaching upon their weaker neighbours are reduced so as to occupy their proper places. Valuable plants, as variegated Hollies, Rhododendrons, &c., if not growing as freely as it is desirable that they should do, would be benefited by a liberal allowance of rotten manure or well-decayed leaf soil applied as a top-dressing, covering it with a little fine soil, and working it into the ground around the ball towards the extremities of the roots. But Rhododendrons, and what are generally termed American plants, bear removal so well that those not growing satisfactorily should be taken up, the ground well prepared by a liberal addition of peat or leaf soil, and replanted. Continue to give careful attention to half hardy plants in cold frames, taking advantage of every favourable opportunity to expose them freely to air. Anything of which there is but a spare supply of plants to propagate from should be placed in growing quarters at once, taking care to keep them near the glass and free from insects, mildew, &c., for soft-wooded plants in heat at this season are very subject to the attacks of insects.

### HARDY FRUIT AND KITCHEN GARDEN

Do not let Pears get over-ripe before being used, but look over the whole stock as often as time can be spared, removing any fruit that exhibit symptoms of decay, and put them aside for immediate use. Apples are keeping very badly this year. Any of the choicer varieties of Pears that do not ripen properly in the fruit-room should be removed to a warm dry room for a few days, which will be found to greatly improve them. Keep all fruit as cool and dry as possible; if frost is excluded from the house, it can scarcely be too cool where the object is to preserve fruit plump and sound as long as possible. Push forward pruning, nailing, tying espaliers trees, and such like tedious operations as fast as the weather and circumstances will admit. Get manure wheeled upon vacant ground when the weather is fine, and this can be done without injuring the walks, and get all spare ground turned up as soon as possible, so as to expose it to the action of the weather. Ground that has been long cropped with vegetables a dressing of fresh loam would in many cases be preferable to manure, and where this is wanted and can be obtained it should be got to hand, in order that advantage may be taken of frosty days for wheeling it upon the ground. Where fresh soil cannot be obtained, charred vegetable refuse, such as pruning of shrubberies, edgings of walks, and many things which turn up in the course of the season, may be cheaply made to form an excellent substitute.

### STATE OF THE WEATHER AT CHISWICK, NEAR LONDON

For the Week ending Nov. 24, 1859, as observed at the Horticultural Gardens.

| Nov. | Moon's Age. | Barometer. Max. | Barometer. Min. | Temperature of the Air. Max. | Min. | Mean | Of the Earth. 1 foot deep. | 2 feet deep. | Rain. |
|---|---|---|---|---|---|---|---|---|---|
| Friday 18 | 23 | 30.286 | 30.250 | 49 | 32 | 40.5 | 45 | 46 | 0.1 |
| Satur. 19 | 24 | 30.298 | 30.170 | 50 | 22 | 36.0 | 44½ | 45½ | 0.0 |
| Sunday 20 | 25 | 30.055 | 29.844 | 43 | 26 | 34.5 | 44 | 45½ | 0.0 |
| Mon. 21 | 26 | 29.771 | 29.715 | 53 | 26 | 39.5 | 44 | 45½ | 0.2 |
| Tues. 22 | 27 | 29.930 | 29.889 | 48 | 40 | 44.0 | 44 | 45 | 0.2 |
| Wed. 23 | 28 | 30.007 | 29.943 | 47 | 37 | 42.0 | 44½ | 45 | 0.1 |
| Thurs. 24 | ● | 29.959 | 29.905 | 52 | 40 | 46.0 | 45 | 44½ | 0.1 |
| Average | | 30.043 | 29.959 | 48.8 | 31.8 | 40.3 | 44.4 | 45.1 | 0.7 |

Nov. 18—Foggy; overcast throughout.
— 19—Fine; very fine; frosty and foggy.
— 20—Frosty and rather foggy; very clear and fine; overcast.
— 21—Frosty and foggy; exceedingly fine; dense fog at night.
— 22—Dense fog throughout.
— 23—Dense fog; hazy; foggy at night.
— 24—Foggy; fine in forenoon; slight fog; clear.

Mean temperature of the week, 1 1-5th deg. below the average.

### RECORD OF THE WEATHER AT CHISWICK.

During the last 33 years, for the ensuing Week, ending Dec 3.

| November and Dec. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday 27.. | 48.9 | 34.8 | 41.9 | 15 | 0.88 in. | 1 | 5 | 4 | 1 | 3 | 9 | 5 | 5 |
| Mon. 28.. | 47.9 | 35.6 | 41.7 | 17 | 1.21 | 2 | 4 | 2 | 2 | 3 | 5 | 7 | 6 |
| Tues. 29.. | 47.6 | 34.4 | 41.0 | 16 | 0.56 | 4 | 1 | 3 | 1 | 3 | 3 | 5 | 9 |
| Wed. 30.. | 47.9 | 35.2 | 41.6 | 18 | 0.31 | 3 | 3 | 3 | 3 | 3 | 5 | 5 | 4 |
| Thurs. 1.. | 48.5 | 35.5 | 42.0 | 15 | 0.25 | 1 | 2 | 2 | 4 | 4 | 5 | 6 | 5 |
| Friday 2.. | 47.4 | 34.6 | 41.0 | 15 | 0.51 | 2 | 2 | 3 | 1 | 5 | 6 | 5 | 5 |
| Satur. 3.. | 47.0 | 36.0 | 41.5 | 17 | 0.26 | 1 | 5 | 3 | 1 | 4 | 7 | 5 | 4 |

The highest temperature during the above period occurred on the 30th, 1856—therm. 64 deg.; and the lowest on the 30th, 1857—therm. 62 deg.; and the lowest on the 30th, 1856—therm. 11 deg.

## Notices to Correspondents.

ABSTRACTION OF A SHOPMAN: *A Retail Seedsman* should result his attorney. Such disputes cannot be recognised in newspaper.

CELERY: *S C.* The sample sent is of very ordinary quality.

GREENFLY: *G.* The safest and most effectual way of destroying greenfly in a greenhouse is to fumigate properly with Tobacco. Completely fill the house with the smoke, and one application is insufficient repeat the operation after the lapse of one, or say two days.

INSECTS: *Arlebury.* The insect which destroyed the Grass in the Green Park about two years ago was very far from unknown before. It was merely the grub of the "Daddy Longlegs," or Tipula oleracea. Our columns contained at that time a great deal of information concerning it.

NAMES OF FRUITS: *J G.* Your seedling Apples are like Court Pendu Plat that they could not be distinguished from that excellent productive sort.—*E Marchant.* We are not absolutely certain of the name of your Pear. It resembles the Figue de Naples Pear.

NAMES OF PLANTS: We have been so often obliged to constantly decline naming heaps of dried or other plants, that we venture to request our correspondents to recollect that we never have or could have undertaken an unlimited task of this kind. Young gardeners, to whom these remarks especially apply, should bear in mind that, before writing to us for assistance, they should exhaust their other means of gaining information. We cannot save them the trouble of examining and thinking for themselves; nor would it be desirable if we could. All we can do is to *help* them, and that most willingly. It is now requested that, in future, not more than four plants may be sent us at one time.—*W.* Clitoria Plumieri, from the West Indies, not Ceylon.—*Julius.* 1, Juniperus squamosa; 2, Pinus Lambertiana; 3, Eugenia apiculata, which is more hardy than 4, Hippophäe nepalensis.—*W H.* It is impossible to name bulbs without their flowers.

RATS: *Lord H.* As far as our experience goes the so-called Phosphoric Rat Poison quite answers its purpose. It is sold we believe, by Mr. Purser, 116, Fenchurch Street.

THE FLORE DES SERRES: *F H S.* We have not received number for a long time. M. Van Houtte will doubtless explain the cause of the delay when he sees this note.

*** As usual, many communications have been received too late, and others are detained till the necessary inquiries are made. We must also beg the indulgence of those correspondents the insertion of whose contributions is still delayed.

ARTIFICIAL MANURES, &c.—Manufacturers and others engaged in making ARTIFICIAL MANURES may obtain every necessary instruction for their economical and efficient preparation, by applying to J. C. NESBIT, F.G.S., &c., Principal of the Agricultural and Chemical College, Kennington, London, S. Analyses of Soils, Guanos, Superphosphates of Lime, Coprolites, &c., and Assays of Gold, Silver, and other Minerals are executed with accuracy and despatch. Gentlemen desirous of receiving instruction in Chemical Analyses and Assaying, will find ample facility and accommodation at the College.

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The Company also execute Drainage and all other Works of Land Improvement on Commission for the Owners of Estates not Entailed who may wish to charge the outlay on the property through the simple and inexpensive process of the Company's Act.

Applications to be addressed to WILLIAM CLIFFORD, the Secretary, at the Offices of the Company, 52, Parliament Street, London.

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Established in 1844.
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THE LANDS IMPROVEMENT COMPANY.—Incorporated by Special Act of Parliament in 1853.—2, Old Palace Yard, Westminster, S.W. To Landowners, the Clergy, Estate Agents, Surveyors, &c., in England and Wales and in Scotland.

The Directors beg leave to announce that the Company's Amendment Bill, 1859, has received the sanction of the Legislature. The Company now advance money, unlimited in amount, for the following works of Agricultural Improvement, the whole outlay and expenses in all cases being liquidated by a rent charge for 25 years.

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No investigation of title is required, and the Company being of a strictly financial character do not interfere with the plans and execution of the Works, which are controlled only by the Government Enclosure Commissioners.

For further information, and for forms of application, apply to the Honourable WILLIAM NAPIER, Managing Director, 2, Old Palace Yard, Westminster, S.W.

COLLEGE OF AGRICULTURE AND CHEMISTRY, AND OF PRACTICAL and GENERAL SCIENCE, 37 and 38, Lower Kennington Lane, Kennington, London, S.
Principal—J. C. NESBIT, F.G.S., F.C.S., &c.

The system of studies pursued in the College comprises every branch requisite to prepare youth for the pursuits of Agriculture, Engineering, Mining, Manufactures, and the Arts; for the Naval and Military Services, and for the Universities.

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BIRMINGHAM CATTLE AND POULTRY SHOW.—The ELEVENTH GREAT ANNUAL EXHIBITION OF CATTLE, SHEEP, PIGS, ROOTS, DOMESTIC POULTRY, AND PIGEONS will be held in Bingley Hall on MONDAY, TUESDAY, WEDNESDAY, and THURSDAY, November 28, 29 and 30, and December 1.—Admission on Monday, the PRIVATE VIEW, 5*s.*; on Tuesday, Wednesday, & Thursday, 1*s.*

PRIZE CATTLE SHOW OF THE SMITHFIELD CLUB.

The Annual Exhibition of PRIZE CATTLE, SEEDS, ROOTS, IMPLEMENTS, &c., commences on TUESDAY MORNING and closes on FRIDAY EVENING, 6, 7, 8, and 9th December, —Baker Street Bazaar, King Street Entrance. Open from daylight till nine in the evening. Admittance 1*s.*

CATTLE SHOW, BAKER STREET, BAZAAR.

SUTTON'S CHAMPION SWEDES, and new varieties of MANGEL WURZEL, KOHL RABI, and other Agricultural Roots will be exhibited at their STANDS, Nos. 325 to 336, Baker Street Bazaar, where Orders will be taken for Seed.

N.B. As the Stock of Seed is limited it is advisable that orders should be given early.

Royal Berkshire Seed Establishment, Reading.

**The Agricultural Gazette.**

*SATURDAY, NOVEMBER* 26, 1859.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

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| MONDAY, | Nov. 28 | | |
| TUESDAY, | — 29 | Show of the Midland Counties Association, Bingley Hall, Birmingham. | |
| WEDNESDAY, | — 30 | | |
| THURSDAY, | Dec. 1 | | |
| MONDAY, | — 5 | London Farmers' Club ..... | 6 P.M. |
| WEDNESDAY, | — 7 | Agri. Society of England .... | Noon. |
| | | Society of Arts ..... | 8 P.M. |
| TUESDAY, | — 6 | | |
| WEDNESDAY, | — 7 | Show of the Smithfield Club, Baker Street Bazaar. | |
| THURSDAY, | — 8 | | |
| FRIDAY, | — 9 | | |

—— THE meeting to which Shropshire breeders are invited during the show week at Birmingham is to be held in the theatre of the Midland Institute, Paradise Street, in the Town Hall, Birmingham, on Monday, November 28th, at 2 P.M.

—— In another edition of the "Word in Season," * its author adds many pages in discussion of the theory of his experience and that of TULL respectively as growers of Wheat during successive years on what is generally termed "the same ground." The intended meaning of the terms used by JETHRO TULL in explaining his practice and its results is ably ascertained by a comparison of passages from his writings, and his reputation is vindicated from the alleged folly urged against him that he believed plants to grow by feeding on minute particles of the mineral earth. The idea which he wished to convey by this term "earth" is explained in detail, and those who wish a fuller and more accurate knowledge of TULL'S husbandry than is given in any previous writings, not even excepting the latest publication—BURNETT'S Tillage and Manures—will do well to consult this new edition.

—— DURING the past few weeks, during which we have been discussing the probabilities of the Mangel crop, it is satisfactory to know that large quantities of the frosted Mangel roots have been

* A Word in Season; or How to Grow Wheat with Profit. 17th Edition. RIDGWAY.

used for sheep and cattle, and in no instance have we heard of scouring. We have also seen the effects of earthing up the standing roots by the plough, and we have no doubt that those not before very seriously injured are safe. Folding sheep on Grass and feeding them with the injured roots is now being followed out at the Royal Agricultural College farm; and is doing good to poor pastures, which will no doubt be felt for years to come. As the early frost has rendered all Grass and green food scarce, this use of the Mangels which will not keep will enable the farmer to hoard up his Swedes, which we should advise being earthed up and taken more than ordinary care of.

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THE consumption of the root crop is influenced to a considerable degree by the condition of the roots at the time of their being consumed. It has been remarked on a former occasion that the ripeness or maturity of the crop materially influenced the result so far as the increase of the animal is considered. When the root had attained to a mellow condition and the acrid matter originally contained in it when its growth ceased had by any means been converted into matter capable of administering to the further development of the animal's body, then the use of the food was more profitable and the health of the animal more safe than when these changes had not taken place. The plan of storing roots for use is adopted in the case of Mangel Wurzel as a general rule, and there is every reason to believe that when carefully stored the process of ripening is very much favoured thereby. The juicy character of the Mangel Wurzel root when first stored causes a considerable quantity of moisture to be thrown off from the root, and this arises from that tendency to heat which vegetable matter of this description so generally manifests. The heat of the stack frequently rises very considerably, and under bad management, by which the steam is kept in, we have known the roots to be almost rendered valueless. The great object should be to allow the free passage of air—but not frost—through the heap so as to carry away the steam thrown off. This process of heating when kept within moderate limits is decidedly favourable to the ripening of the root, and much of the superior feeding-value of well-stored roots may be traced to this transformation of noxious matter into a form valuable as food.

So far as we know at the present time we have reason to believe that the Swede is beneficially influenced in a similar manner to the Mangel Wurzel. It is a point worthy of more attention than it has yet received; and we think some valuable information may be gained by a fuller knowledge of this change which takes place in the ripening of roots. If the storing of roots favours and perfects their maturity and fitness for food, it may be inquired if Swede Turnips, which complete their growth late in the season and remain in the field for consumption there ever become fully ripe; and if so, the scouring which so frequently attends the use of such food may be found to arise not from the quantity of water they contain so much as from the presence of acids which render the use of the unripe food alike productive of pain to the animal using it, as well as of a loss of weight; for as such matter cannot discharge the ordinary duty of food, this has to be performed by materials which have been previously stored up in the body, and consequently the animal decreases in weight.

The probability of this view of the matter receives some confirmation from the many instances in which we find intelligent agriculturists storing Swedes in the field for use upon the same land. It has been done, we are well aware, primarily for other reasons, such as for protection from game and frost, but a double result has been realised, for such roots are always found more valuable for sheep. A knowledge of this important chemical change in the composition of the root will, we believe, show that much of the value of storing roots depends upon the more perfect ripening which is thus attained. At any rate it is a subject for investigation to which we would draw attention, for a knowledge of the true condition of these late-sown Swedes would enable us to modify our course of management so as to avoid or correct the evil.

Whilst however we avoid on the one hand the too early use of Swedes, we must be equally cautious of the opposite extreme. After the root has become fully matured it is then in a favourable condition for becoming "woolly" in its character. This arises from the root giving off much of the solid matter deposited in its cells, and leaving them unoccupied, when they gradually assume that peculiar appearance very commonly known by the above term. To avoid this is by no means so easy as may at first appear, for this generally occurs in the spring when the feeding has been delayed too long. In this condition the roots are of very little value as food, and certainly do not remunerate for their cost of production. In the majority of cases this may be taken as a proof of a superabundance of roots, which has delayed their consumption, but unfortunately the deficiency in our root crops of late has given but little cause for anxiety about completing the consumption of our roots soon enough.

Another cause of loss, and one which we regret to state is very prevalent, is the rotting of the roots. This premature decay is producing very serious loss throughout the kingdom, and many speculations have been advanced as to the cause. It appears, indeed, to rival its predecessor, the Potato disease, for the multiplicity of opinions entertained respecting it. Numerous causes have been assigned in each of these diseases, and that which appears in one neighbourhood to be correct is quite inapplicable in other parts. Under any circumstances it is matter of very serious importance to the stock-masters of this country, and we hope that our fears of its future extension may prove to be incorrect. Before another season for Turnip sowing arrives let us hope for more information than we now possess. We believe that a fuller knowledge of the organic composition of these roots in their various stages of growth and development would be valuable in tracing the changes which are so commonly observed. It is because we feel the great importance of being more fully acquainted with the organic composition of our roots, of the changes they undergo, and the circumstances which favour or retard these changes, that we have thus noticed the subject; and if we should be the means of drawing the attention of those interested in such investigations to favour us with fuller information upon this subject, or if we should by drawing the notice of our practical men to it elucidate facts bearing upon this very important question, we shall have no cause to regret giving such prominence to the subject.

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## THE EXHAUSTION OF ENGLISH SOIL.

TO J. J. MECHI, ESQ.

"My dear Sir,—I reply to your letter of the 3d inst., 'On the sure exhaustion of the Soil of Great Britain by our new sanitary arrangements,' because, while I regret the loss of this manure, I cannot go so far as you do and believe such fatal consequences as you mention to be impending from it; and I would take the opportunity this affords me of showing the inexhaustible sources of nutriment from deeper and finer cultivation that are now opening to us by the introduction of steam ploughs. It is not my intention to depreciate the value of manures in farmers' estimation, for I am well aware that many are far too careless in preserving and making the best use of what their farms produce; I would simply show how much may be done to make supplies of extraneous manures unnecessary.

"You know that Jethro Tull proved by many years' practice, 120 years ago, the possibility of growing greater than ordinary crops of corn by deeper and finer disintegration of the soil, and that the Rev. Mr. Smith of Lois-Weedon has for the last 14 years been growing extraordinary crops of Wheat year after year on the same ground, without any manure, simply by trenching and finely comminuting the beds, and thus affording an unfailing supply of nutriment in the greater decomposition of the soil; and I, too, in my practice of thin sowing, found that the fertility of my land increased as my tillage became deeper and finer.

"With respect to your quotation from Prof. Liebig, I am sorry to find so learned a man turning such data to his purpose, for it was from very different causes than the waste of its town manures that the cultivation of Italy declined; and if the cultivation of districts in America has been abandoned, which it would be difficult to prove, it cannot be from exhaustion of soil in the few years it has been occupied, or the greater part of Europe would long since have ceased to be productive. The cessation to grow corn in Italy under the Empire is readily to be accounted for in the large tribute of corn paid to the Romans by the world (not even excepting Britain, which was dignified by being styled one of its granaries), and gratuitously distributed among the freemen of the towns in Italy, for this at once deprived the country of a market for its corn, and took away its agricultural labourers, who, attracted by this free distribution, left the country and work, for a town life and idleness, and this is quite sufficient to account for the decline of production at home, and the fatal dependence on foreign supplies when the country's declining strength ceased to secure them. With respect to the assistance that the Chinese find in the use of this particular manure to raise food for its extraordinarily dense population, I can readily believe in its importance, without going the length of saying the loss of it must lead to sterility. The use of manure doubtless increases the fertility of land, and is valuable as far as it does so, and lessen the occasion for labour. The poorer the land the greater is the amount of labour necessary to render it fertile, and the higher it must be cultivated to raise the production to an equality with that from richer land; this is remarkably exemplified in the farming of poor land. I am often surprised to see how little the produce per acre of our different soils vary in comparison with the natural fertility of the land. The larger amount from always being supplied by our naturally richer soils; the higher cultivation of the secondary soils can often be seen to make them the most productive. And as the richer soils demand less labour because of their greater natural fertility, so will poorer soils when liberally enriched with manure require less assistance for cultivation; and it is *"as a substitute for cultivation that manure is useful;"* but the question is *"to what extent is it more economical?"* The experiments of Jethro Tull and Mr. Smith, supported to some extent by my own, go far to prove that good cultivation can more cheaply and more safely be looked to to supply the elements of growing corn; at any rate, all will agree that its assistance is very valuable. What an opening then is there before us to increase the fertility of our soils, and more particularly of our poorer ones. We must avail ourselves of the improvement of our implements and the introduction of steam power to turn and deepen the hard subsoil of our land and give a more extended and permeable range of soil to plants to feed from.

"Yours, my dear Sir, very sincerely,

"HEWITT DAVIS.

"3, Frederick's Place, Old Jewry,

"Nov. 16, 1859."

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## CAVERSHAM ANNUAL ROOT SHOW.

ON Tuesday week a large family party, and all the principal agriculturists and gentlemen of the neighbourhood, assembled at breakfast at the mansion of Caversham Park, by invitation of William Crawshay, Esq. They were afterwards, to the number of sixty ladies and gentlemen, conducted by Mr. Crawshay to the new conservatory, where a very large collection of roots, vegetables, and fruit was exhibited, with the names of the several contributors attached to them; and a most splendid collection of Mangel Wurzel, Swedes, and other Turnips, Drumhead Cabbages, and other vegetable productions will probably not again be seen this season. The dry summer was considered to be fatal to the production of roots equal in weight and quality to those of last year's exhibition at the same place; but it was admitted on all hands, and by Mr. Brandish Gibbs, who was of the party, that the present exhibition was splendid and creditable to the several exhibitors, showing how highly valuable may be made the new vegetable productions of the field and garden for the feeding-stall, the pen, and the immediate use of man. On the right hand of the door, in the first compartment, were the roots grown on the Caversham Park farms by the hands of Mr. Crawshay, consisting of 50 Yellow Globe Mangels, extending to the weight of 36 lbs. the single root; 24 Long Reds as high as 22½ lbs. each; 12 Swede Turnips as high as 13 lbs. each; later sorts Swedes and White Globe Turnips, very handsome and good; and six Drumhead Cabbages, weighing as high as 32 lbs. each. Carrots, Parsnips, Beet Root, and Savoys were all very fine, but grown in the parish of Caversham and in an unusually dry and hot summer, they were necessarily much restricted in growth, which, under the influence of a moister season, they would have attained. Adjoining this collection were six roots each of Long Red, Yellow, and Red Globe Mangels, grown by Mr. Alfred Crawshay in the county of Brecon, weighing 27 to 28 lbs. the single root, and all very true and handsome. Some very good Mangels, Parsnips, and Carrots came next, the growth of Mr. W. Crawshay, jun., of Glamorganshire. The next compartment was occupied by the roots and plants contributed by R. Crawshay, Esq., of Cyfarthfa Castle, in the county of Glamorgan, another of the sons of Mr. Crawshay. The site where the whole were grown is at an altitude of 750 feet above the level of the sea, and consisted of ten of each sort of Mangel Wurzel, all very large and handsome, and extending to 30½ lbs. each in several instances, the smallest being 28½ lbs. Ten Swede Turnips accompanied these, which varied in weight from the smallest, 11 lbs., to 15 lbs., the largest; they were very sound, well shaped, and handsome. Belgian, Altringham, and other Carrots were very fine indeed, and ten roots of Kohl Rabi were the largest which were exhibited, and weighed as high as 13 lbs. each. Some Drumhead Savoys were also very fine. The altitude at which these roots were grown, and in a very mountainous district, are to be taken into notice in reporting upon this contribution. Mr. Simpson, of Rowfant, Sussex, exhibited two very large Yellow Globe Mangels, weighing 40½ lbs. and 44 lbs. each, very handsome for such a monstrous weight, and he much regretted that he had not sent more in number and of equal weight, which he could have done. The contribution of Mr. Hy. Crawshay, of Oaklands, Gloucestershire, occupied the western end of the conservatory, and as a whole as well as in detail excited the admiration and surprise of every one present. The gigantic size and beauty of the back row of Long Mangels were extraordinary. It consisted of 18 roots of Long Reds, the weights of which went as high as

[illegible] Long Yellows, the weights of which ex[illegible] and the beauty of growth, colour, and [illegible] of the whole were remarkable [illegible] probably be exhibited at the Smithfield [illegible] at the Baker Street Bazaar in [illegible], and will, it is thought, eclipse all other roots [illegible], as they did on Tuesday at the Caversham Park Show. At the foot of this astounding row of Long Mangels were unusually fine Yellow Globes and Red Globes, extending in weight to 38 lbs. each, and remarkably handsome and good. The colour of both were brilliant in the extreme. In front of these were several Swede Turnips, weighing as high as 15 lbs. the single root. Some Green Round and White Globe Turnips were fine, with some large Kohl Rabi, the latter weighing as much as 10 lbs. each and very fine. White and Red Carrots made up this very extraordinary exhibition of roots, against which all England might vainly contend for pre-eminence, for beauty, weight, and quality. This collection of roots (the contribution of Mr. Crawshay's son Henry, of Oaklands Park) was grown by himself near Newnham, Gloucestershire, and as Mr. Brandreth Gibbs, the Honorary Secretary of the Royal Agricultural Society of England, said, "might safely challenge all England in every respect." Mr. Crawshay expressed himself as very much gratified with the extreme pains and success which the Messrs. Sutton had evinced to fill the next compartment. They contributed and arranged most tastefully all the descriptions of Mangel Wurzels, the whole of which were of nice shape and good quality. They were true to their respective sorts, free from neck or coarseness of any sort. Twenty-one different sorts of Turnips beautifully arranged and ticketed with their names excited universal admiration. Frequent were the expressions of determination to try several of the sorts next year; those interested in agriculture cannot but heartily wish them success in their exertions to introduce everything that is new and useful. The following gentlemen and others also exhibited roots, all of which were much admired:—Mrs. Stephens, of the "Rise;" Mr. King, of Hampstead; Mr. Leach, "The Kiln;" Mr. T. Armstrong; Mr. Armstrong, sen.; Mr. Harrison, of Mapledurham; Mr. F. Fuller, Mr. W. H. Fuller, Mr. Pottinger, Mr. Josiah Fuller, Mr. Barkshire, Mr. Sivewright, Mr. Hollis, Mr. G. Shackel, Mr. Witherington, Mr. R. Lovegrove, Mr. C. Poulton, Mr. Clarke, of Rose Hill, and Mr. Coldicutt; also the boys of the Henley Union Workhouse. Having completed the show of roots in the conservatory we pass through the long room leading to it, where Potatoes, Apples, and several other vegetable productions were shown by Miss Crawshay, of Caversham Park, and were highly praised. Samples of the Regent Potatoes, very large, were shown "cooked" with their skins, exhibiting perfect mealiness. Cucumbers in profusion and very fine for the season were shown by Mr. R. Crawshay, and Onions of extraordinary size. Pines and Grapes of unusual quality were also exhibited in the long room, as others also had been on the breakfast table in large quantities and eaten by the guests. A tray of 12 Pears weighing as high as 39 ounces the single Pear excited unusual astonishment, and were occasionally thought to be artificial. These Pears will probably be exhibited at some of our Horticultural Shows in London, as they are thought to be the largest ever grown in England, and are the production of Mr. Crawshay, of Dany Park, Breconshire. A tray of very beautiful Apples, of several descriptions, most tastefully and elegantly arranged, and contributed by Mr. G. Loraine, of the Grove, completed the fruit show, and was as much admired for the taste displayed in the arrangement as for the fruit itself. We have noticed the several contributions to a show of roots, which we may say as a whole has never been excelled in this kingdom, and if the expression of universal admiration and gratification could heighten the satisfaction of the host he had it amply from his visitors, who cordially congratulated him upon his complete success in his repeated root show at Caversham Park.

## BAILIFFS AND GARDENERS.

"Equity" states in his irrelevant reply to "An Employer":—"within a circuit of four miles from where I reside there are no fewer than five instances of one man filling both situations; and three of those are from 10 to 15 years' standing—sufficient proof I think to show that the combination can be successfully carried out."

To give you an idea of a gardener's horticultural education I shall suppose that you were born in 1826, and commenced serving your apprenticeship in 1840 either in a nobleman's garden or in a nursery. If you went into a garden you would probably be placed under the foreman who had charge of the plant or the forcing department, and act as his assistant during the greater part of your apprenticeship, which would give you an opportunity of acquiring a practical knowledge of housework.

Some gardeners would give you an opportunity of acquiring a general knowledge of outdoor cultivation, and direct you in your botanical studies and drawing; so you might be a mere plant grower or a trained hothouse labourer, or a general outdoor labourer, which would, to some extent, depend upon your master as well as yourself; as, for instance, you might serve your apprenticeship in a garden where there is very little forcing and a very limited number of plants.

If you served your apprenticeship in a nursery you would be a mere plant grower, and after completing your apprenticeship you would be employed for a few years as a gardener's foreman or plant grower; and, after you had grown the fruit which had been successfully exhibited at the metropolitan shows, you would, through "luck," for which I shall substitute accident, influence, interest, or a more acceptable term—merit, get a good situation as head gardener. You might, like some young men who make every effort to rise above the mediocrity, possess sufficient tact to prefer remaining a few years in obscurity, but at the same time steadily acquiring a thoroughly practical knowledge of your profession, to obtain which you would accept of employment at the formation of new kitchen and flower gardens, which would give you a practical knowledge of groundwork.

By exercising rigid but at the same time judicious economy you would be enabled to purchase a few horticultural and other works, and besides save a little money to enable you to keep up appearances while employed in such places as the Royal Gardens at Windsor, or in the botanical gardens at Kew, Edinburgh, or Glasgow.

Presuming that you were employed a few years in a botanical garden where you were occasionally sent on a botanical trip with the professor and students of botany, you might, ere this time, have such a varied practical knowledge of your business as to justify you in offering your services as superintendent of the Horticultural Society's New Garden. Some men who are at present occupying the most enviable positions as gardeners are the sons of *bonâ fide* labourers.

Some boys are so fortunate as to be allowed sufficient time at school to enable them to study drawing, the elements of English composition, geometry, algebra, and the French or Latin languages. But if reading the English language at sight, a little scribbling with your pen, and a little knowledge of arithmetic, geography, and English grammar were, as with too many gardeners, the extent of your scholastic attainments in 1840, I think you will agree with me that it would require the greater part of your leisure time during these last 19 years to bring yourself up to the standard of qualifications which the Editor of the *Gardeners' Chronicle* states that the superintendent of the Garden at Kensington Gore must possess.

With a view to enable gardeners to form an idea respecting the nature of a farm manager's duties I shall suppose that your father was an agricultural employer, and was compelled to send your brother, who was born in 1828, to service in 1840. He commenced his career as a farm servant by acting in the capacity of a shepherd's assistant, and acting in that capacity till 1846; then engaged himself to a farmer to act as a ploughman and general farm servant, and acted in that capacity till 1852, when, probably owing to the nature of a farm servant's duties being somewhat similar to walking a given distance in a given number of consecutive hours, your brother would give up farm service and act as a jobbing labourer from 1852 to say 1856, which would give him a practical knowledge as well of the cost of all kinds of farm labour.

I shall now suppose that you and your brother have been acting as leading men in your respective professions since 1856; you, the superintendent of extensive gardens in which you have a foreman for every natural division of labour, although you can take a leading part as a labourer in any division of labour—the forcing and plant departments, the kitchen and flower gardens; and your brother a gentleman's home farm steward, or land steward on a 1000-acre farm which is rented by a gentleman farmer.

A superintendent of any kind of work cannot expect to command the respect of either employer or employed, unless he can show that he is competent to perform the duties which devolve upon him. Here is your brother can castrate lambs, take the charge of ewes during the lambing season, clip, smear, dip, and, lay sheep; can do all kinds of ploughing for the preparing of the soil, for the sowing of any kinds of agricultural seeds; can take a leading part in the sowing, reaping, and harvesting of the hay and corn crops; and last but not least in these days of organised combinations amongst so many different classes of operatives, can tell at a glance in the event of a strike amongst jobbing rural operatives, if his master requires to accede to the demands of the men! With a view to bring "Equity," "F. L. O.," "Gardener and Bailiff, Norfolk," and all other men who consider that "There is a royal road to learning" agriculture in first-class gardens to the point, I shall suppose that you are a wealthy nobleman's gardener, and your brother is the same gentleman's home farm steward. The land steward dies; you are elevated to the enviable position of steward, still retaining your situation as head gardener, and like "Equity," at page 830 of the *Gardeners' Chronicle*, being "the right man in the right place," your employer "increases your salary in proportion to your new duties;" but will you show how you could work the home farm at a difference of 150*l.* per annum in wages?

"H. A. W. D." states, "There are many reasons that might be adduced to show that it would generally prove to be to the interest of employers were the offices of gardener and steward combined;" that he "has known cases of positively useless expenditure on the farm or elsewhere." I know of a home farm, the working expenses of which, for superintendence and manual labour, amounted to 4*l.* per acre for the arable land, exclusive of the cutting and harvesting the hay, the cartage of the coals to the employer's house, and the draft horses' keep (!); but does that individual instance of which I am cognizant make me believe that an intelligent man, who knows no more about farm management than a tailor, or a shoemaker, or a mere gardener, will manage a home farm better than an intelligent practical farm servant, a shepherd who was employed from early boyhood to manhood on extensive arable farms, or a respectable farmer's son who has won the honorary degree of "M. R. A. C."? Again, allow me to suppose that you have a bailiff who has served you these last 20 years, and has a son who was apprenticed to a gardener. Assuming by your late editorial statements that you took such an interest in the education of this and your other boys that you convened them once a week to examine and direct them in their studies during their leisure hours, previous to leaving their homes, you would as it were watch them during their apprenticeship with a fatherly care. "Equity's" father dies. "Equity" takes his father's place and you discharge your gardener. Assuming that your farm is say 400 acres in extent, a bailiff, shepherd, and a head gardener is probably the number of foremen you employ owing to each having a separate charge. "Equity" would, previous to his father's death, probably do all the house work in the garden himself; but "Equity" not only now requires a garden foreman who is competent to grow fruit and plants for exhibition, and a working farm bailiff; but "Equity" would expect you to "increase his salary in proportion to his new duties," such as taking a walk through all the horticultural and agricultural buildings; but "Equity" must show me through the medium of the *Gardeners' Chronicle* or the *Agricultural Gazette*, that he is competent to perform the duties which devolve upon him, else I shall enter into particulars to prove that he, like a great many other classes of men, is only making the same use of his horticultural knowledge as the priests of old made of their hooks in the fleshpots of Egypt. *W.*

## Home Correspondence.

*A Good Return.*—Having received from a correspondent in Ireland a small parcel of Potatoes said to have recently come from America, we selected 3 lbs. weight of them which we cut into 22 sets, and planted them in a row 12 yards in length, in common garden soil well manured. When lifted the whole produce weighed 154 lbs., all sound and healthy. Several of the tubers weighed from 1½ to 2 lbs., and were from 6 to 9 inches in length. The variety is very similar to one that made a considerable stir many years ago, under the name of the "Mangel Wurzel Potato," and was highly esteemed for cattle feeding. Such a Potato may become very valuable for cattle feeding, and in a season like the past would have proved a boon of no small importance to the farmer. *W. D. & Sons, Stirling.*

*The Turnip Crop.*—I have had an opportunity of examining a large portion of this year's Turnip crop in England, and I am quite satisfied that in the whole kingdom Turnips are not more than half an average crop. In many fields of real Turnip soil large patches without a plant are to be found, and even when the ground seems pretty well covered if you examine closely you will find the bulbs thinner on the ground and much coarser than usual. I have not yet heard of any bulbs of this year's growth having been tested by analysis, but from their appearance and the little good cattle seem to do with them, I suspect they are deficient in saccharine matter. English Linseed-cake can however be purchased at 9*l.* 5*s.* per ton, and at that price it should form a portion of the food of all fattening cattle. Potatoes have suffered a little during the last few weeks from disease, and good ones are consequently held firmly for more money. As much as 3*s.* per bushel has been paid to the growers for Fluke Potatoes during the last week, and no disposition has been shown to press sales. *H. J. Turner, Richmond, Yorkshire.*

*Improved Farming in Ireland.*—"G." endeavours to escape the effect of my statements of the improved farming in Co. Cork, by suggesting that I speak of some favoured district. He is mistaken in this. It is an average rural district far from Cork, and some miles from any town, the land letting at 10*s.* to 15*s.* per acre, rarely so high as 20*s.* Two or three men have farmed well on it for some years, and began earlier than in some other places. This is its only advantage. My knowledge extends pretty well over this county, and almost everywhere throughout it the same progress more or less prevails. As to the authority of Professor Murphy and newspaper editors to the contrary, it is a question not of authority but of evidence. Any man of good sense and knowledge of farming is as able to judge as any professor. Those too living among the people and watching the yearly progress of the same land are better judges of comparative advancement perhaps than others, who looking at the subject from a professional and editorial high standard, are apt to forget how much has been gained, because so much remains still to do. But we must all learn to walk before we can run. In my judgment the sole discouraging feature in Irish farming is the decrease of Turnips and increase of Potatoes. I am convinced however there is a large increase in the weight per acre of Turnips. The crops are often very good. The ordinary Irish farmer too only grows Turnips to support the stock he has. We have not yet got to the point of buying stock to consume a crop. Further let any one consider the practical inferences from the article in the last number of

the Royal English Agricultural Society by Mr. Russell of Kilwhiss, on the effects of climate on farming and apply them to such a dripping climate as ours. In truth however the love of Potatoes is terribly deep-seated. No food is so liked. The better wages a labourer gets the more Potatoes he plants, so too farmers in proportion as they thrive. I believe the great majority lose heavily by them, if they put a price on their own labour and that of wives and children. But the latter they put no value on, and every one hopes "may be they will grow next year," and old habits are hard to break through, and all are sure that to buy food is a great loss, and so I fear it will take many more years of that providential Potato blight to cure us effectually. *W.*

## Farmers' Clubs.

KINGSCOTE: *Nov* 8.—At the first monthly meeting this season Mr. J. T. Harrison, the president for the year, read a paper on the alterations proposed, and the improvements introduced in agriculture during the past year, which will be given next week. The various topics alluded to were then commented on. It was thought reaping and mowing machines would shortly become general implements of the farm, but that they were not yet perfect; that cultivation by steam power might answer on heavy working soils where the holdings are large, but not so as yet in this immediate neighbourhood, the soil being thin makes it easy of draught for horses, as also the number of large (or crag) stones situate so near the surface, renders the implement liable to breakages. The most animated part of the conversation was on the various concentrated artificial foods for cattle. The prevailing opinion however was that they were much too dear to admit of being used as a general food with any degree of profit. A vote of thanks to Mr. Harrison for his able and interesting paper concluded the evening's proceedings.

KILMARNOCK.—The exhibition of cheese of the Ayrshire Agricultural Association took place here, and is reported at length in the *North British Agriculturist*, from which we extract the following passages:—There were 70 entries for the best cheese made after the Cheddar plan, and 49 entries for Dunlop cheese, besides about 160 entries of butter. At the dinner Mr. Titley of Bath, one of the judges, said he had been requested by his colleagues to say a few words regarding the character of the exhibition. They had never seen so large a bulk of really fine cheese. They were nearly as good as those made in Somersetshire. It would be, perhaps, desirable that he should say something as to the qualifications of good Cheddar cheese. He would mention what he thought the characteristics of a good cheese in one sentence. It must be mellow and rich in flavour, and firm and full in texture. Anything calculated to produce bitterness or either undue strength or weakness was to be avoided. He did not think those gentlemen from the Ayrshire Association who had gone to the south had spent their time unavailingly. From his recollection of what the Scotch cheese was before, he might say that a wonderful change had been effected. He might be allowed to say—although he might appear to be overstepping his limits—that the Dunlop cheese was greatly improved; and he believed this was owing to the adoption of part of the Cheddar system. He would say to the cheese trade at large, that he thought it was very likely that cheese would come more into demand, not so much as a condiment as a staple article of food. In a great many parts of the country it was used only as a condiment on a very small scale when the dinner was over. But if they looked at what the component parts of cheese were, they would see that there was a strength of nutritive property about it that would enable men to do their work better than many other articles of consumption. It had the advantage of being easily cooked, and was also portable and well adapted for taking from home, when there was not time to return for a regular meal. It was also being introduced in large quantities into our distant colonies. Australia had taken immense quantities of English cheese; and not only Australia, but the eastern parts of Europe were becoming customers in our cheese markets. Since the British army had been in the Crimea, it was extraordinary the demand that had sprung up for cheese in the eastern parts of Europe and Asia Minor. He knew a gentleman in London who had shipped large quantities of cheese to those parts. It was very desirable that in everything they put their hand to, they should do it well; and in every branch of business in which they engaged, it was their duty to excel. In his part of the country—and he supposed it would be the same in Scotland—dairy farms were now more sought after, and paid very much better than arable land.

Mr. Craig, one of the judges of the Dunlop cheese, said he had been at the show for two years, and he was glad to say it was the best show he had ever been at. There were a greater number of lots shown to-day than last year—he believed about a third more—and there were fewer lots objected to, even with the larger number, which spoke well for their general quality. He was glad to hear from the Cheddar judges that they had never seen finer cheese anywhere; and the opinion of his colleagues and himself was that the first prize Dunlop was superior to any Cheddar in the show. He could not say whether these Dunlop cheese had a little of the Cheddar method in their make or not; but if the Dunlop folks saw it to be their interest to introduce part of the Cheddar system he did not think it would be any fault. He believed the introduction of the Cheddar method had been a great benefit to Ayrshire. There was no doubt that it had led to an improvement in the Dunlop cheese. The Cheddar method required a great deal more of attention than it was customary to bestow upon the Dunlop. It had the recommendation of being something new; and the cheese-makers being willing to learn, they had given more attention to the subject than they had ever done before, and had begun to make cheese as their forefathers did—by rule, and not by guess.

Mr. Campbell, of Craigie, said: After seeing the fine specimens of cheese in the show to-day, we ought to think how that improvement has been produced in our cheese-making compared with the state of things which existed before. I think that is a most important matter. I know well that in former times we had many good cheeses in the county of Ayr; but we never could be sure that one cheese would be like another. Even in the best dairies in the county, you could not be certain that one half would be like the other half. Then, our prices were very low. When I heard of prices to such an extent being got in England, I asked why we are so low in Ayr. Looking over the country, and looking especially into those parts of Dunlop, where I think there is the finest pasture that I ever saw, I could not understand why cheese in Dunlop should be cheaper than that in England, where it occurred to me the pasture was inferior. Then it occurred to me that the mistake was in the manufacture. I tried to find out where the difference lay. I came to the farmers with whom I was best acquainted, and said to them, "Why can't we get as good prices for our cheese as our neighbours in England?" They said, "We can't find it out here;" but they went down to our friend Mr. Harding, in Somersetshire, to consult him. He said, "Your pasture is as good as ours; but your cheese is not properly made." With the concurrence of this Association, we got Mr. Harding to come down to Ayrshire, bringing with him Mrs. Harding, who—I say it with all respect for Mr. Harding—is the best cheesemaker of the two. We have succeeded so far, and it will be our own fault if we do not make still further progress. Mr. Campbell concluded by proposing the health of Mr. Harding, which was drunk with loud cheering.

Mr. Harding expressed the pleasure it gave him to find himself once more among the farmers of Ayrshire. You remember, he said, when we set out four years ago, the question was raised whether or not as good cheese could be made in Ayrshire as in Somersetshire; and you remember I told you then several times in the public prints that I had no doubt in the world that they could be made as good. I have weighed the thing a good deal over in my mind since, and can see no reason why it should be otherwise. Some of you object to the pastures, and say you are not so well off in that respect as we are in England. You give the preference to old pastures, but I beg leave to differ from you, from what I know, with four years' experience added to my past experience. On my own farm I pasture half my cows on artificial Grass—good three year old pasture, and the other half on old pasture; and I am satisfied I should not make as much cheese as I do now, and particularly not of such good quality, if I did not use the young pasture. As you remember, when we were in Ayrshire we made cheese in different parts of the county, and on all kinds of land. When we had finished there were about 20 cheeses altogether; and when we left I looked at them carefully, and I think no person could have picked out one cheese and said it was not like its fellow. I sent three of those cheeses home to my own cheese-room to have them properly tested when they came of age. One of them was cut up by my friend Mr. Titley, and he did not know but it was one that had been manufactured in my own dairy. One of the three was made at Dalgig, another at Meiklewood, and the other on good pasture land at Holmbyres. I was satisfied that, whether we made the cheese at Dalgig, among the mountains; at Cunning Park, amongst forced Grass; or among the Heather at Corwar, where Mr. Wason is making the desert to blossom as the Rose, there was no material difference whatever. My opinion is that good cheese with good management, in the hands of a person who has something in the upper storey, can be made anywhere, whether at the Land's End in Cornwall or at Caithness in the extreme north of Scotland. From what I have seen to-day I am perfectly satisfied my Ayrshire friends will yet make as good cheese as we in England can do. I have been perfectly delighted to see the progress you have made. When I went into that shed I was amazed—I had never seen such a sight before in my life. I venture to say that such a sight in any circumstances could not be got up in the whole county of Somerset.

## Notices of Books.

*National Health and Wealth, instead of the Disease, Nuisance, Expense, and Waste caused by Cesspools and Water Drainage.* By the Rev. H. Moule, M.A., Vicar of Fordington, Dorset.

In this tract the absorbent and disinfecting powers of pulverised earth are once more pointed out. This is done in so explicit and detailed a manner as regards the way in which every householder or occupier of a garden or a farm may turn these powers to their use and advantage, that we strongly recommend every such person to procure the pamphlet and learn what Mr. Moule's experience has been.

The following is a short passage descriptive of the method of using dried surface earth as disinfectant and manure:—

"The power and efficacy of this agent will, however, be best understood and believed, if I give a short narrative of what during the last six months it has done for my own family, averaging during that period 15 persons daily. Eight months previous to that period, under a strong impression of the evils often occasioned, or likely to be occasioned, by the vault or cesspool on my premises, and feeling it to be a nuisance to my next neighbour, as well as to myself, I filled it up with earth, and ever since I have had everything that would otherwise have gone into it received and removed in buckets. And even this mode of removal, though offensive in idea, has proved far less so in reality, than even a very small portion of the evils it is intended to remedy. At first the contents of the buckets were buried in trenches about a foot deep in my garden; but on the accidental discovery that in three or four weeks, after being thus deposited, no trace of this matter could be discovered, I had a shed erected, the earth beneath it sifted, and with a portion of this the contents of the buckets every morning mixed, as a man would roughly mix mortar. The whole operation of removing and mixing does not occupy a boy more than a quarter of an hour. And within 10 minutes after its completion neither eye nor nose can perceive anything offensive. This was the first observation I made. The next was this, that when all the earth, which did not exceed three cartloads, had been thus employed, that which had been first used was sufficiently dried to be used for the same purpose again; and it absorbed and deodorised the offensive matter as readily as at the first time. And so singularly does this capability continue that a portion of it is now being used for the *fifth* time for the same purpose; and thus all that offensive matter which otherwise would have been wasted in the vault a nuisance to my house and the neighbourhood, and a source, it may be, of sickness and disease, is now a mass of valuable manure, perfectly inoffensive both to the eye and nose. I have taken 50 or 60 persons to see it without previously acquainting them with its nature, and not one has guessed it. All have declared it to be wholly without offence. Two have handled and smelled that in the afternoon which had been mixed in the morning without being able to discover its nature. And more than this, I have the same day submitted some to strong fire-heat; and that which unmixed with earth would under such heat have been intolerable, this mixed state emitted no offensive smell whatever. * * * * Again, a supply of manure for the garden is thus readily provided. A farmer and intelligent labourers to whom I mentioned the following simple plan at once entered into it. The present vault is to be discontinued and in the place of it there is to be made in the seat a small enclosure of brick or stone, about 6 or 9 inches deep. To preserve the full value of the manure for the garden this enclosure should be paved, or have a flat stone for its bottom. It would of course be closed with a door. On one side would be a small rough shed, capable of covering and keeping dry a cart load of earth for the purpose of mixing, and on the other side a similar shed, into which the soil so mixed would day by day be thrown, for the purpose of drying. When dry, this would be used again, and the uses of the two sheds be reversed. By thus repeatedly using it and shifting it backwards and forwards from shed to the other, one load of earth will be sufficient for five persons certainly for six months, and, I believe, for 12. This is the simplest but by no means the least offensive mode of application of this valuable agent."

## Miscellaneous.

*The Preservation of Milk.*—To preserve milk for an indefinite period is an important problem, which in France has been solved in three different modes. M. de Villeneuve was the first to preserve milk, solidifying it by the addition of certain solid ingredients, but it was no longer, properly speaking, milk. M. de Saint preserved it by evaporating the milk till it became of the consistence of syrup, rendering it a solid mixture of milk and sugar, still it could not be called milk. M. Maben also preserved it by excluding the air and exposing it to an atmosphere of steam about 100° Cent., thus depriving it of all the gases which it contains, and then hermetically sealing the filled bottles while it had been heated. When about to leave for Algeria I opened a bottle which had been closed by M. Maben on the 14th of February, 1854; and after a lapse of five and a half years, I found it as fresh as it was the first day. M. de Pierre has greatly improved on this discovery. The means which he employs to effect the preservation of milk is still heat; but heat applied in some peculiar way, by manual dexterity, first discovered by a Swiss shepherd. All that I am allowed to state is that the effect of this new method of applying heat is to remove a sort of *diastase*, or animal ferment, which exists in milk in a very small quantity, and which is the real cause of its speedy decomposition. When this species of ferment is removed, milk can be preserved for an indefinite period of time in vessels not quite closed and consequently exposed to the contact of rarefied air, a result which was not effected by the process of M. Maben or rather that of M. Gay-Lussac, as they call

pletely expelled those gases which otherwise would have rendered it sour. I have such full confidence in the success of M. de Pierre's process, that I had not the least hesitation in bringing along with me from Paris to Aberdeen a large vessel containing 5 gallons of milk, fearlessly trusting it to railroads and steamboats, thus exposing it to all the incidents of the journey. I am so confident of the success of the process that I pour out the contents of this large vessel into Scotch glasses with the conviction that I am giving to the ladies and gentlemen of the British Association a milk as natural, as pure, and as rich as when it was taken from the cow in the fertile plains of Normandy. May this potion, so sweet and so pure, be a symbol of those sentiments of benevolent affection which France, flourishing and enlightened, entertains towards her noble and great sister England! Owing to its greater specific lightness cream ascends to the top of the vessel, but it can be easily made to diffuse itself through the milk by slightly shaking it before uncorking the bottle. As the vessel is not quite full, a small quantity of butter may have been formed, and the milk may have become somewhat less rich, but it will still be pure and natural milk without any strange taste. Thanks to the progress of science, of which I am happy to be the representative, France can yield with profit to England her fruits, her vegetables, her eggs, and now offers her prepared milk for the wants of the army and navy, having nothing to fear from the longest voyages, nor from the excesses of heat and cold. *The Abbé Moigno in the Chemical Section.*—Prof. Christison said that after tasting the specimens of the milk brought by the Abbé, he was of opinion that it was the best preserved milk he had ever met with.

*Horse Labour in France, department of Aisne.*—Small holdings employ one horse for about 12 acres; and large holdings one horse for about 20 acres, which tallies with the preceding statement. A good draught horse receives per day—1st. From 8 to 9 quarts of Oats. 2d. 14 lbs. of Grass hay, Clover, or Lucerne. 3d. 14 lbs. winter Vetches, Beans, or Rye, according to the season. 4th. At different times during the year a certain quantity of meal and bran. 5th. 16 lbs. of Wheat straw. All these items, calculated from their average prices, would bring the cost of one day's feeding to about 1 franc 76 centimes, equal to 1*s.* 5*d.* *M. Tréhonnais, in Journal of Agricultural Society.*

## Calendar of Operations.

### NOVEMBER.

ISLE OF ELY: *Nov.* 21.—Our reports lately have all been more or less tinged with gloom, and unhappily we have no change of a favourable character this month to record. For added to the very deficient crop of Wheat lately and expensively harvested, and the unremunerative price realised for it in the public market, we have the serious injury sustained by our Mangels and Coleseed crops, in consequence of the unusually severe and destructive frosts which occurred towards the end of October. Our losses this year will be fearfully heavy, and will make many a man wish he were anything but a farmer. "Farmers are proverbially grumblers," at least so the world says. We question the justice of the assertion, but whether it be true or no, they certainly this year are not grumbling without a cause, as any man gifted with common sense and common sagacity cannot fail to see. Our great hope is that another year Providence may graciously interpose and bless the nation with an abundant harvest, that producer and consumer may have occasion mutually to rejoice, and that "no complaining" may be heard "in our streets." But to return to the damage resulting to both the Mangel and Coleseed crops from the severity of the frost. From observation we find that the Mangels put in a frozen state into the pits will not keep long, but should be immediately used. Those allowed to remain in the ground until thoroughly thawed, and a free circulation of the sap was restored, promise to keep better and appear less injured. The leaves also partly protected them, and prevented the frost exerting so serious an effect upon them. Those taken up, "topped and tailed," and left exposed upon the ground without any protection must be half spoiled, and will very soon begin to rot away. Our own, where taken up, were placed in rows, and well covered down with leaves; and where carted those exposed through an imperfect covering were put by themselves for immediate use, some of them being slightly injured, whilst the others were put into pits for subsequent use. The Coleseeds are even more seriously hurt than the Mangels. At least half the crop is absolutely destroyed, and very much of the fattening property taken from the other half. The crops sown for seed purposes, as well as those for feeding, are nearly all rendered almost worthless, and the lands must be re-sown with some other crop. The Wheat seeding, but in a few exceptional cases, is completed, and so far as putting in the seed is concerned, satisfactorily. It however vegetates very slowly, and but few green fields are yet visible. It very seldom happens that the seed is so long in the ground before showing itself. The very early sown Wheats, such as were up before the October frosts, were seriously cut, and for a time looked anything but well, but have since become greatly improved. Horses are now busy breaking up stubble lands for next year's fallow, and ploughing for Oats, Beans, and other spring crops. Threshing is very forward, and the steam-engines are well employed. The price of meat continues good. Store cattle also sell well. The injury to the Coleseed has made the trade for lean sheep slow, and prices are scarcely as good as they were. The corn trade has been slightly better; but to-day is dull again, and prices offered are 1*s.* to 2*s.* per quarter lower. Potatoes of good quality sell well, but are a light crop, and will yield a small return. *Your Fen Reporter.*

## Notices to Correspondents.

BOAR AND SOW: *G C.* It is often done; but as an exceptional thing.

CHICORY: *M J R.* Next week; or see article Chicory in Morton's Cyclopædia of Agriculture.

HOLCUS SACCHARATUS: *W J E.* We are unable to answer your question. Your own knowledge of the seed trade will guide you better than any suggestion from us.

HOOSE OR HUSK: The prescription for Hoose or Husk was for calves for six to 10 months. It may be increased or diminished according to the age.

RED RUST: *J K.* Your letter has been forwarded to our first authority on the subject.


# WEEKS' ONE BOILER SYSTEM.

**So styled from the fact that the largest Horticultural Establishments in Europe are now effectually heated by WEEKS' ONE BOILER.**

THE SEASON FOR TESTING THE EFFICIENCY OF A HOT-WATER APPARATUS having arrived, J. WEEKS & Co. are privileged by the under-mentioned well-known Horticultural Firms to issue a special invitation to the nobility, clergy, and gentry to pay a visit to their immense Establishments in order to become eye-witnesses of the extraordinary power of WEEKS' ONE BOILER SYSTEM.

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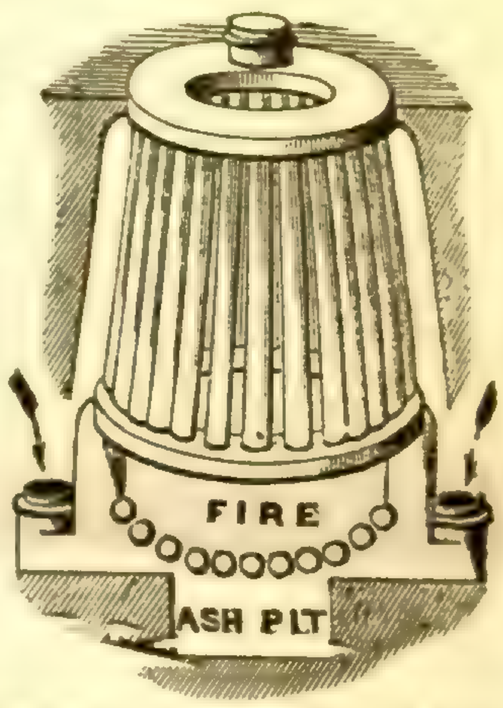
|---|---|
| | Feet |
| Messrs. E. G. Henderson & Son, Wellington Nursery, St. John's Wood | 5500 |
| Messrs. F. & A. SMITH, Dulwich Nursery | 10,000 |
| Mr. WOODROFFE, Harrow Road, Paddington | 4000 |
| Mons. LOUIS VAN HOUTTE, Ghent, Belgium | 13,000 |

J. W. & Co. also manufacture smaller and less expensive Boilers upon the same principle as the ONE BOILER SYSTEM, ranging in size from Nos. 1 to 6, at prices from 4*l.* up to 60*l.*

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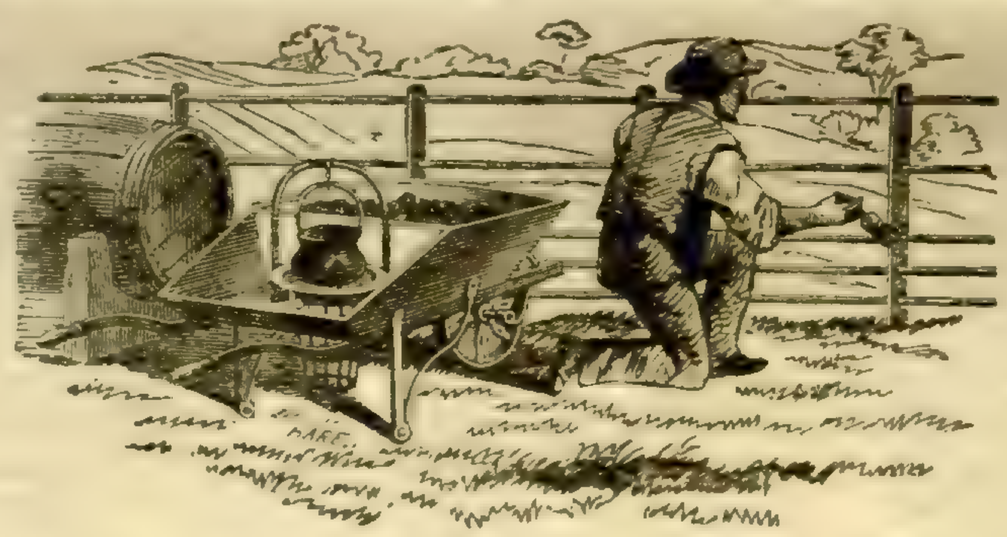
**THE WROUGHT IRON HEATING BARROW**



shown in the above engraving is a very useful article for applying the varnish or for heating gas tar. The front compartment holds tools, fuel, &c. and the back compartment carries an iron three gallon pot with fire grate underneath.

**Price £3 or £3 3*s.* Carriage paid.**

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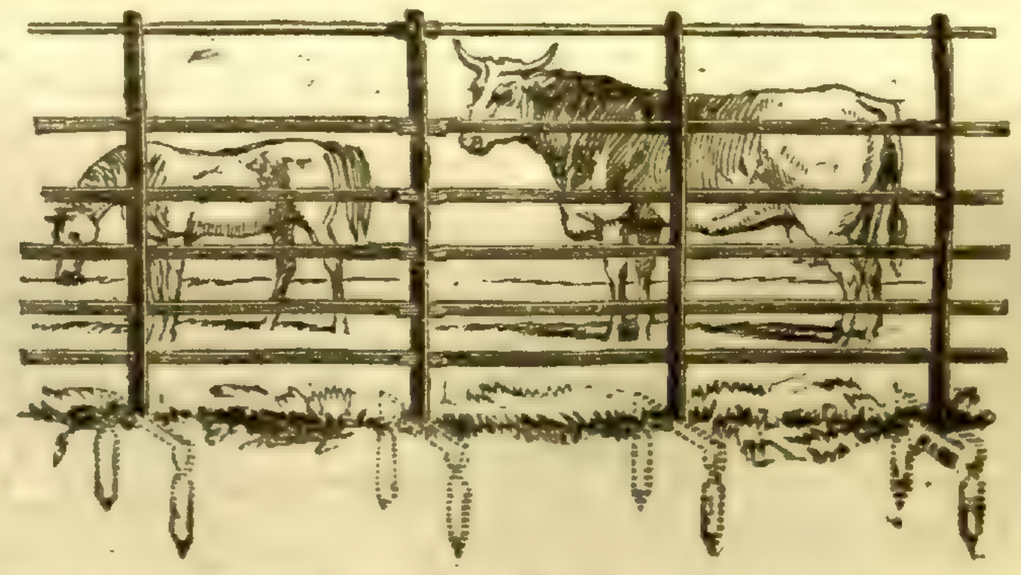
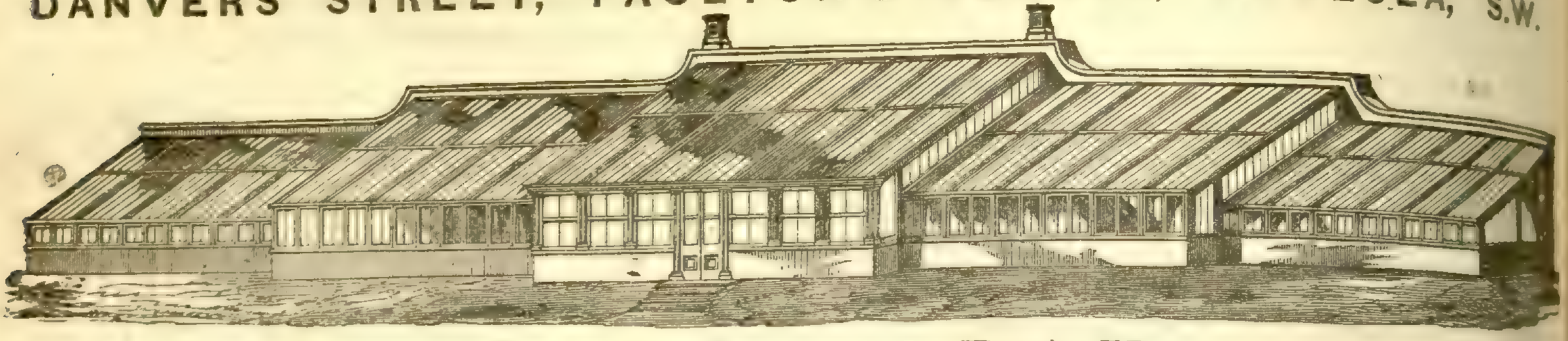
## PATENT CONTINUOUS PARK FENCE.



THIS FENCE is made in a variety of sizes suitable for any situation, and is much superior in appearance to hurdle fences, than which it is also cheaper and stronger. It has obtained upon two occasions the Silver Medal of the Royal Agricultural Society of England, besides many other premiums. Many miles have been erected by HILL & SMITH on the London and North Western Railway, between London and Bletchly Stations, and it has been erected at the Parks of upwards of 500 Noblemen and Gentlemen in England; that at Welbeck Abbey, the seat of his Grace the Duke of Portland, being entirely surrounded with it as a fence against Deer nearly 10 miles in extent The patent principle is also applied to Iron Hurdles, whereby the strength is much increased and their cost reduced. ILLUSTRATED PRICED CATALOGUES will be sent on application to HILL & SMITH, Brierly Hill Iron Works, near Dudley, who are the inventors and sole manufacturers, or to their London Office, 40, Broad Street Buildings, E.C., where specimens may be seen, or to Mr. B. SAMUELSON'S, 76, Cannon Street West, London, E.C.

# HORTICULTURAL WORKS,

## DANVERS STREET, PAULTON'S SQUARE, CHELSEA, S.W.



# JAMES GRAY

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## HEATING BY HOT WATER.

J. G. having specially devoted his attention for many years to this part of the business, is now fully prepared to Heat every description of public and private buildings, viz :—Mansions, Warehouses, &c., as well as all structures connected with Horticulture, in the most efficient manner. His system is the most simple that can be adopted—which he has from long experience to be the best—can be constructed at less cost, and is more easily managed than those of a complicated nature which have attracted the notice of the public.

J. G. begs to call attention to his CAST-IRON CORRUGATED ARCH BOILER, which from its simplicity of construction has not the liability to fracture to which those of more complex design are always subject. They have been extensively used for many years, and have given the greatest satisfaction.

All business is conducted at this establishment on the principle of lowest remunerative profits consistent with best materials and workmanship.

## PLANS AND ESTIMATES FURNISHED ON THE SHORTEST NOTICE.

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# COTTAM & COMPY., Engineers, Founders, &c.,

2, WINSLEY STREET, LONDON, W.

☞ **A SHOW ROOM DEVOTED ENTIRELY TO ARTICLES OF HORTICULTURE.**

THE NEW ILLUSTRATED CATALOGUE UPON APPLICATION.

COTTAM AND COPY. having had upwards of 40 years' experience in the arrangement and construction of every description HORTICULTURAL BUILDINGS AND HEATING BY THE CIRCULATION OF HOT WATER, are well qualified to guarantee the perfect execution of any works trusted to them in the erection of

- Conservatories
- Conservatory or Glass Walls for the protection of plants or ripening wall fruit
- Summer Temples
- Arbours, &c.
- Greenhouses
- Orangeries
- Orchid Houses
- Conservatories for Window or Balcony Gardening
- Vineries
- Apricot and Peach Houses
- Tropical Fruit Houses
- Forcing Pits and Frames
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☞ *Drawing and Estimates free upon application.*

ORCHARD HOUSES, combining cheapness of construction with suitability of purpose—portable or otherwise

EXHIBITION PRIZE MEDAL GATES AND STABLE FITTINGS.

**Iron Hurdles, Strained Wire Fencing, Game Netting, &c.**

*Every description of Plain, Ornamental, Cast and Wrought Iron, and Wire Work.*

SEE SEPARATE LISTS UPON APPLICATION.

**COTTAM & COMPY., Iron Works, 2, Winsley Street, Oxford Street, W.** (opposite the Pantheon).

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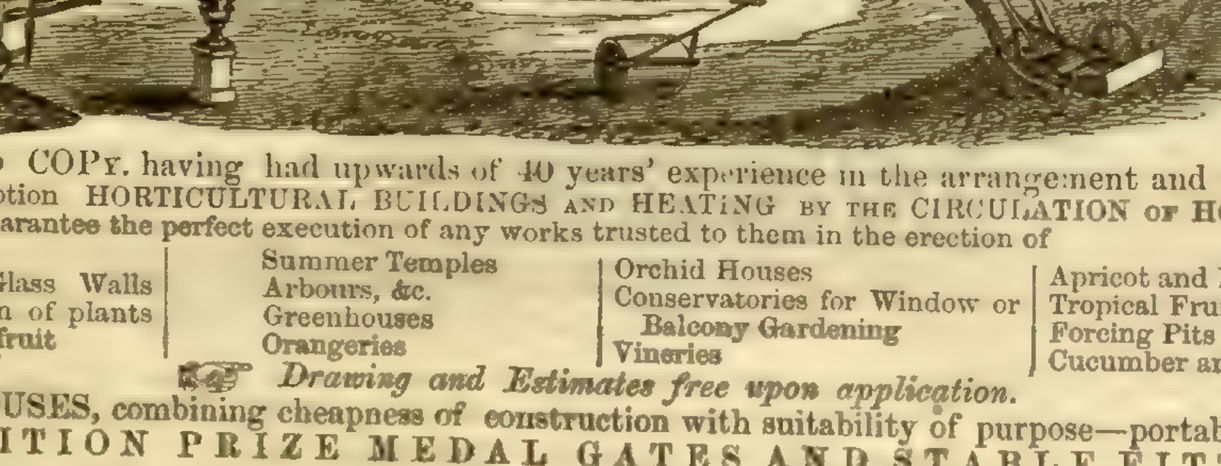
## BEDFORDSHIRE AGRICULTURAL SOCIETY, 1859.

J. AND F. HOWARD have much pleasure in informing the Public that at the Ploughing Matches of the above Society, just concluded,

# HOWARD'S CHAMPION PLOUGH



**Gained SEVEN out of EIGHT FIRST PRIZES, and SEVEN out of EIGHT SECOND PRIZES,**

Thereby more than ever sustaining its position at home, while, at the recent Meetings of the Royal Agricultural Society of England and the Highland and Agricultural Society of Scotland, it also gained the

**Two Chief Prizes as the Best Plough for General Purposes.**

CATALOGUES, with full particulars, sent post free on application to

**J. & F. HOWARD, BRITANNIA IRON WORKS, BEDFORD.**

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C. STEPHENSON, late STEPHENSON AND SON, 61, Gracechurch St., London, E.C., Manufacturer of Hurdles, Fencing, &c., Improved Iron and Copper Cottage Boilers and Apparatus for Warming Buildings of every description by Hot Water.

Prices and Estimates furnished upon application.

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LOOMES AND CO.'S CABLE PATTERN GARDEN EDGING may be obtained of Messrs. HOOPER AND CO., Covent Garden Market, W.C.

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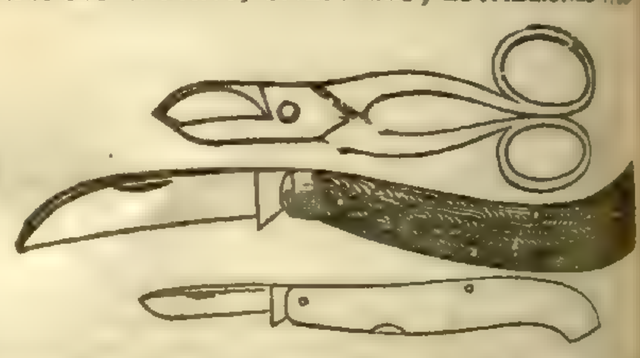
PAXTON WORKS, SHEFFIELD, ESTABLISHED 1770.



SAYNOR AND COOKE'S warranted PRUNING and BUDDING KNIVES, SCISSORS, &c. Sold by all respectable Nurserymen and Seed Merchants the three Kingdoms.

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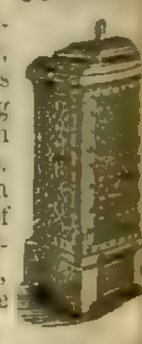
IMPROVEMENTS IN HEATING, &c.

MUSGRAVE'S PATENT SLOW-COMBUSTION STOVE, for Warming Public Buildings, Hall, Shops, Conservatories, Factories, Drying Rooms, &c. Will burn in Churches from Saturday till Sunday evening, avoiding attention during the hours of worship. In Halls will burn day and night for weeks, with little care. Capable of warming a large apartment for 24 hours, at a cost of 3*d.*; and deserving of special attention, because of its safety, healthfulness, durability, and extreme simplicity. This Stove is the nearest approach to warming by hot water.



MUSGRAVE'S PATENT STABLE FITTINGS AND HARMLESS LOOSE BOXES have obtained award of a large Council Medal from the R. I. A. Society, for the following improvements: 1st, The Horse cannot injure himself or others in the stable if he breaks loose in the stall. 2d, He cannot waste his hay. 3d, He can have his uncut hay at pleasure. 4th, He has clean water always before him. 5th, A pure and wholesome atmosphere is secured. 6th, The whole fittings are stronger than usual, without increase in price, and there is no risk of infection.

The Loose Box is really what its name denotes, in which the most spirited Horse may be turned into it without danger.

MUSGRAVE'S PATENT IRON COW-HOUSE FITTINGS, as approved by the Board of Works, and in the Ulster Model Farm, and by many of the most eminent Stock Breeders in the Kingdom, are made wholly of iron, very durable, cleanly, and attractive in appearance. The fodder is always fresh, being freely exposed to the air, removed from the breath of the animal, and separated from the dung and damp food. The range of Troughs can be quickly filled with water for the use of the Cows, or for washing out the house in case of epidemic, and the cost is very moderate.

These inventions being distinguished for strength and simplicity, and practical usefulness will repay public inspection.

MUSGRAVE BROTHERS are also Makers of Wire Fencing, Hurdles, Field and Entrance Gates, Corn Rick Stands, Conservatories, Hot-water Apparatus, Verandahs, Rural Buildings, and their works being favourably placed for cheap coal and materials, they can offer corresponding advantages in price.

MUSGRAVE'S Patent Field Gates have gained the 1st Prize from the R. I. A. Society for strength, durability, and cheapness.

For particulars address MUSGRAVE BROTHERS, Ann Street Iron Works, Belfast.

LILIES, HYACINTHS, &c.—All orders

DESCRIPTIVE AND PRICED CATALOGUE OF BULBS, with cultural directions for amateurs, sent free and post paid on application
BUTLER & M'CULLOCH, Covent Garden Market, W.C.

JOSEPH MAY AND CO. beg to offer the following choice FLOWER ROOTS:—

| | | | |
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| AMARYLLIS FORMOSISSIMA | .. .. | each | 0s. 6d. |
| ,, VITTATA, "fine roots" | .. | ,, | 2 6 |
| ,, JOHNSONII | .. .. .. | ,, | 3 6 |
| GLADIOLUS BRENCHLEYENSIS | .. | per doz. | 5 0 |
| ,, GANDAVENSIS | .. .. .. | ,, | 2 6 |
| ,, FLORIBUNDUS | .. .. | ,, | 2 6 |
| ,, FORMOSISSIMA | .. .. | ,, | 4 0 |
| [illegible] | .. | ,, | 9 0 |
| ANEMONES, named, 25 varieties | .. .. | ,, | 3 0 |
| RANUNCULUS, named, 25 varieties | .. | ,, | 3 0 |
| LILIUM SPECIOSUM | .. .. .. | each | 2 6 |
| ,, LANCIFOLIUM ALBUM, each | .. | 6d. to | 2 6 |

1, Wellington Street, Strand, W.C.

NEW ANNUALS.

JOHN GEORGE WAITH, SEED MERCHANT, 181, High Holborn, London, W.C., has great pleasure in offering SEEDS of the following new hardy Annuals:—
CLARKIA PULCHERRIMA,
SCHIZANTHUS GRANDIFLORUS OCULATUS,
HELIOPHILA CŒRULEA STRICTA.
Coloured Drawings and prices of which (to the Trade only) can be had on application.
Seed Establishment, 181, High Holborn, London, W.C.

CHOICE DOUBLE FUCHSIA SEED.

GEO. WHEELER, having saved a limited quantity of Seed from the finest DOUBLE FUCHSIA ever offered, viz., his SIR COLIN CAMPBELL, which from such a Stock may reasonably be expected to produce a considerable proportion of [illegible] is prepared to forward, post free, in exchange for postage stamps, packets containing 24 seeds each, at 1s. per packet.—Warminster Nursery, Dec. 3.

DUTCH AND OTHER BULBS.

MESSRS. PARKER AND WILLIAMS beg to inform their friends and patrons that their CATALOGUE of the above is now ready, and will be forwarded post free on application. Early orders are solicited, as their successful cultivation depends in a great measure on early planting.
Priors Nursery, Seven Sisters' and Hornsey Roads, Holloway, London, N.

DUTCH CROCUS, a great quantity in fine condition, 1s. 6d. per 100, or 11s. per 1000; English mixed [illegible] per 100. Mixed HYACINTHS, 3s. to [illegible] per doz., finest quality to name, 6s. per doz. Single TULIPS, two choicest mixed sorts, 1s. per doz., 7s. per 100. ORANGE TREES, with very large fruit on, 4s. to 7s. each.—R. GREEN, 154, Kingsland Road, N.E., 55 doors from Shoreditch Church.

WHOLESALE CATALOGUE.

GEORGE JACKMAN AND SONS' PRICED and DESCRIPTIVE CATALOGUE for 1859, of SPRING 1860; [illegible] Fruit Trees of all the leading kinds; New and [illegible] Roses; [illegible] varieties of American Plants; Choice and [illegible] Evergreen and Deciduous Trees and Shrubs; [illegible] of transplanted Forest Trees, &c., can be had on application.—Woking Nursery, Surrey.

AMERICAN PLANTS, &c.

MESSRS. WATERER AND GODFREY'S CATALOGUE for the present season is now ready, and may be had on application. It describes fully all Rhododendrons [illegible] growing, and contains a List of Azaleas, Hardy Heaths, and other American Plants, as well as a summary of the general stock of the most extensive Nurseries in England.
The Catalogue may also be had at Messrs. MAY's & Co., 1, Wellington Street, Strand, W.C.
Knap Hill Nursery, near Woking, Surrey.

HARDY RHODODENDRONS.

MESSRS. WATERER AND GODFREY invite attention to their Seedling RHODODENDRONS, which are coming without names, and which they strongly recommend as being very superior in point of HABIT, FOLIAGE, COLOUR, and GENERAL HARDINESS. They are from 1½ to 2½ feet [illegible], well furnished through, and no plants can possibly be in better health. They will be sold at very liberal prices, and purchasers can select from a stock of many thousands.
Knap Hill Nursery, near Woking, Surrey.

RHODODENDRONS.

JOHN WATERER'S CATALOGUE OF HARDY, SCARLET, and other choice RHODODENDRONS, as annually exhibited at the Royal Botanic Gardens, Regent's Park, is now published and will be forwarded on application. Faithful descriptions of all the esteemed varieties will be found detailed, with a list of the popular kinds of AZALEAS and other AMERICAN PLANTS, as well as a selection of CONIFEROUS [illegible], with height and prices.
Waterer Nursery, Bagshot, Surrey, near Sunningdale [illegible] South Western Railway.

GERANIUMS, HERBACEOUS PLANTS, ETC.

MESSRS. PARKER AND WILLIAMS beg to inform their friends and patrons that their new PRICED DESCRIPTIVE CATALOGUE of the above, to which are added Supplemental Lists of Stove, Greenhouse, and Hardy [illegible] Fruit Trees, &c. (which include all the best new plants of the season), is now published, and will be forwarded post free on application.—Paradise Nursery, Seven Sisters' and Priors Roads, Holloway, London, N.

WILLIAM MASTERS AND SON, EXOTIC Nursery, Canterbury, beg to inform their Friends and the Public that their Nurseries contain a greater number of Species and Varieties of PLANTS for Sale than any in the trade, are consequently better able to give variety of stock in the New Plantations they are entrusted to lay out than those possessing a smaller stock and less number of Species. Estimates respectfully solicited.

J. JACKS AND SON offer the undermentioned, all of which are extra fine. To parties requiring large quantities they would Sell on still more liberal terms:—

| | | | |
|---|---|---|---|
| [illegible] two years transplanted, 3 to 4 ft. .. | 16s. 0d. | per 1000. | |
| ,, 10,000 or more taken .. .. | 15 0 | ,, | |
| ,, EVERGREENS, Warrington or Ashton | 8s. p. 100 | 60s p. 1000. | |
| ,, ,, Red, Whitesmith, and other leading varieties | | | |
| CURRANTS, Red Grape .. .. .. | 7 | ,, 60 | ,, |
| ,, ,, Dutch .. .. .. | 8 | ,, 70 | ,, |
| ,, ,, Goliath .. .. .. | 8 | ,, 70 | ,, |
| ,, Black .. .. .. | 7 | ,, 60 | ,, |
| ,, ,, Naples .. .. | 8 | ,, 70 | ,, |
| ,, White Grape .. .. | 8 | ,, 70 | ,, |

[illegible] are all well grown, and two or more years cut down.
Donington, Spalding.—Dec. 3.

PINE APPLES, GRAPES, &c.

PINE PLANTS, Fruiting and [illegible]
GRAPE VINES, from Eyes, for Inside or Pot or Planting
JOHN WEEKS AND CO. can now supply [illegible] Fine Fruiting Pine Plants, Fruiting and [illegible] Strong Grape Vines from Eyes, at the [illegible].
[illegible] Horticultural Steam Engineers, Hot-water Apparatus Manufacturers, and Heating Engineers, have had the honour of Erecting the most Extensive and Perfect Range of Glass Structures in the Kingdom, and are now executing the largest Range of Conservatories, Vineries, Pine Pits, &c., for the Royal Gardens, Frogmore, and have had the honour of erecting the Hot-water Apparatus for the Royal Gardens, Kew, and the Royal Gardens, Windsor, and have also erected the largest Span-roofed Vinery in the Kingdom, at Eaton Hall, Chester, the property of the Duke of Westminster, and have erected the largest Conservatory in Ireland, at Powerscourt, Enniskerry, the property of Viscount Powerscourt, and have also erected the largest Conservatory in Scotland, at Dalkeith Palace, the property of the Duke of Buccleuch, and have erected the largest Conservatory in Wales, at Margam Park, the property of C. R. M. Talbot, Esq., M.P., and have also erected the largest Conservatory in the Midland Counties, at Elvaston Castle, the property of the Earl of Harrington, and have also erected the largest Conservatory in the North of England, at Castle Howard, the property of the Earl of Carlisle, and have also erected the largest Conservatory in the South of England, at Stanstead Park, the property of the Earl of Ashburnham, and have also erected the largest Conservatory in the City of London, at Messrs. Lucas's Nursery, Hammersmith, and have also erected the largest Conservatory in the County of Middlesex, at Chiswick House, the property of His Grace the Duke of Devonshire, and have also erected the largest Conservatory in the County of Surrey, at Dropmore, the property of Lord Ellesmere, and have also erected the largest Conservatory in the County of Kent, at Knowle, the property of Lord Sackville, and have also erected the largest Conservatory in the County of Sussex, at Cowdray Park, the property of Viscount Midhurst, and have also erected the largest Conservatory in the County of Hampshire, at Highclere Park, the property of the Earl of Carnarvon, and have also erected the largest Conservatory in the County of Berkshire, at Bulmershe Court, the property of H. J. Simonds, Esq., and have also erected the largest Conservatory in the County of Oxford, at Blenheim Palace, the property of His Grace the Duke of Marlborough, and have also erected the largest Conservatory in the County of Gloucester, at Dodington Park, the property of Miss Codrington, and have also erected the largest Conservatory in the County of Somerset, at Hestercombe House, the property of J. Warre, Esq., and have also erected the largest Conservatory in the County of Devon, at Mamhead Park, the property of Sir Robert Newman, Bart., and have also erected the largest Conservatory in the County of Cornwall, at Penjerrick, the property of J. S. Enys, Esq., and have also erected the largest Conservatory in the County of Dorset, at Canford Manor, the property of Lord Wimborne, and have also erected the largest Conservatory in the County of Wiltshire, at Wilton House, the property of the Earl of Pembroke, and have also erected the largest Conservatory in the County of Hertford, at Panshanger, the property of the Earl Cowper, and have also erected the largest Conservatory in the County of Bedford, at Woburn Abbey, the property of His Grace the Duke of Bedford, and have also erected the largest Conservatory in the County of Buckingham, at Stowe, the property of the Duke of Buckingham, and have also erected the largest Conservatory in the County of Northampton, at Castle Ashby, the property of the Marquis of Northampton, and have also erected the largest Conservatory in the County of Leicester, at Belvoir Castle, the property of the Duke of Rutland, and have also erected the largest Conservatory in the County of Nottingham, at Clumber, the property of the Duke of Newcastle, and have also erected the largest Conservatory in the County of Derby, at Chatsworth, the property of the Duke of Devonshire, and have also erected the largest Conservatory in the County of Lincoln, at Grimsthorpe Castle, the property of the Earl of Ancaster, and have also erected the largest Conservatory in the County of Yorkshire, at Wentworth House, the property of the Earl Fitzwilliam, and have also erected the largest Conservatory in the County of Durham, at Lambton Castle, the property of J. G. Lambton, Esq., and have also erected the largest Conservatory in the County of Northumberland, at Alnwick Castle, the property of the Duke of Northumberland, and have also erected the largest Conservatory in the County of Cumberland, at Netherby Hall, the property of Sir James Graham, Bart., and have also erected the largest Conservatory in the County of Westmoreland, at Lowther Castle, the property of the Earl of Lonsdale, and have also erected the largest Conservatory in the County of Lancaster, at Croxteth Park, the property of the Earl of Sefton, and have also erected the largest Conservatory in the County of Cheshire, at Tatton Park, the property of T. Egerton, Esq., and have also erected the largest Conservatory in the County of Shropshire, at Attingham Park, the property of Lord Berwick, and have also erected the largest Conservatory in the County of Staffordshire, at Trentham Park, the property of the Duke of Sutherland, and have also erected the largest Conservatory in the County of Worcester, at Witley Court, the property of the Earl of Dudley, and have also erected the largest Conservatory in the County of Herefordshire, at Holme Lacy, the property of the Hon. Mrs. Scudamore, and have also erected the largest Conservatory in the County of Monmouthshire, at Troy House, the property of the Duke of Beaufort, and have also erected the largest Conservatory in the County of Glamorganshire, at Dunraven Castle, the property of the Earl of Dunraven, and have also erected the largest Conservatory in the County of Carmarthenshire, at Middleton Hall, the property of the Earl of Cawdor, and have also erected the largest Conservatory in the County of Pembrokeshire, at Stackpole Court, the property of the Earl of Cawdor, and have also erected the largest Conservatory in the County of Cardiganshire, at Nanteos, the property of the Earl of Lisburne, and have also erected the largest Conservatory in the County of Merionethshire, at Nannau, the property of the Earl of Lisburne, and have also erected the largest Conservatory in the County of Caernarvonshire, at Penrhyn Castle, the property of the Earl of Penrhyn, and have also erected the largest Conservatory in the County of Anglesey, at Plas Newydd, the property of the Earl of Uxbridge, and have also erected the largest Conservatory in the County of Denbighshire, at Chirk Castle, the property of the Earl of Dudley, and have also erected the largest Conservatory in the County of Flintshire, at Hawarden Castle, the property of the Earl of Mold, and have also erected the largest Conservatory in the County of Montgomeryshire, at Powis Castle, the property of the Earl of Powis, and have also erected the largest Conservatory in the County of Radnorshire, at Llandrindod Wells, the property of the Earl of Radnor, and have also erected the largest Conservatory in the County of Brecknockshire, at Brecon, the property of the Earl of Brecon, and have also erected the largest Conservatory in the County of Glamorganshire, at Cardiff Castle, the property of the Earl of Cardiff, and have also erected the largest Conservatory in the County of Monmouthshire, at Tredegar Park, the property of the Earl of Tredegar, and have also erected the largest Conservatory in the County of Herefordshire, at Eastnor Castle, the property of the Earl of Somers, and have also erected the largest Conservatory in the County of Worcestershire, at Hagley Hall, the property of the Earl of Lyttelton, and have also erected the largest Conservatory in the County of Staffordshire, at Himley Hall, the property of the Earl of Dudley, and have also erected the largest Conservatory in the County of Shropshire, at Shrewsbury Castle, the property of the Earl of Shrewsbury, and have also erected the largest Conservatory in the County of Cheshire, at Eaton Hall, the property of the Duke of Westminster, and have also erected the largest Conservatory in the County of Lancaster, at Knowsley Park, the property of the Earl of Derby, and have also erected the largest Conservatory in the County of Yorkshire, at Harewood House, the property of the Earl of Harewood, and have also erected the largest Conservatory in the County of Durham, at Raby Castle, the property of the Earl of Darlington,

first few months in visiting numerous Tea farms in different parts of the country, where I made arrangements with the natives for large supplies of seeds as soon as they ripened in the autumn. In October and November I repeated my visit to the same districts, and everywhere found supplies of seeds awaiting me. In former transactions with these Tea growers I had always treated them kindly and liberally, and I now found the advantage that resulted from such treatment. Seeds had been saved for me in all directions; I had only to pick them up and proceed onwards, and was thus enabled to get through a large amount of work in a short space of time. In December I reached the seaport of Shanghae with the whole of my collections in excellent condition.

"Tea seeds will not retain their vitality long if kept out of the soil. In order to guard against all risk a large number of WARD's cases had been previously prepared and filled with earth, and to these the seeds were immediately transferred. The first shipment was made in December, a few days after my arrival in Shanghae. Knowing that the vessels would probably arrive in America about the middle or end of March I thought it likely the seed would remain in the earth without vegetating during the voyage. Instead, therefore, of sowing the seeds near the surface in the usual manner, I mixed up large quantities with soil, and filled the case up with the mixture of earth and seeds. By this simple plan many thousands of seeds were carried to their destination, and when they arrived there were as sound as if they had been all the winter on a Chinese seed-bed. Of course it was necessary to unpack them immediately on arrival and sow them thinly in other quarters. In the other cases which were shipped later, this mode of packing would not have been safe. The seeds were therefore sown thickly and covered with earth in the usual manner, and in this state might vegetate on the voyage without any risk whatever. In the one case the object was to get the seeds quickly to their destination without vegetating, for had this taken place the experiment would have been a failure; in the other they were placed in circumstances favourable for vegetation, and the only change likely to occur would be this, that in China they were only seeds, while towards the end of the voyage or at its termination they would have changed into healthy young plants.

"The watering, closing the cases, shipping, and last, but not least, securing the good-will of captain and officers, were all important operations."

Not only has the Tea plant been thus introduced to the Eastern states, but, as is mentioned in another column, it has found its way to the Western; and our friends on both the Atlantic and Pacific sides are with their usual energy setting about growing it.

But there still remains the question whether they can turn it to profitable account. That their climate will be found to suit in some of the vast regions of the West there can be no reasonable doubt. But merely growing Tea plants will not make commercial Tea. The difficulty lies in the preparation of it, an operation which, as conducted in China, demands an enormous quantity of labour — the article of which beyond all others the United States have the least to spare. But is it really necessary to prepare Tea Chinese fashion?—to chop it up into little balls and twist it into all sorts of queer shapes with all sorts of names, in order to give it its dietetical value? Surely not. We have ourselves found out that the painted article called green Tea is not very wholesome and by no means the better for the paint; and we quite anticipate that our United States friends will have even already projected some sort of machine that will produce good marketable Tea without the assistance of human hands. This indeed, we know, is the opinion of Mr. FORTUNE himself.

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AT the Anniversary of the Royal Society on the 30th ult., one of the ROYAL MEDALS was presented to Mr. GEORGE BENTHAM, one of our most valued correspondents, "for his important contributions to systematic and scientific Botany."

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## GOOSEBERRY BUDS AND SPARROWS.

IF the buds of Gooseberry trees were the ordinary food of sparrows, a flock of these well-known birds would ever be a sight of great uneasiness to all our anxious gardeners. Here, where the feathered tribes find shelter and protection, my Gooseberry trees seem to have no attractions for the sparrows, except in occasional seasons of rare occurrence; and in those seasons I invariably find caterpillars on the leaves. This leads me to suspect that the buds of the Gooseberry trees must have been the cradle of these unwelcome marauders:—and far from being terrified at the appearance of cock robin and sparrows on the trees, I consider them as friends, and I wish them a hearty meal. If the sparrows at Ford Abbey have really an appetite for the buds alone, it is a bad business, as sparrows have now become formidable by their numbers. When I was a lad, the sparrow-hawk was considered a valuable assistant in checking the increase of these little winged thieves. But now, the ignorance of country squires, and the wanton cruelty of gamekeepers, and I may add, the venom of our ever busy old hen wives, have nearly destroyed the valuable breed of sparrow-hawks in this part of our county. The weasel too, and the stoat, which are always on the look out for sparrows and Hanoverian rats, have woefully decreased of late years. No sooner is the track of one of these trusty friends to the farmer and the gardener discovered, than a baited trap is set, and the poor victim is impaled to form another hideous appendage to the walls of the keeper's kennel.

The land being thus deprived of its faithful watchers, the weasel, stoat, and sparrow-hawk, we must not be disturbed in mind if our crops suffer for the loss of them. Neither can I pity the raving farmer when he descries large flocks of sparrows regaling themselves on his ripening corn. In order to guard Gooseberry trees against all winged intruders, I would beg to recommend the use of fishing nets. In our towns on the seacoast (Scarbro' to wit, which I have just left) superannuated fishing nets may be got at a very easy price, say for 3*s*. each. One of these nets would protect an extensive range of Gooseberry trees. I cannot help adding, that so late as last Wednesday, on going down a street in Scarbro', I turned into the shop of a bird preserver. On his table lay two pretty female sparrow-hawks. They had been killed the day before by a nobleman's gamekeeper. The knave in his letter said that he wished to form a case of British hawks. I wished the rascal a case of Tyburn halters. *Charles Waterton, Walton Hall, Nov.* 27.

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## THE AQUILEGIA OR COLUMBINE.

AMONG the many neglected old favourite flowers that deserve more notice than they now receive may be classed the Columbine. While the Chrysanthemum, Hollyhock, Sweet William, &c., have made rapid strides towards perfection, this once highly prized flower is, I believe, scarcely if anything superior to what it was 20 years ago. I believe in short that better varieties are to be found at the present day in the gardens of the cottager than in those of greater pretensions. Surely this is to be regretted, and I trust ere long to see the Rose Columbine elevated to the position in our gardens which it deserves to occupy. Few flowers make a better show early in the year than it does. Its gracefully drooping flowers of various colours, and the length of time they continue in perfection, should surely recommend the plant to the notice of all lovers of gardens. It is well adapted for ordinary decoration or pot culture, and well-grown specimens in pots look charmingly. I remember once seeing a long border planted with Columbines, and I need not say it was the admiration of every one who had an opportunity of inspecting it.

In order to have the Columbine in the greatest perfection fresh plants should be raised every four or five years, for it may be observed that the youngest always exhibit the finest flowers, and as the plants get old they frequently spoil their colours, instead of being ornamental becoming quite plain. The seed should always be gathered from flowers possessing the best properties, that is to say, from the largest, most double, and most distinct and decided kinds. Flowers with these properties may often be found on the same plants, along with others of an indifferent character, and as is the case with the Balsam, the inferior ones should be removed as they appear from such plants as are intended for seed, and the good ones only preserved.

The seed may be sown in autumn or spring. Any common garden mould made fine will be suitable, and the plants will require no further attention except keeping them free from weeds, or if the weather is very dry giving them a slight watering until they are fit to remove. A bed should then be prepared for their reception, which should be composed in part of light loam. The plants should then be placed in rows a foot apart. At Michaelmas they may be removed to the place intended for them to blossom, and the following May they will produce flowers. It is advisable if the roots are intended to be propagated from not to let them seed; on the contrary crop off all flower stems as soon as the beauty of the flowers is over, in order to keep up a good succession of bloom. Fresh seed should be sown every year, and if you can rely on a friend for a change of seed every two or three years, it will be advisable to secure it, as they are less liable to spoil than when raised from your own collection. All that have bad properties should be discarded at once, and the remainder should always be kept free from weeds. The ground should be dry between the rows every winter, and a little manure added. This is all the care that these elegant plants will require. *Edward Bennett, Osberton, Notts.*

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## CULTIVATION OF LAVENDER.

THE only districts in this country in which Lavender is grown to any extent, are, we believe, those of Mitcham and Hitchin, and the only species cultivated in both localities in any quantity worth notice is the common garden Lavender, the Lavandula vera, D.C.; and of this species, on an average of some years, there are about 35 acres under cultivation at Hitchin.

The soil best adapted for its growth would appear to be of a loamy nature, with a chalky subsoil. A loamy soil is, without doubt, that in which the Lavender thrives best, but whether a chalky bottom contributes in any essential degree to favour its development is uncertain, although this would appear to be the case as in all soils about Hitchin in which the Lavender succeeds best, chalk is found beneath the loam. The spot in which it is grown should be freely exposed to the air and sun, and in a somewhat elevated locality, for it has been always noticed, that when Lavender is planted in ground which lies very low, or which is surrounded by very high hedges, or in which there are many large trees growing, it is more liable to be injured by late frosts in spring, and to suffer most from blight and the other special diseases to which it is liable.

The Lavender at Hitchin is always raised from slips or cuttings. These slips were formerly taken of small size, but it is now the more common practice to cut large vigorously growing pieces or branches from the mature plants. These cuttings are then planted in land which has been previously trenched about 18 inches deep, and well manured. The planting is usually performed in September or October. Mr. Perks informs us that for two years past he has tried the experiment of planting the slips in the spring instead of the autumn, in consequence of the large number which are commonly destroyed during a severe winter, when planting takes place at the latter period; he finds however, that the autumn plants are much stronger and not so liable to perish from the late frosts in spring or to be injured by very dry weather. As soon as the plants begin to show the least signs of flowers in the following summer, they are carefully clipped, and the operation is repeated two or more times as may be necessary, in order to prevent the production of the flowers during the first season, for it is found that plants thus treated are ultimately much stronger and of a better shape than those which are allowed to flower. In the following October, when the plants are about twelve months old, or in the succeeding January, if the weather be fine and not frosty, they are planted out in rows, in land which has been previously well cleaned and manured. The plants in the rows are usually placed about 3 feet apart, and a space of from 3 to 4 feet is also maintained between the rows. Mr. Perks thinks that a greater distance than 4 feet between the rows would be advisable, for he says that unless the plants are freely exposed on all sides to the air, they will not flourish so well, and will not bear such large flowers for a length of time, as when they are planted so as to preserve a greater distance between the rows. He further adds, that he has one hedge-row of Lavender thus planted which is now 12 or 14 years old, and has has always produced a fine and good crop; while the other rows of plants of the same age, which have grown to large size, so as to touch each other between the rows, the flowers are small, and the yield of oil inferior to that of the former. In reference to this opinion, we may remark that there can be no doubt but that it is very desirable in planting Lavender to preserve a free access of air and sun between the plants, as otherwise they will not grow so strong or produce such large flowers. When too closely planted they are also liable to a peculiar disease, which is supposed to arise from their rich aroma producing a poisonous influence, owing to their confinement too much in the vicinity of the plants. But at the same time we think that for all practical purposes a distance of 3 feet between the plants in the rows and from 3 to 4 feet between the rows themselves is amply sufficient, more particularly so as it is usual to remove the plants after a few years' growth, or thus before they have arrived at such a size as to fill the spaces between the rows. In the first summer after planting, that is, in the second year from the plants being raised from slips, it is sometimes the practice to commence cutting the Lavender for the purpose of distilling the essential oil; but it is far better to keep the plants clipped through this summer, and to allow them to flower at all till they are in their third year of growth. The expense, however, of allowing them to remain so long unproductive is very great, that when the oil is dear the plants are sometimes allowed to bear flowers the second year, but by doing so the crops of future years are always injured. Those who desire a fine crop of Lavender should therefore always reserve the plants for use till they are in the third year of growth. This is the more usual practice at Hitchin. In the second year of growth it is customary with Mr. Perks, in order to strengthen the plants still further, to supply the roots with a regular supply of short manure, or if this cannot be procured in sufficient quantity, to supply its place by superphosphate of lime, which he believes greatly improves the appearance, and causes them also to produce finer flowers the following summer. Growers of Lavender must be careful, however, not to over-manure the land in which it is planted, as it does not require a very rich soil, and thus, by so doing, the plants run to stem and leaf, and the crop of flowers is less abundant. In the third year of growth the plants bear well, and from this period till they are four or five years old they are in perfection. They are commonly removed at the age of seven or eight years, but it is found that plants in different situations and localities vary much in the number of years in which they yield successfully.

Lavender is frequently liable to a kind of blight during the months of May or June, by which whole

plantations are sometimes destroyed. Late frosts in the spring, as at the end of April or beginning of May, frequently also do very great injury, as was especially the case last season. When the plants are in flower they are also liable to a kind of disease, arising, as before noticed, from a poisonous influence exercised by their own aroma, especially when too closely planted. From these causes Lavender is rather an uncertain crop, and hence the main cause of the fluctuation in the price of its essential oil.

**A dry warm season, with** occasional showers, suits the Lavender best. It is well known that English oil of Lavender is always much superior to the foreign oil, even when the latter is obtained from the same species of Lavender. The foreign oil is, however, commonly obtained from another species—namely, from the Spike or French Lavender, the Lavandula spica, D.C. When obtained from the same species the difference between the oils of home and foreign production is due probably in a great measure to our more humid climate. The character of the soil and other causes also, without doubt, influence in an important degree the quality of the oil. Good English oil of Lavender is commonly worth 10 or 12 times as much as that derived from the French Spike Lavender.

The crop of Lavender is gathered at the end of July or beginning of August, the time varying a week or more according to the character of the seasons. At about the 20th of July, in fine seasons, the Lavender plantations have a beautiful appearance, and exhale a delicious perfume; they are then well worth a visit. The Lavender flowers yield most oil and of the best quality when gathered in showery weather. A long succession of very hot dry weather preceding the harvest is always injurious, the oil obtained having then always a more or less rank odour. The flowers should be gathered when fully expanded, as it is better to lose a few from their falling off the stalk in the process of gathering, in consequence of their ripeness, than to get them too young, as the oil is not then fully developed. The plan adopted by the two cultivators at Hitchin for cutting and preparing the Lavender for the still is different. Thus, one has the flower-stalks cut from the plants with a short reaping-hook or sickle; they are then tied up into bundles or sheaves, each of which weighs about 35 lbs. These are removed from the field and carried to the still-house, where they are prepared as soon as possible for distillation, for otherwise the Lavender heats, and the quality of the oil is more or less injured. In order to prepare Lavender for the still the flowers are stripped altogether from the stalks, and received into pans of moderate size. This stripping is performed by women, two being placed to each pan. As the pans are filled they are emptied upon a large cloth, and the flowers are frequently moved until there are sufficient for the still. The time required to obtain sufficient flowers for a still of 120 gallons by 28 women is six hours and a half. The other cultivator adopts a different plan to the above. Thus, he has the Lavender cut in the field as close to the flowers as is possible; it is then put into sacks without being tied into bundles and conveyed at once to the still. He says that he has sometimes stripped the flowers altogether from the stalks according to the plan described above, but has found no material difference in the quality of the oil. He is, however, very careful not to have more stalks mixed with the flowers than can be avoided. It is necessarily more expensive to throw away the stalks and retain the flowers alone for distillation, as the labour of preparing the Lavender for the still in the latter case is greater than in the former, and the oil which the stalks contain is also then lost, although the amount of oil obtainable from the stalks is very small as compared with the yield of the flowers. The additional expense of the oil obtained by using the flowers alone has been estimated at 10*s.* per lb. The admixture of a little stalk does not appear to be of much consequence, but it is very important to guard against any large amount being mixed with the flowers, for, as a rule, the greater proportion of the former to the latter the less sweet the oil, and the more, in fact, does it resemble that of foreign origin.

In one case the ordinary fire-still is employed for distilling the oil; in the other, the distillation is performed by steam heat. This plan is considered by some to possess many advantages over the former, as by such a process the Lavender has no chance of getting burned, or the oil obtaining any empyreumatic odour from the application of a too great heat. On an average it is found that about 60 lbs. of good Lavender flowers yield about 16 ounces of essential oil.

The yield of essential oil of Lavender from an acre of land is, we are informed, on an average, about 6 Winchester quarts if old and young plants are taken together, but if all the plants from which the Lavender is gathered are young, that is, from three to five years old, then the produce will be about another Winchester quart per acre. As there are on an average about 35 acres of Lavender cultivated in the neighbourhood of Hitchin, the total yield of oil from that district will be, therefore, not less than 210 Winchester quarts. All the oil produced at Hitchin is, we believe, used in the preparation of Lavender water and other celebrated perfumes, the inferior oils, chiefly those of foreign origin, being employed for scenting soaps and pomades, &c.

The Hitchin oil of Lavender has a remarkably fine, delicate, and sweet odour, being free from all rankness, and, at the same time, it possesses a very rich strong perfume. This oil is now becoming fully appreciated in the trade, where it is commonly quoted under the name of Hitchin oil of Lavender. We believe that there can be no doubt that the best Hitchin oil is at least equal to any produced elsewhere. Its excellent quality is due to the favourable character of the soil in which it is produced, to the very careful manner in which the plants are raised and cultivated, and to the fact of the flowers being either used alone for distillation, or, at all events, mixed with a very small portion of the stalk. We are convinced that nothing injures the quality of the oil so much as the admixture of any large proportion of stalks with flowers. *Pharmaceutical Journal.*

## ENCOURAGEMENT OF FLORICULTURE AMONG THE OPERATIVE CLASSES.

In these troublesome times when strikes and lock-outs jar upon the ear, and are causing want and misery to thousands whose only error has been that they have trusted their enemies,—in these times, I say, it is pleasing to turn aside our regards, and view the working classes under a different aspect. There is a movement commencing among those classes which does them the highest honour, and which is, I think, calculated to become an inestimable benefit to them. I allude to the growing taste for floriculture, which I have reason to believe is gradually, yet extensively, developing itself among the operatives, not only of London, but also of other large provincial populations.

It is most gratifying to find how many families are rendering their humble homes happy and comfortable by this new and permanent source of pleasure, which can be indulged in with perfect innocence, at very trifling cost, and with the utmost social benefit.

I could say something on this subject of what has come under my own observation, but I prefer transcribing the words of one far better informed. Samuel Broome, the well-known gardener in the Temple, who appears to be the main-spring of this happy movement, writes to me as follows:—

"Having some years' practical experience of the increasing love of floriculture among the industrious working men in this great metropolis, I visit hundreds in the course of the year, sometimes at public meetings called for the purpose of hearing conversation as to the best mode of cultivating their show flowers; at other times at their private homes to inspect their gardens; and to me they are the happiest hours I enjoy, as they are so united and good-tempered one towards the other when conversation is introduced about flowers; but if any other subject is brought under notice, such as politics, strikes against employers, &c., then I find a different spirit exist directly, as there are not two of the same opinion; but quite the reverse on floriculture, for they all feel like brothers, and their innocent rivalry never engenders bad feeling. The one that gets the third prize is as pleased as his neighbour who obtains the first.

"Allow me to give a few instances of what has come under my notice with respect to some of their gardens. For some years past Mr. Dale and myself have cultivated Chrysanthemums in the two Temple Gardens very extensively, and generally have been successful in having a good blaze of bloom in November, when our gentlemen very liberally throw open the gardens to the public to inspect them. Most seasons they are visited by hundreds of thousands, the majority being the operative class, composed of all trades, and I must confess I rarely have a flower touched by any. They inspect the collection with great interest, and ask all sorts of questions as to the best mode of cultivating them. They say, 'Gardener, give me a slip for a pot to grow in the window.'—'Have you any garden?' I ask.—'No,' they say; 'my back-yard will not grow anything, it only does for the dust-hole.'—'I will give you some plants,' I reply, 'if you will try and grow them in it. Tell me where you live; I will come and look at it.' I get the address, and sure enough when I go, it is like a dust-hole, full of ashes, old rags, and rubbish. I say to them, 'Chrysanthemums will grow here, friend, if you form it into a garden. Trench it up well, put in some manure, and make some walks with some dry ashes, and your yard is converted from a rubbish place into a garden at once.' He has confidence in what I tell him, and goes to work. I then give him plants and directions, and in a few months he comes round and says, 'Gardener, I think I beat you; my plants are better than yours; come and see them.' I go and find it the case. The next neighbour follows his example; and so it passes from one to the other, till at last they find they are numerous enough to form a society to show their productions to the public. The wives begin to find their husbands, instead of going to a public-house after taking their tea, are employed at home among the flowers. She also keeps her house cleaned, for visitors calling to inspect them. The children are clean, and are delighted to see the visitors come to see their father's garden; and this teaches them not to touch the flowers at home, and a growing disposition not to do it when out in other places. I have been hailed in a spirit of joy by scores of the wives for persuading their husbands to grow flowers, it being the means of keeping them at home. As they say, it takes up all their time to look after them, and prevents them from spending many a hard-earned shilling in a beer house. But I must here state that most of them are hard-working men. I rarely come in company with a lazy man that will grow flowers. The more industrious the man, the better he cultivates his flowers; he being of an active mind, must have something to employ it at all times after leaving work; and what is more innocent than flowers? To see the fine productions they show at their exhibitions would surprise many good cultivators. I often feel ashamed of mine, after seeing what they have produced in some of the most confined spots.

"I must apologise for going so much into detail that I fear I may tire your patience in reading; but every word I state is correct. There have been within the last three years no less than 10 of these societies started, consisting of from 100 to 200 members, composed principally of mechanics belonging to different trades, and established in all parts of London, east, west, north, and south. But as the old saying is, there is never a good without an evil, and the evil is this. They have no place to hold their meetings and annual shows in except at public-houses, and this often keeps them to a late hour from home; whereas if held at some institution the business would be done in half the time, and save them many a shilling; as, when they meet at public-houses, they are apt to spend more than does them good, and they get excited. The only remedy to obviate this would be to get every parish round the suburbs to build good-sized rooms in a central part, where they could meet and talk about the flowers, and have a room large enough to exhibit them in afterwards, free of expense, except the gas and firing, and an attendant to keep it clean. I think large rooms might be built very reasonably, with sliding partitions in them for the meetings, and then the whole space thrown open when the exhibition takes place, so that there is plenty of room to see them to advantage. The plainer it is built the better, and it might be used for any other parish meeting. I am sure the parish would lose nothing in the end, for it would not be so burdened with winter rates; and we should have hundreds more members to join them, as at present many dislike belonging to our horticultural societies because they are held at public-houses.

"Should you be enabled to promote this object among the thousands of mechanics in this large metropolis, you will, I am satisfied, be effecting a great public benefit."

I might weaken rather than strengthen the case were I to add anything to these simple and honest words of Samuel Broome; but I would remark that, although my friend's zeal may be carrying him too far when he permits himself to expect large permanent buildings to be erected in various parts of London for these unpretending flower shows, yet I cannot doubt that there are many gentlemen holding large business premises in and about London who would not be unwilling to allow a portion of those premises to be occasionally applied to so truly useful a purpose. To the leading builders, for example, I would beg to suggest that it might contribute much to restore peace with their men were they to afford this evidence of their sympathy and good-will. *Mr. Sidney Smirke, in the Builder.*

## Home Correspondence.

*Dioscorea Batatas.*—I shall feel much obliged by some of your correspondents who have cultivated this esculent informing me how they manage to take it up without breaking the root to pieces? My gardener adopts the plan recommended some time ago in your Paper of digging a deep hole at the beginning of the row, and proceeding onwards with a pickaxe or mattock, the soil being thrown behind him as he advances, yet notwithstanding all his care in this way he can only get the roots out in little bits. Where these are merely a foot or so in length it is easy enough to obtain them entire; but when they descend 3 feet, as a portion of mine do, or I may say even half that length, the job appears to me a most difficult one to accomplish. How, then, can this be expected ever to become a profitable field crop, as has been represented by some of your correspondents, when so much labour and expense are incurred in raising it? I have now grown it to some extent in my garden for three years, and certainly as a vegetable for the table it is not wholly to be despised; nor, so far as regards private consumption, does it much signify whether the roots be brought into the house whole or otherwise; but I should like to know in what manner those who cultivate the crop for market contrive not to break them when they attain a large size, particularly if the soil they are growing in be at all adhesive, considering their extreme brittleness, for even the head being allowed to bend over during the process of digging, frequently snaps the root towards its extremity. With regard to cooking, I find that if they be parboiled in the first instance, say, for five or six minutes, then roasted and eaten with unmelted butter, like Potatoes, it is the most eligible method, as they thus become dry and floury, instead of being soft and watery, as they are when plain boiled. Of course most of your readers are aware that it is only the white under part which is fit to be eaten, the thinner portion at the top being reserved for planting when the season arrives, cut into sets of 2 or 3 inches. *J. H., Whitland.* [The great point in cooking them is to boil them exactly ten minutes.]

*Mushrooms.*—In your Paper of the 12th ult., there is an article on Mushrooms by your esteemed correspondent "M. J. B.," agreeing with which in the main, I venture to make the following additional remarks. Besides the species mentioned as edible by "M. J. B.," Agaricus procerus, A. deliciosus, and A. prunulus are all very good eating, particularly the first, which much resembles the common Mushroom, and I have frequently partaken of them. I also consider A. grammopodius as excellent, though "M. J. B." pronounces it "detestable," but I suppose the adage "de gustibus, &c.," must be allowed in regard to Fungi, as well as other things. I have likewise eaten the "Blewits" (A. personatus) mentioned by "M. J. B." without any inconvenience, and this autumn I had several dishes of the variety "silvicola" of the common Mushroom, which grew in a wood, under Spruce Fir trees, without any bad effects. In gathering Fungi for the table too much attention cannot be paid to the state they are in. If at all old, or in the least infested by insects (to the attacks of which all the larger Fungi are very liable), they should at once be rejected; and only those specimens should be selected which are in a state of vigorous maturity (or youth). I think also that Fungi should always be partaken of with moderation. If these cautions are attended to, there are many species in this country which might be used with perfect safety, and which would add a relish to many a meagre dish, and also increase the general food of the community. *A. J.*

*Datura arborea.*—I have seldom seen this plant get the attention that in my opinion it is deserving of. When well grown it is one of the showiest autumn greenhouse plants that I know of, and it is very easily managed. There are nine plants of it in full bloom here at present in one of the conservatories; on one plant about 3 feet high I counted 21 flowers, and there are many more to come out. On the nine plants there are from 120 to 130 full-blown flowers, and they have an imposing effect amongst Camellias, Chrysanthemums, &c. To those who have not grown the plant a few hints as to the mode of culture I pursue may not perhaps be out of place. I strike a few from eyes every year; they are struck in March in a warm frame, and grown in a frame near the glass for six weeks or so, when they are removed to the greenhouse, keeping them as near the glass as possible. Plants one or two years old I cut down to the height wanted, and when they begin to grow in April I shake them out of the pots they bloomed in and put them in a smaller pot, when they will soon begin to grow freely. I have sometimes put them into a slight heat to start them, but I dislike it, as it is apt to "draw" them. They are fond of pot room and the soil well mixed with

rotted manure; on this head one can scarcely go wrong. A liberal supply of water is also wanted. They are subject to green fly and red spider, but from the large foliage these are easily kept down. *John Addison, Gr. to Earl of Shannon, Castle Martyr, Cork.*

*Birds and Gooseberry Buds.*—I would recommend "G. E." to try a mixture of lime, soot, and wood ashes, with a little fresh cow-dung and clay. Mix up the whole to the consistency of paint, and put it on with a brush. The process may at first seem tedious when there is a considerable quantity of Gooseberries grown, but a good crop of fruit may repay all the labour bestowed. I am convinced by repeated experiments that the mixture will save the buds from the depredations of birds if the adhesive substances of clay, cow-dung, and wood-ashes are incorporated together in such a way that heavy rains will not wash them off. *G. G., Athlone.*—Cotton run through each tree is the best remedy, and if planted in beds from tree to tree. I have tried encircling the trees with straw, but it induces the buds to swell and to get destroyed by frost. *W. Shipman, West Ham.*

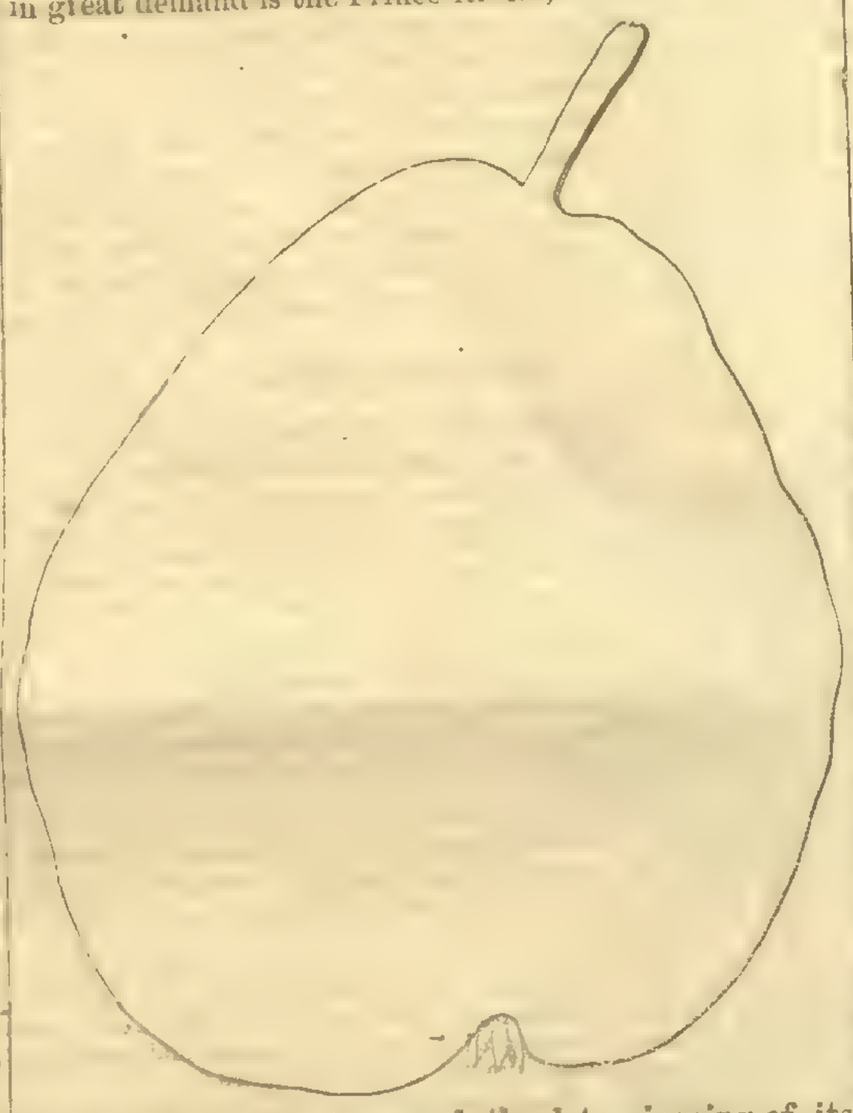
*Pampas Grass.*—You are probably constantly receiving notes of admiration from fresh admirers of this Grass; and certainly a well-established plant, surmounted by its lofty plumes, like silvery jets in the centre of a fountain, is as fine an ornament for the pleasure ground as can well be conceived. It may not, however, be generally known that in some seasons at least, a plant, if carefully moved, will flower within a few months after its removal. I have a young plant which was transplanted in spring that has borne six flower stems. *T.*

*Cottager's Kale.*—I can with confidence bear testimony to the great hardiness of this vegetable. Here it withstood uninjured the severe frosts of October, when Broccoli, Savoys, and other greens were very much cut up. It also fully bears out all that has been said respecting its flavour; and of all Kales it is undoubtedly the most productive. Where a large supply of winter and spring greens is required no garden should be without it. *Henry Bailey, Jun., Shardeloes, Amersham, Bucks.*

*Theory of Springs.*—The deficient rain-fall of the last few years has lately attracted much attention, and the subject presents a remarkable instance of the way in which the public (even I am afraid the scientific public) sometimes jumps hastily to a conclusion, and adopts a paradox in opposition to everyday experience. Experiments on this subject have been made, which are supposed to show that the water in springs and wells is exclusively derived from the rain that falls between October and April, and this theory seems to be almost universally adopted. I do not dispute the reliability of these experiments as far as they apply, that is, surely only to the case of a level country of uniform porosity; but a moment's reflection must show that they are quite inapplicable to the very extensive case of a hilly country, often abounding in crevices, and consisting of variously inclined strata, some pervious, some impervious to water. I can myself contradict the above theory from my own experience, for I find that the quantity of water in a spring supplying my house is evidently increased even after a few rainy days in summer, and I have no doubt that the experience of half the country would confirm my observation. The *Daily News* went so far last week in its alarm as to the consequences to be expected from the deficient rain-fall, that it actually recommends the impossible scheme of forming reservoirs all over the country for the purpose of irrigating the arable lands. *Observer.*

## Foreign Correspondence.

PEARS.—BRUSSELS: *Nov.* 15, 1859.—I observe that you still consider the Chaumontel, Marie Louise, Napoléon, and Duchesse d'Angoulême Pears to be first-rate varieties; and certainly when ripened against a wall their fruit is very fine and good. But if the choice were limited to these varieties there would be nothing for the dessert in December. With us the cultivation of standards is much pursued, the walls being reserved for the Vine, Peach, and some very late ripening Pears. The Chaumontel, which is too long in coming into bearing, and which does not always yield good fruit, is never asked for. The Napoléon, being of too weakly a constitution, is but little in demand. The Duchesse d'Angoulême does not succeed well in our climate except on a Quince stock, or against a wall. The Marie Louise attains too great a size, and the fruit ripens too early as a standard; the tree, moreover, has not a fine habit of growth. The Conseiller de la Cour is more hardy and as productive; its fruit is as handsome, quite as good, and rather later than the Marie Louise. The varieties most in demand by the more advanced amateurs for culture on the Pear stock and as half-standards in the open ground are: Comte de Flandres, which forms a handsome very productive tree, and bears a superb, very fine fleshed fruit, ripening in December; Commissaire Delamotte (*Grégoire*), a fine tree with a close habit of growth, productive, bearing fruit in clusters of three or four, of the form represented in the accompanying figure. The fruit is of a dark green at the time of gathering, but becomes yellow on ripening, which takes place from the end of January till March. The skin is thin; the flesh melting, sugary, vinous, without grit. The cells of the core are large, the seeds long, and of a fine nut-brown colour. The fruit is not liable to be blown down by wind, its ripening is easily known, and its flavour very satisfactory. A third variety, for which there is also a great demand, is Agläe Grégoire. The tree is more handsome but not so hardy as the preceding; the fruit is nearly of the same form and quality and ripens a month later. The fourth variety in great demand is the Prince Albert, on account of the



fine growth of the tree, and the late ripening of its excellent fruit. Another sort which is beginning to come into great request is the Bezi Mai. Of this I ate the last fruit of the crop of 1858 on June 6th, 1859, and I believe that this variety will prove a decided acquisition. *J. de Jonghe.*

## Societies.

LINNEAN: *Nov.* 17.—Prof. Bell, President, in the chair. Jabez Hogg, Esq., and W. H. Ince, Esq., were elected Fellows. The following papers were read:—1. "Descriptions of new species of Utricularia from South America, with notes upon the genera Polypompholyx and Akentra," by D. Oliver, Esq. The author described a new species of Utricularia from Prof. Jameson, and enumerated those collected by Mr. Spence, among which was one remarkable form with peltate leaves; of this an excellent figure accompanied the paper.—2. "On the Fumaria capreolata of Britain," by C. C. Babington, Esq. After discussing the differences between the various European forms related to F. capreolata, the author remarked that "some excellent botanists will doubtless say these plants are all forms of one variable species, and I suppose that no person is in a position to contradict them; for who knows what really constitutes a species amongst plants? It seems to me to be just as impossible to prove that the 'aggregate species,' as Mr. Watson terms them, are quite distinct from each other, as it is to show that the 'segregate species' are so." The paper concluded with a description of the characters of the British species. To distinguish them Mr. Babington chiefly relied on characters derived from differences to be found in the fruit itself, and its pedicel, and also in a fleshy mass which unites the pedicel to the fruit, and which he called the *fruit base*. The species which were stated to occur in Britain, and of which full diagnoses were given, were the following:—F. pallidiflora, Jordan: fruit longer than broad, base short, narrower than the thickened tip of the pedicels, fruit stalks reflexed; from Devon, Somerset, Glamorgan, &c. F. Boræi, Jordan: fruit truncate, broader than long, base narrow, usually, perhaps always, much narrower than the enlarged tip of the pedicel, fruit stalks patent; from Tenby, Shrewsbury, Windermere, &c. F. confusa, Jordan: fruit subglobose, rounded at the apex, base very broad, conspicuously broader than the tip of the pedicel, fruit stalks patent; from Jersey, Guernsey, Cornwall, Devon, Pembrokeshire, &c. F. muralis, Sonder: fruit obovate, compressed, rounded at the apex, base broadly obconical, slightly narrower than the tip of the pedicel, flower-stalks erect, patent; from Barnes, Surrey, Shrewsbury, Wrexham, Sheffield. The true F. capreolata of Linnæus (F. speciosa, Jordan) has the fruit obovate-compressed obtuse, the base broadly obconical equalling the tip of the pedicel, and the flower and fruit-stalks reflexed. This plant has not been found in Britain, so that the name must disappear from our Flora.—3. "Synopsis Crescentiacearum, an enumeration of all the Crescentiaceous plants known," by Dr. Berthold Seemann. The Crescentiaceæ, it was remarked, inhabit the tropical and subtropical regions of both hemispheres, ranging from 30° S. to 30° N. lat. They occur in the greatest numbers in Madagascar, Mauritius, the Seychelles, and other islands of Eastern Africa. In America they are represented by 10 species. In Asia only two species have yet been discovered, one of them having been collected in Timor and also in Mauritius and Madagascar, the other in Cochin China. No representative of the order has hitherto been met with either in Europe or the continent of Australia. All the Crescentia[illegible] sidered ornamental plants, and their fa[illegible] flowers, and curious fruit have already [illegible] their order a fair representation in our gardens. cultivate Colea floribunda, two species of Phyll[illegible] Tanæcium parasiticum; all the k[illegible] Crescentia, and Kigelia pinnata. Se[illegible] stated to furnish excellent timber. C[illegible] was given in this respect to the Ki[illegible] which canoes, posts, pillars, &c., are [illegible] not only as an umbraculiferous, but al[illegible] tree, was stated to be held in high [illegible] Crescentia has a fruit with a hard wo[illegible] C. Cujete, the Calabash tree of the British [illegible] large and durable that it admits of being [illegible] into pails, bottles, pans, cups, sieves, la[illegible] various other household articles. In P[illegible] Seemann had seen milk pans made of [illegible] 13 inches across, and Humboldt had t[illegible] during his travels Bonpland and he had [illegible] one of these vessels as their wash-hand [illegible] shell of Crescentia alata, the Tecomate of the M[illegible] though much smaller is used for drinking [illegible] shells or rather rinds of the fruit of Kig[illegible] after having been hardened by drying, ser[illegible] frames in Africa. The fruit of the P[illegible] cerifera, the famous Candle tree of P[illegible] Apple-like smell, and fattens cattle; whilst [illegible] edulis, the Quaxhilote of the Mexicans, re[illegible] Cucumber in shape, and is eaten. The [illegible] Tanæcium lilacinum is also edible; and the [illegible] pulp of the fruit of Crescentia Cujete affords fo[illegible] negroes. Colea Telfairia is extensively cul[illegible] Madagascar on account of its fleshy fruit, wh[illegible] agreeable flavour, and is highly esteemed [illegible] esculent. Phyllarthron Bojerianum also [illegible] edible fruit. The natives of Guiana extract [illegible] colour from the fruit of Tanæcium lilacinum [illegible] which they dye their cotton cloth, their bark, [illegible] furniture. The juice of the fruit of the [illegible] Calabash tree dyes silk black. The medi[illegible] perties of some species were stated to be [illegible] repute among the natives of various countries, [illegible] they have not yet been recognised in our pharm[illegible] The paper concluded with a classified enum[illegible] the genera and species, accompanied by charac[illegible] remarks on their affinities and nomenclature.—[illegible] Combretum butyrosum, a new kind of Butter-[illegible] Western Africa," by M. Caruel, of Florence. [illegible] years since Prof. Bertoloni published an acco[illegible] new kind of vegetable butter which he had [illegible] from S.E. Africa, together with dried specim[illegible] tree that produced it. This he considered to [illegible] new genus which he named Sheadendron, a[illegible] the plant S. butyrosum, from an idea that it [illegible] same as the celebrated Shea tree of Mungo Park. [illegible] genus Sheadendron was moreover considered [illegible] founder to be distinct from any known order of [illegible] and a new order, Shææ, was constituted for it [illegible] neighbourhood of Myrtaceæ. Specimens in flow[illegible] fruit, communicated by Bertoloni himself to the [illegible] rium of Florence, had enabled M. Caruel to as[illegible] that the plant belonged to the Combretaceæ, and [illegible] fact a species of Combretum, which he [illegible] C. butyrosum. According to the information g[illegible] by Bertoloni, the butter produced by this [illegible] called Chiquite by the Caffres, and is [illegible] used by them in dressing their food. [illegible] also carried to the coast of Mozambique [illegible] object of commerce. It is white and rath[illegible] with a peculiar aromatic odour; its chemical c[illegible] tion is—olein 25, marjorin 75 = 100. M. Car[illegible] not agree in the opinion that this plant is [illegible] tree of Mungo Park, such an opinion, he sa[illegible] "founded on no other fact than that both [illegible] Africa, and both produce a kind of vegetable [illegible] Mungo Park referred the Shea to the order Sa[illegible] and it seems rightly so, as it has been subs[illegible] described as a kind of Bassia (B. Parkii). It [illegible] possible that some great mistake lies here [illegible] the Combretum and butter have nothing to [illegible] each other? *Ed.*]

ENTOMOLOGICAL: *Nov.* 7.—Dr. J. E. Gray, [illegible] President, in the chair. Mr. G. R. Waterhou[illegible] hibited various new species of British Coleopte[illegible] tured by himself and Dr. Power, and stated [illegible] deformed specimen of the common Tenebrio [illegible] had been formed by Stephens into a distinct spec[illegible] the name of Tenebrio laticollis. Professor S[illegible] hibited a drawing of the larva of Sphinx con[illegible] Mr. S. Stevens various beautiful Coleoptera [illegible] Mr. Squires in Brazil. Mr. Jansen also [illegible] several new British species of beetles of small [illegible] Mr. F. Bond a specimen of the brilliant N[illegible] Buprestis fasciata, Fab., taken alive near Lond[illegible] a new British moth belonging to the genus [illegible] (P. conturbinella) taken in Dorsetshire by the R[illegible] Green. Mr. Stainton read descriptions of [illegible] species of minute moths belonging to the gen[illegible] optera and Adela, brought from the neighbo[illegible] the Cape of Good Hope by Mr. Trimen, [illegible] exhibited some of the rare beetles which he [illegible] tured in the same locality. Mr. Pascoe read [illegible] tions of some new Longicorn beetles from Ba[illegible] small island near New Guinea, collected by Mr. [illegible] Dr. Allchin exhibited Luperina Dumerilii, a ran[illegible] of Noctuidæ from Brighton. A notice by Mr. [illegible] was read upon the insects which attack Rhododen[illegible] these are chiefly the larvæ of Mamestra Brassi[illegible]

...ding in night. The larva of a species of ... moth preys the edges of the leaves; and a ... (Aspidisca) feeds on the upper ... of the leaves. The larva of a species of sawfly also eat mail through the leaves. A paper by Mr. Stone on the parasitical habits of Ripiphorus paradoxus in the nests of the common wasp, and on the supposed power of depositing eggs by the worker wasp, was read by Mr. F. Smith.

SMALL FLOWER CHRYSANTHEMUM.—This was the ... of this Society, and although the last of the season it was highly satisfactory. Both plants and blooms were just in perfection, which shows that most of the exhibitions about London are held too early. The majority of both plants and cut flowers were the same as have before been noticed. The best Pompones were from Mr. Westwood, gr. to C. B. Warner, Esq., and Messrs. Stanfield, Lucas, Harbutt, Bunn, Clarke, ..., Salmon, and Bailey also had excellent exhibitions. The best single specimen came from Mr. Westwood, who sent Queen of England in beautiful ... and we also noticed excellent plants of ... and Bronze. In the Amateurs' Class ..., Anderson, Pennycuick, and Johnson ... good collections. A splendid specimen ... shown by Mr. South, Upton House ... (not for competition). It, however, received a First ... it states the best plant in the room. A tastefully arranged design for a flower garden, in Moss and ... of Pompones beautifully arranged, was exhibited by Mr. Bunn, gr. to C. Dawes, Esq., Forest ... Mr. Wilkinson, of Bow, exhibited a collection of ... of the large variety (not for competition). ... most of the new and most improved varieties. These were highly commended by the judges; ... were in fact about the best that have been at any ...hibition this year; a few of the finest were Nonpareil, Themis, Goliath, Dupont de l'Eure, Plutus, Vesta, and Aimée Ferrière. Altogether the exhibition was one highly creditable to all concerned in its general management and arrangement.

NORTH-WESTERN CHRYSANTHEMUM.—This was the second annual show of this Society, and was a great improvement on that of last year. The exhibition took place at the Literary and Scientific Institute, Hampstead Road. Both plants and cut flowers were exceedingly fine, and the grouping and general arrangement admirable. A great many prizes were awarded; extra ... were given to Mr. Merry for Christine, the finest ... of the kind shown this season; also for a specimen ... Christine; and to Mr. Morgan, for a Pompone ... in a pyramidal shape. There was also a specimen plant from Mr. Windsor, without stick or tie, ... class: 1. a cut bloom of Golden Queen of ..., 1st and 2d prizes, Mr. Harrison. Class 2: ... Celo Nulli, 1st prize, Mr. Hutt. Class 3: ... Celo Nulli, 1st prize, Mr. Cox. The exhibition ... extremely well attended, the room towards evening ... crowded.

## Notices of Books.

*Falconry, its Claims, History, and Practice.* By Gage Earle Freeman, M.A. and Francis Henry Salvin, Captain West York Rifles. 8vo. Longmans. Pp. 352. ... those who can feel the joys of sport possess themselves of this little volume. They will find it full of life and vigorous health, and brimming over with information. The authors mean what they say, and ... thoroughly understand what they write about. There is no book-making here; there is no mediæval absurdity; ... object of again bringing the favourite pastime of ... ancestors into fashion is handled for time present ... from times and manners long since passed away. ... Izaak Walton and Downes! How you would linger ... pages before us.

The authors, who commence their work by urging ... their readers the claims of Falconry, do not forget ... the fair sex among those who should become ... of the sport. We must assist them in placing ... them before our own gentle readers:—

... very great 'claim' will, I am sure, be admitted ... ladies may, and do now as of old, join in the ... I am half jealous of the bow and the target ... less; why should they take so many? Archery ... quiet elegant amusement; and to shoot as ... Hood did in ancient, or as Mr. Ford does in ... times, must require consummate skill and practice. But I shrewdly suspect that a becoming dress and ... close companionship, the opportunity of instilling ... as without which fair fingers could do little, ... and win it too, with the greatest score and ... ld. There is at least often a very little bow ... something better and warmer than the ... and does not count for nothing. I honour ... for its antiquity, and admire it for itself—but ... a picture, seldom seen, which I think to be ... still. The canter of two or three horses; the ... dread them of as many spaniels; the gleam of ...; the sombre of a grey; a hat clasped ... and heron's plume; the red and white of ... the quiet hawks as they swing by to the easy ... of the horses; the silver bells and silver voices; ... shimming colour; the hopeful eye:—Fly 'Black-... Good hawk! Fly well this day, if you ever flew! For the plume will take deeper colours still when these are flying across the plain."

Cases disposed of we are introduced to the records of the art, then to the natural history of hawks in general, next to the mode of hawking different kinds of game; the whole concluding with a capital appendix on fishing with cormorants, and otter-training. See how the writers rattle along in describing a meet.

"We are now in the field, with three eyess peregrines of the year on our 'cadge,' viz. two tiercels and a falcon; added to this I have one old favourite tiercel on my glove. 'Major,' the pointer, keeps to heel; but he is young, and it will be necessary to use the check-cord when we begin work. Let us try for grouse in this stubble: they come from the moor to it at all hours, and we were not near it this morning. We will fly against the wind, which is blowing gently from the Heather: be quiet, and let 'Major' hold up. The young dog quarters the ground like a young dog—there is a little too much gallop and romp, but the check-cord is a slight drag on him, and he will soon settle down to his work in style. Suddenly he pitches nearly head-over-heels. Toho! 'By Jove!' says Jones, 'he's got them.' 'He has,' I answer, 'at least I think so, but I won't hood off to a false point if I can help it; however, I've so often put them up from that very spot that I'll cast off the "Earl."' As for you, Jones, instead of swearing by your heathen gods, do me the favour to canter after "Major," on that little pony of yours, the moment the flight begins, and if the "Earl" kills, stop the dog, and peg him down near the birds; here's a peg, and the cord is on him.' Whilst giving these directions, I unhook the swivel from the jesses of the old tiercel, take off the hood, and, as I raise my hand to hold the bird aloft, he starts from it. In a moment he recognises the dog, and knows well what that statue-like position means: nay, perhaps, he can detect the very movement of the jaw (as though the pointer were eating the scent), and see the saliva running from it. I, however, at 200 yards, can only see the dead staunch point. Walk up gently, my friends; let the hawk get his pitch. Pray do not hurry him; the grouse know what kind of fellow has got above them, and won't rise till we make them. Well, that's high enough, at any rate, and now his head is turned in towards the birds and towards the moor—so, here goes. 'Hi, in! "Major," lad! into 'em, old boy!' And I set the example myself. Up get a brace of full grown young birds, as the dog plunges forward. 'Hoo-ha-ha-ha!' The practised hawk answers the shout by flying forwards, rising (if anything) as he does so, and then, in one terrible stoop, passing downwards through the air almost with the speed and the hum of a rifle-ball. It was a glorious stoop, but there must have been a clever shift too, for though he appeared to brush by, he has not killed, and not badly wounded, the quarry. Bounding, at the distance of a few feet from the ground, which he almost seemed to touch, the good hawk rises again, not in rings, but in an oblique line, after the still flying grouse.

"Another stoop, from a pitch not so high as the last, at the same quarry again, which (evidently owing to its hurt) lags behind its neighbour; and down it goes, with a wing broken, and the skull nearly laid open (as we afterwards discovered) by that single blow. Look at Brown and Robinson! they 'Wo-whoop' like wild Indians, and dance on English stubble the dance of Africa—a polka worthy Makololo. Hasten, redoubted Jones, on thy mission, and leave these, thy brother chiefs, in their ridiculous ecstasy! Jones did well: he caught hold of the check-cord and stopped the young dog, who, though too well broke 'to run in' on the struggling birds, conducted himself in so excited a manner, at the distance of 15 paces from them, that a less experienced hawk than the 'Earl' might have been frightened from its quarry. All was right, however, when I got up. The old tiercel was fed from the head and neck of its victim, hooded and placed on the cadge. (He might have been 'fed up,' for we did not fly him again that day.)

"Take the falcon next; see what she will do—she has killed one bagged-grouse and three wild ones, since she was entered to them, and I know she is 'sharp-set.' Look, another dead point! off with the young falcon! She's well up now; flush the birds. 'Body of Bacchus!' said the enthusiastic but unclassical Jones, who, had he sworn at all, ought to have invoked Diana; 'Corpo di Bacco!' (as if the accusing angel did not understand Italian) repeated he, 'it's a hare!'"

If a book like this will not restore the noble art of Falconry, nothing will.

*Thesaurus capensis*, Vol. 1, No. 2 (Van Voorst). We welcome most cordially a new number of this really excellent work. Twenty-five highly interesting plants, natives of the Cape colony, are again remarkably well represented by the faithful pencil of the accomplished author.

*The Nature-printed British Seaweeds*, Vol. II. (Bradbury & Evans). We can only repeat what we formerly said respecting this beautiful work (see p. 587). The present volume completes the series of red-seeded Seaweeds. To say that it is equal to the first is to say everything.

*Knight's British Almanack for* 1860 maintains its reputation as an annual of sterling value. The "Companion" is filled with topics of the day, skilfully handled, among which those of the Patent Office, our naval forces, the late war in Italy, will more especially attract attention. The abstracts of all important public Acts are not the least valuable subjects in the present volume.

*On Wages, Trades Unions, and Strikes* (Lockwood). This is a reprint of Mr. Adam Black's excellent lecture in Edinburgh. Employers should place it in the hands of their workmen, who, if they once read it, would see how entirely they are misled by such criminal advisers as Messrs. Potter & Co.

TRADE LISTS RECEIVED.—Wm. Barratt's (Wakefield) *Descriptive Catalogue of Selected Roses.* An extensive country list, with the old and bad or inferior sorts weeded out. Mr. B. undertakes to replace injured or misnamed plants if complaint is made *at once*; but we do not see how any one is to tell whether a Rose in its winter dress is misnamed or not.—James Meikle's (Folkstone) *Catalogue of Plants, Trees, Roses, Shrubs,* &c. There are many good useful things in this little list, but the orthography is quite alarming.—Wm. Chater's (Saffron Walden) *General Catalogue of Plants, Fruit Trees, Flowers,* &c. Another good country list. The Hollyhocks for which Mr. Chater is so deservedly celebrated are not included, but occupy a catalogue by themselves.—J. E. Nelson's (Lymington) *Wholesale Prices of Surplus Nursery Stock.* The vendor offers five millions of seedling Firs and Oaks and one million transplanted stuff, for cash, without discount to the trade.—W. R. Prince & Co.'s (Flushing near New York) *Descriptive Catalogue of Foreign and Native Grape Vines.* We have in this catalogue a list of 297 native American Grapes, exclusive of the worthless ones, and a description of the most important. Mr. Prince considers it hopeless to make wine profitably in the United States from the Eastern Vine; an opinion which California does not confirm. He is moreover persuaded that "an ample supply of pure American wine is the most sovereign preventive of intemperance." What can that mean? Is it that American wine is not intoxicating? or that it is not good enough to induce people to drink it? The statement is rather perplexing.

## Garden Memoranda.

MR. TURNER'S, ROYAL NURSERY, SLOUGH.—Conspicuous in the foreground of this nursery has been a magnificent plant of Pampas Grass, which until very lately has been ornamented with no fewer than 149 flower spikes, the silvery plumes of each of which measured from 18 inches to 2 feet in length. The plant itself is growing in a tolerably deep rich soil on gravel, and must certainly be admitted to be one of the finest of the kind on record. Associated with it was a considerable plantation of Wellingtonia gigantea, the appearance of every plant in which indicated the most robust health. These were not in pots plunged in the ground but planted out, and their roots had spread and taken such firm hold of the soil that the violent gales to which they have been subjected this autumn have had no effect on them. From the sharp frosts which they experienced in October last they have also sustained no injury, while the young growths of Cryptomerias, even rather more sheltered than the Wellingtonias, have been killed back to the previous year's wood. If any doubts therefore have existed as to the hardiness of this noble tree they may now be dismissed, as the frosts in question exercised their influence in most places rather severely, even on plants previously considered hardy. Near the entrance to this nursery Mr. Turner is forming a little Pinetum, in which examples of some of the rarer and more valuable kinds of Coniferæ have been planted. These will be permitted to form specimens from which customers may derive some knowledge of the kind of appearance each particular variety may be expected to present when fully grown.

To the glass houses considerable additions have been made since our last visit; all as usual are crowded with the different kinds of florist flowers. Long pits are filled with Auriculas, to which of late increased interest seems to be attached. Being now in their winter quarters they are disturbed as little as possible. Just sufficient water is given them to keep them alive, and no more; care is, however, taken to have them free from dead leaves and green fly, and on all favourable occasions they are allowed to have plenty of air. Carnations, of which the number cultivated here is immense, are wintered in a somewhat similar manner, and in larger houses are Pelargoniums destined next year to play an important part at our great metropolitan and other exhibitions. For these a moderately dry heat just sufficient to exclude frost is at present considered enough, except for Fancy varieties, which succeed best in the warmth of an intermediate house. What watering they receive is now done in the morning so as to allow the house to become dry by mid-day. The house in which those intended for specimens are growing being large, the plants are placed thinly on the stages so as to allow each plant to have as much light as possible. The shoots are tied out as they require it, and no pains are spared to keep the plants as clean and healthy as possible. They are dwarf and bushy, with sufficient strength to make a vigorous start when required to do so.

To Pelargoniums of all classes some important additions have been made during the last year or two. Festus, shown by Mr. Turner at Regent's Park in May last, has attracted considerable attention. The following are also acquisitions, viz., Candidate, a kind in the

way of Wonderful, but with rather more orange in it; Lord Clyde, as fiery and bold as that great hero himself, and certainly one of the brightest scarlet Pelargoniums we possess; as such it has been awarded first prizes both at Regent's Park and the Crystal Palace. Its top petals are blotched with black, round which is a well defined margin of brilliant crimson, and the eye being white sets off the flower to increased advantage. To spotted kinds a good addition has been made in King of Purples, which also has a white eye, and a variety called Beadsman is said to be an improvement on that now nearly universally grown and deservedly favourite kind Sanspareil. In colour it is a soft pale pink, spotted with dark maroon. As the best yearling it was awarded a prize by the Royal Botanic Society last year, and this season it has fully sustained the favourable opinion then formed of it. Other spotted kinds—a class now getting greatly into fashion—consist of Bracelet, a large fine flower; Favourite, a medium-sized kind, of good shape and substance; Mammoth, Rifleman, and Sweep. Of these Mammoth is especially remarkable for its size, being one of the largest Pelargoniums at present in existence. Among Fancy kinds the best are Musjid, Omega, and Sarah Turner. Of these the last is perhaps the best. In colour it is purplish crimson with a clear white eye and narrow margin of white. It is a very promising variety and has received prizes at several exhibitions this season.

To Cinerarias some useful additions have likewise been made, and we also noticed some fine plants growing on for specimens. These are already shifted into their blooming pots. Care is taken to keep the foliage as dry as possible, in order to prevent damping or mildew, and with a view the better to effect that object the plants are always watered at this season as early in the morning as is convenient. Air is also liberally given them on all favourable opportunities, but never when it is frosty, as cold currents then are almost sure to cause the foliage to curl. All superfluous leaves and shoots are removed, and those that remain are pegged out in such a manner as to expose as much of their surface as possible to the influence of light, which prevents them from becoming drawn. Mildew if it appears is kept in check by means of flowers of sulphur. There are also two houses of specimen Azaleas, in the finest health and form.

Out of doors the grounds have been greatly enlarged and contain an excellent collection of general nursery stock.

## Miscellaneous.

*Sale of Mr. Fortune's Plants.*—As was announced last week at p. 948, these were brought to the hammer by Mr. Stevens on Wednesday and Thursday last. The following are the prices which they realised:—One large imported plant of Abies Kæmpferi fetched 6*l.* 10*s.*; other lots consisting of 10 plants each from 1*l.* 14*s.* to 2*l.* per lot; lots consisting of 1 Pinus Bungeana, 2 Abies Kæmpferi, 1 Torreya grandis, and 2 Abies Jezoensis, from 1*l.* 2*s.* to 2*l.* 10*s.* per lot; Torreya grandis, one large plant and one small one, 6*l.* 5*s.*; a new Juniper with glaucous foliage from the north of China, said to be hardy, from 1*l.* 1*s.* to 1*l.* 3*s.* per lot of five plants; six plants of Quercus bambusifolia, a hardy new evergreen Oak from the North of China, 7*l.*; other lots of the same kind from 5*l.* 10*s.* to 6*l.*; an undescribed species of Chesnut from the North of China stated to be hardy, five plants the entire stock, 7*l.* 15*s.*; a beautiful new Chesnut with fine foliage from the North of China, 11 plants the entire stock, 6*l.* 10*s.*; an undescribed Ailantus with handsome large leaves, two plants the entire stock, 5*l.* 10*s.*; Syringa oblata, a new purple Lilac with large foliage from the North of China, said to be hardy, 11 plants the entire stock, 7*l.* 10*s.*; Camellia Princess Frederick William, one fine large imported plant with about 50 bloom-buds on it, 10*l.*; lots of five plants each of the same, from 2*l.* 2*s.* to 4*l.* 4*s.* per lot; Camellia Cup of Beauty, one fine large imported plant, 6*l.* 10*s.*; lots of five plants of the same variety Camellia, from 4*l.* to 5*l.* per lot; Camellia-flowered Peach, in lots of five plants each, from 1*l.*, to 2*l.* 2*s.* per lot; similar lots of Carnation-flowered Peach from 1*l.* to 3*l.* 3*s.* per lot; Rose-flowered ditto, in lots of five strong blooming plants, each from 1*l.* to 3*l.* per lot; Prunus triloba, each lot consisting of five strong flowering plants from 1*l.* to 2*l.* 15*s.* per lot; Ilex terago, 30 plants, 2*l.* 17*s.* 6*d.*; ditto, 3*l.*; I. cornuta, 20 plants, 1*l.* 1*s.*; Farfugium grande, in lots of 10 plants each, from 9*s.* to 13*s.* per lot; a hardy Rubus from the North of China, eight plants the entire stock, 1*l.* 1*s.*; Cephalotaxus Fortuni, in lots, each consisting of 20 plants, 1*l.* 1*s.* per lot; Aralia papyrifera four plants, Rhamnus utilis (green dye plant) four plants, and Ligustrum sinense, two plants, 1*l.* 13*s.*; Limonia trifoliata, 10 plants, 5*s.*; two Chusan Palms and two Abies Kæmpferi, 1*l.* 3*s.* Other lots, of which there were in all 475, fetched somewhat lower prices than those just quoted. The total produce of the sale amounted to upwards of 650*l.*

*Horsfield's Herbarium.*—This collection of dried plants sold the other day at Stevens's, was, we understand, bought by Sir W. Hooker for the Herbarium at Kew. It was described in the Catalogue as the valuable and extensive private Herbarium of the plants of Java, of the late Dr. Horsfield, all named and contained in 62 brown paper parcels, in fine preservation.

## Calendar of Operations.

*(For the ensuing week.)*

### PLANT DEPARTMENT.

CONSERVATORY, &c.—Forcing-houses and pits will very soon require to be kept in full activity to supply the constant demand that will be made on them for plants in bloom. Care must, however, be taken before plants are removed to sitting-rooms to gradually harden them for a day or two, either by placing them in the conservatory or intermediate house. In addition to keeping the conservatory gay with blooming plants, let the arrangement of the house be occasionally changed, by grouping the plants somewhat differently, and adding a few striking ones, as some of the hardiest Palms, &c., for effect. Pay attention to the plants intended for successive blooming. Azaleas, Rhododendrons, Eranthemums, Justicias, Luculias, Cape Jasmines, Euphorbias, Epiphyllums, &c., for forcing should be in readiness when wanted. Narcissi, Hyacinths, &c., should be protected by a frame; when they begin to grow remove the plunging material down to the surface of the pots to prevent them rooting upwards. Mignonette and Neapolitan Violets will require abundance of light and air to keep them from damping. As a change from the present to severe weather may come on suddenly, be provided with ample means for covering pits, frames, &c., should it occur. As with the exception of forced plants most other things are now in an inactive state, the temperature of plant houses should fall to its minimum point consistent with the safety of their various inmates. Nothing can well be worse for the development of a healthy vigorous habit in plants than subjecting them to a high temperature at the present season of the year when light, so important to the healthy action of vegetable life, cannot accompany it. Where Achimenes and Gloxinias are required to bloom early a few pots may soon be started by plunging them in a little bottom-heat.

### FORCING DEPARTMENT.

EARLY VINERY.—As soon as the bunches can be discerned on the young shoots the extra buds should be removed, excepting such as may be required for producing bearing wood next season. In leaving these latter select such as are formed nearest the main stem to avoid the awkward appearance of long spurs at a stage further in their growth. Such shoots as have more than one bunch should have them reduced to that number, selecting the one likeliest to form the handsomest bunch. Tying in the young wood should be managed carefully, bringing the shoots to their proper position by degrees, to avoid the danger of their breaking. After the buds are started a few inches the syringe may be gradually withheld; as too much humidity at this season will sometimes injure both foliage and bunches, and a sufficient degree of moisture can easily be kept by sprinkling the floors and heating apparatus several times daily. Regulate the admission of air so as to have a gentle current at all times through the house; increase, of course, by day agreeably with the state of the weather. Gradually advance the night temperature to 60° and then to 65° by the time the flowers are ready to open, keeping the thermometer from 10° to 15° higher by day according to the amount of light you can command. Keep up the heat in the outside border by additions when necessary, bearing in mind the injurious effects any sudden check to roots in action will produce on the coming crop. Bring succession Vineries into work as wanted. Late Vineries in which Grapes are still hanging will require fires daily and air sufficient to keep the house and fruit dry; remove decaying berries and dead leaves, and well protect the roots from frost. For a late Grape the Barbarossa is found to possess valuable properties. PEACH HOUSES.—Peaches and Nectarines which have been forced for several years oftentimes produce a large excess of fruit buds, and this more especially on weakly trees; a natural consequence of allowing these to remain are weak flowers and inferior fruit and wood. When therefore such is the case the trees will be greatly benefited by well thinning the bloom buds, leaving the largest and those most favourably placed; of course a considerable number will be still left to allow for casualties. Syringe twice or oftener daily till the bloom is ready to expand, when it must be discontinued. The night temperature may advance to 45°, with an increase by day accompanied with a proportionate admission of air. FIG HOUSE.—Damp the trees over frequently, and if wanted early increase the heat a degree or two weekly. PINERY.—Pines are often deficient in flavour at this season; this is improved by exposing the ripening fruit to all the light you can command, and giving but little water. A good supply of air is likewise essential at all times for high-flavoured fruit, and more than ever necessary at this time. Continue an increase of heat to Pines now wanted to start, employing it principally by day. Attend to linings for Pines grown in dung-pits and keep the atmosphere in which they grow dry. Strawberries in bottom-heat for forcing will require air daily to prevent drawing in those earliest started; when they show the truss of flower they should be removed to shelves in the Vineries and Peach-houses to bloom, but the principal crop should be advancing slowly as yet.

### FLOWER GARDEN AND SHRUBBERIES.

Except in the driest localities nothing more can be done in this department than paying attention to order and neatness. The bedding stuff, however, must [illegible] attention, for in all likelihood many things are suffering from damp, and such plants as appear to suffer most should be removed to other quarters where drier temperature is kept. Keep the stock in pits and frames well ventilated and the surface soil of the pots frequently stirred. Dust with sulphur Verbenas and similar plants attacked with mildew. Be particular in keeping the interior of pits containing plants of the above description as dry as circumstances will permit.

### HARDY FRUIT AND KITCHEN GARDEN.

Figs against walls will require some protecting material placed over them, more especially in the midland and northern counties. Some wall trees, as Peaches, Plums, Cherries, &c., are often attacked by a species of scale insect, in which case the infected trees should be well washed with a mixture of soft soap, tobacco water, and lime; half a pint of spirits of turpentine may be added to each 4 gallons of the mixture when they are much infested. The lime is added to give consistence to the mixture, and to show that no part of the trees are missed in dressing. Let this be applied during dry weather if possible, that it may remain for some time, and before the trees are nailed.

STATE OF THE WEATHER AT CHISWICK, NEAR LONDON
For the Week ending Dec. 1, 1859, as observed at the Horticultural Gardens

| Nov. and Dec. | Moon's Age. | Barometer. Max. | Barometer. Min. | Temperature Of the Air. Max. | Min. | Mean | Of the Earth 1 foot deep | 2 feet deep | Wind |
|---|---|---|---|---|---|---|---|---|---|
| Friday 25 | 1 | 29.920 | 29.884 | 45 | 36 | 40.5 | 47 | 45½ | E. |
| Satur. 26 | 2 | 29.823 | 29.560 | 54 | 38 | 46.0 | 46 | 45½ | S. |
| Sunday 27 | 3 | 29.963 | 29.844 | 50 | 35 | 42.5 | 47 | 46 | S.W. |
| Mon. 28 | 4 | 29.853 | 29.806 | 47 | 29 | 38.0 | 47 | 46½ | N.W. |
| Tues. 29 | 5 | 29.820 | 29.186 | 48 | 33 | 40.5 | 46 | 46½ | S.E. |
| Wed. 30 | 6 | 29.516 | 29.471 | 42 | 29 | 35.5 | 45½ | 46 | N. |
| Thurs. 1 | 7 | 29.832 | 29.618 | 42 | 32 | 37.0 | 45 | 46 | N. |
| Average | | 29.818 | 29.667 | 45.8 | 33.1 | 40.0 | 46.2 | 46.0 | |

Nov. 25—Overcast throughout.
— 26—Foggy; overcast; rain at night.
— 27—Clear; cloudy; densely overcast; heavy and constant rain at night.
— 28—Hazy; fine but cold; clear with slight frost.
— 29—Fine; partially overcast; snow and rain at night.
— 30—Cold rain; fine; clear at night; slight frost.
Dec. 1—Cloudy and cold; slight showers; cloudy.
Mean temperature of the week, 1 1-10th deg. below the average

RECORD OF THE WEATHER AT CHISWICK,
During the last 33 years, for the ensuing Week, ending Dec 10, 36

| December. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday 4.. | 47.1 | 33.1 | 40.1 | 14 | 0.39 in. | 5 | 2 | 1 | 2 | 4 | 6 | | |
| Mon. 5.. | 47.9 | 34.8 | 41.3 | 19 | 0.25 | — | 1 | 2 | 1 | 3 | 2 | | |
| Tues. 6.. | 47.0 | 35.7 | 41.4 | 18 | 0.30 | 1 | 2 | 1 | 1 | 3 | 5 | | |
| Wed. 7.. | 47.3 | 36.2 | 41.7 | 18 | 0.52 | 4 | 2 | 3 | 3 | 6 | 4 | | |
| Thurs. 8.. | 46.0 | 33.8 | 39.9 | 19 | 0.36 | 2 | 3 | 2 | 1 | 3 | 8 | | |
| Friday 9.. | 45.9 | 36.1 | 41.0 | 15 | 0.31 | 2 | 7 | 3 | 1 | 3 | 11 | | |
| Satur. 10.. | 46.1 | 34.0 | 40.0 | 11 | 0.33 | 2 | 4 | 3 | 1 | 4 | 8 | | |

The highest temperature during the above period occurred on the 7th, 1856, and 10th, 1848—therm. 60 deg.; and the lowest on the 5th and 6th, 1844—therm. 14 deg.

## Notices to Correspondents.

BOOKS: *C B M.* Lindley's Theory and Practice of Horticulture and Loudon's Self-instruction for Young Gardeners, will be the books best suited to your object.—*W Mitten.* There is no better book on Larch planting than Brown's Forester.

CLIMBERS: *A T.* Clematis azurea grandiflora, blue; Bolandra lignosus, pink; Hardenbergia macrophylla, blue; Kennedya Marryattæ, scarlet; and Mandevilla suaveolens, white, will possibly answer your purpose. To these may be added Roses, Fuchsias, and other plants that look well on pillars. Among Bignonias, radicans grandiflora is one of the showiest. Clianthus Dampieri and puniceus are both handsome; the flowers of the former each possess a large round black spot which serves to set them off to good advantage. Gardenia Fortuni succeeds best in the temperature of an intermediate house.†

GOURDS AND CUCURBITACEÆ: *A T.* There is no special work on the above family, giving an account of their edible properties. Most of them are poisonous.

GREVILLEAS AND MANDEVILLA: *A T.* Some of the first and second are hardy enough to live out in the South of England and Wales.

NAMES OF FRUITS: *J S.* Adams's Pearmain.—*J. M'D.* Your Grape is the sort called in some parts of the country the White Tokay.‖

NAMES OF PLANTS: We have been so often obliged to reluctantly decline naming heaps of dried or other plants, that we venture to request our correspondents to recollect that we never have or could have undertaken an unlimited task of this kind. Young gardeners, to whom these remarks more especially apply, should bear in mind that, before applying to us for assistance, they should exhaust their other means of gaining information. We cannot save them the trouble of examining and thinking for themselves; nor would it be desirable if we could. All we can do is to *help* them—that most willingly. It is now requested that, in future, more than four plants may be sent us at one time.—*A H.* 10, Lomaria discolor; 11, appears to be Pteris tremula; 12, Hypolepis amaurorachis; 13, Hypolepis tenuifolia, var. fibrous var.; 14, Lomaria procera, var.; but they are, with the exception of No. 10, too immature in growth to be clearly determined.—*G K.* 1, Senecio Mikaniæ; 2, Gymnogramma tartarea; 3, not in fructification.

ORCHARD HOUSES: *A Constant Reader.* For so narrow a house 18 feet rafters are too long; 14 feet are long enough.—*A Subscriber.* If you do not wish to stock your house till you have had some experience in the management of trees you had better fill the unoccupied end with ornamental plants, such as Camellias, Chrysanthemums, and any cheap, hardy greenhouse plants or tender annuals. Or you may bring forward Azaleas and Rhododendrons, and introduce a few hardy Perpetual Roses. Anything in short which requires shade but not heat. If you pot some Strawberries in the autumn you may bring them forward the year after.

RHODODENDRONS: *E F.* Like other "Americans" these should have the beds forked over once a year. It may be done at any time when there is no snow and the ground is tolerably dry between the months of November and February.

SOUTH WALL: *M C.* If you do not glaze it you had better furnish it with a coping 9—12 inches wide, and fix movable canvas sashes in front, reaching not nearer the ground than a foot, and not touching the coping by 6 inches. This will secure ventilation at all times, without the necessity of removing the sashes except in fine weather or for the summer.

THE LILY OF THE NILE: *A Z.* The plant to which this name is sometimes given is Nelumbium speciosum.

VINES: *M C* Boxes 27 inches by 15, and 15 inches deep, will not support Vines *permanently* and grow as good Grapes in a border. But with good management Vines will fruit in such boxes for some time.

ROYAL AGRICULTURAL BENEVOLENT INSTITUTION FOR THE RELIEF OF DECAYED FARMERS, THEIR WIDOWS, AND ORPHANS.

The FIRST PUBLIC MEETING in connection with the above Institution will be held at St James's Hall, Piccadilly, W., on THURSDAY, December 8, at 1 for 1 o'clock precisely. The chair will be taken by Mr Alderman Mechi. Admission by Ticket only. The attendance of landowners, farmers, and others visiting London for the Cattle Show is respectfully but earnestly solicited, in support of an Institution possessing so many claims to national sympathy.

Mr Morton is pleased to announce that his appeal for support in founding the above College has resulted in the enrolment of Sixteen Lords and Two Dukes as promoters, representing all degrees of title, position, occupation, and location. He ventures to solicit a further accession of subscribers in time for announcement at the meeting and publication with List of Donations and Amounts already promised.

Tyttree Hall, near Kelvedon, Essex.—Dec 3.

WEST OF ENGLAND AND SOUTH WALES LAND DRAINAGE AND INCLOSURE COMPANY.
Established in 1844.
INCORPORATED BY ACT OF PARLIAMENT IN 1848.

Draining, Inclosing, Irrigating, Warping, Road Making, and all kind of Land Improvements, executed on Entailed, Mortgaged, or other Properties, and the whole cost can be made a Permanent Charge on the Lands, or redeemable in a certain number of years. BIDDELL & BRODIE, Secretaries.
Offices, Exeter, and 10, Parliament Street, London, S.W.

LAND DRAINAGE.—WORKS OF DRAINAGE of any extent are EXECUTED by the GENERAL LAND DRAINAGE AND IMPROVEMENT COMPANY on all descriptions of property, whether freehold, entailed, mortgaged, trust, ecclesiastical, corporate, or collegiate.

**Repayment may be made by the Landowner as successive portions of the works are completed; or the actual expenditure, with a commission thereon, may be charged on the property improved, by way of rentcharge on the estate created for various terms of years so as to adapt the rate per cent. of annual charge to the circumstances of the tenants.**

No investigation of title being required, or notices given to Reversioners or Mortgagees, no legal expenses are incurred.

Works of Irrigation, Enclosing, Wood Grubbing, Road Making, and Farm Buildings are executed in a similar manner.

Landowners desirous to execute any of the Improvements by their own Agents, and charge the outlay and expenses on the Estate, may obtain Loans for the purpose.

Applications to be made to WILLIAM CLIFFORD, the Secretary, at the Offices of the Company, 52, Parliament Street, S.W.

THE LANDS IMPROVEMENT COMPANY.—Incorporated by Special Act of Parliament in 1853.—2, Old Palace Yard, Westminster, S.W. To Landowners, the Clergy, Estate Agents, Surveyors, &c., in England and Wales and in Scotland.

The Directors beg leave to announce that the Company's Amendment Bill, 1859, has received the sanction of the Legislature. The Company now advance money, unlimited in amount, for the following works of Agricultural Improvement, the whole outlay and expenses in all cases being liquidated by a rent charge for 25 years.

1. Drainage, Irrigation and Warping, Embanking, Inclosing, Clearing, Reclamation, Planting for any beneficial purpose, Engines or Machinery for Drainage or Irrigation.
2. Farm Roads, Tramways and Railroads for agricultural or farming purposes.
3. Jetties or Landing places on the sea coast or on the banks of navigable rivers or lakes.
4. The erection of Farm Houses, Labourers' Cottages, and other Buildings required for Farm purposes, and the improvement of and additions to Farm houses and other buildings for farm purposes.

Landowners assessed under the provisions of any Act of Parliament, Royal Charter, or Commission, in respect of any public or general works of drainage or other improvements, may borrow their proportionate share of the cost, and charge the same with the expenses on the lands improved.

No investigation of title is required, and the Company being of a strictly financial character do not interfere with the plans and execution of the Works, which are controlled only by the Government Enclosure Commissioners.

For further information, and for forms of application, apply to the Honourable WILLIAM NAPIER, Managing Director, 2, Old Palace Yard, Westminster, S.W.

THE AGRICULTURAL ENGINEERS' COMPANY (LIMITED).

*Directors.*

ANDREWES, CHAS. J., Esq., of the firm of Messrs. Barrett, Exall, & Andrewes, Agricultural Engineers, Reading.
BENTALL, E. H., Esq., Agricultural Engineer, Heybridge, near Maldon, Essex.
FOWLER, JOHN, Esq., Patentee of the Steam Plough, 28, Cornhill, London, E.C.
TURNER, E R., Esq., of the firm of Messrs. E. R. & F. Turner, Agricultural Engineers, Ipswich.
WARNER, CHAS. B., Esq., of the firm of Messrs. John Warner & Sons, Bell and Brass Founders to her Majesty, and Hydraulic Engineers, 8, Crescent, Jewin Street, London, E.C.

*Bankers*—The Bank of England.

CENTRAL DEPOT AND SHOW ROOMS—
Swan Lane, Upper Thames Street, London, E.C.

This Company has been for the purpose of supplying the public direct, with Agricultural Implements and Machinery of the most approved construction, at Manufacturers' fixed prices.

With an ample Capital and the best and most extensive premises in London at its disposal, the Company can offer to Shippers, Colonists, Agriculturists, Foreign Buyers, Amateur Farmers, Gardeners, &c., the following *exclusive* advantages:—

The opportunity of purchasing from the largest and best selected Stock in England.

The certainty of being supplied with none but the best made and most efficient Implements of their class.

Promptitude, regularity, and care in the execution of all orders intrusted to it.

Reliable information and advice as to the requirements of particular districts and foreign markets.

Particular attention is called to the fact that the direction is composed exclusively of well-known Makers, whose practical knowledge and standing will afford an invaluable guarantee to purchasers of the material, workmanship, and adaptability to its use of every article sold.

Shippers, Colonists, and Foreign Buyers will be relieved of all anxiety and trouble by intrusting the execution of their orders to the Company.

The Stock will be found to comprise the manufactures of the leading makers. Illustrated Catalogues with prices, in English, French, German, and other languages will shortly be ready for distribution. **Meanwhile Price Lists and every information may be obtained post free upon application at the offices of the Company.**

**Orders addressed to the Agricultural Engineers' Company (Limited), Swan Lane, Upper Thames Street, London, E.C., will have prompt attention.**

STAND No 70 to 74.
SMITHFIELD SHOW.

WM. SKIRVING, OF WALTON NURSERY, AND QUEEN SQUARE, LIVERPOOL, begs to acquaint his Friends and the Public that he will attend, as usual, at the ensuing Show on December 6, 7, 8, and 9, to exhibit ROOTS of the improved varieties of TURNIPS, MANGEL WURZELS, CARROTS, &c., and to take Orders for the Seed of the same, as well as for all other kinds of AGRICULTURAL SEEDS.

SMITHFIELD CLUB CATTLE SHOW.

DIOSCOREA BATATAS, OR CHINESE YAM.—Fine specimens of this valuable root, fully 3 feet in length, will be seen on MESSRS. SUTTON'S STAND (Nos. 325 to 336) in the third avenue of the Implement Gallery, Baker Street Bazaar. Also of the CHINESE SUGAR CANE (Sorghum saccharatum), and many other useful and interesting agricultural Plants and Roots.

Royal Berkshire Seed Establishment, Reading.

CATTLE SHOW, BAKER STREET, BAZAAR.

SUTTON'S CHAMPION SWEDES, and new varieties of MANGEL WURZEL, KOHL RABI, and other Agricultural Roots will be exhibited at their STANDS, Nos. 325 to 336, **Baker Street Bazaar, where Orders will be taken for Seed.**

**N.B. As the Stock of Seed is limited it is advisable that orders should be given early.**

Royal Berkshire Seed Establishment, Reading.

NEW SORT OF PARSNIP.—A new PARSNIP of superior flavour has been raised by Professor Buckman of the Royal Agricultural College, Cirencester, being the result of ten years ennobling and cultivating the progeny of the wild Parsnip. Specimens of this interesting and useful esculent will be seen on MESSRS. SUTTON'S STAND (Nos. 325 to 336) in the third Avenue of the Implement Gallery, Baker Street Bazaar. Also many other useful and interesting Plants and Roots.

Royal Berkshire Seed Establishment, Reading, Berks.

CRYSTAL PALACE ROOT SHOW.

MESSRS. SUTTON AND SONS, SEED GROWERS, Reading, have a very extensive collection of AGRICULTURAL ROOTS at the Crystal Palace Show, having availed themselves of the liberal accommodation afforded by the company for the exposition of their numerous specimens to an extent which is impracticable at the Smithfield Club Cattle Show for want of space.

Messrs. SUTTON are also exhibiting at the Cattle Show as usual. STANDS Nos. 325 to 336 in the Third Avenue.

N.B. Both of these Shows will be open from TUESDAY till FRIDAY next, and the Crystal Palace on SATURDAY also. Admittance, 1s. each day.

CRYSTAL PALACE.—AGRICULTURAL ROOT AND PRODUCE SHOW.—The FIRST PRIZE SHOW of Agricultural Roots and other Produce at the Crystal Palace, and Great Exhibition of Agricultural Implements, will be held on TUESDAY, WEDNESDAY, THURSDAY, FRIDAY, and SATURDAY, December 6 to 10. Admission as usual; Saturday, Half-a-crown; other days, One Shilling; children under 12, Sixpence, including all the attractions of the Palace.

PRIZE CATTLE SHOW OF THE SMITHFIELD CLUB.

The Annual Exhibition of PRIZE CATTLE, SEEDS, ROOTS, IMPLEMENTS, &c., commences on TUESDAY MORNING and closes on FRIDAY EVENING, 6, 7, 8, and 9th December, —Baker Street Bazaar, King Street Entrance. Open from daylight till nine in the evening. Admittance 1s.

**The Agricultural Gazette.**

*SATURDAY, DECEMBER 3, 1859.*

MEETINGS FOR THE ENSUING WEEK.

| | | | |
|---|---|---|---|
| MONDAY, | Dec. | 5 | Central Farmers' Club ..... 6 P.M. (Mr. Nesbitt on the Chemistry of Food.) |
| TUESDAY, | — | 6 | Show of the Smithfield Club at Baker Street Bazaar. |
| WEDNESDAY, | — | 7 | |
| THURSDAY, | — | 8 | |
| FRIDAY, | — | 9 | |
| WEDNESDAY, | — | 7 | Agri. Society of England .... Noon. Society of Arts ..... 8 P.M. (Mr. Morton on the Forces used in Agriculture.) |

THOUGH so much has been written on the parasitic Fungi which affect corn, and they are familiarly known to every farmer, however ignorant he may be of their true nature, it is curious that general attention has been so little drawn to those which affect our Grass fields, though they are often quite as prevalent and do serious mischief. Amongst these may be reckoned the red rust or red ray identical with that so common on young Wheat, the true mildew, which keeps up the disease where it has once been established, though Wheat for a time should cease to be cultivated; **the sheath-smut (Ustilago hypodites), which** sometimes destroys every flower stem in a crop; the Grass mould (Erysiphe communis), which attacks the coarser Grasses where the crop is heavy and the weather damp; and finally, to omit several others less likely to attract notice, the **Ergot or spurred grain, which converts** the seed which it attacks into a black fungoid mass. All these occur in great quantities, but as their evil effects are not immediately apparent, they do not attract in general the notice of cultivators.

Our attention has however been lately called to the subject by the communication of a correspondent in Kent, which demands a serious consideration, and shows that a few words about it may not be unseasonable.

The Grass fields in the South of Kent in the months of August and September last were infected with red rust* to such a degree that the clothes of persons who walked in them were coloured with the orange-coloured dust, as in particular were the faces of the sheep that grazed there. This alone was sufficient to attract notice, but the matter became apparently of more importance when a considerable mortality, 13 per cent. or upwards, took place amongst the young picked ewe lambs which were placed in the pastures.

A great mortality, however, has taken place amongst lambs in various parts of England during the three last years, which has been attributed to various causes. It may be well then to inquire how far it is probable that the rust may have been the cause of evil in the particular case before us. Unfortunately but little is known as to the effects of these minute parasitic Fungi when eaten by animals. It is seldom indeed that they occur in such quantities as to render experiments easy. A few attempts, however, have been made to throw some light if possible on the subject, though little if anything has been ascertained as to the chemical composition of these productions as compared with that of Fungi known to be poisonous. A good quantitative analysis indeed is wanted respecting Fungi in general. The older analyses are very unsatisfactory, and we have met with nothing to fill up the gap.

IMHOFF made some experiments with a view to ascertain the effect of the black smut, which is so fatal to crops of Indian Corn,† attaining an enormous size, and polluting everything around with its multitudinous seeds or more correctly speaking spores. He took nearly a drachm mixed in water for 14 successive days without experiencing the slightest inconvenience. He applied also a quantity to the surface of an open wound, without altering its condition in the slightest degree, or producing or diminishing pain. CORDIER in turn tried on himself (but for two days only) the effect of the common smut, which is closely allied to the Indian Corn smut. A drachm the first day and three the second day were taken without producing any effect.

TESSIER reports that he has given large quantities of bunt to fowls without any bad consequences. Their excrement was however black from the spores, as if they had undergone no more change than the dust of Puffballs does when it passes through the intestines of certain insects, though it is certain that they derive some nutritive quality from it, as it constitutes apparently their only food. Bunt spores moreover are largely consumed occasionally by man either in the form of household bread or gingerbread, without producing any harm, and during the course of the investigations which took place concerning the origin of cholera, they were found not unfrequently in the evacuation, in a perfect state, as in the cases reported by TESSIER. The labourers indeed who thresh the corn affected with bunt are frequently quite black with the dust, which induces a little coughing or sneezing, probably from its mere mechanical effects, but besides this the eyes are irritated, and there is a feeling of oppression and loss of appetite while the work is in hand. There is however a peculiar smut produced upon the common Reed which is far more injurious. The persons who cut them suffer from headache, a swelling (apparently erysipelatous), accompanied by vesicles, of the head and face, and acute inflammation of the bowels. It has also peculiar effects on the generative organs in either sex. The irritation of the skin which arises from it is followed by the scaling of the surface, and yields to friction with oil, or such remedies as remove the spores entirely from the surface. These effects, which have been recorded by Dr. MICHEL in France, have been observed also in the neighbourhood of Ely, where Reeds are extensively cut for thatching and plastering.‡

Nothing is known about the effect of the red-seeded parasites, but as no bad effects have been experienced from the use of mildewed straw, we may conclude that in the red rust at least, which by many is regarded as a mere state of mildew, the principal result is the deterioration of the quality of the Grass rather than the communication of any noxious principle.

The question must however for the present remain undecided; but should the rust occur again in such quantities as during the present season, there can be no difficulty in obtaining a few drachms of the spores for experiment. We will ourselves bear the subject in mind, and embrace

* We suppose *Uredo rubigo vera*, but unfortunately no specimens were saved, therefore we cannot speak positively.

† It is not probable that Indian Corn can ever become in this country an extensive object of cultivation, but in Dorsetshire, where it has been tried on a large scale, the smut at once made its appearance, and it is sometimes so prevalent as to destroy a whole crop.

‡ These examples are taken from the article Uredinées in D'ORBIGNY's Dictionary.

the first opportunity which may present itself of further investigation.

In conclusion we beg to call the attention of cultivators to one Fungus mentioned above, the Ergot, which is probably more detrimental to them than they are aware. It is sometimes so abundant that the cattle or sheep which graze in the fields can scarcely help taking it, in greater or less quantities, with their food. Now in man, as is well known, the frequent use of ergot in bread produces formidable gangrenous affections, and even in small quantities it has a specific action on the womb, which causes animals to slip their young. It is very possible then that many a grievance supposed to be constitutional may arise from this cause, and that many a young calf or lamb is lost from the mother swallowing the Ergot. If therefore the Bents in a field present black spur-like bodies instead of seeds to any great extent, we should counsel complete abstinence from such a pasture till either the Bents have been mowed, or the Ergot has fallen. At any rate, suffering pregnant animals to feed in such pastures is a practice attended with considerable danger. *M. J. B.*

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We have frequently given our opinion of the various cattle foods of which the advertisements meet us in every newspaper, book, or pamphlet, and in every street of every town and village and at every station of every railway in the country. Already almanacks are retained for the purpose. The works of BYRON, SHAKESPEARE, MOORE, and other poets will soon no doubt be enlisted in the honourable service, and we doubt not, if the wit of the originators were only equal to the credulity of the public, a new *Punch* would come out as the advocate of cattle food, and the sides of its numerous readers would be weekly shaken by the horse-laughs it would provoke.

Seriously, however, is there at the bottom of all this some grain of truth by which the bubble has been ballasted and prevented from exploding before. The grains of truth appear, then, to be the following:—Discarding the earlier professions that were sent out with these foods, viz., that there was an actual money saving in their use as it enabled the most inferior kind of food to be consumed—discarding, we say, these professions, which have been long since laughed out of court, and abandoned as altogether untenable—it is undoubtedly the fact that when horses get old their teeth often get out of order and become sharp and irregular at the edges so as to wound the gums; or perhaps a molar tooth gets broken off so that its antagonist becomes long and projecting, and in time prevents its neighbours from doing their duty. Whilst the old man under such circumstances can resort to the dentist, or to soup, or to the sausage machine, the old horse is expected to masticate as well as ever. Here then is a case for the cattle food; and the marvels it effects by supplying nourishment in the form of meal, doing that for the old horse that he could not do for himself, become a reason why hundreds of other horses should be so treated! Again, we have said that when a horse gets old his digestive organs frequently become weaker, and advantage is often derived from giving him tonics and cordials. Although the best tonics are bitter, hot, and disagreeable, such as Gentian, Ginger, Peruvian Bark, or preparations of iron or copper, yet fortunately for the compounders of cattle food there are others, though less potent, that are by no means disagreeable, such as Liquorice, Cascarilla Bark, Aniseed, carraways, and a few others. So that by giving meal thus sweetened and slightly flavoured with salt, the digestion of the old horse is stimulated and coaxed, and his condition improves. It is true that this effect can be produced as well by giving the animal his food properly ground or in the form of meal, and if need be assisting him occasionally with some tonics or cordials; but then there would be nothing wonderful in this, nothing *mysterious*, and JOHN BULL, we know, is fond of the marvellous. It is true likewise that if it is beneficial for the old horse it is comparatively useless for the young and healthy; never mind—"what's sauce for the goose is sauce for the gander," and if the logic of this reply is not appreciated, we have a better in store. If its use were confined to old horses, how are the advertisements to be paid for?

There is a greenness about most of these foods which appears to be imparted by an article that has been imported within the last few years—the Carob Bean or sugar pod. This food contains very little flesh-making property, and that little not available in the ordinary state, as it resides in the small Bean, the seed, which is so hard that it escapes mastication. If, however, the whole is ground up together, its properties are rendered available, and the sugar which is contained in the mucilage which fills the pod imparts an agreeable flavour to the cattle food. There can of course be no difficulty in getting good meal so long as we can buy at less than 10*l.* and sell at 50*l.* per ton; and thus, whether we use Linseed-meal, Bean-meal, or Barley or Oatmeal, or Maize-meal, or the whole combined and sweetened with the sugar-pod and flavoured with agreeable aromatics and stimulants, there is no great difficulty in compounding the high-priced article.

But how about the cost? It may be urged that this is no business of ours—that if farmers are willing to buy we should not interfere. This however is an agricultural journal, and Profit and Loss are the very Alpha and Omega of farming. No matter how good a thing may be, if it costs more to get than it is worth it is valueless. Sewage manure may be a capital thing, but whilst it costs a guinea to get back a sovereign, to the sewers and the sea it must go. And thus it is our duty to warn agriculturists of the folly of paying 50*l.* per ton for that which is worth about 10*l.* We willingly accede to the plea that might be urged as to the large set-off against the retail price in the shape of enormous commission allowed to the retailers, who as long as they can get more profit out of a cwt. of cattle food than out of a ton of Linseed-cake, will do their utmost to force it down the throats of their customers. Then too there is a monstrous sum to be devoted to advertisements, placards, and sign-boards, and the large staff of *cheap Jacks*. It was held by a celebrated quack doctor that 1000*l.* well spent in advertising is sufficient to force anything not absolutely injurious into repute, and thus it has often happened that the harmless prescription of some eminent physician has enabled the charlatan to roll in his carriage. Purchasers, therefore, must not unreasonably suppose that it is all profit with the cattle food; but how much we leave them to calculate.

With regard to the effect on young and healthy fatting animals which are supplied with every kind of nutriment they can possibly digest, the idea of these cattle foods claiming the credit of the fattening because the feeder was foolish enough to employ them, seems too preposterous to be seriously entertained, and can only be likened to the fable of the fly on the wheel exclaiming "See what a dust *I* am kicking up." *W. C. S.*

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THE attention of our readers is particularly directed to the advertisement of a public meeting in behalf of the Royal Agricultural Benevolent College, which is to be held on Thursday, Dec. 8, at 1 P.M., in St. James's Hall, when Mr. Alderman MECHI will take the chair.

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## THE BIRMINGHAM POULTRY SHOW.

[From the *Times*.]

OF poultry there are 1342 entries, and of pigeons 214, or 1556 altogether, being within three pens of the number last year—a singular circumstance, considering the variableness of the exhibiting constituency, and the wide distances between localities represented. There no longer exists a poultry mania; but the taste for domestic fowls of the most perfect feather or the greatest weight, and other characteristics of excellence besides size and beauty, is in no wise diminished. Certain it is that while the egg—that most nutritive of albuminous meat, the invalid's joint, and the indispensable component in the cook's recipe—continues to be an article of such value in the provision-market; and while table fowl, roast duck, and goose, and turkey—that lordly dish, are in such popular demand, the cultivation of good breeds of poultry must always be of high national importance. We keep good horses, bulls, and rams for the advantage of our humbler neighbours' breeding; why not also benefit our rural peasantry by distributing among them chickens of the best breeds, replacing worthless by really valuable poultry, such as the Spanish or Dorkings, that would yield large profits in eggs to the poorest cottager? It is estimated that 500,000,000 eggs, worth about a million sterling, are annually exported from Ireland, and we import from France, chiefly from the Pas de Calais, also from Sardinia and Holland, a large proportion of the eggs which supply our metropolitan market. Probably we import as many as 700 millions of eggs every year. Good layers, then, are worth having, as well as good nurses and heavy weighers. The influence of the poultry-shows may be seen in any district in the truer and more valuable sorts now superseding the coarse-legged and diminutive old-fashioned barn-door birds. At Bingley Hall we witness the poultry in all their best winter plumage; accurately classified; their points of excellence or demerit reduced to a system; the most minute points as to high condition, quality, beauty of plumage, purity of race, and uniformity in the markings, combs, and other characteristics, all determined by the highest authority. Hence, notwithstanding the vast numbers [illegible] from all parts of the kingdom, every [illegible] almost perfect birds. Still we find continual [illegible] exhibitors every year successfully following [illegible] gestions of the judges, and establishing [illegible] of excellence, transforming breeds, indeed [illegible] remarkable manner, by dint of attentive [illegible] selection. Thus, the Spanish cocks formerly [illegible] ing combs; the judges pronounced an [illegible] the standard, and, accordingly, at the present [illegible] not a drooping comb is to be found. In silver [illegible] Hamburghs and Polands, clear tails were [illegible] on, and these are now the rule. As [illegible] the prescribed formula is for Aylesbury and [illegible] ducks to be large, Buenos Ayres [illegible] Indian ducks are to be small, and the [illegible] these are shown very little larger than [illegible] extraordinary is the power of the skilful [illegible] produce almost any characteristic or quality [illegible] be desirable in greatest excess. The same [illegible] Dorking fowls, also, used to have separate [illegible] many exhibitions because of their small size; [illegible] year they enter into general and equal competition with the darker birds. The greatest advance [illegible] is in the early maturity of the young birds [illegible] that we have chickens of 1859 equal in size at [illegible] to their parents. The developments of [illegible] weight brought out by this Show are really extraordinary. A few years ago, a Dorking hen of 7 lbs. was a large bird; this year there are 10-lb. hens. A Dorking cock was formerly marvellous at 9 lbs.; now they weigh 11 lbs. each, and the average weight is 2 lbs. per bird heavier than a few years since. A 12-lb. bird was once a marvel; at the present show [illegible] birds in one pen weigh 74 lbs., the gander himself weighing no less than 30 lbs.—2 lbs. heavier than the celebrated white gander of the Rev. John Thomson a few years since. The average weight of geese is 9 lbs. per bird, an improvement [illegible] upon a few years back. There is a pen of Aylesbury ducks, weighing 32 lbs. Six-pound birds are common, whereas 4 lbs. was the average weight [illegible] Even Rouen ducks at this Show weigh 27 lbs. the birds. And Christmas caterers will be glad to hear that turkeys of 17 lbs. and 18 lbs. each are [illegible] mon, while three turkeys in one pen weigh [illegible] 68 lbs. Such an advance in size alone, besides the improvement and aptitude to make flesh, must [illegible] added immensely to our capability of supplying [illegible] poultry-markets. To show that a legitimate [illegible] first-class fowls for breeding purposes is still [illegible] at high prices, apart from the mere fancy and [illegible] dealing created by the late poultry-keeping [illegible] take the last two years' sales in Bingley Hall. [illegible] were sold 201 pens for 800*l.* 14*s.*, an average of [illegible] 4*l.* per pen; a Dorking cock and three hens [illegible] for 31*l.* 10*s.*; a pen of Polish at 15 guineas, and [illegible] pens at 10 guineas each. Last year 206 pens [illegible] for 850*l.* 13*s.*, averaging 4*l.* 2*s.* 6*d.* per pen. Three [illegible] of Cochins fetched 15 guineas each; a pen of turkeys 15 guineas; a pen of geese, 15 guineas; and [illegible] pens 10 guineas each. So that the birds in the exhibition are probably worth as much as all the [illegible] put together.

The largest number of entries we find in the [illegible] king classes—as many as 218 pens, with Messrs. Hornby and Mr. Wakefield as successful as usual. The single Dorking cocks are a marvellous fine class; so indeed are all the single cocks exhibited. The Spanish fowls are very numerous and perfect, showing that a breed with special egg-laying properties is becoming duly valued. The Brahmapootras are very beautiful, testifying also to the attention which is being directed to fowls most profitable for their eggs—articles of consumption that we might [illegible] supply to our home market without being "dependent upon foreigners." The Cochin Chinas are recovering from the unmerited neglect of latter years, and [illegible] having been run up to fantastic prices and then extravagantly ridiculed, are now taking the place which their really valuable properties demand. In the Hamburgh fowl classes it is to be observed that the golden are very superior to the silver feathered. The spangled Hamburghs comprise many perfect birds. The old English game fowl shows well, as usual, the entries proving that in many counties he is [illegible] exclusively the favourite with a large class of [illegible] keepers. No fowls are exhibited in such good plumage as the game, which is the case every year. The [illegible] are much improved. The Sebright bantams are beautiful, and what we say of game fowls is true of the game bantams—purely fancy birds; the [illegible] number of entries, no less than 55 pens in this [illegible] fully fine class, show them to be the pugnacious favourites of the public.

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## AGRICULTURE OF 1859.

### ALTERATIONS PROPOSED AND IMPROVEMENTS [illegible]

[The following paper was read to the Kingscote Farmers' Club at their last monthly meeting by their President, J. T. Harrison, Esq., of Frocester Court, Stonehouse, Gloucestershire.]

WE are living in perhaps the most remarkable period of the world's history, when improvements which formerly occupied many years, ay, even centuries to accomplish, are now suggested, planned, and executed in the course of a few or even one year. We look back and call to mind our childish surprise at seeing the "iron-horse," as it was called, travelling with a train of coal waggons within a quarter of a mile [illegible]

birthplace, on the Hetton Railway, gaunt and grim, [illegible] now be called, with its cylinders [illegible] the boiler, and the long connecting [illegible] to the wheels, and recollect that this [illegible] George Stephenson's first decided step [illegible] people of the world to run to and [illegible] these wonderful specimens of [illegible] though by these wonderful specimens of [illegible] perseverance, the present locomotive [illegible] degrees,—when again I remember the [illegible] and experimental anxiety that I day by day witnessed when Mr. Cook was laying down the first length of the electric telegraph between Paddington [illegible] just 20 years ago, and now see how thought is transmitted like lightning to the ends of the world by means of this invention, we may well say we live in an age of intellectual development, enterprise, and perseverance far surpassing the wildest imaginations of our most speculative forefathers.

The question then naturally presents itself—"What [illegible] with respect to agriculture?" In the midst of all this excitement and eagerness to overcome the obstacles presented by Nature to the intercourse and interchange of ideas among men, is agriculture alone standing still, or is it keeping pace with the times?

I say that it is, would be simply untrue: to say that it does and is doing much towards it I am glad to assert. That there is in agriculture an opening for the employment of the surplus capital of the country such as may still cause us to open the eyes of astonishment at the results I firmly believe.

One of the first obstacles that must be removed is that presented by those who possess the land of our little island home. They must learn that as owners of the land they have duties to perform to their country as well as rights, and the first duty incumbent upon them is to remove every obstacle that presents itself to the improvement of the soil. But I shall be asked: Do landlords ever really present obstacles to improvement?—this is a serious charge. Knowingly, or unknowingly, and from long custom they do. Every acre of England that requires it should be drained, every part capable of cultivation should be employed, and every encouragement should be given to the occupiers of the land to improve it to the very utmost with the consciousness that their rights in such improvements will be respected. Then and not till then may we expect capital to flow freely towards the improvement of agriculture.

I believe that England calls for and that she requires for the maintenance of her national independence that this condition of things should be brought about. Consider the rate at which the population of England is increasing: it has doubled in the last half century. How is this enormous increase (and what but for emigration would it have been?) and the yearly addition to be maintained? Agriculture, no doubt, has done much to meet the increased demands, thanks to the enterprise of the British yeoman, to the discoveries of artificial manures and food, and to ingenuity of our implement makers, ay, and to the noble lead and encouragement given by many landlords. But is it not a fact that we are becoming as a nation more and more dependant upon foreign countries for some of the necessaries of life? This may be a necessary condition of things, but is it desirable? By no means. Remember the great Napoleon's observation that should England become dependent upon foreign countries for her food she might be conquered. Thank God, England's hope for protection in time of danger is founded on a more sure basis than that. But it is not the less necessary that England should take every precaution and raise herself above dependence upon her neighbours in case of necessity.

What then are the points we should aim at as agriculturists? I would suggest,—1st, to increase our productions; 2d, to take advantage of every appliance to diminish the cost of that production; and 3d, to use every means to economise that part of our crops which we consume on our farms. I shall endeavour to seize on a few of the alterations proposed and the improvements introduced under these three heads during the past year.

1. *To increase our productions.*—Under this head it is very difficult to bring any striking instances of improvement or alteration before you. Our journalists reiterate the recommendations to drain and plough deep, carefully preserve your manures, apply them freely, increase their value by using artificial food, and be not niggardly with artificial manure besides. For sandy lands the Lupin has been tried and found to yield a valuable addition to our sheep feeds. One subject deserves especial attention—the complaints which are becoming so general as to the failure of the Swede crop. This is particularly the case this year in the north of England. We find it is leading to a yearly more extensive growth of Mangel Wurzel, the advantages of which are the much larger quantity that can be grown, its excellent quality of keeping, with care, even till the ingathering of the succeeding crop. It is especially useful to the dairy farmer, as it is chiefly wanted by him in the spring, when it attains its best condition, and is excellent for increasing the milk of his cows. We cannot but gratefully welcome the enlarged employment of this root at a time when the uncertainty of the Swede would entail such serious evil. There is one point respecting the management of the Mangel which demands especial attention, namely its liability to injury from frost. This season will be long remembered by many who have experienced the effect of the unwonted frost in October, 1859. In future to be pretty certain of securing uninjured our Mangel crop we must store them by the middle of October. The cultivation of Mangel is forcing upon us a very desirable reform in one respect—if we wish to grow them successfully we must cultivate our land in the autumn. The old system of leaving our long stubbles with their once valued crop of Couch for the sheep to run over in the autumn, and for game cover, must be superseded, and immediately it is possible to set Bentall, Coleman, Woot, or the common plough with a broadshare to work, in they must go, giving the Couch no time to think about darting his roots in the soil, encouraging all the annual weed seeds to vegetate, following as rapidly as possible (after, I would recommend, burning all the remaining stubble and rubbish,) with the plough.

And here I must mention the excellent system recommended to us by our friend Mr. Burnett last winter, the satisfactory result of which we have seen in the magnificent crop of Mangels he has grown this season.

Mr. Coleman of the Agricultural College recommended a somewhat similar system, but I prefer Mr. Burnett's plan:—clean your field in autumn, spread your manure, bout it up, so let it lie all the winter; a few weeks before sowing cross harrow, thus destroying the young weeds, re-form the old bouts, and sow. Following these instructions you may be almost certain of a good seed bed. I should like to commence the operation by a thorough breaking up of the land with Smith's steam cultivator.

But how are we to manage this autumn cultivation? Under any circumstances it is a busy time. This may fairly introduce the second subject I proposed, viz:—

2. *Taking advantage of every appliance to diminish the cost of production.*—And here increased machinery and all-powerful steam present themselves as our obedient servants ready to do our behests. Ploughing by steam is no longer a matter of speculation; it is an established fact, and I am persuaded one that will rapidly cause a revolution in agriculture. It is established beyond all doubt that the steam plough can do the work equally well and at two-thirds the cost of horse-power, and further it can do that that cannot be accomplished by means of horses.

We cannot anticipate what will be the effect of the deeper ploughing and more thorough cultivation which the steam plough will produce, but I know that every year I have a crop of corn in a field of stiff clay which was drained 9 or 10 years ago. I have a much more luxuriant crop of Wheat about 2 feet wide over each drain than on the other parts of the field, which I must attribute as much to the thorough trenching the soil then underwent as to the drain that was put in below. And such trenching steam can and will accomplish. But besides doing the work more cheaply and effectively than by ordinary means, the greatest advantage to be derived from the application of machinery is the saving of time, the having the power of doing the thing when it is wanted to be done, and here it bears strikingly upon autumn cultivation. A steam engine that can plough 6 acres a day when you want it, and will not eat corn when the weather is unsuitable, so that you do not begrudge his remaining in the stable, must be a most invaluable part of the stock of a large arable farm, but I believe we are far as yet from fully appreciating the purposes to which the steam engine may be made available. We know that we can have an engine which shall take itself out of its stable and draw a good load after it, which on arriving at the field can scarify, plough, subsoil, drain, break up and cultivate our fields, which can take itself home again and when fixed in place shall thresh out our corn, and prepare it for market; bruise the Oats for our horses, grind meal for our cattle and pigs, cut chaff and litter for all our stock, crush (not our own I hope) bones, even carry our produce to market if required and at last blow off its waste steam among our chaff. There are very, very many farms where it cannot be a question as to the expediency of employing such a coadjutor. The proposed systems of steam culture may be arranged under three heads:—1. The portable engine, which is used as a stationary engine in the field working the ploughs or grubbers by means of wire ropes. Mr. Smith's made by Howard, and Mr. Fowler's are the best representations of this class; to Mr. Fowler has been adjudged the prize of 500*l.* offered by the Royal Agricultural Society. 2. The locomotive engine travelling on Boydell's Endless Railway is next, dragging after it either ploughs, cultivators, or circular grubbers. To this system there will always be the objection of treading the land, and the double dificulty of keeping the unwieldy horse as well as the implement in place. The 3d is Halkett's Guideway, which is admirable in conception and according to tho published accounts works to perfection. The first cost of it however is very great and will form a formidable barrier to its extensive introduction. There are many ways, such as draining and providing accommodation for the labourers and stock of the farm, in which capital may be expended with greater benefit to the country.

Turning from the steam engine to the more simple machines, we have the mowing machine taking a prominent place among the new implements during the past year. Having used it myself, I speak with confidence as to its great utility and this not so much in lessening the expense of the operations, although that is important, as in the command it gives of the work. Haymaking is a tedious process; there is no more valuable precept in farming than making hay while the sun shines, in truth it is but then that you can make it, and then in reality it makes itself; and an implement that enables you to cut down 8 or 10 acres a day just when the weather suits is invaluable, to the Grass land farmer especially. The one I used was Wood's; its fault is not cutting close enough to the ground; this defect is remedied in that made by Burgess and Key, but I have no doubt it will be overcome in Wood's also, when it will be the more valuable implement, as it is a reaper as well as a mower, and does its work to perfection. I must mention the advantage I found in using it as forwarding autumn cultivation. By cutting the stubble close I was enabled to commence cultivating immediately, whereas after hand reaping the operation was delayed till we could mow the stubble and clear it away, and when I tried hand-mowing last year, although it obviated this difficulty, I found the operation very slovenly.

I will only add a few words on the subject of the objections raised by the labourers to the introduction of machinery. I have no hesitation in saying that the extension of machinery will in the end increase rather than diminish labour; it may have the very desirable effect of distributing the labour more evenly over the year, but that there is quite enough left undone, in a general way, on every farm which it would be well to do I have no doubt; besides we aim to grow heavier crops, and the labour required to prepare these whether for the market or stock will demand the spare time of all our hands. We should aim at keeping the same people at work all the year round as much as possible, and I believe that machinery, by easing the heavy pressure of harvest and other busy times, will enable us to accomplish more at the same cost and keep nearly the same staff of men employed constantly. The scarcity of hands for the harvest work this year has been very remarkable, partly owing no doubt to so much work requiring to be done at once, but partly from a real scarcity. In some instances 30*s.* and 40*s.* per acre was given for reaping, but this again was probably in some measure owing to the laid condition of the crop.

3. The third point to which I would call your attention is *the necessity of our using every means to economise that part of our crops which we consume on our farms.* This subject is becoming year by year more interesting, and the attention of scientific and practical men is being so directed to it that it bids fair shortly to deserve the name of a science. Farmers have been accustomed for many years to use oilcake, bran, meal, &c., in addition to their hay, straw, and roots in fattening their stock, but the principles upon which the advantages gained are dependent are far from being understood. A good result from a certain system is established, and it is followed by many, and so far well, but the point to aim at is the best result; we want to know how to turn our straw, hay, and roots to the best advantage. The subject, although it may not appear so to us, is surrounded with difficulties, as admitted by Dr. Anderson in his highly interesting and scientific address to the Highland and Agricultural Society of Scotland.

I shall endeavour to bring clearly as I can under your notice the present position of the question. Our cattle during the summer months rove at large about our fields, using with discrimination those Grasses which their instinct tells them are best for them, and showing us very readily where our management is defective, by leaving the Grasses that are sour and unpalatable. During the winter our system of feeding necessarily becomes artificial, and we want to use our reason as the cows did their instinct, and make the proper selection of food for them. It is well known that could we consume the Grass, from which we make our hay, in its green state, it would yield a much larger return. It is also known that the more rapidly the Grass grows, and the younger in reason it is eaten the more good it does the stock, which probably arises from its being more easily digested and assimilated.

It is also determined that the early made hay is much more valuable than that made from Grass allowed to stand till the seeds are perfected, and the stems contain a large proportion of woody fibre. As when Ryegrass is allowed to ripen it is considered but little better than straw. The question then is, having a large portion of our winter provision in this dried state, can we by any means restore it to its originally digestible condition? Will steaming do it? Here doctors disagree. While some say that it merely makes musty food more palatable, and does little good besides, Mr. Horsfall says:—"My experience of the benefits of steaming is such that if I were deprived of it I should not continue to feed with satisfaction." Mr. Horsfall is no mean authority, but fairly deserves the title of the founder of scientific feeding. Others again think highly of the plan of mixing the pulped roots with chaff, allowing the mass to lie some hours, and then using the fermented food, supposing that the heat thus produced, so inexpensively, in a great measure, answers the same purpose as steaming. Both these systems call for further careful trial and exact comparison.

Mr. Horsfall, however, by no means depends upon steaming his food merely for success; he studies the demands made upon his cows, and by providing them with the food he finds they require, he succeeds both in summer and winter in maintaining an abundant supply of milk of superior quality, at the same time that his cows improve in condition and eventually fatten for the butcher. To show the result of his treatment he mentions an experiment he conducted in conjunction with two of his neighbours. One of them fed his cow on good hay; the other on somewhat inferior hay, ground

Oats, and Turnips, whilst he fed his on the mixture he recommends. At the end of the trial the first cow had lost weight, the second remained stationary, whilst his own had gained weight. Making allowance for this accordingly, and valuing the milk produced, the result was that whilst the cost of food was respectively 7*s.*, 9*s.* 2*d.*, and 8*s.* 7*d.* per week, the profit was 2*s.* 11*d.*, 4*s.* 3*d.*, and 10*s.* 10½*d.*

The extra expense he was at in cooking and attendance he considers was fully compensated by the improved quality of the milk.

The difference is certainly sufficiently decided to demand attention. Now mark this result is not obtained by any process of trial and error, but is the result of a close and scientific examination into the subject.

Mr. Horsfall does not confine his practice to dairying, he applies the same principles with success to fattening his stock. In the following remarks in his first paper to the Royal Agricultural Society in 1856, Mr. Horsfall appears to have fully foreseen the importance this subject would rapidly assume. "I think," he says, "that substances peculiarly rich in nitrogenous and other elements have a higher value for special than for general purposes; and that the employment of materials characterised by peculiar properties for the attainments of special objects has not yet attained the attention to which it is entitled."

Other inquirers have followed Mr. Horsfall; Messrs. Lawes and Gilbert have made some interesting experiments, and Dr. Anderson has introduced some of them to elucidate his views in his address to the Highland Society.

They examined the carcases of different animals in various stages of fatness, and found that whereas in animals in store condition the proportion of fat and flesh do not differ more than 2 to 1, the increase of fat during the process of fattening is 8 or 10 times as great as that of the flesh—thereby showing the much larger proportion of the fat than of the flesh-forming substances that are required to be assimilated by fatting animals.

They show however that animals can assimilate only 5 per cent. of the nitrogenous (flesh-forming) compounds contained in the food, whereas they can assimilate 10 per cent. or twice as much of the fatty matter, which in some measure accounts for the great value set upon those foods which contain a large per centage of nitrogenous compounds.

To introduce Dr. Anderson's views to you I will make one or two extracts from his address. He says:—

"The question reduces itself to determining how the crops commonly cultivated on the farm can be most advantageously used for feeding cattle, and whether they are best used alone or supplemented by food not forming part of the usual farm produce."

Again, "The advantage of these substances (artificial foods) seems to depend on the fact, that in many kinds of food the proportion of nitrogenous matters is too small to permit the full benefit to be derived from the saccharine constituents of the food; and their effect is not confined to adding a certain quantity to the nutriment consumed, but serves to render available substances existing in the ordinary food, and which under other circumstances would be lost."

And he illustrates his view by experiments on feeding some oxen which appear to prove his point.

Here then is a new step in the investigation, and if thoroughly established a most important one. Mr. Horsfall's position was to supply the animal with the substances he found it assimilated either in the shape of milk or meat in addition to what it required to maintain its animal heat, respiration, and its constant tendency to loss of muscle, &c.

Dr. Anderson goes a step further (which, however, Mr. Horsfall in the extract given before in some measure anticipated) and shows that by a judicious supply of artificial food not only does that food give a good account of itself in the improvement of the animal, but it besides increases the absolute value of the ordinary food by enabling the animal to more thoroughly assimilate it.

The facts mentioned above, as ascertained by Messrs. Lawes & Gilbert, that only 5 per cent. of the nitrogenous and 10 per cent. of the fatty compounds of ordinary food are assimilated, show that there is a wide margin for such a result, and that there is probably a great loss of nutritive matter in using simply the products of the farm by themselves.

Are then Thorley's and other cattle foods that are offered to us, nay, almost forced down our throats, the grand desiderata; do they possess this talismanic power of turning, as it were, dust into gold? There is no doubt that the (apparently at least) exorbitant price at which they are offered has raised a strong prejudice against them. In offering them at so high a price I think the makers are acting contrary to their own interest. By aiming at a smaller profit on a more extensive sale they would be much more likely to keep their secret to themselves and become popular. As it is they are stimulating the energies of many to discover their secret, and possibly in the process to produce a more valuable condiment than their own.

But is Thorley's food really valuable? We have Messrs. Lawes & Gilbert's analysis, which no doubt is right as far as it goes; but it is impossible almost to determine the ingredients of which it is composed. Most old shepherds can tell us the wonderful effects of Fœnugreec, which seems to be one of the ingredients. May there not be others equally efficacious?

Messrs. Lawes & Gilbert do not, however, found their condemnation merely on the analysis, which shows the food to be composed of a mixture whose market value is only one quarter of that charged for the food; but they have tried experiments on feeding pigs, the result of which, so far as it goes, is decisive against the food. But this trial alone does not carry conviction to my mind, pigs are always fattened on the best of food. Let the issue be fairly tried, in fattening cattle using the cattle food with hay and roots against oilcake and Bean meal of the like value with hay and roots, and let us know the result. Not having experience I cannot give an opinion, but I fear prejudice is too apt sometimes to warp the judgment, and I am free to believe there may prove to be more excellence in Thorley's cattle food when properly applied than it has at present credit given to it for.

I must mention a new and apparently very valuable introduction, viz,, the Cotton-cake which, when decorticated, seems to equal oilcake in value, whilst it is not nearly so costly.

In closing I must express my sense of my inability to comprise in the short compass of this paper the many subjects that its title would justify or call for. I have endeavoured to seize upon a few of what seemed the leading questions of the day, and which perhaps appear to stimulate to further inquiry and urge to investigation and experiment rather than to let us settle down on our leas, and comfort ourselves with the consideration that we have already attained to the highest point of agricultural science and practice. *Frocester Court.*

## Home Correspondence.

*Mangel Wurzel.*—From a notice I saw in Morton's Almanack I am induced to offer a few remarks on a crop of Mangels just harvested here. Mr. Morton says: "Take the following again as an actual experience in the growth of this crop on the clay soils of Hampshire. This year an acre of Mangel Wurzel has produced 55 tons of evenly-sized roots after topping and cleaning." I now offer my experience of this year, off a field in 20 acres of a marsh soil in Essex; the seed was sown on the 11th and 12th of April on the flat with the common Suffolk-drill 28 inches between the rows. Before sowing I had the entire surface of the field reduced to the finest mould which I could obtain by the use of the harrow and clod-crusher, completing the operation by a one-horse roller following the drill, which sufficed to cover the seed. I used 6 lbs. of seed to the acre, and in due time had a uniform plant, which on the 29th May I commenced to thin out with hoes made for the purpose, 14 inches long, and with which an expert workman accomplished 1½ acre per day, leaving the plants about 15 inches in the rows; in most cases more than one plant was left, but to make the operation of thinning complete I had a boy to follow the hoe removing all plants except one. Three times horse-hoeing and one hand-hoeing completed the summer cultivation of the best crop of Mangels I ever saw. A specimen of the roots can be seen on the Messrs. Lawson's stand at the Smithfield Show. Anxious to ascertain as near as possible the weight per acre, along with a friend I selected a spot which appeared to offer a fair average of the produce of the field; we weighed half a ton, and measured the ground, which indicated a produce of 64 tons per acre. In connection with a soil admirably constituted for the growth of Mangel, I may be permitted to add what in my opinon tended much to favour the result, namely, early sowing and the consolidation of the seed-bed. From beginning to end their growth was uninterrupted, and on the 23d of last month, when the frost injured much of the Mangel in the country, these were completely shielded from harm by their own leaves; up to the time of the frost the bulbs were scarcely discernible under the foliage. I well remember reading in the *Gardeners' Chronicle* of the 30th April the following extract from your Fen Reporter: "Mangel sowing has already commenced, but most of our farmers have found it advantageous to sow this crop later than they did some few years since, and many decline sowing until May is in." At the time I read this I thought it a grand mistake, but I now feel convinced if I had been torturing the land about in the first week in May, the only advantages I would have gained would have been much less labour in storing, and far less anxiety respecting the state of the weather while the operation was going on. To be successful in obtaining a heavy crop of Mangel, deep and autumn cultivation, plenty of seed (8 lbs. per acre), early sowing (first week in April). Until those points are more attended to the Mangel crop will not arrive at that stage of extension and usefulness of which it is susceptible. *P. Mitchell, Rainham, Nov.* 21.

*Substitute for Clover.*—On reading your report of the late discussion at the London Farmers' Club, upon substitute for Clover, was much surprised that no one said a word about Cinquefoil, than which there cannot be a better substitute for Clover. Indeed I think it is much better for several reasons. It is an excellent preparation for Wheat, will grow more, feed, and come in earlier, fattens lambs better than anything, and never scours them as Clover often does, and never hoves sheep, let them be put on when they will. *T. Baker, Barton, Cambridge.*

*Michaelmas Corn Averages.*—At this season of the year it may not be uninteresting to your agricultural readers to take a review of the progress of prices in Wheat, Barley, and Oats during the 52 weeks ending on the 24th day of September, 1859. The averages for that period, it will be seen by the annexed table, are as follows, viz.:—

| | | |
|---|---|---|
| Wheat .. .. .. | 43*s.* 6*d.* | per Imperial quarter. |
| Barley .. .. .. | 33*s.* 5*d.* | ditto. |
| Oats .. .. .. | 23*s.* 8*d.* | ditto. |

It may also be of use to examine the fluctuations that have occurred in the price of Wheat in each year ending at this period, from the passing of Sir Robert Peel's Corn Bill, on June 26, 1846. For this purpose I have prepared a table exhibiting the highest and lowest prices in each year, with the difference. *Charles M. Willich, Actuary, University Life Assurance Society, 25, Suffolk Street, Pall Mall, S.W., Nov.* 11.

*Annual Average Price of Wheat, per Imperial Quarter, in England and Wales, from Michaelmas, 1845, to Michaelmas, 1858, together with the Highest and Lowest Weekly Average Price in each of the respective years ending Michaelmas Day.*

| Average price for the year ending Michaelmas | | Highest price for the Week ending | | Lowest Price for the Week ending | | Difference. | |
|---|---|---|---|---|---|---|---|
| | *s.* *d.* | | *s.* *d.* | | *s.* *d.* | *s.* | *d.* |
| 1846 .. | 54 1 | Nov. 1, 1845, | 60 1 | Aug. 14, 1846, | 45 1 | 15 | |
| 1847 .. | 71 3 | May 29, 1847, | 102 5 | Sep. 18, 1847, | 49 6 | 52 | 11 |
| 1848 .. | 51 3 | Sept. 9, 1848, | 56 10 | June 17, 1848, | 46 10 | 10 | 0 |
| 1849 .. | 46 7 | Nov, 18, 1848, | 52 3 | Sep. 22, 1849, | 41 9 | 10 | 6 |
| 1850 .. | 40 3 | Aug. 10, 1850, | 44 1 | May 4, 1850, | 36 11 | 7 | 2 |
| 1851 .. | 39 5 | July 12, 1851, | 43 6 | Sep. 27, 1851, | 36 7 | 6 | 11 |
| 1852 .. | 39 10 | Sep. 4, 1852, | 44 9 | Oct. 11, 1851, | 35 6 | 9 | 3 |
| 1853 .. | 45 7 | Oct. 1, 1853, | 59 5 | Oct. 16, 1852, | 37 10 | 21 | 7 |
| 1854 .. | 72 10 | Jan. 28, 1854, | 83 3 | Sep. 16, 1854, | 52 2 | 31 | 1 |
| 1855 .. | 71 10 | Aug. 4, 1855, | 78 2 | Oct. 7, 1854, | 56 7 | 21 | 7 |
| 1856 .. | 73 1 | Dec. 1, 1855, | 83 1 | Sep. 27, 1856, | 64 4 | 18 | 9 |
| 1857 .. | 59 2 | Oct. 25, 1856, | 66 4 | April 18, 1857 | 53 0 | 13 | 4 |
| 1858 .. | 46 10 | Oct. 9, 1857, | 56 3 | Sep. 3, 1858 | 42 6 | 13 | 9 |
| 1859 | 43 6 | May 27, 1859, | 54 4 | Jan. 7, 1859, | 39 10 | 14 | 6 |

*Weekly Average Prices of Wheat, Barley, and Oats in England and Wales for 52 Weeks, ending the 24th of September, 1859.*

| Per "London Gazette." | | | Wheat. | | Barley. | | Oats. | |
|---|---|---|---|---|---|---|---|---|
| | | | *s.* | *d.* | *s.* | *d.* | *s.* | *d.* |
| Oct. | 8, 1858 | .. | 43 | 2.906 | 36 | 6.741 | 24 | 10.182 |
| — | 15 — | .. | 42 | 8.551 | 35 | 10.441 | 23 | 7.662 |
| — | 22 — | .. | 42 | 4.470 | 35 | 9.129 | 22 | 9.604 |
| — | 29 — | .. | 42 | 4.178 | 35 | 3.277 | 22 | 10.222 |
| Nov. | 5 — | .. | 42 | 10.007 | 35 | 7.856 | 23 | 5.656 |
| — | 12 — | .. | 42 | 8.946 | 35 | 5.319 | 33 | 0.315 |
| — | 19 — | .. | 41 | 10.553 | 35 | 5.456 | 23 | 2.852 |
| — | 26 — | .. | 41 | 2.744 | 35 | 1.652 | 22 | 11.271 |
| Dec. | 3 — | .. | 41 | 2.975 | 35 | 4.467 | 22 | 9.844 |
| — | 10 — | .. | 41 | 5.055 | 35 | 4.450 | 22 | 8.208 |
| — | 17 — | .. | 41 | 0.000 | 35 | 1.296 | 22 | 10.727 |
| — | 24 — | .. | 41 | 2.346 | 33 | 11.648 | 21 | 10.644 |
| — | 31 — | .. | 40 | 0.323 | 32 | 10.594 | 21 | 9.005 |
| Jan. | 7, 1859 | .. | 39 | 10.969 | 32 | 4.393 | 21 | 10.251 |
| — | 14 — | .. | 40 | 6.948 | 32 | 2.429 | 21 | 5.899 |
| — | 21 — | .. | 41 | 3.062 | 32 | 7.757 | 21 | 4.047 |
| — | 28 — | .. | 41 | 9.990 | 33 | 2.702 | 21 | 8.660 |
| Feb. | 4 — | .. | 41 | 7.617 | 33 | 5.753 | 21 | 10.233 |
| — | 11 — | .. | 40 | 10.728 | 33 | 9.295 | 21 | 9.826 |
| — | 18 — | .. | 40 | 11.125 | 33 | 6.614 | 22 | 4.073 |
| — | 25 — | .. | 40 | 10.187 | 34 | 0.383 | 23 | 1.105 |
| March | 4 — | .. | 40 | 5.757 | 33 | 11.828 | 22 | 8.549 |
| — | 11 — | .. | 40 | 5.409 | 34 | 0.186 | 23 | 0.180 |
| — | 18 — | .. | 40 | 3.566 | 34 | 4.856 | 23 | 3.299 |
| — | 25 — | .. | 40 | 1.487 | 34 | 4.008 | 23 | 9.445 |
| April | 1 — | .. | 40 | 0.197 | 34 | 2.042 | 23 | 4.076 |
| — | 8 — | .. | 40 | 8.341 | 33 | 10.051 | 23 | 4.056 |
| — | 15 — | .. | 41 | 0.492 | 34 | 3.038 | 23 | 4.838 |
| — | 22 — | .. | 41 | 2.760 | 33 | 6.471 | 23 | 7.295 |
| — | 29 — | .. | 41 | 4.026 | 32 | 8.118 | 22 | 7.527 |
| May | 6 — | .. | 42 | 6.654 | 32 | 8.709 | 23 | 4.315 |
| — | 13 — | .. | 44 | 10.372 | 32 | 5.872 | 24 | 2.115 |
| — | 20 — | .. | 52 | 5.220 | 32 | 10.383 | 25 | 4.691 |
| — | 27 — | .. | 54 | 4.674 | 33 | 7.651 | 26 | 3.636 |
| June | 3 — | .. | 53 | 6.873 | 33 | 6.174 | 25 | 9.469 |
| — | 10 — | .. | 53 | 5.301 | 33 | 8.852 | 26 | 1.760 |
| — | 17 — | .. | 51 | 5.059 | 31 | 8.198 | 25 | 11.537 |
| — | 24 — | .. | 49 | 11.958 | 31 | 5.635 | 24 | 11.918 |
| July | 1 — | .. | 48 | 3.236 | 31 | 1.930 | 24 | 9.571 |
| — | 8 — | .. | 46 | 4.485 | 30 | 9.372 | 25 | 10.479 |
| — | 15 — | .. | 46 | 9.456 | 31 | 10.362 | 25 | 6.532 |
| — | 22 — | .. | 46 | 6.288 | 29 | 11.422 | 25 | 3.965 |
| — | 29 — | .. | 44 | 11.555 | 30 | 7.028 | 25 | 11.891 |
| Aug. | 5 — | .. | 43 | 0.545 | 30 | 1.494 | 25 | 3.852 |
| — | 12 — | .. | 43 | 7.434 | 29 | 0.125 | 25 | 1.951 |
| — | 19 — | .. | 43 | 11.644 | 30 | 1.026 | 25 | 2.484 |
| — | 26 — | .. | 44 | 1.241 | 31 | 1.028 | 25 | 5.427 |
| Sept. | 2 — | .. | 44 | 5.548 | 32 | 11.565 | 25 | 5.760 |
| — | 9 — | .. | 44 | 9.129 | 34 | 8.985 | 24 | 5.331 |
| — | 16 — | .. | 42 | 9.579 | 33 | 9.008 | 23 | 0.317 |
| — | 23 — | .. | 41 | 11.093 | 35 | 3.525 | 21 | 7.068 |
| — | 30 — | .. | 41 | 10.261 | 35 | 5.481 | 21 | 7.767 |
| | | 52) | 2262 | 2.300 | 1737 | 4.084 | 1230 | 5.955 |
| Average .. | | .. | 43 | 6.044 | 33 | 4.924 | 23 | 7.599 |

*The Injurious Effects of Early Frost on Mangel Wurzel.*—I have not been an inattentive observer of what has been said and done in regard to the storing of the Mangel Wurzel crop; and from all I can see and hear my impression is that one of the best crops ever grown will turn out one of the least value, in consequence of the injury the roots have sustained by the severe frosts in October and November. I shall probably be told, "'Tis easy enough to reason after the event, but who could foresee a temperature of 17° as early as the 23d of October?" Foresee it we could not, but provide against it I contend we could and ought to have done. "How?" By early and timely storing. I mean by drawing and securing the roots as soon as the crop is ripe; or, if this is impracticable, by earthing up the rows with the plough, as recommended by you, Mr. Editor. I agree with you that a crop ought to be ripe before it is drawn and stored, or even if not perfectly ripe, that when carefully stored, the process of ripening is very much favoured thereby, just as Apples and Pears are always the better for chambering. But I do not agree with you that "it is satisfactory to know that large quantities of the frosted Mangel roots have been used for sheep and cattle," notwithstanding your assurance that "in no instance have we heard of scouring." I confess I should feel but little satisfaction in consuming a crop in November, the chief value of which is that it holds good till late in spring, or early in summer, and it is but a poor consolation to learn that this crop, which ought to have produced so large a weight of beef and mutton, has done no harm to the animals that consumed it. Why, the boys that swallowed the Belladonna last week in mis-

take for "liquorish," as they called it, could have said almost as much. It did not kill them. That was all they could say in its favour. To be serious: it seems to me hardly possible that a crop which has been subjected to a temperature of 23°, 22°, 20°, and even lower, as was the case this season, can have escaped injury, and very great injury, too, even though to the eye the roots appear sound and but little the worse for the discipline to which they have been subjected in the field. I have seen many waggon loads of such splendid roots—"a little touched perhaps, but not much the worse," so the farmers say, and believe; but what say the sugar manufacturers and distillers? Can you persuade them that a waggon-load of these frost-bitten roots (for frost-bitten they are, whatever may be said to the contrary) are equal in quality for their purpose to a similar weight of roots drawn from the field before the frost, however slight, can have affected them? What the per centage of loss of saccharine matter in such a case would be I am not competent to say; but I believe it is something considerable; and if so detrimental to the manufacturer, by parity of reasoning it cannot be otherwise to the cattle feeder. I am aware that by some I shall be considered an alarmist for thus dwelling on, and perhaps exaggerating an evil, which, if it exist at all, cannot now be helped: therefore to discuss it is useless. I do not recognise the soundness of this doctrine—it might and ought to have been prevented. For November read October, as the month for storing; or, as no set time will suit all seasons, say as soon as the crop is ripe. Now, after such a hot summer as the last, there can be no question as to the early maturity of this plant; and I contend it might just as well have been stored early in October, as in the middle of November—and where is the difficulty of this? If the crop is worth growing, it is surely worth taking care of, and to let it stand in the field a day longer than it is fit to draw is not to take care of it, but about as sensible a proceeding as that of the boy, who, in going on an errand into the next village, put 20*s.* worth of silver into a hollow tree to see whether they would be there when he came back! If anything is likely to interfere with the process of harvesting, by all means set the plough to work, and cover the bulbs as well as you can. That will be better than nothing; but the safest plan is to clear the land of the crop at once. In conclusion, I wish not to excite any unnecessary alarm as to what has been done or is doing with this very important crop: but I do wish that people would make use of their common sense, secure the crop when it is fit, and thus supersede the necessity of any alarm whatever on the subject. *Samuel Taylor, Glocester, Nov.* 28.

## Societies.

THE BIRMINGHAM AND MIDLAND COUNTIES SHOW. *Nov.* 28.—Bingley Hall was inconveniently crowded with its visitors, more so than we have ever seen it on the day of the "private" show. The cattle are hardly so numerous as they were last year. The sheep are now a wonderfully fine department of the Birmingham meeting. The pigs constitute, as they always have in Bingley Hall, one of the most useful sections of the exhibition, including, as their classes do, breeding animals as well as fat. The roots, though not so fine as last year in individual instances, and even defective as in individual instances they are this year, are a most remarkable display. The different classes of poultry are filled perfectly as usual.

The Herefords stand first in the order of this west country gathering; they do not in our opinion come up to the standard of previous years; there are instances of animals whose only claim to a place rests on excessive fatness. Among the oxen, including 8 heavy animals, No. 1 is a very well-fed Hereford ox shown by the Marquis of Downshire, comparatively defective, however, in the thigh and hind quarters generally. No. 3 is an animal of great depth of frame and evenly covered with rather loose flesh, shown by Lord Hatherton. The first prize is won by the Earl of Aylesford's ox, under 4 years' old, and fed on oilcake, Linseed, Bean and Barley meal, and *Thorley's food!* The second prize goes to Mr. Aldworth, of Frilford, near Abingdon. Mr. Naylor's ox (Welshpool) is commended; he is excessively fat.

The next class of oxen includes the best animal in the yard. The 1st prize in its class, 10*l.*, an extra prize of 20*l.*, the President's prize of 25*l.*, and the Gold Medal, together with the Silver Medal as breeder, all go to its owner, Mr. Shirley, of Bawcott, Munslow, Shrewsbury, a gentleman who has never shown at Birmingham before, but who has here carried everything before him. The steer is only 2 years 6 months and 28 days old, and is an extraordinary specimen of early ripeness—very symmetrical, and thickly covered with first-rate flesh. There is not a very large show of Hereford cows, and only three heifers. In the first class the principal prize goes to Mr. Naylor, for a red and white cow, looking less like a Hereford than its neighbour, Lady Foley's cow, which wins the second prize, and which is a large-framed useful animal, whose place ought to have been in the herd, not in the stall.

The Short-horns are a very fine show, forming much better classes than the Herefords, even though the latter have the advantage of superiority of colour. Mr. Stratton's ox, exhibited we believe at the fat shows last year, reappears and carries off the leading prize. He is a massive, deep, and well-formed animal covered with thick flesh, soft skin, and abundant hair, and looking really less excessively fat notwithstanding an extra year's feeding than some in the Hereford classes which carry their load less evenly. The show of Short-horn cows is somewhat short, Colonel Towneley carrying off the leading prize, and Mr. Stratton the second; while among the splendid show of Short-horn heifers Colonel Towneley again takes the first place with a beautiful white heifer. "Beauty's Butterfly" is one of the finest cows ever seen, and is brought to the butcher at 3 years and 7 months old. There are nine Short-horn heifers exhibited, many of them certainly of much greater use for breeding than for feeding. Attempts may yet be made to breed from some of them, but certainly, if so, they are injured by this excessive fatness; and if they are destined for the butcher there is much more injury than good done by the prizes offered, which have led them there before their time.

The Devon classes are pretty well filled in the ox classes, but almost empty in the classes of cows. Messrs. Farquharson, Quartly, Heath, Armine, and Turner, His R. H. Prince Albert, Lords Howe and Leicester—all known names in connection with the breed—carry off the prizes.

The other classes of cattle are not well filled. Four Long-horn cattle, seven of Scotch breeds, and only two of Welsh animals, together with cross-bred cattle and a few extra classes make up the show. Many of the animals will no doubt re-appear at the show immediately following of the Smithfield Club.

The Sheep exhibited are a very excellent collection of Leicesters, Longwoolled, Southdown, and other short-woolled breeds, the principal divisions being the Southdown, Shropshire, and cross-bred sheep, which are every year rising in value and importance. The list of prize-holders will be found below.

The Pigs are as numerous as usual, and the classes of Berkshire and of the small white breed for breeding purposes were extremely well supplied.

The last named are beautifully clean looking symmetrical little animals; and the Berkshire longer and more generally useful. Sir F. L. H. Goodricke, Mr. Smith, of Henley-in-Arden; Mr. Wright, of Great Bow, near Birmingham; Mr. W. J. Sadler, of Bentham Calcutt, Crickdale; Mr. W. Hewer, of Sevenhampton; Mr. Morland, of Chilton, near Harwell, may be named as exhibitors of the best pens. The prize list is given below.

The following are the awards of the judges:—

FAT CATTLE.—HEREFORDS.

Class I. HEREFORD OXEN OR STEERS.—1st prize, 10*l.*, and Silver Medal to breeder, the Right Hon. the Earl of Aylesford, Packington Hall; 2d do., 5*l.*, Mr. William Aldworth, Frilford, near Abingdon.

Class II. HEREFORD STEERS.—1st prize, 10*l.*, with President's Prize of 25*l.*; extra prize of 20*l.* and Gold Medal, and Silver Medal as breeder, Mr. Richard Shirley, Bawcott, Munslow, Shrewsbury; 2d do., 5*l.*, Mr. Richard Hill, Golding Hall, Shropshire.

Class III. HEREFORD COWS.—1st prize of 10*l.*, and Silver Medal as breeder, Mr. John Naylor, Leighton Hall, Welshpool, Montgomeryshire; 2d do., 5*l.*, the Right Hon. Lady Emily Foley, Stoke Edith Park, Herefordshire.

Class IV. HEREFORD HEIFERS.—1st prize, 10*l.*, and Silver Medal as breeder, Mr. Thomas Roberts, Ivington Bury, near Leominster, Herefordshire; 2d do., 5*l.*, Mr. Richard Hill, Golding Hall, Shropshire.

SHORT-HORNS.

Class V. SHORT-HORN OXEN OR STEERS.—1st prize, 10*l.*, and Silver Medal as breeder, Mr. Richard Stratton, Broad Hinton, Swindon; 2d do., 5*l.*, Mr. William Hewer, Sevenhampton, Highworth, Wiltshire.

Class VI. SHORT-HORN STEERS.—1st prize 10*l.*, and Silver Medal as breeder, Mr Lovel Cowley, Ashby St. Legers, Rugby; 2d do., 5*l.*, the Right Hon. Earl Spencer, Althorp, Northamptonshire.

Class VII. SHORT-HORN COWS.—1st prize, 10*l.*, and Silver Medal as breeder, Lieut.-Colonel Charles Towneley, Towneley, near Burnley, Lancashire; 2d do., 5*l.*, Mr. Richard Stratton, Broad Hinton, Swindon.

Class VIII. SHORT-HORN HEIFERS.—1st prize 10*l.*, extra prize of 20*l.*, Gold Medal, and Silver Medal as breeder, Lieut.-Colonel Charles Towneley; 2d do., 5*l.*, Mr. William Aldworth, Frilford, near Abingdon, Berkshire.

DEVONS.

Class IX. DEVON OXEN OR STEERS.—1st prize, 10*l.*, extra prize of 20*l.*, and Silver Medal to breeder, Mr. James John Farquharson, Langton House, Blandford, Dorsetshire; 2d do., 5*l.*, Mr. William Heath, Ludham Hall, Norwich.

Class X. DEVON STEERS.—1st prize, 10*l.*, and Silver Medal to the breeder, his Royal Highness the Prince Consort; 2d do., 5*l.*, Mr. John Overman, Burnham Sutton, Burnham Market, Norfolk.

Class XI. DEVON COWS.—1st prize, 10*l.*, and Silver Medal to breeder, Mr. William Heath, Ludham Hall, Norwich; 2d do., 5*l.*, Mr. George Turner, Barton, near Exeter.

LONG-HORNS.

Class XIII. LONG-HORN OXEN OR STEERS.—Prize, 5*l.*, and Silver Medal as breeder, Mr. W. T. Cox, Spondon Hall, near Derby.

Class XIV. LONG-HORN COWS OR HEIFERS.—1st prize, 10*l.*, and Silver Medal as breeder, Mr. W. T. Cox; 2d do., 5*l.*, Mr. R. H. Chapman, Upton, near Nuneaton.

OTHER PURE BREEDS AND CROSS-BRED ANIMALS.

Class XV. FAT OXEN OR STEERS.—1st prize, 10*l.*, and Silver Medal as Breeder, Mr. John Beasley, Chapel Brampton, Northamptonshire; 2d do., 5*l.*, Mr. Richard Hawkes, Hunscote, Charlecote, Warwickshire.

Class XVI. FAT COWS.—1st prize, 10*l.*, and Silver Medal as breeder, Mr. Aaron Pike, Mitton, near Tewkesbury (Cross-bred); 2d do., 5*l.*, Mr. T. R. B. Cartwright, Aynho, near Brackley (Polled Angus).

Class XVII. FAT HEIFERS.—No 1st prize awarded; 2d do., 5*l.*, Mr. John Faulkner, Brethy Farm, near Burton-upon-Trent (Short-horn cross).

SCOTCH BREEDS.

Class XVIII. SCOTCH OXEN OR STEERS.—1st prize, 10*l.*, and Silver Medal as breeder, Mr. William M'Combie, Tillifour, Aberdeen (Scotch polled Angus); 2d do., 5*l.*, his Grace the Duke of Beaufort, Badminton, Chippenham, Wiltshire (West Highland Scotch).

WELSH BREEDS.

Class XIX. WELSH OXEN OR STEERS.—1st prize, 10*l.*, and Silver Medal to breeder, Mr. Richard Doig, Sunny Cottage, Long Buckby, Northamptonshire; 2d do., 5*l.*, Mr. John Ewins Bennett, Bosworth Grange, Leicestershire, breeder unknown.

EXTRA CLASSES,

For Animals not qualified to compete in any of the preceding classes.

Class XX. OXEN OR STEERS.—Prize 5*l.*, and Silver Medal to breeder, Mr. Robert Swinnerton, Weddington, near Nuneaton (Short-horn).

Class XXI. COWS OR HEIFERS.—Prize 5*l.*, and Silver Medal as breeder, the Right Hon. Earl Howe, Gopsall Hall, near Atherstone (Durham).

SHEEP.

Class XXII. LEICESTERS.—Three fat Wethers, under 22 months old. 1st prize, 10*l.*, extra prize of 10*l.*, and Silver Medal as breeder, Mr. G. S. Foljambe, Osberton Hall, Worksop, Nottinghamshire: 2d do., 5*l.*, Mr. G. S. Foljambe.

Class XXIII. LONG-WOOLLED SHEEP, NOT BEING LEICESTERS. Three fat Wethers, under 22 months old 1st prize, 10*l.*, and Silver Medal as breeder, Mr. Jonathan Davis, Webton Court, Herefordshire. (The judges complain of the unfairness of the way in which the sheep in this pen have been shorn.) 2d do., 5*l.*, Mr. William Hewer, Sevenhampton, Highworth, Wiltshire.

Class XXIV. SOUTH AND OTHER DOWN SHEEP.—Three fat Wethers, under 22 months old. 1st prize, 10*l.*, and Silver Medal as breeder, the Right Hon. the Earl of Leicester, Holkham Hall, Norfolk (South Down); 2d do., 5*l.*, Mr. G. S. Foljambe.

Class XXV. SOUTH AND OTHER DOWN SHEEP.—Three fat Wethers, exceeding 22 but under 34 months old 1st prize, 10*l.*, extra prize of 10*l.*, and Silver Medal as breeder, Mr. John Overman, Norfolk (South Down); 2d do., 5*l.*, the Right Hon. Lord Walsingham, Merton Hall, Thetford, Norfolk (South Down).

Class XXVI. SHROPSHIRE SHEEP.—Three fat Wethers, 22 months old 1st prize, 10*l.*, and Silver Medal as breeder, Mr. Edward Holland, M.P., Dumbleton Hall, near Evesham; 2d do., 5*l.*, Mr. James Hand, Ludlow.

Class XXVII. SHROPSHIRE SHEEP.—Three fat Wethers, exceeding 22 but under 34 months old. 1st prize, 10*l.*, and Silver Medal as breeder, Mr. Henry Smith, jun., Sutton Maddock, Shiffnal; 2d do., 5*l.*, Mr. Henry Smith, jun.

Class XXVIII. CROSS BRED SHEEP.—Three fat Wethers, 22 months old. 1st prize, 10*l.*, and Silver Medal as breeder, Mr. John Overman, Norfolk (South Down and Leicester); 2d do., 5*l.*, Mr. George Wallis, Hinton, Waldridge, Berkshire.

PIGS.

Class XXX. FAT PIGS.—Three fat Pigs of One Litter, not exceeding 10 months old. 1st prize, 10*l.*, and Silver Medal as breeder, the Right Honourable the Countess of Chesterfield, Bretby Hall, Burton-upon-Trent; 2d do., 5*l.*, George B. Morland, Esq., Chilton Farm, Harwell, Berkshire.

Class XXXI. FAT PIGS.—Three Fat Pigs of One Litter, not exceeding 15 months old 1st prize, 10*l.*, and Silver Medal as breeder, Mr. George Beale, Frolesworth, near Lutterworth; 2d do., 5*l.*, George B. Morland, Esq.

Class XXXII. FAT PIGS.—Fat Pig, exceeding 15 months old. 1st prize, 6*l.*, and Silver Medal as breeder, Mr. Thomas Crisp, Butley Abbey, Wickham Market; 2d do., 3*l.*, Mr. Thomas Crisp.

Class XXXIII. BERKSHIRE PIGS.—Five Pigs in one Litter, exceeding 3 and not exceeding 6 months old. 1st prize, 10*l.*, and Silver Medal as breeder, Mr. Joseph Smith, Henley-in-Arden; 2d do., 5*l.*, Sir F. L. H. Goodricke, Bart., Studley Castle.

Class XXXIV. PIGS OF OTHER LARGE BREEDS.—Five Pigs of One Litter, exceeding 3 and not exceeding 6 months old. 1st prize, 10*l.*, and Silver Medal as breeder, Mr. Andrew Guy, Eaton, Leicestershire; 2d do., 5*l.*, William Bradley Wainman, Esq., Carhead, near Cross Hills, Yorkshire.

Class XXXV. PIGS OF A SMALL BREED.—Five Pigs of One Litter, exceeding 3, and not exceeding 6 months. 1st prize, 10*l.*, and Silver Medal as breeder, Mr. Samuel Wiley, Bransby, Yorkshire; 2d do., 5*l.*, Mr. George Mangles, Givendale, Ripon.

The roots exhibited are remarkably fine. The Mangel Wurzels, long and round, weigh probably 35 lbs. apiece, the Swedish Turnips and Carrots of Sir W. Heathcote, whose steward was successful last year from another part of the county, carry off the 10 guinea Silver Cup, and the liberal offer of prizes have attracted a very extraordinary show of vegetables. And certainly the large clean Carrots and enormous Mangels and well made Turnips, which the long stand contained, exhibit a marvellous superiority to the average produce of our fields.

Of the Poultry it must suffice to refer to another column, where we have inserted the very interesting report given in the *Times* newspaper.

## Farmers' Clubs.

BRAINTREE.—At the annual meeting of the Labourers' Friend Society Mr. Alderman Mechi said: He believed, that the great body of English farmers, whom he loved beyond measure, were now convinced that if in former times they had disagreed it had not been a personal disagreement, but a disagreement of principle. He believed that at that time it was thought by the agriculturists that he wanted to throw some advantage into the hands of the landlords at their expense, by enlightening them upon the secret of the profit of farming. That was not his intention. His intention was, and always had been, to prove that none of them, either as landlords or tenants, were doing that which was most profitable and most beneficial to our country. A good many years had passed since he first commenced his operations, and 15 years had enabled him to draw some practical conclusions as to their results. He was comparing notes to-day with a very clearheaded, practical working farmer near him, as to whether they could make both ends meet, and leave a little profit upon present prices. His friend said—and he was a very sagacious fellow—"Somehow I shall not do well this year." Now, as he held about the same acreage of land as himself, and was as often on his (Mr. Mechi's) farm as his own, they were both pretty well able to compare notes. On inquiring into the cause of the discrepancy between them, he found it arose from that word "non-improvement;" and when he said non-improvement, he should say that there were too many hedge-rows, too much absence of draining, too much want of manure, owing to the landlord not putting up a covered yard and charging him interest for it; and he had no steam-engine on his farm. The cultivation of his farm was not so deep as his own, and there had not been so much meat made per acre, so that it took 5 acres to keep one of his horses, while it only took

2½ acres to keep one of his (Mr. Mechi's). Thus they could at once account for the important difference between them. He ought to say, too, that his friend had less irrigation; that was an expensive operation, but still it gave him this great advantage, that he produced a great deal more per acre. Then, again, his friend's farm was not so well arranged, and he used waggons, while he (Mr. Mechi) used carts. Now, these were a few of the advantages which enabled him at present prices to pay a charge of 7*l.* 16*s.* per acre, which was what his farm cost him; he was enabled at present prices to pay that, and leave a comfortable margin of profit for his own farming capital. He did not mean to say that that profit was so comfortable as when Wheat was much higher; quite the reverse. But what he wished them to understand was—and he could prove it by figures—that it would be much better for the agriculture of this county and throughout the country if the landlords were to advance their capital for improvements, and charge 5*l.* per cent. upon it, which would better enable the farmers to meet the vicissitudes of lower prices. He did not charge the fault upon the farmers, because he knew that improvements of this nature must be gradual, and it always took a long time to get rid of our prejudices. So much for the practical working of the farm. He remembered his steam-engine and machinery cost him as much as 500*l.*, and he was told by a practical man 10 years ago that it was not a profitable investment on so small a farm, but he had lived long enough to disprove those words. He thought there was a considerable loss at present sustained in feeding, for he believed that straw might be made to form a very important article of food. Science had recently proved that it was only worth abont 9*s.* a ton to plough in as manure, whilst for feeding purposes, it was worth from 30*s.* to 35s per ton. He spoke guardedly, for the chemist had shown what straw contained, and he found that every 100 lbs. contained the equivalent of 18 lbs. of oil and fat. Would any farmer, if he had not told him that he had been to the chemist, believe in this large fattening property of straw? They might say that their cattle wouldn't eat it, but let it be properly prepared, and they would be surprised at its fattening properties. In looking to the sources of farming profit, and to the practical working of the farm, he found a number of little mistakes which might appear slight, but which drew largely upon the profitable returns. Most of the farmers used waggons instead of carts, and this might appear a small matter, but it told largely upon the profits of the farm. Four of these carts with four horses took in all his harvest; he had one horse to each cart and a boy to drive, and he found it could be done in this way with much less trouble and expense than with waggons. He saw great danger to agriculture in the new sanitary arrangements. He recollected, a good many years ago, when he last had the pleasure of being there, recommending them what to do with the good things of Bocking and Braintree after they had done with them; he advised them, after they had done with their dinner, to take care that it went back again upon the land. [A voice, "We don't live well enough here, sir."] They looked well, nevertheless. Boards of Health were being established throughout the country, and they were excellent sanitary arrangements so far as concerned the general health, but they might depend upon it they were having an evil influence as to the furnishing of the British stomach, and the doing away with all cesspools deprived agriculture of an important manuring resource. He did not think he could illustrate it better than by comparing the loss of the sewage of the 15,000,000 inhabitants living in towns, to feeding 15,000,000 sheep, and throwing all their manure into the nearest river. That great authority, Baron Liebig, whom he considered the Sir Isaac Newton of agricultural science, lately called attention to the subject, and showed the immense benefit that must result from bringing the sewage of the population back upon the land. The farmers said that they were producing more corn than they used to do, but he was not prepared to admit that. Mr. Caird, in his book a few years ago, told them that Arthur Young estimated the amount of Wheat grown in England in 1770 at 2,000,000 quarters more than we now produced, for they must bear in mind that we were now importing ten millions of corn annually. Among his other crotchets he had been endeavouring to establish an Agricultural Benevolent Association, and he was very much surprised that the agricultural interest, certainly the largest in the country, had never had an institution connected with it for the relief of unfortunate farmers. [A voice, "There's too many of 'em."] That was a very good reason why they should establish such an association. He was happy to say that he had already 700 subscribers, which was gently on the way to 7000. Lord Rayleigh had that day sent his name, giving 30*l.* and promising a donation of 2*l.* 2*s.* annually, and their president had kindly told him that when he called on him he should be ready to aid in the work. It was proposed that every one who contributed should have a vote; that the gentlemen of Braintree who subscribed—and he saw some of them present—who wished to assist an old friend who had been reduced, might put their votes together, and so get him in; and surely it would be a great gratification to be able to assist in this way a man whom they had formerly esteemed. He believed it would do a great deal of good, and he meant to make a great stir about it some day, and no doubt when he came into that neighbourhood, or sent them down particulars, they would be ready to give him their support. He liked to turn these meetings to practical account, and should be happy to answer any question they might wish to put to him. He again referred to his own practical experience, observing that if he had not been successful in his experiments he should have been a mere quack, and should have no business in an agricultural meeting of that kind. Those experiments must be either right or wrong; if they were wrong, let him be scouted from every agricultural gathering, but if they were right, he called on them to the utmost of their power to follow his example.

Mr. J. Hutley said if he could find words he should like to run on with his friend Mr. Mechi a little. He hoped that they should be good friends though they might differ in opinion, but as to his carts he wouldn't have them if he were to give them to him. He believed Mr. Mechi and himself commenced their farms about the same time, and he had always challenged Mr. Mechi to show his balance sheet against his own, and he would do it now if he liked—he believed every penny had been put down since he had his farm. Mr. Mechi. Does it pay at present prices? Mr. Hutley. It paid but very little last year. I don't think that there were 10*l.* either one way or the other.—Mr Mechi. Then I think I've beaten you.—Mr. Hutley said Mr. Mechi told them that they were to make money by stock, but if he went on as he had lately, he should not make much by stock, for he had lost 12 beasts within the last six or seven weeks by the murrain.—Mr. Mechi. I'm afraid you don't give them any straw.—Mr. Hutley said he always considered a good farmer ought never to give a cow a mouthful of straw, but to make it into manure. If his farm didn't pay he must; that was the principle he went on. He thought the ploughing to-day had been very well done, and he had been a judge of more ploughing than any other man in the county of Essex.

## Notices of Books.

*Johnson & Shaw's Farmer's Almanack and Calendar for* 1860. Ridgway.

*Morton's New Farm Almanack for* 1860. Blackie.

The former contains 98 pages of instructive matter, and 92 pages of advertisements; the latter 112 and 56 respectively.

The former contains appended to each month a great deal of useful matter on a variety of agricultural topics, most of which is replaced each year by fresh paragraphs on the same general subjects—practical, meteorological, statistical, educational, experimental, agricultural. The latter contains a special report of agricultural progress and improvement during the past year, occupying 30 or 40 pages, in which education, landlord and tenant, labour, the condition of the soil, drainage, manures, farm implements, plants, weeds, live stock, and agricultural societies are discussed. Both contain calendars of farm and garden operations, fair lists, parliamentary lists, &c.; and both are useful companions. Let us here correct a reference made in Morton's Almanack to Garrett's horse hoe, which, compared with Spight's horse hoe, shown at Hull, is stated to be beaten by it in price. Garrett's horse hoe is the cheaper of the two we understand. We shall hereafter make a detailed comparison of these implements.

## Notices to Correspondents.

ANALYSES: *Dorset Farmers' Clubs.* We have received a report signed by the secretaries of the Blandford, Milbourne, and Winforth Farmers' Clubs, publishing a series of analyses of the same manures by three well-known analysts, of which the differences are startling. We think however that they are less probably due to errors of analysis than to the samples being different, notwithstanding the attempt by mixture to ensure their uniformity.

CHICORY FOR GRAZING: *M J R.* Prepare the soil by thorough cleaning early in spring, applying a good coat of rotten dung. Drill 4 lbs. of seed per acre in March in rows 9 inches apart. Single them out when 5 inches high to 6 inches apart. The crop will continue luxuriant under good management for 6 or 8 years. Let it get of full growth and then cut it down before flowering and carry it to stock in the house. It may be also depastured with sheep, but the other is the more productive use of it.

CORN AVERAGES: *Clericus.* The following are the averages for 52 weeks ending Sept. 24:—Wheat, 43*s.* 6*d.* per qr.; Barley, 33*s.* 5*d.*; Oats, 23*s.* 8*d.*

DAIRY STATISTICS: *Hampshire Dairy Farm.* Next week: meanwhile we add that all your questions are answered in a little book on Dairy Husbandry, now in the press; the first of a series of agricultural hand-books by Mr. J. C. Morton, which are being published by Longmans.

MARKET FOR SEEDS AND MANURES: *Rusticus* is anxious to know "the best market in which to obtain artificial manures, cattle food, and agricultural seeds in quantity." We must let our advertising columns speak for themselves.

OVERHANGING TREES: *J M.* must not act on any but safe legal advice in the matter. Our opinion is that they are a nuisance, and he can insist on their being lopped; but he must consult his legal adviser.

ROLLING: *B B.* You may properly roll Grass at any time when there is no actual crop upon the land and no frost, and when it is hard enough to avoid injury by the tread of the horses.

THE RIGHT TO GLEAN: *R. Woods* v. *Burton and Others.*—This was decided before the St. Neots County Court by an action of trespass. The plaintiff had found himself compelled by the misconduct of the defendants' wives during the harvest of last year to prohibit those persons gleaning his land, but that they, notwithstanding, at the last harvest, persisted in forcing their way into, and gleaning a field belonging to him. He was forced for his own protection to bring this action, in order to prove to the poor that gleaning was an indulgence, not a right, and depended solely upon the consent of the farmer. For the defence it was urged that gleaning was a practice sanctioned by the Old Testament, and that although the common law might give no right to glean, it might exist by custom, and that it did in part exist in the parish of Caxton—to prove which latter point he called several witnesses, who deposed to the fact that gleaning had been practised there as long as they could remember. Judgment was given for the plaintiff.

*** As usual, many communications have been received too late, and others are detained till the necessary inquiries can be made. We must also beg the indulgence of those correspondents the insertion of whose contributions is still delayed.

COLLEGE OF AGRICULTURE AND CHEMISTRY, AND OF PRACTICAL and GENERAL SCIENCE, 37 and 38, Lower Kennington Lane, Kennington, London, S

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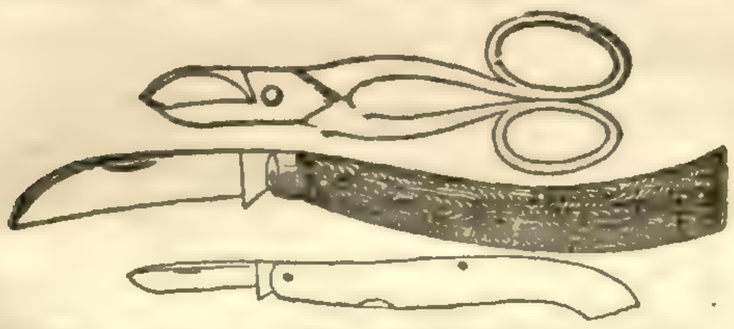

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# HOWARD'S CHAMPION PLOUGH

**Gained SEVEN out of EIGHT FIRST PRIZES, and SEVEN out of EIGHT SECOND PRIZES,**

Thereby more than ever sustaining its position at home, while, at the recent Meetings of the Royal Agricultural Society of England and the Highland and Agricultural Society of Scotland, it also gained the

**Two Chief Prizes as the Best Plough for General Purposes.**

CATALOGUES, with full particulars, sent post free on application to

J. & F. HOWARD, BRITANNIA IRON WORKS, BEDFORD.

**CHRYSANTHEMUMS.**

J. H. BIRD, F.H.S., NURSERYMAN, Stoke Newington, begs to inform his friends and the public that he has the finest Collection and the largest Stock of Chrysanthemums and Pompones in the world, and can supply them by the 100, 1000, or 10,000.

25 Pair of Best POMPONES, 10*s*.
20 Pair of Best Large Varieties, 10*s*.
25 Pair of Best POMPONE CUTTINGS, 5*s*.
20 Pair of Best Large Varieties, Do., 5*s*.

CATALOGUES for one stamp. To save trouble all orders to be pre-paid.

**CHRYSANTHEMUMS.**

W. HOLMES begs to offer strong plants of every known good variety of CHRYSANTHEMUM at 5*s*. per dozen; including Golden Queen of England, Aurora, Cassandra, Curtius Quintius, Excelsior, Fabius, Fortune's Two-Coloured Incurved, Golconda, Glory, Julie Lagravère, Madam Clos, Mount Vesuvius, Orange Brilliant, Prince Albert, Remus, sulphureum superbum, Una, Andromeda, Ariel, Astrea, Baron d'Adswaërd, Esmeralda, Maid of Saragossa, Miss Julia, Miss Talfourd, Mrs. Dix, Shirley Hibberd, Rose Trevenna, &c.

Frampton Park Nursery, Hackney, N.E.

WILLIAM MASTERS AND SON, EXOTIC NURSERY, Canterbury, beg to inform their Friends and the Public that their Nurseries contain a greater number of Species and Varieties of PLANTS for Sale than any in the county. They are consequently better able to give variety of effect to any Plantations they are entrusted to lay out than others possessing a smaller Stock and less number of Species. Early orders are respectfully solicited.

THE GREAT VINE AT HAMPTON COURT.—The Subscribers being the holders of the Royal Kitchen Gardens, Hampton Court, are enabled to offer genuine the famous and truly excellent HAMPTON COURT BLACK HAMBURGH GRAPE. [each

Strong well-ripened Fruiting Plants, in 12-inch pots, 10*s*. 6*d*.
Good well-ripened Plants, in 9-inch pots, 5*s*. each.

A liberal reduction in price if taken in large numbers.

THOMAS JACKSON & SON, Nurseries, Kingston, S.W.

**NEW APPLE.—NELSON'S GLORY.**

WM. WOOD AND SON have the honour to announce that they have been appointed Agents for the Sale of the above very excellent new Apple, the property of Mr. J. NELSON, of Bristol.

NELSON'S GLORY APPLE is one of immense size, weighing from 20 to 22 oz., and especially adapted to culinary purposes; indeed for making Jelly, Jam, and Sauces it is truly invaluable, and is ready for use from August to December. Plants have been ordered by all those parties who had the opportunity of seeing the magnificent fruit at Bristol.

DWARF MAIDEN PLANTS are now ready for sending out at 5*s*. each, with the usual discount allowed to the trade.

Woodlands Nursery, Maresfield, near Uckfield, Sussex.

DWARF MAIDEN FRUIT TREES.—

| | APPLES. | |
|---|---|---|
| PEARS. | CHERRIES. | PEACHES. |
| PLUMS. | APRICOTS. | NECTARINES. |

Prices moderate.

Fine and clean grown; and all the leading sorts can be supplied in quantities by GEORGE JACKMAN & SON, Woking Nursery, Surrey.

DWARF TRAINED FRUIT TREES.—

| | APPLES. | |
|---|---|---|
| PEARS. | CHERRIES. | PEACHES. |
| PLUMS. | APRICOTS. | NECTARINES. |

Prices moderate.

Great care is taken in the formation of these fine, healthy, free-grown trees. Particulars can be obtained of GEORGE JACKMAN & SON, Woking Nursery, Surrey.

**FOREST TREES.**

JOHN WATERER has to offer upwards of a Hundred Thousand of each of the following, from 2 to 4½ feet high, and all good rooted:—

| | | |
|---|---|---|
| CHESNUT | LARCH | BIRCH |
| HAZEL | ASH | ALDER |
| SCOTCH | LAURELS | WITHY, &c. |

Samples with prices sent on application. Planting done by contract.—The American Nursery, Bagshot, Surrey.

J. COCKS AND SON offer the undermentioned, all of which are extra fine. To parties requiring large quantities they would Sell on still more liberal terms:—

| | | | |
|---|---|---|---|
| QUICK, two years transplanted, 3 to 4 ft. .. | 16*s*. 0*d*. | per 1000. |
| ,, if 10,000 or more taken .. .. | 15 0 | ,, |
| GOOSEBERRIES, Warrington or Ashton } | 8*s*. p. 100 | 60*s*. p. 1000. |
| ,, Red, Whitesmith, and } | | |
| ,, other leading varieties } | | |
| CURRANTS, Red Grape .. .. .. | 7 ,, | 60 ,, |
| ,, ,, Dutch } | | |
| ,, ,, Goliath } .. .. .. | 8 ,, | 70 ,, |
| ,, Black .. .. .. | 7 ,, | 60 ,, |
| ,, ,, Naples .. .. | 8 ,, | 70 ,, |
| ,, White Grape .. .. | 8 ,, | 70 ,, |

The above are all well grown, and two or more years cut down.

Donington, Spalding.—Dec. 10.

**IMPORTANT TO LANDHOLDERS.**

FOR SALE, 200,000 LARCH FIR, 1½ to 2 feet, at 15*s* per 1000.
50,000 LARCH FIR, 2 to 2½ feet, at 20*s*. per 1000.
50,000 LARCH FIR, 3 to 3½ feet, at 40*s*. ,,

FLUKE POTATOES for planting, warranted free from disease, at 4*s*. 6*d*. per bushel. Orders for the above to the amount of 5*l*. and upwards, Carriage paid to any Railway Station from Milford to London.—JACOB SCOTT MATTHEWS, Nurseryman, Seedsman, and Florist, Cardiff, South Wales.

ROBERT NEAL, NURSERYMAN, Wandsworth Common, S.W., begs to call the attention of buyers to his large and well-selected stock of EVERGREENS and FLOWERING SHRUBS, ORNAMENTAL TREES. AMERICAN PLANTS. FRUIT AND FOREST TREES, STANDARD AND DWARF ROSES of every description. A large stock of BOX LEAF EVERGREEN PRIVET, from 1 to 6 feet for hedges; GREEN HOLLY, 1 to 6 feet; RICH BOG and LOAM for American Beds; LEAF MOULD. The Nursery is 10 minutes' walk from Clapham Common, and New Wandsworth Station, Crystal Palace Line.

**TANSLEY NURSERY, NEAR MATLOCK.**

TO GENTLEMEN PLANTING AND THE TRADE.

J. SMITH, SEN., begs to offer his STOCK OF TREES AND SHRUBS, of various sizes, and in addition to his general stock of the leading kinds, he has this season to offer an Extra Stock of many hundred thousands of fine Larches, Scotch Firs, and Highland Pines; a large quantity of Evergreens, Privets, Mahonia Aquifolium, and other plants for planting under cover. Many things are grown in large quantities, and will be sold on advantageous terms to the Trade and gentlemen requiring large lots.

CATALOGUES sent free on application. The Nurseries are on the Mansfield and Nottingham roads, and 2 miles from Matlock Bridge Station on the Midland Railway.

TO THE SEED TRADE.

# BEAUTIFUL NEW CALIFORNIAN ANNUALS.

# MESSRS. VEITCH & SON,

## OF EXETER AND CHELSEA,

ARE now prepared to supply SEEDS of the following recent introductions, which were sent them by their Collector, Mr. William Lobb. They are certainly two lovely additions to our Hardy Annuals, and cannot fail to give general satisfaction.

**SPRAGUEA UMBELLATA.**

This is a very distinct and beautiful Hardy Annual, and has bloomed in great beauty at the Exeter Nursery for several months this year, raised from seeds sown in the open ground in the autumn of 1858, having stood without any protection through the winter. It is also well adapted for pot culture, the habit is dwarf and spreading, resembling that of Calandrinia grandiflora, the flowers, which may be compared to an Amaranthus, are beautifully shaded pink with purple stamens. It was exhibited in July of this year at a meeting of the Horticultural Society, and "commended as a very elegant dwarf flowering species, of novel character, well adapted for rock work and the margins of flower borders, having proved quite hardy in Mr. Veitch's Nursery." It is figured in Curtis's "Botanical Magazine," October, 1859.

**FENZLIA DIANTHIFLORA.**

This lovely Annual is of a beautiful rosy lilac colour, having five dark blood-coloured spots surrounding an orange-coloured eye in the centre of each flower; it is of very dwarf and compact habit, producing blossoms in profusion: it blooms through the summer months, and continues long in flower if sufficiently supplied with moisture. It has a beautiful effect in small beds, and is also well adapted for growing in pots or boxes for Greenhouse decoration. It is figured in Curtis's "Botanical Magazine," October, 1855. Prices of the above on application.

**NURSERIES AND SEED WAREHOUSES, EXETER AND CHELSEA, S.W.—Dec. 10.**

# JAMES CARTER & CO.'S
## LIST OF
# NEW ANNUALS AND PERENNIALS
## For 1860.

CLARKIA PULCHELLA, VAR. INTEGRIPETALA.—This is the first of what might almost be called an entire new class of Clarkias. The flowers are nearly double the size, colour more brilliant, and the petals whole instead of being three-lobed like the old pulchella varieties. This variety is described in the report of the Floral Committee of the Horticultural Society as follows:—"This variety differs from the old pulchella, which it resembles in habit, in having the petals broad and entire instead of being cut into narrow segments; it is consequently more showy, and seems likely to prove a handsome purple-flowered Annual. It was 'commended,' its increased breadth of petal being regarded as an improvement on the original kind."

DIANTHUS CHINENSIS HEDDEWIGI.—Of this splendid annual Dianthus we have also purchased part of the stock of seed from the raiser. The plants are scarcely 1 foot high, very bushy, and covered with a profusion of flowers, which measure nearly 3 inches in diameter; the colours are various, consisting of different shades of rose, crimson, violet, &c., some are delicately marbled, others self colour. This plant has received the highest awards from the Horticultural Society and Botanic Society, Regent's Park. Is suitable either for Greenhouse or out-door cultivation.

NIGELLA HISPANICA ALBA } Two varieties
NIGELLA HISPANICA ATROPURPUREA } of great merit,

of erect and compact habit, the one a clear rich purple and the other a pure white, can be recommended as being decidedly the best of their class. The report of the Floral Committee of the Horticultural Society on the above is as follows:—"These varieties are both large flowered, the purple kind is especially deserving of notice as a fine showy Annual. The flowers are of a dark violet purple shaded with maroon."

DATURA CHLORANTHA FLORE PLENO.—Figured in Curtis's "Botanical Magazine" of July, 1859.—A splendid half-hardy perennial, very free, blooming with large trumpet-shaped, golden yellow, sweet-scented double flowers; the plant is of a low growing habit.

NEMOPHILA DISCOIDALIS MARMORATA.—A handsome new variety from discoidalis, which in addition to the white border of the old variety is very prettily marbled with white on the black ground of each petal.

PHACELIA TANACETIFOLIA ALBA.—A white variety of the blue tanacetifolia, pretty and distinct.

SILENE BARBATA.—A free flowering rich pink dwarf Annual, suitable for growing massy or ribbanding.

ANAGALLIS GRANDIFLORA, VAR. EUGENIE }
ANAGALLIS GRANDIFLORA, VAR. NAPOLEON III. }

Two beautiful new Continental varieties of the well-known Anagallis grandiflora, but the flowers are much larger. They will be found highly ornamental as half hardy bedding plants, also for decoration in Greenhouse or Conservatory, as they present an extremely graceful appearance when cultivated in pots or vases. The colours contrast well, and they continue in bloom for a long period, as var. Eugenie, light blue shading from the centre to pure white at the border. Var. Napoleon III., rich maroon crimson.

DIANTHUS CHINENSIS LACINIATUS, Fl. Pl.—Is described by the raiser, Mr. Heddewig, as being imported from Japan with the Dianthus chinensis Heddewigi. The following is a description of the flowers and habit of plant, that we have received from the raiser:—"Grows 2 feet high, very hardy, flowers about 4 inches in diameter, each petal consisting of a long delicate fringe, some double, others single; blossoms from the end of May until the beginning of frost; the colours are pure white, flesh, rose, various shades of red, carmine, violet, purple, and rich maroon, some being selfs, others striped and spotted;" is suitable either for greenhouse or out door cultivation.

ŒNOTHERA BIENNIS, VAR. HIRSUTISSIMA (Asa Gray).—A new variety of the Evening Primrose from California, very distinct from the common biennis; height 2 feet, colour crimson orange.

IPOMŒA LIMBATA ELEGANTISSIMA is a new Continental variety of the old limbata, which we can specially recommend as being a very elegant climbing plant; the flowers are of an intense blue with a pure white margin, half hardy.

CALLIRRHOE DIGITATA (TRUE).—A very elegant plant, strongly resembling the scarlet Linum. Colour rich violet purple with white eye; height from 2 to 3 feet; commences to bloom when about 6 inches high, and presents a mass of blossom during the entire summer. Makes a good bedding plant if sown thick.

LOBELIA GRACILIS ROSEA.—A very graceful little plant of a good rose colour, especially adapted for edgings.

CAPTAIN CLARKE'S NEW HYBRID SWEET PEA.—This beautiful variety is the result of a cross between Painted Lady and Purple Sweet Pea, raised by Captain Trevor Clarke, F.H.S., well known to the floricultural world as a successful hybridiser of plants. The upper petals are of a delicate rose colour, and the lower white, with a deep blue edge.

LUPINUS MUTABILIS VARIECOLOR.—This most peculiar and handsome variety of Lupine is distinct in seed from all other sorts, and the same seed produces plants of various colours, such as pure white, dark purple, white, red, and yellow, variegated, yellow and purple, &c. We can recommend this variety as one of the most interesting ever offered.

NEW DWARF BEDDING TROPÆOLUMS.

TOM THUMB YELLOW.—A new variety in colour, particularly adapted for bedding, and also for growing in pots and ornamental vases, and the flowers are well thrown up above the foliage; very dwarf and compact in habit. Colour pure yellow without any marking. The Floral Committee of the Horticultural Society speaks of it as follows:—"The habit of this plant, shown by the entire plants exhibited, was quite dwarf and compact, and the flowers were of a golden yellow." It was "commended" as likely to be a useful Flower Garden and Bedding Plant.

TOM THUMB BEAUTY.—An elegant variety with Lobbianum-shaped flowers, raised by Mr. Melville, gardener to the Earl of Roseberry, Dalmeny Park, near Edinburgh. The flower is yellow flamed and blotched with bright crimson. A plant was sent to the Editors of the "Cottage Gardener," in October, 1858, who speak of it as follows;—"A dwarf yellow, tinged with crimson; would be a good bedding plant."

ORNAMENTAL GRASSES.

AGROSTIS NEBULOSA.—The most elegant and graceful of Ornamental Grasses. A dried specimen may be seen on application.

ERIANTHUS RAVENNÆ.—A bold looking Reed-like Grass in the way of Gynerium.

SPERGULA PILIFERA.—A perfect substitute for Lawn Grass, does not require any mowing, and is particularly adapted for edging Flower Beds, Slopes, Terraces, and all small work.

A Coloured Plate, containing Drawings of the following price 1*s*. 6*d*.:—

| | |
|---|---|
| Dianthus chinensis Heddewigi | Clarkea pulchella, var. integripetala |
| ,, ,, laciniatus | Sweet Pea, Captain Clarke's new hybrid |
| Nigella hispanica alba | Lobelia gracilis rosea |
| ,, ,, purpurea | Callirrhoe digitata |

Also a Coloured Plate of Nasturtium Tom Thumb Yellow, price 1*s*. 6*d*.

Prices of the above upon application to

**JAMES CARTER & CO., SEEDSMEN, 238, HIGH HOLBORN, W.C.**

THE LARGEST AND FINEST STOCK OF
**TEA-SCENTED ROSES IN ENGLAND.**
50,000 PLANTS IN POTS AND IN THE OPEN GROUND.

WM. WOOD AND SON invite attention to their very extensive and superior stock of the above, which they feel certain are unsurpassed in the Trade.

| | | |
|---|---|---|
| Dwarfs, from 48-pots .. .. .. | per dozen | 9s. to 12s. |
| ,, in 6-inch or 24-pots .. .. | ,, | 24 to 30 |
| Standards, very fine .. .. .. | ,, | 18 to 24 |

Specimen Plants, in 8 inch pots, for exhibition, each, 3s. 6d. to 5s.
DESCRIPTIVE CATALOGUES on application.
Woodlands Nursery, Maresfield, near Uckfield, Sussex.

**ROYAL EXOTIC NURSERY, CHELSEA, S.W.**

JAMES VEITCH, JUN., respectfully announces that his CATALOGUE OF KITCHEN GARDEN AND FLOWER SEEDS for 1859, with a List of Implements and other Garden requisites, is now published, and will be forwarded post free on application.

J. V., Jun., devoting his personal attention to this department of his business, can warrant his SEEDS TRUE TO NAME, and of the MOST GENUINE description.—December 10.

**TO THE TRADE.**

HENDERSON'S COMPACT TOPPED GARDEN BEET.—This superior variety, introduced by us three years since, is now generally cultivated in most gardens; its peculiar short top, symmetrical roots, and fine dark crimson colour, are points of excellence rivalled only by its exquisitely rich and sugary flavour. Price on application.

AUSTRALIAN GARDEN CRESS.—This remarkable large gigantic Cress is so rapid and fast growing that in Australia and New Zealand it almost stops the navigation of the rivers. The true Broad-leaved sort. Price on application.

N.B. New VEGETABLE SEED CATALOGUE is now ready, and can be sent on application.—Pine-apple Place, W., Dec. 10.

PETER LAWSON AND SON,
THE QUEEN'S SEEDSMEN AND WOOD FORESTERS,
respectfully announce that they have now issued their
NURSERY CATALOGUE OF FOREST TREES, CONIFERÆ, SHRUBS, &c.,
which they will be happy to forward free by post on application.
27, Great George Street, Westminster, S.W.

PETER LAWSON AND SON,
THE QUEEN'S SEEDSMEN AND WOOD FORESTERS,
will be glad to communicate with parties engaged in Planting extensively, with whom special agreements may be effected.
27, Great George Street, Westminster, London, S.W.

**QUICKS, FOREST TREES, &c.**

JAMES DICKSON & SONS, NURSERYMEN and SEEDSMEN, the Newton Nurseries (close to the Railway Station), Chester, offer many millions of the above, of EXCELLENT QUALITY and at VERY MODERATE PRICES.

The Trees and Plants, consequent upon the Nursery Grounds (which cover an area of about 60 acres) lying in an exposed situation, and a routine of regular transplanting being carried out, are WELL ROOTED, HARDY and VIGOROUS, hence are calculated to remove with great success

PRICED LISTS, post paid, upon application, or in cases where LARGE QUANTITIES are required SPECIAL PRICES will be given.

Newton Nurseries, and 102, Eastgate Street, Chester; also at 23, Market Place (late Deansgate), Manchester, and Newtown, Montgomeryshire.

# BUSBY'S STOCKWOOD GOLDEN HAMBURGH GRAPE.

THE very beautiful specimens of this really SPLENDID GRAPE (some of the bunches weighing upwards of 3 lbs.) which have been exhibited during the past season, combined with the numerous unsolicited testimonials as to its superiority and general excellence which JAMES VEITCH, JUN., has received from the most eminent practical Gardeners, warrant him in again calling attention to its great merit.

J. V., JUN., can with confidence recommend it as being without doubt *the best light Grape of its class* in cultivation. It will be found a most valuable acquisition, succeeding well under the same treatment as the Black Hamburgh, and *certainly no cinery should be without it.* It has also proved to be a most excellent variety for fruiting in pots. That so fine a fruit may be universally planted and enjoyed, J. V., JUN., now offers good established plants at the following prices:—

**Nice young Canes** ... ... 5s. 0d. each | **Good well ripened Canes** .. 7s. 6d. each
**Fine well-ripened Canes** ... ... ... 10s. 6d. each

**ROYAL EXOTIC NURSERY, CHELSEA, S.W.—December 10.**

# BUTLER & McCULLOCH,
## COVENT GARDEN MARKET, W.C.

## A DESCRIPTIVE AND PRICED CATALOGUE OF

HYACINTHS, GLADIOLI, RANUNCULUS, ANEMONES, IXIAS, AMARYLLIS, CROCUS, and other DUTCH and CAPE BULBS, with practical Cultural directions affixed to each Class for the use of Amateurs, sent free and post paid (for contents of CATALOGUE see *Gardeners' Chronicle*, October 1, page 786).

☞ *All orders amounting to 21s. and upwards sent Carriage paid.*

For conspicuous beds the following HYACINTHS and TULIPS cannot be surpassed; they occupy a most important position in the economy of the Flower Garden, coming into bloom immediately after the Crocus, &c., and ready for removal at the time of planting out Geraniums and other Summer and Autumn Flowering Plants

| | | | | | |
|---|---|---|---|---|---|
| BEST DOUBLE and SINGLE MIXED HYACINTHS .. .. .. | 21s. | 0d. | per 100, | 3s. 0d. | per dozen. |
| TOURNESOL and REX RUBRORUM DOUBLE TULIPS .. .. .. | 7 | 6 | ,, | 1 0 | ,, |
| YELLOW ROSE, pure yellow and scented Do. .. .. .. | 10 | 6 | ,, | 1 6 | ,, |
| LA CANDEUR, pure white Do. .. .. .. .. | 14 | 0 | ,, | 2 0 | ,, |
| FINE MIXED DOUBLE do. .. .. .. .. .. .. .. | 7 | 6 | ,, | 1 0 | ,, |
| FINE MIXED SINGLE do. .. .. .. .. .. .. .. | 6 | 0 | ,, | 1 0 | ,, |
| CHOICE MIXED LATE FLOWERING do. .. .. .. .. | 10 | 6 | ,, | 1 6 | ,, |

### FOR CENTRES OF LARGE BEDS AND BORDERS

The following favourites are perfectly hardy, and cannot be too extensively cultivated:—

| | | | | | |
|---|---|---|---|---|---|
| TRITOMA UVARIA (true) .. | 21s. 0d. | per doz. | 2s. 0d. | each | |
| LILIUM LANCIFOLIUM ALBUM | 15 6 | ,, | 1 6 | ,, | |
| LILIUM LANCIFOLIUM ROSEUM | 20s. 0d. | per doz. | 2s. 0d. | each | |
| ,, ,, RUBRUM | 20 0 | ,, | 2 0 | ,, | |
| GLADIOLI HYBRID of RAMOSUS, 30 splendid varieties named, for | 21s. 0d., or 12 for 9s. 6d | | | | |
| ,, ,, CARDINALIS, 12 beautiful ,, | 10 6 | | | | |
| ,, ,, BLANDUS, 6 new ,, | 4 6 | | | | best for forcing. |
| ,, ,, SAGITTALIS 6 ,, ,, | 4 6 | | | | best for forcing. |
| GLADIOLUS BRENCHLEYENSIS .. .. .. .. | 30s. 0d. | per 100 | 5s. 0d. | per dozen. | |
| ,, GANDAVENSIS .. .. .. .. .. | 15 6 | ,, | 2 6 | ,, | |
| ,, QUEEN VICTORIA .. .. .. .. .. | 15 6 | ,, | 2 6 | ,, | |
| ,, RAMOSUS .. .. .. .. .. .. | 15 6 | ,, | 2 6 | ,, | |
| ,, FLORIBUNDUS .. .. .. .. .. | 15 6 | ,, | 2 6 | ,, | |

### THE FOLLOWING COLLECTIONS OF CHOICE BULBS SENT CARRIAGE PAID.

**No. 1, C, £1 1s.**
12 Choice named Hyacinths
2 beautiful Japan Lilies, 2 varieties
12 beautiful Gladioli, 4 vars.
4 Polyanthus Narcissus
50 Ranunculus
40 Border Narcissus
200 Crocus
100 Snowdrops
40 Double Tulips
12 beautiful Iris
2 Chinese Pæonies

**No. 2, D. £2 2s.**
18 Choice named Hyacinths
3 beautiful Japan Lilies, 3 varieties
18 beautiful Gladioli, 6 vars.
6 Polyanthus Narcissus
100 Ranunculus
40 Anemones mixed
20 ,, scarlet
150 Crocus
150 Snowdrops
50 Double Tulips
4 Chinese Pæonies

12 beautiful Ixias
6 beautiful Sparaxis
1 Tritoma Uvaria
6 Babianas
2 Tritoma aurea

**No. 3, E, £3 3s.**
24 Choice named Hyacinths
4 beautiful Japan Lilies, 4 varieties
24 beautiful Gladioli, 12 vars.
9 Polyanthus Narcissus
100 Ranunculus
50 Anemones mixed
50 ,, scarlet
200 Crocus
200 Snowdrops
60 Double Tulips
6 Chinese Pæonies
18 beautiful Ixias
12 beautiful Sparaxis
2 Tritoma Uvaria
1 Lilium giganteum
12 Babianas
3 Tritoma aurea

### AGENTS FOR TYE'S REGISTERED HYACINTH GLASSES.

These are without exception the most elegant and best adapted for the successful Culture of the Hyacinth. ... Woodcut Group of Glasses, page 803 of *Gardeners' Chronicle*, October 8.


COMPLIMENTARY DINNER TO MR. GEORGE EYLES.—Many of the leading Exhibitors and others connected with the Flower Shows at the Crystal Palace having expressed a wish to testify the high estimation in which they hold the services rendered by Mr. Eyles, and at the same time to extend to him their congratulations on his retirement from the Crystal Palace, and to congratulate him upon his new appointment with the Horticultural Society,

The Dinner will take place on WEDNESDAY, the 14th inst., at the Albion Tavern, Aldersgate Street, and Mr. John Spencer will preside. Tickets, 25s. each.

Any Gentleman desirous of being present upon this interesting occasion can obtain a Ticket upon application to the Hon. Secretary on or before MONDAY, the 12th inst., after which day no Tickets will under any circumstances be issued.

EDW. R. CUTLER, Hon. Sec.
14, Tavistock Row, Covent Garden, W.C.—Dec. 10.

SOME OF THE EXHIBITING GARDENERS have resolved to present Mr. EYLES with an acknowledgment for his attention to them as a body during the time of his superintendence of the Flower Shows at the Crystal Palace, and have determined to meet at the Swan Tavern, Stockwell, on THURSDAY, 15th inst., at 7 o'clock, P.M., to consider the best method to carry out the object in view. Several gardeners have already subscribed. All gardeners who have exhibited at the Crystal Palace are invited. Mr. HAMP, of Mawby House, South Lambeth, has consented to receive the contributions of those who attend and report to the meeting thereon.

OSMAN RHODES, Hon. Sec.

BRITISH POMOLOGICAL SOCIETY.
Hanover Square Rooms, Regent Street, W.

The next MEETING will be held on THURSDAY, December 15, when growers generally are invited to send specimens of interesting Fruits in season. The following premiums are offered for special subjects, exhibited by the growers, according to the Society's regulations:—

One Guinea and Half a Guinea for the best and second best bunches of Retarded GRAPES, accompanied by information as to the manner in which they have been treated.
The like for the best and second best dishes of six GLOU MORCEAU Pear.
The like for the best and second best dish of six DESSERT PEARS of any other kinds in season.
Half a Guinea (by Mr. Turner) for the best dish of six Cox's ORANGE PIPPIN Apple.
The like (by Mr. Newton) for the best dish of six OLD NONPAREIL Apple.
One Guinea and Half a Guinea for the best and second best dish of six DESSERT APPLES of any kinds in season, excepting those for which the above special prizes are offered.
The like for the best and second best Culinary varieties of APPLE, fit for present use, exhibited in tens.

On this occasion the days of Meeting and Lists of Prizes will be arranged for the year 1860.

Copies of the Rules, Regulations for Exhibitors, Forms to be filled up, or other information, may be obtained on application to the Secretary, WILLIAM DAVIDSON, 2, Randolph Road, Maida Hill, London, W.

HORTICULTURAL SOCIETY OF LONDON.—At a Meeting of the FRUIT COMMITTEE of the HORTICULTURAL SOCIETY, held at 8, ST. MARTIN'S PLACE, W.C., Dec. 6, Prizes were awarded as follows:—

**PEARS.**

CLASS B. PASSE COLMAR.
1st prize to Mr. William Hill, Gardener to Ralph Sneyd, Esq., F.H.S., Keele Hall, Staffordshire.
2d prize to Mr. Edward Spivey, Gardener to J. H. Hanbury, Esq., Holmesdale, Plaistow, Essex.

CLASS C. BEURRÉ D'AREMBERG.
1st prize to Mr. Walter Reid, Gardener to James Hunt, Esq., Sydenham Hill, Kent.
2d prize to Mr. Joseph Allport, Gardener to Henry Akroyd, Esq., F.H.S., Doddington Park.

CLASS D. ANY OTHER VARIETY OF PEAR.
1st prize to Mr. J. Hall, Gardener to Thomas Lucas, Esq., Lower Grove House, Roehampton, for Glou Morceau.
An extra 1st prize to Mr. John Cox, F.H.S., Redleaf, Kent, for Winter Nelis.
2d prize to Mr. W. Hill, for Beurré Diel.
Extra prizes were awarded for very large specimens of Uvedale's St. Germain to Mr. James Garnier, Gardener to Sir George Hodson, Bart., Hollybrook, Bray, county Wicklow; and to Mr. Thomas Robertson, Gardener to Sir Archibald Dunbar, Bart., Duffus House, near Elgin.

**APPLES.**

CLASS H. 1st prize to Mr. E. Spivey, for Old Golden Pippin.
2d prize to Mr. J. Hawes, Gardener to J. W. Rhodes, Esq., Hedgerton, near Henley-on-Thames, for Ribston Pippin.


# The Gardeners' Chronicle.
*SATURDAY, DECEMBER* 10, 1859.


WHATEVER uncertainty may exist concerning the origin of domesticated animals there is far less obscurity in the case of cultivated plants, the wild states of which, if not positively known, are at least ascertainable with great probability. We know that esculent Carrots come from the wild Carrots in a few generations, because that has been proved experimentally; and we also know, because experience teaches us, that the esculent quality once produced in a Carrot becomes fixed and capable of descent by inheritance. We also know that Nectarines have sprung from Peaches because we see them appearing occasionally upon trees whose fruit is for the most part the Peach. We know that some of the breeds of garden Chrysanthemums must have come from the common old purple Chrysanthemum because the first change that took place in England was from it to a buff colour, from which by degrees many of the newer forms have been obtained in this country. And if we have not the same absolute certainty as regards other domesticated plants, we are at least furnished with the means of reasoning fairly from the known to the unknown.

In no case has greater doubt been entertained than in what concerns the many races of Cabbages whose habits have become so fixed, and descent

inheritance so perfect that cultivators cannot believe that they have all come from one common stock, in the lapse of time, and that stock the wild Cabbage that springs up hard, bitter, and uneatable on the coast of Devonshire and Cornwall. Nor can it be denied that a good deal of experience in the mutation of form is necessary to produce the conviction that Savoys, Coleworts, and Cauliflowers are descendants of some common parent. No one has seen the wild Cabbage close its leaves and form its solid heart; still less have its straggling flowering branches been seen to become soft, stunted, and blended together into the granular delicate ball called a Broccoli or Cauliflower. But although such positive evidence has not been acquired, yet it happens that every now and then a piece of presumptive evidence is obtained, which is little less important than the most direct. Of this kind an example is before us.

A few years ago, among a crop of white Broccoli, believed to have been the sort called Snow's White, a very valuable, firm, single-headed race, there appeared an individual with a branching stem and a multitude of lateral sprouts each producing a Broccoli in its own centre, as well as the usual one at top of the stem. It was a true branching Broccoli of the same nature as the purple branching, which has of late obtained so high a reputation, but is of better quality, and white. So remarkable a plant could not be overlooked; seed of it was saved and sown; the seedlings were like the parent; more seed was saved and the seedlings still came true. For four successive years has this been done, and the annexed representation of an individual of the present season, and therefore of the fourth generation, engraved for Messrs. LEE & Co., of the Vineyard, Hammersmith, *from a photograph*, will show what the new race has become.

Its quality is we understand unexceptionable, its importance as a cropper is manifest, and experience has shown that its habit is fixed. To gardeners it therefore promises to become a treasure.*

But this white sprouting Broccoli has an interest of another kind, showing as it does a plain tendency to assume a form that connects the Broccoli with the wild Cabbage. The nearest approach among cultivated Cabbages to the wild form is to be found in the Thousand-headed and the Colewort, with their allies. What is called Cottager's Kale is evidently the same thing with a more vigorous and productive constitution. Then Brussels Sprouts are merely Kale with the lateral shoots turned in after the manner of Cabbages. In the example before us we have a Brussels Sprout with all the end shoots and all the laterals forming Broccoli. This teaches us that the wild Cabbage has a natural tendency to form solid hearts, like Cabbages, and stunted succulent flowering branches like Cauliflowers, and that all the forms of Cabbage known to us are the result of a more or less complex manifestation of those tendencies. This may be stated as follows:—

I. *All the buds active and open. Flowers loose and perfect.* The wild Cabbage, Kale, &c.

II. *All the buds active and closed. Flowers loose and perfect.* Brussels Sprouts, &c.

III. *The terminal bud alone active and closed. Flowers loose and perfect.* Cabbages, Savoys, &c.

IV. *The terminal bud alone active and open. Flowers abortive, in succulent heads.* Broccoli and Cauliflower.

V. *All the buds active and open. Flowers abortive in succulent heads.* Sprouting Broccoli.

Hence it follows that Brussels Sprouts are I. with the peculiarity of II., and that in the case before us we have a race with the tendencies of I. and IV. combined. Of the causes that may have originally led to the appearance of these peculiarities we are profoundly ignorant. Nothing, however, more strongly than this Broccoli supports Mr. DARWIN'S† views of the inheritance of peculiarities. "The laws governing inheritance," says this able naturalist, "are quite unknown, no one can say why the same peculiarity in different individuals of the same species and in individuals of different species is sometimes inherited and sometimes not so." "But the number and diversity of inheritable deviations of structure, both those of slight and those of considerable physiological importance, is endless." Probably the case before us adds another to the instances known to the learned author of the *Origin of Species*.

* We observe that Messrs. LEE advertise the seed at 2*s.* 6*d.* a packet.

† *On the Origin of Species.* Small 8vo. MURRAY.

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"THAT CHINESE YAM is the strangest plant I have ever seen," exclaimed an old gentleman the other day while looking at some fragments lying on the ground before him; "I have a capital crop of wonderfully fine roots, but now that they are ripe and ready they won't come up. Gardener says he can't get them out of the ground without breaking them to pieces, because they grow with the thick end downwards. It's a great pity, for I think them particularly nice, and I am certain they are more wholesome than Potatoes."

A looker on suggested that perhaps they might be taken up without breaking if a large hole were made at the end of the row of plants deeper than their roots, so that the soil might be cast back out of the way; and thus the refractory roots be undermined root by root. So brilliant an idea was not to be neglected. So the gardener did as he was advised; the roots came out of the ground without resistance, and the looker on was pronounced a very clever sort of gentleman. What he thought of his two friends we have not heard.

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## GOOSEBERRY BUSHES, RATS, AND RABBITS.

I HAVE been interested in reading the various measures suggested by your correspondents to protect Gooseberry bushes in winter from birds, and I am vain enough to think that none of them are so cheap and so simple as mine—no, not mine, for I borrowed it from a neighbour, a farmer fond of gardening, and have employed it for some 10 years or more. Early in November prune your bushes, then take some refuse hay, shake it up well with a fork, and soak it with water. Let it lie in a heap a few hours, and while it is moist strew it over all the bushes, whether Gooseberries or Currants, so that it clings to them and forms a thin coat. This is best done on a quiet foggy day. The wind will not displace it and no birds will touch a bud. It may remain on the trees till the buds open in spring and the leaves are half grown. A portion of it may then be taken off, and the remainder suffered to subside into the trees by the spring rains. It is not only a protection from birds but from early spring frosts. In default of hay I have used stable litter or Barley straw, or indeed any other kind of straw, so that it is broken, moistened, and made to cling to the bushes. The fishing nets recommended by your venerable and witty correspondent Mr. Waterton are very tiresome to take off the trees in spring, as they are apt to pull off and injure the young opening buds. I go with him in all that he says about the destruction of hawks, stoats, weasels, &c., but I cannot agree with him in depreciating the Norway *alias* "Hanoverian" rat. He is a fine sagacious fellow, totally unlike the poor quiet do-nothing English rat which he has displaced. Our Norway rat is courageous and energetic, with an agreeable touch of audacity. Unlike some varieties of the genus *homo*, who sneak into your house and do much mischief before you know of their presence, he makes his entrance, and while you are quietly sitting by your fireside gives a crashing gnaw under your feet perhaps, plainly saying, "I am here, get me out how and when you can." This is thoroughly English, and like a good sound Protestant, as our Norway friend undoubtedly is.

I cannot quote anything in his favour from the writings of those accomplished scoundrels the Greeks and Romans, only because they did not know him. I can, however, give something in his favour from an authority more classic. My old thresher who used to thresh for me about 40 years ago from March till October, "from morn till dewy eve," used to say, "When there's not too many on 'em in they are useful, for they eats up all them darned meece (mice); but you must keep 'em down, or they'll play the dickens with the Wheat." The keeping them down—and, by the way, there are many things in Church and State want keeping down—was capital fun: trapping, shooting, and above all the rat-catching day, was real sport for us younkers.

I have yet something more to say in his favour. He has done much good in sharpening the intellects of our labourers, more particularly those living on the clay farms of Essex. Did you ever hear, Mr. Editor, of capillary attraction in clay? I believe in it. If the *heels* are always treading on it in clay the *heads* of both farmers and labourers become clay*ish* (this should be looked into by our physiologists), and so our lively, sagacious, Norway rat by his impudence, and being "up to trap," brings on activity of mind in trying to circumvent him. And then what a capital scavenger he is; our old English rat knew nothing about this sort of business. Mr. Waterton, you must cease to abuse our Norway friend, who, like our Hanoverian dynasty, displaced a useless race.

After all this I almost regret to give a recipe by which this active enemy or friend, as it may be, should be at all inconvenienced, but he must in some places be kept down and kept out. If therefore a rat hole is found in an inconvenient place you have only to pour into it 1 or 2 quarts of coal-tar and then stop it up with mortar. Our active friend will perchance make a fresh hole—serve it the same. He is a cleverly intelligent fellow, and will soon in disgust quit the ill smelling sticky promenade.

Something like this I have used to drive rabbits from their burrows, or keep them in. I found last spring a bank in which rabbits frequented some burrows, and on inquiry it seemed that they were of long standing, going a great distance into the adjoining field. Ferrets were tried and found useless; the rabbits began to breed and were very destructive. I directed my man to cut a large bundle of young Whitethorn bushes; these were chopped up into lengths of 5 or 6 inches and crammed into the mouths of all the burrows with a fork; he then poured 2 or 3 gallons of coal tar on to the bushes so as to thoroughly saturate them; they were then well banked up with earth. The rabbits never came out, and have only recently, coming from a preserve near, attempted to form some weak burrows by the side of those stopped last spring. I shall now serve them the same. *Barbeblanche.*

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## AUSTRALIAN CYCADEÆ.

THE Palms, those noble plants which impart such a grandeur to tropical vegetation, often exalted to "forest over the forest," and not inappropriately called "the princes of the empire of plants," are but scantily represented in Australia. Indeed none have been observed in Australia Felix west of the Snowy River; none on or near, any part of the southern and western coast, or towards Central Australia; whilst round the Gulf of Carpentaria and Arnheim's Land seemingly no other Palms occur than the stately Livistona inermis, and the Seaforthia elegans; with which, in Eastern Australia, where Palms attain their maximum, occasionally one or two other Livistonias, Areca monostachya, and Calamus Australis, are consociated. A solitary Cocos Palm, grown possibly from a nut cast ashore, was, by Captain Blackwood, R.N., noticed on one of the islands of North-east Australia; and a Caryota is said to occur on the islands of Torres Straits. For so remarkable a paucity of Palms in Australia only a slight recompense is offered by the presence of six species of Cycadeæ, an interesting order of plants combining with the whole appearance of Palms a structure of flowers, and not dissimilar to those of Coniferæ. Of those hitherto known indigenous Cycadeous plants, two, belonging to the genus Cycas, and briefly described in R. Brown's "Prodromus," are strictly tropical, extending from

Arnheim's Land to Port Curtis; whilst the other four, which are extra-tropical, or sub-tropical, are referable to the genus Encephalartos, established by Lehmann on several South African Cycadeous trees, much akin to the Australian species. These we intend to review briefly on this occasion. Since the publication of some highly important memoirs on Cycadeæ by Miquel, we have been accustomed to regard the Australian Encephalarti as generally distinct from the South African ones, under the name of Macrozamiæ. But this separation seems to be carried out on reasons so slight that, after a recent examination of all the Australian congeners, I prefer returning to the view originally expressed by Dryander, and borne out by R. Brown (*Prodr.* p. 348), and Endlicher (*Gen. Plant. suppl. II.*, p. 103), to consociate the African and Australian Zamiæ in one genus, distinct from the normal American species.

The Encephalartos spiralis, Endl., (Zamia spiralis, Salisb.) is, by various authors, well elucidated. I may add that its stem, according to locality of growth, may be found cylindrical or spherical, and that this species has been noticed as far north as Broad Sound. At least I have been unable to detect any marked difference between the northern and southern specimens, as far as I had an opportunity to judge. A curious variety probably of this species, with bifid leaflets of the seemingly young plants, was found by Mr. C. Moore in the interior of New South Wales.

The Encephalartos Preissii, well described as Macrozamia Preissii, by Professor Lehmann, is restricted to South-west Australia, although in the landscape picture of Port Lincoln, illustrating Captain Flinders's voyage, this or the preceding Zamia is delineated, which however, recent collectors have been unable to rediscover at that locality.

The Encephalartos Denisonii (Macrozamia Denisonii, Moore and Mueller) is by far the noblest of the Australian Cycadeæ, and well worthy of bearing the name of the enlightened patron of sciences who rules at present in New South Wales. The description of it furnished in the Fragmenta Phytographiæ Australiæ (I., 41) rests solely on the examination of the fruit, for which reason I avail myself of this opportunity to complete the account of this rare and beautiful tree. Diagnosis:—Leaflets very numerous (about 240 to each leaf), acute linear-falcate, shining, without manifest callus at the base, arising from the vortex, not from the sides of the rachis, with 12—15 nerves; inferior part of the rachis tetragonous, superior part sideways compressed: male cone very large (sometimes 3½' long, and then horn shaped), generally broad or oblong ovate, 4—7" broad, and 9—12" long; antheriferous scales closely approaching each other, those of the lowest series sterile; lateral scales 1½—3" long; toward the base by inflexed margins either channelled or cylindrical; lamina rhomboid acuminate, transversely thickened at the back; the exserted part covered with a grey brown silky velvet; acumen coriaceous, of the lateral scales spreading, of the terminal ones reflexed; female cone with spreading scales. The remaining part of the diagnosis is published in the "Fragmenta" as quoted. Description:—Stem about 18' high. Leaves 7—12' long, dark green, shining. Petioles 2—3' long, with much thickened base, which is coated with a thin fulvous velvet, otherwise nearly smooth, unequally tetragonous, beneath blunt, above depressed, middle and lateral angles blunt. Rachis in its lower blunt part tetragonous, in its upper part more acute at the back, and there, on both sides, with a longitudinal furrow. Lower leaflets opposite, upper ones alternate, lowest only twice shorter than the others (not reduced gradually to mere teeth or thorns), uppermost not much smaller than the rest, all about 6—8" long, ½" broad, with decurrent base, therefore, in proportion to the long rachis, much shorter than in the other Australian species. Scales of the male cone below narrow cuneate, not gradually tapering to the base; above glabrous, beneath, from the base to the thickened part of the lamina, densely covered with anthers, which are not detached in two distinct groups. Lamina nearly 1½" broad.

The Encephalartos Pauli Gulielmi, fully described as Macrozamia in the "Fragm. Phytogr. Aust.," I., 86, seems by far the rarest of the Australian species. It was discovered near the Glasshouse Mountains, at the time when H.R.H. Prince Paul William, of Wurtemburg, visited these colonies; and whilst bestowing his Highness's name on this memorable plant, I desired to express my admiration for the scientific ardour which the royal traveller has retained to a highly advanced age.

In concluding these remarks I would point to the importance of these trees, as yielding a kind of Sago, although the amylum is not equally copious in the pith of the different species. The Encephalartos Preissii has already rendered good service to the Western Australian settlers; and Mr. Gregory, the Australian explorer, first employed the method of obtaining the starch by shaving the pith of the stem with a plane, by which means so much surface of the cellular tissue is laid open as to cause the separation of the starch grains by maceration from the pith shavings with great facility. *Dr. F. Mueller in Quarterly Pharmaceutical Journal of Victoria.*

## BELGIAN GARDENS.

No. IV.—CHÂTEAU OF BARON HEYNDERYCKZ.—About two miles from Ghent, in the middle of the fertile plains of Flanders, the monotony of which is broken here and there by little woods or lines of trees, is to be seen a charming modern dwelling-house, surrounded by water, and standing out in relief from a background of green. It is there, at the château of Destelbergen, that Baron Heynderyckx of Ghent has amassed one of the most important collections of rare and valuable plants that Belgium possesses. We say amassed in every sense of the word, for more varied or interesting collections in so small a place are rarely to be met with. In fact there is something of everything. Azaleas, Rhododendrons, Camellias, Conifers, Amaryllids, Ferns, Pelargoniums, Cycads, Palms, variegated greenhouse plants, Orchids, &c., are all housed, packed, and stowed away in a multitude of little greenhouses placed back to back in the form of an amphitheatre, overlooked by a handsome glazed building, placed upon the top of an artificial hill, and commanding a view of the gardens and surrounding country. In the centre of this building is a rotunda with a very lofty dome, which holds the larger ornamental greenhouse plants; such as Araucarias, Dammaras, Pinuses, Banksias, large Camellias, Rhododendrons, Azaleas, and New Holland Acacias, the smallest specimens of which are not less than 9 feet high. Araucaria excelsa, Cunninghamii, and brasiliensis, Dammara alba, Banksia serrata, Acacia longifolia and pendula, with a Balantium antarcticum, are especially conspicuous for beauty and stature. The left wing of this house contains a very fine collection of Palms and Cycads; among which may be mentioned Chamærops excelsa, tomentosa, and palmata, Phœnix spinosa, Sabal Adansonii and Blackburniana, Thrinax parviflora, Oreodoxa Sanchona (a very rare plant), Pinanga Nenga, Areca sapida, Calamus niger, Chamædorea fenestrata, Latania Commersoni and Astrocaryum mexicanum; beautiful specimens of Cycas revoluta and circinalis, Ceratozamia mexicana and Dion edule; Pandanus furcatus, Candelabrum, and inermis; with a magnificent Angiopteris evecta, a colossal Medinilla magnifica, and some beautiful species of Heliconia.

The right wing contains nearly 300 varieties of Camellia, but to judge from the unhappy appearance of the plants this house is not suited to their cultivation. The cause of their sickly state is perhaps attributable to too dry an atmosphere during the winter, or else to too much heat. Every one must have remarked at the last spring exhibition in Ghent the Azaleas of Baron Heynderyckx; they were splendid specimens and cultivated with great skill, their foliage being lost beneath the masses of flowers.

His collection of Amaryllids is also well known. Baron Heynderyckx possesses thousands of them, for they are great favourites with him.

The eight or ten small houses which stand back to back at the bottom of the principal conservatories are occupied by numbers of ornamental plants, such as Rhopalas, Aralias, Browneas, Ixoras, Gloxinias, Gesnerads, Begonias, Pavettas, Marantas, &c.; in fact most of the plants lately introduced are to be found there. The Orchids more especially attracted our attention; the collection is most important, and to it Baron Heynderyckx justly owes his great reputation. There is no exaggeration in estimating the number of species at 300. The specimens are mostly very fine and well cultivated. The following were most especially noteworthy for either vigour or rarity:—Cattleya crispa, crispa purpurea, Perrinii, Mossiæ, Mossiæ superba, guttata; Brassia maculata; Epidendrum aurantiacum, viscidum, Stamfordianum, Odontoglossum Pescatorei and nævium; Aerides odoratum, odoratum majus, crispum; Angræcum eburneum and bilobum; Sobralia macrantha, Uropedium Lindeni, Vanda Roxburghi, tricolor, teres, and cærulea (magnificent specimens); Chysis Limminghii (very rare); Dendrobium nobile, Wallichii, Paxtonii, and Gibsoni; Lælia purpurata, acuminata, and superbiens; Saccolabium retusum and Blumei.

Notwithstanding the advanced age of Baron Heynderyckx his zeal for horticulture does not cool, as is shown by the fact that every Belgian exhibition owes a great part of its beauty to the ardour of this gentleman. His collection of medals bears witness to prizes gained at Ghent, Brussels, Namur, Mons, Antwerp, and Mechlin. *From the Journal d'Horticulture Belge.*

## Home Correspondence.

*Gooseberry Buds and Sparrows.*—Mr. Waterton recommends fish nets for keeping sparrows from the buds of Gooseberry trees. The advice, I think, is not good. About 15 years ago I had a good-sized kitchen garden in Cheltenham, the borders and central beds of which were bordered by Gooseberry and Currant trees. The sparrows made sad havoc with the buds, and pruning was obliged to be deferred till the spring, in order to make choice of the shoots that had least suffered. Two sailor-dressed men called at my house with tanned fish nets for sale. I bought a quantity for 3*l*. "And now," said I to my gardener, "we'll puzzle the sparrows." The trees were properly pruned, and the nets were stretched over the rows, including the trees and the spaces between each tree, and the opposite sides of the net were drawn round and fastened as closely as possible together, so that it seemed next to impossible for any birds to get inside. A space, however at the stem of each tree was unavoidable. After a while, observing that as I approached the trees sparrows flew from under them, I looked more narrowly and found that the buds had been attacked. The sparrows had got into the small spaces at the stems, and were cunning enough to make a hasty exit whenever anybody approached. There was hardly any fruit the next season, as in pruning but few shoots were left, and they were very well stripped indeed. I believe that nets do more harm than good, and that if I had spent one penny in white cotton instead of 3*l*. in nets, I should have had a good crop. Hoping to save a few buds and to be revenged on the sparrows, I steeped some Wheat in a solution of Nux Vomica, and put a little heap of it under several trees. The next morning I observed the sparrows had been at the heaps, and I picked up about half a dozen dead sparrows about the garden. "There," thought I, "at last I have out-manœuvred the Philistines, for surely they will partake of the repast provided for them at the bottom, and not ascend the tree to seek more meagre fare." But, no such thing—the heaps remained under the trees the whole winter, and not a grain (as far as I could notice) was ever touched after, whilst their visits to the interiors were as pertinacious and mischievous as before. In fact, I fancied more so, and did not know whether to attribute it to a mixture of malice and fun in their disposition, inducing them to spite me for my projects and to jeer me for my failures, or whether they really thought that I had constructed these Gooseberry bowers for their especial gratification. I was confirmed however in my notion that birds can reason, and (as Cowper phrases it) confabulate also. Apropos to this let me give an extract from Cobbett. After instructing how to use "a ball of coarse white sewing cotton," he goes on to say:—"What the little picking and scratching devils think of these threads, I know not, but it keeps them off, and that is enough for our purpose. I imagine that it inspires them with doubt, and as doubt has great influence upon all the human race, why should it not have the same upon these timid and watchful creatures?" *Henry Coles, Hammersmith.*

*Ringing the Branches of Grape Vines.*—This operation, from which favourable results were expected, will doubtless have received attention from many Grape growers during the past summer, and I think the present may be considered a suitable time for those who have been tempted to put it to the test to communicate their experience respecting its merits, especially as some doubts are now arising as to its utility under glass. Having tried it here on a small scale last year, and from its not having been attended with satisfactory results, I resolved upon giving it another trial, from seeing in the spring an article relating to its advantages when properly carried out. I therefore selected some small bunches on different parts of the Vines, and operated upon them in the way recommended by cutting through the bark with a sharp knife at ½ an inch apart and clearing out the piece all round; this was done shortly before the expanding of the flower—the bark at this stage came off freely and clean. These experiments were all made on Black Hamburghs, three of which were in one house and two in another. The same uniform want of success however attended all the cases, viz., want of colour; they, nevertheless, showed earlier signs of ripening, and of increased size, but the want of colour, in my own case, at least, is considered fatal to the experiment. If any one has been more successful with Vines under glass, I hope they will oblige by giving a clear definition of their mode of operation. *J. Webster, Gordon Castle.*

*Lifting Fruit Trees.*—This is, I am aware, not a new operation, but it is one not very generally practised. It is I think preferable to root pruning, for this reason: in root pruning only the strong and easily reached roots are divided, whereas in lifting the whole of the roots that go down into the subsoil, and tend to produce strong gross shoots, are all severed. Fruit trees of all sorts, varying in age from 20 to 40 years, have been lifted here with the most favourable results. Some of them were unhealthy, but fresh soil and shallower planting have rendered them all that could be desired. They are in every instance well furnished with bloom buds. Some of the trees which were lifted last autumn, principally Greengage Plums, were almost the only trees of the kind in the gardens that had a crop of fruit on them. They were planted against a west wall, and withstood, unprotected, the severe frosts of April last, and produced more fruit than they have done for years, while on others protected, and much more favourably situated, the fruit was almost wholly destroyed. For instance, the Apricots on south walls, protected with a net and Beech boughs, were all killed. The check which they receive in the operation of lifting is, I think, of service to them. It retards the opening of the bloom in spring, and assists no doubt greatly in hardening the wood and buds, thereby enabling them to withstand spring frosts better. Triennial lifting I think is the best system, as the trees are then kept in a healthy, fruitful state, and a crop may almost always be depended on. *Henry Bailey, Jun., Shardeloes, Amersham, Bucks.*

*Datura arborea.*—Mr. Addison states that he has nine plants of this in full bloom in one of his employer's conservatories. I quite agree with him in opinion that too little attention is in general paid to the culture of this beautiful plant; but I wish to state that it does not require the protection of a conservatory, or indeed any protection whatever during the summer, to produce in full perfection its noble and graceful flowers. During the last summer we had in different parts of this garden seven large plants of the Datura, all of them covered with bloom, as fully developed as I ever saw them to be under glass, and they

were really the admiration of all beholders. One of them in particular, the largest of the whole, and indeed almost to be called a tree, was planted near the house, and produced at one time I should think little short of 100 flowers. I certainly did not count them; but they were a gorgeous sight by day, and in the evening "scattered wide their delicate perfume," which is peculiarly sweet and powerful. As soon as the danger from spring frosts was over, these plants having been previously prepared in the greenhouse were planted out, and continued to produce a succession of flowers and flowering buds, until the sudden frost in October put an end to their glory. But they can be renewed another year, and they are so easily propagated by cuttings, and their beauty so amply rewards the little attention which they subsequently require, that I cannot but express my surprise that, in the present advanced state of horticulture, so great an out-of-door ornament should be so much neglected. *W. D. A., Sydenham.*

*Trentham Black Grape.*—On reading "Hogg's Gardeners' Year Book," I find a list of new Grapes, amongst which is Trentham Black, with an outline of the size and shape of the berry, which is perfectly oval. On referring to Mr. Rivers's catalogue of fruits, I find it there described as round. Now, I think the sooner the matter is set right the better, as to which is the right description, as it is very much calculated to mislead growers of Grapes, more particularly as the kind above alluded to is likely to prove a very valuable fruit. Perhaps some of your correspondents will enlighten us. *Clericus, Hereford.*

*Cottager's Kale.*—I planted about 500 of this Kale in three different gardens, and not one is injured by frost. Indeed nothing could look better. My Broccoli and Savoys are all cut up. *Thos. Akers, Newstead Abbey, Lincolnshire.*

*The October Frost.*—In its effect this frost has been very capricious, and plants seem to have suffered more from their relative state of vegetation at the time than from the intensity of the visitation. Here we had no snow, at least nothing more than a passing scud, though the Mendip and other hills in the neighbourhood were sheeted over—yet Alma and Mitchell's Hardy Cauliflower, Hammond's Cape Broccoli, and the earlier crop of Snow's, are either killed or so much injured as to be almost useless. Other Broccolis, even Purple Sprouting, are much injured in the foliage, and even Savoys and our old friend the Scotch Kale look anything but cheery. Lettuce, such as were fit for use, were parboiled, and some of my neighbours complain that most of their Endive is killed. I grow only the Batavian or large "Scarolle," as I find it more crisp and sweet than the curled varieties, and that has not suffered, another reason for growing it. Strawberries with me are not affected, but some complain of their British Queens looking queer. On the day preceding the frost the flower gardens here were looking quite gay, but anticipating a frost I secured the choicer kinds of Variegated Geraniums and a few other things, and the next morning the garden was a wreck. Verbenas, Calceolarias, Koniga maritima, and other tender things which stood the winter of 1858 uninjured were quite dead, and not a bed except Phlox Drummondi (a capital autumn thing for cutting) was worth retaining. Chrysanthemums with me, both Pompone and the large kinds, growing on south borders or sheltered among shrubs, are quite killed to the ground, not one producing a perfect flower. Yet in the Temple Gardens and also in the suburbs of London I saw ten days back fine specimens, scathed certainly, but still looking gay and cheerful. Now be it known we had only 8° of frost, the lowest register of the thermometer being 21°, while at Chiswick the glass marked 17°! How is this anomaly to be accounted for? If plants were killed with 8° of frost here, why were they not also killed with 15° of frost at Chiswick? Simply because they were in more mature growth, and hence contained less moisture for the cold to act upon. Among Roses the young tender shoots of such kinds as Mrs. Bosanquet and Madame Helfenbein were killed back to the ripe wood, and the young flower buds on most of the perpetual varieties are dead. Two years ago I gathered nice blooms of Souvenir de Malmaison and Géant des Batailles on Christmas Eve; and last year I had nice blooms in November. Of shrubs the common Laurel is much cut, especially in low situations, but the Portugal quite uninjured; Chinese Privet also is not touched. This here forms an uncommonly fine shrub—tree indeed I may say, as in the village of Beckington, a short distance from here, there is a plant 30 feet high and proportionately bushy. In the season with its deep shining leaves and numerous plumes of flowers it forms a very interesting object. Among Rhododendrons the most forward buds of the ponticums are browned, though R. arboreum close by was uninjured. Erica intermedia has all the young shoots killed, some of them as far down as 18 inches from the top, especially in the nursery of Mr. Wheeler, at Warminster; Berberis Darwini has the young shoots browned, but Escallonia macrantha, both in the open ground and on walls, is quite uninjured, though E. rubra in the open borders are much cut. The Pampas Grass, though in one instance the plumes were only just showing, is quite uninjured, but here it has never been killed down as it is in some places. The New Zealand Flax fully exposed in pots is unscathed. In the Pine [?] house I notice that Saxe-Gothæa conspicua is dead, the bark at the collar of the plant being split all to pieces, but in other respects except that some of the plants are browned sooner than usual (Libocedrus chilensis is an exception to the browning process), my plants are in beautiful condition. The same may be said of Thujopsis borealis and Cupressus Lawsoniana. Spergula pilifera has the centre of the plants quite brown. *W. P. Ayres.*

*Diseased Pine Apples.*—I shal lfeel much obliged for information from some of your readers on the following subject. Visiting a friend last week in the country who grows annually about three dozen Pines, I was much struck with the improved size of the fruit compared with that of former years, the plants being under the same treatment, but when the fruit came to be cut four out of five proved to be decayed at the centre, and the sound part of the Pine almost tasteless. I could not explain the cause, unless it was from some sudden change of temperature during the growth of the plants, more vigorous or more healthy specimens of which I never saw. An explanation of the cause of the disease will therefore very much oblige *J. D.*, 29, *St. Paul's Road, Camden Square.*

## Societies.

HORTICULTURAL: *Dec.* 9.—*Special General Meeting.*—C. W. Dilke, Esq., V.P., in the chair. This meeting was held in the rooms of the Society of Arts, John Street, Adelphi, for the purpose of electing a new Member of Council in the room of Prof. Henfrey, deceased. John Clutton, Esq., having been put in nomination for the vacancy, was unanimously elected. The following were also elected Fellows, viz.:—The Duchess Dowager of Norfolk, Hamilton Place, Piccadilly; Dowager Countess of Craven, Hamstead Lodge, Newbury; Lady Isabella Stewart, 13, Belgrave Square; Miss M. J. Nichols, Hanger Hill, Acton; Major-Gen. Sir Travell Phillips, Senior United Service Club; General Shubrick, United Service Club; Algernon Perkins, Esq., Hanworth Park; J. P. Bull, Esq., Arlington House, Chiswick; T. Walcot, Esq., Lower Gore, Kensington; W. Reed, Esq., Oak Lodge, Kensington; J. Fisher, Esq., Cadogan Place; Rev. W. A. Paxton, Faversham, Kent; A. G. Harpur, Esq., Pembroke Place, Pimlico; C. Walton, Esq., Manor House, Acton; Mr. W. H. Rumbold, Grange, Tunbridge Wells; E. Giovannelli, Esq., Stoke Newington; J. Hambrough, Esq., Princes Terrace, Hyde Park, South; A. Elkington, Esq., Woodbrooke, Northfield, Worcestershire; E. H. Keeling, Esq., Hyde Park Gate; Mrs. J. Wentworth, 19, Old Quebec Street; Mr. R. P. Glendinning, Turnham Green; Mr. C. Ewing, Bodorgan, Anglesey; Mr. L. Booth, Flotbeck Nursery, Hamburgh; Mr. T. Potts, Green Man, Old Kent Road.

The chairman announced that the great election of Fellows, as Life Members supporting the new garden at Kensington Gore, would take place on the 20th of January next; and that the Council had found it necessary to close the list of subscribers for debentures, the sum offered being already beyond what this great undertaking would require.

*Dec.* 6.—*Fruit Committee.*—Mr. Edmonds in the chair. At a meeting held this day, a considerable number of Pears and Apples was produced, and special prizes offered for certain kinds were awarded. Of Knight's Monarch there were three dishes, one of which came from Mr. Hill, gr. to R. Sneyd, Esq., Keele Hall, Staffordshire. It was gathered from a tree on the Pear stock growing on loam resting on red sandstone, and had been root pruned two years ago. Neither this however nor the other dishes of this variety were in perfection. Of Passe Colmar there were four exhibitions, the best of which came from Mr. Spivey, Hallingbury Place, Essex, whose fruit was melting and excellent in flavour. From Northamptonshire, Mr. Judd, gr. to Earl Spencer, sent good examples of this variety of Pear, as did also Mr. Hill. Those from Mr. Judd came from trees growing against a south wall in good soil on blue clay, and those from Mr. Spivey from a south-west wall. The tree which produced them was grafted on the Quince, and had been root pruned in 1857. Mr. Allport also contributed good fruit of this Pear. Beurré d'Aremberg was sent in good condition from Sydenham Hall by Mr. Reid, and the same variety was also contributed by Mr. Allport, Mr. Moore, and Mr. Cox, of Redleaf. Among other Pears consisting of Beurré Diel (very large and fine from Mr. Hill), Easter Beurré, Winter Nelis, Glou Morceau, Marie Louise, and Beurré Rance, the Glou Morceau and Winter Nelis were by far the best. Beautiful fruit of the former was sent from the neighbourhood of Roehampton by Mr. Hall, and Mr. Cox had excellent examples of the latter. Very large Uvedale's St. Germain Pears came from Sir Archibald Dunbar's garden, near Elgin, and also from Ireland. Of these the heaviest weighed upwards of 3 lbs. Of Apples, Cockle Pippin came from Mr. Webb, of Reading; Mr. Parsons, Welwyn, Herts; and Mr. Judd, but none of them were considered good. Fair specimens of Margil were furnished by Mr. Spivey, but of all the dessert Apples exhibited the best were Old Golden Pippin, Ribston Pippin, and King of the Pippins, or Winter Pearmain of the Germans. The Ribstons were remarkable for their high colour, but they were a little over ripe and somewhat mealy. Of Dumelow's Seedling, Blenheim Orange, and other well-known kitchen Apples there were some good specimens. Two bunches of Grapes, said to have been a cross between the Syrian and Muscat, came from Mr. Downes, of Stourbridge. They were fine looking bunches, the heaviest of which weighed 4 lbs. 4 oz.; but they had no Muscat flavour about them whatever, and were otherwise hardly distinguishable from the Syrian. Some remarkably fine roots of Discorea Batatas came from Messrs. Ivery, of Dorking. The largest of these weighed 6 lbs. 6 oz., and although quite 3 feet in length had been in no way broken in lifting. The others were nearly equally fine. Some large and very fine Leeks, one the Rouen and another sort, were shown by Mr. Turner, of Slough. From Mr. Webb, of Reading, came a Kidney Potato, which did not appear to be very different from some shown by that grower on former occasions. J. Luscombe, Esq., sent a basket of Citronworts.

*Dec.* 8.—*Floral Committee*—Rev. J. Dix in the chair. At this meeting one or two interesting plants were shown. Among others was a very beautiful Orchid from Messrs. Veitch, a hybrid raised by their foreman, Mr. Dominy, between Limatodes rosea and the red-eyed Calanthe vestita. To the colour of the former it added the size of the latter, and is altogether an extremely fine thing. The same firm also furnished two charming new Selaginellas; one especially, named S. Wallichiana, is nearly if not quite as handsome as Gleichenia flabellata, which it somewhat resembles. The other was of a smaller and dwarfer character. From R. Warner, Esq., came a Lælia, with violet purple lip and white sepals and petals, together with a drawing of a larger species of that genus, resembling L. Schilleriana of Reichenbach. Messrs. E. G. Henderson sent one of the best of the more recently introduced kinds of Tydæa, called Countess of Ilchester; and from Mr. Carson came a noble spike of Grammatophyllum speciosum, with at least 60 blossoms on it. It measured upwards of 7 feet in height, and it was stated that the same plant had had two such spikes on it at the same time, and that they had been in full bloom for these last 10 weeks. Mr. Mackintosh, nurseryman, Hammersmith, sent an extremely well-grown Solanum capsicastrum with upwards of 100 fruit on it, looking like so many large polished orange beads. Than this nothing in its way could be more ornamental at this season of the year, and it may be added that very small plants of it bear fruit freely.

LINNEAN: *Dec.* 1.—Prof. Bell, President, in the chair. A. H. Barford, Esq., B.A.; P. H. Bird, Esq.; J. Durham, Esq.; J. M. Jones, Esq.; and S. Livesay, Esq., were elected Fellows. There were presented to the Museum:—From C. C. Babington, Esq., an extensive series of dried plants for the British Herbarium; from Dr. Shortt, specimens of various Indian plants, together with skeletons of the leaves of Ficus religiosa, and 24 beautifully coloured drawings *upon talc* of birds of Southern India. J. Birkett, Esq., exhibited living plants of Ophioglossum lusitanicum, gathered in Guernsey a few days since. This Fern was stated to grow abundantly on the steep slopes of the southern cliffs of the island, where there is very little depth of soil, and that excessively parched in summer. Mr. Birkett also exhibited Asplenium marinum v. microdon (the plant known under this name proves to be a variety of A. lanceolatum), from a damp wall in a shady lane in the parish of St. Pierre-du-Bois, Guernsey. The following papers were read:—1. "A memoir on the structure and reproduction of Pyrosoma," by Prof. Huxley. 2. "Notice of certain English plants observed during the past summer," by John Hogg, Esq. One of these was the Rosa rubella, first found by Mr. Hogg about the summer of 1823, in a hedge by the side of a lane leading from Carlton to Norton, in Durham; and then taken for a pink-flowered variety of R. spinosissima. Another was a white-flowered variety of R. tomentosa from the same locality as the former. Besides these were records of some vegetable *lusus naturæ*, namely:—two double Dahlias growing back to back on the same stalk; a stem of Agapanthus umbellatus, to which a second smaller one had adhered for a portion of its height; and two "proliferous" cones of the common Larch. At the small extremity or apex of these cones the woody stem was described as being prolonged through the cone, having grown in one case 1 inch, and in the other 2 inches beyond the cone itself. they had been gathered from a young healthy tree in a plantation at Norton. A letter from J. Woods, Esq., to Mr. Kippist, in reference to Rosa rubella and recording another Durham locality, was also read. Mr. Woods observed: "I recollect perfectly well observing among Mr. Janson's specimens one which I considered as the R. rubella of Winch. It was gathered at the opening of Castle Eden Dene towards the sea, in 1835. I kept more completely on the sands, which are very much covered with R. spinosissima. Mr. Janson kept rather on the boundary of the more solid ground, where the vegetation is more mixed. I did not see the plant at the time, nor, I believe, till looking over the produce of our excursion after our return to town."

HORNSEY GARDENERS' MUTUAL INSTRUCTION: *Dec.* 7.—The members of this Society assembled at the Infants' School Room, Hornsey, to hear a lecture by Mr. Shirley Hibberd, of Stoke Newington, on the "History and Cultivation of the Rose." The chair was occupied by Robert Richmond, Esq., supported by many of the neighbouring gentry. Mr. Hibberd briefly sketched the history of the Rose from the earliest times to the peace of 1815, when, he said, the first of the great French Rose gardens was laid out by M. Vibert, and the improvement of the Rose as a florist's flower commenced in earnest. The great majority of show varieties

had been raised in France during the past 45 years by MM. Vibert, Laffay, Hardy, Deprez, Prevost, Lacharme, Margottin, Guillot, Granger, and a few other professional and amateur growers. The lecturer enumerated the best Roses raised by each, and gave a few historical memoranda of such Roses as Aimée Vibert, Jules Margottin, Géant des Batailles, Great Western, and others, tracing them to their parentage, and indicating also the varieties which had proceeded from them. The seedlings of Géant des Batailles, he said, were sufficiently numerous to constitute a rich collection of extraordinary Roses, and they included Lord Raglan, General Jacqueminot, Duchess of Norfolk, Evêque de Nîmes, Louis Chaix, and others of the crimson section of Hybrid Perpetuals. Passing from the varieties the lecturer proceeded to the subject of culture, giving an epitome of the treatment of the Rose on loam, sand, clay, chalk, and peat, with hints on the selection of varieties and the management of stocks, as well as the improvement of unsuitable soils. He then treated of propagation, and by the aid of a black board explained the various modes of budding on the Briar, Manetti, Celine, and other stocks. His description of the method of striking Roses from eyes in the fashion of a Grape Vine was particularly interesting. The buds were to be taken at the same season and in the same manner as for budding on the Briar, that is from half ripe wood, the buds of which had not started. The leaf was not to be removed; nor was the wood to be taken out of the shield, but every bud with its attached wood, bark, and leaf, was to be planted in pure sand with a little peat under it for the first roots to work into, and then covered with a bell-glass. In this way scarce Roses would be multiplied rapidly. The Rector of Hornsey proposed a vote of thanks, which was carried by acclamation.

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ROYAL HORTICULTURAL OF IRELAND.—The first public winter Exhibition of this Society took place on the 24th ult. at the Rotunda, and fully rewarded the Council for the addition to their 11th rule, by which the Society is empowered "to hold an Exhibition in November if found advisable." Heretofore a private show of Chrysanthemums was held at the Society's rooms; but in Dublin as elsewhere so marked an improvement in the culture of this beautiful flower has taken place that it was thought unfair to debar the public from sharing the treat of seeing so many fine plants and so exquisite and gorgeous a display of bloom. Speaking generally, a more creditable exhibition of Chrysanthemums could not have been witnessed; but we cannot omit to particularise those grown at the gardens of the Vice-Regal Lodge by Mr. Smith, and those of the Chief Secretary by Mr. McNeill; the latter were quite a sight in themselves, being 5 feet 6 inches in diameter and an entire sheet of blossom. The first prize was awarded to the Chief Secretary's gardener for the large-flowered kinds Hermione, Annie Salter, Versailles Defiance, and Queen of England. Dr. Nelegan obtained the first prize for Pompones, but many considered that others were more deserving of praise. Some splendid Grapes were exhibited by the Chief Secretary and some fine specimens of Apples, Pears, &c. The cut flowers were not so abundant as on other occasions, but those shown by Mr. Joseph Watkins which took first prize were very well flowered. Owing to the want of a military band some few seemed disappointed, but to those who went to see the flowers the exhibition was all that could be desired. *E. A. M.*

# Notices of Books.

*Self-Help; with Illustrations of Character and Conduct.* By Sam. Smiles. 12mo. Murray. Pp. 343.

In his life of George Stephenson Mr. Smiles showed that he possessed the true talent of a biographer, knowing how to be diffuse without being prolix, not mistaking tediousness for accuracy, and while illuminating the salient points of his hero's career, throwing into the shade or among the middle tints whatever seemed uninteresting or unimportant. In the volume before us he has again displayed the same kind of tact. The origin of the work is so well told by the author that we give it in his own words with an omission or two:—

"Some 15 years since, the author was requested to deliver an address before the members of some evening classes, which had been formed in a northern town for mutual improvement, under the following circumstances:—

"Two or three young men of the humblest rank resolved to meet in the winter evenings, for the purpose of improving themselves by exchanging knowledge with each other. Their first meetings were held in the room of a cottage in which one of the members lived; and, as others shortly joined them, the place soon became inconveniently filled. When summer set in, they adjourned to the cottage garden outside; and the classes were then held in the open air, round a little boarded hut used as a garden house, in which those who officiated as teachers set the sums, and gave forth the lessons of the evening. When the weather was fine, the youths might be seen, until a late hour, hanging round the door of the hut like a cluster of bees; but sometimes a sudden shower of rain would dash the sums from their slates, and disperse them for the evening unsatisfied.

"Winter, with its cold nights, was drawing near, and what were they to do for shelter? Their numbers had by this time so increased, that no room of an ordinary cottage could accommodate them. But they were youths of pluck, and determined to go forward with the work they had taken in hand. They resolved, therefore, to hire a room; and on making inquiry, they found a large, dingy apartment to let, which had been used as a temporary cholera hospital.

"About 100 young men had thus come together, when, growing ambitious, they desired to have lectures delivered to them; and then it was that the author became acquainted with their proceedings. A party of them waited upon him, for the purpose of inviting him to deliver an introductory address, or, as they expressed it, 'to talk to them a bit;' prefacing the request by a modest statement of what they had done and what they were doing. He could not fail to be touched by the admirable self-helping spirit which they had displayed; and, though entertaining but slight faith in popular lecturing, he felt that a few words of encouragement, honestly and sincerely uttered, might not be without some good effect. And in this spirit he addressed them on more than on one occasion, citing examples of what other men had done, as illustrations of what each might, in a greater or less degree, do for himself; and pointing out that their happiness and well-being as individuals in after life must necessarily depend mainly upon themselves—upon their own diligent self-culture, self-discipline, and self-control—and, above all, on that honest and upright performance of individual duty, which is the glory of manly character.

"There was nothing in the slightest degree new or original in this counsel, which was old as the Proverbs of Solomon, and possibly quite as familiar. But old-fashioned though the advice may have been, it was welcomed. The youths went forward in their course; worked on with energy and resolution; and, reaching manhood, they went forth in various directions into the world, where many of them now occupy positions of trust and usefulness.

"The author's personal interest having in this way been attracted to the subject of Self-Help, he was accustomed to add to the memoranda from which he had addressed these young men; and to note down occasionally in his leisure evening moments, after the hours of business, the results of such reading, observation, and experience of life, as he conceived to bear upon it."

The result is the work before us. Mr. Smiles first insists upon the necessity of self-help, or as some would call it self-reliance; he then describes some of the most celebrated leaders of industry whether inventors or producers, among whom appear Watt, Arkwright, Hargreaves, Crompton, Boulton, Peel, and many more; the text of his third chapter is Genius is patience, a subject carried through two more chapters. A sixth deals with the rewards gained by industry in the shape of English Peerages, &c.; then follow examples of energy and personal courage; of business qualities; of the use and abuse of money. Other chapters treat of self-culture in its various forms, of its facilities and difficulties, and of the brilliant consequences that have followed it. Finally the pages close with an admirable chapter on character.

We are sure that every reader will peruse Mr. Smiles's pages with the same interest as ourselves. His style is unexceptionable; his subject of the deepest concern to all; and his illustrations and examples selected with singular felicity. Notwithstanding the crowded state of our columns we must find room for an extract from the chapter on energy and courage, which we think will fully justify the opinion just expressed:—

"There is a famous speech recorded by an old Norseman, thoroughly characteristic of the Teuton. 'I believe neither in idols nor demons,' said he, 'I put my sole trust in my own strength of body and soul.' The ancient crest of a pickaxe with the motto of 'Either I will find a way or make one,' was an expression of the same sturdy independence and practical materialism, which to this day distinguishes the descendants of the Northmen. Indeed nothing could be more characteristic of the Scandinavian mythology than that it had a god with a hammer. A man's character is seen in small matters; and from even so slight a test as the mode in which a man wields a hammer, his energy may in some measure be inferred. Thus an eminent Frenchman hit off in a single phrase the characteristic quality of the inhabitants of a particular district, in which a friend of his proposed to settle and buy land. 'Beware,' said he, 'of making a purchase there; I know the men of that department; the pupils who come from it to our veterinary school at Paris do not strike hard upon the anvil; they want energy; and you will not get a satisfactory return on any capital you may invest there.' A fine and just appreciation of character, indicating the accurate and thoughtful observer; and strikingly illustrative of the fact that it is the energy of the individual men that gives strength to a State, and confers a value even upon the very soil which they cultivate. As the French proverb has it: 'Tant vaut l'homme, tant vaut sa terre.'

"The cultivation of this quality is of the greatest importance; resolute determination in the pursuit of worthy objects being the foundation of all true greatness of character. Energy enables a man to force his way through irksome drudgery and dry details, and carries him onward and upward in every station in life. It accomplishes more than genius, with not one-half the disappointment and peril. It is not even eminent talent that is required to ensure success in any pursuit, so much as purpose,—not merely the power to achieve, but the will to labour energetically and perseveringly. Hence energy of will may be defined to be the very central power of character in a man—in a word, it is the Man himself. It gives impulse to his every action, and soul to every effort. True hope is based on it,—and it is hope that gives the real perfume to life. There is a fine heraldic motto on a broken helmet in Battle Abbey, 'L'espoir est ma force,' which might be the motto of every man's life. 'Woe unto him that is faint-hearted,' says the son of Sirach. There is, indeed, no blessing equal to the possession of a stout heart. Even if a man fail in his efforts, it will be a great satisfaction to him to enjoy the consciousness of having done his best. In humble life nothing can be more cheering and beautiful than to see a man combating suffering by patience, triumphing in his integrity, and who, when his feet are bleeding and his limbs failing him, still walks upon his courage.

"Mere wishes and desires but engender a sort of green sickness in young minds, unless they are promptly embodied in act and deed. The good purpose once formed must be carried out with alacrity, and without swerving. In many walks of life drudgery and toil must be cheerfully endured as the necessary discipline of life. Hugh Miller says the only school in which he was properly taught was 'that world-wide school in which toil and hardship are the severe but noble teachers.' He who allows his application to falter, or shirks his work on frivolous pretexts, is on the sure road to ultimate failure. Let any task be undertaken as a thing not possible to be evaded, and it will soon come to be performed with alacrity and cheerfulness. The habit of strenuous continued labour will become comparatively easy in time, like every other habit. Thus even men with the commonest brains and the most slender powers will accomplish much, if they will apply themselves wholly and indefatigably to one thing at a time. Fowell Buxton placed his confidence in ordinary means and extraordinary application; realising the scriptural injunction, 'Whatsoever thy hand findeth to do, do it with all thy might;' and he himself attributed his own remarkable success in life to his practice of constantly 'being a whole man to one thing at a time.'

"Nothing that is of real worth can be achieved without courageous working. Man owes his growth chiefly to that active striving of the will, that encounter with difficulty, which we call effort; and it is astonishing to find how often results apparently impracticable are thus made possible. An intense anticipation itself transforms possibility into reality; our desires being often but the precursors of the things which we are capable of performing. On the contrary, the timid and hesitating find everything impossible, chiefly because it seems so. It is related of a young French officer, that he used to walk about his apartment exclaiming, 'I will be Marshal of France and a great general.' This ardent desire was the presentiment of his success; for he did become a distinguished commander, and he died a Marshal of France."

Every one who is interested in education should spare six shillings for the purchase of this book.

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*Regulations for carrying into Effect the Act* 22 *and* 23 *Vict., c.* 40, *for the Establishment of a Reserve of Royal Naval Volunteers.* Eyre and Spottiswoode. Pamphlet.

In a pamphlet of 43 pages Government announces in great detail every part of the important plan for securing at all times and under any circumstances an abundant supply of seamen for the Royal Navy. The foremost parts of the proposed arrangement consist: 1. In the exclusion of soldiers, militia, and coast volunteers, partly, we presume, to avoid mere landsmen, and partly to preserve the coast volunteers as an unbroken force. 2. No naval volunteer can be enlisted in the army or militia. 3. Every such volunteer will receive the sum of 6*l.* a year, as a retainer, so long as he remains in the reserve. 4. He must present himself every six months, and must not engage in voyages likely to exceed six months. 5. He must go through an annual drill of 28 days; but the time consumed in passing to and from the place of drill will be reckoned as part of the 28 days; and the drill may be performed from time to time and at different places, provided the period at which he attends at any one place be in no case less than one week. 6. The volunteer's travelling expenses are defrayed by Government. 7. The volunteers will be paid, while on drill, the same wages as seamen of the same rating in the Royal Navy; they will be victualled on the same scale, and will be supplied with bedding and mess traps. 8. Volunteers can only be called out for active service by Royal Proclamation, and in case of a sudden emergency. 9. They will if wounded or injured in actual service receive the same pension as a seaman of the navy of the same rating; and will be eligible to the Coast Guard Service and Greenwich Hospital. 10. Enrolment commences on Jan. 1, 1860.

These are the more striking of the 158 clauses into which the "Regulations" are divided. The latter have been framed in a liberal spirit, and cannot fail we think to be well received by seamen. To the public service the measure is of extreme importance, and we trust that all who read these remarks will make them known to the utmost of their means.

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*The Long Bow of the Past: the Rifle for the Future* is a pamphlet reprinted from the *Cambridge Chronicle* and published at its office. The writer strongly advo-

cates the Rifle movement, and urges on the Government the propriety of rendering it permanent—as may be easily done. He would adopt the principle on which the old archery laws were framed, and apply it to the formation of what might be called rifle laws. Its great fault is the fierce attack it makes upon Roman Catholics, and the suggestions that accompany it. We extract an amusing account of the English Volunteers who accompanied Lord Scales to Spain in the time of Henry VII., borrowed from Washington Irving's translation of "The Spanish Chronicle of the Conquest of Granada," written by Padre Fray Antonio Agapida:—

"This cavalier was from the island of England, and brought with him a train of his vassals; men who had been hardened in certain civil wars which had raged in their country. They were a comely race of men, but too fair and fresh for warriors; not having the sun-burnt hue of our old Castilian soldiery. They were huge feeders also, and deep carousers; and could not accommodate themselves to the sober diet of our troops, but must fain eat and drink after the manner of their own country. They were often noisy and unruly, also, in their wassail, and their quarter of the camp was prone to be a scene of loud revel and sudden brawl. They were withal of great pride; yet it was not like our inflammable Spanish pride: they stood not much upon the *pundonor* and high punctilio, and rarely drew the stiletto in their disputes; but their pride was silent and contumelious. Though from a remote and somewhat barbarous island, they yet believed themselves the most perfect men upon earth; and magnified their chieftain, the Lord Scales, beyond the greatest of our grandees. With all this, it must be said of them that they were marvellous good men in the field, dexterous archers, and powerful with the battle-axe. In their great pride and self-will, they always sought to press on the advance, and take posts of danger, trying to outvie our Spanish chivalry. They did not rush forward fiercely, or make a brilliant onset, like the Moorish and Spanish troops, but they went into the fight deliberately, and persisted obstinately, and were slow to find out when they were beaten. Withal they were much esteemed, yet little liked by our soldiery, who considered them staunch companions in the field, yet coveted but little fellowship with them in the camp. Their commander, the Lord Scales, was an accomplished cavalier, of gracious and noble presence, and fair speech. It was a marvel to see so much courtesy in a knight brought up so far from our Castilian court. He was much honoured by the King and Queen, and found great favour with the fair dames about the court, who, indeed, are rather prone to be pleased with foreign cavaliers. He always went in a costly state, attended by pages and esquires, and accompanied by noble young cavaliers of his country, who had enrolled themselves under his banner to learn the gentle exercise of arms. In all pageants and festivals, the eyes of the populace were attracted by the singular bearing and rich array of the English Earl and his train, who prided themselves on always appearing in the garb and manner of their own country; and were indeed something magnificent, delectable, and strange to behold."

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*The Gardener's Yearbook, Almanack, and Directory*, by Robert Hogg, is a really useful Horticultural Companion. It contains in addition to the usual almanack a great deal of miscellaneous information, and a carefully prepared monthly Calendar of the work to be done in gardens, to which amateurs may turn with confidence. There are moreover lists of new plants, critical notices of new fruits and esculents, and a very full register of the Nurserymen and Seedsmen in London, England, Scotland, Wales, and the United States. The chapter on what are called the New Plants of 1859 is long and carefully written; but it requires critical revision, especially with regard to the species figured in some of the Continental periodicals, which are not always deserving of confidence.

*Croker's Edition of Boswell's Life of Johnson*, the issue of which we announced some months since, is now completed, and forms a handsome 8vo volume, of between 800 and 900 pages.——Two numbers have also appeared of *Moore's Life of Byron*, printed uniformly with the edition of the author's poetical works lately completed by Mr. Murray. These remarkably well edited volumes are a valuable gain to the library of us of the middle classes.

*Ure's Dictionary of Arts, Manufactures, and Mines*, Part 2 (Longmans), proceeds as far as the word Boring. It contains the completion of Artesian Wells, and interesting articles on Artillery, Beer, Bleaching, &c.

## Miscellaneous.

*Pomological Congress at Bourdeaux. (Fourth Session.)*—It is now 10 years since those interested in the cultivation of fruit trees found that their collections contained several varieties of doubtful or inferior quality, and that different names had been given to the same variety. Attempts were made to clear up the confusion, which threatened to diminish the value of the eminently useful trade of a nurseryman. Individual efforts appeared to require too much time, and accordingly the work of expurgation and of rectifying erroneous nomenclature was undertaken by associations of zealous amateurs. In 1856 a first Pomological Congress was held at Lyons under the auspices of the Horticultural Society of the Rhone. The decisions then arrived at were far from resolving all difficulties. At a second session, in September of the following year, some further corrections were made. A third session took place last year at Paris, and the work of the Congress of Lyons was again songht to be perfected; nevertheless, a fourth session having been deemed necessary, it has just been held at Bourdeaux. The Horticultural Society of the Gironde has appealed to the associations established for the promotion of horticulture, and has laid before the members of the Congress specimens of fruits obtained from different climates and situations with the view of definitely settling upon a list of the best fruits at present in cultivation. The catalogue which we have received, consisting of 61 octavo pages, containing accounts of 126 lots on exhibition, proves that a large number of amateurs and nurserymen have responded to the call. Among the lots sent from Belgium, we observed one sent by M. Devergnies, Vice-president of the Society of Binche; a second by the Society of the province of Namur; and a third by J. De Jonghe, Nurseryman, Chaussée du Nieuw-Molen, No. 9, near Brussels. A correspondent from Bourdeaux informs us that the collection of M. De Jonghe, consisting of 26 varieties of seedling Pears, gained the silver gilt medal; and that his collections of 100 varieties of choice Pears received the large silver medal. These are both first prizes. This proves that the fruit from the neighbourhood of Brussels has had a high value placed upon it by a jury composed of delegates from 18 of the most important departments of France. We know, and the catalogue before us bears testimony of the fact, that good sorts of fruits raised in Belgium are highly esteemed by our southern neighbours. *Echo de Bruxelles, Nov.* 1, 1859.

*Sorghum saccharatum.*—Among the agricultural products not noticed in the catalogue of the Bourdeaux Horticultural Congress, and not remarked upon by the jury, I observed an exhibition from the Avocat Posson, of Brussels. It bore a label to the following effect:—The Sorghum saccharatum or Holcus saccharatus, till lately considered noxious; is an excellent food for cattle. Since August 20 three cows were supplied with 25 kilogrammes (or 55 lbs.) each per day. The cows are in excellent health; their milk is more abundant; the butter is of better quality. Sown between 5th and 15th May after Rye, which had been cut green, the Sorghum produced 87,750 kilogrammes per hectare (Sept. 22d), about 35 tons per acre. A few litres of seed (from five to seven), or from 25 to 33 gallons, are sufficient to sow a hectare (10 or 12 gallons per acre); each litre costs from 1½ to 2 francs. *J. De Jonghe, Brussels, Nov.* 15.

## Calendar of Operations.

*(For the ensuing week.)*

### PLANT DEPARTMENT.

CONSERVATORY, &c.—In changeable weather like the present, this structure will require very careful management. The best plan is to keep as low and dry a temperature as can possibly be permitted, say from 40° to 45° at night, allowing it to rise a little in the daytime. In mixed greenhouses see that the young stock of Heliotropes, Pelargoniums, Cyclamens, and other flowers grown especially for winter, have nice light situations and regular attention as regards watering. This is a good time to introduce the following things into the forcing-pit, provided they have received the necessary treatment through the summer:—Rhododendrons, Azaleas, Persian Lilacs, Sweet Briars, Moss and other Roses, Sedums, Kalmias, Daphnes, Anne Boleyn Pinks, Dutch Bulbs, &c. Unless however they are in proper trim it will be labour in vain, and no mode of forcing or form of pit can compensate for this. The great secret of success, if the heat is wholly composed of fermenting materials, is to keep down accumulating damp and mouldiness by an almost constant ventilation, increasing the linings in order to raise the necessary temperature. Those who are fortunate enough to possess pits heated by means of hot water will of course pursue a somewhat different course. Look well to pits and frames containing stores for next summer, and have efficient protecting material always in readiness, with which to cover them whenever the weather is unfavourable.

### FORCING DEPARTMENT.

PINERY.—Water plants in pots as little as possible at this season; where the general stock is grown in this manner it is a good plan to cover the pots over 2 or 3 inches with the plunging material; where the bottom heat will permit that to be done it obviates the necessity of watering so frequently. VINERIES.—Use fire-heat sparingly in houses where the fruit is ripe, but sufficient must be used to prevent the moisture of the atmosphere being frozen to the glass inside the house, for if this is allowed to happen the moisture on thawing is liable to drop upon the bunches, injuring the bloom and causing the berries to decay. Admit air on every favourable opportunity, and examine the bunches often and carefully, so as to make sure of removing decaying berries the moment it can be perceived they are affected. Where forcing is fairly commenced be careful to maintain a properly moist state of the atmosphere, and this must be especially attended to in the event of severe weather, particularly when the buds are bursting. The evaporating troughs must be kept constantly supplied with water, and the paths, bed, &c., should be frequently syringed, and it will also be advisable not to have the tender foliage too near the glass if the weather changes. If fermenting material is used for warming the border, this must be well covered with dry litter to protect it from frost, and turned occasionally, adding some fresh as may be necessary to keep the heat in the border regular. It will be advisable, however, to have some dung and leaves thrown up to heat, as there would be some danger of chilling the bed by turning it in the event of frosty weather, and mixing it with the dung or leaves which had not commenced fermenting. Houses which it is intended to commence forcing the beginning of next month should also have some fermenting materials placed on the borders so as to encourage the roots a little before the Vines are excited, which will be of great service towards getting the buds to push strongly and without loss of time. STRAWBERRIES.—Where these must be obtained as early as possible, say by the end of February, a lot should now be introduced. Any house or pit will do, provided a temperature of from 45° to 50° can be maintained with a moist atmosphere. Let them also have as light a situation as possible.

### FLOWER GARDEN AND SHRUBBERIES.

Now that the leaves are off the trees let lawns and shrubberies have a thorough cleaning. Examine pillar and trellis Roses, and if the weather is favourable see if the soil wants renewing or the kinds changing. For choice sorts roomy holes should be made capable of containing three or four barrow-loads of well prepared soil. Turfy loam of good quality is the chief thing; to this add a portion of rich rotten manure, and, if at hand, a little sandy peat or leaf-mould.

### HARDY FRUIT AND KITCHEN GARDEN.

Trench, dig, and ridge every spare inch of ground whenever the weather will permit these operations to be advantageously performed. This is particularly to be observed in gardens the soil of which is of a clayey nature. If frost sets in let the manure necessary be wheeled out for the whole of the spring cropping, laying it in heaps either on the spot where it is to be used, or as near as possible to it. What is not required for immediate digging should be piled in small mounds and soiled over to prevent loss from evaporation. Never uncover tender vegetables after the breaking up of frost until they have become completely thawed, and even then do not uncover suddenly; leave a very light protection on them for a day or two in order to inure them gradually to sunlight. It is always desirable to get as much pruning and nailing done before the approach of spring as possible; lose no favourable opportunity therefore of forwarding these operations; for, besides the advantage of having that kind of work done before the busy season, the garden will present a much neater appearance than it would otherwise have.

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### STATE OF THE WEATHER AT CHISWICK, NEAR LONDON.

For the Week ending Dec. 8, 1859, as observed at the Horticultural Gardens.

| Dec. | Moon's Age. | Barometer. Max. | Barometer. Min. | Temperature of the Air. Max. | Temperature of the Air. Min. | Temperature of the Air. Mean | Temperature of the Earth. 1 foot deep. | Temperature of the Earth. 2 feet deep. | Wind. | Rain. |
|---|---|---|---|---|---|---|---|---|---|---|
| Friday 2 | ) | 30.015 | 29.928 | 38 | 26 | 32.0 | 44 | 45 | N.E. | |
| Satur. 3 | 8 | 30.146 | 30.061 | 36 | 20 | 28.0 | 45½ | 44½ | N.E. | |
| Sunday 4 | 9 | 29.900 | 29.495 | 54 | 30 | 42.0 | 45 | 44½ | S. | |
| Mon. 5 | 10 | 29.560 | 29.393 | 56 | 32 | 44.0 | 44 | 44½ | W. | |
| Tues. 6 | 11 | 29.669 | 29.555 | 41 | 29 | 35.0 | 45 | 44½ | S. | |
| Wed. 7 | 12 | 30.053 | 29.659 | 49 | 32 | 40.5 | 45 | 44½ | S.W. | |
| Thurs. 8 | 13 | 30.282 | 30.154 | 50 | 29 | 39.5 | 45 | 45 | E. | |
| Average | | 29.964 | 29.606 | 46.3 | 28.3 | 37.3 | 44.8 | 44.6 | | |

Dec. 2—Cloudy; clear; slight frost at night.
— 3—Cloudy; ground thinly covered with snow; sharp frost.
— 4—Overcast; rain, with cold north-east wind.
— 5—Rain; showery; fine; clear at night
— 6—Densely overcast; heavy rain 6–7 P.M.; overcast.
— 7—Fine; exceedingly fine; large halo round the moon.
— 8—Overcast; slight haze; clear; slight frost.
Mean temperature of the week, 3½deg. below the average.

### RECORD OF THE WEATHER AT CHISWICK,

During the last 33 years, for the ensuing Week, ending Dec. 17, 1859.

| December. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds. N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday 11.. | 45.4 | 32.5 | 39.0 | 8 | 0.62 in. | 1 | 3 | 4 | 5 | 12 | 3 | 1 | 3 |
| Mon. 12.. | 45.5 | 33.7 | 39.6 | 14 | 0.44 | 1 | 2 | 3 | 1 | 8 | 11 | 3 | 2 |
| Tues. 13.. | 46.5 | 33.0 | 39.8 | 11 | 0.16 | 1 | 3 | 4 | 1 | 9 | 11 | 2 | 1 |
| Wed. 14.. | 46.1 | 34.4 | 40.3 | 13 | 0.32 | 2 | 3 | 5 | 2 | 8 | 9 | 3 | 1 |
| Thurs. 15.. | 46.6 | 35.3 | 40.9 | 19 | 0.50 | 2 | 4 | 4 | 1 | 9 | 8 | 3 | 2 |
| Friday 16.. | 46.0 | 34.8 | 40.4 | 15 | 0.68 | 2 | 3 | 3 | 2 | 5 | 8 | 6 | 3 |
| Satur. 17.. | 46.3 | 34.6 | 40.4 | 16 | 0.37 | 4 | 3 | 1 | 3 | 5 | 9 | 4 | 2 |

The highest temperature during the above period occurred on the 13th, 1842—therm. 61 deg.; and the lowest on the 16th, 1853—therm. 7 deg.

## Notices to Correspondents.

BOOKS: *J. D.* Loudon's Encyclopædia of Plants; Solly's Rural Chemistry; Lindley's Theory and Practice of Horticulture, and Asa Gray's How Plants Grow, a capital American book which may be had through the booksellers.

NAMES OF PLANTS: We have been so often obliged to reluctantly decline naming heaps of dried or other plants, that we venture to request our correspondents to recollect that we never have or could have undertaken an unlimited duty of this kind. Young gardeners, to whom these remarks more especially apply, should bear in mind that, before applying to us for assistance, they should exhaust their other means of gaining information. We cannot save them the trouble of examining and thinking for themselves; nor would it be desirable if we could. All we can do is to *help* them—and that most willingly. It is now requested that, in future, not more than four plants may be sent us at one time.—*C S.* The flowers were so smashed in the Post Office that it is impossible to make out their form. Could you not send them again in a small lucifer box, or something to stand them from pressure.

PHOSPHORIC RAT POISON. This we are informed by Mr. Purser is now made and sold by Mr. Richards (his successor) at 40, New Bridge Street, not Fenchurch Street, as stated in our last week's Number.‡

POTATO: *A poor Man* will feel obliged by some of our Correspondents informing him where in London he can get a true stock of the variety of Potato called Lemon Kidney.

*** As usual, many communications have been received too late, and others are detained till the necessary inquiries can be made. We must also beg the indulgence of those correspondents the insertion of whose contributions is still delayed.

COLLEGE OF AGRICULTURE AND CHEMISTRY, AND OF PRACTICAL and GENERAL SCIENCE, 37 and 38, Lower Kennington Lane, Kennington, London, S.

Principal—J. C. NESBIT, F.G.S., F.C.S., &c.

The system of studies pursued in the College comprises every branch requisite to prepare youth for the pursuits of Agriculture, Engineering, Mining, Manufactures, and the Arts; for the Naval and Military Services, and for the Universities.

Analyses and Assays of every description are promptly and accurately executed at the College. The terms and other particulars may be had on application to the Principal.

ARTIFICIAL MANURES, &c.—Manufacturers and others engaged in making ARTIFICIAL MANURES may obtain every necessary instruction for their economical and efficient preparation, by applying to J. C. NESBIT, F.G.S., &c., Principal of the Agricultural and Chemical College, Kennington, London, S. Analyses of Soils, Guanos, Superphosphates of Lime, Coprolites, &c., and Assays of Gold, Silver, and other Minerals are executed with accuracy and despatch. Gentlemen desirous of receiving instruction in Chemical Analyses and Assaying, will find ample facility and accommodation at the College.

WEST OF ENGLAND AND SOUTH WALES LAND DRAINAGE AND INCLOSURE COMPANY.

Established in 1844.

INCORPORATED BY ACT OF PARLIAMENT IN 1848.

Draining, Inclosing, Irrigating, Warping, Road Making, and all kind of Land Improvements, executed on Entailed, Mortgaged, or other Properties, and the whole cost can be made a Permanent Charge on the Lands, or redeemable in a certain number of years. BIDWELL & BRODIE, Secretaries.

Offices: Exeter; and 30, Parliament Street, London, S.W.

THE LANDS IMPROVEMENT COMPANY.—Incorporated by Special Act of Parliament in 1853.—2, Old Palace Yard, Westminster, S.W. To Landowners, the Clergy, Estate Agents, Surveyors, &c., in England and Wales and in Scotland.

The Directors beg leave to announce that the Company's Amendment Bill, 1859, has received the sanction of the Legislature. The Company now advance money, unlimited in amount, for the following works of Agricultural Improvement, the whole outlay and expenses in all cases being liquidated by a rent charge for 25 years.

1. Drainage, Irrigation and Warping, Embanking, Inclosing, Clearing, Reclamation, Planting for any beneficial purpose, Engines or Machinery for Drainage or Irrigation.
2. Farm Roads, Tramways and Railroads for agricultural or farming purposes.
3. Jetties or Landing places on the sea coast or on the banks of navigable rivers or lakes.
4. The erection of Farm Houses, Labourers' Cottages, and other Buildings required for Farm purposes, and the improvement of and additions to Farm houses and other buildings for farm purposes.

Landowners assessed under the provisions of any Act of Parliament, Royal Charter, or Commission, in respect of any public or general works of drainage or other improvements, may borrow their proportionate share of the cost, and charge the same with the expenses on the lands improved.

No investigation of title is required, and the Company being of a strictly financial character do not interfere with the plans and execution of the Works, which are controlled only by the Government Enclosure Commissioners.

For further information, and for forms of application, apply to the Honourable WILLIAM NAPIER, Managing Director, 2, Old Palace Yard, Westminster, S.W.

LAND IMPROVEMENTS.

THE GENERAL LAND DRAINAGE AND IMPROVEMENT COMPANY are empowered by Act of Parliament to assist the Owners of Land in carrying into effect the following Improvements, and charging the whole outlay and expenses on the property improved.

I. All Works of Drainage, Irrigation, Warping, and Embankment

II. The erection of Farmhouses, Cottages for Agricultural Labourers, and all kinds of Farm Buildings.

III. The construction of Roads.

IV. The Grubbing and Clearing of Old Woodlands, Enclosing, Fencing, and Reclaiming Land.

The Landowners by whom any of these Improvements may be executed are—Tenants for Life, Trustees, Mortgagees in Possession, Guardians, Committees of Incompetent persons, Married Women, Beneficial Lessees for Lives or for a Term exceeding 14 years, Corporations, Ecclesiastical or Municipal, Incumbents, Sequestrators, Charitable Trustees, &c.

The Owners of Estates not entailed, who may be desirous to avoid the expense or inconvenience of a Legal Mortgage, may also avail themselves of the powers of the Company's Act to charge their estates with an outlay in improvements.

In all cases the whole cost of the improvements, with the attendant expenses, may be charged on the Estate, the term for Building Works being limited to 31 years, but for all other improvements being capable of extension to 50 years.

No investigation of title being required, and the charge not being affected by Incumbrances, no legal expenses are incurred.

Operations under the Company's Act are divided into two principal branches; one where the Landowner designs and executes the improvements by his own Agent and merely requires a loan from the Company to charge the Estate,—the other where the Company undertake the entire responsibility of the Improvement and obtain repayment by way of Rent Charge. In the first case the plans, specifications, and estimates prepared by the Landowner's Agent are forwarded to the Company to be submitted for approval to the Inclosure Commissioners. As soon as the sanction has been given the Landowner proceeds to execute the works, and the Company having conducted the business through all the official forms, complete the charge on the estate when the works have been passed by the Commissioners, and repay the Landowner the amount agreed upon.

In no part of the business is there any control upon a Landowner except by the Inclosure Commissioners. The Company never interfere, except at the special request of the Landowner or his Agent, and only to such extent as may further the objects he has in view.

In the other case, where the Company are required to execute the works, a report and estimate of the Improvement are sent to the Landowner, and having been approved, the plans are then prepared and the works—either submitted to public competition or entrusted to their own staff—are carried on to completion, and the amount of the actual expenditure only, approved by the Inclosure Commissioners with the Company's agreed commission and the Commissioners' expenses, finally charged on the Estate for the term fixed by the Landowner.

The Company also execute Drainage and all other Works of Land Improvement on Commission for the Owners of Estates not Entailed who may wish to charge the outlay on the property through the simple and inexpensive process of the Company's Act.

Applications to be addressed to WILLIAM CLIFFORD, the Secretary, at the Offices of the Company, 52, Parliament Street, London.

SHROPSHIRE BREED.—At a Meeting of Breeders of SHROPSHIRE SHEEP, held in the Lecture Theatre of the Midland Institute, Birmingham, on Monday, Nov. 28, 1859, EDWARD HOLLAND, Esq., M.P., in the chair, the following RESOLUTIONS and MEMORIAL were unanimously adopted:

Moved by the CHAIRMAN, and seconded by Mr. THOMAS HARTSHORNE—

"That, in the opinion of this meeting, the time has arrived when it is most desirable that some united efforts should be made for the purpose of inducing the Council of the Royal Agricultural Society of England to open separate Classes for Shropshire Sheep at the Annual Country Meetings of that Society."

Moved by the CHAIRMAN, and seconded by the Right Hon. Lord HATHERTON—

"That, in order to carry out the foregoing resolution, the subjoined Memorial to the Council of the Royal Agricultural Society of England be adopted by this meeting, and signed by the Chairman; and that the Chairman, the Earl of Dartmouth, the Earl of Aylesford, and William Orme Foster, Esq., M.P., be and are hereby respectfully requested to obtain an interview with the Council when the Prize Lists for the Canterbury Meeting are under consideration, to present such Memorial, and to support the prayer thereof:—

"TO THE COUNCIL OF THE ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

"*The Memorial of Breeders of Shropshire Sheep, assembled at Birmingham, this 28th day of November*, 1859—

"SHOWETH,—That, in the opinion of your Memorialists, the claims of the Shropshire Sheep to be considered a pure breed have now been fully established.

"That the Shropshire Sheep have been exhibited in considerable numbers at some of the Country Meetings of your Society, and especially at Gloucester, Chester, and Warwick; the entries for the latter place being not less than 125 pens, exceeding the number of entries of any other breed at the same meeting.

"That successive Stewards of Stock at the Meetings of your Society have declared their appreciation of the value of the Shropshire breed of Sheep; and that in one instance, namely, in the report on the stock exhibited at Gloucester, the Steward acting on the occasion expressed a hope that the Society would in future recognise them as a distinct breed.

"That the Shropshire Sheep have long been distinguished for their size, early maturity, and quality, characteristics which have led to their being preferred above any other breeds in the general markets of those districts in which they are already established; while the long-acknowledged superiority of their wool, vigour of constitution and hardihood, are additional properties of great importance.

"That during the last 10 years the Shropshire Sheep have been introduced into many parts of the United Kingdom, and purchases are now being constantly made by agriculturists in the principal sheep counties for the purpose of founding new flocks; and the fact that so many tenant farmers who are not usually exhibitors of stock have adopted this breed to the exclusion of other breeds or cross-bred sheep, is also, in the opinion of your Memorialists, another striking proof of their excellence.

"That on these grounds your Memorialists respectfully urge your Council to open separate classes for Shropshire Sheep at the future Country Meetings of your Society, believing, as they do, that such a concession would be received with satisfaction by a large portion of the Members of your Society, and that it would tend to promote the great object which your Council has in view in offering prizes for stock, the encouragement of pure breeds, without which the value of agricultural stock generally cannot be maintained.

"EDWARD HOLLAND, Chairman."

The Chairman having left the chair,

It was moved by R. C. CHAWNER, Esq., seconded by the Worshipful the MAYOR of BIRMINGHAM, and carried by acclamation—

"That the cordial thanks of this meeting be given to Edward Holland, Esq., M.P., for his courtesy in presiding on this occasion, and for the ability with which he has conducted the business for which it was assembled."

# The Agricultural Gazette.

*SATURDAY, DECEMBER* 10, 1859.

THE past week has been full of agricultural interest.—On Monday evening Mr. NESBITT addressed the Central Farmers' Club on the chemistry of food, pointing out the relative nutritiveness as a general rule of the different parts of plants—the straw and the succulent parts being ultimately exhausted in order to fill the seed: and alluding to the treatment of animals during feeding, in order to the more economical deposition of flesh and fat. The discussion which ensued did not follow Mr. NESBITT's guidance except in reference to the fitness of straw as cattle food, which most of the practical men in the room considered due simply to its giving bulk and substance to those additional portions of the daily ration on which the feeding of the animal depends. But that the power of straw really economises these other foods was insisted on by others: Mr. COLEMAN and Mr. C. HOWARD of Bedfordshire contending for its powers in this way when given along with Mangel Wurzel and pulped roots generally.

The discussion then turned upon the need of finding a substitute for Swedish Turnips, which were rapidly deteriorating in the hands of the farmer in spite of the best efforts both of agriculturists and of scientific men. The almost universal testimony was in favour of Mangel Wurzel as the substitute required. At the suggestion of Mr. G. DOBITO several gentlemen rose and gave their experience of the early use of the crop as food. It had been used early in autumn, all through the winter, and on till midsummer without injury. It had been given to a flock of ewes before lambing, during lambing, after lambing without the least injury. Its old character as physic rather than food until the spring-time of the year was generally disputed, and in fact we should imagine finally removed; notwithstanding that, as Mr. WALTON afterwards urged, the real merit of the plant lies in its power to furnish useful food until late in the year following its growth.

Another root, the Kohl Rabi, was spoken of as a good substitute for Swedes—capital food, of hardy growth, and especially valuable in its capability of easy transplantation, it is likely greatly to extend its growth.

Mr. W. BENNETT, of Cambridgeshire, has grown it five years on a considerable scale, and has this year 11 acres of it, after a late crop of Tares—"one of the most promising pieces of sheep keep that can be seen." Certainly the magnificent specimens of the root in the show at Baker Street justify any praise that may be due on the score of quantity of crop that is possible from the cultivation of this plant.

—— In the evening the Baker Street Bazaar was opened to the members of the Smithfield Club, to witness the magnificent display of fattened cattle, sheep, and pigs, and the imposing array of agricultural machinery which are annually exhibited at this season there. A report will be found in another column.

—— On the following day a display of roots competing for very liberal prizes was exhibited at the Crystal Palace. It was a comparatively meagre collection, especially distinguished however by Colonel NORTH's splendid specimens of Kohl Rabi, and by first rate specimens of Mangel Wurzel. We should be glad to see at all future shows of roots, whether at Sydenham or Birmingham, or on the stands of our seedsmen elsewhere, one at least of each of the specimens exhibited split open to enable one to judge by something other than mere form and size. The weight too of the different lots ought to be specified on the card identifying each.

—— On Wednesday morning, at the monthly council of the Royal Agricultural Society, Mr. HALL DARE was elected their future secretary, the competition lying principally between him and Mr. HALIFAX WYATT. Mr. DARE was, we understand, a Crimean officer, and has had ample experience as an accountant in the offices of adjutant and paymaster; and that he is otherwise amply qualified for the office to which he has been now elected there was abundant evidence to prove.

—— On Wednesday evening a paper on the Forces used in Agriculture was read before a considerable audience at the rooms of the Society of Arts. It will be found elsewhere. The discussion which ensued upon it must be given next week. We will only refer at present to the remark of Professor JOHN WILSON that the powers in question are not the engine, horse, and man, but the food which each consumes; and their relative efficiency and economy therefore depends on their being fed properly and well.

That the high-waged well-fed labourer is really a cheaper source of power than the poor and half-starved man is no doubt true, and the only pity is that labourers are so tied to parishes that wages do not naturally become more uniform in the country. The fact is that farmers have no choice of this particular "machine." They *cannot*, if they would, employ only a few and "feed" them well. Those in any parish have to maintain all in that parish, either in the field or in the workhouse, and in some populous parts if they were to be "fed in order to their efficiency," as Prof. J. WILSON recommends, they would eat up the whole produce of the land. It is plain that labouring men cannot be considered and cannot be treated by their employers as machines to be "fed," in order to obtain as large a "duty" from them as possible. It is upon their acquiring independence and manliness enough to seek for themselves the best circumstances of the country that the prospects of employers in dense as well as scanty populations depend. Wages are the natural result of the relation of the labouring population to the labour offered them, and being bound to maintain that population, whether we employ them or not, it is probable that the rate of payment which naturally arises out of the circumstances is the best possible for all parties under those circumstances.

—— On Thursday a meeting was held in St. James's Hall in advocacy of the Benevolent Agricultural College, which has been so grievously protracted, and which at length bids fair to be successfully realised. We must postpone until next week a more detailed reference to its present prospects, and to the intentions of its founders.

—— Our readers will see in another column an advertisement of the resolutions adopted by breeders of the Shropshire Down Sheep, at the Birmingham meeting last week. The abundant and first-rate illustration of their breed which has been offered by them at every agricultural

meeting where prizes have been offered for the Shropshire sheep certainly constitute a very strong claim upon the Royal Agricultural Society for the recognition of the breed in a separate class at future shows. No fewer than 125 pens were exhibited at Warwick, and previously at Gloucester and at Chester they had presented a most creditable appearance. It will be seen elsewhere that in consequence of the memorial presented for them, they now constitute a permanent section for the future of our annual exhibitions.

## ON THE FORCES USED IN AGRICULTUURE.

The following paper was read by Mr. John C. Morton at the meeting of the Society of Arts last Wednesday, December 7.]

THE three forces to which I shall refer are steam power, horse power, and manual labour. Each of them has employment in our present English agriculture, and one object of this paper is to point out the extensive fields open, especially to the first and last of them, in the agriculture of the future. For there are three classes under which all the operations of the farm may be arranged, and they correspond exactly to these three forces which we have at our command.

In the first, where the greatest uniformity of process obtains, the greatest power is needed, and a purely mechanical force acting through levers, wheels, and pullies, is in this way sufficiently under our control for their performance, and this class of operations increases in extent and in importance with almost every permanent improvement of the land, *i.e.*, with everything which tends to the uniformity of its condition. In the second class as much force is needed; but rocky subsoil, awkward hedgerows, crooked roads, and scattered produce interfere with any possibility of uniform procedure. Some machinery, more pliable than cranks and rods, is needed by which to carry out the purpose of the mind, and here therefore it must work by means of the *teachable* and powerful horse. This class of operation diminishes in extent and importance with every permanent improvement of the soil, *i.e.*, with every removal of those obstacles to which I have referred. In the third class the care and cultivation of individual life, vegetable and animal, are concerned: no great power is needed, but there is need for the constant and immediate exercise of the will, varying, it may be, at every successive movement, and here, therefore, the human mind can work only by its most perfect instrument—the human hand. It is plain that everything by which on the one hand land is brought to a uniform condition, and by which, on the other, the quantity of its living produce is increased, will extend the first and last of these three fields of agricultural operations, and will diminish the necessity of employing horses.

And this is no mere speculation: it is the principal lesson of the agricultural experience of the past few years. If we knew for several successive years exactly the employment of our agricultural labourers (its nature, its quantity, and its reward), on each of the farms which make up the surface of Great Britain; and if we also knew the quantity and the manner during all these years of the horse labour of all these farms, its cost per acre and its effect; and if in addition to all this information we had the full experience, now very considerable, of the use of steam power upon the farm, not only for threshing and grinding and cutting, but for cultivating the soil, we should certainly learn from it how rapid has been the extension of those circumstances under which steam cultivation becomes possible, and how perfectly along with it the demand for agricultural labour has been maintained. Such a review of agricultural experience would, however, teach us more than this, for by a comparison of the experience of different farms we should learn the most economical mode of obtaining these powers and the best way of applying each within the field thus open to it. We should learn how to ensure the most economical and efficient condition of our steam engine and its machinery; we should learn how to obtain the most economical and efficient horse labour, and by so large an experience those circumstances would be pointed out under which the best farm servants are to be procured and retained.

The forces used in agriculture, thus considered, form therefore a very extensive subject, and it is only two or three illustrative remarks under each of these several aspects of it that can be made within the hour.

### COST OF STEAM POWER.

In the first place, then, let me attempt a more particular comparison of steam power, horse power, and hand power for the cheap performance of mere labour. In describing steam-engines the term "horse power" is used as a unit of force. The power exerted by a horse is assumed, on the authority of experiment, equal to the pull or lift of 33,000 lbs. 1 foot per minute; and to this agricultural experience agrees, for if a pair of horses draw a plough along with an average pull of 300 lbs. at an average rate of 2½ miles per hour, *i.e.* of 220 feet per minute, it is the same as if those 300 lbs. were pulled over a pulley, *i. e.* lifted that height in that time, and 300 lbs. lifted 220 feet per minute is just the same as 66,000 lbs. lifted 1 foot high per minute, which as the performance of a pair of horses is exactly the 33,000 lbs. apiece at which their force is valued by the engineer. Now, it is not on a comparison merely of the *cost* of horse power in the animal and in the engine that so great a superiority of the latter will appear as really belongs to it. In addition to this, the performances of which they are severally capable must be taken into account. An ordinary 10-horse power locomotive agricultural engine will, according to the Chester judges of the work done by Fowler's steam plough there, cost in coals and oil and water and attendance, and tear and wear of implement and engine, and excluding interest on capital employed, nearly 45*s.* a day, or about 4*s.* 6*d.* an hour, which is 5½*d.* per hour for each nominal horse power exerted; but as the real force exerted by nominally 10-horse power engines is more often twice that amount, we have to divide this by two and call the cost of each steam produced horse power about 3*d.* per hour. Now, the cost of horse labour on 21 farms in different parts of this country, of which the particulars have been kindly given to me, did not exceed 5*d.* per horse for each of the working hours of the year. Those farms employ 282 horses, and they cost for food, for depreciation of value, and for saddlers' and blacksmiths' bills, 7815*l.* a year; their implements need 870*l.* a year to keep them good; and the ploughmen and boys employed about them cost 4241*l.* a year in wages—about 13,000*l.* in all, or 46*l.* per horse per annum; and supposing that there are 2500 working hours in the year, this is rather less than 5*d.* per horse per hour. Besides this the estimated expense of Fowler's engine was, I believe, excessive, and the nominal power of it was certainly below the actual force at which it could be worked with the estimated quantity of coal consumed; for of 30 engines tried at Chester only one consumed the 11 lbs. of coal per hour for every horse power produced, which is the consumption named for Fowler's engine, and the majority did not consume more than 6 to 8 lbs. per horse power during that time.

### EFFICIENCY OF HORSE POWER.

Now, compare the two as to their respective applicability to their work:—A horse at plough with an average length of 120 yards of furrow loses one-third of his time on the headland in the mere act of turning the plough. At the dung-cart not one-third of his time is employed in the actual conveyance of the load, two-thirds are lost standing at the heap and in the field and returning with the empty cart. Or rather let me say this loss of time is a necessary part of his employment, however he may be engaged. He can pull 33,000 lbs. 1 foot high in a minute, but he cannot keep that performance up for 10 hours at a time.

On six farms the details of which I have so ascertained as that all the ploughing, scarifying, harrowing, rolling, horse-hoeing, carting—all the horse-labour in fact on each—is converted into lbs. lifted so many feet per minute throughout the working year, I find that the actual performance per horse throughout the year is not 33,000 lbs. lifted 1 foot high per minute, but more nearly one-half that quantity, varying from 14,000 lbs. in the lowest case, to 19,000 lbs. in the highest.

No doubt even in the case of steam-power there must be periods of waste labour—ploughs must be turned upon the headland even if it be done by steam—but these occasional periods of comparatively fruitless work are no necessary condition of steam-power; *it* is better if maintained continuously, and machinery will be invented to reduce this waste time to a minimum with a positive advantage to the efficiency of the engine. Whereas in horse-labour the waste time is necessary for the maintenance of the power itself. And it is plain that along with the 5*d.* per hour for every horse, which on the average it may cost, there has to be taken into account a performance on the average of the year of only 19,000 lbs. lifted by it 1 foot high per minute as its best result—whereas in the case of the steam-engine *its* 3*d.* per horse per hour has to be taken along with nearly twice as large a performance as *its* best result.

And the relative cost of the two forces is affected not only by the question of time during which each can be continuously maintained, but also by the quality of the performance of which each is capable. In threshing uniformity of speed is a condition of good work; it is more easily maintained by steam-power than by horses. In ploughing the avoidance of trampling and of pressure generally is almost always a condition of good work; it is more easily observed by steam-drawn machinery for the purpose. But to this I shall recur.

### COST OF HAND POWER.

Let us now estimate the cost of manual labour engaged in what I call mere work, *i. e.*, where the least degree of skill is called for. I have four facts in illustration of this point:—

1st. A man will dig 8 perches of land, or say 2000 square feet nearly a foot deep, in a day. In doing so he lifts probably three-quarters of it through at least a foot in height, that is to say, he lifts 1500 cubic feet, weighing at least 150,000 lbs. 1 foot high in 10 hours' time, and to do it therefore he must maintain upon the average a lift of 250 lbs. per minute all that time. Of course in addition to the mere lift there is the labour of cutting off this earth from the firm ground to which it was attached. In my second case, then, this portion of his labour is very much reduced; three men will lift, I have often paid them for doing it, 100 cubic yards of farm-yard dung, and fill it into carts in 10 hours' time. The 33 cubic yards which fall to each man's share, at about 14 cwt. apiece, weigh 50,000 lbs., and this is lifted over the edge of the cart, or 4 feet high—equal to 200,000 lbs. lifted daily 1 foot high or 330 lbs. per minute. This is one-fourth more than in the last case. Now take one where there is no labour in detaching the weight from any previous connection. A man will pitch in an hour's time, I have often seen him do it, an acre of a good crop, tied in sheaves, to an average height of full 6 feet, on the cart or waggon. Straw and corn together such a crop will weigh more than 2 tons, or 5000 lbs. In doing this he therefore lifts 300,000 lbs. 1 foot high in 10 hours' time, or 500 lbs. per minute. My fourth case is of much the same kind. One man and five boys, or women, equal as regards wages, and I will therefore assume equal as regards power, three men, will throw into carts upon an average of Swedes and Mangel Wurzels 3 acres of a good crop, say 70 tons in all, in a day of 9 hours' length. To lift these 150,000 lbs. 4 feet, being equal to 600,000 lbs. 1 foot; or 200,000 lbs. apiece in nine hours' time, which is about 370 lbs. a minute.

These four cases indicate the mere force of a man there at a cost of say 3*d.* an hour, as equal to a lift of 250, 330, 500, and 370 lbs. per minute; the two former being cases when the load has to be detached as well as lifted, and the third being performed under the influence of good harvest fare.

But now compare this even in its best case with the duty of the steam-engine or 33,000 lbs. 1 foot high per minute for 3*d.* an hour, and compare it with the actual average performance of the horse, 16,000 lbs. lifted 1 foot per minute for 5*d.* an hour. In order at the best rate named to do the work of the steam-engine, 66 men would be required at a cost not of 5*d.* but of more than 15*s.* per hour, and in order to do the work of the horse 32 men would be needed at a cost of 8*s.* instead of 5*d.* an hour. It is plain that we can take much of the mere labour of the farm out of the hands of the labourer, and put it into the hands of steam power for its performance, there is an enormous amount of saving to be made in the cost of agricultural production. It is plain that it is mere folly in the labourer to think that as regards the *mere* labour of the land he can compete with either steam power or with horse power. Strength of body is desirable, and sinew hardened by long practice in hard labour has a considerable marketable value, for that, however hardly it may sound, is the aspect of the matter in which the interests of the labourer most directly appear—but it is plain that for sheer lift and the more putting forth of force-horse-power, and still more that of untiring steam, must grind the soul out of any body that shall pretend to competition with them. It is in the cultivation not so much of mere strength of body as of skill and intelligence that the safety of the labourer lies, and in his capability of education he is perfectly secure.

### QUALITY OF STEAM EXECUTED WORK.

As the matter at present stands then and confining ourselves to that large and increasing class of operations in which the power required is great and the process almost uniform, and looking only to the cost per unit of work done we have seen that steam-power stands decidedly first in the race, horse-power is a tolerably good second, and the agricultural labourer is literally nowhere. There are, however, two considerations which greatly affect the position of horse-power in this competition, and place it much further back than it would at present seem to be. They both affect its fitness for those acts of cultivation where it is plain that there is the greatest room for an extended use of steam-power. I refer 1st to the injury done to the land by the trampling of draught animals; and 2dly, to that irregularity of employment on the farm for horses during the year, which in effect makes you keep upon a large farm several horses all round the year for the sake of their work during a few weeks of spring and autumn. If a steam-engine, which costs nothing when it is idle, can be used to take the extra work and so reduce the horse labour of the farm to an uniform monthly amount, then its cost has to be compared, not with that of the horses which it has displaced during the few weeks in question, but with the cost of those horses throughout the year. It is the fitness of the engine for the cultivation of our stubbles in autumn, and so its power to displace so many teams throughout the year which would otherwise be kept just for the few weeks of most laborious time, that greatly heightens the economy of its employment.

And as to the superiority of its work of cultivation, I will quote the statement of a ploughman on the oldest land of the oldest steam-cultivated farm in England—Mr. William Smith's farm, of Little Woolston, Bucks—Buckinghamshire—that in turning back the Wheat stubble in the autumn, with the horse-drawn plough he used often to uncover the footprints of the horses' shoes which had trod there at that depth when turning in the Bean stubble for the seed 12 months before. Of course it is no part of good agriculture that all the produce of the land is to be made out of a particular layer called the soil, which has to be cultivated, turned to and fro, and stirred and mixed, upon an impervious floor hardened by a perpetual trampling, below which lies the subsoil. All recent improvements of the soil have proceeded upon the idea that there is no essential or necessary distinction between it and the subsoil—that *thorough* drainage and deep cultivation both increase fertility, and that the existence of anything like a pan within 30 inches of the surface is injurious. The ability of steam-power for the deepest cultivation, and its applicability at the same time to the thorough cultivation of any depth to which it may be desired to stir or turn the soil without any pressure on it except by the wheels or

the implement employed, must ultimately obtain for it the preference over horses for all mere ploughing and stirring, especially of clay land. And a very large share of the horse labour of ordinary agriculture will thus be handed over to the steam-engine.

### HORSE LABOUR OF THE FARM.

Let us consider how much. I will refer to three instances: On a farm of 675 acres occupied by Mr. Melvin, at Bonington, near Ratho, in Mid Lothian, the whole horse labour of cultivation and carriage being converted, as I have already said, into weight, amounts to upwards of 100,000 cwt. pulled, *i. e.*, lifted 1 mile per annum. Of this the ploughing and scarifying alone amount to 27,000 cwt., or more than one-quarter; the harrowing, rolling, and drill cultivation amount to upwards of 20,000 cwt., and the carriage of dung and crops and produce, amounts to 60,000 cwt. lifted 1 mile. The carriage is here an enormous proportion—more than one-half of the whole horse labour of the farm, and much beyond its average amount in ordinary experience; but still even here one-quarter of the horse labour goes in mere ploughing, which can all be done by steam-power, and *so* done as that an 8 horse-power engine shall displace more than eight horses and do their work much more effectually.

Again, on a farm of fen land of 790 acres, occupied by Mr. Aitken, near Spalding, Lincolnshire, where the horse labour of the farm is nearly the same as in the last instance, or equal to 100,000 cwt. lifted one mile per annum, the carriage does not exceed much more than quarter of the whole, while the ploughing is nearly 40,000 cwt., 4-10ths of the whole labour, and the harrowing and rolling about 35,000 cwt. per annum.

On Lord Ducie's farm at Whitfield, Gloucestershire, 260 acres, the horse labour amounted to 37,000 cwt. lifted 1 mile per annum, and of this, 12,000, one-third, was carriage; nearly 15,000, or 4-10ths, was ploughing and cultivating; and the remainder harrowing, rolling, and drill culture. This seems to be a pretty ordinary division of the labour, and if it applies generally to arable land it would appear that though farm carriage and all the lighter work of harrowing and drilling and rolling continue to be done by horses, there are still 4-10ths of the horse labour of the farm which may be done by steam. I know that a great deal ought to be said of the great advantage of this substitution owing to the more thorough performance of the cultivation which steam-power will accomplish. Ample evidence exists on steam-cultivated farms in this country on this point, but I will leave it to be adduced by others who may follow me, and I will continue to speak merely of the saving of expense which is thus effected. It appears then that on arable land two-fifths of the horse labour of the farm can be handed over to a power which is capable of nearly twice as much duty for the same expense. One other remark on this point, and I have done. On examining the horse labour of a farm of 240 acres of arable land under alternate husbandry, it will be found that it does not much exceed 500 days of a pair of horses in the year, and that the need for it is distributed among the month extremely unevenly. Not more than 35 days of a team per month are wanted in December, January, and February; about 45 days a month are wanted in March and April, May, and June; about 15 days are wanted in July; about 60 in August and 90 in September, and 55 in October, November, and December. August and September stand highest, and as there are not generally more than 24 working days in each of these two months, there must be a provision of at least three and a half pair of horses all the year, in order that the work of August and September may be done. Now, the two-fifths of the horse labour, which is proper for steam-power, is not going merely to displace two-fifths of these seven horses through the year; for the ploughing and cultivating being done by steam, will take (not two-fifths) but more than half of the labour of the incumbered months of March and April, May and August, and September and October, and so reduce the amount to something like 35 days' work during each month of the year, which two pairs of horses will more than easily accomplish.

I believe then that by steam-power at least three out of every seven horses on arable land may be dispensed with all the year, at a cost not exceeding the cost of these horses during the three or four months when alone they are really needed on the land.

The first class of operations then upon the farm, which includes the ploughing and turning of the soil, will be taken by steam-power out of the field of horse labour, just as threshing, and cutting, and grinding have been taken by it out of the field of hand-labour. To the second division of farm work I shall refer but very shortly, It includes such cases of ploughing and cultivation as are taken by very rocky subsoil and very crooked hedgerows out of the scope of the steam-driven plough; it also includes the lighter class of horse-work, such as harrowing and horse-hoeing, which however might very well be done by steam; and it more especially includes the work of carriage, which, considering the scattered position of the produce to be collected, and the crooked roads along which it must be drawn, I see no probability (as long as these remain) of getting done except by horse-power and manual labour in the usual way. Mr. Halkett does indeed propose to remove these obstacles, and is therefore able to accomplish all by steam. The third class of operations includes the lighter work, requiring skill and thought as well as labour. The planting of a seed equidistantly within the land may be done by machinery, but the culture of the young plant, much of the hoeing of the land immediately around it, and its treatment during growth according to its condition must be left to the hand. When ripe it may be harvested by horse-drawn implements: our corn crops are reaped, our Potatoes may be dug, and roots are cut from the ground by horse-drawn machines—they must however be gathered into bundles or to heaps, and ultimately removed by the help of manual labour.

When stored they are threshed, and ground, and cut, and steamed by steam-driven engines, but they must be administered as food by manual labour. Leaving the vegetable which even when living may be treated to some extent by machinery, and when no longer growing becomes at once the subject of steam-driven processes, we come to the treatment of the animal which it feeds, and here we leave altogether the region of machinery actuated by steam, and are confined to the hand, directed by intelligence.

### DEMAND FOR LABOURERS.

Is it not a remarkable thing however that agriculture, which was once wholly the work of men's hands but which has long since given up the tillage of the soil, and the carriage of the manure, and the sowing of the seed, and three-fourths of the hoeing of the crops to be accomplished by the horse—which has latterly given up the threshing of the grain and the cutting of its straw to be effected by steam-power, which is rapidly abandoning the work of reaping to the former and of cultivation to the latter, should nevertheless require more labourers than ever?—that steam being first, and horse-power second, and the agricultural labourer nowhere in the race, considering the three merely as economical producers of power, the last should nevertheless be wanted more than ever?

The explanation lies in this: that agriculture is more and more becoming the work of intelligence and skill as well as power—those parts of its processes, where intelligence and skill are wanted, are becoming a larger portion of the whole. Cultivation is more perfectly performed, and over a greater extent of land—the crops cultivated are more laborious and more productive—the stock consuming them is proportionally larger and needs proportional attendance. Probably each acre cultivated in 1759 employed more manual labour in its cultivation then than each acre cultivated now; but how many more acres are there under cultivation now than then? Each bushel of Wheat grown half a century ago involved so much more labour then that 8*s.* was the lowest price at which it could be grown with profit; but how many more bushels per acre does land upon an average yield at present? Each lb. of beef and mutton cost more in wages 30 years ago than now; but we have a double and triple store of food for stock, we have two crops of fattened sheep and cattle where formerly we had one, and each supplies a double quantity of meat.

### LABOUR ON STEAM FARMS.

But whatever the explanation be, the fact is certain that the use of steam-power on a farm is part of that system which employs most labourers in agriculture. Mr. Wm. Smith, of Woolston, who has an 8-horse engine for 110 acres of arable land and 70 acres of pasture, and works this engine only 14 days a year in cultivation, and not more in threshing, employs regularly throughout the year seven men and four boys, equal to nine men upon the whole, or one to every 12 acres of arable land and 8 of Grass—"more than any farmer in the neighbourhood employs." His steam cultivation, he tells me, costs him on the average 10*s.* 10*d.* annually per acre on his clays and 8*s.* 3*d.* annually per acre on his lighter soil. It has displaced exactly the 2-5ths of the former horse-power which I had anticipated that it would; and he says that 70 per cent. of the cost of engine work is manual labour and only 30 per cent. engine food, while of the horse work displaced only 20 per cent. is manual labour and 80 per cent. is horse food.—Mr. Pocock, who farms 300 arable acres and 300 acres of Grass land near Farringdon, employs regularly 22 men, 8 women, and 10 boys, equal to 30 men in all, or 1 for every 10 acres of arable land and 10 acres of Grass. He, too, uses steam-power for threshing, grinding, and cutting, and employs one of Fowler's steam ploughs.—Another gentleman occupying 410 arable and 190 pasture acres, on the fat land below the chalk hills of Wiltshire, and who does all his cultivation by steam, says:—

"Steam cultivation will lessen horse labour I think one-half, and in some cases two-thirds. A neighbour of mine who has a steam-plough, told me that he usually kept 18 or 20 horses; he now hoped to do with six. Another who occupies about 2000 acres of arable and pasture hopes to do with 13 horses. My own impression is that there will be more manual labour required where steam culture is adopted, and that a more energetic class of men will obtain higher wages."

Mr. Randal, of Chadbury, near Evesham, who cultivates 500 acres arable and 200 acres of pasture, employs with slight variation 30 men, 7 women, and 12 boys throughout the year, with 70 additional men for three weeks in harvest time; in all, equal to about 42 men regularly throughout the year, or 1 to every 12 acres of arable land, and 5 of pasture. He too uses a steam cultivator, and says steam cultivation makes no difference in the manual labour needed on the land. All these more or less are instances of the cultivation of clay land, on which, if by force of *character*, labour giving crops are cultivated, of course the labour of cultivation must be greater than on lighter soils. It is these lighter soils however, generally, which are devoted more especially to the growth of what are called fallow crops, and taking the ordinary rotation on each class of soils into account, we may therefore fairly compare the experience of the steam-cultivated farms, as to the labour they require, with the labour bills of other farms, though not quite so heavy. This "1 man to every 10 or 12 acres of arable land, and 8 to 10 acres of Grass," deducting 10*s.* an acre for the latter, is equal to a labour bill of 50*s.* per acre per annum on the plough land. And it is unnecessary to say that this is a very unusual amount.

### LABOUR ON ORDINARY FARMS.

On a number of farms in Gloucestershire whose management I examined many years ago, where the pasture formed from 1-tenth to 5-tenths of the whole, the labour bill reached 50*s.* per acre very rarely indeed. It was more generally between 30*s.* and 40*s.*

—On a fen farm near Spalding, of which a most elaborate account of the labour used upon it has been kindly given me by the tenant Mr. Aitken, I find that on 790 acres almost wholly arable, the actual wages paid had during the past three years averaged 1260*l.*, or about 32*s.* an acre. On another similar farm, near Chatteris, on 900 acres arable and 120 pastures, the last year's wages were 1556*l.*, which is about 35*s.* per acre on the arable.

—On one of the crack farms of East Lothian, of 630 acres wholly arable, 22 men are kept regularly and 35 lads and women, besides 25 to 30 people for three or four weeks in harvest, and the wages, therefore, must be about 1200*l.*, not 2*l.* an acre, though Potatoes, one of the most laborious of crops, are very largely cultivated.

—The wages on the College farm, near Cirencester, of 400 acres arable and 40 pasture, are 700*l.* a year, or 30*s.* an acre on the plough land. Mr. Stratton's farm, Manningford, Bruce, near Pewsey, Wilts, 590 acres arable 65 acres pasture, and 160 down, costs about 1200*l.* a year in wages, or 2*l.* per acre on the arable land. Mr. Dods of Anick Grange, near Hexham, occupying 310 acres arable and 100 pasture, employs 7 men and 9 women annually, and extra for a month 7 men and 7 women. His wages cannot amount to more than 500*l.*, or not much more than 32*s.* an acre on the arable.

—And as a last instance I will take the farms of Mr. Edmonds of Eastleach, near Lechlade, Wilts, 2000 acres arable and 430 acres pasture, employing on an average, and taking harvest into account, about 120 men and 20 to 40 women. His labour bill must, I should suppose, from his rates of wages, which he has kindly given me, amount to at least 3200*l.* a year, which is 32*s.* an acre. It must be admitted that on a comparison of these figures the labour paid for upon steam-cultivated farms is even more than on farms where steam power is used only to drive the threshing mill.

### GENERAL STATISTICS.

Agriculture is in fact experiencing the truth taught in the history of all other manufactures—that machinery is in the long run the best friend of the labourer. This truth is taught even more impressively by a review of agriculture generally than it is by the case of any individual farm. Here are we producers and consumers, 21,000,000 of people, living in this island, on a great farm which we may by the help of such statistics as we possess describe as nearly 19,000,000 arable acres and probably nearly as much Grass, employing as farm labourers indoors and out about 950,000 men and 120,000 women, besides 300,000 lads and 70,000 girls, or averaging them by their probable wages, as has been done before, let us say equal in all to 1,150,000 men, or one to every 17 acres of arable and nearly as much pasture. We feed and use some 1,500,000 horses, of which probably 800,000 are strictly for farm purposes. We are annually inventing and manufacturing labour-saving machines at an extraordinary rate, and every year at least 10,000 horses are added to the agricultural steam-power of the country, which must certainly displace both animals and men to some extent. We have taken the flail out of the hand of the labourer, and the reaping-hook is going; on many a farm he no longer walks between the handles of the plough—he no longer sows the seed—he does but a portion of the hoeing and the harvesting—and yet so far from being able to dispense with his assistance he is more in demand than ever he has been.

I have had returns sent to me by all the leading manufacturers of steam-engines for agricultural purposes. Within the past four years upwards of 40,000 horse-power has been added to the forces used in agriculture in steam alone. If I may single out Messrs. Clayton & Shuttleworth of Lincoln, Garrett of Saxmundham, Hornsby of Grantham, Ransome of Ipswich, and Tuxford of Boston, they alone are furnishing 10,000 horse-power annually to the farmer. Messrs. Tuxford, among the first to start the locomotive agricultural steam-engine, inform me that for the earliest suggestion of it they are indebted to Mr. John Morton, of Gloucestershire, then agent to the late Earl of Ducie, who 20 years ago recommended them to put these little engines upon wheels, thus foreseeing the fitness of these powers made locomotive to the circumstances of English agriculture. Messrs. Ransome, of Ipswich, were I believe the earliest to receive the commendations and the prizes of the Agricultural Society of England for their engines, and

now the leading manufacturers of them, Messrs. Clayton, of Lincoln, send out 10 of them each week, or 4000 horse-power per annum.

Of Reapers again since 1851 Burgess & Key have sold upwards of 1900 of their improved M'Cormack's reaper, of which 771 were sold last year; and they now hold four times as many orders as they did 12 months ago. Crosskills have sold 500 of Bell's reaper, and 800 of Hussey's; Messrs. Garrett have sold 600 of Hussey's; Dray has sold more than 800 of their improved form of Hussey; 250 of Wood's clever little reaper have been sold last year, and the Cuthberts, of Bedale, who have just begun the manufacture of their equally clever machine, sold 100 before last harvest and could have sold four times as many. In all, probably 4000 reaping machines were at work last harvest, capable of cutting more in a day than 40,000 labouring men, and yet there never was such a harvest as the last for the difficulty of procuring harvest men. Notwithstanding all this addition to the forces and the machinery of agriculture, more labourers are required, and as more labourers are not forthcoming wages rise.

It is, indeed, possible that some of this general rise in wages of the past two or three years is owing to the labourers in agriculture being, if anything, rather a diminishing than an increasing body; to that I shall refer directly, it is sufficient for the present to declare what ample experience confirms, that the need of their assistance is increasing.

Of the truth of this the following is perhaps an extravagant illustration. It is from a gentleman well known in the agricultural world, who has known East Kent for 50 or 60 years. He says:—

"I should be pleased to give you any information in my power, but I cannot answer one of your 12 questions. We have no custom in East Kent as to farming, and no fixed prices for any labour. For instance the price of cutting Wheat last harvest was from 12*s.* to 35*s.* per acre. If our labourers can only work half their time the ensuing winter, the prudent ones have saved sufficient to keep them during the winter. Almost all our labour cost us double, and in many instances triple to what it did 10 years ago. Neither servants or labourers seem to care about anything but themselves, and not one farmer in 100 in East Kent can get his work done at a seasonable and proper time. The labour market ultimately will beat us all. I have seen around here one, two, three, and four sacks of corn an acre lost in the stubbles for want of hands. There are hundreds of acres of land around here, which lie as they did after harvest, such as I have not known but once for the last 60 years; and that was in 1816 or 1817. I care naught about a man's capital, it will all go. The farms are all taken as they fall by bankers, brewers, butchers, chemists, jobbers, grocers, publicans, doctors, drapers, builders, &c. If I occupied a poor land farm, and was *obliged* to hold it I would have a sheep-walk, and my son and I would manage it ourselves."

Whatever discount may properly be deducted from this gloomy picture, and, however plain it is that its remedy is to be found in steam-power and reaping machines and such like, it may in the meantime be quoted as one of many illustrations of the fact that the increase of steam-engines and machines need create no fear for the agricultural labourer.

If however I might digress for one minute I would say it is no part of my business to fear or to lament the progress of events, however they may happen to develop. Even if the result should be that agricultural labourers are to form a diminishing class — that at most only one of the labourer's family is trained to take his father's place, it certainly may be doubted whether his lot in future life, or that of his brother who has gone as a carpenter, mechanic, a soldier, or a sailor, is to be preferred. The man will do his best to bring up his family for their good and as he best knows how—and if wages fall, most of them will naturally endeavour to obtain a maintenance in some better way. I confess my belief to be that there are natural safeguards enough in human nature to make the *natural* result within a Christian country, and in a matter so exclusively one of mere maintenance—so entirely one of mere profit and loss, a perfectly safe one, and even a desirable one. Only let all artificial interference between the buyer and the seller be done away with; let knowledge of the state of the market whether for labour or for its produce all over the country be general; let the price of agricultural labour be the natural result of simple competition among employers; let intelligent self-interest—and self-interest in the long run always *is* intelligent—let intelligent self-interest lead to the use of machinery and steam—in fact lead *where it will*,—and we shall be none the farther from the greatest happiness of the greatest number.

As, however, I have shown, if fears and lamentations have any place at all, it is in behalf of the masters rather than of their men.

### WAGES OF LABOUR.

One illustration more of the present value of agricultural labour in this country, and on this part of my subject I have done. In the autumn of 1849, just 10 years ago, I applied through the correspondents of a weekly agricultural paper for information on this subject, and from most of the English counties and many of the Scottish ones I obtained answers to printed questions as to what is the present wage of able-bodied men, what is their weekly wage at harvest time, what is the ordinary daily wage of women in the field—what is the cost of mowing Clover, of mowing meadow Grass, of mowing Barley, of harvesting a good ordinary crop of Wheat—what is the ordinary rent of cottages, and so on. Within the past month I have done the same thing again, and have been told the rate of wages by 93 gentlemen residing in 12 Scottish and 35 English counties. There is thus the opportunity of making a very fair comparison of wages at a sufficient interval of time.

Let me run rapidly through a few instances, taking the weekly wage of an ordinary able-bodied man as the criterion, and of course endeavouring to do it without boring you by quotations from so many separate reports.

In Aberdeenshire Mr. M'Donald of Huntly reported the wages of ploughmen in 1849 to be 16*l.* a year with board and lodging; they are now 22*l.* with board and lodging. Mr. Grigor of Forres reported 10 years ago the ordinary weekly wages of an able-bodied man to be 9*s.* to 10*s.*; now he puts it at 11*s.* Mr. Bell, of Ferryden Farm, Forfarshire, reported it at 10*s.*; he puts it now at 12*s.* in winter and 15*s.* in summer. Similarly Fifeshire wages were 9*s.* and 10*s.*; they are now 11*s.* and 11*s.* 6*d.* In East Lothian the wages were worth 10*s.* a week or 10*s.* with coals hauled free; and now they are valued at 12*s.* to 15*s.*, &c. In Mid Lothian Mr. Melvin reported the annual wages of the married ploughmen at 910 lbs. of oatmeal, 12 cwt. of Potatoes, 2 meals daily during harvest time, the hauling of 4 tons of coal, and 17*l.* in money; he now reports them at 1050 lbs. of oatmeal, 8 cwt. of Potatoes, 4 weeks of harvest food, coals carted, house rent free, and 21*l.* in money. Go now to the south of Scotland, and in Wigtonshire Mr. Caird reported wages 10 years ago at 9*s.* a week; he puts them now at 12*s.* A woman's daily wage was 8*d.*, and it is 10*d.*

In Northumberland wages according to Mr. Grey of Dilston were 12*s.* weekly with cottage and garden, and carriage of coals free; they now are 15*s.* with house and garden free, and Mr. Dods, of Hexham, gives to good ordinary labourers 15*s.* a week in winter, and 18*s.* a week in summer. Mr. Drewry's wages at Holker, North Lancashire, were 13*s.* 6*d.*; they are 15*s.* to 16*s.* 6*d.* Mr. Evans of Wigan, in South Lancashire, reported wages to be 12*s.* a week; Mr. Twining, in the same neighbourhood, reports them now at 14*s.* From Lincolnshire I had four reports of the wages of able-bodied men, and they ran thus—10*s.*, 9*s.* to 10*s.*, 11*s.* to 12*s.*, and 9*s.* to 10*s.* The same employers report now—12*s.*, 12*s.*, 12*s.*, 10*s.* to 12*s.*

Mr. Spencer of Knossington, Leicestershire, told me 10 years ago that 8*s.* to 10*s.* were the wages of the able-bodied men, and he puts them now at 11*s.* to 12*s.* Take now the case of Norfolk: Mr. Cubitt, of North Walsham, 10 years ago put the wages at 7*s.* to 8*s.* and the carters 1*s.* to 2*s.* extra; now it is 9*s.* and the carters 10*s.* 6*d.* In Northamptonshire Mr. Grey of Courteen Hall, Northampton, reported 8*s.* and 9*s.* as ordinary wages; he puts them now at 12*s.* weekly. In Warwickshire Mr. Burbury, of Kenilworth, who reported 8*s.* to 9*s.* weekly in 1849, reports 11*s.* weekly in 1859.

In Worcestershire Mr. Hudson, of Pershore, who named 8*s.* formerly now says 10*s.*, or 9*s.* with 2 quarts of beer a day, are ordinary weekly wages.

In Oxfordshire Mr. Druce, of Eynsham, stated 8*s.* weekly, the carters and the shepherds having cottages rent free in addition; wages now are 10*s.* to 12*s.*, ploughmen and shepherds from 12*s.* to 14*s.*

In Wiltshire, the worst paid county in the kingdom, wages were some 10 years ago 6*s.* to 7*s.* for ordinary labourers a week; they are 8*s.* a week at present.

In Kent they were 9*s.* and 10*s.*, and are now 11*s.* to 12*s.* From Sussex I had three reports formerly, 8*s.* to 10*s.*, 10*s.*, and 10*s.*; and I have three reports now, 11*s.*, 11*s.*, and 12*s.*

From Dorsetshire I had five reports, averaging 7*s.* and 8*s.* a week, with cider or beer and with cottage free "in some cases." I have two reports now, the one names 9*s.*, and the other says the payments make the money equal to 12*s.* weekly. In Devonshire the wages were 8*s.* to 10*s.*, and they are 11*s.* to 12*s.*

In Cornwall they were 8*s.* to 9*s.*, and they are 10*s.* to 12*s.*

All this proves, then, that the labouring force in agriculture is better paid than it used to be, and that the enormous extension of machinery and of steam power lately has not been to the injury of the farm labourer.

Although however one is naturally glad to know this, yet no one has any right to seek for the labourer any more than that share which falls to him as the natural result of mutual competition. It is for the national interest that food be produced at the least possible expense; and in the second part of my subject, which refers to the most economical provision and maintenance of the forces used in agriculture, the cost of the labour of the farm is as much concerned as is the cost of horses or the cost of steam. It is indeed the first of these to which I most desire to draw attention. The economical application of steam-power, and whether Mr. Fowler's plough or Mr. Smith's cultivator or Mr. Halkett's system be the cheaper, will ultimately by large experience be determined. Messrs. Howard have I understand sold 70 or 80 sets of Smith's apparatus, and Mr. Fowler is so busy that he can hardly keep pace with his orders. Tens of thousands of acres have been this autumn ploughed or worked by steam; and it will be quite within the scope of our subject if the means by which this has been done should be the point on which the subsequent discussion turns. It will also be in keeping with the subject as announced, if the most economical provision and application of horse-power should engage the principal attention; but of all the forces used in agriculture, that of the labourer himself is the one to which I think we can most usefully confine ourselves.

On the question of efficient steam, agriculturists are willing to accept the judgment of the engineer and of the outside public. On the question of efficient horses the public are not likely to add anything to the experience of the judgment of the farmer; the question of efficient labourers is one on which wide differences exist, on which the possession of mere manhood is enough to justify independent thought—on which men of different professions therefore do not feel bound to accept one another's judgment, and on which I believe that the most good is likely to arise from a discussion at a meeting of townsmen with agriculturists. All that I can do in the short remainder of the hour is to indicate the points on which that discussion should turn.

### HOW TO OBTAIN LABOURERS.

The object is to retain, indeed I now should say to obtain a sufficient number of well qualified agricultural labourers. The Oxford Farmers' Club met the other day, and Mr. Mein, who is, I believe, agent to the Duke of Marlborough, read a capital paper on the very subject. His method of obtaining more men was none the less sensible for its simplicity: it was just to *offer higher wages*. And this is, I presume, essentially the solution of the difficulty.

He said in effect: We have not provided constant employment nor wages at which a comfortable living can be had, and no wonder that our men have brought up their children to other trades to be better paid; we have not paid young men wages corresponding to their ability; married men have been paid at one rate, and young unmarried men have been paid at another and much lower rate; they have thus been treated as children, but they are not children, and no wonder they have left us. Our remedy is to improve the condition of the labourers in their cottages; to give them more regular employment and better wages (it resolves itself into this, whether a farmer upon 400 acres had better spend 100*l.* more in labour during winter or lose 200*l.* at harvest time in shed and damaged corn); to give the labourers more task work, and allow them to earn fair prices at it, simply according to their ability; and lastly, on occasions of unusual pressure to give unusual wages. Even at harvest, hitherto, he said, "the prices have not been anything to compare to the daily wage of the tradesman; nay, not enough to induce Paddy to join us in this district."

But there are other points besides the amount of wages to be paid. These will indeed increase, not by the exhortations of our public speakers but by the pressure of competition among masters, and are high or low just according to the relation between the resident population and the employment for them, so that in Wiltshire they are 8*s.*, while in some parts of the north they are almost twice as much.

But besides the amount of wages there is the mode of payment, which greatly affects the character and position of the labourer. It may be (1), in money solely; it may be (2), partly in board and lodging in the house; it may be (3), partly in money, along with an immense variety of perquisites. These three include, I believe, all the various systems of payment adopted. Of the last I give two instances from the extremes of the island, Forfarshire and Dorsetshire. Mr. Bell, of Ferryden Farm, Forfarshire, writes to me as follows:—

"Our ploughmen receive per annum 17*l.* in money, 6½ bolls oatmeal (140 lbs. a boll, present price 17*s.* 6*d.*); 1¼ Scotch pints warm milk (3*d.* a pint), during summer six months, 1 pint in winter ditto; 15 cwt. Potatoes, and house and garden, at say 3*l.* This for married ploughman. Unmarried: 20*l.* and 1 pint warm milk daily all the year, 6½ bolls meal, and fire and lodgings in a bothy. At hay and corn harvest they get two bottles beer daily, and bread and beer while leading to the stackyard. Married men get all their fuel driven by their masters."

I value these wages at 34*l.* 6*s.*, or 13*s.* weekly. To daily workers when getting something like steady work I have 12*s.* a week in winter, 15*s.* in summer, with some beer or other allowance.

In Dorsetshire Mr. Saunders of Watercomb Farm, Dorchester, writes to me as follows:—

"In answer to your inquiry respecting the wages of the labourers of this part, I will give you account of what I pay my agricultural labourers of different callings. They all live on the farm near their work, where it is convenient for most of them to go into dinner every day. I have 18 cottages for which I never receive any rent, as my men all live rent free, and most of them have good gardens besides other Potato land free. This is a very great accommodation to labourers to reside near their work, quite equal to 1*s.* per week to a man not to have to travel a mile to his work morning and evening, and all have their regular pay wet or dry weather, there is no loss of time except they are working by piece work, which most of them get in their turn during the year, when they generally earn from 10*s.* to 14*s.* per week, according to circumstances, besides their yearly privileges, which I will state below, and which many of my labourers have said to me at different times 'is nearly half our living,' referring to a cottage garden, Potato land, and the privilege of having grist over that of buying bread of a baker, as I regulate the grist by allowing a peck a head to the family of workers in a house. I think our system is nearly equal to other counties, where they give nearly double the wages, and no house nor other privileges, nor pay for wet days. I will now state how, and in what way I pay my horse-men, as you term them:—

| | £ | s. | d. |
|---|---|---|---|
| House, good garden, worth to let, 4*l.* per year .. | 4 | 0 | 0 |
| Weekly wages 8*s.*, & 30 perch of Potato land ploughed in with their Potatoes, often grow 15 sacks, now worth 10*s.* per sack, and allow the seed out, would be 5*l.* .. .. .. .. .. .. .. | 25 | 16 | 0 |
| 200 Furze faggots, carried home free to the cottage | 1 | 0 | 0 |
| 28 cwt. of best coals, carried home at 1*s.* per cwt., and cost to fetch from ship .. .. .. .. | 1 | 14 | 0 |
| Extra for harvesting, cash 1*l.*, and 1 gallon of ale per day .. .. .. .. .. .. .. | 2 | 0 | 0 |
| Every journey with team, 1*s.*, average one per week | 2 | 12 | 0 |
| 3 quarts of ale per day at haymaking, for eight weeks, at 9*d.* per gallon .. .. .. .. .. .. | 1 | 7 | 0 |
| 1 bushel of Wheat per week if a family of small children none to go to work, at 5*s.*, not much advantage now, say 6*d.* per week, but when dear, 3*s.* | 1 | 5 | 0 |
| | 39 | 14 | 0 |

The whole of horse-man's wages is about 15*s.* per week.

This is a most elaborate scheme of payment, and certainly a very liberal one, though I do not value the items so highly as Mr. Saunders does by about 6*l.* a year, making the yearly wage of his ploughmen 33*l.* 14*s.*, or as nearly as possible 13*s.* a week.

Now, over large districts in England another system obtains, of which Mr. Manser, a tenant farmer, at Dumpton, near Ramsgate, gives the following very interesting account:—

"Our ploughmen here are generally single, and yearly servants, and are boarded and lodged by the farmer or by his bailiff. They are hired from the 11th Oct. to the 11th Oct. each year, and though they sometimes continue for several years with the same master, a fresh agreement takes place every year. They commence as lads at 13 or 14 years of age; their duties then are to drive the horses and attend to them in the stables. They begin at about 5*l.* wages per annum, which is usually increased every year, as their strength and ability increases, or as master and servant agree; the increase goes on at a ratio of about 1*l.* per year, and our head horse-man or waggoner gets from 12*l.* to 14*l.* per year; the cost of their board varies according to the price of provisions, and when they are boarded by a third party, it is generally paid partly in money and partly in kind; they always have meat three times a day, and cannot be boarded on an average at less than 8*s.* per week per head. In some few instances where there are cottages near, married men are employed as ploughmen at wages of 14*s.* per week, and a cottage rent free; if they have to pay rent they are usually allowed about 5*l.* extra for harvest, in addition to the 14*s* per week." He adds, "Our labourers pay about 2*s.* 6*d.* per week rent for their cottages, and for this many get but a miserable home. I know of nothing in the neighbourhood so disgraceful as the want of accommodation for our labourers. They are (many of them) driven to reside in the worst parts of the towns, many of them in hovels, built or rather stuck up for the sole purpose of investment, without any regard to health, comfort, cleanliness or morality. No garden attached, or anything else to make a poor man's home comfortable, completely away from the eye of his master, and all others that feel an interest in his welfare. The consequences I need not describe, with every inducement for him to spend his spare time and his hard earnings at the public-house or beer-shop, often having from 2 to 3 miles to go in all weather to his labour, never knowing the luxury of hot dinner except on a Sunday, or a meal with his family; the children run the streets in the worst parts of the town, and get early imbued in every vice and wickedness. With no father near to instruct or correct them, how can it be otherwise? I do hope this subject will be pressed before the public on every favourable opportunity."

For all these various customs of payment there must of course be the general assent of the labourer and the concurrence both of master and servant, in order to their establishment and maintenance; and so long as a labourer agrees to take certain wages there is not the shadow of a place for interference by any other person between him and his master. The fitness of customs, however, whether in the interests of agriculturists who find that labourers are more difficult to hire, or in the interests of labourers themselves, may very properly be discussed; even by those who have no greater interest in the subject than that which they hold in the well-being of any other class of their fellow countrymen.

It is plain on a very short acquaintance with the subject that every system which has been, and I will say *can be* devised, is liable to abuse. And this, moreover, is also true—that each is so liable just in proportion to its excellence in the hands of a well-disposed man. The direct payment of a stipulated sum of money for stipulated services to be rendered is, of any plan of wages, the least liable to abuse; but it is at the same time that which furnishes the least scope of any for the establishment of friendly relations between masters and men.

Then, on the other hand, that system which gives food and fuel and accommodation is the best of all, when administered with kindness; for the extras are worth to the labourer much more than the sum at which they would be valued to him in a money payment; but there can be no doubt that it is more liable to abuse than the simple money payment. The abuse of the money payment, it is plain, does not affect the relation of labourer and employer at all; it lies in the scope afforded by it for the utter ignoring of the man in any other than this relation. The abuse in the case of payments of food, &c., does affect the due reward of labour; for notwithstanding the agreement on this score the quality of all these articles cannot be defined so exactly as their quantity. The payment too of all this household stuff as wages is a thing which affects householders only, and the young men who are leaving us are those whom we want to keep. To do so then, as Mr. Mein, a large employer of agricultural labour, tells us, we must just offer wages which will keep them. That is the simple truth.

### RELATIONS OF MASTER AND SERVANT.

It is not however the whole truth of the matter. It must be admitted that the relation of master and servant is by force of circumstances mixed up in agriculture with much beside a mere bargain for the sale of services—with much that is personal; there is much more scope for the development of kindly personal feeling between the two than there is in the case of any other class excepting household servants. Of course this personal feeling may show itself in that which is of great money value besides mere wages, and in much that is of higher value than money is capable of measuring. A young man will notwithstanding lower wages keep his place for the sake of advantages of greater value to him than the increased sum he might otherwise receive. His master takes an interest in him personally, and he shows it by helping forward his education, and by seeking ultimately a better position for him than he can offer himself: and this is soon observed and thought of. But there is a reverse side to this picture, and just in proportion to the closeness of contact which the terms of service enforce between the two *may be* their recoil asunder as soon as they are once more free.

If there be a plan which would strengthen the bond between the two more than any other, one would imagine it to be the very common one in England of lodging the younger labourers in the farm-house, and giving them partial board as well as cash. But what is the ordinary experience on this point? In the parish in which I reside Old Michaelmas Day sees a complete sweep of the young men and lads who have lived during the past year in the house of their master. The evening school each winter presents a new array of faces—and the masters are for a while at least and necessarily as much strangers to their lads and many of their men as if they paid their wages through a clerk, and had as little opportunity of personal acquaintance as a manufacturer with his hundreds of mechanics.

It is plain that it is not in the *system* but in the administration of it that merit and demerit lies, and that while sufficient wages (and that is just as much as labourers can get) are given, a personal interest in the labourer as a neighbour is what will bind him to his master.

If I had in a single sentence to describe the relation of master and servant in the agricultural world it would be to assert that nowhere is it better and nowhere is it worse. The two are thrown together closely, and character is on both sides known, and therein lies the explanation; the two are never, as is unavoidably the case when one man pays 500—they are never indifferent to one another—they love, honour, and respect each another, or they distrust and hate; and while in the former case there is a noble scope for exerting a useful influence for their well-being over those who are employed, the latter in the very closeness which is the condition of agricultural service has scope enough for bringing forth its fruit.

The combination of sufficient wages with a greater opportunity for personal good-will than any other trade affords is what may and often does most honourably distinguish agricultural labourers and employers amongst the multitude of English occupations.

One further word and I have done. The whole value of the expression to which this good-will leads arises out of its origin in a personal feeling—it cannot be deputed without altogether losing its character. Anything like the transference of my personal duty and pleasure in such a thing to a public institution does, in my opinion, spoil the whole affair.

There are societies, as we all know, long established in England for distinguishing the worthy among agricultural labourers by public testimony to their worth. If that worth had shown itself in public-spirited conduct nothing could be more appropriate than a public acknowledgment of it. When it is, however, only personal and domestic worth (far more worthy, let us all admit it, than the other), nothing can be more grotesquely out of place.

These societies have however been established and are supported by a real if unwise philanthropy, and I would not say one word in discouragement of their object however unwise may be their plan. Benevolent men have truly seen that the relationship of master and servant is but a part of the truth affecting them; and, carrying the superiority of the employer over his servant into another field where no superiority exists, they have read the commandment as if it were addressed to the former only, and as if it said of the latter: "Thou shall be a father unto him." The system of rewards for good conduct, for long servitude, and for morality, is founded on a mistaken idea of this kind. It *is* a mistaken idea—let me repeat it. Along with the paternal relationship, with all its powers and responsibilities, wherever it really exists, GOD has implanted the natural love of the father as the safeguard of the child, and the docility and helplessness of the child as the counterpart justification of the father. Neither of these conditions applies to the relationship of master and servant. The commandment has been mis-read. It is addressed to both alike, and it prescribes a perfectly mutual and equal duty in words addressed to each—"Thou shalt love thy *neighbour* as thyself."

*This* is the law which supplements the bare relationship of master and servant, and makes the operation of it perfect. But it is not for me to pursue the subject further, or to illustrate at any greater length to what it tends. I would only add, as at once the natural corollary of the proposition, and as bringing us back more directly to the subject of this paper, that the more we encourage genuine individual manliness in labourers with its efforts after real self-improvement in intelligence and skill, and its higher sense of individual responsibility, the more likely are we to attach the young men to us, and to obtain labour of the kind of which steam power is rapidly proving the necessity. But this is not to be done either by taking all the difficulties of his position out of his way or by offering rewards to him proper only to the qualities and condition of a child.

And as affecting the reception of these few words of criticism, allow me to say one word of myself:—They must not be received as if they came from merely an outsider. I have for many years directed and paid the labour, on certainly a small farm, costing, however, about 700*l.* a year in wages paid to the agricultural labourer; and I claim to know the style and character of the man by many years' experience for I enjoy a larger number of personal friendships in his class than in any other class of her Majesty's subjects. I mention all this merely as affecting the weight which might attach to what I have said on this—the last of the forces used in agriculture to which I have to allude. But I have more than exhausted the time permitted me, and it only remains for me to indicate the probable results, so far as our subject is concerned, of that progress which we all see in English agriculture.

That the services of the labourer will more and more require the combination of skill with mere force, and that a larger number of well-qualified men is being and will be needed seems manifest. That horse-power will be displaced at least two-fifths by steam, I quite believe; and as there are now at least 800,000 horses used upon our farms there is scope enough for many years to come for all our agricultural mechanics.

The grand result will no doubt be a continual increase of produce and fertility, and that which the Registrar-General puts as a fulfilled prophesy into the mouth of the Englishman of a century ago may with equal probability of truth be uttered now:—

"Our fertile soil sustains 21 millions of people in its whole length from the Isle of Wight to the Shetland Islands. We cannot—for the mighty power is not given us—say, let there be on the European shores of the Atlantic Ocean—Three Great Britains. But the means exist for creating, in less than a hundred years, two more nations, each in number equal to the existing population; and of distributing them over our fields, in farms, and cottages, and towns, by the banks of our rivers, and around our immemorial hills: they will thus be separated neither by longer roads nor wider seas, but continue neighbours, fellow workers, and countrymen on the old territory; wielding by machines the forces of nature, that shall serve them with the strength of thousands of horses, on roads, and fields, and seas—in mines, and manufactories, and ships. Subsistence shall be as abundant as it is, and luxuries, which are now confined to few, shall be enjoyed by multitudes, for the wealth of the country—its stock and its produce—shall increase in a faster ratio than its people."

## Societies.

### ROYAL AGRICULTURAL OF ENGLAND.

AT a monthly council held on Wednesday, Dec. 7, 1859, the Right Hon. Lord Walsingham in the chair, new members were elected and candidates proposed.

The usual monthly report of the Finance Committee was laid before the Council. From this it appeared that the present current cash balance in the hands of the Society's bankers amounted to 1711*l.* 0*s.* 0*d.*

The balance sheet of the Chester Meeting was laid before the council, as prepared by the members of the late Finance Committee at the request of the Council.

The report of the Secretaryship Committee was laid before the Council, together with the names of the 10 candidates the Committee considered the most eligible.

The Council having had an interview with each of these candidates proceeded to the election, which terminated in Mr. Henry Hall Dare being elected to the office of Secretary, subject to the necessary securities being given, his duties to commence on the 1st of January next.

The report of the Editorship Committee having been laid before the Council, it was resolved to appoint a Literary and Scientific Editor of the Society's Journal, at a salary of 500*l.*, per annum—such Editor's whole time to be at the disposal of the Society, and that advertisements be inserted in order to obtain applications for gentlemen desirous of becoming candidates for this office.

A vote of thanks was passed to Mr. H. S. Thompson, M. P., and the members of the Journal Committee.

A vote of thanks was passed to Mr. Brandreth Gibbs, the Hon. Sec. *pro tem.*

The report of the General Canterbury Committee having been laid before the Council, it was resolved to accept the offer made by the Local Committee at Canterbury to give prizes for Hops and Wool, subject to conditions to be determined upon by the Council.

The report of the Live Stock Prizes Committee having been laid before the Council, it was resolved to add classes for Heifer Calves in the Short-horn, Hereford, and Devon divisions of Cattle; also classes for the Shropshire breed of Sheep, and for the Kentish or Romney Marsh breed of Sheep; and to classify Pigs as follows, viz:—Pigs of a large breed of any colour, Pigs of a small white breed, Pigs of a small black breed, and Pigs not eligible for the preceding Classes.

The report of the Implement Committee having been laid before the Council, it was resolved to offer prizes for the class of Applications of Steam Power to the Cultivation of the Soil, and for the classes of Threshing-Machines, Chaff-Cutters, Mills, Crushers, Oilcake-Breakers, Bone-Mills, Turnip-Cutters and Pulpers, Hand-tools used in Hop-grounds, and Hand-tillage, Field-gates, &c., the details of which will appear in the Prize-sheets that will be issued for the Canterbury Meeting.

The report of the House Committee was received and adopted.

On the motion of Mr. Brandreth, the resolution of which Lord Portman had given notice was carried, viz.: to appoint a Professional Accountant to examine the Society's accounts from time to time, under the direction of the Finance Committee.

A communication was read from Mr. Manning relative to the deed of assignment made by the late Mr. Hudson, and the Finance Committee and Honorary Secretary were authorised how to act relative thereto.

Mr. Lawrence presented a copy of his "Handy Book

for Young Farmers." The Council ordered thanks to be returned for this and other presents.

## SMITHFIELD CLUB SHOW.

THE galleries of the Baker Street Bazaar are as full as ever of agricultural implements, notwithstanding that there is no prize list to attract them. All the machine-makers of any note, and all the leading seedsmen have very attractive stands at which their respective wares are displayed. In fact it is not only, nor even chiefly, to a great agricultural school but a great agricultural mart that both exhibitors and spectators have congregated.

There are very few novelties observable. Almost the only one we notice is the revolving harrow exhibited by Messrs. Crosskill—two circular harrows with a pin standing upright from the centre of each about 18 inches long. These pins are connected by a bar, and admit of being held below and thrust aside at top, so that one side of each circular harrow is made to dig into the land more than the other, and so the work causes them to revolve. It appears to us probable that they may answer for mere surface work, where the covering of seed is the principal object—but for heavy fallow work there is little chance of their success.

On walking round the galleries we notice Fowler's steam plough, illustrated by drawings and models; Peill's agricultural windmill (models); Smith's steam cultivator (models); Halkett's steam culture (drawings); farm buildings by Mr. Wilkinson of Oxford (a beautiful series of models); cattle foods in great variety, sweet and aromatic and bitter, by Thorley and Henri and Retigan and many others; steam-engines, locomotive and fixed, and combined threshing and winnowing machines, by all the leading makers; reapers by Burgess & Key, Dray, Samuelson, Crosskill, and others; stable accommodation in stalls and racks and loose boxes by Cottam, and the St. Pancras Works, and by Musgrave Brothers, of Belfast, who exhibit cow stalls and horse stalls with a great many ingenious provisions for water, roots, and hay, and for cleanliness, economy, and safety. Messrs. Lawson exhibit a great assortment of roots and seeds, especially dividing the former into ordinary and monster classes, and thereby doing their best to promote truthfulness and honesty. Their Turnips, and Swedes, and Globe Mangels, and Kohl Rabi appeared of excellent quality—the first having by repeated care in seeding only the first-class and the densest roots reached a very high specific gravity and general merit.

Messrs. Sutton also had a capital stand of extraordinary roots, and could intimate to spectators the success of roots from their seed at Birmingham and at the Crystal Palace. Messrs. Gibbs, of Half-Moon Street, Piccadilly, presented a very multifarious, extensive, and attractive display.

Mr. George Gibbs's stand was also praiseworthy—samples of Grass seeds growing in pots, in proof, we presume, of quality, occupied a portion of the space—and large Holcus saccharatus and other Grasses were exhibited. Mr. Page, of Southampton, exhibited Mangels, Swedes, and Belgian Carrots, and other roots, and he informs us that they are selected from crops of 61 tons of Mangels—and 35 tons [!] of Belgian Carrots, of which latter we should be exceedingly glad to learn the full and particular history.

Other seedsmen had stands within the gallery, and their contributions formed in our opinion much the most attractive portion of the whole show.

To enumerate a little further—let us add that Nicholson, of Newark, exhibited chaff-cutters, haymakers, &c.; Crosskill, of Beverley, carts, clod-crushers, &c., and a root-pulper cleaning itself by the velocity of its revolution. Boby, of St. Edmund's, exhibited his well-known corn-screen. Picksley & Sims, of Manchester, showed a great variety of tools; among other things a simple corn bruiser. Snowden, of Gloucester, had his well-known clever paring plough. Hornsby showed a large assortment of ploughs and drills and winnowers, &c. The Garretts had drills and horsehoes—one of their specialities—and other agricultural machines.

Barrett & Exall, of Reading, showed chaff-cutters, small threshing machines, steam engines, &c. Wheeler, of Oxford, showed a disc Turnip-cutter, which is either a pulper, a slicer, or a finger-shaped-piece cutter, according as you work it.

Ransome & Sims had a large stand of ploughs and corn bruisers, and chaff-cutters, and cultivators, and other tools. Smith, of Thrapston, showed drills, chaff-cutters, &c.; Fowler, pumps; Isaac, of Cheltenham, his well-known liquid manure cart; Samuelson, automaton reaper and a great variety of tools; Coleman, cultivators, &c.; Amies, of Peterborough, sack elevator, &c.; Drays, reapers, churns, &c. Clayton & Shuttleworth exhibited their steam-engine and threshing machine; Reed, of the Circus, had a variety of smaller implements of the stable, garden, and household; Messrs. Howards, of Bedford, showed ploughs and harrows and other well-known articles of their manufacture; Rothwell, of Yorkshire, showed ploughs; Wedlake exhibited churns and chaff-cutters, steam-engines, &c.; Cambridge, of Bristol, rollers, harrows, steam-engines, &c. Their patent harrow is held together, teeth and frame, by one or two nuts at the side, which on being unscrewed releases the connecting rods and the whole falls to pieces. Each tine thus forms part of the whole, and is not merely dependent on its own screw or wedge for its firmness. Priest & Woolnough, drills, Turnip-fly destroyers, &c.; Woods, Bentall, and others, exhibited root pulpers; Page, of Bedford, showed harrows, ploughs, &c.; Barnard & Bishop, of Norwich, exhibited a simple disc pulper, the quadrants of which are blank and armed alternately, thus gaining greater efficiency upon the whole, and admitting of replacement by other quadrants differently armed.

We have named but a few of the articles on exhibition, but must devote the remainder of our space to a short account of the well-filled area below the galleries.

The yard is filled by magnificent animals arranged according to breed, age, sex, and even weight; the sheep, ox, and pig classes being separate.—The Birmingham awards are confirmed—Mr. Shirley's wonderful 2 years and 6 months old Hereford steer, and Colonel Towneley's beautiful Short-horn heifer carrying off the first prizes and Gold Medals, to which they are fairly entitled; the former girthing fully 8½ feet, and the latter, one year older, girthing fully 9 feet. A general comparison of the two breeds, as represented here, shows that Mr. Shirley's ox is more exceptional and extraordinary than Colonel Towneley's heifer. The Short-horns carry the day, as a general rule, over the Herefords for size and symmetry and early maturity. And notwithstanding the advantage to the latter of uniformity of colour, there is to our eye greater equality of merit and more uniformity of quality in the classes of the former than in those of the latter. The Devons are always an exceedingly well represented breed at the Smithfield Club's Shows, and there are this year no fewer than three dozen of them—more than one-third of the three chief breeds—the Herefords numbering 17, and the Short-horns 42. The Sussex breed is also well represented. Nearly resembling the Devons with almost as much quality and greater size, they ought to be more than merely locally appreciated. A very good show of the Scotch Polled breeds, and a well filled class of cross-bred stock and extras made up the 175 cattle of this year's exhibition.

The Sheep classes and especially the South Down and cross-bred classes are much the most interesting portion of the exhibition. Nothing more exquisite in form nor better bred (in demeanour as well as quality) was ever seen than the Duke of Richmond's, Lord Radnor's, Lord Walsingham's, Mr. Rigden's, Mr. Scott Hayward's, and other pens of the South Down Sheep. The eye is indeed sometimes corrected by the hand, and the surface of the wool which guides the former to its judgment is not everywhere parallel or concentric with the surface of the body; but shepherds cannot deceive the judges, although they may the mere spectator, and clever shearing is very rarely serviceable. Whether the judges are Sussex men or not they have given the prizes to the smaller size and "quality" rather than mere butcher's meat. Indeed, in some of the classes, which seem framed to ensure the maintenance of this "quality," sheep of only a certain weight are permitted to compete, and this year the Duke of Richmond's beautiful pen is unfortunately disqualified by exceeding the limit specified by a lb. or two. The cross-bred classes, and the classes of short-woolled sheep, "not Southdowns," are filled with capital specimens of what is every year becoming a more numerous and more important class of animals.

The Pig classes, both of large and small breeds, contain 43 lots. Excessive and disgusting fatness is amply represented, but there are many very interesting results of good breeding and clever management. The prize lists are given below.

### CATTLE.

Class I. DEVON STEERS, NOT EXCEEDING 3 YEARS OLD.—1st prize, 25*l.*, Mr. R. Farthing, of North Petherton, near Bridgewater; 2d do., 10*l.*, Mr. J. D. Dunning, of Creech St. Michael, near Taunton; 3d do., 5*l.*, Mr. W. Heath, of Ludham Hall, near Norwich.

Class II. DEVON STEERS OR OXEN, ABOVE 3 YEARS OLD.—1st prize, 25*l.*, Mr. J. J. Farquharson, of Langton House, near Blandford; 2d do., 10*l.*, his Royal Highness the Prince Consort; 3d do., 5*l.*, to Mr. W. Heath, of Ludham Hall, near Norwich.

Class III. DEVON HEIFERS, NOT EXCEEDING 4 YEARS OLD.—1st prize, 15*l.*, Mr. R. Farthing, of North Petherton, near Bridgewater; 2d do., 5*l.*, Mr. Edmund Coles, of Stone Farm, near Yeovil, Somersetshire.

Class IV. DEVON COWS, ABOVE 4 YEARS OLD.—1st prize, 20*l.*, Mr. William Heath, of Ludham Hall, near Norwich; 2d do., 10*l.*, Mr. John Coate, of Hammoon, near Blandford; 3d do., 5*l.*, Mr. George Turner, of Barton, near Exeter.

Class V. HEREFORD STEERS, NOT EXCEEDING 3 YEARS OLD.—1st prize, 25*l.*, Mr. Richard Shirley, of Baucot Munslow, near Shrewsbury; 2d do., 10*l.*, Mr. Richard Hill, of Golden Hall, near Shrewsbury; 3d do., 5*l.*, Mr. John Naylor, of Leighton Hall, near Welchpool, Montgomeryshire.

Class VI. HEREFORD STEERS OR OXEN ABOVE 3 YEARS OLD.—1st prize, 25*l.*, Mr. William Heath, of Ludham Hall, near Norwich; 2d do., 10*l.*, Mr. W. Aldworth, of Frilford, near Abingdon, Berkshire; 3d do., 5*l.*, Mr. John Naylor, of Leighton Hall, near Welchpool, Montgomeryshire.

Class VII. HEREFORD HEIFERS NOT EXCEEDING 4 YEARS OLD.—1st prize, 15*l.*, Mr. Richard Hill, of Golding Hall, near Shrewsbury; 2d do., 5*l.*, no competition.

Class VIII. HEREFORD COWS ABOVE 4 YEARS OLD.—1st prize, 20*l.*, Mr. John Naylor, of Leighton Hall, near Welchpool, Montgomeryshire; 2d do., 10*l.*, Lady Emily Foley, of Stoke Edith Park, near Ledbury, Herefordshire; 3d do., 5*l.*, Captain Peplow, of Garnstone, near Hereford.

Class IX. SHORT-HORNED STEERS, NOT EXCEEDING 3 YEARS OLD.—1st prize, 25*l.*, Mr. Edward Frost, of West Wratting Hall, near Linton, Cambridge; 2d do., 10*l.*, Mr. George Maxwell, of Kidbrooke Manor, near Blackheath, Kent; 3d do., 5*l.*, Mr. John Overman, of Burnham Sutton, near Burnham Market, Norfolk.

Class X. SHORT-HORNED STEERS OR OXEN, ABOVE 3 YEARS OLD.—1st prize, 25*l.*, the Marquis of Exeter, K.G., of Burghley Park, near Stamford; 2d do., 10*l.*, Mr. Thomas Swingler, of Langham, near Oakham; 3d do., 5*l.*, Mr. Charles Duffield, Marcham Park, near Abingdon, Berks.

Class XI. SHORT-HORNED HEIFERS, NOT EXCEEDING 4 YEARS OLD.—1st prize, 15*l.*, Lieut.-Colonel Towneley, of Towneley Park, near Burnley, Lancaster; 2d do., 5*l.*, Mr. Wm. Aldworth, of Frilford, near Abingdon, Berks.

Class XII. SHORT-HORNED COWS ABOVE 4 YEARS OLD.—1st prize, 20*l.*, Lieut.-Colonel Towneley, of Towneley Park, near Burnley, Lancaster; 2d do., 10*l.*, Mr. Richard Stratton, Broad Hinton, near Swindon, Wilts; 3d do., 5*l.*, Mr. C. J. Bradshaw, of Alstoe House, Burley-on-the-Hill, near Oakham.

CLASS XIII. SUSSEX STEERS OR OXEN, OF ANY AGE.—1st prize, 20*l.*, Mr. John Shoosmith, of Berwick, near Lewes; 2d do., 10*l.*, Mr. Joseph Montefiore, of Worth Park, near Crawley, Sussex.

Class XIV. SUSSEX HEIFERS OR COWS OF ANY AGE.—1st prize, 10*l.*, Mr. Thomas Child, of Slinfold, near Horsham, Sussex; 2d do., 5*l.*, Lord Leconfield, of Petworth, Sussex.

Class XV. NORFOLK OR SUFFOLK POLLED STEERS OR OXEN OF ANY AGE.—1st prize, 10*l.*, Mr. T. M. Hudson, of Castle Acre, near Swaffham, Norfolk; 2d do., 5*l.*, Lord Sondes, of Elsham Hall, near Thetford, Norfolk.

Class XVI. NORFOLK OR SUFFOLK POLLED HEIFERS OR COWS OF ANY AGE.—1st prize, 10*l.*, Mr. R. Cooke, of Livermere, near Bury St. Edmund's, Suffolk; 2d do., 5*l.*, Mr. W. Cannon, of Bishop Park Farm, near Maidenham.

Class XVII. LONG-HORNED STEERS OR OXEN OF ANY AGE.—1st prize, 10*l.*, Mr. W. T. Cox, of the Hall, Spondon, Derby; 2d do., 5*l.*, no competition.

Class XVIII. LONG-HORNED HEIFERS OR COWS OF ANY AGE.—1st prize, 10*l.*, Mr. W. T. Cox, of the Hall, Spondon, Derby; 2d do., 5*l.*, Mr. R. H. Chapman, of Upton, near Newnham, Warwick.

Class XIX. SCOTCH HORNED STEERS OR OXEN OF ANY AGE.—1st prize, 20*l.*, Viscount Boyne, of Brancepeth, near Durham; 2d do., 10*l.*, Mr. Thomas Ball Troughton, of Foleshill, near Coventry.

Class XX. SCOTCH HORNED HEIFERS OR COWS, OF ANY AGE.—1st prize, 10*l.*, Mr. Alexander Leask, of Tattenhoe Barn Farm, near Stony Stratford; 2d do., 5*l.*, no competition.

Class XXI. SCOTCH POLLED STEERS OR OXEN, OF ANY AGE.—1st prize, 20*l.*, Mr. William M'Combie, of Tillyfour, near Aberdeen; 2d do., 10*l.*, Mr. James Stewart, of New Market, Aberdeen.

Class XXII. SCOTCH POLLED HEIFERS OR COWS, OF ANY AGE.—1st prize, 10*l.*, Mr. T. R. B. Cartwright, of Aynho, near Brackley, Northampton; 2d do., 5*l.*, Mr. John Turrill, of Hartley Park, near Alton, Southampton.

Class XXIV. IRISH HEIFERS OR COWS, OF ANY AGE.—1st prize, 10*l.*, Earl of Darnley, of Cobham Hall, near Gravesend, Kent; 2d do., 5*l.*, no competition.

Class XXV. WELSH STEERS OR OXEN (RUNTS), OF ANY AGE.—1st prize, 20*l.*, Hon. Colonel Pennant, of Penrhyn Castle, near Bangor, Carnarvon; 2d do., 5*l.*, Mr. J. E. Bennett, of Husbands Bosworth Grange, near Rugby.

Class XXVI. WELSH HEIFERS OR COWS, OF ANY AGE.—Prize, 10*l.*, Mr. J. E. Bennett, of Husbands Bosworth Grange, near Rugby.

Class XXVII. CROSS OR MIXED-BRED STEERS, NOT EXCEEDING 3 YEARS OLD.—1st prize, 15*l.*, Mr. W. Aldworth, of Frilford, near Abingdon, Berkshire; 2d do., 10*l.*, Mr. Robert Wortley, of Suffield Hall, near North Walsham, Norfolk.

Class XXVIII. CROSS OR MIXED BRED STEERS OR COWS ABOVE 3 YEARS OLD.—1st prize, 15*l.*, Mr. John Beasley, of Chapel Brampton, near Northampton; 2d do., 5*l.*, Mr. Thomas Knowles, sen., of New Market, Aberdeen.

Class XXIX. CROSS OR MIXED-BRED HEIFERS, NOT EXCEEDING 4 YEARS OLD.—Prize, 10*l.*, Mr. Edward Frost, of West Wratting Hall, near Linton, Cambridge.

### SHEEP.

Class XXX. FAT WETHER SHEEP, OF ANY LONG-WOOLLED BREED, 1 year old (under 22 months).—1st prize, 20*l.*, Mr. F. Jordan, of Eastburn, near Driffield, Yorkshire; 2d do., 5*l.*, Mr. Richard Newman, of Harrowden, near Bedford; 3d do., 5*l.*, Mr. C. J. Bradshaw, of Alstoe House, Burley-on-the-Hill, near Oakham.

Class XXXI. FAT WETHER SHEEP, OF ANY LONG-WOOLLED BREED, 1 year old (under 22 months), each Sheep not to exceed 220 lbs. live weight.—1st prize, 20*l.*, Mr. G. S. Foljambe, of Osberton Hall, near Worksop, Nottinghamshire; 2d do., 10*l.*, Lord Berners, of Keythorpe Hall, near Leicester; 3d do., 5*l.*, Mr. J. Boast, of North Dalton, near Driffield, Yorkshire.

Class XXXII. FAT WETHER SHEEP, OF ANY LONG-WOOLLED BREED (NOT LEICESTERS), 1 year old (under 22 months).—1st prize, 15*l.*, Mr. Jonathan Davis, of Webton Court, near Hereford; 2d do., 10*l.*, Mr. John King Tombs, of Langford, near Lechlade, Gloucestershire; 3d do., 5*l.*, Mr. John F. Morland, of Westwell, near Burford, Oxon.

Class XXXIII. LONG AND SHORT-WOOLLED CROSS-BRED FAT WETHER SHEEP, 1 year old (under 22 months).—1st prize, 15*l.*, Mr. George Hine, jun., of Oakley, near Bedford; 2d do., 10*l.*, Mr. George Wallis, of Hinton Waldridge, near Farringdon, Berkshire; 3d do., 5*l.*, Mr. John Benjamin Twitchell, of Wilby, near Northampton.

Class XXXIV. LONG AND SHORT-WOOLLED CROSS-BRED FAT WETHER SHEEP, 1 year old (under 22 months), each Sheep not to exceed 200 lbs. live weight.—1st prize, 10*l.*, Mr. George Hine, jun., of Oakley, near Bedford; 2d prize, 5*l.*, Mr. Charles Hobbs, of Maisey Hampton, near Cricklade, Wiltshire.

Class XXXV. FAT WETHER SHEEP, OF ANY SHORT-WOOLLED BREED, 1 year old (under 22 months).—1st prize, 20*l.*, Mr. William Rigden, of Hove, near Brighton; 2d prize, 10*l.*, Duke of Richmond, K.G., of Goodwood, near Chichester; 3d do., 5*l.*, the Earl of Leicester, of Holkham Hall, Norfolk.

Class XXXVI. FAT WETHER SHEEP, OF ANY SHORT-WOOLLED BREED, 1 year old (under 22 months), each Sheep not to exceed 200 lbs. live weight.—1st prize, 10*l.*, to William Rigden, of Hove, near Brighton; 2d do., 5*l.*, the Earl of Leicester, of Holkham Hall, Norfolk.

Class XXXVII. FAT WETHER SHEEP, OF ANY SHORT-WOOLLED BREED, 2 years old (above 22 and under 34 months).—1st prize, 20*l.*, the Duke of Richmond, K.G., of Goodwood, near Chichester; 2d do., 10*l.*, Sir R. G. Throckmorton, of Buckland, near Farringdon, Berks; 3d do., 5*l.*, Lord Walsingham, of Merton Hall, near Thetford, Norfolk.

Class XXXVIII. FAT WETHER SHEEP, OF ANY SHORT-WOOLLED BREED (not South Downs), 1 year old (under 22 months).—1st prize 15*l.*, Mr. W. B. Canning, of Chisledon, near Swindon; 2d do., 10*l.*, Mr. William King, of New Hayward Farm, near Hungerford; 3d do., 5*l.*, Mr. Stephen King, of Old Hayward Farm, near Hungerford, Berkshire.

### PIGS.

Class XXXIX. PIGS OF ANY BREED, NOT EXCEEDING FOUR AND NOT EXCEEDING EIGHT MONTHS OLD.—1st prize, 10*l.*, Mr. George B. Morland, of Chilton Farm, near Harwell, Berks; 2d do., 5*l.*, Mr. Wilson, Mills Barber, of Sunninghill, Wells, near Staines.

Class XL. PIGS OF ANY BREED, ABOVE FOUR AND NOT EXCEEDING EIGHT MONTHS OLD.—1st prize, 10*l.*, Mr. George B. Morland, of Chilton Farm, near Harwell, Berks; 2d do., 5*l.*, Mr. Thomas Crisp, of Butley Abbey, near Wickham Market, Suffolk.

Class XLI. PIGS OF ANY BREED, ABOVE EIGHT AND NOT EXCEEDING 12 MONTHS OLD.—1st prize, 10*l.*, Mr. George Eaton, of Frowlesworth, near Lutterworth, Leicester; 2d do., Mr. Henry Wilson, of Stowlangtoft Hall, near Bury St. Edmund's.

Class XLII. PIGS OF ANY BREED ABOVE 12 AND UNDER 18 MONTHS.—1st prize, 10*l.*, to his Royal Highness the Prince Consort; 2d do., 5*l.*, to Mr. Edward Sheppard, of Rowdeway Park Farm, near Devizes.

### GOLD MEDALS.

Gold Medal to the exhibitor, for the best Steer or Ox in any of the classes, to Richard Shirley, of Bancott Munslow, near Shrewsbury; Gold Medal to the exhibitor, for the best Heifer or Cow in any of the classes, to Lieutenant-Colonel Towneley, of Towneley Park, near Burnley, Lancashire. Gold Medal to the exhibitor, for the best pen of Long-woolled Sheep in the classes, to Mr. F. Jordan, of Eastburn, near Driffield,

...e; Gold Medal to the exhibitor, for the best pen of one-...-old Short-woolled Sheep in the 35th, 36th, or 38th classes. ... Mr. William Rigden, of Hove, near Brighton; and Gold ... the exhibitor, for the best pen of Pigs in any of ..., to his Royal Highness the Prince Consort.

EXTRA STOCK.

Silver Medal to the exhibitor, for the best Steer or Ox in extra ... to the Marquis of Exeter, Burghley Park, near Stamford; Silver Medal to the exhibitor, for the best Heifer or Cow ... extra stock to Earl Howe, of Gopsall Hall, near Atherstone; ... Medal, to the exhibitor for the best Long-woolled Wether ... in extra stock to Lord Berners, of Keythorpe Hall, near ...ester; Silver Medal to the exhibitor, for the best Long-...ed Ewe in extra stock, to Mr. F. Jordan, of Eastburn, ... Driffield, Yorkshire; Silver Medal to the exhibitor, for ... best Short-woolled Wether Sheep in extra stock, to the ... of Richmond, of Goodwood, near Chichester; Silver ... to the exhibitor, for the best Short-woolled Ewe in extra ..., to Lord Walsingham, of Merton Hall, near Thetford; ...ver Medal to the exhibitor, for the best Cross-bred Sheep in ...a stock, to Mr. G. Wallis, of Hinton Waldridge, near ...ngdon, Berkshire; Silver Medal to the exhibitor, for the ... pig in extra stock, to Sir R. G. Throckmorton, of Buckland, ...ar Faringdon.

JUDGES OF CATTLE.—Messrs. William Sanday, James Hole, ... William Wetherell.

JUDGES OF LONG-WOOLLED SHEEP AND PIGS.—Messrs. John ..., R. J. Wiley, and George Mann.

JUDGES OF CROSS-BRED AND SHORT-WOOLLED SHEEP.—Messrs. ...illiam Fookes, H. P. Hart, and Henry Thurnell.

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At the GENERAL MEETING of the ROYAL AGRICULTURAL SOCIETY on Friday, the report of the Council ... the members, which was read to the meeting, was ...iefly occupied with the lamentable history of their ... Secretary's defalcations. We must postpone its ...blication until next week.

## Miscellaneous.

*Horse Labour in France.*—The cultivation of Beet ...ots has since wrought such a beneficial change ... husbandry, that an improved system of tillage, ...eeper cultivation, and more frequent manipulation of the soil, together with carrying roots to the ...ctory, and bringing back pulp as fodder for the ...attle, have necessitated a more numerous team of ...orses. The same team of four horses and one driver ...re therefore now required for every 80 acres in ...ultivation; that is, one horse per 20 acres. An ...minent agriculturist in that department informs me ...hat he keeps 21 horses and 15 oxen for about 400 ...cres, the agent's riding-horse included. They are kept ...n the following manner:—In winter they have each ...er day

| | |
|---|---|
| 6 quarts of Oats. | 2½ lbs. of Wheat straw. |
| 5 lbs. of Grass hay. | 1 bundle of Bean straw. |
| 5 lbs. of Clover hay. | 1 lb. of bran. |

The whole is cut, bruised, mixed, and fermented, ...ogether with ¼ lb. of salt for each horse, twice a week. ...n summer the only difference is the increase in the ...uantity of Oats, from 6 to 10 quarts. The working ...xen are fed in the following manner:—

| | |
|---|---|
| 56 lbs. Beet-root pulp. | 4½ lbs. cut straw. |
| 2½ lbs. Grass hay. | 2½ lbs. bruised Barley. |
| 4½ lbs. Clover hay. | 3½ lbs. Rape or Linseed cake. |

The whole is cut, mixed, and fermented as above ...ith a dose of salt twice a week. In winter the oxen ...ork the same time as the horses; in summer those ...hat work in the morning rest in the afternoon, and ...hus work only half a day. Every year the stables are ...debited—1st. The value of the team fixed at the ...receding inventory, in which the decreased value of ...he horses was taken into consideration. 2d. The ...epairs of implements, waggons, harness, shoeing, ...eterinary attendance, losses, &c. 3d. The consumption of food. 4th. The straw and other litter. 5th. The ...ttendance of the drivers and stablemen. 6th. The ...ue proportion of stable and other building rent, taxes, ...epairs, &c. They are credited—1st. The debtor's side ... the preceding inventory. 2d. The value of the ...anure at per load. 3d. The amount of sales in horses ...nd fattened oxen. From all these items it is reckoned ...hat the average cost of a horse or ox's day's work is ... francs 92 centimes, about 2*s.* 5*d.*, exclusive of ...sting days. *M. Tréhonnais, in Journal of Agricultural ...ociety.*

## Calendar of Operations.

### DECEMBER.

SOUTH DORSETSHIRE: *Dec.* 5.—Since lastreport we have been ...ejoiced finishing the later Wheat sowings—after early and ...her Turnips fed off with sheep (ewes and lambs given hay), and ...ng up and storing in the field our Mangel crop, which, ... some exceptions, is as good as in most years. There ... be some good remarks on that crop by some of your ...ndents in last Paper as to the effects of early frost ... time for sowing, &c. As to the latter, though early ...ight be suitable in Somersetshire and other favoured ...es, it does not answer everywhere; thus hereabouts ... more sown in the month of May than in the month of ..., which is a better time for this bleak part of the country. ... who keep the old breed of horn sheep (for the sake of ...lambs), which however are nearly superseded by the ... have already lambs from them. These will be soon ... dealers round, who take or send them up to London for ... those who fatten early house lamb.

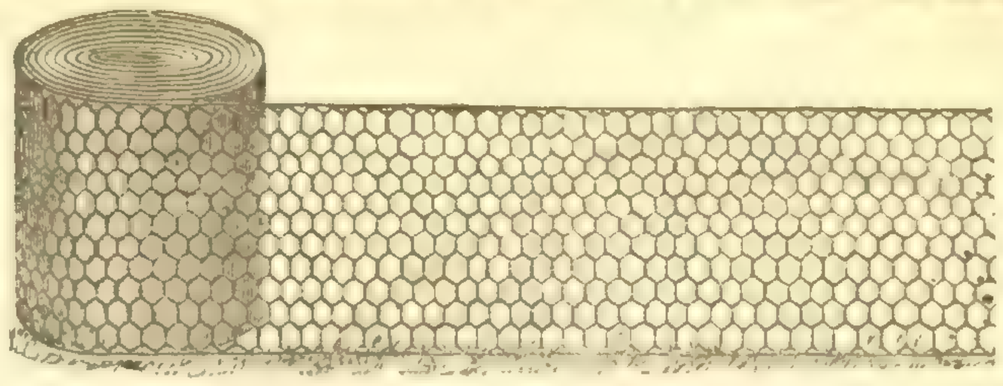
## Notices to Correspondents.

*J Salt.* Complete books on Agriculture are all costly. ...clopedia of Agriculture (Blackie), Stephens's Book of ... Farm (Blackwood) cost 2*l.* or 3*l.* Mr. Lawrence's ...dry Book for Young Farmers (Longmans) 2*s.* 6*d.*, contains ...ul that will serve you. As a gardener you may get ... year off 30 acres, paying 130*l.* a year in rent, but not ... farmer

MR. HUDSON'S LIBRARY. We beg the attention of our ...ders to an advertisement announcing the sale of the library ... late Secretary of the English Agricultural Society.

We have to thank Mr Holland, M.P., for a communication ...e Harvesting of Mangel Wurzel, which is unfortunately ... out of this week's Paper by reports of meetings, but ...ppear next Saturday.


# IMPROVED PREMIUM WIRE NETTING.



PRICES PER LINEAL YARD, 24 INCHES HIGH:—

| Size of mesh. | Mostly used for | Light. | | Medium. | | Strong. | | Extra strong. | |
|---|---|---|---|---|---|---|---|---|---|
| | | Japanned. | Galvanized. | Japanned. | Galvanized. | Japanned. | Galvanized. | Japanned. | Galvanized. |
| 2½ inch | Hares, Dogs, Poultry ..... | 3½*d.* | 4½*d.* | 4½*d.* | 5½*d.* | 5*d.* | 6½*d.* | 6*d.* | 8*d.* |
| 2 inch | Game Netting ..... | 4*d.* | 5*d.* | 4½*d.* | 6*d.* | 5½*d.* | 7*d.* | 7½*d.* | 9½*d.* |
| 1⅝ inch | Small Rabbits, Hares, &c. ..... | 4½*d.* | 5½*d.* | 5½*d.* | 6½*d.* | 6*d.* | 7½*d.* | 8*d.* | 10*d.* |
| 1½ inch | Smallest Rabbits ..... | 6*d.* | 7½*d.* | 7½*d.* | 9*d.* | 9*d.* | 11*d.* | 11*d.* | 13*d.* |

Quantities of 100 yards or upwards delivered free at nearly all the principal Railway Stations and Shipping Ports in England; and 200 yards or upwards delivered free to most parts of Scotland or Ireland. Any width of Netting under 8 feet made at proportionate prices.

☞ *Every description of Netting warranted to give satisfaction, and if not approved will be exchanged, or may be returned unconditionally.*

**J. B. BROWN & CO., 18, CANNON STREET, LONDON, E.C.**

# MESSRS. J. B. BROWN & CO.'S
# IMPROVED WROUGHT IRON HURDLES
OF
## BEST STAFFORDSHIRE IRON.

No. 1 Hurdle.—Very useful for general purposes, combining strength with good appearance. 3 feet 6 inches high, six bars round iron, top bar ⅝ inch diameter, five under bars ½ inch; two side uprights flat iron, 1¼ inch by ¼ inch, and middle upright 1½ by ¼ inch. Weight about 48 lbs. Present price delivered in London and at most of the principal Railway Stations, 2*s.* 5*d.* per yard, or about 5*s.* 3*d.* each hurdle of 6 feet 6 inches long.

*Specifications and prices of others in Illustrated Catalogue of Iron and Wire Fencing, Hurdles, Gates, Wire Netting, Garden Rollers and Engines, Ornamental Vases, &c., on application.*

**J. B. BROWN & CO., 18, CANNON STREET, CITY, LONDON, E.C.**

---

## THE AGRICULTURAL ENGINEERS' COMPANY
(LIMITED).

*Directors.*

ANDREWES, CHAS. J., Esq., of the firm of Messrs. Barrett, Exall, & Andrewes, Agricultural Engineers, Reading.

BENTALL, E. H., Esq., Agricultural Engineer, Heybridge, near Maldon, Essex.

FOWLER, JOHN, Esq., Patentee of the Steam Plough, 28, Cornhill, London, E.C.

TURNER, E. R., Esq., of the firm of Messrs. E. R. & F. Turner, Agricultural Engineers, Ipswich.

WARNER, CHAS. B., Esq., of the firm of Messrs. John Warner & Sons, Bell and Brass Founders to her Majesty, and Hydraulic Engineers, 8, Crescent, Jewin Street, London, E.C.

*Bankers*—The Bank of England.

CENTRAL DEPOT AND SHOW ROOMS—
Swan Lane, Upper Thames Street, London, E.C.

This Company has been for the purpose of supplying the public direct, with Agricultural Implements and Machinery of the most approved construction, at Manufacturers' fixed prices.

With an ample Capital and the best and most extensive premises in London at its disposal, the Company can offer to Shippers, Colonists, Agriculturists, Foreign Buyers, Amateur Farmers, Gardeners, &c., the following *exclusive* advantages:—

The opportunity of purchasing from the largest and best selected Stock in England.

The certainty of being supplied with none but the best made and most efficient Implements of their class.

Promptitude, regularity, and care in the execution of all orders intrusted to it

Reliable information and advice as to the requirements of particular districts and foreign markets.

Particular attention is called to the fact that the direction is composed exclusively of well-known Makers, whose practical knowledge and standing will afford an invaluable guarantee to purchasers of the material, workmanship, and adaptability to its use of every article sold.

Shippers, Colonists, and Foreign Buyers will be relieved of all anxiety and trouble by intrusting the execution of their orders to the Company.

The Stock will be found to comprise the manufactures of the leading makers. Illustrated Catalogues with prices, in English, French, German, and other languages will shortly be ready for distribution. Meanwhile Price Lists and every information may be obtained post free upon application at the offices of the Company.

Orders addressed to the Agricultural Engineers' Company (Limited), Swan Lane, Upper Thames Street, London, E.C., will have prompt attention.

---

"FRIGI DOMO."—Patronised by her Majesty, the Queen, the Duke of Northumberland for Syon House, His Grace the Duke of Devonshire for Chiswick Gardens, Professor Lindley for the Horticultural Society, Sir Joseph Paxton for the Crystal Palace, Royal Zoological Society, late Mrs. Lawrence of Ealing Park, and —Collier, Esq., of Dartford.

PROTECTION FROM THE MORNING AND EVENING FROST.

"FRIGI DOMO," a Canvas made of patent prepared Hair and Wool, a perfect non-conductor of Heat and Cold, keeping, wherever it is applied, a fixed temperature. It is adapted for all horticultural and, floricultural purposes, for preserving Fruits and Flowers from the scorching rays of the sun, from wind, from attacks of insects, and from morning frosts. To be had in any required lengths.

Two yards wide, 1*s.* 6*d.* per yard run.

Four, 3*s.* per yard; also,

An improved make three yards wide, 2*s.* 6*d.* per yard run.

ELISHA THOMAS ARCHER, wnole and sole manufacturer, 7 Trinity Lane, Cannon St., City, E.C., and of all Nurserymen and Seedsmen throughout the kingdom. "It is much cheaper than mats as a covering."

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SMITHFIELD CATTLE SHOW.
STANDS 639 TO 641.
CATTLE, INSTRUMENTS, PROBANGS, &c.

READ'S PATENT VETERINARY INJECTING SYRINGES; Improved HOLLOW PROBANGS, for Relieving Hoven or Choked Bullocks, Calves, Sheep, &c.

READ'S NEW PATENT GARDEN WATERING ENGINES, MACHINES, and SYRINGES, with all the latest improvements; manufactured only by the Patentee,

RICHARD READ,
Instrument Maker (by Special Appointment) to her Majesty,
35, Regent Circus, Piccadilly, London, W.

*** Descriptions sent Post Free.

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FOWLER'S PATENT STEAM PLOUGH has gained the following prizes:—

The Royal Agricultural Society's Prize, at Warwick, July 1859, 50*l.*

The Royal Agricultural Society's Prize, at Chester, July 1858, 500*l.*

The Highland Society's Special Prize at Stirling, Oct. 1857, 200*l.*

And at other Agricultural Meetings in the United Kingdom, Prizes amounting to 175*l.*

For further particulars, prices, and Catalogues apply to JOHN FOWLER, JUN., 28, Cornhill, London, E.C.

---

IMMEDIATE ORDERS WILL PREVENT DISAPPOINTMENT.

"SIGMA'S" UNIVERSAL SEED PLANTERS (Dibbles), vastly improved since the Prize of the Royal Agricultural Society was awarded them. The "MULTUM IN PARVO," forming eight perfect implements, highly commended, see testimonials. The Manure Distributor carried off the Prize Medal in 1851, recently much improved, see *Gardeners' Chronicle*, July 30 and August 6th. "Simple, promising, and ingenious" The STEEL DRAW SHAVE HOE clears a row between Turnips at one sweep. Engravings sent.—C. POWELL, Hurstgreen, Sussex. All Patented.

---

PARKES' STEEL DIGGING FORKS.

BURGESS AND KEY, 95, Newgate St., E.C., London, being the Wholesale and Retail Agents for these celebrated TOOLS have always a large Stock on hand from which their Customers may select what they may require.

ANTHONY'S PATENT AMERICAN CHURN.—The FIRST PRIZE was again awarded to this Churn in Competition with several others at the Chester Meeting of the Royal Agricultural Society; it has obtained the First Prize given by the Society at every Meeting since 1850. Messrs. BURGESS & KEY, 95, Newgate Street, E.C., strongly recommend it as the most perfect Churn now in use. Full particulars sent on application.

---

PATENT GUTTA PERCHA SOLES.—IMPORTANT TO GARDENERS.—The Gutta Percha Company have the pleasure to acknowledge the receipt of the following letter from G. GLENNY, Esq., the celebrated Florist:—

"Gentlemen,—I have worn Gutta Percha Soles and Heels these two years, and being so much in a garden as I necessarily am in all weathers, and with the ground in all states, I would on no account be without them. As a matter of economy I would recommend Gardeners to use them, for they may repair the worn part at all times by warming the material at the fire, and pressing it from the thick parts to the worn parts, as easily as if it were so much dough. I think it the duty of all persons who must occasionally wet their feet to adopt a material that completely defies damp. Many a gardener would escape colds and rheumatism by the use of Gutta Percha Soles.

"Your obedient servant, G. GLENNY."

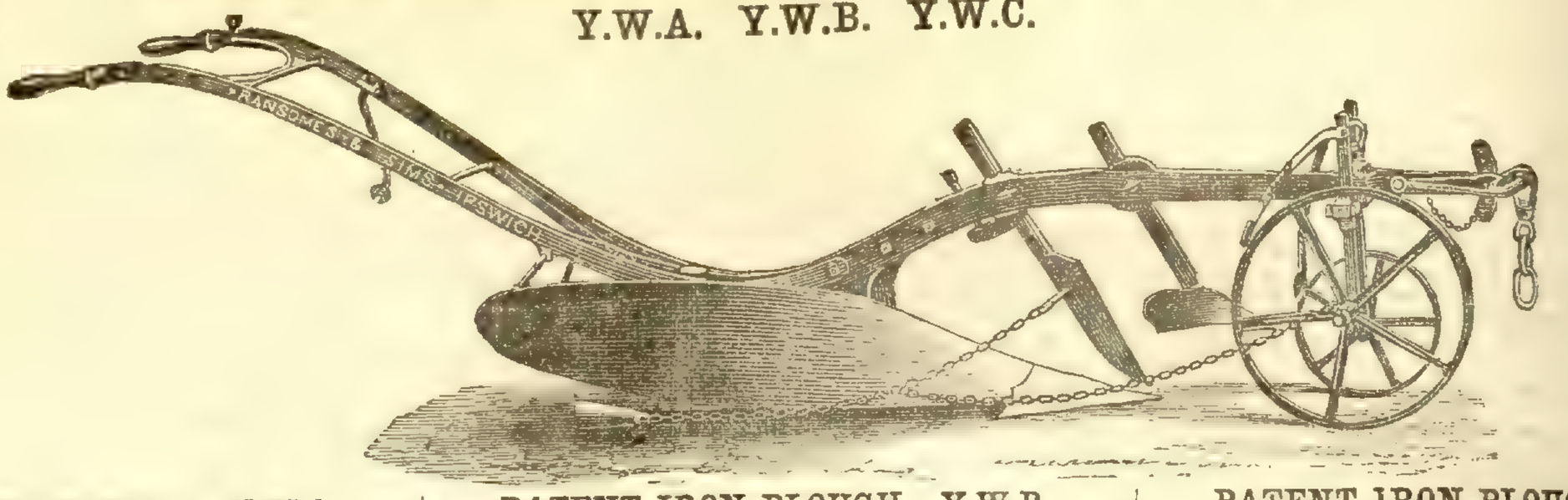
Every variety of Gutta Percha articles, such as Mill Bands, Tubing, Soles, Sheet, Pump Buckets, Fire Buckets, Bosses, Union Joints, Flasks, Bottles, Bowls, Chamber Vessels, Toilet Trays, Sponge Bags, Curtain Rings, Galvanic Batteries, Talbotype Trays, &c., manufactured by the Gutta Percha Company, and sold by their wholesale dealers in town or Country.—The Gutta Percha Company, Patentees, 18, Wharf Road, City Road, E.C., London.

# RANSOMES AND SIMS, IPSWICH,

BEG TO CALL THE ATTENTION OF AGRICULTURISTS TO THEIR NEW SERIES OF

## WARWICK PRIZE PLOUGHS.

### Y.W.A. Y.W.B. Y.W.C.




### PATENT IRON PLOUGH. Y.W.A.

This Light Two-horse Plough will make excellent work at any depth not exceeding 6 inches. The body can be removed, and a ridging body, suitable for every purpose of ridge work, placed in its stead.

| | |
|---|---|
| Price, with two wheels | £4 2 6 |
| Skim Coulter and Drag Chain, extra | 0 7 0 |
| Steel, instead of Cast Breast, extra | 0 7 0 |
| Shares, per dozen | 0 9 6 |
| Ridging Body | 1 17 6 |

**Received a prize of £3 at Warwick.**

### PATENT IRON PLOUGH. Y.W.B.

FOR GENERAL PURPOSES.

This Plough will make excellent work at any depth not exceeding 8 inches. The body can be removed, and a ridging body, suitable for every purpose of ridge work, placed in its stead.

| | |
|---|---|
| Price, with two wheels | £4 7 6 |
| Skim Coulter and Drag Chain, extra | 0 7 0 |
| Steel, instead of Cast Breast, extra | 0 7 6 |
| Shares, per dozen | 0 9 6 |
| Ridging Body | 1 17 6 |

**Received a prize of £4 at Warwick.**

### PATENT IRON PLOUGH. Y.W.C.

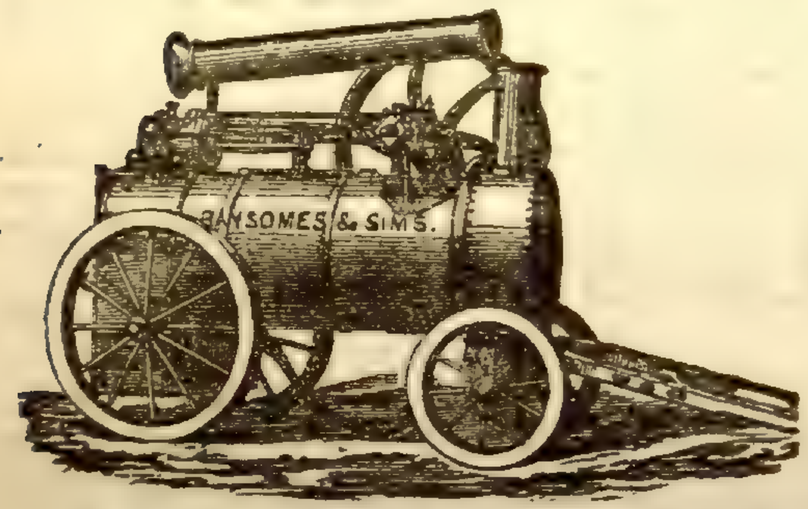
This Plough will make excellent work at any depth not exceeding 12 inches in any soil.

| | |
|---|---|
| Price, two wheels | £3 [illegible] |
| Wrought, instead of Cast Frame | 1 [illegible] |
| Skim Coulter and Drag Chain | [illegible] |
| Steel, instead of Cast Breast | [illegible] |
| Shares, per dozen | [illegible] |

**Received a prize of £2 at Warwick.**

RANSOMES' PLOUGHS *have received* TWENTY FIRST PRIZES, 1 GOLD *and* 11 SILVER MEDALS *from the Royal Agricultural Societies of England, Ireland,*

## PORTABLE STEAM ENGINES & PATENT PORTABLE COMBINED STEAM THRESHING MACHINES.




The above cut represents one of our STANDARD PORTABLE ENGINES. They are made of the best quality of materials and workmanship; are remarkable for their simplicity, durability, economy of fuel, and their capability of making steam. They are very light draught for the Horses.

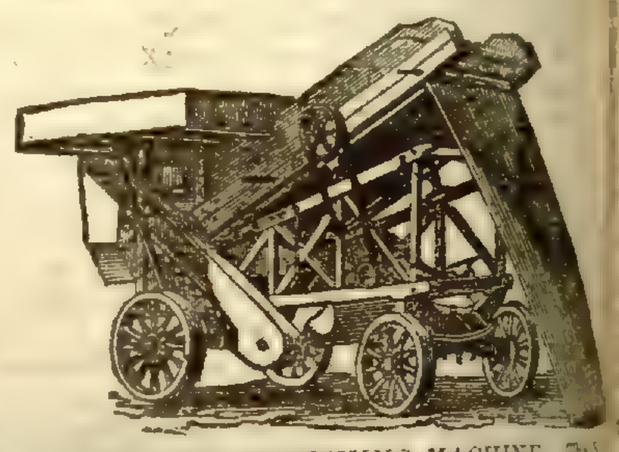
### PRICES.

3-Horse Engine, 125*l.*, and No. 7 Single Blast Threshing Machine suitable for ditto, 75*l.*; Strap, 4*l.*; Waterproof Cover for Machine, 1*l.*; Barley Awner, 2*l.* extra.

7-Horse Engine, 210*l.*, and No. 1 Single Blast Threshing Machine suitable for ditto, with Common Drum and Iron Wheels, 100*l.*; Driving Strap, 6*l.* 6*s.*; Waterproof Cover for Machine, 2*l.* 5*s.*; if with Patent Drum, 5*l.* extra; if with Wood Wheels, 3*l.* extra; if without an Engine, 5*l.* extra.

8-Horse Engine, 215*l.*, and A 1 Double Blast Threshing Machine suitable for ditto, with common Drum and Wood Road Wheels, 125*l.*; Driving Strap, 6*l.* 6*s.*; Waterproof Cover for Machine, 2*l.* 5*s.*; if with Patent Drum, 5*l.* extra; if without an Engine, 5*l.* extra.

SINGLE BLAST MACHINE. No. 1.



The above cut represents our No. 1 PORTABLE THRESHING MACHINE. The [illegible] is built on the same Model in all its important parts, and can be thoroughly recommended as a most efficient Machine. Each of them has a Patent Shaker, one Blower, Riddle, Elevators; and the No. 1 has also a Barley Awner.

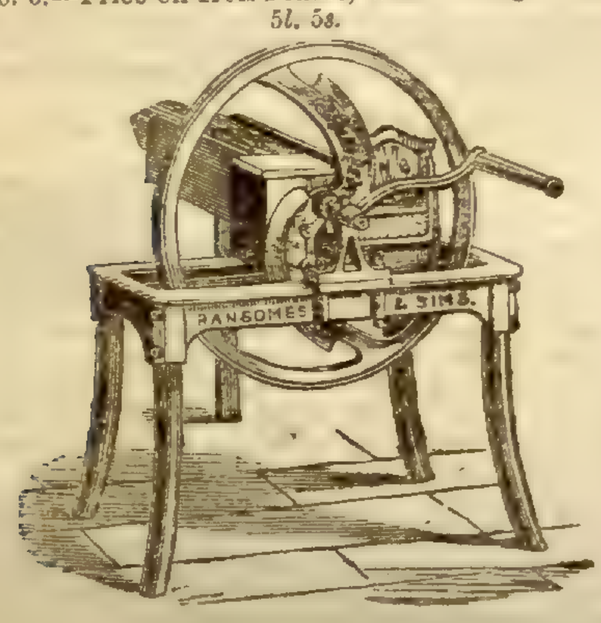
The A 1 or Double Blast Machine is on the same Model as the No. 1, but is furnished with a second Blower, and set of Dressing Apparatus, with a Patent Screen by means of which Grain can be well and quickly prepared for Market.—Seven GOLD MEDALS and one highest DIPLOMA of MERIT have been awarded to these Machines. We shall be happy to furnish Testimonials from persons using our Single Blast Threshing Machines as to their superiority in economy of power, extraordinary durability, and their capability of turning out a large quantity of work per day.

CHESTER FIRST PRIZE.

### HAND CHAFF-CUTTER,

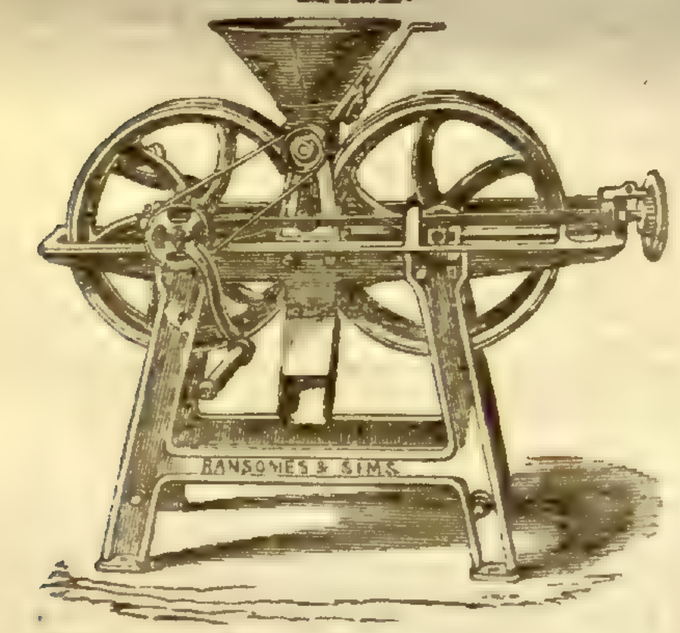
BIDDELL'S PATENT.

No. 3.—Price on Iron Frame, with Wrought Legs, 5*l.* 5*s.*




CHESTER FIRST PRIZE.

### SMOOTH ROLLER BRUISING MILL.



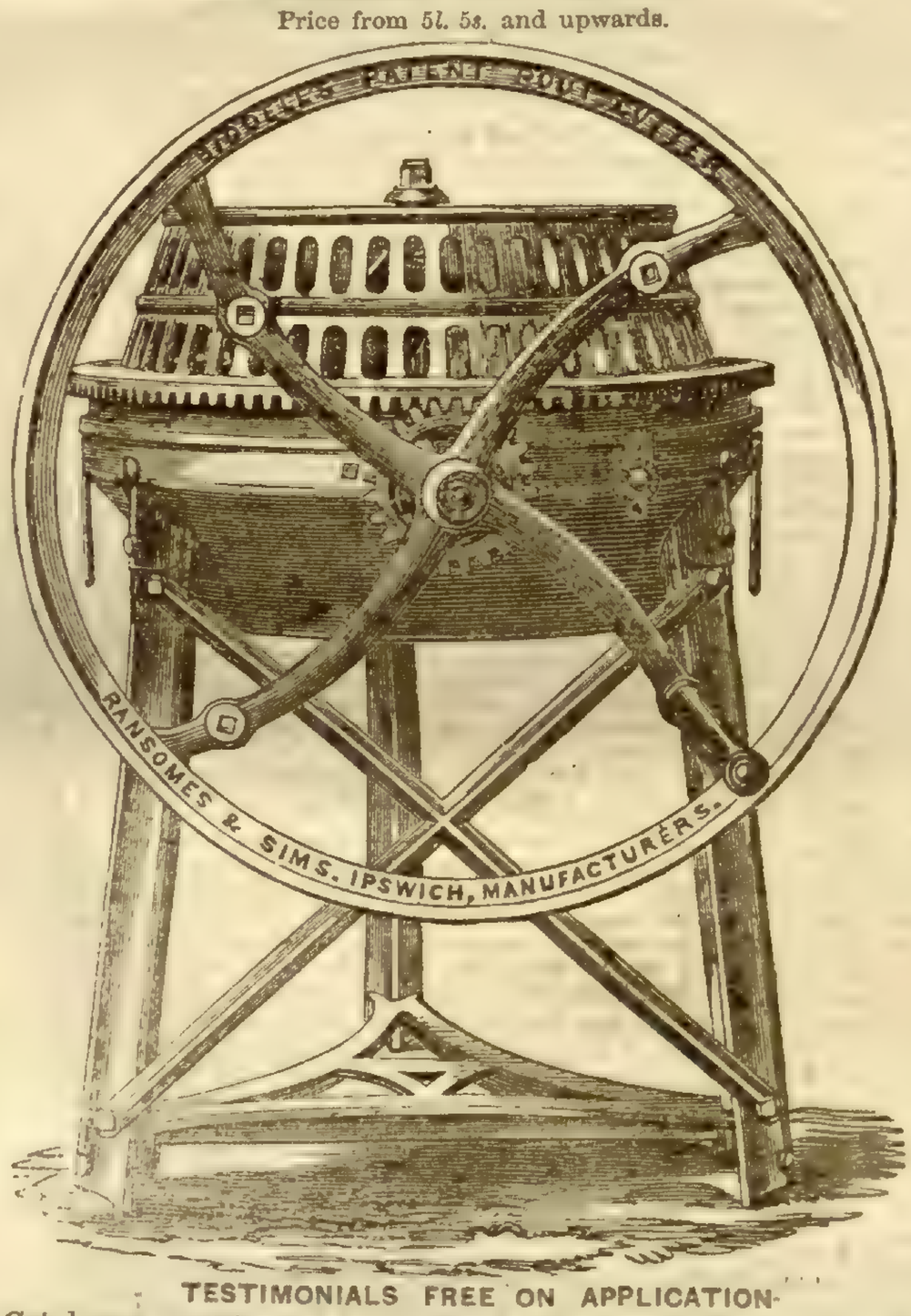

No. 6.—Price £10.

CHESTER FIRST PRIZE.

### ROOT CUTTER FOR POWER.

BIDDELL'S NEW PATENT.

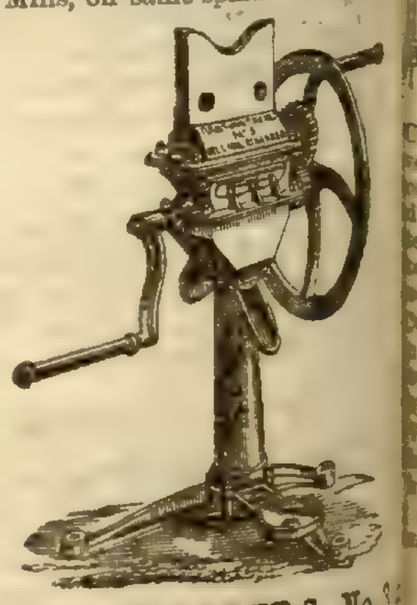
Price from 5*l.* 5*s.* and upwards.




### BIDDELL'S PATENT [illegible] MILL

*On Iron Columns, for hand power*

| | |
|---|---|
| Patent Bean Cutter | [illegible] |
| Patent Steel Oat Mill | [illegible] |
| Patent Combined Mill, No. 10—Bean and Oat Mills, on same spindle | [illegible] |



### OIL-CAKE BREAKERS, No. 3

No. 3, for Lambs, Sheep, or Cattle, [illegible] price 5*l.* 5*s.*, will break the hardest Cake [illegible] or Cattle, separating the dust at the same [illegible]

TESTIMONIALS FREE ON APPLICATION.

*Illustrated Catalogues, post free, on application to the Orwell Works, or to our London Agent,*

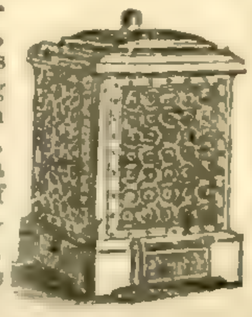
SHEPPARD RANSOME, 31, ESSEX STREET, STRAND, W.C.

LOOMES AND CO.'s CABLE PATTERN GARDEN EDGING

may be obtained of
Messrs. HOOPER AND CO.,
Covent Garden Market, W.C.

IMPROVEMENTS IN HEATING, &c.

MUSGRAVE'S PATENT SLOW COMBUSTION STOVE, for Warming Public Buildings, Hall, Shops, Conservatories, Factories, Drying Rooms, &c. Will burn in Churches from Saturday till Sunday evening, avoiding attention during the hours of worship. In Halls will burn day and night for weeks, with little care. Capable of warming a large apartment for 24 hours, at a cost of 2d.; and deserving of special attention, because of its safety, healthfulness, durability, and extreme simplicity. This Stove is the nearest approach to warming by hot water.



MUSGRAVE'S PATENT STABLE FITTINGS AND HARMLESS LOOSE BOXES have obtained the award of a large Council Medal from the R. I. A. Society for the following improvements:—1st, The Horse cannot injure himself or others in the same stable if he breaks loose in his stall. 2d, He cannot waste the hay. 3d, He can have cut or uncut hay at pleasure 4th, He has clean water always before him. 5th, A pure and wholesome atmosphere is secured. 6th, The whole fittings are stronger than usual, without increase in price, and there is no risk of infection.

The Loose Box is really what its name denotes, and the most spirited Horse may be turned into it without danger.

MUSGRAVE'S PATENT IRON COW-HOUSE FITTINGS, as approved by the Board of Works, adopted in the Ulster Model Farm, and by many of the most eminent Stock Breeders in the Kingdom, are made wholly of iron, very durable, cleanly, and attractive in appearance. The fodder is always fresh, being freely exposed to the air, removed from the breath of the animal, and separated from the roots or damp food. The range of Troughs can be quickly filled with water for the use of the Cows, or for washing out in case of epidemic, and the cost is very moderate.

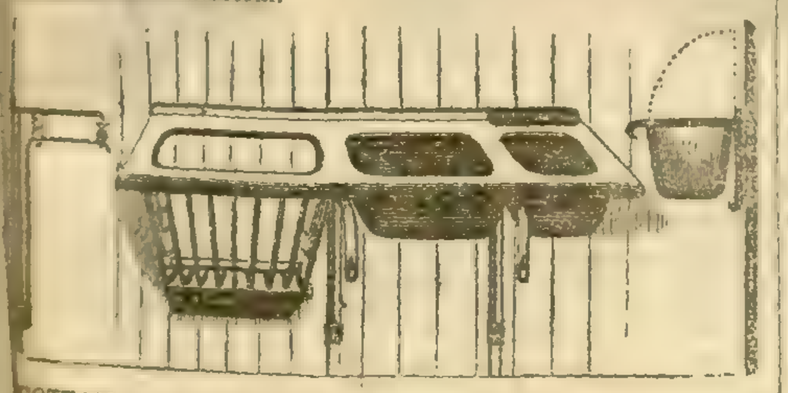
These inventions being distinguished for strength, simplicity, and practical usefulness will repay public inquiry.

MUSGRAVE BROTHERS are also Makers of Wire Fencing, Hurdles, Field and Entrance Gates, Corn Rick Stands, Conservatories, Hot-water Apparatus, Verandahs, Rural Bridges, &c.; and their works being favourably placed for cheap labour and materials, they can offer corresponding advantages in price.

MUSGRAVE'S Patent Field Gates have gained the 1st Prize from the R. I. A. Society for strength, durability, and cheapness.

For particulars address MUSGRAVE BROTHERS, Ann Street Iron Works, Belfast.

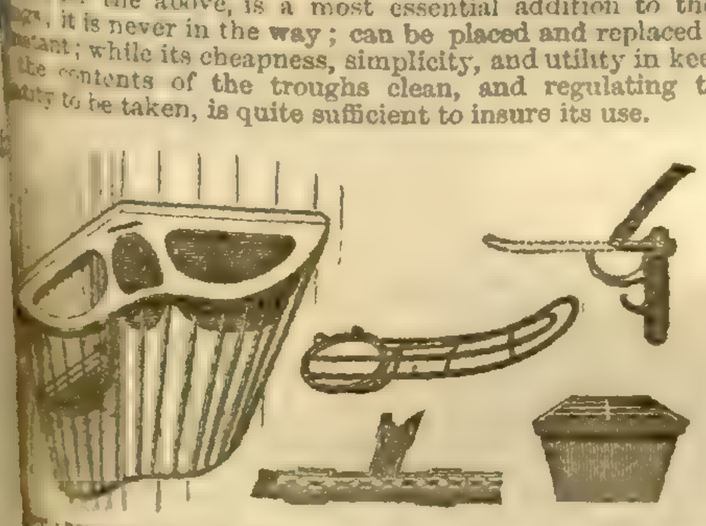
COTTAM'S PATENT INVENTIONS FOR STABLE REQUISITES, awarded a Prize at the Paris Exhibition, patronised by the English and French Governments, as well as by the principal Nobility, Gentry, and Hunting Establishments in the kingdom. In use at her Majesty's Stables, Aldershott and Balmoral.



COTTAM AND COMPANY, Winsley Street, W., are the original inventors of the PATENT ENAMELLED MANGER, Water Trough, and Wrought Iron Rack, united to an iron top-plate, forming one complete and useful fixture, having COTTAM'S patent noiseless halter guide and collar rein attached, which is fixed to the back of the manger, and works with ease and freedom up or down the guide bar.

COTTAM'S NEW PATENT SEED-BOX, an important addition to the above fittings, being simple in construction, light, and durable, promotes cleanliness, and is economical in its results.

COTTAM'S PATENT PERMANENT ATTACHED DROP FEEDER for the above, is a most essential addition to their fittings, it is never in the way; can be placed and replaced in an instant; while its cheapness, simplicity, and utility in keeping the contents of the troughs clean, and regulating the quantity to be taken, is quite sufficient to insure its use.



COTTAM'S PATENT SADDLE and HARNESS BRACKET can be used with great advantage where space is an object, as it can be turned up out of the way when not in use.

COTTAM'S IMPROVED WROUGHT IRON VENTILATING NET preserves the shape and allows a free admission of air to the under parts of the saddle.

COTTAM'S IMPROVED SURFACE CUTTER, with perforated cover, the use of which prevents accidents, and may be cleaned out.

COTTAM'S CAST-IRON SANITARY TRAP, from its improved construction, gives a full water passage, and does not allow smell to ascend from the drain.

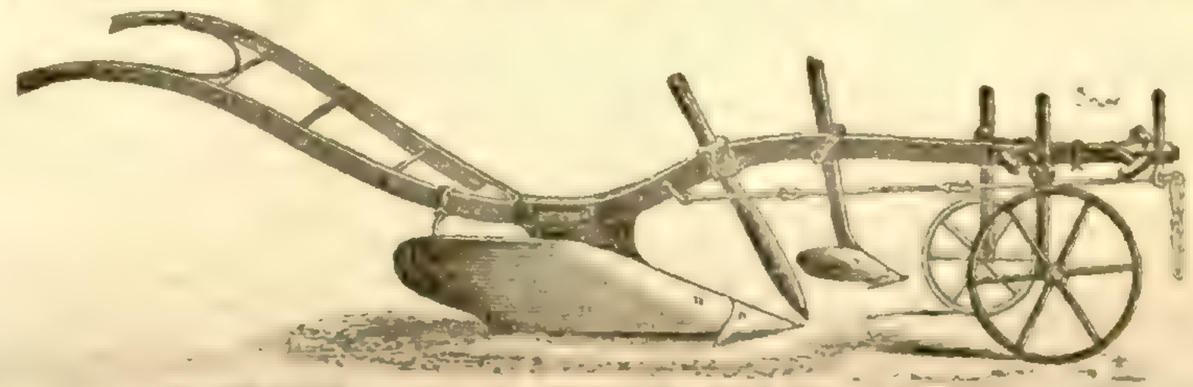
COTTAM'S LOOSE-BOX FITTINGS, and every article for the loose box and stable, kept in stock, plain, galvanised, and ornamental. Iron gates, fencing, hurdles, &c.

Illustrated Catalogue and Estimates, gratis, upon application to COTTAM and COMPANY, 2, Winsley Street, Oxford Street, W. (opposite the Pantheon).

BEDFORDSHIRE AGRICULTURAL SOCIETY, 1859.

J. AND F. HOWARD have much pleasure in informing the Public that at the Ploughing Matches of the above Society, just concluded,

HOWARD'S CHAMPION PLOUGH



Gained SEVEN out of EIGHT FIRST PRIZES, and SEVEN out of EIGHT SECOND PRIZES,

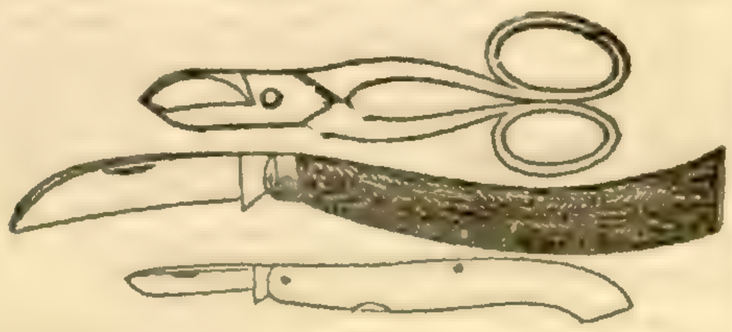
Thereby more than ever sustaining its position at home, while, at the recent Meetings of the Royal Agricultural Society of England and the Highland and Agricultural Society of Scotland, it also gained the

Two Chief Prizes as the Best Plough for General Purposes.

CATALOGUES, with full particulars, sent post free on application to

J. & F. HOWARD, BRITANNIA IRON WORKS, BEDFORD.

PAXTON WORKS, SHEFFIELD, ESTABLISHED 1798.



SAYNOR AND COOKE'S warranted PRIZE PRUNING and BUDDING KNIVES, SCISSORS, &c.—Sold by all respectable Nurserymen and Seed Merchants in the three Kingdoms.

PRICES REDUCED.

H. J. MORTON AND CO., Galvanised Iron Works, 2, Basinghall Buildings, Leeds.

GALVANISED IRON ROOFING

for Farm Buildings and other Roofs; the cheapest, most durable, and neatest Roofing in use; also Spouting at 10½d. per yard.

WIRE STRAND CABLE FENCING

(formed of Twisted Wires like a rope or cable), the strongest cheapest, and neatest fence in use, will resist the largest cattle and will not bend or get out of form by trespassing upon or over. Price, with five lines of the Galvanised Strand, iron main posts, and pronged Standards, 1s. 2½d. per yard.

This fence is far cheaper than posts and rails, or any kind of iron fencing; and possesses four times the strength of solid bars. Will not rust nor corrode. Upwards of 1200 miles of this Fencing supplied.

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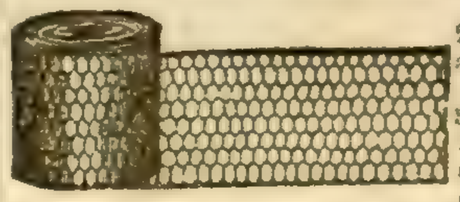

Galvanised, 24 ins. wide, 2-inch mesh, 5½d., 7½d. and 9½d. per yard.

Galvanised, 24 ins. wide, 3-inch mesh, 4d., 5d., and 6d. per yard. The Netting made any width, and with openings of any size.

GALVANISED IRON CHAIN CAMP STOOLS & CHAIRS, POULTRY FOUNTAINS & FEEDERS, PRONGED DAHLIA RODS AND ROSE STAKES, &c.

Strong CATTLE HURDLES from 2s. per yard.

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of all sizes for the use of Private Houses, Mansions, Railway Stations, Mills, Collieries, Mines, Villages, &c. Works from 10 to 500 lights estimated for. The works can be entrusted to an ordinary labourer.—Apply to

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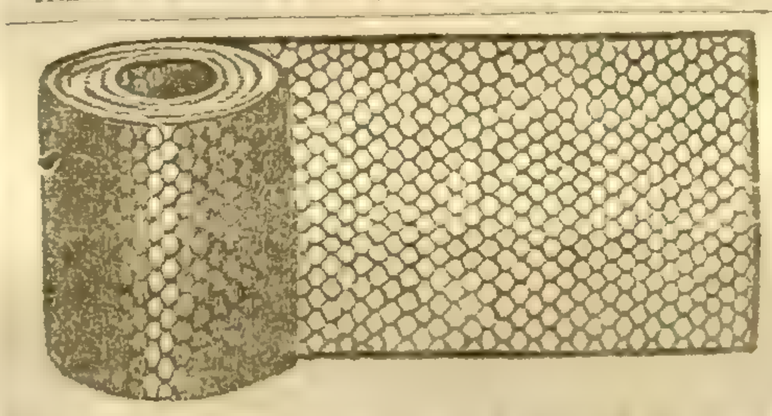

BARNARD, BISHOP, AND BARNARD, Market Place, Norwich, in consequence of improvements in their machinery for the manufacture of the above article, have been enabled to make a great reduction in the prices.

| | Galvanised. | Japanned Iron. |
|---|---|---|
| 2-inch mesh, 24 inches wide .. .. | 5d. per yd. | 4d. per yd. |
| 2-inch ,, strong do. .. .. | 6 ,, | 4½ ,, |
| 2-inch ,, intermediate, do. .. | 7 ,, | 5½ ,, |
| 2-inch ,, extra strong, do. .. | 9½ ,, | 7½ ,, |
| 1⅝-inch ,, 24 inches wide .. .. | 5½ ,, | 4⅛ ,, |
| 1⅝-inch ,, strong, do. .. .. | 6½ ,, | 5¼ ,, |
| 1⅝-inch ,, intermediate, do. .. | 7½ ,, | 6 ,, |
| 1⅝-inch ,, extra strong, do. .. | 10 ,, | 8 ,, |

All the above kinds can be made of any width (under 8 feet) at proportionate prices. If the upper half is of a coarser mesh than the lower, it will reduce the prices about one-fifth.

Strong Galvanised Poultry Netting, 8½d. per yard, 3 feet wide Galvanised Sparrow-proof Netting for Pheasantries, 2½d. per square foot. Delivered free of expense in London, Peterborough, Hull, or Newcastle. Manufacturers of Improved Strained Wire Cattle and Deer Fencing, Iron Hurdles, &c.

Illustrated Catalogues and Patterns forwarded by post.

WARNER'S PATENT VIBRATING STANDARD PUMPS.

PATENT CAST-IRON PUMPS for Farms, Cottages, Stable Yards, &c., where the Well does not exceed 28 feet in depth; fitted with WARNER'S Patent Metal Bucket and Valve, which cannot clog in action. These Pumps can be made right-handed, left-handed, or with handle opposite the nose by removing four screws only.

| Diameter of Barrel. | Height. | | £. | s. | d. |
|---|---|---|---|---|---|
| 2½ in. | short 1 ft. 7 in. | Fitted for lead, gutta percha or cast iron flanged pipe as required. | 1 | 5 | 0 |
| 2½ ,, | long 3 ,, 3 ,, | | 1 | 10 | 0 |
| 3 ,, | ditto 3 ,, 6 ,, | | 2 | 4 | 0 |
| 3½ ,, | ditto 3 ,, 6 ,, | | 2 | 9 | 0 |
| 4 ,, | ditto 3 ,, 6 ,, | | 2 | 18 | 0 |
| 2½ ,, | short, with 15 feet of Lead Pipe attached, ready for fixing .... | | 2 | 10 | 0 |
| 2½ in. | long ditto ditto | ditto | 2 | 14 | 0 |

The short barrel Pump is very convenient for fixing in situations of limited height and space, for the supply of coppers and sinks in Wash-houses with soft water from underground tanks, or in Hot, Forcing, and Plant Houses; they may be fixed, when desired, under the stage.

May be obtained of any Ironmonger or Plumber in Town or country, at the above prices, or of the Patentees and Manufacturers, JOHN WARNER & SONS, 8, Crescent, Jewin Street, London, E.C.

Every description of Machinery for Raising Water by means of Wheels, Rams, Deep Well Pumps, &c.; also Fire and Garden Engines, &c. &c.—Engravings sent on application.

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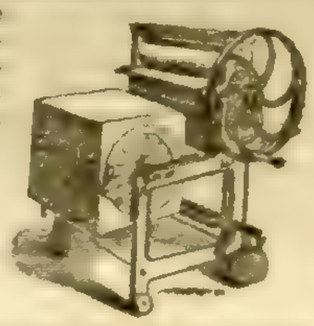
"I very gratefully acknowledge the extraordinary patronage I have received from all parts of England, Ireland, and Scotland, and which has very far exceeded my most sanguine expectations." — THOMAS BRADFORD, Patentee, Cathedral Steps, Manchester. London Office: 63, Fleet Street, E.C.



N.B. My Machines always have, and always will be sent on approval, if desired, before payment. Description and Price free by post.

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CENTRAL DEPOT AND SHOW ROOMS—
Swan Lane, Upper Thames Street, London, E.C.

This Company has been for the purpose of supplying the public direct, with Agricultural Implements and Machinery of the most approved construction, at Manufacturers' fixed prices.

With an ample Capital and the best and most extensive premises in London at its disposal, the Company can offer to Shippers, Colonists, Agriculturists, Foreign Buyers, Amateur Farmers, Gardeners, &c., the following *exclusive* advantages:—

The opportunity of purchasing from the largest and best selected Stock in England.

The certainty of being supplied with none but the best made and most efficient Implements of their class.

Promptitude, regularity, and care in the execution of all orders intrusted to it.

Reliable information and advice as to the requirements of particular districts and foreign markets.

Particular attention is called to the fact that the direction is composed exclusively of well-known Makers, whose practical knowledge and standing will afford an invaluable guarantee to purchasers of the material, workmanship, and adaptability to its use of every article sold.

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The Stock will be found to comprise the manufactures of the leading makers. Illustrated Catalogues with prices, in English, French, German, and other languages will shortly be ready for distribution. Meanwhile Price Lists and every information may be obtained post free upon application at the offices of the Company.

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## TANSLEY NURSERY, NEAR MATLOCK.

To GENTLEMEN PLANTING AND THE TRADE.

J. SMITH, SEN., begs to offer his STOCK OF TREES AND SHRUBS, of various sizes, and in addition to his general stock of the leading kinds, he has this season to offer an Extra Stock of many hundred thousands of fine Larches, Scotch Firs, and Highland Pines; a large quantity of Evergreens, Privets, Mahonia Aquifolium, and other plants for planting under cover. Many things are grown in large quantities, and will be sold on advantageous terms to the Trade and gentlemen requiring large lots.

CATALOGUES sent free on application. The Nurseries are on the Mansfield and Nottingham roads, and 2 miles from Matlock Bridge Station on the Midland Railway.

## IMPORTANT TO LANDHOLDERS.

FOR SALE, 200,000 LARCH FIR, 1½ to 2 feet at 15*s* per 1000.

200,000 LARCH FIR, 2 to 2½ feet, at 20*s*. per 1000.

50,000 LARCH FIR, 3 to 3½ feet, at 40*s*. ,,

FLUKE POTATOES for planting, warranted free from disease, at 4*s*. 6*d*. per bushel. Orders for the above to the amount of 5*l*. and upwards, Carriage paid to any Railway Station from Milford to London.—JACOB SCOTT MATTHEWS, Nurseryman, Seedsman, and Florist, Cardiff, South Wales.

ROBERT NEAL, NURSERYMAN, Wandsworth Common, S.W., begs to call the attention of buyers to his large and well-selected stock of EVERGREENS and FLOWERING SHRUBS, ORNAMENTAL TREES. AMERICAN PLANTS. FRUIT AND FOREST TREES, STANDARD AND DWARF ROSES of every description. A large stock of BOX-LEAF EVERGREEN PRIVET, from 1 to 6 feet for hedges; GREEN HOLLY, 1 to 6 feet; RICH BOG and LOAM for American Beds; LEAF MOULD. The Nursery is 10 minutes' walk from Clapham Common, and New Wandsworth Station, Crystal Palace Line.

## IMPORTANT TO PLANTERS.

ROBERT PAIN respectfully calls the attention of intending planters to an inspection of his very superior stock of PORTUGAL and COMMON LAURELS and YEWS, from 4 to 7 feet high, and as much through, fine specimens, and in the best possible condition for removal, being grown expressly for immediate effect. Standard Apples for orchards strong and well grown tall stems, so that cattle may not reach them. Peaches, Nectarines, and Apricots, Rider, half-standard, and dwarf-trained with extra large sized heads. Drooping Limes, Elms, Ash, and Willows in variety on tall stems.

Scarlet, Double White, and Pink Hawthorn, of large size; Scotch Spruce, Weymouth Larch, and other Firs, from 4 to 10 feet in height; Chesnut, Birch, Poplars, Elm, Mountain Ash, Laburnum, Walnut, fine specimens, 9 to 12 feet high.

There is every facility for conveyance, as the Nursery is convenient to the Great Western Railway Uxbridge Station.

Uxbridge Nursery, Middlesex.

## TRANSPLANTED FOREST TREES.

WOOD AND INGRAM beg to offer the following extra fine and well rooted stuff:—

ALDERS, 4 to 5 feet, 35*s*.; 5 to 6 feet, 40*s*. per 1000.

ACACIAS, 3 to 4 feet, 12*s*.; 4 to 5 feet, 15*s*.; 8 to 14 feet, 50*s*. per 100.

ASH, 3 to 4 feet, 30*s*.; 4 to 5 feet, 35*s*.; 5 to 6 feet, 40*s*.; 6 to 7 feet, 50*s*. per 1000.

BEECH, 2 to 3 feet, 30*s*.; 3 to 4 feet, 40*s*.; 4 to 5 feet, 50*s*. per 1000.

CHESNUT, SPANISH, 3 to 4 feet, 40*s*.; 4 to 5 feet, 50*s*.; 6 to 7 feet, 60*s*.; 7 to 8 feet, 80*s*. per 1000.

ELMS, NARROW-LEAVED ENGLISH, 2 years seedling, 8*s*. per 1000.

ELMS, HUNTINGDON AND HERTS, from layers, 3 to 4 feet, 15*s*.; 4 to 5 feet, 20*s*.; 5 to 6 feet, 25*s*.; 6 to 8 feet, 35*s*. per 100.

ELMS, HUNTINGDON, from grafts, 4 to 5 feet, 25*s*.; 5 to 6 feet, 30*s*.; 6 to 8 feet, 50*s*.; 8 to 10 feet, 70*s*. per 100.

FIR, SPRUCE, 1 to 1½ foot, 50*s*.; 1½ to 2 feet, 60*s*.; 2 to 3 feet, 70*s*. per 1000.

FIR, SCOTCH, 2 to 3 feet, 30*s*.; 2½ to 3 feet, 35*s*.; 3 to 4 feet, 50*s*. per 1000.

FIR, LARCH, 2 to 3 feet, 25*s*.; 3 to 5 feet, 35*s*.; 4 to 5 feet, 40*s*. per 1000.

HORNBEAM, 2 to 3 feet, 30*s*.; 3 to 4 feet, 35*s*.; 5 to 6 feet, 50*s*.; 4 to 5 feet, 40*s*. per 1000.

MAPLE, 1½ to 2 feet, 20*s*.; 2 to 3 feet, 25*s*.; 3 to 4 feet, 30*s*.; 4 to 5 feet, 40*s*. per 1000.

MAPLE, NORWAY, 3 to 5 feet, 8*s*.; 7 to 8 feet, 20*s*. per 100.

OAKS, BRITISH, 2 to 3 feet, 30*s*.; 3 to 4 feet, 40*s*.; 4 to 5 feet, 50*s*.; 5 to 6 feet, 80*s*. per 1000.

OAKS, TURKEY, 4 to 5 feet, 10*s*. per 100.

POPLAR, BLACK ITALIAN, 2 to 3 feet, 25*s*.; 3 to 4 feet, 30*s*.; 4 to 5 feet, 35*s*.; 5 to 6 feet, 40*s*.; 6 to 8 feet, 50*s*.; 8 to 10 feet, 65*s*. per 1000.

POPLAR, LOMBARDY, 4 to 5 feet, 10*s*.; 5 to 6 feet, 15*s*.; 6 to 7 feet, 20*s*.; 7 to 8 feet, 25*s*.; 8 to 10 feet, 50*s*. per 100.

POPLAR, ONTARIO, 6 to 7 feet, 20*s*.; 7 to 8 feet, 25*s*. per 100.

SYCAMORE, 2 to 3 feet, 25*s*.; 5 to 6 feet, 40*s*.; 6 to 8 feet, 45*s*. per 1000.

WILLOW, BEDFORD, CÆRULEAN, and HUNTINGDON, 4 to 5 feet, 30*s*.; 5 to 6 feet, 40*s*. per 1000.

Prices to the Trade on application.

W. & I.'s new CATALOGUE of NURSERY STOCK, including Fruit, Forest, and Ornamental Trees and Shrubs, Evergreens, Roses, &c., is now ready and will be forwarded free on application.—Nurseries, Huntingdon.

## NORTHAMPTON NURSERIES.

To NOBLEMEN, GENTLEMEN, AND OTHERS ENGAGED IN PLANTING.

JOHN PERKINS begs to call attention to his extensive Stock of FOREST and other trees, which are in the best possible condition for planting. The stock consists of many hundred thousands of the following:—

Ash, 2 to 3, 3 to 4, 4 to 5 feet
Alder, 4 to 5, 5 to 6 feet
Spanish Chesnuts, 3 to 4, 4 to 5 feet
Horse Chesnuts, 2 to 3 feet
Firs, Larch, 1 to 2, 2 to 3, 3 to 4 feet
Firs, Scotch, 1 to 2, 2 to 3 feet
Firs, Spruce White, 1½ to 2, 2½ to 3 feet
Firs, Balm of Gilead, 1½ to 2, 2 to 3, 3 to 4 feet
Firs, Weymouth, 2½ to 3 feet
Firs, Silver, 1½ to 2, 2½ to 3 feet
Pinus austriaca, 1 to 2, 2½ to 3 feet
Privets, 1 to 1½, 1½ to 2, 2 to 3, 3 to 4 feet
Laurels, 1, 1½ to 2, 2½ to 3 feet
Birch, 3 to 4, 4 to 5, 5 to 6 feet
Beech, 2 to 3, 5 to 6 feet
Elms, Scotch, 2 to 3, 3 to 4, 4 to 5, 5 to 6 feet
Hazel, 2 to 3, 3 to 4 feet
Mountain Ash, 3 to 4, 4 to 5, 5 to 6 feet
Oaks, English, 1½ to 2, 2½ to 3, 3 to 4 feet
Oaks, Turkey, 1½ to 2, 2 to 3 feet
Poplar, Ontario, 1½ to 2, 2 to 3, 3 to 4 feet
Poplar, Black Italian, 1½ to 2, 2 to 3, 3 to 4, 4 to 5 feet
Poplar, Lombardy, 1½ to 2, 3 to 4, 4 to 5, 5 to 6 feet
Sycamore, 1½ to 2, 2 to 3 feet
Berberis aquifolia, 9 in., 12 in., 1½ to 2 feet
Black Thorn, 1 to 2, 2 to 3 feet
Fine transplanted Quicks of various sizes

In addition to the above, a large stock of Ornamental Trees, Flowering Shrubs, Evergreens, and Coniferous Plants, from 1 to 6 feet, and all intermediate sizes, such as Cedrus Deodara, Araucaria imbricata, Picea Pinsapo, Picea nobilis, and Picea Nordmanniana. Prices of the above on application.

5, West Side, Market Square, Northampton.

# PLANTING.

## A. PAUL & SON

RESPECTFULLY invite the attention of Gentlemen improving their Estates or forming new Gardens to the following TREES, &c., which they are prepared to sell at the lowest remunerating prices for a good standard quality. It is their practice to transplant every second year, in order that little or no loss may be incurred by removal. Many things are grown in large quantities and offered on advantageous terms to the Trade. An inspection of the stock is invited.

Abies alba, 2 to 6 feet
,, ,, glauca, 1 to 2½ feet
,, Clanbrasiliana and other dwarf Firs, 9 in. to 1½ ft.
,, canadensis, 3 to 6 feet
,, Douglasii, 2 to 6 feet
,, finedonensis, 2 to 3 feet
,, Menziesii, 1½ to 6 feet
,, monstrosa, 2 to 7 feet
,, Morinda, 2 to 10 feet
,, orientalis, 1 to 2 feet
,, rubra, 2 to 4 feet
,, 20 other sorts, 1 to 6 feet
Araucaria imbricata, 1½ to 6 ft.
Arbor-vitæ (see Thuja).
Alaternus silver & gold striped, 1½ to 4 feet
Arbutus, 6 sorts, 1 to 3 feet
Aucuba japonica, 1 to 3 feet
Box, 6 sorts, 1½ to 6 feet
Berberis Darwinii, 1 to 1½ foot
Cedrus africanus, 2 to 10 feet
,, Deodara, 1 to 12 feet
Cedar of Lebanon, 1 to 12 feet
,, Red, 2 to 5 feet
,, White, 3 to 5 feet
☞ The largest and finest stock of Cedars in the country.
Cistus, 12 sorts, 1 to 3 feet
Cryptomeria Lobbiana, 3 to 8 ft.
,, nana, 9 inches
Cupressus Corneyana, 1½ to 3 ft.
,, Knightii, 3 to 4 feet
,, Lambertiana, 3 to 7 feet
,, Lawsoniana, 9 in. to 1 foot
,, torulosa, 1½ to 3 feet
,, 12 other sorts, 1 to 4 feet
Daphne pontica, 2 to 3 feet
Furze, double, 1 to 1½ foot
Garrya elliptica, 1½ to 3 feet
Holly, green and variegated, 30 sorts, 1 to 6 feet
,, green standards, 5 ft. stems
Juniperus chinensis, 2 to 5 feet
,, communis pendula, 2 to 3 ft.
,, excelsa, 1 to 2½ feet
,, fragrans, 2 to 4 feet
,, glauca, 2 to 3½ feet
,, oblonga, 2 to 6 feet
,, ,, pendula, 2 to 3 feet
,, thurifera, 1½ to 6 feet
,, tamariscifolia
,, virginiana aurea, 1 to 2 feet
,, ,, pendula, 1½ to 3 feet
,, viridis, 1½ to 2½ feet
,, weeping, 5 feet stems
,, 20 other sorts, 1 to 6 feet
Laurel, Common, 1 to 5 feet
,, Portugal, 1½ to 4 feet
,, ,, Standards, 8 feet
Laurustinus, 1 to 2 ft. (bloom)
Ligustrum lucidum, 3 to 4 feet
,, japonicum, 1½ to 3 feet
,, ovalifolium, 5 feet
,, evergreen, 2 to 4 feet
Mahonia aquifolia, 1 to 3 feet
,, 6 other sorts, 1 to 3 feet
Phillyreas, of sorts, 1¼ to 7 feet
Picea amabilis, 1 to 1½ foot
,, nobilis, 1 to 4 feet
,, Nordmanniana, 1 to 4 ft.
,, Pinsapo, 1½ to 4 feet
,, Webbiana, 2 to 3 feet
,, 6 other sorts, 1 to 6 feet
Pinus austriaca, 2 to 4 feet
,, Benthamiana, 2 to 5 feet
,, calabrica, 3 to 4 feet
,, Cembra, 1½ to 4 feet
,, excelsa, 1½ to 12 feet
,, insignis, 3 to 6 feet
,, Llaveana, 2 to 5 feet
,, Laricio, 2 to 4 feet
,, macrocarpa, 2 to 3 feet
Pinus monticolor, 2 to 3 feet
,, monspeliensis, 3 to 5 feet
,, muricata, 3 to 5 feet
,, Montezumæ, 3 years seedlings
,, nivea (Snow Pine), 1½ to 5 ft.
,, Pallasiana, 2 to 3 feet
,, pinaster, 3 to 6 feet
,, pyrenaica, 4 to 6 feet
,, Sabiniana, 4 to 5 feet
,, 40 other sorts, 1 to 6 feet
Quercus (Oak), Evergreen 3 to 5 feet
,, Fordii, 4 to 6 feet
,, latifolia, 3 to 6 feet
,, Mirbeckii, 2 feet
,, Suber (Cork Oak), 3 to 4 ft.
Ruscus hypoglossum
Santolina chamæcyparissus, 1 foot
Taxodium distichum, 3 to 6 ft.
Taxus (Yew), adpressa, 2 to 4 ft.
,, canadensis, 1½ to 3 feet
,, cheshuntensis, 1½ to 6 feet
,, elegantissima, 1½ to 4 feet
,, gold striped, 1½ to 5 feet
,, ,, standards, 5 feet
,, Jackson's Weeping, 1½ foot
,, japonica, 1 to 2 feet
,, nana, 2 to 4 feet
,, nigra, 3 feet
,, stricta, 5 feet
,, yellow-berried, 2 feet
,, common, round, and fair 2 to 7 feet
,, Irish, 2 to 7 feet
,, 12 other sorts, 1 to 4 feet
Thuja americana, 3 to 8 feet
,, aurea, 1 to 3 feet
,, Chinese, 2 to 4 feet
,, gigantea, 2 to 3 feet
,, Wareana, 1 to 5 feet
,, 12 other sorts, 1 to 3 feet
Thujopsis borealis, 2 to 3 feet
Salisburia adiantifolia, 3 feet
Wellingtonia gigantea, 1 to 3ft.

Acer negundo variegata, 2 to 6 feet
Acacia, of sorts, 4 to 10 feet
Ash ,, 6 to 10 feet
Alder ,, 6 to 10 feet
Ailanthus ,, 8 feet
Almonds ,, 6 to 8 feet
Beech, purple, best variety, 5 to 8 feet
Birch, of sorts, 6 to 10 feet
Chesnut, Horse, of sorts, 1½ to 6 feet
,, Spanish, of sorts, 2 to 8 ft.
Catalpas, 6 to 8 feet
Caragana arborescens, 6 to 8 ft.
Cerasus padus aucubæfolius, 6 to 8 feet
Cornus mas variegata, 2 feet
Elms, 12 sorts, 6 to 8 feet
Gleditschias, 1½ to 8 feet
Koireuteria paniculata, 3 to 6 feet
Laburnums, 8 feet
Lilacs, Persian, 6 feet stems
Liquidambars, 2 to 3 feet
Limes, of sorts, 8 to 10 feet
Maple ,, 5 to 10 feet
Planes ,, 7 to 10 feet
Poplar ,, 6 to 10 feet
Oak ,, 6 to 10 feet
Robinia ,, 6 to 8 feet
Sophora japonica, 10 feet
Sycamore, 6 to 10 feet
Thorns, of sorts, 6 to 8 feet
Tulip Trees, 2 to 10 feet
Willows, American, and others
Quick, 2-year transplanted, fine

WEEPING AND LAWN TREES in very great variety.

FLOWERING TREES AND SHRUBS, in 300 species and varieties, including Althæa, Cytisus, Berberis, Daphne, Deutzia, Lilac, Purple Nut, Pyrus, Ribes, Rose Acacia, Syringa, Spiræa, Weigela, &c.

ROSES, an unrivalled collection. Standards, 12*s*. per dozen and upwards; dwarfs, 6*s*. per dozen and upwards. See separate Catalogue.

HARDY CLIMBING PLANTS, a large collection.

AMERICAN PLANTS, including Azaleas, Heaths, Kalmias, Magnolias, Rhododendrons, &c.

FRUIT TREES, consisting of all the choicest sorts, warranted true to name. The trained Peaches, Nectarines, Apricots, &c., particularly fine.

GRAPE VINES, from eyes, well ripened, short jointed canes 6 to 10 feet.

HERBACEOUS PLANTS, in 500 species and varieties.

HOLLYHOCKS, a fine stock of healthy and well established plants. See separate Catalogue.

☞ Particulars of Prices, &c., furnished on application. Carriage of all packages free to London; if a ton weight or upwards placed free on the Railway at any London Terminus. An inspection of the stock invited.

A. PAUL AND SON,

NURSERIES, CHESHUNT, HERTS,

13 miles N.E. of London, Eastern Counties Railway.

J. COCKS AND SON offer the undermentioned, of which are extra fine. To parties requiring large quantities they would Sell on still more liberal terms:—

QUICK, two years transplanted, 3 to 4 ft. .. 16*s*. 0*d*. per
,, if 10,000 or more taken .. .. 15 0 ,,
GOOSEBERRIES, Warrington or Ashton } 8*s*. p. 100 60*s*. p
,, Red, Whitesmith, and } 8*s*. p. 100 60*s*. p
,, other leading varieties }
CURRANTS, Red Grape .. .. .. 7 ,,
,, ,, Dutch } .. .. 8 ,,
,, ,, Goliath }
,, Black .. .. .. 7 ,,
,, ,, Naples .. .. 8 ,,
,, White Grape .. .. 8 ,,

The above are all well grown, and two or more years cut
Donington, Spalding.—Dec. 17.

## NEW AND CHOICE PLANTS.

JOHN STANDISH, in offering the following Plants can assure his customers that they are now in fine condition for sending out:—

MYOSOTIDIUM NOBILE, or Antarctic Forget-Me-Not, 31*s*. 6*d*.—This plant, from the Chatham Islands, is one of most remarkable that has been introduced for some years being totally distinct from all others. It has large leaves, 8 or 9 inches across, of a dark glossy green, and throws up magnificent trusses of bloom of the most beautiful and white, similar to a Forget-me-not, but of a giant A Drawing of it is published in Curtis's "Botanical Magazine" for September. A description taken from the same also published in the *Gardeners' Chronicle* of Sept wherein Dr. Lindley says:—"This is the handsome provisionally named Cynoglossum nobile by Dr. Hooker our last year's Volume, page 240. It is quite deserving the encomiums that have been passed upon it."

GLADIOLI, named varieties, from the choicest and collection in England, 6*d*. to 5*s*. each. Also a fine lot raised from seeds saved from the best flowers, all will flower in the summer of 1860. 7*s*. 6*d*. per dozen per 100. These are strongly recommended.

RHODODENDRON LIMBATUM.—Pale blush, bordered bright crimson. This has received several medals exhibitions for Rhododendrons, being very distinct of the most free flowering. 21*s*. each.

RHODODENDRON MINNIE.—White, very large chocolate-coloured spots, a fine flower, and remains long time in bloom. This is one of the most curiously Rhododendrons amongst all the white; it bears a noble of blooms, which cannot fail to be admired. 21*s*. and each. Selections can be made from one of the finest tions in Europe.

PHLOX MRS. STANDISH.—The purest white, with red eye, 5*s*. each. Also a large collection of the finest which J. S. has shown during the last summer and case received the First Prize. Plants from 1*s*. to 2*s*.

A CATALOGUE containing a full description of Hardy Plants in cultivation will be forwarded on
The Royal Nursery, Bagshot.

## FIVE THOUSAND INDIAN AZALEAS.

WILLIAM BARNES begs to invite attention his unrivalled Collection of the above beautiful admired class of plants. The sizes vary from 1 to height, worked upon strong healthy stocks, are in the possible condition, and perfectly free from thrip. The ing list comprises a portion of his extensive stock:—

Conqueror
Murrayana
Carminata
Duke of Devonshire
Triumphans
Perryana
Iveryana
Alba striata
Aurora
Coronata
Variegata
Lateritia
Gledstanesi
Alba magniflora
Frostii
Delecta
Alba magna
Holfordii
Ardens
Vivicans
Rosea elegans
Juliana
Elegans superb
Beauty of Reigate
Lawrenciana
Symmetry
Vesta
Gledstanesi excelsa
Buckinghamii
Maria
Chelsonii
Fentonii
Lucens
Constantia rosea
Lateritia grandiflora
Trotteriana
Gledstanesi formosa
Glory of Sunning Hill
Extransii [ford
Countess of Stam-
Beauty of Europe
Barclayana
Stanleyana
Crispiflora
Striata formosissi-
Admiration [ma
Criterion
Delicatissima
Magnificans
Alba Melior
Mrs. Fry
Perfecta elegans
Lateritia alba supreme
Empress Eugenie
Impératrice Josephine
Eulalie Van Geert
Queen Victoria (continental)
Reine des Belges
Queen of Perfection
Adolphe
Leeana
Louis Napoleon
The Bride
Gem (Ivery's)
Madame Miellez
Princess Mary of Cambridge
Petuniæflora
Roi Leopold
Rosy Circle
Sir Charles Napier
Standard of tion
Grand Mon
Marie Lou
Queen (Ivery's)
Iveryana
Alba luteus
Modèle
Baron de
Le Geant
Belle Jean
Etendard dres
Papilionac
Rubens
Pelargoni
Gloire de
Baron de
Gloire de
Distinctu
Queen of
Leopoldi
Duc de
Etoile de
Reine des
Princess de Nas
Flower of
Souvenir positus
Duchess de Nas
Iveryana
Duc de
Miltoni
Variegat
Bouquet

CATALOGUES with Prices can be had on
Camden Nursery, Camberwell, S.

MESSRS. WATERER AND GODFREY refer planters to the following LIST of well hardy Plants:—

ARAUCARIA IMBRICATA, 1 foot, stout, healthy larger, up to 8 feet.
CEDRUS DEODARA, 2½ to 3 feet, very handsome larger, in any quantity, up to 10 and 15 feet.
PICEA NOBILIS, Seedlings, in quantity, 1 foot,
Ditto larger and in every way perfect plants,
NORDMANNIANA, from seed, 2, 3, 4, and 6 feet.
PINSAPO, 2½ to 3½ feet, and as much through.
Ditto magnificent plants, 8 and 10 feet high.
CUPRESSUS LAWSONIANA, fine bushy
2½ feet high.
JUNIPERUS, CHINESE, 3 feet up to 8 and 10 feet
IRISH, 5, 6, and 7 feet.
YEWS, IRISH, 5, 6, 7, and 8 feet
,, GOLDEN, from 2 to 7 and 8 feet.
,, COMMON ENGLISH, in large quantities
and 8 feet.
THUJA AUREA.—Several hundred magnificent
3, 4, and 5 feet high, and measuring 10 to
cumference.
THUJOPSIS CÆREOLIS, 2½ to 3 feet.
WELLINGTONIA GIGANTEA, all from seed
and as wide.
HOLLY, GREEN, in quantities, 5, 6, and
especially the best gold striped, of all

All the plants referred to in this advertisement
in April last, and they are in a condition to
with perfect safety.—Knap Hill Nursery, near

**PINE APPLES, GRAPES, &c.**

PINE PLANTS, Fruiting and Succession.
GRAPE VINES, from Eyes, for Fruiting in Pots or Planting.

JOHN WEEKS AND CO. can now supply any quantity of very fine strong healthy Pine Plants, either Fruiting or Succession; also remarkably fine strong Grape Vines from Eyes, all the best sorts.

JOHN WEEKS & Co.'s Horticultural Show Establishment is now entirely devoted to the Growing and Forcing of Fruits in great variety, thereby showing the most improved plans of construction, and the most superior system of Hot water Apparatus.

JOHN WEEKS & Co., Horticultural Builders and Hot-water Apparatus Manufacturers, King's Road, Chelsea, London, S.W.

**NEW PINES AND OTHER PLANTS.**

A. VAN GEERT, NURSERYMAN, Ghent, Belgium, begs to offer the following:—

| | | | |
|---|---|---|---|
| A set of 100 new Mexican Pines, for .. .. .. | £6 | 0 | 0 |
| A collection of 100 best Camellias, 9 inches to 1 foot high | 4 | 0 | 0 |
| Indian Azaleas, with flower buds, choice varieties, per 100.—4*l.* to | 6 | 0 | 0 |
| Alstroemeria chilensis .. .. .. per 100 | 0 | 10 | 6 |
| Asclepias tuberosa, flowering roots .. ,, | 0 | 15 | 0 |
| Lilium superbum .. .. .. .. per doz. | 0 | 12 | 0 |
| ,, lancifolium rubrum .. .. .. per 100 | 4 | 0 | 0 |
| ,, ,, album .. .. .. ,, | 3 | 0 | 0 |

THE GREAT VINE AT HAMPTON COURT.—The Subscribers being the holders of the Royal Kitchen Gardens, Hampton Court, are enabled to offer genuine the famous and truly excellent HAMPTON COURT BLACK HAMBURGH GRAPE. [each

Strong well-ripened Fruiting Plants, in 12-inch pots, 10*s.* 6*d.*
Good well-ripened Plants, in 9-inch pots, 5*s.* each.
A liberal reduction in price if taken in large numbers.
THOMAS JACKSON & SON, Nurseries, Kingston, S.W.

**NEW APPLE.—NELSON'S GLORY.**

WM. WOOD AND SON have the honour to announce that they have been appointed Agents for the Sale of the above very excellent new Apple, the property of Mr. J. NELSON, of Bristol.

NELSON'S GLORY APPLE is one of immense size, weighing from 20 to 22 oz., and especially adapted to culinary purposes; indeed for making Jelly, Jam, and Sauces it is truly invaluable, and is ready for use from August to December. Plants have been ordered by all those parties who had the opportunity of seeing the magnificent fruit at Bristol.

DWARF MAIDEN PLANTS are now ready for sending out at 5*s.* each, with the usual discount allowed to the trade.
Woodlands Nursery, Maresfield, near Uckfield, Sussex.

DWARF MAIDEN FRUIT TREES.—

| | | |
|---|---|---|
| APPLES. | | |
| PEARS. | CHERRIES. | PEACHES. |
| PLUMS. | APRICOTS. | NECTARINES. |

Prices moderate.

Fine and clean grown; and all the leading sorts can be supplied in quantities by GEORGE JACKMAN & SON, Woking Nursery, Surrey.

DWARF TRAINED FRUIT TREES.—

| | | |
|---|---|---|
| APPLES. | | |
| PEARS. | CHERRIES. | PEACHES. |
| PLUMS. | APRICOTS. | NECTARINES. |

Prices moderate.

Great care is taken in the formation of these fine, healthy, free-grown trees. Particulars can be obtained of GEORGE JACKMAN & SON, Woking Nursery, Surrey.

**FOREST TREES.**

JOHN WATERER has to offer upwards of a Hundred Thousand of each of the following, from 2 to 4 feet high, and all good rooted:—

| | | |
|---|---|---|
| CHESNUT | LARCH | BIRCH |
| HAZEL | ASH | ALDER |
| SCOTCH | LAURELS | WITHY, &c. |

Samples with prices sent on application. Planting done by contract.—The American Nursery, Bagshot, Surrey.

**CHRISTMAS SHOW OF FRUIT & VEGETABLES.**

TAYLOR'S GRAND STAND,
ST. JOHN'S MARKET,
LIVERPOOL.

Growers, Fruiterers, and others having goods to dispose of that are very choice, either in PINES, GRAPES, PEARS, CUCUMBERS, NEW POTATOES, MUSHROOMS, ASPARAGUS, SEAKALE, RHUBARB, or CHOICE FLOWERS, will please forward the same to GEORGE TAYLOR, Choice Fruit and Vegetable Salesman, St. John's Market, Liverpool.

**SHOW OF CHOICE FRUIT AND VEGETABLES.**

TAYLOR'S GRAND STAND,
ST. JOHN'S MARKET,
LIVERPOOL.

Growers and others having choice FRUITS, VEGETABLES, or FLOWERS to dispose of will please forward them immediately to GEORGE TAYLOR, Choice Fruit and Vegetable Salesman, St. John's Market, Liverpool.

**NEW ANNUALS.**

JOHN GEORGE WAITE, SEED MERCHANT, 181, High Holborn, London, W.C., has great pleasure in offering SEEDS of the following new hardy Annuals:—

CLARKIA PULCHERRIMA,
SCHIZANTHUS GRANDIFLORUS OCULATUS,
HELIOPHILA CŒRULEA STRICTA.

Coloured Drawings and prices of which (to the Trade only) can be had on application.
Seed Establishment, 181, High Holborn, London, W.C.

**RHODODENDRON EDGEWORTHI.**

MESSRS. J. AND C. LEE have to offer a small quantity of SEED of this most beautiful and fragrant CONSERVATORY RHODODENDRON. Having carefully impregnated it with itself they can warrant it to produce the true R. Edgeworthi, whose flowers are pure white, with a delicious fragrance, and measure 6 inches in diameter. Sealed packets, 5*s* each, post free.
Nursery & Seed Establishment, Hammersmith, London, W.

**NEW SEED CATALOGUE.**

MESSRS. JOHN AND CHARLES LEE beg to inform their friends and the public that their NEW DESCRIPTIVE SEED CATALOGUE FOR 1860 may now be had post free on application.

Mr. JOHN LEE continues to devote himself especially to this important branch of their business, for which their house has been so long celebrated in the selection of SEEDS from the most genuine stocks at home and abroad.
Nursery and Seed Establishment, Hammersmith, London, W.
EXPERIENCED GARDENERS RECOMMENDED.

NEW HARDY PROLIFIC CUCUMBER, MASTERS'S VIRIDISSIMA.

MESSRS. MASTERS AND SON have pleasure in introducing a new variety of CUCUMBER, which is the hardiest, the most productive, and the greenest of all known varieties. It is the best ridge Cucumber extant, and is also well adapted for Frame culture; length, 12 to 15 inches; well set with black spines. Packets of seeds, 1*s.* and 2*s.* 6*d.* each, containing 12 and 36 seeds respectively.
Exeter Nursery, Canterbury; and Feint Nursery, Maidstone.

**RHODODENDRONS.**

JOHN WATERER'S CATALOGUE OF HARDY, SCARLET, and other choice RHODODENDRONS, as annually exhibited at the Royal Botanic Gardens, Regent's Park, is now published and will be forwarded on application. Faithful descriptions of all the esteemed varieties will be found detailed, with a list of the popular kinds of AZALEAS and other AMERICAN PLANTS, as well as a selection of CONIFEROUS TREES, with height and prices.
The American Nursery, Bagshot, Surrey, near Sunningdale Station, South-Western Railway.

PETER LAWSON AND SON,
THE QUEEN'S SEED-MEN AND WOOD FORESTERS,
respectfully announce that they have now issued their
NURSERY CATALOGUE OF FOREST TREES, CONIFERÆ, SHRUBS, &c.,
which they will be happy to forward free by post on application.
27, Great George Street, Westminster, S.W.

PETER LAWSON AND SON, THE QUEEN'S SEEDSMEN AND WOOD FORESTERS, 27, Great George Street, Westminster, London, S.W., respectfully announce the issue of their GARDEN SEED CATALOGUE for 1860, which they will be happy to forward free by post on application. Every care has been bestowed on the selection and growth of the various stocks, which P. L. & SON can safely recommend as of best quality, and true to name.

**DALMAHOY EARLY POTATOES.**

This excellent variety of Potato now meets with a largely increased demand in England, to which it is fairly entitled. It is considerably earlier than the Regent, and of excellent quality. Messrs. P. L. & SON are now prepared to send out carefully selected Seed, for which early orders are requested; and which can either be executed now or in spring, as may best suit purchasers.

**NEW GARDEN SEEDS, GROWTH OF 1859.**

ROYAL BERKSHIRE SEED ESTABLISHMENT.

SUTTON AND SONS are now prepared to execute orders for all kinds of GARDEN SEEDS, and can warrant them genuine.
Royal Berkshire Seed Establishment, Reading.—Dec. 17.

**TO THE TRADE.**

HENDERSON'S COMPACT TOPPED GARDEN BEET.—This superior variety, introduced by us three years since, is now generally cultivated in most gardens; its peculiar short top, symmetrical roots, and fine dark crimson colour, are points of excellence rivalled only by its exquisitely rich and sugary flavour. Price on application.

AUSTRALIAN GARDEN CRESS.—This remarkable large gigantic Cress is so rapid and fast growing that in Australia and New Zealand it almost stops the navigation of the rivers. The true Broad-leaved sort. Price on application.

N.B. New VEGETABLE SEED CATALOGUE is now ready, and can be sent on application.—Pine-apple Place, W., Dec. 17.

**ROYAL EXOTIC NURSERY, CHELSEA, S.W.**

JAMES VEITCH, JUN., respectfully announces that his CATALOGUE OF KITCHEN GARDEN AND FLOWER SEEDS for 1859, with a List of Implements and other Garden requisites, is now published, and will be forwarded post free on application.

J. V., Jun., devoting his personal attention to this department of his business, can warrant his SEEDS TRUE TO NAME, and of the MOST GENUINE description.—December 17.

SOME of the EXHIBITING GARDENERS have resolved to present Mr GEORGE EYLES with a TESTIMONIAL for his attention to them as a body during his Superintendence at the Crystal Palace Flower Shows. Several Nurserymen and Amateurs have expressed a desire to co-operate; it has, therefore, been determined to open the SUBSCRIPTIONS to all Exhibitors. The next Meeting will be held at the Swan Tavern, Stockwell, on THURSDAY, 29th inst.

*Treasurer*—Mr. E. HAMP, Mawbey House, South Lambeth.

*Committee.*

| | | |
|---|---|---|
| Mr. Boyce. | Mr. J. Reed. | Mr. Turner. |
| ,, Laybank. | ,, B. Peed. | ,, Young. |
| ,, Page. | ,, Smith. | |

OSMAN RHODES, Hon. Sec.,
London Road, Hackney Downs, Clapton, N.E.



# The Gardeners' Chronicle.

*SATURDAY, DECEMBER* 17, 1859.


ABOUT the close of the last century great expectations were formed of the results to our navy from the cultivation of LARCH. A very fine vessel was built entirely of Larch wood from the Duke of ATHOLL'S estate, which was singularly exempt from the ordinary symptoms of decay, and is we believe still a useful vessel, or at least was so a very few years since. Success however began and ended with this vessel, and trees of a sufficient size for ship-building have of late been found so subject to rot as to make them altogether ineligible for the purpose.

Up to a certain stage nothing can in general be more promising and satisfactory than the growth of Larch; but just about the time that the trees are large enough to form railway sleepers, they then begin to show unhealthy symptoms in the foliage, and in the course of a few years the centre which is penetrated by the spawn of Fungi in the form of white films or threads becomes soft and perishes, till at last nothing remains sound except the younger growth of the last 10 years, or it may be less. In every such case we believe that the evil has commenced with the roots, spreading up from thence to the layers of wood immediately surrounding the pith; and where Larch has been planted in ground already filled with old roots, and the chips of former fellings, which as they decay are infested with spawn, which passes thence to the living roots of the young trees, the disease is beyond doubt peculiarly virulent.

Unfortunately these or similar conditions too frequently exist where Larch is planted even on a large scale. In tracts covered with Ling, it is obvious that there must be considerable damage from this cause, and it is probable that Larch is seldom planted where it can be entirely free from risk. A very striking instance of the evil of old roots remaining in the soil where Conifers are planted has occurred lately at Kew. Two Deodaras were planted a few years since before the Director's house, of which one succeeded admirably, but the other though to all appearance enjoying similar conditions was less vigorous, and after a time was evidently diseased. Its roots therefore were carefully examined, and it was found that a portion was covered with threads of spawn proceeding from the decaying roots of a Cherry tree, which formerly occupied the place. The affected parts were cut off, and the old Cherry roots grubbed up, and the tree is now thriving, and apparently not likely to suffer any further inconvenience.

It has not indeed been accurately ascertained to what especial Fungus the spawn which infests the roots and timber of Larch belongs, but we have reason to believe that in many instances it is the barren state of *Polyporus destructor*, a Fungus as the name implies of very injurious influence, though other species probably have their share in the mischief. In instances of decay like this the spawn seldom makes its way completely through the healthy rings of wood which surround it, and till it gets free access to the outer air, no fructification is produced, without which it is scarcely possible to recognise Fungi.

We have however a very curious instance before us forwarded by Sir WALTER C. TREVELYAN, in which mycelium has penetrated through the bark and produced its proper Fungus, under the form of a beautiful red and white Peziza, known to botanists by the name of *Peziza calycina*. In a small plantation most of the trees of which are young, nearly all are more or less attacked on stem and branch with the Peziza, but they do not when cut down appear to be at all decayed, and the roots seem healthy. The bark however on which the Peziza is seated is dead, and the part of the stem corresponding with it depressed as if the growth of the tree had been for some time checked. As in most affections of the bark in Conifers there is a flow of turpentine, on which a minute Verrucaria is developed, but without true fruit, and therefore not readily determinable. The spawn apparently leads directly from the wood, and the cups of the Peziza burst completely through the crust of the Lichen.

It is not supposed that the Peziza is really the cause of the ordinary Larch rot, which as stated above is far more probably due to some one or more species of very different affinities, but the fact is well worth attention, and deserving accurate study on the spot. The Peziza is extremely common on Larch and other Conifers, and may be found on almost every branch which has been left on the ground after thinning, varying greatly in size according to the thickness of the branch, and its consequent powers of affording nutriment, but whether its sporidia are introduced into the affected parts before or after death is uncertain. It is very possible that Larch trees may be largely impregnated with spawn, which waits merely for some external accident that may facilitate its progress towards the surface, and consequently its appearance on the trunks may have arisen from some previous affection of the bark in the primary production of which it had no part. Whatever this may have been, the existing appearances are not difficult to account for. A small portion of the bark suffers from some unknown cause, and in consequence the secreting surface whether of the bark or wood beneath it dies, no fresh layers of wood are in consequence deposited: the disease spreads for a certain extent: resin is poured out, the healthy bark beyond the dead patch still increases in thickness as does the surrounding wood, and the consequence is a depression on the stem corresponding with the extent of dead bark above. The spawn of the Fungus has now decayed tissues on which it can work with ease, which at length give way and the proper fruit is produced, indicating the existence of spawn within

whose presence might otherwise not have been suspected.

It is to be observed, in illustration of what has been said, that there is a tendency in minute wounds of the bark to increase with age, when they penetrate to the wood and injure the secreting surface there. The bruises for instance produced by dust shot on the smooth bark of Beech trees extend gradually to a breadth of 3 or 4 inches, both wood and bark being equally affected; and it is possible that the case may have been the same here, from whatever cause the original injury may have arisen.

It is highly important that these affections of our forest trees, especially uf one of such importance as the Larch would be, could any remedy be found against the prevalent decay, should be studied by competent persons. We feel greatly obliged to Sir W. TREVELYAN for communicating the case before us, and trust that he will if possible follow it up. *M. J. B.*

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AT a late meeting of the Floral Committee of the Horticultural Society, Mr. MACINTOSH, Nurseryman, Hammersmith, produced a little plant, the singular beauty of which excited universal admiration. It formed a compact bush about 18 inches high, whose dark dull green leaves relieved in the most charming manner about 200 berries as large as marbles and of the most brilliant orange colour. There is probably no plant in cultivation, except in hot-houses, that can be compared with this for Christmas decoration; and what is important, the berries are so permanent that the bushes must retain their vivid colouring for many weeks.

SOLANUM CAPSICASTRUM, for so the plant is called, is no novelty. Many years ago it was grown in the Botanic Garden, Berlin, having been raised there from seeds sent by the Prussian traveller SELLOW from the province of Mines in Brazil; it also occurs in the Argentine provinces much farther to the South, as is shown by a specimen from TWEEDIE preserved in our own herbarium. It is therefore a greenhouse plant of the hardier class. From Berlin it gradually found its way into the gardens of Europe, where it has lain neglected till its beauty was displayed by the good management of Mr. MACINTOSH, who, like a skilful lapidary, knew how to polish the gem which others had thrown carelessly aside. And now it is sought for eagerly, and will soon become one of the most coveted plants in our flower markets, for which it is in every way particularly well adapted.

It is for the last reason more especially that we thus direct attention to it; for whatever will contribute to the cheap little luxuries of the multitude deserves all the notice that can be given it. We have also another motive. The beautiful berries that adorn it are extremely tempting in appearance; they almost invite a taste, and it is scarcely possible to believe that they will not be occasionally eaten by children. What will be the effect? As a general rule all plants allied to Solanum are regarded as poisons; and such undoubtedly is the *Solanum tuberosum* or common Potato, if the leaves or berries are swallowed, although the so-called "root" is harmless; the common Bitter Sweet of our hedges, *Solanum Dulcamara*, has a bad reputation, and so have the berries of the weed called *Solanum nigrum*. But in the first place the poisonous quality of the two last seems to be either much exaggerated, or very uncertain in its action; for we have the evidence of a very experienced London physician that as much as 5 lbs. weight of the berries of the first have been administered to a young woman, in the course of 10 days, without the production of any unpleasant symptom; and those of *S. nigrum* are regularly gathered on the Island of Ascension for the use of the garrison, who call them Black Currants, and eat them in pies and puddings. Many other instances of harmless fruit in the genus Solanum are also recorded. We all know that S. Lycopersicum or the Tomata is harmless; so is S. Melongena and its varieties, so largely grown for table under the name of Aubergine or Brinjal. In Peru the fruit of *S. quitoense* comes to market under the name of Quito Oranges; another species, *S. muricatum*, is also eaten; in Australia we have *S. esuriale*, forming a part of the food of the natives of the River Lachlan, and *S. laciniatum*, known in Tasmania as the Kangaroo Apple; not to mention others. Whatever unpleasant qualities these fruits may possess disappear with ripeness. It is therefore improbable that any danger or indeed inconvenience would ensue if a child were to eat a berry or two of the *S. capsicastrum* now before us unless the fruit was green, in which state it is not likely to attract attention. Thus the possessors of this charming plant need not alarm themselves because it is a Solanum, but may cherish its beauty with perfect tranquillity.

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THE KENSINGTON GORE GARDEN is now fairly started. H.M. Commissioners for 1851 have begun forming the ground levels, according to a plan proposed by Mr. NESFIELD and sanctioned by H.R.H. the PRINCE CONSORT. Mr. EYLES, the new Superintendent, enters upon his duties on the 2d January. The great arcades will soon be commenced; and it is anticipated that the whole establishment will be approaching completion by the end of next year. The subscription list is so full that the Council of the Horticultural Society have found it necessary to decline receiving any further applications for debentures. Life members are presenting themselves daily; and on the 20th of January some hundreds will be elected Fellows. Mr. NESFIELD is engaged in preparing a design worthy of the supporters of the new garden, of its site, and of English garden architecture; and everything is progressing as rapidly as the nature of the undertaking will permit.

We continue the list of the supporters who have been announced since that published on the 19th ult.:—

| LIST OF PROMOTERS. | Donations. | Life Memberships | Debentures. |
|---|---|---|---|
| | £ s. | | £ |
| Sir Robert Brownrigg, Bart. | .. | .. | 200 |
| Mr. Commissioner Evans, F.H.S | .. | .. | 100 |
| A. W. McTier, Esq., F.H.S. | .. | One | |
| G. G. Barrett, Esq. | .. | .. | 100 |
| Sir Henry Keating | .. | .. | 200 |
| Lady Keating | .. | One | |
| Lady Caroline Neeld | .. | One | |
| Charles Parker, Esq., F.H.S. | .. | One | |
| Abel Birch, Esq. | .. | .. | 100 |
| Mr. William Falkner Birch | .. | .. | 100 |
| Mr. A. Falkner Birch | .. | .. | 100 |
| Thomas Critchley, Esq. | .. | One | |
| Gilbert Henderson, Esq. | .. | One | |
| Mrs. Henderson | .. | One | |
| Miss Courtoy | .. | .. | 100 |
| Miss Elizabeth Courtoy | .. | .. | 100 |
| James J. Wheeble, Esq., F.H.S. | .. | .. | 100 |
| Duke of Buccleuch, F.H.S. | .. | One | |
| Duchess of Buccleuch | .. | One | |
| Henry Blake, jun., Esq. | .. | .. | 100 |
| Robert Hollond, Esq., Stanmore | .. | .. | 100 |
| Wm. Henry Gore Langton, Esq., M.P. | .. | One | |
| J. W. Childers, Esq., F.H.S. | .. | One | |
| Captain Henry Ward | .. | One | |
| John Rogers, Esq. | .. | One | |
| Mrs. Gunter | .. | One | |
| Miss Gunter | .. | .. | 100 |
| Wm. Henry Cole, Esq. | .. | One | 100 |
| Robert Augustus Aspinall, Esq. | .. | .. | 100 |
| Stephen Seagrave, Esq. | .. | .. | 100 |
| Mrs. Arthur W. Jaffray | .. | One | |
| William Gibbs, Esq., F.H.S. | .. | Two | 100 |
| Lord Middleton, F.H.S. | .. | One | |
| James Milner, Esq. | .. | .. | 100 |
| Charles Paget, Esq, M.P. | .. | .. | 100 |
| Major-General Rawdon | .. | One | |
| Robert Hanbury, Esq., M.P. | .. | One | |
| Hon. George C. Mostyn | .. | .. | 100 |
| Hon Mrs. Mostyn | .. | .. | 100 |
| Captain C. R. Egerton, R.N. | .. | One | |
| William Lee Wright, Esq. | .. | .. | 100 |
| Mrs. Lee Wright | .. | .. | 100 |
| R. W. S. Lutwidge, Esq. | .. | One | |
| Mrs. Sarah Le Blanc | .. | .. | 100 |
| Lieut.-General De la Motte, C.B. | .. | .. | 400 |
| Dr. Cahill | .. | .. | 500 |
| C. W. Reynolds, Esq. | .. | .. | 200 |
| Jonathan Hopkinson, Esq. | .. | .. | 300 |
| John Elger, Esq. | .. | One | |
| George Gwyn Elger, Esq. | .. | One | |
| Viscount Sydney | .. | One | |
| John W. Brett, Esq. | .. | One | |
| Mrs James Maberley | .. | One | |
| H. Wollaston Blake, Esq. | .. | One | |
| Henry John Nicoll, Esq. | .. | .. | 100 |
| Mrs. Nicoll | .. | .. | 100 |
| Mrs. Morris | .. | .. | 100 |
| Hon. C. Lennox Butler | .. | One | |
| George S. Trower, Esq. | 25 0 | .. | |
| Lieut.-Colonel Meyrick | .. | One | |
| Mrs Cholmeley Dering | .. | .. | 100 |
| F. J. Dalgety, Esq. | .. | One | |
| Mrs. Dalgety | .. | One | |
| Rev. John Antrobus | .. | .. | 100 |
| Mrs. Seaton Laing | .. | One | |
| Wm. Henry Ince, Esq., F.L.S. | .. | .. | 100 |
| Henry A. Ince, Esq. | .. | .. | 100 |
| F. J. Sloane, Esq., F.H.S., Florence | .. | One | |
| Higford Burr, Esq. | .. | One | |
| Geo. Robert Smith, Esq. | .. | One | |
| Lord Belper | .. | One | |
| Miss A. Strutt, Derwent Bank, Derby | .. | One | |
| C. Morrison, Esq. | .. | One | |
| H. T. Lambert, Esq. | .. | One | |
| C. P. Leslie, Esq., M.P., F.H.S. | .. | One | |
| Lady Louisa Thynne | .. | One | |
| J. G. B. Hudson, Esq. | .. | Oue | |
| Thomas Bush Saunders, Esq. | .. | One | |

## New Plants.

### 232. CALANTHE VEITCHII; garden hybrid.

Of all the beautiful Orchids obtained by hybridising this curious plant stands first. It forms a tuft of flower stems, 1½ foot high, loaded with blossoms of the richest rose colour of different degrees of intensity. Mr. Dominy produced it in the nursery of Messrs. Veitch & Son, at Exeter, by fertilising Limatodis rosea, a rich rose coloured beautiful Indian Orchid, with that variety of the white Calanthe vestita which has a deep purple spot at the base of the lip. The result has been most curious; the hybrid, although completely intermediate between the two parents, yet shows a rather greater tendency to its mother than its father. Of the father it has exactly the manner of growth, and the peculiar four-lobed lip; but it has the rich colour of its mother, and some other peculiarities of her lip, along with an entire correspondence in form with her column.

The following comparison of the three will explain this still more clearly:—

A. CALANTHE VESTITA. *Male parent.*
1. Pseudo-bulbs fleshy, conical, bluntly angular.
2. Spur curved.
3. Flowers white, with a deep purple spot at the base of the lip.
4. Sepals and petals secund.
5. Lip adhering to the column, flat at base, with 4 deep blunt lobes.
6. Column deep, large, compressed, quite smooth.
7. Pollen masses 8, deep yellow, adhering to two smooth separate straps.

B. LIMATODIS ROSEA. *Female parent.*
1. Pseudo-bulbs narrow, stem-like.
2. Spur straight.
3. Flowers a clear uniform rose colour.
4. Sepals and petals spreading equally.
5. Lip free from the column, rolled up at the base undivided.
6. Column small, terete, downy at the back.
7. Pollen masses 8, pale yellow, adhering to two rough connate straps.

CALANTHE VEITCHII; *hybrid between the two foregoing.*
1. as in A.
2. as in B, but longer.
3. as in B.
4. as in B.
5. as in A, but rolled up at the base as in B.
6. as in B.
7. as in B.

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## NETS AND SPARROWS.

WHEN lately treating of buds and birds, I might have added that the superannuated nets of fishermen ought by all means to reach the ground; and also, that independently of defending buds, they are a most effectual guard to ripe fruit, especially against the ring-dove, which literally swarms here.

I only deal in facts; and thus at the same time whilst I am positive that the sparrow does no harm to Gooseberry trees in this part of the country, I would not be so rash as to defend his character farther south. There, for aught I know to the contrary, a warmer sun may change his nature. This holds good in many animals. Thus we know that asses grow to an enormous size in more favoured climates than ours; and we have quite sufficient proof that "Barbeblanche's" Hanoverian rat is a "fine sagacious fellow," here in Great Britain, whilst the race from which he originally sprang is known to have been lean and mangy on the other side of the Channel. I cannot submit to "Barbeblanche" (whoever he may be) when he forbids me "to abuse" this audacious intruder.

Repudiating all manner of controversy in the *Gardeners' Chronicle*, saving that which strictly appertains to natural history, I beg leave to conclude with the following brief anecdote:—

Before I was* lowered down the stupendous rocks at Speaton, in quest of incubating cormorants, I engaged a knowing man, by name Mellor, to introduce me to the rock-climbers. As we were passing up the street at Burlington Quay, a Mr. Wilson, who was standing at his door, invited me into the house to see a golden eagle which he had just stuffed. I entered. But Mellor would not accompany me; and I understood afterwards that he and Wilson had long been at daggers drawing.

When I had inspected the eagle and got back to Mellor, who was waiting quietly in the street, he thus accosted me—"Mr. Watterton," said he, somewhat vehemently, "I never speaks ill of nobody; but this I must say, that that man Wilson is the d—— devil that ever came into our town."

Now, I must say, that although I never calumniate any quadruped which ranges this "valley free," still I doconsider that "Barbeblanche's" "Norway friend," his "fine sagacious friend," is the d——st devil that ever entered into my pantry, where formerly

> "It undermined whole sides of bacon,
> My cheese was sapped, my tarts were taken."

*Charles Waterton, Walton Hall, Dec. 12.*

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## PEAS.

THE following are the results of a series of examinations undertaken by a sub-committee of the Fruit and Vegetable Committee of the Horticultural Society, for the purpose of ascertaining the correct names and the quality of the varieties of Peas; a considerable collection of kinds, obtained from various seedsmen, having been grown, under the same circumstances for the purpose, in the Garden of the Society at Chiswick, in the past summer.

**Class I. SEEDS SMOOTH OR INDENTED ON THE SURFACE.**

§ 1. SEEDS WHITE.

*Sangster's No. 1.* (Lee).—Syn.: Daniel O'Rourke (Lee), Dunnett's First Early (Carter & Co., Sutton Sons, Minier & Co.), Carter's Earliest (Carter & Co.), Veitch's First Early (Veitch & Son, Exeter), Early Pea B (Wrench), Early Pea C (Wrench). The above were all sown March 24; they came in flower June 1 and were fit for use June 16. Height, 3½ to 4 feet. Pods, averaging 6 to 8 on a stem, short, straight, round when full, containing 5 to 6 Peas. The best very early Pea.

*Dillistone's First Early* (Hurst & M'Mullen).—Some

* See first series of Essays, sixth Edition, page 153.

March 24; in flower, June 1; fit for use, June 16. Height, about 3 feet; habit slender. Pods, 6 to 7 on a stem, straight, cylindrical, scarcely so large as in Sangster's No. 1, containing 5 to 6 small Peas. It was considered to be the same as Prince Albert, or Early Kent.

*Early Pea A* (Wrench).—Sown, March 24; in flower, June 1; fit for use, June 18. Height, 4 feet. The Committee decided that this was the same as the Early Emperor. The dried Peas of this and the preceding sorts are very similar.

*Tom Thumb* (Paul & Son).—Sown, March 24; in flower, June 4; fit for use, June 20. Height, 1 foot. Pods, 5 to 6 on a stem, short, a little flattened, containing 5 to 6 Peas, which are rather larger than those of the Early Frame. From its dwarf habit, it is very eligible for forcing in frames. This is the Pois Nain Hâtif extra of the French.

*Ringwood Marrow* (Nutting & Son).—Sown, March 24; in flower, June 6; fit for use, June 25. Height, 4 feet. Pods, about 7 on a stem, nearly straight, well filled, containing about 6 large Peas.

*Dickson's Favourite* (Nutting & Son).—Syn.: Dickson's Early Favourite, Torwoodlee (Lawson & Son). Sown, March 24; in flower, June 11; fit for use, June 28. Height, 5 feet. Plant of vigorous growth and very prolific. Pods, 10 to 12 on a stem, long, round when fully grown, curved, hooked at the extremity, but not so much so as in the Auvergne, to which in many respects it bears much resemblance. The pods are remarkably well filled, containing from 8 to 10 Peas of medium size, round, and very white. It is highly deserving of cultivation as a second early Pea.

*Excelsior Marrow* (Carter & Co.; Fraser, Richardson, & Goad).—Syn.: Knight's Excelsior (Sutton & Sons, Nutting & Son). Sown, March 24; in flower, June 11; fit for use, June 28. Height, 5 feet. A strong grower, with broad foliage, Pods, 10 to 12 on a stem, large, round, slightly curved, containing 8 to 9 middle-sized Peas of good quality. An excellent variety.

*Paradise Marrow* (Nutting & Son).—Syn.: Early Paradise Marrow (Minier & Co.). Sown, March 24; in flower, June 11; fit for use, June 30. A strong grower, 5 feet high. Pods 10 to 12 on a stem, large, round, slightly curved, containing 8 to 9 middle-sized Peas. Very similar to the Excelsior Marrow, but is scarcely so early.

*Early Dwarf Branching Marrow* (Paul & Son).—Sown, March 24; in flower, June 11; fit for use, June 30. Height, 2 feet. Pods, about 6 on a stem, nearly straight, flattish, containing 7 to 8 Peas of good size and quality.

*Harrison's Perfection* (Carter & Co.). — Sown, March 24; in flower, June 6; fit for use, June 30. Stems 3 feet, robust. Pods, 14 to 15 on a stem, small, straight, containing 5 Peas of good size and quality. The only defect is, that the pods do not fill well. When growing this cannot be distinguished from Harrison's Glory; but in the mature state the seeds of the former are smooth and white, those of the latter indented, and of an olive colour.

§ 2. SEEDS BLUE, GREEN, OR LIGHT OLIVE-COLOURED.

*New Green Marrow* (Fraser, Richardson, and Goad).—Sown, March 24; in flower, June 6; fit for use, June 27. Height, 5 feet. Pods, 10 to 12 on a stem, long, narrow, slightly curved, containing 7 to 8 large Peas, which are compressed from being much crowded. A very distinct sort, on account of its long pods, narrow in proportion to their length. In appearance and quality, however, it is not equal to Beck's Prizetaker.

*Beck's Prizetaker* (Carter & Co.).—Syn.: Prizetaker (Hurst & McMullen, Nutting & Son); Prizetaker Green Marrow (Sutton & Sons); Rising Sun (Nutting & Son).—Sown, March 24; in flower, June 11; fit for use, June 30. Height, 4½ to 5 feet. Pods 9 to 10 on a stem, roundish, curved or hooked near the end, well-filled, containing 8 to 9 middle-sized Peas, of a fine green colour when young, and mixed olive and white when dry. One of the best varieties for main crops.

*Leicester Defiance* (Minier & Co).—Sown, March 24; in flower, June 11; fit for use, June 30. Height, 5 feet. Pods, 9 to 10 on a stem, round, slightly curved, containing 8 to 9 middle-sized Peas, mixed olive and white when dry. Very similar to Beck's Prizetaker.

*Burbidge's Eclipse* (Nutting & Son).—Sown, March 24; in flower, June 14; fit for use, June 30. Height, 18 inches. Pods, about 10 on stem, short, flat, and containing 5 to 6 large Peas, of good quality, bluish olive-green and slightly indented in the dried or ripened state.

*Flack's Victory* (Nutting & Son).—Sown, March 24; in flower, June 14; fit for use, June 30. Height, 2 feet. Pods, 10 on a stem, short, straight, rather flat, containing about 6 medium-sized Peas, mixed olive and white when dry, and also indented.

*Harrison's Glory* (Nutting & Son, Carter & Co.).—Sown, March 24; in flower, June 6; fit for use, June 27. Height, 3 feet, of a bushy, robust habit of growth. Pods, about 16 on a stem, rather short, nearly straight, and flattish, containing 5 to 6 medium-sized Peas of good quality; light olive mixed with white when dry, and also slightly indented. A good variety, but, like Harrison's Perfection above noticed, it has the defect of the pods being frequently not well filled.

*Batt's Wonder* (Batt, Rutley, & Silverlock).—Sown, March 24; in flower, June 18; fit for use, July 5. Height, 3 feet, and of robust growth; foliage dark green. Pods, 10 to 12 on a stem, narrow, nearly straight, but exceedingly well filled, containing 7 to 9 Peas of medium size, which become small, smooth, and bluish-green when dry. This variety withstands drought well, and the pods will hang long before the Peas get too old for use. It is an excellent Pea for a second crop.

*Garbutt's Amazon* (Flanagan & Son).—Sown, March 24; in flower, June 14; fit for use, July 5. Height, 6 feet. Pods, 8 to 9 on a stem, slightly curved, roundish, well filled with 7 to 8 large Peas, which are mixed olive-coloured and white when dry, and slightly indented.

*Stradsett Marrow* (Flanagan & Son).—Sown, March 24; in flower, June 14; fit for use, July 5. Height, 6 feet. Pods, 8 to 9 on a stem, straight, broad and flattish, containing 7 to 8 large Peas, of a fine green colour, but tasteless when cooked; their skins, moreover, are too thick. Such being the case, the variety cannot be recommended for cultivation. The seeds when dry are mostly light olive, very few being white and they are slightly indented.

*Sutton's Berkshire Hero* (Sutton & Sons).—Sown, March 24; in flower, June 21; fit for use, July 11. Height, 8 feet, of strong growth. Pods, 12 on a stem, large, long, very slightly curved, well filled, with 7 to 8 large Peas, which are greyish-olive, and some yellowish-white when dry. The dry seeds are large compared with most others in the same state, and compressed as well as slightly indented.

*Denyer's Prolific Green Marrow* (Sutton & Sons).—Sown, March 24; in flower, June 20; fit for use, July 11. Height, 6 to 7 feet. Pods 10 on a stem, straight, containing 6 to 8 Peas, of a fine green colour, but not very sweet; they are mixed light-coloured and white when dry, but mostly white, and they are also indented.

Class II. SEEDS COMPRESSED AND WRINKLED ON THE SURFACE.—§ 1. SEEDS WHITE.

*Alliance* (Carter & Co.).—Syn.: Eugénie (Nutting & Co., Lee). Sown, March 24; in flower, June 3; fit for use, June 24. Height, about 3 feet, and of strong robust growth. Pods, 10 on a stem, nearly straight, flattish, not very well filled; Peas 5 to 6, large and sugary.

*Lynn's Prolific Wrinkled* (Nutting & Son).—Sown, March 24; in flower, June 23; fit for use, July 11. Height, 3½ feet. Pods, 10 to 12 on a stem, small, cylindrical, nearly straight, very closely packed with 6 to 8 Peas, which are rather small and much crowded, their adjoining sides being quite flat, so that the Peas in their green state have the form of short sections of a cylinder, and when dry, the ends become depressed. The hilum is marked with a small black speck; as in the worthless Egg Pea, sometimes called Black-eyed Susan.

*Carter's Victoria* (Carter & Co.).—Syn.: Carter's Eclipse (Carter & Co.), Thorne's Royal Britain (Hurst & McMullen), Buckley's Gen. Wyndham (Hurst & McMullen). Sown, March 24; in flower, June 20; fit for use, July 8. Height 6 to 7 feet. Pods 10 to 12 on a stem, very large, very slightly curved, containing 7 to 9 large Peas, which are sweet and excellent. It continues to bear late; and the pods and Peas are larger than those of Knight's tall white Marrow. This is one of the best late tall Peas.

§ 2. SEEDS BLUE; GREEN, OR LIGHT OLIVE-COLOURED.

*Veitch's Perfection* (Veitch & Son, Exeter; Veitch, Chelsea).—Sown, March 24; in flower, June 14; fit for use, July 8. Height 3½ to 4 feet, of strong robust growth, somewhat branched. Pods, 10 to 12 on a stem, large, flat, straight, containing 6 to 8 large Peas, which are very sugary and excellent. The dried seeds are large, of a light olive-green colour, some being nearly white. It is one of the very best Peas for main or late crops.

*Climax* (Carter & Co., Lee).—Syn: Napoléon (Nutting & Son, Lee). Sown, March 24; in flower, June 4; fit for use, June 25. Height, 3½ feet, somewhat robust in growth. Pods, 10 to 13 on a stem, straight, flat, not very well filled, containing only 5 to 6 Peas, which are however large and sugary. Dry seeds light-olive, few being nearly white. Very similar to Alliance, the only difference being in the colour of the seeds. Both are of excellent quality as early sugary Marrows, but they are not prolific.

*Fairhead's Excelsior* (Sutton & Sons).—Sown, March 24; in flower, June 6; fit for use, June 27. Height, 3½ feet. Pods, 12 on a stem, small, straight, not very well filled, containing 5 to 6 medium-sized Peas, of an olive colour when dry.

*Lord Raglan* (Carter & Co.).—Sown, March 24; in flower, June 6; fit for use, July 4. Height, 3½ feet. Pods, 10 to 12 on a stem, small, nearly straight, and not very well filled, containing 5 to 7 Peas, of a fine green colour, but not so sugary as those of Veitch's Perfection and Climax. The dry seeds are light olive.

*Monarch* (Nutting & Son).—Sown, March 24; in flower, June 18; fit for use, July 5. Height 6 feet. Pods, 8 to 10 on a stem, large, flat, straight, but containing only 6 large Peas of a fine green colour and sweet; dried seeds light olive.

*Tall Green Mammoth* (Nutting & Son).—Sown, March 24; in flower, June 18; fit for use, July 5. Height, 8 feet. Pods, 12 to 14 on a stem, flattish, nearly straight, not well filled, containing only 4 to 6 Peas, light olive and white when dry.

*Ne Plus Ultra* (Lee, Nutting & Son).—Syn.: Jay's Conquerot (Nutting & Son), Payne's Conqueror (Hurst & McMullen). Sown, March 24; in flower, June 18; fit for use, July 5. Height, 7 feet. Pods, 10 to 12 on a stem, large, slightly curved, well filled, containing 7 to 9 large Peas of a fine green colour, sugary and excellent; the dried seeds dark olive, and some white. This is one of the best tall Marrows.

*Competitor* (Charlwood & Cummins).—Sown, March 24; in flower, June 14; fit for use, July 4. Height, 5 feet. Pods, 8 to 10 on a stem, large, straight, cylindrical, containing only 5 to 6 Peas, but these are very large; dry seeds of a nearly uniform olive colour. *Horticultural Society's Proceedings.*

## TRADE MEMORANDA.

THE following letter written in a very neat hand on Maize-coloured foreign letter paper has been received by Mr. Scott, of the Merriott Nurseries, Crewkerne:—

"Apsley Villa, Cheetham Hill, Manchester,
Dec. 2, 1859.

"J. SCOTT, Esq., Sir,—I shall esteem it a favour if you will send me your list of forest trees, Coniferæ, &c. I enclose a stamp for postage.—I am, Sir, your obedient Servant,
"G. F. MANDLEY.

"Merriott Nurseries, near Crewkerne, Somerset."

The account given of the writer by the Superintendent of Police at Manchester, to whom his letter was wisely referred, did not induce Mr. Scott to execute the order.

## Home Correspondence.

*The Brugmansia or Datura as a Conservatory Plant.*—I would recommend any one who grows arborea also to grow Knightii, which is equally worth attention. Of the two the single one is the most fragrant, and certainly with the least trouble makes the handsomest plant, but Knightii has by far the finest and most substantial flowers, and nothing answers better for the centre of a large bouquet than they do; its foliage is also bolder and finer, but its growth is not so regular. The culture of both is easy. If we begin with a cutting let it be a short healthy sprout, free from red spider. Put it in a half-pint pot in light soil, and set it in a shady part of the stove, or plunge it in a frame with a little heat; it will soon strike root and fill the pot with fibres, then shift into a pot three sizes larger, and sprinkle overhead daily, being careful not to saturate the soil when fresh potted; gradually increase the watering, however, as the pot fills with roots. Let the plant be kept in the stove until March, when another good shift will be required, for which use strong loam, leaf-mould, or rotten sticks, and one-half rotten manure; let it remain in the stove a week or two until the roots have got hold of the fresh soil; then remove it into the greenhouse, but avoid cold draughts, as they check the growth, which it is desirous to push on vigorously. When the roots reach the sides of the pot give a final shift into one a good size larger, either a 15 or 18-inch one, and your plant will make a noble tree from 8 to 10 feet high, branching at the top, and blooming profusely. It requires no stopping, for a low plant is not characteristic; the flowers to be seen to advantage should be above the eye. When plants are once obtained they improve by keeping, flowering better each succeeding year if shaken out and repotted in fresh soil in the spring. The main feature in the summer treatment is abundance of water (when the pots are full of roots liquid manure), should be given daily; they are gross feeders, and well repay the labour. Syringing under the foliage is necessary to keep down its great enemy red spider, but water is injurious to the flowers, and should be withheld when the plants are in bloom. Treat them in winter like Fuchsias; put them under the stage, or in some out-of-the-way corner, and keep them dry. If planted out of doors they make a fine display in the autumn, but rough weather dashes them and makes them unsightly when not in flower. *J. T., Winshill, Burton-on-Trent.*

*Holly Tea.*—To me, who have been an abstainer from snuff and tobacco and all intoxicating drinks for upwards of 30 years, a cup of good tea is one of my creature comforts which I would not like to part with easily; I would rather give 4*s.* 4*d.* a pound for it than want it. But when I read Mr. Forsyth's article on Holly Tea, I thought if as good Tea was to be had for the gathering in the shrubbery and wood as the Tea I paid for, it was wrong not to give it a trial; and although your article on the 22d of October did not supply sugar to the Holly Tea, I had made up my mind to give it a trial; so I collected some neat little branches of Holly and placed them on each side of the fireplace, to let them dry at their leisure, until I had time in the evening to give them a proper roasting. My wife remarked that I had commenced early in the season to decorate the house with Holly; she thought it was about Christmas that the Holly was used. When I told her that that custom according to learned men was a relict of Druidism, during the prevalence of which houses were decked with Holly, that the sylvan spirits might repair to them, and remain unnipped by frost and cold winds, until a milder season had renewed the foliage of their darling abodes, she said, "If any of them should take up their abode in my branches, they should certainly get their toes toasted," but when she knew that the leaves were intended for Tea, she had her doubts about it, "she was afraid such Tea would prick the stomach as well as the fingers." I told her it was highly recommended in the *Gardeners' Chronicle*, her favourite newspaper. She was ready to quote the Scotch proverb about a certain class of individuals that never tell stories except when the Holly is green;

however, I gave the leaves such a browning that I allowed them two days to cool before I used them. I made what I considered a weak decoction of the leaves and did not spare the sugar, so that the taste was tolerable; but it was not long in the stomach until I began to think of the Ilex Vomitoria in your leading article, and it is wonderful what strange thoughts will come into the mind at times. I recollected reading in the newspapers of some alterations being wanted in the Book of Common Prayer; and thought if any alteration ever took place they might add with all sincerity and reverence one petition to the Litany, viz., From the Tea of the Jesuits, Good Lord deliver us; but when my headache and the strange feeling in my stomach began to wear off, I was convinced that the Holly Tea must undergo some other chemical operation than simple roasting before it became a favourite with the people. Professor Johnston, in "The Chemistry of Common Life," tells us that the first in order, and not the least interesting point, in the chemical history of the Tea we use is the mode in which it is prepared for the market. The leaves when fresh plucked have neither a decidedly astringent or aromatic, nor a bitter taste. They possess nothing in fact either of the odour or flavour of the dried leaves, the pleasant taste and delightful natural scent for which they are afterwards so highly prized are all developed by the roasting which they undergo in the process of drying. The details of this process have been made known to us through the investigations of Mr. Fortune. Your readers will rejoice at the success that has attended Mr. Fortune in his endeavours to introduce the Tea plant into the United States, but at the same time you state that "there still remains the question whether they can turn it to profitable account. That their climate will be found to suit, in some of the vast regions of the west, there can be no reasonable doubt. But merely growing Tea plants will not make commercial Tea. The difficulty lies in the preparation of it, an operation which as conducted in China demands an enormous quantity of labour." I think the same statement may be applied to the Holly Tea; there are difficulties to overcome in the preparation of it, but before much is done in the way of preparing it we ought to know its chemical composition and nutritive value. I have been searching a little for the chemical analysis of the common Holly leaf, but have been unsuccessful; perhaps it can be furnished by some of your readers, and if it has never confessed its properties to any, some one well skilled in organic chemistry may make it do so. We are informed that in manufactured Tea there are at least three active chemical substances, viz., volatile oil, theine, and tannin; these are considered the really active constituents of the Tea leaf, as it is usually employed. But it is an interesting fact that the leaf contains a large proportion of the nutritive ingredients of plants, to which the name of gluten is given; this substance forms as much one-fourth of the weight of the dry leaves; so that if we choose to eat them in mass they would prove as nutritious as Beans or Peas. We are told that the waste of the body is lessened by the introduction of theine into the stomach, that is, by the use of Tea, and if the waste be lessened, the necessity for food to repair it will be lessened in equal proportion, in other words by the consumption of a certain quantity of Tea the health and strength of the body will be maintained in an equal degree upon a smaller supply of ordinary food. Tea therefore saves food, stands to a certain extent in the place of food, while at the same time it soothes the body and enlivens the mind. In the old and infirm it serves also another purpose: in the life of most persons a period arrives when the stomach no longer digests enough of the ordinary elements of food to make up for the natural daily waste of the bodily substance. The size and weight of the body, therefore, begin to diminish more or less perceptibly. At this period, Tea comes in as a medicine to arrest the waste, to keep the body from falling away so fast, and thus to enable the less energetic powers of digestion still to supply as much as is needed to repair the wear and tear of the solid tissues. No wonder, therefore, that Tea should be a favourite, on the one hand with the poor, whose supplies of substantial food are scanty, and on the other with the aged and infirm especially of the feebler sex, whose powers of digestion and whose bodily substance have begun to fail; nor is it surprising that the aged female, who has barely enough of weekly income to buy what are called the common necessaries of life, should yet spend a portion of her small gains in purchasing her ounce of Tea. She can live quite as well on the less common food when she takes her Tea along with it; while she feels lighter at the same time, more cheerful, and fitter for her work because of the indulgence. Now if Mr. Forsyth can extract the nutritive qualities of the Chinese Tea from our common Holly leaf and prepare it in such a way as to please the tastes of the people, he is a man worth waiting 5000 years for; he may have many difficulties to contend with; he may have political obstacles in his way; he may have moral mountains to surmount, he may have physical fences to cut down; but if he put a stout heart to a "stey brae" it is wonderful what may be accomplished. It was celebrated as the glory of Socrates that he had brought philosophy down from the aërial regions of fiction and conjecture about things remote from the phere of man, and taught her to converse on subjects of real utility in human life. If Mr. Forsyth makes the British leaf beat the celestial he may be set down as one of the benefactors of his species. *P. Mackenzie, Plean, Stirling.*

*Dioscorea Batatas.*—I am tolerably successful in the growing of this, and the way we take them up is this:—Dig a trench 2 feet 6 inches by 2 feet all along the first row as near the roots as possible without touching them. Run the finger down along side the tubers; then having removed any earth that may still adhere to the side exposed, lift them out of the ground without further trouble, and so continue; and thus the grower will find his plot of ground properly trenched for the next year's crop. *W. S. Bertin.*

*Windmills for raising Water.*—May I request information from your readers respecting small windmills for raising water to a higher level to supply a pond? They have been advertised in your Paper, but I have failed to find the advertisement; and as the experience of those who have tried them is what is wanted and much wished for, merely the advertisement would not be sufficient information. I saw several in Holland some years ago when I was there. *An Old Subscriber.*

*Rabbits Barking Trees.*—Will you kindly elicit through the medium of your many practical correspondents an answer to the following question:—"What application is there which will effectually deter rabbits and hares from injuring the stems of orchard trees, and at the same time be quite harmless to the trees?" I imagine the question to be of great interest, and the replies may make known something of great value to all interested in fruit growing. *James Brown, Chester.*

*Monstrous Mushroom.*—The Mushroom I herewith send grew on a bed in the Mushroom house here. The bed was made up in the usual manner, except that I mixed a portion of sheep dung with the horse-droppings, and also spread a little of the sheep manure over the bed previous to soiling it. Sheep dung makes the bed more productive, and it requires less spawn. The sheep manure should be gathered in summer and kept in a dry shed for use. The bed from which the accompanying specimen was gathered has produced abundance of Mushrooms of good quality, and all perfect in form, except that I now send, which came up like the others, but had a knob on the top in the centre which grew and gradually expanded to a perfect Mushroom with its back attached to the one supporting it, and with its stem pointing upwards. I should, therefore, like to know if such growths are often seen. *T. Bethell, the Earl of Ashburnham, Ashburnham Place, Suseex.* [The history of this monster was probably that when very young two Mushrooms grew side by side, but inclining one to the other. Thus an adhesion was formed. Then the stronger of the two forced his weaker neighbour out of the ground and lifted him clean out of the soil bottom upwards.]

*S. Australian Statistics.*—I was very much gratified by seeing in your columns of June 25 a leading article in which my agricultural and horticultural tables were quoted and commented upon; but you will excuse my mentioning that you have fallen into a slight error in calling my periodical the "*Melbourne*" *Farm and Garden*, the fact being that it is published in Adelaide, the chief town of South Australia, though it has also a considerable circulation in the adjoining colony of Victoria, of which Melbourne is the capital. I only call your attention to this as some doubt might possibly arise as to which of the two colonies was referred to in the tables. South Australia has for several years chiefly supplied Victoria with Wheat and flour, the carrying of which forms the principal occupation of the various steamers and sailing vessels running between Adelaide and Melbourne; but Victoria is now beginning to grow Wheat extensively for her own use. Gardening is more attended to in South Australia than in Victoria, and during the summer season almost every kind of fruit is shipped largely from Adelaide to Melbourne. Oranges form the only exception. Our plantations of them are young and insufficient for our own consumption; we therefore import them regularly from Sydney (New South Wales) and Launceston (Van Diemen's Land). I hope you may sometimes find other articles of mine worthy of your notice. If on such occasions you will kindly quote from the *Adelaide Farm and Garden*, or *South Australian Farm and Garden*, I shall take it as a favour. *E. W. Andrews, Grenfell St., Adelaide, Oct.* 1.

*Leeks.*—I have taken the liberty of sending you four specimens of Scotch Leeks. They were grown at Ayton Castle in Berwickshire, and are known in Scotland as "Ayton Castle Giant Leek." *Chas. Alexander, 30, West Register Street, Edinburgh.* [These Leeks were blanched upwards of 12 inches, and one of them measured 7 inches in circumference. The four together weighed 7½ lbs.]

*Gooseberry Bushes, Rats, and Rabbits.*—My man Friday tells me that it is better to stop rat-holes with pieces of sticks or chips chopped up into lengths of 1 or 2 inches, saturated with coal tar and rammed into their holes, than to pour it into them. He covers up the mouths of the holes after being stopped with sand or earth as being more convenient than mortar. My "crabbed" handwriting has led to one or two trifling errors. In line 33 from top of third column it should be "treading on or in clay." *Barbeblanche.*

## Notices of Books.

*The Natural History of the European Seas.* By the late Edward Forbes. Edited and continued by Robert Godwin-Austen, F.R.S. 12mo. Van Voorst. Pp. 306.

We learn from the preface that little more than a third part of this interesting volume is from the hand of the late Professor Forbes, who was removed by death before he had proceeded further. The rest is from the pen of Mr. Godwin-Austen. It is but just to say that the editor is in every way worthy of the author, and that he has worked up his materials with a degree of skill which proves him to be a master of his subject.

The object of the volume is to show how marine animals are distributed at the present day through all the seas that wash the shores of Europe, from the Mediterranean to the Polar ocean; and out of these materials to extract evidence as to the changes which have occurred in the lapse of ages, and are still slowly occurring at the present day.

Forbes was an advocate of "centres of creation," and his ruling object was to prove the existence of such centres, their present extent, and the changes they have undergone in times long past. "A province," he writes, "as understood in the following chapters, is an area within which there is evidence of the special manifestations of the Creative Power; that is to say, within which there have been called into being the originals, or protoplasts, of animals or plants. These may become mixed up with emigrants from other provinces, even exceeding in their numbers the aborigines, so to call them, of the region to which they have migrated. The distinguishing of the aboriginal from the invading population, and the determination of the causes which have produced and directed the invasion, are among the problems which the investigator of the distribution of animated creatures has to endeavour to solve. When the Fauna or Flora of a province has been thoroughly investigated, the diffusion of the individuals of the characteristic species is found to indicate that the manifestation of the creative energy has not been equal in all parts of the area, but that in some portion of it, and that usually more or less central, the genesis of new beings has been more intensely exerted than elsewhere. Hence, to represent a province diagrammatically, we might colour a nebulous space, in which the intensity of the hue would be exhibited towards the centre, and become fainter and fainter towards the circumference. This feature of zoological and botanical provinces gives rise to the term *centres of creation*, which I and others have applied to them."

Of such centres he reckons six in Europe:—

"The first and northernmost is the Arctic province, extending throughout that portion of the European seas included within the Arctic Circle. The second is the Boreal province, including the seas which wash the shores of Norway, Iceland, the Faroe and the Zetland Isles. The third is the Celtic province, in which rank the British seas, the Baltic, and the shores of the continent from Bohuslan to the Bay of Biscay. The Lusitanian province includes the Atlantic coasts of the Peninsula. The Mediterranean province speaks its own explanation; the Black Sea is included in it. Lastly, the Caspian is a region now completely isolated from all the others."

How each of these provinces is characterised and how it passes into those which touch it the reader will learn from the volume itself. Upon such questions there must necessarily be much difference of opinion; but there can be none as to the scientific knowledge displayed in their examination.

*A Manual of the English Constitution; with a Review of its Rise, Growth, and Present State.* By David Rowland. Murray. Foolscap 8vo. Pp. 588.

In this work the rise and growth of the English Constitution is first traced down to the Revolution; the rights, duties, and mutual action of our political institutions are then explained as they now exist, and their modifications by changes in the laws, and by Parliamentary Government and procedure since the Revolution, are described. The author has put together in a compact and convenient form the results of the labours of those who have devoted their lives to the study of the rise and progress of the English Constitution; and

added a valuable account of its actual state and of the mode in which it now works. Without therefore taking the place of the great works of Palgrave, Hallam, and others, the present volume supplies that in which most English histories are very deficient, and will be found a useful supplement to them all. One great merit of the work is that the unimportant has been throughout carefully distinguished from the important; and whilst the landmarks of our constitutional history are brought prominently forward, the reader's attention is not diverted from them by lengthened discussions on matters of purely antiquarian interest.

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*The Illustrated Bouquet*, Part VII., published by Messrs. Henderson, of the Wellington Road Nursery, is this month remarkably rich in good plants, illustrated with taste and skill by Miss Sowerby and Mrs. Withers. Gazania splendens, a brilliant orange flowered greenhouse plant, and Callicarpa purpurea, figured in our own columns, p. 96, form the first plate. The second represents 10 varieties of the Persian Cyclamen. Camellia tricolor imbricata plena, a superb new Florentine variety, occupies a third plate; but it should have been named C. imbricata tricolor—the word plena is superfluous. The fourth contains a most brilliant new Petunia of a rich violet bordered with white; and the pretty pink and lilac Salvia tricolor, a little greenhouse shrub from Mexico. And finally we have figures of the Dianthus Heddewigii, a superb form of the old Chinese Pink. As usual, the whole of these plates are accompanied by very well written letter-press.

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The 19th volume of the important new edition of the *Encyclopædia Britannica*, which has just appeared (A. & C. Black), contains excellent treatises on Reptiles, Rhetoric, River, Road-making, Romance, Roman History, Rope-making, Russia, Sanitary Science, Sardinia, Holy Scripture, Scotland, and Sculpture, with figures of Reptiles, and good maps of Ancient Rome, Russia and Scotland. It is superfluous to add that even the minor articles are worthy the eminent men engaged in this great work.

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*Country Rifle Corps* (Roberts, Exeter). Under this title has appeared a pamphlet of considerable interest at the present moment. The author, who, we presume, is Mr. T. D. Acland, jun., advocates the formation in country places of a force of volunteers, who shall be horsemen as well as riflemen. In a public letter to Lord Fortescue, Mr. Acland observes that "the proposed Country Rifle Corps differ from the Town Rifle Corps in no respect, except in the addition of the use of the horse for the more rapid transport of the riflemen: first, as a means of enabling those who live far apart to assemble for drill and instruction; secondly, in the event of invasion, as a means of harassing the enemy on his march by rapid advances and retreats over ground familiar to the defenders of the country, and inhabited, of course, by their friends. The drill on foot would be precisely similar to that of other rifle corps. Arrangements may therefore be made, wherever desirable, for the instruction of inhabitants of villages in the use of the rifle, without the horse, and for enabling a town company and a country company to act together occasionally." The pamphlet itself is addressed to three questions:—1. Why rifle corps are just now wanted? 2, What it is proposed to do? 3. How is the plan to be carried out? All these questions are well answered. The first indeed requires no answer: if it did we should be tempted to add to the reasons that we all feel to be of the utmost urgency, the desirableness of doing something to check the growing effeminacy of the age. We of the middle classes are gradually losing our native hardihood. We take no sufficient exercise; our rough athletic sports are disappearing; we live in heated rooms, and clothe in the warmest garments; ride inside Broughams, cabs, and omnibuses; and spend our leisure hours in the fashion of a bookworm. There is a little fly fishing, a little boating, a little cricketing, a little comfortable shooting, a little mountain climbing; but those who engage in such amusements are as invisible in the vast multitude as a single ripple in a mighty river. The consequence is that our muscles are growing flabby, and our constitutions weaker; for which there is no remedy equal to what may force us continually into strong outdoor exercise and moderate excitement. To this volunteers must and will accustom themselves; and we believe that every medical man who regards the question in this point of view will admit the volunteer movement to be not less important socially than politically. As to our foreign relations, when Great Britain bristles with half a million of bayonets in the hands of men who are trained to be dead shots, she will become a porcupine which no foreign power will willingly attempt to handle.

We must refer to the pamphlet itself for the detailed views of the writer, with reference to the manner in which he answers the second and third questions. After pointing out the difficulty that attends the organisation of country people, who are too much scattered to form rifle corps like those of our towns and cities, he proposes a plan of which the following are the main features:—

"Bodies of about 25 men to be raised in Agricultural Districts for rifle instruction. Such bodies to assemble on horseback, to be told off on the simplest possible method, necessary to enable them to pass along lanes, and over rough or enclosed ground, without confusion. When assembled, to be practised in quickly dismounting linking horses, and remounting, also in changing front in the simplest manner suited to untrained horses. The chief attention to be given to *skirmishing on foot* and to the *use of the rifle*, with so much squad drill as may be deemed necessary to induce a habit of conforming to orders, and of acting in concert. Each body of 25 men or less to be regarded as a *section of a company*, to have 2 non-commissioned officers, each responsible for a subsection, to be arranged with reference to locality, for the purpose of summons and inspection of arms. Government to appoint a 'district officer instructor' or 'district inspector' of volunteers. The principle of the drill to be that of light infantry (mounted for more rapid movement from place to place), not the drill required for cavalry manœuvres. The instruction to have for its object to develope and direct the intelligence, which is the characteristic of the well-trained volunteer; in short, to make *good irregulars*, not *bad regulars*."

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The hundred and forty-second thousand of *Paxton's Cottagers' Calendar*, now issued, is in reality a new edition much improved by the addition of fresh matter.

Mr. Murray has now placed *Childe Harold*, the best of Lord Byron's poems, within the reach of everybody, by the issue of a sixpenny and a shilling edition. The first is printed in a neat clear type in double columns; the second is in a larger type and is illustrated by a portrait of the noble lord when a child but seven years old, and some graceful sketches on steel.

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TRADE LISTS RECEIVED.—W. Barnes's (Camden Nursery, Camberwell) *Select List of Indian Azaleas, Cinerarias, Verbenas, &c.* A large collection of the best kinds of flowers for decoration, offered for sale by one of the best gardeners in England.—Arthur Henderson & Co.'s (Pine-apple Place) *Catalogue of Kitchen Garden and Flower Seeds, &c.*, is a folio circular with short descriptions of all the vegetable sorts mentioned in it. Collections of vegetable seeds are offered at from 15*s.* to 60*s.* each.—Frederick William Wendel's (Erfurt) *Trade Catalogue of Continental Seeds* is wholly confined to flowers, of which there is the usual variety, especially of German Stocks and German Asters. The English agent is Mr. Macintosh, Nurseryman, Hammersmith.

## Garden Memoranda.

MR. MACINTOSH'S NURSERY, HAMMERSMITH.—At a time when severe frost, accompanied by a slight fall of snow and prospects of more, has taken firm hold of the soil, and when all outdoor flowers have been killed, our glass houses become more than ever objects of interest; all plants of a decorative character calculated to adorn them at such a season therefore deserve unusual attention. Foremost among these is the charming Solanum capsicastrum, alluded to in another column. This Mr. Macintosh manages as follows:—Last spring it was very small and in a 3-inch pot; it was at once introduced into the warmth of an intermediate house, and as soon as it had started into growth freely it received a shift into a larger-sized pot; at the same time the roots were examined, and being found cramped and the soil in bad condition, the ball was partly reduced and the rootlets set at liberty. When potted it was again placed in heat, giving it no water for a time; but occasionally syringing it overhead in order to keep the atmosphere about it moist. This continued for a week or so until the roots had struck into fresh soil. After that it had a thorough watering with water of the same temperature as that of the house in which it was growing. It then received the kind of treatment usually given to plants in a growing state, paying attention to the stopping of all straggling shoots so as to induce a compact pyramidal habit. The pieces removed also tended to increase the stock: for it was found that every little bit struck freely, and that even at all seasons. For ordinary purposes 6-inch pots are most suitable for it; but if well-grown plants for dinner-table ornaments or for other conspicuous positions are required, larger plants might easily be had with very little trouble, and of almost any shape that might be desired. About the end of June they should be placed out of doors in as hot and sunny a situation as possible, when they will keep flowering and set fruit better than they would indoors. In September let them be removed under glass. This is the kind of treatment to which the fine plant elsewhere alluded to was subjected, and it was admitted by all who have seen it that a finer example of the kind had never before been exhibited. The soil most suitable for this Solanum is a light fibry loam intermixed with a little peat and sand. No manure was given it whatever.

Another plant most useful for decorating our greenhouses in autumn and winter is Veronica Andersoni, and in the culture of this Mr. Mackintosh is also most successful. He has some fine specimens of it now coming into bloom, as well as of the rosy-pink kind called Meldensis. His plan of managing such plants is to grow them one season and bloom them the next; but where larger specimens are required they are only permitted to make wood for not less than two seasons, the flowering being prevented by a regular system of stopping, by which a handsome pyramidal shape is acquired. The two kinds just named are among the handsomest of all Veronicas; but where greater variety of colour is wished for the white-flowered Lindleyana should be added to the list. Cestrum aurantiacum, though by no means new, is also a good plant for late autumn and early winter flowering; and the same may be said of Jasminum nudiflorum, whose bright yellow Primrose-like blossoms look unusually cheerful at the present time. The white Eupatorium adenophorum keeps in flower all winter, and is tolerably ornamental, and among Begonias, semperflorens coccinea is useful for the same purpose. As a plant for room decoration nothing is more sought after than Acacia lophantha, nice bushy plants of which may be had in small pots, and it is well worth growing on account of its foliage alone, which is very handsome. Acacia armata is also, as is well known, an invaluable plant for forcing into bloom for early greenhouse decoration. Tulips and Hyacinths are also being pushed on for the same purpose. Some of the former will soon be in flower. Dozens of pots of them may now be seen in full bloom in Covent Garden Market. Chrysanthemums, of which Mr. Macintosh grows some nice plants, are now for the most part over; we however noticed the Golden Cedo Nulli still in good condition, and along with it were also one or two promising seedlings.

## Miscellaneous.

*Sale of Rhododendron Fortuni, Taxus cuspidata, and other Conifers.*—These were sold by Mr. Stevens on Saturday last, and realised the following prices:—R. Fortuni, in lots of 6 strong plants, from 11*s.* to 1*l.* 11*s.* 6*d.*; other lots of 10 plants each from 12*s.* to 15*s.* per lot; and smaller plants even fetched less money. The originally imported plant from Japan realised 8*l.* 10*s.*; Taxus cuspidata, 3 good strong plants, fetched 6*l.* 10*s.*; other lots, each consisting of 10 small plants, from 15*s.* to 1*l.* 6*s.*; lots, consisting of Cupressus Nutkaensis (Thujopsis borealis), 2 plants: C. McNabiana, 2 plants; C. Whitleyana, 2 plants; and Picea Pinsapo, 2 plants, from 12*s.* to 15*s.* per lot; Picea Pinsapo, 5 fine plants, from 1*l.* 5*s.* to 1*l.* 10*s.*; Cedrus atlantica, 5 to 6 feet, 2 plants, 12*s.* and 14*s.*; C. Deodara, 10 good plants, 1*l.* 2*s.*; other lots, of which there were in all 190, fetched from 5*s.* to 10*s.* per lot.

*North American Forests.*—My daily walk still presents many objects of interest. Let me describe it to you, for it is not in the same district as that in which I asked your company some months ago, my lodgings now lying in quite another direction from the school. We first descend a hill by a narrow rocky path through some bowery underwood, much matted and tangled with Briars (Smilax) and Vines, and creeping plants of many species. The foliage of the slender shrubs, as brightly green as if it were July, hangs overhead, and nearly meets across the narrow pathway, and here morning after morning is my eye delighted with a constant succession of glorious blossoms of a large Ipomœa, closely like the Convolvulus major of English gardens, but of twice the diameter, and of the most lovely light purple hue. The plant grows along the sides of this lane in profusion, and the twining shoots depend gracefully down on either hand, bearing the noble trumpet-like flowers. Like the well known favourite I have just compared it to, our sylvan beauty is emphatically a morning flower. The elegant words of the poet apply pre-eminently to it:—

> "The morning flowers display their sweets,
> And gay their silken leaves unfold,
> As careless of the noontide heats,
> As fearless of the evening cold.
>
> "Nipped by the wind's unkindly blast,
> Scorched by the mid-day sun's fierce rays,
> The moon-tide glories waste,
> The short-lived beauties die away."

For "the sun is no sooner risen with a burning heat," than our lovely Ipomœa shrivels up, "and the grace of the fashion of it perisheth." May I learn the sacred lesson which its fleeting glory is fain to teach! In these thickets a plant called Poke (Phytolacca decandria) holds a prominent place, being conspicuous for its long racemes, sometimes nearly a foot in length, of glossy black berries, set on crimson footstalks: the stem and the nerves of the leaves are of the same crimson hue, greatly enhancing the beauty of the plant. It is very common in the corners of rail-fences, and by roadsides, as well in bushy wastes. The berries are full of a rich purple juice, which leaves a fine permanent stain; this hue is said to be communicated to the viscera of birds that feeds on the berries. Even more conspicuously beautiful than this is the Dogwood (Cornus florida), which is now in fruit. It is said to be handsome when in flower, being covered with blossoms, each consisting of an involucre of four large white heart-shaped bracts, so abundantly that the effect is said to be like that of the Apple tree in bloom. This, however, I have not seen, for it flowers in April, even before the leaves appear. Its aspect now is fine, for the Umbrella-like heads of the low trees are covered with berries of a vivid scarlet, oval in form, polished, and united like those of the Honeysuckle. Their luscious appearance tempts the taste, but they are found to be nauseously bitter. After emerging from this verdant bridle path, my way leads through a grove of Persimon trees (Diospyros Virginiana). Here the appetite is regaled, for they are loaded with fruit, which has been sweetened and mellowed by frosty nights. The tree grows to a large size for a fruit tree, sometimes reaching to 50 feet in height, with a spreading head: the fruit is somewhat like a Greengage plum in size and form, but is rounder, and reddish yellow; its pulp contains from one to eight semi-oval dark brown stones. It is so hard and harsh as to be quite uneatable till the skin is shrivelled by the frost, when it becomes soft, sweet, and very agreeable; to my taste much superior to any Plum.

The opossum is very fond of a ripe Persimon; its flesh, through feeding on this and other fruits, become very good at this season, and is brought to table, though rejected in summer. Now we get into the lofty woods; swampy but not very wet soil, where the most prominent trees are several species of Oaks, as the Chesnut Oak, (Quercus palustris), the Black Jack, (Q. ferruginea), and the Scarlet Oak (Q. coccinea). The first of these is a magnificent tree for its lofty structure and finely formed head of foliage, as well as for the large size of its leaves and acorns. The last is conspicuous by the brilliant scarlet hue of its leaves at this season, whereby it materially assists in contributing to the bright and various colours which the forest is beginning to assume. But there are nobler trees than Oaks in this swamp. There are the Magnolias, or Laurels, as they are called here, two species of which at least are common, if not a third. These are the Big Laurel (M. grandiflora), and the Umbrella Laurel (M. tripetala), and perhaps the Cucumber tree (M. cordata). The first of these is among our largest forest trees, straight as a ship's mast, with a fine pyramidal head of massy foliage, whose evergreen verdure maintains its colour and its gloss undimmed by the storms of autumn and the frosts of winter. The fleshy conical fruits, 4 inches in length, are now ripening their numerous cells, from which project pulpy red seeds, depending by long filaments. The Umbrella tree is so called from its leaves, which are of extraordinary appearance; they are 18 or 20 inches long, and 6 or 8 broad; and being often disposed in a radiating manner at the end of a stout shoot, they expand a surface of 3 feet in diameter. The tree itself does not aspire to the magnitude of its sister, being scarcely more than a shrub. Its large conical fruit is of a dull rose colour. The Magnolias, in their smooth grey bark and pillar-like outline of the trunk, bear a resemblance to the Beech,—that queen of the forests. The character of the timber changes presently, and we see scarcely anything but coniferous trees. The earth, where it can be discerned, is covered with a dense coat of needle-like Pine-leaves, brittle and brown, the accumulation of many years (their resinous character resisting decomposition), intermixed with sheets and shreds of the scaly bark. The Long-leafed and the Pitch Pine (Pinus palustris and P. rigida) are the monarchs here, exercising a joint dominion, which admits of no other rival. Both these are towering trees, the latter the more branchy, with a deeply furrowed trunk; the former with a scaly peeling bark, great exudations of turpentine, and slender leaves a foot long, disposed in brushes, the bases being enclosed in a papery sheath. The turpentine on many of these trees runs down in great masses, congealing as it descends, while fresh streams flowing down over the old, and congealing in turn, form immense accumulations. If fire is applied to these exudations they catch at once, and burn vividly until the tree is destroyed. I saw a Long-leafed Pine fired in this manner one day, and a fine sight it was. The light was applied to the flowing resin, which was in a flame in a moment, the fire running up with increasing rapidity, till in a brief time the whole of one side of the tree to a height of 50 feet was in a blaze; the forked flickering tongues of flame catching and licking with greedy fierceness as if they demanded more aliment for their insatiable throats. After an hour or two, the turpentine that lay in the bark and that had accumulated on the exterior was devoured by the fire, and the wood being too hard to be readily penetrated, the flame had gradually gone out, leaving a blackened stick with a glowing point here and there. But now came the grandest part of the spectacle. The interior of the trunk was decayed, and the fire had found its way through some broken branch into the hollow, where, speedily consuming the half-rotten wood of the centre, its made its way to the summit, from which a volume of flame fiercely shot for many yards like a perpendicular pyre. It was a tall chimney in a blaze; the interior, seen through the openings here and there (I mean, after some hours had elapsed), was like a furnace, while the roaring of the flame from the top was like the surging of the sea upon the shore. The planter at whose house I lodge, being lately in want of some tar, manufactured it in the following manner. A number of the boughs and knots of these two species of Pine were gathered from the swamp, and built up into a stack in the yard. A few grooves had been first made in the hard ground of the site, all converging into one principal channel, which led off to one side. Here a hole was dug to receive a tub, with a spout of bark from the channel projecting over it. Earth was now heaped over the stack, leaving only a few orifices for air, and the pile was lighted. The tar, which is nothing but resin smoked and partly burned, soon began to trickle, and increased to a stream, which lasted until the whole wood was consumed. But to proceed with our walk, which we have nearly finished. The nature of the foliage, and its scantiness in these Pine swamps, admits of much more light than in the forests generally; and hence the ground is much overrun with herbage. All through the autumn, several species of Œnothera have opened their beautiful blossoms to the evening air, courting the softened rays of the moon and stars rather than of the sun. One sort in particular, the large flowered Evening Primrose (E. grandiflora), with its fine blossoms of brilliant yellow, as wide as a teacup, is well worthy of admiration. Some species of Willow herb (Epilobium) discharges its feathery down here, which is borne by the breeze into our eyes, nose and mouth, and hangs about in ragged slovenly bunches. But most characteristic is the plant called the Golden Rod (Solidago), which covers many acres with tall coarse herbage, and spikes of small but close-set yellow blossom. Many autumnal insects, as the Hymenoptera and Diptera and some moths, flutter around these spikes of blossoms, which else would present few attractions. Hence we emerge into the high road, bounded on both sides by the hardwood forest, where the Oaks and Hickories, the Sycamore and the Tulip tree, the Chestnut and the Sweet Gum, cast a greenwood shade, varied, however, now with gorgeous tints, like the rays that stream through the painted window of some old cathedral, by the dying foliage. Beneath these trees the eye of an entomologist is often caught by droppings which indicate caterpillars of large size feeding on the leaves above; and thus I have been guided to the discovery of some fine species; while, not uncommonly, we discern far up in the trees the great cocoons of some of the Emperor Moths (Saturnia, Ceratocampa, &c.) suspended from the twigs by a narrow ribbon of strong silk, and rocking in the breeze. The cocoon of the Swallow-tailed Emperor (S. luna), for instance, is affixed to the Liquidambar or Sweet Gum; that of the Corn Emperor (S. Io) to the Oak, and that of the great Yellow Elephant Moth (C. imperatoria) to the Sycamore. The caterpillars of some of these moths are of magnificent dimensions, and often richly coloured. A few weeks ago one of my little lads came to tell me of one which he had just found, and which he described as unusually gigantic—too big, in fact, to be touched. On my coming to the spot, the prize was *non inventus*, having crawled away. On my asking the lad why he had not put the caterpillar into a collecting canister which he had, he exclaimed with unfeigned astonishment, "Law, sir! he wouldn't begin to go in!" meaning, not to ascribe any reluctance on the part of the insect to the change of residence, but that the orifice of the box was not wide enough to receive even the smallest extremity of its body. *Gosse's Letters from Alabama.*

## Calendar of Operations.

*(For the ensuing week.)*

### PLANT DEPARTMENT.

CONSERVATORY, &c.—Where there is a good stock of Azaleas to select from some of the most forward plants may now be placed in heat in order to get them into bloom early; moisten them overhead two or three times a day. Unless, however, plants can be had which made their growth and set their buds early in the season they need hardly be expected to flower so finely as under more natural circumstances in spring, and unless the buds are plump there will be some danger of the plants starting into growth instead of flowering. Do not forget to introduce a good batch of Roses, choosing the most promising plants for winter flowering. A gentle bottom heat will be of great service to these, as also to most other plants subjected to heat, in order to get them into flower as quickly as possible, and a moist state of the atmosphere must be secured, admitting a little air freely on every favourable opportunity. Pelargoniums should be kept rather cool and dry, giving whatever water may be necessary on the morning of fine days, so that the superfluous moisture may be removed before the evening, avoiding the use of fire-heat except when necessary to prevent the temperature falling below 40°, or to dispel damp, when this cannot safely be done by giving air. Fancy kinds like the warmth of an intermediate house. Calceolarias require very similar treatment, except that they are subject to attacks of thrips unless afforded a moist atmosphere; they must, therefore, be narrowly watched and smoked lightly two or three evenings successively if this pest makes its appearance, keeping the atmosphere moist, and giving air on every favourable opportunity to prevent the foliage from flagging. Cinerarias for late blooming must also be kept cool and airy, and should not be allowed to suffer from want of pot room. Plants intended to flower early should be encouraged with a gentle heat, keeping them as near the glass as possible.

### FORCING DEPARTMENT.

PINERIES.—If any portion of the stock is intended for fruiting early, a brisk temperature must be maintained to induce it to start; the most promising plants should be selected for the purpose and placed in a small house or pit by themselves; and, where anything like a regular supply of ripe fruit is required, several houses, or separately heated compartments, should be at command. It is not by any means desirable to start more plants into fruit at this early season than may be absolutely necessary, for they will produce finer fruit later in the season than can possibly be obtained from them now; and where a separate house cannot be commanded for those which must be subjected to a higher temperature, we would advise that the plants selected for fruiting should be placed in the warmest part of the house at command, filling the rest of the house with young stock. The former should be afforded a bottom-heat of about 85°, and the latter about 10° or 15° lower; the atmosphere should range from 68° to 75° by fire heat, allowing it to rise 5° with the assistance of sunshine, keeping the young plants near the glass, and properly supplied with water at the root. This temperature will be considerably too high for young stock at this season, but we have seen this system practised with considerable success; and although the young plants may get somewhat drawn, they will gain substance as light increases, and the evil will be less than running the risk of starting at this early period of the season the greater portion of the plants that are at command for keeping up the supply throughout the summer. VINERIES.—Until the buds are fairly broken the points of the shoots should be kept nearly on a level with the lowest part of the Vine; and if this should not be found sufficient to induce the buds to start equally throughout the length of the Vine, the rod should be bent so as to bring the most forward buds to the lowest level, elevating those that are backward. Maintain a thoroughly moist atmosphere by frequently sprinkling the floor and passages, &c.; and syringe the Vines lightly at least twice a day until the leaves begin to appear, when the amount of moisture must be moderated. Give every attention towards securing a genial warmth for the roots; turning the litter and adding fresh as may be requisite, and keeping it well protected from the effects of heavy rain and severe weather. Be satisfied with a moderate night temperature until the buds begin to push, when it may gradually be raised to 60° by the time that the leaves fairly begin to open.

### FLOWER GARDEN AND SHRUBBERIES.

If any of the tenderer kinds of Roses are yet unprotected some covering material should be applied at once, for severe weather seems about to set in. Also get in Briars for budding upon without delay, for unless these are planted before spring they seldom furnish strong shoots for early budding. The transplanting of any large evergreens which unfortunately has been delayed until now should be put off until the weather becomes mild in spring, especially things which are known not to be perfectly hardy. There will be comparatively little to do in the flower garden at present, and any spare time will be well spent in going over the stock of plants in pits for next season's use, removing every decaying leaf, and where the surface soil has got green, removing this and top dressing with sandy loam. There is nothing so unfavourable to these plants at this season as damp, therefore take every favourble opportunity of admitting fresh air.

### HARDY FRUIT AND KITCHEN GARDEN.

See that standard trees which have been recently moved or root-pruned are firmly secured against winds, and also get any root-pruning or transplanting remaining to be done this season executed before frost sets in. Endeavour, as has been previously pointed out to have a good supply of Parsley under safe protection, for there is generally a large demand for this; and in the event of a severe winter it is difficult to save it by the ordinary protection of hoops and mats. Lettuces, Cauliflowers, &c., in frames should be freely exposed on all favourable occasions. See to maintaining a regular supply of Seakale, Rhubarb, and other forced vegetables. Look over root-stores occasionally to see that nothing is going wrong, and be very careful of any Broccoli that may be fit for use. Take advantage of frosty weather to get manure wheeled upon spare ground, and see to keeping a good supply of it well rotted and fit for use when wanted.

### STATE OF THE WEATHER AT CHISWICK, NEAR LONDON.

For the Week ending Dec. 15, 1859, as observed at the Horticultural Gardens.

| Dec. | Moon's Age. | Barometer. Max. | Barometer. Min. | Temperature of the Air. Max. | Min. | Mean | Temperature of the Earth. 1 foot deep. | 2 feet deep. | Wind. | Rain in inches. |
|---|---|---|---|---|---|---|---|---|---|---|
| Friday 9 | 14 | 30.520 | 30.439 | 43 | 27 | 35.0 | 44½ | 44½ | E. | |
| Satur. 10 | ○ | 30.658 | 30.594 | 44 | 24 | 34.0 | 44 | 44½ | E. | |
| Sunday 11 | 16 | 30.577 | 30.449 | 34 | 26 | 30.0 | 44 | 44 | E. | |
| Mon. 12 | 17 | 30.396 | 30.328 | 40 | 29 | 34.5 | 43½ | 43½ | S.W. | |
| Tues. 13 | 18 | 30.291 | 30.065 | 39 | 22 | 30.5 | 43½ | 43 | W. | |
| Wed. 14 | 19 | 29.968 | 29.893 | 31 | 22 | 26.5 | 42 | 43 | N. | |
| Thurs. 15 | 20 | 29.956 | 29.804 | 34 | 14 | 24.0 | 41 | 42½ | N. | |
| Average | | 30.338 | 30.224 | 37.8 | 23.4 | 30.6 | 43.2 | 43.5 | | |

Dec. 9—Foggy; hazy; slight frost at night.
— 10—Foggy; slight haze with cold east wind; frosty.
— 11—Foggy; dense fog throughout; slight frost.
— 12—Slight drizzle; foggy; fine; slight frost.
— 13—Overcast; slight fall of snow-flakes; clear and frosty.
— 14—Dry frosty air; clear and cold; frosty.
— 15—Clear and frosty; fine; clear; severe frost at night.
Mean temperature of the week, 9½ deg. below the average.

### RECORD OF THE WEATHER AT CHISWICK,

During the last 33 years, for the ensuing Week, ending Dec. 24, 1859.

| December. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds. N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday 18.. | 45.3 | 33.9 | 39.6 | 19 | 0.34 (n. | 3 | 8 | — | 2 | 6 | 9 | 5 | — |
| Mon. 19.. | 45.1 | 34.9 | 40.0 | 17 | 0.38 | 3 | 4 | 4 | 2 | 5 | 10 | 4 | 1 |
| Tues. 20.. | 44.6 | 34.0 | 39.3 | 13 | 0.76 | 2 | 2 | 2 | 2 | 9 | 7 | 2 | — |
| Wed. 21.. | 43.7 | 34.1 | 38.9 | 13 | 0.20 | — | 7 | 3 | 1 | 2 | 13 | 3 | — |
| Thurs. 22.. | 45.3 | 33.6 | 39.5 | 17 | 0.36 | 3 | 5 | 3 | 1 | 2 | 10 | 6 | 1 |
| Friday 23.. | 44.6 | 32.6 | 38.4 | 17 | 1.13 | 5 | 4 | 2 | 2 | 1 | 11 | 1 | 4 |
| Satur. 24.. | 44.1 | 32.0 | 38.0 | 14 | 0.30 | 3 | 4 | 3 | 2 | 1 | 14 | 2 | — |

The highest temperature during the above period occurred on the 23d, 1849 and 1857, and 24th, 1827—therm. 57 deg.; and the lowest on the 22d, 1855—therm. 9 deg.

## Notices to Correspondents.

NAMES OF FRUITS: *W P.* Your Apples are finely-coloured specimens of the Ribston Pippin.‖

NAMES OF PLANTS: We have been so often obliged to reluctantly decline naming heaps of dried or other plants, that we venture to request our correspondents to recollect that we never have or could have undertaken an unlimited duty of this kind. Young gardeners, to whom these remarks more especially apply, should bear in mind that, before applying to us for assistance, they should exhaust their other means of gaining information. We cannot save them the trouble of examining and thinking for themselves; nor would it be desirable if we could. All we can do is to *help* them—and that most willingly. It is now requested that, in future, not more than four plants may be sent us at one time.—*Shrubland.* The plant which you find most excellent for winter blooming, and of which plants just coming into flower are 2 feet by 2 feet, bushy and thick with bloom struck from cuttings 12 months ago, is the fragrant Eupatorium adenophorum. — *Honeysuckle.* Cotyledon Umbilicus, alias Umbilicus vulgaris.

POTATO: *A Poor Man.* Messrs. Hardy, Maldon, Essex, inform us that if you will apply to them they will tell you where and at what price you can obtain the Lemon or July Kidney Potato.

ARTIFICIAL MANURES, &c.—Manufacturers and others engaged in making ARTIFICIAL MANURES may obtain every necessary instruction for their economical and efficient preparation, by applying to J. C. NESBIT, F.G.S., &c., Principal of the Agricultural and Chemical College, Kennington, London, S. Analyses of Soils, Guanos, Superphosphates of Lime, Coprolites, &c., and Assays of Gold, Silver, and other Minerals are executed with accuracy and despatch. Gentlemen desirous of receiving instruction in Chemical Analyses and Assaying, will find ample facility and accommodation at the College.

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ROYAL AGRICULTURAL SOCIETY OF ENGLAND.
APPOINTMENT OF EDITOR.—The Council have resolved to APPOINT AN EDITOR OF THE SOCIETY'S JOURNAL, and other Publications, at a salary of 500*l.* per annum.
Gentlemen desirous of becoming Candidates for the above office are requested to send in their applications and testimonials, not later than January 20, 1860, to the Secretary of the Society, 12, Hanover Square, London, W., from whom full particulars can be obtained.

# The Agricultural Gazette.

*SATURDAY, DECEMBER 17, 1859.*

—— A REPORT, printed for private circulation, of the extremely full and well managed competition among village exhibitors of horticultural produce, floral taste, school work, &c., which annually takes place at Tortworth Court Park, the seat of the Earl of DUCIE, has been kindly sent to us.

Knowing that neighbourhood well, and the circumstances of its labouring population by long residence among them, we are able to speak with confidence of the good influence of these shows upon the condition of the people. They act as a most efficient premium upon good allotment and garden cultivation, and therefore upon a very important source of domestic comfort.

—— The plans of an apparently good and useful moveable cattle shed, advertised in another column, have been sent for our inspection. The inventor professes to be able to house 36 head of cattle in a moveable erection, costing only 12*l.* if the landlord will provide timber in the rough. If timber has to be purchased it will cost 35*l.* The whole consists of four sheds, 9 feet wide each, and therefore capable of being moved through an ordinary gateway; each is on wheels, and when they are drawn up alongside of one another they constitute a covered square of 36 feet, providing accommodation for 36 cattle, or 18 cattle and 50 sheep, or 100 sheep; together with ample storage for fodder. The uses of it are to provide shelter for live stock when depastured in exposed parts of the farm, unprovided with permanent buildings—to give shelter to sheep when folded on green crops and in the lambing season, and to preserve their manure.

—— We add some further particulars regarding the late exhibition of the Smithfield Club for which room was not found in our columns last week. Lord BERNERS, who presided at the public dinner of the society, gave the following short statement of its history and progress:—

"The Smithfield Cattle Club was established in 1798, or 61 years ago. It was then very small in its numbers, and was held in a very humble position in Goswell Street. Some 20 years ago, the shows of the club were removed to Baker Street, and at that time the proprietor of the bazaar gave the club 300*l.* a year. Instead of receiving 300*l.*, the club now receive 700*l.* The non-members of the society who exhibit stock pay 115*l.* a year. The implement department pays them 740*l.*, and the steam-engine exhibitors 50*l.* The dividend on their funded stock produces 56*l.*, and the subscriptions 235*l.* Their invested capital is 2009*l.*, and at the present time they have 364 members. The number of entries for live stock during the present year was 365*l.* The sums awarded for prizes for cattle and other stock amounted to 950*l.*, and in medals 114*l.*, or in rough numbers, 1100*l.* There could be no doubt but that they ought to have a show-yard of their own, which would prevent the public being so crowded as they had been, and give more room for the implements, which are a very important department of the show. When this was accomplished he had no doubt but the Smithfield Club would advance by rapid strides to further prosperity."

Their agreement with the tenant of the Baker Street Bazaar terminates, we believe, in 1861; and before that time no doubt a building and show-yard providing larger accommodation will be erected.

A comparison of some of the classes of fat stock exhibited last week with similar classes at previous shows brings out the following facts:—

The number of Devons exhibited was largely over that of former years—the Herefords were as much under their usual average—the Short-horns were present in ordinary number—the cross breeds were considerably fewer. As to the size of individual specimens, the first prize Short-born steer in 1852 girthed 8 feet 2 inches; in 1853 it girthed 8 feet 4 inches; in 1854 it girthed 8 feet 6 inches. There were, we believe, none of this girth in the same class this year.

In the older class again in 1852 Mr. STRATTON's prize ox girthed 9 feet 2 ins. In 1853 the prize ox in this class girthed 8 feet 10 ins. In 1854 the two prize oxen in the class girthed 9 feet 7 ins. and 9 feet 5 ins. respectively. In 1859 the largest ox in the yard was Mr. WORTLEY's, and it girthed 9 feet 6 ins.

In the Hereford classes the most remarkable animal undoubtedly was Mr. SHIRLEY's prize ox, which at 2 years and 7 months old girthed 8 feet 17 in. We have nothing in the records of past shows to exceed this.

Among Devons this girth is rarely reached at all, and not till the animal is four years old. Neither the Hereford nor the Short-horn classes in these years of which we have exact accounts have reached the weight of Mr. SHIRLEY's ox, which, taking its age into account, may be fairly looked upon as an agricultural maximum.

—— It will be seen by the report in another paper that the Council of the Agricultural Society have made some material alterations in the management of the country meeting, tending very considerably towards the plan recommended in the *Midland Counties Herald*, to which we drew attention at the time of its publication.

The meeting is to commence earlier and terminate on the Thursday instead of the Friday evening of the show week.

THE discussions which are held at the London Central Farmers' Club are read with great avidity by the more intelligent agriculturists all over England. A great deal perhaps is said which does not exactly agree with their own experience; but there is still much food for reflection, and many a suggestion arises which gives birth to new inquiries, or indicates something wrong in present practice. To ourselves they are of great interest, not only on account of the subject matter produced, but because they show precisely where the weak point of most agriculturists is, and to what the attention of those whose business is to supply information should be directed. The matter which strikes us most in these meetings is the tendency to refer any circumstances which may arise, as disease in stock or crop, to some other concurrent accident, without the slightest attempt to ascertain the justice of the reference. This tendency, indeed, is not confined to farmers, but extends to every class of the community where the trouble of deep thought and accurate examination are deliberately thrown aside for any argument, however inconclusive, which may serve as a resting place to the slumbering mind.

Let us take as an example one of the main matters on which a recent discussion turned—the loss of lambs during the three last years. One refers it without hesitation to feeding on Trefoil, while another as confidently attributes it to being placed on White Clover leas previously fed off by sheep. While both of these positions are denied by persons whose experience is in favour of either practice, a third opinion out of doors inclines to think it arises from the change from Grass to Turnips; a fourth, where Barley was given at the

time of change, to the lambs being overgorged with grain; while a fifth opinion, to which we lately alluded, seeks for the cause in the presence of a Fungus upon the Grass. In not one of these instances was there any due record of the symptoms of the disease, much less any comparison of symptoms or attempt to show that the causes assigned were capable of producing the effects.

It is evident that there is here an important field of inquiry and one of great extent, and the mere indication of the great evil which is bound up in such inconclusive inferences may of itself be useful. If it be reasonably presumed in several instances that Trefoil is fatal to lambs, for single instances are of little use in farming, and the crop is not so luxuriant as to produce scouring, it immediately becomes matter of interest to ascertain whether Trefoil is really injurious, and if so whether it is the leaves, flower, or seeds, which are the cause of mischief; and this can scarcely be a matter of great difficulty. That it should be hurtful is not impossible, as some leguminous plants are virulent poisons and almost all contain a certain portion of the deleterious principle. One species for instance is known to be the pest of sheep farmers in Australia. We have ourselves met with the opinion amongst farmers that Trefoil is injurious only when in flower. But such a notion is to be taken merely as suggestive, and by no means to be adopted without inquiry to the discredit of a plant which for years has been considered one of the most useful on some kinds of land. The person who makes such experiments, with due caution as to the conclusion he forms, becomes a real benefactor, while the loose assertion, especially from the mouth or pen of one who has credit in his generation for judgment, may lead to serious evil.

The same reasoning applies to any other theory. If any probable cause suggest itself, from repeated experience, let that cause be properly tested, and some useful information is sure to arise, but mere assertion has the tendency rather to retard than to promote knowledge. A theory carefully followed out, if resting on false observations only, or observations with which some error is mixed up may lead to good, because those observations are sure to be tested, and truth will be elicited in the discovery of error. This is constantly the case in other branches of science, and in none more than the cognate science of Botany,* and hence persons whose reputation has been built on false conclusions may prove real benefactors to science. Where there is nothing but assertion, there is scarce any room for this process, for in the great majority of cases the assertion unsupported by arguments will be entirely neglected by scientific men.

We have taken the instance given above, as that more prominently brought before the meeting, but our observations apply to other matters which came incidentally under discussion. One or two of these are of very great interest, especially the Clover sickness and the sterility of soil as regards Wheat after Italian Rye-grass, on which we shall hope to say a few words on some future occasion.

As regards another point brought forward—the comparative fertility of Clover layers when eaten off by sheep or mown—there is great difference of opinion. Some as confidently adduce examples in favour of the former practice, as do the high authorities who broached the subject in praise of the latter. We think that too little weight perhaps is attached in the latter to the fallen leaves. A good deal, however, depends upon the soil. Practices which may be right enough in the light soil of Lincoln Heath may be quite inapplicable to strong clay districts, or other modifications of soil, a fact which cannot be borne in mind too carefully in such discussions. *M. J. B.*

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A GREAT change in the relative value of our different crops has taken place of late years. There was a time when nearly all were only secondary to that of Wheat, which indeed was looked upon at least as the principal crop from which any amount of profit was to be derived; and hence each farmer would if possible so arrange matters as to get a recurrence of Wheat in the rotation as often as possible, and restrictive clauses in leases or other agreements between landlord and tenant were insisted upon to prevent that exhaustion of soil which such frequent taking of a corn crop is known to produce.

Such restrictions, however, have for some time been becoming less stringent, partly arising from the increased use of artificial manures, and slightly from another cause, the operation of which is only just begining to be felt. We refer on the one hand to the low price of Wheat, not rendering it worth while for the farmer to bend all his energies to its production, and on the other to the higher price of meat, making it of more importance to provide a greater supply of cattle food.

This position of matters is even now beginning to occupy the attention of agriculturists, who are not at present calculating how they may manage two Wheat crops in six years so earnestly as how to produce a succession of root crops. That which makes this subject still more important at the present time is that the Turnip root, which has been so extended in its cultivation as to be everywhere known and extensively grown, is beginning to fail just as its value is being better understood, and it would appear that one cause of this, to say the least, is the too frequent repetition of the crop under similar circumstances of soil, climate, and modes of cultivation. Hence, then, it will be in vain to call upon the Turnip to do double duty in our crop rotations when it can scarcely be maintained in its present state once in a four or six years' rotation. This circumstance has doubtless impelled the Council of the Royal Agricultural Society to offer a prize for a "Report on the Causes of the increased Difficulties of Turnip Cultivation, and the Remedies," to which announcement of the subject is appended the following remark:

"In many Turnip-growing districts this crop is found to be less hardy than heretofore, and more liable to the attacks of various diseases. Competitors will be expected to discuss the question whether this is due to the too frequent repetition of this crop, or to any differences in the mode of cultivation or the kinds of manures employed."

Now we shall not stay here to answer these important inquiries, but will take them merely as evidence of the declension of a most important crop, under present modes of culture.

To meet this difficulty Mr. ANDERSON, the agent of Lord BATHURST, at Cirencester, tried last year a plan of growing alternate rows of Mangels and Swedes, so that the former could be drawn and stored, and the latter used for sheep in the usual method adopted on the Cotteswolds. Both require pretty much the same treatment, and as might have been expected there was no drawback to the success of both; in fact either separately would have formed not altogether a bad crop for the light upland soil of the district.

This year this notion has been varied by growing alternate lands of 12 rows each of Swedes and Mangels, a plan which we cannot help thinking is worthy of attention, as a bad season for the one kind of plant may not always be that for the other, and if one portion of the crop be removed sufficient fertilising matter will still be left in the other portion to develop a corn crop, or the cleared land may be suitably employed for Potatoes, which we should imagine will be less liable to disease than when special manuring is employed.

Let us however suggest as a mode of carrying out a new plan of operations suited to the new requirements of the farm, that the same ground may be grown with the same crops for two years by merely alternating the lands as follows:—

| | | | |
|---|---|---|---|
| 1860. Swedes. | 1860. Mangel. | 1860. Swedes. | 1860. Mangel. |
| 1861. Mangel. | 1861. Swedes. | 1861. Mangel. | 1861. Swedes. |

Of course there can be but little difficulty in arranging these matters, and thus add other advantages to those before mentioned.

1st. The expensive tillage required for a single root crop will subserve the growth of two crops of roots.

2dly. These two years will the better prepare a new seed bed for corn.

And 3dly, two years of a cleaning crop will ensure that all the germs of weeds shall be destroyed.

1st. Roots have previously been considered, not as a paying crop, but as a necessary preparation for corn, which would be paying at 6*s.* per bushel, but doubtfully so at 5*s.* a bushel. The reason roots do not themselves pay is on account of the expense of tillage.

Thus in the case of the Turnip fallows we have often

| | £ | *s.* | *d.* |
|---|---|---|---|
| 3 ploughings at 9*s.* .. .. .. .. | 1 | 7 | 0 |
| 2 cultivations at 3*s.* 6*d.* .. .. .. | 0 | 7 | 0 |
| 6 harrowings at 1*s.* .. .. .. .. | 0 | 6 | 0 |
| 2 rollings at 1*s.* 3*d.* .. .. .. .. | 0 | 2 | 6 |
| Total for an acre | £2 | 2 | 6 |

The cost of hand weeding is often very costly. Now this, exclusive of the cost of manure, of seed, &c., is a serious expense indeed.

Much, however, of this expense would, in the plan we advocate, extend over two years, and we cannot but think from the very nature of the case that the seed bed of the second year would be even better than that of the first as being in better "tilth," and much cleaner, so that we should expect a better plant from less seed, and therefore less liability to insect attacks than pertains under present modes of culture.

Of course we do not altogether advocate the growing of two successive green crops with one year's manuring, but still as the plants we would employ should always belong to different families, we are not quite sure whether practice and experience would not show the feasibility of this. Again we would not confine our ideas to the two crops named, but would suggest alternations of Carrot and Parsnips with Swedes or Mangels; and upon the plan that we cultivate our gardens, first getting our ground in good working order, the following of one crop after another by no means necessitates special manuring for each.

2dly. Should the root crops be succeeded by corn, we submit that with two years of cultivation of these successive root crops, especially on the ridge system, an increasing quantity of soil will become decomposed by the action of the atmosphere, by which means we may expect the land to be not only deepened but its fertility augmented. And in fact if matters could be so arranged as to have not only a complete alternation in the crops of different ridges of land, but also a change in the position of the rows, we should unite the advantages of the TULLIAN system with our more modern one, and probably as usual find that this is just the happy mean in which the truth may be found. 3dly. As regards weeding by our present system, we are ever beginning this necessary but expensive operation, and never finishing. However much we may get weeds down by one year's root cultivation, we still leave sufficient germs in the soil to continue the pest two years. But the principle we have ventured to introduce would be so effectual in weed destruction that unless we again sow our enemies in the *shape of Tares with the Wheat*, we shall have made a most important step in weed eradication.

Here then in advocating a plan which, we think, may be made available for present circumstances, we are not introducing new or untried crops, nor do we propose anything that would be expensive in the trial. Certainly it would not unfit the land for a reversion to the old four, five, or six-course systems if they should be found more desirable, and further, it is not one that requires the more frequent growth of any particular species of root crop.

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—— A LETTER from the neighbourhood of Taunton which we have just received confirms very strongly what was lately said about the effect of Ergot in pasture Grasses upon in-calf cows. Three of the principal Grasses, namely, Rye-grass, Cocksfoot, and Yellow Oat-grass were covered with Ergot in October, and the consequence has been that the greater part of the cows have slipped their calves. A little attention would prevent such calamities. Ergot seldom if ever appears in the eddish or lattermath, and it is there that the cows and pregnant ewes should be placed in October and the beginning of November. It is only on the Bents that the Ergot grows in any abundance, and a little observation will show whether they are affected or not. *M. J. B.*

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## AMERICAN HORSE-POWERS.

[From Dr. Eddy's Paper on American Implements in the Journal of the English Agricultural Society.]

THEY are of various sizes adapted for one or two horses, or for a sheep, a dog, or a calf, any which, when put in, have no option but to do the work, for it is a species of treadmill; and although at first sight it appears a case of cruelty, I do not believe it to be at all more so than any other kind of compulsory labour. It is not found to distress or injure the animal, and it is undoubtedly the most effectual method of applying a limited amount of animal power to such purposes as threshing, winnowing, grinding, churning, sawing wood, and all others which require rotary motion, because, in the first place, the speed of the animal is directly imparted without the intervention of gearing to the axle of the driving-wheel; so if we suppose this to be 3 inches in diameter, and the circumference 3 feet in diameter, and that the horse walks at the rate of 3 miles an hour, the velocity at once given to the band on the driving-wheel is 36 miles an hour, and the force is directly proportioned to the weight of the animal, undiminished by the friction of cog-wheels.

The machine consists simply of a pen with a floor of stout slats resting on an endless web, which runs on rollers and communicates the motion given to it to the

* That we may not make assertions without proof, though the particular instances are omitted in the text as out of place in an agricultural article, we may point out SCHLEIDEN'S theory of the protection of the embryo in plants, and that of DU PETIT THOUARS on the formation of wood from fibres descending from the buds.

axle of the driving-wheel; the forward end of this pen is raised on a block to give it a slight inclination, and, as soon as the wheel is set at liberty, the weight of the animal moves the floor backwards with an accelerating motion, which is checked only by the resistance of the work to be done, or by the application of a drag.

Now, suppose we compare this application of power with that of a horse in the old fashioned lever mill: in this railway horse-power we have seen that the speed is directly applied to the axle of the band wheel; in the old-fashioned mill, on the contrary, the horse walks a circle of 18 or 20 yards in order to give one revolution to the axle, and this loss of speed has to be recovered by a complicated system of cog-wheels and gearing. Besides, a horse walking in a mill pulls, not at right angles to the pole (which forms the radius of the circle), but within the right angle, which involves a loss of power in proportion to his thus diminished distance from the centre of motion; the lost power being mischievously exerted in pressure on the centre, and consequent increase of friction.

The well-known economy of these "railway horse-powers" has caused them quite to supersede the old lever ones on the 200 or 300-acre farms of the Northern States; but on the large plantations of the Southern, and the great Prairie estates of the Western districts, the lever-powers, admitting as they do of the application of the entire force of the farm, are still used for threshing. The capacity of these "powers" is stated to be about 175 bushels of Wheat a day threshed and winnowed, at a cost of less than 2½*d.* a bushel. I have reduced the dollars and cents to English money:—

Estimate per day of 10 hours.

| | | |
|---|---|---|
| 2 horses, at 2*s.* each .. .. .. | = | 4*s.* 0*d.* |
| 4 hands, at 3*s.* each .. .. .. | = | 12 0 |
| Boarding men and horses .. .. | | 9 0 |
| Cleaning up .. .. .. .. | | 3 6 |
| | | 28 6 |

This is the price at which travelling machines will contract to thresh and winnow; and, if the farmer has his own machine, the cost is, of course, less. It compares very favourably with the contracts for threshing with itinerant steam-engines in England. The cost of these machines is:—

| | Dolls. | £. | *s.* |
|---|---|---|---|
| For a 2-horse power .. .. .. | 116 = | 25 | 0 |
| ,, 1-horse ,, .. .. .. | 85 = | 17 | 14 |
| ,, dog or sheep power .. .. | 15 = | 3 | 0 |
| ,, 2-horse power with thresher and winnower .. .. .. | 160 = | 34 | 0 |

There are but few farmers in the Northern States that do not possess one of these "powers," and use it for the various purposes of sawing up wood, threshing and cleaning grain, grinding, crushing, root and chaff-cutting, churning, &c. They are much used by the railway companies, and sometimes even in ferry boats for turning the paddle wheel, and the general retention of them in a country where steam and mechanics are so well understood is not without significance.

In large concerns, as on farms which grow their thousands of bushels of grain, or at central railway stations, where hundreds of cords of wood are consumed daily, steam is, no doubt, the cheapest power that can be used, for this mighty but cumbrous agent defies the competition of bone and muscle in all cases where a large amount of regular routine work has to be accomplished, but must certainly yield to the latter the merit of readier adaptation to constantly varying requirements. On small holdings these horse-powers furnish, I firmly believe, the most economical mode of applying that force which every farm possesses, and which there can be no economy in leaving unemployed. I am convinced they would be found a great convenience to many small farmers in this country; and in many of our colonies, where steam is out of the question, they would be invaluable. Their compactness gives them a great advantage with regard to freight, to economy of space in the farm-yard, and to portability, for, if wanted at a distant part of the farm to thresh an outlying crop in the field, the "power" is forthwith put into a waggon and drawn to the spot by the horses which, when arrived there, work it.

*Report on the Horse-power patented by Isaac Hartas, of Wrelton Hall, Pickering, Yorkshire, and exhibited at the Ripon Meeting of the Yorkshire Agricultural Society.*—A single horse-works, by Isaac Hartas, of Pickering, attracted a great deal of attention. The principle of this machine has been used for some time in America. It consists of a moveable platform attached to an endless chain passing over rollers at each end; this endless platform is placed so as to form an inclined plane, upon which the horse walks, and the platform recedes beneath the horse's feet. The platform has cogged "racks" attached to it which gear into a toothed wheel, which drives machinery. In this case it drove a small threshing-machine, and had also a small chaff-cutter attached to it. The whole arrangement is very simple. As some discussion took place as to the usual effect a horse could produce when working with this machine, some careful experiments were made on the machine in question, and on a well-made horse-works, in which the horse walked round the circle in the usual way. In the first experiment, one of Richmond and Chandler's Oat-crushers or Linseed mills was attached to the horse-works, with a dynamometer intervening to record the work done. The horse, walking at the rate of 2.04 miles per hour, did work equivalent to the raising of 33,110 lbs. one foot high per minute. During this experiment, at the rate the horse walked, and taking into consideration the angle of elevation of the platform, the horse would have raised himself to the height of 33.66 feet in one minute—that is, had the platform been stationary and prolonged indefinitely. The horse with his harness weighing 1084.5 lbs., and this multiplied by 33.66 feet, the height the horse would have raised himself equals 36,504 lbs., lifted one foot high per minute. In the second experiment, the horse walked 1.7 mile per hour, and did work, as shown by the dynamometer, equivalent to raising 31,350 lbs. one foot high per minute, during which time he would have climbed 28.21 feet, which is equivalent to the raising of 30,594 lbs. one foot high per minute. In this experiment the horse walked and worked exceedingly steadily, and the work he did at that time (31,350 lbs. lifted one foot per minute) fairly represented the work a horse can do by this machine. To compare the above with a common horse-works, the horse used in the last experiment was yoked with another of similar power and quality, to a two-horse power works, made by Mr. John Barker, of Dunnington. The power was applied to the same mill and dynamometer, and the work done by each horse was equivalent to 26,500 lbs. lifted one foot high per minute, being about 16 per cent. less than the duty done by Mr. Hartas's horse-works. The horses worked equally, and every care the circumstances afforded was taken to obtain the best results. *C. E. Amos.*

## THE FORCES USED IN AGRICULTURE.

THE valuable paper read by Mr. Morton last week on the Forces used in Agriculture will, I hope, be studied as it deserves to be by all interested in the soil, whether landlords, tenants, or labourers. It embraces so many points of detail and of calculation, that it was difficult to offer any comments upon it at the time, and I now ask permission to explain, more clearly than I was able to do at the meeting, the points that appeared to me to claim our general attention.

The question of comparative cost of power, as exerted by steam, by horse, or by man, was never a doubtful one, and is now fairly and clearly reduced by Mr. Morton to its money value, viz.—that while steam can meet a certain *continuous* force at a cost of 3*d.* per hour, the same if supplied by horses would cost 10*d.*; and if supplied by manual labour, no less than 15*s.* per hour; while the two latter could not continue it longer than eight hours out of 24. This great difference is readily understood when we consider the nature of the machinery we have to deal with. In the one the body is made of iron, and is fed with coals and water; in the others we have organised structures, supported by Oats and hay, and by beef and bread. In the latter the cost of maintenance and of wear and tear are obviously far greater than the former, and the cost of their results—force—proportionably increased, In other countries these conditions do not bear the same relations to each other; animal power is generally cheaper and steam power dearer than with us. In this, however, it is quite clear that where power alone is required, neither horses nor man can compete with steam. The man, however, as a source of power, does not bear the same relation to the other two as they do to each other; he is endowed with duplicate sources of power, in the shape of mental as well as muscular force, the absence of which in the other reduces their intrinsic value, and unless added to them would neutralise it altogether; the horse and the engine equally needing the skilled labour of the man to direct their energies and contract their powers.

The competition therefore is between the power of steam and of horses, rather than between steam and the man. To the labouring man steam has been, and always will be, a friend: it relieves him from the hardest and worst period of his duties, and raises the value of his higher (mental) power—skilled labour. The industrial history of the country teems with evidence of the benefits conferred by steam machinery on the working classes—not less in increased employment than in increased wages for it, and few departments of industry offer greater opportunities for its development than in that connected with the productive powers of the soil.

If we are right in our estimation of the immense value to us of steam and other machinery, we clearly are wrong in paying so little attention as we do to the directing power—the labourer—by which the efficiency of the machinery is so largely influenced.

We have for years past devoted our attention to the education (if I may so use the term) of our mechanical forces—the improvement of our machines, and application of steam power; let Chester and Warwick testify to our success. Tens, nay hundreds of thousands are each year invested in their purchase, but no equivalent attention is paid to the education of our human power—our labourers—either as regards their physical or their mental forces.

The machine, to be complete, needs the directing skill of the man; he is essentially one of its working parts, and as in mechanics it is an axiom that the strength of the whole is only equal to its weakest part, it is clear that the efficiency of the machinery we use materially depends upon the knowledge and skill with which they are directed. We should think it a folly to give the labourer a book before he had been taught to read and understand it, and yet we are surprised that he should look upon our labour-saving machines as his enemies, and either oppose their introduction or fail in rendering them as efficient as we see them to be in the hands of competent workmen. Surely this is a matter that calls for our serious consideration. It appeals to our breeches pockets as well as to our brains and our hearts. Our system of farming has undergone a complete revolution within the last 10 or 15 years, but our system of hired labour remains well nigh the same—the same neglect and want of confidence on both sides; at one season the employer takes advantage of the labourer, and at another the latter retaliates severely on the employer. The last two or three harvests have read us a lesson.

The increased and increasing scarcity of labour throughout the country, and the price it costs, must advance the use of machinery in the field as well as the farmstead; and I cannot refrain from expressing a very strong opinion that our farmers will find it to be greatly to their interests in a pecuniary point of view, to say nothing of higher motives, to endeavour at once to improve the condition, both moral and physical, of their labourers, and prepare them for the new duties they will be expected to perform.

Why, in the face of the mighty progress of the last few years, should the agricultural labourer still be at the bottom of the social scale? I believe he deserves a better position. I believe that the farm can afford to pay for skilled labour as well as the factory; but unless we follow Mr. Mein's sound advice and advance his regular wages, make his house more comfortable, and strengthen—by a more friendly intercourse—the natural ties between his employer and himself, we shall continue to find that the best and most intelligent of our young men will leave us, and seek a better remunerated employment elsewhere.

Power machinery becomes each day more necessary to a farmer's well-doing, indeed to the welfare of the community at large; and if we wish to derive the full benefits it offers to us, the first thing we ought to do is to prepare the labourers by education, and by improving their general social condition, for the important part they have to perform in its successful application. *John Wilson, University of Edinburgh, Dec.* 12.

## LOIS WEEDON EXPERIENCE.

[We are permitted by Mr. Smith, Lois Weedon, to reproduce here a large portion of the additions to his new Edition of "A Word in Season." They are for the most part addressed to the question—is the practice new?]

But after all, is there anything new in the plan? For every discovery, every improvement, it is said, has two ordeals successively to pass through before it is received by the public. "In the first period of its existence it is proved that the new thing is not true, or of no value. After it has fortunately got through this period, it is next proved that the new thing is not new; that it has been long known; that more than a hundred years ago there were people enough who knew it perfectly." This latter is precisely the period at which this plan of Wheat growing has arrived. "The new thing is not new." It is indeed quite certain that Jethro Tull, the great and acknowledged originator of its leading principles existed, and farmed and wrote about his farming a century and a half ago. But it is equally certain that, since then, his system of Wheat growing has been taken up over and over again, and has dropped and died on the spot. And if after a searching inquest it is found brought to life again at Lois Weedon, and nothing more; if what I profess to be new is not new; if nothing fresh and more profitable is there exhibited in its stead, I shall be the first to say, drop it at once. Having, for my own satisfaction, again very carefully gone over Tull's "Horsehoeing Husbandry," in Cobbett's edition, I give here the results of my pleasant investigation, with a reference to each page from which I quote. Confining myself to his Wheat cultivation, I find, first, that he used no manure whatever: that the only food he required, or named, or thought of, was organic or vegetable food, and that he provided an abundant supply of this food simply by keeping his clean land constantly pulverised. I will try to illustrate his theory. Take a handful of dust shot; suppose it to be pure earth, pulverised. Pick out a grain of the shot. Look at it. Turn it round. And all you can see, all the external and visible part of the sphere is, of course, its surface. So with every grain of the handful of shot, or of earth, the only difference being that of form. So with a whole field of pulverised earth. Each individual grain has its surface; and to distinguish these surfaces, collectively, from the great surface of the earth on which we tread, Tull called them the internal superficies of the earth. This internal superficies is the pasture for the roots of plants. It is not the pabulum of food itself. It is merely the feeding ground. Where is the food? It is extraordinary with what a nice perception and accuracy of detail this man of genius worked out his subtle theory of vegetable nutrition. The food for the plant, says he, is still there, though you cannot see it; there, on the surface of those grains of pure earth, but independent of them; sticking there, however, as closely as "dust to a looking-glass, which, turn it upwards or downwards, will remain affixed to it." 63. So close, indeed, does it adhere, that nothing but fire, or the roots of plants, aided, perhaps, by the acid nitre of the air, has the power to remove it. 63. Seen in a state of solution it was "more limpid than the clearest common water, nothing at all appearing in it." 63. And when insumed by the roots of the plant it is probably no grosser than the substance "on which the colours of bodies depend." Some of the particles of this food are so fine that they are able "to enter roots entire with the water." But the great bulk of it having "already passed through the vegetable vessels and been thence exhaled" into the atmosphere—64—had come down again in the rains and dews

and settled on that internal superficies of the earth—that feeding ground spoken of above.

This food, these fine particles, these light exhalations are by Tull called "earth," "terrestrial matter," "vegetable matter;" the only food, I repeat, ever named or thought of by him. "Earth," he says,—61—is proved to be the food of plants; and of this earth there is always such a store in the atmosphere as to defy exhaustion. "Could we as easily compute the quantity of earth in rain water, as the quantity of water is computed, we might perhaps find it to answer the quantity of earth taken off from our hoed soil annually by the Wheat." 211. The earthy matter of the rain and dews is more than a complete restitution of all that the crop took away. That is more than fully supplied in substance from the atmosphere. "The earth which the rain brings down can do it alone if it fall in great quantity." 210. With that of the dews "which are more heavily charged with terrestrial matter than rain is," there is a provision of food for the plant in superabundance. Thus, the more the land is pulverised, so much more surface is created within, and so much greater will be the accumulation of earthy nourishment brought down into the soil for present and future use. Such—as I read it—is Tull's theory of vegetable nutrition. I find, next, that in order to bring the soil into the pulverised condition fitted to absorb and retain this food in its inner superficies, he had an annual, alternate fallow on each acre of his Wheat land. This enabled him to stir the soil to his heart's content. But on the self-same acre he had also an annual crop of Wheat alternating with the fallow:—In this way. He drilled his seed in double rows 10 inches apart, with wide fallow intervals. "We call them," he says in page 203, "5 feet intervals, though they are but 4 feet 10 inches broad." He never went below the staple under any circumstances; but where the staple was deep enough to double plough, he made a little allowance, and somewhat narrowed the interval. It was but a very little, however, for he lays it down as a rule of necessity that "if the intervals are narrower in deep land, though there might be mould enough in them, yet there would not be room to pulverise it. If narrower in shallow land, though there were room, yet there would not be mould enough in them to be pulverised." 208. It so happened that the intervals of a portion of a certain field were made only 3 feet 6 inches in width, and the result was this: "The second year, not being hoed, the crop was poor, and the third year made that land so foul and turfy that it was forced to lie for a fallow, there being no way to bring it into tilth without a summer ploughing; when the rest of the same piece in wider intervals, being constantly hoed, continued in good tilth and never failed to yield a good crop without missing one year." "This narrowness of the intervals," he adds, "if the damage of it be rightly computed, would amount to half the inheritance of the land, and was occasioned by the wilfulness of my bailiff, who, drilling it upon the level ordered the horse to be guided half a yard within the mark, because he thought the intervals would be too wide if he followed my directions."

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Examine his theory. It has been for these latter days to prove, from the composition of the Wheat plant, what are the special ingredients it requires for its support. It is proved that not only organic, but inorganic food is required to bring it to perfection; and that if even a single requisite element of inorganic fertility be wanting in the soil, the plant will be incomplete. The fact is of infinite importance to holders and owners of land. Baron Liebig, indeed, in his new work "On Modern Agriculture," has declared, in language more than usually clear, that for want of that inorganic food much of the land in Germany is gradually wearing out. It is not enough, he argues, that it is manured, however well, with farmyard manure. For, all the substances which go to make up that manure—such as straw and the offal of vegetation—are themselves taken from the land. Seeing then that a portion of the farm produce with its mineral constituents—such as the grain of Wheat—is sold away from the land altogether, it is clear that an annual exhaustion of inorganic substances is going on, so as in time utterly to impoverish the soil. That time is drawing near. The high farming of England may defer the evil day, but still, without a change, it must come even to her. He is speaking, of course, generally, and of ordinary farming. For there are individual cases where an annual and full restitution is made, by special manuring, of the mineral elements taken off the land, so as never to leave it in a doubtful condition, ailing either with grain sickness, or Clover sickness, or with a slow decline, but in a state of full and perfect health. He does speak generally, however, and he cannot be gainsaid. And if a man point to the wonderful power and strength of the organic element ammonia, single-handed, in raising the Wheat crop, he has a ready reply—that it is evident and undoubted; that the farmer for the time being does reap a large profit from the genial application, and lauds it accordingly. And undoubtedly as long as there exists in the soil a sufficiency of mineral food, this application of ammonia will continue to raise heavy crops, but always with the unremembered certainty that the heavier the crops, the sooner the exhaustion must come; the greater the amount of mineral substances taken off, the less remains in the land. The plain truth stated thus is a barefaced truism. It is clear as the sunbeam, and yet the landowner is slow to see and to catch it, notwithstanding.

So important, so indispensable is the mineral element of fertility to the Wheat crop. It found no place, however, in the theory of Jethro Tull. He took no account of it whatever. He knew nothing and thought nothing of incombustible mineral constituents. Pare the surface of the soil together with its turf, and burn it, and "the fire," said he, "instead of giving any sort of strength or nourishment to the earth that is burnt, carries both away, and brings nothing in room thereof." 144. The ashes are only manure, like farm-yard manure, in the sense of an aperient; they merely open and pulverise the soil. The mineral matter, being no article of his creed, he simply says that these "cinereal salts being spread upon the unburnt earth that is left, ferment therewith, and reducing it into an almost infinite number of parts, increase proportionably that internal superficies," before described. 146. It detracts little however from Tull's credit that he could not anticipate so long beforehand the result of the investigations of science; and it adds nothing to the validity of any after claim to positive originality, except as regards him, that the actual knowledge of such a result should be seized and turned to account. I claim no merit, then, for the following rule laid down for myself many years ago, and afterwards published as a direction to others:—"I suppose at the outset the land intended for Wheat to be Wheat land, that is loamy or clay land, containing naturally the mineral substances necessary for the growth of Wheat. Land which does not contain these substances must be supplied from without." I grow Wheat on both descriptions of land; and to my light gravelly soil, instead of the special manure I recommend to others, I apply what is tantamount, dressings of clay. My heavy clay land is furnished already. For I apprehend I am fully justified in my belief that all clays of fair quality contain within an accessible depth a store of mineral food for the Wheat plant, varying indeed in amount and composition according to the nature of the rock from which they were disintegrated and derived, but still in such abundance as to take centuries of cropping to exhaust it. I do not mean that the time it will last is infinite, but merely so distant as to be indefinite when the supply will cease. To make these mineral substances available, I was compelled to vary Tull's practice. His practice, from which he never swerved, was to keep to the staple of his land and never to touch the subsoil. Staples vary in depth; but however shallow they might be, he never went below them. "We must never plough below the staple." 176. The staple of my clay land is for the most part 5 inches deep and then comes clay, so tenacious as to hold water and even liquid manure without leaking. It is so compact and cohesive as to be all but inaccessible to the roots of plants; unless in its natural state, and therefore, when cultivated, so much sheer gain. The acre is thus actually doubled in substance; becomes two acres instead of one. Tull had some such land; "On my hill," he says, "whose stratum is clay." 131. So that he knew what words meant when he spoke of staple and subsoil; when he described, for example, "the rills of water that run upon the surface of the clay under the staple or upper stratum of mould." 345. There then, where Tull ended, I begin. I begin gradually and bring up to the surface a small portion of this subsoil year after year; lay it bare to the atmosphere; let the solvents of that great laboratory act upon it chemically and mechanically; mix it; stir it, till it becomes from a yellow or blue clay a dark rich loam throughly permeable and open to the finest rootlet.

This exposure of the subsoil I hold to be indispensable. The subsoil plough is useful, but not thoroughly effective on clay soil even for the time its usefulness lasts, and that is very brief. The clay soon comes together again, and all signs of the work are lost, like the flight of an arrow through the air. What is wanted is mineral food in a fit state to be taken up and assimilated by the plant, and that condition can only be attained by the continuous chemical action of the constituents of the atmosphere on the raw material of the inorganic substances brought to the surface. The mechanical action of the frost and the wind, the fork and the hoe accomplishes the rest, and accommodates the food to the wants of the feeder. One other agent, however, in this important affair of vegetable nutrition is still wanted. In ordinary farming, in dry seasons, the food may be abundantly present in the soil and yet the plant may sicken, as it often does, from sheer inanition. It is powerless to take in the food lying all around it and close to its mouth. The vehicle is wanting, and that is water. It is a circumstance I think worth a good deal of consideration, that in deeply pulverised, clean, open, fallow intervals like mine, this necessary agent is never wanting. No matter how dry the season may be, there it is. The dews have provided a constant supply, sinking so deep into the porous bed as to be far out of the reach of exhalation by sun and wind. The crowning object of the plan was yet to be realised. The produce must be raised to a farmer's good average, or would be labour in vain. Narrowing, then, my intervals from Tull's 4 feet 8 or 10 inches, to only 3 feet, my object was gained. For my average measured produce hitherto has been from 34 to 35 bushels. The crop of the present year, not yet threshed, was exceedingly fine; not merely bulky and large in the ear, but unusually heavy in the sheaf; and at reaping was estimated at 40 bushels at the least. Just one thing more, and I have done. Tull used no manure for any of his crops, and the only things he would say for it was, that it helped to loosen the soil. "The almost only use of all manure is the same as tillage, namely, the pulverisation it makes by fermentation, as tillage does by attrition and contusion." 384. Neither do I manure for my Wheat crop, but for a very different reason. I find the use of manure too efficacious and enriching. Add manure to my deep and thorough tillage and well-fed intervals, and the crop will be too exuberant and blight on the spot, or come down and mildew. I fear even the smallest remnant of bygone dressings. I never feel safe till all is exhausted; secure of my mineral food from below, and depending wholly for the nitrogen on past accumulations of atmospheric ammonia in the soil, and its continuous, never-ending flow from the same natural sources.

Using, then, no manure for my Wheat, I have a double supply for my other crops. Manure, well mixed and well made, from well-fed animals, contains every element of fertility in abundance; and with good feeding plants at wide intervals and on deeply tilled soil, its forcing power is perfectly marvellous. I will only instance my Winter Bean crop. I give here the process of its cultivation in detail, because, like my Wheat crop, it is grown on the same acre of land year after year; and the plan, like that of the Wheat, is now systematic. I give it for another reason, because it meets a very serious disadvantage in the ordinary growth of the Bean crop—the apparent impossibility of keeping it clean. The weed seeds are thus scattered broadcast at reaping, and the foul straw carried to the yard perpetuates, in manure, the ineradicable evil. Look then, at my present crop, grown in single rows 5 feet apart. The plant is now up, and in the interval there is the single row of last year's stubble. I shall shortly broadshare and scarify and stir the whole interval; strike a deep and wide furrow in the line of the stubble—subsoil it—and plough into the channel a heavy dressing of manure and leave it for the winter. In the spring, in preparation for the next planting, I shall thoroughly stir and mix the whole together; continuing the clean process till I am shut out by the present crop, which in June or July will cover the land. There is hardly a weed to be seen, and not one in flower throughout the year. My produce this year, after a promise of more than 50 bushels, dwindled through the heat to 42½. Last year it was over 44. The year before it was 50½ bushels from—I repeat it in order to arrest attention—five single rows of Beans 5 feet apart. I believe I have accomplished my task, and proved that—compared with the plan of my great predecessor—what I here profess to be new, really is new. I provide, without manure, not merely the organic, but the mineral food for my Wheat crop. I go deep into the subsoil, and narrow the intervals to one-third less. I raise the produce and bring it to one-third more. I speak under no mark in both. So that I need not blush to repeat what I have ventured to say before, that the accident of living in a happier age has enabled me with infinite advantage to differ in practice from Jethro Tull.

## Home Correspondence.

*On Harvesting Mangel Wurzel.*—You are doing good service by calling our attention to the best mode of harvesting our root crops, and your article on that subject in your impression of Nov. 26 is full of valuable suggestions. The proper period for storing roots and the principles to attend to in storing are the alluded to by Mr. Stephens, in his sound little work "Yester Deep Land Culture." He refers to the storing of Turnips; what he says is equally applicable to the storing of Mangel Wurzel: "The storing of Turnips in autumn may be defended upon principle. Whenever the Turnip bulb has attained maturity, and continues its connection with the ground, it is subject to decay as long as its vital principle exists, by many external influences, such as wet soil, hard black frost, checked circulation of the sap by cold after excitement by activity by a rise of temperature, and injuries from hares and rabits. No one doubts the injurious effects of these causes upon Turnip bulbs, nor denies the injury received by stock on eating them when affected; and yet the early storing of Turnips is much neglected, and the poaching of land in taking them in bad weather too much tolerated. The vital power is not destroyed on the separation of the bulb (or Mangel root) from the ground, but is rendered so dormant as to become insensible in the store to the above influences, until vegetation is roused into active life in spring, when fresh stems appear on the bulb. When the bulb or root is stored beyond the reach of the circulation of air, or in moisture, or is subjected to heavy pressure by deep storing, the vital principle is destroyed, and corruption rapidly ensues." In your article you allude to the quantity of moisture which has to be thrown off by Mangel Wurzel in the process of storing. My own practice is this, and I have found it so successful that I can readily recommend it for adoption. I pull a whole field right over, placing the roots in heaps, and taking care that each heap has a temporary thatch of the leaves belonging to the upper most roots, for the Mangel roots are not deprived of their leaves, nor in any way cleaned when thrown into these heaps, where they remain for eight, ten, or a greater number of days according to the state of the weather. Whilst in these heaps they undergo a preliminary "sweating," the layer of leaves defending them from rain, and the air permeating through the

heaps and drying the soil which may be clinging to the roots, so that when at length they are to be carted into store, they are readily cleaned and topped upon the spot. When subsequently placed in their winter quarters, they are found to have parted with much of their "heat," and have not to undergo all at one time the process of discharging that moisture which it is required they should lose before they can be considered safe, as regards their preservation, and serviceable as food for stock. *Edward Holland, Dumbleton Hall, Evesham.*

*Gardener and Steward.*—Your correspondent "W.," see page 955, says that my previous remarks are irrelevant. Such may be the case. Now I will not stigmatise his correspondence with any such ugly name, but of his relevancy I must leave you and your readers to form your own opinion. But to avoid the impending danger at the termination of his very cutting remarks, permit me to inform him that I am not one of the parties alluded to as holding both offices, but that I am gardener to a worthy baronet who keeps a baliff and a steward. The latter is one for whom I have the greatest respect, and who has too much judgment and good sense to interfere with my duties; and my employer is too much the gentleman to permit him to do so if he felt disposed, but I know instances such as "H. A. W. D." describes are not infrequent. Your correspondent took great pains to describe my character and circumstances from the tenor of my former letter, and doubtless he will allow me the same privilege. I will suppose him to be some gentleman's steward, the son of a *bonâ fide* steward, and consequently inherited the necessary requirements. But in order to be more proficient than a mere gardener could ever attain, he was determined to imbibe a great deal of theory which he has never reduced to practice. Probably one of his master's men may be seen taking his horse to his house (say by 10 o'clock), in order that he may make a dash over the estate before dinner (that is, if he condescends to dine in the middle of the day), and woe betide that labourer who does not lift his hat on his approach. But I know that some gentlemen have not the means, others have not the inclination to keep a fine man to look at. Therefore they say: "My gardener, I am convinced, is a thorough practical man with principles based upon science, and from interrogation I find he possesses at least a sound theoretical knowledge of agriculture; and gardening after all is simply an improved method of farming. He is a good penman, correct in accounts, and above all I believe he has my interest at heart. Therefore I will increase his salary 50*l.* per annum, and he shall fulfill the joint office of gardener and steward. Had I engaged a man to look at, he would at least cost me 200*l.* a year, so that I find after augmenting my gardener's salary 50*l.* that I have a balance of 150*l.* per annum." "W.'s" magnanimity also carries him so far as to say that some men who are at present occupying the most enviable positions as gardeners are the sons of *bonâ fide* labourers. Is "W."'s capacity so narrow as to render that an obstacle? He has doubtless read much about priests and their hooks in the fleshpots of Egypt. But did he never hear of shoemakers becoming great architects, and errand boys who would not be satisfied till they became the principal man in large firms? I had the honour to serve my time under a man who, in addition to being gardener and steward, was also one of the directors of a railway company; he also carried on the business of an architect and landscape gardener to some of our principal noblemen, he also furnished the plans for the Exhibition of 1851, and he has now the privilege to annex the initial M.P., to his name. Again there is Mr. Fleming, who has been elevated to a high position by the Duke of Sutherland, and no one doubts his ability to fulfil that important office. Now this is not as your correspondent supposes brought about by luck, for which he substitutes accident, influence, interest, but by merit in the true sense of that word. Although they may be the sons of humble parents, those are men who have trampled on difficulties, and with an indomitable perseverance have kept "Onwards!" as their motto. I know many more gardeners who are quite competent to perform other important duties besides what their present situation demands of them—men, if they were analysed, that would be found to possess brain of the first quality. At the same time I am persuaded that there are those to be found (I will not say stewards) whose brains are composed of a very large percentage of milk and water. *Equity.* [*W.* is a labouring man earning his 2*s.* a day, as his father did before him. He deserves a better place than he has got. We must however discontinue this discussion.]

*Mangel Wurzel.*—In your Paper lately I saw the following, viz.:—"I well remember reading in the *Gardeners' Chronicle* of the 30th of April the following extract from your 'Fen Reporter': 'Mangel sowing has already commenced, but most of our farmers have found it advantageous to sow this crop later than they did some few years since, and many decline sowing until May is in.' At the time I read this I thought it a grand mistake, but I now feel convinced if I had been torturing the land about in the first week in May, the only advantage I would have gained would have been much less labour in storing, and far less anxiety respecting the state of the weather while the operation was going on. . . . *P. Mitchell, Rainham, Nov.* 21." Perhaps if Mr. P. Mitchell, of Rainham, were unfortunate enough to farm some of the light and dusty fen lands in the Isle of Ely he would modify his views, and would find it expedient not to sow his Mangels quite so early as the "first week in April," although he might not deem it necessary to be "torturing the land about in the first week in May," and I cannot resist the impression, but have a very strong conviction, that if he did sow them the "first week in April" he would wish he had not done so; but would be much more likely than if he sowed them the first week in May to realise those "only advantages," viz., "much less labour in storing and far less anxiety respecting the state of the weather while the operation was going on." Having been a grower of nearly 40 acres of Mangels annually for several years in the Isle of Ely, and having in different years tested them by sowing during every week between the 1st of April and the middle of May, I claim to have some knowledge upon the subject, and most unhesitatingly—and dogmatically, if you please—assert that as the results of these several experiments the two best weeks for sowing Mangels upon weak fen lands are the last in April and the first in May. And now for the reasons: our fen land is very fickle and hazardous and suffers severely from spring frosts. Indeed, it is no uncommon circumstance even for the Wheat crop to be fearfully injured by these frosts. I believe it is only four years since severe losses were sustained, and hundreds, yea thousands of acres of Wheat were almost destroyed by a sharp frost, which occurred on the night of the 16th or 17th of April (I speak from memory). My own loss from this single night's frost on this one crop I estimated at no less than 1500*l.* Mangels are a very tender plant, and if sown very early on these soils are in a majority of seasons almost certain to be very much injured, if not destroyed entirely, by these frosts. I have in former years sustained very heavy losses in this respect. These lands are also more subjected to loss from fly and wireworm than most others, and consequently the earlier Mangels are sown the more liable they are from their slow growth, arising from the low temperature prevailing and the frequently inclement weather, to be destroyed by these fruitful sources of evil. Whereas, if they are sown later they come up and grow away quicker, and are therefore sooner out of danger; and I would on these soils much rather risk an October frost coming to injure the crop when grown than encounter the far greater risk of having nearly all the plants destroyed just after they are up by a frost in April or the beginning of May, saying nothing of the other insect dangers to which they would be exposed. I therefore reiterate that on these soils early seeding is an evil, and moderately late seeding is the first step towards ensuring a good and full crop. Mr. Mitchell's severe criticism, I conceive then, just goes to show how desirable it is that before one sits in judgment upon the actions of others, he should have a full and perfect knowledge of all those different facts and circumstances which influence such action. And I would suggest to Mr. Mitchell that one uniform system of culture in all climates and on all soils is anything but desirable, and would assuredly be attended with insuperable difficulties and vexatious disappointments. In conclusion, I would just say that had my Mangels been sown ever so early, even in the "first week in April," I would not have had one acre more secured before the frost than I had under existing circumstances, as I was busily engaged with my Potatoes until the very day I commenced taking up the Mangels. *Your Fen Reporter, Dec.* 6.

*Irish Agriculture.*—I have followed with much interest the correspondence in your columns on the subject of Irish agriculture. Might I venture, as a landlord connected with four or five counties in Ireland, to make upon it a few remarks. In the first place, it must not be forgotten that it is dangerous to place too great a reliance on the statistics annually prepared by the Government. The Irish peasant often withholds, or gives incorrect information, viewing with suspicion any authorised inquiries, and uncertain how far it may be prudent to place beneath the eyes of a rapacious landlord the exact property he may possess. It has been also the fashion of late years to exagerate the progress Ireland has made. Because some of the festering sores have healed, the body has been thought perfectly sound, and men forget that a Celtic people improves slowly—refusing for long to believe that their former oppressors have adopted a juster policy. The old habits are in many places still triumphing or but partially eradicated. Weeds are not yet considered an impediment to tillage. Cleanliness in farming is, except in a few places, thought unimportant. I do not mean that agriculture has made no progress within the last 10 years. It has done so, especially in better stock. But it is far from obtaining the position in this country which would enable it to do justice to the soil; nor are the smaller farmers capable of extracting from the land a proper return. Still many are now aware that they must fall before the wave of agricultural progress, unless they attempt to surmount it; that agriculture is a science of which they are ignorant. If the means of education are maintained and the law can assert its majesty against the hideous attempts of the Ribandmen, I believe a new generation will forget many of the usages of their forefathers. But ere the abundant riches Nature has poured into the bosom of the land can be made use of, a totally different spirit must animate the Celtic tenant. He must learn he is not enjoying the inheritance of his ancestors, but depending upon the exercise of that intelligence God has largely endowed him with. *M., Charleville Forest, Dec.* 8.

*Agricultural Societies.*—A correspondent of the *Westmoreland Gazette* cites the following facts on the dates of agricultural shows:—"I find that bull shows for premiums originated at Driffield about the year 1792. The first Petworth meeting took place in November 1797. That the Bath Society instituted in 1777 for the encouragement of 'agriculture, manufactures, arts and commerce,' but which gradually merged into an agricultural society, had, up to the year 1813, given 3857*l.* 18*s.* 6*d.*, in premiums and bounties, at the respective annual meetings from 1777 to 1813, both inclusive. That when the list of premiums, &c., for 1813 is examined, we find 14 guineas allotted to ploughing matches, two guineas for shearing sheep, 40 guineas in premiums for cattle, 26 guineas for sheep, and eight for wool. That in May 1799 the Board of Agriculture, instituted by charter in 1793, sent a circular throughout the country recommending Premium Associations, and suggesting that, by 40 members subscribing each 5*s.* a year, prizes might be given for the 'best cow and calf, the best 10 ewes, and two days' work in ploughing.' In a footnote in their report, printed in 1800, it is stated that letters had been received from several districts, stating that such societies had already been formed. How far the results of these suggestions exceeded the humble anticipations of their originators may be judged from the fact that in the year 1810 there were in England 47 agricultural societies, in Scotland 22, and in Ireland 12. That the above numbers, taken from the report of the Bath society, are below the mark is evident from the fact that the Kendal society, established in 1799, is omitted, and also I find it stated in 1805, that a farmers' society was then established in every district in Scotland. That these associations were not only numerous, but also important, will be seen from the list of premiums given at the annual meeting of the Leicester society for 1808. From this list we find that there were 100 guineas given in premiums for agricultural experiments; 100 guineas in premiums for sheep; 40 guineas for cattle; 9 guineas for servants, and 10 for orchards. In the *Westmoreland Advertiser* of Oct. 5, 1811, it is stated that at the annual meeting of the Workington Agricultural Society, held on the 25th ult., 600 persons dined together, and in the *Advertiser* of 1812, a similar number is reported to have dined together at the annual meeting of that year. But, to come nearer home, I find, in a letter from Dr. Campbell, the secretary of the Kendal Agricultural Society, the following remark:—"I need not add that I feel great satisfaction in observing the alteration made in the premiums for the ensuing year, by the following resolution made at the last meeting:—'That the premiums for old rams of the fell breed be discontinued after the year 1809, and that the same premiums be given to a shearling ram, by a cross with any of the improved breeds, which shall appear to the Judge to be an improvement to the fleece, regard being also had to the shape and hardness of the produce.'" In the *Advertiser* for July 27th, 1811, I find the following:—'An agricultural society has been established in Kendal some years ago by several respectable and well informed gentlemen, which has been very beneficial, by exciting a spirit of emulation and distributing honorary rewards.' In the *Advertiser* for October 26th, 1811, there is a report of the October meeting of the Kendal Society, which states that in addition to money premiums, seven silver cups were given to the successful candidates for prizes. Another meeting is reported as having taken place in the May following, which was 'very numerously attended,' and three silver cups were given. On taking up another volume of the *Westmoreland Advertiser*, I find that in 1822 there were still two shows in each year, and that three silver cups were given and a sweepstakes awarded on the 11th of May. The next meeting was held on the 19th of October, when seven silver cups and one other premium were given, and six sweepstakes awarded. I shall not further occupy your space with quotations, and should not have dwelt as long on this view of the question as I have done, had there not appeared a considerable amount of ignorance upon this question, and thus facts and details were needed for its elucidation. I hope I shall have proved to the satisfaction of your readers that, prior to 1825 the premium shows of agricultural societies occupied a prominent position in the country." *E. W.*

## Societies.

### ROYAL AGRICULTURAL OF ENGLAND.

*Dec.* 9.—At the General Meeting of the Society, Colonel Challoner in the chair, Mr. Brandreth Gibbs read the following:—

#### REPORT OF THE COUNCIL.

The Society consists, at the present time, of
79 Life Governors,
128 Annual Governors,
933 Life Members,
4082 Annual Members,
18 Honorary Members,

making a total of 5240 Members, or an increase of 79 names since the last half-yearly meeting. The funded property of the Society amounts to 10,000*l.* Stock, standing in the names of the trustees in the New Three per Cents. The Council regret to have to report the unfortunate circumstance that has taken place, and which led, first to the suspension, and subsequently to the dismissal, of the late Mr. James Hudson from the office of Secretary to the Society. In the month of May last, it came to the knowledge of the Finance Committee that certain monies received by the Secretary on account of the Salisbury, Chester, and Warwick country meetings had not been paid by him to the Society's bankers. They therefore immediately employed a professional accountant to investigate the accounts; and the result was reported to a Special Council called by the President

for the purpose, on the 27th of May. The Council having taken the matter into consideration, determined to suspend Mr. Hudson from the office of Secretary, and appointed a Special Committee, who were charged with fully investigating the exact state of the Secretary's accounts. From the report of this Committee, it appeared that the accountant had discovered an amount due from Mr. Hudson, consisting chiefly of payments received by him from exhibitors of implements for shedding, for entrance fees on live stock and implements, fines, and small amounts, making a total of 1933*l.* 8*s.* 3*d.* The different monies forming this amount had not been entered in his cash-book, or accounted for to the Finance Committee as received, and had not been paid into the banker's according to the bye-laws. The Council therefore dismissed Mr. Hudson from the office of Secretary, and withheld the payment of the salary due to him, amounting to 161*l.* 19*s.* 9*d.* Whilst legal advice was being taken as to the course which should be pursued in this very difficult matter, the death of Mr. Hudson occurred. It appeared that, a short time before his decease, Mr. Hudson executed a deed of assignment, making over the whole of his effects for the benefit of his creditors; and under legal advice, the Council determined to come in as creditors under the deed in question, and authorised the Honorary Acting Secretary to sign it on behalf of the Society for the balance due, viz., 1771*l.* 8*s.* 6*d.* At present, it is impossible to ascertain definitely what dividend will be realised; but it is hoped that this large amount will be considerably reduced by it. The total loss which the Society may have to sustain will be further lessened by the business of the Society having been carried on without a paid Secretary for the last seven months. The Finance Committee who were acting at the time when Mr. Hudson's deficiency was discovered having tendered their resignation, in order that the future course of the Council might be left perfectly free, the Council have appointed a fresh Finance Committee, who will be charged with such reorganisation of the accounts as may be deemed necessary. The Council, however, have much pleasure in being able to report that, notwithstanding the funds having sustained a diminution by the large amount due from the late Secretary, not only have they found it unnecessary to touch the funded capital of the Society, but that its financial position is unusually satisfactory, the balance at the bankers on the 7th inst. being 1711*l.*, whilst the claims on the Society consist only of the ordinary current expenses. After the suspension of Mr. Hudson, and again after his dismissal, and at the request of the Council, Mr. Brandreth Gibbs consented to undertake the office of Honorary Acting Secretary *pro tem.*, for which valuable assistance the Council desire to offer to him their most grateful acknowledgments. The Council have come to the resolution of requiring the new Secretary to the Society to find approved security to the amount of 1000*l.*; they further require that he shall pay all amounts received by him on account of the Society into the banker's forthwith; and they have laid down rules which, they trust, will render impossible a recurrence of any irregularity in the Society's business. The Council have now elected Mr. Henry Hall Dare as Secretary, at a salary of 400*l.* per annum, with residence, fire, and lighting; and they have every reason to hope, from the testimonials they have received, that he will discharge the duties of the office to the satisfaction of the Council and the Members at large. It has also been determined to appoint a professional accountant, constantly to examine the Society's accounts, and report any irregularity to the Finance Committee, and also to suggest any improvements which may from time to time appear to be needed in the system of keeping the books. The Council have determined to appoint a literary and scientific Editor of the Society's Journal, at a salary of 500*l.* per annum; his duties to be performed under the general superintendence of the Journal Committee, and his whole time to be at the disposal of the Society. The Council have recorded their high appreciation of the valuable services rendered by Mr. H. S. Thompson, M.P., and the other members of the Journal Committee, in conducting the Journal up to the present time. The Warwick meeting was in every way eminently successful, and the number of visitors who thronged the show-yard gave evident proof that the interest taken in the Society's country meetings remain unabated, whilst the entries of live stock and implements were unusually large; indeed, the enormous display of the latter appears a satisfactory indication that the present quadrennial classification of implements for trial and prizes in no way interfered with the variety and general excellence of the exhibition as a whole. The Mayor and Corporation, aided by a local committee, acting under their authority, rendered every assistance in carrying out all the arrangements that were necessary to be made in the locality. The competition for the local prizes for cattle, horses, sheep, pigs, cheese, wool, and farm-gates tended considerably to increase the interest of the meeting. The Council have also to acknowledge the courtesy of the County Magistrates, in giving the use of the Judges' lodgings for the accommodation of the Stewards of the Society during the period they were at Warwick. The arrangements that were decided on for the supply of refreshments in the Show-yard were a great improvement on former years. The Council have fixed that the Canterbury Meeting shall take place in the week commencing Monday, the 9th July next. The Council have determined on the following arrangements for the Meeting:—That the Live Stock shall all be in the yard the afternoon of Saturday, July 7, which will allow of their recovering from the fatigue of the journey to the Show previous to the Judges commencing their inspection on the Monday morning following. That the exhibition shall close on the Thursday evening, thus enabling exhibitors' servants and animals to return home without breaking into another week. It has been determined to add to the Prize List a Class for Heifer Calves in the Short-horn, Hereford, and Devon divisions; also to form separate divisions for the Shropshire breed of Sheep, and the Kentish or Romney Marsh breed of Sheep; and to classify Pigs as follows, viz: Large breed of any colour; Small white, Small black; and Pigs not eligible for the preceding classes. The Schedule of Prizes for Implements and Machinery for 1860, according to the quadrennial system which came into operation last year, will contain Classes for Threshing Machines, Chaff-cutters, Mills, Crushers, Oilcake Breakers, Bone Mills, Turnip-cutters, &c.; and to these the Council have added additional Classes for the application of Steam-power to the Cultivation of the Soil, for Hand Tools used in Hop Grounds and Land Tillage, and for Field Gates. The Local Committee at Canterbury having expressed their wish to offer certain Local Prizes, the Council have determined to accept those for Hops and Wool, to be competed for under such conditions as the Council may determine. The following schedule of prizes for essays and reports, to be sent to the Secretary by the 1st of March next, has been adopted:—

1. *Agriculture of Berkshire.*—Fifty sovereigns for the best Report on the agriculture of Berkshire.

2. *Application of Manure.*—Twenty sovereigns for an approved Essay on the best period of the rotation, and the best time of year for applying the manure of the farm.

3. *Influence of Prices on Farm Management.*—Ten sovereigns for the best Essay on the alterations rendered advisable in the management of land of different qualities, by low prices of grain and high prices of meat.

4. *Late Improvements in Dairy Practice.*—Ten sovereigns for the best Essay on recent improvements in dairy practice.

5. *The Proper Office of Straw on a Farm.*—Ten sovereigns for the best Essay on the proper office of straw on the farm.

6. *Farm Capital.*—Ten sovereigns for the best Essay on the amount of capital required for the profitable occupation of a farm.

7. *Seed Bed for Agricultural Crops.*—Ten sovereigns for the best Essay on the conditions of seed-bed best suited to the various agricultural crops.

8. *Adulteration of Seeds.*—Ten sovereigns for the best Essay on the adulteration of agricultural seeds.

9. *Any other Agricultural Subject.*—Ten sovereigns for the best Essay on any other agricultural subject.

A reprint has been made of Dr. Lang's Prize Essay on the Potato. This can now be purchased at a reduced rate. The Society have from time to time been favoured, by order of the Secretary of State for Foreign Affairs, with copies of despatches received by her Majesty's Government relative to guano and mineral deposits. Extracts from these communications have appeared in the published reports of the Council meetings, before which they were laid. The Council have the satisfaction of recording their belief that the Society is steadily progressing, and that by adopting such improvements in its proceedings as experience may from time to time show to be necessary, it will continue to maintain its important position in promoting the advancement of scientific and practical agriculture.—By order of the Council,

B. T. BRANDRETH GIBBS,
Hon. Secretary.

Mr. Corbet moved and Mr. Druce seconded the adoption of the report, and it was carried unanimously.

Mr. R. Baker retired from the office of auditor, and Mr. H. Corbet was appointed by an unanimous vote to the vacancy. After a vote of thanks to the Chairman the meeting separated.

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THE AGRICULTURAL BENEVOLENT COLLEGE.—At the public meeting last week presided over by Mr. Alderman Mechi, there were present Lord Feversham, Major Parker, M.P., Mr. Wren Hoskyns, Mr. Jonas Webb, Mr. C. Lawson, Edinburgh, and others.

The Chairman said there were in the United Kingdom at least 500,000 farmers, occupying 50,000,000 acres of land, and paying an annual rental of 50,000,000*l.* The value of the land itself, taken at 25 years' purchase, was 1,250,000,000*l.*, and the capital of the tenantry invested in the land, taken at 5*l.* per acre, which was a low estimate, amounted to 250,000,000*l.* more. Besides being wealthy, he felt quite certain that agriculturists generally were charitable. That they were hospitable every one knew; and hospitality and charity ordinarily went together. They only wanted an opportunity of exercising their charity, and when this was afforded the work would be well and amply done. Of the need of such an institution as was contemplated abundant testimony was afforded in letters which had been addressed to himself in relation to the object. What he proposed on that occasion was the establishment of an institution which would afford support or assistance for a certain number of decayed farmers and their widows, and provide a suitable residence and education for orphans. In order to carry out these objects there would be a building fund, an endowment fund for general purposes, and, what is the most important of all, an annual subscription list; and he had no doubt that when the institution was fairly established it would, like other benevolent institutions, have the benefit of occasional charitable bequests, which would help to render it, what it certainly ought to be, the greatest charitable institution in the kingdom. Success must of course depend in a great degree on economy and judicious management, and hence he thought it desirable at the outset to obtain some old mansion, instead of proceeding to build without having the requisite funds. As regarded the mode of management, it was intended there should be a council, consisting of about 50 persons, who should appoint a working committee. The election of pensioners would of course proceed on the true British principle, that those who subscribed money should have a voice in its application. With respect to the site for a building, he hoped that when there was sufficient funds in hand to build with, some benevolent landowner would make a grant of land—perhaps in a locality where land was not very valuable. He (the chairman) was of opinion that the site should be within about 30 miles of London.

Resolutions were then adopted, (1) approving of Mr. Mechi's project; (2) naming the institution, subject to Royal assent, *the Royal Agricultural Benevolent College;* (3) restricting its privileges to *bonâ fide* farmers; (4) naming the direction in which the efforts of its promoters should proceed, *namely*, 1st, towards the provision of indoor relief; 2d, towards the creation of a building as an asylum; 3d, towards the permanent endowment of the institution; (5) intimating the age, circumstances, &c., of those eligible for relief; (6) placing the nomination of a preliminary committee in the hands of Mr. Mechi; (7) defining the privilege of voting.

Mr. Wren Hoskyns moved a vote of thanks to the chairman, deprecating any notion that the proposed institution was to be a substitute for providence on their own part; and, after expressing his admiration of the chairman's energy and courage, declared it to be his strong conviction that the new institution would be a flourishing one.

Mr. Lawson seconded the motion, which was carried by acclamation.

Before the meeting separated the subscriptions, paid and promised, amounted to nearly 2000*l.*

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## Farm Memoranda.

THE FARM OF GRAND JOUAN embraced, I was told, 1000 acres, and there were at the school about 25 students only—60 being a full complement. Only boarding students are received here, or at either of the other imperial schools. To enter one must be either French by birth, or a naturalised citizen, and at least 17 years of age. The government, however, occasionally permits foreigners to enter, reserving the right of designating the school they shall attend. Any one desirous of entering must equally address his request to the governmental bureau of agriculture, enclosing his certificate or register of birth, with testimonials from the mayor of his place of residence, that he is "of good life and morals," and from medical authority that he has been duly vaccinated, together with a satisfactory bond to guarantee the regular advance quarterly payment of the 750 francs (150 dollars) per annum, which covers the whole expense of the school for food, room rent and bedding, medical care, fires, lights and washing. The whole country is divided into three districts, and although a student may select either of the three schools at pleasure, still, unless he goes to the one situated in the same district in which he resides, he forfeits his right to obtain either of the scholarships offered to competition. After obtaining from the Ministry of Agriculture authority to present himself as a candidate for any existing vacancy in the school he desires to enter, he must undergo an examination (unless already possessing the degree of bachelor in science) before a jury annually nominated by government to commence their sessions October 1. At this date the pupil repairs to the institution, and is examined in arithmetic, comprising all the rules usually embraced in our more advanced text books, in geometry equivalent to the first four books of Legendre, in physics upon the general properties of bodies, the thermometer and barometer, and in a French exercise calculated to show his proficiency in the orthography and grammar of the language. The number of new admissions being limited, the order of merit upon this examination is recorded, and those standing first have the first vacancies that occur.

At the end of three years' study, those who finish the course creditably receive a certificate, and I understood that those who rank as the first in their class are entitled to certain privileges for two years in the public or private agricultural schools of the country. Examinations are held semi-annually during the course, and any student not qualified at the end of the year to advance into the next class is excluded from further attendance at any of the three institutions. The instruction is both theoretical and practical—the former comprising a course: 1, in physics, chemistry, mineralogy, and geology as applied to agriculture; 2, in rural engineering; 3, in cultivation; 4, in agricultural zootechny and zoology; 5 in forest culture and botany; 6, in rural economy and legislation; and 7, in practical knowledge of accounts. The practical instruction, the importance of which is justly considered very great, is both manual and mental, including the use and management of tools, instruments, vehicles, and machines; the direction and execution of the principal operations of agriculture, ploughing, sowing, haying, harvesting, grain, and roots, the care of stock, &c., &c.; also exercise in linear drawing, in surveying and mapping, in levelling, in computing solids, gauging liquids, &c., together with the more usual manipulations in the laboratory, such as testing marls, analysing soils, and valuing manures. The students are charged in turn with the superintendence of all the details of cultivation, of which they should render a report; they take excursions to forward their agricultural or botanical studies, to extend their knowledge of forests and geology; their instruction is promoted by observation and demonstration in the stud and in the stable, as well as in the field. The course as thus sketched out is obligatory upon all, and not a matter for individual selection and preference. A part of August and the whole of September compose the annual vacation.

This general course is the same at the three Imperial Schools of Grand Jouan, Grignon, and La Saulsaie. In each there are 18 scholarships, distributed exclusively according to the results of open competition among the students—nine of them, however, being reserved for a certain class of the pupils, former apprentices in the farm schools, who on the completion of the apprenticeship obtained honorary certificates and passed the preliminary examination required at the Imperial institutions, and who enjoy the scholarships they obtain from the very time of entering, instead of, as the others do, one-half at the end of six months, and the whole at the end of not less than a year.

We walked about the farm, looking at the crops and buildings. The Wheat, of which they had 70 or 75 acres, was looking very well; 50 acres or thereabouts were covered with the profuse yellow blooms of the Colza or Rape plant; there were 80 or 90 in Oats, for which the soil was particularly kind, almost invariably yielding well. They were also growing some Barley and Rye. There were 175 or 200 acres in hay—the appearance of the Grass being rather weedy, I thought, at the time, judging from the profusion of flowers scattered through it, although from inquiries subsequently made it is not impossible that these were visitors on invitation or at least on sufferance, instead of being intruders as I supposed. There was a considerable area devoted to experimental plots, where all sorts of new seeds and varieties were being tested. About 43 bushels per acre, as nearly as I can compute, was stated to me as a maximum yield of Wheat; while the average one year with another was about 23. The yield in 1858 had averaged 22 hectolitres per hectare for the whole area in Wheat, *i.e.*, about 25 bushels per English acre. Sometimes Oats will produce 80 bushels per acre, but the average is nearly 45. The land is not so good for Grass, and a ton and a quarter per acre is a fair crop. Twenty-seven bushels of Rape seed or thereabouts will be harvested from an acre, valued at about 22 francs, say 4·40 dollars per hectolitre, which is about 2 5-6ths bushels. Twenty-four tons of Carrots were dug to the acre in 1858, and 22 in 1857; they ordinarily cultivate 15 to 20 acres in this root. *Albany Country Gentleman.*

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## Miscellaneous.

*Extraordinary Cow.*—The polled Angus cow, bred by Hugh Watson of Keillor, county of Forfar, shown at the Highland Society's Show at Aberdeen in 1858, where she had a medal awarded to her owner by the Society, died at Keillor on Friday, July 1, 1859, at the wonderful age of thirty-five years and six months. This old cow was the dam of twenty-five calves, all of which

carried prizes at different competitions in Scotland, England, and Ireland in course of the last thirty years, and they and their progeny are now spread over many countries and climes. The old cow retained her fine shape and rich mellow quality till she arrived at the mature age of twenty-eight years, when she gave up breeding or giving milk, but continued active, and picked up her food along with the other cows of the herd, never having got any food beyond the common run of the farmyard. She gradually fell off for the last two years, till she became a most striking picture of old age and infirmity, gave up gathering her food in the field only two days, when an excellent photograph picture of her was taken by Mr. Jackson of Perth, and she then lay down and died, never before having been an hour ill, such was her robust constitution and healthy habit.

*Agricultural Contrasts.*—Table showing the estimated acreable corn produce of England at various periods:—

| | Wheat Bush. | Barley Bush. | Oats Bush. |
|---|---|---|---|
| 1. In the 13th century .. .. | 12 | 24? | 24? |
| 2. Latter part of the 16th .. .. | 16 to 20 | 36 | 32 to 40 |
| 3. Third quarter of the 18th, at which period the old corn husbandry still prevailed .. .. | 23 to 24 | 32 | 36 |
| 4. Middle of the 19th .. .. .. | 26½ | 38 | 44 |

Next, of ancient manuring; and of old, the practice stood thus:—Of stall-feeding, there was next to none, and very little winter housing of live stock; and hence the product of dung was comparatively insignificant both in quantity and quality. Very usually a stream of surface water was directed through the farmyard, to float its best riches to some favoured meadow; and as the permanent Grass closes always came in for a large share of the solid dung to insure a good shear of hay, what remained to be worked up with each year's bare fallow of the tillage land was very inconsiderable: but to supplement this, in some degree, it was very customary to spread out dry straw in the lanes to be trodden under foot into a sort of compost, and then carted to the ploughed fields. *Tillage a Substitute for Manure.*

## Calendar of Operations.

### DECEMBER.

BORDER OF THE FENS: *Dec.* 12.—We only finished sowing Wheat after Mangels December 3; could we have applied Fowler's or Chandler's steam ploughs this might have been put in at least a fortnight earlier; the first sown Wheat look well, they come up strong and regular. Those, however, which were completed about the 1st November continue backward, having had to contend with a freezing temperature almost ever since—damp and cold weather nips and weakens them. We do not find our Mangels at all injured by the frost; your estimate of lifting into carts 70 tons a day by two sets is pretty good work, but no doubt can be done if carts are properly supplied to fillers, and this kind of work can only be seen thoroughly carried out on well-managed farms. How many are diverted from one such combined operation by the necessity of detaching too large a portion of their force to plough, &c.; how many are unable to muster power enough to keep every worker steadily at his post. The difficulty again often lies in the limited business of the farm, not admitting of constant employment of the number of hands required only now and then when work presses; hence the importance on a 200 or 300 acre farm of considerable foresight in adapting the labour most wanted to the number of hands employed, as not to let one part of the business of the farm at any time be obliged to wait for another, and so to time the process as to take advantage of such weather as best suits it; that as little recourse may be had to chance hands as possible. We think nothing so advantageous can be adhered to as having as many regular or constant labourers as can conduct the business of the farm; chance hands are always the dearest if relied upon, however useful they may be. When only occasionally summoned, how rarely do we find among these casual helps a desirable addition to the old faces that have become familiar by years of continued acquaintance. A good crop of Mangels cannot cost less than 12*s.* an acre pulling and topping. Last year there was a good deal of discussion about the cost of lifting Mangels, it was placed at 6*s.* or 8*s.*—this must depend greatly on the weight of crop. A friend offered to get our crop up this year for 4*s.* 6*d.* an acre; but we found he proposed to plough them up, and then they were only topped, and being very dirty would require much extra cleaning before being cut up for stock. Turnips cost 7*s.* to 9*s.* an acre, topping and tailing ready for the cutter; the latter price is given for a full heavy crop. We are busy cleansing outfalls and looking after drains, which now run more than they have done for two or three years. The corn trade is now quiet, cake advancing, the best being now worth from 10*l.* to 11*l* per ton according to distance of carriage or freight. Meat markets high, yet we must bear in mind that last spring store stock of all sorts was bought in dear, and herein the problem of Mechi as to the profit and loss of fattening stock may only be determined by the judgment of the grazier. One farmer bought lambs for 56*s.*, which after clipping well, return now only 3*s.* a head, besides the wool, for a summer's keep on corn, cake, &c.; another for lambs at the same price returns nearly 1*l.* each advance, at perhaps a less expense for keeping than the other. Wages are steady at 11*s.* a week, and scarcely a good labourer out of employ; we hear however that in some parts of Cambridge and Huntingdonshire 10*s.* have been given. We are still of opinion that generally the circumstances of the working class are greatly improving. *J. W. Peterborough.*

## Notices to Correspondents.

GAS LIME: *W B.* On poor light sandy soils we would prefer the dressing with chalk. Good rotten chalk, 80 cubic yards an acre, is a very effective dressing on such soils. Gas lime at 2*s.* 6*d.* a load may be worth purchase, if near at hand, nevertheless.

DRAINAGE: *H T.* You can drain a 9-acre field though you have but 18 inches fall.

FRENCH BEANS: *Mary.* You may grind them and give them safely to sheep. Can any one give their experience of Dolman's butter powder?

STRAWEY CROPS: *Cantab.* If you grow too much straw on a strong clay soil you do not need any manure at all. Tillage, no manure, is wanted in such cases. A dressing of common salt tends to strengthen straw; from 2 cwt. on stiff soils up to 4 or 5 on light soils are a common dressing.


# ST. PANCRAS IRON WORKS,

**OLD ST. PANCRAS ROAD, N.W.**

## IRON HURDLES, FENCING, AND GATES.

THE PROPRIETORS OF THE ST. PANCRAS IRON WORKS, OLD ST. PANCRAS ROAD, LONDON,

WERE AWARDED THE

**SILVER MEDAL of the Royal Agricultural Society for their IRON HURDLES & GATES,**

which, by their peculiar construction, are more than twice as strong and durable as those in ordinary use.

Lists per post on application. Gates from 30*s.* to 500*l.*

**The Hurdles can be seen in process of Manufacture at the Works.**

## GAME WIRE NETTING.

## Professor Varnell's Enamelled and Wrought-iron Stable Fittings.

These Patent Mangers and Stable Fittings obtained the Commendation and the Silver Medal of the Royal Agricultural Society of England and the Royal Agricultural Society of Ireland, are adopted by the Royal Veterinary College, and Professor Spooner of that Institution states that they should be used by all who value the health and comfort of their horses. They can be had plain, galvanised, or enamelled.

A Show Room is devoted entirely to every description of Stable Furniture, and full-sized stalls and loose boxes are erected for inspection at St. Pancras Iron Works.

**ADDRESS—THE MANAGERS,**

**ST. PANCRAS IRON WORKS, OLD ST. PANCRAS ROAD, LONDON, N.W.,**

OPPOSITE OLD ST. PANCRAS CHURCH.

# HILL & SMITH'S

## PATENT CONTINUOUS PARK FENCE.

THIS FENCE is made in a variety of sizes suitable for any situation, and is much superior in appearance to hurdle fences, than which it is also cheaper and stronger. It has obtained upon two occasions the Silver Medal of the Royal Agricultural Society of England, besides many other premiums. Many miles have been erected by HILL & SMITH on the London and North Western Railway, between London and Bletchly Stations, and it has been erected at the Parks of upwards of 500 Noblemen and Gentlemen in England; that at Welbeck Abbey, the seat of his Grace the Duke of Portland, being entirely surrounded with it as a fence against Deer nearly 10 miles in extent. The patent principle is also applied to Iron Hurdles, whereby the strength is much increased and their cost reduced. ILLUSTRATED PRICED CATALOGUES will be sent on application to HILL & SMITH, Brierly Hill Iron Works, near Dudley, who are the inventors and sole manufacturers, or to their London Office, 40, Broad Street Buildings, E.C., where specimens may be seen, or to Mr. B SAMUELSON'S, 76, Cannon Street West, London, E.C.

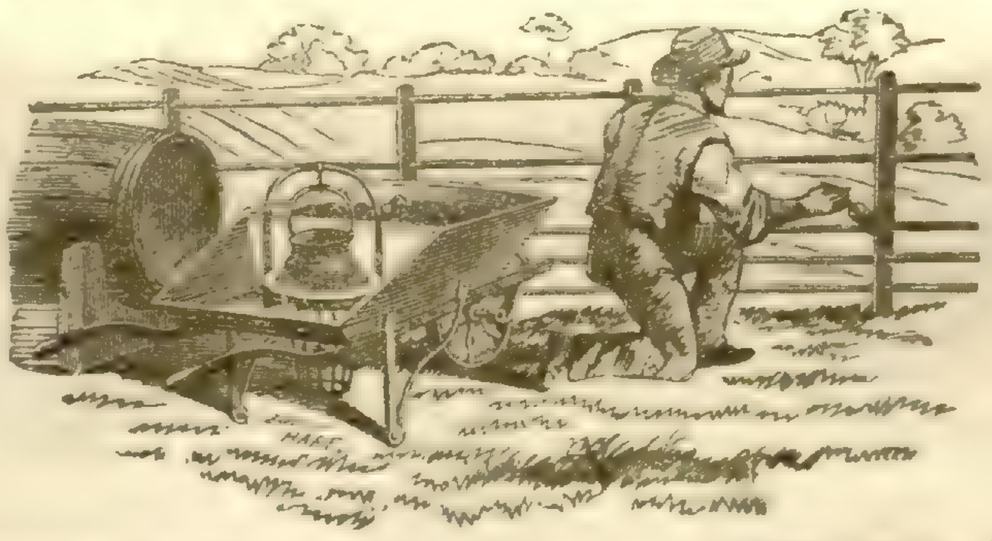
**OIL PAINT NO LONGER NECESSARY.**

# HILL & SMITH'S

## Black Varnish for preserving Iron Work, Wood, or Stone Work.

THIS varnish is an excellent substitute for oil paint on all out-door work, and not only saves two-thirds the expense of an ordinary quality of oil paint, but has the great advantage that it may be applied by an ordinary labourer in a cold state, and that no mixing or thinning is required. It is used in the grounds at Windsor Castle, Kew Gardens, and all the Royal Parks in London, and at the seats of many of the Nobility and Gentry of the United Kingdom. It is also largely exported. Testimonials from Noblemen and Gentlemen who regularly use it will be forwarded gratis on application. Sold in casks of about 30 gallons each, 1*s.* 6*d.* per gallon, or 1*s.* 8*d.* per gallon, carriage paid to any Railway Station.

## THE WROUGHT IRON HEATING BARROW



shown in the above engraving is a very useful article for applying the varnish or for heating gas tar. The front compartment holds tools, fuel, &c. and the back compartment carries an iron three gallon pot with fire grate underneath.

**Price £3 or £3 3*s.* Carriage paid.**

HILL AND SMITH, BRIERLY HILL IRON WORKS, NEAR DUDLEY.

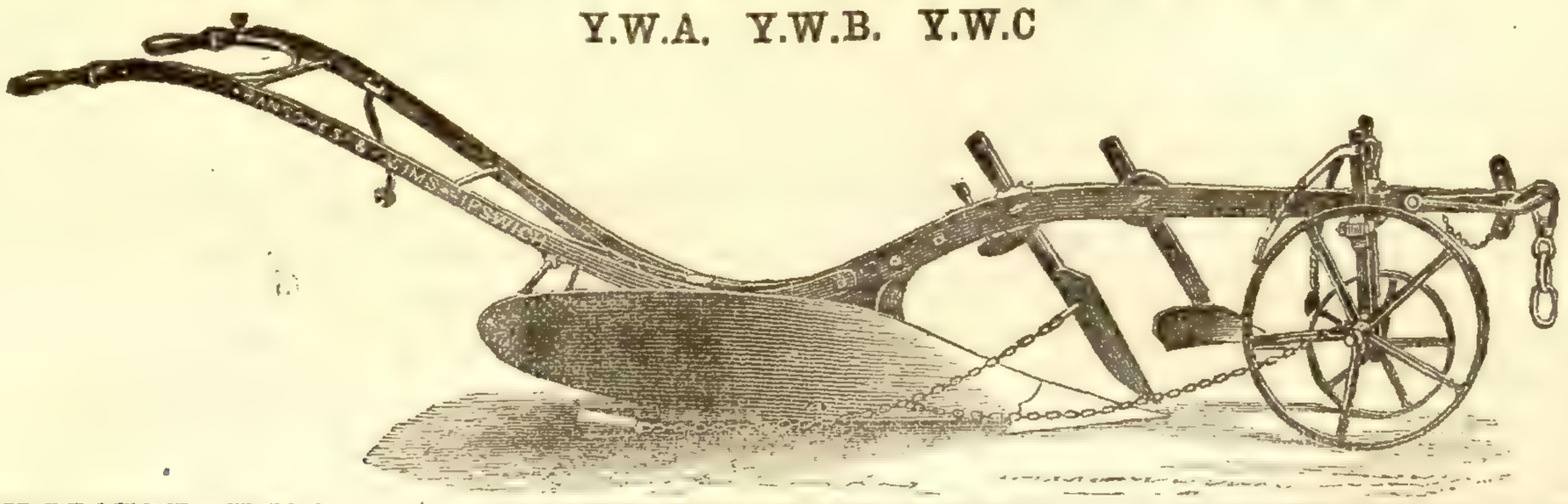
LONDON OFFICE: 40 BROAD STREET BUILDINGS, E.C.

# RANSOMES AND SIMS, IPSWICH,

BEG TO CALL THE ATTENTION OF AGRICULTURISTS TO THEIR NEW SERIES OF

## WARWICK PRIZE PLOUGHS.

### Y.W.A. Y.W.B. Y.W.C



### PATENT IRON PLOUGH. Y.W.A.

This Light Two-horse Plough will make excellent work at any depth not exceeding 6 inches. The body can be removed, and a ridging body, suitable for every purpose of ridge work, placed in its stead.

| | |
|---|---|
| Price, with two wheels | £4 2 6 |
| Skim Coulter and Drag Chain, extra | 0 7 0 |
| Steel, instead of Cast Breast, extra | 0 7 0 |
| Shares, per dozen | 0 9 6 |
| Ridging Body | 1 17 6 |

**Received a prize of £3 at Warwick.**

### PATENT IRON PLOUGH. Y.W.B.

FOR GENERAL PURPOSES.

This Plough will make excellent work at any depth not exceeding 8 inches. The body can be removed, and a ridging body, suitable for every purpose of ridge work, placed in its stead.

| | |
|---|---|
| Price, with two wheels | £4 7 6 |
| Skim Coulter and Drag Chain, extra | 0 7 0 |
| Steel, instead of Cast Breast, extra | 0 7 6 |
| Shares, per dozen | 0 9 6 |
| Ridging Body | 1 17 6 |

**Received a prize of £4 at Warwick.**

### PATENT IRON PLOUGH. Y.W.C.

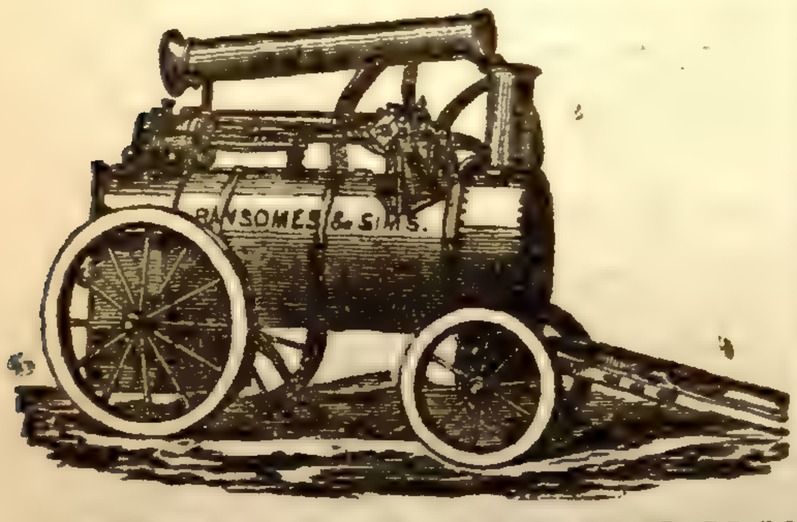
This Plough will make excellent work at any depth not exceeding 12 inches in any soil.

| | |
|---|---|
| Price, two wheels | £5 15 0 |
| Wrought, instead of Cast Frame | 1 0 0 |
| Skim Coulter and Drag Chain | 0 7 0 |
| Steel, instead of Cast Breast | 0 12 6 |
| Shares, per dozen | 0 9 6 |

**Received a prize of £2 at Warwick.**

RANSOMES' PLOUGHS *have received* TWENTY FIRST PRIZES, 1 GOLD *and* 11 SILVER MEDALS *from the Royal Agricultural Societies of England, Ireland, &c.*

## PORTABLE STEAM ENGINES & PATENT PORTABLE COMBINED STEAM THRESHING MACHINES.




The above cut represents one of our STANDARD PORTABLE ENGINES. They are made of the best quality of materials and workmanship; are remarkable for their simplicity, durability, economy of fuel, and their capability of making steam. They are very light draught for the Horses.

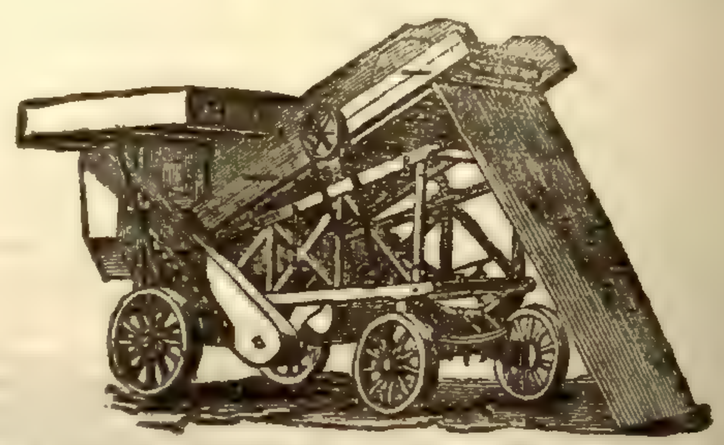
### PRICES.

3-Horse Engine, 125*l.*, and No. 7 Single Blast Threshing Machine suitable for ditto, 75*l.*; Strap, 4*l.*; Waterproof Cover for Machine, 1*l.*; Barley Awner, 2*l.* extra.

7-Horse Engine, 210*l.*, and No. 1 Single Blast Threshing Machine suitable for ditto, with Common Drum and Iron Wheels, 100*l.*; Driving Strap, 6*l.* 6*s.*; Waterproof Cover for Machine, 2*l.* 5*s.*; if with Patent Drum, 5*l.* extra; if with Wood Wheels, 3*l.* extra; if without an Engine, 5*l.* extra.

8-Horse Engine, 215*l.*, and A 1 Double Blast Threshing Machine suitable for ditto, with common Drum and Wood Road Wheels, 125*l.*; Driving Strap, 6*l.* 6*s.*; Waterproof Cover for Machine, 2*l.* 5*s.*; if with Patent Drum, 5*l.* extra; if without an Engine, 5*l.* extra.

SINGLE BLAST MACHINE.—No. 1.



The above cut represents our No. 1 PORTABLE THRESHING MACHINE. The No. 7 is built on the same Model in all its important parts, and can be thoroughly recommended as a most efficient Machine. Each of them has a Patent Shaker, one Blower, Riddles, and Elevators; and the No. 1 has also a Barley Awner.

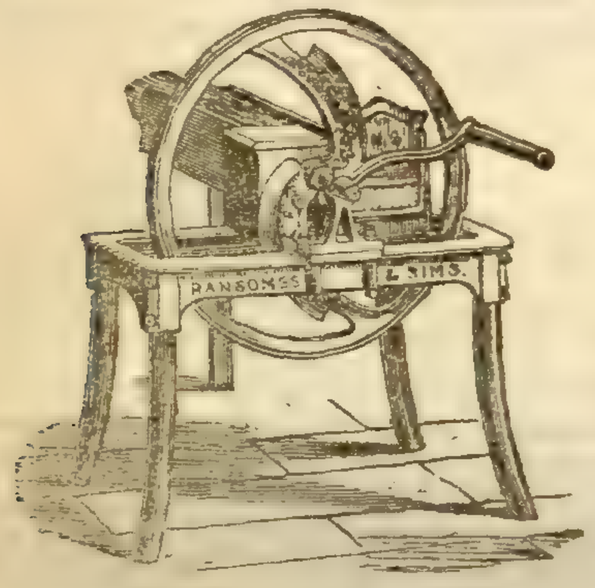
The A 1 or Double Blast Machine is on the same Model as the No. 1, but is furnished with a second Blower, and set of Dressing Apparatus, with a Patent Screen, by means of which Grain can be well and quickly prepared for Market.—Seven GOLD MEDALS and one highest DIPLOMA of MERIT have been awarded to these Machines. We shall be happy to furnish Testimonials from persons using our Single Blast Threshing Machines as to their superiority in economy of power, their extraordinary durability, and their capability of turning out a large quantity of work per day.

CHESTER FIRST PRIZE.

### HAND CHAFF-CUTTER,

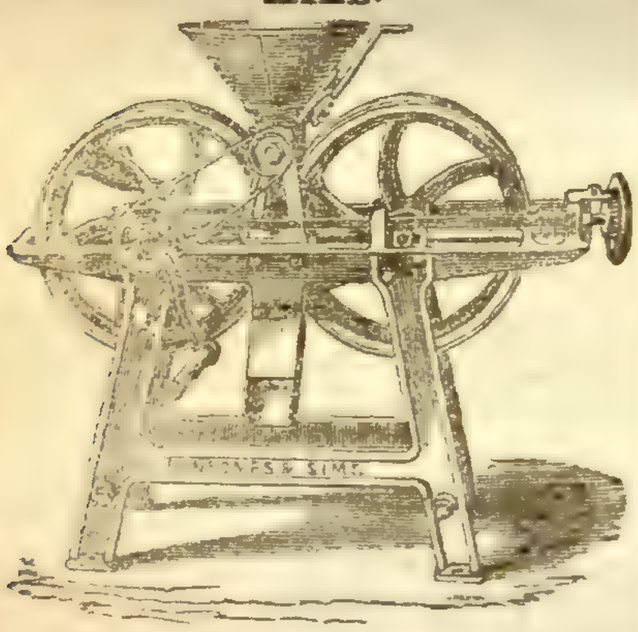
BIDDELL'S PATENT.

No. 3.—Price on Iron Frame, with Wrought Legs, 5*l.* 5*s.*




CHESTER FIRST PRIZE.

### SMOOTH ROLLER BRUISING MILL.



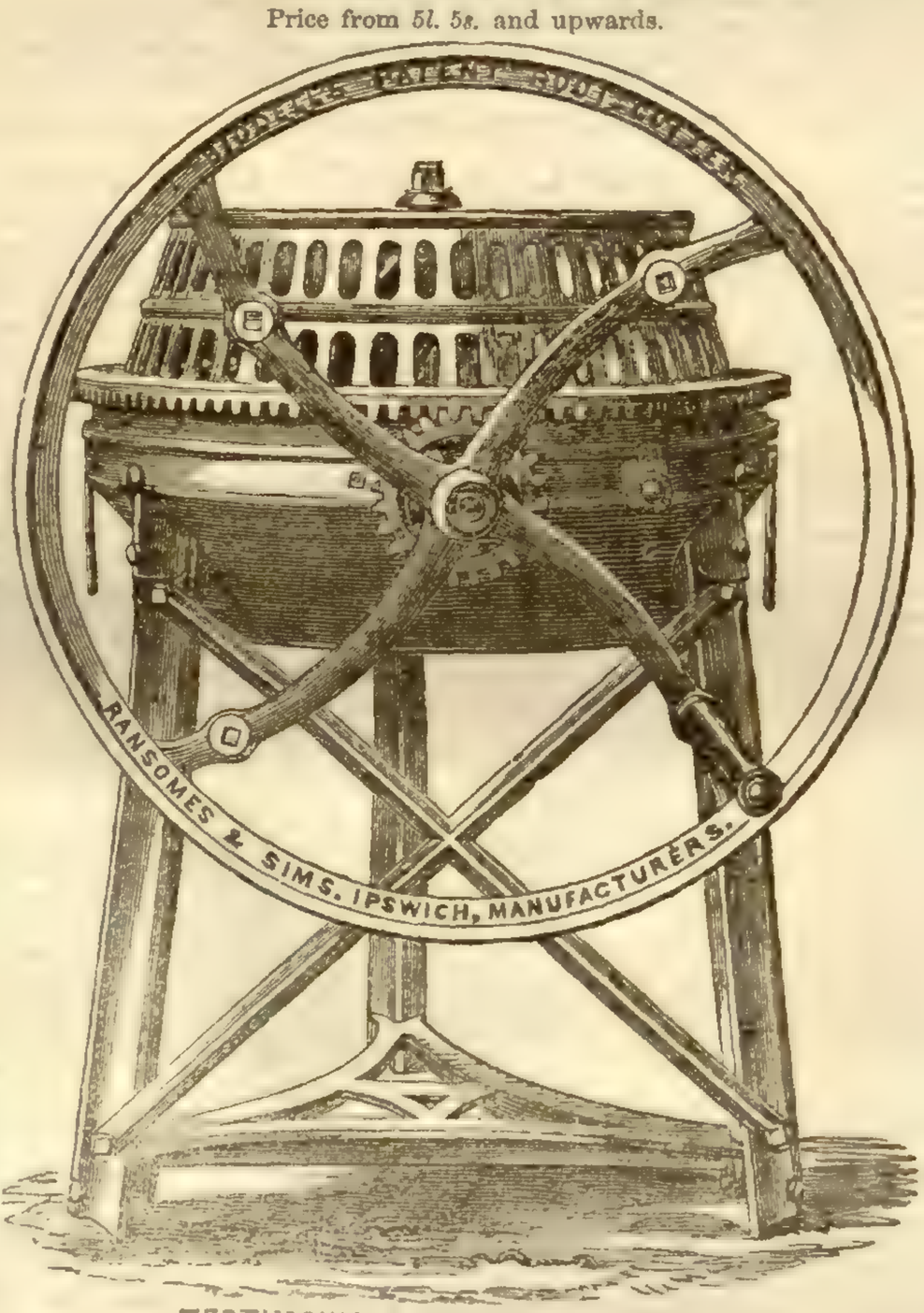
No. 6.—Price £10.

CHESTER FIRST PRIZE.

### ROOT CUTTER FOR POWER.

BIDDELL'S NEW PATENT.

Price from 5*l.* 5*s.* and upwards.

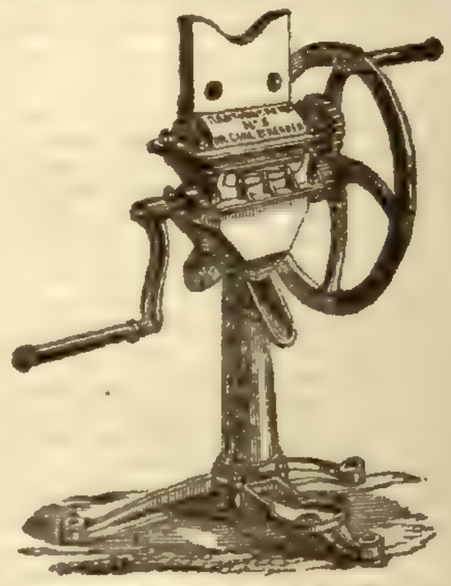



TESTIMONIALS FREE ON APPLICATION.

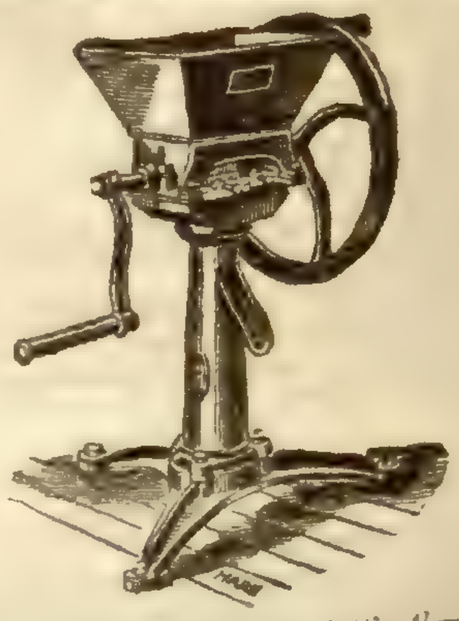
### BIDDELL'S PATENT MILLS,

*On Iron Columns, for hand power.*

| | |
|---|---|
| Patent Bean Cutter | £4 0 0 |
| Patent Steel Oat Mill | 3 15 0 |
| Patent Combined Mill, No. 10—Bean and Oat Mills, on same spindle | 6 0 0 |



### OIL-CAKE BREAKERS, No. 3 & 4.



No. 3, for Lambs, Sheep, or Cattle, 4*l.*—No. 4, price 5*l.* 5*s.*, will break the hardest Cake for Sheep or Cattle, separating the dust at the same time.

*Illustrated Catalogues, post free, on application to the Orwell Works, or to our London Agent,*

**SHEPPARD RANSOME, 31, ESSEX STREET, STRAND, W.C.**

## PINE APPLES, GRAPES, &c.

PINE PLANTS, Fruiting and Succession.
GRAPE VINES, from Eyes, for Fruiting in Pots or Planting.

JOHN WEEKS AND CO. can now supply any quantity of very fine strong healthy Pine Plants, either Fruiting or Succession; also remarkably fine strong Grape Vines from Eyes, all the best sorts.

JOHN WEEKS & Co.'s Horticultural Show Establishment is now entirely devoted to the Growing and Forcing of Fruits in great variety, thereby showing the most improved plans of construction, and the most superior system of Hot water Apparatus.

JOHN WEEKS & Co., Horticultural Builders and Hot-water Apparatus Manufacturers, King's Road, Chelsea, London, S.W.

---

THE GREAT VINE AT HAMPTON COURT.—The Subscribers being the holders of the Royal Kitchen Gardens, Hampton Court, are enabled to offer genuine the famous and truly excellent HAMPTON COURT BLACK HAMBURGH GRAPE. [each

Strong well-ripened Fruiting Plants, in 12-inch pots, 10s. 6d.
Good well-ripened Plants, in 9-inch pots, 5s. each.

A liberal reduction in price if taken in large numbers.

THOMAS JACKSON & SON, Nurseries, Kingston, S.W.

---

## NEW APPLE.—NELSON'S GLORY.

WM. WOOD AND SON have the honour to announce that they have been appointed Agents for the Sale of the above very excellent new Apple, the property of Mr. J. NELSON, of Bristol.

NELSON'S GLORY APPLE is one of immense size, weighing from 20 to 22 oz., and especially adapted to culinary purposes; indeed for making Jelly, Jam, and Sauces it is truly invaluable, and is ready for use from August to December. Plants have been ordered by all those parties who had the opportunity of seeing the magnificent fruit at Bristol.

DWARF MAIDEN PLANTS are now ready for sending out at 5s. each, with the usual discount allowed to the trade.

Woodlands Nursery, Maresfield, near Uckfield, Sussex.

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## DWARF MAIDEN FRUIT TREES.—

APPLES.

| | | |
|---|---|---|
| PEARS. | CHERRIES. | PEACHES. |
| PLUMS. | APRICOTS. | NECTARINES. |

Prices moderate.

Fine and clean grown; and all the leading sorts can be supplied in quantities by GEORGE JACKMAN & SON, Woking Nursery, Surrey.

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## DWARF TRAINED FRUIT TREES.—

APPLES.

| | | |
|---|---|---|
| PEARS. | CHERRIES. | PEACHES. |
| PLUMS. | APRICOTS. | NECTARINES. |

Prices moderate.

Great care is taken in the formation of these fine, healthy, free-grown trees. Particulars can be obtained of GEORGE JACKMAN & SON, Woking Nursery, Surrey.

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## FOREST TREES.

JOHN WATERER has to offer upwards of a Hundred Thousand of each of the following, from 2 to 4½ feet high, and all good rooted:—

| | | |
|---|---|---|
| CHESNUT | LARCH | BIRCH |
| HAZEL | ASH | ALDER |
| SCOTCH | LAURELS | WITHY, &c. |

Samples with prices sent on application. Planting done by contract.—The American Nursery, Bagshot, Surrey.

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## CHRISTMAS SHOW OF FRUIT & VEGETABLES.

TAYLOR'S GRAND STAND,
ST. JOHN'S MARKET,
LIVERPOOL.

Growers, Fruiterers, and others having goods to dispose of that are very choice, either in PINES, GRAPES, PEARS, CUCUMBERS, NEW POTATOES, MUSHROOMS, ASPARAGUS, SEAKALE, RHUBARB, or CHOICE FLOWERS, will please forward the same to GEORGE TAYLOR, Choice Fruit and Vegetable Salesman, St. John's Market, Liverpool.

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## SHOW OF CHOICE FRUIT AND VEGETABLES.

TAYLOR'S GRAND STAND,
ST. JOHN'S MARKET,
LIVERPOOL.

Growers and others having choice FRUITS, VEGETABLES, or FLOWERS to dispose of will please forward them immediately to GEORGE TAYLOR, Choice Fruit and Vegetable Salesman, St. John's Market, Liverpool.

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## LEE'S WHITE SPROUTING BROCCOLI, VEITCH'S PERFECTION PEAS,

AND ALL OTHER REALLY GOOD NEW KINDS OF SEEDS ARE SUPPLIED BY

MESSRS. SUTTON AND SONS direct from the parties introducing them, in the original papers and at the growers' prices.

Messrs. SUTTON'S NEW SEED LIST will be ready shortly.

Royal Berkshire Seed Establishment, Reading.

---

## NEW PEAS.

BUCKLEY'S GENERAL WYNDHAM | THORNE'S ROYAL BRITAIN.

HURST AND M'MULLEN having grown a considerable quantity of the above fine tall late varieties of PEAS this season, beg to offer them to the Trade only. They have been proved to be superior to any of their class, both in flavour and size for the last two years, and they can confidently recommend them.

Also "Dillistone's First Early Pea," quite seven days earlier than any other variety, and a great bearer. Prices on application.—Address, 6, Leadenhall Street, London, E.C.

---

## NEW HARDY PROLIFIC CUCUMBER, MASTERS'S VIRIDISSIMA.

MESSRS. MASTERS AND SON have pleasure in introducing a new variety of CUCUMBER, which is the hardiest, the most productive, and the greenest of all known varieties. It is the best ridge Cucumber extant, and is also quite adapted for Frame culture; length, 12 to 18 inches; well set with black spines. Packets of seeds, 1s. and 2s. 6d. each, containing 12 and 36 seeds respectively.

Exotic Nursery, Canterbury; and Fant Nursery, Maidstone.

---

G. S. DODS (late gardener at Cooper's Hill) respectfully acquaints the nobility, gentry, and inhabitants of Epsom and the surrounding neighbourhood, that he has taken the under-mentioned old-established NURSERY, conducted so many years by the Messrs. Young, and trusts by assiduity in the execution of all orders, with a careful regard to the quality of every article supplied, to merit a continuance of that patronage so liberally bestowed on his predecessors.

Epsom Nursery, Epsom, Surrey.

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DUTCH CROCUS, a great quantity in fine condition, 1s. 6d. per 100, or 14s. per 1000; English mixed do., 1s. per 100, or 8s. per 1000; mixed HYACINTHS, 3s. to 4s. per doz., or 1l. per 100; do. finest quality to name, 6s. per doz.; STANDARD ROSES, the choicest named sorts, 15s. per doz., or 5l. per 100. ARCHANGEL MATS, a large quantity on hand, 10s. per bundle, or 65s. per 100; small do., 4s. per bundle, or 35s. per 100. ASHLEAF KIDNEY POTATOES, 6s. per bushel. Mixed SWEET PEAS, 2s. per quart; 2l. per bushel; 7l. per sack.—R. GREEN, 154, Kingsland Road, N.E., 55 doors from Shoreditch Church.

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## THE LARGEST AND FINEST STOCK OF TEA-SCENTED ROSES IN ENGLAND.

50,000 PLANTS IN POTS AND IN THE OPEN GROUND.

WM. WOOD AND SON invite attention to their very extensive and superior stock of the above, which they feel certain are unsurpassed in the Trade.

| | | |
|---|---|---|
| Dwarfs, from 48-pots | per dozen | 9s. to 12s. |
| ,, in 6-inch or 24 pots | ,, | 24 to 30 |
| Standards, very fine | ,, | 18 to 24 |
| Specimen Plants, in 8 inch pots, for exhibition, each, 3s 6d. to 5s. | | |

DESCRIPTIVE CATALOGUES on application.

Woodlands Nursery, Maresfield, near Uckfield, Sussex.

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## HEDENHAM ROSARY, BUNGAY, SUFFOLK.

IN CONSEQUENCE OF A DISSOLUTION OF PARTNERSHIP,

R. B. BIRCHAM is desirous of clearing off a portion of his stock, consisting of 35,000 STANDARD and DWARF ROSES, including all the best and leading sorts of Perpetuals in cultivation. To effect a clearance this autumn R. B. B. begs to offer them at the following very reduced prices:—

| | | | |
|---|---|---|---|
| 50 | Dwarfs of the best Perpetuals | .. | £0 18 0 |
| 50 | Half standards, do. | .. .. | 1 5 0 |
| 50 | Standards, do | .. .. | 1 15 0 |

R. B. B will be happy to supply Amateurs requiring half the quantity of each. Trade orders at a still lower rate per 100. Carriage paid to London and Peterborough.

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PETER S. ROBERTSON, for the last 14 years Manager of Messrs. P. Lawson & Sons' Nurseries, Edinburgh, begs to intimate to his patrons and friends that he has resigned the above situation to begin business on his own account at Trinity Nursery (near the Botanical Gardens) Edinburgh. Having completed arrangements by which he is able to offer at very moderate prices FOREST TREES, SHRUBS, CONIFERS, ROSES, &c., he now respectfully solicits a share of public patronage.

PRICED CATALOGUES are in course of circulation, and friends who may not have received a copy by next week will be supplied free on application.

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DUTCH BULBS.—SURPLUS STOCK of fine Roots at very low prices. See *Gard. Chronicle*, Dec. 19, p. 1011.

The NEW SEED CATALOGUE will shortly be ready.

STEPHEN BROWN, Seed and Nursery Establishment, Sudbury, Suffolk.

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## CHRYSANTHEMUMS.

J. H. BIRD, F.H.S., NURSERYMAN, Stoke Newington begs to inform his friends and the public that he has the finest Collection and the largest Stock of Chrysanthemums and Pompones in the world, and can supply them by the 100, 1000, or 10,000.

25 Pair of Best POMPONES, 10s.
20 Pair of Best Large Varieties, 10s.
25 Pair of Best POMPONE CUTTINGS, 5s.
20 Pair of Best Large Varieties, Do., 5s.

CATALOGUES for one stamp. To save trouble all orders to be pre-paid.

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## CHRYSANTHEMUMS.

W. HOLMES begs to offer strong plants of every known good variety of CHRYSANTHEMUM at 5s. per dozen; including Golden Queen of England, Aurora, Cassandra, Cartius Quintius, Excelsior, Fabius, Fortune's Two-Coloured Incurved, Golconda, Glory, Julie Lagravère, Madam Clos, Mount Vesuvius, Orange Brilliant, Prince Albert, Remus, sulphureum superbum, Una, Andromeda, Ariel, Astrea, Baron d'Adswaërd, Esmeralda, Maid of Saragossa, Miss Julia, Miss Talfourd, Mrs. Dix, Shirley Hibberd, Rose Trevenna, &c

Frampton Park Nursery, Hackney, N.E.

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## RHODODENDRON EDGEWORTHI.

MESSRS. J. AND C. LEE have to offer a small quantity of SEED of this most beautiful and fragrant CONSERVATORY RHODODENDRON. Having carefully impregnated it with itself they can warrant it to produce the true R. Edgeworthi, whose flowers are pure white, with a delicious fragrance, and measure 6 inches in diameter. Sealed packets, 5s. each, post free.

Nursery & Seed Establishment, Hammersmith, London, W.

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## NEW SEED CATALOGUE.

MESSRS. JOHN AND CHARLES LEE beg to inform their friends and the public that their NEW DESCRIPTIVE SEED CATALOGUE FOR 1860 may now be had post free on application.

Mr. JOHN LEE continues to devote himself especially to this important branch of their business, for which their house has been so long celebrated in the selection of SEEDS from the most genuine stocks at home and abroad.

Nursery and Seed Establishment, Hammersmith, London, W.

EXPERIENCED GARDENERS RECOMMENDED.

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## LAURELS FOR THE MILLION.

D. FERGUSON, LANDSCAPE GARDENER and PLANTER, offers a splendid lot of CEDRUS DEODARA, 3 to 12 feet in height, at very low prices.

Well rooted COMMON LAURELS, half a farthing each if taken by the 10,000; less if by the 50,000 or 100,000.

Fine one, two, and three years' transplanted BERBERIS AQUIFOLIUM, 1 farthing to 2 farthings each if taken by the 5000 or 10,000.

IRISH YEWS, 1 to 8 feet, almost finer than as fine as possible.—Stowe, Buckingham.

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## IMPORTANT TO LANDHOLDERS.

FOR SALE, 200,000 LARCH FIR, 1½ to 2 feet at 15s. per 1000.

200,000 LARCH FIR, 2 to 2½ feet, at 20s. per 1000.
50,000 LARCH FIR, 3 to 3½ feet, at 40s. ,,

FLUKE POTATOES for planting, warranted free from disease, at 4s. 6d. per bushel. Orders for the above to the amount of 5l. and upwards, Carriage paid to any Railway Station from Milford to London.—JACOB SCOTT MATTHEWS, Nurseryman, Seedsman, and Florist, Cardiff, South Wales.

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ROBERT NEAL, NURSERYMAN, Wandsworth Common, S.W., begs to call the attention of buyers to his large and well-selected stock of EVERGREENS and FLOWERING SHRUBS, ORNAMENTAL TREES, AMERICAN PLANTS, FRUIT AND FOREST TREES, STANDARD AND DWARF ROSES of every description. A large stock of BOX-LEAF EVERGREEN PRIVET, from 1 to 6 feet for hedges; GREEN HOLLY, 1 to 6 feet; RICH BOG and LOAM for American Beds; LEAF MOULD. The Nursery is 10 minutes' walk from Clapham Common, and New Wandsworth Station, Crystal Palace Line.

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## TANSLEY NURSERY, NEAR MATLOCK

To GENTLEMEN PLANTING AND THE TRADE.

J. SMITH, SEN., begs to offer his STOCK OF TREES AND SHRUBS, of various sizes, and in addition to his general stock of the leading kinds, he has this season to offer an Extra Stock of many hundred thousands of the Larches, Scoten Firs, and Highland Pines; a large quantity of Evergreens, Privets, Mahonia Aquifolium, and other plants for planting under cover. Many things are grown in large quantities, and will be sold on advantageous terms to the Trade and gentlemen requiring large lots.

CATALOGUES sent free on application. The Nurseries are on the Mansfield and Nottingham roads, and 2 miles from Matlock Bridge Station on the Midland Railway.

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## PETER LAWSON AND SON

THE QUEEN'S SEEDSMEN AND WOOD FORESTERS,

respectfully announce that they have now issued their

NURSERY CATALOGUE or FOREST TREES, CONIFERÆ, SHRUBS, &c.,

which they will be happy to forward free by post on application.

27, Great George Street, Westminster, S.W.

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## PETER LAWSON AND SON,

THE QUEEN'S SEEDSMEN AND WOOD FORESTERS, 27, Great George Street, Westminster, London, S.W., respectfully announce the issue of their GARDEN SEED CATALOGUE for 1860, which they will be happy to forward free by post on application. Every care has been bestowed on the selection and growth of the various stocks, which P. L. & Son can safely recommend as of best quality, and true to name.

### DALMAHOY EARLY POTATOES.

This excellent variety of Potato now meets with a largely increased demand in England, to which it is fairly entitled. It is considerably earlier than the Regent, and of excellent quality. Messrs. P. L. & Son are now prepared to send out carefully selected Seed, for which early orders are requested; and which can either be executed now or in spring, as may best suit purchasers

---

## YORKSHIRE SEED ESTABLISHMENT.

E. J. DIXON begs to announce that his new SELECT PRICED LIST OF KITCHEN GARDEN, FLOWER, and AGRICULTURAL SEEDS for 1860 is now ready, and will be forwarded post free on application to

57, Queen Street, Hull.

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## QUICKS, FOREST TREES, &c.

JAMES DICKSON & SONS, NURSERYMEN and SEEDSMEN, the Newton Nurseries (close to the Railway Station), Chester, offer many millions of the above, of EXCELLENT QUALITY and at VERY MODERATE PRICES.

The Trees and Plants, consequent upon the Nursery Grounds (which cover an area of about 60 acres) lying in an exposed situation, and a routine of regular transplanting being carried out, are WELL ROOTED, HARDY and VIGOROUS, hence are calculated to remove with great success.

PRICED LISTS, post paid, upon application or in cases where LARGE QUANTITIES are required SPECIAL PRICES will be given.

Newton Nurseries, and 102, Eastgate Street, Chester; also at 23, Market Place (late Deansgate), Manchester, and Newtown, Montgomeryshire.

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JUST RECEIVED from Mr. CHARLES APPELIUS, in Erfurt, the second consignment of his splendid collections of TEN WEEKS' STOCKS in 12 vars. at 1s. 8d., and double PÆONI-FLOWERED ASTERS (Truffaut) in 12 varieties, at 1s. each.

London Agency: 132, Upper Thames St., near London Bridge.

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## TO THE TRADE.

HENDERSON'S COMPACT TOPPED GARDEN BEET.—This superior variety, introduced by us three years since, is now generally cultivated in most gardens: its peculiar short top, symmetrical roots, and fine dark crimson colour, are points of excellence rivalled only by its exquisitely rich and sugary flavour. Price on application.

AUSTRALIAN GARDEN CRESS.—This remarkable large gigantic Cress is so rapid and fast growing that in Australia and New Zealand it almost stops the navigation of the rivers. The true Broad-leaved sort. Price on application.

N.B. New VEGETABLE SEED CATALOGUE is now ready, and can be sent on application.—Pine-apple Place, W., Dec. 24.

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## NEW ANNUALS.

JOHN GEORGE WAITE, SEED MERCHANT, 181, High Holborn, London, W.C., has great pleasure in offering SEEDS of the following new hardy Annuals:—

CLARKIA PULCHERRIMA,
SCHIZANTHUS GRANDIFLORUS OCULATUS,
HELIOPHILA CŒRULEA STRICTA.

Coloured Drawings and prices of which (to the Trade only) can be had on application.

Seed Establishment, 181, High Holborn, London, W.C.

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# The Gardeners' Chronicle.

*SATURDAY, DECEMBER 24, 1859.*

"WE announce," says the *Athenæum*, "with great satisfaction that the Trustees of the British Museum have at length taken into serious consideration the difficulties in which they are placed by our vast accumulation of literary and scientific treasures. Something will now, we trust, be done. At a very full meeting of the Board—after considerable discussion as to the principle of separation—the Trustees have appointed a Sub-Committee to consider and report on the subject. The Speaker of the House of Commons, as representative of the powers that pay, is to act as Chairman of the Sub-Committee. The public will wait its report with not less confidence than interest."

Let us hope that the representations made to the Chancellor of the Exchequer on the 18th November 1858 (see p. 861 of our columns for that year), will also be taken into "serious consideration." In the memorial in question, after offering certain suggestions as to the manner of dealing with the Zoological Collections of the British Museum, it

was strongly urged that the whole of the Herbarium, known as the Banksian, should be transferred to Kew, which should become the centre of botanical science. In that situation there is already the finest assemblage in the world of living plants, an unrivalled museum of products of the Vegetable Kingdom, and a Herbarium compared with which the Banksian sinks into insignificance. The Kew Herbarium is in part the property of the State, and in part private property. The whole might easily become public; and if augmented by the Banksian would possess an interest far beyond that of any on the Continent.

As a question of mere cost we conceive that it would be more economical to remove the Botanical collections to Kew than to preserve them as a distinct Botanical Museum. For to render them at all sufficient for the wants of men of science it would not be enough to preserve what already exists in Great Russell Street. It would be indispensable in addition to purchase and render accessible the vast modern collections that have been formed by travellers since the death of Sir JOSEPH BANKS, and which, if we are rightly informed, are for the most part deficient in Great Russell Street; but the whole of which are already at Kew. Moreover if two public Herbaria are formed at two distant points there must also be a double staff of officers, a circumstance not to be wholly overlooked.

It is true that the gentleman who is now the keeper of the Banksian Herbarium would have to be provided for; but during his life he should personally remain in charge of the collections which he has for so many years done everything to render as useful as his position permitted. The rest of the staff would be that of Kew; and eventually a single keeper of the whole would be sufficient. Should these two great foci of vegetable productions not be amalgamated, we shall hereafter want two long catalogues of their contents instead of one; two purchases instead of one when additions require to be made; and a clashing of interests which would be anything rather than advantageous to the public service.

When we add that to provide a new site in London for the Banksian Herbarium would be far more costly than at Kew, where the expense of a few additional rooms in the building which must at all events be provided there would be comparatively inconsiderable, we trust that enough has been said to induce the Sub-Committee which has been appointed to deal with this subject, to pause before they listen to the voice of those who oppose the removal of the entire Herbarium to Kew.

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SINCE our article upon the curious form of LARCH ROT which has appeared in the North of England was written, we have received some excellent specimens and a little additional information.

In the first year the disease, which apparently commences in the bark, is confined to a circular patch the size of a shilling. It takes place evidently in winter, because after its commencement no wood whatever is formed beneath it, and the ring of the previous year's growth is quite perfect.

The surrounding bark which is still healthy meanwhile deposits its own proper layer, but when the growth of the year has ceased a portion of that in turn becomes diseased and no more wood is deposited beneath the diseased part. The same process goes on year after year, so that a depression is made, and when the bark is stripped off, a circular patch appears, which, if it be allowable to compare small things with great, resembles an amphitheatre with its seats raised one above the other.

Meanwhile the disease which was at first confined to the small circular patch spreads upwards and downwards, through the healthy wood of the previous year, so that in a transverse section at some distance from the patch, the progress of the disease is distinctly defined, and while the wood of the year before the disease commenced is strongly discoloured, that of the succeeding years is only slightly altered in appearance. The bark of the diseased patch is thoroughly impregnated with the spawn of the Fungus, which is so conspicuous on the affected bark that if the slightest wound is made in it it is covered with white down in the course of one or two days. The wood also which was produced the year before the commencement of the disease, which shows unquestionable signs of premature death, is almost equally impregnated, as also in their proportion are the layers deposited afterwards.

It should seem, then, that the disease does not originate from the wood, and that the Fungus is introduced into the wood from the bark. When once, however, the wood is affected, the spawn and the diseased condition spread rapidly, and soon extend beyond the limits of the external malady.

The trees are planted in an old stone pit, and the disease attacks principally those in the dampest part, while the Larches only suffer, and not the Scotch Firs with them.

The disease resembles so closely one in Scotch Fir which we described on a former occasion that we thought that, as in that case, there must be some impervious substratum which prevented the Larch being properly nourished; but this does not appear to be the case; and as the Scotch Firs do not suffer, it is clear that the conditions under which it has arisen cannot be the same.

It may be remarked in conclusion that the presence of the *Verrucaria* in the specimens first sent was only accidental, for it does not seem uniformly to accompany the disease. *M. J. B.*

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## TRADE MEMORANDA.

IN our last Number appeared a letter which Mr. Scott, Nurseryman of Crewkerne, forwarded along with a statement made by the police of Manchester, the nature of which we gave. We have now to announce that a very serious mistake has been committed by the police, as will be seen from the following letter:—

"Chief Constable's Office, Town Hall, Manchester,
Dec. 22, 1859.

"SIR,—In your paper of the 17th inst., a statement appeared headed 'Trade Memoranda,' in which the character of a Mr. G. F. Mandley, of Apsley Villa, Cheetham Hill, Manchester, was most seriously reflected upon, and, as it stated, on the authority of information received from the Manchester Police. I trust that you will give immediate publicity to my present explanation, and thereby secure the immediate refutation of a statement calculated to damage the character of a gentleman of high respectability and integrity in this city. The information was given to Mr. Scott, of Merriott Nurseries, Crewkerne, in reply to a letter in which he states he had received a communication from a Mr. Maudley, which the Police, from the similarity in appearance, read Maudsley, being the name of a notorious swindler in this city. I very greatly regret that Mr. Mandley, who is, as I have stated, a gentleman highly respectable and of unimpeachable character, should have suffered annoyance from the imputation which has been thus unwittingly cast upon him, and I trust you will do all that lies in your power to counteract the effect of the statement that has gone forth in your Paper.—I am, Sir, your obedient Servant,

"W. HENRY PALIN,
"Chief Constable of Manchester.

"The Editor of the *Gardeners' Chronicle.*"

We need not say how much we regret having been unwittingly made the channel of publishing what, as it now appears, was a complete mis-statement; and we hasten to make all the reparation in our power. We, like all other conductors of the public press, are extremely anxious to avoid such accidents, which, however, will sometimes occur.

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## A LECTURE ON THE THEORY OF ANIMAL NUTRITION,

### WITH REFERENCE TO THE REMARKS ON THAT SUBJECT CONTAINED IN LEWES' "PHYSIOLOGY OF COMMON LIFE."

Delivered on November 15, 1859, in Oxford, by CHARLES DAUBENY, M.D., F.R.S., Professor of Rural Economy in that University.

ON more than one occasion I have brought before you the views of Baron Liebig, with respect to the nutrition of animals, and attempted, by availing myself of the principles that may be gathered from the writings of that eminent philosopher, to explain by chemical considerations some of the phenomena of living bodies.

The principles alluded to have since undergone the ordeal of 15 years' searching examination, and, as it appears to me, still continue in the main to stand their ground; so that in adopting them as the basis of my reasoning upon this and upon kindred subjects, I feel as if I were building upon a foundation that had been all the more firmly consolidated in consequence of the opposition it has experienced.

In stating this, however, as my opinion, I am bound to make two important reservations: 1st, that the adoption of Liebig's principles extends on my part only to the fundamental propositions he has enunciated; and 2dly, that in invoking such aid to elucidate the phenomena of life, I am perfectly aware that something more than mere chemistry is concerned in building up the living fabric.

In order therefore to remove the objections against the chemical theory, which have been stated by those, who argue as if the truth of its leading principles was involved in that of any of the inferences which the author or his disciples may have chosen to deduce from them, and as if chemistry must be set aside altogether, if it be found inadequate of itself to solve the entire mystery of life, I will in the first place enumerate a few of the general conclusions which Liebig has arrived at in his work on "Organic Chemistry in its applications to physiology and pathology"; 2dly, discuss the objections that have been alleged against each; and 3dly, hint at some of the practical applications which may be made of those principles which appear best to have stood the test of inquiry.

First then I conceive the contrast between the functions of vegetable and animal life stands forth in as marked characters at present, as it did at the time when it was sketched in so graphic and luminous a manner by Dumas* and Liebig. Thus the processes of animal life appear to involve the constant absorption of oxygen, those of vegetable life its evolution; the animal derives support from substances already organised, the vegetable from unorganised or brute matter; heat and light are the remote causes of motion in vegetables, nervous energy in animals.

These propositions, however, although in a general sense true, are each to be received with certain important limitations.

Vegetables, for instance, although mainly instrumental in redressing the balance of nature, by rendering back to the atmosphere the oxygen consumed, do nevertheless carry on several operations, of which the absorption of this very element is the result; animals, although mainly dependant upon organised matter for support, require certain mineral matters, such as common salt, phosphate of lime, and iron; nor can it be said that these substances are in all cases conveyed to them through the medium of the organic matters they consume, since we find them also entering the system when proceeding immediately from the mineral kingdom.

Thus Dr. Gilbert states that his pigs became out of sorts when Indian meal alone was given them, but that they recovered, when supplied with a mixture of coal-ashes, common salt, and superphosphate of lime, for which, although mineral substances, they exhibited a considerable relish (Report 339).

Lastly, whilst on the one hand we are not altogether sure but that something analogous to nervous irritability may actuate the movements of plants, we have on the other abundant proof, that heat and light are exciting causes of action in animals as they are in vegetables.

I cannot, however, agree with an ingenious writer of a recent popular work, entitled the "Physiology of Common Life," when he asserts that plants, like animals, depend upon organic substances for their subsistence.

This return to the old *humus* theory, which Liebig was thought to have refuted so triumphantly, ought to be maintained on more substantial grounds, than the stale and often refuted argument derived from the utility of stable dung as manure, or on the experiments of Verdiel and Robin, which merely show that fertile soils contain a soluble organic substance. The question is, whether the constituents of the manure, or of the organic matter dissolved in the soil, are really assimilated by the plant as such, or whether they do not rather contribute to its nutrition, by being themselves resolved into their elements, and by yielding them up freely, as they are required, to the bodies with which they are brought into contact.

And with regard to the converse proposition, that animals may be capable of converting inorganic substances into organic, it will be time to speculate upon the possibility of such an occurrence, when some well-authenticated case is brought before us, in which any one of the proximate principles which enter into the composition of the animal body has been traced to the agency of chemical forces, or has been shown to originate from inorganic matter within the system.

As an abstract question, indeed, I do not see why such chemical compounds as are formed out of the body, might not be produced by the same affinities within it; but the practical consideration is, whether the same circumstances are likely to occur, at least frequently enough, within the living organism, to render the process one which can be reckoned upon, in accounting for the existence of any of those principles which are normally present in the system of an animal.

At any rate there is this difference between the two organic kingdoms of Nature. Plants, as we know, are capable of decomposing such stable compounds as carbonic acid, water, and ammonia;*

* Statique chimique des êtres organisés.

* A recent discovery of Baron Liebig may serve to make more palpable this distinction. In a former treatise he had shown, that the different vegetable acids present in the unripe fruit, as well as the sugar which predominates in the same when mature, arise owing to the gradual evolution of oxygen from the carbonic acid present in the green parts of the plant. Thus:—

| | C | O | | | | Oxygen disengaged. |
|---|---|---|---|---|---|---|
| Carbonic acid .. .. | 1 | 2 | | | | |
| 12 of ditto .. .. .. | 12 | 24 | | | | |
| 6 of anhydrous oxalic acid .. .. .. | 12 | 18 | | | | 6 |
| 6 of hydrous ditto .. | 12 | 18+O | 6 H | 6— | | 6 |
| 3 of tartaric acid .. .. | 12 | 9+O | 6 H | 6— | | 15 |
| 3 of malic acid .. .. | 12 | 6+O | 6 H | 6— | | 18 |
| 1 of Grape sugar .. .. | 12 | 0+O | 12 H | 12— | | 24 |

Or 12 of carbonic acid with ½ its O replaced by H.

But Liebig has lately found, that tartaric acid may be generated artificially through a reflex process, by an oxygenating agent, such as nitric acid, from sugar of milk, just as oxalic acid has been generated by a more rapid action of the same re-agent, from Cane or Grape sugar; and the process may be explained by the following formula:—

1 of sugar, with N O 5, if the action be violent, produces—

| | C | O | H | |
|---|---|---|---|---|
| 6 of oxalic acid .. .. | 12 | 18 | | —18 Oxygen added + H 12 |
| And | | | | |
| 12 of water .. .. .. | | 12 | 12 | |
| 2 of sugar, with N O 5, if the action be slow, produce— | | | | |
| 3 of hydrated tartaric acid .. | 24 | 36 | 18 | —18 |
| And | | | | |
| 6 of water .. .. .. | | 6 | 6 | |
| 3 of hydrated tartaric acid being | | | | |
| =6 of hydrated oxalic acid .. | 12 | 24 | 6 | |
| +1 of sugar .. .. .. | 12 | 12 | 12 | |
| | 24 | 36 | 18 | |

So that tartaric acid is sugar half converted into oxalic acid. The same compound therefore is produced by the plant, owing to the disengagement of oxygen, as may be generated artificially by its addition, and we may be quite sure, that if ever such an acid were to be elaborated within the animal economy, it would be by the latter agency and not by the former.

whereas there seems no satisfactory proof that animals can produce, by virtue of their living principle, or by what is sometimes called vital affinities, any combination between the elements of matter, which the mere force of chemical attraction out of the body is incapable of effecting. I am, indeed, aware that the late distinguished physiologist Professor Alison conceived, that albumen might under certain circumstances be generated in the blood through the fixation of gaseous nitrogen; but no direct proof, I think, has ever been adduced that such is the case: and I am therefore still inclined to maintain, as I did at the time when the proposition was first enunciated (see my "Introduction to the Atomic Theory," 2d ed., p. 372 and seq.), that Nature, which does nothing in vain, would not have taken so much care to provide from without a supply of the ingredients in question, if the unassisted powers of the animal economy had been able to produce it within itself. Nor indeed do I find that this supposition has met with much favour amongst physiologists, notwithstanding the weight justly attached to the authority of the eminent individual who first suggested it.

The second leading proposition insisted upon in Liebig's work relates to the "Food of Animals," which, according to him, fulfils two distinct offices, namely:—1st, that of supplying the materials of the blood, and 2nd, that of generating animal heat. For the former purpose azotised materials are requisite, but for the second unazotised suffice.

The azotised principles taken into the system are chiefly vegetable fibrine, vegetable albumen, and vegetable caseine or legumin, which I shall still take the liberty, for convenience' sake, of calling by Mulder's name of proteine-compounds, without meaning to assert the existence of any common base or radicle present in them all, but regarding them at least as what chemists call *isomeric bodies*, and as identical with, or with very little change convertible into, animal fibrine, animal albumen, and animal caseine.

Unazotised principles on the contrary consist of starch, sugar, oils, and other bodies containing much carbon and the elements of water.

This twofold use of food in providing for the production of animal heat, and for making good the waste of the tissues, is now, I believe, received as an axiom in physiology, nor is it any longer disputed, that without a due supply of azotised matter, life can for no long time be sustained. But it by no means follows from this, either that the only material which becomes assimilated is of an azotised nature; or that the only material which can generate animal heat is destitute of azote.

Although the oily, fatty, and saccharine ingredients which are present in the animal body conduce mainly to the production of animal heat, it is quite possible that they may contribute also to other ends, and indeed, without going farther, it is certain that fatty matter, combined with only a small per centage of a nitrogenous ingredient,* does in fact constitute a portion of the cerebral matter, one at least of the most important organs in a perfect animal.

Nevertheless as the muscular apparatus is that, which is at once the most widely distributed of the component parts of the system, and the most universally present in it; as it is that which extends from the highest to the lowest in the scale of beings, even where brain and volition appear wanting, and nervous energy is almost evanescent; a supply of that nitrogenised matter, which alone is competent to make good its waste, must be regarded in a special sense essential to the maintenance of animal life.

With muscle indeed fat is generally found associated, but it may be abstracted in great measure, or even entirely, without involving the destruction of life, so that the substances which supply it cannot be placed exactly, as respects their necessity, in the same category with those materials which contribute to the formation of flesh. On the other hand Liebig has never denied that nitrogenised principles are capable of generating heat, for he distinctly points out that in one large section of the animal kingdom, namely the Carnivora, the temperature of the body must be entirely kept up through the waste of the tissues, and consequently that the materials for carrying on those processes by which it is maintained must in them be supplied altogether by the various proteine compounds which constitute their exclusive nourishment.

I was therefore rather surprised, on turning to the popular work on physiology to which I have already alluded, to see the words, "Liebig's error," paraded in large letters at the top of the pages in which the subject of food is discussed, and to find, that after a just encomium on the labours of that chemist, as one "who by his classification of nutritious substances into heat-making and flesh-making, had given an immense impulse to science," after admitting that this philosopher had found the true pathway through which the problem is to be explored, the author should nevertheless declare as his opinion that the classification in question is founded upon misconception.

In a practical sense at least it must be admitted, that the question before us is, not what may be capable of supplying the exigencies of the system, but what will accomplish those ends best and most economically, and it is distinctly shown, that in order to produce animal heat without the aid of oily or saccharine matters, so large a consumption of the tissues is required, that food must be taken into the system in much larger quantities to supply the waste than would be requisite otherwise. On the other hand, the necessity for a certain definite amount of nitrogen to nourish the system calls for a larger consumption of food, where vegetables alone are eaten, than would be demanded if a supply of animal heat were the sole end to be answered. It is quite true, that these general principles, for which we are indebted to chemistry, leave unsolved very many mysteries connected with diet and nutrition; that they do not explain, for instance, various idiosyncracies, such as the repugnance felt by individuals for certain descriptions of nourishment, the preference of others to vegetable over animal food, the poisonous effects which some people experience from articles generally eaten with impunity, the reasons for which, as Mr. Lewes suggests, we can perhaps only hope to discover by the aid of physiological research.

Before, however, he recommended us on such grounds as these to desert the secure ground of chemistry for speculations derived from another science, it might have been expected, that he should have pointed out certain of the problems, which chemistry abandons as beyond her reach, resolved by the more potent aid of physiology.

To say, for instance, that it is owing to some peculiar modification in the principles of digestion, that mutton acts as a poison upon one individual and pork upon another, or that a particular species of animal will thrive upon a plant generally reputed noxious, seems a truism which advances us not a step towards the removal of the difficulty, and perhaps only tends to draw us aside from the path, which has conducted us at least to certain facts calculated to throw light upon the problem before us.

Without therefore dismissing our guide as incompetent, until we have found another capable of leading us further on our journey, let us confine ourselves to those objections, which have been supposed to militate against the truth of the general principles which lie at the base of our inquiries.

It is observed, "that although the fruits eaten in southern climates are less heat-producing than the train oil eaten in polar regions, yet that the Sicilian and Neapolitan eat more oil than the Swede, and that their macaroni is a highly carbonised substance; whilst the Hindoo often subsists on rice and butter—substances highly carbonised, and classed as chiefly respiratory, furnishing in superabundance that very heat which his climate renders so undesirable"!

On the other hand, although a diet chiefly composed of vegetables is considered more appropriate to the inhabitants of hot climates, yet the Abyssinian lives chiefly on raw meat; the hunter on the Pampas or in the prairies of North America scarcely ever touches bread or vegetables; and the Hottentot gorges himself with an amount of meat which would seem excessive even in the coldest climate of the globe.

Now in weighing the force of these objections it must always be borne in mind, that an animal, like man, destined to live in all climates, and to overspread the entire service of the globe, is necessarily carnivorous, and must possess an organisation endowed with very extensive powers of accommodation to external circumstances.

Moral, religious, and political considerations, no less than the natural promptings of appetite, influence the individual and the community, in the preference for certain articles of food and the rejection of others.

If the Hindoo, for instance, lives on rice and butter, it must be recollected that his religious scruples preclude him from the use of animal food; if the Italian subsists upon macaroni and vegetable oils, the warmth of the climate, which would have a tendency to create a greater consumption of animal tissue in proportion to the amount of labour undertaken, produces at the same time an indisposition to mental and bodily exertion, and thus at once reduces the waste of the system, and lessens those earnings which would have better enabled him to make it good.

Accordingly, his condition adapts itself by degrees to a less stimulating diet, until an amount of animal food, barely sufficient to keep an Englishman in health, would be felt by him as excessive, because greater than is required for the demands made upon his system in consequence of his more passive mode of existence.

He consumes, it is true, vegetable oils and other substances containing much carbon without inconvenience or sense of repletion; but the temperature of his climate is even in summer from 10° to 15° below that of the human body, so that a certain amount of animal heat requires to be generated even in the hottest seasons of the year. Besides, the consumption of carbon in respiration must be in proportion to the rapidity of the process itself, and the latter, although influenced by the temperature, can never fall below a certain point, except in hybernating animals, or in extraordinary cases of disease.

It must also be recollected that every species of vegetable food which man can digest is convertible into sugar, and consequently supplies the materials for combustion.

If, therefore, the Italian peasant consumes only that quantity of farinaceous matter which yields him the amount of nitrogen requisite for replacing the waste of his system, he probably is not more overcharged with carbon than the Arabian, who is driven to draw his nourishment from a diet of Dates and Dhurra. And with respect to the vegetable oil, which he takes with his salad, or mixes with his macaroni, it only stands instead of the butter eaten in other countries, and constitutes in reality no very important element in his accustomed dietary.

Lehmann also states that fat is one of the most important agents in the metamorphosis of animal matter, and is therefore in all climates a useful addition to nitrogenous food during the process of gastric digestion.

Before, therefore, the diet of the Italian peasant be brought forward as an objection to Liebig's principles, it ought to be shown, not only that farinaceous matters form the staple of his food, and that a certain quantity of oil is taken along with them, but also that the aggregate of these matters consumed supplies him with more carbon, than would be required, not only for the animal heat necessary to be generated in such climates, but also for the production of the carbonic acid given off during the acts of respiration.

And after all, the starch and oil consumed by a native of the south falls far short, in point of quantity, of the heat-producing materials found in the train oil and blubber which are necessary for the health of the Greenlander or the Esquimaux.

Although fixed oil contains as much as 80 per cent. of carbon, instances are recorded by Arctic navigators and others, where 20 lbs. of fat and a proportionate quantity of melted butter, were consumed at a single meal, in addition to the hind quarter of a large ox, by natives of these countries, as was the case with a Yakuti mentioned by Sir James Ross. This, however, it is said, may be nearly paralleled by the Hottentot, and is in both cases perhaps referable in part to that instinct in savages, which leads them to gorge themselves with food whenever attainable, in anticipation of the long periods of fast to which their mode of life subjects them. Here Nature acquires the habit of accommodating itself to great repletion, as well as to long intervals of abstinence and privation; and accordingly Barrow, who notices these exhibitions of gluttony in the Hottentot, states that they were often preceded by as much as two days' fasting.

But what shall we say of the statements of well-informed travellers, who assure us that 20 lbs. of flesh and oil daily constitute the ordinary allowance of food for an Esquimaux?

Can the same be said of the inhabitants of any one of the warmer regions of the globe? Would the Hottentot for instance, if in the service of an European settler, and secure of a good meal every day, manifest the same voracious appetite, which is ascribed to him when in a state of nature, and obliged to trust to chance for subsistence? On the other hand the exceptional cases cited, in which large quantities of animal food have been consumed by the inhabitants of hot countries to the exclusion of vegetables, are for the most part confined to persons in the habitual use of hard exercise in the open air.

The hunter cannot endure a purely animal diet, except when in the pursuit of game, that is, at those times when a rapid consumption of the tissues of his body is going on. The Abyssinian is driven by the neglect of agriculture, and the abundance of wild cattle, to a diet consisting in great measure of raw flesh and blood, unsuitable no doubt to so warm a climate, but not, so far as we know, excessive in quantity, considering that it has to supply the demand of animal heat, as well as the consumption of tissues, and is probably destitute of fat, by which the former end would be provided for.

In short these exceptional cases need not be regarded as militating against the general law, which the practice of so large a proportion of the human race in different climates tends to establish, namely that the quantity of food requisite for health is greatest in cold climates, and that a smaller amount of meat will support the system in countries, where the lassitude induced by the heat reduces to a minimum the diurnal waste of the tissues.

It is true, that the inhabitants of northern regions do not all, like the Russian, subsist on train oil and whales' blubber; but travellers agree in ascribing to them a larger consumption of solid food than would be required by the inhabitants of warmer latitudes. Thus the Swede and Norwegian have their four meals a day, in which herrings, potatoes, barley broth, bacon, salt meat, and black pudding, form the staple articles of consumption.

Liebig then proceeds to calculate, what would be the amount of heat generated by the daily consumption of carbon which takes place in the blood and tissues. He estimates the carbon present in the food allowed daily to a Hessian soldier at 13.9 ounces, which is removed from the system every 24 hours by uniting with oxygen, and again replaced by the nourishment consumed the following day. Now, according to the experiments of Despretz, 13.9 ounces of carbon require for their combustion 37 ounces of oxygen, and evolve 197,477° of heat. Of this quantity 146,380° will go towards raising the temperature of the body, 51,097° being carried off, owing to the conversion of water into steam by the skin and lungs, in the processes of perspiration and of breathing. So that according to this estimate more than 100° of heat will be generated in the human body every minute of its existence.

This calculation, however, is liable of course to great uncertainty, on account of the dependence of the process, by which carbon is abstracted from the system, upon the amount of exercise, the warmth of the clothing, and the temperature and density of the air. Liebig informs us, for example, that the prisoners in the Bridewell, at Marienschloss, near Munich, where labour is enforced, do not consume more than 10.5 ozs. of carbon daily; that those in a prison at Giessen, who were deprived of all exercise, consumed only 8.5; and

* Brain consists of (besides albumen), the cerebric acid, a solid fatty acid containing phosphorus, and the oleophosphoric acid, also containing phosphorus in conjunction with oil. *Fremy.*

that the average consumption in a German family of five adults and four children of different ages was 9.5 ozs. each daily. It must be recollected, moreover, that in most articles of food hydrogen as well as carbon are present, and that the former by its combustion evolves more heat in proportion than the latter.

Thus 1 lb. of coals will raise 5625 lbs. of water 1° Fahr.; 1 lb. of pure carbon, according to Dr. Andrews, 7881 lbs. to the same amount; whereas 1 lb. of hydrogen will produce the same effect upon not less than 33,808 lbs. By ascertaining therefore in a given case the amount of oxygen consumed, and the quantity of carbonic acid and of water carried off in the process of respiration, we can estimate the degree of heat which will be generated in consequence: and this is confirmed by experiments, which prove that the heat evolved from an animal in a given time corresponds very closely to that which the same apparatus would receive, if it were heated by a fire, in which an equal quantity of oxygen had been expended.

If there be any truth in these experiments and calculations, it seems impossible to doubt that combustion is, at least, a main source of animal heat, so that the *onus probandi* ought to be considered as resting with those, who would contend that other causes, such as nervous energy, also act as *independent causes* of its production.

I say, of course, independent causes, for no one will dispute, that those chemical processes which are instrumental in producing animal heat are themselves influenced by the state of the nervous system.

If the blood, for instance, is not propelled with its usual alacrity through the vessels, we may naturally expect that the change in the tissue, which is the first step towards the union of carbon with oxygen within the system, will take place more languidly; or what is also very conceivable, that the food may pass off as fœcal matter, without going through that series of changes which is a prelude to the conversion of its carbon into carbonic acid.

Of course in either case the production of animal heat will be affected, and the waste of tissue which is going on may not be supplied by the food which is taken in. Whether the converse of this may account for the high temperature which is stated to exist in some cases of great excitement, as in tetanus, I leave for the physiologist to determine.

(*To be concluded next week.*)

## THE GOLDEN OR AUSTRALIAN CRESS.

THIS plant is of dwarf habit. The leaves when very young are obovate, entire, afterwards becoming toothed; the older ones oblong-obovate, lyrately-pinnatifid or pinnate, the terminal lobe large, irregularly and deeply cut, the incised portions overlapping, and the whole of the margin finely and sharply serrated; they are pale or yellowish green; flavour milder than that of the Common, or Curled Cress.

Samples named as follows were sown for trial, during the past summer, at the Garden:—

| | |
|---|---|
| Golden Cress .. .. .. | LAWSON & SON. |
| Australian Salad Cress .. | E. G. HENDERSON. |
| New Australian Cress .. | CARTER & CO. |

The Golden Cress was introduced by the Horticultural Society upwards of 30 years ago, as will appear from the following extract from a Report, published in 1826 in the Society's Transactions (vi. 583), on New or Remarkable Esculent Vegetables cultivated in the Garden of the Society.—

"This is rather slower in growth than the Common Cress. The leaves are of a yellowish green, flat, oblong, both crenated and entire, and of a much thinner texture than any of the varieties of Common Cress. It is very dwarf, and is consequently short when cut as a salad herb for use. It has a mild and delicate flavour. When run to flower it does not exceed 18 inches in height.

"Seeds of this Cress were received from M. Vilmorin, under the name of Cresson Doré; it is at present but little known in this country, but certainly deserves more general cultivation, as it affords a pleasant addition to our stock of small salads. In the notice of it in the Bon Jardinier, it is treated as a variety of the Common Cress, Lepidium sativum, but it is probably a distinct species."

Various sowings were made from packets of seeds received under the above name and synonyms, in the present year; but the sub-committee of the Fruit and Vegetable Kingdom could detect no difference in the respective productions. The seeds were sown at the same time, and precisely under the same circumstances, whether in the open border or in boxes.

Many thousands of packets of vegetable seeds, both English and French, have been sent to the Colonies by the Horticultural Society; it is therefore probable that the Golden Cress has been amongst those sent to Australia, and that it has been thence re-imported. *Horticultural Society's Proceedings.* [For further information respecting this Cress, see p. 340 of the current year's volume.]

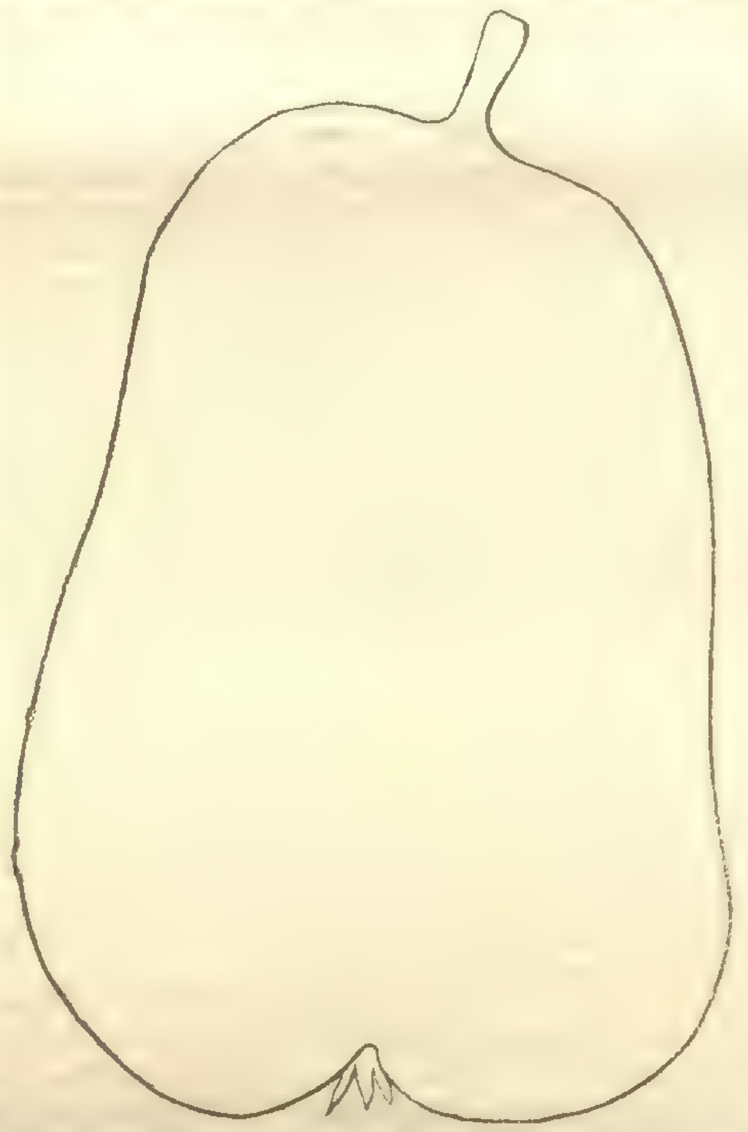
## THE CLÉMENTINE OR POIRE CLÉMENCE PEAR.

SYN.: Poire Cramoisine, Beurré Anglaise, Délices d'Hardenpont d'Angers.

THE accompanying outline represents the ordinary form of the fruit produced on a half-standard from 12 to 15 years old on the Pear stock. On young trees on the Quince stock the fruit assumes various shapes, and ripens from October to January. The closer the fruit approaches its normal form the nearer it attains to perfection in quality, and the later is its period of ripening. This variety has been described by Poiteau (Annales de la Société d'Horticulture de Paris, vol. 15) as follows:—

"Clémentine (Poiteau; Clémentine, from Clémence, the name of my daughter), No. 1621, seedling of Van Mons, 1833. A handsome fruit, 3½ inches long; stalk thick, eye middle-sized, placed in a narrow cavity; segments of the calyx acute; skin golden yellow, finely dotted with reddish brown, and slightly tinged with red next the sun; flesh white, tolerably fine grained, melting, with abundance of perfumed juice; core middle-sized; seeds large, broad, and of a dark chesnut colour."

At the request of M. Poiteau, scions not only of this but of several other varieties were sent to M. Noisette of Paris. Van Mons likewise distributed scions amongst us to a great number of amateurs who were ignorant of the name given to it by Poiteau; the result was some



degree of confusion, but which could not last long in such complete collections as those of our amateurs.

It is time to return to the original name. The denomination of Délices d'Hardenpont d'Angers is the most awkward of all. By Délices d'Hardenpont is understood with us a variety of Pear obtained at Mons by Hardenpont in 1768, and the town of Angers has nothing to do with the fruit raised at Louvain in 1833. It is surprising that members of Pomological Congresses in 1856, '57, and '58 did not discover this mistake.

In conclusion, the structure of the Poire Clémence is so well known that a description might be dispensed with. We will only add that this variety thrives particularly well as a low pyramid on the Pear stock, being of moderate vigour and free habit of growth.—*M. de Jonghe, Brussels, Dec. 7.*

## Home Correspondence.

*Honesty in Trade.*—The following paragraph from the *Kilmarnock Post* of the 10th inst. cannot, I think, be too widely made known. I was for a time in the employ of Mr. Lang, and respect him very much:—"Mr. Thomas Lang, Nurseryman, late of Kilmarnock, but now of Ballarat, Australia, has just remittted money to pay off, with principal and interest, those creditors who at his sequestration had claims on his estate of any amount under 10*l.* He also intends, as soon as possible, to discharge in full all the other debts that were then owing by him. This is an act of honesty which, comparatively speaking, but seldom finds its parallel in the commercial world. It is performed with a good grace. The shield of the law was thrown over him before leaving here, and he was by that law no longer bound, even should Fortune again smile on him, to liquidate these debts. In doing so, however, he has acknowledged a higher law—the law of conscience, if not that of Scripture. It is much to be regretted that the same principles of integrity do not govern all those engaged in business; and this example ought to be held up to them, and to the rising generation, as one worthy of their imitation. None can grudge Mr. Lang the prosperity which has followed his efforts in the land of his adoption. No prosperity can be too great for men actuated by motives so upright, and we hope he will long continue to enjoy that prosperity. The money was remitted to a gentleman in town, who has this week been disbursing it." *John Wilson, Shopman, &c., to Thomas Methven, Nurseryman, Leith Walk, Edinburgh.*

*Rabbits Barking Trees.*—It strikes me that I have already given the following recipe to the *Gardeners' Chronicle*. Its usefulness may perhaps authorise a repetion. I have applied it for some 35 years with never-failing success, and without any detriment to the trees:—Take a sufficient quantity of fresh cow-dung from the pasture. Add soot to it until it has taken the consistency of mortar. Let it remain under cover for a fortnight; and then apply it to the boles of trees, either with a mason's trowel, or with your hand. N.B. I won't guarantee this composition against the gnawing of the Hanoverian rat. Renew the application about once in three years. *Charles Waterton, Walton Hall, Dec.* 19.—For this evil I would suggest the following remedy:—Procure from the cow-house a sufficient quantity of droppings, to which add about a tenth part of soot; mix them with water till they are reduced to the consistency of thick whitewash, then with a brush apply it to the stems and branches of the trees, and neither hare nor rabbit will attempt to injure them, so long as the composition remains on them. I invariably go over the trees a second time during winter, as I consider prevention better than cure. *L. L.*—As far as my experience goes, nothing is so efficacious as a mixture of skimmed milk and soot. In the autumn of 1858 I was employed to superintend the planting of several thousands of young trees (principally Oaks). They were planted in the midst of a large preserve, which was literally swarming with these pests. As we planted them by day they were completely spoiled by night. At length the remedy just named was applied, laid on in the shape of a thick paint; from that time not one of them was gnawed, and on examining them last spring they were all doing well. *A. C., Herts.*—Cowdung, lime, and soot mixed with urine, painted on the stems once a year, will prevent rabbits, &c., from barking stems without in the least injuring the trees. *H. W. Nutt, Flitwick Manor House Gardens.*—I would recommend your correspondent to apply equal portions of fresh manure from the cow-house, and lime, well mixed together with water to the consistency of paint; adding thereto enough gas-tar to make it smell rather strong of that ingredient. Rabbits will have nothing to do with this mixture; and he may use it with perfect safety. It may be applied with a gas-tar or common whitewash-brush, or even with a bunch of rough bast tied together. I have used it for several years on Apples and Pears, Spruce, Larch, and other forest trees, and, made thin, sprinkled all over small hedgerows of Hollies to prevent them from being eaten. *C. W. Mounsdon, Moreton Hall, Congleton, Cheshire.*

*Cider Lees for Vines.*—In your Paper for 1841, p. 413, Mr. J. Hayward recommends cider lees as a manure for the Vine. Will you kindly inform me if recent practice has found the advantages from it he mentions, and when it should be applied; also whether you would recommend its use for Vines in pots. *Grey Friars.* [We should require very satisfactory evidence before we should trust to cider lees. Can any correspondent favour us with his experience?]

*Messrs. Fisher's Ratsbane.*—About six weeks ago I enclosed 12 postage stamps to Messrs. Fisher, Kingsland, as per advertisement in *Gardeners' Chronicle*, expecting in return a recipe for taking rats. After a second application, not before, I got an answer, viz., that they had temporarily run out of said recipe. I have heard no more from them, though in your last Number there is a fresh notice that an answer will be sent by return of post at the reduced price of eight stamps. *An Old Subscriber, Nottingham, Dec.* 21.

*The Weather in Essex*—The following is a report of the weather, which as will be seen, has been remarkably severe in this locality:—

*Report of the Weather from December* 14, 1859, *to December* 22, *included.*

| Wind. | 1859. | Lowest point arrived at by the indicator during the night. | Weather. | Amount of frost registered. |
|---|---|---|---|---|
| N.W. | Wednesday, Dec. 14. | 21 | 4 inches snow fell during the night. | 11° of frost. |
| N.E. | Thursday, 15. | 17 | Clear. | 15° do. |
| N.E. veered S.W. | Friday, 16. | 5 | 7 inches snow fell during the day. | 27° do. |
| S.W. S.E. N.E. S.E. | Saturday, 17. | 0—6° | Clear. | 38° do. |
| S.E. N.E. | Sunday, 18. | 15 | Clear. | 17° do. |
| S.E. S.W. | Monday, 19. | 0—9½° | Clear; evening overcast. | 41½° do. |
| S. S.W. | Tuesday, 20. | 2½ | Clouded. | 29½° do. |
| S.W.W. N.W.W. | Wednesday, 21. | 30 | Morning heavy rain; Thaw; evening clear | 2° do. |
| W. N.E.E. | Thursday, 22. | 30½ | Fine. | 1½ do. |

The foregoing I believe to be very correct, having had four thermometers in operation, all between 3 and 4 feet from the ground; one of them mercury, the three others spirits of wine. Why I have had four is to test the accuracy of them. Those containing spirits of wine are Negretti and Zambra's self-registering minimum thermometers, which I find to vary slightly at times, but yet under same circumstances to agree very well. The atmosphere of Saffron Walden is generally very dry; it is situated immediately on the white chalk and

is completely shut in with clay-capped hills. I understand that about 8 or 9 miles east and west from us the frost has been equally severe, but attended with very little snow. *Jabez Jay Chater, Saffron Walden.*

*Mistletoe.*—An inquiry was made a year or two ago if the Mistletoe was ever found on the Beech tree, and I have kept a good look out about our neighbourhood to see, but have never found the slightest trace of such being the fact. In searching in Oakley Park, near Ludlow, belonging to the late much respected Hon. Robert Windsor Clive, I found the Mistletoe, not on the Beech in any instance, but in a most curious fashion on the Common Maple, Acer campestre, or rather on a group of four of them standing near together in this beautiful park (which may likewise boast of some of the stateliest Oaks I should think in England). However, my attention was drawn to one of the Maples by the curious contorted appearance of the branches, which twisted about like the serpents of the Laocoon, and at almost every bend of each branch the Mistletoe had fixed itself all round the bend, not in large tufts, but in a little stubbly crop of 5 or 6 inches long, and causing this part to swell out just in the shape of a ninepin; the branch being small, both fore and aft of the swelling. This is repeated almost all over that tree, giving it a most peculiar and picturesque appearance. The trunk is short, deeply indented, like small pillars, and covered with beautiful yellow and grey Lichens; and the roots bulge out before entering the ground like a buttress. The tree is dying by inches, strangled in fact by these encircling bunches of Mistletoe, which are evidently sucking the very life's blood out of it. In another tree of the same kind close by, in one case when the knot was within a foot or two of the end of the branch, the branch has died and dropped out of the Mistletoe knot, just like the hand would out of the sleeve, leaving a hollow space the size of the branch, and the Mistletoe knot then died. Two questions are mooted in Loudon's Arboretum under the head of Viscum: firstly, whether the Mistletoe can be propagated by inserting cuttings in the live bark in the manner of buds or grafts; and secondly, whether a plant of Mistletoe would keep alive the tree on which it grows, after that tree was prevented from producing either leaves or shoots. The former experiment I have never tried, and it would be a great thing if some good hand would do so, but as to the latter query, the state of one of these four trees is pretty conclusive, for it is a complete shell with only one arm, and the insatiable Mistletoe still clinging to that remnant, sucking the last spark of life out of it, like a sorning acquaintance who *will* see the last of you. The Mistletoe when it has drained every atom of sap appears to die from inanition. A kind friend has furnished me with one of these knots, which I will get another friend to dissect who knows much more about these matters than I do, and will give you the result if you think it worth while. *F. N., Ludlow.*

## Societies.

ROYAL OF EDINBURGH AND THE NEILL MEDAL.—At the opening meeting, on the 5th inst., for the session 1859-60, the Neill medal and prize was presented, through Prof. Balfour, to Dr. W. Lauder Lindsay, for his "Memoir on the Spermogones and Pycnides of filamentous, fruticulose and foliaceous Lichens," read to the Society during the last session. In addition to awarding this prize, the Society is expending a considerable sum of money—probably equal to six or eight times the value of the prize—in publishing the memoir in question in the forthcoming part of its "Transactions," and in engraving the relative illustrations, executed by the author, which consist of 12 plates of between 400 and 500 drawings. The Neill prize was, by the late Dr. Patrick Neill, of Canonmills, placed in the hands of the Royal Society to be awarded for distinction in Natural History; and this year it was offered for "a paper of distinguished merit on a subject of Natural History, by a Scottish naturalist, presented to the Society during three years preceding 1st February, 1859; and, failing such paper, for a work or publication by a distinguished Scottish naturalist, bearing date within five years of the time of award." As might have been expected there was no lack of Natural History papers presented to the Society during the years in question, and therefore no lack of competitors for this honour. In awarding all its prizes, the Society is prepared to do the most ample justice to the merits of the papers sent in, by availing itself of the assistance of the most eminent authorities in every department of Natural History, both at home and abroad, who are called upon to examine and decide. The Medal now awarded contains on one side a profile of its founder, and on the obverse side the inscription, "Adjudged for eminence in Natural History to Wm. Lauder Lindsay, M.D., by the Royal Society of Edinburgh." Lord Neaves, one of the Vice-Presidents, in the course of his long and able inaugural address, remarked, in regard to the Neill prize: "The Neill Medal and prize, founded by our late member, Dr. Patrick Neill, for the encouragement of the Natural History studies, in which he took a life-long interest, has been awarded by the Council to Dr. Lindsay, a Scotchman, but not a Fellow of this society, for a paper on the Lichens, showing immense labour and research. This paper has been submitted to competent botanists, for their opinion, and the Council have pleasure in stating that it has received their high approbation. It will, therefore, not merely be rewarded by the Neill Medal and prize, but it is in the course of being printed at length in the 'Transactions,' and of being illustrated by numerous plates, beautifully executed by the well-known artist, Mr. Tuffen West, of London. The delay which Fellows of the Society have experienced in receiving their Fasciculus of 'Transactions' arises from the wish of the Council to include in it this important contribution, which will very soon be completed." The Macdougall-Brisbane Medal and prize, of the same Society—the only other one awarded during the past year—was conferred on the distinguished geologist, Sir Roderick Murchison, at the meeting of the British Association at Aberdeen in September last, "in consideration of his original, persevering, and successful exertions to throw light upon the superposition and real age of vast geological formations of extreme antiquity in the north-western Highlands."

## Notices of Books.

*Ceylon; an Account of the Island, Physical, Historical, and Topographical, with notices of its Natural History, Antiquities, and Productions.* By Sir James Emerson Tennent, K.C.S., &c. 2 vols, 8vo. Longmans. Third Edition.

That a work like this should in the space of a few short weeks have reached a third edition was only what might have been expected for volumes of such sterling value. Ceylon, the centre of Buddhism, the country whence King Solomon obtained his ivory, apes, and peacocks, of which Tarshish, whence came gold and silver, was a port, the great emporium of Eastern commerce, the mine once producing countless treasures for Portuguese and Dutch adventurers, and now the fairest Asiatic possession of the British Sovereign—at last has found an historian worthy of its great reputation. We might even add that an admirable beginning of that colonial history, which mere political writers shrink from undertaking, has been made by the learned and accomplished author of the volumes before us.

The official position of Sir James Emerson Tennent gave him no greater advantages than his predecessors enjoyed in collecting the materials here so ably worked up. But those predecessors, whether they neglected to avail themselves of the opportunities within their reach, or were deterred by the difficulties of an unusually formidable path, left nothing behind them of importance enough to be called historical. Sir Emerson Tennent's work is therefore the more welcome, especially since it embraces every subject upon which Europeans seek for information. Geology, climate, vegetation, zoology in all its forms, the ancient political, social, and mercantile history of the island, and its mediæval history occupy the first volume. In the second its modern history, the present state of its various provinces, the not less curious than important elephant trade, the great forests, and the ruined cities, are all elaborately described; while very carefully prepared tables of contents and one of the best indexes with which we are acquainted, render every subject easily accessible by the reader.

As the Natural History of Ceylon is that which will most interest our own readers, so it is the part which has probably least attracted the notice of reviewers. We therefore propose to limit our observations to this portion of Sir Emerson's narrative.

Ceylon, although not yielding diamonds and opal, has always been celebrated for its gems, the principal of which are the ruby and sapphire. Of these a full account is given. Such is their abundance, but in comminuted fragments, that almost every valley in communication with rocks of the higher ranges contains stones of more or less value. The source of these precious stones appears to be a stratum underlying the present bed of the rivers; but although well known to the natives they seldom work it, because it is from 10 to 20 feet below the surface.

The iron is also little worked, although it proves to be among the finest that is known. Dr. Gygax, a gentleman employed by the Cingalese government to examine the mineral products of the country, reports that in addition to magnetic ore, there is another description which "is found in vast abundance, brown and compact, generally in the state of carbonate, though still blended with a little chrome, and often molybdena. It occurs in large masses and veins, one of which extends for a distance of 15 miles; from it millions of tons might be smelted, and when found adjacent to fuel and water-carriage, it might be worked to a profit. The quality of the iron ore found in Ceylon is singularly fine; it is easily smelted, and so pure when reduced as to resemble silver. The rough ore produces from 30 to 75 per cent., and on an average fully 50. The iron wrought from it requires no puddling, and, converted into steel, it cuts like a diamond. The metal could be laid down in Colombo for 6*l.* per ton, even supposing the ore to be brought thither for smelting, and prepared with English coal; but anthracite being found upon the spot, it could be used in the proportion of three to one of the British coal, and the cost correspondingly reduced.

"Remains of ancient furnaces are met with in all directions precisely similar to those still in use amongst the natives. The Singhalese obtain the ore they require without the trouble of mining; seeking a spot where the soil has been loosened by the latest rains, they break off a sufficient quantity, which, in less than three hours, they convert into iron by the simplest possible means. None of their furnaces are capable of smelting more than 20 lbs. of ore, and yet this quantity yields from 7 to 10 lbs. of good metal.

"The anthracite alluded to by Dr. Gygax is found in the southern range of hills near Nambepane, in close proximity to rich veins of plumbago, which are largely worked in the same district, and the quantity of the latter annually exported from Ceylon exceeds 2000 tons."

The common opinion respecting the effect of this climate upon Europeans is materially corrected by the author, whose experience teaches him that "with a firm adherence to temperance in the enjoyment of stimulants and moderation in the pleasures of the table, with attention to exercise and frequent resort to the bath, it may be confidently asserted that health in Ceylon is as capable of preservation, and life as susceptible of enjoyment, as in any country within the tropics." It is however added that very serious fevers break out.

Ceylon has long enjoyed a high reputation for the variety and importance of the plants and vegetable products it naturally yields. To these have now to be added numerous Exotics. Mangosteens "which, ten years ago, were exhibited as curiosities from a single tree in the old Botanic Garden at Colombo, are found to thrive readily, and occasionally appear at table, rivalling in their wonderful delicacy of flavour those which have heretofore been regarded as peculiar to the Straits."

Nutmegs begin to be exported. "The Tea plant has been raised with entire success in the hills on the estate of the Messrs. Worms, at Rothschild, in Pusilawa; but the want of any skilful manipulators to collect and prepare the leaves renders it hopeless to attempt any experiment on a large scale, until assistance can be secured from China to conduct the preparation." And Vanilla is understood to thrive. Even the Vine has been subdued by art, although some of our European fruit trees still refuse to be productive, changing their nature in a manner remarkable enough to deserve the attention of Mr. Darwin. In the mountainous districts of the east side, we are told that "Peaches, Cherries, and other European fruit trees, grow freely; but they become evergreens in this summer climate, and exhausted by perennial excitement, and deprived of their winter repose, they refuse to ripen their fruit. The Apple tree in the Peradenia Gardens seems not only to have become an evergreen, but to have changed its character in another particular; for it is found to send out numerous runners underground, which continually rise into small stems and form a growth of shrublike plants around the parent tree. A similar failure was discovered in some European Vines, which were cultivated at Jaffna; but Mr. Dyke, the government agent, in whose garden they grew, conceiving that the activity of the plants might be equally checked by exposing them to an extreme of warmth as by subjecting them to cold, tried, with perfect success, the experiment of laying bare the roots in the strongest heat of the sun. The result verified his conjecture. The circulation of the sap was arrested, the Vines obtained the needful repose, and the Grapes, which before had fallen almost unformed from the tree, are now brought to thorough maturity, though inferior in flavour to those produced at home."

The natural vegetation, of which we have a most interesting account, maintains its popular reputation even under the scrutiny of a European philosopher. "Imagination," says Sir Emerson Tennent, "can picture nothing more wondrous and charming; every level spot is enamelled with verdure, forests of never-fading bloom cover mountain and valley; flowers of the brightest hues grow in profusion over the plains, and delicate climbing plants, rooted in the shelving rocks, hang in huge festoons down the edge of every precipice.

"Unlike the forests of Europe, in which the excess of some peculiar trees imparts a character of monotony and graveness to the outline and colouring, the forests of Ceylon are singularly attractive from the endless variety of their foliage, and the vivid contrast of their hues. The mountains, especially those looking towards the east and south, rise abruptly to prodigious and almost precipitous heights above the level plains; the rivers wind through woods below like threads of silver through green embroidery, till they are lost in a dim haze which conceals the far horizon; and through this a line of tremulous light marks where the sunbeams are glittering among the waves upon the distant shore."

Well may Serendib, the name given to Ceylon in Arabian stories, have been regarded as the earthly Paradise when compared by Arab or Persian navigators with their own scorched or burnt-up wastes. We must extract a few passages descriptive of some of the species that contribute such glorious scenery. *Buttress trees* are among the most curious: "Some of the trees in the higher ranges are remarkable for the prodigious height to which they struggle upwards towards the air and light from the dense jungle; and one of the most curious of nature's devices is the singular expedient by which some families of these very tall and top-heavy trees throw out buttresses like walls of wood, to support themselves from beneath. Five or six of these buttresses project like rays from all sides of the trunk: they are from 6 to 12 inches thick, and advance from 5 to 15 feet outward; and as they ascend, gradually sink into the bole and disappear at the height of from 10 to 20 feet from the ground. By the firm resistance which they offer below, the trees are effectually steadied, and protected from the leverage of the crown, by which they would otherwise be uprooted. Some of

these buttresses are so smooth and flat, as almost to resemble sawn planks."

Rhododendron trees and Erythrinas we pass by as now familiar in our gardens. Much less so is the Lagerstrœmia regina, a small plant of which was last autumn the glory of Kew. This, called in Ceylon "the Murutu, is another flowering tree which may vie with the Coral, the Rhododendron, or the Asoca, the favourite of Sanskrit poetry. It grows to a considerable height, especially in damp places and the neighbourhood of streams, and pains have been taken, from appreciation of its attractions, to plant it by the road side and in other conspicuous positions. From the points of the branches panicles are produced, 2 or 3 feet in length, composed of flowers, each the size of a Rose and of all shades, from a delicate pink to the deepest purple. It abounds in the south-west of the island."

The Banyan tree, Ficus indica, and other Fig trees have been often described, but never more graphically than in the work before us. "As we descend the hills the Banyans and a variety of Figs make their appearance. They are the Thugs of the vegetable world, for although not necessarily epiphytic, it may be said that in point of fact no single plant comes to perfection, or acquires even partial developement, without the destruction of some other on which to fix itself as its supporter. The family generally make their first appearance as slender roots hanging from the crown or trunk of some other tree, generally a Palm, among the moist bases of whose leaves the seed, carried thither by some bird which had fed upon the Fig, begins to germinate. This root, branching as it descends, envelopes the trunk of the supporting tree with a network of wood, and at length penetrating the ground, attains the dimensions of a stem. But unlike a stem, it throws out no buds, leaves, or flowers; the true stem, with its branches, its foliage, and fruit, springs upwards from the crown of the tree whence the root is seen descending; and from it issue the pendulous rootlets, which, on reaching the earth, fix themselves firmly and form the marvellous growth for which the Banyan is so celebrated. In the depth of this grove, the original tree is incarcerated till, literally strangled by the folds and weight of its resistless companion, it dies and leaves the Fig in undisturbed possession of its place. It is not unusual in the forest to find a Fig tree which had been thus upborne till it became a standard, now forming a hollow cylinder, the centre of which was once filled by the sustaining tree: but the empty walls form a circular network of interlaced roots and branches; firmly agglutinated under pressure, and admitting the light through interstices that look like loopholes in a turret. Another species of the same genus, *F. repens*, is a fitting representative of the English Ivy, and is constantly to be seen clambering over rocks, turning through heaps of stones, or ascending some tall tree to the height of 30 or 40 feet, while the thickness of its own stem does not exceed a quarter of an inch.

"The facility with which the seeds of the Fig tree take root where there is a sufficiency of moisture to permit of germination, has rendered them formidable assailants of the ancient monuments throughout Ceylon. The vast mounds of brickwork which constitute the remains of the Dagobas at Anarajapoora and Pollanarrua are covered densely with trees, among which the Figs are always conspicuous. One, which has fixed itself on the walls of a ruined edifice at the latter city, forms one of the most remarkable objects of the place,—its roots, streaming downward over the walls as if they had once been fluid, follow every sinuosity of the building and terraces till they reach the earth."

Passages like the foregoing meet the reader at every step; and many more are marked by us for extract. We must however defer them till next week, when some other parts of Natural History will be adverted to. In the meanwhile let us add that the volumes are suitably illustrated by many excellent wood engravings.

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*The Manchester Flora*, by Leo H. Grindon (8vo, Wm. White), is something more than its name indicates In reality it is an introduction to the Botany of Common Plants, illustrated with good woodcuts. It is satisfactory moreover to find in its pages some analytical tables very well drawn up. If botanical students would only exercise themselves in making such tables, they would find themselves advancing much quicker than they may have thought possible; and if writers on Systematical Botany would try their supposed novelties by the analytical process they would distinguish the real from the unreal, and the vague from the positive.

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TRADE LISTS RECEIVED.—Plymouth Seed &c. Company's *General Price Current for* 1860 has appeared in its usual form, occupying 92 pages octavo, and enclosing a list of testimonials as to the good quality of the seeds supplied.—Louis Van Houtte (Ghent), *Prix-courant des Graines*, is a very long list of flower seeds partly saved in Europe, partly imported from Australia, and of kitchen garden seeds. Among the latter we remark two Cauliflowers, one called *Choufleur demi dur de St. Lambert*, described as an admirable variety surpassing all others in size and the beauty of its head; the other, *Choufleur gros court d'Erfurt*, announced as the earliest known as well as one of the best.—Wm. Barratt's (Wakefield) *Descriptive Catalogue of Selected Roses*. An extensive country list, with the old and bad or inferior sorts weeded out.

## Calendar of Operations.

*(For the ensuing week.)*

### PLANT DEPARTMENT.

CONSERVATORY, &c.—The changeable weather which we are now experiencing will render careful attention to specimen hard-wooded plants which have to be wintered in this house necessary. Many of these are impatient of fire-heat and a confined atmosphere. Use no more artificial warmth, therefore, than is absolutely necessary, and endeavour to counteract its drying effects either by means of evaporating pans or by sprinkling the borders, &c., in order to prevent anything like a dry parched state of the atmosphere. Plants in cold pits that may have been excluded from light and air for a few days must not be too suddenly uncovered; on the contrary, they should very gradually inured to exposure. Take advantage of mild days to give air freely, and keep the plants very sparingly supplied with water at the root, so as to prevent the production of weakly sappy wood. If there is any prospect of a scarcity of bloom next May, a portion of the Achimenes and Gloxinias should be repotted at once and placed in a warm part of the stove, choosing such as have been the longest at rest, and a few Clerodendrons, Allamandas, a plant or two of Echites splendens and Dipladenia crassinoda may also be started; but unless plants of these are at command with well-ripened wood, and that have been some time at rest, there will be nothing gained by attempting to start them into growth at present, for in most cases it is difficult at this season to maintain a sufficiently warm temperature to secure anything like free growth from these, unless the plants have been well prepared for an early start. A gentle bottom-heat of about 80° or 85° will be of great service to such things in inducing a healthy root action, and if this can be secured there will be little difficulty about obtaining free vigorous growth. Let Ixoras and all other hard-wooded plants that have made sufficient growth be kept rather dry at the root in order to check their growth and induce a tendency to form bloom buds, but do not let the soil in the pots get so dry as to affect the foliage.

### FORCING DEPARTMENT.

PINERIES.—The supply of ripe fruit from May until August being usually obtained from plants that start into fruit without making growth in spring, a fair proportion of the stock should therefore be in a well matured state by or shortly after this season, and any sudden changes of temperature which might induce too many of them to show fruit at once should be carefully avoided. That portion of the stock expected to furnish the autumn supply of fruit should not be too much checked at present, indeed these may be kept growing slowly all the winter, which is perhaps the most certain method of preventing their fruiting too early in spring. Where the stock of plants likely to fruit without making farther growth is considered insufficient to meet the demand until August, the stronger plants of those for autumn fruiting should be encouraged to make growth as early as can be done without weakening the foliage, with the view of preparing them for showing fruit in April. Examine the soil occasionally about young stock growing in the open bed, and do not allow it to become unhealthily dry, for this would probably result in a great portion of the stock showing fruit prematurely, and it is also a work of some difficulty properly to moisten the bed if it is once allowed to get too much dried up. Use no more fire-heat for the present than will suffice to maintain the requisite temperature, which, for the general stock, need not be high for some time yet. VINERIES.—As soon as the buds in the early house are fairly started the temperature should be increased to 60° at night and 65° by day, allowing it to rise 10° on bright days. Take every opportunity of admitting a little fresh air, but recollect that the foliage will not bear exposure to cold drying winds, therefore air should be admitted in contact with the heating apparatus, and when it may be necessary to give back air the sashes or ventilators must be opened but very little, and if pieces of netting could be nailed over the openings this would greatly assist in preventing cold currents blowing into the house. Where the border cannot be warmed, see that it is well protected from wet, &c., by a thick covering of dry litter, or whatever more efficient covering can be recommended. Look over ripe Grapes often, removing any decaying berries, and aim at securing a dry atmosphere with the least possible application of fire heat. PEACHES.—Until the trees are fairly on the move do not keep the night temperature higher than from 40° to 45° by means of fire heat; but an advance of 10° early in the day, with plenty of moisture in the atmosphere, should be secured. Syringe the trees frequently, and secure a thoroughly moist atmosphere. Also see that the inside border is in a moist, healthy state, and if this is not the case, two or three applications of tepid water should be given.

### FLOWER GARDEN AND SHRUBBERIES.

Valuable plants, as variegated Hollies, Rhododendrons, &c., if not growing as freely as it is desirable that they should do, would be benefited by a liberal allowance of rotten manure or well-decayed leaf soil applied as a top dressing, covering it with a little fine soil and working it into the ground around the ball towards the extremities of the roots. Rhododendrons, however, bear removal so well, that these where not growing satisfactorily should be taken up, the ground well prepared by a liberal addition of peat or leaf soil, and replanted. Rose borders should be well dressed with manure and forked in or soaked with manure water. Keep Grass free from dead spray from trees, well rolled, neat and trim. Now that the frost is gone give careful attention to half hardy plants in cold frames, taking advantage of every favourable opportunity to expose them freely but cautiously to air. Anything of which there is but a spare supply of plants to propagate from should be placed in growing quarters at once, taking care to keep them near the glass and free from insects, mildew, &c.; for soft-wooded plants in heat at this season are very subject to the attacks of insects.

### HARDY FRUIT AND KITCHEN GARDEN.

Any of the more choice varieties of Pears that do not ripen properly should be removed to a warm dry room for a few days, which will be found to greatly improve them. Keep all fruit as cool and dry as possible. If frost is excluded from the house it can scarcely be too cool, where the object is to preserve fruit plump and sound as long as possible. Get manure wheeled upon vacant ground when this can be done without injuring the walks, and get all spare ground turned up as soon as possible, so as to expose it to the action of frost. For land that has been long cropped with vegetables a dressing of fresh loam would in many cases be preferable to manure, and where this is wanted and can be obtained, it should be got to hand in order that advantage may be taken of frosty days for wheeling it upon the ground. Where fresh soil cannot be obtained charred vegetable refuse, such as prunings of shrubberies, edgings of walks, and many things which turn up in course of the season, may be cheaply made to form an excellent substitute.

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### STATE OF THE WEATHER AT CHISWICK, NEAR LONDON.

For the Week ending Dec. 22, 1859, as observed at the Horticultural Gardens.

| Dec. | Moon's Age. | Barometer. Max. | Barometer. Min. | Temperature of the Air. Max. | Min. | Mean | Of the Earth 1 foot deep. | Of the Earth 2 feet deep. | Wind |
|---|---|---|---|---|---|---|---|---|---|
| Friday 16 | 0 | 29.689 | 29.609 | 34 | 11 | 22.5 | 39 | 42 | N. |
| Satur. 17 | 22 | 29.655 | 29.651 | 28 | 18 | 23.0 | 39 | 41½ | N. |
| Sunday 18 | 23 | 29.695 | 29.649 | 30 | 8 | 19.0 | 39 | 41 | N |
| Mon. 19 | 24 | 29.734 | 29.712 | 31 | 7 | 19.0 | 38½ | 41 | S. |
| Tues. 20 | 25 | 29.796 | 29.453 | 36 | 32 | 34.0 | 38 | 40 | S |
| Wed. 21 | 26 | 29.316 | 29.229 | 47 | 26 | 36.5 | 38 | 40 | S.W. |
| Thurs. 22 | 27 | 29.532 | 29.494 | 45 | 27 | 36.0 | 38½ | 40 | S.W. |
| Average | | 29.631 | 29.542 | 35.8 | 18.4 | 27.1 | 38.5 | 40.9 | |

Dec. 16—Severe frost; slight haze; overcast; frosty.
— 17—Frosty and foggy, densely overcast at night; frosty.
— 18—Severe frost and foggy; fine; foggy; severe frost.
— 19—Frosty and foggy; clear at night with sharp frost.
— 20—Clear and frosty; fine; slight snow at night.
— 21—Cloudy and windy; clear; slight frost
— 22—Clear and fine; foggy at night; slight frost; rain at night.
Mean temperature of the week, 12½ deg. below the average.

### RECORD OF THE WEATHER AT CHISWICK,

During the last 33 years, for the ensuing Week, ending Dec. 31, 1859

| December. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Wind N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday 25.. | 43.5 | 28.9 | 36.2 | 8 | 0.25 in. | 2 | 7 | 3 | — | — | 2 | 10 | — |
| Mon. 26.. | 43.0 | 32.2 | 37.6 | 12 | 0.39 | 2 | 4 | 3 | 4 | 4 | 9 | 1 | — |
| Tues. 27.. | 42.5 | 29.6 | 36.1 | 12 | 0.40 | 5 | 4 | 1 | — | 5 | — | — | — |
| Wed. 28.. | 41.6 | 29.2 | 35.4 | 10 | 0.16 | 4 | 3 | 3 | 3 | 3 | 5 | 1 | — |
| Thurs. 29.. | 43.0 | 33.6 | 38 3 | 14 | 0.17 | 2 | 5 | 1 | 3 | 4 | 7 | 4 | — |
| Friday 30.. | 44.5 | 32 7 | 38.6 | 11 | 0.30 | 1 | 5 | 2 | 2 | 3 | 9 | 9 | — |
| Satur. 31.. | 43.9 | 33.0 | 38.4 | 9 | 0.44 | — | 7 | 1 | 1 | 6 | 10 | — | — |

The highest temperature during the above period occurred on the 26th, 1827—therm. 58 deg.; and the lowest on the 28th, 1853, and 31st, 1796—therm. 8 deg.

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## Notices to Correspondents.

DAHLIA ROOTS: *A C.* The only thing to be done with your Dahlia roots that are slightly frozen is to thaw them gradually, and to take care that they are placed where frost will not reach them a second time. On the other hand they must not be kept too warm.

EAST INDIA TEA: *E T.* You can obtain this new growth on application to Henry Noble, Esq., 11, Broad Street Buildings, E.C. It is the produce of a new Tea district in Sylhet, and we think better than Assam Tea.

ICE: *J S.* By no means use salt. Let the bottom and sides of the ice-house be lined with straw, and pack the ice in as firmly as possible, breaking it quite small with wooden beaters as the work proceeds.

KENSINGTON GORE: *A Gardener* should address his inquiries to the Superintendent.

MARKETS OF PARIS: *Hulan.* About the middle of November Cauliflowers were selling at from 10 to 100 francs the 100; Brussels Sprouts, from 40 to 50 fr. the hectolitre; Cabbages from 6 to 18 fr. the 100; Onions, from 13 to 16 fr. the 100 bunches; Mushrooms, from 1*d.* to 2*d.* the pottle; Dwarf Potatoes fetched 11 to 12 fr. the hectolitre; fine Pears and Apples were worth 10*d.* each; white Chrysanthemums produced 4*d.*, purples 3*d.* each; Veronicas, Heliotropes, and Primroses each sold for 4*d.* a pot.

NAMES OF PLANTS: We have been so often obliged to reluctantly decline naming heaps of dried or other plants, that we venture to request our correspondents to recollect that we never have or could have undertaken an unlimited duty of this kind. Young gardeners, to whom these remarks especially apply, should bear in mind that, before applying to us for assistance, they should exhaust their other means of gaining information. We cannot save them the trouble of examining and thinking for themselves; nor would it be desirable if we could. All we can do is to *help* them—and that most willingly. It is now requested that, in future, not more than four plants may be sent us at one time.—*J Pearson, Maidstone* (We hope this signature is read correctly). The leaves appear to belong to Abies Douglasii.—*H H, Cork.* Acacia dealbata and Acacia falcata.—*H Rogers.* Such morsels are very difficult to name. We believe No. 1 to be Cephalotaxus Fortuni, and No. 2 to be Cephalotaxus drupacea.—*A Devonian.* The small Orange is certainly not Citrus japonica, which is a Lime, and we imagine would be hardly with you. But it is useless to try it unless it is worked on Limonia trifoliata. We are unable to say whether Gishurst Compound will remove the black mould that attacks your Plum-trees. The experiment deserves a trial.

STRAWBERRIES: *Tenby.* You will find ample information in a shilling pamphlet called the Culture of the Strawberry, by Mr. Cuthill, just published at the office of the "Florist."

VINES: *Notts.* Prince's Eureka is, we believe, unknown in this country. It is said to be one of the improved native Grapes of the U. States, thin-skinned and free from all foxy flavour. We presume, however, that the last statement is not wholly correct, because the Grape is also said to yield an aromatic wine.

WEATHER: *S T P.* On looking over the original observations, and comparing them with the weekly return including the period to which you refer, we find the latter are correctly printed.

ARTIFICIAL MANURES, &c.—Manufacturers and others engaged in making ARTIFICIAL MANURES may obtain every necessary instruction for their economical and efficient preparation, by applying to J. C. NESBIT, F.G.S., &c., Principal of the Agricultural and Chemical College, Kennington, London, S. Analyses of Soils, Guanos, Superphosphates of Lime, Coprolites, &c., and Assays of Gold, Silver, and other Minerals are executed with accuracy and despatch. Gentlemen desirous of receiving instruction in Chemical Analyses and Assaying, will find ample facility and accommodation at the College.

LONDON MANURE COMPANY
(ESTABLISHED 1840),
Have the following MANURES ready for delivery:—
CORN MANURE FOR AUTUMN SOWING.
BLOOD MANURE FOR AUTUMN SOWING.
URATE.
SUPERPHOSPHATE OF LIME.
SUPERPHOSPHATE MINERAL.
The London Manure Company also supply PERUVIAN GUANO (direct from Messrs. Gibbs & Sons), SULPHATE OF AMMONIA, NITRATE OF SODA, CRUSHED BONES, and every other Manure of known value, all of which they warrant strictly genuine. Wholesale dealers supplied.
116, Fenchurch Street, E.C. EDW. PURSER, Secretary.

ESTABLISHED 1812.
MESSRS. PROCTOR are now prepared to take orders for their special MANURES for 1860, which they unhesitatingly state are of a superior quality and charged at the lowest possible price, viz.:—

| | | | | | |
|---|---|---|---|---|---|
| TURNIP MANURE | | CLOVER MANURE | | OAT MANURE | |
| WHEAT | ditto | POTATO | ditto | BEAN | ditto |
| GRASS | ditto | BARLEY | ditto | Also | |

PERUVIAN GUANO, BONE DUST, SUPERPHOSPHATE OF LIME, &c., all of which are warranted of the best quality.
Apply to H. & T. PROCTOR, Cathay, Bristol; or
PROCTOR & RYLAND, Birmingham and Chester.

PERUVIAN GUANO.—The present price of this valuable Manure is 12*l.* per ton for 30 tons and upwards; 13*l.* 5*s.* per ton for 1 ton up to 30 tons.
And, in order to protect themselves against the purchase of adulterated mixtures and of inferior Guanos purporting to produce results equal to Peruvian, consumers are recommended to apply either to ourselves, to our Agents Messrs. GIBBS, BRIGHT, & Co., of Liverpool and Bristol; or to Dealers of established character, in whose honesty and fair dealing they can place implicit confidence. ANTY. GIBBS & SONS.
15, Bishopsgate Street Within, London, E.C.

MR. J. B. LAWES manufactures the following MANURES:—

| | |
|---|---|
| TURNIP MANURE | £6 6 |
| SUPERPHOSPHATE OF LIME | 6 6 |
| MINERAL SUPERPHOSPHATE OF LIME | 5 5 |
| BARLEY MANURE | 8 0 |

N.B. Genuine PERUVIAN GUANO direct from Messrs Gibbs, NITRATE OF SODA, SULPHATE OF AMMONIA, and other Chemical Manures.
WHEAT MANURE.—PERUVIAN GUANO is proved to be the best and cheapest Artificial Manure for Wheat, at Autumn sowing.
American decorticated Cotton-seed Cake of best quality supplied at the market price
Offices: 1, Adelaide Place, London Bridge, E.C.

BURNARD, LACK, AND CO.'S CONCENTRATED SUPERPHOSPHATE OF LIME; guaranteed to contain Phosphoric Acid soluble, equivalent to 40 per cent. of Tribasic Phosphate of Lime.
CONCENTRATED TURNIP MANURE, equal in value to the preceding.
Of these Manures Dr. Voelcker says:—"These results must be very gratifying to you, and are the best proof of the very high agricultural and commercial value which characterises your concentrated superphosphate."
Detailed analyses, with opinions of the late and present Chemists to the Royal Agricultural Society, with Testimonials, Prices, &c., may be had on application to BURNARD, LACK, & Co., Sutton Road, Plymouth.

"FRIGI DOMO."—Patronised by her Majesty, the Queen, the Duke of Northumberland for Syon House, His Grace the Duke of Devonshire for Chiswick Gardens, Professor Lindley for the Horticultural Society, Sir Joseph Paxton for the Crystal Palace, Royal Zoological Society, late Mrs. Lawrence of Ealing Park, and —Collier, Esq., of Dartford.
PROTECTION FROM THE MORNING AND EVENING FROST.
"FRIGI DOMO," a Canvas made of patent prepared Hair and Wool, a perfect non-conductor of Heat and Cold, keeping, wherever it is applied, a fixed temperature. It is adapted for all horticultural and, floricultural purposes, for preserving Fruits and Flowers from the scorching rays of the sun, from wind, from attacks of insects, and from morning frosts. To be had in any required lengths.
Two yards wide, 1*s.* 6*d.* per yard run.
Four, 3*s.* per yard; also,
An improved make three yards wide, 2*s.* 6*d.* per yard run.
ELISHA THOMAS ARCHER, whole and sole manufacturer, 7, Trinity Lane, Cannon St., City, E.C., and of all Nurserymen and Seedsmen throughout the kingdom. "It is much cheaper than mats as a covering."

FOWLER'S PATENT STEAM PLOUGH has gained the following prizes:—
The Royal Agricultural Society's Prize, at Warwick, July 1859, 50*l.*
The Royal Agricultural Society's Prize at Chester, July 1858, 500*l.*
The Highland Society's Special Prize at Stirling, Oct 1857, 200*l.*
And at other Agricultural Meetings in the United Kingdom, Prizes amounting to 225*l.*
For further particulars, prices, and Catalogues apply to JOHN FOWLER, JUN., 28, Cornhill, London, E.C.

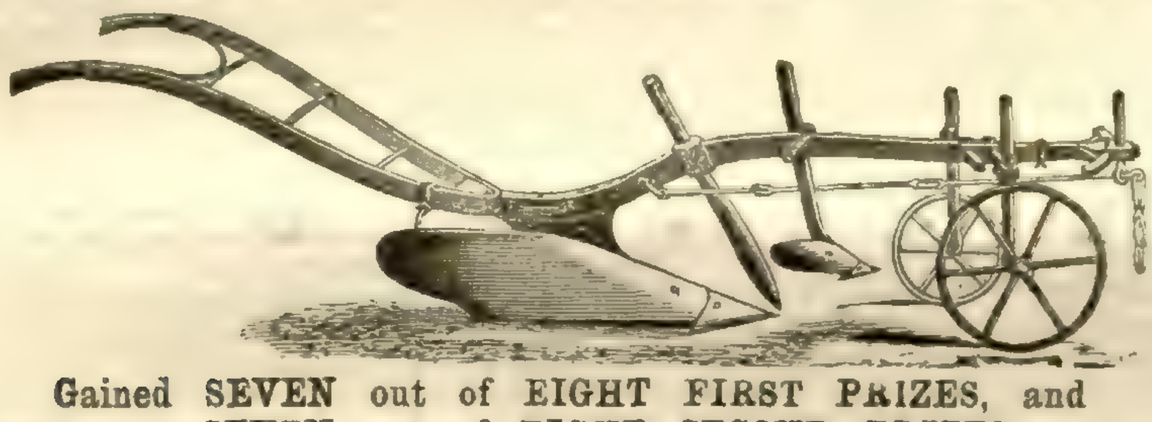
IMMEDIATE ORDERS WILL PREVENT DISAPPOINTMENT.
"SIGMA'S" UNIVERSAL SEED PLANTERS (Dibbles), vastly improved since the Prize of the Royal Agricultural Society was awarded them. The "MULTUM IN PARVO," forming eight perfect implements, highly commended, see testimonials. The Manure Distributor carried off the Prize Medal in 1851, recently much improved, see *Gardeners' Chronicle*, July 30 and August 6th. "Simple, promising, and ingenious." The STEEL DRAW SHAVE HOE clears a row between Turnips at one sweep. Engravings sent.—C. POWELL, Hurstgreen, Sussex. All Patented

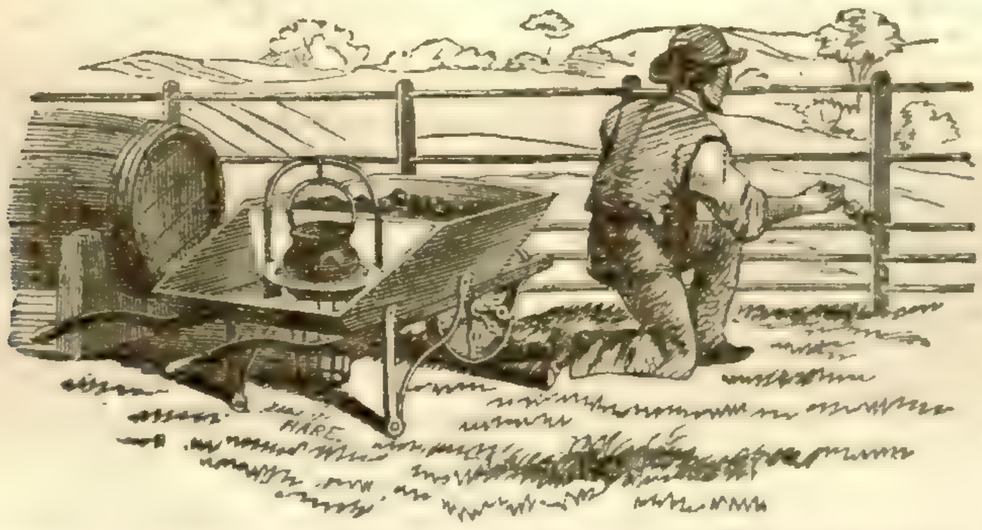
PARKES' STEEL DIGGING FORKS.
BURGESS AND KEY, 95, Newgate St., E.C., London, being the Wholesale and Retail Agents for these celebrated TOOLS have always a large Stock on hand from which their Customers may select what they may require
ANTHONY'S PATENT AMERICAN CHURN.—The FIRST PRIZE was again awarded to this Churn in Competition with several others at the Chester Meeting of the Royal Agricultural Society; it has obtained the First Prize given by the Society at every Meeting since 1850. Messrs BURGESS & KEY, 95, Newgate Street, E.C., strongly recommend it as the most perfect Churn now in use. Full particulars sent on application.

LAND IMPROVEMENTS.
THE GENERAL LAND DRAINAGE AND IMPROVEMENT COMPANY
are empowered by Act of Parliament to assist the Owners of Land in carrying into effect the following Improvements, and charging the whole outlay and expenses on the property improved.
I. All Works of Drainage, Irrigation, Warping, and Embankment.
II. The erection of Farmhouses, Cottages for Agricultural Labourers, and all kinds of Farm Buildings.
III. The construction of Roads.
IV. The Grubbing and Clearing of Old Woodlands, Enclosing, Fencing, and Reclaiming Land.
The Landowners by whom any of these Improvements may be executed are—Tenants for Life, Trustees, Mortgagees in Possession, Guardians, Committees of Incompetent persons, Married Women, Beneficial Lessees for Lives or for a Term exceeding 14 years, Corporations, Ecclesiastical or Municipal, Incumbents, Sequestrators, Charitable Trustees, &c.
The Owners of Estates not entailed, who may be desirous to avoid the expense or inconvenience of a Legal Mortgage, may also avail themselves of the powers of the Company's Act to charge their estates with an outlay in improvements.
In all cases the whole cost of the improvements, with the attendant expenses, may be charged on the Estate, the term for Building Works being limited to 31 years, but for all other improvements being capable of extension to 50 years.
No investigation of title being required, and the charge not being affected by Incumbrances, no legal expenses are incurred.
Operations under the Company's Act are divided into two principal branches; one where the Landowner designs and executes the improvements by his own Agent and merely requires a loan from the Company to charge the Estate,—the other where the Company undertake the entire responsibility of the Improvement and obtain repayment by way of Rent Charge. In the first case the plans, specifications, and estimates prepared by the Landowner's Agent are forwarded to the Company to be submitted for approval to the Inclosure Commissioners. As soon as the sanction has been given the Landowner proceeds to execute the works, and the Company having conducted the business through all the official forms, complete the charge on the estate when the works have been passed by the Commissioners, and repay the Landowner the amount agreed upon.
In no part of the business is there any control upon a Landowner except by the Inclosure Commissioners. The Company never interfere, except at the special request of the Landowner or his Agent, and only to such extent as may further the objects he has in view.
In the other case, where the Company are required to execute the works, a report and estimate of the Improvement are sent to the Landowner, and having been approved, the plans are then prepared and the works—either submitted to public competition or entrusted to their own staff—are carried on to completion, and the amount of the actual expenditure only, approved by the Inclosure Commissioners with the Company's agreed commission and the Commissioners' expenses, finally charged on the Estate for the term fixed by the Landowner.
The Company also execute Drainage and all other Works of Land Improvement on Commission for the Owners of Estates not Entailed who may wish to charge the outlay on the property through the simple and inexpensive process of the Company's Act.
Applications to be addressed to WILLIAM CLIFFORD, the Secretary, at the Offices of the Company, 52, Parliament Street, London.

COLLEGE OF AGRICULTURE AND CHEMISTRY, AND OF PRACTICAL and GENERAL SCIENCE, 37 and 38, Lower Kennington Lane, Kennington, London, S.
Principal—J. C. NESBIT, F.G.S., F.C.S., &c.
The system of studies pursued in the College comprises every branch requisite to prepare youth for the pursuits of Agriculture, Engineering, Mining, Manufactures, and the Arts; for the Naval and Military Services, and for the Universities.
Analyses and Assays of every description are promptly and accurately executed at the College. The terms and other particulars may be had on application to the Principal.

CRYSTAL PALACE. WINTER POULTRY SHOW.—A Grand SHOW of POULTRY and PIGEONS will be held at the Crystal Palace, February 11, 13, 14, and 15, 1860. The Entries close on January 14.
For Schedules of Prizes and Certificates of Entry, apply to Mr. W. HOUGHTON, Secretary to the Show.

BEDFORDSHIRE AGRICULTURAL SOCIETY, 1859.
J. AND F. HOWARD have much pleasure in informing the Public that at the Ploughing Matches of the above Society, just concluded,
HOWARD'S CHAMPION PLOUGH

Gained SEVEN out of EIGHT FIRST PRIZES, and
SEVEN out of EIGHT SECOND PRIZES,
Thereby more than ever sustaining its position at home, while, at the recent Meetings of the Royal Agricultural Society of England and the Highland and Agricultural Society of Scotland, it also gained the
Two Chief Prizes as the Best Plough for General Purposes.
CATALOGUES, with full particulars, sent post free on application to
J. & F. HOWARD, BRITANNIA IRON WORKS, BEDFORD.

OIL PAINT NO LONGER NECESSARY.
HILL & SMITH'S
Black Varnish for preserving Iron Work, Wood, or Stone Work.
THIS varnish is an excellent substitute for oil paint on all out-door work, and not only saves two-thirds the expense of an ordinary quality of oil paint, but has the great advantage that it may be applied by an ordinary labourer in a cold state, and that no mixing or thinning is required. It is used in the grounds at Windsor Castle, Kew Gardens, and all the Royal Parks in London, and at the seats of many of the Nobility and Gentry of the United Kingdom. It is also largely exported. Testimonials from Noblemen and Gentlemen who regularly use it will be forwarded gratis on application. Sold in casks of about 30 gallons each, 1*s.* 6*d.* per gallon, or 1*s.* 8*d.* per gallon, carriage paid to any Railway Station.
THE WROUGHT IRON HEATING BARROW

shown in the above engraving is a very useful article for applying the varnish or for heating gas tar. The front compartment holds tools, fuel, &c. and the back compartment carries an iron three gallon pot with fire grate underneath.
Price £3 or £3 3*s.* Carriage paid.
HILL AND SMITH, BRIERLY HILL IRON WORKS, NEAR DUDLEY.
LONDON OFFICE: 40 BROAD STREET BUILDINGS, E.C.

# The Agricultural Gazette.

*SATURDAY, DECEMBER* 24, 1859.

THE *Mark Lane Express* has published a series of returns from various parts of the country as to the character of the past harvest. How fairly the judgment at harvest time by our own correspondents of the yield then probable has been borne out by the results of threshing may be gathered from the following table, in which the figures represent the number of reports procured which stated the crop to be under average, over average,

and average respectively—the second row for each crop being the December returns to inquiries made by our contemporary, and the upper row being the August returns of the *Agricultural Gazette*.

CROP RETURNS.

| | | Over Average. | Average. | Under Average. |
|---|---|---|---|---|
| Wheat .. | August | 17 | 114 | 55 |
| | December | 15 | 130 | 112 |
| Barley .. | August | 8 | 93 | 67 |
| | December | 15 | 106 | 96 |
| Oats .. | August | 24 | 76 | 89 |
| | December | 40 | 96 | 87 |
| Beans .. | August | 6 | 50 | 63 |
| | December | 17 | 103 | 80 |
| Peas .. | August | 21 | 52 | 19 |
| | December | 34 | 95 | 29 |

The remarks made some months ago in our columns on the probabilities of the harvest of 1859 are indeed fully borne out by experience. An exceedingly rapid ripening in July had injured most of the grain crops in the south, and a dilatory harvest owing to want of hands exposed them to injury by wet and stormy weather. In the north and in Ireland Oats, which are there the most valuable crop, were unusually unpromising; all over the country Barley was a very uneven crop and of inferior quality; and Wheat where heaviest and best was more injured by being laid than has perhaps ever been known before.

—— WE have not room for more than an intimation that our readers will find elsewhere a most instructive discussion before the Society of Arts on the great question of the day, the condition of the agricultural labour market.

A similar discussion before the Oxford Farmers' Club will be given next week. Their resolutions were as follows:—

"That as the price of labour must be regulated by the supply and demand, it is the opinion of this club that the time has arrived when something must be done to cultivate a better feeling between, one more closely uniting the employer and employed—the interests of the two being identical. That to effect this it is necessary in the first place to repeal or alter the present law of settlement.

"2dly. That the owners and occupiers of the soil should do their best to improve the moral and physical condition of the industrial classes, supplying them as far as possible with remunerating labour during the whole year, and with piece-work when practicable, providing them with comfortable dwellings near or upon the farms, and in every way encouraging the industrious labourer, so that the employer may have the full benefit of his industry, and the labourer himself be comfortable, contented, and happy. And lastly, that machinery should be introduced as much as possible on the farm to supply the deficiency of manual labour."

THE use of marl as a top-dressing for land has been practised for many centuries. Although the beneficial effects have been highly satisfactory, still the practice is somewhat decreasing. The good results have been manifest, and it certainly has the well-merited repute of having been a valuable adjunct to the various means adopted for the improvement of land. The term marl, strictly speaking, is limited to such calcareous earth as is more generally of a soapy and adhesive character; but the term has been extended to the use of other materials, and embraces earths which are quite destitute of lime. Extensive tracts of waste land have through this agency been rendered valuable for tillage purposes. The counties of Lincoln, Norfolk, and Suffolk, especially present themselves to our notice as evidence of the great advantages resulting from the practice. Thousands of acres which were almost worthless and useful only as rabbit-warrens, are now regularly cultivated, and have been so from the time of their marling. There are, however, signs more or less frequent, which show that at no distant day this land will again require the same liberal applications which have already so powerfully promoted their fertility.

This arises in part from the washing away of the marl, but also from the stimulus of high farming. The natural loss is one which might reasonably be expected as being occasioned by the removal of crops and the passage of water through the soil; but the need of a fresh supply of marl is not so commonly traced to the introduction of a higher system of farming as it ought to be. We need to maintain in the soil a constant balance, for as we add to the soil manures which stimulate the land to yield crops above its ordinary power, so also must we give it strength to mature these crops, otherwise they partially fail.

Much of the land which has shown such marked improvement from the use of marl was originally of a poor sandy character. The addition of strong and adhesive earth either combined with lime or not, as the case might happen, supplied it with powers it did not previously possess, and thus land utterly incompetent to yield a Wheat crop was afterwards productive of the plant. This has been followed by several years cropping, and we have been steadily increasing our applications of ammoniacal manures, consequently much land which received its marl several years since is now being worked to a considerable disadvantage. The additions to the manure of the farm do not produce their accustomed return. Too often we have weak straw with our Barley crops. We have a downward tendency evident in our Wheat crop. Our Clover seeds are more difficult to bring to perfection, and yet all these results are in the face of a higher system of manuring.

It forcibly recalls to our minds the balance which must be maintained in the soil. The addition to an excess is of little avail unless we employ other agents capable of pairing off, as it were, with those in excess. Comparatively speaking, there is little advantage to be gained by adopting a system by which you from time to time enrich your land with valuable ammoniacal manures, unless the soil is stored with a sufficient supply of the other materials which must accompany them in the development of the crop. The more rapid the course of cropping adopted upon these improved sands, the quicker will the marl applied be exhausted; and the higher the system of farming that is practised, the more important is it to keep the stability of the soil in such condition that it shall be competent for the duties which the stimulating powers of the manure may demand.

Valuable then as the marl may be because of its fertilising character as a manure, by the food thus supplied to the plant, it has another influence upon the soil which is not to be overlooked. The power which a soil possesses of holding the manure entrusted to its care makes a material difference in its economic value. If one soil has the power of holding a liberal supply of manure upon which the growing crop can feed, and subsequently retains the residue for the succeeding crop, many advantages are gained. In such a case you can force the growth of the former, knowing full well that if more manure should be added than that crop requires the surplus will be reserved for future ones. It is just the reverse with those which have but feeble power of retaining manure, such as our sandy soils. Here we find it necessary to apply the manure with a less liberal hand and more frequently, so that such soils become much more costly to manure than others which keep what is placed in their care. The employment of such bodies as are used for marling the land very materially favours this preservative character, and in their use upon the land valuable benefits will be realised from this mode of action.

The application of marl involves a considerable cost, and we feel assured that great advantages would often result from a careful examination of different beds of marl. These often vary considerably in composition, and consequently in their quality. After the application has been made it is by no means difficult to form a correct opinion as to their relative value, but oftentimes this is too late for a guide. We know instances of beds of marl equally convenient, equally available, yet of vastly different fertilising powers, and yet the variation between their value has not been fully known until a considerable outlay has been made. The possession of such information where two or more beds are available may often prove to be of great value, and before any extended outlay is made it is always advisable to gain full information upon the value of the materials available. We know that a great variation often exists in the proportion of phosphoric acid present, some containing six, eight, or even 10 times as much of this body as other marls. These marked differences seldom exist to this extent in contiguous beds, but an increase to three or four times the quantity of phosphoric acid is by no means uncommon.

Probably one of the most important qualities of marl, and in which there is as great a variation as in any respect, lies in its absorptive powers. This we are now beginning to estimate at a more correct value, for we know that by giving to a soil the power of absorbing ammonia we really add to it an equivalent for this fertilising matter. To this we might add that there is a great difference in the quantity of soluble silica in our marls, and this offers another inducement for having the marl carefully examined, so as to select the most valuable bed. Knowing as we do the importance of the practice of marling, and feeling assured that circumstances will for some time to come render an increase of this work necessary in each succeeding season, we suggest the propriety of not delaying its use so as to allow the influence of previous applications to be exhausted, but rather by a discreet and early renewal to maintain the land in a high degree of fertility.

—— IN reference to the Swede and Mangel crops, which are now a subject of discussion, and as carrying out our own recommendation given last week, we call attention to an arrangement introduced into practice by Mr. LAWRENCE, and thus shortly described in his "Handy Book for Young Farmers":—

"We recommend taking equal quantities of land under Swedes and Mangel, reversing them in the next rotation; by which each may be secured an eight years' interval. An objection has been raised to this course, that it would be prejudicial to the succeeding crops in the rotation, inasmuch as Mangel is always carried off the land, and the Swedes are usually fed off on it. That objection may be thus obviated, and we adopt this mode of meeting it: Commence your fields, laid out for Mangel and Swedes, by first taking as many turns of your drill, according to the width of it, seeded with Mangel, as will admit of ample space to pull, place, and cart away the produce—say, for instance, eight ridges—then leave the same number of ridges to be sown afterwards with Swedes; and thus proceed sowing your Mangel, with the same intervals left for Swedes throughout the field. About a month later you may drill those intervals with Swedes. The Mangel may be conveniently harvested without any interference with the Swedes, and the latter will be fed off as usual; and, folded across, the land will thus receive equal manuring throughout."

We may add, that in Mr. LAWRENCE'S "Handy Book" * to which we have already elsewhere called attention, there is a great deal of further useful information on the cultivation of this valuable crop.

## CATTLE FEEDING.

REFERRING to some observations in a late Number of the *Agricultural Gazette* on the ripening of Swedes, &c., by the process of storing in heaps in the fields, in which I concur, I beg to call the attention of the growers of Mangels so much damaged by the unusual degree of frost we experienced on the 20th of October to the effect of that, and as I believe, the unusual warmth and dryness of our two last summers in producing premature ripeness of roots in general. It has been matter of common observation that our late fruits, more particularly Apples and Pears grown during three seasons, have become prematurely ripe. Within my own experience these fruits have been fit for table many weeks before the usual period. Last year the Easter Beurré Pear, which, as its name indicates, is commonly in perfection about Easter (and we have had them keep well until May) was perfectly ripe before Christmas. The same Pears are perfectly ripe at this date. Though the ripening process in Mangels, &c., is not so palpable to the sight or touch, I have assumed that the same causes would produce the same effects in these as in other fruits; and I have not hesitated to feed with Mangels much earlier than in former seasons. Under the impression that frost has still further accelerated this change in Mangels, and having satisfied myself they would not keep, I have reversed my usual course of proceedings, and placed all my stock on those roots, and stored the Swedes. As soon as the stubbles were cleared, I folded my ewe flock over them before the plough, distributing the roots over the ground, merely divided by an iron which at one blow separates them into four quarters, in preference to cutting them up into troughs in the usual mode. This prevents the ewes, now getting heavy in lamb, pressing one another in struggling for place at the troughs. I have given a limited allowance of the roots with as much chaff, composed of one-third Barley straw and two-thirds hay, as they would eat. My shepherd remonstrated; the ewes were to be scoured to death, and to cast their lambs. I said, "We will try; the mischief will be obvious enough if you will watch them carefully in my absence; and as soon as you perceive anything amiss remove the animals to the pastures." On my return, after an absence of some days, I was glad to see the ewes in their folds, having gone over a considerable portion of the field, leaving a very obviously enriched surface to be turned under. I had anticipated some degree of relaxation in the bowels, but my companion and myself were gratified at finding nothing but those well-defined little black nuts spread over the surface, denoting perfect intestinal condition, and the ewes in a very satisfactory state. Our fatting bullocks have been fed with Mangels instead of Swedes, pulped and well mixed with chaff, from the time they were put up, and I never had any thrive better. This will be some consolation to those whose Mangels were out in that cruel frost, the only case in which I have known Mangels injured before November. That Mangels exposed to 10° of frost will go rapidly to decay there can be no doubt. While on the subject of feeding, as I have heretofore advocated the use of Rape-cake as an economical food for bullocks, I think it desirable to refer to the result of an action which I saw reported in the papers early in the present year, in which damages were given

* LONGMANS.

against a seller of Rape-cake at the instance of a party who had lost several heifers as it was alleged by feeding on such cake. In consequence of the verdict in that case, on my sending an order to my brokers for my usual supply in the autumn, they informed me that the merchant would not guarantee it for feeding purposes, and would only supply it on that understanding. I have always been aware of the existence of more or less Mustard seed in the foreign Rape seed used by the crushers; but I found some years ago by mere chance that the cake after being exposed to a temperature of 212° by boiling, in order to prepare a soup for pouring over the chaff, had undergone some change which rendered it more palatable to animals. I mentioned this to my friend Dr. Voelcker, who investigated the subject, and who discovered that at the temperature named a chemical change occurred in the oil of the Mustard seed, which accounted for the result we had observed, and which rendered the cake innoxious. I considered this a matter of sufficient interest to agriculturists to report it, accompanied by the explanation of the particulars of the change sent to me by Dr. Voelcker, in the *Agricultural Gazette*. I regret I am unable to find this on reference to the *Agricultural Gazette*. [See page 42 of the volume for 1855.] I need only add for the information of those who may have been scared from the use of Rape-cake for feeding purposes, that I ordered the cake notwithstanding the report of the action to which I have adverted, and the caution of the crusher, and have used it for some months for feeding my bullocks, first dissolving it at the temperature I have mentioned, with entire satisfaction. Indeed, I may add that I have used several tons of Rape-cake annually for many years, and I have never experienced any ill effect from it. That it is not so palatable as Linseed-cake to cattle or sheep is unquestionable; but I consider that objection obviated by limiting the quantity for bullocks to 4 lbs. per head per diem, as compared with 6 lbs. of Linseed-cake, and adding 2 lbs. of mixed meal incorporated with the feed. My use of Rape-cake has been founded on the following particulars:—

*Average Composition of Oil-cakes.*—Voelcker.

| | Linseed cake. | Rape-cake. | Present cost per ton. |
|---|---|---|---|
| Moisture .. .. .. | 12 44 | 10.68 | |
| Oil .. .. .. .. | 12.79 | 11.10 | |
| Nitrogenised or flesh-forming principles .. | 27.28 | 29.53 | Linseed-cake. 10*l.* Rape-cake, 5*l.* 5*s.* |
| Heat-giving substances.. | 41.36 | 40.90 | |
| Mineral matters (ash) .. | 6.13 | 7.79 | |

*Charles Lawrence, Cirencester, Dec.* 10.

## Home Correspondence.

*Steam Ploughing.*—While farmers are very fairly forming great expectations of the economy to be made in ploughing by the use of the steam plough, and of the benefit to arise from being able to break up the stubbles immediately after harvest and in dry weather. I am looking further, and expecting an increase of fertility from it of far greater consideration, and it is to this particular view of the use of it that I would draw attention. Your readers know that the fertility of land has always reference to the depth of soil open to the roots of plants to spread in, and when we speak of a deep soil, we convey ideas of fertility, and of a shallow one, of comparative barrenness: and in support of what may be done by deepening the soil by steam ploughing I will shortly refer to what has already been the experience of the use of it. Many will have seen the singularly fine Mangel Wurzel roots exhibiting grown by the use of Smith's steam plough; and the prize at Birmingham for the best Swedes was awarded to some grown after a steam ploughing, and with only 15 loads of farm manure to the acre. To rightly appreciate this superiority it must be borne in mind that these instances of finer production stand out in competition with growths by all other means, and on the richest soils; and in each case the grower attributes his success to steam ploughing. Surely farmers will learn from this its usefulness as a fertiliser, and give their attention more particularly to getting an implement that shall do more for them than merely take the place of the ordinary plough. Many of your readers will recall the introduction of the subsoil plough, 30 years ago, for the purpose of breaking the under pan and deepening the soil. This implement was drawn by four and six horses, and followed in the furrow opened by the preceding plough. The greater depth it gave the roots to descend was found highly advantageous, but the labour, often amounting to 2*l.* and upwards an acre, was found too expensive for tenant farmers; still the permanent increase of fertility it gave was undeniable. By means of the application of steam farmers will shortly be empowered not only to plough their land at less cost and with despatch, and so be put forward in the autumn with work usually left to the spring, but they will be able to apply implements for breaking up and crushing soils to a depth hitherto unattainable, and in this way poor land may gain a fertility that has hitherto only belonged to the naturally deep and friable. *Hewitt Davis*, 3, *Frederick's Place, Old Jewry, London, Dec.* 16.

*Mangel Wurzel.*—Your correspondent "Mr. Taylor," at page 977, writes very reasonably on the injurious effects of the late frosts on Mangel Wurzel; but he asks, "Where is the difficulty of Mangel Wurzel being stored early in October as in November?" We answer it might have been done with safety in the present season after so hot and forward a summer, when most crops were matured a month earlier than usual, and we fully admit, that could the event of such early frosts have been foreseen, so that other important business of the farm might have been arranged accordingly, a great deal of injury done might have been prevented. It would be well if all Mangels were sown by the time Mr. Mitchell recommends at page 976, *i. e.*, by the beginning of April; but in many seasons more showery than the last, Mangels sown especially on forward lands would half of them run for seed. In hot and dry seasons, however, it is reasonable to suppose it would be otherwise, as exemplified in the present season of 1859. Moreover, past experience has proved, to ourselves at least, that very many clamps of Mangels in former seasons have been spoiled by storing and covering them before they were matured and sufficiently first sweated and aired in the clamp, and either covering them too thick before this, or not thick enough to prevent wet entering the clamp in very wet, snowy, and frosty weather. It will no doubt be here observed that what we are driving at is to pack them within doors or under our proposed temporary or permanent covering or shed, and this we contend is necessary to preserve them at all times and in all seasons with most safety, and much rotting would thereby be prevented whether they were fully matured, frozen, or not. Some attempt to prove that the fault of Mangels running to seed all proceeds from undue care in growing the seed. Granted that in degree it is so, where this care is wholly disregarded (none perhaps are more circumspect in this particular than ourselves); but we contend that the chief cause is sowing it too early when a humid summer follows. It has been observed from our experiments that seed sown early in March have produced nearly all of this description, others sown early in April nearly one half, and others sown in May have produced comparatively none, yet all were sown out of the same bag of seed; although some few sown as late as June have shown some signs of running and degeneration. Not so, however, in a season like the past, when seldom was there seen one flowering on an acre, let the seed have come from where it would, or was sown at any time in the summer months. It is not heat nor drought, but moisture combined that chiefly occasions premature seeding. In some seasons garden Turnips also sown in February, March, April, and in May will all run to seed; but in others, though the seed is from the same sample, will not run at all. On the continent, we have been informed, many Turnip seeds and others are invariably grown from plants raised the same year irrespective of improvement by cultivation or any selection—a system we ourselves repudiate and never follow, and we believe is not practised at home by any who have a common share of knowledge in their business. *Abraham Hardy & Son, Maldon, Essex.*

*The "Ennobling" of Wild Plants.*—Seeing in a late Number an observation to the following effect:—"It is a well-known fact that the esculent Carrot comes from the wild plant originally," I am induced to call your attention to the circumstance that about 10 years ago I commenced experiments on the growth of seeds, gathered both from the wild Carrot and wild Parsnip. Now, as regards the first, I may say that from experiments carried on for three generations, I got scarcely any result, except perhaps a more rampant wild Carrot, multi-headed and digitated in the roots to an extraordinary extent. With the Parsnip, however, the case has been very different, as from the first it showed an aptitude for civilisation. From the first crop the best examples were chosen and saved for seed; and so each year since, I have had in my experimental garden, at the Royal Agricultural College, a crop growing for roots and a plot of roots seeding. This last year the seed was considered so good that the whole crop of this esculent for the college table was planted with it, while the best examples of the previous year were still seeding, and the result has been that we never had such good-shaped Parsnips or so well flavoured; indeed, so much so as to fully justify the further spread of the seed, and I have consequently handed over to the Messrs. Sutton, the eminent seed merchants of Reading, the seed produce of this year, and they will be prepared to supply it to their customers under the title of the Student Parsnip. It should be remarked that this is a form with the sunken crown, which is remarkably small; it is of a gradual tapering shape, very free from lateral rootlets or branches (finger and toe), is not quite so large as the older varieties, but is, I think, altogether more compact and symmetrical. *J. Buckman, F.L.S., F.G.S., &c.*

*Kohl Rabi.*—The Turnip crop having proved a general failure for two successive seasons, and as Mangels will not stand severe frost, is it not high time farmers were on the look out for a better substitute for the Turnip? What do you think of the Kohl Rabi? I understand it has been grown pretty extensively in the south, but as you and your correspondents have not given your readers any account of it, I fear that it has not answered. My experience of the cultivation of Kohl Rabi is not extensive enough to warrant my recommending it to others for field culture and food for sheep and cattle, but the little I have seen of it this season in my garden leads me to think it well worthy of a fair trial. It appears to me to be perfectly hardy, as the late severe frosts have not in the least affected my little crop, which is growing in an exposed part of the garden; the bulbs are fully larger than the general average of Swedes in favourable seasons, and much larger than any Swedes I have seen this season. Will you be kind enough to draw the attention of your readers to this root; some of them I have no doubt have tried it, and perhaps they will be kind enough to give the readers of the *Agricultural Gazette* the result of their experience. *Colo.*

## Societies.

Society of Arts: *Dec. 7.—The Forces used in Agriculture.*—After the paper read on this subject, Professor John Wilson said:—

He thought they must look upon the man, upon the horse, and upon the steam-engine, not as sources of power, but as the media through which power could be communicated. The real power existed in the material upon which those three forces were fed, and in this respect he thought he could show them that the whole question was one of pounds, shillings, and pence. They knew very well that a steam engine could not work unless they gave it coals, and a certain amount of water; a horse could not work well unless it was well fed; and a man could not work unless he was properly nourished, because the force existed in the food which these three engines or machines, as they might be called, consumed. If the man was to be placed in competition with the machine, he ought to receive the same amount of attention as the machine did; otherwise he was placed at a disadvantage, and he thought it should be the policy of the employer to remunerate the labourer in such a manner as would enable him to get the largest amount of work out of him. He spoke, of course, of physical force—not mental. In all cases where they set men to hard work—such as that on railways, it had been found that a badly fed man could not exert the power which a well fed man did; and he thought no one could reasonably expect that a labourer at 8*s.* a week was capable of doing a full amount of work, so as to be fairly placed in comparison with either a well fed horse or a properly supplied steam engine.

Mr. Sidney had made calculations, for the purpose of giving some idea of how much was gained by the improvements which had brought mechanical ability of a high order, and the science of the chemist, to assist in the cultivation of English farms of average size and fertility.

Mr. Smith's farm, at Woolston, in Buckinghamshire, consisted of 110 acres of arable and 70 acres of Grass, of good quality. The labour appeared to be performed by seven men and four boys, equal to nine men, the number usually taken to represent in England 45 souls. These men lived, he undertook to say, better than the peasant cultivators of France and Germany. Were this farm divided into six-acre farms, it would probably support double the number of peasant proprietors; it would keep no sheep, a goat or two, no ox beef, but an occasional supply of the flesh of a worn-out milch cow. There would be, as surplus, a little Wheat, Rye, and, perhaps, Flax. The arable would be fallow every third year. But with hand-power, horse, and steam-power, he (Mr. Sidney) would undertake to say that the Woolston farm, being never in naked fallow, produced 6 quarters to the acre, but say 5 quarters on 27 acres, or 135 quarters of Wheat, 135 quarters of Barley, and with Clover and other green crops, roots and Beans, at least 7000 lbs. of mutton from 100 sheep, 2000 lbs. of pork, from say 10 pigs, and an increase on cattle, purchased or reared, of 5000 lbs. of beef; in all, 14,000 lbs. of meat, besides feeding the family of the farmer himself. These calculations, very much under the mark, would show, not only that full-sized farms were necessary to support agricultural progress, but that it was on large farms, as distinguished from five-acre farms, that the nation must be fed.

Mr. Edwin Chadwick, C.B., had expected that the discussion would have turned upon the points which the chairman had suggested, namely, upon the comparative value of mechanical forces but he was glad to find that it had been directed to the social and economical effects either already obtained or promised by the introduction of machinery into agriculture.

In the statistics given by Mr. Morton of the rise of wages, he submitted that one large and important fact was omitted. Mr. Morton had stated the progress of wages in different counties, but he had not mentioned another progress, viz., the progress of the efficiency of the labourer; because, according to his own inquiries, the efficiency of the labourer had borne its relation to the improved forces introduced. The farmer in Dorsetshire only paid 8*s.*, and the farmer in Lancashire and some of the northern districts paid 16*s.* a week, and the latter got his work done cheaper at the higher wages than it could be done at the lower. Truly efficient labour, he submitted, could only be obtained by the advance of wages. With respect to what had already been done, he would take the opportunity of congratulating his friend, Mr. Wren Hoskyns, that in the introduction of steam for ploughing, which he had so long laboured for, the corner in the shape of profit over manual labour had been turned. He might mention, by way of contrast, looking to the state of things abroad, that in many parts of the south of France the constant price of ploughing by oxen was at the present time 5 francs a day for the men and the oxen to do the work, whilst the amount of work done was a quarter of an acre per day. That was paying at the rate of 20 francs per acre, but it was a mere scratching of the surface of the soil some 3 or 4 inches deep, whereas steam ploughing did the work much better at about one third or one fourth that price; in other words, the light land which the farmer in France paid 20 francs an acre for ploughing in that way, could be done by the steam ploughs now in use at 6*s.* per acre, and instead of being ploughed 3 or 4 inches deep, it would be ploughed 7 inches deep. The economical, as well as the social part of the question, was, he thought, well resolved by a labouring man on one occasion, when he (Mr. Chadwick) went to see Mr. Smith's plough at work upon the farm of the Prince Consort. Upon his asking the man how those steam ploughs answered, the reply was that they answered exceedingly well, as he (the labourer) got half-a-crown a day wages. But unfortunately in the present state of education in the agricultural districts, if higher wages were offered the men were not to be found to do the work with the greatest amount of economy, and in order to attain this end their education must be improved. It was true that prodigious advances in that direction had been made.

Mr. Wren Hoskyns said, if he had wanted evidence of what the general advancement of agriculture in this country had been able to effect, it could not be more satisfactorily furnished than had been done in the paper they had heard that evening.

He could not submit to the idea that they had as yet attained to the development of the steam engine in the cultivation of the soil, which they were destined to witness. Far be it from him to derogate from such splendid specimens of well-applied labour and employment of capital with a courage and determination not surpassed in any department where human ingenuity had been applied, as had already been afforded by the use of the steam-engine in agriculture, but, for specific reasons connected with agriculture itself, he could not believe

that the point at which they had now arrived afforded a true test of comparison between the steam engine and horse and manual labour. One reason why the problem was more difficult, was that the varieties of soil were so much greater than many people were aware of. The difference between the cultivation of light soil and stiff waxy clay was as great as possible, and any conclusion at present arrived at could only be of a very general character. For when they said a steam engine would plough a shilling per acre cheaper than by the ordinary method, it could only apply to some general average of the soil. But when they saw what horse labour could do upon light soils, where they could cultivate every day in the year, because the labour was less severe, and compared that with soil which did not allow of access to it, except for a month in spring and a couple of months in autumn, the comparison between horse labour and the steam-engine was most difficult. It had been stated by Mr. Mechi that a horse required 16 hours of rest for eight hours of work. That was understating the case, because a horse required eight months of idleness for four months of work, on a soil which would not admit of the tread of his foot except when sufficiently dry for profitable cultivation to take place. He could not conclude without a word upon the condition of the agricultural labourer, as spoken of by Prof. Wilson. There was no doubt much truth in what the professor had said. A fair estimation of what the labourer was able to do was not possible because his powers were not entirely brought out—either in a physical or moral point of view. If they had more skilled and intelligent labour, they would have better results from the elements composing it, and especially from that best element of all—the will. He did not know a better foundation for this than a juster distribution of the labourer over the soil, and increased facilities for restoring the due proportion of cottages for the residence of the labourers near their work. Owing to the imperfect laws which had reduced the means of living near their work, it was a fact that labourers did half a soldier's day's work in going to and from the farm. He hoped that residences would be provided for the labourers, in a way that would make them a better investment of capital than they were at present. For some reason or other, which it was difficult to fathom, cottage accommodation could not be provided, so as to make it profitable. One of the best inducements to provide this accommodation would be the power of doing so without loss to the landlord.

**Mr. James Howard (of Bedford) said, he subscribed fully to the opinion that the general employment of steam power in agriculture would tend to increase the employment of labourers. Within his own knowledge it had in some degree extended the growth of root crops.**

He could refer to a case in which 35 acres of roots were grown upon land which had never before been so cropped, and if they grew larger root crops they increased the crops of corn, and increased also the employment of labour. Looking at the increase of population in this country since the extension of steam power in our manufactories, he was surprised to find that it took upwards of 200 years, previously to the introduction of the steam-engine to gain an increase in the population of 2,000,000, whilst since its introduction the population had increased 12,000,000. He thought there were no more effectual means of raising the intelligence of the farm labourer than a more general introduction of steam power. A farmer who paid a man merely to swing a flail could not afford to pay for intelligence, it was nothing more than the exercise of brute force; but to a man who paid 500*l.* for a steam-engine, 1*s.* per day additional would be a trifle in the wages of the men he employed to direct that machinery. If they sought to raise the intelligence and wages of the labourer, a sure means of effecting it was the more general employment of steam power.

**Mr. Alderman Mechi was quite sure that in his calculations of the economy of horse-power over human labour, and of steam over horse labour, Mr. Morton had not overstated the case.**

He had employed a steam-engine on his farm for the last 10 or 11 years, though it was regarded by his neighbours as an act of folly to use a steam-engine upon a farm of 170 acres. His experience during that period had convinced him that the employment of steam power had not diminished the demand for labour, but had rather increased it, whilst it produced a most beneficial effect upon the profits of the farmer and the intelligence of the labourer. With regard to the economy of horse-labour and steam, they must look at it not only in a pecuniary point of view with respect to the direct saving effected, but also to the amount of land that was set free for the production of human food by that substitution, namely, by feeding those 300,000 horses with coals instead of with corn and hay. He calculated that, at the lowest estimate, there would be in the United Kingdom 2,300,000 acres of land set free for feeding human beings instead of animals. That alone was a great desideratum in these times, when population was pressing so hardly upon production. With regard to the various applications of steam power in the operation of a farm, looking to the improvements they might expect to be made, he saw no reason why, by improved arrangements, in addition to the Turnips, &c., being cut up, the food should not be delivered by means of machinery, and why steam should not be made to do nearly everything upon a farm which was now done by manual labour.

**Mr. Thomas Scott said it was a gratifying fact which they had heard, that the great pioneers of steam culture—the inventors—had more orders upon their hands than they were able to keep pace with.**

A few days ago he entered into an examination of the cost of the operation by Fowler's steam plough, extracted from the carefully kept books of a farm, and he found it to be 4*s.* 4*d.* per acre as the actual cost, to which must be added a fair addition for repairs and allowance for wear and tear. If that were the fact, the cost of steam-ploughing was very much less than that of the common ploughing, and the produce of the land was greater. It was therefore manifestly to the interest of the cultivators of the soil to abandon the present system, which entailed a daily loss, and to avail themselves of steam machinery, now that the opportunity was afforded them of doing so.

**The chairman said it had been very clearly put before them that the employment of steam power had a tendency to increase the demand for agricultural labourers, the amount of their wages, and also their intelligence.**

**Mr. Morton wished to return his best thanks to those gentlemen who had been kind enough to answer the troublesome inquiries he had addressed to them upon matters of fact which he had introduced into his paper.**

## Notices of Books.

*Fifteenth Annual Report of the Botley and South Hants Farmers' Club. Hants Advertiser* Office.

The Transactions of our farmers' clubs are a mine of agricultural wealth. When any one with a knowledge of the various localities shall undertake the selection and editorship of the valuable papers on every section of farm practice with which the annual reports of our local societies abound, he will produce a series of most useful and valuable volumes. The Journal of the London Farmers' Club, of the Oxford Farmers' Club, of the Newcastle and Wakefield Farmers' Clubs, are full of the most instructive records of agricultural experience. And in this new (15th) Annual Report of the Botley and South Hants Farmers' Club we have another contribution to the same great store, containing papers on organic manure, on cross-breeding of sheep, on autumn tillage, on the improvement of the farm labourer, and on the hill farming of Wilts and Hants—all substantial and satisfactory essays.

On the condition of the labourer we extract the following remarks by Mr. W. C. Spooner:—

"The discussion resolved itself into two principles:—1. The great importance and necessity for improving the dwellings of the labourers and increasing the number of cottages. 2. The propriety of doing away with or diminishing the number of beershops. He disagreed with Mr. Pink that 3*l.* or 3*l.* 10*s.* rent should not be exceeded. He thought such property ought to pay in pretty much the same ratio as any other kind of property; and the moment they showed that it might become remunerative they would do more towards the improvement of cottages and increasing their number than by all the philanthropic institutions of the country, which were, however, commendable in every respect. He believed that a pair of cottages, built at 168*l.*, with 60 rod of garden ground between the two, would pay 5*l.* a year each; and if they were in the hands of the farmers there would be no difficulty in collecting the rents, which was one of the principal difficulties of cottage property, 10 per cent. being the general margin allowed in towns for loss by tenants going away without payment. He thought it would be a very useful thing indeed if the tenant farmers who were members of farmers' clubs were to pass a paper round the room, and without mentioning the farm or name, state the number of cottages they desired to be added to their farms; and they would then see, in a given district, whether such cottages were required. At Botley it would, perhaps, not be convenient to do so, because the majority of the members farmed their own land. There was no doubt that the Beer Bill and the general opening of beerhouses was one of the greatest curses ever introduced by legislation into society."

*Cottage Accommodation of the Labourer.* An Essay reprinted by permission from the *Gardeners' Chronicle and Agricultural Gazette.* With additional designs. By Robert Scott Burn, C.E. W. & R. Chambers.

This is what its title intimates, a thin quarto pamphlet containing a great deal of useful information on a subject which is now attracting especial attention, and to which on Wednesday last Lord Palmerston at Romsey referred in words which ought to be read by every one.*

## Miscellaneous.

*Weight of Roots.*—The following are particulars of crops of Swedes competing in Cheshire for the prizes offered by Messrs. Proctor and Ryland, whose manures had been employed in their growth:—Turnips—R. Doig, Esq., Tynewydd, near Bangor, and James Innes, Esq., Wroxton, near Banbury, the judges appointed for awarding these premiums, have inspected and weighed the crops of the competitors, and made the following awards:—For the Birmingham district: To Mr. Jno. Thompson, Appleby, near Atherstone, weight 24 tons 11 cwt. 0 qrs. 8 lbs. per acre. For the Shrewsbury district: To Mr. Wm. Langford, Chirbury, nearMontgomery, weight 23 tons 16 cwt. per acre. For the Chester district: To Mr. W. T. Humble, Sealand, near Chester, weight 21 tons 8 cwt. 3 qrs. 20 lbs. per acre. ——The heaviest crop of Mangel, inspected for the Banbury Agricultural Society, was found to have been grown by Colonel North, M.P., Wroxton Abbey, which produced, upon weighing, the enormous weight of 63 tons 11 cwt. per acre. The crop was of such a fine quality, and so extraordinary in weight, that Mr. Ryland, of this town, and several other gentlemen, expressed a wish to weigh another portion of it, and they found, upon a fair average of the field, (nine acres) 64 tons 1 cwt. 1 qr. and 20 lbs. per acre. The seed is of the Yellow Globe variety, and the roots are of the finest quality. It was planted on the 18th of April, and manured with 15 loads of farm dung, 3 cwt. of Proctor and Ryland's Mangel manure, and 3 cwt. of salt. The rows were 27 inches apart, and the number of bulbs per acre 15,216, which gives an average of nearly 9 lbs. 7 oz. each. *Midland Counties Herald.*

*Steam Culture.*—In July last, Mr. F. Sowerby, of Aylesby, gave Messrs. Howard an order for one of Smith's cultivators, and in September commenced working upon his Aylesby Farm, which consists for the most part of a loamy soil upon a strong tenacious, clayey subsoil. When I saw the implement at work it was breaking up his Wheat stubbles designed for roots another summer, and was pulling through this strong sticking clay at a depth of 8 or 9 inches, with a 3-feet cultivator, doing 5 acres per day, including removals. An 8-horse engine with a double cylinder was working the apparatus, and in some instances its utmost power was taxed to pull the implement through some of the stronger beds of clay. The advantages accruing from admitting the air into such a stiff soil to such a depth

* A report of his lordship's speech will be found in our Newspaper.

can scarcely be over-estimated. ... and phosphatic elements of the ... absorbed by it, which must ... considerable manuring. And ... possibly be secured by horse ... steam could effect it. I should ... has been drained very efficiently ... The implement arrived too late ... seed land for Wheat; a small ... made, which will doubtless prove ... year may lead to a more general ... After having cultivated these ... over, I believe it is Mr. Sowerby's ... of the lands up in ridges, deeply ... thereby exposing as large a surface ... atmospheric influences during the ... selection of implements of husbandry ... appears to be gifted with a very ... is not unfrequently the first in ... neighbourhood to adopt such new ... likely to prove practically beneficial. ... case with the water drill, I believe, ... fixed barn threshing and dressing ... paring the corn and weighing it off ... at one operation, and now again he is ... the principle of steam cultivation. ... think he will long remain alone in the ... new, and, I conceive, highly advantageous ... will doubtless, as the benefits resulting ... become discernible, have many followers. ... *Ruston, Chatteris, in Bell's Messenger.*

*Extraordinary Crops.*—The following ... heaviest crops of Mangel Wurzel ... year's experience speaks:—The root crop ... recently inspected for the Banbury Agricultural ... and the heaviest crop of Mangel was found ... been grown by Colonel North, M.P., Wroxton ... which produced, upon weighing, the enormous ... of 63 tons 11 cwt. per acre. The crop was ... fine quality, and so extraordinary in weight ... Ryland, of this town, and several other gentlemen ... expressed a wish to weigh another portion ... they found, upon a fair average of the field ... 64 tons, 1 cwt., 1 qr., and 20 lbs. per acre. ... of the Yellow Globe variety, and the roots ... finest quality. It was planted on the 18th ... and manured with 15 loads of farm dung, ... Proctor and Ryland's Mangel manure, ... salt. The rows were 27 inches apart, and the ... of bulbs per acre 15,216, which gives an average ... nearly 9 lbs. 7 oz. each.

*Reaping by Machine or Hook—which ...* In these days of high rents and low prices ... a question of some importance, and is one ... me. To help to an answer, allow me to lay before ... readers a statement of the actual cost of ... crop here this season by the former method ... crop—278 acres, of Wheat, Barley, Oats, ... having been (with a very trifling exception) ... by one of Burgess & Key's machines. The ... a fair average—some of the Wheat very heavy.

| | |
|---|---|
| Wages of a man and boy with the machine for ... days (of 10 hours) at 4*s.* 2*d.* .. .. | |
| Wages of children making bands, equal to 147 ... at 6*d.* .. .. .. .. .. .. | |
| Wages of women sheafing, cutting corners, &c., ... equal to 173 days at 3*s.* .. .. .. | |
| Wages of men binding, &c., equal to 126 days ... 3*s.* 2*d.* .. .. .. .. .. .. | |
| Rations to men and women (including supper allowance), 316 at 9*d.*, and rations to children (breakfast and dinner) 164 at 5½*d.* .. .. .. | |
| Renewal of knives, belts, &c., wear of machine, and oil at 6*d.* per acre .. .. .. .. | |
| For 278 acres .. .. .. | |

Or 5*s.* 5½*d.* per acre. This does not include the horses which are not otherwise employed during the season, but it includes the wages of the driver and the farm servants employed, at the same rate as those specially for the harvest. Now, let us see what would have been the cost of cutting the same crop with the hook, allowing each shearer to have cut at the maximum extent of half an acre per day, with a boy for every four shearers.

| | |
|---|---|
| For shearing 1 acre, 2 women at 3*s.* .. .. | |
| Half of time of 1 man binding .. .. .. | |
| Rations 2½ at 9*d.* .. .. .. .. .. | |
| Per acre .. .. .. .. | |

Or, for the whole 278 acres, 131*l.* 9*s.* 5*d.* The ... therefore the larger balance in favour of the ... of 55*l.* 12*s.* 7*d.* in all, or 4*s.* per acre. ... firms the estimate I sent the *N. B. Agric.* ... this day two years ago, and the report given ... farm to the East of Berwickshire Farmers' ... year. *J. Shaw, Whiterigg, Ayton, in the North ... Agriculturist.*

## Calendar of Operations.

DECEMBER.

ISLE OF ELY: *Dec.* 14.—Since our last report was ... great and increasingly popular shows of fat cattle ... ham and London have been held. These point ... approach of Christmas, and tell us that another ... fled, leaving its manifold events traced ... history. This year these shows more especially ... public mind the bright side of farming. For ... year the grazing portion of the farm has been ... remunerative. Meat has maintained a ... throughout the entire 12 months. The demand ... with the supply, and grazing has been profitable ... And upon all those farms where stock can be ...

into arable thereby will to some measure compensate for the loss sustained by the corn crop. But unhappily in many cases this system cannot only be carried on to a limited extent, and farmers have but little to fall back upon [illegible] And truly they [illegible] And [illegible] A retrospect of the past year is anything but a pleasant one, as regards this country. And we tremble to contemplate what must be the case where the harvest proved a failure. Unless landlords generally manifest great sympathy and liberality [illegible] in thousands of instances throughout the whole [illegible] of the land must every farthing of it be paid at all, and must the possibly realised [illegible] And fortunate are the men [illegible] to fall back upon, although it is not a satisfactory way of disposing of it. We fear to say [illegible] with reference to those who are not so favourably circumstanced. Their case is a painful one, and our only hope [illegible] another season will be both abundant and remunerative, and will not be too late for them to recover themselves. [illegible] upon the farm at this period of the year is usually [illegible] and monotonous character. Plough and thresh.—[illegible] and plough—and when the frost will permit move [illegible] either from heaps to the fields designed for spring crops, or from yards into heaps. To-day we have a severe wind frost, which, should it continue another day, will stop the ploughs and enable us to get upon the land with manure. We have noticed one peculiar feature in the ploughing up of the lands designed for the next year's fallow, which on our farm and [illegible] have immediately apparent during the last few years, and this year especially must have turned the attention of the most casual observer. We refer to the number of acres deeply [illegible] The farmers are now breaking up these lands from [illegible] 7 feet to depth, having principles specially main- [illegible] tained by the purpose several of which have been supplied [illegible] Messrs. Howard and Bedford, and using 3, 4, 5, 6, 8, and [illegible] in some instances 10 horses in a plough. Many who [illegible] still cling to these great depths speak favourably of the results, but on examining the benefits will vary considerably [illegible] from some soils they will unquestionably be great, whilst on others they will be comparatively small. We would urge all [illegible] who are adopting this deep ploughing system to make [illegible] different parts of the same field [illegible] the [illegible] succeeding crops, that they may be able [illegible] to give the agricultural public some precise and definite infor- [illegible] which may prove of essential service in the future cul- [illegible] of the lands. The Wheat throughout the whole of the [illegible] except that sown before Michaelmas) has come up very [illegible] and even now much remains in the land; a very great [illegible] is not yet in the second blade. We have hitherto had a [illegible] of cold weather, with an occasional mild day or [illegible] In this respect the season contrasts very strangely with the last. Indeed we have already had more frost, and soon [illegible] than were witnessed during the whole of last [illegible] The Mangels are keeping quite as well as could be [illegible] some of those most injured by the frost are decaying [illegible] others we hope will keep [illegible] The Cotswolds are eating away quickly, and afford [illegible] very little feed. Sheep are gaining weight upon them to a [illegible] extent as could be anticipated. The quantity [illegible] from the quality of the feed has evidently been in- [illegible] most by the severity of the early frosts. The supply of Christmas beef has not been in excess of the demand, and prices at St. Ives on Monday were high, ranging from 2s to [illegible] per stone. Other descriptions of meat sell well also. The corn trade [illegible] and reviver, but no great [illegible] in prices is perceptible. With the new year and [illegible] supplies, prices may probably rally, and supplies from this district must inevitably become smaller, as the thresh is [illegible] forward, whilst the crop is so largely deficient.

*Yeo-Fen Reporter.*

## Notices to Correspondents.

CULTIVATION OF SEEDS: *J. L.* Mr. Evans Davies of Much Wenlock thus refers to the discussion on this subject before the Central Farmers' Club. Their only advice, he says, is the very old one—"If you cannot grow Clover once in four years then grow it once in eight." This advice would be very well supposing an efficient substitute had been recommended for the alternate four years; but nothing of the kind is offered but Ryegrass, White Clover, Trefoil, &c., both the latter plants being at the same time soundly, and, as I think, very justly, condemned as a sheep pasture. Nothing probably can be more injurious to lambs than White Dutch and Trefoil, in certain stages of their growth: and the Red Clover, as far as my experience goes, is always rejected by sheep if better feed is to be had. I have not discovered that any of the speakers at the meeting, or writers since the meeting, have once hinted at the possibility of the permanent Grasses being used as a substitute for the failing and consequently dearer plants. It is possible that there may be some [illegible] in my soil; but this I know, for nearly 20 years I have cultivated the permanent Grasses as a substitute for Clover in alternate husbandry, with pretty tolerable success. But this can only be done by farmers studying the Grasses in their own neighbourhood, and selecting those which appear to make the best pastures, only rejecting the finer Grasses as inadmissible for alternate husbandry, and choosing those of a more rapid growth. Again, there are [illegible] Grasses, such as Yarrow, Achillea Millefolium, Wild Parsley, &c., which are eaten with avidity by all descriptions of stock, and must, I apprehend, tend to preserve their health. My seeds remain down for two years. I have at present, with Wheat seeds that were, to the casual observer, as perfect a permanent pasture as could be desired, which were produced with—

| | |
|---|---|
| Cocksfoot Grass | 4 bushels. |
| Rock's Meadow Grass | 6 bushels. |
| Red Suckling | 30 lbs. |
| Alsike Clover | 40 lbs. |
| Timothy, not Crested Dog's-tail, as your correspondent styles it, but Meadow Cat's-tail, Phleum pratense major | 30 lbs. |
| Parsley | 30 lbs. |
| Yarrow | 1½ lb. |

The quantity for 10 acres. I have another field now growing—the first year—all that can be desired: 16 acres sown with—

| | |
|---|---|
| Cocksfoot | 6 bushels. |
| Perry's Ryegrass | 6 bushels. |
| Meadow Fescue | 6 bushels. |
| Red Suckling | 48 lbs. |
| White Dutch | 48 lbs. |
| Parsley | 48 lbs. |
| Yarrow | 2½ lbs. |

The success in this cause can only be obtained by farmers ordering their different seeds separate, and purchasing them of respectable seedsmen.

HOWARD'S BUTTER POWDER: *J. Aitken, Forest Farm, Barkingside, Essex.* Your letter would we fear involve the defence (should such ever be) of an action for libel; but it must therefore suffice to intimate that you have found no benefit from its use.

*** As usual, many communications have been received too late and others are detained till the necessary inquiries can be made. We must also beg the indulgence of those correspondents the insertion of whose contributions is still delayed.


### NEW AND CHOICE PLANTS.

JOHN STANDISH, in offering the following Plants, can assure his customers that they are now in fine condition for sending out:—

MYOSOTIDIUM NOBILE, or Antarctic Forget-Me-Not, each 21s. 6d.—This plant, from the Chatham Islands, is one of the most remarkable that has been introduced for some years, being totally distinct from all others. It has large thick leaves, 8 or 9 inches across, of a dark glossy green, and sends up magnificent trusses of bloom of the most beautiful blue and white, similar to a Forget-me-not, but of a giant form. A Drawing of it is published in Curtis's "Botanical Magazine" for September. A description taken from the above is also published in the *Gardeners' Chronicle* of Sept. 17, 1859, wherein Dr. Lindley says:—"This is the handsome perennial provisionally named Cynoglossum nobile by Dr. Hooker in our last year's Volume, page 240. It is quite deserving all the encomiums that have been passed upon it."

GLADIOLI, named varieties, from the choicest and largest collection in England, 6d. to 5s. each. Also a fine lot of bulbs raised from seeds saved from the best flowers, all of which will flower in the summer of 1860. 7s. 6d. per dozen, or 50s. per 100. These are strongly recommended.

RHODODENDRON LIMBATUM.—Pale blush, bordered with bright crimson. This has received several medals at the exhibitions for Rhododendrons, being very distinct and one of the most free flowering. 21s. each.

RHODODENDRON MINNIE.—White, very large blotch of chocolate-coloured spots, a fine flower, and remains a very long time in bloom. This is one of the most curiously marked Rhododendrons amongst all the white; it bears a noble truss of blooms, which cannot fail to be admired. 21s. and 31s. 6d. each. Selections can be made from one of the finest collections in Europe.

PHLOX MRS. STANDISH.—The purest white, with a large red eye, 5s. each. Also a large collection of the finest kinds which J. S. has shown during the last summer and in every case received the First Prize. Plants from 1s. to 2s. 6d. each.

A CATALOGUE containing a full description of the best Hardy Plants in cultivation will be forwarded on application to

The Royal Nursery, Bagshot.

### TRANSPLANTED FOREST TREES.

WOOD AND INGRAM beg to offer the following extra fine and well rooted stuff:—

ALDERS, 4 to 5 feet, 35s.; 5 to 6 feet, 40s. per 1000.
ACACIAS, 3 to 4 feet, 12s.; 4 to 5 feet, 15s.; 8 to 14 feet, 50s. per 100.
ASH, 3 to 4 feet, 30s.; 4 to 5 feet, 35s.; 5 to 6 feet, 40s.; 6 to 7 feet, 50s. per 1000.
BEECH, 2 to 3 feet, 30s.; 3 to 4 feet, 40s.; 4 to 5 feet, 50s. per 1000.
CHESNUT, SPANISH, 3 to 4 feet, 40s.; 4 to 5 feet, 50s.; 6 to 7 feet, 60s.; 7 to 8 feet, 80s. per 1000.
ELMS, NARROW-LEAVED ENGLISH, 2 years seedling, 8s. per 1000
ELMS, HUNTINGDON AND HERTS, from layers, 3 to 4 feet, 15s.; 4 to 5 feet, 20s.; 5 to 6 feet, 25s.; 6 to 8 feet, 35s. per 100.
ELMS, HUNTINGDON, from grafts, 4 to 5 feet, 25s.; 5 to 6 feet, 30s.; 6 to 8 feet, 50s.; 8 to 10 feet, 70s. per 100.
FIR, SPRUCE, 1 to 1½ foot, 50s.; 1½ to 2 feet, 60s.; 2 to 3 feet, 70s. per 1000.
FIR, SCOTCH, 2 to 3 feet, 30s.; 2½ to 3 feet, 35s.; 3 to 4 feet, 50s. per 1000.
FIR, LARCH, 2 to 3 feet, 25s.; 3 to 5 feet, 35s.; 4 to 5 feet, 40s. per 1000.
HORNBEAM, 2 to 3 feet, 30s.; 3 to 4 feet, 35s.; 5 to 6 feet, 50s.; 4 to 5 feet, 40s. per 1000.
MAPLE, 1½ to 2 feet, 20s.; 2 to 3 feet, 25s.; 3 to 4 feet, 30s.; 4 to 5 feet, 40s. per 1000.
MAPLE, NORWAY, 3 to 5 feet, 8s.; 7 to 8 feet, 20s. per 100.
OAKS, BRITISH, 2 to 3 feet, 30s.; 3 to 4 feet, 40s.; 4 to 5 feet, 50s.; 5 to 6 feet, 80s. per 1000.
OAKS, TURKEY, 4 to 5 feet, 10s. per 100.
POPLAR, BLACK ITALIAN, 2 to 3 feet, 25s.; 3 to 4 feet, 30s.; 4 to 5 feet, 35s; 5 to 6 feet, 40s.; 6 to 8 feet, 50s.; 8 to 10 feet, 65s. per 1000.
POPLAR, LOMBARDY, 4 to 5 feet, 10s.; 5 to 6 feet, 15s.; 6 to 7 feet, 20s; 7 to 8 feet, 25s; 8 to 10 feet, 50s. per 100.
POPLAR, ONTARIO, 6 to 7 feet, 20s.; 7 to 8 feet, 25s. per 100.
SYCAMORE, 2 to 3 feet, 25s.; 5 to 6 feet, 40s.; 6 to 8 feet, 45s. per 1000.
WILLOW, BEDFORD, CÆRULEAN, and HUNTINGDON, 4 to 5 feet, 30s.; 5 to 6 feet, 40s. per 1000.

Prices to the Trade on application.

W. & I.'s new CATALOGUE of NURSERY STOCK, including Fruit, Forest, and Ornamental Trees and Shrubs, Evergreens, Roses, &c., is now ready and will be forwarded free on application.—Nurseries, Huntingdon.

### FIVE THOUSAND INDIAN AZALEAS.

WILLIAM BARNES begs to invite attention to his unrivalled Collection of the above beautiful and justly admired class of plants. The sizes vary from 1 to 5 feet in height, worked upon strong healthy stocks, are in the finest possible condition, and perfectly free from thrip. The following list comprises a portion of his extensive stock:—

Conqueror
Murrayana
Carminata
Duke of Devonshire
Triumphans
Perryana
Iveryana
Alba striata
Aurora
Coronata
Variegata
Lateritia
Gledstanesi
Alba magniflora
Frostii
Delecta
Alba magna
Holfordii
Ardens
Vivicans
Rosea elegans
Juliana
Elegans superb
Beauty of Reigate
Lawrenciana
Symmetry
Vesta
Gledstanesi excelsa
Buckinghamii
Maria
Chelsonii
Fentonii
Lucens
Constantia rosea
Lateritia grandiflora
Trotteriana
Gledstanesi formosa
Glory of Sunning Hill
Extransii [ford
Countess of Stam-
Beauty of Europe
Barclayana
Stanleyana
Crispiflora
Striata formosissi-
Admiration [ma
Criterion
Delicatissima
Magnificans
Alba Melior
Mrs. Fry
Perfecta elegans
Lateritia alba supreme
Empress Eugenie
Impératrice Josephine
Eulalie Van Geert
Queen Victoria (continental)
Reine des Belges
Queen of Perfection
Adolphe
Loeana
Louis Napoleon
The Bride
Gem (Ivery's)
Madame Miellez
Princess Mary of Cambridge
Petuniæflora
Roi Leopold
Rosy Circle
Sir Charles Napier
Standard of Perfection
Grand Monarch
Marie Louise
Queen Victoria (Ivery's)
Iveryana alba cincta
Alba lutescens
Modèle
Baron de Peet
Le Géant
Belle Jeannette
Etendard de Flandres
Papilionatima
Rubens
Pelargoniflora
Gloire de Lederberg
Baron de Vrière
Gloire de Belgique
Distinction
Queen of Whites
Leopoldi
Duc de Brabant
Etoile de Gand
Reine des Panachées
Princess Adelaide de Nassau
Flower of the Day
Souvenir de l'Exposition
Duchess Adelaide de Nassau
Iveryana Improved
Duc de Nassau
Miltonii
Variegata superba
Bouquet de Flore

CATALOGUES with Prices can be had on application.
Camden Nursery, Camberwell, S.

### TO THE TRADE.—CONTINENTAL FLOWER SEEDS.

FREDERICK WILLIAM WENDEL, SEEDSMAN and FLORIST, Erfurt, Prussia (established 1832).

F. W. W. begs to inform the Trade that his Wholesale CATALOGUE of the above is now ready, containing Collections of ASTERS, STOCKS, BALSAMS, WALLFLOWERS, &c., and also an extensive list of all other New and Choice FLOWER SEEDS, sold in assortments, or by weight.

F. W. W. having extensive grounds in the town and vicinity of Erfurt, and devoting his personal attention to this department of his establishment, he can with the greatest confidence recommend all Seeds offered by him, as genuine and of the best quality.

Agent for this country—Mr. GEO. MACINTOSH, Nurseryman and Seedsman, High Road, Hammersmith, London, W., to whom all orders should be addressed, and where PRICE LISTS can be obtained post free on application.

The prices will be found as low as any house which supplies a genuine article. All parcels carriage paid to London.

### THE GARDEN FARM, DRUMCONDRA, DUBLIN.

N. NIVEN respectfully intimates to the lovers of gardening that the transplanting season being now at hand, he is prepared with a large and select stock of all kinds and sizes of Fruit Trees, Bushes, and Strawberry Plants, many in bearing condition, and beautifully grown; with a rich collection of Dwarf Orchard House Pot-grown Trees, full of flower-buds. Also, a fine assortment of specimen Hardy Ornamental Trees, Coniferæ, select bedding Herbaceous Plants, and choice Alpines for Rockwork, all suited for immediate effect. Amongst the rest, has a large stock of well furnished specimens of the beautiful Lombardy Poplar, so admirably introduced in the groupings of English landscape, from 8 to 10 feet high. For margins to flower beds, green moss-like verges, and covering of sloping banks, has a large supply of his newly introduced "Cerastium," which never requires mowing, and will be found a great acquisition as a substitute for Grass edgings, besides flowering for two months in early summer like a ribbon of snowy whiteness. Prices moderate, according to size, age, and rarity. Lists on application.

### NEW STRAWBERRY, "PRINCESS FREDERICK WILLIAM."

N. NIVEN, of the GARDEN FARM, Drumcondra, Dublin, is now prepared to execute orders for the supply of the above first-rate Seedling Strawberry, named by him, which for two seasons past gave ripe fruit out of doors on the 29th May; colour a bright scarlet, of a rich Pine Apple perfume and flavour; berries averaging from 3 to 5 inches round; calyx leafy; foliage deeply serrate; distinct and very hardy. The thickset flower trusses show extra early and freely, even on youngest plants. To the Forcer this Strawberry will be invaluable. Price 40s. for 100; 20s. for 50; 10s. for 25; 6s. for 12; or established in thumb pots, 1s. each.

N. N.'s agent in England is W. J. Nicholson, Egglescliffe, Yarm, Yorkshire, who has (along with Mons. Gloede, a celebrated grower in France) tested the merits of this earliest of known sorts—*vide* description in W. J. N.'s recent Catalogue. His final testimony of 8th October runs thus—"It is almost impossible to estimate too highly the merits of your splendid early Strawberry. As a forcer, it stands with me at the head, and as an extra early cropper in the open ground, unsurpassed. It will soon be grown by every one, &c." Mons. Gloede's testimony is to the following effect—"I was surprised to see how quickly the plants threw up their flower stems, and how quick they set their fruit and how fast the latter ripened. The colour is admirable and the flavour exquisite. There is no doubt it will become a general favourite as a first early, both for forcing and out-of-door culture, and great credit is due to you for such an invaluable introduction. (Signed) Ferdinand Gloede, Aux Sablons, near Moret-sur-Loing, France."

N.B.—Orders by the Trade (for not less than 100), one-third off above price. Postage Stamps or Post-office Orders must accompany all unknown orders.

DESIGNS FOR FLOWER BEDS AND GARDENS.—In consequence of numerous applications J. MARSHALL, 2, Goldsmith Street, Nottingham, has been induced to prepare another set of Designs. They comprise upwards of 80, diversified in style, and will be forwarded to any address on receipt of 24 postage stamps.

GARDEN LABEL.—Neat, durable, and well-executed LABELS, painted and lettered in oil paint, and varnished, equal to enamel. A specimen sent on the receipt of 3 Postage stamps.—Address F. H. LYDBURY, North Shropshire.

C. STEPHENSON, late STEPHENSON AND SONS, 61, Gracechurch St., London, E.C., Manufacturer of Iron, Hurdles, Fencing, &c., Improved Iron and Copper Conical Boilers and Apparatus for Warming Buildings of every description by Hot Water.

Prices and Estimates furnished upon application.

HOT-WATER PIPES at wholesale prices, with Elbows, Syphons, Tee Pipes, and every other connection. Wrought and cast iron Boilers, Saddle, Conical, Cylinder, and Elliptic, from 24s. each. Boilers and Iron Stands to use without brickwork. Valves from 12s. each. Coil Boxes, Furnace Doors, Furnace Bars, Supply Cisterns, and Builders' Castings of every description in stock, at Mr. LYNCH WHITE'S Iron Wharf, Upper Ground Street, Blackfriars Bridge, London, S.

### HOT-WATER APPARATUS.

J. JONES begs to offer a complete HOT-WATER APPARATUS FOR GREENHOUSES, at the following prices, delivered free to any Railway Station in England:—

| Size of House. | With Cylinder Boiler. | With Saddle Boiler. |
|---|---|---|
| 20 feet by 10 feet .. | £8 10 0 .. | £9 0 0 |
| 25 ,, by 12 ,, .. | 10 0 0 .. | 10 10 0 |
| 30 ,, by 12 ,, .. | 11 10 0 .. | 12 0 0 |
| 30 ,, by 15 ,, .. | 13 10 0 .. | 14 10 0 |
| 40 ,, by 15 ,, .. | 16 10 0 .. | 17 10 0 |
| 50 ,, by 15 ,, .. | 18 10 0 .. | 20 0 0 |

The above prices include Boiler, strong Furnace Doors, Bars, Soot Doors, Cistern, Damper, Hot-water Pipes and Connections, Air Pipes, &c., all ready for fixing, and of the best quality. Further particulars will be sent on application. Parties ordering must send plans, showing doorways, position of boiler, &c.—J. JONES, Hot-water Apparatus Manufacturer, 6, Bankside, Southwark, London, S.E.

### HORTICULTURAL BUILDINGS AND HEATING BY HOT WATER.

JOHN R. PEILL, 17, New Park St., Southwark, S.E., Manufacturer of every description of Buildings for Horticultural purposes, and Inventor of the Improved Conical Boiler for heating the same, is prepared to undertake works of any magnitude, and refers among others to the celebrated range of FORCING HOUSES at HER MAJESTY'S GARDENS, FROGMORE, and at SIR ROBERT PEEL'S, DRAYTON MANOR, constructed under the superintendence of his Manager, Mr. JOHN JONES; and also to his BOILERS fixed at the CRYSTAL PALACE, the ROYAL BOTANIC GARDENS, REGENT'S PARK, and KEW, and at several hundreds of the Nobility's seats, Public Establishments, and Manufactories in London and the provinces. J. R. P. also manufactures every description of Iron Roofs, Iron Houses, and Iron Fencing, plain and ornamental. Strong Iron Hurdles for Sheep (6 ft. long, 3 ft. high, with 5 bars), 4s. 3d. each; ditto for cattle, 4s. 9d. each. Prices and other particulars forwarded on receipt of one postage stamp.

# HORTICULTURAL WORKS,

## DANVERS STREET, PAULTON'S SQUARE, CHELSEA, S.W.

# JAMES GRAY

RESPECTFULLY BEGS TO INFORM THE NOBILITY, GENTRY, NURSERYMEN, GARDENERS, AND OTHERS, THAT HE CONTINUES TO CARRY ON THE BUSINESS IN ALL ITS BRANCHES AT THE ABOVE OLD ESTABLISHED PREMISES.

## CONSERVATORIES, GREENHOUSES, FORCING HOUSES, VINERIES, PITS, &c.,

OF EVERY DESCRIPTION, ERECTED ON THE MOST APPROVED PRINCIPLES.

## HEATING BY HOT WATER.

J. G. having specially devoted his attention for many years to this part of the business, is now fully prepared to Heat every description of public and private buildings, viz :—Churches, Mansions, Warehouses, &c., as well as all structures connected with Horticulture, in the most efficient manner. His system is the most simple that can be adopted—which he has found by long experience to be the best—can be constructed at less cost, and is more easily managed than those of a complicated nature which have attracted the notice of the public.

J. G. begs to call attention to his CAST-IRON CORRUGATED ARCH BOILER, which from its simplicity of construction has not the liability to fracture to which those of a more complex design are always subject. They have been extensively used for many years, and have given the greatest satisfaction.

All business is conducted at this establishment on the principle of lowest remunerative profits consistent with best materials and workmanship.

## PLANS AND ESTIMATES FURNISHED ON THE SHORTEST NOTICE.

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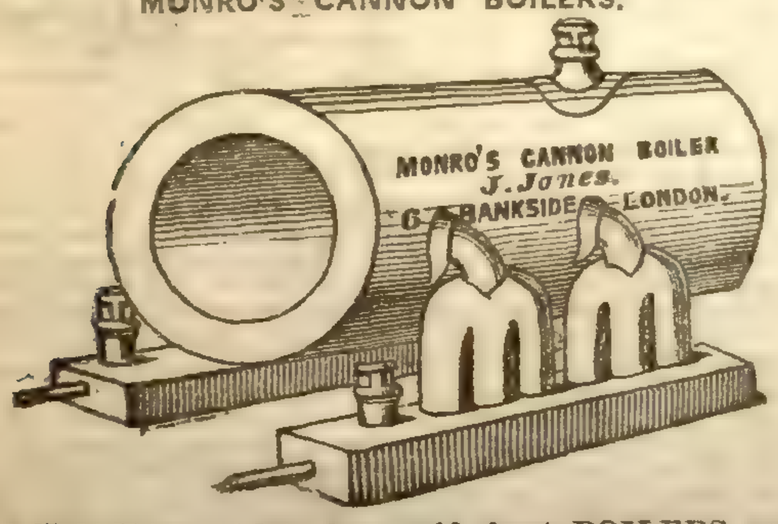
MONRO'S CANNON BOILERS.




MUCH has of late been said about BOILERS FOR HEATING BY HOT WATER, but these Boilers have now proved themselves to be the best at present invented. They are adapted for Heating every description of Building, and are made of various sizes. The price of the

| | | | |
|---|---|---|---|
| 24-inch Cast Iron is | .. .. .. | £5 10s. | each. |
| 24-inch Wrought Iron is | .. .. .. | 6 10 | ,, |
| 36-inch Wrought Iron is | .. .. .. | 8 10 | ,, |
| 48-inch Wrought Iron is | .. .. .. | 12 0 | ,, |

References to Gentlemen and Nurserymen where these Boilers are now at work. The Cannon Boilers are now kept in stock, and are to be had only of J. JONES, 6, Bankside, S.E. Also, every description of Saddle and Cylinder Boilers. Hot-water Pipes and Connections at prices lower than those of any other house in London. Estimates for Hot-water Apparatus erected complete in any part of the country, and an Illustrated Catalogue on application to J. JONES, 6, Bankside, Southwark, London, S.E.

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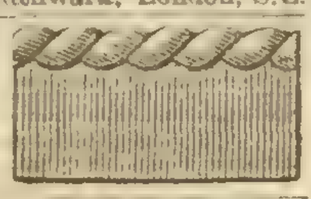
LOOMES AND CO.'S CABLE PATTERN GARDEN EDGING may be obtained of Messrs. HOOPER AND CO., Covent Garden Market, W.C.



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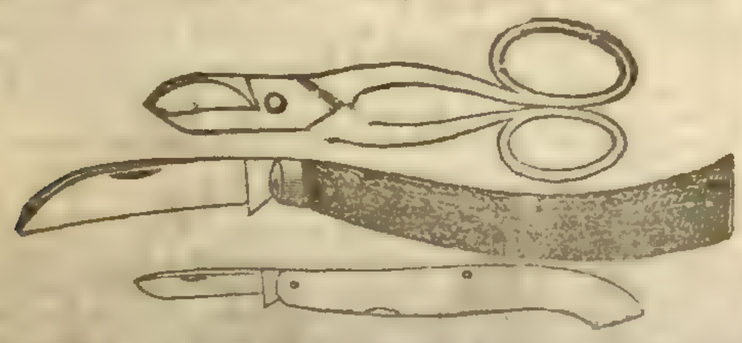
PAXTON WORKS, SHEFFIELD, ESTABLISHED 1738.



SAYNOR AND COOKE'S warranted PRIZE PRUNING and BUDDING KNIVES, SCISSORS, &c.—Sold by all respectable Nurserymen and Seed Merchants in the three Kingdoms.

---

WARNER'S IMPROVED LIQUID MANURE OR GENERAL PORTABLE PUMP.

These Pumps are fitted with WARNER'S Patent Bucket and Valve, and cannot clog in action. The barrel is made of galvanised iron, not likely to corrode, and can be raised or lowered at pleasure on the stand, the legs of which fold together, and may be carried with ease by one man to tank or pond.

| | £ | s. | d. |
|---|---|---|---|
| Stand and Pump, with screwed tail pipe, fitted with strong brass union for suction pipe | 2 | 15 | 0 |
| If fitted with barrel of planished copper .. .. | 3 | 17 | 0 |
| Stand and Pump, with plain tail pipe, for tying on suction pipe .. .. .. | 2 | 9 | 0 |
| 2-inch patent rubber and canvas flexible suction pipe, on wires, either 10, 12, or 15 ft., per foot | 0 | 2 | 2 |

May be obtained of any Ironmonger or Plumber in town or country, at the above prices, or of the Patentees and Manufacturers, J. WARNER & SONS, 8 Crescent, Jewin St., London, E.C.

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# WEEKS' ONE BOILER SYSTEM.

**So styled from the fact that the largest Horticultural Establishments in Europe are now effectually heated by WEEKS' ONE BOILER.**

THE SEASON FOR TESTING THE EFFICIENCY OF A HOT-WATER APPARATUS having arrived, J. WEEKS & Co. are privileged by the under mentioned well-known Horticultural Firms to issue a special invitation to the nobility, clergy, and gentry to pay a visit to their immense Establishments in order to become eye-witnesses of the extraordinary power of WEEKS' ONE BOILER SYSTEM.

J. W. & Co. beg emphatically to assert that their ONE BOILER SYSTEM is is every respect superior to any other method of Heating. It is more economical and clean, requires no night attendance, effects a great saving in labour, and that it is infinitely more efficient is clearly shown by the following statistics :—

| | Length of Pipe Heated on Weeks' One Boiler System. |
|---|---|
| | Feet |
| Messrs. E. G. Henderson & Son, Wellington Nursery, St. John's Wood .. .. .. .. .. .. .. .. | 5500 |
| Messrs. F. & A. SMITH, Dulwich Nursery .. .. .. .. | 10,000 |
| Mr. WOODROFFE, Harrow Road, Paddington .. .. .. | 4000 |
| Mons. LOUIS VAN HOUTTE, Ghent, Belgium .. .. .. .. | 13,000 |

J. W. & Co. also manufacture smaller and less expensive Boilers upon the same principle as the ONE BOILER SYSTEM, ranging in size from Nos. 1 to 6, at prices from 4*l.* up to 60*l.*

J. W. & Co. also invite an inspection of their own HORTICULTURAL SHOW ESTABLISHMENT at Chelsea, which they built expressly as a place of reference for exhibiting various designs and improvements in the Construction of CONSERVATORIES, GREENHOUSES, PINE STOVES, VINERIES, ORCHARD HOUSES, CUCUMBER and other FORCING PITS, together with an extensive WINTER GARDEN, the whole in full and constant operation, and now being managed for the CHOICE FRUITS, displaying an unrivalled selection of HORTICULTURAL STRUCTURES suited for every required purpose.

J. WEEKS & Co. have constantly on hand an extensive variety of HORTICULTURAL BUILDINGS ready for fixing in any part of the country, and also Forcing Frames and Pit Lights in large quantities.

**J. WEEKS & CO., Horticultural Builders and Hot-Water Apparatus Manufacturers,**
**King's Road, Chelsea, S.W.**

PLANS, ESTIMATES, AND ILLUSTRATED CATALOGUES FREE ON APPLICATION

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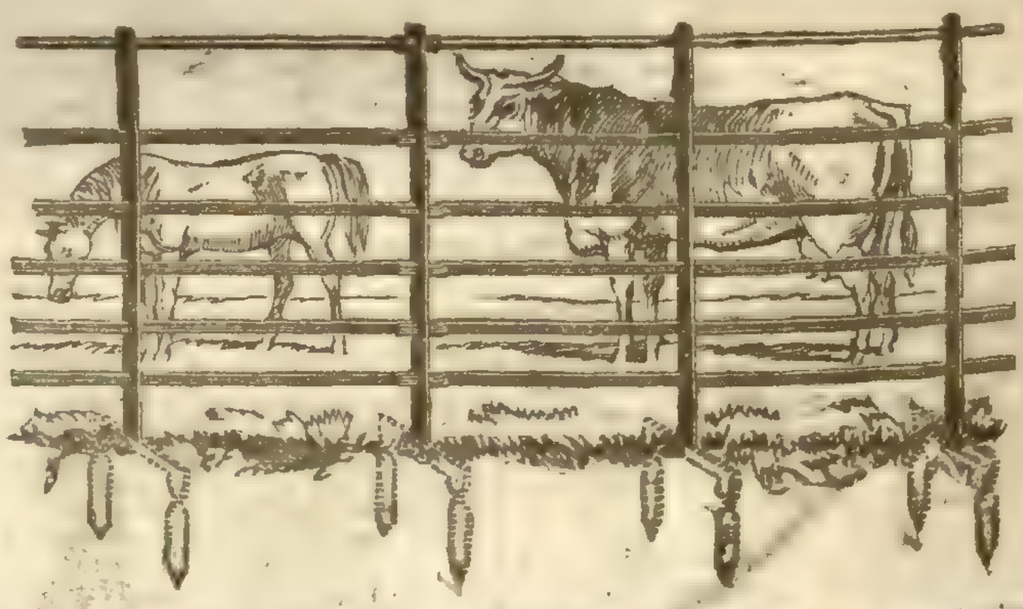
# HILL & SMITH'S

## PATENT CONTINUOUS PARK FENCE



THIS FENCE is made in a variety of sizes suitable for any situation, and is much superior in appearance to the ordinary fences, than which it is also cheaper and stronger. It has obtained upon two occasions the Silver Medal of the Royal Agricultural Society of England, besides many other premiums. Many miles have been erected by HILL & SMITH on the London and North Western Railway, between London and Bletchly Stations, and it has been erected at the Parks of upwards of [illegible] Noblemen and Gentlemen in England; that at Welbeck Abbey, the seat of his Grace the Duke of Portland, being entirely surrounded with it as a fence against Deer nearly 10 miles in extent. The patent principle is also applied to Iron Hurdles, where their strength is much increased and their cost reduced. ILLUSTRATED PRICED CATALOGUES will be sent on application to HILL & SMITH, Brierly Hill Iron Works, near Dudley, who are the inventors and sole manufacturers, or to their London Warehouse, 49, Broad Street Buildings, E.C., where specimens may be seen, or to Mr. B. SAMUELSON'S, 76, Cannon Street West, London, E.C.

## LEE'S NEW WHITE SPROUTING BROCCOLI.

# MESSRS. JOHN & CHARLES LEE

FEEL highly honoured in being the means of introducing this most important Vegetable production to the notice of the Public. The real value of this prolific Broccoli will not be ascertained till it is in the hands of every Cottager in the Kingdom; and they only regret that their present very limited stock will not enable them at once to spread it more widely.

The engraving, taken from a Photograph, which accompanied Dr. Lindley's remarks in the *Gardeners' Chronicle* of Dec. 10, and was inserted in our advertisement of December 17, shows the enormous crop of good White Broccoli to be expected from it under good cultivation. The centre head is large and fine, and the subordinate heads, all of good size, number from 30 to 50. It has remained true to its branching character for four years; it is perfectly hardy, and is in season through JANUARY, FEBRUARY, AND MARCH, a period at which it is so desirable to obtain good White Broccoli.

Sealed packets, price 2*s.* 6*d.* post free, are now ready. To be had of all the principal Seedsmen.

**Nursery and Seed Establishment, Hammersmith, London, W.**

## GENUINE GARDEN SEEDS.

# JAMES CARTER & CO.

ARE NOW READY TO SUPPLY

**COLLECTION OF GARDEN SEEDS OF 1859 HARVEST FOR ONE YEAR'S SUPPLY,**

CONTAINING ALL THE MOST APPROVED VARIETIES OF

**VEGETABLE SEEDS at the following Prices:—No. 1, 20s.; No. 2, 40s.; No. 3, 60s.**

*The following are the quantities they recommend for Cropping a Garden of One Acre, and which they can supply for £3 (Collection No. 3):—*

| | | | |
|---|---|---|---|
| PEAS, Carter's Earliest | 2 quarts | CABBAGE, best sorts, including Carter's earliest | 6 pkts. |
| ,, Early Emperor | 2 ,, | SAVOY, green curled | 1 oz. |
| ,, Harrison's Glory | 2 ,, | ,, new Ulm | 1 pkt. |
| ,, Champion of England | 4 ,, | CAULIFLOWER, best early | 1 ,, |
| ,, Beck's Prize-taker | 2 ,, | ,, Walcheren | 1 ,, |
| ,, Dwarf Green Marrow | 2 ,, | CARROT, early Horn | 2 ozs. |
| ,, Carter's Victoria | 2 ,, | ,, James Scarlet | 2 ,, |
| ,, Hair's Dwarf Mammoth | 4 ,, | ,, Long Surrey | 4 ,, |
| BEANS, Early Mazagan | 1 ,, | ,, selected Australian | 4 ,, |
| ,, Early Long-pod | 2 ,, | CELERY, incomparable dwarf, white | 1 pkt. |
| ,, Green Nonpareil | 1 ,, | CELERY, Cole's crystal white | 1 ,, |
| ,, Taylor's Windsor | 2 ,, | CRESS, plain | 1 pint |
| ,, French Fulmer's forcing | 1 pint | ,, Australian | 1 pkt. |
| ,, ,, Negrolong Pod | 1 ,, | CUCUMBER, fine long ridge | 1 ,, |
| ,, ,, Light Dun | 1 ,, | ,, Carter's Champion | 1 ,, |
| ,, ,, Newington Wonder | 1 ,, | ,, Lynch's Star of the West | 1 ,, |
| ,, ,, Scarlet Runners | 1 quart | ENDIVE, new mossy green | 1 oz. |
| BEET, small selected Blood Red | 2 ozs. | ,, winter green curled | ½ ,, |
| BORECOLE or Kail Scotch curled | 1 pkt. | LEEK, Musselburgh | 1 ,, |
| ,, Asparagus | 1 ,, | LETTUCE, Berkshire Brown Cos | 1 pkt. |
| ,, Cottager's | 1 ,, | LETTUCE, Carter's Giant Cos | 1 pkt. |
| ,, new Cabbaging | 1 ,, | LETTUCE, Black seeded Bath Cos | 1 pkt. |
| BRUSSELS SPROUTS, imported | 1 pkt. | ,, Paris Cos | 1 ,, |
| BROCCOLI, best sorts for succession | 8 pkts. | ,, Drumhead Cabbage | 1 ,, |
| | | ,, Hardy Green do. | 1 ,, |
| | | MUSTARD | 1 pint |
| | | MELON, Carter's Excelsior | 1 pkt. |
| | | ,, Turner's Gem | 1 ,, |
| | | ONION, James Keeping | 2 oz. |
| | | ,, White Globe | 2 oz. |
| | | ,, Reading | 2 oz. |
| | | ,, Giant Madeira | 1 oz. |
| | | ,, Deptford | 2 oz. |
| | | ,, Lisbon | 1 oz. |
| | | PARSLEY, Myatt's curled | 2 oz. |
| | | PARSNIP, fine selected | 2 oz. |
| | | SPINACH, summer | 1 quart |
| | | ,, winter | 1 pint |
| | | SALSAFY | 1 pkt. |
| | | SCORZONERA | 1 ,, |
| | | TURNIP, White Dutch | 4 oz. |
| | | ,, Polley's Nonsuch | ½ pint |
| | | ,, Yellow Maltese | 2 oz. |
| | | VEGETABLE MARROW | 1 pkt. |
| | | ,, Custard | 1 ,, |
| | | HERBS in sorts | 6 ,, |

*Collections* 1 *and* 2 *are similar to the above, with the quantities proportionately reduced.*

J. C. & CO.'S 25TH ANNUAL CATALOGUE OF FLORICULTURAL, VEGETABLE, AND AGRICULTURAL SEEDS, AND GARDENERS' VADE MECUM, will be published early in January.

**237 & 238, HIGH HOLBORN, LONDON, W.C.**

## COVENT GARDEN MARKET, LONDON, W.C.

# BUTLER & McCULLOCH'S

**DESCRIPTIVE AND PRICED CATALOGUE OF FLOWER, TREE, SHRUB, VEGETABLE, AND AGRICULTURAL SEEDS**

(READY IN A FEW DAYS, AND FORWARDED FREE AND POST PAID ON APPLICATION),

The Notes and Descriptive Matter of which have been carefully revised and much valuable information added. The new and recent introduction of species and varieties have also been added, and as heretofore the seeds which require for their maturation a warmer climate than that of England have been saved for us in Italy by that distinguished amateur, the late Sardinian correspondent of Messrs. James Carter & Co., who has appointed us his representatives in this country.

BALSAM.—New Indian Double (new and distinct), pale pink spotted pearl grey.
,, ,, ,, ,, (new and distinct) maculata, pearl grey, with brilliant carmine stripes.
The above are remarkable for their beauty, hardiness, duration, free flowering, and robust growth.
,, ROSE ISABELLA (new), extremely double, light rose chamoise, changing to pale yellow, beautiful.
CELOSIA NOVA species, silvery white, shaded with bright rose. One of the most elegant plants in cultivation, producing a multitude of long spikes of feathery blossoms, extremely beautiful.
DATURA CARTHAGINIENSIS (new), pure white, novelty from Granada. Remarkably hardy, free flowering, with trumpet-shaped blossoms of an immense size, exquisitely beautiful and sweet scented.
,, HUMILIS FLORE PLENO (D. Chlorantha flore pleno). Deep golden yellow. A magnificent dwarf plant from Texas, producing a profusion of long double trumpet-shaped flowers, of great beauty and sweet scented.
RICINUS PURPUREA MAJOR, ,, SANGUINEUS NOVA — Majestic plants, of great beauty and highly ornamental.
PORTULACCA AUREA STRIATA (new), sulphur yellow striped with golden yellow and tinged with red.
,, BLENSONI (new), light scarlet.
,, CARYOPHYLLOIDES (new), rose, striped with brilliant carmine.
The above new varieties are by far the most beautiful of this exquisite genus.
SALVIA SPLENDENS EXCELSA (new), brilliant scarlet, large, and beautiful; very elegant.
SOLANUM HETEROGANUM, large black fruit; new and handsome.
,, COCCINEUM, splendid scarlet fruit.
,, TOXANUM, splendid new var.; height from 1 to 2 feet; fruit of a waxy scarlet appearance, with the form of a Maltese cross in the centre, and may be preserved as an ornament for some time. Foliage shaded mulberry, very handsome, a great novelty.
,, TOMATE (new), remarkable for its brilliant carmine fruit of the form of a large egg; an extremely handsome ornamental plant.
,, VESCUM (new), large violet fruit, charming variety.
DOLICHOS LABLAB ATROSANGUINEUS (new), splendid maroon fruit, exquisitely beautiful.
DOLICHOS ENSIFORMIS, species gigantea Texana. A magnificent climber of rapid growth.
IPOMŒA MARGINATA, richest velvety purple to skyblue, with distinct white border, flowers large and magnificent.
,, RENFORMIS, yellow with violet eye, distinct and extremely beautiful.
,, SPLENDIDISSIMA (new), richest dazzling blue, edged with the purest white, exquisitely beautiful.
TRYHOSANTHES COLUBRINA VERA (True serpent fruit), very long elegant fruit, of a brilliant carmine colour when ripe.
ARCTOTIS GRANDIFLORA (new), beautiful pale sulphur yellow, with dark crimson, extremely large and exquisitely beautiful.
CUPHEA EMINENS, red and yellow, long tuble, magnificent plant, unsurpassed for elegance and beauty, throwing out Araucaria-like branches, covered with the most beautiful flowers.
CYCLAMEN AFRICANUM MACROPHYLLUM SUPERBUM (new), shaded, red, beautiful.
,, NEAPOLITANUM (new), pink and white.
,, ,, ALBUM (new), pure white.
,, PERSICUM ATROPURPUREUM (new).
,, ,, ROSEUM (new)
,, ,, RUBRUM (new).
,, ,, STRIATUM MAGNIFICUM (new).—Brilliant carmine, striped with white, very large, the most elegant and novel variety yet known.
GERANIUM ENDLICHERIANUM.—Curious tuberous plant, blooms the second year; flowers elegant, deep rose, with orange stamens, of an immense length, producing a novel and striking effect.
PELARGONIUMS, in collections to name, embracing only the newest and most magnificent varieties.
CARNATIONS do. do. do.
PICOTEES do. do. do.
MAURANDYAS do. do. do.
TROPÆOLUMS do. do. do.
THUNBERGIA, new, scarlet, splendid.
DIANTHUS CHINENSIS MONSTROSUS (Heddewigi).
CALLIRHOE PEDATA (digitata).
TACSONIA IGNEA.—Splendid scarlet Passionflower, unequalled for the dazzling resplendence of its flowers.
,, MANICATA.—Intense orange scarlet, rays nearly black, giving the effect of a brilliant scarlet Anemone, striking and exquisitely beautiful.

*For further particulars and other choice novelties see Catalogue.*

**BUTLER and McCULLOCH, Seedsmen, Covent Garden Market, London, W.C.**

DWARF MAIDEN FRUIT TREES.—
APPLES.
PEARS. | CHERRIES. | PEACHES.
PLUMS. | APRICOTS. | NECTARINES.
Prices moderate.
Fine and clean grown; and all the leading sorts can be supplied in quantities by GEORGE JACKMAN & SON, Woking Nursery, Surrey.

DWARF TRAINED FRUIT TREES.—
APPLES.
PEARS. | CHERRIES. | PEACHES.
PLUMS. | APRICOTS. | NECTARINES.
Prices moderate.
Great care is taken in the formation of these fine, healthy, free-grown trees. Particulars can be obtained of GEORGE JACKMAN & SON, Woking Nursery, Surrey.

FOREST TREES.

JOHN WATERER has to offer upwards of a Hundred Thousand of each of the following, from 2 to 4½ feet high, and all good rooted:—
CHESNUT | LARCH | BIRCH
HAZEL | ASH | ALDER
SCOTCH | LAURELS | WITHY, &c.
Samples with prices sent on application. Planting done by contract.—The American Nursery, Bagshot, Surrey.

NOTICE TO THE SEED TRADE.—To prevent an erroneous impression in reference to certain collections of STOCKS and ASTERS lately advertised, Mr. APPELIUS has suppressed their sale, and will again only furnish the full-sized packets already known to his customers.
The London Agency of Mr CHARLES APPELIUS, Erfurt.

YORKSHIRE SEED ESTABLISHMENT.

E. P. DIXON begs to announce that his new SELECT PRICED LIST or KITCHEN GARDEN, FLOWER, and AGRICULTURAL SEEDS for 1860 is now ready, and will be forwarded post free on application to
57, Queen Street, Hull.

KEMP'S INCOMPARABLE EARLY CABBAGE.
E. P. DIXON can supply this well-tried Cabbage, which has proved in every way equal to the description given of it last season. It can be safely recommended as the best variety in cultivation, price 1*s.* per packet, and may be had of the following Seedsmen:—
Hurst & M'Mullen, 6, Leadenhall Street, London, E.C.
Noble, Cooper, & Bolton, 152, Fleet Street, London, E.C.
J. Wrench & Sons, London Bridge, E.C.
Beck, Henderson, & Child, Adelphi Terrace, Strand, W.C.
Nutting & Sons, 60, Barbican, London, E.C.
Charlwood & Cummins, Tavistock Row, London, W.C.
Geo. Dixon, 43A, Moorgate Street, London, E.C.
Fisher, Holmes, & Co., Sheffield.
Fisher & Godwin, Sheffield; or of
E. P. DIXON, 57, Queen Street, Hull.

PETER LAWSON AND SON
THE QUEEN'S SEEDSMEN AND WOOD FORESTERS,
respectfully announce that they have now issued their
NURSERY CATALOGUE OF FOREST TREES, CONIFERÆ, SHRUBS, &c.,
which they will be happy to forward free by post on application.
27, Great George Street, Westminster, S.W.

PETER LAWSON AND SON,
THE QUEEN'S SEEDSMEN AND WOOD FORESTERS, 27, Great George Street, Westminster, London, S.W., respectfully announce the issue of their GARDEN SEED CATALOGUE for 1860, which they will be happy to forward free by post on application. Every care has been bestowed on the selection and growth of the various stocks, which P. L. & SON can safely recommend as of best quality, and true to name.

DALMAHOY EARLY POTATOES.
This excellent variety of Potato now meets with a largely increased demand in England, to which it is fairly entitled. It is considerably earlier than the Regent, and of excellent quality. Messrs. P. L. & SON are now prepared to send out carefully selected Seed, for which early orders are requested; and which can either be executed now or in spring, as may best suit purchasers.

NEW ANNUALS.

JOHN GEORGE WAITE, SEED MERCHANT, 181, High Holborn, London, W.C., has great pleasure in offering SEEDS of the following new hardy Annuals:—
CLARKIA PULCHERRIMA,
SCHIZANTHUS GRANDIFLORUS OCULATUS,
HELIOPHILA CŒRULEA STRICTA.
Coloured Drawings and prices of which (to the Trade only) can be had on application.
Seed Establishment, 181. High Holborn, London, W.C.



# The Gardeners' Chronicle.

*SATURDAY, DECEMBER* 31, 1859.


MEETINGS FOR THE ENSUING WEEK.

MONDAY, JAN. 2—Entomological ..... 8 P.M.

To how many of our gardening readers has it ever occurred to investigate the origin of any of the "favoured races" of plants with which they are familiar in the garden, the orchard, or the forest? Many know or take for granted that the most dissimilar kinds of Strawberries, Apples, and Potatoes have all sprung from one stock, and that most of them have originated within a very recent period; as also that the history of many is attainable, did they think it worth the trouble of searching for. Even this limited knowledge is seldom acquired; and it is rarer still to find a gardener who has ever reflected upon the possible origin of the wild plants that surround him; though he not only knows that these are composed

of the very same elements as are contained in the soil and air, but that they are themselves the immediate ancestors of the cultivated plants whose nurture provides him with remunerative labour, and whose increase at the same time supplies him abundantly with food. Little, however, as our gardening friends may have thought of these matters, still the terms "favoured race" and "origin of species," are more or less intelligible to most: but it is very different with "struggle for life." In its application to man civilized and savage, at peace and at war, and in a certain degree to the lower animals, the significance of the phrase is obvious enough; but how it can apply to the vegetable kingdom is not so evident at first sight, and still less evident is its connection with the "origin of species" and with "favoured races."

Perplexed with these thoughts on reading for the first time the title of Mr. DARWIN'S new volume ON THE ORIGIN OF SPECIES,* and knowing that the author is of first-rate standing in science, of great popularity, and a frequent contributor to our columns, we awaited the publication of his book with great curiosity and interest. It is true that we had been referred to a notice in the *Gardeners' Chronicle* (1858, p. 735) of a paper communicated by Mr. DARWIN to the Linnean Society, which gives a clue to the general nature of his work, but rather whetted the curiosity than allayed it; being little more than an indication of one method of research now fully developed, and giving little idea of the extent, variety, and suggestive value of that research, and still less of the comprehensiveness and talent of the present work.

From the above expressions it will be inferred that we have risen from the perusal of Mr. DARWIN'S book much impressed with its importance, and have moreover found it to be so dependent on the phenomena of horticultural operations, for its facts and results, and so full of experiments that may be repeated and discussed by intelligent gardeners, and of ideas that may sooner fructify in their minds than in those of any other class of naturalists, that we shall be doing them (and we hope also science) a service by dwelling in some detail upon its contents. Thus much we may premise, that it is a book teeming with deep thoughts on numberless simple and complex phenomena of life; that its premises in almost all cases appear to be correct; that its reasoning is apparently close and sound, its style clear, and we need hardly add its subject and manner equally attractive and agreeable; it is also a perfectly ingenuous book, bold in expressions as in thought where the author adduces what he considers clear evidence in his favour, frank in the statement of objections to the hypotheses or conclusions founded on its facts and reasonings; and uniformly courteous to antagonistic doctrines. In fine, whatever may be thought of Mr. DARWIN'S ultimate conclusions, it cannot be denied that it would be difficult in the whole range of the literature of science to find a book so exclusively devoted to the development of theoretical inquiries, which at the same time is throughout so full of conscientious care, so fair in argument, and so considerate in tone.

Before entering upon an analysis of those parts of Mr. DARWIN'S work which more immediately concern our readers, we may explain that it is devoted to the inquiry of how it is that the world has come to be peopled by so many and such various kinds of plants and animals as now inhabit it; and why it is that these do not all present a continuous, instead of an interrupted series, capable of being divided into varieties, species, genera, orders, &c. To all careless and many careful naturalists the assertion is sufficient, that they were so created, and have been endowed with power to remain unchanged; but there are considerable difficulties in the way of the adoption of this theory, which all reflecting naturalists allow; whilst more to our present purpose is the fact, that in Mr. DARWIN'S opinion the objections to it are more numerous and some of them more conclusive than the arguments in its favour. In the first there is the fact, that gardeners and cattle and bird breeders have made races which are not only more dissimilar than many species in a state of nature are, but if found in a state of nature would unquestionably be ranked as species and even genera; while the possibility of their reversion to their parent forms is doubted by many and denied by some. Then, there is the fact, that in a great many genera many so-called species present a graduated series of varieties which have puzzled the best naturalists; and that in such genera at any rate it is easier to suppose that the species are not separate creations than that they are so. Again, the whole system of animal and plant classification into individuals, species, genera, &c., presents a series strictly analogous to that of the members of the human or any other family; and we further express our notions of the mutual relations of animals and plants in the very terms that would represent their affinities as being due to a blood relationship; so that either Nature has mocked us by imitating hereditary descent in her creations, or we have misinterrupted her in assuming that she has followed one method for families and another for species. There is then the geological evidence of species not having all been introduced at one period on the globe, but at various successive periods, and in like manner there is abundant evidence that they are being extinguished one by one; and as geologists are now pretty unanimous in believing that the past changes of the globe were the same in kind and degree as those now going on, we can no longer cling to the old vague belief that species were created at a time when all other conditions were different from those now existing; and thus hide one mystery under another. Again, if we hold to original creations we must also admit that it is more likely that a new kind of Strawberry, as different from all the wild as the British Queen is from the Alpine, should naturally originate in England or elsewhere out of air and earth and water, than that it should have originated in accordance with the laws that favoured the gardener's skill in producing the above-mentioned form. Finally, we know that on the one hand all changes of the surface of the globe (of climate, geographical limits, elevation and depression) are extremely slow; and that on the other relations of co-adaptation subsist between the climate, &c., of every country and the animals and plants which it contains; but such co-adaptations could not harmoniously exist if the physical changes were slow, and the creations of species sudden, for in such cases the species must be created either before or after they were wanted, a state of things which no orthodox naturalist would admit; but if, on the contrary, the organisms are supposed to change with the changed conditions of the country they inhabit, perfect adaptation and continuous fitness would be the necessary result.

Such ideas as these, either in whole or in part, have occurred to many naturalists, when in endeavouring to classify their animals and plants, or to account for their distribution, they have found themselves forced to face the difficulty of accounting for their origin. Hitherto most have, as we have already observed, contented themselves with the hypothesis that they were independently created, and the minority have clung to the only other explanation hitherto conceived, that they have all been created by variation from a single first-created living organism, or a few such. Now it must be borne in mind that both these views are mere hypotheses in a scientific point of view; neither has any inherent or prescriptive right to a preference in the mind of the impartial inquirer; but the most superficial observation will show that the hypothesis of original creations is incapable of absolute proof, except the operation be witnessed by credible naturalists, and can only be supported by facts that are either not conclusive against the opposite doctrine, or may be regarded as equally favourable to it; and this hypothesis is hence placed at a disadvantage in comparison with that of the creation of species by variation, which takes its stand on the familiar fact that species do depart from the likeness of their progenitors, both in a wild and domestic state.

On the other hand the hypothesis of creation by variation labours under the disadvantage of being founded upon a series of phenomena, the action of each of which individually, as explained by Mr. DARWIN, would appear to prevent the possibility of species retaining their characters for any length of time, and it therefore appears at first sight opposed to the undisputed fact, that many hundreds of animals and plants have transmitted their characters unchanged (or nearly so) through countless generations, and covered, even within the historic period, many square miles of country each with millions of its exact counterpart. To explain this anomaly and to raise this hypothesis of creations by variation to the rank of a scientific theory, is the object of Mr. DARWIN'S book, and to do this he has endeavoured to invent and prove such an intelligible rationale of the operation of variation, as will account for many species having been developed from a few in strict adaptation to existing conditions, and to show good may by the operation of natural laws be so far fixed as to reconcile both the naturalist and the common observer to the idea, that what in all his experience are immutable forms of life may have once worn another guise. The hypothesis itself is a very old one; it was, as all the world knows, strongly advocated by LAMARCK, and later still by the author of the "Vestiges of the Natural History of the Creation," but neither of these authors were able to suggest even a plausible method according to which Nature might have proceeded in producing suitable varieties, getting rid of intermediate forms, and giving a temporary stability to such as are recognised as species by all observers. Mr. DARWIN has been more successful, though whether completely so or not the future alone can show. We shall proceed to examine his method in another article.

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IT was formerly supposed that but one kind of Mushroom ever made its appearance on artificial MUSHROOM BEDS. The notion probably arose from the circumstance of the spawn being often prepared from a mere admixture of different matters, without any positive spawn brought in from the fields, and as Mushrooms were supposed to spring from this mixture by a sort of spontaneous generation, it was conceived that it would require a different concurrence of circumstances to produce any other species. It is now, however, notorious that no Mushroom will ever make its appearance without the presence of spores, and if the spores of one kind are accidentally present, those of another have at least a certain chance of being so.

Be this, however, as it may, many other species of Agarics make their appearance in the Mushroom bed, as was first pointed out to us some 30 years ago by Mr. J. HENDERSON, the scientific gardener of Earl FITZWILLIAM.

A very remarkable case is now before us which is worthy of an especial notice. We have, indeed, no information as to the mode in which the Mushroom bed of which we are about to speak was prepared, or from whence the spawn was obtained with which it was inoculated; but certain it is that the general crop is very different from anything we have met with before, nor can we find anything similar recorded in scientific works on Fungi. One patch alone in the bed, which produces a succession of scattered Mushrooms true to the type of those which first appeared in the patch, accords with the usual produce of our sheds. The cap, for example, is nearly hemispherical, of a delicate reddish brown, and marked with little close-pressed scales, while the stem is short and stout.

A second form appears in large quantities, deviating distinctly from the more ordinary form. The whole plant is smaller, the pileus convex but inclined to expand early, its colour a deep red brown, and the surface finely silky but not scaly. The stem is much more slender than in the common type and inclined to be bulbous at the base, and the whole plant approaches near to *Agaricus silvaticus*,* but has not its peculiar smell.

The principal crop consists of a very peculiar Fungus, which is at once distinguishable by the pileus being almost uniformly strongly depressed in the centre, and of an opaque white as if whitewashed and either perfectly smooth or ornamented with a few scattered scales. The pileus in fact has rather the appearance of that of one of the white-gilled than of the dark-gilled Agarics, and is extremely like that form of *Agaricus pileolaris* figured by BATSCH under the name of *A. subinvolutus*, and which is reckoned by Dr. BADHAM one of the best and most wholesome of our Fungi, though we cannot quite subscribe to the former part of this opinion. The stem is stout and moderately high, and the flesh does not exhibit any that pale brownish-purple tinge which is so common in some forms of the Mushroom when grown in the field or the Mushroom-house; but is very white, with occasionally a tinge of yellow. It is soft, succulent, and well-flavoured, and in some respects superior to those which are usually cultivated. Indeed, we never partook of any highly flavoured and excellent in every respect as they are when stewed.

Had the specimens appeared naturally in the woods, they would undoubtedly have been considered as constituting a distinct species; but as no similar wild plant is known, it will be best for the present to regard it as a variety produced by cultivation.

The matter however is interesting, as it tends to show that something may be done even in this department of horticulture towards an improve-

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* On the Origin of Species by means of Natural Selection; or the Preservation of favoured races in the Struggle for Life. By CHARLES DARWIN, M.A., F.R.S., &c. 8vo. pp. 502. London, 1859.

* Eaters of Fungi must distinguish *A. silvaticus*. There is a woodland form of the common Mushroom which is excellent, but there are others which are very [illegible]

ment of our present race. Some years ago we were anxious to introduce a very fine variety from Australia, and a distinct species from Carolina of superior excellence, but neither succeeded. It is possible that the present plant may also be of foreign origin; but be this as it may, we should counsel the excellent cultivator who has supplied the specimens to try if possible to keep the spawn distinct, so as to ascertain its merits as an object of cultivation, whether it be looked upon as species or variety. Should he find that it has such requisites as may make it desirable to propagate it permanently, it must be brought out under a distinct name, as its peculiar appearance might make purchasers hesitate at first about its qualities. *M. J. B.*

## MYCOLOGY.

UNDER this head we propose to give occasionally illustrations of the most remarkable Fungi which commonly occur. They will be prepared by our valued correspondent, the Rev. M. J. Berkeley, one of the most learned of living Mycologists, and will be on the plan of the entomological articles which have been found so interesting as well as instructive.

## TRADE MEMORANDA.

IN our last Number we inserted under this title an explanation of a most unfortunate mistake made by the Manchester Police, in answering an inquiry addressed to them by Mr. Scott, of Crewkerne, and by which we have been led in our Number of December 17 to give admission to a paragraph reflecting on the character of a highly respectable gentleman, Mr. G. F. Mandley, of Manchester, who in consequence of a similarity of name was mistaken by the Police for an entirely different person. Our last Number contained a copy of a letter from the Chief Constable of the Manchester Police, which showed clearly who was responsible for the error, and explained how it occurred. We had hoped this explanation would have been satisfactory to Mr. Mandley, but we regret to find from a communication from his solicitors that such is not the case. We scarcely know what we can add to the paragraph in our last Number, but that nothing may be wanting on our part, we beg again to express our great regret for the error into which we have been inadvertently led, and we offer to Mr. Mandley the fullest and most ample apology we can make for it.

*To the Editor of The Gardeners' Chronicle.*

SIR,—I am exceedingly sorry to find that I have unintentionally and unwittingly been the cause of undeserved annoyance to G. F. Mandley, Esq. of Manchester, a gentleman of unblemished character, through information sent me by the superintendent of the Manchester Police, and which I sent to you for publication—a proceeding I now highly regret. And I may say had I had the slightest idea that the information was wrong, as regards Mr. Mandley, I would certainly not have sent it. But having a recollection of seeing the name somewhere, and a warning for Nurserymen to beware of him, it struck me that it was necessary to make inquiry, and not knowing any one in Manchester to whom I could apply, I naturally did so through the police, asking them at the same time to inquire at the Post Office whether such a gentleman really lived at the address which I sent to him, the superintendent. Had he done so the mistake would not have occurred. I trust therefore that this public apology on my part will be acceptable to Mr. Mandley whose character I am now well aware cannot suffer from what has taken place, for there really appears to be a person of nearly the same name known to the police. My own recollection of the name, and the superintendent's statement at once threw me off my guard, as I think it would have done any one else. I had no private end to serve by the publication, but was alone desirous to prevent others from being taken in; that I was perhaps too hasty in sending the information to you I must leave you or others to judge. All I can now do is to express my regret at having been accessory to giving so much pain to a gentleman standing so high in the estimation of his fellow men. *John Scott, Merriott Nurseries, Crewkerne, Somersetshire.*

## DR. DAUBENY'S LECTURE ON THE THEORY OF ANIMAL NUTRITION.

(*Concluded from p.* 1038).

MR. LEWES, however, contends, that respiration is not a process of combustion, but of exchange, because oxygen does not combine with carbon, but is merely substituted for carbonic acid, at the spot where the latter is disengaged. A candle, he observes, goes out, because there is not enough oxygen to maintain combustion; whilst an animal dies, because there is so much carbonic acid present, that it acts upon the system as a poison.

The distinction between the two cases is ingeniously put in some experiments reported by this same author. If we take an atmosphere reduced to 15 per cent. of oxygen by the burning of a candle, a taper will be extinguished owing to the deficiency of oxygen, but a bird will continue to live in it for some time longer, provided the carbonic acid be removed. If, on the contrary, we mix together 50 per cent. of oxygen and 50 of carbonic acid, the animal dies, but the taper goes on burning.

Moreover by removing in time the excess of carbonic acid by the introduction of potass, the animal recovers; so that it is evident that the cause of suspended animation must in this case be sought for in the poisonous qualities of the carbonic acid, and not in the deficiency of oxygen.

On what does this poisonous quality depend? Here physical and chemical explanations are at fault, or at least only partially guide us towards the solution. Yet this much may be admitted, namely that if respiration consist in an exchange of oxygen for carbonic acid, the quantity of the latter gas expired will according to well-known physical laws be diminished by the presence of a larger quantity of it in the air inspired. Now this will have a tendency to check those internal changes in the system, of which the removal by oxidation of dead matter, and the generation of animal heat, are the results; and hence in cold-blooded animals, where these changes go on more slowly, and the demand for animal heat is less considerable, an atmosphere surcharged with carbonic acid may be supportable, so that they may be introduced with impunity into air so vitiated that it is impossible for warm-blooded animals to live in it. Indeed, even in a languid state of the constitution, whether occurring naturally, or induced artificially by the gradual introduction of carbonic acid, its slower evolution from the lungs may be attended with less inconvenience than common, because that metamorphosis of the tissues, which renders the act of respiration so necessary, is taking place with less than ordinary rapidity.

But what may be the nature of those differences in the organisation of a species or of an individual, which renders the one or the other capable of living with a smaller expenditure of animal heat, and a less rapid change in his living tissues, is a problem beyond the reach of chemistry, and I suspect of physiology also. Even granting however with Mr. Lewes that respiration consisted merely in the substitution of oxygen for carbonic acid, I cannot regard such a fact as a valid objection to Liebig's theory of animal heat.

For where after all does the carbonic acid which is there given off proceed from, except it be from the union of oxygen with carbon in various parts of the body?—and wherever this takes place, whether it be in the capillaries or in the blood, an equivalent amount of heat will result. Nor is it altogether true that respiration is merely a process of exchange; were it so, the lungs ought to be the coldest part of the body from the large amount of cold air which they inspire, whereas not only do they keep up their own temperature, but the most recent experiments made upon the subject, those of Mr. Savory,* serve to show, that arterial blood is always somewhat warmer than venous, and therefore that the absorption of oxygen must be attended by a process of combustion.

Baron Liebig has proposed a most ingenious theory, to account for the transmission of oxygen through the system, and its gradual union with carbon. The blood corpuscles, he says, contain a compound of iron, which latter combines with oxygen, and thus passes, first, into the state of protoxide, and afterwards into that of a peroxide, imparting to it the florid colour which arterial blood presents. But this blood, in its course through the capillaries, gives out a portion of its oxygen to the carbon present, whence it happens that the peroxide of iron is converted into protoxide, and that the resulting carbonic acid combines with it. Hence, the darker colour of venous blood arises from the presence in it of a proto-carbonate of iron as an ingredient of the blood corpuscles. But carbonate of iron is decomposed by oxygen, the carbonic acid being set at liberty and the iron remaining in the state of a protoxide. Hence arises the evolution of carbonic acid during the process of expiration, its transmission being the joint effect of the law of exosmose, which enables it to pass through a membrane, and of the interchange of oxygen for carbonic acid taking place in the cells of the pulmonary apparatus, as a consequence of the law of gaseous diffusion.

But ingenious as this explanation is, we are not compelled to adopt it, in order to espouse the chemical theory of animal heat, since the main principle of the latter remains unaffected by its truth or falsehood; the point for consideration being, not whether oxygen is transmitted, and carbonic acid produced, in the precise manner represented by Liebig, but whether or not the substitution of oxygen for carbonic acid is attended by the disengagement of a commensurate amount of heat, and whether that heat be, or be not, sufficient to maintain the body at the temperature necessary for the continuance of life. The second of these propositions may indeed still admit of dispute, but the former cannot be set aside by showing, that muscular contraction and other vital actions are independent sources of heat, nor even that the process by which carbon becomes united with oxygen is a more circuitous one than chemists have been in the habit of regarding it.

The curious cases adduced, in which animal heat appears to have been generated after life has become extinct, may be explained by the continuance of the process of oxidation within the vessels, owing to the union of the oxygen of the blood-corpuscles with the carbon of the tissues, and seems, therefore, referable to chemical processes still carried on. It is a fact at least not more incredible than that of processes of growth and secretion taking place under the same circumstances, and does not necessarily imply the continuance of respiration during the same period.

Mr. Lewes, in objecting to Liebig's theory of nutrition, states with perfect correctness, that the oily and saccharine materials which are taken into the system do more than merely minister to the production of animal heat; fat, which is one of the constituents of the animal body, being derived from these portions of our food.

This however is in entire accordance with the views of Liebig, who attributes the accumulation of fat in the system to the excess of those materials taken in, beyond what is expended in the production of heat, the only apparent discrepancy between the two statements being, that Liebig would seem to represent fat as excrementitious, that is, stored up to meet the demands of animal heat, and not to fulfil any specific function in the organism; whereas Lewes points out, that it forms a necessary constituent of the brain, and that it is not entirely got rid of even from other parts of the body in cases of starvation, where the tissues have been largely drawn up for the maintenance of the heat necessary for vitality.

It would be right indeed to distinguish between those parts of the body which are necessary constituents of one or other of its organs, and those which, though doubtless contributing to the easy and perfect performance of their functions, seem to be superadded, and in a degree contingent.

The fat of the brain, and the water which gives transparency to the cornea and the milk-white colour to the cartilages, must be placed in the former category; the fat associated with flesh in the second; for it would be just as illogical to regard the latter as an essential constituent of tissue, because it lubricates and thereby facilitates the action of muscle, as to consider grease as a part of the wheel, because the latter will not perform its office of rotation easily without it.

According to these principles it will follow, that milk, the food assigned by Nature to the young of all the higher animals, represents in itself all the necessary elements of nutrition. Thus the nitrogenous constituent is present in the caseine or cheesy portion, and the non-nitrogenous in the oily and saccharine.

The co-existence of both the latter would seem to imply that something more than the generation of animal heat is thus provided for, and that, as Lewes suggests, whilst the oil is likewise subservient to the formation of fat, the sugar may promote some other function hitherto undetermined. This, however, if established, although an addition to Liebig's theory, would by no means be a subversion of it, so long as the main division of food into flesh-producing and heat-producing materials remains undisturbed.

There are, indeed, in milk two other ingredients which ought to be taken into account when we are considering its nutritive qualities. I mean the salts and the water which it contains. Both these Lewes represents as having been overlooked by Liebig, but no one who recollects the importance the latter attaches to the presence of phosphatic matter in the food, can doubt that he was fully alive to the necessity of the former, or help concluding, that the only reason why he did not distinguish them in the milk, was that in this fluid, as in many other articles of diet, they are necessarily associated with the albuminous principle.

Lewes, indeed, quotes some experiments tending to show, that adult animals cannot subsist wholly on milk, and hence draws an inference as to the insufficiency of chemistry to enlighten us with respect to the mysteries of digestion.

I have already admitted that much remains unexplained with reference to this process, but as regards the unfitness of milk for the sole diet of adults, it may not be difficult to suggest reasons, connected with its chemical constitution, which should render the fact intelligible.

Ordinary woman's milk is found by analysis to contain no less than 88.6 per cent. of water, and of the remaining 11.4 per cent., 3.9 are nitrogenous, and therefore destined for building up and renewing the system, only 7.5 being designed to produce heat.

If we reckon 5 per cent. of the latter as saccharine, and 2.5 as oily, we shall find about $\frac{1}{2}$ of carbon in the first, and $\frac{3}{4}$ in the latter ingredient, making the per centage of carbon present in the heat-producing materials of milk not more than 3.3 per cent., or about $\frac{1}{30}$th of the whole.

Now the consumption of carbon daily in an adult varies, according to the exercise he takes, and other circumstances, from 14 to 8 ounces, the mean probably not being less than 10. Supposing therefore an adult to derive all his heat-producing materials from milk, it would be necessary for him to consume 30 times that quantity, or 300 ounces; nearly 19 pints or more than $2\frac{1}{2}$ gallons.

On the other hand fresh meat contains only 74 per cent. of water, and Wheat bread barely 25; so that an English foot soldier, who consumes his allowance of $\frac{3}{4}$ lb. of meat and 1 lb. of farinaceous matter per diem, with the addition of perhaps $1\frac{1}{4}$ lb. in the shape of vegetables, receives as much nourishment in about 3 lbs. of solid food, as he would obtain from 6 times that amount of milk.

It is therefore quite natural, that so diluted a form of nourishment, however suitable it may be to the weak digestive powers of an infant, should fail in the long run to support the more vigorous system of an adult. In milk too, the flesh-producing ingredient caseine would seem to bear a higher ratio to the heat-producing saccharine and oily principles than is the case in ordinary diet, at least if Liebig be correct in estimating the proper proportion at about 1 part of the former to 4 of the latter; for the caseine in woman's milk is 3.9, whilst the sugar and oil together are only 7.9, a provision being thus made for the rapid growth of the infant.

Upon the whole then, nothing that has yet been brought forward appears to me to militate against Liebig's main proposition, namely, that no animal can supply the waste of his muscular tissue without the aid of one or other of the modifications of

* Demonstrator of Anatomy at St. Bartholomew's Hospital.

the so-called proteine principle; and with respect to the animal matter of his bones and cartilages the same rule applies, only that, inasmuch as it is necessary that the above materials should for this purpose be converted into gelatine, animal jelly, when taken as food, may perhaps contribute to this latter office.

Now flesh and bone constitute, not only the most essential, but also the largest portion of our fabric, and hence the principles which supply their waste deserve in an especial manner to be regarded as *plastic materials*. Had Liebig called them by the name of flesh-producing, no cavil could have been raised against his position.

Inasmuch, however, as phosphoric acid, in combination with lime or with some other base, appears to be necessarily associated with animal matter both in the one and in the other, it may happen that an article of food, like Wheat, which is less highly charged with nitrogen, affords more nourishment than another, like Pulse, in consequence of the greater abundance of the phosphates present in its composition.

Experiments indeed are quoted, in which saccharine and even albuminous principles appear to have been carried off in the system by combustion more rapidly than fat; and Dr. Gilbert reports that cattle, during a period of very hot weather, which destroyed several, and affected the health of all, consumed more non-nitrogenised food than they had done previously.

In certain states of disease also, we find in the human subject a ravenous appetite, coupled both with a waste of the tissues, and a chilliness of the system arising from the imperfect production of animal heat. For this I have attempted to account already, by supposing that in these cases the food is removed as excrementitious before it has time to carry out its intended office; admitting thereby, as I am quite ready to do, that even where the material itself is amply supplied, a certain exertion of nervous energy will be requisite to accomplish the object for which it is designed. But no candid reasoner would regard these facts as sufficient to overturn the inference founded upon the accumulated experience of all ages, that, normally speaking, the demand for food, if possible of an oily nature, but at any rate for food of some description, is greater, in the colder regions of the globe, and during winter, than it is under opposite meteorological conditions.

The phenomenon in short is at bottom a chemical one, but it nevertheless requires the co-operation of vital forces for its accomplishment; and hence, as was long ago shown by Sir Benjamin Brodie, nervous energy is essential to the production of animal heat, although the evolution of carbonic acid from the lungs may continue for a certain time after life becomes extinct.

It would occupy too much time if I were on the present occasion to notice all the objections which the ingenious author of the popular work alluded to has alleged against other of Baron Liebig's theories, nor is it necessary that I should do so.

Physiologists have hitherto been more successful in exposing the weak points in the chemical explanations of vital phenomena than in substituting any of their own, and have therefore no right to shake the faith of the public in principles which remain undisturbed, by pointing to others which are merely conjectural or perhaps fallacious. I will therefore pass no comment upon, and offer no vindication of, the attempts of the German chemist to explain the uses of the liver and kidneys, the agency of alcoholic stimuli, the cause of fever and inflammation, and the medicinal effects of tea, coffee, or other vegetable alkaloids.

Ingenious as I conceive these views to be, they do not affect the questions before us, and may therefore be left to be dealt with on some future opportunity when similar topics come to be discussed.

Confining myself therefore for the present to those leading principles which are believed to rest on a sufficiently sound foundation, I will conclude this lecture by stating a few of the practical influences deducible from them respecting matters of daily experience.

And first it is to be remarked, that in accordance with the foregoing considerations it would seem, that a mixed diet of animal and vegetable food is the one most adapted to an animal like man, whose digestive organs are so framed as to admit of the easy assimilation of either; the most economical arrangement being that which provides a sufficiency of vegetable food for the production of heat, and of animal for supplying the waste of the tissues.

Late investigations appear to have shown it to be a fallacy to suppose, that any nation habitually or by preference subsists upon vegetable food alone. Such may be the case with a few miserable savages, who want the skill to cater for themselves, and are driven to be content with whatever, either of a vegetable or animal nature, Nature has placed within their reach; but the Hindoo, who was said to live wholly upon rice, is now proved by the inquiries of Dr. Watson to consume, whenever he can manage to obtain it, as much as from ¼ to ⅓ of Pulse or dried fish, in addition to Rice, even where the latter is obtainable at the cheapest rate. Where this is not done, the results of starvation are visible in every direction, although the distended stomach of the poor Ryot shows that the largest possible quantity of Rice is taken to supply the nitrogen required.

In like manner, in the poorest parts of Ireland, where Potatoes have been said to form the staple food of the population, a free use of buttermilk is found to be a necessary addition.

In Spain, where little meat is eaten by the peasantry, *Garbanzas* and other Pulses constitute important articles of nutriment.

Liebig's views also lead us to understand, how it happens, that an almost exclusively animal diet may be resorted to with impunity by persons in the vigour of life and undergoing much bodily exertion.

The German chemist, as I hope has been already shown, never meant to say, that nitrogenised compounds could not supply the materials for generating animal heat, but only that they must first be rendered effete, and secondly be deprived of their nitrogen by the operation of the kidneys, which carry it off in conjunction with part of the carbon, chiefly in the form of urea. When we recollect, that lean flesh does not contain more than about 26 per cent. of proteine compounds, the rest being water, and that in the former there exist not more than 15 parts of carbon; whereas in Wheat flour the per centage of water is only from 13 to 15 per cent., and that of starch alone there is about 60, in which are present 26 of carbon, without reckoning other ingredients capable of yielding the materials for combustion, it may be readily understood, that a larger amount of animal food must be requisite to maintain the temperature of the body, than of vegetable.

Accordingly, where no vegetables are employed, the process is a more wasteful one, not only from the higher price paid in the first instance for a given weight of the material, but also because a certain amount of its constituents must always be carried off as excrementitious, without contributing to the production of heat.

In the next place the principles laid down by Liebig serve to expose most convincingly the absurdities of the Vegetarian System adopted by certain parties in this country, some of whom at least might be presumed, as conversant with science, to possess a degree of insight into the true theory of nutrition. It would be out of place of course on this occasion to comment upon the moral considerations which have prompted men to this practice, although I can find no warrant from Scripture or from Reason, no analogy in Nature, no motive in Humanity, for an entire abstinence from animal food.

Confining ourselves, however, to the physiological, or if you please the chemical phase of the question, it is hard to see what possible advantage can accrue to the system, from drawing the supply of nitrogenised materials from vegetables, to the exclusion of those derived from the animal kingdom.

Both, as chemistry assures us, contain the same descriptions of azotised matter, at least with very slight modifications, but the former in such comparatively small proportions, that it is necessary to distend the stomach with a superfluity of heat-creating materials, to obtain a sufficiency of those which are flesh-producing.

We have spoken of the unhealthy condition of those Ryots who submit from necessity to such a diet, and we have reason to believe that the inhabitants of the tropics, who live more upon vegetables than ourselves, are able to put up with it only, because, owing to their more indolent habits, there is a smaller expenditure of tissue, and therefore less waste to supply.

Doubtless a man in vigorous health, and in the prime of life, may subsist wholly upon vegetables without feeling any bad effects from the practice. I have known an eminent surgeon, who, after a year's abstinence from meat, found himself at the end of the time with his weight undiminished, and his capacity for mental and physical exertion unimpaired. In his case, the system was powerful enough to get rid without inconvenience of the large amount of unnecessary matter, which he was compelled to digest, in order to extract from it the requisite quantity of principles really nutritious.

In some cases too certain idiosyncrasies, which I know not whether the physiologist can explain, may render animal food unwholesome or unnecessary.

Mr. Anderssen the Dane mentions that the strongest man he had ever seen in his own country was a porter, who never took a particle of meat.

There is also somewhat of a fallacy in an individual flattering himself that he is subsisting upon vegetables, if milk, eggs, cheese, butter, or Mushrooms, enter into his dietary.

In short, the only difference between the vegetarian and ourselves is, that the former consumes the same principles in a less concentrated form, and gets rid in the course of his digestion of a larger amount of superfluous matter.

In certain states of the system, indeed, or in particular seasons, the usual amount of animal food may prove too stimulating, because, whatever excess of nitrogenised principles, beyond the demand for waste, is taken into the system, must be got rid of, and in so doing may occasion disease. But, on the other hand, in old age and in feeble health, it is seldom advisable to resort to a vegetable diet, and far more common to prescribe a larger *relative* amount of animal food than would be suitable to younger persons.

I suspect, also, that many well-intentioned persons labour under a kind of self-delusion, in their constrained abstinence from nutritive food on certain days and in certain seasons.

If a man has eaten too little to supply the demands of the system on one day, Nature instinctively prompts him to make up for the deficiency on the next, so that the absolute amount of food consumed in the course of a given time is in general little, if at all, affected by such observances

Should he, on the contrary, maintain such a constant watch over his appetite as to prevent this consequence from ensuing, he must expect his capacity for fulfilling the active duties of his calling to be diminished in proportion; for a certain amount of mental or bodily exertion necessarily entails a certain expenditure of tissue to be replaced by nutriment. Or if exhaustion and debility did not supervene, the only legitimate conclusion to be drawn is, that his ordinary mode of living was in excess, since it admitted of reduction with impunity.

Another inference which may be deduced from the principles laid down is, that an indulgence in a variety of articles of food is more conducive to health than a rigid adherence to a very few. If the contrary notion has prevailed, and if simplicity of diet be deemed conducive to healthy nutrition, I believe the idea has arisen, rather from the appetite being stimulated to commit excess by having a number of dishes set before it, than from the unsuitableness of a mixture of viands when taken into the stomach in a proper quantity. For my own part, with all due respect for the roast beef which holds so prominent a place on the table of an Englishman, I should, if confined from day to day to one and the same dish, prefer dining upon the Spanish Olla Podrida.

Considering indeed the very limited powers which the digestive organs possess of altering the chemical constitution of the principles presented to them, it seems important, that everything which enters into the composition of a healthy animal should be presented to it in the food, and this can best be brought about by a diversity of aliments. Accordingly Miss Martineau, in her recent work, entitled "England and her Soldiers," dwells upon the advantages that accrued to the sick in the Crimea, from varying from day to day their dietary, and rendering it at once more savoury and more diversified than had previously been the case.

And this leads me to consider why gelatine, once thought so nutritious, has been found utterly unsuitable of itself to supply the wants of the system. The fact that animals fed upon this substance, exclusively, or even with the addition of sugar and mucilage, gradually die of starvation, was indeed established experimentally by Majendie, but the true explanation was reserved for Liebig.

Before his time it would have seemed surprising, that a principle so rich as this is in nitrogenised ingredients should be incapable of permanently making good the waste of the tissues. The researches of the German chemist appear to have solved this mystery.

He pointed out that, although gelatine may be elaborated from proteine compounds, as may be seen by comparing the composition of the one with the other, the latter never have been produced by a retrograde process from gelatine, nor are likely, judging from analogy, ever to be so generated. Gelatine may be regarded as proteine combined with a certain portion of water, ammonia, and oxygen, or according to another view of its composition, it is proteine from which carbon has been abstracted owing to the action of oxygen.

But according to either view of its composition proteine could only be produced from gelatine by the removal of oxygen, and it is still very questionable whether this, which is a process of reduction, falls within the powers of the animal economy, although it is so often effected in the vegetable.

This will be seen by the following formula:—

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Gelatine | C | 48 | N | 7.5 | H | 41 | O 18 |
| Proteine | C | 48 | N | 6.0 | H | 36 | O 14 |
| | | | or, | | | | |
| Proteine | + | | N | 1.5 | H | 5 | O 4 |

In which it will be observed that all the elements present, except carbon, are in larger proportion in gelatine than in proteine.

Lehmann indeed contends that processes of reduction do take place occasionally in the animal system, but the instances he adduces are for the most part such as occur out of the body as well as in it, such, for example, as the change of sulphates into sulphurets, and of peroxides into protoxides, which is owing to the abstraction of oxygen by the organic matter present, and is therefore fairly referable to chemical causes alone. Two other cases, viz., the formation of stearic acid and of cholesterine, seem of a more doubtful character; but the general tenour of observations must be admitted, I think, to be so much opposed to Lehmann's explanation, that there is room to suspect that these two products may have been formed in some other way.

It may be said, however, experience shows, that jelly administered along with other kinds of food contributes to a certain extent towards the nourishment and support of the body, especially in the case of invalids. Although in the last edition of his "Chemical Letters" Liebig seems hardly willing to admit this as a fact, I will assume its truth as based upon general belief, and shall merely express my surprise that its explanation does not appear to have occurred to Mr. Lewes, judging by the remarks in p. 83 of his book, in which he objects to the chemical theory of nutrition on this very ground. Inasmuch as the animal matter present in the bones and cartilages consists of gelatine, it is quite as conceivable that the latter may supply the waste that takes place in these parts of the body, as that oil should restore the deficiency in the fatty constituents, as he himself maintains; and if this be the case, its exhibition may relieve the system from the necessity of making it good by the oxidation of the proteine compounds assimilated, so as to enable us to dispense with so large a quantity of the latter.

But if gelatine be incapable of enriching the blood

with materials fit for replacing the loss of muscular fibre, whatever quantity of it is introduced, beyond what makes good the waste in the gelatinous parts of the body, must be eliminated as so much excrementitious matter, and therefore be either useless or injurious.

Guided by these considerations, Liebig introduced his now well-known substitute for the animal jelly formerly so much in request for invalids. It is hardly necessary at this time of day for me to state, that this preparation is procured by mixing minced beef with an equal weight of cold water, and then slowly heating the mixture to the boiling point. After keeping it simmering for about a minute in order to coagulate the albumen, the liquor is strained through cloth, and that still contained in the fibrous portion remaining on the filter afterwards pressed out. The juice thus obtained retains the most nutritious parts of the meat, the fibrine and gelatine which remain behind being, comparatively speaking, unimportant. When it is wished to include the gelatine, a somewhat longer process of boiling is necessary, but even then the fibrine remains undissolved; nor is this any loss, because, although identical with muscular fibre, it is so difficult of digestion, that even a dog fed upon it lost in the course of 43 days one-fourth of his weight. Lehmann indeed has shown that the fibrine of the blood differs in some respects from that of the flesh, so that it is quite probable that the conversion of pure muscular fibre into that which enters into the constitution of the circulating fluid may lie beyond the powers of the digestion.

We perceive indeed, from many of the facts already stated, how limited is the power of the living principle to accommodate to its own purposes the principles presented to it from without. Far from being, as was formerly supposed, capable of enhancing or annulling the chemical affinities subsisting between two bodies, so as to produce combinations within the system which do not take place out of it, the powers of life are unable even to appropriate the materials presented to it when chemically identical with the constituents of the body, unless their mechanical condition be favourable to their easy assimilation; so that although muscular fibre may be produced from albumen, its waste cannot be supplied wholly from fibrine, and in no degree from a product so rich in nitrogen as gelatine.

The remarks which I have made in the course of this Lecture with regard to diet and nutrition will not be thrown away, if they only serve to sharpen inquiry, by showing how much remains to be done before the most ordinary processes of the animal economy can be regarded as explained.

In this respect indeed there is no difference between myself and the ingenious writer of the popular Work so often alluded to in this Lecture, a work which I strongly recommend to the notice of my hearers, as one highly calculated to awaken an interest in questions of Physiology, not only from the lively and graphic manner in which the facts are placed before us, but also from the variety of information brought together from so many distinct sources.

My only complaint with its Author is, that because Chemistry is confessedly unable to explain much which is taking place within our microcosm, and because it has presented us with questionable explanations of some of the phenomena with which it has dealt, he would discourage us from accepting its guidance altogether, forgetting that for nearly all we know for certain with respect to animal heat, respiration, and digestion, we are indebted to the researches of the chemist.

Doubtless, indeed, even on these points many questions remain to be solved, and many anomalies to be reconciled; but although it is easy to say that the solution of these doubts, and the reconcilement of these anomalies, are to be sought for from the physiologist, yet so long as the latter is only able to tell us, that the calculations of the chemists on these subjects must be in fault, because they do not take into account the interference of the living principle, without being able to enlighten us as to the manner in which the living principle interferes, I fear we make no nearer approach to the truth than we should do, if we invoked the Archeus of Van Helmont, or the Occult Causes of earlier philosophers to help us out of our difficulty.

At any rate let us never forget, that vital forces do not annul chemical agencies, although they may act independently of them, and therefore that animal heat must in part be derived from a process of slow combustion, if it be true that no particle of carbon can unite with its equivalent of oxygen without disengaging caloric. In like manner it will be seen, that nitrogenised matters must be introduced into the system from without, if it be true that the living principle cannot endue matter with the power which it does not possess independently, of abstracting nitrogen from its gaseous state, and thus of forming albumen from oil or sugar.

Nor is it easy to see, how food in the stomach can escape the influence of that fermentative process, which would be set up owing to the presence in that organ of the gastric juice, an agent, which, in consequence of a law pervading dead as well as living matter, transmits to the particles with which it is in contact those motions which originate within itself.

For the establishment of these facts we are indebted to chemists, amongst whom Baron Liebig stands pre-eminent, and therefore with every disposition on my part to admit the questionable character of some of his speculations, and to receive others with that degree of hesitation which the obscurity of the subject justifies us in entertaining, I should be sorry if the rising generation of medical and scientific men were to be turned aside from a course of investigation which has been already rewarded with certain important practical results, at least until physiologists shall have explored some other path which can be shown to penetrate further into the mysteries of the living organisation.

## Home Correspondence.

*Large Acacia dealbata.*—On the night of Saturday, the 17th inst., an unusual fall of snow took place in South Devon, the weight of which destroyed a magnificent Acacia dealbata at Combe Royal, the seat of John Luscombe, Esq. This tree was perhaps unrivalled in England, as it had attained a height of 54 feet, with a stem rather more than 5 feet in circumference. The branches made 17 faggots, each as large as a man could carry. In the month of April the tree was laden with its fragrant yellow blossoms, and its seeds formed a favourite repast to some pet fan-tailed pigeons, which, having once accidentally tasted them, were always on the watch for them. *Devonian.*

*Windmill for Raising Water.*—In answer to "An Old Subscriber," I beg to state that I have a wind engine made by Mr. J. R. Peill, 17, New Park Street, Southwark Bridge, 3-horse-power, with one of Messrs. Warner's pumps attached, that has been at work about nine months. It is erected nearly half a mile from the premises, and pumps the water from a spring to a height of 70 feet, supplying the house and farmyards, and filling a large pond that has been dry for years. It requires very little wind, and (owing to the sails being self-adjusting) no attention save oiling once a week. If placed near the farmstead it might be used to drive a chaff-engine, &c., when not required for pumping. *James Christy, jun., Boynton Hall, near Chelmsford.* —— The windmills which your correspondent saw in Holland are of the ordinary kind, and cannot be left safely to work night and day without attention. If he will pay a visit to our works he will see a patent wind-engine at work pumping, chaff-cutting, &c., and driving a peculiar wheel, which raises from 300 to 400 gallons of water per minute. This wheel is about to be fixed on a nobleman's estate in Norfolk for draining a large tract of land, and is to be driven by the patent self-regulating wind-engine. *J. Peill*, 17, *New Park Street, Southwark.*

*The Weather in Cornwall.*—For upwards of 30 years we have not been visited with such severe weather, accompanied by a heavy fall of snow, as that just passed away. The thermometer, a self-acting one, registered as follows:—On Wednesday, Dec. 14, wind N.E., 4° of frost; Thursday, Dec. 15, wind N.E., 6°; Friday, wind S.E., 18°; and Saturday, wind E., 23°, which continued nearly the whole of Sunday. After that a change took place, the wind taking a southern direction. An additional fall of snow occurred, which in all reached to the depth of 12 inches, very unusual in Cornwall, which has a moist, warm climate compared with that of other counties—Devon being an exception. A large quantity of autumn and spring Broccoli plants, the former Snow's Improved White, and Grange's Autumn, with tall and dry Savoys, have been nearly destroyed—they are only fit for the rubbish heap. Portugal Laurels, Sweet Bays, Laurustinus, and other shrubs are materially injured in foliage. The gardens are situated on blue clay. *Henry Beddard, Gardener to J. F. Bassel, Esq., Tehidy Park, Cornwall.*

*Rural Societies.*—Can you afford me any information to guide the establishment of "garden societies," having for their object the improvement of cottagers' gardens, and competition among all classes (in country districts) in the production of vegetables and fruit? It would be very desirable to combine with these objects the giving of lectures, or the reading of papers on useful popular branches of gardening, and I should be much obliged for any hints by which such an arrangement might be made serviceable to all persons—rich and poor—who help in establishing such societies. *J. Bailey Denton, Woodfield, Stevenage.* [We imagine that the proceedings at Professor Henslow's Hitcham meetings, on which we have so often reported, would be a very safe guide.]

*Transplanting Cedars.*—I have two fine young Cedars on my lawn, so near to each other that in a year or two the branches will interlace. They are too large (probably about 25 years old) to be removed without considerable risk and expense. Can you kindly inform me whether they may safely be left as they are? Some persons say that Cedars will not interlace without one or the other tree dying, or at least that the contiguous branches will die even if the trees survive. *W. D.* [It is probable that the branches which interlace will die partially. But it is certain that the trees themselves will not die because of the interlacing.]

*Gooseberry Buds and Birds.*—I have tried a composition of sulphur, soft soap, quick lime, and soot, for several years to keep off these little marauders from destroying Gooseberry buds, and find that it answers perfectly. It is put on in the autumn with a syringe or hand engine, and forms a coat round the buds which the sparrows do not like to touch. The Gooseberry bushes are not pruned until all danger is over in the spring, as I find the birds generally attack them and do all the damage in a few days just when the buds are beginning to swell. This mixture was likewise tried last spring on young forest trees newly planted, in a situation where they were liable to be eaten by hares and rabbits. A large tub was made of the mixture, and the young trees were dipped in it in bundles, and after drying were planted out. They were untouched all the spring and summer, and being from 3 to 4 feet high another summer's growth enabled them to be out of the reach of hares and rabbits, so that no further painting was required. I use this composition for Vines, Peach trees, Cherries, and Figs, and all deciduous fruit trees in forcing houses liable to be attacked by insects or mildew. In making the mixture the proportion of ingredients used here is as follows:—4 oz. of soft soap and 6 oz. of flowers of sulphur to the gallon of water, adding as much quicklime as will bring the mixture to the consistence of paint. Some clay is added to cool it and take the white colour off, when it is used for Peach trees, Figs, Cherries, and Plums; and soot when it is required for Gooseberry bushes and young forest and fruit trees to keep birds, hares, rabbits, and deer off. For deterring rabbits from barking young orchard trees I have used the above mixture for many years, and never found it fail. By adding some fresh cow-dung to the other ingredients a greater body is given to the mixture, and it will only want renewing every two or three years. Hares, rabbits, and deer are very nice in smelling everything before they begin peeling or eating it; and sulphur, soft soap, or oil in any shape is an abomination to them. I intend trying some of Gishurst Compound to mix in the composition the next time of making and using less sulphur and soft soap. *William Tillery, Welbeck.*——The following is a good recipe for preventing rabbits from barking trees:—Bitter aloes, 6 lbs.; Black sulphur, 2 lbs.; soft soap, 6 lbs.; water, *q. s.*; soot enough to thicken the soap, and a little lime to give it consistency. No French cook can beat this. *Woglog.*

## Notices of Books.

*Ceylon; an Account of the Island, Physical, Historical, and Topographical, with notices of its Natural History, Antiquities, and Productions.* By Sir James Emerson Tennent, K.C.S., &c. 2 vols, 8vo. Longmans. Third Edition.

(SECOND NOTICE.)

If we turn from plants to the Animal Kingdom we are arrested at every step by anecdotes and descriptions which convey a most lively impression of wild nature in Ceylon. Not the least extraordinary creature mentioned by our author is a prodigious Mygale, a kind of spider, whose jaws are furnished with a poisonous venom, and which would be a formidable enemy even of man, were its mandibles capable of expanding sufficiently to embrace an object of such size as the finger or hand. The largest specimens of this spider actually seen by Sir Emerson Tennent

"Were at Gampola and its vicinity, and one taken in the godown of this rest-house nearly covered with its legs an ordinary sized breakfast plate. This ingenious creature does not weave a broad web or net like other spiders, but nevertheless it forms a comfortable mansion in the wall of a neglected building, the hollow of a tree, or the eaves of an overhanging stone. This it lines throughout with a tapestry of silk of a tubular form, and a texture so exquisitely fine and closely woven, that no moisture can penetrate it. The extremity of the tube is carried out to the entrance, where it expands into a little platform, stayed by braces to the nearest objects that afford a firm hold. In particular situations, where the entrance is exposed to the wind, the mygale, on the approach of the monsoon, extends the strong tissue above it so as to serve as an awning to prevent the access of rain. The construction of this silken dwelling is exclusively designed for the domestic luxury of the spider; it serves no purpose in trapping or securing prey, and no external disturbance of the web tempts the creature to sally out to surprise an intruder, as the epeira and its congeners would. As to the stories told of the mygale catching and killing birds, I am satisfied, both from inquiry and observation, that at least in Ceylon they are destitute of truth, and that (unless in the possible case of acute suffering from hunger) this creature shuns all descriptions of food except soft insects and annelides. A lady at Maradan, near Colombo, told me that she had, on one occasion, seen a little house-lizard (gecko) seized and devoured by one of these ugly spiders."

To multiply examples of this kind would be impossible within our narrow limits. We therefore prefer to present our readers with the following sketch of animal life in the jungle at various periods of the day; by far the most graphic we remember to have seen.

"With the first glimmering of dawn the bats and nocturnal birds retire to their accustomed haunts, in which to hide them from 'day's garish eye;' the jackal and the leopard steal back from their nightly chase; the elephants return timidly into the shade of the forest, from the water pools in which they had been luxuriating during the darkness; and the deep-toned bark of the elk resounds through the glens as he retires into the security of the forest. Day breaks, and its earnest blush shows the mists tumbling in turbulent heaps through the deep valleys. The sun bursts upwards with a speed beyond that which marks his progress in the cloudy atmosphere of Europe, and the whole horizon glows with ruddy lustre:

'Not, as in northern climes, obscurely bright,
But one unclouded blaze of living light.'

At no other moment does the verdure of the mountain woods appear so vivid; each spray dripping with copious dew, and a pendant brilliant twinkling at every leaf; the grassy glade is hoar with the condensed damps of night, and the threads of the gossamer sparkle like strings of opal in the sunbeams. The earliest members of the animated world that catch the eye as they move abroad are the Hesperidæ; the first butterflies, that, with abrupt gesture, pay their morning visit to the flowers. To them succeed the Theclæ, distinguished by the blue metallic lustre of their wings; and the Polyommati, the minutest and most delicate of the diurnal lepideptera. The other species make their appearances with unerring certainty at successive stages of the morning; the Theclæ are followed by the Vanessæ, and these by the gaudy Papilios, till, as day advances, the broad-leaved plants and flowering shrubs are covered by a dancing cloud of butterflies of every shape and hue. The bees hurry abroad in all directions, and the golden beetles clamber lazily over the still damp leaves. The earliest

bird upon the wing is the crow, which leaves his perch almost with the first peep of dawn, cawing and flopping his wings in the sky. The parroquets follow in vast companies, chattering and screaming in exuberant excitement. Next the cranes and waders, which fly inland to their breeding places at sunset, rise from the branches on which they had passed the night, waving their wings to disencumber them of the dew; and, stretching their awkward legs behind, they soar away in the direction of the rivers and the far sea-shore. The songster that first pours forth his salutation to the morning is the dial-bird (Copsychus saularis), and the yellow oriole, whose mellow flutelike voice is heard far through the stillness of the dawn. The jungle cock, unseen in the dense cover, shouts his reveille; not with the shrill clarion of his European type, but in a rich melodious call, that ascends from the depths of the valley. As light increases, the Grass warbler and maynah add their notes; and the bronze-winged pigeons make the woods murmur with their plaintive cry, which resembles the distant lowing of cattle. The swifts and swallows sally forth as soon as there is sufficient warmth to tempt the minor insects abroad; the bulbul lights on the forest trees, and the little gem-like sun-birds (the humming birds of the East) quiver on their fulgent wings above the opening flowers. * * * It is during the first five hours of daylight that nature seems literally to teem with life and motion, the air melodious with the voice of birds, the woods resounding with the simmering hum of insects, and the earth replete with every form of living nature. But as the sun ascends to the meridian the scene is singularly changed, and nothing is more striking than the almost painful stillness that succeeds the vivacity of the early morning. * * * As day declines nature recovers from her languor and exhaustion, the insects again flutter across the open glades, the birds venture once more upon the wing, and the larger animals saunter from under cover, and move away in the direction of the ponds and pasture. The traveller recommences his suspended journey, and the husbandman, impatient to employ the last hours of fading night, hastens to resume the interrupted labours of the morning. The birds which had made distant excursions to their feeding grounds are now seen returning to their homes; the crows assemble round some pond to dabble in the water, and readjust their plumes before retiring for the night; the parroquets settle with deafening uproar on the crowns of the palm trees near their nests; and the pelicans and sea birds, with weary wing, retrace their way to their breeding place near some solitary watercourse or ruined tank. The sun at last

'Sinks, as a flamingo
Drops into her nest at nightfall;'

twilight succeeds, and the crepuscular birds and animals awaken from their mid-day torpor and prepare to enjoy their nightly revels. The hawk moths now take the place of the gayer butterflies, which withdraw with the departure of light; innumerable beetles make short and uncertain flights in the deepening shade, and in pursuit of them and the other insects that frequent the dusk, the night-jar, with expanded jaws, takes low and rapid circles above the plains and pools. Darkness at last descends, and every object fades in night and gloom; but still the murmur of innumerable insects arises from the glowing earth. The fruit-eating bats launch themselves from the high branches on which they have hung suspended during the day, and cluster round the Mango trees and Tamarinds; and across the grey sky the owl flits in pursuit of the night moths on a wing so soft and downy that the air scarcely betrays its pulsations. The palm-cat now descends from the crest of the Coco-nut where she had lurked during the day, and the glossy genette, emerging from some hollow tree, steals along the branches to surprise the slumbering birds. Meanwhile, among the Grass already damp with dew, the glow worm lights her emerald lamp, and from the shrubs and bushes issue showers of fire-flies, whose pale green flashes sparkle in the midnight darkness till day returns and morning 'pales their ineffectual fires.'"

Among the most remarkable chapters in this remarkable work is that upon the elephant, which occupies no fewer than 130 pages, capitally illustrated by engravings of the animal under various circumstances. Of the elephant in captivity, there is little now to learn; but in his wild state we have nothing beyond a few hunters' tales. The noble animal has at last found a historian worthy of him. During his residence in Kandy Sir Emerson Tennent had ample opportunities of studying the elephant, and of correcting erroneous ideas respecting the creature before he became the captive of man. How admirably these opportunities have been used will be seen upon perusing the author's narrative. We must however find room for the following curious story:—

"Mr. Cripps has related to me an instance in which a recently captured elephant was either rendered senseless from fear, or, as the native attendants asserted, feigned death in order to regain its freedom. It was led from the corral as usual between two tame ones, and had already proceeded far on its way towards its destination, when night closing in, and torches being lighted, it hesitated to go on, and finally sank to the ground apparently lifeless. Mr. Cripps ordered the fastenings to be removed from its legs, and when all attempts to raise it had failed, so convinced was he that it was dead, that he ordered the ropes to be collected and the carcase to be abandoned. While this was being done he and a gentleman by whom he was accompanied leaned against the body to rest. They had scarcely taken their departure and proceeded a few yards, when to their astonishment, the elephant rose and with the utmost alacrity fled towards the jungle, screaming at the top of its voice, its cries being audible long after it had disappeared in the shades of the forest."

Among the more important commercial products of Ceylon is Coffee, which though an exotic has now become so largely cultivated that according to Mr. Ferguson, an excellent authority, there were in 1857 nearly 81,000 acres under the crop, producing on an average 5½ cwt. an acre, or about 347,000 cwt., and giving employment to 129,000 labourers. Upon this subject the 2nd Volume contains very full information, together with a complete map of all the Coffee estates in the central provinces of the island.

Notwithstanding the length to which this notice has extended—far shorter however than so important a work demands—we cannot conclude our remarks without expressing our hearty concurrence in the following statesmanlike view of the use of a Colonial Botanic Garden when under intelligent management. Speaking of that of Peradenia, which has been raised from ruin to a position of the highest importance, firstly by the late Dr. Gardner, and since his death by the energy of Mr. Thwaites, its present most able superintendent, Sir Emerson Tennent writes thus:—

"At times there has been the murmur of ill-informed utilitarianism against the expenditure bestowed upon the botanic garden of Peradenia. But the object of such institutions, and the functions of their curators, are still imperfectly appreciated even in the localities to whose welfare they are most conducive; owing chiefly to an ignorant impatience for results which in their very nature must be prospective. The fact is over-looked, that such foundations are designed not for individual benefit, but for the collective advantage of communities by the gradual application of science to material development. Objects at first despised and insignificant become sources of colonial wealth under the auspices of the botanist; and, on the other hand, productions upon which the prosperity of a region may be dependant, are liable to destruction and decay in the absence of his experience and counsels. It is wise policy in the government of a country, and most of all of a new and unexplored one, to encourage the cultivation of science for its own sake, confident that its labours, if not remunerative at the moment, will prove infallibly productive in the future. The colonial botanist, in addition to the care and nomenclature of plants, useful, rare, and ornamental, and the collection of fruits and products of all kinds, for an œconomic museum of botany, should take upon himself the selection of a library and the formation of a *hortus siccus* for consultation and reference. These duties, together with his foreign correspondence and exchanges, the reception of scientific strangers, the journeys of himself and his assistants to explore the country and collect botanical specimens, and occasional publications to excite and sustain popular interest in his pursuits, ought to constitute the functions of a botanical officer, and no colony can fail to reap the benefit of such labours if judiciously discharged. But the dissatisfaction which has occasionally manifested itself in Ceylon, arises not alone from a want of due appreciation of the legitimate duties of a superintendent, but also from an unreasonable expectation of services not legitimately within his province. A knowledge of agriculture, horticulture, forestry, pharmacy, and toxicology have each been demanded, as well as the philosophy of climates, the geologic nature of rocks and soils, the chemistry of manures, and the œconomic habits of animals, birds, and insects; and it is within my own knowledge that from the Coffee planters there have been remonstrances to the local government as to the propriety of applying public funds for the maintenance of an institution from which, in regard to their own estates, they had failed individually to obtain assistance in connection with these and similar subjects. A man of generous education may, no doubt, be more or less familiar with such studies, but even if a scientific botanist felt diffident in propounding opinions or offering directions in relation to them, his peculiar attainments must be of signal advantage in modifying the views or facilitating the operations of others. So charming is the sphere of his duties, that those who cannot estimate their importance except by the value of their ostensible results are liable to ignore their latent utility in the contemplation of their ornamental attractions. But observation and experience cannot fail to dissipate false expectations; and looking to the present transitional aspect of Ceylon, and the future which is already dawning for the island, my conviction is strong that no establishment in the colony is so essential to its interest as the Royal Botanic Gardens of Peradenia."

It is well indeed for Colonies when men like the enlightened author of these charming volumes have the power to influence their destiny.

## Calendar of Operations.

*(For the ensuing week.)*

### PLANT DEPARTMENT.

CONSERVATORY, &c.—Forcing pits will soon have to be kept in full activity to supply the various calls for plants in bloom, which during winter are more or less in demand in most establishments. Care should be taken before plants are moved to sitting rooms to gradually harden them for a day or two either by placing them in the conservatory or an intermediate house. In addition to keeping the conservatory gay with blooming plants, let the arrangement of the interior be occasionally changed by grouping the plants somewhat differently and adding a few striking ones, as some of the hardiest Palms, &c., for effect. Pay attention to the plants intended for successive blooming. Insects should be kept down and every means enforced to keep the foliage clean and healthy. The number of plants brought forward will depend on the demand and must be regulated accordingly. Azaleas, Rhododendrons, &c., for forcing still out of doors should have some protection should severe weather re-occur, or remove them to any spare house till wanted. Narcissi, Hyacinths, &c., should be protected by a frame, as they now begin to grow, remove the plunging material down to the surface of the pots to prevent them rooting upwards. Mignonette and Neapolitan Violets will require abundance of light and air to keep them from damping. As a change from the present to severe weather may come on suddenly, be provided with ample means for covering pits, frames, &c., should it occur. As with the exception of forced plants most other things are now in an inactive state, the temperature of plant houses should fall to its minimum point consistent with the safety of their various inmates.

### FORCING DEPARTMENT.

PINERY.—Pines are often deficient in flavour at this season, which is improved by exposing the ripening fruit to all the light you can command, and giving but little water. A good supply of air is likewise essential at all times for high flavoured fruit, and more than ever necessary at this time. Continue an increase of heat to Pines now wanted to start, employing it principally by day. Attend to linings for Pines grown in dung pits and keep the atmosphere in which they grow dry. EARLY VINERY.—As soon as the bunches can be discerned on the young shoots the extra buds should be removed, excepting such as may be required for producing bearing wood next season. In leaving these latter select such as are formed nearest the main stem to avoid the awkward appearance of long spurs at a stage further in their growth. Such shoots as have more than one bunch should have them reduced to that number, selecting the one likeliest to form the handsomest bunch. Tying in the young wood should be managed carefully, bringing the shoots to their proper position by degrees, to avoid the danger of their breaking. After the buds are started a few inches the syringe may be gradually withheld, as too much humidity at this season will sometimes hinder both the foliage and bunches, and a sufficient degree of moisture can easily be kept by sprinkling the floors and heating apparatus several times daily. Regulate the admission of air so as to have a gentle current at all times through the house, increased, of course, by day agreeably with the state of the weather. Gradually advance the night temperature to 60° and then to 65° by the time the flowers are ready to open, keeping the thermometer from 10° to 15° higher by day according to the amount of light you can command. Keep up the heat in the outside border by additions when necessary, bearing in mind the injurious effects any sudden check to the roots now in action will produce on the coming crop. Bring succession Vineries into work as wanted. Late Vineries in which Grapes are still hanging will require fires daily and air sufficient to keep the house and fruit dry; remove decayed berries and dead leaves, and well protect the roots from frost. For a late Grape Lady Down's Seedling is found to possess valuable properties. PEACH HOUSES.—Peaches and Nectarines which have been forced for several years oftentimes produce a large excess of fruit-buds, and this more especially on weakly trees; a natural consequence of allowing these to remain are weak flowers and inferior fruit and wood. When therefore such is the case the trees will be greatly benefited by well thinning the bloom buds, leaving the largest and those most favourably placed; of course a considerable number will be still left to allow for casualties. Syringe twice or oftener daily till the bloom is ready to expand, when it must be discontinued. The night temperature may advance to 45°, with an increase by day accompanied with a proportionate admission of air. FIG HOUSE.—Damp the trees over frequently, and if wanted early increase the heat a degree or two weekly.

### FLOWER GARDEN AND SHRUBBERIES.

Except in particular cases little more can be done in this department than paying attention to order and neatness. The bedding stuff, however, must have attention, for in all likelihood many things are suffering from damp, and such plants as appear to suffer most should be removed to other quarters where a drier temperature is kept. Keep the stock in pits and frames well ventilated, and the surface soil of the pots frequently stirred. Dust with sulphur Verbenas and similar plants attacked with mildew. Be particular in keeping the interior of pits containing plants of the above description as dry as circumstances will permit.

### HARDY FRUIT AND KITCHEN GARDEN.

Some wall trees, as Pears, Plums, and Cherries, &c. are often attacked by a species of scale, in which case the infected trees should be well washed with a mixture of soft soap, tobacco water, and lime; a half pint of spirits of turpentine may be added to each 4 gallons of the mixture when they are much infested. The lime is added to give body to the mixture, and to show that no parts of the trees are missed in dressing. Let this be applied during dry weather, if possible, that it may remain on for some time and before the trees are nailed; washing the infected parts with water of the temperature of 160° is also a good remedy.

### STATE OF THE WEATHER AT CHISWICK, NEAR LONDON.

For the Week ending Dec. 29, 1859, as observed at the Horticultural Gardens

| Dec. | Moon's Age. | Barometer. Max. | Barometer. Min. | Temperature of the Air. Max. | Min. | Mean | Temperature of the Earth 1 foot deep | 2 feet deep. | Wind. |
|---|---|---|---|---|---|---|---|---|---|
| Friday 23 | 29 | 29.487 | 29.326 | 44 | 29 | 36.5 | 38½ | 40 | W. |
| Satur. 24 | ● | 29.105 | 28.988 | 48 | 29 | 38.5 | 39 | 40 | S.W. |
| Sunday 25 | 1 | 29.009 | 28.651 | 45 | 36 | 40.5 | 39 | 40 | S. |
| Mon. 26 | 2 | 29.393 | 28.598 | 44 | 29 | 36.5 | 40 | 40 | S.E. |
| Tues. 27 | 3 | 29.308 | 29.121 | 49 | 33 | 41.0 | 40½ | 40 | S.W. |
| Wed. 28 | 4 | 29.246 | 29.195 | 50 | 37 | 43.5 | 41½ | 41 | S.W. |
| Thurs. 29 | 5 | 29.348 | 29.166 | 53 | 43 | 48.0 | 42 | 41½ | |
| Average | | 29.271 | 29.006 | 47.5 | 33.7 | 40.6 | 40.1 | 40.3 | |

Dec. 23—Foggy; hazy; overcast; rain.
— 24—Overcast; very fine; foggy at night.
— 25—Foggy; overcast; heavy rain.
— 26—Densely overcast; very clear at night.
— 27—Hoar frost; cloudy and fine; clear; rain.
— 28—Densely overcast; heavy rain; clear at night.
— 29—Fine, boisterous with rain; overcast.
Mean temperature of the week, 3½ deg. above the average.

### RECORD OF THE WEATHER AT CHISWICK,

During the last 34 years, for the ensuing Week, ending Jan. 7, 1860.

| January. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds. |
|---|---|---|---|---|---|---|
| Sunday 1.. | 43.2 | 31.2 | 37.2 | 10 | 0.70 in. | |
| Mon. 2.. | 42.3 | 30.0 | 36.2 | 13 | 0.21 | |
| Tues. 3.. | 42.8 | 31.5 | 37.2 | 17 | 0.56 | |
| Wed. 4.. | 42.2 | 31.8 | 37.0 | 15 | 0.86 | |
| Thurs. 5.. | 41.6 | 30.8 | 36.2 | 12 | 0.40 | |
| Friday 6.. | 41.2 | 30.0 | 35.6 | 13 | 0.33 | |
| Satur. 7.. | 41.3 | 29.6 | 35.5 | 12 | 0.34 | |

The highest temperature during the above period occurred on the 4th, 1851, 5th, 1854, and 6th and 7th, 1845—therm. 54 deg.; and the lowest on the 2d, 1854—therm. 4 deg.

## Notices to Correspondents.

OLD HERBAL: *H T M.* Next week.

SPERGULA PILIFERA: *Jason.* The value of this little plant has been absurdly exaggerated. Our own experience of it tells us that it can be no substitute for Lawn Grasses. Its importance seems to be confined to small work where a turf is useful; and for that it appears to be particularly well adapted.

THE POMEGRANATE: *D D.* Very poor specimens of this fruit have occasionally ripened in this country on a south wall, but under no treatment is it likely to repay the time bestowed on it.

WALL PLANTS: *Editor.* The following may perhaps answer your purpose, viz., the Pyracantha, Roses including the common China, Wistaria sinensis, Fuchsia Riccartoni, Clematis montana, and viticella, Forsythia, Jasmines, Virginian Creeper, Ivy, Chimonanthus, Ceanothus azureus, Peach blossomed Peach, Berberis Darwinii, to which might be added Camellias, Myrtles, and other evergreens. Ficus repens is too tender to succeed out-of doors.‡

ARTIFICIAL MANURES, &c.—Manufacturers and others engaged in making ARTIFICIAL MANURES may obtain every necessary instruction for their economical and efficient preparation, by applying to J. C. NESBIT, F.G.S., &c., Principal of the Agricultural and Chemical College, Kennington, London, S. Analyses of Soils, Guanos, Superphosphates of Lime, Coprolites, &c., and Assays of Gold, Silver, and other Minerals are executed with accuracy and despatch. Gentlemen desirous of receiving instruction in Chemical Analyses and Assaying, will find ample facility and accommodation at the College.

LONDON MANURE COMPANY
(ESTABLISHED 1840),
Have the following MANURES ready for delivery:—
CORN MANURE FOR AUTUMN SOWING.
BLOOD MANURE FOR AUTUMN SOWING.
URATE.
SUPERPHOSPHATE OF LIME.
SUPERPHOSPHATE MINERAL.
The London Manure Company also supply PERUVIAN GUANO (direct from Messrs. Gibbs & Sons), SULPHATE OF AMMONIA, NITRATE OF SODA, CRUSHED BONES, and every other Manure of known value, all of which they warrant strictly genuine. Wholesale dealers supplied.
116, Fenchurch Street, E.C. EDW. PURSER, Secretary.

ESTABLISHED 1812.
MESSRS. PROCTOR are now prepared to take orders for their special MANURES for 1860, which they unhesitatingly state are of a superior quality and charged at the lowest possible price, viz.:—

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|---|---|---|
| TURNIP MANURE | CLOVER MANURE | OAT MANURE |
| WHEAT ditto | POTATO ditto | BEAN ditto |
| GRASS ditto | BARLEY ditto | Also |

PERUVIAN GUANO, BONE DUST, SUPERPHOSPHATE OF LIME, &c., all of which are warranted of the best quality.
Apply to H. & T. PROCTOR, Cathay, Bristol; or
PROCTOR & RYLAND, Birmingham and Chester.

MR. J. B. LAWES manufactures the following MANURES:—

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|---|---|
| TURNIP MANURE .. .. .. .. | £6 6 |
| SUPERPHOSPHATE OF LIME . .. | 6 6 |
| MINERAL SUPERPHOSPHATE OF LIME | 5 5 |
| BARLEY MANURE .. .. .. .. | 8 0 |

N.B. Genuine PERUVIAN GUANO direct from Messrs Gibbs, NITRATE OF SODA, SULPHATE OF AMMONIA, and other Chemical Manures.
WHEAT MANURE.—PERUVIAN GUANO is proved to be the best and cheapest Artificial Manure for Wheat, at Autumn sowing.
American decorticated Cotton-seed Cake of best quality supplied at the market price.
Offices: 1, Adelaide Place, London Bridge, E.C.

BURNARD, LACK, AND CO.'S CONCENTRATED SUPERPHOSPHATE OF LIME; guaranteed to contain Phosphoric Acid soluble, equivalent to 40 per cent. of Tribasic Phosphate of Lime.
CONCENTRATED TURNIP MANURE, equal in value to the preceding.
Of these Manures Dr. Voelcker says:—"These results must be very gratifying to you, and are the best proof of the very high agricultural and commercial value which characterises your concentrated superphosphate."
Detailed analyses, with opinions of the late and present Chemists to the Royal Agricultural Society, with Testimonials, Prices, &c., may be had on application to BURNARD, LACK, & Co., Sutton Road, Plymouth.

PARMENTER'S PATENT PREPARATION FOR DESTROYING MEALY BUG, RED SPIDER, THRIP, AND OTHER INSECTS, AND ALSO MILDEW ON VINES, FRUIT TREES, AND PLANTS OF ALL DESCRIPTIONS.
See Messrs. Henderson's report on the above in last week's *Chronicle*.
Price 2*s*. and 3*s*. 6*d*. per bottle; Stone Jars, 10*s*. 6*d*. each.
To be had of all Nurserymen and Seedsmen.
J. CARTER & Co., 237 and 238, High Holborn, W.C.

GISHURST COMPOUND,
PATENTED,
FOR PREVENTING AND DESTROYING

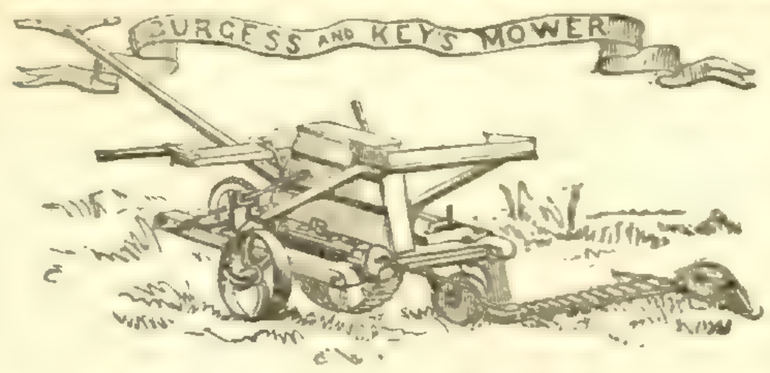
| | | |
|---|---|---|
| RED SPIDER | MEALY BUG | MILDEW |
| THRIPS | SCALE | GREEN and BROWN |
| AMERICAN BLIGHT | ANTS | FLY |

BED BUGS, &c.,
And useful in winter dressing.
Contains no deleterious ingredient.
Has received the sanction of the Gardening Press, see *Gardeners' Chronicle* of 9th April and 16th July, 1859, and "Cottage Gardener," 12th July, and has been favourably reported on, and is used by eminent gardening authorities, among whom are—
Mr. Judd, of Althorp Gardens
Mr. Rivers, of Sawbridgeworth
Mr. Edmonds, of Chiswick House Gardens
Mr. Collinson, of Eaton Hall Gardens
Messrs. A. Henderson & Co., Edgeware Road
Mr. Jas. Veitch, jun., Chelsea
Mr. Spencer, of Bowood Gardens
The principal Nurserymen and Seedsmen throughout England, Scotland, and Ireland use it, have taken in supplies, and are now prepared to sell single boxes—price 1*s*. for first trials and small uses, such as destroying bed bugs; 3*s*. for not large gardens; 10*s*. 6*d*. for large gardens, with testimonials and full descriptions for use.
Nurserymen and Seedsmen supplied by
PRICE'S PATENT CANDLE COMPANY, Limited, London.

TO PIG, POULTRY, AND GAME FEEDERS.
JUPP'S RICE FOOD, POULTRY AND GAME.—RICE SWEEPINGS, 7*s*. 6*d*. per cwt., in 1½ cwt. bags; SCREENED RICE, 10*s*. per cwt., in 1¾ cwt. bags; DOG BISCUITS, 14*s*. per cwt.; OIL-CAKE, per ton only; RICE MEAL for PIGS, 6*s*. and 8*s*. per cwt., in 1 cwt. bags, at the mill. Orders must be accompanied by a remittance to insure delivery.—W. & R. JUPP, 6, Cross Lane, Eastcheap, E.C.

NOTICE.
CAKE AND CORN MERCHANTS, AGENTS, FARMERS, and all interested, are by the following statement cautioned against an advertisement addressed to them purporting to be from the "Inventor of Thorley's Food for Cattle;" viz, "I, the undersigned, hereby give notice that I am the sole inventor, and the sole proprietor, and the sole manufacturer of Thorley's Food for Cattle—that I have never authorised any person to use my name or treat for the manufacture of Thorley's Food for Cattle—that Thorley's Food for Cattle, as now manufactured by me, is a different and much more valuable article than my original food for cattle, as manufactured by me at Hull—that any article now offered for sale as Thorley's Food for Cattle is a spurious imitation, unless it is manufactured by me and comes from my manufactory, and therefore ought to be treated AS A COUNTERFEIT—and that no one in my employment knows or has any control over what gives to Thorley's Food for Cattle its real condimental and money value. "JOSEPH THORLEY."
Offices: 77, Newgate Street, E.C., and Steam Mills, Caledonian Road, London, N.; 174, Greenwich Street, New York, United States; and 86, Front Street, Toronto, Canada.

BURGESS AND KEY'S ROYAL AGRICULTURAL SOCIETY'S FIRST PRIZE GRASS MOWING MACHINE




This Machine has been introduced with the greatest success into this country during the last season, and a large number of them have been worked in a most satisfactory manner. A Silver Medal was awarded to it at the Royal Agricultural Society's Meeting at Warwick. It was also exhibited before the Emperor of the French at Fouilleuse, on which occasion it performed its work to the admiration of every one. Two of these Machines were purchased by the Emperor on this occasion, and an order for two more has since been received for the season of 1860. It was also exhibited in Scotland and Ireland with the same success. It also received the First Prize of the Norfolk Society at Swaffham, in competition with Wood's and others, besides many other works. Price £30 at the Works. Extras are charged for.—Full particulars may be obtained of
BURGESS & KEY, 95, Newgate Street, London, E.C.
Early orders are solicited to insure delivery in time for harvest.

WEST OF ENGLAND AND SOUTH WALES LAND DRAINAGE AND INCLOSURE COMPANY.
Established in 1844.
INCORPORATED BY ACT OF PARLIAMENT IN 1848.
Draining, Inclosing, Irrigating, Warping, Road Making, and all kind of Land Improvements, executed on Entailed, Mortgaged, or other Properties, and the whole cost can be made a Permanent Charge on the Lands, or redeemable in a certain number of years. BIDWELL & BRODIE, Secretaries.
Offices: Exeter; and 30, Parliament Street, London, S.W.

THE LANDS IMPROVEMENT COMPANY.—Incorporated by Special Act of Parliament in 1853.—2, Old Palace Yard, Westminster, S.W. To Landowners, the Clergy, Estate Agents, Surveyors, &c., in England and Wales and in Scotland.
The Directors beg leave to announce that the Company's Amendment Bill, 1859, has received the sanction of the Legislature. The Company now advance money, unlimited in amount, for the following works of Agricultural Improvement, the whole outlay and expenses in all cases being liquidated by a rent charge for 25 years.
1. Drainage, Irrigation and Warping, Embanking, Inclosing, Clearing, Reclamation, Planting for any beneficial purpose, Engines or Machinery for Drainage or Irrigation.
2. Farm Roads, Tramways and Railroads for agricultural or farming purposes.
3. Jetties or Landing places on the sea coast or on the banks of navigable rivers or lakes.
4. The erection of Farm Houses, Labourers' Cottages, and other Buildings required for Farm purposes, and the improvement of and additions to Farm houses and other buildings for farm purposes.
Landowners assessed under the provisions of any Act of Parliament, Royal Charter, or Commission, in respect of any public or general works of drainage or other improvements, may borrow their proportionate share of the cost, and charge the same with the expenses on the lands improved.
No investigation of title is required, and the Company being of a strictly financial character do not interfere with the plans and execution of the Works, which are controlled only by the Government Enclosure Commissioners.
For further information, and for forms of application, apply to the Honourable WILLIAM NAPIER, Managing Director, 2, Old Palace Yard, Westminster, S.W.

LAND DRAINAGE.
WORKS OF DRAINAGE of any extent are EXECUTED by the GENERAL LAND DRAINAGE AND IMPROVEMENT COMPANY on all descriptions of property, whether freehold, entailed, mortgaged, trust, ecclesiastical, corporate, or collegiate.
Repayment may be made by the Landowner as successive portions of the works are completed; or the actual expenditure, with a commission thereon, may be charged on the property improved, by way of rentcharge on the estate created for various terms of years so as to adapt the rate per cent. of annual charge to the circumstances of the tenants.
No investigation of title being required, or notices given to Reversioners or Mortgagees, no legal expenses are incurred.
Works of Irrigation, Enclosing, Wood Grubbing, Road Making, and Farm Buildings are executed in a similar manner.
Landowners desirous to execute any of the Improvements by their own Agents, and charge the outlay and expenses on the Estate, may obtain Loans for the purpose.
Applications to be made to WILLIAM CLIFFORD, the Secretary, at the Offices of the Company, 52, Parliament Street, S.W.

COLLEGE OF AGRICULTURE AND CHEMISTRY, AND OF PRACTICAL and GENERAL SCIENCE, 37 and 38, Lower Kennington Lane, Kennington, London, S.
Principal—J. C. NESBIT, F.G.S., F.C.S., &c.
The system of studies pursued in the College comprises every branch requisite to prepare youth for the pursuits of Agriculture, Engineering, Mining, Manufactures, and the Arts; for the Naval and Military Services, and for the Universities.
Analyses and Assays of every description are promptly and accurately executed at the College. The terms and other particulars may be had on application to the Principal.

CRYSTAL PALACE. WINTER POULTRY SHOW.—A Grand SHOW of POULTRY and PIGEONS will be held at the Crystal Palace, February 11, 13, 14, and 15, 1860. The Entries close on January 14.
For Schedules of Prizes and Certificates of Entry, apply to Mr. W. HOUGHTON, Secretary to the Show.

# The Agricultural Gazette.

*SATURDAY, DECEMBER* 31, 1859.

—— THE letter by Baron LIEBIG in another column on the ultimate consequences of our present wasteful sanitary arrangements will be read with great interest. It capitally illustrates his power of clever illustration, and also, we must add, his power of dissociating the practical and the professional from the purely scientific relations of the problem or the proposition he discusses. It is the latter to which he directs attention; and he teaches that as the existing stores of natural manures from which we now import supplies are exhaustible, and will ultimately be unavailable, the exhaustion by our rivers of our home supplies of fertilising matter must ultimately be felt; our soils must ultimately suffer from this robbery, and at some future time, however distant, be rendered barren. Put the case extremely and it amounts to this—that the rainfall perpetually washing the dry land all over the surface of the earth does perpetually rob it of fertilising matter, and must ultimately starve the soil.—But there is a truth in science of another kind, which presents a still more lamentable prospect to all land animals. The constant raging of the ocean on the shore, as it does perpetually disintegrate and dilapidate must ultimately destroy—and "should the sea still continue to impel its currents and to roll its waves every continent and island must at length disappear; and, again, as of old, when 'the fountains of the great deep' were broken up,

'A shoreless ocean tumble round the globe.'"

But there are repairing and counterpart forces at work in both these cases. On the one hand land is fed by the very thief that robs it; and its fertility thus remains unimpaired in the wilderness and even increases in the cultivated field in spite of the agencies which would take its riches from it; and on the other it is being raised by subterranean agencies to meet the dilapidation which would destroy its very existence.

It is plain, from the experience of a thousand farms, that we may admit most fully and regretfully the immense waste now proceeding from dungheaps, whether in the farmery or in the town, without anticipating such a desperate future as Baron LIEBIG sees in store for us.

—— Let us again direct attention to the important discussion of the labour question before the Oxford Farmers' Club, reported in another page.

—— Will our correspondent who sent us his plans and estimates for the moveable shed which was referred to in these columns a fortnight ago, be good enough to send us his address, which has been mislaid?

IT is with very great regret that we learn the death of Mr. BAKER, of Writtle, near Chelmsford, whose name has for many years been known in the agricultural world—first in connection with the political discussions of 10 or 15 years ago, and latterly, especially in connection with the Central Farmers' Club, in the discussion of agricultural subjects, whenever either the teachings of experience or the deductions of science were wanted for their elucidation.

## THE EXHAUSTION OF ENGLISH SOIL.

[The following letter from Baron Liebig to Mr. Alderman Mechi will be read with interest.]

"Munich, Nov. 17.

"DEAR SIR,—Your letter of the 7th November to *The Times* furnishes me an occasion to express to you my sincere thanks for the views to which you there give utterance, and which I have laboured many years to impress. I am sorry not to be able to say that my efforts have been attended with any perceptible results, and I regard it as a fortunate event that a man of so eminently practical a character as yourself has now for the first time, in the interests of agriculture, and the national welfare, taken up the question of the 'sewerage of towns' with warmth, and in language adapted to produce conviction.

"It is my ardent wish that you may succeed in awakening the English people to your own convictions; for in that case the ways and means for setting aside the difficulties which stand in the way of procuring manure from the 'sewerage of towns' will certainly be found, and a future generation will look upon those men who have devoted their energies to the attainment of this end as the greatest benefactors of their country.

"The ground of my small success lies clearly in the fact that the majority of farmers do not know the extent to which their own interests are concerned in this matter, and because the views and conceptions of most men in regard to the circuit of life and the laws which govern the preservation of the race do not generally rise above those of C. Fourrier, the inventor of the phalanstery. He proposed, as you know, to supply the wants of the occupants of his phalanstery by means of eggs. He supposed it was only necessary to procure a couple of hundred thousand hens, each of which, sold in England, would produce an immense income. Fourrier knew very well that hens lay eggs, but he seemed not to know that in order to lay an egg they must eat an amount of corn its equal in weight; and so most men do not know that the fields, in order to yield their harvests, must either contain or else receive from the hands of man certain conditions which stand in the same relation to the products of the field as the hen's food does to the eggs she lays. They think that diligent tillage and good weather are sufficient to produce a good harvest; they therefore regard this question as

one in which they are wholly unconcerned, and look forward carelessly and with indifference to the future.

"As physicians who in the apparent signs of a young man's blooming health discern the fatal worm which threatens to undermine his organic frame, so in this case should these discerning men who are capable of comprehending the range of the question raise the earlier the voice of warning.

"It is true that the diligent tillage of the fields, sunshine, and timely rains are the outward conditions, perceptible to all men, of good harvests; but these are perfectly without effect upon the productiveness of the field, unless certain things not so easy of perception by the senses are present in the soil, and these are the elements which serve for nourishment, for the production of roots, leaves, and seeds, and which are present in the soil always in very small quantity, in proportion to the mass of the soil itself.

"These elements are taken from the soil in the products of the field—in the corn or in the flesh of the animals nourished by these products, and daily experience shows that even the most fruitful field ceases after a certain series of harvests to produce these crops.

"A child can comprehend that under these circumstances a very productive field, in order to remain very productive, or even simply productive, must have the elements which had been withdrawn in the harvests perfectly restored; that the aggregate of the conditions must remain in order to produce the aggregate results, and that a well, however deep it may be, which receives no supply of water, must in the end become empty, if its water is constantly pumped out.

"Our fields are like this well of water. For centuries those elements which are indispensable to the reproduction of the crops have been taken from the soil in those crops, and that, too, without being restored. It has only recently been ascertained how small a supply of these elements the soil really has. A beginning has been made to restore to the fields the losses which they sustain through the annual harvests, by introducing from external sources manures containing the same elements. Only a very few of the better informed farmers perceive the necessity of this restoration, and those of them who have the means have zealously endeavoured to increase the amount of these elements in their fields; but by far the greater part of them know nothing of such restoration. They think that they may continue to take from the field as long as there is anything left, and that it will be time enough to provide for this necessity when it knocks at their doors. They do not of course know how large their stock on hand is, nor are they aware that when the necessity shows itself there will be no means to correct it; they know not that what they have wasted is irretrievable.

"The loss of these elements is brought about by the 'sewerage system of towns.' Of all the elements of the field which, in their products, in the shape of corn and meat, are carried into the cities, and there consumed, nothing, or as good as nothing, returns to the fields. It is clear that if these elements were collected without loss, and every year restored to the fields, these would then retain the power to furnish every year to the cities the same quantity of corn and meat; and it is equally clear that if the fields do not receive back these elements agriculture must gradually cease. In regard to the utility of the avails of the 'sewerage of towns' as manures no farmer, and scarcely an intelligent man, has any doubt, but as to their necessity opinions are very various.

"Many are of the opinion that corn, meat, and manure are wares, which, like other wares, can be purchased in the market; that with the demand the price may, perhaps, rise, but this will also stimulate the production, and that all turns upon having the means to purchase, and so long as England has coal and iron she can exchange the products of her industry for the corn, meat, and manure which she has not. In this respect I think it would be wise not to be too confident of the future, for the time may, perhaps, come, even in half a century, that not one of those countries upon whose excess England has hitherto drawn will be able to supply her with corn, and that too from the natural law that what is true of the smallest piece of ground is true also of a great country. It ceases to produce corn if the conditions of the reproduction of the corn which has been carried off are not restored to it. Nor is it, furthermore, certain whether the corn-growing countries will always desire to exchange their corn for the products of English industry, since they may no longer need these products, or, at least, not in the ratio of England's need of corn. In the countries of Europe and in the United States of North America great efforts are made to become in this respect independent of England, as being in the end the only way of keeping the corn prices in these countries so as to repay the labour.

"In the United States the population increases at a still greater ratio than in other countries, while the corn production upon the land under cultivation has constantly fallen off.

"History teaches that not one of all those countries which have produced corn for other lands have remained corn markets, and England has contributed her full share towards rendering unproductive the best lands of the United States, which have supplied her with corn precisely as old Rome robbed Sardinia, Sicily, and the rich lands of the African coast of their fertility.

"Finally, it is impossible in civilised countries to raise the corn production beyond a certain limit, and this limit has become so narrow that our fields are no longer capable of a higher yield without an increase of their effective elements by the introduction of manures from abroad.

"By the application of guano and bones the farmer of most limited capacity learns the real import of such increase; he learns that the pure system of stall or homemade manures is the true and genuine robber system. In consequence of his restoring in the guano and bones but a very small portion of those very same elements of seeds and of fodder which had been withdrawn from his fields by centuries of cultivation, their products are wonderfully increased. Experiments instituted with special reference to this end in six different parts of the kingdom of Saxony showed that each hundredweight of guano put upon a field produced 150 lb. of Wheat, 400 lb. of Potatoes, and 280 lb. of Clover more than the same sized piece of ground without guano, and from this it may be calculated how enormously the corn and flesh production of Europe has been increased by the yearly importation of 100,000 tons, or 2,000,000 cwt., of guano.

"The effect of guano and bones should have taught the farmer the real cause of the exhaustion of his fields; it should have taught him in what a condition of perpetual fertility he might have preserved his fields if the elements of the guano which he has transported in the shape of meat and products of his field into the cities were recovered and brought into a form which would admit of their being restored to his fields every year.

"To an understanding of this, however, the farmer has not yet come, for, as his forefathers believed that the soil of their fields was inexhaustible, so the farmer of the present day believes that the introduction of manures from abroad will have no end. It is much simpler, he thinks, to buy guano and bones than to collect their elements from the sewers of towns, and, if a lack of the former should ever arise, it will then be time enough to think of a resort to the latter. But of all the erroneous opinions of the farmers this is the most dangerous and fatal.

"If it is perceived that no country can perpetually supply another with corn, then must it be still easier to understand that an importation of manures from another country must cease still earlier, since there exportation diminishes the production of corn and meat in that country in so rapid proportions that this decrease in a very short time forbids the exportation of manures. If it is considered that a pound of bones contains in its phosphoric acid a necessary condition for the production of 60 lbs. of Wheat, that the English fields have become capable by the importation of 1000 tons of bones of producing 200,000 bushels more of Wheat in a series of years than they would have produced without this supply, then we can judge of the immense loss of fertility which the German fields have sustained by the exportation of so many hundred thousand tons of bones which have gone from Germany to England. It will be conceived that if this exportation had continued, Germany would have been brought to that point that she would no longer have been able to supply the demand of her own population for corn. In many parts of Germany, from which formerly large quantities of bones were exported, it has now already come to be the case that those bones must be at a much higher price brought back again in the form of guano in order to obtain the paying crops of former times.

"The exportation of bones for so many years from Germany was possible only because the German agriculturists had less knowledge of the real nature of their business than the English, believing, as they did, that practice and science taught doctrines contradictory to each other, and were fundamentally different things, and that they must trust, not in the laws of nature, but in receipts. Things have now changed for the better, although not to the extent which was to be desired, for the German farmers do not as yet generally understand the value of the elements of bones for preserving the present fertility of their fields (not to speak of the restoration of their former fertility), for if they all understood this, no one could have any more bones—at all events, no more than those which he brings to market in his grain and cattle.

"The prices of bones have become so high in Germany as to forbid their exportation, and if the question should be put to English commerce, whence it furnishes the English farmer with this to him so indispensable manure, the answer would produce astonishment; for this commerce has already so far robbed all the inhabited parts of the earth that the manufacturer of superphosphate can only set his hopes upon the phosphate of lime of the mineral kingdom.

"In relation to guano I have been assured that in 20 to 25 years, if the use of guano should increase in even the same proportion as hitherto, there will not remain in South America enough to freight a ship. We will, however, suppose its supply and that of bones to continue for 50 years, or even longer; then what will be the condition of England when the supply of guano and bones is exhausted?

"This is one of the easiest of all questions to answer. If the common 'sewerage system' is retained, then the imported manures, guano and bones, make their way into the sewers of the cities, which, like a bottomless pit, have for centuries swallowed up the guano elements of the English fields, and after a series of years the land will find itself precisely in the condition it was in before the importation of guano and bones commenced; and after England shall have robbed the cultivated lands of Europe even to complete exhaustion and taken from them the power to furnish her longer with corn and manure, then she will not be richer than before in the means of producing corn and meat, but will from that time forth become even poorer in these means.

"By means of the importation of guano and bones the population has, however, in consequence of the increased production of corn and meat, increased in a greater ratio than would have been possible without this importation of manures, and this population will make upon the rulers of the State their natural demand for food.

"If men do not deem it desirable that the balance between population and the supply of food be restored by means of exterminating wars and revolutions (in which the want of food has always played a certain part), or by means of wasting plagues, pestilence, and famine, or by emigration *en masse*, then should they reflect that the time has arrived for getting a clear view in regard to the causes of existence and increase of population. A very little reflection will lead to the conviction that the relations of population are governed by a great and comprehensive natural law, according to which the return, duration, increase, or diminution of a natural phenomenon depends upon the return, duration, increase, or diminution of its conditions. This law governs the return of the harvests upon our fields, the maintenance and increase of the population; and it is easy to see that a violation of this natural law must exert upon all these relations a pernicious influence which can be set aside in no other way than by the removal of its causes. If, then, it is known that certain existing circumstances work deleteriously upon the fields; if it can be foreseen that their continuance must bring about the ruin of agriculture; if there is but a single one of all the means which have hitherto resisted this deleterious influence and made it less sensibly felt which can be safely relied upon to secure a perpetual fertility to our fields, and this means, by a simple change and improvement of the existing deleterious state of things, can be obtained, then it becomes us to think whether a nation should not summon up all her intellectual and material resources in order to preserve these fundamental conditions of her welfare.

"It has been maintained that the recovering of the manure-elements out of the sewers of large cities is impracticable. I am not ignorant of the difficulties which stand in its way. They are, indeed very great; but if the engineers would come to an understanding with the men of science in relation to the two purposes—the removal of the contents of the sewers and the recovery of their valuable elements for agriculture—I do not doubt that a good result would follow. Intelligence in union with capital represents a power in England which has rendered possible and practicable things of much greater apparent difficulty. I look forward with deep concern to the solution of the sewerage question, for, if this question is decided in Great Britain without regard to the wants of agriculture we can scarcely hope for any thing better upon the Continent.

"Permit me to add still a few words in relation to the leading article of the *Times* of the same date, in which the one side of this question is taken up with great clearness, while the author of the article seems to have not quite a correct view of its bearing as it presents itself to my mind. The mistake into which he has fallen arises from his confounding the condition of a State with that of its population.

"In the natural sciences we know nothing of a State—of its might or its feebleness. We know only lands, their geological formation, their climate and soil, and whether the soil contains the natural conditions of the subsistence of man and beast. In places where these conditions are abundantly present, and geological circumstances do not hinder their intercourse, men cannot be exterminated. The most wasting war cannot rob a land of the conditions which Nature has given, nor can peace give them to a land which wants them.

"Countries may be fruitful and become capable of sustaining a large population when certain resisting influences, which in their unhindered working make the cultivation of the soil impossible, are overcome by human intelligence, or when a land has all the conditions of productiveness except one, and then receives the one which it lacked. If Holland were without her dikes, which must be kept up at great expense, she would produce neither corn nor meat; the land would not be inhabitable. In a similar manner the inhabitant of the African oasis protects his grain fields by dikes against the storms of the desert, which cover his land with a barren sand; and if Mr. Layard is disposed to answer the question put to him, he will say that the decay of an admirable system of irrigation rendered the permanent maintenance of a great population in Assyria and Mesopotamia impossible.

"I know that the prophets of future evil have at all times been derided by their own generation; but, if history and natural laws can furnish any ground for a just conclusion, then there is none which stands more firmly than this—that, if the British people do not take pains to secure the natural conditions of the permanent fertility of their land—if they allow these conditions, as hitherto, to be squandered—their fields and meadows will at no distant time cease to yield their returns of corn and meat. But it does not belong to the province of natural science to discuss the question whether the might, strength, and independence of the nation will be preserved after this state of things shall have gradually arisen. Believe me, dear Sir, yours very truly, JUSTUS VON LIEBIG.—Mr. J. J. Mechi, Tiptree Hall, Kelvedon, Essex."

## A FARM COTTAGE IN NORFOLK.

A PROFESSIONAL gentleman a few years since purchased a small farm at East Carlton, about 3 miles from Norwich—the farm buildings being in a woful state of dilapidation. There was a cottage scarcely habitable, and the outbuildings except the barn and cart house were so ruinous and inconvenient, that he determined to remodel the whole. In doing this his object was to construct the farm-house so that he could take some rooms for his own use, when he wished to spend a few days at the place, which, by the way, is one of the prettiest small residences in the county. The work of alteration was placed in the hands of Mr. Balls, a builder at Norwich, under the direction of the proprietor, and now that it is completed the whole forms so excellent an example of a small *ferme ornée* that I have thought it worth while to ask the Editor of the *Agricultural Gazette* to find room for a sketch and plan of the cottage, and the farm arrangements.

PLAN OF FARMYARD.

SCALE OF FEET.

0 5 0 10 20 30 40 50 FT.

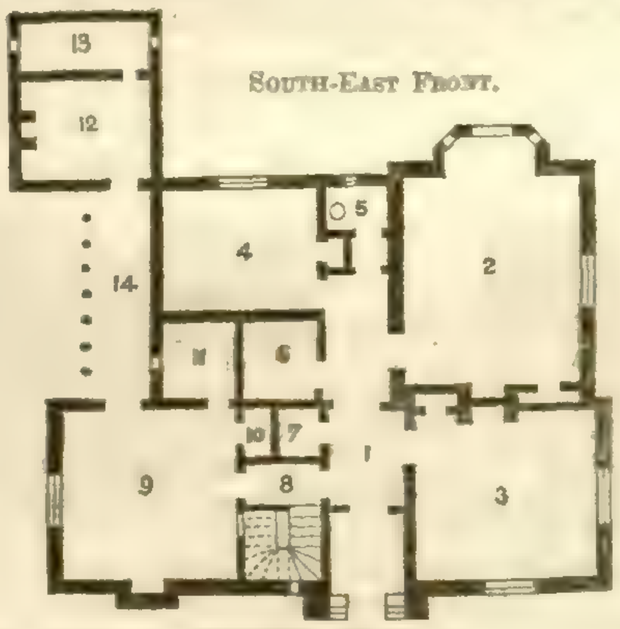
DESCRIPTION.

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Cart Lodge .. | 1 | Horse Stable | 5 | Turnip House | 9 | Loose Box .. | 13 | Pigs .. | 17 | Boiling House | 21 |
| Gig House .. | 2 | Hay House .. | 6 | Bullock Shed | 10 | Barn .. | 14 | Passage | 18 | Privy | 22 |
| Potato House | 3 | Cow House .. | 7 | Stack Yard .. | 11 | Corn Room .. | 15 | Bins .. | 19 | Pond (Liquid Manure) | 23 |
| Harness House | 4 | Calf's Crib .. | 8 | Harness .. | 12 | Fowls' Houses | 16 | Potato House | 20 | | |

Of the remains of the old cottage a part is shown in the form of a low thatched building, represented on the ground plan by the rooms 12 a back kitchen, over which is a loft that can be used either as a servant's sleeping room or cheese room, as may be desired, and 13 a dairy. The back kitchen is connected with the main body of the house by a wide verandah (14), under which washing and similar work is very conveniently performed. The verandah opening into the principal kitchen (9), there is a nearly complete covered communication for the lower parts of the house without the necessity of running out of doors in bad weather. As it was thought desirable that the farm-house and the proprietor's rooms should be kept as separate as possible, two of the lower rooms, Nos. 3 & 4, have been taken for the proprietor's bedrooms, thus leaving the chamber floor entirely for the use of the tenant, and the only connection between the two occupations is by the passage, No. 8, on the ground floor; the staircase being situated in an inner passage the house is kept free from the draughts of the hall and outer door. The tenant can get upstairs without coming into the hall, and should the whole house at any time be in one occupation the family and servants can pass upstairs and down without coming in contact with each other.

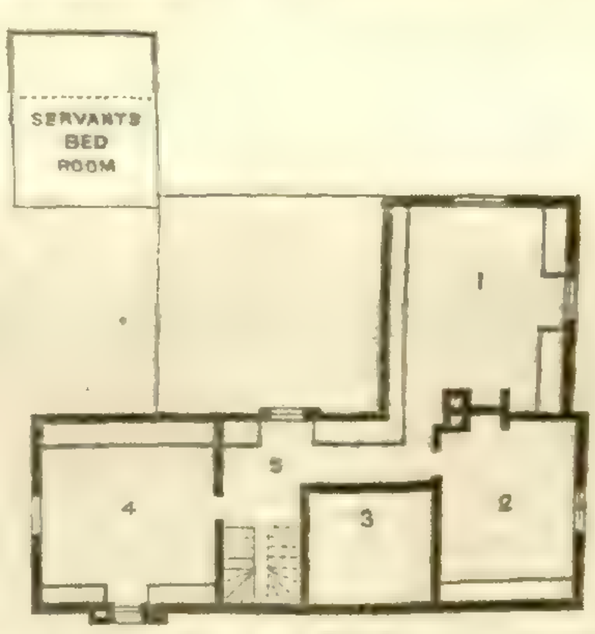
VIEW OF HOUSE NEXT THE FARMYARD.

SOUTH-EAST FRONT.




GROUND PLAN.

1. Hall or Entrance
2. Sitting-room or Parlour
3. Ditto, or Bedroom
4. Bedroom
5. Watercloset
6. Store room
7. Wine closet
8. Passage
9. Kitchen
10. Pantry
11. Ditto, with Trap-door and Staircase to Cellar under No. 4.
12. Back Kitchen.
13. Dairy.
14. Verandah




CHAMBER PLAN.

1. Bedroom 2. Bedroom 3. Bedroom 4. Bedroom 5. Landing

The nature of the farm arrangements is sufficiently explained by the plan of the farm-yard. It is therefore only necessary to add that the verandah above mentioned faces the fowl-houses (16, 16) and barn (14), so that there is a clear view of the principal parts of the yard from the windows of the tenant's portion of the farm-house. *L.*

[The relations as regards use of the several parts of this farmery have been, as far as possible, observed by the positions they are made to occupy, relatively to one another. It will be seen that the barn, stack-yards, and straw-yard—cart-shed, stable, hay-house, cow-house, Turnip-house, and bullock shed—the pigsties, boiling house, Potato house, &c. — are respectively clustered; while the interval between the two chief lines of building is divided into yards having easy access to both straw and Turnips. It may be added too that elegance of form and of arrangement, both of which are here exemplified, exercise a directly useful influence on the employed.]

## CLEARING OR PLANTING.

OUR notice of the clearing of Whichwood Forest (see p. 700) has induced a correspondent, who has been long engaged in planting land, to favour us with the statement we print below. He draws, from a comparison of the cost and results of clearing and planting, the conclusion that there is a balance of profit in favour of planting. There is no doubt that well made and well managed plantations afford, in the course of 30 or 40 years, good returns for outlays incurred; and it must be a matter for the consideration of each proprietor about to reclaim waste land, whether he will plant or convert into farms. He will naturally have regard to situation, climate, demand for timber, and the like. But such a conversion into plantation as that described by our correspondent is equally a reclamation of waste land as the work executed at Whichwood Forest. To displace a scrubby waste and convert it into a regular plantation is a vast improvement; for timber should always be grown in masses, not in hedgerows or open fields, and we doubt not there is much rough and waste land in this country that might be dealt with as our correspondent describes, greatly to the advantage of the owners. It must however be borne in mind that it is an improvement of which the profit, assuming our correspondent's calculations to be strictly correct, is long deferred, and which adds nothing to the industry or well being of the district wherein it has been made. Whereas, by the clearing a tract of forest or waste land and its conversion into farms, besides the profit obtained by the owner of the land, there is a large amount of capital and much human industry brought into useful employment. And at the end of a 30 years' lease,

though the buildings may require some reparation, there will certainly be an increase in the letting value of the land, arising from the culture it has undergone, and the progress of general and local wealth and population.

A plantation, however greatly it may contribute to the profit of its owner, will continue at the end of the 30 years a plantation and a solitude still. It may afford a cover for foxes or pheasants, and will be haunted by prowling gamekeepers and marauding poachers. The only sound of industry will be the occasional ring of the woodman's axe, but the prosperous works of husbandry will be as unknown as they were upon the original waste.

"The *Times* of the 29th of September last contains a leader refering to an article quoted therein, taken from the *Economist*, relating to the clearing of Whichwood Forest. By these I understand that, at the expense of about 10*l.* per acre, the land reclaimed lets on leases of 31 years at 1*l.* 8*s.* per acre. As I have for some years past been engaged in somewhat of a similar process in a small way, in grubbing up old woodlands, although, instead of clearing and building thereon, I have replanted and continue to replant them, these articles have induced me to refer to the comparative results of the two methods. I must premise that the land I deal with is primitive woodland, certainly as old as the Saxon Heptarchy, is free from tithe rent charge, but is subject to local rates, of course not so highly rated as if there were buildings and homesteads erected thereon. My process is to cut the underwood, then fell all scrubby timber, leaving the better and growing trees with a proportion of tillers and some of the best of the coppice stubs, then grubbing all the roots of the trees felled, and all the large old useless coppice roots, make large open drains where required, and then replanting the land. This process takes up two years. I find from my accounts, without entering into the details thereof herein, that last year—

| | £ | s. | d. |
|---|---|---|---|
| The grubbing cost me, per acre .. .. .. | 11 | 16 | 0 |
| The value of the roots grubbed for sale is .. .. | 8 | 14 | 6 |
| Thus leaving a charge of .. .. .. | 3 | 1 | 6 |
| I have no regular estimate of the cost of ditching or draining, as it varies according to circumstances, but I think I underrate it when I allow, per acre | 1 | 0 | 0 |
| The plants as purchased cost, per acre .. .. | 6 | 0 | 0 |
| And the expense of planting them .. .. .. | 1 | 10 | 0 |
| My expense, therefore, in clearing and replanting an acre is .. .. .. .. .. .. | 11 | 11 | 6 |

"Now for the comparative results.

"I am aware that by planting thicker, then thinning out and cutting off the plants to remain, I might probably obtain a larger and earlier return than the following; but I dispense with these considerations, and confine my estimates to three periods as coppice wood is cut.

| | | | | | | |
|---|---|---|---|---|---|---|
| The first 10 years, I expect a return of only | £5 | 5*s.* | 0*d.* | against a rental of | £14 | 0*s.* 0*d* |
| The second 10 years, as my stubs will bear more, I calculate of | 14 | 0 | 0 | ,, | 14 | 0 0 |
| The third 11 years according to the value as sold.. .. | 40 | 0 | 0 | ,, | 14 | 0 0 |
| Value of ware for 31 years .. .. | £59 | 5 | 0 | value of rental | £42 | 0 0 |

"The increase in the value of the growing timber for 31 years, with the smaller rated rental for local rates from there being no buildings or homesteads, will answer as a set off against 6*l.* per cent. on the value of such erections as charged in the article quoted. At the lapse of 31 years, the planted stock will be of increased value, while the buildings will require repair and further outlay. I infer from these premises, that clearing land is not so advantageous in the long run as would seem from present appearances." *Economist.*

## ROYAL AGRICULTURAL COLLEGE, CIRENCESTER.

THE session was brought to a close on Tuesday evening, the 20th inst., the examination having ended on the previous day. Edward Holland, Esq., M.P., Chairman of the Committee of Management, awarded the diplomas and prizes, and the Choral Society of the College treated the visitors with a concert, which, above the average in quality, was fully appreciated by the audience.

The late lamented principal, the Rev. J. P. Haygarth, has found a worthy successor in the Rev. J. Constable, M.A. We congratulate the managers of the Institution on having obtained the services of a gentleman, under whose able, energetic, and kind direction the prosperity of the College has been satisfactorily secured. Additional and extremely comfortable private rooms for older students have been provided in the College, and every effort is made to render the tuition and a liberal discipline as efficient as possible. Under the auspices of the Principal a Choral Society and an excellent Discussion Club have been formed by the students, whose progress during the session has been quite satisfactory.

We are happy to say that a fewer number of students are leaving this session than usual, the number being only 16. It is gratifying also to be able to state that the applications for admission, besides being more numerous, are from men of an age likely to derive full advantage from a collegiate system, and that there is every prospect of the College being well filled next session.

The College Diploma was awarded to—1. J. Appelby, Fareham, Hants; 2. J. Hall, Paulton Vicarage, Preston, Lancashire; 3. C. Selby Bigge, Lyndon, Morpeth, Northumberland.

The Haygarth Prize was awarded to Mr. Appelby.

The following prizes were awarded:—

*Farm Books.*—1. Doxat; 2. Deacon.

*Farm Journals*—Turner and Negus.

*Laboratory Prizes.*—Classes 1 and 2, Inner laboratory. Ivey, Phillips, Prentice. for quantitative analysis. Classes 3 and 4. Allanson, for qualitative analysis. Classes 5 and 6. Boucicault, for chemical manipulations.

*Veterinary Prizes.*—Classes 1 and 2. Hospital books. Doxat and Ivey. Classes 3, 4, 5, and 6. Note books. Boucicault.

*Botany Prizes.*—Note books. Classes 1 and 2. Deane.

*Agronomics.*—Note books. Classes 3, 4, 5, and 6. Boucicault.

*Surveying Prizes.*—Field books. Classes 1 and 2. Deane. Classes 3 and 4. Allanson. Classes 5 and 6. Smith.

*Building Prize.*—Hall.

*Mathematics Prize*—Ivey and Appelby.

*General Proficiency.*—Homesfield, Allanson.

*General Industry.*—Harding.

Certificates of Merit for being first in the Examination were granted to—

*Agriculture.*—1st Division—Appelby and Doxat, equal; 2d Division—Negus and Smith, equal.

*Chemistry.*—Classes 1 and 2—Ivey; Classes 3, 4, 5, and 6—Deacon.

*Botany.*—Bigge, Deane, and Doxat, equal.

*Agronomics.*—Deacon and Harding, equal.

*Veterinary.*—Pathology—Deane and Doxat, equal; Anatomy—Deacon.

*Surveying.*—Classes 1 and 2—Hall; Classes 3 and 4—Deacon; Classes 5 and 6—Smith.

## Home Correspondence.

*Pig Feeding.*—Having seen an article in the *Agricultural Gazette* respecting the fatting of pigs and the giving them cinders or brick rubbish, it is in my opinion most essential to their well-being; it assists to digest their food and prevents them from routing up their styes, to the great annoyance of the person that attends to them, and a loss to the owner. Instead of routing up the stye they ought to be lying quiet. If they are not quietly disposed or satisfied with their treatment they will not fatten very fast. I have paid particular attention to the fatting of pigs for some years back, and I have tried it in various ways, and in my opinion the singling out, stall, box, or crate system is the best for fatting. To have the styes so constructed as to have a moveable partition between the pigs, so that the stye may be regulated according to the size of the pig; to allow it sufficient room to get up and down but not to turn round, with a continuation of troughing to run the full length of the styes, and a door opposite to each stye, to admit of their being kept clean; also to be kept moderately dark and quiet; to have some cinders every morning after feeding will, I am satisfied, fatten the pigs sooner than by having six, eight, or more shut up in a stye in the usual way. *C. A.*

## Farmers' Clubs.

OXFORD: Dec. 12.—*The Agricultural Labour Market.*—Mr. Watson said, about 20 or 30 years ago, there was a superabundance of labour, and it was no uncommon occurrence to have on a Monday morning applications from 20 or 30 men who wanted employment. The farmers held meetings, and the men out of employ were set to work by them in turns, a proportion of their wages being paid out of the poor rates, so that if a man was engaged at 1*s.* 6*d.* per day, the farmer paid him only 9*d.*, and the remainder was made up out of the rate. He was happy to say that that state of things was altered. Instead of a surplus, they had not sufficient labour now for their purpose, which was attributable to certain causes which operated now, but did not 30 years ago. In the first place, there were now railways, which had created a great demand for labour, and employed many of the rural population both in the construction of lines as well as policemen, guards, porters, &c., and they were paid better wages than the farmer could afford to give. In his (Mr. Watson's) opinion, the best course to adopt was by economising their labour as much as possible, and making the best use they could of the labour in their own immediate neighbourhood. He was aware that some parties represented the labouring classes as disaffected, and said that there was not that good feeling between them and their employers which ought to exist; but, even if such were the case, they could not be surprised at it, considering how they had been treated. As agriculturists, they had not paid them that attention which they ought to have done, for when they wanted their services they got them at the cheapest rate, and when they had done their work, they left them to find employment and provide for their families in the best way they could. He contended that they would find on their farms many things which would not only pay back 1*s.* for the 1*s.* laid out, but 1*s.* 2*d.* for every 1*s.* in effecting improvements during the winter time, which would not only be to their advantage, but, at the same time, employ these poor men. With respect to the summer, it was then that they found a scarcity of labour, because the men went away when they were most wanted; but if they had not cared for them during the winter; they could not be surprised at their going to other localities where they thought they could do better. As far as his own experience went, he was satisfied of this, that if they did what was right between man and man, and made their labourers comfortable in winter, they would find that very few would leave them in summer; if any did so, it was the exception and not the rule. In order, then, to provide for the summer, and to create a better feeling between the employer and employed, the first step was to do all they could for the latter in the winter. Their next duty was to do all they could to improve their moral and physical condition. In the first place, a great many labourers, at certain pa... year, had to walk two or three miles, and ... quence of the present law of settlement, ... much the habit of landowners to pull down ... in their parishes, and the labourer consequ... a difficulty in meeting with a house to dwell in ... employment; while in case of sickness the cost ... maintenance was shifted to other parishes, ... they had been driven. That law ought to be re... and he hoped the time was not far distant wh... parish in the county, if not the whole country ... form one Union. It could not reasonably be ex... that a labourer who had to walk three or four ... his work could do the same amount of work as ... located on the farm; and, therefore, it was to the ... interest to get their labourers located around ... near as possible to the farm on which they were ... ployed. In that case he believed that five ... would do the same amount of work as six ... differently circumstanced. Mr. Watson concl... moving the following resolutions:—

"That as the price of labour must be regulated by the ... and demand, it is the opinion of this Club that the ... arrived when something must be done to cultivate a ... feeling between, and more closely unite the employer ... employed, the interests of the two being identical, ... effect this, it is necessary, in the first place, to repeal ... the present law of settlement.

"2d. That the owners and occupiers of the soil ... their best to improve the moral and physical condi... industrial classes, supplying them as much as possible ... munerating labour during the winter months, and ... them with comfortable dwellings on or near the farms ... every way encouraging the industrious labourer, ... employer may have the full benefit of his industry ... labourer himself be comfortable, contented, and happy."

The Rev. J. Clutterbuck said—first, on edu... The fear of those who think that the education ... labouring population is likely to be carried too ... think, unfounded; it may be possible to educate ... beyond that point which befits their station, ... those who entertain fears on this subject would ... company the Inspectors of Schools in agricul... districts, they would see that the boys are taken ... school at so early an age that very few can be ... beyond the barest elements of school teaching ... nature of the employment given to little boys ... makes it difficult for them to attend the Sunday ... to say nothing of the too frequent indisposition ... child himself. The night school may be said ... well if it keeps up the little learning acquired at ... school. We know the oft-repeated assertion that ... of the best and most trustworthy labourers can ... read nor write; this has no doubt much truth in ... my own experience of more than 30 years enables ... affirm that I know no instance in which idleness, ... honesty, or negligence can be attributed to the ... moderate stock of learning gained at any school ... which I have been connected. In this, the boy is ... father of the man; the idle, ill-conditioned scho... the pest of the village as he grows up, and the ... and best boy in his class is seldom the mem... labourer or the inmate of our gaols. A few wo... the law of settlement; I am glad to see it ... favour at the last meeting. It was suggested to ... one of the speakers on that occasion that he sho... glad to hear its friends defend the law as it st... the best of their power. My answer was, I ... think it has any friends. My own deliberate con... after the best consideration I can give it, and a ... long experience, is that it is impossible to over-... the demoralising effects that it has produced ... labourers of this country, especially by encouraging ... of improvidence before the New Poor Law was ... There is another point connected, as I think, ... law of settlement—I mean the habitations ... labourer. All agree that it vitally affects the ... the people. Over-crowded dwellings are the ... of vice in its most frightful form. A word ... the payment of labourers. If it were free, ... say little on this point; but to speak of it as it ... labourer is worthy of his hire" is an axiom ... authority, and I feel confident, from the ... that has characterised this discussion, and ... character of this assembly, that I need not re... of the denunciation pronounced on those ... back the "hire of the labourer by fraud." I ... give so harsh a name to a practice which obtains ... the old Poor Law, and may linger in some pla... of making a distinction between the married ... men; it is like the law of settlement—indef... There are difficulties, and those mostly arising ... the feelings of the labourer, in adjusting wages ... to the merits and skill of those who earn them. ... work regulates this nature where piece work ... given. But it is manifest that one man may ... 12*s.* or 14*s.* and another scarcely 9*s.* or 10*s.* T... least, the good labourer should not be depressed ... idle and unskilled. Machinery requires skill, ... this may, as it generally does, open a door for ... ragement and higher wages, and I fully concur ... observation, the more machinery the more ... But I think that those who, as shepherds, ... &c., have much valuable property under their ... and who have much anxiety of mind, added to ... exertion, are very often underpaid. This, to ... least of it, is a mistake, if not an injustice. In ... of labourers the young and active should ne... couraged. I own a great dislike to drinking ... anything that tends that way. It appears to ... getting work out of men by giving extra ... inducing the men to sell their strength, which ... birthright, at a miserable price. We know th...

answer, "We get more work by beer than money." I doubt this, for in the long run you may bring your men to that state in which they won't work without it, and I think a fair trial of more money and less beer would be the best policy in the end. There are other points on which one is tempted to touch. Take what Mr. Mein says—"All farms ought to be training schools for the young labourers." A wise and philanthropic sentiment. The remedy for many evils, the conferring of many real benefits is, and always must be, in the hands of the employer; he may often meet with discouragement, but depend upon it, if there is a steady determination to do justice between man and man, your endeavours to improve the labourer will not be without its reward. You cannot multiply hands but by kindly treatment, well placed encouragement, and judicious instruction; you may increase the quality of the labour you pay for, so as to enhance its value, and augment the profit you have a right to expect from it as an investment of your money. I say again take Mr. Mein's advice, "Make your farms training schools for the young labourers," and you will not fail to gather round you an improved and improving staff of grateful hearts and willing hands, a blessing to themselves and to those in whose service they are employed.

## Calendar of Operations.

### DECEMBER.

WEST SUSSEX: *Dec.* 20.—We have had now a week of more severe weather than has been on the south coast for many years. The frost during the greater part of last week was to the extent of from 12° to 20°, and yesterday morning, from 3 to 10 A.M., we had a fall of 8 or 9 inches of snow, so that the earth is now sealed to us, and the roads being heavy or almost impassible, all work is nearly at a stand with us, only that the live stock take a little more trouble to provide food, &c., for; and now we find the Mangel Wurzel heap useful both for cattle and sheep, but so no doubt would Swedes had they been stored; and it would be well when the extent of Mangel Wurzel is small to store a few Swedes to meet such a time as this, and then the danger (if any) of changing such as ewes heavy in lamb from Turnips to Mangel Wurzel for a short time would be avoided. But I fear this has altogether been an unfortunate year in the preserving of Mangel Wurzel: first the frost came upon us too soon, and damaged a great many in some places, and though we thought ours safe at first we found that the long ones suffered a little, as from their habit of growth their tops did not protect them so well, and now I fear that we reckoned without our host when we covered them up, as the frost has got deeper than we counted on, and we may find that it will be better to use them as quickly as possible, and the ewes and lambs will have a share as well as the cattle. Wheat-sowing was over during last month; that sown late has lain long in the ground, and some of it is not up yet, and other work that ought to be done in the autumn is rather behind, so that a little longer of this weather will leave enough to do by and by. Our cattle and root show has passed over very creditably, and we can report decided improvement. There was beef that would not have disgraced Baker Street Show, and roots that in size and quality would have been hard to beat, and it is likely that more interest will be taken in these shows than has hitherto been; in fact, they have been looked on very coldly by many of those who ought to have helped them. The Downewes have now begun lambing, being rather more forward this year. Our market is quiet as regards Wheat, but Barley readily finds sale. The yield of Wheat is said not to be good. Wages are in some cases down 1*s.*; from 11*s.* to 10*s.* for common labourers, and 13*s.* to 12*s.* for carters and shepherds. But there are hardly any hands out of work, and they will be scarce when the busy season comes; and those that would wish to have hands when they require them had perhaps better have an extra one when they do not so much want them. *G. S.*

LAMMERMUIR SHEEP FARM: *Dec* 19.—We are in the midst of a snow storm, which, after nearly a week's intense frost, set in on Saturday last; two days' fall has covered the ground with about 18 inches of loose dry snow, and though there has been no fresh fall to day, we dread the wind rising, as with such an amount of material the drift would be great. All our hirsels are gathered into the shelters, and we know the value of a good plantation at present. We have had some difficulty in getting them together, as driving sheep in such a depth of snow is no easy matter. But once under the "bield" of the plantation (if there is a good haystack beside it), they are safe. Nothing breaks the force of the driving snow like trees. In planting for shelter on hill farms, attention should be paid to place the plantation in the neighbourhood of rough ground, that is, ground covered with strong Heather, Whin, or Broom, in order that in deep snow the sheep may (as our shepherds phrase it), "stand out to work" and do something for their meat. Should the storm continue we shall in a few days be feeding almost entirely from the stack. Hill stock are only in middling condition to face the winter on, as the frost set in uncommonly early, killing the Grass when our sheep were just beginning to do well on the autumn quickness, after an unusually dry and scanty summer. This remark does not however apply to soft growthy pastures, for this was quite a summer for such grounds as have generally too much moisture. *J. L. B.*

## Notices to Correspondents.

FATTING LAMBS: *W. W.* They are weaned lambs, we suppose. You may suppose that they would be tolerably fat by 4 or 5 months of good feeding, and that their daily consumption would be from 30 to 36 lbs. of green food between them. Your 2 tons of Carrots are thus about enough for your purpose, but they will be the better of a little hay with them. Feed them under shelter, giving them access to a pasture if you can.

GRASS SEED MACHINE: *Oatlands.* Almost every maker of sowing machines makes a long (16 feet) and slender one-wheeled barrow, costing 3*l.* 3*s.*, for sowing Clover and Grass seeds.

LEAVES: *E. F.* If you use them as litter and afterwards repeatedly turn the dung heap, the manure mingled with them will act as a ferment and rot them.

MARL: *B. N. F.* has a poor sandy farm of about 250 acres, with no marl near; but about 24 miles distant he has another farm, for the most part a stiff retentive clay. To cart the clay to the sandy farm would be too expensive to accomplish, but would it answer his purpose to burn the clay, which would greatly reduce its weight and bulk; and would it do so sufficiently to make it pay for the cartage? [Some clays might be worth the burning and cartage, others would not. An analysis might answer the question. The probability is that the cost of cartage would be better spent on purchased manure and management.]

RUNTS: *C. T.* Another word for steer, applied to Welsh and Scotch cattle.


NEW AND CHOICE PLANTS.

JOHN STANDISH, in offering the following Plants, can assure his customers that they are now in fine condition for sending out:—

MYOSOTIDIUM NOBILE, or Antarctic Forget Me Not, each 21*s.* 6*d.*—This plant, from the Chatham Islands is one of the most remarkable that has been introduced for some years, being totally distinct from all others. It has large thick leaves, 8 or 9 inches across, of a dark glossy green, and sends up magnificent trusses of bloom of the most beautiful blue and white, similar to a Forget me-not, but of a giant form. A Drawing of it is published in Curtis's "Botanical Magazine" for September. A description taken from the above is also published in the *Gardeners' Chronicle* of Sept. 17, 1859, wherein Dr Lindley says:—"This is the handsome perennial provisionally named Cynoglossum nobile by Dr Hooker in our last year's Volume, page 247. It is quite deserving all the encomiums that have been passed upon it."

GLADIOLI, named varieties, from the choicest and largest collection in England, 6*d.* to 5*s.* each. Also a fine lot of bulbs raised from seeds saved from the best flowers, all of which will flower in the summer of 1860. 7*s.* 6*d.* per dozen, or 50*s.* per 100. These are strongly recommended.

RHODODENDRON LIMBATUM.—Pale blush, bordered with bright crimson. This has received several medals at the exhibitions for Rhododendrons, being very distinct and one of the most free flowering. 21*s.* each.

RHODODENDRON MINNIE.—White, very large blotch of chocolate coloured spots, a fine flower, and remains a very long time in bloom. This is one of the most curiously marked Rhododendrons amongst all the white; it bears a noble truss of blooms, which cannot fail to be admired. 21*s.* and 31*s.* 6*d.* each. Selections can be made from one of the finest collections in Europe.

PHLOX MRS. STANDISH.—The purest white, with a large red eye, 5*s.* each. Also a large collection of the finest kinds which J. S. has shown during the last summer and in every case received the First Prize. Plants from 1*s.* to 2*s.* 6*d.* each.

A CATALOGUE containing a full description of the best Hardy Plants in cultivation will be forwarded on application to The Royal Nursery, Bagshot.

A. VERSCHAFFELT, NURSERYMAN, Ghent, Belgium, begs to offer:—

| | £ | s. | d. |
|---|---|---|---|
| NEW PEAR GENERAL TOTLEBEN .. .. | 0 | 8 | 0 |
| RHODODENDRON BYLSIANUM, strong plants, quite hardy .. .. .. .. .. | 0 | 8 | 0 |
| ROSE HYBRIDE REMONTANT IMPERATRICE EUGENIE, new fine white .. .. .. .. | 0 | 3 | 6 |
| LILIUM GIGANTEUM, flowering bulbs for 1860 .. | 2 | 0 | 0 |

WANTED IMMEDIATELY, 10,000 2-year Transplanted THORNS; 10,000 2-year Transplanted BEECH; 20,000 2-year Seedling BEECH; and 10,000 3-year Seedling BEECH. Any one having all or any of the above to dispose of is requested to send lowest price to G. FROST, Nurseryman, Brushford, Tiverton.

NEW STRAWBERRY, WIZARD OF THE NORTH.

DANIEL ROBERTSON, LINSIDE NURSERY, Paisley, continues to supply the above named superb variety at 63*s.* per 100, or 9*s.* per dozen, the usual discount to the trade. Having a large stock of the Wizard, Nurserymen and Market Gardeners ordering in quantity will be dealt with on favourable terms. As much imposition is being practised in the name of the Wizard, purchasers are warned that they ought to see the drawing of it in the hands of any one from whom they buy plants, as all parties selling the genuine variety will be furnished with a drawing. For description, &c., see former advertisements.

D. R. cannot supply any more plants of Nonsuch this season. DANIEL ROBERTSON, Linside Nursery, Paisley, N.B.—Dec. 31.

JOHN GRIGOR AND CO., Nurseries, Forres, Scotland, have for sale several millions strong one-year Seedling LARCHES, one and two year Seedling true native Highland Scotch PINE, DEODARS, &c. J. G. & Co. have received the numerous premiums awarded by the Highland and Agricultural Society of Scotland for the cultivation of the true native Highland Scotch Fir, and their present stock is raised from seed collected in the celebrated native forests of Strathspey.

PRICED LISTS on application; and the Trade supplied at the wholesale rates.

TANSLEY NURSERY, NEAR MATLOCK,
TO GENTLEMEN PLANTING AND THE TRADE.

J. SMITH, SEN., begs to offer his STOCK OF TREES AND SHRUBS, of various sizes, and in addition to his general stock of the leading kinds, he has this season to offer an Extra Stock of many hundred thousands of fine Larches, Scotch Firs, and Highland Pines; a large quantity of Evergreens, Privets, Mahonia, Arbor Vitæ, and other plants for planting under cover. Many things are grown in large quantities, and will be sold on advantageous terms to the Trade and gentlemen requiring large lots.

CATALOGUES sent free on application. The Nurseries are on the Mansfield and Nottingham roads, and 2 miles from Matlock Bridge Station on the Midland Railway.

IMPORTANT TO PLANTERS WHERE AN IMMEDIATE EFFECT IS REQUIRED.

CHARLES CLARKE, NURSERYMAN, &c., 179, Windmill Street, Gravesend, has a splendid assortment of large Evergreens on hand, as Sweet Bays, Portugal and Plain Laurels, Yews, Laurustinus, Arbor vitæs, Evergreen Oaks, &c., all from 5 to 7 feet, very bushy, and warranted kept removed. Also large Standard Roses; Ornamental Forest Trees, 12 to 15 feet, all varieties; several thousands of Ash, Chestnut, and Quick, very strong; large Gooseberry and Currant Trees; Standard Fruit Trees, straight and handsome; Trained Fruit Trees, not to be surpassed; large Irish Ivies; a quantity of Plum leaf Willow, &c. Terms cash, or a reference from unknown correspondents.

IMPORTANT TO PLANTERS.

ROBERT PAIN respectfully calls the attention of intending planters to an inspection of his very superior stock of PORTUGAL and COMMON LAURELS and YEWS, from 4 to 7 feet high, and as much through, fine specimens, and in the best possible condition for removal, being grown expressly for immediate effect. Standard Apples for orchards, strong and well grown tall stems, so that cattle may not reach them. Peaches, Nectarines, and Apricots, Rider, half standard, and dwarf trained with extra large sized heads. Drooping Limes, Elms, Ash, and Willows in variety on tall stems.

Scarlet, Double White, and Pink Hawthorn, of large size; Scotch Spruce, Weymouth Larch, and other Firs, from 4 to 10 feet in height; Chesnut, Birch, Poplars, Elm, Mountain Ash, Laburnum, Walnut, fine specimens, 10 to 12 feet high.

There is every facility for conveyance, as the Nursery is convenient to the Great Western Railway Uxbridge Station.

Uxbridge Nursery, Middlesex.

FOOD FOR WINTER STOCK.

SAMUELSON'S celebrated TURNIP CUTTERS, PULPERS, CHAFF CUTTERS, OIL CAKE BREAKERS, CORN and MALT CRUSHING MILLS, all with the latest patented improvements, may be obtained through any Ironmonger or Implement Dealer in the Kingdom, or (carriage paid to the nearest station to the purchaser) direct from the manufactory.—Britannia Works, Banbury, Oxon; or London Warehouse, 76, Cannon Street West, City, E.C.

Catalogues sent free on application.

GLASS FOR ORCHARD HOUSES & CONSERVATORIES.

JAMES PHILLIPS AND CO. beg to submit their prices of GLASS for the present month.

SHEET GLASS, in Crates, of superior quality, 16 oz. to the foot.

| | Best. | Seconds. | Thirds. | Fourths. |
|---|---|---|---|---|
| | 4½*d.* | 4*d.* | 2¾*d.* | 2*d.* |
| 21 oz. | Best. 7*d.* | Seconds. 5*d.* | Thirds. 3½*d.* | Fourths. 3*d.* |

Packed in 200 feet cases, 16 oz. .. .. .. £2 2 0
Packed in 300 feet cases, 16 oz. .. .. .. 3 0 0
Packed in 200 feet cases, 21 oz. .. .. .. 2 18 0

ORCHARD HOUSE SIZES, as supplied by us to Mr. Rivers.

| | | 16 oz. | 21 oz. |
|---|---|---|---|
| 20 in. by 12 in. | Common .. .. | 14*s.* 0*d.* .. | £1 1*s.* |
| 20 in. by 13 in. | Superior do. .. | 16 6 .. | 1 5 |
| 20 in. by 14 in. | English Glass .. | 18 0 .. | 1 9 |
| 20 in. by 15 in. | | | |

Boxes included and not returnable.

SMALL SQUARES, per 100 feet box. *s. d.*

| | | | | |
|---|---|---|---|---|
| 6 by 4 | 6½ by 4½ | 7 by 5 | 7½ by 5½ | 11 6 |
| 8 „ 6 | 8½ „ 6½ | 9 „ 7 | 9½ „ 7½ | |
| 10 „ 8 | 10½ „ 8½ .. | .. .. | .. .. | 12 6 |

HORTICULTURAL GLASS, in Squares, cut to specific sizes.

| | |
|---|---|
| 1 oz. per foot, from 2*d.* to 3½*d.* | 26 oz. per foot, from 3*d.* to 7½*d.* |
| 21 oz. „ „ 3 „ 5 | 32 oz. „ „ 4 „ 9½ |

Special prices quoted for large or specific quantities.

AGENTS FOR
HARTLEY'S PATENT ROUGH PLATE GLASS.
PAINTS.

Genuine White Lead, Linseed Oil, Boiled Oil, Turpentine, Putty, Colours, Varnishes, Brushes, &c.

JAMES PHILLIPS AND CO.,
180, Bishopsgate St. Without, London, E.C.

GLASS FOR CONSERVATORIES, ETC.

HETLEY AND CO. supply 16-oz SHEET GLASS of British Manufacture at prices varying from 2*d.* to 3*d.* per square foot for the usual sizes required, many thousands of which are kept ready packed for immediate delivery.

Lists of Prices and Estimates forwarded on application, for PATENT ROUGH PLATE, THICK CROWN GLASS, GLASS TILES, and SLATES, WATER-PIPES, PROPAGATING GLASSES, GLASS MILK PANS, PATENT PLATE GLASS, ORNAMENTAL WINDOW GLASS, and GLASS SHADES, to JAMES HETLEY & Co., 35, Soho Square, London, W.

*See Gardeners' Chronicle first Saturday in each month.*

HORTICULTURAL GLASS—JUNE TARIFF.

THOMAS MILLINGTON'S reduced Tariff of GLASS, &c.

6 by 4, 7 by 5, 8 by 6, 9 by 7 } 16 oz. to the foot, 11*s.* 6*d.*
6½ by 4½, 7½ by 5½, 8½ by 6½, 9½ by 7½ } per 100 feet.

In 100 boxes,—4ths quality, 12*s.* 6*d.*; 8ds do., 14*s.* 4*d.*

10 by 8, 12 by 9, 12½ by 10½, 14½ by 10½, 13 by 11
10½ by 8½, 12½ by 9½, 13 by 10, 15 by 10, 13½ by 11½
11 by 9, 13 by 9, 13½ by 10½, 12 by 11, 14 by 11
11½ by 9½, 12 by 10, 14 by 10, 12½ by 11½

| | 16 oz. | 21 oz. |
|---|---|---|
| 20 by 12 | per 100 feet | |
| 20 by 13 | Common .. 16*s.* | .. 24*s.* |
| 20 by 14 | Superior . 18*s.* | .. 27*s.* |
| 20 by 15 | | |

All Boxes included.

Orchard House sizes as supplied to Mr. Rivers.

Hartley's improved Rough Plate Glass from ⅛ to ¼ in thickness.

Coloured Glass in great variety, at 9*d.* and 1*s.* per foot.

Paints, Genuine White Lead, Linseed Oil, Boiled Oil, Turpentine, Putty, Colours, Varnishes, Brushes, Lamp Glasses, &c.

87, Bishopsgate Street Without, E.C., same side as Eastern Counties Railway.

GLAZIERS' DIAMONDS FOR CUTTING HORTICULTURAL and other GLASS, to be had of the Wholesale Manufacturer, JOHN EDWARDS, 20, Sharp's Alley, West Smithfield, London, E.C. Prices from 10*s.* to 27*s.* 6*d.*

GARDEN LABEL.—Neat, durable, and well-executed LABELS, painted and lettered in oil paint, and varnished, equal to enamel. A specimen sent on the receipt of 3 Postage stamps.—Address F. H. LYDBURY, North Shropshire.

DESIGNS FOR FLOWER BEDS AND GARDENS.—In consequence of numerous applications J. MARSHALL, 2, Goldsmith Street, Nottingham, has been induced to prepare another set of Designs. They comprise upwards of 80, diversified in style, and will be forwarded to any address on receipt of 24 postage stamps.

MICROSCOPES.

JOSEPH AMADIO'S Improved Compound MICROSCOPE, 2*l.* 2*s.*; Students', 3*l.* 13*s.* 6*d.*

"Both these are from Amadio, of Throgmorton Street, and are excellent of their kind, the more expensive one especially."—*Household Words*, No. 345.

A large Assortment of Achromatic Microscopes.

Just published, 2d ed., an Illustrated Catalogue, with the names of 1500 Microscopic objects, free for 6 stamps.

HOT-WATER PIPES at wholesale prices, with Elbows, Syphons, Tee Pipes, and every other connection. Wrought and cast iron Boilers, Saddle, Conical, Cylinder, and Elliptic, from 24*s.* each. Boilers and Iron Stands to use without brickwork. Valves from 12*s.* each. Coal Boxes, Furnace Doors, Furnace Bars, Supply Cisterns, and Builders' Castings of every description in stock, at Mr. LYNCH WHITE'S Iron Wharf, Upper Ground Street, Blackfriars Bridge, London, S.

TO THE NOBILITY, GENTRY, AND HORTICULTURISTS.

H. McCALLA (late principal Draughtsman to Messrs. Weeks & Co.), CIVIL ENGINEER and FARM ARCHITECT, begs to inform the above that the Horticultural Buildings being confined to so few, exorbitant prices are charged: that he prepares Working Drawings and Specifications, so that they can have their own constructed by any country carpenter, at 1*s.* 6*d.* per foot super, or upon their own estates at 1*s.* 4*d.* per foot. Plans also upon the same rule for erecting Hot Water Apparatus. Plans for all kinds of Farm Buildings, Homesteads, Labourers' Cottages, Laying out of Estates, Drainage. Plans &c., prepared for all the above Works and submitted to competition.—Office: 7 Upper Cheyne Row, King's Road, Chelsea, S.W.

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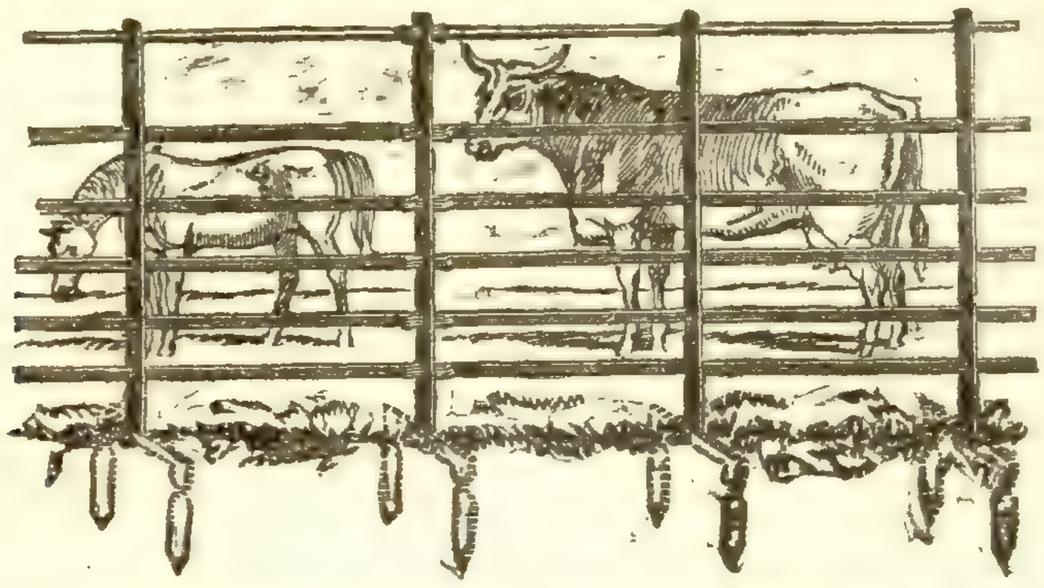

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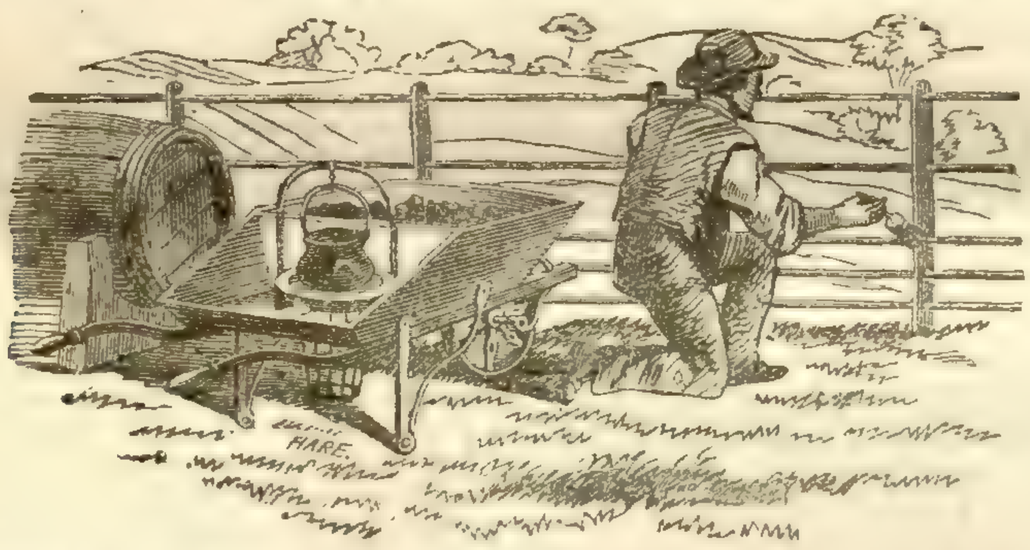


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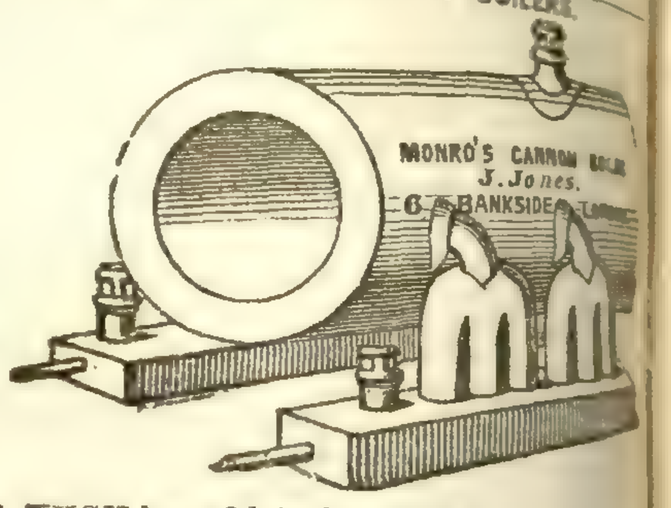


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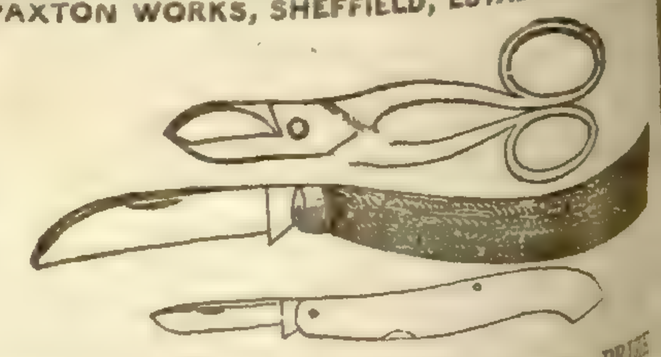

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# The Gardeners' Chronicle Newspaper.

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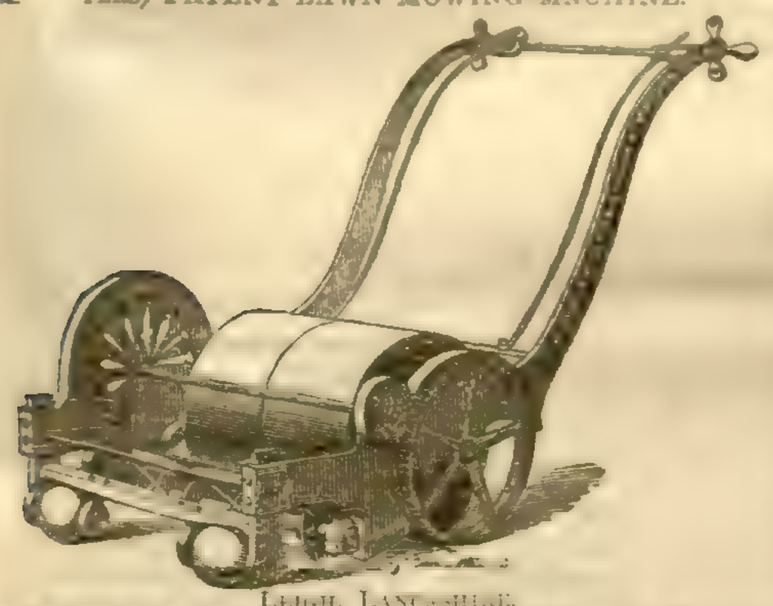
PICKSLEY, SIMS, AND CO.'S (by ROYAL LETTERS) PATENT LAWN MOWING MACHINE.



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## News of the Week.

THE new Parliament met on Tuesday, when the Session was opened by Commission with the usual formalities. In the Lords, after the Commons had been summoned to the bar, the QUEEN's Commis-

sion was read and the LORD CHANCELLOR signified to the House of Commons her Majesty's pleasure that they should proceed forthwith to the election of a Speaker. The Commons having returned to their own House, Colonel WILSON PATTEN moved that the Right Hon. JOHN EVELYN DENISON be re-elected Speaker. Sir. F. BARING seconded the motion, which was unanimously agreed to, and Mr. DENISON was conducted to his seat in the usual manner. The CHANCELLOR of the EXCHEQUER congratulated the right hon. gentleman on his re-election, and expressed his conviction that he would preside over their debates with the dignity of a judge and the spirit of an English gentleman. Lord PALMERSTON also congratulated Mr. DENISON, and complimented him on the able manner in which he had discharged the duties of his office, and had thus vindicated the judgment of those who had originally nominated him. On Wednesday the House was summoned to the House of Peers, when the LORD CHANCELLOR signified HER MAJESTY'S approval of their election of Mr. DENISON as Speaker, and confirmed in the fullest manner the privileges heretofore accorded to the members of the House. The remainder of the week has been occupied in both Houses by the swearing in of members. The QUEEN'S Speech will be delivered by HER MAJESTY in person on Tuesday next, and the address of the Commons in reply will be moved by the Hon. ALGERNON EGERTON, M.P. for South Lancashire, and seconded by Sir JAMES ELPHINSTONE, M.P. for Portsmouth.

From the seat of war we learn that the King of SARDINIA on Monday crossed the Sesia near Vercelli, drove the Austrians from their entrenchments and occupied Palestro on the east bank of the river. On Tuesday morning a body of 25,000 Austrians endeavoured to retake Palestro. The King of SARDINIA, at the head of General CIALDINI'S Division and a single regiment of Zouaves, received the attack of this superior force, and at length assuming the offensive, put the Austrians to the rout, and took above 1000 prisoners and eight pieces of cannon. In the evening of the same day the Austrians made a second attempt to recover the position, and were again repulsed by the KING in person at the head of the Piedmontese cavalry and the Zouaves. In these engagements KING VICTOR EMMANUEL is said to have shown the most heroic bravery, and the Zouaves in vain endeavoured to restrain him from exposing himself in the thickest of the fight. On Tuesday morning General NIEL entered Novara after putting the Austrian outposts to flight, and in the evening of the same day the Emperor NAPOLEON entered the city amidst the acclamations of the people. While the allies are thus gradually driving the Austrians back to the Ticino, and threatening a speedy advance on Milan, General GARIBALDI has been following up his successes in the lake districts. On Friday evening he again defeated the Austrians and entered Como the same evening. On Saturday he followed up this success by driving the Austrians from Camerlata. On Monday he attacked Laveno, and on Tuesday repulsed an attack on his vanguard at Sesto Calende. On the same day, according to the accounts from Vienna, the Austrian General D'URBAN recaptured Varese, and compelled GARIBALDI to "retire to the mountains," but the accounts from Turin assure us that he has since retaken Varese and re-entered Como. - Beyond the Lake of Como, in the north-east, the Valteline is in a state of insurrection, and the town of Sondrio, which is the centre of the movement, has proclaimed the KING OF SARDINIA. From Naples we learn that a Palace intrigue in opposition to the young KING has been set on foot by the QUEEN DOWAGER, who is an Austrian Princess, in favour of her son, the Count DE TRANI, and the latest news states that the Court was so divided in opinion that a collision was considered imminent. The news from Germany continues warlike. At the last sitting of the Federal Diet the minor German States voted that in certain eventualities military measures should be taken; and Prussia claimed that in such cases the initiative should be accorded to her. A new Prussian Loan of 30,000,000 thalers at 5 per cent. has also been announced.

## Home News.

THE COURT.—The Queen, Prince Consort, and the Royal family continue at Buckingham Palace. On Friday morning the Queen and the Princess Alice visited the Duchess of Kent. The Duke of Cambridge and the Princess Mary visited the Princess Frederick William at Buckingham Palace. In the afternoon the Queen and Prince Consort, the Princess Frederick William, and the Princess Alice visited the Duchess of Kent. Her Majesty afterwards took a carriage drive. In the evening the Queen and Prince Consort, accompanied by the Princess Frederick William and the Princess Alice, honoured the performance at the Haymarket Theatre with their presence. On Saturday the Queen and Princess Frederick William visited the Duchess of Kent. The Princess afterwards visited the two Water Colour Exhibitions. In the afternoon the Queen and Prince Consort, the Princess Royal and Princess Alice, went to Richmond and visited the Countess de Neuilly. In the evening the Queen had a dinner party. On Sunday morning the Queen and Prince Consort, the Princess Frederick William, the Princesses Alice, Helena, and Louisa, attended Divine service in the private chapel of Buckingham Palace; the Dean of Windsor officiated. Her Majesty and the Prince Consort, with the Princess Frederick William, afterwards visited the Duchess of Kent. On Monday morning the Queen and Prince Consort, accompanied by the Princess Frederick William and the Princess Alice, went to Windsor by a special train on the South-Western Railway, and remained at the castle until 1 o'clock inspecting the principal rooms, and particularly those which had been occupied by the Princess Frederick William previously to her leaving England. On their return to town the Queen and Prince Consort, the Princess Frederick William, and the Princess Alice visited the Duchess of Kent. Her Majesty afterwards took a carriage drive. In the evening the Queen paid a visit to the Duchess of Kent. Her Majesty and the Prince Consort, accompanied by the Princess Frederick William and Princess Alice, afterwards honoured the performance at the Princess's Theatre with their presence. On Tuesday the Queen held a Court at which Viscount Stratford de Redcliffe, G.C.B., had an audience on his return from Constantinople, and the Earl of Elgin, K.T., had an audience on his return from China. The Earl of Malmesbury had an audience. The Prince and Princess Augustus of Saxe-Coburg and the Prince of Leiningen visited her Majesty. In the afternoon the Queen, Prince Consort, and the Princess Frederick William visited the Duchess of Kent, and afterwards took a carriage drive. In the evening her Majesty and the Prince Consort, the Princess Royal, and the Princess Alice visited the Duchess of Kent, and afterwards honoured the Royal Italian Opera with their presence. On Wednesday morning the Princess Frederick William visited the Duchess of Kent and the Duchess of Cambridge. The Princess Beatrice visited the Duchess of Kent. In the afternoon the Queen, accompanied by the Princess Frederick William and the Princesses Alice and Helena, visited the Duchess of Kent, and afterwards took a carriage drive. The Prince Consort rode on horseback. In the evening the Queen gave a concert, to which about 670 invitations were issued. On Thursday morning the Princess Frederick William, accompanied by the Princess Alice, went to Clarence House, and took leave of the Duchess of Kent. The Queen, Prince Consort, and Princess Alice accompanied the Princess Frederick William to Gravesend, and on their return to town visited the Duchess of Kent. The Queen will hold a Privy Council on Monday at Buckingham Palace.

DEPARTURE OF THE PRINCESS FREDERICK WILLIAM.—Her Royal Highness, accompanied by her Majesty, the Prince Consort, and the Princess Alice, left Buckingham Palace shortly before 1 o'clock on Thursday, for Gravesend, where the Princess embarked in the Victoria and Albert royal yacht for Antwerp, on her return to Prussia. The royal party, escorted by a detachment of light dragoons, proceeded to the Bricklayers' Arms station of the South-Eastern Railway, where they were received by the directors and officers of the company. On arriving at Gravesend her Majesty and the royal party were received by Viscount Sydney, lord-lieutenant of Kent, and by the mayor and corporation, who preceded her Majesty through the town to the Terrace Pier. At the railway station an escort of the West Kent Yeomanry under the Earl of Darnley was in attendance to escort her Majesty from the station to the pier. The royal party occupied three of the Queen's carriages. On arriving at the pier, the Queen, Prince Consort, and the Princesses passed along the jetty, which was lined on each side by the principal inhabitants of Gravesend. On reaching the river end of the pier the barge of the royal yacht was in waiting, and the royal party immediately embarked amidst the cheers of the spectators and a royal salute from Tilbury Fort, and proceeded on board the Victoria and Albert, the standards of England and Prussia being run up to the mast-head as the royal party stepped on board. Her Majesty remained with the Princess on board the yacht until 3 o'clock, and then returned to London, the yacht letting go her moorings at the same moment, and dropping slowly down the river.

THE PRINCE OF WALES left Gibraltar on Saturday last in the royal yacht Osborne for Cadiz and Lisbon, on his return to England.

THE DUCHESS OF KENT.—The health of her Royal Highness is steadily improving, several days having passed over without a relapse. Sir Benjamin Brodie, Sir James Clark, and Mr. Brown, of Windsor, are in close attendance on the Duchess.

THE CABINET.—A Cabinet Council was held on Friday at the official residence of the Chancellor of the Exchequer in Downing Street. Another Council was held on Monday, and another on Tuesday.

THE ARMY. — The Colonelcy of the 97th Foot, vacant by the death of General Proctor, has been conferred on Major-General E. F. Morris, C.B.

THE CHANNEL FLEET.—Rear-Admiral J. E. Erskine has been appointed to hoist his flag on board the Edgar, as second in command of the Channel fleet.

DIPLOMATIC APPOINTMENT.—The Queen has appointed the Hon. Henry George Elliot, her Majesty's Minister in Denmark, to proceed to Naples on a special mission to convey her Majesty's congratulations to the King of the Two Sicilies, on his accession to the throne.

CONVOCATION.—The new Convocation of the prelates and clergy of the province of Canterbury was opened in St. Paul's Cathedral on Wednesday pursuant to the Queen's writ. The ordinary preliminary business was performed in the Chapter-house in St. Paul's Churchyard, where a procession was formed, which moved into the choir of the cathedral. The Bishop of Salisbury, being the junior bishop present, intoned the Litany in Latin, after which the sermon was preached in Latin by the Hon. and Rev. Samuel Waldegrave, the preacher of the day. The Archbishop of Canterbury then pronounced the apostolic benediction in Latin. Divine service being ended, the Archbishop, attended by the bishops and other members of the Convocation, proceeded to the Chapter-house, where the Vicar-General presented to the Archbishop the Queen's writ for summoning the Convocation. The writ having been read, the various returns and certificates were read, and after some other formalities had been complied with, the Archbishop in a Latin form directed the clergy of the province to withdraw and to choose a Prolocutor, and present him for approval and confirmation in the Jerusalem Chamber, Westminster, on the 22d inst. The clergy then withdrew, and having formed themselves into a Lower House, the Dean of Norwich moved the re-election of the Very Rev. Dr. Elliot, Dean of Bristol, as Prolocutor. The Rev. H. A. Woolgate seconded the nomination. The Rev. Canon Selwyn, as an amendment, nominated the Rev. Dr. Wordsworth, Canon of Westminster. The Rev. J. Jebb seconded the amendment. Dr. Wordsworth declined the honour, being desirous that Convocation should be marked by strength unanimity, which was its great strength. After some discussion, Canon Selwyn withdrew his nomination, and the Dean of Bristol was unanimously elected. The Convocation then adjourned to Wednesday, the 22d inst.

THE VOLUNTEER RIFLE CORPS.—A meeting of the Lieutenancy of the county of Cornwall was held at Bodmin a few days ago, at which it was resolved that subject to the supply of arms by the Government, artillery and rifle corps should be raised in the county under the superintendence of the Deputy Lieutenants in their respective districts. It was also resolved that in the opinion of the meeting the arms to be used should be provided by and be the property of the Government. A meeting of the Lieutenancy for Shropshire was held in the Shire Hall, Shrewsbury, on Saturday, Lord Berwick the Lord-Lieutenant in the chair, at which it was resolved to afford every facility for the organisation of volunteer rifle corps in the county, and to request the Deputy-Lieutenants in each sub-division, with the aid of such gentlemen as may be willing to co-operate, to receive and enrol the names of the volunteers. In the county of Norfolk the movement has been received with great favour, meetings having been already held on the subject in several districts. At a meeting of the Deputy Lieutenants of the hundreds of Taverham, Blofield, and Walsham, Sir Samuel Bignold in the chair, it was resolved to form a company in the district. At Lynn it was resolved, on the motion of Mr. Stratton it was resolved, on the motion of Mr. Howes, M.P., that a committee should be appointed for the purpose of establishing a company in that neighbourhood. At King's Lynn it was resolved to take measures to appoint an influential committee to take measures for the formation of a corps. At Aylsham the Marquis of Lothian took the chair, and resolutions in favour of the establishment of a rifle corps were adopted unanimously. At Fakenham, where Mr. Willoughby Jones took the chair, there was an expression of opinion in favour of a mounted corps also, as, in an open district like Norfolk, such a body would be enabled to cover more country than an unmounted one. Further meetings are announced at Docking, Holt, Norwich, Walsham, and Downham Market. In Cambridgeshire it is proposed to form a rifle club for South Cambridgeshire and North Hertfordshire, with targets for the practice at Royston, Sandon, Baldock, Hitchin, Stevenage, Buckland, Buntingford, Barkway, Braughan, and other places. At Reading it was resolved at a public meeting on the 19th ult. to form a rifle corps for the borough, and to appoint a provisional committee to confer with the Lord-Lieutenant of the county, in order to raise a public subscription for the purposes contemplated by the meeting. At Swansea at a meeting held in the Guildhall on Friday, it was resolved, without approving of the principle of non-intervention, to establish a rifle corps for the district, and the meeting

recorded their unanimous opinion that there should be no distinction of class in the formation of the corps; that all persons above the age of 17 years, who are desirous of serving, should be allowed to enrol themselves as volunteers; and that persons unable to join the corps should be requested to enter their names as subscribers. At Pontypool it was resolved at a public meeting on Friday to establish a rifle club in lieu of a rifle corps, in order to secure to its members the power of conforming to their own regulations instead of those which Government might think necessary if a corps were established. At Ipswich on Monday it was resolved at a public meeting at the Town Hall, the Mayor presiding, to form a rifle club for the town and neighbourhood, out of which companies may be formed in accordance with the War Office circular. At Great Yarmouth on Friday at a public meeting held at the Town Hall under the presidency of the Mayor, it was resolved unanimously that a rifle corps should be formed for that port and its vicinity. It was also proposed that an artillery and mounted rifle corps should be formed, but the suggestion was left over for further consideration until the success of the movement determined on be ascertained. At Sheffield on Monday it was resolved at a public meeting to memorialise the Secretary of War, through the Lord Lieutenant, requesting that arms and ammunition should be provided by the Government. At Rotherham on Monday a public meeting was held at which it was resolved to form a rifle corps in the district, and to invite subscriptions to defray the expenses connected with the movement. At Preston on Monday it was resolved at a public meeting, the Mayor presiding, to form a rifle corps for the borough and neighbourhood. At Leeds on Tuesday it was resolved by the Town Council to form a rifle corps within the borough, without pledging themselves to the conditions contained in the War Office circular. At Doncaster on Monday it was resolved at a public meeting at the Guildhall to establish a rifle corps for the town and neighbourhood, and it is expected that a body of 500 men will be easily raised in the borough. At Queenborough on Tuesday it was resolved unanimously, on account of the specially exposed position of the Isle of Sheppey, to raise a rifle corps in the island. At Oxford on Monday it was resolved at a public meeting held at the Town Hall, the Mayor presiding, to form a rifle corps for the city, and to open a public subscription for the purpose of purchasing rifles and accoutrements for those who were unable themselves to provide them. A resolution was also adopted enforcing the necessity of non-intervention, unless the honour of the country should be at stake. At Windsor it was resolved at a meeting held on Friday, Col. Seymour, Deputy Ranger of the Great Park, in the chair, to form a rifle corps composed exclusively of her Majesty's and the Prince Consort's keepers, and men employed in the Royal gardens, at Shaw Farm, and Flemish Farm, and in various other occupations in the Great Park. It is calculated that the corps will number about 150. On Tuesday a public meeting was held at Greenwich, General Alexander in the chair, at which it was resolved on the motion of Alderman Salomons, M.P., to form a rifle corps for the hundred of Blackheath. At a meeting of the parishioners of Kensington on Monday, Mr. Pownall, chairman of the Middlesex magistrates, in the chair, it was resolved to form a corps for Kensington. At Isleworth a meeting of the inhabitants was held on Saturday, General Tremenheere in the chair, at which it was resolved, on the motion of Mr. Justice Haliburton, M.P., to form a rifle corps for the Isleworth Hundred, including the town and parish of Isleworth, Twickenham, Hounslow, and Heston: the corps to be united for general purposes, but to consist of district companies from each place. At Lynn on Saturday it was resolved at a public meeting to form a rifle corps for that town. At Hastings a rifle club has been formed, which already numbers about 50 members. A large number of young men who are not able to find themselves in arms have sent in their names, and will be balloted for as soon as the public subscriptions will allow of the purchase of rifles for them. The weapon adopted is the Enfield. The uniform is of a slatish-gray, coat, cap, and trousers all alike, with black braiding on the collar and cuffs of the coat. The cost of the whole equipment, including the regulation Enfield, is 5*l*. 2*s*. It will depend on the nature of the future Government regulations whether or not it will become a corps. At Bristol nearly 300 names have been enrolled. The uniform of the corps has been decided on, and consists of a loose tunic fastened with a belt, trousers to match, and a smart looking foraging cap, with a straight peak. The colour is rifle-green with black mountings. The rifle selected is a light weapon, weighing about 7½ lbs., with a bayonet attached, which may be used also as a sword. At Newcastle-on-Tyne on Friday at a meeting at the Guildhall, the Mayor presiding, it was resolved that the secretaries be requested to communicate with the secretaries of the various corps throughout the kingdom for the purpose of arranging a Bill to be brought into Parliament for the better regulation of rifle corps, the present Bill, passed in the reign of George III., not applying to the case. At Birkenhead on Wednesday it was resolved to take measures for raising a corps of 500 men for the hundred of Wirral, and a subscription was opened to defray the general expenses, to which the chairman, Mr. John Laird, contributed 100*l*., with a promise of a similar amount to the Birkenhead contingent.

# Foreign.

FRANCE.—The *Moniteur* of Sunday announces that the Emperor, wishing to diminish as much as possible the evils of war, has decided upon returning to the enemy all wounded prisoners without asking for exchange. It also makes the following important announcement in regard to the question of coals being contraband of war, which it settles in the negative:—

"The Emperor's Government has never hitherto considered coal as an article contraband of war, and we are enabled to announce that during the present war it will adhere to that way of viewing it."

Accounts from Toulon of the 24th ult. state that the enlistment of seamen in that port, if not abandoned, is at least suspended. A flotilla of gun-boats is about to sail from Toulon, under the command of Captain La Roncière le Nourry, to be followed by a second flotilla under the command of Admiral Dupony. It is believed that these gun-boats are to act against Venice. Five gun-boats on a new model have been constructed at the dockyard of La Seyne, near Toulon. They can be taken to pieces and again remounted. They are, it is said, intended to be used against the Austrians on the Lago Maggiore. They were shipped at Toulon for Genoa on the 23d ult. Independently of the eight divisions already designated to form the Army of Observation under the command of Marshal Pelissier, four additional divisions are in course of organisation for the same object. The General-in-Chief of the Artillery of this army will be General Thierry; the Commander-in-chief of the Engineers, General Chabot la Tour; and General Chasseloup Laubat is to be Chief of the General Staff of the army. The Russian screw corvette which brought the members of the Imperial family to Marseilles has been lost on going into Toulon. She struck upon a rock, and rapidly broke up. Fortunately all hands were saved.

PORTUGAL.—Advices received from Lisbon state that the Portuguese Government has declared to the Cortes its intention of remaining neutral during the present war.

SWITZERLAND AND THE TYROL.—The Duke of Parma has arrived in Switzerland by way of the Tyrol, with a numerous suite. The Sub-Governor of Sondrio has fled with gensdarmes and the public treasure into the Tyrol.

PRUSSIA.—Accounts from Berlin announce the issue of a new Prussian loan at 5 per cent. The issue is to be made in coupons of from 50 to 1000 thalers, the payment of the interest to be half-yearly, and the redemption of the debt to commence from 1863 by the payment of 1 per cent. per annum. No reduction of the interest is to take place before 1870. The subscription to be received from the 6th to 11th June. In case the subscription should exceed 30,000,000 thalers, those above 250 thalers are to be proportionally allotted. On subscription a deposit of 10 per cent. must be made, by the 8th July 30 per cent., by the 22d August 25 per cent., and by the 8th October 30 per cent. For this 95 per cent. subscribers will receive 100 per cent. nominal value, bearing 5 per cent. interest from July 1, 1859.

FRANKFORT.—Baron Kübeck has been definitively appointed President of the Federal Diet.

HOLLAND.—The Dutch Government has taken measures for the mobilisation of the Limburg Contingent, Holland being a member of the Germanic Confederation by virtue of her possession of that duchy. In a message to the Second Chamber, the Government declares that though danger does not at present exist, it is necessary to adopt precautionary measures, in order that the country may not be taken by surprise.

MALTA.—The British naval force at present in the Mediterranean consisting of 33 ships is to be increased to 97, 22 of which are to be line-of-battle ships. It is also said that the garrison of Malta is to be raised to a strength of at least 10,000 men.

ITALY.—The King of Sardinia on Monday crossed the Sesia near Vercelli, drove the Austrians from their entrenchments, took two guns and several prisoners, and encamped that night at Palestro on the left bank of the river. On Tuesday morning at 7 o'clock 25,000 Austrians endeavoured to retake the position at Palestro. The King, commanding the fourth division in person, and General Cialdini at the head of the 3d Regiment of Zouaves, resisted the attack for a considerable time, and then, after having successfully assumed the offensive, pursued the Austrians, taking 1000 of them prisoners, and capturing eight pieces of cannon, five of which were taken by the Zouaves. 400 Austrians were drowned in a canal. During the combat another fight took place at Confienza, in the province of Lomellina, in which the Austrians were repulsed by the Division Fanty after a two hours' conflict. This victory was followed by a second successful combat, which took place at 6 o'clock in the evening at Palestro, which the Austrians endeavoured to recover, but were repulsed again by the Division of Cialdini, composed of Zouaves and Piedmontese cavalry. The King pressed forward where the fight was most furious, the Zouaves vainly trying to restrain him. On Tuesday morning at 7 o'clock General Niel entered Novara, attacking the Austrian outposts, which, after a short encounter, took to flight precipitately. The Emperor Napoleon arrived at 5 o'clock in the evening amid the acclamations of the people. The Austrians have endeavoured to cross the Po at Bassignano, but the inhabitants opposed their passage, firing upon and destroying an Austrian barque. On Thursday morning the Austrians advanced from Bobbio towards the French outposts, but retired again after a short fight. This movement was made to conceal the retreat of the Austrians, who had begun to evacuate Robbio, carrying with them about 1 500 wounded. From the lake district we learn that on Friday evening Garibaldi attacked and defeated the Austrians after a furious battle, which lasted from 5 to 8 o'clock, and entered Como at 10 o'clock the same night. The Austrians were completely routed, and fled in the direction of Monza. The town of Como was illuminated, and the inhabitants joined Garibaldi's standard. On Saturday morning the combat was renewed at Camerlata, and the Austrians again gave way and retreated towards San Mariano on the road to Milan closely pursued by Garibaldi. Accounts from Berne state that on Sunday Garibaldi suffered a defeat by a superior force of Austrians, and withdrew into the Canton of Tessin. This report has not been confirmed. On the other hand it appears that on Monday Garibaldi himself, or a strong detachment of his force, left Como and arrived before Laveno, a fortified town on the Lago Maggiore. He commenced an immediate attack upon the town, and maintained it during the whole night. On Tuesday morning his troops withdrew, but in the evening resumed the attack, which lasted the whole night. On the same day the Austrians attacked the Sardinian vanguard at Sesto-Calende. The fight lasted two hours and the Sardinian troops crossed the Ticino in pursuit of the Austrians. Accounts from Vienna state that on Wednesday the Austrian *corps d'armée*, under General D'Urban, cannonaded and took Varese, and that Garibaldi was obliged to retire into the mountains, with no road open to him but the Stelvio. The same accounts state that General D'Urban levied war contributions on Varese and reinstated the legal authorities. The latest accounts from Turin state that Garibaldi, so far from having been driven into the mountains, has surprised the Austrians at Varese and recaptured the town; and that he re-entered Como on Thursday evening at 11 o'clock. On Saturday morning the Austrian war-steamers on the Lago Maggiore kept up a three hours' cannonade upon the town of Canobbio, but without much effect. An insurrection has broken out in the Valteline. The population is repairing in masses to Sondrio, the centre of the revolutionary movement. The Austrian Gendarmes who have retired into Switzerland have been disarmed by the Swiss authorities and sent into the interior of the country. Advices from Florence state that Russia, Prussia, England, and Turkey, have not recognised the Provisional Government of Tuscany, and the representatives of those countries have withdrawn their flags. At Lanigiana, in Parma, the people have risen and pronounced for the King of Sardinia. General Ribotti, with Tuscan troops, military engineers, and gendarmes, entered Parma amidst the plaudits of the people, who declared for the King of Sardinia and Italian independence. The Duke of Parma has fled to Switzerland. The municipality of Venice has requested a reduction of the loan. The President and Vice-President of the Chamber of Commerce have resigned their official positions. On Friday a cannonade was directed from the Lido Forts against the French squadron. An English war steamer has arrived at Venice, and another has put into Ancona. The announcement of the Emperor of Austria's arrival at Pavia was premature, but his Majesty was daily expected. The King of Naples has, on his accession to the throne, published a proclamation, in which he enumerates the good qualities of his predecessor, but avoids making any engagements for the future, and abstains from pronouncing his opinion on the events now going forward in the Italian peninsula.

TURKEY.—Letters from Constantinople of the 25th May state that the Grand Duke Constantine was expected there on the following day. The Sultan has held a review of 25,000 soldiers. The reserve will immediately be despatched to Roumelia. The Porte will send troops and ships to Albania. 2000 Servians, with artillery, have departed to reinforce the Montenegrins. Prince Milosch ignores this fact, but the attitude of the Servians inspires fear. The Porte is about to send four ships, four frigates, and two despatch boats to the Adriatic, under the command of Mehemed Pasha, who, in certain emergencies, will exercise his command under the orders of an English Admiral. The garrison of the fortress of Belgrade has been reinforced. Omar Pasha remains at Bagdad, being detained there in consequence of the threatening attitude of Persia.

CAPE OF GOOD HOPE.—We have news from the Cape to April 21. The colonial Parliament was in session. The principal questions before it were the colonial marriage law, insolvent law, and Crown lands. Great depression existed among the Free State Boers in consequence of the refusal of the English Government to countenance Sir George Grey's scheme of South African federation. The first sod of the railway was turned by the Governor on the 31st of March. Mr. Pickering, the contractor, required 300 navvies from England.

UNITED STATES.—Accounts from Washington state that 100,000 dollars of the debt due by the Chinese to American citizens had reached the Government. Additional intelligence from Utah announces that the differences between the governor and the judges were far from being settled. There is no foundation for a report that the President contemplates changes in the English and French missions. Official advices from Nicaragua state that Sir W. Gore Ouseley was actively engaged arranging the treaties. Mr. Smith O'Brien had arrived at Albany on his way to New York, and

sion was read and the LORD CHANCELLOR signified to the House of Commons her Majesty's pleasure that they should proceed forthwith to the election of a Speaker. The Commons having returned to their own House, Colonel WILSON PATTEN moved that the Right Hon. JOHN EVELYN DENISON be re-elected Speaker. Sir. F. BARING seconded the motion, which was unanimously agreed to, and Mr. DENISON was conducted to his seat in the usual manner. The CHANCELLOR of the EXCHEQUER congratulated the right hon. gentleman on his re-election, and expressed his conviction that he would preside over their debates with the dignity of a judge and the spirit of an English gentleman. Lord PALMERSTON also congratulated Mr. DENISON, and complimented him on the able manner in which he had discharged the duties of his office, and had thus vindicated the judgment of those who had originally nominated him. On Wednesday the House was summoned to the House of Peers, when the LORD CHANCELLOR signified HER MAJESTY'S approval of their election of Mr. DENISON as Speaker, and confirmed in the fullest manner the privileges heretofore accorded to the members of the House. The remainder of the week has been occupied in both Houses by the swearing in of members. The QUEEN'S Speech will be delivered by HER MAJESTY in person on Tuesday next, and the address of the Commons in reply will be moved by the Hon. ALGERNON EGERTON, M.P. for South Lancashire, and seconded by Sir JAMES ELPHINSTONE, M.P. for Portsmouth.

From the seat of war we learn that the King of SARDINIA on Monday crossed the Sesia near Vercelli, drove the Austrians from their entrenchments and occupied Palestro on the east bank of the river. On Tuesday morning a body of 25,000 Austrians endeavoured to retake Palestro. The King of SARDINIA, at the head of General CIALDINI'S Division and a single regiment of Zouaves, received the attack of this superior force, and at length assuming the offensive, put the Austrians to the rout, and took above 1000 prisoners and eight pieces of cannon. In the evening of the same day the Austrians made a second attempt to recover the position, and were again repulsed by the KING in person at the head of the Piedmontese cavalry and the Zouaves. In these engagements KING VICTOR EMMANUEL is said to have shown the most heroic bravery, and the Zouaves in vain endeavoured to restrain him from exposing himself in the thickest of the fight. On Tuesday morning General NIEL entered Novara after putting the Austrian outposts to flight, and in the evening of the same day the Emperor NAPOLEON entered the city amidst the acclamations of the people. While the allies are thus gradually driving the Austrians back to the Ticino, and threatening a speedy advance on Milan, General GARIBALDI has been following up his successes in the lake districts. On Friday evening he again defeated the Austrians and entered Como the same evening. On Saturday he followed up this success by driving the Austrians from Camerlata. On Monday he attacked Laveno, and on Tuesday repulsed an attack on his vanguard at Sesto Calende. On the same day, according to the accounts from Vienna, the Austrian General D'URBAN recaptured Varese, and compelled GARIBALDI to "retire to the mountains," but the accounts from Turin assure us that he has since retaken Varese and re-entered Como. Beyond the Lake of Como, in the north-east, the Valteline is in a state of insurrection, and the town of Sondrio, which is the centre of the movement, has proclaimed the KING OF SARDINIA. From Naples we learn that a Palace intrigue in opposition to the young KING has been set on foot by the QUEEN DOWAGER, who is an Austrian Princess, in favour of her son, the Count DE TRANI, and the latest news states that the Court was so divided in opinion that a collision was considered imminent. The news from Germany continues warlike. At the last sitting of the Federal Diet the minor German States voted that in certain eventualities military measures should be taken; and Prussia claimed that in such cases the initiative should be accorded to her. A new Prussian Loan of 30,000,000 thalers at 5 per cent. has also been announced.

## Home News.

THE COURT.—The Queen, Prince Consort, and the Royal family continue at Buckingham Palace. On Friday morning the Queen and the Princess Alice visited the Duchess of Kent. The Duke of Cambridge and the Princess Mary visited the Princess Frederick William at Buckingham Palace. In the afternoon the Queen and Prince Consort, the Princess Frederick William, and the Princess Alice visited the Duchess of Kent. Her Majesty afterwards took a carriage drive. In the evening the Queen and Prince Consort, accompanied by the Princess Frederick William and the Princess Alice, honoured the performance at the Haymarket Theatre with their presence. On Saturday the Queen and Princess Frederick William visited the Duchess of Kent. The Princess afterwards visited the two Water Colour Exhibitions. In the afternoon the Queen and Prince Consort, the Princess Royal and Princess Alice, went to Richmond and visited the Countess de Neuilly. In the evening the Queen had a dinner party. On Sunday morning the Queen and Prince Consort, the Princess Frederick William, the Princesses Alice, Helena, and Louisa, attended Divine service in the private chapel of Buckingham Palace; the Dean of Windsor officiated. Her Majesty and the Prince Consort, with the Princess Frederick William, afterwards visited the Duchess of Kent. On Monday morning the Queen and Prince Consort, accompanied by the Princess Frederick William and the Princess Alice, went to Windsor by a special train on the South-Western Railway, and remained at the castle until 1 o'clock inspecting the principal rooms, and particularly those which had been occupied by the Princess Frederick William previously to her leaving England. On their return to town the Queen and Prince Consort, the Princess Frederick William, and the Princess Alice visited the Duchess of Kent. Her Majesty afterwards took a carriage drive. In the evening the Queen paid a visit to the Duchess of Kent. Her Majesty and the Prince Consort, accompanied by the Princess Frederick William and Princess Alice, afterwards honoured the performance at the Princess's Theatre with their presence. On Tuesday the Queen held a Court at which Viscount Stratford de Redcliffe, G.C.B., had an audience on his return from Constantinople, and the Earl of Elgin, K.T., had an audience on his return from China. The Earl of Malmesbury had an audience. The Prince and Princess Augustus of Saxe-Coburg and the Prince of Leiningen visited her Majesty. In the afternoon the Queen, Prince Consort, and the Princess Frederick William visited the Duchess of Kent, and afterwards took a carriage drive. In the evening her Majesty and the Prince Consort, the Princess Royal, and the Princess Alice visited the Duchess of Kent, and afterwards honoured the Royal Italian Opera with their presence. On Wednesday morning the Princess Frederick William visited the Duchess of Kent and the Duchess of Cambridge. The Princess Beatrice visited the Duchess of Kent. In the afternoon the Queen, accompanied by the Princess Frederick William and the Princesses Alice and Helena, visited the Duchess of Kent, and afterwards took a carriage drive. The Prince Consort rode on horseback. In the evening the Queen gave a concert, to which about 670 invitations were issued. On Thursday morning the Princess Frederick William, accompanied by the Princess Alice, went to Clarence House, and took leave of the Duchess of Kent. The Queen, Prince Consort, and Princess Alice accompanied the Princess Frederick William to Gravesend, and on their return to town visited the Duchess of Kent. The Queen will hold a Privy Council on Monday at Buckingham Palace.

DEPARTURE OF THE PRINCESS FREDERICK WILLIAM.—Her Royal Highness, accompanied by her Majesty, the Prince Consort, and the Princess Alice, left Buckingham Palace shortly before 1 o'clock on Thursday, for Gravesend, where the Princess embarked in the Victoria and Albert royal yacht for Antwerp, on her return to Prussia. The royal party, escorted by a detachment of light dragoons, proceeded to the Bricklayers' Arms station of the South-Eastern Railway, where they were received by the directors and officers of the company. On arriving at Gravesend her Majesty and the royal party were received by Viscount Sydney, lord-lieutenant of Kent, and by the mayor and corporation, who preceded her Majesty through the town to the Terrace Pier. At the railway station an escort of the West Kent Yeomanry under the Earl of Darnley was in attendance to escort her Majesty from the station to the pier. The royal party occupied three of the Queen's carriages. On arriving at the pier, the Queen, Prince Consort, and the Princesses passed along the jetty, which was lined on each side by the principal inhabitants of Gravesend. On reaching the river end of the pier the barge of the royal yacht was in waiting, and the royal party immediately embarked amidst the cheers of the spectators and a royal salute from Tilbury Fort, and proceeded on board the Victoria and Albert, the standards of England and Prussia being run up to the mast-head as the royal party stepped on board. Her Majesty remained with the Princess on board the yacht until 3 o'clock, and then returned to London, the yacht letting go her moorings at the same moment, and dropping slowly down the river.

THE PRINCE OF WALES left Gibraltar on Saturday last in the royal yacht Osborne for Cadiz and Lisbon, on his return to England.

THE DUCHESS OF KENT.—The health of her Royal Highness is steadily improving, several days having passed over without a relapse. Sir Benjamin Brodie, Sir James Clark, and Mr. Brown, of Windsor, are in close attendance on the Duchess.

THE CABINET.—A Cabinet Council was held on Friday at the official residence of the Chancellor of the Exchequer in Downing Street. Another Council was held on Monday, and another on Tuesday.

THE ARMY.—The Colonelcy of the 97th Foot, vacant by the death of General Proctor, has been conferred on Major-General E. F. Morris, C.B.

THE CHANNEL FLEET.—Rear-Admiral J. E. Erskine has been appointed to hoist his flag on board the Edgar as second in command of the Channel fleet.

DIPLOMATIC APPOINTMENT.—The Queen has appointed the Hon. Henry George Elliot, her Majesty's Minister in Denmark, to proceed to Naples on a special mission to convey her Majesty's congratulations to the King of the Two Sicilies, on his accession to the throne.

CONVOCATION.—The new Convocation of the province and clergy of the province of Canterbury was opened in St. Paul's Cathedral on Wednesday pursuant to the Queen's writ. The ordinary preliminary business was performed in the Chapter-house in St. Paul's Churchyard, where a procession was formed, which moved to the choir of the cathedral. The Bishop of Salisbury, being the junior bishop present, intoned the Litany in Latin, after which the sermon was preached in Latin by the Hon. and Rev. Samuel Waldegrave, the preacher of the day. The Archbishop of Canterbury then pronounced the apostolic benediction in Latin. Divine service being ended, the Archbishop, attended by the bishops and other members of the Convocation, proceeded to the Chapter-house, where the Vicar-General presented to the Archbishop the Queen's writ for summoning the Convocation. The writ having been read, the various returns and certificates were read, and after some other formalities had been complied with, the Archbishop in a Latin form directed the clergy of the province to withdraw and to choose a Prolocutor, and present him for approval and confirmation in the Jerusalem Chamber, Westminster, on the 22d inst. The clergy then withdrew, and having formed themselves into a Lower House, the Dean of Norwich moved the re-election of the Very Rev. Dr. Elliot, Dean of Bristol, as Prolocutor. The Rev. H. A. Woolgate seconded the nomination. The Rev. Canon Selwyn, as an amendment, nominated the Rev. Dr. Wordsworth, Canon of Westminster. The Rev. J. Jebb seconded the amendment. Dr. Wordsworth declined the honour, being desirous that Convocation should be marked by strict unanimity, which was its great strength. After some discussion, Canon Selwyn withdrew his nomination, and the Dean of Bristol was unanimously elected. The Convocation then adjourned to Wednesday, the 22d inst.

THE VOLUNTEER RIFLE CORPS.—A meeting of the Lieutenancy of the county of Cornwall was held at Bodmin a few days ago, at which it was resolved that subject to the supply of arms by the Government, artillery and rifle corps should be raised in the county under the superintendence of the Deputy Lieutenants in their respective districts. It was also resolved that in the opinion of the meeting the arms to be used should be provided by and be the property of the Government. A meeting of the Lieutenancy for Shropshire was held in the Shire Hall, Shrewsbury, on Saturday, Lord Hill the Lord-Lieutenant in the chair, at which it was resolved to afford every facility for the organisation of volunteer rifle corps in the county, and to request the Deputy-Lieutenants in each sub-division, with the aid of such gentlemen as may be willing to co-operate, to receive and enrol the names of the volunteers. In the county of Norfolk the movement has been received with great favour, meetings having been already held on the subject in several districts. At a meeting of the Deputy-Lieutenants of the hundreds of Taverham, Blofield, Walsham, Sir Samuel Bignold in the chair, it was resolved to form a company in the district. At a meeting at Stratton it was resolved, on the motion of Mr. Howes, M.P., that a committee should be appointed for the purpose of establishing a company in that neighbourhood. At King's Lynn it was resolved to appoint an influential committee to take measures for the formation of a corps. At Aylsham the Marquis of Lothian took the chair, and resolutions in favour of the establishment of a rifle corps were adopted unanimously. At Fakenham, where Willoughby Jones took the chair, there was an expression of opinion in favour of a mounted corps also, as, in an open district like Norfolk, such a body would be enabled to cover more country than an unmounted one. Further meetings are announced at Docking, Holt, Newton, Walsham, and Downham Market. In Cambridgeshire it is proposed to form a rifle club for South Cambridgeshire and North Hertfordshire, with targets for the practice at Royston, Sandon, Baldock, Hitchin, Stevenage, Buckland, Buntingford, Barkway, Braughin, and other places. At Reading it was resolved at a public meeting on the 19th ult. to form a rifle corps for the borough, and to appoint a provisional committee to confer with the Lord-Lieutenant of the county, in order to raise a public subscription for the purposes contemplated by the meeting. At Swansea at a meeting held in the Guildhall on Friday, it was resolved, while approving of the principle of non-intervention, to establish a rifle corps for the district, and the meeting

recorded their unanimous opinion that there should be no distinction of class in the formation of the corps; that all persons above the age of 17 years, who are desirous of serving, should be allowed to enrol themselves as volunteers; and that persons unable to join the corps should be requested to enter their names as subscribers. At Pontypool it was resolved at a public meeting on Friday to establish a rifle club in lieu of a rifle corps, in order to secure to its members the power of conforming to their own regulations instead of those which Government might think necessary if a corps were established. At Ipswich on Monday it was resolved at a public meeting at the Town Hall, the Mayor presiding, to form a rifle club for the town and neighbourhood, out of which companies may be formed in accordance with the War Office circular. At Great Yarmouth on Friday at a public meeting held at the Town Hall under the presidency of the Mayor, it was resolved unanimously that a rifle corps should be formed for that port and its vicinity. It was also proposed that an artillery and mounted rifle corps should be formed, but the suggestion was left over for further consideration until the success of the movement determined on be ascertained. At Sheffield on Monday it was resolved at a public meeting to memorialise the Secretary of War, through the Lord Lieutenant, requesting that arms and ammunition should be provided by the Government. At Rotherham on Monday a public meeting was held at which it was resolved to form a rifle corps in the district, and to invite subscriptions to defray the expenses connected with the movement. At Preston on Monday it was resolved at a public meeting, the Mayor presiding, to form a rifle corps for the borough and neighbourhood. At Leeds on Tuesday it was resolved by the Town Council to form a rifle corps within the borough, without pledging themselves to the conditions contained in the War Office circular. At Doncaster on Monday it was resolved at a public meeting at the Guildhall to establish a rifle corps for the town and neighbourhood, and it is expected that a body of 500 men will be easily raised in the borough. At Queenborough on Tuesday it was resolved unanimously, on account of the specially exposed position of the Isle of Sheppey, to raise a rifle corps in the island. At Oxford on Monday it was resolved at a public meeting held at the Town Hall, the Mayor presiding, to form a rifle corps for the city, and to open a public subscription for the purpose of purchasing rifles and accoutrements for those who were unable themselves to provide them. A resolution was also adopted enforcing the necessity of non-intervention, unless the honour of the country should be at stake. At Windsor it was resolved at a meeting held on Friday, Col. Seymour, Deputy Ranger of the Great Park, in the chair, to form a rifle corps composed exclusively of her Majesty's and the Prince Consort's keepers, and men employed in the Royal gardens, at Shaw Farm, and Flemish Farm, and in various other occupations in the Great Park. It is calculated that the corps will number about 150. On Tuesday a public meeting was held at Greenwich, General Alexander in the chair, at which it was resolved on the motion of Alderman Salomons, M.P., to form a rifle corps for the hundred of Blackheath. At a meeting of the parishioners of Kensington on Monday, Mr. Pownall, chairman of the Middlesex magistrates, in the chair, it was resolved to form a corps for Kensington. At Isleworth a meeting of the inhabitants was held on Saturday, General Tremenheere in the chair, at which it was resolved, on the motion of Mr. Justice Haliburton, M.P., to form a rifle corps for the Isleworth Hundred, including the town and parish of Isleworth, Twickenham, Hounslow, and Heston: the corps to be united for general purposes, but to consist of district companies from each place. At Lynn on Saturday it was resolved at a public meeting to form a rifle corps for that town. At Hastings a rifle club has been formed, which already numbers about 50 members. A large number of young men who are not able to find themselves in arms have sent in their names, and will be ballotted for as soon as the public subscriptions will allow of the purchase of rifles for them. The weapon adopted is the Enfield. The uniform is of a slatish-gray, coat, cap, and trousers all alike, with black braiding on the collar and cuffs of the coat. The cost of the whole equipment, including the regulation Enfield, is 5*l*. 2*s*. It will depend on the nature of the future Government regulations whether or not it will become a corps. At Bristol nearly 300 names have been enrolled. The uniform of the corps has been decided on, and consists of a loose tunic fastened with a belt, trousers to match, and a smart looking foraging cap, with a straight peak. The colour is rifle-green with black mountings. The rifle selected is a light weapon, weighing about 7½ lbs., with a bayonet attached, which may be used also as a sword. At Newcastle-on-Tyne on Friday at a meeting at the Guildhall, the Mayor presiding, it was resolved that the secretaries be requested to communicate with the secretaries of the various corps throughout the kingdom for the purpose of arranging a Bill to be brought into Parliament for the better regulation of rifle corps, the present Bill, passed in the reign of George III., not applying to the case. At Birkenhead on Wednesday it was resolved to take measures for raising a corps of 500 men for the hundred of Wirral, and a subscription was opened to defray the general expenses, to which the chairman, Mr. John Laird, contributed 100*l*., with a promise of a similar amount to the Birkenhead contingent.

# Foreign.

France.—The *Moniteur* of Sunday announces that the Emperor, wishing to diminish as much as possible the evils of war, has decided upon returning to the enemy all wounded prisoners without asking for exchange. It also makes the following important announcement in regard to the question of coals being contraband of war, which it settles in the negative:—

"The Emperor's Government has never hitherto considered coal as an article contraband of war, and we are enabled to announce that during the present war it will adhere to that way of viewing it."

Accounts from Toulon of the 24th ult. state that the enlistment of seamen in that port, if not abandoned, is at least suspended. A flotilla of gun-boats is about to sail from Toulon, under the command of Captain La Roncière le Nourry, to be followed by a second flotilla under the command of Admiral Dupouy. It is believed that these gun-boats are to act against Venice. Five gun-boats on a new model have been constructed at the dockyard of La Seyne, near Toulon. They can be taken to pieces and again remounted. They are, it is said, intended to be used against the Austrians on the Lago Maggiore. They were shipped at Toulon for Genoa on the 23d ult. Independently of the eight divisions already designated to form the Army of Observation under the command of Marshal Pelissier, four additional divisions are in course of organisation for the same object. The General-in-Chief of the Artillery of this army will be General Thierry; the Commander-in-chief of the Engineers, General Chabot la Tour; and General Chasseloup Laubat is to be Chief of the General Staff of the army. The Russian screw corvette which brought the members of the Imperial family to Marseilles has been lost on going into Toulon. She struck upon a rock, and rapidly broke up. Fortunately all hands were saved.

Portugal.—Advices received from Lisbon state that the Portuguese Government has declared to the Cortes its intention of remaining neutral during the present war.

Switzerland and the Tyrol.—The Duke of Parma has arrived in Switzerland by way of the Tyrol, with a numerous suite. The Sub-Governor of Sondrio has fled with gensdarmes and the public treasure into the Tyrol.

Prussia.—Accounts from Berlin announce the issue of a new Prussian loan at 5 per cent. The issue is to be made in coupons of from 50 to 1000 thalers, the payment of the interest to be half-yearly, and the redemption of the debt to commence from 1863 by the payment of 1 per cent. per annum. No reduction of the interest is to take place before 1870. The subscription to be received from the 6th to 11th June. In case the subscription should exceed 30,000,000 thalers, those above 250 thalers are to be proportionally allotted. On subscription a deposit of 10 per cent. must be made, by the 8th July 30 per cent., by the 22d August 25 per cent., and by the 8th October 30 per cent. For this 95 per cent. subscribers will receive 100 per cent. nominal value, bearing 5 per cent. interest from July 1, 1859.

Frankfort.—Baron Kübeck has been definitively appointed President of the Federal Diet.

Holland.—The Dutch Government has taken measures for the mobilisation of the Limburg Contingent, Holland being a member of the Germanic Confederation by virtue of her possession of that duchy. In a message to the Second Chamber, the Government declares that though danger does not at present exist, it is necessary to adopt precautionary measures, in order that the country may not be taken by surprise.

Malta.—The British naval force at present in the Mediterranean consisting of 33 ships is to be increased to 97, 22 of which are to be line-of-battle ships. It is also said that the garrison of Malta is to be raised to a strength of at least 10,000 men.

Italy.—The King of Sardinia on Monday crossed the Sesia near Vercelli, drove the Austrians from their entrenchments, took two guns and several prisoners, and encamped that night at Palestro on the left bank of the river. On Tuesday morning at 7 o'clock 25,000 Austrians endeavoured to retake the position at Palestro. The King, commanding the fourth division in person, and General Cialdini at the head of the 3d Regiment of Zouaves, resisted the attack for a considerable time, and then, after having successfully assumed the offensive, pursued the Austrians, taking 1000 of them prisoners, and capturing eight pieces of cannon, five of which were taken by the Zouaves. 400 Austrians were drowned in a canal. During the combat another fight took place at Confienza, in the province of Lomellina, in which the Austrians were repulsed by the Division Fanty after a two hours' conflict. This victory was followed by a second successful combat, which took place at 6 o'clock in the evening at Palestro, which the Austrians endeavoured to recover, but were repulsed again by the Division of Cialdini, composed of Zouaves and Piedmontese cavalry. The King pressed forward where the fight was most furious, the Zouaves vainly trying to restrain him. On Tuesday morning at 7 o'clock General Niel entered Novara, attacking the Austrian outposts, which, after a short encounter, took to flight precipitately. The Emperor Napoleon arrived at 5 o'clock in the evening amid the acclamations of the people. The Austrians have endeavoured to cross the Po at Bassignano, but the inhabitants opposed their passage, firing upon and destroying an Austrian barque. On Thursday morning the Austrians advanced from Bobbio towards the French outposts, but retired again after a short fight. This movement was made to conceal the retreat of the Austrians, who had begun to evacuate Bobbio, carrying with them about 1000 wounded. From the lake district we learn that on Friday evening Garibaldi attacked and defeated the Austrians after a furious battle, which lasted from 5 to 8 o'clock, and entered Como at 10 o'clock the same night. The Austrians were completely routed, and fled in the direction of Monza. The town of Como was illuminated, and the inhabitants joined Garibaldi's standard. On Saturday morning the combat was renewed at Camerlata, and the Austrians again gave way and retreated towards San Mariano on the road to Milan closely pursued by Garibaldi. Accounts from Berne state that on Sunday Garibaldi suffered a defeat by a superior force of Austrians, and withdrew into the Canton of Tessin. This report has not been confirmed. On the other hand it appears that on Monday Garibaldi himself, or a strong detachment of his force, left Como and arrived before Laveno, a fortified town on the Lago Maggiore. He commenced an immediate attack upon the town, and maintained it during the whole night. On Tuesday morning his troops withdrew, but in the evening resumed the attack, which lasted the whole night. On the same day the Austrians attacked the Sardinian vanguard at Sesto-Calende. The fight lasted two hours and the Sardinian troops crossed the Ticino in pursuit of the Austrians. Accounts from Vienna state that on Wednesday the Austrian *corps d'armée*, under General D'Urban, cannonaded and took Varese, and that Garibaldi was obliged to retire into the mountains, with no road open to him but the Stelvio. The same accounts state that General D'Urban levied war contributions on Varese and reinstated the legal authorities. The latest accounts from Turin state that Garibaldi, so far from having been driven into the mountains, has surprised the Austrians at Varese and recaptured the town; and that he re-entered Como on Thursday evening at 11 o'clock. On Saturday morning the Austrian war-steamers on the Lago Maggiore kept up a three hours' cannonade upon the town of Canobbio, but without much effect. An insurrection has broken out in the Valteline. The population is repairing in masses to Sondrio, the centre of the revolutionary movement. The Austrian Gendarmes who have retired into Switzerland have been disarmed by the Swiss authorities and sent into the interior of the country. Advices from Florence state that Russia, Prussia, England, and Turkey, have not recognised the Provisional Government of Tuscany, and the representatives of those countries have withdrawn their flags. At Langiana, in Parma, the people have risen and pronounced for the King of Sardinia. General Ribotti, with Tuscan troops, military engineers, and gendarmes, entered Parma amidst the plaudits of the people, who declared for the King of Sardinia and Italian independence. The Duke of Parma has fled to Switzerland. The municipality of Venice has requested a reduction of the loan. The President and Vice-President of the Chamber of Commerce have resigned their official positions. On Friday a cannonade was directed from the Lido Forts against the French squadron. An English war steamer has arrived at Venice, and another has put into Ancona. The announcement of the Emperor of Austria's arrival at Pavia was premature, but his Majesty was daily expected. The King of Naples has, on his accession to the throne, published a proclamation, in which he enumerates the good qualities of his predecessor, but avoids making any engagements for the future, and abstains from pronouncing his opinion on the events now going forward in the Italian peninsula.

Turkey.—Letters from Constantinople of the 25th May state that the Grand Duke Constantine was expected there on the following day. The Sultan has held a review of 25,000 soldiers. The reserve will immediately be despatched to Roumelia. The Porte will send troops and ships to Albania. 2000 Servians, with artillery, have departed to reinforce the Montenegrins. Prince Milosch ignores this fact, but the attitude of the Servians inspires fear. The Porte is about to send four ships, four frigates, and two despatch boats to the Adriatic, under the command of Mehemed Pasha, who, in certain emergencies, will exercise his command under the orders of an English Admiral. The garrison of the fortress of Belgrade has been reinforced. Omar Pasha remains at Bagdad, being detained there in consequence of the threatening attitude of Persia.

Cape of Good Hope.—We have news from the Cape to April 21. The colonial Parliament was in session. The principal questions before it were the colonial marriage law, insolvent law, and Crown lands. Great depression existed among the Free State Boers in consequence of the refusal of the English Government to countenance Sir George Grey's scheme of South African federation. The first sod of the railway was turned by the Governor on the 31st of March. Mr. Pickering, the contractor, required 300 navvies from England.

United States.—Accounts from Washington state that 100,000 dollars of the debt due by the Chinese to American citizens had reached the Government. Additional intelligence from Utah announces that the differences between the governor and the judges were far from being settled. There is no foundation for a report that the President contemplates changes in the English and French missions. Official advices from Nicaragua state that Sir W. Gore Ouseley was actively engaged arranging the treaties. Mr. Smith O'Brien had arrived at Albany on his way to New York, and

was to leave that city on the 28th ult., by the Vigo steamer, for Ireland.

CANADA.—Both houses of the Canadian Legislature have invited the Queen to visit Canada. The following is an extract from their address:—

"We have long hoped that your Majesty would graciously be pleased to honour with your royal presence your Majesty's subjects in British North America, and to receive the personal tribute of our unwavering attachment to your will. And we trust that while your Majesty's presence would still more closely unite the bonds which attach this province to the empire, it would gratify your Majesty to witness the progress and prosperity of this part of your dominions. The completion in the year 1860 of the Victoria Bridge, the most gigantic work of modern days, would afford to your Majesty a fitting occasion to judge of the importance of your province of Canada, while it would assure to its inhabitants the opportunity of uniting in their expressions of attachment to the throne and to the empire. We therefore most humbly pray that your Majesty will vouchsafe to be present at the opening of the Victoria Bridge, with such members of your Majesty's august family as it may graciously please your Majesty to select to accompany you."

# Parliament.

## HOUSE OF LORDS.

TUESDAY.—*Opening of the New Parliament.*—The House met at 2 o'clock, when the Session was opened by Royal Commission with the customary formalities. The House of Commons having been summoned to hear the Commission read, the LORD CHANCELLOR signified to the House her Majesty's pleasure that they should forthwith proceed to the election of a Speaker. The swearing in of members then commenced, and lasted till 5 o'clock.

WEDNESDAY.—The Royal Assent to the election of Mr. Denison as Speaker of the House of Commons was signified by commission, with the usual formalities. The House then proceeded with the business of swearing in members.

THURSDAY.—The House did not sit to-day, being Ascension Day.

## HOUSE OF COMMONS.

TUESDAY.—*Election of Speaker.*—The new House on assembling to-day for their first time were summoned to the House of Peers, and on their return proceeded to elect a Speaker.—Colonel WILSON PATTEN moved that the Right Hon. John Evelyn Denison be re-elected Speaker. He referred to the difficulties which had surrounded that office when Mr Denison was first elected to it, and to the ability and energy with which he had surmounted them. He could, from his own experience, bear testimony to the admirable way in which Mr. Denison had disposed of the private business of the House, while his conduct in respect of its public business was manifest to all. He could also bear testimony, with all others who knew him, to the private virtues of Mr. Denison as an English gentleman.—Sir F. BARING seconded the motion. They were likely to have before them matters of peculiar excitement, and it was especially important that they should have in the chair a gentleman of honour and experience, who would mitigate by his courtesy any exercise of authority he might be called upon to interpose. Now that he had learned confidence in his powers, he had filled the chair in a manner which reflected credit on himself and on the House.—Mr. DENISON then rose and said that, great as he had thought the honour of being chosen as Speaker of the House when he was yet untried, he thought it a still greater honour to be elected now that he had been tried. He trusted that the honour and character of the House would be found in safe keeping in his hands. The right hon. gentleman was then escorted to the chair by his mover and seconder.—The CHANCELLOR of the EXCHEQUER congratulated the Speaker on his re-election, and said that he had on all occasions combined the purity of an English judge with the spirit of an English gentleman.—Lord PALMERSTON also offered his congratulations to the Speaker as having been elected to be chief of the noblest, most ancient, and most celebrated representative assembly in the world.—A short conversation ensued on the propriety of adjourning the House over the Derby day; but ultimately the CHANCELLOR of the EXCHEQUER pleaded the "public service," and the House adjourned to the next day.

WEDNESDAY.—The members of the House were summoned to the House of Peers, and upon their return the SPEAKER reported that her Majesty had been pleased to approve the choice which the House had made of him as Speaker, and that he had preferred, on behalf of the House, the claims customarily made, which had been granted in the fullest manner. He briefly again tendered his acknowledgments to the House. The swearing-in of members then commenced, and continued until 4 o'clock.

THURSDAY.—The SPEAKER took the chair at 2 o'clock, and the remainder of the afternoon was occupied with the swearing in of members.

# City Intelligence.

BANK RATE OF DISCOUNT.—The Bank of England on Thursday reduced their rate of discount from 4½ per cent., at which it had stood from May 5, to 3½ per cent.

ROYAL BRITISH BANK.—At the Court of Bankruptcy on Tuesday Mr. Linklater, solicitor for the assignees, announced that in consequence of the successful manner in which a pending Chancery suit has been arranged, the assignees are in a position to declare a further dividend of 1*s.* in the pound, and that by December of this year they expect to be able to pay a further dividend of 6*d.* in the pound, making a total dividend of 15*s.*

MONEY MARKET, FRIDAY.—BRITISH FUNDS: Consols closed at 93 to 93½ for Money, and 92⅞ to 93⅛ for the 8th July; Bank Stock, 220 to 221½; Reduced and New Three per Cents., 92 to 92½; Scrip of New Indian Loan, 93⅜ to ¾; India Bonds, 5*s.* to 8*s.* dis.; Exchequer Bills, 17*s.* to 21*s.* prem.—FOREIGN: Brazilian Old Five per Cents., 100; Ditto Four and a Half per Cents., 1858, 91¼ ex div.; Buenos Ayres Deferred Bonds, 17¾; Belgian Four and a Half per Cents., 90; Dutch Two and a Half per Cents., 60¼; Ditto Four per Cent. Certificates, 93½; New Granada Active Bonds, 15⅝; Ditto Deferred Bonds, 4¾: Portuguese Three per Cents., 1853, for Acct., 42½ to 42; Spanish Three per Cents., for Acct., 41; Turkish Six per Cents., 1854, for Acct., 69⅛ to 69; Ditto 1858, for Acct., 57 to 57¼; Venezuela Five per Cents., 40 to 39.

# Gazette of the Week.

TUESDAY—BANKRUPTS—T. M. BOOTH, Sutton Saint James, Lincolnshire, Steam Threshing Machine Man—W. H. BROWN, Sheffield, Steel Roller—G. CORBETT, Shotteswell, Cattle Salesman—W. R. CROSTON and A. HORNE, Leadenhall Street, Ship Brokers—E. EDWARDS, Abenbury Vichan, Flintshire, Ironmaster—J. JAMES, St. Just, Cornwall, General Dealer—B. KATZENSTEIN, King William Street, City, Merchant—J. LONG, Witney, Builder—E. D. LYON, Castle Street, Oxford Street, Pianoforte Manufacturer—F. MAYSTON, Huddersfield, Grocer—W. R. RENSHAVE, Norwich, Chemist and Druggist—S. C. SILCOX, Trowbridge, Wilts, Builder—E. TOPHAM, Sheffield, Machinist—T. WHITWELL, Wanstead, Licensed Victualler.

BANKRUPTCY ANNULLED—J. M'LACHLAN, Spital Square, Norton Folgate, Auctioneer.

FRIDAY—BANKRUPTS—J. BOWLING and J. LANE, Batley, Yorkshire, Woollen Manufacturers—C. A. CLARK, Newgate Street, City, Silk Merchants—W. CLARKE, Great Stanmore, Middlesex, Licensed Victualler—A. ELPRICK, East Moulsey, Surrey, Butcher—W. L. GOMME and J. T. BYRON, Hammersmith, Auctioneers—J. MINOTT, Lower Fazeley Street, Birmingham, Victualler—W. PARKINSON, Dewsbury, Yorkshire, Carpet Manufacturer—J. C. PARSONS, Beaumaris, Anglesea, Publican—T. REDSHAW and J. REDSHAW, Bourn, Lincolnshire, Saddlers—G. TERRY, Leeds, Tinner and Brazier—C. R. THOMPSON and F. LUCAS, Old Broad Street, East India Agents.

BANKRUPTCY ANNULLED—R. BLACKBURN, London Wall, City, Tailor and Draper.

## Bank of England.

ISSUE DEPARTMENT.

| | | | |
|---|---|---|---|
| Notes Issued | £31,570,745 | Government Debt | £11,015,100 |
| | | Other Securities | 3,459,900 |
| | | Gold Coin and Bullion | 17,095,745 |
| | | Silver Bullion | |
| | £31,570,745 | | £31,570,745 |

BANKING DEPARTMENT

| | | | |
|---|---|---|---|
| Proprietors' Capital | £14,553,000 | Government Securities (including Dead Weight Annuity) | £11,281,376 |
| Rest | 3,163,840 | Other Securities | 19,206,940 |
| Public Deposits (including Exchequer, Savings Banks, Commissioners of Nat. Debt, and Dividend Accts.) | 6,301,774 | Notes | 10,478,390 |
| Other Deposits | 16,896,238 | Gold and Silver Coin | 668,851 |
| Seven day and other bills | 789,705 | | |
| | £41,635,557 | | £41,635,557 |

2d day of June, 1859. M. MARSHALL, Chief Cashier.

# Metropolis and its Vicinity.

PRESENTATION OF THE FREEDOM OF THE CITY TO SIR JOHN LAWRENCE.—At a Special Court of Aldermen and Common Council held at Guildhall yesterday, the freedom of the City, contained in a gold box of elaborate workmanship, was presented to Sir John Lawrence, as a testimony of the high opinion entertained by the citizens of London of his distinguished services during the late rebellion in India.

CONSECRATION OF ALL SAINTS, MARGARET STREET.—The new church of All Saints was consecrated on Saturday in the presence of a large and influential congregation. The services were conducted by the Bishop of London, assisted by the Dean of Westminster, the Rev. Mr. Liddell, of St. Paul's, Knightsbridge, the Rev. F. L. Helmore, priest of the Chapel Royal, the Rev. W. Upton Richards, the incumbent, and the Rev. Messrs. Cassan, Christie, and Gutch, the curates of All Saints. The Bishop was attended by his chaplains and the Chancellor and Registrar of the diocese, Dr. Twiss and Dr. Shepherd; Mr. Gresley, of Boyne Hill, and others of the High Church clergy; and among the laity were the Earl of Carlisle, Lord Robert Cecil, Lord Lyttelton, and Mr. Beresford Hope. The ceremony of consecration was performed in the usual way, with perhaps a little more pomp than is usual on such occasions. The sermon was preached by the Bishop, who took his text from the First Epistle of St. Paul to the Corinthians, chapter viii., verse 9, "Take heed, lest by any means this liberty of yours become a stumbling-block to them that are weak." The Bishop began by remarking that St. Paul and his fellow Apostles in their teachings had many difficulties to contend with, from the circumstances and associations of the heathen and Jewish communities out of which they were forming the Church of Christ. The people of those days were wedded to their old superstitions and idolatries, and there was the greatest difficulty in enabling them to distinguish between truth and falsehood. But the Jews, when they were converted, were not required entirely to relinquish their old and peculiar associations. In later times the question had been raised how far it was lawful to maintain old forms and ceremonies in the celebration of Divine worship which were considered to be connected with dangerous doctrine. At the period of the Reformation such practices were cut down root and branch. There was at that time a stern unyielding spirit which had no regard for old associations. While, however, the Church of England did not acknowledge any other form than those of the Book of Common Prayer and Ritual, it had no desire rudely to shock the prejudices of any whose hearts might cling to ancient usages, although he believed that Christians of the present day would act wisely in yielding neither to longing for a more splendid ceremonial nor to a too stern zeal for simplicity of worship. The congregation well knew (said the Bishop) why he addressed them in such words as these. The building which they had met to consecrate had been, during the time of its erection, a sort of rallying point for two parties. It had been the practice of one to represent every point in the ornamental details as necessarily connected with unsound doctrine, while the other had spoken of church ornamentation as though the beautiful and expensive adornment itself would exercise a holier influence on wavering human souls. He appealed to all, as they would have to answer to God, to consider that the costly beauty of that house did not of itself either secure or endanger their Christian faith. It was a matter of total indifference. The church, as a place of worship, would be judged by the Most High, not by the good or bad taste of its adornment, but by the beauty, simplicity, and efficacious moral and spiritual force of that Christian teaching and worship which might be conducted within its walls. "God grant (said the right rev. prelate in conclusion) that those who are appointed to minister in this church may, through the inspiration of the Holy Ghost, so conduct their ministrations and so teach the Gospel of our Lord that such teachings may be based alone upon the doctrines contained in the Scriptures, and that in this enlightened age no Christian community may be bound by any fetters that are not of His own imposing." The sermon was listened to with profound attention, and at its conclusion the Bishop, assisted by the Rev. W. U. Richards, the Dean of Westminster, the Hon. and Rev. R. Liddell, and other clergymen, administered the Sacrament to between 400 and 500 communicants. There was also an evening service, at which the sermon was preached by the Hon. and Rev. Robert Liddell.

CONFIRMATIONS IN THE METROPOLIS.—The Bishop of London intends holding two special confirmations in the Metropolis, on Sundays, during the present summer, for the benefit of all young persons who are unable to attend to be confirmed on other days. The first of such confirmations will be held on Sunday afternoon, June 26, at St. Anne's, Soho, at 3 o'clock, and the second on Sunday afternoon, July 24, at Christ church, Newgate Street, at half-past 3 o'clock.

POLYTECHNIC INSTITUTION.—This well-known institution in Regent Street, which has done so much for the creation and encouragement of a taste for scientific pursuits, is announced for sale by auction in the present month of June.

CANCER HOSPITAL.—The ceremony of laying the foundation stone of the new Hospital for Cancer at Brompton, nearly opposite the Consumption Hospital, was performed on Monday afternoon by Miss Burdett Coutts, in the presence of a very numerous company, including the Bishop of London and a large number of medical men and clergymen of various denominations.

STATE OF THE THAMES.—The medical officer of health for the City of London states that the Thames has within the last few days become more offensive than last year. From London Bridge to the point below Blackwall the river is in so foul a state as to call for the immediate attention and interference of the Board of Works or the Conservators of the Thames.

THE POISONING CASE AT RICHMOND.—The adjourned inquest on Miss Isabella Bankes, who is supposed to have died from the effects of arsenic and antimony, administered to her in small doses by Dr. Thomas Smethurst, who has been committed by the magistrates of Richmond on the charge of having wilfully murdered her, was resumed on Tuesday at the Sessions Court, Richmond. Dr. Odling, of Guy's Hospital, Mr. Barwell, of Charing Cross Hospital, the landladies of the houses in which deceased had lodged, the parish clerk of Battersea, who was present at her marriage to the prisoner, the solicitor who was employed by the prisoner to make her will, and Miss Louisa Bankes, her sister, were examined. Their evidence showed that she died from the effects of irritant poison, that she was married in December last to the prisoner, who was then a married man, that she was entitled to the interest of 5000*l.* in the funds for life, and the entire disposal of a further sum of about 1800*l.*, the whole of which she left by her will to "her dear and beloved friend Thomas Smethurst, Doctor of Medicine," and made him sole executor. After some further evidence of a formal character the coroner summed up, recapitulating the chief points of the evidence, commenting upon the probabilities of the case, and drawing the attention of the jury to the fact that on Miss Bankes's death the prisoner would become possessed in law of all her personal property, and it would be for them to consider whether that would be a sufficient reason to induce them to believe that he cruelly murdered her for the sake of becoming possessed of her money. The jury after a short deliberation returned a verdict of "Wilful Murder" against Dr. Thomas Smethurst.

THE LATE FIRE AND EXPLOSION IN LIME STREET.—Mr. Serjeant Payne, the coroner for London and Southwark, held an inquest on Friday to investigate the circumstances attending the late fatal fire in the premises of the Messrs. Hubbuck, wholesale oil and colourmen, in Lime Street. After hearing the evidence of numerous witnesses, who were examined by the City Solicitor on behalf of the Corporation, the jury returned a verdict that the fire was the result of accident, but that the quantity of inflammable materials kept on the premises of Messrs. Hubbuck was excessively and highly dangerous to life and property in the neighbourhood, and that such a trade ought not to be carried on in a populous locality like the city of London.

THE LATE ACCIDENT AT WESTMINSTER.—The adjourned inquest on the seven men killed by the fall of the scaffold at the Westminster Palace Hotel was resumed on Thursday, and after the examination of numerous witnesses was again adjourned for a week.

EXTENSIVE DEFALCATIONS IN ISLINGTON.—At the Clerkenwell Police Court on Monday William Wellington Turner, aged 45, residing at 4, Canonbury Villas, Highbury, was committed for trial by Mr. Corrie, for having, as one of the tax collectors of St. Mary's Islington, within the last six months feloniously embezzled 700*l.* and upwards, received by him on account of the vestry of the parish. It was stated during the inquiry that this was not the only amount which the prisoner had embezzled. A warrant was also issued against Mr. Ebenezer Ward, of Alwyne Road, Canonbury, also a tax-collector in Islington, for embezzling about 800*l.*, belonging to the parish. He was accordingly arrested and examined on Wednesday, when the case was remanded for a week, the magistrate consenting to take bail, the prisoner in 1000*l.* and two others in 500*l.* each.

THE PUBLIC HEALTH.—The weekly return of the Registrar-General states that the deaths registered in

the metropolis in the week that ended Saturday, May 28, were 1028. In the corresponding week of the 10 years 1849-58 the average number was 1017; which, if raised in proportion to the increase of population will become 1118. The present return is therefore 90 below the average. During the week the births of 966 boys and 916 girls, in all 1882 children, were registered in London. In the 10 corresponding weeks of the years 1849-58 the average number was 1549.

## Provincial.

BIRKENHEAD.—The question of providing a cemetery for this town has been lately under agitation, and considerable dissension on the subject has prevailed, one party headed by Mr. John Laird, chairman of the Improvement Commissioners, being in favour of placing the management of the burial boards in the hands of the commissioners, while others, who comprise a great portion of the Roman Catholic inhabitants, wish it to be under the control of an independent body. The polling on the question commenced on Monday, and was resumed on Tuesday with great spirit. Considerable excitement prevailed, from 3000 to 4000 people, consisting principally of dock labourers, having congregated in front of the Town Hall, and fears were entertained that a breach of the peace would ensue. The shops in the locality were closed and business suspended. At 10 o'clock about 1000 navvies, armed with heavy bludgeons, marched in several bodies to the front of the Town Hall, shouting and yelling in a furious manner, to show their disapproval of Mr. Laird's proposition. The police however succeeded in maintaining tranquillity. Several gentlemen also used every exertion to prevent an outbreak, and ultimately succeeded in disarming the mob of their cudgels. At one time the state of things was so alarming that a company of marines from her Majesty's ship Liffey were marched through some of the streets with bayonets pointed, which had the effect of dispersing a large number of persons who seemed riotously disposed. At 1 o'clock there was a majority in favour of Mr. Laird's motion of 650, when the other party withdrew from the contest and endeavoured to pacify the crowd. The demonstration seems to have been specially directed against Mr. Laird, the rioters having smashed the windows at that gentleman's works, where some fighting took place between them and the workmen. The presence of the marines had some effect in keeping the roughs in order during the day, but as evening approached serious apprehensions of an outbreak were entertained. The night however passed off quietly; a detachment of the Kerry Militia, which had been brought from Chester by rail, having had the effect of cooling the ardour of the rioters. On Wednesday five men were brought before the magistrates charged with being concerned in the riots. One of them was committed for trial, and the others were liberated on giving bail to be of good behaviour for two months.

BIRMINGHAM.—On Tuesday evening a dinner was given in the Town Hall to Messrs. Bright and Scholefield by the non-electors of this borough. It was purely a working man's entertainment—a cold collation; the tickets were 2*s.* 6*d.* each, and from 650 to 700 were present, the centre table in the hall being occupied by persons "who abstained from alcoholic drinks." Mr. Bright addressed the meeting at great length on the subject of Parliamentary Reform and on the neutrality of England in the present war. He condemned the volunteer corps and other measures now in progress for increasing the national defences, and dwelt at some length on the "inutility" of the yeomanry and militia, asserting that the former had only distinguished themselves at the Manchester massacre, and that "it was a point in dispute whether militia was not a great nuisance, inasmuch as, though it was intended to induce men to enlist, it was found that it made enlistment more difficult." He concluded by saying:—

"He would not go into the question as to what should be done next week with that great public malefactor (as many persons deemed him), the head of the present Administration. With regard to the question of Parliamentary reform, he would have nothing to do with it beyond that which every member of Parliament must have to do with questions as they rose. He would have nothing to do nor any special connection with the support of any Government which was disposed to play false with the people on this great question. He was now, not less than he was five years ago, in favour of peace between this country and the other nations of the earth. With all their friendships, commerce, and communications they might feel and give their sympathy to sufferers everywhere. He felt that they were met in evil times, but let them hope for better days, when the clouds of war had passed away, and when they whom he was now addressing as non-electors might have their names enrolled on the list of the town. If they hoped for better days, let them honestly, fervently, and disinterestedly work for them, and they might trust that Heaven at last would grant them."

LEDBURY.—The magistrates on Thursday resumed the examination of John Isaac Jones, the clerk in the office of Mr. Masefield, who had been apprehended on suspicion of being the murderer of Mrs. Baker. The evidence adduced, including the results of an investigation made by a detective officer of the Metropolitan police, confirmed the belief that there were good grounds for the apprehension of the prisoner, who was identified by the master of the Birmingham workhouse as having been an inmate of that workhouse from November 1855 to August 1856, as a destitute person belonging to America. The inquiry was resumed yesterday, when the magistrates after hearing some more evidence in corroboration of facts already proved, committed the prisoner to take his trial at the next assizes on the charge of Wilful Murder.

HAREWOOD.—A young woman called Sarah Barrett, daughter of Mr. Stephen Barrett, farmer, of Weardley, has been committed for trial on the verdict of a coroner's jury, for the wilful murder of her illegitimate infant child by drowning it in a stream in the high wood at Harewood, the seat of the Earl of Harewood. The evidence showed that she had been confined at Leeds on the 6th inst., and that the child was alive and well when she left Leeds to return home, but was not with her when she arrived at her father's house. An inquiry having been instituted by the police, the prisoner took her brother to the stream and there pointed out a bundle containing the body of the child, stating that it was dead when she put it into the water. The medical evidence, however, left no doubt that death was caused by drowning. After this evidence the jury returned a verdict of Wilful Murder; and the coroner made out a warrant for her committal. The prisoner, however, still lies in a precarious condition at her father's house.

LEEDS.—A warrant has been issued by the borough magistrates for the apprehension of Mr. George Terry, tinner, the Grand Master of the Grand United Order of Oddfellows. He is reported to have absconded, and his defalcations are said to amount to no less than 4000*l.* The money appears to have passed through his hands partly in his official character, but chiefly in connection with a loan society belonging to the same order of Oddfellows.

MILFORD.—A number of gentlemen connected with the railway and shipping interests of South Wales and Ireland visited this town on Saturday for the purpose of inspecting the capabilities of the harbour, and inaugurating the new steam-ship lines projected from the port to Cork, Galway, Lisbon, and the Brazils. A public dinner afterwards took place, Mr. Lever, M.P., in the chair, at which Mr. Roebuck, M.P., in returning thanks for the House of Commons, made the following remarks on the state of parties:—

"We shall be called upon about the 7th of next month to decide whether or not the English Parliament will put faith in the present Government or that which is looming in the future? We have to choose whether we shall have Lord Palmerston or Lord Derby for Prime Minister. When that choice is made, I shall be in the camp of the people of England, and that camp I sincerely believe to be opposed to Lord Palmerston. It is a miserable contingency; it is like the war in Italy—whichever side is uppermost mischief must come. But the least mischief may come from not changing the Administration, and, I believe that we shall succeed in preventing that change. I know that there has been a combination, I know that Cambridge House has gone down to Pembroke Lodge, and that the ladies have met. I know that peace has been made, but England has been forgotten. The only consideration which is regarded is that of the parties themselves, but as an independent member my consideration is England, and for England's sake—I say for God's sake—don't choose Lord Palmerston. I know well what I shall encounter by saying this. I know perfectly well there is no party so admirable in the use of calumny as the Whig party, and everything that calumny can devise, or that lying can supply, will be adopted by that party. Lord John Russell has in time past so far demeaned himself as to take advice from me, but upon the present occasion he has carefully abstained from that course, and not one word have I heard either from him or his followers of the new compact made at Cambridge House. I have found that Lord Palmerston is false and hollow, and as to his being a Liberal, I am convinced that the great enemy of the Liberal party is now to be found in Lord Palmerston, and upon that ground I will oppose him. I was told by very high authority, before I left London, that Lord John Russell and Lord Palmerston had made up their difference, that Lord Palmerston was to be Prime Minister, and that Lord John Russell was to serve under him. In the present condition of things I think that would be a great mischief. Lord Palmerston's appearance as First Minister of the Crown would be throughout the whole continent a torch of war. War I object to, and I believe that England cannot gain by going to war with any Power on the continent. Our great interest is peace. Let others tear themselves to pieces; let France and Austria fight as long as they please; but England should look on quietly if they wish to destroy themselves, and should only be opposed to any Power which may be thoroughly victorious."

NORTHALLERTON.—A case of considerable interest, relating to the abduction of a voter from this borough, was heard last week by adjournment at Richmond. Mr. Wrightson, the Liberal candidate, was returned at the late election at Northallerton by a majority of two votes only, the unsuccessful and Conservative candidate being Mr. Mills, of London. The abducted voter, who intended to have polled for Mr. Wrightson, is Mr. William Tutin, the occupier of a farm within the limits of the borough. Three of the five persons who were charged with the abduction are respectable farmers living in the neighbourhood. The names of the defendants are Jeremiah Dobson, Richard Oastler, James Pearson, George Dixon, and Isaac Walker, the latter being the driver of the carriage in which Mr. Tutin was removed. It appeared from the evidence that on the day of nomination he went to the house of the defendant Dixon, where some whisky and water were mixed by the defendant Pearson for him, and from 7 in the evening of that day he was utterly insensible, and did not wake until about 7 on the following morning, at Reeth, 30 miles distant. The defendants Oastler and Dobson were the parties who conveyed Mr. Tutin while insensible in a carriage from Northallerton to Reeth, and the carriage was driven by the defendant Walker, who is in the employ of the keeper of the Golden Lion Inn at Northallerton. The carriages were changed at Catterick Bridge at 12 o'clock at night. After some further evidence the case against Pearson, Dixon, and Walker was dismissed, and the defendants Dobson and Oastler were held to bail to appear at the next York Assizes—themselves in the sum of 100*l.* each, and two sureties each of 50*l.*

OLDBURY.—A shocking affair, exceeding in its painful character that which recently occurred at West Bromwich, took place on Tuesday morning in this town in a street called Furnace Row. This street is situate in a back part of the town, and in about the centre house of the row lives a miner of good character, named William Foster. He has been married many years, and his family consisted of two daughters, Eliza, aged 16; Susannah, 8; and a fine boy, John, 10 years old. Two or three months ago an elder daughter died, after a severe illness. From this time the wife, 41 years of age, and a woman of most kindly disposition, has been in a low, desponding way, not seeming at times to know what she was about. Still matters went on in the usual way, and not the least suspicion existed that the woman's mind was affected by grieving for her lost daughter. After the family had retired to rest on Monday night, the father was aroused from his sleep by hearing his little girl call out that her mother was "cutting Johnny's throat!" Simultaneously Foster and his eldest daughter sprang out of their beds. The latter seized her mother's hand, containing a razor, covered with blood, and the father was horror-stricken at seeing that his wife had cut the throat of little Johnny, nearly severing the head from the body. In two minutes the poor boy was a corpse. The wife finding that her daughter persisted in holding down the hand which still firmly grasped the razor, with desperate energy drew her hand away, and the razor, coming in contact with the fingers of her daughter, nearly cut off either two or three of them. Foster at this time lost apparently all self-possession. He ran down stairs, could not open the front door to give the alarm, but forced it open with the poker, and some neighbours whom he aroused, having returned with him to the house, beheld Mrs. Foster descending the stairs, blood streaming from a large wound in her throat. Her husband then took her in his arms, and for three hours supported her in this way. Two surgeons attended as soon as possible, and sewed up the wound in her throat, but it is said that there is no hope of her recovery.

PEMBROKE.—The defence of the arsenal at Pembroke and the protection of Milford Haven are engaging the attention of the authorities, for engineers have been surveying ground for some time past, and new works for the better fortification of these important posts are to be immediately commenced. Two commanding points have been selected, and solid works are to be erected upon Popton Point, and upon ground contiguous to Conjuick. The Great Head, commanding the entrance to the Haven, is also to be fortified.

PORTSMOUTH.—A dreadful explosion occurred between 2 and 3 o'clock yesterday morning on board the ship Eastern Monarch, which had just arrived at Spithead from Bombay, with 11 officers, 3 ladies, 450 invalided soldiers, women and children on board. The ship belonged to Messrs. Soames of Blackwall, and was a first-class ship, nearly 2000 tons burthen. In about an hour and a half after she anchored at Spithead, a fire was discovered among the cargo, in the main hold, evidently the result of spontaneous combustion, and, notwithstanding the efforts of the crew and troops to prevent it extending, the flames spread throughout the ship with astounding rapidity. Captain Morris, the master, had rockets fired, and other signals of distress to attract the attention of the ships of war in the harbour, and numbers of boats put off to the burning ship. With difficulty Captain Morris succeeded in getting the invalid soldiers and the women and children into the ship boats, and they were taken on board the nearest ships. At 4 A.M. all had left the ship, excepting five or six of the crew, and a Cowes pilot, who are supposed to have perished in the hold in an attempt to get at some of the cargo. By that hour all hopes of saving the vessel were at an end. She was on fire in every part, and her total destruction was inevitable. At 6.30, her Majesty's steamer Falcon commenced firing into the stern of the burning ship to sink her. She was then completely in flames, both fore and aft, and her masts had fallen overboard. Her loss is calculated at nearly 80,000*l.*

RAMSGATE.—Some additional particulars have been brought to light in reference to the mysterious death at Ramsgate, which may assist the public in coming to a conclusion on the question of murder or suicide. The identity of the deceased has been satisfactorily ascertained. It appears that during the inquiry before the coroner the police had succeeded in tracing him up to the point of his landing at Southampton on the 31st March, by the Bremen from New York. On the termination of the inquest the superintendent of the Ramsgate police wrote to the police authorities of New York, conveying to them all the known particulars of the case, and requesting them to ascertain if possible the identity of deceased, and the circumstances under which he left America. On Saturday a reply was received to the effect that deceased was a German named Frederick Mattern, and was known in New York, where he has two brothers living. Their names are Jacob and Henry Mattern, and they are not in very good circumstances. The deceased, Frederick Mattern, arrived in New York from Germany about two years ago, and while there worked as a butcher. One day, about 14 months ago, he was cutting meat for sausages by a machine, when his hand became entangled in the machine and the joints of the fore and second fingers were cut off. This was the mutilation which he appeared anxious to conceal during his stay in England. On the 16th March last he purchased a ticket at New York to go by the steamship Bremen to Southampton, and sailed in her on the 19th of the same month. Prior to his departure he made it known that he intended to return to Germany. He is supposed to have had in his possession on leaving

America from 160 to 250 dollars. His father and mother, Jacob and Catharine Mattern, reside at "Wolfstein Rheinfels, Bayer, Germany." He is described as a person of reserved manners, but not hypochondriacal nor subject to aberration of mind. From the above facts it would appear that the paper found near the deceased, signed, as deciphered at the inquest, "Heinrich Matterigh," and announcing the transmission of five dollars to the mother of the writer, was written not by deceased, but by his brother. While the body was lying in the Pier Storehouse one of the spectators who visited it inquired whether either of the persons in whose company deceased had been seen on the day preceding the murder was a butcher. The inquiry was founded on the circumstance of the wrist having been divided at the joint, and also of there being but one stab in the body, leading direct to the heart. It was asserted, however, that in a case of murder the assassin, even if acquainted with anatomy, can rarely take his aim with such calmness and certainty that one stab is sufficient to effect his object. The supposition that this was a case of self-mutilation and suicide is strengthened by the circumstance of the deceased having been a butcher. No information has yet been obtained to show a motive for suicide, but it is considered not improbable that he had lost a large proportion of his money either by gambling or in some other way after his arrival in London, and that he thenceforth resolved to destroy himself, and at the same time to remove the mutilated hand which would serve for his identification. His object in concealing his identity may probably have been to spare the feelings of his parents.

YARMOUTH.—Two Russian frigates passed this port one day last week, holding a course at some distance from the shore. The frigates were heavily armed, and were going southwards.

## Ireland.

THE O'CONNELL FAMILY.—A final meeting of the committee formed for the purpose of collecting a fund for the family of the late Mr. John O'Connell was held on Monday, Mr. J. D. Fitzgerald, M.P., presiding. It was announced that the subscriptions amounted to the gross sum of 5100*l.*, which was to be invested in trustees for the benefit of the widow and children of the favourite son of Daniel O'Connell.

GOVERNMENT PATRONAGE.—Two important offices have just been placed at the disposal of Government—the first, the chairmanship of the sessions of the county Clare, void by the death of Mr. William Major, Q.C.; the second the Solicitorship to the Board of Excise, vacant by the retirement, after many years' service, of Mr. Mark Anthony Saurin, a son of the late Right Hon. William Saurin. Mr. John George Smyly, Q.C., Crown Prosecutor for the North-West Circuit, has been appointed Solicitor to the Excise, and Mr. Henn, Q.C., has been appointed to the vacant chairmanship, but it is understood that the following changes will be made:—Mr. O'Shaughnessy is to be moved from Mayo to Clare, Sir Colman O'Loghlen from Carlow to Mayo, and the new chairman is to get the latter county. Mr. Henn, it may be recollected, published an address to the electors of the county Clare, where he is a large landed proprietor, offering his services as a supporter of the Derby Government. Sir Colman O'Loghlen and Mr. O'Shaughnessy are members of the Roman Catholic Church, and both Liberals of the Whig school. Mr. F. Macdonogh, Q.C., is to be Counsel to the Excise, vice Smyly, appointed solicitor to the Board, and Mr. John Edward Walsh, Q.C., succeeds Mr. Smyly as Commission Crown Prosecutor. It is also stated that Mr. Scriven, Registrar of Judgments in Chancery, is about to retire, and that Mr. Adair, private secretary of Chancellor Napier, is to be his successor. A meeting of the Incorporated Society of Solicitors and Attorneys has been called, to "take into consideration the recent appointment of other than attorneys and solicitors to offices which should properly be filled by members of their profession."

MURDER AND SUICIDE AT GALWAY.—The public have been startled by the intelligence of a dreadful murder perpetrated on Tuesday near the village of Ballinamore, in the county of Galway. The principal actor in this tragedy was Captain R. Thomas Ffrench, a son of the Hon. Martin Ffrench, stipendiary magistrate, and grandson of the late Lord Ffrench, the failure of whose bank and subsequent suicide are fresh in the memory of the Irish public. Captain Ffrench has laboured under an aberration of mind for the last two years, and attempted to take the life of a policeman about a year and a half ago. He has however recently married and arrangements had been made for his occupation of the family house at St. Brandon's, which up to the present time has been occupied by Mr. Richard Burke, who had been residing in it as land agent to the Hon. Martin Ffrench. On Tuesday morning Captain Ffrench arrived at Ballinamore Park, the seat of his father, as early as 4 o'clock, and immediately proceeded to St. Brandon's to awake Mr. Burke, who accompanied him back. They were together during the day, and both having subsequently disappeared some apprehension was excited. About 4 o'clock in the afternoon the friends of Mr. Burke began to make inquiries, and in a short time his dead body was found, pierced by two pistol bullets, in a plantation at Ballinamore. Captain Ffrench was found dead in the woods of Clonbrook. There is no doubt that Captain Ffrench while labouring under a fit of insanity murdered Mr. Burke and afterwards committed suicide. The verdict of the jury in the case of Mr. Burke was, that that gentleman met his death by pistol-shot wounds; that there was no direct evidence as to the person by whom they were inflicted, but that the last person seen in his company was Captain Ffrench, who had been at a certain period afflicted with insanity of a type likely to recur. In the case of Captain Ffrench the jury found that he met his death from a pistol-shot wound, inflicted by himself while labouring under temporary insanity. Mr. Burke was a gentleman of high character in the county, and discharged the office of Deputy Sheriff at the late contested election for Galway. He has left a wife and two children. Captain Ffrench was also a young gentleman of amiable disposition, and was very popular among the people of the district.

## Scotland.

THE CRINAN CANAL.—The Commissioners have decided that this canal shall be restored to its former condition; and, accordingly, active measures are in progress for carrying out the *débris* as a preliminary step. Some 50 or 60 men have for some time been engaged in making up the breaches at the west end of the summit level; and a ship is daily expected with waggons, rails, and other material for a temporary way, when a large force will be set on the work.

## Law.

COURT OF QUEEN'S BENCH.—(Sittings in Banco, before Lord Campbell, and Justices Wightman, Erle, and Crompton.)—*The Queen* v. *the Rev. William Walter Roberts.*—Mr. Serjeant Shee said in this case he had to move the Court to order the discharge from custody of the Rev. Mr. Roberts, who had been arrested and kept in custody ever since the day when this matter was last before the Court. Mr. Roberts had not entered into recognisances, but others had complied with the directions of the Court; and he had an affidavit from Mrs. Bonner, mistress of the school, stating that she had that morning left the child Mary Ann M'Donnell with her father. He had also an affidavit from the Rev. Mr. Roberts himself, declaring that the return made by him to the writ of *habeas corpus*, directing him to bring up the body of Mary Anne M'Donnell, was true in every particular, and was meant as a denial, and not intended as an evasion of the allegation that the said child was "detained" by him or was within his custody; that the language was not used in any equivocal sense; but that he positively denied that the child was in his power, either at the time of the issue of the writ or at the time of the return to it; that at the same time he did not think it was his duty after he had last seen the child to take any active steps to procure her delivery to her father; but that, on the contrary, he felt conscientious objections to voluntarily seeking for information as to the whereabouts of the daughter; that up to Thursday last he did not know the place where the child was; and, therefore, that it was impossible for him to have produced the child on that day. The result was that the child had been restored to her father, in obedience to the judgment of the Court, and therefore he thought the matter might now be considered as at an end. Lord Campbell: Let it be so. Mr. Lush: I hope, my lord, I may be permitted to say, on behalf of the parties on the other side, that we had no notice of this application until last night, and that we had prepared interrogatories to be laid before the defendant to-morrow morning. Lord Campbell: Of course, if doubts are entertained as to the facts put forward by my brother Shee, the Court will allow time for further investigation; but if there are no such doubts, and the child has now been restored to her father, I think we shall be justified in allowing Mr. Roberts to be discharged from custody, and in considering the matter as concluded. Mr. Serjeant Shee: There are no doubts whatever, my lord. Lord Campbell: But, brother Shee, notwithstanding what Mr. Roberts has now said, I must declare that any reasonable person reading his return would consider his words equivocal and even prevaricating. However, Mr. Roberts has now done what might be expected as due from a gentleman of education and right feeling, availing himself of the *locus pœnitentiæ* opened to him by the Court. At the same time it must be known that the writ of *habeas corpus* is sacred and must not be tampered with, and that the Court will inflict condign punishment upon any one trying to evade a law intended for the protection of the liberty of the subject as well as for the exercise of the parental authority. Mr. Lush: The father of the child is a very poor man, and he has been put to a very considerable expense in consequence of these proceedings. Surely then he ought to be entitled to his costs. Mr. Justice Crompton: Certainly a party in contempt ought to pay all consequent costs. Lord Campbell: I think the payment of all the costs incurred would be a very reasonable condition to attach to Mr. Roberts's immediate discharge. Mr. Justice Wightman: Undoubtedly Mr. Roberts might have purged himself of this contempt, but as at present he is in contempt it is reasonable he should pay the costs on the condition of his discharge. Mr. Justice Crompton: It is a matter of course that when a party has made an evasive return to a writ of *habeas corpus* he should be made to bear all the expense of the proceedings. The order for the discharge of Mr. Roberts was accordingly made, subject to the payment of all the costs from the time of the issuing of the writ of *habeas corpus*. [The costs of the prosecution have since been taxed at 52*l.* 18*s.* 3*d.*, which the defendant has been called upon to pay. The child was restored to her father on Monday afternoon, having been staying at Brompton from the 5th of April till the 30th May, and she is now under the care of her father at Pimlico.]

COURT OF COMMON PLEAS.—(Sittings in Banco, before Chief Justice Cockburn, and Justices Williams, Willes, and Byles.)—*The Earl of Shrewsbury* v. *Scott and others.*—*The Great Shrewsbury Case.*—This was an action brought by the Earl of Shrewsbury to recover possession of Alton Towers, together with extensive estates held by the late earl. The plaintiff claimed them under a private Act of Parliament, the 6th Geo. I., c. 29, and a deed of settlement; and the defendants, who are executors of the late earl, claimed them under his will for the infant son of the Duke of Norfolk, to whom that instrument purported to devise them. The case came on for trial before Lord Chief Justice Cockburn, when, after some evidence had been given, it was arranged that a verdict should be entered for the plaintiff, subject to the opinion of the full Court upon certain questions of law. Accordingly a rule was subsequently obtained to enter a verdict for the defendants, and cause was now shown against this rule being made absolute. The Attorney-General opened the arguments on Tuesday and described at great length the details of the family arrangements and the operations of the act of Parliament, contending that the late earl had no power to cut off the entail or bequeath the estates which belong by law to the possessor of the title. His address occupied the whole of Tuesday and part of Wednesday, when Mr. Rolt, Q.C., addressed the Court on the same side. He did not conclude his arguments until Thursday, when Mr. Manisty followed on the same side. The arguments were resumed yesterday, and Sir R. Bethell will open the case for the defendants on Monday.

BAIL COURT.—*The Conspiracy at Ashburnham.* On Friday *Thomas Higgens* and *George Davis* were tried on an indictment which had been removed by *certiorari* from the Central Criminal Court, charging them with conspiring to defraud Charles Grüneberg, the German horticulturist and nurseryman of Asburnham Nursery, King's Road, Chelsea, of his goods, chattels, bills of exchange, and promissory notes. The details of the case were fully noticed at the time. It appeared from the evidence of the prosecutor that he commenced business at Ashburnham Park, King's Road, Chelsea, in June, 1858, having undertaken some buildings and improvements in the grounds, soon discovered that he required additional capital. Under these circumstances he was introduced by Mr. [illegible] of Cremorne Gardens, to the defendant, Thomas Higgens, who represented that he could obtain the capital required. He having been induced to accept bills for various small amounts for which he had great difficulty in obtaining money except only in small instalments, he was persuaded by the defendant to sign two bills of sale for the purpose of raising 200*l.* for the purpose of paying off a builder who had put an execution into the house for work done in the nursery. A few days afterwards his suspicions were excited by the money not being forthcoming, and he demanded back the papers he had signed. Davis, who is a Jew, abused him, and said that before 8 o'clock that night neither he nor his wife should have a bed to lie upon. It appeared that Higgens had registered the bill of sale, and two days after the transaction of Davis Higgens went to the prosecutor's house when he and his wife were both absent, procured admission by asking the servant to allow him to write a letter, and then introduced eight men, who in two hours stripped the house of every article except the servant's box. The goods were removed to Higgens's house, and were there seized for rent and partly sold at Oxenham's auction rooms, yielding about 35*l.*, and leaving the unsold portion of the value of about 15*l.* On the first night after the furniture was taken away prosecutor and his wife had to sleep on bare boards, and was now only the manager of the business instead of being the master himself. In the course of examination, the prosecutor said he had been in the service of Messrs. Paul & Sons, nurserymen, and left it six years ago. He had since been in the employment of his brother-in-law, Mr. Weekes, receiving 2*l.* a week wages, vegetables, fruit, and other advantages. He had saved some money and received about 300*l.* on his father's death, five years ago, which formed the capital on which he had commenced. Three schedules from the Insolvent Debtors' Court were produced, from which it appeared that Higgens had been insolvent twice and had compounded once. Higgens filed a schedule in 1856 and another in 1857, describing himself as a house and estate agent, and proprietor of the *Kensington and Chelsea Weekly Journal*, and furnishing ironmonger carrying on business on Ludgate Hill and as a general commission agent. Davis filed his schedule in April, 1856, and was discharged in June, 1856, having been in prison since the February preceding. He described himself as agent for the Mount Carbon Coal Company, as agent for the Sacramento Gold and Quicksilver Mining Company, as promoter of the Sydney and Melbourne Railway Company, as promoter of the Metropolitan Light Company, as a stock, share, and general dealer, as a lodging-house keeper, and also as using the name of George Denham. The defence was that the bill of sale was given to secure Higgens from loss, by reason of the liability he incurred in accepting bills. The jury immediately returned a verdict of *Guilty*. The defendants were called, but did not answer. Mr. Justice Hill passed sentence in their absence—to be imprisoned and kept at hard labour for six calendar months.

## Sporting.

### EPSOM MEETING.

TUESDAY.—The *Craven Stakes.* Mr. Crawfurd's Zuyder Zee beat Gladiolus, Southampton, and 5 others.—*Sweeps.* Mr. Thompson's Brown Holland beat Orchehill, Griffin, and 3 others.—The *Woodcote Stakes.* Baron Rothschild's Restless beat Lupullus, Rupee, and 8 others.—The *Rous Stakes* (handicap). Captain Gray's Duneany beat Accurate, Pensive, and 5 others.—The *Horton Stakes.* Mr. Blanton's Gin beat Bellona, Mr. Barrett's colt, and 3 others.—The *Heathcote Plate.* Captain Christie's Orchehill beat Emily, Theodora, and 11 others.

WEDNESDAY.—The *Bentinck Plate.* Captain Christie's Orchehill beat Knayton, Confectioner, and 7 others.—The *Derby Stakes.* Sir J. Hawley's Musjid beat Ticket-of-Leave, Trumpeter, Promised Land, and 26 others. Betting at starting: 2 to 1 agst Musjid, 3 to 1 agst Promised Land, 7 to 2 agst Trumpeter, 12 to 1 agst Balnamoon, 14 to 1 agst Newcastle, 20 to 1 agst Ticket-of-Leave. The formalities of walking and cantering past the Stand were gone through soon after the appointed time. Much delay, however, took place, owing to the breaking away of certain horses and the disinclination of others to go to the post. Expectation was soon gratified, for when Mr. Hibburd got the horses together in a pretty tolerable line he dropped his flag. Electric and Lord of the Manor were the first to show in advance, but on going up the hill Gladiolus and Lord of the Manor were seen leading the way, with Promised Land, Nimrod, Reynard, Volcano, and Phantom next. In the extreme rear were Schuloff, Trumpeter, and Polonius. They ran with little alteration to the top of the hill, where Promised Land showed in advance, with Nimrod, Reynard, and Volcano next; Trumpeter, who had been lying in the rear, then coming up. Promised Land went on with the running down Tattenham Corner, with Volcano, Musjid, Trumpeter, Marionette, and Ticket-of-Leave in close pursuit. On entering the straight some crowding and confusion occurred, for Volcano was knocked right out of his stride, and Musjid with him. The lot was soon righted, and Promised Land waited upon to about the half distance. Then he came out and won by half a length; a neck between second and third, and the same between the third and fourth. Marionette was fifth, Defender sixth, Newcastle seventh, Gamester eighth, Gladiolus and Sir Hercules next. The last lot comprised Schuloff, Electric, Lovett, Lord of the Manor, Nimrod, and Balnamoon. Sir Joseph Hawley and Wells, winning this race have been fortunate, the former in having the winner of a Derby two years in succession, and the latter in being able to ride it. Wells, who met with a fearful accident at Chester, was quite recovered from his hurts. [illegible] Manning, who comes of a racing family, and who is the youngest brother of the clerk of the scales, has had a share of fortune which rarely befalls any trainer. He has had Sir Joseph Hawley's horses under his care barely three years, and during that time he has won two Derbys and some of the principal weight-for-age races. The "ring" are of course the chief losers by the result of the race.—The *Epsom Two Year Old Plate.* Mr. Towsey's Stapleton beat Lord Berkeley, Naughty Boy, and 8 others.—The *Epsom Cup.* Mr F. Higgins's Fisherman beat North Lincoln and Archduchess.—The *Barsh Stakes.* Mr. J. Bird's Simple Simon beat Fusee, Lady Bird, and 4 others.

THURSDAY.—The *Walton Stakes.* Mr. Payne's colt beat Dutiful Dick, Balloon, and 4 others.—The *Two-Year-Old Stakes.* Mr. Wyatt's Nutbourne beat Maid of Orleans, Emily, and 3 others.—The *Grand Stand Plate.* Mr. B. Land's Ascot beat Flatcatcher, Beauty, Tiney, and 10 others.—*Sweeps.* Sir J. Hawley's Musjid beat Nelson beat Zuyder Zee, Caucasian, and 18 others.—The *Queen's Majesty's Plate.* Mr. R. Ten-Broeck's Prioress beat Archduchess

...hie, and 3 others.—The *Epsom Four-Year-Old Stakes.* Mr. Merrifield's Charles the Second walked over.

Friday.—(By Electric Telegraph).—The *Oaks.* Summerside beat Mayonnaise and 13 others. *Dardans Stakes.*—Pan beat Sedbury, Odd Fellow, and 5 others.

# Obituary.

The Duchess Dowager of Hamilton died on Friday at her residence in Portman Square, after a lengthened illness. She was the second daughter of the late Mr. William Beckford, of Fonthill Abbey, by the sister of the ninth Marquis of Huntly, who died in her confinement. She was born at the Castle of La Tour, in Switzerland, in 1786, and married in 1810 the 10th Duke of Hamilton.

Sir Robert Barclay, Bart., of Pierson, died at Dungannon on the 16th ult., aged 39. He was the son of Robert Brydges Barclay, Esq., by the only daughter of Arthur Williams, Esq. He was born at Dungannon in 1819, and succeeded his grandfather, the eighth baronet, in 1839. He was formerly in the army, and was for some time lieutenant of the 25th Regiment. In 1855 he was appointed 2d lieutenant of the Lancashire Artillery Militia. He has died unmarried, and is succeeded in the title by his brother.

General Sir James Law Lushington, G.C.B., died on the 29th ult., at his residence in Dorset Square. He was the son of the Rev. James Stephen Lushington, Vicar of Newcastle-upon-Tyne, and Prebendary of Carlisle, and brother to the Right Hon. Stephen Rumbold Lushington, who was for many years chairman of "Ways and Means" in the House of Commons, and subsequently Governor of Madras. He was born at Bottesham, Cambridgeshire, in 1779. He was in the military service of the East India Company as Colonel of the 8th Madras Light Cavalry, and was made a general in the army in 1854. He was elected a director of the East India Company in 1837, and was deputy chairman in 1836-7, and chairman in 1838-9. He represented Petersfield, Hastings, and Carlisle at various times in the House of Commons.

The Right Rev. Dr. Ollifre, Roman Catholic Bishop of Calcutta, died on the 13th ult., in the "College of Nobles," at Naples. The deceased prelate, who was only 45 years of age, was returning home in order to renovate his health, which had become seriously impaired by the zeal and devotedness with which he discharged the duties of his mission during a long residence in India.

Mr. Charles Chaplin, of Blankney and Tathwell, one of the largest landed proprietors in Lincolnshire, died on the 24th ult. at his house 15, Montagu Square, in his 74th year. He was born in 1786, and married the daughter of the Hon. Henry Fane, of Fulbeck, by whom he had no issue. He was elected M.P. for Lincolnshire at a very early age, and continued to represent the county in the Conservative interest to 1831, when by the Reform Act the county was divided. Since then few elections have taken place without his being consulted respecting the choice of Conservative candidates; indeed it used to be said that the election for the south division was settled in his drawing room. Until a few years ago he took a great interest in the chase, and kept up an extensive stud. He was much respected by all parties as a country gentleman, took an active interest in the cultivation of his estates, and devoted much time to the management of the Great Northern Railway, of which he was a director. He is succeeded in his extensive estates by his nephew, the Rev. H. Chaplin, of Ryhall, near Stamford.

Mr. Richard Crawshay, eldest son and representative of the late William Crawshay, the well-known ironmaster, died suddenly on the 24th ult., in his 73d year. He had rambled for some miles in the beautiful grounds of Ottershaw Park—his seat in Surrey—when suddenly he complained of slight pain in his chest, and leant against a tree as if to breathe more easily; but he glided down insensible, and almost immediately expired of apoplexy. Mr. Crawshay derived from his father a large share in the great ironworks at Cyfarthfa, Merthyr Tydvil, but of late years had retired on a very ample fortune.

Mr. Pashley, Q.C., Assistant Judge of the Middlesex Sessions, died on the 29th ult. at his residence in Manchester Square, at the age of 54, after a short illness. Mr. Pashley had a very extensive practice in the Court of Queen's Bench, in cases of appeal from the decisions of Quarter Sessions all over the country, but more especially in cases coming under the New Poor-law Board Act. He succeeded to the office of Assistant Judge of the Middlesex Sessions on the death of the late Serjeant Adams, after which he was made a Queen's Counsel. He was called to the bar of the Inner Temple in 1837, and was for some years steward of Knaresborough.

The Rev. Dr. Steinkopff, for nearly 58 years minister of the German Lutheran Church of the Savoy, died on the 29th ult., after a few days' illness, at his residence in the precinct, in his 86th year. He was formerly Secretary to the British and Foreign Bible Society, and was the only surviving member of 300 persons who, in 1804, established the Society. During the war in Germany, Dr. Steinkopff was actively engaged in the missions of the Society in Germany and Switzerland.

# Miscellaneous.

**The Red Sea Telegraph.—The following despatches from Suez announce the important news that the Red Sea Telegraph cable has been successfully laid as far as Suakin.**

**Forty miles from Suakin, May 16, Evening.**

**"The cable has been laid so far most successfully. We hope to land the end to-morrow at noon. All well. May 17, 11.15 A.M. Arrived at Suakin. All well."**

BIRTHS.—On the 26th ult, at Downing, North Wales, Viscountess Fielding, of a son and heir—26th ult, at 37, Lower Brook Street, the Lady Bateman, of a son—29th ult, in Grosvenor Square, Lady Edith Abney Hastings, of a son—28th ult, at 5, Mansfield Street, Mrs. Seymour Fitzgerald, of a daughter—24th ult, at Grenville Place, Cork, the wife of J. F. Maguire, Esq., M.P., of a son—27th ult, at Ockbrook House, Derbyshire, the wife of Edmund Yates Peel, Esq., of a son.

MARRIAGES.—On the 26th ult, at St. Michael's Church, Chester Square, Lieut.-Colonel E. G. W. Keppel, of Lexham Hill, Norfolk, to Harriet Jacqueline, youngest daughter of Sir Anthony Butler, of Pound, Devon—1st inst, at St. George's, Hanover Square, Edward Heneage Dering, Esq., late Coldstream Guards, to Georgiana Lady Chatterton, widow of the late Sir William Chatterton, Bart.—23d ult, at Neufchâtel, Switzerland, N. Edwards Vaughan, Esq., of Rheola, Glamorganshire, to Anna Maria Louisa, third daughter of Edward S. Stanway, Esq., of Alne Hall, Yorkshire—19th ult, at All Saints' Church, Rutland Gate, the Rev. Lethbridge C. E. Moore, M.A. (late Captain H.M.'s 17th Regiment), son of the late Captain Moore, of the same regiment, to Agnes Emma, second daughter of the late Right Rev. P. N. Shuttleworth, Bishop of Chichester—24th ult, at Walcot Church, Bath, William Henry Henderson, Esq., H.M.'s Bengal Civil Service, second surviving son of the late Lieut.-Colonel Henderson, R.E., of Southampton, to Frances Knightley, eldest daughter of the late Lieut.-Colonel Osborne, Bombay Fusiliers—24th ult, at St. George's Church, Dublin, William Kennedy, Esq., of 5, Richmond Street, Mountjoy Square, Dublin, to Grace Marian, eldest daughter of the Hon. Mr. Justice Hayes, of 25, Mountjoy Square, Dublin.

DEATHS.—On the 28th ult, at Leith Hall, Mary Margaret, Lady Leith Hay, of Rannes—26th ult, at her residence, 39, York Street, Portman Square, Janet Isabella, fourth daughter of the late General Sir Robert Brain, K.C.B.—25th ult, at Streatham, Surrey, Louisa, beloved wife of Sir Kingsmill G. Key, Bart., and fourth daughter of the late Joseph Armstrong, Esq., of Manchester—24th ult, at Pluckley Rectory, William Dixwell Oxenden, youngest son of the late Sir Henry Oxenden, Bart., of Broome, Kent, aged 46—16th ult, at Madrid, Philip Musgrave, Esq., eldest son of Sir George Musgrave, Bart., of Edenhall, Cumberland—22d ult, at Ospringe House, Kent, Lieutenant-Colonel Henry William Montresor, Royal Artillery, third surviving son of the late General Sir Thomas G. Montresor, K.C.H., &c.—**30th ult, at his residence in the Dockyard, Captain John Coghlan FitzGerald, Royal Navy, Superintendent of H.M.'s Naval Dockyard, Sheerness, aged 56**—22d ult, at St. Germains Passage, Harriet Elizabeth, youngest daughter of the late Rev. Joseph Richards, vicar of Wedmore, Somerset, and sister of the late Dr. J. L. Richards, rector of Exeter College, Oxford, aged 51—25th ult, at his residence, 9, Terrace, St. Helier's, Jersey, Lieut.-General Kemm, Bengal Army, aged 70—20th ult, at Great Yarmouth, Vice-Admiral William Stanhope Lovell, K.H., second son of the late Thomas Stanhope Babcock, Esq., of Little Missenden Abbey, Bucks, aged 73—17th February, at Canterbury, near Sydney, New South Wales, Sarah Mary, widow of the late William Hobart Seymour, Esq., and subsequently wife of Henry Pleydell Bouverie, Esq., aged 32—30th ult, at 68, Oxford Terrace, Hyde Park, **Emma, wife of Philip Salomons, Esq., of Brunswick Terrace,** Brighton, aged 26—28th ult, at Parfis College, Bath, Ellen Ryder, widow of the late Dr. William Magens, LL.D.—20th ult, at Bagshot, Surrey, George Lovell, aged 57.

# Markets.

## COVENT GARDEN.—June 4.

Grapes are now getting comparatively plentiful, and consequently prices for them are lower. Strawberries from the open ground have made their appearance, and promise to be very abundant. Pine Apples maintain former prices. French Cherries may still be obtained. Oranges fetch 3s. 6d. and 10s. per hundred. Nuts of all kinds continue to realise fair prices. Spring Cabbages and French Beans are plentiful. Rhubarb, Asparagus, and Seakale may still be had in abundance. Green Peas, Beans, new Horn Carrots, and Globe Artichokes of foreign growth may also be obtained. New Cauliflowers fetch from 4s. to 6s. per doz. New Potatoes realise from 12s. to 20s. per cwt. Cucumbers abundant. Cut flowers chiefly consist of Orchids, Gardenias, Heliotropes, **Lily of the Valley, Violets, Mignonette, Heaths, and Roses.**

FRUIT.

| | |
|---|---|
| Pine Apples, per lb., 6s to 7s | Cherries, per lb., 3s to 4s |
| Grapes, per lb., 4s to 8s | Apples, per doz., 6s to 12s |
| Strawberries, per lb., 4s to 8s | Pears, per doz., 6s to 12s |
| Melons, each, 4s to 6s | — stewing, p. doz., 2s6d to 5s |
| Peaches and Nectarines, per doz., 15s to 30s | Oranges, per 100, 6s to 10s |
| Figs, per doz., 8s to 12s | Lemons, per doz., 1s to 1s 6d |
| | Cobs, per lb., 1s 3d to 1s 6d |

VEGETABLES.

| | |
|---|---|
| Cauliflowers, per doz, 4s to 6s | Spinach, p. sieve, 1s 6d to 2s |
| Green Peas, p. quart, 3s to 5s | Cucumbers, p. doz., 2s to 6s |
| Greens, per dozen bunches, 2s to 3s | Tomatoes, per doz., 3s to 4s |
| Cabbages, do., 1s 6d to 2s 6d | Artichokes, per doz., 4s to 6s |
| Asparagus, p. bundle, 2s 6d to 5s | Beet, per doz., 1s 6d to 2s |
| Seakale, p. punn., 2s 6d to 4s | Celery, p. bundle, 1s to 1s 6d |
| Rhubarb, p. bundle, 9d to 1s 6d | Shallots, per lb., 6d to 8d |
| French Beans, p. pun., 1s to 1s 6d | Garlic, per lb., 6d to 8d |
| Potatoes, p. ton, 90s to 100s | Lettuces, Cabb., per score, 1s to 1s 6d |
| — **per bus., 2s to 2s 9d** | **Endive, p. score, 1s to 1s 6** |
| — per cwt., 4s to 6s | Horse Radish, p. bun. 1s 6d to 4s |
| — new, per lb., 6d to 1s | Mushrooms, p. pott, 9d to 1s 3d |
| Carrots, per bunch, 2s | Parsley, p. 12 bunches, 2s to 4s |
| Turnips, per bunch, 1s to 1s 6d | Savory, do., 2d to 4d |

## HAY.—Per Load of Thirty-six Trusses.

Smithfield, Thursday, June 2.

| | | | | | |
|---|---|---|---|---|---|
| Prime Meadow Hay | 75s | to 80s | Old Clover .. .. | 95s | to 110s |
| Superior do. (old) .. | 84 | 90 | Second cut .. .. | 85 | 95 |
| Inferior do. .. .. | 60 | 70 | New Clover .. .. | — | — |
| New do. .. .. .. | — | — | Straw .. .. | 24 | 28 |
| Rowen .. .. | 60 | 70 | | | |

Davis & Co.

Cumberland Market, Thursday, June 2.

| | | | | | |
|---|---|---|---|---|---|
| Sup. Meadow Hay . | 88s | to 95s | Inferior Clover .. | 86s | to 92s |
| Inferior do. .. .. | 75 | 82 | New do. .. .. | — | — |
| New do. .. .. | — | — | Straw .. .. .. | 30 | 34 |
| Superior Clover .. | 98 | 105 | | | |

Joshua Baker.

Whitechapel, Thursday, June 2.

| | | | | | |
|---|---|---|---|---|---|
| Fine old Hay .. .. | 86s | to 90s | Fine old Clover .. | 105s | to 110s |
| Inferior do. .. .. | 70 | 80 | Inferior do. .. .. | 90 | 96 |
| New Hay .. .. .. | — | — | Fine new Clover .. | — | — |
| Inferior do. .. .. | — | — | Fine 2d cut .. .. | 90 | 100 |
| Straw .. .. .. | 23 | 27 | Inferior do. .. .. | — | — |

POTATOES.—Southwark, Monday, May 30.

Since our last report our supplies have been moderate both foreign and coastwise, but heavy by rail. The trade has been very inactive, with a downward tendency in prices. The following are this day's:—Yorkshire Regents, per ton, 100s. to 120s.; do. Flukes, 120s. to 160s.; Lincolnshire Regents, 80s. to 100s.; Dunbar Reds, 80s. to 100s.; Perth, Forfar, and Fifeshire Regents, 60s. to 80s.; do. Reds, 60s. to 70s.; Rocks, 60s. to 70s.; foreign whites, 60s. to 80s.

## BRITISH WOOLS.—London, Friday, June 3.

Prices are still nominal. The approach of the clip, coupled with the uncertain state both of Continental and domestic politics, having quite unsettled our business for the present. Nominal prices:—

| | | | | | | |
|---|---|---|---|---|---|---|
| South-down Hoggets .. .. .. | s. 1 | d. 2 | to s. 1 | d. 3 | Leicest. Wethers | 1 0 to .. |
| Half-bred ditto .. | 1 | 2 | — .. | | Ditto Hoggs .. | 1 1 — 1 2 |
| Down Ewes .. | 1 | 1 | — 1 | 2 | Combing Skins | 1 0 — 1 4 |
| Kent Fleeces .. | 1 | 1 | — .. | | Blanket ditto .. .. | — .. |
| | | | | | Flannel Wool .. | 1 0 — 1 4 |

Colonial Wool Sales.—**These sales have progressed at the opening rates for good descriptions of wool, but second-rate and inferior parcels are lower by 1½d. to 2d. per lb. The fine wool series terminates this evening.**

## COAL MARKET.—Friday, June 3.

**Walls End Braddyll's Hetton, 16s.; Walls End** Tanfield Moor, 13s.; Walls End Gosforth, 15s 6d.; Walls End Heugh Hall, 16s.; Walls End South Kelloe, 16s. 6d.; Walls End Whitworth, 16s.; Wall's End West Hetton, 16s. 3d.; Hastings Hartley, 17s.; Hollywell Main, 16s.; Walker Primrose, 13s. 3d.—133 ships at market.

## METROPOLITAN CATTLE MARKET.

Monday, May 30.

The number of Beasts is larger and the weather much warmer, consequently trade is very slow at lower rates. There are also more Sheep; the supply is not, however, excessive. Prices are not so good as of late, and a moderate clearance is effected. Trade is very heavy for Calves and Lambs. From Germany and Holland there are 182 Beasts, 2042 Sheep, and 165 Calves; from Scotland 540 Beasts; from Norfolk and Suffolk [illegible]; from Ireland, 120; and 4 from the northern and midland counties.

| | s | d | s | d |
|---|---|---|---|---|
| Best Scots, Herefords, &c. .. | 4 | 4 to 4 | 8 | |
| Best Short-horns | 4 | 4 — 4 | 6 | |
| 2d quality Beasts | 3 | 0 — 4 | 0 | |
| Best Downs and Half-breds .. | 4 | 8 to 5 | 6 | |
| Do. Shorn .. .. | — | .. | | |

| | s | d | s | d |
|---|---|---|---|---|
| Best Long-wools | 4 | 4 — 4 | 8 | |
| Do. Shorn | .. | — | .. | |
| Ewes & 2d quality | 3 | 8 — 4 | 0 | |
| Do. Shorn .. | .. | to | | |
| Lambs .. .. | 5 | 8 — 6 | 4 | |
| Calves .. .. | 3 | 8 — 4 | 8 | |
| Pigs .. .. | 3 | 8 — 4 | 4 | |

Beasts, 4180; Sheep & Lambs, 25,170; Calves, 216; Pigs, 190.

Thursday, June 3.

The supply of Beasts is larger than of late; the weather is more favourable and causes a cheerful trade at about Monday's rates. The number of Sheep and Lambs is not much altered, neither is the trade for them. Choicest descriptions are more in demand, and make rather higher prices. Trade is good for Calves. From Germany and Holland there are 45 Beasts, 1550 Sheep, and 204 Calves; from Spain, 100 Beasts; and 15 Milch Cows from the home counties.

| | s | d | s | d |
|---|---|---|---|---|
| Best Scots, Herefords, &c. .. | 4 | 6 to 4 | 10 | |
| Best Short-horns | 4 | 4 — 4 | 8 | |
| 2d quality Beasts | 3 | 6 — 4 | 6 | |
| Best Downs and Half-breds .. | 4 | 10 — 5 | 2 | |
| Do. Shorn .. .. | — | — | | |

| | s | d | s | d |
|---|---|---|---|---|
| Best Long-wools | 4 | 6 — 4 | 10 | |
| Do. Shorn .. | .. | — | .. | |
| Ewes & 2d quality | 3 | 10 to 4 | 2 | |
| Do. Shorn .. | .. | — | .. | |
| Lambs .. .. | 5 | 8 — 6 | 4 | |
| Calves .. .. | 3 | 10 — 4 | 8 | |
| Pigs .. .. | 3 | 8 — 4 | 8 | |

Beasts, 1115; Sheep & Lambs, 4100; Calves, 170; Pigs, 170.

## MARK LANE.—Monday, May 30.

**The supply of English Wheat fresh up to this morning's market was not large, but added to the samples left over from last week made a fair show; it could, however, only be disposed of at a further concession of 2s. to 3s. per qr. below** the prices at which it was offered on this day se'nnight. Holders of foreign were generally indisposed to submit to any further decline, but sales could only have been effected by conceding 1s. per qr. Barley is a slow sale at the rates of Monday last. Beans are 1s. per qr. cheaper; Peas unaltered in value. The Oat trade is very dull, and last week's prices barely supported. The top price of town made Flour is reduced to 50s. per sack, and Norfolk is 2s. to 3s. per sack lower.

| Per Imperial Quarter. | s | s. | | s | s. |
|---|---|---|---|---|---|
| Wheat, Essex, Kent, & Suffolk .. White | 50 | 52 | Red .... | 46 | 52 |
| — — fine selected runs .. ditto | 52 | 56 | Red .... | 50 | 54 |
| — — Talavera .. .. .. | 46 | 63 | | | |
| — Norfolk .. .. .. | — | | Red .. .. | — | |
| — **Foreign** .. .. .. | 46 | 62 | | | |
| Barley, grind & dist., 24s to 28s. Chev | 35 | 40 | Malting . | 32 | 34 |
| — Foreign .. grinding and distilling | 31 | 31 | Malting . | 30 | 34 |
| **Oats, Essex and Suffolk** .. .. .. | 20 | 28 | | | |
| — Scotch and Lincolnshire Potato | 24 | 26 | Feed .... | 20 | 28 |
| — Irish .. .. .. Potato | 25 | 26 | Feed .... | 20 | 23 |
| — Foreign .. .. Poland and Brew | 25 | 29 | Feed .. | 20 | 26 |
| Rye .. .. .. .. .. | — | | Foreign . | — | |
| Rye-meal, foreign .. .. .. .. | — | | | | |
| Beans, Mazagan .. 35s to 39s .. Tick | 37 | 41 | Harrow . | 37 | 41 |
| — Pigeon .. .. 41s — 45s .. Winds | — | | Longpod | — | |
| — Foreign .. .. .. .. Small | 38 | 47 | Egyptian | 35 | 39 |
| Peas, white, Essex and Kent .. Boilers | 44 | 48 | Suffolk . | 46 | 50 |
| — Maple .. .. 42s to 44s .. Grey | 38 | 42 | Foreign . | 42 | 46 |
| Maize .. .. .. .. .. White | — | | Yellow .. | — | |
| Flour, best marks delivered .. per sack | 44 | 50 | | | |
| — 2d do. .. .. .. .. .. ditto | 38 | 44 | Country | 38 | 44 |
| — Foreign .. .. .. .. per barrel | 24 | 32 | Per sack | 34 | 42 |

Friday, June 3.

Since Friday last the weather has been unsettled and partial; in some places the showers have been very heavy, whilst in **others scarcely any rain has fallen. The crops are** generally well spoken of. Excessive dullness has prevailed in the Wheat trade throughout the kingdom, and the decline of 2s. to 3s. which occurred here on Monday has been followed by a fall of 1s. to 2s. in the provincial markets. Barley, excepting in Leith, where it is written 1s. per qr. dearer, was also cheaper in some markets 1s. to 1s. 6d. per qr. Beans and Peas declined in value to a similar extent, and Oats 6d. to 1s. per qr. The reduction in Flour varies in the country markets from 1s. to 3s. per sack, here the top price of Monday was reduced 4s. per sack. The Wheat trade in Paris is heavy and prices declining. The value of Flour in Paris remains unaltered, or about 32s. per sack of 280 lbs. Of floating cargoes off the coast only three arrived of Wheat, two of Maize, and one of Barley. The arrivals of grain and Flour this week have been moderate. The attendance at to-day's market was small; nevertheless towards the close an improved tone was observable, the English stands were taken off clearly at Monday's prices, and some retail sales of foreign were effected on terms barely obtainable on that day. Barley, Beans, and Peas are unaltered in value. Oats are a very heavy sale at about Monday's prices.

Arrivals from May 30 to June 4.

| | Wheat. | Barley. | Oats. | Flour. |
|---|---|---|---|---|
| English .. | 1910 qrs. | — qrs. | 300 qrs. | 1100 sks. |
| Irish .... | — ,, | — ,, | 960 ,, | — ,, |
| Foreign .. | 10350 ,, | 2120 ,, | 12850 ,, | 9110 ,, 700 brls. |

Liverpool, Tuesday, May 31.—**We had a fair attendance** of millers and dealers at our market this morning, but they not being disposed to buy beyond their most immediate wants the amount of business done was very trifling, and prices somewhat irregular. Fine Wheats were generally held at Friday's rates, and the finest quality of Flour could not be called cheaper, but all other descriptions were very unsaleable. Indian Corn gave way 1d. to 2d. per cental. Oats 2d. to 3d. **per cental lower.** Oatmeal unchanged. Egyptian Beans, Peas, **and Barley nominally unchanged.**

Friday, June 7.—Grain market extremely dull, obtainable at 3d. to 6d. lower than on Friday. Flour quite neglected. **Business in other articles nominal, owing to absence of buyers. French imports moderate.**

| Averages | Wheat. | Barley. | Oats. | Rye. | Beans. | Peas. |
|---|---|---|---|---|---|---|
| April 23.. | 41s 4d | 32s 8d | 22s 7d | 32s 2d | 41s 4d | 38s 11d |
| — 30.. | 42 6 | 32 5 | 23 4 | 30 3 | 41 8 | 38 6 |
| May 7.. | 44 10 | 32 5 | 24 2 | 32 8 | 42 8 | 39 11 |
| — 14.. | 52 5 | 32 10 | 25 4 | 33 4 | 45 1 | 42 0 |
| — 21.. | 54 4 | 32 7 | 26 3 | 35 2 | 47 2 | 45 5 |
| — 28.. | 53 6 | 33 6 | 25 9 | 33 8 | 46 6 | 42 10 |
| Agg Aver. | 48 2 | 32 11 | 24 7 | 32 11 | 44 1 | 41 3 |

Fluctuations in the Last Six Weeks Averages.

| Prices. | Apr. 23. | Apr 30. | May 7. | May 14. | May 21. | May 28. |
|---|---|---|---|---|---|---|
| 54s 4d | .. | .. | .. | .. | .. | .. |
| 53 6 | .. | .. | .. | .. | .. | |
| 52 5 | .. | .. | .. | .. | .. | .. |
| 44 10 | .. | .. | .. | .. | .. | .. |
| 42 6 | .. | .. | .. | .. | .. | .. |
| 41 4 | .. | .. | .. | .. | .. | .. |

Hops.—Borough Market, Friday, June 3.

Messrs. Pattenden & Smith report that the accounts received from the plantations generally speak of a great increase of fly, and lice very numerous; the bine in places is said to be growing, which has frightened a few holders, and

caused them to sell at a small reduction in prices, but the majority of holders are very firm and think the coming crop to be in great danger from the effects of blight and shortness of bine. Very little doing on duty.

### HORTICULTURAL VALUATIONS.

MR. ALFRED CHANDLER (of the late firm of Chandler & Sons, Vauxhall), begs to inform his friends that he is at liberty to undertake the valuation of Collections of Plants, Nursery Stock, Horticultural Buildings, &c.

Mr. A. C. is also open to engagements as Censor at Horticultural Exhibitions, in which capacity he has had long and extensive experience.—28, Priory Road, Wandsworth Road, S.

WANTED, A PARTNER, with Capital, in an Old Established Nursery and Seed business.—For particulars, A. G., *Gardeners' Chronicle* Office.

WANTED, A competent Person to act as FOREMAN in an extensive Nursery in the south of Ireland. Satisfactory testimonials as to character and capability will be required.—Communications to be addressed to A. B., *Constitution* Office, Cork, Ireland.

### TO GARDENERS.

WANTED, in a small Nursery and Florist's Garden, as PROPAGATOR AND MANAGER, to conduct the same in the absence of the proprietor, a young Man of good character with a knowledge of the value of Plants, capable of Growing and Propagating the Hardier Stove and Greenhouse Plants, Roses, Shrubs, Bedding and Herbaceous Plants, and conversant with Budding and Grafting.—Apply, stating age, wages required, and reference, to SIGMA, Netherton's, Bookseller, Truro.

WANTED, A GARDENER (single-handed), young and active, whose Wife can manage the Laundry.—Apply, stating wages, &c., to Mr. Wyatt, Ironmonger, St. Giles's, Oxford.

WANTED immediately, a GARDENER (single-handed), in the neighbourhood of St. John's Wood, who has had good experience in the cultivation of Orchids, Ferns, Stove and Greenhouse Plants, and can keep in perfection a small Flower and Kitchen Garden. He must be obliging, and have a good character for neatness.—Apply, stating wages, age, and all particulars, to A. B., 42, St. Paul's Churchyard, E.C.

WANTED, a practical Gardener competent to take the entire management of Flower and Kitchen Gardens, Greenhouse and Frames. References as to character indispensable.—Apply to Mr. E. TOWGOOD, Jun., Sawston, near Cambridge.

WANTED, AS GARDENER, a respectable married Man, who can manage a small Hothouse. He will have no assistance in his work, and must have at least a year's good character.—Apply, either by letter or personally, to Mr. ENGLISH, Wothorpe, Stamford.

WANTED, A FARMING MAN, active and middle-aged, to manage and work about 6 acres of Plough and 6 acres of Grass Land, and who understands Animals, Pigs, Cows, and Horses (not for carriage), about half a dozen in all. Constant wages 13s. per week. No cottage on the premises, and no perquisites allowed. References must be given from last place.—Address T. T., M. D., Emsworth, Hants.

WANTED, as UNDER SHOPMAN, in a Nursery, near London, a respectable young Man. One who has some knowledge of the value of Plants and other Nursery Stock will be preferred.—Apply by letter only to J. K., *Gardeners' Chronicle* Office.

## WANT PLACES.—Letters to be Post Paid.

GARDENER (HEAD).—Age 37, married, no incumbrance. Thoroughly understands Gardening in all departments.—Mr. WATSON, Ripley Castle, Yorkshire.

GARDENER (HEAD).—Age 38, married, one child; understands the profession in all its branches.—C. L., Mr. Poynter's, Nettle Street, Kent.

### TO NOBLEMEN AND GENTLEMEN.

GARDENER (HEAD).—Has a thorough knowledge of his profession in all its branches. First-class references.—R. C., The Gardens, Englefield House, Reading, Berks.

GARDENER (HEAD).—Age 34, married, without incumbrance; thorough knowledge of his profession in all its branches. Seven years' good character from last employers.—A. B., Batcheller's Library, Dover.

GARDENER (HEAD).—Married; experienced, and understands his profession in all its branches. Ten years' good character for capability and integrity. Wages 60*l.* per annum.—E. B., 6, Mill Street, Hanover Square, W.

GARDENER (HEAD). — Age 36, married, two children; thoroughly understands early and late Forcing, Fruit, Flowers, and Vegetables, Kitchen and Flower Gardens, Plant growing for Exhibition if required. Five years' good character.—J. M., Young's Library, Upper Norwood, S.

GARDENER (HEAD).—Age 31, married, no incumbrance; has a thorough practical knowledge of his profession, including Early and Late Forcing of all sorts of Fruit, Flowers, and Vegetables. Wife can take charge of Dairy or Poultry if required. Good character.—C. D., 2, Torrington Place, Torrington Square, W.C.

GARDENER (HEAD).—Age 33, married, one child; steady, active; has a practical knowledge of his profession in all its branches, including the Forcing of Fruits, Flowers and Vegetables, Flower and Kitchen Gardens, and is fully competent to manage a first-rate establishment. No objection to look after Land and Stock. Two years' character from the gentleman he has just left.—H. W., Mr. Taylor's, Tythe Farm, Ealing, Middlesex.

GARDENER (HEAD).—Age 29, single; intelligent, industrious, and strictly temperate in habits; fully understands his profession, including the Forcing of Vines, Pines, Peaches, Strawberries, Melons, Cucumbers, &c., with a good knowledge of Stove and Greenhouse Plants; also first-rate Management of Flower Gardens. Has had very extensive practice in the north and south of England.—J. T. W., Sir H. Meux, Bart., Theobald's Park, Cheshunt, Herts.

GARDENER (HEAD).—Married, without incumbrance; thoroughly experienced in every branch of his profession, including Forcing of every description (is a first-rate Grape grower), Laying-out Grounds, &c., as well as management of Woods and Grass Land; best system of making hay, whereby its nutritive quality is preserved. Wife understands Dairy and Poultry. Testimonials and reference will prove his efficiency and assiduity.—A. R., Mr. Turnock, Fruiterer, High Street, Windsor.

GARDENER (HEAD), OR GARDENER AND BAILIFF.—Age 36, of good practical experience both in Gardening and Farming, married, small Family; no objection to live at the Lodge. Can be highly recommended. Parties requiring the services of a good practical Man will find the Advertiser to be relied on.—B. B., Messrs. Thomas Mander and Co., Ranelagh Nursery, Leamington Spa.

GARDENER.—Age 34, single; understands Kitchen and Flower Gardens, Greenhouse, Hothouse, and Forcing Five years' good character.—A. B., Mr. Fryer, Nurseryman, Camberwell New Road.

GARDENER.—Age 24; has a thorough practical knowledge of his profession. Can have an excellent character from his present employer, where he has served upwards of two years.—W. B., Post Office, Effingham, near Leatherhead, Surrey.

GARDENER in a Nursery.—A young Man, of industrious habits who has had experience in several large Nurseries; can Bud, Graft, &c. Has had good practice in Grafting Rhododendrons, Conifers, &c. Good character.—J. L., Mr. Young, Milford Nurseries, near Godalming, Surrey.

GARDENER.—A gentleman is desirous of recommending his Head Gardener, who has been with him between two and three years. He can also have good testimonials from Edward Jesse, Esq., of East Sheen; Lady Fitzroy, of Woodstock; Mr. Mannock, of London; Mr. Veitch, of Chelsea; and Mr. Waterer of Bagshot.—JOHN NOBLE, Esq., 50, Westbourne Terrace, London.

GARDENER. (SINGLE-HANDED).—A young Man with a thorough practical knowledge of his profession. Good character.—J. PATTRICK, West Parade, Spring Bank, Hull.

BAILIFF AND GARDENER OR FORESTER.—A thoroughly practical Agriculturist and Horticulturist. Understands Breeding and Rearing of Stock, Land and Timber Measuring. Good character and recommendations.—S. T., Mr. Thornton, Whitton Nursery, Hounslow, Middlesex.

### TO NOBLEMEN AND GENTLEMEN.

BAILIFF OR BAILIFF AND STEWARD.—A gentleman would be glad to obtain a situation for a Married Man, without incumbrance, who is leaving on account of the death of his employer. He understands the Management of a Stock and Corn Farm, also Surveying Timber, Repairs, Collecting Rents, &c.—B. A., Stevenage, Herts.

### TO NOBLEMEN AND GENTLEMEN.

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NURSERY FOREMAN, AND PROPAGATOR OR GROWER.—Has had many years' experience in the London Trade.—W. T., 2, Harriett St., Stanley Bridge, Fulham.

### TO NURSERYMEN.

PROPAGATOR AND FOREMAN.—A young Man, who has had 12 years' experience; understands Grafting, Rhododendrons, Roses, Conifers, &c., as well as In and Out-door Propagation of Hard and Soft-wooded Plants, and Nursery Work in general. Can have several first-rate recommendations. Wages not so much an object as a comfortable and permanent place.—J. H. Y., Henry Davies, Seedsman, &c., Gt. Stanmore, Middlesex, N.W.

PROPAGATOR, in a Provincial Nursery.—Understands the Propagation of Hard and Soft-wooded Plants, Roses, &c. Can be well recommended.—FISHER, HOLMES, & Co., Handsworth Sheffield.

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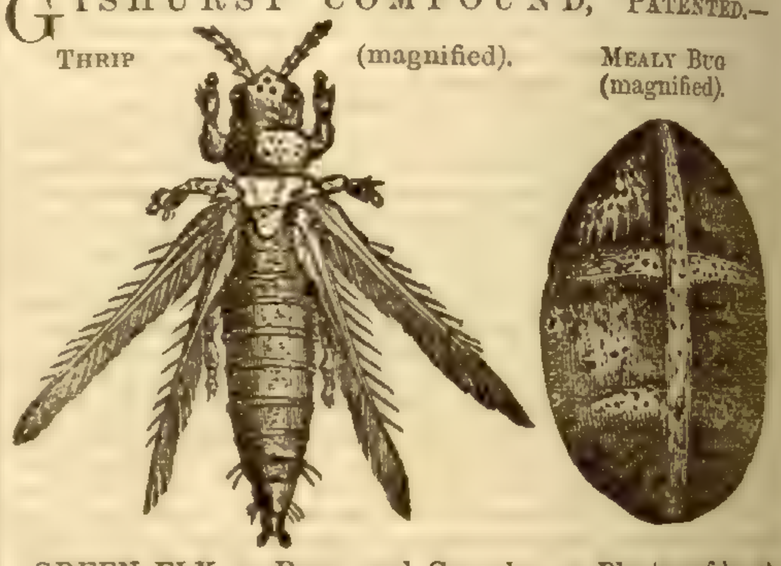

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# The Gardeners' Chronicle Newspaper.

*SATURDAY, JUNE* 11, 1859.

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## News of the Week.

THE first session of the new Parliament was opened on Tuesday by the QUEEN in person. HER MAJESTY'S Speech commenced by referring to her earnest and unceasing endeavours to preserve the peace of Europe. It stated that though those efforts had unhappily failed and war had been declared, HER MAJESTY had received assurances of friendship from both of the contending parties, and intended to maintain between them a strict and impartial neutrality. It had however been deemed necessary for the security of the country and the honour of the Crown, to increase the naval forces to an amount exceeding that which had been sanctioned by Parliament, and supplementary estimates would therefore be laid before the House of Commons without delay. After announcing the renewal of diplomatic relations with Naples on the accession of the new King, the Speech stated the intention of the Government to bring in a Bill to facilitate the manning of the Navy, and to re-introduce the measures of legal and social improvement which were suspended by the recent dissolution. With regard to Parliamentary Reform, it intimated that the necessity of giving immediate attention to the national defences and to the financial condition of the country will not leave time during the present session for the consideration of a new Reform Bill, and expressed a hope that the question will be brought to a satisfactory settlement at the commencement of the next session. The Address, in answer to the Queen's Speech, was moved in the Lords by the Earl of POWIS, and seconded by Lord LIFFORD, and after a short debate was agreed to without opposition. In the Commons the Address having been moved by Mr. A. EGERTON, and seconded by Sir J. ELPHINSTONE, the Marquis of HARTINGTON moved, and Mr. HANBURY seconded an amendment, representing to HER MAJESTY that the present Administration does not possess the confidence of the House. The CHANCELLOR of the EXCHEQUER and Mr. DIGBY SEYMOUR opposed the amendment, which was supported by Lord BURY, Mr. MELLON, Mr. HUGESSEN, Mr. WILSON, Mr. LAING, and Lord PALMERSTON. The debate was then adjourned to Thursday, when the amendment was supported by Mr. Serjeant DEASY, Mr. DUFF, Mr. BRIGHT, Lord ASHLEY, Mr. BAXTER, Mr. CROSSLEY, Mr. HORSMAN, and Sir J. GRAHAM; and opposed by Colonel DICKSON, Mr. S. FITZGERALD, Mr. PALK, Mr. LIDDELL, Mr. GURNEY, Mr. SPOONER, Mr. KER SEYMER, and Mr. WHITESIDE. The debate was then adjourned to last evening on the motion of Mr. MILNER GIBSON, and was not concluded when we went to press.

A great victory was won on Saturday morning by the French and Sardinians over the Austrians at the bridge of Magenta, a small town in the Lombard territory, between Buffalora and Milan. The allied army crossed the Ticino at various points on the previous evening, after a fight in which the Austrians are said to have suffered considerable loss, especially in arms and ammunition. On Saturday morning the main bodies of the two armies met at the bridge of Magenta, and a battle was fought in which, according to the despatch sent by the EMPEROR OF THE FRENCH to the EMPRESS, the Austrians were completely routed with a loss of 15,000 killed and wounded and 5000 prisoners, the loss of the allies being also "considerable." The Austrian accounts state that the battle was undecided, and that the loss on their side was from 4000 to 5000, while that of the French was from 6000 to 7000. The French Zouaves and the Imperial Guard, which was commanded by the EMPEROR in person, appear to have suffered severely, and the French army is said to have been saved by the heroism of Generals MAC MAHON and REGNAULT DE ST. JEAN D'ANGELY, who were created Marshals of France on the field,—the former with the title of Duke of Magenta. The French lost two Generals, ESPINASSE and CLERC, and a large number of superior officers; the Austrians

have not published the names of their officers killed, but it is stated that Baron REISSCHACH, three Generals, and three officers of the staff were among the wounded. On Monday the Austrians evacuated Milan, and on the following day they evacuated Pavia. On Wednesday the EMPEROR OF THE FRENCH and the KING OF SARDINIA entered Milan, and on the same day Marshal BARAGUAY D'HILLIERS drove the Austrians from Malegnano, where the *corps d'armée* under General BENEDECK had entrenched themselves. The latest news states that the EMPEROR of AUSTRIA has dismissed General GYULAI and appointed Field-Marshal HESS Commander-in-Chief, and that the Austrians are retiring on the Adda, where they will give battle to the allies.

## Home News.

THE COURT.—The Queen, Prince Consort, and the Royal family continue at Buckingham Palace. On Friday the Queen visited the Duchess of Kent. The Prince Consort presided at a meeting of the Fine Arts Commission. In the evening the Queen and Prince Consort, accompanied by the Princesses Alice and Helena, honoured the performance at the Adelphi Theatre with their presence. On Saturday morning the Queen and Prince Consort, accompanied by Prince Arthur and the Princesses Alice, Helena, and Louisa, visited the Royal Botanical Gardens in the Regent's Park. The Prince Consort afterwards presided at a meeting of the Council of the Duchy of Cornwall. The Princess Beatrice took a drive in an open carriage-and-four and visited the Duchess of Kent. In the afternoon the Queen, accompanied by Prince Arthur and the Princess Alice, visited the Duchess of Kent. Her Majesty afterwards took a carriage drive. In the evening the Prince Consort dined at the London Tavern with the officers of his regiment, the Grenadier Guards. The Queen paid a visit to the Duchess of Kent, accompanied by the Princess Alice, and afterwards honoured the Royal Italian Opera, Covent Garden, with her presence. On Sunday morning the Queen and Prince Consort, the Princesses Alice, Helena, and Louisa attended Divine service in the private chapel of Buckingham Palace; the Rev. Daniel Moore preached the sermon. In the afternoon her Majesty and the Prince Consort, the Princesses Alice and Helena, and the Duke de Nemours visited the Duchess of Kent. On Monday morning the Queen and Prince Consort, accompanied by the Princess Alice, rode on horseback. The Prince Consort afterwards attended a meeting of a committee of the Governors of Wellington College. In the afternoon the Queen held a Court and Privy Council at Buckingham Palace. The Sheriffs of London and Middlesex, accompanied by the City Remembrancer, had an audience, when her Majesty appointed Saturday (to-day) after the Drawing Room for the reception of an Address from the Corporation of the city of London. At the Council the Queen's Speech, on opening the session of Parliament, was submitted and approved. Earl De-la-Warr, the Earl of Malmesbury, the Earl of Derby, and the Lord President had audiences of the Queen. After the Council the Queen, accompanied by the Princess Alice, visited the Duchess of Kent. Her Majesty afterwards took a carriage drive. The Prince Consort rode on horseback. In the evening her Majesty had a dinner party. On Tuesday the Queen went in State to the House of Lords and opened the session of Parliament with a Speech from the Throne. In the afternoon her Majesty and the Prince Consort visited the Duchess of Kent. Her Majesty, accompanied by the Princesses Alice and Helena, afterwards took a carriage drive. The Prince Consort rode on horseback. In the evening her Majesty and the Prince Consort honoured the Royal Italian Opera with their presence. On Wednesday morning the Queen distributed the Victoria Cross to several officers and privates in the quadrangle of Buckingham Palace. The Queen, the Princes Arthur and Leopold, and the Princesses Alice and Beatrice afterwards visited the Duchess of Kent. In the afternoon her Majesty took a carriage drive. The Prince Consort rode on horseback. In the evening the Queen gave a State ball, to which a party of 1900 were invited. On Thursday the Marquis of Exeter, Lord Steward of the Household, had an audience and presented the Address from the House of Lords in answer to the Speech from the Throne. The Queen, accompanied by the Princess Alice, visited the Duchess of Kent. The Princesses Helena and Louisa also visited her Royal Highness. The Prince Consort presided at a meeting of the Finance Committee of the Commissioners for the Exhibition of 1851. In the afternoon the Queen, accompanied by the Princess Alice and Prince Leopold, took a drive in an open carriage-and-four. The Prince Consort rode on horseback. The Court is expected to leave town for Windsor on Tuesday for the Ascot Races.

THE PRINCESS FREDERICK WILLIAM arrived at Berlin on Sunday. On leaving the Thames on the previous Thursday, the progress of the yacht was impeded by a dense fog which prevailed in the Channel, and on Friday morning in passing up the Scheldt the Belgian pilot ran her ashore. As it was found impossible to get her off Captain Denman telegraphed to the Vivid, which had gone on to Antwerp, and on the return of that vessel the Princess left the Victoria and Albert, and proceeded in the Vivid to Antwerp, where she arrived about half-past 5 P.M., having been detained nearly 12 hours by the accident. Her Royal Highness was met at Antwerp by several members of the Belgian Royal family, who accompanied her to the station of the railway leading to Cologne. On her way to Berlin her Royal Highness paid a short visit to the Court of Hanover. Previous to reaching Berlin, the Prince Frederick William met the Princess, and accompanied her to the capital. They were received at the railway station by the Duke of Oporto, and by Lord Bloomfield, the English Ambassador. On Monday morning the Prince and Princess visited their new residence, and after inspecting the progress made towards its completion, proceeded to pay a visit to the King and Queen of Prussia at Sans Souci. The Royal yacht Victoria and Albert arrived at Portsmouth on Monday morning from Antwerp with one engine disabled, from the ship getting ashore.

THE PRINCE OF WALES left Gibraltar on Saturday last in the royal yacht Osborne for Cadiz and Lisbon, on his return to England.

THE DUCHESS OF KENT is so much improved in health that her Royal Highness left Clarence House on Thursday for Frogmore, where she intends to remain several weeks.

COURT MOURNING.—The Court has gone into mourning for the late King of Naples for 10 days, commencing from Thursday last, the 9th inst.; but in order to prevent any injury to trade her Majesty has commanded that the mourning shall not be worn at the Drawing Room to-day.

THE CABINET.—A Cabinet Council was held on Saturday at the official residence of the Chancellor of the Exchequer in Downing Street.

DIPLOMATIC APPOINTMENTS.—The Queen has appointed Sir Arthur Charles Magenis, K.C.B., now Minister at Stockholm, to be Minister at Naples; Augustus Berkeley Paget, Esq., now Minister at Dresden, to be Minister at Stockholm; the Hon. Charles Augustus Murray, C.B., late Minister in Persia, to be Minister at Dresden; William Lowther, Esq., now Secretary of Legation at St. Petersburg, to be Secretary of Legation at Naples; and George Glynn Petre, Esq., Paid Attaché to the late Legation at Naples, to be Secretary of Legation at Hanover.

COLONIAL BISHOPRICS.—The Queen has constituted the new colony of Queensland in New South Wales to be a Bishop's See by the title of the Bishopric of Brisbane; and has appointed the Rev. Edward Wyndham Tufnell, D.D., to be bishop thereof. Her Majesty has constituted the Island of St. Helena to be a Bishop's See by the title of the Bishopric of St. Helena, and has appointed the Rev. Piers Calvely Claughton, D.D., to be bishop thereof. The consecration of these bishops, as well as of Archdeacon Campbell as Bishop of Bangor, will take place in Westminster Abbey on Tuesday next.

LAW APPOINTMENT.—The Queen has appointed William Henry Bodkin, Esq., barrister-at-law, to be Assistant-Judge of the Middlesex Sessions, in the room of the late Robert Pashley, Esq.

VICTORIA CROSS.—The Queen invested the Hon. Captain Augustus Anson, 7th Hussars, with the Victoria Cross, previous to the State Ball at Buckingham Palace, on Wednesday evening. On the following morning her Majesty invested the following officers and soldiers with the Cross in the quadrangle of Buckingham Palace, in the presence of the Royal family, the Commander-in-Chief, the Secretary for War, and the members of the Court. The Queen placed the Cross, suspended from a red riband, on the left breast of each officer and soldier:—Commander T. J. Young, R.N.; Commander Nowell Salmon, R.N.; Lieut.-Colonel Sir Henry Marsham Havelock, Bart., 18th Foot; Major James Leith, 2d Dragoons; Major Frederick Miller, R.A.; Staff-Surgeon Anthony Dickson Home, late 90th Regiment; Assistant Surgeon William Bradshaw, 32d Foot; Thomas Hancock, late private of Lancers; Lance-Corporal Abraham Boulger, 84th Regiment; Private David Mackay, 93d Regiment; Capt. Frederick Robertson Aikman, Bengal Native Infantry; Lieut. F. S. Roberts, Bengal Artillery; Lieut. Hastings E. Harrington, Bengal Artillery; Lieut. John Watson, 28th Bombay Native Infantry; Lieut. Thomas Adair Butler, 1st Bengal European Fusiliers.

MEETING OF THE LIBERAL PARTY.—A meeting of the Liberal members of the House of Commons was held on Monday at Willis's Rooms, and was attended by 274 gentlemen, representing the various sections of that party. The proceedings were opened by Lord Palmerston, who said that the issue upon which Government had dissolved Parliament was not the question of Reform, or any other matter of legislation, but simply and solely whether or not they possessed the confidence of the country. He thought that the late election had given a conclusive answer to that question, and that it was the business of the Liberal party to determine whether or not they should accept the challenge which had been given them. He believed it would be the more manly and straightforward course to do so, and he briefly sketched out the terms of the proposed amendment, expressive of a want of confidence in the present Government, which he stated that Lord Hartington and Mr. Hanbury were respectively willing to propose and second, should the meeting deem it advisable for them to do so. In adverting to the war in Italy, his lordship dwelt on the signal failure which the Government had met with in their endeavours to maintain peace between the contending parties, and contended that a Cabinet, which had manifestly lost all weight in the Councils of Europe upon so momentous a question as that of peace and war, was not fit to be any longer intrusted with the conduct of our foreign relations. He also insisted very strongly on the duty of maintaining a strict neutrality, which he said that the speech of Lord Derby, previous to the outbreak of the war, had tended to impair; and declared that he could not foresee any circumstance which would render the hostile intervention of England necessary. Lord John Russell next addressed the meeting; and, after strongly deprecating the continuance of the Government in the hands of a minority, which he characterised as most unconstitutional and dangerous, expressed his hearty desire either to co-operate with Lord Palmerston, in the event of that noble lord being called upon to form an Administration; or to avail himself of his assistance, in the event of his being required to conduct the affairs of the country himself. His lordship adverted to the state of the Liberal party, and expressed his opinion that in the event of a Liberal Government being formed it was essential that the three great sections of that party — the old Whigs, the Peelites, and the advanced Liberals—should each be represented in it. Mr. Bright followed, and said that he considered himself in some measure responsible for the dissensions which had hitherto existed in the Liberal party, but he justified them on the ground that the old members of that party, who had carried the Reform Bill of 1832, had not acted up to the principles which inevitably flowed from that measure, but had made a point of excluding from any share of power all those independent members who usually sat below the gangway, and who considered that they had duties to perform to their constituents as well as to the nominal leaders of the party to which they belonged. If however they were willing to act henceforth on a more comprehensive system, he should have no hesitation in sinking minor differences, and in giving such a Government his most cordial support. He was not quite satisfied however with what had fallen from Lord Palmerston on the subject of our foreign relations; and if he thought that peace was more likely to be secured by keeping the present Government in office, nothing should induce him to assist in turning them out.—Lord Palmerston explained that, in his opinion, nothing was so conducive to the interests of Europe and the preservation of peace as the maintenance of a strict alliance between England and France.—Mr. Sidney Herbert strongly advocated a decided movement on the part of the Liberal members, and said that even if unsuccessful it would do them no harm, and would at least have the effect of determining the question as to whom the country was to be governed by.—Mr. Roebuck repeated the substance of his speech at Milford, and declared that he felt no confidence in the sudden change which had taken place in the relations between Lord Palmerston and Lord John Russell. He reminded the meeting that this country had both commenced and ended the war with Russia at the instigation of France, and declared his absolute want of confidence in Lord Palmerston, who had already, he said, forfeited the confidence of the country by truckling to that Power.—Mr. Coningham deprecated any tone of hostility towards France, and Mr. Horsman questioned the policy of the movement which had been recommended by the leaders of the party.—Mr. Ellice impressed upon the meeting the necessity of immediate action, which, he said, was not to be regarded as an act of aggression against the Government, but simply as an acceptance of the challenge which had been given them by Lord Derby. After some remarks from Mr. M. Milnes and Mr. Lindsay, it was agreed that the amendment to the Address should be moved in accordance with Lord Palmerston's suggestion.

## Foreign.

FRANCE.—The Empress received the following despatch from the Emperor on Sunday, announcing the victory of Magenta:—

"Novara, June 4.

"At 11.30 a great victory was won at the bridge of Magenta. 5000 prisoners are taken, and 15,000 of the enemy are killed or wounded. The details will be despatched by telegraph later."

At 7 o'clock on Sunday evening the cannon at the Hôtel des Invalides fired salutes in honour of the victory of Magenta, and at night the public offices, the theatres, and court tradesmen, the *cafés*, and some private houses were illuminated. The Empress and the Princess Clotilde came in from St. Cloud, and at 10 o'clock passed along the Boulevards and the Rue de Rivoli in an open carriage, without escort. They were received with cries of "*Vive l'Impératrice!*" "*Vive l'Empereur!*" and numerous groups followed the carriage from the moment of its appearance, and continued all through shouting most vigorously. The *Moniteur* publishes General M'Mahon's report of the passage of the Ticino at Turbigo by the allies on the 3d June, and of the surprise of the enemy at Robecchetto, by which considerable loss was inflicted on the Austrians. The French loss is stated to be one captain and seven privates killed, and four officers (among whom is one colonel) and 38 privates wounded. The Emperor has ordered the names of the killed and wounded officers and privates to be sent by the Minister of War to those who may be interested in their fate. With regard to the subsequent battle of Magenta

little is known beyond the fact that the French loss was much greater, and the Austrian loss much less, than the first despatch had led the public to believe, the French loss being now estimated at from 6000 to 7000, and the Austrian from 4000 to 5000. The Emperor in his despatch to the Empress states that the Imperial Guard alone supported the shock of the Austrians for two hours. It is stated that the *corps d'armées* engaged in the battle, exclusive of the Guard, were those commanded by General M'Mahon and Marshal Canrobert. General M'Mahon and General Regnault de St. Jean d'Angely were created Marshals of France on the field of battle, and several colonels were raised to the rank of general. Marshal M'Mahon also received from the Emperor the title of Duke of Magenta. The Austrian force is said to have been about 130,000 men, the French about 100,000. The divisions of Marshal Canrobert and General M'Mahon and the Imperial Guard are said to be those that took the greatest part in the battle. Generals Espinasse and Clery were killed—Generals Niel, Canrobert, and M'Mahon wounded. The Imperial Guard and the three regiments of Zouaves suffered greatly. The news of this battle was immediately transmitted by the Minister of the Interior to all the Prefects of Departments, who report that it was received with enthusiasm, the houses being decorated with flags, and preparations made for illuminations. The Neapolitan envoy, Marquis Antonini, has delivered to the Empress the notification of the death of King Ferdinand and of the accession to the throne of King Francesco II. The Marquis also presented letters accrediting him as Envoy Extraordinary to the French Court. The Empress has gone into mourning for 21 days for the late King. The Emperor has given orders for the construction of 60 flat-bottomed boats, 20 of which are to be of a larger size than any yet built: they are to be employed in landing troops on an enemy's coast from ships of war, and are intended, it is said, for the Adriatic. 22 additional battalions of Foot Chasseurs are to be organised on the plan of the original Chasseurs de Vincennes.

Austria. — Accounts from Vienna state that on Saturday morning a great religious solemnity, with procession and public prayers, took place in that capital, imploring Heaven to bless the Austrian arms with victory. All the members of the Imperial family and the Ministers were present. The mass was read by the Nuncio of the Pope. It is said that an army of 120,000 men is about to be formed in Bohemia, and that the Archduke Albert is to be appointed to the command in chief of all the troops of the Empire with the exception of those of Italy and Hungary. The Archduke is not, as at first intended, to be placed at the head of any army which Austria might send if necessary to the Rhine.

Italy.—The following official news announcing the battle of Magenta has been received from the French headquarters:—

"On Friday bridges were thrown across the Ticino, and after a fight, in which the enemy suffered considerable loss our army began to cross to the opposite bank. The enemy were compelled to retreat, leaving in our hands several pieces of cannon and a great quantity of small arms and ammunition. On Saturday morning there was a great victory at the bridge of Magenta, between Buffalora and Milan. 5000 Austrians were made prisoners, and 15,000 killed and wounded, making a total of 20,000 Austrians put *hors de combat*. The loss of the allies was considerable."

The *Moniteur* contains the following message:—

"The Emperor to the Empress. Magenta, June 5.

"Yesterday our army was under orders to march on Milan across the bridges thrown over the Ticino at Turbigo. The operation was well executed, although the enemy, who had repassed the Ticino in great force, offered a most determined resistance. The roadways were narrow, and for two hours the Imperial Guard sustained unsupported the shock of the enemy. In the meantime General M'Mahon made himself master of Mageuta. After sanguinary conflicts we repulsed the enemy at every point with the loss on our side of about 2000 men placed *hors de combat*. The loss of the enemy is estimated at 15,000 killed and wounded. 5000 Austrian prisoners remained in our hands. Summary of the details:—Austrians taken prisoners, at least 7000; Austrians placed *hors de combat*, 20,000; three pieces of cannon and two flags captured from the enemy. To-day our army rests for the purpose of reorganising itself. Our loss is about 3000 killed and wounded, and one cannon taken by the enemy."

The Austrian account gives the following version:—

"There was a fierce battle at Turbigo and Buffalora on the 4th. At first only two brigades of the First Corps under Count Clam were engaged, but they were subsequently reinforced by other brigades under Prince Lichtenstein. In the afternoon of the same day the Third Austrian Corps took part in the action. There was very hard fighting at Buffalora, sometimes to the advantage of the French, sometimes of the Austrians. The battle lasted till late at night. On the 5th the battle was renewed at Magenta. The allies made no progress. On this day two fresh Austrian corps were engaged. The Fifth and Eighth Corps were not in action. In the afternoon of the same day the Austrians took up a flank position between Abbiate Grasso and Binasco. The Austrians have taken many prisoners. The loss on both sides has been very great. Among the wounded were Baron Rosschach, three Generals, three officers of the Staff. Two officers of the Staff were missing, and one major was killed. The loss on both sides was very great. Milan is entirely evacuated by our troops. The telegraphic communication between Milan, Pavia, and Verona is interrupted."

On Monday last the Austrians evacuated Milan and the castle after having spiked the guns. The municipality of Milan immediately proceeded to the head-quarters of the allies and presented an address to the King of Sardinia, in the presence of the Emperor Napoleon, announcing that they had proclaimed the annexation of Lombardy to Piedmont. On Wednesday morning the Emperor and the King entered Milan, and met with an enthusiastic reception. Further south the Austrian *corps d'armée* of Generals Zobel, Schwarzenberg, and Lichtenstein, after abandoning the line of the Po, evacuated Mortara, taking the direction of Vigevano, Beregnardo, and Pavia. The retreat was so precipitate that they left behind them corn and other articles, which they had levied on the country. On Tuesday evening they evacuated Pavia, after having spiked their guns and thrown their ammunition into the water. On Wednesday the French gained another victory at Malegnano. The Austrian *corps d'armée* under General Benedeck being intrenched in that village, Marshal Baraguay d'Hilliers was sent by the Emperor to dislodge them, and took the village with little loss, driving out the Austrians and capturing 1200 prisoners. It is credibly stated that General Gyulai has been dismissed, and Field-Marshal Hess appointed Commander-in-Chief. The Austrians are retiring on the Adda, where they will offer the allies battle. From the lake district we learn that the Government of the King of Sardinia is already in operation at Como and Sondrio. A detachment of General Garibaldi's corps has sailed along the shores of the Lago Maggiore in several barques, disarmed the Austrian Customs guards, and everywhere carried off the public treasure. Volunteers are rapidly arriving from all parts to join Garibaldi, who is pursuing the Austrians beyond Monza. General Urban's army, after a precipitate retreat from Varese, has successfully effected a retreat with his troops by Cassano, though some of his scattered soldiers have been taken prisoners and disarmed. The funeral of the late King of Naples took place on the 31st ult., with all the formalities of Spanish etiquette, with the exception of demanding at intervals what the deceased Sovereign desired to do or eat. A modification has since been made in the Neapolitan Ministry, Signori Salvatore Murena, F. Scorza, and Ludovico Bianchini having been dismissed from the posts of Public Works, Justice, and Police. A provisional police has been established under one intendant and two magistrates. A royal decree has been published, appointing as Ministers without a portfolio General Filangieri, Prince Cassaro, and the Duke of Serra Capriola—reserving the right to make use of their enlightenment and experience. An official declaration of neutrality has been made. A levy of 2500 men for the royal navy has been ordered. The Hon. Henry Elliot, the English Minister Extraordinary, arrived from Marseilles in the steam gunboat Coquette, on the 5th inst., and the English fleet, consisting of the Marlborough, Euryalus, Brunswick, Princess Royal, Renown, Victor Emmanuel, and Lapwing, arrived on the 9th.

The Adriatic.—On the 5th inst. near Biancho, the Austrian war steamer Eugen captured the French three-master Raoul, of Nantes, bound from Cuba for Trieste, with a cargo of coffee. The blockade comprises the mouths of all rivers on the Venetian coast. Up to the present 40 Austrian vessels have been taken by the French.

Turkey and Bosnia.—A combat has taken place in Bosnia, between the Turkish troops and the insurgents, near Kolienich, not far from Trebingen. Gosco has, it is said, been destroyed by Derbich Pacha.

India.—The Bombay mail has arrived with advices to the 12th May, and the Calcutta mail has arrived with news from that Presidency to May 5th. The papers mention four engagements with the rebels. On the 20th April about 1000 men, chiefly of the Nusseerabad Brigade, under Dabee Deen, were attacked on the Chitonee Pergunnah, about 5 miles north of Bumiaon. The cavalry pursued, and about 50 of the rebels were cut up, including two native officers; and two colours were taken. No loss on our side. On the 21st, 127 sowars and 76 camp followers gave themselves up to Major Henry, at Lotun. Sir Hope Grant reported from Gonda that a force sent on the 27th to the jungles met with complete success. Surda Sing, with 150 of his men, were killed, and the remainder dispersed. Brigadier Horsford crossed the Kowreella River into the Khyreeghur Jungles, and surprised a body of rebels, numbering between 2000 and 3000 cavalry and infantry, under Ummur Singh, dispersing them with the loss of upwards of 200 men. Ummur Singh, with 200 sowars and 100 infantry, escaped towards the hills; our casualties were not numerous. Captain Rennie met a considerable body of rebels on the Gurwa Nuddee, and routed them with considerable loss. The other engagement took place on the 18th of April, when the Hosungabad Military Police surprised a body of rebels, some 500 strong, under Dost Mahomed; ten men were killed, and six taken prisoners. The standing camp of the rebels with about 100 horses and ponies, and 80 to 100 arms of various descriptions, including several English muskets, fell into our hands. The towns of Neeraoow and Nuggur, as well as the village of Kaswa, all in the Nuggur Parkur district, were occupied by British troops between the 1st and the 4th of May, and the Rana of Nuggur with his followers had fled to the Kalinwur hills, adjoining Nuggur, which the British forces had invested. Our troops on the Oude frontier continue to encounter and discomfit small parties of the rebels, many of whom have surrendered. The last brigade of the Central India field force, that hunted down Tantia Topee, has been broken up and gone into cantonments. The principal event in Calcutta is the change of the Lieutenant Governor of Bengal. Mr. John Peter Grant has been appointed as Mr. Halliday's successor, subject to the sanction of the Queen. The Government of India has offered ½ per cent. loan on the 1st inst.; it has also announced the issue of Treasury bills bearing interest 2 per diem.

China.—Baron Gros, French Ambassador to China has arrived at Marseilles by the Ellora.

United States.—A declaration made by the French Minister in regard to enforcing the doctrine of the right of search has created quite a stir in diplomatic circles in America. It appears that Count Sartiges on his recent departure from Washington, had a conversation with an ex-governor of New York, in which he remarked that he did not see how the impending war in Europe could be prevented from affecting the commercial relations of the United States, as he had no doubt, in the event of an European war becoming general, the doctrine of the right of search would be reiterated and enforced. Despatches have been received from Governor Cumming, of Utah, to the 28th April. Considerable excitement still existed among the Mormons, and it was with great difficulty that he could keep them in subjection.

Mexico. — Advices from Mexico state that the Miramon Cabinet had issued a decree restoring Santa Anna all rights and titles he formerly possessed, and inviting him to return *viâ* Tampico, where General Woul is marching to meet him.

The Pacific.—The French have abandoned the Marquesas, and design establishing a strong military depôt near Caledonia Islands.

# Parliament.

## HOUSE OF LORDS.

Tuesday.—The first Session of the Sixth Parliament of the present reign was opened to-day by her Majesty in person. The House was crowded in every part. The Commons having been summoned to the bar, the Queen read the following gracious Speech:—

"My Lords and Gentlemen,

"I avail myself with satisfaction, in the present anxious state of public affairs, of the advice of my Parliament, which I have summoned to meet with the least possible delay.

"I have directed that papers shall be laid before you, from which you will learn how earnest and unceasing have been my endeavours to preserve the peace of Europe.

"Those endeavours have unhappily failed; and war has been declared between France and Sardinia on one side and Austria on the other. Receiving assurances of friendship from both the contending parties, I intend to maintain between them a strict and impartial neutrality; and I hope, with God's assistance, to preserve to my people the blessings of continued peace.

"Considering however the present state of Europe, I have deemed it necessary, for the security of my dominions and the honour of my Crown, to increase my naval forces to an amount exceeding that which has been sanctioned by Parliament.

"I rely with confidence on your cordial concurrence in this precautionary measure of defensive policy.

"The King of the Two Sicilies having announced to me the death of the King, his father, and his own accession, I have thought fit, in concert with the Emperor of the French, to renew my diplomatic intercourse with the Court of Naples, which had been suspended during the late reign.

"All my other foreign relations continue on a perfectly satisfactory footing.

"Gentlemen of the House of Commons,

"The estimates for the year, for which provision has not been made by the late Parliament, will be immediately laid before you, together with such supplementary estimates as present circumstances render indispensably necessary for the public service.

"My Lords and Gentlemen,

"I have directed a Bill to be prepared for giving effect, so far as the aid of Parliament may be required, to certain suggestions of the Commissioners whom I had appointed to inquire into the best mode of efficiently manning the Royal Navy; and I recommend this important subject to your immediate attention.

"Measures of legal and social improvement, the progress of which in the late Parliament was necessarily interrupted by the dissolution, will again be brought under your consideration.

"I should with pleasure give my sanction to any well-considered measure for the amendment of the laws which regulate the representation of my people in Parliament, and should you be of opinion that the necessity of giving your immediate attention to measures of urgency relating to the defence and financial condition of the country will not leave you sufficient time for legislating with due deliberation during the present Session on a subject at once so difficult and so extensive, I trust that at the commencement of the next Session your earnest attention will be given to a question of which an early and satisfactory settlement would be greatly to the public advantage.

"I feel assured that you will enter with zeal and diligence on the discharge of your Parliamentary duties, and I pray that the result of your deliberations may tend to secure to the country the continuance of peace abroad and progressive improvement at home."

At the close of the Queen's Speech the House adjourned till 4 o'clock. *The Address.*—On the reassembling of the House, the Earl of Powis moved, and Lord Lurgan seconded, the Address in answer to the Speech from the Throne.—Earl Granville reviewed at some length the foreign policy of the Government, and expressed his regret that no effort had been made to induce Russia to co-operate with us to preserve the peace of Europe—that peace had been violated by a great, a disastrous, and an unnecessary war, and it was impossible to foresee whether any good result would spring from it. The question was, had everything been done by the Government to avert a war? As far as zeal and good wishes went, he doubted not that everything had been done; but he could not yet say whether the necessary skill, ability, and determination which would have averted war had been shown. At present there was so little information on the subject that no decided opinion could be formed of it. He was glad to observe that it was the intention of the Ministry to maintain our neutrality, but he did not wish it to be understood that our neutrality would be maintained under any circumstances, as it would only encourage the belligerent Powers to disregard any remonstrances we might address to them. He could hardly conceive any cause which would justify this country in plunging into this war. The event, however, required great skill and great firmness than her Majesty's Government had yet shown. It was not his intention to move any amendment to the Address. The Government had appealed to the country, and the result of that appeal would be declared in the other House. If the vote of the House of Commons was favourable to the Ministry, he said most distinctly for himself and friends that, although they should not abstain from watching the course of public affairs, they would abstain from anything like factious opposition. If the vote should be unsatisfactory to the Government, he could only express his hope that it would be satisfactory to the country.—The Earl of Malmesbury said it was his intention to lay before the House the whole of the correspondence relating to the war and to the efforts which had been

made by the Government to secure peace. He would not in the absence of papers go further into this matter, but he was quite sure that these documents would bear comparison with the Italian papers of 1848.—Lord HOWDEN stated it as his opinion that if France established herself in Italy this country would be drawn into the war. He asked the Government whether they were ready to repeat the denial that no secret treaty or understanding existed now between France and Russia. He had reason to believe that some agreement had been concluded between those two Powers within the last three weeks.—The Marquis of NORMANBY thought that the Government had been deceived in the late negotiations. He described the intrigues of Sardinia and France, and especially of Russia, in extending her influence in the Mediterranean, and said that it was one of the objects of the Treaty of Tilsit to reject from that sea all those whose territories did not abut on it, and it was the duty of this country to be prepared for any such attempt. Condemning the sympathy which Lord Palmerston had expressed for the Italians, he expressed his satisfaction that no amendment had been moved, as he deprecated a change of Government at such a critical moment as the present.—The Earl of CARLISLE was glad to observe the unanimity among the leading statesmen to adhere strictly to neutrality. He drew the attention of the House to the strange coalition which had taken place between the Roman Catholics and the Conservative party during the recent elections.—The Earl of EGLINTOUN contradicted the reports in the newspapers of some unholy compact existing between himself and Cardinal Wiseman. In the most unequivocal manner he denied that any understanding either before or during or after the elections had been come to between the Roman Catholic party and the Irish Government.—LORD BROUGHAM said that no one was more eager than himself to see the Austrians driven from Italy, but not merely to hand them over from one master to another. Such a course, guaranteed as these provinces were to Austria by treaty, would be nothing but plunder. To disregard such a right to possessions would be contrary to the soundest principles of international law. If Lombardy, however, could be erected into an independent kingdom it would be a positive benefit to Austria by the relief it would afford to her finances. We had no reason, he thought, to distrust the Emperor of the French, yet, considering his position, we ought to be, not mistrustful, but on our guard. To increase our navy, to establish and stimulate the enrolling of volunteer rifle corps in every part of the country, would be the best means for gaining that object. —The Earl of ELLENBOROUGH cordially concurred with Lord Brougham, and said that what was wanted in the present crisis was a strong Government. He expressed his conviction that this result had not been gained by the dissolution, and wished that the House of Commons would imitate the example of Mr. Fox, who in 1804 had relinquished his opposition to Mr. Pitt when the emergencies of the time required such a sacrifice.—The Duke of ARGYLL agreed that in the present condition of affairs a strong Government was imperatively necessary. He argued, from the various measures introduced by the present Government, that they were not capable to conduct the affairs of the country.—The Earl of DERBY said that he had heard much nonsense of the efforts made by the Government to influence the late elections. In regard to Ireland they had heard the denial of Lord Eglintoun, and he for himself denied as strongly that any compact existed between him and Cardinal Wiseman. If he could see any chance of a strong Government he would gladly lay down the responsibility he had assumed, but, considering the state of foreign affairs, he thought it was his duty to remain at his post. He had accepted office with the intention of appealing to the country in case of a defeat in the House of Commons. He would admit the Government were in a minority, but at the same time he was convinced that no Government could be formed so strong and united as the one in office. The dissolution was not to discover whether the country approved the Reform Bill, but whether it approved the mode of proceeding adopted by its opponents. Whatever our feelings on the present struggle in Italy, we were bound by treaties not to give way to them. He thought this war had been undertaken on false pretences, at the instance of Sardinia, but neither on one side nor the other was there any ground for quarrel which might not have been arranged by diplomacy. It was for this country to maintain a strict neutrality between all parties. But the position of a neutral was most delicate and difficult, and it would be madness in a statesman, however sincerely desirous of neutrality, not adequately to provide for the defence of the country, as the only neutrality to be respected must be an armed neutrality. He entertained no fear of an approximate invasion, but when he saw the increasing armaments of other nations it became the duty of the Government to place the navy of the country on a strong footing. In the present state of things he believed no demand for the defence of the kingdom would be refused by the House of Commons. If it should be proved that her Majesty's Government does not possess the confidence of the country, and that another party does, he could only say that he should lay down with greater pleasure than he had taken up the responsibility of office. Should however, as he expected, a contrary decision be arrived at, he hailed with pleasure the promise of Lord Granville that no factious opposition would be offered to the Government.—The Address was then agreed to.

THURSDAY.—The *Law of Property and Trustees' Relief Amendment Bills*, were read a second time.—The Earl of SHAFTESBURY inquired whether there was any intention of granting a charter to the *Roman Catholic University of Dublin*?—The Earl of DERBY replied that as at present advised it was not the intention of the Government to recommend the granting of a charter.—The *Reply of Her Majesty* to their lordships' Address was brought up by the Marquis of EXETER. The *Malicious Indictments Bill*, the *Law of Debtor and Creditor Bill*, and the Bill relative to *Joint-stock Companies* were read a first time.—Lord SHAFTESBURY moved for copies of the correspondence between the trustees of the National Gallery and the Council of the Society of Arts, with reference to the opening of the *Vernon and Turner Galleries* of Pictures at the South Kensington Museum of an evening; and also for copies of all letters and memorials on the subject which may have been received by the trustees.—The Marquis of SALISBURY had no objection to the motion, which was agreed to.

FRIDAY.—*Dissenters' Trusts.*—Lord BROUGHAM said it was his intention to have introduced a Bill to remedy the evil effects of the Lords Justices' decision by which Dissenters are excluded from the trusteeships of endowed schools; but he abstained from doing so, as such a Bill had been brought forward in the other House. The *Vexatious Indictments Bill*, the *Debtor and Creditor Bill*, and the *Companies Winding-up Bill* were read a second time and committed. The *Law of Property and Trustees Amendment Bill* was read a third time and passed.

## HOUSE OF COMMONS.

MONDAY.—The *Jewish Members.*—On the re-assembling of the House for the purpose of swearing in members Baron ROTHSCHILD presented himself, and objected to take the oaths in the usual form.—Lord J. RUSSELL then moved the resolution to omit in this instance the words "on the true faith of a Christian."—Mr. NEWDEGATE recapitulated his arguments against the resolution, protesting against depriving the Legislature of its Christian character, and objecting to Baron Rothschild in particular, as an Austrian nobleman.—Lord J. RUSSELL declined to argue a question already settled.—The SPEAKER put the question, and declared the resolution carried.—Mr. NEWDEGATE and Mr. SPOONER both declared that they had said "no" when the question was put.—After some discussion on this point Baron ROTHSCHILD, Baron M. ROTHSCHILD, and Alderman SALOMONS took the oaths according to the terms of the resolution.

TUESDAY.—*The Address.*—Mr. A. EGERTON having moved and Sir J. ELPHINSTONE seconded the Address in answer to the Speech from the Throne, the Marquis of HARTINGTON moved an amendment expressing a want of confidence in Ministers, justifying this course by the precedent of 1841, and upon the ground that this question was the real issue which they had put to the country. If this motion was successful, it could not be otherwise than satisfactory to Ministers to be relieved from a position which they could not desire to occupy. He criticised the principal measures proposed by the present Government, and especially condemned the manner in which they had received the sentence of the House upon their Reform Bill, by dissolving Parliament at a crisis when its advice was so much needed. With regard to their foreign policy, he thought it was impossible not to infer from its results that there had been mismanagement in it. He might be told, he said, that this amendment was a party move; he admitted it; but it was not a party move for the political aggrandisement of any individuals. He wished to see power in the hands of the Liberal party, whose differences, he observed, were not of principle, but only of detail, rather than in those of a party antagonistic to all progress. He concluded by reading the terms of his amendment, which represented to her Majesty that the confidence of the House was not reposed in her Majesty's present advisers.—The amendment was seconded by Mr. HANBURY.—The CHANCELLOR of the EXCHEQUER said he found no fault with the course taken by Lord Hartington and his friends, which was a convenient one; but he denied that there was any analogy between the present case and that of 1841. It was of great advantage that it should be known whether the advisers of the Crown possessed the confidence of the House. It was desirable that this question should be decided without delay, and he hoped the House would be able to divide that night. He proceeded to discuss the grounds assigned for the vote of want of confidence. He insisted that the failure of the Government measures in the last Parliament was not a fair ground upon which to rest such a vote in the present. He justified the dissolution, and congratulated Lord Hartington upon his having abstained from repeating certain trash which had, during the recess, been the subject of charges against the Government out of doors. He spoke in terms of severe reprehension of the allegations made by Sir J. Graham at Carlisle, to which he gave an indignant denial. The supposed compact with the Roman Catholics he utterly repudiated. The manner in which our foreign negotiations had been conducted was another ground for the vote of want of confidence; but he contended that it was neither just nor conformable to the practice of the House to decide this question in the absence of the necessary documents. The last ground for the vote was the failure of the Reform Bill proposed by the Government, and their insufficiency to deal with the question of Parliamentary Reform. He compared that measure with the last Bill upon this subject introduced by Lord J. Russell, and asked why the present Ministers should be less qualified to deal with it than that noble lord, whose Bill exhibited so many shortcomings, or than Lord Palmerston, who had shrunk from it altogether. Adverting to the two main topics in the Royal Speech, he said, with respect to the first, the Government had endeavoured by all the means in their power to preserve peace, and he was ready to vindicate them on this head. He retained the opinion he had formerly expressed, that the vote at which the House had arrived upon Lord J. Russell's resolution had a serious influence upon the negotiations; but still the representations of the Government, backed by public opinion, had been listened to with respect; they had since adopted the principle of a strict and impartial neutrality, and endeavoured to act in the spirit of that principle. With regard to the other subject, that of Parliamentary Reform, he said at once that it was the opinion of the Government that that great question could not be satisfactorily dealt with during this session. If that was a fair ground for a censure of the Government they were ready to meet the issue. At the same time they did not desire to shrink from the responsibility of dealing with this question, which ought not to be monopolised by any person or party. He reviewed some of the elements of this question, maintaining that the present Government were perfectly free to deal with it without being bound or hampered by their proposition in the last Parliament. Treating the question raised by the amendment as really one of personal sufficiency, which he admitted was a fair ground for a vote of want of confidence, he met it upon that ground, and made some sarcastic comments upon the personal claims of some of those who expected to succeed the present Government. He acknowledged that the area of selection for the public service was limited; but the Conservative party was not a federation of great families, and he hoped that the House would not hastily adopt an amendment which came from a limited and an exclusive party.—Lord BURY, in supporting the amendment, said that in the present state of affairs he was not disposed to entrust the conduct of our foreign negotiations to the present Government, the sincerity of whose professions of neutrality he distrusted, and who, in his opinion, had shown a partiality towards Austria.—Mr. MELLOR and Mr. HUGESSEN likewise supported the amendment.—Sir C. NAPIER made some observations on the state of the Navy.—Mr. WILSON blamed the Government for dissolving the late Parliament, and entered at great length into the subjects of finance and of the war.—Mr. DIGBY SEYMOUR opposed the amendment.—Mr. LAING supported it.—Lord PALMERSTON said that the present conduct of the Government proved the necessity of the amendment, and that they showed by their conscious weakness how unworthy they were of the confidence of the House. Their silence in the face of the charges against them was most extraordinary. It might have been expected that they would have pressed forward eagerly in their own defence, instead of which they demanded to be taken upon trust, and only asked that there should be no inquiry into their conduct. This was too grave a matter to be disposed of in so light and airy a manner, and the conduct of the Government was disgraceful in the face of the serious circumstances of Europe. Their mistakes in domestic—their errors in foreign policy—their proceedings in regard to the dissolution, justified the House in withholding its confidence. They came into power by a manœuvre, and not under circumstances which entitled them to the support of the country. They had failed in their legislative measures, and the late dissolution, under the circumstances of the country and of Europe, was culpable and unconstitutional. It was his conscientious opinion that the course they had pursued brought on the war. They entertained the notion that the danger of war arose from France and Sardinia, and it was the language which they held in consequence that prevented peace from being preserved. If they had known, as they ought to have known, what was going on at Vienna, their conduct towards Austria would have been very different. It was due to the country that it should at once be cleared up, whether the late elections had or had not given a majority to the Ministers. His belief was that the verdict would be against them, but, whatever was the result, it should be given at once, to enable them, if they succeeded, to pursue their course without fear or interruption.—Mr. Serjeant DEASY moved the adjournment of the debate.—The CHANCELLOR of the EXCHEQUER assented, and the debate was accordingly adjourned to Thursday.

WEDNESDAY.—The House sat for a short time.—Mr. DILLWYN obtained leave to bring in a Bill to amend the law relating to *Endowed Schools*. A motion by Mr. HADFIELD, that a certain return relating to *Affghanistan* should be printed, gave rise to some discussion. The motion was ultimately agreed to.—Mr. DUNLOP obtained leave to introduce a Bill to amend the Act for allowing verdicts on *Trials by Jury in Civil Causes* in Scotland to be received, although the jury may not be unanimous.

THURSDAY.—Sir J. TRELAWNY obtained leave to bring in a bill for the *Abolition of Church Rates.*—Mr. BLACK obtained leave to bring in a bill to abolish the *Annuity Tax* in the city of Edinburgh, the parish of Canongate, and the borough of Leith.—Mr. AYRTON obtained leave to bring in a bill to amend the *Laws Relating to Newspapers.*—The *Adjourned Debate on the Address* was resumed by Mr. Serjeant DEASY in favour of the amendment, which was opposed by Col. DICKSON and Mr. FITZGERALD, and supported by Mr. DUFF.—Mr. BRIGHT said he was not about to defend Lord Palmerston, and had no wish to convince him that the Government had not done all in their power to prevent the war now raging in Italy; but, as to the neutrality to which the Government had pledged themselves, he wanted to know whether it was real or pretended. The question applied almost entirely to France. The increase of our naval force in the Mediterranean, the bounties offered for enlistment in the navy, and the formation of rifle corps were not directed against Austria; and was it not likely, or even inevitable, that these preparations would destroy in the minds of the French Government and people confidence in our professions of neutrality? There was no reason to distrust the Emperor of the French; there was increased cause of suspicion; yet in Germany the general belief was that the Government of England was disposed rather to side with Austria than with France. He was not disposed to blame the present Ministers for all this; but he could not confide in a Government whose neutrality, so far as he had an active explanation of it, was to be found in continued and gigantic preparations for war. He did not doubt that from the next Government there would be the same professions of neutrality; but, with regard to France, all classes of the people would feel that there would be somewhat more of sympathy towards France on the part of their successor than, as far as he knew, was entertained by the present Government. He was not, however, one of those who approved the personal alliance between France and England, which, in his opinion, did not add to the dignity or to the advantage of either nation. He should prefer a generous and dignified conduct on the part of both Governments to an alliance that seemed to separate them from other nations. On the subject of Parliamentary Reform, after a strong condemnation of the late Bill, he insisted that there was still sufficient time in the present session to bring forward another measure; but, besides this question and that of our foreign policy, there were other reasons why the present Government had not the confidence of the House. He believed that with a new Government there would be a more friendly feeling with France, and that there would be laid upon the table a measure of reform which it would be the duty of the House and the people to accept. But his support of any Government would depend upon their measures and their policy.—Lord ASHLEY, Mr. BAXTER, Mr. CROSSLEY, and Mr. HORSMAN supported the amendment; Mr. PALK, Mr. LIDDELL, Mr. GURNEY, Mr. SPOONER, and Mr. K. SEYMER opposed it.—Sir J. GRAHAM said that it was impossible for him to give a silent vote on this occasion. He maintained that, although he had been wrong in stating that the change in the billet system had been effected without the authority or sanction of Parliament, still that he was right in stating that the change had been carried on the eve of a general election, and that the most undue influence had been exercised to return candidates for Devonport and other places. Having defended himself at some length from the recent attack of the Chancellor of the Exchequer, he said he be looked upon that right hon. gentleman as the Red Indian of debate. By the use of the tomahawk he had cut his way to power, and by the help of the scalping knife he hoped to prevent the loss of it. He was astonished at the rudeness of the assault; still he was ready to forgive it, as he felt it was to be traced to disappointed feelings and blighted hopes. After reviewing the principal measures adopted by the Government during the interregnum, he characterised the steps taken—their own responsibility with reference to manning the navy and organising rifle clubs as improvident and impolitic, and forestalling the decision of Parliament. The shortcomings of the Administration had reached their culminating point. Forbearance and hints were alike exhausted. The time for using the plainest language had arrived, and therefore, without hesitation, he was prepared to support the amendment.—Mr. WHITESIDE contended that the Government had been calumniated, and that, if a Cabinet should be formed of such extraordinary elements as the right hon gentleman, Mr. Sidney Herbert, Lord Palmerston, and Mr. Bright, would soon collapse by reason of its own internal weakness. With regard to the alleged compact with the Catholics, he repudiated the insinuation that the Government had made any corrupt advances to that body, that there was the slightest truth in the allegation that they had agreed to give a public contract to the Galway Mail Packet Company in return for political support, or that they had promised a charter for a Roman Catholic University in Dublin. He called upon the House not to destroy the Ministry before it had been tried and found wanting.—On the motion of Mr. MILNER GIBSON the debate was again adjourned

FRIDAY.—The *Adjourned Debate on the Address* was resumed by Mr. GIBSON, who spoke at some length in favour of the amendment, censuring the conduct of the Government during the recent elections, and expressing his opinion that with regard to foreign policy, there was not that neutrality on the part of the government which was alleged.—Mr. LINDSAY supposed the amendment. He considered that he was as earnest an advocate of reform as the right hon. gentleman who had just sat down; and he believed that in voting with the government on this occasion, he was best supporting the interests of his Liberal constituents.

[Left sitting.]

## City Intelligence.

BANK RATE OF DISCOUNT.—The Directors of the Bank of England on Thursday made a reduction of ½ per cent. in their minimum charge for discount and interest, and the rate is now 3 per cent. instead of 3½ per cent., to which point it was reduced a week ago.

MONEY MARKET, FRIDAY.—BRITISH FUNDS: Consols closed at 93⅞ to 94 for Money and Acct.; Bank Stock, 219½; Reduced and New Three per Cents., 92⅝ to ⅞; Indian Four per Cent. Debentures of last year, 94¾; Scrip of New Indian Loan, 93½; India Bonds at par; Exchequer Bills, 22*s.* to 25*s.* pm.—FOREIGN: Dutch Two and a Half per Cents., 62⅜; Ditto Four per Cent. Certificates, 95⅝; Equador New Consolidated Bonds, 15; Mexican Three per Cents., 18½; Ditto for Acct., 17⅞ to 18; New Granada Deferred Bonds, 4; Peruvian Four and a Half per Cents., for Acct., 78; Ditto Uribarren Four and a Half per Cents., Russian Five per Cents., 105 to 104½; Spanish Three per Cents., for Acct., 41⅛ to 42; Ditto New Deferred Three per Cents., 29¼; Turkish Six per Cents., 1854, 70

Ditto for Acct., 69¼; Ditto for 1858, 58; Venezuela Five per Cents., for Acct., 39¾ to 40; Ditto Deferred Two per Cents., 17.

## Bank of England.

ISSUE DEPARTMENT.

| | | | |
|---|---|---|---|
| Notes issued | £31,741,890 | Government Debt | £11,015,100 |
| | | Other Securities | 3,458,900 |
| | | Gold Coin and Bullion | 17,266,890 |
| | | Silver Bullion | — |
| | £31,741,890 | | £31,741,890 |

BANKING DEPARTMENT

| | | | |
|---|---|---|---|
| Proprietors' Capital | £14,553,000 | Government Securities (including Dead Weight Annuity) | £11,281,376 |
| Rest | 3,166,157 | Other Securities | 19,049,912 |
| Public Deposits (including Exchequer, Savings Banks, Commissioners of Nat. Debt, and Dividend Accts.) | 7,219,397 | Notes | 10,607,245 |
| Other Deposits | 15,942,762 | Gold and Silver Coin | 600,997 |
| Seven day and other bills | 748,514 | | |
| | £41,629,830 | | £41,629,830 |

9th day of June, 1859.

M. MARSHALL, Chief Cashier.

## Gazette of the Week.

TUESDAY—BANKRUPTS—J. ACOCK, Cheltenham, Builder—W. BANYON, St. Martin's-le-Grand, Hosier—G. FRAMPTON, Harrow Road, Tailor—W. HAYES, Kingston-upon Hull, Boot and Shoe Manufacturer—T. HEAPS, Macclesfield, Silk Throwster—S. VIELLEBLANCHE, Baldwin's Gardens, Leather Lane, Hosier—J. WITHERS, Birmingham, Jeweller.

SCOTCH SEQUESTRATIONS—J. CAMPBELL, Leith, Wine and Spirit Merchant—A. LAURIE, Glasgow—J. B. M'NEIL, Glasgow, Boat Builder.

FRIDAY—BANKRUPTS—T. BAILEY, Shrewsbury, Wine and Spirit Merchant—W. BOWACK, Holloway, Builder—G. O. BELL, Wellington Place, Holloway, Linendraper—R. CORLETT, Liverpool, Grocer—G. EATSON, Manning Street, Edgware Road, Licensed Victualler—G. FRAMPTON, Harrow Road, Paddington, Tailor and Clothier—J. GODDARD, Belmont Wharf, King's Cross, Timber Merchant—C. T. GREEN, Colet Place, Commercial Road, St. George's-in-the-East, Oil and Colourman—H. N. HUGHES, Broughton, Denbighshire, Joiner and Builder—B. JOHNSON, Epworth, Lincolnshire, Builder—L. KNIGHT, Mark Lane, City, Wine Merchant—C. MARSHALL, Devonport, Printer—J. L. MORTON, Finch Lane, City, Merchant—H. C. SHERBORN, Abingdon, Berks, Grocer—J. C. STOKES and J. SAWYER, Sheffield, Tool Manufacturers—M. TOWLE, Lenton, Nottinghamshire, Lace Manufacturer.

## Metropolis and its Vicinity.

LOSS OF HER MAJESTY'S SHIP HERON.—Her Majesty's sloop Heron was totally lost at 4 A.M. on the 9th of May, 200 miles from the coast of Africa. She was caught in a tornado and instantly capsized, with the loss of 107 lives. Captain Truscott, his gunner, boatswain, 16 seamen, four Portuguese, and two Kroomen saved themselves in a boat, which was picked up and conveyed to Sierra Leone; but Captain Truscott subsequently died on the passage to Liverpool, of yellow fever. Previously to her loss the Heron captured a slaver, after a chase of 12 hours. The list of the lost includes Lieut. Collingwood; Lieut. Porter; Mr. Smart, master; Mr. Freeman, paymaster; Dr. Sproule; Dr. James Reid; Mr. Blair, mate; Mr. Johnston, clerk; Mr. Utney, midshipman; Mr. Abbott, master's assistant; Mr. Richard Hicks; 76 seamen and marines, 9 Kroomen, and 11 Spaniards belonging to the slaver, making a total loss of 107. The slaver has arrived at Sierra Leone in charge of Lieut. Chapman and a prize crew.

THE EARL OF ELGIN ON CHINA AND JAPAN.—A grand banquet was given by the Lord Mayor on Friday at the Mansion House to her Majesty's judges. Among the guests was the Earl of Elgin, who in returning thanks for the toast of his health, made the following remarks on the state of China and Japan:—

"I have just been in a country which boasts of its laws. Now, these laws certainly contain many things deserving of commendation, and not wholly unworthy of our imitation. They profess a pure and elevated morality; but one thing neutralises all their merits, viz., the integrity of those who administer them. The administration of the law is not wholly above suspicion, and this gangrene penetrates the whole moral and political system of China, and produces everywhere corruption and decay. Therefore it is a great pleasure to a wandering Englishman like me, on returning home, to find that, for integrity, wisdom, learning, and impartiality the judges of his country are as distinguished as they ever were, and are held in as high estimation by the public; and I believe that, so long as a wandering Englishman makes this discovery on his return, he may cherish the conviction that the foundation on which our social and political fabric rests is sound and lasting. But while casting this reflection on the administrative system of China, it is fair I should say that it provides some securities against maladministration, which, according to received opinions, ought to be highly efficacious. In the first place all candidates for vacancies in the public service of China have to pass through that ordeal which many ardent reformers here think presents an infallible test not only of capacity but of all the virtues. They all have to go through the ordeal of a competitive examination, but in a rather different form from that we adopt. Now, it is a matter of custom, or rather of positive enactment, in this celestial land that every official of high rank—for this privilege is only confined to such persons—accepts his position with the comfortable assurance that if he fails to extricate himself creditably out of his difficulties and embarrassments he will sooner or later terminate his career by decapitation. No doubt that system has some inconveniences which press somewhat hardly on individuals, but it provides vacancies, and its effects in that way are undoubtedly a powerful encouragement to enterprising young men desirous of entering the public service. But I cannot help sometimes thinking that if that practice was introduced into this country it would at first at least produce considerable perturbation among the heads of public departments. At any rate, it would have a powerful tendency to reduce that plethora of prime ministers—that determination of blood to the head—which would seem to be the disease, judging from present appearances, from which England is most likely to perish. However, my experiences in the East lead me to the conclusion that competitive examinations, even when completed by decapitation, are not an adequate substitute for that morality which is the product of the free institutions and the Christian training of England. It is an extraordinary fact that though the late Parliament, which lately died of an unnatural death, was elected for the express purpose of looking after affairs in China, it observed during the whole of its brief existence so discreet a silence on the subject that it neither asked for nor received any communication whatsoever with respect to our proceedings in that country; and, if I were now to open my whole heart with regard to our diplomatic relations with China, the chances are that I might unwittingly betray some secrets of State, and after feasting luxuriously at the Mansion House to-night, find myself taking breakfast to-morrow under the auspices of the Constable of the Tower. In speaking of the probable effects of the recent treaty made with China on our commercial relations with that country, I am anxious to avoid all exaggeration, but it is very difficult to talk about 400,000,000 of people without making some statements which may sound extravagant. A friend of mine said to me that if I wished to calculate what would be the extent of the demand by China for our cotton manufactures, I was just to estimate how much cotton would be required to supply nightcaps to 400,000,000 of people. As my experience of the Chinese was confined to the daytime, I am unable to say whether they wear nightcaps or not; but, if they do, certainly the quantity of cotton necessary to make them large enough to tie up their long tails with, will be something extraordinary. But I do know, in the first place, that the 400,000,000 Chinese wear blue cotton blouses, and in the second that they wear another garment, and that the Chinese ladies are in this respect habited like their lords. Yet I never heard that the practice was attended by any of those domestic inconveniences which it is said would attend them here. But, talking seriously, China and Japan are now both open to British enterprise. The barriers which separated 400,000,000 of people from their fellow-men have been absolutely swept away; so far at least as that can be done by international engagements. It is a great mistake, however, to suppose, as was done on the occasion of a former treaty with China, that diplomacy can accomplish all that is requisite. Our manufacturers must tax their ingenuity to supplant those native fabrics which are produced by that industrious, sober, and frugal population in their hours of rest from labour. The work has been begun by the feeble hand of diplomacy, and it must be continued and extended by the stalwart arms of the manufacturers of England. If it is, I feel assured that the result will be a great extension of the commerce of England, and the opening up of a new era of civilisation and prosperity for a large portion of the human race."

SIR JOHN LAWRENCE ON THE INDIAN REBELLION.—At the meeting in Guildhall on Friday Sir J. Lawrence in returning thanks for the presentation of the freedom of the City spoke as follows on the affairs of India during the late rebellion:—

"I thank your lordship and this hon. court for the distinguished honour which has this day been conferred on me—an honour which I share with some of England's greatest worthies—the bravest, the noblest of our countrymen—an honour the value of which, if possible, is enhanced by the handsome terms in which it has been conveyed. The Chamberlain has paid a kind, but just tribute to the merits and services of my lamented brother, Sir Henry Lawrence. He was a man of the highest aspirations and of unbounded benevolence. During a long career of upwards of 35 years in Burmah, in Affghanistan, in the Punjaub, and in Rajpootana, he served with great distinction, maintaining the honour of his country and the reputation of its arms. The personal influence which he exercised over those with whom he came in contact was remarkable. Few men in their generation have effected more good for the means at their disposal. Few have lived more honoured or died more lamented. In the closing scenes of his life at Lucknow his merits were more especially conspicuous. By his tact, his temper, and his conciliation, he maintained the public tranquillity, so long as this was practicable; while by his sagacity and prudence he foresaw and made preparation for the conflict which was inevitable. It has been admitted by the most distinguished of the defenders of Lucknow, that to Sir H. Lawrence they owed the success which attended that struggle. Regarding myself it becomes me to say but little. If I was placed in a position of extreme danger and difficulty, I was also fortunate in having around me some of the ablest civil and military officers in India. In times of peace we had worked so as to be prepared for times of commotion and danger. We had laboured to introduce into a new country order, law, and system. Our object had been to improve the condition of the people, and obtain their goodwill and sympathies, and hence it happened that, by God's help, we were able to meet the storm which must otherwise have overwhelmed us all. I have received honours and distinctions from my Sovereign; I have been welcomed by my countrymen of all classes since my return home with consideration—I may say with affection; but I hope that some rewards will even yet be extended to those who so nobly shared with me the perils of the struggle, and by whose aid my efforts to maintain the supremacy of my country were crowned with success."

THE REMAINS OF SIR THOMAS PICTON.—On Wednesday morning, with the approbation of her Majesty, the Government removed the coffin containing the remains of General Sir Thomas Picton from the cemetery in the Bayswater Road, in which they were hastily interred after the battle of Waterloo, to St. Paul's Cathedral. The removal took place at 11 o'clock when the coffin was placed on a gun-carriage, provided by command of the Duke of Cambridge, and accompanied by the carriages of several of the surviving officers who were comrades of Sir Thomas Picton, and of others who wished to pay a tribute of respect to so illustrious a man. In the first mourning coach, as chief mourner, was Mr. John Picton, nephew of the General, and among the other mourners was the Rev. Dr. Macnab, of Canada, representing his uncle, Captain Alexander Macnab, of the 30th Regiment, who was aide-de-camp to General Picton, and also fell at Waterloo. The procession passed along Oxford Street, Regent Street, the upper part of Trafalgar Square, and so by the Strand and Fleet Street to St. Paul's, where it arrived about 1 o'clock. There was no funeral service or other religious or military ceremony. On arriving at the Cathedral the body was met by Dean Milman, Archdeacon Hale, and several prebendaries and minor canons, who preceded the body to the crypt, where it was deposited in a vault which had been constructed not far from the tomb of the Duke of Wellington.

UNIFORM MUSICAL PITCH.—A private meeting of a number of leading scientific men and those interested in music, both as professors and amateurs, was held at the house of the Society of Arts on Friday, by invitation of the Council of that Society, for the purpose of discussing the propriety of adopting in this country a uniform musical pitch, as has been recently done in France. The Rev. Dr. Whewell, Master of Trinity College, Cambridge, presided; and among those present were the Earl of Cawdor, the Earl of Westmoreland, Sir George Smart, the Dean of Hereford, Lord Gerald Fitzgerald, Dr. Arnott, Dr. Wylde, Messrs. Benedict, Blagrove, Bowley, H. F. Chorley, George Cooper, F. Davison, J. Ella, Otto and Madame Goldschmidt, H. Griesbach, Hogarth, E. Hopkins, John Hullah, J. Köhler, H. J. Lincoln, H. C. Lunn, G. Metzler, A. Nicholson, W. Pole, Lindsay Sloper, C. N. Wornum, C. W. Dilke, and several members of the Council of the Society.

LAUNCH OF THE ARIADNE.—Another addition was made to the navy on Saturday afternoon, by the launch from Deptford Dockyard of the 26-gun screw frigate Ariadne, in the presence of many thousands of spectators. The Ariadne is 3202 tons, 318 feet in extreme length, and is to be fitted with engines by Messrs. Maudsley & Co. in the Victoria Docks, as the requisite accommodation cannot be provided at Woolwich yard on account of her great length.

MEETING OF ROMAN CATHOLICS.—On Wednesday afternoon a meeting of the Roman Catholic body was held at St. James's Hall, for the purpose of impressing upon the Government the necessity of granting them the privilege of chaplains in workhouses and prisons. The Hon. Charles Langdale was called to the chair, and there were present several members of the old Catholic families, several members of Parliament, and numerous clergymen and laymen who had become converts from the Church of England. The chairman read letters from Lord Stourton, Lord Vaux, and Lord Dormer, expressing their regret that they could not attend, and their hearty sympathy with the objects of the meeting. He said that all the Catholic bishops of England had sympathised with the movement, and the "Bishop of Birmingham" had written to say that the Catholics would never be content until they were placed upon an absolute equality with their fellow-countrymen in the undisturbed exercise of religion. Resolutions in accordance with the object of the meeting were agreed to.

PUBLIC DRINKING FOUNTAINS.—A meeting was held in St. Martin's Hall a few days since in favour of the Association for Promoting the Erection of Free Drinking Fountains in the Metropolis. Mr. Gurney, M.P., presided, and said that he knew of no other movement more likely to promote the cause of temperance. The movement had been originated by Mr. Melly, of Liverpool, who had expended 2000*l.* in erecting fountains in that town out of his own pocket. He should like to see the movement general through London and the provinces; they should also be erected in all factories for the use of the workpeople, and he hoped in hot weather that drinking troughs would be provided for dogs. Mr. Wakefield then read an account of the proceedings of the association, from which it appeared that most of the metropolitan vestries had promised to render every assistance in promoting the movement, 2000*l.* had been subscribed by private persons, in addition to donations of seven fountains. Among the donors of these fountains were the Earl of Carlisle and Lord John Russell. Mr. Gurney had subscribed 500*l.* In Liverpool, according to Mr. Melly, 43 fountains had been erected, and there was room for 23 more in that town. According to that London would require 400. The association hoped that the movement would be cordially supported by the working classes. The Earl of Carlisle addressed the meeting and said that it was in the power of the upper classes to procure water and other beverages which they might more highly prize; and it was the hope of the association that water would be supplied to the working classes in every district of this large city. His lordship in conclusion moved a resolution, "That drinking fountains would supply a great want and promote the comfort and temperance of the working classes." Mr. Hanbury, M.P., seconded the resolution. He said it was of great importance that pure water should be provided for the fountains, not such water as was supplied to the pumps. It had been calculated that if the fountains were erected in London 132,000,000 draughts would be taken in the course of a year. The resolution was also supported by the Rev. Mr. Garwood, of the London City Mission, and carried unanimously. A resolution was moved by Mr. Slaney, M.P., inviting the working classes to contribute to the erection of drinking fountains for their own use. The resolution was seconded by Mr. Smithies, and carried unanimously. Mr. Whitmore, a working man, moved that a committee of working men should be formed for the purpose of co-operating with the association, and dwelt upon the benefit that would result from the erection of drinking fountains. The motion was seconded by Mr. Howlett, also a working man, who said that every fountain that was erected in the streets of London would be a blessing, and every beershop that was established a curse. The motion was carried unanimously.

PUBLIC DRINKING FOUNTAIN ON BLACKHEATH.—Lord Haddo has erected a drinking fountain near Chesterfield's Walk, Blackheath. It is suggested that the Commissioners of the Royal Hospital would do good service by erecting another fountain near the reservoir, Greenwich Park.

DISTURBANCES AT ST. GEORGE'S-IN-THE-EAST.—On Sunday afternoon the church of St. George's-in-the-East was the scene of an extraordinary uproar, in consequence of the form of service conducted by the Rev. Bryan King, the rector, in opposition to the officials and ratepayers of the parish, who assembled to the number of 3000 to interrupt the ceremony. It had previously been announced that the Rev. Hugh Allen, the afternoon lecturer, would not preach as usual, the Bishop of London having recommended him to abstain from officiating for the present. A large body of police constables of the K division were present by order of the Commissioners of Police to keep order, and a mounted police officer patrolled the street to keep the carriage way clear. As soon as the gates were thrown open the church was speedily crowded in every part. On the appearance of the choristers, followed by the Rev. Bryan King and the curate, they were greeted with hisses, and as they proceeded up the middle aisle the confusion increased. The curate commenced reading the service when he was inter-

lapted by loud cries of "No Popery," and continued hissing from the congregation. The disturbance then became so general and alarming that fears were entertained by the authorities for the safety of the furniture, &c., when the Rev. Mr. Richardson, of St. Matthew's Church, offered to conduct the service, and was introduced by the churchwardens to the rector, who declined the offer. The excitement at this juncture became so great that it was found impossible to proceed with the service. The rector then retired to the vestry, and shortly afterwards left the church and returned to the rectory amidst renewed cries of "No Popery," accompanied by groans and hisses. In the evening, at the 7 o'clock service, there was a similar demonstration towards the rector, who went through the service without interruption; but the hissing again commenced as soon as the preacher ascended the pulpit, and was repeated at intervals until the service was over, when the rector retired with his choir followed by repeated cries of "No Popery," "No Puseyism." The rush was so great at the moment of his leaving the church, that a large number of police hurried up to guard him, or he might have been injured. He was again groaned and hissed into the rectory, after which the people dispersed.

THE LATE ACCIDENT AT THE WESTMINSTER PALACE HOTEL.—The adjourned inquest on the bodies of the seven unfortunate workmen who were killed by the fatal accident in Victoria Street was resumed on Thursday, when the jury after an absence of two hours returned the following verdict:—

"The jury appointed to inquire as to the cause of the late lamentable accident at the Westminster Palace Hotel, which resulted in the deaths of seven persons, are of opinion that such deplorable occurrence was entirely owing to the accidental falling of an overloaded scaffold on which these unfortunate men were at work; the jury are further of opinion that there is not sufficient evidence before them to affix the blame of such overloading on any particular person or persons; but that some blame attaches to William Coleman in not promptly carrying out the orders he received from his employers to make a new scaffold. They cannot conclude this most painful and distressing inquiry without expressing an earnest and fervent hope that in all such erections, whether of scaffold or platform, where the lives of their fellow-men are likely to be jeopardised, more caution and circumspection will be practised by the workmen in future. The jury cannot separate without expressing their strong disapprobation of the loose, confused, and unsatisfactory manner in which the evidence in this case has been collected and put before them."

THE PUBLIC HEALTH.—The Registrar-General's weekly return states that the deaths in London in the week that ended Saturday, June 4, were 998. In the corresponding weeks of the ten years 1849-58 the average number was 979; which, if raised in proportion to the increase of population, will become 1076. The return of last week was therefore 78 below the average. During the week the births of 786 boys and 807 girls, in all 1593 children, were registered in London. In the ten corresponding weeks of the years 1849-58 the average number was 1485.

## Provincial.

CHELTENHAM.—Two public meetings were held in this town on the 2d inst., for the purpose of forming a Rifle Corps—one in the afternoon and the other in the evening. The evening meeting was called in favour of those tradesmen, shop assistants, and others who could not be present in the middle of the day. The Earl of Ellenborough presided, and spoke as follows on the subject of the war in relation to the national defences:—

"If there were tradesmen present, and he supposed there were, they, of all others, in his opinion, were especially interested in preventing an enemy landing on these shores, as being likely to suffer most from such an occurrence. All monetary transactions of the country would be altogether impaired and injured from the very instant it was known an enemy had landed. What would be the effect of that panic occasioned by the approach of an enemy to London, and what could be the mode of conducting monetary transactions with the means of communication interfered with? And what must we do? It was not enough to feel satisfied that if the enemy landed we should be enabled to repel him; we must be so strong as to deter him from attempting invasion. They might depend upon it that the mere act of invasion, if the enemy were but a week in the country, and if it terminated by his expulsion or the destruction of all his forces, that single week of invasion would produce an injury to the material interests of this country which a hundred years would hardly recover. He dared say there were a good many among them who thought it possible to avoid all these misfortunes by preserving a strict neutrality. There could be no one more desirous than himself that we should not be involved in war. But he would tell them this, that neutrality, although it put off war, did not prevent it. On the contrary, it might ultimately bring upon us a war infinitely more dangerous than that in which we refused to engage before. While two great nations were contending against each other, if we engaged in a war, at least, we should have one of these nations with us; if we waited till one of these nations was trampled upon and beaten by the other, and was deprived of strength to contend in the field, and then we were disposed to contend against the conqueror, we should contend alone against a Power which had matured its forces, against a force disciplined in the field, and therefore to our disadvantage. However desirable we might think it to maintain neutrality, neutrality alone could give us no security, and might render war more dangerous; and was it this we should declare absolutely to be our policy? If France should understand and be convinced, under any circumstances, that England would not interfere, her conduct would assuredly be very different from what it otherwise might be; but, in point of fact, we might be practically creating a state of things by declaring our persistence in neutrality which might compel us to violate it, and engage in war besides. He knew not that it was necessary for him to say anything of the nature and character of the present war. But there was one point connected with it about which he hoped they were under no delusion. He trusted they did not suppose it was really a war for the independence of Italy. If he could think it were so, no one would rejoice in its success more than he should. He had been earnestly desirous of seeing a great and really independent State in Italy from the earliest period of his life. He was looking back the other day, and he saw that as much as 43 years ago he expressed himself to that effect, when he was a member of the House of Commons, and it had been the desire of his whole public life. No event would more strongly conduce to the security of Austria herself than the creation of a great and independent Power in Italy. He had not the smallest hope of any such result from any interference on the part of France. The object of France was to transfer to herself that supremacy in Italy which had been possessed by Austria since 1814. Austria had held it for defensive purposes; France would hold it for the purposes of offence, and in her hands it would be an important step towards making the Mediterranean a French lake. They were told, and the French were told that this war in Italy was in obedience to the traditional policy of France. Now about three centuries and a half ago Italy was really independent, and was then divided into a number of different States. There was one kingdom, several principalities, duchies, and republics. Every one of these different States was governed by a native, to the exclusion of the foreigner. The country was represented as having been thoroughly cultivated, and as distinguished more than any other country in the arts, sciences, literature, and in everything that elevated the character of man. What happened then? Why in came a French King; he overturned all independence, and from that time to the present there had been no instance in which French sovereigns of whatever race had not, whenever they had the opportunity, struck a blow at the independence of Italy for their own advantage. That was the traditional policy of France, and that the species of independence which she would in reality give to Italy. He was not going to defend the civil government of Austria. He believed that in some of the States it was good government, suited to the people, who were contented and absolutely devoted to their Government. In foreign countries it was of a different character. But we must not undertake the reform of the civil government of any nation. If we were to do so he thought we might begin with material advantage at no distance so great than from our own shores. However they did not enter into that. We only looked at Austria as a great military Power, to which in its strength was mainly entrusted the independence of Central Europe. And it was altogether contrary to our interests, and the interests of every State in Central Europe that Austria should maintain unimpaired the military power she possessed. If they looked back to past times, and the wars of the French Revolution, they would see with what gallantry Austria came forward, and what advantage we derived from her actions. In 1805 Austria, at her own great risk, rushed forward and prevented the invasion of this country. In 1809 she again moved forward, she again suffered great defeats, but she facilitated by her movements the advance of the Duke of Wellington on Madrid, and laid the foundation of the liberation of Spain. Notwithstanding all the defeats of 1805 and 1809, and her weakness, Austria again in 1813 joined the allies, gave into their hands her territory in Bohemia, for the purpose of enabling them to act against the French, and mainly contributed in Germany, and afterwards in France, to the liberation of Europe. We must not, therefore, allow ourselves to be diverted from the recollection of past times in dealing with the present. He would not go into another point of great importance, and well worthy the attention of the public; he meant the understanding wich evidently existed between Russia and France, an understanding existing between two great despotic military Powers with reference to what their conduct shall be in supporting the independence and freedom of Italy. There was reason, he believed, to suspect the purity of the motives of both parties; but this they might observe, while Russia, by bringing 150,000 men on the frontiers of Poland practically paralysed Germany, we, likewise, in the movements of our fleet, were already, if not paralysed, yet greatly checked and controlled by the presence of a Russian fleet of 30 sail of the line, which had been largely increased since the commencement of this war, for we could not venture to send the whole of our force to the Mediterranean, knowing, if we did, that that fleet might anchor at Spithead. Yet we were told that Russia had assured the English Government that there was nothing whatever existing between France and herself contrary to our interests; and they accepted that explanation. If the Government was not afraid of an understanding between Russia and France, it the more behoved the people of this country to be afraid, and to take their own course for their deliverance. There had not been in this country since the time of King John the foot of one single armed foreigner. All other nations had suffered the ruin, the spoliation, and the disgrace which attend successful invasion. We were the only military State in Europe which had not in the course of the last 50 years seen an invading enemy in its capital. They could have no idea of the extent of the horrors of foreign invasion, and whatever it might be in other countries, here they would be worse, since the enemy would come with the accumulated hatred and revenge of six centuries. He heartily hoped the public spirit of the people of this country would raise a force which would protect us from such a visitation."

MALTON.—The body of Mr. Jennings, who has been missing for nearly six months, was found on Thursday week in the Derwent, and though far advanced in decomposition, the features were sufficiently perfect to be easily recognised. The papers and rate books were found in his pockets, but no money of any kind. An inquest was held on Friday, when Joseph Bowman, a shepherd, deposed to finding the body fast to a tree root in the Derwent, and said that the front of deceased's breeches was gone. Police-Superintendent Ord said that he found, on examining the body, some parish-rate books, two handkerchiefs, and a pair of gloves, but no money; and although the front part of the breeches and pockets were gone, he could not say that they had been torn away by violent means. Mr. Isaac Shepherdson, of Malton, fellmonger, said that deceased went into the Oddfellows' Arms beer-house, about a quarter past 10 on the night of the 21st of December, and that after remaining some time deceased who was tipsy, and said he had no money, went out of the house alone. This witness was examined as to his own conduct on the night in question, and according to his evidence, he remained at the beer-house for three-quarters of an hour after Jennings left, and then went to the Cross Keys Inn, where he remained till nearly 12 o'clock. He then went home and to bed, and did not go out again till next morning. He declared that he never saw Jennings after he had left the beer-house, and that he had no horse yoked to a cart that night after he saw Mr. Jennings, and was not with any one who had. Ann Jones and Sarah Wray gave evidence contradictory to that of the last witness. Both women stated that Shepherdson's cart had been out with clean straw in it on the night on which Mr. Jennings was lost, and that a man and woman had been with it. They said that the cart was in a different position the next morning. Mr. George Jennings, nephew of deceased, said that his uncle had been in the habit of staying from home for two nights at a time; that he often had large sums of money with him, and often lost himself and went home without his horse. Mr. W. Colby, surgeon, [illegible] having made an external examination of the body as soon as it was taken from the water. There was a lacerated wound on the right side, in a line with the [illegible] about 4 inches long, which in his opinion, had been received just before, or immediately after death. He had since made a *post-mortem* examination, but found no other injury. He scarcely thought that the wound would of itself have caused death. The coroner, in summing up, urged upon the jury the necessity, if any doubt remained on their minds, to return an open verdict. The jury, after a short deliberation, returned a verdict of Found Drowned, there not being sufficient evidence to implicate any one. The body was immediately interred, and Bowman will receive the reward offered for its discovery, the 50*l.* offered by Government being limited to the proof of the murder.

PORTSMOUTH.—An inquest has been held on the body of a child picked up out of the water after the late explosion of the Eastern Monarch, and which was suffocated by the fumes on the after part of the lower deck. After a short deliberation the jury returned a verdict to the effect that the child came by its death from suffocation caused by the inhalation of smoke, the product of a combustion, the origin of which there was no evidence to show. It has been satisfactorily ascertained that the total loss of life was seven, the woman and four children who were killed or suffocated by the explosion, a woman and a soldier who died soon after reaching the shore of exhaustion from being in the water, and one child who died in the Hospital from burns. A large number received contusions or burns. The pilot was missing for some time, but it was subsequently ascertained that he was picked up in the water by a Southampton boat and conveyed to Cowes, much bruised and shaken by the explosion.

WROXETER.—The recent excavations have thrown considerable light on the character of the buildings of the Roman city of Uriconium. A continuous wall has been traced, bordering what was evidently the Roman street (now the Watling Street Road), and facing the west, to a distance of about 80 feet southward, where another wall was found running eastward at right angles from it. Within these walls is a large open court, with a fine brick herring-bone pavement, and in the building first laid open to the north of the wall. The sides of this court towards the street appear to have been occupied by rooms of small dimensions, which perhaps served for shops or offices. In one of them, the floor of which is about 10 feet from the present level of the ground, was found a quantity of wood charcoal, as though it had been a charcoal depôt for sale or for the use of the more important buildings to the east. One or two weights, with numbers upon them, and various other objects, have been found in the small rooms. Among other things found in this part of the excavations are one or two finger-rings and some bone remains. At the north-western corner of the court there is a wide opening in the western wall, apparently from the street by an inclined plane formed of some large flagstones, as though to allow carriages to enter the court, the level of which is higher than that of the street. A little further south there is another smaller entrance through the same wall, approached by stone steps. The stones of both are considerably worn by use. The back or eastern side of the court appears to have been occupied by the better apartments of a very important mansion, running southward from the hypocausts already opened, and these will now be immediately uncovered, and we may hope for interesting results. It may be remarked that traces of the use of mineral coal in the houses of Uriconium have also been met with.

## Ireland.

MEETING OF THE IRISH SOLICITORS.—The [illegible] indignation meeting of the attorneys and solicitors was held on Friday, when strong resolutions were adopted condemnatory of the manner in which the legal rights of the attorneys of Ireland have been disregarded by successive Governments, in appointing members of the bar to ministerial offices connected with the law department which have been held and the duties which they consider would be more efficiently discharged by attorneys and solicitors of experience in their profession. The appointment of a barrister to the office of Solicitor to the Inland Revenue was strongly condemned, and it was resolved to petition for a repeal of the Act of George IV., which operates injuriously against the second branch of the legal profession. A petition embodying all these grievances is to be presented to the Lord Lieutenant, and petitions to the same effect are to be presented to both Houses of Parliament. Portions of the speeches delivered at the meeting show that since the present Government came into office they had given to the bar of Ireland 42,000*l.* [illegible] First Registrar, 15,000*l.*; Clerk of the Hanaper, [illegible] six chairmen of counties; three judgeships—making all 42,000*l.* During the same period the solicitors got just 750*l.* a year.

LAW APPOINTMENTS.—The lucrative office of Solicitor to the Treasury vacated by the resignation of Sir Henry Hemmins, has been conferred by Lord [illegible] upon Mr. Thomas Mostyn, Clerk of the Crown for the county of Sligo. The emoluments of the office are estimated at 2000*l.* a year. Mr. Thomas [illegible] Solicitor and Registrar to the Lord Chief Justice, has been appointed Registrar of Judgments, in room of Mr. Edward Scriven, resigned. The [illegible]

301. a year. The Crown Solicitorship of the city and county of Dublin, also resigned by Mr. Hemsdin, has not been yet filled up. Mr. James Meglee, Q.C., has been appointed by the Attorney-General for Ulster to the counties of the north-west circuit, in addition to the county of Fermanagh, already held by him; and Mr. Samuel Johnston has been appointed to the remaining two counties.

LANDED ESTATES COURT.—The Tipperary estates of Count Charles were sold on Monday in 25 lots, the gross produce being 40,000*l*. The rates of purchase were extremely high, beyond in some instances the average prices realised in the land market.

## Scotland.

EPISCOPAL CHURCH IN SCOTLAND.—At an adjourned meeting of the Diocesan Synod of Aberdeen on the 2d instant the Rev. P. Cheyne, M.A., appealed against the judgment and sentence of suspension pronounced by a court of four bishops, who by a majority of three to one had condemned him for having preached certain doctrines contrary to those of his church. Mr. Cheyne argued his appeal on the Bishop's alleged plea that Mr. Cheyne had been guilty of canonical disobedience by exercising his office while under suspension. The canon enjoins that two admonitions shall be given before inflicting the penalty; so that the Synod adjourned to Friday, when Mr. Cheyne was "publicly declared to be no longer a clergyman of the Episcopal Church in Scotland."

## Sporting.

EPSOM MEETING.

FRIDAY.—*The Chevening Stakes.* Mr. Barnard's Pan beat Sedbury, Old Fellow and 7 others.—*The Derby Stakes.* Lord Lichfield's Stockwell beat Scott, West Rose, and 10 others. Betting at starting: 6 to 4 on Mayonnaise, 5 to 1 against Stockwell, 10 to 1 each West Rose. The Race.—Directly Mr. Wilson lowered the flag Alarm assumed the lead, followed by Stockwell and Mayonnaise, the second and third pulling hard next at the rails, Pompadour, who, with Prelude at her quarters, and Dervish, the pick, in the centre of a line were Mayonnaise and Stockwell, the Wizard a long way last of all. On reaching Tattenham Corner Mayonnaise was in difficulties, and the running was one length in front of Prelude, followed by Stockwell, and the remainder close together. Entering the straight Mayonnaise came to the front, and Stockwell took up a position on the lower side next to her. Then Prelude was assisted by Pompadour, West Rose, and Scott, and at the distance Prelude had just the best of it, Mayonnaise and Stockwell being next, the latter beginning to make his effort. Prelude and Mayonnaise struggled together for a few strides, when the latter, answering to the call of the jockey, drew away from her opponent, and beat West Rose the second place by a good length. Mayonnaise was thereby enabled to obtain fourth place, a neck from West Rose. Prelude was fifth, Amadine sixth, Meg Merrilies seventh, Wizard in Black eighth; Little Agnes, Scottish, the Dervish boy, and Alarm were next. The last three horses of whom Pompadour and Scott, the latter being the favourite.—*The Sixth Great Surrey Foal Stakes.* Mr. F. Robinson's Artaxerxes beat Urbian, Rachmanoff, Eremite, and Cheapside.—*The Grosvenor Plate.* Mr. Greville's Grand Duchess beat Gilt Arrow, and 6 others.—*The Surrey and Sixth Mile.* Mr. Bartlett's Polly Johnson beat Spotted Dick, Fiesco, Cymbeline, Ann and Sister to Alarm.—*The Manor Plate.* Mr. Bartlett's Polly Johnson beat Mushroom, Orlando, and Donna Carmen.

## Law.

HOUSE OF LORDS.—*The Thellusson Will Case.*—*Judgment.* Their lordships sat for the first time this session to hear appeals and delivered judgment in the case of Thomas Roberts Thellusson, appellant, v. Woodford, Woodford, Edwards, Jones, Bacon, Charles Sabine Augustus Thellusson, the Right Hon. Peter Pendarves, and Arthur The several respondents. The question in this case was simply whether the eldest male lineal descendant of the testator, Peter Thellusson, must be the eldest in point of age or the eldest in point of years. The Master of the Rolls decided that Lord Rendlesham is the person who answers the description in the will of eldest male lineal descendant of the testator, Peter Thellusson, and is entitled to the estate, and that Charles Sabine Augustus Thellusson is the person who answers the description of eldest male lineal descendant of Charles Thellusson, the grandfather, and is entitled to the other half; and that Thomas Roberts Thellusson, the appellant, the eldest male lineal descendant of Peter Thellusson, is entitled to a set of Charles Thellusson's shares, and not the eldest male lineal descendant of the latter of Charles Sabine Augustus, although he is the eldest male lineal descendant of the said Charles in point of years, as was contended. The present appeal was against these two decisions. Their lordships, after the conclusion of the arguments, saw no reason to differ from the decision of the learned judges, a majority of whom were therefore in favour of the judgment of the case below, and agreed that the appellant, as eldest male lineal descendant in point of years, Lord Cranworth even agreeing that the decision of the Master of the Rolls be affirmed. Having at length the reasons why he was of opinion that that decision was right, Lord St. Leonards, Lord Wensleydale, and Lord Brougham having expressed their concurrence, the Lord Chancellor said that as he had been summoned for the purpose of hearing the case he had resolved not to take part in the decision, and as there was no necessity for there being an equality of votes he was relieved from giving his opinion. He had only to pronounce that the decree of the court below declaring that Charles "eldest male lineal descendant," applied to the eldest in point of time, and not in point of years, was affirmed, and the appeal dismissed.

COURT OF CHANCERY (before the Lord Chancellor).—*Lord Talbot de Malahide v. Lord Talbot de Malahide and others.*—*Practice.*—*Motion to dismiss Bill.*—*Costs.*—*Lunatic.*—*Petition.*—*Will Case.*—*Judgment.*—This was an appeal from a judgment of Vice-Chancellor Wood, refusing an injunction to restrain the defendants from taking proceedings at Lancaster Assizes, in the name of the plaintiffs and the Right Hon. Richard Lord Talbot de Malahide, for the recovery of property in the county of Lancaster, and for an account of the rents and profits thereof, during the time the defendants had been in possession. The Lord Chancellor in giving judgment said that the parties had agreed to submit the case to his decision, and that he could not have come to a more satisfactory conclusion than that arrived at by the Vice-Chancellor. The plaintiffs were clearly entitled to resist all use of the joint line by any except the legitimately traffic of the South Western, and an injunction must be granted from so doing, offered against the South Western, with liberty however for them to apply if the former any alteration should be made by a legal agreement, or by an act of Parliament. There would be no personal benefit, but the South Western must pay the plaintiffs the whole costs of the suit. No costy would be given as to the Portsmouth Company.

COURT OF COMMON PLEAS.—*Sittings in Banco* before Lord Chief Justice Cockburn and Justices Williams, Willes, and Byles.]—*The Earl of Shrewsbury v. Scott and others.*—*Judgment.*—The case, after occupying the attention of the Court for nine days, was brought to a conclusion on Thursday, when the Lord Chief Justice gave judgment to the effect that the plaintiff was entitled to recover possession of Alton Towers and the other estates of the Talbot family, on the ground that they were improperly subjected to the entailing by a settlement made by Earl Talbot in 1787, carried into effect by the 6th Geo. I., cap. 18, and confirmed by a recognition and made by Earl John, in 1841, by the statute of the 6th & 7th Victoria. It had been contended by the defendant that Earl Talbot, being a Jesuit, had no reversion in the estate in consequence of the operation of the penal laws against Catholics which were then in force, and was incapable of making the settlements of 1787 and founded upon the view of the case the last case cited, a Scotch deed which purported to cut off the entail, and afterwards by will left the estates to the infant son of the Duke of Norfolk, on whose behalf the defendants, who are executors of the duke's will, had sued them. But he was clearly of opinion that the deed and will had no power to override the deed, and that under the peculiar circumstances which had been fully explained none of the plaintiffs had been guilty of laches or acquiescence. The plaintiffs had allowed those estates for a long series of years, and they [illegible] who had had the beneficial enjoyment of those estates should abide by the conditions on which they took that enjoyment. The other points argued were unfavourable, and the rule to set aside the verdict for the plaintiff was therefore discharged. The result was received with suppressed applause by a very crowded court. It was understood to be his intention from the last to bequeath 10,000*l*. and to pay a year, and the case derived additional interest from the fact that upon the decision of the present depended the possession of the property, which had been for some years held by Roman Catholics, should now go into Protestant hands.

## Miscellaneous.

THE TOMB OF A CELTIC CHIEFTAIN.—We have already mentioned in our Foreign news the very interesting discovery which has been recently made by M. Legrand, architect, at the very gates of Paris at the tomb of a Celtic chieftain, interred more than 2000 centuries ago, with the remains of his wife, his horse, and his armour. The following particulars given by Galignani will be read with interest. "It had long been supposed that the origin of the Parisii did not date further back than the time of Julius Cæsar, who is the first historian that mentions them. Some discoveries made at different times in the neighbourhood of old Lutetia, as well as in the bed of the Seine, have indeed tended to contradict that opinion, but M. Legrand's discovery of a Celtic tomb leaves no doubt of the existence of that nation at least 2000 centuries ago. It would seem that a Celtic town of some importance formerly stood on the site of La Varenne-St.-Hilaire, where the tomb in question, which is that of a Celtic chief and his wife, with his arms and horse, has been found not more than a few yards underground, and what is still more remarkable the soil had covered it was vegetable mould. It consisted of a complete or sacred circle formed with 18 blocks of quartz, in the centre of which there is the tumulus or sepulchre, containing two skeletons in good preservation, both placed face downwards and lying in a south-east direction. The skeleton on the left, that of the chief, had its head resting on both hands; the jaws had nearly all their teeth, 28 in number, with their enamel in a perfect state. At its side, headed with a piece of sharp horn, and a lance made of the antlers of a stag, lay beside him. Around were placed other arms, such as a battle-axe of polished flint, a javelin, and a broken knife, all of white stone, all bearing traces of the action of fire. The female skeleton lay in token of a violent death, showing that the wife of the chief had been sacrificed on the tomb of her husband. Between her head and that of her husband lay a hatchet of flint, but much injured, showing that it had been frequently used. The horse, as the skeleton showed, had also been sacrificed. M. Legrand has offered this monument to the Minister of State for the Museum of the Hôtel de Cluny, where it will shortly be visible to the public."

THE WARMING AND VENTILATION OF DWELLINGS.—A blue book has been recently issued containing a report addressed to the General Board of Health by the Commissioners appointed to inquire into the warming and ventilation of dwellings. The Commissioners were Mr. W. Fairbairn, F.R.S., Mr. J. Glaisher, F.R.S., and Mr. Charles Wheatstone, F.R.S. Dr. Playfair was appointed Commissioner, but did not append his signature on account of absence through other engagements from the sittings. The Commissioners enter into minute details as to their observations and experiments, and print an abstract of inventions which they consider sound in principle and from which they think some form might be constructed suitable to all descriptions of dwelling-houses, preventing smoke and economising fuel. In regard to fire grates in general the Commissioners recommend—1, the use of reflecting surfaces to direct an increased amount of radiated heat into rooms; 2, that the chimney flue be of small dimensions (not above 9 inches in diameter at the widest part); 3, that chimney flues should not be situated in the outer walls of houses so as to become chilled by contact with the air outside; 4, that each flue be provided with a closing apparatus; 5, that the aperture for the escape of the smoke be placed at the back of the fire so as to increase the intensity of combustion and promote the radiation of heat; 6, that the back linings of grates should be in general use; 7, that sunken ash-pits and hidden ash-pans be employed to prevent the diffusion of dust; 8, that the fire be set as a level with the floor (made evident by experiments with Leslie's grate); 9 that as a rule, the low grate is best proved which is seen from the greatest number of points in the room; 10, that a good frontage of fire surface be exposed; 11, that those stoves be used which prevent the formation of smoke, which represent imperfect combustion and wasted fuel; and 12, that the fire-grate should be studied in its construction with the view to its effecting a better and more economical consumption of fuel and a more equal distribution of heat, not as a contrivance for the ventilation of rooms. It will not answer the twofold purpose of warming and ventilating. The altering of a common grate into an Arnott stove has entirely failed on trial. A proposed plan for the improvement of the construction of dwelling-houses is recommended and illustrated by diagrams; among other things, the use of double panes of glass in small, and of double sashes in large rooms is suggested. The use of gas or coke would preclude smoke, but the former is too expensive for heating purposes in ordinary houses and districts. The Wellington Barracks are adverted to in reference to the sanitary state of the army, and the Commissioners state that "a more defective system of warming and ventilation could not be devised than that which is there exhibited." Condemning the want of space allotted to the soldiers, and the disgusting practice of using open tubs as urinals in barrack rooms, the Commissioners appear to direct the attention of the Master of War and the Horse Guards to the absolute necessity of providing more room and accommodation for soldiers in barracks, and that, instead of 500 cubic feet of space, 700 to 800 cubic feet be allowed per man, or, as in the case of the Wellington Barracks, only 10 persons occupy the space allotted to 16; and that these regulations be enforced throughout the United Kingdom. A more economical system of heating and ventilation in barracks is also recommended. The Commissioners in conclusion say:—"Should these suggestions be adopted, and the remedies properly applied, the time will soon arrive when the sanitary returns of the British army will bear a comparison and prove equally satisfactory to that of any other part of the community."

BIRTHS.—On the 1st inst., at the Deanery, Bocking, Yorkshire, the Hon. Mrs. [illegible] Monckton, of a daughter.—On the 2d inst., at King's Pyons, Hereford, the wife of the Rev. [illegible] Evans, Rector, and Vicar of Eardisley, Herefordshire, of a son.—On the 3d inst., at Hyde Hall, Sawbridgeworth, Herts, the wife of Sir Henry Dukinfield, Bart., of a son and heir.—On the 4th inst., at Ryde, Isle of Wight, the Countess of Ilchester, of a daughter.—On the 4th inst., at Bryanston Square, the wife of Lieut.-Colonel Anstruther, C.B., Royal Artillery, of a son.—On the 4th inst., at 4, Montagu Place, Russell Square, the wife of the Rev. [illegible] Bowyer, Rector of St. George's, Bloomsbury, of a son.—On the 4th inst., at 26, Belgrave Square, the Countess of Strafford, of a daughter.

MARRIAGES.—On the 31st ult., at St. Joseph's Church, the Rev. and Hon. Francis Byng, third son of Viscount Enfield, and grandson of Field Marshal the Earl of Strafford, to Frances Louisa, youngest surviving child of Sir William Miles, Bart., M.P.—On the 1st inst., at St. George's Hanover Square, Granville Augustus Fitzroy, Esq., of the Bengal Civil Service, son of the late Lieutenant-General Sir Charles Fitzroy, G.C.B., to Lady Frances Elizabeth Caroline Paget, youngest daughter of the late Earl of Uxbridge.—On the 1st inst., at Wargrave, Laura Maria, youngest daughter of the late Canon Harford, of Hillfield, at Bristol, to Thomas William B. Daniel, late Lieut.-Colonel 67th Regt.—On the 1st inst., at Portland, Thomas Wynne Talbot, Esq., of Wood Dalen, Buckinghamshire, Warrister, and late Colonel of the Royal Buckinghamshire Militia, aged 80—16th 16th, and 8th April, at the Cape of Good Hope, Edward William Robinson, aged six years; Emma Sophia, aged seven; Frederick Robert, aged three years; children of Captain Robert Lee, H.E.M.'s Commissioner, Cape Good Hope, at Simon's Town, after a short illness.—On the 1st inst., at Kensington, Mary Elizabeth, aged 20 years, daughter of the late [illegible] Hammersley, Esq., of Bromley, aged 20 years, at Hobbs-town, Hungerford Daniel Fawkes, second daughter of Captain Fawkes, late of Warrens, Wiltshire, aged 30 years, at the parsonage House, the Hon. Lady Liddell, wife of Rear-Admiral the Hon. Henry Keppel, R.C.B.

DEATHS.—On the 1st inst., at Oxford, [illegible] Vansittart, the Hon. Mrs. [illegible] Monckton, of a [illegible] Wyatt, aged 70 years, Spanish Town, Jamaica, the wife of the Presidency Captain Henry Darrigan, late of [illegible] at Lower Tooting, Surrey, Frances Mary, youngest daughter of the late [illegible] Fellowes, Esq., of Ramsey Abbey, Huntingdonshire, aged 20 years.—On the 2d inst., at Ryde, Isle of Wight, the wife of [illegible] Lieutenant-Colonel [illegible], aged 70 years.—On the 2d inst., at Wargrave, Laura Maria, youngest daughter of the late Canon Harford, of Hillfield, at Bristol, aged 20 years.—On the 3d inst., at Portland, Thomas Wynne Talbot, Esq., of Wood Dalen, Buckinghamshire, Warrister, and late Colonel of the Royal Buckinghamshire Militia, aged 80—16th 16th, and 8th April, at the Cape of Good Hope, Edward William Robinson, aged six years; Emma Sophia, aged seven; Frederick Robert, aged three years; children of Captain Robert Lee, H.E.M.'s Commissioner, Cape Good Hope, at Simon's Town, after a short illness.—On the 1st inst., at Kensington, Mary Elizabeth, aged 20 years, daughter of the late [illegible] Hammersley, Esq., of Bromley, aged 20 years, at Hobbs-town, Hungerford Daniel Fawkes, second daughter of Captain Fawkes, late of Warrens, Wiltshire, aged 30 years, at the parsonage House, the Hon. Lady Liddell, wife of Rear-Admiral the Hon. Henry Keppel, R.C.B.

## Markets.

COVENT GARDEN.—June 11.

Grapes though now comparatively plentiful, still realize good prices. Strawberries from the open ground continue to reach this [illegible]. From Algiers potatoes of a superior quality, French Cherries may still be obtained. Pine are however not [illegible] to be met with [illegible] Grapes [illegible] at 6s. per lb. Peaches [illegible] Nectarines [illegible] Apricots, 1s. each. Cherries [illegible] Strawberries [illegible] Green Peas [illegible]

Horn Carrots, and Globe Artichokes may also be obtained. Cauliflowers fetch from 4s. to 6s. per doz. New Potatoes realise from 12s. to 20s. per cwt. Cucumbers abundant. Cut flowers chiefly consist of Orchids, Gardenias, Heliotropes, Lily of the Valley, Violets, Mignonette, Heaths, and Roses.

FRUIT.

| | |
|---|---|
| Pine Apples, per lb., 5s to 8s | Cherries, per lb., 3s to 4s |
| Grapes, per lb., 4s to 8s | Apples, per doz., 6s to 12s |
| Strawberries, per lb., 2s to 6s | Pears, per doz., 6s to 12s |
| Melons, each, 4s to 6s | — stewing, p. doz., 2s 6d to 5s |
| Peaches and Nectarices, per doz., 15s to 30s | Oranges, per 100, 6s to 10s |
| Figs, per doz., 8s to 12s | Lemons, per doz., 1s to 1s 6d |
| | Cobs, per lb., 1s 3d to 1s 6d |

VEGETABLES.

| | |
|---|---|
| Cauliflowers, per doz. 2s to 4s | Cucumbers, p. doz., 2s to 6s |
| Green Peas, p. quart, 1s to 2s | Tomatoes, per doz., 3s to 4s |
| Greens, per dozen bunches, 1s to 1s 6d | Artichokes, per doz., 4s to 6s |
| Cabbages, do., 1s 6d to 2s 6d | Beet, per doz., 1s 6d to 2s |
| Asparagus, p. bundle, 2s 6d to 5s | Celery, p. bundle, 1s to 1s 6d |
| Rhubarb, p. bundle, 6d to 9d | Shallots, per lb., 6d to 8d |
| French Beans, p. pun., 1s to 1s 6d | Garlic, per lb., 6d to 8d |
| Potatoes, p. ton, 90s to 100s | Lettuces, Cabb., per score, 1s to 1s 6d |
| — per bus., 2s to 2s 9d | Endive, p. score, 1s to 1s 6 |
| — per cwt., 4s to 6s | Horse Radish, p. bun. 1s 6d to 4s |
| — new, per lb., 6d to 1s | Mushrooms, p. pott, 9d to 1s 3d |
| Carrots, per bunch, 1s | Parsley, p. 12 bunches, 2s to 4s |
| Turnips, per bunch, 9d to 1s | Savory, do., 2d to 4d |
| Spinach, p. sieve, 1s 6d to 2s | |

HOPS.—BOROUGH MARKET, FRIDAY, June 10.

Messrs. Pattenden & Smith report that the accounts from Sussex, Weald of Kent, Farnham, and Worcester state that both fly, lice, and honeydew continue to increase. A portion of Mid and East Kent is at present in a better state.

POTATOES.—SOUTHWARK, Monday, June 6.

During the past week the arrivals have been limited, but more than equal to the demand; the weather has been very warm and trade extremely dull, and to effect sales a reduction in price has been submitted to. The following are this day's quotations:—Yorkshire Regents, per ton, 100s. to 120s.; do. Flukes, 120s. to 150s.; Lincolnshire Regents, 80s. to 100s.; Dunbar Reds, 80s. to 90s.; Perth, Forfar, and Fifeshire Regents, 60s. to 80s.; do. Reds, 50s. to 60s.; Rocks, 50s. to 60s.; foreign whites, 60s. to 70s.

BRITISH WOOLS.—LONDON, FRIDAY, June 10.

The price of the new clip is not yet settled, as there is scarcely any arrived as yet.

| | s. | d. | | s. | d. |
|---|---|---|---|---|---|
| South-down Hog-gets | 1 | 3 to 1 | 3½ | | |
| Half-bred ditto | 1 | 2 — 1 | 2½ | | |
| Down Ewes | 1 | 1 — 1 | 2 | | |
| Kent Fleeces | 1 | 1 — | | | |
| Leicest. Wethers | 1 | 0 to 1 | 1 | | |
| Ditto Hoggs | 1 | 1 — 1 | 2 | | |
| Combing Skins | | — | | | |
| Blanket ditto | | — | | | |
| Flannel Wool | 1 | 0 — 1 | 4 | | |

COAL MARKET.—FRIDAY, June 10.

Walls End Gosforth, 15s. 3d.; Walls End Haswell, 17s.; Walls End Eden Main, 15s. 6d.; Walls End Cassop, 16s.; Walls End Heugh Hall, 15s. 9d.; Walls End Hunwick, 16s.; Wall's End West Hetton, 15s. 9d.; Walls End Whitworth, 16s.; Tanfield Moor Butes, 13s. 6d.; West Hartley, 16s. 9d.; Wylam, 16s. 6d.; Buddle's Hartley, 16s. 9d.; Howard's Hartley, 16s. 9d.—79 ships at market.

METROPOLITAN CATTLE MARKET.

MONDAY, June 6.

The number of Beasts is much smaller than on Monday last. Trade is by no means brisk; prices are, however, good, and a fair clearance is effected. The supply of Sheep is very short for the time of year; prices have advanced in all descriptions. Good Lambs and Calves are scarce, and rather dearer. From Germany and Holland there are 140 Beasts, 1580 Sheep, and 109 Calves; from Scotland, 140 Beasts; from Norfolk and Suffolk, 2400; from Ireland, 90; and 100 from the northern and midland counties.

| | s. | d. | s. | d. | | s. | d. | s. | d. |
|---|---|---|---|---|---|---|---|---|---|
| Best Scots, Herefords, &c. | 4 | 6 to 4 | 10 | | Best Long-wools | 4 | 8 — 5 | 0 | |
| Best Short-horns | 4 | 4 — 4 | 8 | | Do. Shorn | | — | | |
| 2d quality Beasts | 3 | 6 — 4 | 0 | | Ewes & 2d quality | 4 | 0 — 4 | 6 | |
| Best Downs and Half-breds | 5 | 0 to 5 | 4 | | Do. Shorn | | to | | |
| Do. Shorn | | — | | | Lambs | 6 | 0 — 6 | 6 | |
| | | | | | Calves | 3 | 10 — 5 | 0 | |
| | | | | | Pigs | 3 | 8 — 4 | 8 | |

Beasts, 3690; Sheep & Lambs, 20,730; Calves, 178; Pigs, 270.

THURSDAY, June 9.

The supply of Beasts is again small, but the weather is favourable; consequently late quotations are fully supported. There are a few more Sheep and Lambs, but the average quality is not good. Choicest descriptions are readily sold. Good Calves are in demand. From Germany and Holland there are 330 Sheep, and 260 Calves; from Norfolk and Suffolk, 500 Beasts; and 106 Milch Cows from the home counties.

| | s. | d. | s. | d. | | s. | d. | s. | d. |
|---|---|---|---|---|---|---|---|---|---|
| Best Scots, Herefords, &c. | 4 | 6 to 4 | 10 | | Best Long-wools | 4 | 8 — 5 | 0 | |
| Best Short-horns | 4 | 4 — 4 | 8 | | Do. Shorn | | — | | |
| 2d quality Beasts | 3 | 6 — 4 | 0 | | Ewes & 2d quality | 4 | 0 to 4 | 6 | |
| Best Downs and Half-breds | 5 | 0 — 5 | 4 | | Do. Shorn | | — | | |
| Do. Shorn | | — | | | Lambs | 6 | 0 — 6 | 6 | |
| | | | | | Calves | 4 | 0 — 5 | 0 | |
| | | | | | Pigs | 3 | 8 — 4 | 8 | |

Beasts, 966; Sheep & Lambs, 10,390; Calves, 524; Pigs, 160.

MARK LANE.—MONDAY, June 6.

The supply of English Wheat to this morning's market was one of the smallest of the season, nevertheless it met a slow sale at last Monday's prices, and a good proportion remained on hand late in the day; the sale of foreign was very restricted, but in the business transacted former rates were maintained. Good sweet Barley brings last week's rates, but out-of-conditioned is difficult of disposal. Beans and Peas are a slow sale at barely late quotations. The Oat trade is very heavy at a decline of 6d. to 1s. per qr. upon the prices of this day se'nnight. The top price of town-made Flour is unaltered, and Norfolk is offered at 34s. to 35s.

| PER IMPERIAL QUARTER. | s. | s. | | s. | s. |
|---|---|---|---|---|---|
| WHEAT, Essex, Kent, & Suffolk..White | 50 | 60 | Red | 46 | 52 |
| — — fine selected runs..ditto | 52 | 56 | Red | 50 | 54 |
| — — Talavera | 56 | 63 | | | |
| — Norfolk | — | | Red | — | |
| — Foreign | 46 | 62 | | | |
| BARLEY, grind. & dist., 24s to 28s..Chev. | 35 | 40 | Malting | 32 | 34 |
| — Foreign..grinding and distilling | 24 | 31 | Malting | 30 | 34 |
| OATS, Essex and Suffolk | 20 | 23 | | | |
| — Scotch and Lincolnshire..Potato | 24 | 26 | Feed | 20 | 23 |
| — Irish ..Potato | 25 | 26 | Feed | 20 | 23 |
| — Foreign ..... Poland and Brew | 23 | 26 | Feed | 20 | 26 |
| RYE | — | | Foreign | — | |
| RYE-MEAL, foreign | — | | | | |
| BEANS, Mazagan....35s to 39s....Tick | 37 | 41 | Harrow | 37 | 41 |
| — Pigeon .....41s — 45s..Winds. | — | | Longpod | — | |
| — Foreign ..... Small | 38 | 47 | Egyptian | 35 | 39 |
| PEAS, white, Essex and Kent..Boilers | 44 | 48 | Suffolk | 46 | 50 |
| — Maple....42s to 44s ..... Grey | 38 | 42 | Foreign | 42 | 46 |
| MAIZE ..... White | — | | Yellow | — | |
| FLOUR, best marks delivered..per sack | 44 | 50 | | | |
| — 2d do. ..... ditto | 38 | 44 | Country | 38 | 44 |
| — Foreign ..... per barrel | 24 | 32 | Per sack | 34 | 42 |

FRIDAY, June 10.

Between Friday and Monday last some very heavy thunderstorms fell in parts of the adjacent counties, and have lodged the Wheat in many places. The plant is coming into ear, and is generally so luxuriant that rain would probably prove detrimental to it. Since Monday the weather has been dry and warm, to-day cooler. The Wheat trade continues inanimate, and in the majority of markets a further decline varying from 1s. to 2s. per qr. has occurred. Very little was done here on Wednesday, and some proportion of the Kent supply of Monday remained over unsold. The trade for all descriptions of Spring Corn has also been depressed, with a declining tendency. Flour in the provincial markets has been generally reduced 1s. to 2s. per sack. The arrivals of grain and seed-laden vessels from Southern Europe off the coast are becoming more numerous; they comprise 2 cargoes of Wheat, 9 of Maize, 6 of Barley, 1 of Rye, 3 of Millet, and 2 of Linseed. The sales are very limited. The arrivals this week of English grain have been moderate, those of foreign considerable. The attendance at to-day's market was small, and the large supply of foreign Wheat induced millers to act with extreme caution; factors being unable to obtain Monday's prices for English, a considerable quantity of Kent left over from that day remains unsold. Of the foreign a large proportion goes to the millers direct, and holders being disinclined to accept any material reduction, no sales could be effected, and the great bulk will be landed. The value of Barley, Beans, and Peas is unaltered. The Oat trade is very dull, and sales are made with difficulty even at a decline of 6d. to 1s. per qr. In Flour there is very little doing, and Norfolk, &c., is 6d. to 1s. per sack cheaper.

ARRIVALS FROM JUNE 6 TO JUNE 10.

| | Wheat. | Barley. | Oats. | Flour. |
|---|---|---|---|---|
| English .. | 1570 qrs. | 560 qrs. | 1820 qrs. | 1630 sks. |
| Irish .... | — ,, | — ,, | 150 ,, | — ,, |
| Foreign .. | 45140 ,, | 4170 ,, | 31760 ,, | 11420 ,, — bris. |

LIVERPOOL, Tuesday, June 7.—We had a fair attendance of millers and dealers at our market this morning, but they still held off buying, and the market consequently wore a very lifeless feeling. Wheat must be noted about 3d. and Flour 6d. per cental lower than the nominal quotations of last market day. Indian Corn was very difficult of sale, though offered at a concession of fully 2d per cental. Oats and Oatmeal were each 1d. to 2d. lower on the week. Egyptian Beans, Peas, and Barley in a great measure nominal.

FRIDAY, June 10.—Corn market dull and inactive; the demand for all articles is small at Tuesday's rates, barely supported in some instances. A slight reduction has been necessary to effect sales in Wheat, Flour, and Indian Corn.

| AVERAGES | Wheat. | Barley. | Oats. | Rye. | Beans. | Peas. |
|---|---|---|---|---|---|---|
| April 30.. | 42s 6d | 32s 8d | 23s 4d | 30s 3d | 41s 8d | 38s 6d |
| May 7.. | 44 10 | 32 5 | 24 2 | 32 8 | 42 8 | 39 11 |
| — 14.. | 52 5 | 32 10 | 25 4 | 33 4 | 45 1 | 42 0 |
| — 21.. | 54 4 | 33 7 | 26 3 | 35 3 | 47 2 | 45 5 |
| — 28.. | 53 6 | 33 6 | 25 9 | 33 8 | 46 6 | 42 10 |
| June 4.. | 53 5 | 33 8 | 26 1 | 37 7 | 47 0 | 40 5 |
| Agg. Aver. | 50 2 | 33 1 | 25 2 | 33 9 | 45 0 | 41 6 |

FLUCTUATIONS IN THE LAST SIX WEEKS AVERAGES.

| PRICES. | Apr. 30. | May 7. | May 14. | May 21. | May 28. | June 4. |
|---|---|---|---|---|---|---|
| 54s 4d | .. | .. | .. | | .. | .. |
| 53 6 | .. | .. | .. | .. | | .. |
| 53 5 | .. | .. | .. | .. | .. | |
| 52 5 | .. | .. | | .. | .. | .. |
| 44 10 | .. | | .. | .. | .. | .. |
| 42 6 — | | .. | .. | .. | .. | .. |

HAY.—Per Load of Thirty-six Trusses.

SMITHFIELD, THURSDAY, June 9.

| | | | | | |
|---|---|---|---|---|---|
| Prime Meadow Hay | 72s | 78s | Old Clover | 95s | 110s |
| Superior do. (old) | 80 | 90 | Second cut | 84 | 95 |
| Inferior do. | 50 | 60 | New Clover | — | — |
| New do. | — | — | Straw | 24 | 28 |
| Rowen | 60 | 70 | | DAVIS & Co. | |

CUMBERLAND MARKET, THURSDAY, June 9.

| | | | | | |
|---|---|---|---|---|---|
| Sup. Meadow Hay | 86s | 92s | Inferior Clover | 84s | 92s |
| Inferior do. | 70 | 80 | New do. | — | — |
| New do. | — | — | Straw | 32 | 34 |
| Superior Clover | 100 | 108 | | JOSHUA BAKER. | |

WHITECHAPEL, THURSDAY, June 9.

| | | | | | |
|---|---|---|---|---|---|
| Fine old Hay | 86s | 92s | Fine old Clover | 105s | 110s |
| Inferior do. | 70 | 80 | Inferior do. | 90 | 96 |
| New Hay | — | — | Fine new Clover | — | — |
| Inferior do. | — | — | Fine 2d cut | 90 | 100 |
| Straw | 23 | 27 | Inferior do. | — | — |

THE BURIAL BOARD of the Parish of St. Helen's, in the county of Lancaster, will, at their Meeting on the 25th day of July next, appoint a SUPERINTENDENT and REGISTRAR of the Cemetery of such parish. He will be required to reside at the Cemetery and devote his whole time and attention to the duties of his office, and must possess a good knowledge of Book keeping and sufficient of Surveying to enable him to lay out the ground in grave spaces. One who has some knowledge of the Management of Trees and of the care of Grounds would have a preference. The salary is 70l. per annum, with the use of a house, rent and tax free. Candidates are requested to send applications in their own handwriting, stating former or present occupation, and accompanied by testimonials as to character and competency on or before the 30th inst., to THOS. HADDOCK, Clerk to the Board.
Hardshaw Street, St. Helen's, Lancashire, June 11.

WANTED, A competent Person to act as FOREMAN in an extensive Nursery in the south of Ireland. Satisfactory testimonials as to character and capability will be required.—Communications to be addressed to A. B., *Constitution* Office, Cork, Ireland.

WANTED, in the County of Pembroke, an experienced and active BAILIFF to Superintend a Farm of 130 Acres. Salary 50l. per annum, or, if single, and live in the house, 30l. Applicants will state age, and the situations previously held by them.—Address X. Z., Post Office, Narbeth.

WANTED, a respectable, steady MAN, who thoroughly understands the propagating of Fruit Trees, Roses, Coniferæ, and Knife-work generally. Liberal wages will be given.—Address, A. B., Messrs. Noble & Co., Seed Merchants, Fleet Street, London.

WANTED, A MAN AND WIFE.—The Man as thorough GARDENER, and to take entire charge of a few acres of Land, some Woods, and Stock, to Buy and Sell, Keep Accounts, &c. Wife to take Dairy and Poultry, and care of House when family absent. In a beautiful part of the South of England. Both to be thoroughly trustworthy and with the best recommendations in all respects.—Apply by letter, post paid, B. B., Messrs. Street, Serle Street, Lincoln's Inn, London, W. C.

WANTED, A MAN AND A LAD, the former as GARDENER. Must understand Early and Late Forcing, Vines, Kitchen and Flower Gardens; if a knowledge of Cows, preferred. Lad under him.—Apply personally, to 121, Long Acre, London, Monday or Wednesday next, between 2 and 4.

HEAD SHOPMAN.

WANTED, AS HEAD SHOPMAN, in a London Nursery, a respectable Man; a thorough knowledge of the Seed and Nursery business indispensable.—Apply by letter only, F. F., *Gardeners' Chronicle* Office.

WANTS PLACES.—Letters to be Post Paid.

GARDENER (HEAD).—Age 37, married, no incumbrance; thoroughly understands Gardening in all departments. All applications to be made to Mr. WATSON Ripley Castle, Yorkshire.

GARDENER (HEAD).—Age 40, married, no family; has a thorough knowledge of his profession in all branches; also Land and Stock.—F. C., 13, Campden Grove, Kensington.

GARDENER (HEAD).—Age 27; has a good practical knowledge of his profession. Can be well recommended for ability and general good conduct.—E. BARNES, Wentworth Castle Gardens, Barnsley, Yorkshire.

GARDENER (HEAD).—Age 46, married; experienced in all branches; seven years' character for capability and integrity. Wages 60l., with cottage and firing.—J. B. Messrs Nash & Teuten, 4, Saville Place, Regent Street, W.

GARDENER (HEAD).—Age 38, married, one child, 9 years of age; understands his profession in all the various branches. Wife a good Cook. Can be well recommended.—A. B., The Nursery, Winchmore Hill, Edmonton, Middlesex.

GARDENER (HEAD).—A Lady can with confidence recommend an active middle-aged married Scotchman without family, who has given her great satisfaction in Forcing Grapes, Peaches, Grape Vines in pots loaded with fruit, Pines, months old, Strawberries, Figs, Melons, Cucumbers, French Beans, Mushrooms, and Asparagus. Has a good knowledge of Plants, and is an excellent Kitchen Gardener; has taken many prizes; four years' high testimonials.—A. B., 8, Lime Cottages, Buckland Road, Dover, Kent.

GARDENER (HEAD).—Age 29, single; intelligent, industrious, and strictly temperate in habits; fully understands his profession, including the Forcing of Vines, Pines, Peaches, Strawberries, Melons, Cucumbers, &c., with good knowledge of Stove and Greenhouse Plants; also first-rate Management of Flower Gardens. Has had very extensive practice in the north and south of England.—J. T. W., Sir E. Meux, Bart., Theobald's Park, Cheshunt, Herts.

GARDENER (HEAD), OR GARDENER AND BAILIFF.—Age 36, of good practical experience both in Gardening and Farming, married, small Family; no objection to live at the Lodge. Can be highly recommended. Parties requiring the services of a good practical Man will find the Advertiser to be relied on.—B. B, Messrs. Thos. Mander & Co., Ranelagh Nursery, Leamington Spa.

GARDENER.—Age 22; under a Head Gardener. Good instructions. Good character.—F. WINGFIELD, Donington Park Gardens, Leicestershire.

GARDENER.—Age 24, single; understands Kitchen and Flower Gardens, Orchid, Stove, and Greenhouse and Forcing in general. Good character.—A. HARDEN, Clarendon Park, near Salisbury.

GARDENER.—Widower, without incumbrance, understands the management of Kitchen and Flower Gardens, Fruit Trees, &c. Can be well recommended for sobriety, industry, and honesty. His sister can manage Laundry if required.—C. C., Mr. Young's Nurseries, Milford, near Godalming.

GARDENER (SINGLE-HANDED).—Age 27, married, understands Greenhouse, Early Framing, Kitchen and Flower Gardens. Eight years' good character.—J. F., Post Office, Hampton, Middlesex.

GARDENER (SECOND).—Age 23; has a good practical knowledge of Stove and Greenhouse Culture, &c. Good character and reference.—G. M., 5, Lea Bridge Road, Lower Clapton.

GARDENER (UNDER).—Age 24, at liberty for any part of England; can take the management of a Stove.—A. L., Post Office, Lower Tooting.

GARDENER (UNDER).—In a nobleman's or gentleman's establishment, where he can Improve himself; small Premium given. 18 months' good character.—W. HANCE, Bookseller, 55, King's Road, Chelsea, S. W.

GARDENER (UNDER, in a gentleman's or nobleman's Garden).—Age 27, married; strong and active. Can have 6 years' good character from a nobleman's Gardener.—J. H., 29, Westbourne Street, Eaton Square, Pimlico, London.

GARDENER (UNDER) OR GROOM AND GARDENER.—Age 28, single; can manage Farm Land and Stock. Good character.—W. D., Poddington, near Wellingborough.

GARDENER AND BAILIFF.—Can take the management of a large Farm, Woods, &c. Good character.—K. J., 2, Anerley Vale, Crystal Palace.

GARDENER AND BAILIFF.—Age 41, married, three children; a native of Scotland; perfectly understands his profession. Good reference.—W., Post Office, Cirencester.

BAILIFF (WORKING).—Married, active; has had much practice both in Scotland and the northern, midland, and southern counties of England; has a thorough knowledge of Stock of all descriptions. Good reference.—J. B., Post Office, Cirencester.

TO NOBLEMEN AND GENTLEMEN.

STEWARD OR BAILIFF, OR AS IMPROVER ON AN ESTATE.—Practical, thoroughly acquainted with his business; well understanding Clearing, Grubbing, Draining, Building, Buying, Selling, &c., having had experience in many of the principal counties of England. Testimonials as to character and abilities.—A. C., 26, Chiswell Street, Finsbury.

LAND STEWARD OR GENERAL MANAGER.—Thoroughly business Young Man, accustomed for many years to the Management and Improvement of Estates, the Erection of Horticultural, Agricultural, and other Buildings, Farming Light and Heavy Soils, Letting and Receiving Rents. Good security and first-class references given.—A. L., 3, Basinghall Street, London.

FOREMAN AND PROPAGATOR (House department).—Fully competent to undertake the management of a first-class Nursery, his knowledge comprising the Cultivation and Propagation of Stove and Greenhouse plants, Ericas, &c.; also Vines and Conifers. Will shortly leave his present situation, which he has successfully filled upwards of 5½ years.—MAY, Mr. Glendinning's, Chiswick Nursery, near London, W.

ROSE BUDDING AND CONIFERÆ GRAFTING BY THE 1000.

PROPAGATOR.—One of the fastest and most successful as above. Continental and English experience.—C. G., *Gardeners' Chronicle* Office.

# The Gardeners' Chronicle Newspaper.

*SATURDAY, JUNE* 18, 1859.



GREEN'S PATENT LAWN MOWERS have proved to be the best by the appointed judges in all cases of competition. Full illustrations, with particulars of improvements for the present season, will appear in this Paper next week.

THOMAS GREEN, Patentee and Sole Manufacturer, Smithfield Iron Works, Leeds, Yorkshire; and 2, Victoria Street, bottom of Holborn, London. Repairs done at either of the Establishments, where every information may be obtained.

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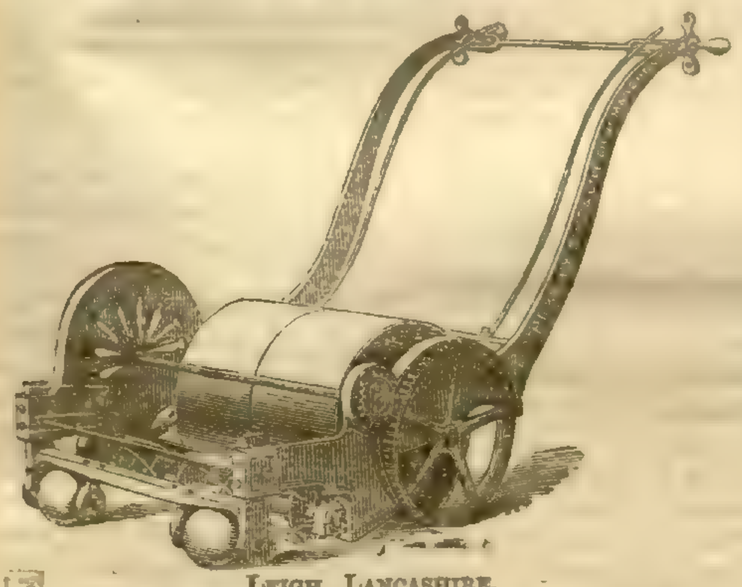

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Will be published every Saturday, price Threepence. The First Number will appear on July 2.

All Literary arrangements will be made by the Editor, who is to be addressed, for the present, through the Publishers, Messrs. BRADBURY AND EVANS, at their Offices, Bouverie Street, Fleet Street. The Publishers will also receive Orders for the Miscellany itself; and a limited number of Advertisements for insertion in the Wrapper to be issued with it regularly "ONCE A WEEK."

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| SKIM COULTER for P or PP Plough | 0 5 6 |

HARROWS.

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JAMES FAHEY, Sec.


## News of the Week.

THE House of Commons, on Saturday morning, by a majority of 13 in a house of 638 members, adopted the amendment to the Address, declaring that her Majesty's Ministers do not pos-

sess the confidence of Parliament. As a necessary consequence of this decision Lord DERBY lost no time in placing the resignations of himself and colleagues in the hands of HER MAJESTY. The QUEEN having accepted their resignations commissioned Lord GRANVILLE to form an Administration, considering that his lordship would be able to facilitate the union of the two great sections of the Liberal party under Lord PALMERSTON and Lord JOHN RUSSELL. Lord PALMERSTON at once expressed his readiness to act under Lord GRANVILLE, but Lord JOHN RUSSELL intimated that, though willing to serve under Lord PALMERSTON, he will serve under no other Premier. In these circumstances the QUEEN sent on Sunday evening for Lord PALMERSTON, and after an audience which lasted an hour and a half, Lord PALMERSTON proceeded to Richmond to confer with Lord JOHN RUSSELL. The remainder of the week has been occupied with negotiations with the leading members of the Liberal party, and it was announced yesterday that Lord PALMERSTON has succeeded in forming an Administration which will command the support of the majority of the House of Commons. The Cabinet will consist of Lord PALMERSTON as First Lord of the Treasury; Lord JOHN RUSSELL, Foreign Secretary; Mr. GLADSTONE, Chancellor of the Exchequer; Lord CAMPBELL, Lord Chancellor; Earl GRANVILLE, President of the Council; Sir G. C. LEWIS, Home Secretary; the Duke of SOMERSET, First Lord of the Admiralty; Duke of NEWCASTLE, Colonial Secretary; Sir C. WOOD, Secretary for India; Mr. SIDNEY HERBERT, Secretary for War; Duke of ARGYLL, Lord Privy Seal; Earl of ELGIN, Postmaster-General; Sir G. GREY, Chancellor of the Duchy of Lancaster; Mr. COBDEN, President of the Board of Trade; Mr. MILNER GIBSON, President of the Poor-Law Board; and Mr. CARDWELL, First Commissioner of Works. The other appointments include Sir ALEXANDER COCKBURN as Lord Chief Justice of England; Mr. LOWE as Vice-President of the Council; Lord CLARENCE PAGET, Secretary to the Admiralty; and Mr. C. FORTESCUE, Lord WODEHOUSE, and Mr. MASSEY, Under-Secretaries to the Colonial, Foreign, and Home Offices respectively.

The *Moniteur* has published an official account of the battle of Magenta, from which it appears that the concentration of French troops on the Po deceived the Austrians into the belief that they intended to cross that river. The battle was fought with desperate valour on both sides, and the village of Magenta was taken and retaken no less than seven times. The brunt of the battle was for some time sustained against an overwhelming force by the French Zouaves and the grenadiers of the Imperial Guard, commanded by the EMPEROR in person. The large number of prisoners taken by the French is explained by the fact that the Hungarian regiments laid down their arms during the battle. Since the entry of the French into Milan the Austrians have evacuated Piacenza, Lodi, Laveno, Ancona, and Bologna, abandoning at the former place all their provisions, cannon, and ammunition, and blowing up the citadel. On the departure of the Austrians the Papal Legate immediately quitted Bologna, leaving the Government of the city to the municipal authorities. A commission was thereupon appointed by which the KING OF SARDINIA was proclaimed Dictator. The cities of Forli, Faenza, Imola, and other municipalities of Romagna, as well as the city of Parma which was abandoned last week by the DUCHESS, have since proclaimed VICTOR EMMANUEL, and declared their adhesion to the national cause. In the north Bergamo has been taken by GARIBALDI, who is now threatening the Southern Tyrol. The EMPEROR of the FRENCH has crossed the Adda, and advanced his head-quarters to Gorgonzola; and the EMPEROR OF AUSTRIA is about to assume the command-in-chief of his army, with Count SCHLICK as second in command, in the room of Count GYULAI. The latest news states that the French are about to attempt a landing in the Adriatic between Venice and Trieste, and that both the allied and Austrian armies are preparing for another general engagement, which it is feared will be more sanguinary than even the battle of Magenta.

## Home News.

THE COURT.—The Queen, Prince Consort, and the Royal family left town on Tuesday for Windsor Castle, where they still remain. On Friday the Queen held a Court, at which Prince Carini had an audience and presented a letter from the King of Naples notifying his accession. The Prince also delivered a second letter with his credentials as Minister from his Majesty. The Judge Advocate General had an audience, and submitted to her Majesty the proceedings of some courts martial. The Prince Consort visited the British Institution, and afterwards rode on horseback. In the evening his Royal Highness went to the Royal Institution, and the Queen, accompanied by the Princess Alice, honoured the performance at the Olympic Theatre with her presence. On Saturday morning the Earl of Derby had an audience of the Queen. In the afternoon her Majesty held a Drawing Room at St. James's Palace, at which 200 ladies had the honour of being presented. After the Drawing Room the Queen received an address from the Corporation of the City of London, to which her Majesty returned a gracious answer. The Queen afterwards held a Council, at which an order was issued continuing certain of the naval bounties. On the return of the Court to Buckingham Palace Earl Granville had an audience of her Majesty. On Sunday morning the Queen and Prince Consort, the Princesses Alice, Helena, and Louisa, attended Divine service in the private chapel of Buckingham Palace; the Dean of Windsor officiated. Earl Granville had an audience of the Queen. In the evening Lord Palmerston had an audience of her Majesty. On Monday the Prince Consort rode on horseback. The Princess Beatrice took a carriage drive. In the afternoon Lord Palmerston had an audience of the Queen. The Earl of Clarendon also had an audience. In the evening her Majesty had a dinner party. On Tuesday the Right Hon. Colonel Forester, Comptroller of the Household, had an audience, and presented to her Majesty the Address from the House of Commons, in answer to the Speech from the Throne. Lord Palmerston had an audience of her Majesty. In the afternoon the Queen and Prince Consort, accompanied by the Princes Arthur and Leopold, and the Princesses Alice, Helena, Louisa, and Beatrice, left Buckingham Palace for Windsor. Shortly after arriving at the castle, the Queen, accompanied by Princess Helena, visited the Duchess of Kent at Frogmore. The Maharajah Duleep Singh, the Duchess of Manchester, the Duke of Beaufort, the Duke and Duchess of Buccleuch, the Duchess of Sutherland, the Marquis of Exeter, the Marquis of Abercorn, and Earl de la Warr arrived at the castle on a visit. On Wednesday morning the Queen and Prince Consort walked and drove in the Home Park, accompanied by Prince Leopold and the Maharajah Duleep Singh, and visited the Duchess of Kent at Frogmore. Princess Helena and Princess Louisa rode on horseback. The Duchess of Cambridge and Princess Mary, and the Duke of Cambridge, the Prince and Princess de Chimay, the Countess de Caraman Chimay, the Duke of Manchester, the Earl and Countess of Lichfield, the Earl and Countess of Elgin, and Lord John Lennox arrived on a visit. In the evening her Majesty had a dinner party. On Thursday the Queen and Prince Consort, accompanied by the Princess Alice, Helena and Louisa, the visitors at the castle, and the principal officers of the household, went to Ascot races. The Royal party occupied 10 open carriages and four. On her return from the races her Majesty visited the Duchess of Kent at Frogmore. In the evening the Queen gave a dinner in St. George's Hall to a party of 70, and afterwards had an evening party.

THE PRINCE OF WALES landed at Tangier on the 28th ult., and was received with great distinction by the authorities. His Royal Highness left Tangier on the 30th, and arrived the same afternoon at Cadiz, where he was received with similar honours. On the 31st his Royal Highness left for Seville, and returned to Cadiz on the 2d inst., calling at San Lucar on his return, to visit the Duke and Duchess of Montpensier. On leaving Cadiz the Prince proceeded to Lisbon, where he arrived on the 5th inst. on a visit to the King of Portugal. He was expected to remain in Portugal a fortnight, and to visit Cintra and the celebrated lines of Torres Vedras during his stay. On his return to England in about a fortnight, his Royal Highness, after spending a short time with his Royal parents at Buckingham Palace, will proceed to Edinburgh, and reside at Holyrood Palace for some weeks for the purpose of pursuing a course of study preparatory to going to Oxford in October, in which city his Royal Highness will attend lectures, and take advantage of the facilities for completing his education afforded by the University. It is not improbable that his Royal Highness will pursue a similar course at a later period at the University of Cambridge.

THE LEVÉE.—Notice has been given that the levée announced for the 20th inst. is postponed until the following Friday, the 24th inst.

THE CABINET.—A Cabinet Council was held on Saturday morning at the official residence of the Chancellor of the Exchequer in Downing Street. It is stated that her Majesty, as a mark of special favour, will confer upon Lord Derby the Order of the Garter, and, as there is no Garter vacant, will summon an Extraordinary Chapter of the Order for that purpose. The Gazette of last night announced that her Majesty has ordered a special statute conferring the Grand Cross of the Bath upon Lord Malmesbury and Sir John Pakington.

THE NEW MINISTRY.—The *Times* of yesterday gives the following list of the new Ministry, and states that as it has not yet been approved by her Majesty, no changes may still be made:—

THE CABINET.

*First Lord of the Treasury.*—Viscount Palmerston, K.G.
*Chancellor of the Exchequer.*—Mr. W. E. Gladstone.
*Secretary for Foreign Affairs*—Lord John Russell.
" " *Home Department.*—Sir G. Cornewall Lewis.
" " *Colonial Department.*—The Duke of Newcastle.
" " *War.*—Mr. Sidney Herbert.
" " *India.*—Sir C. Wood, G.C.B.
*First Lord of the Admiralty.*—The Duke of Somerset.
*Lord Chancellor.*—Lord Campbell.
*President of the Council.*—The Earl Granville, K.G.
*Privy Seal.*—The Duke of Argyll, K.T.
*Postmaster-General.*—The Earl of Elgin, K.T.
*President of the Board of Trade.*—Mr. Cobden.
" " *Poor Law Board.*—Mr. Milner Gibson.
*First Commissioner of Works.*—Mr. Cardwell.
*Chancellor of the Duchy of Lancaster.*—Sir G. Grey.

*Joint Secretaries to the Treasury.*—Mr. F. Peel; Mr. [illegible]
*Secretary to the Admiralty.*—Lord Clarence Paget.
*Under-Secretary for Foreign Affairs.*—Lord Wodehouse.
" " *the Colonies.*—Mr. Chichester Fortescue.

It is understood that Sir Alexander Cockburn, Chief Justice of the Common Pleas, will succeed Lord Campbell as Lord Chief Justice of England, that B. Hall will be raised to the Peerage, and that Wilson and Mr. Vernon Smith will be appointed Members of the Council of India.

PARLIAMENTARY MOVEMENTS.—The accession of new Ministers to office will render several re-elections necessary. An opposition is threatened to Mr. Gladstone's re-election for the University of Oxford. The names of Mr. Roundell Palmer, Mr. Sotheron Estcourt, Sir John Pakington, and Mr. Henley have been mentioned as those of possible candidates.

CONSECRATION OF BISHOPS.—The consecration of Archdeacon Campbell as Bishop of Bangor, Dr. Tyrrell as Bishop of Brisbane, and Dr. Claughton as Bishop of St. Helena took place on Tuesday in Westminster Abbey. The Archbishop of Canterbury officiated, and was assisted by the Bishops of London, Winchester, Salisbury, Llandaff, Argyle and the Isles, Columba, and Cape Town. The consecration sermon was preached by the Rev. Thomas Legh Claughton, M.A., honorary canon of Worcester, vicar of Kidderminster, and Professor of Poetry at Oxford.

VOLUNTEER RIFLE CORPS.—Since our last [illegible] meetings have been held in various parts of the kingdom for the establishment of rifle clubs or corps. With one or two exceptions these meetings have been marked by the utmost unanimity, and influential committees have been appointed to carry the resolutions into effect. Among the more important places at which meetings have been held may be mentioned St. George's Hall, Langham Square, Halifax, Lymington, Woodbridge, Newport, Bath, Brechin, Brecon, Plymouth, Devonport, Exeter, Falmouth, Torquay, St. Mary Church, Ilfracombe, Harwich, Hereford, Lichfield, Manchester, Margate, Birmingham, Bradford, Leeds, Newport, Pontypool, Stamford, Tenterden, Newark, Tenby, Sheffield, Winchester, Wolverhampton, Chelmsford, Derby, Edinburgh, Newport, Monmouth, Gateshead-on-Tyne, Great Yarmouth, Norwich, Northampton, Romford, Ipswich, Bury St. Edmunds, Tynemouth, Wisbeach, Wolverhampton, and York. The lord-lieutenants of the metropolitan county have had a meeting at the Guildhall, Westminster, the Marquis of Salisbury, K.G., the lord-lieutenant, in the chair, and have resolved to form themselves into committees for the several divisions in which they reside in the county, and organise the formation of a rifle corps in each locality.

SEAMEN'S BOUNTIES.—An order in Council has been issued in reference to the proclamation offering a bounty of 10*l.* to able seamen, 5*l.* to ordinary seamen, and 2*l.* to landsmen, directing that from the 15th inst. the offer be limited to able and ordinary seamen, and extending the period during which it will be payable until the 31st July.

## Foreign.

FRANCE.—The following Proclamation has been issued by the Emperor of the French respecting the war in Italy. It was addressed to the Italians on his entry into Milan, but it possesses European interest as a definition of the Imperial policy in the present war:—

"The fortune of war having conducted me this day to the capital of Lombardy, I come forward to tell you why I am here. When Austria unjustly attacked Piedmont I resolved to support my ally the King of Sardinia. The honour and the interests of France made that my duty. Your enemies, who are also mine, have endeavoured to diminish the noble sympathy that existed in Europe for your cause, by representing that I was only making war from personal ambition, or to extend the territory of France. There are some men who cannot understand that one can make war if he am not of that number. In the enlightened state of public opinion a man is greater at the present day by the moral influence which he exercises than by battles; by the moral influence I seek with pride my conquests; and this moral influence I seek with pride by contributing to render free one of the most beautiful nations of Europe. Your welcome has already proved to me that you have understood me. I do not come here with a meditated scheme for deposing Sovereigns, nor for imposing upon you my will. My army will only occupy [illegible] two things: to fight your enemies, and to maintain [illegible] order. It will not place any obstacle to the free manifestation of your legitimate wishes. Providence [illegible] favours nations, as individuals, by giving them [illegible]

tunity of growing suddenly great, but it is upon the condition that they know how to profit by it. Profit, then, by the fortune which is offered to you. Your desire for independence, so long expressed, so often frustrated, will be realised if you will show yourselves worthy of it. Unite yourselves, then, in one purpose—the deliverance of your country. Organise yourselves militarily; enrol all under the banner of King Victor Emmanuel, who has already so nobly shown you the road to honour. Remember that without discipline there can be no army; and, animated by the sacred fire of patriotism, only be to-day soldiers, to-morrow you will be the free citizens of a great country. Done at the Imperial Head Quarters at Milan, 8th June, 1859. "NAPOLEON."

**On the same day the Emperor issued the following proclamation to the army:—**

"Soldiers,—A month ago, confident in efforts of diplomacy, I still hoped for the maintenance of peace, when suddenly the invasion of Piedmont by the Austrian troops called us to arms. We were not ready. Men, horses, *matériel*, and supplies were wanting, and we had, in order to assist our allies, to pass in small divisions beyond the Alps before an enemy formidable and prepared beforehand. The danger was great; the energy of the nation and your courage supplied all; France has again found her old virtues, and united in one feeling and for one object it has shown the power of her resources and the strength of her patriotism. It is now only 10 days since operations commenced, and the Piedmontese territory has been already cleared of its invaders. The allied army has fought four combats and gained a decisive victory, which has carried it to the gates of the capital of Lombardy. You have put more than 75,000 Austrians *hors de combat*, taken 17 cannon, two colours, and 8000 prisoners; but all is not terminated, you will have more struggles to support and obstacles to overcome. I rely on you: courage, then, brave soldiers of the Army of Italy. Your forefathers from above contemplate you with pride.—Given at head-quarters, Milan, 8th June."

The *Moniteur* says that the Emperor, wishing to re-establish old and glorious traditions, has decided that any regiment which shall take a colour from the enemy shall bear the cross of the Legion of Honour attached below its eagle. Lieut.-Colonel Schmitz has arrived in Paris on a mission, charged by the Emperor to deliver to the Empress the flag of the 9th Regiment of Austrian infantry, which was taken at the battle of Magenta. The body of General Espinasse has been brought to Marseilles by sea, and has since been honoured by a public funeral. When the coffin containing the body was carried on board the steam-frigate which conveyed it to France, the deck was crowded with Austrian prisoners. On a sign from their officers, they all fell into line, and by their attitude, in the absence of arms, paid military honours to the remains of their brave adversary.

SPAIN.—The *Madrid Gazette* of Sunday publishes a document, by which the Infante Don Sebastian, brother of Don Carlos, solemnly recognises the Queen.

BELGIUM.—The Duchess of Brabant was safely delivered of a Prince on Sunday afternoon at the Castle of Laeken. The royal infant has received the names of Leopold-Ferdinand-Elie-Victor-Albert-Marie. The Council of Ministers has since presented an address to the King praying his Majesty, in the name of the people, that the young Prince might bear a name that should be a personification near the throne of the Walloon and Flemish people, who were united to the Belgian monarchy in 1830, and suggesting that the royal infant should bear the title of Count of Hainault. His Majesty has complied with this request, and a Royal Ordinance to that effect has been published.

SWITZERLAND.—The Federal Council has disbanded the troops in the Canton Valais, and reduced the number of troops in the Canton Tessin to 3000, on account of the seat of war having become removed from that frontier to Switzerland. On the frontiers of the Grisons, near Nanders, Austrian troops have arrived and begun making intrenchments.

RUSSIA.—Prince Gortschakoff, the Minister for Foreign Affairs, has addressed a circular to the representatives of Russia at foreign courts in reference to the war, from which the following is an extract:—

"Our desire, like that of the majority of the great Powers, is now to localise the war, because it arose out of local circumstances, and because it is the only means of accelerating the return of peace. The line followed by some States of the German Confederation tends, on the contrary, to generalise the struggle by giving it a character and proportions which go beyond all human prevision, and which, under any circumstances, would lead to increased devastation, and would cause torrents of blood to be shed. We can the less understand this tendency, as, independently of the guarantees offered to Germany by the positive declarations of the French Government, accepted by the great Powers, and the very force of circumstances, the German States thereby deviate from the fundamental basis which unites them. The German Confederation is a combination purely and exclusively defensive. It is on that condition (*à ce titre*) that she participated in the international law of Europe, on the bases of treaties to which Russia's signature is affixed. Now, no hostile act has been committed by France against the Confederation, and there does not exist any obligatory treaty for the latter to attack that Power. Should, consequently, the Confederation take hostile measures towards France on conjectural data, and against which it has obtained more than one guarantee, it would have falsified the object of its institution, and disowned the spirit of treaties upon which its existence rests. We confidently entertain the hope that the wisdom of the Federal Governments will set aside determinations which would turn to their prejudice, and would not contribute to strengthen their own position. If, which God forbid, it should happen otherwise, we shall at all events have fulfilled a duty of frank and sincere friendship. Whatever may be the issue of the present complications, the Emperor, our august master perfectly free in his action, will only be inspired by the interests of his country and the dignity of his Crown in the determinations which his Majesty will be called upon to take."

PRUSSIA.—An order has been issued for mobilising the whole Prussian army; and though it is asserted in official circles that this measure is not of an aggressive character, it is reported at Berlin that Prussia will take part in the existing conflict if the French army cross the Mincio. Prussian Commissioners were at Dresden on Thursday negotiating for the transport by railway of considerable bodies of Prussian troops. A satisfactory result was arrived at, and the Commissioners then started for Munich with a similar object. The official *Gazette* in announcing the issue of this order, says:

"The greater dimensions the events at the seat of war assume the more serious becomes the duty of Government to place itself in such a position as may enable Prussia, in the regulation of the Italian question, to proceed in concert with her confederate German Powers, with that weight which Prussia is called upon to use, and which corresponds to the position of Germany as a Power in Europe. Looking from this point of view, and regarding the continually increasing armaments even of neutral Powers, Government has found it imperative partly to mobilise the army, and will take further steps in connection therewith, in order that coming events may not take Prussia and Germany by surprise and unprepared. The character of measures of precaution is so fully impressed on all these steps that it is needless to make any new declaration respecting them. The country will grant them its concurrence, and the German federal Powers will also as we hope see in this new measure, taken in the interest of the security and the position of Germany as a Power, their confidence in the circumspect initiative of Prussia realised."

AUSTRIA.—An Imperial decree has been issued ordering the payment of interest on the national loan during the continuance of the war, to be made in banknotes, with a premium of 25 per cent., or in Government bonds to be redeemed with compound interest after five years from the date of their issue.

ITALY.—The *Moniteur* of Friday publishes the following account of the battle of Magenta:—

"Head-quarters, San Martino, June 5.

"The French army assembled round Alessandria had great difficulties to overcome. If it marched on Piacenza it would have had to besiege that fortress and force a passage of the Po, there 900 metres in width, and that difficult operation would have had to be effected in presence of a hostile army of 200,000 men. If the Emperor crossed the river at Valenza he would have found the enemy concentrated on the left bank at Mortara, and he could only have attacked him by separate columns manœuvring in the midst of a country intersected by canals and rice-fields. On both sides, therefore, there was an almost insurmountable obstacle; the Emperor resolved to obviate it, and he deceived the Austrians by concentrating his forces on the right, by occupying Casteggio and even Bobbio on the Trebbia. On the 31st May the army received the order to march to the left, and crossed the Po at Casale, the bridge of which had remained in our possession; it at once took the road to Vercelli, where the passage of the Sesia was carried out to protect and cover our rapid march on Novara. The efforts of the army were directed on the right, on Robbio, and two combats, glorious for the Sardinian troops, fought on that side made the enemy believe we were marching on Mortara. Meantime, the French army was advancing on Novara, and it took position on the very same ground where 10 years previously King Charles Albert gave battle. Here it was able to meet the enemy if necessary. Thus this bold march had been protected by 100,000 men encamped on our right flank at Olengo in front of Novara. Under these circumstances it was then to the reserve that the Emperor had to intrust the execution of the movement taking place behind the line of battle. On the 2d June a division of the Imperial Guard was advanced towards Turbigo, on the Ticino, and not finding any resistance it threw three bridges across. The Emperor having received confirmatory intelligence that the enemy had withdrawn to the left bank of the river, ordered the Ticino to be crossed at this point by the *corps d'armée* of General M'Mahon, followed on the morrow by a division of the Sardinian army. Our troops had scarcely taken position on the Lombard bank when they were attacked by an Austrian corps from Milan, brought up by the railway. They drove it back victoriously in presence of the Emperor. On the same day (June 2) Espinasse's division having advanced on the road from Novara to Milan as far as Trecate, from which place it threatened the bridge at Buffalora, the enemy hastily evacuated the intrenchments it had thrown up at this point, and retired to the left bank, attempting to blow up the stone bridge across the river. The attempt was not successful, the two arches attempted were not sufficiently damaged to prevent the passage. The 4th June had been fixed by the Emperor for the definitive occupation of the left bank of the Ticino. General M'Mahon's *corps d'armée*, strengthened by the division of the Voltigeurs of the Imperial Guard, and followed by the whole army of the King of Sardinia, was to advance from Turbigo on Buffalora and Magenta, while the division of the Grenadiers of the Imperial Guard was to carry the *tête-de-pont* of Buffalora on the left bank, and Marshal Canrobert's *corps d'armée* was to advance along the right bank to cross at the same point. The execution of this plan was frustrated by one of those incidents which must always be expected in warfare. The army of the King was delayed in crossing the river, and only one of his divisions was able to follow the corps of General M'Mahon at a distance. The advance of Espinasse's division was also delayed, and, on the other hand, when Marshal Canrobert's corps left Novara to join the Emperor, who had proceeded in person to the bridge at Buffalora, it found the road so encumbered that it only arrived very late on the banks of the Ticino. So matters stood, and the Emperor awaited, not without anxiety, the signal of the arrival of General M'Mahon's corps at Buffalora, when about 2 o'clock he heard a heavy fusillade and cannonade in that quarter. The General was coming up. This was the moment to support him, by advancing on Magenta. The Emperor at once threw Wimpffen's brigade against the formidable positions occupied by the Austrians in front of the bridge. Cler's brigade followed up the movement. The heights which border the canal and village of Buffalora were soon carried by the impetuosity of our troops, but they then found themselves opposed to formidable bodies, whom they could not drive back, and who stopped their advance. Marshal Canrobert's column had not yet come up, and, on the other hand, the cannonade and fusillade which had announced the arrival of General M'Mahon had completely ceased. Had the General's column been repulsed, and would the division of the Grenadiers of the Guard have to sustain alone the whole strength of the enemy? This is the proper place to explain the manœuvre of the Austrians. When they learnt on the night of the 2d of June that the French army had made itself master of the passage of the Ticino at Turbigo, they rapidly recrossed the river at Vigevano with three of their *corps d'armée*, who burnt the bridges behind them. On the morning of the 4th they were opposite the Emperor 125,000 strong, and it was against such a disproportionate force that the division of the Grenadiers of the Guards, with whom was the Emperor, had to compete. At this critical moment General Regnault de Saint Jean d'Angely displayed immense energy, as did also the Generals under his orders. General of Division Mellinet had two horses shot under him, General Cler fell mortally wounded, General Wimpffen was wounded in the head. Commandants Desmé and Maudhuy, of the Grenadiers of the Guard, were killed, the Zouaves lost 200 men, and the Grenadiers suffered a loss not less considerable. Finally, after [illegible] expectation of four hours, during which Mellinet's Division sustained without flinching the attacks of the enemy, Picard's brigade, led by Marshal Canrobert, arrived on the field of battle. Shortly afterwards Vinoy's Division joined, of General Niel's corps, which the Emperor had sent for, and finally Renault's and Trochu's Divisions of Canrobert's corps. At the same time General M'Mahon's cannon became again audible in the distance. The General's corps, retarded in its advance, and less numerous than it should have been, had advanced in two columns on Magenta and Buffalora. The enemy having attempted to cut in between those two columns, General M'Mahon ordered his right column to turn back on his left towards Magenta, and this explains the cessation in the firing at the commencement of the action on the Buffalora side. In fact, the Austrians, finding themselves hard pressed on their centre and left had evacuated the village of Buffalora and had brought the greater portion of their forces to bear against General M'Mahon before Magenta. The 4th of the Line boldly attacked the farm of Casa-la-Nova on the outskirts of the village, and which was defended by two Hungarian regiments. Fifteen hundred men of the enemy laid down their arms, and the colours were taken away from the Colonel's body. However, Motterouge's Division found itself hard pressed by considerable forces, which threatened to separate it from Espinasse's Division. General M'Mahon had placed in second line the 13 battalions of the Voltigeurs of the Guard under the command of the brave General Camou, who, advancing to the front, sustained the shock of the enemy, and gave time to Motterouge's and Espinasse's Divisions vigorously to resume the offensive. At this moment of general attack General Auger, commanding the artillery of the Second Corps, opened fire with 40 guns on the railway embankment, which taking the Austrians in flank and crossways made fearful havoc. At Magenta the combat was terrible. The enemy defended the village most obstinately. Both sides felt that it was the key of the position. Our troops took it house by house, cannon [illegible] loss to the Austrians. More than 10,000 men were put *hors de combat*, and General M'Mahon took about [illegible] prisoners, including one whole regiment, the 1st Chasseurs à pied, commanded by Colonel Reuser. But the General's corps suffered considerably, 1500 men were either killed or wounded. In the attack on the village General Espinasse and his *officier d'ordonnance*, Lieutenant Prodefond, were both killed. While leading on their men Colonel Dumont, of the 65th of the Line, and Colonel Chabrière, of the 2d, fell mortally wounded. On the other side Vinoy's and Renault's Divisions were doing prodigies of valour, under the orders of Marshal Canrobert and General Niel. Vinoy's Division, which had left Novara in the morning, had scarcely reached Trecate, where it purposed to bivouac, when it was sent for by the Emperor. It advanced at quick step as far as the bridge of Magenta, driving the enemy from the positions they occupied, taking about 1000 prisoners, but engaged with superior forces, it suffered heavy loss—11 officers were killed and 30 wounded, [illegible] non-commissioned officers and men were placed *hors de combat*. The 50th of the Line suffered most. Colonel Delort fell at the head of his men, and all the officers were wounded. General Martimprey received a bullet wound while leading on his brigade. Marshal Canrobert's troops also suffered considerably. Colonel de Senneville, the Chief of his Staff, was killed at his side; Colonel Charlier of the 50th fell mortally wounded by five bullets, and many officers of Renault's division were placed *hors de combat*, while the village and bridge of Magenta were taken and retaken seven times. Finally about half past 8 at night the French army remained masters of the field of battle, and the enemy withdrew, leaving in our hands four guns, one of which was taken by the Grenadiers of the Guards, two flags, and 700 prisoners. The number of Austrians placed *hors de combat* may be estimated at 20,000. 12,000 muskets and 30,000 haversacks were found on the battle-field. The Austrian corps which fought against us are those of Clam-Gallas, Zobel, Schwartzenberg, and Lichtenstein. Field-Marshal Gyulai commanded in person. Three days after their departure from Alessandria the allied army had given three combats, gained a battle, forced the passage of the Austrians, and opened the gates of Milan. Since the combat of Montebello the Austrian army has lost 25,000 men in killed and wounded, 10,000 prisoners, and 17 guns."

The Austrians are gradually retreating within the celebrated military triangle formed by Peschiera, Mantua, Legnano, and Verona. On Friday they evacuated Piacenza, after having blown up the citadel and other fortifications. They abandoned to the allies a great quantity of provisions, cannon, and ammunition. The allied troops afterwards entered the town, invited by the municipality. The Austrians also evacuated Lodi, and after having crossed the Adda destroyed the bridges. They also evacuated Pizzighettone after having burned the bridge and thrown their guns and ammunition into the water. On Saturday night they evacuated Bologna, taking the direction of Modena. After their departure a popular demonstration took place, expressing the sense of the public in favour of the national cause. The Cardinal Legate at once took his departure, leaving to the municipality the government of the town. The municipality thereupon appointed a commission, which immediately proclaimed Victor Emmanuel Dictator. The Austrians have also left Ancona and marched towards the lower Po, to join the troops in the provinces of Venice. Forli, Faenza, Imola, and the other municipalities of Romagna have since pronounced in favour of the national cause, and proclaimed Victor Emmanuel King. The Austrians have also withdrawn from the river Oglio, taking the direction of the Venetian provinces. On the 12th the Emperor of the French removed his head-quarters to Gorgonzola; and in the afternoon personally superintended the throwing of two bridges of boats across the Adda. The operation, which presented serious difficulties, was however perfectly effected, and as soon as the bridges were completed the army began its onward movement. The Emperor of Austria will forthwith assume the immediate command-in-chief of his army, which has been ordered to take up a new position. General Count Schlick has taken the command of the Second Army instead of General Gyulai. From the lake district we learn that the Government of the King of Sardinia is already in operation at Como and Sondrio. Garibaldi has taken Bergamo, and is threatening the Southern Tyrol, from Val Canonica, Val Trompia, and Bagolino. The Austrian force at Laveno has abandoned that place after spiking their guns, and taken refuge in the Swiss territory. The Duchess of Parma quitted her dominions on Thursday week at noon, after having released her troops from their oaths. She left the Government to the Municipality, who proclaimed the Government of King Victor Emmanuel. On Sunday night the Austrians evacuated Reggio and Brescello, and were also making preparations to evacuate the other parts of Modena. A deputation from Modena has arrived in Turin. The Duke of Modena arrived at Mantua on Tuesday, and was received by the Archduke William.

GREECE.—The Greek Chambers have passed a Bill introduced by the Minister of Finance, establishing free trade in corn. A popular manifestation has taken place at Athens in celebration of the victories in Italy. The French Ambassador, in addressing the crowd assembled before his hotel, said that he would not fail to communicate to the Emperor the sympathies of Greece. The steam communication between Trieste and Constantinople is now carried on by Greek steamers.

THE ADRIATIC.—It is reported that the French fleet in the Adriatic received powerful reinforcements on Saturday, and it is expected that a landing of troops will soon be attempted on the coast between Venice and Trieste.

UNITED STATES.—Accounts from New York to the 4th inst. state that the State Department at Washington had received voluminous despatches from Mr. M'Lane, the American Minister to Mexico, setting forth in an official form the condition of affairs in that country. He explains his misunderstanding with Miramon. It appears that he simply followed the precedent set by the British Government in making demands of one Government while recognising the other, but Miramon declined to receive Mr. M'Lane's communication. The latter complains bitterly to the United States' Government. Miramon, after forbidding any communication between the city of Mexico and Vera Cruz, sold to a party the exclusive privilege of transporting goods between the two places, in consideration of the payment of an *ad valorem* tax to the Government of 26 per cent. on all goods. The latest despatches forwarded to Mr. M'Lane had not reached him. It was believed that they would result in the speedy conclusion of a treaty with the Juarez Government, as special instructions relative to the transit question were included. The Navy Department had also received despatches from Captain Faragut, commanding the United States' steamer Brooklyn. He announced his intention, according to the desire of Mr. M'Lane, to send a naval force immediately to Tampico, in anticipation of an attack on that place by the Miramon party, the object being the protection of the United States' Consulate and other American interests there. The law officer of the general Government, by direction of the President, has just given an important opinion upon the recent conflict of authority which has arisen between the federal executive, judicial, and military officers stationed in Utah territory. It appears that the course of Governor Cumming is sustained. Mr. Cobden was to embark at Quebec for England on the 18th inst. Madame Piccolomini has arrived by this packet.

# Parliament.

## HOUSE OF LORDS.

FRIDAY. — *Ministerial Statement.*—The House having reassembled after the Whitsun recess, the Earl of DERBY announced that after the vote of Saturday morning, he and his colleagues had resigned their offices, and only held them until their successors were appointed. He vindicated the foreign policy of his Government, and in conclusion expressed his regret that the details of all that had passed between Lord Granville and her Majesty had been allowed to transpire in the *Times* newspaper.—Earl GRANVILLE said that he had only stated the conversation to a few political and private friends, and now regretted that he had not maintained a complete reserve on the subject. The House then adjourned to Tuesday.

## HOUSE OF COMMONS.

FRIDAY.—The *Adjourned Debate on the Address* having been resumed by Mr. GIBSON, in favour of the amendment, Mr. LINDSAY spoke in opposition to the amendment, on the ground that a substantial measure of Reform was more likely to pass by the instrumentality of the party now in power than by that of Lord John Russell.—Mr. SIDNEY HERBERT supported the amendment. He was not disposed to continue his confidence in the Government, because he did not consider that their antecedents, either with regard to their foreign or domestic policy, were such as to justify it. He referred to the long and steady support which the Liberal party had given to the cause of progress, and said he wished to see a Government composed of stronger materials than that which now held the reins of office. Such a Government he believed might be formed by mutual concessions and forbearance, and when formed, he hoped it would not forget that there was a people who were struggling for freedom.—Mr. BENTINCK opposed the amendment, and ridiculed the idea that the new coalition Ministry could secure the confience of Parliament or the country.—Mr. DANBY SEYMOUR supported the amendment, and stigmatised the Government with having sympathised with despotism all over the world, while every triumph they had achieved at home had been obtained by an abandonment of principle.—Captain VERNON complained that the amendment was nothing more than a desperate determination on the part of hon. gentlemen, who had long been cooling their heels on the chilly benches of the Opposition, to warm their backs at the Treasury fire. There were no sympathies in common between them, for the ballot which was odious to Lord Palmerston was a sweet smelling savour to the nostrils of Mr. Bright.—Mr. LEATHAM supported the amendment on the ground that the Administration had failed as practical statesmen.—Sir C. LEWIS said that the Government having dissolved Parliament on the Reform Bill, had thrown down the present challenge, and the Opposition would have been guilty of political cowardice if they had not accepted it. The amendment therefore was demanded by circumstances. He then reviewed the financial policy of the Chancellor of the Exchequer, and declared that all his anticipations had been falsified by the events, and that the Administration of which he was a member was not entitled to the confidence of Parliament.—Sir J. PAKINGTON denied that any case had been made out against the Government sufficient to warrant so extreme a penalty as a vote of censure. He defended the measures of the Government, and said that the Reform Bill had not been defeated on its merits. In fact the second reading would have been carried had not the Opposition changed their tactics and adopted a party move. No country had so much reason to be proud of its foreign policy as England since that policy had been directed by the Earl of Malmesbury, and yet the House was called upon to condemn the Government without having heard the evidence. With regard to the defences of the country, he claimed credit for having rescued before. When he took office there were only 25 sail of the line, and there were now 37 effective ships, and 17 more would be launched in the course of the present year, making 15 line-of-battle ships, or double the number they found 15 months ago. Instead of being censured for their domestic or foreign policy they ought to be thanked. With regard to the French alliance he was of opinion that it had conferred great blessings upon the two countries, and he trusted the day was far distant when there would be any interruption of it. If the Government were defeated that night they would at least have the satisfaction of knowing that they had discharged their duty to their Sovereign and their country.—Lord J. RUSSELL repudiated the allegation that those who supported the amendment were influenced by any factious motives, and contended that if Parliament thought the destinies of the country were not in proper hands, they would be guilty of a grave dereliction of duty if they refrained from interfering. He characterised the Reform Bill of the last session as a measure which would have gone far to repeal the Reform Bill of 1832. He rejoiced therefore that he had been the means of inducing the House to reject it. With respect to foreign affairs, the advice which had been given by Lord Malmesbury to the Portuguese Government, in the matter of the Charles-et-Georges, was most undignified for a British Minister to address to a friendly Power. He did not, however, mean to say that Lord Malmesbury was responsible for the war which had broken out between Austria and Sardinia, because he believed that no British Minister could have averted the calamity. Austria had attempted to destroy all liberty in Italy; and Sardinia, relying on the assistance of France, had exceeded her international duties by raising volunteer forces from among the subjects, or perhaps the conscripts, of Austria. As to the future policy of Great Britain in relation to neutrality he had no confidence that the present Government could maintain peace, for already under its Ministry the alliance with France had been weakened. He saw no reason whatever why a Reform Bill should not be passed this year, but to accomplish that object the present Administration must be replaced by a stronger and more Liberal Government. The noble lord concluded by describing the character of the Premier as a man whose levity of mind and instability of principle disentitled him to the confidence of the country.—Mr. ROEBUCK expressed his inability to vote for the amendment, on the ground that he had no assurance that the new Administration would prove better Reformers at home or abroad than the old.—The SOLICITOR-GENERAL entered into an elaborate defence of the Government, in the course of which he reviewed their policy, home and foreign, contending that they had done nothing to justify Parliament in withdrawing its confidence from them. At a quarter to 2 o'clock the SPEAKER put the motion, when the numbers were—For the amendment, 323; against it, 310; majority in favour of the amendment, 13. The result was hailed with loud cheers from the Opposition benches.—The CHANCELLOR of the EXCHEQUER then moved that the House should adjourn until 12 o'clock on Saturday, which was agreed to.—The committee to prepare the Address was then appointed, and the House adjourned at a quarter-past 2 o'clock.

SATURDAY.—The House met at noon when the Marquis of HARTINGTON brought up the report on the amended Address. On the motion of Lord J. RUSSELL, it was agreed that her Majesty's Speech be taken into consideration on Friday next.

FRIDAY.—*Ministerial Statement.*—The CHANCELLOR of the EXCHEQUER announced that Lord Derby and his colleagues had resigned, and only held their offices until their successors were appointed. He believed it would be for the convenience of the new Ministers if the House adjourned to Tuesday, and he therefore moved an adjournment to that day. The second reading of the *Newspapers Bill* was adjourned for a fortnight, and the *Assistant-Judge Middlesex Bill* was read a second time. The House then adjourned to Tuesday.

# City Intelligence.

MONEY MARKET, FRIDAY.—BRITISH FUNDS: Consols closed at 92⅝ to ¾ for the 8th July; Bank Stock, 221; Three per Cents. Reduced, 93¼ to ½; New Three per Cents., 93⅜ to ½; Indian Four per Cent. Debentures of last year, 94¾ to 95; Scrip of New Indian Loan, 93⅜ to ⅞; Exchequer Bills, 23*s.* to 27*s.* prem.—FOREIGN: Brazilian Five per Cents., 1829 and 1839, 100; Belgian Four and a Half per Cents., 93½; Dutch Two and a Half per Cents., 63¾; Equador New Consolidated Bonds, 15½; Mexican Three per Cents., for Acct., 18⅜ to 18½; New Granada Active Bonds, 17; Russian Four and a Half per Cents., 95½; Spanish Three per Cents., 42½ to 42¾; Ditto Passive Bonds, 8⅞; Turkish Six per Cents., 1854, for Acct., 76½ to 77; Ditto 1858 for Acct., 62¼ to 63; Ditto Guaranteed Four per Cents., 103⅛.

## Bank of England.

ISSUE DEPARTMENT.

| | | | |
|---|---|---|---|
| Notes Issued | £31,741,185 | Government Debt | £11,015,100 |
| | | Other Securities | 3,459,900 |
| | | Gold Coin and Bullion | 17,266,185 |
| | | Silver Bullion | |
| | £31,741,185 | | £31,741,185 |

BANKING DEPARTMENT

| | | | |
|---|---|---|---|
| Proprietors' Capital | £14,553,000 | Government Securities (including Dead Weight Annuity) | £11,281,376 |
| Rest | 3,168,603 | Other Securities | 18,712,469 |
| Public Deposits (including Exchequer, Savings Banks, Commissioners of Nat. Debt, and Dividend Accts.) | 8,577,343 | Notes | 11,216,970 |
| Other Deposits | 14,797,501 | Gold and Silver Coin | 684,856 |
| Seven day and other bills | 799,224 | | |
| | £41,895,671 | | £41,895,671 |

16th day of June, 1859. M. MARSHALL, Chief Cashier.

# Gazette of the Week.

TUESDAY—BANKRUPTS—J. BECKETT, Aylesbury, Buckinghamshire, Licensed Victualler—T. CONINGSBY, Bethnal Green Road, Cheesemonger—T. DAVIES, Newport, Monmouthshire, Woollen Draper—W. DROUET, Fleet Street, City, Hotel Keeper—D. W. JAMES, Llanwonno, Glamorganshire, Coal Merchant—E. MASON, Chester Terrace, Middlesex, Victualler—R. PARKER, Tooley Street, Surrey, Wheelwright—H. RIMINGTON, Cheapside, City, Wholesale Stationer—W. SHEWBROOKS, Taunton, Somersetshire, Builder—J. J. W. WATSON, Lydney, Gloucestershire, Coal Master.

BANKRUPTCY ANNULLED—M. WESTON, Jun., and F. WESTON, Todd Street, Manchester, Cheesefactors, Hop and Butter Merchants.

SCOTCH SEQUESTRATIONS — D. BROWN, Glasgow, Wright and Builder—D. M'NAB, Glasgow, House Factor—J. REIDFOORD, sen., Manroch, Banffshire, Farmer.

FRIDAY—BANKRUPTS—D. BAKER, Millbank Street, Corn Chandler—W. BELL, Crowle, Lincolnshire, Tailor and Draper—S. CARTER, Tien Stanton, Huntingdonshire, Seed Merchant—W. C. CHAPMAN and W. H. LITTLEPAGE, Harp Lane, City, Coopers—E. M. DURSTON, Bath, Grocer—J. FITZJOHN, March, Isle of Ely, Auctioneer—C. GARWOOD, Ledbury Road, Bayswater, Builder—J. GOODWIN, Ripley, Derbyshire, Grocer—J. HARRIS, Northampton, Grocer—J. SHARP, Grosvenor Street West, Apothecary—J. T. WILDING, Dovercourt, Essex, Builder.

SCOTCH SEQUESTRATIONS—J. M'GILL, Coylton, Ayrshire, Cattle Dealer—A. PARK, George Street, Edinburgh, Merchant.

# Metropolis and its Vicinity.

THE EARL OF DERBY ON THE MINISTERIAL CRISIS.—At a banquet at Merchant Taylors' Hall on Saturday Lord Derby in returning thanks for her Majesty's Ministers, announced their resignation of office, and spoke as follows on the circumstances which had led to it:—

"My colleagues and myself accepted office under circumstances of no ordinary difficulty, and in a time of no ordinary anxiety. We have laboured sedulously and diligently each in the discharge of his separate duties; we have endeavoured honestly and faithfully to perform our arduous duties to our Sovereign, who placed power in our hands, and to the country which has enabled us to carry on the public business. We have, I trust, not acted in any manner which could be injurious to the domestic happiness, to the tranquillity, to the welfare, or to the wealth of this great community. With respect to the foreign interests of the country, while I will venture to say for ourselves that we have diligently and successfully laboured in raising the power, moral as well as physical, of this great country, to apply it in case of need—I may state that if we have been unsuccessful in preventing other countries from entering into mad and causeless hostilities, which might have been obviated by reasonable concession, we have at least been successful in keeping this country out of that turmoil of war; we have hitherto preserved to her the blessings of peace; we have protected her from all entangling and embarrassing alliances—and we are enabled to hand over the government of this country to our successors, whoever they may be, in a position, I hope, prepared for war, and equally determined, so long as it is possible, to maintain peace—in a position in which they may, either for peace if it be possible to maintain it, or for war if we are driven into it, be enabled to make use—as I am sure every British Minister would do—of those means, both moral and physical, which we have been carefully engaged in collecting and strengthening. This is neither the fitting time nor opportunity for entering into any discussion of the causes which have compelled us to resign our offices. I do not in the slightest degree complain of the course which has been pursued by those who upon general grounds did not think we were entitled to their confidence and support. On the contrary, I think they have taken a manly and straighforward course in at once declaring that we did not enjoy their confidence. I regret it. I regret unfeignedly that the decision of the House of Commons, by a small majority, has been that we are not entitled to their confidence and support; but, that verdict having been given, I am not the man not to bow to it with respect and submission. And, while I am not conscious of having deserved that vote of want of confidence, I yet bow to a verdict which renders it impossible for me to satisfactorily conduct the business of the country; for I need not say that, not being possessed of the confidence of the House of Commons, no Minister, however much greater than mine may be his abilities, can conduct the affairs of the country with satisfaction to himself, to his Sovereign, or to the people. I have consequently been compelled this day to resign into the hands of my Sovereign the trust with which I have been honoured; and I can only say that, in resigning that trust, I most anxiously and earnestly hope, for the advantage of the country, that it may not be long before final arrangements may be made for the completion of another Administration. A period of uncertainty, a period when there is no Government, is at this moment fraught with extreme danger to the country. However I may differ in political opinions from those who may succeed me—though upon many subjects, and those of a most important character, I believe there is so much unanimity of opinion that men of all parties can cordially combine for the public welfare—I will say this for myself, and for that great Conservative party with which I have so long had the honour of being connected—that, acting in the truest spirit of Conservatism, their earnest and anxious services out of office will continue to be given to their Sovereign and to the country—that there will be no factious course taken which may be either embarrassing to the formation of the Government or to the subsequent proceedings of the political rivals; that so long as their successors shall walk in the light of the constitution, and as long as they shall show a due interest for the honour, the welfare, and the prosperity of the country, not from their own supporters will they receive a more cordial assistance than from those opponents whom they displaced, but whose sanction and support will ever be given to the maintenance of the welfare and prosperity of the country. I am certain that such are the opinions which will find favour with the true Conservatism of this country. This is no time to indulge in selfish feelings, or to enter into any political struggles for the possession of a short-lived power. It is a time when great interests are stake, when private interests must be merged into them, and I for one will never for a single moment consider my personal position except so far as that position may enable me to be of service to my Sovereign and to my country."

STATE OF THE THAMES.—At the last meeting of the Metropolitan Board of Works a report was read from Dr. Miller, of King's College, stating that the progressive rise of the temperature both in the atmosphere and in the river during the past week, accompanied by a diminished fall of rain, has been attended by a marked change for the worse in the state of the river, particularly at the up flow of the tide. Dr. Miller recommends the admixture of lime in regulated quantities in the sewerage districts before allowing them to become mixed with the water of the river as tending directly to diminish the effluvium. Other but more expensive deodorising agents might be had recourse to in case of urgency, but for the present he thought lime would answer the purpose. The report contained tables showing in detail the temperature of the river at various states of the tide. After some discussion the subject was referred to the consideration of the Main Drainage Committee, the chairman in the meantime being empowered to act in co-operation with Dr. Miller, and to order what may be necessary, in order to check the evil. On Thursday the measures recommended by Dr. Miller were put into operation in various parts of the metropolis. Sheds were erected in Farringdon Street, on the line of the Fleet sewer; in Trafalgar Square, adjoining the fountains; and in various parts of the east and west of London, under which machinery was used for the preparation of a deodorising liquid, which was poured into the several sewers.

LIGHTING PUBLIC GALLERIES WITH GAS.—In order to have an authoritative investigation into the whole question of lighting public galleries with gas, the Lord President of the Council has named a commission of inquiry, consisting of Professors Faraday, Hofmann, and Tyndall, with Mr. Redgrave, R.A., and Captain Fowke, R.E., who will commence their investigations forthwith.

VICTORIA BRIDGE, PIMLICO.—The foundation-stone

of this important work, the first railway bridge over the Thames within the metropolis, was laid a few days since by the eldest son of Mr. Fowler, the engineer. The works of the Victoria Station and Pimlico Railway, of which this bridge forms an important part, have been carried on with great energy since the Act of Parliament received the Royal assent last year, and it is confidently expected that the whole undertaking will be completed next summer, when the Brighton, East Kent, Great Western, and London and North-Western Railway Companies will be in a position to give their passengers access to a new west-end station. The bridge over the Thames will present some interesting peculiarities of construction by which great lightness of appearance will be combined with unusual strength and rigidity. The superstructure, which will consist of four arches, each of 175 feet span, will be formed entirely of wrought iron. The piers and abutments are founded on the London clay, at a sufficient depth to be safe against the possibility of any injury arising from the future deepening of the bed of the river, by scour or otherwise, which has been so destructive to Westminster and Blackfriars Bridges; they will be constructed of massive ashlar work, for which the greater part of the stone is wrought and on the ground ready to be placed in the work. The total cost of the bridge will be under 100,000*l.*, and it will be completed in less than two years from its commencement.

ROMAN CATHOLIC PRIESTS IN WORKHOUSES.—At the weekly meeting of the directors of the poor of St. Pancras, held on Tuesday at Camden Town, a discussion took place relative to the recent meeting in St. James's Hall, for the purpose of agitating for the appointment of Roman Catholic priests in workhouses, and Mr. Turner, churchwarden, gave the following notice of motion to be considered at a special meeting:—

"That in consequence of the meeting held in St. James's Hall, on the 8th of June, for the purpose of securing the appointment of Roman Catholic priests to workhouses on an equality with Protestant chaplains, a committee be appointed to watch the further progress of the agitation, and to devise such means as they deem fit to render any such attempt fruitless, and report the same to the board, and that the vestry be requested to co-operate with the directors for that purpose."

DEPARTURE OF M. KOSSUTH.—On Thursday morning M. Kossuth left London for Paris, having been provided with a passport "by superior order" at the French Embassy. He will remain in Paris a day or two and then proceed by way of Marseilles to Genoa, where the formation of a Hungarian legion has been commenced by General Klapka.

THE GREAT EASTERN.—The Great Ship Company have taken advantage of the Whitsun holidays to throw open their leviathan vessel to the public, in order that they may see the progress that has been made in her internal fittings. A large number of persons took advantage of the opportunity on Monday and Tuesday, some proceeding by the steam-boats and others by rail. The appearance of the ship on entering the deck affords evidence that busy hands have been at work in carrying out the innumerable details which were necessary to make the Great Eastern a perfect ship. The deck, which a short time since presented a rude succession of iron girders, is now completely planked from end to end. The skylights are also in their places, and give a look of finish where all was before incompleteness and confusion. Three masts and two funnels are in their places, and the completed bulwarks all round take away the sense of insecurity with which people used formerly to approach the sides of the ship. The lower decks have also been planked, and great progress has been made in partitioning them off into permanent compartments. The grand saloon is in a very forward state, and would be a noble apartment, more like a drawing-room in a mansion on shore than the cabin of a ship were it not for the two immense funnels which run up the centre, and inconveniently interrupt the sweep of the apartment. On each side elegant cabins are fitting up, and the same may be said of the other six saloons. One of the cabins has been finished, in order that the visitor may judge of what they are intended to be. This completed department is what is called a family cabin, containing bed-room, sitting-room, and dressing-room, all of them lofty and well ventilated, and possessing a much greater number of conveniences than could be found in a similar suite on shore. The other cabins are also in a forward state, and as an immense number of men are kept incessantly at work there is every prospect of the ship being ready for her trial trip on the 4th of August.

MURDER AND SUICIDE IN ST. PANCRAS.—On Wednesday morning a woman named Elizabeth Croft, wife of a working jeweller in Swinton Street, St. Pancras, in the absence of her husband on business, murdered her two children by cutting their throats, and afterwards committed suicide. The youngest child was only two months old, and since its birth the mother has been in a low and desponding state. An inquest was opened on Thursday and adjourned for medical evidence as to her state of mind.

THE FATAL FIRE IN LIME STREET.—The men employed in digging out the ruins of the late fire in Lime Street have found the charred remains of a human body. An inquest was held on the body on Monday, when the jury returned a special verdict, expressing their opinion that the remains were those of William Bengough, a man employed by Messrs. Hubbuck, and that he accidentally perished in the fire which occurred on their premises on May 20; and reiterating the opinion of the former jury as to the dangerous accumulation of combustible materials on the premises.

THE PUBLIC HEALTH.—The Registrar-General's report states that the deaths in London in the week that ended Saturday, June 11, were 938. In the corresponding weeks of the 10 years 1849-58 the average number was 984, which, if raised in proportion to the increase of population, will become 1082. The present return is therefore 144 below the average. During the week the births of 834 boys and the same number of girls, in all 1668 children, were registered in London. In the 10 corresponding weeks of the years 1849-58 the average number was 1533.

## Provincial.

APPLEBY.—On Saturday afternoon a fire broke out on Burton Fell, the property of Mr. John Wybergh, one of the Crossfell range of mountains. It appears that the fire was discovered on the previous day by a farmer who was looking after his stock, but having no idea that it would extend far, he took no steps to extinguish it, although, it is alleged, a canful of water at that time would have been sufficient to put it out. Since then, owing to the extreme dryness of the moss and heather, aided by a strong easterly wind, the fire has made considerable progress, having reached Hilton Fell, the property of the Earl of Lonsdale, and spread over an extent of ground roughly estimated at 1000 acres. The fire has got a strong hold of the peat moss, among which it smoulders until it reaches the dry heath when it bursts into flame and then rapidly spreads. An attempt has been made to extinguish it by digging a deep trench to cut off the communication, but whether the plan will be successful remains to be seen. This fire will entirely destroy the prospects of the sportsmen for the season, as the birds are mostly all sitting at this time of the year.

BIRMINGHAM.—At a meeting of the Town Council on Tuesday it was resolved "that petitions be presented to both Houses of Parliament, urging upon them the earnest desire of the corporation that the Government should observe a strict neutrality in the war now raging on the continent of Europe."—The statue of the late Mr. Thomas Attwood, which has been erected at Birmingham by his friends and fellow-townsmen in honour of his memory, and to perpetuate the remembrance of his public services, was uncovered on the 7th inst. in the presence of the mayor and corporation, and a vast concourse of spectators. The statue is of Sicilian marble, and is said to be an admirable likeness. The figure is 9 feet, and, with pedestal and base, stands 22 feet high. It is the production of Mr. John Thomas, of London.

FALMOUTH.—Another Austrian vessel, the brig Pasqualina, from Odessa, laden with rye, has succeeded in reaching this port in safety, thus making five ships of that nation lately arrived here.

MALTON.—About 12 months ago, a very fine early English church was opened for Divine service, which had been built at a great cost, to replace an old Norman structure which had gone to decay. During the erection of the new building a high wind blew down the whole of the west end and the tower, destroying the ancient bells. It is now found necessary to suspend the service, owing to the walls of the nave showing large defects, and which are, in fact, pushed outward by the timbers of the roof. The church contains many valuable painted windows. It is feared that the destruction of the building is inevitable. A parish meeting has resolved to refer the matter to the judgment of a competent architect.

NEWCASTLE-ON-TYNE.—Another dividend of 5*s.* in the pound is about to be paid to the creditors of the Northumberland and Durham District Bank, whose stoppage was among the worst features of the panic of 1857. Several of the smaller creditors accepted an immediate compromise of 15*s.* in the pound, but the majority, representing about 2,000,000*l.*, remain to be satisfied. The former dividend was also 5*s.*, making, with the amount now proposed, a total of 10*s.*, and the realisation of the assets is said to be proceeding favourably, although it will be tedious. It is understood that payment will be made in the first week of July.

PORTSMOUTH.—An inquiry into the loss of the ship Eastern Monarch was concluded on Monday, when the Court came to the unanimous decision that the fire which caused the destruction of the ship was not caused by spontaneous combustion; that the steward had orders not to go into the store-room with a naked light, that he did so in defiance of orders; that he used candles lit from lucifer matches when there; that he was in the store-room on the day previous to the fire between 8 and 9 P.M. with a light; that the fire originated in the store-room or magazine; and that the fire was caused by the culpable and criminal neglect of the steward, Charles Gardner, while in the magazine the night prior to the fire; that the master and his officers did all that could be desired; that very few of the crew rendered much assistance; that the greater part of the crew behaved in a most disreputable and unseamanlike manner; and that Mr. Narracott's, the chief officer, giving the key of the magazine to the steward amounted to a dereliction of duty. On the finding of the Court being read, Charles Gardner, the steward, was taken into custody on application from Captain Morris on a charge of manslaughter.

SHEFFIELD.—A public meeting convened by the Mayor was held in this town last week, on the subject of the position to be taken by England in the present Italian war. A resolution in favour of neutrality was adopted, and an address to her Majesty founded thereon unanimously agreed to.

TIPTON.—A horrible murder has been recently committed in the neighbourhood of Prince's End, South Staffordshire. On Thursday night the body of a woman called Hughes, 22 years of age, the wife of a puddler at Wolverhampton, was found floating in the canal near the Moat Colliery, with marks of violence upon all parts of her person; both eyes being blackened, her nose broken and flattened, and a wound on the right side of the head about an inch in length, produced by a blow from a blunt instrument. She was also dreadfully bruised and battered about the chest and bosom, as if from kicks, and her dress was torn and disordered in such a manner as to leave no doubt that she had struggled hard in the hands of her murderers. Subsequent inquiries have shown that her death was planned and carried out by a man with whom she has been cohabiting. It appears that she left her husband four years ago, 10 days after marriage, and has since lived with this man. Within the last month she has become possessed of a considerable sum of money from a questionable source, and as she refused to allow the man to have the control of it, he determined to obtain it by other means. He therefore inveigled her, while the worse for liquor, to a pre-arranged spot, where he caused her to be so ill-treated by a number of men and lads as to cause insensibility. He had thus the chance afforded him of securing the money, and of inflicting the disfiguration which was revealed when the body was found in the canal. An inquest was opened on Saturday, and adjourned for a fortnight. In the meantime the magistrates have committed six forgemen for trial on the charge of rape. They had been taken into custody on suspicion of being concerned in the murder, but the evidence was not considered clear enough to establish the capital charge. The instigator of the crime has not since been seen or heard of, and his real name has not transpired. The excitement in the neighbourhood is so great that on Sunday several ministers of the district alluded to the case in their sermons.

WEST BROMWICH.—A crime only little less appalling than the one recently committed in this town has been perpetrated at a village about 2 or 3 miles distant on the Walsall Road. On Friday last a man named William Worsey, the keeper of a beerhouse, and his wife quarrelled, the husband sitting up at night to brew. On Saturday the quarrel was resumed, Partoun, a milkman, being at the time in the house. Partoun perceived the woman sitting in a nursing-chair, with a child three months old at her breast. His attention was attracted in another direction, and he had scarcely turned his head when the woman shrieked out, "He's cutting my neck!" At the same moment she leaped from her seat and ran from the house, with the child still at her breast and a large carving-knife imbedded in a frightful wound in her throat, from which blood was streaming upon the infant and her own clothes. On reaching the street she was seized with the pangs of death, and fell to the ground. She had been closely followed by her husband, who raised her from the ground and carried her back into the house. Here he laid her upon a settle, and with a towel attempted to staunch the wound. The knife had separated all the integuments of the neck, the jugular vein included, back to the spine. In a few minutes, and before surgical aid could reach her, she was a corpse. The prisoner was apprehended and taken before the magistrates, when, after a short examination, he was remanded. He is a man of a very violent temper, and has frequently displayed it in his conduct towards his wife, whom he has frequently turned into the streets at night, and not again admitted her till the morning. A coroner's inquest was held on the body on Monday, when a verdict of Manslaughter was returned—it appearing from the evidence that deceased had greatly exasperated the prisoner.

## Ireland.

MEETING OF ROMAN CATHOLIC CLERGY IN DUBLIN.—A special meeting of the dignitaries and canons of the "metropolitan chapter" was held on the 9th inst. in Dublin, Dr. Cullen presiding, to consider the question of the establishment by Government of intermediate schools. The unanimous resolution of the chapter was that no system could be safely sanctioned or tolerated which should be based on the principle of mixed education. Several means were proposed and discussed for giving effect to what appeared to be the fixed resolve of the Catholic hierarchy, clergy, and laity on this point, viz., that Catholics should receive a just proportion of whatever public money may be allotted for the promotion of intermediate education on the principles of the separate system, and on terms consistent with the discipline of the Catholic Church regarding education.

THE LATE MURDER AND SUICIDE IN GALWAY.—The remains of Captain Ffrench were buried last week in Ffrench Park near the grave of his grandfather, the late Lord Ffrench, who on the failure of the bank in Tuam committed suicide in Trinity College Dublin, in 1814. The estate of Castleffrench has now passed away from the family, and its present owner, Mr. James Thorngate, was averse to the burial taking place on the property, and accordingly closed the gates. An entrance, however, was effected through the wayside ditch, and the remains of the deceased were deposited in their last resting-place without further opposition. The remains of Mr. Burke, attended by a vast concourse of the gentry, farmers, and others of the district, were conveyed to Chapelfinerty. When the procession had halted at the entrance to the little graveyard, and

when the coffin was about to be taken in, a number of those who had relatives buried in it stated that the graveyard was a Roman Catholic one and objected to allow any Protestant clergyman to officiate. One individual said that if a Protestant minister began to read his service, all that had been buried in Chapelfinerty for the last two centuries would turn round on their faces! Persuasion was in vain, and rather than have recourse to unpleasant means, the friends of the deceased submitted. The coffin was laid on two chairs on the Queen's high road, and the clergyman having read the service there, the interment afterwards took place.

## Railways.

FALL OF A RAILWAY BRIDGE.—On Saturday as a number of trains containing iron ore were passing over the railway bridge connected with the Ebbw Vale Ironworks, the bridge suddenly gave way, and precipitated men, horses, and trains into the road below, a distance of about 30 feet. Two men were killed and one was seriously injured. The jury at the inquest returned a verdict of Accidental Death.

THE GREAT NORTHERN AND THE COAL TRADE.—The Great Northern Company have consented to abandon the monopoly they had hitherto enjoyed of the coal trade of the districts by which their line is fed. On Saturday last the directors held an extraordinary meeting at Doncaster, to which the Yorkshire coal owners were invited. Nearly every colliery in the district was represented. Mr. Denison, the chairman, stated that the directors having given their careful consideration to the subject, had come to the conclusion that both the railway company and the coal owners would be benefited by the company becoming merely carriers, charging upon all coal one and the same rate from Doncaster to London. He then read a paper, stating that the rate would be 6*s*. per ton, waggon hire included, from March 1 to August 31, in each year, and 7*s*. from the 1st September to the 28th February in the following year, the coalowner to pay the dues upon the South Yorkshire, the City of London dues, and the expenses attending screening, loading, and advertising in London. The change to commence from the 1st July next. As, however, the company had a large trade at King's Cross, which it was desirable to keep together, the present agent, Mr. Herbert Clarke, would still be retained as manager, receiving orders as usual, saving that each colliery in the Barnsley district would be separately quoted in the advertisements, and would also have its produce sold unmixed with any other coal; but this arrangement would not prevent the coalowner having an independent agent as well. In reply to several questions it was stated that the present arrangement was not intended to supplement the sliding scale complained of, but to supersede it; the company would be merely carriers. The manager would divide the traffic which was not directed to any special colliery, fairly and equally amongst all the collieries, and only in cases where the share of general trade added to the special orders exceeded the supply from the pit would they be transferred to another colliery. The arrangement met with the approval of the meeting, and was at once adopted; and a vote of thanks to the company for the liberal manner in which they had acceded to the wishes of the coal-owners was then unanimously passed

## Sporting.

### ASCOT RACES.

TUESDAY.—The *Trial Stakes*. Mr T. Parr's Sedbury beat Ardour, Fadladeen, Fright, and 10 others.—The *Ascot Derby Stakes*. Sir S Monck's Gamester beat Brother to Sydney and Phantom.—The *First Year of the Second Ascot Biennial Stakes*. Mr. J. Merry's Thormanby beat Rupee, Lupullus, King of Diamonds, and 7 others.—The *Gold Vase*, given by her Majesty. Mr. W. Day's Schism beat Leamington, Tournament, Miss Cath, and Black Tommy.—*Handicap Plate*. Mr. Locke's New Brighton beat Little Gerard, Delusion, Lord Wilton's colt, and 14 others.—The *Ascot Stakes*. Mr. C. Bernard's Rouble beat Prince of Denmark, Compromise, and 10 others.—*First Year of the Ninth Ascot Triennial Stakes*. Sir J. Hawley's f beat Lady Falconer, Baron Munchausen, Jason, Leprachaun, Allington, and The Monk.

WEDNESDAY.—The *Fern Hill Stakes*. Mr. Merry's Lady Falconer beat Actæon, Spicebox, and 3 others.—The *Coronation Stakes*. Lord Ailesbury's Cantine beat May Morning, Heroine of Lucknow, and 4 others.—The *Royal Hunt Cup*. A dead heat between Colonel Pearson's King-at-Arms and Schism, beating 33 others. The 35 competitors were drawn up in a line almost with the precision and order of a troop of cavalry. The only two animals that evinced impatience were Zuyder Zee and Lord Nelson, but when once under orders they did not fall out of the rank. Mr. Hibburd dropped his flag to a start which, for the compact line in which the horses quitted the post, has been rarely equalled and never surpassed. As the glistening colours rose above the hill those of Woodburn were seen prominent in the van, with Blackthorn, King-at-Arms, and Brother to Sydney slightly in advance of the ruck, which stretched almost in an equal line across the course. Over the road the scarlet of Zuyder Zee showed directly behind the orange jacket and blue belt of Woodburn. It was impossible to discern the changes which the shifting mass of colours presented, until the distance was nearly reached, when Zuyder Zee and then Blackthorn disappeared from the front, King-at-Arms, Schism, and Brother to Sydney being left in pursuit of Woodburn. Before reaching the grand stand enclosure Woodburn dropped back, and Schism took up the running, with King-at-Arms and Brother to Sydney in close attendance upon her. Midway between the enclosure and the winning chair Schism seemed to "die away," but she rallied again, and after a very fine race the judge pronounced a dead heat between her and King-at-Arms, the spectators mistaking the latter for Blackthorn, whose colours on the card were a "black jacket and a red cap."—those in which King at-Arms ran—but the cap of Blackthorn was changed to white, in order to make the distinction between the two horses. Three lengths from the first two, Brother to Sydney was third, and next, at the head of a body of beaten horses, were Woodburn (fourth), Wanderer, Turret, and Mutineer. The last lot comprised Kestrel, Lord Nelson, Glenmasson, Botany, Blackthorn, Zuyder Zee, Gracchus, and Harry Stanley. Adamas pulled up very lame, and has ended his racing career. Deciding heat.—6 to 5 was alternately betted on each, King-at-Arms having the call at the close. Schism made play at the distance, where she was beaten, and King-at-Arms won at his ease by two lengths.—*Plate*. Mr. T. Stevens's Ardour beat Herman, Romsey, and 13 others.—*Second Year of the Eighth Ascot Triennial Stakes*. Mrs. Osbaldestone's St. Clarence beat May Morning, Reynard, Hop Merchant, and 5 others.—*Sweeps*. Mr. Gulliver's Contract beat Vigo and Orleans.

THURSDAY.—The *Visitor's Plate*. Mr. J. Evans's Kinnersley beat Odd Trick, Commodore, and 8 others.—The *Royal Stand Plate*. Mr. Lowe's Wild Rose beat Fright, Tournament, Zuyder Zee, and Starke.—The *Gold Cup*. Mr. F. Higgins's Fisherman beat Saunterer, Beacon, and 4 others. The horses had proceeded to the starting post before the Royal party had reassembled in the saloon of the stand after luncheon. Mr. Hibberd, therefore, brought them back, in order that they might make the usual promenade round the enclosure of the Queen's stand. This preliminary business over they returned to the starting post with all convenient haste. They were soon sent on their journey, Nimrod running in the centre of the course, taking the lead, with Saunterer by himself on the outside second, and Bevis in the track of his stable companion third; North Lincoln and Defender being next, with Fisherman last. As they made for the Swinley turn Nimrod was nearly 20 lengths ahead, but on rounding it Saunterer, who had been pulling double, took his place at Nimrod's quarters, Bevis being third, upwards of six lengths behind the leading pair, North Lincoln, Beacon, and Defender following him in the order named, Fisherman still biding his time in the rear. In this order they disappeared behind the hill, but on coming into sight Nimrod and Saunterer were close together, and at a clear interval behind them were North Lincoln, Bevis, and Beacon side by side. At the Old Mile post Saunterer pulled to the front, and Beacon and North Lincoln went on second and third; Nimrod, giving up the chase and dropping, lay last. At the Brick Kiln turn Fisherman began to improve his position, and soon showed in the second place alongside of Saunterer, Defender being third, Beacon fourth, and North Lincoln fifth. On entering the straight the race was reduced to a match between Fisherman and Saunterer, every other animal being dead beaten. Fisherman quitted Saunterer before reaching the distance, and won by a length and a half. The others, headed by Defender, were pulled up some distance from home. Nimrod was lost in the crowd, and was never seen at all at the finish.—The *New Stakes*. Mr. Hamilton's Rupee beat Thormanby, Contadina, Aurora, and 16 others.—The *St. James's Palace Stakes*. Mr. J. H. C. Wyndham's Cynricus beat Mouravieff, Antonio, and 3 others.—*Plate*. Mr. Seymour's Infanta beat The Speaker, Little Poll, and 8 others.—*Plate*. Lord Palmerston's Romsey beat Ardour, Star of the East, and Tame Deer.—The *Queen's Plate*. Mr. F. Higgins's Fisherman beat Newcastle, Nimrod, and Southampton.—*Sweeps*. Duke of Bedford's Rechab beat Luscious.

FRIDAY.—(By Electric Telegraph).—*Stand Plate*. York beat Vigo, Yorkshire Miss, and 1 other.—*First-class Wokingham Stakes*. Penalty beat Soapy Sam, Bribery C, and 7 others.—*Sweeps*. of 20 sovs. Contadina walked over.—*South Western Plate*. Misty Morn beat Roman Candle, Commodore, and 10 others.—*Borough Members' Plate*. Turret beat Soothsayer, Greenwich Fair, and 5 others.—*Sweeps*. of 50 sovs. Reynard beat Commodore.

## Law.

COURT OF QUEEN'S BENCH.—[Sittings in Banco, before Lord Campbell, Mr. Justice Wightman, Mr. Justice Erle, and Mr. Justice Hill.]—*Regina* v. *Storrer—The London University*.—In November last the defendant, Dr. Storrer, was elected a member of the Medical Council (under the Act of last session) by the Senate of the University—that is, by the chancellor the vice-chancellor, and fellows. The question raised was, whether the election was not void on the ground that the election ought to have been made by the body ordained by charter to form the University, and which would comprehend the graduates. Lord Campbell delivered the judgment of the Court, to the effect that the election rested with the senate, and therefore that the election of Dr. Storrer was perfectly valid. *The Queen* v. *The Rev. Bryan King*.—In this case the Court had granted a rule calling upon the Rev. Bryan King, the rector of St. George's in the East, to show cause why a *mandamus* should not issue, commanding him to admit the Rev. Hugh Allen, who had been appointed lecturer of the said parish, to the use of the pulpit of the said church from time to time. It will be remembered that Mr. Allen has been recently appointed lecturer by the vestry, but the rector has altogether prohibited him from the use of the pulpit, and in consequence of this disturbances have taken place in the church, rendering it necessary to call in the police and shut up the church. On Thursday after hearing cause against the rule, Lord Campbell said the rule would be made absolute, but he hoped it would not be drawn up, and that there would be no further dispute. The intention of the Legislature was, that the lecturer should have a right to the use of the pulpit, subordinate to that of the rector; but he had a right to use it, without express permission, when the rector did not use it as rector of the parish. Rule absolute for a *mandamus*.

CENTRAL CRIMINAL COURT.—*The Poisoning Case at Richmond*.—*Dr Thomas Smethurst* was placed at the bar for the purpose of pleading to the indictment found by the grand jury, and the coroner's inquisition, both of which charged him with the wilful murder of Isabella Bankes. The prisoner pleaded Not Guilty to both charges in a firm voice. Serjeant Ballantine, on behalf of the prosecution, applied for a postponement of the trial on the ground that it was absolutely necessary for the ends of justice that further time should be granted to get up the case, and that they might be frustrated if the trial were to take place at this session. Serjeant Parry opposed the application, but Mr. Justice Crompton, after consulting with Baron Bramwell, said it was the opinion of the Court that the trial should be postponed to the first day of next session. *The Murder at Kingsland*.—*Samuel Adams*, 35, shoemaker, was indicted for the wilful murder of Martha Christmas Page, his sister-in-law, by stabbing her with a knife on the 5th ult. The particulars of this case were noticed at the time in our Metropolitan News. An attempt was made by the prisoner's counsel to reduce the crime to manslaughter, but the jury after a few minutes' deliberation returned a verdict of Guilty on the capital charge. Mr. Justice Crompton having put on the black cap passed sentence of *Death* in the usual form, stating that he entirely concurred in the verdict, and holding out no hope of mercy. *The Bermondsey Murder*.—*Jeremiah Coghlan*, 21, was charged with the wilful murder of James Fadden, his brother-in-law, at Bermondsey, by stabbing him in the neck with a knife in a drunken brawl. The deceased was seriously injured, and died in Guy's Hospital three weeks after the occurrence. The jury found the prisoner *Guilty* of Manslaughter. Baron Bramwell said that the prisoner had been guilty of a very enormous crime, and one as nearly approaching to murder as could be imagined, and sentenced him to be kept in penal servitude for 20 years.

## Obituary.

PRINCE METTERNICH, DUKE OF PORTELLA, died at Vienna on the 11th inst. He was born at Coblentz on the 15th May, 1773, and was consequently in his 87th year. His ancestors had been distinguished in the wars of the Austrian Empire against the Turks; his family had given more than one Elector to the Archbishoprics of Mayence and Treves; and his father, Count Metternich, had obtained some reputation as a diplomatist and as the associate of Kaunitz. At an early age he entered the diplomatic service, and after having filled various posts at the Hague, St. Petersburg, Dresden, and Berlin became Austrian Ambassador at the Court of Napoleon I. at the battle of Austerlitz. On the breaking out of the war in 1809 he returned to Vienna and became Minister of Foreign Affairs; and while holding that office struck out the idea of a marriage between Napoleon and an Austrian Archduchess as a means of purchasing a respite for the Empire. He conducted the negotiations with Champagny, and after Napoleon had been divorced from Josephine, he escorted Marie Louise to Paris. This humiliating sacrifice could not be a permanent settlement; and in 1813, after the great French catastrophe in Russia, war was again declared by Austria against France. In the autumn of that year the grand alliance was signed at Toeplitz, and on the field of Leipzig Metternich was raised to the dignity of a Prince of the Empire. In the subsequent conferences and treaties he took a very prominent part. He signed the Treaty of Paris on behalf of Austria. He afterwards paid a visit to this country, and received the honorary degree of D.C.L. from the University of Oxford. When the Congress of Vienna was opened, Prince Metternich, then in his zenith, was unanimously chosen to preside over its deliberations. In this presidency in the Congress may be regarded as typical an ascendancy which, from that time, he exerted for many years in the affairs of Europe. He became the presiding genius of the Holy Alliance, and the intimacy which he established between the three Northern Courts was confirmed and strengthened by the French revolution of 1830, which placed Louis Philippe on the throne. He took advantage of the revolution to send troops to Italy to crush every symptom of popular liberty, while throughout the lesser States of Europe he brought the whole weight of his power into play for the repression of popular aspirations and the destruction of national independence. Upon these principles he administered the affairs of the Empire till 1848, when the French revolution, which overturned half the thrones of Europe, caused the downfall of the Government of Vienna in spite of the resistance of Prince Metternich, who maintained his policy to the last. Having been compelled to resign the office of Chancellor, which he had held for about 40 years, he left the city the next day with an escort of cavalry. He came to England, and remained till the old state of things began to return. In 1851 he ventured to appear at Vienna, and though he never regained his power in the political world, his advice was often taken in affairs of State. Long renowned as the most celebrated statesman of Europe, he has died at the very moment when the Treaties of Vienna have been set aside by the sword of a Bonaparte, and the expulsion of Austria from Italy seems a mere question of time.

GENERAL GERARD GOSSELIN died on the 11th inst. at Moor Ospringe, Feversham, at the advanced age of 90 years. He was the brother of Admiral Le Marchant Gosselin, who died at an advanced age about two years ago. He was one of the senior Generals in the army, which he entered as far back as November, 1780. He commanded a brigade on the expedition against Genoa under Lord W Bentinck, and on its capture was appointed Commandant there until the peace with France. Subsequently he commanded a brigade in the American war, and was present at the attack and capture of Castine, on the Penobscot. He attained the rank of General in 1841.

MAJOR GENERAL DAVID MACADAM, R.M., died on the 1st inst at Edinburgh. He had been 54 years in the Royal Marines, and had greatly distinguished himself in his professional career. While serving in L'Aigle, between 1806 and 1809, he was at the attack on the French fleet by Admiral Cornwallis on the 21st August, 1805; gunboats in Vigo Bay 29th October following; the blockade of Fort Cygo, July and August, 1807; action with French frigate off L'Orient, 23 March, 1808; Basque Roads, 11th and 12th April, 1809, and various other affairs in the ship or her boats, and was 40 times under fire. During service in the Thames, between 1809 and 1812, he landed at Mount Circile, Amanthea, Citraco, in the Gulf of Policastro, and near to Cape Palinuro, and several other places on the coast of Calabria and in the Roman States. Aboard the Forth, from 1813 to 1815, he was most actively employed, and was on the staff of the Anglo-Russian force forming the siege of Batlits. He subsequently served on the North American coast. He had on repeated occasions been honourably noticed in the public despatches, and is stated to have been above 70 times under fire. He obtained his commission as Second Lieutenant in 1805, and attained the rank of Major-General in 1855.

THE BISHOP OF ANTIGUA (DR. RIGAUD) died on the 16th ult. of yellow fever, and had a public funeral on the 18th. He was the son of Professor Rigaud of Oxford, and was formerly assistant master of Westminster School, and head master of the Grammar School at Ipswich. Mrs. Rigaud and family, who also suffered from fever, have returned home by the Plata.

JUDGE M'CAN, one of the judges of the Court of Bankruptcy, was found dead in his bed on Wednesday morning at Bloome's Hotel, Kingstown. He presided on the previous day in his court, and then appeared in the enjoyment of good health. An inquest was held on the body, when the jury found that he died of disease of the heart. He was 80 years of age.

MR. DAVID COX, the greatest master of English water-colour landscape art, died a few days since at his residence, Harborne, near Birmingham. He has died as full of years as of artistic honours, and there is little likelihood that any living rival will supply the place he leaves void.

WILLS.—The will of Sir Isaac Lyon Goldsmid, Baronet, Goldsmid, has been sworn above "a million" personalty. The highest amount in the scale of probate duties. The personalty however is estimated to exceed two millions, and the real estates are stated to be of equal amount. The will of Mr. W. Broderip, F.R.S., has been sworn under 60000*l*. personalty. The late Mr. Fagan, M.P. for Cork, has left an estate of 2000*l*. a year and 51,000*l*. to his second son, his eldest son being attached to a convent on the Continent.

## Miscellaneous.

NEW ATLANTIC TELEGRAPH.—A new company has been formed under the name of the British Trans-atlantic Telegraph Company, for the purpose of laying a cable from the Land's End, in Cornwall, to Blanc Sablon, an island in the Straits of Belle Isle, at one of the entrances of the Gulf of St. Lawrence, and a little to the north of Newfoundland. A short wire, to be laid by a separate company, will take the cable in from Blanc Sablon to the Island of Anticosti, where it will meet lines already open, communicating with Quebec, Montreal, and indeed all parts of Canada. Another short line from Anticosti will be submerged to Cape Breton, where it will join the network of lines which communicate with Halifax, Nova Scotia, Boston, New York, &c. The advantages which such a route presents over one starting from the west coast of Ireland are said to be great, both in point of economy and freedom from the submarine dangers which beset the track from

Valentia to Newfoundland. In the first place, the average depth of the entire route is supposed to be less, while by starting from Land's End the steep range of submarine mountains on the west coast of Ireland, on which the Atlantic telegraph was lost, is entirely avoided. On the Atlantic side, the lines not being hampered with such conditions for messages as those which would check their transmission over Newfoundland, the tariff for their re-transmission will be less than one-half of what would be charged if sent by the American Company from St. John's, while the line, being all submerged, is, of course, less exposed to injury than in crossing the almost unexplored wilds of Newfoundland. On this side of the water the advantages of having the terminus at Land's End are almost greater. The increased distance is very little over 150 miles; but a message arriving at Land's End is transmitted direct to its destination at a small cost, while the cost from Valentia is much greater, and the message itself has to be re-transmitted always four times, and sometimes oftener. If it merely avoided the necessity of messages coming from America to London being first known at Liverpool, where by the Irish route they must be transmitted, the gain to merchants by a Land's End terminus would be most important. The new company propose to use a cable of the very lightest description, the outer covering of wire being entirely done away with. The conductor is to be composed of seven copper wires having about twice the sectional area of that used by the old Atlantic Company. It will be coated with a combination of gutta percha with manifold insulators, the outer portion being wound round with a textile fabric in a peculiar manner, so as to perfect and strengthen the rope and its insulation to the utmost. The outer covering of all will be of hemp, interwoven longitudinally, so as to be without either turn or stretch. This outer covering, before being used, will be passed through a solution of either india rubber or gutta percha; the rope afterwards being compressed under a steel die will insure a uniform gauge and the solution penetrating to the very utmost. The diameter of the gutta percha insulator will be about double that used in the rope of the old company, and the diameter of the whole cable about two-thirds of an inch. The weight is less than 8 cwt. per mile, the breaking strain about two tons, or equal to supporting nearly six miles of its own weight in air and no less than 25 miles of its own weight in sea water. The cost of the whole cable will be about half of that which was lately lost by the old company. This cable is to be contracted for under a special arrangement which guarantees the shareholders against any risk of loss. The contract will not be at so much per mile, but for a certain sum under 350,000*l.* the contractors undertake to make the wire, insure it, submerge it, and deliver it over to the company in working order.

THE RED SEA TELEGRAPH.—The Red Sea Telegraph Company have received a telegram from Aden, announcing that the cable had been successfully laid to that place on the 28th ult. The attempt however to lay the cable between Alexandria and the Island of Candia, which would have completed the connection from Aden to London *vid* Constantinople, has temporarily failed. The expedition started from Alexandria on the 25th ult., and the line appears to have parted on the 1st of June, when the whole had been laid within 60 miles. It is hoped that at that point its recovery will not be impracticable.

TELEGRAPH TO GIBRALTAR.—The existing war on the Continent has placed in so striking a light the importance of securing a means of telegraphic communication with the British possessions in the Mediterranean, independent of any continental medium, that Government have entered into arrangements for laying down, as speedily as possible, a telegraphic cable direct from Falmouth to Gibraltar—a distance of 1100 nautical miles. Although the line is at present to be carried only to Gibraltar, its ultimate extension to Malta and Alexandria, there to form a junction with the wires to India, is said to be decided on.

TELEGRAPH TO DENMARK.—The Submarine Telegraph Company are about to submerge a cable from Weybourne, on the Norfolk coast, to Tonning, on the shores of Denmark. The cable, which will comprise three wires, will be 388 miles in length.

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BIRTHS.—On the 13th inst, Lady WENLOCK, of a daughter—11th inst, at 72, South Audley Street, Lady WORSLEY, of a son—12th inst, at 43, Upper Mount Street, Dublin, the wife of Sir BERNARD BURKE, of a son—9th inst, at Leamore Park, County Wicklow, the wife of THOMAS SMITH, Esq., of a son.

MARRIAGES.—On the 14th inst, at St. George's, Hanover Square, the Hon. THOMAS LITTLETON POWYS, eldest son of Lord Lilford, to EMMA ELIZABETH, youngest daughter of the late ROBT WM. BRANDLING, Esq., of Low Gosforth, in the county of Northumberland—14th inst, at the Church of the Bavarian Legation, Warwick Street, and afterwards at St. George's, Hanover Square, GEORGE ELLIOT RANKEN, Esq., to GEORGINA ELIZABETH, eldest daughter of the Rev. HENRY W. BUCKLEY, Rector of Hartshorne, Derbyshire; and at the same time and place, RICHARD ARCHIBALD FARQUHARSON, Esq., 24th Foot, to HENRIETTA JANET, second daughter of the Rev. HENRY W. BUCKLEY—9th inst, by special license, at 28, Merrion Square, Dublin, ROBERT HIGGINSON BORROWES, Esq., Gilltown, county Kildare, to the Hon. LOUISA CATHERINE BROWNE, third daughter of Lord Kilmaine—9th inst, at Blatherwycke, in the county of Northampton, the Rev. EDWARD SALMON BAGSHAW, to EMMA LOUISA, daughter of GERARD NOEL HOARE, Esq., of Mill Hill, in the county of Middlesex, and granddaughter of Stafford O'Brien, Esq., of Blatherwycke Park—2d inst, at St. Andrews, Sir ALEXANDER GRANT, Bart., to SUSAN, second daughter of JAMES FREDERICK FERRIER, Esq., Professor of Moral Philosophy and Political Economy in the University of St. Andrews—7th inst, at Monkstown Church, County Cork, CHARLES HENRY, youngest son of Sir JOHN KINGSTON JAMES, Bart., D.L., of Dublin, to KATE MARY, second daughter of the late Rev. JOHN ROWLEY, LL.D., and niece of the late Admiral Sir Josias Rowley, Bart., G.C.B.—9th inst, at St. Marylebone Church, ROBERT TAIT, Esq., of Queen Anne Street, to HARRIET, eldest daughter of H. H. WILSON, Esq., Boden, Professor of Sanscrit at Oxford.

DEATHS.—On the 7th ult, MONTOLIEU ELIHANU POCHIN, Lieutenant H.M.S. Heron, lost off the coast of Africa—9th ult, drowned, by the capsizing of H.M.'s sloop Heron, FREDK HORATIO BLAIR, son of Captain H. Blair, R.N., aged 21—9th ult, on board H.M.'s ship Heron, lost off the coast of Africa, CHARLES VILLIERS UDNY, midshipman, second son of the late Charles Grant Udny, of the Bengal Civil Service, aged 17—9th ult, lost in H.M.S. Heron, EDWARD CHARLTON ABBOTT, Master's-Assistant R.N., second son of Edwin Abbott, Esq., Head Master of the Philological School, aged 18—8th inst, at Rolleston Hall, in the county of Stafford, Lady MOSLEY, the beloved wife of Sir Oswald Mosley, Bart.—7th inst, at Eagle Hill, in the county of Galway, MARGARET, wife of Captain HENRY PIGOTT, and daughter of the late Sir Scrope Bernard Morland, Bart., of Nether Winchindon, Bucks, England—25th April, at Fyzabad, ROBERT JONES L PERCY, Paymaster of the 34th Regiment, second son of the Rev. Wm Alexander Percy, rector of Kilterbart, Carrick-on-Shannon, aged 33—21st April last, at Camp, Roy Bareilly, Oude, Lieut. KENRIC AP EYTON PARRY JONES, 38th Regiment, aged 20—12th inst, at Cheshunt Park, CHARLES WILLIAM CROMWELL RUSSELL, Esq., aged 45—13th inst, at his residence, 27, Montpelier Square, Brompton, the Rev. J. MORRISON, D.D., LL.D., aged 67—14th inst, at St. Andrews, Dr ANDREW ALEXANDER, Professor of Greek in the University of St. Andrews—10th inst, at 11, Park Place, Cheltenham, SYDNEY JANE, widow of the late Colonel RICHARD BELLEW, of the Bombay Establishment, and daughter of the late General Robert Bell, of the Madras Artillery—12th inst, at Tunbridge Wells, JACOB BELL, Esq., of 15, Langham Place, and 338, Oxford Street, aged 49—5th inst, at Old Brompton, CHARLES OLLIER, author of "Ferrers," &c., and the original publisher of the chief works of Shelley, and of the first poems of Keats, aged 71.

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# Markets.

## COVENT GARDEN.—June 18

Grapes still realise fair prices. Strawberries are now plentiful and cheap. Pine Apples maintain former prices. English Cherries may now be obtained. Oranges fetch 3s. 6d and 10s. per 100. Nuts of all kinds continue to realise fair prices. Cabbages and French Beans are plentiful. Rhubarb, Asparagus, and Seakale are getting over. Green Peas, Beans, Horn Carrots, and Globe Artichokes may now be obtained in quantity. Cauliflowers are cheaper. New Potatoes realise from 12s. to 20s. per cwt. Cucumbers abundant. Cut flowers chiefly consist of Orchids, Gardenias, Heliotropes, Lily of the Valley, Violets, Mignonette, Heaths, and Roses.

FRUIT

| | |
|---|---|
| Pine Apples, per lb., 5s to 8s | Cherries, per lb., 6d to 2s 6d |
| Grapes, per lb., 4s to 8s | Apples, per doz., 6s to 12s |
| Strawberries, p. lb., 6d to 2s 6d | Pears, per doz., 6s to 12s |
| Melons, each, 4s to 6s | — stewing, p. doz., 2s 6d to 5s |
| Peaches and Nectarines, per doz., 10s to 15s | Oranges, per 100, 6s to 10s |
| Figs, per doz., 6s to 8s | Lemons, per doz., 1s to 1s 6d |
| | Cobs, per lb., 1s 3d to 1s 6d |

VEGETABLES

| | |
|---|---|
| Cauliflowers, per doz, 2s to 4s | Cucumbers, p. doz., 2s to 6s |
| Green Peas, p. quart, 1s to 2s | Tomatoes, per doz., 3s to 4s |
| Greens, per dozen bunches, 1s to 1s 6d | Artichokes, per doz., 4s to 6s |
| Cabbages, do., 1s 6d to 2s 6d | Beet, per doz., 1s 6d to 2s |
| Asparagus, p bundle, 2s 6d to 5s | Celery, p. bundle, 1s to 1s 6d |
| Rhubarb, p bundle, 6d to 9d | Shallots, per lb, 6d to 8d |
| French Beans, p pun., 1s to 1s 6d | Garlic, per lb, 6d to 8d |
| Potatoes, p ton, 90s to 100s | Lettuces, Cabb., per score, 1s to 1s 6d |
| — per bus., 2s to 2s 9d | Endive, p score, 1s to 1s 6 |
| — per cwt., 4s to 6s | Horse Radish, p bun. 1s 6d to 4s |
| — new, per lb., 6d to 1s | Mushrooms, p pott, 9d to 1s 3d |
| Carrots, per bunch, 1s | Parsley, p. 12 bunches, 2s to 4s |
| Turnips, per bunch., 3d to 1s | Savory, do., 2d to 4d |
| Spinach, p sieve, 1s 6d to 2s | |

## HOPS.—BOROUGH MARKET, FRIDAY, June 17.

Messrs. Pattenden & Smith report the accounts favourable from Mid and East Kent, but much worse from the blighted parts of Weald Kent, Sussex, and Worcester. The market is in a quiet state, and to effect sales lower prices must be submitted to.

## BRITISH WOOLS.—LONDON, FRIDAY, June 17.

We have no new wool worth mentioning arrived at present, as farmers are busy shearing; prices consequently are not yet fixed.

| | s. | d. | | s. | d. |
|---|---|---|---|---|---|
| South-down Hogs | 1 | 3 | to 1 | 3½ | |
| Half-bred ditto | 1 | 2 | — 1 | 2½ | |
| Down Ewes | 1 | 1 | — 1 | 2 | |
| Kent Fleeces | 1 | 1 | — | .. | |
| Leicest. Wethers | 1 | 0 | to 1 | 1 | |
| Ditto Hoggs | 1 | 1 | — 1 | 2 | |
| Combing Skins | .. | | — | .. | |
| Blanket ditto | .. | .. | — | .. | |
| Flannel Wool | 1 | 0 | — 1 | 4 | |

## HAY.—Per Load of Thirty-six Trusses.

SMITHFIELD, THURSDAY, June 16.

| | | |
|---|---|---|
| Prime Meadow Hay | 80s to 84s | |
| Superior do. (old) | 84 | 90 |
| Inferior do. | 50 | 60 |
| New do. | — | — |
| Rowen | 50 | 65 |
| Old Clover | 95s to 115s | |
| Second cut | 80 | 92 |
| New Clover | — | — |
| Straw | 25 | 30 |

DAVIS & Co.

CUMBERLAND MARKET, THURSDAY, June 16.

| | | |
|---|---|---|
| Sup. Meadow Hay | 90s to 97s | |
| Inferior do. | 70 | 84 |
| New do. | 50 | 65 |
| Superior Clover | 102 | 110 |
| Inferior Clover | 88s to 95s | |
| New do. | — | — |
| Straw | 30 | 34 |

JOSHUA BAKER.

WHITECHAPEL, THURSDAY, June 16.

| | | |
|---|---|---|
| Fine old Hay | 80s to 88s | |
| Inferior do. | 50 | 70 |
| New Hay | — | — |
| Inferior do. | — | — |
| Straw | 24 | 28 |
| Fine old Clover | 100s to 105s | |
| Inferior do. | 84 | 95 |
| Fine new Clover | — | — |
| Fine 2d cut | 90 | 100 |
| Inferior do. | — | — |

## COAL MARKET.—WEDNESDAY, June 15.

Buddle's West Hartley, 16s.; Howard's West Hartley, 16s.; Lambert's West Hartley, 15s 6d.; Tanfield Moor, 13s. 6d.; Tanfield Moor Butes, 13s. 6d; Walls End Harton, 15s. 3d.; Eden Main, 15s 6d; Walls End Belmont, 15s. 3d.; Walls End Haswell, 17s. 6d.; Walls End Hetton, 17s. 6d.; Walls End Kelloe, 16s 3d.; Walls End South Hartlepool, 16s.; Walls End West Hetton, 15s. 6d.; Powell's Duffryn Steam, 21s—54 ships at market.

## METROPOLITAN CATTLE MARKET.

MONDAY, June 13.

The number of Beasts is rather larger and trade is slow, but prices are not much lower for choice qualities. The supply of Sheep and Lambs is considerably greater. On the average prices are rather on the decline. Calves are selling about the same as on Thursday. From Germany and Holland there are 180 Beasts, 2470 Sheep, and 155 Calves; from Scotland, 200 Beasts; from Norfolk and Suffolk, 2800; from Ireland, 100; and 100 from the northern and midland counties.

| | s. | d. | s. | d. |
|---|---|---|---|---|
| Best Scots, Herefords, &c. | 4 | 6 to 4 | 10 | |
| Best Short-horns | 4 | 4 — 4 | 8 | |
| 2d quality Beasts | 3 | 6 — 4 | 0 | |
| Best Downs and Half-breds | 5 | 0 to 5 | 2 | |
| Do. Shorn | .. | .. — | .. | |
| Best Long-wools | 4 | 8 — 4 | 10 | |
| Do. Shorn | | — | .. | |
| Ewes & 2d quality | 4 | 4 — 4 | 4 | |
| Do. Shorn | .. | to | .. | |
| Lambs | .. | 8 — 6 | 4 | |
| Calves | .. | 4 0 — 5 | 6 | |
| Pigs | .. | 3 8 — 4 | 8 | |

Beasts, 3780; Sheep & Lambs, 24,450; Calves, 240; Pigs, 870

THURSDAY, June 16

We are but moderately supplied with Beasts; trade for them is slow; Monday's quotations are, however, fully maintained. Sheep and Lambs are more plentiful than for some time past. There is considerable difficulty in obtaining late rates. A clearance cannot be effected. Good Calves are in demand at rather higher prices. From Germany and Holland there are 50 Beasts, 590 Sheep, and 210 Calves; from Norfolk and Suffolk, 500 Beasts; and 140 Milch Cows from the home counties.

| | s. | d. | s. | d. |
|---|---|---|---|---|
| Best Scots, Herefords, &c | 4 | 6 to 4 | 10 | |
| Best Short-horns | 4 | 4 — 4 | 8 | |
| 2d quality Beasts | 3 | 6 — 4 | 0 | |
| Best Downs and Half-breds | 5 | 0 — 5 | 2 | |
| Do. Shorn | | — | | |
| Best Long-wools | 4 | 8 — 4 | 10 | |
| Do. Shorn | .. | .. — | .. | |
| Ewes & 2d quality | 4 | 0 to 4 | 4 | |
| Do. Shorn | .. | .. — | .. | |
| Lambs | .. | 5 4 — 6 | 4 | |
| Calves | .. | 4 0 — 5 | 2 | |
| Pigs | .. | 3 8 — 4 | 8 | |

Beasts, 1750; Sheep & Lambs 12,40; Calves, 470; Pigs, 150.

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MARK LANE.—MONDAY, June 13

The supply of English Wheat to this morning's market was good, and although offered at a decline of 2s. to 3s. per qr. upon the prices of this day se'nnight, a large proportion remained unsold towards the close. Foreign being only saleable by forcing at a considerable reduction, holders prefer to land, and nearly the whole of the arrivals are going to granary; we reduce our quotations 2s. per qr. Barley is a slow sale, and out-of-conditioned parcels are rather cheaper. Beans and Peas bring last week's prices. The Oat trade is very dull, and sales could only be effected at a reduction of 1s. per qr. upon the rates of Monday last. The top price of town-made Flour remains the same, other descriptions are a very heavy sale, and prices quite nominal.

| PER IMPERIAL QUARTER. | s. | s. | | s. | s. |
|---|---|---|---|---|---|
| WHEAT, Essex, Kent, & Suffolk..White | 48 | —56 | Red | 44 | —50 |
| — — fine selected runs..ditto | 48 | —52 | Red | 46 | —54 |
| — — Talavera | 50 | —56 | | | |
| — Norfolk | — | | Red | — | |
| — Foreign | 44 | —52 | | | |
| BARLEY, grind. & dist., 24s to 28s..Chev. | 35 | —40 | Malting | 32 | —34 |
| — Foreign..grinding and distilling | 23 | —27 | Malting | 30 | —34 |
| OATS, Essex and Suffolk | 19 | —22 | | | |
| — Scotch and Lincolnshire..Potato | 23 | —25 | Feed | 19 | —24 |
| — Irish | 24 | —25 | Feed | 19 | —22 |
| — Foreign..Poland and Brew | 23 | —26 | Feed | 19 | —25 |
| RYE | — | | Foreign | — | |
| RYE MEAL, foreign | — | | | | |
| BEANS, Mazagan....35s to 39s....Tick | 37 | —41 | Harrow | 37 | —41 |
| — Pigeon....41s—45s..Winds. | — | | Longpod | — | |
| — Foreign.....Small | 38 | —47 | Egyptian | 35 | —39 |
| PEAS, white, Essex and Kent..Boilers | 44 | —45 | Suffolk | 46 | —50 |
| — Maple....42s to 44s.....Grey | 38 | —42 | Foreign | 42 | —46 |
| MAIZE.....White | — | | Yellow | — | |
| FLOUR, best marks delivered..per sack | 44 | —46 | | | |
| — 2d do.....ditto | 38 | —44 | Country | 38 | —44 |
| — Foreign.....per barrel | 24 | —32 | Per sack | 34 | —42 |

FRIDAY, June 17.

The weather this week has been dry and cool for the time of year. The arrivals of foreign Wheat and Flour at the chief ports of the kingdom have been considerable, principally from France, and being greatly in excess of the present demand a further decline varying from 2s. to 3s. per qr. on the former and 2s. to 3s. per sack on the latter has resulted, at which the amount of business transacted was almost nominal. The value of all kinds of spring corn also had a downward tendency, and in many markets purchases of each description might have been made at a reduction of 1s. per qr. upon the rates of last week. The crop of Wheat on the Continent is represented as greatly resembling our own, being in appearance about two fortnights' last spring corn and Grass in the Baltic is reported to be suffering for the want of rain. The crop of Wheat has slightly revived in the Baltic, but prices there are far too high to admit of profitable importation at present. The arrivals of grain-laden vessels from Southern Europe during the week are moderate. The arrivals of Foreign Wheat, Flour, and Barley this week continue to be good, of all other grain moderate. The market this morning was badly attended, and factors not being able to dispose of the Essex Wheat left over from Monday unless at a further reduction of 1s. per qr. preferred holding it for next week. Owners of foreign being indisposed to follow the English market, scarcely any sales were effected, and Monday's quotations must be considered nominal. Barley is a slow sale at about late rates. Beans and Peas are unaltered in value. The Oat trade is exceedingly heavy, and Monday's prices are hardly supported.

ARRIVALS FROM JUNE 13 TO JUNE 17.

| | Wheat. | Barley. | Oats. | Flour |
|---|---|---|---|---|
| English | 1890 qrs. | — qrs. | 1140 qrs. | 980 sks. |
| Irish | — ,, | — ,, | 2690 ,, | — ,, |
| Foreign | 13410 ,, | 5580 ,, | 11720 ,, | 7510 ,, / — brls. |

LIVERPOOL, Tuesday, June 14.—We had a fair attendance of millers and dealers at our market this morning, but they seemed to have no intention whatever of buying, and the market consequently partook quite of a nominal character. The decline since this day se'nnight may be quoted at from 4d. to 6d per cental on Wheat and 6d on Flour and Indian Corn. Oats, Oatmeal, and Barley, have each given way about 3d. per cental. Egyptian Beans are held for former prices.

FRIDAY, June 17.—The Corn market has been steady to-day, with a quiet demand for Wheat and Flour at a moderate reduction from last week.

| AVERAGES | Wheat. | Barley. | Oats. | Rye | Beans. | Peas. |
|---|---|---|---|---|---|---|
| May 7.. | 44s 10d | 32s 5d | 24s 2d | 32s 8d | 42s 8d | 39s 11d |
| — 14.. | 52 5 | 32 10 | 25 4 | 33 4 | 45 1 | 42 0 |
| — 21.. | 54 4 | 33 7 | 26 3 | 35 3 | 47 2 | 45 5 |
| — 28.. | 53 6 | 33 6 | 25 9 | 33 8 | 46 6 | 42 10 |
| June 4.. | 53 5 | 33 8 | 26 1 | 37 7 | 47 0 | 40 5 |
| — 11.. | 51 5 | 31 8 | 25 11 | 41 9 | 45 0 | 40 5 |
| Agg Aver. | 51 8 | 32 11 | 25 7 | 37 8 | 45 7 | 42 0 |

FLUCTUATIONS IN THE LAST SIX WEEKS AVERAGES

| PRICES. | May 7. | May 14. | May 21. | May 28. | June 4. | June 11. |
|---|---|---|---|---|---|---|
| 54s 4d | .. | .. | .. | .. | .. | .. |
| 53 6 | .. | .. | .. | | .. | .. |
| 53 5 | .. | .. | .. | .. | | .. |
| 52 5 | .. | | .. | .. | .. | .. |
| 51 8 | .. | .. | .. | .. | .. | |
| 44 10 | .. | .. | .. | .. | .. | .. |

POTATOES.—SOUTHWARK, Monday, June 13.

Since our last report the arrivals have been far in excess of the demand, and together with the hot weather has caused a great reaction in the trade; second rate sorts are unsaleable except for cattle feed. The following are this day's quotations:—Yorkshire Regents, per ton, 60s. to 90s.; do Flukes, 100s.

to 140s.; Perth, Forfar, and Fifeshire Regents, 40s. to 70s.; do. Reds, 25s. to 30s.; Rocks, 30s. to 40s.; foreign whites, 25s. to 60s.

MONEY (£50).—A Gentleman is in want of this amount for One Month. He will deposit security valued at at least 100*l.* and will give 10*l.* for the accommodation.—Address J. R., Reading Rooms, 76, Strand.

THE BURIAL BOARD of the Parish of St. Helen's, in the county of Lancaster, will, at their Meeting on the 25th day of July next, appoint a SUPERINTENDENT and REGISTRAR of the Cemetery of such parish. He will be required to reside at the Cemetery and devote his whole time and attention to the duties of his office, and must possess a good knowledge of Book-keeping and sufficient of Surveying to enable him to lay out the ground in grave spaces. One who has some knowledge of the Management of Trees and of the care of Grounds would have a preference. The salary is 70*l.* per annum, with the use of a house, rent and tax free. Candidates are requested to send applications in their own handwriting, stating former or present occupation, and accompanied by testimonials as to character and competency on or before the 30th inst., to THOS. HADDOCK, Clerk to the Board.
Hardshaw Street, St. Helen's, Lancashire, June 18.

WANTED, in an extensive Provincial Nursery, a middle-aged married Man, to act as FOREMAN, SALESMAN, and PROPAGATOR. Not only is it indispensable that he should understand the Propagation and Cultivation of Roses, Fruit trees, American plants, and Coniferæ, but the general routine of nursery work, including Stove and Greenhouse Plants. To a person possessed of the above qualifications, combined with energetic and sober habits, a liberal salary, including use of a comfortable cottage, will be given.—Address, with references as to character and wages required, to THOS. CRIPPS, Nurseryman, Tunbridge Wells, Kent.

WANTED, a competent Person to act as FOREMAN in an extensive Nursery in the south of Ireland. Satisfactory testimonials as to character and capability will be required.—Communications to be addressed to A. B., *Constitution* Office, Cork, Ireland.

WANTED, a respectable, steady MAN, who thoroughly understands the propagating of Fruit Trees, Roses, Coniferæ, and Knife-work generally. Liberal wages will be given.—Address, A. B., Messrs. Noble & Co., Seed Merchants, Fleet Street, London.

WANTED, AS COWMAN.—Married, without incumbrance preferred. He must have been accustomed to Milking, to Drive a Cart, and attend to Poultry.—Address, stating wages expected.—Mr. ROGER, Berry Hill, Taplow, Maidenhead.

WANTED IMMEDIATELY, in Canterbury, a MAN and his WIFE, without incumbrance; the Man as Gardener, and the Wife to take charge of a Small Dairy.—Apply to Mr. WIGHTWICK, Canterbury.

WANTED, in a large family in Devonshire, a thoroughly experienced DAIRYMAID to manage a new Cream Dairy.—Apply (if by letter post paid) to Miss TUCKER, 35, High Street, Exeter.

## WANT PLACES.—Letters to be Post Paid.

GARDENER (HEAD).—Can take the Management of a small Farm if required. Good character.—T. H. MORRESS, Landscape Gardener, Bromley, Kent.

GARDENER (HEAD).—Age 37, married, no incumbrance; thoroughly understands Gardening in all departments. All applications to be made to Mr. WATSON, Ripley Castle, Yorkshire.

GARDENER (HEAD).—Age 27; has a good practical knowledge of his profession. Can be well recommended for ability and general good conduct.—E. BATLEY, Wentworth Castle Gardens, Barnsley, Yorkshire.

GARDENER (HEAD).—Age 30, single; understands the Management of Grapes, Peaches, all kinds of Fruits and Kitchen and Flower Gardens. Two years and nine months' character.—A. Z., Arfsten Cottage, Barnes, Surrey.

GARDENER (HEAD).—A gentleman wishes to recommend a respectable, middle-aged, married Man, without incumbrance; understands his profession in all its branches. Fourteen years' good character.—A. B. C., Mr. Dove's, 5, Fitzroy Place, Kentish Town, N. W.

GARDENER (HEAD).—Age 29, single; experienced in extensive gardens in the management of the Kitchen, Fruit and Flower Gardens, Vinery, Conservatory, and Forcing department. Unexceptionable references.—W. H., Royal Botanic Gardens, Regent's Park, London, N.W.

GARDENER (HEAD).—Age 26, single; has a thorough knowledge of Early and Late Forcing of Vines, Cucumber and Melon growing, the management of Kitchen and Flower Gardens, and Stove and Greenhouse Plants. Upwards of three years' good character from last employer.—J. Y., Mr. Davey's, Kingston Vale, near Putney, Surrey.

GARDENER (HEAD).—Age 31, married; has had 16 years' practice in several noblemen's Gardens in Scotland and England, and considerable practice in Early and Late Forcing; is a good Plantsman and can draw Plans and lay out Geometrical Flower Gardens, &c. Three years' excellent character from the gentleman now with. References if required.—A. B., Post Office, Cockfoster's, Barnet, N.

GARDENER (HEAD).—Age 43, married; practical knowledge of Gardening in all branches; can be highly recommended for sobriety, industry, and honesty, by the gentleman with whom he has lived upwards of 17 years, who parts with him only in consequence of change of residence. Northern or midland counties would be preferred.—J. I., Bolton-by-Bolland, Clitheroe.

GARDENER (HEAD).—Age 33, married, no incumbrance; steady, active, and thoroughly understands his profession in all its various branches, including the Forcing of Flowers, Pines, Vines, Peaches, &c. Has been a successful Exhibitor at the Horticultural Society and Regent's Park. Wages, 80*l.* per annum, with House, &c.—A. Z., John Brown, Fawsley Park, Daventry.

GARDENER (HEAD OR SINGLE-HANDED).—Where there is a little Forcing preferred. Three years' unexceptionable character.—G. C., Messrs. Cutbush & Son, Highgate.

GARDENER (HEAD), or GARDENER AND BAILIFF.—Age 40, married; 25 years' practical experience. Good character from the gentleman he is leaving.—A. B., Hanover Park Lodge, Peckham.

GARDENER (HEAD), OR GARDENER AND BAILIFF.—Age 29, married; well understands Early and late Forcing of Fruit, Flowers, and Vegetables, Hardy Fruit, Kitchen and Flower Gardens; can superintend the erection of Glass Structures, Heating, &c.; good practical knowledge of Farming, Wife well understands Dairy, &c.—A. B., Post Office, Crouch End, London, N.

GARDENER.—Age 35, single; 20 years' experience in the Culture of Pines, Vines, and Plants. Testimonials good.—S. H., Mr. Kernan, Seedsman, Covent Garden.

GARDENER.—Age 28; thoroughly understands Forcing, also Kitchen and Flower Gardens. No objection to a single-handed place.—Mr. BEE, 2, New Roman Road, Bow.

GARDENER.—Middle-aged, married, without incumbrance; thoroughly understands his profession. Three years' good character.—M. P., Barker's Library, Hammersmith, W.

GARDENER.—A gentleman (going abroad) wishes to obtain a situation for a steady, very industrious, and obliging Man; well understands the Management of Cattle. Wife is also industrious and trustworthy, and an excellent Dairywoman.—J. D., Mr. Golding's, News Agent, Dartford, Kent.

GARDENER.—Middle-age; thoroughly understands his profession in all its branches, Orchids and Ferns, and all kinds of Flowers and Fruit, also Early and Late Forcing. Good character. No single-handed place accepted.—L. L., 18, Haverstock Street, Hampstead Road.

GARDENER.—Age 35, married; has had many years' experience in one of the best London Market Gardens, where Pines, Grapes, and Plants were grown to the highest perfection, and can produce 5 years' character from a nobleman with whom Gardening was carried out to the greatest excellence. Well understands Land and Cattle.—M. M., 3, Andover Cottages, Hornsey Road, Holloway.

GARDENER.—A gentleman is desirous of recommending his Head Gardener, who has been with him between two and three years, and who can also have good testimonials from Edward Jesse, Esq., of East Sheen; P. Marnock, Esq., Botanic Gardens, Regent's Park, London; Mr. Veitch, Exotic Nursery, Chelsea; Mr. Waterer, American Nursery, Bagshot; John Noble, Esq., 50, Westbourne Terrace, London; either of whom will answer any inquiries addressed to them.

GARDENER (UNDER), or IMPROVER, for two years.—Age 21; good character. With a Premium.—A. B., Stransone's Library, Colnbrook, Bucks.

GARDENER, OR BAILIFF AND GARDENER, or place of trust.—Married, without incumbrance; Wife understands Poultry.—Unexceptionable reference to JNO. DEVERELL, Esq., Purbrook Park, Portsmouth.

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| 2 ins. diameter | 0 | 3½ | each | 12 ins. diameter | 1 | 9 | each |
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| 4 ,, ,, | 0 | 5½ | ,, | 14 ,, ,, | 2 | 6 | ,, |
| 5 ,, ,, | 0 | 6½ | ,, | 15 ,, ,, | 3 | 0 | ,, |
| 6 ,, ,, | 0 | 8 | ,, | 16 ,, ,, | 3 | 6 | ,, |
| 7 ,, ,, | 0 | 10 | ,, | 17 ,, ,, | 4 | 0 | ,, |
| 8 ,, ,, | 1 | 0 | ,, | 18 ,, ,, | 5 | 0 | ,, |
| 9 ,, ,, | 1 | 2 | ,, | 19 ,, ,, | 6 | 0 | ,, |
| 10 ,, ,, | 1 | 4 | ,, | 20 ,, ,, | 7 | 0 | ,, |
| 11 ,, ,, | 1 | 6 | ,, | | | | |

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|---|---|---|---|
| 24 inches long | 2s 0d. | 16 inches long | 1s. 4d. |
| 22 ,, | 1 10 | 14 ,, | 1 2 |
| 20 ,, | 1 8 | 12 ,, | 1 0 |
| 18 ,, | 1 6 | Made to any length. | |

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|---|---|---|---|
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In 100 boxes,—4ths quality, 12s. 6d.; 3ds do., 14s. 4d.
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11 by 9, 13 by 9, 13½ by 10½, 12 by 11, 14 by 11
11½ by 9½, 12 by 10, 14 by 10, 12½ by 11½ .. ..

| | | |
|---|---|---|
| 20 by 12, 20 by 13, 20 by 14, 20 by 15 | per 100 feet | 16 oz. 21 oz. |
| | Common .. | 16s. .. 24s. |
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Paints, Genuine White Lead, Linseed Oil, Boiled Oil, Turpentine, Putty, Colours, Varnishes, Brushes, Lamp Glasses, &c.
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GUTTA PERCHA TUBING FOR WATERING GARDENS.
THE GUTTA PERCHA COMPANY have the pleasure to acknowledge the receipt of the following *Testimonial from* Mr. J. FARRAH, *Gr. to* BOSWELL MIDDLETON JALLAND, Esq., *of Holderness House, near Hull.*
"I have had 400 feet of your Gutta Percha Tubing, in lengths of 100 feet each, with union joint, in use for the last 12 months for watering these gardens, and I find it to answer better than anything I have ever yet tried. The pressure of the water is very considerable, but this has not the slightest effect on the tubing. I consider this tubing to be a most valuable invention for Gardeners, inasmuch as it enables us to water our gardens in about one-half the time, and with one-half the labour required."
Manufactured by the Gutta Percha Company, Patentees, 18, Wharf Road, City Road, London, and sold by their Wholesale Dealers in town and country.

SHAW'S TIFFANY is universally acknowledged to be the best, neatest, and cheapest material for shading conservatories, and other Hothouses. Effectually securing Plants from the scorching rays of the sun, without obscuring the light. Also, for protecting the Bloom of Wall Trees from spring frosts, and Fruit from birds and wasps. Sold in pieces.
No. 1.—20 yards long, by 38 inches wide, 5s. per piece.
No. 3.—Double strength, 18 yards long, by 39 inches wide, 7s. 6*d.* per piece.
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A liberal allowance to the Trade when ten or more Pieces are taken.—JOHN SHAW & Co., Princess Street, Manchester.

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JOHN R. PEILL, 17, New Park Street, Southwark, Manufacturer of every description of Buildings for Horticultural purposes, and Inventor of the Improved Conical Boiler for heating the same, is prepared to undertake works of any magnitude, and refers among others to the celebrated range of FORCING HOUSES at HER MAJESTY'S GARDENS, FROGMORE, and at SIR ROBERT PEEL'S, DRAYTON MANOR, constructed under the superintendence of his Manager, MR. JOHN JONES; and also to his BOILERS fixed at the CRYSTAL PALACE, the ROYAL BOTANIC GARDENS, REGENTS PARK, and KEW, and at several hundreds of the Nobility's seats, Public Establishments, and Manufactories in London and the provinces. J. R. P. also manufactures every description of Iron Roofs, Iron Houses, and Iron Fencing, plain and ornamental. Strong Iron Hurdles for Sheep (6 feet long, 3 feet high, with 5 bars), 4s. 3*d.* each; ditto for cattle, 4s. 9*d.* each.
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# The Gardeners' Chronicle Newspaper.

*SATURDAY, JUNE 25, 1859.*



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| 12 Table Forks .. .. | 1 | 18 | 0 | 2 | 8 | 0 | 3 | 0 | 0 | 3 | 10 | 0 |
| 12 Table Spoons .. .. | 1 | 18 | 0 | 2 | 8 | 0 | 3 | 0 | 0 | 3 | 10 | 0 |
| 12 Dessert Forks .. .. | 1 | 10 | 0 | 1 | 15 | 0 | 2 | 2 | 0 | 2 | 16 | 0 |
| 12 Dessert Spoons .. | 1 | 10 | 0 | 1 | 15 | 0 | 2 | 2 | 0 | 2 | 10 | 0 |
| 12 Tea Spoons .. . | 0 | 18 | 0 | 1 | 4 | 0 | 1 | 10 | 6 | 1 | 18 | 6 |
| 6 Egg Spoons, gilt bowls.. | 0 | 12 | 0 | 0 | 15 | 0 | 0 | 18 | 0 | 1 | 1 | 0 |
| 2 Sauce Ladles .. .. | 0 | 7 | 0 | 0 | 8 | 6 | 0 | 10 | 6 | 0 | 16 | 0 |
| 1 Gravy Spoon .. .. | 0 | 8 | 0 | 0 | 11 | 0 | 0 | 13 | 6 | 0 | 16 | 0 |
| 2 Salt Spoons, gilt bowls.. | 0 | 4 | 0 | 0 | 5 | 0 | 0 | 6 | 0 | 0 | 7 | 6 |
| 1 Mustard Spoon, gilt bowl .. .. | 0 | 2 | 0 | 0 | 2 | 6 | 0 | 3 | 0 | 0 | 3 | 9 |
| 1 Pair of Sugar Tongs .. | 0 | 3 | 0 | 0 | 3 | 9 | 0 | 5 | 0 | 0 | 7 | 0 |
| 1 Pair of Fish Carvers .. | 1 | 4 | 0 | 1 | 7 | 6 | 1 | 12 | 0 | 1 | 18 | 0 |
| 1 Butter Knife .. .. | 0 | 3 | 6 | 0 | 5 | 9 | 0 | 7 | 0 | 0 | 8 | 0 |
| 1 Soup Ladle .. .. | 0 | 13 | 0 | 0 | 17 | 6 | 1 | 6 | 6 | 1 | 1 | 0 |
| 1 Sugar Sifter .. .. | 0 | 4 | 0 | 0 | 4 | 9 | 0 | 5 | 9 | 0 | 8 | 6 |
| Total .. .. | 11 | 14 | 6 | 14 | 11 | 3 | 17 | 14 | 9 | 21 | 1 | 9 |

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## News of the Week.

A PRIVY COUNCIL was held at Windsor Castle on Saturday, at which the new Ministers took the oaths, and received from HER MAJESTY their seals of office. In the House of Commons on Wed-

nesday the writs for the seats vacated by the new Administration on their acceptance of office were ordered to be issued; and as no responsible Minister can be in his place for some days to come, both Houses have formally adjourned to Thursday next. The Ministerial appointments announced during the week include Mr. FITZROY as First Commissioner of Works; Mr. CARDWELL Secretary for Ireland; the Earl of CARLISLE, Lord-Lieutenant of Ireland; Mr. WILSON as Vice-President of the Board of Trade with the rank of a Privy Councillor; Mr. BRAND and Mr. LAING, Secretaries to the Treasury; the Earl of RIPON, Under-Secretary for War; Mr. THOMAS BARING, Under-Secretary for India; Mr. G. CLIVE, Under-Secretary for the Home Department; Mr. GILPIN, Secretary to the Poor Law Board; Sir R. BETHELL, Attorney-General; Sir H. KEATING, Solicitor-General; Mr. HEADLAM, Judge-Advocate General; Mr. MONCREIFF, Lord-Advocate for Scotland; Mr. J. D. FITZGERALD, Attorney-General for Ireland; Mr. Serjeant DEASY, Solicitor-General for Ireland; Sir W. DUNBAR, Mr. BAGWELL, Mr. WHITBREAD, and Mr. HUGESSEN, Lords of the Treasury; Mr. WHITBREAD, Civil Lord of the Admiralty; the Earl of ST. GERMANS, Lord Steward; Viscount SYDNEY, Lord Chamberlain; the Marquis of AYLESBURY, Master of the Horse; the Earl of BESSBOROUGH, Master of the Buckhounds; Viscount CASTLEROSSE, Vice-Chamberlain; Lord BURY, Comptroller of the Household; and the Duchess of SUTHERLAND, Mistress of the Robes. Sir BENJAMIN HALL and Mr. VERNON SMITH are to be raised to the peerage, the former by the title of Lord Llanover, and the latter by that of Lord Lyveden. Mr. Justice ERLE has been appointed Chief Justice of the Common Pleas, in the room of Sir ALEXANDER COCKBURN, who has succeeded Lord CAMPBELL as Lord Chief Justice of England, and Mr. WILDE is expected to succeed Mr. Justice ERLE as one of the Puisne Judges of the Queen's Bench.

From the seat of war we learn that the French are now quite close to the Mincio and the Lago di Garda, and that a great battle is close at hand. Prince NAPOLEON is marching northwards towards the Po, through the Duchy of Modena, with the object of co-operating with the allied troops which are ascending that river to besiege Mantua. The French fleet under Admiral Count BOUET WILLAUMEZ is approaching Venice, where an army is to be landed to take the Austrians in the rear. As these operations will bring the war into close proximity with the territories of the Germanic Confederation, the REGENT OF PRUSSIA has given orders for the early march of several army corps to the Rhine, and has announced to France and Sardinia that the line of the Mincio must be considered a defence of Germany,—a decision in which he is supported by all the minor States of Germany.

## Home News.

THE COURT.—The Queen, Prince Consort, and the Royal family returned to Buckingham Palace on Tuesday from Windsor. On Friday morning the Queen and Prince Consort walked and drove in the Home Park, and visited the Duchess of Kent at Frogmore. The Princess Helena rode out on horseback. The Duchess of Cambridge and Princess Mary, the Duke of Cambridge and all the other visitors, left the castle for London. The Earl of Derby had an audience of her Majesty, and afterwards returned to London. In the afternoon the Queen and Prince Consort rode on horseback, accompanied by Princess Alice, and honoured Madame van de Weyer with a visit at New Lodge, Windsor Forest. On Saturday morning the Queen and Prince Consort walked and drove in the Home Park, and visited the Duchess of Kent at Frogmore. At 1 o'clock the members of the late Ministry arrived at the castle, and had audiences on retiring from office. The Marquis of Salisbury had an audience on resigning office as Lord President of the Council. Lord Chelmsford had an audience, and delivered to her Majesty the Great Seal. The Earl of Hardwicke had an audience, and delivered to the Queen the Privy Seal. The Earl of Malmesbury, Sir E. B. Lytton, Gen. Peel, Lord Stanley, and the Right Hon. T. Sotheron-Estcourt had audiences, and resigned their respective seals as Secretaries of State. The Right Hon. B. Disraeli had an audience, and delivered to her Majesty his seal as Chancellor of the Exchequer. Sir John Pakington had an audience on resigning office as First Lord of the Admiralty. The Marquis of Exeter, K.G., had an audience, and delivered to the Queen his Wand of Office as Lord Steward of the Household. The Duke of Beaufort had an audience on resigning office as Master of the Horse. The late Ministers then quitted the castle, and returned to London by a special train on the Great Western Railway. At half-past 4 the Queen held a Privy Council, at which her Majesty declared Earl Granville Lord President of the Council. The Queen delivered the Great Seal to Lord Campbell, to whom the oath of Lord Chancellor was administered. The Marquis of Ailesbury, Sir W. G. Hylton Jolliffe, Bart., James Wilson, Esq., and T. E. Headlam, Esq., by the Queen's command, were sworn of her Majesty's Most Hon. Privy Council. The Duke of Argyll received from the Queen the Privy Seal, and took the oath of Keeper. The Duke of Newcastle, Lord John Russell, the Right Hon. Sidney Herbert, Sir C. Wood, Bart., and Sir G. C. Lewis, Bart., were sworn as Secretaries of State, and received from her Majesty their seals of office. The Right Hon. W. E. Gladstone took the oath as Chancellor of the Exchequer. Her Majesty in Council declared the Earl of Carlisle Lord Lieutenant of Ireland. The Right Hon. James Wilson was appointed Vice-President of the Board of Trade. The Earl of St. Germans had an audience, kissed hands on being appointed Lord Steward of the Household, and received his Wand of Office. The Marquis of Ailesbury had an audience, and kissed hands on being appointed Master of the Horse. The Earl of Besborough had an audience, and kissed hands on being appointed Master of the Buckhounds. Previous to the Council, Viscount Palmerston, Lord John Russell, and Earl Granville had audiences of her Majesty, and subsequently the Duke of Somerset and Sir Charles Wood. The Ministers left the castle soon after 5 o'clock, and travelled to London by a special train on the Great Western Railway. After the Council the Queen, with the Princess Alice, Princess Helena, and Princess Louisa, drove to Virginia Water. The Prince Consort accompanied her Majesty on horseback. On Sunday morning the Queen and Prince Consort, Princess Alice, Princess Helena, Princess Louisa, and Prince Arthur attended Divine service in the private chapel; the Dean of Windsor officiated. On Monday morning the Queen, accompanied by Princess Alice, visited the Duchess of Kent at Frogmore. The Prince Consort visited the Wellington College. Princess Helena and Princess Louisa rode out on horseback. In the evening her Majesty had a dinner-party. On Tuesday morning the Queen and the Prince Consort went to Frogmore, and visited the Duchess of Kent. In the afternoon her Majesty, the Prince Consort, and the Royal family left the castle for Buckingham Palace, travelling to town by a special train on the Great Western Railway. The Hereditary Grand Duchess of Mecklenburgh-Strelitz visited the Queen on her arrival in town. Her Majesty, accompanied by Prince Arthur and Princess Alice, took a drive in an open carriage and four. The Prince Consort rode on horseback. In the evening the Queen and Prince Consort, accompanied by the Princesses Alice and Helena, honoured the performance at the Haymarket Theatre with their presence. On Wednesday the Queen held a Court at which the Duke of Montrose had an audience, and delivered to her Majesty his seals of office as Chancellor of the Duchy of Lancaster. The Right Hon. Sir George Grey, Bart., had an audience, was sworn into office as Chancellor of the Duchy of Lancaster, and received from her Majesty his seals of office. In the afternoon the Queen, accompanied by the Princesses Alice and Helena, took a drive in an open carriage and four. The King of the Belgians, accompanied by the Count of Flanders, arrived at Buckingham Palace on a visit to the Queen. The Prince Consort, accompanied by the Count of Flanders, rode on horseback. In the evening the Queen gave a concert, to which a party of 360 were invited. On Thursday morning the King of the Belgians, accompanied by the Count of Flanders, paid visits to the Duchess and the Duke of Cambridge at St. James's Palace. The Duke of Cambridge visited the King of the Belgians at Buckingham Palace. In the afternoon the Queen held a Court, at which Earl Delawarr had an audience, and delivered to her Majesty his Gold Key and Wand of Office as Lord Chamberlain. Viscount Sydney had an audience, kissed hands on his appointment, and received from the Queen his Gold Key and Wand of Office as Lord Chamberlain. Viscount Newport had an audience, and resigned his Gold Key and Wand of Office as Vice-Chamberlain. Viscount Castlerosse had an audience, kissed hands on his appointment, and received from the Queen his Gold Key and Wand of Office as Vice-Chamberlain. Colonel the Right Hon. Cecil Forester had an audience of the Queen, and resigned his Wand of Office as Comptroller of the Household. Lord Bury had an audience, kissed hands on his appointment, and received from the Queen his Wand of Office as Comptroller of the Household. The Right Rev. Dr. Campbell had an audience of the Queen, and did homage upon being appointed Bishop of Bangor. Lord Harris had an audience on his return from India. Sir G. C. Lewis and Sir C. Wood had audiences of her Majesty. Her Majesty, accompanied by Prince Leopold and Princess Alice, took a drive in an open carriage and four. The Prince Consort rode on horseback. The Prince of Leiningen arrived at Buckingham Palace on a visit to the Queen. In the evening her Majesty had a dinner party.

THE KING OF THE BELGIANS, accompanied by the Count of Flanders, landed at Dover on Wednesday at half-past 12 under the usual salutes. His Majesty dined at the Lord Warden Hotel at half-past 3, and afterwards proceeded by the South-Eastern Railway to London, where he arrived shortly before 6. The Prince Consort received his Majesty at the Bricklayers Arms Station, whence the Royal party proceeded to Buckingham Palace in three of the Queen's carriages, escorted by a detachment of Light Dragoons. The Queen received his Majesty at the grand entrance of the Palace, accompanied by the Princes Arthur and Leopold, the Princesses Alice, Helena, Louisa, and Beatrice, the great officers of State, and the members of the Court.

THE CABINET.—A Cabinet Council was held on Monday at the official residence of the First Lord of the Treasury in Downing Street. Another Council was held on Wednesday, and another yesterday.

THE NEW ADMINISTRATION.—The following Ministerial arrangements have been announced during the week:—

*Lord-Lieutenant of Ireland.*—Earl of Carlisle.
*Secretary for Ireland.*—Mr. Cardwell.
*First Commissioner of Works.*—Mr. Fitzroy.
*Vice-President of the Council.*—Mr. Lowe.
*Vice-President of the Board of Trade.*—Mr. Wilson.
*Civil Lord of the Admiralty.*—Mr. Whitbread.
*Lord of the Treasury.*—Sir W. Dunbar.
" " Mr. Hugessen.
" " Mr. Bagwell.
*Financial Secretary of the Treasury.*—Mr. Samuel Laing.
*Under-Secretary for the Home Department.*—Mr. G. Clive.
" " *India.* Mr. Thomas Baring.
" " *War.*—Lord Ripon.
*Secretary to the Poor Law Board.*—Mr. Gilpin.
*Attorney-General.*—Sir R. Bethell.
*Solicitor General.*—Sir H. Keating.
*Attorney-General for Ireland.*—Mr. J. D. Fitzgerald.
*Solicitor-General for Ireland.*—Mr. Serjeant Deasy.
*Lord-Advocate of Scotland.*—Mr. Moncreiff.
*Judge Advocate-General.*—Mr. Headlam.
*Lord Steward.*—Lord St. Germans.
*Lord Chamberlain.*—Viscount Sydney.
*Master of the Horse.*—The Marquis of Ailesbury.
*Master of the Buckhounds.*—The Earl of Bessborough.
*Vice-Chamberlain.*—Viscount Castlerosse.
*Comptroller of the Household.*—Viscount Bury.
*Mistress of the Robes.*—The Duchess of Sutherland.
*Lords in Waiting.*—The Earl of Caithness, Viscount Torrington, Lord Camoys, Lord Rivers, Lord De Tabley, Lord Cremorne, and Lord Methuen.

JUDICIAL APPOINTMENTS.—Mr. Justice Erle has succeeded Sir A. Cockburn as Chief Justice of the Common Pleas, and it is most probable that Mr. James Wilde will succeed to the Puisne Judgeship vacant by Sir W. Erle's promotion.

PARLIAMENTARY MOVEMENTS.—New writs, rendered necessary by the accession of the new Ministry to office, have been issued for Tiverton, Oxford University, Radnor, Halifax, South Wilts, Morpeth, Ashton-under-Lyne, Oxford, Lewes, Calne, Devonport, Newcastle-on-Tyne, Wolverhampton, Norwich, Reading, Edinburgh, Ennis, Cork County, Kerry, Wigton Burghs, Clonmel, Bedford, and Sandwich. The Marquis of Chandos has been brought forward by the Conservative party as a candidate for the University of Oxford in opposition to Mr. Gladstone. The Conservatives of Newcastle have brought forward Mr. Cuthbert, of Beaufort, near Hexham, in opposition to Mr. Headlam. The elevation of Sir B. Hall to the peerage has caused a vacancy in Marylebone. The candidates at present in the field are Lord Fermor, Colonel Dickson, and Major Lyon, all in the Liberal interest. The Conservative party have invited Mr. B. B. Cabbell to come forward, but his decision is not yet known. Mr. Bernal Osborne, Mr. Raikes Currie, and Sir J. Walmesley were invited to offer themselves in the Liberal interest, but declined the invitation. The elevation of Mr. Vernon Smith to the peerage has caused a vacancy at Northampton. Lord Henley has offered himself for the vacant seat, and is expected to be returned without opposition. The Conservatives of Norwich have resolved to bring forward a candidate in opposition to Lord Bury. Sir Samuel Bignold is mentioned, but no positive choice has yet been made. Sir F. H. Goldsmid, Bart., has announced himself a candidate for Reading in opposition to Sir H. Keating. Colonel Wood has retired from the contest for Cork. Colonel Edward Somerset has resigned his seat for Monmouthshire, and Lord Poulett Somerset has offered himself as his successor.

THE NAVY.—The whole of the mechanics and labourers who have been employed working overtime in Portsmouth dockyard received orders from the Admiralty on Saturday to discontinue working extra hours, and it is reported that the Chancellor of the Exchequer will largely retrench the naval expenditure.

CONVOCATION.—Both Houses of the Convocation of Canterbury met at Westminster on Wednesday. In the Upper House, after the usual address to the Queen had been agreed upon, a petition was presented from Mr. H. Hoare for the revival of the powers of Convocation, and a discussion took place on a proposed new order of Missionary Bishops suggested by the Bishop of Oxford. In the Lower House the question of church-rates was the chief subject of discussion, and an address to the Upper House against their abolition was agreed to. On Thursday, in the Upper House, a discussion took place on the decay of chancels caused by the impropriation of tithes, and a committee was appointed to consider the laws of simony. It was resolved to appoint a joint committee to prepare a series of occasional services, and to consider a report on the expediency of appointing Missionary Bishops. In the Lower House the Address to the Crown led to a discussion of six hours, in reference chiefly to church-rates, Christianity in India, the Special Sunday Evening Services, the Divorce Act, and the admission of the Jews to Parliament. On the two latter points, amendments were moved by Archdeacon Denison for the introduction of clauses condemnatory of the mea-

sures, but a direct decision was evaded in each instance by the adoption of "the previous question." The address as amended was then agreed to. Yesterday morning the Upper House accepted certain paragraphs which had been added by the Lower House deprecating the abolition of church-rates, and the proposed revision of the Prayer Book, and praying for an extension of the episcopate. The House formally adjourned until Thursday next, when it will be communicated to the members on what day the address will be received by the Queen. The Lower House was engaged during the morning in discussing the resolution of the Upper House on the subject of missionary bishops, and appointed eight of its members to act with a committee of the Upper House in drawing up occasional services.

THE RIFLE CORPS MOVEMENT.—A numerously attended meeting of the members of the Middle and Inner Temple was held on Wednesday at Middle Temple Hall, and a similar meeting was held on Thursday in Lincoln's Inn, at which it was resolved to form a rifle corps to be composed of members of all the Inns of Court, and a committee was appointed to carry the resolution into effect.

## Foreign.

FRANCE.—Admiral Count Bouet-Willaumez has sailed from Toulon for the Adriatic with the first division of the siege fleet, consisting of the flagship Mogador, Gomer, Descartes, and Vauban, having in tow three floating batteries, the Tonnante, Dévastation, and Lave. The second division, composed of gunboats, will sail in a few days, escorted by the squadron of Admiral Desfosses. The *Gazette de France* publishes an article affirming that in 1830, when the Restoration fell, Charles X. was taking measures for the complete revision of the treaties of 1815, and that overtures on the subject had been made by the French Government to Russia, through its Ambassador, M. de Mortemart. It says:—

"In the month of September, 1829, a memorandum was read at a Council of Ministers, presided over by the King, and approved by him, containing the whole plan to be carried out, either by means of a Congress, or by a separate understanding with Russia and Prussia, and by the swords of the French soldiers. We shall simply give here the substance of the paper, which was based on the enfranchisement of the Greco-Slavonian soil, and on the thrusting back of the Turks on their Asiatic provinces. Russia was to receive, in Europe, Moldavia and Wallachia. Austria was to add to her possessions Bosnia, Turkish Croatia, the Herzegovina, and Servia. Servia and Bosnia, better defended by nature and art than Moldavia and Wallachia, were to serve as a counterpoise for what Russia gained on the Danube. Prussia was to be extended and strengthened towards Austria by the annexation of the kingdom of Saxony; she was thus to become a maritime Power, by the acquisition of Holland, and anti-English; but she was to yield up to France Sarrebruck and Sarrelouis; to Bavaria a portion of her Rhenish provinces, which enabled the latter State, by means of exchanges, to join two detached fragments of her territory, and to cede Landau to France; lastly, 1,400,000 Catholic subjects of Prussia would recover their Rhenish nationality, with a capital at Aix-la-Chapelle and a sovereign of their own religion, the King of Saxony. By this combination Prussia would no longer touch the French frontiers; a State incapable of injuring France was placed between her and Prussia; the bonds of religious unity would connect France with the intermediate State, and France also acquired three fortified places, which increased her security on the northern frontier. The King of Holland, it is true, lost his possessions, but he was to place upon his head the crown of the Constantines, and was to reign at Constantinople over an empire of 10,000,000 of souls. France was to enter into possession of the Belgian provinces to the Rhine and the Meuse. This plan, as a whole, conciliated all the interests of the Continent, and was susceptible of every modification of a nature to satisfy them."

—The *Siècle* contains the following observations on the elevation of Lord Derby to the dignity of Knight of the Garter:—

"In granting to Lord Derby the Order of the Garter, especially when there is no vacancy, which is contrary to all ordinary usages, Queen Victoria has acted in the plenitude of her power. But has she acted in conformity with the spirit and traditions of the English constitution? With all the respect we feel for our gracious ally, we must say that we do not think she has so acted in the present instance. What! The Cabinet of which Lord Derby is the head has been compelled to retire before the free and legal manifestation of public opinion. By its undecided attitude, its ambiguous and tortuous policy, it has incurred the heaviest responsibility that statesmen can assume; and yet its head is to be rewarded! If France is now in Lombardy, if blood is flowing, if Austria has imprudently provoked the severe chastisement which she has received, Lord Derby may smite his breast and say, 'It is my fault!' A word from him, a single word in harmony with the genius and traditions of England, would have arrested Austria, and prevented the war. That word he did not utter. When first condemned by the Parliament he did not yield, but made an appeal to the nation at large, which has solemnly confirmed the sentence of the first judges. It is before that sovereign verdict that Lord Derby's Cabinet is obliged to retire, and yet to this very Cabinet in the person of its chief, the Queen of England grants a signal honour. There is no vacancy in the Chapter of the Garter, and a new stall is created expressly for him, as if there were danger in delay; as if Lord Derby had just saved his country, or rendered to England one of those glorious services which public gratitude must immediately acknowledge. We do not hesitate to say that Queen Victoria, in so acting, has done a most impolitic act, and one altogether in discord with the prudent reserve which the head of a Constitutional State should always maintain. France might regard it as a distasteful proceeding—an indirect blame for her conduct—but we are unwilling to consider the matter from that point of view. We are far more inclined to dwell upon whatever may draw closer than on what may loosen our union with England. We therefore consider the fact in question in a purely English point of view."

SPAIN.—The Madrid journals are principally occupied with the acquittal of M. Collantes, and with the recognition of the Queen by the Infante Don Sebastian, which they regard as a death blow to the Carlist party. Two of the persons accused with M. Collantes, MM. Luque and Beratarrechea, were acquitted with him; the third, M. Maria Mora, formerly Director of Public Works, who did not present himself, and was tried by default, was declared guilty, and condemned to 20 years' hard labour at the galleys, to perpetual privation of political rights and of the privilege of occupying public offices, to 40 years' surveillance of the police, commencing on the expiration of his 20 years' hard labour, and, lastly, to a fine of 20,000 reals, and to pay back to the Treasury the 975,000 reals which he was accused of having embezzled.

PRUSSIA.—The news that Count Pourtalès, the Prussian Ambassador, has been sent to the headquarters of both the belligerent armies is said to be untrue. The count is expected soon in Paris. The official *Gazette* of Wednesday in a leading article says:—

"The Franco-Sardinian army is moving near the frontiers of Germany. The Prussian Government has repeatedly declared that it regards the security of Germany as intrusted to its care. The Italian conflict is assuming ever-increasing dimensions. England and Russia are arming on the greatest scale. The Prussian Government would be faithless to its duty, and to the sense of the nation, if it should neglect to act commensurately with that spirit by which Prussia has become great. Prussia is free from every engagement; she obeys only those obligations which spring from the innermost nature of her State interests. It will soon be seen whether Prussia's initiative will be supported with the necessary weight by the German States. Prussia's policy stands firm, and whoever lays obstacles in its way may consider that he is rendering services to the enemies of the Fatherland."

The subscriptions to the last loan of 30 million thalers amount to 31,875,100 thalers. The surplus of 1,875,100 thalers thus subscribed for will be deducted from the different allotments.

WEIMAR.—The Grand Duchess Dowager of Saxe Weimer, mother of the Princess of Prussia, and aunt of the Emperor Alexander, died on Thursday last.

BAVARIA.—Major-General von Tann left Munich on Monday for Berlin on a special mission.

AUSTRIA.—Count Rechberg left Vienna on Saturday for Verona, and it is believed that communications which were made to him on the previous Thursday by Baron Werther, the representative of Prussia at the Court of Austria, occasioned his departure for the headquarters of the Emperor. On the day mentioned Baron Werther was closeted with the Austrian Minister for more than two hours, and it does not admit of a doubt that matters of high importance were discussed during the prolonged interview. Men in office profess to think that Prussia is about to place herself at the head of the Germanic Confederation, and to make a demonstration on the Rhine, but that she will not take such a decisive step until she has come to a perfect understanding with Austria.

ITALY.—Despatches from the seat of war state that the Austrians, who in great force had occupied strong positions at Lonato, Castiglione, and Montechiaro, where they had fortified themselves with care, by embattling the walls, breaking the bridges, and constructing numerous batteries, have abandoned all those positions. The Emperor of the French, who entered Brescia on the 18th inst. with the King of Sardinia, left that city on Monday amid the enthusiasm of the inhabitants for the camp, and the allies have since occupied Lonato, Castiglione, and Montechiaro. The two great armies are now face to face, and a great battle is hourly expected. Prince Napoleon has commenced the advance of his troops from Tuscany, and at the latest dates was at Massa, on the borders of Modena, with the object of marching north towards the Po, through that Duchy, in order to join the main body of the liberating army under the Emperor, or to co-operate directly with the troops ascending the Po to besiege Mantua. It is asserted that the French are about to occupy Ancona. Fano, Urbino, Fossombrone, Jesi, and Ancona have pronounced for the national cause. The first Swiss regiment has left Rome for Perugia. The Russian Ambassador has given a banquet at Rome in honour of the French Commander-in-Chief, General Goyon. On Saturday morning the Emperor of Austria reviewed the 7th and 8th *corps d'armée* at the Camp of Lonato, before that position was abandoned. He was most enthusiastically cheered, and the Vienna journals state that the confidence of the troops has reached the highest point. An official account has been published of the losses of the Austrians at the battle of Magenta—63 officers and 1302 soldiers are said to have been killed, 218 officers and 4130 soldiers wounded, 4000 soldiers missing. The *Moniteur* recapitulates the French loss at Magenta as 323 killed, 2165 wounded, and 470 missing. The French loss at Melegnano was—154 killed, 725 wounded, and 64 missing. The news that a French *corps d'armée* has arrived in the Valteline is untrue. The news referred to a Lombard corps led by some of General Garibaldi's officers, which was stationed in the Valteline. Garibaldi has pushed his outposts as far as Balladore, in the direction of Bordio, which is occupied by 400 Austrians. On the 20th he marched from Salo towards Desenzano; but, meeting the enemy in considerable force withdrew. An Austrian steamer on the Lago di Garda fired on his men; but the Sardinian artillery silenced it. In conjunction with General Cialdini he has driven the Austrians from Castenedole, after having blown up the bridge over the Chiese, before the town of Montechiaro. The Austrians in great force have occupied the pass of the Stelvio, blown up the Devil's Bridge, and brought up their artillery into the pass. Austrian troops of the Italian regiments are repassing through the Tyrol for Germany; 3000 of them have arrived at Malo, and 3000 more are to follow. The Austrians continue to construct block-houses, redoubts, and fortifications at Nauders. Kossuth has arrived at Genoa from Marseilles. Count Cavour last week addressed a note to all the Ministers of Sardinia abroad, charging the Austrian General d'Urban with an act of barbarity and a violation of the laws of war in shooting a family of nine persons called Cignoli, because a small quantity of shot for sporting purposes was found in their house. In reply to this note the Austrian Government formally declares that the cruelties attributed to General d'Urban are entirely devoid of foundation, and that details will be published shortly. Letters from Rome to the 18th inst. announce that 2000 Papal troops which had been sent to Perugia to restore order, attacked that city on the 20th inst. Great resistance was made, although the defenders were few. After three hours' fight outside the town the Swiss entered, and the combat continued for two hours in the streets. The Swiss trampled down, and killed even women and inoffensive persons. The next day the outrages, arrests, and firing on the people recommenced. The town is in a state of siege. A collision has also taken place at Cervia between a detachment of Papal troops and the inhabitants. King Victor Emmanuel has refused the military dictatorship offered him by Bologna, and has stated to the Commissioners that he will disapprove of every act subversive of, or contrary to equity, and prejudicial to the cause of national independence. The King has also sent an aide-de-camp to the Pope to assure his Holiness that he has nothing to fear from the events now happening, and that the independence of the peninsula would be a guarantee and not a menace to the neutrality and integrity of the States of the Church. An amnesty has been proclaimed at Naples. Those condemned for political offences are amnestied, not including those amnestied on the 27th December and 18th March. The latter are to remain under surveillance: those suspected are pardoned. Common sentences are shortened by three years.

GREECE.—The King of Greece, in closing the legislative session at Athens on the 5th inst., congratulated the Chambers on the completion of a quarter of a century since his arrival, and promised to continue to carry out his views with regard to the "great interests and honour of the country." A change of Ministry has since taken place. Major-General Milius has been appointed Minister of War; Riga Palamedi, Minister of the Interior; Conduriotthis, Minister for Foreign Affairs; Zaïnis, Minister of Public Instruction and Public Works.

THE ADRIATIC.—The *Austrian Correspondence* announces that the French Government has strongly disapproved the conduct of the Admiral of the French fleet before Venice in capturing some barques belonging to fishermen. The Austrian vessel Buona, of the class No. 2, which had been captured by the French, has been given up as free, because its proprietor and its captain are Venetians.

RUSSIA.—The St. Petersburg official journal publishes an Imperial ordinance, authorising the Governor of Finland to contract a loan of five millions of roubles at 4 per cent. The sum is intended principally for public buildings. The committee on Jewish affairs has decided that Russian Jewesses married to Austrian Jews may remain in Russia, in case the Austrian Government, not recognising the marriage, shall prohibit their residence in Austria.

INDIA.—We have news from Bombay to the 23d May. The discontent of the European troops of the East India Company against the transfer of their services to the Crown, in the manner in which it has been effected, is the chief topic of interest in India. At Meerut, Allahabad, and Gwalior, a mutinous spirit has been exhibited by a portion of the troops; and though no overt act has yet been done by that branch of the European troops which belong to the Bombay Presidency, it is generally believed that they share the discontent of their brethren in garrison on the Bengal side. There are as yet no rumours of sympathy on the part of the Madras European forces. Lord Clyde appears to have acted with promptitude and discretion. Immediately on hearing of the disaffection at Meerut, he left Simla for Meerut, and having reached Kussowlee on his way thither, he issued an order directing a special court of inquiry to be convened for investigating the complaints of the men, and in the meantime the men who had been struck off duty for their disobedience have been allowed to return to their posts. At Kussowlee he received a telegram stating that his presence was no longer required, and accordingly he retraced his steps. Col. Johnson, Assistant-Adjutant-General of Artillery, shortly afterwards started from Meerut for Calcutta, to consult the Governor-General. Some of the Queen's troops, and among them a troop of the Royal Artillery, are said to sympathise with the malcontents. At the trial of the Nawab of Furruckabad, who has been sentenced to be hanged, it transpired that before his surrender a letter had been written to him by Major Barrow, the special commissioner with the camp of the Commander-in-Chief, in which he was invited to surrender, and that in his letter he was told that pardon had been extended to all who had not personally committed the murder of British subjects, and that if he had not personally committed the murder of British subjects he might surrender without apprehension. On the receipt of this letter he immediately surrendered. He now claims the fulfilment of the promise of pardon, being found guilty not of having personally committed the murder of English subjects, but of having been an accessory before the fact. The Governor-General in Council entirely con-

demns and disavows the act of Major Barrow, in making a promise contrary to the royal proclamation, and contrary to the express order of the Government, excepting the prisoner from all benefit of pardon. "But," says an Order in Council, "his Excellency in Council will not suffer it to be said that the prisoner, having been induced to surrender on the promise of a British officer in Major Barrow's position, has in consequence of that surrender been put to death for a crime of less degree than that which was designated by the officer as alone rendering him liable to punishment. The Governor-General in Council has therefore resolved to forbear from carrying out the sentence of the Court on Tufuzzal Hosein, on the condition that he shall immediately quit the British territory for ever. If he accepts this condition, he will be conveyed to the frontier as a convict under a military guard, and there set at liberty. If he refuse the condition, or if, having accepted it, he shall break it, or attempt to break it now or at any future time, the capital sentence pronounced upon him will be carried out."

EGYPT.—A supplement to the *Progresso di Egitto*, published on the 10th inst. at Alexandria, gives an important notification regarding the Suez Canal. It consists of a circular addressed by Scheriff Pacha, the Egyptian Minister for Foreign Affairs, to all the Consuls-General, recapitulating that it was expressly stipulated by the Egyptian Government that the cutting of the canal should not be commenced without the authorisation of the Porte, and announcing that although the Viceroy has manifested great interest in the enterprise, he has resolved not to tolerate its progress under any pretext until that authorisation shall have been obtained. The works actually going forward are considered to be in violation of this understanding, and the foreign consuls are therefore requested respectively to warn such of their countrymen as may be engaged upon them to desist forthwith, and not to force the Egyptian Government to resort to direct measures of interference.

UNITED STATES.—Accounts from New York state that the home squadron is to be still further increased, and that the frigate Sabine will soon proceed to the Gulf, where there will then be 10 vessels of war with an aggregate of 212 guns. It is also proposed to increase the Mediterranean squadron on the event of the extension of war in Europe. One of the great shipbuilders of New York has just completed a large screw steamer for the Russian Government. She is said to be the largest war steamer afloat, exceeding 8000 tons American measurement, and is furnished with an auxiliary screw of 800-horse power, which can be increased to 2000. Her trial trip, from which she has just returned, is reported to have been successful. She sails for Russia without guns, and takes them on board at Cronstadt.

# Parliament.

## HOUSE OF LORDS.

TUESDAY.—*The New Ministry.*—Lord REDESDALE, as Deputy Speaker, in the absence of the Lord Chancellor, said that he had been requested by Lord Granville to move that the House adjourn until Thursday next; but at the same time to state that no public business would be transacted until Thursday week.

THURSDAY.—The House met for about an hour and forwarded some Bills a stage.

## HOUSE OF COMMONS.

TUESDAY.—*Charing Cross Terminus.*—Considerable discussion took place on two private bills, one for the establishment of a terminus at Charing Cross for the South-Eastern and Brighton Railways, and the other the *London City Gas Bill*. Ultimately the opposition to both was withdrawn. The first was read a third time and passed, and the latter was read a second time. *Reform Bill.*—Mr E. JAMES gave notice that on Monday next he should ask the Government whether it was intended to bring in a Bill during the present session to reform the representation of the people. *The Navy.*—Lord CLARENCE PAGET said that he did not intend to proceed with the motion for a select committee to inquire into the shipbuilding department of the navy which stood in his name for that night; at the same time he hoped the House would place confidence in the sincere desire evinced by the noble Duke at the head of the Admiralty to carry out reform in this important branch of the public service. For his own part he could say that there was no necessity to spur a willing horse.—Mr. JACKSON then gave notice that early next session he should move for the appointment of a select committee on the subject. *The Admiralty.*—Sir C. NAPIER postponed for a fortnight his motion for a select committee to inquire into the state of the Admiralty with a view to its reconstruction. He expressed his opinion that, looking to the enormous naval armaments of France and Russia, it was absolutely necessary, even if the income tax were to be trebled for the purpose, to man every British ship that could be built.—Mr. WILLIAMS deprecated the continued croaking of the gallant admiral, and reminded him that he was the only naval officer in England who was afraid of invasion. *Public Playgrounds.*—Mr. SLANEY obtained leave to bring in a Bill to provide public walks and places of exercise for the working classes in great towns.—The Earl of MARCH obtained leave to bring in a Bill to provide for the payment of debts incurred by *Boards of Guardians* in unions and parishes, and boards of management in school districts. *The New Ministry.*—Mr. BRAND intimated, on the part of the Government, that as no responsible Minister could be in his place for some days to come, he should to-morrow move that the House at its rising adjourn until Thursday, the 30th June.—*Election Petitions* were presented complaining of undue elections at the following places:—Roscommon, Great Yarmouth, Sandwich (2), Athlone (2), Cheltenham, Kidderminster, Weymouth (2), Preston, Windsor, Carlisle, Dundalk, Dover, Bodmin, Bridgewater, Lyme Regis, Hull (2), Newry, Frome, King's County, Chatham, Peterborough ( ), Beverley (3), Wakefield, Merionethshire, Carlow, Kent, and Barnstaple (2). *Law of Landlord and Tenant.*—Mr BRADY gave notice that he would on the 30th inst. ask the First Lord of the Treasury if he intended to introduce any measure this session for the alteration of the laws in reference to landlords and tenants in Ireland

WEDNESDAY.—*New Writs* were ordered to be issued for the several seats vacated by the members of the new Ministry on their acceptance of office. Some discussion arose as to the writ for Sandwich, vacated by Mr. Hugessen. A petition had been presented against the return for the borough, on the ground of bribery, and it was contended that the writ ought not to issue till that petition was disposed of. Ultimately, the writ was ordered to issue, the petition progressing notwithstanding. *Breach of Privilege.*—On the motion that the House adjourn to the 30th inst., Mr. O. STANLEY drew the attention of the House to a statement which had appeared in the *Times* to the effect that Mr. Gilpin, one of the members for the borough of Northampton, had exhibited letters from the agents of the Tory party, in which a direct attempt was made to corrupt him in the discharge of his duties, and to influence him in giving his vote at the late no-confidence decision by the offer of pecuniary considerations of the grossest description. —Mr. BLACKBURN called attention to another paragraph, in which it was stated that Mr. V. Smith had been offered a peerage as compensation for the unwarrantable attacks that had been made on him while holding the office of President of the Board of Control.—Mr. T. DUNCOMBE observed that the latter statement was a mere squib, with which the House could not interfere. As for the former, those who had made the statement ought to be summoned to the bar of the House, and asked what authority they had when they ventured to put it forth.—Colonel DUNNE took the opportunity of vindicating his own conduct in regard to his votes on the Ecclesiastical Titles Bill, which had also been misrepresented by the public press. — After some remarks from Mr. CLIVE, Mr. LOCKE KING thought that the writer of the paragraph relating to Mr. Gilpin should be summoned to the bar of the House.—Mr. DUNCOMBE said that the matter could not remain where it was, and that the editor ought to be cited.—The SPEAKER observed that the question should be entertained as a motion of breach of privilege, and not on the adjournment of the House.—Subsequently Mr. GILPIN, who had not been present during the debate, made his appearance, and said that he had not seen the publication referred to, but at the same time he was prepared to give an immediate answer. It was true that he had received letters, the tendency of which, if he had been disposed to attend to them, might have biassed his vote. He had shown them to the political friends with whom he usually acted, and he was bound to say he had no proof whatever—neither had he ever said he had any proof, nor could he say he entertained the belief—that the offers in question came from the agents of the Conservative party. They were made in a way which might be considered as suggestions rather than offers; and he certainly should not have brought them under the notice of the House if the hon. member had not put the question to him.—Mr. BRADY said he did not consider Mr. Gilpin's reply altogether satisfactory, as he thought the hon. gentleman should have stated the nature of the offers made him.—Mr. STANLEY expressed his intention to consider the subject, with a view of again bringing it under the notice of the House. The House then adjourned until Thursday next.

## ELECTION ADDRESSES.

LORD PALMERSTON has issued the following Address to the Electors of Tiverton:—

94, Piccadilly, June 20.

"Gentlemen,—Her Majesty having been graciously pleased to confer upon me the office of First Lord of the Treasury, my seat in the House of Commons has become vacant, and I again solicit the honour of continuing to be one of your Representatives in Parliament. I have so lately had the honour of being among you that I deem it unnecessary in this address to enter at length into the grounds on which I rest my claim to your confidence. I have been charged by our Sovereign with the duty of forming an Administration, and I trust that I have been enabled to perform that task in a manner that will prove satisfactory to her Majesty, to Parliament, and to the country. It will be one of the great objects of the Government so formed to preserve for their country the blessings of peace, and to take advantage of any favourable opportunity that may present itself to exert the moral influence of Great Britain to assist in restoring peace to the Continent of Europe. We shall also have to consider the important question of the amendment of the laws which regulate the representation of the people in Parliament; and I trust that we may be able so to deal with that subject as to strengthen the institutions of the country by placing them on a broader and firmer foundation.—I have the honour to be, gentlemen, your obedient and grateful servant, PALMERSTON."

MR. GLADSTONE has addressed the following letter to the Provost of Oriel in reference to the approaching election for the University:—

"11, Carlton House Terrace, June 17.

"My dear Provost of Oriel,—This day is the first on which I have felt myself at liberty to address any statement respecting my intended assumption of office as Chancellor of the Exchequer even to those who will have either to grant or to refuse me re-election. The question raised by the proposal I have received has for me been a simple one. I trust it may be equally so to others if I recall their attention to past events. Various differences of opinion, both on foreign and domestic matters, separated me, during great part of the administration of Lord Palmerston, from a body of men with the majority of whom I had acted, and had acted in perfect harmony, under Lord Aberdeen. I promoted the vote of the House of Commons in February of last year which led to the downfall of that Ministry. Such having been the case, I thought it my clear duty to support as far as I was able the Government of Lord Derby. Accordingly on the various occasions, during the existence of the late Parliament, when they were seriously threatened with danger or embarrassment, I found myself, like many other independent members, lending them such assistance as was in my power. And, although I could not concur in the late Reform Bill, and considered the dissolution to be singularly ill-advised, I still was unwilling to found on such disapproval a vote in favour of the motion of Lord Hartington, which appeared to imply a course of previous opposition, and which has been the immediate cause of the change of Ministers. Under these circumstances it was, I think, manifest, that, while I had not the smallest claim on the victorious party, my duty as towards the late advisers of the Crown had been fully discharged. It is hardly needful to say that, previously to the recent vote, there was no negotiation or understanding with me in regard to office; but when Lord Palmerston had undertaken to form a Cabinet he acquainted me with his desire that I should join it. A proposal of that kind must be answered by reference to the paramount interests and duties of the period when it is made. These, in the present instance, are without doubt to be found, first, in the guidance of our foreign policy with respect to the Italian war; and, secondly, in the settlement of the weighty subject of Parliamentary Reform. With respect to the first of these, ever since my mind was turned to the case of Italy, my views and convictions have been in unison with those of the statesmen who will now be chiefly charged with our foreign affairs. It is thus my clear duty, in or out of office, to support them in the difficult task of so maintaining the neutrality of England as not to lose the openings which events may offer for using her impartial influence on behalf of the stability and justice of political arrangements abroad, and of the peace and happiness of Europe. With respect to reform I understood the counsels of Mr. Walpole and Mr. Henley, and I believe that if they had been followed the subject of reform would in all likelihood have been settled at this date, without either a dissolution of Parliament or a change of Administration. But I have never understood the principles on which that subject has been managed since the schism in the late Government. I also think it undeniable that the fact of the dissolution, together with the return of an adverse and now no longer indulgent majority, rendered the settlement of this question by the late Ministers impossible. I therefore naturally turn to the hope of its being settled by a Cabinet mainly constituted and led by the men together with whom I was responsible for framing and proposing a Reform Bill in 1854. It thus appeared clear to me, not only that opposition on my part to the Government of Lord Palmerston would be an unprincipled course, but that these were precisely the circumstances which brought into its fullest force the duty of rendering service and support to those who, having been honoured with the confidence of her Majesty in a critical state of Parliament and of parties, are to be charged with the conduct of affairs graver and more arduous perhaps as a whole for England than any since the peace of 1815. I have long known and lamented the public inconvenience brought about by separate action; and, subject to the conditions of honour and of public utility, I could not with propriety pass by any opportunity of bringing it at least in my own person to a close. I understand that misgiving exists with respect to my sitting in a Cabinet of which Mr. Gibson is a member, and which Mr. Cobden will be invited to join. The very same feelings were expressed, as I well recollect, when the late Sir William Molesworth entered the Cabinet of Lord Aberdeen. Sir William Molesworth never to my knowledge compromised his political independence; yet these apprehensions were, I think, not justified by the subsequent course of events. But all experience, by no means excepting that of the late Government, seems to show that Cabinets cannot in the present state of things be constituted without including some, and perhaps wide, differences of opinion, even upon questions of high import. The real moment of these differences cannot be tested by mere reference to anterior and abstract declarations; but only in the practical application of principles, under the weight of responsibility for the conduct of affairs. I may perhaps venture to add, that among the faults which have at any time been found in me, has never been that of an undue subserviency to the opinions of others. Were I permitted the mode of address usual upon elections, I should, after this preliminary explanation, proceed to submit with confidence to my constituents that, as their representative, I have acted according to the obligations which their choice and favour brought upon me, and that the Ministry which has thought fit to desire my co-operation is entitled in my person as well as otherwise to be exempt from condemnation at the first moment of its existence. Its title to this extent is perhaps the more clear, because among its early as well as its very gravest duties will be the proposal of a Reform Bill, which, if it be accepted by Parliament, must lead after no long interval to a fresh general appeal to the people; and will thus afford a real opportunity of judging whether the public men associated in the present Cabinet have or have not forfeited by that act, or by its legitimate consequences, any confidence of which they may previously have been thought worthy. Your kindness in proposing my name to Convocation on so many successive occasions has led me to trouble you with this lengthened letter. I hope it may be justified by the gravity of the present juncture; and, having so far trespassed on your patience, I cheerfully leave in the hands to which it belongs the task of considering what course the honour of the University may require.—I remain, my dear Provost of Oriel, very sincerely yours, "W. E. GLADSTONE."

# City Intelligence.

MONEY MARKET, FRIDAY.—BRITISH FUNDS: Consols after falling to 91⅞ closed at 92⅛; Reduced and New Three per Cents., 92⅜ to ⅝; Indian Four per Cent. Debentures of last year, 94⅛ to ¼; Scrip of New Indian Loan, 93⅜ to ½; Exchequer Bills, 26s. prem.—FOREIGN: Danish Three per Cents., 1825, 80½; Dutch Four per Cent Certificates, 97 to 96¾; Mexican Three per Cents., for Acct., 18 to 17¾; Spanish Three per Cents., 42; Ditto for Acct., 42 to 41¾; Turkish Six per Cents., 1854, 72; Ditto for Acct., 70 to 71½; Ditto 1858, for Acct., 59½ to 59¼.

# Bank of England.

ISSUE DEPARTMENT.

| | | | |
|---|---|---|---|
| Notes Issued .. .. .. | £31,898,305 | Government Debt .. .. | £11,015,100 |
| | | Other Securities .. .. | 3,459,900 |
| | | Gold Coin and Bullion .. | 17,423,305 |
| | | Silver Bullion .. .. .. | |
| | £31,898,305 | | £31,898,305 |

BANKING DEPARTMENT

| | | | |
|---|---|---|---|
| Proprietors' Capital .. .. | £14,553,000 | Government Securities (including Dead Weight Annuity) .. .. .. .. | £11,281,548 |
| Rest .. .. .. .. .. | 3,171,066 | Other Securities .. .. | 18,376,675 |
| Public Deposits (including Exchequer, Savings Banks, Commissioners of Nat. Debt, and Dividend Accts.) .. .. .. | 9,304,619 | Notes .. .. .. .. .. | 11,447,900 |
| Other Deposits .. .. .. | 14,019,013 | Gold and Silver Coin .. | 687,140 |
| Seven day and other bills | 744,742 | | |
| | £41,792,440 | | £41,792,440 |

23d day of June, 1859. M. MARSHALL, Chief Cashier.

# Gazette of the Week.

TUESDAY—BANKRUPTS—S. CARTER, Fen Stanton, Huntingdonshire, Corn Merchant—C. F. COTTRELL, Chichester Street, Harrow Road, Paddington, Linendraper—R. DAVIES, Llandrillo-yn-rhos, Denbighshire, Victualler—W. D. SHUTT, High Street, Shoreditch, Ironmonger—D. and J. C. SHUTT, Liverpool and Shanghai, Merchants—A. STANNARD, Little Cadogan Place, Chelsea, Livery Stable Keeper—W. TRUMP, Wellington, Somersetshire, Wine Merchant.

SCOTCH SEQUESTRATIONS—D. BALLANTYNE, Hamilton, Spirit Dealer—J. DUNN, Glasgow, Flesher—J. GALLOWAY, Abington, Carmer—HENERY, Airdrie, Grocer—J. G. MORDEY, Dunse, Berwick, Farmer.

FRIDAY—BANKRUPTS—J. ALLISON, Stockton-upon-Tees, Cattle Dealer—J. CLARKE, King's Lynn, Victualler—R. DAVIES, Mocndre, Denbighshire, Innkeeper—J. ELLIMAN, Slough, Draper—J. HOLDSWORTH, Newmarket, Farmer—Wolverhampton, Timber Merchant—B. PARRY, H. J. PAYNE, Exmouth, Coal Dealer—E. PETERS, Bilston, Wine and Spirit Merchant—G. SMEDLEY, New Sleaford, Lincolnshire, Glass and China Dealer—S. TREACHER, Fenchurch Street, City, Licensed Victualler—G. WOOD, Rayleigh, Essex, Builder.

SCOTCH SEQUESTRATIONS—A. BELL, Hamilton, Lanarkshire, Dealer in Cloth—T. DORIN, Glasgow, Spirit Dealer—J. HASTINGS, Glasgow, Warehouseman—J. TAYLOR, Edinburgh, Builder.

# Metropolis and its Vicinity.

ELECTION OF SHERIFFS.—At a common hall yesterday, under the presidency of the Lord Mayor, Mr. Alderman Phillips and Mr. Alderman Gabriel were elected Sheriffs of London and Middlesex for the ensuing year.

DINNER TO THE BISHOPS AT THE MANSION HOUSE.—On Tuesday evening the Lord Mayor gave a banquet to the Archbishops, Bishops, and Clergy on the annual celebration of the Society for the Propagation of the Gospel in Foreign Parts, in behalf of which a sermon had been preached in the morning at St. Paul's by the Bishop of Bath and Wells. The Lord Mayor, in proposing the health of the Archbishop of Canterbury,

noticed the support given by the City to the Society for the Propagation of the Gospel, of which his grace was the president. He then referred, in terms of strong reprobation, to the refusal of the late Ministry to introduce the Bible into the Government schools in India. They had heard in the sermon preached before them that morning what were the feelings of the bench on that subject, a feeling which he was sure was shared by the clergy at large. The Archbishop of Canterbury, in returning thanks, said that the peculiar position of Great Britain involved peculiar duties towards those with whom she came in contact. She received rich commodities from the rest of the world, and it was incumbent on her to give in return that truth with which she was entrusted by God's providence. The merchant who obtained boundless wealth by the teas of China, or the silks of India, could not but feel that he was bound to contribute to the efforts of a society like that of the Propagation of the Gospel in Foreign Parts; while the trader to Africa for his ivory or gold dust must remember the utter degradation of the countries from whose productions he derived his profits. He quite agreed with the Lord Mayor in the necessity of introducing the Scriptures into India. Referring to the development of missionary societies, he observed that if the increase of commerce in London has been fourfold during the course of the century, that of missionary societies had been fifty-fold. At the commencement of the century the income of the Society for the Propagation of the Gospel had been but about 2000*l.*; it was now 100,000*l.* There were then only two or three societies, of which the aggregate income was not more than 10,000*l.*; there were now several societies with an aggregate income of 100,000*l.* The feeling of the British people would, he was persuaded, carry them yet further. The Bishop of London in returning thanks for his health said that it was now only 18 years since his eminent predecessor had laid the foundation of our great colonial episcopate, under the auspices of that society, which had by itself been mainly instrumental in founding the see of Gibraltar. At that time no one could have anticipated the importance to which the Colonial Church of England had attained. Adverting to his own diocese, he said that many had expressed fears that the Church would not be able to keep up with the spirit of the age. He could contradict this from his own experience; each succeeding ordination brought forward young men more and more fully alive to the duties of their office, and able to undertake and to sustain them. As to the Society for the Propagation of the Gospel, its efforts were not confined to the heathen. It had effected great good both in the colonies and at home. The Bishop of Brisbane having acknowledged the toast of the "Colonial Bishops," and the Marquis of Westminster having returned thanks for the House of Lords, the **Lord Mayor proposed the health of Lord John Russell in connection with the toast of the House of Commons.**

Lord J. Russell, in acknowledging the toast, said he hardly knew how properly to make a speech in answer to it, because he did not at that moment legally belong to the House of Commons, and was not therefore the proper person to represent it at his lordship's table. However, he had had the honour in former times of being a member for the City of London, and he hoped he would at some future time enjoy the same honour. Therefore he might, perhaps, on that occasion venture to return thanks for the House of Commons. He could still less venture to make any speech in the capacity of Secretary of State for Foreign Affairs, but he could heartily respond to the wish of the right rev. prelate that this country might remain at peace. It was not with any selfish view that they adopted that policy of neutrality which had met with the general assent of the country. It was not merely with the view of saving expenditure, though that was a great public object; it was not merely to save life, though that was a humane object, but his belief was that peace was more likely to be restored to the world while we refrained from entering into hostilities and awaited for the time when contending passions would be somewhat calmed down, and the voice of reason would be heard recommending terms to which the belligerents and all parties would assent. He thought his lordship was quite right in wishing health to the House of Commons when it was remembered that its members were about to sit day and night together during the months of July and August in the close vicinity of the Thames. There was one topic to which his lordship had alluded which was too serious for discussion on such an occasion. He alluded to the introduction of the Bible in the schools of India, upon which the wishes of all men were the same, but with regard to which the mode of proceeding to be adopted required the greatest caution and the greatest toleration for the opinions of our fellow-subjects in India. But with respect to the object no man could more heartily agree with it than he did.

PREACHING IN COVENT GARDEN MARKET.—On Sunday afternoon many hundreds of persons were attracted to Covent Garden Market by an announcement that the Rev. Lord Wriothesley Russell, Canon of Windsor, and Deputy Clerk of the Closet to the Queen, and half-brother of Lord John Russell, M.P., and of the Duke of Bedford, would preach the first of a series of out-door sermons under the auspices of the London Diocesan Home Mission, of which the Bishop of London is president. At a few minutes before 3 o'clock a temporary platform was raised in the large space to the north of the grand avenue, and upon this, precisely as the clock of the church of St. Paul struck 3, Lord W. Russell and the Rev. Henry Hutton, the rector of the parish, took their stand. Lord W. Russell wore his black preaching gown. Mr. Hutton gave out the 23d Psalm, which was sung by the congregation; after which he read a chapter from the New Testament and offered up a prayer. The 100th Psalm was then sung, printed copies of it being handed about for the accommodation of those who might not be acquainted with the words. Lord W. Russell then proceeded to deliver his sermon, taking his text from the 11th chapter of St. Matthew, verse 28—"Come unto me all ye that labour and are heavy laden, and I will give you rest." His lordship engaged with great earnestness on the all sufficiency of Christ, and dwelt upon the rest and happiness of those who trusted in Him with the full assurance of faith. After preaching about half an hour, during which time he was listened to with marked attention, he stated that it had been with the greatest pleasure he had responded to the call to preach there that afternoon, and then informed the people that the services would be continued every Sunday afternoon until further notice. The sermon to-morrow afternoon will be preached by the Rev. Henry Hutton, rector of St. Paul's, who will take his stand near the western end of the grand avenue, the situation taken last Sunday not having been found a favourable one for the conveyance of sound. These services, promoted by the Diocesan Home Mission, are designed for the working classes, but the congregation in Covent Garden Market on Sunday was composed chiefly of well-dressed persons, principally men. When prayer was offered nearly every man present took off his hat, and the most respectful silence prevailed. Lord Charles Russell, (the Serjeant-at-Arms of the House of Commons), Lord E. Russell, and Mr. Alcock, M.P., were among the auditory.

THE HANDEL COMMEMORATION FESTIVAL.—The grand full rehearsal took place on Saturday morning in presence of a vast audience, amounting to 19,680 persons. The first of the three festivals took place on Monday, when the "Messiah" was performed with complete success in the presence of 17,109 persons. The second festival, which comprised the "Dettingen Te Deum," and other compositions, took place on Wednesday, and was attended by 17,644 persons; and the third festival took place yesterday, when "Israel in Egypt" was performed in the presence of the Prince Consort, Princess Alice, Princess Helena, the Count of Flanders, and a numerous suite. The homage to Handel was not restricted to a performance of his music but embraced portraits, relics, MSS., &c., which for the admirers of the composer had an interest second only to his mighty inspirations. The Roubillhac statue of Handel, the property of the Sacred Harmonic Society, was placed in front of the orchestra, as in 1857. Among the decorations of the orchestra and in the Handel court were the portrait of Handel, by Denner, presented to the Sacred Harmonic Society by Lady Rivers; and another portrait by Hudson, the property of Mr. Martin, of Lee, who kindly lent it for exhibition during the festival week; autograph scores of the composer's works contributed by her Majesty and by M. Victor Schoelcher, an autograph letter, a duplicate of his will, the original inventory of his effects, taken after his decease, his watch, his tuning fork, miniatures, &c.

PRESENT TO M. AND MADAME GOLDSCHMIDT.—A few months ago M. and Madame Goldschmidt (Jenny Lind) gave a concert at Exeter Hall in aid of the Nightingale Fund, which realised more than 2000*l.* A meeting was held a few days since at the Mansion House, at which the Lord Mayor presided, for the purpose of presenting them with a copy in marble of Mr. Durham's bust of the Queen, as a mark of the regard and admiration of those interested in the undertaking. M. Otto Goldschmidt acknowledged the present in feeling and impressive terms, and said he and his wife would receive the bust in their new home as one of its *penates*, and that the gift would be preserved by their children and their children's children.

NEW GUN VESSELS FOR HER MAJESTY'S SERVICE.—The following shipbuilding firms have contracted with the Government for the supply of 18 new gunboats of 150 tons each:—Mr. Green, 2; Mr. Wigram, 4; Mr. Mare, 3; Mr. Pitcher, 1; Scott Russell & Co., 3; Thames Shipbuilding Company, 2; Miller & Co., of Liverpool, 2; Mr. White, of Cowes, 1. These vessels are required for speed, and will therefore have fine lines and light scantling, and be fitted with engines of 80-horse power. From the specifications it appears that they are intended to carry Armstrong's guns.

COLONIAL OFFICE.—Sir E. B. Lytton, while Secretary of State for the Colonies, requested the Council of the Royal Society to favour him with any scheme or suggestions with reference to the preparation of works descriptive of the zoology, botany, and the geology of the British colonial empire. In accordance with this request the Council has forwarded a report to the Colonial Office, embodying various suggestions, and adding a strong recommendation that the scheme should also comprehend researches in terrestrial physics.

STATE OF THE THAMES.—At the last meeting of the City Commissioners of Sewers, Dr. Letheby, the medical officer of health, presented a report on the present state of the Thames, from which the following is an extract:—

"The water is now in a high state of putrefaction; in fact the Thames has been in a very offensive condition for rather more than a fortnight, and has been evolving the same kind of gases and vapours as were let loose from it during the hot summer of last year. It will be remembered, however, that on that occasion the foul state of the river was not observed until about the middle of June, when the temperature was as high as from 70° to 80°, which is nearly 15° above the average for the season, and then there had been a long continuance of dry weather. But this year it is seen a month earlier, without any remarkable elevation of temperature, for the last of the preceding three weeks was below the average (60°), and there was a total fall of nearly 2 inches of rain. I fear, therefore, that it is a sign of what may be expected during the hot months of July and August, and it clearly indicates the necessity for sanitary precautions. The investigations which were carried on during the last summer may perhaps be of service in the present case, for at the request of Messrs. Bidder & Hawksley, who were anxious to discover the cause of the fetid condition of the river, I made a full inquiry into the matter. The water was examined chemically and microscopically, it was tested at high and low tides, at mid-stream and near to the shore, it was collected at many places between Isleworth and London Bridge, and the inquiry was conducted with regularity every day during the whole time that the river was foul. The general results of the investigations were that the river was highly charged with sewage and sea water, and that the circumstances which attended or preceded the fetid decomposition, were a remarkably hot season, a continued absence of rain, a diminution in the public water supply, a flowing up of the oceanic or tidal sea wave to an unusual height, and the sudden discharge of a large quantity of very offensive sewage from the sewers and stagnant sewers, by a heavy fall of rain—the discharge occurring about low tide, when instead of its passing away to sea, it flowed upwards to the higher districts of the river and then oscillated between the extreme ranges of the tide. The inquiries which I have again instituted during the last fortnight have shown a similar condition of things, for the river at London Bridge is now overcharged with sewage and sea water. In ordinary times the proportion of soluble matter in the water of that locality, at mid stream, is about 20 grains per gallon, of which nearly 30 are common salt, and from three to four organic impurity, but at present it contains about 97 grains per gallon of solid matter, of which 61 are common salt, and rather more than seven are organic impurities, and these are in a high state of decomposition, and are giving off ammonia, with that peculiarly offensive vapour which I have already described. The water near to the shore is still more offensive from sewage and corrupting mud, but it does not contain so large a proportion of solid saline matter. This, compared with the mean of all experiments made during the last seven of last summer, shows that the river is not yet charged to so high a degree as it was then; for the average proportion of solid matter in the water at London Bridge was 166 grains per gallon: at Blackfriars, 154 grains; at Hungerford, 116; at Westminster, 118; at Vauxhall, 67; at Chelsea, 84; and at places between Chelsea and Isleworth it was from 33 to 17 grains. It may therefore be concluded that 17 grains per gallon is the amount of solid matter naturally contained in the inland water of the Thames; but as the stream flows downwards, and gets the sewage of the metropolis and the tidal current of the ocean, it rapidly becomes charged with impurities to the extent of from 166 grains per gallon to nearly 409, of which from 14 to 24 are dissolved organic matter. The last number in each case is the average of high water in mid stream at London Bridge, and the second at Greenwich. As it was last year, so also it is now—the water in the middle of the river is charged with the highest forms of infusorial life, but that which is near to the shore is poisonous to every living thing but vitriones, and the simplest of vegetable fungi."

THE MURDER AND SUICIDE IN ST. PANCRAS.—The inquest in the case of Elizabeth Cruft, who murdered her two children by cutting their throats, and afterwards committed suicide was concluded on Saturday. The evidence showed that her grandfather and three uncles had committed suicide, and that she was suffering from hereditary madness, though she was in all other respects a kind-hearted gentle creature. The jury found that "Mrs. Cruft inflicted the wounds on her children and herself, not being in a sound state of mind at the time." The Coroner made some forcible observations on the imprudence and danger of young men contracting marriages with members of families where symptoms of lunacy had manifested themselves. Madness was hereditary, and it would surely display itself. Men inevitably made misery for themselves by contracting such marriages. A juror remarked that people did not generally think of such things. The Coroner said it was not that people did not think of such things, but unfortunately other feelings too frequently overpowered the judgment. The reasoning powers were not sufficient to overcome other feelings.

MURDER AT WALWORTH.—William Abraham Moore, a general dealer, late of Trafalgar Street, Walworth, for whose apprehension on a charge of murdering his wife a reward of 100*l.* had been offered by Government, was captured on Saturday evening, at Notting Hill. It appears that on the 23d ult Moore and his wife were among a few friends, when a young man, one of the party, who was paying his addresses to deceased's sister, kissed Mrs. Moore. A feeling of jealousy was consequently excited in the mind of Moore, ending in his determination to take the life of his wife. That night they slept in separate beds, and on the following morning he carried his design into execution by stabbing her in the lower part of the back, the wound causing her death. A coroner's jury found a verdict of Wilful Murder against him, and a warrant for his apprehension was accordingly issued. He however absconded immediately after the infliction of the fatal wound, and had not since entered the neighbourhood. On Saturday last he was seen at Notting Hill and information having been given to the police, he was taken into custody and conveyed to Carter Street station, Walworth Road, where he was again identified. On searching the prisoner a letter which had been torn asunder was found upon him, with an empty phial and sixpence. The letter was addressed to his mother, and set forth that he had committed an act against God but not against man, and that his wife was too indiscreet to entertain the proper feelings between man and woman. It further stated that when she would be in possession of that letter he would be no more, as it was really necessary that he should commit suicide. After expressing his good wishes for the welfare of his children, the letter concluded by subscribing himself her unhappy son. On the presentation of this letter Moore remarked that it was only by strong persuasion that he had not carried his design into execution, which would have prevented his presence there. The charge being entered against him he was conducted to a cell, a constable remaining with him. On Sunday he appeared in a very desponding mood, and spoke but little. He was brought up on Monday for examination at the Lambeth Police Court and remanded to a future day.

THE PUBLIC HEALTH.—The Registrar-General's report states that the deaths in London in the week that ended Saturday, June 18, were 913. In the corresponding week of the 10 years 1849-58 the average number was 973; which, it raised in proportion to the

increase of population, becomes 1070. The return of last week was therefore 157 below the average. During the week the births of 852 boys and 841 girls, in all 1693 children, were registered in London. In the 10 corresponding weeks of the years 1849-58 the average number was 1470.

## Provincial.

BRADFORD.—A burglary was committed on Saturday morning in a lonely farmhouse, called the Ing Head, occupied by a young woman named Sarah Gledhill. For the last five months, since her father's death, Miss Gledhill has been the only occupant of the house. On Saturday morning she was awakened by a noise at the parlour window. She immediately rose, and, while hastily dressing, a man came across the parlour, and as he stood before her she demanded what he wanted. He answered that he was on his way to Halifax, and that he had come for money, and intended to have it. He then seized Miss Gledhill roughly by the throat, and demanded her money. She offered a firm resistance, and called aloud for "Jane," an old woman who chanced on that night to be sleeping in the house. The burglar, evidently disconcerted by the presence of another person, instantly withdrew his grasp, and beat a hasty retreat. Miss Gledhill seized the poker, but the burglar hastily turned upon her, and, after a violent struggle, disarmed and threw her with great violence against the wall on one side of the room. He then disappeared, taking with him the poker. Miss Gledhill saw his features by the light of the moon, and felt satisfied that she knew the burglar. On Saturday evening she proceeded to this town, in company with a police officer, in search of the delinquent. He was immediately recognised from the description by an officer of the borough police, and in a very short time an Irishman, who gave his name as James Renza, was apprehended, and identified by Miss Gledhill as the burglar. On Saturday night he was lodged in the Court House, and on Sunday morning he hung himself in the cell. The gaoler, on going to the cell at the next hour, discovered him suspended by a neckerchief to a ring in the wall. On Monday the coroner held an inquest on the body, and the jury returned a verdict of *Felo de se*.

CHATHAM.—A murder was attempted on Sunday morning in this town from motives of jealousy. A man named Masters had until lately been for some time living with a woman of disreputable character, who was known to have a husband still living. Another man named Wilkins, with whom she had before been intimate, recently came to Chatham, and induced her to leave Masters and return to him. Masters then conceived the most deadly animosity towards Wilkins, and has frequently been heard to make use of threatening language towards him. On Saturday night Wilkins, Masters, and the woman were at a public-house in High Street, drinking together. Wilkins and the woman after a time went away to a beer-house in Skinner Street, and remained drinking there for some time. During the time they were in the beer-house Masters was standing outside the back of the house, as if waiting for them to come out. Nothing more was seen of him, but about 3 o'clock the woman was awoke by blood trickling over her, when to her horror she discovered Wilkins lying by her side with his throat cut from ear to ear, and apparently dead. The window of the room in which they were sleeping was wide open, and it was evident that the person who had committed the act had entered and escaped by that means. The police were soon on the spot, and Wilkins, who gave signs of life, was at once removed to the Naval Hospital, where the wound was sown up, but from the frightful gash inflicted but small hopes are held out of his recovery. Up to the present time Masters has not been apprehended, though he appears to be well known to the police.

LIVERPOOL.—On Saturday, at the Borough Police Court, four gentlemen, natives of Chili, named Manuel Matta Anjal and Custodio Gallo (both members of the Chilian Parliament), Guillemo Matta, and Benjamini Mackenna, the latter a gentleman of Irish descent and editor and proprietor of the *Aramblad Constitujenta*, published at Santiago, applied for a warrant against the captain of the ship Louisa Braginton, of Bideford, which arrived in the Mersey on Thursday night from Valparaiso, for false imprisonment and illegal detention. Mr. Mackenna stated that the other three gentlemen and himself, differing in some political views from the Chilian Government, were arrested on December 19 at Santiago, and remained so until March 9, when they were taken to Valparaiso, and there shipped on board the Louisa Braginton, the captain of which had been paid 3000 dollars for their passage, on condition that he landed them in England. They were escorted about 15 miles out to sea by a Chilian war steamer. On that vessel leaving them they remonstrated with the captain, offered to pay him 3000 dollars if he would land them at some Peruvian port, and even proffered to indemnify him against all risk by an extra 1500 dollars. He refused, and the consequence was they were carried to England against their will. Whilst on the voyage they were ill-treated, their provisions were of the coarsest kind, and altogether the treatment they were subjected to was unbecoming and ungentlemanly. They therefore sought a remedy against this illegal conduct of a British captain. Mr. Mansfield asked why they did not apply to a superior court on such an important matter? Mr. Aspinall on their behalf replied that the term was over, and the case was pressing. Mr. Mansfield said he recollected a similar case in which the late Marquis of Waterford carried off a returning-officer from Ireland to Denmark on the eve of an election. He granted a summons for the appearance of Captain Leslie, the master of the ship. On Wednesday the captain appeared in answer to the charge, when the magistrate after hearing the evidence said he should not, in a case of such great magnitude, where so many points of international law were raised, arrogate to himself the right to decide it, but send it to the assizes. There had been no assault at all. The real thing was false imprisonment, and it must be borne in mind that the complainants had been in the custody of the defendant for 98 days. The defendant was then ordered to enter into recognizances to appear at the assizes himself in 600*l*., and two sureties in 300*l*. each.

PORTSMOUTH.—The adjourned inquest on the persons killed by the explosion of the Eastern Monarch was resumed last week, when the jury also returned a verdict of "Manslaughter" against Charles Gardner, the steward. The coroner immediately made out his warrant for his committal to Winchester Gaol, to take his trial at the ensuing assizes.

WATCHET.—A fatal boat accident by which several persons were drowned occurred off Watchet, a pretty little watering-place on the Somersetshire coast, on Tuesday week. A steam-packet named the Neath Abbey was advertised for a Whitsuntide holiday excursion of two days to Minehead and Watchet, and, the weather proving particularly favourable, a large number of persons availed themselves of the opportunity which it offered. The packet when she left this city was crowded with persons of both sexes, of all ages, and of different grades in life. The coast slopes out so gently at Watchet that vesseis of much burthen cannot run in near the shore, and passengers have to be landed and re-embarked by means of boats. The landing was effected safely, and the passengers remained ashore during the night. On Tuesday afternoon when the time arrived for rejoining the ship, the boats, all of them well filled, were put off from the beach, and after they had stood out for some distance it was found that two of them were unseaworthy and were filling fast. The persons who were in one of them succeeded in getting to a sort of reef which lies off some distance from the beach, and were thus enabled to keep above water until boats could be put off to their rescue. The second boat, containing about 14 persons, was less fortunate. The poor creatures were observed frantically waving their hands and making other signs of distress, and their screams could be heard both from the vessel and the shore. Boats were despatched from the steamer and from the shore with all possible despatch, but before they could reach the leaky boat, which was half a mile from them, she sank with all that were in her. The boats succeeded, after the most strenuous exertions, in picking up eight of those who had been thrown into the water, but one of that number, who was unconscious when taken into the boat, died a short time afterwards, in consequence of the injudicious mode of treatment adopted by the boatmen for his resuscitation. The greatest excitement prevailed both on board the steamer and on shore at the time of the accident, and crowds of the inhabitants of the town were speedily upon the spot. The passengers who remained on shore refused to embark, and the steamer proceeded to Bristol without them. Captain Mear, of the Somerset constabulary, superintended the efforts that were made to recover the bodies of those who had been drowned, and these as they were brought ashore were promptly attended by two surgeons, with a view to restore animation. The number of bodies recovered was six, and it is believed that these were all who were drowned, although for want of accurate information as to the number of persons in the boat at the time of the accident it is impossible to say how many lives were lost. The bodies were all placed in shells and subsequently identified. The following is a list of the persons who have been drowned, but whose bodies have been recovered:—James Lewis, market gardener, Bristol; Susan Lewis, his wife; George Mogg, of Bristol; Henry Larkham, jun., Wellington Street, Cathay; Samuel Venn, jun., porter in the goods department of the Bristol station of the Great Western Railway; Sarah Seymour, a young woman employed at the establishment of Messrs. Robinson, stationers, Redcliff Street. With the exception of Sarah Seymour the whole of these persons were natives of Watchet or of the parish of Quantoxhead, and had been visiting their friends in that locality. The persons who were rescued from the sinking boat, and who are all now suffering more or less in consequence of the accident, were—George Lackham, sen., Jane Mogg, Edwin Edwards, Amos Greenslade, — Burton, George Wedlake, and Alfred Short. An inquest has been held upon the sufferers at which the jury returned a verdict of "Manslaughter" against George Wedlake and Alfred Short, who had charge of the boat which foundered with the persons who were drowned.

WEST BROMWICH.—The statement of the result of the inquest on the body of a woman named Worsey, who was killed by her husband on Saturday week, was not correct. The jury found a verdict of Wilful Murder against the prisoner, and not of Manslaughter, as previously announced.

## Ireland.

THE QUEEN'S VISIT TO IRELAND.—It is reported in Dublin that her Majesty will visit Ireland at the commencement of her autumnal trip; and will then proceed by sea to Scotland in the same manner as on the occasion of the first visit. In anticipation of this visit, all the available troops in the country, artillery, cavalry, and infantry, will shortly be congregated for a grand review at the Curragh.

THE IRISH COURT.—The farewell levee of the Earl of Eglintoun will take place on Monday the 4th of July, on which day the noble earl takes his departure from Ireland.

THE LAW APPOINTMENTS.—The Right Hon. Maziere Brady has been re-appointed to the office of Lord Chancellor, which he has already held under two Cabinets. It is said that the serjeancy about to be vacated by Mr. Deasy, on his appointment to the post of Solicitor-General, will be conferred on Mr. Thomas O'Hagan, Q.C., chairman of the county of Dublin, and that Mr. George Henry Hughes, who filled the higher office during the premiership of Lord John Russell, and who could not, therefore, accept an inferior distinction, will within a month, or perhaps less, be elevated to a high judicial office. It is also stated that Judge Plunket, the second judge of the Court of Bankruptcy, sent his resignation on Saturday to Lord Eglinton, but that his excellency declined to receive it, and intimated to the learned judge that it should be dealt with by his successor in the viceroyalty.

ARCHBISHOP CULLEN'S PASTORAL.—Dr. Cullen has issued a long pastoral address to the Roman Catholic clergy of the diocese of Dublin, in which he thus notices the condition of affairs in Italy:—

"Italy, the cradle of European civilisation, the hallowed residence of Christ's Vicar on earth, the birthplace of innumerable saints and Christian heroes, appears doomed to pass through the furnace of affliction; many of her proud monuments of art will be destroyed, her cities perhaps laid waste, and her beautiful and fertile fields reduced to a desolate wilderness. Perhaps, also, she may become a prey to more than infinitely worse than physical sufferings. Piedmont has long for many years the den and refuge of revolutionists and disturbers and enemies of the peace of the world. The men who have had the power of that country in their hands have displayed the greatest hostility against the Catholic religion to which the people of that country are devotedly attached. They have persecuted and banished some most venerable bishops, and subjected the Church to an irksome slavery. Convents and monasteries have been suppressed, and the pious inmates treated with the greatest harshness. Church property has been confiscated, public education has been rendered dangerous, and, in some cases, open enemies of religion have been placed at the head of universities and entrusted with the instruction of youth. In fine, under the hypocritical pretence of introducing liberty, a system of the direst persecution has been established. If the principles of a handful of men, who have inflicted such evils on their own country and have outraged the feelings of its inhabitants, should be propagated by war, not only religion, but human society will sustain the greatest loss, and other States will have to undergo the same sad ordeal to which the unhappy inhabitants of Piedmont have been subjected during the last ten years. While such dangers are impending, there is one State to which all Catholics must turn their eyes with peculiar interest—I mean Rome and its territory, whose tranquillity is so necessary for the administration of the affairs of the universal Church. Promises have been made of a most decided character that the Pope's states shall not be interfered with; but even if they be disturbed by the enemies of the Holy See, we may rest assured that God, who watches over his Church, though he may allow her ministers to suffer trials and persecution, will turn all such sufferings to his greater honour and glory, and to the advantage of religion. Indeed, if we review the history of the Church in past ages, we shall find that all those who have sacrilegious hands on the property and States of the Church have invariably incurred the severest punishment of Heaven, and many will recollect that, even in our own days, the greatest conqueror and emperor of modern times, soon after usurped the dominion of Rome, was compelled to sign an abdication in the palace of Fontainebleau, the very prison in which he had kept the holy Pope Pius VII in close confinement. We therefore entertain no fears for the safety and final triumph of the Church and its chief pastor; but we are to join in fervent prayer, begging of God to avert the miseries and calamities of war, to preserve his Church and Supreme Pontiff from trials and afflictions, to restore peace and harmony among Christian nations, and to spread God's kingdom on earth. Let us also pray that the peace which empire has so long enjoyed may never be interrupted by sin, the occasion of all the evils that afflict mankind, may cease to abound; that heresy and schism, infidelity and the fruitful sources of so many unhappy dissensions, and of many evils in the world, may be suppressed, and that religion and virtue may spread and flourish and adorn the earth."

ROMAN CATHOLIC MOVEMENTS.—A meeting of the Roman Catholic prelates, to take into consideration the present state of the education question, and to devise means for obtaining for Ireland the "great benefit and blessing of free Catholic education," is to be held in the course of a few days. The Limerick paper publishes an address to the Irish Liberal members, signed by Archbishop Leahy (Cashel) and 105 of his clergy, calling upon them to unite in demanding a settlement of the land question, the institution of vote by ballot, free Catholic education, an alteration in the Poor Law, and a charter for Dr. Cullen's University. The same prelate has published a pastoral in reference to the war, in which he says:

"We may abide the issue without any fear for the glory of our Father—nay, with the full confidence that God will turn it to the glory of His name; for, looking at the course of Divine providence, particularly to the special care He has taken of the Holy See in the worst of times, we may without rashness predict that at the conclusion of this war, whenever it comes, although some who now march at the head of victorious armies may be humbled and fallen, Rome will still remain, and the States of the Church will remain, and the successor of Peter will remain holding mild sway over earth."

## Scotland.

THE BIBLE IN INDIA.—A numerously attended meeting was held at Edinburgh on Friday, to petition Parliament for the removal of the prohibition of the Bible in the Government schools in India. The Lord Provost presided. A letter was read from the Marquis of Tweeddale, ex-Governor of Madras, expressing strong concurrence with the views of Sir John Lawrence

regard to voluntary Bible classes in the Government schools in India, and adding :—"I cannot help thinking that the peaceable and orderly conduct of the inhabitants and the loyalty of the native army in the Madras Presidency, where Christianity has really made progress, show how little the native mind is affected by the conversion of their countrymen to Christianity." Resolutions were passed, and a petition was adopted praying Parliament to take measures for removing the authoritative exclusion of the Word of God from the system of education pursued in the Government schools in India.

## Law.

COURT OF QUEEN'S BENCH.—*Ruck* v. *Stilwell and another.*—This case was tried before Mr. Justice Hill and a special jury, and occupied the Court for three days. It was an action brought by Mr. Ruck, formerly a patient of Moorcroft Asylum, near Uxbridge, who was liberated upon being declared sane by a jury on the 27th August last, against Dr. Stilwell and others, for assault and illegal detention in Moorcroft Asylum. For the plaintiff, it was alleged that he had been illegally assaulted and imprisoned among lunatics for 10 months; that defendants were the keepers of the house in which he had been confined, and that they had received him upon the order of his wife, and under two medical certificates; that while the plaintiff was under charge of defendants he recovered, and that they neglected the duty which devolved upon them of communicating this fact to the wife and to the Commissioners in Lunacy. The defendants denied the material allegations. To prove the assault it was necessary to impugn the validity of the medical certificates, and this was done by proving that Dr. Conolly, by whom one of them had been granted, had a compact with Dr. Stilwell, under which he received 15 per cent. on all payments made on behalf of the patients in Moorcroft Asylum, and in particular that on account of Mr. Ruck he had received 15*l*., being one quarter's commission. On inquiry, Mr. Ruck could not have been removed from the asylum by *habeas corpus*, because the certificates had the appearance of being regular; being a "private" patient, he could not be removed by the Commissioners in Lunacy without the consent of his wife, by whose order he had been confined; and the only means by which he could regain his liberty was by the legal proceedings adopted by his agents, which proved successful, and so paved the way for this action. The jury by their verdict found that Dr. Conolly's certificate was invalid, because he was the regular medical attendant of the establishment and received commissions on the receipts, the defendants (the proprietors) being aware of these facts when they received his certificate. They therefore gave a verdict of 500*l*. damages in favour of the plaintiff.

## Obituary.

VICE-ADMIRAL SIR DAVID DUNN, K.C.H., died on the 16th inst. at Rocklands, near Chudleigh, Devon, in his 73d year. He served as a midshipman on board the Donegal, at the battle of St. Domingo, and obtained his commander's rank for his services on board the Amphion frigate at the defeat of a French squadron in the Adriatic on the 13th March, 1811. He was subsequently distinguished on the Mediterranean station, particularly at the siege of Trieste, and the attack on Leghorn in 1813. He became Vice-Admiral on the reserved list in 1856, and received a good service pension.

MR. JACOB BELL died on the 12th inst. at Tunbridge Wells in his 49th year, after a long and painful illness. He was one of the most eminent dispensing chemists in England, and spent a fortune in starting and in advancing the Pharmaceutical Society, which has raised enormously the educational standard of the class. He was the president of the society, and it is some proof of the estimation in which he was held, not only in his profession but throughout the district where he resided, that on the day of his funeral there was scarcely a town in the kingdom in which some "Pharmaceutical chemist" had not his shutters closed to mark the event. Subsidiary to the professional views which were the absorbing object of his life, Mr. Jacob Bell was a most generous patron of the arts, and had collected in his house at Langham Place a very valuable gallery of pictures, the best of which he has bequeathed to the nation. Among them are the following by Sir Edwin Landseer:—"The Maid and the Magpie," exhibited last year at the Royal Academy; the celebrated picture of the "Shoeing," "The Sleeping Bloodhound," "Alexander and Diogenes," "Dignity and Impudence," and the "Defeat of Comus." In addition to these there is "The Sacking of a Jew's House," by Mr. Charles Landseer; two landscapes in which Messrs. Lee and Sidney Cooper have united their efforts; there is Mr. O'Neil's picture of "The Foundling examined by the Board of Guardians;" one of Mr. Ward's best historical works—"James II. receiving the news of the Landing of the Prince of Orange;" the "Derby Day" of Mr. Frith, and the "Horse Fair" of Rosa Bonheur, a small edition of the large picture with which everybody is familiar, and painted simultaneously. There are 13 pictures, and the commission for a 14th has been given to Mr. Frank Stone. In this bequest the public have received a most valuable gift, and the testator has attached no conditions to the acceptance of his legacy.

BIRTHS.—On the 19th inst, at 12, Hyde-park Street, the Lady ELINOR CAVENDISH, of a son—20th inst, at Horton Manor, Bucks, Lady YARDLEY, of a daughter—16th inst, at Inverness, the Hon. Mrs. ARTHUR EVANS, of a daughter—16th inst, at Clifton, York, the Hon. Mrs. CHARLES ST. CLAIR, of a daughter—16th inst, at Rokeby Rectory, Yorkshire, the wife of the Rev. GEORGE A. TREVOR, of a son.

MARRIAGES.—On the 15th inst., at 6, Moray Place, Edinburgh, Captain GEORGE SINCLAIR, of the Bengal army, second son of Sir John Sinclair, Bart., of Dunbeath, to AGNES, only daughter of the late JOHN LEARMONTH, Esq., of Dean—31st ult, at Houghton, near Dover, the Rev. JOSEPH WILKINSON, curate of Christ Church, Houghton-in-Dover, youngest son of Charles Wilkinson, Esq., of Tunbridge Wells, to WILHELMINA CATHERINE TRACEY, youngest daughter of the late Sir DAVID JAMES HAMILTON DICKSON—21st inst, at the Cathedral of St. George's, Southwark, according to the rites of the Catholic Church, D. W. MITCHELL, Esq., of Barton Manor, Beds, to GERTRUDE EMILY, youngest daughter of the late JOSEPH A. DE LAUTOUR, Esq., of Hexton House, Herts, and Windeford House, Hampshire—13th inst, in London, Major CHARLES EDWARD MANSFIELD, to ANNIE MARGARET ELIZA, second daughter of the late Colonel the Hon. AUGUSTUS ELLIS—7th inst, at Viewfield House, near Nairn, N.B., HENRY ROSE, Esq., H.M. Bengal Civil Service, son of General Sir John Rose, K.C.B., of Holme, Inverness, to JAMESINA, daughter of JAMES A. GRANT, Esq., of Viewfield—16th inst, at Cologne, WILLIAM GAGE BLAKE, Esq., second son of Sir Henry Blake, Bart., of Ashfield Lodge, Suffolk to MARY, eldest surviving daughter of the Rev. JAMES T BENNET, Rector of Cheveley, Cambridgeshire—16th inst, at Calbourne, in the Isle of Wight, EDWARD WILKES WAND, Esq., son of Edward Wand, Esq., of Manston Hall, Leeds, to ELIZABETH, eldest daughter of the Hon. WM. A'COURT HOLMES, of Westover, in the Isle of Wight.

DEATHS.—On the 19th inst, at 42, Moray Place, Edinburgh, MARION, wife of JAMES ANSTRUTHER, Esq., W.S., and daughter of the late Right Hon. Sir John Anstruther, Chief Justice of Bengal—At the Governor's residence, Royal Military College, MONTAGU HORNSBY JONES, Ensign 34th Regiment, fifth son of Major-General Sir Harry Jones, K.C.B., aged 20—19th inst, at Richmond, the Hon. ROSALINDA ELEANOR MARSHALL, relict of Lieutenant-Colonel Marshall late 31st Regiment, and daughter of the late, and sister to the present, Lord Dunboyne, aged 58—18th inst, at NEWICK PARK, the seat of his brother-in-law, James H Schalch, Esq., Lieutenant-Colonel WILLIAM BASSETT SAUNDERSON—19th inst, at Curzon Street, Mayfair, LYDIA LADY SCOTT, widow of the late Sir Edward Scott, Bart., of Great Barr, Staffordshire, aged 50—7th inst, MARGARET, wife of HENRY PIGOTT, Esq., of Eagle Hill, Galway, and eldest daughter of the late Sir Scrope Bernard-Morland, Bart.—17th inst, at Clifton, of consumption, WILLIAM STRATFORD SLEIGH, late Captain 6th Inniskilling Dragoons, only surviving son of General Sir James Wallace Sleigh, K.C.B., of 58, Westbourne Terrace, Hyde Park, aged 24—15th November last, at Ballarat, Australia, HEATON, fourth son of the late Sir WILLIAM and Lady SARAH CHAMPION DE CRESPIGNY, aged 62—15th inst, at Shrewsbury, Lady EDWARDES, widow of the Rev Sir John Cholmondeley Edwardes, Bart., aged 95—13th inst, WILLIAM FAIRLIE CUNNINGHAM, son of the late Capt. William Cunningham, 44th Regiment Madras N.I., grandson of Major-General Andrew Harvey, C.B., and nephew of the late Sir Charles Cunningham Fairlie, Bart., aged 22—4th inst, at sea, on board the mail packet Ethiope, of yellow fever, WILLIAM HENDERSON THESIGER, Commander R.N., aged 27—Lost on board H.M.S. Heron, when that vessel sank off the coast of Africa, on the 9th May, Lieutenant THOMAS HAGGERSTON COLLINGWOOD, fourth (and third surviving) son of the late H. J. W. Collingwood, Esq., of Lilburn Tower and Cornhill House, Northumberland, age 28—Lost in H.M.S. Heron, on the west coast of Africa, WILLIAM SEALE EDWARD FREEMAN, Paymaster Royal Navy, eldest son of W. L. Freeman, Esq., R.N., of H.M.'s Dockyard, Sheerness, aged 28—14th inst, in Hugh Street, Pimlico, EDWARD GANDY, Esq., youngest son of the late Rev. John Gandy, vicar of St. Andrew's, Plymouth, and formerly of the Admiralty, Somerset House, where he had served her Majesty and her three predecessors for nearly 50 years—15th inst, at Bruges, PATRICK LYNCH, Esq., late of Tara Hall, county Meath, and of Rathtarmon, Sligo, aged 69—16th inst, at Ilfracombe, by a fall from the Cliff, WILLIAM BLATHWAYT, an Ensign in the 83d Regiment, youngest son of Colonel Blathwayt, of Dyrham Park, Gloucestershire, aged 20.—14th inst, at Jersey, Mr. BERNARD SAUNDERS, of Alphington, Devonshire, aged 67.

## Markets.

### COVENT GARDEN.—June 23.

Good Grapes still realise comparatively high prices. Strawberries are now plentiful and cheap. Pine Apples maintain former quotations. English Cherries are now pretty plentiful. Oranges fetch 8s. 6d. and 10s. per 100. Nuts of all kinds continue to realise fair prices. Cabbages and French Beans are plentiful. Rhubarb, Asparagus, and Seakale are getting over. Peas, Beans, Horn Carrots, and Globe Artichokes may be obtained in quantity. Cauliflowers are cheaper. New Potatoes realise from 6s. to 15s. per cwt. Cucumbers abundant. Cut flowers chiefly consist of Orchids, Gardenias, Heliotropes, Lily of the Valley, Violets, Mignonette, Heaths, and Roses.

FRUIT.

| | |
|---|---|
| Pine Apples, per lb., 5s to 8s | Cherries, per lb., 6d to 1s 6d |
| Grapes, per lb, 4s to 8s | Apples, per doz., 6s to 10s |
| Strawberries, p. lb., 6d to 2s | Pears, per doz., 6s to 12s |
| Melons, each, 4s to 6s | — stewing, p. doz., 2s 6d to 5s |
| Peaches and Nectarines, per doz., 8s to 12s | Oranges, per 100, 6s to 10s |
| Figs, per doz., 6s to 8s | Lemons, per doz., 1s to 1s 6d |
| | Cobs, per lb., 1s 6d to 1s 6d |

VEGETABLES.

| | |
|---|---|
| Cauliflowers, per doz. 2s to 4s | Cucumbers, p. doz., 2s to 6s |
| Green Peas, p. quart, 1s to 2s | Tomatoes, per doz., 3s to 4s |
| Greens, per dozen bunches, 1s to 1s 6d | Artichokes, per doz., 4s to 6s |
| Cabbages, do., 1s 6d to 2s 6d | Beet, per doz., 1s 6d to 2s |
| Asparagus, p. bundle, 2s 6d to 5s | Celery, p. bundle, 1s to 1s 6d |
| Rhubarb, p. bundle, 6d to 9d | Shallots, per lb., 6d to 8d |
| French Beans, p. pun., 1s to 1s 6d | Garlic, per lb., 6d to 8d |
| Potatoes, p. ton, 95s to 100s | Lettuces, Cabb., per score, 1s to 1s 6d |
| — per bus., 2s to 2s 9d | Endive, p. score, 1s to 1s 6 |
| — per cwt., 4s to 6s | Horse Radish, p. bun. 1s 6d to 4s |
| — new, per lb., 6d to 1s | Mushrooms, p. pott, 9d to 1s 3d |
| Carrots, per bunch, 1s | Parsley, p. 12 bunches, 2s to 4s |
| Turnips, per bunch, 9d to 1s | Savory, do., 2d to 4d |
| Spinach, p. sieve, 1s 6d to 2s | |

HOPS.—BOROUGH MARKET, FRIDAY, June 24.

Messrs. Pattenden & Smith report the accounts worse this morning from the Weald of Kent, Sussex, Worcester, and Farnham districts, and there is more disposition to buy Hops this morning. Duty 170,000*l*.

POTATOES.—SOUTHWARK, Monday, June 20.

During the past week the arrivals have been more than equal to the demand, and second-rate samples have only been saleable for cattle feed. As a few days will finish the old Potatoes at this market there will be no further report until September. The following are this day's quotations:—Yorkshire Regents, per ton, 60s. to 80s.; do. Flukes, 100s. to 140s.; Perth, Forfar, and Fifeshire Regents, 40s. to 70s.; do. Reds, 25s. to 30s.; Rocks, 30s. to 40s.; foreign whites, 25s to 50s.

BRITISH WOOLS.—LONDON, FRIDAY, June 24.

We have no new wool worth mentioning arrived at present, as farmers are busy shearing; prices consequently are not yet fixed.

| | s. | d. | | s. | d. | | s. | d. | | s. | d. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| South-down Hoggets | 1 | 3 | to | 1 | 3½ | Leicest. Wethers | 1 | 0 | to | 1 | 1 |
| Half-bred ditto | 1 | 2 | — | 1 | 2½ | Ditto Hoggs | 1 | 1 | — | 1 | 2 |
| Down Ewes | 1 | 1 | — | 1 | 2 | Combing Skins | | — | | | |
| Kent Fleeces | 1 | 1 | — | | | Blanket ditto | | | | — | |
| | | | | | | Flannel Wool | 1 | 0 | — | 1 | 4 |

HAY.—Per Load of Thirty-six Trusses.

SMITHFIELD, THURSDAY, June 23.

| | | | | | |
|---|---|---|---|---|---|
| Prime Meadow Hay | 75s | to 80s | Old Clover | 95s | to 108s |
| Superior do. (old) | 84 | 88 | Second cut | 80 | 90 |
| Inferior do. | 50 | 60 | New Clover | — | — |
| New do. | 60 | 72 | Straw | 26 | 30 |
| Rowen | 60 | 70 | | | |

DAVIS & Co.

CUMBERLAND MARKET, THURSDAY, June 23.

| | | | | | |
|---|---|---|---|---|---|
| Sup. Meadow Hay | 95s | to 100s | Inferior Clover | 84s | to 98s |
| Inferior do. | 75 | 88 | New do. | — | — |
| New do. | 60 | 74 | Straw | 32 | 35 |
| Superior Clover | 100 | 108 | | | |

JOSHUA BAKER.

WHITECHAPEL, THURSDAY, June 23.

| | | | | | |
|---|---|---|---|---|---|
| Fine old Hay | 80s | to 88s | Fine old Clover | 100s | to 105s |
| Inferior do. | 50 | 70 | Inferior do. | 84 | 95 |
| New Hay | — | — | Fine new Clover | — | — |
| Inferior do. | — | — | Fine 2d cut | 90 | 100 |
| Straw | 24 | 28 | Inferior do. | — | — |

METROPOLITAN CATTLE MARKET.

MONDAY, June 20.

The supply of Beasts is scarcely as good as on Monday last. Trade is very slow, however there is but little alteration in price. The number of Sheep and Lambs is considerably larger. Prices are lower for all descriptions, and several remain unsold. Trade is heavy for Calves. From Germany and Holland there are 137 Beasts, 2930 Sheep, and 245 Calves; from Spain, 197 Beasts; from Scotland, 200; and 2700 from Norfolk and Suffolk.

| | s | d | | s | d | | s | d | | s | d |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Best Scots, Herefords, &c | 4 | 6 | to | 4 | 10 | Best Long-wools | 4 | 6 | — | 4 | 8 |
| Best Short-horns | 4 | 4 | — | 4 | 6 | Do. Shorn | | — | | — | |
| 2d quality beasts | 3 | 4 | — | 4 | 0 | Ewes & 2d quality | 4 | 10 | — | 4 | 4 |
| Best Downs and Half-breds | 4 | 10 | to | 5 | 0 | Do. Shorn | | | to | | |
| Do. Shorn | | — | | | | Lambs | | 0 | — | 6 | 0 |
| | | | | | | Calves | 4 | 0 | — | 5 | 0 |
| | | | | | | Pigs | 3 | 8 | — | 4 | 8 |

Beasts, 3570; Sheep & Lambs, 30,540; Calves, 912; Pigs, 500.

THURSDAY, June 23.

The supply of Beasts is again short; trade is consequently active at fully late quotations. The number of Sheep and Lambs is about the same as on Thursday last, and the prices of that day are pretty generally realised, although trade is slow. We have a very large supply of Calves. Prices are lower. Our foreign supply consists of 95 Beasts, 2120 Sheep, and 410 Calves. Milch Cows 126.

| | s | d | | s | d | | s | d | | s | d |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Best Scots, Herefords, &c | 4 | 8 | to | 4 | 10 | Best Long-wools | 4 | 8 | — | 4 | 10 |
| Best Short-horns | 4 | 4 | — | 4 | 8 | Do. Shorn | | — | | — | |
| 2d quality Beasts | 3 | 4 | — | 4 | 0 | Ewes & 2d quality | 4 | 0 | to | 4 | 4 |
| Best Downs and Half-breds | 5 | 0 | — | 5 | 2 | Do. Shorn | | — | | — | |
| Do. Shorn | | — | | | | Lambs | 5 | 4 | — | 6 | 0 |
| | | | | | | Calves | 3 | 8 | — | 5 | 0 |
| | | | | | | Pigs | 3 | 8 | — | 4 | 8 |

Beasts, 1296; Sheep & Lambs, 12,600; Calves, 691; Pigs, 120.

MARK LANE.—MONDAY, June 20

The supply of Wheat from Essex and Kent to this morning's market was small, but added to that left over from last week made a good show; a tolerable clearance was effected at about 1s. to 2s. per qr. decline upon the prices of last Monday. Foreign attracted rather more attention, but without leading to more than a few retail sales, and we leave our quotations unaltered, but to have forced any quantity a reduction of many shillings would have been necessary. Good sweet Barley brings last week's prices, and out of conditioned parcels are very difficult of sale, and cheaper. Beans and Peas bring late rates. Oats are a heavy sale at barely the quotations of this day week. The top price of town-made Flour is reduced to 46s. per sack, and Norfolk brings 43s. per sack.

| PER IMPERIAL QUARTER. | s. | s. | | s. | s. |
|---|---|---|---|---|---|
| WHEAT, Essex, Kent, & Suffolk White | 46 | 54 | Red | 41 | 48 |
| — — fine selected runs ditto | 46 | 50 | Red | 44 | 52 |
| — — Talavera | 48 | 54 | | | |
| — Norfolk | — | | Red | — | |
| — Foreign | 46 | 62 | | | |
| BARLEY, grind. & dist., 24s to 29s. Chev. | 35 | 40 | Malting | 32 | 34 |
| — Foreign, grinding and distilling | 24 | 31 | Malting | 30 | 34 |
| OATS, Essex and Suffolk | 19 | 27 | | | |
| — Scotch and Lincolnshire Potato | 23 | 25 | Feed | 19 | 24 |
| — Irish Potato | 24 | 26 | Feed | 19 | 22 |
| — Foreign Poland and Brew | 23 | 26 | Feed | 19 | 25 |
| RYE | — | | Foreign | — | |
| RYE-MEAL, foreign | — | | | | |
| BEANS, Mazagan 33s to 39s. Tick | 37 | 41 | Harrow | 37 | 41 |
| — Pigeon 41s — 45s. Winds | — | | Longpod | — | |
| — Foreign Small | 38 | 47 | Egyptian | 35 | 39 |
| PEAS, white, Essex and Kent Boilers | 44 | 48 | Suffolk | 46 | 50 |
| — Maple 42s to 44s Grey | 38 | 42 | Foreign | 42 | 46 |
| MAIZE White | — | | Yellow | — | |
| FLOUR, best marks delivered per sack | 40 | 46 | | | |
| — 2d do. ditto | 35 | 40 | Country | 35 | 40 |
| — Foreign per barrel | 24 | 32 | Per sack | 34 | 42 |

FRIDAY, June 24.

Although the weather since Friday last cannot be designated otherwise than fine, it has become less settled, and the country has been visited with occasional heavy showers. A somewhat improved tone has been observable in the Wheat trade. For English Wheat the full prices of last week have been obtainable, and an occasional sale both here and in some of the provincial markets was effected on slightly improved terms. Foreign has also commanded rather more attention, and it has been possible to force sales, although at very low prices, but at better rates than could have been obtained last week. Business has been transacted in Danzic at 52s. 6d., 53s., 54s., and 56s., new Konigsberg at 58s., Rostock at 48s. and per 496 lbs. In the value of spring corn no material change has taken place. The top price of Flour was reduced 1s. per sack on Monday, but prices for current marks remain much the same as last week. Of grain and seed laden vessels none have arrived off the coast during the week, and few transactions have occurred. The arrivals of Foreign Wheat and Flour this week have been to a fair extent, of all other grain very moderate. The attendance at this morning's market was small; the little English Wheat fresh up was disposed of at fully Monday's prices. Foreign was held very firmly, but its value (French excepted) being considerably above that of English, scarcely any business resulted. There is no alteration in the value of Barley, Beans, or Peas. Oats are in fair demand at the quotations of Monday. Norfolk Flour is held for rather more money.

ARRIVALS FROM JUNE 20 TO JUNE 24.

| | Wheat. | Barley. | Oats. | Flour. |
|---|---|---|---|---|
| English | 1020 qrs. | — qrs. | 240 qrs. | 1090 sks. |
| Irish | — ,, | — ,, | 1000 ,, | — ,, |
| Foreign | 11130 ,, | 2910 ,, | 8920 ,, | 3110 ,, / — brls. |

LIVERPOOL, Tuesday, June 21.—We had rather a better attendance at our market, and for prime qualities of red Wheat there was a fair inquiry, and an advance of 2d. per cental obtained over the prices of this day se'nnight. Flour was also in improved request, though buyers were indisposed to give any increased price, and but little business consequently resulted. Oats and meal both very dull, and about 2d lower. Beans and Barley unchanged. Indian Corn, attracted more attention and may be quoted 4d. dearer; say Galatz, 6s. 6d. Ibraila and mixed American 6s. 4d., and white 8s. 8d. per 100 lbs.

FRIDAY, June 24.—Market moderately attended. The improved tone of Tuesday continues, and without much business being done, the consumptive demand has slightly improved, and full prices have been realised.

| AVERAGES | Wheat. | | Barley. | | Oats. | | Rye. | | Beans. | | Peas. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| May 14 | 52s | 5d | 32s | 10d | 25s | 4d | 32s | 4d | 45s | 1d | 44s | 0d |
| — 21 | 54 | 4 | 33 | 7 | 28 | 3 | 35 | 5 | 47 | 2 | 45 | 5 |
| — 28 | 53 | 6 | 33 | 6 | 25 | 9 | 33 | 8 | 46 | 6 | 42 | 10 |
| June 4 | 53 | 5 | 33 | 8 | 26 | 1 | 37 | 7 | 47 | 0 | 40 | 5 |
| — 11 | 51 | 5 | 31 | 8 | 25 | 11 | 41 | 9 | 45 | 0 | 40 | 7 |
| — 18 | 49 | 11 | 31 | 5 | 24 | 11 | 36 | 9 | 46 | 7 | 40 | 3 |
| Agg Aver. | 52 | 6 | 32 | 9 | 25 | 9 | 36 | 5 | 46 | 3 | 42 | 1 |

FLUCTUATIONS IN THE LAST SIX WEEKS AVERAGES.

| PRICES. | May 14. | May 21. | May 28. | June 4. | June 11. | June 18. |
|---|---|---|---|---|---|---|
| 54s 4d | .. | | .. | .. | .. | .. |
| 53 6 | .. | .. | | .. | .. | .. |
| 53 5 | .. | .. | .. | | .. | .. |
| 52 5 | — | .. | .. | .. | .. | .. |
| 51 5 | | .. | .. | .. | | .. |
| 49 11 | | .. | .. | .. | .. | |

COAL MARKET.—WEDNESDAY, June 22.

Walls End Benson, 15s.; Walls End Kepier Grange, 16s. 9d.; Walls End Russell Hettons, 16s. 6d.; Walls End Hetton Lyons, 15s. 6d.; Walls End Tanfield Moor, 13s. 9d.; Walls

End South Hetton, 17s. 9d.; Walls End Heugh Hall, 16s.; Hylywell 16s; Walls End South Kelloe, 17s. 3d.; Walls End West Hetton, 15s. 6d.; Ward's West Hartley, 14s. 3d.; Wylam, 17s.; Lambert's Hartley, 14s. 9d.—62 ships at market.

## TO EMIGRANTS.

BRITISH COLUMBIA.—A Lady about to proceed *viâ* Cape Horn with her children to this rising Colony, wishes to meet with a respectable young WOMAN, who can be thoroughly well recommended, and who could not only assist in taking charge of the children, but render herself useful with her Needle during the voyage. A *free berth* in the Lady's own cabin is all that is offered for the passage, with board and lodging after arrival in the Colony, until the young woman shall have either entered the service of the Lady permanently or formed some other engagement. It is immaterial whether the young woman is married or not, all that is required being perfectly satisfactory references as to character, activity, and good temper, and the attendance and assistance above described in return for the passage that is offered.—Address, post paid, A. B., 5, Westbourne Place, Eaton Square, London, S.W.

AGRICULTURAL INSTRUCTION.—A Gentleman thoroughly acquainted with the science and practice of Farming, and residing near the sea coast in one of the best districts of Hampshire, has a vacancy in his house for the son of a gentleman desirous of instruction as above. Satisfactory references given and required.—Terms and further particulars may be obtained of Mr. THOMAS GEORGE GIBSON, Solicitor, 19, Gracechurch Street, London.

TO AGRICULTURISTS.—A young Man, respectably connected, with some experience in Agriculture, wishing to improve himself before taking a Farm on his own account, is desirous of meeting with a situation where his active services on the Farm would be considered equivalent to his board and lodging.—L.M., Post Office, Bovey Tracey, Devon.

WANTED, AS HEAD GARDENER, a respectable Man, of good character, from the country.—Apply by letter, with full particulars as to ability, wages, &c., to C. E. KINGSTONE, Esq, 98, Bishopsgate Street Within.

WANTED, AS HEAD GARDENER, who thoroughly understands Forcing Grapes, Peaches, Strawberries, &c., and the management of Flower and Kitchen Gardens. A Man with a large family objected to.—Address, stating wages and all other particulars, to A. Z., 22, Dover Street, Piccadilly.

WANTED, A HEAD GARDENER in the country, about 70 miles west of London. He will have three men under him. To take charge of the Houses, Kitchen Garden, and House Garden; the whole about three acres. He must have lived in a similar situation, and not only fully understand his profession in all its branches, but take a delight in having all things under his charge in good order. Must be a married man; a cottage will be found. State age, wages, his last situation, how long he remained in it, when he left, and why.—Address (post paid) A B., Mr. Bascourt, 19, Mortimer Street, Cavendish Square, London.

WANTED, AS GARDENER, a Young Man, about 25 years of age. He must be well recommended for activity, and be acquainted with care of Vineries, Early and Late, and a good Mower. Wages 1*l.* per week.—Apply personally, or by letter, to A. Z., 57, Coal Exchange, London.

WANTED, a respectable, active Man, who is a good and practical GARDENER; he must understand thoroughly every department. Also a young Man as UNDER GARDENER in the same place. He must have a general knowledge of Gardening, must have recommendation for neatness as well as good character in other respects, and be able to Milk in case of need. It is requested that no application be made for either situation by any one who cannot be strongly recommended by letter stating qualifications and requirements to A., Messrs. Moore & Co., 34, Lime Street, City.

WANTED, A PROPAGATOR, who thoroughly understands his profession, and can have a good character for sobriety and honesty.—Apply to OSBORN & SONS, Fulham Nursery, near London.

WANTED, a Man as PROPAGATOR, and to do the work of a small Nursery. Must be well experienced in the general routine of nursery work. State wages required.—E. T., 2, Melvill Terrace, South Street, Greenwich, Kent.

WANTED, AS CLERK AND BOOKKEEPER, a steady respectable Man, in a large Seed establishment. He must have a good knowledge of the trade, as he will have to assist when required at the counter.—Apply with references, which must be unexceptionable, to K. P., *Gardeners' Chronicle* Office.

WANTED, AS HEAD SHOPMAN AND CLERK, a sharp industrious Man, having a thorough knowledge of the Seed Business in every department. He must have a good address, be of an active pushing disposition, and prepared to enter on the duties of his situation with spirit. As the salary to be given is liberal, no one need apply who cannot produce the most satisfactory references to character and ability.—Applications (confidential) with full particulars to be addressed to X. O., *Gardeners' Chronicle* Office.

WANTED, a respectable Man, of good character and address, and who has been accustomed to assist in a SEED SHOP, and would make himself generally useful. Situation permanent.—Apply personally, 154, Kingsland Road, London.

WANTED, in a family residing a few miles from London, a MAN and WIFE, the former to take charge of a Pony, Cow, and Garden; the latter as General Servant. A NURSEMAID wanted in the same family.—Address, stating age and wages expected, J. B. G., Post Office, 1, Broad Street, Bloomsbury, W. C.

## WANT PLACES.—Letters to be Post Paid.

GARDENER (HEAD).—Age 30, unmarried; understands the management of Pines, Vines, and Peaches, the Forcing of Fruits, Flowers, Vegetables, &c.—C. C., 5, Streatham Hill, Brixton.

GARDENER (HEAD).—Age 30, married, no incumbrance; understands all sorts of Early and Late Forcing, Fruit, Flowers, and Vegetables; also Flower and Kitchen Gardens. Good character.—F. R., Mr. Hooke's, Stationer, Guildford.

GARDENER (HEAD).—Married, without incumbrance; perfectly understands his profession in its separate branches. Seven years' good character from last place.—A. B., Post Office, Little Sussex Place, Hyde Park Gardens.

GARDENER (HEAD).—Age 32, married; thoroughly practical and methodical in every branch of his profession. Can have an excellent character from the gentleman he last served, who expresses regret at his leaving. Wife can take charge of Dairy or Poultry if required.—F. D., 4, Providence Row, Waltham Green.

GARDENER (HEAD OR SINGLE-HANDED).—Age 26, single; has a practical knowledge of Gardening in all its branches. Unexceptionable references.—M. A. R., Post Office, Cobham, Surrey.

GARDENER (HEAD OR SINGLE-HANDED).—Single, active, and strictly sober; understands Early and Late Forcing, Grapes, Greenhouse, and Frames, Flower and Kitchen Gardens. No objection to a little Stock. Can have a good character.—J. P. S., Calverley Library, Tunbridge Wells.

### IRELAND.

GARDENER (HEAD) AND STEWARD.—An Englishman (married, without incumbrance); thoroughly conversant with the management of a nobleman's Estate, the Laying out of Pleasure Grounds, Plantations, &c., and the Early and Late Forcing of Fruit, Flowers, and Vegetables. Leaving his present situation in a nobleman's family (which he has filled for a considerable time), on his own account; testimonials unexceptionable.—ALPHA, 2, Oxmantown Mall, Parsons Town, King's Co.

GARDENER (SINGLE-HANDED).—A young Man, with a thorough practical knowledge of his profession. Good character.—J. PATRICK, West Parade, Spring Bank, Hull.

GARDENER OR FOREMAN in a gentleman's Garden.—Age 24, married, no incumbrance. Two and a half years in last place. Good character.—J. T. A., W. H. Wheeler's, Florist, Farnham, Surrey.

GARDENER (FOREMAN).—Age 23, single; wishes to engage in a good establishment; is well acquainted with Forcing, &c., and has a good general knowledge of his profession. Good testimonials.—J. S., 42, Faulkner Street, Chester.

GARDENER AND BAILIFF.—Experienced in the general management of an Estate, chiefly on light lands, Breeding and Rearing Stock, Marketing, Measuring and Sale of Timber, Collecting of Rents, &c. Excellent references.—J. K., 2, Anerley Vale, Upper Norwood, Surrey.

GARDENER.—Middle-aged, married, without incumbrance; thoroughly understands his profession; also Land. Three years' good character.—M. P., Barker's Library, Hammersmith, W.

GARDENER (UNDER).—Age 21; has a thorough knowledge of Hard-wooded Plants. Good character.—J. M., Mr. Forsyth's Nursery, Rectory Road, Stoke Newington.

FOREMAN AND PROPAGATOR (House Department).—AMOS MAY, Chiswick Nursery, near London, W.

PROPAGATOR, OR FOREMAN AND PROPAGATOR.—Hard and Soft wooded Plants, and expert at Grafting, Azaleas, Camellias, Coniferæ, Rhododendrons, and Roses. First class references as to abilities.—Messrs. OSBORN & SONS, Fulham Nursery, Fulham, S.W.

JOBBING GARDENER, FOREMAN, &c.—Steady, first-rate practical Man in Training, Budding, Layering, or anything else; Kitchen and Flower Gardens.—G. O. S., 3, Princess Road, Notting Hill, London.

### TO THE NURSERY AND SEED TRADE.

CLERK AND TRAVELLER.—Age 33; perfectly understands the business. Unexceptionable references.—S. J., *Gardeners' Chronicle* Office, Wellington St., Strand, London.

TO FARMERS.—If you wish to PRESERVE YOUR HAY, go to DAVIS & Co., 64, West Smithfield, E.C., where you may purchase a RICK CLOTH of the best material and workmanship, cheaper than at any house in London.

### WHY NOT PRESERVE YOUR HAY?

BENJAMIN EDGINGTON respectfully informs the Nobility and Gentry that they can be supplied on the best terms with RICK CLOTHS, with Poles complete.

Early application should be made for SECOND-HAND RICK CLOTHS. MARQUEES, TENTS, and FLAGS. A great variety of Marquees and Tents may be seen erected on the premises. A quantity of SECOND HAND TENTS from the Crimea at a greatly reduced price. An Illustrated Catalogue sent post free.

West End Establishment, 32, Charing Cross, S.W.

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### HAY HARVEST.

NICHOLSON'S PATENT HAYMAKER, to which was awarded the First Prize of the Royal Agricultural Society of England at the last contested trial.

The celebrated STAMFORD HORSE RAKE has lately been much improved, and has obtained 26 Prizes at competitive trials.

MOWING AND REAPING MACHINES are performing their work most satisfactorily, and fully justify public expectation, cutting about 10 acres per day, at a cost of 9*d.* per acre.

Orders for the above machines should be given at once to RICHMOND & CHANDLER, Salford, Manchester.

Branch Establishment, South John Street, Liverpool.

### WEDLAKE AND DENDY,

AGRICULTURAL ENGINEERS, Hornchurch, Essex.

HAY MACHINES.

Small size, No. 1 .. £10 | Large size, No. 1 .. £12
Large size, No. 2 .. .. .. £13

These Machines are free from small and delicate parts, and can be easily understood by a farm labourer. They have gained several prizes at the Royal Agricultural Society's Shows.

HORSE RAKES.

No. 1 .. .. £6 10*s.* | No. 2 .. .. £7 10*s.*

WEDLAKE & DENDY'S Horse Rakes are made on the tubular principle, combining great strength and lightness. Free to all the principal Railway Stations.

WEDLAKE & DENDY, Union Foundry, Hornchurch, Essex.

### MICROSCOPES.

JOSEPH AMADIO'S Improved Compound MICROSCOPE, 2*l.* 2*s.*; Students', 3*l.* 13*s.* 6*d.*

"Both these are from Amadio, of Tungmorton Street, and are excellent of their kind, the more expensive one especially."—*Household Words*, No. 345.

A large Assortment of ACHROMATIC MICROSCOPES.

Just published, an ILLUSTRATED CATALOGUE, containing the names of 1000 Microscopic objects, post free, for 4 stamps.

### SIXTY YEARS OF SUCCESS

HAVE PROVED BEYOND QUESTION THAT

ROWLANDS' MACASSAR OIL possesses extraordinary properties for promoting the growth and improving and beautifying the human hair. It prevents hair from falling off or turning grey, strengthens weak hair, cleanses it from scurf and dandriff, and makes it beautifully soft, pliable, and glossy. In the growth of the beard, whiskers, and mustachios, it is unfailing in its stimulative operation. For children it is especially recommended as forming the basis of a beautiful head of hair, while its introduction into the Nursery of Royalty, and the numerous testimonials constantly received of its efficacy, afford the best and surest proofs of its merits.—Price 3*s.* 6*d.* and 7*s.*; Family bottles (equal to four small), 10*s* 6*d.*; and double that size, 21*s.*—CAUTION. On the wrapper of each bottle are the words, "ROWLANDS' MACASSAR OIL," &c., in white letters, and their signature, "A. ROWLAND & Sons," in red ink.—Sold at 20, Hatton Garden, London, and by Chemists and Perfumers.

### FRUIT TREES, RIPE STRAWBERRIES, ETC.

TANNED NETTING for Protecting the above from Frost, Blight, Birds, &c.; 2 yards wide, 1 yard, or 100 yards, 20*s.* Can be had in any quantity of E. & DELLER, 6 and 7, Crooked Lane, London Bridge.

TANNED NETTING, at REDUCED PRICES.—200 square yards, 10*s.*; 500 yards, 24*s.* A quantity of second-hand Rick Cloth for Sale, Cheap, all sizes, and as once used. Samples sent free.—Address FREDERICK EDGINGTON, Thomas Street, Old Kent Road, London, S.E.

TANNED NETTING, for the Protection of Fruit Trees from Frost, Blight, and Birds; also, for the security of fresh sown seeds, at 1*d.* per square yard; 200 for 12*s*; 500 yards, 25*s.*; Scrim Canvas, for wall fruit; Garden Mats.—At EDGINGTON & Co's., Rick Cloth, Tent, and Waterproof Cloth Manufacturers, 17, Smithfield Bars, City, & Old Kent Road.

TANNED GARDEN NETTING for Preserving Fruit Trees from Frost, Blight, Birds, &c., and as a Fence for Fowls, &c. One yard wide 1½*d.*, 2 yards 3 yards 4½*d.*, and 4 yards 6*d.* per yard, in any quantity, to be had at C. WRIGHT'S, 376, Strand, W.C.

A liberal allowance to Nurserymen.

GARDEN, RABBIT, CRICKET, SHEEP, AND FISHING NETS, at J. ALLEN'S, 7, Chenies Place, Pancras Road, London, N.W.

THE FINEST FRUITS IN ENGLAND.—The Nobility, Clergy, Gentry, and Gardeners are respectfully informed that HAYTHORN'S HEXAGON and DIAMOND GARDEN NETS are guaranteed to protect all kinds of fruit from Birds, Wasps, Flies, &c. The Nets are used in the Royal gardens, and are recommended by all the principal gardeners. For testimonials, patterns, and prices (gratis, and free by post), please direct to Mr. HAYTHORN, Nottingham.

RICK AND HAY CLOTHS, HAY ROPE, second-hand MARQUEES and TENTS; NETTING new and old, for protecting fruit trees; SCAFFOLD NET, SACK TYERS, BLIND and SASH LINES, Patent CORN NOSEBAGS, &c., &c.

J. MORISON, Manufacturer, 25, Norton Folgate, N.E.

COUPLAND'S IMPERIAL WIRE AND WINDOW BLIND MANUFACTORY, 370, Oxford Street, W.

Wire work of superior description, useful and ornamental for Conservatory, Garden, Drawing-room, Flower Stand, Basket, Garden Arch, Rosery, Fencing, Birdcage, &c., for Domestic and other purposes in elegant variety. Aviaries and Conservatories fitted up in the best style. Sun Shades and Window Blinds of all sorts.

PAINTED FLOWER LABELS, the same that are used at the Royal Gardens, Kew, Surrey. They are made of Lead, beautifully painted white, with black letters, and a green or red border, very durable and cheap.—Patterns and prices sent on application to AUGUSTUS GREENHEAD, Botanic Writer, &c., Hammersmith Gate, W.

CAST-IRON GARDEN ORNAMENTS, viz. ORNAMENTAL VASES, of various sizes, do. do. pedestal, GARDEN CHAIRS and STOOLS, RUSTIC GARDEN SEATS and TABLES, both plain and bronzed, also GARDEN ROLLERS of all sizes.—Prices on application to J. Cox, Iron Merchant, 6, Bankside, London.

SHAW'S TIFFANY is universally acknowledged to be the best, neatest, and cheapest material for shading conservatories, and other Hothouses. Effectually secures Plants from the scorching rays of the sun, without obscuring the light. Also, for protecting the Bloom of Wall Trees from spring frosts, and Fruit from birds and wasps. Sold in packets

No. 1.—20 yards long, by 38 inches wide, 5*s.* per piece.

No. 3.—Double strength, 18 yards long, by 39 inches wide, 7*s.* 6*d.* per piece.

No. 4.—Treble strength, 18 yards long, by 39 inches wide, 9*s.* per piece.

A liberal allowance to the Trade when ten or more Pieces are taken.—JOHN SHAW & Co., Princess Street, Manchester.

TO WATER GARDENS in the easiest way is by the BEST FLEXIBLE TUBE. Brass Hand Branches and Jets, Garden Engines, Syringes, &c.—Apply for Illustrated Price Lists to JAMES SHEATH & Co., the Patent Gutta Percha and India Rubber Factory, 35, Old Street Road, E.C.

N.B. The best articles only manufactured.

GARDEN WATERING ENGINE, PAIL MACHINES, CONSERVATORY PUMPS, GREENHOUSE SYRINGES, with all the latest improvements, manufactured only by the Patentee,

RICHARD READ, 35, REGENT CIRCUS, PICCADILLY, LONDON.

☞ Descriptions with drawings sent post free.

### TO AGRICULTURISTS AND OTHERS.

EDWARDS'S PATENT CANVAS SUCTION AND DELIVERY HOSE are the best and cheapest in use. EDWARDS'S PATENT CANVAS DRIVING BANDS. CHAFF CUTTING AND THRESHING MACHINES, &c. C. J. EDWARDS'S Leather and Canvas Hose and Band Manufactory, 3, Great Sutton Street, Clerkenwell, London, E.

### VULCANIZED INDIA-RUBBER HOSE AND TUBING FOR WATERING GARDENS, &c.

J. L. HANCOCK supplies this article, of any required strength or size, make, of any required strength or size.

BRASS SCREW JOINTS, for connecting the Hose, Cisterns, also HAND BRANCHES, TAPS, and WATER SPREADERS in great variety. Orders by post promptly executed, and Illustrated Price Catalogue on application.

JAMES LYNE HANCOCK, Vulcanized India Rubber Works, Goswell Mews, and No. 8, Goswell Road, London, E.C.

### TO AMATEUR GARDENERS, NURSERYMEN, AGRICULTURISTS, AND OTHERS.

GUTTA PERCHA TUBING FOR WATERING GARDENS, from 2½*d.* per foot; Vulcanized India Rubber Tubing for Watering Gardens, from 4*d* per foot; Brass Garden Branches, with Stopcock and Rose, and every description of Garden Tubing Fittings, sold Wholesale and Retail by W. R. WOODS, 94, Goswell Road, near the "Angel," Islington, London, E.C. Priced Lists can be had on application.

Please notice the Address—94, Goswell Road.

### GUTTA PERCHA TUBING FOR WATERING GARDENS.

THE GUTTA PERCHA COMPANY have pleasure to acknowledge the receipt of the following

*Testimonial from* Mr. J. FARRAH, *Gr. to* BOSWELL MURRAY JALLAND, Esq., *of Holderness House, near Hull.*

"I have had 400 feet of your Gutta Percha Tubing in lengths of 100 feet each, with union joint, in use for 12 months for watering these gardens, and I find it to answer better than anything I have ever yet tried. The pressure of the water is very considerable, but this has not the slightest effect on the tubing. I consider this tubing to be a valuable invention for Gardeners, inasmuch as it enables me to water our gardens in about one-half the time, and with about half the labour required."

Manufactured by the Gutta Percha Company, Patentees, 18, Wharf Road, City Road, London, and sold by their Wholesale Dealers in town and country.

# The Gardeners' Chronicle Newspaper.

*SATURDAY, JULY 2, 1859.*

THE HEART OF THE ANDES. By FREDERICK E. CHURCH (Painter of the Great Fall, Niagara), will be EXHIBITED by Messrs. DAY & SON, Lithographers to the Queen, on and after MONDAY, July 4, at the German Gallery, 168, New Bond Street.—Admission 1*s.*

NEXT OF KIN, HEIRS, &c., WANTED, and others who have been Advertised for—being exact copies of Advertisements from the *Times, Gazette, Chronicle, Herald, Post, New York Herald, Melbourne Argus, Sydney Herald, Indian Mail*, &c., for the last 40 years, covering many hundreds of Names and descriptions of Persons entitled to Property of several Millions value. This valuable Book is sent post free for eight penny stamps. Directed to FISHER & SON, Publishers. Blomfield Street, Kingsland, London, N.E. Punctually sent per return.

NOTICE.—We possess upwards of 7000 Advertisements of persons Wanted, from the present date back to 1812.

BANK OF DEPOSIT,

ESTABLISHED A. D. 1844; 3, PALL MALL EAST, LONDON.
CAPITAL STOCK 100,000*l.*

PARTIES desirous of INVESTING MONEY are requested to examine the Plan of THE BANK OF DEPOSIT, by which a high rate of Interest may be obtained with ample security. Deposits made by Special Agreement may be withdrawn without notice. The Interest is payable in January and July. PETER MORRISON, Managing Director.

Form for opening Accounts sent free on application.

RIFLE CORPS AND LIFE ASSURANCE.

THE SCOTTISH UNION INSURANCE COMPANY hereby intimate that they will NOT CHARGE any EXTRA PREMIUM for persons joining and serving in any Volunteer or Rifle Corps so long as they remain within the United Kingdom of Great Britain and Ireland.

The terms and conditions of this Company (established 35 years), are in every sense liberal.

Persons opening policies now and before the end of July, will participate in the profits of the year then ending.

The next division will be in 1861.

Prospectus, and forms of proposal, may be had at the Company's offices, 37, Cornhill, London; and of the agents throughout the kingdom.

F. G. SMITH, Secretary to London Board.

37, Cornhill, June, 1859.

VICTORIA AND LEGAL AND COMMERCIAL LIFE ASSURANCE COMPANY, 18, King William St., City. The business of the Company embraces every description of risk connected with Life Assurance. Credit allowed of one-third of the Premiums till death, or half the Premiums for five years, on Policies taken out for the whole of life. Residence in most of the Colonies allowed without payment of any extra Premium, and the rates for the East and West Indies are peculiarly favourable to Assurers. Endowment Assurances are granted payable at 60, 65, or any other age, or at death, should that happen previously. Four-fifths or 80 per cent. of the entire Profits are appropriated to Assurers on the Profit Scale.

Advances in connection with Life Assurance are made on advantageous terms, either on real or personal security.

WILLIAM RATRAY, Actuary.

THE LIVERPOOL AND LONDON FIRE AND LIFE INSURANCE COMPANY.—Established 1836.

Offices, No. 1, Dale Street, Liverpool; and 20 and 21, Poultry, London. Liability of Proprietors unlimited.

Invested Funds .. .. .. .. .. £1,156,035

PROGRESS OF THE COMPANY.

| Year. | Fire Premiums. | Life Premiums. | Invested Funds. |
|---|---|---|---|
| 1848 .. .. | £35,472 .. .. | £19,840 .. .. | £388,990 |
| 1853 .. .. | 113,612 .. .. | 49,128 .. .. | 620,896 |
| 1858 .. .. | 276,058 .. .. | 121,411 .. .. | 1,156,035 |

THE ANNUAL INCOME EXCEEDS 450,000*l.*

Policies expiring on MIDSUMMER DAY should be renewed before 9th July.

SWINTON BOULT, Secretary to the Company.

EDUCATION.—A YOUNG LADY 20 years of age and residing with her parents in the country, wishes (in consequence of reverse of fortune), to meet with a little girl or boy, with whose welfare and education she may be entrusted. A child possessing a taste for music would have great advantages. The family are of the Church of England.—Particulars, and the highest references will be given on application by letter to C. E., Post Office, Wolverhampton.


## News of the Week.

BOTH Houses of Parliament reassembled on Thursday after the recess rendered necessary by the change of Ministry. Earl GRANVILLE in the Lords, and Lord PALMERSTON in the Commons made the expected Ministerial statement respecting the intentions of the Government in regard to the Reform Bill and the war in Italy. Lord PALMERSTON said that having succeeded with the co-operation of Lord JOHN RUSSELL in forming a Ministry on principles and on a basis which would, he trusted, secure the support of the House and of the country, it had become their duty to consider what course they should recommend for the conduct of public business in the present state of affairs. Two great questions pressed upon their attention—one the state of our foreign relations, and the other that of the representation of the people. With regard to the first, they would follow the course chalked out by their predecessors, that of a strict neutrality, and at the same time would strengthen the defences of the country and avail themselves of the first favourable opportunity to tender the good offices of England, either separately or conjointly with other Powers, in order to restore to Europe the blessings of peace. With regard to the Reform Bill, they were of opinion, looking to the time of the year, and to the short period which remained for disposing of the routine business, that it would be trifling with so great a subject to enter upon its consideration during the present session. They had therefore resolved to postpone their Bill until next year, and in the meantime they would pledge themselves to introduce their measure at the earliest possible period of the next session. In the House of Lords, Earl GRANVILLE, after making a similar statement, proceeded to contradict the rumours which had prevailed in regard to a reduction of our naval armaments, and said that it was the decided opinion of the Government that the defences of the country should be placed in a state of thorough efficiency. With respect to foreign affairs, he said that the policy of the Government would be one of strict neutrality. It would be their object to keep this country out of the war, and to promote peace, not by a too early intermeddling, but by carefully watching the course of events, to take the first favourable opportunity of bringing their influence in co-operation with the other European Powers to insure not only present peace, but arrangements which may lead to peace for the future.

The Ministerial arrangements have been completed this week, and the re-elections which have taken place have all terminated in favour of Ministers. The only places where there was opposition were Norwich, Bedford, Newcastle, Sandwich, and Oxford University. At the first four Lord BURY, Mr. WHITBREAD, Mr. HEADLAM, and Mr. KNATCHBULL HUGESSEN have been re-elected respectively by large majorities; and at the latter, after five days' polling, Mr. GLADSTONE was re-elected yesterday by a majority of 191.

The great battle which has long been looked for was fought on Friday on the west bank of the Mincio. It commenced at sunrise and lasted until sunset, covering an area the front of which extended over five leagues. Upwards of 300,000 men were engaged in the battle, and the three armies were commanded by the EMPEROR OF AUSTRIA, the EMPEROR OF THE FRENCH, and the KING OF SARDINIA in person. The result was the complete defeat of the Austrians, who were compelled to recross the Mincio, leaving 35,000 killed and wounded on the field, and more than 15,000 prisoners, 30 cannons, and 3 flags, in the hands of the allies. On the night of the battle the EMPEROR OF THE FRENCH slept in the very room at Cavriana which had been occupied by the EMPEROR OF AUSTRIA in the morning. The latest news states that the French have crossed the Mincio in pursuit of the Austrians, that the Sardinian army has invested Peschiera from the Lago di Garda to the Mincio, and that the EMPEROR OF AUSTRIA has given up the command of his army to General HESS, and returned to Vienna on important Government business.

The Revenue Returns for the Year and Quarter ended on the 30th of June are much more satisfactory than was anticipated. The Return for the Quarter shows an increase of 212,290*l.*, after allowing for a diminution of 417,481*l.* in the Property Tax caused by the reduction of the duty, and a diminution of 123,788*l.* in the Stamps, which may be considered as a postponement rather than a loss, in consequence of the interruption given to business by the general election. The return for the year shows a decrease of only 1,190,143*l.*, though the diminution of Property Tax caused by the reduction of the duty was no less than 4,064,056*l.* In every other branch of Revenue the return exhibits a steady increase.

## Home News.

THE COURT.—The Queen, Prince Consort, and the Royal family continue at Buckingham Palace. On Friday morning the Queen and Prince Consort rode on horseback. The Prince Consort, accompanied by the Princesses Alice and Helena and the Prince of Leiningen, afterwards went to the Handel Festival at the Crystal Palace. The Princess of Hohenlohe-Langenburg arrived at Buckingham Palace on a visit to the Queen. The Prince of Hohenlohe-Schillingfurst accompanied her Serene Highness to the Palace, and afterwards proceeded to the Brunswick Hotel, Jermyn Street. The Countess de Neuilly and the French Royal family visited the King of the Belgians at Buckingham Palace. In the afternoon the Queen, accompanied by the Princess Helena, the Princess of Hohenlohe-Langenburg, and the Prince of Leiningen, took a drive in an open carriage and four. In the evening the Queen had a dinner party. On Saturday morning the Prince Consort was present at a Committee of the Governors of Wellington College. In the afternoon the Queen held a Levée in St. James's Palace, at which 470 gentlemen had the honour of being presented. Before the Levée the Queen received in the Royal Closet a deputation from Canada, which presented an address to her Majesty praying her to visit Canada on the opening of the Victoria Bridge in 1860. After the Levée the Prince of Leiningen took leave of her Majesty and returned to Portsmouth. The Queen and Prince Consort, accompanied by the Prince of Wales and Princess Alice, drove out in an open carriage and four. The Princess of Hohenlohe-Langenburg left Buckingham Palace for Frogmore on a visit to the Duchess of Kent. In the evening the Queen and Prince Consort, accompanied by the King of the Belgians and the Prince of Wales, honoured the Royal Italian Opera with their presence. The Count of Flanders attended the performance at the Princess's Theatre. On Sunday morning her Majesty and the Prince Consort, the King of the Belgians, the Prince of Wales, and the Princesses Alice, Helena, and Louisa attended Divine service in the private chapel of Buckingham Palace; the Rev. Dr. Cureton preached the sermon. In the afternoon the King of the Belgians went to Frogmore and visited the Duchess of Kent. On Monday morning the Prince Consort, as President of the Horticultural Society, presided at a meeting of the Council at Buckingham Palace. Prince Arthur visited the Crystal Palace. The Duke of Oporto arrived at Buckingham Palace on a visit to her Majesty. In the afternoon the Queen, accompanied by the Prince of Wales, went to Frogmore by a special train on the Great Western Railway, and visited the Duchess of Kent. In the evening the Queen had a dinner party. On Tuesday the Queen held a Chapter of the Order of the Garter. Her Majesty afterwards held a Court, at which Lord de Ros had an audience and resigned his Gold Stick of office as Captain of the Yeomen of the Guard. The Earl of Shrewsbury and Talbot had an audience, and resigned his Gold Stick of office as Captain of the Corps of Gentlemen-at-Arms. Earl Ducie had an audience, kissed hands on his appointment, and received from her Majesty his Gold Stick of office as Captain of the Yeomen of the Guard. Lord Foley had an audience, kissed hands on his appointment, and received from the Queen his Gold Stick of office as Captain of the Corps of Gentlemen-at-Arms. The Earl of Carlisle had an audience. In the afternoon the Duke Nicolas de Leuchtenberg and his brother, Prince Eugene, nephews of the Emperor of Russia, visited the Queen. The King of the Belgians and the Count of Flanders went to Tunbridge and visited the Countess de Neuilly. The Duke of Oporto visited the Duke of Cambridge. In the evening the Queen had a dinner party. On Wednesday morning the Prince Consort presided at a meeting of the Council of the Duchy of Cornwall, at which Sir William Dunbar attended and took the oaths, on his appointment as Keeper of the Privy Seal in the room of Mr. Whitmore, resigned. Messrs. White and Hankey had the honour of submitting for her Majesty's inspection the "Great Welcome Nugget," from Australia, weighing 2200 ounces, and valued at above 9000*l.* The Prince of Wales visited the exhibition of the Royal Academy. The Duke of Oporto went to Greenhithe, and returned to town in the afternoon. In the evening the Queen gave a State Ball to a party of 2000. On Thursday the Prince Consort visited the Provident Institution in St. Martin's Place. The Duke of Oporto went to Tunbridge and visited the Countess de Neuilly. Viscount Bury had an audience of the Queen, kissed hands upon his appointment as Treasurer of her Majesty's Household, and received his wand of office. In the afternoon the Queen held an Investiture of the Order of the Bath, and afterwards drove out in an open carriage and four accompanied by the Princesses Alice and Louisa. In the evening the Queen and Prince Consort, accompanied by the King of the Belgians and the Count of Flanders, honoured the performance at the Adelphi Theatre with their presence. The Prince of Wales and the Duke of Oporto honoured the performance at the Princess's Theatre with their presence. The Queen, Prince Consort, and the youthful members of the Royal family, according to present arrangements, will leave London next week for Osborne for the summer.

THE PRINCE OF WALES arrived at Buckingham Palace on Saturday afternoon from the Continent. On Thursday his Royal Highness went to Harrow and heard the speeches in the school.

COURT MOURNING.—The Queen, Prince Consort, and the Royal family went into mourning on Monday for a week for the late Dowager Grand Duchess of Saxe-Weimar, maternal grandmother to Prince Frederick William of Prussia.

ORDER OF THE GARTER.—A Chapter of the Order of the Garter was held by her Majesty on Tuesday, at which the Earl of Harrowby and the Earl of Derby, having previously been knighted with the Sword of State, were invested by her Majesty with the insignia of the order with the usual ceremonies. The Prince of Wales appeared at the Chapter for the first time, wearing the robes and

insignia of the order, and took his seat on the left of the Queen.

ORDER OF THE BATH.—The Queen held a Chapter of the Order of the Bath on Thursday, at which the Earl of Elgin, Rear-Admiral Sir Michael Seymour, the Earl of Malmesbury, the Right Hon. Sir John Pakington, General Sir Thomas M'Mahon, Bart., General Sir William M. Gomm, and General Sir Robert W. Gardiner were knighted and invested by her Majesty with the insignia of Knights Grand Cross; Colonel John Douglas, 79th Regiment; Major-General Henry G. Roberts; Dr. John M'Andrew, Inspector-General of Hospitals; General Henry Wyndham; and Lieut.-General John Aitchison, were knighted and invested with the insignia of Knights Commanders; and Captain E. S. Sotheby, R.N.; Colonel C. Hagart, late 7th Hussars; Lieut.-Col. W. A. Middleton, R.A.; Colonel H. R. Jones, 6th Dragoon Guards; Colonel M. W. Smith, 3d Dragoon Guards; Lieut.-Col. J. D. Carmichael, 32d Regiment; Lieut.-Col. L. Nicholson, R.E.; Lieut.-Col. Sir W. Russell, Bart., 7th Hussars; Lieut.-Col. T. Lightfoot, 84th Regiment; Lieut.-Col. E. G. Bulwer, 23d Regiment; Captain the Hon. Keith Stewart, R.N.; Captain Sir F. W. E. Nicolson, Bart., R.N.; Lieut.-Colonel A. S. S. Walsh, Royal Marines; Captain E. G. Fishbourne, R.N.; D. J. Simpson, Esq., Paymaster-in-Chief, R.N.; W. D. Jeans, Paymaster, R.N., Secretary to Rear-Admiral Sir Michael Seymour; and John Edye, Esq., F.R.S., late Assistant-Surveyor of the Navy, were invested with the decoration of Companions of the Bath.

THE CABINET.—A Cabinet Council was held on Wednesday at the official residence of the First Lord of the Treasury, in Downing Street.

MINISTERIAL APPOINTMENTS.—The following arrangements have been announced during the week:—

*Solicitor-General for Scotland.*—E. F. Maitland, Esq.
*Treasurer of the Household.*—Lord Bury.
*Comptroller of the Household.*—Lord Proby.
*Captain of the Gentlemen at Arms.*—Lord Foley.
*Captain of the Yeomen of the Guard.*—Earl of Ducie.
*Groom in Waiting in Ordinary.*—Lieut.-Col. Kingscote.
*Groom of the Stole to the Prince Consort.*—Earl Spencer.
*Lord in Waiting to the Prince Consort.*—Lord Waterpark.
*Equerry and Clerk Marshal.*—Lord Alfred Paget.

THE PEERAGE.—The *Gazette* of Tuesday announced that the Queen has directed letters patent to be passed under the Great Seal, granting the dignity of a Baron of the United Kingdom to the Right Hon. Robert Vernon Smith, and the heirs male of his body lawfully begotten, by the title of Baron Lyveden, of Lyveden, in the county of Northampton; and to the Right Hon. Sir Benjamin Hall, Bart., and the heirs male of his body lawfully begotten, by the title of Baron Llanover, of Llanover and Abercarn, in the county of Monmouth.

KNIGHTHOOD.—At the Levée on Saturday the Queen conferred the honour of Knighthood upon Sir James Macaulay Higginson, K.C.B., Vice-Admiral Alexander Dundas Arbuthnott, Hercules George Robert Robinson, Esq., Governor of Hong-Kong, and Stephenson Villiers Surtees, Esq., Chief Justice of the Mauritius.

PARLIAMENTARY MOVEMENTS. — Lord Palmerston has been re-elected for Tiverton, Lord John Russell for London, Sir G. C. Lewis for Radnor, Sir C. Wood for Halifax, Mr. Cardwell for Oxford, Mr. M. Gibson for Ashton, Mr. Sidney Herbert for South Wilts, Mr. Fitzroy for Lewes, Mr. Lowe for Calne, Mr. Wilson for Devonport, Sir R. Bethell for Wolverhampton, Sir H. Keating for Reading, Mr. Moncrieff for Edinburgh, Sir W. Dunbar for Wigton, and Mr. Bagwell for Clonmel, all without opposition. The election for Oxford University terminated yesterday in the return of Mr. Gladstone, by a majority of 191, the numbers being for Mr. Gladstone, 1050; for the Marquis of Chandos, 859. The election for Norwich has terminated in the return of Lord Bury by a majority of 361, the numbers being for Lord Bury, 1922; Sir S. Bignold, 1561; Colonel Boldero, 39. The election for Newcastle-on-Tyne has terminated in the return of Mr. Headlam by a majority of 1067, the numbers being for Mr. Headlam, 2153; for Mr. Cuthbert, 1086. The election for Sandwich has terminated in the return of Mr. Knatchbull Hugessen, by a majority of 283, the numbers being for Mr. Hugessen, 463, for Sir J. Fergusson, 180. The election for Bedford has terminated in the return of Mr. Whitbread by a majority of 52, the numbers being for Mr. Whitbread, 441; for Capt. Polhill-Turner, 389. The appointment of Lieut.-Col. Kingscote to be one of the grooms in waiting to the Queen has caused a vacancy in the representation of West Gloucestershire; and the appointment of Lord Alfred Paget to the office of Equerry and Clerk Marshal to the Queen has caused a vacancy in the representation of Lichfield. No opposition to their re-election is anticipated. A new writ was issued on Thursday for Marylebone, in the room of Sir B. Hall, now Lord Llanover. Lord Fermoy, Colonel Dickson, and Major Dickson are still in the field as candidates in the Liberal interest, and it is expected that a Conservative candidate will be brought forward.

THE NEW JUDGE.—Mr. Colin Blackburn (brother of Mr. P. Blackburn, M.P.) has been appointed one of the judges of the Court of Queen's Bench, in the room of Sir W. Erle, promoted to be Chief Justice of the Common Pleas.

THE NAVY.—It was reported last week that the whole of the mechanics and labourers who had been employed working over-time in Portsmouth dockyard had received orders from the Admiralty to discontinue working extra hours, and that the Chancellor of the Exchequer would largely retrench the naval expenditure. It appears that there is no foundation for the former rumour, and the latter has been contradicted by the Chancellor of the Exchequer himself in the following letter to the chairman of his London committee:—

"11, Carlton House Terrace, June 24.

"My dear Sir F. Rogers,—Statements have appeared in the public press with respect to the defences of the country which render it necessary for me to trouble you with a few lines. It is alleged that when Chancellor of the Exchequer I starved the Crimean war (that is, I presume, limited the expenditure upon it); and that, when the war was over, I caused the Government to reduce the estimates and forces, and even to break faith with seamen. In neither of these statements with respect to the past is there one word of truth. It is also said that there are menaces of present reduction. On this I have to say that I know nothing whatever of any proceedings calculated to diminish the efficiency of our defences; and I am confidently of opinion that when the estimates for the year are finally submitted, and when the demands necessary to meet them are made upon the House of Commons, those who are most anxious respecting the defences will find in them ample satisfaction. I am able to add, that no orders for reduction of any kind have been given or suggested by the new Board of Admiralty, which has not yet been constituted; and that if any such order is in operation it must have been given by the late Government in the course of public business.—I remain, very sincerely yours, "W. E. GLADSTONE."

THE REVENUE.—The Revenue returns for the year and quarter ended June 30 show a decrease of 1,190,143*l.* on the year, and an increase of 212,290*l.* on the quarter. The year's account shows an increase in the Customs of 1,508,528*l.*; Excise, 277,000*l.*; Stamps, 232,383*l.*; Taxes, 30,967*l.*; Post Office, 210,000*l.*; Crown Lands, 3886*l.*; Miscellaneous, 611,149*l.*; the only item which shows a decrease being the Property Tax, in which there is a diminution of 4,064,056*l.* The Quarter's account shows an increase in the Customs of 229,379*l.*; Excise, 319,000*l.*; Taxes, 23,000*l.*; Post Office, 20,000*l.*; Crown Lands, 500*l.*; Miscellaneous, 161,680*l.*; and a decrease in the Stamps of 123,788*l.*; Property Tax, 417,481*l.*

## Foreign.

FRANCE.—Paris was illuminated on Saturday night in honour of the victory of Solferino, and to-morrow a *Te Deum* will be sung in all the churches of France in celebration of the victory. The Empress and all the great bodies of the State will attend the service in Nôtre Dame. Telegraphic despatches from the provinces state that the enthusiasm of the people on receiving the news of the victory was very great. The *Moniteur* publishes an Imperial decree, dated Brescia, naming M. de Morny President of the Legislative Body, and M. Schneider and others Vice-Presidents and Quæstors. These appointments, at a period much earlier than usual, are supposed to be the precursors of an extraordinary session of the Chambers, with the view, as some suppose, of announcing new levies of troops and another new loan. Count Paul Schouvaloff, aide-de-camp of the Emperor Alexander, arrived in Paris on the 23d ult., on his way to the Emperor Napoleon's head-quarters as Russian Military Commissioner. The count is the bearer of an autograph letter of the Emperor of Russia to Napoleon III. The *Constitutionnel* notices the language of the German press with respect to France as highly unbecoming and unjustifiable. The Emperor Napoleon, it says, has undertaken the war in Italy only for the single object of freeing that fine country from tyrannical rule, and has no intention of attacking Germany or any other country. Hence, it says, the apprehensions expressed by the German press are unfounded, and the armament of the various States amounts to a positive menace. It says:—

"We are told of M. Kossuth and General Klapka, the former of whom, say the Austrian partisans, is gone to Italy with a French passport, while the latter has published a proclamation to the Hungarians, dated from the Imperial head-quarters. Not one word of all this is true. The Imperial Government has nothing whatever to do with the proceedings or attempts of those two refugees; but France can scarcely be expected to deprive them of their liberty for the greater security of Austria. Besides, neither Kossuth nor General Klapka is in the habit of accepting a mission from any one; and when one of the English journals friendly to Austria speaks of them as agents of the French Government, it misrepresents their position, and at the same time throws doubt on the straightforward conduct of France. We cannot affect to be surprised if the Hungarians do not feel quite happy under the Austrian yoke, but we must not confound causes altogether distinct. We are in Italy for a determined object, which has nothing threatening for European international rights. The cause has the sympathy of all the great States, as well as of all civilised nations, and it is solely with a view to compromise it that attempts are now being made to associate with it passions which France cannot encourage. But we can affirm these efforts to alarm Cabinets and mislead public opinion will prove unsuccessful. There is one more accusation which requires an immediate answer. Certain foreign journals assert that French intrigue is active on the banks of the Danube in creating embarrassments for Turkey and exciting the Roumain Principalities against her government. To these insinuations we give the most positive denial. On the very day of the Emperor's departure for the army of Italy Count Walewski informed Lord Cowley of the intentions and views of his Majesty on that delicate question. Such a declaration ought to suffice, as the Imperial Government has given no one the right to question the sincerity of its language."

SWITZERLAND.—On receipt of the news of the massacre at Perugia the Swiss residents at Milan were ill-treated by the populace, but the police interfered. The Federal Council has addressed circulars to the Swiss Consular agents in Italy, protesting against denominating regiments composed of foreigners as Swiss regiments, and requesting that use may be made of the circulars in order that this subject may be put in its proper light before the eyes of the public.

BELGIUM.—The Belgian Chambers are to be convoked for an extraordinary sessions for the 5th July, at the same time that the provincial councils will assemble. The bill for the fortifications of Antwerp, according to the plan of M. Brialmont, will be submitted to the Legislature.

HOLLAND.—General Gunkel, of the Dutch army, has appealed to the Supreme Court at the Hague against the condemnation to death passed on him by the Criminal Court for poisoning; but the court rejected the appeal.

BADEN.—The Grand Duke of Baden has addressed to his army an order of the day which concludes as follows:—"The time for peace and repose has not yet arrived, and we may yet have to impose on ourselves greater sacrifices, and to undergo more painful trials than any we have hitherto borne. Hold yourselves, therefore, ready to respond to my call, and to fight under my flag, like valiant Germans, for the honour of the country."

FRANKFORT.—In the sitting of the Federal Diet on Saturday, Prussia made the proposal to place a corps of observation on the Upper Rhine, under the superior orders of Bavaria. This proposal was referred to the Military Committee, which will not give its decision for a fortnight; but it is reported that the members of the Committee are in favour of its adoption.

BAVARIA.—Major-General von Tann left Munich last week for Berlin on a special mission. Baron de Pfordten, ex-Minister of Foreign Affairs, and now representative of Bavaria at the Germanic Confederation, made his appearance suddenly at Munich on the 17th, and was received by the King. M. de Pfordten afterwards went to Stuttgardt, to confer with the Ministers of Wurtemberg, and thence returned to Frankfort.

SAXONY.—Baron Beust has addressed a long despatch to the Russian Government in answer to the recent circular of Prince Gortschakoff, from which the following are extracts:—

"The King's Government did full justice at the time to the efforts made by the St. Petersburg Cabinet to prevent those calamities by means of a European Congress; but unless we fail in the duty of impartiality towards a confederate Government, it would be impossible for us to dwell on the episode of a Congress which was a mere phase, and not on the circumstances which preceded and brought about the war. We cannot forget that the Austrian Government, having done nothing which could give offence to its neighbours, or to any Power whatever in Europe, was first of all disquieted and afterwards menaced in the peaceable exercise of its rights of sovereignty. It is still difficult for us not to entertain the conviction that if such enterprises, instead of encountering the sympathies, had incurred the unequivocal blame of Europe, the scourge of war would probably have been averted even before the question of a Congress was raised." In answer to the assertion of Prince Gortschakoff that the Confederation is an exclusively defensive body, and that it is only in that character that Europe can recognise it, Baron Beust replies "that the Confederation is a Power like any other, and has the right to declare war whenever it shall conceive its interests to be menaced. Whether it waits to be attacked or takes the initiative is a matter for its own judgment. Yet in this case the action of Germany would be purely defensive. Austria is a State of the Confederation, and if she be attacked in any part of her dominions the other States may deliberate as to how far the event compromises the safety of her German provinces." On this question Baron Beust quotes the proceedings of the Diet during the Russian War. "At that epoch the Germanic Confederation, on the proposition of Austria and Prussia, took a resolution that any act of aggression against the non-German possessions of Austria and Prussia should be considered as equivalent to an attack on the Federal territory; and when some months after the Austrian troops occupied the Danubian Principalities the Confederation amplified the said resolution to the effect, that an attack on that armed force, which was not only out of the Federal but even the Austrian territory, should be considered as an aggression against the Confederation."

PRUSSIA.—The Cabinet of Berlin has intimated to the French Government that the mobilisation of the six *corps d'armée* must not be considered as a measure hostile to France, or as having in any sense an aggressive character.

AUSTRIA.—The Emperor is daily expected at Vienna. On Monday his Majesty was at Villafranca, and the report is current that he will shortly have an interview with the Prince Regent of Prussia. Two decrees favourable to Protestants and Jews are expected.

HUNGARY.—It is said that the Russian Ambassador at Turin has remonstrated against the organisation of a Hungarian Legion, and that the Prussian Government have also declared their intention of assisting in putting down an insurrection in Hungary.

ITALY.—The following despatches announcing the great battle on the Mincio have been received by the Empress of the French:—

"THE EMPEROR TO THE EMPRESS.—Cavriana, Friday evening. Great Battle—Great Victory. The whole Austrian army formed the line of battle, which extended five leagues in length. We have taken all their positions, and captured many cannon, flags, and prisoners. The battle lasted from 4 o'clock in the morning till 8 o'clock in the evening."

"THE EMPEROR TO THE EMPRESS.—Cavriana, Saturday, 1 P.M. It is impossible to obtain details of the battle of yesterday. The enemy withdrew last night. I have passed the night in the room occupied on the morning of the battle by the Emperor of Austria. General Niel has been appointed Marshal of France."

"THE EMPEROR TO THE EMPRESS.—Cavriana, June 26, 11 A.M. The Austrians, who had crossed the Mincio to attack us with the whole of their army, have been compelled to abandon their positions and retire to the left bank of the river. They have blown up the bridge of Goito. The loss of the enemy is very considerable; ours is much inferior. We have taken 30 pieces of cannon, three flags, and captured more than 9000 prisoners. General Niel and his corps, as well as the entire army, have covered themselves with glory. General Auger has lost an arm. The Sardinian army, which occupied the extreme left of our position, inflicted severe losses on the enemy, after having contended with great obstinacy against superior numbers."

"THE EMPEROR TO THE EMPRESS.—Cavriana, June 28, 2 20 P.M.—Our troops are passing the Mincio without resistance. the enemy having retired beyond the river."

The *Moniteur* states that the battle is to bear the name of "the Battle of Solferino," and publishes the following details received from Cavriana, under the date of the 25th:—

"Yesterday was distinguished by one of those battles which, if they do not terminate a war, enable us at least to anticipate its conclusion. The Emperor of Austria commanded in

...ppose. In the new sketch with what a nation he has engaged in that strife. The Austrians in their previous retreats still ...ntained a renewal of the attack. Their last decided retreat behind the Mincio was intended to inspire us with an excess of confidence, to leave a wide space open to the rapidity of our movements, and thus to expose our columns, placed at a distance from each other by their order of march, to a sudden attack which might have weakened by isolating them. But, fortunately, the Emperor had not departed from that extreme discretion which governs even his courage. The farther the allied army advanced the more our columns strengthened each other by being brought closer together. During the night of the 2d we found that the Austrians were repassing the Mincio, and advancing to meet us. A battle was imminent. The whole army of the enemy, retracing its steps, was prepared to oppose our forward movement; Solferino, San Cassiano, Cavriana, all formidable positions, were occupied by the Austrians, who, supported by a strong force of artillery, crowned all the heights as far as Volta. To their left, in the plain, between Volta, Guidizzolo, and Medole, numerous columns of infantry, mixed with artillery and cavalry, were advancing to turn our right. Between Solferino and Peschiera the enemy had also a considerable force, intended to oppose the troops of the King of Sardinia, marching from Desenzano to Pozzolengo. The two armies occupied these respective positions when, at 5 o'clock in the morning, the 1st Corps (Marshal Baraguay d'Hilliers') commenced the engagement before Solferino. The heights and the village were taken and occupied after an obstinate engagement. During this time the 2d Corps (Marshal M'Mahon's), which was on the right of the 1st in the plain, was extended towards its own right, in order to unite with the force under General Niel, who was advancing upon Medole. The Emperor had taken the command of the whole army; his Majesty ordered the infantry and artillery of the Guard to move forward into a position between the 1st and 2d Corps, and to take San Cassiano. Then, to protect the right of Marshal M'Mahon (2d Corps), which was slightly weakened by the distance from it of General Niel, his Majesty ordered all the cavalry of the Guard and the two divisions of Cavalry of the 1st and 3d Corps to occupy the vacant space between the 2d Corps and 4th. Marshal Canrobert had been directed to watch the Austrian movement expected from the side of Mantua. Our army fought the whole day, advancing slowly, but always advancing in good order, the different corps in combination with each other. The 1st Corps after having carried Solferino took all the Austrian positions in the direction of Pozzolengo successively; the night only stopped its advance. The Guard moved upon San Cassiano and Cavriana, occupying the summits of the hills. This last village was taken by a rapid attack under the eyes of the Emperor, who himself directed the fire of the artillery. As to the 4th Corps under General Niel, it advanced step by step, always gaining ground. Towards 4 o'clock in the afternoon the Austrians, to sustain their retreat, made a last effort to penetrate between the 4th and 2d Corps. An obstinate conflict then commenced, in which the infantry and artillery took part. The cavalry, by several charges, decided the success of this great day. This was the last act of the battle. Along their whole line the Austrians began their retreat; it was favoured by a frightful storm, that raged for nearly an hour—thunder, hail, and wind; at last a deluge of rain produced such an effect that nothing could be distinguished on the field of battle. When the weather again became calm the enemy had disappeared, but in the distance could be seen the direction their retiring columns were taking. The Emperor of Austria, who had lodged at Cavriana in the house in which the Emperor later in the day established his head quarters, quitted the field of battle about 4 o'clock, and went by the road to Goito. The cloud of dust raised by his escort could be seen from the heights of Cavriana. The Emperor Napoleon has in a degree surpassed himself; everywhere, and at all times, he was seen directing the battle. Every one about his person trembled at the dangers that unceasingly threatened him; he alone seemed not to perceive them. The protection with which Providence shielded him was extended to his Staff; only one of the Cent Gardes was wounded near his Majesty; several horses of the Staff and escort were wounded and killed."

Another account states that during the battle the Emperor was constantly in the hottest fire. General Larrey, who accompanied the Emperor, had his horse killed; two horses of the escort of the Cent Gardes were also killed. General Auger had his arm shot off, and Generals Forey, Ladmirault, and Dieu were wounded. The Piedmontese army which took part in the battle was commanded by the King of Sardinia in person. A private message from Berne puts down the Austrian loss at the enormous number of 35,000 *hors de combat* and 15,000 taken prisoners, together with 16 flags and 75 pieces of cannon captured. The following despatch from Vienna gives the Austrian account of the battle:—

"Verona, June 25.

"The day before yesterday our right wing occupied Pozzolengo, Solferino, and Cavriana, and the left wing pressed forward yesterday as far as Guidizoffo and Castelgoffredo, driving back the enemy. The collision of the two entire armies took place yesterday at 10 A.M. Our left wing under General Wimpffen advanced nearly as far as the Chiese. In the afternoon a concentrated assault of the enemy was made upon the heroically defended town of Solferino. Our right wing repulsed the Piedmontese; but on the other hand the order of our centre could not be restored. Losses extraordinarily heavy, a violent thunder-storm, the development of powerful masses of the enemy against our left wing, and the advance of his main body against Volta, caused our retreat, which began late in the evening."

On Thursday last the head-quarters of the Emperor Napoleon were at Volta; the French army was then proceeding with the continued passage across the Mincio, which the Austrians made no attempt to defend. The Emperor had gone over to the left bank to visit the position of Valeggio, already occupied by the French troops, and had caused several bridges to be thrown across the river to replace those which the Austrians had blown up in their retreat. The Sardinian army has since invested Peschiera. The *Austrian Correspondence* of Monday evening says that the Emperor of Austria, who commanded his army in person in the late battle, has given up the command and returned to Vienna on account of important Government business. The command-in-chief of the army, which is preparing for a new battle, has been given to General Hess. The Austrian authorities have selected Laybach as the seat of the military and civil Government of Lombardy, and of the *employés* of the Government. The French troops have entirely evacuated Tuscany, and Prince Napoleon, with more than 60,000 men, is already very close to Mantua. With regard to the late massacre at Perugia the Turin papers state that the Dominican fathers let the Swiss into the place by one of their own gates, by which means they made themselves masters of the city. The Swiss, it is said, threw the women and children out of windows whilst employed in pillaging the city. The *Giornale di Roma* of the 21st, after stating that the legitimate government had been restored in Perugia by the Swiss, under Colonel Schmidt, announces that the Pope, as an acknowledgment of his bravery, has raised him to the rank of General of Brigade. All those who have distinguished themselves in this affair are to be mentioned in an order of the day. At Rome on Sunday a crowd assembled before the French garrison, and were about to display the tricoloured flag, and to proclaim the dictatorship of Victor Emmanuel, but General Goyon prevented it. The Pope has notified his protest against the dismemberment of his States to the Powers represented at the Paris Conferences. At Gaeta on the 23d ult. the Pope addressed the Consistory on the separation of the Romagna from the States of the Church, and communicated to the Cardinals a letter of the Emperor Napoleon, guaranteeing the independence of the Papal States. The *Moniteur* contains a note explaining the nature of the Dictatorship offered by the whole of Italy to the King of Sardinia. It says:—

"It is a false conclusion that Piedmont, without consulting the wishes of the different peoples or the great Powers, reckons on uniting the whole of Italy in a single State. Such conjectures have no foundation. The different peoples, whether delivered or abandoned, desire to make common cause against Austria. With this intention they have placed themselves under the protection of the King; but the Dictatorship is purely a temporary power, which, while uniting the common forces in the same hands, in no way presages combination for the future."

The Adriatic.—On the 28th the following French ships were at Antivari:—Five ships of the line, 8 frigates, 6 war steamers, 13 floating batteries, 9 gunboats, 9 brigs, and 2 three-masted vessels. The fleet has many troops and enormous supplies of provisions and ammunition on board, so that it can act independently of the mother country, should any other Power attempt to interfere. Admiral Bouet is about to open sealed orders. Consul Hecquardt is in continual correspondence with Montenegro.

Turkey.—Advices from Constantinople to the 8th inst. state that the Grand Duke Constantine and his Grand Duchess arrived there on the 6th inst., and were received with honours never before accorded to giaours. The news of the battle of Magenta has produced a lively impression at Constantinople. The Divan has simply acquiesced in the Paris protocols concerning the Principalities, and granted also the berats of investiture. —Erzeroum was visited by a destructive earthquake on the morning of the 2d ult. The catastrophe, which principally consisted of one terrible shock lasting 15 seconds, occasioned immense loss of life and property, more than 1500 human beings and nearly all the larger buildings of the town having been destroyed. Slight shocks continued to occur up till the evening of the 3d, but the principal damage was occasioned by the single convulsion of the previous day.

United States.—A despatch from Washington says, "Recently received information from Madrid of an altogether reliable character shows that, however desirable it may be for the United States to acquire Cuba, there is no prospect whatever of such a consummation, nor is there any probability of the negotiation of a commercial treaty between Spain and this country."

Mexico.—The news from Mexico is important. Miramon and the clergy had fallen out; the Church tried Miramon for suppressing a manifesto in favour of Zuloaga, who was said to be imprisoned; and Miramon in turn imprisoned the priests. The town of Morella had been ravaged, and the women stripped naked and whipped, to make them discover some treasure supposed to be hidden.

Buenos Ayres and Paraguay.—News from Buenos Ayres states that 2000 men have invaded the Argentine Confederation. Paraguay promised to assist General Urquiza with four steam-vessels. The Brazils remain neutral, but they are increasing their naval forces in the Plata.

St. Domingo.—The Government of St. Domingo on the 5th of May, in violation of existing treaties and of their own laws, called in all the paper money issued by the previous Government of President Baez, the circulation of which had been arbitrarily prohibited since the capitulation of that city in June, 1858, fixing upon it a merely nominal value, which was to be repaid at distant and uncertain periods. This paper money was the only currency of the place, and had been replaced by other notes issued by the present Government. As the largest amount of this paper was in the hands of foreigners, and represented the value of the merchandise they had imported, the Consuls of Great Britain, France, and Spain, who had for some time previously endeavoured by their advice to prevent the adoption of so arbitrary a measure, presented to the Government a joint protest against this decree, which was returned to them in a most offensive manner. They again sent their protest to the Government, but it was returned to them a second time, and their right to interfere politically for the protection of the interests of their fellow subjects was denied. The consuls therefore suspended their official relations with the Government of St. Domingo, which carried its insolence to the extreme of refusing to grant to them the usual passports to leave the country. They however chartered the Dutch schooner Ozama, and arrived at Kingston on the 30th of May, on their return to Europe. In consequence of these proceedings the official relations between the Government of St. Domingo and all European nations have been suspended, and there only remains in that city a commercial agent from the United States, who declined to join his colleagues in the matter.

# Parliament.

## HOUSE OF LORDS.

Thursday.—Lord Campbell took his seat on the woolsack as Lord Chancellor.—Lord Chelmsford gave notice that he will on Thursday next call attention to the state of business in the *Divorce Court*, with the view of further legislation on the subject.—Lord Stratford de Redcliffe gave notice that on Friday next he will call attention to the correspondence that had taken place in relation to the *Affairs of Italy*.—Earl Granville made a *Ministerial Statement* respecting the intentions of the Government during the present session, which was in substance that her Majesty's advisers intend to observe a policy of strict impartiality in the war now raging in Italy, and that with regard to Reform, it would be wholly impossible to deal with the subject in a satisfactory manner in the present session.—The Duke of Rutland said that the war was to be attributed to the ambitious enterprise of the King of Sardinia, and eulogised the zeal displayed by the late Government in their efforts to preserve the peace of Europe.—The Earl of Malmesbury vindicated the foreign policy of the late Government from the criticisms of their opponents.—The Duke of Newcastle declared that the intention of the Government was to follow up the course pursued by their predecessors with respect to the national defences, and said they would probably increase the measures already adopted.—After some observations from Lord Howden, in reference to the intrigues of the French in Italy the House adjourned.

Friday.—*The New Judge*.—Lord Lyndhurst called attention to the recent appointment of Mr. Blackburn to the bench, and said that it had been very unsatisfactorily carried. He had been asked by many persons who Mr. Blackburn was, and was able to answer that he was a profound lawyer and was calculated to add lustre to the bench.—The Lord Chancellor said that he had appointed Mr. Blackburn because he was one of the ablest lawyers in Westminster Hall.—Lord Wensleydale and Lord Cranworth expressed their entire approval of the appointment.

[Left sitting.]

## HOUSE OF COMMONS.

Thursday.—*Affairs of Italy*.—Lord Elcho gave notice that on Tuesday week he will move a resolution to the effect that, in the opinion of the House, the correspondence published on the affairs of Italy showed that the late Government had directed their best attention to the maintenance of peace; and, while preserving strict neutrality, had upheld the honour and dignity of the country. The noble lord also expressed his intention to append a paragraph to his resolution pledging the House to the policy of strict neutrality, as laid down by the late Government.—*Ministerial Statement*.—Lord Palmerston referred to the circumstances under which the change of Administration had taken place, and said that two questions were of pre-eminent importance at the present moment, namely, the state of our foreign relations and the necessity of amending the laws for the representation of the people. With reference to the former subject her Majesty's Government would inflexibly pursue the course which had been chalked out for them by their predecessors in office—that of strict and impartial neutrality. He trusted that nothing would occur which could involve this country in the war of which Lombardy was now the field. It might possibly be the duty of her Majesty's Government to offer their mediation, but they ought not to interpose their good offices until they were of opinion that their advice would be acceptable. With regard to Reform, looking to the period of the year at which we were now arrived, and the unavoidable business remaining to be disposed of, it would be merely trifling with the subject to attempt to deal with it in the present session. He would, however, promise on behalf of the Government that they would avail themselves of the earliest moment next session to introduce a Bill on the subject. Events might require a session at an earlier period than usual, but the Government would reserve to themselves the right to decide that point hereafter. Under any circumstances there could be no doubt that the estimates, the budget, and perhaps the measures consequent thereupon, would occupy the attention of the House down to the latest period at which it would be possible to secure the attendance of members.—Mr. Whiteside obtained leave to bring in a Bill to consolidate the *Criminal Statute Law* of England and Ireland.—Sir J. Shelley obtained leave to bring in a Bill to regulate the proceedings of *Gas Companies* and others supplying the metropolis with gas.—Mr. Walpole obtained a select committee to inquire into the operation of the Acts of Parliament and regulations for the *Care and Treatment of Lunatics and their Property*.—The House then went into committee of supply, when, on the motion of Lord Palmerston, Mr. Massey took the chair.—On the question that supply be granted to her Majesty, Sir H. Willoughby inquired whether it was the intention of Government to make that which had not been made for many months, viz., a financial statement.—Lord Palmerston requested the hon. baronet to repeat the question when the Chancellor of the Exchequer was in his place, as he hoped he would be by Monday afternoon.

Friday.—*Volunteer Rifle Corps*.—In answer to Sir J. Shelley, Mr. S. Herbert said, the Government proposed to accept the rifle corps on certain conditions. First, that there should be a safe and sufficient range in which they might practise, and in order to secure this, that a military officer should be sent down to examine the ground. The second condition was, that the arms should be in safe custody; third, that the rules should be sanctioned by the Secretary of State for War; and fourth, that the corps should be under military inspection. Upon these conditions being fulfilled, the Government would supply 25 stand of arms to every 100 men. It was not necessary that every man should be armed, and by issuing 25 per cent. of rifles one section would be always armed.—Lord Elcho asked whether those men might arm who placed at their own expense.—Mr. S. Herbert said there would be no objection to an individual purchasing an arm.—Lord Galway asked what arm would be used.—Mr. S. Herbert said the Enfield rifle of the pattern of 1853.

[Left sitting.]

## ELECTION ADDRESSES.

Lord John Russell, Secretary of State for Foreign Affairs, at his re-election for the City of London on Monday spoke as follows on public affairs:—

"I have to return you my most grateful thanks for the honour you have done me in returning me for this the ninth time as your representative in Parliament. You are all aware of the occasion of this election. Lord Derby thought it right to advise her Majesty to consult the electors of this country upon the question whether or not they had confidence in his Administration. That challenge was taken up, and it was decided by the House of Commons that the late Administration had not the confidence of that body. According to all constitutional usage, Lord Derby resigned his office into the hands of her Majesty; and her Majesty sent for Lord Palmerston, who was charged with the duty of forming a new Administration. Now, gentlemen, you may perhaps remember that I

stated to the electors previously to the last election that if the late Administration should be overthrown, I did not think that any other Administration would be satisfactory to the country that did not contain a representation of the various sections of that great Liberal party which now for some 20 or 30 years had carried the important measures that had signalised that period. Lord Palmerston has endeavoured faithfully to fulfil that task. That there might be individual disappointments was impossible to avoid; but my belief is that, having endeavoured to perform the task faithfully, Lord Palmerston has presented an Administration to the country which will have the support of the country, and consequently the confidence of the House of Commons. There are two questions, gentlemen, which it will become the duty of the present Administration to consider. The first is the present state of foreign affairs; and being charged with that branch of the administration, while I feel the difficulty and responsibility of the charge, I feel it likewise incumbent on me not to go at any length into that matter. I have told you on former occasions what, as I conceived, was the deep-seated cause of the present war,—that it was not the ambition of one man, or of two men, or of three men; but that it was the grievous misgovernment of Italy, which had lasted for 40 years, and which the Italian people had at various times endeavoured to throw off. I should have been happy had that which I thought perfectly possible been accomplished,—had the Powers of Italy, together with France and Austria, been able to make an amicable arrangement upon the subject. That was not the case; and these three Powers—Austria, France, and Sardinia—are now engaged in a bloody and destructive war. We may hope that the moderation of the successful party and the wisdom of the defeated party may lead in no long time to an honourable and satisfactory peace; but our duty is to continue in the path of neutrality, which the whole country has determined to adopt. If, however, that moderation and that wisdom should not be manifested, it is impossible to say how far this war may extend and what Powers may take part in it. It therefore behoves this country, for her own security, for the defence of her own honour and her own interests, not to neglect her navy or her army, but to be prepared for any contingencies that may arise; and I will repeat here what I said in the House of Commons—that I shall at all times be willing to pay my tribute of applause to the late First Lord of the Admiralty (Sir J. Pakington), and to the Board which served with him, for the energetic exertions which they made to place the navy in an effective condition. Such being the state of foreign affairs, then, the first duty incumbent upon us is vigilance. We must watch every move that takes place, and consider what bearing it may have on the future. In the next place, whenever the time shall arrive—and I hope it may soon arrive—when the belligerents may be disposed to terminate this destructive contest, it will then be the business of this country to give such counsels as may lead to a termination of the war honourable to all parties, and as may afford better hopes for the independence and liberties of Italy. Such, gentlemen, is, in short, the only explanation I can give you with regard to our foreign policy. With respect to our domestic policy we shall have to consider—although not in the present session—the great question of the amendment of the representation of the people in Parliament. I have always told you that in my opinion an extension of the franchise—the admission of greater numbers of the people to the enjoyment of that franchise—would strengthen the institutions of the country by placing them upon a broader and safer foundation. How far that extension should go, in what degree representation should be transferred from smaller places to large communities, must be the subject of anxious deliberation with the Cabinet. I believe they will consider that question fairly; and I trust the measure they may produce will be satisfactory to the country. I cannot at the present time enter into any further development of the policy of the Government. In a very few days that Government will stand before the House of Commons. I trust their merits will be sufficient to sustain them in the eyes of the people of this country. So long as they deserve confidence I hope they will receive support. I ask for nothing more for the Government of which I am a member, and I have only again to return thanks to you for the confidence you have placed in me—a confidence which I trust I shall not forfeit on this, as I have not forfeited it on any previous occasion."

**Sir George Cornewall Lewis, the Home Secretary, at his re-election for Radnor made the following remarks on the change of Ministry:—**

"An objection had been made to the course taken by the Liberals against the late Government, and he really believed it was the only objection which had any appearance of plausibility about it—that it was a 'party move.' This might have great weight with persons unacquainted with the real working of politics, and who might think badly of men who could join in a party move. Well, he admitted, without the smallest hesitation or concealment, that it was a party move. He joined in it with the full belief and knowledge it was so—that it was a combined operation of the Liberals in opposition, for the purpose of expressing a want of confidence in the Government. But he wished to call attention to the fact that our Parliamentary system was a system of political parties, and that by political parties only could it be worked. All great questions have been carried by party movers; and it was only by them we could hope to make any progress in the future; and the move on this occasion was an operation conducted in accordance with the scheme and system of constitutional government, by which it has always hitherto been worked, and by which, so long as it retained its present most happy character, it must continue to be worked. It is only when party is used for private and personal objects—when it is perverted from the real object of political party, which is the promotion of public objects by a number of men combined in entertaining the same political principles—it is only when it is prostituted to low and unworthy objects that a party move becomes a term of reproach. But when it was used, as he maintained it was on the late occasion, for a worthy purpose, in accordance with the opinions of the persons combined in union, then, he contended, it was a constitutional and Parliamentary move—one sanctioned by the authority of all the great statesmen of the country—one which our form of government renders the only means by which men can maintain and enforce their opinions. He then adverted to the vacillating conduct of the late Government and to the unsatisfactory measures they had brought forward. Persons, he observed, who so easily shift their opinions—who blow hot or cold—who adapt their political conduct merely to the temperature of the day—who are hot when the thermometer is high, and are cold when the thermometer is low—who are always steering by what they see will be the probable number of votes on the opposite side of the House—seemed to be unworthy of the confidence of the country. If the late Government had retained in power the principles they professed in Opposition—if they had been consistently what they were in name, a real Conservative Government—he confessed his objections would have been much less than they were under existing circumstances. He should have voted against those measures which he believed were bad, but he should have reposed confidence in their honesty and sincerity. In the present divided state of parties—because they knew that the Conservative party mustered strongly in the House of Commons, and would act up to the principles they professed before the late official episode, and would resume those opinions which for the convenience of the moment they discarded—he quite admitted that what was called a strong Government could not be formed. But there was sometimes a little mistake about what was called a strong Government. A strong Government might mean a Government commanding a very large majority of votes, supported by men prepared, when the country was divided on great questions, to give them a consistent support. That was not the state of the country at present; but a Government which has a clear policy, which is formed by persons having pronounced and decided opinions, prepared in office to act upon the opinions they entertained in opposition—which does not, to use the well-known words of Lord Palmerston, take the Government with the 'engagements' of their predecessors, but takes Government with its own engagements as it held them in opposition—he said that a Government of that sort, although it might not be strong in the popular sense of the word, is, so long as it conducts the affairs of the country in a proper spirit, likely to meet with that support which would enable it to defy unreasoning opposition and to act with honesty and sincerity. Although a Government strong in the popular sense of the word might not be possible, yet he believed it was possible to get, and he trusted we had got, an honest and sincere Government—a Government not afraid to avow its principles, not afraid to act up to them when possessed of power. There were two questions now agitating the public mind—the Reform Bill and the state of our foreign relations. That was not the place or the moment to enter into a discussion of the question of Parliamentary Reform. He could only say he felt satisfied that the present Government would, at the earliest time which may be consistent with the proper conduct of public business, propose to Parliament a measure of Parliamentary Reform which they would be able to support upon their united responsibility, and which he felt confident would not be founded upon the same principle as that of the late Government, namely, of taking back with one hand what you appeared to give with the other. With respect to foreign affairs, he sincerely trusted that if any great success had been achieved by the allies, and if it should lead to negotiations with the Austrian Government, that a spirit of moderation might be evinced by the conquerors, and a spirit of reasonableness by the conquered; and that the result of such negotiations might be to place the government of the Italian provinces in a more satisfactory and less afflicting position than we have witnessed for some years."

**Sir Charles Wood, at his re-election for Halifax, spoke as follows on the state of the navy and the forthcoming budget:—**

"Attacks have been made of late upon Lord Palmerston's Government as having neglected the defences of the country. Gentlemen, believe me there is no truth in such an accusation. Lord Derby stated the other day that when we left office the navy was in a state of impotence and decrepitude. Great orators are apt to indulge in oratorical flourishes, but I am happy to be able to quote the evidence of the late Government itself, not in words but in acts, to prove that when they did accede to power they found the navy in a most efficient state. We had a superiority over the French when I left office of no less than 240 vessels of steam power—a superiority greater than the whole number of the French navy at the time; and the best testimony that can be given to what we had done is that they accuse me of having done too little, but they reduced the means which we proposed for the increase of the navy. Would they have done that if they had thought that our navy was insufficient? Could they have reconciled it to themselves, in spite of the remonstrances of those who were in the permanent service of the country. Could they have reduced the means which we had prepared if they thought our means insufficient? They boast of adding ships to the navy. True it is they were launched in their time, but they were built in ours. Of the ships which have been added to the navy in the last year—12 line-of-battle ships—eight were built by us, four were converted by them. The fact of adding is true, but credit is due not to those who launched but to those who built. I have thought it right to make these observations, because I think I should not have done my duty to my constituents if I had betrayed my duty to my country, and my constituents have a right to know from my own lips the answer to those accusations, which are as unjust as they are untrue. Now, gentlemen, the other question of importance is the question of the Reform of the representation of the people. Upon that subject you know my opinions. I don't believe it is possible to pass a Reform Bill during the present session of Parliament. We are now, owing to delays for which we are not accountable, beginning a session on the 1st of July which usually begins early in February. The whole of the estimates are to be voted, the budget and financial measures to be proposed; and when I tell you that the deficiency is nearer 5,000,000*l.* than 4,000,000*l.*—that is the legacy that our predecessors have left to us, that is the deficiency which they have created, and which we have to make good—you will, I think, admit that it is no slight task we have to undertake, and that it will require some time for discussion. The estimates and the budget are never in ordinary times completed before Easter—about two months after the assembling of Parliament. Two months from the beginning of July, and it will probably be about the end of August before we can have completed the estimates and financial business of the session. I do not think that it will be easy to induce the House to begin upon a Reform Bill on the 1st of September. It must be the first business to be undertaken on our reassembling, but before we separate I don't believe it can be performed. What that Reform Bill may be of course you cannot suppose that I can tell you. It must be the object of early and serious deliberation among those who compose the present Cabinet. That Cabinet comprehends Lord John Russell, Mr. Cobden, and Mr. Gibson, and I think you may look at this as a common security, independently of our own opinion, that the Bill will not be of a retrograde nature, like the last, but that what it does will be soundly done, framed upon sound principles, promoting popular power, and extending the franchise to many of those, at least, to whom we think it ought to be given."

**Sir George Grey, Chancellor of the Duchy of Lancaster, at his re-election for Morpeth referred to public affairs in the following terms:—**

"The first duty of the Government must be to endeavour to keep this country from any participation in the war, and not to take any part in the warlike proceedings now agitating Europe, unless such a course was imperatively demanded by a consideration of the honour and the clear interests of this country. If the war could be restrained within its proper limits there could be no doubt that no occasion whatever could arise which would implicate us in it. Their next duty would be to avail themselves of any favourable opportunity that might offer to obtain peace and a settlement of those questions which had occasioned hostilities. However, this country must be prepared to meet any emergency, and he was sorry to say that the consideration of financial matters in the coming session would be so protracted as to interfere to a great extent with those questions of social and political importance in which the House of Commons would be much more gladly and usefully engaged. But, whatever might be the course of business during the present session, he hoped and trusted and believed that at the earliest period consistently with their duty to the country the Government would be prepared to deal with the question of Parliamentary Reform. He trusted that measure would be conceived in a spirit which, while it would give no undue preponderance to any one class of the community, might widen the basis of our representative system so as to strengthen our institutions and extend the interest of their maintenance among many who had now no direct share in the representation of the people."

**Mr. Milner Gibson, President of the Poor Law Board, at his re-election for Ashton on Monday made the following remarks on his acceptance of office:—**

"It may be said by many that I ought to have joined no Government, and especially a Government in which there are men with whom I may have previously disagreed. Sir the other evening, when I had the honour of addressing a meeting of the electors and non-electors, I made some observations on that point. I must tell you frankly that I began for one to be a little sick of a continual charge that was brought against the Liberal party of this country, that we were so divided into sections and so dissevered from one another that, however numerous we might be, we should always be totally incapable of carrying on the government of the country. We have been repeatedly taunted with our divisions, and now I find that when there is a prospect of union and of harmony we are taunted with our agreement, and it is called a factious coalition. Now, I say it is no factious coalition upon which the present Government is founded. It is founded upon certain broad fundamental principles, in which all members of the Cabinet are prepared to agree. Their differences are matters of degree, and perhaps may not turn out to be matters of principle; and their desire is to co-operate cordially together, in order to give effect to the general principles of the great Liberal party of this country, that now is inclined to trust them with the administration of affairs. In what position would a great party have been when, after a general election, they had declared that the Government of Lord Derby was no longer to conduct affairs, if they, the great Liberal party, had been unable to form a Government themselves? To form a Liberal Government was a necessity arising out of the situation in which we are placed. The attempt has been made. I believe that attempt will be successful, and let us hope that the success of the Government, or its failure, at any rate, will not for the future turn upon those internal personal questions with which the Liberal party have been taunted; that if they fail they will fail fairly and honestly by being placed by constitutional methods in a minority, but not thrown out of the Government by an apparent impossibility to act together in the administration of affairs. If a Government falls constitutionally and fairly, according to our old English usages, nobody need complain, but I am rather sick myself of Governments representing great parties, being broken up by mere dissensions and divisions, not upon questions of principle, and which dissensions and divisions ought, therefore, to be studiously avoided. It certainly is the desire, I believe, of a great portion of those who support the Liberal cause that a Government should be formed in which the bulk of the Liberal members of Parliament may have confidence, and which they can support. That being so, the attempt that is now made I hope will be permitted to have a fair trial, that the Government may be allowed to get fairly on its legs, to have an opportunity of considering its policy. When it has had that opportunity I, for one, ask no favour and no partiality, but merely that it should stand or fall by its public policy, and by the confidence that it has been able to inspire among the great body of the people. We shall, no doubt, be required, as the late Government felt an obligation to undertake a similar duty, to deal with the question of Parliamentary Reform. I doubt not that that question will be dealt with in the right spirit. I don't say that all will be done that ought to be done. If a number of men act together there must be concessions, provided they be not vital concessions of principle. I am one of those that are always prepared to take an instalment of a good thing, without at all committing myself not to come afterwards and ask for the rest. I believe that whatever is done in the way of Reform will be sound in principle, and will have no tendency to make the representation more exclusive than it now is, but, on the contrary, will have a decided tendency to give greater political power to the body of the people, and thus to popularise the institutions and government of the country. That will be its honest tendency. The amount of that measure of Reform it is impossible for me, as an individual, to predict. The measure must be the result of the joint deliberations of the present Government, and I hope, for one, that it may be such a measure as will be suited to the times in which we live, and will meet the approval of all the intelligent and thoughtful men of this country. We have, no doubt, differences upon the question of Reform among us, as upon all other political questions, but there is one thing that the Liberal party will not, and ought not, to assent to, that there should be any change in the representative system called Reform, but which may not be amendment—which may be a change for the worse instead of for the better, as I believe the Bill would have proved to be, if it had been passed, that was recently introduced by the Government of Lord Derby. My political opinions and principles are exactly where they were. It is my desire to give effect to those principles in the Government, as I have attempted to give effect to them out of the Government; and I shall now take leave of you, hoping that you will view my conduct with a fair consideration. I ask no favour or partiality at your hands on personal grounds; my only claim upon you is on public grounds, and by my public conduct only I ask to be permitted to stand or fall."

**Mr. Cardwell, Chief Secretary for Ireland, at his re-election for Oxford made the following remarks on the state of Ireland:—**

"Perhaps you will permit me to refer more particularly to the country with which I am about to be more immediately connected. In considering the vast importance of union amongst ourselves, few things can be more gratifying than to take a review of the change which has, within our memory, taken place in the sister country. The time has, indeed, long gone by when a distinguished Irish statesman could meet with the fate of Mr. Burke, and be rejected by his constituency in an important English city for no other offence than having advocated freedom of religious opinion and equality of commercial privileges. But even in our time, that great improvement which has been visible in our own country has taken place in an increased degree in the sister island. I remember when I first visited it, now more than 20 years ago, I saw every part of it. The first sod for its internal communications had not been then dug, and that vast mine of wealth, agricultural improvement, was in its earliest and its rudest beginning. Now Ireland, like England, is traversed by railways, agricultural improvement is making progress still more rapid and remarkable than that we all see it is making in this island, and above all, by the universal acceptance of better feelings and principles of government, a common feeling is growing up which I trust under all Governments that may hereafter succeed to power will be fostered and increased, so that England and Ireland may present the spectacle of a united kingdom in heart and in affections, governed by one Sovereign and one Government, animated by one heart and one spirit, and constituting together the noblest and greatest of all the peoples on the surface of the earth. It is impossible to expect or desire that in all particulars the two islands should exactly resemble one another. The resemblance should be that which has been so beautifully described by the poet—not an exact one, but rather that family resemblance which belongs to the relations of sisterhood—'Two lovely berries on one stem, seeming divided, but yet a union in partition.' And I sincerely trust that throughout the difficulties which our foreign relations may entail, the union of this people within itself in all its parts, both in this and in the other island, may carry us in safety through them, and cause the flag of our Sovereign to wave higher and higher amid all the conflicts which may shake the thrones of the rest of the world."

MR. LOWE, Vice-President of the Council, at his re-election at Calne, spoke as follows on the war and its probable effects on England:—

"He cordially recognised the principle of maintaining a strict neutrality, and hoped they would be able to maintain it: but he must deal candidly with them. He was not without some apprehension on the subject. He believed it was the intention of the Parliament and the people to maintain a position of neutrality in the war, but they must look the thing boldly in the face, and see how the matter stood. There was a talk about localising the war in Italy, but he would ask how was it likely that they could confine the war to Italy? They had the Hungarians with Kossuth and Klapka sent into Hungary for the purpose of exciting the people, and France was already in possession of Genoa and Leghorn, and perhaps was now possessing herself of Venice, and she was also drawing close to the frontiers of Germany. Germany was preparing to meet her, and Prussia had made proposals to Germany for concerting together. Therefore unless through the interposition of one who ruled over Kings, it seemed impossible, unless some wonderful and unaccountable change took place in the minds of the Emperors of France and Austria, that another month should elapse without war being declared between France and Germany. France was a gallant and military nation, and was flushed with her successes over an enemy trained to war. He would say, then, that there was danger lest the tide of success should flow now as it flowed at the beginning of the present century under the great Napoleon, and lest the country should find itself in a position in which participation in an European war is unavoidable. This was a reason, therefore, why we should prepare ourselves to meet such a contingency, should it occur; we should not begrudge any sacrifice in order to be prepared. Whatever might be our sympathy with the Italians, there had never been any war so provoked as this war. It was a tearing up of the treaty of 1815. We must be prepared to defend our own coast and to prevent an invasion; for a single week of the presence of an invader on our shores would do us more injury than a century could repair."

**MR. WILSON, Vice-President of the Board of Trade,** at his re-election for Devonport made the following remarks on the war and the Reform Bill:—

"He had no great confidence in the professions of the Emperor of the French, that he had no object in waging war other than securing liberty to that great and noble people the inhabitants of Italy. He was not prepared to say that without good reason he would give credence to the professions of the French Emperor, but under present circumstances he believed that the proclamations which had more than once been sent out to the world represented the true state of the Imperial mind at the moment. This country ought to continue in the course of neutrality, for there was but one circumstance in which she would be called upon to interfere. Should it so happen that the Germans came to the assistance of Austria and Russia to that of France, and should they endanger the independent kingdom of Belgium, then by treaty England was bound to preserve the independence of that country; and the day, he trusted, would never come when a matter obligatory on England would be set aside or met with a negative. It would be the duty of the Government and Parliament to keep the fleet in an effective condition, and to hold naval supremacy in the Channel and the Mediterranean. In reference to the coming Reform Bill, he said he had no doubt that when introduced it would be found a measure of progress, and that it would not, like the Reform Bill of the late Government, give with one hand what it took away with the other; extending the franchise in one way and compensating for that extension by a reduction in another way. He trusted that the measure as far as it would go—and he hoped it would go so far as to satisfy all reasonable expectations—would satisfy those who wish to go further, that it was a step in the right direction, and one that should inevitably lead hereafter to a further advance.

## City Intelligence.

MONEY MARKET, FRIDAY.—BRITISH FUNDS: Consols closed at 93 to ⅛ for the 8th July; Bank Stock, 220; Reduced and New Three per Cents., 93⅜ to ⅝; Indian Four per Cent. Debentures of last year, 94½; Scrip of New Indian Loan, 94 to 94⅛; India Bonds, 6*s.* to 10*s.* dis.; Exchequer Bills, 21*s.* to 24*s.* prem.—FOREIGN: Brazilian Four and a Half per Cents., 1852, 91; Danish Three per Cents., 1825, 82; Equador New Consolidated Bonds, 14¾; Mexican Three per Cents., for Acct., 18¾ to 18½; Peruvian Four and a Half per Cents., for Acct., 85; Russian Four and a Half per Cents., 94 ex div.; Sardinian Five per Cents., 80¾; Spanish Three per Cents., for Acct., 41½ ex div.; Ditto New Deferred Three per Cents., for Acct., 30¼; Turkish Six per Cents., 1854, for Acct., 76½; Ditto 1858, for Acct., 62½ to 63.

## Bank of England.

ISSUE DEPARTMENT.

| | | | |
|---|---|---|---|
| Notes Issued | £32,110,105 | Government Debt | £11,015,100 |
| | | Other Securities | 3,459,900 |
| | | Gold Coin and Bullion | 17,635,105 |
| | | Silver Bullion | — |
| | £32,110,105 | | £32,110,105 |

BANKING DEPARTMENT

| | | | |
|---|---|---|---|
| Proprietors' Capital | £14,553,000 | Government Securities (including Dead Weight Annuity) | £11,281,376 |
| Rest | 3,178,541 | Other Securities | 18,458,897 |
| Public Deposits (including Exchequer, Savings Banks, Commissioners of Nat. Debt, and Dividend Accts.) | 9,832,957 | Notes | 10,841,665 |
| Other Deposits | 12,979,340 | Gold and Silver Coin | 686,228 |
| Seven day and other bills | 724,328 | | |
| | £41,268,166 | | £41,268,166 |

30th day of June, 1859. M. MARSHALL, Chief Cashier.

## Gazette of the Week.

TUESDAY—BANKRUPTS—J. ASTON, Birmingham, Maltster and Victualler—B. R. BARTRAM, Banbury, Coal and Tile Merchant—E. C. BRADY, Ludford, Lincolnshire, Grocer—F. CLUBLEY, Kingston-upon-Hull, Draper—B. MARKS and E. S. FRANKLIN, Birmingham, Woollen Merchants—W. PHILLIPS, Norwich, Leather cutter—T. SWIFT, Sheffield, Grocer—J. WOOLDRIDGE, Lincoln, Fellmonger.

BANKRUPTCY ANNULLED—M. FOSTER, Bradford, Yorkshire, Bill Broker.

SCOTCH SEQUESTRATIONS—G. AUSTIN, Glasgow, Dressing Case Manufacturer—J. CONACHER, Edinburgh, Auctioneer—R. FRAITER, North Queensbury, Baker—W. GARROW, Lossiemouth, Elginshire, Steam Boat Agent—H. MACKAY, Edinburgh, Grocer—A. MARSH and D. G. BEATTIE, Edinburgh, Stationers—A. RAMSAY, Leslie, Surgeon.

FRIDAY—BANKRUPTS—J. ARMITSTEAD, Burnley, Lancashire, Grocer—T. CARTER, Woburn, Grocer—R. CROSS, Hagworthingham, Lincolnshire, Grocer—W. FRANKLAND, Morley, Cheshire, Farmer—L. GOLDSMITH, Finsbury Pavement, Cigar Dealer—B. KIRTON, Woodford, Northamptonshire, Builder—B. MARKS and E. S. FRANKLIN, Birmingham, Woollen Merchants—J. SCHLOEZER, Moorgate Street, City, Merchant—J. G. SHEDDEN, Birmingham, Woollen Draper.

BANKRUPTCIES ANNULLED—R. CROSS, Hagworthingham, Lincolnshire, Grocer—R. H. OBBARD, Old Street Road, Lead Merchant, Middlesex—S. WRATHALL, Linton, Yorkshire, Cattle Dealer.

SCOTCH SEQUESTRATIONS—T. AIMERS, Galashiels, Grocer—J. CALDER, Kilbarchan, Renfrewshire, Farmer—A. W. DUNN, Cleuchhead, Roxburghshire, Farmer—G. F. LYDE and Co., Glasgow, Manufacturers—T. M. ARTHUR, St. Enoch's Square, Glasgow, Carver and Gilder—G. M'PHAIL, Glasgow, Bag Manufacturer—J. TAYLOR, Hope Street, Glasgow, Commission Agent—R. THOMSON, Hobkirk, Roxburghshire, Farmer—J. THOMSON, Low Wishaw, Saddler.

## Metropolis and its Vicinity.

PRESENTATION OF AN ADDRESS TO SIR JOHN LAWRENCE.—A meeting was held at Willis's Rooms on Saturday, for the purpose of presenting an address to Sir John Lawrence, Bart., on his return to this country from India; the Bishop of London occupying the chair. Sir Culling Eardley having addressed the meeting on the object which had called them together, the Bishop presented the address in a speech of great length commending the unceasing efforts made by Sir John Lawrence to spread the Christian Scriptures throughout the length and breadth of India. Sir John Lawrence then rose and was most enthusiastically received, the whole company rising, and the rounds of applause being repeated again and again. Having apologised for being obliged to read his reply, observing that the state of his health rendered it difficult for him to speak without suffering pain, and without the danger of suffering more hereafter, he read the following reply:—

"My Lord Bishop, ladies, and gentlemen,—I heartily thank your lordship and the many noblemen and gentlemen who have signed the address, for the high honour which they have done me. You have been good enough to attribute to me a large share of the credit which is considered due to those who fought to maintain the supremacy of England and secure the safety of her people, so sorely jeopardised in the late dreadful struggle in India. I am grateful for the good opinion of my countrymen, and deem their suffrages the highest honour I could gain. There were, however, in that crisis many men by my side who are fairly entitled to participate in this distinction, and whose services I have endeavoured to bring to notice. All, however, which we did was no more than our duty, and even our immediate interest. It was no more than the necessities of our position impelled us to attempt. Our sole chance of escape was to resist to the last. The path of honour, of duty, and of safety was clearly marked out for us. The desperation of our circumstances nerved us to the uttermost. There never, perhaps, was an occasion when it was more truly necessary to win or die. To use the words of my heroic brother at Lucknow, it was incumbent on us, 'never to give in.' We had no retreat, no scope for compromise. That we were eventually successful against the fearful odds which beset us, was alone the work of the great God who so mercifully vouchsafed His protection. Nothing but a series of miracles saved us. To Him, therefore, alone is the glory due. I see no valid reason for changing the opinion which I expressed on the expediency of allowing the Bible to be read in all our schools and colleges in India by those who desire to do so. Far from apprehending evil from this liberty, I believe that the results for some years would be scarcely perceptible. In progress of time no doubt, however, the seed which was sown would bring forth fruit. It is not possible to introduce western learning and science into India without leading its people to throw off their own faith. If this position be correct, surely we are bound to give them facilities for acquiring a knowledge of the true faith. This is our true policy, not only as Christians but as statesmen. In doing our duty towards them we should neither infringe the rights of conscience nor interfere with the free will of man, while we should be working in the true way to maintain our hold on India. Had the mutineers of the Bengal army possessed some insight into the principles of the Christian religion they would never have been misled in the manner they were—they would never have banded themselves together to resist and to avenge imaginary wrongs. Ignorance in all ages has been productive of error and delusion. India has formed no exception to this rule. I pray that the misfortunes entailed by this mutiny may teach England true wisdom, without which her tenure of India can never prove prosperous and enduring."

ARRIVAL OF MR. COBDEN FROM AMERICA.—Mr. Cobden arrived at Liverpool on Wednesday morning by the steamer Indian, and proceeded in the course of the evening to Manchester on his way to London. On arriving in the Mersey he was received by his brother, a deputation from his constituents at Rochdale, and a deputation of gentlemen resident in Liverpool, numbering altogether about 200, who cheered him loudly as soon as he was perceived on deck. The hon. gentleman on landing proceeded with his brother to the Adelphi Hotel, where he received letters from Lord Palmerston and Lord John Russell, and numerous addresses, including one from the merchants and inhabitants of Liverpool, one from the Liverpool Financial Reform Association, one from the Liverpool Peace Society, and one from the Liverpool Reform Association, all of which expressed a hope that he would accept the office offered him in the Government. In replying to the first of these addresses, which was presented by Mr. W. Brown, Mr. Cobden spoke as follows on his proposed acceptance of office:—

"I am quite unprepared to offer any opinion as to the subject of my taking office, or on the formation of Government. Nothing more surprised me than to find myself included in such contemplated arrangements. You will agree with me that this is not a matter which I ought to refer to now. I have a letter in my pocket from Lord Palmerston, written in a most frank and courteous spirit, offering me the appointment of President of the Board of Trade. I think the answer to the letter is due to his lordship in the first place. All I can say is that the answer which I shall send to that will be founded entirely upon what I believe to be the interest of the public in this question. You must be good enough to bear in mind that in a case of this kind the person most interested is the only one who can be thoroughly competent to form a conclusion, because it is he alone who bears the responsibility of the step which he takes, and although friends may advise one course or another, they cannot afterwards share his responsibility, and therefore he ought, in duty to himself and the public, to be very deliberate and careful in coming to a decision upon the matter. I will say no more upon this subject than that so far as my humble judgment enables me to decide, I will take the course which I believe will be most conducive to the interests of the public in that respect, and in doing so I feel that I shall have the friendly interpretation of the gentlemen I see around me in whatever may be the course I shall feel bound to take."

ADDRESS TO SIR BENJAMIN HALL.—A special meeting of the Marylebone vestry was held on Saturday, at which Sir Benjamin Hall attended and took leave of his constituents on his ceasing to be a member for the borough, by reason of his elevation to the peerage. It had previously been resolved on the motion of the Rev. C. J. P. Eyre, the Rector, to present an address congratulating Sir B. Hall on his elevation to the House of Lords; and at the same assuring him of the sense which the vestry entertains of the great ability and zeal with which he has devoted himself to all matters affecting the interests of the parish, and of the readiness of access and courteous attention which he has shown to all persons connected with it during the 22 years he has represented the borough of Marylebone in the Commons House of Parliament. In acknowledging the compliment Sir Benjamin Hall spoke as follows:—

"He felt deeply gratified by the resolution they had passed; and when he reflected that it was the expression of feeling of a body in which there were many gentlemen of political opinions widely differing from his own, the resolution was still more gratifying to him. He was grateful for the support he had received during the long period he had represented that borough in Parliament. After his long connection with the borough of Marylebone it might be expected that he should state generally the circumstances which have led to his retirement from its representation. During the progress of the formation of the new Administration Lord Palmerston sent for him and expressed his regret that at the present time he could not offer him a seat in the Cabinet, but that he would not give the office of First Commissioner of Public Works to any other person, without placing it at his disposal; and that if, upon consideration, he should be of opinion that he could not, as a member of the House of Commons, again accept that appointment unaccompanied by a seat in the Cabinet, he was of opinion that there should be some public recognition of his services, and he proposed to submit his name to the Queen for elevation to the peerage. He also said that his services would still be of value. He did consider that he could not remain in the House of Commons, holding office, without a place in the Cabinet; and he therefore accepted the seat in the House of Peers, which had been offered him in so gratifying a manner. With regard to his public life, he said he had represented Marylebone for a period of 22 years. When he first came forward, in 1837, personally unknown to the electors, although not publicly unknown, for he had previously for some years been member for Monmouth, and consequently his political opinions were well known, he did so on a requisition signed by 2000 electors, requesting him to come forward in the place of Mr Henry Lytton Bulwer. There were then but 8000 electors, and having a requisition from one fourth he was induced to comply, and he returned at the head of the poll. It was a remarkable fact in the history of that borough that no one man, except himself, had ever sat as its representative for two entire Parliaments. Since that time he had had no less than six different colleagues. The first was Sir Samuel Whalley, whose seat became void for want of the property qualification. Next came Lord Teignmouth, who only sat out the remainder of the Parliament; Sir C. Napier, who sat in but one Parliament; Lord Dudley Stuart, who sat in one Parliament and the half of another; then came Lord Ebrington, and next Mr. Edwin James. He had had the honour of being elected for Marylebone no less than eight times, and during a long period a very large proportion, and at times the whole of the business of the borough had devolved upon him. He believed, from the communications he had received from all parts of the borough, that he had discharged that business in a satisfactory manner. He had brought forward a measure which he felt was calculated to benefit the metropolis, and he trusted that that measure would ultimately work well for the benefit of the people of the metropolis. He had now only to thank them for the confidence which they had placed in him, and for the support they had given him during a long series of years. This in all probability would be the last time he might have the honour of addressing them in that Court-house at a public board, although he might have the pleasure of meeting them upon other occasions. All he hoped was, that in their future member they would find a gentleman who would care as much for their interests as he had done during a period of 22 years, and who would do them honour and be a credit to the borough which he would represent in the most important assemblage in the whole world."

THE LOSS OF THE SAPPHO.—A despatch dated the 12th of April last has been received at the Admiralty from the Governor of Victoria, New South Wales, stating that the Colonial Government steamer Victoria had returned to Melbourne after an unsuccessful search for anything to indicate the loss of her Majesty's sloop Sappho in the neighbourhood of Bass's Straits, although each island and rock in the vicinity of the Straits was examined by the ship or boats, and the Victoria was assisted in her search by her Majesty's sloop Elk.

REPORT OF THE GAS COMMITTEE.—The select committee of the late House of Commons appointed to inquire into and report as to the existing arrangements for the supply of gas to the metropolis, have reported to the House the evidence taken before them, which fills a blue-book of 130 pages. The witnesses examined were Dr. John Challice, Mr. W. Crossley, Mr. T. Pelling Slee, and Mr. Samuel Hughes. The report proper occupies about a dozen lines; the committee, finding the subject a difficult one, having printed the evidence without abridgment. The appendix includes a series of tables, which presents some interest, as showing the cost and other particulars of street lighting. The price paid for each public light per annum varies in different parishes, ranging from 65*s.* to 135*s.* This is explained, however, by reference to another column, which shows that some lamp-posts belong to the vestry and some to the gas company. The number of hours per annum during which the lamps are burning is 4804 in all town parishes, less in the country and suburban ones. The number of cubic feet per hour burnt is in most cases five, though less in some few instances.

NATIONAL PORTRAIT GALLERY.—Several works have within the last few days been added to this Gallery. They consist of portraits of Cowley, the poet, Selden, the Marquis of Ormond, Lord Hood, and the seven bishops who were tried and acquitted in James II.'s reign. The two first, however, are the only ones of these new acquisitions which are yet hung up in the rooms.

THE OPERA FLORAL ARCADE.—When the plan of the new Opera House was determined on it was intended to erect adjacent to it a large Floral Arcade, which was at first expected to be completed by the commencement of this season, and to form an important adjunct to the attractions of the new Opera. The

Arcade, however, is not yet completed, and is not likely to be during the summer; nor is it intended to form a mere ornamental accessory of the Opera, for although on four grand occasions every year it is to be used with that view, the object with which it has been constructed has been to erect a great flower market and nothing more. When complete it is expected to be the handsomest market of flowers in the world, and a most important addition to the very scanty show of ornamental edifices in London. It has a frontage of 75 feet in Bow Street, in which is the principal entrance, and its total length when completed will be 280 feet. The interior is divided into a nave and side aisles, the former being 50 feet wide, and the latter 12 feet 6 inches each. The nave is covered with a large semicircular-headed arch, entirely composed of iron and glass. The height from the floor to the underside of the ribs is 50 feet, in addition to which, on the crown of the arch, a lantern light roof, 6 feet wide, runs the whole length. The basement underneath the principal floor is 16 feet 8 inches in the clear. It will thus be seen, adding the lantern light, that the total height from the basement floor level to the apse of the lantern roof ridge is about 70 feet. The main roof is composed of 11 principal ribs, 21 feet 5 inches centre and centre, and connected by light purlins. The ribs are supported by 24 columns, extending from the basement, which in the hall, at the springing of the arches, have enriched capitals. The side avenues have 'lean-to' roofs, and are connected with the principal roof by elegantly-designed spandrels. The supporting columns rest on York stone slabs, 2 feet 6 inches by 2 feet 8 inches in thickness, underneath which is a solid body of concrete 2 feet in thickness. The floor of the hall when completed will form an excellent example of iron construction. It will consist longitudinally of 32 arched girders of great strength, with 200 others intersecting them transversely; these are flanged and adapted to have hollow tile arches turned between them. The longitudinal girders are 18 inches in depth, and the transverse ones 13 inches. The whole of the roofs are covered with bent glass, 21 onnces to the foot. The *façade* in Bow Street is of a highly ornamental character. It is designed in five compartments, the central one having a circular-headed arch, divided into 13 radiating panels, with a rim of circles round its lower line, similar circles being introduced to divide the different compartments on each side of the great central opening, which thus produce an agreeable harmony of design. The minor portions on each side of the great arch are also circular-headed, and have their spandrels filled with pierced ornamental work, of excellent design and workmanship. Over these are circles of laurel wreaths, having *paterœ* in their centres. The extreme compartments at each end of the front are to be used as entrances, and are each about 9 feet in width, the chief one in the centre being about 32 feet wide in the clear. To these details, given by the *Building News*, we may add from the *Times* that when the Arcade is entirely complete it will be decorated in white and gold, a style which will admirably suit its light and elegant details. Through all parts of the structure pass hot-water pipes for keeping up the temperature during winter, and gas is also laid on, so that the interior can be lighted up for night fêtes in an instant. The building will of course be divided among the principal growers, and all the flowers will be arranged in a large bank in the centre nave, with smaller ones in the aisles. Seeds, cuttings, tools, seats, and garden furniture of all kinds will be sold only in the aisles—the centre being reserved exclusively for flowers. The night promenade in connection with the opera will only be given four times in a season. On these occasions the Arcade will be closed earlier than usual, in order that it may be carefully swept and arranged. The whole Arcade will be lit up at dusk and thrown open to the opera audience for the night. On such occasions there will be no ballet, and a sufficient space allowed between the acts of the opera to enable all who choose to promenade among the flowers. In order to give great facilities of ingress and egress on these nights there is an entrance into the Arcade from the grand staircase, and one for the opera entrance hall. A large entrance in the north wall, about 50 feet from Bow Street, leads from the pit, and a fourth door above from the orchestra stalls. Thus there are no less than four additional means of exit provided from the theatre. The doors leading from the grand staircase and entrance hall will, as soon as the Arcade is finished, be left open on every opera night. A passage formed of a short glass and iron screen shuts off the Arcade from the Bow Street entrance, where carriages of visitors to the opera can both set down and take up, and by this additional convenience 11 carriages can take up at the same time.

Case of Poisoning at Poplar.—On Tuesday morning a coroner's jury assembled for the third time in Gough Street, East India Road, Poplar, to inquire into the death of Ziporah Wright, aged 21, who died under mysterious circumstances from the administration of an irritant poison, supposed to be cantharides. The evidence proved that the deceased and a man called George F. Royal had been lodging for about eight months at No. 44, Gough Street. On the 31st May deceased (who had only been confined five weeks) was seized with violent pains in the stomach and sickness. The landlady was called, when some brandy was administered to her, but the symptoms increased. The landlady asked deceased what she had been taking, when she replied "Only some coffee, which my husband gave me in a cup and made me drink, although it was very bitter." She continued to get worse, when a surgeon was sent for, and found her suffering from intense thirst and a burning sensation in the throat. On Friday the man Royal left the house and did not return. The deceased continued to get worse, and died on Saturday morning, the 4th June. On a *post mortem* examination it was evident that death had been occasioned by some irritant poison; but Dr. Letheby, who analysed the contents of the stomach, could not state positively what it was. It appeared from the evidence that the deceased and Royal had quarrelled. The jury returned a verdict of Wilful Murder against Royal, who is not in custody, and the coroner issued a warrant for his apprehension.

The Public Health.—The Weekly Return of the Registrar-General states that the total deaths in London in the week ending Saturday, June 25, was 970. In the corresponding weeks of the 10 years 1849-58 the average number was 1000; which, if raised in proportion to the increase of population, will become 1100. The present return is therefore 130 below the average. During the week the births of 936 boys and 829 girls —in all 1765 children—were registered in London. In the 10 corresponding weeks of the years 1849-58 the average number was 1555.

## Provincial.

Boroughbridge.—Among the obituary notices in the *Leeds Intelligencer* is the following:—"On the 20th June, aged 45, Mr. Peter Matterson, of Low Dunsford, near Boroughbridge. He and his ancestry have been the owners and occupiers of the farm on which he died for more than 800 years. The farm was not entailed, and the owner has always been a Matterson, without adoption."

Bristol.—The sale of the Buckingham and Chandos estates situated at Priddy, Gheddar, Stoke, Draycot, and Westbury took place a few days since in this city. The sale consisted of 190 lots, and about 2000 acres of land. Much of the best land obtained very high prices, a great portion fetching more than 200*l*. per acre. The manor house and estate were purchased by Mr. C. Tyley, the present occupier, for the sum of 21,500*l*.

Broxbourne.—A shocking occurrence took place on Saturday last in the vicinity of Rye House, by which two young women were drowned, and four other persons very nearly met with a similar fate. It appears that on Saturday morning an excursion party of between 80 and 100 workpeople employed at Messrs. Abbott's brewery at Bow arrived at Rye House in numerous vans, accompanied by a band of music. It was the annual feast given by the firm, and the men were accompanied by their wives and families. On their arrival they dispersed in different directions, amusing themselves at cricketing and other games, while a party of six got into a light boat for a row down the river. They had proceeded about half a mile when the boat capsized, and immersed the whole of the party into deep water. Every possible means were taken to rescue those who were clinging to the bottom of the boat and screaming for help. With difficulty four of the party were brought to the banks of the river; one or two were insensible, and it was a considerable time before they were restored. The remaining two of the party, named Sarah Maria Hall, aged 17, and Lizzie Ferguson, aged 14, sunk before assistance arrived, and were both drowned.

Cardigan.—A memorial of 95 ministers, composing the Conference of the Annual Assembly of the Independents for the counties of Cardigan, Pembroke, and Carmarthen, held at Llanelly, June 7, has been presented to Lord Palmerston, urging the policy of non-intervention in the war in Italy. To this memorial Lord Palmerston has sent the following reply:—

"Sir,—I am desired to acknowledge the receipt of the memorial from the annual assembly of the Independents for the counties of Cardigan, Pembroke, and Carmarthen, urging the necessity of non-intervention on the part of this country in the war between France, Sardinia, and Austria, and to inform you that her Majesty's Government have no intention of advising her Majesty to take part in the present war, and that they do not foresee the probability of any events that would lead them to depart from the policy of neutrality.—I remain, sir, your obedient servant, "C. G. Barrington."

Cheltenham.—This fashionable watering-place has been thrown into no little excitement by the discovery of a most disgraceful affair, the circumstances attending which have only just been brought to light, through the elopement of the principals to America. For some time past Dr. Humphreys, the master of the Cheltenham Grammar School, had been regarded as one of the lights of the town since Mr. Close had been removed to the deanery of Carlisle. The week before last, however, he tendered his resignation of the office on account of pecuniary difficulties, and left Cheltenham on a visit (as he said) to some relatives in Derbyshire, with the view of enlisting their sympathy to extricate him from his difficulties. In a day or two he wrote to Mrs. Humphreys, whom he left behind him at Cheltenham, from Liverpool, representing that he had been disappointed in his expectations of obtaining assistance, and that he should be detained from her a few days longer. By the next post Mrs. Humphreys received a letter from the very friends in Derbyshire whom her husband had represented he was visiting, inviting her and Dr. Humphreys to visit them. This aroused her suspicions; she consulted her friends, inquiries were instituted, and Mrs. Humphreys proceeded to Liverpool. There she ascertained that he had taken a passage for America in an assumed name with a married woman, the wife of one of his largest creditors, a physician [illegible] Cheltenham, and the mother of eight children himself having six. It seems he had sent large quantities of luggage to Liverpool, in anticipation departure. On the morning of his departure [illegible] pool he obtained from Mrs. Humphreys her watch all the money she had, and left her and her children totally unprovided for. Dr. Humphreys had moved in the first circles, and made large professions of religion and morality.

Dudley.—A woman named Sarah Wilton Hughes, native of Sedgley, near this town, died a few days since at the great age of 113 years, without any previous illness. She was an inmate of Sedgley workhouse. Her career was a notable one, and for miles around she was recognised as "the nine lives woman," and in speaking of her people said, "She is like a cat, she will never die." She lived in single blessedness and never had any children. She out-lived all her brothers and sisters, though one was born more than 40 years after. During the whole of the time she was in the workhouse, although entirely blind, she knitted, without any aid, all the stockings for the paupers, numbering [illegible] She enjoyed good health, was very cheerful, and remarkably active.

Hull.—A double suicide was committed on Friday night at Aldborough, a little watering place on the Yorkshire coast, about 14 miles from this place. A young man named Webster Tomlinson, 18 years of age, apprenticed to a shoemaker in the village, courted a young woman about his own age, named Ann [illegible] Johnson, who at this time was nursing her aunt, the second wife of Tomlinson's uncle. It is believed that there was an impediment to their marriage in the fact that the young woman was already the wife of a person filling a situation as tutor in a school, and that she had an interview about a fortnight ago with her husband, when he discarded her. On Friday night she was seen walking with Tomlinson to the north end of the village, and there is no doubt that they spent the night together. On the following morning their bodies were found floating in the sea, their bodies being tied together by a handkerchief which went twice round the neck of the girl. She had previously divested herself of her crinoline petticoat and every other article of dress which might have kept her afloat. The jury at the inquest returned a verdict of "Found drowned," and on Monday they were both interred in the same grave, in the ground belonging to the parish church. A large crowd of persons assembled to witness the funeral, and the event has caused immense excitement in the district.

Ilfracombe.—Our Obituary last week recorded the death of Ensign Blathwayt, of H.M.'s 83d Regiment, youngest son of Colonel Blathwayt, of Dyrham Park, Gloucestershire, from an accidental fall from the cliff. It appears that the young officer formed one of a pic-nic party held on the Combe on the 16th ult., and in the course of the afternoon climbed down the cliff in search of gulls' eggs. While so engaged, he missed his footing, slipped, and was literally dashed to pieces. The deceased was on the eve of marriage, and his untimely death has naturally created great distress both in his own family and in that of his affianced bride.

Oxford.—It is understood that the University of Oxford will confer the honorary degree of D.C.L. on Sir John Lawrence at the approaching Commemoration.

Shields.—A reply to the resolutions of the South Shields Town Council, relative to the defences of the Tyne, has been received from the Secretary of State for War, stating that the necessity of providing works for the important trade of the river Tyne has not been lost sight of by her Majesty's Government, the armament of Clifford's Fort having been already prepared and probably by this time sent to its destination; and the armament for Tynemouth Castle has been ordered and will be supplied with as little delay as possible; that measures are now in contemplation for [illegible] and arming the works of the Spanish Battery, at the mouth of the river.

Shrewsbury.—The solicitor of the Earl of Shrewsbury and Talbot has issued a circular to the tenants who declined acknowledging the earl's title to the estates, informing them of the recent decision in the full Court of Common Pleas in his lordship's favour, and cautioning them that if they, at the next day for rent, refuse to acknowledge the earl as their landlord, steps will be taken to vindicate his lordship's rights. The majority of the tenantry have long since acknowledged his lordship as their landlord.

York.—William Atkinson, who was tried at the assizes for the murder of Elizabeth Scaife at [illegible] and acquitted on the ground of insanity, has since remained at York Castle, and has lately been very violent, attacking indiscriminately the [illegible] officers, and prisoners who happened to be near him. Within the last week he inflicted severe injuries on a man confined with him, and would probably have killed him if one of the prison officials had not separated them. In all probability these outbreaks will cause his removal to another place of security.

Tipton.—A resumed inquiry into the late supposed and murder at Prince's End was made on Saturday. The poor woman is now supposed to have been the daughter of Mr. Jabez Rolands, who formerly lived at Tipton. No more additional evidence was adduced. After the jury had conferred about an hour they returned a verdict of Wilful Murder against [illegible] Allen, Thomas Watkins, E. Faraday, and Acton.

## Ireland.

THE LATEST CRISIS.—The Corporation of Dublin were thrown into a state of surprise and excitement on Tuesday by the receipt of a letter addressed to the Lord Mayor by the Earl of Carlisle, in which his Excellency intimates his desire that the usual congratulatory address on his exemption of the Viceregal office should be dispensed with. This communication has spread a panic among the officers, and the old cry of "Whig treachery" is raised, as the abolition of the Viceregalty is said to be openly whispered forth in the letter of Lord Carlisle.

LAW APPOINTMENTS.—Mr. Serjeant Berwick has accepted the office of Judge of the Bankrupt Court, the first-class chairmanship of the East Riding of Cork, worth 1100*l.* a year, and a serjeantcy becomes vacant on his appointment. Mr. Charles Barry, of the Munster Circuit, has been appointed Crown Prosecutor for the city and county of Dublin, in the room of the late Mr. O'Loughlen.

THE FENIAN TRIALS.—The *Dublin Morning News* states that the present Attorney General for Ireland has, to a large extent, abandoned the prosecution of the parties charged with complicity in the Fenian conspiracy.

THE IRISH MILITIA.—An official notice has been issued calling out, with two exceptions, all the Militia regiments in Ireland. An order to this effect has been despatched from the proper office to the head-quarters of all the regiments throughout the provinces.

## Scotland.

THE WESTERN BANK.—The initiatory step in the prosecution of the directors of the West Bank was taken on Saturday by the service of the summonses at the instance of the liquidators. The document, which extends to about 80 pages, sets forth at great length the grounds on which it is sought to make the directors liable for the losses sustained by the bank, including "wrongous, culpable, and gross violations and neglect of duty, excess of power and contravention of the company's contract of co-partnery, carrying on business after 25 per cent. of the capital had been lost, fraudulent concealment and false and fraudulent representations made to the bank and its shareholders, by the directors and superintendents of management."

THE MORGAN HOSPITAL, DUNDEE.—In 1850 Mr. John Morgan, a gentleman who had made his fortune in India, and had lived in retirement for about 30 or 40 years, died at Edinburgh, at a very advanced age, leaving property at the value of nearly 100,000*l.*, chiefly personal, and a third part, with certain small legacies deducted and bequeathed to public purposes, indicating an intention to found an hospital for the education and maintenance of 150 boys in his native town, Dundee. He had no near relations, but the estate was the immediate subject of competition among different parties claiming to be next of kin, and the litigation was carried on for several years on the footing of intestacy, the Court of Session ultimately affirming the claims of two families of competitors to the personal estate and of two of their number as heir-at-law to the small landed property. Finally the town council and nine incorporated trades of Dundee stepped in to claim the succession to found an hospital in terms of the holograph writings above referred to. The Court of Session refused to give effect to those writings as testamentary, but upon appeal to the House of Lords that judgment was reversed, and the holograph writings were sustained as making a bequest "of so much of the testator's personal estate as was necessary to found an hospital in the town of Dundee to accommodate 150 boys," it being left to the Court of Session to determine the character and style of the hospital and the amount necessary to found it. When the case came back to the Scottish court the litigation was carried on between the town of Dundee and the next of kin, the former proposing a scheme for a first class hospital resembling George Heriot's at Edinburgh, and the latter seeking to cut down the bequest to the lowest amount. Considerable discussion took place as to the class of boys to be admitted, the architecture of the building, and the character and extent of the establishment. The result of these proceedings is, that the Court of Session has now appointed a person to report a scheme for their approval "for the erection of an hospital in Dundee for the education, lodging, boarding, and clothing of [illegible] boys, the sons of tradesmen, mechanics, and persons of the working classes generally, whose parents stand in need of assistance to enable them to educate their families, or who are orphans in need of such assistance," having regard to these considerations—that the property left by the testator (deducting expenses for litigation) does not exceed 80,000*l.*; that the testator's will does not authorise unnecessary expenditure on architectural structure or decoration, or internal fittings and furnishings; that the mode of administration should be as economical as is consistent with the right conduct of the establishment; and that the education should be suitable to the class of boys to be received. It is likely that at least three-fourths of the estate will be found necessary to give effect to the bequest.

MURDER AND SUICIDE IN EDINBURGH.—On Saturday last the discovery was made of a murder committed in a house at Fountainbridge, by James Howat Ferrier upon his wife, Agnes Gourlay, or Ferrier, followed by suicide. The wife was of very intemperate habits, which led to frequent quarrels between her husband and herself. The neighbours had heard a good deal of scuffling in the house on Wednesday night the 22d ult., of words they had little notice owing to the frequency of such disturbances, but another husband saw his wife having been seen on Thursday and Friday. A suspicion taking was made on the police, and on Saturday the door was broken open, when the bodies of both were found on the floor with their throats cut, and having, apparently, been dead some days. The man was lying with his face downwards, while a razor under the neck. It was evident that he had first murdered his wife and then cut his own throat. Beside him was found a slip of paper with these words:—"I am now ready for my business. I have applied to the authorities of both Ayr and Edinburgh for graduation, and many got laughed at. I now appeal to God. I am still with her, so let us be laid beside my boy, but if the women is to be buried there, let my body be given to the dissecting room, and after they have done with me let my body be burned." The deceased were both about 40 years of age. The man was not engaged in business further than looking after some property, from which he drew his income.

## Railways.

OPENING OF THE SOUTH DEVON AND TAVISTOCK.—The railway from Plymouth to Tavistock was opened on the 21st ult., giving to the latter town a means of cheap and rapid communication with the commercial metropolis of the west. The inhabitants of Tavistock celebrated the event with rejoicings on a scale of unexampled splendour.

DESTRUCTION OF THE SOUTH-EASTERN STATION AT READING.—A fire of a fearful character, which has resulted in the entire destruction of the railway station belonging to the South-Eastern Company at Reading, occurred at nearly half-past one on Sunday morning. The station was an entirely wooden structure, containing booking offices, first and second class waiting-rooms, superintendent's office, &c. Adjoining was a covered platform about 100 feet in length, and from it all the trains were despatched for London. A lamp-room was erected at the extreme end of the platform, and in this place the fire appears to have originated. About half-past 3 o'clock the flames had spread along the covered platform and gained the booking office. A high wind prevailed at the time, and the fire having got possession of the building, it was impossible for any one to enter and attempt to remove any portion of the property from destruction. By 4 o'clock the station was a mass of flame, and pieces of burning wood flying about set fire to the thatch of a stable by a yard about 20 feet below the level of the railway. Fourteen horses belonging to the company in this stable, and as it was manifest that the building must be destroyed, the attention of some of the railway officials was directed to effecting their rescue. With some difficulty they were all got out. By 5 o'clock the roof of the station fell in, followed by a stack of chimneys. In less than half-an-hour afterwards the station was one mass of ruins. The most important book, containing the accounts of the traffic at the station, was fortunately saved from destruction, but the large iron chest, containing books and money, was so injured that it cannot be unlocked. The iron chest belonging to the South Western Company, who used the same office, has not been found. The silver and gold, though discovered, was scattered, but a number of Bank of England notes placed in a leathern bag, to be forwarded to the head office at Waterloo, have been destroyed. The notes have appeared to have entirely singed or dried up the bag, and nothing is left but the brass ring that was at the top. The telegraph communication was stopped by the destruction of the instruments and the melting of the wires. The total loss of property is very considerable, as, in addition to the station being burnt down, a large quantity of luggage belonging to passengers has been destroyed. The stock of books, opera glasses, &c., at Messrs. Smith, the newsvenders, was of more than 2000*l.* value.

## Law.

COURT OF QUEEN'S BENCH.—*Judges' Duties in Joint Concern-ment.*—*The Queen v. Mansfield and others.*—This was an indictment preferred by the Commissioners of Sewers, charging the three defendants, *Thomas Baker Mansfield, Edward John Mansfield*, and *Henry Spencer Mansfield*, with a misdemeanor in respect to the mode of the sale of a property in the county, and on bringing cases up on affirmation for the sale of said property. The defendants all pleaded Not Guilty, and Edwards and Lewis acting on the advice of counsel, retracted their plea and pleaded "Guilty." It will be remembered from the details which have already appeared in our Metropolitan News that the defendants, who had established an office in Bedford Street under the name of Armstrong & Co., received from a Mr. Lawless the sum of 500*l.* for obtaining for his brother, Mr. Henry Charles Coote, a magistracy, through a Queen's Counsel, a commissioner in the army "without purchase." A rule nisi had been obtained to quash the indictment, and was to-day (the 20th) made absolute.

## Obituary.

THE MARCHIONESS OF SLIGO died at an early hour on Sunday morning at the family residence in Harley Street. She was confined on Thursday last, and on the following day underwent the usual painful manifestations which attend the same. She was the daughter of Mr. Anthony Nugent, of Donore, county Meath, and was early married to the Marquess on the second wife, in the autumn of last year. It will be remembered that on the Queen of Spain's marriage some impediments were considered by his lordship being Protestant and her Majesty being of the Roman Catholic faith, but these were afterwards removed by a dispensation from the Pope.

THE HONOURABLE LEGGE WILLIAM BRIDGEMAN died on Saturday morning at his residence in Hertford Street, Mayfair, after a protracted illness. The deceased, Charles Augustus Bridgeman, Earl of Bradford, and Baron Bradford, of Bradford, county of Middlesex, in the Peerage of Great Britain, was eldest son of Charles fourth earl, and Maria, second daughter and co-heiress of Sir Edward Cobbrooke, Bart. He was born in 1778, and was consequently in his 82nd year. He married in 1801 Matilda Catherine Grosvenor, daughter of the late Hon. Sir Grosvenor, by whom he leaves surviving issue the Countess of Malmesbury and Lord Charles, now Earl of Bradford.

ROBERT KNIGHTLEY, Esquire, Equerry to the Duke of Cambridge, died on Friday morning, at St. James' Palace, after a few days' illness. Robert Knightley was for many years Chamberlain of the Household of the Royal Highness the late Duke of Cambridge, and since the Duke's decease has continued his valuable services to the Royal Highness's family, who most deeply deplore the loss of a faithful and devoted servant and friend.

BIRTHS.—On the 23d ult. at 15, Bailey Street, the Marchioness of Sligo of a daughter.—On the 21st ult. at Wykeham Hall, county Durham, Lady Eden, of a son.—24th ult. at 13, Grosvenor Place, the Lady Caroline Richards, of a daughter.—At Hartham Grange, Lacock, the Hon. Mrs. Talbot, of a son.—25th ult. at Worcester Wood, Monkton Farleigh, the wife of the Right Hon. J. R. Mowbray, M.P., of a son.—27th ult. at 102, Westbourne Terrace, Hyde Park, Lady Chamberlain, wife of Sir Henry Oxenden R. Chamberlain, Bart., of a daughter.

MARRIAGES.—On the 25th ult. at St. George's Hanover Square, London, the Hon. Henry William Capell, fourth surviving son of the late Lord Essex, to Emma Georgiana, eldest daughter of Colonel George Campbell—and on the 30th ult. at Westminster Abbey, the Ven. Archdeacon Thynne, Rector of Kilkhampton, Cornwall, to Caroline Eliz. Kendall, eldest daughter of the late Russell Kendall, Esq.—and on the 30th ult. at St. George's, Hanover Square, Charles Pelham Villiers, M.P. for Wolverhampton, to Theresa Emma, second daughter of Thomas Lewellin Bassett, Esq., of Knowle, Devonshire.—On the 30th ult. at Iver Church, near Uxbridge, the Very Rev. Edward Craig Wilkins, Dean of Waterford, to Barbara, widow of the Hon. and Rev. Robert Wyndham, late rector of [illegible], Norfolk.—22d ult. at St. James's Church, Piccadilly, Charles Barnes Mansfield Lynley, Esq., Barrister-at-Law of the Inner Temple, younger son of William John Lynley, Esq., M.P. of Brynkynall Hall, to Laetitia Emma Maria, eldest daughter of Colonel James Cowell (late Assistant Adjutant-General of the Indian army), of 5, Queen's Gardens, Hyde Park.

DEATHS.—On the 25th ult. in Wilton Crescent, of diphtheria, Walter Charles Trevelyan, second son of Sir Walter Calverley Trevelyan, Bart., aged 6 years.—And on the 26th ult. in Wilton Crescent, of the same disease, Lucy Trevelyan, only child of the Honourable Charles Edward Trevelyan, aged 4 years.—On the 27th ult. at Arbury Hall, Nuneaton, Warwickshire, the Right Hon. Frances Anne, Countess Dowager of Chesterfield, in the 84th year of her age.—On the 28th ult. at Moor Park, Farnham, Surrey, Lieut.-Gen. Sir Thomas Bradford, K.C.B., Colonel of the 1st Battalion of Rifle Brigade, and Deputy Adjutant-General of the Forces at Woolwich.—And on the 29th ult. at Ashley Hall, Cheshire, Mary Ann Lowndes, widow of the late John Lowndes, Esq., of Barrow Hall, in the county of Warwick, and formerly Staffordshire.—On the 30th ult. at 24, Grosvenor Street, London, Mary Ann Lowndes, daughter of the late John Lowndes, Esq., of Barrow Hall, Warwickshire.—On the 30th ult. at Moor Park, Farnham, Surrey, Lieut.-Gen. Sir Thomas Bradford, K.C.B., Colonel of the 1st Battalion of Rifle Brigade, and Deputy Adjutant-General of the Forces at Woolwich.—And on the 31st ult. in Upper Seymour Street, Portman Square, the Rev. Stephen Edmund Pepys, Chancellor of Lincoln Cathedral.—23rd ult. at the Rev. William Hodge Mill, of the College, Winchester, and Rector of St. Swithin's, in that city, aged 47.—21st ult. at 44, Castle Street, Edinburgh, Lieutenant David Ogilvy, late of the 4th Foot (or Royal Regiment). He had [illegible] the war, and was severely wounded at [illegible] on the 18th ult. at [illegible], Hampshire, Lieut.-Colonel Thomas Hall, late of the Bengal Artillery, and 3rd Madras Light Cavalry.—On the 29th ult. at Hampstead, Mary Ann Wilkinson, widow of the late Rev. Thomas Wilkinson, Rector of Ashton-under-Lyne, and Vicar of Bowden, Cheshire.—On the 30th ult. at Ashley Hall, Cheshire, Mary Ann Lowndes, widow of the late John Lowndes, Esq., of Barrow Hall, Warwickshire, and formerly of

realise from 6s. to 15s. per cwt. Cucumbers abundant. Cut flowers chiefly consist of Orchids, Gardenias, Heliotropes, Lily of the Valley, Violets, Mignonette, Heaths, and Roses.

FRUIT.

| | |
|---|---|
| Pine Apples, per lb., 5s to 7s | Figs, per doz., 6s to 8s |
| Grapes, per lb., 3s to 6s | Cherries, per lb., 6d to 1s 6d |
| Strawberries, p. lb., 6d to 2s | Apples, per doz., 6s to 10s |
| Raspberries, p. punn., 6d to 1s | Pears, per doz., 6s to 12s |
| Melons, each, 2s to 4s | Oranges, per 100, 6s to 10s |
| Peaches and Nectarices, per doz., 8s to 15s | Lemons, per doz., 1s to 1s 6d |
| | Cobs, per lb., 1s 3d to 1s 6d |

VEGETABLES.

| | |
|---|---|
| Cauliflowers, per doz, 2s to 4s | Cucumbers, p. doz., 2s to 6s |
| Green Peas, p. quart, 1s to 2s | Tomatoes, per doz., 2s to 4s |
| Greens, per dozen bunches, 1s to 1s 6d | Artichokes, per doz., 2s to 3s |
| | Beet, per doz., 1s 6d to 2s |
| Cabbages, do., 1s 6d to 2s 6d | Celery, p. bundle, 1s to 1s 6d |
| Asparagus, p. bundle, 2s 6d to 5s | Shallots, per lb., 6d to 8d |
| Rhubarb, p. bundle, 6d to 9d | Garlic, per lb., 6d to 8d |
| FrenchBeans. p. pun., 1s to 1s6d | Lettuces, Cabb., per score, 1s to 1s 6d |
| Potatoes, p. ton, 90s to 100s | |
| — per bus., 2s to 2s 9d | Endive, p. score, 1s to 1s 6 |
| — per cwt., 4s to 6s | Horse Radish, p. bun. 1s 6d to 4s |
| — new, per lb., 6d to 1s | Mushrooms, p. pott, 9d to 1s 3d |
| Carrots, per bunch, 1s | Parsley, p. 12 bunches, 2s to 4s |
| Turnips, per bunch, 9d to 1s | Savory, do., 2d to 4d |
| Spinach, p. sieve, 1s 6d to 2s | |

HOPS.—BOROUGH MARKET, FRIDAY, July 1.

Messrs. Pattenden & Smith report that the accounts from parts of the plantations speak of fresh fly, lice, and honey-dew, still the bine at present keeps growing, but unless the filth soon decreases many think it must go into blight. Market quiet, but little doing on duty.

BRITISH WOOLS.—LONDON, FRIDAY, July 1.

The prices of fleeces have been fixed by a large number of wool fairs all over the country, and the bulk of the wool has been sold at several pence a pound over the anticipated rate; the fact being that the stock of wool in the consuming counties had got much lower than was ever confessed to.

| | s. | d. | | s. | d. | | s. | d. | | s. | d. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| South-down Hoggets | 1 | 6 | to 1 | 7 | | Leicest. Wethers | 1 | 4 | to 1 | 4½ | |
| Half-bred ditto | 1 | 6 | — 1 | 7 | | Ditto Hoggs | 1 | 5 | — 1 | 6 | |
| Down Ewes | 1 | 5 | — 1 | 6 | | Combing Skins | 1 | 2 | — 1 | 4 | |
| Kent Fleeces | 1 | 5 | — 1 | 6 | | Blanket ditto | 0 | 6 | — 0 | 9 | |
| | | | | | | Flannel Wool | 1 | 3 | — 1 | 7 | |

COAL MARKET.—WEDNESDAY, June 29.

Montague Garesfield, 13s. 6d.; Tanfield Moor Butes, 13s. 6d.; Ward's West Hartley, 14s. 3d.; Whitridge Hartley, 15s.; Wylam, 16s. 6d.; Walls End Hetton, 17s. 6d.; Walls End Russell's Hetton, 16s. 3d.; Walls End Hartlepool, 17s. 3d.; Walls End Kelloe, 17s.; Walls End South Hartlepool, 16s. 3d.; Walls End Whitworth, 16s.; Nixon's Duffryn, 21s. 6d.; Powell's Duffryn Steam, 21s.—29 ships at market.

METROPOLITAN CATTLE MARKET.

MONDAY, June 27.

The supply of Beasts is rather larger than on Monday last, still it is by no means excessive. The hot weather makes buyers cautious and prices are lower. The number of Sheep and Lambs is larger, and the demand is smaller; prices are consequently lower, and a clearance cannot be effected. Calves are selling about the same as on Thursday. From Germany and Holland there are 240 Beasts, 3300 Sheep, and 270 Calves; from Scotland, 200 Beasts; from Norfolk and Suffolk, 2800; and from Irelaud 50 Beasts and 1000 Sheep and Lambs.

| | s | d | | s | d | | s | d | | s | d |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Best Scots, Herefords, &c. | 4 | 6 | to 4 | 8 | | Best Long-wools | 4 | 6 | — 4 | 8 | |
| Best Short-horns | 4 | 4 | — 4 | 6 | | Do. Shorn | | | — | | |
| 2d quality Beasts | 3 | 4 | — 4 | 0 | | Ewes & 2d quality | 3 | 10 | — 4 | | |
| Best Downs and Half-breds | 4 | 10 | to 5 | 0 | | Do. Shorn | | | to | | |
| Do. Shorn | | | — | | | Lambs | 5 | 0 | — 6 | 0 | |
| | | | | | | Calves | 3 | 8 | — 5 | 0 | |
| | | | | | | Pigs | 3 | 8 | — 4 | 8 | |

Beasts, 3718; Sheep & Lambs, 31,100; Calves, 336; Pigs, 400.

THURSDAY, June 30.

We have a few more Beasts than on Thursday last. Trade is slow, but quotations are not altered from Monday. The supply of Sheep and Lambs is good; the best qualities are pretty readily disposed of, but several of other descriptions remain unsold. The number of Calves is again large; trade is heavy for them at late rates. From Germany and Holland there are 118 Beasts, 2080 Sheep, and 425 Calves; from Spain, 12 Beasts; and 108 Milch Cows from the home counties.

| | s | d | | s | d | | s | d | | s | d |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Best Scots, Herefords, &c. | 4 | 6 | to 4 | 8 | | Best Long-wools | 4 | 6 | — 4 | 8 | |
| Best Short-horns | 4 | 4 | — 4 | 6 | | Do. Shorn | | | — | | |
| 2d quality Beasts | 3 | 4 | — 4 | 0 | | Ewes & 2d quality | 3 | 10 | to 4 | 4 | |
| Best Downs and Half-breds | 4 | 10 | — 5 | 0 | | Do. Shorn | | | — | | |
| Do. Shorn | | | — | | | Lambs | 5 | 0 | — 6 | 0 | |
| | | | | | | Calves | 3 | 8 | — 5 | 0 | |
| | | | | | | Pigs | 3 | 8 | — 4 | 8 | |

Beasts, 1123; Sheep & Lambs, 12,470; Calves, 675; Pigs, 100.

MARK LANE.—MONDAY, June 27.

The supply of Wheat from Essex and Kent to this morning's market was small, and met a slow sale at 1s. per qr. advance upon the prices of this day se'nnight. The market was thinly attended, and foreign Wheat neglected; its value remains nominally the same as last week. Barley brings the extreme prices of last Monday. Beans are rather dearer. Peas are unaltered in value. Oats are a steady sale at an advance of 6d. per qr. from Monday last upon all fine qualities. The Flour trade is very dull without alteration in prices.

| PER IMPERIAL QUARTER. | s. | s. | | s. | s. |
|---|---|---|---|---|---|
| WHEAT, Essex, Kent, & Suffolk..White | 46 | 54 | Red | 41 | 48 |
| — — fine selected runs..ditto | 46 | 50 | Red | 44 | 52 |
| — — Talavera | 48 | 54 | | | |
| — Norfolk | — | | Red | — | |
| — Foreign | 46 | 62 | | | |
| BARLEY, grind. & dist., 24s to 28s..Chev. | 35 | 40 | Malting | 32 | 34 |
| — Foreign..grinding and distilling | 24 | 31 | Malting | 30 | 34 |
| OATS, Essex and Suffolk | 19 | 22 | | | |
| — Scotch and Lincolnshire..Potato | 23 | 25 | Feed | 19 | 24 |
| — Irish ..... Potato | 24 | 25 | Feed | 19 | 22 |
| — Foreign ..... Poland and Brew | 23 | 26 | Feed | 19 | 25 |
| RYE | — | | Foreign | — | |
| RYE-MEAL, foreign | — | | | | |
| BEANS, Mazagan....35s to 39s....Tick | 37 | 41 | Harrow | 37 | 41 |
| — Pigeon .....41s — 45s..Winds. | — | | Longpod | — | |
| — Foreign ..... Small | 38 | 47 | Egyptian | 35 | 39 |
| PEAS, white, Essex and Kent..Boilers | 44 | 48 | Suffolk | 46 | 50 |
| — Maple....42s to 44s .....Grey | 38 | 42 | Foreign | 42 | 46 |
| MAIZE ..... White | — | | Yellow | — | |
| FLOUR, best marks delivered..per sack | 40 | 46 | | | |
| — 2d do. ..... ditto | 30 | 40 | Country | 30 | 40 |
| — Foreign ..... per barrel | 18 | 27 | Per sack | 30 | 37 |

FRIDAY, July 1.

With the exception of a thunder-storm on the 26th, and some hours' heavy rain on the 28th, the weather has been fine and dry the last eight days. Although in many parts of the kingdom Tuesday's rain has beaten down the Wheat and Barley, we hear of no serious complaints; indeed in Scotland it has been most beneficial, but it is thought the crops there had already suffered too much from drought to be abundant. The improved tone observable in the Wheat trade towards the close of last week has again subsided, owing probably to the fine weather and large importations from France and the Baltic into the principal ports of the kingdom; and although sellers have insisted upon full prices, business has been inactive. The value of spring corn was well supported, that of Flour unchanged. There are no arrivals of grain-laden vessels from Southern Europe reported during the week, and the transactions of cargoes arrived are limited to 1 cargo of Odessa Ghirka Wheat at 45s. 6d. per 492 lbs., and 1 cargo of Cavalla Maize at 28s. per 480 lbs., c. f. and i. On passage were sold 3 cargoes of Taganrog Ghirka Wheat at 44s. per 492 lbs., 1 Polish Odessa at 43s. 1½d., 3 Galatz Maize at 29s. to 29s. 6d. per 492 lbs., c. f. and i.; 1 cargo of Odessa Barley at 24s. per 400 lbs., and 1 Odessa Linseed at 48s. per qr. delivered. The arrivals of Foreign Wheat this week are large, fair of English, good of foreign Barley, and small of other grain. To-day's market was very thinly attended. The English Wheat left over from Monday and fresh up during the week remained unsold towards the close, although offered at that day's prices. There being scarcely any business in foreign our quotations must be considered nominal. Barley, Beans, and Peas are unaltered in value. For Oats there is a fair inquiry at the extreme prices of Monday.

ARRIVALS FROM JUNE 27 TO JULY 1.

| | Wheat. | Barley. | Oats. | Flour. |
|---|---|---|---|---|
| English .. | 2280 qrs. | — qrs. | 90 qrs. | 1330 sks. |
| Irish .... | — ,, | — ,, | 100 ,, | — ,, |
| Foreign .. | 20220 ,, | 4490 ,, | 4510 ,, | 3680 ,, / — brls. |

LIVERPOOL, Tuesday, June 28.—We had a fair attendance of millers and dealers at our Corn Exchange this morning, but the demand for Wheat was quite in retail, and the rates of last market day may be nominally repeated; where sales, however, are forced ex ship it is necessary to make a reduction. Flour was held firmly at former prices. A good consumptive inquiry was experienced for Indian Corn at the extreme quotations of Friday. Oats advanced 1d. to 2d. per bushel; Oatmeal unchanged. Egyptian Beans were a shade better. Peas and Barley unaltered in value. The market ruled wthout animation.

FRIDAY, July 1.—Corn market poorly attended and business dull. Wheat saleable at 2d. decline on Tuesday. Flour 6d. per sack cheaper. Indian Corn, Beans, and Oats steady, at late rates. Oatmeal and Barley quiet without change.

| AVERAGES | Wheat. | Barley. | Oats. | Rye. | Beans. | Peas. |
|---|---|---|---|---|---|---|
| May 21.. | 54s 4d | 33s 7d | 26s 3d | 35s 3d | 47s 2d | 45s 5d |
| — 28.. | 53 6 | 33 6 | 25 9 | 33 8 | 46 6 | 42 10 |
| June 4.. | 53 5 | 33 8 | 26 1 | 37 7 | 47 0 | 40 5 |
| — 11.. | 51 5 | 31 8 | 25 11 | 41 9 | 45 0 | 40 5 |
| — 18.. | 49 11 | 31 5 | 24 11 | 36 9 | 46 7 | 40 3 |
| — 25.. | 48 3 | 31 1 | 24 9 | 37 6 | 46 8 | 41 9 |
| Agg. Aver. | 51 10 | 32 6 | 25 7 | 37 1 | 46 6 | 42 0 |

FLUCTUATIONS IN THE LAST SIX WEEKS AVERAGES.

| PRICES. | May 21. | May 28. | June 4. | June 11. | June 18. | June 25. |
|---|---|---|---|---|---|---|
| 54s 4d— | | .. | .. | .. | .. | .. |
| 53 6 | .. | | .. | .. | .. | .. |
| 53 5 | .. | .. | | .. | .. | .. |
| 51 5 | .. | .. | .. | | .. | .. |
| 49 11 | .. | .. | .. | .. | | .. |
| 48 3 | .. | .. | .. | .. | .. | |


PARTNER.—An eligible opportunity offers itself to an industrious Man of steady energy to take a joint share in a well-established and thriving NURSERY and SEED TRADE, situate in an excellent thoroughfare of one of the leading towns of a southern county. The coming-in is moderate, and the returns, which are ample, may be increased *ad libitum*.—Apply by letter only to Mr. LAMBDEN, Spa Wharf, Gloucester.

TO AGRICULTURISTS.—A young Man, respectably connected, with some experience in Agriculture, wishing to improve himself before taking a Farm on his own account, is desirous of meeting with a situation where his active services on the Farm would be considered equivalent to his board and lodging.—L. M., Post Office, Bovey Tracey, Devon.

TO EMIGRANTS.

BRITISH COLUMBIA.—A Lady about to proceed *vid* Cape Horn with her children to this rising Colony, wishes to meet with a respectable young WOMAN, who can be thoroughly well recommended, and who could not only assist in taking charge of the children, but render herself useful with her Needle during the voyage. A *free berth* in the Lady's own cabin is all that is offered for the passage, with board and lodging after arrival in the Colony, until the young woman shall have either entered the service of the Lady permanently or formed some other engagement. It is immaterial whether the young woman is married or not, all that is required being perfectly satisfactory references as to character, activity, and good temper, and the attendance and assistance above described in return for the passage that is offered.—Address, post paid, A. B., 5, Westbourne Place, Eaton Square, London, S.W.

WANTED, A FARMING MAN, who can take charge of the Stock and the Management of a small Farm of 90 acres. A married Man from 30 to 40 would be preferred. The Wife to undertake the Washing for the Family, for which a stipulated price will be paid.—Direct, stating qualifications, A. B. C., Post Office, Keston, Bromley, Kent.

WANTED, a married GARDENER (Single-handed) without incumbrance, to reside on the premises, in Buckinghamshire. The Wife would be preferred with some knowledge of the Laundry department. A good character must be had with both for honesty and sobriety.—Apply to Mr. R. TREES, 27, Queen Street, City, London, E.C.

WANTED, in the country, a plain WORKING GARDENER, who understands the common routine of a Flower and Kitchen Garden, where there is but little glass; an Assistant is given. Wages 16s. per week and a cottage.—Apply J. L. GOWER Esq., Westwood, Colchester, Essex.

PROTHEROE AND MORRIS are in want of a first-rate PROPAGATOR.—Address, in own handwriting, American Nursery, Leytonstone.—July 2.

WANTED, A PROPAGATOR, who thoroughly understands his profession, and can have a good character for sobriety and honesty.—Apply to OSBORN & SONS, Fulham Nursery, near London.

WANTED, AS PROPAGATOR, a respectable single man, well qualified in Hard and Soft-wooded plants. None need apply unless well experienced.—Address J. GRAY, Nurseryman, West Derby, Liverpool.

WANTED, an experienced industrious Man as PROPAGATOR AND PLANT GROWER, and who is also competent to undertake the Management of the Grounds during the absence of the employer. He must possess a thorough knowledge of Roses, Conifers, and Hardy Shrubs, also Soft and Hard-wooded Greenhouse Plants. Unexceptionable references required. An excellent Cottage and good Garden.—Apply, giving full particulars, and stating amount of wages expected, to JOHN CRANSTON, King's Acre Nurseries, near Hereford.

WANTED, a respectable young Man as UNDER GARDENER. He must be well recommended. None other need apply.—Address, stating particulars and wages required, to J. C., Post Office, Ingatestone, Essex.

WANT PLACES.—Letters to be Post Paid.

GARDENER (HEAD).—Age 39, single; thorough knowledge of his profession in all its branches; Land and Stock if required.—E. C., 21, Culford Road, De Beauvoir Town.

TO NOBLEMEN AND GENTLEMEN.

GARDENER (HEAD).—Age 28, single; unexceptionable character.—B. L., Mr. Phillips, Dairyman, Stockwell, Surrey, S.

GARDENER (HEAD).—Age 30, single; thoroughly understands the management of Pines, Vines, and Peaches, the Forcing of Fruits, Flowers, Vegetables, &c.—C. C., 5, Streatham Hill, Brixton.

GARDENER (HEAD).—Age 32, married, without incumbrance; perfectly understands his profession in all its branches. Seven years' good character from last place.—A. B., Batchelor's Library, Dover, Kent.

GARDENER (HEAD).—WILLIAM HOWARD, Gardener to W. P. Milner, Esq., Dykes Hall, Sheffield, will shortly be at liberty to enter into an engagement with any nobleman or gentleman requiring the services of a thorough practical Gardener.—Direct as above.

GARDENER (HEAD).—Age 30, married; has a good practical knowledge of his profession. Wife capable of taking charge of Dairy, &c. Can be well recommended for ability and good conduct.—T. P. G., Mr. Wood's Nursery, Sydenham, Kent.

GARDENER (HEAD).—Age 29, single; experienced in extensive Gardens in the Management of the Kitchen, Fruit, and Flower Gardens, Vinery, Conservatory, and Forcing Departments. Unexceptionable references.—W. H., Royal Botanic Gardens, Regent's Park, London, N.W.

GARDENER (HEAD).—Age 33, married, with one child; thoroughly understands his profession, especially with Early and Late Forcing, Kitchen and Flower Gardens. No objection to look after Land if required. Unexceptionable references can be given both from the last employer and others.—H. W., Church Square, Ealing, W.

GARDENER (HEAD).—A gentleman wishes to recommend his Gardener, a middle-aged, married man without incumbrance. Understands the management of the Kitchen, Fruit, and Flower Gardens; Vinery, Greenhouse, and Conservatory, and Forcing generally.—A. B., Mr. Dow, 5, Fitzroy Place, Kentish Town, N.W.

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# The Gardeners' Chronicle Newspaper.

*SATURDAY, JULY 9, 1859.*



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37, Cornhill, June, 1859.

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## News of the Week.

AN armistice has been agreed upon between the EMPEROR OF AUSTRIA and the EMPEROR OF THE FRENCH, and Commissioners have been named to settle its duration and clauses. Nothing is at present known of the circumstances which have led to this suspension of hostilities, nor are we informed from which side the proposal originated. The news which had previously been received from the seat of war had led Europe to anticipate that another great battle would speedily be fought in the celebrated quadrangle of fortresses in which Austria was expected to make her last stand. Peschiera was already invested by the Sardinians, and the EMPEROR OF THE FRENCH, having been reinforced by 35,000 men under Prince NAPOLEON, had approached Verona and was watching Mantua. At the same time Venice was threatened by the French fleet, and GARIBALDI's force had repulsed the Austrians from Bormio and driven them back into the Stelvio Pass. The conclusion of the armistice has of course arrested these operations, and there is no doubt that England, Prussia, and Russia will now offer their mediation and exert all the powers of diplomacy to prevent the re-commencement of the war.

In the House of Lords on Monday, on the motion of the Duke of MARLBOROUGH, a select committee was appointed to inquire into the present operation of the law and practice respecting the levy and assessment of Church-rates. On Tuesday Lord LYNDHURST called attention to the state of the national defences, and gave rise to a long debate on the condition of the Navy, and on the best means of securing the country from invasion. On Thursday Lord CHELMSFORD called attention to the state of business in the new Divorce Court. The Lord CHANCELLOR stated in reply that a Bill was in preparation for the improvement of the Court, but that it was not intended at present to extend its provisions to Ireland. The Earl of RIPON said there was no intention to add to the militia force of Ireland; but none of the regiments now embodied would be disbanded.

In the House of Commons on Monday Mr. M. MILNES obtained leave to bring in a Bill to remove doubts as to the qualification of persons holding diplomatic pensions to sit in Parliament; and on the motion of Mr. S. HERBERT a select committee was appointed to inquire into the effect of the alterations which were made in 1855, in regard to the administration of the War Office and the Board of Ordnance. On Tuesday Mr. FITZROY announced his intention to carry out the views of his predecessor in office, by taking a vote in the estimates for the purification of the Serpentine during the autumn of this year. Mr. COLLIER obtained leave to bring in a Bill limiting the power of imprisonment for small debts exercised by the county court judges; Mr. ALCOCK obtained leave to bring in a Bill for the voluntary commutation of church-rates; and Sir W. SOMERVILLE obtained leave to bring in a Bill to enable Roman Catholic barristers to accept the office of Lord Chancellor of Ireland, on the ground that it was an office to which no Church patronage attached. Mr. WRIGHTSON's motion for leave to introduce a Bill to alter the law with respect to the vacating of seats on the acceptance of office, was negatived by a narrow majority of 2, the numbers being 53 to 51. On Wednesday, the second reading of Mr. DILLWYN's Endowed Schools Bill was carried by 210 to 192, and the Bill was subsequently referred to a select committee. On Thursday, on the motion of the CHANCELLOR of the EXCHEQUER, a select committee was appointed to inquire into the contracts formed by her Majesty's Government with various steam-packet companies for the conveyance of the mails by sea, and likewise into any agreements which have been adopted at the public charge for the purposes of telegraphic communications beyond sea. Mr. COWPER's motion for leave to bring in a Bill to restrain the erection of advertising columns and other permanent structures in the carriage ways of the metropolis was carried by 165 to 46; and Mr. SCHOLEFIELD's motion for the second reading of the Adulteration of Food Prevention Bill was carried by 227 to 103.

Mr. COBDEN has declined to accept the seat in the Cabinet which Lord PALMERSTON had reserved for him at the formation of the present Ministry, considering that the purposes of his public life will be best promoted by his remaining an independent member of Parliament. Mr. MILNER GIBSON has now been appointed President of the Board of Trade, and Mr. C. P. VILLIERS has been appointed to succeed Mr. GIBSON as President of the Poor Law Board, with a seat in the Cabinet.

## Home News.

THE COURT.—The Queen, Prince Consort, and the Princess Alice left Buckingham Palace yesterday for Aldershott, and will proceed thence to Osborne on Monday. On Friday morning the Prince of Wales visited the Water Colour Exhibition. The Duke of Oporto went to Greenhithe. In the afternoon the Prince Consort, accompanied by the Prince of Wales, went to Windsor by the South-Western Railway, and distributed the prizes in the Home Park at the annual meeting of the Royal Association. The Queen, accompanied by the Princess Alice, went to Windsor by a special train on the Great Western Railway and visited the Duchess of Kent at Frogmore. Her Majesty and the Prince Consort returned to Buckingham Palace about 7 o'clock, accompanied by the Prince of Wales and the Princess Alice. In the evening the Queen had a dinner party and a concert. On Saturday morning the Prince Consort presided at a meeting of the Royal Commissioners for the Exhibition of 1851, held at the Palace of Westminster. The Prince of Wales went to Tunbridge, and visited the Countess de Neuilly. The Duke of Oporto and the Count of Flanders visited the Royal Arsenal at Woolwich. In the afternoon the Queen held a Court, at which the Hon. Charles A. Murray had an audience on proceeding to Dresden as Minister Plenipotentiary to the King of Saxony, and the Hon. G. S. Stafford Jerningham, her Majesty's Minister at Stuttgard, had an audience on arriving from Wurtemburg. Lord John Russell had an audience of her Majesty. The Queen afterwards took a drive in an open carriage and four, accompanied by the Princess Alice and the Duke of Oporto. The Prince Consort and the Prince of Wales rode on horseback. In the evening her Majesty and the Prince Consort, accompanied by the King of the Belgians, the Princess Alice, the Prince of Wales, the Duke of Oporto, and the Count of Flanders, honoured the Royal Italian Opera with their presence. On Sunday morning the

Queen and Prince Consort, the King of the Belgians, the Prince of Wales, the Princesses Alice, Helena, and Louisa, attended Divine service in the private Chapel of Buckingham Palace; the Rev. C. J. Phipps Eyre preached the sermon. On Monday morning the Prince Consort visited the South Kensington Museum. The Prince of Wales and the Duke of Oporto visited the United States Institution. In the afternoon the Queen held a Court for the purpose of receiving an address on the Throne from the Convocation of the Province of Canterbury. The Prince Consort and the Prince of Wales rode on horseback. In the evening the Queen had a dinner party. On Tuesday morning the Prince Consort went to the Trinity House and was sworn in on his re-election as Master of the Corporation. The Princess of Hohenlohe-Langenburg arrived from Frogmore, and visited the Queen. In the afternoon the Duke of Oporto left the palace for Greenhithe. The Prince of Wales and the Count of Flanders honoured Mr. Albert Smith's Chinese entertainment with their presence. The Queen, accompanied by the Princesses Alice and Helena, took a drive in an open carriage and four. The Prince Consort rode on horseback. In the evening her Majesty and the Prince Consort, accompanied by the King of the Belgians and the Princess Alice, honoured the Royal Italian Opera with their presence. The Prince of Wales and the Count of Flanders honoured the Haymarket Theatre with their presence. On Wednesday morning the King of the Belgians, the Prince Consort, and the Count of Flanders visited the Royal Botanical Gardens, in the Regent's Park. In the afternoon the Queen held a Privy Council at which the Right Hon. T. Milner Gibson was declared to be President of the Board of Trade; Earl Spencer, Groom of the Stole to the Prince Consort, the Earl of Ducie, Captain of the Yeomen of the Guard; Sir William Erle, Lord Chief Justice of the Court of Common Pleas; Viscount Bury, Treasurer of the Household; Lord Proby, Controller of the Household; and Sir James William Colvile, were sworn as Privy Councillors, and the Education Committee was reappointed. Earl Granville, Viscount Palmerston, the Duke of Newcastle, and the Right Hon. Sidney Herbert had audiences of the Queen. After the Council the Queen visited the Duchess of Sutherland at Stafford House. The Prince Consort and the Count of Flanders rode on horseback. In the evening the Queen had a dinner party. On Thursday the King of the Belgians and the Count of Flanders left Buckingham Palace on their return to Brussels. The younger members of the Royal family left the Palace for Osborne. In the afternoon the Duke of Oporto visited the Queen. The Prince of Wales went to Frogmore and visited the Duchess of Kent. The Prince Consort rode on horseback. In the evening the Queen and Prince Consort, accompanied by the Prince of Wales and the Princess Alice, honoured the Haymarket Theatre with their presence. Yesterday the Queen held a Privy Council at Buckingham Palace. After the Council her Majesty, the Prince Consort, and the Princess Alice left town for the Royal Pavilion at Aldershott. To-day her Majesty, accompanied by the Prince Consort and the Princess Alice, will review the whole of the troops in camp. To-morrow the Queen will attend Divine service in the North Camp church, and on Monday will proceed to Osborne.

THE QUEEN'S SUMMER TOUR. — It is announced that the Queen will pay her usual visit to Scotland this summer, but will not remain in the Highlands more than three weeks. It is not the intention of her Majesty to visit Ireland this year.

THE PRINCE OF WALES will leave London on Wednesday next for Holyrood, where his Royal Highness will remain until the arrival of the Court in Scotland, when the Prince will accompany the Queen to Balmoral.

THE DUCHESS OF KENT.—The health of the Duchess of Kent being re-established, her Royal Highness will leave Frogmore House next week to visit the Queen at Osborne.

DEPARTURE OF THE KING OF THE BELGIANS.—The King of the Belgians, accompanied by the Count of Flanders, left Buckingham Palace on Thursday for Dover, where he embarked for Ostend. The Prince Consort and the Prince of Wales accompanied the King to the Bricklayers' Arms Station, whence his Majesty proceeded by a special train to Dover.

THE GRAND DUCHESS MARIA NICOLAEVNA, sister of the Emperor of Russia, will pass the autumn and winter with her family in England. Her Imperial Highness's arrival is expected shortly. The Princes Nicolas and Eugène Romanofsky, Dukes of Leuchtenberg, have left town for Torquay.

THE CABINET.—A Cabinet Council was held on Saturday at the official residence of the First Lord of the Treasury, in Downing Street. Another Council was held on Wednesday, and another on Thursday.

MINISTERIAL APPOINTMENTS.—Mr. Milner Gibson has been appointed President of the Board of Trade in the room of Mr. Cobden, who has declined to accept the seat in the Cabinet offered him by the present Government. The office vacated by Mr. Gibson's promotion has been conferred on Mr. C. P. Villiers.

PARLIAMENTARY MOVEMENTS. — The Marylebone election terminated on Wednesday in the return of Lord Fermoy by a majority of 1901 over Major Lyon, and of 3136 over Colonel Dickson, the numbers being for Lord Fermoy 4219, Major Lyon 2318, Colonel Dickson 1083. Lord Alfred Paget has been re-elected for Lichfield, Colonel Kingscote for West Gloucestershire, Lord Castlerosse for Tralee, and Mr. Deasy for Cork county, all without opposition. Colonel Poulett Somerset has been elected for Monmouthshire, in the room of Colonel E. A. Somerset, without opposition. Lord Henley has been elected for Northampton without opposition in the room of Lord Lyveden.

POOR LAW BOARD.—Lord Palmerston has appointed Mr. Fleming, for many years Assistant-Secretary of the Poor Law Board, to the office of permanent Secretary, in the room of Lord Devon, resigned.

THE CHANNEL FLEET. — The screw line-of-battle ships Royal Albert, 121, bearing the flag of Rear-Admiral Sir Charles Fremantle; the James Watt, 91, Hero, 91, Algiers, 91, Mersey, 40, and the screw despatch gunboat Flying Fish, 6, left Portland harbour on Wednesday morning for a cruise in the Channel. The Agamemnon, 91, Emerald, 51, Blenheim, 60, and Pioneer, 6, remain at Portland.

## Foreign.

FRANCE.—The following circular has been addressed to the French diplomatic agents relative to the attitude of Germany:—

"Paris, June 20.

"Monsieur,—You know of the circular addressed by the Russian Cabinet to its agents in Germany, and you will have appreciated the justice of the views which it submits so opportunely to the consideration of the Federal Governments. One does not know better how to define the respective positions of the Powers in the affairs of Italy, or to arrive at a more correct judgment on the general situation. The Russian Government renders full justice to the sincerity of the assurances which we have given to Germany from the commencement of the war, and it sees in them, with reason, sufficient motives for the Confederation to regard with perfect confidence the development of the struggle in which we are engaged in Italy. My intention is not to return to an exposé of which you will have easily conceived the object. I point, nevertheless, your particular attention to the considerations in this document which belong more especially to the relations of the Confederation with the pending question. Not only in the opinion of the Russian Government is there no occasion for Germany to interfere, because neither her interests nor her rights are in danger, but in mixing herself up in the conflict she departs from the position which treaties have assigned to her. Not only is she unable to show in the existing state of affairs the necessity of protecting the European equilibrium, which is not menaced, and which she herself compromises if she pretends to say that she is necessarily interested in a war undertaken by Austria as a European Power, and that the action of the Federal body, considered as such, ought to be exercised beyond the limits of the Confederation; but such a doctrine would be productive in effect of nothing less than the complete incorporation of the non-German provinces of Austria into the Federal Union, and in this way it would be as much opposed to the real interests of the German States as to the spirit of the European treaties which have agreed to the conditions of their existence. The organs of Austria object, we know, that the possession of the Lombardo-Venetian kingdom in her hands would be necessary for the security of the Federal frontiers. When that Assembly had to occupy itself with the military organisation of the Germanic Confederation, the members of the association who have German possessions were called upon to name those of their provinces which they understood would participate in the common charges and obligations. Thus the *procès verbal* of the deliberations dated April 6, 1818, amply proves that Austria, after having enumerated her German territories, spoke of those of Italy, and declared in positive terms that she in no way entered into the view of extending beyond the Alps the line of defence of the Confederation. It was under consideration, we repeat, to fix the bases of the Germanic military system. The discussion assumed at this moment all the importance which belonged to it on a subject so closely connected with the essential interests of Germany. No voice was raised to assert that the Lombardo-Venetian kingdom, nor yet the Po nor its affluents, nor even the Adige itself, were necessary to the security of the Confederation; it was at the Alps, according to the proposition of Austria, that the Diet ought to place the frontier and the line of defence for Germany. I do not insist at greater length upon a fact which replies with such authority to all objections, and against which those based on false appreciations, and raised only by the pressure of circumstances, cannot prevail. The new military measures which have just been adopted in Prussia do not inspire us, therefore, with disquietude. The Prussian Government, in mobilising an important part of its army, declares that it has no other object than to protect the security of Germany, and to put itself in a state to exercise a just influence on the ulterior arrangements in accordance with the other Great Powers. We cannot in this find any reason to dissent from the Cabinet of Berlin. The Government of the Emperor, which was desirous that the affairs of Italy might be debated in Congress, very far from refusing what all the Powers concurred with it in seeking—their regulation—did, when necessary, itself call for their participation at an opportune moment. The circular of the Russian Government indicates, in a manner sufficiently plain, in what manner it will not fail to act when the proper time arrives. As this document recalls, and as I have myself informed you, the English Government, at the commencement of hostilities, tendered to the German Governments the best advice, counselling them by no means to make common cause with the Austrians against us. Without yet having official information of the disposition of the new British Ministry, we are authorised to infer, from the debate which preceded their coming into power, conclusions most favourable to the independance of Italy; and we are under the firm persuasion that the English Government is, in its views, as well as in the support of its influence, favourable to the solution that we ourselves seek. "WALEWSKI."

The *corps d'armée* of Marshal Pélissier, which is destined to observe the frontier of the Rhine, is to be completely formed and established in its cantonments by the 15th of this month. It is to consist of 160,000 infantry, 12,000 cavalry, and 400 cannon. The French Minister of Public Instruction has addressed a circular to the rectors of the several academies in France, requesting them to have all the bulletins of the army of Italy, as published in the *Moniteur*, read before all the pupils of the colleges, and stuck up in the interior of those establishments. "The French armies," says the Minister, "led on by the Emperor, are struggling to wrest Italy from foreign domination, and let our children in their turn join in all the impressions of the country." The *Moniteur* of the 30th publishes the following paragraph:

"Two detachments sent from the depôts of their respective corps having joined the army of Italy without being provided with the articles and utensils required for the campaign, the Minister of War has punished the superior officers who organised the departure of these troops with 15 days' arrest, and has published a censure on the general officers, who did not properly superintend the execution of his reiterated orders."

SPAIN.—The Madrid journals of the 30th ult. state that considerable sensation had been caused by M. Mora, one of the accused in the Collantes affair, having threatened to make revelations which will, he says, prove that some important political personages have been engaged in fraudulent transactions.

PORTUGAL.—Letters from Lisbon state that a week's hot weather, after the previous unseasonable rains, had developed the grape disease in the Bucellas and other wine districts round Lisbon upon a much more extensive scale than last year, and had checked the favourable anticipations in respect to the coming vintage.

SWEDEN.—Letters from Stockholm of the 26th June state that the disease from which King Oscar has been suffering for the last two years has lately increased to an extreme degree. His weakness has become so great that he cannot speak, and he has completely lost the use of his limbs.

HOLLAND.—Prince Henry of Holland, as Viceroy of Luxemberg, has just opened an extraordinary session of the States of the duchy by a speech, in which he announced that "in consequence of the measures which, in obedience to the resolutions of the High Germanic Diet, are carrying into effect throughout the Confederation, in order to place the armies of the States of Germany on a war footing," extraordinary expenses had become necessary; and the Government had therefore convoked the States in an extraordinary session to "complete the budget of expenses by voting the sums indispensable for the maintenance of the Federal contingent."

PRUSSIA.—The following is a summary of a Circular which has been forwarded to the representatives of Prussia at the various German Courts, in reference to the placing of a corps of observation on the Rhine:—

After explaining the policy of the Cabinet, the mission of General von Willisen in May last, and the motives that led to it, the Circular says that the Prussian Government has had to combat with separatist tendencies in Germany, and indicates the springs of that diplomatic action. It has desired and still desires the maintenance of peace. To arrive at that end, the Government is pursuing a mediation, to which it hopes to obtain the adhesion of England and Russia. For the interest of the security and power of Germany, and to support a common intervention in favour of peace, Prussia has decided on the necessity for a mobilisation of German and Prussian corps *d'armee*. The contingency of a war should always be taken into consideration, and in view of that contingency a junction of German *corps d'armée* with those of Prussia, necessary as it is in the interest of the security of Germany, should also be induced for the purpose of concerting military co-operation.

Prince Windischgratz has arrived at Berlin from Vienna on a special mission. The Empress Dowager of Russia arrived on Saturday at Potsdam, accompanied by the Prince Regent and other members of the Royal family.

FRANKFORT.—In the sitting of the Federal Diet on Saturday the proposal of Prussia to place a corps of observation on the Upper Rhine was almost unanimously agreed to. Several Governments were without instructions. On Monday in an extraordinary sitting of the Diet Prussia brought in new and further proposals respecting the establishment, extension, and command-in-chief of the corps of observation. These proposals were as follows:—1. The junction of the 9th and 10th *corps d'armée*. 2. The appointment to the command in-chief of the four non-Prussian and non-Austrian Federal *corps d'armée*. 3. The placing of all reserve contingents in readiness to march. On Thursday, at the re-assembling of the Diet, Austria proposed that the whole Federal Contingent should be mobilised, and that the Prince Regent of Prussia should be requested to assume the command in chief of it.

AUSTRIA.—It is reported at Vienna that the Austrian Government has called upon the Federal States to protect the Tyrol and other frontiers of the German Confederation, as the late defeat had obliged Austria to concentrate all her forces in Italy. It is also said that very alarming reports have reached Vienna from Hungary and Croatia. The reaction of military events appears to be already making itself felt in the domestic policy of Austria. The supporters of the Concordat have up to the present time succeeded in frustrating any attempt to give to the Protestants and Jews of the empire freedom of conscience, and the institutions destined to guarantee that freedom, as promised them by the organic ordinances. The *Vienna Gazette* now endeavours to pacify the public mind by stating that the Government is actively occupied in regulating the civil relations of the non-Catholic inhabitants in a sense of progress.

SWITZERLAND.—The Federal Council, in concert with the belligerent Powers, has decided that any corps *d'armée*, or soldiers taking refuge on Swiss territory, should be sent back to the side to which they may belong, the different Governments undertaking not to employ them again in the present war. Arms and ammunition are to be given up at the end of the war, and the cost of keeping them to be repaid to the Swiss Government. In consequence of this convention the garrison of Laveno and the soldiers of General Garibaldi's *corps d'armée* will be returned. The steamers on the Lago Maggiore which had been captured are to be given up for mercantile service, upon condition that they are not to be used again for the war.

ITALY.—The following important despatch announcing the suspension of hostilities, was published in an extraordinary edition of the *Moniteur* on Thursday.

"THE EMPEROR TO THE EMPRESS.—An armistice has been concluded between the Emperor of Austria and myself. Commissioners are about to be named to settle the duration and clauses of the armistice."

The *Moniteur* of yesterday, after giving this despatch, adds:—

"It is necessary that the public should not misunderstand the extent of the armistice; it is limited merely to a relaxation of hostilities between the belligerent armies, which, though leaving the field open for negotiations, do not enable us for the present to foresee how the war may be terminated."

A previous despatch from Valleggio dated Monday, the 4th, informed us that the French army, increased by Prince Napoleon's corps, was about to operate against Verona, while part of the Sardinian army carried on the siege of Peschiera. On the 29th ult. the Sardinian army closely invested the exterior fortifications of Peschiera on the right bank of the Mincio, and on the 30th crossed the river for the purpose of investing it also on the left bank. The Emperor having sent back the wounded Austrian officers without exchange, and having requested an exchange of prisoners, an Austrian officer has arrived with the announcement that the Emperor of Austria will also send back without exchange the wounded prisoners of the Allies, and that his Majesty is equally disposed for an exchange of other prisoners. The Austrians have abandoned the line of the Mincio, and fallen back on Verona, after having burnt the bridges at Monzambano, Valleggio, and Goito. Private letters from the head-quarters of Prince Napoleon state that another great battle on the banks of the Adige is expected, and that the Austrians were believed to have about 200,000 men in line. The *Moniteur* contains an official bulletin of the battle of Solferino, together with voluminous reports from the different generals of division. It appears from these accounts that the force of the Austrians amounted from 250,000 to 270,000; and that the new rifled cannon produced terrible effect. Its discharges reached the enemy at a distance whence the heaviest guns could not reply, and covered the plain with dead. The loss of the French was 720 officers put *hors de combat*, 120 of whom were killed, and 12,000 privates killed and wounded. Among the killed were 7 colonels and 6 lieut.-colonels, and among the wounded were 5 generals. The *Austrian Correspondence* says that the Austrian loss, as yet ascertained, was 1900 killed and 8100 wounded. The *Vienna Gazette* sums up the Austrian loss at Solferino as follows:—officers, killed 78, wounded 381; soldiers, killed 1855, wounded 7834; total, 10,148. The *Wanderer* says that of the general staff there were killed—Field-Marshal-Lieutenants Count Crenneville, Baron Blomberg, and Count Palffy, Major-General Baltin, and four captains. Among other deaths named are those of Prince Solms, lieutenant in the 6th battalion of Austrian Chasseurs, Prince Bruno of Isenburg and Badingen, who had only just entered the service, and Colonel Prince Windischgratz, who was found dead on the field of battle, surrounded by 1200 killed and wounded, both Austrians and French. The reports of the Sardinian army state that all the four divisions of which it is composed were engaged, and that its loss was 49 officers killed and 167 wounded, 642 privates killed and 3405 wounded, with 1258 missing. In one division three colonels were killed, and some of the regiments lost one-fourth of their whole number. On comparing the different accounts there is little doubt that in this single action about 40,000 men were killed or wounded. It appears that the plan of the Austrians was to surprise the French at 9 o'clock on the morning of the battle, but the Emperor of the French suspecting their movements, sent up Mr. Goddard in a balloon, and having thus obtained full details of the Austrian position, determined to take the initiative and attacked the Austrians at daybreak. The Emperor had one of his epaulettes shot off in the battle, and not only slept in the room which had been occupied in the morning by the Emperor Francis Joseph, but eat the dinner which had been ordered for the Emperor of Austria. Letters from Rome state that an inquiry into the disturbances at Perugia has been ordered. The Pope has addressed an encyclical letter, dated June 18, to the patriarchs, primates, archbishops, and bishops in communion with the Holy See, expressing confidence in the Emperor of the French, and threatening with the major excommunication any one who may attempt to interfere with the temporal possessions of the Holy See. Advices from Naples to the 2d inst. state that Prince Ottajano has been despatched to the Court of St. James on a mission reciprocating that of Mr. Elliot to the Neapolitan Court.

The Tyrol.—The Austrians occupy the Stelvio Pass, on the side next the Tyrol, with a force of 13 companies of infantry, and two companies of carbineers. On Monday a corps of from 3000 to 3500 Tyrolese Chasseurs had been threatening the Valtelline, but several columns of Garibaldi's and Cialdini's corps repulsed them from Bormio and drove them as far as the first part of the Stelvio Pass. The Austrians suffered considerable loss, and abandoned their provision chests and cattle. Garibaldi's loss was 10 severely wounded, and Cialdini's was three killed and four wounded.

The Adriatic.—Letters from Fiume, dated July 6, state that the French, amounting to 10,000, have disembarked at Lussienpiccolo, that the bridge to Cherso has been destroyed, and that 1000 French soldiers have occupied Cherso. The occupation of Fiume by Austrian troops continues. The Archducal yacht Fantasie, after having successfully broken through the blockade, arrived at Trieste on Thursday from Venice. Advices from Corfu to the 28th ult. state that the English squadron, consisting of the screw liner Marlborough, four sailing ships-of-the-line, and one despatch-boat, originally bound for Athens, on receipt of important despatches last week took another direction. The frigate Euryalus, having on board Prince Alfred has also been ordered to proceed on its way with all speed. The Russian steam service between Odessa and Trieste has been discontinued.

Sicily.—On the 26th ult. disturbances took place in Messina. Four Sardinian war-steamers were in the port, of which three had left for the Adriatic.

Russia and Persia.—Letters from Teheran state that 60,000 Russians have been sent against Khiva, by way of the Caspian. Persia has given her assent to the expedition, the object of which is to reduce the Turcomans to submission.

Turkey.—Advices from Constantinople to the 29th ult. state that the Divan has decided that reasons of State require the presence of the Sultan in Egypt, and he will therefore leave for that country immediately after the fêtes of the Beiram. Magnificent preparations are making for his journey. It is said that the Sultan will subsequently visit Candia, where the popular agitation has rendered fresh reinforcements necessary. In the Danubian Principalities the news of the victories gained by the allies has produced much enthusiasm among the people, and the Porte is in fear of demonstrations in favour of a complete union. The last note has still more increased the existing difficulties.

India.—The Overland Mail has arrived with news from Bombay to June 4, Calcutta May 19, Hong Kong May 5. The following are the details:—

*Calcutta.*—The discontent of the European troops in the late Company's service has become less audible, though the sentiments of the malcontents remain unchanged. At Meerut the Court of Inquiry is going on, but elicits nothing except a distinct statement from each man as he passes in that he is "an Englishman and not a slave, and won't be transferred like a 'oss." The men abstain from all violence, but are "cheeky" to a degree which seems to exasperate their officers beyond all bounds. At Delhi the 24 Fusileers are quiet, but await the final decision. At Berhampore the 5th Europeans and the Light Cavalry made some kind of demonstration, and were, like the rest, waiting the official decision. If private letters can be trusted they also on parade gave "three groans for Mrs. Queen," and "three cheers for John Company," but this is formally denied. At Hazareebagh the recruits of the 6th, twice displayed the same spirit; it was found difficult to arrest some ringleaders, and the men were quieted chiefly by the order for inquiry. Two companies of the 3d Bengal Europeans now on detachment duty at Sepore have, with the leave of Lord Clyde, drawn up a petition to Parliament setting forth their wrongs. It is rumoured that some of the Sikh regiments are about to raise the profitable cry of "A fresh bounty or discharge."

*Central India.*—Sir Hope Grant has at last succeeded in bringing to action the enemy under the Nana and Bala Rao who had been long hovering about our lines. On the 23d May he attacked the rebel force with the 7th Punjab Infantry. The enemy were under the Nana and Bala Rao, and were strongly posted in the Irdwah Pass, with two guns in position. The heights on both sides were crowned, and the enemy driven from their guns, which were taken with trifling loss on our side, while a large number of the enemy were killed. All the leaders and sirdars are reported to have been congregated together, Mummoo Khan, Dabur Bux, and the Rajah of Gondah, besides Bala Rao and the Nana. On the 16th of May a large body of Sepoys, said to be 800 or 1000 strong, made their appearance near Lahar, in the neighbourhood of the Scinde river, to the north of Jhansi, with Burjan Singh at their head. The police, under Lieutenant Swiney, set off in pursuit of them, and engaged them for five hours, but found their numbers too great. Before reinforcements had arrived the rebels had decamped.

*Furruckabad.*—The Nawab, having had his life spared on condition that he shall quit British India for ever, has selected Mecca for his place of exile. The Nawab of Futtehghur, also a murderer of the blackest dye, has been taken to Mynpoorie heavily ironed and strongly guarded; and his companion in crime, Bukht Khan, who commanded the rebels in Delhi, has been shot in a skirmish with the outposts.

China.—Accounts from Hong Kong to May 5th state that Mr. Bruce and Admiral Hope were to proceed to Canton on the following day, and it was hoped that some definite arrangements would be come to with reference to the site of the future foreign settlement, and also with regard to the indemnity for losses sustained by British subjects. Pee-kwei, the Governor of Canton appointed by the Allies, died on the 25th April, after a short illness. An expedition is projected to the town of Hungshan, the Mandarin of which has made himself so conspicuous during the last two years by ordering the Chinese servants to leave the employment of foreigners, and by similar annoyances.

Cochin-China.—The *Moniteur* contains the following despatch dated Saigon, Cochin-China, April 22:—

"We have attacked the army of Annam, 10,000 strong. Before defeating the enemy we took a fort mounting 19 cannon or swivel guns. The loss of the enemy was 500 killed, our loss 14 killed and 30 wounded, seven of them severely."

United States.—It is said that General Cass is preparing a circular on the subject of neutral rights, and that he does not acquiesce in the British view, but insists that all regular articles of commerce, with the exception of powder, lead, muskets, saltpetre, &c., are not contraband of war; and that the fact of goods being on board vessels carrying the flag of the United States exempts them from seizure, the broad ground being taken that the flag carries protection with it. The Secretary of War has refused to permit any more officers on leave to depart for Europe, fearing they might join some of the armies, and, in the event of being taken prisoners, cause serious complications. The new Russian steam frigate General Admiral, just built at New York, sailed on the 16th ult. for Cronstadt.

# Parliament.

## HOUSE OF LORDS.

Friday.—*Volunteer Rifle Corps.*—In answer to a question from Lord Vivian on the subject of volunteer rifle corps, the Earl of Ripon stated that it was the intention of the present Government to issue 25 stand of arms to every 100 men on the four following conditions:—That a safe range of 300 yards should be provided for practice; that a proper place should be appointed for keeping the arms; that the [illegible] of each corps should be selected by the Go[illegible] and that a periodical inspection should be made by a proper military officer. In case however of an invasion, the Government would be prepared to supply every corps with arms. It was also proposed to provide drill sergeants for each corps, who would be paid, not by the Government but by the corps themselves. The services of a number of sergeants and sergeants belonging to the [illegible] militia, who were receiving instruction at the School of Musketry at Hythe, would be soon rendered available to instruct the various companies of volunteers. It was the intention of the Secretary at War to allow the officers of the corps at their own expense to attend the School of Instruction at Hythe. The Government also contemplated the formation of artillery companies, which would be supplied with instruction guns and ammunition by the Royal Artillery. In reply to Lord Aveland his lordship stated that Enfield rifles would be issued to the embodied militia after they had been instructed to use them.—After a few words from Lord Ellenborough, Lord Howden recommended the enrolment and encouragement of Volunteer Corps, because it was the daily wish and nightly dream of every Frenchman and woman to humiliate this country by an invasion.—In answer to a question from Lord Hardwicke, the Earl of Ripon said it was intended not to give but to lend the arms to the Volunteer Corps.—After a few remarks from Lord Granville and the Duke of Newcastle, Lord Derby explained that the reason the late Government had not offered to supply the Volunteer Corps with arms was that on inquiry it was found it was not right to furnish the necessary quantities of arms from the Government stores. *The Navy.*—Lord Brougham asked if there were any truth in the reports of a proposed reduction of the naval estimates, and took the opportunity to review the state of feeling in France towards the English nation. Arguing from the antecedents of France to its present conduct, he expressed the strongest opinion that no reductions ought to be made at the present moment in our naval defences.—The Duke of Somerset said that there had been no reductions in the estimates. On the contrary the Government were convinced of the necessity of keeping the defences of the country in a state of thorough efficiency.—The Earl of Hardwicke said the French were not only a military, but a maritime Power, and had manifested such alacrity in supplying the deficiencies of their navy that though much had been done last year in increasing the efficiency of our naval defences, much still remained to do.—Lord Ellenborough thought the importance of our naval defences could not be exaggerated. Considering the facilities for invasion afforded by steam, and the undefended condition of the southern coast of England, he thought that 60,000 or 80,000 men might during six months of the year be landed on our shores. There was, however, this advantage to be gained by the possession of a powerful navy by this country, that the invading army would be cut off from its communications. While, however, we were intent on rendering the navy efficient, he expressed a fervent hope that the interests of the army, on whom if a landing were effected the safety of the country would depend, might not be neglected. In his opinion it would be necessary to fortify Portland and other similar places where a landing might be attempted. He declared his conviction, which struck him with the force of prophecy, that an invasion of this country would be attempted, not indeed during the present war, but when France had exhausted the military strength of Austria, and when her victorious and disciplined soldiers, recruited perhaps by Russian allies, were prepared to carry out the traditions of the first Emperor.

Monday.—*Divorce Court.*—Lord Brougham called attention to the working of the Divorce Court. With regard to the general principle there could be no doubt that the establishment of the court had been a success; but the amount of business showed the absolute necessity of an increase in the judicial force. There could be no doubt, too, that the pleadings ought to afford more information than the present form of petition at present contained. The precautions against collusion were insufficient, and he was pleased to find that the Attorney General or his representative should be present on every occasion. He could not close his remarks without bearing testimony to the efficiency with which the learned Judge-Ordinary discharged the laborious duties of his office.—The Lord Chancellor said that there could be no doubt that there was a want of judicial strength in the court, but it still remained to be seen whether the arrears of business were not merely temporary. He thought that the necessities of the case would be met if all the 15 judges were made assessors in the court, so that any two of them might sit with the Judge-Ordinary and constitute a full court. He thought that some public functionary should be appointed to investigate the circumstances of each case, with a view to guarding against collusion, and that the Court should have the power of sitting with closed doors whenever the question of a dissolution of marriage arose. The Judge-Ordinary, too, should have the power of disposing of the custody of children. These and other points he hoped to deal with in a Bill which would be laid before the House in a few days.—Lord Redesdale said that the working of the Act had realised his worst fears and justified the strong opposition which he had offered to it. *Church Rates.*—The Duke of Marlborough moved for a Select Committee on church rates and proceeded to review the inquiries and attempts at legislation which had already taken place on the subject. His own opinion was that the abolition of church rates was a blow aimed at the Established Church, and though the session was short, he had no doubt that before it was over the Select Committee would have collected a mass of evidence which would be of the highest importance. He trusted that their lordships would ever be found the best defenders of the Established Church, which was the surest safeguard of an hereditary monarchy.—Lord Teynham said the Church of England was the "rich man's church." He thought the Committee would do well to terminate the strife which sprung out of church rates by recommending their abolition.—The Archbishop of Canterbury thought the House is indebted to the Duke of Marlborough for bringing the question forward. The remedy for the honest scruples of Dissenters to church-rates need not be the extreme measure of releasing property from an obligation to which it had always been subject.—Lord Portman thought that the matter might have been settled long ago if the Church had been willing to accept some of the propositions that had been made. He could not but fear that if the settlement were much longer delayed a collision would take place between the two Houses of Parliament.—The Bishop of London defended the Church from the imputation made by Lord Portman, and denied that any encouragement had ever been given to any one to undertake the settlement of the question. Under these circumstances he thought the Bench of Bishops had exercised a wise discretion in not originating any measure on the subject of church rates. He thought that the abolition of these rates would be a blow aimed at the Established Church, which was the Church of 87 per cent. of the population of England, while a large body even among the Dissenters would deplore anything which tended to weaken that Church.—Lord Granville thought the proposed committee would do no good, but did not feel justified in opposing the motion. The committee was then agreed to.

Tuesday.—*National Defences.*—Lord Lyndhurst called attention to the state of the national defences. He referred to the changes in the conditions of naval warfare brought about by modern invention, and especially by the application of steam. It was now no longer possible that England by her fleets alone could maintain herself safe from invasion. It was however necessary to keep those fleets in a condition of the highest efficiency, and to make them able to cope with the

united navies of any other two countries in the world. He contrasted in detail the past and present force of the British and French navies, and contended that much remained to be done in order to raise the former to its proper relative superiority. Last year we were surpassed both in steam men-of-war and steam frigates by the French navy. In the first we had now recovered our supremacy, and should increase that supremacy still further next year; but our inferiority in frigates yet remained, and, as he was well assured, in the training and discipline of the seamen. As we had no fleet to secure us against invasion, we ought to maintain a land force able to resist any invading force that might be thrown upon our shores. For this purpose not less than 100,000 regular troops, and an equal number of militia, would be required, with the additional precaution of the construction of strong fortifications in our garrisons and arsenals. With regard to the intentions of the continental Powers, he attributed no ill faith to the Emperor of the French, but he could not conceal the hostile feelings of the French people towards us, and he would not trust a Sovereign who had no reliance on himself, but who was compelled to act according to the exigency of circumstances. In every case Great Britain ought to be secure in her own strength, without trusting either to the alliance or the forbearance of foreign Powers.—Lord STRATFORD DE REDCLIFFE agreed that it was a great humiliation that this country should live by sufferance, as it was thereby debarred from adequately fulfilling its duties to the world. Looking to the commercial position of this country, and to the unsettled state of foreign affairs, we ought not, he thought, from too great confidence in past successes, to wrap ourselves in a false security, and hesitate to increase the defences of the country.—Earl GRANVILLE doubted whether any practical good could result from these discussions. He did not know whether they were intended to stimulate the Government to its duty, but he was sure they would not conduce to a better state of feeling in another country. As to the idea of an invasion, he said it was not likely that France, engaged in a terrible war, or Russia, employed in improving the condition of her own subjects, would attack this country. Still the feeling of the people was that our defences needed augmentation, not in order to take part in the war, but to give security to the nation. In regard to the army, he admitted that it was insufficient to meet a large force which might be landed on this island, and that the dockyards and arsenals ought, if possible, to be made impregnable. In forwarding this object the services of volunteers, of artillery companies, and of rifle corps would be of great service. There was no harm in telling other nations that while all Europe was arming we were arming too; but in doing this he deprecated most vehemently the system of introducing frequent debates on topics of such a delicate and dangerous nature.—The Earl of HARDWICKE thought that 100 sail of the line would be necessary to protect us. It would be too late to arm when war had broken out; the time to arm was during peace.—The Duke of SOMERSET said that since he had been in office he had done his best to strengthen the navy, and had on his own responsibility taken an additional sum to supply the requirements of our dockyards. If, however, such language as had been that night employed were to be continued, it would be necessary to ask for larger estimates than contemplated, as it would certainly result in war.—Lord BROUGHAM thought we might increase our forces without its being deemed invidious to foreign nations and their rulers. He denied that the French people wished for war with this country, and thought the contrary was the case. Whether, however, we trusted or mistrusted them, it would be as well to be prepared for all contingencies.—Lord ELLENBOROUGH thanked Lord Lyndhurst for distinctly placing before the House our past and present condition. Of all nations we are the most vulnerable at sea, on account of the numerous interests we had to defend, and of all nations we were the most vulnerable on land. When the organisation and rapidity which had been shown by the French in transporting their armies into a strange land were remembered he did feel some apprehension. He desired to see this country in an impregnable position, in order to restore strength to our diplomacy. He did not believe in moral influence, unless supported by physical force, and until this country was placed in a position in which it would be madness to invade it the efforts of the Government at mediation would be useless.—The Duke of ARGYLL thought that if suggestions of continual increase of the army and navy were to be made it would be better to bring forward a war budget at once. He warned the House of the danger of creating a reaction in favour of small armaments by the introduction of large estimates. The feeling with regard to this Italian war would be only temporary, would be followed by a cry for reduction, and would involve the country in financial difficulties.—The Duke of RUTLAND thought no reaction would take place in this country so long as the present war in Italy continued.

THURSDAY.—*Divorce Court.*—Lord CHELMSFORD, in calling the attention of the House to the state of the Divorce Court, said that the defects of its present constitution consisted in an inadequate judicial staff, whereby the business fell into arrear, and occasioned great delay, vexation, and expense to the suitors. To remedy these evils he proposed the appointment of two additional judges, who might, when unemployed in the court, assist the Judicial Committee of the Privy Council. He also thought that the action of the court should be extended to Ireland.—The LORD CHANCELLOR said that he held in his hand a sketch of a Bill for the improvement of the Divorce Court, the scope of which regarded only England. As the court was an experiment, it would, he thought, be injudicious, before they were aware of its results, to extend its operations to Ireland.—Lord CRANWORTH said that if Sir C. Cresswell had the power of annulling marriages, as he had of decreeing a judicial separation, the difficulties complained of would soon vanish.—After some observations from Lords BROUGHAM, WICKLOW, and DENMAN, the subject dropped.—A conversation then took place on the *Irish Defences*, in which the Duke of CLEVELAND, Lords LONDONDERRY, BANDON, HARDINGE, and CLANRICARDE took part.—Lord RIPON, in reply, stated that it was not the intention of the Government to extend the formation of rifle corps to Ireland, nor to embody any fresh regiments of Irish Militia, although it was not impossible that those regiments now embodied might be disembodied, and untrained men embodied in their place.

FRIDAY.—*Affairs of Italy.*—Lord STRATFORD DE REDCLIFFE said that in consequence of the important news of the armistice in Italy, he thought it best to abandon the motion of which he had given notice, reserving to himself full liberty to take it up at any future time.—Lord BROUGHAM said that for some weeks their lordships should abstain from even touching on the question of foreign affairs.—Earl GRANVILLE thanked Lord Stratford on behalf of her Majesty's Government, he thought he might say of the whole House, for having withdrawn his notice. At the present moment discussion might create difficulties abroad and prevent the settlement of the great Italian question in an advantageous manner.

## HOUSE OF COMMONS.

FRIDAY.—*Public Business.*—On the motion of Lord PALMERSTON, on and after the 14th inst. Thursdays were ordered to be Order days. *Breach of Privilege.*—Mr. O. STANLEY drew attention to the statement made by Mr. Dennis at a public meeting of the electors of Northampton, that an offer had been made to Mr. Gilpin by the agents of the late Government to influence his vote in Parliament, and called upon the Secretary of the Poor Law Board to communicate to the House the letters referred to by him, with the name of the person from whom they originated, insisting that he was bound to give up the name of the party.—Mr. GILPIN repeated what he had previously stated, that letters had been sent to him containing suggestions which, if acted upon, would have biased his political course in Parliament; that he could not trace them to agents of the Conservative party, and that therefore it was not his intention to take any further steps in the matter. He added that the writer of the letters was a lady; that to ask for the name was an inquiry which he should not have thought a gentleman would have made; and he declined to give it.—Mr. GLAY concurred in thinking that after Mr. Gilpin had acquitted the Conservative party of any participation in the letters it was far better that the subject should be dropped. *The Indian Loan.*—Mr. CRAWFORD asked the late Secretary of State for India whether he was aware, when he proceeded on the 21st of April to receive and adjudicate upon tenders invited to be sent in for the Indian loan, that the Austrian *ultimatum* to Sardinia had been made known to her Majesty's Government on the previous evening by a telegram from Vienna and also by a written communication from the French Ambassador to the Secretary for Foreign Affairs.—Lord STANLEY said that the first intelligence of the Austrian *ultimatum* did not reach him until 4 o'clock in the afternoon of April 21, or until three or four hours after the transaction referred to had been completed.—Mr. CRAWFORD expressed himself quite satisfied with the explanation. *Roman Catholic Chaplains.*—Mr HENNESSY asked what steps the late Board of Admiralty had taken with reference to the complaints which had been submitted to the Board respecting the treatment of Roman Catholic sailors in the navy.—Sir J. PAKINGTON said he thought that Roman Catholic sailors should, as far as possible, be placed upon the same footing as Roman Catholic soldiers, and he had, on reading the memorial, come to the conclusion that the majority of the complaints it contained were fair and reasonable. He had communicated his views to the Board of Admiralty, and he intended to propose that the necessary instructions should be issued to remove the grievances complained of. The change of Government however put it out of his power to carry out his views.—Mr. NEWDEGATE said that this question was one of the phases of a combined operation which implied additional aggressions on the Established Church. He warned the House to guard against such assaults. *Divorce Court.*—Mr. JAMES asked whether it was the intention of the Government to bring in any measure to remedy the delay which now exists in the trial of causes in the Matrimonial and Divorce Court?—The ATTORNEY-GENERAL stated that a measure would be introduced to improve the Court, which he hoped would pass during the present session.—Mr. JOHN LOCKE obtained leave to bring in a Bill to amend the Act 5 and 6 Wm. IV., relating to *Weights and Measures.* The *Newspaper Bill* was read a second time.—Mr. FITZROY obtained leave to bring in a Bill to enable the Commissioners of her Majesty's Works to acquire a site for the purposes of Her Majesty's *Court of Probate* and other courts and offices. The House then adjourned to Monday.

MONDAY.—*Indian Finance.*—Mr. BRIGHT asked whether the Secretary for India could fix a day for a statement relative to Indian Finance.—Sir C. WOOD said that, until he was in possession of the necessary information, he would not be in a condition to make a satisfactory statement, and could not therefore fix a day. *The Budget.*—In answer to Sir H. WILLOUGHBY, the CHANCELLOR of the EXCHEQUER said he did not intend to make any statement relative to the expenditure apart from his general financial statement, which he would fix for as early a day as possible after the Estimates. *The Navy.*—Lord C. PAGET, in reply to a question addressed to him on a preceding evening, whether it was intended to bring in a Bill with a view of carrying into effect the recommendations of the Royal Commission in regard to manning the Navy, said that such was the intention of the Government. *Reform Bill.*—In return to Mr. JAMES, Lord PALMERSTON repeated what he had already stated—that, considering the lateness of the year, it was not the intention of her Majesty's Government to propose a measure this session to amend the representation of the people in Parliament. The *Law of Property and Trustees Relief Amendment Bill* was read a second time, and the *Jury Trial (Scotland) Act Amendment Bill* passed through committee. On the order for resuming the debate upon the second reading of the *Criminal Justice Middlesex (Assistant Judge)* Bill, the object of which is to raise the salary from 1200*l.* to 1500*l.* a year, Mr. L. KING opposed the Bill, and moved to defer the second reading for six months.—Mr. S. ESTCOURT explained the reasons for its introduction, and for increasing the salary of the Judge.—Mr. ALCOCK and Mr. W. WILLIAMS opposed the Bill, which was supported by Mr. MALINS and Mr. BYNG.—Sir G. LEWIS said that Mr. BODKIN had accepted the office of Assistant-Judge upon an understanding that he should give up his practice on receiving 1500*l.* a-year, proposed that the sum of 1200*l.* should continue to be paid out of the Consolidated Fund, and suggested an arrangement with reference to the remaining 300*l.* After some further discussion the amendment was withdrawn, and the Bill was read a second time.—Mr. M. MILNES obtained leave to bring in a Bill to remove doubts as to the qualification of persons holding *Diplomatic Pensions* to sit in Parliament. *State of the Thames.*—Sir M. PETO, in moving for leave to introduce a Bill to provide for the prevention of noisome effluvia from the river Thames within the metropolis, observed that it was a measure of a simple and practical character, and was not intended to reflect upon the Metropolitan Commissioners.—After remarks by Lord J. MANNERS and Sir J. SHELLEY, Mr. TITE entered into details connected with this evil, and the measures adopted by the Metropolitan Board to contend with it, whereby its effects had been much diminished. The motion was ultimately negatived. *Opening Public Galleries on Sunday.*—Mr. COWPER moved an address for copies of all letters and memorials addressed to the Committee of Council on Education, or the Trustees of the National Gallery, with reference to the admission of the public in the evening to the Turner and Vernon galleries of pictures, and enlarged upon the expediency and safety of such admission. The motion was agreed to. *Law Reform.*—Mr. DUNLOP obtained leave to bring in a Bill to afford facilities for the more certain ascertainment of the law administered in one part of her Majesty's dominions when pleaded in the courts of another part thereof.—Mr. LOWE obtained leave to introduce a Bill to make perpetual the *Public Health Act* (1858); and a Bill to provide for the authentication of certain orders of the *Privy Council* in the absence of the Clerk of the Council in Ordinary.—Mr. S. HERBERT moved for a Select Committee to inquire into the effects of the alterations in military organisation regarding the *War Office and Board of Ordnance* which were made in the year 1855; and also to inquire whether any changes are required to secure the utmost efficiency and economy in the administration of military affairs.—Mr. HORSMAN suggested whether, at so late a period, it was worth while to appoint the committee.—Mr MONSELL urged the same objection.—Mr. S HERBERT thought some beneficial progress might be made in so large a subject.—Mr. DISRAELI was of opinion, on the contrary, that very little advantage would be obtained by the appointment of the committee, and that greater progress would be made if it were deferred until next session.—Lord PALMERSTON hoped that the House would not lose what remained of the present session. The motion was agreed to.

TUESDAY.—*The Indian Army.*—In reply to a question by Mr. TORRENS, Sir C. WOOD stated his inability to say that any practical steps had been taken to effect the formation of a permanent local army in Bengal, or that any levies had been discontinued or disbanded.—In answer to Mr. VANSITTART, Sir C. WOOD said, that some degree of excitement had prevailed among the late East India Company's European troops, who had advanced claims which were deemed unfounded, and that an investigation on the subject was going on. *The Serpentine.*—Sir M. FARQUHAR asked the First Commissioner of Works whether he proposed to carry out the intention of his predecessor in office by taking a vote in the Estimates for purifying the Serpentine during the ensuing autumn.—Mr. FITZROY said that he intended to include the vote in the Estimates of the year. *Galway Mail Contract.*—Mr. BAXTER asked if the attention of the present Government had been called to the contract entered into with the Atlantic Steam Navigation Company to carry the mails between Galway and the United States, and whether they consider it advisable, in the interests of the public, that the said contract should be cancelled.—Mr. GLADSTONE said that no decision had been yet arrived at in this matter, which had occupied the earnest attention of the Government. It was thought advisable that the whole system of contracts, which extended over many years, and had grown into a system, should be submitted to the consideration of the House of Commons. He should, therefore, on Thursday move for the appointment of a select committee to examine into all these contracts, whether for steam or telegraphic communication, with a view to the improvement and arrangement of the entire system. *Case of Mr. Ryland.*—Mr. GREENE moved for a select committee to inquire into the arrangement under which Mr. G. H. Ryland was induced to resign the patent office of clerk of the council in Canada.—Mr. FORTESCUE said that the sum of 9000*l.* had already been awarded to Mr. Ryland as compensation, half of which had been paid by the Imperial Government. He should therefore oppose the motion. On a division the motion was negatived by 235 to 20. *Railway Arbitration.*—Colonel W. PATTEN obtained leave to bring in a Bill to enable railway companies to settle their differences with other companies by arbitration. *County Court Imprisonment.*—Mr. COLLIER moved for leave to bring in a Bill limiting the power of imprisonment for small debts exercised by the county court judges, who imprisoned as a mere punishment for non-appearance only, contrary to what he believed to have been the intention of the Legislature, which, he thought, meant that imprisonment should be inflicted only in cases of fraud.—Mr. MALINS reprobated the use made by many of the county court judges of their power of imprisonment, some of them having issued 700 committals in one year. The mischief arose from the absence of a bar which could exercise a sufficient control upon the judge.—Mr. B. COCHRANE thought that the Bill would be inadequate to put a stop to the tyranny of the county court judges.—Mr. HENLEY said that the condition of debtors imprisoned by these courts was nearly as bad as that of felons. The effect was that the debtor had to be maintained by the county, and his family by the parish.—Mr. CLIVE said that the Government would not oppose the introduction of the Bill.—Mr. BRISCOE read a return showing that the number of commitments for non-appearance was 8000, while those for fraud were but 69. Leave was then given to bring in the Bill. *Volunteer Rifles.*—Mr. PALK moved an address to her Majesty praying that the necessary arms accoutrements, and ammunition may be furnished to Volunteer Rifle Corps under the provisions of the Act 44 George III. c. 54, as well as to Artillery Corps in maritime towns. He denounced the plan proposed by the Government wholly unsatisfactory, and thought that the country had a right to demand that our coasts should be rendered safe against sudden attacks.—Captain JERVIS seconded the motion and insisted upon the importance of clothing the Volunteer Corps, so that in case of their turning out, they might be recognised by the enemy as troops.—Mr. H. BERKELEY thought all that was wanted was to teach the use and practice of the rifle, and that the movement, with the arms and the clothing, should emanate from the Government.—Colonel DICKSON hoped the House would hesitate before they gave too great an encouragement to Rifle Corps, and that the Government would confine themselves to the formation of Artillery Corps in maritime towns.—Lord H. VANE concurred in this opinion, and thought means should be taken to bring to bear on the coast large forces, by railways, adequate to meet an enemy, which would be a more effectual defence than a volunteer force.—Mr. W. E. DUNCOMBE differed from both the preceding speakers, believing that the country was anxious to carry on the movement.—Mr. BRISCOE suggested that the Government should make up their minds whether these Volunteer Corps should be a temporary or permanent force.—General PEEL approved of the part of the present Government for furnishing rifles to 25 per cent. of the effective force. He agreed that Artillery Corps were to be especially encouraged, as they afforded the best possible defence. Although he had no dread of invasion, we ought to be prepared, and the best thing, in his opinion, was to decide what fortifications were absolutely necessary and to complete them as soon as possible.—Lord ELCHO was of opinion that the volunteer system would be a useful adjunct to the regular army, and would utilise for defensive purposes the services of a large and intelligent class now perfectly worthless owing to their not being trained to arms. The value of volunteer corps was shown by Garibaldi's force in the North of Italy.—After some remarks by Colonel DUNNE and Sir J. SHELLEY, Mr. S. HERBERT considered that the discussion had been a very useful one. In reply to Mr. Briscoe's suggestion, he said, if the movement should turn out successful, he saw no reason why the system should not be permanent. Government, however, were most anxious to promote these corps, believing that as auxiliaries, they would be most useful.—After some remarks from Colonel NORTH, Mr. SELWYN said that many persons were prevented from joining the volunteers owing to the difficulty of finding good practising grounds.—Mr. PALK withdrew his motion. *Admiralty Court.*—Mr. HADFIELD moved for leave to bring in a Bill to enable serjeants, barristers-at-law, attorneys and solicitors to practise in the High Court of Admiralty.—Sir G LEWIS assented to the principle of opening the Admiralty Court; the only question was as to the manner in which the principle should be carried into effect. Leave was given.—Mr. DIGBY SEYMOUR moved for leave to bring in a Bill to amend the *Foreign Enlistment Act* so far as it relates to coaling ports and store ships. He contended that the Act was not intended to apply to privateers, and its application to store ships was productive of difficulty and injustice.—Sir G LEWIS said that the present was an inopportune time to alter the law which had just been appealed to by Royal proclamation, and therefore did not feel justified in assenting to the introduction of the Bill.—Mr. BOWYER believed that the proposed Bill would render the preservation of neutrality more difficult, and would lead to serious contraventions of international law.—Mr. COLLIER agreed that the present was not a fit time for altering the law.—Mr. D. SEYMOUR withdrew his motion. *Pension Suits.*—Mr. WRIGHTSON moved for leave to introduce a Bill repealing the Act which compels a member accepting office under the Crown to vacate his seat.—Mr. A. SMITH opposed the motion, as doing away with an important constitutional safeguard.—Mr. INGRAM thought that the law was intended for times different from the present, and ought to be altered.—After some On a division the motion was negatived by 53 to 51. *Abolition of Turnpikes.*—Mr. ALCOCK moved an address to her Majesty praying for a royal commission to inquire into and report to the best means of abolishing the tolls on the turnpike roads and bridges in England and Wales.—Sir G. LEWIS urged that great improvement which had of late years taken place in the management of turnpike trusts, and the many interests involved, as a reason for opposing the motion.—Mr. HORSFALL thought that it was very easy to abolish tolls, but not easy to establish a rate instead.—After some remarks by Mr. CRAUFURD and Mr. B. CARTER the motion was negatived without a division.—Mr. ALCOCK obtained leave to introduce a Bill for the *Commutation of Church-rates.*—Mr. HOPWOOD obtained leave to introduce a Bill for the more effectual preservation and increase of the *Breed of Salmon*, and for the better regulating

the fisheries in the rivers in England.—Colonel NORTH moved a resolution for the purpose of increasing the half pay of certain officers who, since their retirement, had become general officers.—The motion was opposed by Mr. S. HERBERT and supported by General PEEL. On a division the motion was negatived by 42 to 22.—Sir R. FERGUSON obtained leave to bring in a Bill to facilitate *Internal communication in Ireland* by means of tramroads or tramways.—SIR W. SOMERVILLE moved for leave to introduce a Bill repealing so much of the Roman Catholic Relief Act as prohibited a Roman Catholic from holding the office of Lord Chancellor of Ireland. The prohibition was simply founded on a mistake in supposing that the Lord Chancellor of Ireland possessed Church patronage.—Mr. P. URQUHART seconded the motion.—Sir G. LEWIS assented to the motion, showing, by an extract from the speech of Sir R. Peel, that when that statesman introduced the Relief Bill he inadvertently believed that the Irish Chancellor possessed the distribution of Church patronage.—Sir B. BRIDGES did not believe in the alleged inadvertence, but would not now oppose the introduction of the Bill, reserving his opposition to a future stage. Leave was then given to bring in the Bill. The *Jury Trial (Scotland) Act Amendment Bill* was read a third time and passed.

WEDNESDAY.—*Endowed Schools Bill*.—A great number of petitions having been presented for and against this Bill, which stood upon the paper as the first order of the day, Mr. DILLWYN moved the second reading of the Bill, and disclaimed any intention of wresting from the Church any property which justly belonged to it. He proposed that Dissenters should be eligible as trustees in schools, unless it was shown that the founders intended that they should be conducted upon the principles of the Church of England.—Sir S. NORTHCOTE moved as an amendment that the Bill be read a second time that day three months. He objected to the Bill as leading to litigation, inasmuch as it would alter the relations of Churchmen and Dissenters with regard to schools.—Mr. PELLER seconded the amendment, and said that the Bill would substitute mere secular for religious instruction in all the schools to which it should be applied.—The ATTORNEY-GENERAL contended that there was a great necessity for a change in the law relating to endowed schools. The presumptions which guided the course of justice with regard to them were of an arbitrary character, and it was not desirable to have them continued.—Sir H. CAIRNS supported the amendment, on the ground that if the Bill were carried it would be impossible to give any religious instruction at all.—Sir G. LEWIS suggested that the Bill should be referred to a select committee, in order that principles might be settled, and that the evils existing might be inquired into with a view to a remedy.—After some remarks by Mr. MELLOR, Mr. A. MILLS, Sir E. PERRY, and Mr. WALTER, Mr. WALPOLE said that the principle sought to be affirmed by the Bill was one which the House ought not for a moment to listen to, and which the Attorney-General ought to have been the last person to recommend.—Mr. BRIGHT said that the terms of the Bill might be easily altered so as to apply equally to Churchmen and Dissenters. Here was a Bill, having the name of the Attorney-General on its back, and which was yet opposed by the Home Secretary. Such was the spectacle of a united Government the first time it was put to the test.—Sir G. GREY thought that the subject ought to be referred to a committee, but would consent to the second reading.—Lord J. MANNERS approved of inquiry, but objected to the Bill.—Mr. GLADSTONE said that all sides were agreed that there was a grievance to be remedied, and deprecated discussion when there was so little real difference. The only question was, whether it was the Bill or the subject that was to be referred to a committee. As he did not approve of Bills being vitally altered in committee, he preferred the latter course.—Mr. HENLEY would consent to inquiry, but not to the Bill in its present form.—Mr. DILLWYN, in reply, said that on the course taken by the Government depended whether he should or should not give them his cordial support.—The House divided, when the second reading was carried by 210 to 192.—Lord J. MANNERS inquired what course the Government intended to take with regard to the future stages of the Bill?—Sir G. LEWIS said he should move that it be referred to a select committee.—Mr. DILLWYN wished to know, before he consented to this motion, of whom the committee would consist, and what it would do with the Bill. After some discussion the debate was adjourned. Mr. M'MAHON moved the second reading of the Bill for giving a right of *Appeal in Criminal Cases*.—The SOLICITOR-GENERAL opposed the Bill. If the right of appeal was given to the prisoner it ought also to be given to the Crown, whereby a prisoner might be tried twice for the same offence, and one of the first principles of English justice would be violated.—Mr. LONGFIELD supported the Bill.—On the motion of Mr. BOWYER the debate was adjourned. The *High Sheriff Expenses Bill* was read a second time.

THURSDAY.—*City of London Reform*.—In answer to Mr. J. LOCKE, Sir G. LEWIS said that the Government intended to bring in a Bill for the Reform of the Corporation of London in the present session, in accordance with the report of the select committee. *Mail Contracts*.—The CHANCELLOR of the EXCHEQUER moved for a select committee to inquire into the manner in which contracts extending over periods of years have been formed or modified by her Majesty's Government with steampacket companies for the conveyance of the mails by sea, and into any arrangements adopted at the public charge, actual or prospective, for telegraphic communications beyond seas, and to report their opinion, with any recommendation as to rules to be observed by the Government in making contracts for services not yet sanctioned by Parliament, or which extend over a series of years. In stating the general reasons for the motion, he adverted to the origin of contracts by Government for postal services in anticipation of the judgment of the House, which t nded, he observed, to oust the House of Commons of its jurisdiction over a form of public expenditure. He pointed out the evils which might arise unless the House took serious cognisance of the subject, and he thought the time had come when the matter should be subjected to a systematic and searching examination. After a desultory discussion in relation chiefly to the Galway contract, the motion was agreed to. *Highway Acts*.—Sir G. LEWIS obtained leave to bring in a Bill to amend the laws relative to the management of highways, stating that it was almost identical with one introduced last session by Mr. Hardy. Mr. COWPER called attention to the *Advertising pillar* erected by a French Company at Hyde Park-corner, and with a view to prevent similar structures being erected, moved for leave to bring in a Bill to restrict the erection of permanent structures in the carriage ways of the metropolis. The House divided on the motion, which was carried by 165 to 46. Mr. SCHOLEFIELD moved the second reading of the *Adulteration of Food Prevention Bill*.—Mr. HARDY said that the Bill would give rise to a system of informing and annoyance, and moved to defer the second reading for three months. After some discussion on the details of the measure, the House divided, when the second reading was carried by 227 to 103. The *Court of Probate, &c. (Acquisition of Site) Bill*, passed through committee. The *Public Health Bill*, the *Clerk of the Council Bill*, and the *Admiralty Court Bill* were read a second time. On the order for the second reading of the *Roman Catholic Relief Act Amendment Bill*, Mr. S. ESTCOURT moved that the debate be adjourned for a week.—Sir W. SOMERVILLE assented, and fixed the second reading for Tuesday.—On the motion of Mr. DILLWYN the *Endowed Schools Bill* was referred to a select committee.

FRIDAY.—*The Armistice in Italy*.—In reply to Mr. WALPOLE, Lord J. RUSSELL said it had been officially announced in the *Moniteur* that an armistice had been agreed upon between the Emperors of France and Austria. Beyond that her Majesty's Government had received no information on the subject.—In answer to Mr. S. FITZGERALD, Lord J. RUSSELL said that the present Government had sent a despatch to the Court of Berlin, setting forth that our Government would deeply lament any circumstance that might extend the theatre of the war. [Left sitting.]

## City Intelligence.

MONEY MARKET, FRIDAY.—BRITISH FUNDS: The news of the armistice in Italy has caused a rise in the funds. Consols closed at 94⅝ to ¼ ex div.; Bank Stock, 221½; Three per Cents. Reduced, 94⅝ to 95⅝; New Three per Cents., 94⅝ to 95½; Indian Four per Cent. Debentures of 1858, 95½ to ½; Scrip of New Indian Loan, 94⅝; India Bonds, 10*s.* dis.; Exchequer Bills, 23*s.* to 27*s.* prem.—FOREIGN: Brazilian Old Five per Cents., for Acct., 102½; Ditto Four and a Half per Cents., 1852, 92½; Dutch Two and a Half per Cents., 64¼ ex div.; Mexican Three per Cents., for Acct., 18⅝ to 19; Peruvian Four and a Half per Cents., for Acct., 88 to 87½; Ditto Uribarren Four and a Half per Cents., 79 ex div.; Ditto Three per Cents., 66¼ to 67; Portuguese Three per Cents., 1853, for Acct., 43⅜ to 43¼ ex div.; Russian Four and a Half per Cents., 95, ex div.; Sardinian Five per Cents., 83; Spanish Three per Cents., for Acct., 42¼ ex div.; Ditto New Deferred Three per Cents., for Acct., 31¼ to 30¼ ex div.; Turkish Six per Cents., 1854, for Acct., 81 to 79; Ditto 1858, for Acct., 65 to 69; Ditto Guaranteed Four per Cents., 103½; Venezuela New Two and a Halfs, 27½ to 28½ ex div.

## Bank of England.

ISSUE DEPARTMENT.

| | | | |
|---|---|---|---|
| Notes Issued .. .. .. | £31,947,870 | Government Debt .. .. | £11,015,100 |
| | | Other Securities .. .. | 3,459,900 |
| | | Gold Coin and Bullion .. | 17,472,870 |
| | | Silver Bullion .. .. .. | |
| | £31,947,870 | | £31,947,870 |

BANKING DEPARTMENT

| | | | |
|---|---|---|---|
| Proprietors' Capital.. .. | £14,553,000 | Government Securities (including Dead Weight Annuity) .. .. .. | £11,780,035 |
| Rest .. .. .. .. .. | 3,226,508 | Other Securities .. .. | 18,682,565 |
| Public Deposits (including Exchequer, Savings Banks, Commissioners of Nat. Debt, and Dividend Accts.) .. .. .. | 9,436,986 | Notes .. .. .. .. .. | 10,472,660 |
| Other Deposits .. .. .. | 13,881,561 | Gold and Silver Coin .. | 615,995 |
| Seven day and other bills | 753,235 | | |
| | £41,551,255 | | £41,551,255 |

7th day of July, 1859. M. MARSHALL, Chief Cashier.

## Gazette of the Week.

TUESDAY—BANKRUPTS—J. BROOKS, Birmingham, Licensed Victualler—T. A. DRUCE WITNEY, Oxfordshire, Innkeeper—H. DUTTON, Pore Street, Cripplegate, General Merchant—J. L. GROSART and J. T. BRAIDLEY, Moorgate Street, Merchants—A. JONES, Aston-juxta, Birmingham, Edge Tool Manufacturer—H. MITCHELL, Ryde, Isle of Wight, Butcher—J. POWELL, Middle Row, Knightsbridge, Draper—E. SIMPSON, Birmingham, Draper—J. WALKER, Southampton Street, Holborn, and Waltham Green, Middlesex, Auctioneer.

SCOTCH SEQUESTRATIONS—R. MACKINTYRE, jun., D. G. MACKINTYRE, and J. MACKINTYRE, jun., Colinslee, near Paisley, Calico Printers—G. MUIR, Maybole, Ayrshire, Draper—J. PETTIGREW, Cambuslang, Lanark, late Farmer.

FRIDAY—BANKRUPTS—G. M. BAILY, Liverpool, Grocer—R. BARBER, Essex, Cow Keeper—J. BINNS, Openshaw, Lancashire, Soap Manufacturer—H. J. DOWNS, Anerley Vale, Norwood, Builder—J. DUNLOP, Tredegar, Monmouthshire, Draper—J. DUNNELL, College Street, Camden Town, Licensed Victualler—C. FLINT, Great Marlow, Buckinghamshire, Embroiderer—E. LEVY, Strand, Jeweller—J. OLIVER, Worship Street, Finsbury, Timber Merchant—W. R. WRIGHT, Bucklersbury, Auctioneer.

SCOTCH SEQUESTRATIONS—J. BEATON, Edinburgh, Grocer—J. FRASER, Cromarty, Saddler—R. HRANDEL, Glasgow, Manufacturing Chemist—J. HERBERTSON, Glasgow, Wright and Builder—C. WATSON, Lochmaben, Joiner—W. and D. YOUNG and Co., Edinburgh, Grocers.

## Metropolis and its Vicinity.

ANNIVERSARY OF AMERICAN INDEPENDENCE.—The 83d anniversary of the Declaration of Independence of the United States was celebrated on Monday night by a public meeting at St. James's Hall. General Campbell, United States' Consul in London, presided on the occasion, and was supported by his Excellency Mr. Dallas, Mr. Bright, M.P., and about 170 other gentlemen. The hall in which the banquet was held was decorated with flags, among which the stars and stripes and union jack were pre-eminent. At the lower end of the room the portraits of General and Lady Washington, painted by Rembrandt Peel, an American artist, were hung, while Winterhalter's portrait of the Queen, which was kindly lent by her Majesty for the occasion, overhung the chair of the President. The galleries surrounding the hall were filled with ladies. The Chairman, in proposing the first toast, said that sunrise that day 83 years ago dawned on 13 States and 3,000,000 people, subjects of a foreign King, but before the sun had set those subjects met, and declared the independence of the American colonies, and left George III. not one subject in America, from the water meadows of Florida to the mouths of the St. Lawrence. Since that time the United States had advanced at a pace unparalleled in the annals of other nations; they had grown with more than a giant's growth and more than a giant's power—a power which he was proud to say had never been abused, but used for the most beneficent ends. While, then, the firmness and decision of their ancestors was a source of pride to all Americans, they ought also, on the other hand, not to forget the common mother from whom they sprung. He concluded by proposing, "The Day we celebrate," which was received with loud and prolonged applause. Mr. Dallas, in returning thanks, drew a parallel between the struggles of the United States for independence in 1776, and the war which was now in progress for the independence of Italy, contending that both contests resemble each other in the fundamental wish for national independence worked out with the aid of France, in the one case under the rule of a Bourbon, in the other under that of a Bonaparte. "Who now," he said, "doubts that this vast empire of Great Britain has immensely benefited by the conversion of her western colonies into sovereign confederated States? Who doubts that, since the fierce passions of revolutionary strife have died away, a keen yet generous competition in the pursuits of commerce, of science, of art, and of renown has enriched and elevated the peoples of both countries? Yes! the country in which we are enjoying communion and hospitality, and the country to which we give our allegiance and love, may well unite in grateful eulogy of the Declaration of American Independence. In the spirit of these desultory remarks I offer in conclusion this sentiment:—National independence! success to it, whenever and wherever naturally desired and honestly pursued!" The Chairman then gave in succession the health of the President of the United States, the health of Queen Victoria, and the memory of Washington. In proposing the toast of the Queen, the Chairman said that prosperity and elevated rank, which had placed her Majesty above all human responsibility, had not developed a single vice or blemish; her high merits had enshrined her in the hearts of all her subjects, and gained her the applause of all nations. Placed in the exalted station which she occupied, she had been the "cynosure of neighbouring eyes," and had set an example as a daughter, wife, and mother worthy of universal imitation. The toast was drunk with loud and enthusiastic cheers, the whole audience rising, while the band played "God save the Queen." Among the other toasts was one of "Non-intervention, the true Policy of Free Governments," coupled with the name of Mr. Bright. Mr. Bright, who was loudly cheered, in acknowledging the compliment spoke as follows:—

"He felt grateful for the way in which they had received the name of one who was almost a stranger to all in the room. He was there that evening because he felt profound sympathy and profound admiration for those broad principles of equality and human right on which the American constitution is founded. He was a citizen of a country in which monarchy had endured for centuries, and in which it had never been more respected than at the present moment—a country in which a mixed constitution existed, but which he took the liberty to think was not quite equally mixed—a country in which were laid the foundations of that freedom of which they the American people were so justly proud. In connexion with the toast with which his name had been coupled he gave it his heartiest and his strongest assent. That toast practically meant that non intervention was the true policy of the United States and of England, for there were few Governments in the world which were free except the Government of the United States and that of the United Kingdom. To the people of America the doctrine of non-intervention was not new. It was as old as their independence, and took its origin on the same day. A legacy which the prescient mind of Washington had bequeathed to them was never to entangle themselves in alliances with foreign States. But that which has been a settled faith in America has unhappily been repudiated as foolish on this side of the Atlantic, and the results of the different policy pursued by the two countries was visible in the fact that our Chancellor of the Exchequer would soon have to ask for the financial wants of this country five times as much as the financial Minister will ask of the people of the United States. On this great question of policy the people of this country were as children, to whom at length a ray of light has been given after having been the victims of a phantom fraught with the greatest danger. He then proceeded to contrast the different policies of the executives of the two countries, and said that there was no fear of the President between the sessions of Congress plunging the country into an expensive and disastrous war. There was no tradition in the United States that it was necessary to keep up a large fleet to make weight and counsels felt in the various European Courts. Had the same policy, which Washington enunciated 80 years ago, been pursued in this country no man would be now speculating on the probabilities of Lord Derby, or Lord Palmerston, or any other Minister dragging England into the struggle in Italy. The whole question was one of sentiment, and sentiment alone. He was glad to believe that an increasing feeling of the folly of such a policy was springing up in England, and rapidly assimilating itself to the feeling in the United States. The principle of small armaments was excellent, for if the principle of having a small but sufficient navy were carried out, there would be small inducement for rushing into strife. Large armaments, besides, were antagonistic to liberty, for supposing one man in England was intrusted with the command of 40,000 or 500,000, where would liberty be then? After commenting on the present advantages and glorious future of the States, he expressed his opinion, in conclusion, that after numerous generations of Englishmen had passed away the existence and prosperity of the United States would be a blessing to countless millions and an example to freemen in every part of the world."

THE PROPOSED EXHIBITION OF 1861.—The annual report of the Council of the Society of Arts states at great length the prospects of success of another great exhibition of the products of industry, and the postponement of such exhibition on account of the war on the Continent, which it was feared would seriously interfere with its success. Resolutions to that effect were passed by the council on the 18th of May:—"It was not without long consideration, and even a slight difference of opinion, in the council," says the report, "that their resolutions were carried. It was felt by some members that it was the duty of the society, as a body independent of politics, to enter a protest against war being allowed to interfere further than is inevitable with arts, manufacture, and commerce, stopping thereby the progress of civilisation; and it was urged—and well urged—that even assuming war to continue, England alone could produce an exhibition worthy of public patronage. The majority of the council, however, felt that the public mind was never occupied by two great subjects at once, and that even a partial failure would be more prejudicial to future exhibitions than a postponement, and they, therefore, though with deep regret, passed the resolutions already read. The next great international exhibition stands, therefore, postponed until the earliest favourable opportunity."

PUBLIC ADVERTISING COLUMNS.—A French company has recently been formed for the erection in the public

streets of advertising columns, exhibiting in glazed frames a miscellaneous collection of trading advertisements, with the addresses of parochial officers, &c. One of these columns has been erected in Piccadilly opposite Apsley House, and has excited so much dissatisfaction, not only with its general appearance, but with the character of its advertisements and the obstruction it has caused in such a leading thoroughfare. The subject was discussed on Tuesday at a meeting of the Commissioners of Sewers, and notice of motion was given to rescind the resolution of the Court giving permission to erect similar columns near the Royal Exchange and in Holborn.

IMPROVEMENTS IN LEADENHALL STREET.—On Tuesday, by direction of the Fishmongers' Company, the well-known Printing Office of the "Minerva Press," in Leadenhall Street, with several other houses which are to be cleared away for the purpose of the improvement of the neighbourhood, were sold by auction. The houses extend from Leadenhall Street to Lime Street Square. It is intended to erect large warehouses and other buildings on the site.

LONDON SCOTTISH RIFLE CORPS.—A meeting of Scotchmen resident in the metropolis, convened under the auspices of the Caledonian and Highland Societies, was held on Monday at the Freemasons' Tavern, for the purpose of considering the propriety of forming a volunteer rifle corps. Lord Elcho, M.P., took the chair and addressed the meeting at some length in favour of the establishment of such a corps, expressing his opinion that the danger was not imminent, but whenever it should be imminent that would be too late to prepare. Sir J. H. Maxwell moved and Sir C. Forbes seconded a resolution approving the formation of a Scottish volunteer corps in the metropolis, which was unanimously agreed to. In answer to questions, the Chairman said it was intended to invite the co-operation of all classes of Scotchmen, and he hoped that all his countrymen resident in the metropolis would come forward. Sir C. Forbes moved and Sir W. Forbes seconded a resolution approving the formation of a fund for defraying the expenses of equipment of persons who might be unable to provide their own accoutrements, which was agreed to unanimously. A committee was then appointed, with power to add to their number.

THUNDERSTORM.—On Saturday night, about 10 o'clock, the metropolis and suburbs were visited by a very severe storm of thunder and lightning, accompanied by rain, the latter causing the destruction of an almost incalculable amount of property. Many persons were struck by lightning, and in most cases very seriously injured. In the neighbourhood of Newington, Clapham, and Wandsworth the storm was felt with great severity, and the low-lying districts along the river as far as Kingston were laid under water. At Sydenham, Fulham, Richmond, Kew, Twickenham, and other places, the market gardens and private grounds were seriously damaged, and some of the embankments on the railways were injured. In Hyde Park the lightning shattered a lofty elm-tree near the Cavalry Barracks and killed 14 sheep which had collected near it; and in Kensington Gardens 16 others, which had taken shelter under a tree that was struck, were also killed. Many of the principal thoroughfares were overflowed to the depth of 2 feet, the water rushing into the basements and cellars, and destroying much property of all kinds.

EXECUTION AT NEWGATE.—On Monday morning Samuel Adams, aged 36, a shoemaker, who was convicted at the last assizes at the Central Criminal Court of the murder of his sister-in-law Martha Page, was hung in front of Newgate in the presence of several thousands of persons, who though of a similar character to those who assemble on such occasions, were more orderly than usual. He had previously expressed his sorrow for his crime, and freely admitted the justice of his sentence.

THE PUBLIC HEALTH.—The weekly return of the Registrar-General states that the deaths in London in the week that ended Saturday, July 2, were 1024. In the corresponding weeks of the 10 years 1849-58 the average number was 1126; which, if raised in proportion to the increase of population, will become 1238. The return of last week was therefore 214 below the average. During the week the births of 883 boys and 907 girls, in all 1790 children, were registered in London. In the 10 corresponding weeks of the years 1849-58 the average number was 1610.

## Provincial.

BIRMINGHAM.—At the borough sessions last week, Antonio Calvocoresi, a Greek, lately carrying on business at Manchester, surrendered on a conviction at the January sessions, for coining in imitation of Turkish piastres. At the time the trial took place the defendant was in bad health, and judgment was respited until the Easter sessions, bail being taken for his appearance. Subsequent to the trial defendant travelled to Egypt for the benefit of his health, and while at Alexandria was detained for debt, and was unable to reach England until two hours after the sessions had concluded; his recognisances were accordingly estreated. The Recorder in passing sentence said that he was of opinion the estreat ought to be removed, because it had been shown that the defendant had made an endeavour to surrender at the Easter sessions and receive the judgment of the Court. With regard to the offence of which defendant had been found guilty, he did not think that a severe punishment was called for; therefore, taking into consideration the state of defendant's health, the sentence was that he be imprisoned for three months in the borough gaol.

DEVONPORT.—In addition to the fortifications which have been for some time in progress at the back of Mount Edgecumbe, the Government have determined to strengthen the batteries at Mount Wise, commanding the entrance to Hamoaze. A breastwork, 6 feet high, is to be raised on the redoubt, and two of Sir William Armstrong's heavy guns are to be placed on the angle. At Bovisand Point, near the eastern entrance to Plymouth Sound, preliminary arrangements have been made for the erection, close to the water's edge, of turf batteries, which will extend from the flagstaff to the gate.

FALMOUTH.—A tragical occurrence took place a few days ago in this town. It appears from the evidence given at the inquest on Friday that on the preceding evening Mr. Stephen Bell, a surgeon, who has recently been in practice at Weston-super-Mare, but who is a native of Falmouth, called at the house of his mother, an invalid lady residing in the town, and demanded money from his two sisters. The mother had been in the habit of making him an allowance, which had been discontinued for some time. The sisters refused to give their brother any money, whereupon he became very violent, and they sent for Captain Caddy, a friend of the family, who remonstrated with Mr. Bell, but he still continued violent, and took from the wall a spear, which was placed there as an ornament, with which he stabbed the captain in the thigh. The wound was deep, and blood flowed profusely from it. Mr. Bullmore, a surgeon, was speedily on the spot, and rendered all the assistance in his power, but Mr. Caddy died a short time afterwards. When Mr. Bell was apprehended he said, "I'm a gone man; I don't deny that I did it." He also said—"After Captain Caddy threatened to call for the police to turn me out I took hold of the lance, and Captain Caddy sprang upon me, and it must have occurred in this way," or words to that effect. Captain Caddy, who was 72 years of age, was for many years in command of the Swiftsure packet. Mr. Bell is 50 years of age. The jury returned a verdict of Wilful Murder against him, and he was fully committed to take his trial at the ensuing assizes.

HULL.—On Sunday afternoon the inhabitants of Blackfriargate and neighbourhood were startled by a rumour that a murder and suicide had been committed. It appears that for some time past a man named John Ryley and his wife and two children (aged 8 and 11 years) have resided in Mariners' Court, Blackfriargate. They have lived together most unhappily, however, and it is only a short time ago since the wife summoned her husband before the magistrate for violently assaulting her, when he was committed to one month's imprisonment. His sentence had only just expired, when he had recourse to his former treatment, and apparently with a firm determination to end the woman's existence. On Sunday afternoon a woman went to the house for the purpose of getting a sucepan. She knocked at the door, but no one answered her. She then looked in at the window, and not being able to see any one stirring she threw it open, when to her dismay she saw Ryley suspended by the neck from the bed. An immediate alarm was given, and the door burst open, when Ryley's wife was discovered in bed, with her throat cut from ear to ear. A surgeon was sent for, and Ryley was cut down, just as he was beginning to turn black in the face. Under the care of the surgeon he shortly afterwards recovered, and was then conveyed to the police-station. The poor woman's life however was quite extinct. The murder appeared to have been committed with a dinner knife, and while the woman was asleep in bed. Ryley was brought before the stipendiary magistrate, and on Monday committed for trial at the ensuing assizes.

LEEDS.—On Wednesday week the Leeds Town Hall was crowded by a fashionable audience, the occasion being the presentation of several testimonials to the Very Rev. Dr. Hook, Dean of Chichester, and Mrs. Hook, on their leaving this town. The day being also the commemoration day of the Leeds parish church, a sermon was preached in the morning by Archdeacon Dodgson, and in the evening by Dr. Hook. In the afternoon, at 3 o'clock, luncheon was served in the Victoria Hall, the chair being occupied by Sir Peter Fairbairn, the Mayor. After the usual loyal toasts, several addresses were presented and presentations made to Dr. and Mrs. Hook. The committee appointed at the recent public meeting brought up an address, accompanied by a purse containing 2000 guineas. These were enclosed in an elegant oaken casket and presented by Mr. W. B. Denison, the address being read by the Rev. Alfred Barry. An address from the Manchester Unity of Odd Fellows, (with a beautiful silver centre-piece representing the cardinal virtues of the order, Faith, Hope, and Charity), was next presented by Councillor William Longley, P.G. The Short Time Committee of the West Riding next thanked Dr. Hook for his services in their behalf. In the last place, the choristers of the parish church, headed by their precentor, presented the dean with a timepiece and candelabra. These various addresses and presents having been deposited with the Mayor, he then formally delivered them over to Dr. Hook, amid the applause of the meeting. His worship concluded by proposing, "Health and happiness to the Very Rev. Dr. Hook." The Dean of Chichester expressed his deep acknowledgments for the kindness which had that day been manifested towards them. He should ever look back upon his sojourn in Leeds with deep feelings of satisfaction and thankfulness, and whithersoever he went he should never forget that town of his adoption. The ladies of the parish of Leeds, who had subscribed a purse of 270*l.* for Mrs. Hook, next presented their offering to that lady through Mr. John Smith, banker, and Dr. Hook acknowledged the gift on Mrs. Hook's behalf.

LIVERPOOL.—On Sunday her Majesty's ship Nile, of 91 guns, commanded by Captain A. P. E. Wilmot, C. B., arrived in the Mersey, from the Clyde, on the recruiting service. The Nile is the first 91 gun ship that ever entered the Mersey.

OXFORD.—In a convocation held in the Theatre on Wednesday the Earl of Carnarvon was admitted to the office of High Steward of the University. In the same Convocation the honorary degree of Doctor in civil law was conferred on the Right Hon. John Inglis, M.A., Balliol College, Lord Justice Clerk of Scotland, the Right Hon. Sir John Laid Mair Lawrence, Bart., G.C.B.; Major General Sir Archdale Wilson, Bart., Delhi, K.C.B.; Colonel Greathed, C.B.; George Boole, Esq., Professor of Mathematics in Queen's College, Cork, and Antonio Panizzi, Esq., Principal Librarian of the British Museum.

WIGAN.—An alarming riot took place in this town on the 30th ult., on the delivery of a lecture against Popery by the Baron de Camin. The Roman Catholics first attacked the hall where the lecture was delivered, but on the reading of the Riot Act, the police, assisted by a large body of people, drove back the assailants, and captured a number of prisoners. All the men taken were armed, some of them with most dangerous weapons, which they fortunately had not much opportunity of using. The mob on the other side, consisting of Orangemen and colliers, determined to make reprisals, and the most disgraceful rioting took place till late at night. The windows of the Roman Catholic chapel and of the houses in the Irish quarter were destroyed, and two men were so seriously injured as to leave little hope of their recovery. The rioting was renewed on the following night, when a mob of colliers and Orangemen attacked a lot of houses inhabited by the Irish population, and after a fight of some duration, succeeded in forcing an entrance, breaking all the property, and attempting to set fire to the houses. While they were thus engaged the whole of the borough police were marched to the spot, followed by a detachment of the county constabulary, which had been stationed at the police office, and after subduing the fire, captured 13 prisoners. The Baron de Camin gave his lecture the same night on Auricular Confession.

YARMOUTH.—The Mayor of this town has received a letter from the War Office in answer to an inquiry he had addressed to the Government respecting the defences of the port, stating that an inspection of the coast and entrance of the harbour has already been made by a committee of naval and military officers, and in addition to the two batteries recently erected in front of the town, an armament of five heavy guns has been proposed at Gorleston, commanding the entrance to the harbour. This latter work is intended for execution in the current year, should a site be obtained in time, for which negociations are now in progress.

## Ireland.

DEPARTURE OF THE EARL OF EGLINTOUN.—The Earl and Countess of Eglintoun held their farewell levée on Monday afternoon in Dublin Castle. Previous to the levée addresses were presented from the Corporation, the Royal Dublin Society, the citizens and traders of Dublin and the county and town of Galway, to each of which a suitable reply was given. In answer to the Corporation his Excellency said:—

"That Ireland is progressing beyond all precedent is as undoubted as it is gratifying, and I earnestly trust that the steady and progressive improvement which has taken place within the last few years will not be impeded by party strife or religious dissension, but that it will be fostered and developed by a firm and impartial administration of the law, by a strict adherence to the principles of religious tolerance, and by the exhibition of judicious liberality on the part of the executive Government and the Imperial Legislature. More matured consideration and a longer experience of this country have but confirmed me in the opinions I have on all previous occasions expressed of the great importance of the office I have held among you, and I trust no party in the State will ever sanction the short-sighted policy which would be involved in its abolition."

THE IRISH JUDICIAL BENCH.—Mr. Henry Gerald Hughes, Q.C., ex-Solicitor-General, has been appointed a Baron of the Exchequer, in the room of Baron Richards, who retires.

MARSHAL M'MAHON.—The *Nation* proposes that a sword, purchased by subscription, shall be presented to Marshal M'Mahon on the ground of his Irish extraction.

THE ATHLONE ELECTION.—An Athlone paper announces that 115 warrants from the Speaker of the House of Commons have been served upon the supporters, friends, and agents of Mr. John Ennis at the late general election. The total number of voters in the borough is only 225, so that the warrants have been served on more than half the constituency.

## Scotland.

INAUGURATION OF THE GLASGOW STATUE TO SIR ROBERT PEEL.—Mr. Mossman's statue in honour of Sir Robert Peel, erected in George Square, was inaugurated on the 28th ult in the presence of the Lord Provost, sheriffs, magistrates, and members of town council

Mr Dalgleish, M.P., Mr. Buchanan, M.P., Sir Andrew Orr, and a number of influential citizens. In handing over the statue to the care of the corporation, Mr. Dalgleish expressed a hope that the committee would have no cause to regret having entrusted the execution of the statue to a Glasgow artist. A public dinner was afterwards given in the Queen's Rooms.

Edinburgh Banquet to Lord Brougham.—It is understood that the complimentary dinner to be given by the citizens of Edinburgh to Lord Brougham will take place about the third week in October, and that it is probable that Lord Chancellor Campbell will be present.

Gold Seeking in Moffatdale.—Mr. Griffin from Leamington passed through Moffat last week provided with all the tools necessary for gold digging and washing and accompanied by two miners from Leadhills. The scenes of their explorations are to be at the head of Moffatdale, and in the neighbourhood of St. Mary's Loch.

## Law.

Court of Chancery.—*Gee v. Graziani and Smith.*—Vice-Chancellor Wood on Saturday gave judgment in this case, the argument in which occupied nearly three days of last week. The plaintiff was [illegible] Graziani and Miss Smith, engaged to marry the plaintiff, and the bill was filed by the plaintiff complaining that the defendants had, by the latter's procurement, Graziani and Miss Smith, gone beyond the limits of London and the neighbourhood. All the costs of the suit to be paid by the two defendants, and as to the inquiry at chambers as to damages, with liberty to apply with respect to any payments claimed under the agreement.

Court of Queen's Bench.—(Sitting in Banco, before Mr. Justice Wightman and Mr. Justice Hill.)—*The Queen v. The Bishop of Chichester.*—In this case a rule had been granted calling upon the Bishop of Chichester to show cause why a mandamus should not issue, commanding him to issue a commission under the 3rd section of the Church Discipline Act, to examine into certain charges and reports in circulation against the Rev Richard William Randall, the rector of Washavington-cum-Graffham, in the county of Sussex and diocese of Chichester. The rule was granted on the application of the Rev Charles Portales Golightly, of Oxford, upon the suggestion that the Rev W Randall had introduced and taught certain Romish practices and doctrines in his parish, and that the bishop, having heard Mr Randall's explanations, had refused to issue a commission of inquiry. The rule was argued on the 16th ult., when the Court took time to consider their judgment. In the meantime Lord Campbell had been made Lord High Chancellor and Mr. Justice Erle Lord Chief Justice of the Court of Common Pleas. The other two judges who heard the arguments were Mr. Justice Wightman and Mr Justice Hill, who now severally gave judgment to discharge the rule. Mr Justice Wightman held that the bishop's communication was discretionary with the bishop, and that he therefore had power to withhold the issue of a Commission if he thought proper to do so. Mr. Justice Hill considered that the question of discretion would deserve very careful argument if it could come before the Court, but that it did not call for present consideration, inasmuch as there was a preliminary question which was fatal to the rule—viz., that Mr Golightly was not entitled to make the application, and therefore, the Court, in the exercise of their discretion, ought not to make the rule absolute. His lordship added that the present Lord Chancellor and the Lord Chief Justice of the Common Pleas, who were both members of this Court when the case was argued, had authorised him to state that they were also of opinion that the present rule should be discharged. Dr. Phillimore applied to the Court to grant the bishop the costs of the rule, upon the ground that the application had been made by a gentleman who was out of the diocese. Mr. Justice Wightman, after conferring with Mr Justice Hill, said that as the application was made by a stranger, and under all the circumstances of the case, the rule must be discharged with costs.

Court of Exchequer.—(Sittings at Guildhall, before the Lord Chief Baron and a Special Jury.—*Swinfen v. Lord Chelmsford.*—The trial of this important case, which has long been looked for with considerable interest, particularly by the bar, as involving a question as to the rights of counsel to enter into a compromise on behalf of their clients, commenced on Monday morning. Long before the appointed hour the approaches to the court were occupied, and the greatest anxiety to obtain admission was manifested. On the doors being opened every available seat was occupied, chiefly by the members of the bar, who mustered in great force. Mr Kennedy, Mr George Denman, and Mr M'Mahon were counsel for Mrs Swinfen, the plaintiff, Sir Fitzroy Kelly, Mr Bovill, Mr M Smith and Mr. Ellis represented the defendant, Lord Chelmsford. The declaration stated that the plaintiff, Patience Swinfen, and the Right Hon Frederic Lord Chelmsford; that Samuel Swinfen decreed all his estates to the plaintiff, who was his daughter-in law, and her heirs; that after the death of the testator Frederick Hay Swinfen, claiming to be entitled to the estates as heir at law, filed a bill in the Court of Chancery, praying that an issue might be directed to try the validity of the decree; that the Master of the Rolls ordered an issue at which the now plaintiff should affirm, and Frederick Hay Swinfen should deny, the validity of the will, that the same was tried at Stafford, before Sir Cresswell Cresswell, that the defendant, being then a barrister, was her leading counsel; yet that he, without her authority and against her will, and wrongfully and fraudulently, and contrary to his instructions, entered into and concluded a compromise and signed a paper set out in the declaration, and consented that a juror should be withdrawn, the terms being that the estate should go to Frederick Hay Swinfen, on the now plaintiff being secured [illegible] a year. The second count, like the first, stated that the defendant had been retained as the plaintiff's counsel, that after the commencement of the trial Sir Cresswell Cresswell, the judge who tried the cause, privately, clandestinely, and illegally communicated with the defendant as the counsel for the plaintiff, and gave him to understand that he had formed an unfavourable opinion of the plaintiff's case and that she would probably lose the verdict, for the purpose of intimidating defendant and inducing him to compromise the case, and that the defendant, without the knowledge of the plaintiff, although she required him to proceed, being unduly and improperly influenced by the said judge, did unduly and wrongfully and fraudulently become a party to the purpose of the judge, by reason of which a juror was withdrawn and the trial was not proceeded with. The declaration then stated special damages, and the plaintiff claimed 10,000*l*. Lord Chelmsford, as to the whole of the declaration, pleaded not guilty. As a second plea to the first count, he said that he entered into the compromise in good faith and without fear, and in the belief that he had full authority from the plaintiff. In a third plea to the second count he denied that Sir Cresswell Cresswell did privately, clandestinely, or illegally communicate with him. In a fourth plea as to the second count, he denied that he did wrongfully or fraudulently, or in collusion with Sir Cresswell Cresswell, enter into the said arrangement, as alleged. In a fifth plea to the second count he said that the plaintiff did not require him to proceed. In a sixth plea he said that when he entered into the agreement he did so in good faith, and in the belief that he had full authority from the plaintiff. In a different plea to the second count he said that after he had been retained, and after he had advised plaintiff to enter into a compromise and she had refused, Charles Sharpe, the plaintiff's attorney, communicated to him a fact, which, in his judgment, rendered it necessary and expedient to make the compromise, and that, acting to the best of his judgment and in the interests of the plaintiff, and without fraud, he had entered into the agreement adduced; and for a last plea, that he was not retained by the [illegible] alleged. On these pleas issue was joined. Mrs Swinfen, the plaintiff, and several witnesses were examined in support of her case; Lord Chelmsford, Lord Chief Justice Cockburn, Mr Alexander, Q.C., and other gentlemen were examined for the defence. After two days' trial, the Lord Chief Baron proceeded to sum up. He told the jury that in the case of persons upon the second count, that no evidence had been and before them to which defendant could be called upon to make any answer. Sir Cresswell Cresswell had been called, and after hearing his evidence there did not appear to be any evidence; therefore upon that count the defendant would be entitled to a verdict. He must be permitted to say that he did not think it was decent to put the second count in the declaration on the record, and that any apology could be no sort of satisfaction either to the judge whose feelings had been outraged, or to decency or public morality, which had been attacked by putting on the record such a count without a tittle of evidence being adduced in support of it. He would lay it down as a principle of law, that all that the law required a barrister to do was to discharge his duty towards his client as best he could. He might be actively wrong in a statement—he might be at the moment for the plaintiff but suppose, under the influence of fear—that if he attended to act honestly by his client he was not responsible. The simple question which the jury had to decide was whether the defendant had acted fraudulently or improperly or in the best interests of his client. The jury immediately found a verdict for the defendant upon both counts. A bill of exceptions was tendered by Mr Denman to the Chief Baron's ruling before the verdict was given. The case did not terminate until 20 minutes to 10 o'clock at night.

Central Criminal Court.—*The Rochford Poisoning Case.*—*Thomas Smithurst*, who was stated in the calendar to be 48 years of age, and described as a surgeon, was placed at the bar on Thursday before the Lord Chief Baron, charged on an indictment and the coroner's inquisition with the wilful murder of Isabella Barrow. He pleaded not guilty in a low tone of voice. After the jury had been sworn the prisoner addressed the Court and objected to be tried by the Lord Chief Baron on the ground that he was a personal friend of Dr. Taylor, an important witness for the prosecution. The Lord Chief Baron said he might as well object to be tried at all, for all the judges were acquainted with Dr Taylor. He would however consult Mr Justice Wightman on the subject. After a conference between the judges his lordship said the trial must proceed. A juror then applied to be excused from serving, on the ground that he had formed a strong opinion against the prisoner. The Lord Chief Baron, after again consulting Justice Wightman, said that the Court had no power to relieve the juryman who should have stated his objection before he was sworn. The trial then proceeded and occupied the Court during the whole of Thursday and part of yesterday when it was suddenly stopped by the illness of one of the jurymen who fainted during the medical evidence for the prosecution, and had to be carried out of court. Dr. Copland and other medical men were sent for, and on their stating that the juryman would not be able to discharge his duties for two or three days, the Lord Chief Baron said that as they could not go on with the trial, it was his duty to discharge the jury. The jury were then discharged, and the trial was postponed to the next sessions.

## Sporting.

### NEWMARKET JULY MEETING.

Tuesday.—*Match.* Mr. R. Ten Broeck's Lecturer beat Apollo.—*Handicap Sweeps.* Baron Rothschild's Mentmore beat Killgrew and Merry May.—The *July Stakes.* Lord Portsmouth's Buccaneer beat Nicholas, Blue Ruin, and 7 others.—*Match.* Sir J. Hawley's Twang beat Umpire.—*Handicap Plate.* Baron Rothschild's Boston beat Orbitree, Artless, and 6 others.—*Sweeps.* Mr Barnes's Fleetwood beat Mr G Fleming's Lily and Lord Strathmore's colt.

Wednesday.—*Match.* Duke of Bedford's Eda beat Harrietan.—*Sweeps.* Mr Alexander's Brine beat Asphodel and Mr J. Ward's filly.—The *Town Plate.* Baron Rothschild's North Lincoln beat Luff.—*Sweeps.* Baron Rothschild's Magnum beat Qui Vive and Antonio.—*Handicap Plate.* Baron Rothschild's Boston beat Dame Alice, King of the Gipsies, and 7 others.—*Sweeps.* Sir J Hawley's Twang beat Mr Fleming's filly and Dapple.

Thursday.—*Match.* Mr Payne's Rechab received, Mr R. Ten Broeck's Dixie paid.—*Handicap Plate.* Sir R. W. Bulkeley's Knowsley Duster beat Pulverizer, Rose, and 7 others.—*Handicap Sweeps.* Colonel Towneley's King of the Gipsies beat Layton.—*Match.* Duke of Bedford's Killgrew beat Starling.—*Sweeps.* Count Batthyany's Olympus beat Layton, Mr G Fleming's filly, Pantaraca, and Target.—The *Chesterfield Stakes.* Mr R. M Jacques's High Treason beat Trevalgan, Blue Ruin, and 4 others.—The *Midsummer Stakes.* Baron Rothschild's North Lincoln beat Rechab and Coxcomb.—*Plate.* Mr H. Lowther's Brine beat Chantress, Mr G Fleming's filly, and 7 others.—*Match.* Duke of Bedford's Orlando beat Apollo.

## Obituary.

The Right Rev Bishop Maltby, late Lord Bishop of Durham, died on Sunday, at 1, Upper Portland Place, in his 90th year. The bishop, who was of the Evangelical school in the Church, was the son of Mr George Maltby, of Norwich, and was born in St. George Tombland, in that city, in 1770. He was educated at Pembroke College, Cambridge, where he graduated as B.A. in 1793, M.A. in 1794, B.D. in 1801, and D.D. in 1806. He gained the prize medals for Greek odes in 1790 and 1791, and the Chancellor's medal in 1792 for classics, in which year he was eighth wrangler. He afterwards became chaplain to the Bishop of Lincoln, and held one of the prebends of his cathedral, as also the living of Barkston. He published an edition of Mant's "Lexicon Græco-Prosodiacum," "Sermons," &c. He was consecrated Bishop of Chichester in 1831, and was translated to Durham in 1836. He resigned the latter see, under Act of Parliament, in September 1856, which took away his seat in Parliament, and left him an annuity of 4,700*l*.

Lieut.-Colonel Patrick Campbell, formerly of St. Catharine's, Argyleshire, and of H.M.'s 49th, 48th, and 95th Regiments, died on the 24th ult., at Tours, France, in his 80th year. He served with the army in Holland under the command of the late Duke of York, and was present, under Lord Nelson, at the battle of Copenhagen in 1801, for which he received a medal, and served in the Peninsula from 1808 to 1811, for which he received the medal and three clasps for Talavera, Busaco, and Albuera.

## Miscellaneous.

Loss of the Alma.—The Peninsular and Oriental Company's new iron steamship Alma, which brought the present overland mail, grounded at Mooshedgerah, near the Harrasis Islands, in the Red Sea, at 3 A.M. on the 12th June, and immediately hoisted over and filled. The mails, passengers, and crew were all saved, and it was believed that the vessel might be got off.

Sir John Bowring, the late governor of Hong Kong and Minister to China, and his eldest daughter, were among the passengers, and it will be learned with regret that a large portion of his valuable MSS. and public documents were lost in the disaster.

The Atlantic Telegraph.—Mr. Robert Stephenson, C.E., M.P., Professor Wheatstone, F.R.S., and Professor Thompson, LL.D., in connection with Mr. C. F. Varley (the managing electrician of the Electric Telegraph Company in Lothbury), have agreed to form a committee to advise with the directors of the Atlantic Company, and to decide for them, with the aid of such other scientific men as the board may think proper to consult, as to all the details of the next cable, and as to the form of its external covering, internal conductor, and extent of insulation. When these details are determined on, and the cable most suited for Atlantic depths shall have been settled by means of the valuable data placed at board's disposal from the archives of the company, experiments as to submersion will take place, and any points not exactly cleared up at the present moment will be carefully decided by actual experiment.

BIRTHS.—On the 26th ult, at Hertingfordbury Rectory Hertford, the wife of the Hon and Rev Gopolphus Hastings, of a son—1st inst, at the Deanery, Christ Church, Oxford, Mrs. Liddell, of a daughter—29th ult, at Redland Park, near Bristol, the wife of Lieut.-Colonel W Cross, H.M.'s Madras Army, of a son—1st inst, at Ballyarthur, county of Wicklow, the seat of Colonel Bayly, Mrs. Talbot, of Mount Talbot, of a son and heir.

MARRIAGES.—On the 5th inst, at Castle Ashby, the Marquis of Northampton, to Miss Eugenia Vyner, daughter of Mr and Lady Vyner, of Newby Hall, Ripon.—4th inst, at St. James's, Piccadilly, Graham Alanson Cayley, Esq., eldest son of Sir Digby Cayley, Bart., of Brompton, in the county of York, to Catherine Louisa, eldest daughter of Sir William Worsley, Bart., of Hovingham.—30th ult, Henry Gregory Conroy, Colonel Grenadier Guards, second son of the late Sir John Conroy, Bart., to Fanny, daughter of the late William Ashburner Broderip Marshall, Esq.—4th inst, at the Parish Church, Weaverham, Cheshire the Rev Thos. Wm. Whale, to Emma Lady Cockburn.—30th ult, at Swindon, near Cheltenham, John Edward Sutherland Little, Esq., Bengal Civil Service, eldest son of Sir John Scott Lillie, C.B., to Cecilia Mary, eldest daughter of the late Major J. Nott, Bombay Engineers.

DEATHS.—On the 1st inst, at Thorp Perrow, Yorkshire, Mary Emily, daughter of Mr and Lady Augusta Milbanke, aged 25.—4th inst, at 5, Conduit Street West, Paddington, Lieut.-Colonel George Edward Raitt, late Barrack Master, Bristol, and Deputy Adjutant-General of the Forces in the Mediterranean from 1814 to 1828, aged 78.—27th ult, at Nice, Juliana, wife of Rear-Admiral Bligh.—27th ult, at sea, on board the Alfred, Francis Berkeley Drummond, Esq., of the Bengal Civil Service, aged 33.—24 inst, at his residence, 77, St. John's Wood Terrace, Mr. John Thompson, Superintendent of the Gardens of the Zoological Society of London, Regent's Park, formerly manager of the late Earl of Derby's collection at Knowsley, Lancashire, aged 48.—4th inst., at Granton Hotel, near Edinburgh, David, second son of the late Robert Graham, Esq., M.D., Professor of Botany in the University of Edinburgh.—4th inst, at Cadiz House, Cardiff, Doña Maria de los Dolores de Pico, eldest daughter of Don Juan Pico y Villanueva, Count of the Queen of Spain for the Principality of Wales.—28th ult, at the residence of his sister, 1 Norton Terrace, Longsight, near Manchester James Heywood, Esq., for nine years Assistant Secretary to the Royal Society, and upwards of 20 years Secretary to the Royal Agricultural Society of England, aged 55.—23rd ult, at Shorne, near Gravesend, Kent, Mr Joseph Wells, for many years Gardener at Redleaf, Penshurst, in the same county.

## Markets.

### COVENT GARDEN.—July 5.

Grapes and Pine Apples have this week been more abundant. Strawberries are also plentiful and cheap, as are likewise Cherries, Currants, and Raspberries. Of Apricots, foreign examples only can be had. English fruit not yet having made its appearance. Greengage Plums obtain 2s a dozen. Oranges fetch 4s 6d and 5s per 100. Nuts of all descriptions continue to realise fair prices. Cabbages and French Beans are plentiful. Rhubarb, Asparagus, and Seakale are getting over. Peas, Beans, Horn Carrots, and Globe Artichokes may be obtained in quantity. Cauliflowers are cheaper. New Potatoes realise from 6s. to 14s per cwt. Cucumbers abundant. Cut flowers chiefly consist of Orchids, Gardenias, Heliotropes, Lily of the Valley, Violets, Mignonette, Heaths, and Roses.

FRUIT.

| | |
|---|---|
| Pine Apples, per lb., 5s to 7s | Plums, per doz., 1s to 2s |
| Grapes, per lb., 3s to 6s | Apricots, do., 2s to 3s |
| Strawberries, p. lb., 6d to 2s | Figs, per doz., 6s to 8s |
| Raspberries, p. pint., 6d to 1s | Cherries, per lb., 6d to 1s 6d |
| Melons, each, 3s to 4s | Apples, per doz., 6s to 10s |
| Peaches and Nectarines, per doz., 8s to 15s | Oranges, per 100, 6s to 10s |
| | Lemons, per doz., 1s to 1s 6d |

VEGETABLES.

| | |
|---|---|
| Cauliflowers, per doz. 2s to 4s | Cucumbers, p. doz., 2s to 6s |
| Green Peas, p. quart, 1s to 2s | Tomatoes, per doz., 2s to 4s |
| Greens, per dozen bunches, 1s to 1s 6d | Artichokes, per doz., 2s to 3s |
| Cabbages, do., 1s 6d to 2s 6d | Beet, per doz., 1s 6d to 2s |
| Asparagus, p. bundle, 2s 6d to 5s | Celery, p. bundle, 1s to 1s 6d |
| Rhubarb, p. bundle, 6d to 9d | Shalots, per lb., 6d to 8d |
| French Beans, p. pint, 1s to 1s 6d | Garlic, per lb., 6d to 8d |
| Potatoes, p. ton, 90s to 100s | Lettuces, Cabb., per score, 1s to 1s 6d |
| — per bus., 2s to 2s 3d | Endive, p. score, 1s to 1s 6 |
| — per cwt., 4s to 5s | Horse Radish, p. bun. 1s 6d to 4s |
| — new, per lb., 6d to 1s | Mushrooms, p. pott, 9d to 1s 3d |
| Carrots, per bunch, 1s | Parsley, p. 12 bunches, 2s to 4s |
| Turnips, per bunch, 6d to 1s | Savory, do., 2d to 4d |
| Spinach, p. sieve, 1s 6d to 2s | |

### METROPOLITAN CATTLE MARKET.

Monday, July 4.

The number of Beasts is smaller than on Monday last. Prices are rather better than on that day, and a tolerable

demand is effected. The supply of Sheep is also considerably less, and trade is more cheerful at a very small advance on the average. Calf trade is about the same as on Thursday. From Germany and Holland there are 128 Beasts, 3300 Sheep, 202 Calves, and 50 Pigs; from Scotland, 200 Beasts; from Norfolk and Suffolk, 2100; from Ireland, 30; and 200 from the northern and midland counties.

| | s | d | s | d | | s | d | s | d |
|---|---|---|---|---|---|---|---|---|---|
| Best Scots, Herefords, &c. .. | 4 | 8 | to 4 | 10 | Best Long-wools . | 4 | 6 | — 4 | 8 |
| Best Short-horns | 4 | 4 | — 4 | 8 | Do. Shorn .. .. | | | — .. | |
| 2d quality Beasts | 3 | 8 | — 4 | 2 | Ewes & 2d quality | 4 | 0 | — 4 | 4 |
| Best Downs and Half-breds .. | 4 | 10 | to 5 | 0 | Do. Shorn .. .. | | | to .. | |
| Do. Shorn .. .. | | | — .. | | Lambs .. .. | 5 | 0 | — 5 | 8 |
| | | | | | Calves .. .. | 3 | 8 | — 5 | 0 |
| | | | | | Pigs .. .. | 3 | 6 | — 4 | 6 |

Beasts, 3310; Sheep & Lambs, 28,900; Calves, 270; Pigs, 290.

THURSDAY, July 7.

We have a good supply of Beasts. The hot weather causes a slow trade, and on the average prices are rather lower. The number of Sheep and Lambs is about the same as of late. There is a fair demand for best qualities at Monday's quotations. Trade is slow for Calves at late rates. Our foreign supply consists of 193 Beasts, 1900 Sheep, and 443 Calves. Milch Cows 112.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Best Scots, Herefords, &c. .. | 4 | 6 | to 4 | 10 | Best Long-wools . | 4 | 6 | — 4 | 8 |
| Best Short-horns | 4 | 4 | — 4 | 6 | Do. Shorn .. .. | | | — .. | |
| 2d quality Beasts | 3 | 6 | — 4 | 0 | Ewes & 2d quality | 4 | 0 | to 4 | 4 |
| Best Downs and Half-breds .. | 4 | 10 | — 5 | 0 | Do. Shorn .. .. | | | — .. | |
| Do. Shorn .. .. | | | — .. | | Lambs .. .. | 5 | 0 | — 5 | 8 |
| | | | | | Calves .. .. | 3 | 8 | — 5 | 0 |
| | | | | | Pigs .. .. | 3 | 6 | — 4 | 6 |

Beasts, 1137; Sheep & Lambs, 12,700; Calves, 704; Pigs, 175.

**HOPS.—BOROUGH MARKET, FRIDAY, July 8.**

Messrs. Pattenden & Smith report that the market is quiet. The blighted grounds are said to improve, but the strong ones are increasing in vermin.

**HAY.—Per Load of Thirty-six Trusses.**

SMITHFIELD, THURSDAY, July 7.

| | | | | |
|---|---|---|---|---|
| Prime Meadow Hay | 75s | to 80s | Old Clover .. .. | 98s to 110s |
| Superior do. (old) .. | 84 | 96 | Second cut .. .. | 85 95 |
| Inferior do. .. .. | 60 | 70 | New Clover .. .. | 70 80 |
| New do. .. .. .. | 70 | 84 | Straw .. .. | 28 34 |
| Rowen .. .. | 60 | 70 | | |

DAVIS & Co.

CUMBERLAND MARKET, THURSDAY, July 7.

| | | | | |
|---|---|---|---|---|
| Sup. Meadow Hay . | 95s | to 100s | Inferior Clover .. | 84s to 94s |
| Inferior do. .. .. | 76 | 88 | New do. .. .. | 65 80 |
| New do. .. .. | 68 | 80 | Straw .. .. .. | 33 36 |
| Superior Clover .. | 100 | 108 | | |

JOSHUA BAKER.

WHITECHAPEL, THURSDAY, July 7.

| | | | | |
|---|---|---|---|---|
| Fine old Hay .. .. | 84s | to 92s | Fine old Clover .. | 105s to 110s |
| Inferior do. .. .. | 70 | 80 | Inferior do. .. .. | 90 96 |
| New Hay.. .. .. | 70 | 80 | Fine new Clover .. | — — |
| Inferior do. .. .. | 50 | 63 | Fine 2d cut .. .. | 95 100 |
| Straw .. .. .. | 23 | 28 | Inferior do. .. .. | — — |

**BRITISH WOOLS.—LONDON, FRIDAY, July 8.**

The state of our trade continues healthy, and the prices paid the farmers fully as high; in fact, higher in many instances than last.

| | s. | d. | s. | d. | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| South-down Hoggets .. .. .. | 1 | 6 | to 1 | 7 | Leicest. Wethers | 1 | 4 | to 1 | 4½ |
| Half-bred ditto.. | 1 | 6 | — 1 | 7 | Ditto Hoggs .. | 1 | 5 | — 1 | 6 |
| Down Ewes .. | 1 | 5 | — 1 | 6 | Combing Skins | 1 | 2 | — 1 | 4 |
| Kent Fleeces .. | 1 | 5 | — 1 | 6 | Blanket ditto .. | 0 | 6 | — 0 | 9 |
| | | | | | Flannel Wool .. | 1 | 3 | — 1 | 7 |

**MARK LANE.—MONDAY, July 4.**

The supply of English Wheat at this morning's market fresh arrived was moderate, but added to what was left over from last week made a good show. Being held in the morning for an advance of 1s. to 2s. per qr. it stopped sales, which subsequently proceeded slowly at the prices of this day se'nnight. Foreign was quite neglected; the arrivals being considerable, sales could only be effected by forcing at lower prices. Barley is a slow sale at last week's rates. Beans and Peas are unaltered in value. The Oat trade is slow, and the quotations of Monday last are barely supported. In Flour there is very little doing.

| PER IMPERIAL QUARTER. | s. | s. | | s. | s. |
|---|---|---|---|---|---|
| WHEAT, Essex, Kent, & Suffolk .. White | 46 | 54 | Red .... | 41 | 48 |
| — — fine selected runs .. ditto | 46 | 50 | Red .... | 44 | 52 |
| — — Talavera ..... | 18 | 54 | | | |
| — Norfolk ..... | — | | Red .. .. | — | |
| — Foreign ..... | 46 | 62 | | | |
| BARLEY, grind. & dist., 24s to 28s .. Chev. | 35 | 40 | Malting . | 32 | 34 |
| — Foreign .. grinding and distilling | 24 | 31 | Malting . | 30 | 34 |
| OATS, Essex and Suffolk ..... | 19 | 22 | | | |
| — Scotch and Lincolnshire .. Potato | 23 | 25 | Feed.... | 19 | 24 |
| — Irish ..... Potato | 24 | 25 | Feed.... | 19 | 22 |
| — Foreign ..... Poland and Brew | 23 | 26 | Feed.... | 19 | 25 |
| RYE ..... | — | | Foreign . | — | |
| RYE-MEAL, foreign..... | — | | | | |
| BEANS, Mazagan .... 35s to 39s .... Tick | 37 | 41 | Harrow . | 37 | 41 |
| — Pigeon .....41s — 45s .. Winds. | — | | Longpod | — | |
| — Foreign ..... Small | 38 | 47 | Egyptian | 35 | 39 |
| PEAS, white, Essex and Kent .. Boilers | 44 | 48 | Suffolk . | 46 | 50 |
| — Maple .... 42s to 44s ..... Grey | 38 | 42 | Foreign . | 42 | 46 |
| MAIZE ..... White | — | | Yellow.. | — | |
| FLOUR, best marks delivered .. per sack | 40 | 46 | | | |
| — 2d do. ..... ditto | 30 | 40 | Country. | 30 | 40 |
| — Foreign ..... per barrel | 18 | 27 | Per sack | 30 | 37 |

FRIDAY, July 8.

The weather this week has been fine and forcing, and if it remains so Wheat cutting on the forward soils is expected to be pretty general in the southern counties by Monday week. Excepting that the corn is much and very generally laid, we do not hear it complained of; we may therefore expect a fair yield if the weather continues dry; on the other hand wet would be very disastrous. Accounts from the north of France are very similar to the above, excepting that the crops there are more liable to damage from the greater quantity of weeds. From Germany Wheat is represented as promising well, but spring corn suffers from the want of rain. Great inactivity continues to be the characteristic of the Wheat trade; indeed, during the past week not only has this market been bare of country buyers, but even several of the town millers have failed to attend it. Prices throughout the kingdom have declined 1s. to 2s. per qr. The value of spring corn has not altered materially. Flour is written 1s. cheaper in the majority of the country towns. Since Friday last 12 cargoes of Wheat, 8 Maize, and 3 Barley are reported as arrived off the coast from Southern Europe, of which the sales are limited to a cargo or two of Odessa Maize at 29s. 6d. to 30s. per 492 lbs., and 1 cargo of Reny Barley at 23s. 10½d. per 400 lbs. The arrivals of foreign Wheat and Barley continue to be good, of all other grain moderate. The news of an armistice between France and Austria has increased if possible the dulness hitherto prevailing in the trade, and nearly the whole of the English Wheat left over from Monday remains unsold, the only offers made for the same being many shillings below the rates of that day, factors prefer to hold it over. Foreign was altogether neglected, and our quotations are therefore quite nominal. Spring Corn of all descriptions is difficult of sale; Barley and Oats must be quoted 6d. per qr. lower. The Flour trade is very heavy, and Norfolk difficult of sale at a decline of 1s. to 2s. per sack.

ARRIVALS FROM JULY 4 TO JU

| | Wheat. | Barley. | Oats. | Flour. |
|---|---|---|---|---|
| English .. | 2010 qrs. | — qrs. | 1530 qrs. | 1080 sks. |
| Irish .... | — ,, | — ,, | 570 ,, | — ,, |
| Foreign .. | 11250 ,, | 8990 ,, | 9520 ,, | 940 ,, — brls. |

LIVERPOOL, Tuesday, July 5.—We had a short attendance at market this morning, and buyers were just as much disinclined to operate as ever. Wheat and Flour were each offered at the rates of Friday, without leading to anything more than a small retail business. Indian Corn had only a slow sale, without change in quotations. Oats and Oatmeal dull. Egyptian Beans the turn easier. Peas and Barley were little dealt in, and value unaltered.

FRIDAY, July 8.—Corn market quiet, owing to peace news, and Tuesday's rates have been scarcely reported. Oatmeal rather firmer. Barley and Beans steady. Indian Corn in active demand, at 2s. advance. Beans firm.

| AVERAGES | Wheat. | Barley. | Oats. | Rye. | Beans. | Peas. |
|---|---|---|---|---|---|---|
| May 28.. | 53s 6d | 33s 6d | 25s 9d | 33s 8d | 46s 6d | 42s 10d |
| June 4.. | 53 5 | 33 8 | 26 1 | 37 7 | 47 0 | 40 5 |
| — 11.. | 51 5 | 31 8 | 25 11 | 41 9 | 45 0 | 40 5 |
| — 18.. | 49 11 | 31 5 | 24 11 | 36 9 | 46 7 | 40 3 |
| — 25.. | 48 3 | 31 1 | 24 9 | 37 6 | 46 8 | 41 9 |
| July 2.. | 46 4 | 30 9 | 25 10 | 33 9 | 46 1 | 40 9 |
| Agg. Aver. | 50 6 | 32 6 | 25 7 | 36 10 | 46 4 | 41 3 |

FLUCTUATIONS IN THE LAST SIX WEEKS AVERAGES.

| PRICES. | May 28. | June 4. | June 11. | June 18. | June 25. | July 2. |
|---|---|---|---|---|---|---|
| 53s 6d | — | .. | .. | .. | .. | .. |
| 53 5 | .. | .. | .. | .. | .. | .. |
| 51 5 | .. | .. | .. | .. | .. | .. |
| 49 11 | .. | .. | .. | .. | .. | .. |
| 48 3 | .. | .. | .. | .. | .. | .. |
| 46 4 | .. | .. | .. | .. | .. | .. |

## FRUIT FOREMAN.

WANTED, a Working Man, who thoroughly understands Budding, Grafting, and general management of Fruit Trees, &c.—Apply by letter only to H. LANE & SON, The Nurseries, Great Berkhampstead, Herts.

WANTED, AS FOREMAN, to take the thorough charge of a SMALL NURSERY, within 4 miles of Hyde Park Corner.—Address, with references and wages required, A. D., Ladbroke Nursery, Notting Hill, W.

WANTED, A GROWER in a small Nursery.—He must thoroughly understand the growing of Soft-wooded Plants.—Address, Ladbroke Nursery, Notting Hill, W.

WANTED, a MAN without incumbrance used to GARDENING, to put a Horse to if required, and make himself generally useful. Wages 12s. per week, with Lodging and Vegetables.—Apply by letter, A. D., 31, Cambridge Place, Paddington.

WANTED, in the country, a plain WORKING GARDENER, who understands the common routine of a Flower and Kitchen Garden, where there is but little glass; an Assistant is given. Wages 16s. per week and a cottage.—Apply J. L. GOWER, Esq., Westwood, Colchester, Essex.

WANTED, AS PROPAGATOR, a respectable single man, well qualified in Hard and Soft-wooded plants. None need apply unless well experienced.—Address J. GRAY, Nurseryman, West Derby, Liverpool.

## TO BAILIFFS.

WANTED, AS BAILIFF, in one of the Midland Counties, an active married Man, under 45 years of age, who thoroughly understands the Management of Stock, and has had experience in Draining, Surveying, setting out Farm Buildings, and can Manage the Sale of Timber on a gentleman's Estate. All applications must be accompanied by a statement as to the nature of the employment the parties have been last engaged in, the name of their employer, and the salary they require, House and Garden being found.—Apply, by letter only, 504, *Herald* Office, Birmingham.

WANTED, a steady, active Man as FARM BAILIFF, who thoroughly understands the management of Heavy Land, Sheep and Stock of all kinds, and who would, if required, be capable of taking the management of a Farm of 500 acres of Heavy Land.—Address, M. S., Post Office, Sudbury, Suffolk.

## MAN AND WIFE.

WANTED, on a Farm of about 70 acres in Surrey, a WORKING GARDENER to take the management of the above, with about 5 acres of Orchard and Garden Land. He must be thoroughly conversant with Stock and with the management of Fruit trees. No Glass houses; no Flower Garden. The wife must be a first-rate Dairywoman, and a good manager of Poultry. There are about 8 Cows. A very comfortable house.—Address, with full particulars and wages required, to B., 23, Old Jewry, E.C.

## WANT PLACES.—Letters to be Post Paid.

GARDENER (HEAD).—Age 43, married, no incumbrance; twelve years' character from his last employer, six years in his previous situation.—W. Y., *Gardeners' Chronicle* Office.

## TO NOBLEMEN OR GENTLEMEN.

GARDENER (HEAD).—Married; understands Forcing, Fruits, Vegetables, &c., Orchids, Ferns, Stove, Greenhouse, and all kinds of ornamental Plants, Kitchen and Flower Gardens. Seven years' recommendation from last employers.—ALPHA, care of Mr. Sage, The Earl Howe's, Gopsall Hall, Atherstone.

GARDENER (HEAD).—Married, middle-aged, no incumbrance; thoroughly understands his profession in all its branches. Wife can take Dairy and Poultry, and Bake, if required. Both can have 7 years' good character from their last place. More than 40 miles objected to.—A. P., Highgate Wood Cottage, Jackson's Lane, Highgate, N.

GARDENER (HEAD).—Middle-aged, married, two children; possesses first-rate abilities in every branch of Gardening, civil and obliging, a good workman, quick at Accounts, well understands the management of Hay and Grass Land. Good character.—D., Post Office, Whetstone, Middlesex.

GARDENER (HEAD).—ROBERT MILLER, aged 37, married (Scotchman), Gardener to F. Cooper, Esq., Tathwell Hall, Louth, Lincolnshire, well skilled in the profession, and will be most happy to treat with any nobleman or gentleman in want of an experienced and energetic Man. Satisfactory reasons given for leaving.—Direct as above.

GARDENER (HEAD).—Age 34, married, no incumbrance; perfectly understands his profession in all its branches. Seven years' good character from last employer.—J. G., Batchelor's Library, Dover, Kent.

GARDENER (HEAD).—Age 30, single; thoroughly understands the management of Pines, Vines, Peaches, the Forcing of Fruits, Flowers, Vegetables, &c.—C. C., 5, Streatham Hill, Brixton.

GARDENER (HEAD).—Age 30, married, without incumbrance; thoroughly understands his profession, Early and Late Forcing, Flower and Kitchen Gardens.—Can have a good character from the gentleman he has just left.—J. F., Mr. Knott's Green, Leyton, Essex.

GARDENER (HEAD).—WM. CUTBUSH, of Barnet Nurseries, Herts, can with confidence recommend a highly respectable Man, married, knowing him to be a thorough knowledge of his profession. His Wife would take charge of Laundry or Dairy if required.

GARDENER (HEAD).—Age 28, single; good experience in Grapes, Pines, Peaches, and Cucumbers, Stove and Greenhouse Plants, including Ferns, and Fruit and Flower Gardening. Good character.—H. B., Mr. Le Love's, Surbiton Hill, Kingston, Surrey.

WORKING GARDENER (HEAD).—Age 30, married; perfectly understands the Culture of Pines, Melons, Cucumbers, and Plants, Flower and Kitchen Gardens, and Pasture Land. Can be highly recommended.—A. B. C., Mr. Ashton, Seelsman, Uxbridge.

GARDENER.—Age 30, married; understands the Management of Greenhouse, Grapes, Cucumbers, Melons, Kitchen and Flower Gardens. Good character from present employer.—C. WRIGHT, B. H. Hunt, Esq., Lewes.

GARDENER.—Middle-aged, married, without incumbrance; understands Growing Pine, Grape, Stove and Greenhouse Plants, also Flower and Kitchen Garden. Has no objection to go to America. Good character of many years standing.—D. F., Mr. Veitch, Royal Exotic Nursery, Chelsea, London.

GARDENER.—Age 35, married, without incumbrance. Wife can take the Management of the Laundry or Dairy. A good reference as to character.—A. B., Mr. Rollisson's Nursery, Lower Tooting.

GARDENER.—Married, without incumbrance; understands Fruit, Flower, and Kitchen Gardens, Vineries, and Greenhouses. Good character and recommendation.—Mr. J. GREEN, The Gardens, Sir E. Antrobus, Bart., Cheam, Surrey.

GARDENER.—For many years has had the management of a first-class London Market Garden, where Grapes, and Peaches are grown in the best perfection; a good Plant Grower; well understands Ferns and Ornamental Plants, &c. Can produce first-rate testimonials.—M., 1 Durham Place, Seven Sisters Road, Holloway.

## TO NOBLEMEN AND GENTLEMEN

GARDENER.—Married; who for 17 years had the entire Management of the Gardens, Pinery, Vinery, Stove and Greenhouse Plants, Ferns, Orchids, at Sowber Hill, near Northallerton, the residence of the late John Hutton, Esq. Is leaving his present employment on account of the death of his master. A similar place would not be accepted.—H. N., Sowber Hill, Northallerton.

GARDENER or SUPERINTENDENT to a nobleman or gentleman, either in Great Britain or any part of the Globe.—Middle aged; practical Horticulturist and Nurseryman in all its branches. Liberal wages expected.—*Gardeners' Chronicle* Office.

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STEWARD AND GARDENER.—Age 40, married; nine years' General Manager to present employer. Has had the care of the Farm, Woods, Kitchen and Flower Gardens, Hothouses, &c., Saw mill Steam engine. Erection of Hothouses, Underdraining, taking the Rents, and Superintendence of Estate of 5000 acres.—A. B., Oxburgh, Stoke Ferry, Norfolk.

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# The Gardeners' Chronicle Newspaper.

*SATURDAY, JULY* 16, 1859.



THE HEART OF THE ANDES. By Frederick E. Church (Painter of the Great Fall, Niagara), is being exhibited daily by Messrs. DAY & SON, Lithographers to the Queen, at the German Gallery, 168, New Bond Street.
Admission One Shilling.

NOTICE OF DIVIDEND.—BANK OF DEPOSIT (Established A.D. 1844), No. 3, Pall Mall East, London, S.W.—The WARRANTS for the HALF-YEARLY INTEREST, at the rate of 5 per cent. per annum, on Deposit Accounts, to the 30th June, are ready for delivery, and payable daily between the hours of 10 and 4.
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Prospectuses and Forms sent free on application

RIFLE CORPS AND LIFE ASSURANCE.
THE SCOTTISH UNION INSURANCE COMPANY hereby intimate that they will NOT CHARGE EXTRA PREMIUM for persons joining and serving in any Volunteer or Rifle Corps so long as they remain within the United Kingdom of Great Britain and Ireland.
The terms and conditions of this Company (established 35 years), are in every sense liberal.
Persons opening policies now and before the end of July, will participate in the profits of the year then ending.
The next division will be in 1861.
Prospectus, and forms of proposal, may be had at the Company's offices, 37, Cornhill, London; and of the agents throughout the kingdom.
F. G. Smith, Secretary to London Board.
37, Cornhill, June, 1859.

NEXT OF KIN, HEIRS, &c., WANTED, and others who have been Advertised for—being exact copies of Advertisements from the *Times, Gazette, Chronicle, Herald, Post, New York Herald, Melbourne Argus, Sydney Herald, Inchcape Mail*, &c., for the last 40 years, covering many hundreds of Names and descriptions of Persons entitled to Property of several Millions value. This valuable Book is sent post free for eight penny stamps. Directed to Fisher & Son, Publishers, Bloomfield Street, Kingsland, London, N.E. Punctually sent per return.
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| 12 Dessert Spoons .. | 1 10 0 | 1 15 0 | 2 2 0 | 2 10 0 |
| 12 Tea Spoons .. .. | 0 18 0 | 1 4 0 | 1 10 0 | 1 18 0 |
| 6 Egg Spoons, gilt bowls.. | 0 12 0 | 0 15 0 | 0 18 0 | 1 1 0 |
| 2 Sauce Ladles .. .. | 0 7 0 | 0 8 6 | 0 10 6 | 0 16 0 |
| 1 Gravy Spoon .. .. | 0 8 0 | 0 11 0 | 0 13 6 | 0 16 0 |
| 2 Salt Spoons, gilt bowls.. | 0 4 0 | 0 5 0 | 0 6 0 | 0 7 6 |
| 1 Mustard Spoon, gilt bowl .. .. | 0 2 0 | 0 2 6 | 0 3 0 | 0 3 9 |
| 1 Pair of Sugar Tongs .. | 0 3 0 | 0 3 9 | 0 5 0 | 0 7 0 |
| 1 Pair of Fish Carvers .. | 1 4 0 | 1 7 6 | 1 12 0 | 1 18 0 |
| 1 Butter Knife .. .. | 0 3 6 | 0 5 9 | 0 7 6 | 0 8 0 |
| 1 Soup Ladle .. .. | 0 13 0 | 0 17 6 | 1 0 0 | 1 1 6 |
| 1 Sugar Sifter .. .. | 0 4 0 | 0 4 9 | 0 5 9 | 0 8 6 |
| Total .. .. | 11 14 6 | 14 11 3 | 17 14 9 | 21 4 9 |

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E. R. AND F. TURNER, Ipswich, manufacture Prize Mills for Crushing Corn, Seed, Malt, &c; Portable Grinding Mills, Steam Engines fixed and portable from 2 horse-power and upwards; Threshing Machines, Chaff Cutter, Oilcake Breakers, Horse Gears, Saw Tables, &c., all of a superior description and adapted for Home, Colonial, and Foreign use. Illustrated Price Lists sent free on application.

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See review, *Mark Lane Express*, August 30, 1858.

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## News of the Week.

A Treaty of Peace has been concluded between the Emperor of Austria and the Emperor of the French. This important event, which puts an end to the Italian war within three months of its commencement, was agreed upon on Monday at an interview which took place between the Emperors at Villafranca, at the express desire of the Emperor Napoleon. The Treaty provides for a Confederation of Italian States, under the honorary

presidency of the Pope. The EMPEROR OF AUSTRIA surrenders Lombardy as far as the Mincio to the EMPEROR NAPOLEON, and the EMPEROR NAPOLEON gives it to the KING OF SARDINIA. The territory east of the Mincio, including Mantua, Peschiera, Verona, Borgoforte, and Venice, remains an Austrian possession, and is to form an integral part of the Italian Confederation under the name of Venetia. The GRAND DUKES of TUSCANY and MODENA are to return to their respective states, and a general amnesty is to be granted to all persons compromised by the recent events. It is also understood that the two Emperors agreed to demand reforms at the hands of the POPE, and that the EMPEROR NAPOLEON neither demanded the cession of Savoy to France, nor asked for any addition whatever to his dominions. Accounts from Turin state that Count CAVOUR, the Sardinian Prime Minister, and his colleagues, have testified their dissatisfaction with the conditions of peace by tendering their resignations. The KING OF SARDINIA has accepted their resignations, and has charged Count ARESE to form a new Administration. The EMPEROR OF AUSTRIA left Verona on Thursday for Vienna, and the EMPEROR OF THE FRENCH was expected to leave Milan yesterday on his return to Paris.

In the House of Lords on Monday the Earl of RIPON made a further statement respecting the drill and instruction of volunteer rifle corps, and Lord BROUGHAM called attention to the subject of Coolie labour in the West Indies, which had been perverted, he said, into a renewal of the Slave Trade. On Tuesday, on the motion of Lord LYNDHURST, an address for the appointment of a Royal Commission to inquire into the mode of taking evidence in the Court of Chancery was agreed to. On Thursday, in answer to the Earl of CARNARVON, the Duke of NEWCASTLE said it was not the intention of the Government to recommend the renewal of the Hudson Bay Company's Charter which expired in May last, but it would be necessary to pass a Bill for the prevention of disputes between the whites and the Indians, and to lay down rules for the regulation of trade.

In the House of Commons on Friday the House went into Committee of supply on the Navy Estimates, when Lord CLARENCE PAGET made a statement of our naval force, and votes were taken for 10,000 additional seamen and marines. In the course of his statement Lord C. PAGET announced that there are at present 106 ships in commission, besides a force of gunboats constituting our first line of defence. The second line consists of 9 block ships manned by the coast-guard, 3400 first-rate seamen on the coast-guard station, and 6000 coast volunteers sufficient to man 12 line-of-battle ships, independently of marines. There are also 10 ships of the line ready for commission, and 10 more in course of construction, and there will be a grand total of 50 ships of the line afloat by the close of the present financial year, independently of the block-ships, 37 frigates, and 140 sloops, corvettes, and other vessels of that class. On Monday the Lords' amendments to the Red Sea and Indian Telegraph Company Bill were agreed to after a division on a motion for adjournment, which was negatived by 177 to 130. On Tuesday the adjourned debate on the second reading of the Roman Catholic Relief Act Amendment Bill was resumed by Mr. NEWDEGATE, who moved as an amendment that the Bill be read a second time that day three months. After a long discussion Colonel DICKSON moved the adjournment of the debate. On a division the motion was negatived by 210 to 142. Lord PALMERSTON then suggested that the debate should be adjourned to Tuesday next, which was agreed to. On Wednesday, on the motion for the second reading of Sir J. TRELAWNY'S Church Rates Abolition Bill, Mr. DU CANE moved that the Bill be read a second time that day six months. The Bill was supported by Lord PALMERSTON, Lord J. RUSSELL, and Sir G. LEWIS, and the second reading was carried on a division by 263 to 193. On Thursday the House went into committee on the remaining Navy Estimates and made some progress with the Army Estimates. The Middlesex Assistant Judge Bill passed through committee after two divisions, in which the clauses were carried by large majorities.

## Home News.

THE COURT.—The Queen and Prince Consort, accompanied by the Prince of Wales, Prince Arthur, Princess Alice, and Princess Helena, left town on Friday for the season. The Royal party arrived at the Pavilion at Aldershott on Friday afternoon at 7 o'clock. In the evening her Majesty gave a dinner party to General Knollys and the colonels in command of regiments. On Saturday morning the Queen drove out, accompanied by Prince Arthur, Princess Alice, and Princess Helena, and went round a part of the camp. Her Majesty inspected the wards of the hospital in the south camp, the regimental schools, and the racquet court. The Prince Consort and the Prince of Wales rode out on horseback. In the afternoon her Majesty, accompanied by the Prince Consort, the Prince of Wales, and Princess Alice, reviewed the troops in camp. In the evening her Majesty had a dinner party. On Sunday morning the Queen, Prince Consort, and the Royal family attended Divine service in the South Camp church; the Rev. J. E. Sabin, senior chaplain, preached the sermon. In the afternoon the Queen, Prince Consort, and Royal family visited the new camp at Woolmer Common. In the evening her Majesty had a dinner party. On Monday morning at half-past 9 the Queen reviewed the cavalry division. In the afternoon her Majesty, the Prince Consort, and the Royal family left the Pavilion for Osborne, travelling to Gosport by a special train from the Farnborough station of the South-Western Railway. On Tuesday the Queen and Royal family walked and drove in the neighbourhood of Osborne. On Wednesday afternoon the Queen and Prince Consort, accompanied by the Prince of Wales, Princess Alice, Princess Helena, and Princess Louisa, embarked in the Fairy, and went up the Southampton River. The Prince Consort and the Prince of Wales landed at the Royal Military Hospital at Netley, and inspected the progress of the works. On Thursday the Prince of Wales left Osborne for London.

THE PRINCE OF WALES arrived at Buckingham Palace on Thursday evening from Osborne, and left town yesterday morning for Edinburgh.

HIS HIGHNESS TOUSSOON PASHA, son of the Viceroy of Egypt, accompanied by his suite, arrived in London on Saturday night.

COURT MOURNING.—An order from the Lord Chamberlain's office was issued on Tuesday, for the Court to go into mourning for the late King of Sweden and Norway for three weeks, commencing on Thursday the 14th inst.

KNIGHTHOOD.—The Queen has directed letters patent to be passed under the Great Seal, granting the dignity of a Knight of the United Kingdom unto William Byam, Esq., President of the Council of Antigua; and William Snagg, Esq., Chief Justice of Antigua and Montserrat. Her Majesty has also conferred the honour of Knighthood upon Richard Bolton McCausland, Esq., Recorder of Singapore.

THE CABINET.—A Cabinet Council was held on Saturday at the official residence of the First Lord of the Treasury in Downing Street. Another Council was held on Monday, and another on Thursday.

PARLIAMENTARY MOVEMENTS.—Mr. Milner Gibson was re-elected for Ashton-under-Lyne, and Mr. C. P. Villiers was re-elected for Wolverhampton on Saturday, without opposition.

VICTORIA CROSS.—The Queen has conferred the Victoria Cross on Mr. Thomas Henry Kavanagh, Assistant Commissioner in Oude, and on Mr. Ross Lewis Mangles, of the Bengal Civil Service, Assistant Magistrate at Patna, for their services as non-military volunteers during the rebellion in India.

THE NAVY.—An order in Council was issued on Friday granting a gratuity of one half the bounties offered to seamen entering the fleet by the Proclamation of the 30th April, to all seamen already in the fleets above 20 years of age who have five years to serve, or who having less than that period to serve, are ready to engage to serve for five years, if required, from the date of the present order.

## Foreign.

FRANCE.—An Imperial salute of 101 guns, fired from the Esplanade of the Invalides at 1 o'clock on Tuesday, announced to all Paris that a Treaty of Peace had resulted from an interview which took place between the two Emperors on Monday at Villafranca. The first intelligence of the event was received by the Empress in the form of a telegraphic despatch from the Emperor, announcing that peace had been concluded by the Emperor of Austria and himself. Count Walewski, the Minister for Foreign Affairs, is said to have been as much taken by surprise by the announcement as the diplomatic body, who regard it as an innovation which merits the reprobation of all professional diplomatists that so important a step should have been taken without the knowledge, much less the aid, of either minister or plenipotentiary. The *Moniteur* contains the following remarks on the subject of the armistice which has led to this result:—

"We are anxious to explain under what circumstances the suspension of hostilities agreed on by the Emperor of the French and the Emperor of Austria was concluded. The three great neutral Powers have exchanged communications with each other, with the purpose of uniting in an offer of their mediation between the belligerents. The first act of this mediation would have tended to procure the conclusion of an armistice; but, notwithstanding the facilities for correspondence by means of the telegraph, the communications that had to be established between the Cabinets to allow this result to be obtained for several days the actions of our fleet against Venice were about to another conflict between the two armies might at any moment have taken place. Under these circumstances the Emperor, ever faithful to the sentiments of moderation that have always directed his policy, besides, above everything, to prevent all useless bloodshed, not hesitate to ascertain, in a direct manner, the views of the Emperor Francis Joseph, in the belief that with his own, it was a sacred duty on the part of both to suspend immediately hostilities that might jeopardize their object by the fact of a mediation. The views Austria having manifested similar intentions, Commissioners were named on both sides, and met to draw up the the armistice; it was definitively concluded on the and its duration fixed for five weeks."

The *Moniteur* publishes a decree signed by the Emperor at his head-quarters at Cavriana, by which Niel is raised to the dignity of marshal of France. also publishes a second warning to the Univers account of the article of its political director, L. Veuillot, in the number of the 10th of July.

SPAIN.—The *Esperanza* of Madrid states that in the Calle de Atocha there resides an English lady on certain days has Protestant worship celebrated a certain degree of publicity, in her drawing-room minister of the Anglican Church," and it suggests it is perhaps that lady and her friends who inoculated the "Bibles and other pernicious publications which have lately appeared in profusion at Madrid. The *Esperanza* therefore calls the attention of the authorities to the proceedings of this lady. *Espana* reproduces the paragraph, and declares "the Government cannot see with indifference the attempt made to break religious unity in a Catholic country as Spain."

DENMARK.—The Danish Government in reply to a demand of the Society of Merchants states that if the contingent of Holstein be obliged to join the war, the Danish Government will nevertheless respect the neutrality of Denmark and Schleswig, in which resolution the Great Powers have already agreed. The Government, it adds, aims at obtaining from the Powers an additional sanction for an armed neutrality.

SWEDEN.—Letters from Stockholm announce the death of King Oscar on the 8th inst., in his 67th year after an illness of two years.

SWITZERLAND.—The Federal Council has ordered all troops called in on the outbreak of the war to be also ordered all the Austrian steamers, together with cannon and other arms taken from Austrian and Sardinian refugees during the war, to be given up.

FRANKFORT.—The *Prussian Gazette* of Wednesday says that the proposal made on the 4th inst. by the Prussian Federal Ambassador to the Federal Diet is under present circumstances, withdrawn by the Government, and that the necessary orders have already been despatched to Frankfort. Counter-orders have been sent to the Prussian troops, who were to have begun their movement towards the Rhine on Thursday. The *Prussian Gazette* of Monday published an article in which the earlier proposals of Prussia and the later proposal of Austria to the Federal Diet were put in comparison. The article says:—

"Austria intends, by her proposal, to request the Regent to accept the post of Commander-in-Chief of the Federal army. The possessor of the chief power in the state of Prussia can never be personally responsible to the Diet. It is easy to perceive how a member of the Federal Diet, who at the same time a belligerent Power, can make a proposal the acceptance of which would render dubious the Diet's action, and force Germany to commence a war, by which it would be ruined. The Federal Diet has to choose between the proposals of Prussia and Austria. It can accept the latter, or, by the acceptance of the latter, deprive Germany of power of action, even also of the power of entering negotiating for peace. It would also lower the military power of the German States to the organisation of the old and not the German empire. The German nation will not decide at this moment on which side lie the recognition and decision which is now above all things needed for the Fatherland."

PRUSSIA.—The *Prussian Gazette* of Wednesday says that in consequence of the completion of the preliminaries of peace, orders have been transmitted to the troops on the march to halt at the respective places where they may now happen to be. Prince Windischgratz went to Potsdam on Wednesday to take his leave, and left on Thursday with his suite on his return to Vienna. The Empress Dowager of Russia left Potsdam on Thursday for the baths at Ems.

HUNGARY.—Letters from Hungary state that the whole country is inundated with proclamations from Kossuth, in which he says that the expulsion of the House of Hapsburg is the mission of the Hungarian nation, that he shall be supported by a power which 10 years ago replaced the House of Hapsburg on the throne, and that that power is now engaged in preparing its arms against the Hapsburgs. He concludes by saying, "I swear to you, by the God of the Magyars, that I will enrich your soil for a thousand years in reconquering Hungarian liberty." General Klapka has also issued a proclamation to the Magyars, calling on them to take up their scythes as well as their muskets and assemble under his command to recover the old Hungarian liberty.

AUSTRIA.—The Emperor has ordered the immediate cessation of the recruiting of soldiers. There is every reason to believe that the whole governing system will be changed in Austria, and the report of important changes is rife at Vienna. A change of the whole Cabinet is talked of, including the removal of Count Grunne, who has for the last 10 years had so much influence in the affairs of Austria.

ITALY.—The Emperor on Sunday issued the following order of the day:—

"Valleggio, July 10.—Soldiers! An armistice has been concluded on the 8th inst. between the belligerent parties, to extend to the 15th of August next. This truce will permit you to rest after your glorious labours, and to recover, if necessary, new strength to continue the work which you have so gloriously inaugurated by your courage and your devotion. I am about to return to Paris, and shall leave the provisional command of my army to Marshal Vaillant; but as soon as the hour of combat will have struck you will see me again in your midst to partake of your dangers."

The *Austrian Correspondence* of Sunday contained the following:—

"According to official news from Verona, an interview between the Emperor Napoleon and the Emperor of Austria will, in consequence of a desire expressed by the Emperor Napoleon, take place at Villafranca at 9 A.M. to-morrow, the 11th inst."

In accordance with this intimation the two Emperors met on Monday morning, and the result of the interview was announced in the course of the day in the following despatch from the Emperor of the French:—

THE EMPEROR TO THE EMPRESS.—"Peace has been signed between the Emperor of Austria and myself. The bases of the peace are—An Italian Confederation, under the honorary presidentship of the Pope. The Emperor of Austria cedes his rights over Lombardy to the Emperor of the French, who hands them over to the King of Sardinia. The Emperor of Austria preserves Venetia, but it forms an integral part of the Italian Confederation. General amnesty."

The Vienna papers give the following as the preliminary conditions of the treaty of peace:—

"Austria and France will support the formation of an Italian Confederation, which Austria will join, but probably with Venetia alone. Lombardy, as far as the line of the Mincio, is to be given up by Austria; but Mantua, Peschiera, Borgoforte, and the whole of Venetia, are to remain Austrian possessions. The Grand Dukes of Tuscany and Modena are to return to their States; and all persons compromised during recent events are to receive full amnesty."

The *Moniteur* of Wednesday publishes the following proclamation, by which the Emperor Napoleon announces the conclusion of the treaty of peace to the French army:—

"Soldiers,—The bases of a peace have been agreed on with the Emperor of Austria; the principal object of the war is attained; Italy will for the first time become a nation. A Confederation of all the States of Italy under the honorary Presidence of the Pope will re-unite in one group the members of the same family. Venice, it is true, will remain under the sceptre of Austria, but it will be, nevertheless, an Italian province, forming part of the Confederation. The union of Lombardy to Piedmont creates for us on this side of the Alps a powerful ally, who will owe to us his independence. The Governments that have taken no part in this movement, or are recalled to their territories, will comprehend the necessity of salutary reforms. A general amnesty will remove all traces of civil discord. Italy, henceforth the mistress of her own destinies, can only blame herself if she does not progress in order and liberty. You will soon return to France; a grateful country will receive with joy the soldiers who have carried to so high a point the glory of our arms at Montebello, Palestro, Turbigo, Magenta, Marignana, and Solferino; who in two months have liberated Piedmont and Lombardy, and have only stopped because the conflict was assuming a magnitude no longer in proportion to the interests that France had in this formidable war. Be proud, then, of your success; proud of the results obtained; proud, above all, of being the beloved sons of France, which will always be a great nation as long as she has the heart to comprehend noble causes and men like you to defend them."

The following proclamation from the King of Sardinia was posted up at Milan on Wednesday evening:—

"THE KING TO THE PEOPLE OF LOMBARDY.

"Heaven has blessed our arms. With the powerful aid of our magnanimous and valiant ally the Emperor Napoleon we arrived in a few days, after victory upon victory, at the banks of the Mincio. To-day I come back among you to tell you the happy news that Heaven has granted your wishes. An armistice, followed by the preliminaries of peace, assures to the people of Lombardy their independence. According to your desire, so many times expressed, you will henceforth form, with our ancient States, one single and free family. I will take your destiny under my direction, and hope to find in you that concurrence which the chief of a State needs in order to create a new administration. I tell you, people of Lombardy, trust to your King. Established on solid and imperishable bases, he will procure happiness for the new countries which Heaven has intrusted to his government."

A despatch from Turin states that Count Cavour and his colleague, in consequence of the conditions of the peace, have thought it their duty to tender their resignations, which have been accepted by the King; and Count Arese has been charged to form a new Cabinet. There is good reason to believe that the Emperor of Austria peremptorily refused to consent to the assembling of a Congress. A despatch from the Emperor Napoleon announces that his Majesty is in perfect health, and was preparing to set out for Paris. The Emperor being on the banks of the Lago di Garda, several gun-boats were successfully launched. Advices from the Tyrol to the 6th inst. state that all the Austrian troops had left Windschau, and were then concentrated on the Stelvio Pass, where a conflict was expected on the next day. Letters from Ancona to the 30th ult. state that General Calbermatten had taken the command of the town, and declared a state of siege. A general disarming had been ordered. Advices from Naples to the 9th inst. state that some Swiss troops on the evening of the 7th inst. mutinied in the barracks and killed the colonel of the 4th Regiment and several officers. They afterwards repaired to the Royal palace, but a battalion of Chasseurs and a regiment of Hussars posted there forced them to fall back as far as the Champ de Mars, where they were surrounded. The General Commander-in-Chief of the Swiss called upon them to surrender, but they replied by a discharge of firearms, wounding the general and about 20 privates. General Nunziante then gave orders to fire on the mutineers with grape, by which 75 were killed and 233 wounded. The King is at present residing at Naples.

RUSSIA.—The Grand Duke Constantine, after having been fêted in a most magnificent style in Constantinople, has left that place for Nicolaief. It is reported that he goes overland to St. Petersburg, leaving his squadron in the Mediterranean, and will perhaps bring out a fresh one from the Baltic.

TURKEY AND THE PRINCIPALITIES.—The affair of Prince Couza is settled. He will receive investiture by the Porte, and will be confirmed in the double election. But this exception is not to govern the future.

INDIA.—The Government of India has arrived at a decision on the question of the European grievances. All men who wish to quit the service in the three Presidencies are to receive their discharge and a free passage to Great Britain. The order affects all the Presidencies, and enables 14,000 men to claim their discharge. The larger moiety will, it is expected, remain; but the departures, especially from the light cavalry, will be numerous.

UNITED STATES.—Accounts from Washington state that Mr. Dodge, ex-Minister to Spain, had reported that the purchase of Cuba under present circumstances is inauspicious, but he believed that the course commenced by the President will lead to the consummation of that object by negotiation. The Argo screw steamer, employed on the Galway line, has been totally wrecked off Newfoundland on her way from New York to Ireland. She was one of the eight large vessels lately purchased by Mr. Lever from the European and American Company. It is stated that her loss was a result of false information given by a fisherman. Her passengers were safely landed at St. John's, Newfoundland, but with serious loss of luggage. Monsieur Blondin has successfully accomplished the feat of walking across the Niagara river on a tight rope, in the presence of several thousand persons. He first crossed from the American side, stopping midway to refresh himself with water raised in a bottle with a rope from the deck of the steamer Maid of the Mist. The time occupied in the first crossing was 17¼ minutes. The return from the British to the American side was accomplished in 12 minutes. A frightful railway disaster has occurred to a train from Chicago, about 2 miles east of South Bend, Indiana. The train of six cars was totally demolished, and more than 70 passengers killed. Sixty dead bodies had been recovered at latest dates.

MEXICO.—The American Minister has sent a remonstrance to Miramon's Minister for Foreign Affairs in the name of President Buchanan, expressing his great indignation at the withdrawal of the exequaturs from the American Consuls, and the murder of peaceful American citizens by Miramon's soldiers at Tacubaya. The measure is characterised as a violation of national rights and treaty stipulations, and Miramon is warned that this will be remembered, and redress obtained, whatever may be the result of the remonstrance.

# Parliament.

## HOUSE OF LORDS.

MONDAY.—*Volunteer Rifle Corps.*—The Earl of RIPON, in reply to questions from Lords VIVIAN, CLANRICARDE, and MALMESBURY, said it was not the intention of her Majesty's Government to pay instructors for the volunteer rifle corps; it was simply intended to supply them with trained instructors, who would be paid and boarded by the rifle corps themselves. Neither was it designed to issue pay and uniforms to the corps of volunteer artillery, but only to supply them with guns, ammunition, and instruction. Her Majesty's Government had also made preparations for the instruction of 25 adjutants and 100 sergeants at the school of musketry at Hythe, who, when sufficiently trained, would be employed to instruct their comrades in the use of the Enfield rifle, which would then be issued to the embodied militia.—The Earl of MALMESBURY thought that artillery corps would be more attractive to volunteers if it were understood that they would not be employed out of their own counties.—The Earl of RIPON declined to enter into a discussion on so important a matter.—Lord BROUGHAM called attention to the subject of *Coolie Labour* in the West Indies, and entered into the operation of local acts and practices, which had been perverted until they amounted to something very like the renewal of the slave trade.—After some remarks by the Duke of NEWCASTLE and the Earl of AIRLIE, the subject dropped.—The Earl of CORK asked if it was the intention of the Government to introduce any Bill for the better management of *Endowed Schools in Ireland?*—After some observations from Lord BROUGHAM, Earl GRANVILLE stated that it was not the intention of Government to bring forward a Bill upon the subject during the present session. The *Sale of Gas Bill* was read a second time, and the *Sessional Decisions Bill* a third time.

TUESDAY.—*The Treaty of Peace.*—Lord WODEHOUSE communicated to the House a telegram, just received from the British Ambassador at Paris, stating that "Peace had been signed between the Emperor of Austria and the Emperor Napoleon, on the bases of an Italian Confederation under the honorary presidency of the Pope; the Emperor of Austria ceding his rights to Lombardy to the Emperor of the French, who transfers them to the King of Sardinia; the Emperor of Austria preserving Venetia, which is to be an integral part of the Italian Confederation."—The Duke of NEWCASTLE, in reply to Lord CARNARVON, said it was not the intention of her Majesty's Government to introduce a measure in this country for a partition of the debt of the colonies of *New South Wales and Queensland*, but to leave the matter to the decision of the colonies themselves.—Lord LYNDHURST moved an address for the appointment of a Royal Commission to inquire into the mode of taking evidence in the Courts of Chancery and its effects, and pointed out the different modes of procedure in the courts of common law and equity, complaining of the complicated method of taking evidence in the latter courts. He explained that evidence was taken by one set of persons and decided on by another, and that counsel had the means of tampering with evidence, or, as it was technically called, "cooking an affidavit." He insisted on the necessity of taking steps to remedy the defects of a system which he characterised as almost useless, very expensive, and very dilatory.—The LORD CHANCELLOR thinking that the present system was susceptible of great improvement, agreed to the motion.—Lord CRANWORTH thought the motion for a Commission most desirable, and hoped that it would mitigate some of the evils so justly complained of.—Lord CHELMSFORD thought things were not so bad as described by Lord Lyndhurst, and that it would be better to remedy the defects by introducing a Bill for that purpose than by appointing a Royal Commission.—Lord BROUGHAM advocated the appointment of a Commission, as it would collect information as a basis for the drawing up of an effective measure on the subject.—Lord WENSLEYDALE made a few remarks, after which the motion was agreed to.—Lord GRANVILLE, in answer to a question from Lord Airlie in regard to the report of the Commissioners of the *University (Scotland) Act*, said he could not give any definite reply, as the report was still under the consideration of Commissioners, and had not been yet communicated to her Majesty's Government.

THURSDAY.—The LORD CHANCELLOR, in moving the second reading of the *Attorneys' and Solicitors' Bill*, explained that the object of the measure was to abridge the terms of the articles by one year of those young men who had passed an examination to the satisfaction of the examiners.—After a few remarks from Lord BROUGHAM, the Bill was read a second time.—*Hudson's Bay Company.*—The Duke of NEWCASTLE, in answer to a question from Lord CARNARVON, said that it was not intended to renew the charter of the Hudson's Bay Company which had expired last May. It would, however, be necessary to pass a Bill to prevent disputes between the whites and the Indians, and also to regulate trade. He was not prepared to promote colonisation by assisting emigrants, though all facilities should be given to settlers. He approved of railway plans for that country, but could not recommend any proposal for subsidising them.—*Arming of Merchant Ships.*—The Earl of ALBEMARLE asked whether the Government had considered any arrangements with the owners of private steamers whereby such vessels could be made available for carrying heavy guns.—The DUKE of SOMERSET said that a committee of naval officers had examined into the subject in 1852, and reported that of 1200 private steamers not more than 12 could be made available for war purposes, and that only at a heavy cost. Certain vessels, as the steamtugs on the Mersey, might probably be made available, and the Government had ordered an inquiry on the subject.—After some observations from the Earl of HARDWICKE, the subject dropped.

FRIDAY.—*Italian Affairs.*—Earl GRANVILLE said that her Majesty's Government would not be in possession of any definite information with respect to the terms of the peace between France and Austria till the Emperor of France returns to Paris. He thought, therefore, that it would be more conducive to the public service if the motion of Lord Malmesbury, for certain diplomatic papers, were postponed for the present.—The Earl of MALMESBURY said he would readily postpone till a future day the motion he had on the paper. (Left sitting.)

## HOUSE OF COMMONS.

FRIDAY.—*Roman Catholic Oath.*—In answer to Mr. MAGUIRE the ATTORNEY-GENERAL for IRELAND said that early next session the Government would introduce a Bill for the modification of the oath taken by the Roman Catholic members of Parliament. In answer to Mr. BRADY, the learned gentleman said that the laws regulating the relations between *Landlords and Tenants in Ireland* will be taken into consideration by the Government during the recess, with a view to legislation next session.—In answer to Mr KINNAIRD, Sir G. LEWIS said that he hoped in the course of next session to propose a measure to place *Roman Catholic Charities* under the superintendence of the Charity Commissioners.—*Outrage in Mexico.*—Mr. SCHOLEFIELD called attention to the present state of Mexico, especially with reference to outrages committed upon British subjects, and asked what steps had been taken to obtain redress.—Lord J. RUSSELL admitted that great outrages had been perpetrated upon British subjects, but a squadron had been sent out by the late Government, and every effort would be made to give effect to the presence of the English flag. The House then went into committee of supply on the *Navy Estimates*, when Lord C. PAGET made a statement of the exact condition of our naval forces at the present time. The number of steam ships of the line in commission was, at home, 12; and in the Mediterranean, 14; total 26. The number of steam frigates was 16, 13 at home, and 3 in the Mediterranean. Including corvettes, sloops, and other vessels, there were 54 in commission, besides a force of gunboats. These vessels constituted our first line of defence. The second line consisted of 8 line ships, manned by Coast Guards, which might be made very valuable ships, and the Admiralty proposed to place three of them at three of our principal ports. There was a reserve available in a few days in the event of any emergency in 3440 first-rate seamen on shore, and attached to them a large body of coast volunteers, sufficient to man 12 line of battle ships. The construction of ships during this year had been, he said, marvellous in extent. There were 10 sail of the line ready for commission; there would be three more in the course of the autumn, and one was under repair, so that we had at this time a total of 40 steam ships of the line, and at the end of the financial year there would be 50 sail of the line afloat (independent of the block ships), 37 frigates, and 141 corvettes, sloops, and other vessels of that class. Even this did not represent the naval force of England. There were 281 merchant steam-vessels, which might be easily adapted to receive an armament, and there was yet another source from which our navy could be easily recruited—namely, our merchant yards, where a vast number of vessels might be rapidly built, at the rate of half a dozen corvettes per month, fast and above the supply from our dockyards. His lordship then proceeded through the different estimates, and concluded by moving the first vote for an additional number of men.—Sir J. PAKINGTON indicated the steps taken by the late Government to restore the prestige of the navy, and inquired in what respect they had failed to maintain the honour and dignity of the country.—Sir C. NAPIER congratulated Lord Clarence Paget on his clear and sailor like statement, and criticised the shortcomings of the late Boards of Admiralty.—Mr. LINDSAY expressed his opinion that two millions might be annually saved in the expenditure of the navy by a more prudent arrangement with reference to wages to artificers, materials, and stores, seamen and marines, and the retired list of officers. He considered that under a proper naval administration the expenditure ought not to exceed from 8,000,000*l.* to 9,000,000*l.* per annum.—After some further discussion, in which Mr CARDWELL, Sir J. ELPHINSTONE, Sir F. BARING, and Admiral WALCOTT took part, votes were taken for 10,000 men and boys, for 479,695*l.* for wages, and 247,250*l.* for the victualling department.—The CHAIRMAN then reported progress. The *Public Health Bill* and the *Clerk of the Council Bill* passed through committee. The *High Sheriff's Expenses Bill* was read a second time.—Mr. WHITESIDE obtained leave to bring in a Bill to facilitate the *Transfer of land in Ireland*.—Sir G. Lewis obtained leave to bring in a Bill for the better regulation of the *Corporation of the City of London*.

MONDAY.—*Red Sea Telegraph.*—On the motion for the consideration of the Lords amendments to this Bill, Sir J. GRAHAM moved as an amendment that the Bill be deferred for a fortnight. It involved a guarantee of 4 per cent on the capital expended for 50 years, a form of guarantee which the House had hitherto passed without sufficient investigation.—Sir S. NORTHCOTE and Mr. DISRAELI contended that the money was expended on the faith of the guarantee, that it is guarantee was granted by the Government of the country, and that the undertaking was entered into at a time when the rapid transmission of intelligence was of the highest importance during the Indian mutiny.—The CHANCELLOR of the EXCHEQUER was quite willing that time should be given for inquiry, though he did not see how the arrangement of the late Government could be upset.—Mr. DISRAELI said that the late Government had exhausted every research as to the mode of

obtaining the required object without the interference of a public company. He was quite willing to consent that inquiry should be entered into, upon the view taken by the Chancellor of the Exchequer.—Mr. BOUVERIE said that it was now too late to hesitate. However bad the bargain might have been, the Government had made the contract—the House had passed the Bill. The company had gone on expending money, and if it had not been for a mere technicality, the question would not have again come before the House.—Mr. WILSON confirmed the statement of Mr. Disraeli that the late Government had exhausted every means before entering into the contract. The amendment was then put and negatived by 177 to 130, and the Lords' amendments were agreed to.—In reply to Mr. BAINES, Sir G. C. LEWIS said that the right of *Printing the Scriptures and Prayer Book* was granted by royal prerogative. The subject was under consideration, but he thought there was no practical grievance and that no competition was likely to increase either the accuracy or the cheapness of the present circulation of the Bible or Prayer Book, both of which had reached their utmost point.—Sir STAFFORD NORTHCOTE asked whether the *Submarine Telegraph Company* have been permitted by Government to lay down any additional wires between England and France, without requiring a surrender or modification of the monopoly recently granted to that company by the French Government, giving them an exclusive right to lay down lines of telegraph between the two countries.—Mr. LAING said that the late Government had invited that of France to induce them to withdraw the monopoly which they had granted to the submarine telegraph. This the French Government refused to do. The present Government then decided on refusing permission to the company to lay its wires close to the shore. Against this the company pleaded its Act of Parliament, which exempted them from such interruption till July 1862. The question had been referred to the law officers of the Crown, who had decided in favour of the company.—In answer to Mr. BUTLER, the CHANCELLOR of the EXCHEQUER said that it was not the intention of her Majesty's Government to introduce any measure during the present session by which the mode of assessment and collection of the *Income-tax* by local unpaid commissioners will be altered. *The Armistice.*—Mr. DISRAELI asked whether the Government had received any further information on the subject of the armistice, and if they would state whether it was a mere military convention, or involved any prospect of negotiations for peace?—Lord J. RUSSELL said that nothing appeared on the face of the armistice to induce the belief that it applied merely to military purposes. The armistice was, however, for five weeks, and he trusted that during that interval the belligerent Powers would be ready to propose terms by which hostilities would be put an end to. He repeated, however, that there was nothing on the face of the armistice further than the suspension of hostilities.—In answer to a further question from Mr. DISRAELI, Lord J. RUSSELL replied that no further official information had been received beyond a telegram from our Ambassador at Paris. *St. James's Park.*—On the motion for going into committee of supply, Mr. KINNAIRD called attention to the propriety of securing a road for the passage of carriages and horses from Charing Cross through Spring Gardens into St. James's Park, and asked the Chief Commissioner of Works whether he intended to avail himself of the opportunity afforded by the pulling down of Berkeley House, and to take steps for effecting this great improvement.—Lord DUNCAN, followed by Lord J. MANNERS, reminded the House that the important question of cost and compensation should be taken into consideration.—After some remarks by Mr. TITE, Mr. FITZROY said that Mr. Kinnaird should have shown the great advantage of the proposed "improvement," and that it could be accomplished at a small cost. He was prepared to take issue with him upon both points. He believed the advantage would be small, and that the expense would be not less than 53,000*l.* *Seamen's Bounty.*—Sir J. PAKINGTON asked for further explanation of the announcement made by the Government of their intention to extend the bounty offered to seamen joining the fleet to seamen who had already joined. In no other instances had bounties been made retrospective, and the precedent would act as a serious check upon future bounties, and would be very costly in the present instance.—Lord C. PAGET hoped that the discussion of the subject would be postponed till the vote for the extension of the bounty was brought forward. *The Army.*—In reply to Colonel DICKSON, General PEEL stated that the entire military force now in the country, on the 1st of June last, was 109,600 men, including the embodied militia, but not the marines ashore, pensioners, and constabulary.—Mr. W. WILLIAMS made some warm strictures against the practice of *Flogging in the Navy* on the sentence of a single man. If done at all, it should be by sentence of court-martial.—Sir C. NAPIER defended the system of bounty, which ought to be of sufficient amount to induce able men to enter the service. With regard to flogging in the navy, he did not believe that it could be done away with, but it should be inflicted by court-martial, and not at the arbitrary will of the captain.—After some remarks from Mr. LINDSAY, the House went into committee of supply on the *Navy Estimates*, which occupied the House till 12 o'clock, when the Chairman was ordered to report progress.—Mr. C. GILPIN moved the second reading of the *Poor Law Boards (Payment of Debts) Bill.*—Mr. WALTER said that portions of this Bill were unobjectionable; but the second clause had a retrospective action, its object being to set aside a judgment of the Court of Exchequer Chamber, and compel ratepayers, who had been assessed prospectively, paid their contributions, and obtained receipts, by an *ex post facto* law, to pay them over again to cover deficiencies occasioned by the acts of swindlers. He moved to defer the second reading for three months.—Mr. S. ESTCOURT defended the Bill. He explained the circumstances which had given rise to it, and was of opinion that it was fair and just that Boards of Guardians elected by the ratepayers should be enabled to pay debts incurred under those circumstances by a retrospective rate.—Mr. HENLEY moved that the debate be adjourned, but, after a short discussion, the motion was negatived by 64 to 44. The House then divided upon the original motion, which was carried by 60 to 43; and the Bill was read a second time. The *Court of Probate, &c. (Acquisition of Site), Bill* and the *Clerk of the Council Bill* were read a third time and passed.

TUESDAY.—On the second reading of *Grieve's Disabilities Removal Bill*, the object of which was to enable Mr. Grieve, a clergyman of the Episcopal Church in Scotland, to take his *status* as a clergyman of the Church of England, Mr. STEUART moved as an amendment that it be read a second time that day three months, on the ground that as Mr. Grieve had fallen under the censure of the Bishop of Aberdeen, in connection with the case of Mr. Cheyne, he ought not to be allowed an opportunity of disseminating his heretical doctrines in this country.—Lord PALMERSTON opposed the Bill, considering it high time to stop private Bills the object of which was to make exceptions to the standing law of the land. On a division the Bill was thrown out by 232 to 84. *The Peace.*—In reply to Mr. DISRAELI, Lord J. RUSSELL said he had been informed by the French Ambassador that peace between the two Emperors had been signed on Monday, and since then he had received a telegram from Lord Cowley, stating the terms of the peace, which he read. He added, with reference to a rumour that the Emperor of the French would require that Savoy should be ceded to him, that the Emperor had made no such demand, and did not ask any addition whatever to his dominions.—In reply to Colonel SYKES, Lord J. RUSSELL said the sovereignty of the *Fejee Islands* had been very much pressed upon her Majesty's Government; that the matter was under consideration, and no final decision had been come to.—At the instance of Mr. S. HERBERT, who made a brief explanatory statement, Sir A. AGNEW postponed his motion on the subject of *Salutes to Religious Processions*.—Mr. E. JAMES moved for a series of papers relating to the differences between *Mr. Chisholm Anstey* and the authorities at Hong Kong.—Mr. C. FORTESCUE stated that the Secretary of State for the Colonies, having only just entered upon his office, had found it impossible to make himself master of the correspondence upon this subject, but was ready to give all the papers which his public duty would allow, and he requested Mr. James to withdraw his motion for the present.—Mr. JAMES assented, and the motion was withdrawn.—Mr. HADFIELD obtained leave to bring in a Bill to amend the law for the regulation of *Municipal Corporations* in England and Wales.—Sir W. SOMERVILLE obtained leave to introduce a Bill to extend the act to facilitate the improvement of *Landed Property in Ireland*, and the acts amending the same, to the erection of dwellings for the labouring classes in Ireland.—Mr. COCHRANE moved an address to her Majesty to instruct the *Civil Service Examiners* that all persons who entered any service or profession prior to the 21st May, 1855, to which service or profession the present system of examination is applicable, shall be considered eligible for promotion without being subjected to any examination. He mentioned cases in which the existing rules operated harshly, and, in criticising the system of examination, the stringency of which he condemned, he adduced some rather ludicrous examples of the questions put to candidates.—The CHANCELLOR of the EXCHEQUER, after a general defence of the system, said that even if the House ought to interfere, it should not do so in the manner proposed in the motion. Objecting to the motion on its merits as well as its form he hoped it would not be pressed.—After some remarks by Mr. W. WILLIAMS, Mr. MONSELL, Mr. C. C. CLIFFORD, and Captain JERVIS, Lord PALMERSTON said, that although, like all other arrangements, this system was liable to some imperfections, he believed that, on the whole, it had tended very much to the advantage of the public service, while it had given a stimulus to education all over the country. He had represented to the Civil Service Commissioners that some of the questions were open to objection; and the answer was that they were supernumerary questions, added to the elementary questions, in order to test the general efficiency and comparative intelligence of the young men. The motion was withdrawn.—On the nomination of the Select Committee on the *Endowed Schools Bill*, the names being proposed by Mr. DILLWYN, Colonel DUNNE moved to substitute certain Irish members for certain English members; but after some discussion he withdrew the motion on an understanding that three Irish members should be added to the committee.—The CHANCELLOR of the EXCHEQUER moved the nomination of the Select Committee on *Packet and Telegraphic Contracts*.—Mr. ROEBUCK asked whether, in appointing this committee, it was intended to call in question the acts of past Governments, or only to bring upon the late Administration a responsibility for their conduct?—The CHANCELLOR of the EXCHEQUER repeated what he had stated when he moved for the committee—that he did not intend to place any limitation upon the functions of the committee.—Mr. MAGUIRE objected to the name of Mr. Baxter, and moved that it be omitted. On a division the name was retained by 135 to 34, and the other names were agreed to.—Mr. CARDWELL obtained leave to bring in a Bill to amend the Act relating to the *Survey of Boundaries in Ireland*. The *Admiralty Court Bill* passed through committee. The adjourned debate upon the second reading of the *Roman Catholic Relief Act Amendment Bill* was resumed by Mr. NEWDEGATE, who moved to defer the second reading for three months. He denied that the disqualification which this Bill was intended to remove was the result of a mistake of Sir R. Peel, of whose speeches he read extracts, observing that the Lord Chancellor of Ireland was the constitutional adviser of the sovereign, and of the Lord-Lieutenant of Ireland in the absence of the Sovereign, with respect to all matters touching ecclesiastical preferment. He entreated the Government not to suffer an independent member to tamper with the principles of a great settlement.—Sir B. BRIDGES seconded the amendment.—Mr. CARDWELL supported the Bill, he said, upon the principles announced by the author of the Roman Catholic Relief Act—namely, equal civil and religious privileges, and that the exceptions should be those only which were justified by special and peculiar circumstances.—Mr. WHITESIDE said that if the exception in the Act of Emancipation was owing to an inadvertence of Sir R. PEEL, all the advocates of emancipation were equally mistaken, for this very exception was found in all the Bills, of 1813, 1821, and 1825. The principle kept in view by Sir R. Peel, as shown in his published posthumous papers, was not limited to the exercise of ecclesiastical patronage by the Irish Lord Chancellor, but had regard to the security of the Protestant constitution and the Act of Settlement, since the Lord Chancellor of Ireland, as Lord Justice, might (as the present Lord Chancellor actually did) exercise delegated regal power in Ireland. He urged various objections to the Bill, which he denounced in strong terms as an insidious as well as impolitic measure, insisting that, whether the nature of the office was regarded or the duties performed by the Irish Lord Chancellor, his exception in the Act of 1829 was justifiable, and should not be repealed.—The CHANCELLOR of the EXCHEQUER said that Mr. Whiteside was mistaken in supposing that a Roman Catholic might fill the office of Lord Justice; this was expressly forbidden by statute, and it was not proposed to repeal that prohibition. The House would act in the spirit of Sir R. Peel and of the Act of 1829 by assenting to the second reading, and dealing with small matters of detail in the committee.—Mr. WALPOLE said it was incumbent upon the supporters of the Bill to show the reason for the change; and the only reason they had given was that a barrister should not be excluded from the office of Lord Chancellor. He deprecated such disturbances of a settlement, since, instead of promoting peace and union, they threw down apples of discord upon the floor of the House.—Col. DICKSON moved the adjournment of the debate.—Lord PALMERSTON thought the Bill was in strict conformity with the spirit of the Act of 1829, which was that Roman Catholics should be admitted to every civil and religious privilege not connected with the exercise of ecclesiastical authority, and the office of Lord Chancellor of Ireland was simply a political and judicial office. None of our institutions were in the slightest peril from the Bill, and he trusted that the House would read it a second time.—Mr. DISRAELI observed that he was surprised at the tone taken by Lord Palmerston. He did not think the question quite so clear as Lord Palmerston supposed; on the contrary, it was one of very considerable difficulty as to the functions exercised by the Lord Chancellor of Ireland. He did not say that a great settlement should not be disturbed, if the change were justly required; but this ought to be shown. He should like the question to be referred to a select committee, and if this was agreed to he should support the second reading.—Sir G. LEWIS was prepared to agree to this proposition, and recommended Sir W. Somerville to accede to it.—Sir W. SOMERVILLE accepted the proposal.—Sir W. MILES pressed the adjournment of the debate.—Colonel DICKSON, however, wished to withdraw his motion, but a division was called for, when the motion was negatived by 210 to 142, and, after some further discussion, the debate, at the suggestion of Lord PALMERSTON, was adjourned to Tuesday next.

WEDNESDAY.—*Church Rates.*—Mr. DILLWYN, in the absence of Sir John Trelawny from illness, moved the second reading of the Church Rate Abolition Bill.—Mr. DU CANE moved, as an amendment, that the Bill be read a second time that day six months. He contended that the Bill was neither more nor less than a measure of spoliation, and the first step to the destruction of the Established Church.—Lord R. MONTAGU seconded the amendment, believing the object of the measure was to sever the connection between Church and State.—Mr. BAINES, as a Dissenter, repudiated any desire to spoliate the Established Church, but simply wished that the Church should keep its hands off the non-conforming body, leaving each religious denomination to support its own place of worship.—Mr. ADDERLEY supported the amendment, and complained of the injustice of dictating to the people whether or not they were to tax themselves for the maintenance of the Establishment Church. In every place where the majority were indisposed to church-rates they could refuse to levy them. The grievance of the non-conforming body was therefore infinitesimal, and did not justify them in seeking to cripple the Established Church by robbing it of its ancient rights and privileges.—Mr. MELLOR supported the Bill.—Mr. PACKE supported the amendment.—Mr. HENNESSEY thought this was an assault on the Church of England by the Protestant Dissenters. As a Roman Catholic, he had long been of opinion that this action of the Protestant Dissenters against the Church of England on this question should not be promoted by Catholic members of this House. He should, therefore, cordially vote against the second reading of the Bill.—Mr. STANILAND supported the second reading.—Sir G. LEWIS entered into a variety of statistics to show that voluntary contributions for the maintenance of the fabric of the Church exceeded the sums levied in the shape of church-rates, and that the objection to the impost was to be attributed rather to conscientious scruples than to the severity of the burden.—Lord J. MANNERS regretted that the Bill submitted to the late Parliament by Mr. Walpole had not received the sanction of the House, as he believed it would have effected a satisfactory compromise of the question. The Bill now before the House had not for its object the relief of conscientious Dissenters, but the subversion of one of the principles of the British constitution.—Lord FERMOY supported the second reading, not from any desire to destroy the Church of England, but because he believed that the enforcement of church-rates weakened instead of strengthened her interests.—Mr. DRUMMOND deprecated any measure which would have the effect of subverting that which he considered to be necessary in every country—a national church.—Mr. MAGUIRE supported the Bill, and characterised the Established Church in Ireland as a monument of oppression and disgrace.—Lord PALMERSTON said he was prepared to vote for the first time in favour of the Bill. He considered it was essential to the interests and honour of the country, and for the cause of religion, that the fabric of the Church should be maintained, and, if it were possible to continue the rating system, he should have preferred it, but when he found that Parliament had repeatedly declared in favour of a change in the system he could no longer set up his individual opinion against the declared wish of the public. Under these circumstances he would vote for the second reading, in the hope that, in committee, some arrangement might be devised to exonerate Dissenters from the payment of what they considered an unjust burden, and at the same time maintain the fabric of the Church.—Mr. DISRAELI insisted that no measure for the abolition of church-rates ought to receive the sanction of Parliament which did not provide a substitute. At the same time he was bound to admit that the present state of things was so unsatisfactory that it called for legislation.—Lord JOHN RUSSELL admitted he had defended church-rates in former years, but said that the strong and general change in public opinion of late inclined him to believe that the time had at length arrived for their abrogation. The House divided, when the second reading was carried by 263 to 193.—The *Salmon Fishery Bill*, the *Tramways (Ireland) Bill*, and the *Railway Arbitration Bill* were read a second time.—Mr. WHITESIDE obtained leave to bring in a Bill to amend the *Settled Estates Act* (1856).

THURSDAY.—*City of London Reform.*—Sir G. LEWIS, in reply to Sir J. SHELLEY, said that he intended to proceed with the London Corporation Bill during the present session. He had hoped to have passed the Bill without opposition, and was sorry to find that he was mistaken in this expectation. He was, therefore, anxious to fix the earliest possible day for the second reading. *The Budget.*—In reply to Mr. HORSFALL, the CHANCELLOR of the EXCHEQUER said that if the House passed the Army and Navy Estimates during the present week, he should make his financial statement on Monday.—On the motion that the House go into Committee of Supply, Mr. H. BAILLIE called attention to the report of the commissioners appointed to inquire into the organisation of the *Indian Army*.—Mr. VANSITTART entered into details on the subject, contending that the forces in India ought to consist partly of Royal troops and partly of troops raised for that express service.—Sir C. WOOD admitted the importance of the subject, and said that the attention of the Government was directed to it.—After some remarks from General PEEL and other members, Lord STANLEY said that a large portion of the Indian army must at all times consist of local troops, if only to save the expense of transport.—Colonel SYKES said that the Indian finances could not support the expenditure of the European force now in India, which reached 80,000. The country could not afford more than 50,000.—Mr. GRIFFITH called attention to the recent case of "Santos *v.* Illidge," and asked whether the clauses in the Act 6 and 7 Victoria, cap. 98, authorising the *Sale of Slave British Joint-Stock Companies*, should not be repealed.—Lord J. RUSSELL said there was no intention on the part of the Government to introduce a Bill to repeal the clauses in question.—Mr. RICH called attention to the vote in the Navy Estimates for the *Dover Packet Contract*, and expressed his opinion that it should be postponed till the Committee on Postal Contracts have made their report. After some discussion it was agreed to omit the vote. The House then went into committee of supply on the *Navy Estimates*.—On the vote for the reserved half pay of seamen and marines, considerable discussion took place on the subject of promotion in the navy, in which Sir J. PAKINGTON gave the sketch of a plan he had matured when in office for the compulsory retirement of naval officers of a certain age, with proper compensation. Some such plan, he contended, was absolutely necessary to prevent stagnation in the navy, and to give a fair chance to officers below them.—Sir C. NAPIER declared his satisfaction that the right hon. gentleman had left office before he brought forward any such plan.—On the vote for the gratuities and bounty to seamen, Mr. LINDSAY, Sir J. GRAHAM, and other members strongly objected to the system as practised by the late Government.—The measure was defended by Sir J. PAKINGTON, who at the same time strongly objected to the extension of the bounty to seamen who had previously joined.—Lord C. PAGET contended that the extension of the bounty was a necessary consequence of the measure of the late Government.—Sir JAMES GRAHAM agreed in this opinion, and referred to the efforts of Sir Maurice Berkeley to man the Baltic fleet, and to the efficiency of that squadron, as a proof that bounty was necessary.—Sir C. NAPIER denied the accuracy of this representation, and said that the fleet sent out under his command was manned with tailors and tinkers, and was a disgrace to the country. This he could prove if Sir J. Graham would allow him to produce the private letters he had received from the right hon. baronet when First Lord of the Admiralty. The vote was then agreed to.—Mr. S. HERBERT, in moving the remaining *Army Estimates*, explained the steps which it was proposed to take with reference to the defences of Portsmouth, Milford Haven, Portsmouth, Spithead (opposite St. Helen's) and other places; and stated that the total number of men at present available was 110,000, of whom 29,000 belonged to the embodied militia.—Colonel PERCY HERBERT reviewed the condition of our effective force, and pointed out the deductions which must be made from the aggregate of 110,000 men before such an army could take the field.—Sir M. PETO described the admirable organisation of the French army as it had come under his notice [illegible]

...sations, and suggested whether, instead of burning [illegible] ...quality of the Elements of the French, we might not in any [illegible] ...ances our military position.—A motion for an address for the employed within and a few others was ultimately agreed to, and the Chairman reported progress. The House went into committee on the Abolition of [illegible] ...going local offices in addition to sanction, or for [illegible] ...ging in private practice. Considerable opposition was given to the proposition, and the committee divided on the first clause, which was carried by 167 to 88. The other clauses were passed through committee. A long discussion arose on an additional clause moved by Mr. Bernard, that the payment should be made out of the county rates. After a division on the question that the Chairman leave the chair, the clause was agreed to. On the order for going into committee upon the *Four Per Cents (Payment of Debts) Bill*, Mr. Williams proposed to refer the Bill to a select committee.—Mr. Walpole, considering the lateness of the hour, moved the adjournment of the debate, which was ultimately agreed to.

Friday.—*Withdrawal of Election Petitions.*—The Speaker informed the House that he had received letters from the petitioners intimating that it was not their intention to proceed with the petitions complaining of the undue election and return for Sandwich and Berwick-on-Tweed.—Mr. Hutchins and Lord C. Paget complained of this course, and said that they should be glad to compel the petitioner to proceed with the Sandwich petition.—After some remarks from several members on the subject of Italy, which resulted in no direct resolution, the House went into Committee of Supply.

(Until midnight.)

## City Intelligence.

Bank Rate of Discount.—The Bank of England on Thursday reduced their rate of discount from 3 per cent., at which it was fixed on the 10th ult., to 2½ per cent.

Money Market, Friday.—British Funds: Consols closed at 95½ to ⅝, both for Money and Account; Bank Stock, 221½ to 223; Three per Cents. Reduced, 95⅝ to ½; New Three per Cents., 95⅝ to 96; India Stock, 218½ to 221; Indian Four per Cent. Debentures of last year, 95½ to ½; Scrip of New Indian Loan, 95¼ to ½; India Bonds, 2s. dis.; Exchequer Bills, 27s. to 29s. prem.—Foreign: Brazilian Four and a Half per Cents., 1858, 94½; Dutch Four per Cent. Certificates, 101; Mexican Three per Cents., 19 to 19½; Ditto for Account, 19⅜; New Granada Deferred Bonds, 5¼; Peruvian Four and a Half per Cents., for Acct., 92; Ditto Uribarren Four and a Half per Cents., 81; Ditto Three per Cents., 71; Portuguese Three per Cents., 1853, for Acct., 44¼ to 44⅜; Russian Four and a Half per Cents., 99; Sardinian Five per Cents., for Acct., 86 to 87; Spanish Three per Cents., for Acct., 44; Ditto New Deferred Three per Cents., 32¼ to 32; Turkish Six per Cents., 1854, 84½ to 84; Ditto for Acct., 84¼ to 83½; Ditto for 1858, 72½ to 72; Ditto for Acct., 72½ to 71½; Ditto Guaranteed Four per Cents., 104¼ to 103½; Venezuela New Two and a Half per Cents., 29; Ditto New One per Cents., 15⅞.

## Gazette of the Week.

TUESDAY—BANKRUPTS—J. Hartman, Wheelock, Cheshire, Silk Throwster—J. Lance, Medway Mill, Boxley, near Maidstone, Miller—W. T. Miller, Devonshire Square, City, General Merchant—W. Newton, Cradley Heath, Staffordshire, Miller—J. Rimmington and S. Rimmington, Kingston-upon-Hull, Tea Dealers—H. Smart, Titchborne Street, Haymarket, Dealer in Pictures,

SCOTCH SEQUESTRATIONS—D. Anderson and Company, Leith, Commission Agents—D. S. Dunn, Edinburgh, Spirit Merchant—T. Muir, Glasgow.

FRIDAY—BANKRUPTS—A. B. Blenkarn, Fenchurch Street, City, Merchant—T. M. Dobson, Colchester, Tailor and Draper—H. Oppenheim, Old Street Road, Timber Merchant—T. L. J. Sloper, St. Marylebone, Oilman.

SCOTCH SEQUESTRATION—G. Gallie, Leith, Cabinet Maker.

## Bank of England.

ISSUE DEPARTMENT.

| | | | |
|---|---|---|---|
| Notes Issued | £31,813,055 | Government Debt | £11,015,100 |
| | | Other Securities | 3,184,900 |
| | | Gold Coin and Bullion | 17,613,055 |
| | | Silver Bullion | — |
| | £31,813,055 | | £31,813,055 |

BANKING DEPARTMENT

| | | | |
|---|---|---|---|
| Proprietors' Capital | £14,553,000 | Government Securities (including Dead Weight Annuity) | £11,421,666 |
| Rest | 3,275,054 | Other Securities | 17,803,011 |
| Public Deposits (including Exchequer, Savings Banks, Commissioners of Nat. Debt, and Dividend Accts.) | 4,871,723 | Notes | 10,101,525 |
| Other Deposits | 10,264,798 | Gold and Silver Coin | 666,746 |
| Seven day and other bills | 963,207 | | |
| | £39,927,852 | | £39,927,852 |

14th day of July, 1859.

M. MARSHALL, Chief Cashier.

## Metropolis and its Vicinity.

The City Reform Bill.—The Government Bill for the "better regulation" of the Corporation of the City of London was printed on Tuesday, prior to its second reading in the House of Commons. The city is to be divided into 20 wards; nine of the old wards will remain unaltered; these are Aldgate, Aldersgate, Broad Street, Castle Baynard, Coleman Street, Cripplegate Without, Farringdon Within, Portsoken, and Tower. The other wards, to be formed by union and divisions of existing wards, will be named Billingsgate, Bishopsgate Without, Bishopsgate Within, Bread Street, Candlewick, Cheap, Cornhill, Cripplegate Within, North Farringdon Without, South Farringdon Without, and Queenhithe. The last ward (by way of example) will include the old wards of Queenhithe and Vintry. The right of voting for aldermen and common councilmen is conferred on males of full age occupying, solely or jointly, any house, shop, office, wharf, or other tenement, and rated in respect of such holding on a net annual value of 10*l*. The list of electors will of course be revised periodically. On St. Thomas's Day the common councilmen will be elected by the 20 wards of the city, as now, for one year. The total number of common councilmen will be 130. On the 21st of December next each ward will also elect an alderman, who will hold his office during good behaviour, or until he die or resign. The duties and powers of the new aldermen and common councilmen will commence on New Year's Day, 1860, on which day all the existing aldermen and common councilmen, unless previously re-elected on Thomas's Day next, will have to vacate their offices. The Lord Mayor, however, as king of the city, will remain on his throne until the usual period (9th November). Next year his lordship will be elected by the persons whose names appear in the ward lists in force *pro tem.* under the Act. Three auditors will be annually chosen on the 15th March by the ward electors. The Lord Mayor and aldermen will be justices, as now. No clerk in holy orders or minister of a dissenting chapel may be elected as alderman, common-councilman, or auditor of the city. The qualification is to be the possession of an estate of 1000*l*., real or personal, or a rating on an annual value of 300*l*. Immediately will, *upon finis*, disqualify Lord Mayor, aldermen, and councilmen, and oblige them at once to resign their gowns. The Common Hall elections are to be transferred to the Court of Common Council. The exclusive rights of trading in the city are to be summarily swept away, and street tolls are to be abolished. The office of high bailiff of Southwark is also to be abolished. Salaried magistrates may be appointed by the Queen at the request of the Corporation. Freemen of the city may take apprentices for a term of three instead of seven years. The Court of Common Council on Thursday resolved to offer no opposition to the second reading of the Bill; but to present a petition against those clauses which, in the opinion of the Court, required to be amended or altered.

The Slave Trade.—On Wednesday evening a crowded meeting was held at the London Tavern, for the purpose of enquiring into the present state of the slave trade. Lord Brougham took the chair, and said that in consequence of the existing sugar laws, and the great demand for labour in our West Indian plantations, the planters were obliged to procure negro labourers in any manner they could. The consequence was that the coolies were obtained by fraud and carried off from their homes by force to slavery in the plantations, and the horrors of the old slave trade were revived. Mr. C. Buxton, M.P., Mr. Chisholm Anstey, Mr. G. Thompson, and other gentlemen addressed the meeting, and a memorial to the Duke of Newcastle as Colonial Secretary was adopted, praying him to promote the appointment of a committee of the House of Lords to inquire into the whole subject.

The Great Eastern.—The progress which, during the last four weeks, has been made in fitting and equipping the Great Eastern for sea has been so rapid, that within a month it is expected her steam will be up and she will be on her way across the Atlantic. Her three iron masts, which have been constructed by Messrs. Finch & Heath, of Chepstow, rise 122 feet above the upper deck, and have a diameter of 3 feet 6 inches for a height of 70 feet, when they decrease gradually to 2 feet 6 inches at the cap. The three wooden masts, which are in their places, were supplied by Messrs Ferguson, and are magnificent spars. They are not built masts, but are single "sticks," as they are called. The fore and mizen masts are 140 feet in height, and 34 inches in diameter at the deck; the jigger-mast is 122 feet in height, and of the same diameter. The trees which form these masts have been brought more than 13,000 miles to occupy their present position, being New Zealand pines. The topmasts are 76 feet in height, and are 22 inches in diameter, or nearly 6 feet in circumference at their base. The main yard is 120 feet long, and at its centre it is a yard in diameter, thick and strong as the masts themselves at the deck. The ship is built in water-tight compartments; and so completely water-tight are they, that a few days since the foremost one was filled with 6000 tons of water pumped into it from the river, and not a drop escaped into any adjoining portion. The object in pumping this mass of water into the fore part of the ship was to bring her down at the bows, and raise the stern while they fixed the screw. This weight brought her down till as the sailors said "her nose touched the water." She went down 11 feet forward, and was raised 7 feet aft; a portion of her keel was, in fact, raised out of the water; and yet so strongly and rigidly is she built, that under this enormous strain the ship did not deflect an inch. The engines for working the paddles, it is said, may be completed in a week, cylinders, pistons, and governors being all in their places. The engine for working the screw is in the same state of forwardness, and last week steam was got up for the first time in the boilers of the screw engines. In a few days the whole of the machinery will be in a state to drive the ship through the water with 12,000 horse power. Down in the depths of the engine-room the engineer will receive all his orders from the captain by an electric telegraph. There will be accommodation provided in the first instance for 15 officers of all ranks, and for a crew of 350. The first class portion of the ship will be fitted up in the first grade with 800 beds and sofas. In the second grade there will be accommodation for 400, and in the third grade about the same number. This accommodation for about 2000 persons for the first voyage will leave untouched some acres of saloons and vacant space in other parts of the ship. The part usually devoted to steerage passengers in other vessels will not be required at present, and the passengers to be carried in the fore part will be all first class, but of different grades, each grade having its separate deck. The cabins are roomy and commodious, admirably ventilated, and the dining rooms are lofty. The first trip will be made to Portland, in the State of Maine, early next month. The sum which had been expended on the ship up to the time of her launch amounted to 640,000*l*. The whole expenditure up to the time of her going to sea will be 970,000*l*., and probably some incidental charges and contingencies will bring the whole up to the round sum of 1,000,000*l*.

State of the Thames.—At the meeting of the Commissioners of Sewers on Tuesday Dr. Letheby made the following report respecting the present state of the Thames:—

"The foul condition of the river continues to increase, and is exciting considerable [illegible] and concern. I have received a number of communications relating to the subject and to the measures which are thought necessary for abating the evil. Some of these are before you; but as I have no authority to [illegible] ...I would recommend that they be forwarded to the Metropolitan Board of Works. One of these communications is from M. Frankland, Professor of Geology at Paris. It was received [illegible] through the Lord Mayor. Another is from M. Goettmann of Strasburg; and there are several others which have been directed to my consideration. M. Frankland is of opinion that the whole of the present nuisance is due to the quality of the soil through which the river flows, and he recommends that the whole of the infected bed of the river should be covered with [illegible] lime and pebbles. He thinks that the efficacy of the remedy thus formed will depend not merely upon its producing a solid bottom for the flow of the river, but also on the continuity of the coat, which will destroy the putrid organisms; and therefore he suggests that the whole course of the river should be covered at one time. He is, he says, aware of the magnitude of the undertaking, and he leads to England wealth and English skill to accomplish it. The other communication is from [illegible] and was very proper to be of opinion that they ought to be forwarded to the Metropolitan Board, who are now enquiring into the subject. I wish, however, to make this remark—that the foul state of the river is fast becoming worse and worse. The organic impurities are increasing from day to day, and are now [illegible] ...about as they were on the 11th of June."

Advertising Columns.—At the meeting of the City Commissioners of Sewers on Tuesday Mr. Ross brought forward his motion for rescinding previous resolutions of the Court authorising the erection of two advertising pillars in the City of London—namely, one in Holborn and one in front of the Royal Exchange. A memorial was now presented from M. Pontean praying the Court not to rescind the resolutions. Mr. Peasonby, manager of the Illuminated Indicator, 11, Southampton Street, Strand, attended to support the prayer of the memorial. He said that the proprietors had received permission from several parishes to erect pillars, viz., four in St. George's, Hanover Square; four in Islington; three at Westminster, and others in different parishes; that the pillar at Hyde Park corner had cost 400 guineas to erect, and would cost 100*l*. a year to maintain. Mr. Ross's motion was seconded by Mr. Bone, but after some discussion, in which it was stated that the company are bound to remove the columns if found to be a nuisance, the motion was negatived by a considerable majority.

Pauper Lunatic Asylum for the City.—At a Court of Common Council on Tuesday, the Lord Mayor presiding, a long discussion took place upon a report from the Lunatic Asylum Committee relative to the erection of a pauper lunatic asylum for the city. Mr. Deputy Dakin, chairman of the committee, submitted a motion on the subject, which was agreed to in an amended form, the report itself being adopted, and referred back to the committee to co-operate with the Court of Aldermen in obtaining plans and estimates for the erection of a suitable asylum upon the site already selected by the justices, to be paid for out of the city's cash.

The Statue of the Greek Slave.—This well-known statue, by Hiram Power, which was exhibited in the Crystal Palace, Hyde Park, in 1851, was sold by auction on Thursday by Mr. Phillips, of New Bond Street, to the Duke of Cleveland for the sum of 1800 guineas.

Close of the Westminster Abbey Services.—The Sunday evening services at Westminster Abbey were brought to a close on Sunday last. During the year 1859 there have been 28 services, at which many of the home and colonial bishops, deans, archdeacons, and distinguished clergymen have preached.

The City Coal Dues.—On Friday a numerous deputation waited on the Home Secretary, Sir G. C. Lewis, on the subject of the dues on coal imported into the port of London. The deputation was introduced by the Hon. G. Byng, supported by a great number of the members for the metropolitan boroughs. Mr. Byng stated that the object of the deputation was to ascertain what course the Government would pursue in the event of the Board of Works making an application to them to have the 9*d*. per ton that would revert to the Corporation of London in 1862 transferred to them. Sir G. C. Lewis said the question divided itself into two objections: the first, that the radius of 20 miles was too large, and went beyond the metropolitan area; and the second was as to the 4*d*., which the city claimed as corporation property. He saw no practical result from this deputation, because the Board of Works made no application to him for the transfer of the 9*d*. duty; and if they did their appeal must be considered on its merits; and with regard to the 4*d*. duty, it was corporation property, upon which he would not express an opinion. In answer to a question from one of the de-

putation, he said the scheme of allowing a drawback to manufacturers was impracticable.

DESTRUCTION OF FLOUR MILLS BY FIRE.—On Wednesday afternoon a fire broke out in the Shad Thames Flour Mills, Bermondsey, occupied by Messrs. Perks, and continued burning with great fury until a late hour on Thursday night, by which time the whole of the extensive mills, containing many thousand quarters of grain, were destroyed. The fire is said to have commenced in the following manner:—A number of men were employed in the dressing-room, on the fourth floor, when a wire of a machine broke, and as it required to be instantly repaired, a man took a light into the place to put on another wire; but the moment he entered the room the husk from the wheat came in contact with the light, and it was with difficulty that any person could manage to reach the street in safety.

THE PUBLIC HEALTH.—The Registrar-General's Weekly Return exhibits a rapid increase of mortality. In the week ending the 2d of July the deaths were 1024; last week they rose to 1226, and exceeded the average (corrected for increase of population) of the corresponding weeks in 10 previous years by 128. During the week the births of 833 boys and 785 girls, in all 1618 children, were registered in London. In the 10 corresponding weeks of the years 1849-58 the average number was 1433.

## Provincial.

ALDERSHOTT.—On Saturday afternoon the Queen reviewed the Aldershott Division. As this will probably be the last visit of her Majesty this summer, the review was on the most extensive scale of which the camp resources admitted, 17 regiments of infantry, with six of cavalry and 42 guns, being in the field to execute the manœuvres. In order however to spare the men the fatigue and distress which would have resulted from rapid evolutions under a broiling sun, the troops did not parade till 3 o'clock in the afternoon, the sham fight commencing at 4 and lasting till about 7 in the evening. The Queen was on horseback during the review riding a superb bay charger, and wearing a scarlet riding-jacket with a general's sash over the shoulder and a general's plume in her riding hat. On her right and left rode the Prince Consort and the Duke of Cambridge, both in full uniform. The Prince of Wales, also in full uniform, rode with the Princess Alice. Prince Arthur and Princess Helena followed in an open carriage and four. On Sunday, after morning service in the South Camp Church, the Queen and Royal party visited the new camp at Woolmer, where three or four regiments with a small force of artillery, which left Aldershott on Saturday, was stationed under canvas, and conformed precisely to the same field regulations as if cantoned out in actual service against the enemy. On Monday morning at half-past 9 the Queen had a parade inspection and review of all the camp cavalry and horse artillery in the Long Valley. Her Majesty rode the same charger and wore the same half-military riding dress as on Saturday. The Prince Consort, the Prince of Wales, the Duke of Cambridge, and the Princess Alice accompanied her Majesty on horseback; and Prince Arthur and Princess Helena followed in an open carriage and four. The review lasted little more than an hour, for by that time the sun was at its fiercest, and the heat on the heath was unendurable. A little before 1 the Queen and Royal party returned to the Pavilion and partook of luncheon. Soon after 3 o'clock her Majesty and the whole of the Royal family left the camp in open pony carriages, and, escorted by a detachment of Light Dragoons, drove to the Farnborough station, and proceeded thence by a special train to Gosport on their way to Osborne.

CARISBROOKE.—A Roman villa of great interest has been discovered in the village of Carisbrooke, while laying the foundations of a stable in the grounds of the Rev. E. B. James, vicar of the parish. This discovery will add a fresh object of interest to those which the Isle of Wight previously possessed. Mr. James has liberally allowed his pleasure grounds to be cut up and excavated for the purpose of tracing the remains, and the result has brought to light a splendid tessellated pavement of rich pattern, almost as perfect as the day it was laid down; rooms whose walls are covered with plaster painted in panels, in the same style as those at Pompeii; a bath, with its hypocaust and flues still blackened with the soot of 17 centuries ago; with fragments of pottery and other household stuff enough to make the fortune of an incipient museum. It is believed that the vicar, though greatly to his inconvenience, will allow the remains to be preserved *in situ*.

CHATHAM.—After a search of about three weeks the police have succeeded in apprehending the sailor Burgess Masters, who in a fit of jealousy attempted to murder a private of the Royal Marines at a lodging-house in this town by cutting his throat, as reported in this Paper at the time. Although every effort had been made throughout the country to apprehend him, nothing was heard of him until last week, when he was captured at Sheerness. He was dressed in a man-of-war's suit of clothes, and was about to enter on board the Monarch, 84. He was immediately taken before the magistrates at Rochester, by whom he has been committed for trial. The marine Wilkins has so far recovered that he was able to attend and give evidence against the prisoner.

CHICHESTER.—In 1847 a large and substantial restoration of the cathedral was commenced by the Dean and Chapter, and has been carried on from time to time, as funds have been supplied by public beneficence, almost to the present year. The late Dean, Dr. Chandler, having bequeathed the sum of 2000*l.* to certain trustees, applicable, at their discretion, towards the work of restoration commenced by him, a committee has been formed, including several of the principal residents in the county, and the sanction of the present Dean and Chapter having been obtained, it is proposed to restore the choir to its original proportions, and, still retaining the distinctive cathedral arrangements, to remove the organ-screen, throw open the nave, and thus provide sittings for at least 700 persons as a fit memorial to the late dean. An appeal is about to be made to the diocese at large, and it is expected that the work of restoration will be commenced this autumn.

DONCASTER.—On Saturday morning a daring highway robbery, accompanied with violence, was perpetrated on the highway leading from this town to Pontefract. An Irish drover named Fitzpatrick had bought 14 head of cattle on Friday, intending to take them to the Doncaster cattle-market the following day. Early on Saturday morning he took them out to pasture by the road-side, and while watching them four men went up to him, and, while one of them unbuttoned his waistcoat, the rest of the party took from him 23*l.* 10*s.* which he had in his possession. After robbing him they brutally ill-treated him, and then threw him into a pond by the road-side. As soon as he recovered himself he proceeded to the police-station, and gave a description of the men, whom he says he can identify. The county constabulary are now engaged in investigating the case. The robbery has caused a good deal of excitement, as it is many years since anything of the kind was perpetrated in this neighbourhood.

LINCOLN.—The Bishop of Lincoln has presented the Rev. C. Bird, vicar of Gainsborough, to the Chancellorship of Lincoln Cathedral, vacated by the death of the Rev. G. T. Pretyman. The value of the chancellorship is about 1000*l.* a year, with a fourth share in the patronage of 21 vicarages, five rectories, and two perpetual curacies. In consequence of this appointment, the vicarage of Gainsborough, which is also in the patronage of the bishop, and which is worth about 600*l.* a year, has become vacant.

## Ireland.

THE EARL OF CARLISLE AND THE CORPORATION.—The corporate address to the Lord-Lieutenant was presented on Wednesday afternoon at the Castle with the usual civic state. The address, which was brief, touched upon the late war and the necessity for neutrality, and referred to Lord Eglintoun's good offices in the promotion of the Galway Packet station, and the necessity of preserving intact the Viceregal office in Ireland. In reply his Excellency said:—

"I retain the conviction under which I left your shores, that it would be most unadvisable to discontinue or tamper with the office which it is now my high honour for the second time to fill. Any efforts that I can make will be used in accordance with this opinion. But I do not apprehend that any designs are entertained on the part of those in whose behalf I can speak in a contrary direction. Besides the signal antiquity of the office, which would clearly give to its abolition all the risks of an untried experiment, the character and weight of authority with which it is invested have a tendency to secure consideration for matters affecting the welfare of Ireland; and although under a Parliamentary Government all persons holding office below the Crown itself will probably always, in a greater or less degree, belong to one or other of the parties into which the nation is divided, still the very notion of representing the Crown will be found to go some way in raising a Lord-Lieutenant above the rigid limits of mere party divisions. Most promptly and entirely I echo your wish, that we may abstain altogether from such destructive wars as that by which part of Europe was lately ravaged, but of which we may now hope, with the blessing of the Almighty, to witness a termination. At all events, may we be long permitted to reserve for higher and beneficent purposes the energies and lives of our countrymen!"

THE PHŒNIX TRIALS.—It appears that, after all the reports to the contrary, the State prosecutions are to be repeated at the coming assizes in Cork and Kerry, and that the new law officers mean to follow up the work left uncompleted by their predecessors. A Cork paper says that since the last assizes several additional witnesses have come forward on behalf of the Crown, and that a very important piece of evidence has been procured establishing the swearing in of several parties at a wake, throwing additional light on the designs of the confederacy, and lending fresh corroboration to the testimony of the chief witness for the Crown.

SALE OF LORD WATERFORD'S STUD.—The stud of the late Marquis has been sold by auction at Curraghmore. Gemma di Vergy, by Sir Hercules, sold for 1050*l.*, and several of the other racers brought high prices. The total amount realised was 13,166*l.*

THE WEATHER IN DUBLIN.—Some idea of the effects of the long continued dry weather in Dublin may be gathered from the fact that the Corporation have issued a public notice stating that the supply of water has become deficient even for domestic and manufacturing purposes. The consequence is that the watering of the streets in the southern districts of the metropolis has been curtailed, and the inhabitants of the most populous and fashionable portion of the city have been subjected to all the miseries of a perpetual dust storm. Such a deprivation as a short supply of water is a perfect novelty in Dublin.

PARTY RIOT AT KINSALE.—A disgraceful riot arising out of the commemoration of the 12th of July took place on Tuesday in the town of Kinsale. It appears that in the affray, in which the Antrim Militia played a conspicuous part, 30 persons were injured, and, among other outbursts, an attack was threatened on a Roman Catholic place of worship.

## Scotland.

ORANGE AFFRAY AT PAISLEY.—On Tuesday a Orange Lodges of Paisley and Johnstone were ing through Millarston, they were attacked of about 300 miners, who assailed them stones and bludgeons. The procession was back into the village in disorder, but a short delay they induced some of the coun to accompany them again to the bridge, they again essayed to cross. A desperate then ensued, in which firearms and knives were used, in addition to bludgeons, paling stobs, &c. man was killed, having had his skull fractured left breast stabbed with a clasp knife; and seven were seriously wounded.

## Obituary.

HIS MAJESTY KING OSCAR OF SWEDEN died on the at Stockholm, after an illness which has incapacitated from taking any active part in the government of his since September, 1857. His Majesty was the son of dotte, whom he succeeded in 1844. He was born in married in 1823 the Princess Josephine Maximilienne daughter of Eugene, Duke of Leuchtenberg, by whom had several children. He is succeeded by his eldest Prince Charles, who was appointed Regent by royal in 1857, when his father's illness rendered necessary abnegation of royal authority. The present King was 1826, and married in 1850 the Princess Louise, daughter Prince William of the Netherlands.

THE BISHOP OF SIERRA LEONE (THE RIGHT REV DR. died on the 28th May, of yellow fever. He was for some a resident in Canada, and having come to this country entered as a student of Trinity College, Dublin, graduated. He was ordained by the present Bishop who was at that time the Bishop of Ripon. In 185 to Palestine, and returned to England in 1851. After visited Nineveh, where he formed the acquaintance Layard, with whom he was associated during many investigations. He visited the East a second time in returned to England in 1856. Through Mr. Layard, relative of Lady Huntly, Dr. Bowen was presented Marquis of Huntly to the rectory of Orton Longueville Peterborough. The parish having but a small popula obtained without difficulty a license for non-residence that he might prosecute his Eastern travels. This held until he was appointed to the bishopric of Sierra which he was consecrated in Lambeth Palace in Septembe In the following December Bishop Bowen arrived at Sierra and on the 28th May last he died from a malignant yellow fever, making the third bishop who has thus sacrificed to the terrible climate of Sierra Leone since its establishment in 1852.

SIR RICHARD MUSGRAVE, BART., died on the 7th Whiting Bay, in the county of Waterford. He was born and married in 1815 the daughter of Archbishop Newton Armagh. He succeeded his father in 1826, and was Waterford from 1830 to 1832, and from 1835 to 187 years he had devoted himself to the promotion of improvements in the county of Waterford, especially communication, canal construction, steam navigation every other project that could aid in developing the wealth of the district. To him was to be attributed ing up of the navigation of the Blackwater, by steamer which he had placed upon that river. In other projects he passed a useful and honourable succeeded in his titles and estates by his son Richard Tourin, in the county of Waterford, in 1820, and mar 1845 to the daughter of John Ashton Yates, Esq.

THE REV. TEMPLE FRERE, M.A., Canon of Westminster at his Rectory of Roydon, near Diss, Norfolk, on the 8th the age of 80. Mr. Temple Frere was of an old Norfolk many of whom have distinguished themselves in politics ture, and recently in Indian affairs.

DR. WINTERBOTTOM, M.D., the father of the medical sion (his name being first in the new medical register, the 8th inst. at Westoe, near South Shields, in his Dr. Winterbottom is stated to have been the eldest brother slavery advocate in the kingdom. The principal portion fortune goes to found a school for the education of seamen belonging to the Tyne in nautical astronomy navigation.

WILLS.—The will of the Countess of Carlisle has been under 30,000*l.*; Sir Robert Williams Vaughan, Bart. Archdeacon Berens, 45,000*l.*; Archdeacon King, Arthur Ingram Aston, G.C.B., 16,000*l*: Captain H. T furd, R.N., 12,000*l.*; Mr. Edward Erskine Tustin, Richard Crawshay, 140,000*l.*; Rear-Admiral Thornton Colonel Fitzgerald, 40,000*l.*; Mr. Joshua Drinkald ford Square, 80,000*l.*; Mr. George Hadden, of Copthall 80,000*l.*; Mr. George Cary Elwes, of Cadogan Place

## Miscellaneous.

LORD PALMERSTON ON EDUCATION.—The following speech on the education of professional men and the advantages of competitive examinations was delivered by Lord Palmerston at the recent distribution of prizes to the students of University College:—

"Gentlemen of University College,—and I may be also to hope that what I am about to say may be addressed those ladies who have honoured us on this occasion—I assure you that it has been to me a source of the great tification to be allowed to preside on an occasion so interesting as this, and in a place so interesting as that in which we There can be nothing more interesting than to see ourselves rounded by that rising generation upon whose exertions talents, and conduct in the different paths of life which they may choose to pursue must depend the prosperity and future well-being of the nation to which we belong. It is the more gratifying to me to find that on the present occasion it has been my good fortune to witness a great instances of successful study, so many instances of the development of talent and the exercise of industry and so high a promise of the future in regard to those young members of this University. It is also most pleasing to me that those who have been honoured by the rewards conferred by the University upon industry and talent have been only the inhabitants of this great metropolis of the United Kingdom, but that our colonies have sometimes their share, and that Hungary, Greece, and Turkey have sent hither their promising youth to drink at the fountain of knowledge and to become ornaments to the countries to which they respectively belong. It is gratifying to see that the prizes which it has been my privilege to distribute are awarded for so extensive a range of human knowledge and the development of human intellect that there is no branch hardly of human knowledge in which some one or other or more young men have not obtained distinction, and that circumstance, as well as those who are present here to-day, tends to make those who are present feel proud of having mentioned,

pride in the success, but a hopeful expectation of the future promise of the institution. If I might address those who have been competitors in the recent examinations, I would congratulate sincerely those who have succeeded upon the distinction they have acquired, and I would urge those who have not been successful not to be discouraged by temporary failure, but to go on with the same spirit with which they entered into the competition, whereby they may depend upon it they will obtain on a future occasion the distinction which they have not succeeded in obtaining on the present. It was well said by Mr. Fox, a great master of human nature and of struggles in Parliament,—'It is all very well to tell me that a young man has distinguished himself by a brilliant first speech. He may go on, or he may be satisfied with his first triumph, but show me a young man who has not succeeded at first, and nevertheless has gone on, and I will back that young man to do better than most of those who have succeeded at the first trial.' I am persuaded, however, that those whom I see around me will not be too much elated by their first success, but will only be encouraged to pursue in the future that system of exertion which has obtained for them the distinction they enjoy to-day. All those whom I am addressing must feel that the struggle through which they have gone in the recent examinations is only a prelude to that more lengthened contest which awaits them in after life. The whole life of man in a country like this is a life of struggle, of competition—I will say of fight—competition with those who are running the same race, struggle with circumstances, fight against adverse fortune, which may every now and then overthrow him. But he who enters into the race with that dogged perseverance which is the peculiar characteristic of the English nation is sure to bring out successfully those talents with which nature may have endowed him, and, whatever the amount of his ability, will be always sure to improve that ability and apply it as successfully as circumstances will allow him. Gentlemen, in reference to your studies there is one maxim which I would earnestly impress upon your minds. Every man, I presume, intends to devote himself to one particular career. Let him make the objects of that career the subject of intense and earnest study, but do not let him devote himself singly and entirely to one pursuit. Let him make the business or profession which he intends to follow the object of his study, and let him make acquirements of every kind the object of his amusement. It is necessary that whatever the profession he means to pursue he should know that fully. Half knowledge in a profession is fatal to many who are contented with that moderate amount of acquirements, but full and complete knowledge of the one subject in which a young man means particularly to enter, ought not to prevent his acquiring such an amount of knowledge as his more leisure hours may enable him to gain on any other or every other branch of human knowledge and science. It is often said that people go on quoting poetic lines without seeing their meaning and application. It is often said 'A little knowledge is a dangerous thing.' No doubt much knowledge is better than little knowledge; but little knowledge is always a useful and not a dangerous thing. As my noble friend Lord Brougham says, 'A little knowledge is better than great ignorance.' But whatever a man learns, let him endeavour to learn it thoroughly. Let him endeavour to obtain clear and distinct ideas, however little his progress. Whatever he does know let him impress upon his own mind a clear and distinct knowledge of principles, and not content himself merely with superficial facts. Great progress has been made of late years in every department connected with the development of the human mind, and it is impossible anybody can have been present to-day and compared that which has passed and that which would have passed at a great examination only half a century ago without seeing the immense progress which the art of instruction has made. In times not beyond the memory of many now living the attention of youth was confined to classical and, perhaps, mathematical knowledge; but, with the greatest delight, we have seen to-day that the course of study in this University embraces a vast and wide range of human knowledge. There is scarcely anything which is useful to a man in his future career in life which is not taught here, and as the prizes which have been bestowed are proofs, taught with great and eminent success. Now, gentlemen, we are indebted for this greater range of human knowledge to many circumstances. Many have contributed to this extension of study, but I will venture to say that there is no man living who has so much contributed to that extension, and who has thereby conferred such great benefits on mankind as my noble friend. The great Lord Bacon has the merit of laying down those principles upon which knowledge should be sought and acquired. He conferred an immense benefit on mankind. My noble friend gave to those principles the wider development which was necessary for their practical utility. He has laboured incessantly in every department of human intellect, in creating institutions calculated to produce advancement in knowledge, and he has himself afforded one of the most striking instances of the application of the system which he has so greatly contributed to extend. My noble friend has the good fortune to combine in his person the experience of mature age and the bodily and mental vigour of early manhood. He has a mind which, like what has been said of the trunk of the elephant, can surmount the greatest obstacles and deal equally with the minutest details. I, therefore, addressing myself to the younger part of this audience, earnestly entreat them to make the career of my noble friend their guide and the object of their ambition. It is not given to every man to equal that which he aims at. We know that if we want to hit an object at a distance we must aim a little above the object which we mean to hit. But let that system upon which my noble friend has exercised the high faculties of his mind be the system which all endeavour to emulate. Study with deep attention the science of that particular profession in which you intend to engage and on which the fortunes of your future lives are to be founded, but do not allow yourselves to be deterred from pursuing for amusement and the expansion of your minds every other department of knowledge into which you are able to obtain an insight. Depend upon it that every little added tends to invigorate your faculties with regard even to that particular subject to which your active exertions must be confined. The more you know the more that which you know becomes useful. It is gratifying indeed to see that these public institutions, which are meant for the education of the rising generation, now open their doors wide to every branch of human knowledge. Whatever the branch which peculiarly suits the turn of mind of any one of the students, he finds opportunities for acquiring a deep knowledge on that subject, and if the mind be endowed with a spirit of industry and a desire and thirst for information, which is the character of genius of every kind, he will find ample opportunities for satiating himself with as much knowledge as time and labour can convey to him, thereby becoming not only more useful to himself and friends, but a more lasting ornament to the country to which he has the honour to belong. I can only add one word in reference to the system of examination of which they had today seen the results, and it is that I am glad that the system of examination and competition, more or less limited, more or less open to all, has been extended from academical circles to public employments. It may be, and undoubtedly is true that the application of that system has frequently shut out from the public service those who would in themselves have been perfectly fit for it. But the public have the security that none are appointed to official situations who do not possess high qualifications. The system of public examination has spread, and will spread still further the system of private education through every class of the community, and as the aggregate power of a nation depends on the aggregate abilities and cultivation of mind of all the members, so I am sure that the necessity under which young men will now feel of attaining a high standard of mental qualifications in order to be fit for any department, however humble, of the public service, will have an admirable effect in exciting their energy and making us in every respect a more prosperous and powerful community than we should otherwise be."

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BIRTHS.—On the 10th inst, at Ickworth, the Lady ARTHUR HERVEY, of a daughter—10th inst, at Duffryn, Aberdare, the wife of H. A. BRUCE, Esq., M.P., of a daughter—11th inst, at 21, Wilton Crescent, the wife of HENRY LOWTHER, Esq., M.P., of a son—13th inst, Mrs STEVATFIELD of Chiddingstone, of a son—6th inst, at Gottingreenach House, Argyllshire, the wife of Major-General D. CUNNINGHAME, Indian Army, of a daughter.

MARRIAGES.—On the 14th inst, at St. George's, Hanover Square, CHARLES AUGUSTUS DRAKE, only son of CHARLES DOUGLAS HALFORD, Esq., of Grosvenor Square, and of West Lodge Suffolk, to the Hon. GERALDINE FRANCES LEE DILLON, youngest daughter of Viscount Dillon—12th inst, at St. Peter's, Eaton Square, HERBERT MURRAY, Esq., son of the Bishop of Rochester and Lady Sarah Murray, to CHARLOTTE LÆTITIA CAROLINE eldest daughter of Lieut.-General and the Hon. Mrs. ARBUTHNOT—5th inst, at Knockin, Shropshire, Major FRANCIS BUCKFORD WARD, Royal Artillery, son of the Very Rev. the Dean of Lincoln, to EMILY LOUISA GERTRUDE, second daughter of Vice-Admiral the Hon. C. O. BRIDGEMAN—7th inst, at the parish church, Chelsea, the Rev. GEORGE EDWARD EDMUND MARTERS, Incumbent of Dorrington, Salop, nephew of the late Sir Robert Grant, Bart., of Dalvey, to JOANNA, eldest surviving daughter of the late RICHARD STRACHEY, Esq., of Ashwick Grove, Somerset, and niece to the late Sir Henry Strachey, Bart., of Sutton Court—5th inst, at the parish church of Batheaston, Somersetshire, JOSHUA INGHAM BROOKE, Esq., B.A., of University College, Oxford, son of Thomas Brooke, Esq., of Northgate House, Honley, Yorkshire, to GRACE CHARLOTTE, youngest daughter of Major-General GORDY, C.B., of H.M.'s Indian Army, and of Southbank, Batheaston—12th inst, at St. George's Hanover Square, Viscount BURY, eldest son of the Earl of Shannon, to Lady BLANCHE LASCELLES, sister of the Earl of Harewood—12th inst, at Deverills, Heighton, CHARLES OKEOVER, Esq., of Okeover Hall, Staffordshire, to the Hon. ELIZA ANNE CAVENDISH, eldest daughter of Lord Waterpark.

DEATHS.—On the 6th inst, at Catherine Lodge, Laverock, Miss ANNE FERGUSSON, daughter of the late Sir James Fergusson of Kilkerran, Bart., and granddaughter of Sir David Dalrymple, Bart., Lord Hailes—7th inst, in Wimpole Street, ELIZABETH, widow of GEORGE HAY DAWKINS PENNANT, of Penrhyn Castle, North Wales, and daughter of the late Hon. William and Lady Bridget Bootle, aged 78—10th inst, at Castle Archdall, the residence of her son, Mervyn Archdall, Esq., M.P., county Fermanagh, MATILDA, wife of EDWARD ARCHDALL, Esq., of Riversdale, in the same county, daughter of the late, and sister of the present William Humphrys, Esq., of Ballyhaise House, County Cavan—11th inst, at his residence, 12, Bolton Row, Mayfair, W. R. HAMILTON, Esq., F.R.S., aged 83—7th inst, at Merchiston Park, Edinburgh, Commander JAMES HENDERSON, R.N., aged 65—9th inst, CHARLES LAWRENCE WALPOLE HINXMAN, late Captain 15th King's Hussars, elder son of the late John Hinxman, Esq., of Sudbury Grove and Queen Anne Street, aged 32—20th May, of fever, at Benares Bengal, EDWARD COCKBURN ALLEN, Lieut. H.M.'s 60th Regiment Royal Rifles, son of the late Rev. Thomas Edward Allen, Chaplain H.E.I.C.S., and grandson of the late Sir H. Mathew Featherstone, Bart., Colonel Royal Artillery, aged 25—4th inst, on board the Peru, off Lisbon, from disease of the liver, aggravated by exposure and privations consequent on the wreck of the Alma, in the Red Sea, in which vessel he was returning from India, GEORGE, eldest son of GEORGE PARBURY, Esq., of Caterham Manor, Surrey, aged 22—Drowned, on the 31 inst, by the capsizing of his yacht, the Albatross, off Gravesend Reach, ANDREW BARNCASTLE, Esq., aged 36—12th inst, at Kensington Place, Bath, the Rev. WILLIAM HARRIS MORGH, D.D., formerly President and Theological Tutor of Stepney College, aged 75—12th inst, at Hathern Rectory, near Loughborough, the Rev. E. T. MARCH PHILLIPPS, Rector of Hathern, and Chancellor of the Diocese of Gloucester, aged 75.

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# Markets.

## METROPOLITAN CATTLE MARKET.

**MONDAY, July 11.**

There are a few more Beasts than on Monday last: however, there is a fair demand, and the quotations of that day are fully realised. The supply of Sheep is by no means excessive, although quite sufficient for the demand. Trade is slow at late rates. Calf trade remains unaltered. From Germany and Holland there are 740 Beasts, 4810 Sheep, and 206 Calves; from Spain, 120 Beasts; from Scotland, 320; from Norfolk and Suffolk, 1000; from Ireland, 80; and 500 from the northern and midland counties.

| | s. | d. | s. | d. | | s. | d. | s. | d. |
|---|---|---|---|---|---|---|---|---|---|
| Best Scots, Herefords, &c. | 4 | 8 | to 4 | 10 | Best Long-wools | 4 | 6 | — 4 | 8 |
| Best Short horns | 4 | 4 | — 4 | 8 | Do. Shorn | .. | .. | — | .. |
| 2d quality Beasts | 3 | 6 | — 4 | 0 | Ewes & 2d quality | 4 | 0 | — 4 | 4 |
| Best Downs and Half breds | 4 | 16 | to 5 | 6 | Do. Shorn | .. | .. | to | .. |
| Do. Shorn | .. | .. | — | .. | Lambs | .. | .. | 5 0 | — 5 8 |
| | | | | | Calves | .. | .. | 3 8 | — 5 0 |
| | | | | | Pigs | .. | .. | 3 6 | — 4 6 |

Beasts, 2735; Sheep & Lambs, 28,530; Calves, 291; Pigs, 350.

**THURSDAY, July 14.**

We have a good supply of Beasts. The hot weather causes a slow trade, and prices on the average are lower. The number of Sheep and Lambs exceeds the demand; choicest descriptions meet with fair buyers at about late rates, but of other kinds many remain unsold. Trade is very heavy for Calves. Our foreign supply consists of 170 Beasts, 1670 Sheep, and 420 Calves. The number of Milch Cows is 111.

| | s. | d. | s. | d. | | s. | d. | s. | d. |
|---|---|---|---|---|---|---|---|---|---|
| Best Scots, Herefords, &c | 4 | 6 | to 4 | 8 | Best Long-wools | 4 | 6 | — 4 | 8 |
| Best Short-horns | 4 | 4 | — 4 | 6 | Do. Shorn | .. | .. | — | .. |
| 2d quality Beasts | 3 | 4 | — 4 | 0 | Ewes & 2d quality | 4 | 0 | to 4 | 4 |
| Best Downs and Half breds | 4 | 8 | — 5 | 0 | Do. Shorn | .. | .. | — | .. |
| Do. Shorn | .. | .. | — | .. | Lambs | .. | .. | 5 0 | — 5 8 |
| | | | | | Calves | .. | .. | 3 8 | — 4 10 |
| | | | | | Pigs | .. | .. | 3 4 | — 4 4 |

Beasts, 1146; Sheep & Lambs, 13,950; Calves, 720; Pigs, 240.

## COAL MARKET.—FRIDAY, July 15.

Walls End Braddyls Hetton, 16s; Walls End Hetton Lyons, 15s 3d; Walls End South Hetton 17s 3d.; Walls End Eden Main, 15s 9d; Walls End Hetton, 17s 6d; Walls End Heugh Hall, 15s. 6d; Walls End South Kelloe, 16s. 6d.; Walls End Whitworth, 15s 6d; Wylam, 15s 6d.; Buddle's Hartley, 16s.; Howard's Hartley, 15s. 6d.—101 ships at market.

## COVENT GARDEN.—July 16.

Grapes and Pine Apples still realise fair prices. West India Pines have been plentiful and good. Gooseberries, Currants, and Raspberries are also tolerably abundant and cheap. Cherries and Strawberries are scarcer. English Apricots have made their appearance. Greengage Plums obtain 2s. a dozen. Oranges fetch 3s. 6d. and 10s. per 100. Nuts of all descriptions continue to realise fair prices. Cabbages and French Beans are plentiful. Rhubarb, Asparagus, and Seakale are getting over. Peas, Beans, Horn Carrots, and Globe Artichokes may be obtained in quantity. Cauliflowers are cheaper. New Potatoes realise from 6s. to 8s. per lb. Cucumbers are selling. Cut flowers chiefly consist of Orchids, Gardenias, Roses, Lily of the Valley, Violets, Mignonette, Heaths, and Roses.

### FRUIT.

| | | | |
|---|---|---|---|
| Pine Apples, per lb., | 5s to 7s | Plums, per doz., | 1s to 2s |
| Grapes, per lb., | 6s to 8s | Apricots, do., | 1s to 6d |
| Strawberries, p. basket, | 1s to 2s | Figs, per doz., | 1s to 3s |
| Raspberries, p. pottle, | 6d to 1s | Cherries, per lb., | 6d to 1s 6d |
| Melons, each, | 1s to 6s | Apples, per doz., | 1s to 4s |
| Peaches and Nectarines, per doz., | 16s to 20s | Oranges, per 100, | 6s to 10s |
| | | Lemons, per doz., | 1s to 1s 6d |

### VEGETABLES.

| | | | |
|---|---|---|---|
| Cauliflowers, per doz., | 2s to 4s | Cucumbers, p. doz., | 2s to 4s |
| Green Peas, p. quart, | 1s to 2s | Tomatoes, per doz., | 2s to 3s |
| Greens, per dozen bunches, | 1s to 1s 6d | Artichokes, per doz., | 2s to 3s |
| Cabbages, do., | 1s 6d to 2s 6d | Beet, per doz., | 1s 6d to 2s |
| Asparagus, p. bundle, | 2s 6d to 4s | Celery, p. bundle, | 1s 2s to 1s 6d |
| Kidney Beans, p. bushel, | 6d to 8d | Scorzonera, per lb., | 6d to 8d |
| French Beans, p. pottle, | 1s to 1s 6d | Salsafy, per lb., | 6d to 8d |
| Potatoes, p. ton, | 90s to 110s | Lettuces, Cabb., per score, | 1s to 1s 6d |
| — per one, | 2s to 2s 6d | Endive, p. score, | 1s to 1s 6 |
| — per cwt., | 4s to 6s | Horse Radish, p. bun., | 1s 6d to 4s |
| — new, per lb., | 6d to 1s | Mushrooms, p. pott, | 9d to 1s 3d |
| Carrots, per bunch, | 1s | Parsley, p. 12 bunches, | 2s to 4s |
| Turnips, per bunch, | 9d to 1s | Savory, do., | 2d to 4d |
| Spinach, p. sieve, | 1s 6d to 2s | | |

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**HOPS.—BOROUGH MARKET, FRIDAY, July 13.**

Messrs. Pattenden & Smith report that the accounts from the plantations are more favourable, and the market is dull in consequence. Duty £70,000.

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**HAY.—Per Load of Thirty-six Trusses.**

SMITHFIELD, THURSDAY, July 14.

| | | | | | |
|---|---|---|---|---|---|
| Prime Meadow Hay | 75s | to 80s | Old Clover | 98s | to 110s |
| Superior do. (old) | 84 | 86 | Second cut | 85 | 95 |
| Inferior do. | 60 | 70 | New Clover | 90 | 90 |
| New do. | 70 | 80 | Straw | 28 | 32 |
| Rowen | 60 | 70 | | | |

DAVIS & Co.

CUMBERLAND MARKET, THURSDAY, July 14.

| | | | | | |
|---|---|---|---|---|---|
| Sup. Meadow Hay | 94s | to 100s | Inferior Clover | 88s | to 92s |
| Inferior do. | 70 | 80 | New do. | 60 | 84 |
| New do. | 60 | 84 | Straw | 30 | 36 |
| Superior Clover | 100 | 110 | | | |

JOSHUA BAKER.

WHITECHAPEL, THURSDAY, July 14.

| | | | | | |
|---|---|---|---|---|---|
| Fine old Hay | 88s | to 92s | Fine old Clover | 108s | to 112s |
| Inferior do. | 60 | 84 | Inferior do. | 84 | 100 |
| New Hay | 76 | 84 | Fine new Clover | 80 | 90 |
| Inferior do | 50 | 68 | Fine 2d cut | — | 100 |
| Straw | 26 | 28 | Inferior do. | 60 | 80 |

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BRITISH WOOLS.—LONDON, FRIDAY, July 13.

Our market is in a buoyant state, and advances are willingly paid for all descriptions of wool.

| | s. | d. | s. | d. | | s. | d. | s. | d. |
|---|---|---|---|---|---|---|---|---|---|
| South-down Hoggets | 1 | 6 | to 1 | 7 | Leicest Wethers | 1 | 4 | to 1 | 4½ |
| Half-bred ditto | 1 | 6 | — 1 | 7 | Ditto Hoggs | 1 | 5 | — 1 | 6 |
| Down Ewes | 1 | 5 | — 1 | 6 | Combing Skins | 1 | 2 | — 1 | 4 |
| Kent Fleeces | 1 | 5 | — 1 | 6 | Blanket ditto | 0 | 6 | — 0 | 9 |
| | | | | | Flannel Wool | 1 | 2 | — 1 | 7 |

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**MARK LANE.—MONDAY, July 11.**

There was a fair supply of Wheat from Kent to this morning's market, but little fresh up from Essex, which, however, with that remaining over from the last two weeks made a large show; some sales were effected at a decline of 4s. per qr. upon the prices of this day se'nnight, but even at this reduction the stands were not cleared. The few retail sales made in foreign were at a similar decline, and we reduce our quotations accordingly. Barley sells slowly at rather under last week's prices. Beans and Peas bring late rates. The Oat trade is heavy, and Russian qualities are rather cheaper. The top price of town-made Flour is unaltered, but Norfolk is reduced to 56s. per sack.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| PER IMPERIAL QUARTER | | s. | s. | | | s. | s. |
| WHEAT, Essex, Kent, & Suffolk | White | 42 | —50 | Red | .. | 40 | —45 |
| — — fine selected runs | ditto | 44 | —48 | Red | .. | 42 | —47 |
| — — Talavera | .. | 48 | —51 | | | | |
| — Norfolk | .. | — | | Red | .. | — | |
| — Foreign | .. | 42 | —56 | | | | |
| BARLEY, grind. & dist., 24s to 28s. | .. Chev. | 35 | —40 | Malting | | 32 | —34 |
| — Foreign .. grinding and distilling | | 24 | —31 | Malting | | 30 | —34 |
| OATS, Essex and Suffolk | .. | 19 | —22 | | | | |
| — Scotch and Lincolnshire | Potato | 23 | —25 | Feed | .. | 19 | —24 |
| — Irish | .. Potato | 24 | —25 | Feed | .. | 19 | —22 |
| — Foreign .. Poland and Brew | | 23 | —26 | Feed | .. | 19 | —25 |
| RYE | .. | — | | Foreign | | — | |
| RYE-MEAL, foreign | .. | — | | | | | |
| BEANS, Mazagan .. 35s to 38s. | .. Tick | 37 | —41 | Harrow | | 37 | —41 |
| — Pigeon .. 41s —45s. | .. Winds | — | | Longpod | | — | |
| — Foreign .. | .. Small | 38 | —47 | Egyptian | | 35 | —39 |
| PEAS, white, Essex and Kent | Boilers | 44 | —48 | Suffolk | | 46 | —50 |
| — Maple .. 42s to 44s | .. Grey | 38 | —42 | Foreign | | 42 | —46 |
| MAIZE | .. White | — | | Yellow | | — | |
| FLOUR, best marks delivered | .. per sack | 40 | —46 | | | | |
| — 2d do. | .. ditto | 30 | —40 | Country | | 30 | —40 |
| — Foreign | .. per barrel | 18 | —27 | Per sack | | 30 | —37 |

FRIDAY, July 15.

During the last eight days the wind has blown from all quarters, and been very variable, and the temperature has been unusually high. The Wheat trade during the same period has continued particularly inactive, and the decline quoted in the several markets varies from 1s. to 4s. and 5s. per qr., the majority being 3s. to 4s. Prices have now reached the point from which they started three months since, which fact, combined with greatly increasing complaints of Potatoes, and a few of blight in the Wheat, prevents holders from forcing sales; indeed, not many are willing to pay the market price of the day, but prefer to wait the result of the harvest, as few buyers are to be met with excepting on terms which they think must be safe, in the event of the crops being secured in good order and proving productive. Prices of Spring Corn have a downward tendency, and Barley in a few markets is written 6d. to 1s. lower. Flour has been difficult of disposal, and generally about 2s. per sack lower. Here on Wednesday the English Wheat left over from Monday was disposed of at that day's prices; foreign, however, continued to be neglected. The arrivals of grain laden vessels this week off the coast for orders from Southern Europe have increased, and also the sales. The arrivals of English grain this week are small, of foreign good. The attendance at this morning's market was very small, and included but few Wheat buyers, the value of both English and foreign must be written nominally the same as on Monday. Spring corn of all descriptions is a steady sale at Monday's prices. In Flour there is nothing doing.

ARRIVALS FROM JULY 11 TO JULY 15.

| | Wheat. | Barley. | Oats. | Flour |
|---|---|---|---|---|
| English .. | 920 qrs. | — qrs. | 2430 qrs. | 1710 sks. |
| Irish .... | — ,, | — ,, | 460 ,, | — ,, |
| Foreign .. | 15410 ,, | 3040 ,, | 23060 ,, | 2120 ,, — brls. |

LIVERPOOL, Tuesday, July 12.—Our market opened exceedingly dull this morning, but a good number of buyers making their appearance a better tone was established, and notwithstanding the depression in Mark Lane yesterday, holders were enabled to obtain an advance of 1d. to 2d. per cental on

French Wheats over the rates of Friday. Flour had only a very slow sale at Friday's reduction. Indian Corn attracted a fair inquiry at full prices. Oats and Oatmeal little dealt in. Egyptian Beans were a shade easier. Peas and Barley nominally unchanged.

FRIDAY, July 15.—Corn market thinly attended, and business inactive. Wheat and Flour quotably without alteration; tone rather in favour of buyers. Indian Corn and Beans steady. Oats, Oatmeal, and Barley in moderate retail inquiry. Weather fine.

| AVERAGES | Wheat. | Barley. | Oats. | Rye | Beans. | Peas. |
|---|---|---|---|---|---|---|
| June 4.. | 53s 5d | 33s 8d | 25s 1d | 37s 7d | 47s 0d | 40s 5d |
| — 11.. | 51 5 | 31 8 | 26 11 | 41 9 | 45 0 | 40 5 |
| — 18.. | 49 11 | 31 5 | 25 11 | 36 9 | 46 7 | 40 3 |
| — 25.. | 48 3 | 31 1 | 24 9 | 37 6 | 46 8 | 41 9 |
| July 2.. | 46 4 | 30 9 | 24 10 | 33 9 | 46 1 | 40 9 |
| — 9.. | 46 9 | 31 10 | 25 6 | 34 3 | 47 7 | 41 2 |
| Agg Aver. | 49 4 | 31 9 | 25 6 | 36 11 | 46 6 | 41 0 |

FLUCTUATIONS IN THE LAST SIX WEEKS AVERAGES.

| PRICES. | June 4. | June 11. | June 18 | June 25. | July 2. | July 9. |
|---|---|---|---|---|---|---|
| 53s 5d— | | .. | .. | .. | .. | .. |
| 51 5 | .. | .. | .. | .. | .. | .. |
| 49 11 | .. | .. | .. | .. | .. | .. |
| 48 3 | .. | .. | .. | .. | .. | .. |
| 46 9 | .. | .. | .. | .. | .. | |
| 46 4 | .. | .. | .. | .. | | .. |

WANTED, AS GARDENER, a practical middle-aged Man, without incumbrance, who can take charge of a Small Stove and Greenhouse, and who understands Kitchen and **Flower Garden Work. He must have good testimonials** of his skill and general conduct. Wages, without cottage, 50*l.* per annum, paid weekly.—Apply to T. S., Emsworth, Hants.

WANTED, Two Young Men acquainted with GARDENING, requiring further improvement in a large establishment. **Must be honest and sober.—Apply** E. J. B., Post Office, Dulwich, Surrey.

WANTED, two married Men, the one as UNDER GARDENER, the other as COWMAN; the Wives both in the Laundry. Wages for each couple 25*s.* per week; without family preferred.—Apply to the BAILIFF, Bolingbroke Farm, Wandsworth Common, S. W.

WANTED, AS UNDER GARDENER, a strong active **Lad from 18 to 20. Must be a good Mower.**—Apply, stating age, length of character, and wages required, to A. B., Mr. Slatter's, 6, Blenheim Terrace, Kentish Town, Middlesex, N.W.

## WANT PLACES.—Letters to be Post Paid.

GARDENER (HEAD).—Age 25, single; understands his profession in all its branches. Three years' good character.—A. B., Post Office, Twickenham, S.W.

GARDENER (HEAD).—Age 30, married; thoroughly undestands his profession. Two years' good character. C. J., West Street, Coggeshall, Essex.

GARDENER (HEAD).—Age 30, married, no incumbrance; unexceptionable references. Would not object to a comfortable single-handed place.—A. B., Royal Botanic Gardens, Regent's Park, London, N.W.

GARDENER (HEAD).—Age 42, married, no incumbrance; twelve years' character from his last employer. *Six years in his previous situation.*—W. Y., *Gardeners' Chronicle* Office.

GARDENER (HEAD).—Age 30, single; has a thorough knowledge of his profession; satisfactory reason for leaving present situation.—B. C., Streatham Place Nursery, Brixton Hill.

GARDENER (HEAD).—J. SMITH, age 35, married, Gardener to D. B. Chapman, Esq., Dawnshire House, Roehampton, Surrey, will shortly be disengaged, and will be glad to engage with any gentleman in want of an honest, sober, and energetic man.—Direct as above.

GARDENER (HEAD).—Age 28, single; good experience in Grapes, Pines, Peaches, and Cucumbers, also Stove and Greenhouse Plants, including Ferns, and Kitchen and Flower Gardening. Good character.—H. B., Mrs. Wellbelove's, Surbiton Hill, Kingston, Surrey.

GARDENER (HEAD).—WILLIAM HOWARD, Gardener to W. P. Milner, Esq., Dykes Hall, Sheffield, will shortly be at liberty to enter into an engagement with any nobleman or gentleman requiring the services of a thoroughly practical man well versed in every branch of the profession.

GARDENER (HEAD).—Age 46, married, no incumbrance; thoroughly understands Early and Late Forcing of Vines, Pines, Strawberries, &c., and can be well recommended as a good practical Gardener, both from his last and present employer.—J. R., Mr. Young's Nurseries, Milford, near Godalming.

GARDENER (HEAD).—Age 30, married, no incumbrance; has a thorough practical knowledge of his profession, including Forcing of every kind of Fruit, Flowers, and Vegetables, Growing Stove and Greenhouse Plants, Exotics, Orchids, &c. Highly recommended by the gentleman he is about to leave, and likewise by his late employers.—W. R., Hill House, Winkfield, Windsor, Berks.

GARDENER (HEAD).—Age 34, married, no incumbrance; thoroughly conversant with the Management of a large establishment; has had great practice in General Landscape operations, Levelling, Draining, Ornamental Planting; also Early and Late Forcing of Fruits, Flowers, and Vegetables, Keeping Accounts, &c. Has lived as Head Gardener, and filled situations of very great trust. Character unexceptionable.—Messrs. A. HENDERSON & Co., Pine Apple Place, Edgeware Road, London, W.

GARDENER (HEAD).—Age 33, married, has one child; thoroughly understands his profession in all its branches, including Early and Late Forcing, Kitchen and Flower Gardens. Can also Lay Out New Gardens or Cemeteries from plans; has been engaged under an eminent Landscape Gardener. No objection to undertake Land or Stock. Wife can take charge of Dairy and Poultry if required. Good references can be given from last and other employers.—H. W., near the old church, Ealing Middlesex.

### TO NOBLEMEN AND GENTLEMEN.

GARDENER (HEAD).—Age 33, married; has a thorough knowledge of his profession in all its branches. Six years' good character from last employer.—J. S. T., Mr. Hardie, Kenyon House, Kenyon Junction, Manchester.

### TO NOBLEMEN AND GENTLEMEN.

GARDENER (HEAD), or to take the entire charge of a nobleman's or gentleman's Estate.—Is proficient in all branches, expert at Land Surveying, Planning, Mapping, &c., and everything necessary for the improvement and management of Estates in general. First-class testimonials.—A. J. L., 12, Union Street, Ryde, Isle of Wight.

GARDENER.—Age 33, married, one child; understands Greenhouses, Flower and Kitchen Gardens. Three years 8 months' character.—G. G., 12, Albert Place, Lee, Kent.

GARDENER.—Age 36, no incumbrance; first class Graper, Fruit and Vegetable grower, a good knowledge of Propagation, Budding, Fruiting Vines in pots, &c. Character will bear the strictest investigation.—A. B., Hart's Weir, Lechlade, Gloucestershire.

GARDENER.—Age 30, married; understands the Management of Greenhouse, Grapes, Cucumbers, Melons, Kitchen and Flower Gardens. Can have a good character from the gentleman he has left.—C. WRIGHT, 2, Church Street, St. John's, Lewes.

GARDENER.—Age 35, single; practical knowledge of his profession, having had the management of Flower and Kitchen Gardens, Greenhouse, &c., where he has lately lived. High recommendation from late employer.—J. B., Mrs. Bryant, King Street, Maidstone, Kent.

GARDENER.—Middle-aged, married, without incumbrance; understands Growing Pine, Grape, Stove, and Greenhouse Plants, also Flower and Kitchen Gardens. Has no objection to go to America. Good character of many years standing.—D. F., Mr. Veitch, Royal Exotic Nursery, Chelsea, London.

GARDENER (UNDER).—Age 24; has been Groom, and assisted in the Garden. Two and a half years' good character.—A. B., Mr. J. Hollage, 2, Crown Lane, Norwood.

GARDENER (UNDER).—A Lady wishes to place a young man as above, whose character she has long known and who has been under her own head gardener. She is in town for a few days.—G., Post Office, Brompton Row, S.W.

GARDENER AND BAILIFF.—Age 41, married, three children, native of Scotland; thoroughly understands his profession. Good reference.—W., Mr. Halstead, Nurseryman, Lancaster.

STEWARD AND GARDENER.—Age 40, married; nine years' General Manager to present employer. Has had the care of the Farm, Woods, Kitchen and Flower Gardens, Hothouses, &c., Saw-mill Steam-engine, Erection of Buildings, Underdraining, taking the Rents, and Superintending an Estate of 5000 acres.—A. B., Oxburgh, Stoke Ferry, Norfolk.

### LANDSCAPE GARDENING.

FOREMAN.—Skilled in Laying-out Cemeteries or Gardens from Plans, and Ornamental Planting.—A. B., Mr. Kay, East Acton, Middlesex.

MANAGER OF A NURSERY.—Young; has good practice in Geranium growing, Propagating, and also in Managing. Good references can be given.—W. H. L., 4, Woodbine Cottage, Green Park, Tottenham, Middlesex.

FORESTER.—Young, native of Scotland; has had great experience in all matters appertaining to Foresting, and can produce unexceptionable testimonials and references.—FRANCIS AND ARTHUR DICKSON & SONS, Nurserymen, &c., 106, Eastgate Street, Chester.

SHOPMAN, in a Nursery or Seed Business.—Has had seven years' experience in first-class houses, and can be well recommended.—A. B., *Gardeners' Chronicle* Office.

### TO SEEDSMEN.

SHOPMAN.—A young Man, who has had 10 years' experience in a Scotch house, latterly as principal Shopman. Satisfactory references.—T. G. T., *Gardeners' Chronicle* Office.

ASSISTANT.—A lady wishes to recommend a respectable youth, aged 17, as ASSISTANT to a GARDENER; he has had some years' experience.—E. N., 47, Harley Street, Cavendish Square, W.

APPRENTICE.—Age 15; to a gentleman's Gardener where the gardens are extensive, and where he will have an opportunity of learning his profession in the most modern style. A moderate Premium will be given.—J. B., Post Office, Hinckley.

COWMAN OR HIND on a Small Farm.—Age 40, married, without incumbrance; Wife would have no objection to take charge of Dairy or Poultry.—W. C., Post Office, North Stainly, near Ripon, Yorkshire.


### PRIZE MEDAL, PARIS EXHIBITION 1855.

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☞ A revised List of Agents will shortly be published.

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Testimonials from the Rev. Edwin Sidney, Cornard Parva Rectory, near Sudbury, Suffolk; James Veitch, jun., Esq., of the Royal Exotic Nursery, Chelsea; Lucombe, Pince, & Co.; E. G. Henderson & Son, Wellington Nursery, St. John's Wood; C. Loddiges, Esq., of Hackney, and many others.

# The Gardeners' Chronicle Newspaper.

*SATURDAY, JULY* 23, 1859.


QUEEN'S COLLEGE, BIRMINGHAM.
INCORPORATED BY ROYAL CHARTER.

The WINTER SESSION of the Faculties of ARTS, MEDICINE, ENGINEERING, AND AGRICULTURE, will commence on MONDAY, October 3. The system of study pursued at the College constitutes a complete Course of Education (with Collegiate discipline) in Arts, Science, Medicine, Law, and Theology, without residence elsewhere; and the Courses of the different Faculties are recognised in the Universities of London and Durham, with which the College is in connection, by the different Medical Examining Boards, and by those of Her Majesty's Army, Navy, and Indian Services.

The College is empowered by Royal Charter to confer a Diploma in Engineering.

Agriculture. Students are prepared by a special course of study for the Examination of the Royal Highland Agricultural Society.

Students in the Junior department of Medicine are prepared for the Matriculation Examinations of the University of London, College of Surgeons, Apothecaries' Hall, &c. Those who reside in the College may receive Indentures of Apprenticeship without premium.

For further information and Prospectuses, application may be made to the Dean of the Faculty; or to Dr. BOND, Hon. Sec. to the Medical Faculty, Queen's College.

NORWICH UNION LIFE INSURANCE SOCIETY.—INSTITUTED 1808.
Invested Capital exceeding 2,000,000*l.* sterling.

This Society is one of the very few purely Mutual Insurance Offices, the whole of the profits being divided among the Policyholders, and possesses large reserves applicable to future Bonuses. The rates are considerably below those usually charged. Thus at the age of 40 the sum of 33*l.* 19*s.* 2*d.*, which, at the ordinary premium, will insure 1000*l.*, with the Norwich Union WILL INSURE ONE THOUSAND AND NINETY-FIVE POUNDS FOUR SHILLINGS, giving an immediate bonus in addition to subsequent accumulations.

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THE SCOTTISH UNION INSURANCE COMPANY hereby intimate that they will NOT CHARGE any EXTRA PREMIUM for persons joining and serving in any Volunteer or Rifle Corps so long as they remain within the United Kingdom of Great Britain and Ireland.

The terms and conditions of this Company (established 35 years), are in every sense liberal.

Persons opening policies now and before the end of July, will participate in the profits of the year then ending.

The next division will be in 1861.

Prospectus, and forms of proposal, may be had at the Company's offices, 37, Cornhill, London; and of the agents throughout the kingdom.

F. G. SMITH, Secretary to London Board.
37, Cornhill, June, 1859.

NOTICE OF DIVIDEND.—BANK OF DEPOSIT (Established A.D. 1844), No. 3, Pall Mall East, London, S.W.—The WARRANTS for the HALF YEARLY INTEREST, at the rate of 5 per cent. per annum, on Deposit Accounts, to the 30th June, are ready for delivery, and payable daily between the hours of 10 and 4.

July 16. PETER MORRISON, Managing Director.
Prospectuses and Forms sent free on application.

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RICE SWEEPINGS FOR CHICKENS, 8*s.* per cwt., in 1¼ cwt. bags. SCREENED RICE, 11*s.* per cwt., in 1¼ cwt. bags. RICE MEAL, 6*s.* 6*d.* to 8*s.* 6*d.* per cwt. OILCAKE, 10*l.* 10*s.* to 11*l.* 10*s.* per ton only. DOG BISCUIT, 14*s.* to 15*s.* per cwt.—Sold for cash only by W. & R. JUPP, 6, Cross Lane, St. Mary-at-Hill, Eastcheap, City, E.C.

GENUINE TOBACCO PAPER FOR FUMIGATING.

H. APPLEBY (Foreman to Messrs. Ivery & Son, Surrey), takes this opportunity of informing his patrons and the public that he is now offering the above at a very considerably reduced price. It is now sold in packets of 4 lbs. each, at 1*s.* 3*d.* per lb. A liberal discount allowed to the Trade. For testimonials that will guarantee its quality, see *Gardeners' Chronicle*, April 16, p. 353.

Sheet Iron Pots for fumigating, 3*s.* 6*d.* each.

N.B. All orders to be accompanied with a Post-office Order, payable to HENRY APPLEBY, Dorking, Surrey.

GREEN FLY, RED SPIDER, THRIPS, SCALE, MEALY BUG, AMERICAN BLIGHT, ANTS, &c. prevented and got rid of by the PATENT GISHURST COMPOUND, which should also be applied when dressing Fruit Trees in autumn and winter. Price 1*s.* 6*d.*, and 5*s.* per box exclusive of carriage: with directions for use and testimonials from the most eminent professional and amateur gardeners in the country. Where the consumption is not large the small sized boxes are recommended. Nearly 100 of the principal Nurserymen and Seedsmen in England, Scotland, and Ireland have taken in their supplies, most of the Nurserymen in the first instance for their own use, and are prepared to sell single boxes. A list of their names is occasionally advertised in the *Gardeners' Chronicle* and "Cottage Gardener," &c.

A new List of Testimonials stating the strength of solution and mode of application in the different cases will shortly be printed and issued with the boxes.

Nurserymen and Seedsmen supplied by PRICE'S Patent Candle Company Limited), Belmont, Vauxhall, London, S.

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POULTRY, DOGS, AND PLANTS are effectually freed from Fleas, and all other Vermin with which they are infested by the above Powder, which is quite harmless to animal life. The Farmer, the Gardener, or the Sportsman, will therefore find it invaluable. Bugs, Cockroaches, Beetles, Moths in Furs, and every other species of Insect are also instantly destroyed. In packets post free, for 14, or treble size for 36 postage stamps, by THOMAS KEATING, Chemist, 79, St. Paul's Churchyard, London, E.C. Take notice each genuine packet bears the above name and address. See "THE FIELD," Oct. 2d and 9th, pp. 263, 285, and 294.

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CALVANISED IRON WATER CISTERNS

for Cottage Houses, &c., to contain 50 gallons, 7*s.*; 80 gallons, 8*s.* each, and 140 gallons, 9*s.*, and fitted with tap, keeping the water perfectly sweet and clean; will not rust or corrode. Cisterns of all sizes.

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for Garden or Farm use, containing about 20 gallons, entirely formed of iron, 32*s.* 6*d.* each.

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# News of the Week.

Two important documents in connection with the Treaty of Peace have been published this week, the one a manifesto from the EMPEROR OF AUSTRIA to his subjects, the other a reply from the EMPEROR OF THE FRENCH to the addresses of congratulation

presented by the Senate, the Legislative Body, and the Council of State, on his return from Italy. The EMPEROR OF AUSTRIA, in his manifesto, states that he was obliged to make peace because his "national and most ancient allies" obstinately refused to support him; while the EMPEROR NAPOLEON states that he found himself in the presence of Europe in arms, "ready to dispute his success or aggravate his reverses," and that if he had commenced the "long and sterile war of sieges," he must have broken through the barriers raised by neutral territories, have accepted the struggle on the Rhine as well as on the Adige, and have availed himself everywhere of the support of revolution. The means of accomplishing these objects would, he says, have been out of proportion to the results to be expected, and he therefore stopped short of his programme in consideration of the "interests of France." A Conference is about to take place at Zurich between the representatives of France, Austria, and Sardinia, to settle the affairs of Italy; and it is understood that the Great Powers will afterwards be invited to join in a Congress for the purpose of confirming the arrangements which may be found necessary to carry out the conditions of the Treaty of Peace.

In the House of Lords on Monday Lord CRANWORTH laid on the table five Bills prepared by the Statute Law Commission, and said that they were an instalment of a series with a view to the consolidation of the statute law. On Thursday the LORD CHANCELLOR, in moving the second reading of the Divorce Court Bill, said that it was intended by this measure to constitute all the Puisne Judges members of the Court, to empower the Court to sit in certain cases with closed doors, and to require the Attorney-General to watch petitions for divorce in cases where there may be reason to suspect collusion.

In the House of Commons on Monday the CHANCELLOR of the EXCHEQUER made his financial statement, from which it appeared that the estimated deficiency of the year will be 4,867,000*l.*, caused chiefly by the expenditure incurred in our naval and military defences. As this deficiency is likely to be temporary, Mr. GLADSTONE proposed to meet it not by resorting to loans, nor by augmenting indirect taxation, but by a temporary addition of 4*d.* in the pound to the income tax on all incomes above 150*l.* a year, to be leviable on the next half yearly payments, so that the supplementary duty may be in hand to meet the payments coming due before April next. He expected this addition to the income tax to yield something more than 4,000,000*l.*, and he proposed to supply the remainder of the deficiency by striking off six weeks from the six months' credit given to maltsters. In submitting this Budget to the House, Mr. GLADSTONE stated that it was not a measure of prospective or permanent finance, but one of temporary and provisional arrangement, as the lapse of the income tax and the falling in of the Long Annuities next year will make it necessary for Parliament to enter upon larger views of our financial system at the commencement of next session. On Tuesday, the third reading of the Public Health Bill was carried by 101 to 95, and the second reading of the Municipal Corporations Bill was carried by 130 to 44. Mr. C. FORSTER's motion in favour of a winter session of Parliament was negatived by 121 to 48; and Mr. BAINES's motion for a select committee to inquire into the nature and extent of the Queen's printer's patent for England and Wales, so far as relates to the right of printing the Holy Scriptures, was agreed to without a division. On Wednesday the second reading of the Edinburgh Annuity Tax Abolition Bill was carried by 162 to 108, on the understanding that it will not be further proceeded with, the Government having undertaken to bring in a Bill upon the subject next year. On Thursday, in Committee of Ways and Means, the CHANCELLOR of the EXCHEQUER moved his resolutions on the income tax and malt credit. Sir H. WILLOUGHBY moved two amendments, the first to reduce the additional tax on income from 4*d.* to 3*d.* in the pound, and the second to reduce the tax on Long Annuities to ½*d.* for every pound of dividend. Both amendments were negatived without a division. Mr. DISRAELI then moved an amendment for the purpose of distributing the payment over the year. This amendment was likewise negatived, and the resolutions were agreed to. Sir W. SOMERVILLE withdrew the Roman Catholic Relief Act Amendment Bill, on the ground that there was no chance of passing it in the present session.

## Home News.

THE COURT.—The Queen, Prince Consort, and the Royal family continue at Osborne. On Friday afternoon the Prince Consort went to Portsmouth. Her Majesty embarked at a quarter before 6 in the Fairy, accompanied by Princess Alice, Princess Helena, and Prince Arthur, and crossed to Portsmouth, where the Prince Consort joined her Majesty and returned with her to Osborne. On Saturday the Duchess of Kent and the Princess of Hohenlohe-Langenburg arrived at Osborne on a visit to her Majesty. In the afternoon her Majesty and the Prince Consort, accompanied by Princess Alice and Princess Hohenlohe, drove out. On Sunday morning the Queen, Prince Consort, Princess Alice, Prince Arthur, Princess Helena, and Princess Louisa attended Divine service at Osborne; the Rev. G. Prothero officiated. On Monday morning the Queen, Prince Consort, and the Royal family walked and drove in the grounds. The Duchess of Kent visited the Prince and Princess Leiningen at Osborne Cottage. In the afternoon the Prince Consort went to Alverbank. Her Majesty, Princess Alice, Prince Arthur, and Prince Leopold afterwards embarked in the Fairy and crossed to Alverbank, where they were joined by the Prince Consort. The Royal party returned to Osborne at 8 o'clock. Viscount Sydney, Lord Chamberlain, arrived from London and presented an address to her Majesty from the House of Lords. On Tuesday the Queen and Prince Consort, accompanied by Princess Alice and Princess Helena, rode on horseback. The Duchess of Kent walked in the grounds in the forenoon, and took a drive in the evening. On Wednesday afternoon the Queen and Prince Consort, accompanied by Prince Arthur and Princess Hohenlohe, drove out and honoured Sir Thomas and Lady Cochrane with a visit. On Thursday morning Prince Alfred arrived from the Mediterranean.

THE PRINCE OF WALES arrived at Holyrood Palace on Friday evening, but as his visit to Edinburgh is for the purpose of continuing his studies, his movements were unaccompanied by any display. During his few weeks stay in the Scotch metropolis the Prince is to place himself under the tuition of Dr. Schmitz, rector of the Edinburgh High School, with an especial regard to historical studies and Italian literature.

RETURN OF PRINCE ALFRED.—His Royal Highness Prince Alfred landed at Dover on Wednesday afternoon, and proceeded to Osborne by an early train of the South Coast Railway on Thursday morning, having come home on leave of absence for some weeks. His Royal Highness left the Euryalus at Malta, and proceeded in the Banshee to Marseilles, from which place he travelled *incognito* to Calais, and there embarked for England.

PRINCE LUCIEN BONAPARTE is at present residing among the hills at Stanhope and St. John's, in Weardale, translating the Song of Solomon into the dialect of the county of Durham. He will proceed thence to Craven, for the purpose of translating the book into the Yorkshire dialect.

THE CABINET.—A Cabinet Council was held on Saturday at the official residence of the First Lord of the Treasury in Downing Street. Another Council was held on Wednesday, and another yesterday.

PARLIAMENTARY MOVEMENTS.—The last of the elections consequent upon the change of Ministry took place at Wicklow on Monday, when Lord Proby was re-elected without opposition.

THE CHANNEL FLEET, at present at Portland, will leave that anchorage, according to present arrangements, on Monday next, for Spithead, to undergo necessary repairs, when the crews will have leave of absence ashore.

VOLUNTEER RIFLE CORPS.—Mr. Sidney Herbert, as Secretary for War, has issued a circular to the Lords Lieutenants of counties on the future management and regulation of volunteer corps, whether artillery or rifle, which shall be hereafter embodied. This document is accompanied by a memorandum regarding the formation of these corps, but most of the details which it embodies have already been made public in the debates in Parliament and in other forms. At a public meeting held at Guildhall on Thursday, the Lord Mayor in the chair, it was resolved to form a rifle brigade under the title of the London Rifle Brigade, and Alderman Carter was requested to accept the colonelcy of the regiment, subject to the approval of Government.

## Foreign.

FRANCE.—The Emperor arrived at St. Cloud on Sunday morning from Turin. He reached the Lyons terminus at 10 o'clock, and proceeded by the railway round Paris to his destination. The Imperial carriage stopped at St. Cloud at 10.15, and in five minutes was at the Orleans Gate, which communicates with the Palace. The Empress, with the Prince Imperial, the attendants of the Palace, were assembled at the entrance to receive his Majesty. The Prince dressed in the uniform of the Imperial Guard, with a crown of laurel in his hand, ready to present to his father. When the Imperial carriage appeared it was hailed with cries of "*Vive l'Empereur!*" from the people of the railroad. The Empress, holding her son by the hand, came forward to meet the Emperor, who embraced her affectionately, and pressed the Prince repeatedly to his bosom. At noon his Majesty heard mass in the chapel of the Palace, and immediately afterwards received Prince Jerome, the Princess Marie Clotilde Napoleon, the Princess Mathilde, Prince and Princess Lucien Bonaparte and Princess Anna their daughter. The members of the Privy Council, of the Council of Ministers, the great officers of the Crown, and the officers and ladies of the Household were also received by the Emperor. On Tuesday evening his Majesty received the Senate, a deputation of the Legislative Body, and the Council of State. The Presidents of these bodies having addressed his Majesty in complimentary terms on the success of his Italian campaign and his safe return to France, the Emperor replied as follows:—

"Gentlemen,—Finding myself again in the midst of you, who during my absence have shown so much devotion to the Empress and to my son, I feel first of all the desire to address you, and then to explain to you the motives of my conduct. When, after a successful campaign of two months, the French and Sardinian armies pitched their camp before the fortresses of Verona, the struggle was evidently on the point of undergoing a change in a military as well as in a political point of view. I was fatally obliged to attack in front an enemy who was behind great fortresses, protected against any diversion on the flanks by the neutrality of the territories which surrounded him; and in commencing the long and sterile war of sieges, I found in presence of me Europe in arms ready either to dispute our success or to aggravate our reverses. Nevertheless the difficulty of the enterprise would never have shaken my resolution nor stopped the enthusiasm of the army had not the means been out of proportion with the results to be expected. It was necessary to resolve boldly to break through the barriers raised by neutral territories, and to accept the struggle on the Rhine as well as on the Adige. It came to this—to accept everywhere the support of revolution. More precious blood must have been shed, and more would have been shed already; in a word, to succeed it was necessary to stake what no Sovereign ought to stake, unless the independence of his country is in danger. If then I stopped short it was not from weariness or exhaustion, nor from a mistrust of the noble cause I wished to serve, but because a secret voice spoke within my heart—'the interests of France.' Do you imagine it cost me nothing to put a break upon the ardour of my soldiers, who, excited by victory, wished to advance? Do you suppose that it cost me nothing to brave the face of Europe to curtail from my programme the part which extends from the Mincio to the Adriatic? Do you imagine that it cost me nothing to behold noble hopes destroyed in honest hearts, patriotic hopes extinguished? I served Italian independence I waged war against the will of Europe. As soon as the destinies of my country were no longer perilled I concluded peace. And can it now be said that our efforts and sacrifices are a pure loss? As I said in my farewell address to my soldiers, we have a right to be proud of this struggle. In four combats and two battles a powerful army, inferior to none in organisation and bravery, has been destroyed. The King of Piedmont, once styled the Guardian of the Alps, has seen his country delivered from invasion, and the frontiers of his States extended from the Ticino to the Mincio. The idea of Italian nationality is admitted by its warmest adherents. All the Sovereigns of the Italian peninsula understand at last the imperious necessity of salutary reforms. Finally, after having given a new proof of the military power of France, the peace which I have just concluded will be fruitful in great results; the future will reveal them daily more and more. To the happiness of Italy, the influence of France, and the prestige of Europe."

On Thursday the Diplomatic Body had an interview, offered to the Emperor their congratulations on his safety and on his resolution to conclude peace. The Emperor in reply, said:—

"Europe was in general so unjust to me at the beginning of the war that I was happy to be enabled to conclude peace as soon as the honour and the interests of France were safe, and to prove that it could never have been my intention to overturn Europe and to provoke a general war. I hope now that all reasons for disunion will disappear, and that the peace will be of long duration. I thank the diplomatic corps for its congratulations."

A Conference, to settle the affairs of Italy, is to meet at Zurich in 10 days or a fortnight at the latest, and will be succeeded by a Congress, at which the great Powers will be invited to attend and take into consideration the arrangements necessary for carrying out the conditions of the treaty of peace. The Plenipotentiaries to the Conference to be held at Zurich are M. Bourqueney for France, and Count Colloredo for Austria. The representative for Sardinia has not yet been named, but it is even hinted that none will be appointed. The Austrian prisoners now in France, amounting to nearly 20,000, are about to be returned. Prince Esterhazy has arrived in Paris from Vienna on a special mission.

PORTUGAL.—Letters from Lisbon state that the young Queen had a rather severe attack of sore throat on Thursday, but was believed to be going on satisfactorily, when a relapse took place, and she died on Saturday. This melancholy event has caused great affliction at Lisbon.

SPAIN.—Several arrests were made last week at Seville, in consequence of the authorities having received information that disturbances were to break out during the night. The ramifications of a democratic conspiracy have been discovered.

PRUSSIA.—The *Prussian Gazette* publishes a leading article in defence of the attitude taken by Prussia during the last few months, and endeavours to prove that its policy has prevented an universal war. The article lays the chief stress upon the fact that a real and substantial basis for joining in the war was wanting. "Prussia," it says, "can draw her sword for Germany

and Prussian interests, but not for maintaining or re-establishing a state of affairs in Italy which Austria herself has recognised as not maintainable, nor for sustaining isolated articles in the treaties of 1815. The proposals for mediation made by Prussia were far more favourable than the preliminaries of peace which have now been agreed upon. Prussia, however, has no occasion to be dissatisfied with the unexpected turn matters have taken. Whilst discontinuing her military measures she awaits the further development of affairs with calmness." The following is a translation from the German of a despatch addressed by Lord John Russell to Lord Bloomfield, the British Minister at Berlin, on the subject of the war:—

"Foreign Office, June 22.

"My Lord,—Her Majesty's Government sees with great concern an indication manifesting itself in Germany to take part in the war which has broken out between France and Sardinia on one side and Austria on the other. It depends chiefly upon the moderate and sagacious behaviour of Prussia whether the present war is to be confined to Italy or extend to German territory, and perhaps to other parts of Europe. The Emperor Napoleon has declared that it is not his wish to attack Germany. It is hoped and believed that the Prince Regent of Prussia will not take part in an attack upon France. But it has been maintained that Germany is, if not directly, at least indirectly, threatened; that if she did not take part in a war on the Po she would soon have to defend herself on the Rhine; that the Austrian fortresses on the Mincio and the Adige were in reality the bulwarks of Germany against France. There is much loose and unproved assertion in this statement. The war between Austria and Sardinia has undoubtedly—perhaps inevitably—sprung from the state of things in Italy. Since 1815 Austria has exercised a supremacy *de facto* over the Italian States; in the course of the last few years Sardinia has favoured and fostered the passion of the Italians for independence. When Lord A. Loftus demanded from Count Buol a pledge that Austria would in no case order her army to cross her frontier in Italy without having previously come to an understanding with France, the reply was, 'No! I cannot give you that assurance, for it would be a surrender of our sovereign power. We shall not intervene in any State unless our aid is asked for, and in that case it will be granted, and the knowledge that it will be granted is the best preservative of order.' Consequently Austria was not prepared to give up the claim to a right of intervention in case she was appealed to for the latter, and Sardinia on the other hand would not give up the pretension to represent the sorrows and aspirations of Italy; but inasmuch as the King of Sardinia was not able to carry through such a dispute with his own force, he has demanded the assistance of the Emperor of the French, and it has been granted to him. I do not speak here of the immediate cause of the war—on this point my predecessor has already very completely developed her Majesty's views. But from the statement just made it is evident that the fundamental origin of the war is to be sought for in the diametrically opposite pretensions put up by Austria and Sardinia. This war has broken out without any reference to Germany. The assertion that the policy of France, when successful on the Po and the Brenta, will prove to be an aggressive policy on the Rhine, is a perfectly arbitrary assertion. The momentous question of involving the continent in war should not be decided on the ground of vague hypothesis and exaggerated apprehensions. Now, it is not a tenable statement that the fortresses on the Mincio and on the Adige are bulwarks of Germany. It must be borne in mind that the fortresses of Peschiera, Verona, and Mantua do not fall within the ancient limits of Germany; that, on the contrary, the whole territory from Verona to the Adriatic in the year 1792 formed part of a weak, unwarlike, and decaying Italian State. The utmost that can be said is that while many Germans look upon these fortresses as a bulwark of Germany, many Italians look upon them as a menace to Italy. The treaty of peace must decide about their future fate. The reasons adduced in favour of a war on the part of the German States thus being insufficient, very strongly resist so precipitate a course. The Prince Regent of Prussia will, in his wisdom, weigh the impolicy of exposing his country to be considered the champion of the maladministration of Italy. It cannot be necessary for the safety of Berlin and Magdeburg that the government in Milan and Bologna should be bad. But, in the eyes of the Italians, Prussia, should she appear in arms by the side of Austria, would be considered as a defender of everything Austria has committed and omitted. There is still another consideration of the utmost importance. Hitherto the war has produced but little excitement in France. As soon as the question of superiority in the field shall have been decided the two belligerent Powers will probably be strongly inclined to put a stop to this exhausting war. But should France, by a German attack, be called upon to defend her own frontiers, it is impossible to foretell to what pitch the passions of international hatred might not be inflamed, and for what space of time the continent of Europe might not have to suffer the desolations of war. You are already sufficiently informed of her Majesty's resolve, supported by the unanimous feeling of her people, to observe a strict neutrality. Her Majesty has kept this country free from all and every obligation which might interfere with her freedom of action. Her Majesty's Government entertains the hope that Prussia will adopt a course as nearly similar as the circumstances of Germany will permit. Possibly the time is very near when the voice of mediating friendly Powers will be able to make itself successfully heard, and when representations in favour of peace will no longer be without effect. Pray read this despatch to Baron Schleinitz, and leave a copy with him.

"I am, &c. "JOHN RUSSELL."

FRANKFORT.—In an extraordinary sitting of the Diet on Saturday Austria communicated the preliminaries of the peace, and proposed that the contingents should be returned and the Federal fortresses restored to a peace footing. Prussia further proposed that the former resolution of the Federal Diet, to assemble a corps of observation on the Rhine, be cancelled. In the sitting of Thursday both these proposals were unanimously agreed to.

AUSTRIA.—The following manifesto from the Emperor of Austria, signed at the Imperial Castle of Laxenburg, near Vienna, was published on Saturday:—

"When all concessions that were allowable, and compatible with the dignity of the crown and the honour and welfare of the country, have been exhausted, and when all attempts at a pacific arrangement have miscarried, there is no room for choice, and what cannot be avoided becomes a duty. This duty placed me under the stern necessity of demanding from my people new and painful sacrifices, in order to place in a state of defence their most sacred interests. My faithful people have responded to my appeal; they have pressed forward unanimously in defence of the throne, and they have made the sacrifices of every kind demanded by circumstances with an eagerness which merits my gratitude—which augments, if possible, the profound affection which I feel for them; and which was adapted to inspire the assurances that the just cause in defence of which my brave armies went forth with enthusiasm to the contest would be victorious. Unhappily the result has not corresponded with the general effort, and the fortune of war has not been favourable to us. The valiant army of Austria has in this instance again given proofs of its tried heroism and its incomparable perseverance so brilliant that it has commanded the admiration of all, even of its enemies. I experienced a legitimate pride in being the chief of such an army, and the country ought to feel indebted to it for having maintained vigorously, in all its purity, the honour of the Austrian flag. It is not less perfectly established that our enemies, in spite of the greatest efforts, in spite of the superior forces which they had for a long period been preparing for the conflict, have been able, even by making the greatest sacrifices, to obtain only advantages, not a decisive victory; while the Austrian army, still animated by the same ardour, and full of the same courage, maintained a position, the possession of which left a possibility of recovering from the enemy all the advantages he had gained. But for this purpose it would have been necessary to make new sacrifices, which certainly would not have been less bloody than those which have been made already, and which have deeply affected my heart. Under these conditions it was my duty as a Sovereign to take into serious consideration the propositions of peace which had been made to me. The consequences of the continuance of the war would have been so much the heavier, because I should have been obliged to demand from the faithful people of my dominions new sacrifices of blood and of money, much more considerable even than those which had been made up to that time. And, notwithstanding, success would have remained doubtful, since I have been so bitterly deceived in my well-founded hope that this contest not having been entered into for the defence of the rights of Austria only I should not be left alone in it. In spite of the ardent sympathy, worthy of acknowledgment, which the justice of our cause has inspired, for the most part, in the journals and peoples of Germany, our national allies, our most ancient allies have obstinately refused to recognise the great importance of the grand question of the day. Consequently Austria would have been obliged all alone to face the events which were being prepared for, and which every day might have rendered more grave. The honour of Austria coming intact out of this war, thanks to the heroic efforts of her valiant army, I have resolved, yielding to political considerations, to make a sacrifice for the re-establishment of peace, and to accept the preliminaries which ought to lead to its conclusion; for I have acquired the conviction that I should obtain, in any event, conditions less unfavourable in coming to a direct understanding with the Emperor of the French, without the intervention of any third party whatsoever, than in causing to participate in the negotiations the three great Powers which have taken no part in the struggle. Unhappily I have been unable to escape the separation from the rest of the empire of the greater part of Lombardy. On the other hand it must be agreeable to my heart to see the blessings of peace assured afresh to my beloved people, and these blessings are doubly precious to me, because they will give me the necessary leisure for bestowing henceforth without distraction all my attention and solicitude on the fruitful task that I propose to accomplish—that is to say, to found in a durable manner the internal well-being and the external power of Austria by the happy development of her moral and material forces, and by ameliorations conformable to the spirit of the time in legislation and administration. As in these days of serious trials and sacrifices my people have shown themselves faithful to my person, so now by the confidence with which they respond to me they will aid in accomplishing works of peace, and in attaining the realisation of my benevolent intentions. As Chief of the army, I have already expressed to it, in a special order of the day, my acknowledgments of its bravery. To-day I renew the expression of these sentiments. While I speak to my people I thank those of their children who have fought for God, their Emperor, and their country. I thank them for the heroism of which they have given proof, and I shall always remember with grief those of our brave companions in arms who have not, alas! returned from the combat.

"FRANCIS JOSEPH."

ITALY.—The new Sardinian Ministry is formed. Signor La Marmora is Minister of War and President of the Council; General Dabormida, Minister for Foreign Affairs; Signor Ratazzi, Minister of the Interior; Signor Egtana, Minister of Finance; Marquis Monticelli, Minister of Public Works; and Signor Miglietti, Minister of Justice. The post of Minister for Public Instruction is still vacant. Accounts from various parts of Italy state that the terms on which the two Emperors have made peace have given general dissatisfaction to the Italians. The King of Sardinia is said to have wept on hearing the conditions of peace; the Piedmontese army is equally disappointed, and the resignation of Count Cavour is the expression of the feeling of the whole country.

THE ADRIATIC.—All captured Austrian vessels will, according to the preliminaries of the treaty of peace, be given up. On Saturday the Austrian Lloyd's again began the running of their vessels to Venice. The line to Constantinople will be resumed on the 23d; to Smyrna on the 26th inst., and that to Alexandria on the 11th August. The lines to Corfu, Malta, Caramania, Barcelona, and to the Po are still suspended for the present.

INDIA.—The Bombay Mail of June 23, has arrived. The campaign on the borders of Onde is at an end. Sir Hope Grant has returned to Lucknow. Our regiments have been withdrawn into quarters and the entire frontier of Oude placed under Major Bruce's police. The rebels on the banks of the Sindh river have been totally defeated with the loss of many men by the cavalry under Captain Swiney, and the Jalowa Police, under Lieutenant Catavia. Cholera has broken out at Bombay, and as many as forty cases have been reported daily.

UNITED STATES.—General Cass has despatched to all the United States Ministers in Europe an important State Paper on the question of neutral rights, declaring that no articles will be deemed contraband of war by the United States except the direct and immediate munitions of warfare, such as powder, muskets, cannon, lead, and saltpetre; and that coal and breadstuffs are not contraband of war, and any attempt to construe them otherwise will be viewed as an encroachment upon American commerce. The broad doctrine is also reiterated that a free flag covers the cargo. On the 4th inst. the acrobat Blondin, who had previously walked across the Niagara river below the falls on a tight-rope, repeated the feat with his head in a bag, so as to blindfold him. Dr. Henry Northall, Acting British Vice-Consul at Gloucester, committed suicide on the 3d by hanging. Mrs. Everett, wife of Hon. Edward Everett, died on the night of the 2d inst., after a long illness.

# Parliament.

## HOUSE OF LORDS.

FRIDAY.—*Italian Affairs.*—The Earl of MALMESBURY in assenting to Earl GRANVILLE's request that he would postpone till a future day the motion he had on the paper on the affairs of Italy, said that at the same time he could not forbear from referring to the case of the Duchess of Parma, whose admirable conduct had won universal admiration, and expressed his opinion that it would be a bad example of public morality if she were not restored to her dominions. He protested against the statements of Count Cavour in regard to Parma, which he was ready to meet and to refute categorically, and show that they were destitute of foundation.—The Marquis of NORMANBY declared his willingness to postpone his motion, adding as testimony to the good conduct of the Duchess of Parma, and reprobating the policy of appropriation so systematically professed by Count Cavour.—The Marquis of CLANRICARDE vindicated Count Cavour, and said that he had shown during the whole course of his policy the utmost energy, honesty, and consistency.—Lord BROUGHAM called attention to the deplorable position of Europe, whose fate was allowed to depend upon the will of two despots, who made peace without consulting their allies, and without even the intervention of responsible Ministers.—The Earl of DERBY thought that Sardinia, which had occupied the first position, and to whom France only stood in the relation of an ally had been thrown entirely into the background. They had heard that peace had been concluded between France and Austria. He wished to know whether peace had been agreed to between Austria and Sardinia.—Earl GRANVILLE replied that Sardinia was understood to be a consenting party to the convention, but the Government had no information beyond that already known to the public.—Lord ELLENBOROUGH protested against our past policy of officious interference in the affairs of foreign States, as tending to destroy the influence of this country in the councils of Europe.—The Duke of RICHMOND said, that although he agreed in the policy of non-intervention he did not concur in the praise of Count Cavour, who had been, in his opinion, the cause of the war.—Lord STRATFORD DE REDCLIFFE thought the objection made against our interference by foreign States was more on account of the manner than of the thing itself, and cited the case of the late King of Naples as a precedent in point. He passed a strong censure on Count Cavour, who had excited the revolutionary party in Tuscany.—Lord WODEHOUSE expressed the willingness of the Government to discuss these matters fully when sufficient information had been obtained. He promised that the despatch moved for by Lord Normanby should be laid on the table. In regard to the papers moved for by Lord Malmesbury, he could not promise to lay them before the House, but the answer to them should be communicated to their lordships.—The *Clerk of the Council Bill* was read a second time.

MONDAY.—*Prussia and the War.*—The Earl of MALMESBURY asked whether the despatch of Lord J. Russell, date June 22d, and addressed to the Government of Prussia, which had appeared in the newspapers, showing that Prussia had no reason for going to war, and that the Italian fortresses were not in reality bulwarks to Germany, was authentic.—Lord WODEHOUSE said that the despatch, as it had appeared in the newspapers was authentic in substance. He explained to the House that the despatch was merely an exposition of the policy pursued by the late Government.—Lord BROUGHAM trusted that, as we had had nothing to do with the peace just concluded, we should not mix ourselves up with anything that might occur.—The Duke of NEWCASTLE said that the despatch of Lord J. Russell was suggestive, while that of Lord Malmesbury was of a threatening character.—Lord GRANVILLE agreed that the despatch of Lord Malmesbury was of a much less friendly character than that of Lord J. Russell. *Law Reform.*—Lord CRANWORTH laid on the table five Bills prepared by the Commissioners for Consolidating the Statute Law, and suggested that the Commission should be put under the superintendence of two or three gentlemen of eminence, with a staff of clerks who should have their energies to the completion of the work. In case of such suggestion being adopted, he thought the whole matter might be brought to a satisfactory conclusion in two years.—The Lord CHANCELLOR did not think that the object would be facilitated by continuing the Commission. He concurred in the suggestion of Lord Cranworth, and considered that such a staff of professional men might, besides consolidating the statute law of the land, be made extremely useful in their legal capacity to both Houses of Parliament in assisting members in framing Bills. He took the present occasion to state that the Government contemplated at the beginning of next session to introduce measures on bankruptcy, on the transfer of real property, on taking evidence in the Court of Chancery, to consolidate and simplify the orders of the Lord Chancellors, and to establish fixed courts, so that courts of common law might be able to decide any equitable question which might incidentally arise, without handing suitors from courts of common law to courts of equity.—Lord BROUGHAM said the difficulties of the question were too great to be decided by a mixed assembly, and thought it would be better that the question should be solely committed to a body of learned men, who might not only consolidate, but prepare a digest of it.—Lord ST. LEONARDS thought the labour which it was proposed to accomplish was enormous. The best course to bring the matter to a successful conclusion would, in his opinion, be to refer it to a select committee.—Lord WENSLEYDALE said that, although the labours of the Commission had been most valuable, he did not think them adequate to accomplish the object in view.—After a few remarks from Lords CHELMSFORD, CRANWORTH, and BROUGHAM the subject dropped.

TUESDAY.—*The Kinsale Riots.*—The Earl of ERROL read a letter from Lord Massareene, colonel of the Antrim Rifles, declaring that the accounts which had appeared in the newspapers relative to the disgraceful proceedings of that corps when quartered at Kinsale were greatly exaggerated. *Telegraphic to the Colonies.*—Lord STANLEY OF ALDERLEY presented a petition from bankers, merchants, and others, in favour of direct telegraphic communication between Great Britain and our colonies abroad, and showing the importance in case of war of having a direct communication with India in our own hands.—The Earl of ELLENBOROUGH concurred in the prayer of the petition. It was intolerable that this country should be dependent upon foreigners for the means of telegraphic communication.—Earl GRANVILLE admitted the importance of the subject, and said that it should receive due consideration. *The Principalities.*—In reply to Lord STRATFORD DE REDCLIFFE, Lord WODEHOUSE said that her Majesty's Government, after consulting the great Powers, had agreed to recognise Prince Couza as Hospodar of Moldavia and Wallachia, but only on the distinct understanding that it was an exceptional case, and not to be drawn into a precedent.

THURSDAY.—The LORD CHANCELLOR moved the second reading of the *Divorce Court Bill*. After adverting to the inconvenience which had been found to arise from the deficiency of judicial power in the new Court, he explained the remedy proposed in the present Bill, which would render the services

of all the puisne judges available for the business of the Divorce Court, and enable the Court to sit with closed doors in cases of great indecency. It also proposed to require the Attorney-General to watch petitions for divorce in cases where collusion may be suspected.—Lord BROUGHAM supported the Bill.—Lord CHELMSFORD opposed it on the ground that the judges had already quite sufficient to occupy their time; but after some discussion, the second reading was carried without a division. The *Public Health Bill* was read a second time.—In answer to Lord CARNARVON, the Duke of SOMERSET said the present Board of Admiralty were deeply convinced of the importance of making some arrangements in regard to *Malta Harbour*, both with the view of improving and deepening the harbour itself, and of strengthening its defences.

FRIDAY.—*Italian Affairs.*—The Marquis of NORMANBY asked if her Majesty's Government had received any information in reference to a statement in the recent speech of the Emperor of France to the effect that he had advised the Sovereigns of Italy to grant their subjects salutary reforms.—Earl GRANVILLE said he could not give any detailed information on the subject. The *Admiralty Court Bill, Jury Trial (Scotland) Act Amendment Bill,* and *North West Territories (British America) Bill* were read a second time. *Court of Probate Bill.*—Earl GRANVILLE moved the second reading of this Bill. [Left sitting.]

## HOUSE OF COMMONS.

FRIDAY.—*The French Fleet.*—In reply to a question by Lord WILLIAM GRAHAM, Lord JOHN RUSSELL said the Government had received no authentic information of any extraordinary preparations at Brest or Cherbourg, and they had, therefore, not thought it necessary to demand any explanation of the French Government on the subject. *The Treaty of Peace.*—In answer to Mr. HORSMAN, Lord JOHN said no communication had been made to her Majesty's Government as to the terms of the peace between France and Austria; that he had directed Lord Cowley to ask for an explanation of the exact terms of the treaty and of the mode in which it was to be carried into effect, and the answer was deferred until the arrival of the Emperor at Paris, who was expected on Monday.—Lord ELCHO entered into an explanation of the reasons which induced him not to press the resolution of which he had given notice, vindicating the policy of the late Government with reference to their foreign policy, more especially as regarded the war in Italy. He expressed ironical sympathy for Lord Palmerston and Lord John Russell, whose feelings at finding the freedom of Italy more remote than ever, must, he said, be truly deplorable, and who must both feel themselves "most horribly sold."—Mr. S. FITZGERALD said that had the discussion been proceeded with it would have been most inconvenient to her Majesty's present advisers, for it would have shown that they had got into power upon a misrepresentation of the policy of the late Government. Indeed, Lord J. Russell had since admitted that, so far from having a new and striking policy, he had, in fact, no policy at all, and was obliged to walk in the path chalked out for him by his predecessor.—Lord J. RUSSELL complimented Lord Elcho upon his discretion in retreating from the motion of which he had given notice; and, referring to the late war between France and Austria, said that he remained of the same opinion which he had enunciated before his constituents on a recent occasion, that neither of the belligerent Powers were entitled to the assistance of England. To this he would add that in his opinion the presence of the Emperor of the French in Italy would not be likely to consolidate the liberties of that country. In the present state of affairs, the influence of England should be employed to confirm and improve the general peace. Our policy was not to abandon a neutral position; that, he believed, had been the universal opinion of the people of this country. If we were called upon to consider a treaty of peace, we were bound not to participate in any treaty not conformable with our notions of the honour, the dignity, and the freedom of this country. The House then went into Committee of Supply, when the remaining *Army Estimates* were voted.—In the course of the discussion which ensued, Mr. S HERBERT explained the steps that had been taken to ensure a large supply of the Armstrong gun, and stated that two factories were in full work, and that it would be perfectly impossible by any further grant of public money to expedite the process of manufacturing those formidable weapons. The Committee then proceeded to consider the *Civil Servic Estimates*, when Mr. WILLIAMS moved that the Chairman report progress. On a division, the motion was negatived by 61 to 19. The House then proceeded with these estimates. On a vote for the induration of the stone of the *New Houses of Parliament*, Mr. FITZROY, in answer to a remark from Lord FERMOY, explained the measures which had been taken in the choice of the stone, and in preserving it where defective. He also stated that the clock tower was to be completed at once, as the idea of building a wing in Palace Yard had been abandoned, and no further buildings of any kind would be allowed without the sanction of Parliament. After a desultory discussion on the frescoes and ventilation of the Houses, various votes on harbours of refuge and other subjects were taken, after which the House resumed. On the order for the second reading of the *Municipal Corporations Bill*, Sir G. LEWIS explained the effect of the Bill, which he did not oppose.—Mr. S. ESTCOURT moved the adjournment of the debate.—Mr. HADFIELD supported the Bill.—The debate was ultimately adjourned. The *Newspapers &c., Bill* passed through Committee.—Sir G. LEWIS obtained leave to bring in a Bill to continue the powers of the Commissioners under an Act 19th and 20th Victoria, concerning the *University of Cambridge and Eton College.*—Mr. I. BUTT moved that the Select Committee on *Packet and Telegraphic Contracts* do consist of 21 members, and that Sir E. Grogan and Lord J. Browne be added to the committee. He complained that Ireland was not sufficiently represented in the Committee, as nominated by the Government.—The CHANCELLOR of the EXCHEQUER regretted that he could not accede to the motion. The object of the Committee was to examine into the policy of all these packet contracts, not into the Galway contract in particular.—Lord J. BROWNE, Colonel DUNNE, Lord DUNCAN, and Mr. WHITESIDE spoke upon the motion, which was negatived on a division by 134 to 47.—Mr. J. D. FITZGERALD obtained leave to bring in a Bill to amend the *Irish Bankruptcy and Insolvency Act* (1857).—Mr. DILLWYN moved that the Select Committee on the *Endowed Schools Bill* do consist of 17 members.—The motion, after some observations by Mr. HENNESSEY, Lord NAAS, and Mr. MAGUIRE, was agreed to.

MONDAY.—*The Stade Dues.*—In answer to Sir M. PETO, Lord J. RUSSELL said the question of the Stade Dues had been referred to the law officers of the Crown, who had recommended that the treaty be renewed for a limited period. It was therefore intended that the treaty should be renewed for six months. *The Budget.*—The House then went into a Committee of Ways and Means, when the CHANCELLOR of the EXCHEQUER made his financial statement. He presumed, he said, that it would be for the convenience of the Committee to follow the usual practice, and to make known the result of the finances of the past year. The total revenue of the year had been estimated at 63,900,000*l.*; it had produced 65,477,000*l.* The total actual expenditure had been 64,663,000*l.*, against a revenue of 65,477,000*l.*, leaving a surplus of 800,000*l.* The result of the duty upon draughts and cheques could not be correctly ascertained. Its amount had been estimated at 300,000*l.*; but he thought it would not exceed 200,000*l.* There was an exemption of cheques drawn by the proprietor and paid to him over the counter, and this exemption he should propose to remove. The equalisation of the spirit duties, which was a measure of fiscal reform independent of pecuniary results, had been estimated to yield an additional revenue of 500,000*l.*; but the produce in 1858-59, as compared with 1857-58, showed an increase of only 85,000*l.* There was a prospect, however, of the duty being considerably more productive. The estimated revenue of the current year was 64,340,000*l.*, and the estimated expenditure 69,207,000*l.*, so that there would be a gross deficiency in the current year of 4,867,000*l.* This being the time when it became the Committee to make adequate and effective provision for the wants of the year, it was likewise a time when its attention should be rigidly confined to the wants of the year, the charges being of an exceptional character, especially those for the army and navy. The Committee, therefore, were not to busy themselves with comprehensive plans of finance upon the present occasion; next year it would be necessary to enter upon larger views of our financial system, for next year the income tax would lapse, as well as certain war duties upon tea and sugar, and on the other hand, the Long Annuities would fall in. Her Majesty's Government, therefore, would not enter upon considerations of prospective finance; they confined themselves to temporary and almost provisional finance. He now asked the Committee to consider what modes of supply could be devised to meet the deficiency on the Estimates. This great question divided itself into two branches—whether we should attempt to raise the necessary funds by borrowing or by taxes? The sum required was between 4,000,000*l.* and 5,000,000*l.* This was a large sum to demand from taxpayers. On the other hand, it was a sum that had never driven the British Parliament to the expedient of augmenting the national debt, which nothing but dire necessity should induce it to do. It appeared to him that a loan ought not to be resorted to; that there never was a period when the people of England were more satisfied of the justice and necessity of the demands on the public purse, or more able or willing to meet those demands. There was another reason against resorting to a loan—namely, that the Secretary of State for India would soon again be a borrower in the market, on account of the exigencies of India. His observations applied not only to the creation of permanent debt, but to the issue of Exchequer Bills, the effect of which was not to throw off the burden upon posterity, but upon the year 1860, already charged to the very utmost. Then, if we were driven by considerations of justice and policy to the alternative of looking to taxes for the means of meeting the expenditure of the next year, should the taxation be direct or indirect? The articles for indirect taxation were malt, spirits, tea, and sugar. In his opinion, it was not desirable to propose an augmentation of the duty upon malt, and it would be unwise and premature to raise the question as to the general increase of the spirit duties; so that neither malt nor spirits held out the hope of a resource. With respect to tea and sugar, reminding the Committee that they were not dealing with prospective finance, but finance for the moment, he insisted upon the impolicy, in the interests of trade as well as for other reasons, amounting, he considered, to demonstration, of increasing the duties of Customs or Excise. This being so, they arrived at a point that might be easily anticipated—what they should do with the income tax. That tax had been originally introduced for two objects; first, to make reforms in our fiscal system; secondly, to meet sudden public exigencies; and when it was for the dignity, honour, and safety of the country that efforts should be made to augment the national defences, the income tax was, above all others, a regular and legitimate resource. The gross deficiency to be met, as he had stated, was 4,867,000*l.* In the first place, the Government were of opinion that the system of nearly six months' credit allowed to maltsters—whereby to that extent the Government found capital for the maltster, which was an exceptional privilege and bad in principle—might be modified; and they proposed to take away six weeks of the credit and to allow a discount of 4 per cent. on the payment. The effect of this would be to bring into the Exchequer before the 1st of April next a sum of 780,000*l.*, which would otherwise not be paid until the next financial year. This would reduce the deficiency of 4,867,000*l.* to a little over 4,000,000*l.*, and this it was proposed to raise by an augmentation of the income tax. The present rate was 5*d.* in the pound. An additional 4*d.* in the pound would give something over 4,000,000*l.* It would be necessary to re-introduce the distinction between incomes under 150*l.* and above that amount. He proposed that the additional 4*d.* in the pound on the mass of the income tax payers should stop at incomes of 150*l.*; and he proposed that the augmented tax should be leviable upon the first half yearly payment after the resolution should have been adopted by the House. The effect would be that in the autumn or winter quarter the tax upon all persons with incomes above 150*l.* a year would be 6½*d.*, or at the rate annually of 1*s.* 1*d.*, and 4*d.* upon incomes under 150*l.* This addition to the tax would produce 4,340,000*l.*, and this sum added to 780,000*l.* would give 5,120,000*l.*; deducting the deficiency of 4,867,000*l.*, there would remain a surplus of 253,000*l.* During the current year a sum of about 400,000*l.* would become due on account of the last payment of Long Annuities; but the state of the cash balances would render any provision to meet this demand unnecessary. He concluded by moving a formal vote of seven millions, and laid upon the table two resolutions relating to the malt duties and the income tax, to be taken into consideration on Thursday.—Mr. MALINS protested against the demand of the entire year's increase in the income tax in October next, and reminded Mr Gladstone of his repeated declaration in favour of the extinction of the income tax.—Mr. ALCOCK and Mr. GLYNN expressed their entire approval of the budget.—Mr MACARTNEY objected to the way in which the malt tax was dealt with.—Mr. CLAY admitted the necessities of the case, but demanded an adjustment of the grosser inequalities of the income tax.—Sir J. TROLLOPE trusted that the entire increase of the income tax would not be demanded in a single year.—Mr. HORSMAN objected to the present system of expenditure as too much for peace and too little for war.—Mr. ROEBUCK protested against the injustice of the income tax as applied to the earnings of professional men, who might at any time be disabled and deprived of all resource. After some further discussion the vote was agreed to, and the House resumed. On the order for going into *Committee of Supply*, a conversation arose upon an objection raised by Mr. AYRTON to fixing the second reading of the London Corporation Bill on Friday morning.—Mr. A. SMITH made some observations upon the management of the property under the Commissioners of *Woods and Forests.*—The House then went into Committee of Supply upon the *Civil Service Estimates* and *Civil Contingencies*, and various votes were agreed to, after much discussion, when the Chairman was ordered to report progress. Certain Bills were forwarded a stage.

TUESDAY.—At a morning sitting, Mr. LOWE moved the third reading of the *Public Health Bill.* When the Central Board of Health was abolished, the compulsory powers possessed by that Board, which could not be given to the local Boards, were vested in the Privy Council by an Act which had been continued from year to year, and would expire in a few days. The Bill proposed to make this Act perpetual, with certain modifications, not conferring upon the Privy Council any general compulsory powers. He explained at some length the scheme and main provisions of the measure. After a long debate the House divided upon an amendment moved by Mr AYRTON that the order for the third reading be discharged, which was negatived by 101 to 95, and the Bill was read a third time. On the order for the second reading of the *Municipal Corporations Bill*, Mr. S. ESTCOURT objected to proceeding with the Bill, which repealed certain statutes, without a previous inquiry into the whole subject before a Select Committee, and he moved an amendment to that effect. The Bill was opposed by Mr. SPOONER, Mr. NEWDEGATE, and Mr. HENLEY, and supported by Mr. M. SMITH, Mr. BAXTER, Alderman SALOMONS, and Mr. HENNESSEY. On a division, the amendment was negatived by 130 to 44, and the Bill was read a second time. *Indian Army.*—At the evening sitting Mr. BUXTON called attention to that portion of the report of the Commissioners on the Organisation of the Indian Army, recommending that the amount of force to be maintained in future shall be 400,000 men, one-fifth of the number being Europeans. It was of vital consequence that we should reduce our expenditure in India; but if such an enormous force was kept up this could not be done, and in the meantime objects of improvement were delayed, and the maintenance of so large a European force as 80,000 men to keep in check 320,000 native troops would seriously interfere with our home defences. He asked whether Lord Stanley concurred in opinion with the Commissioners as to the amount of force which should be maintained in India.—Lord STANLEY said that it was impossible for any man to lay down distinctly and precisely what was the amount of the force that would be required in India. The question did not admit of a positive answer. He noticed the discordant opinions upon this point entertained by various witnesses examined by the Commissioners, observing that Sir John Lawrence thought there should be a large preponderance of European force.—Sir E. PERRY considered that instead of augmenting our army in India, it should be diminished by governing India in co-operation with the natives and engaging their sympathies. He advocated the introduction of the irregular system into our military establishment in India, the effect of which would be materially to reduce the expenditure.—Colonel SYKES was of opinion that 50,000 men would be quite sufficient European force for India.—Mr. SMOLLETT said, unless some practical measures of amelioration were adopted, the resumption of lands stopped, and an end was put to proselytism, there would never be financial prosperity in India.—After some remarks by Mr. KINNAIRD, Mr. HADFIELD, and Mr. VANSITTART, Mr. BRIGHT observed that this debate involved a question of so much importance that even Reform or home finances could not match it, and he warned Sir C. Wood to lose no time in asking the opinion of the House of Commons upon the subject.—Sir C. WOOD said he was anxious to bring the subject of Indian finance before the House as soon as correct information had been received, and to deal frankly with the House, keeping nothing back. With regard to the matter immediately under discussion, he agreed with Lord Stanley that it was quite impossible at present to say what amount of force should be maintained in India. *Winter Session of Parliament.*—Mr. C. FORSTER moved an address to her Majesty representing the inconvenience of protracting the session of Parliament during the summer months, and praying her Majesty to provide a remedy for such inconvenience by assembling Parliament for the despatch of business before Christmas. He dwelt upon the evils resulting from a summer sitting, and reminded the House that the custom in former years was to meet in the autumn and prorogue in May.—The motion was seconded by Mr. W. EWART.—Mr. BENTINCK thought the mover and seconder had mistaken the real evil to be remedied, which was that of long speeches. The House could not be converted from politicians to men of business. The whole system of the House was one of procrastination and delay.—Mr. A SMITH suggested that the business of the session should commence in January of each year.—Mr LIDDELL thought the proposed change would make a serious inroad into the habits of English life.—After some remarks by Colonel FRENCH, Lord C. HAMILTON, and Mr. CLAY, Lord J. RUSSELL said that there was much more business to be done now than in former times, and recommended that the motion should not be pressed.—Lord PALMERSTON could not see that Mr. Forster had shown any public grounds for the change he proposed, which would necessitate other changes and cause many inconveniences, including the physical annoyances of a winter sitting. He thought nothing would be gained by the change in regard to the despatch of public business. In cases where Parliament had met before Christmas it had sat just as late in summer as when it met in January or February. On a division the motion was negatived by 121 to 48.—Mr. BAINES moved for a select committee to inquire into the nature and extent of the *Queen's Printers' Patent* for England and Wales, so far as relates to the right of printing the Holy Scriptures, and to report their opinion as to the propriety of any future grant of that patent.—Sir G. LEWIS was ready to assent to the motion for an inquiry, but he did not accede to the doctrine that a change of the present system would be attended with any practical benefit. The presumption was always against monopoly and restraint, but the monopoly in this case was entirely confined to the authorised version of the Holy Scriptures, without notes, and the principle acted upon in this country was that there should be some authentication, which was secured in Scotland by the Bible Board. Although he was no advocate of a monopoly, he did not believe that the proposed change would render the editions of the Bible more accurate or less expensive.—After some observations by Mr. BLACK, Mr. CROSSLEY, Mr DUNCOMBE, and Mr. HADFIELD, the motion was agreed to. *Irish Ministers.*—Mr SCULLY moved an address for a return of all Ministers of the Crown appointed since the Act of Union, and of all persons appointed to the offices of Lord-Lieutenant of Ireland, Chief Secretary for Ireland, and Lord High Chancellor of Ireland. His object in moving for this return was to ascertain how many Irishmen and how many Roman Catholics had filled those offices.—Lord C. HAMILTON opposed the motion, which was supported by Mr M'CANN.—Sir G LEWIS said that the information which the return would give was already in the library of the House, and the motion was negatived.—Mr. M'MAHON moved for leave to bring in a Bill to amend certain laws and statutes relating to the admission of *Barristers and Solicitors to practise in Ireland.*—Mr. WHITESIDE opposed the motion, considering the Bill uncalled for and unnecessary.—After a short discussion, in which Mr. BRADY, Mr. MALINS, and Mr. DEASY took part, upon a division, the motion was carried by 179 to 128.—Sir G. LEWIS obtained leave to bring in a Bill to extend the powers of the *Conservators of the River Thames*, with a view to its purification.—Mr. WHITESIDE obtained leave to bring in a Bill to amend the *Medical Acts. Dover Mail Contract.*—Mr. E. BOUVERIE brought under consideration the petition of Sir W. Russell, and moved an instruction to the Select Committee on Packet and Telegraphic Contracts not to proceed to inquire into the mail packet contract for the conveyance of mails between Dover and Calais, and between Dover and Ostend, until the petition of Sir W. Russell, complaining of an undue election and return for the town and port of Dover, shall have been disposed of.—Sir S. NORTHCOTE said it was the wish of his party that this question should be fully and fairly discussed, and that the truth should be brought out.—Mr COWPER supported the motion, which was opposed by Mr WHITESIDE and Mr. HENLEY.—The CHANCELLOR of the EXCHEQUER moved as an amendment that the petition be referred to the select committee on packet contracts. After some further discussion, in which Sir F. BARING, Mr. DISRAELI, and Lord PALMERSTON took part, the amendment was withdrawn, and the original motion was negatived, on a division, by 223 to 1. The orders of the day were then disposed of.

WEDNESDAY.—Mr BLACK moved that the *Edinburgh, &c., Annuity Tax Abolition Bill* be read a second time, and urged the oppressive nature of the tax, not only from its inherent injustice, which made it a grievance, but when compared with Church rates in England and Ministers' money in Ireland.—Mr BLACKBURN objected to the Bill that it disendowed the Established Church of Scotland, and desired therefore to know the intention of the Government regarding the measure.—Sir G LEWIS said he assented to the principle embodied in the Bill; but in voting for the second reading he assented simply to the abolition of the tax in its present form, and he

expect that it might be in the power of Government next session to propose some plan that would provide a substantial substitute for the tax; and he undertook next session, if they remained in office, to bring forward a measure founded on that principle.—Lord ELCHO considered the principle of the Bill so obnoxious and so dangerous—sweeping away the foundation of the Established Church—that although anxious for a compromise, he felt bound to vote against the second reading. He therefore moved to defer it for three months.—This amendment was seconded by Mr W. MILLER.—The second reading of the Bill was supported by Sir T. E. COLEBROOKE, Mr. CAIRD, and Mr. BAXTER, and opposed by Mr C. BRUCE and Mr NEWDEGATE.—The LORD ADVOCATE said that he had no doubt that an adequate substitute would be found for this tax, but he hoped that Mr Black would not persist in going into committee, as it would be hopeless to attempt to pass the Bill this session.—After some further discussion Mr BLACK consented to proceed no further with the Bill after the second reading, and wait until next session for the Government measure. On a division, the amendment was negatived by 162 to 108, and the Bill was read a second time.—Mr J. LOCKE in moving the second reading of the *Weights and Measures Bill*, said that it was almost precisely similar to that introduced in the last Parliament. After much debate, the Bill was read a second time, with the understanding that the first clause, providing that corn should be uniformly sold by measure, and the imperial measure only, would be withdrawn in the committee.—Mr. M. MILNES moved the second reading of the *Diplomatic Pension Bill*, the object of which was to exempt the recipients of such pensions from the operation of the Act, 6 & 7 Anne, which excluded persons in the receipt of pensions under the Crown from a seat in that House.—Mr WILSON, on the part of the Government, assented to the Bill, and several members spoke in its favour. The Bill was then read a second time.—Mr COWPER withdrew the *Metropolis Carriage Wares Bill*, in order to introduce a measure of a more comprehensive character. The *Church Rate Commutation Bill*, the *Adulteration of Food Prevention Bill*, and the *Public Improvements Bill* were also withdrawn. The *Imprisonment for Small Debts Bill* was read a second time.—**Mr. WHITESIDE, in moving the second reading of the *Criminal Procedure Bill*, defended that part of the measure which did away with the forfeiture of goods and the attaint of blood in case of treason. He adverted to another Bill—the *Public Justice Offences Bill*—and justified the abolition of the punishment of death in cases where there was no premeditated design to take away life.**—The ATTORNEY GENERAL said it would be his duty and that of the Solicitor-General, with the sanction of the Government, to bring the statute law of the country, and especially the criminal law, into a proper condition, and the result of their labours would be laid before Parliament at the beginning of the next year. He indicated the principles which, he said, would guide them in dealing with the criminal law.—After a few words from Mr. JAMES, Mr WHITESIDE withdrew these and his other Bills of law reform. The *Judgments (Ireland) Bill* was read a second time.—Mr. CLIVE obtained leave to bring in a Bill to confirm certain provisional orders under the *Local Government Act*.

THURSDAY.—*The Budget*.—On the question that the House resolve itself into a Committee of Ways and Means, Mr. DISRAELI made some observations on the present financial condition of the country. Having reviewed the steps taken by the late Government, which, he said, would have left a surplus of a million and a half had it not been for the extraordinary expenditure for defensive purposes, he defended the Administration of which he had been a member from the attacks on their financial policy. Passing then to the means by which it was intended to meet the deficit of five millions, he expressed his satisfaction that it was proposed to raise the necessary ways and means by direct taxation rather than by a loan. He was prepared on the whole to support the proposition of the Chancellor of the Exchequer, although he confessed he would like to see it modified in practice. In his opinion it was quite unnecessary that the whole of the additional income tax should be levied within six months from the present time. Its collection in the manner contemplated would add to the severity of the pressure, be productive of positive acts of injustice, and be in some instances absolutely impracticable. Under these circumstances he should move an amendment, the object of which would be to extend the charge over the whole year. He was aware that the expenditure of the year had been heavy, but who could say that it was unnecessary? He hoped that the extraordinary nature of that outlay would not prevent the House of Commons from voting the civil service estimates which related to justice, education, and public health, the three great sources of national wealth and national vigour. To curtail the expenditure in these respects would be to make war upon civilisation and to stop the car of progress. Attention to our foreign policy was the true secret of retrenchment. He approved of the peace concluded between France and Austria, because it had been settled without disturbing the political equilibrium, which England had always declared to be one of its chief objects. As that arrangement was, in his opinion, eminently for the well-being of Europe, he sincerely hoped that we, who professed neutrality, would not interfere in any of the congresses which were said to be in contemplation. It was urged against the Emperor of the French that he had not realised the war programme with which he had started; but what conqueror had ever realised his programme? In the history of the world no original design of conquest had ever been accomplished. It was our duty to cherish and maintain a peace favourable to the traditional policy of England. In order to do this we must invite the Emperor of the French to diminish his armaments; and if he did so, the Chancellor of the Exchequer need have no apprehensions on the score of his next year's budget, and the country might at last behold the extinction of the income tax.—The CHANCELLOR of the EXCHEQUER said that there would be neither injustice nor difficulty in levying the whole of the additional income tax in the course of the next six months. With regard to the public expenditure, it would be vain to check it, unless Parliament returned to the economical spirit by which it had been animated previously to the Russian war. He denied that Mr Disraeli was justified in saying that no war programme had ever been realised, but he agreed with him that we should strive to make peace permanent in Europe, although the Government would reserve to themselves the right of determining in what manner they should assist in securing that end.—Mr. BRIGHT ridiculed the war panic which had taken possession of the country, and deprecating a continued adherence to the "old, bloody, ruthless traditions of the Foreign Office;" expressed a hope that the tariffs of England and France might be so relaxed that the two countries might be drawn towards each other by the strongest relations of mutual respect and advantage, and that the strife unceasingly maintained between England and France through 1800 years of professed Christianity might at last be compensated by something approaching to Christian practice.—Lord J. RUSSELL exonerated the Emperor of the French from entertaining any designs hostile to this country, and said that it had ever been the wish of that great Sovereign to diminish protective duties. He had been a true and faithful ally to us, and there was no pretence for saying that his sentiments towards this country were inconsistent with the permanence of the alliance which now existed.—Lord PALMERSTON stated his conviction that if the late Government had employed the means at their command they might have prevented the rupture which took place between France and Austria. Mr. Disraeli had recommended the House not to interfere, by congress or otherwise, in the Italian question; but the policy which her Majesty's Government would adopt in that respect must depend altogether upon circumstances. The interference of England had in many instances contributed to the welfare of Europe, and Belgium, Greece, Spain, and Portugal were cases in point. If the good offices of England could be employed to make peace more permanent, and secure for Italy the blessings conferred upon other European States, they should not be wanting. After remarks from Mr S. FITZGERALD, Colonel SYKES, Sir H. VERNEY, and Mr WHITESIDE, the House went into Committee of Ways and Means, when the CHANCELLOR of the EXCHEQUER proposed his first resolution, imposing an additional income tax of 4*d*. in the pound.—Sir H. WILLOUGHBY moved that the tax be reduced from 4*d*. to 3*d*. in the pound. After a short discussion the amendment was negatived without a division.—Sir H. WILLOUGHBY then moved another amendment to the effect that the dividends on the Long Annuities, payable in October next, be chargeable with one farthing in the pound only. This amendment was also negatived **without a division, and the first resolution was agreed to.—Mr. DISRAELI then proposed an amendment, the effect of which was to distribute the tax over 12 months instead of six.—The CHANCELLOR of the EXCHEQUER resisted the proposition, and** declared with great emphasis that engagements might possibly have to be met of which the committee had no conception at that moment.—Mr. DISRAELI said that the Chancellor of the Exchequer ought to have fully revealed the true financial position of the country, and withdrew his amendment. The resolution was then agreed to, as was also that relating to the malt credits. The report of supply was brought up, and agreed to. The *Consolidated Fund (Appropriation) Act*, and the *Criminal Justice, Middlesex (Assistant Judge) Bill* were read a third time and passed. On the motion for the second reading of the *Ecclesiastical Commission Bill*, Mr. FREELAND opposed the motion, and moved the adjournment of the debate.—Sir G. C. LEWIS explained that the object of the Bill was simply to diminish the cost of the conveyance. On a division, the motion for adjournment was negatived by 75 to 62. The Bill was then read a second time. On the motion of Sir W. SOMERVILLE, the order for resuming the adjourned debate on the *Roman Catholic Relief Bill* was discharged on the ground that there was no chance of its passing this session.—Sir M. PETO moved for a select committee to inquire into the *Present State of the Thames*, and to suggest such remedies as may be deemed expedient for its improvement.—Mr. P. BLACKBURN moved the adjournment of the House.—Lord PALMERSTON and other members said that at this period of the session a committee would be of little use. The motion for the adjournment was ultimately carried without a division.

FRIDAY.—*Foreign Policy*.—Lord ELCHO gave notice that on Monday week he will move a resolution that it would be inconsistent with the dignity of this country to take part in any congress or conference to settle the terms of peace between the Emperors of France and Austria.—Lord J. RUSSELL said that on Thursday or Friday next he should be in a position to make a statement with regard to our foreign relations.—Mr. GRIFFITH wished to know whether there is a provision in the treaty of Villafranca that the late dynasties of Tuscany, Modena, and Parma are to be restored, if necessary, by military force; and if so, whether her Majesty's Government were prepared to take part in any Congress having that object.

[Left sitting.]

## City Intelligence.

MONEY MARKET, FRIDAY.—BRITISH FUNDS: Consols closed at 94⅞ to ¾ for Money, and 94¾ for Account; Bank Stock, 223; Three per Cents. Reduced, 95⅛ to ⅜; New Three per Cents., 95 to 95⅜; India Stock, 220½; Indian Four per Cent. Debentures, 1858, 95; ditto 1859, 94⅜; Scrip of New Indian Loan, 94¾; India Bonds, 1*s*. to 6*s*. dis.; Exchequer Bills, 27*s*. to 30*s*. pm.—FOREIGN: Brazilian Four and a Half per Cents., 1858, 94¼; Belgian Four and a Half per Cents., 97; Dutch Two and a Half per Cents., 65¼; Ditto Four per Cent. Certificates, 100¼; Portuguese Three per Cents., 1856, 1857, 1859, 44; Russian Four and a Half per Cents., 99⅜; Turkish Six per Cents., 1854, for Acct., 81 to 79½; Ditto 1858, for Acct., 70 to 69¼.

## Bank of England.

ISSUE DEPARTMENT.

| | | | |
|---|---|---|---|
| Notes Issued .. .. .. | £31,563,800 | Government Debt .. .. | £11,015,100 |
| | | Other Securities .. .. | 3,446,000 |
| | | Gold Coin and Bullion .. | 17,078,800 |
| | | Silver Bullion .. .. .. | — |
| | £31,563,800 | | £31,563,800 |

BANKING DEPARTMENT

| | | | |
|---|---|---|---|
| Proprietors' Capital.. .. | £14,553,000 | Government Securities (including Dead Weight Annuity) .. .. .. .. | £11,270,860 |
| Rest .. .. .. .. .. | 3,308,230 | Other Securities .. .. | 17,254,439 |
| Public Deposits (including Exchequer, Savings Banks, Commissioners of Nat. Debt, and Dividend Accts.) .. .. .. | 4,982,572 | Notes .. .. .. .. .. | 2,489,060 |
| Other Deposits .. .. .. | 14,932,995 | Gold and Silver Coin .. | 620,687 |
| Seven day and other bills | 858,019 | | |
| | £38,634,806 | | £38,634,806 |

21st day of July, 1859. M. MARSHALL, Chief Cashier.

## Gazette of the Week.

TUESDAY — BANKRUPTS — J. L. CASTLE, Moreton-in-the-Marsh, Gloucestershire, Linendraper — A. HARRIS, Railway Place, Shoreditch, Tobacconist — W. NEWTH, Cradley Heath, Staffordshire, Miller (and not Maker, as in the "Gazette" of 12th inst.) — R. PROCTOR, Liverpool, Corn Merchant — K. SMITH, New Cross, Stonemason — T. THOMPSON, Pocklington, Yorkshire, Cabinet Maker — W. WIGGINTON, Bourne End, Bucks, Coal Merchant.

BANKRUPTCIES ANNULLED — W. D. SMITH, High Street, Shoreditch, Ironmonger.

SCOTCH SEQUESTRATIONS — J. DUNCAN, Rosemarkie, Innkeeper — C. T. GRAY, Inverness, Hotel Keeper — H. HAMILTON, Hamilton, lately Commission Merchant in London.

FRIDAY — BANKRUPTS — L. BURTON, Melton Mowbray, Upholsterer — W. CARR, Liverpool, Coal Merchant — A. HEATH, Sheffield, Provision Dealer — H. L. JONES, Chester, Grocer — J. MARSDEN and T. B. INGHAM, St Helen's, Lancashire, Glass Manufacturers — G. PEARCE, Farnham, Surrey, Builder — R. T. RICHARDSON, Kingston-upon-Hull, Grocer — W. O. TUCKER, Lea Bridge Road, Essex, Builder — R. WESTCOTT, Whitley Crescent, Reading, Butcher — J. T. WRIGHT, Brighton, Upholsterer.

SCOTCH SEQUESTRATIONS — J. GUNN, Portobello, Commission Agent — R. RUSSELL, Stonehouse, Lanarkshire, Contractor and Mineral Borer.

## Metropolis and its Vicinity.

THE EARL OF DERBY ON THE TREATY OF PEACE.—On Saturday a dinner was given by the Conservative party to their two Parliamentary leaders, the Earl of Derby and the Right Hon. B. Disraeli, in the hall of the Merchant Taylors' Company, in Threadneedle Street. It was attended by an imposing array of about 300 guests, all more or less well known for their adhesion to the Conservative cause, the Earl of March presiding as chairman and the post of vice-chairman being occupied by the Marquis of Bath. In returning thanks for the toast of the evening the Earl of Derby spoke at great length, and in the course of his speech made the following remarks on the war in Italy and its results:—

"It is impossible for me, speaking at this critical period of our history, not to advert in a few words to the circumstances in which we found ourselves at the moment when the late Government left office. And if there were any other consideration which would induce me to recommend to you a careful abstinence from vexatious opposition, it would be found in the fact that at no time in my memory has this country been placed in a position of greater difficulty, greater anxiety, or greater uncertainty with respect to the future, than at the present hour. We have the satisfaction of knowing that in the minds of English statesmen of all parties, and in the minds of foreigners, the production of the papers lately laid before Parliament has proved that we maintained in practice as we had professed, the strictest and most impartial neutrality. If we tendered in vain our exhortations and our entreaties, it was not for want of earnestness or of impartiality that they failed in preventing the two parties, both previously determined on war, from taking that last and most fatal step. That war has for the moment terminated, and every friend of humanity must rejoice in the cessation of the effusion of those torrents of human blood which have been poured forth so promptly and so recklessly at Magenta, at Solferino, and other places in Italy. It is too early to speak to you of the exact conditions of this truce or peace. But I confess to you that, from the information we at present possess, I look to the state of affairs arising out of the peace as more critical and dangerous than anything which existed before. In my opinion, as I have avowed on former occasions, that war was commenced upon insufficient grounds and on false pretexts; for of all those purposes which were put forward to justify the war, there is not one which has been supported or attained by the struggle which has taken place; there are several which are placed in positions of greater jeopardy than they stood in before the war. I, who honour constitutional governments—I, who, in common with the true friends of liberty, looked with the most earnest admiration upon the example of the kingdom of Sardinia struggling into a state of constitutional freedom, avoiding the excesses of despotism on the one hand, and of unlimited license on the other, saw with pain that its Government were not content with the enjoyment of its own liberties and its own constitution—were not satisfied with making that constitution by its effects upon their happiness and domestic comfort an example which the rest of Italy might copy—I saw them, I say with regret, depart from that constitutional course, endeavouring to excite animosity, dark intrigues, and machinations among other States, and for that purpose maintaining armies ruinous to their own finances, and which have proved destructive to their own comfort. I foresaw that in inviting the co-operation of a powerful neighbour against the fancied apprehension of invasion on the part of Austria, they were in effect bringing down on themselves, as well as upon the rest of Italy, the most serious dangers and the most inevitable calamities. And what, I ask you, has been the result of this effusion of the blood of 100,000 men—for not less than that number have been put *hors de combat* in the course of this campaign? What was the plea? The presence of the foreigner in Italy, the mal-government of the Papal States, the discontent and dissatisfaction of the inhabitants, and the necessity of liberating them from a foreign yoke, and leaving them free to choose their own form of Government. At the expiration of this struggle what are the terms upon which, as far as we know, this peace has been made, and what are the advantages which have been gained to the freedom of Italy by all this carnage? The Milanese, the possession of which was recognised by the Emperor Napoleon as the just patrimony of Austria, as long as she confined herself within her own limits, and from which there was no pretence for driving her, Austria has renounced. Has Milan the choice of a Government? No! But all is settled. France accepts from Austria the gift of that very territory which it was contended Austria had no right to, and France contemptuously flings it over into the hands of her supporter Sardinia. I am not saying that the Italian nations had no cause to complain of the Governments under which they were placed; but if the freedom of Italy was her anxiety what would have been the course of Sardinia? That country has annexed Lombardy with the consent of her powerful supporter—with what satisfaction to the inhabitants of Lombardy and even of Piedmont remains yet to be seen. She has sought to annex Modena, Parma, and Tuscany; but she has had a veto put upon the ambitious projects which she entertained, and the result of all her efforts and machinations has been this—that Tuscany, Modena, and I hope Parma, are by the authority of the foreigner, and perhaps of Piedmont itself, to be restored to their former position. What has been done for the improvement of the Government of the Papal States? Nothing! But we are told there is to be an Italian Confederation of all the States under their former rulers, including Venetia under Austria. That Confederation, including Piedmont itself, is to be subject to the presidency—the honorary presidency—of the Sovereign Pontiff of the Roman States. These are the results to the promised liberty of Italy from the carnage which has taken place. Do not understand me to be pronouncing any opinion with respect to the probable effect of this truce. But one result I think is inevitable, which is that those friends of liberty, whether of liberty in excess or in moderation, but more especially those friends of extreme liberty, whose hopes and expectations have been excited by the interference of France and Sardinia, will be deeply disappointed at the failure of their cherished anticipations. Far better would it have been to hold out no hopes at all than by foreign intervention to encourage and excite those hopes and then dash the cup to the ground from the lips of a sensitive people, with all the possible consequences of that disappointment. I rejoice that the war, under any circumstances, has been stopped where it has been. I give the Emperor of the French the highest credit for the various motives of humanity and policy which dictated the course he has taken in thus early putting an end to the horrors of war, because I believe that a very little more and the conflagration would have extended over the whole of Europe, and it is impossible to say at what time the termination of this war would then have taken place. But I say this position of affairs gives room for serious thought and anxious consideration to England. The passions of men throughout Europe have been excited. Great armaments have been brought together. Above all, in France that strong military feeling which used to be predominant in that country, but which for a time appeared to have been lulled to sleep, and had given way to feelings of peace—this military ardour has been again called forth, and the sudden cessation of the war has not permitted the passions which have been so kindled to be satisfied. France has now not only a powerful army, but she is continuing to increase in efficiency a most powerful and most threatening fleet, which is by no means necessary for purposes of self defence. France may safely rely upon her army, but her powerful fleets must be to the other nations of the world an object, not of self-defence, but of aggression. I believe sincerely that the Emperor of the French is desirous of maintaining friendly relations with this country, and I earnestly hope they may be maintained. But I say those friendly relations will be imperilled if, in order to guard against the possibility

of an alteration of feeling on his own part or on that of his country, we are obliged to make the almost superhuman efforts which we are making and must continue to make for the purpose of keeping our navy in that state of warlike preparation which is essential to the very existence of this country. I say we desire to remain at peace, and that desire, I am sure, is shared in by the present Government; but the position of France at this moment with her powerful army, with a large and increasing navy, and the military spirit awakened in the people, whatever may be the personal objects and wishes of the Emperor, must endanger the friendly relations which should exist between us, and may lead to a war which must be fatal to the happiness and interests of Europe. I look with anxioty but with confidence to my countrymen that they will not suffer this or any other Government to slacken in those efforts which are imperatively necessary to place this country on a footing of perfect security. However much I may trust in the good feeling, the good wishes, and sound policy of the Emperor of the French, I echo the noble sentiment uttered the other night by my illustrious and venerable friend Lord Lyndhurst, that, whatever confidence I may have in others, I will not consent to be dependent for the safety, honour, and interests of this country on the good-will or forbearance of France, or any other country in the world. Gentlemen, earnestly desirous as I am for the preservation of peace, I am satisfied that you go along with me in saying that it is the first duty of this country to be thoroughly prepared for self-defence; that no false economy, no niggardly parsimony, must deprive her of the best and most earnest efforts to strengthen and improve her national defences. I am certain of this, that whatever demands may be made, whatever sacrifices may be asked for, by whomsoever, or by whatsoever Government these sacrifices may be called for, or those demands may be made, they will be cheerfully and cordially assented to, at all events, by those whose boast it is to be the great Conservative party of this country."

CONCESSIONS TO THE ROMAN CATHOLICS.—A deputation convened by the South West London Protestant Institute waited upon Lord Palmerston on Monday to remonstrate against the concessions now demanded on behalf of the Roman Catholics. Mr. Kinnaird, M.P., after introducing the deputation, stated that the memorialists viewed with alarm the extreme danger that would result to the peace and well-being of the British empire from granting the further concessions now demanded on behalf of the Roman Catholics. The concessions sought for were—1st. The admission of Roman chaplains into gaols and workhouses on the same footing as the Protestant chaplains and ministers of the Established Church. 2d. The proposal to admit Roman Catholic barristers into the office of the Lord Chancellor of Ireland. The memorialists brought further under his lordship's notice a concession already granted to the members of the Church of Rome, whereby, owing to a partial administration of the law, all Romanists were especially exempt from the operation of the Act entitled "The Charitable Trusts Act." Mr. Kinnaird, M.P., Mr. J. C. Colquhoun, Sir C. Burrell, M.P., Mr. Newdegate, M.P., Mr. Langton, M.P., and other gentlemen having addressed the Premier in support of the memorial, Lord Palmerston in reply said—

"He presumed the deputation met as a political body, and he would not therefore enter into the religious aspect of the question. He had no hesitation in saying that Roman Catholic ascendancy was inimical to civil and religious liberty, but he did not think it fatal, as appeared from the cases of Belgium and Piedmont; still he did not desire to see the experiment tried in this country, and against such a state of things there were several Acts of Parliament. But the practical question for them to consider was how, when a population consisted of a portion of Roman Catholics, they were to do what was equitable and just, so that men of every creed might have an opportunity of enjoying their religious convictions. He thought Roman Catholic priests should be set apart for Roman Catholics in gaols, and be under the control of the governor. To meet the case of the workhouses an Act of Parliament would be necessary. The Lord Chancellor of Ireland had but two livings at his disposal in Dublin. He hoped, however, the matter would be referred to a select committee and all the details necessary would then be brought out. He had, as advised, given his support to the Bill because it appeared to him that the office was mainly if not altogether for the exercise of judicial functions. But if the case proved to be as it was represented by the deputation, he should be disposed to reconsider the subject. All such details would be fit matter for inquiry, and he thanked the deputation for bringing the matter thus to his notice. As to the Charitable Trusts Act, the delay in not subjecting the Roman Catholic charities to the commissioners' board was caused by the Government not having had time."

BANQUET TO MR. CHARLES KEAN.—On Wednesday evening a grand banquet was given in St. James's Hall to Mr. Charles Kean, in commemoration of his retiring from the management of the Princess's Theatre. It originated with a number of his contemporaries at Eton, comprising many who are now distinguished for rank and wealth, or eminent as statesmen, authors, or soldiers. The Duke of Newcastle, an Etonian, took the chair, and among the company were Viscount Exmouth, Lord John Manners, M.P., the Hon. Colonel Lindsay, M.P., Right Hon. W. E. Gladstone, M.P., Right Hon. Spencer Walpole, M.P., General Sir J. Burgoyne, Bart., Sir Minto Farquhar, Bart., M.P., Mr. Selwyn, M.P., Sir F. H. Doyle, Bart., Mr. Serjeant Kinglake, M.P., Mr. Vansittart, M.P., Mr. Powys, M.P., Sir Erskine Perry, M.P., Sir J. Johnstone, Bart., Mr. Thackeray, Mr. Beresford-Hope, and about 400 other gentlemen, while there were nearly 700 ladies in the galleries. The chairman proposed the health of Mr. Kean in very complimentary language, tracing his career from Eton upwards, and adverting in high terms of praise to the Shakespeare revivals for which he has made the Princess's Theatre celebrated under his management. Mr. Kean acknowledged the compliment in a speech of great length, and the meeting was subsequently addressed by Mr. Gladstone, Mr. Walpole, and other gentlemen.

WRECK OF THE PARAMATTA.—By the arrival of the steamer Magdalena at Falmouth, from the West Indies, the Royal Mail Steam Company have received news of the wreck of their new steamer Paramatta, of 3032 tons, and 800-horse power, while on the voyage from Southampton to the West Indies, with the mail of June 17. She was stranded on the Annegada Reef near St. Thomas's, and subsequently sunk in deep water, but the crew, passengers, and mails were saved. The Paramatta, which was commanded by Capt. E. Baynton, was completed only a few months ago by the Thames Iron Shipbuilding Company, and great expectations were entertained of her capabilities, as in a trial trip on the 7th of June she made 14 knots an hour. She cost about 160,000*l*., and unless she can be raised the loss will fall entirely upon the company, who insure their own vessels.

THE THUNDERSTORMS.—During the past week the metropolis and suburbs have been again visited by a succession of thunderstorms, accompanied by storms of hail which have done serious damage to the corn fields and fruit trees, and have destroyed an enormous quantity of glass in churches, greenhouses, and buildings. Several persons were struck with lightning, and a woman was killed by it while crossing Blackfriars Bridge. The storms were felt with great severity at Windsor, Southgate, and in several places in Surrey, Kent, and Essex; and they appear to have inflicted great damage over a very wide-spread area. Throughout Lancashire and Yorkshire the storms seem to have been general; and from the lightning, rain, and hail, great damage was done both to property and to the crops, attended with some loss of life. The storm also visited Jersey, where the Hospital was severely damaged by the lightning.

FIRE IN CHEAPSIDE.—On Monday night, about 10 o'clock, a fire took place in the premises formerly known as the Anchor Insurance Offices, Cheapside, but now tenanted by Messrs. Fisher & Roberts, and called the Anchor Dining Rooms. While one of the proprietors was looking out of window at the lightning, his attention was suddenly called to a sheet of flame playing round one of the upper floors, and forthwith discovered that the house was on fire. At that moment five women were in one of the front rooms, and eight other persons were in the upper part of the premises, as well as several others in the lower floors. The persons in the upper floors managed to descend to the first floor, when sheets of flame and smoke met them, which prevented their egress, and obliged them to retrace their steps to the rooms they had left. They then tried to reach the roof, but were prevented by the heated smoke. Fortunately, they were enabled to reach one of the front windows just at the moment when the Royal Exchange escape arrived, and succeeded in bringing down in safety the 13 men and women. The fire by that time had obtained complete possession of the building, which was several floors high. While the firemen were doing all they could to stop the flames, one of them, named Taylor, fell from the stairs, and was severely injured. The conductor of the Royal Society's escape was badly cut in rescuing the inmates from the front windows. The fire was extinguished before it communicated to the adjoining premises, but the loss sustained was considerable.

SUICIDE OF A LIBERATED SLAVE.—At the recent Sessions of the Central Criminal Court, an African seaman called John Bardoe was tried and acquitted on the charge of cutting and wounding a policeman under very singular circumstances. The officer had attempted to capture him on the roof of a house where he had taken refuge, in order as it appeared to escape being placed on board a Genoese ship, the captain of which had bought him on the African coast and treated him as a slave during the voyage. The unfortunate man, who was unable to speak a word of English, evidently thought that the captain wanted him to be arrested in order that he might again sell him as a slave; and on the night of his acquittal there was great difficulty in inducing him to leave Newgate, from the fear that he was going to be executed. He was ultimately removed to the Asiatic Home, where in the dead of night he attacked and seriously injured three of the inmates. He was fortunately secured before any lives were lost and removed to the House of Detention, where though closely watched he contrived to commit suicide by strangling himself on Friday night. The jury at the inquest returned a verdict to the effect that deceased destroyed himself, but that the state of his mind was unknown.

THE PUBLIC HEALTH.—The Registrar-General's weekly return states that 1400 deaths were registered in London in the week that ended Saturday, July 17, exhibiting a rapid increase of mortality under an increasing and unusually high temperature. In the corresponding weeks of the 10 years 1849-58 the average number was 1000, which, if raised in proportion to the increase of population, will become 1100. The present return is therefore 300 above the average. During the week the births of 891 boys and 876 girls, in all 1767 children, were registered in London. In the 10 corresponding weeks of the years 1849-58 the average number was 1434.

## Provincial.

DEVONPORT.—A serious disturbance took place at Keyham Dockyard on the 11th inst., on the occasion of the punishment of William Stephenson, a seaman belonging to one of the gun-boats in Hamoaze who had been adjudged by court-martial on the previous day to receive 50 lashes and be imprisoned two years for mutinous conduct. The flogging was ordered to take place on board H.M.S. Cæsar, Captain Mason, lying in one of the basins of the dockyard at Keyham, and whilst this part of the sentence was carried out a number of the workmen in the yard, and the crew of the Turkish man-of-war which is under repair, assembled, and [illegible] hisses, and the use of language of the most [illegible] character, gave free expression to the feelings of [illegible] probation with which they regarded the infliction of corporal punishment. The lieutenant of marines on duty was thereupon ordered to go ashore and disperse the spectators, but he was speedily knocked down when the sentry threatened to charge bayonet, and mobbed and thrown to the ground. The captain of the Cæsar then went ashore, and with the assistance of some of his officers and of a body of police who had hastened to the scene, the disturbance, which had begun to assume a serious aspect, was quelled, and order once more restored. Two of the ringleaders in the affair, John Bewlay, a shipwright, belonging to the establishment, and a painter named Risseter, were taken into custody, but were afterwards released, Risseter being dismissed from the yard, whilst Bewlay and the foreman of the company to which he was attached have been suspended until the decision of the authorities is made known. The circumstance has occasioned a great deal of excitement among the workmen in the dockyard, and is a topic of very general conversation in the town. It is said to be 53 years since such a punishment was given on board a ship in the dockyard.

JARROW.—On Tuesday morning a man called Matthew, gatekeeper at the iron ship building yard of Messrs. Palmer, of South Shields, murdered his wife by cutting her throat while sleeping in bed in their house in this village, and afterwards endeavoured to commit suicide by the same means. The wife died from loss of blood soon after a surgeon who was immediately sent for had sown up the wound; but the husband is likely to recover. It is said that the crime was committed from motives of jealousy, for which there is no foundation. The prisoner, who expresses no regret for the murder of his wife, and seems indifferent to his fate, is said to have been once in a very respectable station in life.

NEWCASTLE-ON-TYNE.—The Austrian Government has sent an order for all the Austrian vessels which have been detained in the Tyne and other northern ports during the recent hostilities with France to proceed on their voyages. At the outbreak of the late war the sale of vessels belonging to that country to English owners was considered a legal transfer, but the French Government would not recognise the sale of Austrian vessels to our shipowners, and they have therefore been lying in our north-east ports, at a great expense to the owners, since the declaration of war.

## Law.

HOUSE OF LORDS.—*Livingston (or Fenton) v Livingston* was an appeal from a decision of the Court of Session in Scotland, holding the validity of a marriage with a deceased wife's sister and legitimacy of a son of the marriage. Lord Brougham, Lord Cranworth, Lord Wensleydale, and Lord Chelmsford unanimously and decidedly of opinion that the marriage of respondent's father, who was domiciled in England, with deceased wife's sister, was invalid, null, and void according to the law of Scotland, and that the respondent, son of the marriage, was illegitimate, and not entitled to succeed to the estates in Scotland, and that the appellant, as next heir, was entitled to take the entailed estates as heir of entail. Their lordships reversed the decision of the Court of Session, with appeals, with costs, and remitted the cases back to the Court of Session to declare accordingly.

WESTERN CIRCUIT: WINCHESTER.—*The Murder at the Camp.—Henry Benjamin Havens*, a soldier, aged 21, was indicted before Mr. Baron Bramwell for the wilful murder of Mary M'Gowan, at Aldershott, on the 6th March, by cutting her throat with a razor. The particulars of this case were fully reported at the time in our Provincial News, and it will be remembered that after the murder had been committed the prisoner expressed deep regret, and stated that he had intended to murder another woman who had been the cause of his being in the hospital, and not deceased, who had never done him any harm. The defence was that the prisoner was labouring under some delusion, and was not the master of his own actions. After two hours' deliberation the jury came into court, and expressed an opinion that the prisoner might have been labouring under some sense of injury as to provoke him to commit the act. Baron Bramwell briefly explained the law and facts to the jury in that view of the case. The jury then consulted for a short time, and returned a verdict of Guilty. The learned Judge then put on the black cap, and proceeded to pass sentence of death, when the jury had returned the way they could not return, and holding out no hope of mercy.—*The Burning of the Eastern Monarch.—Charles [illegible]*, steward of the troop-ship Eastern Monarch, was indicted for manslaughter of the five persons whose lives were lost on board that ship when she was destroyed by fire on the morning of June 3. The case against the prisoner was that he had charge of the magazine and gun-room, and that about 8 o'clock on the evening of the 2d of June he had gone into the gun-room, lighted a lucifer-match, and thrown it on the floor, on which there was a variety of stores. It was therefore inferred that something had taken fire and caused the explosion from 8 o'clock until 2, and thus caused the explosion. Mr. Bramwell said, upon these facts he could hardly direct the jury that they would convict the prisoner. There was an interval of six hours between the time the prisoner was in the gun room and the fire breaking out; no fire was seen, and no burning had been smelt. He did not like interfering with the province of the jury, but it was impossible to suppose that this burning was going on for six hours. Mr. Collier said that after his lordship's observations he completely agreed with his own opinion, he should not try the case, particularly as there was another indictment against the prisoner for a misdemeanour. The judge said he should regret that a man should be convicted of so serious a charge upon such evidence as had been offered. He supposed the learned counsel was quite warranted in withdrawing from the case. The jury returned a verdict of *Not Guilty*. The prisoner was then indicted for that he, being a seaman on board a British ship, unlawfully did an act tending to the loss and destruction of the ship, by using a lighted candle in the gun room. The judge said he should direct the jury that if they thought the act of the prisoner might have led to the serious danger of the ship, although any person might have prevented the danger, that was not sufficient to bring the case within the statute. Mr. Coleridge then addressed the jury for the prisoner, urging that this charge of striking a match [illegible] months ago was a most hard case on the prisoner.

when it followed a most miserable attempt to convict the prisoner of manslaughter, thereby creating a great prejudice against the prisoner. Mr Collier, representing the Attorney-General, replied. Mr Baron Pramwell then summed up, and the jury after some time *Acquitted* the prisoner, expressing their opinion that though he had been guilty of a breach of duty, still that his act did not tend to the serious damage of the ship.

NORTHERN CIRCUIT: YORK.—*The Hull Murder.—John Riley* was indicted for the wilful murder of Alice Riley, his wife, at Hull, on the 3d inst. It appeared from the evidence of the witnesses called that prisoner had deceased had been married some time and had several children, and lived the early part of their married life at Grimsby. While living there, upwards of a year ago, they had a violent quarrel, in consequence of which his wife left him, and went to Hull where she endeavoured to maintain herself as a sempstress and by a profligate course of life. After she had resided there for some time the prisoner heard of her and followed her to Hull, where he began to live with her again, and sent for his children. While living in Hull the prisoner did nothing to gain a livelihood, and was supported by his wife, and seemed not to be entirely ignorant of the manner in which she obtained her living. In May last the prisoner had another serious quarrel, which ended in an investigation before the magistrates, and in his being sent to prison. He got out of prison early in June, and had not been living with his wife many weeks before the woman got drunk, and according to her usual habit lay down on the bed to sleep off the effects. The prisoner told a little boy to go out and play while he had a sleep too and having fastened the door cut his wife's throat with a table knife, and then attempted to hang himself with the cord of her crinoline petticoat. A neighbour hearing the noise gave an alarm, and he was cut down insensible, but he subsequently recovered and admitted that he had killed his wife, adding that she had previously tried to cut his throat. The jury after an absence of an hour found the prisoner *Guilty*. Mr Justice Hill, putting on the black cap, in the most impressive manner passed on the prisoner sentence of *Death*, and implored him in the brief period left to him, but to his eternal to seek that mercy from the Almighty which he could not hope for in this world. *A Danish Burglar.—Jans Peter Nicholai Ernst*, a noted burglar, of Danish extraction, pleaded guilty to three extensive burglaries in different parts of Yorkshire. The prisoner was about 38 years of age, of sallow complexion, middle height, wore gold ear rings, and had many scars about his body, which was covered with blue gunpowder marks of ships, watches, mermaids, hearts, serpents, seahorses, trees, naval crowns, &c. The charges against him were, 1st, that he had committed a burglary in the house of Mr. J. Crossley, at Manor Heath, near Halifax, on the 18th March, when his object was to secure a large amount of valuable plate, which, however, he fortunately missed, merely obtaining a number of Crown pieces and articles of no great value. 2d, that he had committed another burglary only three days afterwards, in the dwelling-house of Mr Thomas Shires, and stole a large variety of property; and 3d, that he had committed another burglary, nine days after the last one, in the house of the Rev. W. Williamson, of Hardingly Parsonage, near Leeds, where he obtained a large booty, consisting of silver plate, &c., to the value of about 40*l*. Mr Justice Hill, in passing sentence, cited three distinct convictions for similar offences during the last three years, in adjudicating upon one of which charges he acted as judge at the Gloucester assizes. The other two convictions were from the Worcester assizes. He therefore sentenced the prisoner to penal servitude for 10 years.

## Obituary.

THE QUEEN OF PORTUGAL died at Lisbon, on Saturday of sore throat. Her Majesty was born in July, 1837, and was only married last year to the King of Portugal.

THE DUKE OF ABRANTES, son of the famous Junot, and chief of the staff of one of the divisions of the army of Italy, has died of the wounds he received at the battle of Solferino. His thigh had to be amputated, and he did not long survive the operation.

GENERAL EARL CATHCART, G.C.B., died on the 16th inst., at his residence at St. Leonard's-on-Sea. He was brother of General Cathcart who was killed at Inkermann, and like his father and many of his ancestors, was brought up to the military profession. He entered the army in 1799, and for the first 16 years of his career saw much active service. He served in the Helder expedition in 1799; in Naples and Sicily in the campaigns of 1805-6; at the Walcheren expedition in 1809, taking part in the siege of Flushing. In 1812, having joined the army in the Peninsula, he was present at the battles of Barossa, Salamanca, and Vittoria; and took part in the campaigns of 1815 in the Netherlands and France. He was present at Waterloo as one of the Royal Staff Corps, acting as one of the assistant-quarter-master-generals attached to the British forces. In 1837 he was appointed Commander of the Forces in Scotland and Governor of Edinburgh Castle; and in 1846 he was made Governor and Commander in Chief of Canada, Nova Scotia, New Brunswick, &c. On his return home from North America he was appointed to the command of the Northern and Midland District, where he served the customary period. For his services in the Peninsula he received the gold medal and two clasps, and for his services at Waterloo was made a Knight of the Order of St. Wilhelm of Holland, and of St. Wladimir of Russia. In 1838 he was nominated a Knight Commander of the Bath, and was made a Grand Cross of that order only a few weeks since. By his death the Colonelcy of the 1st Dragoon Guards, to which he was appointed in 1851, becomes vacant. He became a Lieut.-General in 1841, and General in 1854. The deceased, Charles Murray, Earl and Viscount Cathcart, and Baron Greenock in the peerage of the United Kingdom, and Baron Cathcart in Scotland, was eldest son of the first Earl, by the daughter of Mr Andrew Elliot, uncle of the first Earl of Minto. He was born in 1783, and was consequently in his 76th year. On the death of his father, General Earl Cathcart, in 1843, he succeeded to the family honours. He married in France in 1818, and in Portsea in 1819, Henrietta, second daughter of Mr. Thomas Mather, by whom, who survives him, he leaves two sons and three daughters. He is succeeded in the title and estates by his eldest son, Lord Greenock, formerly in the 23d Foot, and now Lieut.-Colonel of the North York Militia, who was born in 1828, and married in 1850 the eldest daughter of Sir Samuel Crompton.

MR HENRY GRATTAN, late M.P. for the county of Meath, and only surviving son of the great Henry Grattan, died rather suddenly on Saturday last at his residence in the county of Wicklow, from disease of the heart. Mr. Grattan was a devoted friend of Liberalism in the widest acceptation of the term, and was among the faithful few who adhered to Mr. O'Connell throughout his stormy career of Irish agitation. Mr. Grattan leaves no male issue, his children consisting of two daughters, both recently married, and who, it is presumed, will inherit his large estates.

REAR-ADMIRAL H. DUNDAS TROTTER died on the 14th inst., at the residence of his brother, Devonshire Place House, Marylebone Road, from a paralytic attack which had seized him while on business at the Admiralty in the morning of that day. He entered the service in 1818, and served in the Navy actively until he obtained his flag rank. From September, 1840, to the close of 1842, he was employed in the Niger expedition; and his last employment was as Commodore at the Cape of Good Hope. He was in his 57th year. He became a rear-admiral in 1857.

MR JOHN ADDISON, County Court Judge, died at his residence in Winckley Square, Preston, on the 14th inst. He was appointed Judge in 1847, when county courts were first established. His circuit embraced the thickly populated districts of Preston, Blackburn, Lancaster, Chorley, Garstang, Poulton, and Kirkham. Mr Addison was a magistrate for the county of Lancaster, and also for the borough of Preston. He was recorder for Clitheroe, and had been twice mayor of Preston.

BIRTHS.—On the 18th inst, at 42, Belgrave Square, Lady OCTAVIA SHAW STEWART, of a daughter—16th inst, at Altyre, Lady GORDON CUMMING, of a son—1st inst, at Nice, Sardinia, the wife of Sir ALMERIC MORRIS, Bart., of a son—16th inst, at 15, Green Street, Park Lane, the wife of GEORGE PEPPE, Esq., Secretary to H.M.'s Legation at Hanover, of a daughter.

MARRIAGES.—On the 19th inst, at St Thomas's Church, Orchard Street, Portman Square, the Rev. OWEN LEFEVRE MANSEL, fourth son of Lieut.-Colonel Mansel, C.B., to LOUISA CATHERINE, youngest daughter of the late Lord WILLIAM MONTAGU—19th inst, at Lighthorne, Warwickshire, BOURNE KING, Esq., to LOUISA, eldest daughter of the late Rev. CHARLES and the Lady CHARLOTTE PALMER—19th inst, at St George's, Hanover Square, EDMUND, eldest son of JOSEPH GOLD, Esq., Hale Park, Hants, to EMILY CAMPION, daughter of Lieut.-General LACOSTE, C.B., K.H., Colonel of the Queen's Own Light Dragoons—19th inst, at Twickenham Church, WILLIAM PALMER HALE, Esq., of the Middle Temple, barrister-at-law, eldest son of the Ven. the Archdeacon of London, to MARY, daughter of the late Rear-Admiral DENIS HENRY O'BRIEN, of New House, Hounslow, Middlesex—19th inst, at St Andrew's, [illegible], Esq., of Wroughton House, Berks, to ELLEN LUCY, eldest daughter of the late Sir HENRY HUGH BOVEY LEIGH, Bart., of Stoneleigh, Wilts, to JULIA LUCY, eldest daughter of THOMAS VILLIERS LAKE, Esq., and granddaughter of the second Viscount Exmouth.

DEATHS.—On the 19th inst at Tunbridge Wells, Lord RANDOLPH STEWART GORDON, seventh son of the Marquis of Huntly, aged two months—16th inst, of rapid decline, returning from Italy, at Pau, Pyrenées, BOADICEA, the wife of H. H. HOUGHTON, Esq., of Diggle Park, Northamptonshire, youngest daughter of Major and the late Lady Louisa Forester, of St James's Place—16th inst, HANNAH, wife of EDWARD LYON, Esq., 3 Pt. Oxford Square, and 14, Essex Street, Strand, youngest daughter of the late Sir DAVID WILKIE SMITH, Bart., of Methven, Northumberland, aged 47—16th inst, at his house at Thurnaston, Leicestershire, CHARLES GRANGER, eldest surviving son of the late Sir JOHN RICHARDSON, formerly one of the judges of the Court of Common Pleas, aged 48—17th inst, at Castle Ashby, the residence of her son Mervyn Archdall, Esq., M.P., county Fermanagh, MARTHA, the beloved wife of EDWARD ARCHDALL, Esq., of Riverside, in the same county, daughter of the late and sister of the present Wm. Hargreaves, Esq., of Lady's Close House, Co. Cavan—17th inst, at St Matthew's Parsonage, Gateshead, the residence of her son-in-law, the Rev. Dr Lucie Duffus, HENRIETTA, widow of Lieut.-Colonel Henry Hayes, K.H., Royal Art. Duty—17th inst, Lucretia ANNE, widow of Robert KEATE, Esq., late Serjeant Surgeon to the Queen, aged 96—17th inst at Bath, the Rev. EDWARD GRIFFITH, M.A., Senior Fellow of Merton College, Oxford, aged 81—17th inst, suddenly, at Shirley House, near Southampton, the Rev. HENRY NICHOLSON BROWNE, M.A., of Trinity College, Cambridge, aged 42—18th inst, at her residence, Darnley Road, Hackney, JANE, relict of the late GEORGE LODDIGES, aged 72.

# Markets.

## COVENT GARDEN.—July 22.

Grapes and Pine Apples still realise fair prices. West India Pines have been plentiful and good. Gooseberries, Currants, and Raspberries are getting scarce, and Cherries and Strawberries are nearly over. English Apricots have made their appearance. Greengage Plums obtain 2s. a dozen. Oranges fetch 3s. 6d. and 10s. per 100. Nuts of all descriptions continue to realise fair prices. Cabbages and French Beans are plentiful. Rhubarb, Asparagus, and Seakale are getting over. Peas, Beans, Horn Carrots, and Globe Artichokes may be obtained in quantity. Cauliflowers are cheaper. New Potatoes realise from 6s. to 14s. per cwt. Cucumbers abundant. Cut flowers chiefly consist of Orchids, Gardenias, Kalosanthes, Lily of the Valley, Violets, Mignonette, Heaths, and Roses.

### FRUIT.

| | |
|---|---|
| Pine Apples, per lb., 6s | Plums, per pottle, 2s |
| Grapes, per lb., 3s to 6s | Greengages, do., 2s |
| Strawberries, p. basket, 1s to 2s | Currants, per half-sieve, 1s |
| Raspberries, p. punn., 6d to 1s | Gooseberries, do., 2s |
| Melons, each, 4s to 8s | Cherries, per lb., 6d to 1s 6d |
| Peaches and Nectarines, per doz., 10s to 15s | Apples, per doz., 6s to 10s |
| Figs, per doz., 6s to 8s | Oranges, per 100, 6s to 10s |
| Apricots, do., 4s to 6s | Lemons, per doz., 1s to 1s 6d |

### VEGETABLES

| | |
|---|---|
| Cauliflowers, per doz. 2s to 4s | Cucumbers, p. doz., 2s to 6s |
| Green Peas, p. quart, 1s to 2s | Tomatoes, per doz., 2s to 4s |
| Greens, per dozen bunches, 1s to 1s 6d | Artichokes, per doz., 2s to 3s |
| Cabbages, do., 1s 6d to 2s 6d | Beet, per doz., 1s 6d to 2s |
| Asparagus, p. bundle, 2s 6d to 3s | Celery, p. bundle, 1s to 1s 6d |
| Rhubarb, p. bundle, 6d to 9d | Shallots, per lb., 6d to 8d |
| French Beans, p. pun., 1s to 1s 6d | Garlic, per lb., 6d to 8d |
| Potatoes, p. ton, 90s to 100s | Lettuces, Cable, per score, 1s to 1s 6d |
| — per bus., 2s to 2s 9d | Endive, p. score, 1s to 1s 6d |
| — per cwt., 4s to 6s | Horse Radish, p. bun. 1s 6d to 4s |
| — new, per lb., 6d to 1s | Mushrooms, p. pott, 9d to 1s 3d |
| Carrots, per bunch, 1s | Parsley, p. 12 bunches, 2s to 4s |
| Turnips, per bunch, 9d to 1s | Savory, do., 2d to 4d |
| Spinach, p. sieve, 1s 6d to 2s | |

HOPS.—BOROUGH MARKET, FRIDAY, July 22.

Messrs Pattenden & Smith report the trade dull for Hops of all descriptions at lower prices. The late rains are improving the plantations rapidly. Duty 250,000*l*.

### HAY.—Per Load of Thirty-six Trusses.

SMITHFIELD, THURSDAY, July 21.

| | | | | | |
|---|---|---|---|---|---|
| Prime Meadow Hay | 75s to 80s | | Old Clover | 98s to 110s | |
| Superior do. (old) | 84 | 95 | Second cut | 80 | 95 |
| Inferior do. | 60 | 70 | New Clover | 70 | 90 |
| New do. | 70 | 84 | Straw | 28 | 34 |
| Rowen | 60 | 79 | | DAVIS & Co. | |

WHITECHAPEL, THURSDAY, July 21.

| | | | | | |
|---|---|---|---|---|---|
| Fine old Hay | 85s to 92s | | Fine old Clover | 105s to 112s | |
| Inferior do. | 80 | 84 | Inferior do. | 84 | 100 |
| New Hay | 76 | 84 | Fine new Clover | 80 | 90 |
| Inferior do. | 50 | 63 | Fine 2d cut | — | 100 |
| Straw | 26 | 28 | Inferior do. | 60 | 80 |

BRITISH WOOLS.—LONDON, FRIDAY, July 22.

**Our trade is buoyant and most descriptions of good wool realise full prices.**

COLONIAL WOOL SALES.—These sales commenced last night at an advance over the last series of 1d. to 2d. a lb.

METROPOLITAN CATTLE MARKET.

MONDAY, July 18.

There is a much larger supply of Beasts, and the hot weather operates against the trade. Prices are consequently lower, and it is difficult to effect a clearance. There are a few more Sheep than on Monday last, and trade is slow, but for choicest qualities there is not much alteration. Trade is very dull for Calves at rather lower rates. From Germany and Holland there are 980 Beasts, 4400 Sheep, and 220 Calves; from Scotland, 200 Beasts; from Norfolk and Suffolk, 1400; from Ireland, 180; and 700 from the northern and midland counties.

| | s | d | s | d | | s | d | s | d |
|---|---|---|---|---|---|---|---|---|---|
| Best Scots, Herefords, &c. | 4 | 6 | to 4 | 8 | Best Long-wools | 4 | 6 | — 4 | 8 |
| Best Short-horns | 4 | 4 | — 4 | 6 | Do. Shorn | .. | .. | — | .. |
| 2d quality Beasts | 3 | 4 | — 3 | 10 | Ewes & 2d quality | 4 | 0 | — 4 | 4 |
| Best Downs and Half-breds | 4 | 8 | to 5 | 0 | Do. Shorn | .. | | to | |
| Do. Shorn | .. | .. | — | | Lambs | .. | 5 | 0 — 5 | 8 |
| | | | | | Calves | .. | 3 | 8 — 4 | 10 |
| | | | | | Pigs | .. | 3 | 4 — 4 | 4 |

Beasts, 4150; Sheep & Lambs, 29,850; Calves, 284; Pigs, 450.

THURSDAY, July 21.

We have a large supply of Beasts. Trade is dull for them, and it is difficult to maintain Monday's quotations throughout. The number of Sheep and Lambs is about the same as of late. There is a demand for them at Monday's prices. Calves are rather lower. Our foreign supply consists of 400 Beasts, 2120 Sheep, and 404 Calves. The number of Milch Cows is 123.

| | s | d | s | d | | s | d | s | d |
|---|---|---|---|---|---|---|---|---|---|
| Best Scots, Herefords, &c. | 4 | 6 | to 4 | 8 | Best Long-wools | 4 | 6 | — 4 | 8 |
| Best Short-horns | 4 | 4 | — 4 | 6 | Do. Shorn | .. | .. | — | .. |
| 2d quality Beasts | 3 | 4 | — 3 | 10 | Ewes & 2d quality | 4 | 0 | to 4 | 4 |
| Best Downs and Half-breds | 4 | 8 | — 5 | 0 | Do. Shorn | .. | .. | — | .. |
| Do. Shorn | .. | .. | — | | Lambs | .. | 5 | 0 — 5 | 8 |
| | | | | | Calves | .. | 3 | 8 — 4 | 8 |
| | | | | | Pigs | .. | 3 | 4 — 4 | 4 |

Beasts, 4150; Sheep & Lambs, 29,850; Calves, 284; Pigs, 450.

MARK LANE.—MONDAY, July 18.

The supply of Wheat from Essex to this morning's market was moderate, from Kent fair; in consequence of factors holding for last week's prices no progress could be made in the sale, excepting at a decline of 1s. to 2s. per qr. upon the rates of this day se'nnight, which holders generally being unwilling to accept but little clearance was made towards the close. Foreign was neglected, and the business confined to a few retail sales at about former prices. Barley sells slowly at the rates of Monday last. Beans are scarce, and bring late quotations. For Peas there is no demand. Oats are firm, prices unaltered. There is no alteration in the top price of town-made Flour, but Norfolk is 1s. per sack cheaper.

| PER IMPERIAL QUARTER. | | s | s | | s | s |
|---|---|---|---|---|---|---|
| WHEAT, Essex, Kent, & Suffolk | White | 42 | 48 | Red | 40 | 44 |
| — — fine selected runs | ditto | 44 | 48 | Red | 42 | 46 |
| — — Talavera | | 48 | 51 | | | |
| — Norfolk | | — | | Red | — | |
| — Foreign | | 42 | 56 | | | |
| BARLEY, grind. & dist., 24s to 28s | Chev. | 30 | 40 | Malting | 32 | 34 |
| — Foreign, grinding and distilling | | 20 | 21 | Malting | 30 | 34 |
| OATS, Essex and Suffolk | | 19 | 22 | | | |
| — Scotch and Lincolnshire | Potato | 23 | 25 | Feed | 19 | 24 |
| — Irish | Potato | 24 | 25 | Feed | 19 | 22 |
| — Foreign, Poland and Brew | | 23 | 25 | Feed | 19 | 25 |
| RYE | | — | | Foreign | — | |
| RYE MEAL, foreign | | — | | | | |
| BEANS, Mazagan, 35s to 36s | Tick | 37 | 41 | Harrow | 37 | 41 |
| — Pigeon, 41s — 45s | Winds | — | | Longpod | — | |
| — Foreign | Small | 38 | 47 | Egyptian | 35 | 39 |
| PEAS, white, Essex and Kent | Boilers | 38 | 42 | Suffolk | 40 | 44 |
| — Maple, 42s to 44s | Grey | 38 | 46 | Foreign | 36 | 40 |
| MAIZE | White | — | | Yellow | — | |
| FLOUR, best marks delivered, per sack | | 40 | 46 | | | |
| — 2d do. | ditto | 37 | 40 | Country | 30 | 42 |
| — Foreign, per barrel | | 25 | 27 | Per sack | 30 | 37 |

FRIDAY, July 22.

The fine weather was interrupted on Monday evening by a very heavy thunderstorm, which appears to have been general, and continued daily until this morning. The crops which were previously standing are reported to have been laid and to have sustained damage. The reports we receive from the country generally are less promising than heretofore. The Wheat trade throughout the country has during the present week displayed little firmness, without leading to much improvement in the demand or enhancement of prices. Business in all kinds of spring corn has been dull, and each description has in some markets been quoted slightly cheaper. Flour has been difficult of disposal, with a downward tendency in value. In several places it is quoted 1s. per sack lower, which has been the case with country marks here. Arrivals of grain and seed from vessels off the coast from Southern Europe continue moderate, as do also the sales. The accounts of the French crops are less favourable, and prices there have slightly advanced for Wheat and Flour. From Belgium the complaints are still greater, and Wheat has advanced in price from 2s. to 4s. per qr. The arrivals of English grain this week are small, of foreign Wheat and Oats fair, and large of Barley. This morning's market was badly attended, although it included two or three distant buyers, who cleared the English Wheat at prices which on Monday were unobtainable. Barley sells in retail at about Monday's quotations. There is no alteration in the value of Beans and Peas. For Oats there was rather more inquiry at full prices. In Flour there is rather more doing.

ARRIVALS FROM JULY 18 TO JULY 22.

| | Wheat. | Barley. | Oats. | Flour. |
|---|---|---|---|---|
| English | 1420 qrs. | 140 qrs. | 280 qrs. | 550 sks. |
| Irish | — ,, | — ,, | 1150 ,, | — ,, |
| Foreign | 10116 ,, | 6630 ,, | 16320 ,, | 1700 ,, — brls. |

LIVERPOOL, Tuesday, July 19.—Our arrivals during the past week have been to a fair extent, and with a continuance of most brilliant weather the trade has ruled extremely dull, and quotations are nominally unchanged. With only a small attendance at our market this morning Wheat met a fair consumptive demand at fully the rates of Tuesday last. Flour was quiet, without change in value. Oats and Oatmeal dull and rather lower. Barley, Beans, and Peas unchanged. Indian Corn was in only limited request, at 6s. 6d. for Galatz, 6s. 3d. for Ibrail, and 8s. 2d. for white per 100 lbs.

| AVERAGES | Wheat. | | Barley. | | Oats. | | Rye. | | Beans. | | Peas. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| June 11 | 51s | 5d | 31s | 8d | 26s | 11d | 41s | 9d | 45s | 0d | 40s | 5d |
| — 18 | 49 | 11 | 31 | 5 | 25 | 11 | 36 | 9 | 46 | 7 | 40 | 3 |
| — 25 | 48 | 3 | 31 | 1 | 24 | 9 | 37 | 6 | 46 | 8 | 41 | 9 |
| July 2 | 46 | 4 | 30 | 9 | 24 | 10 | 33 | 9 | 46 | 1 | 40 | 9 |
| — 9 | 46 | 9 | 31 | 10 | 25 | 6 | 34 | 3 | 47 | 7 | 41 | 2 |
| — 16 | 46 | 6 | 29 | 11 | 25 | 3 | 40 | 6 | 45 | 10 | 39 | 8 |
| Agg. Aver. | 48 | 2 | 31 | 1 | 25 | 5 | 37 | 5 | 46 | 3 | 40 | 10 |

FLUCTUATIONS IN THE LAST SIX WEEKS AVERAGES

| PRICES. | June 11. | June 18. | June 25. | July 2. | July 9. | July 16. |
|---|---|---|---|---|---|---|
| 51s 5d | | | | | | |
| 49 11 | | | | | | |
| 48 3 | | | | | | |
| 46 9 | | | | | | |
| 46 6 | | | | | | |
| 46 6 | | | | | | |

COAL MARKET.—FRIDAY, July 22.

Bates's West Hartley, 14s. 9d.; Clark's West Hartley, 15s. 6d.; Davison's West Hartley, 16s. 3d.; Howard's West Hartley, 16s.; Tanfield Moor, 15s.; Wylam, 16s.; Walls End Riddell, 15s. 3d.; Eden Main, 14s. 9d.; Walls End Bradkyll's Hetton, 16s.; Walls End Haswell, 17s. 6d.; Walls End Hetton, 17s. 6d.; Walls End Hetton Lyons, 16s. 3d.; Walls End Kepier Grange, 16s. 6d.; Walls End South Hetton, 17s. 3d.; Walls End

Benson, 15s.; Walls End Cassop, 16s. 6d.; Walls End Heugh Hall, 15s. 6d., Walls End Kelloe, 16s. 6d.; Walls End Whitworth, 15s. 6d.; Powell's Duffryn Steam, 21s.—73 ships at market.

WANTED, A FOREMAN in a Provincial Nursery, who has had experience, and who has a good knowledge of Out door Propagation in all its branches; also of that of Hard wooded Greenhouse Plants. Good testimonials will be required as to character and abilities.—Apply to JOHN YOUNG, Nurseryman, Taunton.

WANTED, a person who thoroughly understands Growing Strawberries, Cucumbers, and Flowers for Market.—Apply at WARREN'S Gardens, Isleworth, Middlesex, W.

WANTED, A GOOD WORKING GARDENER, without incumbrance. Wages, 22s. per week.—Apply, WM. CLARK, 25, Bishopsgate Street Within.

WANTED, A STOCKMAN.—Single; wages 15s. a week, and Lodging.—Apply by letter, addressed M. P., Mr. Laking's, Half-Moon Street, Piccadilly, London, W.

MAN AND WIFE.

WANTED, by a Gentleman farming about 24 acres, a WORKING GARDENER who understands Farming, and is thoroughly conversant with the management of Fruit Trees and Kitchen Garden. The Wife as Cook and general Servant, undertaking Baking and the Dairy.—Address, stating wages required and full particulars, to Y. Z., Post Office, Stoke, near Slough.

## WANT PLACES.—Letters to be Post Paid.

GARDENER (HEAD).—Age 30, single; thoroughly understands his profession. Satisfactory reasons for leaving present situation.—A. B., Post Office, Brixton Hill, S.

GARDENER (HEAD), where two or more are kept.—Has had great experience in Plant Growing. Good character.—J. D., Mr. Davies, Bookseller, Maida Hill, W.

GARDENER (HEAD), where two or more are kept.—Will be disengaged in a month. Can be well recommended.—F. G. S., Sudbury, Middlesex, N.W.

GARDENER (HEAD).—Age 40, single; has a practical knowledge of his profession in all its branches. Nine years' excellent character from the situation he has just left.—J. S., Mr. Eyre, Clay Farm, Foots Cray, Kent.

GARDENER (HEAD).—Single; understands Early Forcing, Pines, Vines, Flower, Fruit, and Kitchen Gardens. Can take charge of Meadow Land, if required. Unexceptionable character.—O. Z., Mr. Thomas Osborn, London Colour Works, Mile End Road, London, E.

GARDENER (HEAD).—Age 34, married; a thorough practical working Gardener; well versed in Early and Late Forcing; has had much practice in Flower, Fruit, and Kitchen Gardening, Laying out and Improving gentlemen's grounds. No objection to a good Single-handed place. Five years' first-rate character.—J. E. ROBERTS, National Schools, Finchley, Middlesex, N.

GARDENER (HEAD).—Age 29, single; strong, active; well understands growing Grapes, Melons, Cucumbers, Mushrooms, and Flowers; has been in the Market Garden line, and can take charge of land. No single-handed place accepted. Can have a first-rate character from the gentleman he is about to leave.—J. P., Mr. Gulliford's, Covent Garden Market.

GARDENER.—Age 35, married, without incumbrance. Wife can undertake the Laundry or Dairy. Good references.—A. Z., Messrs. Rollisson's Nursery, Lower Tooting, Surrey.

GARDENER.—For many years has had the management of a first-class London Market Garden, where Pines, Grapes, and Peaches are grown in the best perfection; is a good Plant Grower; well understands Ferns and Orchidaceous Plants, &c. Can produce first rate testimonials.—M. M., 2, Park Villas, Seven Sisters Road, Holloway.

GARDENER.—Age 35, single; practical knowledge of his profession, having had the management of Flower and Kitchen Gardens, Greenhouse, &c., where he has lately lived. High recommendation from late employer.—J. B., Mrs Bryant, King Street, Maidstone, Kent.

GARDENER.—Middle-aged, married; practically acquainted with all that relates to the Kitchen, Fruit, and Flower Gardens. The most satisfactory references furnished from the family he has been serving for the last 10 years. Wages 55*l.* per annum, with cottage.—H. D., Tibb's Hill, Abbots Langley, Watford, Herts.

GARDENER (SINGLE-HANDED OR OTHERWISE).—Middle-aged, married. Good character.—A. B., Stevens's, News Agent, Leytonstone Essex.

GARDENER (SINGLE-HANDED OR SECOND, where four or five are kept).—Understands Early Framing, Greenhouse, Kitchen and Flower Gardens, &c. Eight years' good character.—H. H., Elm Lodge, Hampton, Middlesex.

GARDENER OR BAILIFF.—An active, middle-aged, married Man. Ten years' good character from the situation he is leaving.—D. P., 5, Garden Place, Hampstead.

BAILIFF.—Steady; well understands Stock of all kinds, with the Management of Land. Wife versed in Dairy, Baking, and Plain Cooking. Desire a situation where trustworthiness is required.—J. H., Post Office, Leytonstone, Essex.

WORKING BAILIFF.—Age 30, single; accustomed to Live Stock and the general routine of the Farm. Can be highly recommended by his present employer.—R. B., care of Mr. Cheyne, Priory Nursery, Warwick.

WORKING FARM BAILIFF.—Age 28, married, no incumbrance; thoroughly understands the Management of Light and Heavy soils and Grass Land; has a thorough knowledge of Stock. Four years' good character from his present employer.—T. H. B., Mr. Clifford's, London Street, Greenwich, Kent.

FARM BAILIFF.—Age 33; to superintend and take the entire management of a Farm for a lady or gentleman. Satisfactory references can be given.—R. JONES, Mrs Jones, Plough Lane, Wellington, Salop.

TO LANDED PROPRIETORS AND OTHERS.

STEWARD OR BAILIFF, at Michaelmas next.—Thoroughly acquainted with Norfolk Farming in all its branches, Marketing, Breeding, Rearing Stock, &c. Wife an excellent Dairywoman. Can have eight years' unexceptionable references.—Y., care of F. S. Bircham, Esq., Solicitor, Reepham, Norfolk.

FORESTER.—Young, native of Scotland; has had great experience in all matters appertaining to Foresting, and can produce unexceptionable testimonials and references.—FRANCIS AND ARTHUR DICKSON & SONS, Nurserymen, &c., 106, Eastgate Street, Chester.

LANDSCAPE GARDENING.

FOREMAN.—Skilled in Laying-out Cemeteries or Gardens from Plans, and Ornamental Planting.—A. B., Mr. Kay, East Acton, Middlesex.

PROPAGATOR, GROWER, OR FOREMAN, &c.—Experienced; many years in the Trade employ.—GARDENER, 15, Richmond Place, Worthing, Sussex.

PROPAGATOR, OR FOREMAN AND PROPAGATOR.—Middle-aged, experienced, and industrious. Three years' good character. Wages moderate.—J. M., Messrs. J. & J. Fraser, Lea Bridge Road, Leyton, Essex.

PROPAGATOR, OR PROPAGATOR AND FOREMAN.—A young man, of considerable experience; a first-rate Grafter of Rhododendrons, Roses, Conifers, Camellias, Azaleas, &c., and thoroughly acquainted with the general routine of hard and soft-wooded Propagation. Good references.—Y. Z., 16, Gatteridge Street, Banbury, Oxon.

SALESMAN OR PLANTSMAN.—Age 25; good knowledge, business address, and no objection to the Books of an evening.—B., 1, Wellington Street, South, W. C.

CLERK.—Age 33; perfectly understands Book-keeping and the Nursery and Seed Trade generally. Unexceptionable references as to character, &c.—F. E. N., *Gardeners' Chronicle* Office.

TO SEEDSMEN.

SHOPMAN.—A young Man, who has had 10 years' experience in a Scotch house, latterly as principal Shopman. Satisfactory references.—T. G. T., *Gardeners' Chronicle* Office.

TO NURSERYMEN AND SEEDSMEN.

SHOPMAN.—A young Man wishes to meet with a situation as above. Country preferred. Will be disengaged in September.—D. G. M., 58, Dawson Street, Dublin.

TO NURSERY AND SEED MERCHANTS.

SHOPMAN (HEAD).—Age 30, married; has had upwards of 14 years' experience, and is thoroughly conversant with the Seed Trade in all its branches; will be open to treat for an engagement as above early in the ensuing autumn. To save time, it is respectively requested that none but provincial houses who can offer a permanent and comfortable situation will answer this Advertisement. Satisfactory references as to character and ability will be given on application by letter adddressed Alpha, *Gardeners' Chronicle* Office.


JAMES PHILLIPS AND CO.'S PRICES of GLASS for the present month.

HORTICULTURAL GLASS, STOCK SIZES, in 100 feet boxes.

| | | | | 3rds. | 4ths |
|---|---|---|---|---|---|
| 11 by 9, | 12 by 9, | 13 by 9, | 14 by 9 .. | 14s. 6d. | 12s. 6d. |
| 12 ,, 10, | 13 ,, 10, | 14 ,, 10, | 15 ,, 10 .. | | |
| 13 ,, 11, | 14 ,, 11, | 15 ,, 11, | 16 ,, 11 .. | 16s. 6d. | 14s. 0d. |
| 14 ,, 12, | 15 ,, 12, | 16 ,, 12, | 17 ,, 12 .. | | |
| 18 ,, 12, | 19 ,, 12, | 16 ,, 13, | 17 ,, 13 .. | | |
| 18 ,, 13, | 19 ,, 13, | 20 ,, 13, | 21 ,, 13 .. | | |
| 16 ,, 14, | 17 ,, 14, | 18 ,, 14 | .. .. | | |
| 19 ,, 14, | 20 ,, 14, | 21 ,, 14 | .. .. | | |

Boxes included and not returnable.

PACKED IN CASES.

| | | |
|---|---|---|
| 200 feet .. .. .. | £2 2 0 | 16 oz. |
| 300 feet .. .. .. | 3 3 0 | |
| 200 feet .. .. .. | 2 18 0 | 21 oz. |

ORCHARD HOUSE SIZES, as supplied by us to Mr. Rivers

| | | 16 oz. | 21 oz. |
|---|---|---|---|
| 20 in. by 12 in. / 20 in. by 13 in. | Common .. .. | 14s. 0d. .. | £1 1s. |
| 20 in. by 14 in. / 20 in. by 15 in. | Superior do. .. | 16 6 .. | 1 5 |
| | English Glass .. | 18 0 .. | 1 9 |

Boxes included and not returnable.

SMALL SQUARES.—Per 100 feet.

| | | | | s. | d. |
|---|---|---|---|---|---|
| 6 by 4 | 6½ by 4½ | 7 by 5 | 7½ by 5½ | 11 | 6 |
| 8 ,, 6 | 8½ ,, 6½ | 9 ,, 7 | 9½ ,, 7½ | | |
| 10 ,, 8 | 10½ ,, 8½ .. | .. .. | .. .. | 12 | 6 |

JAMES PHILLIPS AND CO.,

120, Bishopsgate St. Without, London, E.C.

GLASS FOR CONSERVATORIES, ETC.

HETLEY AND CO. supply 16-oz SHEET GLASS of British Manufacture at prices varying from 2*d.* to 3*d.* per square foot for the usual sizes required, many thousands of which are kept ready packed for immediate delivery.

Lists of Prices and Estimates forwarded on application, for PATENT ROUGH PLATE, THICK CROWN GLASS, GLASS TILES, and SLATES, WATER-PIPES, PROPAGATING GLASSES, GLASS MILK PANS, PATENT PLATE GLASS, ORNAMENTAL WINDOW GLASS, and GLASS SHADES, to JAMES HETLEY & Co., 35, Soho Square, London

See *Gardeners' Chronicle* first Saturday in each month.

HORTICULTURAL GLASS—JUNE TARIFF.

THOMAS MILLINGTON'S reduced Tariff of GLASS, &c.

6 by 4, 7 by 5, 8 by 6, 9 by 7 / 6½ by 4½, 7, by 5½, 8, by 6½, 9½ by 7½ } 16 oz to the foot, 11s. 6*d.* per 100 feet.

In 100 boxes,—4ths quality, 12s. 6*d.*; 3ds do., 14s. 4*d.*

10 by 8, 12 by 9, 12½ by 10½, 14½ by 10½, 13 by 11
10½ by 8½, 12½ by 9½, 13 by 10, 15 by 10, 13½ by 11½
11 by 9, 13 by 9, 13½ by 10½, 12 by 11, 14 by 11
11½ by 9½, 12 by 10, 14 by 10, 12½ by 11½ .. ..

| | per 100 feet | 16 oz. | 21 oz. |
|---|---|---|---|
| 20 by 12 / 20 by 13 | Common .. | 16s. .. | 24s. |
| 20 by 14 / 20 by 15 | Superior . | 18s. .. | 27s. |

All Boxes included.

Orchard House sizes as supplied to Mr. Rivers.

Hartley's improved Rough Plate Glass from ¼ to ½ in thickness.

Coloured Glass in great variety, at 9*d.* and 1*s.* per foot.

Paints, Genuine White Lead, Linseed Oil, Boiled Oil, Turpentine, Putty, Colours, Varnishes, Brushes, Lamp Glasses, &c.

87, Bishopsgate Street Without, same side as Eastern Counties Railway.

MICROSCOPES.

JOSEPH AMADIO'S Improved Compound MICROSCOPE, 2*l.* 2*s.*; Students', 3*l.* 13*s.* 6*d.*

"Both these are from Amadio, of Throgmorton Street, and are excellent of their kind, the more expensive one especially."—*Household Words*, No. 345.

A large Assortment of Achromatic Microscopes.

Just published, 2d ed., an Illustrated Catalogue, with the names of 1500 Microscopic objects, free for 6 stamps.

SHAW'S TIFFANY is universally acknowledged to be the best, neatest, and cheapest material for shading Conservatories, and other Hothouses. Effectually securing Plants from the scorching rays of the sun without obscuring the light. Also, for protecting the Bloom of Wall Trees from spring frosts, and Fruit from birds and wasps. Sold in pieces.

No. 1.—20 yards long, by 38 inches wide, 5*s.* per piece.

No. 3.—Double strength, 18 yards long, by 39 inches wide, 7*s.* 6*d.* per piece.

No. 4.—Treble strength, 18 yards long, by 39 inches wide, 9*s.* per piece.

A liberal allowance to the Trade when ten or more Pieces are taken.—JOHN SHAW & Co., Princess Street, Manchester.

"FRIGI DOMO."—Patronised by her Majesty, the Queen, the Duke of Northumberland for Syon House, His Grace the Duke of Devonshire for Chiswick Gardens, Professor Lindley for the Horticultural Society, Sir Joseph Paxton for the Crystal Palace, Royal Zoological Society, late Mr. Lawrence of Ealing Park, and —Collier, Esq., of Dartford.

PROTECTION FROM THE SCORCHING RAYS OF THE SUN.—"FRIGI DOMO," a Canvas made of patent prepared Hair and Wool, a perfect non conductor of Heat and Cold, keeping wherever it is applied, a fixed temperature. It is adapted for all horticultural and floricultural purposes, for preserving Fruits and Flowers from the scorching rays of the sun from wind, from attacks of insects, and from morning frosts. It can be had in any required lengths. Two yards wide, 1s 6d per yard run; four, 3s. per yard. Also, an improved make for Shading Purposes. Three yards wide, 2s 6d per yard run.

ELISHA THOMAS ARCHER, whole and sole manufacturer, Trinity Lane, Cannon Street, City, and of all Nurserymen and Seedsmen throughout the kingdom. "It is much cheaper than mats as a covering."

DRESSING CASES, DRESSING BAGS, and highly finished elegancies for presentation in great variety. Ivory-handled Table Cutlery; every requisite for the Toilet and Work Tables.—MECHI & BAZIN, 112, Regent Street, 4, Leadenhall Street; and Crystal Palace, Sydenham.

THE BEST SHOW OF IRON BEDSTEADS IN THE KINGDOM IS WILLIAM S. BURTON'S.—He has FOUR LARGE ROOMS devoted to the exclusive show of Iron and Brass Bedsteads and Children's Cots, with appropriate Bedding and Bed Hangings. Portable Folding Bedsteads from 11s.; Patent Iron Bedsteads, fitted with dovetail joints and patent sacking from 14s. 6d.; and Cots, from 15s. 6d. each. handsome Ornamental Iron and Brass Bedsteads, in great variety, from 2*l.* 13s. 6*d.* to 20*l.*

THE PERFECT SUBSTITUTE FOR SILVER.—The REAL NICKEL SILVER, introduced more than 20 years ago by WILLIAM S. BURTON, when PLATED by the patent process of Messrs. Elkington & Co., is beyond all comparison the very best article next to sterling silver that can be employed as such, either usefully or ornamentally, as by no possible test can it be distinguished from real silver. A small useful plate chest, containing a set, guaranteed of first quality for finish and durability, as follows:—

| | Fiddle or Old Silver Pattern. | Thread or Brunswick Pattern. | King's Pattern. | Military Pattern. |
|---|---|---|---|---|
| | £ s. d. | £ s. d. | £ s. d. | £ s. d. |
| 12 Table Forks .. .. | 1 18 0 | 2 8 0 | 3 0 0 | 3 10 0 |
| 12 Table Spoons .. .. | 1 18 0 | 2 8 0 | 3 0 0 | 3 10 0 |
| 12 Dessert Forks .. .. | 1 10 0 | 1 15 0 | 2 2 0 | 2 17 0 |
| 12 Dessert Spoons .. | 1 10 0 | 1 15 0 | 2 2 0 | 2 17 0 |
| 12 Tea Spoons .. .. | 0 18 0 | 1 4 0 | 1 10 0 | 1 16 0 |
| 6 Egg Spoons, gilt bowls .. | 0 12 0 | 0 15 0 | 0 18 0 | 1 1 0 |
| 2 Sauce Ladles .. .. | 0 7 0 | 0 8 6 | 0 10 6 | 0 16 0 |
| 1 Gravy Spoon .. .. | 0 8 0 | 0 11 0 | 0 13 6 | 0 16 0 |
| 2 Salt Spoons, gilt bowls .. | 0 4 0 | 0 5 0 | 0 6 0 | 0 7 0 |
| 1 Mustard Spoon, gilt bowl .. .. | 0 2 0 | 0 2 6 | 0 3 0 | 0 3 6 |
| 1 Pair of Sugar Tongs .. | 0 3 0 | 0 3 9 | 0 5 0 | 0 7 6 |
| 1 Pair of Fish Carvers .. | 1 4 0 | 1 7 6 | 1 12 0 | 1 18 0 |
| 1 Butter Knife .. .. | 0 3 6 | 0 5 9 | 0 7 0 | 0 9 0 |
| 1 Soup Ladle .. .. | 0 13 0 | 0 17 6 | 1 0 0 | 1 1 0 |
| 1 Sugar Sifter .. .. | 0 4 0 | 0 4 9 | 0 5 9 | 0 8 6 |
| Total .. .. | 11 14 6 | 14 11 3 | 17 14 9 | 21 4 0 |

Any article to be had singly at the same prices. An oak chest to contain the above, and a relative number of knives, &c., 2*l.* 15*s.* Tea and coffee sets, cruet and liqueur frames, waiters, candlesticks, &c., at proportionate prices. All kinds of re-plating done by the patent process.

CUTLERY, WARRANTED.—The most varied assortment of TABLE CUTLERY in the world, all warranted, is on SALE at WILLIAM S. BURTON'S, at prices that are remunerative only because of the largeness of the sales. 3½-inch Ivory-handled Table Knives, with high shoulders, 12s. 6d. per doz. Desserts to match, 10s. 6d.; if to balance, 6*l.* per doz. extra. Carvers, 4s. 3d. per pair; larger sizes, from 20s. to 27s. 6d. per doz. extra fine Ivory, 33s.; if with silver ferrules, 40s. to 59s.; white bone Table Knives, 6s. 9d. per doz.; Desserts, 5s. 0d.; Carvers, 2s. 8d. per pair; black-horn Table Knives, 7s. 4d. per doz.; Desserts, 6s.; Carvers, 2s. 6d.; black wood handled Table Knives and Forks, 6s. per doz.; Table Steels, from 1s. each. The largest stock in existence of Plated Dessert Knives and Forks, in cases and otherwise, and of the new plated Fish Carvers.

WILLIAM S. BURTON'S GENERAL FURNISHING IRONMONGERY CATALOGUE may be had gratis, and free by post. It contains upwards of 400 illustrations of his illimited Stock of Electro and Sheffield Plate, Nickel Silver and Britannia Metal goods, Dish Covers and Hot-water Dishes, Stoves, Fenders, Marble Chimney-pieces, Kitchen Ranges, Lamps, Gaseliers, Tea Urns and Kettles, Tea Trays, Clocks, Table Cutlery, Baths and Toilet Ware, Turnery, Iron and Brass Bedsteads, Bedding, Bed Hangings, &c., with Lists of Prices and Plans of the 16 large Show Rooms at 39, Oxford Street; 1, 1A, 2, and 3, Newman Street; and 4, 5, and 6, Perry's Place, London.—Established 1820.

TOURISTS AND TRAVELLERS, VISITORS TO THE SEASIDE, and others exposed to the scorching rays of the sun, and heated particles of dust, will find ROWLAND'S KALYDOR a most refreshing preparation for the complexion and skin, dispelling the cloud of languor and relaxation, allaying all heat and irritability, and immediately affording the pleasing sensation attending restored elasticity and healthful state of the skin. Freckles, tan, spots, pimples, flushes, and discoloration are eradicated by the application. Price 4s. 6d. and 8s. 6d. per bottle. The heat of the summer is inclines a dryness of the hair, and a tendency to its falling, which may be completely obviated by the use of ROWLAND'S MACASSAR OIL, a delightfully fragrant and transparent preparation for the hair, and as an invigorator and beautifier beyond all precedent. Price 3s. 6d.; 7s.; family bottles (equal to four small), 10s 6d.; and double that size, 21s. ROWLAND'S ODONTO, or PEARL DENTIFRICE, bestows on the teeth a pearl-like whiteness, frees them from tartar, and imparts to the gums a healthy firmness, and to the breath a grateful purity and fragrance. Price 2s. 9d. per bottle.—Sold by A. ROWLAND & SONS, 20, Hatton Garden, London; and by Chemists and Perfumers.—Beware of Spurious Imitations.

HOLLOWAY'S OINTMENT AND PILLS.—For the cure of burns, scalds, wounds, and ulcers this justly celebrated Ointment stands unrivalled. Its balsamic virtues, immediately on application, lull the pain and soothe, protect the exposed nerves from the air, and gives to the vessels the vigour necessary to heal the sore, and confer on the blood a purity which permits it only to lay down healthy deposits of that destroyed. HOLLOWAY'S Pills, simultaneously, must assist the Ointment's purifying and soothing power. Together, these medicines act like a charm. Those ladies embarking for unwholesome climates, where pestilential airs are constantly producing fever, should provide themselves with these remedies, which will assuredly save them nights of watching and days of pain.

# The Gardeners' Chronicle Newspaper.

*SATURDAY, JULY* 30, 1859.

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THE HEART OF THE ANDES. By FREDERICK E. CHURCH (Painter of the Great Fall, Niagara), is being EXHIBITED daily by Messrs. DAY & SON, Lithographers to the Queen, at the German Gallery, 168, New Bond Street, W. Admission One Shilling.

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NOTICE OF DIVIDEND.—BANK OF DEPOSIT (Established A.D. 1844), No. 3, Pall Mall East, London, S.W.—The WARRANTS for the HALF-YEARLY INTEREST, at the rate of 5 per cent. per annum, on Deposit Accounts, to the 30th June, are ready for delivery, and payable daily between the hours of 10 and 4.

July 30. PETER MORRISON, Managing Director.

Prospectuses and Forms sent free on application.

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RIFLE CORPS AND LIFE ASSURANCE.

THE SCOTTISH UNION INSURANCE COMPANY hereby intimate that they will NOT CHARGE any EXTRA PREMIUM for persons joining and serving in any Volunteer or Rifle Corps so long as they remain within the United Kingdom of Great Britain and Ireland.

The terms and conditions of this Company (established 35 years), are in every sense liberal.

Persons opening policies now and before the end of July, will participate in the profits of the year then ending.

The next division will be in 1861.

Prospectus, and forms of proposal, may be had at the Company's offices, 37, Cornhill, London; and of the agents throughout the kingdom.

F. G. SMITH, Secretary to London Board.

37, Cornhill, E.C., July, 1859.

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ADVERTISEMENTS FOR THE ROYAL AGRICULTURAL JOURNAL, intended for insertion in No. XLIII., must be forwarded to the Printer without delay, accompanied with an Order for their Payment and Insertion, as no attention will be paid to them otherwise.

WILLIAM CLOWES & SONS, Printers, Duke Street, Stamford Street, Blackfriars, S.

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GARDENERS' CHRONICLE.—To be Sold, from 1844 to 1856 inclusive, half-bound green calf, for 2*l.* 10*s.*—Apply to Mr. T. LITTLEJOHN, 20, Skidmore Street, Mile End Road, E.

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TO BE SOLD, PAXTON'S MAGAZINE OF BOTANY, coloured plates, 16 vols., royal 8vo, half morocco, for 11*l.*, published at 20*l.*—Apply to H. K. LEWIS, 15, Gower Street North, W.C.

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Just published, in 16mo, price 2*s.* 6*d.* cloth,

A HANDY BOOK FOR YOUNG FARMERS: Comprising Operations for each Month in the Year; Directions for the making, preservation, and application of Manures; for the Economical Feeding of Stock; and for the selection of Implements. By CHARLES LAWRENCE, Member of the Council of the Royal Agricultural Society of England.

London: LONGMAN, GREEN, LONGMAN, & ROBERTS.

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NEW WORK ON THE DOG BY STONEHENGE.

Just published, in square crown 8vo, with about 70 Illustrations engraved on Wood, price 15*s.* half bound,

THE DOG IN HEALTH AND DISEASE: Comprising the various modes of Breaking and using him for Hunting, Coursing, Shooting, &c.; and including the Points or Characteristics of Toy Dogs. By Stonehenge, Author of "The Greyhound," &c.

London: LONGMAN, GREEN, LONGMAN, & ROBERTS.

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STRONG ALE, PALE ALE, PORTER, AND STOUT.

In fcp. 8vo, with Four Diagrams, price 4*s.* 6*d.* cloth,

HOW TO BREW GOOD BEER: A complete Guide to the Art of Brewing Ale, Bitter Ale, Table Ale, Brown Stout, Porter, and Table Beer. To which are added Practical Instructions for making Malt. By JOHN PITT, Butler to Sir William R. P. Geary, Bart.

London: LONGMAN, GREEN, LONGMAN, & ROBERTS.

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GALBRAITH AND HAUGHTON'S

NEW SERIES OF SCIENTIFIC MANUALS.

This day is published, in fcp. 8vo, with numerous Woodcut Illustrations, price 2*s.* sewed,

MANUAL OF PROTOZOA; with a General Introduction on the Principles of Zoology. By J. REAY GREENE, B.A., M.R.I.A., Professor of Natural History in the Queen's College, Cork, &c. Being the first of a New Series of Manuals of the Experimental and Natural Sciences; Edited by the Rev. J. A. GALBRAITH, M.A., and the Rev. S. HAUGHTON, M.A., F.R.S.

London: LONGMAN, GREEN, LONGMAN, & ROBERTS.

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NEW WORK BY THE

REV. PROFESSOR BADEN POWELL, M.A.

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# News of the Week.

THE EMPEROR OF THE FRENCH has given orders that the French army and navy shall be reduced to a peace footing with the least possible delay. This important measure was preceded by the publication of an official note in the *Moniteur*, protesting against the attempt which has been made, it says,

in England to attribute to France the causes of the burdens imposed upon the English people for national defences. The *Moniteur* declares that the English people have been deceived for the purpose of promoting these defences, and that the French armaments have been exaggerated in order to justify the considerable increase of the English budget for the army and navy. It concludes by asking whether it is to France and to her extraordinary armaments that the heavy burdens which weigh on the English people are to be attributed, or whether the enormous expenses and taxes which are the consequences of those burdens must not be attributed to other reasons. In commenting upon this article, the Ministerial organ, the *Patrie*, says that France has done everything "to free England from the nightmare of invasion in order to restore her to calmness and repose;" and if she does not succeed, England can only lay the blame on herself for the fears which agitate her, and which, if prolonged, will become "an affront to the sincerity, feelings, and actions of the French people." A telegraphic despatch from Italy announces that LEOPOLD II., Grand Duke of Tuscany, has abdicated in favour of his son, the Archduke FERDINAND. The young Prince has promised to grant a constitution, but the municipalities of Tuscany have pronounced against the dynasty, and have decided by 809 votes to 15 in favour of annexation to Sardinia. The POPE has issued a circular protesting against any change in the administration of the Papal States, and condemning the conduct of Sardinia as a "flagrant violation of the law of nations and the rights of the Holy See."

In the House of Commons on Thursday Lord JOHN RUSSELL made his promised statement on foreign affairs. After referring with satisfaction to the intended reduction of the French army and navy to a peace footing, he said that a proposition had been made to her MAJESTY'S Government on behalf of the EMPEROR OF THE FRENCH, to the effect that a Congress of the Great Powers should be held to confer on all the questions raised by the actual state of things in Italy, so far as they are connected with "general interests." Her MAJESTY'S Government had not given a precise answer to that communication, because they considered that two things were necessary before they could enter upon the conference—first, that they should first see the Treaty of Zurich; and, secondly, that they should be assured that the Emperor of Austria would be a party to it. The points which would be submitted to the Congress would also be subjects for consideration. The treaty of peace, as far as it was at present understood, was not likely to lead to a settlement of the affairs which had led to the late war; and he could not conceive that a confederation, consisting of the POPE, the EMPEROR OF AUSTRIA, two GRAND DUKES, and the KINGS OF NAPLES and SARDINIA, would be for the benefit of Europe. Her MAJESTY'S Government therefore were of opinion that it would not be wise to come to an absolute decision on the subject of the proposed Congress; but at the same time, if the presence of a British Ambassador at the Congress should assist in averting a century of misery and restore Italy to the family of nations, the whole world would rejoice at the result. On Monday Sir D. L. EVANS moved for the appointment of a Commission, consisting of naval and military officers and civilians, to inquire into our national defences. Mr. SIDNEY HERBERT announced the intention of Government to appoint a Commission, like that suggested, to consider and report on the permanent works necessary for the defence of our arsenals and dockyards. After some discussion Sir D. L. EVANS'S motion was negatived without a division. Sir G. LEWIS obtained leave to bring in a Bill to amend the law relating to Roman Catholic charities. On Tuesday, on the motion for going into committee on Sir J. TRELAWNEY'S Church Rates Abolition Bill, Mr. NEWDEGATE moved as an amendment that a charge of twopence in the pound be levied on all hereditaments in respect of the occupancy of which church-rates have been paid within the last seven years. On a division the amendment was negatived by 191 to 99. The House then went into committee; but no progress was made with the Bill up to the hour of adjournment, and in the evening the House was counted out. On Wednesday the High Sheriffs Expenses Bill was lost on the question of going into committee by a narrow majority of 3, the numbers being 115 to 112. Sir C. NAPIER'S motion for a commission to inquire into the management of Greenwich Hospital was negatived by 142 to 82. Mr. CONINGHAM'S motion for reducing the vote for the National Gallery by the sum of 650*l.*, charged as travelling expenses, was negatived by 171 to 40; and Mr. SPOONER'S motion for reducing the vote by 10,000*l.*, the sum allowed for the purchase of pictures, was negatived by 136 to 64.

In the House of Lords on Tuesday the Public Health Bill and the Sale of Gas Bill were read a third time and passed. On Thursday the Divorce Court Bill passed through committee, and the Diplomatic Pensions Bill was read a second time.

## Home News.

THE COURT.—The Queen, Prince Consort, and the Royal family continue at Osborne. On Friday the Queen, accompanied by Prince Alfred and Prince Leopold, took a cruise in the Fairy. The Prince Consort rode on horseback. The Duchess of Kent took a drive. Admiral Bowles, Commander-in-Chief at Portsmouth, and Major-General the Hon. Sir J. Scarlett arrived on a visit. On Saturday Prince Esterhazy, the Marquis of Ailesbury, and the Right Hon. Sidney Herbert arrived on a visit. On Sunday morning her Majesty, the Prince Consort, Prince Alfred, Princess Alice, Princess Helena, and Princess Louisa attended Divine service at Whippingham Church; the Rev. J. Prothero officiated. On Monday the Prince Consort, accompanied by Prince Alfred and Prince Arthur, embarked in the Royal yacht Victoria and Albert, and visited the breakwater and other works in the harbour of Portland, returning to Osborne in the evening. In the afternoon the Queen drove out, accompanied by Princess Louisa and Prince Leopold. On Tuesday afternoon the Queen and Prince Consort, accompanied by Princess Alice, Princess Helena, Princess Leiningen, and Princess Hohenlohe, embarked in the Fairy and visited the fleet at Spithead. Her Majesty was received with a Royal salute and manned yards from each ship as the Royal yacht steamed slowly past, the Russian frigate Polkan joining in the demonstration. On Wednesday the Queen and Prince Consort, accompanied by Prince Alfred, Princess Helena, and Princess Louisa, drove out and honoured Colonel and Lady Katherine Harcourt with a visit at St. Clare. The Hereditary Grand Duke and Prince Adolphus of Mecklenburg-Strelitz visited the Queen. Yesterday afternoon the Queen held a Privy Council at Osborne.

THE PRINCE OF WALES is still residing at Holyrood Palace, engaged in the diligent prosecution of his studies. His Royal Highness has made an almost daily visit to the University, and Dr. Lyon Playfair and several other professors have had repeated interviews with him. Several of the most eminent teachers in town have been engaged to direct the Prince's studies in particular departments, including Dr. Schmitz in English history, and Dr. Lemmi in Italian. His Royal Highness has visited a considerable number of public places, but the entire absence of display attending his movements has prevented those public demonstrations which would otherwise have attended his progress. On Friday he was present at a review of the Midlothian Yeomanry Cavalry on Portobello Sands. In the afternoon the admiral and chief officers of a Dutch squadron, consisting of five screw steamers of war, which arrived a few days ago in the Frith of Forth, in the course of a training cruise in the North Sea, visited the Prince at Holyrood. On Saturday evening his Royal Highness visited the Queen's Theatre, and though for the most part of the evening he sat within the curtained recess concealed from the great body of the audience, he took a more prominent seat during an interval of the performances, and was welcomed with cordial cheering by the crowded audience. On Sunday he attended Divine service in the High Church, and took his seat in the throne pew set apart for the Lord High Commissioner. On Monday afternoon his Royal Highness visited the recently opened National Gallery; and on Wednesday was present at the annual examination of the Edinburgh Academy.

COURT MOURNING.—Orders have been issued for the Court to go into mourning for three weeks, commencing on Thursday last, the 28th inst., for the late Queen of Portugal.

THE CABINET.—A Cabinet Council was held on Saturday at the official residence of the First Lord of the Treasury in Downing Street. Another Council was held on Wednesday.

THE GRAND DUKE CONSTANTINE is expected to arrive at Spithead on the 4th August in a screw yacht from Cronstadt. The Russian screw frigate Gromoboi, 50 guns, Rear-Admiral Istomin, the screw line-of-battle ship Retvizan, Capt. Baron Taube, and the screw frigate Polkan, 44, have arrived at Spithead to await his arrival. It is also expected that several other Russian men of war will call at Spithead on their way to the Mediterranean from the Baltic.

HIS HIGHNESS MOHAMMED ALI PACHA, accompanied by a numerous suite, has arrived at Hotel.

PARLIAMENTARY MOVEMENTS.—The Dartmouth election committee have reported to the House that the late election for Dartmouth was void by reason of bribery and corruption carried on by the agents of Schenley, and that Mr. Schenley was not duly returned. The Wakefield election committee have reported that Mr. W. H. Leatham was, by his agents, guilty of bribery at the last election for Wakefield; that Mr. W. H. Leatham was not duly elected; that the last election was void; that four cases of bribery were proved, but that it was not proved that such bribery was committed with the consent of Mr. W. H. Leatham; and that there was reason to believe that corrupt practices extensively prevailed at the last election for Wakefield. The Salisbury election committee have reported that the charges of bribery and corruption against Messrs. Sergeant and Barnard have not been proved, but refused to report on the cross petition against Mr. Wentworth has still to be gone into. The Ashburton election committee have reported that Mr. J. H. Astell was duly elected. The Gloucester election committee have reported that Mr. W. Price and Mr. C. J. Monk were not duly elected, that the last election was void; that a large number of persons had been bribed whose names were given, and that corrupt practices extensively prevailed at the last election for Gloucester.

THE NAVY.—Capt. Yelverton, late of the Conqueror, has been appointed Comptroller-General of the Coastguard, in the place of Commodore Eden, appointed Junior Lord of the Admiralty.

THE ARMY IN INDIA.—The authorities at the Horse Guards, having had under consideration for some time past the urgent necessity of allowing a certain number of the soldiers' wives to join their husbands in India, have decided on despatching several thousands of these women to Bengal, Bombay, and Madras. The women selected will be provided with a free passage, and will be sent out from time to time with the Indian reinforcements, the first detachment embarking during the ensuing month. On joining their husbands in India they will be employed in various duties which are now undertaken by the troops, who are thus withdrawn from their usual military duties to the prejudice of the service. In making the selection none but women of industrious habits and good character will be chosen.

## Foreign.

FRANCE.—The *Moniteur* of Thursday contains the following important announcement:—

"The Emperor has decided that the army and navy shall be restored to a peace footing with the least possible delay. Yesterday the Emperor presided at a combined sitting of the Council and the Council of Ministers."

The *Moniteur* of Tuesday published the following official note on the armaments of France and England:—

"An attempt is made in England to attribute to France the cause of the burdens imposed upon the English people for 'national defences.' It is the pretended exaggeration of armaments which is made to serve as a justification for the considerable augmentation of the army and navy estimates of Great Britain. A comparison between our estimates and those of England will show the falsity of this assertion. Since 1853 the English budget has had an increase of 13,480,000*l.* (or 336,000,000f.), and the 200,000,000f. are for the army and navy estimates. The year which is commencing those two budgets will cost more than 650,000,000f., 332,500,000f. for the army and 320,000,000f. for the navy. In France the army budget voted for 1860, only amounts to 339,458,744f., and the navy to 123,503,143f.—altogether a total of about 463 millions, consequently far below the estimates of Great Britain for the same services. For the army budget the amount is even according to the price of commodities. It is chiefly on account of the high price of food that in 1859 the army budget reached 361,917,500f., including the amount originally voted and the supplementary credits provided for. For the navy the estimates amounted to 122,963,883f. In 1858 the Ministry of War expended 376,822,535f., and the Ministry of Marine 137,980,260f. Now, if we refer to 1853, to see how we stood before the preparations for the Crimean war, we find that the army estimates were 322,740,809f., and the navy estimates 89,[illegible]. Finally, if we take a still more retrospective glance at the last years of the last Government, we find that as regards the army we are below the expenses of 1847, which amounted to 373,365,981f. and 128,647,509f. for the navy. Besides, the figures for 1859 and 1860 do not include the expenses of the war in Italy and those of the expedition to Cochin China, for which it is impossible as yet to form a correct estimate. But it is probable that the loan of 500,000,000f. will leave a disposable sum in hand after the settlement of those expenses, and that as soon as the events which gave rise to them shall have been accomplished they will return to their normal figures. We may then be asked whether the enormous burdens imposed upon the English people are to be attributed to France and her extraordinary armaments, or whether those enormous burdens and the taxes consequent thereon, must not be attributed to other causes."

The *Patrie*, the Ministerial organ, makes the following remarks on the note of the *Moniteur*:—

"Such is the situation created by lying reports as to the extension of our armaments, and by imprudencies of which we that we should hardly have expected from experienced men. Is it not high time that it should cease, and that we should at length resume our rights? What alliance, however cemented soever, could resist these continual causes of suspicion and ill-merited distrust? England is now on the look out for the slightest movement on the part of France, interpreting it as a danger for herself. The false alarm which makes her see things two or three fold. On some past occasions there were ridiculous panics before the world might have been laughed at had they not [illegible] deeply-rooted is distrust towards the French, most among the ignorant classes of the population. We know that a goodly number of [illegible] minds in England render us the justice that is due, and deplore this disposition for annoyance. But

enough to deplore it—it must be altered. This is not only a duty, but a patriotic duty, for the continuance of such a state of things cannot fail to affect the frankness of the relations between the two countries. The conduct of England towards France closely resembles that of a man who, having sworn to another eternal friendship, should so distrust his new friend that he watches his every movement during the night, for fear he should have his own throat cut. England has not slept for some time, or, if sleeping, has had the nightmare. We have all done—we are all still doing—everything to restore her to quiet and repose. If we should not succeed, she can only blame herself for the fears that agitate her, and which, further prolonged, might become an outrage on the sincerity of our acts and feelings."

The *Debats* also contains an article on the strong language used by some of the London journals, and also by members of the House of Peers, with respect to the French Government, and states that it is calculated to seriously weaken the good understanding which it is so important to maintain between England and France. It particularly refers to the language employed by the Earl of Derby, and adds that if by any chance a vote of the English Parliament should again place the Tory party in power, the programme of the new Ministry would be found clearly set forth in the hostile sentiments expressed by his lordship. The article then goes on to say:—

"Mistrust, menace, and almost insult towards France are what we find in that manifesto of the Tory party. Mistrust, because the Emperor's Government never ceases both by its words and acts to satisfy Europe as to its intentions; menace, because France scrupulously abstains from any provocation, and has made no armament or military preparations beyond what were required for the war in Italy; and lastly, almost insult, badly dissembled under this strange appeal to superannuated passions. These are bad proceedings with every one, and dangerous as regards France. To the suspicious and hostile neutrality of England and Germany France has only opposed calmness and moderation. The Emperor victorious restores peace to astonished Europe; will Europe, including England, be less moderate and less pacific than the Emperor? Will England, who takes note of a single vessel more or less launched at Brest, and who votes 300,000,000 francs for her navy; will England, who so loudly calls upon the Continent to disarm, will she set the example, and withdraw from her order of the day this programme of menace or of fear, the sad effect of which we have felt it our duty to point out in the point of view of the alliance we should wish to uphold? When a cloud passes overhead pregnant with electricity, why attempt to deliver the thunderbolt? Who knows where it might fall?"

Accounts from Marseilles state that great efforts are making in the arsenal of that port to supply the French line-of-battle ships with rifled cannon. It is stated that the Emperor will make his public entry into Paris on Sunday the 14th August, at the head of a part of the Army of Italy. The troops will halt on the following day, the 15th, for the Fête Napoleon. The Emperor is expected to remain at St. Cloud on the 16th and 17th, when he will proceed with the Empress to St Sauveur, in the Pyrenees. Their Majesties will afterwards go to Plombières. A rumour was current in the beginning of the week that the Emperor would shortly go to London. The Duke of Malakoff has been appointed Grand Chancellor of the Legion of Honour, and the Emperor has granted to the mother of General Auger an annuity of 3000 fr., to be paid out of his Majesty's privy purse.

PORTUGAL.—Letters from Lisbon give the following particulars of the death of the young Queen of Portugal. Her Majesty's illness commenced on Monday the 11th inst. when she accompanied the King to Vendes Novas to inspect the proving of a new rifled cannon. The day was burning hot, and on the sands there was little or no shade. Shortly after returning home her Majesty complained of indisposition, which at first was considered to be the result of a slight sunstroke, but which at last was recognised as diphtheria. The fatal disease ran its course despite the skill of Dr. Gomez and Baron da Silva, who tried every means known to the medical art to save the royal sufferer. On the 16th dangerous symptoms set in, and slight mortification appeared in the throat. At this juncture Dr. Simas, of the Misericordia, who has a high reputation for the treatment of this class of complaints, was called in, but he at once gave up the case as hopeless. Towards evening it became known about the palace, and was reported out of doors, that the Queen could not escape. As a last resource, however, an operation commonly had recourse to in desperate cases was performed on the throat by the eminent surgeon Barbosa; but it was all of no avail, and shortly after 8 p.m. the Queen expired. The confessor of her Majesty, the Rev. Joseph Ilsey, President of the English College, was in attendance, and administered the last rites of the church. The bed was surrounded by the sorrowing King and the royal family, to all of whom the Queen had endeared herself as much as if her relationship with them had been life-long.

BELGIUM.—This country has just lost one of her oldest and most venerated patriots in the person of M. de Potter, who died at Bruges on the 22d inst. He contributed materially by his writings and personal efforts to bring about the revolution of 1830, and as president of the provisional government, he was the first to sign the decree of the 3d October, 1830, which constituted Belgium an independent kingdom. In the following month he resigned his office of President into the hands of the Congress which then assembled for the first time. He immediately retired into private life, and from that time, up to the moment of his death, he continued to remain in comparative obscurity.

PRUSSIA.—The *Prussian Gazette* contains a note from Baron Schleinitz, the Prussian Minister for Foreign Affairs, referring to the assertion made in a circular of Count Rechberg that proposals of mediation less favourable than those offered by France were made by the great neutral powers before the peace of Villafranca, and declaring that the statement is void of foundation as far as it concerns Prussia. Baron Schleinitz asserts most positively, 1, "That on the side of Prussia no conditions of a mediation whatever had been advanced, nor have any such, coming from any other Power, been accepted by her; and, 2, That the project added to the Austrian circular, and since published in the newspapers, was entirely unknown to the Prussian Government." In confirmation of this statement the *Gazette* publishes a despatch bearing date the 24th of June, and addressed to the representatives of Prussia in Germany, explaining the position of Prussia with respect to the great Powers and the Germanic Confederation, mentioning her negotiations with the Court of Vienna, and concluding by saying that "Supported by a display of great military strength, Prussia reckons on being able to propose to the two great Powers the question of peace at a proper moment, endeavouring to maintain to Austria her possessions in Italy." It also publishes two confidential letters dated June 26 and 27, and addressed to the Prussian Ambassadors at London and St. Petersburg, in which the Berlin Cabinet further insists on the necessity of coming to a prompt understanding on a common intervention out of regard to the particular position of Prussia.

AUSTRIA.—The *Austrian Correspondence* publishes an energetic article concerning the circular recently addressed by the Prussian Minister for Foreign Affairs, Baron von Schleinitz, to the Prussian Embassies in Germany, and endeavours to prove by a combination of facts the correctness of the statement contained in the Imperial manifesto. Preparations are making at Schoenbrunn to receive a deputation from the Court of France, to whom the body of the Duke de Reichstadt will be delivered up for removal to France. The iron crown of the old Lombard Kings, which had been removed from Monza to Verona, is to be placed in the collection of Crown jewels of the empire at Vienna.

ITALY.—The representatives of Austria and France will meet at Zurich in the course of next week. Sardinia has named M. des Ambrois as her plenipotentiary at Zurich. Austria however refuses to meet any Sardinian representative, but will leave it open to Sardinia to accede to the Treaty after it shall have been concluded between Austria and France. The Grand Duke of Tuscany has abdicated in favour of his son, who promises a constitution; but the Tuscans object altogether to the dynasty. The municipality of Florence at a meeting on the 20th inst. voted for the annexation of Tuscany to an Italian kingdom under the sceptre of Victor Emmanuel, or in case the annexation, for reasons of high policy, should be impossible, that Tuscany should be governed by a Prince of the House of Savoy. The Tuscan Minister of the Interior has since published an official report, stating that the result of the deliberations on the question of the annexation of Tuscany to Piedmont has been made known from 141 places, including Leghorn and Florence. This result shows 809 affirmative against 15 negative votes, representing the wishes and interests of 1,135,863 inhabitants. The result of the elections of members of a Special Assembly is also favourable to the independence of Tuscany. The King of Sardinia has surrendered the Government of Modena to the members of the Municipality. The populace immediately proclaimed the Municipality by acclamation dictators of the country. A great number of addresses are in course of signature in the Romagna against the return of the clerical Government, and in favour of union with Sardinia. The country has resolved to maintain public order, to repulse any attack of the Swiss troops in the service of the Pope, and to have a regular voting to express the wishes of the country. The Pope has addressed a letter to the Cardinal Vicar of Rome protesting against the proclamation addressed by the Marquis Massimo d'Azeglio to the people of the Romagna, as Commissioner of the King of Sardinia. The Pope says "the envoy of a foreign Power sent to the revolted provinces of the Holy See, forgetful of the authority which God has established on earth, and of Catholic truth, has dared to proclaim that God has made man free in his opinions, whether political or religious." The Papal Government has also issued the following circular to its representatives at foreign Courts:—

"Palace of the Vatican, July 12.

"Amid all the apprehensions and anxieties occasioned by the present deplorable war, the Holy See had reason to think that it would be unmolested, after the many assurances it had received—assurances with which even the King of Piedmont had associated himself, for or the advice of the Emperor of the French, his ally, he refused the dictatorship which was offered him in the revolted provinces of the Pontifical States. But it is painful to state things have turned out very differently, and facts occur every day under the eyes of the Holy See and its Government, which show more and more how inexcusable is the conduct of the Sardinian Cabinet towards the Holy See—conduct which clearly proves that it is intended to strip the Holy See of a part of its temporal dominions. Since the revolt of Bologna, which his Holiness in his allocution of June 30 has already taken occasion to deplore, that city has become the rendezvous of a multitude of Piedmontese officers, coming from Tuscany and Modena for the purpose of preparing quarters for the Piedmontese troops. From these foreign States thousands of muskets have been brought, wherewith to arm insurgents and volunteers; cannons, also, have been imported to aggravate the troubles in the revolted provinces, and to encourage the audacity of the disturbers of order. Another fact, which renders the refusal of the dictatorship completely illusory, and adds to a flagrant violation of neutrality and active co-operation in the manifest violance of the States of the Church, is the nomination of the Marquis d'Azeglio as an extraordinary Commissioner in Romagna to direct the movement of the Legations during the war; this step, under the specious pretext of preventing the national movement from leading to any disorder, is a manifest usurpation of power which affects the rights of the territorial sovereign of these States. Events have moved on so rapidly that the Piedmontese troops have already entered the Papal States occupying Terra Urbano and Castelfranco, as well as Pieve, Citta Bersaglieri and a part of Nerola. The Papal Legate of the Romagna, on receiving an energetic resistance to the Papal troops, have been sent to restore legitimate power in the rebellious provinces. Finally, and to complete the usurpation of the legitimate sovereignty of the Pope, two officers of engineers, one of whom is a Piedmontese, have been sent to Ferrara to raise and destroy that fortress. Such shameful proceedings, in the perpetration of which a flagrant violation of the law of nations is manifested in every part, can neither but fill the soul of the Holy Father with bitterness and sorrow in this a lively and just indignation, which is rendered more poignant still by the surprise with which he sees such enormities proceed from the Government of a Catholic King who had accepted the services of his august ally to retard the catastrophe offered to him. All the measures taken with the view of preventing or exterminating the series of evils having been from the Holy Father, and forgetful of the notes immediately sent him for the protection of the States and for the preservation of its integrity, of the temporal dominion of the Holy See, is essentially connected with the true and long-pondered cause of the Supreme Pontiff's protests against the usurpations committed in spite of the exceptions of necessity, and desires that his protest may be communicated to the European Powers. Confident in the justice which distinguished these Powers, he feels assured that they will support him; they will not permit the success of a manifest violation of the law of nations and the rights of the Holy Father. He trusts that they will not hesitate to employ in favour of these rights and of that cause, for the interests and protection [illegible] Powers, such means as are [illegible] Finally to Prince Carini, sends the present note to your Excellency, hoping you will transmit it to the Court to which you are accredited, and takes this opportunity, &c.,

"G. CARDINAL ANTONELLI."

THE ADRIATIC.—The harbour of Lussin has been evacuated and the French fleet has set sail.

HUNGARY.—A letter from Florence states that MM. Kossuth, Klapka, and Teleki, who had constituted themselves in that city as a Hungarian committee, have separated, renouncing all projects of political action. M. Kossuth has retired into Switzerland.

MALTA.—Admiral Fanshawe left Malta on the 18th inst. for Naples with five ships of the line and one frigate. Vice-Admiral Mundy has left with three ships and one frigate for Alexandria.

TURKEY.—Advices from Constantinople to the 13th inst. state that the Sultan has given up his projected journey to Egypt, and will merely go to the Dardanelles. Private letters state that Bulgarian women have been carried off by the Turks, and that Bulgarian families are in consternation. The settlement of the question respecting the double election of Prince Couza has been deferred until the arrival of M. de Thouvenel.

SERVIA.—A conspiracy against Prince Milosch and his son Michael has been discovered at Belgrade. The former was to have been assassinated on the 11th inst., at Topschider, and the latter at Schabaz. The conspirators are ex-Ministers and senators, six of whom with Wucsitsch, the former leader of the Liberal party, have been arrested and thrown into prison. The English and Austrian Consuls have protested against this act of tyranny.

RUSSIA AND CHINA.—The *Gazette* of St. Petersburg publishes a treaty concluded between Russia and China, and ratified by the two Emperors. The treaty contains 12 articles, and is signed at Tien-tsin. China grants to Russia leave to send ambassadors to Pekin, promises protection to Christian missionaries, and authorises a monthly mail service between Kiachta and Pekin.

CASHMERE.—It is stated on the authority of a private letter from India, that the Maharajah of Cashmere is forwarding, as a present to her Majesty, a costly shawl tent, containing a bedstead of solid gold. The value of the offering is said to exceed 150,000*l*.

UNITED STATES.—Blondin, the acrobat, has again walked across the Niagara River on his tight rope, wheeling a barrow before him, having first passed over backwards. He was about to make another passage, carrying a man on his back. It is stated, apparently on good grounds, that Mr. Sickles and his wife have resumed matrimonial relations.

VENEZUELA.—A fearful negro insurrection took place at Puerto Cabello on the 15th of June, when a regular war of race and colour commenced. The outrages began at Guaiguasa, where Judge Miguel Maro was assassinated by the negroes. At Puerto Cabello fortunately the negroes were routed after severe street fighting, and retired to the country. All trade was at a standstill and communication with the interior was cut off, but the Government hoped soon to put an end to the insurrection.

# Parliament.

## HOUSE OF LORDS.

FRIDAY.—The *Court of Probate Bill* was read a second time.—The Duke of NEWCASTLE, in moving the second reading of the *Speaker of the Legislative Council (Canada) Bill*, said that the object of the Bill was to permit the Council to elect its own Speaker, instead of that functionary being appointed, as he now is, by the Crown. After a short conversation, the Bill was read a second time.—In reply to the Marquis of CLANRICARDE, the Duke of SOMERSET said that tenders had been sent to the Treasury for conveying the *Mails to America* by way of Panama, and were under consideration, but no contract had been entered into. The *Public Health Bill* passed through committee.

MONDAY.—*National Defences*.—Lord LYNDHURST repelled the charges which had been made against him by Mr. Bright, backed by a noble Lord, in reference to the remarks he had made on the national defences. As to the charge of age, and of being an old peer, he pleaded guilty, and at the same time he duly acknowledged the power of the sarcasm, so pointed, so keen, so bitter, and so applicable to the taste and habits of the hon. member who had made so extraordinary a discovery. As to the charge of making remarks calculated to wound the susceptibility of a neighbouring nation, nothing was further from his intention which was only to arouse this country to the necessity of putting its defences in an efficient state. It might be the policy of some private individuals, when one cheek was smitten, to turn the other cheek to the smiter, but

such was not his feeling, nor ought it to be that of a great nation. He concluded by asking whether the Government were aware that the French fleet was arming with rifled cannon, and if it were true that only 100 rifled cannons could be supplied this year, and 200 the next, to her Majesty's fleet?—The Duke of SOMERSET said that he had heard that the French fleet was about to be provided with rifled cannon, and admitted that the rifled cannon for the armament of our fleet would not be ready for some time. He did not think it expedient at the present time to enter into a discussion of what was doing in our arsenals and dockyards.—Lord BROUGHAM, in calling the attention of the House to the state of *National Education*, gave a sketch of the progress made during the last 40 years. He showed the vast increase in the number of day and Sunday schools and of the numbers who attended them since 1818, and described a plan of secular education which he had formerly advocated. The difficulties of the question were much increased by religious differences; but he would prefer education even under the Pope of Rome to no education at all. He referred in high terms of praise to the efforts made to promote education by training skilled masters and pupil teachers, and urged the necessity of providing well-educated school mistresses, as the well-being of so large a class of the female population depended upon them. He concluded by proposing that the Committee of Privy Council should inspect the middle-class schools throughout the country.—The Bishop of LINCOLN thought the plan of inspecting middle-class schools would be productive of much advantage.—Lord GRANVILLE was very unwilling, considering the enormous amount of work already imposed on the Committee of the Privy Council, to place upon them the additional labour of inspecting middle-class schools. Several Bills were advanced a stage.

TUESDAY.—The *Sale of Gas Bill*, after a short discussion, was read a third time and passed. The *Chief Superintendent (China) Bill* passed through committee. The *Speaker of the Legislative Council (Canada) Bill*, the *North-Western Territories (British America) Bill*, and the *Public Health Bill* were read a third time and passed.—The Bishop of LONDON, in presenting petitions from different parts of the country, and one in particular from the London Diocesan Church Building Society, upon the *Spiritual Destitution of the Metropolis* and of the large manufacturing towns, called attention to the importance of appointing a separate department in the Ecclesiastical Commission for church building purposes. He complained of the inadequacy of the accommodation provided by the Commission in places where large funds were placed in their hands, and suggested that unnecessary difficulties were thrown in the way of obtaining sites for churches by the law of mortmain. A select committee of their Lordships' House had recommended that the Ecclesiastical Commission should be obliged to attend first to the local claims of those places in which they had property, if actual spiritual destitution existed there, and as this course had not been adopted the recommendation of the committee had proved fruitless.—The Earl of CHICHESTER made some remarks on the difficulty of conveying sites for the erection of churches, and defended the Ecclesiastical Commissioners.—Lord EBURY spoke in favour of giving the first attention to local claims.—The Bishop of OXFORD also hoped that any Bill which was passed would provide for the extension of local claims, and urged the Government to bring in a Bill this session on the subject.—After a few words from Lord REDESDALE, Lord GRANVILLE said that the Government could not pledge themselves to introduce a Bill on the subject at the present late period of the session.

THURSDAY.—*Divorce Court Bill.*—On the motion of the LORD CHANCELLOR the House went into committee on this Bill, when, after a short debate, it was decided that a clause should be added extending the operation of the Bill to Ireland, and to all persons domiciled in India, or in any of the colonies or dependencies of the Crown. A discussion took place upon the clause empowering the Court to sit with closed doors in cases of indecency, which ended in a division, the numbers being 26 in favour of the clause, and 9 against it. The clause was therefore carried. After a few remarks from the law lords, the clause giving the Court power to invoke the assistance of the Attorney-General in cases where there was reason to suspect collusion was adopted, and the Bill passed through committee. The *Diplomatic Pensions Bill*, the *Consolidated Fund* (7,000,000*l.*) *Bill*, the *Cambridge University Bill*, and the *Criminal Justices, Middlesex (Assistant Judge), Bill* were read a second time. The *Chief Superintendent (China) Bill* was read a third time and passed.

FRIDAY.—*Church Rates.*—In answer to the Marquis of SALISBURY, the Duke of NEWCASTLE said that he could not say positively whether the Government intended to proceed with the Church Rates Bill this session, but so far as his own opinion went, he thought it was not advisable to do so. *Revision of the Liturgy.*—Lord EBURY presented a petition from certain clergy of the Established Church, praying the House to address the Queen for a royal commission to revise the liturgy. [Left sitting.]

## HOUSE OF COMMONS.

FRIDAY.—*The Treaty of Villafranca.*—In answer to Mr. GRIFFITH, Lord J. RUSSELL said he had understood from the Emperor of the French that there is no provision or understanding in the Treaty of Villafranca that the late dynasties of Tuscany, Modena, and Parma are to be restored if necessary by military force.—Lord HOTHAM asked for information respecting a paragraph in the report of the Trustees of the *National Portrait Gallery*, accepting the great picture of the House of Commons at the opening of the first Reformed Parliament in January, 1833, as painted by Sir George Hayter.—Mr. LAING said that the only explanation he could give was, that the vote was found in the estimates left to the present Government by their predecessors.—Mr. DISRAELI said the late Government had been recommended to purchase the picture. The sum of 500*l.* was asked for it, but he had directed that the opinion of competent persons should be taken, and the result was that it was purchased for 200*l.*—Lord ELCHO said he was one of the persons consulted, and that thinking the Reform Bill a great landmark in the history of the country, he had recommended the picture to be purchased.—Mr. MELLOR called the attention of the House to the recent appointment of *Justices of the peace for Great Yarmouth*; and inquired if Ministers intended to introduce any measure for regulating the appointment of justices of the peace for boroughs in England and Wales.—Sir H. STRACEY having defended the late appointments at Yarmouth, Sir G. Grey said it was not the intention of the Government to introduce any measure on the subject. *Harbours of Refuge.*—In answer to Mr. PEASE, Lord PALMERSTON said that he admitted the great importance of harbours of refuge, but as the estimated expense would amount to no less than 4,000,000*l.* the Government did not intend to bring in any Bill on the subject in the present session. *National Gallery.*—Mr. CONINGHAM moved a resolution that the system of management which now exists at the National Gallery is highly unsatisfactory, and detrimental to the public service. He denounced the management of the National Gallery, and declared that under the auspices of Sir C. Eastlake the public money had been squandered in the purchase of worthless pictures, while good works of art were rejected. The motion not being seconded fell to the ground.—Mr. HENNESSEY called attention to the failure of *Mixed Education in Ireland*, giving details of facts from which he deduced the conclusion that the failure was as apparent in the colleges as in the national schools, contending that the system of education in the national schools tended to denationalise the children.—Mr. WHITESIDE pointed out the causes which had disappointed the intentions of those who had designed the national system of education in Ireland, and which, he believed, would continue to frustrate the object, the system of the National Board not being acceptable to the people. A united system of education could never be had, but we might have a national system acceptable to all classes.—After some remarks from Mr. BUXTON and Mr. LONGFIELD, Mr. ADDERLEY advocated the propriety of establishing a uniform system of education throughout the United Kingdom.—Mr. MONSELL remarked upon the extraordinary fact that the Queen's colleges in Ireland had cost 252,000*l.*, and that only 252 students had graduated in them. Each graduate had consequently cost the country 1000*l.*—Mr. LEFROY and Lord NAAS spoke in favour of enlarging the sphere of the national system.—Mr. CARDWELL denied that the Queen's colleges had failed to answer the object contemplated, as the number of students was on the increase, and the reports of the visitors were of a most hopeful character. He also argued that the national system of education had been eminently successful, but declined to give any opinion upon the vexed question of mixed education until he had returned to Ireland, and personally inquired into the subject. The House then went into Committee of Supply on the *Civil Service Estimates* and civil contingencies, and, after a long discussion on the existing educational system, which lasted until past midnight, the principal *Education Vote* (586,920*l.*) was agreed to. The Report of the Committee of *Ways and Means* was brought up and agreed to, and a Bill was ordered to be brought in founded upon the resolutions. The *Boundaries (Ireland) Bill* was read a second time. The *Westminster New Bridge Bill* passed through committee. The *Poor Law Boards (Payment of Debts) Bill* was referred to a select committee.

MONDAY.—*Discipline of the Navy.*—At the morning sitting Mr. LIDDELL put a question relative to certain disturbances said to have taken place on board her Majesty's ships Liffey, Cæsar, and Hero.—Lord C. PAGET replied that the accounts had been much exaggerated. The refusal of leave of absence was said to have been the cause of the disturbance. He then entered at some length into the subject of corporal punishment, which could not altogether be put down, but which he hoped would die a natural death.—Lord LOVAINE hoped that corporal punishment would not be abolished without a distinct declaration.—Lord C. PAGET said that he did not mean that corporal punishment would be abolished.—Sir J. TRELAWNEY said that much of the heart-burning in the army arose from this cause.—Sir C. NAPIER said that the punishment could not be dispensed with altogether, but it ought not to be inflicted at the arbitrary will of the captain. The House then went into committee of supply on the *Miscellaneous Estimates*. A lengthened discussion on the subject of *Irish Education* was raised by Mr. MAGUIRE, who contended that the pay to the teachers was too small, and that the national schools were altered from the original constitution, and operated unfairly towards the Roman Catholics.—Mr. LABOUCHERE and Mr. CARDWELL defended the present system. At the evening sitting Mr. ADDERLEY called attention to the *Military Defences of the Colonies*, and to the sources from whence those defences were supplied. The mother-country at present supplied not only the men, but the money for this purpose. Only one-tenth of the cost at present fell upon the colonies. The taxes paid by Great Britain were 50 times greater than those of the colonies in proportion to the population. Some alterations were imperatively called for, that the colonies might learn to defend themselves without always depending on us. There was a further reason for change. The colonial troops were well adapted for service in their own country, while the European troops were uselessly sacrificed owing to the effects of the climate. He did not believe that any risk would be incurred of a declaration of independence by the colonies if they were left to their own defence.—Lord C. CHURCHILL thought that some regulated scale should be adopted under which a certain amount should be furnished to the colonies.—Sir DE LACY EVANS moved a resolution to the effect that, taking into consideration the relations existing between some of the great military Powers of the Continent, it is advisable that a commission be appointed, consisting of civilians and military and naval officers, to inquire into and collect information concerning the present condition of our national defences; to ascertain what improvements may be made therein in order to insure the utmost efficiency combined with economy; and to report thereon to her Majesty's Government.—Mr. D. SEYMOUR called attention to the undefended state of the coast between Weymouth and Southampton.—Mr. S. HERBERT, in reply to Mr. Adderley, admitted that nothing could be more irregular than the manner in which troops for defence were now furnished to the colonies. A distinction ought to be preserved between the troops furnished to the colonies for purposes of defence and those furnished for purposes of police. He stated to the House the figures of the several amounts paid by England to various dependencies, comparing them with the sums contributed by those dependencies themselves. Instructions had been sent out to the colonial authorities for the purpose of obtaining the fullest information with a view to future arrangements; but he was not sanguine of an early settlement of the question, or that any uniform scale would be adopted. With regard to the defence of the country, the attention of the Government had been carefully given to the subject. It was impossible to fortify every point. Their first consideration necessarily was the fortification of our great ports and national arsenals, and for the satisfaction and confidence of the public it was the intention of Government to appoint a commission with the view of maturing such plans as should put our arsenals in a state respecting which no one could feel alarm.—Mr Justice HALIBURTON said that the colonies had already defended themselves, and would do so again. At the same time there was a reciprocal obligation between them and the mother country, of loyalty on the one side and defence on the other. The Canadian militia at the time of the rebellion drove out the Yankees and the French rebels. But it was the very knowledge that England was ready to protect them in case of need which enabled them to do this. If England withdrew her fleets he demanded on behalf of the colonies that they should receive their independence. With regard to the colonial militia, so far as England was concerned it was not managed, it was mismanaged. The colonies had shown during the Crimean war the utmost loyalty, and deserved due consideration in return.—Mr. HORSMAN was glad to hear that a commission was to be appointed to inquire into the state of our national defences. He hoped, however, that as little as possible of the official element would be introduced into it.—Mr. C. FORTESCUE declared that every effort would be made to adjust the balance of expenditure between the colonies and the mother country, which in some respects pressed too heavily upon the latter.—After some remarks from Lord ELCHO and Lord H. VANE, Lord PALMERSTON appealed to Sir D. L. Evans to be satisfied with the course proposed by the Secretary-at-War. As regarded the colonies, it was impossible to lay down any arbitrary rule in reference to the number of troops to be sent out. This must depend upon the circumstances of the time, and upon our relations with foreign States.—Mr. AYRTON urged the formation of a military reserve as of the utmost importance to our national defences.—Sir C. NAPIER moved an address praying for a commission of inquiry into the state of Greenwich Hospital. The motion fell to the ground, there being already that of Sir D. L. Evans before the House. The latter motion was negatived without a division, after which the House went into *Committee of Supply*. The debate on the vote on *Irish Education* was resumed, and the vote agreed to. Other Irish votes on the civil service were taken. A motion for the reduction of the vote for the *College of Belfast* was negatived by 115 to 35.—Mr. WALPOLE moved the vote for the *British Museum*, and stated that the amount was rather less than that of last year. He entered into some [illegible] as to the additions made to the Museum, and the number of visitors. A discussion followed, in which it was urged that the collection should be redistributed; that the Museum should be opened to a late hour on Saturdays; that the assistant officers should be better paid; and that better accommodation should be provided for the contents of the Museum.—Mr. WALPOLE, in reply, said that no committee of that House could deal satisfactorily with all these subjects. It would probably be necessary to enlarge the Museum as far as the adjoining street, but all these matters must be done by the executive.—The CHANCELLOR of the EXCHEQUER said that proper accommodation for the collections could only be provided by their separation, and it would be the duty of the Government in due time to bring that question before the country. In the present state of the public finances he must abstain from all present movement. The vote was then agreed to.—The CHAIRMAN then reported progress, and the House resumed. The *Vexatious Indictment Bill* was read a second time.—After some discussion, Mr. S. HERBERT obtained leave to bring in a Bill for the amendment and consolidation of the laws relating to *Military Savings Banks*.—Sir G. C. LEWIS obtained leave to bring in a Bill to amend the laws relating to *Roman Catholic Charities*.

TUESDAY.—At the morning sitting, after a considerable time had been occupied with private business, Sir J. TRELAWNEY moved that the House resolve itself into a committee upon the *Church Rates Abolition Bill*.—Mr. NEWDEGATE moved, as an amendment, that the House resolve itself into committee to consider the propriety of establishing, in lieu of church rates thenceforth to be abolished, a charge on all hereditaments in respect of the occupancy of which church-rates have been paid within the last seven years, to be levied with the county rate at an uniform rate of poundage, the occupier being in all cases entitled to deduct from his rent the amount of the charge levied upon his occupation, to be paid to the Governors of Queen Anne's Bounty, who shall be empowered to administer the same for the purposes of church-rates. He did not propose, he said, to alter one word of the Bill; he accepted the decision of the House that church-rates shall be abolished, and he proposed this charge, at the rate of 2*d.* in the pound, as a substitute that would satisfy conscientious scruples, and obviate the objections made to church-rates. Where church-rates had been abolished the abolition should be sanctioned: this limit should not be exceeded, and the whole burden cast upon the voluntary system, which was already deficient to a considerable extent.—Mr. DODSON opposed the resolution on the ground that it would substitute a fixed burden for a rate voluntarily made.—Lord HENLEY considered the remedy suggested to be worse than the disease.—Sir J. TRELAWNY urged various objections to the amendment.—Sir M. FARQUHAR said that though opposed to the abolition of church-rates without a substitute, he could not support the amendment. On a division the amendment was negatived by 191 to 99, and the House went into committee upon the Bill, but little progress was made in the clauses when the Chairman left the chair. The *Universities (Scotland) Bill* was read a third time and passed. In the evening the House was counted out at 10 minutes past 6.

WEDNESDAY.—The *Salmon Fishery Bill* was withdrawn for the present session. The House then went into committee upon the *Railway Companies Arbitration Bill* and the *Improvement for Small Debts Bill*, the clauses of which were agreed to without alteration after much discussion. On the order for going into committee upon the *High Sheriffs' Expenses Bill*, Mr. WISE suggested various objections to the Bill, and moved that the Bill be committed that day three months.—After a desultory discussion in which Sir J. SHELLEY, Mr. DENISON, Mr. HENLEY, Mr. PARKER, Sir G. LEWIS, Lord HOTHAM and other members took part, the House divided, when the amendment was carried by 115 to 112; so the Bill was lost. The House then went into Committee upon the *Municipal Corporations Bill*, the clauses of which were agreed to. The second reading of the *London Corporation Bill* was postponed to Monday. On the order for going into Committee of Supply Sir C. NAPIER renewed his motion for an address to her Majesty to appoint a Commission to inquire into the management of *Greenwich Hospital*.—Mr. WHITBREAD opposed the motion. If during the autumn, after the Government had had an opportunity of thoroughly investigating it, they found themselves unable to deal with the subject, then would be the time to move for a Royal Commission. After a short discussion, the House divided, when Sir C. Napier's motion was negatived by 142 to 82. The House then went into a Committee of Supply upon the remaining *Civil Service Estimates* and *Civil Contingencies*, one item of which, the vote of 15,985*l.* for the *National Gallery*, provoked a long and animated discussion, embracing the whole management of the Gallery and the merits of Sir C. Eastlake and of the pictures purchased for the Gallery.—Mr. CONINGHAM moved to reduce the vote of 650*l.*, charged as travelling expenses. On a division the motion was negatived by 171 to 40.—Mr. SPOONER then moved to reduce the vote by 10,000*l.* for purchasing pictures. On a division the motion was negatived by 136 to 64. The *Local Government Act Tax Bill* was read a second time. The *Local Government Supplemental Bill* passed through committee. The *Military Savings Banks Bill* was read a second time.—Mr. MONSELL brought up the report upon the *Wakefield election petition*, declaring that Mr. W. H. Leatham was not duly elected, and that the election for the borough was a void election.—Mr. LEFROY brought up the report from the committee on the *Dartmouth election petition*, declaring that Mr. Schenley was not duly elected.

THURSDAY.—At the morning sitting, the House went into a Committee of Supply upon the remaining *Civil Service Estimates* and *Civil Contingencies*, which were under discussion during the sitting.—Mr. S. HERBERT stated in answer to a question by Sir H. VERNEY respecting *Rifled Cannon*, that instructions had been sent to the Government establishments to have the smooth cannon rifled, and that in a short time 15 or 20 guns per week would be subjected to that process.—*Foreign Affairs.*—Lord J. RUSSELL made his promised statement respecting the present condition of foreign affairs. He could have wished, he said, to postpone this statement until some definite settlement had been arrived at, but in the present position of affairs he did not think it right to withhold it from Parliament. He was glad to be able to announce that the Emperor of the French was about to withdraw his forces by sea and land upon a peace footing. After referring to the sudden and unexpected termination of hostilities between Italy, and to the motives avowed by the Sovereigns of France and Austria for the Treaty of Villafranca, he observed that although the reasons assigned by both had a certain weight, he believed that there was a reason not assigned in any public paper which had considerable weight with the two Emperors, namely, the numbers that had fallen upon the field of battle, and it was no disparagement to either to suppose that they were influenced by such a terrible spectacle. The Treaty of Villafranca consisted of two parts. By one part peace was made between the Emperor of the French and the Emperor of Austria, and by the other Lombardy was ceded to the former, to be delivered over to the King of Sardinia. With regard to this matter, it was a question who had taken no part in the war, or the other Powers of Europe to interfere. But the other part of the treaty was of a different nature. It proposed an organisation for the Confederation of Italy. Now it had been proposed by France that Great Britain should enter into a Congress at Zurich to settle upon general questions, not the details of the treaty. But Her Majesty's Government, he said, had not thought it necessary to give any precise answer to the proposition of the French Government; but they had signified to our Ambassador at Paris that, if there was to be any Conference or Congress

two things were requisite—first, that the Treaty of Zurich should be seen; secondly, that the Emperor of Austria must be a party to any discussion on the state of Italy. The first question raised would relate to a Confederation. Though he thought that such a Confederation would be wise, he doubted whether the time had yet come when it was practicable, and whether a Confederation with the Pope as chief, and the Emperor of Austria as one of its members, would be desirable. How could such a Confederation lay down rules of conduct, or be expected to assent to religious toleration and liberty of conscience? Therefore, although an Italian Confederation might in time be practicable, the Peace of Villafranca hardly fulfilled the conditions required for forming such a federal union. There arose another question, as to the mode in which the treaty was to be carried into effect, and it would be necessary to have a complete understanding upon that point before her Majesty's Government should send any representative to a Congress or Conference. According to the treaty, the Sovereigns of Tuscany and Modena were to return to their States. But the Grand Duke of Tuscany was in the position of a sovereign who had violated, by abdication, the fundamental law of his State. Although he had no official assurance upon the subject, he was convinced that the Emperor of the French had no intention to employ French troops for the restoration of the Grand Duke, and he believed that the Emperor of Austria had as little intention to lend his troops for such a purpose. This threw at once a great difficulty in the way of carrying the treaty into effect, and it was necessary, before going into conference, that there should be a clear understanding upon this subject. Another question was, perhaps, the most difficult of all—namely, the temporal government of the Pope. Bologna had been kept in obedience for 10 years by an Austrian garrison, and as soon as the Austrian troops left the Cardinal Legate immediately followed them. The Emperor of the French and the Emperor of Austria had recommended to the Pope indispensable reforms; but the Pope declined to adopt the policy they advised. These were some of the difficulties attending this question. As to the King of Naples, he was happy to say that he had made a beginning in putting a stop to the tyrannical system which prevailed under the late King; and, he believed, from the decided views of his Minister, the Duke of Satriano, that it would cease altogether. As far as he could learn, the Emperor of the French was most anxious that Italy should enjoy the privilege of self-government, and he was convinced that an independent State in Italy would be for the welfare of Europe, and afford a security for future peace. He was confident that it would not be wise for her Majesty's Ministers, still less for the House, to come to a peremptory decision upon the subject of entering into a Conference, and that it did not become us to say suddenly that we would withdraw from the assembly of the different Powers of Europe if it afforded a chance of confirming peace and maintaining the independence of States.—Mr. DISRAELI expressed his hope that Ministers would not send an Ambassador to the Conference, and asked if it was true that England had proposed to Austria terms which were less favourable than those which she could herself obtain from France.—Lord PALMERSTON said that England had not made propositions to Austria of any kind whatever; all that her Majesty's Government had done was to be the agent in communicating to the Austrian Ambassador at this Court a memorandum given to Lord John Russell by the French Ambassador; but upon which the noble lord said he would give no advice and express no opinion. If England entered the Conference, she would not do so with any embarrassing engagements, but nothing had as yet been determined with reference to the subject.—Mr. BOWYER and Mr. MAGUIRE defended the government of the Pope; Mr. WHITESIDE reviewed the foreign policy of Lord Palmerston in 1848; Mr. DRUMMOND defended the conduct of Sardinia; and the CHANCELLOR of the EXCHEQUER replied to Mr. Whiteside. After some further discussion the subject dropped. The *Highways Bill* was withdrawn, and several Bills were advanced a stage.

FRIDAY.—*Income Tax*.—The House at the morning sitting went into committee of Ways and Means, when Mr PHOTT said that as the Income Tax was not to be permanent, he should not propose the amendment of which he had given notice, for reducing the assessment on trades and professions from fourpence to twopence in the pound.—Sir W WILLOUGHBY's amendment for reducing the assessment on long annuities was negatived by 72 to 57. The clauses of the Bill were then agreed to. The resolution reducing the limit for the payment of malt duties was also agreed to. On the motion of the CHANCELLOR of the EXCHEQUER, a clause was added to the bill remitting the Income Tax on deferred annuities purchased from the Government. The House then went into *Committee of Supply*.

[Left sitting.]

## City Intelligence.

MONEY MARKET, FRIDAY.—BRITISH FUNDS: In consequence of the announcement in the *Moniteur* that the French army and navy are to be reduced to a peace footing with the least possible delay, the English funds opened on Thursday at a rise of a half per cent., but it was only partially maintained. Consols closed at 94⅝ to 95 for Money and Account; Bank Stock, 221 to 223; Reduced and New Three per Cents., 95 to 95⅛; Five per Cents., 111; Indian Four per Cent. Debentures, 1858, 94½; ditto 1859, 93⅛; Scrip of last Indian Loan, 94⅛; India Bonds, 3*s*. dis.; Exchequer Bills, 28*s*. to 31*s*. prem.—FOREIGN: Brazilian Four and a Half per Cents., 1858, 94⅝; Mexican Three per Cents., 18⅛ to 18⅜; Portuguese Three per Cents., 1853, 44⅝ to 44½; Spanish Three per Cents., 44; Turkish Six per Cents., 1854, 81½ to 80⅞; Ditto for Acct., 81½ to 81; Ditto for 1858, 70⅜ to 70⅝; Ditto for Acct., 71½ to 71⅛; Ditto Guaranteed Four per Cents., 104½; Venezuela New One per Cents., 14⅞.

## Bank of England.

ISSUE DEPARTMENT.

| | | | |
|---|---|---|---|
| Notes Issued | £31,313,695 | Government Debt | £11,015,100 |
| | | Other Securities | 3,459,900 |
| | | Gold Coin and Bullion | 16,838,695 |
| | | Silver Bullion | |
| | £31,313,695 | | £31,313,695 |

BANKING DEPARTMENT

| | | | |
|---|---|---|---|
| Proprietors' Capital | £14,553,000 | Government Securities (including Dead Weight Annuity) | £11,015,100 |
| Rest | 3,320,208 | Other Securities | 17,350,396 |
| Public Deposits (including Exchequer, Savings Banks, Commissioners of Nat. Debt, and Dividend Accts.) | 5,018,456 | Notes | 9,472,680 |
| Other Deposits | 14,387,777 | Gold and Silver Coin | 623,905 |
| Seven day and other bills | 818,220 | | |
| | £38,617,661 | | £38,617,661 |

28th day of July, 1859. M. MARSHALL, Chief Cashier.

## Gazette of the Week.

TUESDAY.—BANKRUPTS—H. BEARLEY, Kingston-upon-Hull, Draper and Tailor, Manufacturer—J. BURRELL, Worcester, Draper—J. LEES, Hackney Road, Boot and Shoe Manufacturer—W. FOOT, Victoria Terrace, New Cross, Deptford, Builder—B. W. GLADWELL, Poultry, City, Manufacturer, Importer of and Wholesale Dealer in Stereoscopes, Stereoscopic Slides, and Photographs—R. HARMAN, Lichfield, Yorkshire, Corn Dealer and Coal Merchant—R. HAYWOOD, High Street, Homerton, Grocer and Cheesemonger—J. HILLS and D. W. JENKINS, Tipton, Staffordshire, Coal Merchants—J. [illegible], Twickenham, Middlesex, Surgeon and Apothecary—F. MOSS, Mansfield, Nottinghamshire, Millsner—G. PARSLOW, Old Street, St. Luke's, Timber Merchant—V. SAMSON, Brick Lane, Spitalfields, Baker's Terrace, East India Road, L[illegible]house, and Norwich, Wholesale Boot and Shoe Manufacturer—R. SMITH, Sw[illegible], Northampton, Iron and Brass Founder, Engineer, and Ag[illegible] Implement Maker—J. J. H. TAYLOR, Almondbury, Yorkshire, Manufacturer.

SCOTCH SEQUESTRATIONS—J. and J. MILLAR, Dundee, Hat Manufacturers—J. SPEED, Patrick, Builder—C. K. STEVENWRIGHT, Edinburgh.

FRIDAY—BANKRUPTS—C. J. GOODWIN, Hulme, Manchester, Tavern Keeper—J. HARRIS, Highweek, Devonshire, Coal Merchant—H. HOPPS and G. TILLEY, Saint George's Wharf, Cambridge Street, Old Saint Pancras Road, Bricklayers—W. LANCASTER, Bury, Lancashire, Coal Merchant—J. M[illegible], West Ferry Road, Poplar, Ostler—P. O'REILLY, Longford, Merchant—J. M. PEARSON, Cawthorne, Yorkshire, Builder—W. [illegible], Lansdown Arms, Islington, Licensed Victualler—J. PARTEN, Commercial Road East, Middlesex, Draper—J. WARD, jun., Pimlico, Glass Dealer—J. WOOLCOTT, Oxford Street, Dealer in Cigars—W. L. WOOD, Puckeridge, Hertfordshire, Grocer.

BANKRUPTCY ANNULLED—M. TODD and W. W. TODD, Newry, Ireland, Merchants.

SCOTCH SEQUESTRATIONS—J. HARVEY, Edinburgh, General Agent H. OLLENDORFF, Great King Street, Edinburgh.

## Metropolis and its Vicinity.

THE NATIONAL GALLERY.—The trustees of the National Gallery having been desirous that the pictures bequeathed by the late Mr. Jacob Bell should be exhibited to the public without delay, 14 of those pictures have, with the concurrence of the executors, been placed temporarily in the staircase at Marlborough House, viz:—"The Bather," by Etty; "The Sleeping Bloodhound," "Dignity and Impudence," "Alexander and Diogenes," "Shoeing," and "Highland Dogs," by Sir Edwin Landseer; "Bloodhound and Pups," and "The Pillaging of a Jew's House," by Charles Landseer; "River Scene," and "Evening in the Meadows," by F. R. Lee and T. S. Cooper; James II., by E. M. Ward; "Bibliomania," by W. Douglas; "The Foundling," by G. B. O'Neill; and a replica of "Uncle Toby and the Widow," by Leslie. Some other pictures included in the bequest are at present in the hands of publishers, or with the artists. The contents of Marlborough House, comprising all the English pictures of the National Gallery, are to be transferred for a time to South Kensington, as soon as the scientific authorities who have been consulted are satisfied that the walls of the new buildings are sufficiently dry. Upon the removal of the Royal Academy the English pictures will be restored to Trafalgar Square, and constitute, with the pictures of foreign schools, one undivided collection.

MONUMENT TO LORD LYONS.—It is intended to raise by public subscription a memorial in honour of Vice-Admiral Lord Lyons, to be erected in St. Paul's Cathedral, or elsewhere, as may be determined upon. Among the committee are—Vice-Admiral Sir A. Clifford and the Hon. Sir M. Stopford, Rear-Admirals Sir C. Fremantle, F. T. Michell, C. Talbot, Sir T. Pasley, Lord George Paulet, Hon. Sir H. Keppel, Lord C. Paget, and Dacres, General Sir George Brown, Lord Rokeby, &c.

STATUE OF GENERAL SIR CHARLES NAPIER.—Mr. Adams, the sculptor of the colossal statue of General Sir Charles J. Napier, in Trafalgar Square, has just completed the model of another statue which is intended to be placed in St. Paul's Cathedral. The general is represented in repose, leaning on his sword, with a rolled up scroll in his right hand, which rests upon his side, so that the figure is totally different from its predecessor in the square, though the likeness is from the same source—a mask taken from the face after death. It stands 8 feet high, on a plinth 6 inches.

THE LOSS OF HER MAJESTY'S SHIP HERON.—The Athens, Cape mail packet, which has arrived at Devonport, brings intelligence that Mr. Blair, mate of Her Majesty's late sloop Heron, and 39 men, of whom 25 are Europeans, have been picked up by the barque Eleanor of Cardiff, and are believed to be now on board Her Majesty's ship Vesuvius at Ascension, awaiting their passage to England. From the statement of Mr. Blair it appears that, in consequence of the imprudence of Lieut. Collingwood in persisting in washing decks while carrying a press of sail in squally weather, the ship was caught in a tornado on the 9th of May and almost immediately went down. Commander Truscott, with the boatswain, gunner, and about 15 men got away in the whale boat, but have not since been heard of. Lieut. Chapman and 14 other men were absent from the ship in charge of a prize, and are all safe at Ascension.

COOLIE AND CHINESE IMMIGRATION TO THE WEST INDIES.—A deputation from the British and Foreign Anti-Slavery Society had an interview with the Duke of Newcastle at the Colonial Office on Saturday to present a memorial, adopted at a meeting on the 13th inst., praying for a committee of inquiry into the system of Coolie and Chinese immigration. Lord Brougham, who introduced the deputation, stated that he thought there would be no time for the committee asked for in the memorial, and that a royal commission would be preferable. Several other members addressed his Grace, stating that there was practically no limitation to the number of immigrants introduced, that African immigration was thrown open to our colonies while the Government strenuously opposed it on the part of the Emperor of the French, that the mortality in the immigration from China varied from 17 to 60 per cent., that a very large mortality took place before they left their own country, and that there was an enormous disparity of the sexes, especially among the Chinese. The Duke of Newcastle in reply said that he thought the deputation had been misled in some of their statements, that the mortality upon an average did not exceed 5 or 6 per cent. on board the ships, and not so much in the [illegible], and that it would be impossible to have a committee at this season. They had already an immense amount of information, which was annually laid before Parliament, but if further inquiry were necessary he thought it would be far better that it should take place by a commission. But what he thought would answer still better was that some of the gentlemen present should assist him in drawing up questions to be sent out, and he would undertake that they should be answered by persons of authority in the colonies, and they could also be sent to other persons to whom it might be thought proper to send them. It was then agreed that Lord Brougham should communicate with his grace before the session was over with respect to drawing up the questions, and that he should give the names of some 14 or 15 gentlemen now in this country who are prepared to tender important evidence which they may be unable to give at a future time.

SERIOUS ACCIDENT TO LORD MANNERS.—On Friday afternoon a serious accident occurred to Lord Manners, uncle of the Duke of Rutland. A valuable horse which had been sent by Lord Vane for his lordship to try was brought to the door of his residence in Upper Brook Street, and seemed very quiet, but the moment Lord Manners was mounted it dashed at a furious pace up the street, and became perfectly unmanageable. Notwithstanding many efforts to check his career, he made with increased speed for the foot entrance-gate of the park, and dashed in. The iron bars across the entrance being very low, caught the head of Lord Manners, who was hurled to the ground with terrible force. He was conveyed in an insensible condition to his residence, but as the injuries are less serious than was expected, it is hoped that he will recover. The horse was shortly afterwards caught and killed.

THE SOUTHERN MAIN DRAINAGE.—At the meeting of the Metropolitan Board of Works on Friday the tenders for contracts for the southern high level sewer, which will extend from Clapham to Deptford, and consist of two 10-feet barrel sewers running parallel to each other for some distance near the outlet, were opened. The total length to be traversed will be about eight miles. The following tenders were sent in:—Dethick, 223,000*l*.; Lavers, 229,000*l*.; Moxon, 217,800*l*.; Downes, 228,760*l*.; Lucas, 217,000*l*.; W. H. Rowe, 218,600*l*.; J. N. Helling & Co., 216,750*l*.; G. Myers, 212,700*l*. The Board accepted the tender of Messrs. Helling & Co., subject to the usual inquiries.

STATE OF THE SERPENTINE.—On Tuesday a deputation waited upon the Right Hon. H. Fitzroy at the Office of Works, on the subject of the continued unwholesome and dangerous condition of the Serpentine in Hyde Park. The deputation consisted of Mr. James Heywood (late M.P. for North Lancashire), Dr. Copland, Dr. Spurgin, Dr. Tilt, Dr. Pettigrew, and Mr. John Lilwall. Mr. Heywood having introduced the deputation, Mr. Lilwall, as hon. Secretary to the committee for promoting the proposed improvements, said that the first thing to be done was to shut out the filth that flowed into the lake from the Kensal Green Cemetery and the Bayswater sewer; to fill up the deep holes; to reduce the bed of the river to a graduated depth of from 2 to, at the utmost, 6 feet; and lastly, to provide an increased supply of water sufficient to bring the cascade at the eastern end into constant play. He suggested that the plan which had been adopted for improving the lake in St. James's Park was of a most simple kind, and as it had answered its purpose so admirably, he thought that the same method might be adopted with advantage for putting the Serpentine in order. The other members of the deputation having pointed out other objections, especially in reference to the injurious effect of the water upon the public health, Mr. Fitzroy said that his original idea was to carry out the plan of levelling the bottom, but he feared it was too great an undertaking. In two or three years the Metropolitan Board of Works would meet one of the evils through their main drainage system. Though he agreed with a great deal that had been said, he could not promise to carry out all the suggestions which had been offered. He would, however, do what he could to mitigate the evils complained of, and would promise that something should be done to purify the water.

CLOSING OF VAUXHALL.—Vauxhall Gardens, which from the reign of Charles II. to the present time have been celebrated for their walks and variegated lamps, their musical and other performances, their suppers, and fireworks, were opened as a place of public recreation for the very last time on Monday evening, when Mr. George Stevens, who has been connected with the property for 35 years, and under whose direction a series of farewell performances was given last week, took a benefit which may be presumed to have been highly remunerative, since the attendance of visitors was enormous. Workmen have since begun to level the tall trees and wooden edifices, and in the course of a few months the entire site will be covered with new lines of streets and terraces.

FIRE IN THE LONDON DOCKS.—On Tuesday morning shortly after 9 o'clock a fire occurred in one of the divisions of the brandy vault at the London Docks, which was extinguished in about two hours by the prompt use of the dock engines and the powerful floats of the fire brigade. About 50 casks of brandy or other

spirits were destroyed, and a number of casks received injury. During the progress of the fire, about 20 of the brigade and 30 or 40 dock hands, while endeavouring to reach the fire in the cellars, were struck down by the heated vapour and rendered insensible, and it was not without some difficulty that they were drawn out with ropes. About 20 medical men were speedily in attendance, and by the prompt measures which they adopted all the sufferers were restored. One man however who fell off the dock float lost his life, for though he was rescued in a few minutes, he was poisoned by the pestilential water into which he fell. The origin of the fire is unknown.

THE PUBLIC HEALTH.—The Registrar-General's weekly return states that the returns for the week that ended Saturday, July 23, show a further and rather formidable increase of the deaths in London. The weekly number was below a thousand in June, till near the end of the month; it then rose above a thousand; in the first week of July it was 1226, in the following week it was 1400, and last week it rose to 1605, being 435 above the average calculated in proportion to the increase of population. During the week the birth of 855 boys and 748 girls, in all 1603 children, were registered in London. In the 10 corresponding weeks of the years 1849-58 the average number was 1491.

## Provincial.

CHELTENHAM.—The sale of the late Lord Northwick's collection of ancient and modern pictures, miniatures, enamels, and other choice works of art, commenced on Tuesday at Thirlestane House, and was numerously attended by the nobility, gentry, and the admirers of the fine arts throughout the kingdom. The sale will be continued daily up to the 30th of August, thus occupying rather more than a month. The magnitude and importance of the sale may be imagined from the fact that the catalogue alone is published at 5*s*., and contains a list of not less than 1881 pictures, the enumeration of which occupies 169 pages. The amount realised by the first day's sale was 3750*l*., that by the second 4400*l*., and that by the third 3300*l*.

ETON.—The proposal made by Eton College to the Cambridge University Commissioners more than two years since, that the sons of all British subjects otherwise duly qualified be admissible as candidates for Eton Scholarships, has within these few days received the sanction of the Commissioners, and has now become a part of the Statutes of Eton College.

CHIPPENHAM.—The thunderstorms which visited the metropolis and adjacent counties last week were equally destructive in this district of Wiltshire, and in various parts of Gloucestershire and Somerset. In this neighbourhood the storm was accompanied by hailstones nearly as large as walnuts and by a perfect tornado. At Hardenhuish Park large limbs of trees were blown down, and at the mansion 300 panes of glass were broken by the hailstones. At Temple Cloud the hailstones were equally large and were mingled with ice.

LIVERPOOL.—The large corn-mill situate on the banks of the Leeds and Liverpool canal at the north end of this town was totally destroyed by fire on Tuesday afternoon. The building, which is seven stories high, is the property of a joint-stock company formed under the Limited Liability Act. The fire burnt with such violence that in two hours the premises were completely gutted. A plentiful supply of water was at hand and several engines were on the spot, which were worked in the most energetic manner, but all efforts to save the building were vain. Several accidents occurred during the fire. Three men leaped from one of the upper stories to escape being burnt, and were killed by falling on the canal bank. About six others were taken to the hospital seriously injured, and several more are missing, and it is feared that they have perished in the flames. Fortunately the books of the company are secured, and the building is insured in several offices. It is somewhat singular that several fires have taken place on the same spot within the last few years, the site having been previously occupied by a cotton-mill, which was destroyed in a similar manner in 1853. On the same day another fire broke out in a timber-yard on the opposite side of the street, where damage was done to the amount of 400*l*.

WAKEFIELD.—During the thunder-storm of last week the low-lying portion of this town was seriously damaged by the accumulation of water. All the lower apartments of the houses were flooded to the extent of five or six feet, and the inhabitants had to take refuge in the upper stories. When the evening service was concluded in St. Mary's Chantry, the clergyman and congregation were kept prisoners in the chapel for some hours, and on a partial subsidence of the water, had to be conveyed away in cabs. Fifteen yards of a wall, 8 feet high, which formed the northern boundary to the Unitarian chapel, were swept away by the flood, which broke open the schoolroom doors, choking up and destroying the interior. At Chevet Park, the residence of Sir Lionel Pilkington, all the windows and a great deal of the valuable furniture were utterly destroyed, causing damage to the house and crops to the amount of 600*l*. Mr. Ibbotson, one of Sir Lionel's tenants, had 30 acres of wheat ruined, and estimates his loss at 800*l*. Mr. Richardson, of Woodthorpe, sustained damage to the extent of 300*l*.; and at Walton, 1000*l*. will barely cover the loss sustained by Mr. C. Coldwell. Mr. Ellis, of the same place, also had his crops damaged to the extent of 300*l*. or 400*l*.

WELLS.—The Earl of Leicester, following in the foot steps of his father Mr. Coke, has for the last two years been engaged in a work of some interest and importance,—viz., the reclamation from the sea of 700 acres of the vast tract of low marshy lands near the little port of Wells, Norfolk. For this purpose a great embankment, involving an outlay of about 12,000*l*., has been carried from the Hookham side of Wells in a straight line towards the sea, which has been, it is hoped, effectually shut out by this means from the land sought to be reclaimed. The bank forms a marine road of considerable width, more than a mile long, and upwards of 20 feet in height, and it is stated that the cubic content of the work exceeds anything of the kind attempted in England, although there are some longer embankments of a similar character. With the view of assimilating the bank to an ordinary beach, the slope next the sea for the first 15 feet of the height is five to one, while for the remainder of the elevation attained, it is only four to one. It is not expected that ordinary tides will rise higher than the point at which the five to one slope terminates; but as the tides sometimes attain an extraordinary height at Wells, flowing over the quay, and almost drowning the inhabitants, the bank has been carried up about 7 feet more. The embankment has already had the effect of increasing the scour, and consequently deepening the channel in the harbour, and it is expected that ships of a greater burden will now be enabled to get up. Further works of a similar character in the direction of Stiffkey and Blakeney, between which places and Wells about 3000 acres await reclamation, are talked of.

## Ireland.

THE IRISH CHANCELLORSHIP.—An influential county meeting convened by the High Sheriff was held in Enniskillen on Thursday week, at which it was unanimously resolved to petition Parliament against Sir W. Somerville's bill for admitting Roman Catholics to the office of Lord Chancellor of Ireland.

THE DUBLIN POLICE FORCE.—Mr. Cardwell, it appears, is about to introduce a bill for improving this body. The bill will reduce the number of police magistrates, and increase their pay from 600*l*. to 900*l*. per annum.

THE PHŒNIX CLUB PROSECUTIONS.—At the Tralee Assizes on the 21st inst. two of the Phœnix clubmen, Florence and J. D. Sullivan, who had been in gaol since last assizes, were brought up for trial, when their counsel withdrew their plea of Not Guilty, and pleaded Guilty. The Attorney-General under these circumstances said he would deal leniently by them, and would permit them to stand out on their own bail. Mr. Justice Keogh having expressed his approval of the course taken by the Crown, the prisoners were ordered to enter into recognizances to appear for judgment when called upon, and were subsequently discharged. At the Cork assizes on Wednesday the three clubmen for trial followed the example of the Tralee conspirators, and pleaded guilty. They were thereupon ordered to enter into bail in the sum of 200*l*. each to appear when called upon, and were then ordered to be discharged. The Belfast papers announce the arrest of a noted leader, "General" James Hackett, in the Riband or Phœnix Club conspiracy, who is to be put upon his trial at the ensuing assizes for Antrim.

THE KINSALE RIOT.—Two investigations are in progress in connection with the late militia riot at Kinsale. That before Colonel Grant, the military judge in the case, is the more important. Two days' sittings have already taken place. There were present the Colonel of the Antrim Rifles, Lord Massereene, Captains Rice, Munroe, and De Vere, and Lieutenants O'Donnel and Ryan, with legal gentlemen engaged for the parties. The evidence goes to show that the townspeople were the aggressors and that there was no intention among the Antrims to make any demonstration on the 12th of July. The sub-sheriff of the county, Mr. Townshead, Mr. Cramer, a magistrate, and Dr. Furlong gave evidence in favour of the militiamen.

## Law.

OXFORD CIRCUIT: STAFFORD.—*The Westbromwich Murder.*—*William Worsey*, 24, innkeeper, was charged with the wilful murder of his wife, Sarah Ann Worsey, on the 11th of June, at Westbromwich. When the jury were about to be sworn one of them objected, on the ground that he thought it wrong to hang any one, and that he should be afraid to find the prisoner guilty. Mr. Justice Byles said it was not necessary to pronounce any decision on the validity of the juryman's objection. He had no doubt the objection was a conscientious one, and though he regretted that such a notion should exist, the juryman might be excused. He therefore left the box. The trial then proceeded. It will be remembered that the prisoner killed his wife with a carving knife, which went right through her neck from ear to ear, and caused her death in a few minutes. The prisoner himself stated that when his wife was standing at a distance of three or four yards, he threw the knife at her; and the only question was, whether the case amounted to murder or manslaughter only. Mr. Justice Byles in summing up observed that it was quite true, as had been said, that the prisoner's life was in the hands of the jury; but they must also recollect that the lives of many women were likewise in their hands. In that county there were many men gigantic in strength, and violent in temper, and the protection of their wives was the law of the land, which surrounded them like the air they breathed, and under that law they dwelt secure. The law of the land was "Whoso sheddeth man's blood, by man shall his blood be shed," and long experience had led him to the conviction that that law was essential to be maintained. His lordship then told the jury that if the prisoner stabbed his wife with the knife, or even if he threw it at her, intending to kill her or to do her grievous bodily harm, he was guilty of murder, but if he merely threw it at her carelessly, not intending it to reach her flesh, he would be guilty of manslaughter only. The jury retired to consider their verdict, and on their return into Court the foreman said that, according to the exposition of the law given by the learned judge, they found the prisoner *Guilty*; but they were strongly convinced that he did not intend that it should end fatally, and they therefore strongly recommended him to mercy, trusting that his lordship and the Sheriff would strengthen that recommendation on the ground of what they considered strong extenuating circumstances, and that he did not intend to take away life. Mr. Justice Byles said he would take care that the recommendation of the jury should be forwarded to the proper quarter. His lordship then assumed the black cap, and addressing the prisoner, said that after an attentive consideration of his case, the jury had shown by their recommendation to mercy that they had endeavoured to take a merciful view of it, but thought that they could not discharge their duty to their country without finding a verdict of Wilful Murder. They had accompanied their verdict with a recommendation to the mercy of the Crown, but whether that mercy would be extended to the prisoner he knew not, and he could give the prisoner no reason whatever to hope or expect it. He must therefore prepare himself to undergo the last sentence of the Law; and the best advice he could give the prisoner was to attend to the religious advice which he would receive, that only could he hope to meet his impending fate with a spirit of resignation. His lordship then pronounced sentence of death in the usual form. *The Tipton Murder and Outrage.*—*Thomas Watkins*, 21, puddler, *Edward Acton*, 30, *Edward Fereday*, 19, forgeman, and *Joseph Allen*, 21, were charged with the wilful murder of a woman, who was alleged to be unknown, on the 29th of May, by throwing her in the canal at Tipton. It was shown by the evidence that the deceased had died of drowning, but there was no evidence to show that she had been put into the water by the prisoners, or either of them. Mr. Justice Byles said he had carefully read the depositions, and he was of opinion that there was no evidence to sustain the charge of murder. A verdict of *Acquittal* was then taken. The prisoners Acton and Allen were then put on their trial for a rape committed on the deceased. The evidence showed that this case, which was noticed at the time in our Provincial news, was one of the most shocking and disgusting outrages which had ever been committed even in this county notorious for crimes of a cruel and brutal character. It is impossible to detail the facts of the case as they were proved in evidence, but it will be sufficient to state that the jury found Watkins, Acton, Fereday, and Allen *Guilty*, and acquitted the two other prisoners. It may be added that they took a more favourable view of Acton's case. His lordship in passing sentence said the prisoners had been convicted on invincible evidence of one of the most brutal and barbarous outrages of which he had ever heard. God only knew whether the prisoners had had anything to do with the drowning of deceased. The sentence upon Watkins, Allen, and Fereday was that they be kept in penal servitude for the terms of their natural lives; and upon Acton, of whom his lordship said he also took a more favourable view, the sentence was that he be kept in penal servitude for three

NORTHERN CIRCUIT: DURHAM.—*The Jarrow Murder.*—*Shafto Wilkew*, aged 35, was indicted for the wilful murder of his wife, Susannah Wilkew, at Jarrow, on the 12th inst. This case was noticed last week in our Provincial news. It is necessary to repeat the details. The main facts are that the prisoner, from motives of jealousy, cut his wife's throat while she was asleep in bed, and afterwards endeavoured to conceal the suicide, were proved by his brother-in-law and daughter. The latter fainted as soon as she had given her evidence. For the defence an attempt was made to set up a plea of temporary insanity. Baron Watson in summing up directed the jury that there was no evidence to support the defence urged on behalf of the prisoner, that he did not at the time know the nature of the act that he was committing. The jury, after an absence of half an hour, returned a verdict of *Guilty*. His lordship having put on the black cap, in an impressive manner passed sentence of death, holding out no hope of mercy. The prisoner bowed respectfully to his lordship, and walked firmly from the dock. *The Attempted Murder at Southwick.*—*George Bonney*, 30, was indicted for feloniously shooting at Margaret Hodgson with intent to murder her, at Southwick, on the 21st February. The prosecutrix (an exceedingly prepossessing and good-looking girl) had been courted for about 10 months by the prisoner, when they had a quarrel, and she told him she would have no more to do with him. The prisoner got exceedingly excited and protested that no other man should keep company with her. He went that day to a photographist and got his likeness taken, and on the following day called on the prosecutrix and showed her the picture. While she was examining it, the prisoner fired a pistol at her head from which 25 shots were subsequently extracted by the surgeon. The prisoner on being taken into custody said that he should die happy if he had shot her dead. While giving evidence the prosecutrix fainted on seeing the prisoner, and she appeared unwilling to press the case against him, stating that he was subject to fits, and that she had seen him in them. The prosecutrix was obliged to be carried out of court after the cross examination, and the prisoner then fell into strong convulsions in the dock. It was urged for him that he was labouring under a fit of jealousy; that he had not intended to injure the prosecutrix or he would have loaded the pistol with a bullet; and that the fits to which he was subject had affected his mind so as scarcely to leave him a responsible agent. The jury found him Guilty of shooting with intent to murder. Mr Baron Watson ordered sentence of *Death* to be recorded against him.

MIDLAND CIRCUIT: LINCOLN.—*The Stickney Murder.*—*Carey*, labourer, aged 24, and *William Pocket*, aged 20, described as a farmer or boatman, were indicted for the wilful murder of William Stevenson, at Stickney, on the 17th March. The case was a very shocking case, the details of which were given at the time in our Provincial news. The deceased was a cottager, 64 years of age, who was murdered while returning from Boston market and thrown into a ditch near his home, with his skull literally smashed to pieces. The object of the murder was to rob him of a few pounds which he was supposed to have in his possession. The prisoner Pocket made a confession to the effect that Carey was the actual murderer, and that he himself was an unwilling accessory. Carey addressed the Court in a speech of some length, in which he admitted that he was guilty of the robbery but not of the murder, and gave a minute detail of circumstances entirely at variance with the confession of Pocket. Mr. Justice Williams, in summing up, said that both prisoners had admitted their presence on the spot, and that they were the acts which resulted in the death of the deceased. The jury returned a verdict of *Guilty* against both prisoners, and the learned judge in a solemn manner passed sentence of death upon each prisoner, holding out no hope of mercy.

## Theatres.

ROYAL ITALIAN OPERA.—Herr Meyerbeer's new opera "Le Pardon de Ploermel," was produced at this theatre on Tuesday evening under the name of "Dinorah" with triumphant success. At the termination of the second act Herr Meyerbeer was enthusiastically called for, and came forward, led by Signor Costa, amid the overwhelming cheers of an audience which filled every corner of the theatre.

# Sporting.

## GOODWOOD RACES.

TUESDAY.—The *Corinthian Stakes.* Lord Clifden's Star of the East beat Clydesdale, Wrestler, and 10 others.—*Sweeps.* Mr. J. Day's Fravola beat Infanta, Enfield, and 3 others.—*The Lavant Stakes.* Mr. J. Merry's Thormanby beat Apollo and Roesia.—*The Steward's Cup.* Mr. Gratwicke's Maid of Kent beat Montebello, Penalty, and 31 others. Won by a head, while a head only separated the second from the third and the third from the fourth. Twilight was fifth, close up; Theodora and Grand Secret, the two favourites, were signally defeated.—*The Gratwicke Stakes.* Mr. W. S. S. Crawfurd's Mayonaise beat Schism, Mr. Manton's filly, and 3 others.—*The Hurst Stakes.* Mr. W. S. S. Crawfurd's Winton beat Lord Glasgow's Tom Bowline, Lord Ailesbury's colt, Apollo, and Mr. J. Merry's colt.—*Fifty Pounds.* Mr. T. Dawson's Gaylass beat Harry Stanley and Hallifordi.—*Sweeps.* Lord Glasgow's Toxophilite beat Goahead and Guard.

WEDNESDAY.—The *Goodrans Stakes.* Mr. W. Day's Opera Dancer beat Syringe, Skittles, and 4 others.—*The Goodwood Derby.* Mr. W. Day's The Promised Land beat Chapelier.—*Sweeps.* Lord Zetland's Qui Vive beat Mr. J. Merry's filly.—*Goodwood Stakes.* Mr. Ten Broeck's American horse Starke beat Lifeboat, Blue Jacket, and 14 others. Won after a fine race by half a length; Lifeboat second; Blue Jacket six lengths from the second; Heiress fourth, beaten off. Count Isonomy fifth, and Gospel sixth, close up with Heiress. Heeding the next two, all passing up, were Miss Call and Gemma. The rest did not pass the post.—*Match.* Colonel Vyse's Madrigal beat Mr. A.—*Handicap Plate.* Mr. F. Robinson's Antonio beat Queen Charlotte, Spectacle, and 15 others.—*Handicap Plate.* Lord Clifden's Palladium beat The Dane, Tragedy, and 5 others.—*The Drawing-room Stakes.* Sir H. Des Voeux's Comforter beat Sir Hercules, Cymricus, and 2 others.

THURSDAY.—*The Racing Stakes.* Mr. J. Merry's Lord of the Manor beat Rechab.—*The Findon Stakes.* Captain Little's Nutbourne beat Thunderbolt, Thormanby, and 8 others.—*The Molecomb Stakes.* Lord Portsmouth's Buccaneer beat Brother to Rainbow and King of Diamonds.—*The 2 Year Old Year of the Seventh Bentinck Memorial Stakes.* Mr. Morland's Longrange beat East Langton, Star of the East, and 3 others.—*First Year of the Ninth Bentinck Memorial Stakes.* Mr. A. Nichol's The Wizard beat Trovatore and Emily.—*The Goodwood Cup.* Mr. W. Day's The Promised Land beat Newcastle, the American mare Princess, Toxophilite, and 8 others. Won easily by six lengths; four lengths separating the second from the third. The others came in at wide intervals.—*Sweeps.* Mr. J. Merry's Trovatore beat Lord Glasgow's colt.—*Second Year of the Eighth Bentinck Memorial Stakes.* Lord Strathmore's May Morning beat Cock-a-hoop, Precursor, and 4 others.—*Sweeps.* Mr. H. Saville's Queen Charlotte walked over.—*The Sussex Stakes.* Mr. J. Merry's Merryman walked over.

FRIDAY.—(By Electric Telegraph).—*Nassau Stakes.* Cantine beat Orlando and Heroine of Lucknow.—*Match.* Theodora walked over.—*Duke of Richmond's Plate.* Jet beat The Dane, Lottery, and 14 others.—*Nursery Stakes.* Umpire beat Calcavella f. Be Quick, and 19 others.—*Chesterfield Cup.* Zuyder Zee beat Sunbeam, Heiress, and 20 others.—*March Stakes.* Lady George beat Speaker and Mrs. Stowe.—*Queen's Plate.* Newcastle walked over.—*Bentinck Memorial.* Starkie beat Compromise, Prioress, and 12 others.

# Railways.

LONDON, BRIGHTON, AND SOUTH COAST.—At the half-yearly meeting on Tuesday the directors' report was unanimously adopted, and a dividend of 2½ per cent declared for the half-year, leaving a balance of 4917*l.* The chairman stated that with respect to the differences between themselves and the South-Western it had been agreed to refer the matter to the Railway Companies Association, and accept their mediation. There had been an increase in the traffic over their whole system of lines, with the exception of Epsom, on which line they had lost 4000*l.*, which they attributed to the traffic being divided between themselves and the South-Western.

# Obituary.

THE EARL OF HARBOROUGH, and Baron Sherard, of Leitrim, Ireland, died at his seat, Stapleford Park, near Melton Mowbray, on Thursday morning. He was only son of the fifth earl, was born in 1797 and succeeded to the title and estates in 1807. He married in 1843, the daughter of Captain Temple, by whom he has no issue, and the title becomes extinct.

THE HON. AND VERY REV. HENRY DAVID ERSKINE, DEAN OF RIPON, died on the 27th inst. at Ripon in his 73rd year, after a long illness. He was the son of the 1st Lord Erskine, and married in 1813 the daughter of the 1st Earl of Portarlington. He was appointed Dean of Ripon in 1847, and for some years has been conspicuous as an advocate of popular education, and as an earnest promoter of Mechanics' Institutes.

THE HON. AND VEN. WILLIAM O'GRADY, Archdeacon of Kilmacduagh, died on the 17th inst. at Portfergus, County Clare, in his 53rd year. He was a younger son of the late Baron O'Grady, afterwards Viscount Guillamore, and had been for many years minister of the parish of Kilcrest, and Rural Dean of the diocese of Kilfenora. He seldom left his parish, and since his appointment had expended all his time and the greater portion of his income on the education and spiritual welfare of his parishioners.

MR. RICHARD TATTERSALL, for many years proprietor of "The Corner," so well known to sporting men of all classes, died on the 22d inst. at Dover in his 75th year. Mr. Tattersall was held in high esteem by the large body of persons with whom his business brought him in contact.

BIRTHS.—On the 24th inst. at 21, Lowndes Square, the Marchioness of WINCHESTER, of a daughter.—26th inst. at 52, Chester Square, the wife of Sir FREDERICK WILLIAM HEYGATE, Bart., M.P., of a son.—25th inst. at 29, Chesham Street, the wife of W. R. OPENSHAW GORE, Esq., M.P., of a daughter.—13th inst. at Biarritz, the wife of M. WYCHE, Esq., jun., M.P., of a daughter.—19th inst. at 15, Eaton Place, Mrs. PENDER PRYDERCH HARVEY, of a daughter.—22d inst. at Nettlewold Hall, Nottinghamshire, the wife of Lieutenant-Colonel FITZHERBERT, of a daughter.—23d inst. at 11, Gloucester Crescent, Hyde Park, the wife of Colonel WILBRAHAM, C.B., of a daughter.—19th inst. in College Street, Winchester, the wife of the Rev. GEORGE RIDDING, Tutor of Exeter College, Oxford, of a daughter, stillborn.

MARRIAGES.—On the 27th inst. at St. George's, Hanover Square, REGINALD [illegible] DRUMMOND, Esq., eldest son of Sir John Ogilvy, Bart., M.P., to OLIVIA, only daughter of Lord and Lady KINNAIRD.—25th inst. at St. George's Hanover Square, Captain LOVETT, 21 Regiment of Life Guards, to Miss MORLER, niece of the Earl of Verulam.—12th inst. at the parish church, Brighton, Captain SYDNEY DARLING, 9th Regiment, second surviving son of the late General Sir Ralph Darling, G.C.H., to REBECCA WILHELMINA, second daughter of the late AUSTIN COOPER, Esq., of Kilmore House, Ingatestone.—20th inst. at St John's, Hackney, the Rev. SIDNEY HENRY LEAR, M.A., Fellow of All Souls College, Oxford, second son of the late Dean of Salisbury, to HENRIETTA LOUISA, youngest daughter of JAMES WILLIAM FLEMER, Esq., of Ingleborough, in Yorkshire.—23d inst. at Tadworth, Dr. FRANCIS HAWKINS, M.D., of Bentinck Street, London, to SARAH JANE, only daughter of the late GERVASE HAYWOOD, Esq., formerly of Lea Hall, Derbyshire.—16th inst. at Queenstown Church, JOHN FRASER CAMPBELL, Esq., Lieutenant of H.M. ship Vengeance, Knight of the Legion of Honour, and Imperial Order of Medjidie, second son of George Washington Lambert Campbell, Esq., J.P., of Craigie Castle, to CATHERINE FRANCIS, second daughter of the late ROBERT HOLMES, Esq., J.P., of Beechmount, both in the county of Cork.—23d inst. at St George's, Bloomsbury, JOHN EVANS, Esq., of Nash Mills, Herts, to FRANCES, daughter of JOSEPH PHILLIPS, Esq., of the Island of Malta.

DEATHS.—On the 21st inst. at The Hangingshaw, Selkirk, after a long and painful illness, the Hon. Mrs JOHNSTONE of Alva.—20th inst. at 13, St Andrew's Square, Bath, ELIZABETH, relict of Colonel WILLIAM SWINTON, and daughter of the late Sir Robert Barr, K.C.B.—At Lucknow, in Central India, Lieutenant-Colonel EDMUND CONWAY LEAN, C.B., Commanding H.M.'s 97th Regiment.—4th May, at his residence, Woodside House, Ootacamund, Madras Presidency, General LEWIS WENTWORTH WATSON, aged 67.—14th inst. at 27, George's Square, the wife of Vice-Admiral LEAN, aged 69.—19th inst. Colonel ANDREW BROWN, late of the 79th Highlanders and [illegible] at his residence, Greenhill, near [illegible], Major-General [illegible], C.B., formerly of the 6th Madras Cavalry.—[illegible] inst. at Jersey, ELLEN LOUISA, youngest daughter of Major-General CONINGHAM, after a long illness, aged 6.—22d inst. at 15, Norfolk Crescent, deeply lamented by all who knew her, the beloved wife of the Rev. J. D. WINGFIELD DIGBY, Vicar of [illegible], Warwickshire, aged 37.—18th inst. at 21, Dorchester Street, Manchester Square, MARY ANN, wife of Major A. HAWKINS, and eldest daughter of the late William Berrisford, Esq., of Manor Park, Streetham, Surrey, aged 72.—22d inst. 11, Eaton Square, EMILY, daughter of Charles J. MONK, Esq., M.P., aged 3 months.—23d inst. at Hawton Hall, Staffordshire, Thomas NEVILLE, Esq., aged 58.—13th inst. at Spanish Town, Jamaica, ROBERT RAPLEY GARDINER, Esq., late [illegible] for the county of Middlesex, and chief engineer of roads and bridges in the said islands, aged 41.—20th inst. at Winchester, MARY LOUISA, wife of the Rev. GEORGE EDWARD, Tutor of Exeter College, Oxford, and second daughter of the Rev. Dr. MOBERLY, Winchester College.

# Markets.

## COVENT GARDEN.—July 26.

**Grapes and Pine Apples have not altered in price since our last report.** West India Pines have been plentiful and good. Gueldersons, Cornish, and Englefields are getting scarcer, and Clarkes and Shrowshams are nearly over. English Queens have made their appearance. Greengage Plums come in a dozen. Oranges sold at 6*l.* and 10*s.* per hundred. Nuts of all descriptions still continue to realise fair prices. Cabbages and French Beans are plentifully supplied. Rhubarb, Asparagus, and Seakale are getting over. Peas, Beans, Horn Carrots, and Globe Artichokes may be obtained in quantity. Cucumbers are cheaper. New Potatoes realise from 6*s.* to 14*s.* per pan. Cauliflowers are abundant. Cut flowers nearly consist of Orchids, Geraniums, Kalosanthes, Lily of the Valley, Violets, Mignonette, Heaths, and Roses.

FRUIT.

| | |
|---|---|
| Pine Apples, per lb., 6s | Plums, per pottnet, 2s to 2s |
| Grapes, per lb., 2s to 6s | Greengages, do., 3s |
| Strawberries, p. basket, 1s to 2s | Currants, per half-sieve, 3s |
| Raspberries, p. punn. 6d to 1s | Gooseberries, do., 3s |
| Melons, each, 4s to 8s | Cherries, per lb., 6d to 1s 6d |
| Peaches and Nectarines, per doz., 1s to 16s | Apricots, per doz., 1s 6d to 3s 6d |
| Figs, per doz., 6s to 9s | Pears, per doz., 1s 6d to 3s 6d |
| Apricots, do., 4s to 6s | Oranges, per 100, 6s to 10s |
| | Lemons, per doz., 1s to 1s 6d |

VEGETABLES

| | |
|---|---|
| Cauliflowers, per doz., 2s to 4s | Cucumbers, per doz., 2s to 4s |
| Green Peas, p. quart, 1s to 3s | Tomatoes, per doz., 2s to 4s |
| Greens, per dozen bunches, 1s to 1s 6d | Artichokes, per doz., 2s to 3s |
| Cabbages, do., 1s 6d to 2s 6d | Beet, per doz., 1s 6d to 2s |
| Rhubarb, p. bundle, 6d to 9d | Celery, p. bundle, 1s to 1s 6d |
| French Beans p. punnet, 1s to 1s 6d | Shallots, per lb., 6d to 8d |
| Potatoes, p. ton, 90s to 160s | Garlic, per lb., 6d to 8d |
| — per bush., 2s to 3s 6d | Lettuces, Cabbage, per score, 1s to 1s 6d |
| — per cwt., 4s to 6s | Endive, p. score, 1s to 1s 6 |
| — new, per lb., 3d to 1s | Horse Radish, p. bun. 1s 6d to 4s |
| Carrots, per bunch, 1s | Mushrooms, p. pott, 9d to 1s 3d |
| Turnips, per bunch, 3d to 1s | Parsley, p. 12 bunches, 2s to 4s |
| Spinach, p. bush., 1s 6d to 2s | Savory, do., 2d to 4d |

HOPS.—BOROUGH MARKET, FRIDAY, July 29.

Messrs. Pattenden & Smith report the Hops generally progressing favourably. Market dull. Duty 250,000*l.* to 260,000*l.*

HAY.—Per Load of Thirty-six Trusses.

SMITHFIELD, THURSDAY, July 28.

| | | | | | |
|---|---|---|---|---|---|
| Prime Meadow Hay | 80s | to 85s | Old Clover | 95s | to 110s |
| Superior do. (old) | 88 | 95 | Second cut | 80 | 95 |
| Inferior do. | 60 | 70 | New Clover | 80 | 90 |
| New do. | 75 | 84 | Straw | 26 | 30 |
| Rowen | 50 | — | | | |

DAVIES & Co.

CUMBERLAND MARKET, THURSDAY, July 28.

| | | | | | |
|---|---|---|---|---|---|
| Sup. Meadow Hay | 92s | to 100s | Inferior Clover | 84 | to 96s |
| Inferior do. | 70 | 84 | New do. | 70 | 90 |
| New do. | 65 | 84 | Straw | 25 | 28 |
| Superior Clover | 100 | 110 | | | |

JOSHUA BAKER.

WHITECHAPEL, THURSDAY, July 28.

| | | | | | |
|---|---|---|---|---|---|
| Fine old Hay | 88s | to 92s | Fine old Clover | 105s | to 112s |
| Inferior do. | 78 | 84 | Inferior do. | 90 | 100 |
| Prime New Hay | 80 | 84 | Fine new Clover | 90 | 98 |
| Inferior do. | 60 | 75 | Inferior do. | 70 | 100 |
| Straw | 27 | 32 | Inferior do. | — | — |

BRITISH WOOLS.—LONDON, FRIDAY, July 29.

**Our market is in a healthy state, and higher rates are obtained.**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| South Down Hoggets | s. 1 | d. 8 | to | — | Leicest Wethers | 1 | 5 to — |
| | 1 | 8 | to | — | Ditto Hoggets | 1 | 7 — — |
| Half-bred ditto | 1 | 8 | — | — | Combing Skins | — | — — |
| Down Ewes | 1 | 6 | — | — | Blanket ditto | — | — — |
| Kent Fleeces | 1 | 7 | — | — | Flannel Wool | 1 | 2 — 1 7 |

COLONIAL WOOL SALES.—These sales are progressing favourably at an advance over the [illegible] rates.

METROPOLITAN CATTLE MARKET.

MONDAY, July 25.

**The number of Beasts is about the same as on Monday last, and the prices of that day are with difficulty obtained. There are a few more Sheep and Lambs, but the demand is good, and prices have rather an upward tendency. Trade is dull for Calves. From Germany and Holland there are 1,50 Beasts, 5250 Sheep, and 240 Calves [illegible] from Norfolk and Suffolk, [illegible] Sheep and Lambs; and 130 [illegible] counties.**

| | | | | | | |
|---|---|---|---|---|---|---|
| | s. | d. | s. | d. | | |
| Best Scots, Herefords, &c. | 4 | 6 | to 4 | 8 | Best Long-woods | 4 6 — 4 8 |
| Best Short-horns | 4 | 4 | — 4 | 6 | Do. Short | — — |
| 2d quality Beasts | 3 | 4 | — 3 | 10 | Ewes & 2d quality | 4 1 — 4 4 |
| Best Downs and Half-breds | 4 | 10 | — 5 | 0 | Do. Short | — 10 |
| Do. Short | — | | | | Lambs | 5 8 — 6 0 |
| | | | | | Calves | 4 8 — 5 0 |
| | | | | | Pigs | 3 4 — 4 0 |

Beasts, 4140; Sheep & Lambs, 25,000; Calves, 197; Pigs, 440.

THURSDAY, July 28.

**We have a short supply of Beasts, and of very indifferent quality; consequently the demand [illegible] to-day, and at a slight reduction. The supplies of Sheep and Lambs are rather smaller than of late. They sell [illegible] at Monday's quotations. Trade is very dull for Calves. From Germany and Holland there are 50 head; from Norfolk and Suffolk, 250 Beasts, from the Midland and Northern counties, 400 Beasts; and from Scotland, 200 head of Cattle.**

| | | | | | | |
|---|---|---|---|---|---|---|
| | s. | d. | s. | d. | | |
| Best Scots, Herefords, &c. | 4 | 6 | to 4 | 10 | Best Long-woods | 4 6 — 4 8 |
| Best Short-horns | 4 | 4 | — 4 | 8 | Do. Short | — — |
| 2d quality Beasts | 3 | 4 | — 4 | 6 | Ewes & 2d quality | 4 2 to 4 4 |
| Best Downs and Half-breds | 4 | 10 | — 5 | 0 | Do. Short | — — |
| Do. Short | — | | | | Lambs | 5 4 — 6 0 |
| | | | | | Calves | 5 8 — 6 4 |
| | | | | | Pigs | 3 3 — 4 0 |

Beasts, 3841; Sheep & Lambs, 17,000; Calves, 545; Pigs, 270.

MARK LANE.—MONDAY, July 25.

The supply of English Wheat to this morning's market was moderate, and [illegible] for several days [illegible] to be paid [illegible] advanced. The sales effected however were [illegible] quotations of 1s per qr. upon the rates of this day se'nnight. There was a fair attendance, nevertheless, of foreign Wheat, and [illegible] prices continue to be pretty well maintained. The [illegible] barley trade with a fair inquiry at last week's rates. Beans and Peas are unaltered in value. The Oat trade is very inactive, and the sales made were at last week's prices. In Flour there is less doing than on Friday, but Norfolk must be quoted [illegible] that is just such dearer than on Monday last.

| | | | | | | |
|---|---|---|---|---|---|---|
| | | s. | s. | | | s. s. |
| WHEAT, Essex, Kent, & Suffolk | White | 42 | 44 | Red | | 40 — 44 |
| — — fine selected runs | | 44 | 46 | Red | | 42 — 44 |
| — — Talavera | | 38 | 42 | | | |
| — Norfolk | | — | | Red | | — |
| — Foreign | | [illegible] | | | | |
| BARLEY, grind. & dist., 24s to 28s | Corn | 36 | 42 | Malting | | 38 — 41 |
| — Foreign grinding and distilling | | 31 | 34 | Malting | | 30 — 33 |
| OATS, Essex and Suffolk | | 19 | 22 | | | |
| — Scotch and Lincolnshire | Potato | 20 | 25 | Feed | | 19 — 21 |
| — Irish | Potato | 14 | 15 | Feed | | 13 — 17 |
| — Foreign | Poland and Brew | 18 | 20 | Feed | | 13 — 15 |
| RYE | | — | | Foreign | | — |
| RYE MEAL, foreign | | — | | | | |
| BEANS, Mazagan | 35s to 36s | Tick | 37 | 42 | Harrow | 37 — 42 |
| — Pigeon | 41s — 45s | Winds | — | | Longpod | — |
| — Foreign | | Small | 38 | 42 | Egyptian | 35 — 37 |
| PEAS, white, Essex and Kent | | Boilers | 38 | 44 | Suffolk | 40 — 44 |
| — Maple | 42s to 44s | Grey | 38 | 40 | Foreign | 38 — 40 |
| MAIZE | | White | — | | Yellow | — |
| FLOUR, best marks delivered | | per sack | 40 | 46 | | |
| — 2d do. | | | 38 | 40 | Country | — 4 |
| — Foreign | | per barrel | 16 | 27 | Per sack | 30 — 37 |

FRIDAY, July 29.

**Since Saturday, when we had rain, the weather has been fine, with a high temperature and very sparing, to-day showery. The accounts received from the country are less favourable than they were, and it becomes evident that the crops in many districts have suffered from blight and the excessive heat as well as the storms. The new Wheat may consequently be expected to vary greatly both in quantity and quality, and much will be thin and light and [illegible] The knowledge of the above has [illegible] the Wheat trade, and prices have generally advanced 1s per qr. for English Wheat since this week. Foreign has also realised rather more attention, without leading to actual business, buyers being still [illegible] the few [illegible] which [illegible] Foreign and Russian qualities. Spring Corn has been [illegible] and [illegible] Beans, Peas, and Barley were [illegible] Southern Europe [illegible] sisting during the week of 24 cargoes Wheat, 2 Maize, 4 Barley, 4 Rye, 3 Millet, and 5 Linseed. The reports of the French markets continue to report higher prices for Wheat and Flour, also several markets for Oats. Flour was [illegible] yesterday 27s [illegible] English grain [illegible] Wheat and Oats large and of [illegible] this morning was better attended than of late [illegible] Wheat on sale was [illegible] Foreign continued [illegible] were made at fully 1s. per qr. over the rates lately obtained. Barley, Beans, and Peas are unaltered in value. The Oat trade is very dull and to effect sales it is necessary to submit to a decline. In Flour there is rather more doing.**

ARRIVALS FROM JULY [illegible] TO JULY 29.

| | Wheat | Barley | Oats | Flour |
|---|---|---|---|---|
| English | 2210 qrs. | [illegible] | 1840 qrs. | [illegible] sacks |
| Irish | — ,, | — ,, | — ,, | — ,, |
| Foreign | 18040 ,, | 2170 ,, | 41080 ,, | 500 ,, — brls. |

LIVERPOOL, Tuesday, July 26.—We had a good attendance of millers and dealers at our Corn Exchange this morning, and Wheat met [illegible] at [illegible] about 1d. per cental on the rates of Friday. Flour had a fair sale at 1s per sack more money. Indian Corn attracted a fair inquiry, and previous quotations were freely obtained. Oats and Oatmeal [illegible] Egyptian Beans, Peas, and Barley were [illegible] unaltered in value and little doing in. The weather to-day is exceedingly fine, and the market closed without life.

| AVERAGES | Wheat. | Barley. | Oats. | Rye. | Beans. | Peas. |
|---|---|---|---|---|---|---|
| June 18.. | 49s 11d | 31s 5d | 25s 11d | 38s 9d | 48s 7d | [illegible] |
| — 25.. | 48 6 | 31 1 | 24 9 | 37 6 | 46 8 | 47 9 |
| July 2.. | 48 4 | 30 9 | 24 10 | 38 9 | 46 1 | 46 9 |
| — 9.. | 46 9 | 31 10 | 25 6 | 34 3 | 47 7 | 47 2 |
| — 16.. | 46 8 | 29 11 | 25 3 | 40 6 | 45 10 | 46 8 |
| — 23 | 44 11 | 28 7 | 25 1 | 38 10 | 46 10 | 46 10 |
| Agg. Aver. | 47 1 | 30 11 | 25 5 | 36 11 | 46 7 | 46 7 |

FLUCTUATIONS IN THE LAST SIX WEEKS AVERAGES.

| PRICES. | June 18 | June 25. | July 2. | July 9. | July 16 | July 23. |
|---|---|---|---|---|---|---|
| 49s 11d | — | .. | .. | .. | .. | .. |
| 48 3 | .. | .. | .. | .. | .. | .. |
| 48 9 | .. | . | .. | .. | .. | .. |
| 46 6 | .. | .. | . | .. | .. | .. |
| 46 4 | .. | .. | .. | .. | .. | .. |
| 44 11 | .. | .. | .. | .. | .. | .. |

COAL MARKET.—FRIDAY, July 29.

**Bates's West Hartley, 14s. 9d.; Eareden Hartley, 14s. 6d.; Hastings Hartley, 14s. 6d.; Haswell Gas, 13s. 3d.; Tanfield Moor, 13s.; Tanfield Moor Bates, 13s.; Walker [illegible]rose,**

13s. 3d.; Wylam, 16s.; Walls End Acorn Close, 16s; Walls End Gosforth, 15s. 3d.; Walls End Riddell, 15s. 3d.; Eden Main, 15s. 6d.; Walls End Braddyll's Hetton, 16s.; Walls End Russell's Hetton, 16s.; Walls End South Hetton, 17s. 3d.; Walls End Benson, 4s. 6d.; Walls End Hartlepool, 17s.; Walls End Heugh Hall, 15s 9d.; Walls End Kelloe, 16s. 6d.; Walls End South Hartlepool, 16s.; Walls End South Kelloe, 16s. 6d.; Walls End Thornley, 15s. 3d.; Walls End Whitworth, 15s. 6d.; Powell's Duffryn Steam, 21s.—50 ships at market.

JOHN CATTELL is in want of a competent, clever person, to act as FOREMAN in the Flower Garden Department of his Establishment, to succeed one who has been with him 28 years. He must well understand the Propagation and Cultivation of Conifers, American Plants, Roses, Herbaceous Plants, Soft and Hard-wooded Greenhouse Plants, and be thoroughly acquainted with plants generally. Good address, strictly honest, sober, steady, and respectable. To prevent disappointment it is particularly requested no one will apply whose character is not in accordance with the above, and will bear the strictest investigation. A really good, clever, persevering Man will find this worth his notice. Wages liberal.—Address JOHN CATTELL, Nurseries, Westerham, Kent, giving full particulars as to testimonials, salary expected, age, &c.

TO GARDENERS AND OTHERS.

WANTED, A MAN with a Small Capital, without incumbrance, to take charge of a NURSERY and PLANTATION, and have a share in the business, or otherwise. A Cottage on the ground.—H. L., 38, Blackheath Hill, S.E.

WANTED IMMEDIATELY, A GARDENER, to undertake the entire Management of a Small Garden, Hothouse, and Greenhouse. A cottage found.—Apply by letter first to C. D., Post Office, Romford, E.

WANTED, a good plain WORKING GARDENER, to take the care of a large walled Kitchen Garden and a Flower Garden (with occasional assistance), and also 40 acres of Meadow Land. His wife to undertake the Dairy.—P. T., Unsted Wood, near Godalming.

WANTED, AS GARDENER, a practical Man, without incumbrance, who perfectly understands Kitchen and Flower Garden Work, and is well skilled in the management of Fruit Trees. A good character required. Wages (to be agreed upon) paid weekly. A small cottage rent free.—Apply to A. HORNCASTLE, Grays, Essex.

WANTED, AS UNDER GARDENER, at a gentleman's residence 12 miles from London, a Young Man of about 18, direct from the country preferred. Wages, 12s. a week for the first year. Good character indispensable. Besides garden work, will be required to Milk two Cows.—Apply by letter only, with name and address of last master, &c., to G. F., Messrs. ALGAR & STREET, Clement's Lane, London, E.C.

WANTED, in a Clergyman's family, about 10 miles from town, a steady, active, single MAN, who can Mow a Lawn, take charge of a Kitchen Garden, and make himself generally useful in the house.—State full particulars to Rev. X. Y. Z., Post Office, Harrow, N.W.

WANTED, a young MAN to look after a Kitchen Garden, House, Pigs, and Poultry, and assist in a light business.—A. C., Post Office, Chertsey.

WANTED, A WORKING BAILIFF, on a Farm of 50 acres, within 10 miles of London.—Apply by letter, A. F. M., care of Mr. W. Smither, 28, Gracechurch Street, London, E.C.

WANTED, AS HEAD SHOPMAN, a person having a thorough knowledge of the SEED TRADE in every department; must write a good hand, and be able to produce the most satisfactory references as to character and abilities. *References will not be inquired into till after further correspondence.—Apply, with full particulars, O. A., Gardeners' Chronicle Office, W.C.*

WANTED, in a country Parish, a SUNDAY-SCHOOL MASTER, who is competent to play the Organ and teach a Village Choir. A good Gardener will find full employment during the week.—For further particulars apply to the Rev. JOHN BELL, Brington Rectory, near Kimbolton.

## WANT PLACES.—Letters to be Post Paid.

GARDENER (HEAD.)—J. SMITH, age 35, married; thoroughly understands his profession. Will be disengaged August 6, and would be glad to meet with any gentleman in want of a confidential Man.—Downshire House, Roehampton, Surrey, S.W.

GARDENER (HEAD).—Age 36, married, one child, age 5; perfectly understands his profession. Wife a thorough Laundress, or can manage a Dairy if required. Four years' good character from the place he has just left.—B. G., Mr. Grover, Builder, Ealing, Middlesex, W.

GARDENER (HEAD).—Age 31, single; perfectly understands his profession in its various branches, the Forcing of Fruits and Vegetables, and the general routine of Kitchen and Flower Gardens, Plants, &c.; also the management of Woods and Plantations, the Measurement of Timber, if required.—J. B., Post Office, North Street, Lisson Grove, N.W.

GARDENER (HEAD).—Age 30, practically conversant with Forcing, the Management of Fruit Trees, Stove and Greenhouse Plants (including Ferns and Orchids), and the duties of the Kitchen Garden. Satisfactory testimonials will be given.—W. K., Messrs. Sutton & Sons, Royal Nursery and Seed Establishment, Reading, Berks.

GARDENER (HEAD).—Middle-aged, married, without incumbrance; active and industrious; has given great satisfaction in Forcing Grapes, Peaches, Grape Vines in pots, Figs, Strawberries, Melons, Cucumbers, French Beans, Mushrooms, Asparagus, and has a good knowledge of Plants. Nine years' high testimonials.—A. Z., 5, Buckland Road, Dover, Kent.

GARDENER (HEAD).—Age 46, married, no incumbrance; thoroughly understands Early and Late Forcing of Vines, Pines, Strawberries, &c., and can be well recommended as a good practical Gardener both from his last and present employer.—F. R., Mr. Young's Nurseries, Milford, near Godalming, Surrey.

GARDENER (HEAD).—Age 29, married; thoroughly acquainted with every branch of his profession; good grower of Specimen Plants and all kinds of Fruits and Vegetables. At liberty on account of his employer breaking up his establishment. Four years' good character. Will give 5*l.* to any Nurseryman on getting him a situation.—W. C., The Hyde Post Office, Edgware Road, near London, W.

GARDENER (HEAD).—JAMES STEWART (age 30, single), Gardener to H. K. Thompson Esq., Witchingham Hall, near Norwich, is at liberty to engage with any nobleman or gentleman in want of a Practical Gardener; has been a successful Exhibitor of Plants, &c., and desires a situation where Gardening is carried out in the highest style. Highly recommended from his present and former employers. Liberal wages.—Direct as above.

GARDENER (HEAD.)—Age 28, single; understands Cucumbers, Grapes, Melons, Flower and Kitchen Gardens. Good character.—H. LAMB, Summerfield House, Homerton, N.E.

GARDENER (HEAD).—Age 37, married; thoroughly understands his profession. Good character from present and late employers.—H. K., Post Office, Lewes, Sussex.

GARDENER (HEAD).—Age 32, married; a first-rate Grape Grower and good Plantsman. Seven years' good character.—D. B., Gipsey Cottage, Upper Norwood, S.

GARDENER (HEAD).—Age 26, single; well experienced in Forcing and Management of Kitchen and Flower Gardens. No objection to a good single-handed place.—A. B., 24, Princes' Road, Notting Hill, London, W.

GARDENER (HEAD).—Age 30; well skilled in all the principal branches of his profession. Gentlemen he has lived with will answer all inquiries respecting him.—H. F., Royal Botanic Gardens, Regent's Park, London, N.W.

GARDENER (HEAD).—Married; well experienced in Forcing Pines, Vines, &c.; likewise Flower and Kitchen Gardens. Good character.—O. P., 2, Priory Place, Kilburn, N.W.

GARDENER (HEAD).—Age 48, married; competent to take the Management of a good Garden in all its branches. Fourteen years' good character.—ROBERT PALLENTINE, Rougham Hall, Bury St Edmunds.

GARDENER (HEAD).—Age 35, married, no incumbrance; has a practical knowledge of his profession in all its branches. Six years' good character.—A. B., Post Office, Hendon, Middlesex, N.W.

GARDENER (HEAD).—Age 35, married; perfectly understands Early Forcing and management of Flower and Kitchen Gardens. Can have a good character.—A. B., 7, St. Peter's Street, Hackney Road, N.E.

GARDENER (HEAD).—Age 28, single; good experience in Grapes, Pines, Peaches, and Cucumbers, also Stove and Greenhouse Plants, including Ferns, and Kitchen and Flower Gardening. Good character.—H. B., Mrs. Wellbelove's, Surbiton Hill, Kingston, Surrey.

GARDENER (HEAD), to any gentleman in want of a practical man.—Age 34, married, without incumbrance; understands his profession in its various branches. Can have 8 years' good character from his late employer.—W. HOADE, Langham Place, Egham, Surrey.

GARDENER (HEAD).—WILLIAM HOWARD, Gardener to W. P. Milner, Esq., Dykes Hall, Sheffield, will shortly be at liberty to enter into an engagement with any nobleman or gentleman requiring the services of a thoroughly practical man well versed in every branch of the profession.

GARDENER (HEAD).—Age 30, single; has a thorough practical knowledge of his profession, also Stock and Meadow Land. In or out of the house. Character will bear the strictest inquiry from present and previous employers.—A. Z., 26, Breman Place, Seven Sisters Road, Holloway, London, N.

GARDENER (HEAD, or where a Lad is kept).—Age 30; understands Early and Late Forcing; no objection to look after Cows or other Stock, or to Superintend a small Farm. Wife can take charge of Poultry or small Dairy if required. Six years excellent character.—A. B., Mr. Foster, High Street, Peckham, Surrey, S.E.

TO NOBLEMEN AND GENTLEMEN.

GARDENER (HEAD), OR GARDENER AND BAILIFF.—Single; well acquainted with the profession in all its branches; also Book-keeping, and has a good knowledge of Farming and Stock. The highest testimonials as to character and abilities.—H. B., Paradise Nursery, Holloway, N.

GARDENER.—Age 25, single; thoroughly understands Kitchen Garden, Hothouses, &c. Good references from last situation.—M. N., 5, York Place, High Street, Stoke Newington, N.

GARDENER.—Age 26, married; no objection to look after a Pony Chaise, or make himself generally useful. Two years' good character.—W. A. C., 2, Weymouth Cottages, New Road, Crouch End, Hornsey, Middlesex, N.

GARDENER.—Age 43; thoroughly understands his profession, and has unexceptionable references. Wants a situation near a station on the Eastern Counties Railway.—F.G., A. Paul & Sons, Cheshunt, Herts.

GARDENER.—Age 28, single; is about leaving his present situation on account of the death of his late employer; thoroughly understands his profession in all its branches. Can have three and a half years' good character.—A. B., Post Office, Findon, Worthing, Sussex.

GARDENER (Single-handed or under a Gardener).—Age 29; can have good character from last place.—J. B., Mr. Threader, Cheshunt, Herts.

GARDENER (UNDER, or IMPROVER).—Age 20; 2 years' good character.—W. S., 3, Albert Place, Lee, Kent, S.E.

GARDENER OR GARDENER AND STEWARD.—Middle-aged, married, without incumbrance; of very superior education; has had great experience in Draining, Planting, and Management of Woods, Designing and Erecting Horticultural and other Buildings, as well as in every department of Gardening. Can give the highest references, and his character will bear every investigation.—P. L., Mrs. Johnston's, Centre Row, Covent Garden Market, W.C.

GARDENER OR BAILIFF.—An active, middle-aged, married Man; 10 years' good character from the situation he is leaving.—D. P., 5, Garden Place, Hampstead, N.W.

GARDENER AND BAILIFF.—Age 45, married, without incumbrance; has practical experience in both branches. Unexceptionable character can be obtained from his last employer.—A. B., Messrs. Waterer, Nurserymen, Bagshot.

GARDENER AND BAILIFF.—Age 30; possesses a thorough knowledge of Gardening, Farming, and Erecting Buildings on the newest and best principles. Seven years' excellent character from his last employer.—T. B., 1, Elizabeth Place, Hickman's Folly, Dockhead, London, S.E.

GARDENER AND BAILIFF.—Age 41, married; practically acquainted with all that relates to the Kitchen, Fruit, and Flower Gardens; also well acquainted with the management of Sheep, Planting and care of Young Plantations, Fences, &c., Draining and the general routine of a gentleman's estate. Good reference.—D. P., Post Office, Lancaster.

TO NOBLEMEN AND CENTLEMEN.

BAILIFF OR STEWARD.—Age 34, married; has had great experience in Farming both heavy and light Soils, the management of Stock, Buying and Selling the same and Corn, and Keeping Accounts. Good character from last situation.—K. Y. Z., 229, Post Office, Great Wilbraham, Cambridgeshire.

LANDSCAPE GARDENING.

FOREMAN.—Skilled in Laying-out Cemeteries or Gardens from Plans, and Ornamental Planting.—A. B., Mr. Kay, East Acton, Middlesex, W.

PROPAGATOR, GROWER, OR FOREMAN, &c.—Experienced; many years in the Trade employ.—GARDENER, 15, Richmond Place, Worthing, Sussex.

TO THE TRADE.

CULTIVATOR AND PROPAGATOR (First class).—EDWIN FANCOURT, for the last five years General Foreman and Cultivator to Messrs. Henderson, Pine-apple Nursery, will shortly be disengaged, and desires an engagement with any nurseryman requiring his services.—31, Cochrane Terrace, St. John's Wood, N.W.

FORESTER.—Young, native of Scotland; has had great experience in all matters appertaining to Foresting, and can produce unexceptionable testimonials and references.—FRANCIS AND ARTHUR DICKSON & SONS, Nurserymen, &c., 106, Eastgate Street, Chester.

TO LANDED PROPRIETORS AND OTHERS.

STEWARD OR BAILIFF, at Michaelmas next.—Thoroughly acquainted with Norfolk Farming in all its branches, Marketing, Breeding, Rearing Stock, &c. Wife an excellent Dairywoman. Can have eight years' unexceptionable references.—Y., care of F. S. Bircham, Esq., Solicitor, Reepham, Norfolk.

HOW TO BREW SPLENDID STRONG ALE, at 7*d.* per Gallon, fine as Sherry, and an aroma equal to Burton Tenpenny. This new Practical Treatise is by a Derbyshire man of 28 years' attendance at the spigot and tun in the best brewery in the county. No brewing utensils required, only those for household use. This is guaranteed to be the best and cheapest mode to produce fine Ale ever made public. The above beautifully printed in large type can be had of the sole publishers for 12 Penny Post stamps. Sent post free to any address. Direct to FISHER & SON, Publishers, Kingsland, London, E.C. Established 1847.

NOTICE.—Just appended to this universally prized Book, all the methods to make the improved Ærated Unfermented Ginger Beer, Soda Water, Lemonade, all the Cordials and Nectars, together with the Penny French Ices, the Delightful Summer Cooling Beverages, and all the French, American, and English cheap fruit drinks.

HANDSOME BRASS AND IRON BEDSTEADS.—HEAL & SON'S Show Rooms contain a large assortment of Brass Bedsteads, suitable both for Home use and for Tropical Climates; handsome Iron Bedsteads with Brass Mountings and elegantly Japanned; Plain Iron Bedsteads for Servants; every description of Wood Bedstead that is manufactured, in Mahogany, Birch, Walnut-tree Woods, Polished Deal and Japanned, all fitted with Bedding and Furniture complete, as well as every description of Bedroom Furniture.

HEAL AND SON'S ILLUSTRATED CATALOGUE, containing Designs and Prices of 100 Bedsteads, as well as of 150 different articles of Bedroom Furniture, sent free by post.—HEAL & SON, Bedstead, Bedding, and Bedroom Furniture Manufacturers, 196, Tottenham Court Road, W.

PRIZE MEDAL, PARIS EXHIBITION 1855.

METCALFE, BINGLEY, AND CO.'S New Pattern and Penetrating Tooth Brushes, Penetrating unbleached Hair Brushes, Improved Flesh and Clothes Brushes, and genuine Smyrna Sponges; and every description of Brush, Comb, and Perfumery for the Toilet. The Tooth Brushes search thoroughly between the divisions of the Teeth and clean them most effectually—the hairs never come loose. M., B., and Co. are sole makers of the Oatmeal and Camphor and Orris Root Soaps—sold in Tablets (bearing their names and address) at 6*d.* each; of METCALFE'S celebrated Alkaline Tooth Powder, 2*s.* per box; and of the New Bouquets.—Sole Establishment, 130B and 131, Oxford St., 2d and 3d doors west from Holles St., London, W.

ALLEN'S PATENT PORTMANTEAUS AND TRAVELLING BAGS, with SQUARE OPENING. Ladies' Dress Trunks, Dressing Bags, with Silver Fittings. Despatch Boxes, Writing and Dressing Cases, and 500 other articles for Home or Continental Travelling, illustrated in their New Catalogue for 1859. By post for two stamps. J. W. & T. ALLEN, Manufacturers of Officers' Barrack Furniture and Military Outfitters (see separate Catalogue), 18 & 22, Strand, W.C.

FOR THE TOILETTE.—OLDRIDGE'S BALM OF COLUMBIA, which has for more than 30 years been celebrated for its peculiar properties in restoring, cleansing, and beautifying the hair, promoting its growth, as well as preventing it falling off or turning grey.—C. & A. OLDRIDGE, 13, Wellington Street, North, seven doors from the Strand, W.C. Sold wholesale and retail in bottles at 3*s.* 6*d.*, 6*s.*, and 11*s.*; and by all Chemists and Perfumers. Its use for whiskers and moustaches is invaluable.

TOURISTS AND TRAVELLERS, VISITORS TO THE SEASIDE, and others exposed to the scorching rays of the sun, and heated particles of dust, will find ROWLAND'S KALYDOR a most refreshing preparation for the complexion and skin, dispelling the cloud of languor and relaxation, allaying all heat and irritability, and immediately affording the pleasing sensation attending restored elasticity and healthful state of the skin. Freckles, tan, spots, pimples, flushes and discoloration are eradicated by the application. Price 4*s.* 6*d.* and 8*s.* 6*d.* per bottle. The heat of the summer also induces a dryness of the hair, and a tendency to its falling off, which may be completely obviated by the use of ROWLAND'S MACASSAR OIL, a delightfully fragrant and transparent preparation for the hair, and as an invigorator and beautifier beyond all precedent. Price 3*s.* 6*d.*; 7*s.*; family bottles (equal to four small), 10*s.* 6*d.*; and double that size, 21*s.* ROWLAND'S ODONTO, or PEARL DENTIFRICE, bestows on the teeth a pearl-like whiteness, frees them from tartar, and imparts to the gums a healthy firmness, and to the breath a grateful purity and fragrance. Price 2*s.* 9*d.* per bottle.—Sold by A. ROWLAND & SONS, 20, Hatton Garden, London, E.C.; and by Chemists and Perfumers.—Beware of Spurious Imitations.

HEALTH WITHOUT PHYSIC.—Nervousness effectually cured by a novel and most successful mode of treatment, discovered in America. The most convincing proof of the efficacy of this wonderful remedy, with other details, will be sent to any address on receipt of one stamp.—Address Mr. HILL, 27, Alfred Place, Store Street, London, W.C.

HOLLOWAY'S PILLS AND OINTMENT.—FRUIT, HEAT: these are two causes of the many derangements of the digestive organs now so prevalent everywhere. Unless profuse perspiration relieve the liver and stomach, their functions become disordered and disease is the consequence. Such disasters can be readily and permanently prevented by HOLLOWAY'S preparations, which in the worst cases of indigestion have the valuable property of cleansing the stomach, rectifying the liver, and removing the flatulency, offensive breath, and sallow complexion, always characteristic of a dyspeptic habit or disease in lungs, liver, or stomach. In either case the food, remaining undigested, ferments; yielding nourishment but forms foul gases, which speedily render the blood impure and thereby weaken and body out of order.

That deficit must be reduced by a considerable decrease of expenditure, and he hoped would be reduced by some increase of revenue. He did not believe that any considerable reduction could be made in the civil expenditure. The great item of saving must be in that of the army. On this subject he entered into a variety of details, insisting on the necessity of always maintaining a large European force. With regard to the revenue, orders had been given to the authorities at Madras, Bombay, and the North-west provinces to raise the salt duty, from which he anticipated an increase of 500,000*l*., and to impose a tax on stamps, licenses, and, if possible, on successions. He further hoped that the receipts from the railways would in future years greatly diminish our expenses on that head. Still we must continue to expect a large deficit, and must contemplate the possibility of a loan guaranteed by the Imperial exchequer. It was the intention of the Government to send out some competent person to India to examine and control the entire system of expenditure and revenue, not as finding fault with the officials in India, but with the view of amending the entire system. He repeated his expectation that under proper management, and when the present pressure was removed, the income might again balance the expenditure. In corroboration of this hope, he showed that there had been an increase and development of revenue in spite of the recent troubles. He concluded by moving a resolution empowering the Government to raise in this country a loan of five millions for the Indian service.—Mr. CRAWFORD declared his conviction that the state of India was on the whole satisfactory, and his confidence in the development of the resources of the country. —Lord STANLEY also expressed his opinion that the difficulties of India were only temporary, and that they must be met by a reduction of expenditure. At the same time he believed that before long Imperial assistance would be a matter of necessity to India.—Mr. BRIGHT said that the entire net revenues of India were absorbed by its military expenses—a state of things which sooner or later must bring any country to ruin. In his opinion the civil service was notoriously overpaid, while our army was much too large, and involved us in endless difficulty. While it existed in its present amount, the Government found it impossible to turn its attention to necessary reforms. He urged the policy of a small army, a conciliatory administration, and measures of improvement. He recommended that there should be a Governor for every 20,000,000 of the population, with large independent powers, responsible only to the home authorities, and thereby decentralising the Government in India.—After some remarks by Mr. T. G. BARING, Mr. H. D. SEYMOUR, Mr. VANSITTART, Mr. GREGSON, Mr. KINNAIRD, Mr. CONINGHAM, and Mr. HANKEY, the resolution was agreed to, and ordered to be reported. The report of the committee of supply was brought up and agreed to. The *Vexatious Indictments Bill* and the *Universities Incorporation Act Amendment Bill* were read a third time and passed. The *Coinage Bill*, the *Stamp Duties Bill*, and the *Government of India Act Amendment Bill* were read a second time.—On the order for the second reading of the *Settled Estates Act* (1856) *Amendment Bill*, Mr. WHITESIDE explained the object of the Bill, which had reference to the case of Sir T. M. Wilson, and the apprehended enclosure of Hampstead Heath.—After some remarks by the ATTORNEY-GENERAL, the debate, on the motion of Sir M. PETO, was adjourned.—Mr. PALK moved the issue of a new *Writ for Dartmouth*, in the room of Mr. Schenley, whose election had been declared void.—Sir J. SHELLEY moved that the writ do not issue until the House had had an opportunity of seeing and considering the evidence taken by the committee.—This amendment was seconded by Mr. ROEBUCK, who remarked upon the disclosures recently made before election committees.—Sir G. GREY opposed the amendment on the ground that the committee had not reported that extensive bribery had existed at Dartmouth.—Mr. LEFROY, the chairman of the committee, stated the nature of the case presented to them.—After a short discussion, in which Mr. BOUVERIE, Lord FERMOY, and Mr. WHITESIDE took part, the amendment was withdrawn, and the motion was agreed to.

TUESDAY.—At the morning sitting the *Income Tax Bill* was read a third time and passed. The House then went into committee upon the *Police (Counties and Boroughs) Law Amendment Bill*, the clauses of which underwent much discussion. On the order for going into committee upon the *Roman Catholic Charities Bill*, Sir G. LEWIS said that the Bill had been framed upon a principle that had received the approbation of a large portion of the Catholic body in England; but, from communications which had reached him, he was not disposed to press the Bill this session. He proposed, therefore, to withdraw it, and to introduce a Continuance Bill, prolonging the exemption of Roman Catholic charities from the operation of the general law for another year.—Mr. S. ESTCOURT and Mr. BOWYER expressed their approval of this course.—Mr. HUTT, as the representative of a large body of Roman Catholics, protested against these continuance Bills, which led to nothing.—Mr. BEAUMONT said that he also represented a large body of Roman Catholics who anxiously desired to have these charities brought under the law of England.—Mr. NEWDEGATE said that the Roman Catholics wished for the Bill because it would protect them from Cardinal Wiseman, whose object appeared to be to organise them into a body distinct from the rest of the community.—Mr HUTT said he would give the proposed Continuance Bill all the opposition in his power.—Colonel FRENCH called attention to the decision of the committee on the late *Norwich Election*. The committee had unseated Lord Bury on the ground of bribery at the election in April. Subsequently Lord Bury had accepted office, and had been again elected. He therefore wished to know whether Lord Bury was not entitled to sit under the second election, to which the petition did not apply?—Sir G. GREY could not see any necessity for the interference of Colonel French, when Lord Bury himself disclaimed any intention of taking his seat under the second election.—Colonel FRENCH replied that he only moved in the matter to ascertain the privileges of the House.—The SPEAKER referred the gallant member to the Act of Parliament, which was perfectly clear and precise. *Cruelties on the High Seas*.—Mr. M. MILNES moved that an address be presented to her Majesty, praying her to enter into negotiations with the Government of the United States for the purpose of preventing the assaults and cruelties committed on merchant seamen engaged in traffic between this country and the United States, and of bringing to justice the perpetrators of such offences, many of whom escape with impunity in consequence of the defects of the present system of international jurisdiction.—Mr. J. EWART seconded the motion.—Sir G. LEWIS explained the international law on the subject, and entered into details of the existing extraditional treaties between England and the United States. Under these treaties offenders were constantly enabled to escape with impunity. It commonly involved too much trouble to send the culprit back to America. Suggestions had been offered that both English and American courts should be empowered to take under their cognisance cases of this kind immediately on the arrival of the ship at the ports of either country. He thought that the difficulty might be removed by a convention.—Mr HENLEY said that concurrent jurisdiction might be given in the cases of American, but not of Russian or French vessels.—The ATTORNEY-GENERAL said that the attention of the Government had been called to the matter. The only way of settling the difficulty was by having recourse to the ordinary courts. He would never consent to give criminal jurisdiction in this country to a foreign consul. The motion was then agreed to. *Foreshores*.—Mr. A. SMITH moved for a select committee to inquire into the rights as claimed by the Crown and other bodies connected with the foreshores, tidal rivers, estuaries, and bed of the sea round the coasts of the United Kingdom, with a view to defining the said rights, and secure and protect those of the public and individuals. The hon. member was developing his motion, when the House was counted out.

WEDNESDAY.—The *Law of Property and Trustees' Relief Amendment Bill* passed through committee, after a long and desultory legal discussion. The House then went into Committee of Supply on the *Civil Contingencies*.—Mr. SPOONER moved the rejection of the vote of 2000*l*. for the *National Portrait Gallery*, contending that many of the pictures were worthless, and that the gallery, if it existed at all, ought to be a part of the National Gallery. After an animated debate the vote on a division was affirmed by 141 to 55.—Mr SPOONER again moved the rejection of a vote of 2000*l*. for the purchase of Sir G. Hayter's *Picture of the First Reformed House of Commons*.—The CHANCELLOR of the EXCHEQUER said that the purchase was made under the authority of Mr Disraeli, on the recommendation of many members of the late House of Commons.—Mr. SPOONER said he did not care who authorised the purchase.—Mr AYRTON suggested that the purchase was made by the right hon. gentleman for the purpose of keeping reform before the eyes of his party. On a division the votes were equal, 82 for and 82 against it. The chairman, Mr. Massey, gave his casting vote in favour of the vote, which therefore passed in the affirmative.—On the vote for 9988*l*. for buildings at Kensington Gore, erected for the temporary accommodation of the *Turner and Vernon Galleries*, Mr. AYRTON protested against the secret influence and intrigues which, contrary to the wish of the House of Commons and of the public, were brought to bear for the purpose of gradually establishing our collection at Kensington. An animated discussion followed, in which it was contended that the pictures might have been placed for a time in a private house, or in the rooms now occupied by the Royal Academy, or a temporary building at Burlington House.—Lord PALMERSTON declared that there was no intention whatever of permanently establishing our collection at Kensington.—Lord J. MANNERS denied that any influence had been used in the matter. He had been very much puzzled to find a site, and had adopted Kensington because he could find no other.—The CHANCELLOR of the EXCHEQUER defended the vote, arguing that no other site equally favourable could have been found, and declaring that the buildings, though for a temporary purpose, would be themselves permanent. On a division the vote was affirmed by 116 to 73. A vote of 5000*l*. for *Compensation to Mr. Barber* led to another division, when the vote was carried by 124 to 24.—The CHANCELLOR of the EXCHEQUER obtained leave to bring in a Bill to amend the *Superannuation Act*.

THURSDAY.—*New Foreign Office*.—At the morning sitting the House went into committee on the remaining estimates.—On the vote of 20,000*l*. towards defraying the expenses of preparing the ground by concrete for the foundation of the new Foreign Office, the CHANCELLOR of the EXCHEQUER stated that a responsible builder was ready to undertake the construction upon Mr Scott's plan for 237,000*l*.; but there were contingencies which would augment the charge to 310,000*l*., and, the cost of the site being 120,000*l*., the total sum would be 430,000*l*. A long discussion ensued, embracing a great variety of topics connected with the proposed building, including the question whether it should comprise a residence for the Foreign Minister and reception rooms, and the question of the architect, involving that of the style of architecture—whether Italian or Gothic.—Lord ELCHO defended Mr Scott's Gothic design, and Mr. TITE spoke in favour of Italian for public offices. Mr. BLACKBURN, Mr BRUCE, Sir E. COLEBROOKE, Mr CROSS, Mr. C BUXTON, Mr. STIRLING, and Sir J. PAXTON, spoke in favour of Mr. Scott's plan; Sir J. SHELLEY and Mr. CONINGHAM opposed it.—Lord PALMERSTON said nothing would be done towards fixing upon a plan until Parliament met again. He retained the opinion he had expressed, that the Gothic style was utterly unsuitable to a public official building, and he avowed the declaration he had made to a deputation, that, as far as his opinion had weight, he should do all he could to prevent that style being adopted; that it was admirably suited to a monastery or a College of Jesuits, but not externally or internally, to the purpose for which the present building was intended.—Lord J. MANNERS vindicated the course he had taken in this matter, and expressed his hope that the House would insist on Mr Scott's original design being carried out. *Roman Catholic Sailors*.—In reply to Mr. HENNESSEY, Lord C. PAGET said that the present Board of Admiralty intended to give every possible facility for Divine worship, not only to Roman Catholic sailors, but to all others who might dissent from the Church of England. *Bodmin Election*.—Mr. ROEBUCK brought before the House a matter which he said affected its privileges. He had reason to believe that Dr. Michell, one of the members for Bodmin, whose return was petitioned against on the ground of bribery, corruption, and treating, had entered into a corrupt compromise, the terms of which were that Dr. Michell should, at the end of the present session, apply for the Chiltern Hundreds and resign his seat, and that, in consideration of his so doing, the petition against him should be withdrawn. He called upon the House, if it had any regard for its own honour, to resist and expose such corrupt practices, and he therefore moved a resolution that any Minister of the Crown who might grant the Chiltern Hundreds under such circumstances would be guilty of a grave dereliction of duty.—After some discussion in which Lord PALMERSTON, Mr. DISRAELI, the CHANCELLOR of the EXCHEQUER, Mr. BRIGHT, Sir G. GREY, and Sir H. CAIRNS took part, the debate was adjourned, and Dr Michell was ordered to appear in his place on Friday. The House then went into *Committee of Supply*, and resumed the discussion of the remaining estimates. In moving the vote of 10,000*l*. for the expense of *a new Copper Coinage*, the CHANCELLOR of the EXCHEQUER said that the coins would be composed of a compound metal, a species of bronze, and would be substituted for the large and inconvenient copper coins now in use. On the vote for 2200*l*. to defray the expenses of the late *Mission to the Ionian Islands*, Mr. GLADSTONE said he should be quite prepared to take his stand on the reports he had sent home whenever the public interests would allow them to be published. The *Militia Laws Amendment Bill* was read a second time. On the order for going into committee on the *Stamp Duties Bill*, Mr. SELWYN moved a resolution authorising the committee to introduce a clause extending the probate duty in the case of property above 1,000,000*l*. At the suggestion of Mr. LAING, the clause was deferred. The *Dublin Police Bill* and the *Probate and Letters of Administration (Ireland) Bill* passed through committee. On the consideration of the *Police (Counties and Boroughs) Law Amendment Bill*, as amended, several new clauses were added, and the Bill agreed to. Various other Bills passed through committee. On the order for the second reading of the *Divorce Court Bill*, received from the Lords, the ATTORNEY-GENERAL said that its object was to render all the judges in Westminster Hall eligible to sit in the full Court, and to facilitate the action and enlarge the powers of the Court in certain cases.—Mr. HENNESSEY objected to the Bill that it extended the action of a most dangerous law. He moved to defer the second reading for three months. The amendment was seconded by Colonel DUNNE. In the discussion which followed Mr. CARDWELL, on the part of the Government, consented to the exemption of Ireland from the operation of the Bill. On a division the amendment was negatived by 118 to 15, and the Bill was read a second time. The *Endowed Schools Bill* was withdrawn by Mr. DILLWYN after some remarks by Mr. HOPE and Mr. LOWE, who explained the changes which the Bill had undergone in the select committee. On the order for going into committee upon the *Medical Acts Amendment Bill*, Mr. COWPER moved to defer the committee for three months. The amendment was negatived after a public warm discussion, and the Bill passed through committee. The remaining business on the order for the second reading of the *Settled Estates Act* (1856) *Amendment Bill* was then resumed, and the House divided upon a motion by Mr LYNE to defer the second reading for three months, which was carried by 68 to 58, so the Bill was lost.

FRIDAY.—*Election Committee*.—Lord GROSVENOR, member for Longford, was brought up in the custody of the Serjeant at Arms, having been ordered into custody for neglecting to attend the Hull election committee. The cause of his absence having been explained he was ordered to be discharged on payment of the fees. *The Serpentine*.—On bringing up the report of Supply, Sir J. PAXTON objected to the vote of 17,000*l*. for the Serpentine, and thought that time should have been given to consider the report.—Sir J. SHELLEY and Mr. WALTER concurred, but the vote was ultimately agreed to. *The Bodmin Election*.—Dr MICHELL, in obedience to the order of the House, attended and said that not being an affluent man he was unable to meet the expense of defending his seat, and had therefore determined to retire. There was no sort of corrupt compromise, although he certainly had compromised by resigning on the ground that the petition should be withdrawn. He did not know that he was fighting against the rule of the House.

[Left speaking.]

## City Intelligence.

MONEY MARKET, FRIDAY.—BRITISH FUNDS: Consols closed at 95 to ¼ for Money, and 95¼ for the 7th September; Bank Stock, 222½; Reduced and New Three per Cents., 95½ to ⅝; India Stock, 221½; Four per Cent. Debentures, 1858, 94½; Exchequer Bills, 27*s*. prem.—FOREIGN: Austrian Five per Cents., 1859, 77, ex div.; Buenos Ayres Deferred Bonds, 18½; Dutch Four per Cent. Certificates, 100¼; Mexican Three per Cents., for account, 19; Russian Five per Cents., 113; Ditto Four and a Half per Cents., 98⅞ to 99½; Turkish Six per Cents., 1854, for account, 82½ to 82; Ditto, 1858, for account, 72¼ to 72; Venezuela New Two and a Half per Cents., 29 to 29¼.

## Bank of England.

ISSUE DEPARTMENT.

| | | | |
|---|---|---|---|
| Notes Issued | £31,201,740 | Government Debt | £11,015,100 |
| | | Other Securities | 3,486,900 |
| | | Gold Coin and Bullion | 16,700,740 |
| | | Silver Bullion | — |
| | £31,201,740 | | £31,201,740 |

BANKING DEPARTMENT.

| | | | |
|---|---|---|---|
| Proprietors' Capital | £14,553,000 | Government Securities (including Dead Weight Annuity) | £11,208,572 |
| Rest | 3,536,135 | Other Securities | 17,690,067 |
| Public Deposits (including Exchequer, Savings Banks, Commissioners of Nat. Debt, and Dividend Accts.) | 5,423,259 | Notes | 8,989,920 |
| Other Deposits | 14,331,016 | Gold and Silver Coin | 605,686 |
| Seven day and other bills | 818,747 | | |
| | £38,362,145 | | £38,362,145 |

4th day of August, 1859.

M. MARSHALL, Chief Cashier.

## Gazette of the Week.

TUESDAY.—BANKRUPTS.—G. J. ADAMSON, Twickenham, Builder—L. FLAMANT, Duke Street, Portland Place, Milliner—J. F. FORD, Aldermanbury, Stock and Tea Manufacturer—Y. HUGHES, Denbigh, Draper—J. SWAN, Quay Side, Newcastle-upon-Tyne, Shipowner.—C. TITCHMARSH, Wimpole, Cambridgeshire, Farmer.

BANKRUPTCIES ANNULLED.—T. P. BARTLEY, Walsall, Staffordshire, Grocer.—H. TATTERSON, Roundaleigh, London, Wholesale Clothier.

SCOTCH SEQUESTRATIONS.—W. H. LAWRIE, Edinburgh, Merchant.—J. D. M'NEILL, Tronn near Edinburgh.

FRIDAY.—BANKRUPTS.—J. R. ANDREW, Hastings, Brewer.—W. LADYWOOD, Fairfield, Lancashire, Joiner.—P. G. FRANKLIN, Bridge Street, Southwark, Plumber.—T. HUGHES, Aberdulais, Glamorganshire, Coal Dealer.—M. KEYSE, Upper Phillimore Place, Kensington, Boarding House Keeper.—S. W. MORGAN, Throgmorton Street, Stock Broker.—J. SHAW, Huddersfield, Cotton Dresser.—F. TAPLEY, Arbor Terrace, Commercial Road East, Draper.

SCOTCH SEQUESTRATIONS.—J. CALDWELL, New Prestwick, near Ayr, Farmer.—R. M'LACHLAN, Ayr, Architect, now deceased.—F. MACPHERSON, Lochgilphead.—M. MACPHERSON, Lochgilphead.—J. WATSON, Alloa, Writer.

## Metropolis and its Vicinity.

BIBLE EDUCATION FOR INDIA.—A deputation comprising upwards of 70 noblemen and gentlemen waited on Lord Palmerston and Sir Charles Wood at Cambridge House on Saturday. The Archbishop of Canterbury introduced the deputation, and explained the strong feeling which existed throughout the country on this subject, and read the following statement as conveying the object of the deputation:—

"To request a removal of the authoritative exclusion of the Word of God from the system of education in the Government schools in India, so that those who may be so disposed be interdicted from the hearing or the reading of the Bible in school hours, provided always that such safeguards be adopted against undue interference with the religions of the natives as may appear just and proper to the chief local authorities in the several governments of India."

Lord Shaftesbury stated that the numerous deputation now present represented all the denominations of religion, and that many more would have attended had not so many persons been out of town at this season. A written statement, explanatory of the views of the deputation, was then read:—

Sir C Wood explained that he and her Majesty's Government felt as anxious as the deputation that the natives of India should embrace the Christian religion. They desired this on the ground that every additional convert to Christianity was an additional strength to the British Government of India; that, notwithstanding the high authority of Sir J. Lawrence, there were others of high authority who took a different view of the subject; that many, even zealous for the promotion of missions, thought that a Bible class in Government schools might create a prejudice against Christianity, and so impede instead of promoting its progress; that it was a question which could not be definitively settled without communication with the authorities abroad as well as at home.—Lord Palmerston expressed his conviction that not only her Majesty's Government, but all Christian men, must unite in desiring the advancement of Christianity in India even as a matter of policy; that the deputation must not, therefore, regard the hesitation of Government as arising from any disregard of the importance of the question, but only on account of the difficulties with which it was surrounded in the apprehension of many Indian authorities.—Sir C Wood afterwards explained the nature of the interdict as far as his despatch of 1854 was concerned—namely, that it did not forbid the formation of a voluntary Bible class in any Government schools by the Government teachers, either before or after the school hours, nor did it forbid the reading of the Bible itself in school

hours as an historical book, without teaching the doctrines of the Christian religion. The latter point had been so explained in 1848 by Mr. Cameron, the head of the Educational Department in Calcutta.

STRIKE IN THE BUILDING TRADE.—The workmen in the building trade, who have long been agitating for a reduction of the hours of labour to nine daily, instead of ten, as at present, have now directed the men employed by Messrs. Trollope & Sons to strike for a curtailment of one hour in the day's work at the present rate of wages. In consequence of this proceeding a meeting of the master builders was held on Monday at the Freemasons' Tavern, at which it was unanimously resolved to close all the establishments on Monday next, the 6th of August; to employ in future no man who is not prepared to sign a document declaring that he will not become a member of the Trades Unions; to appoint a committee to arrange with the willing men; and to prepare a plan for a new and sound Benefit Society with the view of continuing to meritorious workmen the advantages of the legitimate objects from which the existing Trades Unions have been diverted. A meeting of workmen in favour of the strike was held on Wednesday evening at Hyde Park, and was attended by a body of operatives variously estimated at from 5000 to 20,000. Mr. Farey, a carpenter, presided as chairman; and another carpenter, named Cremer, moved a resolution pledging the meeting to support the nine hours movement. Several speakers addressed the meeting in strong terms against the resolutions agreed to by the master builders, and the motion was carried amidst great acclamation. The proceedings ended by burning the *Times* newspaper on a miniature gibbet. Up to this time about 220 of the largest builders in the metropolis have given in their adhesion to the principles adopted by the employers at their recent meeting. These 220 are stated to comprise all the builders in London who employ upwards of 50 men, and it is calculated that the total number of men in their employ is about 40,000, all of whom will be thrown out of employment on Monday, if the strike continues.

STRIKE OF THE GAS STOKERS.—During the last fortnight some of the gas companies of the metropolis have had great difficulty in providing a sufficient supply of gas, owing to the stokers and other men employed having struck for an advance of wages and less work. For some months past there has been a discontented feeling among the men, and last week they made an open demonstration at the Chartered Company's Works, in Horseferry Lane, demanding 37*s.* a week instead of 30*s.*, and 10 hours' labour instead of 12. The directors not being prepared to resist the demand, consented to advance the wages. A few days afterwards a similar strike was made at the Imperial Company's Works at Kings' Cross, but the directors having had an intimation of their design, had telegraphed to Yorkshire and other places for workmen, and refused to comply; whereupon about 150 men left their works. The men employed in the Vauxhall Works next struck, bnt their demands were met by the directors with a firm refusal. Finding themselves foiled in their attempt, the men, amounting to nearly 100, proceeded to the City Gas Works, in Whitefriars, for the purpose of inducing the men there to turn out, but they refused to do so. The police having quietly dispersed the men, they afterwards proceeded to the Phœnix Works, Bankside, and the works of the London Company, but the directors were prepared to resist the intimidation. The directors of the London Company have since issued a notice stating that as the works are to some extent impeded by the strike, the directors trust that the public boards and private consumers will support them by economising for the present the use of gas as much as practicable, in order to avoid the possibility of greater inconvenience.

ANNIVERSARY OF THE ABOLITION OF SLAVERY.—On Monday, being the 25th anniversary of the emancipation of the negro population in the British colonies, a public meeting was held at the Music Hall, Store Street, in celebration of the event. The chair was occupied by Lord Brougham, who delivered a long address on the subject. Mr. Hinckes, governor of Barbadoes, moved a resolution to the effect that the retrospect of emancipation was satisfactory to the meeting. This was seconded by Mr. G. Thompson, and carried unanimously. The Hon. Amasis Walker, of Massachusetts, moved the second resolution, deploring that slavery was still maintained by various civilised nations, and that the slave trade was still prosecuted in contravention of treaties and in defiance of all attempts to suppress it; but rejoicing that in the United States and elsewhere there were various societies engaged in promoting the extinction of those iniquities, and wishing them "God speed." The resolution having been unanimously adopted, a vote of thanks was given to Lord Brougham for his exertions in the cause of emancipation and his conduct in the chair.

STATE OF THE THAMES.—At the last meeting of the Metropolitan Board of Works, a report was presented from Professor Miller, stating that the liming process was going on very satisfactorily, and that the Thames was less offensive than in the former week.

ROBINS'S AUCTION ROOMS.—These well-known rooms under the Piazza in Covent Garden, which are said to be the oldest auction rooms in London, and have been occupied by the Messrs. Robins and their predecessors for upwards of half a century, are about to be pulled down to make room for a spacious hotel, which is immediately to be erected on the site.

THE NORTH SEA TELEGRAPH.—The cable of the Submarine Company from Weybourne to Heligoland and Denmark has been placed in telegraphic connection with Cromer, in Norfolk, and Westerhever, on the Danish coast, and messages have been exchanged with complete success.

THE LOSS OF THE ALMA.—Letters from the Red Sea state that all hope of saving the Alma is at an end. She has opened out from top to bottom on the port side, and is gradually becoming a total wreck. One thousand packages in all have been recovered, but the bales of silk which still remain in the hull have become quite putrid, and the stench arising therefrom is intolerable. One of two native divers have already perished in the attempt to save more of the cargo. Captain Henry and his officers, with 60 of the crew of the Alma and 10 marines from the Cyclops, still occupy the reef.

THE PUBLIC HEALTH.—The weekly report of the Registrar-General states that the returns of London for last week indicate some improvement in the state of the public health. The deaths in the week ending Saturday, July 30, were 1419. In the corresponding weeks of the 10 years 1849-58 the average number was 1148; which, if raised in proportion to the increase of population, will become 1262. The return of last week is therefore 157 below the average. During the week the births of 881 boys and 922 girls, in all 1803 children, were registered in London. In the 10 corresponding weeks of the years 1849-58 the average number was 1485.

## Provincial.

BATH.—On Tuesday the mayor of this city was engaged for several hours investigating a charge against a gentleman holding a high position in the army, involving the offence of sending anonymous letters of the most filthy and obscene character to a lady well known in fashionable circles and much esteemed in Bath. The accused, who had been apprehended under a warrant issued by the mayor the same morning, was Colonel John Alexander Forbes, of Lonach Lodge, Beacon Hill, and the charge against him was that he did on the 23d June "unlawfully and wickedly utter and publish an obscene and indecent letter, with intent to debauch and corrupt Adelaide Lucy Fenton, and with intent to incite her to commit a breach of the peace." The case was established by a comparison of the handwriting of the letter with others of a similarly gross character which had been addressed to a young man called Watting who had advertised for a situation as a teacher, and who very properly sent the letters to the superintendent of police. At the close of the inquiry the mayor determined to send the case to the assizes, and the defendant was admitted to bail, himself and one surety in 400*l.* each.

BIRMINGHAM.—On Thursday evening the 28th ult. a disastrous explosion occurred at the manufactory of Messrs. Ludlow, Brothers, percussion cap makers to the Board of Ordnance in Legge Street. It is supposed that an old woman named Booth, who has been similarly employed by the firm for the last 30 years, was engaged in the hazardous operation of mixing fulminating powder used in the manufacture. She had a room for herself at the top of the main building where the explosion took place. The poor woman must have been instantly blown and torn to fragments, as no portion of her remains larger than a person's hand have been picked up. A man engaged in another part of the building was killed by the roof falling in, and another had both his legs broken. A woman was badly burnt about the hands and face; and several other persons employed in the manufactory were injured. The premises were completely gutted, and thrown open to the sky. The explosion was heard at a distance of two miles.

CHELTENHAM.—The sale of Lord Northwick's pictures has proceeded this week with increasing animation. The fourth day's sale (consisting chiefly of modern pictures of the English school), produced upwards of 7000*l.*, the highest prices being realised by Mr. T. Webster's "Breakfast, or the Dunce punished," which sold for 1005*l.*, and by Mr. Mulready's "Convalescent from Waterloo," which sold for 1180 guineas. The fifth day's sale produced 7500*l.*, the highest price being realised by Murillo's celebrated picture of "Jacob placing the Rods before the Sheep of Laban," which fetched 1410 guineas. The sixth day's sale produced upwards of 6250*l.*, two of the principal works, Giulio Romano's "Birth of Jupiter," and Girolamo da Treviso's "Virgin and child throned," being bought for the National Gallery at a cost of 920*l.* and 450 guineas respectively. The total proceeds of the six day's sale were 32,250*l.* The seventh and eighth day's sale, on Thursday and Friday, were devoted to the antique gems from the Poniatowski collection, miniatures, marbles, bronzes, Raffaelle ware, camei, and intaglei, from the Gilmore and other collections; and on Tuesday next the sale of the pictures will be resumed, and continued throughout the week.

DARLINGTON.—Several persons in this town have had a narrow escape of being poisoned through eating cheese which appears to have become poisonous, not in consequence of the introduction of any extraneous substance, but from the spontaneous conversion of the acetic acid it contained into caseic. The magistrates before whom the facts were stated thought that, as no suspicion attached to any parties, no useful purpose would be served by an analysis. They declined, therefore, to make any order, except that the shopkeeper should be cautioned against selling any more cheese of the same description.

LIVERPOOL.—On Monday last Andrew Adam Davis, second mate of the American ship Helen Foster, was charged before the Birkenhead magistrates with an outrage upon two Austrian seamen, who, in order to escape the prisoner's violence, had leaped into the river, and narrowly escaped drowning, one of them having contrived, though almost dead from exhaustion, to reach the shore at a place three miles from the scene of the outrage. Fortunately for the prisoner, he thus escaped an indictment for murder, and was fined 40*s.* and costs for the assault.

SHEFFIELD.—About 10 o'clock on Monday night James Linley, saw-grinder, was shot while sitting at the Crown Inn, Scotland Street. The ball entered his left temple, and lodged behind the eye, but it is not expected to prove fatal. Linley has previously been shot at, and attempts have been made to blow up his house for refusing to join the Saw-grinders Union; but the present outrage is supposed to have been committed from motives of jealousy by a man called Brown, and to be wholly unconnected with the Union.

SOUTH SHIELDS.—On Monday evening a frightful accident occurred at the laying of the foundation stone of a new Primitive Methodist Chapel near the Jarrow Docks in this town. It is proposed to use the ground floor as a school, and the work had advanced so far that the beams and planks were laid for the second floor. At the time the ceremony was about to take place about 150 persons, mostly pitmen, had got upon this floor, using it as a platform, but as Alderman Wallis was proceeding to lay the stone the central beam of the floor where the people were standing snapped, and the whole living mass, with the materials, were thrown together on the ground. It was some minutes before the crowd could be cleared away, or before people could recover their senses to pull out the injured people from the fallen materials. Those that were hurt were then attended by medical gentlemen who were present. About a dozen people in all were hurt, but it is not expected that any case will terminate fatally.

STAMFORD.—Great sensation has been caused at Rushden by a family of gipsies, eight in number, being taken suddenly ill. A surgeon was sent for, who found that they were suffering from the effects of arsenic, which appears to have been mixed with a quantity of flour that had been given them, and for several hours the whole party were in great danger. There appears to be considerable mystery connected with the affair.

## Ireland.

CONFERENCE OF THE ROMAN CATHOLIC BISHOPS.—All the prelates of the Roman Catholic Church in Ireland, with the solitary exception of Bishop Blake of Dromore, assembled on Monday in the chapel of St. Kevin, Dublin, and have since sat daily by adjournment, "for the purpose of taking into consideration several questions of great importance to the Irish Catholics." The proceedings are conducted with closed doors, and all that has transpired is that the chair was taken by the Papal Legate, as being superior in rank to the Primate.

THE BELFAST PHŒNIX CONSPIRATORS.—At the Antrim Assizes on Monday, after some discussion, the conspirators were discharged on their own recognizances on condition of their taking the oath of allegiance when called upon, Judge Christian concurring in the course adopted by the Crown. The traversers all pleaded Guilty.

DEPARTURE OF IRISH NUNS FOR AUSTRALIA.—Eight ladies of the Westport branch of the Order of Mercy left Baggot Street Convent recently for Liverpool, where, on their arrival, they remained in St. Mary's Convent of Mercy until the 6th, when they sailed in the Saldanha for Sydney, there to found a convent, schools, &c. in connection with their order.

SHOCKING MURDER IN THE COUNTY LIMERICK.—On Thursday the 28th ult. a respectable farmer named William Crowe, of Cooga, county Limerick, was brutally murdered while going to a funeral. The unfortunate man was first shot through the body, and his brains were afterwards beaten out with stones. He was a tenant of Lord Derby's, and voted for the Conservative candidate at the last election. It was stated at the inquest that the unfortunate man was denounced from the altar on two successive Sundays previous to his murder in the following terms.—"That Crowe will yet go like the froth of the river; his children will get disease, and his cattle distemper, for voting for Protestant Dickson." Though the murder took place on the high road, 400 yards from a police barrack, about 2 o'clock in the afternoon, all the people profess the greatest ignorance of the matter, and the murderers have not been apprehended. The Irish Government have offered a reward of 100*l.* for their discovery.

## Railways.

COLLISION AT THE FENCHURCH STREET STATION.—On Monday afternoon a serious accident occurred at the Fenchurch Street terminus, by which several persons were injured. An engine had backed a Tilbury train into the station, and was proceeding outwards just as the North Woolwich up train was coming in. Before the engines of either train could be stopped a collision took place, the single engine dashing into two of the carriages of the North Woolwich train, and severely injuring the passengers. The engine and train were both knocked off the line. The injured persons were speedily removed to the platform. Two

were taken to the London Hospital—one, a sailor, much contused and stunned; and the other, a middle-aged woman, with her leg fractured badly and other injuries. The rest of the sufferers were taken to their own homes, or to St. Thomas's Hospital. It is understood that they are all doing well and that none of the injuries are likely to prove fatal.

THE BRIGHTON AND SOUTH-WESTERN DISPUTE.—The Brighton and South-Western directors have come to terms. The Brighton company is to enjoy as before one third of the Portsmouth on payment of one-third of the rent, 18,000*l.* a year. An equivalent commutation is to be given to the Brighton company for the passage over the Havant and Hilsea part of the line, but the right over it is to remain as it has been, solely in the Brighton company. The Epsom and Leatherhead line is to be common property to both the South-Western and Brighton companies. The Brighton company is to be allowed to make a line from Pulborough to Arundel, and the agents of both parties are to stop all hostile surveys. Under this arrangement the running of through trains by the direct Portsmouth route will be resumed on Monday next, and the low-priced excursion trains by both routes will be abandoned on the same day.

LONDON AND SOUTH-WESTERN.—At the half yearly meeting on Thursday, the report of the directors was adopted, and a dividend declared at the rate of 4½ per cent. per annum, an amendment to reduce it to 4 per cent. not having been seconded.

## Law.

OXFORD CIRCUIT: HEREFORD.—*The Ledbury Murder.*—*John Isaac Jones*, solicitor's clerk, was tried on Tuesday for the wilful murder of Harriett Baker, at Ledbury, before Mr. Justice Byles. The evidence was purely circumstantial, and though many of the details pointed with peculiar suspicion to the prisoner, there was necessarily an absence of any direct proof. The trial lasted nearly three days. Mr Justice Byles, in summing up on Thursday morning, called the attention of the jury to the leading facts, and in commenting on them noticed the points very strongly that told in the prisoner's favour, and the tendency of the summing up was to show that in his lordship's opinion the prisoner was not the man who committed the murder. The jury then retired, and after consulting for three hours they returned a verdict of *Not Guilty*. Slight applause followed the announcement. The prisoner, who all the day had hung down his head on his hands on the rail of the dock, was brought up, assisted by the keepers, when the Court reassembled, seemingly in a state of great trepidation. Immediately on the slight applause referred to, he gave a convulsive start and fainted. Medical assistance was at hand, and water having been thrown upon his face, he began to recover in part, but fought for a time desperately with the keepers, saying in a low voice, "I am innocent, I am innocent." On recovery he beckoned the governor of the gaol to him and asked what was the verdict, at the same time thanking him for all his kindness. He then called for his solicitor, who was not however at hand, and refused to leave the Court till he had seen him. Subsequently, however, he was prevailed upon to go below. Afterwards, to protect him if any violence should be offered, he was conveyed back to the gaol. STAFFORD.—*The Attempted Wife Murder at Ludlow.*—*Francis Hopwood*, 21, engine driver, was charged with cutting and wounding his wife, Mary Hopwood, with intent to murder her; also with intent to do her grievous bodily harm, on the 10th of April, at Ludlow. The prisoner and his wife had separated on account of their frequent quarrels, and the wife having refused to live with him again, he attempted to cut her throat and afterwards threw himself into the river with the intention of committing suicide. The jury found him *Guilty* of unlawfully wounding. Mr Justice Willes said, the jury had taken a very lenient view of the case, and that if the prisoner had been found guilty of the felony he would have been transported for life. The prisoner had been twice before convicted of violent assaults upon women, and he should therefore give him the utmost punishment which the law allowed—viz., two years' imprisonment, with hard labour. *Stabbing.*—*Frederick Foreday*, 22, was charged with stabbing and wounding James Bullock on the 24th of April, 1859, at Upper Penn, with intent to murder him, and also with intent to do him some grievous bodily harm. This was an extraordinary case, not merely from the severity of the wound inflicted on the prosecutor, but from the fact which it disclosed, that the prosecutor, who was a policeman at Wolverhampton, had trained and used a bull-mastiff for the purpose of knocking down and catching thieves and others whom he desired to arrest. The prisoner stabbed the policeman in the back near the spine, and inflicted a wound nearly 3 inches deep, which penetrated the kidneys. The policeman then set his dog at the prisoner, who ran away, but the dog stopped him, and when the policeman went up to take him into custody, the prisoner again stabbed him in the region of the heart, but the knife fortunately struck a bone and did little injury. Mr. Justice Willes, in summing up, condemned in strong terms the illegal practice of using a dog as had been done in this case, and said that in no country where there was a spark of humanity or independence could such a practice be tolerated. The jury found the prisoner *Guilty* of wounding with intent to do grievous bodily harm. Mr. Justice Willes said the offence was a most serious one, and it was necessary to make an example of the prisoner, as a warning to others, and for the protection of the lives and limbs of her Majesty's subjects. The sentence was that the prisoner be kept in penal servitude for six years.

## Obituary.

THE EARL OF MINTO, G.C.B., died on Sunday afternoon at his residence in Eaton Square, after a protracted and lingering illness. His lordship, Gilbert Elliott Murray Kynynmond, Earl of Minto, Viscount Melgund and Baron of Minto, county Roxburgh, in the peerage of the United Kingdom, and a Baronet of Nova Scotia, was eldest son of the first earl, by the eldest daughter of Sir George Amyand, Bart., and was born in 1782. He married, in 1806, the eldest daughter of Patrick Brydone, Esq., by whom (who died in 1853) he leaves surviving issue Lady Dunfermline, Viscount Melgund, Lady John Russell, the Hon. Henry George Elliott, Captain the Hon. Charles Elliott, Lady Elizabeth Romilly, the Hon George Elliott, Lady Charlotte Portal, and the Hon. Gilbert Elliott, in the Rifle Brigade. He succeeded to the earldom on the death of his father in 1814. He was educated at the University of Edinburgh with the Marquis of Lansdowne, Lord John Russell, Lord Palmerston, Lord Glenelg, and other eminent members of the Whig party. Previous to his accession to the earldom he sat in the House of Commons for Ashburton. On the completion of the Grey Administration he was made a privy councillor, and in 1832 was appointed minister plenipotentiary to the Court of Berlin, where he continued until the autumn of 1834. In 1835 he accepted office in Lord Melbourne's second Administration, as First Lord of the Admiralty, in the room of Lord [illegible], resigned [illegible] the usual Royal [illegible] the Queen, on the Majesty in 1841. On Lord John Russell succeeding to the Premiership in 1846, he entered the Cabinet as Lord Privy Seal. In the following year he went on a special mission to Switzerland, the Courts of Florence, Turin, Rome, and Naples. While on his mission the revolution of February, 1848, broke out in Paris, and the object of his mission to Naples was not effected, owing to the convulsions which followed the revolution in France. He returned from Paris in May, 1848, to resume his duties in the Cabinet, and as Lord Privy Seal remained until the resignation of Lord John Russell in 1852, since which period he has not [illegible] in political matters, beyond giving support to his political friends by his votes in the House of Lords. His lordship is succeeded in his titles and estates by his eldest son, Viscount Melgund, born 1782, and married in 1844 to the only daughter and heiress of the late General Sir Thomas Hislop, G.C.B. The present earl graduated at Trinity College, Cambridge, and has been M.P. for Hythe, Greenock, and Clackmannan.

THE HON. PATRICK PLUNKET, Judge of the Irish Court of Bankruptcy, died on the 31st ult. at Kingstown, in his 64th year. He was the fifth son of Lord Plunket, who was raised to the bench in 1824. For some years he was private prosecutor on the Leinster circuit. He survived his colleague, Mr Moore, but a few weeks, and wanted but a year of service to entitle him to his full retiring pension.

THE HON. ROBERT WINDSOR CLIVE, M.P. for South Shropshire, died on Thursday at his residence in John Street, Berkeley Square, after a long illness. He was eldest son of the late Hon. Robert Clive and the nephew of Viscount Clive, born in 1815. He married in [illegible] Lady [illegible] daughter of the Earl of [illegible], by whom he leaves a youthful family.

THE REV. JOSEPH SHAW, B.D., senior Fellow of Christ's College, Cambridge, died at that College on Tuesday morning in his 75th year. Mr. Shaw proceeded to his B.A. degree in 1807, and was third senior optime. He was directly elected fellow, and within a short period tutor of the college. In 1849, on the election of Dr. Graham to the see of Chester, he was elected to succeed the right rev. prelate in the mastership, but resigned the office before his term of grace had expired, and retired to his former position, having reached that age when, in his estimation, the more brilliant position did not compensate the loss of the quiet and leisure he had hitherto enjoyed. The valuable living of Kegworth was offered him by the society, but declined, and he has finally expired within the walls of the college where he has resided nearly 55 years.

BIRTHS.—On the 1st inst., at 37, Eccleston Square, Viscountess INGESTRE, of a daughter.—31st ult., at Clifton, Staffordshire, the Hon. Mrs BRIAN FLEMING, of a daughter.—27th ult. at St James's Palace, the Hon. Mrs SPENCER PONSONBY, of a daughter.—21st ult., at Ellerton, Shropshire, the wife of the Rev. SIR C. E. LEMON, Bart., of a daughter.—31st ult., at Southsea, the wife of Colonel EDWARD SABINE, C.B., of a daughter.

MARRIAGES.—At High Cliff Church, Major CHARLES JAMES STRACHEY, Royal Artillery, youngest son of the late SIR THOMAS STRACHEY, Chief Justice of Madras, to ELLEN ELIZABETH, fourth daughter of the late Lieutenant-Colonel CHARLES K.H., of the Grenadier Guards, and of New House, Christchurch, Hants.—25th ult., at St James's, Piccadilly, Lieutenant-Colonel DUNDAS, Esq., D.L., of Ballindamm Park, county Wexford, to HESTER ELIZA, eldest daughter of RICHARD CARTER CHEVERS CHAVES, Esq., D.L., of Ardamine Hall, Limerick, and Carnagrenan, county Wexford.—[illegible] at St George's Hanover Square, the Rev. FREDERICK EDWARD TYRWHITT DRAKE, eldest son of the Rev. George Tyrwhitt Drake, Rector of Malpas, Cheshire, to MARIA DIANA CHARLOTTE, youngest daughter of the late Mr and Lady CHARLOTTE MICKLETHWAITE, of Taverham Hall, Norfolk.—28th ult, at Chilton, Bucks, FREDERICK DRUMMOND HIBBERT, Esq., of Chalfont Lodge, Bucks, to HESTER LOUISA, younger daughter of the late FIENNES TROTMAN, Esq., of Sisten Court, Gloucestershire.—[illegible] 4th ult, at Halifax, N.S., LEWIS DALY, Esq., son of Sir [illegible] Daly, to JOANNA, daughter of the Hon. EDWARD KENNY, President of the Legislative Council of Nova Scotia.—[illegible] at Hitcham, Suffolk, by the Rev L. Heveningham, Major R. CARY BARNARD, late of the 41st Regt., to ANNE, youngest daughter of the Rev J. S. Heveningham, Rector of Hitcham.

DEATHS.—On the 24th ult, at the Grove, near Stourbridge, CATHELINE, RELIZABETH, widow of the Hon. and Rev. JOHN EVELYN BOSCAWEN, aged 68—29th ult, LAURA BRIDGMAN, wife of THOMAS MILLS, Esq., M.P., of Tolmers, Hertfordshire, at Missouri.—ANNE FARLEY, wife of the Hon. GEORGE FREDERICK EDMONSTONE, Lieutenant-Governor of North Western Provinces, India—28th May, at Delhi, Lieutenant THOMAS TUDOR TUCKER, of the 38th Bengal Native Infantry, second son of the late Henry St. George Tucker, esq., of the Bengal Civil Service, and grandson of the late Rear-Admiral Thomas Tudor Tucker, C.B.—[illegible] ult, at his residence, 39, Gilbert Street, Grosvenor Square, GEORGE PHILIPPO TREVES HOLMES, M.D. and Ph. D., F.R.S., &c., Keeper of the Museum of Royal College of Surgeons, aged 86—25th ult, at his residence, 74, Albert Street, Regent's Park, Colonel MACPHAIL, formerly Governor-General Leeward Islands, West Indies—11th ult, at Wolfesfield, Quebec, the residence of her father, William Price, Esq., Caroline Anne, wife of Captain ALFRED TORRENS, aged 27; and, on the same day, a few hours previously, ALFRED BRUCE, their eldest son, aged 4 years and two months, both of diphtheria.—[illegible] at Fresnes-sur-Mame, CHRISTIAN F. KOCH, Esq., late H.M.'s Consul [illegible]—20th ult, at her residence, Great Surrey Street, Lambeth, ANN, widow of the late WILLIAM STRAHAN, Esq., formerly of Stationers' Hall Court, aged 82.

## Markets.

BRITISH WOOLS.—LONDON, FRIDAY, Aug. 5.

Our trade continues healthy and the prices good.

| | s. | d. | | s. | d. |
|---|---|---|---|---|---|
| South-down Hogs | 1 | 8 | to | — | |
| Half-bred ditto | 1 | 8 | — | — | |
| Down Ewes | 1 | 6 | — | — | |
| Kent Fleeces | 1 | 7 | — | — | |
| Leicest. Wethers | 1 | 5 | to | — | |
| Ditto Hoggs | 1 | 7 | — | — | |
| Combing Skins | — | — | — | — | |
| Blanket ditto | — | — | — | — | |
| Flannel Wool | 1 | 2 | — | 1 | 7 |

COAL MARKET.—FRIDAY, Aug. 5.

Bates's West Hartley, 14s.; Buddle's West Hartley, 15s.; Clark's West Hartley, 15s; Haswell Gas, 12s. 6d.; Tanfield Moor, 15s.; Tanfield Moor Bates, 15s.; Walker Primrose, 15s. 6d.; Eden Main, 15s. 6d.; Wallsend Hedley's Hetton, 17s. 6d.; Wallsend Framwellgate, 15s. 6d.; Wallsend Haswell, 16s.; Wallsend Hetton, 17s. 6d.; Wallsend Russell's 17s. 6d.; Wallsend Seaton Hetton, 17s. 6d.; Wallsend Hetton, 16s.; Wallsend Seaton Hetton, 17s. 6d.; Wallsend Stewarts, 17s.; Wallsend Cowpen, 16s.; Wallsend Cassop, 16s.; Wallsend Heugh Hall, 15s. 6d.; Wallsend Kelloe, 16s. 6d.; Wallsend South Hetton, 16s.; Wallsend South Kelloe, 15s. 6d.; Wallsend Tremdon Hartlepool, 16s. 6d.; Wallsend Whitworth, 14s. 6d.; Powell's Duffryn Steam, 21s.—[illegible] at market.

COVENT GARDEN.—Aug. 6.

Grapes and Pine Apples have not altered in price since our last report. West India Pines have been plentiful and good. Gooseberries, Currants, and Raspberries are getting scarce, and Cherries and Strawberries may be said to be over. English Apricots are more abundant. Greengage Plums obtain 2s. a dozen. Oranges fetch 3s. 6d. and 16s. per hundred. Nuts of all descriptions and vegetables to cook are fair prices. Filberts may be had for 4s. per lb. Cucumbers and Tomatos are plentifully supplied. Mushroom is getting over. Peas, Beans, Herb Carrots, and Green Artichokes must be classed in quantity. Cauliflowers are plentiful. New Potatoes realize from 6s. to 10s. per cwt. Cucumbers abundant. Cut flowers chiefly consist of Orchids, Gardenias, Balsam, the Lily of the Valley, Violets, Mignonette, Heaths, and Roses.

FRUIT.

| | |
|---|---|
| Pine Apples, per lb., 4s to 6s | Figs, per punnet, 3s to 4s |
| Grapes, per lb., 2s to 3s | Gooseberries, 3s to 4s |
| Strawberries, p. basket, 1s to 2s | Currants, red and white, 4s to 6s |
| Raspberries, p. gallon, 1s | Cherries, 1s |
| Mulberries, do., 1s | Cherries, per lb., 6d to 1s |
| Melons, each, 2s to 3s | Apples, per doz., 1s to 3s |
| Peaches and Nectarines, per doz., 2s to 10s | Pears, per sieve, 3s to 5s |
| Figs, per doz., 2s to 4s | Grapes, per lb., 6s to 9s |
| Apricots, do., 2s to 3s 6d | Lemons, per doz., 1s to 2s |
| | Filberts, per lb., 6d to 8d |

VEGETABLES.

| | |
|---|---|
| Cauliflowers, per doz., 2s to 4s | Cucumbers, p. doz., 2s to 3s |
| Green Peas, p. quart, 1s to 2s | Tomatoes, per ½ sieve, 1s to 2s |
| Greens, per dozen bunches, 1s to 1s 6d | Artichokes, per doz., 2s to 3s |
| Cabbages, do., 1s 6d to 2s 6d | Leeks, per doz., 1s 6d to 2s |
| Rhubarb, p. bundle, 6d to 9d | Celery, p. bundle, 2s to 3s 6d |
| French Beans, p. punnet, 1s to 1s 6d | Shallots, per lb., 6d to 8d |
| Potatoes, p. ton, 90s to 100s | Garlic, per lb., 6d to 8d |
| — per bag, 2s to 3s 6d | Lettuces, Cabb., per score, 1s to 1s 6d |
| — per cwt., 4s to 6s | Endive, p. score, 1s to 1s 6d |
| — new, per lb., 6d to 1s | Horse Radish, p. bun., 3d to 6d |
| Carrots, per bunch, 1s | Radishes, p. pott., 2d to 3d |
| Turnips, per bunch, 6d to 1s | Parsley, p. ½ sieve, 2s to 3s |
| Spinach, p. sieve, 1s 6d to 2s | Savoys, &c., 2d to 4d |

HOPS.—BOROUGH MARKET, FRIDAY, Aug. 5.

Messrs Pattenden & Smith's report that the market continues dull, and but very little business transacted, the duty, however, is declining, and parties are offering against 2,500*l.*

HAY.—Per Load of Thirty-six Trusses.

SMITHFIELD, THURSDAY, Aug. 4.

| | | | | | |
|---|---|---|---|---|---|
| Prime Meadow Hay | 80s | to 85s | Old Clover | 95s | to 110s |
| Superior do. (old) | 86 | 95 | Second cut | — | — |
| Inferior do. | 60 | 70 | New Clover | 90 | 99 |
| New do. | 75 | 84 | Straw | 26 | 30 |
| Rowen | 80 | 90 | | | |

DAVIS & Co.

WHITECHAPEL, TUESDAY, Aug. 4.

| | | | | | |
|---|---|---|---|---|---|
| Fine old Hay | 85s | to 95s | Fine old Clover | 105s | to 115s |
| Inferior do. | 77 | 82 | Inferior do. | 95 | 100 |
| Prime New Hay | 80 | 85 | Fine new Clover | 95 | 100 |
| Inferior do. | 60 | 70 | Fine Wheat | — | — |
| Straw | 26 | 30 | Inferior do. | 80 | 84 |

METROPOLITAN CATTLE MARKET.

MONDAY, Aug. 1.

We have a large supply of Beasts but the average quality is very middling. Trade is dull but prices are not lower. There are a few more Sheep and Lambs, they are, however, readily disposed of at fully late rates. Calves are not so plentiful as they have been, and realize rather higher prices. From Germany and Holland there are 1240 Beasts, 5950 Sheep, and 170 Calves; from Spain, 120 Beasts; from Scotland, 45; from Norfolk and Suffolk, 200; from Ireland, 250, and 800 Sheep and Lambs; and 2000 Beasts from the northern and midland counties.

| | s. | d. | s. | d. | | s. | d. | s. | d. |
|---|---|---|---|---|---|---|---|---|---|
| Best Scots, Herefords, &c. | 4 | 8 | to 4 | 10 | Best Long-woods | 4 | 6 | — 4 | 10 |
| Best Short-horns | 4 | 6 | — 4 | 8 | Do. Shorn | .. | .. | — | .. |
| 2d quality Beasts | 3 | 4 | — 4 | 0 | Ewes & 2d quality | 4 | 0 | — 4 | 4 |
| Best Downs and Half-breds | 4 | 10 | to 5 | 0 | Do. Shorn | .. | .. | to | .. |
| Do. Shorn | .. | .. | .. | .. | Lambs | .. | .. | 5 4 | — 6 0 |
| | | | | | Calves | .. | .. | 4 0 | — 4 10 |
| | | | | | Pigs | .. | .. | 3 8 | — 4 6 |

Beasts, 4610, Sheep & Lambs, 23,[illegible]: Calves, 220, Pigs, 280.

TUESDAY, Aug. 4.

We are but scantily supplied with good Beasts, they are consequently readily disposed of at fully late rates. The number of Sheep and Lambs is about an average, trade is cheerful at Monday's quotations. Calves are a dull sale, but prices are not lower. Our returns comprise 2,[illegible] Beasts, 1,[illegible] Sheep, and 301 Calves. The imports of Meat into London is [illegible].

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Best Scots, Herefords, &c | 4 | 8 | to 4 | 10 | Best Long-woods | 4 | 6 — 4 | 10 |
| Best Short-horns | 4 | 6 | — 4 | 8 | Do. Shorn | .. | .. — | .. |
| 2d quality Beasts | 3 | 4 | — 4 | 0 | Ewes & 2d quality | 4 | 0 to 4 | 4 |
| Best Downs and Half-breds | 4 | 10 | — 5 | 1 | Do. Shorn | .. | .. — | .. |
| Do. Shorn | .. | .. | — | .. | Lambs | .. | .. 5 | 4 — 6 6 |
| | | | | | Calves | .. | .. 4 | 0 — 4 10 |
| | | | | | Pigs | .. | .. 4 | 8 — 4 12 |

Beasts, [illegible]; Sheep & Lambs, 12,850; Calves, 560; Pigs, [illegible].

MARK LANE.—MONDAY, Aug. 1.

The supply of Wheat from Essex and Kent to this morning's market was small, including a few samples of new, the quality of which was very [illegible]. Buyers had an advance, but on the sales effected last Monday's prices could not be exceeded. Foreign met a retail inquiry at Friday's prices, or 1s. per qr. above those obtained on this day sennight. Barley is a slow sale at about the currency of the last week. Beans and Peas are without [illegible]. Flour trade is slow, and prices must be quoted [illegible] per sack lower. The top price of town-made Flour is [illegible] per sack.

| PER IMPERIAL QUARTER. | s. | d. | | s. | d. |
|---|---|---|---|---|---|
| WHEAT, Essex, Kent, & Suffolk | White | 43 | —49 | Red | 40—44 |
| — — fine selected runs | ditto | 44 | —46 | Red | 42—46 |
| — — Talavera | | 43 | —51 | | |
| — Norfolk | | — | | Red | — |
| — Foreign | | 38 | —54 | | |
| BARLEY, grind. & dist. | | — | | Malting | — |
| — Foreign | grinding and malting | 25 | —27 | Malting | — |
| OATS, Essex and Suffolk | | 19 | —22 | | |
| — Scotch and Lincolnshire | Potato | 23 | —25 | Feed | 19—24 |
| — Irish | Potato | 21 | —25 | Feed | 19—22 |
| — Foreign | Poland and Brew | 23 | —26 | Feed | 18—24 |
| RYE | | — | | Foreign | — |
| RYE MEAL, foreign | | — | | | |
| BEANS, Mazagan | | 35s | to 38s | Tick | 37—41 |
| — Pigeon | | 41s | —43s | Winds | — |
| — Foreign | | | | Small | 38—40 |
| PEAS, white, Essex and Kent | | Boilers | | | 38—40 |
| — Maple | | —s | to —s | Grey | 37—38 |
| MAIZE | | | | White | — |
| FLOUR, best marks delivered | | per sack | | | 37—43 |
| — 2d do. | | | | ditto | 27—37 |
| — Foreign | | per barrel | | | 25—27 |
| | | | | Country | 27—37 |
| | | | | Per sack | 30—37 |

FRIDAY, Aug. 5.

The weather, which at the close of last week was showery, has been during the present week fine for the harvest until yesterday morning, when some heavy showers fell, but not sufficient to do any damage. The accounts of the Wheat crop are confirmatory of our last week's report, and agree more or less with those of Italy (Naples has opened her ports), France, and several parts of Germany, all of which represent the new Wheat as having suffered from premature ripening, the result probably of excessive heat. Cutting is general south of the Humber, and a large portion has been carried. The Wheat trade has been inactive throughout the kingdom, and on the sales effected the turn in prices has been in favour of buyers.

Barley and Oats are also declining in value. Prices of Beans and Peas are unaltered. Flour, notwithstanding the reduction of 3s. per sack on Monday, has met a very slow sale. The arrivals of grain laden vessels off the coast for orders from Southern Europe are moderate this week. The sales include Odessa Ghirka Wheat at 41s. 6d. nett, Polish Odessa at 42s. 6d., Taganrog Ghirka at 42s., all per 492 lbs.; Ibrail Maize at 27s. to 27s. 7½d, Odessa at 27s. per 480 lbs., and 26s. to 28s. 6d. per 492 lbs.; Odessa Rye at 25s. 4½d, Ibrail at 25s. 10½d., both per 480 lbs. The arrivals of English grain and foreign Wheat and Barley this week have been moderate, good of Oats. The English Wheat undisposed of last market day remains unsold, Monday's prices being unobtainable. Fine descriptions of foreign were neglected, but there was some inquiry for St. Petersburg and cheap qualities at a reduction of 1s. per qr., which we believe was not accepted. Spring Corn of all descriptions is a slow sale at about Monday's prices.

ARRIVALS FROM AUG. 1 TO AUG. 5.

| | Wheat. | Barley. | Oats. | Flour. |
|---|---|---|---|---|
| English .. | 1140 qrs. | 100 qrs. | 1180 qrs. | 1930 sks. |
| Irish .... | — ,, | — ,, | 510 ,, | — ,, |
| Foreign .. | 10470 ,, | 2280 ,, | 29590 ,, | 360 ,, — brls. |

LIVERPOOL, Tuesday, Aug. 2.—We had a good attendance of both town and country millers and dealers at our Corn Exchange this morning. The demand for Wheat was confined, however, to the supplying of immediate requirements, and quotations must be noted generally 1d. per cental lower than this day week. Flour had a better inquiry, and more money was obtained for low-priced qualities than was possible some days ago. Indian Corn was dull of sale, without change in value. Oats and Oatmeal both difficult to move. Beans rather easier. Peas and Barley little dealt in.

FRIDAY, Aug. 5.—Corn market fairly attended. Moderate business in Wheat at slight decline from Tuesday's rates. Flour unaltered at Tuesday's prices. Indian Corn moderate. Inquiry for Oats, Oatmeal, and Barley unaltered.

| AVERAGES | Wheat. | Barley. | Oats. | Rye. | Beans. | Peas. |
|---|---|---|---|---|---|---|
| June 25.. | 48s 3d | 31s 1d | 24s 9d | 37s 6d | 46s 8d | 41s 9d |
| July 2.. | 46 4 | 30 9 | 24 10 | 33 9 | 46 1 | 40 9 |
| — 9.. | 46 9 | 31 10 | 25 6 | 34 3 | 47 7 | 41 2 |
| — 16.. | 46 6 | 29 11 | 25 3 | 40 6 | 45 10 | 39 8 |
| — 23.. | 44 11 | 30 7 | 25 11 | 38 10 | 46 10 | 39 10 |
| — 30.. | 43 0 | 30 1 | 25 3 | 36 1 | 44 2 | 37 0 |
| Agg. Aver. | 45 11 | 30 8 | 25 5 | 36 8 | 46 2 | 40 0 |

FLUCTUATIONS IN THE LAST SIX WEEKS AVERAGES.

| PRICES. | June 25. | July 2. | July 9. | July 16. | July 23. | July 30 |
|---|---|---|---|---|---|---|
| 48s 3d | — | .. | .. | .. | .. | .. |
| 46 9 | .. | .. | .. | .. | .. | .. |
| 46 6 | .. | .. | . | .. | .. | .. |
| 46 4 | .. | . | .. | .. | .. | .. |
| 44 11 | .. | .. | .. | .. | . | .. |
| 43 0 | .. | .. | .. | .. | .. | — |

WANTED, a person who has some knowledge of Fruit, and a little time to spare, to act as SECRETARY to the British Pomological Society.—Apply by letter only (prepaid) on or before August 17th, to P. S., M. Webber & Co., Centre Row, Covent Garden, W.C.

WANTED, in the New Forest, TWO FOREMEN OF LABOURERS, who understand Planting, Draining, and all other work connected with Woods and Plantations, and are competent to Measure and Keep an Account of the work done and of the men's time. Wages 20s. per week.—Apply, stating references, to Mr. L. H. CUMBERBATCH, Queen's House, Lyndhurst.

WANTED, as GARDENER, before Michaelmas next, a strong active young Man without incumbrance, to Superintend a Walled-in Garden and Greenhouse, and who will be willing to make himself generally useful. He will have two men to assist him.—Address first by post to P. H., Mr. Haddock, Old Butter Market, Ipswich.

WANTED, AS GARDENER, a steady, sober, intelligent, hard-working Gardener, age about 27, who has a thorough and practical knowledge of his profession. Budding, Pruning, Hothouse, and Kitchen Garden Must have some taste. Wages 40*l*. per annum.—Apply to "Gardener," Post Office, Thirsk, Yorkshire.

WANTED, a respectable first-class PROPAGATOR, who thoroughly understands the Propagation of Heaths, Hardwooded Plants, and general Nursery Stock. Highest references required for honesty and sobriety.—Apply to Mr. EPPS, Bower Nursery, Maidstone, enclosing references and wages required.

WANTED, AS BOOK-KEEPER AND ACCOUNTANT, in one of the first London Nursery and Seed establishments, a thoroughly competent person to act in the above capacity and to assist in the correspondence. He must have been already engaged in the business, and be practically acquainted with its details. The place being one of considerable trust, unexceptionable testimonials as to character will be required. The salary, which will be liberal, will depend on the ability, &c., of the party engaged.—Apply, in own handwriting, A. B. C., *Gardeners' Chronicle* Office, W.C.

WANTED, AS HEAD SHOPMAN AND CLERK, an active persevering person, having a perfect knowledge of the Seed Business. To a man of real merit a liberal salary will be given. Communications confidential. To save time no one need apply whose character will not bear the strictest investigation.—Apply by letter to X. X. *Gardeners' Chronicle* Office, London, W.C.

WANTED, AS HEAD SHOPMAN, a person having a thorough knowledge of the SEED TRADE in every department; must write a good hand, and be able to produce the most satisfactory references as to character and abilities. References will not be inquired into till after further correspondence.—Apply, with full particulars, O. A., *Gardeners' Chronicle* Office, W.C.

WANTED, AS HEAD SHOPMAN.—The undersigned are in want of an experienced Man as Head Shopman. As a liberal salary will be given no one need apply who has not a thorough knowledge of the Seed Trade in every department, and who cannot produce the most satisfactory references as to character and abilities.—Apply by letter only to DICKSON & BROWN, Seed Merchants, 43 and 45, Corporation Street, Manchester.

WANTED, in a Retail Seed Establishment, Two young Men, the one to act as CLERK, the other as SHOPMAN. None need apply unless thoroughly acquainted with the Seed Business in its various branches. Application by letter, stating salary and where last employed.—Address, W. C., *Gardeners' Chronicle* Office, W.C.

WANTED, in a country Parish, a SUNDAY-SCHOOL MASTER, who is competent to play the Organ and teach a Village Choir. A good Gardener will find full employment during the week.—For further particulars apply to the Rev. JOHN BELL, Brington Rectory, near Kimbolton.

## WANT PLACES.—Letters to be Post Paid.

GARDENER (HEAD).—Age 32; a good Gardener; will shortly be at liberty, on account of his employer disposing of his plants. Highest references.—E. E., Post Office, Larkhall Rise, Clapham, S.

GARDENER (HEAD).—Age 40, single; perfectly understands Early and Late Forcing, Kitchen and Flower Gardens in all their branches. Seven years' good character from the place he is about to leave.—G. L., 8, Brook Green Terrace, Hammersmith, W.

GARDENER (HEAD).—Age 40, married, no incumbrance; thoroughly understands Early and Late Forcing of all kinds of Fruits, Vegetables, and Flowers.—F. C., 13, Campden Grove, Kensington, W.

GARDENER (HEAD).—Age 48, married; competent to take the Management of a good Garden in all its branches. Fourteen years' good character.—ROBERT PALLENTINE, Rougham Hall, Bury St Edmunds.

GARDENER (HEAD), to any gentleman in want of a practical man.—Age 34, married, without incumbrance; understands his profession in its various branches. Can have 8 years' good character from his late employer.—W. HOADE, Langham Place, Egham, Surrey.

GARDENER (HEAD).—Age 33, married, no incumbrance. Mr. Wood has in his Nursery a thoroughly practical and trustworthy Man, whom he can with confidence recommend to any one in want of a good Gardener.—Bedford Nursery, Haverstock Hill, London, N.W.

GARDENER (HEAD).—Age 35, single; perfectly understands his profession in its various branches, the Forcing of Fruits and Vegetables, and the general routine of Kitchen and Flower Gardens, Plants, &c.—BURDETT, Walton-upon-Thames, Surrey.

GARDENER (HEAD).—Age 37, married, small incumbrance; has a thorough knowledge of his profession in all its branches. Four years' excellent character. No objection to some Land or Stock.—R. T., Mr. W. Stidolph, Nurseryman, Bromley, Kent, S.E.

GARDENER (HEAD).—Age 36, single; understands Early Forcing, Vines, Flowers, Fruit, and Kitchen Garden; also Cows, Pigs, and Meadow Land, if required. Unexceptionable character.—A. B., Mr. Thomas Osborn, the Cottage, London Colour Works, Mile End Road, E.

GARDENER (HEAD).—Age 33, single; steady, active; wishes to engage with any nobleman or gentleman; has a thorough practical knowledge of his profession, and good Flower Garden Manager, where the utmost neatness is required. No objection to take charge of Land or Stock. Four years' good character, and will bear the strictest investigation.—M. R., *Gardeners' Chronicle* Office, W.C.

GARDENER (HEAD).—Age 35; perfectly understands Early Forcing Vines, Peaches, &c, and is thoroughly competent in the general routine of Gardening Will give 5*l*. to any person obtaining him a situation, or giving information which will lead to one being obtained within 50 miles of London. Not less than 70*l*. per year accepted, with Cottage, &c. Character will bear the strictest investigation.—X. Y. Z., Mr. Byles, Post Office, 86, Hackney Road, London, N.E.

### TO NOBLEMEN AND GENTLEMEN.

GARDENER (HEAD), OR GARDENER AND BAILIFF.—Single; well acquainted with the profession in all its branches; also Book-keeping, and has a good knowledge of Farming and Stock. The highest testimonials as to character and abilities.—H. B, Paradise Nursery, Holloway, N.

GARDENER (HEAD, OR GOOD SINGLE-HANDED).—Age 32, married, no incumbrance. Three years' good character.—L. M., Mr. Wagner, 12, Archer Street, Westbourne Grove, W.

GARDENER, (SINGLE-HANDED or otherwise).—Middle-aged, married; practical knowledge of his profession.—STEVENS, News Agent, Leytonstone, Essex, N.E.

GARDENER.—Age 26, single; well experienced in Forcing Pines, Vines, Melons, &c., and management of Kitchen and Flower Gardens Wages, one Guinea per week.—A. B., 24, Princes Road Notting Hill, London, W.

GARDENER.—Married, without incumbrance; practically acquainted with his profession in all its branches Two years' good character.—A. B., J. Carter's, Nurseryman, Ilford, Essex, E.

GARDENER.—Age 35, no incumbrance; has a practical knowledge of his profession, including Early and Late Forcing of Vines, Flower and Kitchen Gardens, Greenhouses, &c Good reference given.—J. B, Mrs. Bryant, King Street, Maidstone, Kent.

GARDENER.—A gentleman is anxious to obtain a situation for a young Man and his Wife; the Man as Gardener who understands his profession in all branches, Wife to attend to a small dairy; the latter is also a professed Cook and well recommended.—J. H., Wembley Park, Sudbury, Middlesex, N.W.

GARDENER.—HENRY MATTHEWS (age 32, married), Gardener to the late Hon. W. M. Noel, Clauna Falls, Sydney, Gloucestershire, would be glad to engage with any lady or gentleman requiring the services of a thorough practical man. Character unexceptionable. Salary 60*l*. per annum, with cottage, &c.—Direct as above

GARDENER (UNDER), in a nobleman's or gentleman's Garden.—A young Man, who can be well recommended; where a good Flower Garden and Plants are preferred.—Mr. WHITAKER, Steward to John Hipperley, Esq., Ston Easton, near Bath; or W. W., Messrs. Garraway, Mayes & Co., Durdham Down Nursery, Bristol.

### LANDSCAPE GARDENING.

FOREMAN.—Skilled in Laying-out Cemeteries or Gardens from Plans, and Ornamental Planting.—A. B., Mr. Kay, East Acton, Middlesex, W.

FOREMAN OR PROPAGATOR, &c.—If provincial useful at Layering, Budding, and Nursery Work generally.—T. N., 18A, Hemsworth Street, Hoxton, London, N.

FORESTER.—Young, native of Scotland; has had great experience in all matters appertaining to Foresting, and can produce unexceptionable testimonials and references.—FRANCIS AND ARTHUR DICKSON & SONS, Nurserymen, &c, 106, Eastgate Street, Chester.

### TO THE TRADE.

CULTIVATOR AND PROPAGATOR (First class).—EDWIN FANCOURT, for the last five years General Foreman and Cultivator to Messrs. Henderson, Pine-apple Nursery, will shortly be disengaged, and desires an engagement with any nurseryman requiring his services.—31, Cochrane Terrace, St. John's Wood, N.W.

### TO LANDED PROPRIETORS AND OTHERS.

STEWARD OR BAILIFF, at Michaelmas next.—Thoroughly acquainted with Norfolk Farming in all its branches, Marketing, Breeding, Rearing Stock, &c. Wife excellent Dairywoman. Can have eight years' unexceptionable references.—Y., care of F. S. Bircham, Esq., Solicitor, Reepham, Norfolk.

### TO LANDED PROPRIETORS AND OTHERS.

STEWARD OR BAILIFF.—Age 38, single, thoroughly acquainted with Scotch Farming in all its branches, Marketing, Breeding, and Rearing of Stock. Gained 3d prize at the late great Ploughing Match near Slanbey, and a Medal-holder of local Society. Unexceptionable references can be given.—ALEX. M'FARLANE, Westgardrum, Balbeggie, Perth.

### TO NOBLEMEN AND GENTLEMEN'S GARDENERS

IMPROVER.—A young man wishes to engage himself under a Head Gardener, where he can learn the Management of the Houses. A Premium will be given. Has had three years' practice in the Kitchen Garden.—G. S., Wembley Park Gardens, Middlesex, N.W.

ASSISTANT in the Nursery and Seed Business.—A young Man who is familiar with names of Plants, Bulbs, Seeds, &c., and can assist at Book-keeping.—A. B., Mr. Miller, Seedsman, High Street, Clapham, S.

COWMAN.—Middle-aged, married, without incumbrance. The Wife to take the Dairy if required. Good character.—J. S., Edmonds's News Office, Clapham, S.

THE BEST SHOW OF IRON BEDSTEADS IN THE KINGDOM IS WILLIAM S. BURTON'S.—It occupies FOUR LARGE ROOMS devoted to the exclusive show of Iron and Brass Bedsteads and Children's Cots, with appropriate Bedding and Bed Hangings. Portable Folding Bedsteads from 11*s*.; Patent Iron Bedsteads, fitted with dovetail joints and patent sacking from 14*s*. 6*d*.; and Cots, from 15*s*. 6*d*. each. The handsome Ornamental Iron and Brass Bedsteads, in great variety, from 2*l*. 13*s*. 6*d*. to 20*l*.

THE PERFECT SUBSTITUTE FOR SILVER.—The REAL NICKEL SILVER, introduced more than 20 years ago by WILLIAM S. BURTON, when PLATED by the patent process of Messrs. Elkington & Co., is beyond comparison the very best article next to sterling silver that can be employed as such, either usefully or ornamentally as no possible test can it be distinguished from real silver. A small useful plate chest, containing a set, guaranteed of the quality for finish and durability, as follows:—

| | Fiddle or Old Silver Pattern. £ s. d. | Thread or Brunswick Pattern. £ s. d. | King's Pattern. £ s. d. | Military Pattern. £ s. d. |
|---|---|---|---|---|
| 12 Table Forks .. .. | 1 18 0 | 2 8 0 | 3 0 0 | 3 [illegible] |
| 12 Table Spoons .. .. | 1 18 0 | 2 8 0 | 3 0 0 | 3 [illegible] |
| 12 Dessert Forks .. .. | 1 10 0 | 1 15 0 | 2 2 0 | 2 [illegible] |
| 12 Dessert Spoons .. | 1 10 0 | 1 15 0 | 2 2 0 | 2 [illegible] |
| 12 Tea Spoons .. .. | 0 18 0 | 1 4 0 | 1 10 0 | 1 [illegible] |
| 6 Egg Spoons, gilt bowls . | 0 12 0 | 0 15 0 | 0 18 0 | 1 [illegible] |
| 2 Sauce Ladles .. . | 0 7 0 | 0 8 6 | 0 10 6 | 0 [illegible] |
| 1 Gravy Spoon .. .. | 0 8 0 | 0 11 0 | 0 13 6 | 0 [illegible] |
| 2 Salt Spoons, gilt bowls . . | 0 4 0 | 0 5 0 | 0 6 0 | 0 [illegible] |
| 1 Mustard Spoon, gilt bowl .. .. | 0 2 0 | 0 2 6 | 0 3 0 | 0 [illegible] |
| 1 Pair of Sugar Tongs .. | 0 3 0 | 0 3 9 | 0 5 0 | 0 [illegible] |
| 1 Pair of Fish Carvers .. | 1 4 0 | 1 7 6 | 1 12 0 | 1 [illegible] |
| 1 Butter Knife .. .. | 0 3 6 | 0 5 9 | 0 7 0 | 0 [illegible] |
| 1 Soup Ladle .. .. | 0 13 0 | 0 17 6 | 1 0 0 | 1 [illegible] |
| 1 Sugar Sifter .. .. | 0 4 0 | 0 4 9 | 0 5 0 | 0 [illegible] |
| Total .. .. | 11 14 6 | 14 11 3 | 17 14 0 | 22 [illegible] |

Any article to be had singly at the same prices. A smaller chest to contain the above, and a relative number of knives, &c., 7*l*. 15*s*. Tea and coffee sets, cruet and liqueur frames, waiters, candlesticks, &c., at proportionate prices. Also a list of re-plating done by the patent process.

CUTLERY, WARRANTED.—The most recherché assortment of TABLE CUTLERY in the world, all warranted, is on SALE at WILLIAM S. BURTON'S, at prices that are remunerative only because of the largeness of the sales. Superior Ivory-handled Table Knives, with high shoulders, 12*s*. 6*d*. per dozen. Desserts to match, 10*s*. 0*d*.; if to balance, 6*l*. per doz. extra. Carvers, 4*s*. 3*d*. per pair; larger sizes, from 20*s*. to 27*s*. 6*d*. per pair. Extra fine Ivory, 33*s*.; if with silver ferrules, 40*s*. to 50*s*.; white bone Table Knives, 6*s*. 0*d*. per doz; Desserts, 5*s*. 0*d*.; Carvers, 2*s*. 3*d*. per pair; black-horn Table Knives, 7*s*. 4*d*. per doz; Desserts, 6*s*.; Carvers, 2*s*. 6*d*.; black wood-handled Table Knives and Forks, 6*s*. per doz; Table Steels, from 1*s*. each. The largest stock in existence of Plated Dessert Knives and Forks, in case and otherwise, and of the new plated Fish Carvers

WILLIAM S. BURTON'S GENERAL FURNISHING IRONMONGERY CATALOGUE may be had gratis, and free by post. It contains upwards of 400 Illustrations of his illimited Stock of Electro and Sheffield Plate, Nickel Silver and Britannia Metal goods, Dish Covers and Hot-water Dishes, Stoves, Fenders, Marble Chimney-pieces, Kitchen Ranges, Lamps, Gasoliers, Tea Urns and Kettles, Tea Trays, Clocks, Table Cutlery, Baths and Toilet Ware, Turnery, Iron and Brass Bedsteads, Bedding, Bed Hangings, &c., with List of Prices and Plans of the 16 large Show Rooms at 39, Oxford Street: 1, 1A, 2, and 3, Newman Street; and 4, 5, and 6, Perry's Place, London.—Established 1820

HEALTH WITHOUT PHYSIC.—Nervousness effectually cured by a novel and most successful mode of treatment, discovered in America. The most convincing proofs of the efficacy of this wonderful remedy, with other details, will be sent to any address on receipt of one stamp.—Address Mr. HILL, 27, Alfred Place, Store Street, London, W.C.

TOURISTS AND TRAVELLERS, VISITORS TO THE SEASIDE, and others exposed to the scorching rays of the sun, and heated particles of dust, will find ROWLAND'S KALYDOR a most refreshing preparation for the complexion and skin, dispelling the cloud of languor and relaxation, allaying all heat and irritability, and immediately affording the pleasing sensation attending restored elasticity and healthful state of the skin. Freckles, tan, spots, pimples, sunburn and discoloration are eradicated by the application. Price 4*s*. 6*d*. and 8*s*. 6*d*. per bottle. The heat of the summer often induces a dryness of the hair, and a tendency to its falling off, which may be completely obviated by the use of ROWLAND'S MACASSAR OIL, a delightfully fragrant and transparent preparation for the hair, and as an invigorator and beautifier beyond all precedent. Price 3*s*. 6*d*.; 7*s*.; family bottles (equal to four small), 10*s* 6*d*.; and double that size, 21*s*. ROWLAND'S ODONTO, or PEARL DENTIFRICE, bestows on the teeth a pearl-like whiteness, frees them from tartar, and imparts to the gums a healthy firmness, and to the breath a grateful purity and fragrance. Price 2*s*. 9*d*. per bottle.—Sold by A. Rowland & Sons, 20, Hatton Garden, London, E.C.; and by Chemists and Perfumers.—Beware of Spurious Imitations.

# The Gardeners' Chronicle Newspaper.

*SATURDAY, AUGUST 6, 1859.*


THE HEART OF THE ANDES. By Frederick E. Church (Painter of the Great Fall, Niagara), is being EXHIBITED daily by Messrs. DAY & SON, Lithographers to the Queen, at the German Gallery, 168, New Bond Street, W. Admission One Shilling.

RAFFAELLE DRAWINGS belonging to the University of Oxford, with PHOTOGRAPHS OF RAFFAELLE CARTOONS and other Drawings, will be exhibited at the South Kensington Museum during the month of August.

QUEEN'S COLLEGE, BIRMINGHAM.
Incorporated by Royal Charter

The WINTER SESSION of the Faculties of ARTS, MEDICINE, ENGINEERING, and AGRICULTURE, will commence on MONDAY, October 3. The system of study pursued at the College constitutes a complete Course of Education (with Collegiate discipline) in Arts, Science, Medicine, Law, and Theology, without residence elsewhere, and the Courses of the different faculties are recognised in the Universities of London and Durham, with which the College is in connection; by the different Medical Examining Boards, and by those of Her Majesty's Army, Navy, and Indian Services.

The College is empowered by Royal Charter to confer a Diploma in Engineering.

Agricultural Students are prepared by a special course of study for the Examination of the Royal Highland Agricultural Society.

Students in the Junior department of Medicine are prepared for the Matriculation Examinations of the University of London, College of Surgeons, Apothecaries' Hall, &c. Those who reside in the College may receive Indentures of Apprenticeship without premium.

For further information and Prospectuses, application may be made to the Dean of the Faculty; or to Dr. Bond, Hon. Sec. to the Medical Faculty, Queen's College.

BANK OF DEPOSIT,
Established A. D. 1844; 3, Pall Mall East, London.
Capital Stock 100,000*l.*

PARTIES desirous of INVESTING MONEY are requested to examine the Plan of The Bank of Deposit, by which a high rate of Interest may be obtained with ample security. Deposits made by Special Agreement may be withdrawn without notice. The Interest is payable in January and July. Peter Morrison, Managing Director.
Forms for opening Accounts sent free on application.

NORWICH UNION LIFE INSURANCE SOCIETY.—Instituted 1808.
Invested Capital exceeding 2,000,000*l.* sterling.

This Society is one of the very few purely Mutual Insurance Offices, the whole of the profits being divided among the Policy holders, and possesses large reserves applicable to future Bonuses. The rates are considerably below those usually charged. Thus at the age of 40 the sum of 33*l.* 19*s.* 2*d.*, which, at the ordinary premium, will insure 1000*l.*, with the Norwich Union WILL INSURE ONE THOUSAND AND NINETY-FIVE POUNDS FOUR SHILLINGS, giving an immediate bonus in addition to subsequent accumulations.

Annuities and special risks undertaken on favourable terms.

For forms of proposal and prospectuses apply at the Society's Offices, 6, Crescent, New Bridge Street, Blackfriars, E.C., and Surrey Street, Norwich.

NEXT OF KIN, HEIRS, &c., WANTED.—The public are respectfully apprised that this truly important BOOK, mentioned by the press, is creating a sensation, and where hundreds of names, descriptions, and late residences of persons wanted to claim property and money in all parts of the Kingdom, the Colonies, India, and America ARE DISTINCTLY GIVEN, can be had sent by post from the publishers for 12 penny stamps.—Direct Fisher & Son, Kingsland, London, N.E., Established 1847.

Notice.—The largest stock of the *Times, Gazette, Chronicle, Post, Herald,* Colonial, Indian, and American Newspapers in the world, kept to search for old neglected claims.

WHAT WILL THIS COST TO PRINT? is a thought often occurring to literary minds, public characters, and persons of benevolent intentions. An immediate answer to the inquiry may be obtained on application to Richard Barrett, 13, Mark Lane, London. R. B. is enabled to execute every description of Printing on very advantageous terms, his office being furnished with a large and choice assortment of Types, Steam Printing Machines, Hydraulic and other Presses, and every modern improvement in the Printing Art. A Specimen Book of Types, and information for Authors, sent on application, by
Richard Barrett, 13, Mark Lane, London, E.C.

ADVERTISEMENTS for THE ROYAL AGRICULTURAL JOURNAL, intended for insertion in No. XLIII., must be forwarded to the Printer without delay, accompanied with an Order for their Payment and Insertion, as no attention will be paid to them otherwise.
William Clowes & Sons, Printers, Duke Street, Stamford Street, Blackfriars, S.

GLENNY'S GARDENERS' EVERY-DAY BOOK.—Price 5*s.*; free by post, 5*s.* 6*d.* Containing plain instructions for the cultivation of all classes of Flowers, Fruits, and Vegetables, and for the practical management of every department of Horticulture and Floriculture.
Houlston & Wright, 65, Paternoster Row, E.C.

HOLCUS SACCHARATUS (Pamphlet).
"A VISIT AND A PLANT." A few copies only are left. Post free, 7*d.*
John Willding Clarke, Whittlesea, Cambs.

This day, Part the Sixth, Price 1*s.*,
INDEX FILICUM: a Synopsis, with characters, of the Genera, and an enumeration of the Species of Ferns, with Synonyms, References, &c. By Thomas Moore, F.L.S., F.H.S., Author of "The Handbook of British Ferns;" "The Ferns of Great Britain and Ireland, Nature Printed," &c.; Curator of the Chelsea Botanic Garden.
London: William Pamplin, 45, Frith Street, Soho Square, W.

Lately Published, Volumes I. and II., complete, in cloth, Vol. I., price 38*s.*, Vol. II., price 30*s.*, or any of the separate Parts may be had of
SPECIES FILICUM; being Descriptions of all Known Ferns. Illustrated with Plates. By Sir William Jackson Hooker, K.H., D.C.L. Oxon., F.R.S., F.A.S., F.L.S., &c. and Director of the Royal Gardens of Kew.
London: William Pamplin, 45, Frith Street, Soho Square, W.

Now ready, Part IX., or Vol. III., Part 1., price 10*s.*,
SPECIES FILICUM; being Descriptions of all Known Ferns. Illustrated with Plates. By Sir William Jackson Hooker, K.H., D.C.L. Oxon., F.R.S., F.A.S., F.L.S., &c. and Director of the Royal Gardens of Kew.
London: William Pamplin, 45, Frith Street, Soho Square, W.

THE QUARTERLY REVIEW, No. CCXI., is Published THIS DAY.
Contents:—
I. LIFE OF ERASMUS
II. ANNALS AND ANECDOTES OF LIFE ASSURANCE.
III. POPULAR MUSIC OF THE OLDEN TIME.
IV. PATRICK FRASER TYTLER.
V. PROGRESS OF GEOLOGY.
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## News of the Week.

In the House of Lords on Monday, the Divorce Court Bill as amended in committee was considered, when the clause bringing India and the Colonies within its operation was omitted, and the clause empowering the court to sit with closed doors in certain cases was carried on a division by 24 to 11. The Bill was then read a third time and passed. On Tuesday Lord Brougham called attention to the strike in the building trade, and impressed upon the House the necessity of putting some check to these combinations of workmen. On Thursday Earl Granville referred to the same subject, and expressed his opinion that the present strike was perfectly unjustifiable.

In the House of Commons on Friday the

Income Tax Bill passed through committee, with the addition of a new clause moved by the CHANCELLOR of the EXCHEQUER, remitting the duty on annuities purchased from the Government. Mr. HORSMAN'S motion for defraying the expense of the national defences projected or already in progress by a fund specially provided for that purpose, and independent of the annual votes of Parliament, led to a long and interesting debate, in which Mr. S. HERBERT, Sir F. SMITH, Sir C. NAPIER, Mr. COBDEN, Sir J. PAKINGTON, Lord C. PAGET, Lord PALMERSTON, and other members took part. Lord PALMERSTON expressed his hope that Mr. HORSMAN would withdraw his motion, as the opinions which it had elicited from all parts of the House were quite sufficient to answer his object in proposing it. Mr. HORSMAN however insisted upon dividing, when his motion was rejected by 167 to 70. On Monday in Committee of Supply the vote for the expenses of the Statute Law Consolidation Commission was negatived on a division by 91 to 80. At the evening sitting the House went into committee on the Indian Loan, when Sir C. WOOD made a long statement on the financial condition of India, and concluded by moving a formal resolution that power be given to HER MAJESTY'S Government to raise in this country a sum not exceeding 5,000,000*l.* for the service of India. After considerable discussion the motion was agreed to. On Tuesday the Income Tax Bill was read a third time and passed, and the Police (Counties and Boroughs) Law Amendment Bill passed through committee. Sir G. LEWIS withdrew the Roman Catholic Charities Bill for the present session, and announced his intention to introduce a Continuance Bill for another year. Mr. MILNES'S motion for an address to the Crown praying that negotiations may be entered into with the United States for the purpose of preventing the assaults and cruelties committed on board merchant ships trading between England and America was agreed to. Mr. A. SMITH'S motion for a select committee to inquire into the rights claimed by the Crown and other bodies connected with the foreshores and coasts of the United Kingdom was cut short by the counting out of the House. On Wednesday the Law of Property and Trustees Relief Amendment Bill passed through committee. The House then went into Committee of Supply, when Mr. SPOONER moved the rejection of the vote of 2000*l.* for the National Portrait Gallery. On a division the vote was agreed to by 141 to 35. Mr. SPOONER then moved the rejection of the vote of 2000*l.* for the purchase of Sir G. HAYTER'S historical picture of the First Meeting of the Reformed Parliament. On a division there were for the vote 82, and against it 82. The numbers being equal, the chairman, Mr. MASSEY, gave his casting vote in favour of the vote. The vote of 9988*l.* for the cost of constructing fire-proof rooms adjoining the Sheepshanks' Gallery at South Kensington, to receive the Vernon, Turner, and other pictures belonging to the National Gallery, was warmly opposed by several members, but was carried on a division by 116 to 73. The vote of 5000*l.* as compensation to Mr. Barber in consideration of his sufferings and distressed circumstances, was opposed by Mr. C. CLIFFORD, but was carried on a division by 124 to 24. On Thursday, after a long discussion on the vote for the new Foreign Office, a sum was voted on account, without any decision as to the style of the new buildings being arrived at. The vote of 17,000*l.* for the improvement of the Serpentine gave rise to a long debate, chiefly in reference to the inadequacy of the proposed measures, but the vote was carried on a division by 97 to 12. A vote of 50,000*l.* for a new coinage of mixed metal in lieu of the present copper coinage was agreed to. The Police (Counties and Boroughs) Law Amendment Bill, as amended, was considered, and agreed to with some new clauses. The second reading of the Divorce Court Bill was moved by the ATTORNEY-GENERAL, and opposed by Mr. HENNESSEY. On a division, the second reading was carried by 118 to 13. The Medical Acts Amendment Bill passed through committee after considerable opposition, and a division, in which the first clause was carried by 97 to 19. The second reading of the Settled Estates Act Amendment Bill, the object of which was to enable Sir T. M. Wilson to build on his estate at Hampstead, was negatived on a division by 68 to 36; the Bill was therefore lost.

The *Moniteur* of Wednesday announced that the army of observation on the Rhine had been dissolved with the exception of the divisions at Chalons and Helfant; and the *Patrie* of the same day announced that the squadron at Brest had been placed out of commission. From India we learn that the disaffection among the late Company's European troops had increased to such an extent that the Bengal regiments at Berhampore broke into open mutiny, entrenched themselves in the barracks, and elected officers; and that the Madras Fusiliers followed the example of the Bengal troops. The GOVERNOR-GENERAL immediately issued a General Order, giving a free discharge to all soldiers of the late Company who might demand it. The latest news states that every recruit in the Barrackpore depôt has availed himself of the concession, and that the 5th Europeans at Berhampore have returned to their duty with the exception of about 40, who are to be tried by court martial.

## Home News.

THE COURT.—The Queen, Prince Consort, and the Royal family continue at Osborne. On Thursday week her Majesty, accompanied by Princess Alice and Princess Hohenlohe, drove to Carisbrook Castle, and visited the Roman remains lately discovered in that neighbourhood. The Prince Consort rode on horseback, and met her Majesty, accompanied by Prince Alfred. On Friday the Queen held a Privy Council, at which an Order in Council was issued extending the time limited for the payment of reduced bounties to able and ordinary seamen. The Prince Carini, Sicilian Minister, and the Prince d'Ottajano, on a special mission from the King of Naples, had audiences of her Majesty. Lord Napier and Sir John Bowring were presented and had audiences of the Queen. Lord John Russell, Earl Granville, and the Right Hon. T. Headlam, Judge Advocate-General, had audiences of her Majesty. The Duke of Somerset remained at Osborne on a visit. Her Majesty and Princess Hohenlohe drove out. The Prince Consort rode on horseback, and visited the Hereditary Grand Duke of Mecklenburg-Strelitz, at Cowes. Rear-Admiral Sir Charles Fremantle arrived on a visit. In the evening Madlle. Humler had the honour of performing on the violin before her Majesty and the Royal party. On Saturday Prince Alfred and Prince Arthur, accompanied by Prince Adolphus of Mecklenburg, went in the Fairy to Portsmouth and witnessed the launch of the Bacchante frigate. The Count de Paris and the Duke de Chartres visited her Majesty. In the evening the Queen, accompanied by the Prince Consort and the Royal family, steamed through the fleet at Spithead, and was received with the usual salutes from the entire fleet. The Duke of Newcastle arrived on a visit. On Sunday morning the Queen and the Prince Consort, Prince Alfred, Princess Alice, Princess Helena, Princess Louisa, Princess Hohenlohe, and Princess Leiningen attended Divine service at Whippingham Church. In the afternoon Lord Palmerston arrived on a visit to her Majesty. On Monday morning the Queen walked out early, accompanied by Princess Hohenlohe. The Duke of Newcastle and Lord Palmerston left Osborne for London. In the afternoon the Queen and Prince Consort drove out, accompanied by Princess Helena and Princess Louisa. On Tuesday her Majesty and Prince Consort, accompanied by Prince Alfred, Princess Alice, and Princess Helena, rode out on horseback. On Wednesday the Queen and Prince Consort, accompanied by Prince Alfred, Prince Arthur, Princess Alice, and Princess Helena, took a cruise in the Fairy. The Princess of Hohenlohe Schillingsfurst and the Earl and Countess of Clarendon arrived on a visit.

THE PRINCE OF WALES took a trip on Loch Lomond on Monday. His Royal Highness embarked in the steamer Prince of Wales at Inversnaid, and sailed down the loch, accompanied by Dr. Lyon Playfair and Colonel Bruce. His Royal Highness took luncheon in the steamer, and returned by rail from Balloch Pier to Edinburgh.

THE DUCHESS OF KENT has derived so much benefit from the air of the Isle of Wight that her Royal Highness has taken Norris Castle as a residence, and with her own household, will take possession on the 15th or 17th of this month.

THE GRAND DUCHESS MARIE OF RUSSIA, accompanied by the Princess Marie and Princess Eugenie, Prince Serge and Prince Georges of Russia, landed at Dover on Sunday afternoon from Ostend. Her Imperial Highness remained the night at Birmingham's Ship Hotel, and proceeded on Monday by special train, by way of Reigate and Reading, to Torquay, where the Duchess intends to reside for some time.

THE CABINET.—A Cabinet Council was held on Saturday at the official residence of the First Lord of the Treasury, in Downing Street. Another Council was held on Wednesday.

NEW PEERAGE.—The Queen has conferred the dignity of a Baron of the United Kingdom on the Right Hon. Henry Labouchere, M.P. for Taunton.

THE INDIAN COUNCIL.—The Right Hon. James Wilson has consented to go to India as a Member of Council, and also as Chancellor of the Indian Exchequer. Mr. Wilson's position towards the Governor-General and his Council in the latter capacity will be similar to that which the Chancellor of the Exchequer bears at home to the Government and the Cabinet. Sir Erskine Perry has been appointed a member of the Council of India, and Sir Henry Bartle Edward Frere, K.C.B. has been appointed a member of the Council of the Governor-General.

RESIGNATION OF THE BISHOP OF EXETER.—It is stated by the journal which is the organ of the extreme Tractarian party that the Bishop of Exeter is about to resign and that he will be succeeded by the Right Rev. Dr. Eden, Bishop of Moray and Ross, who was for many years rector of Leigh, Essex.

PARLIAMENTARY MOVEMENTS. — The Ministerial Whitebait dinner will take place next Wednesday, the 10th inst., at the Trafalgar, Greenwich, and it is anticipated that the business of the session will be brought to a close on the following Saturday, the 13th. The Cheltenham election committee have reported that Colonel Berkeley was duly elected. The Norwich committee have reported that Lord Bury and Mr. Schneider were not duly elected, and that they were, by their agents, guilty of bribery at the last election. The Bury committee have reported that the Right Hon. Frederick Peel was duly elected. The Aylesbury committee have reported that Mr. Wentworth was not duly elected, and that by his agent he was guilty of bribery at the last election, but it was not proved that such bribery was committed with his knowledge. The committee also reported that they had altered the poll for Aylesbury by striking off the name of a voter who had no right to appear on the list. The Maidstone committee have reported that Mr. Lee and Mr. Buxton were duly elected; that one elector was bribed on his own confession by a sum of 10*l.*; and that two other electors were paid 25*s.* each after voting for travelling expenses; but that none of these transactions were done with the knowledge or consent of the sitting members or their agents. The North Leicestershire committee have reported that Lord John Manners and Mr. Hartopp were duly elected. The Limerick committee have reported that Major Gavin was duly elected, and that the riotous proceedings at the last election were not proved to have taken place with his sanction or that of his agents. The Huddersfield committee have adopted a resolution to the effect that it has not been proved that the sitting member has been guilty of bribery, treating, and undue influence, either by himself or his agents; the scrutiny is still in progress. Four candidates are mentioned as likely to come forward for Gloucester in the room of Mr. Price and Mr. Monk, unseated on petition, viz.:—Viscount Monk, Mr. Bernal Osborne, and Mr. Charles Berkeley, son of Sir Maurice Berkeley, in the Liberal interest; and Mr. C. Schreiber, the late candidate for Cheltenham, in the Conservative interest. There are two candidates in the field for Dartmouth in the room of Mr. Schenley unseated on petition,—Mr. Dunn, the late candidate for Totness, in the Conservative interest; and Mr. Stuart Donaldson, who has filled several responsible offices in the Government of New South Wales, in the Liberal interest. The Hon. James Stuart Wortley, late Recorder of London, is a candidate in the Conservative interest for Wakefield, vacant by the unseating of Mr. W. H. Leatham; and Mr. J. W. Childers, late High Sheriff of Yorkshire, is a candidate in the Liberal interest. There is a vacancy for Taunton caused by the elevation of Mr. Labouchere to the peerage; two candidates are in the field,—Mr. George Cavendish Bentinck in the Conservative interest, and Mr. Alexander C. Barclay in the Liberal interest. There are two vacancies at Devonport caused by the appointment of Mr. Wilson and Sir E. Perry as members of the Council for India; Admiral Elliot, Admiral the Hon. Michael Seymour, and Sir Arthur Buller are candidates for the vacant seats, all in the Liberal interest. There is a vacancy for South Shropshire caused by the death of the Hon. R. W. Clive.

MANNING THE NAVY.—The *Gazette* of Friday contained an Order in Council extending the time for payment of the reduced bounties of 8*l.* to able seamen, and of 4*l.* to ordinary seamen, from the 31st day of July to the 30th September next, inclusive.

## Foreign.

FRANCE.—The Zurich Conferences will begin on Monday, and the Ambassadors of France, Austria, and Sardinia, are now on their way to that city. The *Moniteur* of Wednesday contained the following order in reference to the disarmament:—

"In consequence of the Emperor's decision of the 17th June, the army of observation on the Rhine has been dissolved. nevertheless the divisions of infantry and cavalry which are assembled at the camp of Chalons, and those which compose the camp at Elfant, will remain established, the first under the orders of General Schramm, and the other under General Maissiat. Nothing will be changed at present as regards the other divisions in activity which formed part of the army of observation."

The *Patrie* of Wednesday evening contained the

following paragraph relating to the disarmament of the fleet :—

"It is asserted that the ships of the division under Admiral Fourrichon, the armament of which has just been completed at Brest, are to be placed on a *pied de commission*. It is further reported that the same order applies to four frigates, and to the vessels of the squadron commanded by Admiral Bouet-Villaumez. The squadron of the Adriatic has entered the port of Toulon."

The Duke de Grammont, Ambassador of France at Rome, has arrived at Paris to confer with the Emperor on the affairs of Italy. It is said that the Emperor has intimated to the Ambassadors of Parma, Modena, and Tuscany that he will not interfere in promoting their restoration by force of arms, and that he advised the Tuscan Ambassador to recall the hereditary Prince to Florence, his restoration to be accompanied by the granting of a constitution. Prince Napoleon has left for Cherbourg with two aid-de-camp. A Persian Ambassador has arrived in Paris to continue the work of Feruck Khan, and will reside alternately at London and Paris. The *Constitutionnel* makes the following remarks on the disarmament :—

"France disarms.' Her regiments and her fleets are in a short time to be brought within the restricted strength of a peace establishment. We do not yet know what effect will be produced abroad by this important measure, which is due to the generous initiative of the Emperor. In France it ought not to surprise any one, for it is there well known that the Imperial word is not an empty one, that his Majesty holds to what he promises, and accomplishes what he announces, and in our eyes the programme of Bordeaux has retained all its value, 'L'Empire c'est toujours la paix.' After a campaign of two months, which history will set down as one of the most glorious on record, after having placed himself at the head of his marshals, as he has placed himself at the head of the statesmen of Europe, the Emperor may with pride tell France to lay aside her arms and resume the work of peace. She has too well proved her strength for any one not to henceforth respect her repose."

The *Débats* expresses itself in these terms :—

"The declaration made by the Government will no doubt produce more effect on the English press than the recent note in which the military and naval budgets of the two nations were compared. It is to be hoped that the new note, so expressive in its brevity, will reassure our neighbours and induce them to follow our example."

The *Gazette de France* says :—

"What is a peace footing for the French army and navy? Such is the question which naturally suggests itself on reading the official note. The peace footing is an organisation capable of receiving 600,000 men, the effective force of which several journals gave a table before the war in Italy, showing that, without extraordinary levies, France could have in a month 560,000 soldiers under arms. As for our navy, the vessels already launched will probably not be laid up and disrusted, the works suspended, and the cannon thrown into the sea. The French navy will remain what it was and must be, ever ready for the defence of the country, and constantly profiting by all the improvements that experience and science may suggest. The terrors of our neighbours must not have the result of arresting the development of our fleet, which has been in constant progress ever since the Restoration, and has put us in possession of the finest naval force in the world. It is well known that we have always thought that France ought to extend her colonial possessions and utilise her naval forces in the protection of the national establishments abroad. Keeping these projects in view, we think there is not, properly speaking, any such thing as a peace footing for the French navy—that is to say, any possible reduction in the naval strength. If England sees any cause of alarm in this state of our forces, she is free to increase her own; but it is impossible to admit that, in order to allay the fears of our ally, we ought to abandon projects which are the base of our commercial development in the world, the first condition of the security and prosperity of our colonies."

Spain.—The *Madrid Gazette* of the 24th contains the official announcement that the Queen has entered on the fifth month of her pregnancy. In consequence a grand review of the troops of the garrison and festivities at court had been ordered. The Infante Don Sebastian had arrived at La Granja, after an exile of 25 years, and had been received in the most cordial manner by the Queen and Royal family. A provisional concession has been made to Mr. Perry for a submarine cable from Cadiz to the Canaries, and thence to the Brazils and the West Indies. A company is about to be formed to lay down the three cables within a year.

Belgium.—A grand fête took place at Ostend on Sunday, at the laying of the first stone of the new port, which will render Ostend accessible to ships of the largest tonnage. His Majesty, the Duke of Brabant, and the Count of Flanders were present at the ceremony.

Denmark and Sweden.—The King of Denmark embarked at Copenhagen in his steam yacht the Falk on the 25th ult., and arrived at Stockholm unexpectedly on the evening of the 27th. His Majesty went on by water directly to the Castle of Ulrichsdahl, where he was most cordially received by King Charles XV., the new King of Sweden. The Grand Duke Constantine of Russia arrived at Copenhagen on Monday, and took up his residence at the hotel of the Russian Legation.

Switzerland.—The Federal Assembly has adopted a law against the enrolment of Swiss in foreign service, under penalty of imprisonment for one to three months, and one to five years' loss of civil rights. All persons endeavouring to enrol troops will be punished by imprisonment of two months' to three years' duration, a fine not exceeding 1000fr., and five to 10 years' loss of civil rights,

Prussia.—Another despatch from Lord John Russell to Lord Bloomfield, the British Minister at the Court of Berlin, was issued on Saturday with the Parliamentary Papers. After recapitulating at some length the correspondence which had previously taken place between the neutral Powers, it states that Count Bernstorff, the Prussian Minister in London, had intimated "that Prussia could not propose to Austria any alienation of territory, but only reforms and changes in modes of administration," and that Lord John, on being pressed for an immediate answer, said that, "pending the decision of the Cabinet, he could only express his own opinion that the time had not arrived for making any proposition to the belligerents." It then proceeds as follows :—

"The efforts made by a Power so enlightened as Prussia to restore peace to the Continent of Europe will always be duly appreciated by her Majesty. Her Majesty's Government are at once ready to declare that they would hail with joy the moment when any equitable proposal for an armistice or negotiation might be accepted. But her Majesty's Government think themselves bound in fairness to go further, and meet the friendly proposition of Prussia with equal candour. It is their opinion that in the present posture of affairs in Italy, no termination of this war can be expected without some cession of territory on the part of Austria. The Emperor of the French has not contented himself with repelling the Austrian invasion of the territory of his ally, he has declared it to be his purpose to liberate Italy from the Alps to the Adriatic. This proclamation has been received with transport wherever, in Northern and Central Italy, Austrian troops do not exercise a power of compression. Milan, and the whole of Lombardy, Parma, Modena, and Tuscany have eagerly proclaimed their adhesion to the war to which they were thus invited. Yet, neither have we reason to suppose that the Emperor of Austria is at present prepared to yield his hereditary possessions to any other Sovereign. Such is the difficulty of the present European crisis. The [illegible] of America may be there to acknowledge any defeat as irreparable, or to record by treaty the success of any popular insurrection against her dominion. Yet, after the events which have occurred since the declaration of war, it is not to be expected that any treaty, procured by the whole force of Germany, which should restore Austrian supremacy in Italy, would have in it the elements of permanence and security. The Prince Regent of Prussia looks with becoming anxiety to the maintenance of the balance of Power in Europe. Let us examine this matter. The balance of power in Europe means, in effect, the independence of its several states. The preponderance of any one Power threatens and destroys this independence. But the Emperor Napoleon, by his Milan proclamation, has declared, as Baron Schleinitz has justly noted, that in this war he seeks neither conquest nor territorial aggrandisement. It might perhaps be premature to discuss whether the King of Sardinia should reign over Lombardy, Parma, Modena, and Tuscany, or whether several independent States in Northern Italy should be maintained or created. Be their divisions and boundaries arranged as they may, it is the firm persuasion of her Majesty's Government that an Italy in which the people should be 'free citizens of a great country' would strengthen and confirm the balance of power. The independence of states is never so secure as when the sovereign authority is supported by the attachment of the people. A sovereign maintained wholly by the force of arms over a disaffected people is a perpetual object of attack to her ambitious neighbours; and a balance of power founded on such discordant elements gives only an unstable equilibrium. If Italy could be ruled over by sovereigns possessed of the affections of their people, that country, with its 25,000,000 of inhabitants, its natural wealth, and its ancient civilisation, would, in the opinion of her Majesty's Government, be a valuable member of the European family. I must not omit to state that any settlement of Italy would, in the eyes of her Majesty's Government, be incomplete which did not effect a permanent reform in the administration of the States of the Church. Every one knows that Rome and the Legations have been much worse governed by the Pope's Ministers than Lombardy by Austrian Archdukes, and that would be a partial and unsatisfactory arrangement which struck down the rule of the latter, and left the former in all its deformity. Our views upon this subject have not been withheld from the Government of the Emperor of the French. Such being the opinions of her Majesty's Government on the present state of affairs, they are averse to any interposition which might either prove fruitless in the first instance, or which might lead to a partial and insecure settlement. Her Majesty used her utmost efforts, consistent with peace, to maintain the faith of treaties. At the last moment Austria, by an act of supreme imprudence, began the war and invaded Piedmont. From that time everything has been changed. Austria overstepped the frontier laid down in the treaties of 1815. It could no longer be expected that those treaties would be regarded as binding by France and Sardinia. Italy has been roused to war, and is taking her part in the struggle. In these circumstances her Majesty's Government are bound to take a larger view of the whole field of contest. They will be glad to consult Prussia on every occasion where either Power is of opinion that a step towards peace can be made with good effect. It gives them pleasure to find that the Cabinet of Berlin does not partake of the violent excitement which has lately arisen in some parts of Germany, and that in directing the efforts of the German Confederation, she is animated by an enlightened care for the best interests of European civilisation."

Russia.—The Journal of St. Petersburg denies that the neutral Powers proposed to Austria terms of mediation less favourable than those proposed by France. It says :—

"We are authorised to state that the bases of mediation had not been agreed upon by the neutral Powers, nor even discussed, and that the preliminaries of peace between the belligerents were already signed before the principle of mediation which formed the object of negotiations between the neutral Powers was definitely agreed upon."

A grand naval review was held at Cronstadt on the 23d ult. by the Emperor Alexander. The fleet, which was drawn up in two lines, consisted of 21 ships of the line and frigates, chiefly steamers, and a number of gunboats. The screw frigate Grand Admiral, recently constructed in America for the Emperor, excited particular attention. Only four years since the Russian navy possessed but one screw frigate, the Polkan, which remained stationary at Cronstadt. It is said that the Czar is about to undertake a journey to Odessa, where he will be joined by the Prince Couza.

Austria.—The Emperor received on Tuesday the Marquis de Banneville, Envoy of the Emperor of the French, who delivered an autograph letter from the Emperor Napoleon, strongly urging the Emperor Francis Joseph to assist him in imposing a reforming policy on the Sovereigns of Italy. Prince Richard Metternich left Vienna on Wednesday for Paris, with the answer of the Emperor of Austria to this letter.

Frankfort.—The Count de Chambord has arrived in this city from the Hague, where he resided during the war between Austria and France, and it is intended to hold a conference of Legitimists at Wiesbaden during the present month. Several well-known Legitimists have already arrived at Frankfort and the neighbouring towns.

Italy.—Accounts from Florence state that the majority will not hear of the return of the Grand Duke or his son; and that the people of Modena and Parma are preparing to resist any attempt that may be made to restore the Sovereigns who abandoned them during the late war. The *Bologna Gazette* publishes a declaration which is in course of signature in the Romagna, to the effect that those provinces have shaken off the Papal yoke never to return under it again, and that it is their wish to be annexed to Sardinia. This document is addressed to the Emperor of the French and the King of Sardinia. The Sardinian Commissioners at Bologna have surrendered their authority to the Minister President of the Government, who has convoked the National Assembly. The Marquis d'Azeglio has issued a proclamation announcing his recall, recommending the people to remain tranquil, and promising, in the name of King Victor Emmanuel, to employ every means possible to obtain the concurrence of the European Governments for accomplishing their just and reasonable wishes. The Provisional Government of Bologna has succeeded in negotiating a loan of 10 millions of francs with a considerable firm at Leghorn. Garibaldi has sent a circular to all the free States of Italy, in which he declares his army to be ready at any moment to continue the Italian war of independence. A letter from Florence states that Mr. Stockton, the American Minister at Rome, has obtained for Mr. E. W. Perkins from the Papal Government the sum of 3425 Roman scudi, as compensation for his losses at Perugia. Letters from Naples of the 27th ult. state that an English squadron, composed of 12 ships, arrived there on that day. On the 24th the young King was duly put in possession of all his titles to the throne, by the solemn functions of consecration and anointing, after which he visited the cathedral church of St. Januarius, the patron saint of Naples, and venerated his relics. It is said that the canonisation of the King's mother is progressing at Rome, and that she has already attained the grade of "Blessed," and will soon get the remaining steps necessary to the assumption of the title of "Saint." In consequence of the crops of corn having failed throughout the Kingdom of the Two Sicilies, the Government has permitted the importation of wheat, oats, barley, and Indian corn free of duty.

Turkey.—Advices from Constantinople of the 25th ult. state that the Sultan embarked on that day in the steam frigate Saïti for his excursion in the Archipelago. After a stay at Salonica his Highness was to return to Constantinople. In consequence of the conclusion of peace between France and Austria the calling in of the Redifs has been suspended. A Turkish Legation or Consulate-General is shortly to be established at Rome. The number of victims in the recent earthquake at Erzeroum has been officially stated at 1054—375 killed, 616 injured, and 63 missing. In addition, 2000 houses, 6 mosques, 17 khans, 5 establishments of baths, and 3 public buildings were thrown down; and 1450 houses or other buildings were more or less injured. If the earthquake had not taken place on a religious holiday, when the bazaars and shops were closed, the number of victims would no doubt have been greater.

Egypt.—Admiral Mundy's squadron anchored outside the harbour of Alexandria on the 26th ult. A French consul on the coast facing the town of Aden is said to have been massacred. No details are given.

India.—Telegraphic despatches in anticipation of the Bombay and Calcutta mails of the 5th ult. have been received. The disaffection among the late Company's European troops has been on the increase. At Berhampore they broke into open mutiny, intrenched themselves in the barracks, and elected officers. The Madras Fusiliers subsequently followed the example of the Bengal troops. A general order was thereupon published, to the effect that every non-commissioned officer and soldier in the three Presidencies who enlisted for the East India Company's forces should, if he desired it, be allowed to take his discharge under the provisions of the Act 10th and 11th Victoria, cap. 38. Every recruit in the Barrackpore depôt has taken his discharge under this general order. The 5th Europeans at Berhampore, with the exception of about 40, have returned to their duty. The recusants will be tried by court-martial. The rebels in Nepaul have again shown themselves on the Oude and Goruckpore frontiers, driven down by starvation; 70 of them were killed by detachments under Major Vaughan and Capt. Cleveland. Up to the 4th June 1351 forts have been demolished in Oude, and 70 were under demolition; 658 cannon and 1,333,837 arms of all sorts have been collected. The Lucknow Begum and Mumroo Khan have made overtures of surrender. Similar missives have been received in Central India from Feroze Shah and the Bala Rao. Nana Sahib is still in Nepaul, where a political party prevents his being given up to the English. The New Five and a Half per Cent Loan was at 6 to 6¼ discount.

China.—The English and French Ambassadors left Hong Kong on the 2d June for Shanghai. Admiral Hope had previously gone north, the general rendezvous being at Shanghai, before proceeding to the Peiho. The gunboat expedition sent to Heang-shan were received in a friendly manner by the authorities, and returned after warning them against a repetition of the recent annoyances.

Cochin China.—Intelligence received by way of Manilla tells of loss sustained by the allied forces, and great sickness prevailing. The natives fight bravely, and it is said that the French admiral has applied for strong reinforcements, and meanwhile is content to hold his position.

AUSTRALIA.—Advices from Melbourne to the 1st of June state that serious disturbances had taken place there in consequence of the Chinese miners having refused to pay the residence tax of 4*l.* per annum. A great number of them had been apprehended, and much excitement prevailed. The Bank of Victoria is about to establish a branch in London, and has sent the manager home for the purpose.

UNITED STATES.—Washington advices of the 21st ult. state that the news of the European peace had produced much gratification in the Government, official, and diplomatic circles. Mr. Buchanan and the Administration had freely expressed their regret that Mr. Cobden declined to enter the Ministry, thinking that his remaining there would have had a good influence upon the relations between the two countries. The ship Atlantic, which cleared at Bedford on the 29th for the Indian Ocean, was seized on the 21st by the United States Government on suspicion of going on a voyage for slaves to the coast of Africa.

MEXICO.—We have late news from Mexico. General Marquesa had robbed the conducta from Guanajua to San Blas of 600,000 dols. A conspiracy had been discovered to place Marquesa in power, while he had declared in favour of Santa Anna. Miramon had made a complete change in his Cabinet on account of a change in his policy, namely, giving liberty to the press, an amnesty for political offences, and a partial confiscation of the Church property. The Church party had declared for Marquesa.

BRAZILS AND BUENOS AYRES.—The Avon has arrived, with news from Rio to the 9th ult. War has been declared between Urquiza and Buenos Ayres, but hostilities have not yet commenced. A project of the Brazilian Government for the conversion of bank-notes into gold passed the Chamber of Deputies, in a single debate, by a majority of 11 votes, Government having made the measure a Cabinet question.

# Parliament.

## HOUSE OF LORDS.

FRIDAY.—*Revision of the Liturgy.*—Lord EBURY presented a petition from certain clergy of the Established Church, praying the House to address the Queen for a royal commission to revise the liturgy.—The Archbishop of CANTERBURY said that if Lord Ebury would bring forward the question in a formal way next session, the bishops would be quite ready to consider it.—The Bishop of LONDON did not think that the course taken by the petitioners was the right way to shorten the services. The question arose, how was the Liturgy to be abbreviated. Was it by shortening the services, or altering the doctrines? The latter course would end by splitting the Church of England into two parties instead of embracing, as it now does, persons holding a variety of sentiments. The Bench of Bishops considered that they had the power to authorise any clergyman to use the Litany as a separate service as well as the Communion Service. In cathedrals these services had always been separated, and he did not see why the same course should not be adopted in churches if it met the approbation of the parishioners. All the good which the petitioners wished to obtain might be procured by different means, while their proposed mode of procedure would only lead to evil.—After a few words from Lords POWYS and DUNGANNON in opposition to the proposed revision, Lord BROUGHAM said that matters of this kind were better left in the hands of the bishops, who had the power already to do what was necessary.—The Duke of NEWCASTLE hoped that if Lord Ebury brought forward this subject next session he would state what it was he proposed to do. The petition was then ordered to lie on the table. Several Bills were advanced a stage.

MONDAY.—The *Royal Assent* was given by commission to several public and private Bills. The *Reform Bill.*—Lord TEYNHAM inquired whether in the forthcoming measure of Parliamentary Reform the Government proposed to abolish property or pecuniary qualification as entitling persons to be registered as electors?—Earl GRANVILLE declined to afford any premature information respecting a measure now under consideration. The *Divorce Court Bill*, as amended in committee, having been brought up, the LORD CHANCELLOR moved the omission of the words extending the operation of the Bill to the colonies and dependencies of the Crown, stating that he had found on inquiry that it was impossible to bring India and some of the colonies within its operation.—After some remarks from Lord KINGSDOWN, approving of the proposed omission, the motion was agreed to.—Lord REDESDALE moved an amendment to limit the power of the Court to sit with closed doors to suits of nullity of marriage. After some discussion the clause was carried on a division by a majority of 24 to 11, and the Bill read a third time and passed. The second reading of the *Municipal Corporations Bill* was postponed after a few words from Lord DERBY, who said the object of the Bill was to repeal the prohibition which prevented mayors and members of corporations from taking the emblems of the municipal authority to Dissenting places of worship, and it was one of a series of measures the object of which appeared to be to reduce the Church of England to an entire and absolute level with all the Dissenting sects in the country.—Lord STANLEY of ALDERLEY, in calling attention to the admission of *British Salt into China*, stated that the supply of salt to a population of 300,000,000 had been hitherto a monopoly in the hands of the Chinese Government. It would be only fair in asking permission to import salt into China to make some compensation equal to the revenue that would be thereby lost to the Chinese Government. He concluded by asking what steps had been taken by the Government for the purpose of bringing the question for admitting British salt into China before the Court of Pekin.—The Earl of ELGIN said he felt some difficulty in answering the question, because the correspondence which he had entered into with the Government on commercial and other matters had not yet been made public. If, however, he had abstained from pressing on the notice of the Chinese Government certain commercial reforms it was out of a consideration for the interests of the Imperial Government, whose influence so materially affected the fluctuations of trade. The monopoly of salt was a very ancient one in China, and would on that account be difficult to overthrow, and, in addition to that, it was a very productive source of revenue. With respect to the appointment of a Russian Ambassador at Pekin, he thought it would be as well for this country not to press at first with too great stringency on the Chinese Government our right secured by treaty of permanent residence. Should, however, other nations insist on that right he presumed we should not fail to do the same.—Lord WODEHOUSE stated the instructions which had been given to Mr. Bruce, and explained the steps which had been taken by Russia.

TUESDAY.—*The Builders' Strike.*—Lord BROUGHAM asked whether the attention of Government had been called to the strike in the building trade. As a friend to the working classes, and as one who had invariably supported their interests, he deplored an attempt on their part to extort 10 hours' wages for 9 hours' work, and expressed a wish that some system similar to the *Conseils des Prud'hommes* should be established in this country.—Earl GRANVILLE said that the attention of Government had been drawn to the subject, but this was a case in which speaking and writing were better than any action on the part of the Government. The present complaint of the working men, upon their own showing, was as unjustifiable as it was short-sighted, and would only end in decreasing their wages. If, as they asserted, the master builders were making too large a profit, the ordinary laws of economy would introduce competition, and so remedy the evil. In regard to the establishment of a *Conseil des Prud'hommes*, he thought such a tribunal would be useless in the present case, which regarded the future, while the *Conseils des Prud'hommes* were principally employed to settle disputes on past contracts between master and man. The whole question, however, depended upon the experience of the working classes more than upon any courts of arbitration.—After a few words from Lords DONOUGHMORE and BROUGHAM, the LORD CHANCELLOR said where parties who were all free agents entered into a strike they were innocent in law. The late Mr. Daniel O'Connell once expressed to him a strong opinion as to the ruinous consequences of these strikes, and said that they had destroyed the development of manufactures in Ireland. The orders of the day were then disposed of.

THURSDAY.—*The Builders' Strike.*—Earl GRANVILLE referred to the debate on Tuesday evening in reference to the builders' strike, which he was afraid had given rise to some misconception. He never intended to justify the combination of workmen to influence the operations of trade, nor to vindicate compulsion on their part towards any of their fellow-workmen. But what he had said was that every individual workman ought to be left perfectly free to take what course he chose in vindication of his own rights. With regard to this particular strike, he deprecated it in the highest terms, and considered it most unjustifiable.—The Earl of ELLENBOROUGH thought the present strike for working 9 hours and requiring 10 hours' pay was equivalent to annihilating at one blow one-tenth of the manufacturing power of the kingdom.—On the order for the second reading of the *Militia Ballot Suspension Bill*, the Earl of ELLENBOROUGH called attention to the state of our militia force, which he considered most unsatisfactory. He did not believe there was a single regiment which had more than half its proper complement of men.—The Duke of CAMBRIDGE and the Earl of RIPON severally acknowledged the fact that the militia regiments generally were about 40 per cent. less than their proper strength. They assured the House, however, that the authorities were doing all in their power to place the militia upon a proper footing. Several other Bills were advanced a stage.

FRIDAY.—*Church Rates.*—The Duke of MARLBOROUGH laid on the table the evidence taken by the Select Committee on Church-rates. The committee did not find themselves in a position to give a satisfactory report, and therefore presented the evidence which they had received. *Endowed Schools.*—In answer to Lord CRANWORTH the LORD CHANCELLOR said there was not time in the present session to legislate on the trusteeships of Endowed Schools, but he hoped that a Bill on the subject would be introduced shortly after the meeting of Parliament. [Left sitting.]

## HOUSE OF COMMONS.

FRIDAY.—After the *Income Tax Bill* had passed through committee the House went into *Committee of Supply* on the remaining Civil Service Estimates, the discussion of which occupied the rest of the morning sitting. *The Papal Government.*—In the evening, on the motion that the House at its rising do adjourn to Monday, Mr. SCULLY asked whether the Sovereign of the Roman States had finally accepted or declined the position of President over the Confederate States of Italy; and whether, in the event of the Pope accepting that office, it was intended, on the part of her Majesty's Government, to adopt effectual steps for establishing direct diplomatic relations with the Court of Rome.—Mr. BENTINCK asked whether there was any intention on the part of her Majesty's Government to reduce our *Naval Armaments*, observing that the announcement of the intention of the Emperor of the French to disarm was no reason for reducing our armaments, but that it was the duty of the Government to continue to put our defences, military and naval, on an efficient footing.—Mr. LINDSAY, Lord LOVAINE, and Lord ASHLEY deprecated any reduction of our navy.—Lord PALMERSTON, in reply to Mr. Scully, said he was not competent to give an answer as to the intention of the Pope, as the Confederation had not been formed, and the English Government had no relations with Rome that would lead the Pope to communicate to them any information upon the subject. With regard to our diplomatic relations with the Confederation we should have such relations with it as we now have with the Germanic Diet. With regard to the Court of Rome, we had no diplomatic relations, as the law would not allow the Pope to be represented by an ecclesiastic, and though both Prussia and Russia likewise refused to receive ecclesiastics as ambassadors, the Pope raised difficulties with regard to England which he did not raise with regard to Russia and Prussia. In answer to Mr. Bentinck's question, he might content himself with saying that the question must depend upon a great variety of circumstances, and it would be premature for the Government to give any information as to what they would do in consequence of an event that had not yet happened. He had no hesitation, however, in saying that it would be impossible for the Government to enter into any agreement for the reduction of our establishments, naval or military, dependent upon the measures of another Government whose interests and position are different from our own; and the House must remember that other Powers besides France had navies, so that our naval and military arrangements depended not upon a single Power. *Church Rates.*—Sir G. LEWIS, in reply to Lord J. MANNERS, said that as far as the Government was concerned, the Bill for the abolition of church-rates must take its chance. *National Defences.*—On the motion for going into Committee of Supply, Mr. HORSMAN moved that the expense of completing the necessary works of national defence projected or already in progress should be met by a fund specially provided for that purpose, and independent of the annual votes of Parliament. If these works were to be done at all, they ought to be done at once, and, as the Government had plans which had been well considered and towards which the House had voted considerable sums, his object was, instead of voting the money by driblets, that it should be raised at once, and the works completed without delay. He urged the necessity of carrying our defensive preparations to the highest point of completeness, believing at some future time in the possibility of a war with France, because he saw that the Emperor of France believed in this possibility from the preparations he had made, all indicative of a gigantic enterprise, at some day or other, against a great naval Power. He could not forget that the sentiments of the Emperor, written when he was an author, and not an actor, in the great scenes of European diplomacy, had lately been reprinted and circulated under his auspices, and there was no reason to suppose that he did not intend, should the opportunity ever occur, to avenge the deepest humiliation and the most stupendous disaster that ever descended upon his country. He hoped that no feeling of false delicacy would prevent the House and the country from looking the national danger in the face, and taking adequate and timely steps to avert it.—Mr. S. HERBERT said that the Government [illegible] could have, no offensive designs, and that, if we [illegible] the question of our defences, it was to show the [illegible] we ought to take to put this country in a state of [illegible] He agreed in the necessity of putting our great [illegible] the depositaries of reproductive power for our [illegible] navy, in a proper state of defence, and in the [illegible] dition of some of those arsenals. The Commissioners [illegible] appointed had this object in view, and until they had [illegible] the Government would ask Parliament for a vote, [illegible] give their most anxious consideration to the subject.—Mr. SMITH said the country must depend mainly on the [illegible] warned the Government not to create more fortifications [illegible] they had the means of finding men to defend.—Sir J. [illegible] hoped that every available man would be employed [illegible] national defences. The country was not safe, and it was [illegible] more necessary that we should be prepared. He was [illegible] that the French Emperor intended to attack this country [illegible] the first opportunity.—Mr. COBDEN ridiculed the idea [illegible] French invasion, and condemned in strong terms, as [illegible] ful to our policy, what he termed the preparations for war [illegible] France while the mouths of our Ministers were filled with [illegible] pressions of confidence and even adulation towards [illegible] sovereign, and he called upon the House to give expression [illegible] an opinion condemnatory of such a state of things. He [illegible] that there was any ground for supposing that the Emperor [illegible] the French or the French people had any design to [illegible] upon this country. He admitted that circumstances gave [illegible] legitimate right to have a larger marine than France [illegible] third, but France, he said, had never pretended to the [illegible] naval strength as ours, and we had now 760 vessels [illegible] while France had only 408. He thought an amicable [illegible] tion would adjust this matter. If, after such explanation [illegible] the French Government persisted in maintaining [illegible] naval rivalry, he would cheerfully vote increased estimates. [illegible] Sir J. PAKINGTON said that Mr. Cobden's comparison [illegible] naval strength of England with that of France was erroneous [illegible] reason of his having included in the number of English [illegible] gunboats, of extremely small size, to the number of [illegible] Cobden had spoken of a panic; but did he mean [illegible] ought to trust to amicable professions without taking [illegible] measures of defence and making up past arrears? He hoped [illegible] that Mr. Herbert had not said how far he concurred [illegible] spirit of Mr. Horsman's proposal, or whether we were [illegible] year after year, spending driblets of money for the repair [illegible] of our harbours and arsenals. He warned the House [illegible] that a large addition to the expenditure for the navy [illegible] necessary next year.—Lord C. PAGET corrected the error [illegible] which Mr. Cobden's statement might have made [illegible] relative state of the English and French navies. The latter [illegible] said, had 20 line-of-battle ships in commission and in [illegible] equal to ships in commission, making a total of [illegible] 26 line-of-battle ships in commission, and 9 corvettes [illegible] that our proportion was not that to which, in [illegible] opinion, we were entitled. But there was another [illegible] was increasing her navy—namely, Russia, which had [illegible] line-of-battle ships, 6 screw frigates, and 6 paddle frigates. [illegible] Mr. BENTINCK and Mr. NEWDEGATE spoke in favour [illegible] motion, and Lord H. VANE recommended that it should be [illegible] pressed.—Lord PALMERSTON said he concluded that Mr. [illegible] man had accomplished the object he had in view [illegible] upon the House the great necessity of completing [illegible] tions for the defence of our naval arsenals and dockyards [illegible] that these defensive measures indicated no desire [illegible] of this country to go to war, or to give umbrage to [illegible] but were founded upon the common-sense principle [illegible] nation desirous of peace should be able to defend itself [illegible] any sudden attack. He hoped, therefore, that he would be [illegible] satisfied with this very useful result—and not press him [illegible] to a division, which it might be inconvenient to affirm [illegible] abstract without indicating how the fund was to be provided. [illegible] A division was, however, called for by Mr. HORSMAN, [illegible] resulted in the motion being negatived by 167 to [illegible] Report of the Committee of Supply was brought up and [illegible] to. The remaining orders and motions were then gone [illegible] without discussion, and the House adjourned to Monday.

MONDAY.—*The New Foreign Office.*—At the morning [illegible] Lord J. MANNERS recapitulated the proceedings taken [illegible] the late and preceding Governments regarding [illegible] the new Foreign and Indian offices, with especial [illegible] a statement that Lord Palmerston had directed Mr. [illegible] prepare a new design in the Italian style, and [illegible] hope that during the recess nothing would be [illegible] prejudice of a design which he thought admirable [illegible] for its purpose. *Bribery at Elections.*—Lord R. [illegible] whether it was the intention of the Government [illegible] commissions to inquire into the election proceedings [illegible] those constituencies in which committees have [illegible] that extensive bribery prevails?—Sir G LEWIS said [illegible] the Government, as a Government, had no [illegible] special function in relation to the matter. The House [illegible] went into *Committee of Supply*, and resumed the [illegible] of the Civil Service Estimates and Civil Contingencies. [illegible] The vote for the *Statute Law Commission* was negatived [illegible] 80. The *Military Savings' Bank Bill* and other Bills were [illegible] third time and passed. *Telegraph Contracts.*—In [illegible] sitting, Lord ASHLEY asked whether it was the intention [illegible] Government to suspend further proceedings with the [illegible] submarine telegraph contracts until the report of the [illegible] committee now sitting upon the Packet and Post [illegible] Service was laid upon the table of the House.—The Chancellor [illegible] of the EXCHEQUER said that no further contracts would be [illegible] made before the report was issued, except in very urgent [illegible] cases.—The House went into committee on the Civil [illegible] when Sir C WOOD brought forward the financial statement [illegible] India. He believed that in a few years India might [illegible] to the state of financial prosperity which she enjoyed [illegible] the mutiny. He reviewed the difficulties which [illegible] since that time, which it required the greatest care and [illegible] sideration to grapple with. He should not enter into [illegible] already given by his predecessor, but should dwell [illegible] the general considerations. The expenditure was [illegible] and the income 34,800,000*l.*, leaving a deficit of 14,[illegible] made a deficit in the two years of 23,227,000*l.* Taking [illegible] April as the starting point, just before the mutiny [illegible] the debt to have been 59,462,000*l.*, for which the [illegible] 2,525,000*l.* The military expenditure in that [illegible] 12,561,000*l.* That year there was a serious deficit [illegible] revenue. The expenditure for 1857-8 was 40,226,000*l.* [illegible] income 31,706,000*l.*, leaving a deficit of 8,520,000*l.* [illegible] that deficit was provided for by various loans, borrowed [illegible] in India and partly in England, the total being [illegible] which 11,561,000*l.* had been borrowed in England [illegible] in April last amounted to 81,550,000*l.*, for which the [illegible] was 3,564,000*l.* The military charges for that year [illegible] 25,849,000*l.* In the years 1859-60 the expenditure for [illegible] charges for public works and compensation to sufferers by [illegible] mutiny, would be 46,131,500*l.* Against this there [illegible] revenue of 35,856,000*l.*, leaving a deficit of 10 [illegible] and a quarter. But beyond this he must ask for [illegible] of two millions on account of railroads and irrigation. [illegible] tion. Thus would make the entire deficit 12 millions [illegible] a quarter. To provide for this seven millions [illegible] borrowed, five millions in England and two [illegible] should require 5,700,000*l.* to balance his account. [illegible] margin was needful, and he should therefore ask [illegible] two millions of which remained on account of [illegible] sanctioned. He should have to raise five millions [illegible] loan. In the course of next year there would be [illegible] compensation; but taking into account the increase [illegible] of interest, he estimated the charge for 1859-60 [illegible] and the income at 36,000,000*l.*, leaving a deficit [illegible]

# The Gardeners' Chronicle Newspaper.

*SATURDAY, AUGUST* 13, 1859.



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## News of the Week.

In the House of Lords on Friday, in answer to Lord CLANCARTY, Earl GRANVILLE said that the Government were willing to consider any improvements which might be suggested in the system of national education in Ireland, but he declined to give any promise to introduce a Bill on the subject. On Monday the Marquis of NORMANBY asked for information respecting the project of pacification which had been transmitted by Her MAJESTY's Government to Austria previous to the peace of Villafranca. Lord WODEHOUSE said that the only project of pacification which the English Government had transmitted to Austria was a French despatch containing propositions for peace, but on which they had offered no opinion of their own. On Tuesday the Militia Laws' Amendment Bill was read a second time after a short discussion, in which Lord STRATFORD DE REDCLIFFE complained of the suspension of the ballot, and Lord KINGSDOWN thought that the defences of the country would never be in a proper position until Parliament resorted to something like a conscription. On Thursday the India Loan Bill passed through committee, and the Reserve Volunteer Force of Seamen Bill was read a third time and passed.

In the House of Commons on Friday the House went into committee on the Reserve Volunteer Force of Seamen Bill, the object of which is to enroll a naval militia of 30,000 men as a reserve for the Navy, and agreed to all its clauses. In committee of Ways and Means, a resolution moved by the CHANCELLOR of the EXCHEQUER for imposing an additional probate duty on estates of the value of 1,000,000*l*., and upwards, was agreed to. Mr. ROEBUCK's resolution declaring that the withdrawal of the Bodmin election petition was a corrupt compromise was negatived, on a division, by 214 to 30. On Saturday, in answer to some remarks by Sir H. WILLOUGHBY on the state of the funded and unfunded debt, the CHANCELLOR of the EXCHEQUER said that the powers of conversion and reconversion given by Parliament to the Finance Minister were too large, and that in the next session he would propose a measure for bringing the subject under the direct control of the House of Commons. On Monday Lord ELCHO brought forward his motion for an address to the Crown, declaring that it would not be consistent with the honour or dignity of the country to take part in any conference on the affairs of Italy. Mr. KINGLAKE moved as an amendment the previous question. Mr. GLADSTONE, Lord J. RUSSELL, and Lord PALMERSTON opposed the motion on the ground that there was at present no intention of going into conference at all, but that it would be unwise and unconstitutional to fetter the Government should circumstances hereafter arise to render their co-operation advisable. Mr. DISRAELI said that he did not approve of the form of the motion, and recommended that it be withdrawn. Lord ELCHO said he was satisfied with the result of the discussion, and withdrew the motion. On Tuesday the Consolidated Fund (Appropriation) Bill, the Stamp Duties Bill, the Customs Bill, and the East India Loan Bill, were read a third time and passed. Mr. MACKINNON obtained leave to bring in a Bill to establish equitable councils of conciliation to adjust differences between masters and operatives. On Wednesday Mr. BRIGHT obtained a select committee to inquire into the circumstances connected with the withdrawal of the petition against the return of Mr. OVEREND at the election for Pontefract. The Sale of Gas Bill passed through committee, and the European Troops India Bill was read a third time and passed. On Thursday, on the order of the day for going into committee on the Charitable Trusts Act Continuance Bill, Mr. NEWDEGATE moved that the Bill be committed that day three months. After some discussion the amendment was rejected on a division by 70 to 47. The Bill then passed through committee, and was read a third time and passed. The House then went into committee on the Divorce Court Bill, when a strong opposition was offered to the clauses added by the House of Lords, empowering the Court to hear certain cases with closed doors, authorising the ATTORNEY-GENERAL to examine the parties in cases of suspected collusion, and extending the operation of the Bill to Ireland. After a long discussion all these clauses were withdrawn, and the Bill was passed through its remaining stages with some amendments respecting the property of divorced persons. The Sale of Gas Bill was read a third time and passed. On the order of the day for considering the Attorneys and Solicitors Bill, as amended, the House was counted out.

The Zurich Conference was formally opened on Monday, and it is understood that one of the first resolutions adopted by the Plenipotentiaries was to prolong the armistice indefinitely. Meanwhile the news from Italy is of a serious character. Tuscany has refused to submit to the restoration of the old dynasty, Modena has voted annexation to Piedmont, and Parma has proclaimed the Red Republic. The latest news states that the Piedmontese have been driven from Parma, that all the owners of property and friends of order were flying from the city, and that the French troops have suspended their departure from Italy.

## Home News.

THE COURT. — The Queen and Prince Consort, accompanied by Prince Alfred and the Princesses, left Osborne yesterday evening and embarked in the Royal yacht Victoria and Albert, on a cruise of a few days to the Channel Islands. On Thursday week the Queen and Prince Consort, accompanied by Prince Alfred, Prince Arthur, Princess Alice, Princess Helena, and Princess Louisa, took a cruise in the Fairy. On Friday the Queen drove out, accompanied by Princess Hohenlohe. The Earl and Countess of Clarendon left Osborne. Toussoun Pasha, son of the Pasha of Egypt, accompanied by Sir Moses Montefiore, was presented to her Majesty. On Saturday, being Prince Alfred's birthday, the band of the Royal Marines played during the day. In the afternoon the Queen and Prince Consort, accompanied by Prince Alfred, Prince Arthur, Princess Alice, Princess Helena, Princess Louisa, Princess Leiningen, and Princess Hohenlohe, embarked in the Fairy, and were present at the regatta of the Royal Yacht Squadron in Cowes Roads. Earl Granville and Sir G. C. Lewis arrived on a visit. In the evening the Queen had a dinner party. On Sunday morning the Queen and Prince Consort, Prince Alfred, Princess Alice, Princess Helena, Princess Louisa, the Duchess of Kent, and Princess Hohenlohe attended Divine service at Osborne; the Rev. J. Prothero officiated. Colonel Claremont, C.B., arrived on a visit. On Monday morning Prince Alfred left Osborne for Holyrood Palace on a visit to the Prince of Wales. Earl Granville and Sir G. C. Lewis left for London. In the afternoon the Queen, accompanied by Princess Louisa and Princess Hohenlohe, drove out. The Prince Consort rode on horseback, and visited the Grand Duke Constantine at Ryde. The Duchess of Kent took a drive. On Tuesday the Grand Duke Constantine visited her Majesty. In the afternoon the Queen drove out with the Princess Alice, Princess Helena, and Princess Hohenlohe. In the evening the Grand Duke Constantine and Prince and Princess Leiningen dined with her Majesty. Yesterday afternoon the Queen held a Privy Council at Osborne.

THE PRINCE OF WALES AND PRINCE ALFRED.—On Sunday last the Prince of Wales attended Divine service in the High Church of Edinburgh; the Rev. Dr. Arnot officiated. On Monday morning his Royal Highness visited the Edinburgh Botanical Gardens, and, having inspected the hot-houses and palm-houses, assisted at the transplanting of a larch which his Royal Highness afterwards planted in the hilly part of the gardens. On Tuesday morning Prince Alfred arrived by the ordinary London express, and proceeded to Holyrood. The Prince of Wales received Prince Alfred at the station, and their Royal Highnesses afterwards proceeded to Roslin and Melrose by rail, and returned to Holyrood in the evening. On Wednesday morning the Prince of Wales and Prince Alfred went to the University and attended a lecture by Professor Lyon Playfair on the chemical phenomena connected with the processes of calico printing and dyeing. In the evening their Royal Highnesses visited the Queen's Theatre. On Thursday Prince Alfred left Edinburgh for London, on his return to Osborne.

THE GRAND DUKE CONSTANTINE arrived at Spithead on Saturday from Cronstadt in the Russian screw frigate Swetland, carrying 60 (8-inch) guns. His Imperial Highness landed at Ryde, and took up his residence at the Pier Hotel. On Monday the Prince Consort visited the Grand Duke, and on Tuesday his Imperial Highness visited the Queen at Osborne, and dined with her Majesty in the evening.

THE GRAND DUCHESS MARIE OF RUSSIA, accompanied by her daughter, the Princess Marie, and her sons, the Princes Nicolas and Eugène, arrived at Chesham House, the residence of the Russian Legation, on Monday evening from Torquay. On Tuesday morning her Imperial Highness visited Westminster Abbey, Stafford House, the residence of the Duke of Sutherland, and Bridgewater House, the residence of the Earl of Ellesmere. In the evening the Grand Duchess, with the Princess Marie, honoured the Earl and Countess Granville with her company at dinner. On Wednesday morning the Grand Duchess, with her family, attended Divine service in the church of the Russian Legation, and in the afternoon visited the Crystal Palace, attended by Sir Joseph Paxton, M.P. who had been specially invited to attend upon her Imperial Highness. On Thursday the Grand Duchess left London for Osborne on a visit to the Queen. Her Imperial Highness will remain in the Isle of Wight for two days, and is expected to return to-day to Chesham House. On Monday next the Grand Duchess will again visit the Crystal Palace to witness the display of the fountains and cascades.

THE CABINET.—A Cabinet Council was held on Saturday at the official residence of the First Lord of the Treasury in Downing Street. Another Council was held on Wednesday.

THE PEERAGE.—Mr. Labouchere's title will be Baron Taunton, of Taunton, which place he represented in the House of Commons for more than 30 years.

MINISTERIAL ARRANGEMENTS.—Mr. James Wilson has finally accepted the office of Special Commissioner to India. The Vice-Presidency of the Board of Trade, vacated by this appointment, has been offered to Mr. Moye O'Ferrall, but it is understood that he has declined the offer.

THE ARMY.—The colonelcy of the 1st Dragoon Guards, vacated by the death of the Earl of Cathcart, has been conferred on Lieut.-Gen. Sir T. W. Brotherton, K.C.B. The colonelcy of the 15th Light Dragoons, vacant by the promotion of Sir T. W. Brotherton, has been conferred on Major-General E. W. Bouverie.

PARLIAMENTARY MOVEMENTS.—The prorogation of Parliament will take place by Royal Commission to-day. The election for Devonport in the room of Sir Erskine Perry terminated on Tuesday in the return of Admiral Sir Michael Seymour, the Liberal candidate, by a majority of 49 over Mr. Ferrand, the numbers being 1096 to 1047. Mr. Ferrand has determined to contest with Sir Arthur Buller the seat vacated by Mr. Wilson. It is probable that the nomination will take place on Tuesday, and the election on Wednesday next. The Taunton election has terminated in the return of Mr. G. C. Bentinck, the Conservative candidate, by a majority of 45 over Mr. Alexander Barclay, the numbers being 381 to 336. The Dartmouth election took place on Monday, when Mr. Dunn the Conservative candidate was elected without opposition, Mr. Donaldson having declined to go to the poll on the ground that the seat could only be secured by venal means. There is a vacancy at Bodmin caused by Dr. Michell's acceptance of the stewardship of the Manor of Northstead. There are two candidates in the field, Mr. Wyld, in the Radical interest, and Mr. Murchison, who offers himself as a Liberal-Conservative. The Preston Election Committee have reported that Mr. Charles Pascoe Grenfell was duly elected, that persons were bribed at the last election, but it was not proved that the bribery took place with his sanction or that of his agents. The Huddersfield Committee have reported that Mr. E. A. Leatham was duly elected, that several persons were bribed at the last election, but there was no evidence that such acts of bribery took place with the knowledge of Mr. Leatham. The Beverley Committee have reported that Mr. Ralph Walters was not duly elected, that he was by his agents guilty of bribery, and that Major Edwards was duly elected. The committee recommend that two persons who had been guilty of bribery should be prosecuted, and that no writ for Beverley should be issued until the evidence is before the House. The Hull Committee have reported that Mr. Joseph Hoare was not duly elected, that upwards of 300 electors were bribed by being employed and paid as messengers and canvassers at the late election, but it was not proved that such acts of bribery were committed with the knowledge or consent of Mr. Hoare. The committee also reported that Mr. W. H. Moss, election auditor for Hull, appeared as agent for the petitioners, a course of proceeding which they considered open to grave objection.

THE DOVER POSTAL CONTRACT.—The Select Com-

AUSTRALIA.—Advices from Melbourne to the 1st of June state that serious disturbances had taken place there in consequence of the Chinese miners having refused to pay the residence tax of 4*l.* per annum. A great number of them had been apprehended, and much excitement prevailed. The Bank of Victoria is about to establish a branch in London, and has sent the manager home for the purpose.

UNITED STATES.—Washington advices of the 21st ult. state that the news of the European peace had produced much gratification in the Government, official, and diplomatic circles. Mr. Buchanan and the Administration had freely expressed their regret that Mr. Cobden declined to enter the Ministry, thinking that his remaining there would have had a good influence upon the relations between the two countries. The ship Atlantic, which cleared at Bedford on the 29th for the Indian Ocean, was seized on the 21st by the United States Government on suspicion of going on a voyage for slaves to the coast of Africa.

MEXICO.—We have late news from Mexico. General Marquesa had robbed the conducta from Guanajua to San Blas of 600,000 dols. A conspiracy had been discovered to place Marquesa in power, while he had declared in favour of Santa Anna. Miramon had made a complete change in his Cabinet on account of a change in his policy, namely, giving liberty to the press, an amnesty for political offences, and a partial confiscation of the Church property. The Church party had declared for Marquesa.

BRAZILS AND BUENOS AYRES.—The Avon has arrived, with news from Rio to the 9th ult. War has been declared between Urquiza and Buenos Ayres, but hostilities have not yet commenced. A project of the Brazilian Government for the conversion of bank-notes into gold passed the Chamber of Deputies, in a single debate, by a majority of 11 votes, Government having made the measure a Cabinet question.

# Parliament.

## HOUSE OF LORDS.

FRIDAY.—*Revision of the Liturgy.*—Lord EBURY presented a petition from certain clergy of the Established Church, praying the House to address the Queen for a royal commission to revise the liturgy.—The Archbishop of CANTERBURY said that if Lord Ebury would bring forward the question in a formal way next session, the bishops would be quite ready to consider it.—The Bishop of LONDON did not think that the course taken by the petitioners was the right way to shorten the services. The question arose, how was the Liturgy to be abbreviated. Was it by shortening the services, or altering the doctrines? The latter course would end by splitting the Church of England into two parties instead of embracing, as it now does, persons holding a variety of sentiments. The Bench of Bishops considered that they had the power to authorise any clergyman to use the Litany at a separate service as well as the Communion Service. In cathedrals these services had always been separated, and he did not see why the same course should not be adopted in churches if it met the approbation of the parishioners. All the good which the petitioners wished to obtain might be procured by different means, while their proposed mode of procedure would only lead to evil.—After a few words from Lords POWYS and DUNGANNON in opposition to the proposed revision, Lord BROUGHAM said that matters of this kind were better left in the hands of the bishops, who had the power already to do what was necessary.—The Duke of NEWCASTLE hoped that if Lord Ebury brought forward this subject next session he would state what it was he proposed to do. The petition was then ordered to lie on the table. Several Bills were advanced a stage.

MONDAY.—The *Royal Assent* was given by commission to several public and private Bills. The *Reform Bill*.—Lord TEYNHAM inquired whether in the forthcoming measure of Parliamentary Reform the Government proposed to abolish property or pecuniary qualification as entitling persons to be registered as electors?—Earl GRANVILLE declined to afford any premature information respecting a measure now under consideration. The *Divorce Court Bill*, as amended in committee, having been brought up, the LORD CHANCELLOR moved the omission of the words extending the operation of the Bill to the colonies and dependencies of the Crown, stating that he had found on inquiry that it was impossible to bring India and some of the colonies within its operation.—After some remarks from Lord KINGSDOWN, approving of the proposed omission, the motion was agreed to.—Lord REDESDALE moved an amendment to limit the power of the Court to sit with closed doors to suits of nullity of marriage. After some discussion the clause was carried on a division by a majority of 24 to 11, and the Bill read a third time and passed. The second reading of the *Municipal Corporations Bill* was postponed after a few words from Lord DERBY, who said the object of the Bill was to repeal the prohibition which prevented mayors and members of corporations from taking the emblems of the muncipal authority to Dissenting places of worship, and it was one of a series of measures the object of which appeared to be to reduce the Church of England to an entire and absolute level with all the Dissenting sects in the country.—Lord STANLEY of ALDERLEY, in calling attention to the admission of *British Salt into China*, stated that the supply of salt to a population of 300,000,000 had been hitherto a monopoly in the hands of the Chinese Government. It would be only fair in asking permission to import salt into China to make some compensation equal to the revenue that would be thereby lost to the Chinese Government. He concluded by asking what steps had been taken by the Government for the purpose of bringing the question for admitting British salt into China before the Court of Pekin.—The Earl of ELGIN said he felt some difficulty in answering the question, because the correspondence which he had entered into with the Government on commercial and other matters had not yet been made public. If, however, he had abstained from pressing on the notice of the Chinese Government certain commercial reforms it was out of a consideration for the interests of the Imperial Government, whose influence so materially affected the fluctuations of trade. The monopoly of salt was a very ancient one in China, and would on that account be difficult to overthrow, and, in addition to that, it was a very productive source of revenue. With respect to the appointment of a Russian Ambassador at Pekin, he thought it would be as well for this country not to press at first with too great stringency on the Chinese Government our right secured by treaty of permanent residence. Should, however, other nations insist on that right he presumed we should not fail to do the same.—Lord WODEHOUSE stated the instructions which had been given to Mr. Bruce, and explained the steps which had been taken by Russia.

TUESDAY.—*The Builders' Strike.*—Lord BROUGHAM asked whether the attention of Government had been called to the strike in the building trade. As a friend to the working classes, and as one who had invariably supported their interests, he deplored an attempt on their part to extort 10 hours' wages for 9 hours' work, and expressed a wish that some system similar to the *Conseils des Prud'hommes* should be established in this country.—Earl GRANVILLE said that the attention of Government had been drawn to the subject, but this was a case in which speaking and writing were better than any action on the part of the Government. The present complaint of the working men, upon their own showing, was as unjustifiable as it was short-sighted, and would only end in decreasing their wages. If, as they asserted, the master builders were making too large a profit, the ordinary laws of economy would introduce competition, and so remedy the evil. In regard to the establishment of a *Conseil des Prud'hommes*, he thought such a tribunal would be useless in the present case, which regarded the future, while the *Conseils des Prud'hommes* were principally employed to settle disputes on past contracts between master and man. The whole question, however, depended upon the experience of the working classes more than upon any courts of arbitration.—After a few words from Lords DONOUGHMORE and BROUGHAM, the LORD CHANCELLOR said where parties who were all free agents entered into a strike they were innocent in law. The late Mr. Daniel O'Connell once expressed to him a strong opinion as to the ruinous consequences of these strikes, and said that they had destroyed the development of manufactures in Ireland. The orders of the day were then disposed of.

THURSDAY.—*The Builders' Strike.*—Earl GRANVILLE referred to the debate on Tuesday evening in reference to the builders' strike, which he was afraid had given rise to some misconception. He never intended to justify the combination of workmen to influence the operations of trade, nor to vindicate compulsion on their part towards any of their fellow-workmen. But what he had said was that every individual workman ought to be left perfectly free to take what course he chose in vindication of his own rights. With regard to this particular strike, he deprecated it in the highest terms, and considered it most unjustifiable.—The Earl of ELLENBOROUGH thought the present strike for working 9 hours and requiring 10 hours' pay was equivalent to annihilating at one blow one-tenth of the manufacturing power of the kingdom.—On the order for the second reading of the *Militia Ballot Suspension Bill*, the Earl of ELLENBOROUGH called attention to the state of our militia force, which he considered most unsatisfactory. He did not believe there was a single regiment which had more than half its proper complement of men.—The Duke of CAMBRIDGE and the Earl of RIPON severally acknowledged the fact that the militia regiments generally were about 40 per cent. less than their proper strength. They assured the House, however, that the authorities were doing all in their power to place the militia upon a proper footing. Several other Bills were advanced a stage.

FRIDAY.—*Church Rates.*—The Duke of MARLBOROUGH laid on the table the evidence taken by the Select Committee on Church-rates. The committee did not find themselves in a position to give a satisfactory report, and therefore presented the evidence which they had received. *Endowed Schools.*—In answer to Lord CRANWORTH the LORD CHANCELLOR said there was not time in the present session to legislate on the trusteeships of Endowed Schools, but he hoped that a Bill on the subject would be introduced shortly after the meeting of Parliament. [Left sitting.]

## HOUSE OF COMMONS.

FRIDAY.—After the *Income Tax Bill* had passed through committee the House went into *Committee of Supply* on the remaining Civil Service Estimates, the discussion of which occupied the rest of the morning sitting. *The Papal Government.*—In the evening, on the motion that the House at its rising do adjourn to Monday, Mr. SCULLY asked whether the Sovereign of the Roman States had finally accepted or declined the position of President over the Confederate States of Italy; and whether, in the event of the Pope accepting that office, it was intended, on the part of her Majesty's Government, to adopt effectual steps for establishing direct diplomatic relations with the Court of Rome.—Mr. BENTINCK asked whether there was any intention on the part of her Majesty's Government to reduce our *Naval Armaments*, observing that the announcement of the intention of the Emperor of the French to disarm was no reason for reducing our armaments, but that it was the duty of the Government to continue to put our defences, military and naval, on an efficient footing.—Mr. LINDSAY, Lord LOVAINE, and Lord ASHLEY deprecated any reduction of our navy.—Lord PALMERSTON, in reply to Mr. Scully, said he was not competent to give an answer as to the intention of the Pope, as the Confederation had not been formed, and the English Government had no relations with Rome that would lead the Pope to communicate to them any information upon the subject. With regard to our diplomatic relations with the Confederation we should have such relations with it as we now have with the Germanic Diet. With regard to the Court of Rome, we had no diplomatic relations, as the law would not allow the Pope to be represented by an ecclesiastic, and though both Prussia and Russia likewise refused to receive ecclesiastics as ambassadors, the Pope raised difficulties with regard to England which he did not raise with regard to Russia and Prussia. In answer to Mr. Bentinck's question, he might content himself with saying that the question must depend upon a great variety of circumstances, and it would be premature for the Government to give any information as to what they would do in consequence of an event that had not yet happened. He had no hesitation, however, in saying that it would be impossible for the Government to enter into any agreement for the reduction of our establishments, naval or military, dependent upon the measures of another Government whose interests and position are different from our own; and the House must remember that other Powers besides France had navies, so that our naval and military arrangements depended not upon a single Power. *Church Rates.*—Sir G. LEWIS, in reply to Lord J. MANNERS, said that as far as the Government was concerned, the Bill for the abolition of church-rates must take its chance. *National Defences.*—On the motion for going into Committee of Supply, Mr. HORSMAN moved that the expense of completing the necessary works of national defence projected or already in progress should be met by a fund specially provided for that purpose, and independent of the annual votes of Parliament. If these works were to be done at all, they ought to be done at once, and, as the Government had plans which had been well considered and towards which the House had voted considerable sums, his object was, instead of voting the money by driblets, that it should be raised at once, and the works completed without delay. He urged the necessity of carrying our defensive preparations to the highest point of completeness, believing at some future time in the possibility of a war with France, because he saw that the Emperor of France believed in this possibility from the preparations he had made, all indicative of a gigantic enterprise, at some day or other, against a great naval Power. He could not forget that the sentiments of the Emperor, written when he was an author, and not an actor, in the great scenes of European diplomacy, had lately been reprinted and circulated under his auspices, and there was no reason to suppose that he did not intend, should the opportunity ever occur, to avenge the deepest humiliation and the most stupendous disaster that ever descended upon his country. He hoped that no feeling of false delicacy would prevent the House and the country from looking the national danger in the face, and taking adequate and timely steps to avert it.—Mr. S. HERBERT said that the Government could have, no offensive designs, and that, if he [illegible] the question of our defences, it was to show the [illegible] we ought to take to put this country in a state of [illegible] He agreed in the necessity of putting our [illegible] the depositaries of reproductive power for our [illegible] navy, in a proper state of defence, and in the [illegible] dition of some of those arsenals. The Commissioners [illegible] appointed had this object in view, and until they [illegible] the Government would ask Parliament for a vote, [illegible] give their most anxious consideration to the suggestions. SMITH said the country must depend mainly on the [illegible] warned the Government not to create more fortifications [illegible] they had the means of finding men to defend.—Sir [illegible] hoped that every available man would be employed [illegible] national defences. The country was not safe and it was [illegible] more necessary that we should be prepared. He was convinced [illegible] that the French Emperor intended to attack this country [illegible] the first opportunity.—Mr. COBDEN ridiculed the idea of [illegible] French invasion, and condemned in strong terms as injurious [illegible] ful to our policy, what he termed the preparations for war in [illegible] France while the mouths of our Ministers were filled with [illegible] pressions of confidence and even admiration towards the [illegible] sovereign, and he called upon the House to give expression [illegible] an opinion condemnatory of such a state of things. He [illegible] that there was any ground for supposing that the Emperor [illegible] the French or the French people had any design upon [illegible] upon this country. He admitted that circumstances gave [illegible] legitimate right to have a larger marine than France [illegible] third, but France, he said, had never pretended to the same [illegible] naval strength as ours, and we had now 760 vessels [illegible] while France had only 408. He thought an amicable explanation would adjust this matter. If, after such explanation [illegible] the French Government persisted in maintaining [illegible] naval rivalry, he would cheerfully vote increased estimates. Sir J. PAKINGTON said that Mr. Cobden's comparison of the [illegible] naval strength of England with that of France was erroneous by [illegible] reason of his having included in the number of English vessels [illegible] gunboats, of extremely small size, to the number of which Mr. Cobden had spoken of a panic; but did he mean that we ought to trust to amicable professions without taking [illegible] measures of defence and making up past arrears? He thought that Mr. Herbert had not said how far he concurred in the spirit of Mr. Horsman's proposal, or whether we were to go on year after year, spending driblets of money for the improvement of our harbours and arsenals. He warned the House that a large addition to the expenditure for the navy would be necessary next year.—Lord C. PAGET corrected the misstatement which Mr. Cobden's statement might have made as to the relative state of the English and French navies. The latter, he said, had 20 line-of-battle ships in commission and in reserve equal to ships in commission, making a total of [illegible] 26 line-of-battle ships in commission, and 9 [illegible] that our proportion was not that to which, in Mr. [illegible] opinion, we were entitled. But there was another [illegible] was increasing her navy—namely, Russia, which had [illegible] line-of-battle ships, 6 screw frigates, and 9 paddle frigates. Mr. BENTINCK and Mr. NEWDEGATE spoke in favour of the motion, and Lord H. VANE recommended that it should be pressed.—Lord PALMERSTON said he concluded that the gentleman had accomplished the object he had in view in bringing upon the House the great necessity of completing the [illegible] tions for the defence of our naval arsenals and dockyards, and that these defensive measures indicated no desire on the part of this country to go to war, or to give umbrage to any power, but were founded upon the common-sense principle that a nation desirous of peace should be able to defend itself against any sudden attack. He hoped, therefore, that he would be satisfied with this very useful result—and not press his motion to a division, which it might be inconvenient to affirm in the abstract without indicating how the fund was to be provided. A division was, however, called for by Mr. HORSMAN, which resulted in the motion being negatived by [illegible]. The Report of the Committee of Supply was brought up and agreed to. The remaining orders and motions were then gone through without discussion, and the House adjourned to Monday.

MONDAY.—*The New Foreign Office.*—At the morning sitting Lord J. MANNERS recapitulated the proceedings taken by the late and preceding Governments regarding the designs for the new Foreign and Indian offices, with especial reference to a statement that Lord Palmerston had directed Mr. Scott to prepare a new design in the Italian style, and expressed a hope that during the recess nothing would be done to the prejudice of a design which he thought admirably suited for its purpose. *Bribery at Elections.*—Lord R. CECIL asked whether it was the intention of the Government to issue commissions to inquire into the election proceedings in those constituencies in which committees have reported that extensive bribery prevails?—Sir G. LEWIS replied that the Government, as a Government, had no power or special function in relation to the matter. The House then went into *Committee of Supply*, and resumed the consideration of the Civil Service Estimates and Civil Contingencies. The vote for the *Statute Law Commission* was negatived by 80. The *Military Savings' Bank Bill* and other Bills were read a third time and passed. *Telegraph Contracts.*—In the morning sitting, Lord ASHLEY asked whether it was the intention of the Government to suspend further proceedings with respect to submarine telegraph contracts until the report of the select committee now sitting upon the Packet and Telegraph Service was laid upon the table of the House.—The Chancellor of the EXCHEQUER said that no further contracts would be made before the report was issued, except in very exceptional cases.—The House went into committee on the Income Tax when Sir C. WOOD brought forward the financial statement for India. He believed that in a few years India might look back to the state of financial prosperity which she enjoyed before the mutiny. He reviewed the difficulties which had arisen since that time, which it required the greatest care and consideration to grapple with. He should not enter into the subject already given by his predecessor, but should dwell chiefly on the general considerations. The expenditure was 44,700,000*l.*, and the income 33,800,000*l.*, leaving a deficit of 14,700,000*l.*, which made a deficit in the two years of 23,227,000*l.* Taking the month of April as the starting point, just before the mutiny, the debt to have been 59,462,000*l.*, for which the charge was 2,525,000*l.* The military expenditure in that year was 12,561,000*l.* That year there was a serious deficit of the revenue. The expenditure for 1857-8 was 40,220,000*l.*, the income 31,706,000*l.*, leaving a deficit of 8,520,000*l.*, which that deficit was provided for by various loans, borrowed partly in India and partly in England, the total being 20,747,000*l.*, which 11,561,000*l.* had been borrowed in England. The debt in April last amounted to 81,580,000*l.*, for which the charge was 3,564,000*l.* The military charges for that year were 25,840,000*l.* In the years 1859-60 the expenditure on account of charges for public works and compensation to sufferers by the mutiny, would be 46,131,500*l.* Against this there was a revenue of 35,856,000*l.*, leaving a deficit of 10 millions and a quarter. But beyond this he must ask for a loan of two millions on account of railroads now in course of construction. This would make the entire deficit 12 millions and a quarter. To provide for this seven millions had been borrowed, five millions in England and two in India, which should require 5,700,000*l.* to balance his account. He thought a margin was needful, and he should therefore ask sanction for two millions of which remained on account of the loan sanctioned. He should have to raise five millions by loan. In the course of next year there would be no charge for compensation; but taking into account the increase of debt and of interest, he estimated the charge for 1860-1 at 6,000,000*l.*, and the income at 36,000,000*l.*, leaving a deficit of [illegible]

# The Gardeners' Chronicle Newspaper.

*SATURDAY, AUGUST* 13, 1859.



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## News of the Week.

In the House of Lords on Friday, in answer to Lord CLANCARTY, Earl GRANVILLE said that the Government were willing to consider any improvements which might be suggested in the system of national education in Ireland, but he declined to give any promise to introduce a Bill on the subject. On Monday the Marquis of NORMANBY asked for information respecting the project of pacification which had been transmitted by Her MAJESTY's Government to Austria previous to the peace of Villafranca. Lord WODEHOUSE said that the only project of pacification which the English Government had transmitted to Austria was a French despatch containing propositions for peace, but on which they had offered no opinion of their own. On Tuesday the Militia Laws' Amendment Bill was read a second time after a short discussion, in which Lord STRATFORD DE REDCLIFFE complained of the suspension of the ballot, and Lord KINGSDOWN thought that the defences of the country would never be in a proper position until Parliament resorted to something like a conscription. On Thursday the India Loan Bill passed through committee, and the Reserve Volunteer Force of Seamen Bill was read a third time and passed.

In the House of Commons on Friday the House went into committee on the Reserve Volunteer Force of Seamen Bill, the object of which is to enroll a naval militia of 30,000 men as a reserve for the Navy, and agreed to all its clauses. In committee of Ways and Means, a resolution moved by the CHANCELLOR of the EXCHEQUER for imposing an additional probate duty on estates of the value of 1,000,000*l*., and upwards, was agreed to. Mr. ROEBUCK's resolution declaring that the withdrawal of the Bodmin election petition was a corrupt compromise was negatived, on a division, by 214 to 30. On Saturday, in answer to some remarks by Sir H. WILLOUGHBY on the state of the funded and unfunded debt, the CHANCELLOR of the EXCHEQUER said that the powers of conversion and reconversion given by Parliament to the Finance Minister were too large, and that in the next session he would propose a measure for bringing the subject under the direct control of the House of Commons. On Monday Lord ELCHO brought forward his motion for an address to the Crown, declaring that it would not be consistent with the honour or dignity of the country to take part in any conference on the affairs of Italy. Mr. KINGLAKE moved as an amendment the previous question. Mr. GLADSTONE, Lord J. RUSSELL, and Lord PALMERSTON opposed the motion on the ground that there was at present no intention of going into conference at all, but that it would be unwise and unconstitutional to fetter the Government should circumstances hereafter arise to render their co-operation advisable. Mr. DISRAELI said that he did not approve of the form of the motion, and recommended that it be withdrawn. Lord ELCHO said he was satisfied with the result of the discussion, and withdrew the motion. On Tuesday the Consolidated Fund (Appropriation) Bill, the Stamp Duties Bill, the Customs Bill, and the East India Loan Bill, were read a third time and passed. Mr. MACKINNON obtained leave to bring in a Bill to establish equitable councils of conciliation to adjust differences between masters and operatives. On Wednesday Mr. BRIGHT obtained a select committee to inquire into the circumstances connected with the withdrawal of the petition against the return of Mr. OVEREND at the election for Pontefract. The Sale of Gas Bill passed through committee, and the European Troops India Bill was read a third time and passed. On Thursday, on the order of the day for going into committee on the Charitable Trusts Act Continuance Bill, Mr. NEWDEGATE moved that the Bill be committed that day three months. After some discussion the amendment was rejected on a division by 70 to 47. The Bill then passed through committee, and was read a third time and passed. The House then went into committee on the Divorce Court Bill, when a strong opposition was offered to the clauses added by the House of Lords, empowering the Court to hear certain cases with closed doors, authorising the ATTORNEY-GENERAL to examine the parties in cases of suspected collusion, and extending the operation of the Bill to Ireland. After a long discussion all these clauses were withdrawn, and the Bill was passed through its remaining stages with some amendments respecting the property of divorced persons. The Sale of Gas Bill was read a third time and passed. On the order of the day for considering the Attorneys and Solicitors Bill, as amended, the House was counted out.

The Zurich Conference was formally opened on Monday, and it is understood that one of the first resolutions adopted by the Plenipotentiaries was to prolong the armistice indefinitely. Meanwhile the news from Italy is of a serious character. Tuscany has refused to submit to the restoration of the old dynasty, Modena has voted annexation to Piedmont, and Parma has proclaimed the Red Republic. The latest news states that the Piedmontese have been driven from Parma, that all the owners of property and friends of order were flying from the city, and that the French troops have suspended their departure from Italy.

## Home News.

THE COURT. — The Queen and Prince Consort, accompanied by Prince Alfred and the Princesses, left Osborne yesterday evening and embarked in the Royal yacht Victoria and Albert, on a cruise of a few days to the Channel Islands. On Thursday week the Queen and Prince Consort, accompanied by Prince Alfred, Prince Arthur, Princess Alice, Princess Helena, and Princess Louisa, took a cruise in the Fairy. On Friday the Queen drove out, accompanied by Princess Hohenlohe. The Earl and Countess of Clarendon left Osborne: Toussoun Pasha, son of the Pasha of Egypt, accompanied by Sir Moses Montefiore, was presented to her Majesty. On Saturday, being Prince Alfred's birthday, the band of the Royal Marines played during the day. In the afternoon the Queen and Prince Consort, accompanied by Prince Alfred, Prince Arthur, Princess Alice, Princess Helena, Princess Louisa, Princess Leiningen, and Princess Hohenlohe, embarked in the Fairy, and were present at the regatta of the Royal Yacht Squadron in Cowes Roads. Earl Granville and Sir G. C. Lewis arrived on a visit. In the evening the Queen had a dinner party. On Sunday morning the Queen and Prince Consort, Prince Alfred, Princess Alice, Princess Helena, Princess Louisa, the Duchess of Kent, and Princess Hohenlohe attended Divine service at Osborne; the Rev. J. Prothero officiated. Colonel Claremont, C.B., arrived on a visit. On Monday morning Prince Alfred left Osborne for Holyrood Palace on a visit to the Prince of Wales. Earl Granville and Sir G. C. Lewis left for London. In the afternoon the Queen, accompanied by Princess Louisa and Princess Hohenlohe, drove out. The Prince Consort rode on horseback, and visited the Grand Duke Constantine at Ryde. The Duchess of Kent took a drive. On Tuesday the Grand Duke Constantine visited her Majesty. In the afternoon the Queen drove out with the Princess Alice, Princess Helena, and Princess Hohenlohe. In the evening the Grand Duke Constantine and Prince and Princess Leiningen dined with her Majesty. Yesterday afternoon the Queen held a Privy Council at Osborne.

THE PRINCE OF WALES AND PRINCE ALFRED.—On Sunday last the Prince of Wales attended Divine service in the High Church of Edinburgh; the Rev. Dr. Arnot officiated. On Monday morning his Royal Highness visited the Edinburgh Botanical Gardens, and, having inspected the hot-houses and palm-houses, assisted at the transplanting of a larch which his Royal Highness afterwards planted in the hilly part of the gardens. On Tuesday morning Prince Alfred arrived by the ordinary London express, and proceeded to Holyrood. The Prince of Wales received Prince Alfred at the station, and their Royal Highnesses afterwards proceeded to Roslin and Melrose by rail, and returned to Holyrood in the evening. On Wednesday morning the Prince of Wales and Prince Alfred went to the University and attended a lecture by Professor Lyon Playfair on the chemical phenomena connected with the processes of calico printing and dyeing. In the evening their Royal Highnesses visited the Queen's Theatre. On Thursday Prince Alfred left Edinburgh for London, on his return to Osborne.

THE GRAND DUKE CONSTANTINE arrived at Spithead on Saturday from Cronstadt in the Russian screw frigate Swetland, carrying 60 (8-inch) guns. His Imperial Highness landed at Ryde, and took up his residence at the Pier Hotel. On Monday the Prince Consort visited the Grand Duke, and on Tuesday his Imperial Highness visited the Queen at Osborne, and dined with her Majesty in the evening.

THE GRAND DUCHESS MARIE OF RUSSIA, accompanied by her daughter, the Princess Marie, and her sons, the Princes Nicolas and Eugène, arrived at Chesham House, the residence of the Russian Legation, on Monday evening from Torquay. On Tuesday morning her Imperial Highness visited Westminster Abbey, Stafford House, the residence of the Duke of Sutherland, and Bridgewater House, the residence of the Earl of Ellesmere. In the evening the Grand Duchess, with the Princess Marie, honoured the Earl and Countess Granville with her company at dinner. On Wednesday morning the Grand Duchess, with her family, attended Divine service in the church of the Russian Legation, and in the afternoon visited the Crystal Palace, attended by Sir Joseph Paxton, M.P. who had been specially invited to attend upon her Imperial Highness. On Thursday the Grand Duchess left London for Osborne on a visit to the Queen. Her Imperial Highness will remain in the Isle of Wight for two days, and is expected to return to-day to Chesham House. On Monday next the Grand Duchess will again visit the Crystal Palace to witness the display of the fountains and cascades.

THE CABINET.—A Cabinet Council was held on Saturday at the official residence of the First Lord of the Treasury in Downing Street. Another Council was held on Wednesday.

THE PEERAGE.—Mr. Labouchere's title will be Baron Taunton, of Taunton, which place he represented in the House of Commons for more than 30 years.

MINISTERIAL ARRANGEMENTS.—Mr. James Wilson has finally accepted the office of Special Commissioner to India. The Vice-Presidency of the Board of Trade, vacated by this appointment, has been offered to Mr. More O'Ferrall, but it is understood that he has declined the offer.

THE ARMY.—The colonelcy of the 1st Dragoon Guards, vacated by the death of the Earl of Cathcart, has been conferred on Lieut.-Gen. Sir T. W. Brotherton, K.C.B. The colonelcy of the 15th Light Dragoons, vacant by the promotion of Sir T. W. Brotherton, has been conferred on Major-General E. W. Bouverie.

PARLIAMENTARY MOVEMENTS.—The prorogation of Parliament will take place by Royal Commission to-day. The election for Devonport in the room of Sir Erskine Perry terminated on Tuesday in the return of Admiral Sir Michael Seymour, the Liberal candidate, by a majority of 49 over Mr. Ferrandi, the numbers being 1096 to 1047. Mr. Ferrand has determined to contest with Sir Arthur Buller the seat vacated by Mr. Wilson. It is probable that the nomination will take place on Tuesday, and the election on Wednesday next. The Taunton election has terminated in the return of Mr. G. C. Bentinck, the Conservative candidate, by a majority of 45 over Mr. Alexander Barclay, the numbers being 381 to 336. The Dartmouth election took place on Monday, when Mr. Dunn the Conservative candidate was elected without opposition, Mr Donaldson having declined to go to the poll on the ground that the seat could only be secured by venal means. There is a vacancy at Bodmin caused by Dr. Michell's acceptance of the stewardship of the Manor of Northstead. There are two candidates in the field, Mr. Wyld, in the Radical interest, and Mr. Murchison, who offers himself as a Liberal-Conservative. The Preston Election Committee have reported that Mr. Charles Pascoe Grenfell was duly elected, that persons were bribed at the last election, but it was not proved that the bribery took place with his sanction or that of his agents. The Huddersfield Committee have reported that Mr. E. A. Leatham was duly elected, that several persons were bribed at the last election, but there was no evidence that such acts of bribery took place with the knowledge of Mr. Leatham. The Beverley Committee have reported that Mr. Ralph Walters was not duly elected, that he was by his agents guilty of bribery, and that Major Edwards was duly elected. The committee recommend that two persons who had been guilty of bribery should be prosecuted, and that no writ for Beverley should be issued until the evidence is before the House. The Hull Committee have reported that Mr. Joseph Hoare was not duly elected, that upwards of 300 electors were bribed by being employed and paid as messengers and canvassers at the late election, but it was not proved that such acts of bribery were committed with the knowledge or consent of Mr. Hoare. The committee also reported that Mr. W. H. Moss, election auditor for Hull, appeared as agent for the petitioners, a course of proceeding which they considered open to grave objection.

THE DOVER POSTAL CONTRACT.—The Select Com-

n a conference by which a more permanent arrangement might be made for the security of Italy.—Mr. WHITESIDE said that no congress could do more for Italy than had been done already, and therefore he fully approved of the principle of the resolution —Lord J. RUSSELL said that nothing could be more ill-timed than a motion advising the Crown not to do what it had never been asked to do, and what it had no intention of doing. He fully admitted that it was doubtful whether it would be prudent for this country to take part in a congress, and that if France and Austria at Zurich settled the whole question, it would not be for the honour or the dignity of this country to add its signature to such a settlement. At the same time affairs might take a very different turn, and render our intervention useful and even necessary for the protection of Italy from the double danger of foreign intervention and domestic revolution, by forming a confederation on a sound and durable basis. Was England to register a vow which should preclude her from taking part in such a work? This was a question which, like others, ought to be left to the discretion and responsibility of the Ministers of the Crown. Adverting to the proposals made by France to Austria through the British Government, he explained the circumstances under which, without sanctioning them, the Ministry became the medium of communication, distinctly declaring that it offered no advice in the matter. He rejoiced that peace had been concluded, and claimed for Italy the right of founding its own government upon the basis of a popular movement, while he declared it to be the duty of this country to abstain from a policy of isolation which might in the end endanger its own independence.—Mr. DISRAELI said that the Chancellor of the Exchequer had evaded the practical question under consideration. He had frankly placed his Italian policy before the House; and if these large and decided views were shared by his colleagues, and indicated the predominant opinion of the Cabinet, then the policy under which the Government proposed to enter the conference was to put an end to the settlement of 45 years ago, and he pointed out some of the consequences of this policy. With reference to the communication from the French Ambassador, Lord J. Russell's explanation, he said, had been ample except upon the most material point, whether he had generally approved of the proposal, and whether that approbation was communicated to the Emperor of the French. He objected to the motion that it called upon the House to give an opinion upon the question on what was practically the last night of the session, and he trusted that Lord Elcho would not press it to a division. — Lord PALMERSTON commented upon the remarks made by Mr. Disraeli in the last Parliament upon the conduct of the Austrian and the Sardinian Governments respectively, when he characterised that of the latter as ambiguous, and eulogised the spirit of dignified conciliation manifested by Austria. He denied that any approbation had been expressed of the paper received from the French Ambassador, and said that the Government were not proposing to go into conference at all, but if they did it would not be to upset the arrangements of 1815. He was of opinion that Austria would be stronger if she had no Italian possessions; but it was one thing to hold this opinion and another to enter into measures to change arrangements founded upon treaties that were the basis of a great European settlement. The present motion, precluding the Crown from acting under circumstances which had not yet arisen, was neither politic nor constitutional. He should have preferred to meet it with a direct negative, but would support the indulgent mode of disposing of it by the amendment of the previous question.—Lord ELCHO said he was satisfied with the result of the discussion, and would therefore withdraw his motion and accept the amendment. The amendment of the previous question was then agreed to. The *Appropriation Bill* and the *East India Loan Bill* passed through committee. The *Reserve Volunteer Force of Seamen Bill* was read a third time and passed, after a protest by Mr. AYRTON against its penal clauses. Other Bills were advanced a stage.

TUESDAY.—The *East India Loan Bill*, which was considered as amended, gave rise to some discussion.—Mr. AYRTON suggested an Imperial guarantee.—Mr. CRAWFORD and Sir E. COLEBROOKE opposed it.—Sir C Wood said that the question would very probably come before Parliament hereafter, when it ought to be fairly considered. Mr. Wilson had not yet accepted the office of superintendent of Indian finance, but he hoped that he would be induced to do so.—Mr. MACKINNON asked for leave to introduce a Bill for the establishment of *Councils of Conciliation* to settle disputes between masters and operatives. Much ill-will prevailed between the two classes, often aggravated by the fact that the employers as magistrates held the administration of the law in their own hands. He proposed councils, which he believed would do much to allay this ill feeling.—Mr. KINNAIRD seconded the motion, which was agreed to. *Enlistment in the Army.*—Mr. J. LOCKE was proceeding to call attention to the case of a private soldier who had enlisted at a very early age, and died under the rigour of military discipline, when the House was counted out.

WEDNESDAY. — *Pontefract Election Petition.* — Mr. BRIGHT moved for a select committee to inquire into the allegations of a petition presented by Mr Childers, the late candidate for Pontefract, in reference to the conduct of Mr. Overend, the sitting member. The allegation was that a petition had been presented against the return of Mr. Overend; that, to save the expense of a scrutiny, it was agreed by both parties that the matter should be referred to a member of the late Government; that the petition was withdrawn upon that understanding, and that Mr Overend subsequently refused to submit to the reference.—Mr. OVEREND entered at some length into the circumstances of the case, stating that he had left London believing that the petition was to be proceeded with—that while on circuit he received telegrams from his agent, stating that offers were made to withdraw the petition under certain conditions of reference, from which he inferred that the seat was not to be questioned, and that the proceeding was a "dignified withdrawal" of the petition. He agreed to the reference, not believing that it embraced any question of the seat. Finding, however, that the seat was in question, he repudiated the agreement, as involving a breach of the privileges of the House. The referee upon this declined to act. Subsequently he agreed to leave the whole question to the referee; but the agent of Mr. Childers refused to go on, and declared his intention to bring the matter before Parliament. He asserted that his own conduct had been straightforward throughout, and was perfectly willing to submit it to the investigation of a committee.—Mr. BRIGHT said that he had understood Mr. Overend not to have consented to submit to the reference until after the agent of Mr. Childers had declined to proceed.—Mr. OVEREND declared this statement to be untrue —Mr. DISRAELI declared that Mr. Overend had cleared up all doubts as to his own conduct in the transaction. He regretted that the matter had been brought before the House at all; but as it had been, it was better that inquiry should proceed. The committee could do nothing even if the allegations were proved, inasmuch as Mr. Childers was no longer in a position to present a petition against the return. After some further discussion, the motion was agreed to, and the committee appointed, with orders to proceed forthwith with the inquiry. The *Sale of Gas Bill* passed through committee. On the consideration of the *European Troops (India) Bill* as amended, Sir C. Wood stated that the object of the Bill was to increase the number of European troops which could by law be maintained in India as a local force from 24,000 to 30,000.—General PEEL complained of the haste with which this Bill had been hurried through the House. He objected to an increase of the Indian local force at a time when we could not get sufficient troops for our home service, and thought they could employ German troops in India. He believed that the increase of the Indian force meant increase of the patronage of the Indian Council.—Sir D. L. EVANS repudiated the proposal for employing German auxiliaries in India. He considered that the disaffected troops in that country had just cause for complaint, as the expectations held out to them by the Prime Minister had not been realised.—Mr. S. HERBERT observed that the Bill did not really increase the number of troops. It simply legalised an increase already made.—After a desultory conversation, in which Colonel DUNNE, Mr. AYRTON, and other members took part, the Bill was read a third time, and passed. *Wakefield Election.*—On the motion of Mr. HODGSON, an address was agreed to for a committee to inquire into the alleged corrupt practices at the borough of Wakefield.—The *Fireworks Act Amendment Bill* was withdrawn.

THURSDAY.—*The Builders' Strike.*—In answer to a question by Mr. E. JAMES, Sir G. LEWIS stated that an interview had taken place between himself and the master builders, relative to the workmen's strike. The object of the masters was to secure the arbitration of the Government. His answer had been, that both the Government and the House of Commons had no knowledge of the subject, and therefore could not undertake any such office.—In reply to Mr. GRIFFITH, the CHANCELLOR of the EXCHEQUER said that he could not take upon himself to refuse the *Chiltern Hundreds* to any member solely because a petition was pending against his election. If there were grounds of objection it was for the House to interfere.—Sir J. PAXTON asked the First Commissioner of Works whether he intended to proceed with the works, as proposed by Mr. Hawksley, for partially cleansing the water in *the Serpentine?*—Mr. FITZROY said that he intended to proceed with the plan, believing that it would not partially, but entirely cleanse the water of the Serpentine.—A lengthened discussion ensued, in which Mr. STEPHENSON declared that the state of the Serpentine had been greatly exaggerated, but approved of the plan as the most economical yet proposed.—Sir J. PAXTON, on the contrary, staked his reputation that the plan would turn out a failure.—On the order of the day for going into committee on the *Charitable Trusts Act Continuance Bill*, Mr. NEWDEGATE opposed the Bill, on the part of the Roman Catholics in the North of England who were desirous of being placed under the operation of the general law of the land, and were apprehensive lest the entire number of Roman Catholic charities should pass into the hands of Cardinal Wiseman. On this ground he moved as an amendment that the Bill be committed that day three months. — Mr. SPOONER seconded the amendment.—Mr. HENNESSY supported the motion.—Mr. BOWYER said that Mr. Newdegate had calumniated an illustrious person who had nothing to do with the Bill.—After some observations by Mr. SCULLY and Mr. KINNAIRD, Sir G. C. LEWIS said that the Bill was merely a continuance Bill, and promised that the Government would introduce a permanent measure next session. On a division, the amendment was negatived by 70 to 47, and the Bill having passed through committee was read a third time, and passed.—The House then went into committee on the *Divorce Court Bill*, the clauses of which underwent material amendments by the omission of the 4th clause, which extended the jurisdiction of the Court to Ireland: the 5th clause, which authorised the Court to hold its sittings in cases involving considerations of public decency with closed doors; and the 7th clause, providing that petitions for the dissolution of marriage be referred to the Attorney-General, with a view to prevent collusion. On the motion of the ATTORNEY-GENERAL, a clause was added, providing that, on any petition presented by a wife, praying that her marriage may be dissolved by reason of her husband's adultery, coupled with cruelty or desertion, the husband and wife shall be competent and compellable to give evidence relating to such cruelty or desertion. A clause was likewise added empowering the court to make orders with reference to the application of property under ante-nuptial or post-nuptial settlements. The Bill was read a third time and passed.—The *Sale of Gas Bill* was read a third time and passed.—On the order for considering the *Attorney and Solicitors Bill*, as amended, Mr KNIGHT was commenting on the Bill, when the House was counted out.

FRIDAY.—*Gloucester Election.* — Mr. E. JAMES moved an address for the appointment of three barristers as Commissioners to inquire into the corrupt practices which the recent Election Committee reported as having prevailed extensively at the last election. — Mr. TITE seconded the motion. On a division the motion was carried by 59 to 21. *Pontefract Election.*—Mr. WALPOLE brought up the report from the committee, and asked that it might be printed. Several members asked for a statement, but the right hon. gentleman made none. *The Slave Trade.*—Mr. CAMPBELL moved a resolution expressing the respect of the House for the honourable manner in which the King of Portugal and the Emperor of the French have acted in restraining the slave trade.—Mr. BUXTON seconded the motion.

[Left sitting.]

## City Intelligence.

MONEY MARKET, FRIDAY.—BRITISH FUNDS: Consols closed at 95¼ to ⅜ both for Money and Account; Bank Stock, 223; Reduced and New Three per Cents., 95⅝ to ¾; Indian Four per Cent. Debentures, 1858, 94½; India Bonds, 5*s.* to 8*s.* dis.; Exchequer Bills, 23*s.* to 27*s.* prem.—FOREIGN: Brazilian Old Five per Cents., 103½; Ditto Four and a Half per Cents., 1858, 94½; Buenos Ayres Six per Cents., for Acct., 71; Dutch Two and a Half per Cents., 64½; Guatemala Five per Cents., 59, ex div.; Mexican Three per Cents., for Acct., 20 to 20¼; Peruvian Four and a Half per Cents., for Acct., 92¼; Spanish Three per Cents., for Acct., 44¼; Turkish Six per Cents., 1854, for Acct., 82½; Ditto 1858 for Acct., 73¼ to 73½; Ditto Guaranteed Four per Cents., 102¾.

## Bank of England.

ISSUE DEPARTMENT.

| | | | |
|---|---|---|---|
| Notes Issued .. .. .. | £31,119,600 | Government Debt .. .. | £11,015,100 |
| | | Other Securities .. .. | 3,459,900 |
| | | Gold Coin and Bullion .. | 16,644,600 |
| | | Silver Bullion .. .. .. | — |
| | £31,119,600 | | £31,119,600 |

BANKING DEPARTMENT

| | | | |
|---|---|---|---|
| Proprietors' Capital.. .. | £14,553,000 | Government Securities (including Dead Weight Annuity) .. .. .. | £11,208,572 |
| Rest .. .. .. .. | 3,433,612 | Other Securities .. .. | 18,474,568 |
| Public Deposits (including Exchequer, Savings Banks, Commissioners of Nat. Debt, and Dividend Accts.) .. .. .. | 5,912,113 | Notes .. .. .. .. .. | 2,160,545 |
| | | Gold and Silver Coin .. | 867,288 |
| Other Deposits .. .. .. | 14,675,929 | | |
| Seven day and other bills | 856,319 | | |
| | £39,430,973 | | £39,430,973 |

11th day of August, 1859. M. MARSHALL, Chief Cashier.

## Gazette of the Week.

TUESDAY — BANKRUPTS—E. BATES and J. FULTON, Dundas Street, Ancoats Vale, Manchester, Common Brewers—J. BRYANT, Newport, Monmouthshire, Coal Merchant—J. COLES, Radway, Warwickshire, Baker—I. GUTTMANN, Sheffield, Watchmaker, Jeweller and Silversmith — T. HOULDEN, Earls Colne, Essex, Dealer in Horses—J. W. JONES, Liverpool, Commission Merchant—E. MOSS, 61, Regent Street, Middlesex, Dealer in Lamps—C. THORNYCROFT, Alrewas, Staffordshire, Ale, Porter, and Cigar Dealer—E. WHITE, Ellerslie House, Lewisham, Kent, Spinster, Schoolmistress and Boarding House Keeper.

SCOTCH SEQUESTRATIONS—W. BROWNLIE, Grammar Square, Eglinton, Grocer—T. DUNCANSON, Edinburgh, Distiller—G. GRIMMAY, Leitheugh, near Perth—J. JACK, Lover's Lane, Leith Walk, near Edinburgh—J. KIMMOND, Alyth, Builder—J. LINDSAY, Maryfield Mill, Stracathro—J. MATHIE, 219, Sauchiehall Street, Glasgow, Yarn Miller—J. MILLER, Glasgow, Flesher.

FRIDAY—BANKRUPTS—V. ARACHTINGI, Austinfriars, City, Merchant—H. BATCHELOR, Mark Lane, Chemical Manure Manufacturer—J. FIELD, Blackfriars Road, Chemist and Druggist—J. HOLDEN, Bolton, Lancashire, Painter — W. MAYES, Birmingham, Grocer — H. WINGAD, Nettleham, Lincolnshire, Tailor.

BANKRUPTCY ANNULLED—J. PENNEY, Lincoln, Merchant.

SCOTCH SEQUESTRATIONS—W. AUSTIN, jun., sometime Carpet Manufacturer in Furnival's Inn Place, Holborn, and now residing in Edinburgh—J. SIMPSON, Glasgow, Tailor and Clothier—J. STARK, Perth, Fruiterer—W. STRATTON and COMPANY, Fishcurers at Pittenweem.

## Metropolis and its Vicinity.

THE GREAT EASTERN IN MOTION.—The completion of this magnificent vessel was formally celebrated on Monday by a banquet on board the ship, which was honoured by the presence of many of the members of both Houses of Parliament and some of the most distinguished engineers and scientific men in the kingdom. The company numbered about 400, including the Marquis of Westminster, the Earl of Shrewsbury, Lord Churston, the Earl of Ellesmere, Lord Stanley, M.P., Lord Redesdale, the Marquis of Stafford, M.P., Viscount Canterbury, the Earl of Desart, Lord Dynevor, Lord Alfred Churchill, M.P.; Viscount Curzon, M.P.; Viscount Newport, M.P.; Viscount Raynham, M.P.; Lord Adolphus Vane Tempest, M.P.; Sir Joseph Paxton, M.P.; Mr. Bright, M.P.; the Hon. Colonel Cecil Forester, M.P.; Mr. Ayrton, M.P.; the Hon. H. F. Berkeley, M.P.; Right Hon. H. S. Waddington, M.P.; Mr. Jackson, M.P.; Admiral Sir C. Napier, M.P.; Colonel Sykes, M.P.; Right Hon. W. Cowper, M.P.; Mr. Ingram, M.P.; Mr. Brady, M.P.; Sir J. V. Shelley, M.P.; General Buckley, M.P.; Sir De Lacy Evans, M.P.; Mr. Locke, M.P.; Mr. Magniac, M.P.; Mr. Hennessy, M.P.; the Attorney-General, the Lord-Advocate of Scotland, Mr. R. Stephenson, M.P.; Hon. Ashley Ponsonby, M.P.; Hon. Ralph Dutton, M.P.; Colonel North, M.P.; S. M. Peto, M.P.; Sir Michael Shaw Stewart, M.P.; Alderman Cubitt, M.P.; Mr. Mackinnon, M.P.; Alderman Copeland, M.P.; Alderman Sir James Duke, M.P.; Right Hon. J. R. Mowbray, M.P.; Mr. Williams, M.P.; Mr. Bass, M.P.; Mr. Beale, M.P.; Hon. A. Kinnaird, M.P.; Mr. Briscoe, M.P.; Mr. Gilpin, M.P.; Mr. Coningham, M.P.; Mr. Kennard, M.P.; Mr. Thomson Hankey, M.P.; Mr. Warre, M.P.; Mr. Locke, M.P.; Mr. Packe, M.P.; Alderman Salomons, M.P.; Mr. Stirling, M.P.; Mr. Peacocke, M.P.; Mr. Whatman, M.P.; the Lord Mayor, Chevalier Hebeler, Mr. Magniac, Mr. Penn, Mr. Whitworth, Mr. Bazalgette, Sir John Rennie, Mr. Brereton, Messrs. Boulton & Watt, Mr. M'Connell, &c. The great feature of the day was the trial of both screw and paddle engines for the first time, the former constructed by Boulton & Watt, the latter by Mr. Scott Russell. The paddle engines consist of four oscillating cylinders, of 74 inches diameter and 14 feet stroke; each pair of cylinders, with its crank, condenser, and air pump, forming in itself a complete and separate engine, capable of easy disconnection from the other three, so that the whole is a combination of four engines. The paddle engines work up to an indicated power of 3000 horses when working 11 strokes per minute, but all the parts are so constructed that they will work smoothly at 16 strokes a minute, giving an indicated power of 5000 horses. Their weight, including donkey engines, pumps, funnels, &c., is 210 tons, and they are capable of containing 156 tons of water. The screw engines consist also four cylinders of 84 inches diameter and 4 feet stroke, capable of being worked together or separately. When working 45 strokes a minute they give an indicated power of 4400 horses, but at 55 strokes a minute the power will reach to 6500 horses. Thus the united efforts of both screw and paddle engines will drive the immense vessel through the water with a power of no less than 12,000 horses, at the rate of 22 or 23 miles an hour. The screw engine boilers weigh 362 tons and will hold 270 tons of water. The probable consumption of coal when both engines are at full work will average 250 tons per day. The cellular compartments at the bottom of the ship will be used for pumping water into instead of ballast, and the webs subdividing these are made perfectly watertight, any one or any number can be filled at pleasure. The first movement of the paddle engines was made at half-past 1, when the great masses slowly rose and fell as noiselessly as the engines of a Greenwich boat, exerting in their great revolutions what seemed an almost irresistible power. There was no noise, no friction, nor the slightest sign of heating, and the tremendous frame of ironwork sprang at once into life and motion with as much ease as if every rod and crank had been worked for the last 10 years. The steam in the boilers was about 21llbs., but, as a matter of course, the engines were turned but slowly, never exceeding 16 revolutions per minute. Even with this slow motion the slight immersion of the paddle-floats the effect of their enormous power was at once visible upon the ship. The great mooring chains astern were tightened to the utmost, and it seemed as if even Trotman's anchors would yield under the strain. Fortunately, however, they held fast, and then the screw engines were got into motion, working the ship astern, so as to counteract the effect of the paddles. These latter engines worked with the same marvellous ease and freedom; there was no noise, no sign of hot bearings, and the result was considered by all the engineers on board to be satisfactory in the very highest degree, and far beyond

what could have been expected. When the engines had been tested to the utmost to which they could be tried with a vessel at her moorings, all the visitors adjourned to the saloons, where a magnificent cold collation had been prepared. Mr. Campbell, managing Director of the Company, presided. After the usual loyal and patriotic toasts had been duly honoured and responded to, that of the navy by Sir Charles Napier, and of the army by General Bulkeley, Lord Stanley proposed the toast of the day and spoke as follows:—

"I am afraid, gentlemen, that to a very large number of those whom I attempt to address, I shall, of necessity, be altogether inaudible; but I now rise to take upon myself a task which, imposed as it is upon me by those who have a right to claim my humble services, I do not feel myself at liberty to decline, and which I undertake upon the present occasion with more than common pleasure. Gentlemen, I think we who meet here to day will all agree that we ought not to part without expressing that which I know we all of us think and feel with regard to the magnificent vessel which we have been permitted this day to inspect, and the great undertaking which that vessel has been constructed to carry out; and of the energy and perseverance of those by whom that undertaking has been carried to its present point of success. You have all heard or read what the Great Eastern has been built to do, and what are the peculiar qualifications which she possesses for doing that work. You are aware that she is calculated, according to the reckoning of her projectors, to make the passage from England to Calcutta in 32 days. We know that she is intended to carry her coals both for the outward and the homeward voyage, so as to save that enormous time and expense which at present arise, of necessity, for establishing coal depôts in distant parts of the world. You know that she is calculated to carry a population of not much less than 10,000, including her crew,—a population so large that I almost wonder the company have not applied to the House of Commons to have the Great Eastern included in the new Reform Bill, in the list of Parliamentary boroughs for the new schedule. You are aware of the circumstances under which this great enterprise has been undertaken. You know that if that enterprise shall succeed—and we all know that nothing has been left undone to insure its success that can be effected by inventive genius, by mechanical skill, and by steady perseverance through unexampled difficulties—you know, I say, that if this experiment succeeds—and far be it from me, speaking in this room, to anticipate any other result—it will constitute one of the most remarkable experiments of the time in which we live. It will achieve great results for commerce and for civilisation. It will have reduced by one half the distance in point of time which now divides continents and nations, which nature has separated by intervening oceans, but which science and trade are, as it were, tending, in despite of nature, to unite. You know that if this grand experiment succeeds, it will be a greater step, a greater progress in the art of ship-building than has ever been accomplished in one generation, from the day when man first began to traverse the sea. You know that if the experiment succeeds it will render the passage over the stormy ocean to remote countries as easy and as free from discomfort to the landsman, and even to the landswoman, as the ordinary railway train is at present. You know also that the experiment, if it succeeds, will stimulate and develope trade to an almost incalculable extent; that it will enable this country, if unhappily the occasion should again arise, to pour into our great empire of the east reinforcements and aid with a rapidity equal to that of the overland line, and by a route which England has always claimed as her own peculiar highway, and over which no foreign potentate can exercise control. I should say also that the success of this undertaking will—I do not say tend to solve that great political problem of our time which is known as the eastern question—but at least that it will render the solution of that problem a question of far less practical importance to England than it is at present. Because it is well recognised and understood by any English statesman that the principal interest—I do not say the sole interest, but by far the principal interest—which England has in Egypt and the countries immediately adjoining Egypt, arises from the necessity of possessing, at all times and under all circumstances, an uninterrupted and rapid communication with the British possessions in India. That communication it is now proposed to supply with greater independence and with equal rapidity by a new line, and, so far, it is hardly too much to say that you will have for all practical purposes superseded the overland route. I need say no more with respect to this undertaking, but I may be permitted before I sit down and before I give you the toast which I intend to propose, for an instant to advert to the name of a gentleman who is at the head of this undertaking. We are well aware that the enterprise which has now so nearly reached its completion was not attended throughout with unbroken prosperity and success. There was a time of difficulty, a time of despondency—a time when success seemed doubtful and failure more than probable—and at that time Mr. Campbell and his colleagues came forward. They brought their commercial knowledge to bear, their knowledge of the requirements of Indian and of English commerce, and they undertook to insure the commercial success of the work, provided mechanical success was assured; and they induced the capitalists of the country to place faith in their exertions, and the result is that which you now see around you to-day. I beg to propose, and I think we should give it with all honours, 'Prosperity to the Great Eastern.'"

Mr. Campbell acknowledged the toast, and pointed out that if the great ship had been completed two years ago, hundreds of lives and literally millions of treasure would have been spared in the late mutiny in India. He said, speaking of the Great Eastern acting as a kind of railway between this country and India, that it appeared to be a kind of law that great discoveries were made just at the critical moment when the machinery of the world could not run smoothly without them. When they considered that the trade of the East represented the wants of nearly half the human race, and was even then of the annual value of 50,000,000*l.* sterling, it was not an exaggeration to say that, with the expansion which must take place through railways, colonisation, and the entire break up of all kinds of checks to commerce, the great ship had been discovered just when she became a necessity. Mr. Jackson, M.P., proposed "the Healths of Mr. Brunel and Mr. Scott Russell, the engineer and builder of the ship." Mr. Scott Russell responded on the part of both, regretting the absence of Mr. Brunel, explaining his own share in the construction of the great ship, and bearing high testimony to the share of his colleague as the originator of the great idea. He announced that the ship would go down the river on the 21st or 23d inst., and would make her trial trip early in September, but he wished it to be understood that she never was intended for short voyages; and though she would be tested on a short voyage, she was not to be finally tried by such a trip. What the great ship must be tried by was that for which she was originally intended, viz., a voyage to Australia or India in 33 or 36 days. It was most important to bear this in mind, because if our distant colonies could find themselves brought by the ship within 33 or 36 days of the mother country, they would not remain long satisfied without having a fleet of such ships, and without making such commercial arrangements as would admit of their being established to make regular voyages.

The Builders' Strike.—On Saturday afternoon the operatives at most of the large building establishments in and immediately around the metropolis ceased work, and collected their tools previous to quitting their employment. The men carried out their proceedings in a cool, orderly, systematic, and evidently prearranged manner. There was no exhibition of feeling evinced on either side, but the simultaneous packing up of tools, and the few expressions which dropped from the men, plainly enough indicated their intention to hold out. On Monday morning therefore all the great building firms closed their doors. In the course of the morning a report was published by the Central Committee, stating that 40,000 men had struck. The consequence of course has been that building operations in London have been almost entirely suspended. Throughout Pimlico and the lower parts of Westminster, where many of the large builders have yards, the scene presented was a very strange one. Hundreds of labouring men strolled about in groups, discussing their grievances, and for the most part smoking short pipes. In the Belgrave Road there was a large assemblage of working men during the whole of the morning, Mr. Trollope's yard being the great centre of attraction. On the gateway there was posted a notice that joiners, bricklayers, and other workmen were wanted, and some few entered the yard, but the regular hands resisted the invitation. There were no signs of excitement, and in all the places at which they assembled they conducted themselves in the most orderly manner. On Monday afternoon a deputation of master builders headed by Mr. Tite, M.P., and Alderman Cubitt, M.P., waited on Sir G. Lewis, Secretary of State for the Home Department, to place before him the circumstances attending the strike, and to ask his opinion upon the course that ought to be pursued in the peculiar position in which the masters were placed. Mr. Tite, M.P., in introducing the deputation, briefly narrated the principal features by which the strike was characterised. He referred to the unjust demands which he conceived had been made upon the masters, dwelt upon the great inconvenience the strike would produce by public and other works being delayed in completion, and concluded by stating that the number of artisans out of employment amounted to between 98,000 and 100,000. Mr. T. Piper and other members of the deputation then addressed the right hon. gentleman, and recapitulated the employers' case, as placed by the masters before the public. Sir G. Lewis in reply said:—

"The real solution of the question must of course be ultimately determined by the demand and supply. If the workpeople, looking at all the circumstances can substantiate a claim either for this increase or for an increase of wages, they will, no doubt, after a certain amount of suffering and loss inflicted upon themselves and yourselves, make good their demand. If, on the other hand, it turns out that they are wrong in their estimate of what the present state of the market entitles them to, they will have to give way. It is impossible for the Government to fix the price of labour; as well might they attempt to fix the price of bread or meat. It must depend upon the state of the labour market. If buildings are to cost more, there will be fewer wanted, and therefore fewer built, and therefore fewer men employed, and those men will have to work longer in order to get the same wages. He deeply regretted that the strike should have taken place, but he did not see how the Government could interfere with the arrangements between masters and men, or men and masters. Strikes were at all times most unadvisable and undesirable; but while the law was maintained the Government, of course, could not interfere."

On Tuesday a general meeting of the Masters' Association was held at the Freemasons' Tavern, when the principal metropolitan builders attended. The proceedings were conducted with closed doors, and nothing has transpired beyond the fact that little progress has yet been made towards a settlement of the dispute. Nearly all the important building operations throughout London are suspended. The Westminster Palace Hotel, in Victoria Street, where a vast number of men have been at work for several weeks past under the direction of Mr. Myers, presents the appearance of a desolation. At the Government works of Deptford and Woolwich, where between 3000 and 4000 men were employed, there is a total cessation of labour on the part of the regular operatives, and the Royal Engineers are now employed in finishing the Armstrong gun factory. The Middle Temple Library is stopped, as are also the new church in Baldwin's Gardens, the Patriotic Asylum at Wandsworth, the works of the new Houses of Parliament, the Grenadier Guards' barracks in Rochester Row, the Duke of Buccleugh's house in Whitehall, the Training College at Stockwell, &c.

The Strike in the Gas Factories.—This strike has ended in the total discomfiture of the men. The directors brought up supplies of men from the country, and the men who struck found themselves compelled to give in, and to sign a promise that for the future they would not take part in any such movement.

Metropolitan Turnpike Gates and Toll Bars.—The report of the Commissioners appointed to inquire into the best means of affording relief to the inhabitants of the metropolitan districts within six miles of Charing Cross by the abolition of turnpike-gates and toll-bars, has just been issued by special order of the House of Commons. The inquiry divides itself into two branches, one relating to the repairs of the roads, the other to the payment of the debts. Six distinct modes were suggested by the witnesses examined by which the turnpike roads might be maintained if the tolls were abolished. These are discussed by the Commissioners in detail. The Commissioners decline to recommend the imposition of county rates, an additional house tax, or the appropriation of the present dues on stage and hackney carriages. They think that if the 8*d.* coal duty be continued, part of the proceeds thereof may be conveniently applied to the purpose, but they refrain from the expression of any decided opinion on the point. Waiving this question, and assuming that toll-gates are to be got rid of, the Commissioners recommend that every parish which does not prefer taking upon itself the repair of the roads within its limits, shall pay 2*d.* in the pound on the amount of its assessment to a common fund, and that such further sum as may be required for the repair of the roads not taken by the parishes be raised by a rate-in-aid, to be levied in all parishes within the district of the Metropolitan Board of Works. This sum would probably be about 27,000*l.* The assessment of the whole district in 1858 was 12,031,151*l.*, so that a rate-in-aid of little more than one halfpenny in the pound would be sufficient. The parishes which do not manage their own roads would be called upon to pay the rate of 2*d.*, and also the rate-in-aid making 2½*d.* altogether. To other parishes it would be about one halfpenny. All the roads not undertaken by the parishes, as well on the south as on the north of the Thames, would be placed under the superintendence of the Metropolitan Roads' Commissioners. The debts of the indebted trusts should, it is suggested, be paid off by a general metropolitan rate of 2*d.* in the pound, or the sum might be advanced, as in New South Wales, by the Exchequer Loan Commissioners, a term of years being allowed for its repayment.

Mr. Spurgeon's New Tabernacle.—All the difficulties attendant on the purchase of a piece of freehold land for the erection of this Tabernacle have at length been overcome, and the site, which is near the Elephant and Castle, presents daily an altered appearance, so busily engaged are the workmen in getting it ready for laying the first stone. A foundation of concrete has already been laid at a cost of 580*l.*, and the ceremony of laying the foundation stone is fixed for Tuesday next, the 16th inst., when Sir S. M. Peto, Bart., M.P. will officiate. At the close of the ceremony, a tea meeting will be held in the Repository near the Elephant and Castle, after which a public meeting will be held in the same place, admission being by tickets at 2*s.* 6*d.* each, and at 5*s.* for reserved seats. The work will cost at least 21,000*l.* by the time it is completed. The funds in hand at present do not exceed 7000*l.*, but the building committee are encouraged in their undertaking by some liberal promises, which they confidently believe will be realised as the work progresses. The new building is to seat about 5000 persons, besides having a vestry, schoolrooms, lecture room, &c. Mr. Spurgeon has for some time been engaged in various parts of the country endeavouring to raise contributions towards the funds, and it is understood that his labours have been successful. The Baptist community by this time next year will therefore be able to assemble for devotion in the largest Dissenting place of worship in the kingdom.

Sale of the Star and Garter, Richmond.—Messrs. Gadsden, Winterflood, and Ellis sold by public auction at the Auction Mart, a few days since, the well-known Star and Garter Hotel on Richmond Hill. The property is copyhold, subject to a quit rent of 6*l.* per annum, and to customary fines on death or alienation, the fine to be paid by the purchaser being 975*l.* It is now let on lease for an unexpired term of 21 years, at a rent of 1500*l.* per annum. The property sold for 21,000*l.*

The Public Health.—The Registrar-General's weekly return exhibits a further reduction in the high mortality of the third week of July, the deaths in London in the week ending Saturday, August 6, having declined to 1337. In the corresponding weeks of the 10 years 1849-58 the average number was 1188, which, if raised in proportion to the increase of population, will become 1306. The present return is therefore only 31 above the average. During the week the births of 860 boys and 858 girls—in all 1718 children—were registered in London. In the 10 corresponding weeks of the years 1849-58 the average number was 1590.

## Provincial.

Aldershott.—Withinthis month the troops at Aldershott have begun to "camp out" in realearnest, the Duke of Cambridge having determined to accustom both men and officers to this most disagreeable phase of a soldier's life. For this purpose each foot brigade, accompanied by a proportionate force of cavalry and artillery, takes its turn to march out to Woolmer, and after remaining there a day or two returns to Aldershott by a different route, halting after each day's march, and camping on whatever ground is best adapted for the purpose. In accordance with this arrangement the second brigade, under Major-General the Hon. A. Spencer, consisting of the 4th Battalion of 60th Rifles, the 9th Regiment, the 2d Battalion of the 11th, a squadron of the 5th Dragoon Guards, and the A troop of Horse Artillery, left camp on the 4th inst. The men paraded at 2 A.M., and commenced their march for Woolmer Forest early

All were in full marching order, and equipped exactly as if going on actual service against an enemy. The force camped at Woolmer in the afternoon of the 4th, and remained there till daybreak of the 6th, when another march was made in the direction of Aldershott, and the men camped on the night of the 6th between Pystock Ridges and Fleet Pond. Here it stayed till the morning of the 8th, when another move was made to Sandhurst, in the woods around which the third halt was called till Tuesday, when the brigade was again early under arms, and returned to its former quarters at Aldershott. On these marches everything is strictly according to the military rules of service before the enemy. The same outpost duty and almost the same vigilance on the part of the pickets is exercised, and the men live not only on rations, but have to kill their own meat and make and bake their own bread. The camp now boasts its "influential organ" in the shape of a weekly paper entitled the *Aldershott Military Gazette*. It is of course almost exclusively devoted to camp affairs, giving the general news of the cantonments, rumours of approaching changes, &c. From it we learn that the number of persons in camp on the 1st inst. was 24,192—viz., 939 officers, 19,863 rank and file; wives of officers and soldiers, 1467; children of ditto, 1923. The number of horses was at the same date 4361.

BIRKENHEAD.—A strike took place amongst the Birkenhead cabmen last week, and not a single cab could be obtained in the township. The cause of this movement was the compulsory adoption of a 6*d*. fare in the new scale of rates issued by the local commissioners.

CHELTENHAM.—The seventh day's sale of Lord Northwick's collection, including the antique gems from the Poniatowski collection, and the miniatures, realised 1785*l*. The eighth day's sale, including miniatures, antique gems, bronzes, and works of art, realised 1665*l*. The sale of pictures by the old masters was resumed on Tuesday, when the proceeds of the ninth day's sale amounted to upwards of 3600*l*. The amount of the 11th day's sale exceeded 5450*l*.

DURHAM.—On Thursday morning, John Shaftoe Wilthew, who was convicted at the recent assizes of the murder of his wife, suffered the extreme penalty of the law in front of the county gaol in this city, in the presence of more than 5000 people. He admitted the justice of his sentence, but said his wife was a woman of most irritable temper, and that he had lived unhappily with her for years.

DURSLEY.—A murder of a most deliberate character was perpetrated at Dursley, Gloucestershire, on Sunday last. A man named Rutter, a blacksmith of the town, and his wife, were out drinking at a public-house, where they remained nearly the whole day. They were in different rooms, the female being drunk. While there, she was heard to say she "would do for him before morning," it being understood that she referred to her husband. The deceased left the public-house before his wife, and proceeding home, went to bed. His wife soon followed, and found her husband in bed fast asleep. She then procured his razor, and deliberately cut his throat from ear to ear. She subsequently wiped the razor, and placed it under his pillow. An inquest was held on Monday, when the jury returned a verdict of Wilful Murder, and the prisoner was committed for trial at the assizes.

FAVERSHAM.—On Tuesday evening an explosion took place at Messrs. Hall's gunpowder mills, about two miles from this town. Much excitement prevailed, and numbers proceeded in haste to the mills, but fortunately all the hands had left work at the time, and the damage was consequently confined to the building.

GLOUCESTER.—A meeting was held in this city a few days since under the presidency of Earl Ducie for the purpose of devising some substitute for "mops" or statute fairs. It was resolved to establish a general system of registration by opening a register-office for agricultural servants in every parish, to be connected with central offices in Gloucester, and such other towns as may be deemed most convenient. By way of compensating the labourers it was agreed that a general holiday should be given once a year, on some day to be fixed, in lieu of the "mop" holiday.

HULL.—A few days since a man named George Taylor, landlord of the Lord Durham public-house, Cross Street, in this town, had occasion to tap a puncheon of rum. For this purpose he had used a gimlet, but the hole made by the instrument not being large enough he had the folly to heat the kitchen poker to enlarge it. The spirit immediately exploded, burning him dreadfully and setting fire to the house. The housekeeper was in one of the back rooms, and had just time to escape unhurt; but two of Taylor's children were so alarmingly burnt that they died in a few hours. There were two other children in the place, one of whom was burnt to death in the house, and the other so much burnt that she died soon afterwards.

LEDBURY.—After the acquittal of Jones for the Ledbury murder he remained for a long time in the gaol in the state of excitement in which he was removed from the court, and required medical aid for some time before the officers of the prison could convince him that he had been acquitted. On his removal from the Shire Hall in the prison van, a large number of persons followed the vehicle to its destination, or lined the streets through which it had to pass; but, after the faint shout on the delivery of the verdict by the jury, there was no expression of popular feeling. Jones was aided by his brothers in Staffordshire in procuring the legal assistance which he had on his trial. By the same aid it is understood that he will at once proceed either to the United States or to Australia.

LEEDS.—On Saturday afternoon about 5 o'clock a respectable old man, called Richard Broughton, of Rose Cottage Yard, Roundhay, near this town, 67 years of age, was attacked in a field called Ox Pasture between Roundhay and Harehills, by two men, who fractured his skull with a bludgeon, and robbed him of a silver watch. Soon after the assault, the poor man was found in a state of insensibility and covered with blood, but he afterwards rallied and walked home, where he recovered so far as to be able to explain what had occurred. Surgical attendance was procured, but he died on the following morning. For the present his murderers have escaped, but 50*l*. reward is offered for their apprehension; and the chief constable of Leeds is taking steps which are expected to lead to their apprehension. So daring an outrage, committed in open daylight on a public and much-frequented footpath, and so near a large town, has rarely been perpetrated.

LINCOLN.—Carey and Pickett, the two men convicted at the last Assizes for the murder of Mr. William Stevenson, of Sibsey, in this county, were executed on Friday morning at Lincoln Castle. About 25,000 persons were present, but there were fewer women in the crowd than usual. Pickett struggled violently for about two minutes, but Carey appeared to be dead at once. Both prisoners made confessions which differed materially from the confessions previously made. Pickett, it may be remembered, stated that when they left the inn they had no intention of taking the old man's life, and to this statement he adhered in his confession, though he admitted that he struck the blow which caused death, and threw the body into the sewer. Carey in his confession admitted that he was "the worst" and "persuaded Pickett into it," attributing his evil courses to "drink."

LUTON.—On Tuesday last a shocking murder was committed in broad daylight on a public footpath near the ruins of Summeries Castle, about one mile from this town. The victim was the wife of a man called George Castle, who had been working in a malting at Ware. In consequence of a quarrel on the previous day she left her husband and went for protection to her parents, who reside at Luton. The husband followed, and, being denied access to his wife, would seem to have decided on revenge. On the following morning, having provided himself with a knife, he got into the house while his mother-in-law was from home, and persuaded his wife to return with him to Ware, for which place they left; but in about two hours afterwards her dead body was found by the roadside with the throat fearfully cut, the ground bearing marks of a desperate struggle having taken place. The police at once instituted an active pursuit, in which they were greatly assisted by several gentlemen and inhabitants of the town and neighbourhood. After a long search the prisoner was traced through several woods to Welwyn, where he gave himself into custody a few minutes before the arrival of the Luton police. The murdered woman was only 21 years of age, and had been married only six months.

WINCHESTER.—John Benjamin Haynes, who was respited last week for the Aldershott murder, has had his sentence commuted to penal servitude for life. The report of the medical inspector as to his state of mind, and the absence of motive or premeditation, led the Secretary of State to consider him a fit subject for the royal prerogative of mercy.

YORK.—On Saturday, at noon, John Riley, aged 36, was executed at the drop behind the Castle, for the wilful murder of his wife, Alice Riley, at Hull, on the 3d of July. He was dead about two minutes after the drop fell. There were from 6000 to 7000 spectators present, who upon the whole, behaved in a becoming manner.

## Ireland.

IRISH LEGAL APPOINTMENTS. — The judgeship vacant by the death of the Hon. Patrick Plunkett has been conferred upon Mr. David Lynch, Q.C. The new judge is a Roman Catholic, but has never taken a prominent part in politics. The chairmanship of the county of Louth, vacant by the promotion of Mr. Lynch, has been conferred upon Mr. Leahy, Q.C.

THE MEETING OF THE ROMAN CATHOLIC BISHOPS.—The proceedings of the Conference were brought to a close on Friday afternoon, being the fourth day devoted to the business in hand. The result of the bishops' deliberations has not yet been published, but it is announced that all the resolutions were adopted unanimously.

DR. CULLEN ON THE PEACE IN ITALY.—Archbishop Cullen has addressed a circular manifesto to the Roman Catholic clergy of the diocess of Dublin, in which he makes the following remarks on the peace and its effects as regards the Pope:—

"Peace is not as yet definitively concluded, and Italy is still convulsed. Attempts of the most wicked character are made by revolutionary and secret societies, as well as by wily and infidel statesmen, to rob the Pope of his temporal authority, which is so necessary for the free exercise of his spiritual powers. Were the Pope subject to any other Sovereign he would be obliged to yield in the management of the affairs of religion to the wishes of that Sovereign, or undergo continual persecutions, as we learn from the history of the first seven centuries of the Church, when innumerable pontiffs were either martyred by Pagan Emperors, or exiled and afflicted even by the Christian rulers of the East and West. Exhort your people therefore to pray that peace may be permanently restored; that the enemies of religion may be converted or covered with shame; and that our good and holy Pope may be not only triumphant in his present struggles, but that he may acquire all that power and influence which will enable him to spread the blessings of Catholicity over the world."

EXPLOSION OF GUNPOWDER AT BALLINCOLIG.—About half-past 10 o'clock on Saturday morning an explosion of gunpowder took place at the Ballincolig powder-mills. The refining house in which it occurred was razed to the foundations as if a mine had exploded under it, and five men who were at work in it were blown to pieces. An inquest has been held on the bodies, and a verdict returned to the effect that the cause of death was accidental, and that no blame was attributable to any person connected with the mills.

THE MURDER AT THE CURRAGH.—Three privates belonging to the 14th Regiment were tried last week and acquitted of the charge of murdering one of the unfortunate females that frequent the outskirts of the camp.

## Scotland.

THE BRITISH ASSOCIATION.—The opening meeting of the Association at Aberdeen has been definitively fixed. An intimation has been made to the secretaries on behalf of the Prince Consort that Wednesday, the 14th of September, will suit the convenience of his Royal Highness to attend and deliver the address from the chair. Everything promises that the meeting will be a great one.

SCOTCH PROPRIETORS.—A Parliamentary return has been issued on the motion of Mr. Kinnaird, M.P., from which it appears that the total number of proprietors having property of the value of 5*l*. and under 10*l*., in the valuation roll of the Scotch counties, so far as returns have been made, is 7024, and the total number of occupants of less than 50*l*. and more than 10*l*. 26,356. The total proprietary of the burghs is 6326, and the total occupancy of the same 56,350, thus making a grand total of 13,380 proprietors, and 82,706 occupants. The counties of Ayr, Caithness, Dumbarton, Edinburgh, Lanark, Linlithgow, and Perth refuse to furnish returns, and have thus been guilty of a contempt of an order of the House of Commons.

## Railways.

CHARING CROSS AND SOUTH-EASTERN.—An Act has been passed for extending the South-Eastern to Hungerford Market, and to a junction with the South-Western to Waterloo station, by which traffic may pass from the latter line to and from the London Bridge station, with access to the Hungerford Market terminus if the South-Western company desire it. A proposition had been made by the promoters of the Bill to give the trustees of St. Thomas's Hospital the sum of 20,000*l*. to enable them to build a new wing in the place of the one which the line will render unfit for hospital purposes; but the trustees of the hospital declined the proposition and required the company to purchase the entire hospital. The House of Lords Committee in passing the Bill expressed their opinion that it would have been better if the London Bridge Railway companies had entered into some arrangements for the purchase of the hospital, but as such had not been the case, the question of compensation must be settled by the parties as the law provided.

A TRAIN IN A BOG.—A singular accident occurred to a train on the Whitby branch of the North-Eastern on Saturday last, about two miles from Pickering, at a place called Fen Bogs. The line at this place is carried across an extensive swamp on piles, and as the mail-train from Whitby was passing the place the engine ran off the line, and plunged overhead into the mud, pulling the train after it. The train was a very heavy one, having many first-class passengers, and the scene which ensued may be more readily imagined than described. The engine-driver and stoker were both buried in the bog with the engine, but were extricated by the passengers. They were both injured, but not seriously. The passengers were thrown about in a strange manner, but beyond several cuts and bruises no further injury was inflicted. The accident is ascribed to the heat of the sun having caused the wooden framework on which the rails are laid to warp and raise up the line, so as to break its continuity.

## Law.

WESTERN CIRCUIT: DORCHESTER.—*Poaching Affray.*—*Tomebridge*, gamekeeper of Lord Portman, was convicted of shooting at Edward Matthews, with intent to do him grievous bodily harm. Baron Bramwell in passing sentence commented severely on the conduct of the prisoner in firing at the unfortunate man, simply because he and a companion who was with him had been convicted of poaching, and had been taking a few rabbits. His Lordship said that he had no love for poachers, but there was no need to shoot them. The law had made ample provision for their detection and punishment, and it was most essential that those men should know that, however outrageous as they might be, the law would protect them. He had consulted Mr. Justice Crompton on the subject, and they had come to the conclusion that he ought to pass a severe sentence, and that was that the prisoner undergo penal servitude for four years. EXETER: *Arson.*—*John Bolt*, 14, and *William Hellings*, 19, were convicted of setting fire to a stack of hay. Mr. Baron Bramwell said this was a very bad offence, and the prisoners were very bad boys and he would endeavour to make them better. He should give them such a punishment as they would never forget, for if they were going again to set a rick on fire they might remember how their backs tingled. He should sentence them to be imprisoned for one month, to be kept to hard labour and to be twice well whipped, once at the beginning of the term and once at the end of the term, and at the expiration of the month Bolt was to be sent to a reformatory for two years, and Hellings for five years; and he made this distinction because Hellings was a younger boy and had no parents or friends to take care of him. The idea of the whipping made young Hellings cry most terribly. A turnkey interfered to stop the

but the judge said he might cry now, but he would soon have something more to cry for.—*Daniel Bowers* was convicted of setting fire to a stack of barley, and sentenced to eight years' penal servitude. Bodmin: *Stephen Bell*, a surgeon practising at Weston-super-Mare, was charged with the murder of Captain Caddy, a retired naval officer. On the 2nd June last, prisoner arrived at Falmouth and had a quarrel with his mother and sisters about money, when one of the latter fetched Captain Caddy, who was 72 years of age. The old gentleman remonstrated with the prisoner, and begged him to leave the house. The prisoner became greatly excited, and a suggestion was then made that the police should be sent for to remove him. Upon this, the prisoner reached down a large Indian spear which was hanging in the passage. It was very long, and he broke the handle across his knee; and then said, "I'll do for the first that comes to me." The sisters rushed into the garden. The captain came to the door, when the prisoner stabbed him with the spear and he died in about an hour. The prisoner threw down the spear, and said to one of his sisters, "It is your fault that I have come to this." He afterwards said he did not deny doing it; but that Captain Caddy had sprung upon him, and he had taken the spear to use in his defence. The jury found the prisoner *Guilty* of Manslaughter. Mr. Justice Compton told the prisoner he had had a very merciful jury: but he should sentence him to penal servitude for life.

Home Circuit: Chelmsford.—*Arson.—Charles Joyce*, a boy 10 years of age, was charged with feloniously setting fire to a stack of wheat. The prisoner had been in the service of a farmer named Willis, at Hutton, near Romford, for two years, and had misbehaved himself upon several occasions. The fire took place on the 7th May, and a day or two before the prisoner flogged the prisoner for some great misconduct, and took him home to his father, who flogged him a second time, and he became very excited and angry. The prisoner went to Romford market on the day mentioned, and very soon after he was gone a wheat rick was found to be in flames. The prisoner ran away, and was taken into custody concealed in a ditch, and on being questioned admitted that he had set fire to the rick with a lucifer match. The jury returned a verdict of *Guilty*. Mr. Justice Crowder sentenced him to be confined for one month in the county gaol, and at the expiration of that period to be sent to a reformatory for five years.—*Charles Wright*, 13, described as an errand-boy, pleaded guilty to three indictments charging him with feloniously setting fire to a barn and other buildings at Lexden. The prisoner was in the service of the Rev. Mr. Papillon, residing at Lexden, and two of the offences alleged against him were setting fire to his master's farm buildings on the 28th and 29th of April. The third indictment was a charge of setting fire to some premises belonging to a miller named Vince, and it appeared that when the prisoner had reason to believe that he was suspected he took one of his master's horses and rode away a considerable distance into the county of Suffolk, and there turned the horse loose, and came back to Halstead, where he was taken into custody. The learned judge sentenced him to one month's imprisonment, and to be afterwards kept in a reformatory school for five years. Hertford: *Arson.—Ellen Grace*, 16, a good-looking girl, pleaded guilty to a charge of setting fire to a barn and other property. The prisoner had been in the service of a person at Ware, and on the day of the fire had a dispute with her mistress, and was heard to make use of threats towards her. In the course of the same evening a shed in which there were a number of valuable cattle was in flames; but the fire, fortunately, was extinguished without doing any serious mischief. The prisoner charged a boy who was employed upon the premises with being the guilty party, and she told such a plausible story that he was very nearly being committed for trial; but, fortunately, it was discovered that she was the real culprit. The prisoner now said that it was her temper that drove her to do it, but she was very sorry for it, and hoped the magistrate would forgive her. Mr. Justice Blackburn sentenced her to be kept in penal servitude for four years. Maidstone: *Arson.—Jonas Mitchell*, 20, a private soldier, pleaded Guilty to two indictments charging him with the offence of arson. Mr. Justice Blackburn, in passing sentence, said, that without any motive of revenge against the owner of the property—indeed, without even knowing who he was, the prisoner had deliberately set fire to some stacks of corn and caused considerable mischief, and all this without the slightest prospect of benefit or advantage. He was quite at a loss to account for such conduct, but, without regard to the peculiar circumstances of the case, the offence of arson was one of such a dreadful character that for the protection of the public it was necessary that a severe sentence should be passed upon every person who was convicted of it, and he therefore felt it to be his duty to order him to be kept in penal servitude for 10 years.—*James Wanklyn*, 21, another private soldier, pleaded Guilty to a similar charge. The learned judge said, that in this case the only object the prisoner appeared to have had in view in the commission of the offence was to escape from continuing in the position of a soldier. He would find that he had made a great mistake, and for years to come he would bitterly repent the act he had committed. He then sentenced the prisoner to 15 years' penal servitude. Croydon: *Arson.—Charlotte Hodges*, 40, and *Mary Helen Hodges*, 18, mother and daughter, were charged with setting fire to a dwelling-house in the occupation of William Hodges, with intent to injure the landlord of the house, and to defraud the Phœnix Fire Office. This case occupied the Court for several hours, but the facts lay in a very narrow compass. It appeared that the husband of the elder prisoner occupied a beer-shop called the Crystal Palace, close to the Town Hall in Croydon, and he was in difficulties, and in arrears with his landlord and the brewer. About two months before the fire happened there had been another fire in the house, but it was extinguished without much mischief being done, and a small claim was made upon the insurance company, which was paid. On the 8th July another fire occurred which proved on examination to have been wilful, large quantities of inflammable materials having been placed in situations to feed the flames. The most painful part of the case was that, supposing the fire to have been wilful, the house was in such a position that if the guilty intention had been carried out the consequences, in the destruction of human life, might have been most disastrous, as all the adjacent buildings were very old, and contained a large number of inmates. The evidence proved satisfactorily that the fire was evidently a planned one, and that no one but the prisoners could have been the perpetrators of it. The jury returned a verdict of *Guilty* against both prisoners, but recommended them to mercy, on the ground that they might have acted under the influence of others. Mr. Justice Blackburn, in passing sentence, said that they had been convicted of a most serious offence, and though the jury had recommended them to mercy on the ground that they had probably acted under the influence of another party, still there could be no doubt that it was by their hand that an act was committed which might have led to the most serious mischief. He therefore felt compelled to pass upon them a very severe sentence, which was that they be kept in penal servitude for 15 years.

Norfolk Circuit: Cambridge.—*Arson.—George Hunt* and *Charles Rampling* were indicted for feloniously setting fire to a stack of barley, the property of Mr. Kent, of Ditton, near Cambridge. On the afternoon of the 28th of April the prisoners were seen to go to windward of a stack of barley in a field by the side of the road from Cambridge to Newmarket, and a few minutes after they had left it some labourers observed that the stack was on fire; they therefore went after the prisoners, and took them into custody. When charged with the offence they excused themselves by saying that one of them had lighted his pipe, and was handing the lucifer to his mate, when it fell, and must have set the stack on fire. The stack, which was worth £60, was entirely destroyed. The jury, not believing this statement, found both prisoners Guilty, and they were each sentenced to 14 years' penal servitude.

Oxford Circuit: Monmouth.—*The Newport Murder.—Matthew Francis*, 26, tailor and lawyer, was tried and convicted on Saturday of the wilful murder of his wife, Sarah Francis, on the 14th of March, 1858, at Newport, by cutting her throat, under circumstances which were related at the time in our Provincial News. Mr. Justice Willes passed sentence of *Death*, holding out no hope of mercy.

## Obituary.

Sir George Staunton, Bart., died on the 10th inst., at his town residence, 17, Devonshire Street, Portland Place, in his 79th year. He was born at Milford House, near Salisbury, in 1781, and succeeded his father, the first baronet, in 1810. He was educated at Trinity College, Cambridge, and on leaving college was appointed chief supercargo for the East India Company, and was President of the Select Committee at Canton, and Commissioner of the Embassy to Pekin in 1816. In 1818 he was elected M.P. for St. Michael's and in 1820 he was returned for Heytesbury, both of which boroughs were abolished by the Reform Bill. In 1832 he was elected for South Hampshire, which he unsuccessfully contested in 1837 and 1847. In 1818 he was returned for Portsmouth, and sat for that borough until 1852, since which time he has not had a seat in Parliament. He was the author of a translation of the Penal Code of China, and has written several works which are held to be authorities on the subject of our relations with that country. As he has died without issue the title becomes extinct.

The Dowager Lady Hoskyn, Exeter, died on the 3rd inst., at Caldwell, Appleby, the seat of her son-in-law, Colonel Mure, after a few hours' illness. Her ladyship, who was second daughter of Sir John Ray, Bart., married in 1825 Sir David Hunter Blair, Bart., who died in 1857.

Mr. Baron Pennefather, who not very long since retired from the Court of Exchequer, of which he had been an ornament for upwards of 20 years, died suddenly on Sunday morning at his residence near Clonmel. He left Dublin in perfect health on the previous day in company with his medical attendant, and bore the journey to Clonmel remarkably well, but expired on the following morning at half past 7 o'clock. He had attained a patriarchal age and could have wanted but few years of fourscore and ten. He was called to the bar in 1795.

Lieut.-Colonel Edward Cornwall Legh, C.B., Colonel commandant of the 97th Regiment, died on the 3d June at Baroda, in Central India, from an attack of apoplexy. His entire military life since he entered the army, without purchase, as a cadet from the Royal Military College of Sandhurst, in 1826, had been spent in that gallant corps. He served with it on the stations of the Ionian Isles, Malta, the West Indies, and North America. He led it into action in some of the bloodiest actions of the Crimea, and especially in the attack of the ladder party on the Great Redan on the 8th Sept., 1855, when, of 15 officers and 300 rank and file who went with him into action, 201 of the men were killed and wounded, and of the officers he and one other alone escaped unhurt. Having been promoted Lieut.-Colonel for his distinguished services in the field, he had the good fortune eventually to obtain the command of the regiment in which he had won his advancement. In this post he was sent to India on the outbreak of the mutiny of 1857, and joined the Jaunpore field force under General Franks. He commanded the 97th in the action and capture of the Fort Mursutpore on the 26th January, 1858, and in the actions of Chanda and Amerapore on the 19th February, 1858, as well as at the battle of Sultanpore and the action of Pirie Bussarun on the 4th March, 1858, on which day he joined the 4th Division of Lord Clyde's army, took part in the last siege and final capture of Lucknow, and led his men to the assault of the Kaiserbagh. These services were repeatedly acknowledged in public despatches and by the honours conferred on Colonel Legh by the Crown, when suddenly, on the 3d June, having scarcely completed his 36th year, and being still in the active duties of his post, he broke down under the oppressive influence of the climate and expired in a few hours.

Mr. Bayle St. John, author of "Purple Tints of Paris," "Memoirs of the Dukes of St. Simon," "Montaigne the Essayist," and other works, died on the 1st inst. in his 36th year, after a long illness from pulmonary disease.

Mr. Daniel Owen Madden, author of "Chiefs of Parties," died suddenly in Dublin on Saturday last.

## Miscellaneous.

The Cholera.—"The cholera," says the *Medical Times*, "is again in the metropolis, and it has arrived by the old route from Hamburgh. One case proved fatal last week on board one of the Hamburgh steamers on her passage; another was sent to the Dreadnought and died there, also from a Hamburgh vessel; and a third died in a Hamburgh vessel on the Thames. Dr. M'William, who is doing duty temporarily for Sir William Pym, the superintendent-general of quarantine, has done all that he is empowered to do by having vessels from Hamburgh boarded at Gravesend, and suspicious cases of disease removed to the Dreadnought, or elsewhere; and similar instructions have been sent to our eastern and north-eastern ports." The Dundee papers state that on Saturday and Sunday four deaths occurred in Dundee attributed to cholera. No fatal case was reported on Monday, and it is hoped that the disease will not spread further. In Hamburgh, from the 25th to the 31st July, there were 424 cases, of which 332 were fatal. Letters from Osnabruck state that a choleraic epidemic has attacked 56 persons in that city, 28 of whom had died.

BIRTHS.—On Saturday, the 6th inst, at Viscount Boyne's, in Belgrave Square, the Lady Katharine Hamilton Russell, of a daughter—31st ult, at Cranford, the Lady Louisa Ponsonby, of a son—30th ult, the Hon. Mrs. Augustus Byron, of a daughter—1st inst, at Blythswood House, Renfrewshire, the Hon. Mrs. Bowlby, of a son—2d inst at Evington Place, Kent, the wife of Sir Courtenay Honywood, Bart., of a daughter—4th inst, at the Château de Chiceray, near Vendôme, the wife of the Right Hon William Massey, M.P., of a daughter—7th inst, at 27, Rutland Gate, the wife of W. P. Adam, Esq., M.P., of a son—9th inst, at Heath House, near Wakefield, the wife of E. A. Leatham, Esq., M.P., of a son—30th ult, at Paris, the wife of F. W. M. Bond, Esq., M.P., of a daughter—5th inst, at Denbies, Dorking, the wife of George Cubitt, Esq., of a son.

MARRIAGES.—On the 9th inst, at St. Paul's, Knightsbridge, the Hon. George Mostyn, eldest son of Lord Vaux, of Harrowden, to Mary Monk, second daughter of the late Lord Bishop of Gloucester and Bristol—2d inst, at Claverton Manor, Somerset, William Stirling Halsey, Esq., of H.M.'s Bengal Civil Service, second son of Henry Wilham Richard Westgarth Halsey, Esq., of Henley Park, Surrey, to Sophia Victoria, daughter of the Right Hon. James Wilson, M.P., of Calverton Manor, near Bath, and 13, Upper Brook Street, London—4th inst, at St. James's Church, Piccadilly, Sir S. Morton Scrope, Chief Justice of the Mauritius, to Barbara Lucas, only daughter of the late Rev. William Brownrigg, of Chantry Hall, in the county of Somerset—4th inst, at St. George's, Hanover Square, Dowager Viscountess Ingestre, daughter of John Cavendish, Esq., to Margaret Henrietta, youngest daughter of the late Richard Fort, Esq., of Hendon, Devon—5th inst, at St. Saviour's, Paddington, William Keppel, third son of James Ford, Esq., of Westbourne Terrace Road, Hyde Park, to Mary, only daughter of Major-General Sir Scudamore W. Steele, K.C.B.—4th inst, at St. James's, Dover, Lieutenant-Colonel Herbert William Mackenzie, R.E., third son of the Rev. George Mackenzie, rector of South Pickenham, Norfolk, to Catherine Dennis, eldest daughter of Major-General Eccleine, Royal Artillery—3d inst, at Ivy Church, Max Müller, Esq., Fellow of All Souls' College, Oxford, to Georgina Adelaide, eldest daughter of Riversdale Grenfell, Esq., Bay Lodge, Maidenhead—2d inst, at the Oratory, Brompton, Myles Wm. O'Reilly, Esq., of Knock Abbey, County Louth, to Ida, second daughter of Edward Jenkinson, Esq., 4a, Rutland Gate.

DEATHS.—On the 7th inst, at his residence in Bryanston Square, the Hon. John Kennedy, the second son of the 11th Earl of Cassilis, aged 86—7th inst, at 16, Portman Street, the Dowager Lady Blackett, relict of the late Sir W. Blackett, Bart., of Matfen, county of Northumberland—4th inst, at Wollaton Rectory, Notts, Adolphus Bussey, eldest son of the Hon. and Rev. Charles Willoughby, aged 13—3d inst, at Upper Norwood, Mary, wife of Sir Fowys Francis Scudamore Saunders Evans, Bart., of Harewood Lodge, Herefordshire—6th inst, at Greenwich, after a short illness, Lieutenant Hugh Hughes, R.N., formerly Head Master of the Royal Naval Lower School, Greenwich Hospital, aged 49—6th inst, at Southsea, Lieut.-Colonel Hutt, late of

are not much reduced. Calves are selling about the same as on Thursday. From Germany and Holland there are 1390 Beasts, 7350 Sheep, 266 Calves, and 50 Pigs; from Scotland, 40 Beasts; from Ireland, 250; from Norfolk and Suffolk, 300; and 2300 from the northern and midland counties.

| | s | d | s | d | | s | d | s | d |
|---|---|---|---|---|---|---|---|---|---|
| Best Scots, Herefords, &c. .. | 4 | 6 | to 4 | 8 | Best Long-wools . | 4 | 6 | — 4 | 8 |
| Best Short-horns | 4 | 4 | — 4 | 6 | Do. Shorn .. .. | | — | .. | |
| 2d quality Beasts | 3 | 0 | — 4 | 0 | Ewes & 2d quality | 4 | 0 | — 4 | 4 |
| Best Downs and Half-breds .. | 4 | 10 | to 5 | 0 | Do. Shorn .. .. | | | to .. | |
| Do. Shorn .. .. | | — | .. | | Lambs .. .. | 5 | 0 | — 5 | 8 |
| | | | | | Calves .. .. | 4 | 0 | — 4 | 10 |
| | | | | | Pigs .. .. | 3 | 6 | — 4 | 4 |

Beasts, 4920; Sheep & Lambs, 31,150; Calves, 332; Pigs, 400.

THURSDAY, Aug. 11.

Our trade is cheerful for good Beasts, which are by no means plentiful. Monday's prices are fully maintained for them. There is a good demand for Sheep, but prices are not higher. Trade is excessively heavy for Lambs. Calves meet with a dull sale. From Germany and Holland there are 260 Beasts, 1670 Sheep, and 450 Calves; from Ireland 60 Beasts; from the northern and midland, 300 Beasts; and 120 Milch Cows from the home counties.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Best Scots, Herefords, &c. .. | 4 | 6 | to 4 | 8 | Best Long-wools . | 4 | 6 | — 4 | 10 |
| Best Short-horns | 4 | 4 | — 4 | 6 | Do. Shorn .. .. | | — | .. | |
| 2d quality Beasts | 3 | 0 | — 4 | 0 | Ewes & 2d quality | 4 | 2 | to 4 | 6 |
| Best Downs and Half-breds .. | 4 | 10 | — 5 | 0 | Do. Shorn .. .. | | — | .. | |
| Do. Shorn .. .. | | — | .. | | Lambs .. .. | 4 | 8 | — 5 | 6 |
| | | | | | Calves .. .. | 4 | 0 | — 4 | 10 |
| | | | | | Pigs .. .. | 3 | 6 | — 4 | 8 |

Beasts, 980; Sheep & Lambs, 12,320; Calves, 660; Pigs, 120.

MARK LANE.—MONDAY, Aug. 8.

This morning's market was fairly attended. The supply of Wheat from Essex and Kent was moderate; about half or rather more consisted of the new crop, the quality of which was fair, but variable, and sold—the white at 42s. to 48s. per qr., Talavera 46s. to 51s., red 40s. to 44s.; for old our quotations are unaltered. Foreign was rather more inquired after, but without leading to much business; in the sales effected, however, the extreme prices of Friday were insisted on. For grinding Barley there is a fair inquiry at late rates. Beans and Peas are unaltered in value. The Oat trade is quiet, and Russian's are 6d. per qr. cheaper. Flour is without alteration. There was some quantity of new white Mustard Seed at market; picked samples brought 14s. per bushel.

| PER IMPERIAL QUARTER. | s. | s. | | s. | s. |
|---|---|---|---|---|---|
| WHEAT, Essex, Kent, & Suffolk..White | 42 | 49 | Red .... | 40 | 44 |
| — — fine selected runs..ditto | 46 | 48 | Red .... | 42 | 46 |
| — — Talavera ..... | 44 | 52 | | | |
| — Norfolk ..... | — | | Red .. | — | |
| — Foreign ..... | 38 | 54 | | | |
| BARLEY, grind. & dist., 24s to 28s..Chev. | — | | Malting . | — | |
| — Foreign..grinding and distilling | 23 | 38 | Malting . | — | |
| OATS, Essex and Suffolk ..... | 19 | 22 | | | |
| — Scotch and Lincolnshire..Potato | 23 | 25 | Feed.... | 19 | 24 |
| — Irish ..... Potato | 24 | 25 | Feed.... | 19 | 22 |
| — Foreign ..... Poland and Brew | 23 | 26 | Feed.... | 18 | 24 |
| RYE ..... | — | | Foreign . | — | |
| RYE-MEAL, foreign..... | — | | | | |
| BEANS, Mazagan.... 35s to 39s....Tick | 37 | 41 | Harrow . | 37 | 41 |
| — Pigeon .....41s — 45s..Winds. | — | | Longpod | — | |
| — Foreign ..... Small | 38 | 46 | Egyptian | — | |
| PEAS, white, Essex and Kent .. Boilers | 36 | 40 | Suffolk . | 35 | 42 |
| — Maple .... —s to —s ..... Grey | 36 | 38 | Foreign . | 30 | 38 |
| MAIZE ..... White | — | | Yellow.. | — | |
| FLOUR, best marks delivered..per sack | 37 | 43 | | | |
| — 2d do. ..... ditto | 27 | 37 | Country. | 27 | 37 |
| — Foreign ..... ... per barrel | 18 | 27 | Per sack | 30 | 37 |

FRIDAY, Aug. 12.

Since Friday last the weather in the south of England has been unsettled, with heavy showers; but in the north it was fine since Monday. Harvest operations do not appear to have been greatly interrupted, and the fall in the temperature will have prevented much damage to the corn by vegetating. In all the principal markets of the kingdom, Bristol excepted, the Wheat trade has been dull with a downward tendency of prices, in which all descriptions of spring corn have sympathised. Flour of fine quality maintained its previous value, but inferior has been very unsaleable. Here on Wednesday both English and foreign Wheat met a somewhat improved inquiry. The English was sold at prices barely obtainable on Monday, and for low priced foreign, Russian and French qualities, fully 1s. per qr. advance was obtained. The arrivals off the coast from Southern Europe this week are trifling. The sales include Polish Odessa Wheat at 41s. 3d. to 41s. 9d., Galatz at 38s., both per 480 lbs.; Odessa Ghirka at 41s. 1½d., Marianopoli at 45s. 3d., Taganrog Ghirka at 43s., all per 492 lbs.; Salonica Maize at 27s. per 480 lbs.; Ibrail Barley at 22s. 6d. duty paid, Danube at 20s. c. f. and i., and at 23s. all per 400 lbs. Excepting foreign Oats, of which the supply is large, the arrivals of all grain English and foreign this week have been small. The English Wheat fresh up being held firmly at Monday's prices could not be dispesed of, and the same may be said of foreign. Barley sells slowly at Monday's prices. Oats meet with but little inquiry, and late rates are barely supported. Flour is slow at Monday's prices.

ARRIVALS FROM AUG. 8 TO AUG. 12.

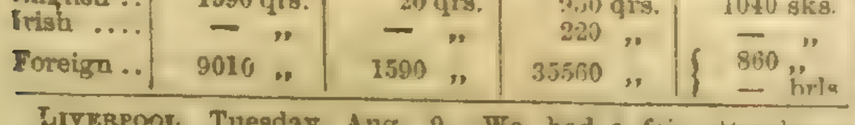
| | Wheat. | Barley. | Oats. | Flour. |
|---|---|---|---|---|
| English .. | 1590 qrs. | 20 qrs. | 950 qrs. | 1040 sks. |
| Irish .... | — ,, | — ,, | 220 ,, | — ,, |
| Foreign .. | 9010 ,, | 1590 ,, | 35560 ,, | 860 ,, / — brls |

LIVERPOOL, Tuesday, Aug. 9.—We had a fair attendance of millers and dealers at our Corn Exchange this morning. The demand for both Wheat and Flour was, however, on quite a retail scale, and holders were forced to relinquish the advance obtained yesterday. Indian Corn attracted but little attention, and prices were the turn in buyers' favour. Oats and Oatmeal were difficult of sale, and new qualities irregular in value. Egyptian Beans improved 6d. per qr. Peas and Barley unchanged. The reaction from the improvement of yesterday may be attributed to the fine weather and the quiet tone of Mark Lane.

FRIDAY, Aug. 12.—Grain market better. Wheat 1d. to 2d. dearer, and better demand. Flour firm at extreme rates. Oats and Oatmeal steady. Beans and Indian Corn dull. Heavy rains this morning; weather now clearing up.

| AVERAGES | Wheat. | Barley. | Oats. | Rye. | Beans. | Peas. |
|---|---|---|---|---|---|---|
| July 2.. | 46s 4d | 30s 9d | 24s 10d | 33s 9d | 46s 1d | 40s 9d |
| — 9.. | 46 9 | 31 10 | 25 6 | 34 3 | 47 7 | 41 2 |
| — 16.. | 46 6 | 29 11 | 25 3 | 40 6 | 45 10 | 39 8 |
| — 23.. | 44 11 | 30 7 | 25 11 | 38 10 | 46 10 | 39 10 |
| — 30.. | 43 0 | 30 1 | 25 3 | 36 1 | 44 2 | 37 0 |
| Aug. 6.. | 43 7 | 29 0 | 25 1 | 32 8 | 46 5 | 37 6 |
| Agg. Aver. | 45 2 | 30 4 | 25 6 | 35 10 | 46 2 | 39 4 |

FLUCTUATIONS IN THE LAST SIX WEEKS AVERAGES.




WANTED, A PARTNER to the NURSERY and SEED BUSINESS with £150 or £200. The concern may be taken to at a valuation. It has a first-class connection of 50 years' standing, is close to the railway station, fronting the principal street in the town, and has an unexpired Lease of 21 years.—For further particulars apply to Mr. TURNER, Fruiterer, New Market, Sheffield.

WANTED, a person who has some knowledge of Fruit, and a little time to spare, to act as SECRETARY to the British Pomological Society.—Apply by letter only (prepaid) on or before August 17th, to P. S., M. Webber & Co., Centre Row, Covent Garden, W.C.

WANTED, in a country Parish, a SUNDAY-SCHOOL MASTER, who is competent to play the Organ and teach a Village Choir. A good Gardener will find full employment during the week.—For further particulars apply to the Rev. JOHN BELL, Brington Rectory, near Kimbolton.

WANTED, in the New Forest, TWO FOREMEN OF LABOURERS, who understand Planting, Draining, and all other work connected with Woods and Plantations, and are competent to Measure and Keep an Account of the work done and of the men's time. Wages 20s. per week.—Apply, stating references, to Mr. L. H. CUMBERBATCH, Queen's House, Lyndhurst.

WANTED, in a large Provincial Nursery, a clever, energetic Man, as GENERAL MANAGER of the out-of-door departments, where Fruit trees, Forest trees, and Shrubs are extensively grown. To a suitable person a liberal Salary will be given.—Apply to Mr. Skirving, Walton Nursery, Liverpool.

WANTED, A GARDENER, where an under man is allowed. — A person of good character, and who thoroughly understands the rearing of Pines, the culture of the Vine, and general Horticultural pursuits.—Apply to T. HILL, Esq., Hampton House, Warley, Essex.

WANTED, AS GARDENER, an active, intelligent, middle-aged Man, without incumbrance, who understands the management of small Stove, Greenhouse, and Out-door work. A helper on the place. Wages 50l. per annum. No cottage.—Apply to Dr. INGLE, by letter, p.p., Emsworth, Hants.

WANTED, a MAN and his WIFE, without incumbrance, to look after a Garden, Greenhouse, &c., and a Horse and Chaise; he must understand Forcing. Wages 15s. a week, and a cottage to live in.—Address A. B., Langdon Hills, Romford, Essex.

WANTED, a Man and his Wife, without young children—the Man as GROOM and GARDENER, the Wife as LAUNDRESS. Wages, 26s. a week, with good cottage and garden, and convenience for washing. Family eight in number.—Address, stating full particulars, to C. J. F., Frog Grove, near Guildford.

WANTED, in a Retail Seed Establishment, Two young Men, the one to act as CLERK, the other as SHOPMAN. None need apply unless thoroughly acquainted with the Seed Business in its various branches. Application by letter, stating salary and where last employed.—Address, W. C., *Gardeners' Chronicle* Office, W.C.

POULTRY.

WANTED, a person who has been accustomed to Breeding, Rearing, and the Management of POULTRY for EXHIBITION; must be fully competent in every respect to take the care of a large number, as well as be thoroughly aware of all the points required in Poultry for Exhibition. Liberal salary will be given, and none need apply who cannot furnish good references.—Apply by letter P. W., Post Office, Cardiff.

WANTED, a YARDSMAN and his WIFE, without incumbrance preferred.—The Man to look after the Stock, &c., and keep things tidy in the Yards; the Woman a good Dairywoman, clever with Cows, and to make good Butter.—The Archdeacon Croft, Saltwood, near Hythe, Kent.

WANTED, A HANDY LABOURER AND WIFE, without incumbrance, to live in and look after a cottage, and work in the Garden, &c. An elderly couple would not be objected to if healthy and active; must be from the country.—Apply by letter to A. B., 170, Upper Street, Islington, N.

## WANT PLACES.—Letters to be Post Paid.

GARDENER (HEAD).—Age 28, single; thoroughly understands Grapes, Cucumbers, Melons, Flower and Kitchen Gardens. Two and a half years' unexceptionable character.—H. LAMB, Summerfield House, Lower Homerton, N.E.

GARDENER (HEAD).—Middle aged, married, no incumbrance; has a good practical knowledge of Gardening. Single-handed place not objected to. Twenty years' good character.—G. S., Post Office, Horsham, Soywood, Sussex.

GARDENER (HEAD).—Age 37, married, no incumbrance; thoroughly understands his profession in all its branches, the Management of Land and Stock if required. Six years' character from late employer.—Mr. SHEPHARD, 8, Union Terrace, Crayford, Kent, S.E.

GARDENER (HEAD).—Age 35, single; perfectly understands his profession in its various branches, the Forcing of Fruits and Vegetables, and the general routine of Kitchen and Flower Gardens, Plants, &c. Highest references.—BURDETT, Walton-upon-Thames, Surrey.

GARDENER (HEAD).—Age 36, married; thoroughly understands Forcing of Fruits, Flowers, Vegetables, &c., also the Management of Meadow Land and Stock. Character unexceptionable. — J. S. OSBORN & SONS, Nurserymen, Fulham, S.W.

GARDENER (HEAD), to any gentleman in want of a practical man.—Age 34, married, without incumbrance; understands his profession in its various branches. Can have 8 years' good character from his late employer.—W. HOADE, Langham Place, Egham, Surrey.

GARDENER (HEAD).—Age 30, married, without incumbrance; thoroughly understands his profession in all its branches. Country preferred; no single-handed place accepted. A good character will be given.—W. H., F. Collison, Herne Hill, Dulwich, Surrey, S.

GARDENER (HEAD),—Age 46, married, no incumbrance; thoroughly understands Early and Late Forcing of Vines, Pines, Cucumbers, &c., and can be well recommended as a good practical Gardener, both from his last and present employers.—A. B., Mr. Young's Nurseries, Milford, near Godalming.

GARDENER (HEAD). — Unmarried; thoroughly understands the Management of Kitchen and Flower Gardens, the Forcing of Fruits, Flowers, and Vegetables, having had good experience both in England and Scotland. Character unexceptionable.—W. R., Post Office, Surbiton, Kingston-on-Thames, Surrey, S.W.

GARDENER (HEAD).—Age 28; perfectly understands his profession in all its branches, and can produce first-rate testimonials as to ability, integrity, and sobriety.—W. B., Post Office, Dorking, Surrey.

GARDENER (HEAD).—Age 23; understands Stove and Greenhouse Plants, Flower and Kitchen Gardens, Forcing Grapes, Cucumbers, and Melons. Character from last place just leaving.—C. M., Chandy & Co.'s Seed Establishment, Lewisham, Kent, S.E.

GARDENER (HEAD).—A single Man, aged 30, has a practical knowledge of his business, understands Early and Late Forcing, Flower and Kitchen Gardens, Greenhouses, &c. Wages, 60l. a year, or an equivalent.—G. B., of Dr. Lindley, Turnham Green, London, W.

TO NOBLEMEN AND GENTLEMEN.

GARDENER (HEAD), OR GARDENER AND BAILIFF.—Single; well acquainted with the profession in all its branches; also Book-keeping, and has a good knowledge of Farming and Stock. The highest testimonials as to character and abilities.—H. B., Paradise Nursery, Holloway.

GARDENER (HEAD), OR GARDENER AND BAILIFF.—Age 29, married, one child; understands Forcing Fruits, Flowers, &c., the management of Kitchen and Flower Gardens, Hot-water Apparatus, &c.; also Arable and Grass Land. Wife can take charge of Dairy and Poultry. No objection to Ireland. Good character.—A. B., Post Office, High Street, St. John's Wood, London, N.W.

GARDENER.—Age 27; thoroughly understands Forcing, also Kitchen and Flower Gardening.—I. FLOAT, Claygate, Esher, Surrey, S.

GARDENER.—Age 26, single; well experienced in Forcing Pines, Vines, Melons, &c., and management of Kitchen and Flower Gardens. Wages, one Guinea per week.—A. B., 24, Princes Road, Notting Hill, London, W.

GARDENER.—Age 42, married; thoroughly understands Forcing and Growing Plants. Can be well recommended by his employer, who is giving up his establishment.—A. B., Mr. Cain, House Agent, Richmond, Surrey.

GARDENER.—Single; thoroughly understands all branches of Gardening, likewise Forcing, &c. Good character and references as to ability, &c.—M. T., Post Office, Blackheath, S.E.

GARDENER.—Age 34, married; has a thorough practical knowledge of his profession in all its branches. Three and a half years' character, with testimonials.—THOS. JACKSON, 34, Charles Street, Portland Town, N.W.

GARDENER.—Age 35, no incumbrance; has a practical knowledge of his profession, including Early and Late Forcing of Vines, Flower and Kitchen Gardens, Greenhouses, &c. Good reference given.—J. B., Mrs. Bryant, King Street, Maidstone, Kent.

GARDENER.—HENRY MATTHEWS (age 32, married), Gardener to the late Hon. W. M. Noel, Clare Park, Sydney, Gloucestershire, would be glad to engage with a lady or gentleman requiring the services of a thorough practical man. Character unexceptionable. Salary 60l. per annum, with cottage, &c.—Direct as above.

GARDENER.—Age 32, married, Scotchman; understands the Forcing of Pines, Vines, Melons, and Cucumbers, &c.; the management of Stove and Greenhouse Plants, Flower and Kitchen Gardens. Good character for ability from present employer. — A. H., Strawberry Vale House Lodge, Finchley Common, Middlesex, N.

GARDENER (SINGLE HANDED).—Age 27, married; understands Early Framing, Greenhouse, Kitchen and Flower Gardens, &c., Eight years' good character.—H. B., Elm Lodge, Hampton, Middlesex, S.W.

GARDENER (SECOND or SINGLE-HANDED).—Age 23, single; two years' character.—T. P., William Perry, Thames Ditton, Surrey.

GARDENER (SINGLE-HANDED or SECOND).—Age 23, single; steady, active, and can take charge of Vinery and Conservatory, Kitchen and Flower Gardens. Good character will be given.—G. S. C., Post Office, Lexden, Colchester, Essex.

GARDENER AND BAILIFF.—Age 41, married; practically acquainted with all that relates to Kitchen, Fruit, and Flower Gardens; understands the Management of Sheep, the Planting and care of Young Plantations, Fences, &c., Draining, and the general routine of a gentleman's Estate. Good reference.—D. P., Post Office, Lancaster.

GARDENER, OR GARDENER AND BAILIFF.—Age 30, married; offers his services to any nobleman or gentleman in want of a thorough practical man; has taken Prizes at the various Horticultural Shows for Plants, Fruit, and Vegetables; could also take the management of a Farm or an Estate. Is leaving his present situation in consequence of the break-up of the establishment. Character for sobriety, industry, &c., will bear the strictest investigation. No objection to Ireland or single handed place accepted.—A. Z., 6, Devonshire Terrace, Kingsland Green, London, N.E.

FOREMAN, PROPAGATOR, PLANT GROWER, &c. Understands the routine of a general Nursery.—Long experience.—T. N., 18A, Hemsworth Street, Hoxton.

PROPAGATOR, OR PROPAGATOR AND FOREMAN.—Thoroughly experienced in Grafting and every description of hard and soft-wooded Propagation. Good references.—A., 16, Gatteridge Street, Banbury, Oxon.

WORKING BAILIFF, OR FOREMAN.—Age 30, married, without incumbrance; has had great experience in all branches of Farming. Nine years' good character.—A. B., Post Office, Epsom.

BAILIFF OR WORKING BAILIFF.—Middle-aged, native of Scotland; strong, active, and industrious; understands the Breeding and Rearing of all kinds of Stock. Wife will manage the Dairy and Poultry if required.—A. S. SMITH, Apley, near Ryde, Isle of Wight.

TO LANDED PROPRIETORS AND OTHERS.

STEWARD OR BAILIFF, at Michaelmas next.—Thoroughly acquainted with Norfolk Farming in all its branches, Marketing, Breeding, Rearing Stock, &c. Wife an excellent Dairywoman. Can have eight years' unexceptionable references. — Y., care of F. S. Bircham, Esq., Solicitor, Reepham, Norfolk.

SALESMAN, SHOPMAN, OR PLANTSMAN.—A young Man of gentlemanly business, address, and activity. Salary, with a good knowledge of Plants, and no objection to the Books of an evening. Permanency more an object than salary.—*Cradle*, 1, Wellington Street South, W.C.

SEEDSMAN, OR SEEDSMAN AND CLERK.—A person thoroughly acquainted with every branch of the business, and who can have the best of recommendations.—A. B., Royal Exotic Nursery, King's Road, Chelsea, S.W.

# The Gardeners' Chronicle Newspaper.

*SATURDAY, AUGUST 20, 1859.*

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JOHN MURRAY, Albemarle Street, W.

JAMES ANDREWS, F.H.S., ARTIST TO THE "FLORIST, FRUITIST, AND GARDEN MISCELLANY," 7, West Street, Walworth Road, S., begs to thank Nurserymen, Florists, Seedsmen, &c., for the patronage so liberally bestowed on him the last six years, and to state that he still continues to give Drawings in Water Colours of Flowers, Fruits, and Vegetables, in his usual style of fidelity to Nature.

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A reference expected from unknown correspondents.

GLENNY'S GARDENERS' EVERY-DAY BOOK.—Price 5s.; free by post, 5s. 6d. Containing plain instructions for the cultivation of all classes of Flowers, Fruits, and Vegetables, and for the practical management of every department of Horticulture and Floriculture.

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# News of the Week.

THE first Session of the new Parliament was brought to a close on Saturday by prorogation. The QUEEN'S SPEECH, which was read by commission, referred briefly to the circumstances which had interrupted the usual course of business during the session, and expressed a hope that the important matters thus left incomplete will be taken into earnest consideration at an early period of next session. It referred with satisfaction to the close of the war in Italy, and stated that various overtures have been made to ascertain whether HER MAJESTY will send a Plenipotentiary to a Congress of the great Powers, but that the information necessary to enable her to decide the question has not yet been received. At the same time it announced that HER MAJESTY would "rejoice to find herself able to contribute to the establishment of arrangements calculated to place the general peace on a satisfactory and lasting foundation." The Speech announced the departure of the British Ambassador for Pekin with the view to open direct communication with the Court of China, and congratulated Parliament on the complete restoration of tranquillity of India. It expressed confidence in the continued maintenance of friendly relations with all foreign Powers and States, and concluded by expressing satisfaction at the formation of a naval and permanent system of national defence must at all times be an object of paramount importance."

In the House of Commons on Saturday, before the House was summoned to the Lords for the Prorogation, Lord J. RUSSELL stated that he had received no official information to induce him to alter the opinion he had already expressed that there is no intention on the part either of Austria or of France to attempt to restore the late dynasties of Parma, Modena, and Tuscany by the employment of military force. In answer to Lord ELCHO, Lord PALMERSTON said it was the intention of Government to give every encouragement to the formation of volunteer rifle and artillery corps. Mr. TITE obtained leave to bring in a Bill to amend the Act for the better local management of the metropolis; and Mr. HUTCHINSON obtained leave to bring in a Bill to amend the law regarding Roman Catholic Charitable Trusts.

The EMPEROR OF THE FRENCH has signalised the triumphant entry of the Army of Italy into Paris by granting "a full and entire amnesty to all persons sentenced for political crimes or offences, or those who have been the object of any measures taken for public security;" by rescinding all the "warnings which have been given to the newspapers in France and the colonies;" and by directing the Minister of the Interior, in concert with the Ministers for Foreign Affairs and Algeria and the Colonies, to take the necessary measures to ensure the immediate execution of the amnesty. This act of grace was preceded by a remarkable speech delivered by the EMPEROR on Sunday evening at a banquet given by him to the chiefs of his Italian army. In this address HIS MAJESTY, after expressing his regret at the separation of a force "so well organised and so formidable," thanked the generals for their confidence, and said that it was flattering to him "who had never commanded an army" to meet with such obedience from those who had great experience in war. If success, he said, had crowned their efforts, he was happy to attribute the greater part of it to those able and devoted generals who had rendered his command easy, because, animated with the sacred fire, they had unceasingly given an example of duty and of contempt for death. He entreated them not to forget what they had done together, but to let the recollection of obstacles surmounted, of dangers avoided, of imperfections discovered, recur often to their memory, because "to every warrior past experience is science." HIS MAJESTY concluded by announcing that he was about to distribute a medal to all who took part in the campaign of Italy, and while hoping that it would sometimes recall him to their thought, he trusted that they would say while reading the glorious words engraved on it, "If France has done so much for a friendly people, what would she not do for her own independence."—A despatch from Rome announces the dismissal of Cardinal ANTONELLI from the office of President of the Council, and the appointment of Cardinal DI PIETRI as his successor. The new Tuscan Assembly has unanimously resolved that the dynasty of Lorraine can never be recalled or accepted to reign in Tuscany, and that it is the firm will of the people to form a part of the kingdom of Italy under the constitutional sceptre of the King of SARDINIA. Meanwhile the young GRAND DUKE has arrived in Paris, where, at the EMPEROR'S suggestion, he will remain to see what may transpire; while the French Government is said to have addressed a despatch to the Cabinets of the Great Powers, declaring that the EMPEROR will not assist the Princes of Italy to return to their dominions by force, nor permit Austria or any other Power to afford them military aid for such a purpose.

# Home News.

THE QUEEN'S CRUISE TO THE CHANNEL ISLANDS.—On Friday evening the Queen and Prince Consort embarked in the Victoria and Albert, accompanied by Prince Alfred, Prince Arthur, Princess Alice, and Princess Helena, and attended by Sir G. Cornewall Lewis as Secretary of State. The Royal squadron, consisting of the Victoria and Albert, Fairy, Osborne, Fire Queen, Dasher, and Emerald frigate, weighed

West Channel, bringing up in Yarmouth Roads for the night. At daylight on Saturday morning the squadron proceeded to sea through the Needles passage, and at about 9 A.M. anchored at St. Heliers, Jersey, under a salute from Elizabeth Castle. The bailiff and a deputation from "the States" immediately boarded the Royal yacht, and at 11 the Queen, Prince Consort, and the Royal family landed in boats at the Victoria pier, where they were received by "the States," the military authorities, and a vast concourse of people. After receiving an address presented by the bailiff, the Queen drove through the principal streets and visited the New Victoria College, where she was received by the Principal, Dr. Henderson, the Bishop of Winchester (who happened to be visiting this distant part of his diocess), and the principal inhabitants. In the afternoon her Majesty again landed at St. Aubyn's Bay, and drove across the island by St. Peter's Valley and St. Mary's to the breakwater at St. Catherine's where her Majesty re-embarked and returned to the Royal yacht, which was anchored off Mont Orgueil. The squadron remained at anchor all on Saturday night, and on Sunday morning proceeded to St. Pierre, Guernsey. Her Majesty landed and remained on shore about three hours, visiting the house of the Lieut.-Governor, General Slade, and the fort. Her Majesty was received with the greatest enthusiasm in both the islands. In the evening the squadron proceeded to Alderney, where it anchored for the night, leaving again at an early hour on Monday morning for Osborne, where her Majesty and the Royal family landed at 10 A.M.

THE COURT.—On Thursday week the Grand Duchess Marie and the Princess Marie of Leuchtenberg dined with her Majesty. On Friday afternoon the Queen held a Privy Council at Osborne, at which Parliament was ordered to be prorogued to Thursday, the 27th October, and the Royal Speech for closing the session of Parliament was submitted and approved. General Loven had an audience and presented a letter from the King of Sweden. Count Platen had an audience of her Majesty. Mr. Charles Lennox Wyke was presented on being appointed to a special mission to Nicaragua. Lord John Russell, Viscount Palmerston, the Lord Chancellor, and Earl Granville had audiences of her Majesty. Prince Alfred arrived from Edinburgh. On Monday afternoon the Queen drove out with Prince Leopold and Princess Louisa. The Prince Consort rode on horseback. Earl St. Germans, Lord Steward of the Household, arrived and presented addresses to the Queen, and remained on a visit to her Majesty. Sir G. C. Lewis returned to London. On Tuesday the Queen, accompanied by Prince Alfred, Prince Arthur, and Princess Hohenlohe, drove to Ryde. On Wednesday morning, being the birthday of the Duchess of Kent, the band of the Rifle Brigade played a selection of music on the terrace. In the afternoon her Majesty and the Prince Consort gave their annual dinner and fête to the seamen and marines of the Royal yachts, the detachment of infantry, the Trinity House and Coastguard men stationed at East Cowes, and the labourers and workmen employed at Osborne with their wives. The numbers entertained amounted to nearly 600, for whom dinner was prepared in tents erected on the lawn. After dinner rustic games and races were performed in the presence of the Queen, Prince Consort, and Royal family, the Duchess of Kent, Princess Gauromma of Coorg, and a select company. In the evening the Queen had a musical performance.

THE PRINCE OF WALES went to Glasgow on Monday and inspected some of the factories connected with the production of cotton fabrics. The Prince, accompanied by Colonel Bruce, Dr. Lyon Playfair, and other gentlemen, visited the spinning and weaving factory of Messrs. Scott & Co., at Bridgetown, and spent an hour in inspecting the processes of spinning and weaving, evincing great interest in all that was shown to him. His Royal Highness afterwards went to the extensive works of Messrs. Crum & Co., at Thornliebank, where the chemical processes by which various colours are produced, and the new method of fixing colours by means of albumen and steam were explained to him. The Prince subsequently visited the Royal Exchange and was received with much respect and cordiality by about 3000 gentlemen.

THE GRAND DUKE CONSTANTINE, accompanied by Colonel Greig and suite, paid a private visit to Portsmouth dockyard on Wednesday. His Imperial Highness landed at the Victoria Pier, Portsmouth, from the Ryde packet, and was received by Flag Captain Farquhar, of her Majesty's ship Victory. The Imperial party immediately proceeded in Admiral Bowles's carriages, which were in waiting, to the Admiralty House in the dockyard, from which, accompanied by Admirals Bowles and Grey, Captain Farquhar, and Flag Lieuts. Robinson and Swinburne, the Grand Duke proceeded round the yard, making a minute inspection of the ropery, smiths' shops, steam factory, steam basin, shipping, and the principal points of interest. His Imperial Highness afterwards returned to Ryde by the ordinary packet. The Russian screw frigate Polkane, 44, left Spithead on Saturday evening for the Baltic, calling at Havre. The liner Retvizan, 90, screw, and the 50-gun screw frigate Gromoboi, bearing the flag of Rear-Admiral Istomin, also left Spithead the same evening for the Baltic. The Russian frigate Svetlana remains at the Motherbank in attendance on the Grand Duke Constantine.

Saturday at the official residence of the First Lord of the Treasury in Downing Street. Another Council was held on Wednesday.

MINISTERIAL APPOINTMENT.—The Vice-Presidency of the Board of Trade, vacated by the appointment of Mr. Wilson as Special Commissioner to India, has been conferred on the Right Hon. W. Cowper.

THE PEERAGE.—The *Gazette* of Tuesday contains the official announcement that the Queen has directed letters patent to be passed under the Great Seal, granting the dignity of a Baron of the United Kingdom to the Right Hon. Henry Labouchere, and to the heirs male of his body lawfully begotten, by the title of Baron Taunton, of Taunton, in the county of Somerset.

PARLIAMENTARY MOVEMENTS.—The election for Devonport in the room of Mr. Wilson took place on Wednesday, when Sir Arthur Buller was returned by a majority of 75 over Mr. Ferrand, the numbers being 1189 to 1114. The election for Bodmin, vacant by Dr. Michell's acceptance of the stewardship of the Manor of Northstead, took place on Saturday, when Mr. Wyld was elected without opposition. Mr. Tremayne, High Sheriff of the county, who had come forward in the Conservative interest, and Mr. Murchison, who had offered himself as a Liberal-Conservative, declined to contest the seat on this occasion. There is a vacancy at Liskeard, caused by the appointment of Mr. R. W. Grey to the Commissionership of Customs. Mr. Bernal Osborne is the Liberal candidate for the vacant seat. The election for Hertford took place yesterday, when the Right Hon. W. Cowper was elected by a large majority over Mr. R. Dimsdale, the Conservative candidate. A new writ has been issued for Berwick in the room of Mr. R. A. Earle, who has accepted the Stewardship of the Chiltern Hundreds. There are two candidates in the field, Mr. Richard Hodgson in the Conservative interest, and Mr. Marjoribanks in the Whig interest. There are two candidates for Hull, vacant by the unseating of Mr. Hoare,—Mr. Harvey Lewis in the Liberal interest, and Mr. J. Somes in the Conservative interest. The Pontefract committee have presented their report recommending that Mr. Childers, the petitioner, should if possible be restored to the position in which he stood before the agreement between himself and Mr. Overend relative to the withdrawal of the petition.

THE DEANERY OF RIPON.—Lord Palmerston has conferred the Deanery of Ripon, vacant by the death of the Hon. and Rev. Dr. Erskine, upon the Rev. Thomas Garnier, B.C.L., rector of Trinity Church, Marylebone, and formerly for many years Chaplain to the House of Commons. He is an ardent supporter of the Evangelical party in the Church. The Rectory of Trinity, which becomes vacant by Mr. Garnier's elevation, and is worth 1030*l.* a year, has been conferred by Lord Palmerston upon the Rev. William Cadman, Rector of St. George the Martyr, Southwark, one of the leaders of the Evangelical party, and a most active parochial clergyman.

BOARD OF CUSTOMS.—The Hon. Spring Rice has resigned the office of deputy-chairman of the Board of Customs, on account of ill-health, and has been succeeded by Mr. F. Goulburn, the senior member of the Board. The seat vacant by the promotion of Mr. Goulburn has been conferred on Mr. Ralph William Grey, M.P. for Liskeard.

THE EAST INDIAN ARMY.—The War Department having decided on adopting the proclamation of the Governor-General of India in respect to the East India troops now in England, and giving them an opportunity of either transferring their services to her Majesty or claiming their discharge, Lieut.-Col. Hay, second in command at the East India depôt, Warley, arrived at Chatham on Thursday for the purpose of communicating the intentions of the Government to the East India Sappers and Miners attached to that establishment. The proclamation having been read to them, only 26 out of the 150 men present claimed their discharge, including 3 sergeants, 14 corporals, and 9 Sappers. They were immediately deprived of their arms, and sent to Warley, for the purpose of having their discharge papers made out.

## Foreign.

FRANCE.—The triumphal entry of the troops of the Italian campaign into Paris took place on Sunday in the greatest possible order. The Emperor and his suite marched at their head along the Boulevards from the Bastile to the Place Vendôme amid the acclamations of the crowd, which was immense. The defiling of the troops terminated at 2.30 P.M. The Empress and the Prince Imperial were stationed on the Place Vendôme; and one of the chief incidents of the day occurred when the Prince, who had been vigorously saluting the troops with his miniature sword, was carried by his nurse to the Emperor, who took him in his arms and kissed him, and then placed him before him on the saddle amidst the vociferous cheers of the troops and people. The soldiers bearing the four Austrian flags which had been taken from the enemy were received with ovations. The flags of all those regiments which were torn by balls or by grapeshot excited the population to enthusiastic cheers. In the evening a grand banquet, to which 300 persons were invited, was given by the Emperor to the principal chiefs of the army. At the close of the banquet the Emperor spoke as follows:—

"Gentlemen,—The joy I experience at finding myself again with most of the chiefs of the army of Italy would be complete able. As Sovereign and as Commander-in-Chief, I thank you again for your confidence. It was flattering to me, who had never commanded an army, to find so much obedience on the part of men who had great experience in warfare. If success had crowned our efforts, I am happy to attribute the greater part of it to those skilful and devoted Generals who rendered my command easy, because animated with the sacred fire, they have incessantly given the example of duty and of disregard of death. A portion of our soldiers are about to return to their homes; you yourselves are about to resume the occupations of peace. Nevertheless, do not forget what we have done together. Let the remembrance of obstacles overcome, of dangers eluded, of imperfections discovered be ever present to your mind, for to the warrior past experience is science. In commemoration of the Italian campaign I shall distribute a medal to all who took part in it, and I wish that to-day you may be the first to wear it. May it recall me sometimes to your memory, and while reading the glorious names engraved thereon let each exclaim, 'If France has done so much for a people who is her friend, what would she not do for her own independence?' I propose the health of the army."

The Emperor's *fête* took place on Monday with unusual magnificence, owing to the preceding ceremonies attendant upon the triumphal entry of the Army of Italy. The *Moniteur* has this week published the following important decrees:—

"1. A full and entire amnesty is granted to all persons sentenced for political crimes and offences or those who have been the objects of any measures taken for public security. 2. All the warnings which have been given to the newspapers of France and the Colonies are to be considered as not issued. 3 The Minister of the Interior, in concert with his colleagues the Ministers for Foreign Affairs and Algeria and the Colonies is ordered to take the necessary measures to ensure the immediate execution of the full and entire amnesty granted by the Emperor."

Their Imperial Majesties left St. Cloud on Wednesday for St. Sauveur, where they will remain till the 5th of September, when they will proceed to Biarritz. It is reported in Paris that the Empress is in an interesting condition. Generals Renault, Forey, Thiry, the Prince de la Moskowa, Admiral Tréhouart, Comte de Labedoyère, Baron Paul de Richemont, and Baron de Vincent have been created Senators. The young Grand Duke of Tuscany arrived on Tuesday at Paris. The Emperor gave him a very kind and gracious reception, and invited him to remain for some time at Paris in order to await what events may transpire.

SPAIN.—Accounts from Madrid state that the cholera has broken out in Spain, but up to the 16th inst. was confined to the province of Murcia.

HAMBURG.—On the 11th inst. the citizens of Hamburg, representing all the parishes, voted for the modification of the constitution as proposed by the Senate, which was adopted by a majority of 578 against 153.

BELGIUM.—The public baptism of the Count of Hainault took place on the 9th inst. in the church of St. Gudule, at Brussels, in the presence of the King and Royal family, the Archbishop of Malines officiating. The young Prince received the names of Leopold Ferdinand.

SWEDEN.—The funeral of the late King Oscar I. took place on the 8th inst., the body having laid in state for three days. The coffin was closed on the previous day, and locked by King Charles XV. and the Dukes of East Gothland and Dalecarlia. The ceremony of interment was witnessed by the Queen, the Duchess of East Gothland, and the Princess Eugénie, and by a vast assemblage of the higher ranks. It is computed that the lying-in-state was witnessed by 32,000 persons.

PRUSSIA.—The King of Prussia has rallied from his late attack, and the congestion of blood to the head has been relieved; but there is no expectation that his life can be prolonged. It is understood indeed that the next attack must prove fatal. All the Princes and Ministers have been recalled, and no attempt is made to conceal from the public the near approach of his Majesty's death.

AUSTRIA.—A Ministerial crisis has occurred at Vienna. A special commission, appointed by the Emperor for working out the new Constitution, sits daily. Baron Bach has tendered his resignation because the reforms he proposed were rejected by the Emperor; and it is reported that the new Constitution will be founded on aristocratical and clerical power.

SWITZERLAND.—Accounts from Zurich state that on the 15th the diplomatic corps, the members of the Federal Council, the Government of the Cantons, and the municipality of the town were present at the *Te Deum* in honour of the fête Napoleon. The French Ambassador, M. de Bourqueney, afterwards gave a grand banquet in honour of the day. On the 16th the plenipotentiaries witnessed the opening of the railway to Waldshut. M. de Bourqueney and Count Colloredo afterwards had a conference, and on the following day M. de Bourqueney had a conference with the Sardinian plenipotentiary. It is asserted that the Austrian plenipotentiaries decline to confer direct with the Piedmontese plenipotentiary, who protests against Lombardy being charged with any portion of the Austrian debt. All the plenipotentiaries have accepted the invitation of the Federal Council to visit Berne.

ITALY.—The *Giornale di Roma*, of the 11th, contains the following official announcement of the dismissal of Cardinal Antonelli:—

"The Holy Father, desirous of exonerating the Very Eminent and Very Rev. Cardinal Giacomo Antonelli from the Presidentship of the Council of State, has deprived of force the law of the 10th September, 1850, and his Holiness has deigned to name President of the Council the Very Eminent and Very Rev. Cardinal Camillo di Pietri."

Despatches from Florence of the 16th inst. state that the proposition of Signor Ginori declaring that the dynasty of Lorraine could be neither received nor accepted to reign in Tuscany was agreed to [illegible]

Manzi, Counts Della Gherardesca, Franchesi, Piccolomini, Borghese, and M. Adami then proposed the following resolution, which met with unanimous support:—

"That the assembly declares it to be the firm will of Tuscany to form a strong part of the kingdom of Italy under the constitutional sceptre of King Victor Emmanuel."

The statues of the Emperor Napoleon and King Victor Emmanuel have been placed in the hall of the Deliberative Assembly. General Garibaldi has retired from the Sardinian army and has arrived at Leghorn, having accepted the chief command of all the forces of Central Italy. Letters from Modena of the 16th inst. state that after a solemn service had been performed at the cathedral, at which all the bodies of the State were present, Chevalier Farini opened the National Assembly in the grand hall of the palace amid enthusiastic cheers, and concluded by depositing the powers given him as Dictator in the hands of the deputies. He then urged them to express truly and with that calmness which is the result of right, their wishes for the definitive settlement of the constitution of the country, and in addressing himself to Europe said that they were ready to give to the civilised world all the guarantees of order and peace, on the condition that liberty was assured to them, and that Italy shall belong to the Italians. On the following day Chevalier Farini quitted Modena for Parma and Piacenza to accept the dictatorship offered to him by the municipality. On Sunday afternoon the municipality of Milan inaugurated the statue of Napoleon I. by Canova, in the Palais Brera, in the presence of Marshal Vaillant, the Sardinian authorities, and a large concourse of the people. Music was performed and guns were fired during the ceremony. On Monday a solemn *fête* was celebrated at Milan in honour of the Emperor Napoleon. In the morning a *Te Deum* was performed in the cathedral in the presence of the King, Marshal Vaillant, and other officers, the magistrates, and the national guard. A grand spectacle afterwards took place in the arena, the expenses of which were defrayed by the municipality, and the receipts destined for the wounded. A *déjeûner* was also given by the King to Marshal Vaillant and 100 superior officers of the French army at the Royal palace. His Majesty proposed the health of the Emperor Napoleon, Prince Carignan that of the Empress and the Imperial Prince, General della Marmora that of the French army, and Marshal Vaillant that of the King of Sardinia, concluding his speech with these words:—

"To the Chief of this fine and powerful army, the standards of which were united on the Black Sea and on the plains of the Po with the French eagle, and which on every occasion showed itself as a noble rival of our army! To the heroic King, who holds the ancient and noble sword of the house of Savoy, who made it shine with great lustre in the sun of Palestro and Solferino!"

The King returned to Turin on Wednesday evening, and was welcomed with loud cheers by a large crowd which assembled at the railway station. General Ulloa has sent in his resignation, which has been accepted. Advices from Naples to the 14th inst. state that the remaining Swiss soldiers having refused to comply with the new regulations, the Government has ordered the Foreign Legion to be disbanded.

Ionian Islands.—Sir Henry Storks, the Lord High Commissioner, has issued the following characteristic notification:—

"The Lord High Commissioner has received during the last three months several anonymous letters. His Excellency hopes that it is unnecessary for him to declare his abhorrence of a practice at once unmanly and cowardly. His Excellency requests that this system of moral assassination may cease, and desires it to be distinctly understood that for the future every anonymous communication will be returned to the post office whence it came, with instructions to the postmaster to place it in a conspicuous part of the office, in order that the writer may reclaim it, if he thinks proper to do so. If any person has any charges to bring against individuals, or any complaints to make for the Lord High Commissioner's consideration, they must be preferred openly and substantiated in person. His Excellency would remind the writers of anonymous letters that they are not living under the Venetian Republic, and that the 'lion's mouth' is not a national institution."

Turkey.—Advices from Constantinople to the 10th inst. state that since the Sultan's return he has given M. de Thouvenel, the French Ambassador, a most gracious reception. Sir Henry Bulwer has given an explanation respecting the British squadron having been at Alexandria—namely, that it was there in honour of the contemplated visit of the Sultan. Disturbances have taken place in Candia, and some gendarmes have been strangled and put to death. The Czar has presented the Sultan with the decoration of the Order of St. Andrew in diamonds, valued at 1,000,000 piastres, in acknowledgment of the reception recently given to Grand Duke Constantine.

India.—A telegraphic despatch was received yesterday in anticipation of the Calcutta mail of the 16th ult. About 5000 of the local European force in Bengal and the provinces have their discharge; only one man of the 5th Europeans at Berhampore remains under arrest. New duties on stamps, receipts, and bank notes have been proposed in Council. The King of Oude has been released. The New Five and a Half per Cent. Loan was from 5¼ to 5½ discount.

United States.—Mr. Buchanan has addressed a letter to the papers, stating his determination not to allow himself to be put in nomination for re-election to the Presidency. Mr. Richard Rush, who was American Minister to the English Court from the latter part of 1817 to the summer of 1825, died on the 1st inst. at Philadelphia, having nearly completed his 79th year. He had been honoured with a grand banquet at New York. It is stated that John Mitchell (the Irish exile) was about to discontinue publishing his pro-slavery journal, and pay a visit to Europe.—Virginia Stewart, the woman shot by Mr. Robert C. Macdonald on the steps of the Brandreth Hotel, New York, has died, and the jury at the inquest returned a verdict that she came to her death "by a pistol-shot wound at the hands of R. C. Macdonald on the 23d July."

Canada.—A case of abduction by the Roman Catholic priests, in which a young lady was inveigled from her parents into a convent, where she was kept concealed, has caused great excitement throughout Canada. The young lady was the daughter of the Hon. Leander Starr, and was educated in France, where an attempt was first made to pervert her from the Protestant faith, in which she had been carefully trained. About two months ago she was missed one morning, and in her bedroom was found a note stating that she had felt it her duty to God to leave her parents in such religious peace in conventual life. Her father at once commenced a search. The Roman Catholic bishop of Montreal gave him leave to search the convents, but the search was unavailing. In two or three days another letter came from Miss Starr stating that she was happily placed in a convent where she could forget the world. The bereaved father prosecuted the search for his lost child for six weeks in all parts of the colony, and was at last successful. The daughter was discovered in a convent in Toledo into which her father gained entrance by a stratagem—much wasted away by sickness and ardently wishing to return to her parents. Proceedings at law are to be taken against four individuals—one being the Rev. Professor of the Seminary of Montreal, who, in a letter to the press, explains his part in the transaction, glorying in what he did, and stating his willingness to repeat the experiment.

West Indies.—The reports received by the Trent state that the Paramatta was still on the reef on the 19th July, but hopes were entertained that she would eventually be got off. A proposition, assented to by the Governor of Jamaica, to introduce a portion of the black population from the Southern States of America, at present resident in Canada, has not been favourably received by the planting body.

Mexico.—Accounts from the city of Mexico to the 19th July state that Miramon had issued a manifesto in which he promises to protect the clergy in their power and wealth, favours the plan of a dictatorial government, and declares it to be the established policy of Mexico to guard against the encroachments of the United States.

# Parliament.

## HOUSE OF LORDS.

Saturday.—The *Prorogation*.—The *Royal Assent* having been given by commission to the Income-Tax Bill, the Consolidated Fund (Appropriation) bill, the Stamp Duties Bill, and a number of other public and private bills, the House of Commons was summoned to the bar, when the Lord Chancellor then read the *Queen's Speech*, as follows:—

"My Lords and Gentlemen,

"We are commanded by her Majesty to release you from further attendance in Parliament, and at the same time to convey to you her Majesty's warm acknowledgment for the zeal and assiduity with which you have applied yourselves to the performance of your duties during the session, if Parliament now about to close.

"Various circumstances which occurred after the termination of the last session of Parliament prevented the completion of important matters which her Majesty pointed out to the attention of her Parliament in the beginning of the present year: but her Majesty trusts that those matters will be taken into your earliest consideration, at an early period of the next session.

"The war which has broken out in Northern Italy having been brought to a close by the Peace of Villafranca, various overtures have been made to her Majesty with a view to ascertain whether, if conferences should be held by the great Powers of Europe for the purpose of settling arrangements connected with the present state and future condition of Italy, a plenipotentiary would be sent by her Majesty to assist at such conferences, but her Majesty has not yet received the information necessary to enable her Majesty to decide whether she may think fit to take part in any such negotiations.

"Her Majesty would rejoice to find herself able to contribute to the establishment of arrangements calculated to place the general peace on a satisfactory and lasting foundation.

"Her Majesty, in accordance with the stipulations of the Treaty of Tientsing, has instructed her Plenipotentiary in China to repair to the Imperial Court at Pekin, and her Majesty trusts that such direct communication with the Imperial Government will have a beneficial effect upon the relations between the two countries.

"Her Majesty commands us to inform you that she looks forward with confidence to the continued maintenance of those friendly relations which so happily subsist between her Majesty and all foreign Powers and States.

"Her Majesty is glad to be able to congratulate you on the complete restoration of tranquillity in her Indian territories. It will be her earnest endeavour to promote their internal improvement, and to obliterate the traces of those conflicts which her Majesty witnessed with such deep concern.

"The financial arrangements of that portion of her Majesty's empire will continue to engage her Majesty's earnest attention.

"Her Majesty has had much satisfaction in giving her assent to the Bills which you presented to her for the formation of a naval and military reserve force. A complete and permanent system of national defence must at all times be an object of paramount importance.

"Gentlemen of the House of Commons,

"Her Majesty commands us to convey to you her cordial thanks for the readiness and zeal with which you have provided the necessary supplies for the service of the year.

"My Lords and Gentlemen,

"Her Majesty commands us to express to you her heartfelt gratification at witnessing the general well-being and contentment which prevail throughout her dominions. The happiness of her Majesty's people is the object dearest to her heart.

"In returning to your respective counties you will have [illegible]

[illegible] great ends and her Majesty fervently prays that the Great Head of All things may attend your exertions for the welfare of those realms for the maintenance of which Her Majesty's subjects."

The Commission for proroguing Parliament was next read, after which the Lord Chancellor declared Parliament to be prorogued until the 31st October.

## HOUSE OF COMMONS.

Friday.—*The Slave Trade*.—Mr. Cardwell moved a resolution expressing the respect of the House for the humane manner in which the King of Portugal and the Emperor of the French have acted in connection with the slave trade.—Mr. Layard seconded the motion.—After a few remarks from Mr. Cave, Sir G. Grey congratulated the House on being the last day of the session, and the House being of the same opinion should not proceed. The motion was withdrawn.—Mr. Bagge was elected a director of the Chelsea Waterworks Company, in the room of Mr. S. E. S. Freeling, resigned. Mr. Charles Cave Jones was appointed by the board of guardians, when the House was counted out.

Saturday.—*Pontefract Election*.—Mr. Wortley called attention to the report of the Pontefract Election Committee, and especially to Mr. Childers (the petitioner against his return) and resigning his seat on the ground that the borough was [illegible].—Mr. Gilpin presented a petition from the borough of Sudbury, praying the House should enforce and make the law more stringent for the prevention of bribery at elections.—Mr. Bouverie moved the second reading of the Divorce Bill.—Sir G. Grey said he did not think the House had any jurisdiction in the matter. The only person who could oppose the bill was Mr. Cresswell, who could either refer the matter to an arbitrator and abide by the award, or accept the Chancellor's proposal and leave the question in dispute to be decided by the Ecclesiastical Courts.—Mr. Malins moved the second reading of the Divorce and Matrimonial Causes Bill.—Sir J. Pakington suggested that the proper course would be to take the opinion of the Judges on the matter.—Mr. Cresswell said he was most desirous that Mr. Cresswell should be placed in the same position by which he was before the petition was withdrawn. And by that course he would be willing to settle the question.—Sir J. Pakington and Sir G. Grey [illegible] that the bill should be withdrawn, and that Mr. Cresswell should be left to his remedy in the Ecclesiastical Courts.—Mr. Malins and Mr. J. Evans expressed their opinion that the House had no power to withdraw the order for the second reading of the bill.—Lord J. Russell [illegible] Mr. Cresswell's proposition, which was then withdrawn.—Mr. Malins moved the second reading of the bill.—Mr. Wortley and Mr. J. Evans opposed the motion.—Mr. Cresswell [illegible] the House had no power to withdraw the order for the second reading of the petition.—Lord J. Russell [illegible] Mr. Cresswell's proposition, which was withdrawn.—Mr. Malins moved the second reading of the bill.—Mr. Wortley and Mr. J. Evans opposed the motion

## Bank of England.

ISSUE DEPARTMENT.

| | | | |
|---|---|---|---|
| Notes Issued .. .. .. | £30,859,605 | Government Debt .. .. | £11,015,100 |
| | | Other Securities .. .. | 3,459,900 |
| | | Gold Coin and Bullion .. | 16,384,605 |
| | | Silver Bullion. .. .. .. | |
| | £30,859,605 | | £30,859,605 |

BANKING DEPARTMENT

| | | | |
|---|---|---|---|
| Proprietors' Capital.. .. | £14,553,000 | Government Securities (including Dead Weight Annuity) .. .. .. .. | £11,209,668 |
| Rest .. .. .. .. .. | 3,440,262 | Other Securities .. .. | 18,291,096 |
| Public Deposits (including Exchequer, Savings Banks, Commissioners of Nat. Debt, and Dividend Accts.) .. .. .. | 6,229,336 | Notes .. .. .. .. .. | 9,183,485 |
| Other Deposits .. .. .. | 14,240,460 | Gold and Silver Coin .. | 624,542 |
| Seven day and other bills | 845,733 | | |
| | £39,308,791 | | £39,308,791 |

15th day of August, 1859. M. MARSHALL, Chief Cashier.

## Gazette of the Week.

TUESDAY — BANKRUPTS—J. CLAYTON and B. LOCKWOOD, Rastrick, Yorkshire, Silk Spinners—F. CROCKFORD, St. James's Street, Commission Agent—J. CUTMORE, Ware, Broker and Furniture Dealer—E. and H. FRANCE, Linthwaite, Yorkshire, Woollen Manufacturers—A. HINCHLIFFE, Sheffield, Printer—W. HYDE, Liverpool, Shipbroker—B. A. MANHEIM, Fore Street, Cripplegate, Boot and Shoe Manufacturer—T. PETERS, Cambridge, Tailor—W. PRESSY, Luton, Printer.

BANKRUPTCIES ANNULLED—S. FARNAN, Mincing Lane, Colonial Broker—S. LONGDEN, Chesterfield, Grocer.

SCOTCH SEQUESTRATIONS—G. MACKAY, Keith, Ironmonger—T. QUEENAN, Perth, Grocer—W. RITCHIE, Glasgow, Wine and Spirit Merchant

FRIDAY—BANKRUPTS—L. COBB, Liverpool, Eating House Keeper—C. E. DAVIES, Gainsborough, Spirit Merchant—C. T. INGRAM, Fenchurch Street, Oil Merchant—W. LINDOP, Newcastle-under-Lyme, Brush Manufacturer—H. STUREMBURG and W. GOLDENSTEDT, Liverpool, Ship Brokers—A. WEINTHAL, Cannon Street, Warehouseman.

SCOTCH SEQUESTRATIONS—W. BUCHANAN, Glasgow, Merchant—J. MACDONALD, Dingwall, Grocer and Spirit Dealer—A. ROXBURGH, Bowling, Dunbarshire, Pattern Drawer.

## Metropolis and its Vicinity.

NEW FOREIGN OFFICE.—On Wednesday a deputation of architects waited on Lord Palmerston by appointment to protest against the adoption of the Gothic style for the Foreign Office. The gentlemen present were Messrs. Banks, Barry, Bell, Broderick (Leeds), Clifton, Cockerell, R.A., Donaldson, Falkener, C. Fowler, jun., H. B. Garling, P'Anson, Kerr, Lamb, Low, Mee, J. W. Papworth, Scoles, Smirke, A.R.A., Thomson, and Watson, with communications of assent to the proposed step from Messrs. Ashpitel, Bellamy, Coles, Davies, Hesketh, Owen Jones, Penrose, Walters (Manchester), and many others. The deputation was introduced by Mr. Tite, M.P., who addressed his lordship at some length, and was followed by Mr. Smirke, Professor Donaldson, Mr. Coningham, M.P., Mr. Lamb, Mr. Kerr, and Mr. Watson. Lord Palmerston in reply said—

"He was glad to receive the assurance that trained men of science and judgment approved the course which he had felt it his duty to pursue. He could excuse the mania in some quarters for building Gothic habitations in the country, by recollecting that those might be prompted by the vicinity of the Elizabethan manor-house, which itself was the successor of the Gothic castle. But in regard to those building Gothic habitations in town, he felt that there were people who had notions which were totally out of date. A public office was, in fact, the habitation of the chief and his staff during the day, and he knew of no style so suitable to an English habitation as the horizontal, or classic, or Italian, or whatever name its branches might have gained. A public building ought to be handsome externally, while convenient in the interior; and the style which he preferred undeniably gave buildings which combined those qualities. He believed that in the erection of a handsome building the style that he preferred allowed a reasonable economy to be observed internally; the contrary, with regard to Gothic, had been practically taught him at Westminster and elsewhere. He felt that he had only to repeat the statement made on a previous occasion, viz., that he had so strong an objection to the Gothic style for the present purpose that he should think it his duty, in office or otherwise, to protest against the erection of a building different from that which he saw gave him such grounds for selection; he could say, in short, that his mind was determined not to have Gothic, but Italian."

ST. PAUL'S CATHEDRAL.—The Bishop of London has appointed the Rev. Thomas Ainger, Vicar of Hampstead, to the Prebendal Stall in St. Paul's Cathedral, vacant by the death of the Rev. A. M. Campbell, incumbent of Paddington.

MR. SPURGEON'S NEW TABERNACLE.—The foundation stone of this long talked of building was laid on Tuesday in the presence of about 3000 spectators. The spot selected for the site of "the Tabernacle" is at the corner of the Newington Road, facing the Elephant and Castle, and at right angles with the large building which has recently been erected as a horse repository. The ground was formerly occupied by the almshouses belonging to the Fishmongers Company. The building is to be in the Grecian style, the portico and main entrance abutting on the Newington Road. The ground plan is to form a large quadrangle, the floor of the chapel being considerably raised, and access gained to it by a broad and massive flight of steps leading up to a portico supported on large Corinthian columns of Bute stone. The total width of the building will be 86 feet, the length 195 feet, and the height to the roof 85 feet, exclusive of the lanterns for light and ventilation. The floor will be raised 14 feet above the level of the ground, and the whole of this extensive basement will be entirely occupied by school and lecture rooms, the chief school being 81 feet by 78, and about 15 high. In addition to this there will be a lecture room, 81 feet by 56, and capable of accommodating 800 persons, with four separate class rooms, each 14 feet long by 26 feet wide. The chapel, which is over these schools, will be 146 feet long by 81 wide, and with two deep tiers of galleries on either side. In this respect the interior will rather resemble that of the Surrey Music-hall, but on a larger scale, as each row of galleries in Mr. Spurgeon's building will accommodate six rows of sitters. The ground-floor space of the Surrey Hall is only 8625 feet, whereas the proposed Tabernacle on the ground floor will be no less than [illegible] feet, or one-third larger than the structure in accommodate 5800 persons with comfort. The fronts of the galleries will be of ornamental cast-iron, with enriched cast-iron columns supporting the galleries and rising from the upper tier to the roof, which they will carry on a series of small arches. Though no great efforts have been made in the way of ornamentation, the proportions of the interior are good, and the effect of the whole when finished will be handsome and striking. The facilities for entering and leaving the building are most ample, there being no less than 16 doors to the chapel. Each gallery has its separate door and staircase, and all the staircases are of solid stone. The cost of the building is to be 21,500*l*., but fittings and other matters will probably swell this amount to 25,000*l*. before the edifice is opened for Divine service, which can hardly be earlier than the spring of 1861. Of course, like all other buildings, it is affected by the present strike, and no progress can be made till masters and workmen have settled their dispute one way or the other. The ceremony of Tuesday differed in no respect from other ceremonies of the same kind, except in the display of banners bearing scriptural sentences. Stretched between the poles which supported the foundation stone was a strip of pink calico, on which laurel leaves were loosely sewn in the form of the words, "Christ is the corner stone." Immediately beneath this were two or three boughs of evergreens covering another strip of white calico, with the inscription, "You are truly welcome." Another huge blue banner bore the inscription in letters of silver, "Spurgeon must have room to preach, and thousands to hear;" and by its side, in the same style of decoration, was one bearing the words, "Accept, O Lord, the free-will offerings of our hands;" and between these two was the word, "Aid," in large letters of silver upon blue ground. Other banners were inscribed, "Let us build," and "Behold, I lay in Zion a stone, a tried stone, a sure foundation stone," &c. Most of the visitors were in their places by 2 o'clock, at which time Sir S. M. Peto, accompanied by Mr. Spurgeon, Mr. John Spurgeon and other ministers connected with the Baptist persuasion, ascended to the platform. The Old Hundredth Psalm having been sung and a prayer said by Mr. Spurgeon, a very long document, called a Statement of the Deacons, was read. This statement gave a sketch of the pastors and antecedents of the Baptist persuasion in Southwark from the year 1652, entering at considerable length into an account of the lives of the chief pastors down to the ministry of Mr. Spurgeon. At the conclusion of this statement Sir S. M. Peto proceeded to lay the stone, underneath which Mr. Spurgeon placed a bottle, containing a copy of the Bible, of the Baptist's Catechism, of Dr. Ripon's Hymn Book, and the programme of the day's proceedings, in the cavity prepared for it. When these formalities had been gone through the stone was slowly lowered into its place, and Sir S. M. Peto addressed the spectators at great length, expressing his satisfaction that the building would be "something of a cathedral to his denomination," and that "though strictly denominational it would be in no respect sectarian." Mr. Spurgeon and Mr. Dowson then delivered brief addresses explanatory of the doctrines of the Baptists and of the objects they were met to carry out, after which a hymn was sung and the avenues leading to the platform were thrown open for all to see the stone, on which it was earnestly hoped the friends of the cause would place an offering as they passed by. This appeal was most liberally responded to, the amount collected showing beyond a doubt that there was no lukewarmness on the part of the supporters of the proposed edifice. A friend at Bristol, through Mr. E. T. Inskip, placed on the stone a cheque for the munificent sum of 3000*l*. Mr. Inskip, while placing this contribution on the stone, stated that if 40 gentlemen could be found to give 50*l*. each, or 20 to give 100*l*., his friend would undertake to double the total amount. On the spot several gentlemen immediately accepted this challenge amid much cheering. Mr. Spurgeon himself laid down 100*l*., Mr. Passmore 50*l*., Mr. Morgan 50*l*., and Mr. James Low 147*l*. In addition to these there were many sums of 5*l*., 10*l*., 20*l*., and 25*l*., the total amount given being between 4000*l*. and 5000*l*. In the evening a large number of Mr. Spurgeon's congregation assembled in the galleries over the late horse repository at a tea meeting. Later in the evening a public meeting was held in the same place under the presidency of the Lord Mayor, when the objects and usefulness of the Tabernacle were pointed out by various speakers, and a liberal collection towards the expenses of the building was made at the close of the proceedings.

THE BUILDERS' STRIKE.—Up to the present moment there appears to be no immediate prospect of bringing the existing differences between the employers and their workmen to a satisfactory settlement, though several of the smaller masters have opened their shops unconditionally, both as regards signing the document and making a declaration. In the meantime both the Central Association of Master Builders and the United Conference of the Building Trades have entered upon a paper war, and it is to be feared that certain expressions have been used upon both sides which will tend to infuse into future discussions an amount of irritation by the absence of which the struggle hitherto has been singularly characterised. On Tuesday afternoon the Central Association held a meeting at the Freemasons' Tavern, over which Mr. G. Plucknett presided. The result of the proceedings, which lasted three hours and a half, and were conducted with closed doors, was an unanimous determination to adhere to the original reso- lope's works be resumed, the members of the Central Association decline to open their establishments. It was stated that there had not been at any time any wavering from this determination, and that the resolve to adhere to the declaration is as strong as when it was first proposed. In the evening a delegate meeting from the various trades of the metropolis was held at Shaftesbury Hall, Aldersgate Street, for the purpose of taking into consideration the best means to be adopted in consequence of the peculiar position in which the men were placed "by their employers locking them out." Among the delegates present were those representing the Ship-makers of the Port of London, the Block-coopers, Smiths, Tailors' Labour Agency, Silver Spoonmakers' Society, Tin Plate Workers, French Polishers, Cabinet-makers, Cork-cutters, Second Society of City Shoemakers, Bootmakers, West-end Ladies' Shoemakers, Pattern-Boilermakers, London Society of Compositors, Executive Council of the Amalgamated Engineers, Bookbinders, Umbrella and Parasol Weavers, Boot and Shoemakers, Masons' Society, Joiners and Carpenters, Plasterers, and other branches of the building trades and labourers. After some discussion the Chairman said that as at present advised the men would not return to work at Messrs. Trollope's unless the nine hours were conceded. They were on strike for that movement and they must have it. Mr. W. [illegible] (Secretary to the Amalgamated Engineers) then moved a resolution declaring the opinion of the meeting that the trades of the United Kingdom are in duty bound to support the Building Trades in the present struggle. Upon this Mr. Edwards, from the Tailors' Labour Agency, moved an amendment, recommending that the claim on the part of the men for nine hours' labour, instead of 10, be laid aside, in the hope that it may hereafter be amicably and satisfactorily adjusted, and that a deputation be appointed to wait on the Committee of Master Builders and respectfully urge upon them the immediate withdrawal of the offensive document. This amendment was received with hisses, and, not meeting with a seconder, the original resolution was carried unanimously. The meeting then adjourned for a week.

THE GREAT EASTERN.—It is announced that the Great Eastern is to leave the Thames for the New-land, the 3d of September, and will proceed thence to Portland, Dorsetshire, from which place she will make a trial trip on the 8th, to a distance, probably, of 600 miles. The trip will probably be extended to two days, and a limited number of first-class passengers will be taken by special arrangement. It is also announced that the ship will leave Portland, Dorsetshire, for Portland, United States, on or about the 15th of September, and that first-class passengers will be taken at fares ranging from 18*l*. to 35*l*. Mr. Charles Capper, the manager of the Victoria Docks, has made a proposal on behalf of Mr. Lever, M.P., to charter the Great Eastern for a voyage out and home—that is, from some safe port in Great Britain to some safe port in North America for the sum of 20,000*l*., the ship to be provided with accommodation for 3000 passengers, and to steam 14 knots an hour upon the trial trip. The directors, however, have declined the offer.

THE NEW STREET INTO COVENT GARDEN.—On Tuesday the new street in continuation of Bedford Street, Strand, was opened into Tavistock Street, Covent Garden. In the centre of the street, at Southampton Street, a bar is erected, showing the boundary of the Duke of Bedford's estate.

FOUNDERING OF THE BLENHEIM INDIAMAN.—On Saturday the news reached Lloyd's of the loss of the ship Blenheim, Captain Headley, in the Bay of Bengal, with the loss of her commander, second officer, and 20 of her crew. The Blenheim was one of the fine fleet of Indiamen owned by Messrs. Duncan Dunbar & Sons, of Limehouse, and was about 700 tons register. She was on her return voyage, and left Akyab on the 1st June for Calcutta. On the 16th she encountered a fearful gale, and as it became apparent she must founder the captain and crew took to the boats. They had scarcely done so when the ship went down. One boat succeeded in sighting land, and one boat reached the island of Rawree; the other was swamped in the surf which swept the beach, and the captain, first mate, boatswain, cook, and nine men perished.

THE HYDE PARK CORNER INDICATOR.—At the meeting of the Board of Works of St. George's Hanover Square, an application was received from M. Guerin asking permission to remove the indicator from the site it now occupies near Apsley House to the spot occupied by the obelisk at Hyde Park Corner, in order to allay the angry feelings of the Duke of Wellington. M. Guerin and Mr. Ponsonby were called in, and informed that as the Board had not received an answer from the Home Office on the subject, they could not decide on the application, but that it would be brought before the vestry.

BRIDEWELL BURIAL-GROUND.—At a recent meeting of the City Commissioners of Sewers Dr. Letheby, the medical officer of health, called attention to an application which was then making by the lessee of the property to build over the burial-ground behind Bridewell Hospital in New Bridge Street, Blackfriars, which for more than 250 years has been used as the parish burial-ground for the precincts. Dr. Letheby stated that the inhabitants of one of the neighbouring courts had been decimated with fever since the ground had been disturbed, and that there would be great danger to [illegible]

consequence probably of this report the *Gazette* of Tuesday last contains an order in Council directing "that the whole of the rubbish, building materials, &c., which have been deposited in the burial-ground of the precinct of Bridewell, Blackfriars, be completely removed under suitable supervision, care being taken not to disturb or damage the head or foot stones or tombs; that the whole surface of the ground be levelled with the exception of the tombs and gravestones, and be covered with a layer of fresh earth of the thickness of at least a foot; also that the surface be sowed with grass seed, and the vegetation be maintained in a proper state, and the surface never disturbed."

Polytechnic Institution.—A public meeting was held a few days since at Willis's Rooms, to consider the propriety of founding a company to continue the advantages which the Polytechnic Institution has conferred upon science and education. The Earl of Shaftesbury occupied the chair. The report stated that as the old company had expended the whole of their capital of 35,488*l.* on the building and plant, they were unable to maintain their position when called upon to defray the legal consequences of the accident which occurred on the 3d January last. It therefore became necessary to sell off their plant and wind up their affairs. However, to prevent an occurrence which would entail the loss of those advantages which the Polytechnic Institution had hitherto afforded the public, it became desirable to organise a new company, under the Limited Liability Act, to buy up the concern and continue the lectures, &c. Looking to the receipts of the old company, there was every reason to think that the returns would amply remunerate those who would embark their money in the undertaking, especially as, instead of a capital of 35,000*l.*, the capital of the new company would be only 20,000*l.*, with 14,000*l.* called up. In the first place, there would be a reduction in the amount of rent to the extent of 392*l.* per annum, and, exclusive of diving-bell fees and the fees for other extraordinary entertainments, it was calculated that, after paying all expenses, there would be a surplus of 830*l.* upon the year, equivalent to a dividend of 6 per cent. It was also arranged that the shareholders should have the right of free admission to the lectures, &c. After an address from the chairman in the spirit of this report, it was moved by Mr. R. Hanbury, seconded by Mr. A. Haldane, that it was expedient that a public institution like the Polytechnic should exist and be maintained in the metropolis. The meeting was also addressed by Lord Raynham, Mr. Joseph Payne, Mr. Harwood, Mr. S. Gurney, M.P., &c., and a committee was appointed to carry out the views of the meeting. It is stated that 429 shares of 10*l.* each have already been taken, and donations received to the extent of 345*l.*

Chelsea Hospital.—A graceful tribute has recently been paid by the Queen to the memory of the officers and crew who perished in the Birkenhead troop-ship. Her Majesty, desirous of recording her admiration of the heroic conduct and discipline shown on board that vessel, has caused a tablet to be placed on the colonnade at Chelsea Hospital in commemoration of the event. A tablet has also been erected by command of her Majesty to the memory of Lieut.-Colonel Willoughby Moore, who perished in the Europa.

Destruction of Walton Bridge.—On Thursday the 11th at half-past 5 in the morning, the bridge leading from Walton to Halliford was observed to be cracking across the highway of the bridge over the centre arch, and the crack kept increasing so much as to allow parts to fall into the river, and so it remained dropping bit by bit until 12 o'clock, when the arch fell with a violent crash into the bed of river. In a short time after the other arch fell also with the same violence, without injury to any person or property. The noise, which was heard a considerable distance from the bridge, was like an explosion. This bridge was built in 1750, and consequently is 109 years old. There is now only communication by boards across the river. The bridge belongs to a private person, and is rented by the toll-collector.

**Murder and Suicide at Ball's Pond.**—On Wednesday afternoon Mr. Wakley resumed and concluded an adjourned inquest on the body of Miss Elizabeth Freshfield, daughter of the Mayor of Harwich, who died on the 7th inst. under very painful circumstances. It appeared from the evidence that the deceased lady and a young medical man called Clement John Carnell took apartments in the name of Mr. and Mrs. Webster at No. 65, Mildmay Terrace on the 1st inst., and that on the morning of the Sunday following she died in the presence of two medical men from the effects of frightful lacerations, produced by instruments which had been used in an attempt to procure abortion. On the fact of her death being communicated to her supposed husband, the unfortunate man rushed out into the garden, and, after groaning and running about in a frantic manner, cut his throat with a razor, and fell dead in the presence of the landlord, who in vain endeavoured to prevent him from committing suicide. The inquest was opened last week on the bodies of both persons, and in the case of the young man a verdict was returned that he destroyed himself while in a state of temporary insanity. In the case of Miss Freshfield the inquiry was adjourned for the purpose, if possible, of discovering the instruments which had caused her death. The search instituted was however ineffectual; and on Wednesday, after hearing some letters read which proved that the deceased lady had been taking medicine under the guidance of Carnell, the jury returned a verdict of Wilful Murder against him.

weekly return states that the deaths in the week ended Saturday, August 13, were 1296. In the corresponding weeks of the 10 years 1849-58 the average number was 1241; which, if raised in proportion to the increase of population, will become 1365. The present return is therefore 69 below the calculated average, but as two of the weeks in 1849 and 1854 on which the calculation is based were weeks in which cholera was epidemic, the return shows that the public health is far from being in a satisfactory condition. During the week the births of 907 boys and 855 girls, in all 1762 children, were registered in London. In the 10 corresponding weeks of the years 1849-58 the average number was 1500.

## Provincial.

Bath.—At the Wells assizes last week Lieut.-Colonel John Alexander Forbes, formerly of the 93d Highlanders, was called upon to surrender and take his trial on a charge of sending an obscene letter to Miss Lucy Adelaide Fenton of this city. The colonel did not appear, and his recognisances, and those of his surety (Mr. Frederick Morris, of Bath), of 100*l.* each, were ordered to be estreated. On the application of the prosecution, a warrant was granted for the apprehension of Colonel Forbes; and Mr. Justice Crompton said that the libel was not only degrading to an officer and a gentleman, but to a human being, and that magistrates should be extremely particular in admitting to bail persons charged with so atrocious an offence, and should take care to have such bail as would ensure the appearance of the party charged. It is said that the accused has gone to France. The Bath police have offered a reward of 50*l.* for his apprehension.

Carlisle.—The Archæological Institute has just held its annual congress in this city. The papers read were long and interesting, including one by Mr. Cory on the churches of Cumberland, a lecture by Mr. Newton on the discoveries at Boudroum, a paper by Mr. Hugh M'Kie on ancient remains discovered in the sewers of Carlisle, one on Holme Cultram Abbey by Rev. J. Simpson, and several others too numerous to be specified. Excursions were made by the archæologists to Aydon Castle, near Carbridge; to Corby Castle, the seat of Mr. P. H. Howard, who entertained the company with old English hospitality; and to Brougham Hall, near Penrith.

Cheltenham.—The 12th day's sale of Lord Northwick's collection on Friday comprised the finest collection of our modern artists ever offered for public competition in a single day, and the produce of the sale exceeded 16,500*l.*, making the total receipts of the 12 days, 67,300*l.* On Tuesday the sale of the Camei and Intagli, rings, bronzes, and works of art commenced; the amount of the day's sale being 1036*l.* On Wednesday the sale of gems and bronzes was continued, the day's sale realising 910*l.* On Thursday the sale of the very valuable pictures now adorning the walls of the principal gallery commenced, and as usual excited a great interest, the day's sale realising 5300*l.*—The *Toronto Leader* gives the following account of Dr. Humphreys, who abandoned his wife and family at Cheltenham, and ran away from his creditors to Canada, but it is in error in calling him "reverend," as he was not in orders:—

"When the doctor arrived here he made application to a gentleman high in position in the educational institutions of the country for a tutorship, but none was vacant; and, whether the person applied to had been previously acquainted with the doctor or not we are not aware; but, after some conversation between them, the whole story of Dr Humphreys's flight and his seduction of a confiding wife was revealed. A correspondence ensued, in which the lady (Mrs Cummings) took part, declaring in a true romantic spirit her attachment to her new 'affinity,' and relating in tender strains the many sad and heartrending days she had spent before her wishes in this respect were consummated. She loved him, she affirmed, as she had never loved another, and nothing but death should part them. On Thursday morning, Sergeant Major Ferris, who had been employed in watching the parties implicated in this affair, having reason to believe they would visit the normal school during the day, to witness the model school examinations, accompanied by two or three persons, came with Mr. Cock, a cousin of Mrs Cummings, who arrived here from England not many days since; the latter took the precaution to retire into a private room in the building, lest he might be seen by Humphreys. But the sergeant-major took up his station near the main entrance to the building, with a photographic likeness of the reverend delinquent in his hand, and waited there till nearly 3 o'clock in the afternoon, when he descried a person resembling the photograph enter the ground. Dr Humphreys, for it was he, walked into the building, and having looked around a little, took his seat quite comfortably in the theatre, where the prizes were being distributed. Sergeant-Major Ferris then communicated with Mr Cock and the other persons in waiting, and two of them went forward into the theatre at once, and served Humphreys with citations from the High Court of Divorce, England. Humphreys' dismay at this unexpected turn of affairs may be more easily imagined than described. There was nothing for it, however, but to submit; and as soon as he recovered his equanimity he left the building with the parties coming in search of him, and proceeded with them to his lodgings, Mutual Street, where he occupies two rooms. Here the lady was confronted with her paramour by Mr. Cock, her relative, and was also served with a citation from the English Divorce Court. In the course of the same evening the man watching Humphreys and Mrs. Cummings saw them take a cab and drive to the Rossin House. Fearing they proposed leaving town, Sergeant-Major Ferris was requested to follow them in another cab, and he did so. They drove round the suburbs of the city for about an hour and a half, followed at a cautious distance by the sergeant-major, but ultimately returned to their present lodgings, Mutual Street, without making any attempt at escape. Mr. Cock had, it is said, several interviews with Mrs Cummings, in order to induce her to leave her seducer, and return to her friends in England. But her determination is said to be fixed—that nothing shall induce her to return to them again. The story goes that some portion of the church-going public in this city had quite a narrow escape from hearing

Dover.—The fortifications of Dover are about to be enlarged, and the estimated cost of the works is 150,000*l.* The walls round the magazine inside and outside, will be raised many feet, and the ditches will be lowered, which on the seaward side will be covered by a large bastion for officers' quarters on the top of which will be a battery, heavily armed with [illegible] guns. In the centre of the citadel will be a second tower. Detachments of the second brigade of garrison artillery have recently been forwarded from the brigade station to man the martello towers along the coast from Dover to Hastings, and several of the towers have been mounted with new siege guns from Woolwich Arsenal.

Exeter.—The Dean and Chapter of Exeter have appropriated the nave of the cathedral for afternoon service on Sundays. A vast area is thus obtained for the congregation, and on every Sunday there has been an overwhelming attendance. Chairs take the place of pews, and the sight which the nave presents when the immense congregation are seated is very striking. Rich and poor sit side by side, no seats being reserved for any particular class, and all alike hear "the Word." Full choral service is performed, and the sermon is preached by one of the cathedral dignitaries. The entire cost of fitting up the nave was borne by one member of the Chapter—the Rev. Chancellor Harington.

Faversham.—On Thursday morning another explosion took place at Messrs. Hall's gunpowder mills, making the third which has occurred recently at these works. The "green charge" house was blown up, but as the workmen were not on the premises at the time, no lives were lost.

Lewes.—In addition to the 50*l.* offered by the magistrates to any person who may give such information as will lead to the apprehension of the murderers of Mr. Richard Brangbton in a field at Hamsells, on the 6th inst., Government has offered a reward of 100*l.* and a free pardon to any accomplice, not being the person who actually inflicted the blows which caused death. On Monday, two men, named Bowyer, cloth dresser, and William Ferrett, waterman, were apprehended at Middlesborough by the police, and brought to Leeds on suspicion. They admitted that they left Leeds on the Sunday after the murder, and also that they were somewhere near the spot about the time when the crime must have been committed. At their lodgings were found two newly-washed shirts wrapped up in a white handkerchief, and on the handkerchief were the marks of three newly-washed blood spots. The witnesses being unable to identify either of them, the magistrates discharged them and paid their fares back again to Middlesborough. Several other men have been taken to the police-office on suspicion of being in the vicinity of the murder, but none of them can be identified, and no clue has yet been obtained to the perpetrators of the crime. The jury at the inquest have returned a verdict of Wilful Murder against some person or persons unknown.

Liverpool.—On Friday the borough coroner was engaged in investigating a case relative to the death of a seaman named Peter Antonio, belonging to the American ship Conqueror. The deceased had been beaten severely by the mate and carpenter while the vessel was at sea, and died in the hospital on the previous Wednesday after having been there for three days. The surgeon's evidence left the cause of death open to some doubt, and an objection was taken to the jurisdiction of the court. The coroner concurred in the opinion that the parties implicated in any verdict which might be returned could not be brought before an English court of justice, and advised the jury to find an open verdict, which was done.

Luton.—On Thursday Joseph Castle was examined before the county magistrates for this district, charged with the murder of his wife under the circumstances noticed in our last Number. He declined to say anything in his defence, and was committed for trial at the Bedfordshire assizes.

Manchester.—On Saturday the 6th inst. about 4000 persons assembled in the Free Trade Hall to witness the presentation to the Countess of Shaftesbury of an address and a fine marble bust of the noble earl her husband, as testimonials of the gratitude of factory operatives for his lordship's advocacy of the Ten Hours Act. Mr. Jones, a factory worker, presided, and said he felt rejoiced, in common with thousands of others, that they could speak from actual experience of the benefits of their past labours in the cause of short-time working. He believed very few employers would like to return to the long-hour system, and that no spirit of hostility was kept up between masters and men on this important question. Their interests were, in fact, identical. Such evils as remained they hoped to remedy without appeals to Parliament, but, if need were, the factory workers would be as prepared as ever they were to enter the field, relying that their noble champion would again lead them on to victory. Mr. Stanley, another factory worker, read the address, which was handed to the Countess by four young workwomen, and the bust was uncovered amid protracted cheering. The Countess of Shaftesbury read the following reply:—

"My good friends, it will not require many words from me to express the deep and heartfelt gratitude with which I receive the testimonial of your respect and affection. I prize it highly, as coming from a large body of my countrymen whose character for intelligence and morality qualifies them to estimate at their true value any efforts made for the welfare of the community. You will believe, I am sure, that, having watched the progress of your exertions with lively interest, I warmly rejoiced in your success, and it is my fervent prayer to God that it may be blessed [illegible]

NEWCASTLE-ON-TYNE.—On Monday evening Capt. Hall ascended in a balloon from the cricket ground in this town, in the presence of a large concourse of spectators. The ascent took place at 10 minutes to 7, and at a quarter past that hour the balloon was seen to descend rapidly in the neighbourhood of Bolden, about seven miles from Newcastle, where it fell in a clover field. The grappling irons, however, did not hold the ground, and, some of the ballast having upset, the balloon suddenly rose again, and, Capt. Hall being about to alight from the car at the time, his feet were caught in the ropes, and he was whirled suddenly into the air. For a moment he hung with his head downwards, when the rope got disentangled, and he fell a distance of 120 feet. A farmer and his son who were in a field close by went to his assistance, and found him sensible, but he soon after became unconscious. He was removed to Scots House, the residence of Mr. H. L. Pattison, where he was immediately attended by a surgeon, who found that his spine was seriously injured, and that there are but slight hopes of his recovery. After Capt. Hall was thrown out the balloon ascended a great height, and was last seen drifting out to the German ocean. A little dog belonging to the aëronaut was taken up in the car.

NORWICH.—A portion of the extensive landed estates of the late Earl of Orford has recently been sold by auction. The property, which is situated in Twetshall, Saxthorpe, Briston, Coapusty, Burnham, and one or two other villages in Norfolk, was offered in 81 lots, and of these only nine were bought in. The entire amount realised, deducting the lots bought in, was 147,939*l*. The general price obtained for the land ranged between 30*l*. and 40*l*. per acre; but one parcel of 30 acres sold for 2110*l*., and a farm of 244 acres, with buildings, for 12,100*l*.

POOLE.—A third attempt was made last week by order of the Court of Chancery, under the proceedings for winding up the London and Eastern Banking Company, to sell by auction the freehold property lately belonging to Colonel Waugh, being the well known Branksea Island Castle and estate, of about 760 acres, in the harbour of Poole, Dorset, with the castle, dwelling houses, farm buildings, freshwater lakes, pottery and other works, clay and other minerals. The sum of 45,500*l*. was the highest bid made, and as the Court of Chancery had fixed the reserve price at 50,000*l*. no sale could be effected. The auctioneer stated that at a former sale 70,000*l*. had been *bonâ fide* bid, but they then wanted 100,000*l*.

ROCHDALE.—The return of Mr. Cobden as M.P. for this borough was celebrated on Wednesday evening by a banquet, at which upwards of 2000 persons were present. The proceedings took place in a tent specially erected for the occasion on the outskirts of the town. The chair was taken by the Mayor, and among the gentlemen on the platform were—Mr. Bright, M.P., Mr. Hadfield, M.P., Mr. Crossley, M.P., Mr. Salt, M.P., Mr. Leatham, M.P., Mr. Bazley, M.P., Mr. Sharman Crawford, Mr. George Wilson, &c. After a few introductory remarks from the Chairman, a resolution was passed welcoming Mr. Cobden as the representative of Rochdale, and expressing high gratification at his return to Parliament. Mr. Cobden then rose amidst deafening acclamations, and spoke to the following effect:—

"He had coveted the honour of representing the borough of Rochdale beyond all other constituencies in the empire, and he thanked them sincerely and heartily for electing him as their member at a time when he was nearly 4000 miles away from England. It was moreover a still greater honour when he considered the corruption that existed at the last election. He would speak upon this subject for a moment whilst the matter was still fresh in the memory of the country; and although the number of election petitions had been very great, he believed that it by no means represented the number of corrupt constituencies. He ventured to assert that the House of Commons was not very desirous of putting down these evil practices. The expense of an election petition was so enormous that it was often impossible to obtain redress of the grievance. If the House of Commons wanted to put down these proceedings they could manage it. They should enable an inquiry to be made at a much less cost, and they should pass a law which would make the act of bribery or corruption a criminal proceeding, so that the Attorney-General could institute an action against any person guilty of such acts. The House of Commons was not sincere in its pretence to put down corruption; but it had another foolish and expensive practice which it ought to put down. He alluded to the system of issuing commissions of inquiry. He had lately voted against the commission to inquire into the corrupt practices at Gloucester, and he did this not because he wished to shield the guilty persons concerned in those practices, but because he believed that such inquiries were utterly futile, were very expensive, and never obtained any good result. The adoption of the ballot would have a most important influence in repressing those electoral excesses, as was proved by the evidence afforded by the example of the United States, where it had long been in active operation. Mr. Randall, an American statesman of reputation, had assured him that in the course of 50 years he had never known a vote in Philadelphia bought or sold. The ballot prevented buying and selling, for nobody would buy a vote when he could never learn whether he had obtained money's worth for the sum expended. Mr. Cobden then turned to the subject of the late war in Italy. He congratulated them on the neutrality which England had been able to maintain. She had maintained her dignity, and was as much to be feared on the Continent of Europe as before the war. As regarded the Congress that was to be held by the great Continental Powers, he believed that the only condition which could justify England in entering that Congress would be that Italy should be allowed to settle her own form of government without intervention, by force of arms, from Austria, Russia, France, or any other Power whatever. Having travelled in Italy, he could state from his own personal knowledge that the Tuscans and the people of the Bolognese Legations had recently elected the most eminent men in those countries as their representatives. They had sent to their new assemblies men who ranked in central Italy as high as Lord Derby or Lord Lansdowne did in England. We had a near interest in foreign affairs, for the annual budget was presented last night, and it showed that we were paying 25 millions a year for the expenses of our foreign policy. The chief fear which was continually recurring in England was that we were liable to an invasion from France, and the expenditure arising from this unnatural fear was enormous. Now, he ventured to say that the increased armaments, naval and military, of France, during the last 10 years, were quite as much provoked by the additions made to the English armaments as the contrary. The English dread of a French invasion was a laughing-stock of the Americans. They called it the 'English craze,' and it was impossible to describe the pity and scorn with which the subject was always referred to by the people of the United States. The press was chiefly to blame for this foolish cry, and he advised his audience to distrust the opinions of newspaper writers. What had been the consequence of 'the panic cry?' Why, the expenditure had been increased by four or five millions, and he unhesitatingly asserted that the country was now not one whit safer than before. Suppose three, four, or five millions had been devoted to the reduction of the customs duties and the extension of our trade with France, we should have done far more to preserve peace with that country than our so-called defensive preparations; our preparations could not terrify France, but they might provoke her. He then alluded to the offer which was made to him to join the Palmerston Cabinet. He was by no means indifferent to the honour intended him, though he had been unable to accept it. He thought it was his duty to go direct to Lord Palmerston without communicating with any other person, and in the course of the conversation with his lordship he had referred to his strong convictions on the subject of Lord Palmerston's foreign policy, and suggested that, holding these views, he could not consistently take part in a Cabinet of which his lordship was the head. It was not a question of personal feeling. He had not now, he never had, any feeling of personal hostility to Lord Palmerston. He had refused to accept the offer because of the strong conviction to which he had referred, and he claimed no merit for the course he had taken."—Speeches were afterwards delivered by Messrs. Crawford, Crossley, and Bright, and resolutions relating to Parliamentary reform were passed. Mr. Bright in the course of his address drew attention to the county constituencies, repeating his previous statements as to the servile dependence of the electors on the landowners, and said that if he was right in supposing that there were men in the present Cabinet who were not prepared to go as far on the path of Reform as Lord John Russell, he would warn those Ministers, if any such there were, that if they gave the country a measure short of that scheme they would cover their Cabinet with a taint which it could never survive.

On Thursday evening Mr. Cobden and Mr. Bright again addressed a large concourse of electors and non-electors of Rochdale on the subject of Parliamentary Reform. The meeting was held in the pavilion in which the *soirée* took place on the previous evening, and there could not have been fewer than between 3000 and 4000 persons present.

SHEFFIELD.—On the morning of the 3d inst. a burglary of a singular and daring character was committed at Wortley Hall, the seat of Lord Wharncliffe. His lordship has been entertaining a large shooting party at the Hall, including, with guests and attendants, about 70 persons. Among his company was Major Frazer, who retired to rest early on the above morning, leaving the window of his bedroom, which is on the ground-floor, open to admit air. On awaking about 8 o'clock next morning he found that the room had been entered, and that a 30*l*. bank-note, an Indian dressing-gown, and the wearing apparel which he had thrown off, had been stolen. A case of jewels, some silver candlesticks, and a double-barrelled gun, which was in the room, were left untouched. On examination he discovered that the entry had been made through the bedroom window, which is about 7 feet from the ground, and which had been more easily gained by means of a ledge between the ground and the window. Some of the articles had been removed from close beside the bed where the Major was sleeping. There is little doubt that the robbery was effected by some one well acquainted with the premises, but that it was not performed by an adept is inferred from the fact of its not being more extensive, as the Major's room not being locked, the thief might have found easy access to other parts of the house. The burglar had, previous to the robbery, as appeared from the prints of naked feet, perambulated the grounds and entered one of the greenhouses, from which he had brought several geraniums, which had been thrown down under the Major's window. A man called Worrah, a butcher, of Howbrook, has been apprehended with some of the stolen property in his possession, and has been committed for trial.

SHIELDS.—On Friday night John W. Moody, second mate of the American ship Mary, was captured at Sunderland, and brought up at the North Shields Police-court on Saturday morning, charged with a murderous assault on Daniel Witham, one of the crew, while lying in the Northumberland Dock in the Tyne. The evidence proved that the prisoner, after dragging the man out of his berth by the hair of his head, struck him to the ground by a blow on the head with an iron bar which fractured his skull. He had previously on the voyage knocked him down with a knuckle-duster. The master and chief mate refused to obtain surgical assistance for the wounded man, but one of the crew, a sailor called Black, went ashore and gave information to the police, by whom a surgeon was immediately sent on board. The surgeon found the man in a most dangerous state, and he died on Tuesday night from the effects of his injuries. The jury at the inquest returned a verdict of Wilful Murder against Moody, and at the same time expressed their opinion that the conduct of the master and chief mate in allowing deceased to remain so long without a surgeon was as discreditable to them as the conduct of the sailor Black was creditable to him.—On Sunday, Henry Whitfield, steam-boat man, residing in Milburn Place, was taken into custody on a charge of attempting to murder his wife. She is a drunken woman; and on going into the house, about 1 o'clock in the afternoon, and finding her in that condition, the prisoner pulled out a large Spanish knife and stabbed her in the neck. The wound is serious, but is not expected to be fatal.

carriages, platforms, &c., cases of powder, shot, and shell, were landed at North Shields last week for the defences at Tynemouth, which are rapidly approaching completion. The Tynemouth Volunteer Artillery Corps has been recognised by the Government, and will be immediately enrolled. They will be trained to work the large guns at Tynemouth and Clifford's Fort, which comprise the defences of the Tyne. The Northumberland Artillery Militia are now stationed at Tynemouth garrison, and the whole of the defences of the south-eastern coast of the county are now intrusted to Northumberland men.

WESTBROMWICH.—William Worsey, who was convicted at the last Assizes of the murder of his wife, has been reprieved during her Majesty's pleasure. There is reason to believe that he had no intention to kill his wife, and that although in the quarrel with his he snatched up a knife from the breakfast table and threw it at her with fatal effect, there was an entire absence of premeditation. It is understood that he will be transported for life.

## Ireland.

THE ROMAN CATHOLIC SYNOD.—The ultramontane journals of Saturday seem to have been instructed to prepare the public mind for a more than ordinarily strong address to the Catholics of Ireland from the Papal bishops, whose sitting has just terminated. The *Nation* intimates that they have been unanimous throughout their deliberations on the propriety of demanding from the Government what they call 'a Roman Catholic education aided by the State,' and that a deputation has been appointed to submit a programme of the ultramontane policy to the Chief Secretary for Ireland. It is also said that another Council of the Prelates is to be held next month to demand a charter for the "Catholic University," and probably an endowment also. In recounting the latest ultramontane objections to the national system of education in Ireland, the *Nation* complains that the pupils are taught to describe themselves as "English" children, and says that "the schools which taught each Irish youth to bless God for making him 'a happy English child,' would soon achieve that millennium of British history, Ireland denationalised."

THE LATE MURDER IN TIPPERARY.—Mr. Grey, J.P., the agent of the Earl of Derby in Tipperary, has offered a reward of 200*l*. for the conviction of the persons engaged in the assassination of James Crowe, a tenant on his lordship's estate at Doone. The murder was perpetrated on the 2d inst., and there are strong grounds for believing that it was done with the knowledge of many residents of the locality, who pretend utter ignorance of the persons concerned. The Lord-Lieutenant has also offered a reward of 100*l*. for such information as shall lead to the arrest of the assassins.

## Scotland.

ALLEGED MURDER ON THE HIGH SEAS.—On Saturday Capt. Pember the master, and George Alma chief mate of the American ship John Fyfe, from New York, were apprehended on the charge of shooting one of the crew during the voyage. It appears that in a quarrel which took place among the crew on the 4th inst., a seaman had assaulted another seaman and cut open his head. The officers of the ship interfered, and were proceeding to place the offender in irons when he resisted, and set the officers at defiance, upon which the captain is said to have immediately shot him with a revolver. The wounded man only survived till the evening, and was then thrown into the sea. The prisoners were remanded, but on Tuesday, on the advice of Crown counsel, who had been consulted in reference to disputed jurisdiction, the sheriff ordered them to be discharged.

THE CRINAN CANAL.—On the 29th ult. the Crinan canal was re-opened for traffic from the second central chain of locks to Loch Crinan, a distance of four miles. It is expected that the four miles from Airdrishaig to the first central chain of locks will soon be available for traffic, pending which the service is performed by omnibuses.

## Railways.

ACCIDENT ON THE TILBURY AND SOUTHEND.—On Wednesday evening as the train from Thames Haven with passengers from the Margate steam-boat was passing round the curve near the Tilbury Station, connecting the London portion of the line with that to Southend, the engine ran off the rails, and slid obliquely across the line, dragging the tender, guard's break-van, and three of the carriages with it, the coupling connecting the fourth carriage breaking. The engine partly buried itself in a field adjoining, while the three carriages turned on their sides and were much shattered. Several passengers were severely injured, some of whom were left behind under medical care, and others brought up to the hospital.

GREAT WESTERN.—At the half-yearly meeting of this company a dividend at the rate of 2 per cent per annum was declared, leaving 13,883*l*. to be carried forward. From the revival of trade an increase has taken place in the receipts of 71,081*l*. The working expenses, with the exception of maintenance of way and works, have diminished, and the additional charge in this case arises chiefly from the substitution of stone for timber structures, and the new plan adopted for relaying the permanent way. An arrangement [illegible]

will be brought in direct communication with the Great Western system. An agreement for the transfer of the Birkenhead line to the London and North-Western and Great Western was unanimously agreed to.

METROPOLITAN.—At a meeting of this company it was stated that the Corporation of London have taken shares in the undertaking to the amount of 200,000*l.*, and that six-sevenths of the capital have been secured. A deviation has been adopted from the original plan, and the proposed extension to the Post Office is abandoned. The total capital will be 850,000*l.* in shares, and 280,000*l.* in loans.

VICTORIA STATION AND PIMLICO.—The directors of this company announce that satisfactory progress has been made in the works, and express confidence that the line will be ready for traffic by June, 1860. An arrangement has been entered into with the Brighton, under which a 5 per cent. guarantee will be secured.

EAST KENT.—The title of this company has been changed to that of the London, Chatham, and Dover.

## Law.

CENTRAL CRIMINAL COURT.—*The Richmond Poisoning Case.*—The trial of *De Smethurst* for the murder of Miss Isabella Banks by slow poisoning at Richmond, which was brought to an abrupt termination at the last Sessions in consequence of the sudden illness of a juryman, was resumed on Monday before the Lord Chief Baron. The details of this case are already so well known to our readers that it is unnecessary to repeat them in detail, or to give a lengthened summary of a trial which has extended over five days. The evidence for the prosecution went to prove that the prisoner, though already a married man, had deliberately inveigled the deceased lady into his power by an act of bigamy, and had then destroyed her life by administering small doses of poison, his object being to possess himself of her fortune, which amounted to about 1800*l.* It was also shown that the prisoner was a man of considerable chemical and medical skill, well acquainted with the nature of different poisons, and that he had made use of this knowledge to baffle, to a considerable extent, the tests which were made use of by scientific men to discover the presence of poison. It was admitted that no poison was found in the body of deceased, though a certain quantity of arsenic was found in one of the evacuations; and Dr. Taylor admitted that the evidence he had at first given respecting the presence of arsenic in the body was founded on a mistake corrected with one of his tests which had been deferred by the presence of chloride of potass. The medical men however who were called for the prosecution all agreed that the symptoms could only have been produced by the administration of poison in small doses and at frequent intervals; and it was suggested that the chloride of potass discovered in the body, and a bottle of which was found in the prisoner's possession, had been administered at the same time to remove all trace of the poison. For the defence several chemists, apothecaries, and learned medical writers were called to show that the symptoms were not those of poisoning, but were attributable to the pregnancy of deceased; but one of them admitted that, after the fact of a certain quantity of arsenic being found in one of the evacuations of deceased, he should have expected that a large quantity of that poison had been in the body. On Thursday afternoon the Lord Chief Baron commenced his summing up, and dwelt with much force on the fact that the prisoner had induced this lady to go through the ceremony of marriage though his first wife was still living, and yet that the unfortunate lady had signed the will in her maiden name and allowed herself to be degraded by being described in it as a spinster. He also called attention to the fact that at the very period when this unhappy woman was lying in agony and misery on her deathbed, and when, according to the prisoner's own statement, she was in such a condition as not to be able to bear the excitement of seeing her own sister, he took into her bedroom, on a Sunday, an entire stranger, an attorney, and there a will prepared by himself was read over to the unhappy woman, who executed it under the circumstances of degradation to which he had alluded. He could not contemplate this scene of suffering and privation, when this poor dying creature had all her relatives excluded from her, and an attorney was thrust into her presence, and she was allowed to pass into the other world without one word of religious consolation, as if she had been a beggar and an unbeliever in a heathen land. With regard to the pecuniary motive for the death of the deceased it had been urged that the prisoner had an interest in keeping her alive, inasmuch as he would be entitled to receive the interest on 5000*l.*—150*l.* a year—during her lifetime; but, on the other hand, it should not be forgotten that if the will of deceased were acted upon he would at once come into possession of 1750*l.* or 1800*l.*, which would have amounted to 12 years' purchase of the dividend. After some further remarks on other portions of the case, his lordship deferred the conclusion of his charge to the next morning, and the Court again adjourned. At the sitting of the Court yesterday the Lord Chief Baron resumed and concluded his summing up, calling the attention of the jury to the fact that the prisoner had refused to have a nurse on the plea that he could not afford it, and Miss Banks had an income of 220*l.* a year, and he had himself money in the bank. He called attention also to the extraordinary expression of the prisoner to the sister of the deceased, that if she was quiet it would be "all right," and to the statement he had told when he asked her to witness the will, that it was some Chancery paper to be signed. He then referred to the fact that deceased was always sick and ill after receiving food and medicine from the prisoner, and that these symptoms ceased as soon as he was arrested and she received her food from other hands. As to the absence of poison from the house, it was to be remembered that after the magistrates allowed him to go at large on bail, he was in the house by himself on the Monday night, and had therefore an opportunity of making way with it. His lordship then referred to the medical evidence, and said that the whole of the medical men who had been examined, who were all old men of experience in their profession, concurred in expressing the opinion that the symptoms exhibited by this unhappy lady were unlike those of any known disease, and were more ascribable to the administration of an irritant poison than to any natural disorder. His lordship concluded at 10 minutes to 4 o'clock, having occupied in his summing up eight hours and a half. The jury then retired, and after an absence of 50 minutes, returned a verdict of *Guilty*. The Judge having put on the black cap, the prisoner addressed the Court in a rambling strain for some minutes. He stated that he was entirely innocent of the charge, that the marriage between deceased and himself had been publicly ratified on the death of his father, who was now 74 years of age. As to the money, he had no motive for committing murder to obtain it, for the love of deceased towards him was so great that she would at any time have made it over to him. He [illegible] had kept the sister from her, and concluded [illegible] on the medical part of the case, and some [illegible] of the gentlemen at Richmond, [illegible] during the trial. The Lord [illegible] and he thought it would be difficult for any one to consider the evidence without coming to the same conclusion. His lordship then passed sentence of *Death* in the usual form, ordering the execution of the judgment to the sheriff of Surrey, in which county the offence was committed. The prisoner exclaimed—"I declare that Dr. Jamieson is my murderer. I declare before God that I am innocent." The prisoner was then removed from the dock, and conveyed to Horsemonger Lane Jail, where the execution will take place on Monday fortnight. The court was [illegible] crowded, and thousands of persons had congregated outside anxious to ascertain the result.

OXFORD CIRCUIT.—Gloucester.—*The Queen v. Mordaunt Rutter* was tried on Saturday last at the assizes at Cirencester on Sunday the 7th inst. at Dursley. The particulars of this case appeared in our Provincial news last week, and no new circumstances were elicited at the trial except the important fact, which formed the ground of the defence, that the prisoner had for years been brutally beaten and ill-used by the deceased, and on one occasion had been turned out of doors in her night-clothes, and on another been compelled to take refuge in her stepson's bed. The prisoner's counsel availed himself of this fact to urge that the [illegible] broken open the door with a hatchet, had again attacked the prisoner in the night, and that she, alarmed for her own life, armed herself with the razor and in her own defence, struck at him in the dark, without intending to do any mortal injury. Mr. Justice Byles summed up at great length, and said that he saw no evidence to reduce the case to manslaughter. He was sensible that the observations which he had made here might tell upon the prisoner; and he deeply regretted that he could not present the case to the jury in other light. However, he was satisfied that they would discharge their duty, however painful it might be, according to their oaths. The jury after a total of seven hours found the prisoner Guilty, but recommended her to mercy on account of her husband's cruelty to her and trusted their recommendation would be taken into consideration. Mr. Justice Byles said he would forward the recommendation to the proper quarter, but he had no power to interfere. His lordship then put on the black cap and passed sentence of *Death* in the usual form, stating that he could not doubt, upon the evidence, that she went to her husband's bedside in the dead of night, and cut his throat with a razor, and that such a crime was murder in the most aggravated form, and that our present law was not content with calling it murder, but called it treason. *Election Petition.*—Two cases were tried relative to the Election at Cirencester, in one of which *Henry Charles Wood* was charged with having bribed and treated Admiral Talbot [illegible] voting for the Conservative candidates; and *Jermyn Colbourn*, *Lavinia Colbourn*, and *Wallis Mullis* were charged with having [illegible] Julia Kibblewhite and procured her [illegible] on the Liberal side. The admiral had come all the way from Cork to record his vote. He arrived only a few minutes before the close of the poll, and was preparing to leave the hustings, when the fly was stopped, and the admiral himself prevented from reaching the hustings before it was too late to vote. The declaration was [illegible] but was [illegible] of his own [illegible] to appear and [illegible] when called upon. In the other case [illegible] was *Acquitted*, and the two others were sentenced to be imprisoned one month in the common gaol, but Mr. Justice Byles refused to allow the costs of the prosecution, because the indictment had not included Mr. Pole, a gentleman of fortune living near Cirencester, in whose service the two male prisoners were respectively groom and gardener, and in whose carriage the [illegible] was carried away to Ashton Keynes on the night before the election. *Arson.*—*Elizabeth Hatton*, 14, servant, an interesting looking girl, only 14 years of age, was charged with setting fire to the house of her master Mr. Holder, of Painswick, on the night of Sunday, the 19th of June last. It appeared that on the evening in question the prisoner was allowed to go out to chapel, but returned early. On her return her mistress reproved her for not going to chapel, but not in an angry manner, and that was the only cause of difference which had occurred while the prisoner had been in her service. While the prosecutor and his wife, his apprentice, and children were asleep, there was a smell of fire, and on entering the kitchen it was discovered that some articles in the cupboard were on fire. Water was brought, and the fire was put out, and the family finished their supper; but while they were going to bed, a second fire was discovered in a cupboard in a bedroom, and subsequently a third was found in a cupboard under the stairs. It was elicited on cross-examination that the prisoner was subject to epileptic fits, and had several since she had been in custody. Evidence was also given that after the fires were extinguished the prisoner was seen carrying a box down stairs as if to go away, and in the box were found, secreted, some lump sugar, raisins, and nutmegs, which it was believed she had taken out of the shop of Mr. Holder, who dealt in grocery. The jury, after a few minutes' consideration, found the prisoner *Guilty*, but recommended her to mercy on account of her extreme youth. The prosecutor, Mrs. Holder, also joined in the same recommendation. Mr. Justice Byles said the prisoner had been convicted, on satisfactory evidence, of a very frightful crime. By the law her life was forfeited, but, under the circumstances, she would be dealt with as leniently as possible. Sentence of *Death* would be recorded against her, but the sentence would be commuted to a long term of imprisonment, so that she might have a course of instruction and discipline. On hearing her sentence the prisoner burst into tears and was then removed.

## Obituary.

THE DOWAGER LADY CHARLOTTE SUFFIELD died on the 15th inst. at 25, Upper Grosvenor Street, in her 49th year. She was the only daughter of the second Lord Gardner by the daughter of the first Lord Carrington, and was the widow of the fourth Lord Suffield, brother of the present peer. She was for some time a lady in waiting to the Duchess of Cambridge.

GENERAL SIR JOHN SLADE, BART., G.C.B., the oldest living member of the army save one died on the 13th inst. at Mostyn's Court, in his 98th year. Had he lived but a few months longer he would have completed 80 years of military service, his commission, as cornet in the 13th Hussars, bearing date May 11, 1780, and with the exception of General John M'Kenzie, who wore the Royal uniform as far back as the 1st of January, 1778, no officer of the army can point to the same term of service. Sir John Slade became a Major General in 1809, exactly 50 years ago, and commanded a brigade of cavalry in the Peninsula in that and the preceding year, under Sir John Moore. In the subsequent Peninsular campaigns, under the Duke of Wellington, he retained his command, covering the retreat to Torres Vedras, and sharing in many cavalry affairs, as well as in the battles of Fuentes d'Onor, Salamanca, Benevente, and Busaco, for which, with Corunna, he had the gold war medal with one clasp, and the silver medal with two clasps, besides being twice honoured with the thanks of Parliament for his services. He became Colonel of the 4th Dragoon Guards in 1831. The deceased General belonged to a Somersetshire family, and was born in 1762. The baronetcy, which was conferred upon him in 1831, is inherited by his eldest surviving son, Frederick William Slade, Q.C., who is [illegible] brother of General Marcus Slade, Lieutenant-Governor of the Isle of [illegible]. The next brother is Sir Adolphus Slade, R.N., [illegible]

College, Oxford, where he graduated B.A. 1824, and was called to the bar by the Hon. Society of the Middle Temple in 1830. He became a Queen's Counsel in 1851, and goes the Western Circuit. He for a short time represented Cambridge in the House of Commons in the Conservative interest.

MRS. PEARSON, wife of R. Pearson, Esq., formerly M.P. for Lewes, died suddenly after a dinner party on Saturday evening, in her 64th year. She was dancing on that day at a party given by General Sir Archibald Macdonald, at 68, Great Cumberland Place, which shortly after she had taken her seat at the table she appeared to be attacked with a fainting fit, and her head dropped on the shoulder of the next lady. She was removed to a sofa, where she instantly expired. The body of the deceased lady was conveyed in her own carriage to her residence in Gloucester Terrace, Bayswater, where a post mortem examination was performed. At the inquest on Tuesday the [illegible] deposed that death was caused from [illegible], and a verdict to that effect was returned.

BIRTHS.—On the 16th inst, at Curzon House, South Audley Street, Lady BURGHERSH, of a son—16th inst, at Abbot's Moss, Northwich, Cheshire, the Lady FRANCES LLOYD, of a son—11th inst Lady N[illegible] of a [illegible]—[illegible] inst, at [illegible], the Hon. Mrs. ANDREW [illegible], of a son—[illegible] Corfu, the Hon. Mrs. EDWARD GAGE, of a daughter—[illegible] at Ashburne, the Hon. Mrs. FREDERICK HOLLAND, of a son—11th inst, at 65, Eaton Place, the wife of A. S. LESLIE MELVILLE, Esq., of a daughter.

MARRIAGES.—On the 9th inst, at Dalhousie Castle, Sir JAMES FERGUSSON, Bart., of Kilkerran, to Lady EDITH CHARLOTTE RAMSAY, second daughter of the Marquis of Dalhousie—11th inst, at St. George's, Hanover Square, EDWARD BEALEY STILEMAN, second son of Sir Alexander Young Spearman, Bart., to Lady MARIA LOUISA FITZMAURICE, youngest daughter of the Earl of Orkney—9th inst, at Calcutta, MAJOR DOUGLAS DE CANE, Esq., second son of the late Major Richard De Cane, 20th Light Dragoons, to CHARLOTTE MARIA, eldest daughter of the late Sir JOSIAH JOHN COLLER, Bart., of Dowlish, Somersetshire, and Canford Manor, in the county of Dorset.—11th inst, at Hampton Church, Middlesex, WILLIAM JAMES TURNER, Esq., eldest son of William Turner, Esq., of Santa Lucia, Naples, to ELIZABETH LAURA, only surviving daughter of the late Right Hon. Lord Chief Justice [illegible]—[illegible] inst, at St. Peter's Church, Dover, JOHN HAMMOND WARREN, Esq., of Abbey Lodge, Shaftesbury, to ANNE PELHAM, youngest daughter of the late Right Hon. Edward Stephen, Lord Bishop of Meath—8th inst, at Oolcok Church, JOHN KATHARN FITZHERBERT, Esq., youngest son of the late Sir Henry Fitzherbert, Bart., of Tissington Hall, Derbyshire, to ARABELLA PUSELOFF, third daughter of the late WILLIAM WHITE, Esq., of Sherrick, County Dublin.

DEATHS.—On the [illegible] inst, at his residence, in Belgrave Square, the Hon. JOHN KENNEDY, second son of the 11th Earl of Cassilis, aged 88—14th inst, at Wooth Grange, near Bridport, Dorset, late of Farnborough House, Berkshire, CHARLES LYON, Esq., second son of the Hon. General Lyon, of Hetton House, Durham, and grandson of the eighth Earl of Strathmore, of Glamis Castle, aged 66—11th inst, at Montrose House, Great Malvern, Worcestershire, ISABEL ELIZABETH, youngest daughter of Sir EDWARD SYNGE, Bart., and only daughter of Anne, Lady [illegible]—[illegible] inst, at Green Park, Bath, of [illegible], FANNY AGNES, youngest daughter of Lieut.-General WEMYSS, C.B.—7th inst, at Britannia Square, Worcester, CATHERINE ANNE, last surviving daughter of the late Lieut.-Colonel GRAHAM EUSTACE PIGOTT, of Abington Pigotts, Cambridgeshire, late M.P. for Kinross, aged 87—10th inst, at Boxton, after a few days' illness the Rev. THOMAS DELVES BROUGHTON, Rector of Doddington, Cheshire—12th inst, at Tunbridge Wells, CHARLES OLIVE, Esq., 15, Bryanston Square, and late of the firm of Lee, Bonar & Co., Paternoster Row, aged 79.

## Markets.

### COVENT GARDEN.—Aug. 20.

Grapes and Fine Apples fully maintain last week's prices. West India Pines are of good quality and good. Of Pears there are some fine specimens of Beurré d'Aremberg from Jersey. Gooseberries and Currants are getting scarce, and there are no Cherries except Morello. English Apricots are more abundant, and there are some good Peaches and Nectarines. Green gage Plums obtain high prices. Oranges fetch 5s. 6d. and 10s. per hundred. Good Filberts may be had for 6d. per lb. Cabbages and French Beans are plentifully supplied. Peas, Beans, Carrots, and Artichokes may be obtained in quantity. Cauliflowers are plentiful. Potatoes realise from 6s. to 15s. per cwt. Cucumbers abundant. Cut flowers chiefly consist of Orchids, Gardenias, Kalosanths, Lily of the Valley, Violets, Mignonette, Heaths, and Roses.

FRUIT.

| | |
|---|---|
| Pine Apples, per lb., 4s to 6s | Currants, p. half-sieve, 4s to 7s |
| Grapes, per lb., 2s to 3s | Gooseberries, do., 1s |
| Mulberries, do., 1s | Cherries, per lb., 6d to 1s 6d |
| Melons, each, 2s to 3s | Apples, per doz., 1s to 2s |
| Peaches and Nectarines, per doz., 2s to 15s | Pears, per sieve, 4s to 12s |
| Figs, per doz., 2s to 4s | Oranges, per 100, 6s to 10s |
| Apricots, do., 2s to 3s 6d | Lemons, per doz., 1s to 1s 6d |
| Plums, per punnet, 1s to 2s 6d | Filberts, p. 100 lbs., 55s to 60s |

VEGETABLES

| | |
|---|---|
| Cauliflowers, per doz. 2s to 4s | Cucumbers, p. doz., 2s to 6s |
| Green Peas, p. quart, 1s to 2s | Tomatoes, per ½ sieve, 3s to 5s |
| Greens, per dozen bunches, 1s to 1s 6d | Artichokes, per doz., 2s to 3s |
| Cabbages, do., 1s 6d to 2s 6d | Beet, per doz., 1s 6d to 2s |
| Rhubarb, p. bundle, 6d to 9d | Celery, p. bundle, 1s to 1s 6d |
| French Beans, p. punnet, 1s to 1s 6d | Shallots, per lb., 6d to 8d |
| Potatoes, p. ton, 90s to 100s | Garlic, per lb., 6d to 8d |
| — per bus., 2s to 2s 6d | Lettuces, Cab., per score, 1s to 1s 6d |
| — per cwt., 4s to 6s | Endive, p. score, 1s to 1s 6 |
| — new, per lb., 6d to 1s | Horse Radish, p. bun., 1s 6d to 4s |
| Carrots, per bunch, 1s | Mushrooms, p. pott., 9d to 1s 3d |
| Turnips, per bunch, 9d to 1s | Parsley, p. 12 bunches, 2s to 4s |
| Spinach, p. sieve, 1s 6d to 2s | Savory, do., 2d to 4d |

### HAY.—Per Load of Thirty-six Trusses.

SMITHFIELD, THURSDAY, Aug. 18.

| | | | | | |
|---|---|---|---|---|---|
| Prime Meadow Hay | 80s | to 85s | Old Clover .. .. | 95s | to 110s |
| Superior do. (old) .. | 88 | 95 | Second cut .. .. | 85 | 95 |
| Inferior do. .. .. | 60 | 70 | New Clover .. .. | 80 | 90 |
| New do. .. .. .. | 75 | 84 | Straw .. .. .. | 34 | 38 |
| Rowen .. .. | 50 | 60 | | | |

DAVIS & Co.

WHITECHAPEL, THURSDAY, Aug. 18.

| | | | | | |
|---|---|---|---|---|---|
| Fine old Hay .. .. | 88s | to 93s | Fine old Clover .. | 110s | to 115s |
| Inferior do. .. .. | — | — | Inferior do. .. .. | — | — |
| Prime New Hay .. | 80 | 86 | Fine new Clover .. | 100 | 108 |
| Inferior do. .. .. | 60 | 75 | Inferior do. .. .. | 80 | 95 |
| Straw .. .. .. | 36 | 40 | Fine 2d cut .. .. | — | 100 |

### COAL MARKET.—FRIDAY, Aug. 19.

Burnhope, 13s.; Yavison's West Hartley, 15s.; Lambert's West Hartley, 14s. 6d.; Tanfield Moor, 13s.; Tanfield Moor Butes, [illegible]; Walls End Acorn Close, 15s. 3d.; Walls

...7s.; Walls End Hetton, 17s.; Walls End Russell's Hetton, 16s.; Walls End South Hetton, 17s.; Walls End Stewarts, 17s.; Walls End Cassop, 15s. 9d.; Walls End Heugh Hall, 15s.; Walls End Kelloe, 16s 3d.; Walls End South Kelloe, 15s. 9d.; Walls End Whitworth, 14s.; Birchgrove Graigola, 20s.; Nixon's Duffryn, 21s. 6d.; Powell's Duffryn Steam, 21s. —75 ships at market.

HOPS.—BOROUGH MARKET, FRIDAY, Aug. 19.

Messrs. Pattenden & Smith report that the accounts from the plantations continue to come favourably, and the Hops are rapidly progressing towards maturity. Duty 250,000*l.* to 260,000*l.*

BRITISH WOOLS.—LONDON, FRIDAY, Aug. 19.

The state of our trade is quiet. Our prospects are still good.

| | s. | d. | s. | d. | | s. | d. | s. | d. |
|---|---|---|---|---|---|---|---|---|---|
| South-down Hog-gets | 1 | 8 | to | — | Leicest. Wethers | 1 | 5 | to | — |
| Half-bred ditto | 1 | 8 | — | — | Ditto Hoggs | 1 | 7 | — | — |
| Down Ewes | 1 | 6 | — | — | Combing Skins | — | — | — | — |
| Kent Fleeces | 1 | 7 | — | — | Blanket ditto | — | — | — | — |
| | | | | | Flannel Wool | 1 | 2 | — | 1 7 |

METROPOLITAN CATTLE MARKET.

MONDAY, Aug. 15.

The number of Beasts is not quite so large as on Monday last; however, trade is dull, and the quotations of that day are not exceeded. The supply of Sheep is also rather shorter. Trade is cheerful, but prices are not much higher. Lamb trade is exceedingly heavy at lower rates. Calves are rather lower. From Germany and Holland there are 1410 Beasts, 8340 Sheep, and 310 Calves; from Scotland, 100 Beasts; from Ireland, 200; from Norfolk and Suffolk, 300; and 2300 from the northern and midland counties.

| | s | d | s | d | | s | d | s | d |
|---|---|---|---|---|---|---|---|---|---|
| Best Scots, Herefords, &c. | 4 | 6 | to 4 | 8 | Best Long-wools | 4 | 6 | — 4 | 10 |
| Best Short-horns | 4 | 4 | — 4 | 6 | Do. Shorn | .. | .. | — | .. |
| 2d quality Beasts | 3 | 0 | — 4 | 0 | Ewes & 2d quality | 4 | 2 | — 4 | 6 |
| Best Downs and Half-breds | 4 | 10 | to 5 | 0 | Do. Shorn | .. | .. | to | .. |
| Do. Shorn | .. | .. | — | .. | Lambs | .. | .. | 4 8 — 5 | 6 |
| | | | | | Calves | .. | .. | 4 0 — 4 | 8 |
| | | | | | Pigs | .. | .. | 3 6 — 4 | 6 |

Beasts, 4750; Sheep & Lambs, 29,260; Calves, 350; Pigs, 200.

THURSDAY, Aug. 18.

The supply of Beasts is rather larger than on Thursday last; however, choicest qualities are not plentiful, and make quite as much as on Monday. The number of Sheep and Lambs is smaller, but quite equal to the demand. The best descriptions met with a ready sale, but trade is dull for the other kinds. No alteration in the calf trade. Our foreign supply consists of 300 Beasts, 2750 Sheep, and 395 Calves. The number of Milch Cows is 115; and there are 400 Beasts from the northern and midland counties.

| | s | d | s | d | | s | d | s | d |
|---|---|---|---|---|---|---|---|---|---|
| Best Scots, Herefords, &c. | 4 | 6 | to 4 | 8 | Best Long-wools | 4 | 6 | — 4 | 10 |
| Best Short-horns | 4 | 4 | — 4 | 6 | Do. Shorn | .. | .. | — | .. |
| 2d quality Beasts | 3 | 0 | — 4 | 0 | Ewes & 2d quality | 4 | 2 | to 4 | 6 |
| Best Downs and Half-breds | 4 | 10 | — 5 | 0 | Do. Shorn | .. | .. | — | .. |
| Do. Shorn | .. | .. | — | .. | Lambs | .. | .. | 4 8 — 5 | 6 |
| | | | | | Calves | .. | .. | 4 0 — 4 | 8 |
| | | | | | Pigs | .. | .. | 3 6 — 4 | 6 |

Beasts, 1135; Sheep & Lambs, 10,820; Calves, 635; Pigs, 150.

MARK LANE.—MONDAY, Aug. 15.

The supply of English Wheat to this morning's market was moderate, and met a slow sale at last Monday's prices, some quantity being left unsold towards the close. For foreign there was rather more inquiry in retail, but we cannot quote any improvement in prices. For Barley there is a fair inquiry at rather above last week's rates. Beans and Peas are unaltered in value. The Oat trade is firm at the prices of this day se'nnight. The Flour trade is steady. There were about a thousand quarters of new white Mustard Seed at market, a portion of which is sold at an advance of 1s. per qr.

| PER IMPERIAL QUARTER. | s. | s. | | s. | s. |
|---|---|---|---|---|---|
| WHEAT, Essex, Kent, & Suffolk..White | 42 | 49 | Red .... | 40 | 44 |
| — — fine selected runs..ditto | 46 | 48 | Red .... | 42 | 46 |
| — — Talavera ..... | 44 | 52 | | | |
| — Norfolk ..... | — | | Red .. | — | |
| — Foreign ..... | 38 | 54 | | | |
| BARLEY, grind. & dist., 24s to 28s..Chev. | — | | Malting. | — | |
| — Foreign..grinding and distilling | 29 | 38 | Malting. | — | |
| OATS, Essex and Suffolk ..... | 19 | 22 | | | |
| — Scotch and Lincolnshire..Potato | 23 | 25 | Feed.... | 19 | 24 |
| — Irish .....Potato | 24 | 25 | Feed.... | 19 | 22 |
| — Foreign ..... Poland and Brew | 23 | 26 | Feed.... | 18 | 24 |
| RYE ..... | — | | Foreign. | — | |
| RYE-MEAL, foreign..... | — | | | | |
| BEANS, Mazagan .... 35s to 39s....Tick | 37 | 41 | Harrow. | 37 | 41 |
| — Pigeon .....41s — 45s..Winds. | — | | Longpod | — | |
| — Foreign ..... Small | 38 | 46 | Egyptian | — | |
| PEAS, white, Essex and Kent..Boilers | 36 | 42 | Suffolk . | 35 | 44 |
| — Maple .... —s to —s ..... Grey | 34 | 36 | Foreign. | 30 | 38 |
| MAIZE .....White | — | | Yellow.. | — | |
| FLOUR, best marks delivered..per sack | 37 | 43 | | | |
| — 2d do. ..... ditto | 27 | 37 | Country. | 27 | 37 |
| — Foreign ..... ... per barrel | 18 | 27 | Per sack | 30 | 37 |

FRIDAY, Aug. 19.

The weather this week has been changeable and generally overcast. Although great progress has been made with the harvest, nevertheless the quantity of straw and want of labour have considerably protracted its conclusion. We do not hear that the Wheat has suffered from the rain, but complaints of the Barley being sprouted are not uncommon. The quality of the new Wheat hitherto brought to market is, we believe, fully as good, it not better, than was expected. The Wheat trade in all the chief markets has been dull and the demand generally inactive; nevertheless holders evince great tenacity, and here we have experienced a slightly increased inquiry, particularly for the lower qualities of foreign, on which, in some instances, a slight improvement has been exacted. In the majority of markets Barley has been rather cheaper, but here and in Newcastle it has commanded rather better terms. No alteration occurred here in the value of Beans and Peas, but in Liverpool, Hull, Leith, and Glasgow they were cheaper. In Scotland Oats are quoted 6d. to 1s. per qr. lower, but not in England. The Flour trade is firm, French and Norfolk commanding rather better prices. The arrivals of grain and seed laden vessels off the coast from Southern Europe are considerable during the week. The arrivals of English Wheat and foreign Oats this week are good, of all other grain small. This morning's market was more thinly attended than for some time past. The little English Wheat on sale was taken at the extreme prices of Monday. Foreign was entirely neglected, and we scarcely heard of a sale being made. For Barley there is a good inquiry at Monday's prices. The Oat trade is quiet, and Russian qualities are rather cheaper.

ARRIVALS FROM AUG. 15 TO AUG. 19.

| | Wheat. | Barley. | Oats. | Flour. |
|---|---|---|---|---|
| English .. | 2510 qrs. | 50 qrs. | 30 qrs. | 780 sks. |
| Irish .... | — ,, | — ,, | 4500 ,, | — ,, |
| Foreign .. | 4286 ,, | — ,, | 27390 ,, | 40 ,, — brls. |

LIVERPOOL, Tuesday, Aug. 16.—We had a fair attendance of millers and dealers at our Corn Exchange this morning they acted, however, with great caution, and Wheat was not as saleable as last market day, but there is no quotable change in value. Flour met a fair inquiry at full prices; good-conditioned

fully 1d. per bushel, and Oatmeal 6d. per load. Egyptian Beans were 6d. to 1s. per qr. cheaper. Peas and Barley unchanged. Weather fine.

FRIDAY, Aug. 19.—Grain market steady at Tuesday's rates; Wheat in good demand at full rates; fine Flour in better request. Beans and Oats dull. For Indian Corn there are buyers, but at very low prices. Weather fine.

| AVERAGES | Wheat. | Barley. | Oats. | Rye. | Beans. | Peas. |
|---|---|---|---|---|---|---|
| July 9.. | 46s 9d | 31s 10d | 25s 6d | 34s 3d | 47s 7d | 41s 2d |
| — 16.. | 46 6 | 29 11 | 25 3 | 40 6 | 45 10 | 39 8 |
| — 23.. | 44 11 | 30 7 | 25 11 | 38 10 | 46 10 | 39 10 |
| — 30.. | 43 0 | 30 1 | 25 3 | 36 1 | 44 2 | 37 0 |
| Aug. 6.. | 43 7 | 29 0 | 25 1 | 32 8 | 46 5 | 37 6 |
| — 13.. | 43 11 | 30 1 | 25 2 | 33 3 | 46 7 | 36 9 |
| Agg. Aver. | 44 9 | 30 3 | 25 5 | 35 9 | 46 3 | 38 8 |

FLUCTUATIONS IN THE LAST SIX WEEKS AVERAGES.

| PRICES. | July 9. | July 16. | July 23. | July 30. | Aug. 6. | Aug. 13. |
|---|---|---|---|---|---|---|
| 46s 9d | — | .. | .. | .. | .. | .. |
| 46 6 | .. | — | .. | .. | .. | .. |
| 44 11 | .. | .. | — | .. | .. | .. |
| 43 11 | .. | .. | .. | .. | .. | — |
| 43 7 | .. | .. | .. | .. | — | .. |
| 43 0 | .. | .. | .. | — | .. | .. |


WANTED, A PARTNER to the NURSERY and SEED BUSINESS with £150 or £200. The concern may be taken to at a valuation. It has a first-class connection of 50 years' standing, is close to the railway station, fronting the principal street in the town, and has an unexpired Lease of 21 years.—For further particulars apply to Mr. TURNER, Fruiterer, New Market, Sheffield.

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TO NURSERYMEN AND SEEDSMEN.

SHOPMAN.—A young Man [illegible]

# The Gardeners' Chronicle Newspaper.

*SATURDAY, AUGUST 27, 1859.*



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## News of the Week.

THE formal annexation of Tuscany to Sardinia was unanimously voted on Saturday by the National Assembly of Florence; and on the same day the National Assembly of Modena unanimously voted the forfeiture of the Austrian dynasty of Este, and the annexation of Modena to Sardinia. At Parma, after a vote by open register, which lasted from the 14th to the 21st, the people, by an all but unanimous vote, declared for the deposition of the Bourbon dynasty and the annexation of the Duchy to Sardinia under the constitutional sceptre of VICTOR EMMANUEL. A defensive league has since been concluded between the States of Central Italy, and has already been signed by the delegates of Tuscany, Modena, and the Papal Legations. The object of this league is to prevent the restoration of the late Governments, to maintain internal order, and to lay down the basis of an assimilation of institutions throughout all the States of Central Italy. Meanwhile Prince PONIATOWSKI has arrived at Florence on a mission from the French Government, the object of which is not clearly understood. It is said in some quarters that he is instructed to effect the restoration of the late dynasty in the person of the son of the late Grand Duke, or to induce the Tuscans to elect Prince NAPOLEON as their sovereign, as the only means of escaping the restoration of the House of Lorraine. In other quarters it is said that the Prince is the bearer of a letter from the young Grand Duke, in which he intimates to the Assembly that, if they will consent to his restoration, the Austrian Government will undertake to establish the nationality of Venetia on a perfectly independent footing as a *bond fide* member of the Italian Confederation, and will at once release her from all political and even military connection with the Austrian Empire. Accounts from Zurich inform us that the Plenipotentiaries have agreed to the conditions of the transfer of Lombardy to Sardinia, and that "the affairs of the Duchies will be treated in a direct manner by the Courts of Paris and Vienna." The Belgian Chamber of Deputies on Saturday adopted the Government project of law for the fortification of Antwerp by a majority of 15, the members being 57 to 42; but there is reason to believe that the Bill will be rejected by the Senate. It was reported in Paris on Friday that the measure has given offence to the French Government, and that a French army of observation is to be directed to the Belgian frontier under the command of Marshal NEIL.

By the overland mail from Bombay we learn that nearly 10,000 men of the late Company's European force have claimed their discharge. The EX-KING OF OUDE has been set at liberty, and though the rebellion is still considered at an end, several engagements have taken place with detached bodies of rebels whom our troops have defeated with great loss. From China we learn that the fleet had left Shanghai in advance of the Ambassadors, in order to force the passage of the Peiho in the event of any opposition being offered to their visit to Pekin.

## Home News.

THE COURT.—The Queen, Prince Consort, and the Royal family continue at Osborne. On Friday the Queen, accompanied by the Duchess of Kent, Prince Arthur, and Prince Leopold, drove out. The Prince Consort, Princess Alice, Princess Helena, and Princess Louisa rode on horseback. On Saturday morning the Princess Hohenlohe left Osborne on her return to the Continent. The Queen, Prince Consort, Prince Alfred, and Prince Arthur, accompanied the Princess to Portsmouth in the Fairy, and returned again to Osborne. Count de Lavradio, the Portuguese Minister, arrived on a visit to her Majesty. On Sunday morning the Queen, Prince Consort, Prince Alfred, Prince Arthur, Princess Alice, Princess Helena, and Princess Louisa attended Divine service at Whippingham Church; the Rev. G. Prothero officiated. On Monday morning the Queen and Prince Consort, Prince Alfred, and the Princesses Alice and Helena left Osborne for Aldershott, arriving at the pavilion at half-past 1. In the afternoon the Queen and the Princesses drove in an open carriage and four to the neighbourhood of Cæsar's camp and witnessed the intrenching operations, the Prince Consort and Prince Alfred accompanying her Majesty on horseback. In the evening the Queen had a dinner party to which several of the general officers were invited. On Tuesday the Queen, Prince Consort, Prince Alfred, and the Princesses again visited the intrenched camp, and after witnessing the subsequent manœuvres of the troops, returned to Osborne. The Duke of Nemours arrived on a visit to her Majesty. On Wednesday the Queen and Prince Consort drove out, accompanied by the Duchess of Kent and the Duke of Nemours. Sir Charles Wood arrived on a visit. On Thursday morning the Duke of Nemours left Osborne. Lord Palmerston arrived on a visit to her Majesty.

HER MAJESTY'S VISIT TO SCOTLAND.—The Queen, Prince Consort, and the rest of the Royal family at present at Osborne will leave London for Balmoral on Monday next. Her Majesty will proceed to Edinburgh by the Great Northern Railway, the directors of which have received instructions to have a special train in readiness to leave King's Cross station at 9 P.M., so that the journey will be made by night. The Royal train will arrive at the St. Margaret's station, Edinburgh, at 10 minutes after 8 o'clock on Tuesday morning. The Queen will remain at Holyrood Palace during the day, and sleep there on Tuesday night. On Wednesday morning at 9 o'clock, her Majesty will proceed by railroad to Banchory, where the Royal carriages will be in attendance to convey her Majesty to Balmoral. Sir George Grey will be the Secretary of State in attendance upon her Majesty. It is understood that the Queen has determined to make the journey from London to Edinburgh by night on this occasion, in order to avoid the excessive fatigue consequent upon a 12 hours' railway journey under an August sun. The train will consist of three Royal saloons, with the usual number of first-class carriages and luggage breaks. The saloons will be fitted up in the French style, with mattresses and sofas, for the convenience of the Royal party.

THE PRINCE OF WALES.—It is reported that the Prince of Wales will visit Canada before the close of the season to open the Victoria bridge of the Grand Trunk Railway, which is to be completed in October. Mr. Gibbs, late tutor to the Prince, Sir Henry Holland, Physician to the Queen, the Hon. Mr. Bolton, and the Hon. Mr. Smith, Speaker of the Canadian House of Representatives, left Liverpool for Quebec on Wednesday, and their departure has given an air of probability to the rumour. On Saturday his Royal Highness paid a visit to the Bass Rock, the celebrated insular crag near the mouth of the Firth of Forth, and to Tantallon Castle, the ancient feudal stronghold which Sir Walter Scott has made famous in his poem of "Marmion." His Royal Highness afterwards proceeded through North Berwick and Dirleton to Archerfield House, the seat of the Right Hon. Nisbet Hamilton, where he remained till Monday. His Royal Highness attended Divine service in the parish church at Dirleton on Sunday, and on Monday returned to Holyrood.

THE PRINCE OF OUDE has broken up his establishment in Paris and left that capital on Saturday for Marseilles on his return to India. On the same day his attendants embarked at Southampton in the steamship Ceylon, for Alexandria, where they will join the Prince.

THE GRAND DUKE CONSTANTINE on Friday paid a second visit to Portsmouth dockyard, and after minutely examining the machinery of the Beagle, 6, now under repair, proceeded to the steam factory, the factory-office, &c., where he was engaged for some time. After calling on the Port Admiral at the Admiralty House, the Grand Duke and party returned to Ryde by the afternoon packet. The Russian screw corvette, Baian, 16 arrived at the Motherbank on Saturday from Cherbourg, and the new screw frigate Générale-Admirale, 62 guns, built in America for the Russian Government, arrived at the Motherbank on Sunday from Cronstadt. The report that the Grand Duke will proceed to Biarritz on a visit to the Emperor of the French on leaving the Isle of Wight, is said to be without foundation. Accounts from St. Petersburg state that the Grand Duke will, on the contrary, return direct from England to Russia, to be present at the *fêtes* which are about to take place on the 6th of September, when the hereditary Prince comes of age.

PARLIAMENTARY MOVEMENTS.—At the election for Hertford on Friday, the Right Hon. W. Cowper was elected by a majority of 78 over Mr. R. Dimsdale, the Conservative candidate, the numbers being 281 to 203. The election for Liskeard took place on Friday, when Mr. R. Bernal Osborne was elected without opposition. The election for Berwick took place on Saturday, when Mr. Marjoribanks, the Liberal candidate, was returned by a majority of 1 over Mr. Hodgson, the numbers being 305 to 304. The election for Hull took place on Saturday, when Mr. Joseph Somes, the Conservative candidate, was returned by a majority of 489 over Mr. J. B. Lewis, the numbers being 2068 to 1579.

DIPLOMATIC APPOINTMENTS.—The Queen has appointed Charles Lennox Wyke, Esq., now Chargé d'Affaires and Consul-General to the Republics of Guatemala, Nicaragua, Costa Rica, Honduras, and Salvador, to be Minister Plenipotentiary, on a special mission to those Republics. Her Majesty has also appointed the Hon. Henry George Elliott, now Minister at Copenhagen, to be Minister at Naples; Augustus Berkeley Paget, Esq., now Minister at Stockholm, to be Minister at Copenhagen; the Hon. W. G. Grey, now Secretary of Legation at Berlin, to be Secretary of Embassy at Paris; W. Lowther, Esq., now Secretary of Legation at St. Petersburg, to be Secretary of Legation at Berlin; J. Savile Lumley, Esq., now Secretary of Legation at Madrid, to be Secretary of Legation at St. Petersburg; Hon. R. Edwards, now Secretary of Legation at Frankfort, to be Secretary of Legation at Madrid; Hon. W. Stuart, now Secretary of Legation at Rio, to be Secretary of Legation at Naples; F. Hamilton, Esq., now Secretary of Legation at Athens, to be Secretary of Legation at Frankfort; Fletcher C. C. Conyers Norton, Esq., now First Paid Attaché at Paris, to be Secretary of Legation at Athens; and the Hon. William George Eden, now Paid Attaché to the Legation at Frankfort, to be Secretary of Legation at Stuttgardt.

CONSULAR APPOINTMENTS.—The Queen has appointed Henry Adrian Churchill, Esq., C.B., now Consul at Jassy, to be Agent and Consul-General in Moldavia; Andrew Cathcart, Esq., to be Consul in Albania; Sidney Smith Saunders, Esq., now Consul in Albania, to be Consul at Alexandria; Henry Walter Ovenden, Esq., now Consul at Maranham, to be Consul at Baltimore; George Brand, Esq., formerly Vice-Consul at Loanda, to be Consul at Lagos; and Charles T. Newton, Esq., now Vice-Consul at Mytilene, to be Consul at Rome.

COLONIAL APPOINTMENT.—Mr. Robert George Wyndham Herbert, Fellow of All Souls', Oxford, and Barrister, of the Inner Temple, has been appointed secretary to Sir George Ferguson Bowen, Governor of the new colony of Queensland, in Australia. Mr. Herbert will also hold, in the first instance, the commission of Colonial Secretary. He was highly distinguished both at Eton and Oxford, and was private secretary to Mr. Gladstone when Chancellor of the Exchequer in Lord Aberdeen's Administration.

KNIGHTHOOD.—The Queen has directed letters patent to be passed under the Great Seal, granting the dignity of a Knight of the United Kingdom to Edward Hay Drummond Hay, Esq., Governor of St. Helena.

THE CHANNEL FLEET.—Eight out of the 11 screw ships forming the Spithead division of the Channel fleet left that anchorage under steam on Saturday on a cruise to Ushant. The squadron consisted of the Royal Albert, flagship, 131; Algiers, 91; James Watt, 91; Agamemnon, 91; Hero, 91; Emerald, 51; Diadem, 32; and Flying Fish, 6; and it has since been joined by The Nile, 91; Cæsar, 90; Aboukir, 91; Topaz, 51; and Melpomene, 51; from Cork, Plymouth, and Portland. The other vessels of the fleet, the Trafalgar, 91; Mersey, 40; and Scout, 21; remain at Spithead; and the Edgar, 91; Impérieuse, 51; and Blenheim, 60; remain at Portland.

## Foreign.

FRANCE.—The *Moniteur* of Wednesday contains the following:—

"The Emperor having ordered that the army be placed from a war on to a peace footing, the Minister of War has given orders that from the 20th September those men should return to their homes whose term of service expires in 1859. Moreover, furloughs of three months will be allowed to those who are in that class of exceptional cases provided for by the statute of 1832, and the same has also been granted to the men who can prove that they are indispensable for the support of their family."

In a previous number the *Moniteur*, in announcing the various nominations to the chief military commands, stated that the augmentation in the number of these commands is in order to form a more equal division of the military forces of the Empire. The Emperor and Empress have arrived at St. Sauveur, where they will remain till the 5th of September, when they proceed to Biarritz. The Paris papers, with scarcely one important exception, contain articles in commendation of the amnesty, and state that no public act of the Emperor has given so much general satisfaction. The imperial decree by which the public journals are exonerated from effects of any warnings they may have received is also noticed by the Paris press in terms of great approbation; and the *Moniteur* of Thursday publishes numerous addresses from the Conseils Généraux to the Emperor, congratulating him on the late events. It appears that the amnesty applies to the persons condemned for the invasion of the Constituent Assembly on the 15th May, 1848; to those who were transported after the insurrection of June, 1848; to those who were condemned for the insurrection of June, 1849; to those who were banished after the *coup d'état* of the 2d December, 1851; to those who were condemned for offences of the press, and to those who were arrested after the attempted assassination of the Emperor on the 14th January, 1858. Notwithstanding the comprehensive character of the amnesty, M. Louis Blanc, M. Victor Hugo, and General Changarnier have announced that they do not intend to avail themselves of it. At the *fête* of the 15th inst. the Emperor pardoned 1127 persons, sentenced for various crimes, offences, and infringements of the law, or reduced the terms of their imprisonment, and either pardoned or commuted the term of imprisonment of 922 soldiers sentenced for various offences. A rumour has been widely spread and has obtained much credence in Paris, that in consequence of a dispute respecting the conduct of their divisions at the battle of Solferino, Marshals Niel and Canrobert had fought a duel, in which the latter was said to have been killed—according to other accounts only wounded. It has found belief in military as well as in civil circles, but there is reason to believe that it is entirely without foundation. Six Thames watermen have carried off the prizes in 14 rowing matches at the regattas of Dieppe, Rouen, and Paris.

BELGIUM.—The discussion relative to the fortifications of Antwerp in the Belgian Chamber of Representatives has ended in the adoption of the project by a majority of 15. In the sitting of the 19th inst. General Chazal, Minister of War, pointed out the advantages offered by Antwerp as the basis of a system of national defence of Belgium, and gave the many reasons which determined the Military Commission on pronouncing itself in favour of the plan of the great *enceinte*, as proposed by the Government. After making a warm appeal to the patriotic sentiments of the Chamber, the General stated that as yet only two-thirds of the grant voted for the works had been expended, and that the strictest economy should be observed. Three Opposition members supported the adjournment of the project, but the amendment was rejected by 58 votes to 43. General Chazal, Minister of War, energetically opposed the proposed adjournment. M. Rogier, the Minister of the Interior, declared that if the adjournment was carried the project would be withdrawn by the Government, and would not be again presented unless by a new Ministry. On Saturday the Chamber divided, when the project of law was agreed to by 57 votes to 42. There were 106 members present, of whom 7 abstained from voting. The Senate is convoked for the 30th to pronounce on the Bill. Much agitation is manifested in Belgium on the subject of the measure, and it is thought that the Senate, taking into consideration the small majority in the Chamber of Deputies, will reject it.

SWITZERLAND.—The Plenipotentiaries of France and Austria had interviews on the 18th and 19th. On the 20th there was no sitting of the Conference, but the Plenipotentiaries of France and Sardinia held a consultation together. On the 23d the Plenipotentiaries of France and Austria held a Conference, which lasted two hours. On the 24th the French and Sardinian Plenipotentiaries held a Conference, the former having received despatches from Paris. Count Colloredo had a slight attack of apoplexy in the evening, but was better on Thursday. At the banquet given by the Austrian Ambassador in honour of the birthday of the Emperor Francis Joseph, Count Colloredo said, that the fact of all the Plenipotentiaries being present proved that the work of peace would be crowned with success. The Count also proposed as a toast the permanence of the friendship between Austria and Switzerland and the Government of Zurich. The latest news from Zurich states that the French and Austrian Plenipotentiaries have regulated the settlement of the affairs of Lombardy, with the consent of the Sardinian Plenipotentiary, and that the arrangement is expected to be confirmed by the different Sovereigns. The affairs of the Duchies will be treated of directly between the Courts of Paris and Vienna.

PRUSSIA.—The King of Prussia is no longer in immediate danger, and is likely to continue in his present state for some time to come. In consequence of the change the Prince Regent left Potsdam on Sunday for Ostend. It is officially announced that the Prussian Government will send an embassy to China and Japan in October next, and that the diplomatic duties of this mission will be entrusted to Baron von Richthofen, who has hitherto been Prussian Minister to the Hanse Towns and to Mecklenburg. The library of the late Baron von Humboldt, bequeathed by him to his valet, has been purchased for 40,000 thalers by Lord Bloomfield, British Minister at Berlin.

AUSTRIA.—The official *Gazette* of Vienna of Monday last announces that Count Rechberg retains his post as Minister for Foreign Affairs, and is appointed President of the Cabinet; that Baron Hubner is appointed Minister of Police; Count Golochowski, Minister of the Interior; that Baron Kempen von Fichtenstamm, Chief of the Police, is dismissed with a pension; and that Baron Bach, formerly Minister of the Interior, has been appointed Ambassador to Rome: that the Ministry of Commerce is entirely dissolved; and that its duties are divided between the Ministries of the Interior, Exterior, and Finance. The non-official portion of the same journal contains an article stating that

there is a general feeling of anxiety in the public mind concerning the subjects which have been till now under serious deliberation by the Superior Council, and which are:—1. Regulation of the Finances; 2. Free exercise of the Protestant religion; 3. The regulation of Jewish affairs; and 4. The regulation of the municipalities. The representation of the provinces will later come under deliberation. The article concludes by saying that, "Too great caution in advancing is as much to be avoided as too much haste."

Italy.—The National Assembly of Florence on Saturday unanimously voted the annexation of Tuscony to Piedmont, amid the acclamations of "*Viva il Rè!*" On Saturday the National Assembly of Modena by an unanimous vote (by ballot) declared the forfeiture of Francis V., and any other Prince of the house of Hapsburg-Lorraine, to the ducal throne. It then unanimously decreed the annexation of Modena to Piedmont, and adopted the proposal to confirm the dictatorship of Signor Farini, who has since been authorised to raise a loan of five million lire. At Parma the vote by open register, which lasted from the 14th to the 21st, has led to the all but unanimous declaration of the people for the *déchéance* of the Bourbon dynasty and the fusion of the Duchy with Piedmont under the sceptre of Victor Emmanuel. A defensive league has also been concluded between the States of Central Italy, and has been signed by the Marquis Ginori for Tuscany, the Marquis Coccapani for Modena, and Prince Astorre Hercolani for the Junta of Bologna. The object of this league is thus defined by the Italian journals:—To prevent the restoration of the fallen governments; to maintain internal order; and to lay down the bases of the assimilation of institutions. Notwithstanding these demonstrations in favour of independence, Prince Poniatowski, who has arrived at Florence on a mission from the French Government, is said to be the bearer of two letters—one from the ex-Grand Duke Leopold II., announcing his abdication in favour of his son; and another from the son Ferdinand IV., stating that if the Tuscans will consent to his restoration Austria will appoint one of her Archdukes to govern Venetia on a completely independent footing, severing it from all political and even military connection with her empire, so that, with the exception of the governor, Venice shall be as national and Italian as Piedmont herself, and shall unite her interest wholly and exclusively with those of the Italian Confederacy, of which she will become a *bonâ fide* member. On the other hand it is said that French agents are at work with a view to induce the Tuscans to accept Prince Napoleon as their king as the only means of escaping the restoration of the Austrian princes. The *Opinione* of Turin publishes the answer made by King Victor Emmanuel to the members of a deputation who had presented to his Majesty a medal destined to perpetuate the memory of the magnanimous words he pronounced on the 10th of January last, at the opening of the Legislative Session. In his answer the King declares that nothing can be more clear than the Italian question, or more satisfactory than the conduct of its population. General Garibaldi has arrived at Modena. It is confirmed that he is charged with the command of the Tuscan army. Madame Mario, late Miss White, the Mazzinian agent at Genoa, and her husband, Alberto Mario, have been arrested at Ferrara, and taken to Bologna. They had passed through France under the name of Martinez, and are believed to act under orders from Mazzini. They had been treated with great consideration, and it was thought that they would soon be restored to liberty on condition of leaving the country. The disbanded 4th Regiment of Swiss troops embarked at Naples on Sunday for Marseilles in the best possible order, having previously received the whole pay due to them. They numbered 1669 privates and 14 officers. All these troops were landed safely on Wednesday at Marseilles.

Malta.—Letters from Malta state that an outbreak of a mutinous character took place on board the admiral's ship Marlborough, while lying at Castellammare, near Naples, in which a great number of the crew took part; but no warrant or petty officers. The mutineers not only rolled the shot along the deck, but actually threw them at the officer in charge. The admiral turned up the hands, and addressed the malcontents, and after order had been restored, ordered them to their different messes. The men afterwards put their grievances in writing, and it is said that out of several statements drawn up there were many different versions of their complaints. It is reported that Lord F. Kerr shed tears at the conduct of the men, and said he would rather have been shot than have witnessed such a disgrace to the leading ship of the Mediterranean fleet. Five of the ringleaders are in irons, and will be tried by court-martial.

Morocco.—Letters from Tangiers state that the Emperor of Morocco is seriously ill, and the English physician has been summoned in great haste. Fears are entertained of disturbances taking place in case of his death, followed probably by a massacre of the Christians. It is said that disturbances have already occurred at Ceuta between the Moors and the Spanish troops employed in the erection of the new fortress.

Turkey.—Letters from Constantinople of the 20th inst. state that the Sultan has been taken ill, and mention the death of Prince Vogorides. Mohammed Pacha has been appointed Governor-General of Smyrna. The Sultan has presented the Dragoman of the Russian Ambassador with a country seat. M. de Lesseps will go to England, in order to remove the obstacles by which the English Government opposes the Suez Canal. A short time since the Sclustria, Turkish steamer, was lost on her passage to Alexandria in consequence of the negligence and incapacity of its captain. An Egyptian transport went to her assistance, when the Mussulmans hastened to save themselves first, and the captain was so intent upon pillaging money and other valuables on board, that he perished, the victim of his crime. The Mahometan passengers, among whom was the famous Said Pasha, who was recently charged with the important mission of inquiring into the massacre of the Christians at Jeddah, rushed upon the passengers and massacred them for the sole purpose of appropriating to themselves what they possessed. Luckily for the Christians there were among the passengers 28 Austrian seamen, who armed themselves in haste with what first came to hand, and defended the Christians to the last moment. Nevertheless the number of persons killed by the Mussulmans amounted to 77, while the total number of passengers was 750. On the arrival of the transport at Alexandria an inquiry was immediately commenced, and the guilty parties will be condemned. Among the last Said Pasha stands at the head of the list; because if he had not given the example of fanaticism and cruelty all the passengers would have been saved.

The Principalities.—Another attempt has been made on the life of Prince Couza, but it fortunately failed. Musurus Pacha has been empowered to settle the question of the Principalities.

Egypt.—Accounts from Alexandria state that the Viceroy is increasing his army considerably.

India.—The Bombay mail arrived on Saturday night with news from that presidency to the 21st July. The number of the Company's European force who have claimed their discharge is nearly 10,000. It is said that their cry has been for "England, home, and beauty," accompanied by an execration upon, what some of them term, this "ungodly land." The Government has chartered two vessels for the conveyance of 1200 of these soldiers, who return to Europe. The ex King of Oude has been set at liberty. A strong police force has been stationed on the frontiers of Oude, in order to prevent a possible inroad of rebels into that country. Captain Renny, on the 1st July, with a detachment of the 3d Sikh Infantry and a troop of native cavalry, surprised a body of rebels at Chalupore, under the Nepaul hills, capturing 20 men, 3 elephants, 2 camels, a number of horses, and a quantity of arms; some of these prisoners being recognised as having belonged to the 42d, 60th, and 67th Native Infantry. Major Vaughan also attacked a body of rebels 1000 strong in a pass leading to Nepaul and defeated them with great loss. A party under Captain Cleveland had gone in pursuit of the Akoond Rajah, who with 200 men was encamped in the jungle, but the Rajah escaped with the loss of about 25 men, tents, baggage, &c. In Central India Major Meade has had an encounter with some rebels near Sepree, in which 40 men of the 92d Highlanders, 100 of Meade's Horse, and 100 of the 9th Native Infantry took the village by storm, whereupon the rebels took shelter in a square tower, whence they were finally smoked out, and destroyed to a man, with a loss of 10 killed and wounded on our side. From Nuggur Parkur we hear that the Rana, taking advantage of the withdrawal of the main body of the troops, made a successful attempt to escape, cut the tent-ropes, seized the treasure, and liberated the prisoners and killed the guards. Two important actions have been fought near Saugor by Lieut. Rosone, of the 10th N.I., with certain rebel bodies, consisting, it is supposed, of the *débris* of Tantia Topee's force. Sir Hugh Rose has been decorated at Poonah in the presence of the Commander-in-Chief of the Presidency and the assembled troops with the order of G.C.B. The ship Alma, 1187 tons, Captain Munro, from Calcutta for the Mauritius, was wrecked on the 5th of June in the eastern or Saugor Channel of the Hooghly: the captain, his wife and child, the wife of Lieutenant Buck and his servants (passengers), Mr. Lang, the pilot, and 14 of the crew being drowned. It appears from a published statement of the chief mate that these 20 lives were lost in consequence "of the absence of the tholes of the boats, which were seldom kept in the boats, but in a locker in the fore-cabin."

China.—Accounts from Canton of July 5 state that the fleet, composed of 19 vessels, proceeds in advance of the three Ambassadors of England, France, and America, in order, should it be necessary, to force the passage of the Peiho. From Cochin China we learn that negotiations of peace were expected at Touranne.

Borneo.—A general massacre of Christians in two towns of a district in Borneo is reported to have taken place. Pilgrims from Mecca, it is supposed, gave the signal for the outbreak.

United States.—It is stated in a letter from Boston that two vessels were fitting out at Salem for the slave trade on the coast of Africa. The principals in the affair are said to be a Spanish firm in New York. A despatch from Washington states that a cargo of 600 Africans had been landed on the coast of Florida, near Tampa. As soon as the landing was effected the vessel was fired and abandoned. The statement is made on the authority of the United States Marshal Blackburn. The Hon. Horace Mann died a few days since, and a meeting has been held at Boston to erect a monument to him at Mount Auburn.

Canada.—The ceremony of laying the foundation stone of the last pier of the Victoria Bridge took place on the 13th August. It is said that a more abundant harvest has never been known in Canada. The greatest excitement prevails all over the surrounding provinces in the United States and Canada, in consequence of the approaching visit of the "All England Eleven." It is understood that the English party will play the first match against 22 of Montreal, and that three similar matches will probably take place at Toronto, Philadelphia, and New York.

## City Intelligence.

The Russian Loan.—The subscription to the Russian loan of 12,000,000*l.* closed on Saturday. The total applied for is understood to be nearly [illegible], of which not more than 100,000*l.* is taken by the Stock Exchange. The closing quotation was par to ¼ premium.

India Loan.—The India 6 per cent. loan of 3,000,000*l.* was successfully contracted on Tuesday. The minimum price fixed by the Council was 95, and it appeared upon opening the tenders which [illegible] nearly 800, that there were 567 bidings for 3,817,500*l.* at and above that point, while there were also tenders on lower terms for about 2,500,000*l.* The [illegible] tion ranged between 97 and 97¼: but there were [illegible] at or about 98, and one at the extraordinary price of 100. Messrs. Rothschild sent in a list for nearly 1,000,000*l.* at 97*l.* 6*s.* 6*d.*, and nearly another 1,000,000*l.* was subscribed at 97*l.* 1*s.* At the *minimum* price of 97 the cost of the loan (reckoning accrued dividend and discount for prepayment of instalments) will be 95*l.* 17*s.*

Court of Bankruptcy.—A petition in bankruptcy has been filed against Mr. John Edward Butler, of the firm of Smart & Butler, solicitors, of 56, Lincoln's Inn Fields, who has absconded with liabilities believed to exceed 100,000*l.* It is said he has misappropriated large sums intrusted to him as solicitor and trustee. Mr. Smart is in no way implicated in these charges.

Money Market, Friday.—British Funds. Consols Closed at 95¼ to ⅜, both for Money and Account; Bank Stock, 223 to 224; Reduced and New Three per Cents., 96¼ to ¼; New Two and a Half per Cents., 89¼; India Bonds, 8*s.* dis.; and Exchequer Bills, 20*s.* to 23*s.* prem.—Foreign: Buenos Ayres Six per Cents. for Account, 73; Turkish Six per Cents., 1854, for Account, 83¼; ditto, 1858, for Account, 74.

## Bank of England.

ISSUE DEPARTMENT.

| | £ | | £ |
|---|---|---|---|
| Notes issued .. .. .. | 30,000,000 | Government Debt .. .. | 11,015,100 |
| | | Other Securities .. .. | 3,030,300 |
| | | Gold Coin and Bullion .. | 15,954,600 |
| | | Silver Bullion .. .. .. | — |
| | 30,000,000 | | 30,000,000 |

BANKING DEPARTMENT.

| | £ | | £ |
|---|---|---|---|
| Proprietors' Capital .. | 14,553,000 | Government Securities (including Dead Weight Annuity) .. | 4,214,668 |
| Rest .. .. .. | 3,444,792 | Other Securities .. .. | 14,401,415 |
| Public Deposits (including Exchequer, Savings Banks, Commissioners of Nat. Debt, and Dividend Accts.) | [illegible] | Notes .. .. .. | [illegible] |
| Other Deposits .. .. | [illegible] | Gold and Silver Coin .. | 661,425 |
| Seven day and other bills | [illegible] | | |
| | [illegible] | | [illegible] |

2nd day of August, 1859. M. MARSHALL, Chief Cashier.

## Gazette of the Week

TUESDAY.—BANKRUPTS.—J. Brooksbank, Albion Street, Newington, Surrey, Builder—E. Cooke, [illegible] and Cooke, Manchester, Dyers [illegible] Crossley and Brothers, Bradford, Yorkshire, Carpet Manufacturers—J. Wilson and Sons, Manchester, Warehousemen—[illegible] Wilson, late of New [illegible] Manchester, Warehouseman—S. Middleton, Oldham, Ironmonger—S. [illegible] Manufacturer—E. Ormrod and R. Roberts, [illegible] Agents—W. N. Peckins, Torquay, Auctioneer—W. [illegible] Bond Street, Coachmaker—[illegible] Worcester, Innkeeper.

BANKRUPTCY ANNULLED.—T. Hooper, of John Street, Bedford Row, Carpenter and Surveyor.

FRIDAY.—BANKRUPTS.—J. Cook, Liverpool, Eating House Keeper—W. Gatty, Topsham, Devonshire, Ironmonger—C. Dawson, Leicester, Draper, Commission Agent—J. Mercer, Congleton, Cheshire, Lace Manufacturer—R. Mercer, Congleton, Cheshire, Lace Manufacturer—A. Stevenson, Great Tavistock Street, Covent Garden, Tailor—J. Cooper, Liverpool, Licensed Victualler—J. Cooper, Liverpool, Licensed Victualler—J. White, 3, Lower Grosvenor Street, Grosvenor Square, Tailor—A. L. Wappler, Aldermanbury, Stuff Manufacturer—J. Yates, Bolton-le-Moors, Lancashire, Cotton Spinner.

## Metropolis and its Vicinity.

The Builders' Strike.—A full meeting of the executive committee of the Central Association of Master Builders was held on Tuesday, at which Mr. Trollope reported that his firm had now 127 men at work, all of whom had gone in under the declaration. These did not include gilders, carvers, cabinet-makers, upholsterers, or men of that class, but the ordinary operatives of the building trades. He thought he might fairly be considered to have resumed work, and that being so, he saw no objection to the masters opening their shops at once if they thought fit. After a brief discussion, however, it was unanimously resolved that it would be inexpedient to recommend the members of the association to reopen their yards until Messrs. Trollope had an "adequate" number of workmen in all the branches of the trade, and the meeting was adjourned until Tuesday next. The proceedings were conducted with closed doors; but it is understood that the masters expressed themselves grieved to inflict further hardships upon their well-disposed workmen who would be willing to resume their employment and make the declaration, but they considered that the ultimate end for which the association had been formed would be best accomplished by deferring the resumption of work. The belief also was generally expressed that the solution of the whole

difficulty and the interests of true humanity to the workman would be thereby best advanced, by enabling him to break the shackles of the union which at present hold the operative in thraldom, and prevent him from making a free contract when he is disposed to do so. On Tuesday evening an adjourned meeting of trades' delegates was held, and was attended by a number of delegates from various metropolitan trades. Mr. Potter, secretary to the Conference of United Building Trades, having given an explanation of the state of the movement up to the present time, several delegates addressed the meeting, and promised the support of their trade associations to the nine hours' movement, strongly condemning the "obnoxious document." The shoemakers' delegates said they were supporting a strike of their own trade at Oldham, but still they were determined to make a levy for the builders. The delegates of the engineers said that they proposed to give 1000*l.* towards the movement. The grant had been agreed to by the executive committee, and only wanted the sanction of the general body. Other promises of support followed, and the meeting again adjourned. The Conference on Monday paid the sum of 175*l.* to the labourers' delegates for the purpose of paying 1*s.* 1*d.* to each labourer who is locked out, but owing to some misapprehension of the plan upon which the payments were to be made, a considerable number of the labourers, failing to apply at the proper places at the proper time, did not obtain the dole. This led to a vast amount of discontent, and on Tuesday an excited throng of labourers assembled outside the Paviours' Arms, and with threatening gestures and violent language, demanded money. They were at length convinced by the production of the receipts that the money had been paid to their own delegates. With reference to this allowance it should be remarked that although the Conference were only enabled to distribute out of their funds at the rate of 1*s.* 1*d.* per head, the sums actually received per man amounted to from 5*s.* to 8*s.*, the difference being made up by the several societies of which the men are members. The United Trades' Association have now sent delegates into the provinces to enlist the sympathies of the operatives in the movement for limiting labour to nine hours.

THE JOURNEYMEN BAKERS AND THE SHORT TIME MOVEMENT.—On Saturday evening the journeymen bakers held a meeting at the Cowper Street Institution, City Road, in furtherance of their revived movement for shortening the hours of labour from 18 to 12 hours daily, and to substitute day for night labour. There were about 700 operatives and their wives present, the majority of whom came to the place of meeting in a procession headed by a band playing military music. The Rev. Mr. Stovell took the chair. Mr. Ayton moved the first resolution, to the effect that the present system was not consistent with reason, justice, or humanity; the operative baker being compelled to work an unlimited number of hours for a fixed remuneration, without proper time for natural rest, whereby he became morally and physically incapable of discharging his duties as a Christian, a parent, and a citizen; and it was therefore the opinion of the meeting that a limitation of the hours of work to 12 hours each day would be beneficial alike to master and man, and would relieve the excessive toil which drove the journeymen to have recourse to stimulants. Mr. Bennet, in seconding the resolution, quoted the example of the Scotch bakers, who for the last 13 years enjoyed the advantages for which they were looking, to show the feasibility of the proposal, and to prove that the public would not be inconvenienced by the change. The resolution having been supported by Mr. Mansfield, was carried unanimously, as was another pledging the meeting to use only legal and constitutional means in their agitation.

THE RICHMOND MURDER.—After the sentence of death had been passed upon Dr. Smethurst, the warrant of the Court, signed by the Lord Chief Baron, was handed to Mr. Jonas, the Governor of Newgate, for his removal to the county gaol of Surrey in Horsemonger Lane, but as a great multitude of persons were waiting in the Old Bailey anxious to catch a glimpse of the prisoner, an ingenious mode was resorted to in order to avoid confusion. A cab was drawn to the door of the prison from which it was, of course, expected that he would be taken; but instead of this he was taken through the Courts into the Old Bailey, where a cab was in readiness, and he was safely lodged in Horsemonger Lane Gaol before the crowd were aware that he had left Newgate. Since his condemnation, as well as before the trial, he has appeared desirous to enter into conversation with those about him upon the subject, and very anxious to impress them with the idea that there was no foundation for the charge of murder. There is, however, this singular resemblance between the prisoner and William Palmer, that he apparently has some reservation on his mind, as he invariably declares that "arsenic" was not the cause of death, and it will be remembered that down to the last moment Palmer declared that Cook did not die of "strychnine," and that it was reasonably inferred from the observation that some other description of poison had been made use of. He asserts that the charge had been made from ill-feeling towards him, and that Dr. Taylor would rather his life should be sacrificed than that his own reputation should be in any way affected or injured. Since he has been in confinement he has only been visited by one relation—his brother. Although his age was stated at the trial to be only 48, it is certain that he is several years older, and there is very little doubt that his object in understating his age was to make it appear that at the time of his first marriage he was a mere boy, only 18 years of age, the marriage having taken place 30 years ago, and the present Mrs. Smethurst being at that time 45. This fact has been ascertained in a rather singular manner, and it appears that in the very year when the first marriage took place, 1828, the prisoner was in custody at Horsemonger Lane Gaol upon a charge of obtaining goods by false pretences, and at that time his age was stated to be 24, so that he would be now 54 years of age, which is believed to be his correct age. He was under remand at that time for a week, and was then discharged by the magistrate. With regard to his early life, it appears that he is the son of a small schoolmaster, and was born in the neighbourhood of Coventry in 1804. There is, however, no pretext for the allegation that his father was tutor to the Earl of Dysart, nor does there appear to be any better foundation for his assertion that he is a regularly educated medical man. According to his own account, as detailed in a boarding-house where he lived, he married his present wife from feelings of gratitude for her attention to him when ill during the period of his career as a medical student; but there is no proof that he originally was more than a chemist, or possesses a higher professional degree than that of the Apothecaries' Company and a German diploma. He undoubtedly however carried on medical practice at Stockwell, Camberwell, and various places adjoining London. But it was at Ramsgate where he practised longest and was best known; he carried on business there for several years, and it is but fair to add that, except being considered somewhat close-fisted and fond of money, he bore a tolerably respectable character. After residing there for some time he left for Germany, with the double view of placing himself under the celebrated hydropathist Priessnitz, for the purpose of obtaining relief from a lameness with which he was afflicted, and of acquiring a sufficient knowledge of the system to enable him to practise it. On his return to Ramsgate he opened a cold-water cure establishment, and published a book upon the subject, entitled "Hydropatheria." The book is rather respectable as a compilation, and it is somewhat remarkable that when absent in Germany his practice was, at his request, taken care of by a gentleman before whom he was eventually brought at Richmond on the charge of murder. But at Ramsgate he never got into what is termed "fashionable" practice, and he consequently removed to the establishment of Moor Park, in Surrey. After keeping this for several years he eventually sold it to advantage, and led a comparatively private life until arrested on the charge for which he has recently been condemned. In consequence of the conflict of the medical evidence at the trial, and the alleged errors of the chemical experiments, there seems to be some doubt whether the sentence of death will be carried out. The *Times* of Monday says:—

"Some doubts appear to be entertained, notwithstanding the conviction and sentence of the prisoner, whether the capital sentence will be carried out. It is said that during the trial an opinion was expressed in a high quarter that it was a case for a conviction, but not one in which the capital punishment should be carried out, and this opinion seems to be very considerably confirmed by the fact that the Lord Chief Baron, in passing sentence, merely made some observations in reference to the crime and to the prisoner's statement, and omitted altogether to tell him that there was no hope, and to prepare to leave this world, which is always done in cases where the judge intends the sentence of death to be carried out. This may have been an accidental omission in the excitement of the moment, but persons well qualified to form a judgment infer that it was intentional, and that the Crown will be recommended to spare the life of the prisoner, and commute the capital sentence to one of penal servitude for life."

DISTURBANCES IN ST. GEORGES-IN-THE-EAST.—On Sunday last the disturbances which have so long prevailed in the parish church of St. George's-in-the-East assumed so serious a character that the Bishop of London has found it necessary to interfere. It appears that after the conclusion of the afternoon lecture, which is delivered by the Rev. Hugh Allen, a Low Church clergyman appointed by the parishioners, the Rev. Bryan King, the rector, has a service performed in the ultra-Tractarian style, with crosses, candles, and coloured cloths, accompanied by choral service, kneeling to the altar, and other well-known observances of the party. The officiating clergyman, who was stated to be the Rev. Mr. Jennings, the curate of Stepney, had a large black beard and moustache, and wore the Oxford master's hood, with a cross woven upon his scarf. As soon as he appeared in the church there was a great uproar, followed by hisses, cat-calls, whistling, hooting, and imitations of a billygoat. At the close of the Litany the clergyman bowed to the altar and retired, while the congregation hissed, yelled, and indulged in the most hideous noises, and there is no doubt that the clergyman would have been ill-treated by the mob on leaving the church if he had not got away by a private door. In consequence of these proceedings the Bishop of London has addressed a letter to the churchwardens, reminding them that it is their duty to prevent such disturbances; but the churchwardens allege that it is impossible for them to control the rector, who is determined to continue the services which have given so much offence to the parishioners at large. On the other hand a notice has been served upon the churchwardens at the instance of the rector, intimating that if they do not maintain order during his afternoon service they will be proceeded against in the Ecclesiastical Court.

THE RIFLED CANNON FACTORY.—Sir William Armstrong has succeeded in accomplishing the rifling of any guns employed in the service which present a surface at the bore fit to secure the grooves, and of sufficient tensile strength to resist the explosive power required to fire the heavy shot now in use. Some experiments have been carried out at Shoeburyness in the most successful manner with some of the guns which have undergone the transformation from the smooth to the rifled bore, hitherto considered impracticable. The first gun submitted to trial was an 80-pounder on Sir William's original plan; the second an ordinary 32-pounder service gun, rifled on the plan of Sir William Armstrong, and adapted for elongated cast iron shot or shell. They were sent from the department at Woolwich Arsenal without preliminary proof or test, and were fired over a range of 3400 yards. The result exceeded the most sanguine expectations. The target was 6 feet square, into which every shot—namely, six rounds from each gun—penetrated with terrific and certain aim. The energy displayed in the present restricted limits of the establishment presents ample evidence that Sir W. Armstrong's stipulation to furnish 100 guns for service during the present year will be fully performed. The whole of that number are already in form, and will be completed and delivered under ordinary circumstances long before the prescribed period.

THE GREAT EASTERN.—The preparations for the starting of the Great Eastern are proceeding with satisfactory rapidity, and in the meantime the interest of the public in the undertaking continues to increase. The office in King William Street is daily crowded with applicants, some for tickets to view, but the great majority for passages for the experimental trip, for which a very large number of berths have already been engaged. At a meeting of the company on Saturday it was resolved to issue the 30,000 reserved shares to provide a working capital. It was also determined not to insure the ship publicly, leaving to each shareholder the power of insuring privately to the amount of his individual holding. The members of the House of Commons who were present at the recent entertainment on board, have presented an address to the directors expressing their admiration of the ship as one of the noblest efforts of genius and mechanical skill which has ever been produced in this or any other country, and their high appreciation of the object for which the ship has been designed.

SALE AT VAUXHALL GARDENS.—On Monday afternoon a vast number of persons were attracted to Vauxhall Gardens by the sale of the well-known theatre, orchestra, dancing platform, fireworks gallery, fountains, statues, vases, &c. The old associations connected with the different articles were however insufficient to realise any but the most insignificant prices. A deal painted table, with turned legs, one of the original tables made for the gardens in 1754, which the auctioneer said was more than 100 years old, sold for 9*s.*; the large painting of Treport, in France, was knocked down for 2*l.* 7*s.*; while another painting, quite as large and apparently as good, realised only 3*s.* The large painting in the coffee room, representing the King of Sardinia with the Order of the Garter, being introduced by Prince Albert to the Queen, brought only 35*s.*, while an equestrian picture of the Emperor and Empress of France at a hunting party, in the costume of Louis XIV., realised the ridiculous sum of 22*s.* The great feature of the day's sale was the circular orchestra, with minarets, leaded cupola, roof, and gallery, drinking bars, organ, &c., and this realised 5*l.* The monster platform for dancing brought in 3*l.* There were in all 274 lots, and many of them were knocked down at the lowest conceivable prices. The whole of the articles purchased are to be removed during the present week, as the ground is to be cleared for building.

FORESTERS' FETE AT THE CRYSTAL PALACE.—The terminus at London Bridge and its approaches on Derby-day furnished no parallel whatever to the scene which that locality presented during the greater part of Tuesday. The occasion was the fête of the Order of Foresters, which for or five years past has been held at the Palace; and the members of the Order, who are principally mechanics, came in thousands with their wives, families, and sweethearts, by excursion trains from Southampton, Brighton, Hastings, Portsmouth, Salisbury, Littlehampton, Deal, Deptford, Greenwich, Woolwich, and many other places. The extraordinary appearance of the men as they passed in procession through the streets of London attracted much attention. Many of the leaders were dressed in cocked hats, green coats, and stage boots, while most of them wore a singular preparation of sheepskin to indicate that they were "shepherds," a title of honour conferred upon those who have passed through the principal offices of the order, such as "woodwards," "rangers," &c. Others who were less extensively decorated carried flags indicating their respective lodges. The trains to the Palace commenced running from the London Bridge and Pimlico stations about half-past 8 in the morning; but from 11 o'clock till 1 was the interval of greatest pressure on the railway accommodation, and again from 6 in the evening until after midnight. The number of visitors to the Palace on the corresponding fête of last year was 45,700 odd; but on this occasion it amounted to 63,181—the largest concourse of persons that has ever been attracted there in any one day. The conduct of this immense mass was in every respect admirable; hardly a single case of drunkenness was observed, the greatest order and good humour prevailed, and no damage whatever was done to the property of the company within or without the Palace.

Murder by Poisoning at Poplar.—On Monday a reward of 100*l.* was offered by Government for the apprehension of George Frederick Rogal, *alias* Reynolds, *alias* Regnold, who stands charged on the coroner's warrant with the wilful murder of Zipporah Wright, a single woman lately residing at Gough Street, East India Road, Poplar. It appears that the deceased, who was respectably connected, and had been living with the accused for a considerable time, gave birth to a male child about the 4th of June last. After her accouchement she was seized with violent vomitings, and when the landlady went up stairs to her she said that the man had given her some coffee, which had made her ill. She continued to get worse and died in a few days under very distressing circumstances, exclaiming a few hours before, "God forgive him!" An inquest was held on the body, and at the second sitting the jury returned a verdict of Wilful Murder against the accused, as the evidence of Dr. Letheby proved that deceased had died from the administration of a quantity of cantharides. The accused had formerly been employed at a practical chemist's, but had latterly been working as a shoemaker for a large firm in the Whitechapel Road.

The Public Health.—The Registrar General's weekly return states that the number of deaths in the week ended Saturday, the 20th August, was 1185. In the corresponding week of 1849 and 1854 the numbers were 2230 and 1883; but the deaths in the corresponding weeks of other years, after due correction for the increase of population, were 1185. The present return is therefore very near the average. During the week the births of 917 boys and 864 girls, in all 1781 children, were registered in London. In the 10 corresponding weeks of the years 1849-58 the average number was 1555.

## Provincial.

Aldershott.—On Monday afternoon her Majesty, accompanied by the Prince Consort, Prince Alfred, and other members of the Royal family, arrived at the camp from Osborne, and witnessed the commencement of a series of evolutions founded on the supposition that the Aldershott division had received orders to oppose the progress of an enemy advancing on London from the coast by Farnham. Her Majesty drove to the ground about 3 P.M. in a carriage-and-four; the Prince Consort riding on horseback in the undress uniform of a field-marshal, with Prince Alfred in the uniform of a midshipman of the Royal Navy. As soon as her Majesty came upon the field the evolutions commenced. The brigades were moved down to the slope of the hill overlooking the Farnham road, and as fast as they could be got into line commenced a file fire, which was supported from all commanding points by an almost equally rapid cannonade. The brigades then retired in columns, the batteries were advanced, powerful covering bodies of riflemen were thrown out, and under their protection strong working parties advanced to intrench the weakest points of the position on Hungry Hill. For this purpose 2 000 men were told off, viz., 480 for the breastwork on the left, 900 for the centre, and 620 for the right. As each of these working parties was relieved several times, it required the labour of upwards of 8000 men to complete the works. This part of the programme, however, seemed to be devoid of general interest, and her Majesty, after watching the progress of the operations for a short time, drove off the ground. On Tuesday morning the line of intrenchment, forming a vast semicircular curve, upwards of a mile in length, was completed by about 10 o'clock. At 11, the Queen and Royal party arrived on the ground and witnessed the result of the labours of the intrenching party in a decisive battle, which resulted, as usual, in the total repulse and destruction of the enemy. A general halt was then sounded, and some of the regiments piled arms. As they all carried their provisions and water for the day, it was at first generally imagined that the halt was called to allow the men to dine before renewing the pursuit. However, after an interval of about an hour, which was employed by her Majesty and the Prince Consort in riding along the line and inspecting the works, the "assembly" was sounded, and each brigade returned to camp. Contrary to the general custom on these occasions, there was no marching past. Her Majesty at once returned to the Pavilion, and after luncheon quitted camp, attended by the usual escort. For the last five or six weeks Mr. Rarey has been at Aldershott, at the request of the Commander-in-Chief, giving lessons to classes of 25 of the rough riders, farriers, riding-masters, and veterinary surgeons, as to the general treatment of wild or timid horses. All have been practically instructed in his mode of subduing intractable animals, rendering nervous horses quiet, and curing others of individual tricks and habits which make them either dangerous or troublesome. In all cases Mr. Rarey's lessons have been attended with the most signal success, and his pupils have had no difficulty in reducing by gentle means the most vicious or nervous animals to complete tranquillity and subjection.

Cambridge.—A very valuable addition has been made to the Fitzwilliam collection by the accession of a noble picture by Manzuoli di San Friano, the gift of Mr. Henry Thomas Hope, of Deepdene and Piccadilly. The subject is the "Salutation of the Virgin." It was exhibited during the present season at the British Institution in Pall Mall.

Canterbury.—The Rev. E. H. Woodall, M.A., Exeter College, Oxford, Rector of St. Margaret's, Canterbury, was received into the Roman Catholic Church at Paris on the 15th inst.

Cheltenham.—The sale of Lord Northwick's collection of pictures was continued on Friday, the day's sale realising 6100*l.* Among the articles sold on this day was an enamel of Lady Hamilton as Ariadne, after the beautiful picture by Madame Le Brun. This enamel was painted expressly for Sir William Hamilton, and bequeathed by him to Lord Nelson, and is mentioned in Lord Nelson's Memoirs. After a most spirited competition between Mr. Agnew, Mr. Grundy, of Manchester, and Mr. Mawson, it was knocked down to the latter at the enormous price of 700 guineas. On Tuesday, the 17th day, the sale of pictures was resumed, the day's sale realising 10,575*l.* On Wednesday the sale of pictures and works of art was concluded, the day's sale realising 3750*l.*, making a total of the 18 days, 95,725*l.*, the largest amount ever obtained by any sale of pictures and works of art in this country.

Llanberis.—Mr George Frodsham, managing clerk in one of the mercantile firms in Liverpool, commenced the ascent of Snowdon about midnight on Sunday, in order to arrive at the summit of the mountain in time to see the sun rise. He had a guide, but left him and the party with whom he had been travelling and started off by himself in spite of their remonstrances, with the view of reaching the top first. Nothing more was seen of him until Tuesday morning, when his body fearfully mutilated was discovered lying at the base of a precipice, and from some marks on the ground there is no doubt that the unfortunate gentleman had fallen from a height of upwards of 600 feet. At the inquest the jury (composed of men thoroughly acquainted with the locality) returned a verdict of Accidental Death, coupled with a strong recommendation to tourists not to ascend without a guide owing to the dangerous mists in which they may suddenly be enveloped. The similar fate of the unfortunate Mr. Starr will be fresh in the recollection of our readers.

Leeds.—Two men called Appleby and Beardow, who were committed last week to Wakefield gaol to take their trial on a charge of burglary at Batley, near Dewsbury, have been identified by two witnesses as having been seen lounging about the fields at Roundhay near this town, a short time previous to the murder of Mr. Broughton; and one of them has been recognised as the person who pledged Mr. Broughton's watch at a pawnbroker's shop in Leeds about two hours after the murder. The magistrates have therefore applied to the Secretary of State for the Home Department, requesting that the men might be brought to Leeds by *habeas corpus*, in order that the evidence against them might be taken. The bludgeon with which the fatal blows are supposed to have been struck, had also been found in a field, about 50 yards from the scene of the murder. It is a common hedge-stake, about 4 feet in length, the end used for the blows being studded with knots, from which the bark had been peeled by the severity of the strokes, and portions of the old man's hair were found adhering to it for a space of about 6 or 8 inches.—The Rev. James Athay, B.D., Senior Fellow of St. John's College, Cambridge, a high churchman, but not of extreme views, has been elected vicar of Leeds, in the room of the Very Rev. Dr. Hook. There were 38 candidates for the vacant living.

Liskeard.—Mr. Bernal Osborne at his election for this borough on Saturday spoke as follows on public affairs:—

"It has been objected to me that I am a thick and thin supporter of my Lord Palmerston. I have no hesitation in saying that I entertain a great and sincere respect for Lord Palmerston; but had I been such a supporter of his, I would scarcely have been in my present position, because I should in all probability have gone to another place from which no [illegible] returns. I might have been sent to the drawing room when not wanted in the Cabinet parlour. I am not a nonentity at Lord Palmerston here, and never will be his thick and thin supporter in another place. I am here reminded of a passage in a old play where a great philosopher is asked what becomes of all the old moons. 'Gentlemen,' the reply was, 'they are cut up into little stars.' And it seems to me that there are certain members of the old Whig party who are in somewhat the same position as the old moons here alluded to, and who have been cut up into very little stars. No man can equal the conciliating manner of Mr. Vernon Smith, now Lord Lyveden, or of Sir Benjamin Hall, now Lord Llanover; and no man can surpass in uprightness, straightforwardness, and intelligence Mr. Labouchere, now Lord Taunton, and when I speak of these noblemen I do so with the utmost respect: but at the same time I do not wish to see the House of Lords made a waste pipe for the surplusage of the House of Commons, and if Lord Palmerston had been 20 years younger he would not have made these creations. I do not wish to be too hard upon the last Ministry. They say 'of the dead nothing but good,' and if they were dead I would speak nothing but good of them. But they are alive, and kicking to get back to office. Well, they have some great men among them. Mr Disraeli I look upon as a great statesman. He was the Æneas who carried the whole burden on his shoulders; and we Liberals have to thank Mr Disraeli, who I believe to be of my party, for the liberal measures which he was mainly instrumental in carrying. We have to thank Mr Disraeli for the Jew Bill; we have to thank him for a proposal to deal with the church rates, though not in the right way; and we have to thank him for having pulled that huge omnibus of his full of country gentlemen to the consideration of a Reform Bill, which, if they had passed it, was so revolutionary in its tendency and identity that it would have given a spur to American institutions in this country. I feel very grateful to Mr. Disraeli, and I have no doubt that one day or other new combinations will arise when, if he cannot control these unwilling country gentlemen of his, he will boldly come forward for the good of his country and join with those who will carry fuller and more liberal measures. But in forming his Ministry Lord Palmerston no doubt had great difficulties to contend with. In the first place the litter of pigs was rather too numerous for the maternal capabilities of the [illegible] street mother. What was he to do? Nobody would have the [illegible] family party back again; that was out of the question. Well, some of them were kicked upstairs. What was he then to do? I am not one of those who think that he acted best under the circumstances. No doubt there may be little too much caution in the Cabinet pudding, but on the same time I must admit that the body of gentlemen called Peelites, although they are only a small party with no great following in the country, are a set of the most able administrators, and are the right men in the right place, and so far from my feeling any jealousy of that body of men, I say that I should be glad to see them let with us and enjoy liberal connexions. I, for one, will give them my cordial support. At the same time I am regret that when they had their great meeting at Willis's Rooms, and had their ball and sat down to their supper, they only asked two of what is called the 'advanced party,' and even then they were asked to take a seat at a side table. I think it would have been better if Mr. Gladstone had been offered a Secretaryship of State. I think it would have been much better if Mr Bright—with whose views on [illegible] I do not agree but whose great ability and [illegible] I admire—had been asked to have a seat at the Board [illegible] because I believe there is no man in the community who has grasped the subject more completely, and that, whatever his views be, there is no man more entitled to take a high place in the Government of the country. But, now that we have got the Government, I say that there are excellent [illegible] business like men in it. [illegible] I protest myself that there is a

here I do not make any reference to his government, which is a question for the French people, not for me—is a man of great wisdom and clear-mindedness. I believe him to be one of those who, from not having been born and not having lived in the purple, has had the advantage of knowing mankind. What is more, I believe he knows his own interest, and assuredly his interest is not to quarrel with this country. But if we are to go on with petty quarrelling and criticising, and saying things repulsive to the self-love and pride of the French people, it is not impossible that we may precipitate this country into a war. I do not believe in our invasion panics, as I said before, but at the same time that is no reason why we should not be able to a certain extent to cultivate a moderate military feeling in this country. But when we talk of congresses, I am reminded of a passage which has met me in my reading of history—that it was a French king who, in the middle ages, promulgated the first idea of a great European congress, where all great national questions would be decided to prevent war. Henry IV. of France in 1610 promulgated the same proposition that Mr. Cobden announced in 1849. Mr. Cobden I believe to be an illustrious statesman, and he repeated the doctrines of Henry IV. in 1610, and I put it to you what would have been the consequence if Henry IV. could have carried out those principles. Look at the taxation imposed upon both countries by war since that period. It had been well remarked that 'War is a fare table of Governments, and nations are the dupes.' I agree thoroughly with Lord Aberdeen, 'that when war ceases to be a necessity it becomes a crime.' And I hope that we shall not always be frightened year by year by these threats, proceeding from those panic fears of invasion."

MONMOUTH.—The execution of Matthew Francis, who was convicted at the last assizes of the murder of his wife at Newport on the 12th March, took place on Tuesday morning in this town, in the presence of several thousands of persons, a large proportion of whom were from the Forest of Dean. He frequently acknowledged the justice of his sentence, and stated he had no desire no live. He was in a state of such extreme weakness that he was assisted to the scaffold, and was apparently almost unconscious when the drop fell.

NEWCASTLE-ON-TYNE.—Captain Hall, the unfortunate aëronaut who fell out of the balloon near Boldon on Monday week, died in Newcastle Infirmary on Friday evening. During his illness his continual terror in delirium was lest he should be carried towards the sea, and there can be no doubt that under the influence of this terror he lost his presence of mind and descended too rapidly. An inquest was held on Saturday, when the jury returned a verdict of Accidental Death.

PORTSMOUTH.—A series of experimental trials has been carried on during the past fortnight at this port, with a view of ascertaining the amount of resistance offered by iron and steel plates of various manufactures when opposed to heavy ordnance at short range. The trials are understood to have reference to the future coating of the steam ram now in progress of construction. The practice has been carried on from the Stork gunboat tender to the Excellent, gunnery ship, both from a 32-pounder and a 95 cwt. gun, the latter throwing a solid 68lb. shot, with 16lb. charge of powder, at a range of 200 yards. At this distance the results of the experiments have demonstrated in the clearest possible manner that no iron or steel plate that has yet been manufactured can withstand the solid shot from the 95 cwt. gun at a short range. The first shot would not penetrate through the iron plate, but would fracture it, and on three or four striking the plate in the same place, or in the immediate neighbourhood, the plate would be smashed to pieces. As the results of the trial affected the steel plates it proved that a steel-clothed ship could be far more easily destroyed than a wooden-sided one, and that on the smashing in of the one of the steel plates the destruction of life on the decks, supposing the broken plate to be driven through the ship's side, would be something dreadful to contemplate, from the spread of the splintered material. So far as the present experiments have gone they appear to prove that an iron or steel-clad ship, on receiving a concentrated broadside from a frigate, armed like the Mersey, and struck near the waterline, must sink then and there, with her armour on her back.—Some experiments have also been tried at Fort Moncton with the view of testing a new description of embrasure. The mouth of the embrasure is formed of pigs of iron bolted together in the strongest possible manner. The outer portion is formed of iron bolted with an outside facing of brickwork several feet thick; the parapet, arch, and other portions of the work on the inner face being built in the usual manner. The experiments were made with an 8-inch gun with solid shot, and a charge of 16lb. of powder, at only 400 yards range; at this distance the shot broke into fragments, making an indentation on the pigs of iron of 1¾ inch. Where the shot struck the brickwork it tore the whole of it away from the iron plates, but in the next trial the place occupied by the brickwork will be filled up with earth. The result of the experiments proved, in the opinion of the officers present, that the men would have a perfect shelter in working artillery behind a battery built on this plan.

ROCHDALE.—The following is an abstract of the speeches delivered on the 18th inst. by Mr. Cobden and Mr. Bright to the non-electors of this borough:—

Mr. COBDEN said he considered himself specially at home when addressing a meeting of non-electors, because the fundamental rule and maxim of his life had been to seek the benefit of all classes of the community, without distinction or difference. To non-electors the question of Parliamentary reform was particularly interesting. He thought the Reformers had made a great mistake in their mode of advocating this question by lumping too many things together, and he believed that they ought to commence with the suffrage first, and take the ballot and the distribution and other minor points afterwards. He himself had always advocated and voted for a household suffrage. It must be remembered that in seeking an extension of the franchise we should have to convince a tribunal that was now the representative of that body of the community which was already in possession of the franchise, and which believed that by extending the suffrage we should in some measure endanger the security and weal of the country. Now, he had always been a practical man, and he had endeavoured to bring practical considerations to bear upon many questions which he advocated. So, in considering the question of Parliamentary reform he should endeavour to show the middle classes and their representatives that it would be to their interest to extend the franchise beyond the present limited pale. He thought that it would be necessary to appeal to the instincts of selfishness in the enfranchised classes. It was said that if the people were intrusted with the electoral powers they would not be able to take care of themselves. If this assertion was made in allusion to the ignorance of the people of this country, he would answer that another reason why he advocated the extension of the franchise was that the richer and better educated of the community would be compelled to extend the means of education to their poorer fellow-subjects; and in proof of this he cited the example of the United States. Another assertion that was advanced was, that if the franchise was extended the influence upon financial affairs would be injurious; but if the result were that articles of large consumption—such as tea, sugar, paper, &c.—were relieved of customs duties and other taxes, and if direct taxes were substituted for indirect taxes, he firmly believed that all classes of the community would largely benefit by the change. As to the character of the Reform Bill that was to be, he said that whilst he was in America Mr. Bright made a series of orations on Parliamentary reform, which, for sustained variety and eloquence, had seldom or never been equalled in this or any other country; and American gentlemen after reading Mr. Bright's speeches had said to him that a reform ought to have been advocated before the corn laws were repealed, because now that bread was cheap, work plentiful, and the people comfortable, they would care very little for the extension of political privileges. This might be true in some measure, but there was unquestionably a feeling for reform in the country. He thought the measure proposed by Lord John Russell was a very moderate one, but it would considerably increase the number of voters in England. Lord John's proposal was to give a vote to occupiers of 6*l*. houses in the boroughs and 10*l*. tenements in counties, and he should feel it his duty to support the measure by all the means in his power. With respect to the ballot, he was convinced that the first reformed Parliament returned under a new Reform Act would at once proceed to pass an act for voting by ballot; at any rate he thought it would be the wisest plan on the part of the Reformers not to mix up the question of the ballot with that of the extension of the franchise, and he was in favour of a redistribution of seats. Instead however of giving two members to a town he would prefer to divide a town into wards and give a member to each ward. In large towns generally one portion was inhabited by the richer class and another by the poorer, and such a plan as he had named would be a fairer mode of representation than the present system.

Mr. BRIGHT, after expressing his pleasure at hearing the remarks of Mr. Cobden upon the subject of Parliamentary Reform, proceeded to denounce in the strongest terms the policy which led to the wars at the end of the last and beginning of the present century. Those wars we owed to the oligarchy of this country, and to the oligarchical system of government which then existed. He then reviewed the progress made in England since 1832, particularising the benefits arising from free trade, the advantages consequent on the formation of railways, the extension of colonies, and the discoveries of gold in Australia and California, and beyond all the abundant blessings which had sprung from the long duration of peace in this career of progress. The aristocracy and Government had certainly permitted the utmost individual and personal freedom; but it was to the industry and intelligence of the people that we owed the great improvements to which he had alluded. To this people, improved and improving—to this toiling, long-enduring, and peaceful people—he wished to extend the privileges of the electoral franchise; and as the present Cabinet had promised a Reform Bill, he trusted that here and elsewhere throughout the country they would receive a warm and hearty support.

SUNDERLAND.—Mr. Lindsay, M.P., met the electors of this town on Monday night, and referred to a misunderstanding which had taken place in regard to his vote in favour of Lord Derby's Government, and the speech which he considered it his duty to make in the House of Commons in supporting their Reform Bill. The following is an extract from his address:—

"When they returned him to Parliament the war was raging in Europe. He pledged himself to support any Government that would maintain a strict and honourable neutrality. He pledged himself further to do everything that could lay in his power to have this great question of Reform settled. He had no faith in Lord Palmerston settling this question; therefore he made a condition with the Government, and he had that condition in writing before he would give his support to maintain in office the Administration of Lord Derby. The conditions were these: first, in regard to Reform—that the late Government should declare that they were prepared to bring in a Bill, and to use all their power to pass it, which should provide for boroughs a 6*l*. rental franchise, and for counties a 10*l*. rental franchise; and that at least 30 of the smaller boroughs should be disfranchised. The next was that the Government should pledge themselves to take all necessary steps to maintain an honest and honourable neutrality, showing also that they were determined to take part with neither of the belligerents, and that they were prepared to defend to the utmost the honour and the interests of England if either should be attacked. On the first night of the debate, immediately after the seconder of the amendment sat down, the Chancellor of the Exchequer distinctly gave his pledges to the conditions he had named. Then there was another consideration with him. He felt that if Lord Derby could give a Bill which would satisfy him and other sound reformers, his lordship had a power which the Whigs had not—a power to pass the Bill through the Lords, and thus settle in our day and generation this truly important question."

TIVERTON.—The Rev. M. A. Gilbert, rector of St. Peter's, in this town, has refused to allow the Bishop of Oxford the use of his pulpit, to the great annoyance of churchmen of the High Church party.

YARMOUTH.—Some correspondence has passed between the Mayor of Great Yarmouth and the War Office with reference to the formation of a volunteer artillery corps for the protection of this part of the coast. The Government have expressed their readiness to assist in the formation of a corps if the necessary earthworks are erected. The council have requested the Mayor to remind the proper authorities of the necessity of reconstructing the town battery and the fort, some time since demolished by Government.

## Ireland.

THE ROMAN CATHOLIC SYNOD.—The resolutions adopted by the Roman Catholic bishops at the recent meeting in Dublin appear in the *Freeman* of Friday. They run to an extreme length, and discuss other questions besides "mixed education." This however is the most important topic with which they deal, and in doing the prelates do not confine themselves to the national schools, but propose with regard to the entire order of education, that the Queen's Colleges of Cork and Galway should be given over to be conducted on Catholic principles, the College of Belfast being left to the Presbyterians, and members of the Established Church being provided for in the University of Dublin. The following are the most stringent of the resolutions, the whole of which are embodied in a pastoral address to be read from every pulpit and altar throughout Ireland:—

"That schools for Catholic youth should be such as to secure for them the benefit of a safe secular education, and also religious instruction in the faith and practices of the Catholic Church. They should be, therefore, so subordinated to the bishops in their respective dioceses as that no books may be used in them for secular instruction to which the ordinary shall object, and that the teachers, both as to appointment and removal, and the selection of all books for religious instruction and the arrangements for it, be under the control of the same authority. That the principles enunciated can be adequately carried out and acted upon in this country only on a system of schools exclusively for Catholics. That the Catholics of Ireland have a right to obtain such a proportion of the aid annually voted by Parliament for education as, regard being had to the number and the condition of the Catholic population, will suffice for the establishment and maintenance of schools to be conducted on thoroughly Catholic principles. That the concessions made for exclusively Catholic schools in Great Britain and the British colonies is conclusive evidence of the fairness of our claim to a grant being made for Catholic schools in Ireland, and that the Catholic people of Ireland should therefore, through their representatives in Parliament, and by application to the Government, on obtaining such grant, That the national system of education, though suitable on account of the particular circumstances of the country, must be from its very nature in several respects objectionable to Catholics, and that the changes made in it from time to time having been averse to Catholic interests have increased the distrust of the Catholic people. That we signalise as especially objectionable the assumption of the control over education which the Protestant Church holds to have been conferred on bishops by our Lord and Saviour Jesus Christ, when He said to his Apostles 'Go teach all nations.' That we shall embody the substance of the above resolutions in a memorial to the Chief Secretary for Ireland, calling on the Government to take our claims into consideration and to grant them. That we shall call the attention of the Government to the constitution of the Board of Poor Law Commissioners, exclusively Protestant, to the condition of the poor in the workhouses, who are treated in many cases much worse than the felons in the gaols or other institutions, and are left in many cases in a state of the greatest destitution, and to the other countless grievances of the system arising from the intolerable state of the poor law and its administration, as also to the destitute religious condition of the Roman Catholic sailors in her Majesty's navy."

THE NATIONAL BOARD OF EDUCATION.—The *Evening News*, Dr. Cullen's organ, states that in consequence of the declaration of the Romish prelates upon the education question, Mr. James O'Ferrall has tendered his resignation as a commissioner. In a few days, it is also added, the other Roman Catholic commissioners will probably take the same step.

STOPPAGE OF NAVAN FAIR BY THE PRIESTS.—The holidays of the Church of Rome, though not so numerous in Ireland as in the South of Europe, are still observed in many parts with such regularity, that they often interfere with the interests of the farming community, and end in drinking and rioting. Under these circumstances the landlords have for some time endeavoured to abolish them. In some places their efforts have succeeded; but since the Tipperary movement began to spread in Ireland, the influence of the priests for saints' days has revived, and no means are left untried to procure their recognition again by the people. A case in point has just occurred in Meath. For 4 or 5 years past an important fair has been held at Navan on the third Monday in August. In accordance with the usual custom it was advertised in all the papers. The railroad company ran special trains, and were crowded with dealers from various parts of Ireland, and some from England and Scotland; but they were doomed to be disappointed. Four days before the fair the priests determined to put a stop to it, and issued counter advertisements directing that the fair should be put off till the 17th, as the 15th was a great "holiday" in the Roman Catholic Church. The priests announced to the people on Sunday from the altar that it would be a great desecration if they allowed the fair to be held. This they did in the chapels of Navan, Trim, Kells, and other places, so that when the people began to assemble for the fair there was a mob supplied for every one. They also got over the Young Men's Society band from Liverpool, and had them in readiness with their own Young Men's band to play through the town. The bands took the roads by which the greatest number of cattle usually come into the town, and whenever they met with a drove they made a tremendous din, which with the shouts of the mob, set the cattle running in wild disorder through the country. Bludgeons were also used, and some gentlemen coming into town were grossly insulted and maltreated. Under these circumstances it was of course impossible to hold the fair.

STRIKE IN DUBLIN.—The carpenters of Dublin, following the example of their brother mechanics in London, have struck in consequence of the refusal of the master builders to increase their wages by 2*s*. a week. The masters have issued a series of resolutions stating that the wages paid to the carpenters were 30*s*. a week, and fully equal to what existing circumstances and contracts warranted; and pledging themselves to use all proper means to resist any increase of the same, warning the men that in case of their leaving on strike they would not be employed again. The carpenters in reply, adhere to the demand made in a circular addressed to the masters, and have decided that it shall be maintained.

## Scotland.

THE BRITISH ASSOCIATION.—The arrangements for the meeting of the British Association in Aberdeen next month are fast reaching completion. The New Music Hall, in which the principal of the Association's meetings will be held, is now ready for the seating, and presents a very fine appearance. The proceedings will be commenced by the Prince Consort delivering an address in the new hall on the evening of Wednesday, the 14th of September. In prospect of the visit of the Prince the Town Council of the City at a special meeting on Thursday unanimously agreed to the following resolution proposed by the Lord Provost:—

"That the Town Council regard with the highest satisfaction the prospect of the approaching visit of his Royal Highness the Prince Consort to Aberdeen, for the purpose of presiding at the meeting of the British Association. That the Town Council is desirous to offer to his Royal Highness a most respectful request that he will be pleased to honour the Corporation with his presence at a banquet in the Town Hall, in order to afford them the opportunity of expressing the feelings of respect and esteem with which his character, conduct, and public services are regarded by the community. And that a copy of this resolution, signed by the Lord Provost, be transmitted to his Royal Highness."

## Railways.

LONDON AND NORTH-WESTERN.—At the meeting of this company on Friday the report stated that the gross revenue for the half-year showed an increase of 148,298*l*. The working expenses showed an increase of 42,974*l*., leaving the net increase 105,324*l*. This result has been caused chiefly by additional traffic both in passengers and goods throughout the entire system, and only in a limited degree by the cessation of competition. The directors are about to arrange an acceleration of the mail service with Ireland. The net balance was 320,422*l*., and a dividend was declared at the rate of 4½ per cent. per annum.

GREAT NORTHERN.—At the half-yearly meeting of this company the report was adopted, and the usual dividends were declared on the preference shares, and dividends of 3*l*. per cent. on the B stock, and 7*s*. 6*d*. per cent. on the A stock.

STOPPAGE OF THE PERTH JUNCTION.—During the last fortnight there has been a complete disruption of railway communication between London and the Highlands in consequence of a dispute between the Scottish Central and the Scottish North Eastern at Perth as to the toll to be paid over only 320 yards of line. As neither party would give way the Post Office authorities instituted actions against both companies for delaying the mails, and the merchants and others have followed the example. In consequence of these measures this discreditable dispute has been brought to a conclusion.

THE LATE ACCIDENT ON THE TILBURY AND SOUTHEND.—Mr. Marcus Bennett, one of the unfortunate passengers in the Thames Haven train which ran off the curve last week near the Tilbury station, has died from the injuries he sustained. He was 21 years of age and held a confidential situation in the house of Baggalay, Spence, & Co., of Wood Street, Cheapside. He was returning from a fortnight's holiday, which he had spent at Margate, and was in the second carriage next the tender. He was extricated from the fragments in an insensible condition, his thigh was shockingly fractured, and he had two severe wounds on his head. He was removed to a cottage near the station where he died on Friday morning. An inquest was opened on Saturday and adjourned for the production of further evidence.

ACCIDENT ON THE SOUTH-WESTERN.—On Saturday morning as the express train from Windsor consisting of seven first and second-class carriages, containing about 30 passengers, was approaching Feltham station, the engine suddenly left the rails, dragging the whole of the carriages with it, and after proceeding on the line for about 100 yards, tearing up the metals and chairs, it diverged to the left, ploughed its way into a stubble field, when the train fell over with a fearful crash, five of the carriages being smashed and broken. The screams and cries of the passengers were most distressing, and no time was lost in extricating them from their perilous position, when it was discovered that no lives were lost, nor any serious injury inflicted beyond the effect of violent shaking and extreme fright.

ACCIDENT ON THE GLASGOW AND SOUTH-WESTERN.—On Thursday the 18th inst. an accident occurred on this line, caused by the train running off the rails at a spot where they were undergoing repairs, the rails not having been properly fastened. Three third-class carriages were upset, and two third and two first-class carriages ran over the embankment into the adjoining field. Two third-class carriages and a van were thrown across the rails, a considerable portion of which were torn up. Three passengers—two women, and a miner, on his way to Paisley—were severely injured, and several others received contusions, though not of a serious nature.

## Law.

NORTHERN CIRCUIT: LIVERPOOL.—*"Rattling" a Voter.*—*Zachariah Hardman*, *Joseph Booth*, and *Phineas Murphy* were arraigned on a charge of using unlawful restraint to compel James Consterdine to refrain from voting at the last Parliamentary election at Bury. After a trial of several hours the jury returned a verdict of *Guilty* against Hardman and Booth, upon whom sentence was deferred, and *Acquitted* Murphy. Mr. Baron Watson, in passing sentence, said it was highly necessary that voters should be protected from such outrages as the prisoners had been found guilty of committing, and that the conduct of the defendants should not be thus brought and associated with. The offence they had committed was a very serious one, and had shewn such the judgment of [illegible] that [illegible] Hardman to [illegible] and Booth to [illegible] imprisonment.

*The Queen, Aberdeen, Clerk-Keeper, Judge*, aged 58, was charged with [illegible] Mungal [illegible] Morris, Angus Cameron, [illegible] Burns, and [illegible] Norman Mackenzie, all Chelsea men, [illegible] against them was, in substance, to [illegible] as a Fenian [illegible]. It appeared that there had been a meeting of persons in Chelsea, the object of which was to promote certain schemes in the Government, which the Government opposed the point to which this meeting was held to be surrounded by armed men, and the four prisoners were arrested and lodged in custody, [illegible] and they were, in March last, put on board the [illegible] ship. Two of the [illegible] were members of the Chelsea Vestry, and the other two were editors of a newspaper published in Soho Square, the organ of [illegible]. These gentlemen were taken at a distance of [illegible] miles under the guard of armed men, and put on board the prisoners' ship, at Woolwich, amidst [illegible] cheering by a [illegible] crowd assembled. When they found themselves prisoners on board a British vessel, they sent for the captain into the cabin, and remonstrated with him, which he replied that for money he would take the President of the United States himself, and put him on Cape Horn; and it appeared that he had received 60*l*. for the transport of the [illegible] thence [illegible] the usual [illegible] of passage money. The cases, which were adjourned till [illegible], were [illegible] with [illegible] as that the [illegible] were [illegible] kept in custody. The conditions stipulated by the Chilian authorities was that the captain should obtain a certificate from the Chilian consul in Liverpool that the persons assigned to his care had arrived in that town [illegible] by the prisoners did not exist, their landing to be effected until the consul had been apprised of their being in port. The consul had to [illegible] that [illegible] the [illegible] of the magistrates in Liverpool, and hence this was the result. After the [illegible] had been read, Mr. Lumley directed the jury to return a verdict of acquittal, and the prisoner was discharged on entering into their own recognizances to appear when called upon before the Court of Criminal Appeal. The judge undertook to represent the case to that Court.

CENTRAL CRIMINAL COURT.—*Embezzlement by Agent.*—*Edward [illegible]*, a [illegible], was indicted for [illegible] with three [illegible] being [illegible] bankers' cheques amounting in value to about 700*l*. The jury returned a verdict of Guilty, and Mr. Justice Willes sentenced him to 12 months' imprisonment with hard labour in the House of Correction. *The Slave Lamp Forgeries.*—*Wallace Hunter* and *Henry Wilkinson* were indicted for feloniously assisting Harriette Lamplugh, with intent to [illegible] her husband, and for the wilful and [illegible] of Richard Farrell Dale, in New Inn. The jury found them Guilty, and they were [illegible] to 18 months' penal servitude, [illegible]. *Embezzlement.*—*Joseph Lockhart Morton* was found *Guilty*, and sentenced to four years' penal servitude. *Wellington Turner*, [illegible] of the [illegible] to the [illegible] of [illegible], was indicted for [illegible] to take the order for the delivery [illegible]. The evidence went to show that there had been some irregularities in the prisoner's accounts, but did not prove that he had embezzled the money. The jury acquitted the prisoner, and, on the other indictments no evidence being offered, he was [illegible]. *Robert Morris*, a publican, was indicted for [illegible] in the form of a message to the [illegible] of Mr. Cort, whose discoveries in the manufacture of iron are so well known. The evidence relative to the dissolution of the [illegible] proving very positive, the Common Serjeant [illegible] the case to the jury. The prisoner was then indicted for obtaining money by false pretences from Mr. J. Thorley, of Newgate Street, cattle food dealer; Mr. Snape, a barrister; and Mr. Elkington, of the Freemasons' Tavern, under the plea that it was for a testimonial for Mr. Alderman Mechi. In this case the prisoner was convicted, and sentenced to [illegible] imprisonment.

## Obituary.

THE COUNTESS DOWAGER OF NORWICH died on Thursday at her residence in Belgrave Square. She married in 1797 the late Earl of Norbury, who was created a peer of Ireland in January, 1800. The Countess, previous to her marriage, was Lady Grace Vaughan. Lady Georgiana Bligh, Lady Langdale, and Lady Isabella Stewart, and wife of Thomas Bligh, Esq., of Rathmore Park, county Meath.

LORD HENRY SEYMOUR, brother of the Marquis of Hertford, who was some years back as well known in Paris for his successes on the French turf, died in that capital last week. He was 64 years of age, was born in Paris and passed [illegible] of his [illegible] on French soil. He has bequeathed all the property he inherited from his mother, the late Marchioness, amounting to 36,000*l*. sterling, to the hospitals of Paris, and one half of his property and extensive [illegible] to those of his friends in the house.

EDWARD JAMES STONE, C.E., late Commissioner of Customs, died at Brighton on the 16th inst. in his 63rd year. He entered the Customs in 1818, and in 1824 was appointed Surveyor of the Port of Dublin, which office he held till 1827, and in Antwerp in 1830 and 1831. He was present at the siege and storm of Bergen-op-Zoom in 1814, when he received the Indian medal. He commanded the Scinde Irregulars with the army of the Punjab during the campaigns of 1848 and 1849, including the affair of Ramnuggur on the 22nd November. He was present at the passage of the Chenab, the actions of Chillianwallah and Goojerat, and in the subsequent pursuit of the Sikhs and Afghans to the Khyber Pass under Sir W. R. Gilbert, for which he received a medal and the rank of Commander of the Bath.

LIEUT.-GENERAL RAIKE, K.C., one of the few remaining heroes of the Irish rebellion, died on the 4th inst. at an advanced age. He entered the service as ensign in the 21st Regiment (Queen's Royals) in 1793, and first saw active service in the Irish rebellion, having been present at the taking of Wexford by Sir John Moore. He next served under Sir Ralph Abercrombie, was with General Macdonald in the secret expedition to Quiberon Bay, was present at the siege and capture of Aboukir Fort, and all the [illegible] operations in Egypt, down to the [illegible] and surrender of Alexandria, which he was created Knight of the Crescent, and received a gold medal from the Sultan for his services. In 1808 he went to Portugal under General Acland, was present at the battle of Vimeira, and at the occupation of Lisbon, marched with Sir John Hope to Salamanca, joined the army under Sir John Moore, and accompanied it in all its operations to the battle of Corunna, at which he greatly distinguished himself. He accompanied the expedition to Walcheren, under the Earl of Chatham, and was present at the siege and capture of Flushing. He was aide-de-camp to General Houston in Portugal in 1811, and was at the battle of Fuentes d'Onor. In 1812 he was appointed assistant-adjutant-general of the north-west and central inland districts under Sir Thomas Maitland, was on the staff at Portsmouth, was assistant-quartermaster-general in 1813, and was at Bury there at the visit of the Prince Regent, the Emperor of Russia, the King of Prussia, and other illustrious personages. In 1814 he was appointed deputy adjutant-general to the forces in the Mediterranean, in which service he continued till his return to England in 1829. He retired from the service by the sale of a lieutenant-colonelcy. In 1844 he was appointed barrack-master at Aberdeen, removed to Harwich in 1850, in 1852 to Canterbury, in 1853 to Hereford, near Bristol, and in 1856 he finally retired from active service, in which he had been engaged for 63 years. The deceased [illegible] married [illegible] Captain James Bowen, R.N., died at Bayswater on the 16th inst. He entered the navy in 1801, and in that year, as active part of the bombardment of [illegible], received [illegible] a gratuity of acknowledgment accompanied under the hands of Nelson. In 1805 he was promoted to the [illegible], and commanded a boat at the battle of Navarino. In consideration of the services of this commendable officer he was raised to the rank of Companion in 1828. He became a Captain in 1841, and commanded the Canadian Lakes for three years, and afterwards the Queen [illegible] service, through the Indian campaign. In 1857 he became [illegible] Naval Aide-de-Camp to her Majesty.

WILLS.—The will of Baroness de Stackelberg, late of Isleworth, Middlesex, has been sworn under 20,000*l*. personalty by Sir James Law Lushington, G.C.B. [illegible] the Duke of Leeds, 70,000*l*.; Major the Rev. Barrington Pelham, [illegible] Mr. James Lillford, [illegible]; Sir Anthony Oliphant, [illegible]; Bishop Medley, late Bishop of Fredericton, [illegible]; General Charles Gill, of Abergavenny Hall, Monmouthshire, [illegible].

DEATHS.—On the 15th inst. at Kilrea Castle, the Marchioness of Kilmorey, of a son.—On the 16th inst. at Ingestre Manor, the Lady Di Ulick and Dudley of a son.—On the 16th inst. at 5, Eaton Square, the Lady Elizabeth Cadogan, of a daughter.—On the 17th inst. at 14, Grosvenor Street, the Lady Augusta Stuart, of a son.—On the 18th inst. at 29, Wimpole Street, the Hon. Mrs. Henry Howard, of a daughter.—On the 18th inst. at the Hermitage, Carlisle, the Hon. Mrs. Wentworth Beaumont, of a daughter.

MARRIAGES.—On the 18th inst. at St. James's, Westminster, Sir WALTER BUCHANAN RIDDELL, Bart., to ALICIA, [illegible] of the late William Lloyd, Esq., formerly of [illegible] Hall, Denbighshire, and Light Infantry [illegible] Chapel, Lincoln's Inn Fields, Edward Hayward Jones, Esq., [illegible] to Augusta, daughter of the Marquis Ruvigny, [illegible] of Greenlaw, formerly of Lanrumney Hall, all Glamorganshire, [illegible] Rowland Swaine, Esq., of Ashdown Park, York, to Elizabeth Mary, third daughter of Sir James A. H. Innes, Bart., M.P., [illegible] of Kelso, in the Honourable [illegible], the Rev. J. Sargent, Fellow of Queens' College, Cambridge, and [illegible] at Bath, to Matilda Eleanor, eldest daughter of Major-General [illegible].—On the 16th inst. at the British Vice-Consulate, Sparta, Henry Edwin Watson, Esq., late 1st Regiment Carabineers, to Ada, second daughter of [illegible] Lever, Esq.

DEATHS.—On the 16th inst. at Newington, the Hon. Mrs. Edward Stafford Jerningham, widow of the late Hon. Edward Stafford Jerningham, and sister to Hyde Parker, Gale, Esq., wife of the Rev. W. E. Fitzgerald, late of Lee Grange, and [illegible] of Carrickmacross.—On the 16th inst. at Mayfair, Mary, wife of Sir Wm. Lawrence, M.D., F.R.S., aged 78.—On the 16th inst. at Regent, Jane, widow of Col. J. S. Cotton, Deputy Lieutenant of the county of Cambridge, and eldest daughter of the late Colonel [illegible] Lloyd, and eldest daughter of the late Colonel [illegible] Tarleton, K.C.B., Knight of the Royal Guelphic Order, Fanny, [illegible] of the late Lieut.-Col. [illegible] Lloyd, Esq., late of Bronwydd, Cardigan, and granddaughter of the late Sir [illegible] Powell, Bart., of Cwmgwili, Carmarthenshire.—On the 16th inst. at Nottingham Place, Mary Anne, relict of the late Lieutenant-Colonel Charles Lloyd, of the Bengal Army.—On the 16th inst. at Penge Lodge, Colonel Lewis Fitzgerald Grant, late of the Guards, aged 67.—On the 17th inst. at West Cowes, Isle of Wight, Caroline Wallington, late Captain 104th [illegible] Council Bluffs, Missouri, and eldest son of the late Rev. [illegible] Lancaster, and eldest son of the late Rev. [illegible] Lancaster, Rector of [illegible], Shropshire.—On the 17th inst. at Hyde Park Gate, Kensington, Mary, widow of Pudsey Saltmarsh, Esq., late of Low Hall, Market Drayton, Shropshire.—13th inst. at Clifton, E. GARDNER GUTHRIE, Esq., of Pall Mall East, surgeon.

## Markets.

COVENT GARDEN.—Aug. 25.

Grapes and Pine Apples continue to maintain former prices. West India Pines are still plentiful and good. Of Pears there are some fine specimens at Jones & Mackay's and other Kinds from Jersey. Apricots are scarcely [illegible], but there is [illegible] Apricots are now [illegible], and there are some good Plums and Nectarines. Cucumbers, Plums, [illegible] Peaches, [illegible] per dozen). Good Filberts may be had 7*s*. per lb. Cobnuts and French beans are plentiful. Peas, Beans, Carrots and Artichokes may be obtained in quantity. Cauliflowers are plentiful. Potatoes realize from [illegible] to 16*s*. per cwt. Cucumbers abundant. Cut flowers, always a feature of Oxford Street, [illegible], Lily of the Valley, Violets, Mignionette, Heaths, and Roses.

FRUIT.

| | |
|---|---|
| Pine Apples, per lb., 4*s* to 6*s* | Cucumbers, 4*s* to 7*s* |
| Grapes, per lb., 2*s* to 6*s* | Cucumbers, per [illegible] |
| Melons, 2*s*., 1*s* | Cucumbers, per [illegible] |
| Mulberries, 2*s*. to 3*s* | Apples, per dozen, [illegible] |
| Peaches and Nectarines, per doz., 4*s* to 10*s* | Pears, per dozen, [illegible] |
| Figs, per dozen, 2*s* to 4*s* | Oranges, per [illegible] |
| Apricots, do., 2*s* to 3*s* 6*d* | Lemons, per [illegible] 10*d* to 1*s* 6*d* |
| Plums, per pottle, 1*s* to 2*s* 6*d* | Filberts, [illegible] to 6*d* |

VEGETABLES.

| | |
|---|---|
| Cauliflowers, per [illegible] | Potatoes, per [illegible] |
| Green Peas, p. quart, 1*s* to 2*s* | Artichokes, per doz., 2*s* to 3*s* |
| Greens, per dozen bunches, 1*s* to 1*s* 6*d* | Beet, per doz., 1*s* 6*d* to 2*s* |
| Cabbages, do., 1*s* to 2*s* 6*d* | Celery, p. bundle, 1*s* to 2*s* 6*d* |
| Broccoli, per bundle, 1*s* to 2*s* 6*d* | Onions, p. [illegible], 3*s* to 3*s* |
| Potatoes, p. ton, 90*s* to 100*s* | — Pickling, per [illegible] 1*s* 6*d* |
| — per bus., 2*s* to 2*s* 6*d* | Shallots, per lb., 6*d* to [illegible] |
| — per cwt., 4*s* to 6*s* | Garlic, per lb., 6*d* to [illegible] |
| Carrots, per bunch, 1*s* | Lettuces, Cabb., per score, 1*s* to 1*s* 6*d* |
| Turnips, per bunch, 2*d* to 1*s* | Endive, p. score, 1*s* to 1*s* 6 |
| Spinach, p. sieve, 1*s* 6*d* to 2*s* | Horse Radish, p. bun. 1*s* 6*d* to 4*s* |
| Cucumbers, p. doz., 1*s* to [illegible] | Mushrooms, p. pott, 2*d* to 1*s* 3*d* |
| | Parsley, p. [illegible], 2*s* to 4*s* |
| | Savoys, do., 2*d* to 4*d* |

HOPS.—BOROUGH MARKET, FRIDAY, Aug. 26.

Messrs. Pattenden & Smith report that there is nothing fresh to communicate as to Hops, the crop is at present progressing very favourably; the market dull, and only [illegible] at 200,000.

BRITISH WOOLS.—LONDON, FRIDAY, Aug. 26.

Our business is now in a quiet state, but still healthy and the prospects unchanged.

| | s. | d. | s. | d. | | s. | d. | s. | d. |
|---|---|---|---|---|---|---|---|---|---|
| South-down Hoggets | 1 | 8 | to | — | Leicest. Wethers | 1 | 5 | to | — |
| Half-bred ditto | 1 | [illegible] | — | — | Ditto Hoggs | 1 | 7 | — | — |
| Down Ewes | 1 | 6 | — | — | Combing Skins | — | — | — | — |
| Kent Fleeces | 1 | 7 | — | — | Blanket ditto | — | — | — | — |
| | | | | | Flannel Wool | 1 | 2 | — | 1 | 7 |

THE COLONIAL WOOL SALES.—These sales commenced at the opening quotations and with full spirit.

COAL MARKET.—FRIDAY, Aug. [illegible].

Braes, 14*s*.; Belsize, West Hartley, 14*s*. 6*d*.; [illegible] West Hartley, 14*s* 6*d*.; Hastings Hartley, 14*s* 6*d*.; Lambert's West

Hartley, 14s. 6d.; Tanfield Moor, 12s. 9d.; Tanfield Moor Butes, 12s. 9d.; Walker Primrose, 12s. 3d.; Washington Hartley, 13s. 6d.; West Wylam, 14s.; Walls End Gosforth, 15s.; Walls End Riddell, 15s.; Walls End Braddyll's Hetton, 16s.; Walls End Haswell, 17s.; Walls End Hetton, 17s.; Walls End Kepier Grange, 16s.; Walls End Shincliffe, 15s.; Walls End Benson, 14s. 9d.; Walls End Hartlepool, 16s. 6d.; Walls End Heugh Hall, 15s. 6d.; Walls End Hunwick, 14s.; Walls End Kelloe, 16s. 3d.; Walls End South Hartlepool, 15s. 9d.; Walls End South Kelloe, 16s.; Walls End Trimdon Thornley, 14s. 3d.; Walls End West Kelloe, 15s. 3d.; Walls End Whitworth, 14s.—93 ships at market.

HAY.—Per Load of Thirty-six Trusses.

SMITHFIELD, THURSDAY, Aug. 25.

| | | | | | |
|---|---|---|---|---|---|
| Prime Meadow Hay | 80s | to 85s | Old Clover .. .. | 95s | to 110s |
| Superior do. (old) .. | 88 | 95 | Second cut .. .. | 85 | 95 |
| Inferior do. .. .. | 60 | 70 | New Clover .. .. | 80 | 90 |
| New do. .. .. .. | 75 | 84 | Straw .. .. .. | 34 | 38 |
| Rowen .. .. | 50 | 60 | | | |

DAVIS & Co.

WHITECHAPEL, THURSDAY, Aug. 25.

| | | | | | |
|---|---|---|---|---|---|
| Fine old Hay .. .. | 88s | to 92s | Fine old Clover .. | 108s | to 113s |
| Inferior do. .. .. | 75 | 84 | Inferior do. .. .. | 95 | 100 |
| Prime New Hay .. | 80 | 87 | Fine new Clover .. | — | — |
| Inferior do. .. .. | 70 | 80 | Inferior do. .. .. | — | — |
| Straw .. .. .. | 36 | 40 | Fine 2d cut .. .. | 86 | 100 |

## METROPOLITAN CATTLE MARKET.

MONDAY, Aug. 22.

We have a few more Beasts, but the demand is tolerably good, and in choice qualities there is no reduction. The supply of Sheep and Lambs is smaller than of late; trade for them is brisk at a slight advance. Trade continues very dull for Calves. Our foreign supply consists of 14[illegible] Beasts, 7880 Sheep, and 210 Calves, and 30 Pigs.

| | s | d | s | d | | s | d | s | d |
|---|---|---|---|---|---|---|---|---|---|
| Best Scots, Herefords, &c. .. | 4 | 6 | to 4 | 10 | Best Long-wools . | 4 | 8 | — 5 | 0 |
| Best Short-horns | 4 | 4 | — 4 | 8 | Do. Shorn .. .. | | — | — | .. |
| 2d quality Beasts | 3 | 0 | — 4 | 6 | Ewes & 2d quality | 4 | 2 | — 4 | 6 |
| Best Downs and Half-breds .. | 5 | 0 | to 5 | 2 | Do. Shorn .. .. | | to | .. | |
| Do. Shorn .. .. | | — | .. | | Lambs .. .. | 5 | 0 | — 5 | 8 |
| | | | | | Calves .. .. | 4 | 0 | — 4 | 8 |
| | | | | | Pigs .. .. | 4 | 0 | — 4 | 6 |

Beasts, 4820; Sheep & Lambs, 27,250; Calves, 270; Pigs, 300.

THURSDAY, Aug. 22.

There are a few more Beasts than on Thursday last; the demand is good, and Monday's quotations are fully supported. Sheep and Lambs are not quite so plentiful; they find a ready sale, and in some instances rather higher prices are obtained. There is no alteration in the Calf trade. From Germany and Holland there are 370 Beasts, 2150 Sheep, and 380 Calves; from Norfolk and Suffolk, 50 Beasts; from the northern and midland, 450 Beasts; and 122 Milch Cows from the home counties.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Best Scots, Herefords, &c. .. | 4 | 6 | to 4 | 10 | Best Long-wools . | 4 | 8 | — 5 | 0 |
| Best Short-horns | 4 | 4 | — 4 | 8 | Do. Shorn .. .. | | — | — | .. |
| 2d quality Beasts | 3 | 4 | — 4 | 0 | Ewes & 2d quality | 4 | 2 | to 4 | 6 |
| Best Downs and Half-breds .. | 5 | 0 | — 5 | 2 | Do. Shorn .. .. | | — | — | .. |
| Do. Shorn .. .. | | — | — | .. | Lambs .. .. | 5 | 0 | — 5 | 8 |
| | | | | | Calves .. .. | 4 | 0 | — 4 | 8 |
| | | | | | Pigs .. .. | 4 | 0 | — 4 | 6 |

Beasts, 1232; Sheep & Lambs, 9,300; Calves, 598; Pigs, 150.

## MARK LANE.—MONDAY, Aug. 22.

This morning's market was fairly attended, including several distant country buyers. The supply of Wheat from Essex was but moderate in quantity, and nearly all new, the quality and condition inferior to last week; from Kent there was a fair supply, consisting of about half old and half new: old commanded the prices of this day se'nnight, but the new must be quoted 1s. per qr. cheaper. Low priced qualities of foreign continue to meet with some attention, and quotations for all descriptions remain unaltered. Grinding Barley is in fair request at an advance of 6d. per qr. Beans and Peas bring last week's rates. Oats are a slow sale, and Russian and inferior qualities are 6d. to 1s. per qr. cheaper. Flour is unaltered in value. Of new white Mustard Seed there were about 2300 quarters on sale, but up to the close of the market scarcely a sample was disposed of.

| PER IMPERIAL QUARTER. | | s. | s. | | s. | s. |
|---|---|---|---|---|---|---|
| WHEAT, Essex, Kent, & Suffolk .. | White | 42 | 49 | Red .... | 40 | 44 |
| — — fine selected runs .. | ditto | 44 | 46 | Red .... | 42 | 46 |
| — — Talavera ..... | | 44 | 52 | | | |
| — Norfolk ..... | | — | | Red .. | — | |
| — Foreign ..... | | 38 | 54 | | | |
| BARLEY, grind & dist., 24s to 28s .. | Chev. | — | | Malting . | — | |
| — Foreign .. grinding and distilling | | 23 | 38 | Malting . | — | |
| OATS, Essex and Suffolk ..... | | 19 | 22 | | | |
| — Scotch and Lincolnshire .. | Potato | 23 | 25 | Feed .... | 19 | 24 |
| — Irish ..... | Potato | 24 | 25 | Feed .... | 19 | 22 |
| — Foreign ..... Poland and Brew | | 23 | 26 | Feed .... | 18 | 24 |
| RYE ..... | | — | | Foreign . | — | |
| RYE-MEAL, foreign ..... | | — | | | | |
| BEANS, Mazagan .... 35s to 36s .... | Tick | 37 | 41 | Harrow . | 37 | 41 |
| — Pigeon ..... 41s — 45s .. | Winds. | — | | Longpod | — | |
| — Foreign ..... | Small | 38 | 46 | Egyptian | — | |
| PEAS, white, Essex and Kent .. | Boilers | 39 | 42 | Suffolk . | 35 | 44 |
| — Maple . .. —s to —s ..... | Grey | 34 | 36 | Foreign . | 30 | 38 |
| MAIZE ..... | White | — | | Yellow .. | — | |
| FLOUR, best marks delivered .. | per sack | 37 | 43 | | | |
| — 2d do. ..... | ditto | 27 | 37 | Country . | 27 | 37 |
| — Foreign ..... ... | per barrel | 18 | 27 | Per sack | 30 | 37 |

FRIDAY, Aug. 26.

The weather during the last eight days has been splendid, until last evening, when we had some heavy thunder showers, which continued through the night. In the South harvest is approaching its termination, and very great progress has been made in the North. During the above interval much of the new Wheat brought to market in several districts was poor, light, and out of condition, weighing not more than 56 to 58 lbs., and the yield of the same is represented as disappointing, being nearly one-fifth short of what had been expected. Much of the Barley is sprouted. The fineness of the weather has had its usual effect upon the trade, and Wheat is generally quoted 1s. to 2s. lower, with very little doing. Oats and Beans have also been written cheaper in many markets; other descriptions of Spring Corn and Flour are unaltered in value. The arrivals from Southern Europe off the coast continue liberal, comprising during the week 19 cargoes of Wheat, 19 Maize, 2 Barley, 2 Beans, 1 Rye, 1 Millet, 2 Linseed. Most of the French corn markets advise a slow demand, and lower prices for Wheat and Flour. Flour was quoted in Paris yesterday 28s. 6d. to 32s. 6d. per 280 lbs. The arrivals of English grain and foreign Wheat this week are moderate, small of Barley, and of Oats very considerable. The English Wheat fresh up and left over from Monday constituted a fair show this morning, and factors being disinclined to accept of lower prices, it remained unsold late in the day. Of foreign very few sales were effected, and its value remains nominally as on Monday. Barley is a ready sale at fully late rates. For Oats there is a fair inquiry at a reduction of 6d. per qr.

ARRIVALS FROM AUG. 22 TO AUG. 26.

| | Wheat. | Barley. | Oats. | Flour. |
|---|---|---|---|---|
| English .. | 1520 qrs. | 20 qrs. | 880 qrs. | 2010 sks. |
| Irish .... | — ,, | — ,, | 1950 ,, | — ,, |
| Foreign .. | 10170 ,, | 210 ,, | 87420 ,, | 110 ,, 70 brls. |

LIVERPOOL, Tuesday, Aug. 23.—The imports of both Wheat and Flour since this day se'nnight are quite on a small scale; of Indian Corn we have a moderate arrival. The weather in this locality has been most favourable for carrying the harvest during the last few days, but more northward they have had heavy rains. Markets again rule dull, and there is little disposition shown by either buyer or seller to do business: the former, however, has the advantage. We had only a thin attendance of buyers at our Corn Exchange this morning, and the demand for Wheat was on the most retail scale, at a reduction of 1d. to 2d. per cental; the value of new was very irregular. Flour was held firmly at previous rates, with a moderate consumptive inquiry. Indian Corn was not much dealt in; holders, however, were firm at the extreme quotations of last market. Oats and Oatmeal both very dull of sale. Egyptian Beans, Peas, and Barley were all the turn cheaper.

FRIDAY, Aug. 26.—Grain market very dull, and attendance limited. Wheat and Flour barely sustained Tuesday's quotations; other articles quiet, and without quotable change. Weather fine.

| AVERAGES | Wheat. | Barley. | Oats. | Rye. | Beans. | Peas. |
|---|---|---|---|---|---|---|
| July 16.. | 46s 6d | 29s 11d | 25s 3d | 40s 6d | 45s 10d | 39s 8d |
| — 23.. | 44 11 | 30 7 | 25 11 | 38 10 | 46 10 | 39 10 |
| — 30.. | 43 0 | 30 1 | 25 3 | 36 1 | 44 2 | 37 0 |
| Aug. 6.. | 43 7 | 29 0 | 25 1 | 32 8 | 46 5 | 37 6 |
| — 13.. | 43 11 | 30 1 | 25 2 | 33 3 | 46 7 | 36 9 |
| — 20.. | 44 1 | 31 1 | 25 5 | 30 8 | 44 6 | 37 8 |
| Agg. Aver. | 44 4 | 30 1 | 25 4 | 35 2 | 45 8 | 38 1 |

FLUCTUATIONS IN THE LAST SIX WEEKS AVERAGES.

| PRICES. | July 16. | July 23. | July 30 | Aug. 6. | Aug. 13. | Aug. 20. |
|---|---|---|---|---|---|---|
| 46s 6d— | | .. | .. | .. | .. | .. |
| 44 11 | .. | | .. | .. | .. | .. |
| 44 1 | .. | .. | .. | .. | .. | |
| 43 11 | .. | .. | .. | .. | | .. |
| 43 7 | .. | .. | .. | | .. | .. |
| 43 0 | .. | .. | | .. | .. | .. |


AGRICULTURAL PARTNERSHIP.—A Practical Farmer, near town, of high respectability, wishes to DISPOSE OF part of his Interest in his present Holdings for satisfactory reasons. An eligible opportunity for a young Man wishing to gain experience, and having 1000*l.* at command.—Address J. S., 27, Marylebone Street, Golden Square, W.

WANTED, A PARTNER to the NURSERY and SEED BUSINESS with £150 or £200. The concern may be taken to at a valuation. It has a first-class connection of 50 years' standing, is close to the railway station, fronting the principal street in the town, and has an unexpired Lease of 21 years.—For further particulars apply to Mr. TURNER, Fruiterer, New Market, Sheffield.

WANTED, in a country Parish, a SUNDAY-SCHOOL MASTER, who is competent to play the Organ and teach a Village Choir. A good Gardener will find full employment during the week.—For further particulars apply to the Rev. JOHN BELL, Brington Rectory, near Kimbolton.

WANTED, A MANAGER for a Large Estate in Hungary.—For terms apply by letter to JULIUS TANARKY, Esq., 13, St. Alban's Villas, Highgate Rise, London, N.W.

WANTED, A FOREMAN AND PROPAGATOR, in a London Nursery. His business will be exclusively confined to the Plant Department where Cultivation and Propagation of all kinds of Plants under Glass are extensively carried on. None need apply whose ability, experience, and moral character will not bear the most rigid inquiry.—Application to be made in own handwriting, stating terms and references to L. S. M., *Gardeners' Chronicle* Office, W.C.

WANTED IMMEDIATELY, AS HEAD GARDENER, a Man, age 35 to 40. Must have a thorough knowledge of Forcing Vines, early and late, likewise Pot Fruits and Vegetables of all descriptions. Must understand the management of Horses and Pigs. No other Gardener kept. None need apply who cannot give unexceptionable references.—Wages, 50*l.* per annum.—Address G. B., Post Office, Tewkesbury, Gloucestershire.

WANTED, AS GARDENER, a married Man (with not more than two children), who is thoroughly acquainted with all branches of his profession. His Wife will be required to take charge of a Girls' School, where she will have to teach Reading, Writing, Arithmetic, and Sewing. Wages for both, 65*l.* per annum, with House.—Apply by letter, P. L., Brown & Standfast, News Agents, 4, Little George Street, S.W.

WANTED, a good GARDENER.—A married Man preferred, whose Wife could take the Laundry. To reside on the premises.—Address, stating age, qualifications, wages required, to M. D., Mr. Cobett, Stationer, Sunbury, S.W.

WANTED, A GARDENER and his Wife; the former will have to take charge of a Greenhouse, and the care of a Horse and Phaeton; he will be expected to know his business. The latter will act as Cook. A Housemaid is kept. The family is small.—Apply any morning, except Saturday, between the hours of 12 and 1 o'clock, at Messrs. HAMBLE & COPSELLIS, 20, King's Arms Yard, Coleman Street, City, E.C.

WANTED, in a Retail Seed Establishment, Two young Men, the one to act as CLERK, the other as SHOPMAN. None need apply unless thoroughly acquainted with the Seed Business in its various branches. Application by letter, stating salary and where last employed.—Address, W. C., *Gardeners' Chronicle* Office, W.C.

WANTED, a SALESMAN in a Provincial Nursery.—Must have a good address, habits of business, and a respectable knowledge of Plants and Nursery Stock in general. References as to character and ability, with other requisite particulars, to be addressed A. G., care of Messrs. Hurst & M'Mullen, Leadenhall Street, London, E.C.

TO FARMERS.

WANTED, to place a YOUTH (17 years old) with a practical Farmer for one or two years. A small sum weekly will be paid for his board.—Address H. LEE, Green Bank, Rock Ferry, Cheshire.


## WANT PLACES.—Letters to be Post Paid.

GARDENER (HEAD).—Age 27, single; understands Forcing Pines, Vines, Melons, Cucumbers, &c., Management of Stove and Greenhouse Plants, Kitchen and Flower Gardens. Four years' good character.—J. F., Post Office, Wimborne, Dorset.

GARDENER (HEAD).—Age 35, perfectly understands his profession in its various branches; the Forcing of Fruits, Flowers, and Vegetables, and the general routine of Kitchen and Flower Gardens, Plants, &c. Highest references.—BURDETT, Walton-upon-Thames.

GARDENER (HEAD).—A single Man, aged 30; he has a practical knowledge of his business, including Early and Late Forcing, Flower and Kitchen Gardens, Greenhouses, &c. Wages, 60*l.* a year, or an equivalent.—G. B., care of Dr. Lindley, Turnham Green, London, W.


GARDENER (HEAD).—Married, no incumbrance; understands his business in all its branches; references given as to character, &c.—A. B. C., Messrs. Jackson's, Nurserymen, Tooting, Surrey, S.

GARDENER (HEAD).—Age 30, married, no incumbrance; thoroughly understands his profession in all its branches. No single-handed place accepted. One year and ten months good character.—F. Collison's, Herne Hill, Dulwich, London, S.

GARDENER (HEAD).—Age 32, married, no incumbrance; perfectly understands his profession in its branches. Two years' unexceptionable character. Wife can look after Poultry if required.—A. B., Mr. Pain's, Albert Terrace, Knightsbridge, S.W.

GARDENER (HEAD).—Age 30, single; has passed some of the leading Forcing establishments in England and Wales, and has had extensive practice at Exhibitions, Horticultural Buildings, Laying-out Grounds, &c. Can be highly recommended by his present Employer.—F. B., Post Office, Brockham, near Dorking, Surrey.

GARDENER (HEAD).—Age 36, married; thoroughly understands Early and late Forcing; is a good Propagator and competent in the Kitchen Garden; also the Management of Land and Stock. Wife can take Dairy or Poultry if required. The highest testimonials as to ability and character from the gentleman he has just left.—A. B., Osborn & Sons, Nurserymen, Fulham, S.W.

GARDENER (FOREMAN), in a good Establishment.—Age 25; is well acquainted with Plants, Fruit, &c., and has a good general knowledge of his profession. Good testimonials.—A. B., Mrs. Williams, Newton Corner, Chester.

GARDENER.—Middle aged, single; sober, steady, understands his business in all its branches. Good character.—A. B., W. Clarke, 25, Bishopsgate St. Without.

GARDENER.—Married, no incumbrance; steady and active; no objection to tend a Horse. Would take charge of a Vinery. Wife, if required, could take charge of a Dairy.—J. C., Hiscoke's Library, Richmond, Surrey.

GARDENER.—Age 35, single; has a practical knowledge of Forcing, Early and Late Vines, the Management of the Flower and Kitchen Gardens, Greenhouse, &c. Can be highly recommended.—J. B., Mrs. Bryant, King Street, Maidenhead.

GARDENER.—A gentleman is desirous to obtain a situation for a young Man and his Wife; the former a Gardener, who understands his profession in all its branches; the Wife to take charge of a small Dairy.—J. H., Post Office, Ironmonger, Ealing, Middlesex, W.

GARDENER.—J. MONRO can with confidence recommend a strong, active, and steady person (married, without child) to any lady or gentleman as Gardener; 18s. per week required, with cottage.—For further particulars address J. MONRO, Rubbly, Barnet, Herts N.

GARDENER.—Age 30, single, thoroughly experienced in all branches of his profession, and fully competent to undertake the Management of a nobleman's or gentleman's gardens in every department. Will be at liberty end September.—M. A., the Deanery Gardens, Canterbury.

GARDENER (UNDER).—Age 24—J. W., Post Office, Sevenoaks, Kent.

GARDENER (UNDER).—Age 24; understands Vines, Greenhouses, Flower and Kitchen Gardens. Good character from last place.—J. K., Post Office, Ivy Hatch.

GARDENER AND FORESTER, or to assist in General Management of an Estate.—Married, no incumbrance; of life; has great experience in Draining and all kinds of Improvements. Most satisfactory references as to character and abilities.—T. P., *Gardeners' Chronicle* Office, W.C.

GARDENER OR LAND STEWARD, or GARDENER AND GARDENER if required.—G. S. Duke, Esq., Sir John Cathcart, Bart., will be disengaged in October, and open to any engagement as above.—Single man or gentleman.—Cooper's Hill Gardens, Egham, Surrey.

FOREMAN IN A NURSERY.—Accustomed to Propagating and Plant Growing in all its branches.—Kilburn Gate Nursery, Edgeware Road, W.

TO NURSERYMEN.

FOREMAN, OR AS FOREMAN AND PROPAGATOR.—Has had 20 years' practical experience, and has been an exhibitor of all kinds of Plants, such as Stove, Greenhouse, Ornamental Variegated Plants, Heaths, Ferns, &c. An excellent Grafter and Striker of Coniferous Roses, Camellias, Rhododendrons, Heaths, and all kinds of Hard-wooded Plants. Can produce the highest references as to character and ability.—X. Y., *Gardeners' Chronicle* Office.

PROPAGATOR AND FOREMAN in the Department.—M. E., Jas. Strange, Kew Road, Richmond, Surrey, S.W.

PROPAGATOR, CULTIVATOR, &c., Hard and Soft-wooded.—Experienced in the requirements of the trade.—J. W., 17, Unity Place, Samuel Street, Woolwich.

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# The Gardeners' Chronicle Newspaper.

*SATURDAY, SEPTEMBER* 3, 1859.

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# News of the Week.

COUNT DE MORNY, the President of the French Legislative Body, has delivered a speech of great interest on the English alliance, in the form of an address to the Council-General of the Puy-de-Dome of which he is President. In this speech the Count adverts to the recent discussions in the British Parliament on the state of our national defences, and to the suspicion that the EMPEROR NAPOLEON has long cherished the desire of avenging Waterloo and St. Helena by an invasion of England. He adverts also to the charge brought against the EMPEROR by a portion of the English press, that he concluded peace with Russia and Austria with the sole intention of making those Powers his allies and of attacking England with their assistance. These charges Count DE MORNY answers by declaring that when he went to the coronation at Moscow in 1856, the instructions he received from the EMPEROR were "not to allow any encroachment to be made on the English alliance:" and that "to suspect the EMPEROR of preparing in the dark, without any other motive than ancient enmities, an enterprise that would throw into confusion the gravest interests in the world, and would be the most fatal blow to civilisation, is to doubt his word and his heart as a Sovereign and a man." With regard to the Italian question, he says that if the statesmen of England, who now consider that enough has not been done for the Italians, "had consented before the war to express the sympathies which they now manifest," it is to be presumed that "the affairs of Italy would have been regulated by diplomacy." "We live," he says, "in a period when the hatreds of castes and families have succumbed from the increased mildness of manners;" and he concludes by saying that the only way in which the EMPEROR OF THE FRENCH proposes "to avenge Waterloo on England" is by carrying on a friendly rivalry with her in commercial intercourse, and in the occupations and labours of peace; by completing the means of transport and locomotion throughout France; by reducing the cost price of all raw materials and manufactured articles; by imitating the English in what the French are deficient: by gaining strength from the spirit of association without continually requiring the support of the Government; by endeavouring to conquer, and by prudent use preserve, the liberties

which make a man absolute master of his own welfare, and which "have no other limits than the wrong done to others." The *Constitutionnel* of Tuesday contained an article of semi-official significance on the attitude of France in reference to the question of the Italian Duchies. It states that the EMPEROR having agreed at Villafranca to the restoration of the former reigning Princes, has addressed words of reconciliation to the Duchies. HIS MAJESTY has not yet given up all hope of success, and will fulfil loyally to the end his disinterested mission; but if he should not succeed in reuniting the Princes and the people in mutual accord, it is not his intention to force either the one or the other, nor is it his wish to follow the errors of the ancient Austrian policy, whose armed intervention in the affairs of the Peninsula "has ceased for ever." "We have given," it says, "to the Italian people advice which we believe wise and prudent, which it will grieve us it they do not follow, but which we could not press upon them by force. To us Italy owes her independence; we shall not take away from her to-day what we have given her but yesterday." In connection with this article, we may state that Count LINATI, the Podesta of Parma, has returned to that city from Paris—whither he had been sent on a mission to ascertain the exact intentions of the EMPEROR—and has reported the following answer of HIS MAJESTY, made at the very moment that the soldiers of the Italian war were marching through the streets of the French capital:—"Tell the populations that have sent you to me that my arms shall never do violence to their wishes, and that I will not permit any other foreign force to commit violence against you."

## Home News.

DEPARTURE OF THE QUEEN FOR SCOTLAND.—The Queen and Prince Consort, accompanied by Prince Alfred, Prince Arthur, and the Princesses Alice, Helena, and Louisa, arrived at Buckingham Palace on Monday afternoon from Osborne. At half-past 8 in the evening her Majesty and the Prince Consort, accompanied by Prince Arthur and the Princesses Alice, Helena, and Louisa, left the Palace for the King's Cross station of the Great Northern Railway, where a special train was in attendance to convey the Royal party to Scotland. Mr. Packe, M.P., and Mr. Astell, M.P., were in attendance on the part of the board of directors to receive her Majesty. The Queen and Prince Consort alone occupied the state saloon, which was fitted up as a sleeping apartment. The Princesses occupied a second saloon with Lady Churchill, and a third was devoted to the accommodation of the young princes. The train left King's Cross punctually at 9 o'clock. At Biggleswade, where the first stoppage for water took place, her Majesty expressed her perfect satisfaction with the arrangements made for her convenience and comfort. Shortly afterwards the curtains of the Royal carriage were drawn, the lights dimmed, and her Majesty retired to rest. The train stopped during the night at the appointed stations, viz.: Peterborough, Newark, Doncaster, and York; but the Royal travellers made no sign at either place and were not disturbed. At Doncaster Mr. Denison, chairman of the Great Northern, was in attendance, and at York the directors of the North-Eastern took silent charge of the train, and attended it to Berwick, at which place the directors of the North British took charge of it, and accompanied it to Edinburgh. The curtains of the Royal carriage were not withdrawn until the train stopped on Scottish soil at Dunbar. The Queen arrived at the St. Margaret's station, Edinburgh, at 8 o'clock on Tuesday morning, 10 minutes in advance of the appointed time. Her Majesty was met by the Prince of Wales, who entered the Royal carriage and saluted his illustrious parents as the train drew up. The Duke of Buccleuch, Colonel of the county militia, and Lord Melville, Commandant of the district, with the Lord Provost, Sheriff, &c., were in attendance to receive her Majesty. The Queen having thanked the railway officials for their attention, entered one of the Royal carriages, and amid the acclamations of a great crowd of her Scottish subjects drove through the park to Holyrood Palace. The Queen's arrival was announced to the city by a Royal salute from the Castle heights, and a detachment of the 16th Lancers escorted her Majesty from the railway station to Holyrood. The Queen rode in an open landau, accompanied by the Prince Consort, the Princess Alice, and the Prince of Wales. The Princesses Louisa and Helena followed in another open carriage, accompanied by Lady Churchill and Sir George Grey. Prince Arthur rode in another carriage, with General Grey and Sir Charles Phipps, and the members of the Royal suite followed in other carriages. The way to Holyrood was lined by the 16th Lancers from Piershill, a detachment of Royal Artillery, with field train from Leith Fort, the Royal Sussex Militia from Glasgow, and the West Yorkshire Rifles from Edinburgh Castle, the last regiment furnishing the guard of honour at Holyrood. Along the whole way to the Palace, above a mile, the Royal party were followed by enthusiastic cheering. After arriving at Holyrood the Queen did not again leave the Palace till 4 o'clock in the afternoon, when her Majesty, with the Prince of Wales, the Princesses, and Prince Arthur, and several members of the suite, drove out in three open carriages and four to Dalkeith House, the seat of the Duke of Buccleuch, about seven miles distant, and, returning to town about 7, drove through some of the principal streets. The Prince Consort, in her Majesty's absence, took a short walk in the neighbourhood of the Palace. On Wednesday morning at a quarter to 9 the Queen, Prince Consort, and Royal family left Holyrood Palace in open carriages for St. Margaret's Station, attended by the usual military escort. At the station the Prince of Wales (who is to prolong his stay at Holyrood till the 10th inst.) took leave of the Queen, and the Royal train proceeded on its journey, arriving at the Ferryhill Junction, Aberdeen, at 1.55, and at Banchory at 2.30 P.M. At the latter place her Majesty alighted and took luncheon. At 3 o'clock the Royal party entered their travelling carriages, and proceeded to Balmoral, where they arrived shortly after 6 o'clock.

THE COURT.—On Friday Prince di Carini had an audience of the Queen at Osborne and presented his letters of recall, and Le Commandeur Targioni presented his credentials as Minister from Naples. Senor Castellanos had an audience, and presented his credentials as Minister from Dominica. In the afternoon the Queen and Prince Consort, Prince Alfred, Prince Arthur, Prince Leopold, and the Princesses, accompanied by Lord Palmerston and Lord Sydney, took a cruise in the Victoria and Albert. In the evening her Majesty had a dinner party, and at night in honour of the Prince Consort's birthday, the Royal yachts lying off Osborne were illuminated, and a display of fireworks took place. On Saturday Lord Palmerston left Osborne for London. The Queen, Prince Consort, Princess Alice, and Prince Arthur went in the Fairy to Portsmouth, where her Majesty inspected the headquarters of the 32d Regiment on their arrival from Lucknow.

PRINCE ALFRED, attended by Major Cowell, left Buckingham Palace on Monday evening for Dover, and embarked at 11 o'clock the same night in the Admiralty steam yacht Vivid, for Calais, whence he proceeded by way of Paris to Marseilles, to join the Euryalus at Malta, his Royal Highness's leave of absence having expired.

THE DUKE OF CAMBRIDGE, the Commander-in-Chief, has left town for a few weeks' tour in Germany.

THE GRAND DUKE CONSTANTINE on Saturday morning visited the Great Eastern, and remained on board for three hours. The Russian frigate Baian sailed on Sunday for the Baltic.

THE CABINET.—A Cabinet Council was held on Monday afternoon, having been suddenly convened immediately after Lord Palmerston's return from Osborne on Saturday. Those members of the Cabinet who were absent at a distance from the metropolis were summoned to the Council by telegraph.

## Foreign.

FRANCE.—Accounts from Biarritz state that the Emperor and Empress are not expected to reach that place until about the 10th of this month, and that their Majesties will not prolong their stay at the villa beyond the 25th, when the Court will return to Paris, and then proceed to Compiègne some days earlier than was at first expected. It is asserted that the Emperor will shortly proceed to Cherbourg, and also pay a second visit to Châlons. The *Constitutionnel* of Tuesday contained an article on the Duchies, which is generally regarded as of a semi-official character. The following is an extract from this important article:—

"The Emperor at Villafranca accepted, without any sort of repugnance, the restoration of the princes. At the hour of reconciliation he was unwilling to remember that at Solferino some amongst them were in the ranks of his enemies. It was not against those princes that he directed his arms, but against the political system of which they were the accomplices or the first victims. It was more for the sake of the populations than for that of the princes, that the French Government, faithful to its promises, caused the language of reconciliation to be employed in the three Duchies. It has not yet abandoned all hope of success, and it will endeavour to the end to fulfil loyally its disinterested mission. But if it should not succeed in uniting the princes and the populations in a mutual and profitable accord, it will not do violence either to one or the other. To act between them by an armed intervention would be to walk in the path of the old Austrian policy which was defeated at Magenta—it would be to exercise the right of intervention which was torn to pieces at Solferino. It is not consistent either with the dignity or the honour of France to do herself what she condemns in others. Austria has lost for ever the profitable monopoly of armed intrusions in the affairs of the peninsula, and we will never claim it for our own advantage. If at Rome an army of occupation is charged with the mission of protecting the Sovereign Pontiff, it is because there is at Rome not only an Italian Prince in presence of his subjects, but the Pope, the Father of the Faithful, whose repose and security it is important to us to secure. At Rome we do not defend a private cause; we defend in the interest of France and in that of Italy herself the cause of Catholicism. Everywhere else the princes are subject to the common law, and that law requires that no one shall place himself between them and their people. As friends, whose devotedness ought not to be forgotten, we believe that we have more right than others to give to the populations of the Duchies advice which we consider wise and prudent. If they do not follow it we may feel regret, but we shall never endeavour to impose it on them by force. In a word, Italy owes to us her independence, and we will not take back to-morrow what we have given to-day."

Count de Morny, President of the Legislative Body, has delivered an address to the Council General of the Puy de Dome, in which he made the following remarks on the English alliance:—

"You have participated, gentlemen, in the enthusiasm excited by our victories. you have shared in the unanimous gratitude of France for the great moderation of the Emperor. But you find it difficult to understand how his Majesty's evident desire to prevent a European conflagration can have caused in England the newspaper articles, the Parliamentary speeches, and the warlike preparations of which so much has been said. You know, without doubt, by means of what logic the English explain their apprehensions. They say, 'Our press is free; the French press is not so; therefore insults have not the same importance in one as in the other.' That is quite an error. There are in France no means of preventing a journal from publishing what seems to it right; the Government is only armed against the press with the power of warning and of suspension, which are repressive measures. The Englishman adds, 'The Emperor retains at the bottom of his heart the desire to avenge Waterloo and St. Helena; he only concluded peace with the Emperor of Russia in order to make him an ally; he has been generous to the Emperor of Austria only to make a friend of him also; and with that double alliance he intends to attack England.' I do not think it inopportune to tell you what I think on that subject. We live at a period when the hatreds of castes and families have succumbed from the increased mildness of manners, and at which national hatred and prejudice have been effaced by civilisation. The new generations have something else to do than to avenge the past; they are too enlightened to act on any other motive than the interest of the present and the future. The Emperor and the present generation of Frenchmen are not of those of whom it can be said, 'They have learned nothing and forgotten nothing.' As to the generous proceedings between the three Emperors, to ascribe them to the speculative object indicated above, is it not to reduce to the proportions of a paltry theatrical intrigue the regulation of the great interests of Europe, and to degrade the elevated sentiments which God has placed in the heart of a Sovereign for the welfare of humanity? Assuredly, I am better able than any other to appreciate the loyal fidelity of the Emperor and his pacific intentions: for when he did me the honour to send me to Russia to draw closer the relations between the two empires, the part of my instructions which dominated every other was this—'Do not allow any encroachment to be made on the English alliance, and, far from endeavouring to divide the great Powers, on the contrary point out that if they had the good sense to unite and to come to an understanding, all the paltry difficulties which arise in Europe may be solved peaceably.' Need I recall to your memory the incidents which preceded the war with Austria in order to prove that the Emperor Napoleon, while desiring to free Italy, and to disengage the frontier of France from Austrian pressure, would have preferred attaining that object by a Congress, rather than by a war? The number and the state of our army at the moment when the *ultimatum* of Austria was issued prove this. And if the statesmen of England who now consider that enough has not been done for the Italians had consented before the war to express the sympathies which they now manifest, it is to be presumed that the affairs of Italy would have been regulated by diplomacy. I repeat that, after all the Emperor has done and said, to suspect him of preparing in the dark, without any other motive than ancient enmity, an enterprise which would throw into confusion the gravest interests in the world, and would be the most fatal blow to civilisation, is to doubt his word and his heart as a Sovereign and a man. Alas! gentlemen, perhaps those in England who are spreading these alarms believe in them no more than you or I do; but by exciting the national susceptibility, by flattering certain popular instincts, the circulation of the journal is increased, the popularity of the public orator is extended. None the less do they commit a bad action, for they indispose the two countries to one another; they excite vague distrusts; and this they do so efficiently that on a given day a trifling incident, a misunderstanding, easy to be arranged under a good state of feeling, might become a serious complication under a state of reciprocal susceptibility. However, time and the determination of the Emperor to lead France into the occupations and labours of peace will, I doubt not, triumph over these chimerical fears. That, gentlemen, is the sort of war which we must wage with England. Let us resolutely complete our means of conveyance and of locomotion; let us put them in communication with our coalpits; let us reduce the cost price of all raw materials and of all our manufactured articles; let us imitate the English in what we are deficient; let us gain strength from the spirit of association without continually requiring the support of the Government; let us endeavour to conquer, and by prudent use preserve, the liberties which make a man absolute master of his own welfare, and which have no other limits than the wrongs done to others. Yes, let us make on England a manufacturing and commercial war—a conflict of progress and civilisation, loyal, avowable, and which will be advantageous to all. That is what the Emperor desires; let us second his efforts. Already is the amnesty a work of pacification, which is the prelude of the system into which we are about to enter. Let us hope that it will be so understood by everybody, especially by those who are the object of it."

The French marshals have left Paris for their respective commands. Several of the journals assert that an eighth great military division is to be created at Nantes, to which Marshal Vaillant will be appointed. Marshal Niel, to whom the public is indebted for an account of the siege of Sebastopol, is said to be preparing a work on the late campaign in Italy. Prince Metternich, Austrian Ambassador at Paris, has left for St. Sauveur, and will afterwards proceed to Vienna, where he will remain a few days.

SPAIN.—The Spanish Government has ordered the Governor of Fernando Po, the new Spanish settlement in the Gulf of Guinea, to refuse the petition of the Governor of the Portuguese islands of Santo Tomé and Principe, claiming some fugitive slaves (belonging to certain merchants of those islands) who had sought refuge in Fernando Po. The *Espana* confirms the fact that negotiations of peace between France and Spain on the one hand, and the Emperor of Cochin China on the other, have been entered into.

SWEDEN.—The Government is preparing a bill relative to the extension of religious liberty, to be presented to the Diet of the kingdom which is to meet this autumn. A somewhat similar measure was brought before the last Diet, but rejected by the order of the nobility and clergy. A general map of the forests of Sweden and Norway, which also indicates the configuration of the soil, has just been completed under the patronage of the young King, who has a taste for scientific pursuits.

PRUSSIA.—Accounts from Berlin of the 25th ult.

state that the great heat has produced a bad effect on the King's health, and it was feared that he would die in the night. In consequence of this change his Majesty was not removed from Sans Souci to Potsdam, as had been intended. His Majesty's hearing is said to have become as much affected as his eyesight.—The town council of Berlin has subscribed 1600*l.* to a foundation in honour of Humboldt, destined to afford aid to learned men and travellers in the prosecution of the studies to which he devoted his long life.

SWITZERLAND.—Accounts from Zurich state that on Saturday there was no Conference, but the Plenipotentiaries of France and Sardinia had a meeting. On Sunday they again had a conference, and couriers were despatched to Milan and Turin. On Monday and Tuesday private conferences took place between the Plenipotentiaries of France and Austria. On Tuesday there was a meeting of the French and Sardinian Plenipotentiaries. It is believed that the Plenipotentiaries will be enabled to quit Zurich at the latest in a fortnight.

AUSTRIA.—The Austrian frigate Novara has arrived at Trieste from her voyage round the world, in company with the Austrian squadron, with the yacht of the Archduke Ferdinand Maximilian at their head. It is said that the commercial objects of the voyage have proved a complete failure.

MALTA.—Four seamen, charged with being the ringleaders in the late mutiny at Castellammare, on board the Marlborough, flag-ship of Admiral Fanshawe, were tried by a court-martial on the 25th ult., Rear-Admiral Codrington officiating as president. The prisoners pleaded "Not Guilty," and after the examination of eight or nine witnesses, chiefly officers, in support of the charge, it was held not to be made out to the extent expected, and on the 26th three were condemned to receive 50 lashes each and two years' imprisonment for mutinous conduct, and the fourth to one year's imprisonment. These four seemed to have been picked out from 300 or 400, and identified chiefly by their voices, as the decks were in darkness from the closing of the ports.

IONIAN ISLANDS.—A soldier of the 4th Regiment was carried off by a shark while bathing in Corfu harbour on the 7th ult. Sir H. Storks has since issued a proclamation offering the sum of 60 dollars as a reward for every shark caught alive or killed in the harbour.

RUSSIA.—Letters from St. Petersburg state that, in consequence of a report from Prince Galatzin on the scandalous state of the administration of the charitable funds of that city, the Emperor has dismissed the vice-president and all the officials connected therewith, at the same time depriving them of the privileges to which their length of service would have entitled them.

ITALY.—The deputation charged by the Tuscan Government with the tender of the Grand-Ducal crown to Victor Emmanuel II., has left Florence for Turin. The deputies are Count Ugolino della Gherardesca, the lineal descendant of Dante's Count Ugolino, the Marquis Franceschi, representing Pisa; Count Borghesi, Siena; the Cavaliere Adami, Leghorn; and the Advocate Giorgini, the reporter on the motion for annexation carried by universal suffrage in the National Assembly on the 20th July. Orders have been given at Genoa and Turin to receive the deputation with great solemnity. A deputation of the National Assembly of Modena, composed of the Commander Malincini (President), Marquis Fontanelli, and Count Ariani, left Modena on Monday for Paris, on a special mission to the Emperor. Advices from Bologna state that the elections throughout the Romagna have taken place with the greatest tranquillity and order, and that the Assembly met on Thursday for the first time. Count Reiset and other representatives of foreign states were present at the sitting. The Government of Bologna has dissolved a regiment, in which some Mazzini volunteers had attempted to cause an excitement. Count Linati, Podesta of Parma, who had been sent on a mission to Paris, has returned to Parma and issued a proclamation to his fellow citizens, stating that the parting words which the Emperor addressed to him were:—"Tell those who have sent you to me that my army shall never be employed in opposing the wishes of the people, and that I will never allow the armed intervention of other Powers to commit violence against you." Garibaldi visited Parma on the 22d ult., and was most enthusiastically received. The people attempted to unharness the horses, and to draw the carriage in which he made his entry, but he would not allow this and exclaimed "Ne faisons pas Garibaldisme, soyons Italiens." The Provisional Government of Modena have published two letters found in the archives of the duchy, addressed by the ex-duke to his Foreign Minister, Count Forni, in 1855, in which he uses the most virulent language against the Emperor of the French, and laments the success of the Western Powers in the Crimea. The new Tuscan Minister of Ecclesiastical Affairs, M. Vincenzio Salvagnoli, has so far sanctioned the request of a memorial submitted to the Government of Florence by the Italian Protestants, that they will henceforth be allowed full liberty of worship, and will no longer be subjected to the vexatious obstacles thrown in the way of the registration of the births of their children, by which their civil rights were threatened to be seriously affected. Advices from Rome to the 27th ult. state that the Duke de Grammont has held a conference with Cardinal Antonelli on the subject of the re-organisation of the Legations. Cardinal Falconieri, Archbishop of Ravenna, died in that city on the 22d. He was the last of his race, and was nearly 65 years of age. He was invested with the purple by Gregory XVI. in 1838. The town of Norcia, near Spoleto, in Umbria, was totally destroyed by an earthquake on the 22d ult. About 70 dead bodies have already been dug out of the ruins, and many others are missing.

TURKEY.—Advices have been received from Constantinople to the 24th ult. stating that the Sultan had been on the point of death from a severe attack of fever, but his health is now restored. The rumour of the modification of the Ministry is unfounded. M. Zohrab, who was for some time Turkish Consul-General in London, has been appointed Consul at Rome.

SYRIA.—Fears are entertained of an extension of the civil war in this province. The Druses are devastating the country by setting fire to the people's property, and the Europeans are flying from the town. Some silk factories had hoisted the French flag for protection. The French Consul had sent for troops, but the Turkish force was insufficient.

MOROCCO.—It is reported at Gibraltar that the Emperor of Morocco is dead. Six hundred Moors have attacked Ceuta, but have been put to flight by the Governor at the head of his garrison, and eight killed. The Spanish Government has sent reinforcements by steamer, and intends to despatch a further force of 10,000 men to exact satisfaction. A shot was fired at the English steamer Indus, while passing through the Straits of Gibraltar, from the Spanish fort of Tarifa; but it was supposed to be only with the desire of obtaining information respecting the disturbances between the Moors and Spaniards at Ceuta.

INDIA.—By the arrival of the overland mail we have news from Bombay to the 5th of August, and from Calcutta to the 29th July. The following are the details:—

*Calcutta*.—On the night of the 26th July a cyclone passed over Calcutta which caused immense destruction of life and property, swept away the strongest telegraphic lines for miles and wrecked two steamers and several sailing ships in the Hooghly. The Candia mail steamer was off Saugor when the gale commenced but escaped without injury. In obedience to the Govenor-General's Proclamation, the 27th of June was observed as a day of general thanksgiving for our successes during the late campaign. The Parsees, Jews, and Hindoos joined in the religious observance of the day, but the Mohamedans are said to have abstained from doing so.

*Oude*.—Lord Canning has transmitted to the Home Government a report by Mr. Montgomery on the administration of Oude, in which his lordship replies to Lord Stanley's despatch on the Oude proclamation, and shows that it was never cancelled as Lord Stanley alleged, but was put in force in every case in which there was persistence in hostility. The King of Oude has accepted the pension of 36,000 rupees, granted by the Indian Government.

*Fyzabad*.—Rajah Joylall Sing, of Mhow, has been arrested on the charge of having invited Nana Sahib to take Fyzabad when the British troops should be withdrawn to Europe on account of the war.

*Nepaul*.—The Nana, Bala Rao, and other rebel chiefs, are scattered on the borders of Nepaul, with 8000 men, all of whom have been suffering from sickness, accelerated by privations and exposure. It is said that a servant of Khan Bahadoor has decamped with all the old man's money while he was lying sick with jungle fever. The Begum is under restraint at Naycote; she is closely watched by the Nepaulese, although she is not a prisoner. She possesses plenty of money, and has a bodyguard of 1000 men.

AUSTRALIA.—The steamer Northam with the Australian mail was totally lost on the 20th August, on the Nautilus reef, near Jeddah, in the Red Sea. All the passengers and chief part of the mails were landed on an adjacent island. Arrangements had been made to convey them to Aden in the Benares and Cyclops, from whence they will be sent to Suez by the Simla.

UNITED STATES.—Capt. Eldridge of the American barque Amazon reports the discovery of an island in the Pacific Ocean several hundreds of miles from any land laid down on the charts. A church for deaf mutes has recently been opened in New York, the only edifice in the world set apart for this unfortunate class. The project was undertaken by the Rev. Thomas Gallandet, who is well known by reputation as an instructor of the deaf and dumb.—M. Blondin has carried a man across Niagara on a tight rope.

WEST INDIES.—A riot connected with certain questions of litigation between a person named Buie, claiming certain rights in a property called Florence Hall, and the rightful owners of that property, has taken place at Trelawney, and was not suppressed until the military were called out, three females shot dead, and several other rioters severely wounded.—The bill to found medical exhibitions in connection with the public hospital of Demerara and Essequibo has been passed by the Court of Policy, and has been sent home for her Majesty's confirmation.

NEWFOUNDLAND.—Extraordinary mineral discoveries have lately been made in this colony, which will become the Cornwall of North America. Specimens of copper pyrites containing from 8 to 12 per cent. of metal have been taken from a lode 50 feet in breadth which crops out upon the surface, so that thousands of tons can be obtained at a trifling outlay. Several rich lodes of lead and a valuable vein of silver ore have also been discovered.

MEXICO.—Miramon has dissolved the Cabinet, and General Wool has met with a disastrous defeat. Degollado has taken command of the Liberal army, to march upon the capital. The Archbishop has excommunicated the Liberal party on account of their decree for the nationalisation of the church property. This decree however has everywhere else been received with favour, even in the city of Mexico. Captain Aldham, Commander of her Majesty's naval forces, has visited the President, and announced that by order of the British Government he would not enforce the measures heretofore contemplated for the redress of complaints, nor do anything to embarrass the Administration. Mr. Whitehead, the commissioner of the Mexican bondholders in Mexico, who has been a resident there for 30 years, has been banished the country by the Miramon Government, and has returned to England by this packet.

## City Intelligence.

MONEY MARKET, FRIDAY.—BRITISH FUNDS: Consols closed at 95¼ to ⅜ both for Money and Acct.; Bank Stock, 225; Reduced and New Three per Cents., 96¼ to ⅜; Indian Four per Cent. Debentures, 1859, 95; Ditto New Loan, 99 to 99½; India Bonds, 4s. dis.; Exchequer Bills, 21s. prem.—FOREIGN: Anglo-Austrian Five per Cents., 1859, 76¼; Brazilian Old Five per Cents., 103½; Dutch Two and a Half per Cents., 65½; Mexican Three per Cents., 20½; Portuguese Three per Cents., 1853, 46½; Russian Five per Cents., 108, ex div.; Spanish Three per Cents., 46¼ to 45½; Ditto New Deferred Three per Cents., 33⅞ to 33½; Turkish Six per Cents., 1854, for Acct., 83½; Ditto Six per Cents., 1858, 71 to 71¼ ex div.; Ditto Guaranteed Four per Cents., 102½.

## Bank of England.

ISSUE DEPARTMENT

| | | | |
|---|---|---|---|
| Notes issued | £30,461,150 | Government Debt | £11,015,100 |
| | | Other Securities | 3,984,900 |
| | | Gold Coin and Bullion | 15,261,150 |
| | | Silver Bullion | — |
| | £30,461,150 | | £30,461,150 |

BANKING DEPARTMENT

| | | | |
|---|---|---|---|
| Proprietors' Capital | £14,553,000 | Government Securities (including Dead Weight Annuity) | £11,270,578 |
| Rest | 3,089,674 | Other Securities | 13,091,982 |
| Public Deposits (including Exchequer, Savings Banks, Commissioners of Nat. Debt, and Dividend Accts.) | 7,816,480 | Notes | 3,022,845 |
| Other Deposits | 12,740,830 | Gold and Silver Coin | 614,264 |
| Seven day and other bills | 988,415 | | |
| | £30,688,749 | | £30,688,749 |

1st day of Sept., 1859. M. MARSHALL, Chief Cashier.

## Gazette of the Week.

STUESDAY.—BANKRUPTS.—W. [illegible], Merchant.—J. L. [illegible], Iron Founder, Attorney.—F. L. [illegible], Lord Street, Stereoscope Manufacturer.—T. and T. [illegible], Coal and Iron Masters.—D. A. [illegible], New Road Street, Corn Merchant.—J. J. [illegible], Manchester Hosier.—T. [illegible], Inn or Tavern Keepers, Bishop's Road, Bayswater, Brushmaker.—J. [illegible], Barbers, Soho, Fancy Grocer.—E. [illegible], Carlisle, Guano Dealer.

SCOTCH SEQUESTRATIONS.—D. [illegible], Tailor.—[illegible] Wright.—J. G. [illegible], Glasgow.—W. [illegible], Leith, Cooper.—G. [illegible], Wishaw, Grocer.

FRIDAY.—BANKRUPTS.—H. [illegible], Liverpool, Coal Merchant.—C. [illegible], Cardiff, Builder.—J. S. [illegible], Kingston-upon-Hull, Accountant.—[illegible], Bristol, Timber Merchant.—J. [illegible], Holywell, Flintshire, Draper.—J. [illegible], Rotherham, Yorkshire, Currier.

SCOTCH SEQUESTRATIONS.—R. W. [illegible], Portobello, Doctor of Medicine.—N. [illegible], Glasgow, Dyesalter.—K. [illegible], Edinburgh, Photographer.—W. [illegible] and Co., Glasgow, Commission Merchants.—J. [illegible], Stirlingshire, Grocer.—J. [illegible], Glasgow, Builder.—H. [illegible], Kilmarnock, Draper.

## Metropolis and its Vicinity.

THE CASE OF DR. SMETHURST.—No answer has yet been received from the Secretary of State to the memorials and other communications that have been made to him from different quarters, applying for a respite of the prisoner, on the grounds that he has been convicted on insufficient testimony, and that he is probably innocent of the crime for which he is sentenced to die. There is no change whatever in the demeanour of the prisoner, who appears to be impressed with a belief that if he does not receive a free pardon the capital sentence will at all events be remitted. The Lord Chief Baron has been applied to in reference to the case, and all the papers have been submitted to him; and it is understood that he has distinctly stated that his opinion with reference to the case has not been in any way altered by the statements that have been published since the verdict of the jury has been delivered, and the supposed new facts that have been brought to light, and that he still thinks the prisoner was justly convicted of the crime; but he at the same time said that if the advisers of the Crown thought that any reasonable doubt had been created as to the righteousness of the verdict he should not think it his duty to offer any opposition to the prisoner being recommended to the merciful consideration of the Crown. On Tuesday afternoon the Lord Chief Baron had an interview of nearly two hours' duration with Sir G. C. Lewis at the Home Office, and on Thursday his lordship had another interview with the right hon. gentleman. On the same day Mr. H. B. Sheridan, M.P., accompanied by Mrs. Smethurst, and Mrs. Smith, the landlady of the boarding-house at Bayswater, where all the parties had resided, had an interview with Sir G. Lewis, and presented a petition to the Queen, signed by Mrs. Smethurst, praying for a remission or commutation of sentence. Mr. Waddington was present during the interview, which lasted an hour and a half. Yesterday morning Mr. Tindal Atkinson, of the Middle Temple, presented a memorial in favour of a commutation of the sentence signed by 29 practising members of the bar. Three of the medical witnesses for the defence, Dr. B. W. Richardson, Dr. J. L. W. Thudicum, and Dr. Francis C. Webb, have addressed a letter to the Home Secretary, explaining their views of the case in a scientific point of view, leaving circumstantial evidence entirely aside, and stating that they have come to the following conclusions:—

"1. The symptoms and pathology of Isabella Bankes were consistent with dysentery occurring in a pregnant and previously unhealthy woman, and her death is fairly ascribable to such producing cause. 2. The symptoms and pathology of Isabella Bankes are not consistent with the hypothesis of poisoning by arsenic, by antimony, or by both these poisons, nor is death fairly ascribable to them. 3. There is no chemical proof whatever that either antimony, arsenic, or any other irritant poison was ever feloniously administered to Isabella Bankes."

Dr. Tyler Smith, physician to the Hospital for Women,

was also published a letter stating his belief that, looking to the fact of Miss Bankes's pregnancy, and the known disorders excited by that condition in some constitutions, the symptoms and *post mortem* appearances were not inconsistent with disease and death from natural causes. The following letter from Mrs. Smethurst, the wife of the convict, was published on Saturday in the daily papers:—

"Sir,—It is with the most painful reluctance that I address you, but I feel bound, from a sense of duty and justice, to bring before you one or two facts—small in themselves, but tending to great results—which, if known, may remove from my unhappy husband some of the unjust suspicions and prejudices which have fallen upon him. Since our marriage—30 years ago—up to the time of his departure with Miss Bankes, we have lived together in perfect happiness and contentment. I have always received from my husband the most uniform kindness and attention. I have had several illnesses, in all of which he has himself attended upon me both as medical man and nurse. He received no property whatever with me, and has not only supported himself and me entirely since our marriage, but, from the incapacity from illness of his younger brother to follow any calling, has supported him also. From my knowledge gained from long experience of my husband's humane character and amiable disposition, I believe him to be quite incapable of committing the crime of which he stands convicted. Up to this time his moral conduct has been irreproachable, and, without wishing to cast any reflection on the memory of the deceased Miss Bankes, I must express it as my opinion, grounded on my own observation, that the first advance came from her, although, unhappily, it met with too ready a reciprocity on his part. In answer to some observations made in respect to no one having visited my husband during his confinement, I beg to say that it is in accordance with his own wish; that I have frequently expressed my desire to do so, and many friends have expressed the same wish, which he has invariably declined—feeling that he could best support his great trial in strict seclusion.—I am, sir, your obedient servant, MARY SMETHURST."

THE BUILDERS' STRIKE.—The Conference of the Building Trades on Monday declared no dividend, but Messrs. Trollope's men were paid 12*s*. skilled, and 8*s*. unskilled labourers. A meeting of the executive of the Central Association of Master Builders was held on Tuesday, when Messrs. Trollope reported a considerable increase in their number of men. After a discussion conducted with closed doors, the Association adjourned for a week. A large meeting of operatives was held on Monday at the Surrey Gardens for the purpose of receiving a report and considering their present condition. About 8000 persons were present. Mr. Potter, the secretary, stated that the dividend declared last week had caused some dissatisfaction, but some difficulty was sure to arise when 14,000 or 15,000 men wanted payment. Messrs. Trollope's men had been on strike four weeks, and the amount paid to them in the first week was 14*s*. to skilled artisans, and 8*s*. to others—amounting to 180*l*.; in the second week, 20*s*. to skilled artisans, 15*s*. to others—amounting to 215*l*.; third week, 15*s*. to skilled artisans, 10*s*. to others—making 150*l*.; fourth week, 12*s*. to skilled artisans, 8*s*. to others—making 140*l*. The total income had been 1401*l*. 5*s*. 2*d*., and the expenditure 1337*l*. 12*s*. 7*d*., leaving a balance of about 60*l*. Committees had been established in Glasgow, Liverpool, Wolverhampton, Birmingham, Nottingham, Plymouth, Oxford, and other places, and special general meetings of trades had been called throughout the country for the purpose of raising subscriptions. Resolutions pledging the meeting not to resume work until the obnoxious "document" is withdrawn, was unanimously agreed to. On Thursday a preliminary meeting of the Anti-Strike Committee and non-Society men engaged in the building trades was held in the Adelaide Gallery, at which it was resolved to establish a fund for the relief of the men who are opposed to the strike and unconnected with the Society, and to present a requisition to Alderman Cubitt, inviting him to act as Treasurer. On Saturday a man called Thomas Carmady was charged at the Westminster Police Court with creating a crowd in the street, and threatening a carpenter in the employ of Messrs. Trollope, and using abusive language calculated to incite him to commit a breach of the peace. Although the evidence was not conclusive of an attempt to intimidate, there was no doubt that defendant had used insulting language in a thoroughfare, for which he was sentenced to pay a penalty of 20*s*., or be committed for 14 days; and for having used that which amounted to a threat, he was ordered to enter into recognisances in the sum of 20*l*. to keep the peace the for three months.

THE COMMISSIONAIRES.—The Commander-in-Chief has signified his approval of the system lately established to provide employment for wounded soldiers and sailors, and has taken the corps under his especial patronage. In addition to the 50 men at present employed in London, upwards of 20 more are employed in Liverpool and Manchester, and it is intended during the autumn to extend the advantages of the system to all the large cities in the kingdom, and thus secure to every wounded man of good character a certain means of occupation. Among the posts lately established in the metropolis are the General Post Office, London and North-Western and London and South-Western Railways, at the termini of which the directors allow men to be stationed.

RATING OF GOVERNMENT ESTABLISHMENTS.—The War Department and the Admiralty having consented to pay a fixed annual sum in lieu of rates to the various parishes containing Government establishments, a surveyor has been appointed to assess the present value of such works, upon which basis the payment will be fixed.

REVISION OF THE LITURGY.—A conference on this subject was held at Lord Ebury's residence in Park Street on the 24th ult., at which it was determined that steps should be immediately taken for ascertaining the sentiments of the laity. In the course of the meeting it was stated that the clergy are too much fettered by their engagements to be able to give free expression to their opinions, and that it is highly desirable that the public voice should be heard through the laity in a matter of so much importance. Hitherto the matter has been mainly confined to the House of Lords, but in the next session of Parliament a member of the House of Commons will bring forward the question in that House simultaneously with the renewal of Lord Ebury's annual motion in the Peers. Petitions are also to be got up in favour of the measure both in England and Ireland.

THE POISONING CASE AT POPLAR.—George Frederick Royal, *alias* Reynolds, *alias* Regnold, for whose apprehension the reward of 100*l*. was offered last week, on the charge of having murdered Zipporah Wright by administering a quantity of cantharides to her after her confinement, was apprehended on Monday at Upper Sydenham, where he has been working as a shoemaker ever since the jury returned a verdict of Wilful Murder against him. He was examined on the same day at the Thames Police Court, and was remanded for a week.

THE GREAT EASTERN.—On Tuesday the great ship was officially entered "outwards" at the Custom House, by the commander, Captain Harrison; the destination named being New York. Few or no policies of insurance have been taken on her at Lloyd's, the underwriters being generally unwilling to transact any business until the completion of the trial trip, the reason assigned being the possibility of the vessel not getting safely out of the Thames. Mr. Lever last week made an amended offer to charter the ship, but the company again declined to entertain his proposition. On Saturday morning the Grand Duke Constantine visited the ship, and for upwards of three hours remained on board inspecting every part of her, from the lowest deck to the iron masts and colossal wooden yards. He expressed himself perfectly astonished at the magnitude of the whole undertaking for a commercial speculation, though, merely judging of it from a nautical point of view, he had little doubt of its success. He claimed for the Russian Government the credit of having the second largest vessel in the world—the General Admiral—though, as regarded fineness of lines and beauty of form, he considered the Great Eastern to as much surpass that man-of-war as she did in size and power. On leaving the vessel his Imperial Highness proceeded to Deptford to examine the new steering apparatus which has been invented for the Great Eastern by Mr. Langley, the ship-builder of that place. By means of this ingenious invention Captain Harrison or the officer of the watch on the bridge will be enabled to steer the ship by a signal indicator with as much certainty as if he guided the wheel himself. A small illuminated dial, with a moveable index, is fixed on the bridge in front of the officer of the watch, and connected with another of the same description in front of the men at the helm. Moving the index finger of the machine on the bridge to port or starboard moves the index of the machine before the helm at the same time, so that not a second is lost in putting the helm hard up or down. In the same manner the rudder itself is connected with another small dial before the helmsmen, which tells by its index that they have exactly obeyed orders, while this again, communicating with a similar machine on the bridge, shows the officer of the watch the instant his commands are executed. The movements of the latter dial being, of course, regulated by those of the rudder, the officer on duty has always the helm, as it were, under his eye, and can detect if the men suffer the vessel to deviate a quarter of a point from her course even for a second. The apparatus, moreover, by simply moving the index finger to hard aport opens up two red lights on the port side, and by moving it to starboard opens a double green one on the starboard side, thereby affording small vessels every facility for getting out of the ship's way.

FURTHER DISTURBANCES IN ST. GEORGE'S-IN-THE-EAST.—In spite of the precautions taken last week by the Bishop of London there was a repetition of the disturbances on Sunday, though not to a very serious extent. The morning service was conducted by the Rev. Frederick George Lee, S.C.L. of St. Edmund Hall, Oxford. At the commencement of the service Mr. Lee appeared at the altar, to which he did reverence, in the vestments of a Roman Catholic priest. He knelt in front of the altar and intoned the prayers, and when the time came for reading the lessons that duty was performed by a layman, who ascended the desk dressed in a plain white surplice of a pattern similar to that which is worn by acolytes of the Church of Rome. At the close of the communion service Mr. Lee (who had previously dispensed with the Litany) ascended the pulpit in white robes, consisting of chasuble, manciple, stole, &c., the principal robe being a yellowish white cloak, fastened close round the neck, trimmed with broad gold lace embroidery, with a cross woven into the back. After Mr. Allen's lecture in the afternoon Mr. Lee was preparing to conduct the "Rector's service;" and as the church was thronged by an excited crowd of at least 1000 persons, it was evident that a serious disturbance might be expected, but the outbreak was prevented by the firmness of Mr. Thompson, the churchwarden, who went into the vestry and informed Mr. Lee that he would, in fulfilment of his duty, render him all the assistance he could in his performance of the service, but that he would not be responsible for the result if the service were persisted in. The result of the interview was at 4 o'clock made known by the churchwarden, who ascended the steps of the reading-desk and announced that the 4 o'clock service was suspended. Still the people were unwilling to leave the church. At length a man with vigorous lungs proposed that the doxology should be sung, and gave it out in due form. It was accordingly sung by the whole congregation, and at its close, and after a few hisses and groans, the churchwarden, with the assistance of the police, succeeded in clearing the church. The parish is in a high state of excitement. At a meeting of the vestry on Thursday it was unanimously resolved to call the Bishop of London's attention to the dress worn by the Rev. F. G. Lee on Sunday, and a vote of thanks was given to the churchwardens for their conduct on that occasion. Placards are posted in every direction calling upon the parishioners not to allow themselves to be fettered by Puseyism, but to enlist under the free banners of Protestantism.

SALE OF GAME OUT OF SEASON.—During the past 10 days several poulterers and game dealers have been summoned before the different police courts for having unlawfully in their possession certain head of black cocks, in contravention of the Game Act. The prosecutions were instituted by a Society which has recently been formed in connection with the *Field* newspaper for the prevention of the sale of game out of season, and which intends not only to prevent illegal traffic on the part of the licensed dealers, but also to assist them by preventing hawkers from selling the forbidden game about the streets. In some cases where the charge was proved, a small fine was inflicted with costs; in others, where the game had been consigned to the dealers from Scotland, the magistrates dismissed the case on the ground that the Act did not apply to Scotland; and in others where the summonses alleged sale, and no sale was proved, the informality was held to be fatal, and the summonses were dismissed. In the course of the inquiry the counsel for the Society said that they did not wish to press particularly against the licensed dealers, their chief object being to let them know the law and prevent an illegal traffic. At the same time they wished to call attention to the fact, that any person purchasing game of the men who sell in the streets is liable to a fine of 5*l*., and that the Society will take proceedings against such purchasers in all cases which may be brought under their notice.

AURORA BOREALIS.—On Monday morning a most brilliant display of aurora borealis was visible in the metropolis from soon after midnight till daylight. Vivid streams of light shot up from the horizon in the north, extending from east to west, and became at times red, presenting the appearance of the reflection from a large fire. The atmosphere was so strongly illuminated that it appeared as if the moon were shining, and streams of light, resembling the rays from the sun as reflected upwards from the back of a cloud, continued to be brilliantly visible during the whole time. The sky was remarkably clear, and the stars shone with a brilliancy that is unusual even in winter.

SUNDAY EVENING SERVICES IN ST. PAUL'S.—The expenses incurred in fitting up St. Paul's for the Special Sunday Evening Services from Advent to Easter have been defrayed, and from the success attending this establishment preparations are now making for embellishing the aisle where the services are performed as well as for affording increased accommodation to the public. The enlargement of the organ, it is stated, is essentially necessary for properly conducting the choral services on these occasions, and the Dean and Chapter have appealed to the public for the necessary funds in order to render the organ worthy of its position in the metropolitan cathedral.

RE-DECORATION OF THE ROYAL EXCHANGE.—A large staff of artists under the direction of Mr. Sang are now engaged in re-embellishing the ambulatories of the Royal Exchange, one-half of which has already been completed. The designs are perfectly new, and are executed in real fresco, the colours being applied to the mortar while wet, and absorbed as it dries. Crystallisation takes places, and the work becomes part of the structure, permitting the application of the rudest means when necessary to cleanse it.

DESTRUCTION OF THE STEAM-BOAT PIER AT BATTERSEA.—On Thursday morning the tide in the river ran unusually strong, and carried away the Crystal Palace Steam-boat pier at Battersea, which now remains under the arches of Vauxhall Bridge. It is supposed that the piles were not driven sufficiently deep to render it secure.

WRECK OF A STEAMER AT LONDON BRIDGE.—On Wednesday morning as the Bride penny steamboat was leaving the pier at London Bridge on her trip to Westminster, she ran foul of a sunken lighter and was driven against the buttress of the bridge. The instant she struck the engineer, with great presence of mind, endeavoured to reverse the engines, but being unable to do so he blew the steam off. Had the power been left on a moment longer the boat must have exploded. She sunk however soon afterwards, but not until the passengers and crew were rescued, though for a time it was feared that several persons were drowned. The operation of raising the wreck commenced on Thursday, and it is said that the hull is not so much injured as to be past repairing.

THE PUBLIC HEALTH.—The Registrar-General's weekly return states that the health of London is now in an average state. The deaths in the week ending on Saturday, August 27, amounted to 1217, whereas the corrected average in the corresponding weeks of the previous years was 1120, if the two weeks of 1849 and 1854 are excluded, when cholera was epidemic. During

the week the births of 840 boys and 870 girls, in all 1710 children, were registered in London. In the 10 corresponding weeks of the years 1849-58 the average number was 1523.

## Provincial.

Bath.—In consequence of the continued illness of the Right Rev. Bishop Carr, he has been compelled to resign the rectory of Bath, to which he was nominated in 1854, on the resignation of the Hon. and Rev. W. J. Brodrick. The rectory is worth about 800*l.* a year, and is in the gift of Mr. Simeon's Trustees.

Bradford.—The Musical Festival in aid of the funds of the local Infirmary took place last week with complete success. It commenced on Tuesday evening with Haydn's *Creation*, the evening performance of the oratorio being an innovation intended to meet the convenience of the working classes. On Wednesday morning the Dettingen "Te Deum" was performed, with a selection from *Judas Maccabæus*. On Thursday morning Mendelssohn's *St. Paul* (which created so lively an impression at the festival of 1853) was performed; and on Friday morning *The Messiah*. The principal singers were Madame Clara Novello, Mrs. Sunderland, Madlle. Tietjens, Madame Nantier Didiée, Mr. Sims Reeves, Signor Giuglini, Signor Belletti, Mr. Santley, and Signor Badiali.

Carlisle.—On Saturday afternoon Schaw's Hotel, at Gilsland, well known to tourists in that locality, was totally destroyed by fire. It is supposed that the fire was caused by the overheating of one of the numerous flues in the establishment. There were about 200 visitors staying at the hotel at the time but no serious accident occurred, and the damage is covered by insurance in several offices.

Dover.—An inquest was held on the 24th ult. before the borough coroner on the body of Jeremiah Hammond, a Dover pilot, who, with three others, lost their lives by the schooner Robert Garden being run down by the Ondine screw steamship, off the South Foreland, early on the morning of the 7th ult. The jury returned a verdict to the effect that death was caused by the collision, and that the said collision and loss of life was attributable to Capt. James Hunt, the master of the Ondine, neglecting to port his helm in time to pass astern of the schooner. The coroner said the verdict amounted to one of Manslaughter, and it was arranged that Captain Hunt should put in bail to answer the charge at the next assizes.—An extensive series of manœuvres was executed last week in order to show the capacity of the entire range of fortifications in this garrison, from the most distant battery on the east of the castle to the last gun west of the citadel, to resist an attack. The whole of the heavy guns in position at the different batteries between these points were thus brought into operation, and the Duke of Cambridge, who was present, expressed his entire satisfaction with the result.

Durham.—George Benning, who was sentenced to death at the last assizes for attempting to shoot his sweetheart at Southwick, has had his punishment commuted to penal servitude for 15 years.

Gloucester.—On Friday morning a respite during her Majesty's pleasure was received for Ellen Rutter, who was sentenced to death at the assizes for the murder of her husband; and it is expected that the sentence will be commuted to transportation for life. The respite is attributed not to any sympathy for the woman, who has been a bad character all her life and has admitted her guilt, but the fact of the brutal treatment she had experienced from her husband, and which constituted the grounds upon which the jury recommended her to mercy.

Hitchin.—An accident which has been attended with severe, and possibly fatal results, happened a few days since at an archery meeting held in the grounds of Mr. W. Wilshire (late M.P. for Yarmouth), near this town. Mrs. Chesshyre, the wife of an Essex clergyman, who was among the party, dressed in the prevailing style of fashion, suddenly sat down on the grass, and in so doing, snapped one of the steel hoops which supported her dress. Unfortunately the sharp end penetrated her body, and inflicted a severe internal wound. Medical attendance was fortunately at hand, but the hemorrhage was stopped with the greatest difficulty. The lady still remains in a precarious state.

Iver.—A painful circumstance occurred a few days since in this village. A young man, named Moss, had been in a desponding state from disappointment in love, and his medical attendant directed that he should be watched, as he would probably commit some rash act. He was watched, but he eluded the vigilance of the watchers, and committed suicide by hanging himself. An inquest was duly held, and a verdict returned of Temporary Insanity. The coroner issued his warrant for interment, and the curate, the Rev. H. Horsman, in the absence of the rector, the Rev. W. S. Ward, was informed that the funeral would take place on the following Wednesday. He replied that he could not officiate, and would not insult the Almighty by reading the funeral service over one who had made away with himself. In vain the churchwarden requested him to perform the service. The body was therefore left in the church all night, and the churchwarden wrote to the Bishop of Oxford, who sent an express commanding the curate to bury the body without delay, and to make the fullest apology for his conduct. This was done, but the excitement in the locality still continues.

Jersey.—The fine schooner Alca, the property of Captain Phillimore, R. Y. S., late of the Grenadier Guards, was totally lost on the night of the 18th ult., on her passage from Alderney to Jersey, by running on a reef of rocks 30 feet above the sea, at low water, owing to the ignorance of the Alderney pilot. The yacht went down in eight fathoms in less than 20 minutes after striking. Captain Phillimore, Mr. Delmé Radcliffe, his son, and 14 more souls, were saved, having barely time to gain the three boats and leave the wreck. They had then to row in the dark to St. Helier's, 12 miles distant, against wind and tide, which set like a sluice through a passage studded with sharp rocks; and after seven hours of hard labour they reached that port, saving only the clothes they had on. Not a particle of the valuable property on board could be rescued, as the yacht had gone to pieces before daylight. Captain Phillimore's loss is not less than 7000*l.* The Alca was a new vessel, built by Camper, in 1857.

Leeds.—On Saturday the two men named William Appleby and Walter Bearder, suspected of being the persons who murdered Mr. Richard Broughton, of Roundhay, on the 6th ult., were examined before the sitting magistrates. The prisoners had been brought by a writ of *habeas corpus* from the House of Correction at Wakefield, where they are at present awaiting their trial for a burglary committed at Batley. Several witnesses were examined, and the prisoners were remanded to a future day. The evidence affecting them was not conclusive. Three or four persons deposed that they were like two men seen near the place of the murder a short time before the murder, and the pawnbroker's assistant, who received the watch in pledge, could not identify either of the prisoners as the man who pawned it, but said that Bearder very much resembled the man. The police hope to be able to obtain further evidence before the prisoners are again brought up for examination.

Liverpool.—After the jury returned an open verdict in the case of the seaman who died from injuries inflicted upon him on board the American ship Conqueror, the American Consul laid the matter before the Minister of the United States in London, who applied to the Secretary of State for a warrant. This warrant having been immediately issued Charles Bontelle, the first mate, was again taken into custody, but after having been examined several times he was liberated on Monday, it being understood that the magistrates at Liverpool had no jurisdiction in the case.

Ludlow.—On the evening of the 27th ult. a serious fight took place between some 30 gipsies and a number of men in this town. It originated in a public-house, and was afterwards renewed in the public street, where one of the gipsies hurled a brick at a man named Pearce, inflicting a severe wound under the left ear, which caused death in a few minutes. Twenty of the gipsies were arrested; 19 of them were fined for rioting, and the jury at the inquest returned a verdict of Wilful Murder against a young gipsy named Macgennis, who threw the brick.

Lydney.—A shocking tragedy, by which Louisa Cooke, a servant girl only 15 years of age, lost her life, occurred on Tuesday at Lydney, a small town between Gloucester and Chepstow. It appears from the evidence given at the inquest, that at 6 o'clock in the morning Dr. Pownall, who has been staying for the last three weeks at the house of Mr. Leete, a surgeon in the town, knocked at the bedroom door of the servants and called them up. The poor girl, Louisa Cooke, in answer to his summons, dressed herself quickly and went out. In a minute or two a faint cry of "Murder" was heard, and immediately afterwards she rushed into Mr Leete's bedroom with her throat cut, exclaiming, "Master, he has murdered me, I must die;" having repeated which two or three times she fell down dead. Dr. Pownall, who did not attempt to deny the charge, said, when brought before the coroner, "I can tell you; I unfortunately did it. I can hardly assign any motive. I felt I was bound to do something, and could not resist it." Evidence was given to show that Dr. Pownall had been an inmate for some time of Northwood's asylum, near Bristol, but had been recently discharged as cured, with a certificate to that effect from Dr. Davey, the medical superintendent; and until this shocking occurrence had afforded by his conduct no grounds to doubt that his reason had been restored. The jury returned a verdict of Wilful Murder against Dr. Pownall, who was on Wednesday removed to Gloucester to await his trial at the assizes.

Maidstone.—On Thursday afternoon Mrs. Davis, wife of a bricklayer in this town, murdered her infant by hanging it to the bed-post, and then committed suicide by the same means. She had for some time past been in a desponding state of mind, but no alarm was excited, as her conduct to her husband and children was uniformly kind.

Plymouth.—On Tuesday afternoon an accident of a very alarming character occurred in the Sound, on board her Majesty's screw steamsloop Pioneer, Commander Reilly, under orders for the west coast of Africa. She had some slight defects to make good, and was getting up steam for the purpose of proceeding into Hamoaze, when the main steam pipe burst close to the communication, as John Dunn, leading stoker, was on the point of opening the communication-valve; Mr. William Bone, engineer in charge, Mr. Charles Piller, third engineer, Mr. John Oliver, third engineer, John Dunn, Charles Devine, and James Murphy, stokers, and James Renninson, second-class boy, unfortunately rushed aft, where the steam was most dense, and were, of course, much scalded, especially in their faces. Mr. J. A. Leicester second-class engineer, prudently shut off the communication, and escaped uninjured. The ship was speedily enveloped in steam, and as there was a smart south-west breeze its effects were most detrimental aft. The looking-glasses in the captain's cabin were shivered, and the boots shrivelled. Boats from the ships of war with their surgeons and assistant-surgeons were soon alongside, and the steam tender Confiance conveyed the seven worst cases to the Royal William Victualling Yard, whence they were taken in cots to the naval hospital. The Pioneer was afterwards sent into Hamoaze. The latest accounts state that Dunn is in a very precarious state, and that Mr. Bone is suffering severely; the others are not in great danger.

Portland.—On Friday, as the chief engineer of the Portland breakwater was steering a four-oared galley from Weymouth to the breakwater, a shot from her Majesty's ship Blenheim, fired by a coastguardman practising on board, struck the boat and killed one of her crew. In the course of the evidence it transpired that the boat was at least 60 to 100 yards out of the line of fire; and that the man who fired the gun, from the position in which he was placed, could not see the boat approaching the line of fire. The jury returned a verdict of Excusable Homicide, with a request that the coroner would represent in strong terms to the Board of Admiralty that in the opinion of the jury "gross neglect is allowed to exist on board her Majesty's ship Blenheim during their practice of firing, thereby endangering life and traffic in Portland Roads."

Portsmouth.—On Saturday morning the Queen paid a visit to this dockyard for the purpose of inspecting the head-quarters of the 32d Regiment on their landing from India, prior to their proceeding to their destination—the camp at Shorncliffe. The troops were landed soon after breakfast, and preparations made to receive her Majesty by the military and naval authorities. A dais was hurriedly prepared in front of which the 32d were drawn up in line with their band and colours, the latter having emblazoned on their silk the names of Roleia, Vimiera, Corunna, Salamanca, Pyrenees, Nivelle, Nive, Orthes, Peninsula, Waterloo, Punjab, Mooltan, Goojerat, and Lucknow. Her Majesty and the Prince Consort, with Princess Alice and Prince Arthur, shortly afterwards arrived in the Fairy screw yacht amid the customary salutes, and were received on landing by Major-General Sir J. Y. Scarlett, Admirals Bowles, Grey, and their respective staffs. Her Majesty immediately proceeded to the ground where the troops were drawn up, passing down in front and rear, after which the troops marched past in quarter distance column, and afterwards again reformed in line opposite to her Majesty, who desired that the Lucknow men should be called to the front and expressed a wish to see Lieut.-Colonel Lowe, who, until wounded, commanded the regiment during the siege, and Dr. Boyd, who had medical charge of the corps throughout the same memorable period. Both these officers, the only ones then on the ground who had served with the 32d during the defence of the Residency of Lucknow, were accordingly presented to her Majesty by Colonel Carmichael, commanding the regiment. Her Majesty expressed her gratification at seeing them again returned to England from India, and also at the appearance of the men in general. Her Majesty then returned to Osborne under the customary salutes and the cheering of the crews who had manned the yards of the different vessels. The East Kent Militia furnished the guard of honour for the occasion. At the close of the inspection the 32d were marched to the railway station, and left by special train for Dover, where they were received with extraordinary honours both by the troops at present stationed in that garrison as well as by the inhabitants at large.

Shields.—On Friday afternoon while the William and Mary, one of the old tug steamers on the Tyne, was following and annoying a new passenger steamer called the Louise Crawshay by blowing steam over her from the waste pipe, the boiler burst, blowing up the deck and doing other serious damage. A fireman called Cockburn, who is supposed to have been putting the fire-damper down at the time of the explosion, was blown about 10 yards away from the vessel, and, falling into the Tyne, sunk immediately. The other two men who were navigating the boat leapt over the stern into the river, but were rescued by means of life-buoys thrown from the Louise Crawshay.

Stourbridge.—A strike has taken place among the chainmakers of Worcestershire and South Staffordshire, by which at least 3000 men have been thrown out of employment. The principal seat of the trade is near Stourbridge and Dudley, but it is also carried on to a large extent near Wolverhampton and Walsall, where the neighbouring iron and coal-fields furnish abundance of raw material for the purpose. The strike is for an advance of 1*s.* per cwt. on what are technically called "half-inch" chains, with a proportionate advance on other descriptions. The price hitherto paid for chains of this kind has been 4*s.* per cwt., and as it is considered that 5 cwt. is a fair average week's work for an adult, the rate of wages would appear not to exceed 25*s.* a week. It appears that the supply of labour for this class of work exceeds the demand, and that the chain trade at present is far from active. Indeed, in the manufacture of the finer and lighter chains, boys, and even girls, are largely employed, and it is the competition of these youthful workers which renders the remuneration for this branch of labour so low. Although the men are generally on

strike throughout the district, some few, who are not connected with the union, are still at work at the old prices. The unionists are strongly incensed against these men, and avow their intention, if the present movement should be successful, of insisting upon their discharge before they themselves return to work. On Monday several of the "turn-outs" were charged at Stourbridge with leaving their employment without proper notice, but the case was adjourned. The employers present stated that but for the interference of the union they should be willing to give a rise upon a scale which had previously prevailed, and that 75 per cent. of their men had been coerced into joining the union.

TREDEGAR.—On Monday a woman named Martha Taylor, the wife of a collier, was taken into custody on a charge of murdering her stepdaughter, aged 14 years. The body was found on the previous day in a pond adjoining the town, and it is alleged that the girl was thrown into the water by her stepmother. The jury at the inquest returned a verdict of Wilful Murder against the prisoner, who was also committed for trial by the local bench of magistrates.

TYNEMOUTH.—The long and tedious strike of the Tyne shipwrights has been brought to an end by the principal dock owners complying with the terms demanded, and re-opening their yards. The advanced wages are 5*s.* per day. The men have been backed up by other trades, and by the shipwrights in employment in other parts of the country, and have been receiving 5*s.* per week each man.—A meeting was held in this town last week for the purpose of presenting a cabinet of standard books to Mr. Lindsay, M.P., as an acknowledgement, on the part of the electors and non-electors, of his services to the Mechanics' Institute. In the course of the evening Mr. Lindsay and Mr. Justice Haliburton, who accompanied him, spoke at some length on the subject of strikes. The following is an abstract of their remarks :—

MR. LINDSAY said : "There were strikes when knowledge was more rare than it is now. There were strikes in olden times, and if knowledge has done nothing else, it has done this—that whereas in the strikes in olden times there was bloodshed and violations of law, intelligence has taught the working classes this at least—that though they may differ from their employers, they have no need to violate the law. Now I will tell you, in the first place, what many of the working classes have yet to learn. They have first to learn that the well-being of the working classes is as essential to the tranquillity and happiness of the State as it is to their own comfort and happiness. They have next to learn that the increase of revenue and stock is the increase of national wealth, and that as demand for those who live by wages naturally increases with increase of national wealth, and cannot possibly increase without it. Now these are facts which I would wish the working men to study, to think seriously over, and then perhaps they will not be so disposed as they are at the present time to combine amongst themselves to enforce higher wages when the demand for their labour does not warrant it. Now I wish you would also learn this fact—labour is the poor man's capital; bear that in mind—it is as much his capital as ships or land are my capital. He has a perfect right to go into the market and dispose of that capital, either in this country or any other country, to the best advantage in his power. That I should wish the working classes clearly to understand, and I should wish the employers also to understand it. I have said that labour is your capital, and I say you have a perfect right to combine, if you think proper, among yourselves, to increase the value of your labour. Well then, while you have the right to combine among yourselves, I would first ask, is your combination for your own interest? That is the question. Now it is with me very questionable if it is, on the whole, for your interest. You may think you gain by it, but I do believe that in the long run you lose. Now comes the next point. While, as I have said, you have a perfect right to combine among yourselves and say that you will not take less than a certain wage per day, you have no right to say to your neighbour that he shall not do so, if he thinks proper; because while you exercise your own judgment, if you attempt to force your neighbour to adopt your course, you are exercising a species of tyranny over your neighbour, inasmuch as you are not allowing him to exercise his own free will. Now, I would like to speak one word as to the effect of combinations. There are rules laid down which say that a certain man shall only work a certain number of hours. It may be perfectly right, I say, that he shall—take for instance the mason trade in London—that he shall only use the trowel with one hand—that in fact he shall not give his energies full play. Well then what is the effect of that? The effect of it is this—that the skilled labourer, the man of industry, and the man of energy, who could make his 5*s.* 6*d.* or 6*s.* a day if he were allowed to have full scope for that energy, is curtailed in his energy: and the man without energy—the indolent man—is put upon the same footing, because his wages are fixed the same as those for the man of energy, industry, and skill. Now then while I say that it is injurious and false policy for the men to combine and force an increase of wages when there is not an increased demand, I say it is equally impolitic and equally erroneous for the masters to combine. There are in Sunderland and this port various grades of shipbuilders. There is one who, by his greater skill and greater energy, has more orders for ships. He can afford to pay the workman 5*s.* a day, and make a profit; and what right have the other masters to dictate to such a shipbuilder as that, and say that, because they are only paying 4*s.* a day to the carpenters, he shall not give more than 4*s.* a day? Why, if it is worth his while to give 5*s.* a day, the other masters have no right to say that he shall not give 5*s.* He only gives 5*s.* a day on the presumption that he will get value for what he has given to the men. Therefore it is as impolitic and as unwise on the part of the masters to enter into these combinations as it is on the part of the men. That was the operation of the attempt to regulate prices: and the same thing I will candidly tell you exists with regard to wages—be it on the part of the masters or on that of the men. Why should the indolent man, who perhaps working as hard as he usually will work makes 4*s.* a day, be placed upon the same footing as the fine, manly, energetic fellow in the same line, who could make his 7*s.* or 8*s.* a day? Why, do you think that those intelligent men throughout England will continue to stand that? No; as they get more knowledge—as they get more educated, they will find that these combinations among themselves are only tying their hands, curtailing their energy, and limiting their skill, for the benefit of the indolent and less efficient class of workmen."—MR JUSTICE HALIBURTON said "Mr Lindsay is a practical man, and whatever a practical man says is listened to with proper respect; therefore it is that I agree with Mr Lindsay in the remarks which he has made relative to the strikes that are now unhappily prevailing in this country. But there is one consolation to be drawn from those strikes that I have never yet heard anybody allude to, and it is—there is no country in the world that could afford to have strikes but England. They are very expensive things, and they only belong to a rich country, and I defy any man to point out any country in the world where mechanics can go upon strike for three months together as they do here. If the mechanics in the States were to strike they would be starved out by Saturday night."

## Ireland.

THE ROMAN CATHOLIC PASTORAL.—The document published by the prelates is the principal topic of discussion in the Irish newspapers. Its chief result has been a reaction in favour of the present national system among the supporters of the Church Education Society, who now speak and write bitterly against the idea of a separate grant. The bishops are to meet again in three weeks to propound their decision on collegiate education, and to commence the platform and parliamentary agitation which they hope will lead to their speedy triumph. As a preliminary to this they are making preparations for a meeting of such members of the House of Commons as are likely to support their views, to be held in Dublin within a month. It is said that 20 Irish M.P.'s have already given in their adhesion to the course chalked out by the Ultramontane party, and the screw is to be put upon others. Two Roman Catholic journals, the *Cork Reporter* and the *Newry Examiner*, express themselves in terms of strong hostility to the episcopal manifesto, and state that, so far from its being an expression of lay Catholic opinion, it will only influence the peasant and not the educated classes of Ireland. The former journal says :—

"On the part of the peasant as well as of those who understand more distinctly the boundaries between spiritual and secular affairs, we protest against the decision that virtually condemns him to ignorance—for it is simply absurd to imagine that any Government can so far forget either its duty or its dignity as to concede what the authors of the Pastoral demand. To hand over, as required, the secular education of the Irish people to the control of the zealots of rival churches, as the price of some years of official tranquillity, would be to commit the gravest dereliction of public duty in regard to this country of which men entrusted with the functions of government could be guilty. To do it in obedience to a threat, such as the Pastoral virtually amounts to, would be a humiliation that we have not yet witnessed the like of among statesmen."

THE IRISH EXILES.—Mr. Richard O'Gorman, jun., left Dublin last week on his return to New York, the city of his adoption, where his friends say that he has been steadily rising to fame and fortune. Mr. John Mitchell it appears is on his way to France, and the war journals intimate that Ireland need not expect his presence until he is prepared to land at the head of an invading army.

THE STRIKE IN DUBLIN.—A few of the masters have submitted to the demand made by the carpenters, and have granted an increase of 2*s.* in their weekly wages, but some of the most extensive employers have refused compliance. The plasterers, and other trades connected with building, are now inclined to strike for higher wages also.

THE M'MAHON SWORD.—The *Nation* announces that Marshal M'Mahon will accept "with gratitude" the sword of honour proposed to be presented to him by the Irish people, his *anciens compatriotes*, as soon as the requirements prescribed by the rules of the French service shall have been complied with.

WRECK OF LORD DROGHEDA'S YACHT.—The Marquis of Drogheda's schooner Fancy, 140 tons, has been totally lost off the coast of Sligo. The marquis and marchioness, with Major Foster, A.D.C. to the Lord-Lieutenant, were on board at the time, and with the crew were all saved, but a vast amount of valuable property went down with the vessel.

## Railways.

SOUTH-EASTERN.—At the half-yearly meeting on Thursday the report was unanimously adopted, and a dividend was declared at the rate of 4 per cent. for the half-year, being an increase of 1 per cent. as compared with the corresponding half of 1858.

GREAT NORTHERN.—On Thursday, after long negotiations with the London and North-Western, the trains of the Great Northern for the first time ran into the Lime Street Station at Liverpool. This station will hereafter be open to the Great Northern, and thus give that company an outlet on the western coast of England.

THE LATE ACCIDENT ON THE TILBURY AND SOUTHEND.—The inquest on Mr. Bennett terminated on Saturday, when the jury, after hearing the evidence of scientific witnesses as to the fracture of the axle of the engine, returned a verdict of Accidental Death.

ACCIDENT ON THE BRISTOL AND EXETER AND CREDITON.—On Wednesday week, as a Bristol and Exeter excursion train to Barnstaple was passing the Cowley Bridge junction, the engine, tender, and two empty third-class carriages next to it ran off the line and turned over on their sides upon the embankment. The other carriages which contained the excursionists remained on the line. Mr. Mears, superintendent of the St. David's station, was on the engine, and was thrown with such violence under the steps of the tender, that his leg was broken, and he was otherwise severely injured. The driver and stoker escaped without injury.

ACCIDENT ON THE MONMOUTHSHIRE.—On Friday afternoon a shocking accident occurred to Mrs. Harrison, wife of Mr. George Harrison, secretary to this railway. They resided by the side of the line, about a mile and a half from Newport, and were in the habit of walking upon it whenever occasion required. In the course of the day Mr. and Mrs. Harrison had been out a short distance by train, and were returning on foot along the line. Mr. Harrison had taken a side footpath, while his wife was walking upon the "six-foot," as the space between the up and down lines is termed, and was 40 or 50 yards behind. They were within about a quarter of a mile of their house, on an embankment, when a down train from Hereford, consisting of about 14 or 15 trucks, laden with timber, came upon them. The speed was inconsiderable, not more than five or six miles an hour. The engineer perceived them at a few yards' distance, and gave a loud whistle, but without attracting the lady's notice. Mr. Harrison also turned round, and made the most energetic motions—without avail, however, until the train was within half a dozen yards, when she appeared to be frightened, and jumped from the "six-foot," a place of comparative safety, on the down line in front of the engine. One of the buffers struck the unfortunate lady on the back and knocked her down, and the whole train passed over her with the exception of the last car or break-van, which being lower than the others, caught up the body, and in its wheels completed the dismemberment of the mangled corpse. Mr. Harrison had in the meantime fallen to the ground insensible. His wife's remains were carefully collected, and conveyed in carts to Malpas, where an inquest was held on Saturday night, and a verdict of accidental death returned. The engine-driver was exonerated from all blame.

## Law.

WESTERN CIRCUIT: WELLS.—*Housebreaking by a Policeman.—William Wiltshire* was indicted for breaking and entering the house of the Rev. Richard Dawkins and stealing a quantity of articles. The prisoner was a policeman stationed at Port Zeyland, and had been promoted at the instance of Mr. Dawkins, who was clergyman of the parish. In the autumn of the year 1858 many articles and money were continually missed from the prosecutor's house. He spoke to the prisoner, who said that it was evident the robberies must have been committed by some of the servants, because any other person would have taken all the things and money they could get. It was at last discovered that the property was always stolen while the family were at church on Sundays, when the house was locked up. Suspicion was at length excited, and on the Friday last Mr. Dawkins told the prisoner that his son, an undergraduate at Oxford, who had been staying at home, was about to go on a visit at Easter, and he wished the prisoner to be extremely watchful, as he was timid during his son's absence. The prisoner assured him he would be very watchful, and he might rest assured that everything should remain. On Saturday, the 23d, the prosecutor's son drove through the village with a carpet bag in a gig, as if about to take a journey, and he did this as publicly as possible, but he left the gig when he had gone a little way, and returned through the fields to his father's house. On the next morning, Easter Sunday, all the family with the exception of the son went to church. The son posted himself in a room with the shutters shut and a candle, where he could hear everything. In a very short time he heard a noise at the lock of the front door, and the lock was withdrawn, and some one opened the door and entered the house. He then according to previous arrangement fired a gun. Mr Dawkins, who was performing duty in his church, on hearing the report of the gun, told the congregation that he could not proceed any further, as his house was being robbed. The congregation instantly rushed out, followed by the prosecutor, and they found the prisoner in the hall. The prosecutor went up to the prisoner and said, "Well, William, caught at last?" The prisoner said, "I am here in the performance of my duty, sir." Mr. Dawkins told a constable to search the prisoner at once. He however refused to allow him to do so until the superintendent arrived. The prosecutor however insisted upon the search being made at once. The constable then proceeded with the search, and found round his neck a hair guard which had belonged to Mrs. Dawkins, and which had been stolen from her dressing-case, which had always been kept locked in the bed room. This guard had been stolen, together with other valuable rings, on the 8th December, 1857. A large bunch of 50 or 60 keys was also found upon the prisoner, and a piece of wire, bent so as to form a picklock, was likewise found in his pocket. The jury found the prisoner *Guilty*. The prisoner was then convicted of another robbery, and there were several other indictments against him. Mr. Justice Compton told the prisoner that this was an exceedingly bad case, and sentenced him to be kept in penal servitude for 10 years. *The Shoreham Boat Accident at Watchet.—George Wedlake* and *A. [illegible]* were indicted for the manslaughter of several persons at Watchet. The grand jury threw out the bill. Mr Clerk said that this case arose out of an unfortunate accident which occurred by the upsetting of a boat which was going from an excursion steamer. The two prisoners had charge of the boat, and people crowded into it until it was upset. The coroner having investigated the matter, had ignored the bill. He should not, therefore, proceed upon the coroner's inquisition. The learned judge said he did not think any culpable blame rested on the prisoners, and they would therefore be discharged.

NORTHERN CIRCUIT: LIVERPOOL.—*Forging a Will.—Ann Horrocks, John Hope, Joseph Berry*, and *Ruth Berry*, were indicted for forging a will at Salford on the 23d of April last, and for uttering the same knowing it to be forged. It appeared in the evidence that the deceased, Ann Dean, whose will was alleged to be forged, kept a small shop in a cellar at Pendleton in Salford. She was an illegitimate child, and by economy and care for many years had amassed a considerable sum, having in her banker's hands nearly 600*l.* She was unmarried, and her nearest relation (though, from her being illegitimate, he was not her lawful relation) was John Dean, who kept a draper's shop in Salford. The latter became seriously ill in April last, and fancying that the cellar in which she lived did not agree with her, she took lodgings at the prisoner Hardy's, who kept a beer house, where she went on the 13th of April, and died that night. She had expressed her intention to leave her property to Isaac Dean, but on her death Hardy and his daughter, Ruth Berry, and her husband, Joseph Berry, set up a will purporting to be made by deceased and attested by Luke Hardman and one of the attesting witnesses. For the prosecution it was alleged that two wills were forged by the prisoners, one in substitution for another, the first not suiting their purpose, and that two wills were made by the prisoner Hope, an attorney whose name had been struck off the roll. It was also contended that deceased was too ill to make a will, and never did make one. The will alleged to be forged was drawn by the prisoner Hope and copied by Luke Hardman, and to this will deceased was said to have affixed her mark, though she could write well. Luke Hardman was admitted to give evidence as approver. After two days' trial the jury found all the prisoners *Guilty* with the exception of Ruth Berry, who was *Acquitted* under the direction of the judge on the ground that she probably acted under the coercion of her husband. Mr. Baron Watson in passing sentence [illegible]

hoped this case would be a warning to all who engaged in great crimes, that at any period they might be turned round upon and brought to punishment by their accomplices. In the present case, if Hardman had not first turned round upon the prisoners it was evident the prisoner Hope was quite ready to have done so. It was quite evident that when this poor old woman was dying at Hardy's House the prisoner Hardy and Berry and his wife had conceived the crime of forging a will for her in their own benefit, and they had afterwards met with a ready tool to assist them in their criminal and abominable design in the prisoner Hope, with his mischievous smattering of law. He hoped that the sentence he should pass would be a warning to all that such designs, when found out, would meet with exemplary punishment. The sentence of the Court was that each of the prisoners undergo 14 years' penal servitude.

## Obituary.

THE HON PATRICIA YOUNG, eldest daughter of the late Lord Panmure, and widow of Gilbert Young, Esq., of Youngfield, died at Lincluden House, near Dumfries, on the 23d ult. She was born in 1795, married in 1826, and leaves issue two sons. She was the sister of the present Lord Panmure, and her death is the third bereavement in his domestic circle which his lordship has sustained during the last 18 months.

THE VEN. CHARLES HARDWICK, Archdeacon of Ely, lost his life in the Pyrenees on the 18th, under very melancholy circumstances. He left England at the beginning of August for a short tour in the Pyrenees. On Tuesday, the 16th, accompanied by an English gentleman whom he had met at Bagneres de Luchon, he ascended a mountain near the Port de Venasque. They reached the summit safely, and had made part of the descent, when the archdeacon proposed taking a different path from that by which they had ascended. His companion, however, preferred keeping to the known track, and reached the foot of the mountain in safety. After waiting a long time he became alarmed, and on inquiry was told by some shepherds that the descent attempted by the archdeacon was impossible. All attempts to trace him on that day were fruitless, but a strong body of guides and police having been procured from Bagneres, another search on the following morning resulted in the discovery of his body. He appeared to have achieved the most difficult parts of the descent, and then to have fallen down a shelving mass of rock through a distance of about 200 feet. He must have been killed instantly, as the skull was split, his left arm broken in two places, and his watch shattered to pieces. The remains were interred at Bagneres de Luchon on the following Sunday. Archdeacon Hardwick was a Fellow of St. Catherine's, Cambridge, where he resided, and held the offices of Christian advocate in the university, and divinity lecturer of King's College. He was only 38 years of age, and had only been appointed to the Archdeaconry of Ely a few months previous to his death. He was the author of a "A History of the Christian Church from Gregory the Great to the Reformation;" "A History of the Church during the Reformation;" "History of the XXXIX Articles;" "Sermons for Town Congregations," and "Christ and other Masters;" a work of which only four parts have been published, and which, had he lived to complete it, promised to be of lasting service to the Church. He was buried on Sunday the 21st ult. in the cemetery at Luchon, the service being performed by the French Protestant pastor of Toulouse.

THE REV. SIR CHARLES FARNABY, BART., died on Monday last at his residence, Wickham Court, near Bromley, Kent. He was born in the house in which he died, in 1787, and succeeded his father in 1802. He was educated at St. John's College, Cambridge, where he graduated in 1808, and was rector of West Wickham, a living in his own gift, from 1814 to 1848. As he has died without issue, the baronetcy becomes extinct.

MISS ELIZABETH GRAY, eldest daughter of Sir Charles Gray, late Supreme Judge of Calcutta, died at 10, Southwick Place, Paddington, on Friday, from injuries sustained by fire. The unfortunate lady has been of unsound mind for the last 10 years, and was residing at the house of a medical man in whose care she had been placed. During the night she appears to have got out of bed unperceived by her attendants, and set herself on fire with the night lamp. She was in her 37th year. The jury at the inquest returned a verdict that she destroyed herself by setting fire to her clothes while in an unsound state of mind.

MR LEIGH HUNT, the poet and essayist, died on Sunday morning, at Putney, after having been for some time in feeble health. He was the son of a clergyman of the Church of England, and was born at Southgate, Middlesex, in 1784; he was consequently in his 75th year. His father was a West Indian, and his mother a Philadelphian; but at the period of the American Revolution his father, who was then in the Law, took the Royalist side, and was forced to fly to England. Having taken orders, he was for some time tutor to Mr. Leigh, the nephew of the Duke of Chandos, who had a seat at Southgate. His son, Mr. Leigh Hunt, received his education at Christ's Hospital, with his friends Coleridge and Lamb. On coming of age he assisted his brother John in the establishment of a Sunday paper called the *News*, for which he wrote the theatrical criticisms. He had previously been employed in the office of his brother Stephen, an attorney, but had relinquished that employment for a situation in the War Office, which he gave up on becoming, in 1808, founder and joint proprietor of the *Examiner*. This journal he edited for many subsequent years, and rendered exceedingly popular. Some remarks against the practice of flogging in the army became the subject of a prosecution before Lord Ellenborough in 1811, when he was acquitted. Soon afterwards a fashionable newspaper having called the Prince Regent an Adonis, Mr. Leigh Hunt, in a fit of indignation at the Regent's having broken his promise to the Whigs, added—"of fifty." The prince's vanity triumphed over his discretion, and on the pretended ground of some words of more serious import, a prosecution was instituted, in which a jury found a verdict of guilty against Mr. Leigh Hunt and his brother John, and each was sentenced to pay a fine of £500 and to suffer two years' imprisonment. On their liberation Mr. Hunt continued to write as before, and for some time maintained the *Examiner* at the head of the weekly press. Meanwhile Mr. Leigh Hunt, on the invitation of his friends Shelley and Lord Byron, went to set up the *Liberal* in Italy, where, after the almost immediate death of the former, he continued to reside for about four years, a small portion of which was passed under the same roof with Lord Byron, but not happily. In 1847 the Queen, at the recommendation of Lord John Russell, bestowed on him a pension of 200*l.* a year. Among the more important of his poetical works are his "Captain Sword and Captain Pen," the "Palfrey," the collection of his narrative poems entitled "Stories in Verse," and the "Legend of Florence," a play in five acts. The list of his prose works includes "Sir Ralph Esher," a fictitious autobiography of a gentleman of the court of Charles II.; the "Indicator," the "Companion," the "Seer," "Men, Women, and Books," "Stories from the Italian Poets," "Table Talk," "A Jar of Honey from Mount Hybla," "Imagination and Fancy, Wit and Humour;" three volumes of Autobiography, comprising a corrected and final account of his relations with Lord Byron; the "Religion of the Heart," the "Town, its Memorable Characters and Events;" and the "Old Court Suburb." Among the long list of his translations may be mentioned Tasso's "Aminta," Redi's "Bacco in Toscana," and the "Lutrin of Boileau." To these productions may be added his versions of the plays of Wycherley, Congreve, and Farquhar, and his collections from prose writers and poets, under the various titles of "A Hundred Romances of Real Life," "A Book for a Corner," and his collection, of the least objectionable passages from "Beaumont and Fletcher," made for the purpose of enabling families to become acquainted with them. Mr Leigh Hunt may be said to have been the last of a group of poets and essayists who achieved fame almost contemporaneously in the earlier years of this century, his name and writings having been associated with those of Byron, Shelley, Coleridge, Hazlitt, Lamb, Wordsworth, Southey, Scott, Moore, Jeffrey, and many others.

BIRTHS.—On the 24th ult, at Lauriston Castle, near Edinburgh, the Countess of FORFAR, of a daughter—11th ult, at Helmingham Hall, Lady EMMA FOLKESTONE, prematurely, of a son, still-born—25th ult, at Broamore, Hants, Lady HULSE, of a son and heir—22d ult, the widow of the Right Rev. the late Lord Bishop of ANTIGUA, of a daughter—23d ult, the Hon. Mrs EDGAR DRUMMOND, of a daughter—23d ult, at Parkhill House, Clapham Park, the Hon. Mrs ARCHIBALD LEVY FOX, of a daughter—28th ult, at Grafton Underwood, the Hon. Mrs COURTENAY VERNON, of a daughter—24th ult, at Upper Sheen House, Sheen, the Hon. Mrs JAMES STUART WORTLEY, of a son—21st ult, at the Manor House, Morningthorpe, Norfolk, the wife of EDWARD HOWES, Esq., M.P., of a son, still-born—24th ult, at Eastbourne, the wife of ARTHUR MILLS, Esq., M.P., of a son—25th ult, at Surbiton, the wife of Rear-Admiral NIAS, C.B., of a son.

MARRIAGES.—On the 25th ult, at Rockcliffe, ROBERT HARTLEY BOWER, Esq., of Wickham, near Malton, to MARGIA, fourth daughter of Sir JOHN LESLIE KAYE, Bart., of Denby Grange, near Wakefield—29th ult, at Winteringham, Lincolnshire, ROBINSON FOWLER, of the Inner Temple, barrister-at-law, eldest son of Marshall Fowler, of Preston Hall, in the county of Durham, Esq., to ANNE AGNES, daughter of the late Hon. and Very Rev. HENRY DAVID ERSKINE, Dean of Ripon—25th ult, at Wimbledon Church, Surrey, Major ROSENHAGEN, of Rushbrooke Hall, to ELIZA CATHERINE, only daughter of WALTER RAY, Esq., of Boxford, late of her Majesty's 77th Regt.—25th ult, at Enterkine, ROBERT AGNEW WALLACE, second surviving son of the late General Sir J. A. Wallace, Bart., of Loch Ryan, to JANE COLQUHOUN, eldest daughter of JOHN BELL, Esq., of Enterkine, Ayrshire—27th ult, at All Souls', Langham Place, Major HARDINGE, 80th Regiment, son of the late Lieut.-Colonel Hardinge, 95th Regiment, to JEMIMA ELIZABETH, daughter of the late FRANCIS AYERST, Esq., of Brompton, Kent—4th ult, at the Church of Fivemile Town, in the county of Tyrone, Captain RICHARD WELD LITTON, late of the 30th Regiment, third son of Edward Litton, Esq., late M.P. for the borough of Carrick, to MARY, daughter of the late Sir HUGH STEWART, Bart., for many years representative in Parliament for the county of Tyrone—25th ult, at St Mary's, Woodford, Essex, CHARLES, youngest son of the late Sir ROBERT SHAFTO ADAIR, Bart., of Great Torrington, Lincolnshire, and Chingford, Essex, to EMMA, youngest daughter of the late JAMES PETTIPOOLNE, Esq., of Woodford, Essex.

DEATHS.—On the 22d ult, at Penmaenmawr, Carnarvonshire, Lady WALKER, widow of the late General Sir George Townshend Walker, Bart., G.C.B., K.C.T. and S., &c., aged 61—24th ult, at Cork Abbey, Bray, Colonel the Hon. EDWARD WINGFIELD, aged 87—25th ult, at Sandymount, JAMES VERNOYLE, eldest son of the Ven. Archdeacon Vernoyle—2d ult, JANE LOUISA, wife of Colonel FITZROY, C.B., commanding the Royal Artillery, Sheerness, and eldest daughter of the late Major Henry Bunbury Lane, Royal Artillery, and of Spring Hill, Staffordshire—27th ult, at 27, Bruton Street, WILLIAM ST. QUINTIN, Esq., of Scampston Hall and Lowthorpe Lodge, county of York—24th ult, at Sundorne Castle, Salop, Dryden, ROBERT CORBETT, Esq.—14th ult, at Revel, in Russia, GERTRUDE, wife of the Baron TILLOT-HITE DE ROSEN, and daughter of the late Dr RIGG, of Norwich, aged 47—14th inst, at Malta, suddenly, EDWARD STEVENS, Esq., Purveyor to H.M.'s Forces, aged 2—12th ult, at the Dardanelles, Turkey, GEORGE WARD, Esq., retired Deputy-Paymaster-General, for many years Superintendent of the Government Grain Department at Malta, and subsequently Collector of Land Revenue at Corfu, aged 76—27th ult, at his residence, Tudor Lodge, Cheltenham, the Rev. J. E. RIDDLE, incumbent of St. Philip and St. James, Leckhampton, Gloucestershire, aged 55—20th ult, very suddenly, GEORGE BULL, son of Edward Bull, of Cole Hill, near Needwood. He was an honest industrious worthy young man, and good sensible gardener.

## Markets.

### COVENT GARDEN.—Sept. 5.

Grapes and Pine Apples continue to maintain former prices. Of Pears there are some fine specimens of Beurré d'Amanlis, Williams's Bon Chrétien, and Louise Bonne of Jersey. Apples are more liberally supplied, but continue to realise fair prices. The best table sorts are Ribston and Kerry Pippin. English Apricots are more abundant, and there are some good Peaches and Nectarines. Greengage and Early sorts of Plums are very nearly over. Oranges fetch 5s. and 10s. per hundred. Good Filberts may be had for 6d. per lb. Cabbages and French Beans are plentifully supplied. Peas, Beans, Carrots, and Artichokes may be obtained in quantity. Cauliflowers are scarce. Potatoes realise from 6s. to 8s. per cwt. Cucumbers abundant. Cut flowers chiefly consist of Orchids, Gardenias, Kalosanths, Lily of the Valley, Violets, Mignonette, China Asters, Heaths, and Roses.

#### FRUIT.

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| Pine Apples, per lb., 4s to 6s | Currants, p. half-sieve, 4s to 7s |
| Grapes, per lb., 2s to 5s | Goose berries, do., 5s |
| Mulberries, do., 1s | Cherries, per lb., 6d to 1s 6d |
| Melons, each, 2s to 3s | Apples, per ½ sieve, 1s 6d to 5s |
| Peaches and Nectarines, per doz., 3s to 8s | Pears, per ½ sieve, 4s to 8s |
| Figs, per doz., 2s | Oranges, per 100, 6s to 10s |
| Apricots, do., 2s to 3s 6d | Lemons, per doz., 1s to 1s 6d |
| Plums, per punnet, 1s to 2s 6d | Filberts, p. 100 lbs., 55s to 60s |

#### VEGETABLES.

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| Cauliflowers, per doz, 2s to 4s | Tomatoes, per ½ sieve, 2s to 5s |
| Green Peas, p. quart, 1s to 2s | Artichokes, per doz., 2s to 3s |
| Greens, per dozen bunches, 1s to 1s 6d | Beet, per doz., 1s 6d to 2s |
| Cabbages, do., 1s 6d to 2s 6d | Celery, p. bundle, 1s to 1s 6d |
| Rhubarb, p. bundle, 6d to 9d | Onions, p. bushel sieve, 2s to 4s |
| French Beans, p. punnet, 1s to 1s 6d | — Portugal, per lb., 2d to 4d |
| Potatoes, p. ton, 90s to 100s | Shallots, per lb., 6d to 8d |
| — per bus., 2s to 2s 9d | Garlic, per lb., 6d to 8d |
| — per cwt., 4s to 6s | Lettuces, Cabb., per score, 1s to 1s 6d |
| Carrots, per bunch, 1s | Endive, p. score, 1s to 1s 6 |
| Turnips, per bunch, 9d to 1s | Horse Radish, p. bun. 1s 6d to 4s |
| Spinach, p. sieve, 1s 6d to 2s | Mushrooms, p. pott, 9d to 1s 3d |
| Cucumbers, p. doz., 1s to 1s 6d | Parsley, p. 12 bunches, 2s to 4s |
| | Savory, do., 2d to 4d |

### HOPS.—BOROUGH MARKET, FRIDAY, Sept. 2.

Messrs. Pattenden & Smith report that but few Hops have arrived at market, and owing to prices being unsettled buyers are scarce. Duty 260,000*l.*

### BRITISH WOOLS.—LONDON, FRIDAY, Sept. 2.

Our market continues unaltered, and the prospects are still favourable.

THE COLONIAL WOOL SALES.—These sales terminated last night—in all descriptions at full rates, and in some first class cases at quotations rather higher than at the commencement—say ½d to 1d. per lb.

### COAL MARKET.—FRIDAY, Sept. 2.

Burnhope, 13s.; Wylam, 16s.; Eden Main, 15s. 6d.; Walls End Belmont, 15s.; Walls End Braddyll's Hetton, 16s.; Walls End Hetton, 17s. 3d.; Walls End Hetton Lyons, 17s. 3d.; Walls End Russell's Hetton, 16s.; Walls End Stewarts, 17s. 3d.; Walls End Belmont, 16s.; Walls End Co[illegible], 16s.; Walls End Hartlepool, 16s. 9d.; Walls End Hetton Hall, 15s. 9d.; Walls End Hunwick, 14s.; Walls End Kelloe, 16s. 3d.; Walls End South Hartlepool, 16s. 9d.; Walls End South Kelloe, 16s. 3d.; Walls End Tanfield, 16s. 6d.; Walls End Trimdon Hartlepool, 16s. 6d.; Bucegwaud 16s.; Newcastle Daffryn, 21s. 6d.; Powell's Daffryn Steam, 21s.—20 ships at market.

### HAY.—Per Load of Thirty-six Trusses.

SMITHFIELD, THURSDAY, Sept. 1.

| | | | | | |
|---|---|---|---|---|---|
| Prime Meadow Hay | 60s to 75s | | Old Clover | 105s to 110s | |
| Superior do. (old) | 80 | 88 | Second cut | — | — |
| Inferior do. | 70 | 79 | New Clover | 87 | 100 |
| New do. | — | — | Straw | 28 | 30 |
| Rowen | 60 | 70 | | | |

DAVIS & Co.

CUMBERLAND MARKET, THURSDAY, Sept. 1.

| | | | |
|---|---|---|---|
| Sup. Meadow Hay | 80s to 94s | Inferior Clover | 90s to 95s |
| Inferior do. | 70 80 | New do. | 95 105 |
| New do. | 65 84 | Straw | 28 30 |
| Superior Clover | 105 112 | | |

JOSHUA EAKIN.

WHITECHAPEL, THURSDAY, Sept. 1.

| | | | |
|---|---|---|---|
| Fine old Hay | 84s to 90s | Fine old Clover | 105s to 110s |
| Inferior do. | 75 80 | Inferior do. | 90 100 |
| Prime New Hay | 80 88 | Fine new Clover | — — |
| Inferior do. | 70 70 | Inferior do. | — — |
| Straw | 32 36 | Fine 2d cut | 95 100 |

### METROPOLITAN CATTLE MARKET.
MONDAY, Aug. 29.

The number of Beasts is large, but the average quality is very middling, consequently prices are not lower for coarse descriptions. The supply of Sheep is again small, the prices are on the average better. Choicest Lambs and Calves are in demand but other qualities meet with a dull sale. From Germany and Holland there are 1550 Beasts, 3160 Sheep, and 176 Calves: from Scotland, 85 Beasts: from Ireland, 250; and 2477 from the northern and midland counties.

| | s. d. | s. d. | | s. d. | s. d. |
|---|---|---|---|---|---|
| Best Scots, Herefords, &c. | 4 8 | to 4 10 | Best Long-wools | 4 6 | — 5 0 |
| Best Short-horns | 4 4 | — 4 8 | Do Shorn | — | — |
| 2d quality Beasts | 3 4 | — 4 6 | Ewes & 2d quality | 4 4 | — 4 6 |
| Best Downs and Half-breds | 5 0 | to 5 4 | Do Shorn | .. | to .. |
| Do. Shorn | .. .. | — .. | Lambs | .. .. | 5 0 — 5 8 |
| | | | Calves | .. .. | 4 4 — 4 10 |
| | | | Pigs | .. .. | 4 0 — 4 6 |

Beasts, 5,210; Sheep & Lambs, 27,910; Calves, 214; Pigs, 300.

THURSDAY, Sept. 1.

The number of Beasts on offer is large, but the average quality is middling, choice descriptions are therefore scarce as dear as on Monday. We have a fair supply of Sheep and Lambs for the season; they are readily disposed of at full prices. Good Calves are dearer. From Germany and Holland there are 320 Beasts, 1930 Sheep, and 300 Calves, from the northern and midland, 400 Beasts; and 122 Milch Cows from the home counties.

| | | | | | |
|---|---|---|---|---|---|
| Best Scots, Herefords, &c. | 4 8 | to 4 10 | Best Long-wools | 4 8 | — 5 0 |
| Best Short-horns | 4 4 | — 4 8 | Do Shorn | .. | — .. |
| 2d quality Beasts | 3 8 | — 4 0 | Ewes & 2d quality | 4 2 | to 4 6 |
| Best Downs and Half breds | 5 0 | — 5 4 | Do Shorn | .. | — .. |
| Do Shorn | .. | — | Lambs | .. .. | 5 0 — 5 8 |
| | | | Calves | .. .. | 4 4 — 5 0 |
| | | | Pigs | .. .. | 4 0 — 4 8 |

Beasts, 1352; Sheep & Lambs, 9880; Calves, 480; Pigs, 180.

### MARK LANE.—MONDAY, Aug. 29.

This morning's market was moderately attended, and the supply of Wheat from Essex and Kent was good, but a large proportion consisted of the new crop, much of which was poor both in quantity and condition; the sales of wheat were at a decline of 2s to 3s per qr on the prices of this day se'nnight, but at a late hour little progress had been made in its disposal; old must be written 1s to 2s per qr cheaper, and the little business transacted in foreign was also on rather lower terms. Barley is a fair sale at last Monday's prices. Beans and Peas sell slowly at late rates. The Oat trade is dull, and inferior qualities and Russian are 6d to 1s per qr lower. In the value of Flour there is no alteration. Of Maize 3rd 8s 4 the supply was small, and the finest samples brought 15s. per bushel.

| PER IMPERIAL QUARTER. | s. | s. | | s. | s. |
|---|---|---|---|---|---|
| WHEAT, Essex, Kent, & Suffolk White | 40 | —47 | Red | 36 | —42 |
| — — fine selected runs.. ditto | 41 | —44 | Red | 40 | —44 |
| — — Talavera | 44 | —47 | | | |
| — Norfolk | — | | Red | — | — |
| — Foreign | 32 | —34 | | | |
| BARLEY, grind. & dist., 24s to 28s Chev. | — | | Malting | — | |
| — Foreign, grinding and distilling | 22 | —25 | Malting | — | |
| OATS, Essex and Suffolk | 19 | —22 | | | |
| — Scotch and Lincolnshire. Potat | 23 | —25 | Feed | 19 | —24 |
| — Irish. Potato | 24 | —25 | Feed | 19 | —22 |
| — Foreign ..... Poland and Brew | 23 | —26 | Feed | 17 | —24 |
| RYE | — | | Foreign | — | |
| RYE MEAL, foreign | — | | | | |
| BEANS, Mazagan .... 34s to 39s .... Tick | 35 | —41 | Harrow | 35 | —41 |
| — Pigeon .....41s —45s..Winds. | — | | Longpod | — | |
| — Foreign ..... Small | 38 | —40 | Egyptian | — | |
| PEAS, white, Essex and Kent .. Boilers | 36 | —42 | Suffolk | 35 | —44 |
| — Maple .... —s to —s ..... Grey | 34 | —36 | Foreign | 30 | —38 |
| MAIZE ..... White | — | | Yellow | — | |
| FLOUR, best marks delivered .. per sack | 37 | —43 | | | |
| — 2d do. ..... ditto | 27 | —37 | Country | 27 | —37 |
| — Foreign ..... per barrel | 18 | —27 | Per sack | 30 | —37 |

FRIDAY, Sept. 2.

Although some heavy showers have fallen during the last eight days, they have been powerless in effecting the value of grain, and our Scotch letters inform us that but a small portion of the Wheat crop remains in the fields. The quantity of Wheat offered for sale throughout the kingdom continues to be in excess of the demand, and a further decline of 1s to 2s. per qr. is generally reported. No important alteration has occurred in the price of Barley, but Oats, Beans, and Peas have been nearly everywhere quoted cheaper. Oats 6d to 1s., Beans 1s., and white Peas in some markets unsaleable at a decline of 2s. per qr. It may be worthy of remark that the very low price of much of the new Wheat, causing it to be largely used for feeding purposes, must in some degree affect the value of spring corn. Flour is a dead sale, and in several markets 1s. 3d. per sack cheaper. The arrivals of grain from Southern Europe off the coast this week are trifling, as are also the sales, the latter including Polish Odessa Wheat at 43s. 6d., Odessa Ghirka at 41s., Taganrog Ghirka at 44s. 6d., all per 492 lbs.; Galatz at 37s. to 37s. 9d., Sandomirka at 42s. both per 480 lbs.; Ibrail Maize at 27s. 3d. per 480 lbs.; Taganrog Barley at 22s. 9d. per 400 lbs., Odessa ditto at 25s per 450 lbs. The arrivals of English Wheat this week have been good, small of foreign, fair of foreign Oats and Barley, and

moderate of all other grain. The attendance at this morning's market was small. English Wheat met a very slow sale, and Monday's prices were unobtainable. Foreign was very little inquired after, and to have effected sales lower prices must have been submitted to. Barley is a slow sale at Monday's prices. Beans and Peas are unaltered in value. For Oats there is a fair demand, and Russian are fully 3d. per quarter dearer.

ARRIVALS FROM AUG. 29 TO SEPT. 2.

| | Wheat. | Barley. | Oats. | Flour. |
|---|---|---|---|---|
| English .. | 2440 qrs. | 60 qrs. | 320 qrs. | 710 sks. |
| Irish .... | — ,, | — ,, | 2080 ,, | — ,, |
| Foreign .. | 2550 ,, | 3630 ,, | 21320 ,, | 150 ,, — brls. |

LIVERPOOL, Tuesday, Aug. 30.—The foreign arrivals since Tuesday are quite on a moderate scale, and the greater part of the Wheat is from Egypt. Of European corn we have a fair supply. The weather is now quite broken, and since Sunday a good deal of rain has fallen in this neighbourhood. Our market still labours under great depression, and the business passing is altogether in retail, and prices somewhat irregular. We had only a small attendance of either town or country buyers at our Corn Exchange this morning, and the demand for Wheat was quite in retail at a reduction of about 1d. per cental on the rates of Friday. Flour was generally held pretty firmly, but where sales were made a decline of 6d. to 1s. per sack was necessary. Indian Corn had a fair consumptive demand at about previous rates. Oats and Oatmeal irregular in value. Egyptian Beans gave way 6d. per qr. Peas and Barley nominally unchanged. The market closed very dull.

FRIDAY, Sept. 2.—Grain market dull. Wheat and Flour easier to buy, but without any quotable decline. Indian Corn rather better. Beans 6d. lower. Egyptian 33s. 6d. Oats, Oatmeal, and Barley a shade easier.

| AVERAGES | Wheat. | Barley. | Oats. | Rye. | Beans. | Peas. |
|---|---|---|---|---|---|---|
| July 23.. | 44s 11d | 30s 7d | 25s 11d | 38s 10d | 46s 10d | 39s 10d |
| — 30.. | 43 0 | 30 1 | 25 3 | 36 1 | 44 2 | 37 0 |
| Aug. 6.. | 43 7 | 29 0 | 25 1 | 32 8 | 46 5 | 37 6 |
| — 13.. | 43 11 | 30 1 | 25 2 | 33 3 | 46 7 | 36 9 |
| — 20.. | 44 1 | 31 1 | 25 5 | 30 8 | 44 6 | 37 8 |
| — 27.. | 44 5 | 32 11 | 25 5 | 32 8 | 44 6 | 37 9 |
| Agg. Aver | 44 0 | 30 7 | 25 5 | 33 10 | 45 6 | 37 9 |

FLUCTUATIONS IN THE LAST SIX WEEKS AVERAGES.

| PRICES. | July 23. | July 30 | Aug. 6. | Aug. 13. | Aug. 20. | Aug. 27. |
|---|---|---|---|---|---|---|
| 44s 11d— | | .. | .. | .. | .. | .. |
| 44 5 | .. | .. | .. | .. | .. | |
| 44 1 | .. | .. | .. | .. | | .. |
| 43 11 | .. | .. | .. | | .. | .. |
| 43 7 | .. | .. | | .. | .. | .. |
| 43 0 | .. | | .. | .. | .. | .. |

WANTED, A PARTNER to the NURSERY and SEED BUSINESS with £150 or £200. The concern may be taken to at a valuation. It has a first-class connection of 50 years' standing, is close to the railway station, fronting the principal street in the town, and has an unexpired Lease of 21 years.—For further particulars apply to Mr. TURNER, Fruiterer, New Market, Sheffield.

MEDICAL PUPIL.—A General Practitioner, in a large country district, will have a VACANCY for a MEDICAL PUPIL to commence his studies in October, when his present pupil will enter at St. Bartholomew's. Terms, 100*l.* premium, and about 50*l.* per annum for board and lodging.—Address, Omega, Post Office, Farnham, Surrey.

WANTED, in a country Parish, a SUNDAY-SCHOOL MASTER, who is competent to play the Organ and teach a Village Choir. A good Gardener will find full employment during the week.—For further particulars apply to the Rev. JOHN BELL, Brington Rectory, Kimbolton.

WANTED, A MANAGER for a Large Estate in Hungary.—For terms apply by letter to JULIUS TANARKY, Esq., 13, St. Alban's Villas, Highgate Rise, London, N.W.

WANTED, A FOREMAN AND PROPAGATOR, in a London Nursery. His business will be exclusively confined to the Plant Department where Cultivation and Propagation of all kinds of Plants under Glass are extensively carried on. None need apply whose ability, experience, and moral character will not bear the most rigid inquiry.—Application to be made in own handwriting, stating terms and references to L. S. M., *Gardeners' Chronicle* Office, W.C.

### TO DRAINERS.

WANTED, in Somersetshire, a FOREMAN of DRAINERS. Persons having practical experience, capable of taking Levels, Keeping Accounts, and the general Supervision of extensive works, may address in own handwriting, stating terms, previous occupation, and references, to W. P. AYRES, Orchardleigh Park, Frome.

WANTED, AS BOOK-KEEPER AND ACCOUNTANT.—Mr. JAMES VEITCH, Jun., is in want of a thoroughly competent and respectable person to act in the above capacities.—Application to be made (by letter only) stating references, salary required, &c.

Royal Exotic Nursery, King's Road, Chelsea, S.W.—Sept. 3

WANTED, a good plain WORKING GARDENER to take the care of a Large Walled Kitchen Garden and Flower Garden (with occasional assistance); and also 40 Acres of Meadow Land. His Wife to undertake the Dairy.—Address P. T., Unsled Wood, near Godalming.

WANTED, a good practical GARDENER who thoroughly understands his business. An Under Gardener is kept.—Address, with full particulars as to requirements, what family, &c., Z., Post Office, Fenchurch Street, London, E.C.

WANTED IMMEDIATELY, three or four steady active MEN who are expert in BUDDING and GRAFTING; this would prove a comfortable and permanent situation to good workmen.—Address, stating length of practice and in whose Nursery, with terms to Mr. RICHARD SMITH, Nurseryman, Worcester.

WANTED IMMEDIATELY, Two Young Men to assist in PLANT GROWING.—Must be able to Pot well, and have good characters for honesty, &c.—Apply, if by letter, P. P., Messrs. Breffit, Barnes Terrace, Surrey, S.

WANTED, a young Man who has been accustomed to Vineries and Propagating Bedding Plants, &c. Wages 14*s.* per week, with Lodgings.—T. T., Post Office, Rudgwick, Sussex.

WANTED, in a Retail Seed Establishment, Two young Men, the one to act as CLERK, the other as SHOPMAN. None need apply unless thoroughly acquainted with the Seed Business in its various branches. Application by letter, stating salary and where last employed.—Address, W. C., *Gardeners' Chronicle* Office, W.C.

WANTED, in a large Nursery, a good PACKER; he must also understand Budding and Grafting. Sobriety indispensable.—Address J. B., Messrs. Hurst & McMullen, 6, Leadenhall Street, London, E.C.

WANTED, a steady active Man as IN and OUT-DOOR SERVANT in a clergyman's family in the Isle of Ely. He will have the charge of a Kitchen and Flower Garden, and a horse and four-wheeled chaise. An Under Man is kept to assist in the out-door work. None but a member of the Church of England need apply.—Direct to H. B., Post Office, Newmarket.

## WANT PLACES.—Letters to be Post Paid.

GARDENER (HEAD).—Age 25, single; understands his profession in all its branches.—V. R., Mr. J. Elliott, Fulham Fields, S.W.

GARDENER (HEAD).—Age 35; perfectly understands his profession in its various branches, the Forcing of Fruits, Flowers, and Vegetables, and the general routine of Kitchen and Flower Gardens, Plants, &c. Highest references.—BURDETT, Walton-upon-Thames.

GARDENER (HEAD).—Married, no incumbrance; is practically accustomed to Early and Late Forcing of Fruits and Vegetables, with a general knowledge of the profession in its various branches.—J. REASON, Mr. Butcher's, Nurseryman, Stratford-on-Avon.

GARDENER (HEAD).—Age 33, married; thoroughly understands his profession in all its various branches. Can be highly recommended by the gentleman with whom he lived four years, who parts with him only in consequence of change of residence.—G. M., Mr. Parker, Sheen House, East Sheen, Mortlake, Surrey, S.W.

GARDENER (HEAD).—Age 36, married; thoroughly understands Early and Late Forcing, the management of the Kitchen Garden, and is a good Plantsman; also understands Land and Stock. Wife can take charge of Dairy and Poultry if required. The highest testimonials as to character and ability.—A. B., Mr. Farmer, High Street, Fulham, S.W.

### TO NOBLEMEN AND GENTLEMEN.

GARDENER (HEAD).—W. J. MAINWARING, late Gardener to Colonel Clifford, M.P., is now disengaged, and is willing to enter into an engagement with any nobleman or gentleman in want of a energetic and highly experienced Gardener in all branches. Unexceptionable references as to ability, &c.—W. J. MAINWARING, 15, Victoria Terrace, Regent's Park, St. John's Wood, London, N.W.

GARDENER (FOREMAN), in a good Establishment.—Age 25; is well acquainted with Plants, Forcing, &c., and has a good general knowledge of his profession. Good testimonials.—A. B., Mrs. Williams, Newton Cottages, near Chester.

GARDENER.—Married, no family; practically understands his profession in all its branches. Two years' good character.—A. B., Mr. Chapman's Library, Ilford, Essex.

GARDENER.—Age 35, single; has a practical knowledge of Forcing, Early and Late Vines, the Management of the Flower and Kitchen Gardens, Greenhouse, &c. Highly recommended.—J. B., Mrs. Bryant, King Street, Maidstone.

GARDENER.—Age 36, married; understands the cultivation of Melons and Pines, Forcing Grapes, &c., and the management of Kitchen and Flower Gardens; can take charge of Stock, and can Milk. Two and a half years' good character from the gentleman he is about to leave.—X. Y., Mr. Seabrook, Baker, Romford

GARDENER (UNDER or SINGLE-HANDED and in small place).—X. Y. Z., Mrs. Lawrence, High Street, Wimbledon, Surrey, S.W.

GARDENER (UNDER).—Age 23, single. Two years' good character.—H. T., Mr. Giffkins, Lord St. Leonard's, Thames Ditton, Surrey.

GARDENER (UNDER).—Age 16, the son of a practical Man; has had some practice in Propagation, and will be found very useful in the Houses, &c.—G. T., jun., 35, Princes Road, Notting Hill, W.

GARDENER OR LAND STEWARD, OR BAILIFF AND GARDENER if required.—G. S. DODS, Gardener to Sir John Cathcart, Bart., will be disengaged after the 1st of October, and open to any engagement as above with any nobleman or gentleman.—Cooper's Hill Gardens, Egham, Surrey.

GARDENER AND BAILIFF.—Age 41, married; practically acquainted with all that relates to Kitchen, Fruit, and Flower Gardens; understands the management of Sheep, the Planting and care of young Plantations, Fences, &c., Draining, and the general routine of a gentleman's Estate. Good reference.—D. P., Post Office, Lancaster.

### TO NOBLEMEN, LANDOWNERS, AND OTHERS.

GARDENER AND BAILIFF, or either separately.—Has had long experience, and has been 25 years' in his present situation. Can produce satisfactory testimonials.—J. P., Robert Gosling's, Esq., Botley's Park, Chertsey, Surrey.

PROPAGATOR, CULTIVATOR, &c., Hard and Soft-wooded.—Experienced in the requirements of the trade.—J. W., 17, Unity Place, Samuel Street, Woolwich, S.E.

FOREMAN OR JOBBING MAN.—Thoroughly practical; one of the old school at Budding, Grafting, Training, Layering, &c.—G. T., 35, Princes Road, Notting Hill.

STEWARD OR BAILIFF.—Married; fully understands Farming in all its branches. Unexceptionable character. Wife no objection to Manage a Dairy or Poultry if required.—W. K., Bury Farm, Hitchin, Herts.

### TO NOBLEMEN AND GENTLEMEN.

FARM STEWARD OR BAILIFF.—Age 34; thoroughly acquainted with every branch of the profession, and can have the highest recommendation from present employer.—W. B., Post Office, Eltham, Kent, S.E.

FARM STEWARD OR BAILIFF.—A native of Scotland, no incumbrance; long practical experience; can undertake the Management of a Demesne and Farm, or Superintend an Estate. Accustomed to Light and Heavy Land, Purchase and Sale of Live Stock, Erection and Repairs of Farm Buildings, Accounts, &c. Reference to last employer. A moderate Salary accepted.—D. G., Messrs. Thomas Gibbs & Co., Half Moon Street, Piccadilly, London, W.

BAILIFF.—Age 30; a gentleman is desirous to recommend a very energetic Man of business habits as above, possessing a thorough knowledge of the theory and practical part of Cultivating Heavy and Light Soils, Erecting Farm Buildings, &c., and capable of undertaking the entire Management of a large Farm, having had considerable experience in every branch of Agriculture, Buying, Selling, and Fattening Stock.—A. B. C., Mr. Searle's, Henlade, near Taunton.

### TO NURSERYMEN AND SEEDSMEN, ETC.

CLERK, OR CLERK AND SALESMAN.—Understands the Keeping of Books, Correspondence, getting up of Catalogues, &c. Has been some years in a leading Metropolitan Nursery. Unexceptionable references.—A. B., *Gardeners' Chronicle* Office, W.C.


HANDSOME BRASS AND IRON BEDSTEADS.—HEAL & SON'S Show Rooms contain a large assortment of Brass Bedsteads, suitable both for Home use and Tropical Climates; handsome Iron Bedsteads with Brass Mountings and elegantly Japanned; Plain Iron Bedsteads for Servants; every description of Wood Bedsteads manufactured, in Mahogany, Birch, Walnut-tree Wood, Polished Deal and Japanned, all fitted with Bedding and Furniture complete, as well as every description of Bedroom Furniture.

HEAL AND SON'S ILLUSTRATED CATALOGUE, containing Designs and Prices of 150 different Bedsteads, as well as of 150 different articles of Bedroom Furniture, sent free by post.—HEAL & SON, Bedstead, Bedding, and Bedroom Furniture Manufacturers, 196, Tottenham Court Road, W.

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| | Fiddle or Old Silver Pattern. | Thread or Brunswick Pattern. | Lily Pattern. |
|---|---|---|---|
| | £ s. d. | £ s. d. | £ s. d. |
| 12 Table Forks .. .. | 1 13 0 | 2 4 0 | 2 15 0 |
| 12 Table Spoons .. .. | 1 13 0 | 2 4 0 | 2 15 0 |
| 12 Dessert Forks .. .. | 1 4 0 | 1 12 0 | 1 18 0 |
| 12 Dessert Spoons .. | 1 4 0 | 1 12 0 | 1 18 0 |
| 12 Tea Spoons .. .. | 0 16 0 | 1 2 0 | 1 8 0 |
| 6 Egg Spoons, gilt bowls.. | 0 10 0 | 0 13 6 | 0 15 0 |
| 2 Sauce Ladles .. .. | 0 6 0 | 0 8 0 | 0 9 0 |
| 1 Gravy Spoon .. .. | 0 6 6 | 0 10 0 | 0 12 0 |
| 2 Salt Spoons, gilt bowls.. | 0 3 4 | 0 4 6 | 0 5 0 |
| 1 Mustard Spoon, gilt bowl .. .. | 0 1 8 | 0 2 3 | 0 2 6 |
| 1 Pair of Sugar Tongs .. | 0 2 6 | 0 3 6 | 0 4 0 |
| 1 Pair of Fish Carvers .. | 1 4 0 | 1 7 6 | 1 10 0 |
| 1 Butter Knife .. .. | 0 2 6 | 0 5 6 | 0 6 0 |
| 1 Soup Ladle .. .. | 0 10 0 | 0 17 0 | 0 17 6 |
| 1 Sugar Sifter .. .. | 0 3 3 | 0 4 6 | 0 5 0 |
| Total .. .. | 9 19 9 | 13 10 3 | 14 12 6 |

Any article to be had singly at the same prices. A chest to contain the above, and a relative number of Dishes, &c., 21*l.* 15*s.* Tea and coffee sets, cruet and liqueur frames, waiters, candlesticks, &c., at proportionate prices. Lists of re-plating done by the patent process.

WILLIAM S. BURTON'S GENERAL FURNISHING IRONMONGERY CATALOGUE may be had gratis, and free by post. It contains upwards of 400 Illustrations of his illimited Stock of Electro and Sheffield Nickel Silver and Britannia Metal goods, Dish Covers and Hot-water Dishes, Stoves, Fenders, Marble Chimney-pieces, Kitchen Ranges, Lamps, Gaseliers, Tea Urns and Kettles, Tea Trays, Clocks, Table Cutlery, Baths and Toilet Ware, Turnery, Iron and Brass Bedsteads, Bedding, Bedroom Furniture, &c. &c. Lists of Prices and Plans of the 16 large Show Rooms, 39, Oxford Street, W.; 1, 1A, 2, and 3, Newman Street, W.; and 4, 5, and 6, Perry's Place, W., London.—Established 1820.

COOL AND REFRESHING BALM.—Among the many luxuries of the present age, none can be obtained possessing the manifold virtues of OLDRIDGE'S BALM OF COLUMBIA. If applied to the roots of the hair, it imparts the most delightful coolness, and agreeable fragrance of perfume. It also at this period of the season prevents the hair from falling off, or if already off or turning grey, will stop its further progress, and restore it again. Those who really desire to have the hair, either with wave or curl, should use it daily. It is celebrated for strengthening the hair, freeing it from scurf, and producing new hair, whiskers, and moustaches. Established upwards of 30 years. No imitative wash can be had. Price 3*s.* 6*d.*, 6*s.*, and 11*s.* only.—C. & A. OLDRIDGE, 22, Wellington Street North, Strand, W.C.

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THE BEARD, WHISKERS, AND MOUSTACHE.—ROWLANDS' MACASSAR OIL is universally in high repute as the most successful article ever offered for the growth, restoration, and in improving and beautifying the human hair, proved beyond question by its unparalleled results for more than half a century past, and which no other specific has failed. It prevents it from falling off or turning grey, strengthens weak hair, cleanses it from scurf and dandriff, and makes it beautifully soft, curly, and glossy. For children it is especially recommended, as forming the basis of a beautiful head of hair. Its invaluable properties have obtained the patronage of Royalty and the aristocracy throughout Europe; while its introduction into the Courts of Royalty, and the high esteem in which it is universally held, with numerous testimonials constantly received of its use, afford the best and surest proofs of its merits. Price 3*s.* 6*d.* and 7*s.*; family bottles (equal to four small), 10*s.* 6*d.*, and double that size, 21*s.*—CAUTION: on the wrapper of each bottle are the words, ROWLANDS' MACASSAR OIL, &c., in white letters, and their signature, "A. ROWLAND & SONS," in red ink. Sold at 20, Hatton Garden, London, E.C.; and by Chemists and Perfumers.

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LIGHT-BROWN COD LIVER OIL administered with the greatest success in CONSUMPTION, GENERAL DEBILITY, RHEUMATISM, INFANTILE WASTING, AND ALL THE DISORDERS ARISING FROM DEFECTIVE NUTRITION.

is the most efficacious, the most palatable, and the most curative effects, unquestionably the most economical of kinds. Its immeasurable therapeutic superiority over other variety is attested by innumerable spontaneous testimonials from Physicians and Surgeons of European celebrity.

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# The Gardeners' Chronicle Newspaper.

*SATURDAY, SEPTEMBER* 10, 1859.



THE MUSEUM OF PRACTICAL GEOLOGY, Jermyn Street, S.W., will be RE-OPENED on SATURDAY, the 10th inst. Admission (free) every day but Friday.

GOVERNMENT SCHOOL OF MINES AND OF SCIENCE APPLIED TO THE ARTS.

*Director.*

Sir RODERICK IMPEY MURCHISON, D.C.L., M.A., F.R.S., &c.

During the Session 1859-60, which will commence on October 3, the following COURSES of LECTURES and PRACTICAL DEMONSTRATIONS will be given:—

1. Chemistry. By A. W. HOFMANN, LL.D., F.R.S., &c.
2. Metallurgy. By JOHN PERCY, M.D., F.R.S.
3. Natural History. By T. H. HUXLEY, F.R.S.
4. Mineralogy. } By WARINGTON W. SMYTH, M.A., F.R.S.
5. Mining. }
6. Geology. By A. C. RAMSAY, F.R.S.
7. Applied Mechanics. By ROBERT WILLIS, M.A., F.R.S.
8. Physics. By G. G. STOKES, M.A., F.R.S.

Instruction in Mechanical Drawing by Mr. BUSSE.

The fee for Matriculated Students (exclusive of the laboratories) is 30*l*. in one sum, on entrance, or two annual payments of 20*l*.

Pupils are received in the Royal College of Chemistry (the laboratory of the School), under the direction of Dr. Hofmann, at a fee of 10*l*. for the term of three months. The same fee is charged in the Metallurgical Laboratory, under the direction of Dr. Percy. Tickets to separate courses of Lectures are issued at 1*l*., 1*l*. 10*s*., and 2*l*. each. Officers in the Queen's service, her Majesty's Consuls, acting mining agents and managers, may obtain Tickets at reduced charges.

Certified schoolmasters, pupil teachers, and others engaged in education, are also admitted to the Lectures at reduced fees.

His Royal Highness the Prince of Wales has granted two Exhibitions, and others have also been established.

For a prospectus and information, apply at the Museum of Practical Geology, Jermyn Street, London, S.W.

TRENHAM REEKS, Registrar.

PELICAN LIFE INSURANCE COMPANY, Established in 1797. 70, Lombard Street, City, E.C. and 57, Charing Cross, Westminster, S.W.

BONUS OF 1861.—All policies effected prior to the 1st July, 1861, on the Bonus Scale of Premiums, will participate in the next Division of Profits.

For Prospectuses and Forms of Proposal apply at the Offices as above, or to any of the Company's Agents.

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## News of the Week.

THE Deputation appointed by the Tuscan National Assembly to offer the sovereignty of that Duchy to the KING OF SARDINIA arrived at Turin on Saturday, and was received by HIS MAJESTY on the same day. Count GHERARDESCA, on behalf of the National Assembly, having offered the annexation of Tuscany to Piedmont as the unanimous and unconditional resolution of his countrymen, the KING said that he received their wish as a solemn manifestation of the will of the Tuscan people, who, after having "made the last vestige of the foreign domination in Tuscany to cease," desired to contribute to the constitution of a strong kingdom which should defend the independence of Italy. But the accomplishment of their wish could only take place by "negotiations which were about to begin on the affairs of Italy." HIS MAJESTY intimated that the question could only be decided by a Congress of the European Powers, and added that he would support their cause before those Powers, "becoming himself strong by the rights which were given him by their wishes." The effect of this answer is that KING VICTOR EMMANUEL, without admitting Tuscany to be a part of the kingdom of Sardinia or committing himself to the assumption of its Sovereignty, accepts the office of representative of the Tuscan people before Europe, and reserves his decision as to the acceptance of the offer made to him by the National Assembly. From Parma we learn that the result of the vote on the annexation of that Duchy to Piedmont was 63,403 votes in favour of the annexation, and 506 against it. The elections have since been concluded with admirable order, and the opening of the Assembly took place on Wednesday with great solemnity. Accounts from Bologna state that the National Assembly of the Romagna on Tuesday unanimously adopted a resolution declaring that the inhabitants of the Romagna will no longer submit to the temporal government of the Pope, and on the following day, with the same unanimity, agreed to a motion for the annexation of the Legations to Sardinia. The Assembly at the same time authorised the President to present an address to the EMPEROR NAPOLEON and to KING VICTOR EMMANUEL, expressing their sympathies for Venetia, and offering to make pecuniary sacrifices in her favour. Meanwhile the Zurich Conferences, after a succession of interviews and discussions which have led to nothing, are virtually suspended. Austria has called upon the EMPEROR of the FRENCH to fulfil the Treaty of Villafranca by the restoration of the Grand Dukes, and has refused to admit the principle that the people of the Duchies and the Legations have any right to choose a Sovereign for themselves. If, however, the difficulties attending the restoration of the Grand Dukes should prove to be insurmountable, Austria, it is said, has intimated that she would prefer the nomination of Prince NAPOLEON as King of Central Italy to the annexation of the Duchies to Sardinia. Prince RICHARD METTERNICH has been sent to St. Sauveur to propose another interview between the EMPERORS of FRANCE and AUSTRIA for the consideration of these questions, and the Castle of Ahrenberg, in Switzerland, is said to have been selected as the scene of the interview. The *Moniteur* of yesterday, in an article on these complications, states that as the Grand Dukes will not be re-established by force, Austria will be freed from her engagement to grant large concessions to Venetia. It expresses strong doubt whether a Congress would obtain better conditions for Italy than the Treaty of Villafranca, and concludes by saying that the only way to resolve the difficulty would be War. But "Italy must be aware that France is the only Power which makes war for an idea, and France has fulfilled her mission."

By the last mail from the United States we learn that the American General HARNEY has taken possession of the Island of San Juan, or Bellevue, in Puget Sound. This Island is claimed by both nations, and is important to this country in connection with the new colony of British Columbia, inasmuch as it commands the entrance to Fraser's River. It is not known whether this seizure was the result of orders received from the Government at Washington, but as it has occurred while a detachment of British Engineers was actively engaged in surveying the country and fixing the boundary, there is reason to apprehend that it may lead to another boundary dispute between this country and the United States.

## Home News.

THE QUEEN IN SCOTLAND. On Thursday, the 1st, the Queen and Prince Consort walked in the grounds of Balmoral. In the afternoon the Queen, Prince Consort, and the Princess Louise drove to the Woods of Abergeldie, which were driven for deer. The Prince Consort, accompanied by Sir George Grey, went out shooting. The Princesses Alice and Helena rode out. On Friday the Queen and Princess Alice rode out. The Prince Consort, accompanied by Prince Arthur, went out deer shooting. On Saturday the Queen, accompanied by the Princess Alice, drove to Invercauld, and honoured Mr. and Mrs. Farquharson with a visit. The Prince Consort went out deer stalking. On Sunday the Queen and Prince Consort, the Princesses, and Prince Arthur walked in the grounds. On Monday the Queen and Prince Consort and the Princess Louisa and Prince Arthur drove out. The Princess Alice and Princess Helena also drove out. Lord and Lady John Russell dined with her Majesty in the evening. On Tuesday the Prince Consort went out shooting, accompanied by the Queen and the Princess Alice.

THE PRINCE OF WALES was present on Saturday at a review of the 16th Lancers in Edinburgh. The Prince wore the uniform of a colonel in the army, and while the regiment was going through its evolutions his Royal Highness rode a trooper's horse, and joined in the different movements with the rank and file, including a charge of cavalry, in which he acquitted himself as a fearless horseman. In the evening his Royal Highness visited Musselburgh, and had some exercise in the national game of golf on the Links. On Sunday the Prince attended Divine service at Holyrood Palace, where the Rev. Mr. Tarver, chaplain to his Royal Highness, officiated.

THE GRAND DUKE CONSTANTINE embarked in the Russian frigate General Admiral on Tuesday evening, and left the Motherbank at 7 o'clock on Wednesday morning under steam for Cronstadt. The Grand Duke visited the yard of the Thames Iron Ship-building Company at Blackwall on Thursday week, and spent some hours in inspecting the ships in progress, including the large steam ram building for the Admiralty. On Saturday his Imperial Highness visited the Museum at the India House.

THE EMBASSY TO PERSIA.—Major-General Sir Henry Rawlinson, the new Envoy to Persia, has left England this week with his suite. He will proceed by way of Paris and Marseilles to Malta, from whence H.M.S. Caradoc will convey him to Constantinople, and subsequently across the Black Sea to Poti, at the mouth of the Phasis or Rhion. He will ascend the Rhion in a Russian steamer to Mérani, and then travel post by Tiflis, Erivan, and Nakhshivan to the Persian frontier at Julfa, on the Arras. The remainder of the journey, by Tabriz to Teheran, will be performed on horseback.

THE CHANNEL FLEET, consisting of eight screw ships of the line, five steam frigates, and a screw gunboat, carrying in all 998 guns, anchored in Torbay on Friday, and left again on Wednesday morning on a cruise.

## Foreign.

FRANCE.—The *Moniteur* of yesterday publishes a long and important article on the state of Italy, of which the following is a summary:—

"The Emperor of Austria had promised to grant concessions on a large scale to Venetia, but requiring as a condition, *sine qua non*, the return of the Archdukes. The Emperor Napoleon accepted these conditions. It is easy to conceive that, if after the conclusion of the peace, the destinies of Italy had been entrusted to men who had more at heart the future of their common fatherland than little partial successes, the aim of their endeavours would have been to develop and not to obstruct the consequences of the treaty of Villafranca, and then Venetia would have been placed in the same position as Luxembourg with Holland. The Archdukes will not be re-established by foreign force, but that portion of the treaty of Villafranca not having been carried out, Austria will find herself freed from all engagements taken in favour of Venetia. Instead of a policy of reconciliation and peace, a policy of defiance and hatred will be seen to reappear, which will entail fresh misfortunes. Much, it would appear, is expected from a congress, which we hail with all our wishes, but we strongly doubt that the congress would

obtain better conditions for Italy. It would not be right to ask from a great power important concessions without offering equitable compensations. War would be the only way to resolve the difficulty; but Italy must be aware that one power alone makes war for an idea—and that is France, and France has accomplished her mission."

The statement that the English and Russian Cabinets have made proposals to France and Austria, for the holding of a congress, is said to be without foundation. It is confidently asserted that a fresh interview between the Emperor of the French and the Emperor of Austria will shortly take place in Switzerland. Letters from Berne state that the Castle of Ahrenberg has been prepared for their reception, and that the admission of visitors to view the castle has been suspended for the present. Prince Napoleon quitted Paris on Thursday for Auvergne, on his way to Switzerland. It is supposed that his journey has reference to this interview. Prince Richard Metternich, the Austrian Ambassador at Paris, went to St. Sauveur last week, and was received by the Emperor, with whom he had a long conference. The Prince returned on Saturday to Paris, and has since left for Vienna, in order to make known to the Emperor of Austria the result of his interview. Count Arese was at St. Sauveur at the same time as Prince Metternich, and has since returned to Turin to convey to the King the opinion of the Emperor on the subject of the annexation of the ex-Duchies to Piedmont. The Emperor and Empress will leave St. Sauveur for Biarritz on the 11th or 12th inst. The Empress will then remain at Biarritz, and the Emperor, after visiting Bordeaux and Nantes, will proceed to the camp at Châlons. In the course of next month the Emperor will be present at the inauguration of the colossal statue of the Virgin which has been erected on a rock in the town of Puy (Haute Loire), and which is formed partly of guns taken in the Crimea. The Empress has just presented the dress worn by her on her first appearance at church after the birth of the Prince Imperial, the embroidery of which cost 25,000f., to the statue of the Virgin on the altar of Notre Dame de la Garde, at Marseilles.— The Plenipotentiaries of the Paris Conferences assembled on Tuesday to consider the double election of Prince Couza in the Principalities of Moldavia and Wallachia.—The Paris papers state that 23 millions of the loan for the war still remain, and that it is the intention of the Government to employ this sum on the fortifications of Brest and of Cherbourg. It is also announced that the Minister of Marine has ordered 200,000 projectiles and 30,000 carbines for the navy. The *Indépendance Belge* last week contained an article stating that France had only made peace with Austria in order to prepare for war with England, and that it is the Emperor's policy to tear up the treaties of 1815, and bring down England from the maritime supremacy which she holds in virtue of those treaties. The *Constitutionnel* contains a long article in reply to this statement, in which it says that such assertions ought to be treated with contempt, but as they do mischief they therefore deserve reprobation. It concludes by saying:—

"On the whole the Imperial Government, which conducted with England as an ally the campaign of the Crimea, and which made against Austria the glorious campaign of Italy, has no need to strive against the exclusive supremacy of any Power. Thanks to the firm and loyal policy of the Emperor, France, after the lapse of a very few years, can act with all the assurance of her restored dignity, as the equal of the most powerful nations. She does not desire to offend any people in their rights or their honour; she does not prepare the debasement or humiliation of any; and she does not fear that any one will humiliate or offend her. She has no wish to dictate to England any more than England assuredly desires to dictate to her. This is a situation of things calculated to reassure and not to alarm Europe—a situation which the Emperor himself one day admirably defined in saying, 'When France is satisfied Europe is tranquil!'"

—The great majority of the Paris journals contain articles praising the speech of the King of Sardinia, and coming to the conclusion that a Congress must be at last resorted to for settling the affairs of Italy. The Legitimist journals, however, have always declared against that course, affirming that the terms stipulated at Villafranca render any such steps quite unnecessary, and that a great Catholic interest should not be confided to the discussion of schismatic and Protestant States. One of these journals concludes by saying:—

"We oppose a Congress because, if it be important to England to make us expiate by injurious concessions to her the recent military triumphs we have made her witness, it is important for us to refuse her such satisfaction; because when we have done enough, as in this case, to disarm the systematic malevolence of an adversary, and have not succeeded, it only remains for us, says the wise man, to wait and see what will happen; and because finally, if two milliards of voluntary loans and two millions of soldiers are required for a just war against England, they will certainly be forthcoming."

M. Victor Hugo has just published a translation of the plays of Shakespeare, which has been his occupation during his long exile, and it is said that he will gain a more lasting triumph by this work than by any of his political effusions. A new system of watering high-roads and macadamised streets, and preventing the accumulation of dust, has been adopted in France. The roads are watered with a mixture of hydrochloric acid and water which hardens the earth quickly, and keeps it in that state during the day. At Lyons the plan has been successfully adopted for some months to the great satisfaction of its inhabitants.

SPAIN.—The Emperor of Morocco has declared traitors to the country all the tribes on the coast who have insulted the Spanish flag, and has promised to inflict exemplary chastisement on them before the very walls of the fortress of Ceuta. The Spanish Government, however, not feeling satisfied that this promise will be fulfilled, is continuing its preparations for sending out an expedition, and has directed the Spanish consul at Tangier to present an *ultimatum*. The basis of the Concordat which was signed at Rome on the 25th August was the absolute sale of the landed property taken from the clergy. The value realised by such property is to be paid to the clergy in bonds not transferable.

BELGIUM.—The Senate in its sitting of Tuesday last adopted the first article of the bill for the fortification of Antwerp by a vote of 34 against 15. Four members abstained from voting. The King of the Belgians left Laeken on Saturday morning for the Lake of Como, where he will meet his daughter, the Archduchess Maximilian; and it is said that his Majesty, before returning to Brussels, will pay a visit to the Emperor Napoleon at Biarritz.

DENMARK.—The Council of State is announced for the 26th September, and the opening of the Diet will take place on the 3d October. It is said that Prussia and Austria have informed the Danish Government that the affairs of Holstein are under discussion by the Federal Diet, and that this communication needed no further reply from Denmark.

BAVARIA.—M. von Abel, the former Minister, died on Saturday. The subscription to the military loan is closed; a great number of applications for shares had to be refused or reduced.

PRUSSIA.—The agitation which has for some months prevailed in Germany in favour of a new German union to replace the Federal Diet at Frankfort is beginning to assume an important character. At Eisenach on the 14th ult., at a meeting of Deputies from 21 of the States into which Germany is divided, the following resolutions were unanimously adopted:—

"1. We see in the present political situation great dangers for the independence of our German Fatherland, which have been increased rather than diminished by the peace concluded between Austria and France. 2. These dangers arise from the imperfect Federal Constitution of Germany, and they can only be avoided by a speedy change in this Constitution. 3. To this end it is necessary that the German Diet should be replaced by a firm, strong, and permanent Central Government, and that a National Assembly should be called. 4. In the present circumstances it is only by Prussia that effectual steps can be taken to reach this end; to secure the initiative of Prussia must, therefore, be the object of our efforts. 5. Should Germany be again threatened from without before the Central Government is definitively constituted, the conduct of her military forces and diplomatic relations abroad must be confided to Prussia. 6. It is the duty of every German to give his support to the Prussian Government, so long as its aims coincide with the aims and necessities of Germany, and its actions are directed to securing for Germany a strong, free, and united Constitution. 7. We expect from all friends of the German Fatherland, whether they belong to the Democratic or Constitutional party, that they will prefer the national independence and union to the claims of party, and will work together with one accord and with perseverance to arrive at a strong German unity."

The Duke of Saxe Coburg Gotha, in answer to an address presented to him requesting him to support the patriotic efforts now making by the German people for reform, assured the deputation that he not only hails with joy the efforts which tend to the formation of a great national party, but that he will be always ready to assist them with his action and advice when the object shall be to procure for their fine country the consideration and the power to which the German nation has a legitimate right to pretend.

SWITZERLAND.—Accounts from Zurich state that on Tuesday week there was a meeting of the French and Sardinian Plenipotentiaries. On Wednesday there was a meeting of the second Plenipotentiaries of the three Powers. On Thursday there was a meeting of the Plenipotentiaries at which the regulation of certain points relating to the limits of the Lombard frontiers and the separation of the civil and ecclesiastical jurisdictions was taken into consideration. On Friday there was a Conference of the four French and Austrian Plenipotentiaries which lasted two hours. On Saturday there was no conference. On Tuesday the French and Sardinian Plenipotentiaries had a Conference, which lasted one hour. The subject was the settlement of the Lombard frontiers. Count Colloredo and M. de Bourqueney afterwards had a short consultation. It is said that Austria desires a guarantee from Sardinia against all future secret intrigues in Italy previous to making any concessions at the Conferences.

AUSTRIA.—Letters from Vienna state that none of the measures announced in the Ministerial programme have yet been carried out. It is asserted that the privileges to be granted to the Jews will not be the same throughout the whole Empire, but will be influenced by local circumstances. The principal privilege granted to them will be the right of acquisition of house property in larger towns. It is also reported that Austria intends to discount that portion of the Austrian debt which will be transferred to Lombardy, and to sell the public domains.

ITALY.—The members forming the Tuscan deputation arrived at Turin on Saturday at noon. The municipal body and some members of the Parliament received them at the railway terminus. The streets through which they passed were richly decorated, and numerous bodies of national guards were stationed in line along the principal streets. An immense crowd was collected to welcome the deputation, who alighted at the Hotel de l'Europe, where they addressed the people, thanking them for the enthusiastic reception they had met with. The King received the deputation at 4 P.M. when Signor Gherardesca, a member of the commission, addressed the King in the following terms:—

"If the wish of Tuscany for annexation with Piedmont only served for the aggrandisement of your Majesty's State, we should entertain doubts as to the acceptance of our vote by your Majesty. But our wish being inspired by the sentiment of Italian nationality, we hope that the thought of Italy will decide your Majesty to accept it."

The King replied as follows:—

"Gentlemen,—I am deeply sensible of the wish of the Tuscan Assembly. I thank you in my name, and in the name of my people. We have received your wish as a solemn manifestation of the will of the Tuscan people, who, after having made the last vestige of the foreign domination in Italy to cease, desires to contribute to the constitution of a new kingdom, which shall defend the independence of Italy. But the Tuscan Assembly will have comprehended that the accomplishment of its wish can only take place by the resolutions which are about to begin on the affairs of Italy. I second your desire, becoming myself strong by the strength which are given me by your wishes. I will support the cause of Tuscany before the Powers in which the Assembly puts its hopes, and especially before the magnanimous Emperor of the French, who has done so much for the Italian cause. I hope that Europe will not refuse to practise towards Tuscany that work of redressing grievances which it has in less favourable circumstances, practised towards Belgium, and the Danubian Principalities. Your country gives an admirable example of moderation and concord. You will add those virtues to that one which assures the triumph of all honest undertakings, and which overcomes all obstacles, namely, perseverance."

On Sunday evening a grand illumination took place throughout Tuscany. The arms of the House of Savoy were placed upon the gates of the Palazzo Vecchio and the Palazzo Pitti amid the enthusiastic cheers of the populace. The municipal body of Florence gave a grand fête, and the Government issued a proclamation expressing the words which the King of Sardinia had addressed to the Tuscan deputation. On the same day the municipality of Milan arrived at Turin for the purpose of inviting the deputation from Florence to visit that city. The deputation accepted the invitation, and on quitting Turin on Wednesday proceeded to Milan.—The Provincial General of the Romagna has opened the National Assembly by a speech, of which the following is a summary:—

"The people of the Romagna, after having exhibited prudence during the last three months, hastened in crowds to the electoral districts to record their votes. Now, it is for you, gentlemen, to give expression to the wishes of the people. The good result of my Government is owing to the nation who have elected me. I have endeavoured to provide for the defence of the country against aggressions from all sides by forming a league with the neighbouring States. Constitute your Government, and intrust it to him who possesses your confidence."

On Tuesday the Assembly unanimously adopted the following resolution:—

"We the representatives of the people of the Romagna, calling on the Deity to witness the righteousness of our intentions, declare that the people of the Romagna, strong in its right, will no longer submit to the temporal government of the Pope."

On Wednesday the Assembly unanimously adopted the following resolution:—

"We declare that the people of the Romagna desire annexation to the constitutional kingdom of Sardinia under the sceptre of King Victor Emmanuel."

The Assembly also authorised the President to present an address to the Emperor Napoleon and to the King of Sardinia, expressing their sympathies for Venice, and the Assembly further offered to make personal sacrifices in her favour. At night the city was illuminated, and the joy of the inhabitants is said to have been indescribable. Count Reiset, the French Minister, has taken his departure. The Marquis de Ferrière le Vayer, the French Ambassador at Florence, has been recalled by his Government. From Parma we learn that the elections have been concluded with admirable order. The most respectable men in the country have been elected, and the opening of the Assembly took place on Wednesday with great solemnity. After the religious ceremonies at the Cathedral, the Deputies proceeded to the Palace amid the cheers of the people and National Guard. The Dictator Farini addressed the Assembly, reviewing the history of the rule of the Bourbons in the Duchies, and terminated his speech amid cries of "Viva Vittore Emanuele." The vote respecting the annexation of the Duchy of Parma to Piedmont has been made known. There are 63,403 votes in favour of the annexation, and 506 against it. General Fanti has assumed the command-in-chief of the Confederate troops of Central Italy. It is said that General Kalbermatten, the commander of the Papal army, who had been ordered by the Pope to march from Pesaro and drive out the national troops, has returned to Rome on the plea that his force was insufficient for the purpose. It was reported at Rome that the Pope had signed a convention with the Spanish Government, by which her Catholic Majesty will place a military force at the disposal of the Holy See, sufficient to reduce the rebellious Roman provinces to obedience. Letters from Naples state that since the departure of the Swiss mercenaries, a mutinous spirit has shown itself among the Papal troops, and that the 7th Regiment of Chasseurs and a portion of the artillery have broken out in open acts of insubordination, uttering cries of "Vive l'Italie! à bas l'Autriche!" Accounts from Palermo state that the Swiss stationed in that capital have left for Marseilles to the number of 1300; but complete tranquillity prevails throughout Sicily.

IONIAN ISLANDS.—Accounts from Corfu state that the Ionian Parliament, which was to have assembled on the 10th of September, has been prorogued by the Lord High Commissioner to the 10th of December.

RUSSIA.—The Emperor of Russia reviewed on the 6th ult. the two naval divisions at Cronstadt which are about to leave for the Mediterranean and the Amour. The vessels were drawn up in line in the great roadstead. The first line consisted of the vessels destined for the Mediterranean, consisting of

corvette Hango-Udd, the frigate Ilia Mouromets, carrying the flag of Rear-Admiral Nordmann, and the corvette Voll. The vessels destined for the Amour are the corvette Posadnik and the clippers Naiezdnik and Razboïnik. His Majesty, on board the steamer Alexandrie, escorted by the steamer Strelna, visited each vessel successively, and spoke kind words to the officers and men, expressing his satisfaction at the appearance of the vessels and crews.

THE CAUCASUS.—An order of the day announces the entire submission of Andia and Itchkeria to the expeditionary force of Prince Bariatinski. Itchkeria, up to the commencement of this year, was almost a *terra incognita*. The capture on the 1st of April last of Vedene, the last refuge of Schamyl, enabled the Russian army to enter the province. These two countries join Daghestan, and form the most inaccessible part of the enemy's territory. Since the taking of Vedene the Russians have pursued their success, and the inhabitants of Andia and Itchkeria having now made their submission, it is thought probable that in five years magnificent roads will be made in the Caucasus, and that travellers will be able to pass through the whole country without danger.

TURKEY.—Advices from Constantinople to the 21st ult. state that disturbances have taken place in Candia, caused by the collection of certain taxes from the Greek inhabitants. Five of the tax-gatherers have been murdered, and two battalions of soldiers have been sent to arrest the chief leaders in the affray. A Circassian deputation had arrived at Constantinople, and presented to the Ambassadors of the several Powers a declaration protesting against the invasion of their country by Russia, and stating that the whole of their provinces would be forced to submission if abandoned by the Porte.

SYRIA.—A letter from Beyrout of the 18th of August informs us that a sanguinary conflict has taken place in a village two leagues from that town between the Druses and Christians, in which more than 40 persons were killed, and several houses occupied by Europeans were pillaged. The Governor of Beyrout sent 150 Irregular Cavalry to the spot, and order was restored, but too late, as the disturbance had extended to other villages, and it is feared that a general war will take place between the Druses and Maronites, similar to that which caused so much destruction in 1846. There are in the Lebanon several extensive silk mills of great value, the property of Europeans, which, if the disturbances extend, will probably be destroyed.

EGYPT.—The French Government has intimated to the Porte that it will support the Suez Canal undertaking merely for commercial and industrial purposes.

MOROCCO.—The *Moniteur* of yesterday contains a despatch from Tangiers, dated Sept. 6, stating that the Emperor of Morocco is dead, and that Sadi Mohammed has been proclaimed Emperor at Fez and in Mequinez. Tranquillity prevails at Tangiers.

CAPE OF GOOD HOPE.—Accounts from the Cape to the 24th July state that the principal topic of discussion in the colony is the recall of Sir George Grey, the Governor. Meetings have been held and resolutions passed regretting his recall, which is attributed to his attachment to the system of federation and to the opposition he offered to the nomination of Mr. Cole, a cousin of Lord Derby, to the office of Auditor-General. Tranquillity reigns throughout the frontier and the States beyond. The Cape Parliament was prorogued on the 8th of July, after sitting 144 days. Among recent decisions it declined to annex British Kaffraria to the colony.

UNITED STATES.—Accounts from Washington state that the United States Government has bestowed upon the subject of the African slave trade its earnest attention, and, with a view of suppressing the traffic as far as possible, has initiated measures more efficient and extensive than ever before for that purpose. The squadron for the coast of Africa is to consist of 4 steamers and 4 sloops of war of light draught, for the purpose of more effective pursuit when the slavers run into shallow water; the number of guns is raised from the treaty number of 80 to 116; the most efficient officers have been appointed to command; and the naval depôt has been removed from Porto Praya to St. Paul de Loanda, in order to be nearer the principal points of traffic. The American coast is also to have a squadron of 4 steamers, which are to cruise in the neighbourhood of Cuba, for the purpose of capturing any slavers which may escape the vigilance of the African squadron.

CANADA.—The foundation-stone of the last pier of the Victoria Bridge has been laid by Mrs. Hodges, assisted by General Sir W. F. Williams. Sir Allan M'Nab is seriously ill, having been attacked with bilious fever and the gout simultaneously.

BRITISH COLUMBIA.—The American General Harney has taken possession of the island of San Juan, or Bellevue, in Puget's Sound, which is claimed by both nations. The island is important, as it commands the entrance to Fraser's River. It is believed that this seizure will lead to a speedy settlement of the boundary question. An expedition left Victoria on June 23 for Queen Charlotte's Island to search for gold. Governor Douglas has issued a proclamation repealing the law which assessed a tax of one dollar on passengers proceeding through the colonies.

AUSTRALIA.—Accounts from Alexandria state that the Northam steamer got clear off the reef on the 25th of August, and arrived at Suez on the 28th with all the Australian mails and passengers. The damage was not so serious as reported, and she started for Bombay on the 31st.

# Parliamentary Addresses.

THE RIGHT HON. JAMES WILSON, at the Cutlers' Feast at Sheffield on the 1st inst., spoke as follows on the duties of his new appointment as Chancellor of the Indian Exchequer:—

"At the moment that I made up my mind to accept that responsible duty, the first thing I determined upon was to make myself personally acquainted with the trade and commercial intercourse of India with England. Gentlemen, finance is not mere arithmetic, finance is a great policy lies at the bottom, as the rest of the Government of every country. Without sound finance no sound Government is possible; without sound Government no sound finance is possible, and therefore the first conclusion at which I arrived was, that I would not every day which I had to spend in England in personally knowing and understanding the commercial relationship between England and India. I have long held the opinion, and that opinion is not strange to this city or to England, that at the commercial and local policy of a nation lie the foundations, the happiness, the prosperity, and the welfare, not only of the working classes, but of the capitalists also. I have never been able to distinguish between the interests of the one and the interests of the other. I have never been enabled to distinguish how in any way the most and his employer, or those who are indebted to the employer for the profitable occupation of their capital, could in the slightest degree be divergent as to the prosperity of the one, relying upon it depends the prosperity of all. It has been upon these broad grounds that I for many years advocated those principles of free trade which have at last fortunately become the acknowledged policy of the country, not only I may say by the universal assent of all parties, but even by those who were strenuously opposed to those opinions a few years ago. I know of no principle which is good in England which is not good all over the world. There may, indeed, be striking distinctions of race and nationality, and a variety of reasons why the same principles should be carried into operation in different ways, but at least thus I will say, that a sound principle here is a sound principle everywhere, and that I believe that those principles by which the prosperity of this country has been developed are the only principles by which the prosperity of any people, in any part of the world can be secured. It has been on that ground chiefly that I have sought to understand the commercial relationship between the Indian Empire and this country, and one of the steps I have made in that object has been to visit this town. You will perhaps permit me to refer in a few words to the peculiar circumstances under which our Indian empire at the present moment exists. One of your honourable members, whom I regret not to find present, has distinguished himself by describing in vivid language what constitutes a British colony. He has painted in the brightest colours an English colonist going and into a country, taking with him English institutions, and carrying out with him English religion and English ideas. That, gentlemen, is not the case with regard to our Indian Empire. We have had a committee sitting on the administration of India for the last two sessions, and that committee has just presented its report to the House of Commons, and in the commencement of that report they find it necessary to call attention to the distinguishing mark between the Indian empire and our other colonies. They state that it differs in the respect. You have no thought of settling numbers in that country in the ordinary term of colonists. You have laws that are altogether known and established, and almost antagonistic to yours; you have a religion and settled national customs; you have a dense population and a low rate of wages, altogether inconsistent with the settlement of any English labourers. Notwithstanding all this, you have a population of not less than 200,000,000 of people to govern; you have acquired for yourselves a responsibility, and it is for England to say whether she will shrink from that responsibility. We will not now inquire as to the wisdom of these accessions. We have the responsibilities on our hands, and these responsibilities we must not shrink from. It may be that, in the hands of Providence, we are designed as the instruments of civilisation, and it may be that we are designed as the instruments for conveying a better religion than it has been the fortune of those races to possess, but whatever it may be, here we are in the possession of a great empire, with 200,000,000 of people whom we have undertaken to govern, and we must not shrink now from the responsibility which devolves upon us. That being the case, let us never forget that we have a duty to perform to 200,000,000 of people, irrespective of the interests of the British empire. I believe that every one of those interests is identical, and I believe that the development of their interests will prove to be best for the development of ours; but be that as it may, we have undertaken the duty, and whatever be the duty, that duty we ought to fulfil. It has been well observed by Sir John Lawrence and others that the instant the late mutiny broke out, the instant the power of the English people was withdrawn, that instant you had anarchy. Old feuds and old passions, which had been latent for many years, had then an opportunity of exhibiting themselves. And that proves to you what it would be if your ruling hand were withdrawn, if you were to slacken that power which you have exerted, and I hope successfully exerted, over the whole empire. Seeing that we have that duty to perform, it is for us to take the most enlightened view with which we can accomplish our object. One great point of discussion is the interference of Government with the religion of India. I believe that the great bulk of right-minded and moderate men are of opinion that while it is our bounden duty to give free and unlimited opportunity for the spread of the Christian religion, yet it would not be either wise or prudent for us as a Government to interfere with the religion of the natives. I am one of those who believe that if you have a great duty to perform in a country like India, it will be best performed by example, by showing that your system of religion is of a higher and better quality than theirs, by impressing them with the justice of your laws, by the liberality of your actions towards them, and by that intercourse which is, perhaps, though it may be called a low motive, I believe practically to be one of the best, by that intercourse which is promoted by the exchange of mutual interests, of commerce and industry. What we have to look to is the development of the resources of India. No doubt we have enormous difficulties to encounter. We have the difficulty of caste, and I will ask any man who knows this country to consider how impossible the progress of society would have been if every class of men had been fixed in one position, incapable of rising above that point, or altering themselves. In India you see the people tied down by caste, and whatever their talents or exertions may be, they cannot rise; so you may well conceive the enormous impediment which exists to the progress of that country. Knowing that these difficulties exist, it is our duty to consider how we can best contend against them. It is the character of the English people, knowing difficulties, not to attempt to shirk them, but to meet and overcome them. Now, difficult as the task may be of contending with that feeling of caste in the east, I have hopes that with the introduction of railways, with free commercial intercourse between man and man, with a fair and open communication, and above all by the justice which is administered in the European courts in India to the lowest as well as highest, you may in course of time even conquer that difficulty. The railways which have been already opened have done much to that end, for you find people of different castes travelling in the same carriages who have never before been seen together. The physical impossibility of distinction is putting an end to distinction, and by that means we may hope in course of time to overcome this difficulty, which I take to be the great impediment to the civilisation of the east. However that may be, we have had our duty to perform. We have to follow out the principles we have found to succeed in the west, we have to give to industry a fair field; we have to give it its own encouragement which law and order can possibly give, and to rely for our success and for our prosperity upon the prosperity of the people; and, above all, we have to rely upon [illegible] between our eastern empire and [illegible] of this country. You have had some experience of this policy in this country. You know very well that for many years great differences of opinion existed as to the [illegible] and commercial policy of this country, and yet, [illegible] that notwithstanding the great difficulties which Sir Robert Peel encountered, he at last succeeded in putting your finances in a flourishing condition, and they were able to [illegible] the claims of property and of social and political reaction. That I believe, will be the case with regard to India. In the great mission which I have accepted it shall be my duty, as I shall feel it to be my interest, to study the development of that country in its industrial resources. I believe that in doing so I shall best [illegible] whose [illegible] and that [illegible] is most important. I believe that it is only from the general prosperity of the people and the extension of their commerce that you can expect [illegible] and improve the state of the Exchequer of India. Entirely you may say that you have placed the empire on a sound [illegible] from which you have nothing to fear from external oppression or from internal insurrection. He trusted for the future without any further enlargement of that empire, except the interests of the people made a very strong claim upon us, and that those friendly feelings would compel us to [illegible] the common subjects of our Queen are living at peace and fair play. By these measures and by such a policy as I expect to see [illegible], but at no distant day, a [illegible] than Empire united with a flourishing United Kingdom."

MR. SOTHERON ESTCOURT, M.P., at a meeting of the Bear Club at Devizes, spoke as follows on the subject of the national defences, with especial reference to the state of the militia:—

"He had that morning received a letter, written to him under the direction of the Marquis of Lansdowne, Lord Lieutenant of the county, calling attention, to the very much shortened [illegible] of the Wiltshire Militia, commanded by Lord Methuen. He believed it was allowed on all hands that [illegible] who had an opportunity of knowing anything about the matter, that the Wiltshire regiment stood as high, if not higher, than any in the service for the effective condition in which it had been placed. Surely then, they were not going to allow so admirable a regiment to fall off for want of [illegible]. They were not going to sit quietly at home and see their [illegible] the business of other people; I dare say that as soon as the existing acts in our code fails short some of our [illegible] fellows will join the Militia." It was the business of every one of them to do all in his power to keep up the efficiency of the regiment. Year after year he heard people talking about the defences of the country. Yet, what had we, or what had any other [illegible] to keep up those defences? He certainly thought that the best defence for England was the navy. If ever we were to be attacked he believed the battle would take place off the shores of France. He hoped that the navy would be so kept up that we should be enabled to fight the battle at a distance from our shores; but, at the same time, we must run no unnecessary risk, and all must do something to provide for the internal defence of the country. Now that the harvest was over surely the farmers ought to do something to encourage the young men in their employment to serve for a certain time in the Militia. Coming closer home, as a Yeomanry officer he would ask them why they did not in Devizes emulate that excellent regiment commanded by Lord Alfred Paulet. It was not enough for them to make fine after-dinner speeches unless they followed them up by something like practice. They ought to try by encouraging others to join the yeomanry and militia to do something to keep up those defences, which he trusted would never be put to the proof, but which we should feel bound by ourselves to find defective if ever there was a prospect of attack; and it must be remembered that we had a strong power across the Channel which, though not a threat, should always be regarded as a warning. It was our duty to keep our neighbours as well as we could upon their own territories, but in doing so we should take care that if ever they came here we were fully prepared to meet them."

MR. WINGFIELD BAKER, late M.P. for South Essex, was entertained on Monday at a public dinner at Chelmsford, given in his honour by the electors and non-electors of that division of the county. In returning thanks for the toast of his health, he said:—

"As the meeting was a non-electors' festival, he hoped the word 'non-elector' would soon be less prominently before the country. The British constitution had been described as distinguished by the greatest perfection, but still he thought there was no task of which a statesman might be more proud than that of extending the franchise. He was addressing a portion of the labouring population, and it was sometimes said that they were represented because labour was attached to property. But to those who used this argument he would say, 'Would you like labour and property to change places?' Would they let the case stand thus—'Labour which represents the value of property is represented; therefore, you men of property who are claiming to be represented need not be?' The worst of the matter was, that in any assembly where one particular interest predominated the bias was always in favour of those so represented. The question had now arrived at such a stage that even the opponents of the Liberals admitted the soundness and urgency of their reasoning on behalf of the labouring population, and four months since—although it was doubtless in some degree in hope that they might retain power—they introduced a Bill on Reform which stood [illegible] against them. The working classes must in future be a moral power in the State; if they were to exert an effective influence on public affairs they must make their intelligence felt. A Reform Bill was promised for next session, and he hoped the promise would be realised. If it was to be realised it must give the country that which was essential for its realisation—viz., a 10*l.* franchise in counties. Without this it was impossible for the working classes to have that share in the representation to which they were entitled. Referring to local matters he urged that the Liberal party of the county must be prepared and united for a contest."

MR. PALK, M.P. for South Devon, at a large meeting of the Conservative party at Ashburton made the following statement of the course likely to be adopted by the Conservatives early in the next session:—

"I am told that the Ministry of the present day, far from having a majority in the House of Commons, is a Ministry on sufferance, and is supported only by a minority of the people. How long do you think this wretched Government is going to stand? Do you think that they are the men to bring in a Reform Bill that would be satisfactory to you and to the people

of this country? Do you think that the man who sacrificed your interests and your honour at the behests of France is the man to maintain your interests and your honour? Well then, what is the duty of the great Conservative party? It is—and let there be no mistake about it—as soon as Parliament meets, to bring this question to an issue, and by a vote of want of confidence; which I hope and trust I shall see moved, to drive from power that Government which for years and years have maintained themselves in office by the greatest bribery and corruption, which has only just been found out, but to which the country is becoming alive. For wherever a fresh election takes place, although the Conservative candidate may not in every place be successful, you will find that the Conservative candidate has had the greatest number of hands held up in his favour; and therefore if the Conservative cause rested on universal suffrage the Conservative and not the Whig would have been elected."

MR. KEKEWICH, M.P., at the same meeting said :—

"It appears to me that we ought to view the present Government with very great suspicion; and the reason I view them with suspicion is, because they consist of gentlemen holding so many opinions that I think it is impossible for them to agree without some compromise of principle, and nothing is worse in the rulers of this country than any compromise of political principle. I regard the Government just as we see beautiful figures through a kaleidoscope. They are made-up shreds and patches, but when viewed altogether they present to the eye a very pleasing and imposing effect. What is this Ministry composed of? I do not wish to do them any wrong. I know the difficulties which public men have often to labour under; that sometimes there must be a little compromise of principle, but not too great a compromise. My hon. friend has told us that we should go to the House of Commons next session and propose a want of confidence in the Government. Let us, if we have a majority, have a fair stand-up fight; let us fight with confidence and courage, and try which is the strongest man. But do not resort to factious votes in trying to turn out the present Administration. If we determine to turn them out let us do it in an honest and straightforward manner."

## City Intelligence.

MONEY MARKET, FRIDAY.—BRITISH FUNDS: Consols closed at 95¼ to ⅜ for Money, and 95⅜ to ½ for the Account; Reduced and New Three per Cents., 95⅜ to ⅞; Indian Debentures of 1859, 95½; Scrip of New Loan, 100¼ to ⅜; Ditto Stock, 100⅛ to ¼; India Bonds, 2*s.* dis.; Exchequer Bills, 24*s.* prem.—FOREIGN: Anglo-Austrian Five per Cents., 1859, 77½; Brazilian Four and a Half per Cents., 1852, 95½; Dutch Two and a Half per Cents., 65½; Ditto Four per Cent. Certificates, 101; Mexican Three per Cents., for Acct., 21⅛ to 21; Peruvian Three per Cents., for Acct., 72¼; Russian Four and a Half per Cents., 99¾; Spanish Three per Cents., for Acct., 46; Ditto New Deferred Three per Cents., for Acct., 34¼ to 34⅜; Ditto Six per Cents., for Acct., 71 to 70½ ex div.

## Bank of England.

ISSUE DEPARTMENT.

| | | | |
|---|---|---|---|
| Notes Issued .. .. .. | £30,445,180 | Government Debt .. .. | £11,015,100 |
| | | Other Securities .. .. | 3,459,900 |
| | | Gold Coin and Bullion .. | 15,970,180 |
| | | Silver Bullion .. .. .. | — |
| | £30,445,180 | | £30,445,180 |

BANKING DEPARTMENT

| | | | |
|---|---|---|---|
| Proprietors' Capital .. .. | £14,553,000 | Government Securities (including Dead Weight Annuity) .. .. .. .. | £11,220,018 |
| Rest .. .. .. .. .. | 3,713,802 | Other Securities .. .. | 19,016,870 |
| Public Deposits (including Exchequer, Savings Banks, Commissioners of Nat. Debt, and Dividend Accts.) .. .. .. | 7,789,691 | Notes .. .. .. .. .. | 9,127,740 |
| Other Deposits .. .. .. | 13,067,400 | Gold and Silver Coin .. | 666,242 |
| Seven day and other bills | 906,977 | | |
| | £40,030,870 | | £40,030,870 |

8th day of Sept, 1859. M. MARSHALL, Chief Cashier.

## Gazette of the Week.

TUESDAY — BANKRUPTS—D. E. GAUWIN, Liverpool, Ship Broker—J. W. GRAY, Shrewsbury Villas, Talbot Road, Paddington, Builder—W. GWILLIM, Abergavenny, Miller—H. N. HORNBY, Little Tower Street, City, Common Carrier—S. JOHNSON, Burslem, Draper—E. MATTHEWS, Coventry, Builder.—W. NIMMO, Manchester, Cotton Spinner.

SCOTCH SEQUESTRATIONS—J. CAMPBELL, Edinburgh, Mercantile Accountant—J. TOSHACK, Cowdenbeath, Fifeshire, Wright—WILSON and M'CALLUM, Glasgow, Warehousemen.

FRIDAY—BANKRUPTS—F. ALEXANDER, Chippenham, Auctioneer—R. BELL, Greek Street, Soho, Bootmaker—W. BORRILL, Old Malton, Yorkshire, Miller—J. BURGUM, Hereford, Draper—A. CAUSEBY and S. LANDER, Bolton-le-Moors, Joiners—E. DEAM, Liverpool, Plumber—M. DYSON, Leeds, Dealer in Flour—J. GREEN, Birkenhead, Newspaper Proprietor—T. HIGHWAY and C. HIGHWAY, Walsall, Ironmasters—W. LAYER and W. SPECK, Long Acre, Hotel Keepers—J. MORRILL, Macclesfield, Apothecary—A. PARTON, Liverpool, Ironmonger—G. G. SPENCER, Norman Road, Bow, Builder—J. TAYLOR, Sunbury, Middlesex, Builder—T. M. WIGLEY, Birmingham, Builder—J. WILLS, Forton, Hants, Builder.

SCOTCH SEQUESTRATIONS—J. BROWN, New Pitsligo, Aberdeenshire, Merchant—J. PARKER, formerly Surgeon in Southwark, London, now residing in Wellington Place, Leith.

## Metropolis and its Vicinity.

DEPARTURE OF THE GREAT EASTERN.—In consequence of unforeseen difficulties in completing the necessary arrangements, the departure of the Great Eastern from the river did not take place till Wednesday morning, on which day soon after daybreak the preparations for getting under weigh were made. Several powerful tugs were in attendance, the four principal ones being named, curiously enough, the Victoria, Napoleon, Alliance, and True Briton. Captain Harrison and the pilot, Mr. Atkinson, took their places on the starboard paddle-box. Mr. Scott Russell remained on the bridge to direct the action of the engines, both of which (screw and paddle) were under steam. Captain Comstock, one of the ablest American navigators, who brought the General Admiral over to this country, stood aft to transmit directions to the men at the wheel, as Mr. Langley's new steering apparatus was not completely fitted. Mr. Prowse, the chief officer, took charge of the fore part of the ship, and to all the other officers were allotted stations, either to transmit directions or signal to the tugs. Precisely at a quarter past 7 the last moorings were let go, but as at this time the sweep of the tide had turned the ship's bows so as to point rather in shore of the Seamen's Hospital ship, it was necessary to turn her slowly astern to get sufficient room to round the very sharp curve of the river below Greenwich. The screw engines started first, working beautifully, without noise, heat, or even apparent vibration, and when the paddle machinery came into play, a few revolutions sufficed to get her head round to the point required. The order was then given to go ahead slowly, and for the first time the Great Eastern started into motion, and with the slow majestic beat of her huge paddles moved grandly down the river, amidst the cheers of thousands of people who thronged the banks or put off in boats to witness her departure. The very first turn at Greenwich showed Captain Harrison and all the officers of the vessel that the great ship was as thoroughly under command as a river steamboat, and that the only difficulty to be overcome, or rather to contend against, was her length in turning the sharp curves of the river at Greenwich, Blackwall, and Woolwich. The vessel's draught was 21 feet 10 inches aft and 22 feet 3 inches forward—about the very worst trim in which she could have left her moorings, being down by the head 5 inches instead of some 5 feet down by the stern. A depth of 23 or 24 feet was the *minimum* required at the turnings, and that over a length of 800 feet, which is more than the breadth of the Thames at Westminster, so that these curves of the river were at first regarded with a certain amount of anxiety and distrust. A few moves of the vessel, however, showed that she was perfectly in hand. She steered as easily as a wager-boat, and her engines were found capable of starting her into motion or arresting her progress literally almost by a single movement of the hand. At Blackwall Point the river forms an acute angle, round which the tide sweeps with strong but most unequal force. The admirable manner in which Captain Harrison and the pilot managed the ship, the power and regularity with which the engines worked, would, if unobstructed, have soon got the vessel round this point. But a barque was moored right in the centre of the river, while a little beyond her lay a schooner in such a manner as effectually to block the "fair way" down the stream. The tugs were signalled to get the Great Eastern's head round, and tried to do so, but the strain was too much; at the most critical moment two of the hawsers parted, and for a few minutes the vessel was in a perilous position, as the sweep of the tide was strong and in an instant drove her towards shore. Nothing but the great power of her own engines saved her, though it was a delicate matter to use them properly. It was necessary instantly to counteract the influence of the tide and get her head off shore; but, at the same time, to do so in such a manner as would not give way enough to take her on shore on the opposite side of the river. Fortunately this was effected, fresh hawsers were passed to the tugs, the barque, the cause of all the peril, weighed her anchor, and after an anxious delay of 10 or 15 minutes, the Great Eastern worked slowly round and turned the point of danger. This was a great relief to all on board, and carrier pigeons were immediately sent up from the vessel and the shore to spread the welcome news. Once past Woolwich, all the difficulties were over. The tugs continued their assistance, but the vessel was so perfectly under control that while the tide was against her their assistance might have been easily dispensed with. But for the delay at Blackwall Gravesend would have been reached by 11 o'clock. As it was, however, the tide turned and set with the ship before that hour, when the vessel was at Long Reach off Purfleet. An immediate halt was therefore necessary, as in turning a few sharp corners with the tide the vessel's whole broadside would have become exposed to the full force of the stream, and not all the tugs in the river would have prevented her going ashore at once. It was therefore determined to anchor off Purfleet till Thursday morning. A single one of Trotman's anchors was let go at the bows, and the course of the ship, which it was said no anchors could ever hold, was at once checked, and the Great Eastern actually began to swing round in the Thames as much under command as a cutter. For the single instant during which she swung and remained broadside to the stream she seemed literally to bridge across the river. There was room enough for her to swing, but not a foot to spare. The vessel came round to the full force of the tide, and her chain cable taughtened up out of the water for a moment like an iron bar, but the single anchor never yielded an inch from the spot where it was first dropped. On Thursday morning at half-past 8 o'clock the ship resumed her course, and proceeded slowly down the river, in tow of the steam tugs, amidst the cheers of the vessels in the river and of thousands of people who thronged the shores at Greenhithe, Grays, Northfleet, and Gravesend. Just after passing a difficult turn below Long Reach, a little brig, which was quite safe when she was sailing up, appeared frightened at the sight of the huge vessel, and, altering her course, stood almost across the path of the Great Eastern, and was within an ace of being run down. On arriving at Sea Reach, the tugs were cast off, and the great ship was for the first time left to her own control, amidst the cheers of the passengers and crew, the ship's band playing the National Anthem. An increased amount of speed was then put upon her, and though less than two-thirds of her power was employed, she ran from the Lower Hope point to the Nore lightship, a distance of 15 statute miles, in two minutes under the hour. The Nore Light was reached at half-past 12, and the anchor let go in 8 fathoms. Before anchoring the vessel was put about, and went completely round under steam in less than three-quarters of a mile. In a few minutes afterwards Admiral Harvey came alongside in his yacht, dipping his ensign as he approached, as every vessel, man of war or merchantman, which has yet met the Great Eastern has hitherto done. In an hour afterwards the ship was surrounded by yachts and sailing boats of all kinds. During the run down from Gravesend the fixing of Mr. Langley's steering apparatus was completed, and worked to perfection. After adjusting the compasses, the ship left the Nore at 9·15 yesterday morning for Portland, to receive her passengers for the trial trip. At 11 o'clock she passed Margate at a distance of 8 miles from the shore, and she was expected to reach Portland between 7 and 8 o'clock this morning.

ST. GEORGE'S IN THE EAST.—The Bishop of London has addressed a letter to the vestry clerk of this parish in answer to the memorial of the vestry respecting the late disturbances in the church. In this letter, which is of great length, the Bishop says that the preservation of order rests with the churchwardens, and that his episcopal authority is, in reality, extremely circumscribed, though he is of opinion that this curtailment of power is by no means a thing to be regretted. His lordship doubts in the present case whether he can interfere authoritatively with the arrangement of the services, and though he may, perhaps, obtain some legal control over the "childish" extravagance in ecclesiastical costume, he remarks that the proceedings in any suit for that purpose would be tedious in their character, uncertain in their results, and by no means conducive in their general effects to the best interests of the Church. There remains therefore only his mediatorial authority as Bishop to be brought into action, and that, he significantly observes, has been slighted beforehand by one party, and not directly appealed to by either. His lordship adds, that if the vestry have any charge to bring forward of unsoundness of doctrine or other distinct violation of the law of the Church, which they think they can substantiate, he will be ready at once to hear and investigate it. With respect to the Rev. F. G. Lee, the Bishop says that that gentleman has no leave to minister in his diocese, and he has ordered an intimation to be sent to him to desist from so officiating till he obtains his lordship's formal authority; and he has written to Mr. Maconochie, who is a licensed curate in the parish, desiring him to take the service in the parish church till the rector's return. His lordship, in order to enforce obedience so far as he has the legal powers, in what he calls "this miserable controversy," calls on the churchwardens at their peril to do their duty in preserving order in the church, and bringing offenders to justice, according to the statute; and on the other hand, prohibits all unusual vestments, such as are complained of in the celebration of Divine service. In conclusion he advises the vestry formally to request the rector to join with them in submitting the whole case to his episcopal arbitration—both parties binding themselves to act as he may direct.

REPRIEVE OF DR. SMETHURST.—A reprieve was received on Friday evening at Horsemonger Lane Gaol, respiting the sentence upon Dr. Smethurst during her Majesty's pleasure. It is said that Sir George Cornewall Lewis, after a careful consideration of the evidence taken at the trial, as well as of the opinions which since the trial have been elicited from eminent medical men, that the death of Miss Bankes might possibly have been produced by natural causes, decided to grant the respite, the result of which is that his life will be spared. The reprieve was quite unexpected by the officers of the prison, who had so generally come to the conclusion that there was no chance of the sentence being commuted, that on Friday morning the persons who have charge of the scaffold and the apparatus connected with it were engaged in examining its different portions to see that they were all in working order. On being informed of the arrival of the respite Dr. Smethurst did not betray so much emotion as might have been expected under the circumstances, but he shook hands with the governor, and in an earnest manner asserted his entire innocence of the crime for which he had been condemned to die, and added, "What a dreadful thing it would have been to die an ignominious death for a crime that was never committed!"

THE RELIGIOUS REVIVALS.—On Monday night last a remarkable scene was witnessed at Woolwich. A meeting had been announced for 7 o'clock in the Town Hall to receive some account of the religious revivals in the North of Ireland from two gentlemen who had recently returned from a personal visit, the Rev. J. Baillie, of London, and General Alexander, of Blackheath. Long before the hour of meeting the hall was crowded to excess, and when Colonel F. Eardley-Wilmot, R.A., took the chair he stated that a second meeting would be held in the same place at 8 o'clock to accommodate a great concourse of people who were assembled outside. On the platform were many officers of the garrison as well as clergymen of the town and neighbourhood. The first meeting was opened with prayer by the Rev. A. De La Mare, after which the Rev. J. Baillie and General Alexander successively addressed the meeting, giving some details of what they had witnessed. Both expressed themselves as solemnly impressed with what they had seen that they shrunk from coming forward before a mixed assembly to describe it; but as these were not simply subjects of curious speculation, but matters of life and death, which deeply concerned every soul before them, they

felt it their duty to state the things which they had seen and heard. The stillness of the audience was very marked while the experience of several of the converts was related, especially while General Alexander stated three most striking features of the Irish revivals —a deep overwhelming conviction of sin, perfect realisation of the personality of the Devil, and the abounding mercy and almighty power of the Saviour. He said that two answers to the questions of doubting Christians were worthy of serious attention. First,—May not this be merely excitement? There is no excitement among the converts, except during conviction of sin; afterwards all is calm peace and holy gravity; the excitement is among those who go prejudiced to inspect the work. Secondly,—Will this be permanent? He believed it would, but if the sow that is washed returns to her wallowing in the mire he could only say that, wonderful as is the work now, this would be even more wonderful. Mr. Baillie then gave out two verses of the 40th Psalm, the converts' favourite psalm, and after prayer by the Rev. W. Hare, Chaplain to the Forces, the meeting with great reluctance left the hall to give place to those who were waiting outside, who soon filled the house to overflowing a second time. After prayer by the Rev. W. Hill, of the London Diocesan Home Mission, the former speakers again addressed the meeting, giving further details of their visit. The most solemn feeling pervaded both assemblages. At the conclusion the same two verses of the psalm were again sung with deep earnestness, and a concluding prayer was offered by the Rev. W. M. Thompson.

THE BUILDERS' STRIKE.—A meeting of the executive committee of master builders was held at the Freemasons' Tavern on Tuesday, when it was resolved, after a long discussion, that as Messrs. Trollope had resumed their works, the members of the association should also resume their works, by opening their shops on Monday next on the basis of the declaration agreed upon on the 1st of August, and that arrangements should be made by the association to assist them in carrying out that object. A deputation of foremen, appointed at a meeting of that body held at the Adelaide Gallery on Saturday last for the purpose of representing to the masters the propriety of reducing or modifying the declaration to a shop rule, attended at the Tavern, to present the resolutions agreed to at that meeting, but as it is part of the constitution of the association not to receive any deputation they were not admitted personally, but the resolutions with which they were charged were received by the secretary. Meanwhile the Anti-Strike Committee is steadily assuming a more important character, both as regards numbers and means, while the contributions received by the Union men from various parts of the country enabled them on Monday to distribute the sum of 1245*l.* 9*s.* to 7846 persons, including 4889 skilled artisans and 2957 labourers.—A great meeting of operatives connected with the building trades, including Society and non-Society men, was held yesterday in the Surrey Music Hall, at which it was resolved not to resume work on Monday in any shops in which the "document" is presented, and pledging themselves not to do so unless it is unconditionally withdrawn. It was stated by the chairman that at Mr. Kelk's that morning the document had been presented for signature, and all the workmen had turned out to a man. The same course had been taken at the Messrs. Trollope's, and with the same result.

ODD FELLOWS' BURIAL GROUND.—On Monday morning, about 400 members of the Odd Fellows' Society, with their wives and families, were conveyed in an express train to Woking, to witness the inauguration of a burial ground for the Pimlico district of Odd Fellows in the Necropolis. The ceremony commenced at 1 o'clock by the Rev. Mr. Lemaire delivering a discourse of a religious character on the ancient and biblical custom of a tract of ground being set apart for the burial of the dead. After that, the company adjourned to a plot of ground in the cemetery, an acre and a half in extent, which has been set apart for the members of the Pimlico District, where Mr. Stiff, the Provincial Grand Master, delivered an inaugural address, and formally opened the ground. Dr. Pettigrew then addressed those assembled on the advantages of extra-mural burial. It is stated that the unity of Odd Fellows consists of very nearly 300,000 members. There are 4000 lodges, numbering, on the average, about 80 members. The Pimlico District has nearly 2000 members. The subscription of each member is about 6½*d.* a week, for which he insures between 10*l.* and 12*l.* at his death, 5*l.* at his wife's death, and 12*s.* for illness, accidents, and donations to friends in distress.

THE HOUSE OF LONGMAN & CO.—This eminent publishing house has recently undergone an important change in the retirement of Mr. Brown and the death of a former partner, Mr. Orme. "When the house commenced business," says the *Bookseller*, "we know not; the first time we find the name is on the title-page of two works published in 1725 by J. Osborn and T. Longman. At this time the sign of their house was the Ship, which in 1730 became the Ship and Black Swan. What became of J. Osborn we cannot tell, but in 1736 we find Thomas Longman alone in business, which he appears to have carried on very successfully until his death in 1755. On the death of the first Thomas Longman, a nephew of the same name succeeded to the business. He died in 1797, leaving two sons. Thomas Norton, the eldest, succeeded to the business. Mr. Owen Rees entered in 1794, and soon afterwards became partner, and the business was carried on as Longman & Rees till 1803. Mr. Rees retired from the business in 1837, but died in the same year. In 1804 Mr. Cosmo Orme, a valued assistant, had entered into partnership with Mr. Thomas Hurst, who had got together a large country business; but it was thought desirable to retain his services, and the firm became that of Longman, Hurst, Rees, and Orme. From this time may be dated the great rise in the fortunes and business of the house. Perhaps nothing has tended more to raise the house to its present position than the plan adopted by the principals of introducing fresh blood from time to time—a plan which was carried out by the introduction of Mr. Rees, Mr. Orme, Mr. Brown, and in 1824, when Mr. Bevis E. Green, who had been apprenticed to Mr. Hurst in 1807, became a partner. This gentleman, who has had charge of the country department for many years, is the only remaining partner of the old firm Longman, Hurst, Rees, Orme, Brown, and Green. Mr. T. N. Longman died at his house at Hampstead in 1842, in his 72d year. He married Miss Slater, of Horsham, by whom he had a numerous family; and his personal property was sworn under 200,000*l.* His son, Mr. Thomas Longman, entered as partner in 1832. William, another son, of considerable literary abilities, became partner in 1839, and more recently Mr. Roberts, another gentleman who was apprenticed in the house in 1826, and who for many years represented it in the country, was in 1856 received into partnership. The firm now trade under the name of Longman, Green, Longman, and Roberts."

THE RECENT AURORA BOREALIS.—The continental papers state that the aurora borealis, which was seen in England on the 28th ult., was also visible throughout France and other parts of Europe, and even as far south as Rome. For several hours before and after the appearance of the aurora, the needles at the telegraphic offices in London, Liverpool, Manchester, Birmingham, and more distant places were violently agitated, and the electricity was so abundant that no information was obtainable for the newspaper offices, nor were private messages transmissible. The same phenomenon was observed in Paris and other parts of France. At Nantes, in particular, all the lines, except those of Napoleon Vendée and Rennes, were interrupted one day for six hours, and in one of the telegraphic offices it was found possible to light a chemical match by the sparks emitted.

FLOGGING AT WOOLWICH ARSENAL.—On Thursday morning all the available force of the depôt brigade were assembled at 6 A.M. for "punishment parade," to attend the flogging of three men belonging to their corps who had been tried by a court-martial on the previous day, and convicted of simple desertion, which signifies without re-enlistment. For this crime they had been condemned to suffer the punishment of 50 lashes and 84 days' imprisonment each, and to be branded with the letter "D." Two only were, however, brought forward on Thursday, the sentence of the third having been for some reason postponed to a future day. These two men had been discovered absent without leave, and had been brought back to garrison by the police. The first man, named Green, bore his punishment "like a true soldier;" but the second, named Davis, a young recruit, protested his innocence of the crime of desertion, bellowed and screamed for mercy, and supplicated Colonel Talbot and the medical officers present to have compassion on him, or he should die. As his back was covered with boils, which bled at every stroke, the cat was ordered to be withheld for a few moments, when, finding that his punishment was not at an end, he gave vent to exclamations for mercy, and partly succeeded in delivering himself by force from the straps which bound him to the halyards. The punishment was again ordered to be continued, when at every succeeding stroke his cries and exclamations were most lamentable, insomuch that officers and men swooned away at the sickening spectacle, and had to be carried into the open air. One officer and about a dozen non-commissioned officers and men who had recently entered the service fainted, and others stopped their ears and closed their eyes, lest they, too, should become unnerved, and be subject to the reproach and ridicule of their comrades. It is said that in consequence of the continued desertions for the purpose of obtaining the bounty on re-enlistment, the infliction of the lash is of almost daily occurrence at Woolwich, and that to guard against a repetition of the recent escapes of prisoners the sentences pronounced by the daily courts-martial are ordered to be executed without delay, and in most cases are carried out on the following morning soon after daybreak.

THE SUBURBAN POST.—The Postmaster-General has given notice that in consequence of recent improvements in connection with the district offices, the aid afforded by the use of the district initials, the separation in posting of the district from the general post letters, and the adoption of street-door letter-boxes, the operations of the department have been so much facilitated as to enable him to include in the evening delivery all letters posted between 4 and 6 P.M. in cases in which these aids are given. Consequently on Monday next the late evening delivery will be extended to many additional places within about six miles of the General Post Office, including all the following suburbs, viz.:—Barking, E.; Battersea, S.W.; Blackheath, S.E.; Bow, E.; Brixton, S.; Brompton, S.W.; Camberwell, S.; Charlton, S.E.; Clapham, S.; Clapton, N.E.; Deptford, S.E.; Dulwich, S.; Eltham, S.E.; Fulham, S.W.; Greenwich, S.E.; Hackney, N.E.; Hammersmith, W.; Hampstead, N.W.; Highgate, N.; Holloway, N.; Homsey, N.; Ilford, E.; Kensington, W.; Kilburn, N.W.; Lewisham, S.E.; Leyton, N.E.; Leytonstone, N.E.; Merton, S.; Norwood, S.; Notting Hill, W.; Paddington, W.; Peckham, S.E.; Penge, S.E.; Poplar, E.; Rotherhithe, S.E.; St. John's Wood, N.W.; South Lambeth, S.; Stockwell, S.; Stoke Newington, N.; Stratford, E.; Streatham, S.; Sydenham, S.E.; Tooting, S.; Tottenham, N.; Walthamstow, N.E.; Walworth, S.; Wandsworth, S.W.; Willesden, N.W.; Woodford, N.E.; Woolwich, S.E. This delivery will comprehend all letters and newspapers addressed to houses usually open to the letter carriers or provided with letter-boxes, and posted in London at any office or pillar letter-box before 6 P.M., or at the principal office at the district to which they are addressed before 6.45 P.M., provided—1, that they are fully prepaid by stamps; 2, that they bear the proper initial letters; and, 3, that at any office where a separate box is provided for the district post they are dropped therein. The Postmaster-General avails himself of this opportunity of reminding the public that the addition of the district initials to the address insures a priority of delivery to letters arriving in London by the day mails, and also to those addressed to places within the district in which the letters are posted.

SUNDAY BANDS IN THE PARKS.—The fourth season terminated on Sunday, and the report published by the committee expresses satisfaction at the liberal manner in which they have been supported, and states that the results of this season justify them in promising increased exertions in the next. The arrangement for lost children was so effective that no fewer than 23 were restored to their friends from the platform in the Regent's Park during the evening.

FATAL FIRE IN WATERLOO ROAD.—On Wednesday morning a fire broke out in a pawn shop near the Waterloo station, which caused the death of three persons. The occupant of the house, a Mr. Burton, with two of his sons escaped by climbing over the roof of the adjoining house, but his wife with a son and daughter were unable to climb the parapet and were burnt to death on the roof. It appears that, in order to give an external appearance of greater height to the house, the parapet had been built nearly 6 feet high, forming a complete trap from which there was no escape for women and children, while the fire in the rear rendered it impossible for the unfortunate persons to retrace their steps. The bodies have been removed to Lambeth workhouse to await the inquest.

THE POPLAR POISONING CASE.—George Frederick Royal, shoemaker, was brought before the magistrates at the Thames Police Court on Tuesday on remand, charged with poisoning Zipporah Wright, by administering to her a quantity of cantharides. The evidence of the witnesses examined extended to such length that it was impossible to take that of Dr. Letheby and the other medical witnesses, and the prisoner was again remanded to Friday. It appears that the antecedents of the prisoner are anything but good. He deserted his wife and two children about 18 months ago, in Kensington, and a reward was offered for his apprehension by the parochial authorities. About the same time he seduced the deceased, Zipporah Wright, a young woman of respectable family and connexions, and since he has been at Upper Sydenham he has been paying his addresses to a young woman to whom he represented that he was a single man, and once took her to the Surrey Theatre, and on another occasion to the British Museum.

THE PUBLIC HEALTH.—The Registrar-General's Report states that the health of London is improving, and the mortality below the average of the season. In each of the corresponding weeks of 1849 and 1854 between 2000 and 3000 of the population died; in the week that ended on September 3, the registered deaths amounted to 1047. After excluding the years of epidemic cholera this is 76 less than the average number (1123), corrected for increase of population. The births of 1711 children, 878 boys and 833 girls, were registered during the week.

## Provincial.

ALDERSHOTT.—The *Fifeshire Advertiser* says that during one of the Queen's recent visits to Aldershott while she was inspecting the camp she became fatigued, and expressed a wish for a cup of tea. She accordingly and without any ceremony entered the nearest officer's tent, which chanced to be that of Lieut. Drysdale, son of Mr. Drysdale, town-clerk of Kilrie, and to him the desire of his Queen was made known. As was to be expected the lieutenant found himself at first a little awkwardly situated for the reception of so distinguished a visitor, but the ease and homeliness, so to speak, of her Majesty quickly put all feeling of that kind to flight, and he proceeded to cover his humble table with the best cloth he had, and having handed out a soldier's "tea things," he retired, leaving the august lady with her attendants to enjoy her cup.

ARUNDEL.—The Sussex papers mention the death of a distinguished occupant of the keep of Arundel Castle—the celebrated horned owl called Lord Thurlow, who died last week at the patriarchal age of 100 years. He was hatched in the reign of George II. and was one of seven descendants of some very fine specimens of horned owls, who were introduced into the castle many years ago by the then Earl of Arundel. The oldest denizen of the keep is now about 63 years of age. The famous

bird which has just expired has been blind for the last 25 years, and in walking about in the interior of the keep invariably ran against the projections of the building. It was carefully attended to by the keeper, and died from physical exhaustion.

BRADFORD.—On Saturday the borough magistrates, after a long investigation, committed a man named Thomas Clark, a second-hand clothes dealer in Chapel Lane, for trial at the next assizes for the wilful murder of Patrick Crowley, labourer, aged 27 years. A coroner's inquest previously held had resulted in a verdict of Wilful Murder against him. It appeared from the evidence that the prisoner, who is an Irishman, had a christening party at his house on the previous Sunday night, to which deceased and others were invited. In the course of the night a quarrel arose between the prisoner and deceased respecting the comparative merits and standing of their respective counties in Ireland, and the prisoner ordered deceased to leave the house. A scuffle ensued in which the prisoner stabbed deceased three times in the abdomen, inflicting such serious wounds that he died three days afterwards from peritoneal inflammation. The prisoner's unmarried daughter, aged 17, and his son-in-law, a tailor named Irwin, have been committed for trial at the sessions for violently assaulting the police and attempting to rescue their father after he had been taken into custody.

CAMBRIDGE. — On Thursday week the village of Willingham, in this county, was visited by a most destructive fire, causing damage estimated at 10,000*l*., 16 dwelling houses having been rendered uninhabitable, and a considerable quantity of corn, hay, straw, &c., destroyed. No lives were lost, but some men were severely burnt in endeavouring to save furniture from one of the burning houses.

COWBRIDGE.—An attempt at robbery which, in its daring, recals the exploits of Turpin and the olden race of highwaymen was made on Saturday morning between this town and Bridgend. The mail-cart, with the letters, was driving along the high road to meet the up-train to London, when at a point which is locally known as "the golden mile," the driver observed three ill-looking fellows at a short distance beyond him. Their appearance and manners excited his attention, and he determined to be prepared for them. As he neared them, he observed that they had divided, and so placed themselves that two would be on one side of the cart and one on the other, and that they all three were prepared for simultaneous action. The driver carried a heavily-loaded whip, and twisted the thong of it tightly round his left arm—for he was left-handed. This circumstance, no doubt, greatly favoured his defence; for, as the foremost robber made a spring at his right arm, he dealt him a heavy blow on the forehead with the loaded end of his whip. The blow was so well aimed that the robber reeled and fell before his companions could succeed in their attempt to grasp the horse's head. The driver urged on his horse, and the animal sprang forward, the shaft of the cart knocking one of the men over. The driver galloped on to Bridgend, where he procured the assistance of two police constables, who proceeded on horseback in the direction of "the golden mile." The highwaymen in the meantime had attacked Mr. Evan Jones, a butcher of Llisworney, and were in the act of robbing him when the officers came up with and captured them. They have since been sent for trial at the assizes.

DOVER.—A grand banquet will be given, by permission of General Craufurd, on the heights at Dover on the 13th inst. to the gallant 32d, the heroes of Lucknow, who recently arrived from India. The regiment numbers 228 rank and file, the whole of whom are to be regaled by the inhabitants, who have formed a committee to raise the required funds, and who intend to extend their invitation to the men's wives.

DUDLEY.—The Birmingham Canal burst its banks on Tuesday week, near a place called Dudley Port. The canal at that point runs over a limestone mine, and the amount of stone worked from under the surface has gradually weakened the earth until it has been unable to withstand the pressure from above. In the evening of the day named the banks sank 8 or 9 feet with a fearful crash, but though all the ground in the neighbourhood was immediately flooded, no lives were lost. The damage done is very great, however, and it will be impossible to work the lime pit for a long time to come. The traffic to Birmingham and Wolverhampton will be conducted on another branch of the canal.

HARTLEPOOL.—The barque Margaret, of this port, in ballast from Lisbon, bound for Pugwash, arrived at Falmouth on Wednesday, in consequence of the murder of the captain, Mr. Barker, on the 22d ult., by a Brazilian sailor, who had shipped at Lisbon as steward and cook. The act was perpetrated on the 22d ult. at 4 A.M., by his cutting the captain's throat, while asleep in his berth, with a carving knife sharpened for the purpose; he subsequently attempted to serve the watch in the forecastle in a similar manner, but was overpowered by the two mates, after wounding one of them. The murderer, whose name is Charles Amoys, has been committed by the Falmouth magistrates to the Central Criminal Court for trial, by which step (under the sanction of the Secretary of State) the case will be more speedily brought before the judges than if it had been sent to the county assizes.

HUDDERSFIELD.—The recent election of Mr. Leatham for this borough was celebrated on Thursday evening by a public banquet, at which 3000 ladies and gentlemen were present. The chair was taken by Mr. Hales, the chairman of Mr. Leatham's committee, and among the guests were Mr. Bright, M.P., Mr. Baines, M.P., Mr. Crossley, M.P., and the most influential members of the Liberal party in the district. Mr. Bright spoke at great length, and moved the following resolution, which was carried amidst much cheering:—

"That in the opinion of this meeting the great question of Parliamentary Reform, involving a more faithful representation of the people, greater purity of election, a wiser and more economical expenditure of public money, and an administration of national affairs more consistent with national interests, demands the immediate attention of the Legislature, and ought not to be postponed beyond the first opportunity for a satisfactory settlement."

LEEDS.—On Saturday night information was furnished to the police of a highly important character, and which while it opens up grounds for suspicion in a new direction also furnishes an elaborate clue to the supposed murderer of Mr. Broughton, at Harehills, on the 6th ult. It will be remembered that the murderer or murderers took a German silver watch from the person of Mr. Broughton, and that this watch was offered in pledge about two hours after the murder, in the first place at the shop of Mr. Topham, pawnbroker; and in the second instance and successfully at that of Mr. Barrass, in Dyer Street. At the latter place the man pledged the watch for 4*s*. Nothing more was heard about the watch, which was in the possession of the Leeds police, until Saturday night, when a young man named Smales, a collier from Whitwood, near Normanton, presented himself at Mr. Barrass's shop and tendered the ticket for the watch. Mr. Barrass at once took the young man to Mr. English, the chief constable, to whom he stated that he had bought it of a man called "Charley Normington" for 5*s*. In consequence of this communication Mr. English went over to Whitwood on Sunday morning, taking with him the young man Smales, and there succeeded in tracing several witnesses who connected Normington with the first possession of the ticket. These persons stated that he had made various efforts to dispose of it, and that when he at length succeeded in doing so to the young man Smales, he left the neighbourhood. It appeared also that while at Whitwood he told the wife of a collier that he had offered the watch at Mr. Topham's, at Leeds, but did not pledge it there; and that on the day after his arrival his landlady supplied him with a bowl of water, in which he proceeded to wash a handkerchief. She was struck with the colour of the water during this operation, and went towards the prisoner, who immediately folded up the handkerchief, and, wet as it was, placed it in his waistcoat, either in the pocket or within the breast; and on leaving her he left behind a shirt, which bears distinct traces of discolouration, apparently of blood. This shirt was given up to the chief constable, and is now in the hands of Mr. Nunneley, of Leeds, surgeon, for the purpose of examination. At present there is no continuous trace of the prisoner after leaving Whitwood, until Thursday last, when he broke into the house of his uncle at Bradford, and there stole some wearing apparel and other articles, which he brought to Leeds, and pledged. Mr. English on receiving this information disguised himself as a collier and went to Sheffield, where he succeeded in apprehending Normington in the suburbs of the town. He immediately brought him to Leeds, where he was examined before the Mayor and magistrates on Tuesday. In the course of the examination one of the witnesses proved that the prisoner and another man were at the cabin of a colliery, about a quarter of a mile from the place of the murder, on the morning on which it was committed, and that the prisoner had a thick stick or hedgestake with him, which the witness said he was almost sure was the same which had been found in a field near the site of the murder, and which, no doubt was the instrument by which the murder was committed. After the examination the prisoner volunteered to the chief constable a confession of some length. After giving an account of his being in company with another man, whom he fully described, he stated that the murderous blows were not struck by himself but by his companion; that he was then distant from Mr. Broughton a number of yards, and that after the attack he refused to travel in company with his "pal" again. This is tantamount to a confession of his own guilt, for the stick with which the blows were struck was his own, and he is found dealing with the pawnticket on the same evening. Mr. English subsequently sent a description of the second man to the chief constable of the West Riding, and he is expected to be speedily captured. The other men who were in custody on suspicion have been discharged.

NORWICH.—The local papers state that on Sunday week the son of a shoemaker, residing in St. Faith's near this city, while walking in the plantation of Mr. Joshua Reynolds, in that parish, found there a vagrant from Wisbeach, called John Back, lying on the ground in a state of great exhaustion. He called to the boy for assistance, telling him he was dying of starvation. The boy, who says he saw the man in the same place three weeks before, when he took him to be a keeper, at once returned to the village and gave the alarm. A number of villagers immediately started for the spot, and, finding the man too weak to stand, put him in a cart and drove him to the Union. On stripping him it was found that the side on which he had been lying was covered with sores; and the man stated that about five weeks ago he was taken ill and went into the plantation, which he had since been unable to leave. He had subsisted during that time on grass and the bark of the trees which grew near him. He says he was lying on the ground during the terrible thunderstorm that occurred a few weeks ago. Hundreds persons have visited the plantation since he was there, and the place where he has lain is distinctly marked upon the grass, while the marks where he gnawed the bark of the trees are plainly visible.

READING.—The hop-growers of West Surrey are making efforts to establish a hop fair in this town. The railway accommodation affords direct access to parts of the country, and the opinion has gained ground that a hop fair in Reading would, as a matter of course, attract many merchants who have now to attend Farnham hill and other places which are difficult to get at as far as railway convenience is concerned. A committee of gentlemen interested in the project has been formed to confer with the principal hop-growers in Surrey, Kent, and Worcestershire, and the matter has been so far taken up that there is a prospect of the first fair being held in Reading in the course of the present month.

WEYBRIDGE.—A fire broke out at an early hour on Thursday morning in one of the wings of the Oatlands Park Hotel, and was not subdued until the lamentable four of the bedrooms were destroyed. It is supposed to have originated in the billiard room, and to have been caused by some partially smoked cigar falling upon the flooring.

## Ireland.

THE "REVIVAL" IN THE NORTH.—The letters from for some time past have been filled with details of this extraordinary movement, which seems to be spreading to the counties adjoining that in which it commenced, and to be making astonishing progress throughout the north. It is no unusual thing, according to the local papers, to see mills stopped in the busiest part of the day, in consequence of the hands leaving off work to attend meetings for prayer, and it is at these gatherings that the people are "struck," that is, suddenly filled with an awful sense of sin, which makes them roar and scream, and often lie without motion for hours. On recovery, they profess great peacefulness of mind, and are then looked upon as converts. Not only individuals, but whole villages have been thus transformed. The publicans, instead of receiving large sums on a Saturday night, cannot now sell a glass, and some have waited for this, but have themselves turned out the puncheons and pulled down their signboards. The drunkard's song, the ribald language, the curse and blasphemy that used to be heard in certain localities have ceased, and people have come forward in numbers and taken the temperance pledge. Of course the most contradictory opinions prevail as to the true character of the movement, but the testimony of a Roman Catholic Judge, Chief Baron Pigott, has been given unanimously in its favour. At the recent Down Assizes the Chief Baron, in sentencing three prisoners for murderous assault in connection with a miserable exhibition of party feeling, referred to the religious movement in the north as having extinguished all party animosities and produced the most wholesome moral results upon the community at large. His lordship spoke in the most favourable terms of the movement, and expressed a hope that it would extend over the country, and influence society to its lowest depths.

THE PRIESTS AND THE FAIRS.—The condemnation of the extra fair of Navan, commonly known as the Leinster fair, has been successfully carried into effect by the priests by means of a system of passive resistance. After full notice had been given to the people an attempt was made on Monday to effect sales, but from sunrise to sunset not a single head of cattle was to be seen on the fair green. There was no riot, nor any disposition to create disturbance.

THE LOSS OF THE ARGO.—On Saturday the Board of Trade issued the report of Mr. Porter, the magistrate, and Captain Harris, the nautical assessor, who have recently held an inquiry at Dublin into the loss of the Argo, New York and Galway steamer, on the coast of Newfoundland, on the 28th of June last. The report of Mr. Porter states his deliberate opinion that Captain Halpin's omission to slow the engine of his ship in a dense fog was the primary cause of the disaster, and that the loss of the Argo was therefore occasioned by the default of the master; and Captain Harris, the nautical assessor, expresses his concurrence in the report. The Board of Trade have consequently directed that Captain Halpin's certificate be suspended for six months.

THE RECENT MURDER IN COUNTY LIMERICK.—That there is no longer any doubt that the murderer Mr. Crow, one of the tenants on the Earl of Derby's estate, is sheltered by the people on the estate, his lordship has marked his sense of the outrage by issuing positive instructions to have the entire estate cleared of all tenants, with the exception of the immediate relatives of the murdered man.

## Scotland.

BRITISH ASSOCIATION.—The first general meeting of the Association at Aberdeen will be held in the Music Hall on Wednesday next, the 14th inst., at half-past 8 P.M., when Professor Owen will resign the chair to the Prince Consort will assume the presidency, and deliver an address. The different sections will assemble every morning in the rooms appointed for them in Marischal College, for the reading and discussion of reports and other communications, from Thursday the 15th, to Tuesday the 20th. On Thursday evening

15th there will be a *conversazione* in the Music Hall. On Friday evening, the 16th, Sir Roderick Murchison, Director-General of the Geological Survey, will deliver a discourse on the Geology of the Highlands, in the Music Hall. On Monday evening, the 19th, the Rev. T. R. Robinson, Director of the Armagh Observatory, will deliver a discourse in the Music Hall on Electrical Discharges in Highly Rarified Media. On Tuesday evening, the 20th, there will be a *conversazione* at the Music Hall. The concluding general meeting will take place in the Music Hall on Wednesday, the 21st, at 3 P.M. The proceedings of the general committee, and the grants of money sanctioned by it, will then be stated. The exhibitions of portraits, &c., promise to be complete, and very attractive. The Prince Consort has intimated to the Town Council of Aberdeen that, as he has only made arrangements for staying one night in that city at his visit to the approaching meeting of the British Association, he will be unable to accept the invitation of the Town Council to a banquet on that occasion. His Royal Highness will be the guest of the Convenor of the county, Mr. Alexander Thomson, of Banchory House, about four miles distant from the city.

THE WALLACE MONUMENT.—The committee have awarded the first premium to Mr. J. T. Rochead, architect, Glasgow; the second to Messrs. Peddie & Kinnear, architects, Edinburgh; and the third to Messrs. Haig & Low, Glasgow. They had 80 designs to select from. The design to which the first prize was awarded represents a mediæval Scottish tower, the proposed height of which will be 220 feet, with a staircase leading to the summit.

HOLYROOD PALACE.—Since her Majesty's last visit to Edinburgh very extensive alterations have been made in the external aspect of Holyrood. Formerly surrounded with small houses and gardens, and almost inaccessible either from the town or the park, it now stands in the midst of a somewhat spacious and neatly-enclosed garden, and a carriage drive of ample breadth has been formed all along its front, communicating on the one side with the New Town, in the centre with the Old Town, by way of Canongate, and on the other extreme with the Queen's drive, the Royal parks, and the hills of Arthur's Seat. Among the still more recent improvements carried out are the renovation of the ancient mansion of Croft-au-righ, situated in the north-east corner of the palace gardens, occupied some time by the Regent Murray, while his sister, Mary Queen of Scots, still held sway over her kingdom; the erection of lodges at Holyrood, Parson's Green, and St. Leonard's, the outlets of the park; the formation of a fine sheet of water in the valley below St. Anthony's Chapel, and skirting a portion of the drive; and the extension of the drive from St. Leonard's to the village of Duddingstone, opening up some very picturesque ground, and a very useful public thoroughfare. Among the other improvements which have been effected are the erection of iron gates at the different entrances to the quadrangle in front of the palace; the enclosure of another large piece of ground within the royal park, almost below Salisbury Crags; and the erection of a fountain taken from a dilapidated but still attractive model in the courtyard of Linlithgow palace, in the place of a somewhat ungainly statue of her Majesty, placed in front of the palace some years ago. This fountain, which was put into play for the first time on the Queen's arrival last week, is Gothic in design and is remarkable for its sculptural embellishments, the most characteristic of which are a series of figures descriptive of the costumes and pursuits of the frequenters of the old Scottish Court. These figures, which are 16 in number, and are from 18 to 20 inches in height, have been executed from models furnished by Mr. John Thomas of London. For the supply of the fountain, water is obtained from the adjoining hills, and when its numerous jets are in full play, it is a welcome decoration to the Palace. Its cost, which is about 1400*l.*, has been provided for by a Parliamentary grant for the purpose.

## Railways.

NARROW ESCAPE ON THE SOUTH WALES.—On Monday evening, as the express train from London to Haverfordwest approached the river Cleddau, it was observed that the drawbridge was raised. The train was then distant about 100 yards from the bridge. The driver instantly turned off the steam, and all the breaks were likewise applied, and the engine was brought to a dead stand when within a single foot of the opening. Another revolution of the engine wheels would have precipitated the train into the river.

## Obituary.

LORD JAMES STUART, M.P. for Ayrshire, died very suddenly on Wednesday morning at Dumfries House, Cumnock, the Ayrshire seat of the Bute family. His lordship, who had been staying there for some weeks past, was at Ayr races last week, and, for his years, seemed to be hale and hearty. He had sat in parliament for nearly fifty years, having represented Carlisle as far back as 1818. He afterwards represented Buteshire, the Ayr burghs, and latterly Ayrshire. He was brother to the late Marquis of Bute, and uncle and heir presumptive to the present youthful Marquis.

THE RIGHT REV. BISHOP CARR, late Bishop of Bombay and rector of Bath, died in the latter city on Monday after a short illness. After resigning the episcopate of Bombay, he succeeded the Hon. and Rev. W. J. Brodrick as rector of Bath in 1854, and discharged the duties of his office till within a short period of his death. He had lately been suffering from an attack of paralysis, from which he never recovered, and prior to his death had resigned the rectory of Bath into the hands of the patrons, the trustees of the late Rev. Charles Simeon. Bishop Carr was a member of the Evangelical party in the church, but he displayed so much firmness and conciliation as to win the esteem of churchmen and laymen of all shades of opinion.

THE DEAN OF ST. ASAPH (the Very Rev. Charles Butler Clough, A.M.) died at the Deanery, St. Asaph, on Sunday last, after an illness of some months. He was born at Erbistock, Denbighshire, in 1793, and had therefore completed his 66th year. Having passed through Rugby and St. John's, Cambridge, he was in 1818 ordained as curate of Meifod, of which place he became vicar in 1820, and continued there till he was made Dean in 1854. He was Archdeacon of St. Asaph from 1841 to 1854. In 1817 he married Margaret Sidney, daughter of the late Mr. Edward Jones, of Wepre Hall, Flintshire, who died in 1826 without issue. He was an active member of the Diocesan Church-building Society, which may be fairly attributed to his exertions, and has increased the number of churches in the diocese by 25 per cent.

SIR JAMES GRANT, BART., of Monymusk, died on the 30th ult. at Woodhill, Inverurie, Aberdeenshire. He was born in 1791, and succeeded his father, the fourth baronet, in 1839. This family is descended from the ancient house of Grant of Grant, now represented by the Earl of Seafield, and diverged from the main stem in 1578. The late baronet, Sir Francis, was one of the senators of the College of Justice, and bore the title of Lord Cullen, derived from the ancient family seat in Banffshire. As the late baronet has died without issue, he is succeeded in the title and estates by his brother, now Sir Isaac Grant, Bart.

LIEUT.-GENERAL GILMOUR, R.A., died at Hammersmith on the 31st ult., in his 76th year. He had been in the service above 60 years. He received his commission of Lieutenant-Fireworker in 1800, and at that of Second Master in the following year. He afterwards served on the east coast of Spain, was present at the battle of Castalla, and was on several occasions engaged with the enemy in covering the retreat, and employed in the batteries against Tarragona. After leaving Spain he joined the army under Lord W. Bentinck at Genoa. He attained the rank of Lieut.-General in 1857.

MAJOR-GENERAL TORRIE, of the Royal Marines, died at Topsham, Devon, on the 31st ult., aged 67. He entered the service in 1808, and served as Lieutenant of Marines in the Apollo, 38, from 1809. He landed in command of a detachment of Marines in 1812 at St. Cecilia, and dislodged a body of troops from a strong position, and facilitated the capture of the vessel from which they had landed. He was afterwards at the attack and surrender of the Island of Augusta at the taking of Port Barbalo, at the attack of the sea batteries and surrender of the Island of Cattaro, and at the capture of the Dentz Island. He became Lieut.-Colonel in 1841, and Major-General in 1857.

LIEUT.-COLONEL SHAFTO, of the 64th Regiment, died on the 1st inst., after having attained the rank of Lieut.-Colonel entirely by personal merit. When serving in the 13th Regiment he took part in the first Burmese war, for which he had a medal, and while in the 64th he served in the campaign on the Sutlej, and was severely wounded at the battle of Ferozeshah.

MR. LYNE STEPHENS LYNE, Accountant and Controller-General of Inland Revenue, died on Saturday last. He had been suffering for many months from a paralysed illness, and was upon the partial recovery of upon important duties which an attack of paralysis put an end to his sufferings. Mr. Lyne was formerly Accountant-General of Excise, but, on the amalgamation of the Boards of Stamps and Taxes with the former department the office of Controller-General of Taxes was abolished, and an Accountant and Controller-General of Inland Revenue appointed. This important office was conferred upon Mr. Lyne, who has been long known as an able civil servant. The cause of his death, which is stated to have been occasioned by, the effect of a too close application to official duty.

WILLS.—The will of Sir G. T. Staunton, Bart., has been sworn under 120,000*l.* personalty in England; Mrs. Matilda Assheton Smith, relict of Mr. Thomas Assheton-Smith, of Vaenol, Carnarvon, and Tedworth, Hants, 200,000*l.*; Mr. Nicholas Charrington, of Lea Spring, Leicestershire, 70,000*l.*; Marquis of Waterford, K.P., 70,000*l.*; Mr. Henry William de la Poer Beresford (Perry) of Bedale Hall, Yorkshire, 80,000*l.*; Dr. Colin Campbell, formerly physician-general in the East India Company's Bengal Establishment, 12,000*l.*

BIRTHS.—On the 1st inst. at 11, Devonshire Place, Lady RADSTOCK, of a son and heir—4th inst., the Lady LONDESBOROUGH, of a son—1st inst. at 24, Lower Grosvenor Street, Lady MARGARET CHATTERIS, of a daughter—30th ult. at Norley, in the county of Chester the Hon. Mrs. ARTHUR LASCELLES, of a son—27th ult. at the Hall, Rotherfield, Tunbridge Wells, the wife of the Hon. HENRY BLIGH, of a daughter—2d inst. at Blythe Hall, Coleshill, Warwickshire, the wife of Captain J. D. WINGFIELD DIGBY, of a son and heir—31st ult. at Inverpertan, Strathclyde, Argyllshire, the wife of Lieut.-Colonel FORBES, C.B., of a son—31st ult. at Oxford, the wife of the Rev. W. THOMSON, D.D., President of Queen's College, of a son—3d inst. at Belvoir, Leicestershire, Mrs. WILLIAM INGRAM, of a son.

MARRIAGES.—On the 6th inst. at St. Peter's, Eaton Square, THOMAS FRANCIS FREMANTLE, Esq., eldest son of the Right Hon. Sir Thomas Fremantle, Bart., of Swanbourne, Buckinghamshire, to Lady AUGUSTA HENRIETTA SCOTT, second daughter of the late Earl of Dalkeith—6th inst. at St. Martin's-in-the-Fields, Rear-Admiral HASTINGS, of Thornloe, near Worcester, to MARY ANN, widow of the Rev. JAMES VYLANT VASHON, formerly rector of Salwarpe, Worcestershire—1st inst. at St. James's, Piccadilly, Captain M. COMPESTONE, of Charlton Chambers, London, and Compiestone, Devon, to EMMA MATILDA, youngest daughter of the late THOMAS WINSTANLEY, Esq., and granddaughter of the Rev. Dr. Winstanley, D.D., of St. Alban Hall, Oxford—1st inst. at St. James's Church, Poole, the Chevalier E. CICOGGNERI ST. CLAIR, to FRANCES THOMASINE LANGFORD SOLLY, only child of the late Samuel Solly, Esq., of Morton Woodlands, Lincolnshire.

DEATHS.—On the 31st ult., at Clontarf Castle, near Dublin, the Hon. Mrs. Vereker—4th inst. at 18, Chester Square, MARIA SUSANNAH, eldest surviving daughter of the late Hon. Lieut.-Colonel WILLIAM GREY, aged 46—23d July, at Malabar Hill, Bombay, LAURA ARNOULD, wife of Sir Joseph Arnould—28th July, at Kirkee, Bombay, the Rev. FRANCIS C. P. REYNOLDS, Archdeacon of Bombay—24th July, at Cawnpore, WILLIAM HERBERT SOLLY, Lieutenant in H.M.'s 2d Regiment Bengal Light Cavalry, eldest son of Samuel Solly, Esq., of St. Helen's Place, London—11th July, at Murree, Punjab, CHARLES THOMAS PALEY, Esq., Lieutenant in her Majesty's 24th Regiment, eldest son of Thomas Paley, Esq., of Brighton, aged 21—7th July, at Kurrachee, East Indies, Lieutenant JOSEPH CLELAND CUMBERLEGE, 1st Bombay European Fusiliers, son of Colonel Cumberlege, of the Madras Cavalry—29th ult. at Brighton, Captain CHRISTOPHER FOSS, formerly Deputy Assistant Adjutant-General in Ireland, and subsequently Secretary and Adjutant to the Royal Hibernian Military School, Dublin, aged 42—2d inst. at Christ Church Parsonage, Hampstead, SARAH, widow of the late Rev. EDWARD BICKERSTETH, Rector of Watton, Herts, aged 70—2d inst. FRANCIS NEWMAN ROGERS, Esq., of Rainscombe, county Wilts, son of the late Francis James Newman Rogers, Esq., Q.C., of the Inner Temple and Recorder of the city of Exeter, aged 38—3d inst. at Boxhill, Surrey, MARY ANN, widow of GEORGE THOMPSON, Esq., aged 85—2nd inst. at Bayswater, Mr. GEORGE BENJAMIN ASHMEAD, naturalist, late of Duke Street, Grosvenor Square, aged 67—7th inst. at Brighton, J. C. STEVENS, Auctioneer, King Street, Covent Garden.

## Markets.

COVENT GARDEN.—Sept. 8.

Grapes and Pine Apples maintain former prices. Pears still consist chiefly of Beurré d'Amanlis, Williams's Bon Chrétien, and Louise Bonne of Jersey. Apples are more liberally supplied, but continue to realise high prices. The best table sorts are Ribston, Court of Wick, and Kentish Pippin. Peaches and Nectarines are getting scarce. Greengages and [illegible] sorts of Plums are very nearly over. Oranges fetch 4s. to 6s. and 10s. per hundred. Cos; Primeurs may be had for 4d. per lb. Cucumbers and French beans are plentifully supplied. Peas, Beans, Carrots, and Artichokes may be obtained in quantity. Cauliflowers are scarce. Potatoes realise from 6s. to 15s. per cwt. Cucumbers abundant. Cut flowers chiefly consist of Orchids, Gardenias, Kalosanthes, Lily of the Valley, Violets, Mignonette, China Asters, Heaths, and Roses.

FRUIT.

| | |
|---|---|
| Pine Apples, per lb., 4s to 6s | Currants, p. half-sieve, 4s to 7s |
| Grapes, per lb., 2s to 5s | Gooseberries, do., 2s |
| Mulberries, do., 1s | Cherries, per lb., 6d to 1s 6d |
| Melons, each, 2s to 3s | Apples, per ½ sieve, 1s 6d to 5s |
| Peaches and Nectarines, per doz., 3s to 8s | Pears, per ½ sieve, 4s to 8s |
| Figs, per doz., 2s | Oranges, per 100, 6s to 10s |
| Apricots, do., 2s to 3s 6d | Lemons, per doz., 1s to 1s 6d |
| Plums, per pottle, 1s to 2s 6d | Filberts, per lb., 6d to 8d |

VEGETABLES.

| | |
|---|---|
| Cauliflowers, per doz. 2s to 4s | Tomatoes, per ½ sieve, 3s to 5s |
| Green Peas, p. quart, 1s to 2s | Artichokes, per doz., 2s to 3s |
| Greens, per dozen bunches, 1s to 1s 6d | Beet, per doz., 1s 6d to 2s |
| Cabbages, do., 1s 6d to 2s 6d | Celery, p. bundle, 1s to 1s 6d |
| Rhubarb, p. bundle, 6d to 9d | Onions, p. half-sieve, 2s to 4s |
| French beans, p. pottle, 1s to 1s 6d | — Portugal, each, 2d to 4d |
| Potatoes, p. ton, 90s to 160s | Shallots, per lb., 6d to 8d |
| — per lb., 2s to 2s 6d | Garlic, per lb., 4d to 8d |
| — per cwt., 4s to 6s | Lettuces, Cabb., per score, 1s to 1s 6d |
| Carrots, per bunch, 1s | Endive, p. score, 1s to 1s 6 |
| Turnips, per bunch, 6d to 1s | Horse Radish, p. bun. 1s 6d to 4s |
| Spinach, p. sieve, 1s 6d to 2s | Mushrooms, p. pott, 9d to 1s 3d |
| Cucumbers, p. doz., 1s to 1s 6d | Parsley, p. 12 bunches, 2s to 4s |
| | Savory, do., 2d to 4d |

HOPS.—BOROUGH MARKET, FRIDAY, Sept. 9.

Messrs. Pattenden & Smith report that about 2900 pockets of the new growth have arrived, and are selling at the following prices:—Mid and East Kents, 84s. to 90s., choice 100s. to 112s.; Weald Kents, 66s. to 72s., choice 75s. to 80s.; Sussex, 60s. to 68s., choice 6as. to 70s. Duty, 250,000*l.*

COAL MARKET.—FRIDAY, Sept. 9.

Ryass's Belsize West Hartley, 14s. 9d.; Davison's West Hartley, 15s.; Grey's West Hartley, 14s. 6d.; Holywell, 14s. 6d.; Tanfield Moor, 15s. 6d.; Tanfield Moor Bates, 15s. 6d.; Wylam, 15s. 6d.; Walls End Acorn Close, 16s. 9d.; Walls End Eden 16s. 9d.; Walls End Goswith, 15s. 9d.; Walls End Riddell, 15s. 9d.; Eden Main, 16s.; Walls End Braddyll's Hetton, 16s. 9d.; Walls End Braswell, 16s.; Walls End Hetton, 15s.; Walls End Kepier Grange, 16s. 9d.; Walls End Hedley Hall, 16s. 6d.; Walls End Kelloe, 17s.; Walls End Seaton Burn Coal, 16s. 6d.; Walls End Wallsworth, 15s.; Walls End Hetton West, 14s. 6d.; Stevens's Duffryn, 15s. 6d.; Powell's Duffryn Steam, 21s.—34 ships at market.

METROPOLITAN CATTLE MARKET.

MONDAY, Sept. 5.

The number of Beasts is about the same as on Monday last. Thursday's quotations are maintained for the choicest kinds, but other descriptions are rather lower. We have a larger supply of Sheep, and trade is not so brisk as of late; on the average prices are lower, and several remain unsold. Lambs are a dull sale, and Calves are rather lower. From Germany and Holland there are 1680 Beasts, 8626 Sheep, and 168 Calves; from Scotland, 80 Beasts; from Ireland, 300; from Norfolk and Suffolk, 200, and 2800 from the northern and midland counties.

| | s | d | s | d |
|---|---|---|---|---|
| Best Scots, Herefords, &c. | 4 | 8 to | 4 | 10 |
| Best Short horns | 4 | 4 — | 4 | 8 |
| 2d quality Beasts | 3 | 6 — | 3 | 10 |
| Best Downs and Half-breds | 5 | 0 to | 5 | 4 |
| Do. Shorn | .. | .. — | .. | .. |

| | s | d | s | d |
|---|---|---|---|---|
| Best Long-wools | 4 | 8 — | 5 | 0 |
| Do. Shorn | .. | — | .. | .. |
| Ewes & 2d quality | 4 | 0 — | 4 | 6 |
| Do. Shorn | .. | to | .. | .. |
| Lambs | 5 | 6 — | 5 | 6 |
| Calves | 4 | 0 — | 4 | 8 |
| Pigs | 4 | 0 — | 4 | 8 |

Beasts, 5270; Sheep & Lambs, 29,160; Calves, 212; Pigs, 520.

THURSDAY, Sept. 8.

We have about an average supply of Beasts. Trade is dull, but there is not much alteration in prices. The number of Sheep and Lambs is not large, but sufficient for the demand. We retain Monday's quotations, although they are not so freely given. Calves are rather lower. From Germany and Holland there are 230 Beasts, 1980 Sheep, and 220 Calves; from Ireland, 43 Calves; from the northern and midland, 600 Beasts; and 118 Milch Cows from the home counties.

| | s | d | s | d |
|---|---|---|---|---|
| Best Scots, Herefords, &c. | 4 | 8 to | 4 | 10 |
| Best Short horns | 4 | 4 — | 4 | 8 |
| 2d quality Beasts | 3 | 4 — | 3 | 8 |
| Best Downs and Half-breds | 5 | 0 — | 5 | 4 |
| Do. Shorn | .. | .. — | .. | .. |

| | s | d | s | d |
|---|---|---|---|---|
| Best Long-wools | 4 | 8 — | 5 | 0 |
| Do. Shorn | .. | .. — | .. | .. |
| Ewes & 2d quality | 4 | 0 to | 4 | 6 |
| Do. Shorn | .. | .. — | .. | 6 |
| Lambs | 5 | 0 — | 5 | 6 |
| Calves | 4 | 0 — | 4 | 8 |
| Pigs | 4 | 0 — | 4 | |

Beasts, 1238; Sheep & Lambs, 8720; Calves, 442; Pigs, 180.

HAY.—Per Load of Thirty-six Trusses.

SMITHFIELD, THURSDAY, Sept. 8.

| | | | | |
|---|---|---|---|---|
| Prime Meadow Hay | 75s | 80s | Clover | 92s to 105s |
| Superior do. (old) | 84 | 88 | Second cut | 80 90 |
| Inferior do. | 55 | 60 | New Clover | — — |
| New do. | — | — | Straw | 26 30 |
| Rowen | 55 | 65 | | |

DAVIS & Co.

CUMBERLAND MARKET, THURSDAY, Sept. 8.

| | | | | |
|---|---|---|---|---|
| Sup. Meadow Hay | 88s | 95s | Inferior Clover | 80s to 94s |
| Inferior do. | 65 | 80 | New do. | — — |
| New do. | — | — | Straw | 34 36 |
| Superior Clover | 100 | 110 | | |

JOSHUA BAKER.

WHITECHAPEL, THURSDAY, Sept. 8.

| | | | | |
|---|---|---|---|---|
| Fine old Hay | 84s | 90s | Fine old Clover | 105s to 110s |
| Inferior do. | 75 | 80 | Inferior do. | 90 100 |
| Prime New Hay | 80 | 88 | Fine new Clover | — — |
| Inferior do. | 50 | 70 | Inferior do. | — — |
| Straw | 32 | 36 | Fine 2d cut | 92 100 |

MARK LANE.—MONDAY, Sept. 5.

There was a fair supply of English Wheat to this morning's market, consisting chiefly of the new crop, the quality of which continues to be very variable. The finest samples were

picked at about 1s. per qr. below the prices of this day se'nnight, but a large proportion remained unsold at the close. Business in foreign was very limited, and where sales were effected a decline of 1s. per qr. upon white qualities was accepted. Barley sells slowly at late rates. Beans are a quick sale at full prices. Peas are unaltered in value. Oats are dull, and Friday's advance is barely maintained. There is no alteration in the value of Flour.

| Per Imperial Quarter. | s. s. | | s. s. |
|---|---|---|---|
| Wheat, Essex, Kent, & Suffolk..White | 34—46 | Red .... | 36—41 |
| — — fine selected runs..ditto | 42—44 | Red .... | 38—44 |
| — — Talavera ..... | 40—50 | | |
| — Norfolk ..... | — | Red .. | — |
| — Foreign ..... | 38—52 | | |
| Barley, grind & dist., 24s to 28s..Chev. | 38—44 | Malting. | 34—40 |
| — Foreign..grinding and distilling | 23—28 | Malting. | — |
| Oats, Essex and Suffolk ..... | 19—22 | | |
| — Scotch and Lincolnshire..Potato | 23—25 | Feed.... | 19—24 |
| — Irish ..... Potato | 24—25 | Feed.... | 19—22 |
| — Foreign ..... Poland and Brew | 23—26 | Feed.... | 17—24 |
| Rye ..... | — | Foreign. | — |
| Rye-meal, foreign..... | — | | |
| Beans, Mazagan.... 34s to 39s....Tick | 35—41 | Harrow. | 35—41 |
| — Pigeon .....41s—45s..Winds. | — | Longpod | — |
| — Foreign ..... Small | 38—46 | Egyptian | — |
| Peas, white, Essex and Kent..Boilers | 36—42 | Suffolk . | 35—44 |
| — Maple. ..—s to —s ..... Grey | 34—36 | Foreign. | 30—38 |
| Maize ..... White | — | Yellow.. | — |
| Flour, best marks delivered..per sack | 37—43 | | |
| — 2d do. ..... ditto | 27—37 | Country. | 27—37 |
| — Foreign ..... ... per barrel | 18—27 | Per sack | 30—37 |

**Friday, Sept. 9.**

Although the weather during the last eight days has been less settled and occasionally boisterous with heavy showers, it has on the whole been dry, with strong westerly winds. No interruption has yet occurred to the long continued dullness of the Wheat trade and gradual drooping of prices; the decline in the chief markets of the kingdom is quoted from 1s. to 2s. per qr. upon the week. Business in Spring Corn has also been depressed, and the turn in prices on each description in the majority of markets favoured the buyers, Barley in Scotland proving the exception, and commanding an improvement of 6d. to 1s. per qr. Business in Flour was inactive, and sold at a reduction of 1s. per sack in Liverpool and Newcastle. The arrivals of grain and seed-laden vessels off the coast from Southern Europe this week are considerable. The sales are to a moderate extent, including Polish Odessa Wheat at 41s. 3d. per 480 lbs. and Taganrog Ghirka at 42s. per 492 lbs.; Odessa Maize at 28s. 6d. to 27s. 10½d. Galatz at 28s. 9d. to 29s. per 492 lbs.; Ibrail at 26s. 6d. to 26s. 11d. per 480 lbs.; Taganrog Barley at 23s. 1½d. to 24s., Odessa at 22s., both per 400 lbs. The arrivals of foreign Oats this week are again considerable, and moderate of all other grain. The attendance at this morning's market was small, and the little English Wheat fresh up or left over from last day was taken slowly at former prices. Foreign attracted rather more attention without leading to any increased transactions; in the retail sales effected only late rates were obtainable. For Barley there is a retail demand at about late rates. Oats meet a fair sale at Monday's prices.

**Arrivals from Sept. 5 to Sept. 9.**

| | Wheat. | Barley. | Oats. | Flour. |
|---|---|---|---|---|
| English .. | 1630 qrs. | 620 qrs. | 410 qrs. | 1490 sks. |
| Irish .... | — ,, | — ,, | 4150 ,, | — ,, |
| Foreign .. | 7860 ,, | 840 ,, | 49250 ,, | 350 ,, — brls. |

**Liverpool, Tuesday, Sept. 6.—The arrivals of foreign breadstuffs since this day se'nnight are quite on a trifling scale; we have a little barrel Flour from New York, and a large parcel of sour from South America. From Ireland the receipts of Wheat and Flour are slightly increased, but of Oats and Oatmeal rather less. We had a fair attendance of both town and country millers and dealers at our Corn Exchange this morning; the demand for Wheat was, however, on the most retail scale, and prices remain at a decline of 2d. to 3d. per cental quoted last market day. Flour had only a small consumptive inquiry, and must be noted 6d. per sack and barrel cheaper. Indian Corn is unaltered in value, and a fair quantity is taken off for feeding purposes. Oats dull sale and rather lower; new Oatmeal in good request at from 30s. to 31s. per 240 lbs.; old is unsaleable. Egyptian Beans, Peas, and Barley had each only a small retail inquiry.**

Friday, Sept. 9.—The grain market is dull, and attendance limited. Wheat 1d. per cental lower. Flour a shade easier, and difficult of sale. Beans and Indian Corn obtainable at a slight decline. Other articles without change.

| Averages | Wheat. | Barley. | Oats. | Rye. | Beans. | Peas. |
|---|---|---|---|---|---|---|
| July 30.. | 43s 0d | 30s 1d | 25s 3d | 36s 1d | 44s 2d | 37s 0d |
| Aug. 6.. | 43 7 | 29 0 | 25 1 | 32 8 | 46 5 | 37 6 |
| — 13.. | 43 11 | 30 1 | 25 2 | 33 3 | 46 7 | 36 9 |
| — 20.. | 44 1 | 31 1 | 25 5 | 30 8 | 44 6 | 37 8 |
| — 27.. | 44 5 | 32 11 | 25 5 | 32 8 | 44 6 | 37 9 |
| Sept. 3.. | 44 0 | 34 8 | 24 5 | 30 11 | 43 5 | 38 10 |
| Agg. Aver. | 43 10 | 31 4 | 25 2 | 32 7 | 44 11 | 37 7 |

**Fluctuations in the Last Six Weeks Averages.**

| Prices. | July 30. | Aug. 6. | Aug. 13. | Aug. 20. | Aug. 27. | Sept. 3. |
|---|---|---|---|---|---|---|
| 44s 5d | .. | .. | .. | .. | .. | .. |
| 44 1 | .. | .. | .. | .. | .. | .. |
| 44 0 | .. | .. | .. | .. | .. | .. |
| 43 11 | .. | .. | .. | .. | .. | .. |
| 43 7 | .. | .. | .. | .. | .. | .. |
| 43 0 | .. | .. | .. | .. | .. | .. |

**BRITISH WOOLS.—London, Friday, Sept. 9.**

There has been a fair amount of business transacted this week at about former rates.

| | s. d. | s. d. | | s. d. | s. d. |
|---|---|---|---|---|---|
| South-down Hoggets .. .. .. | 1 8 | to — | Leicest. Wethers | 1 5 | to — |
| Half-bred ditto.. | 1 8 | — — | Ditto Hoggs .. | 1 7 | — — |
| Down Ewes .. | 1 6 | — — | Combing Skins | — | — — |
| Kent Fleeces .. | 1 7 | — — | Blanket ditto .. | — | — — |
| | | | Flannel Wool .. | 1 2 | — 1 7 |


WANTED, by a gentleman in the County of Oxford, an ARTICLED PUPIL. A limited number of Boarders are taken. Terms moderate.—Apply to Alpha, Kingham, Oxon.

HORTICULTURAL BOARDING SCHOOL at Ghent, Belgium.—This School, established in 1849 by the Belgian Government, is directed by Mr. Louis Van Houtte, at his establishment in the neighbourhood of Ghent. The Professor-Inspector, who never leaves the pupils, speaks the English as well as the French Language, in which all Lessons are given. The Professors of Horticulture, Botany, Mathematics, Architecture, Natural Philosophy, Chemistry, Commerce, and Languages are named by the Belgian Government from the Ghent Athenæum and the University.

The respective religion of the pupils is carefully attended to by the Director.

The studies commence on the 1st of October every year.

Terms—20*l.* per annum, including Instruction, Board, Washing, and Lodging in the establishment.

**TO SEEDSMEN.**

PARTNERSHIP.—A young gentleman who has a thorough knowledge of the Seed Trade, and large experience, is open for an engagement as PARTNER in an established business, in which his active services and capital would be advantageously employed. Highest references given and received.—Apply for particulars to J. H., *Gardeners' Chronicle* Office, W.C.

WANTED, a respectable Man, with good address, who has a practical knowledge of the NURSERY and SEED BUSINESS to take charge and a Fourth or Third Share of one of the best laid out and Stocked Nurseries for its size in the South. It is situated close to a Junction Station in a large market town, on one of the principal railways out of London; it contains about 12 acres of very first-rate Land, superior Shop and Offices, with an excellent range of glass, consisting of Show House, Stove and Greenhouse Pits, Frames, Sheds, &c., of modern structure. No business of the kind is carried on within 16 miles. Wages, in addition to the profits, will be 60*l.* per year, and a Swiss Cottage free. Capital necessary will be about 500*l.* The highest references required.—Address Z., *Gardeners' Chronicle* Office.

WANTED, in a country Parish, a SUNDAY-SCHOOL MASTER, who is competent to play the Organ and teach a Village Choir. A good Gardener will find full employment during the week.—For further particulars apply to the Rev. John Bell, Brington Rectory, Kimbolton.

WANTED, a FOREMAN and PROPAGATOR, in a London Nursery. His business will be exclusively confined to the Plant Department where Cultivation and Propagation of all kinds of Plants under Glass are extensively carried on. None need apply whose ability, experience, and moral character will not bear the most rigid inquiry.—Application to be made in own handwriting, stating terms and references to L. S. M., *Gardeners' Chronicle* Office, W.C.

**TO PROPAGATORS.**

WANTED, as GENERAL PROPAGATOR in the Plant Department, a thoroughly competent and respectable young Man.—Apply by letter, stating terms, references, &c., to Mr. James Veitch, Jun., Royal Exotic Nursery, King's Road, Chelsea, S.W.

WANTED, to assist in a Provincial Nursery a young Man with a taste for LANDSCAPE GARDENING. Must be able to Draw Plans and Superintend Groundwork.—Direct stating wages expected, with references, &c., S.W., *Gardeners' Chronicle* Office, W.C.

WANTED, a MAN and his WIFE; the Man to fully understand Market Gardening, the Wife to undertake the charge of Shop for the sale of Plants, Seeds, Fruit, and Vegetables. She must be able to Keep Accounts. None need apply who cannot give unexceptionable references. Wages for both, 1*l.* 1*s.* per week.—Address Mr. George James, Weston Nursery, Weston-Super-Mare.

WANTED, a GARDENER and his WIFE; the former will have to manage a small Garden and Greenhouse, with the care of a Horse and Phaeton; the Wife will be required as Cook, and to assist in the other work of the house, where a housemaid is kept. The family is small.—Apply to Messrs. Hamlin & Corsellis, Solicitors, any day between the hours of 11 and 3, at 20, King's Arms Yard, Coleman Street, City, E.C.

WANTED, a middle-aged married Man, without incumbrance, to take charge of a small GARDEN and FARM. The Wife to superintend the management of the Dairy and Laundry.—Apply in own handwriting, stating terms, reference, &c., to Mr. Griffin, Nurseryman, Bath.

WANTED, in a Retail Seed Establishment, Two young Men, the one to act as CLERK, the other as SHOPMAN. None need apply unless thoroughly acquainted with the Seed Business in its various branches. Application by letter, stating salary and where last employed.—Address, W. C., *Gardeners' Chronicle* Office, W.C.

WANTED, in a large Nursery in the West of England, a young Man as GREENHOUSE and SOFT-WOODED PLANT PROPAGATOR.—Address, stating terms and references, to A. B., Box 361, Post Office, Bristol.

WANTED, as FARM BAILIFF, an intelligent, experienced Man, to Superintend a large Farm. He must be capable of carrying out the most improved system of Agriculture, be practically acquainted with the use of the best Implements, and must have a good knowledge of Breeding and Rearing Stock. The Wife will be required to attend to the Dairy and Poultry. Good character indispensable.—Apply by letter only, stating full particulars, to Delta, 64, West Smithfield, London, E.C.

WANTED, on a Small Farm in the Midland Counties, a MAN and his WIFE, without incumbrance: the Man to act as Foreman or Head Labourer, and to take the charge of the Stock; the Woman to manage the Dairy and Poultry. The Man must be a good Shepherd, and be able to kill and dress Sheep and Pigs. Wages, 1*l.* per week for the two and Cottage.—Address Y. Z., Post Office, Leicester, in own handwriting.

WANTED, as GARDENER and GROOM, in a clergyman's family, a married Man. Wages 12*s.* a week for the first year, and a Cottage found.—Address Rev. W. M. Oliver, Bovinger Rectory, Ongar, Essex.

WANTED, on a gentleman's Farm, under a Bailiff, a good COWMAN, who understands also the Breeding, Rearing, and Feeding of Cattle and Sheep, and can Slaughter Sheep and Pigs.—Apply, by letter, with full particulars, to H.P., 328, Regent Street, W.

**WANT PLACES.—Letters to be Post Paid.**

GARDENER (Head).—Age 32, single, native of Scotland; thorough practical knowledge of every department. Five years' character from last employer.—A. C., Post Office, Millpond Street, S.E.

GARDENER (Head).—Age 35; perfectly understands his profession in its various branches, the Forcing of Fruits, Flowers, and Vegetables, and the general routine of Kitchen and Flower Gardens, Plants, &c. Highest references.—Burdett, Walton-upon-Thames.

GARDENER.—Age 35, single; has a practical knowledge of Forcing, Early and Late Vines, the Management of the Flower and Kitchen Gardens, Greenhouse, &c. Highly recommended.—J. B., Mrs. Bryant, King Street, Maidstone.

GARDENER (Head).—Middle aged, married, no incumbrance; is well experienced in early and late Forcing of Fruits, Flowers, and Vegetables, with the culture of Vines, Pines, &c.; also has had great practice in Landscape operations, Levelling, and Draining, Ornamental Planting, Superintending and Keeping Accounts. Has lived as Head Gardener, and filled situations of very great trust from which he can furnish the highest reference as to character and ability.—A. Z., Messrs. Thomas Gibbs and Co., Seed Merchants, Corner of Half-Moon Street, Piccadilly, London, W.

GARDENER (Head).—Age 30, married; thoroughly competent to undertake the management of a nobleman or gentleman's Garden in every department. Will be engaged the 23d September. Five years' good character from J. P., H. Woodyers, Esq., Grafham House, Guildford.

GARDENER (Head).—A gentleman is desirous of procuring a situation as Head Gardener for one who will leave him (age 35). He is perfectly competent in every branch of Gardening. Forcing, Stove Plants, &c., and understands Stock. Can be strongly recommended.—J. F. Musser, Nurseryman, High Street, Clapham, S.

GARDENER (Head or Single-handed).—Age 30, practical, working; perfectly acquainted with all kinds of Forcing, the Propagation of Bedding-out Plants; also Laying-out, Planting, and Arranging Flower and Kitchen Gardens to any extent. Can manage Land and Stock if required. Five years' good character from last place.—A. B., Wm. Cutbush & Son, Highgate Nurseries, London, N.

GARDENER (Head) or GARDENER and BAILIFF.—Age 30, married, no incumbrance; thoroughly understands his profession in all its branches. Four years' good character.—A. B., Post Office, Bramcote, near Derby.

GARDENER (Head), or GARDENER and BAILIFF.—Age 29, married, one child; understands Forcing Fruits, Flowers, &c., the management of Kitchen and Flower Gardens, Hot-water Apparatus, &c.; also Arable and Grass Land. Wife can take charge of Dairy and Poultry. No objection to Ireland. Good character.—A. B., 12, Victoria Terrace, St. John's Wood, London, N.W.

GARDENER.—Middle aged, without incumbrance, has had long experience. Can have an excellent character.—P. R., Post Office, Horringer, near Bury-St.-Edmunds.

GARDENER.—Age 39, married, no incumbrance; well understands Forcing, Kitchen and Flower Gardens. Nine years in last situation. Character unexceptionable.—E. G., Willeygate, Farnham, Surrey.

GARDENER (Single-handed or Second).—Age 22, single; steady and active, from the country; can have the management of a Vinery, Conservatory, Pits, Kitchen and Flower Gardens, &c. Good character will be given.—C. G., Post Office, Lexden, Colchester, Essex.

GARDENER or UNDER GARDENER.—Single; good references.—H. P., 40, Museum Street, Bloomsbury, W.C.

GARDENER (Under).—Age 22; two years' good character.—G. D., Post Office, Beckenham, Kent, S.E.

GARDENER (Under).—Age 23; understands Flower and Kitchen Gardens. Good character.—J. B., Post Office, Herongate, Brentwood.

GARDENER (Under).—Age 28, single; good character from last situation.—D. D., Post Office, Turnpike Hill, Cheshunt, Herts.

**TO NOBLEMEN AND GENTLEMEN.**

WOODMAN (Head).—Middle aged, married; has been used to the business all his life; thoroughly understands the Rearing, Thinning, and entire Management of Plantations, Buying, Selling, and Measuring Timber.—C. M., 108, Low Town, Worksop, Notts.

TO ESTATE AGENTS, &c.—Age 21; acquainted with Surveying and Levelling, is a good Draughtsman and Accountant, and has a knowledge of Machinery.—A. A. F., Post Office, Bromsgrove.

LAND STEWARD and GENERAL MANAGER of an ESTATE.—Age 38, married; has had great experience in the cultivation of all kinds of soils, also in the drainage of Lands, purchase and sale of Live Stock, keeping Accounts, planning of Farm Buildings, &c.; has held his present situation 6½ years, and is leaving in consequence of the home farm having been let. Can be very satisfactorily recommended.—Mr Conolly Anstruther, Fife, Factor to the Right Hon. Lord William Douglas of Grangemuir, &c.

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BAILIFF or MANAGER of an Estate to a Nobleman or Gentleman.—Age 35; about leaving situation where he has been Managing an Estate in one of the most highly cultivated districts of Norfolk. Has had extensive experience in Draining Land, the Building of Farm Homesteads on the most improved system, the Working of almost every description of improved Machinery for agricultural purposes, the Breeding, Rearing, and Fattening of Stock, the Manufacture and Use of Artificial Manures, and the Growing of every description of Root Crop. He can be highly recommended by several landed proprietors and agriculturists.—A Z, Spread Eagle, Market Place, Norwich.

**TO NOBLEMEN AND GENTLEMEN.**

FARM STEWARD or BAILIFF.—Age 34, married; understands the improved System of Cultivation both Heavy and Light Soils, the Management of Stock in general. Buying and Selling the same, and Corn. Well versed in Accounts. Satisfactory references from last employers.—G. B., Wm. Brown, Paul's Farm, Gt. Wilbraham, Cambridge.

**TO NOBLEMEN AND GENTLEMEN.**

STEWARD or FARM BAILIFF.—Experienced, practical; has a thorough knowledge of his profession in all its branches. Can be highly recommended by his last employer.—G. G., care of Messrs. Thos. Gibbs & Co., Half-Moon Street, Piccadilly, London, W.

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**TO NURSERYMEN AND SEEDSMEN.**

SHOPMAN.—A young Man, who has had nearly eight years' experience.—J. P., Stuart & Mein, Kelso.

**TO NURSERYMEN AND SEEDSMEN.**

SHOPMAN.—A young Man of good experience wishes for a situation as above.—Ribes, Post Office, Bayswater, London, W.

SHOPMAN (Under).—A Young Man who has had experience in good houses. Is willing to make himself useful, and can be well recommended.—A. Z., *Gardeners' Chronicle* Office, W.C.

# The Gardeners' Chronicle Newspaper.

*SATURDAY, SEPTEMBER 17, 1859.*

THE CENTRAL TRAINING SCHOOL OF ART at South Kensington, for Male and Female Students, and METROPOLITAN SCHOOLS OF ART, at 37, Gower Street, W.C., for Female Classes only, and at Spitalfields, Crispin Street, N.E.; Finsbury, William Street, Wellington Square, W.C.; St. Thomas Charterhouse, Goswell Street, E.C., Rotherhithe, Grammar School, Deptford Road, S.E.; St. Martin's-in-the-Fields, Castle Street, Long Acre, W.C.; Lambeth, St. Mary's, Princes Road, S.; Hampstead, Dispensary Building, N.W.; Christchurch, St. George's-in-the-East, Cannon Street, E., will re-open on MONDAY, October 3.

Applications for admission, prospectuses, or any other information, to be made at the schools in each district, and at South Kensington, W.

By order of the Committee of Council on Education.

MINERALOGY.—KING'S COLLEGE, London.—Professor TENNANT, F.G.S., will commence a COURSE of LECTURES on MINERALOGY, with a view to facilitate the study of Geology, and of the application of mineral products in the Arts. The Lectures will begin on FRIDAY, October 7, at 9 o'clock A.M. They will be continued on each succeeding WEDNESDAY and FRIDAY at the same hour. Fee 2*l.* 2*s.* R. W. JELF, D.D., Principal.

GOVERNMENT SCHOOL OF MINES AND OF SCIENCE APPLIED TO THE ARTS.

*Director.*

Sir RODERICK IMPEY MURCHISON, D.C.L., M.A., F.R.S., &c.

During the Session 1859-60, which will commence on October 3, the following COURSES of LECTURES and PRACTICAL DEMONSTRATIONS will be given:—

1. Chemistry. By A. W. HOFMANN, LL.D., F.R.S., &c.
2. Metallurgy. By JOHN PERCY, M.D., F.R.S.
3. Natural History. By T. H. HUXLEY, F.R.S.
4. Mineralogy. } By WARINGTON W. SMYTH, M.A., F.R.S.
5. Mining. }
6. Geology. By A. C. RAMSAY, F.R.S.
7. Applied Mechanics. By ROBERT WILLIS, M.A., F.R.S.
8. Physics. By G. G. STOKES, M.A., F.R.S.

Instruction in Mechanical Drawing, by Mr. BINNS.

The fee for Matriculated Students (exclusive of the laboratories) is 30*l.* in one sum, on entrance, or two annual payments of 20*l.*

Pupils are received in the Royal College of Chemistry (the laboratory of the School), under the direction of Dr. Hofmann, at a fee of 10*l.* for the term of three months. The same fee is charged in the Metallurgical Laboratory, under the direction of Dr. Percy. Tickets to separate courses of Lectures are issued at 1*l.*, 1*l.* 10*s.*, and 2*l.* each. Officers in the Queen's service, her Majesty's Consuls, acting mining agents and managers, may obtain Tickets at reduced charges.

Certified schoolmasters, pupil teachers, and others engaged in education, are also admitted to the Lectures at reduced fees.

His Royal Highness the Prince of Wales has granted two Exhibitions, and others have also been established.

For a prospectus and information, apply at the Museum of Practical Geology, Jermyn Street, London, S.W.

TRENHAM REEKS, Registrar.

NEXT OF KIN WANTED, AND OTHERS who have been Advertised for; being exact Copies of Advertisements from the *Times*, *Gazette*, *Post*, *Advertiser*, *Chronicle*, &c.; also *Melbourne Argus*, *Sydney Herald*, *Canadian News*, *New York Herald*, *Indian Mail*, &c., for the last 60 years, covering many hundreds of Names and Descriptions of Persons of all classes Entitled to Property of several millions value. This invaluable new Book (just out) is worth its weight in gold. Hidden treasures for hundreds in England are to be found in this extraordinary publication. It is sent, post-free, to every part of the United Kingdom for 12 penny post stamps by the publishers, FISHER & SON, Kingsland, London, N.E. Sent punctually per return of post.

TWENTIETH ANNUAL PUBLICATION.

TO AGRICULTURAL IMPLEMENT MAKERS AND OTHERS.

JOHNSON AND SHAW'S FARMERS' ALMANAC FOR 1860 will be published as usual on the 1st of November. Advertisements intended for insertion must be sent not later than the 10th of October.

JAMES RIDGWAY, 169, Piccadilly, W.

ZADKIEL'S ALMANAC FOR 1860 is now ready, 84 pages, price 6*d.*, with a large Hieroglyphic of a warlike description, the Nativity of Louis Napoleon for some years to come, &c.—GEORGE BERGER, Holywell St., Strand, London, W.C.

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| 20 in. by 14 in. | English Glass .. .. | 18 0 .. | 1 9 |

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See *Gardeners' Chronicle* first Saturday in each month.

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6 by 4, 7 by 5, 8 by 6, 9 by 7 } 16 oz. to the foot, 11*s.* 6*d.*
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In 100 boxes,—4ths quality, 12*s.* 6*d.*; 3ds do., 14*s.* 6*d.*

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11 by 9, 13 by 9, 13½ by 10½, 12 by 11, 14 by 11
11½ by 9½, 12 by 10, 14 by 10, 12½ by 11½

| | per 100 feet | 16 oz. | 21 oz. |
|---|---|---|---|
| 20 by 12 | Common .. | 16*s.* .. | 24*s.* |
| 20 by 13 | | | |
| 20 by 14 | Superior . | 18*s.* .. | 27*s.* |
| 20 by 15 | | | |

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*Extract from Leading Article in Gardeners' Chronicle, April 9, 1859.*

"That it really kills red spider, aphides, mealy bug, thrips, and scale, it is impossible to doubt, in the face of reports of practical men, among whom we may mention Mr. D. Judd, of Althorp Gardens." Then follows a caution against the use of a too strong solution.

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## News of the Week.

A GREAT disaster—the greatest which has ever been sustained by any European flag in the Eastern seas—has fallen upon the allied English and French squadron at the mouth of the Peiho river. It will be remembered that the treaty concluded by Lord ELGIN with the Chinese Commissioners provided that the QUEEN OF GREAT BRITAIN and the EMPEROR OF THE FRENCH should be represented at Pekin by Ambassadors, who should enter into direct relations with the EMPEROR OF CHINA. In accordance with these provisions, Mr. BRUCE and M. DE BOURBOULON were sent out to China as the Ambassadors of England and France, with orders to proceed to Pekin by the Peiho River. They reached the mouth of the river on the 18th of June, escorted by the allied

squadron under Admiral HOPE and Capt. TRICAUET, and immediately sent letters on shore announcing their arrival. But the Chinese Plenipotentiaries who were to have met them at that place were not forthcoming, and the Ambassadors found that since Lord ELGIN's visit the Chinese had constructed fortifications on the banks of the river, and had barred the entrance of the stream with four formidable lines of booms and stakes. The officer sent on shore to communicate with the authorities was not allowed to land, and was informed by some petty Mandarins that there were no officials nearer than Tientsin, and that the Ambassadors might proceed to Pekin by a passage to the northward. They stated that the "country people" had thrown up the forts and barred the river as a protection against pirates, but the forts were not yet manned. In answer to the Admiral's request that the barriers should be removed in order to enable the Ambassadors to proceed to Tientsin, they promised that the removal should be commenced within 48 hours. This promise not having been fulfilled on the 20th the Admiral sent a letter to the Tautai at Tientsin, requesting free communication with the shore; but after two days' delay an evasive answer was received. The Ambassadors were now satisfied that the Imperial Government did not intend to permit their advance towards the capital. They therefore handed over the matter to the Admiral, who proceeded on the 25th of June to force the passage. Having hoisted his flag in the Plover gunboat, he advanced with 9 gunboats and 2 despatch vessels against the first barrier. It proved however too strong to be forced; but some of the stakes were drawn by the Opossum, and the Admiral immediately advanced against the second barrier. He had no sooner passed the breach made in the first than a gun was fired from the batteries, and, as if by magic, the masks of all the forts were rolled up; a Mongol force of 20,000 men appeared upon the walls, and a fire of from 40 to 50 guns was concentrated upon the gunboats with a scientific accuracy and skill which made it evident that they were served by European gunners. The action immediately became general, but the gunboats having no broadside fire were unable to sustain the heavy fire of the forts, and soon became entangled in the intricacies of the booms and stakes or stranded on the mud. Admiral HOPE was wounded early in the action, but gallantly kept the deck till he was again more seriously injured. Meanwhile the fire of the forts having slackened, the Marine and Naval Brigades, a small party of Royals, some Artillery and Engineers, were ordered to land and to take the batteries in flank. But the spot selected for this operation was a bank of mud so deep as to reach the knees, and in some places the waists of the troops. While wading through this they were decimated by a fire of artillery, gingalls, Minie rifles, and arrows, directed against them from the batteries. After struggling through the mud, they had to cross a ditch 10 feet broad, and 5 feet deep, and in so doing spoiled their ammunition. Their commanders, Colonel LEMON and Captains SHADWELL and VANSITTART, had by this time been wounded and disabled; and Commander COMMERELL and Major PARKE took the lead. They then encountered a second ditch through which they fought with undinching gallantry, and at length under an incessant fire 100 men out of the 1000 who had landed reached a third ditch close under the walls of the forts. But they had lost their scaling ladders in the mud, and being too exhausted to attempt the assault without reinforcements, which it was impossible to send, they were compelled to retire, the Chinese picking them off by the light of carcases and blue lights during the retreat. Meanwhile the loss in killed and wounded on board the gunboats had been very severe; the Lee and Kestrel had sunk, and the Cormorant, Plover, and Starling had run so fast aground that it was necessary to abandon them. Our loss was 81 killed and 345 wounded; the loss of the French was 4 killed and 10 wounded, being in each squadron about the same proportion to the numbers engaged. Among the killed were Captain M'KENNA, of the 1st Royals, doing duty on the Admiral's Staff, Lieut. GREAVES of the Assistance, Lieut. CLUTTERBUCK and Mr. HERBERT of the Chesapeake, Lieut. RASON of the Plover, Lieut. INGLIS of the Highflyer, and Lieut. WOOLRIDGE of the Marine Brigade. The list of wounded includes the names of Admiral HOPE, Captain TRICAULT, the French Commander; Captain VANSITTART, Captain SHADWELL, Captain WILLES, Colonel LEMON, Major CROKER, Captain SLAUGHTER, and Captain MASTERS, of the Royal Marines, and numerous other officers whose names will be found in another column. It is evident from these details that all hope of the Treaty being carried out is at an end, and that a fresh war ending in the capture of Pekin is now inevitable. Orders have already been issued for the immediate despatch of large reinforcements to China, and the *Moniteur* of Wednesday officially announced that "the Government of the EMPEROR and that of Great Britain are about to take measures together to inflict chastisement and obtain every satisfaction which so flagrant an act of treachery requires."

## Home News.

THE QUEEN IN SCOTLAND.—On Wednesday week the Queen, accompanied by the Princesses Alice and Helena, drove to Dhu Loch. The Prince Consort went out deer-stalking. On Thursday her Majesty and the Prince Consort drove to Strathdon, and returned by Ballater. On Friday her Majesty drove out, and the Prince Consort went out deer-stalking. On Saturday the Queen, accompanied by the Princesses Alice and Helena, drove out and witnessed the driving of the Abergeldie Woods for deer. The Prince Consort went out deer shooting. In the evening the Prince of Wales arrived from Holyrood Palace. On Sunday the Queen, Prince Consort, the Prince of Wales, and the Princess Alice attended Divine service at the parish church of Crathie; the Rev. Dr. Cook officiated. On Monday the Queen and Prince Consort rode out. In the evening the Queen, Prince Consort, the Prince of Wales, the Princesses, and Prince Arthur, were present at a ball given by her Majesty and the Prince Consort to the gillies, keepers, &c., of the Balmoral and neighbouring properties. On Tuesday the Queen, accompanied by the Princess Alice, rode out. The Prince Consort and the Prince of Wales went to the Abergeldie Woods, which were driven for deer. The Count de Flandres arrived on a visit to her Majesty.

HER MAJESTY'S VISIT TO LOCH KATRINE.—A deputation from Glasgow arrived at Balmoral on Tuesday, and presented a respectful request, in the name of the Lord Provost, magistrates, and council, that her Majesty would inaugurate by her presence the opening of the new supply of water from Loch Katrine to Glasgow, the works for which are now on the eve of completion. Her Majesty complied in a very gracious manner, and will proceed from Edinburgh to Loch Katrine on the 14th of October, and open the sluice by which the first stream of this magnificent store of water will be conveyed to Glasgow.

THE PRINCE OF WALES left Holyrood Palace on Saturday for Balmoral. Before leaving Edinburgh his Royal Highness desired to mark his recognition of the facilities offered him for study at the University by being registered as a student. The secretary to the University accordingly went to Holyrood on Friday, and after obtaining the signature of the Prince to his obligations as a student, delivered to him the usual matriculation ticket. It is rumoured at Oxford that the Prince will not occupy Frewen Hall, the residence which was taken for him in that city; but that the lodgings in Christ Church occupied by the late Canon Barnes will be fitted up for his reception. The Rev. C. F. Tarver, who has superintended the studies of his Royal Highness since 1855, will not accompany the Prince to Oxford, but will retire from the Royal service, and resume his duties as rector of Ilketshall St. John's, Suffolk.

THE DUKE OF CAMBRIDGE landed at Dover on Friday from Calais, on his return from Germany.

THE GRAND DUCHESS MARIE of Russia and her suite have left Claridge's Hotel for Torquay.

PARLIAMENTARY MOVEMENTS.—Sir Baldwin Leighton was elected on Wednesday for South Shropshire without opposition, in the room of the late Hon. Windsor Clive.

REINFORCEMENTS FOR CHINA.—The Government have decided on despatching several additional steam-frigates and corvettes, together with a sufficient number of sailing frigates, to augment the squadron in the Chinese waters. A force of 1000 additional Marines will be sent out in them from the divisions at Chatham, Portsmouth, Plymouth, and Woolwich. Orders were received at the Naval rendezvous, Tower Hill, on Wednesday, to enter able and ordinary seamen, landsmen, petty officers, and artisans for the ships about to be despatched, and in order that they may be manned with all expedition the Coastguard are to be called on to volunteer.

THE VOLUNTEER RIFLE MOVEMENT.—Mr. Sidney Herbert, the Secretary for War, has written a letter to Lord Vivian, in which he says:—

"The volunteer movement is doing right well, and falsifying the sinister prophecies of its opponents, for there are no indications of slackness among those who take it up, but an evident determination to acquire a thorough knowledge of their duties; and the Government, I can assure you, fully appreciate the value of this public spirit. General Hay reports from Hythe that the volunteer officers who have come there for instruction have beat any officers he has ever had there under instruction—so great has been their zeal, as well as intelligence."

The following is a list of the principal towns in which companies have been already formed, and in most of which the different corps have made great progress in their drill and are now fully equipped:—Accrington, Aylsham, Ashford, Birkenhead, Brentwood, Bradford, Bridport, Bristol, Bungay, Blackburn, Bromfield, Birmingham, Coventry, Callington, Cheltenham, Cranbrook, Colchester, Canterbury, Cambridge, Chelmsford, Deal, Dover, Edinburgh, Exeter, Elmbridge, Falmouth, Fowey, Folkestone, Feversham, Gloucester, Gravesend, Greenwich, Grantham, Helstone, Ipswich, Ilford, London, Lewisham, Lynn, Liverpool, Lincoln, Louth, Marylebone, Maidstone, Malling, Monmouth, Newport, Norwich, Penzance, Plymouth, Pontypool, Padstow, Peckham, Ramsgate, Richmond, Rochester, Romford, Redruth, Rugby, Sevenoaks, Salisbury, Stowmarket, Sleaford, Stroud, Sheffield, Tunbridge, Tenterden, Taunton, Tynemouth, Tewkesbury, Woolwich, Woodbury, Wadebridge, Weybridge, Walton, Witham, Wisbeach, and Yarmouth. The London Brigade, London Scottish, and Surrey companies have accepted the offer of the Crystal Palace Company to place a portion of their ground near the archery butts at the disposal of the different London corps for purposes of practice. The Gravesend, Yarmouth, Plymouth, and other sea-coast corps are to be artillery, instead of rifle corps, by desire of the Government; and the Secretary at War on Thursday notified to the officers of these artillery corps that they will be attached to Militia artillery regiments, in order that they may be made perfect in their drill. The uniform varies in different localities, but it appears for the most part to be either dark green with occasionally a scarlet collar, or grey with black and scarlet or green facings. The London Scottish have decided on having a kilt company. It is stated that the Government contemplate issuing a further supply of 25 per cent. of rifles as soon as they are in a position to do so.

## Foreign.

FRANCE.—The *Moniteur*, in an article containing the details of the late treachery of the Chinese, concludes by saying:—

"The Government of the Emperor and that of Great Britain are about to concert measures to inflict chastisement and obtain every satisfaction that so flagrant an act of treachery requires."

It is reported in Paris that 12,000 French troops are ordered to be held in readiness for China, and that General Wimpfen is likely to command them. It is also rumoured that the Governments of France and England have both agreed that it will be necessary to hold a Congress for the settlement of the Italian question. The article which appeared last week in the *Moniteur* on the complications in Italy has produced a profound sensation throughout France. It is said that it came direct to the office from the imperial residence at St. Sauveur, that there was no intermediate person employed, and that none of the Cabinet Ministers were acquainted with it until they read it in the official journal. It was immediately after the conversation with Prince Metternich, and just as the Ambassador was returning to Vienna, that the Emperor thus expressed his feelings. Their Majesties have arrived at Biarritz. The King of the Belgians was expected to arrive on Wednesday, the magnificent Château d'Ardoin having been hired for his reception. The interview between the Emperor Napoleon and King Leopold was expected to take place on Thursday. Count Walewski, the Minister for Foreign Affairs, was to leave Paris on the 17th for Biarritz. Count Reiset has returned to Paris from his mission to Italy. The French Government has sent an officer to the Island of Perim to ascertain whether the island has been converted into a citadel or is used simply as a lighthouse. M. de Sercey, who had been sent by the French Government to India on a secret mission, is said to have sent home a report containing a very gloomy picture of the situation of British India. M. Kossuth, who has been spending some time in Paris, has returned to London. It is said that he expresses himself as weary of political affairs, and as unable to cope with the intrigues of the present day. The Cathedral of Cambrai was nearly destroyed by fire on Friday last. In less than half an hour the roof fell in, but the interior of the church was preserved. The magnificent organ was totally destroyed. The loss is estimated at 350,000f. M. Jacques Coste, founder of the Paris paper *Le Temps*, and one of the journalists who most contributed to the success of the Revolution of 1830, died in Paris on Sunday last. He was one of the 40 who signed the protest against the ordinances published by Charles X.

ALGERIA.—Advices from Algeria state that a troop of Morocco cavalry had attacked two French outposts on the frontiers, and had met with a repulse.

SPAIN.—Letters from Madrid state that the English Ambassador had addressed inquiries to the Government concerning the concentration of Spanish troops in Algeciras. The reply of Spain is said to have been drawn up with great courtesy, but did not fully explain the reasons of the concentration of troops at this point.

AUSTRIA.—The Vienna official journals express their approbation of the late article in the *Moniteur*, and hope that it will have due effect on the people of Central Italy. Prince Richard Metternich left Vienna on Thursday evening for Paris. The official portion of the Vienna *Gazette* of Saturday contains an Imperial decree for the regulation of the Protestant churches in Hungary, the Woywodschaft, Croatia and Slavonia, and the military boundary district. By this decree, each Protestant parish has henceforth a right freely to elect its own rector, vicar, and schoolmaster. The supreme authority, legislative and administrative, is lodged in the General Conference and the Synod. In all matters of discipline the Protestant clergy are to be subject only to their own ecclesiastical authorities. Education is to be free, and the Protestant schools are for the future to be under the direction and inspection of their own ecclesiastical organs. The anti-Protestant Mortmain Act is abrogated, and the right is given to the different Protestant communities to acquire property in any and every legal way. A modification of the marriage law is conceded, and as soon as the Protestant Ecclesiastical Courts are established the Imperial authorities will cease to have a right of jurisdiction in matrimonial matters. A right of inspection in the case of schools is reserved on the part of the Crown, but only Protestants are to be appointed to the office. A general right of superintendence in the Conferences and Synods is also reserved, but this right does not seem to involve any actual control over the proceedings and acts of those ecclesiastical conventions. The non official part of the same *Gazette* contains an article promising that great concessions shall be made to the Protestants of all other provinces. A Protestant member has already been elected to the Consistory of Vienna. The Austrian Government has ordered two 50-gun screw frigates and 12 sloops and gunboats to be built at Pola. The uniform of the Austrian infantry is about to undergo a complete change; the white coats are to be abolished, and the troops are to have tunics and trousers of a bluish grey. The tunics are to have red facings, and the belts and accoutrements are to be in black leather.

ITALY.—The principal inhabitants of Turin have presented an address to the head of the municipality of that city, requesting him to appoint a committee of the Syndics or Mayors of the principal towns, for the purpose of making known in France the gratitude of the Italian people to the Emperor Napoleon, by erecting a monument in Paris at their expense expressive of those feelings. The National Assembly of Parma, in its sitting of Saturday, voted unanimously, and by ballot, the annexation of the provinces of Parma to the kingdom of Sardinia, "under the sceptre of the glorious dynasty of Savoy." In the same sitting an address of thanks to the Emperor Napoleon was unanimously adopted. In the sitting of Wednesday the Assembly unanimously voted the confirmation of Signor Farini as Dictator, and further resolved to take into consideration a proposal to authorise the Dictator to contract a loan, the amount of which remains to be fixed. The deputations from Parma and Modena arrived at Turin on Thursday. The members of the Municipality and the Parliament went to meet them at the railway terminus, and the people gave them an enthusiastic reception. They were received by the King on the same day, when his Majesty thanked them in cordial terms, and said, as he had previously said to the Tuscan deputation, that, armed with the rights he had acquired, he would support their cause before the Great Powers, and especially before the French Emperor. The members of the Modenese deputation were—Advocate Muratori, Count Ancini, Professor Zini, Advocate Brizzolari, Doctor Sacerdoti, and Professor Selmi; the Parmesan members were the Marquis Muschi, Count San Vitale, Maestro Verdi, Professor Piarrozi, and Marquis Dolsi. At Florence on Sunday Signor Ricasoli reviewed the National Guard, and subsequently published an order of the day thanking the Guard, in the name of the country and the King of Sardinia, for their bearing and discipline, expressing confidence in the future, and hoping that the Guard and the regular troops would support the wishes of the country. Accounts from Rome state that the Pope's health appears to be declining; he has had erysipelas in his left leg, which exhibited rather alarming symptoms, and caused fever and swelling in several parts of the body. In consequence of this illness his Holiness has suspended all audiences for several days, and intends to leave Rome as soon as possible for Castel Gandolfo. The Papal Nuncio at Munich, Prince Chigi, has been summoned by telegraph to Rome, to be present at the Council which has under its consideration important administrative reforms. Though the official journal denied the massacre of Perugia, the Pope has granted fresh rewards to those engaged in it, and has struck a medal in honour of the occasion.

IONIAN ISLANDS.—The Lord High Commissioner has further prorogued the Assembly from the 10th of September to the 10th of December. His Excellency left Corfu on the 4th inst. for Zante and the other islands, where he will remain for two months, in order to become acquainted with their local circumstances.

TURKEY.—Accounts from Constantinople state that the Sultan nearly lost his life on the 3d inst. An Ionian captain commanding an English steam tug drove his vessel twice against the Imperial caique, and the Sultan was saved with great difficulty. The captain has been arrested, and Sir Henry Bulwer has assured the Government that the most searching inquiry shall be made into the affair. One of the ladies of the Sultan's harem, a beautiful Circassian called Serserfras Hanum, who had been for some time one of the Sultan's favourites, has eloped with an Italian called Guatelli, the master of the Sultan's band. Reinforcements of troops have recently been sent from Constantinople to Candia, and several arrests have taken place. The Governor has sent in his resignation. The smuggling of arms continues, and a seizure of a bomb vessel charged with powder has been made. A secret understanding has been discovered among the Candian refugees in Greece. The principal Greek inhabitants of Candia have forwarded a memorial to the Porte to justify themselves.

SERVIA.—The political agitation in Servia is on the increase. The National Assembly (Skouptschina) has been convoked.

TUNIS.—The Bey of Tunis has been attacked with erysipelas in the left side, and the French physician has been summoned to his aid, but hopes were entertained of his recovery.

MOROCCO.—Advices from Tangiers state that no serious disturbances had taken place in any part of the territory of Morocco in consequence of the death of the late Emperor, and that Sidi Mohammed, who was on his march from Morocco to Fez, had been proclaimed Emperor at Fez, Mequinez, Tetuan, and Arabas, and was about to be proclaimed at Tangiers. All the Christians have escaped from Rabat.

BLACK SEA.—Letters from Trebizond give accounts of a frightful earthquake which has taken place in the Government of Tiflis. The entire city of Chirvan was engulfed by the fall of a neighbouring mountain. Accounts from Erzeroum state that a large fire had broken out in that city, which had also been visited again by repeated shocks of earthquake. An extraordinary flight of locusts, which settled on the Asiatic coast of the Black Sea, has committed terrible ravages, destroying the entire crop of maize and all other grain.

THE CAUCASUS.—News from the Caucasus to the 26th ult. states that the Circassian chief Schamyl has been made prisoner and is to be sent to St. Petersburg. His strongest place of defence, the fortress of Ischoch, had previously been given over to the Russians, with three cannons, and he himself had been wandering in the mountains, pursued by the inhabitants and by the Russians. His own people had forsaken him, while the inhabitants had turned their arms against him, and despoiled him of his goods and treasure.

INDIA.—Accounts from Bombay to the 21st ult. have been received. European intelligence has been received at Calcutta through the Red Sea Telegraph for the first time. The civil *employés* have raised objections to the threatened diminution of their salaries. The Commander-in-Chief has issued an order of the day, warning Europeans of the disadvantage of taking discharge; only a few, however, have withdrawn their names. The number of discharged in Bengal will reach 6000. The Sikhs on the Nepaul frontiers have had two successful engagements with the rebels. The rebel fugitives in the mountains of Nepaul number about 8000 men. Some excitement exists among the Mahomedans of the Punjab. The 5th and 6th Regiments of Madras Cavalry have shown symptoms of disaffection at Hydrabad. The telegraph from Kurrachee to Lahore is completed.

CHINA.—The accounts from China are of the most disastrous nature, our forces having been repulsed at the entrance of the Peiho with very severe loss. Mr. Bruce and M. de Bourboulon, the French Ambassador, arrived off the Peiho on the 18th of June, and sought communication with the authorities on shore. Our officers were not allowed to land, but some messages were interchanged between some petty Mandarins and Mr. Bruce's suite. The tenor of these was that the foreign Ministers would be allowed to proceed to Pekin by a passage to the northward, and that there were no officials nearer than Tientsin. They disclaimed acting under Imperial orders, stating that the forts and barriers in the river were constructed by the country people to protect them against pirates, and that the forts were not yet manned. At the same time they promised, in answer to the Admiral's request, to commence the removal of the barriers within 48 hours. Three days having passed without this promise having been performed, the Admiral sent a letter to the Tantai at Tientsin, but received, two days afterwards, an evasive reply. In these circumstances Mr. Bruce handed the matter over to Admiral Hope, who on the 25th June proceeded to force a passage. The following details of the operations and disasters which ensued are gathered from the official despatches and from the letters of officers which have appeared in the China and Ceylon papers:—

On the 24th of June the whole of the Naval and Marine Brigades, with the French frigate Duchayla, were towed in over the bar and put on board some junks which had been detained for the purpose out of gunshot of the forts. The remainder of this day was spent in making the final preparation for an attack on the forts, which were very substantially built, and had evidently had the benefit of European skill in their construction, as had also their guns during the action. The principal forts consisted of three bastions connected by curtains and armed with guns of from 24-pounders to 50-pounders. One of these forts was on the south bank of the river and another on the north, but that on the north ran at right-angles to the south batteries, and thus any ships anchoring parallel to the south forts—*i. e.*, in the line of the river—were exposed to a raking or longitudinal fire from the north forts. Besides these, there were two or three other batteries which took part in the action, but without much effect. Four very formidable barriers crossed the river, the outer one being so situated that it was not more than 600 yards from any gun in the batteries, and considerably less than that from most of them. The flag captain partially destroyed one of these barriers during the night of the 24th, but was fired on by the batteries and retired. On Saturday, June 25, the gunboats Janus, Kestrel, Lee, Haughty, Plover, Starling, Opossum, Banterer, and Forester, with the despatch vessels Nimrod and Cormorant, took up their positions, the naval gunboat, the Banterer, being close to the outer barrier on the north side of the river, the line of vessels crossing the stream from that point [illegible], or in a south-easterly direction. The Admiral [illegible] the Plover, and, with the Opossum [illegible] about 7 A.M. to force his way through the outer barrier. The Opossum stranded at 6, but it was the flowing tide. However, by backing her anchor to one of the junks she managed to bring one up, and so made room to pass through. [illegible] the second barrier. The Admiral [illegible] the Opossum had no sooner pushed the bow of the Plover through the barrier, than a gun was fired at her from the [illegible]. She immediately returned it, when, as if by magic, the sides of all the forts were rolled up, a tremendous fire was opened on the squadron, and the action became general. The Lee, by signal from the Plover, passed through the stakes to the support of the Admiral. The Plover and Opossum were, however, soon obliged to slip, the fire being too heavy for them, and, followed by the Lee, dropped down out of the station [illegible]. The Plover suffered very much in hull and [illegible]. An officer was sent to the reserve to order up [illegible], but the tide was too strong for the boats to attempt to pull up. The American flag officer very kindly offered to tow the boats up to a position to enable them to reach the gunboats. At this the enemy's fire having slackened somewhat, [illegible] were sent down to the reserve for the Marine and Naval Brigades to prepare to land, and the Forester and the Opossum, together with the Toeywan, proceeded and towed them to the Nimrod, the place of rendezvous. At an early period of the action the Admiral had been wounded on board the Plover by a splinter in the thigh, and that vessel was almost entirely disabled. He [illegible] shifted his flag to the Opossum, where [illegible] on the side-ropes, and thence issued his orders, until a round shot cut the mainstay on which he was leaning, and caused him to fall to the deck, a height of 8 feet, breaking his leg and severely shaking him. After a short time he left the Opossum in the Duchayla's gig, and proceeded to the Cormorant, where he remained. At 5.45 the boats having assembled alongside the Nimrod, pushed for the shore with the Naval Brigade commanded by Capt. Shadwell, the Marines commanded by Colonel Lemon, and the French Contingent commanded by Captain Tricault of the Duchayla. The spot chosen for the landing was unluckily a bank of mud about knee deep. Just as the first boat touched the shore, a gun was fired from the forts, followed by a perfect hurricane of shot, shell, [illegible], grape balls, and rockets, from all the northern batteries, which mowed down our men as they landed. Nevertheless they all leaped out of the boats with undiminished ardour (many into water so deep that they had to swim to the shore) and dashed forward through the mud, which [illegible] in so heavy a covering for the body as they possibly could. The enemy's fire, however, continued to be so deadly, and the mud proved so deep (in most places reaching up to the men's knees and often up to their waists) that out of the 1000 men who landed barely 100 reached the first of three deep and wide ditches, which after 500 yards of wading through the mud, presented themselves before the gallant few who got so far, and out of that small number scarcely 20 had been able to keep their rifles or their ammunition dry. Nevertheless, they boldly faced these new difficulties, and 50 of them, with a crowd of officers (among whom were conspicuous the commanding officer of the French contingent, Colonel Lemon, Captain Vansittart, Commanders Commerell and Heath, R.N., Major Parke, and Lieutenant Hawkey, of the Marines, Major Fisher and Lieut. Maitland, of the Engineers), succeeded in getting as far as the furthest bank of the third ditch, from which they would certainly have made a good attempt to scale the walls had ladders been forthcoming; but, out of the number that were landed, almost one half either been broken by shot or had stuck in the mud. With the remaining one, however, 10 devoted men sprang forward, three of whom were immediately shot dead, and five wounded severely. A vertical fire of arrows, as well as a constant fusillade, was kept up on this gallant band, who now crouched in the ditch, waiting for reinforcements. The officers in vain encouraged their men to charge to the walls, but it was ineffectual; the men were few and [illegible] up, and even if they had not been, they never could have carried them against the thousands that lined the walls. Under these circumstances the commanding officer despatched an officer to the rear to ask for instructions, and the senior officer sent him back immediately with orders for the force to withdraw, as no reinforcements could be sent. When this order was received the wounded were despatched to the rear by twos and threes, and two hours having been given them to get to the boats, the small advanced party retreated in good order from ditch to ditch, examining the ground in their retreat for any wounded that might have been overlooked. The Chinese gave a yell of triumph when they saw this movement, and, if possible, redoubled their fire, while our poor fellows retraced their steps as best they could, many having to crawl on their hands and knees to prevent sinking into the mud altogether. Many poor fellows in the retreat fell to rise no more, but the wounded were saved and brought off. In the [illegible] Colonel Lemon, of the Royal Marines (who was one of the first into the furthest ditch), Captain Vansittart, of the Magicienne, and Captain Shadwell, of the Highflyer, were all severely wounded. The latter was badly shot through the foot shortly after landing, but nevertheless managed to struggle manfully forward, even to the advanced trench. Captain Vansittart had his leg shot off. Lieut. Graves, of the Assistance, Lieut. Clutterbuck, of the Coromandel, Mr Herbert, Mate of the Chesapeake, and Lieutenants Inglis and Wooldridge, of the Royal Marines, were all killed while gallantly cheering on their men; and at least three-fourths of the officers who landed were more or less severely hit. In effecting the retreat even more lives were lost, perhaps, than in advancing, as the Chinese, by lighting blue lights, were enabled to discover the exact position of our exhausted men, and so to shoot them down like birds. Even on arriving at the water's edge matters were not improved, as so many of the boats had been smashed to pieces by round shot that there were not enough remaining to take off the surviving men. Several were drowned in attempting to get off, while many had to remain for more than an hour up to their necks in water before they could get a place in a boat; and even then their dangers were not past, as the fire from the forts continued so heavy that several boats full of wounded were struck and swamped while pulling off to the ships. The Coromandel was made the temporary hospital ship, and the scene on her upper deck was truly horrible. It was nearly 1 o'clock before the last load of wounded was brought off to her, and long ere that hour she was crowded with the mutilated and the dying. Every exertion, however, was made by the medical staff, assisted by Dr Little, of the Marines, and long before daybreak every sufferer had his wounds tended. Every operation (and their number was sickening) was performed under the influence of chloroform. In the meantime the gunboats recommenced their fire with the forts which was continued with great fury all [illegible] after dark, when at length, all the ammunition being expended and the vessels all being in a sinking condition, the firing gradually ceased, and by 10 o'clock the action may be said to have ended. The Lee and Kestrel had already sunk, and the Haughty just managed to keep herself afloat till morning, when she went down, but was subsequently floated and got off. At 3 A.M. the Cormorant, with the Admiral on board and full of wounded, was so fast aground that it was considered necessary to leave her, as she was right under the batteries. For the same reasons the Plover and Starling, both immovably aground, were cleared of their crews. The

morning of the 26th showed our squadron in sad condition, hardly a gunboat but was disabled. However, during the day the carpenters of the squadron were employed patching them up temporarily, and the Starling having floated, her second master proceeded in a dingy and cut her cable, when she drifted out of range with the ebb. Two night attempts were made by Captain Willes to recover the Cormorant and Plover, but without success. The Cormorant's ship company having remained till 11 A.M. to endeavour to float her, a terrific fire was opened upon her from batteries both north and south, and it soon became evident that she was sinking. Orders were therefore sent down to Commander Wodehouse to abandon her. Her ship's company and officers were embarked accordingly, but not before the water was up to her lower deck, and half an hour afterwards she went down head foremost. The same night fresh attempts were made on the Plover, but it was found impracticable, as she was full of water, and gave no hope of her being able to float. At daylight the Kestrel, which had sunk on the 25th under the batteries, was observed drifting out, and, having been towed by the Janus into shoal water, was eventually recovered. During that day the enemy got on board the Plover over the mud, and destroyed her by setting her on fire, but not before a great portion of her stores had been recovered. During the next two or three days the boats of the Chesapeake were employed destroying the abandoned vessels as much as possible. The belief is universal throughout the squadron that Europeans manned the batteries as well as Chinese. Our men were killed by bullets fired from Minié rifles, which the Chinese could not have used without European instruction. Men in gray coats with closely cropped hair, and with Russian features, were distinctly visible in the batteries, and the whole of the fortifications were evidently of European designing. Some of those who advanced near to the wall even go so far as to declare that they heard men calling for 'more powder,' in Russian; and it is reported that two dead bodies floated out of the river, dressed in Chinese clothes, but having incontestably European faces. The Americans, though they took no part in the action, were extremely kind in assisting the wounded, and in towing up several of our boats. As our ships passed in to the assault Commodore Tutnell was heard to say, "Blood is thicker than water," and in 100 different ways he and all his people, to the very cabin boys, acted up to this homely proverb. When he heard that the Admiral was wounded, at great personal risk he went on board the Cormorant to see him. His officers were loud in their praises of the daring of our men, and sent large presents of fresh meat and vegetables for the benefit of the wounded. Our loss was 426 killed and wounded, a frightful proportion in a force consisting only of 1300 men. The 1st battalion of Marines alone, which landed barely 400 strong, lost altogether 172 killed and wounded; the Chesapeake 17 killed or missing, and 32 wounded; and the gunboats 90 killed and wounded. The French, out of their small landing party of 60 men, had 14 men killed, and 2 officers and 8 men wounded No expectation is entertained of those who are missing being still alive. With such enemies as the Chinese, and under the peculiar circumstances of the case, all such hope is out of the question.

The following is a list of officers killed and wounded:—

*Killed.*—Captain M'Kenna, 1st Royals, killed on board the *Plover;* Lieut. Greaves, R.N., *Assistance*, killed on shore; Lieut. Clutterbuck, R.N., *Chesapeake*, killed on shore; Lieut. Rason, R.N., *Plover*, killed on board: Mr. Herbert, midshipman, *Chesapeake*, killed on shore; Lieut. Woolridge, *Royal Marine Brigade*, killed on shore; Lieut. Inglis, R.M., *Highflyer*, killed in boat.

*Wounded.*—Admiral Hope, severely; Captain Vansittart, *Magicienne*, loss of left leg below the knee; Captain Shadwell, *Highflyer*, severely; Captain Willess, *Chesapeake*, slightly; Captain Tricault, French frigate Duchayla, wounded in the arm; Colonel Lemon, *Royal Marine Brigade*, severely; Lieut. Purvis, R.N., *Highflyer*, slightly; Lieut. Buckle, *Magicienne*, severely; Mr. Burniston, master, *Banterer*, badly; Mr. Armitage, midshipman, *Cruiser*, severely; Mr. Powlett, midshipman, *Fury*, dangerously; Mr. N. Bowden Smith, mate, *Chesapeake*, severely; Mr. Phillips, second master, *Plover*, slightly; Lieut. Longley, *Royal Engineers*, dangerously; Captain and Brigade Major Croker, and Captain Slaughter, *Royal Marine Brigade*, slightly; Rev. H. Hulett, chaplain, *Royal Marine Brigade*, dangerously; Captain Masters, R.M., *Chesapeake*, severely; Lieut. Charles S. Williams, *Royal Marine Artillery*, slightly; Lieut. Crawford, *Royal Marine Artillery*, badly; Lieuts. Collins and W. D. Smith, *Royal Marine Brigade*, severely; Lieuts. Brenan, Douglas, Heriot, Willis, Price, Evans, Williams, Straughan, Smith, Coppin, and Carrington, *Royal Marine Brigade*, slightly; Lieut. Perceval, *Fury*, slightly; Mr. P. John Wagstaffe, assistant paymaster, *Chesapeake*, slightly; Mr. Ley, master, *Cormorant*, slightly; Dr. Watson, surgeon, *Cormorant*, slightly; Mr. G. S. Peard, *Cormorant*, slightly; Mr. S. Winter Parker, paymaster, *Nimrod*, slightly; Mr. W. L. Southey, second master, *Lee*, slightly.

The latest news states that the Plenipotentiaries have returned to Shanghai with some of the worst cases of the wounded. Captain Vansittart was scarcely expected to live. His leg had been amputated beneath the knee, and it was thought that another amputation would be necessary, as affording the only chance of saving his life. The admiral was doing well, though the French papers say that he had attempted to commit suicide, but was prevented from carrying it into execution by his officers, by whom he is much beloved. The American Minister was holding communication with the Chinese officials at a more northern entrance to the Peiho, and it was expected that he would proceed to Pekin.

UNITED STATES.—The forthcoming election of President is the great topic of discussion in the American papers, but at present Mr. Douglas is the only candidate fairly in the field. Colonel Shaffner has sailed from Boston on a voyage of exploration to the North Atlantic, in search of a feasible route for a line of telegraphic communication between America and Europe, by way of Labrador, Greenland, Iceland, the Faroe Islands, Scotland, and Norway. The papers contain notices of the brilliant appearance of the aurora borealis. Mr. Fortune, in a letter to the *Washington Constitution*, says that his success in cultivating the tea plant in America far exceeds his most sanguine expectations, and that the tea plantations in Upper India are succeeding admirably.

## Parliamentary Addresses.

MR. BRIGHT, in proposing at the Huddersfield meeting the resolution mentioned in our last Number, spoke at great length on public affairs. The following is a summary of his speech:—

"We have a Government that professes to be constitutional and representative; it has all sorts of testimonials as to character—it has, in fact, everything in the world that you could desire of that kind, but, unfortunately, you are not able to discover in its conduct anything that justifies its bold pretensions. Nothing can be worse in my opinion than a representative government in the name, which is not a representative government in reality. For many years past, whatever may have been the opinions of the people, the returns made by the constituencies have given no certain majority in Parliament, and your Government, whether it has been the Government of Lord Derby, or the Government of Lord Palmerston, or the Government of any other Minister, has been faced by a numerous and powerful Opposition, which has rendered it unable, even if willing, to do those things which you the liberal people of Huddersfield and England wish your Government to do. The consequence has been that for many years past there has been only what we call wasted sessions of Parliament; and I am so distressed, so weary, so disgusted, and at times so hopeless that I often at the end of a useless session think myself a fool above all other fools for spending my time, my labour, my life in the House of Commons, and am half resolved, as a duty to myself and my family, to seek the only office that possibly I may ever hold—the office of steward of the Chiltern Hundreds. I am frequently tempted to take myself from Parliament and to cease labouring in a field where there is no soil to grow anything, and upon which neither the shower falls nor the sun shines. All that we have done of late years has been to vote with a listless apathy millions of money for which you have toiled. We have squandered scores of millions that under a just and economical Government would have remained in your pockets; we have added tax to tax; we have, it is true, taken some off; we have shifted an uncomfortable burden from one shoulder to the other, but the burden remains. It grows larger, and if you do not stagger and fall beneath it, it is because your industry, your productiveness, your resolution, and your patience surpass those of any other people in the world. Allow me to ask your attention to one or two questions. Look, for instance, at the Established Church and the question of church-rates. As long as men would pay and grumble,, and grumble and pay, our great Whig statesmen were not in the least convinced of the injustice of the impost. But when multitudes of parishes refused to pay, when Churchmen joined with Dissenters and wished for a change, then the leaders of the Whig party found out that church-rates might as well be abolished by law, seeing that the people had already abolished them in reality. Let me appeal to the Churchmen upon another point. We have archbishops and bishops who receive salaries from 5000*l.* to 15,000*l.* a year. It is well known at the same time that there are hundreds of meritorious clergymen, curates, and others, who have barely sufficient to keep their families in the very lowest degree of comfort. The question I now raise is, not whether we should have an Established Church or not, but whether the vast revenues of the Church should not be allotted with some moderate degree of fairness to the various workers in that vineyard wherein to labour is the highest honour which can befall a man. If it be necessary to have an Established Church with millions of revenue, surely it is just that those revenues should be distributed with some regard to the wants of the clergymen and to the amount of service they perform. Our Church is still in the fetters that were forged for her by the grievance of 300 years ago, and I know not at what distant date we may expect Parliament to do something to remove the monstrous inequalities which are connected with the distribution of her enormous funds. I come now to the question of land. We are fond of talking of feudalism and the dark ages, but the fact is that feudalism exists among us at the present day. If a man possessing landed, or what they call real property, leaves it without a will his eldest son steps quietly into the possession of the whole of it. Younger sons and all the daughters are cast upon the world so far as that property is concerned. A gentleman who has himself suffered grievously from the injustice of a parent used to say that if younger sons and daughters are thus to be treated, those who bring them into the world ought to adopt the plan which is ordinarily taken when there are too many puppies or too many kittens. Then again with regard to the question of title, why the title to half the landed estates in England is complex, bewildering, and utterly beyond the solution of the ablest lawyer, and yet you cannot get Parliament to alter it. Parliament touches this question as though it was going to be caught in a trap. Nothing equals the obtuseness of a landed proprietor about land, and every landowner fancies that if you make its transfer more easy in some way or other, it will slip out of his grasp, and therefore he is against every proposition for improvement. As to our military affairs, I can tell you that over the 12,000,000*l.* expended by the Horse Guards Parliament has almost no control whatever after it has voted the main sum; and it is the universal opinion that the Horse Guards' management of its 12,000,000*l.* and of the vast forces under its direction is a management where interest and jobbery reign supreme, and where the interest of the nation at large and fair-dealing to all applicants for preferment are very little considered. In a free country like this I wonder that certain things are permitted which now exist. I have been engaged for the last two months in procuring the discharge of a soldier, if I may call him so, for he is not a man nor, indeed, a young man, but a boy who was only 14 years and a month or two old when he was entrapped by the recruiting sergeant. It has taken the father of that boy, I believe, since last April or May to procure his discharge, and it has only been obtained at length on account of the urgent remonstrances that I made when memorial after memorial had been sent in vain by his parents to the Horse Guards and the Duke of Cambridge, which memorials have been replied to in the usual fashion, nearly meaning this,—'We have got your son in the barracks, he has taken the oath, he has taken the shilling and be he man or boy we will keep him there!' Mothers—for there are some mothers among you—think of a boy of 14 years of age being met in the streets by one of these unmitigated scoundrels and being asked, 'Are you wanting a job?' 'What do you want me to do?' says the boy. 'Oh, come and be a soldier.' 'But I am too little.' 'No, you are not, you are just the right height.' 'Well, but I am only 14.' 'Never mind that, say you are 18 and it will be all right.' Think of this, and then that it requires two months of correspondence, and memorials, and protests, and remonstrances before this boy of 14 can be brought back again to the home of his parents. But you have seen within the last day or two what they do with their recruits when they get them, and have read in the papers the account of the brutal flogging of one of these young recruits at Woolwich. If the main facts are true—and they are hardly called in question—I ask you, who are a fair representation of the people of the West Riding, as the West Riding is a fair representation of the intelligence, virtue, and greatness of the people of England—I ask you, is it with your consent? Do you believe that the constituencies of England, polled man by man, would permit the son of any one of those electors to have his back thus flogged and lacerated, and some 200,000 of their countrymen degraded to a position which is not exceeded in humiliation and ignominy by that of any slave in the island of Cuba under the lash of the planter and his driver? If we turn to the Navy, it was only in the last session that Lord Clarence Paget showed that 6,000,000*l.* or 7,000,000*l.* had been expended within a given time apparently in the building of ships, and there were no ships to be found. Now the *Times* has recently called upon Mr. Cobden, 'the man of one idea,' to come forward and rescue the country from this vast and profligate expenditure; and addressing me has said that if I would only condescend to come down from some of those abstractions in which I delight to the consideration of common business that paper would make me 'the hero of this great work.' Well, what is this great work? It is to save 5,000,000*l.* a year in the building and repairing of ships, and spend a portion of it in a more complete manning and efficient working of the ships you already possess. The man who wrote that appeal to Mr. Cobden and to the Commons knew perfectly well that any appeal to the House of Commons in behalf of economy for economy's sake is very much like the unprofitable occupation known in Yorkshire as 'whistling for the wind.' In the House of Commons I have opposite me a phalanx, when they are all there, of some 300 members of the Tory party: I am not about to exclude all of them from what I am going to say about them; but I will take to say, and, what is more, to prove, that if you will those 300 men, and add up everything which they pay directly and indirectly in taxes to the State, and put it one side of the ledger, and on the other side put everything which they or their immediate families receive from the State in appointments and salaries in one branch of the public service another, then it will appear they receive three times believe five times, I think I should not err if I said times as much as they pay. Why, then, am I to be to go to their stolid phalanx of tax receivers and expenders, and to beg and implore them to be moderate in the use of the public money? Every million a million to our taxes and to the State revenue is another estate to the patrimony of the privileged classes until you look them in the face, and say, 'Parliament not be the instrument of the House of Lords or of territorial proprietors, but shall fairly represent the of the people of England,' there is no remedy for the of which you complain. Look again to India, have gone through a century of crime. Parliament cently abolished the East India Company in name as of India, and has constituted the Queen of England and ruler of 200 millions of people whom she has never Asia; but the real government of India still council composed almost exactly of the very men who the Directory of the Company. Instead of being over by one of its own members it is presided over Secretary of State; last year Lord Stanley presided at the present moment Sir Charles Wood presides with that single difference, I give you my word for it, discover in the men, the measures, the policy, or the any single change whatsoever in the government of empire. And so I presume it will go on until some —some other great catastrophe—rouses Parliament slumbers. As to finances, out of the 70,000,000*l.* which raised this year in taxes, probably not 20,000,000*l.* thing near it, will be raised directly from property kind; the great bulk of the taxes are levied upon sumed by all the people of the country, and every in good employment, with fair wages and a moderate of comfort, pays a very much larger per-centage than do any of the richer and more powerful population kingdom. You have a government with all the absolute government, but without the responsibility solute government. You have a government which about 400 great, some of them rich, all of them titled and they are assisted and buttressed up by all the ritorial possessors throughout the United Kingdom. rule you, and they tax you, and they spend your taxes Now, I have not the slightest animosity against these I like them to be in their own place, but their own not, to my thinking, governing me without my consent governing you without your consent. Let them have fair play in the country. Let every man, be his blood as, I was going to say, Adam—but then the blood of would be as old as that, and I suppose, like old wine, be kept too old—but let their blood be as old as is the those who came over here with William the Conqueror, have fair play in the country, but let everybody else fair play also. I do not find among this class any eminence either in art or in literature, in industry or in commerce, or in the science of legislation, or in the practice administration. I never met with a lord or a man of a man of family, or a man of 'blood,' or a man boasting his ancestry, but I could find a match for him any day those whom I know to have no such pretensions; withstanding this that class has ruled us for 170 years, time in my opinion, not of their final extinction, but when they will be reduced to a participation with the people of the country in the government of the country is rapidly drawing nigh. What has been the general the legislation and administration of your governing 170 years? When they took hold of your government national debt was a mere nothing—not more than 600,000*l.* They have raised it to nearly 800,000,000*l.* exceeding in amount, I believe, all the other national all the other kingdoms of the globe. Your taxation is —much greater than that of any other nation of equal in the world. You have had, I believe, since that time years of warfare than any other nation in the world to be civilised and Christian has experienced; and at the time you have a larger per-centage of your population any visible property than is to be found in any other nation of the globe. Well, until anybody can throw these assertions, and I can prove that I am what is not true, I ask you can any man say that this been a wise, and just, and paternal, and moral government of this great and important kingdom? Look at your industry; look at your hours of labour; look at the wonderful productiveness of your industry. All this which you done has enabled you to bear these vast burdens, but, in consequence of these burdens, of this bad legislation, and this administration, you, the people of England, although condition of late has been greatly improving, you are not the enjoyment of the results of your industry to anything the extent you would have been if you had had for 170 years a government that could fairly claim to be just and economical in the expenditure of the resources of the country. What do I ask? Injustice to anybody? No, not the less have never shown myself, as it is termed, the mere demagogue who panders to the cry of an ignorant prejudiced multitude against his own light and knowledge and conscience. I have been as free to withstand what I felt were the errors of the people as I am now ready to withstand and to condemn the errors and the injustice of the Government; but I say that the people governed—unless we are less virtuous and less intelligent than even our rulers flatter us by telling us that we are—if the people governed, instead of a class, the nation humanity would gain. It is for this, and this alone, that we demand a better and a free representation. We believe would be the highest wisdom, looking a little ahead, for the governing class to concede it, and we are as convinced as we are of our own existence that the permanent power, welfare, peace, and grandeur of this nation depend upon our obtaining that which we seek—a fair and free representation of the people in the parliament of England."

## City Intelligence.

MONEY MARKET, FRIDAY.—BRITISH FUNDS: Consols closed at 95¼ to ⅜ both for Money and the Account; New Indian Loan, 100¼ to ¼; Ditto Scrip, 10[illegible] Indian Four per Cent. Debentures of 1859, 95½; Exchequer Bills, 23*s.* to 25*s.* prem.—FOREIGN: Brazilian Four and a Half per Cents., 1858, 95⅜ to 95½; Buenos Ayres Deferred Bonds, 19½ to 20; Belgian Four and a Half per Cents., 99½; Dutch Two and a Half per

Cents., 66¼; Mexican Three per Cents., for Acct., 21⅛ to 21⅜; Russian Three per Cents., 1859, 67⅛ to 67⅜; Ditto Scrip, ¼ dis.; Spanish Three per Cents., for Acct., 46⅜; Ditto New Deferred Three per Cents., for Acct., 34¼; Turkish Six per Cents., 1854, 83⅛; Ditto 1858, for Acct., 69½ to 70, ex div.

## Bank of England.

ISSUE DEPARTMENT.

| | | | |
|---|---|---|---|
| Notes Issued .. .. .. | £30,894,685 | Government Debt .. .. | £11,015,100 |
| | | Other Securities .. .. | 3,458,900 |
| | | Gold Coin and Bullion .. | 16,419,685 |
| | | Silver Bullion .. .. .. | |
| | £30,894,685 | | £30,894,685 |

BANKING DEPARTMENT

| | | | |
|---|---|---|---|
| Proprietors' Capital.. .. | £14,553,000 | Government Securities (including Dead Weight Annuity) .. .. .. .. | £11,250,018 |
| Rest .. .. .. .. .. | 3,716,787 | Other Securities .. .. | 13,987,161 |
| Public Deposits (including Exchequer, Savings Banks, Commissioners of Nat. Debt, and Dividend Accts.) .. .. .. | 8,506,922 | Notes .. .. .. .. .. | 3,734,335 |
| Other Deposits .. .. .. | 13,074,610 | Gold and Silver Coin .. | 701,137 |
| Seven day and other bills | 859,292 | | |
| | £40,712,641 | | £40,712,641 |

15th day of Sept, 1859.

M. MARSHALL, Chief Cashier.

## Gazette of the Week.

TUESDAY — BANKRUPTS — F. BOSWELL, High Street, Southwark, Seedsman and Florist—N. COOKESLEY and F. MAXTED, Threadneedle Street, Merchants — D. GATER, Woolwich, Grocer, Tea Dealer, and Provision Dealer—J. B. GOODWIN and R. VEALE, London Wall, Mantle Manufacturers—H. GRANT, Cardiff, Glamorganshire, Ship Chandler—J. W. HAMILTON, Birmingham, Stock and Share Broker—W. HOORWAY, Canton, Llandaff, Glamorganshire, Builder and Victualler—E. NICHOLSON, Much Hadham, Hertfordshire, Agricultural Merchant.

SCOTCH SEQUESTRATIONS—D. CAMPBELL, Culloden, Brick and Tile Manufacturer—W. DAVISON, Borrowstounness, Commission Merchant—W. GARDNER, Glasgow, Builder—W. GRANT, Glasgow, Carriage Hirer and Horse Dealer—J. GRAY, Edinburgh, Ladies' Shoe Manufacturer—T. HENDERSON, Alloa, Boot and Shoe Merchant—J. HOUSTON, Glasgow, Builder—T. M'LEOD, Kilmarnock Shoemaker.

FRIDAY—BANKRUPTS—H. ACHTIN, Great Coram Street, Russell Square, Shoemaker—W. ALSTON, High Row, Silver Street, Notting Hill, Middlesex, Draper—H. BEGTAL, Manchester, Merchant—J. S. HAMILTON, Kingston upon Hull, Auctioneer—W. ROBINS, St. John's Street, St. Sepulchres, Builder—E. SNOOK, Bath, Pork Butcher—H. J. WARING, Mortimer Street, Cavendish Square, Window Glass Dealer—J. C. WILSON, Wood Street, City, Warehouseman.

BANKRUPTCY ANNULLED—T. DAVIES, Newport, Woollen Draper.

SCOTCH SEQUESTRATIONS—D. AGA, Glasgow, Envelope Maker—W. M'LEAN, Glasgow, Smith—R. RENTON, Dalbeattie, Draper—D. and J. SCOTT, Auchinblae, Tailors—W. WILSON, East Kilbride, Grocer.

## Metropolis and its Vicinity.

TERRIBLE EXPLOSION ON BOARD THE GREAT EASTERN.—On Friday afternoon, while the great ship was passing Hastings, a water chamber or "jacket" which had been constructed round the foremost chimney for the double purpose of preventing the heat of the funnel becoming inconvenient in the saloon, and of supplying the boiler with warm instead of cold water, suddenly exploded, blowing the huge funnel from the deck, destroying the saloon and adjacent cabins, and causing such serious injuries to the firemen in the engine-room that two were killed on the spot, three have since died, one jumped out of the port-hole to escape the steam and was torn to pieces by the ship's paddles, while six others were severely and one slightly injured. Mr. Francis Fuller who was a passenger on board had a narrow escape from being crushed by the fall of the funnel, while Mr. Rawlinson, assistant to Mr. Gray, of Liverpool, the superintendent of the compasses, was buried in the ruins of the saloon, but was rescued in time to prevent his being suffocated by the steam. As the passengers had just finished dinner they were all fortunately on deck at the time, with the exception of Mrs. Parry, the wife of Mr. Parry, the contractor for the ship's upholstery, who had just left the piano to go on deck when the explosion occurred, but she escaped without serious injury, and only received a slight contusion from the fall of the woodwork of the staircase. The captain's little daughter escaped by being sheltered by an iron bulkhead just as she was entering the ladies' saloon. It is said that if such an explosion had occurred on board a wooden vessel, even in one of the largest line-of-battle ships, the sides would have been blown out and the ship itself have gone to the bottom; but such is the gigantic strength of the Great Eastern that the shock was confined to the compartment in which it occurred, and the engines never ceased working for a moment. For a short time it was feared that the ship was on fire, and while her head was turned towards land as a measure of precaution until this doubt was solved, the hempen tiller ropes gave way, and the ship moved for the first time to the swell of the sea. But chains were at hand in anticipation of such an accident, and as soon as they were rove the motion ceased. After the alarm caused by the accident had subsided, it was resolved to proceed without delay to Portland, where the ship arrived at 10 A.M. on Saturday. Great preparations had been made at Weymouth and other places on the coast to receive the vessel with all honour, and many excursion boats went out with crowds of passengers to give her a cordial greeting. Their cheers however were not returned, and though their bands played inspiriting tunes, the Great Eastern made no sign, until at last the intelligence oozed out that some great calamity had occurred on board. From that moment a dead silence prevailed; and no questions were even asked of the passengers as they were taken on shore. The following are the names of those killed and injured:—Mr. William Briscoe, engineer, slightly injured; John Boyd, Michael M'Ilroy, Michael Mahon, Richard Edwards, and Robert Adams, firemen, dead; Edward Patrick Gorman, trimmer, jumped overboard and lost; William Tait and John Yoxon, trimmers, expected to recover; William Sparks and Walter Woodward, firemen, dangerously burnt and scalded. Sparks, Yoxon, and Tait were removed to Portland Hospital, and are progressing favourably. The inquest on the five dead bodies was opened in the Town Hall, Weymouth, on Monday, and adjourned to Wednesday for the attendance of Mr. Scott Russell and other witnesses from London. In consequence, however, of a communication from the Board of Trade that the Surveyor-General, Captain Robertson, could not attend before Saturday, the coroner again adjourned the inquiry to that day. From the evidence given on Monday it appears that soon after leaving Deptford the donkey engines for keeping the funnel cases, and through them the boilers, supplied with water, showed decided symptoms of infirmity, which as the vessel progressed on her voyage increased to such an extent that some of them were rendered altogether useless, and the others were only kept feebly working by the constant attention of some of the assistant engineers. Thus from the first there was a difficulty in keeping the boilers properly supplied with water, which was greatly increased by the fact that the supply had first to be forced up a considerable height to fill the funnel casing. This, it is supposed, induced those in charge to feed the boilers direct from the donkey engines, without passing the water through the funnel case. In shutting off the communication between the casing and the boilers, the engineers had every reason to believe they were performing a perfectly harmless operation, for it was well known there was an escape pipe to carry off any steam which might be generated in the case. It was, however, afterwards ascertained that this pipe had, previous to the departure of the vessel from Deptford, been used for testing the casing by hydraulic pressure. For this purpose a brass cock had been fitted to the end of it, and this by some shocking inadvertence was never taken away, and was either left turned off, as the engineers of the vessel assert, or was turned off after the vessel left the Thames, as Mr. Scott Russell says it will be proved by witnesses that the cock was open when she left the river. When, therefore, the communication between the bottom of the casing and the boiler was interrupted the water left in the funnel was rapidly converted into steam, and the whole apparatus became a monstrous vertical boiler without a safety valve or any vent whatever. That all the water left in the casing was converted into vapour long before the explosion took place is quite certain, and it was evidently not till the confined steam had gone on expanding and probably decomposing for some hours that the casing at last blew up with a force precisely similar to what would have taken place had the space between the inner and outer casing of the funnel been filled with gunpowder instead of steam. It appears also that the employment of these casings is so much disapproved of by many practical engineers that Messrs. Boulton & Watt refused to use them for their screw engines, and that they have long since been discarded in the Cunard and other great lines as dangerous and expensive. The damage done is estimated at 5000*l*., for which sum Mr. Scott Russell has contracted to restore the whole. In consequence of this accident fresh arrangements have been made for the departure of the vessel. It is now announced that she will not leave Portland on the trial trip till the 8th October, and that she will leave Holyhead for Portland, United States, on the 20th October instead of the 29th inst.

THE BUILDERS' STRIKE.—On Monday morning the Associated Master Builders re-opened their doors (which had been closed since the 6th August) to such operatives on strike as chose to work on the conditions of the declaration, upon which the masters, with some few exceptions, continue to insist. The result is that up to Thursday night above 2000 men had resumed work on the terms of the declaration, and about 1200 more in establishments where it has been made a shop rule. Those who resumed work and accepted the condition contained in the declaration were chiefly smiths, stovemakers, brass workers, carpenters, bricklayers, plasterers, and painters. The skilled masons, with few exceptions, refused to present themselves at the respective shops until it was announced that the "document" was withdrawn. It is said that with the exception perhaps of the masons and the rest of the extreme society men, including of course the members of the conference, the nine hours' scheme is now tacitly understood to be impracticable, at least for the present. Almost in every instance on Monday the declaration alone was the ground of scruple, and there was scarcely a case in which the hours of labour made the ground of excuse for refusing to resume work. The dividend declared by the conference on Monday was at the rate of 3*s*. 6*d*. per man for the lock-outs, Messrs. Trollope's men being paid 12*s*. skilled and 8*s*. unskilled artisans. The total amount distributed was 1168*l*. 6*s*. 11*d*., the number of recipients being 6976. A meeting was held at Exeter Hall on Monday night for the purpose of appointing a committee of builders' foremen to distribute the fund subscribed in connection with the anti-strike movement for the relief of non-society men.

RESIGNATION OF SIR CHAPMAN MARSHALL.—It is said to be the determination of Sir Chapman Marshall to resign his gown as Alderman of the Ward of Bridge Within. He was elected alderman in 1832, succeeding Alderman Garrett. He served as Sheriff in 1830, and was Lord Mayor in 1839.

LAUNCH OF THE GALATEA.—Another new steam-frigate of 26 guns, called the Galatea, was launched at Woolwich Dockyard on Wednesday, the ceremony of naming being performed by Lady Stopford. She was laid down in 1857 on the same slip from which the Royal Albert was launched, but she is of far greater length than the latter vessel, and will have engines of 800 horse power. Her armament will consist of two 68-pounder 95 cwt. guns, 10 feet in length, for the upper deck, and 24 84-cwt. guns for the main deck. A large 50-gun frigate to be named the Bristol is to be immediately laid down on the same slip.

ANOTHER REFORM CAMPAIGN.—It is stated that Mr. Cobden and Mr. Bazley, M.P. for Manchester, have arranged with the members of the Lancashire Financial Reform Association to establish branch associations in the principal towns, and to employ lecturers to address the public throughout the country, so as to prepare the way for an organised attack upon the present system of taxation. A grand demonstration will take place in Liverpool before the close of the year for the purpose of discussing the subject, at which Mr. Cobden will be present and take part in the proceedings. It is also understood that the Lancashire Union are disposed to promote a vigorous agitation in favour of Parliamentary Reform, and that a number of lecturers are to be engaged, among whom Mr. George Thompson is named as one of the principal. It is proposed that a great Reform meeting shall be held at the Free Trade Hall on the eve of the next session of Parliament, at which Mr. Cobden, Mr. Bright, Mr. Gibson, and most of the leading Reformers of the kingdom, will be invited to be present.

THE WESTMINSTER CLOCK.—The quarter chime bells of the great clock now send forth their sonorous peals every quarter of an hour during the day. The bells have as yet an extremely dull sound, which is attributed to the scaffolding around the belfry in the clock tower not having been removed. The first stroke on the great bell, and not the quarter chimes, indicates the hour by Greenwich mean time. The chimes at the first, second, and third quarters begin to strike at those times respectively. Persons hearing the clock at long distances must remember that the sound takes 4½ seconds to travel a mile.

ST. GEORGE'S IN THE EAST.—In spite of the recent injunctions of the Bishop of London, the services in this church on Sunday were marked by actual riots of the most disgraceful character, the authority of the churchwardens and the advice of the Bishop being wholly disregarded. The rector's service was performed by the Rev. A. B. Mackenochie, who wore the ordinary vestments of a Church of England clergyman, but was hooted and threatened as he approached the altar, while, as he retired, he was "mobbed," and his surplice torn away from him. In the evening the same scene was renewed, and at the close of the sermon loud hisses broke forth, and it was with difficulty that the churchwardens cleared the church. At a meeting of the vestry on Thursday it was resolved, with only three dissentients, to refer the dispute with the rector to the bishop's decision, and to invite the rector to do the same, each party engaging to abide by his decision.

THE CASE OF DR. SMETHURST.—It is said that the authorities at the Home Office are in great difficulty as to the course to be taken with this prisoner, and no intimation has been given as to what is likely to be his ultimate fate. It has been supposed that as the fact of his being reprieved necessarily implies a doubt of his guilt, the prisoner will receive a free pardon, but it is a very common practice in cases of doubt for the capital sentence to be commuted to one of penal servitude or transportation for life. Among many instances of this may be cited the cases of Corrigan for the murder of his wife in the Minories, that of Kirwan for the murder of his wife at Dublin by drowning, and that of the woman Rutter, who was convicted at the late assizes of the murder of her husband by cutting his throat. In all these cases the punishment of death was commuted to penal servitude for life; and if a similar course were taken with regard to Dr. Smethurst it would be quite in accordance with precedent. The prisoner still continues to assert in the most earnest manner his entire and absolute innocence of all participation in the death of Miss Bankes, and is strongly impressed with the idea that he will receive a pardon. He has addressed several letters to the Home Secretary, in one of which he is said to state that he cannot prove his innocence unless he is set at liberty, and declares that if he has this opportunity he will prove conclusively that he is entirely innocent of the crime of which he has been convicted.

THE POPLAR POISONING CASE.—At the adjourned inquest on Friday Dr. Letheby described at great length the experiments he had made, and stated that the result had satisfied him that deceased was poisoned not by cantharides but by an irritant vegetable poison like a mixture of croton oil and white hellebore. The other medical men gave evidence confirmatory of this opinion, and the jury returned a verdict of Wilful Murder against the prisoner, George Frederick Royal, who was committed for trial at the next sessions of the Central Criminal Court.

THE PUBLIC HEALTH.—The Registrar-General's Weekly Return states that the number of deaths in the metropolis in the week ended on Saturday, Sept. 10, was 1111. The average rate exclusive of the weeks of 1849 and 1854, when cholera was epidemic, was 1102, so that the present return is 9 above the average. During the week the births of 875 boys and 826 girls, in all 1701 children, were registered in London. In the ten corresponding weeks of the years 1849-58 the average number was 1531.

## Provincial.

BATH.—An inquest was held on Friday evening at the Guildhall, on the body of Mr. James Griffin, nurseryman, of this city, and well known in connection with the various horticultural societies of the west of England. The deceased was a successful exhibitor at a flower show held on the previous day at Swindon, and set out from that place on his return to Bath, in company with several friends, by the train which is due here about midnight. On arriving at the Bath station, Mr. Griffin, who sat next the window, opened the door before the train stopped, for the purpose of getting out. In doing so he missed his footing, and fell between the platform and the carriages. Before he could be extricated, one of his legs was so horribly crushed, that on his being removed to the Hospital it was deemed necessary to amputate the limb. The operation was accordingly performed, but he died within two hours. The deceased was 41 years of age, and has left a widow and six children. After hearing the evidence of several witnesses the jury returned a verdict of "Accidental Death."

CARLISLE.—A soldier was recently tried at a court-martial in this garrison and sentenced to some months' imprisonment. At the close of the trial he drew a stone from his pocket and threw it with all his strength at the adjutant. Fortunately the stone did not strike him, though it grazed his cheek. The prisoner was thereupon tried by a second court-martial, by which he was sentenced to receive 50 lashes for the assault. The sentence was inflicted, and the man on being released from the triangle swore savagely at the colonel, telling him he himself was the better man of the two, and that he could bear another 50 lashes. He then turned round to the adjutant, and swore he would take his life before he had done with him.

LIVERPOOL.—Another great fire which was visible for miles round occurred in this town on Wednesday night, which caused the destruction of the workshops of Messrs. Kilpin and Montgomery, builders and contractors. The damage is estimated at from 10,000*l.* to 15,000*l.* The property was insured.

PADIHAM.—Since the 17th of March many hundreds of power-loom weavers (young men and women) have been "on strike" in this town, living upon an allowance of 7*s.* a week each out of the wages of the employed in the north of the county. The object of the strike was to compel the manufacturers to pay them according to the Blackburn rate of wages, but after many unavailing attempts to come to terms it has now been proved to the operatives at a conference between them and the masters that there is a very slight difference between the rates complained of and the Blackburn list, and that this difference is really in favour of the masters. The great bulk of the operatives have therefore determined to return to their looms, and the strike may be considered at an end. It is said that the operatives were mainly induced to come to terms by the unexpected discovery that the Blackburn and other manufacturers in the district had been supporting those of Padiham during the strike.

PORTSMOUTH.—A second court-martial, to inquire into the loss of her Majesty's brig Heron, which occurred during a violent tornado on May 9th last, took place on Friday on board the Victory. After hearing a good deal of evidence the court came to the following finding:—

"The court find that the loss of her Majesty's sloop Heron was caused by her foundering at sea during a heavy squall, owing to the senior lieutenant having, contrary to the advice of Lieutenant Blair, who was officer of the watch, caused the ropes to be coiled up shortly before the squall struck the ship, thereby preventing the sail being shortened when required. And the court is further of opinion that the said Lieutenant Blair was not free from blame on the occasion as it was his duty, as officer of the watch, to have called the commander when the senior lieutenant required him to act contrary to his judgment in a case where the safety of the ship was concerned; and the court does therefore adjudge the said Lieutenant Blair to be reprimanded and admonished to be more careful in future."

SHEFFIELD.—On Thursday week a serious accident occurred at the Silkstone Main Colliery, Mosbrough Moor, about six miles from this town, by which four persons lost their lives. In consequence of the overheating of a flue connected with a steam-engine at the bottom of the pit the coal took fire, and so completely filled the drawing shaft with smoke that it was impossible to draw up through that shaft 35 men and boys who were at work in the pit. After some hours' delay a man descended the pumping shaft on a "horse," a triangular piece of wood, attached at the apex to a rope, and at 4 o'clock next morning the whole of the persons in the pit were safely got out by this means, with the exception of four youths, one of whom fell in being drawn up, and killed another who was standing at the bottom, while the two others are supposed to have been killed by a slight explosion that occurred during the night. The extent of the fire is supposed to be very great, and it is expected that the pit will have to be filled with water in order to extinguish it.

YORK.—A letter from Driffield, in the East Riding, says:—"Now that the harvest is over, there seems a mania among farm servants for entering the army, and the recruiting sergeants are continually taking off batches of fine healthy young fellows to the different regiments. One sergeant who has been here for the last nine months has been sending away the finest of the agricultural labourers at the rate of four a week."

## Scotland.

THE BRITISH ASSOCIATION.—The 28th meeting of the British Association was opened at Aberdeen on Wednesday evening in the new Music Hall. There was a very large attendance, exceeding, it is said, 2000 persons, and great interest attached to the meeting in consequence of the Prince Consort being the President elect. Professor Owen, on retiring from the chair, congratulated the members on the prosperous condition of the Association, and that it was about to be presided over by his Royal Highness. The Prince Consort, after taking the chair, delivered a very able address, which occupied 40 minutes in delivery, and was loudly applauded throughout. The following is an abstract of his Royal Highness's address:—

"Gentlemen—Your kind invitation to me to undertake the office of your president for the ensuing year could not but startle me on its first announcement. The high position which science occupies—the vast number of distinguished men who labour in the sacred cause, and whose achievements, while spreading innumerable benefits, justly attract the admiration of mankind, contrasted strongly in my mind with the consciousness of my own insignificance in this respect. A simple admirer of science to take the place of the chief spokesman of the scientific men of the day, assembled in furtherance of their important objects—the thing appeared to me impossible; yet, on reflection, I came to the conclusion that, if not as a contributor to or director of your labours, I might still be useful to you, useful to science, by accepting your offer, remembering that this association is not a secret co-fraternity of men jealously guarding the mysteries of their profession, but inviting the uninitiated—the public at large—to join them, having as one of its objects to break down those imaginary and hurtful barriers which exist between men of science and so-called men of practice; I felt that I could, from the peculiar position in which Providence has placed me in this country, appear as the representative of that large public which profits by and admires your exertions, but is unable actively to join in them, that my election was an act of humility on your part, which to reject would have looked like false humility—that is, like pride—on mine. But on reflecting further, I saw, in my acceptance of the office, the means of which necessarily so few are offered to her Majesty, of testifying to you, through the instrumentality of her husband, that your labours are not unappreciated by your Sovereign, and that she wishes her people to know this as well as yourselves. Guided by these reflections, my choice was speedily made, for the path of duty lay straight before me." His Royal Highness then paid a high compliment to Professor Owen, alluding to the wide field for study, more particularly to the geologist, the north of Scotland afforded, remarking on the beneficial and important influences of science, and the consequent good a meeting like the present conferred on human kind. After pointing out in eloquent language, which drew forth frequent applause, the objects and advantages of science, the Prince noticed the gratifying fact that the Association had met with the liberal patronage of the public, and expressed his satisfaction that there should exist bodies of men who brought the wants and claims of science before the public and the Government, who will even hand round the begging-box, and expose themselves to refusals and rebuffs to which all beggars are liable, with the certainty, besides, of being considered great bores. Please to recollect (said his Royal Highness, amid renewed laughter) that this species of bore is a most useful animal, well adapted for the ends for which nature intended him. Having noticed the great genius and labours of the great Humboldt, the anniversary of whose birth, by a singular coincidence, happened on that day, his Royal Highness thus concluded:—"Philosophers are not vain theorists, but essentially men of practice; not conceited pedants, wrapped up in their own mysterious importance, but humble inquirers after truth, proud only of what they may have achieved or won for the general use of man. Neither are they daring and presumptuous unbelievers—a character which ignorance has sometimes offered to them, who would, like the Titans, storm heaven by placing mountain upon mountain, till hurled down from the height attained by the terrible thunders of outraged Jove; but rather the pilgrims to the Holy Land, who toil on in search of the sacred shrine, in search of truth, God's truth, God's laws, as manifested in His works in His creation."

Sir Benjamin Brodie moved, and the Lord Provost of Aberdeen seconded, a vote of thanks to his Royal Highness, which was enthusiastically passed by the large audience.

HIGHLAND GATHERING AT BALMORAL.—On Thursday next, the 22d, the day after the concluding meeting of the British Association, by the gracious and thoughtful kindness of the Queen and the Prince Consort, 200 of the most distinguished of the visitors to the meeting will be entertained at a luncheon, to be served in the fine ballroom of Balmoral Castle. Balmoral is 50 miles from Aberdeen, and 18 miles of the distance can be accomplished by railway.

THE EDINBURGH ANNUITY TAX.—On Wednesday week Mr. Duncan Falconer, the sheriff-officer and his assistants, having received warrants to execute against certain of the citizens for non-payment of annuity-tax, proceeded to put them in force. They first arrested Mr. Fairbairn, of the St. Andrew's Hotel, and committed him to the Calton Gaol. They then proceeded to the shop of Mr. Brown, fruiterer, South Hanover Street, and preferred a claim to about 14*l.* of arrears. He stated that he had conscientious objections to the tax, and was prepared to go to gaol rather than pay. They then made him their prisoner, and proceeding on foot along Princes Street and Waterloo Place, committed him to the custody of the gaoler. Mr. Brown is an elder of the United Presbyterian Church in Lothian Road; he is in very delicate health, and has been under the necessity, on account of a pulmonary affection, to wear heavy mufflers round his throat even when in business. The next visit of the officers was to Mr. Hunter, of Hunter & Glover, confectioners, North St. Andrew Street, whom they found behind his counter, serving his customers. They demanded the amount of the tax. He told them he owed them nothing, and would pay them nothing. Mr. Falconer then claimed him as his prisoner, and ordered him to come away with him. He replied that he would offer no active resistance, but would not willingly move a step, and if they wished to take him to gaol, they must carry him there. Mr. Falconer then ordered two of his assistants to go round the counter and drag him out. This they could not do, and Mr. Falconer and another assistant seized him by the neck, while the others carried him by the feet. In this way he was taken down the steps, and across the pavement to a cab, into which they attempted to force him. He was thrown back on the floor of the cab. Mr. Falconer and an assistant went into it, and endeavoured to drag him to the seat. Mr. Falconer pulled out his manacles, fixed them upon one of his wrists, and endeavoured to force the other hand into them. The passive attitude of Mr. Hunter lying in the bottom of the cab, however, rendered this difficult. While this effort to handcuff their prisoner was proceeding, two of the assistants and a policeman were trying to force his legs into the cab. By this time a large concourse of people had assembled, and, hearing that it was an arrest for Annuity-tax, gave vent to their feelings by cries of execration, and severely handled the officers, tearing their clothes and knocking off their hats. Mr. Falconer then declared that he was hindered from executing his warrant, and withdrew his men, while Mr. Hunter walked quietly into his shop amidst the cheers of the people, the handcuffs dangling from his wrists. Mr. Brown still remains in prison, and has been daily visited by large numbers of sympathisers. Mr. Fairbairn was released after three hours' imprisonment on payment of the tax by his wife. Mr. Hunter is still at large, and no new arrests have been made on the other warrants, the officer and his assistants having refused to execute them without a protecting force of police, which, for the collection of Taxes, is only given in extreme cases. The Anti-Annuity tax Committee have held a meeting, and made arrangements for convening a public meeting of the citizens on an early day for the consideration of these proceedings.

## Railways.

ACCIDENT ON THE GREAT NORTHERN.—On Thursday night the 8th inst. a very serious accident occurred to two trains near the Hitchin station. The Great Northern express, which leaves London at 9.15 P.M., had hardly left the station when it came in collision with an up Midland train, which there crosses the Great Northern line on a level. Fortunately neither train was at full speed, and the engine of the Midland struck the engine of the express, not any part of the train; for had the passenger carriages sustained the shock, the loss of life must have been frightful. As it was the third and fourth carriages of the express were smashed to atoms and the engine disabled. The Midland engine and train received comparatively little injury. Both trains subsequently proceeded on their journeys, but with fresh engines—the Midland leaving Hitchin for London about 12.30, or two hours and a half after the collision; and the down express shortly before 2. The wounded passengers as they were taken from the wreck were laid upon the slope of the adjoining embankment until they could be removed under cover. It was found that about 20 or more of them had sustained injuries more or less severe. Seven, including two ladies and the guard of the express, were so badly wounded that their removal to their respective homes was quite out of the question, and they still remain at Hitchin. The rest of the wounded—all more or less cut and bruised about the face and head—were able either to proceed on their journey or to return to London that night. The passengers left at Hitchin are Mrs. Milner, wife of Dr. Milner, of Lower Belgrave Street, Eaton Square, who has sustained a severe contusion in the side, with fractured ribs; the Rev. Philip Kelland, M.A., Professor of Mathematics in the University of Edinburgh, who has received a compound fracture of the ancle and severe contusions about the chest; Mr. William Anton, a builders' foreman at Messrs. Lucas's, Belvidere Road, who is bruised about the chest, face, and legs; Mr. Podmore, of the firm of Podmore & Hester, wholesale tea merchants, at 148, Fenchurch Street, who has had his hip dislocated; Mr. Richard Tidmarsh, engineer, of Foxley Road, London, who has a severe fracture of the leg, and dislocation of the great toe; and a young Edinburgh lady, who has sustained many serious injuries and contusions. The guard of the express lies at a tavern near the station, cut and bruised about the face, but not in a condition to give cause for apprehension. Mr. Milner, who was travelling in the same compartment with his wife, escaped without a single cut or contusion. The cause of the accident was the neglect of the signalman, who had made the signal to the Midland train to come on at the very moment when the down express, whose path it had to cross before it could reach the up line, was standing at the platform and ready to start. After he had done this the whistle for the down express was blown, indicating that it was leaving the station, and though he had just before signalled the Midland train to cross the line he also gave the driver of the express the signal to come on. The two trains, each of which had to cross the path of the other, were allowed to proceed to a point of common destruction. It is said that the man had reckoned upon one passing the point of junction before the other arrived at it. When he saw that a collision was inevitable, he presented his danger signal to both the advancing trains, but it was then of course too late. The man, who is an old soldier, called Cross, has been taken into custody, pending the result of an inquiry by the Board of Trade.

FATAL ACCIDENT ON THE GREAT WESTERN.—On Wednesday morning a collision occurred near the Slough station, between a heavy goods train from

Gloucester which was two hours behind time, and a special passenger train from Didcot which was some minutes before its time. While the former, consisting of 40 heavily laden trucks, was moving slowly into the station, the passenger train, which was not timed to stop there, came along as if nothing in the station impeded its progress. The result was a frightful collision, in which the guard of the goods train was killed on the spot and several carriages were destroyed, but fortunately, the passenger train being empty, no one else was injured. The signalman and the driver of the passenger train mutually throw the blame upon each other. The former maintains that he showed the danger-signal, while the latter insists that he showed the ordinary light indicating that the line was clear. The inquest was opened on Thursday, and adjourned for the examination of further witnesses.

# Sporting.

### DONCASTER MEETING

TUESDAY.—*Fitzwilliam Stakes.* Mr. C. Crawford's Zuyder Zee beat Underhand, Butterfly, Wild Rose, and 4 others.—*Champagne Stakes.* Baron Rothschild's King of Diamonds beat Sweetsauce, Madame Eglantine, Vanquisher, and 4 others.—*Levant Plate.* Baron Rothschild's Mentmore beat Lady Peel, Orchehill, Twilight, and 3 others.—*Selling Stakes.* A dead heat between Mr. Locke's Lady George and Mr. J. Jackson's Knayton, beating 5 others. Deciding heat won by Lady George by half a length.—*Great Yorkshire Handicap.* Mr. P. Prout's Paul beat Nucleus, Defender, Beethoven, and 17 others.—*Glasgow Stakes.* Mr. Jaques's High Treason beat Lord Glasgow's colt.—*Filly Stakes.* Mr. Hudson's Lady Trespass beat Emily, Vesta, and Floretta.—*Doncaster Plate Handicap.* Bastion beat Greenwich Fair and Nereus.

WEDNESDAY.—The *Stand Plate Handicap.* Captain Christie's Miss Jessa beat Neophyte, Clemantle, and 10 others.—The *Municipal Stakes.* Lord Glasgow's Tom Bowline beat Sir J. Hawley's filly and Lady Falconer.—The *Corporation Plate.* Mr. S. Barrett's the Rover beat Maid of the Mist, Mentmore, and 5 others.—The *St. Leger Stakes.* Sir C. Monck's Gamester beat Defender, Magnum, and 8 others. Won easily by half a length; Magnum, who caught Summerside at the stand, was beaten two lengths from the second, and finished a head in advance of the rest. About a length from them came Promised Land fifth, and a similar distance separated Napoleon from him. The others came in at such wide intervals that the judge was enabled to place the lot. Uralian walked in long after the horses had passed the post.—The *Portland Plate.* Mr. Crawford's Fight-fit beat Twilight, Lady Peel, and 11 others.—*Sweeps.* Travis beat Restes. Baron Munchausen, and 8 others.—*The Queen's Plate.* Wild Rose beat Paul, King-at-Arms.—The *Doncaster Plate.* Baron Rothchild's Bastion beat Greenwich Fair, Nereus, and 6 others.—*Match.* Mr. Coates's filly beat Ex minster.

THURSDAY.—The *Zetland Stakes.* Lord Zetland's Qui Vive beat Bastion and Knuckle Duster.—*Handicap Sweeps.* Mr. Saxon's Mixture beat Prologue, Spofforth Maid, and 8 others.—The *Cleveland Handicap.* Sir H. Des Voeux's Comforter beat Ditto, Wodehouse, Lord Glasgow's f, and Hegira.—The *Filly Stakes.* Baron Rothschild's North Lincoln beat Mentmore, Lady Trespass, and Cheesecake.—The *Juvenile Selling Stakes.* Mr. Brown's Weatherbound beat Pomona, Jenny Longlegs, and 4 others.—*Sweeps.* Mr. Jaques's High Treason beat Sweetsauce, Lady Trespass, and 3 others.—*Scarborough Stakes.* Souvenir beat Conjuror and Uralian.

FRIDAY.—*Match.* Miss Whip beat Lady Evelyn.—*Doncaster Stakes.* Gladiolus beat Maid of the Mist, Eskdale, and 6 others. *Scurry Stakes.* Brenhilda beat Weatherbound, and 5 others.—*Nursery Plate.* Cheesecake beat Restes, Jenny Longlegs, and 20 others.—*Don Stakes.* North Lincoln walked over.—*Doncaster Cup.* Newcastle beat Eskdale, Defender, and 5 others.—*Park Hill Stakes.* Qui Vive beat Cantine, Summerside, and Prelude.

# Obituary.

MAJOR-GENERAL SIR WILLIAM EYRE, K.C.B., died on the 8th inst. at Bilton Hall, Warwickshire, at the age of 53. He had been in bad health for months past, and was, in consequence of illness, compelled to resign his command in North America, in which he was succeeded last June by Sir Fenwick Williams, of Kars. He entered the army in 1823, and after serving in the 73d Regiment in Canada, of which regiment he was major, he proceeded with that corps to the Cape of Good Hope, and while there distinguished himself in both the Kaffir wars as Lieut.-Colonel. In acknowledgment of his eminent services in the last and previous war he was made a Companion of the Bath, promoted to be Colonel in the Army, and appointed an Aide-de-camp to the Queen. On the outbreak of the Crimean war he was appointed to a brigade of the third division, of which he ultimately became commander, with the local rank of Lieut.-General. He was present at the battle of Alma, commanded the troops in the trenches during the battle of Inkermann, and remained in the Crimea until after the fall of Sebastopol, for which he received a medal and clasps. In 1855 he was created a Knight Commander of the Bath, a Commander of the Legion of Honour, a Knight of the Medjidie of the Second Class, and was among the general officers of the army who received the Sardinian war medal. After his return home in 1857 he was selected by the Commander-in-Chief to command the troops in Canada. He was also one of the field officers in the receipt of rewards for distinguished services. Sir William was second son of the late Vice-Admiral Eyre by the third daughter of Sir George Cooke, Bart., of Wheatley. He married in 1841 Miss Bridgeman Simpson, third daughter of the late Hon. John Bridgeman Simpson.

GENERAL SIR ROBERT H. CUNLIFFE, BART., C.B., died at Acton Park, his seat near Wrexham, on the 10th inst., in his 79th year. He was born in 1785, and married, first, in 1805, the daughter of Mr. A. Forster, and secondly, in 1825, the daughter of Colonel Paton. In 1834 he succeeded his father, Sir Foster, the first baronet. He entered the East India Company's service in the Bengal army in 1798. He gained the rank of general in 1857; and for his military services in India was nominated a Companion of the Bath. In 1828 he was appointed Colonel of the 4th Bengal Native Infantry.

THE HON. JOHN GEORGE CHARLES FOX STRANGWAYS died on the 7th inst., after a very short illness, at Brickworth House, Wilts. He was the youngest son of the second Earl of Ilchester, by his second wife, the third daughter of the Hon. and Rev. William Digby, Dean of Durham. He married in 1844 the third daughter of Mr. Edward Marjoribanks. He was formerly in the Foreign Office, and in Sept., 1836, on the death of the late Lord of Kerry, was returned to Parliament for Calne. For some years he was Gentleman Usher to Queen Adelaide.

SIR J. HAY WILLIAMS, BART., died on the 10th inst. at Bodelwyddan, his seat, near St. Asaph, in his 66th year. He was born in 1794, and married in 1842 Lady Sarah Amherst, only daughter of the late and sister of the present Earl Amherst. He succeeded to the title on the death of his father, the first baronet, in 1832, and assumed the name of "Hay" in 1842. As he has died without issue, the baronetcy devolves on his brother, Mr. Hugh Williams, married in 1845 to Miss Wynn, only daughter of the late Sir Watkin Williams-Wynn.

SIR WILLIAM NORRIS, late Recorder of Penang, died on the 7th inst. at Ashurst Lodge, near Sunningdale, in his 66th year. He was called to the bar of the Middle Temple in 1827, and two years afterwards proceeded to India, where he practised with considerable success. In 1835 he was appointed Chief Justice of Ceylon, having previously been a puisne judge in that colony.

COLONEL WILLIAM HOLMES SUMNER, Colonel of the 1st Royal Surrey Militia, died at Hatchlands, his seat, near Guildford, on the 16th inst. He had been attached to the regiment since August, 1808.

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**BIRTHS.**—On the 31st ult. at Malta, the Lady FREDERIC KER, of a daughter—5th inst. at 20, Belgrave Square, Lady COCHRANE, of a son—12th inst. at York, the wife of Captain the Hon. T. A. PARNHAM, of a son—7th inst. at Maids Moreton Lodge, Buckinghamshire, the Hon. Mrs. EDWARD WINGFIELD, of a daughter—16th inst. at Guyton, Norfolk, the wife of the Hon. and Rev. JOHN HARBORD, of a son—2d inst. at Bruges, the Hon. Mrs. ROBERT DALZELL, of a daughter.

MARRIAGES.—On the 8th inst. by special license, the Lord WILLIAM GODOLPHIN OSBORNE, youngest son of the Duke of Leeds, to MARY CATHERINE, only daughter of JOHN HEADLY, Esq., of Whittlesford, Cambridgeshire—13th inst. at St. George's, Hanover Square, Captain MURRAY, of the Grenadier Guards, to Lady AGNES GRAHAM, eldest daughter of the Duke and Duchess of Montrose—6th inst. at Taplow Church, the Rev. SEYMOUR NEVILLE, third son of the late Dean of Windsor and Lady CHARLES Ness's Grandson to ANNE MARY, youngest daughter of the late Rev. CHARLES PERCY, Canon of Windsor and Vicar of Twyford—8th inst. at All Saints' Church, Knightsbridge, HUGH LINDSAY ANTROBUS, Esq., second son of Sir Edmund Antrobus, Bart., to MARY, daughter of the late Admiral Sir CHARLES ADAM, K.C.B.—7th inst. by special license, at the chapel, Isthem House, TYRTE HENRY, only son of JOHN TYRTE BURGES, of Parkanaur, county Tyrone, Esq., to EDITH, third daughter of the late Hon. RICHD. BOOTLE WILBRAHAM and sister of Lord Skelmersdale—8th inst. at Belton near Grantham, Colonel CLARKE KENNEDY, C.B., son of Major-General Clarke Kennedy, C.B. and K.H., to CHARLOTTE ISABELLA CUST, daughter of the Hon. Lieut.-Colonel Cust—7th inst. in the Metropolitan Church, Marlborough Street, Dublin, MAJOR TALBOT, of Castle Talbot, county Wexford, brother of the late Countess of Shrewsbury, to CHARLOTTE, youngest daughter of the late MACARIUS JOHN KENNEDY, Esq., of Gloucester Terrace, Dublin—8th inst. at Bovington Church, ALEXANDER HENRY ROSS, only surviving son of Mr. and Lady Mary Ross, to JULIANA, second daughter of WILLIAM MOSELY, Esq., of Lenton Hall, Staffordshire.

DEATHS.—On the 11th inst. at her residence in Green Street, Grosvenor Square, the Hon. Lady LUMLEY, widow of the late General the Hon. Sir William Lumley, G.C.B.—5th inst. at Walhampton, near Reading, CAROLINE MATILDA, wife of Vice-Admiral R. M. FOWLER, of Walhampton, Oxon, aged 70 years—1st inst. at Southampton, Lieut.-Colonel C. W. SIBLEY, H.M.'s 41th Regiment—2d inst. JAMES SIMPSON, Esq., of Foxhill Bank, near Accrington, a Justice of the Peace for the County Palatine of Lancaster, aged 47—At Newcastle, at 7, Saville Place, ALBONI SURTEES, Esq., J.P., of Elgin and Newcastle, aged 81—20th July, at Ahmednuggar East Indies, of cholera, Lieut. W. HERBERT MAYDEN, Quartermaster and Interpreter of the 4th Battalion H.M.'s Bombay Artillery, third son of the late Lieut. C. R. Malden, R.N., of Windlesham House, Brighton, aged 27—10th inst. at his residence, Westbourne Park Villas, GEORGE MAYER, Esq., Librarian to the Colonial Office, Downing Street, where he had served 47 years, aged 69—7th inst. Professor ARTHUR HENFREY, F.R.S.—14th inst. in 18, Victoria Gardens, Kensington, ISABEL, wife of JOSEPH BONOMI, Esq., aged 31—14th inst. at St. James's Palace, the Rev. CHARLES WESLEY, D.D., Sub-Dean of her Majesty's Chapels Royal, Chaplain at St. James's Palace, and Chaplain in Ordinary to her Majesty, aged 64.

# Markets.

### COVENT GARDEN.—Sept. 17.

The finer kinds of fruit have not altered in price since our last report. Pears still consist chiefly of Beurré d'Amanlis, Williams's Bon Chrétien and Louise Bonne of Jersey. Apples are more liberally supplied, but both they and Pears continue to realise high prices. The best table Apples now to be had are Ribston, Court of Wick, and Kerry Pippin. Greengage and Early sorts of Plums are very nearly over. Oranges fetch 3s. 6d. and 4s. per hundred. Good Filberts may be had for 9d. per lb. Cabbages, Beans, Carrots, and Artichokes may be obtained in quantity. Cauliflowers are scarce. Potatoes realise from 6s. to 15s. per cwt. Cucumbers abundant. Cut flowers chiefly consist of Orchids, Gardenias, Kalosanthes, Lily of the Valley, Violets, Mignonette, China Asters, Heaths, and Roses.

#### FRUIT.

| | |
|---|---|
| Pine Apples, per lb., 4s to 6s | Currants, p. half-sieve, 4s to 7s |
| Grapes, per lb., 2s to 5s | Gooseberries, do., 5s |
| Mulberries, do., 1s | Cherries, per lb., 6d to 1s 6d |
| Melons, each, 2s to 3s | Apples, per ½ sieve, 1s 6d to 5s |
| Peaches and Nectarines, per doz., 3s to 8s | Pears, per ½ sieve, 4s to 8s |
| Figs, per doz., 2s | Oranges, per 100, 6s to 10s |
| Apricots, do., 2s to 3s 6d | Lemons, per doz., 1s to 1s 6d |
| Plums, per punnet, 1s to 2s 6d | Filberts, p. 100 lbs., 50s to 60s |

#### VEGETABLES

| | |
|---|---|
| Cauliflowers, per doz, 2s to 4s | Tomatoes, per ½ sieve, 3s to 5s |
| Green Peas, p. quart, 1s to 2s | Artichokes, per doz., 2s to 3s |
| Greens, per dozen bunches, 1s to 1s 6d | Beet, per doz., 1s 6d to 2s |
| Cabbages, do., 1s 6d to 2s 6d | Celery, p. bundle, 1s to 1s 6d |
| Rhubarb, p. bundle, 6d to 9d | Onions, p. half sieve, 3s to 4s |
| French Beans, p. punnet, 1s to 1s 6d | — Portugal, each, 2d to 4d |
| Potatoes, p. ton, 90s to 100s | Shallots, per lb., 6d to 8d |
| — per bus., 2s to 2s 9d | Garlic, per lb., 6d to 8d |
| — per cwt., 4s to 6s | Lettuces, Cabb., per score, 1s to 1s 6d |
| Carrots, per bunch, 1s | Endive, p. score, 1s to 1s 6 |
| Turnips, per bunch, 9d to 1s | Horse Radish, p. bun. 1s 6d to 4s |
| Spinach, p. sieve, 1s 6d to 2s | Mushrooms, p. pott, 9d to 1s 3d |
| Cucumbers, p. doz., 1s to 1s 6d | Parsley, p. 12 bunches, 2s to 4s |
| | Savory, do., 2d to 4d |

### HOPS.—BOROUGH MARKET, FRIDAY, Sept. 16.

Messrs. Pattenden & Smith report that the demand for the Weald of Kents is extensive and also for Sussex, which latter are daily advancing in price. Nothing doing in duty worth notice.

### BRITISH WOOLS.—LONDON, FRIDAY, Sept. 16.

Our trade is still in a good position, and all good descriptions of wool meet with a good sale at full rates.

| | s. | d. | | s. | d. |
|---|---|---|---|---|---|
| South down Hoggets | 1 | 8 | to — | | |
| Half-bred ditto | 1 | 8 | — — | | |
| Down Ewes | 1 | 6 | — — | | |
| Kent Fleeces | 1 | 7 | — — | | |
| Leicest. Wethers | 1 | 5 | to — | | |
| Ditto Hoggs | 1 | 7 | — — | | |
| Combing Skins | — | — | — | | |
| Blanket ditto | — | — | — | | |
| Flannel Wool | 1 | 2 | — | 1 | 7 |

### COAL MARKET.—FRIDAY, Sept. 16.

Davison's West Hartley, 15s. 3d. Lambert's West Hartley, 15s. 3d.; Tanfield Moor Butes, 13s. 3d.; Walker Primrose, 12s. 6d.; West Wylam, 12s 6d; Walls End Acorn Close, 17s 3d.; Walls End Eden, 17s 3d.; Walls End Harton, 16s. 3d.; Eden Main, 16s 9d.; Walls End Braddell's Hetton, 17s. 3d.; Walls End Haswell, 18s. 6d.; Walls End Hetton, 18s 6d.; Walls End Stewarts, 18s 6d.; Walls End Benson 16s 6d.; Walls End Cassop, 17s 6d.; Walls End Hartlepool 18s.; Walls End Hough Hall, 17s. 3d.; Walls End Kellee, 17s 9d.; Walls End South Hartlepool, 17s. 3d.; Walls End South Kellee, 17s 6d.; Walls End Thorpe 17s 9d.; Walls End Whitworth, 17s.; Carway and Duffryn Steam, 19s 6d.; Nixon's Duffryn, 21s. 6d.; Powell's Duffryn Steam, 21s.—46 ships at market.

### METROPOLITAN CATTLE MARKET.

#### MONDAY, Sept. 12.

The number of Beasts is about the same as on Monday last, but the demand is not so good, consequently prices on the average are lower. Sheep are rather more plentiful. The trade is very heavy at lower rates. Lamb is so little in request that we cease to quote it. Trade is very dull for Calves. From Germany and Holland there are 1551 Beasts, 7350 Sheep, and 182 Calves; from Scotland, 100 Beasts; from Ireland, 480; and 2500 from the northern and midland counties.

| | s | d | | s | d |
|---|---|---|---|---|---|
| Best Scots, Herefords, &c. | 4 | 6 | to 4 | 10 | |
| Best Short-horns | 4 | 4 | — 4 | 8 | |
| 2d quality Beasts | 3 | 4 | — 3 | 8 | |
| Best Downs and Half-breds | 5 | 0 | to 5 | 2 | |
| Do. Shorn | — | — | | | |
| Best Long-wools | 4 | 0 | — 4 | 10 | |
| Do. Shorn | — | — | | | |
| Ewes & 2d quality | 3 | 10 | — 4 | 4 | |
| Do. Shorn | — | — | to | — | |
| Lambs | — | — | | | |
| Calves | 4 | 0 | — 4 | 6 | |
| Pigs | 3 | 8 | — 4 | 8 | |

Beasts, 5790; Sheep & Lambs, 23,130; Calves, 226; Pigs, 350.

#### THURSDAY, Sept. 15.

The supply of Beasts is about the same as on Thursday last. Trade for them is dull. Monday's quotations are generally realised, but a clearance cannot be effected. The number of Sheep is larger; choicest kinds are not, however, very plentiful, and they find purchasers. The Calf trade is about the same as on Monday. Our foreign supply consists of 310 Beasts, 2030 Sheep, and 302 Calves. The number of Milch Cows is 102.

| | s | d | | s | d |
|---|---|---|---|---|---|
| Best Scots, Herefords, &c. | 4 | 6 | to 4 | 10 | |
| Best Short-horns | 4 | 4 | — 4 | 8 | |
| 2d quality Beasts | 3 | 4 | — 3 | 8 | |
| Best Downs and Half-breds | 5 | 0 | — 5 | 2 | |
| Do. Shorn | — | — | — | — | |
| Best Long-wools | 4 | 6 | — 4 | 10 | |
| Do. Shorn | — | — | — | — | |
| Ewes & 2d quality | 3 | 10 | to 4 | 4 | |
| Do. Shorn | — | — | — | — | |
| Lambs | — | — | — | — | |
| Calves | 4 | 0 | — 4 | 6 | |
| Pigs | 3 | 8 | — 4 | 8 | |

Beasts, 1202; Sheep & Lambs, 10,010; Calves, 454; Pigs, 200.

### HAY.—Per Load of Thirty-six Trusses.

#### SMITHFIELD, THURSDAY, Sept. 15.

| | | | | |
|---|---|---|---|---|
| Prime Meadow Hay | 72s | to 78s | Clover | 90s to 105s |
| Superior do. (old) | 80 | 84 | New Clover | — — |
| Inferior do. | 55 | 60 | Second cut do. | 80 90 |
| New do. | — | — | Straw | 25 30 |
| Rowen | 65 | 55 | | |

DAVIS & Co.

#### WHITECHAPEL, THURSDAY, Sept. 15.

| | | | | |
|---|---|---|---|---|
| Fine old Hay | 78s | to 84s | Fine old Clover | 98s to 105s |
| Inferior do. | 70 | 75 | Inferior do. | 80 90 |
| Prime New Hay | 80 | 88 | Fine new Clover | — — |
| Inferior do. | 60 | 70 | Inferior do. | — — |
| Straw | 28 | 32 | Fine 2d cut | 60 92 |

### MARK LANE.—MONDAY, Sept. 12.

The supply of Wheat from Essex and Kent to this morning's market was small, and fine selected samples were sold at the extreme prices of Monday last, but the bulk remained on hand at the close. There was a fair attendance; nevertheless, foreign Wheat was neglected, and even on the retail sales effected our quotations were obtained with difficulty. For Barley there is a fair inquiry at last week's rates. New Beans and Peas are the turn cheaper. The Oat trade is heavy, and Russian are fully 6d. per qr. lower. There is no alteration in the value of Flour.

| PER IMPERIAL QUARTER. | s. | s. | | s. | s. |
|---|---|---|---|---|---|
| WHEAT, Essex, Kent, & Suffolk . White | 34 | 46 | Red | 36 | 41 |
| — — fine selected runs . ditto | 42 | 44 | Red | 38 | 44 |
| — — Talavera | 40 | 50 | | | |
| — Norfolk | — | | Red | — | |
| — Foreign | 28 | 52 | | | |
| BARLEY, grind & dist., 24s to 30s . Chev | 28 | 44 | Malting | 34 | 40 |
| — Foreign . . grinding and distilling | 23 | 28 | Malting | — | |
| OATS, Essex and Suffolk | 19 | 24 | | | |
| — Scotch and Lincolnshire . Potato | 23 | 27 | Feed | 19 | 24 |
| — Irish . . . . . Potato | 24 | 25 | Feed | 19 | 22 |
| — Foreign . . . . . Poland and Brew | 25 | 29 | Feed | 17 | 24 |
| RYE | — | | Foreign | — | |
| RYE MEAL, foreign | — | | | | |
| BEANS, Mazagan . . . . 34s to 39s . . . Tick | 35 | 41 | Harrow | 35 | 41 |
| — Pigeon . . . . . 41s — 45s . . Winds | — | | Longpod | — | |
| — Foreign . . . . . Small | 38 | 46 | Egyptian | — | |
| PEAS, white, Essex and Kent . . Boilers | 38 | 41 | Suffolk | 35 | 43 |
| — Maple . . — s to — s . . . . . Grey | 34 | 37 | Foreign | 30 | 38 |
| MAIZE . . . . . White | — | | Yellow | — | |
| FLOUR, best marks delivered . . per sack | 37 | 42 | | | |
| — 2d do. . . . . ditto | 27 | 37 | Country | 27 | 37 |
| — Foreign . . . . . per barrel | 18 | 27 | Per sack | 30 | 37 |

#### FRIDAY, Sept. 16.

The weather during the present week has been stormy and wet, with a lower temperature. The great reduction in the prices of Wheat, the inferior quality and condition of the new crop, the falling off in the supplies, and the state of the weather combined, have created (more particularly in the north) an increased inquiry for fine new English and foreign, and also for old foreign, which in the majority of the provincial markets has caused an improvement of 1s. per qr. upon the two former, and imparted a better feeling to the trade in general. Spring Corn remains without any particular alteration in its value, that of Beans, Peas, and Oats here is still tending downward, the latter owing to the large Russian arrivals. The Flour trade continues inanimate. The arrivals of grain and seed-laden vessels off the coast from Southern Europe are moderate this week. The transactions are considerable, including Taganrog Ghirka Wheat at 42s. to 42s. 6d., and Odessa Ghirka at 40s. 4½d. to 41s. per 492 lbs.; Sandomirka at 41s. 6d. per 480 lbs.; Ibrail Maize at 26s. to 26s. 9d. per 480 lbs., Odessa at 28s., Galatz at 28s. 9d. to 29s., both per 492 lbs., Odessa Barley at 23s., Ibrail (imperfect) at 20s., both per 400 lbs. Taganrog Oats at 17s 6d. per qr. imp. The arrivals of English Wheat and foreign Barley have been to a fair extent, of foreign Wheat small, but of Oats considerable. The attendance at this morning's market was moderate only. The English Wheat fresh up was sold at the extreme rates of Monday last; foreign also met with more attention at fully former prices. Barley brings late rates. For Oats there is a fair sale at a trifle under Monday's quotations, being 3d. to 6d. better than on Wednesday.

#### ARRIVALS FROM SEPT. 12 TO SEPT. 16.

| | Wheat | Barley. | Oats. | Flour. |
|---|---|---|---|---|
| English | 2080 qrs. | 500 qrs. | 50 qrs. | 1050 sks. |
| Irish | — ,, | — ,, | 1580 ,, | — ,, |
| Foreign | 8990 ,, | 2550 ,, | 6240 ,, | 160 ,, — brls. |

LIVERPOOL, Tuesday, Sept. 13.—There was a rather better consumptive demand for Wheat at an advance of 2d. to 3d. per

cental. Business in Flour was moderate, but no change. Indian Corn and Beans steady. Oats and Oatmeal without change, but better demand for old meal. Moderate supplies and good attendance.

FRIDAY, Sept 16.—The grain market improved; Wheat in good demand at 2d. advance; Flour 6d. to 1s. dearer; Indian Corn in active request, at rather better prices. Beans scarce. Oats and Oatmeal unaltered.

| AVERAGES | Wheat. | Barley. | Oats. | Rye | Beans. | Peas. |
|---|---|---|---|---|---|---|
| Aug. 6.. | 43s 7d | 29s 0d | 25s 1d | 32s 8d | 46s 5d | 37s 6d |
| — 13.. | 43 11 | 30 1 | 25 2 | 33 3 | 46 7 | 36 9 |
| — 20.. | 44 1 | 31 1 | 25 5 | 30 8 | 44 6 | 37 8 |
| — 27.. | 44 5 | 32 11 | 25 5 | 32 8 | 44 6 | 37 9 |
| Sept. 3.. | 44 0 | 34 8 | 24 5 | 30 11 | 43 5 | 38 10 |
| — 10.. | 42 9 | 33 9 | 23 0 | 31 6 | 41 3 | 37 10 |
| Agg. Aver. | 43 9 | 31 11 | 24 9 | 31 11 | 44 5 | 37 9 |

FLUCTUATIONS IN THE LAST SIX WEEKS AVERAGES.

| PRICES. | Aug. 6. | Aug. 13. | Aug. 20. | Aug. 27. | Sept. 3. | Sept. 10. |
|---|---|---|---|---|---|---|
| 44s 5d | .. | .. | .. | | .. | .. |
| 44 1 | .. | .. | | .. | .. | .. |
| 44 0 | .. | .. | .. | .. | | .. |
| 43 11 | .. | | .. | .. | .. | .. |
| 43 7 | | .. | .. | .. | .. | .. |
| 42 9 | .. | .. | .. | .. | .. | |

WANTED, by a gentleman in the County of Oxford, an ARTICLED PUPIL. A limited number of Boarders are taken. Terms moderate.—Apply to ALPHA, Kingham, Oxon.

WANTED, in a country Parish, a SUNDAY-SCHOOL MASTER, who is competent to play the Organ and teach a Village Choir. A good Gardener will find full employment during the week.—For further particulars apply to the Rev. JOHN BELL, Brington Rectory, Kimbolton.

WANTED, a respectable Man, with good address, who has a practical knowledge of the NURSERY and SEED BUSINESS, to take charge and a Fourth or Third Share of one of the best laid out and Stocked Nurseries for its size in the South. It is situated close to a Junction Station in a large market town, on one of the principal railways out of London; it contains about 12 acres of very first-rate Land, superior Shop and Offices, with an excellent range of glass, consisting of Show House, Stove and Greenhouse Pits, Frames, Sheds, &c., of modern structure. No business of the kind is carried on within 16 miles. Wages, in addition to the profits, will be 60*l.* per year, and a Swiss Cottage free. Capital necessary will be about 500*l.* The highest references required.—Address Z., *Gardeners' Chronicle* Office.

WANTED, on a Small Farm in the Midland Counties, a MAN and his WIFE, without incumbrance. The man to be thoroughly acquainted with the agriculture of the district, and to act as FOREMAN and HEAD LABOURER, to take charge of and understand the Buying and Selling of Corn and Farming Stock in general, and a good shepherd. The wife to manage the Dairy (if required) and Poultry. Wages for the two 18*s.* per week, and Cottage.—Address in man's own handwriting, to A. B, Journal Office, Leicester.

WANTED, A YOUNG MAN, thoroughly competent to take charge of a moderately-sized Garden without Greenhouse, in the neighbourhood of Clapham Park. He will be required to wait at table, and make himself useful in the house as occasion may require.—Apply by letter to J. S., care of Mr. Rowe, Fruiterer, Streatham Place, S.

WANTED, a good KITCHEN GARDENER (married, without children preferred), who understands a little of Farming, for an Agricultural Boarding School. The Wife to Cook, &c., for the Boys. Salary not under 50*l.*, House, Vegetables, &c.—Address Miss C., Beckley, near Oxford.

WANTED, AS GARDENER (Single-handed), a hard-working, sober, intelligent Man, from 27 to 30. Must have a thorough and practical knowledge of his profession, Grapes, Pines, Budding, &c., and possess taste in Laying-out. Wages 40*l.* per annum. High references required.—Apply X. Y. Z., Post Office, Thirsk, Yorkshire.

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WANTED, A SHOPMAN in the SEED TRADE, to take the management at the Counter, principally Retail. One who has some knowledge of the Nursery Business preferred.—Apply to J. MAY & Co., Seedsmen, 1, Wellington Street, Strand, W.C.

WANTED, for a Parish in Kent, an industrious LABOURER (married), to work in a Garden under a Gardener. His Wife to assist at times in a gentleman's house.—Apply to B. A., Mr. Bain, 1, Haymarket, London, S.W.

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# The Gardeners' Chronicle Newspaper.

*SATURDAY, SEPTEMBER 24, 1859.*


MINERALOGY.—KING'S COLLEGE, London, W.C.—Professor TENNANT, F.G.S., will commence a COURSE of LECTURES on MINERALOGY, with a view to facilitate the study of Geology, and of the application of mineral substances in the Arts. The Lectures will begin on FRIDAY, October 7, at 9 o'clock A.M. They will be continued on each succeeding WEDNESDAY and FRIDAY at the same hour. Fee 2*l.* 2*s.* R. W. JELF, D.D., Principal.

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1. Chemistry. By A. W. HOFMANN, LL.D., F.R.S., &c.
2. Metallurgy. By JOHN PERCY, M.D., F.R.S.
3. Natural History. By T. H. HUXLEY, F.R.S.
4. Mineralogy. } By WARINGTON W. SMYTH, M.A., F.R.S.
5. Mining. }
6. Geology. By A. C. RAMSAY, F.R.S.
7. Applied Mechanics. By ROBERT WILLIS, M.A., F.R.S.
8. Physics. By G. G. STOKES, M.A., F.R.S.

Instruction in Mechanical Drawing, by Mr. BINNS.

The fee for Matriculated Students (exclusive of the laboratories) is 30*l.* in one sum, on entrance, or two annual payments of 20*l.*

Pupils are received in the Royal College of Chemistry (the laboratory of the School), under the direction of Dr. Hofmann, at a fee of 10*l.* for the term of three months. The same fee is charged in the Metallurgical Laboratory, under the direction of Dr. Percy. Tickets to separate courses of Lectures are issued at 1*l.*, 1*l.* 10*s.*, and 2*l.* each. Officers in the Queen's service, her Majesty's Consuls, acting mining agents and managers, may obtain Tickets at reduced charges.

Certified schoolmasters, pupil teachers, and others engaged in education, are also admitted to the Lectures at reduced fees.

His Royal Highness the Prince of Wales has granted two Exhibitions, and others have also been established.

For a prospectus and information, apply at the Museum of Practical Geology, Jermyn Street, London, S.W.

TRENHAM REEKS, Registrar.

SALE OF PHOTOGRAPHS TAKEN FOR GOVERNMENT INSTITUTIONS.—To enable the public to derive full advantage from the Photographic Negatives made officially for the Science and Art Department, from objects in public and other collections, British and Foreign, the Committee of Council on Education has caused an Office for the Sale of Photographic Impressions to be established at the South Kensington Museum, which will be OPENED on October 3. Negatives made by order of the Trustees of the British Museum and other Government Institutions will also be sold.

A detailed List of the objects Photographed is printed, price 2*d.*—Applications, &c., must be addressed to the Secretary, South Kensington Museum, W.

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*Extract from Leading Article in Gardeners' Chronicle, April 9, 1859.*

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## News of the Week.

THE mystery which has so long hung over the fate of Sir JOHN FRANKLIN has at last been solved by the final searching expedition sent out by his devoted wife, whose name has become as much associated with the melancholy story as that of the great navigator himself. Capt. M'CLINTOCK, who left England in 1857 in command of Lady FRANKLIN'S discovery steamer, Fox, has arrived this week with the interesting intelligence that the endeavours of himself and officers to ascertain the fate of the Franklin Expedition have been completely successful. A record signed by Captains CROZIER and FITZJAMES, and dated the 25th April, 1848, has been found in a cairn erected on Point Victory, on the north-west coast of King William's Island, stating that the Erebus and Terror spent their first winter in 1845-6 at Beechey Island, after having ascended Wellington Channel to the 77th degree of N. lat., and returned by the west side of Cornwallis Island. On the 12th Sept., 1846, they were beset in the ice, and so continued throughout the second winter. On the 11th June, 1847, six months before any anxiety was felt in England for his safety, Sir JOHN FRANKLIN died, and thus escaped the privations and sufferings which awaited the rest of his companions. The expedition then moved on till it arrived within five leagues of Point Victory. At this point, during the third winter, and nearly 10 months after Sir JOHN FRANKLIN'S death, Captains CROZIER and FITZJAMES determined to abandon the ships, and to set out, with the 105 survivors, on a land journey to the Great Fish River. Up to that date they had lost nine officers and 15 men by death, and they intended to start for the Great River on the day after the date of the record, viz., the 26th April, 1848. Capt. M'CLINTOCK had previously been informed by the Esquimaux that after the ships were abandoned, one of them was crushed and sunk by the ice, while the other had been driven on shore, where she has ever since remained, affording them an inexhaustible supply of wood and iron. He had also learnt from the natives that in the following winter they had ascertained by the discovery of the dead bodies along the line of route, that many of the "white men" had "dropped" by the way, as they pursued their course towards the Great River. Captain M'CLINTOCK, Captain ALLEN YOUNG, and Lieut. HOBSON subsequently verified this information by a careful examination of the route taken by our unfortunate countrymen, and found numerous bleached skeletons lying on the snow with fragments of clothes and other relics. At a distance of 65 geographical miles from the ships they found a boat containing two skeletons

with quantities of clothing, food, and fuel, showing that death had not been caused by want of sustenance. Captain M'CLINTOCK suggests, from the evidence afforded by these remains, that the abandonment of the Erebus and Terror had been deliberately arranged, and that every effort had been made during the third winter to render the travelling equipments complete; but that disease had greatly reduced the strength of all on board, far more perhaps than they themselves were aware of. After examining 800 miles of coast, never before penetrated by such an expedition, Captain M'CLINTOCK and his officers came to the conclusion that the whole party of 105 men who set out on this melancholy journey after Sir JOHN FRANKLIN'S death dropped down one after the other on their march until the last man perished, more than 11 years ago. Captain M'CLINTOCK has brought home many highly interesting relics of our lost countrymen, part of which were obtained from the Esquimaux, and part picked up on the western shore of King William's Island, a spot which will henceforth have the deepest interest in the history of Arctic discovery in connection with Sir JOHN FRANKLIN'S expedition, and with the heroic efforts made for 10 long years by the great nations of the Old World and the New to solve the mystery of its fate.

## Home News.

THE QUEEN IN SCOTLAND.—On Monday week the Earl of Elgin arrived and succeeded Sir G. Grey as Secretary of State in attendance on her Majesty. On Tuesday the Queen, accompanied by the Princess Alice, rode out. The Prince Consort and the Prince of Wales went to the Abergeldie Woods, which were driven for deer. The Count de Flandres arrived on a visit to her Majesty. On Wednesday the Queen accompanied by the Princess Alice drove to Morven and ascended the hill on ponies. The Prince Consort left Balmoral for Banchory House, near Aberdeen. The Prince of Wales went out deer-stalking. The Count de Flandres went out grouse shooting. On Thursday the Queen, accompanied by the Prince of Wales and the Princesses Alice and Helena, drove to Altnagussach, and then rode to Lochnagar. Prince Arthur drove to the Linn of Dee, and the Count de Flandres went out deer-stalking. In the evening the Prince Consort returned from Aberdeen. On Friday the Queen, accompanied by the Princess Alice, the Prince of Wales, and the Count de Flandres drove out. The Prince Consort went out deer-stalking. The Earl of Elgin left the Castle for London to attend the Cabinet Council. On Saturday the Queen, accompanied by the Princess Louisa, drove to Altnagussach. The Prince Consort went out deer-stalking. The Prince of Wales and the Count de Flandres went out deer-stalking. The Princesses Alice and Helena and Prince Arthur rode out. On Sunday the Queen, the Prince Consort, the Princess Alice, and the Prince of Wales attended Divine service in the parish church of Crathie; the Rev. A. Anderson officiated. On Monday the Queen, Prince Consort, and the Princess Alice drove out. The Prince of Wales went out shooting. The Count de Flandres went out deer-stalking. In the evening her Majesty gave a ball.

PRIVY COUNCIL.—The Queen was to hold a Privy Council yesterday at Balmoral.

THE CABINET.—A Cabinet Council was held on Saturday afternoon at the official residence of the first Lord of the Treasury in Downing Street.

PRINCE ALFRED arrived at Malta on the 4th inst., from Marseilles, in her Majesty's screw vessel Banshee, and was received with a Royal salute on rejoining the Euryalus. His Royal Highness again left Malta on the 10th in the Euryalus for the Pirœus of Athens and other ports of the Archipelago, whence she will extend her cruise as far as Constantinople, returning to Malta about Christmas, as his Royal Highness is to be in England in February.

THE DEANERY OF ST. ASAPH has been conferred on the Rev. Richard Maurice Bonnor, M.A., of Christ Church, Oxford, vicar of Ruabon.

THE EXPEDITION TO CHINA.—Rear-Admiral Jones, C.B., who distinguished himself in the Penelope on the coast of Africa, and afterwards in the Sampson before Odessa and Sebastopol, has been appointed second in command on the East India and China station. It is said to be the intention of Government to despatch a fleet of 30 gun-boats to the Chinese waters, besides a squadron of frigates and other vessels; and orders have been given to prepare immediately for foreign service the screw steam-ships James Watt, 91; the Cæsar, 91; and the Agamemnon, 91. It is said that these line-of-battle ships are to convey troops to Alexandria to be sent on to China by the overland route. It is reported that these troops will consist of 1000 Royal Marines, strong detachments from the Rifle Brigade, two Light Infantry Regiments, and an efficient draught of men from the Military Train. At Woolwich Arsenal the men have been working over time for some days preparing and packing 3,000,000 rounds of rifle ammunition to be forwarded by the overland route.

RETURN OF CAPT. M'CLINTOCK'S ARCTIC EXPEDITION.—Captain M'Clintock landed on Wednesday at Portsmouth from a pilot-boat, which had brought him ashore from the Fox screw discovery vessel, arrived off the Isle of Wight from the Arctic Seas. Captain M'Clintock immediately proceeded by train to London, taking with him two cases containing relics of the expedition of Sir John Franklin, and a long narrative of the proceedings of the Fox from the time of her departure from Davis's Straits on the 25th April, 1858. The following is a summary of this narrative:—

"At Point Victory, on the north-west coast of King William's Island, a record was found, dated the 25th of April, 1848, and signed by Captains Crozier and Fitzjames, stating that her Majesty's ships Erebus and Terror were abandoned on the 22d of April, 1848, in the ice, five leagues to the N.N.W., and that the survivors—in all amounting to 105 souls, under the command of Captain Crozier—were proceeding to the Great Fish River. Sir John Franklin had died on the 11th of June, 1847, nearly 10 months before. The Fox being unable to penetrate beyond Bellot Straits, wintered in Brentford Bay, and Captain M'Clintock, Captain Young, and Lieutenant Hobson completed the inquiry by means of sledge journeys during the spring. The ground of their search was 800 miles of coast line, part of which formed the estuary of the Great Fish River, and which intervened between the two classes of searches. Many deeply interesting relics of our lost countrymen were picked up on the western shore of King William's Island, and others were obtained from the Esquimaux, by whom they were informed that subsequent to their abandonment one ship was crushed and sunk by the ice, and the other forced on shore, where she has ever since been, affording them an almost inexhaustible mine of wealth. They also learnt from an intelligent old Esquimaux woman that it was in the fall of the year that the ship was forced ashore; and that 'many of the white men dropped by the way as they went towards the Great River; but this was only known to them in the winter following, when their bodies were discovered.' This information was verified by Capt. M'Clintock's subsequent discovery of the bleached skeletons lying on the snow. One of these skeletons still had fragments of clothing lying round it. A pocket-book containing a few worn letters was also found and was brought back by the party; and there is some prospect that the letters may be deciphered. 'Judging from the remains of his dress,' the narrative adds, 'this unfortunate young man was a steward or officer's servant, and his position exactly verified the Esquimaux's assertion that they dropped as they walked along.' Among the other discoveries was that of a large boat, apparently designed for the ascent of the Great Fish River, and containing a large quantity of clothing, and two skeletons. 'One of these lay in the after part of the boat, under a pile of clothing; the other, which was much more disturbed, probably by animals, was found in the bow. Five pocket watches, a quantity of silver spoons and forks, and a few religious books were also found, but no journals, pocket-books, or even names upon any article of clothing. Two double barrelled guns stood upright against the boat's side precisely as they had been placed eleven years before. One barrel in each was loaded and cocked; there was ammunition in abundance, also 30lbs. or 40lbs. of chocolate, some tea and tobacco. Fuel was not wanting; a drift tree lay within 100 yards of the boat.' Near the cairn where the record of Captains Crozier and Fitzjames was found, quantities of clothing, and stores of all kinds, were picked up, showing that when the expedition resolved, on the 22nd April, 1848, on the desperate expedient of abandoning the ships, they abandoned also everything that they did not absolutely require for their long journey to the Great Fish River, in which they all seem to have dropped down one by one under cold and fatigue. In addition to these discoveries the expedition has determined the insularity of Prince of Wales's Land, and has discovered the coast line intervening between the extreme points reached by Lieutenant Osborne and Browne as well as that between Bellot Strait and the furthest point reached by Sir James Ross at Four River Bay in 1849, thus uniting the explorings of the former searching Expeditions to the North and West with those of Sir J. Ross, Messrs. Dease, Simpson, and Rae to the South."

## Foreign.

FRANCE.—It was reported in Paris on Tuesday, on the strength of private despatches from Biarritz, that the interview between the Emperor and King Leopold has resulted in an arrangement for the throne of Tuscany to be given to the Count of Flanders, the second son of the King of the Belgians, while Parma and Modena united are to be bestowed on his son-in-law the Austrian Archduke Maximilian. Another report says that the Count of Flanders is to have the three Duchies, and the Archduke Maximilian Venetia, with a separate constitution. No official information has yet been received to throw any light on the credibility of these rumours. The King was received with extraordinary honours on his arrival at Biarritz. He had scarcely entered the town when a *coupé* drawn by two horses left the Villa Eugénie and drove to the Maison Ardoin. The Emperor was alone in the carriage. His Majesty was received at the foot of the staircase by the Prince de Chimay, and King Leopold stood at the top. When the Emperor reached the top of the staircase the King made a very low bow, when the former stepped forward, and, taking the King by the hand, shook it heartily. The two Sovereigns then entered one of the saloons, where they remained in close conversation alone for an hour and a half. They afterwards entered the carriage of the Emperor, and proceeded to the villa, where the King was received by the Empress. It was expected that his Majesty would not leave Biarritz until the departure of the Imperial Court, which will take place about the end of the month. The report that Lord Cowley left Paris on Saturday for Biarritz appears to be unfounded, but Count Walewski, the Minister for Foreign Affairs, proceeded there on Monday; and Count Cavour and the Duke of Malakoff are expected to meet him. Prince Richard Metternich arrived in Paris on Sunday from Vienna, and after having a conference with Count Walewski proceeded to Biarritz, where Count Reiset, who has returned from his mission to Italy, has also arrived. Prince Poniatowski left Florence on the 21st for Biarritz. The Minister of the Interior has issued a circular to the Prefects throughout France, stating that it is not the intention of the Government to modify the laws on the press, and requesting them to continue to control the latitude given to the provincial newspapers. This circular has been followed by the following article in the *Moniteur*:—

"Several newspapers have alluded to a decree which it is supposed would appear to modify the laws of the press. This news is without any foundation. In France the press has a right to discuss all the acts of the Government, and by so doing to enlighten the public mind. Certain papers in becoming without knowledge the organs of hostile parties claim a certain amount of freedom, which would have no other object than facilitating their attacks against the constitution and the fundamental laws of social order. The Government of the Emperor will not deviate from the established system, which, in allowing a field sufficiently large for discussion, controversy, and analysis, prevents on the other hand the disastrous effects of falsehood, calumny, and error."

The *Patrie* of Thursday states that it is the intention of the Government to suppress the 4th Battalion of the 102 Regiments of the Line, the formation of which has been decided on during the war. The journal of Compiègne state that preparations are making in the Palace of that town for the reception of the Emperor and Empress, and that invitations for the grand hunting parties which their Majesties propose to give during their stay there have already been issued. The camp of Helfaut is to be raised, as well as that of Châlons. Part of the cavalry have already left the latter camp. Messrs. Blanqui and Boichot have arrived at Marseilles, on their intention of availing themselves of the general amnesty. The recent fire at Cambray has done considerable damage to the cathedral, but the works of art which it contained have escaped. The Archbishop's palace, where Fénélon wrote his "Télémaque," and its works, is totally destroyed. The announcement of the Anglo-French expedition against China has been well received throughout France. With the single exception of the Legitimatist organ, the Paris papers express their satisfaction at the announcement, and several of them add a hope that the union of the two flags against a common enemy will strengthen the alliance between the countries, and dissipate recent rumours of a rupture. The *Constitutionnel* of Sunday publishes an article in large type, treating the position of England in reference to the Italian question, and expressing a hope that the joint expedition to China may lead to a better understanding between England and France in the settlement of Italy. The following is a summary of this article:—

"'Before the war it was said that there was no Italian question; now everything is changed. The reproach is made that we do not risk all in order that the question may be entirely solved. But the general state of affairs did not admit of such a solution.' The article then alludes to the advantages the peace of Villafranca has obtained for Italy, and says much of the demonstrations which have taken place in Central Italy; but endeavours to prove that the Duchies cannot become mere provincial towns of Sardinia. 'The people in the Duchies will regret their princes and their local independence.' The article continues by saying 'that the increase of the Piedmontese territory will excite the jealousy of Naples, and will prevent the realisation of an Italian confederation. These considerations had weight with the Emperor at Villafranca, and ought to impress the true friends of Italy which England is now one.' The article expresses a hope that the councils of England will be joined to those of France United on the banks of the Peiho to chastise a common foe, may the two great Western Powers unite their diplomatic efforts to overcome the last difficulties of the Italian crisis, and to make, if necessary, such modifications to the conditions of peace as may be compatible with the interests and the honour of the parties therein engaged. Thanks to this union the peninsula will be free from the Alps to the Adriatic."

HOLLAND.—The King of Holland opened the Legislative Session of the Chambers on the 19th inst. In the Royal speech, after stating that his Majesty entertains with the most friendly relations with all countries, is exclusively occupied with questions of internal improvement. Among the projects announced, the most important are the construction of a line of railways throughout the country and of a new canal from Amsterdam to the sea. The execution of these great works would render it necessary to observe prudence in employing the considerable excess over the expenses of the State. This would not admit of any reduction of taxes. The sinking fund would continue in operation. The project of law for the emancipation of the slaves in the Dutch West Indian Colonies not having been adopted last session, a modified project would be presented to the Chambers.

BELGIUM.—Letters from Brussels state that the Count of Flanders on his return from Scotland will pay a visit to the Court of Holland—the first visit paid by any of the Belgian Royal family to Holland since the revolution of 1830. It is said that the object of the visit is to arrange the conditions of an interview between the two Courts in October next in the Grand Duchy of Luxemburg, on the inauguration of the railway which is to unite that province to Belgium.

PRUSSIA.—The following is the substance of an answer made by Count Schwerin, on behalf of the Prince Regent, to an address which has been presented to the Prussian Government by the principal inhabitants of Stettin, concerning the question of the German Confederation:—

"The late events and experiences had created a conviction in Germany, in spite of all the different views, that the independence and power of Germany, as regards her exterior relations, and the development in the interior of their material and intellectual powers, render a strong and energetic unity and the reform of the Federal Constitution, to obtain this end necessary. The Government of Prussia acknowledges the justice of this public opinion. But the Government will not allow itself to be led away by the manifestations which that national feeling causes, nor will its own conviction of that which might at first appear to it as best cause it to deviate from the way which is pointed out by its consideration and conscientious esteem of the rights of others, and by its regard for that which is

present possible and attainable. The same esteem for right and law which characterises the state of affairs of Prussia in the interior must also rule her relations with Germany and her German Confederates. Germany will render to herself greater service at the present time by endeavouring to further the common interests of Germany in such a way that practical results will ensue by the increase of the armed forces of Germany, and by strengthening the certain feeling of which signs are now established throughout the whole federal country, than by premature proposals for changes in the Federal Constitution. The Prussian Government being determined to devote its energies for the furtherance of these objects, considers itself entitled to claim confidence that she will, when called upon, find ways in which the interests of Germany and Prussia will be compatible with the commands of duty and conscience."

SWITZERLAND.—On the 19th inst., after the arrival of a French courier, the Plenipotentiaries of France and Austria held a conference which lasted three hours. On the following day M. Desambrois, the Sardinian Plenipotentiary, had a consultation with the French Ambassador, after which a courier was immediately despatched to Turin. On the same day a courier arrived from Vienna with instructions to draw up the instrument for the treaty of peace, and the documents for the cession of Lombardy to Sardinia. No allusion is made to the Duchies. It was hoped that the treaty of peace would be signed in a few days.

BAVARIA.—Baron Von Beust, the Saxon Minister for Foreign Affairs, and Baron von Hugel, Minister for Foreign Affairs of Wurtemberg, arrived at Munich on the 20th, to hold conferences with the Bavarian Minister for Foreign Affairs on the question of the Reform of the Diet. It is said that all the Ministers have come to an agreement on the subject

AUSTRIA.—Prince Metternich is said to have received instructions to inform the Emperor Napoleon that Austria will not object to a Congress "on certain conditions." Lord John Russell is now the bugbear of the Austrians, and quite as unpopular as Lord Palmerston was some 8 or 10 years ago.—A great fire broke out a few days ago in the ancient cathedral at Salzburg, but the walls did not give way, and consequently the cupola and two towers are still standing. The treasures and relics were saved.

ITALY.—The *Vienna Gazette* contains an Imperial decree raising the state of siege in Venice, but providing that some slight regulations shall continue provisionally in force for certain cases. The Government of Tuscany has notified to the Plenipotentiaries of the Grand Duke to evacuate the Palace within three days, and in case of non-compliance the property of the Grand Duke is to be sequestered. The following noblemen and gentlemen have been appointed members of the deputation from the National Assembly of the Romagna to the King of Sardinia: Count Bentivoglio, Count Gazzadini, Marquis Tanari, Count Salvoni, M. Laderchi, M. Scarabelli, Vice-President, and M. Marescotti, Secretary of the National Assembly. The Assembly of Parma last week unanimously voted for the contract of a loan of 5,000,000f., and appointed a deputation to deliver the address from the Assembly to the Emperor Napoleon. The Assembly was then prorogued, with the power to be re-convoked by a decree of the Dictator and President of the Assembly, or at the request of 20 members. The council of the different districts of Turin have given their approval to the erection of monuments to the King of Sardinia and the Emperor of the French. The Sardinian Government has addressed a circular to the great Powers, denying the report of the cession of Savoy to France, and declaring such report to be entirely void of foundation. The following is a summary of the answer given by the King of Sardinia to the deputation from Modena and Parma:—

After expressing his thanks to the people of Modena and Parma for the unanimity of their votes recorded for the annexation of their provinces to Piedmont, by which they had confirmed the wishes expressed by them 11 years ago to the King his father, his Majesty said: "I agree with the desires you have the mission to communicate to me: they are fresh manifestations of the national will, to save the country from the disastrous consequences of a foreign rule, and to erect a barrier which will insure to our countrymen the possession of Italy for the Italians. The deputation will understand in what manner I must proceed towards the accomplishment of the wishes of the Assemblies. Armed with the rights which I have acquired, I will support your cause before the great Powers, and especially before the French Emperor, who, while leading the victorious legions of France, was fighting for the independance of Italy. Europe has recognised the right of other nations to provide for their security by constituting a Government capable of defending their liberties and their independence. She will be neither less just nor less generous towards the Italian provinces. The votes which your Assemblies have recorded, and the numerous volunteers who have fought under the flag of Piedmont during the days of the late struggle, have proved that firmness is a tried virtue with the people of Modena and Parma. Therefore I need not say to you persevere; I will only congratulate you upon the order and the moderation of which you have given such brilliant examples, in order to prove to Europe that the Italians know how to govern themselves, and that they are worthy to be citizens of a free nation."

RUSSIA.—The anniversary of the coronation of the Emperor of Russia was celebrated at St. Petersburg and Warsaw on the 7th inst. with great festivity. His Majesty has arrived at Tsarsko-Selo from his journey to Moscow and Twer. Grand preparations were making at St. Petersburg for the fête of the majority of the Hereditary Grand Duke on the 20th. Deputations were to arrive from all parts of the empire; and the kingdom of Poland was to be represented by General Gortschakoff and a number of the Polish nobility.

COAST OF AFRICA.—Accounts from Lagos state that on the 18th of July Lieut. Hope, of her Majesty's gunboat Brune, with Mr. Kilbrow, second master, James Mack, gunner's mate, and 10 Kroomen, were off the Bar of Lagos taking soundings, when their boat got into the surf, was capsized, and every soul perished except one Krooman, who was picked up four days afterwards 70 miles distant, clinging to the boat and nearly dead from want of food and water.

TURKEY.—A telegraphic despatch from Constantinople states that a conspiracy to assassinate the Sultan has been discovered. Two hundred persons, chiefly Circassians and Kurds, have been arrested; among them Diafer Dem, Pasha of Albania, who was apparently the chief conspirator. A special tribunal has been created to try them. It is believed that their plot had no ramifications; and that no other persons than those now under arrest are implicated. The Montenegrin boundary commission has met at Grakovo.

SYRIA.—Fresh affrays have taken place between the Christians and Druses in the Lebanon. In consequence of a judicial investigation, the Prussian Consul-General at Smyrna, M. Spiegelthal, has been suspended, and the business of the Consulate transferred to the Dutch Consul.

MOROCCO.—Accounts from the frontiers of Morocco state that the native tribes had renewed their attacks on the French outposts, and had pillaged and set fire to some of the French houses. General Esterhazy made a brilliant onslaught, and repulsed the enemy. The new Emperor of Morocco was not implicated in these attacks, but had not the power to check them. It is said that there has been an action between the new Emperor, Sidi Mahomed, and one of the pretenders to the crown, in which the former gained the victory. As regards the Spanish campaign against the Moors, it is thought probable that the demonstrations already made will suffice to procure concessions and guarantees for the future, and that it will not be found necessary to carry out the extensive expedition projected. It is reported that England has offered her mediation.

INDIA.—The Calcutta mail has arrived with news to the 27th August. A bill had been introduced into the Legislative Council to tax all professions and trades in India, cultivators of land to be exempt. The Special Disarming Act passed during the mutiny is to become permanent. The House of Delhi had been deprived of all titular distinctions and privileges for ever. Lord Clyde retires from the command of the Indian army at the close of this year, and will be succeeded by Sir Hugh Rose. The disturbance at Hyderabad in the ranks of the 5th Madras Cavalry, which is chiefly composed of Mahometans, was caused, like those that took place in the North-West Provinces, by the greased cartridges which were lately served out to them by mistake. Placards were put up in the public streets which showed that a movement was on foot for drawing the sword in defence of their religion, and killing all the Christians of the place. A letter from Rohilcund mentions that Balao Rao, brother to the Nana, Hurdut Sing, Talookdar of Bhowne, near Baraitch, and the Nawab of Nujeebabad have died from the effects of the climate near Dhoker in the Nepaul territories. The Nana is suffering from fever. The Begum still holds out, and, it is said, will give some trouble should the rebels succeed in getting out from their present abode into Tirhoot and the Santhal Purgunnahs. A case of Suttee occurred on the 19th June near Hansi. The village has been fined 500 rupees, the Choonars who carried the wood and the lumberdars have been sentenced to 10 years' imprisonment, and the thannadar and police have been dismissed by order of the Lieutenant-Governor.

CHINA.—A vague rumour has been current since the arrival of the last mail, that the Emperor of China intends to disavow the outrage on the Peiho, and to offer every satisfaction that can be required of him. It is said that he has offered the head of the Peiho Mandarin in atonement, coupled with promises of an immediate reception of the Ambassadors at Pekin. Admiral Hope's despatch to the Admiralty containing the official account of the repulse on the 25th July was published on Saturday. The following abstract contains some details not mentioned in the letters received last week:—

On arriving at the mouth of the Peiho the Admiral proceeded to reconnitre the existing state of the defences of the river. These appeared to consist principally of the reconstruction, in earth, and in an improved form, of the works destroyed last year, strengthened by additional piles and abattis, as well as an increased number of booms of a very much more formidable nature. Very few guns were seen, but a considerable number of embrasures were masked with matting, evidently with a view of concealing others. The Admiral sent an officer on shore to communicate with the authorities, but he was met by a guard, apparently of country people, who prevented him from landing, and informed him that there were no officials nearer than Tientsin. On his acquainting them with the Admiral's wish that the obstructions at the mouth of the river should be removed, in order to enable the Ministers to proceed to Tientsin, they promised that a commencement should be made for that purpose within the next 48 hours. The despatch then says that, notwithstanding this promise, nothing was done; and after receiving evasive replies to further communications, the Admiral placed the matter in the Admiral's hands. The details which follow confirm the accuracy of the account published in our last Number, and add nothing of importance to it, except that the inner boom which barred the passage of the river was ascertained by Capt. Willes to consist of large baulks, well cross-lashed together, forming a mass of timber not less than 120 feet wide, and about 3 feet in depth.

COCHIN CHINA.—The French admiral commanding in Cochin China has concluded a treaty with the Annamese, and will probably start with his fleet to China.

UNITED STATES.—Accounts from New York of the 10th inst. state that the advices from Vancouver's Island reporting the occupation of the island of San Juan had created great interest. The papers discuss the question in very moderate terms. The Washington correspondent of the *New York Herald* says:—

"General Harney sent troops to San Juan to protect the white settlers from the savages, who were committing many atrocious murders. Nothing inimical to the British Government was intended by such a movement. The jealousy of Governor Douglas was needlessly excited. The soldiers of the British [illegible] ment. The [illegible] boundary treaty was negotiated, [illegible] [illegible] of Mexico was the [illegible] boundary, and [illegible] to it and to our just limits. No doubt need be entertained that the title to San Juan will be amicably adjusted, as the President must be perfectly aware of our rights, and will not be [illegible] difficulty will doubtless [illegible] between the Government of Great Britain and the United States, as the treaty settling the [illegible] provision for a settlement in such a case as has arisen. The State Department has had [illegible] matter under consideration, and General Harney will receive instructions to act with great caution until the Government have compared views upon the subject."

BRITISH COLUMBIA.—From the accounts received direct from the colony it appears that early in July General Harney landed with about 50 American soldiers, commenced erecting barracks, and issued a proclamation claiming the island as United States' territory. He rejected the British proposition for a joint occupancy until the matter could be referred to the respective Governments, and refused to allow the British Sappers and Miners to land. The [illegible] placed under the command of Captain Pender. Governor Douglas then issued a proclamation protesting against the proceedings of General Harney and declared the island to be British property. He also sent a message to the Vancouver's Legislative Assembly, in which it was declared that the British forces would be landed on the island, and in which he announced his belief that the unwarrantable and [illegible] contrary to the usages of civilised nations, had originated in error and been undertaken without the authority of the United States' Government, and in support of his opinion quoted a letter of Mr. Marcy's, in 1855. He further stated that her Majesty's ships Tribune and Plumper had been ordered to land a detachment of Royal Engineers and Marines for the protection of British subjects, and that the officer in command had been ordered to be conciliatory, but firm in maintaining British rights. At San Juan were three British and four American men-of-war. A number of Americans and English, on hearing of the dispute, started for San Juan. A report that a British steamer had opened fire upon the Americans was not credited.

## Public Addresses.

EARL STANHOPE presided last week at a meeting of the Conservatives of West Kent at Mote Park, Maidstone, and spoke as follows on public affairs:—

"For the last few years he had felt it his duty to abstain from taking a share in any party celebrations, which he thought to be the proper course for him to pursue, after the circumstances under which he had lost his seat in the House of Commons in the general election of 1852. When two years after losing his seat there, he [illegible] House of Lords, he did not seek to [illegible] any political party. As a free peer he was entitled to consider the matters as they came before him without any reference to party considerations, and to decide upon them as his conscience might determine. But that course, however satisfactory it might be in the ordinary current of affairs, was not satisfactory when a great national question was agitating the country. In the spring of the present year, when in the House of Commons an adverse vote to the [illegible] of Lord Derby, and when there was in consequence an appeal to the country, several persons had referred to his judgment and counsel as to the course which they ought to pursue under the circumstances. Looking to all the circumstances of the country, it appeared to him that the vote of the House of Commons adverse to the Government of Lord [illegible] was not justly founded, and that it would be very desirable that it should be reversed by the vote of the [illegible] appealed to. In West Kent the result of that appeal [illegible] signal triumph. In other parts of the kingdom, the result was not the same, and on the meeting of Parliament Lord Derby's Government being defeated on a division by a small majority, it immediately resigned, and was succeeded by the Administration of Lord Palmerston. The [illegible] of the new Government were not yet before the country, but in the formation of that Government there were one or two circumstances of a most unfavourable and unprecedented character. In the first place, having been recently in possession of some property which he was [illegible], he had been there, in conversing with persons of all classes, to very great pain and just resentment at the entire exclusion of Irishmen from any share in the new appointments. In all the Governments above the Colonial offices of that country, according to their political connection, had been called on to take their share in the administration of public affairs. In the late Government there was an Irish nobleman in the office of Secretary for Ireland, another Irish nobleman at the head of the Board of Trade, and an Irish lawyer of the greatest eloquence and ability—Sir H. Cairns, Solicitor-General, not for Ireland, but for England. But in the present Government there was not a single Irishman. (A Voice—'Palmerston.') In this respect at least the Conservatives were far more Liberal than those who claimed the name. There was, moreover, a question pending in Ireland one of the most momentous questions which could engage the attention of a Government—the question of national education. The Roman Catholic hierarchy and a portion of the hierarchy of the Established Church had declared themselves hostile to the present system. Whatever decision the Government might come to—whether to maintain it, to abrogate it, or to modify it—their decision could not command the same confidence in Ireland as if there were in their ranks some man born and brought up in the country, and intimately acquainted with the wishes of the people. Again, when the Government was formed there were three gentlemen (Mr. Labouchere, Mr. Vernon Smith, and Sir B. Hall) who had formerly held offices, but who were not invited to resume them. In naming those gentlemen he desired to speak of them with all personal respect, for with all three he had lived for a long time on terms of friendly acquaintance. It was not thought fit to propose to them to resume the offices they had formerly held, but the plan of the Government was to offer them seats in the House of Lords by way of compensation. This certainly was a most unusual course, and was, in fact, postponing the public

advantage to the convenience of party. What would be said in the House of Commons if the electors of a constituency were asked to send a man to that assembly because he was not thought fit or was not asked to take the office of justice of the peace or deputy-lieutenant, for instance? It seemed to be a remnant of that system which was affected by the Whig party until very recent years—governing the country by means of the great Whig houses; for it went on this maxim, that any one who had once held an office had a prescriptive right either to that same office or to some substitute for it. He should be sorry if it were for a moment supposed that the House of Lords had any jealousy of any fresh admissions to their ranks. The very reverse was the case, so far as his observation and feelings went, and if he wished for an instance of the cordiality with which additions were received he would point to that of the noble and learned lord near him, who, having achieved the highest forensic reputation as Mr. Pemberton Leigh, now, to the great advantage of the public, lent his assistance to the despatch of the judicial business of the House of Lords as Lord Kingsdown. The House of Lords was most anxious to receive among them any men who came there, having received the peerage as a reward for public services; but they objected to receive those who came before them, not for services rendered, but because they were not allowed or not required to render services. In this respect the prerogative of the Queen had not been fairly dealt with by the responsible Ministers of the Crown, and the importance of regulating the admission to one branch of the Legislature had not been considered with the fairness of justice which it required. In these two instances there had been in the formation of the Government some unpromising indications, but nevertheless a predetermined and indiscriminating opposition was not the attitude which ought to be assumed by Conservatives. If dangerous measures were introduced they ought to put forth their strength to oppose them, but if the measures were satisfactory Conservative feeling would best be shown in welcoming Conservative measures from whatever quarter they might come. The Conservative principle did not pledge its supporters to all the details of measures, but merely to the general policy of maintaining the ancient institutions of the country. In every measure brought before them, true Conservative policy would prompt them to consider only whether it were calculated to maintain those institutions. It did not exclude measures of repair,—the very reverse. In material matters repairs, and large repairs, too, were often found to be necessary for preservation. Changes might be made in political matters—nay, considerable changes—provided they were made on the principle of supporting and strengthening the institutions which our forefathers transmitted to us. There was a great difference between those improvements which tended to give new vigour to the fabric, and those changes which the revolutionists of the day recommended, seeking to subvert the fabric altogether. The chief maxim in public affairs should be the safety of our public institutions; and in adhering to that maxim the danger of yielding to revolutionary schemes and the danger of leaving unreformed old and proved abuses would be equally avoided."

**MR. HENLEY, M.P., at a meeting at Thame last week, spoke as follows on foreign politics and the Reform question:—**

"We have had some uneasy feelings in reference to the course of conduct likely to be pursued by one of our near neighbours on the Continent. Of course, any feelings of uneasiness with regard to so powerful a Sovereign must naturally be the subject of great anxiety to all of us, for I do not suppose that there is a single man living in this country who would not strongly deprecate a war between England and any other Continental power, and more particularly a war with France. I believe that it is impossible to calculate the amount of mischief and misery which such a war would entail. A vast amount of valuable blood and treasure would necessarily be expended; all the evils and horrors of war would come upon us, and probably after two or three years' hard fighting and scratching, we should leave off just where we began, the only result being the infliction of an immense amount of suffering, the sacrifice of thousands of lives, and the engendering of an ill-feeling between France and England which it would take a long time to remove, and which for years might prevent the two countries from becoming as good friends as they are now. There is another subject upon which a good deal has been said already, and upon which no doubt a good deal will be said hereafter. I allude to the supposed necessity for making some change in the present system of the representation of the country in Parliament. Now with respect to this question, my own opinion is that the main body of the people in this country are very well contented to leave things as they are at present. At all events, if they are to be altered at all, what the people at large naturally desire to see is that any alteration should be of such a nature as to lead to a reasonable hope that it would produce a really substantial amendment of the condition of all classes of the population. Above all, due care ought to be taken that in any projected alteration of the existing state of things no mischief should arise in consequence of rash and reckless innovations. I believe that the feeling I have expressed upon this point is not only the feeling of the great majority of the well-instructed and well-informed classes of the people, but the feelings of the majority of the people at large, and it is a feeling in which I candidly confess that I perfectly concur. When I was a young man I can assure you that I was never very fond of putting my foot forward unless I was perfectly well aware of the nature of the ground upon which I was about to place it; and now that I have grown older, and do not find it so easy perhaps as it used to be to stand upon one leg, I am still less desirous of lifting my foot and shifting my position unless I know very well in what direction I am about to advance. At the same time, although I avow these sentiments, I say also that where a real reform is to be effected I will never be backward in advocating it. Either in reference to the conduct of our own county business, or while taking part in the transaction of the public business of the country, I shall never shrink, so long as I occupy the honourable position in which you have placed me, from giving my best attention to the consideration of the true merits of any proposed change, and if any person can show me that there is a reasonable prospect of such a change doing good to the great masses of the population, not only shall I be ready to adopt it, but to give it my strongest advocacy. But change is not always reform. I never have been, and if I am to give you a candid expression of my opinion on this matter, I do not think I ever shall be ready and willing to adopt a proposition for a change in the existing order of things simply because it is a change. I do not say that the present system is perfect, for undoubtedly some evils may exist in it: but what I say is this—that it is far better to endure an evil the nature and extent of which is known than to jump into another of which we know nothing."

**COLONEL NORTH, M.P., at a meeting at Banbury, made the following remarks on Mr. Bright's recent speech at Huddersfield:—**

"The greater portion of the speech in question was purely political; but there were some passages in it in reference to the management and discipline of the army which ought not to be allowed to pass by without notice. If at any other time the remarks of Mr. Bright would admit of palliation they were most unfair and improper at a moment when from day to day it was impossible to say whether every arm in England might not be called upon to stand forward in the defence of the country. With regard to Mr. Bright himself he would simply repeat an observation which he heard Mr. Roebuck make in the House of Commons,—namely, that although Mr. Bright when upon his own dunghill at Birmingham roared like a lion, when in the House of Commons he was as mild and gentle as a sucking dove. Mr. Bright, in his speech at Huddersfield, said that Parliament had no control over the 12,000,000*l.* which were expended by the Horse Guards, and that it was the universal opinion, confirmed by every fact that came to his knowledge, that the Horse Guards management of that 12,000,000*l.* and of the vast forces under its direction was a management where interest and jobbery reigned supreme. Now no man knew better than Mr. Bright that the Commander-in-Chief, the Adjutant-General, and the Quartermaster-General who constituted the Horse Guards had no power over the 12,000,000*l.* which he accused them of expending. The sole person who had authority over the money was the Secretary of State for War. It so happened that the last Secretary for War was a soldier, but generally speaking he was a man who knew nothing of a soldier's duties, and could not tell whether a soldier wore his pouch over the right shoulder or the left. With regard to the control of the army, the direction of the forces devolved upon the Duke of Cambridge, and he believed that there was not a man in the country who had more at heart the interest of the service, or who was more thoroughly acquainted with the duties of a soldier, from those of the commander-in-chief down to those of a lance-corporal, and that there was not a man in England except Mr. Bright who would presume to say that the management of his Royal Highness was a management 'where interest and jobbery reigned supreme.' As to the case of the boy whose enlistment had been so minutely described by Mr. Bright, he (Col. North) had made some inquiry respecting it, from which he found that the boy went to a sergeant of the 3d Regiment and offered to enlist. No conversation took place, but he received the shilling, was taken before the surgeon, who passed him to the officer superintending the recruiting district, and he ultimately joined the regiment. The day after the enlistment the father and mother of the lad abused the sergeant for enlisting him, but never asserted for a moment that he was a boy only 14 years of age. The testimony of the military surgeon who inspected him was that his height was 5 feet 4½ inches, his weight 120 lbs., and that he measured 32 inches round the chest; so that, at all events, he must have been a most precocious boy of 14. The Commander-in-Chief could have had no interest in detaining the recruit, except as the guardian of the public interests. With regard to the term 'unmitigated scoundrels,' he could only say that if Mr. Bright referred to the non-commissioned officers of the army they were no more unmitigated scoundrels than he was an unmitigated scoundrel himself. Their respectability as a class, their devotion to their sovereign, and their gallantry upon all occasions, had secured for them the respect and esteem of the whole country. No regiment could exist without its non-commissioned officers, and instead of being 'unmitigated scoundrels' they formed one of the most efficient branches of the service. Adverting to Mr. Bright's remarks on the recent flogging case at Woolwich, he said that the general who commanded at Woolwich was Sir Richard Dacres, a most humane man, and certainly one who could not be accused of unnecessary harshness. The recruit enlisted on the 5th of March, 1859, and absented himself from the regiment on the 23d for three days. He was tried for the offence, and being a young recruit, was sentenced to a moderate punishment; but on March 31 he deserted again, and was not brought back for some months. He was again tried and sentenced to receive 50 lashes and to be imprisoned for 84 days, but from feelings of humanity Sir R. Dacres remitted the imprisonment. The man on being taken down from the halberds after receiving his punishment, to show his contempt of the authorities, began to crow like a cock, and the moment he came out of the hospital he deserted for a third time. It was for that third offence that he had been recently flogged, and every one of the military surgeons who had examined him declared that the statement respecting the boils on his back was false. The punishment of flogging for desertion in the army had only been lately sanctioned by Parliament in the Mutiny Act, and it was absolutely necessary, because during last year alone there were no less than 11,000 desertions, and it must be borne in mind that every soldier cost the country for his kit and his bounty alone 6*l.* 18*s.*, independently of which a large expense was incurred in drill. With regard to the punishment of flogging he had no hesitation in saying that it was a degrading punishment, but it was intended to be a degrading one. No doubt it was a severe punishment, and he himself had seen both officers and men faint while it was being inflicted; and if Mr. Bright or any other man would provide an effectual substitute he had no doubt the whole army would be glad to receive it. As to the opinions of Mr. Bright with regard to the officers of the army, the officers of the army cared very little for anything he might say."

## City Intelligence.

COURT OF BANKRUPTCY.—John Lockhart Morton, who was recently sentenced to penal servitude for forgery, had another examination meeting at Basinghall Street on Thursday. The debts were proved at 80,000*l.*, and the estate is expected to realise 6*s.* in the pound. The examination was again adjourned.

CAPTURE OF AN ABSCONDED BANKRUPT.—Mr. David Hughes, the solicitor of Gresham Street, City, Canonbury Place, Islington, and Kingsgate Castle, Margate, who absconded last year to Australia, charged with defaults to his clients and others to the amount of about 200,000*l.*, was examined and remanded on Wednesday at the Guildhall Police Court, his capture having been effected in the colony of Victoria, whence he has been brought on a writ of extradition.

MONEY MARKET, FRIDAY.—BRITISH FUNDS: Consols closed at 95⅝ to ¾ both for Money and Account; India Stock, 217; New Indian Loan (stock), 100½; Ditto Scrip, 100⅝ to ½; Four per Cent. Debentures of 1859, 95⅝; India Bonds, 2*s.* dis.; Exchequer Bills, 23*s.* to 25*s.* prem.—FOREIGN: Brazilian Four and a Half per Cents., 1852, 94½; Danish Three per Cents., 86½; Mexican Three per Cents., for Acct., 22⅝ to 23¼; Russian Three per Cents. 1859 (scrip), ½ dis.; Sardinian Five per Cents., 86¾; Spanish New Deferred Three per Cents., 34¾; Committees' Certificates for Unfunded Coupons, 4¾; Turkish Six per Cents., 1854, for Acct., 84¼ to 84½; Ditto, 1858, for Acct., 69⅜; Ditto Guaranteed Four per Cents., 102¾.

## Gazette of the Week.

TUESDAY—BANKRUPTS—C. BAWDEN, Tavistock, Mine Agent—T. FRANCIS, Cross Road, Islington, Builder and Plasterer—J. GREEN, Northampton, Builder—J. HARRISON, Page's Walk, Bermondsey, Builder—J. MACRIN, Birmingham—H. WOOD, Moorgate Street, Merchant.

BANKRUPTCY ANNULLED—J. J. HARWOOD, Manchester, Hosier.

SCOTCH SEQUESTRATIONS—J. ANDERSON, G. M'KENZIE, and W. HILL, Thread Manufacturers—T. BUCHANAN, Perthshire, Minister of the Church and Parish of Methven—W. GRAHAM, Stornoway.

FRIDAY—BANKRUPTS—S. T. BENNETT, Padstow, Cornwall, Shipbuilder—B. DAY, Gracechurch Street, Oil Warehouseman—A. FRASCO, 503, Oxford Street, Dentist—J. JACKSON, Oulton, Yorkshire, Corn Miller—J. E. KENWARD, Bristol, Milliner and Mantle Maker—L. A. STEINMANN, Baker Street, Portman Square, Jewellers—H. W. TIPPLE, Peterborough, Northamptonshire, Licensed Victualler—E. WILLIAMS, Aberdare, Corn Merchant.

BANKRUPTCY ANNULLED—E. BATES and J. FELTUS, Manchester, Brewers.

SCOTCH SEQUESTRATIONS—J. CLARK, Lochel Bank, Dumbarton, Perthshire, Farmer—S. DICKSON and SON, Dumfries, Jewellers—J. HARRAS, Gallowgate, Glasgow, House Factor—J. M'GILCHRIST, Campsie, Stirlingshire, Farmer—A. STEEL, Edenkillie, Elginshire, Blacksmith—P. STUART, Aberdeen, Grocer.

## Bank of England.

ISSUE DEPARTMENT.

| | | | |
|---|---|---|---|
| Notes Issued .. .. .. | £30,989,710 | Government Debt .. .. | £11,015,100 |
| | | Other Securities .. .. | 3,984,900 |
| | | Gold Coin and Bullion .. | 15,989,710 |
| | | Silver Bullion .. .. .. | — |
| | £30,989,710 | | £30,989,710 |

BANKING DEPARTMENT

| | | | |
|---|---|---|---|
| Proprietors' Capital.. .. | £14,553,000 | Government Securities (including Dead Weight Annuity) .. .. .. | £11,015,100 |
| Rest .. .. .. .. .. | 3,720,472 | Other Securities .. .. | 4,681,756 |
| Public Deposits (including Exchequer, Savings Banks, Commissioners of Nat. Debt, and Dividend Accts.) .. .. .. | 8,792,598 | Notes .. .. .. .. | 13,125,000 |
| Other Deposits .. .. .. | 13,219,882 | Gold and Silver Coin .. | 1,308,376 |
| Seven day and other bills | 839,280 | | |
| | £41,125,232 | | £41,125,232 |

22d day of Sept, 1859. M. MARSHALL, Chief Cashier.

## Metropolis and its Vicinity.

THE GREAT EASTERN.—The adjourned inquest at Weymouth was resumed on Saturday, when Mr. Galloway of the Board of Trade, Mr. Scott Russell, and several engineers connected with the vessel and the machinery, were examined at great length. A great portion of the evidence bore upon the question whether the makers of the engines or the engineers of the vessel had charge of them at the time of the accident—a question of interest to the company as well as the contractors, inasmuch as it involves the question of who is to sustain the loss. The engineers of the vessel stated that they had orders not to take charge till the ship arrived at Portland, while Mr. Scott Russell and his assistants asserted that their responsibility ceased when the ship left the river, and that they never gave any order relating to the working of the engines, or had them under their control. Mr. Dickson, the foreman of Mr. Russell, admitted, however that he had fixed the cock in the tube, and supposed that it was by his directions that it was left so. Another adjournment then took place to Monday, when the foreman of the jury said that the inquiry was drifting from an inquest into a lawsuit, and therefore he hoped that the coroner would place no evidence before the court which did not entirely and exclusively concern the cause of the accident. It was entirely beside the question as to what was the contract between the directors of the company and Mr. Scott Russell. The Coroner said that he did not consider the only question before the jury was what was the cause of the accident. It was also their duty to discover if possible who was the cause of it, and therefore all evidence which tended to show who was in charge of the engines was certainly to the point. Mr. Jackson, M.P., deputy chairman of the company, was then examined, and distinctly stated that Mr. Russell's contract was not completed, and that it was always understood that the contractors who constructed the engines would be in charge of them during the trial trip. Mr. Arnott, chief engineer of the paddle engines, and Mr. M'Farlane, chief engineer of the auxiliaries, deposed that the cocks in both the funnels were open when the vessel left Portsmouth, but any one could open the door which led to them. Capt. Harrison, the commander of the vessel, stated that Mr. Russell was in charge of the paddle engines, as that Mr. Brunel had informed him that he would not accept the engines unless they worked faster on the trial trip than they had done in the river. Both screw and paddle-engines were at that moment the property of the contractors, and had not been accepted by the company. After the vessel left the Nore, he had in conjunction with the pilot, asked Mr. Russell to have the paddles faster, as the screw was overrunning them, but Mr. Russell did not do so, and did not refer him to any one else as being in charge of the paddles. The coroner then proceeded to sum up to the following effect:—

The questions for the consideration of the jury were, first, as to the cause of death; secondly, to what that cause was attributable; and, thirdly, who was to blame? They had it in evidence that both the funnel casings were alike air-tight against the escape of steam, and it seemed marvellous now was that the second did not also explode, when it was more than probable that the immense vessel, with all its passengers, would have been buried in the sea. The evidence which had been set before them and on which they had to decide was unfortunately, of the most contradictory character as to the person or persons really responsible for the charge of the paddle engines. It had been positively sworn to by Dickson and M'Farlane that they had both examined the cocks on Tuesday before sailing, and had found and left them open. That this was so he could hardly believe it possible that any human being could be such a monster as to close them wilfully, and knowing the dreadful consequences which would be sure to ensue from such an act. He must leave it entirely to the consideration of the jury to settle the disputed point whether Mr. Scott Russell's assistants, Mr. Dickson and Mr. Arnott, or Mr. M'Lennan, the engineer of the vessel, were responsible for the proper management of the machinery. It certainly appeared most astonishing to him that the company should have started their vessel on her trip without coming to some definite terms as to who was really in charge of the engines. Mr Scott Russell has declared most emphatically that his contract was completed on the 6th of August, before the vessel sailed, that he had nothing whatever to do with the crew, and this evidence was borne out by the testimony of those who had formerly been in his employ. On the other hand, they had the strongest evidence that his assistant Mr. Dickson did interfere with the working of the engines, and also that Mr. Scott Russell gave directions for their management from the bridge. The whole cause of the accident was evidently due to neglect on the part of some one, and he thought that undoubtedly there was sufficient evidence before them to

subject to justify their sending the matter before another tribunal for further investigation. The law of the case was clear, that if any person in the discharge of his proper and lawful duties did them in such a manner as would endanger the lives of others, that, in the eye of the law, would justify a charge of manslaughter. Mr. Scott Russell had given it in evidence that he did not know that the cock was there at all, and so far, certainly, there was not enough to justify a charge of manslaughter against that gentleman. But Mr. Dickson did know it, and not only said so, but went still further, and admitted that he left it there without a thought. There was not sufficient, he repeated, in the evidence to ground any charge against Mr. Scott Russell himself, but there was, he thought, quite sufficient to justify the jury in coming to the conclusion that Mr. Dickson had acted carelessly and thoughtlessly in not attending to the condition of the cocks when he knew they were there. Mr. Galloway and all the other witnesses had proved that there was no use whatever in having the stand cocks in such a place, and that they were, on the contrary, a constant source of danger. Mr. Arnott, it appeared, also knew of the cocks, and he was bound to examine them from day to day, and he therefore, the coroner thought, was almost fully as culpable as Mr. Dickson. It was really a great source of regret that they could not have the evidence of Mr. Brunel—who could, if he were living, at once have thrown a light upon the question of who was in charge of the engines. The jury had now to solve the difficulty for themselves, and upon the most contradictory evidence. The company, he thought, were undoubtedly not free from blame in this matter, in not using the foresight they should have done, in ascertaining beyond all doubt who was to be held responsible for the proper management of their machinery. The question for the jury, however, was, who put the cock in the pipe, and who, being in charge of the engines, was answerable for seeing that it was open. In conclusion, he expressed the high sense he entertained of the value of the assistance which had been given in the course of the proceedings by Captain Robertson, R.N., the Surveyor-General of the Board of Trade.

**The jury then retired, and after an absence of more than two hours returned into court with the following special verdict:—**

"We find that the deceased came to their deaths from injuries received from steam, hot air, and water, in consequence of the bursting of the jacket attached to the foremost funnel of the Great Eastern steamer; and that the said bursting was occasioned by the closing of a tap connected with the syphon attached to the said jacket, in conjunction with the shutting off the feed from the water-casing to the boilers; but there is no evidence before the jury to show by what person or persons the said tap was shut off, and the jury further express their opinion that taps are highly dangerous when placed in such positions, and that sufficient caution was not used by the engineers. We, however, return a verdict of Accidental Death."

THE BUILDERS' STRIKE.—The executive committee of the Master Builders had another meeting on Tuesday, but they sat, as usual, with closed doors, and nothing is known of their proceedings beyond the fact that the returns presented to them from 30 master builders who strictly adhere to the declaration gave 4242 as the aggregate number of men in their employ. It is said that in addition to this number at least 800 men have gone to work with other members of the association who are carrying out the declaration. On the other hand it appears from the number of recipients of the dividend at the Paviours' Arms on Monday, that there were then nearly 7000 men refusing to work under the conditions of the declaration. On Tuesday night a meeting of delegates from most of the metropolitan trade societies sympathising with the men on strike, was held at Shaftesbury Hall, Aldersgate Street, at which the sum of 292*l.* odd was paid down in aid of the strike. The whole amount contributed to their support from working men in the metropolis and the country during the lock-out, is nearly 3000*l.*, exclusive of the far greater sum in the aggregate which they have received from their own trade societies. Since however the masters have opened their shops, several cases of intimidation have taken place, and the magistrates have been obliged to inflict fines and intimate to the men on strike that they will take every necessary measure to enforce the law. Among other acts of intimidation, a letter purporting to come from the Trades Conference, at the Paviours' Arms, has been sent out giving notice that no lock-outs should resume work without the sanction of the Conference, and publicans who have refused to give contributions in aid of the men on strike have been told that unless they contributed they would be "spotted;" in other words, that measures would be taken to effect their ruin.

HARROW SCHOOL.—The Rev. Dr. Vaughan has addressed a circular to the parents of boys now at Harrow announcing his intention to resign the Head Mastership at the end of the present term, which will complete his 15th year of office.

THE NEW REFORM MOVEMENT.—Mr. Bright, M.P., had a lengthened interview on Saturday with the Council of the Liverpool Financial Reform Association, respecting the agitation which they are about to commence for the abolition of the Customs' duties on 439 articles producing a revenue of only 750,000*l.* They argue that the duties producing so small a portion of the revenue are not worth the trouble and cost of collection, while they tend to impede the operations of commerce. They intend to make special efforts for the total repeal of the duties on tea, coffee, and sugar, on the ground that they are absolute necessaries for the poor, and that their total abolition is only second in importance to the question of the corn laws. The cheaper those three articles are obtainable, the greater, they argue, will be the sobriety of the nation. If the Chancellor of the Exchequer cannot do without the revenue produced by those duties, it is suggested that a tax on property would meet the difficulty, so that the rich may contribute instead of the poor. They intend opening their campaign by a grand demonstration, to take place early in November at Liverpool. Mr. Cobden and Mr. Bright have promised to attend and take part in the proceedings. The agitation, as already stated, is to be carried on vigorously during the winter months by public meetings throughout the country. The war-cry of the campaign is to be "An untaxed breakfast and tea table for the working classes;" the argument being that the time is come when there should be untaxed tea and coffee as well as untaxed bread.

THE SOUTHERN MAIN DRAINAGE.—Preparations are making for the construction of the outfall sewer reservoir, pumping engines, &c., at Crossness, opposite Dagenham Reach. The works will commence at North Pole Lane or Norman's Road, in the Greenwich Road, and will extend eastward under and along Greenwich Road, London Street, Romney and Trafalgar Roads, Greenwich and Woolwich Lower Roads, and Albion Street under the town of Woolwich, thence passing under and along the Plumstead Road, through the Arsenal at Woolwich, to Griffin Manorway, where they will cross the Plumstead and Erith marshes, and proceed to their termination on the bank of the river below Crossness, at a point adjacent to the Artillery practice grounds opposite Dagenham Reach on the north bank of the river. The reservoir and pumping station with the necessary engines and machinery will be constructed and erected on land in the occupation of Mr. Thomas Flint. The ground required will be 17a. 2r. 33p., which the Metropolitan Board of Works under the Act intend to purchase of Sir Richard Tufton, the owner. Two air shafts will be sunk in connection with the line of sewerage—one in Sun Street, and the other in Powis Street, Woolwich.

LONDON MECHANICS INSTITUTE.—Among the late contributors to the fund to relieve the trustees and purchase the lease of the buildings of this Institution are the names of the Duke of Cleveland, the Marquis of Breadalbane, and Lord Cranworth. Lady Murray, widow of the late Lord Murray (Lord of Session), whose example was noticed at the time, has sent 50*l.*; Miss Burdett Coutts has contributed 100*l.*; and the Corporation of London has voted 100 guineas for the purchase of the lease.

NEW BARRACKS FOR RECRUITS.—Extensive barracks calculated to accommodate several hundred men have just been built as a private speculation in Gardner's Lane, Westminster. They are intended for the numerous recruits continually enlisted in the metropolis, as well as for those arriving from the provinces to join the head-quarters of their respective regiments, the speculator undertaking to supply a bed and the other necessary requirements for the sum of 4*d.* each man, as allowed by Government. The establishment of this rendezvous has received the approval of the authorities, as it will considerably reduce the number of billets on innkeepers, and lessen the opportunities for desertion that occur between intermediate and final approval.

NEW WESTMINSTER BRIDGE.—The removal of the facings of the piers of the old bridge on the lower or eastern side is now in progress preparatory to the demolition of the entire structure. Within the last few weeks all the arches of the upper section of the bridge, with the exception of that next the Middlesex shore, have been turned, and a great portion of the permanent way has been laid down. It is now expected that the first half of the new bridge will be ready to open for public traffic early next spring, when the old bridge will be at once removed and the construction of the other portion of the new bridge proceeded with.

REVISION OF THE PRAYER BOOK.—Lord Ebury has addressed the following letter to the churchwardens of the metropolis:—

"Gentlemen,—You may perhaps be aware that it is my intention next year to renew a motion in the House of Peers, which I made last year, but did not then press to a division, for the purpose of inducing that House to address the Queen, praying her Majesty to appoint a Royal Commission to revise the Book of Common Prayer, with the object of seeing whether it can be made more profitable than it now is for the religious edification and the instruction of the people. The Bishop of London has stated that, in his belief, the greatest difficulty in the way of any, even the slightest alteration in our services, will be the opposition that will be made to any such proposition by the laity. I am unable to say whether this opinion is well founded or not, but it is of the greatest consequence to me that I should know it before I again submit this motion to the House. I shall therefore esteem it a great favour if you, who must be considered as the representatives of the laity in the most important portion of the most important diocess in England, will inform me at your early convenience whether, within your knowledge, they may be considered unfavourable to such a measure. I take the liberty of sending herewith some documents, showing various propositions and expressions of opinion concerning liturgical revision, which you may like to be acquainted with; but my principal—indeed, only present—object is to obtain, if I can, something like an estimate of lay feeling in the metropolis in reference to the repugnance to any alteration which they are supposed to entertain. I have, &c.,

"EBURY."

ST. GEORGE'S-IN-THE-EAST.—On Sunday last before the commencement of morning service an announcement was issued by the churchwardens, and distributed among the congregation, stating that the rector, on the application of the churchwardens, had agreed to accept the bishop's mediation, and requested the parishioners not to interrupt the services in any way during the progress of the arbitration. The morning service was performed by the curate of the parish, who wore the ordinary vestments. The afternoon and evening services were noisy as usual, but not to the same extent as on previous Sundays. The Bishop of London has ordered the church to be closed, except for the celebration of marriages, &c., until the result of his mediation is announced.

EXTRAORDINARY AFFAIR AT STEPNEY.—On Saturday an inquest was opened at Mile End to discover the causes which led to the death of a male child aged three weeks, whose body has been exhumed by order of the coroner, acting under instructions from the Secretary of State. It appears that early in August last the Bishop of London received two letters signed by "A Parishioner," which alleged that the Rev. J. Bonwell, Rector of St. Philip's Church, Stepney, had kept a young lady in an apartment in the school house adjoining the church, which young lady was there delivered of a male child on the 11th of August last. It was also stated that the mother and child had suddenly left the house, giving rise to suspicions of foul play as regarded the infant. The Bishop on receipt of these letters placed the matter before the authorities in Scotland Yard, who immediately commissioned Inspector Whicher to investigate the case. From the inquiries which he made Inspector Whicher ascertained that the rector was a married man residing in Thornhill Square, where his wife has a boarding school or college for young ladies, and that he has for some time temporarily occupied or used the master's apartments of the boys' school in consequence of the latter having been closed. When at Newport, Monmouthshire, some months ago, doing duty for Archdeacon Williams, he was introduced to Miss Yorath, the sister of a respectable medical practitioner in that town, to whom he represented himself to be a widower. She subsequently left her home under the plea of taking a situation as a governess, and lived with the rector at Southend; they were afterwards traced to London, and had been seen to enter the school-house at Stepney on the night of the 11th ult. She was there delivered of the deceased child by Dr. Godfrey, of Finsbury Square, whose assistant procured her a nurse. On the 15th of the same month the mother and child removed to the Sussex Hotel, Duke Street, Southwark, where the rector engaged apartments for her. On the 31 inst. the child died, and the same day the Rev. Mr. Bonwell called on Mr. Ayres, an undertaker, presented him with a certificate of the child's death, and requested him to bury the child as quickly as possible, paying him 18*s.* for his trouble. The child was buried, not in a separate coffin, but was surreptitiously placed in the coffin of an adult, named Elizabeth Haycock, whose funeral Mr. Ayres performed on the 4th inst. at the Tower Hamlets cemetery. On these facts being communicated to the coroner the body of Elizabeth Haycock was exhumed, and the body of the deceased child was found lying with it in the same coffin. After the examination of the secretary of the cemetery and one or two witnesses the inquest was adjourned until next week, in order to collect the necessary witnesses and to await the result of an analysis of the intestines and stomach of the child, which have been forwarded to Dr. Letheby for that purpose.

FIRE IN THE CITY.—On Saturday morning, shortly before 8 o'clock, an extensive fire broke out in Ivy Lane, Paternoster Row, and was not extinguished till the premises of Mr. Champness, coffee-shop keeper, Mr. H. G. Hutchinson, artificial flower maker, Messrs. Reed & Pardon, printers, Mr. George Virtue, publisher, Messrs. Walton & Maberly, booksellers, Messrs. Remnant & Edmonds, bookbinders, and of many others, were considerably damaged by fire and water. The loss will fall on the General, Globe, Sun, and other offices.

THE PUBLIC HEALTH.—The Registrar-General's report states that the number of deaths registered in London in the week that ended Saturday, Sept. 17, was 1092. Excluding the deaths by cholera in the corresponding weeks of 1849 and 1854, this does not differ very materially from the average rate near the middle of September in the last 10 years. During the week the births of 802 boys and 805 girls, in all 1607 children, were registered in London. In the 10 corresponding weeks of the years 1849-58 the average number was 1506.

## Provincial.

BANGOR.—The religious "revival" is making great progress in Carnarvonshire. Immense religious meetings have been held by the Calvinistic Methodists, one of which commenced at 6 o'clock in the morning, a second at 8, another at 10, one at 2, one at 5, and another at 7. At the meetings which were held in the middle of the day it was estimated that there were about 20,000 present—7000 coming from the isle of Anglesea alone! The vast multitude began to arrive at Bangor as early as 5 o'clock in the morning, having walked by that time a great number of miles, and most of them laden with chairs, stools, and other conveniences for sitting. The meetings throughout were of the most orderly character. The revival is also making rapid progress in the mountainous districts of Waenfawr, Llanrug, Llanberis, and Llanddeiniolon, as also in the Nantlle, Cilgwyn, &c. At Aberdare from 1000 to 1200 members have been added to the Independent denomination alone within the last six months, and at the association meeting in June 10,000 persons were present.

GLOUCESTER.—The 136th musical festival of the three choirs took place in this city last week with great success, the pecuniary results of the meeting exceeding 1032*l.* The festival occupied four days. On the first it opened with full cathedral service, and a sermon by the Rev. Canon Harvey. On the second Mendelssohn's "Elijah" was performed. On the third Beethoven's "Engedi (Mount of Olives)," Rossini's "Stabat Mater," and Spohr's "Last Judgment," were given; and on the fourth Handel's "Messiah" closed the oratorios at the cathedral. There were evening concerts at the Shire Hall on Tuesday, Wednesday, and

Thursday. A ball after Tuesday's concert, and a full dress ball on Friday night brought the festival to a close.

JERSEY.—The South-Western Company's steamer Express was lost on Tuesday morning on her passage from this island to Southampton. In consequence of the illness of the captain the chief mate, Mr. Mabb, took the command, and instead of following the usual course round the Corbière steered the vessel through an inner channel never before attempted and struck on the rocks called the Grunes Houillières. She filled so rapidly that it was necessary to run her ashore as the only means of saving her. Mr. Bursell, from Warwickshire, who had his wife and daughter on board, and two other passengers from Jersey were lost, but the remainder were saved, with the mail for England and the cargo; the latter however in a very damaged state. The mail for Guernsey was lost. The vessel was worth about 7000*l.*, and if totally lost the sum will have to come from the company's insurance fund as they insure their own vessels. The chief mate, Mabb, has been arrested by order of the Queen's Procureur.

LEEDS.—At the last examination of Normington for the murder of Mr. Broughton he made a voluntary statement embodying the main points of the confession which he made last week to the chief constable. In answer to the charge of robbery, he denied that he had robbed Mr. Broughton of his watch, and said that he did not know the other man had robbed him until he did it. The prisoner signed his voluntary statement, and was then committed for trial at the next assizes, charged with the wilful murder and the robbery.

LEWES.—A fatal accident occurred on Wednesday afternoon at the Great Sheep Fair in this town, by which four persons have lost their lives. Messrs. Cheale & Sons, of Southover, were exhibiting a four-horse engine, manufactured by Hensman, of Woburn, and was preparing to work a chaff-cutting machine, when the boiler suddenly exploded. The engine rose from the ground amidst a cloud of steam and smoke, ashes and water, and dashed a distance of above 30 yards in the direction of the sheep pens, killed the son of Mr. Hilder, of Horsted Keynes, and a colt which he was exhibiting for sale, and finally alighted in a corner of a pen of sheep, two of which were killed and others injured. Alarmed by the noise, a crowd of persons from all quarters of the fair rushed to the spot, when John Gold, the engineer, was found lying near the engine quite dead; two labourers, called Landport and Upton, were also killed, and others were seriously injured. One man was removed to the Brighton Hospital, where he is said to have since died. The inquest was opened on Thursday and adjourned.

NEWBURY.—The British Archæological Association has just held their 16th annual Congress in this town under the presidency of the Earl of Carnarvon. Numerous papers were read on subjects of local interest, and excursions were made to Reading, Highclere, Welford, Silchester, Wash Common, and other places of historical and antiquarian interest in the neighbourhood. Among the papers read were one by Mr. Henry Godwin disproving the tradition that Donnington Castle ever belonged to Chaucer the poet; and another by Mr. Pettigrew on the death of Amy Robsart at Cumnor in 1560, the object of which was to show that she was not poisoned by order of Dudley, but that her death was the result of accident.

NOTTINGHAM.—A disgraceful piece of vandalism was perpetrated in the Arboretum on Friday night. A statue has recently been erected in the grounds to Mr. Feargus O'Connor, the Chartist leader. On Friday night some persons entered the enclosure and defaced the statue by daubing the face and scroll and the lower limbs with an adhesive black substance. The patches had evidently been hastily applied, and a large earthenware coffee-pot containing the mixture which had been used was found lying on the ground near the pedestal. An attempt was immediately made to remedy the injury by scrubbing it with turpentine and other chemicals, and with considerable difficulty the stains have been removed, and the statue does not appear to have been materially injured. A reward of 50*l.* has been offered by the O'Connor Committee, 20*l.* by the proprietor of the *Nottingham Journal*, and 5*l.* by the Town Council, for the discovery of the perpetrator of the outrage. The statue in question was inaugurated a short time since, in the presence of a vast concourse of the working classes, Mr. Ernest Jones taking the principal part in the proceedings, and delivering an address describing the services of Mr. O'Connor through a series of years to the working classes. The figure, which is mounted upon a pedestal, is of Derbyshire stone, and measures upwards of 7 feet. It is in the costume of a barrister, and has a brief in the right hand. The monument bears the following inscription:—"Feargus O'Connor, Esq., M.P. This statue was erected by his admirers, 1859."

SHEERNESS.—On Sunday night the stack-yard of the Abbey Farm close to the ancient church of Minster was discovered to be on fire. The flames ran from stack to stack, stables, and barns almost instantaneously, owing to the yard being covered with straw. Horses, cows, pigs, fowls, &c., were all destroyed before help or water could be procured. The commanding officers of the garrison of Sheerness immediately turned out the Forfar and Kincardine and Norfolk Militia Artillery with their engines. The men proceeded at double quick time to the farm, and to the prompt measures taken may be attributed the saving of the Abbey House and the ancient parish church of Minster.

STOURBRIDGE.—George Hackett, late steward to the Earl of Stamford and Warrington at Enville Hall, and James Parish, jun., farmer, his brother-in-law, were charged before the magistrates on Tuesday with committing an extraordinary series of frauds upon Lord Stamford. Parish did not appear, and a warrant has been issued for his apprehension. The solicitor for the prosecution stated that in 1851 the two defendants were appointed assessors and collectors of assessed and income-tax for the parish of Enville, the defendant Hackett being at the same time in the employ of Lord Stamford as steward. Between 1851 and 1859 his lordship had been charged on income and assessed taxes 1355*l.* 12*s.* 3*d.* over and above the amount due, the sum paid to the Crown being only the amount actually due, so that this large excess must have been appropriated by the collectors to their own use. The money had been handed to Parish, and the cheques had been signed by Hackett. These frauds were discovered by the new steward on the discharge of Hackett, and the Board of Inland Revenue determined to prosecute. The magistrates, after deliberating 20 minutes, determined to commit Hackett for trial at the next assizes. They consented, however, to accept bail, himself in 500*l.*, and two sureties in 250*l.*

WEYMOUTH.—A three-gun battery, to sweep the entrance of Weymouth harbour, was completed last week; and the Royal Engineers have commenced erecting a 50-gun battery to sweep the entire coast between Weymouth and Portland. This battery when completed will be mounted with the long range Armstrong guns.

## Ireland.

THE REVIVAL MOVEMENT.—The *Northern Whig* exposes a daring case of imposture in connection with this movement in Belfast. The chief actor in the deception is a mill girl named Campbell, who bids fair to rival Johanna Southcote in blasphemy, and the famed Barney Cavanagh in hypocrisy. According to the story current this girl "was revived," or "struck," about six weeks since, when she became blind and dumb. It was then announced that she had seen a heavenly vision, after which the name of the Redeemer was miraculously imprinted upon her breast and arm. Thousands of people visited her, and the excitement was evidently on the increase, when the Rev. Mr. Hall and the Rev. Mr. Breakey, Presbyterian ministers, investigated the case and ascertained that the marks were produced by the common blue bag. Five other cases have since been investigated at Lisburn, with the same results. In connection with these impostures the local papers notice the alarming increase of lunacy consequent upon the prevailing religious excitement. During the last three months the number of persons committed to the Belfast gaol as "dangerous lunatics" was 16, being 10 above the average of last year. Of this number no less than 12 were labouring under religious delusions of a recent date; and it is said that since the commencement of the revival movement there have been lodged in the Belfast Asylum no fewer than 22 cases of insanity from Larne and that neighbourhood alone.

NARROW ESCAPE OF LORD LIMERICK.—A few days since Lord Limerick narrowly escaped severe injury from an explosion of gas. Some alterations to the gas-fittings were in progress in his house near Limerick, and by some carelessness the lower portion of the dwelling, including the servants' hall, became filled with gas. A person holding a lighted candle at this time entered the room, when an explosion took place which shook the entire edifice, reducing the whole of the furniture in the servants' kitchen and adjoining room to pieces, and causing considerable damage in other portions of the building. Several of the servants received slight burns and were removed to the hospital, but fortunately no life was lost. The library, which is directly over the room where the explosion originated, and which Lord Limerick himself had only left a few minutes before, was also damaged.

## Scotland.

BRITISH ASSOCIATION.—It has been resolved to hold the next meeting at Oxford under the presidency of Lord Wrottesley, and to give a preference to the claims of Manchester for the succeeding year.

THE EDINBURGH ANNUITY TAX.—Mr. Brown, the remaining martyr of the annuity tax, was released from prison last week by means of a subscription raised by the Lothian Road United Presbyterian Church, of which he is a member. It is said that his health, which was very delicate before his incarceration, has become so impaired by the excitement and confinement as to necessitate his removal to the Bridge of Allan.

THE "LADLE" IN CRATHIE CHURCH.—The northern journals relate the following incident, which is said to have occurred in the church of Crathie on Sunday last at the conclusion of the service:—"On the announcement from the pulpit of a collection then to be made by the assembled congregation in behalf of the Jewish Mission, the elders proceeded in the usual manner to uplift the contributions for that object, armed with the ladles, or wooden boxes, to which are attached handles of 7 or 8 feet long. These, being diligently pushed along in front of the occupants of each pew, were soon filled and carried off, leaving one collector in the section of the gallery in which was situated the Royal pew, occupied by her Majesty and suite. The ladle was in due course passed along the Royal pew, and, the official striving to reach its farther end and leaning on the door, the sneck, suddenly yielding to his weight, [illegible] way, and capsized him head-foremost among the party, couping the boxful of bawbees into the lap of some of the ladies in attendance. This incident was observed and heard by the majority of the congregation who had difficulty in restraining their merriment at the circumstance and the confusion of face manifested by the luckless office-bearer, the feeling being evidently participated in by the august lady herself who witnessed the occurrence."

## Law.

CENTRAL CRIMINAL COURT.—*Bigamy.*—*William Dawson Marshall*, 31, a meagre insignificant looking person with a moustache on the upper lip, was indicted for feloniously marrying Jane Hayes, his wife being still alive. It was proved that in July, 1858, the prisoner was married at Paddington Church to Sophia Frost Dawson, and upon the 28th of last at St. George's, Hanover Square, to Jane Hayes. It appeared from the evidence that Mrs. Hayes, the second wife, was a widow, and that she first met the prisoner at St. James's Hall, at one of Barnum's entertainments, where he represented himself as the Hon. Captain William Sloper Harrison, a captain in the army and the son of Lord Denbigh, 'shipowner;" made fierce love to her, said he would kill her or himself unless she consented to have him, and offered with his hand a carriage, an estate at Croydon, and 2000*l.* The lady believing his representations gave her consent, and they were married at that aristocratic church, St. George's, Hanover Square, on the 28th of June. After the two months had passed over, there was no sign of the carriage, nor the slightest appearance of the 2000*l.* or the estate at Croydon, or any of the presents lavishly promised before the commencement of the honeymoon. On the contrary, the hon. captain commenced a course distasteful to his wife, of going out fashionably dressed in clothes purchased at her expense, stopping out all nights together, and coming home in garments materially different in texture and appearance to those he wore when he left home, and, in addition to all, making use of threats of a disagreeable character. It appeared also that the first wife married the prisoner without consulting her friends, and after spending a great deal of her money, he soon deserted her in a most heartless manner. He represented himself to be a captain in the army, who had seen great service, and possessed six medals received for distinguished services rendered his country, and was possessed of considerable property, but unfortunately lost much of it in speculation. The result of the police however into the history of the prisoner showed that his real name was Sloper, and not Marshall or Harrison, and that he was the illegitimate child of a female who subsequently married a man named Marshall, who was in the bottles, and was engaged in bottling ale and beer for the people. After hearing the evidence the prisoner's counsel he could not resist a verdict of guilty, but urged in mitigation of the sentence that the prosecutrix had not suffered any serious wrong. The jury returned a verdict of guilty. The prisoner, in a crying tone, said he had been drawn into the marriage; that the prosecutrix took him to her house and would not let him go, and drew him into the marriage. The prosecutrix said there was no truth in what the prisoner had stated. The police constable said the prisoner at the time of both marriages lived with a woman. The Commissioner said the case was a very bad one. He did not believe the imputation upon Mrs. Hayes, and should sentence the prisoner to ten years' penal servitude.

## Railways.

THE ANDOVER AND REDBRIDGE.—On Tuesday Lord Palmerston cut the first sod of this new line at Romsey in the presence of a numerous assemblage of the landowners of the district and others interested in the undertaking. The line—which is intended ultimately to effect a communication between Southampton and the coalfields of South Wales and the manufacturing districts of the North, by means of the Great Western system—is formed by the conversion of the old Andover canal into a railway; for the canal having been purchased, and the water drained off, it is along its line, for the most part, that the rails will be laid. Commencing near the head of the Southampton-water at Redbridge, which is about three miles from Southampton, and running up the valley of the Test it proceeds in a direction nearly due north, through Romsey, King's Sombourn, Stockbridge, and the Chatfords, to Andover, where, for the present, it terminates. It is proposed hereafter to effect the ultimate connection of Southampton with the Great Western line by short extensions from each of the present termini; that from Andover, of about 14 miles in length, to join the proposed Berks and Hants extension near Pewsey, and that from Redbridge, of about three miles, to Southampton. The proceedings were opened by a short speech from the chairman of the company, describing the purposes of the line, and concluding with a request to Lord Palmerston to cut the first sod. His lordship accordingly took spade in hand, and, with a dexterity which gained him great commendation, cast three or four shovelsfull of earth into a handsome barrow of mahogany provided for the occasion, then amid loud cheers wheeled it along a plank some dozen yards in length, emptied it, and walked back between the shafts with all the air of a practised "navvy." A salute of 14 guns announced this practical commencement of the undertaking. Lord Palmerston then said:—

"I congratulate you all on the commencement of an undertaking which will not only be beneficial to this district, but also to other parts of the United Kingdom. You all know that a scheme for connecting Southampton with Liverpool was set on foot so long ago as 1846. It failed then, and remained dormant for some time, but in 1857 it was again revived, failed again, but the energy and determination of those who advocated it were not damped by repeated failures, and we have now the satisfaction of being actually at the commencement of the practical part of the work, and I sincerely trust that they will meet with no impediment in its completion. I have no doubt that a much more extensive future [illegible] us, and that we shall see this line forming an important link in the communication between Southampton and [illegible] tricts of the country. It is needless to point out the [illegible] advantages of Southampton for the purposes of [illegible] between England and other parts of the globe. It [illegible]

riverations of mankind, I believe, the safest port that can be found in the world. The whole of the Southampton river may be said to be one great dock, free from rocks or any of the dangers which beset other ports, and needing no artificial means of protection. It is situate midway between the two extremities of the south coast of England. It is in a position favourable for maritime communication with the Indies on the one hand and with the other part of the world with which the Atlantic communicates on the other. It possesses a rapid communication with London, and now you propose by this line to connect it with the great manufacturing districts, and with the coal mines of South Wales."

In a subsequent speech acknowledging the toast of his health, his lordship made the following remarks on the railway system:—

"Of all the improvements in modern times the introduction of railways is perhaps the one which has done most for the prosperity of this country, and I may say of all countries in which they have been established. If we look at the wonderful augmentation which has taken place in this country within the last 20 years it must strike us that it has sprung in a great measure from the multiplication of the means of communication. In business we all know time is worth money, and if it be true with regard to money that a penny saved is a penny got, the days and weeks saved by the introduction of railway accommodation must be worth to the manufacturing and commercial interests vast annual sums of money. It therefore gives me the greatest pleasure—whether in my individual and local character or as a member of the Government—to assist at meetings the object of which is to try the introduction of lines of railway communication, such as this. One of the most remarkable features of the political history of England is the manner in which private enterprise accomplishes results which in other countries require the aid and assistance of Government. We admire the remains of the works of the Romans, and I venture to assert that no works remain to us monumental of the greatness and capacity of that nation which can for a moment compare with the works erected by private enterprise in different parts of this country for commercial purposes. Long may that spirit of enterprise animate the people of this country, and long may it not only maintain the eminence it possessed by this country, but also lay the foundation for the rapid increase of that wealth and the augmentation of our national prosperity. I cannot say, speaking from general impression, what may be the amount of capital now invested in railway enterprise. We all know that the capital represented by the national debt—though it has been very lightly touched not long ago by one who is well able to judge of the proportion between the resources and the wants of the country—would have been deemed two centuries ago as a fabulous sum to be equalled only by the stories in the Arabian Nights, but I believe I should not be far wrong if I were to say that the amount of private capital invested in the different railways cannot be much short of half the amount of the national debt—a singular and remarkable proof of the progressively increasing resources of the country and of the spirit of enterprise by which individuals have been animated to undertake works which conduce not only to their own immediate interests but to the foundation really of great national advantage. There is another observation which I think must strike every one—one rather of a deeper nature, but one not less founded in truth. We are told by those who instruct us in moral and religious teaching that the calamities and misfortunes which sometimes befall either nations or men are intended for our permanent advantage, and if duly used and duly reflected on ought to be felt to be only administrations of that moral government by which Providence regulates the affairs of mankind. But there is also a like truth in regard to the laws which regulate the material globe. A careful attention to those laws and a correct application of them tend as much to the permanent improvement of mankind as a submission to the moral influences contributes to welfare in a different manner. And it has been on the civilisation of the age in which we live. That expansive and explosive force which in its unregulated operation lays waste districts by the overflowing of a volcano, or spreads desolation over cities and towns by an earthquake when governed and regulated by the scientific appliances of man has been converted into your obedient slave, transports you from place to place by land throughout the whole continent of Europe, and applied to your navigation carries you safely and rapidly from one end of the globe to the other. So it is also with the thunderbolt, that natural element which inspires terror into the ignorant—which, when acting simply by the casual application of the laws of nature, is productive of death and destruction, yet guided and mastered by the science of the present time becomes your servant, carries your ideas instantaneously from point to point, establishes rapid conversation and communication between all the different parts of the globe, and now we hope in a very short time—before many months indeed have elapsed—that we shall communicate as rapidly between London and Calcutta as we have hitherto communicated between one end of the smallest village and the other. We ought then to be proud of the age in which we live—we ought to be proud to think that the human intellect has arrived at that amount of scientific attainment that we are able to understand those great laws which regulate the material world, and that, by the proper application of that which in its original operation may appear to be simply an element of destruction, we have managed to convert into purposes most useful in the daily life of man and powers which Providence has created, not for purposes of destruction, but in order that the mind of man, by the progressive development of science, might adapt them to the uses of civilised life."

THE COLLISION ON THE GREAT WESTERN.—The coroner's inquest on the guard killed by the late fatal collision at the Slough station has ended in a verdict of "Homicide by misadventure," to which the jury added the following remarks:—"That, in consequence of the conflicting evidence respecting the signal lights, we are unable to record any other verdict; and we think the guard to blame for starting the train three minutes before time without the authority of a proper person at Reading."

## Obituary.

THE RIGHT HON. SIR JAMES STEPHEN, K.C.B., Professor of Modern History in the University of Cambridge, and formerly Under-Secretary of State for the Colonies, died at Coblentz on the 14th inst., in his 73rd year. He was the son of James Stephen, Esq., M.P., Master in Chancery, well known for his writings and exertions in the cause of colonial slavery, and was born about the year 1787. He was educated at Trinity Hall, Cambridge, where he graduated B.A. in 1812. He was called to the bar at Lincoln's Inn in 1811, and in 1813 became counsel of the Colonial department, an office which he held for 11 years. He then retired from the bar, and became counsel to the Colonial Department and Board of Trade. He held these offices jointly for 10 years, after which he became Assistant Under-Secretary for the Colonies, and was subsequently promoted to the permanent Under-Secretaryship. He remained in the Colonial Office for 14 years, and on his retirement in 1847 he received the honour of knighthood. He was an extensive contributor to the "Edinburgh Review" on subjects relating to the history of the Church and the development of religious opinions. A collection of these articles was published in two volumes in 1849 under the title of "Essays in Ecclesiastical Biography." In the same year he was appointed, by succeed Professor Smyth, [illegible] Modern History in the University of [illegible]. In 1853 he published "France," and in [illegible] Political Economy [illegible]

[illegible] Bishop of Algoa, and held it for [illegible] years. He succeeded the late Archdeacon Wilberforce in 1845. He became a Vice-Admiral in 1856.

COLONEL WILDMAN, K.H., formerly of the 7th Hussars, died at his residence, Newstead Abbey, near Nottingham, on the 20th inst. He saw a good deal of service in the Peninsular war, and was present with his regiment at the battle of Waterloo. He purchased Newstead Abbey from the Byron family, and thereby became the means of restoring to the public of that thickly-populated district.

PROFESSOR NICHOL, LL.D., Professor of Astronomy in Glasgow University, died on Monday at Glenburnie House, Redhill, [illegible] He first gained public notice on the 27th of May, in the City Hall, Glasgow, when he acted as chairman for M. Kossuth. He was born in 1804, and was the son of a bookseller in Montrose. His first [illegible] was on the [illegible] of that town, when he was only 16 years of age. He afterwards studied for the Church, and was duly licensed as a preacher. Literature and science, however, soon diverted him into a [illegible] He [illegible] Mathematics and Natural Philosophy in the University of Glasgow. In 1838 he published "The Planet Neptune," "The Constitution of the Heavenly Bodies," &c., and by his lectures on the same [illegible] he was the first to make the public familiar with what is called the Nebular Hypothesis.

WILLS.—The will of the Countess Dowager of Stamford has been sworn under £70,000 personalty; Lieut.-General F. Cornwall Legh, C.B., 7000*l.*; Lady Sidney Morgan, 16,000*l.*; Mr. Henry Aspden, 45,000*l.*; Mr. Cecil Grove, the publisher, 30,000*l.*; Mr. George Hogg, proprietor of the "Family Herald," 70,000*l.*

BIRTHS.—On the 14th inst., at Cluny Forbes, the Countess of Glencairn, of a son, stillborn.—16th inst., at 7, Arundel Place, Lambeth, the Countess of Kenyon, of a daughter.—16th inst., at Ryde, the wife of the Hon. W. H. Wyndham Quin, of a daughter.—18th inst., at Cluny Park, Mrs. Leatham, the wife of Lieut.-Colonel Allison, of a daughter.—19th inst., at 4, Lowndes Square, Mrs. St. Leger, wife of a daughter.

MARRIAGES.—On the 15th inst., at the Catholic Church at Ashbourne, Monmouthshire, the Right Hon. Lord Llangattock, of Glanusk Park, in the county of Brecon, to Emma Mary, daughter of Charles Rolls, Esq., of Hendre, in the county of Monmouth.—15th inst., at the Parish Church, Hampstead, the Rev. Henry George Bell, eldest son of the late Lieutenant-General Sir John Bell, K.C.B., to Fanny Dorothea, only child of Colonel James Wood.—16th inst., at the Parish Church, Lancaster, T. F. Dunn, Esq., second son of the late Lieutenant-General Sir J. Dunn, K.C.B., to Anne, eldest daughter of Henry Gillow, Esq., of Leighton, Lancaster.—18th inst., at Calverhall Church, Salop, the Rev. Mansfield, Esq., of Froome Hall, Stroud, to Rosa Ida, daughter of Lieut.-General Darling, Colonel of her Majesty's 93rd Regiment of Foot.—12th inst., at St. Peter's Church, Lieutenant O. H. F. O'Malley, 7th Lancashire Rifles, youngest son of the late Peter O'Malley, Esq., of Ballinrobe House, county of Mayo, to Louisa, eldest daughter of W. J. Wilson, Esq., Chief Inspector of the Bank and Rev. George Gore, Dean of Kildare.—14th inst., at Christ Church, Dunlaoghaire, the Rev. J. Lawrence Pepper, Rector of Christ Church, St. Mary-le-bone, and Fellow of Jesus College, Cambridge, to Mary, eldest daughter of the Hon. Mr. Justice Crampton, 8, Lansdowne House, and Hyde Park Square, London.

DEATHS.—On the 17th inst, at his residence on the Champs Elysées, the Hon. CHARLES MURRAY, son of David, eighth Viscount Stormont, and brother of the late Earl of Mansfield, aged 78.—21st inst., the Hon. Isabella Elizabeth Martin, daughter of the late Viscount Hawarden, aged 51.—19th inst., at Hyde Terrace, Belgrave Square, Miss Wallington, eldest daughter of the late Major-General Wallington, Equerry of Honour to the late Queen Adelaide, and sister of Lord Hatherton, aged 70.—20th inst., Sarah Frances Perceval, Esq., eldest son of the late Right Hon. Spencer Perceval.—20th inst., at 154, Westbourne Terrace, Maurice William, youngest son of the late Sir Edward Sir Henry Lawrence Bunbury, Bart., aged 19.—9th inst., at Little Vine, Cheltenham, Harriett, third surviving daughter of the late Thomas Martin Dickinson, Esq., of Lincoln's Park, in the county of Lincoln, aged 70.—19th inst., at Chalton Park, Bishopsbourne, Kent, Elizabeth, wife of Frederick William Curtis, Esq., and eldest daughter of the late Lieutenant-General Wilson, of H.M.'s 90th Regiment.—14th inst., at 23, Hyde Park Gardens, Emma Martin, the only daughter of George Arbuthnot, aged 13.—19th inst., at the Deanery House, Cork, in the county of Galway, Elizabeth, wife of the Very Rev. Joseph Aldrich Bermingham, Dean of Kilmacduagh, and Chaplain to his Excellency the Lord Lieutenant of Ireland.—17th inst., at Calverhall, Capt. Wm. A. Myers, of the Bengal Artillery, only surviving son of the late Major James Myers, late Majesty's 8th Hussars.—14th May, at sea, on his passage to England, Benjamin Tom Nicholas Esq., Assistant Queen's Commissioner and Crown Counsel for the Southern Districts of Natal.—15th inst., at his residence, Leamington Hall, near Macclesfield, William Brocklehurst, Esq., aged 75.—16th inst., at St. Leonards-on-Sea, Edward Wilbraham, of Henbury, Gloucestershire, Esq., Q.C., aged 74.—22nd inst., killed in the battle at the mouth of the Peiho, Hamilton Wilkinson, Lieutenant Royal Marines, son of Major A. A. R. Wilkinson, Carlisle, aged 22.—18th inst., at Modbury Vicarage, Devon, the Rev. Prebendary Oxenham, aged 49.—19th inst., at Craigmore Place, Bayswater, Georgiana, youngest surviving daughter of the late John Julian, of her Majesty's Customs, Plymouth.

## Markets.

### COVENT GARDEN.—Sept. 21.

All finer kinds of fruit remain the same as they were last week. Pears, which still consist chiefly of Beurré d'Amanlis, Williams's Bon Chrétien, and Jersey Beauty of Jersey, are more liberally supplied, but both they and Apples continue to realise high prices. The best table Apples now to be had are Ribston, Court of Wick, and Kerry Pippin. Greengage and Early sorts of Plums are very [illegible]. Oranges fetch 3s. 6d. and 10s. per hundred. Good Filberts may be had for 9d. per lb. Cabbages, Beans, Carrots, and Artichokes may be obtained in [illegible] Potatoes [illegible] per ton. Cucumbers are [illegible] Lily of the Valley, Violets, Mignonette, [illegible] Heaths, and Roses.

FRUIT.

| | |
|---|---|
| Pine Apples, per lb., 4s to 6s | Currants, per half-sieve, 4s to 7s |
| Grapes, per lb., 2s to 3s | Gooseberries, do., 2s |
| Melons, do., 1s | Cherries, per lb., 6d to 1s 6d |
| Melons, each, 2s to 3s | Apples, per half-sieve, 1s 6d to 3s |
| Peaches and Nectarines, per doz., 4s to 8s | Pears, per half-sieve, 2s to 3s |
| Figs, per dozen, 2s | Quinces, per doz., 4s to 10s |
| Apricots, do., 1s to 2s 6d | Damsons, per half-sieve, 1s to 1s 6d |
| Bullaces, per pottle, 1s | Filberts, per pound, 6d to 9d |

VEGETABLES.

| | |
|---|---|
| Cauliflowers, per dozen, 2s to 4s | Tomatoes, per half-sieve, 1s to 2s |
| Green Peas, per quart, 1s to 2s | Asparagus, per bundle, 1s to 2s |
| Greens, per dozen bunches, 1s to 1s 6d | Beet, per dozen, 1s to 2s |
| Cabbages, do., 1s 6d to 2s 6d | Carrots, p. bundle, 1s to 1s 6d |
| Turnips, p. bunch, 6d to 9d | Onions, p. half sieve, 2s to 4s |
| French Beans, p. punnet, 1s to 1s 6d | — Portugal, each, 2d to 4d |
| Potatoes, p. ton, 90s to 100s | Shallots, per lb., 6d to 8d |
| — per bag, 1s to 2s 6d | Garlic, per lb., 6d to 8d |
| — per cwt., 4s to 6s | Lettuces, Cabbage, per score, 1s to 1s 6d |
| Carrots, per bunch, 1s | Endive, p. score, 1s to 1s 6 |
| Turnips, per bunch, 6d to 1s | Horse Radish, p. bundle, 1s 6d to 4s |
| Spinach, p. sieve, 1s 6d to 2s | Mushrooms, p. pott, 9d to 1s 3d |
| Cucumbers, p. doz., 1s to 1s 6d | Parsley, p. 12 bunches, 2s to 4s |
| | Savory, do., 2d to 4d |

HOPS.—BOROUGH MARKET, FRIDAY, Sept. 23.

Messrs. Pattenden & Rigden report that there is a good trade doing in all fine Wealds and Sussex Hops. Nothing doing in duty.

BRITISH WOOLS.—LEADENHALL, FRIDAY, Sept. 23.

The prices of wool continue firm, and the public sales are in advance of further last week, as the stock is small for the season of the year.

| | s. d. | s. d. | | s. d. | s. d. |
|---|---|---|---|---|---|
| Southdown Hoggets | 1 8 | to — | Leicest. Wethers | 1 5 | to — |
| Ditto .. .. .. | 1 8 | — — | Ditto Hoggs .. | 1 7 | — — |
| Half-bred ditto .. | 1 8 | — — | Combing Skins | — | — — |
| Down Ewes .. | 1 6 | — — | Blanket ditto .. | — | — — |
| Kent Fleeces .. | 1 7 | — — | Flannel Wool .. | 1 1 | — 1 7 |

COAL MARKET.—FRIDAY, Sept. 23.

Bowers's West Hartley, 15s. 3d.; Byers's Belsaido West Hartley, 15s. 3d.; Hastings Hartley, 15s 3d.; Haswell Gas, 13s. 3d.; Tanfield Moor, 13s.; Tanfield Moor Bates, 13s.; Wylam, 13s. 6d.; Walls End Haswell, 18s. 9d.; Walls End Hough Hall, 17s. 9d.; Walls End Kellos, 18s. 3d.; Walls End South Kellos, 18s. 3d.; Walls End Whitworth, 15s. 6d.; Powell's Duffryn Steam, 22s.—80 ships at market.

METROPOLITAN CATTLE MARKET.

MONDAY, Sept. 19.

The number of Beasts is quite moderate, but the average quality only is fair, and compared with last week's prices are lower. Several lots are unsold. The supply of Sheep is about the same as last week. The trade on the average is not quite so good. Trade is rather better for Calves. From Germany and Holland [illegible] are [illegible] Sheep, and [illegible] Calves from Spain, 120 Beasts from the northern and midland [illegible], and 110 Milch Cows from the home counties.

| | s. d. | s. d. | | s. d. | s. d. |
|---|---|---|---|---|---|
| Best Scots, Herefords, &c. .. | 4 6 | to 4 10 | Best Long-wools . | 4 6 | — 4 8 |
| Best Short-horns | 4 4 | — 4 8 | Do Shorn .. | — | — .. |
| 2d quality Beasts | 3 4 | — 3 8 | Ewes & 2d quality | 3 10 | — 4 4 |
| Best Downs and Half-breds | 3 6 | to 3 8 | Do Shorn .. | .. | to .. |
| Do Shorn .. .. | — | — | Lambs .. .. | — | — .. |
| | | | Calves .. | 4 0 | — 4 8 |
| | | | Pigs .. .. | 3 8 | — 4 8 |

Beasts, 3770; Sheep & Lambs, 29,440; Calves, 134; Pigs, 560.

THURSDAY, Sept. 22.

The supply of Beasts is about the same as on [illegible] a large proportion is of inferior quality. The [illegible] dull, and purchasers at Monday's quotations [illegible] are difficult of sale. The number of Sheep is small, as [illegible] is the demand. Prices remain unaltered, [illegible] a clearance cannot be effected. Trade is quiet for good Calves. From Germany and Holland [illegible] are [illegible] Sheep, and [illegible] Calves from Spain, 120 Beasts, from the northern and midland [illegible], and 110 Milch Cows from the home counties.

| | s. d. | s. d. | | s. d. | s. d. |
|---|---|---|---|---|---|
| Best Scots, Herefords, &c. .. | 4 4 | to 4 8 | Best Long-wools . | 4 8 | — 4 10 |
| Best Short-horns | 4 4 | — 4 8 | Do Shorn .. | — | — .. |
| 2d quality Beasts | 3 4 | — 3 8 | Lambs & 2d quality | 3 8 | to 4 4 |
| Best Downs and Half-breds | 3 6 | — 3 8 | Do Shorn .. | — | — .. |
| Do Shorn .. | — | — | Lambs .. .. | — | — .. |
| | | | Calves .. .. | 4 0 | — 4 8 |
| | | | Pigs .. .. | 3 8 | — 4 8 |

Beasts, 1990; Sheep & Lambs, 6720; Calves, 132; Pigs, 160.

MARK LANE.—MONDAY, Sept. 19.

The supply of English Wheat to this morning's market was moderate, and met with a slow sale, fine qualities at an improvement of 1s. per qr., [illegible] at the currency of last Monday was reluctantly complied with. Barley of all descriptions brings last week's prices. New Beans are 1s. cheaper. Peas unaltered in value. For Oats there is a fair sale at a decline of 6d. per qr. upon the value of this day week.

| PER IMPERIAL QUARTER. | s. | s. | | s. | s. |
|---|---|---|---|---|---|
| WHEAT, Essex, Kent, & Suffolk..White | 34 | —46 | Red .... | 36 | —41 |
| — — fine selected runs..ditto | 42 | —44 | Red .... | 38 | —44 |
| — — Talavera ..... | 40 | —50 | | | |
| — Norfolk ..... | — | | Red .... | — | |
| — Foreign ..... | 38 | —52 | | | |
| BARLEY, grind & dist., 24s to 30s. Chev | 35 | —41 | Malting.. | 34 | —40 |
| — Foreign ..grinding and distilling | 27 | —28 | Malting. | — | |
| OATS, Essex and Suffolk ..... | 20 | —22 | | | |
| — Scotch and Lincolnshire ..Potato | 21 | —25 | Feed.... | 19 | —21 |
| — Irish ..... Potato | 24 | —25 | Feed.... | 19 | —22 |
| — Foreign ..... Poland and Brew | 23 | —26 | Feed.... | 17 | —21 |
| RYE ..... | — | | Foreign . | — | |
| RYE-MEAL, foreign ..... | — | | | | |
| BEANS, Mazagan .... 32s to 33s ...Tick | 36 | —41 | Harrow .. | 35 | —41 |
| — Pigeon ..... 41s — 45s .Winds | — | | Longpod | — | |
| — Foreign ..... Small | 38 | —41 | Egyptian | — | |
| PEAS, white, Essex and Kent .. Boilers | 39 | —41 | Suffolk .. | 35 | —43 |
| — Maple ....—s to —s ..... Grey | 34 | —36 | Foreign . | 30 | —38 |
| MAIZE ..... White | — | | Yellow.. | — | |
| FLOUR, best marks delivered ..per sack | 37 | —42 | | | |
| — 2d do. ..... ditto | 32 | —37 | Country. | 27 | —37 |
| — Foreign ..... per barrel | 25 | —27 | Per sack | 30 | —37 |

FRIDAY, Sept. 23.

The weather since the 16th has been very boisterous, with heavy S.W. gales, accompanied by much rain. The activity observable in the Wheat trade last week has subsided, and transactions throughout the kingdom have again become

limited; an advance of 1s. per qr. in prices, particularly for new, has however been generally established. No great alteration has occurred in the value of spring corn, but in several markets it has been necessary to accept somewhat lower rates for Beans, Peas, and Oats. We observe no alteration in the Flour trade, but rather more money has been obtained in Liverpool, Glasgow, Newcastle, Birmingham, and Manchester. By the latest accounts from Dantzic and Konigsberg purchasers of Wheat had been active at an advance of 3s. per qr. from the lowest quotations. A similar rise has also occurred in Belgium, for which country there have been buyers in Hamburgh at improved rates. The arrivals off the coast from Southern Europe are again liberal this week. The sales include Taganrog Ghirka Wheat at 42s. 3d. to 42s. 6d., and Odessa Ghirka at 41s. per 492 lbs.; Ibrail Maize at 26s. 9d. to 27s. 3d., Salonica at 26s., both per 480 lbs.; Galatz at 28s. 6d. to 29s., Odessa at 28s. 9d., both per 492 lbs.; Odessa Barley at 22s. 1½d., Ibrail at 22s. 7½d.; Odessa Linseed at 46s. per qr. c. f. and i., Taganrog at 45s. 6d. per qr. The arrivals of foreign Oats continue to be large, and of all other grain good. There was a thin attendance at this morning's market, and the little English Wheat on sale was taken at Monday's quotations; in foreign scarcely any transactions occurred, and prices remain the same. Barley, Beans, and Peas are unaltered in value. For Russian Oats there is a fair demand at rather over Monday's prices, but Swedish and Danish are a slow sale and a little cheaper.

ARRIVALS FROM SEPT. 19 TO SEPT. 23.

| | Wheat. | Barley. | Oats. | Flour. |
|---|---|---|---|---|
| English .. | 2590 qrs. | 1180 qrs. | 860 qrs. | 1260 sks. |
| Irish .... | — ,, | — ,, | 870 ,, | — ,, |
| Foreign .. | 9380 ,, | 1520 ,, | 45490 ,, | — ,, 1970 brls. |

LIVERPOOL, Tuesday, Sept. 20.—The arrivals since this day se'nnight are on a very small scale of both Wheat and Flour, fair of Indian Corn, and tolerably large of Russian Oats. From Ireland and coastwise the receipts are light. The exports both foreign and to Ireland are light, coastwise an increased quantity of corn is going forward. Prices continue to show an upward tendency, and since Friday a further slight improvement has been established on both Wheat and Flour. Indian Corn has been eagerly bought up, and all descriptions must be noted fully 6d. per qr. dearer. We had a moderate attendance of the trade at this morning's market, and the advance of 2d. per cental established in Wheat on Friday was firmly maintained, but the demand was not so strong as on that day. Flour had a good sale at 6d. per barrel and sack improvement. Indian Corn attracted a fair share of attention at the advance of 6d. per qr. noted above. New Oats and Oatmeal were again both rather lower. In Egyptian Beans, Peas, and Barley there is no quotable alteration to notice. The market closed steady but without animation.

FRIDAY, Sept. 23.—The grain market dull; Wheat in moderate demand at Tuesday's quotations. Flour more freely pressed. Indian Corn and Beans steady at full rates, but without much business. Oats and Oatmeal a shade easier.

| AVERAGES | Wheat. | Barley. | Oats. | Rye. | Beans. | Peas. |
|---|---|---|---|---|---|---|
| Aug. 13.. | 43s 11d | 30s 1d | 25s 2d | 33s 3d | 46s 7d | 36s 9d |
| — 20.. | 44 1 | 31 1 | 25 5 | 30 8 | 44 6 | 37 8 |
| — 27.. | 44 5 | 32 11 | 25 5 | 32 8 | 44 6 | 37 9 |
| Sept. 3.. | 44 0 | 34 8 | 24 5 | 30 11 | 43 5 | 38 10 |
| — 10.. | 42 9 | 33 9 | 23 0 | 31 6 | 41 3 | 37 10 |
| — 17.. | 41 11 | 35 3 | 21 7 | 30 6 | 40 4 | 38 8 |
| Agg. Aver. | 43 6 | 32 11 | 24 2 | 31 7 | 43 9 | 37 11 |

FLUCTUATIONS IN THE LAST SIX WEEKS AVERAGES.

| PRICES. | Aug. 13. | Aug. 20. | Aug. 27. | Sept. 3. | Sept. 10. | Sept. 17. |
|---|---|---|---|---|---|---|
| 44s 5d | .. | .. | | .. | .. | .. |
| 44 1 | .. | | .. | .. | .. | .. |
| 44 0 | .. | .. | .. | | .. | .. |
| 43 11 | | .. | .. | .. | .. | .. |
| 42 9 | .. | .. | .. | .. | | .. |
| 41 11 | .. | .. | .. | .. | .. | |

**HAY.—Per Load of Thirty-six Trusses.**

SMITHFIELD, THURSDAY, Sept. 22.

| | | | | |
|---|---|---|---|---|
| Prime Meadow Hay | 70s to 75s | Clover .. .. .. | 90s to 105s | |
| Superior do. (old) .. | 75 | 84 | New Clover .. .. | — | — |
| Inferior do. .. .. | 50 | 60 | Second cut do. .. | 80 | 90 |
| New do. .. .. .. | — | — | Straw .. .. .. | 26 | 30 |
| Rowen .. .. .. | 45 | 60 | | | |

DAVIS & Co.

CUMBERLAND MARKET, THURSDAY, Sept. 22.

| | | | | |
|---|---|---|---|---|
| Sup. Meadow Hay . | 84s to 92s | Inferior Clover .. | 70s to 90s | |
| Inferior do. .. .. | 63 | 75 | New do. .. .. | — | — |
| New do. . .. | — | — | Straw .. .. .. | 30 | 84 |
| Superior Clover ..100 | | 108 | | | |

JOSHUA BAKER.

WHITECHAPEL, THURSDAY, Sept. 22.

| | | | | |
|---|---|---|---|---|
| Fine old Hay .. .. | 77s to 82s | Fine old Clover .. | 95s to 100s | |
| Inferior do. .. .. | 60 | 75 | Inferior do. .. .. | 80 | 90 |
| Prime New Hay .. | 80 | 88 | Fine new Clover .. | — | — |
| Inferior do. .. .. | 50 | 70 | Fine 2d cut .. .. | 78 | 86 |
| Straw .. .. .. | 27 | 30 | Inferior do. .. .. | 60 | 75 |

A PARTNER REQUIRED, in a NURSERY and FLORIST'S BUSINESS near London. Requisite capital about 750*l*.—For particulars, apply to J. EVANS, Esq., 10, John Street, Bedford Row, W.C.

WANTED, by a gentleman in the County of Oxford, an ARTICLED PUPIL. A limited number of Boarders are taken. Terms moderate.—Apply to ALPHA, Kingham, Oxon.

WANTED, in a country Parish, a SUNDAY-SCHOOL MASTER, who is competent to play the Organ and teach a Village Choir. A good Gardener will find full employment during the week.—For further particulars apply to the Rev. JOHN BELL, Brington Rectory, Kimbolton.

WANTED, a WORKING GARDENER; no incumbrance. Wife to undertake Washing and Poultry. Wages for both 26*s*., with Cottage.—Apply to WILLIAM CLARK, 25, Bishopgate Within, E.C.

WANTED, in a Provincial Nursery, a WORKING persevering Man for the Glass Department, who thoroughly understands the Propagation and Growing of a general collection of Plants.—Apply by letter, stating terms, references, &c., A.B., Offord House, Barnsbury Park, London, N.

WANTED, a GARDENER to look after a Horse and Chaise. Wages 21*s*. per week.—Apply to WILLIAM CLARK, 25, Bishopsgate Within, E.C.

WANTED, A GARDENER AND LAUNDRESS.—A Man and Wife preferred, if both are competent No Hothouse or Forcing.—Address, with very full particulars, S., Post Office, Milton, Ernest, Bedford.

WANTED, on a Small Farm in the Midland Counties, a MAN and his WIFE, without incumbrance. The man to be thoroughly acquainted with the agriculture of the district, and to act as FOREMAN and HEAD LABOURER, to take charge of and understand the Buying and Selling of Corn and Farming Stock in general, and a good shepherd The wife to manage the Dairy (if required) and Poultry. Wages for the two 18*s*. per week, and Cottage.—Address in man's own handwriting, to A. B., Journal Office, Leicester.

WANTED, AS GROOM AND GARDENER, a Single Man not less than 25, to live in the House. He will be required to Drive, and make himself generally useful. Character indispensable.—Apply to Mr. ROSE, Hertford.

WANTED, for a Parish in Kent, an industrious LABOURER (married), to work in a Garden under a Gardener. His Wife to assist at times in a gentleman's house.—Apply to B. A., Mr. Bain, 1, Haymarket, London, S.W.

## WANT PLACES.—Letters to be Post Paid.

GARDENER (HEAD).—Age 38, married; thoroughly understands his profession in all its branches, including the Forcing of Vines and management of Kitchen and Flower Gardens.—G. P., Pamplin's Nursery, Wood Street, Walthamstow, Essex, N.E.

GARDENER (HEAD). — Age 36, married; well skilled in Vines, Early and Late Forcing. A good Plantsman and competent in the Kitchen Garden. Understands Land and Stock. Unexceptionable character. — C. S., Mr. Farmer, High Street, Fulham, S. W.

TO NOBLEMEN AND CENTLEMEN.

GARDENER (HEAD).—Age 32; will shortly be at liberty to engage with any nobleman or gentleman in want of an energetic and experienced Gardener in all branches. Unexceptionable references as to character and ability.—M. W., Brymore Park, Bridgewater.

GARDENER (HEAD).—JOSEPH HAMILTON, author of "The Hamiltonian System of Pine Growing," can highly recommend a Gardener (age 36, native of Scotland) of superior abilities, steady, industrious, and energetic. Highest testimonials as to character and ability.—J. HAMILTON, Seed Grower, 1, Wellington Place, Carlisle.

GARDENER (HEAD).—Age 31, married, without incumbrance; well understands his profession in all its branches. Lodge or cottage on the premises preferred. With five years' character from the place he is about leaving, as the gentleman is giving up the establishment.—A. B., Beckenham, Kent, S.E.

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# The Gardeners' Chronicle Newspaper.

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the EMPEROR OF THE FRENCH to found a kingdom in Central Italy for Prince NAPOLEON. It states that such reports do not stand in need of refutation, and that to deprive them of all their value, it is only necessary, without speaking of the engagements entered into at Villafranca, to call to mind the acts and declarations of the EMPEROR NAPOLEON before and since that period. Meanwhile it is reported from Central Italy that Tuscany, Modena, Parma, and the Romagna will shortly hold a convocation of their national assemblies in Florence for the purpose of electing a Regent to conduct the government of the four united States until the annexation to Sardinia be formally sanctioned by European diplomacy.

Lord JOHN RUSSELL on Wednesday delivered a speech at Aberdeen, in which he explained his views on the Italian question for the first time since his accession to office as Foreign Secretary. His lordship said that though HER MAJESTY'S Government could claim no credit for having enabled the Italians to assert their freedom, yet they were bound to say, and had said that against any interference of foreign force to prevent the Italians having their own Government, and conducting their affairs as they liked, they most loudly and solemnly protested. He declared emphatically that England should never under his auspices enter into a Congress unless the rights of the people of Italy to govern themselves without foreign interference were recognised; but at the same time he expressed his firm belief that neither France nor Austria, however she may dislike the continuance of the present state of affairs in Modena and Tuscany, will attempt to coerce the Italians in regard to their choice of a form of Government. "I feel convinced," said the noble lord, "by the language, not of one of those Powers, but of both those Powers, that whatever their opinions may be as to what has taken place, neither Power has any intention to interfere by force with the decision of those peoples. I think it a matter of great importance that it should be so, because that system—which is rather disguised than expressed by the phrase, the balance of power—means that the different States shall be independent, that they shall manage their own concerns, and that no one State should have the preponderance in Europe, or dictate what should be the constitution, or what should be the internal government of the rest."

The Revenue returns for the year and quarter ended the 30th September were made up last evening. The account for the year is said to show a net increase of about 530,000*l.* over the corresponding period of 1857-8, notwithstanding the diminished receipts of more than 2,000,000*l.* from Income Tax. The account for the quarter shows an increase on the principal sources of revenue of nearly 800,000*l.*; though the net result, in consequence of the diminution of the Income Tax, is a decrease of about 30,000*l.* The increase in the Customs is nearly 160,000*l.*; that in the Excise is upwards of 450,000*l.*; that in the Stamps more than 100,000*l.*; and that in the Post Office, 35,000*l.* There is also a slight increase in the Taxes, caused by the growth of the House Tax. On the other hand there is a decrease of about 580,000*l.* in the Income Tax, caused by the decline in the rate of duty.

## Home News.

THE QUEEN IN SCOTLAND.—On Tuesday week the Queen drove out, accompanied by the Princess Alice. The Prince Consort went out deer-stalking. The Prince of Wales and the Count de Flandres went out shooting. On Wednesday the Queen drove to the Girnoe, accompanied by the Princess Alice, the Prince of Wales, and Prince Arthur. The Prince Consort went out deer-stalking. The Count de Flandres went out deer-stalking. On Thursday the Queen gave a *déjeûner* to about 200 members of the General Committee of the British Association. In the afternoon Highland games were performed in the presence of the Queen, who personally presented the prizes to the successful competitors after each game. The Duke of Richmond, General Sabine, Professor Phillips, and Mr. Thompson, of Banchory House, near Aberdeen, arrived on a visit to her Majesty. On Friday morning the Queen held a Privy Council. Her Majesty, accompanied by the Princesses Alice and Helena, afterwards drove to Mar Lodge, and honoured the Countess of Fife with a visit. The Prince Consort went out deer-stalking. The Prince of Wales and the Count de Flandres went out grouse-shooting. The Duke of Richmond, the Earl of Elgin, Professor Phillips, General Sabine, and Mr. Thompson left the Castle. The Count de Flandres took leave of her Majesty and proceeded on a tour in the Highlands. On Saturday the Queen, accompanied by the Princesses Alice and Helena, drove to the falls of the Garrbatt. The Prince Consort, accompanied by Prince Arthur, drove to the Abergeldie Woods, which were driven for deer. The Prince of Wales went out deer-stalking. On Sunday the Queen, Prince Consort, the Prince of Wales, and the Princess Alice attended Divine service in the parish church of Crathie; Dr. Campbell, of King's College, Aberdeen, officiated. On Monday the Queen left the Castle for Altnagussack. The Prince Consort went out deer-stalking, and joined her Majesty at Altnagussack in the evening. The Prince of Wales and the Princesses Alice, Helena, and Louisa made an expedition to the Lynn of the Vat. On Tuesday the Prince of Wales joined the Queen and Prince Consort at Altnagussack.

THE QUEEN'S RETURN JOURNEY.—The Court is expected to leave Balmoral on Thursday, the 13th inst., for Holyrood Palace, where the Queen will pass the night. On the following day her Majesty will honour with her presence the inauguration of the new Glasgow waterworks, which are to supply that city from Loch Katrine. Her Majesty will return to Edinburgh the same evening, and on the following morning will proceed to Penrhyn Castle, Carnarvonshire, on a visit to the Hon. Colonel Douglas Pennant, M.P. On Sunday, the 16th, the Queen will attend Divine service at Bangor Cathedral. On Monday, the 17th, her Majesty will visit the Great Eastern at Holyhead, and will arrive at Windsor Castle in the evening.

THE EX-ROYAL FAMILY OF FRANCE.—The Queen Marie Amélie, the Prince de Joinville, the Count d'Eu, and the Duke d'Alençon have passed through town this week, from the Lake district on their way to Bournemouth. The Count de Paris and the Duc d'Aumale have been on a visit to the Duke of Northumberland, at Alnwick Castle, and Lord Ravensworth, at Eslington Park, and have now rejoined the Duchess d'Aumale and the Prince de Condé at Coniston. The Duke de Nemours has arrived at Turin to thank the King of Sardinia for the attention paid to the Duke de Chartres while making the Italian campaign as sub-lieutenant in a regiment of Sardinian cavalry.

THE GRAND DUCHESS MARIE OF RUSSIA and her daughter arrived at Wilton House near Salisbury on Tuesday from Torquay on a visit to the Right Hon. Sidney Herbert and Mrs. Herbert. The Duke of Cambridge and a large party of nobility were invited to meet her Imperial Highness. On Wednesday the Grand Duchess Marie and daughter, accompanied by the Duke of Cambridge, Mr. and Mrs. Herbert, and most of the visitors, drove over to Broadlands, near Romsey, and took luncheon with Lord and Lady Palmerston.

THE CABINET.—A Cabinet Council was held on Saturday at the official residence of the First Lord of the Treasury in Downing Street. Another Council was held on Monday.

## Foreign.

FRANCE.—The *Moniteur* of Wednesday contained the following article:—

"Several foreign papers assert that the solution of the affairs of Italy will be obstructed by the desire which the Emperor has to create in Italy a kingdom for a Prince of his House. These rumours need not be refuted; in order to deprive them of every foundation it suffices, without mentioning the engagements made at Villafranca, to remind the public of the acts and words of the Emperor both before and after that epoch."

The *Moniteur* of Tuesday contained the following in reference to the press:—

"Under the pretence that the press is not free, several journals direct their attacks against the decree of February, 1852, which go beyond the extreme limits of discussion. Respect for the law is inseparable from the legal exercise of liberty. Against writers who have forgotten this the Government could have made use of the weapons at its command. It did not wish to do so the day after the measure spontaneously granted, which released the periodical press from the consequences of warnings received. The Government, faithful to its principles of moderation, will, nevertheless, not fail in performing the duty which is imposed upon it of making the law respected. It therefore informs the papers frankly that it has decided no longer to tolerate those polemical excesses, which can only be considered as party manœuvres."

It is said that the return of the Emperor from Biarritz has been deferred to the 8th inst. With reference to the late visit of the King of the Belgians to Biarritz, the *Patrie* states that the Archduke Maximilian is to be appointed Governor of Venetia, and that a Congress for the settlement of Italian affairs is to be held at Brussels, under the presidency of the King of the Belgians. For some time past Prince Napoleon has desired to purchase an estate out of France, and it was said that offers had been made for a property belonging to Lord Normanby. The French journals now state that the Prince has purchased for 720,000fr. a fine estate called the Bergerie, on the banks of the Lake of Geneva. The French frigate Sané, of 450-horse power, launched at Cherbourg in 1847, was lost on the 22d ult. on the Raz de Seins, on her way from Toulon to Brest, but all hands were saved. It is said that 20 ships of the line are now building, or ordered to be built, in the dockyards, 10 of which are to be of the largest size. The Magenta, of which the keel has been laid down at Brest, and which will be the largest ship in the French navy, is one of the former class, and will have a companion ship, to be called the Solferino. The hulls of four of these vessels are to be completed, and the rest are to be launched in 18 months from this time. All these ships are to be steel-plated, and provided with [illegible]. —A few days since as the nurse of M. Hua, one of the judges of the Imperial Court of Paris, was walking with his infant in the gardens of the Tuileries, a well dressed woman accosted the nurse and, saying she was the child's aunt, told her to go home on a trifling errand while she held the baby till her return. As soon as the nurse was out of sight the woman decamped with the child, and all the efforts of the Paris police to trace her were ineffectual. A reward of 10,000 francs was offered by the judge for the restoration of the child, and on Saturday last it was found deserted in the streets of Orleans, the police of which subsequently apprehended the woman who stole it. She said that she is only 17 years of age, and that her object in stealing the child was to make a young gentleman of honourable family with whom she had become intimate in Paris believe that she had become a mother since her return to Orleans, in the hope that the announcement would induce him to marry her. To carry out this fraud she had to procure an infant in order that the young man should visit Orleans, and so went to Paris to steal one. The girl and her mother have made a complete confession, and the Court of Assizes will soon furnish us with the dénouement of this dramatic affair.

SPAIN AND MOROCCO.—The Moors have retired from Ceuta, where everything is now very tranquil. The new Government of Morocco has demanded a delay in order to give the Emperor time to examine into the complaints made by Spain. The Duke de Montpensier has offered the Queen to take service in Africa.

HANOVER.—The King of Hanover and the royal family, who were to have returned to Norderney on the 16th ult., did not arrive until the next morning in consequence of the steamboat on which they had embarked having remained for 12 hours stuck fast on a sandbank in the Ems. The King, in his reply to the magistrates of Embden, alluded to this bank and said that he could not give any attention to the important works of that river unless on condition that the town of Embden would not oppose his government adhering to the declaration of Eisenach in favour of a new German Constitution.

SWITZERLAND.—The Marquis de Nerli, Ambassador of the Grand Duke of Tuscany at Paris, dined on Sunday with the Baron de Bourqueney, and left afterwards for Paris. It is said that he was the bearer of a despatch from the Grand Duke (who is now residing at Lindau) for the French Government. On Tuesday the French and Austrian Plenipotentiaries had a conference. On Wednesday there were separate conferences between the French and Sardinian, and afterwards between the French and Austrian Plenipotentiaries. Prince Napoleon arrived at Zurich on Wednesday.

FRANKFORT.—The director of police has refused to sanction the publication of the statutes of a National Society which has been established in this city for the purpose of promoting the reform of the diet on the basis of the resolutions adopted at Eisenach. Hanover. Upon this the society appealed to the Senate, which has rejected the appeal. The recent declaration of the Duke of Saxe Coburg in favour of reform has called forth strong protests from Austria, Hanover, and Bavaria. The Austrian circular particularly designates the Duke's sentiments as "revolutionary."

HESSE DARMSTADT.—The official journal of Wednesday last contains a decree for the renewal of the ordinance of 1850, which prohibits all subjects of Hesse Darmstadt from becoming members of any political society, established either in the interior or abroad.

AUSTRIA.—The Vienna *Gazette* of Monday contains an Imperial letter addressed to the Minister of Finance ordering the appointment of a commission, with consultative legislative powers, to organise extensive reforms in the system of direct taxation. The President and Secretary of the commission are Count Hartig and Baron Kalchberg, and the other members consist chiefly of the ratepayers in the different provinces. The present on the interest of the National Loan falling due in the months of October, November, and December, has been fixed at 15 per cent.

MALTA.—The Elba has taken on board the cable to be laid down from Alexandria to Rhodes and thence to Scio, in lieu of the Candia route. The cable between Sicily and Malta was successfully laid on the 23d ult.

RUSSIA.—St. Petersburg was the scene of great festivities on the 8th ult., on which day the Grand Duke, now Cezarewitch Nicolas Alexandrowitch, attained his majority, and took the oaths of allegiance to the Emperor and the country, and also vowed to preserve the true right of succession, and signed a record of the solemn pledges he had given. He then kissed the cross held by the Metropolitan Bishop, and was warmly embraced by the Emperor and Empress. At the conclusion of this ceremony a "Te Deum" was performed, and was followed by a salute of 301 guns and the ringing of bells in all the churches. The second oath, or the oath to the flag, was taken by the Cezarewitch in St. George's Hall. In the evening St. Petersburg was brilliantly illuminated. The Grand Duke Constantine has arrived at Cronstadt in his [illegible]

ship the Grand Admiral. The *Gazette of the Senate* publishes an Imperial ukase, ordering:—

"1. The concentration of all institutions of credit under the Ministry of Finance. 2. The issue of 5 per cent. bank-notes in exchange for those at present in circulation, the drawing to take place every year, commencing with the year 1861, and to last for 37 years. 3. That all moneys deposited with the Bank are to return 2 per cent. interest, instead of 3 per cent. as heretofore. 4. The term of service in the army to be 15 years, and in the navy 14 years."

Italy.—The King of Sardinia arrived at Crema on the 19th, and set out on the same day for Lodi, after receiving the homage of the municipality and most distinguished inhabitants of the town, the national guard and a regiment of French troops lining the streets. At Lodi his Majesty took up his residence in the Palazzo Ghisalberti, and, after the usual ceremonies of reception, gave a banquet to the authorities. The town was illuminated in the evening, and his Majesty was everywhere enthusiastically cheered. The deputation from the National Assembly of the Romagna had an interview with the King on Saturday at Monza, when his Majesty replied to their address in a speech of which the following is a summary:—

"I am grateful for the wishes of the people of the Romagna of which you are the interpreter before me. As a Catholic Sovereign I shall myself always retain a profound and unalterable respect, for the superior Hierarch of the Church. As an Italian Prince I am reminded that Europe having in view the state of the Romagnese people, who demanded prompt and efficient measures of reform, has accepted formal obligations towards your country. I receive your wishes, and, strong by the rights conferred upon me, I will support your cause before the Great Powers. You may rely on their sense of justice. You may rely upon the generous love of our country of the French Emperor, who will accomplish the great work of reparation he has so powerfully begun, and who, assured of the gratitude of Italy, and seeing the moderation which has characterised your resolution during the late moments of incertitude, will recognise that in the Romagna the mere hope of a national Government suffices to put an end to civil disorders. When your numerous volunteers arrived, during the days of the national struggle, to enrol themselves under my flag, you knew that Piedmont would not go to war for herself alone, but for our common country. To-day the unanimity of your wishes, and the order which you observe at home, is very gratifying to my heart, and nothing better could insure your future destiny. Europe will recognise that it is her common duty and also to her common interest to finish the era of disorder, and thereby satisfy the legitimate desires of the people."

An official communication, in reference to Central Italy, is said to have been forwarded by Sardinia to the Great Powers. Accounts from Bologna state that a collision between the Papal and Modenese troops on the one hand, and the National Italian army of Central Italy on the other is daily expected. It is reported at Florence that the four States of Central Italy will shortly hold a convocation of their several national assemblies in Florence for the purpose of electing a Regent, to conduct the Central Government of the four united States till the King of Sardinia be allowed by European diplomacy to take possession of what the popular suffrage has made his own. It is thought that the choice of the Assembly will fall upon Baron Ricasoli. A dispatch from Rome states that on Monday last the Sacred College met and appointed 17 bishops. In the annual allocution of the Pope his Holiness alluded to the National Assembly of Bologna, and referred to the censure expressed by that assembly against the Papal Government. In conclusion his Holiness expressed a hope that the Romagnese would return to their allegiance to the Holy See. The Government of Parma continues to publish the letters left behind her by the Duchess of Parma subsequent to her declaration of neutrality. In some of these letters addressed to the Emperor of Austria the Duchess acquaints him with all the movements of the Sardinian army, and the most advantageous plan of attack, and urges him to act energetically before the French are in Italy, and to come to the succour of the Italian Dukes, "his allies, and the only supporters of the Austrian dominion in the Peninsula." "The safety of Austria," adds the Duchess, "is in the promptitude of its operations. If it waits, it is lost in Italy, together with its allies." In the letters to the Legitimist chiefs in Paris, the person of the Emperor Napoleon did not escape, the Duchess giving him the titles of "ogre," and "the greatest Tartuffe of modern times." Accounts from Naples state that neither Mr. Elliot nor Baron Brennier has the least influence with the Neapolitan Government. Gen. Filangieri has given up all idea of reforms, as the King has decided to govern like his father. The reported outbreak of disturbances is unfounded, but some agitation exists at Naples, and the Government has taken precautionary measures.

Turkey.—Advices from Constantinople to the 24th ult. state that a commission has been appointed for investigating the late conspiracy, and that two generals, several colonels, and other officers and priests, have been arrested; but few details of the affair are published, as the journals have been forbidden to make comments on the matter until the judicial examinations have been concluded. Private letters state that the conspiracy was to have broken out on the 17th, but on the previous Thursday it was denounced by Sergeant Ariza. Vigorous measures have been taken by the Government. The garrison of Constantinople has been considerably increased, and the three months' arrear of pay due to the troops has been paid. Two frigates have been moored before the Seraglio, and the squadron had arrived the day the mail left. Among the principal leaders of the conspiracy were two generals of division, Djaffir, Pasha of Albania, and Hossein, Governor of the Dardanelles, several colonels and Ulemas. Djaffir Pasha drowned himself in the Bosphorus as he was conveyed to prison. No Christians were compromised in the plot. The plan of the conspiracy was cleverly organised. The Europeans and the foreign Ambassadors were to be protected by the generals of the rebels. Amicable relations had been established between Turkey and Persia. Dervisch Pasha and Riza Bey had been appointed Ambassadors to St. Petersburg and Teheran. The statutes of the new Bank have been sanctioned by the Government. The concession for the railroad to Varna and Rustchuk has been granted to the Turkish Consul at Antwerp. The concession of the Bank has been granted to Messrs. Gladstone and Rodocanachi.

Circassia.—The accounts from Constantinople state that Schamyl was betrayed and delivered up a prisoner to the Russians for a bribe of 6,000,000 roubles. The Circassians continue the war against Russia.

Candia.—Matters in Candia are assuming a serious aspect, and the Turkish Government has despatched numerous troops to make a vigorous movement.

Syria.—By the intervention of the Consul peace has been concluded between the Druses and the Maronites. The Druses are to rebuild the houses of the Christians which they had burnt. Two cases of plague have occurred at Beyrout, and have caused strict sanitary measures of precaution to be taken. The telegraph cable between Chios and Smyrna is broken.

Tunis.—The Bey of Tunis died on the 22d ult. In consequence of the energetic measures taken by Rhaznodar, tranquillity has been maintained. During the interregnum, which lasted 36 hours, the presumptive heir, Sidi Sadok, was recognised as the successor; he was installed as Bey on the 24th ult., and took the oaths to observe the constitution and laws granted to the country by his predecessor.

Morocco.—It is stated positively that the Emperor of Morocco is ready to grant the demands of Spain, and that he will send troops against the tribes of the Riff. In confirmation of this, it is said that he refused to receive the envoy of the Sheik who rules over those tribes.—Intelligence has been received at Gibraltar from Tangiers, announcing that all the European Consuls' gardens in the vicinity of that city were destroyed by fire on the night of the 13th. The garden of the British Chargé d'Affaires, which was considered one of the largest and most beautiful in the country (adjoining that of the Spanish Consul's), had on its site a summer residence, out-offices, &c. It is supposed that this act of incendiarism was committed by the mountaineers out of revenge for having been prevented from pillaging the city a few days before.

China.—Further accounts from Hong Kong confirm the report that Captain Vansittart has died of his wounds. Admiral Hope has been suffering severely from his wounds, and, it is said, will have to invalid. His surgeon when probing the partially-closed wound in his hip has discovered and taken out a link and a half of the Plover's smoke stack stay, which had been driven in by the shot. The agony which he must have undergone from such an infliction can only be conceived, but his gallantry and endurance are spoken of by all in the highest terms. Colonel Lemon and the rest of the wounded officers are doing well except Mr. Powlett, midshipman, whose wound was considered unfavourable. Eight of the wounded seamen and marines have died of their wounds. The riot at Shanghai, in which some foreigners lost their lives and others were severely injured, originated in the proceedings of certain persons connected with the French ship Gertrude, lying at Woosung, and bound for Havannah with coolies, to procure whom kidnapping was resorted to. The Chinese became exasperated, and made an indiscriminate attack on a number of sailors. Mr. Lay, of the Chinese Custom house, while attempting to remonstrate and explain matters, was stabbed in several places, and his recovery is doubtful. Unfortunately, the injured persons are mostly unconnected with the cause of the outbreak. The authorities have taken the matter in hand and his Excellency M. de Bourbonlon has ordered the vessel to be brought into port for the purpose of strict investigation. The French papers have received accounts from Shanghai stating that Mr. Ward, the United States' Minister, has arrived at Pekin. He was conveyed up the river in a large box, so constructed as to contain everything necessary for his comfort, while it effectually prevented him from seeing the country. This box was placed on a raft and towed up to the gate of Pekin. It was then placed on a large truck drawn by oxen, and deposited in the courtyard of a large house, which was to be the residence of the American envoy, but from which he was not to be allowed to go out. At the last dates he was awaiting an interview with the Emperor, after which he was to be reconducted to the frontier in the same way in which he came. The China papers publish the following Chinese official account of the affair of the Peiho, transmitted to the Emperor by the Mongolian Prince Sung-ko-lin-sin, a Prince of the Empire, who commanded in person:—

"Sung-ko-lin-sin, Imperial Commissioner, Prince of Potolakutai, of the Korchin tribe, reverently presents a memorial. He hastens to report in detail how the barbarian ships, disobeying reasonable injunctions, burst into the inner waters and commenced firing upon our soldiers; who, being enraged, attacked and destroyed their vessels in a sanguinary engagement, which lasted all day from 2 in the afternoon till 10 at night, the barbarian troops having pressed right on to the very foot of the wall, where they obstinately fought without retiring. Looking upward, he prays for the sacred glance thereon. He cannot bear to speak minutely of the insolent bearing of the rebellious barbarians during several days; [suffice it to say that] when your slave Hang-fuh* had hastened to Peitang, and written to their Envoy upon the subject of proceeding to a personal conference, they paid no attention to him, but reiterated their demands for the complete removal of all obstructions

* Governor-General of the province of Chi-li.

[illegible] fire once opened, induced [illegible] silence, and quietly to abide his time, thus encouraging the barbarians in their pride, and feeding the fury of our soldiers. Just as the action was about to commence, an officer with a communication from the Tartar General was sent once more to warn them. The barbarians would not permit the letter to be handed in, and their vessels advancing like a swarm of bees, light up to the assault [illegible] upon the southern bank, [illegible] twice; but, [illegible] fire upon our batteries. [illegible] fury had been for a long time [illegible] the [illegible] of every description, and most [illegible] upon all sides, and at evening the firing had not ceased. More than 30 boats now came [illegible] the bank of the Southern Fort, and the barbarians, having landed in a body, [illegible] the ground, [illegible] and [illegible] were then brought up to oppose them, and the [illegible] volleys. The barbarians did not venture to cross the mound, but threw themselves down among the [illegible], and fired [illegible] from their shelter. Such murderous [illegible] were [illegible] calculated to make one's hair stand up [illegible], with rage [illegible] and to vindicate the honour of the State, and fulfil at the same time the expectations of the Government, your slaves were compelled to bring forward their troops to oppose them with their utmost strength. Your slave Hang-fuh, who had been stationed on the New Forts, put himself at the head of the [illegible] infantry, as soon as he heard the cannonade, and proceeded to Taku, bringing up his men as a reserve to [illegible] from the rear. At the same time Wan Yu, the Commissioner of Finance, arrived also from Peking. Your slaves [illegible] were [illegible] by this movement in overawing [illegible] of the [illegible] troops with the rebellious barbarians, who [illegible] immovable in confusion, awaiting [illegible] (per day). Prostrate he entreats the [illegible] Majesty's sacred glance and instructions. A respectful memorial. Forwarded from Taku on the 26th of June."

"Supplementary Memorial, Reporting the Particulars as they have been ascertained, of our Victory.—At dawn [illegible] your slaves reported the [illegible] of a sanguinary and protracted engagement with [illegible] barbarians, who, in their unruly spirit, would not listen to the dictates of reason. When their troops advanced up to the southern ditch and provoked us to [illegible] great numbers of them fell under the volleys of our gingall and matchlock men; but upwards of a thousand concealed themselves among the rushes, and endeavoured to push forward along the ground. As we could not tell how far these were off, our soldiers kept them back by projecting fireballs through bamboo tubes; and, as these blazed up, our guns and cannon being laid, by firing into them at point-blank range, till their skill and strength alike exhausted, they dared no longer to continue the engagement, but [illegible] back to their ships. It was [illegible] before our men began to return to their ranks. The barbarian dead lay piled in heaps [illegible] 100 and some tens of bodies, exclusive of those carried off on board their ships, also 11 foreign guns and sets of accoutrements, and a great number of other barbarian articles. Three boats, too, were stranded, hiding himself in one of which was a barbarian soldier, who was captured alive by our troops. Another was brought off a prisoner from the mud. These men, stated, when examined, that one was an Englishman and the other an American, and that during the action they were joined with the reserve in the boats from the fleet. They say that the attacking party numbered some 1500 or 1600 men, and that a great many of them had been killed; that the English chief Admiral Hope, was in the foremost steamer, which was dismasted by our fire; that he was wounded in the right leg, and lay down upon a couch unable to move; also that hostilities were commenced entirely on the motion of this chief. Your slave Hang-fuh appointed an officer to guard the prisoners, holding that [in the possession of them] there might, at some future time, be a means of enabling us to [illegible] a manifestation of conciliatory intentions. It appears that of the 13 barbarian steamers which were engaged on the 25th inst., eight were those that were sunk where they lay by our fire, and those that were dismasted and disabled, only one got back outside the bar. The rest all suffered so severely that they could not move."

Cochin China.—It is reported that the French troops are suffering very severely from illness, and that Admiral Genouilly intends to evacuate Turon. Up to the beginning of last August no treaty had been signed between France and Cochin China.

Japan.—Affairs in Japan have assumed an unsatisfactory position. On the 11th July the Treaty was duly ratified, but since then the Japanese Government have attempted to evade it by seeking to confine foreigners to a small island about 10 miles from Yeddo, and to establish the same sort of surveillance over them as they formerly exercised at the Dutch settlement of Decima. They have further sought to establish a new coin as the only one to be used in commercial dealings with foreigners, but at the same time forbidding its currency among the natives, so that all payments in the new coin would have to be exchanged at the Government treasury for the old itzabon; and the relative values fixed by the Government produced a depreciation of 66 per cent. on foreign coins, which, according to treaty, are to be received at their intrinsic value as metal. Mr. Alcock, the British Consul-General, has issued a protest, and has stopped the trade for the present. It is to be hoped that the calm, but firm attitude he has assumed, will have the desired effect.

* This alludes to a partially successful night attempt made by Captain Willes to blow up one of the forts. The statement that the boat was not fired on is false, as is also the memorialist's subsequent assertion that the gunboats were the first to open fire upon the 25th of June.

† The Sin Ho appears to be an artificial cut connecting the Peht'ang Ho with the Tien-tsing River, commonly called by us the Peiho.

CAPE OF GOOD HOPE.—The colonial papers are full of expressions of regret at the departure of the ex-Governor, Sir George Grey, who landed at Plymouth from the Celt on Monday morning. On his departure from Cape Town the horses were taken from his carriage at Government House, and it was drawn by the inhabitants under triumphal arches to the place of embarkation. Salutes were fired, and, when on board, his Excellency received addresses from all the public bodies. The Celt brings a petition to her Majesty, signed by 2000 colonists, praying for his restoration as Governor. Satisfactory letters have been received from Dr. Livingstone. He and his party are in good health, and their efforts have been successful.

BRITISH COLUMBIA.—It is reported that General Harney, commander of the United States' forces in Oregon, took the step of placing a military post on the island of San Juan on his own responsibility, and without instructions from the Federal Government at Washington. He has declared to the British authorities that he did so because American citizens had been arrested on the island, but that he did not mean his occupation to be permanent, though it was his intention to hold the island until he heard from his Government at Washington. General Scott has been sent by the United States Government to the Pacific on account of this dispute.

AUSTRALIA.—Telegraphic advices in anticipation of the coming Australian mail report the total loss, near Capé Northumberland, on the 6th of August, of the screw steamer Ardmillan (supposed to be Admilla), from Adelaide, whereby 87 lives were lost, only 25 persons being saved.

## Public Addresses.

LORD JOHN RUSSELL was presented with the freedom of the city of Aberdeen on Wednesday, and in acknowledging the honour spoke as follows on the Reform question and the policy of the Government in regard to Italy:—

"With regard to Reform, the true principle which should guide us in an amendment of the law of the representation of the people should be the choosing of the fittest individuals in the community for the privilege of the suffrage—that this principle could be applied without endangering the stability of our time-honoured institutions. Some men indulged in the idea of a reorganisation of our political system, but he could not pretend to have either the capacity or the strength to undertake such a task. His lordship then proceeded to review the past history of Italy, from the time of the first Napoleon down to the present state of affairs. The Emperor of the French, having conquered Lombardy in the present year, made a wise and magnanimous declaration that he did not go to conquer Lombardy for himself, but that the Italians should be the free citizens of a great country. The Italians, not only in Lombardy, but in Tuscany, Modena, and Parma, have acted upon this declaration, and they have made temporary and provisional Governments for themselves, declaring that they wish hereafter to be the free citizens of a great country. And they have done this with such perfect order that no man can say that the Austrians or any other neighbours are called upon to interfere. Well then, gentlemen, though we can claim no credit for having enabled those people to assert their freedom—although we have been bystanders, and I think for very good and sufficient reasons have taken no part in the hostilities of this spring; yet, I think we are bound to say, we do say, and we have said that, against any interference of foreign force, to prevent these people having their own government, and conducting their affairs as they like, we do most loudly and solemnly protest. And, therefore, be the terms of the treaty now negotiated what they may—if, hereafter, consequent upon that treaty, there shall be a Congress of the Powers of Europe—if it shall be the wish of those Powers which have taken part in those hostilities that in the final settlement of Italy the other Powers of Europe should take part in these consultations, we will assist only on one condition, namely, that no foreign force be used in order to compel fulfilment of the conditions of peace, and that there be no interference with the right of the people of Italy to manage their own concerns, because if such should be the object or the result of such a Congress, England will stand apart and take no concern in it. But I feel convinced, and such is the language, not of one of those Powers, but of both those Powers, that whatever their opinions may be as to what has taken place—and the Austrian Government cannot be expected to approve of the resolution in Modena and Tuscany—yet I believe neither Power has any intention to interfere by force with the decision of those peoples. I think it a matter of great importance that it should be so, because that system—which is rather disguised than expressed by the phrase, the balance of power—that system means that the different States shall be independent; that they shall manage their own concerns; and that no one State should have the preponderance in Europe, or dictate what should be the constitution, or what should be the internal government of the rest. And happy as we are in this country in independence long acquired, it is not only our interest, but I think it must be our wish, to see that every State in Europe, whether they prefer a system which we think not compatible with liberty, or whether they prefer a just and temperate system of representative monarchy, or whether they prefer any other form of government, provided they do not interfere with their neighbours—I think that the independence of the several States of Europe is an object which Great Britain ought to feel a sympathy and interest in. Be assured that, so far as I am concerned, while I have the honour to hold the seals of the Foreign Office, it shall be for no mean purpose, for no selfish interest, that I shall endeavour to use the name and influence and authority of Great Britain. This country holds high a beacon which may save the rest of the world. It is not for us to arrogate and dictate with respect to what they shall do, but it is our duty when we do speak to speak in the language of a free people, as the loyal and obedient subjects of a monarch who reigns in the affections of her people."

THE DUKE OF WELLINGTON, at the meeting of the Wayland Society at Walton, made the following remarks on the Volunteer movement:—

"He would not use the hackneyed expression that the Army and Navy of England would always do their duty, because during the last few days an instance had been afforded of its performance. Never had greater heroism been displayed than in the expedition up the Peiho. He could not, however, but regret that such a decided prejudice prevailed, particularly in the agricultural class, against service in the army and navy. If a villager turned out a poacher, his friends no doubt regretted it; but if he 'went for a soldier' the family distress was enormous. It was not generally known, he believed, that the naval and military services were not now what they used to be. The period of enlistment in the army was now only for 10 years, and during that decade a man's time was much better spent than it would be either at home or in his village. He had opportunities for learning a great deal, and a grateful country was only too anxious to do everything for his benefit. With regard to the volunteer rifle corps, he might perhaps, as an inhabitant of the county, be allowed to say a few words. He had the honour to command the corps called the Victoria Rifles, and he thought they had committed an error in making themselves too numerous. They had also a fine uniform, and the consequence was that they were always desirous to show it off and to become officers. A volunteer corps should not, under any circumstances, comprise more than 100 men; but that number acting as a company, and in subordination to the regular troops, might be of the greatest utility."

LORD W. GRAHAM, M.P., at Ledbury, made the following remarks on the National Defences and the war in China:—

"The feeling on the subject of our national defences had been so strong that a commission had been appointed, from which he hoped much advantage would result. The present Government had also continued the preparations commenced with so much zeal and judgment by Sir John Pakington. He was not apprehensive of an invasion. He believed the Emperor of the French was well disposed towards this country, and would maintain a strict alliance and peace with us if the French army would let him. But it seemed as though we should require these fresh armaments not so much for self-defence as to vindicate the honour of our arms in the distant East. Whatever might have been thought of the policy or expediency of the first war with China, nobody could hesitate to say that we were now justified in demanding ample reparation for the treacherous attack upon our Ambassador and ships. Retribution must be exacted for the blood that had been shed and the lives that had been lost, and the Chinese must be taught that treaties when once signed must be observed, and that the English flag must be respected. Unless we did this we should have to abandon all our trade and commerce with that productive empire, and give up all our hopes of introducing Christianity and civilisation into that part of the world."

LORD ROBERT CECIL, M.P., at a public dinner given by the Mayor of Stamford made the following remarks on the state of parties:—

"Since he was sent to Parliament to uphold a certain Ministry party warfare had fallen a good deal into abeyance, and he must confess that he was not very sorry for it. He valued party feeling as a means of carrying on the Government of a country, and he fully recognised the benefit it had conferred upon the State, but he was bound to say that during the few latter years we had seen the worst side of its working. for in a period of nine years no less than seven had been wasted in Ministerial crises, which were neither valuable nor useful for purposes of legislation. Occurring in the middle of a session, as they always did, they invariably arrested all public business, turned out Ministers who had become acquainted with matters in hand, and gave to foreign Governments the impression that our own Government was so weak and so unstable that they might count upon its yielding on any point on which it might be pressed. Therefore he thought that constant changes of Government were detrimental to the public service. Though, as a party man, he of course had his own wishes as to who should or should not be in office, he still said that until the Opposition were able to place their own party in real power, with a sufficient majority to enable them to maintain their position for a considerable time, he did not himself wish for a change of Government. He did not think that Governments on sufferance, however good might be their intentions, when they had to frame every measure by calculations in which every vote must be balanced, and every caprice taken into account, could fill their situation in a manner satisfactory to their own sense of honour and to those who supported them. But it was not domestic politics which occupied the minds of the majority of the people of this country. People's eyes were bent abroad. The troublous times which threatened us from the continent rivetted all attention. We heard a great deal about the state of Italy, and there were many conflicting opinions as to what the best settlement of that very knotty question should be. For his own part he candidly confessed that he wished we were less interested in Italy. He viewed with alarm and apprehension the keen interest which our Government seemed to take in this Italian question, believing that they would not be able to effect any good. We should rather take effective measures to secure against any chance of invasion the prosperity of our own country and the peace of our own shores. Just consider the desolation which an invading army would spread abroad. Think of the cities it would level—of the contributions it would raise for its support—of the hundreds of thousands it would deprive of the means of earning their daily bread—of the capital it would dissipate—of the confidence it would shake, and then say whether for the question of a mere 3d. or 4d. in the pound it was worth while to run a risk so frightful as this. He then criticised Mr Bright's Huddersfield speech, and remarked that a few years ago the same hon. gentleman had declared that all our wars had been undertaken for the purpose of affording outdoor relief to the aristocracy. Every student in history would be able to refute so ridiculous a charge. Every one knew that in all our great wars the English people pressed on their statesmen by their own unconquerable ardour. They might sometimes have been enthusiastic—sometimes over hasty, but he thought the records of history would show that what had impelled them to the enormous expenditure they had incurred, and to the gallant resistance by which they had been distinguished, had been their determination that they would sacrifice their last farthing, and would give up their last man, rather than suffer a foreign enemy to pollute their shores, rather than suffer any one to injure an empire to which they were proud to belong, or to diminish the value of the institutions which they loved so well."

SIR STAFFORD NORTHCOTE, M.P., at Stamford, spoke as follows on the uses of an Opposition:—

"At the present time it was of great importance that the Conservative party should, if possible, support the government. It was very true that it might become their duty to take strong measures to oppose government upon matters which might be of great and vital importance; but looking to the general interests of the country, to the state of affairs in the East, and to our financial condition, which was such that there must be very important financial measures introduced,—looking to that great question of the defence of the country, and to the necessity for adopting measures for placing ourselves upon an independent footing, which would render us free from those degrading panics to which we were from time to time subject, and would at the same time command the respect of foreign nations,—looking to all these questions, it was particularly important that the party to which he belonged should adopt a line of conduct which was at once firm and not factious; which should show that they had a policy of their own and were prepared to enforce it; but that as long as they saw those measures adopted which they might consider to be for the good of the country, they would abstain from all factious proceedings. That was peculiarly important, because the Conservatives numbered nearly one-half of the House of Commons, and because it was in their power—there would be no difficulty whatever, by taking advantage of casual opportunities—to embarrass and defeat the Government. But that ought not to be the object of an Opposition which did not command an absolute and clear majority. What the Opposition should do was, to take care that the government went straight, to take care that those feelings which there were in the present, as in other governments, should have free play, so that when urged on by their more extreme supporters to measures of which they did not as a body approve, they should be able to turn round and say, 'We will not do these things.' If that was the spirit which animated the Opposition, he believed all would go well."

THE HON. RICHARD CAVENDISH, at a meeting at Buckingham, spoke as follows on the war in China:—

"We had now commenced a new war with China, which he hoped would be the last, but to render our hostilities effectual we must insist upon the money demanded being paid down. That must be done before agreeing to any terms of peace. Having been among the Asiatics he could speak of them from his own personal knowledge, and would not trust to their promises to pay. England was too much inclined to put faith in promises. Perhaps it might sometimes be advisable to evince some degree of faith in promises, because it showed that we were not so anxious to increase our possessions as some persons supposed. But the present war in China had been forced upon us, and it was our duty to avenge the deaths of those who had been slaughtered by the Chinese; and, above all, as he had said before, to see our demands fully discharged by the payment of the money down."

MR. HENLEY, M.P., at a meeting at Wallington spoke as follows on the China question:—

"About a week ago he attended a meeting at Thame, and congratulated it on the peace and tranquillity which prevailed; but regretted to say that since that meeting a very unfortunate affair had taken place in the East, an affair which had rarely happened to this country, for one-half our vessels engaged in the action were sunk or disabled, and one third of our force killed or wounded, and all that disaster occurred while our Ambassador was on his way to complete a treaty that had been entered into, but which was violated in such a way that we received a repulse, with all the mortification attached to it. He thought it a most unfortunate circumstance for this country that within the last few years three great fights had taken place between this country and the Chinese. When they saw the great improvement which the Chinese had made on the second occasion, when they fought something like a fight, and how much they were improved on the last occasion, when they gave us a severe dressing, it must be a matter of great anxiety to find a foe that we have to encounter so far advanced in the system of warfare and of self-defence. There was however one matter of congratulation, namely, that this country would not go into this war single-handed, but would have a powerful ally. They had already experienced in a great war the loyalty and fidelity of the two Governments of France and England, and the extremely good management of the officers had prevented any of those jealousies which history had pointed out as having occurred with allies. He was one of those who thought that when a country was at war it was a good thing to have allies, but that it was the safest to fight the battle for ourselves, and for our allies to fight the battle for themselves. He trusted that in going into this quarrel they should get out of it as good friends as when they went into it, and that they might attain their ends without any jealousy; because great as the present evil was, if there were any jealousy between France and England, that would be a far greater evil."

SIR J. W. RAMSDEN, M.P., at the Craven Exhibition, made the following remarks on the Army and Navy:—

"The toast of the Army and Navy would at all times be received with enthusiasm in any assembly of Englishmen, but especially would it be so at the present moment, for unfortunately events had occurred which had illustrated in rather a painful manner the truth of the old saying, that preparation for war was the surest guarantee of peace. Therefore it was not because England was a warlike nation, or because she desired to quarrel with her neighbours, but because she was a peace loving nation, that it was necessary for the armaments of the country, both by land and sea, to be in a state of the greatest possible efficiency. They could not, and he trusted they would never attempt to, imitate the great land forces of foreign Powers; but they had always been accustomed to rely, as the first bulwark of our safety, on the preponderating efficiency of the navy, and he trusted that, while they gave due weight to considerations of economy, and endeavoured to enforce them in every department of the State, they would never allow a short-sighted desire of saving to blind them to the necessity under which this country lay to maintain its maritime pre-eminence. That desire had been, he rejoiced to say, emphatically shown throughout the country during the present year. No Government whatever could continue for a moment to hold power except they maintained the defences of the country in an efficient condition, so that they could resist any aggression from whatever source it might come. He trusted that while the Government would always see the necessity for the country being prepared for war, there would be no need for making use of those preparations. He asked the assembly to respond to the toast for what the army and navy had done in times past, as well as for the services which he believed they were prepared to render if any unfortunate emergency should arise. He trusted that no such necessity would occur, but they could not be blind to the fact that if they for a moment forgot to maintain the efficiency of the army and navy they would be liable to become a prey to disaster, for which they would have no one to blame but themselves. Their maxim should be to combine efficiency with economy, but efficiency should be their first consideration and economy the second; and he trusted that they would always treat the army and navy with the honour which their distinguished antecedents so justly entitled them to."

SIR JOHN COLERIDGE at the recent distribution of certificates to the successful candidates at the Oxford Local Examinations at Exeter spoke as follows on Middle Class Education:—

"No one who has considered the history, not merely of this country but of Christendom in general, for centuries back, can fail to perceive that there has been for centuries a gradual advancement towards the approximation of the different classes of society, and to increasing power with regard to government of what are called the lower orders. I am not, of course, going to express a political opinion here: I do not say whether it is better or whether it is worse at present. But it seems to me to be so orderly, to have proceeded so regularly, to have gone on so widely—I may say so universally—through Christendom, that I cannot but think that we may trace in it the finger of Him who governs the world; and if that be so, I ought to alter the language I used, and I ought to say that it must be for good. It must be for good if we rightly use and direct the dispensations of the Almighty, as far as we are concerned. The destinies of nations are in His hands, but, as you well know, He acts ordinarily by secondary means; He acts by human agents, and it is in our power to make that a blessing, as He intended it, or a curse, which He did not intend, according as we use that which he puts in our hands. The river will flow on. If you attempt to stop it, it will overwhelm you in ruin. If you neglect its course, you may lose the benefits it would otherwise confer. But if you direct its course wisely it will be a source of fertility to the land through

which it flows. Something like that is what this country ought to do, and what I think it is now doing in respect of education. If the lower orders are to be raised in political power in this country, to make that a blessing you must cultivate the lower orders for discharging the duties to be thrown upon them. Therefore it is that I think the University of Oxford conferred the largest benefit that it had in its power to confer upon this country at large when, passing simply from the education of the higher orders, and those who were destined for the Church, it spread out its hands in a frank and liberal spirit to all classes of society, and offered to connect everybody with itself, in a certain measure, who would only fit himself for it by proper application. It is obvious, and everybody must see, that the more the classes of society lower than those who may be able to take the benefit directly of university education avail themselves of this privilege, the more will they fit themselves for all those acts of power and administration of government to which in the course of things they may probably be called."

## City Intelligence.

Money Market, Friday.—British Funds: Consols closed at 95⅜ to ¾ for the 11th October, and 95¼ to ⅜ for Money; New Two and a Half per Cents., 79½; India Stock, 218½; New Indian Loan (Stock), 100⅞ to ⅞; Ditto Scrip, 100⅞ to 101; Exchequer Bills, 23s. to 26s. prem.—Foreign: Dutch Two and a Half per Cents., 66; Mexican Three per Cents., 23½; Ditto for Acct., 23⅜ to 23½; Sardinian Five per Cents., 86⅝; Ditto for Acct., 87; Spanish Three per Cents., 46½; Ditto New Deferred Three per Cents., for Acct., 34¼; Ditto Passive Bonds, 11; Turkish Six per Cents. 1854, for Acct., 84½; Ditto Guaranteed Four per Cents., 102¼.

## Bank of England.

ISSUE DEPARTMENT.

| | | | |
|---|---|---|---|
| Notes Issued .. .. .. | £31,391,220 | Government Debt .. .. | £11,015,100 |
| | | Other Securities .. .. | 3,489,900 |
| | | Gold Coin and Bullion .. | 16,916,220 |
| | | Silver Bullion .. .. .. | — |
| | £31,391,220 | | £31,391,220 |

BANKING DEPARTMENT

| | | | |
|---|---|---|---|
| Proprietors' Capital.. .. | £14,553,000 | Government Securities (including Dead Weight Annuity) .. .. .. .. | £11,220,018 |
| Rest .. .. .. .. | 3,722,696 | Other Securities .. .. | 19,434,507 |
| Public Deposits (including Exchequer, Savings Banks, Commissioners of Nat. Debt, and Dividend Accts.) .. .. .. | 9,268,239 | Notes .. .. .. .. | 10,185,060 |
| | | Gold and Silver Coin .. | 624,899 |
| Other Deposits .. .. .. | 13,096,415 | | |
| Seven day and other bills | 824,134 | | |
| | £41,464,484 | | £41,464,484 |

29th day of Sept, 1859. M. MARSHALL, Chief Cashier.

## Gazette of the Week.

TUESDAY — BANKRUPTS—C. H. Baker and J. Aguilar, Water Lane, Great Tower Street, City, Soap Manufacturers—J. M. Hall, Sheffield, Paper Dealer and General Decorator.—J. Morrish, Astwood Bank, Worcestershire, Needle Manufacturer—J. Richmond, Bradway, Derbyshire, Corn Factor—J. Sait, Star Corner, Bermondsey, Currier—R. Squire, Kendal, Draper—J. Y. Vernon, Stourbridge, Draper.

SCOTCH SEQUESTRATIONS—P. and T. Aikman, Glasgow, Shipowners—W. Cameron, Glasgow, Commission Merchant—A. G. Caldwell, Glasgow, Salesman—J. Mitchell, Edinburgh, Accountant—R. Smith, Inverness, Watchmaker—J. Thomson, Edinburgh, Inspector of Poor of the Parish of Canongate.

FRIDAY—BANKRUPTS—E. C Davies and G. Cooper, Gainsborough, Chemists—J. C. Green, Manchester, Hotel Keeper—A. H. Jack, Haymarket, Letterpress Printer—J. M'Clure, jun., Manchester, Warehouseman—J. K. Morton, Clifton, Draper—W. Rammage, Platts, Worcestershire, Ironfounder—J. D. Vivian, Plymouth, Grocer—J. R. Winckworth, Albion Street, Hyde Park, Picture Dealer.

## Metropolis and its Vicinity.

Election of Lord Mayor.—At a Common Hall held on Thursday in Guildhall, Alderman Carter was almost unanimously elected Lord Mayor for the year ensuing, only five or six hands being held up for Alderman Cubitt, and the same for Sir H. Muggeridge, the two next aldermen in succession to the chair. It had been rumoured for some time past that an effort was to be made, by means of the 'long-shore men, to set aside Alderman Carter for the purpose of securing to Alderman Cubitt the honours expected to be conferred on the Lord Mayor who will be in office at the coming of age of the Prince of Wales. Alderman Cubitt however personally disavowed all participation in this scheme, and if it had been attempted it was Alderman Carter's intention to have appealed to the livery at large by demanding a poll. In returning thanks for his election, the Lord Mayor elect assured the Liverymen that it is his intention and desire to sustain inviolate the rights, privileges, and immunities of the Livery Companies of the city of London.

The New Sheriffs.—On Wednesday Alderman Phillips and Alderman Gabriel, the sheriffs elect for the year 1859-60, were duly sworn into office at Guildhall before the Lord Mayor, and was subsequently invested with their gowns and chains of office. The usual presentation to the Barons of the Exchequer in Westminster Hall did not take place on this occasian, an Act of Parliament having passed during the last session to relieve the judges from the necessity of receiving the sheriffs, and transferring to the Queen's Remembrancer the duty of announcing her Majesty's approval of their election, which was done in due course yesterday by a warrant under the Great Seal. In consequence of the abolition of the ancient ceremony in Westminster Hall, the breakfast which preceded and the dinner which followed it were also omitted from the usual Michaelmas programme of municipal hospitality.

The Case of Dr. Smethurst.—The Home Secretary has not yet come to a decision on the question whether there shall be a commutation of the sentence of Dr. Smethurst. The delay which has been occasioned arises from the fact that circumstances have transpired which lead to a suspicion that there are other cases of a serious character against him, which the police have received instructions to investigate.

The Great Eastern.—A report that the visit of the Great Eastern to America is to be delayed for 12 months, during which she is to be exhibited at the various seaports of the United Kingdom, is positively contradicted at the office of the company. On Wednesday week 30 of the crew were charged before the magistrates at Weymouth with mutinous conduct in having wilfully disobeyed orders to wash the decks on the previous Sunday. The charge was fully proved, and the ringleader, Johnson, was sentenced to a month's imprisonment with hard labour, and the forfeiture of two days' pay. Another man called Brodie, who had figured conspicuously in the matter, was sentenced to be imprisoned, with hard labour, for three weeks, and to forfeit two days' pay; and the remainder to be imprisoned, with hard labour, for a fortnight, with a similar forfeiture of wages. They were afterwards removed in custody to the County Gaol at Dorchester. Since the recent accident the directors have placed the fittings and all matters connected with the sea-going equipment of the ship entirely in the hands of the Marine Department of the Board of Trade; and some important alterations, suggested by the Board, will be made before the vessel again goes to sea. In the meanwhile it is said that the ship will shortly leave her present moorings, and go round under easy steam to Southampton Water, both for the convenience of receiving materials for her repairs from London and in order to gratify the thousands of excursionists who are anxious to visit the ship from all the chief towns along the south coast before her departure for Holyhead, where she is to be inspected by the Queen on the 17th inst. The three men, Tait, Yoxon, and Sparkes, who were badly injured by the explosion, are now progressing favourably at the Weymouth Infirmary, and no doubt is entained of their ultimate recovery.

The Builders' Strike.—At the weekly meeting of the executive committee of master builders on Tuesday, Mr. Myers, the extensive builder in the York Road, brought before the meeting a proposal from the operative masons, offering to abandon the 9 hours movement and work 10 hours a day as usual, provided the masters agree to withdraw the declaration. After a long and animated discussion, it was resolved that the Committee of the Central Association of Master Builders consider the difficulties in the way of withdrawing the declaration, which has been taken by nearly 8000 men, as insuperable, but that they are willing to see a deputation of masons, whose withdrawal from the Conference they regard as a first step in assertion of the freedom of labour. In pursuance of this resolution a deputation of masons had an interview with the Masters' Committee on Wednesday. The interview lasted 7 hours and was then adjourned to Thursday, when it terminated without any satisfactory result, the masters refusing to withdraw the declaration and requiring the masons to amend such portions of their trade rules and customs within the metropolitan postal district as shall be declared by the President of the Board of Trade, or any retired Judge of her Majesty's Courts of Westminster, to be contrary to the spirit of the law of the land. With this demand the deputation refused to comply, and their refusal was subsequently confirmed at a general meeting of their body, at which it was also resolved to make a levy of 6*d*. a day on the London masons now in work during the strike, and until the declaration is withdrawn, such levy to be binding upon all masons, whether society or non-society men. A proposal made by the Conference was also brought under the notice of the Masters' Committee on Tuesday by Mr. Jay, offering on the part of the building operatives to resume work on the withdrawal of the declaration on the part of the employers, leaving the question pending between them and the workmen prior to the 6th of August to be settled by a committee of six members of the Central Association and six members of the United Trades' Conference. This offer was met by a resolution stating that the Conference being an irresponsible body, and their proceedings having been entirely illegal, the Committee could not recognise them as a proper medium of communication between the Association and their workmen. It follows from all this that the breach between the employers and the employed has become wider and deeper than before; that the Committee of Masters remain firm in their adherence to the declaration, and refuse to acknowledge the right of the Conference to interfere in settling the dispute.

St. George's-in-the-East.—The Bishop of London's precaution in ordering this church to be closed until the result of his mediation is announced prevented any renewal of the riotous scenes in the parish church on Sunday, but the popular feeling broke out in another direction, and was exhibited with more violence than ever at the Mission Church in Calvert Street, and St. Saviour's Church in Wellclose Square, two small churches under the control of the Rev. Bryan King and his curates, who carry their doctrines and practices to as great an extent in them as in St. George's. At the Mission Church in the evening, in spite of the measures taken to admit no one except by ticket, the mob broke in and put out the gas during the service, and would have done serious mischief if a body of police had not been introduced through the vestry. At St. Saviour's the mob attacked the curate and compelled him to save himself by escaping by a back way to the Mission House, which his pursuers surrounded and vented their indignation in howlings and yells, particularly condemning Papists and Puseyites. An attack upon the Mission House was proposed, and it would, no doubt, have been carried out had it not been for the judicious conduct of the police officer in charge, who ordered his men at once to clear the place. This was immediately done, but not without a general battle between the police, who had drawn their staves, and the mob, who showed every disposition to rebel. Two persons, Mr. Rosier, and Mr. Petersen, a Swede, have since been charged, under an Act of William and Mary, with disturbing the congregation. The case of the former has been postponed to Wednesday next, and the latter has been committed for trial at the sessions on two indictments, bail being accepted in each case. In the course of Sunday evening the Rev. Hugh Allen, the afternoon lecturer at St. George's, preached a highly inflammatory sermon in condemnation of Puseyite practices, at his own church, St. Jude's, Whitechapel. The whole parish is in a state of the highest excitement, which has been increased by a letter from the Bishop stating that he has not yet received from the rector such an unreserved intimation of his readiness to refer the various questions in dispute to his lordship as will enable him to act as mediator.

The late Flogging Case at Woolwich.—A military court of inquiry, composed of various officers of the Royal Artillery, has been held at Woolwich to investigate the circumstances connected with the recent flogging of a gunner while his back was partially covered with boils. It is understood that after hearing evidence and carefully considering the case, the court decided that the medical officer was blameable for allowing the punishment to be inflicted, and that he be reprimanded accordingly. It appears that when a court-martial passes sentence of flogging, the medical officer is bound to certify that the prisoner is physically in a condition to receive the punishment, or such punishment cannot legally be administered. The man whose case has excited so much public attention has not yet fully recovered from the effects of the flogging, which is a sufficient proof that the facts detailed at the time were not overstated.

The Public Health.—The Registrar-General's report states that the weekly deaths have now declined to the point from which they rose at the end of June. The total number in London in the week that ended Saturday, Sept. 24, was 1058. If the deaths from cholera in the corresponding weeks of 1849 and 1854 are excluded from the calculation, the return of last week is below the average of the third week of September for the 10 years 1849-58. During the week the births of 886 boys and 866 girls, in all 1752 children, were registered in London. In the 10 corresponding weeks of the years 1849-58 the average number was 1572.

## Provincial.

Birmingham.—On Tuesday morning a fatal explosion took place on the premises of Messrs. Phillips & Pursall, percussion cap makers, of Whittall Street, one of the most closely built districts of this town. Between 70 and 80 persons, the great majority of whom were women, were at work on the premises at the time, a large number of them being extra hands who had been engaged to execute a large order for the Turkish Government to be completed within a given time. The explosion took place in the "priming shop" on the first floor, and was instantaneously followed by a second. The report was heard for a long distance, all the houses in the neighbourhood were shaken, and the building fell in, leaving nothing standing but the front wall immediately facing the public street. The timber within the walls then became a mass of flame, so violent and so intense that in an incredibly short time the beams were burnt to a charred mass. Of the people within the building about 50 escaped with life, but 16 or 17 of this number were so severely burnt that it was necessary to take them to the General Hospital. One woman died immediately; several others were between life and death. Up to Tuesday night 18 dead bodies had been dug out of the ruins, some of them burnt to a blackened mass, others crushed beneath the burning material, or stifled by suffocation. This is the third explosion of the kind which has occurred in Birmingham within three months.

Bristol.—A steam tug called the Fairy exploded last week in Kingroad as she was lying alongside a barque which she was about to tow down the river. The tug immediately sunk, and the engineer and fireman went down with her. A boy was blown on board the barque and very seriously injured, and the mate, who was picked up on a piece of the wreck, has since died in the Infirmary. The jury at the inquest returned an open verdict, that deceased were killed by the explosion.

Gloucester.—Messrs. Vaughan, Fitzgerald, and Welford, the commissioners appointed to inquire into the existence of corrupt practices at the last and previous elections for this city opened their court at the Shire Hall on Monday, and have sat daily during the week. Mr. Coleridge is officiating as secretary to the commission, and all the electioneering notables on both sides have been present at the sittings.

Jersey.—The South-Western Company's steamer Despatch, which left Southampton at midnight on Wednesday, broke her intermediate shaft off the Casket, and put into Alderney, from whence the mails and passengers were sent to their destination by a small steamer.

Newcastle-on-Tyne.—This town has become the scene of a religious "revival" which bids fair to rival anything of the kind which has yet occurred either in America or the North of Ireland. About three weeks ago a medical gentleman and his wife, Dr. and Mrs. Palmer, who are members of the Methodist Episcopal Church in the city of New York, arrived in Newcastle

by invitation of the Rev. Robert Young, the Wesleyan minister, and commenced a series of public services in the Brunswick Place Wesleyan Chapel, one of the largest places of worship in the town. It was merely announced from the pulpit on the preceding Sunday that Mrs. Palmer would give an address in the chapel on the next Wednesday evening, and a very numerous though select audience assembled. After devotional exercises Dr. Palmer read a portion of Scripture, and gave a brief introductory address, after which Mrs. Palmer took her place within the communion rails, and spoke nearly an hour in a very animated and impressive manner, her topics being the great truths of revelation, enforced as the rule of human conduct in all the relations of life. So powerful was the effect of her address, that when at the close an invitation was given to those who were "convinced of sin" to come to "the altar" to be prayed for, the communion rail was surrounded with kneeling penitents, most of whom were evidently the subject of powerful emotion. It was thereupon resolved to continue the services every evening, and as the interest excited seemed only to deepen by the constant repetition, midday and afternoon meetings are now held. On the next Sunday after the usual service in the chapel a prayer-meeting was held, when a gentleman, a member of the Wesleyan body, who had been connected with a large brewery in the neighbourhood, and is the owner of several public-houses in Newcastle, declared that his mind had been so impressed by what he had heard that he resolved that his connection with the liquor traffic should from that moment cease. The effect of this declaration thus publicly made was electrical, and the matter has become quite a town's talk. The movement itself is now spreading to other denominations. The Rev. Rowland East, the incumbent of St. Andrew's Church, has since commenced a series of "revival" sermons in that church. The subject chosen was the final judgment of the world. The rev. gentleman in announcing the series refers to the "awakening" which had already commenced in the town, and without ignoring what had taken place elsewhere, expressed his conviction that the Apostolic Church of England ought to participate in the earnestness which is now manifested on the subject of religion.

SHEERNESS.—An extraordinary slip of land has recently taken place at Warden Point, on the north-east end of the Isle of Sheppy, which has placed the ancient church of that parish in great danger, as the east end of the church is only 41 feet from the edge of the cliff. Persons residing near the church state that for three or four days previous to the slip a noise was heard at very short intervals like distant thunder. Several portions of the land have dropped down with rows of large trees, hurdle-fences, and hedges perfectly upright; other trees are partially inclined towards the sea, and others are quite reversed, but not a single tree is buried by the soil. A landslip of less magnitude took place about two years since, which together with the present one acted upon a space of more than 10 acres of arable and pasture land, in consequence of which the Coast-guard station being considered unsafe has recently been taken down. The land for some considerable distance south-east of the church is still opening in large chasms, varying from 3 inches to 3 feet, and in depth from 3 to 30 feet. Great numbers of visitors have been attracted to the spot, and the curiosity does not seem at all to diminish.

STAFFORD.—On Friday night the Earl of Shrewsbury, accompanied by Colonel Taylor, M.P., and Captain De Winton, of the Life Guards, after attending a review of the Staffordshire Yeomanry Cavalry, at Lichfield, left in an open phaeton on their return to Ingestre Hall. The night was very dark and the Earl of Shrewsbury, who was driving, accidentally drove the horses against a bank a few miles from Lichfield, by which the whole party were capsized. His lordship escaped without serious injury, though he was much shaken, and Colonel Taylor sustained some contusions about his face. Captain De Winton and the groom were unhurt.

SWANSEA.—The new south docks which have recently been constructed to afford facilities to the increasing trade of this port were opened with great ceremony on Friday in the presence of the lord lieutenant and high sheriff of the county, the members of Parliament for the borough, the harbour trustees, and an immense concourse of spectators, including all the local societies and lodges. These new docks comprise what is known as a "trumpet mouth" entrance of great size, a half-tide basin, an immense lock with iron bridge, and an inner dock of sufficient area to accommodate some hundreds of the largest-sized ships. The cost of the docks when completed will be about 200,000*l*.

YARMOUTH.—A few days since a shark got entangled in the nets of a boat about 18 miles off this port. He was following the shoals of herrings, and having got into the net he plunged at a tremendous rate, and did much damage to five nets. He was ultimately killed after a stubborn fight, by several smart blows over his snout with a hatchet, but not before he had seized one of the crew by the arm, and somewhat injured him. The shark was brought on shore and exhibited to the public. He measured five feet and a half in length, and weighed about 80lbs.

## Ireland.

THE CATHOLIC UNIVERSITY.—A meeting of the four Archbishops and two suffragans from each of the provinces, was held in Dublin on Tuesday to consider the condition of the Catholic University, and to devise means which will, in the language of the *Freeman*, "improve its efficiency and render it fully worthy of its exalted object." As the university is generally known to have proved a failure, it is understood that this meeting is more of a political than of an administrative character, and that the object of the prelates is to issue a new document against the "godless" colleges.

LORD DERBY AND HIS TENANTRY.—All doubt concerning Lord Derby's intentions in reference to the tenantry on his estate is now at an end. On Wednesday the 19th ult. notices to quit were served on every person on the estate with the exception of four, viz., the widow and brother of Mr. Crowe, and two Scotchmen. Even the parish priest, the Rev. Patrick Hickey, was included among those served with the notice. The *Freeman's Journal*, in adverting to this circumstance, says that this eviction is to be resented from the Giant's Causeway to Cape Clear. The whole priesthood of Ireland, it says, are involved in this outrage upon the priest of Doon; and every priest in Ireland, be he parish priest or curate, "must regard it as an offence to his cloth and to the sacred office he holds." The county of Limerick is to take the initiative, and every county in Ireland, it is promised, will, each in its turn, have its indignation meeting to resent "the outrage upon the people." Since the notices to quit were issued two brothers, named O'Brien, who were under notice of eviction by the late Mr. Crowe at the period of his assassination, in July last, have been arrested and committed to the county gaol.

THE MURDER OF MR. ELY.—On Saturday two subconstables of Carrickfergus arrested at Kilroot a man whose appearance resembles that of Delany, the murderer of Mr. Ely, near Borris-in-Ossory, on the 5th of November last, who has so long escaped the vigilance of the authorities. The man has been recently in the Donegal militia, and states that his name is Stafford, but he has been sent to Belfast for further inquiry.

THE GALWAY PACKET STATION.—Sir Cusack Roney has written a letter to the Dublin papers, asserting that "it is the intention of the present Government to endeavour to set aside the contract with the Lever company for the conveyance of the American mails through Ireland, and the effort is to be made next session of Parliament, by means of the reappointment of the committee on packet contracts, of which Mr. Cobden was chairman." The *Freeman's Journal* expresses entire disbelief of this statement; and the *Globe* observes "that the committee on packet contracts will be reappointed is most likely; but that 'the means' of annulling a Government contract should be the reappointment of an independent committee, whose report no one can anticipate, is too ridiculous to need contradiction."

THE MARCHIONESS OF LONDONDERRY AND HER TENANTRY.—The annual entertainment given by the Marchioness of Londonderry to her tenantry took place last week in the handsome village of Carnlough, near Belfast. After dinner the Marchioness addressed the tenantry at some length, and expressed her satisfaction at the improvements everywhere visible. She said that she had always carefully avoided interfering or entering into religious argument, and respecting every one's conscientious belief in their own creed; but without at all presuming to offer opinions, it was impossible not to observe that one result of the much-talked of revivals had been the closing of the public-houses and the establishment of greater sobriety and temperance, which must have a beneficial effect on a population where the reverse was the besetting sin. Lord Adolphus Vane Tempest, in replying on behalf of the army to the toast of "The Army," gave the following account of his retirement from the service:—

"It might not be known to some of them that he no longer remained in the active service of that profession which for 17 years he consistently followed. He would not detain them with the reasons which induced him to pursue such a course; but he would content himself by saying this much—that he found the position of being an officer in her Majesty's Guards, instead of being one of advantage, or of comparative superiority, as it used to be, to the other branches of the army, was one that, by succumbing to the attacks of people who wrote against that service, was put in an inferiority, as he considered, to the other branches of the profession, and inferior to what he expected when he entered it. He found, in short, it would take seven more years' full service before obtaining a colonelcy, whilst others by having gone into other branches of the service were attaining the objects of an officer's ambition. This was one of his chief causes, and the other was, that his other affairs prevented him from performing and interfered with his military duties. He had, however, the satisfaction of knowing that he retained his name in the army list of his former rank, and his affection and regard must be the same for that profession which he followed for 17 years."

## Scotland.

BRITISH ASSOCIATION.—The Aberdeen meeting was brought to a close on Thursday week, when it was officially announced that it had been the largest meeting of the Association ever held, and that the unexampled number of 2400 persons were present at the delivery of the Prince Consort's inaugural address. The total amount received from members and associates was 2763*l*.; and grants to the amount of 930*l*. were made for the furtherance of scientific objects. Before the meeting broke up it was resolved, in accordance with a communication from the Prince Consort, to assist in founding at Berlin a testimonial commemorative of the great scientific services and attainments of Baron Humboldt, to be called "the Humboldt Foundation for Physical Science and Travels."

VISIT OF THE BRITISH ASSOCIATION TO BALMORAL.—On Thursday week the presidents of sections, members of committee, and distinguished visitors of the Association paid a visit to Balmoral, on the invitation of the Queen. The party, to the number of 50 or 60, left Aberdeen by special train at 6 o'clock in the morning, and travelled by omnibuses and coaches from the Banchory station of the Deeside Railway to the Castle grounds. At half-past 1 o'clock the visitors arrived in the avenue of Balmoral, where preparations had been made to entertain them with an exhibition of Highland games. At 2 o'clock the Earl of Fife, Mr. Farquharson, of Invercauld, and Sir Charles Farquharson arrived with the whole of their clans and pipers, and up in the grounds on the west of the Castle. Her Majesty and the Prince Consort, accompanied by the Royal family, then walked out upon the terrace, and the games commenced, consisting chiefly of the usual course of tossing the caber, throwing the hammer, racing, and dancing. The Queen recognised Professor Owen, who, with Sir R. Murchison and Mr. John Phillips, had also the honour of dining with her Majesty in the evening; but beyond this no notice was taken of the visitors. The Queen distributed prizes to the successful competitors, and at half-past 4 the Court left the grounds. The visitors now proceeded to the ball room, where an elegant luncheon was served, and where every comfort they could desire had been provided for them. At half-past 5 they left Balmoral and arrived at Aberdeen at a quarter-past 10 on Friday morning, having thus performed a journey of 100 miles.

THE PRINCE CONSORT'S VISIT TO ABERDEEN.—The Queen has forwarded to Mrs. Thompson, the wife of Mr. Thompson, convener of the county of Aberdeen, a handsome bracelet, ornamented with precious stones, in recognition of the hospitable manner in which the Prince Consort was entertained during his recent sojourn at Banchory House while presiding at the congress of the British Association.

UNIVERSITY OF EDINBURGH.—The Town Council of Edinburgh has elected Sir David Brewster Principal of the University of that city. No other candidate was proposed. This appointment creates a vacancy in the Principalship of St. Andrew's. Professor Nichol, the well-known author of many learned and popular works, is a candidate for the vacant seat.

PEDESTRIAN FEAT.—On Monday week, says the *Inverness Courier*, the Duke and Duchess of Montrose left Tonnadown, in Glengarry, to visit Lord Macdonald, bury, at Achnacarry House. They set off on foot, expecting to overtake their ponies, and were accompanied by a guide. When about half way the guide was dismissed, the duke conceiving that he was sufficiently acquainted with the path over the hills. Unfortunately, however, his grace turned to the left instead of the right hand, and came down upon Loch Lochy instead of Loch Arkaig. The journey, however, was proceeded with, and about 8 in the evening the Duke and Duchess arrived at Achnacarry, having travelled from 20 to 25 miles of rock, bog, and corries—a pedestrian feat which probably no lady of peerage ever surpassed.

## Sporting.

### NEWMARKET FIRST OCTOBER MEETING

TUESDAY.—The *Trial Plate*. Mr. T. Brown's Weasel beat Nimrod, Scribbler, and 11 others.—The *Grand Michael Stakes*. Baron Rothschild's North Lincoln beat Promised Land.—*Match*, 300. Mr. F. Robinson's Apollo beat Cymricus.—*Match*, 300. Mr. Saville's Roesia beat Apollo.—*Hopeful Stakes*. Sir J. Hawley's Madame Eglantine beat a pair of Diamonds, Aurora (Sister to Musjid), and 3 others.—*Eastern Counties Railway Handicap*. Mr S Williams's Ion beat New Brighton, Montebello, and 18 others.—Handicap. Lord Coventry's Colt beat Croquemitaine.—Handicap. Duke of Bedford's Orlanda beat Tiara and Bastion.—Mr. Nevill's Dapple beat Mr. W. Day's filly and Acme.—*Match*, 300. Lord Annesley's Sweetsauce received 10*l*. paid.—*Match*, 300. Mr. Devon's Independence received 10*l*. paid.—*Match*, 300. Mr. Devon's Independence received 10*l*. Chiles paid.—The *Buckenham Stakes*. Lord Derby's Filbert line walked over.

WEDNESDAY.—The *St. Leger Stakes*. Sir C. Monck's Ellington beat Sir Hercules.—*Fifty Pounds*. Baron Rothschild's Promised Land beat Olympias and Minster.—The *Granby Stakes*. Mr. Alexander's Thunderbolt walked over.—*Match*. Lord Exeter's Wanderer beat Harry.—*Match*. Duke of Bedford's Rule beat Herman.—*Handicap Sweeps*. Mr. Saville's Roesia beat Mesmer, Lucy, Asphodel, and Baron Rothschild's Match. Mr. Alexander's Water Sprite beat Roesia.—*Sweeps*. Mr. Wyndham's Cymricus beat Bastion, Volley, and 4 others.—*Sweeps*. Mr. R Dixie's Ladybird beat Balloon.—*Second Year of the Eleventh Triennial Produce Stakes*. Mr. S. Barnett's The Rover beat Mayonaise, St. Cuthbert, Lord Exeter's f.—*Sweeps*. Mr. Halford's Pomona beat Chanonie, and 3 others.

THURSDAY.—*Third Year of the Tenth Triennial Produce Stakes*. Lord Clifden's Star of the East beat Compromise, Lady Evelyn, 3 others.—*Handicap Sweeps*. Mr. R. Robinson's Acme beat Brine, Mr. R. H. Nevill's colt, and 10 others.—Handicap. F. Robinson's Apollo beat Golden Pippin.—Handicap. Mr. Savile's Montebello beat The Greek, Polonius, and Starke.—*First Year of the Twelfth Triennial Produce Stakes*. Mr. Rothschild's King of Diamonds beat Tom Bowling, Independence, 3 others.—The *Queen's Plate*. Mr. Devon's Independence beat Starke, York, and Polonius.—The *Rutland Stakes*. Mr. Day's Brother to Rainbow beat Jason, Roesia, Fair Maid of Kent, and Watersprite.—*Sweeps*. Mr. Holland's Little Nan beat Stanley, Broadbrim, and 4 others.

PUGILISM.—A fight for 400*l*. to 200*l*. took place last week in a field a few miles from Tunbridge, between Sayers, the champion of England, and Brettle, of Birmingham, in the presence of a large number of persons. Only six rounds were fought, and the contest terminated in a quarter of an hour. At the commencement of the fight the odds were in favour of Sayers. At the conclusion of the second round, however, they were drawn by Sayers. In the second round, however, Brettle appeared to have the advantage, and there were cries for "a first knock-down blow," but it was not allowed. In the fifth round, however, Brettle gave Sayers such a tremendous blow that he fell, and it was then admitted that the Birmingham man had knocked his adversary down. Brettle is

round had a fall which dislocated his shoulder, and this accident virtually terminated the fight. Brettle, however, stood up for a sixth round, but was so powerless from the injury to his shoulder that his blows produced no effect. Sayers then struck Brettle a tremendous right-handed hit upon his left shoulder, and he fell down suddenly with great force. His backers and the surgeon then decided that Brettle was no longer able to continue the fight, and Sayers was therefore the winner in 11 minutes only. Both the men had been well trained, and were in excellent condition.

THE CHAMPIONSHIP OF THE THAMES.—The great boat race between Robert Chambers, the champion of the Tyne, and Henry Kelly, the champion of the Thames, took place on Thursday from Putney to Mortlake, in the presence of thousands of persons who lined the shore on foot and horseback, while no less than 14 steamboats crowded with people accompanied the race. The result was the defeat of Kelly, the north countryman winning by 20 lengths, the first victory ever achieved over the champion of the London river. A great many gentlemen from the north came to town to witness the race, and very large sums changed hands upon the event.

# Obituary.

HIS HIGHNESS THE RAJAH OF COORG died on the 24th ult. at his residence, 20, Clifton Villas, Warwick Road, Maida Hill West. He has resided in this country for several years, and has been in a declining state of health for some months past. His Highness was the father of the Princess Gouramma, who has been educated in this country at the Christian faith under the direction of the Queen, who stood as sponsor at her baptism.

VISCOUNT ST. VINCENT, one of the oldest members of the House of Peers, died on Sunday last at Meaford Hall, his seat in Staffordshire, in his 93d year. His lordship, Edward Jervis Jervis, Viscount St. Vincent of Meaford, in the county of Stafford, in the Peerage of the United Kingdom, was second son of Mr. William Henry Ricketts, by the fourth daughter of Mr. Swynfen Jervis, and sister of Admiral Earl St. Vincent and first Viscount. He was twice married, first in 1790 to the Hon. Mary Cassandra Twisleton, second daughter of the tenth Lord Saye and Sele, which was dissolved in 1796, when he married the second daughter of the late Mr. Thomas Parker. He succeeded to the viscountcy and estates on the death of his uncle, Admiral Earl St. Vincent, in 1823. He leaves surviving issue a son and a daughter by his second marriage—namely, the Hon. Edward S. Jervis and the Hon. Mary Anne, widow of the late Colonel Dyce Sombre. His lordship is succeeded in the title by his grandson, Carnegie Robert John, son of the late Hon. Robert John Jervis by Sophia, daughter of Mr. George Narbonne Vincent. The present Viscount was born in 1825, and married in 1848 the youngest daughter of Mr. John Baskervyle Glegg, of Withington Hall, Cheshire.

GENERAL EVELEIGH, R.A., who bore the oldest commission extant in the Royal Artillery, died at his residence at Standen, near Newport, Isle of Wight, on the 24th ult., in his 87th year. He served in the Corunna campaign, and received the war medal and one clasp for Sabagen and Benevente. He attained the rank of general in 1854.

LIEUT.-GENERAL MORSE, of her Majesty's Indian forces, was killed on the evening of Friday, the 16th ult., by being thrown from his dog cart. Driving home in the evening from Reading to Farley Hill House, Swallowfield, he came in collision with a phaeton with such force that he and the butler were thrown out into a ditch, and the dog-cart was overturned in the road. General Morse and the butler were picked up in the ditch, both in an unconscious state. The butler recovered, but the general had sustained concussion of the brain, and died on the 20th ult. A coroner's inquest was held, and a verdict of Accidental Death returned.

CAPTAIN VANSITTART, R.N., C.B., commander of her Majesty's ship Magicienne, died on the 17th of July off Kintaug or Lookong, near Ningpo, from the effects of the wound by which he lost his leg in the engagement in the Peiho river on the 25th June, aggravated by fever and ague arising from exposure in the swamp on that occasion. Captain Vansittart entered the navy in 1832, joined the Cornwallis in 1841 under Admiral Sir William Parker; served in the operations against Tsekee, Chapoo, and Woosung, for which he was promoted to the rank of lieutenant in December, 1842. As flag-lieutenant he accompanied Sir Thomas Cochrane's expedition in the Brunei river, and shortly after was engaged as aide-de-camp to Captain Rodney Mundy in the arduous pursuit of the Sultan of Brunei. For his conduct on that occasion and other services he was promoted to the rank of commander in January, 1847. Soon after he commissioned the Frolic, 16, and was on the Mediterranean station until 1849, when she was paid off. He obtained his commission as captain in 1854. In the following year he commissioned the Magicienne, and was most actively employed in the Baltic, where he distinguished himself on many occasions in the destruction of forts, and had command of a division of gun and mortar boats at the bombardment of Sweaborg. For this service he was made a Companion of the Bath. After the war he proceeded in the Magicienne first to the Black Sea, then to the Pacific, and afterwards to China. He did good service in command of a squadron acting against pirates in the vicinity of Hong Kong, in September and October last, destroying 150 junks and fast-boats, and killing and capturing 458 pirates; and off Amoy, in October, he destroyed 60 pirate junks and row-boats. The Magicienne was then appointed to the special service of the British Minister in China, and left Shanghai on the 15th June with the Hon. F. Bruce and suite for the entrance to the Peiho, on their way to Pekin, to exchange the ratified treaty. The funeral took place at Shanghai in the evening of the 18th July, and was attended by the Ministers of England and France, the foreign Consuls, a large number of the foreign residents at Shanghai, and nearly 500 men from the ships of war in harbour.

COMMANDER FREDERIC WHITE, R.N., died on the 10th ult. He entered the navy in 1805, and served in the Africa at the battle of Trafalgar, where he was wounded. He returned to England in 1806, but soon afterwar is joined the Orestes, and was present at Lord Gambier's attack upon Copenhagen in 1807. He served in the Milford, Cossack, and Lavinia, on the coast of Spain, and at the defence of Cadiz, and became a Lieutenant in 1812. In 1814 he joined the Rinaldo, in which vessel he escorted the Allied Sovereigns to England, and then proceeded to the West Indies. In 1843 he was appointed to the Ocean, 80, guardship at Sheerness, from which he was promoted [commander. He enjoyed a pension for wounds received in the service, and the Greenwich Hospital out pension. He had received a medal, and was gazetted in 1805 for his valuable services.

MR. GEORGE KREHMER, Russian Consul-General, died suddenly on Saturday morning at his residence, 2, Chester Terrace, Chester Square, it is supposed from disease of the heart. He had for a long period been engaged in diplomacy in Russia, America, and England.

DR. WILLIAM PULTENEY ALISON, late Professor of the Practice of Physic in the University of Edinburgh, died a few days since at Edinburgh. He was born in 1790, and was the brother of Sir Archibald Alison, the historian, and the son of the Rev. Archibald Alison, the well known author of the "Essays on Taste."

BIRTHS.—On the 22d ult, at Inverary, her Grace the Duchess of ARGYLL, of a daughter—23d ult, at Brocket Hall, the Lady KATHERINE VALLETORT, of a daughter—26th ult, at 45, Grosvenor Place, the Lady HARRIET WEDG PROSSER, of a son—22d ult, at Windsor Hotel, Edinburgh, Lady HUNTER BLAIR, of a son—21st ult, at Pitfirrane, Fife, N.B., the wife of Sir ARTHUR HALKETT, Bart., of a daughter—27th July, at Colombo, the wife of Sir WILLIAM CARPENTER HOWE, Chief Justice of Ceylon, of a son—25th ult, at 18, Queen's Gate, Hyde Park, the Lady ISABELLA SCHUSTER, of a son.

MARRIAGES.—On the 20th ult, at Hampton Court parish church, Colonel the Hon. JAMES MACDONALD to the Hon. Miss BLAKE, daughter of Lord and Lady Wallscourt—31st Aug., at St. Mary's, Cheltenham, RICHARD WELLESLEY BERNARD, Esq., to ELLEN GEORGINA, widow of the late Lieutenant-Colonel the Hon. HENRY HANCOCK, 97th Regiment—27th ult, at St. Mary's Catholic Chapel, Chelsea, JOHN DANIEL KING, barrister-at-law, third son of the late Captain King, of Broomfield Place, in the county of Essex, to CAROLINE GEORGINA, third daughter of Sir RICHARD FREDERICK SLADE, of Maunsel Grange, in the county of Somerset, Bart., and of the Middle Temple, Q.C.—27th ult, at Trinity Church, Marylebone, WILLIAM ASHBURNER FORBES, Esq., of the Bengal Civil Service, to LAURA CHARLOTTE, only daughter of the late S. GROVE PRICE, Esq., M.P.—27th ult, at Pitminster, Somerset, VINCENT JOHN REYNOLDS, Esq., of Canon's Grove, Somerset, only son of the late Vincent Stuckey Reynolds, Esq., to JESSIE, younger daughter of the late Rev. T. ROWSE LETHBRIDGE, Rector of Combe Flory, Somerset, and granddaughter of the late Sir Thomas Buckler Lethbridge, Bart., of Sandhill Park, in the same county—22d ult, at St. Ann's, Wandsworth, HENRY LEE PENNELL, Esq., eldest son of Henry Bolton Pennell, Esq., of Dawlish, Devon, to ROSALIE JANE ONSLOW, daughter of the late Reginald George William Onslow, Madras Army—[illegible] at St. Mary Abbot's Church, Kensington, Robert W. Cholmeley, of the Western Road, Lewes, Sussex, and Miss Lodge, West Meadow, Surrey, to CATHERINE GERTRUDE MELLO, eldest daughter of John Arnold Mello, Esq., late of Leinster Gardens, Hyde Park—[illegible] at Tunbridge Wells, FRANCIS MOTTE, Captain 8th or Princess Royal Dragoon Guards, Esq., of Whitefriars, to ANNE, youngest daughter of Rowland Lloyd, Esq., of Hendre-ven-Tower, and 8, Grosvenor Street—20th ult, at Isleworth, M. HENRY MATTHEW BROWN, of the firm of Messrs. Dickson & Brown, Sackville, Manchester, to HELEN, youngest daughter of GEORGE IMRIE, Liverpool.

DEATHS.—On the 23d ult, at Paris, Lady HELENA ROBINSON, widow of the late Sir Richard Robinson, Bart., of Rokeby, suddenly. HELEN, second daughter of General Sir HOWARD DOUGLAS, G.C.B.—[illegible] ult, at Lyndon, MARY ANNE, the wife of Major FRENCH, of Heaton Bank, Lancashire, aged 42—[illegible] ult at Boulogne, the Rev. W. G. NOTT, Vicar of Suttertons, Lincolnshire, second son of the late Major-General Sir WILLIAM NOTT, K.C.B., aged 50—20th ult, at Nea House, Christchurch, Hants, GEORGE JERVIS, fourth son of the late Lieutenant-Colonel CAMERON, 3 Lieutenant in the Coldstream Guards, and late page of honour to her Majesty, aged 19—19th ult, at Great Malvern, THOMAS KENYON, Esq., late Major 8th (King's) Regiment, second son of the late Hon. Thomas Kenyon, of Pickhill, Shropshire, aged 54—25th ult, at St. John's Lodge, Aylesbury, of diphtheria, CAROLINE MARY, daughter of Vice-Admiral W. H. SMYTH, aged 25—21st ult, at Twyford Hall, Norfolk, Lieut.-Colonel PACKE, aged 73—17th ult, at Gibraltar, WILLIAM VIVASH MASKELYNE, Esq., Captain 7th Royal Fusiliers, only son of Maurice Maskelyne, Esq., of Upton House, Gloucestershire, aged 25—29th July, at Secunderabad, India, of fever, THOMAS GEORGE BLACKBURNE, Lieut. 20th Bengal Native Infantry, fourth son of the late Rev. Thos. Blackburne, rector of Prestwich, Lancashire, aged 24—20th ult, at Woolwich, MARY ANN, the eldest daughter of the late General GOTHER MANN, Colonel Commandant of the Royal Engineers, and Inspector-General of Fortifications, aged [illegible] ult, at Whitburn, near Sunderland, EMMA MARGARET, eldest surviving daughter of the late Rev. Prebendary SHARPE, of the Sanctuary, Westminster, aged 44—[illegible] at West Boldon, Durham, JOHN TWIZELL WAWN, Esq., formerly M.P. for South Shields, aged 56—22d ult, at his residence, Hanbury Hall, Worcestershire, THOMAS BOWATER VERNON, Esq., aged 26—26th ult, at his residence at Green Hill, GEORGE BARLOW, Esq., Mayor of Oldham.

# Markets.

COVENT GARDEN.—Oct. 1.

Pine Apples and Grapes continue plentiful. Pears consist chiefly of Marie Louise, Williams's Bon Chrétien, Louise Bonne of Jersey, Gansel's Bergamot, and Duchesse d'Angoulême. The best dessert Apples at present in the market are the Ribston and King of the Pippins. Peaches, Nectarines, and Plums are all but over. Oranges continue to realise 3s. 6d. and 10s. per hundred. Good Filberts may be had for 9d. per lb. Cabbages, Beans, Carrots, and Artichokes may be obtained in quantity. Cauliflowers are scarce. Potatoes realise from 6s. to 15s. per cwt. Cucumbers abundant. Cut flowers chiefly consist of Orchids, Gardenias, Kalosanths, Dahlias, Violets, Mignonette, China Asters, Heaths, and Roses.

FRUIT.

| | |
|---|---|
| Pine Apples, per lb., 5s to 7s | Currants, p. half-sieve, 4s to 7s |
| Grapes, per lb., 2s to 5s | Gooseberries, do., 5s |
| Mulberries, do., 1s | Cherries, per lb., 6d to 1s 6d |
| Melons, each, 2s to 4s | Apples, per ½ sieve, 1s 6d to 5s |
| Peaches and Nectarines, per doz., 8s to 8s | Pears, per ½ sieve, 4s to 8s |
| Figs, per doz., 2s | Oranges, per 100, 6s to 10s |
| Plums, per punnet, 1s to 2s 6d | Lemons, per doz., 1s to 1s 6d |
| | Filberts, p. 100 lbs., 50s to 60s |

VEGETABLES.

| | |
|---|---|
| Cauliflowers, per doz, 2s to 4s | Tomatoes, per ½ sieve, 2s to 3s |
| Green Peas, p. quart, 1s to 2s | Artichokes, per doz., 2s to 3s |
| Greens, per dozen bunches, 1s to 1s 6d | Beet, per doz., 1s 6d to 2s |
| Cabbages, do., 1s 6d to 2s 6d | Celery, p. bundle, 1s to 1s 6d |
| Rhubarb, p. bundle, 6d to 9d | Onions, p. half sieve, 2s to 4s |
| French Beans, p. punnet, 1s to 1s 6d | — Portugal, each, 2d to 4d |
| Potatoes, p. ton, 90s to 100s | Shallots, per lb., 6d to 8d |
| — per bus., 2s to 2s 9d | Garlic, per lb., 6d to 8d |
| — per cwt., 4s to 6s | Lettuces, Cabb., per score, 1s to 1s 6d |
| Carrots, per bunch, 1s | Endive, p. score, 1s to 1s 6 |
| Turnips, per bunch, 9d to 1s | Horse Radish, p. bun. 1s 6d to 4s |
| Spinach, p. sieve, 1s 6d to 2s | Mushrooms, p. pott, 9d to 1s 3d |
| Cucumbers, p. doz., 1s to 1s 6d | Parsley, p. 12 bunches, 2s to 4s |
| | Savory, do., 2d to 4d |

HOPS.—BOROUGH MARKET, FRIDAY, Sept. 30.

Messrs. Pattenden & Smith report that the demand for all sorts of fine Hops continues unabated at improving prices, and that the latter pickings are fast losing colour. Very little is said or done on the duty.

COAL MARKET.—FRIDAY, Sept. 30.

Bate's West Hartley, 14s. 3d.; Buddle's West Hartley, 15s. 3d.; Byass's Behside West Hartley, 15s. 3d.; Holywell, 15s. 6d.; Tanfield Moor, 12s. 9d.; Walls End Acorn Close, 17s. 6d.; Walls End Eden, 17s. 6d.; Walls End Gosforth, 16s. 3d.; Walls End Harton, 16s. 3d.; Walls End Ridsell, 16s. 3d.; Eden Main, 17s.; Walls End Braddyll's Hetton, 18s.; Walls End Haswell, 18s. 9d.; Walls End Hetton, 18s. 9d.; Walls End Benson, 16s. 6d.; Walls End Stewarts, 18s. 6d.; Walls End Cowpen, 17s. 9d.; Walls End Hedley Hall, 17s. 6d.; Walls End Kelloe, 18s. 6d.; Walls End South Kelloe, 17s. 9d.; Walls End Thornley, 16s. 9d.; Walls End Thorpe, 16s.; Walls End Whitworth, 18s. 6d.; Clarence and Dunfryn Malting, 22s. 6d.; Nixon's Dunfryn, 22s. 6d.; Powell's Dunfryn Steam, 22s.—81 ships at market.

HAY.—Per Load of Thirty-six Trusses.

SMITHFIELD, THURSDAY, Sept. 29.

| | | | | | |
|---|---|---|---|---|---|
| Prime Meadow Hay | 70s | to 75s | Clover | 90s | to 100s |
| Superior do. (old) | 76 | 80 | New Clover | — | — |
| Inferior do. | 50 | 60 | Second cut do. | 75 | 80 |
| New do. | — | — | Straw | 25 | 28 |
| Rowen | 60 | 70 | | | |

DAVIS & Co.

CUMBERLAND MARKET, THURSDAY, Sept. 29.

| | | | | | |
|---|---|---|---|---|---|
| Sup. Meadow Hay | 80s | to 88s | Inferior Clover | 70s | to 80s |
| Inferior do. | 60 | 74 | New do. | — | — |
| New do. | — | — | Straw | 26 | 30 |
| Superior Clover | 96 | 105 | | | |

JOSEPH BAKER.

WHITECHAPEL, THURSDAY, Sept. 29.

| | | | | | |
|---|---|---|---|---|---|
| Fine old Hay | 78s | to 80s | Fine old Clover | 100s | to 105s |
| Inferior do. | 60 | 72 | Inferior do. | 80 | 90 |
| Prime New Hay | 80 | 88 | Fine new Clover | — | — |
| Inferior do. | 50 | 70 | Fine 2d cut | 75 | 85 |
| Straw | 26 | 30 | Inferior do. | 60 | 70 |

BRITISH WOOLS.—LONDON, FRIDAY, Sept. 30.

The prices of all descriptions of wool continue firm, the stocks moderate; in fact very small indeed for the season of the year. The consumers are all fully employed and likely to be so for some time to come, and the price of wool is more likely to advance than otherwise.

| | s. | d. | | s. | d. | | s. | d. | | s. | d. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| South-down Hoggets | 1 | 8 | to | — | — | Leicest. Wethers | 1 | 7 | to | 1 | 8 |
| Half-bred ditto | 1 | 8 | — | — | — | Ditto Hoggs | 1 | 7 | — | 1 | 8 |
| Down Ewes | 1 | 6 | — | — | — | Combing Skins | — | — | — | — | — |
| Kent Fleeces | 1 | 7 | — | — | — | Blanket ditto | — | — | — | — | — |
| | | | | | | Flannel Wool | 1 | 3 | — | 1 | 4 |

METROPOLITAN CATTLE MARKET.

MONDAY, Sept. 26.

The supply of Beasts is large, but the quality is only middling, consequently prices are not lower, although some inferior descriptions cannot be sold. The number of Sheep is small, and [illegible] the best mutton that we can not offer a [illegible], although there is a disposition to take lower rates. Calves are selling about the same as on Thursday. From Germany and Russia there are 1731 Beasts, 5470 Sheep, 37 Calves, and 40 Pigs; from Scotland, 99 Beasts; from Ireland, 650; and [illegible] from the northern and midland counties.

| | s. | d. | | s. | d. | | s. | d. | | s. | d. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Best Scots, Herefords, &c. | 4 | 8 | to | 4 | 10 | Best Long-wools | 4 | 6 | — | 4 | 8 |
| Best Short-horns | 4 | 6 | — | 4 | 8 | Do. Shorn | — | — | — | — | — |
| 2d quality Beasts | 3 | 6 | — | 4 | 0 | Ewes & 2d quality | 4 | 0 | — | 4 | 4 |
| Best Downs and Half-breds | 5 | 0 | to | 5 | 2 | Do. Shorn | — | — | to | — | — |
| Do. Shorn | — | — | | — | — | Lambs | — | — | — | — | — |
| | | | | | | Calves | 4 | 6 | — | 4 | 8 |
| | | | | | | Pigs | 3 | 6 | — | 4 | 4 |

Beasts, 8810; Sheep & Lambs, 28,160; Calves, 110; Pigs, 410.

THURSDAY, Sept. 29.

The number of Beasts is large but the average quality only middling. Prices are about as on Monday last. The supply of Sheep is small, so also is the demand. A few of the choicest descriptions are more readily disposed of; in other respects trade is no better. Good Calves are in demand. Our foreign supply consists of 260 Beasts, 1250 Sheep, and 35 Calves. The number of Milch Cows is 114.

| | s. | d. | | s. | d. | | s. | d. | | s. | d. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Best Scots, Herefords, &c | 4 | 8 | to | 4 | 10 | Best Long-wools | 4 | 6 | — | 4 | 8 |
| Best Short-horns | 4 | 4 | — | 4 | 8 | Do. Shorn | — | — | — | — | — |
| 2d quality Beasts | 3 | 6 | — | 4 | 6 | Ewes & 2d quality | 4 | 6 | to | 4 | 4 |
| Best Downs and Half-breds | 5 | 0 | — | 5 | 2 | Do. Shorn | — | — | — | — | — |
| Do. Shorn | — | — | | — | — | Lambs | — | — | — | — | — |
| | | | | | | Calves | 4 | 6 | — | 4 | 8 |
| | | | | | | Pigs | 3 | 6 | — | 4 | 8 |

Beasts, 1344; Sheep & Lambs, 5520; Calves, 207; Pigs, 220.

MARK LANE.—MONDAY, Sept. 26.

The supply of English Wheat to this morning's market was small, the quality indifferent. Fine samples brought the prices of this day se'nnight, but others met a slow sale. The attendance was good, and the trade [illegible] Foreign was in more general request, but being held for some advance the amount of business transacted was not large. Barley of all descriptions is firm at late rates. Beans sell slowly. Hog Peas are mastered in value; white are inquired for, and bring rather more money. Russian Oats being in sight advance upon the prices of this day week, but other descriptions are rather cheaper. There is no alteration in the value of Flour.

| Per Imperial Quarter. | s. | d. | | s. | d. |
|---|---|---|---|---|---|
| Wheat, Essex, Kent, & Suffolk | White | 34 | 46 | Red | 36 | 43 |
| — — fine selected runs | ditto | 42 | 44 | Red | 38 | 44 |
| — — Talavera | | 40 | 50 | | | |
| — Norfolk | | — | | Red | — | |
| — Foreign | | 38 | 52 | | | |
| Barley, grind. & dist., 24s to 30s | Chev. | 38 | 44 | Malting | 34 | 40 |
| — Foreign | grinding and distilling | 23 | 28 | Malting | — | |
| Oats, Essex and Suffolk | | 19 | 22 | | | |
| — Scotch and Lincolnshire | Potato | 23 | 25 | Feed | 19 | 24 |
| — Irish | Potato | 24 | 25 | Feed | 19 | 22 |
| — Foreign | Poland and Brew | 23 | 26 | Feed | 17 | 24 |
| Rye | | — | | Foreign | — | |
| Rye-meal, foreign | | — | | | | |
| Beans, Mazagan | 34s to 39s | Tick | 35 | 41 | Harrow | 35 | 41 |
| — Pigeon | 41s — 45s | Winds. | — | | Longpod | — | |
| — Foreign | | Small | 38 | 46 | Egyptian | — | |
| Peas, white, Essex and Kent | Boilers | 36 | 41 | Suffolk | 35 | 45 |
| — Maple | — s to — s | Grey | 33 | 35 | Foreign | 30 | 35 |
| Maize | | White | — | | Yellow | — | |
| Flour, best marks delivered | per sack | 37 | 43 | | | | |
| — 2d do. | ditto | 27 | 27 | Country | 27 | 37 | |
| — Foreign | per barrel | 18 | 27 | Per sack | 30 | 37 | |

FRIDAY, Sept. 30.

The weather has been boisterous, with much rain during the past week, and continues wet. Although the value of Wheat, excepting in Liverpool, has been generally well maintained, there has been a want of inactivity in the trade generally. Spring Corn of all kinds has been a dull sale, and each description is quoted rather lower in many markets. Less business has prevailed in the Flour trade, but prices are unaltered. The arrivals of grain and seed from vessels from Southern Europe off the coast are considerable this week, as are also the sales; the sales include Berdiansk Wheat at 43s. 8d. and Taganrog Ghirka at 42s. 3d. to 42s. 6d. per 492 lbs.; Ibrail Maize at 26s. to 26s. 10½d. per 480 lbs.; Galatz at 29s. to 29s. 3d., Foxanian at 28s. 3d., Odessa at 27s. 3d. to 28s. 3d., each per 492 lbs.; Egyptian Barley at 22s., c. f. and i., Odessa at 21s. 6d. per 400 lbs.; Taganrog Oats at 17s. per qr.; Odessa Linseed at 46s. 6d. per qr. delivered. The arrivals of English grain and foreign Barley and Oats are to a fair extent, but small of Wheat. This morning's market was badly attended, and the little English Wheat on the stands met a slow sale at Monday's prices; we observe no alteration in the value of foreign, which is held firmly, although the inquiry is limited; in Black Sea cargoes on the coast there has been again an extensive business, at rather more money. Barley,

Beans, and Peas bring Monday's quotations. For Russian Oats there is a fair demand at an advance of 6d. per qr.; other descriptions are unaltered in value.

ARRIVALS FROM SEPT. 26 TO SEPT. 30.

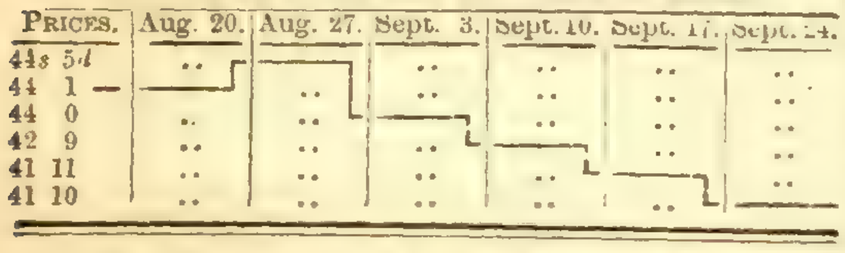
| | Wheat. | Barley. | Oats. | Flour. |
|---|---|---|---|---|
| English .. | 2010 qrs. | 1720 qrs. | 740 qrs. | 560 sks. |
| Irish .... | — ,, | — ,, | 4500 ,, | — ,, |
| Foreign .. | 4780 ,, | 3720 ,, | 15270 ,, | 120 ,, 500 brls. |

LIVERPOOL, Tuesday, Sept. 27.—With the exception of about 13,000 qrs. of Indian Corn (from the Mediterranean) the week's arrivals of grain and Flour are very moderate; but notwithstanding the market is amply supplied with samples from granary, and we only want more customers. No change of moment has occurred in prices during the week, and buyers have taken merely sufficient to satisfy the regular consumptive demand. The market to-day was only noticeable by steadiness in price and a moderate demand. No change therefore is made in the quotations of last week.

FRIDAY, Sept. 30.—The grain market was thinly attended. Wheat in slow request, owing to a required advance of 2d. per cental. Flour steady. Indian Corn rather cheaper. Egyptian Beans, 33s. Other articles quiet, and without quotable change in value.

| AVERAGES | Wheat. | Barley. | Oats. | Rye | Beans. | Peas. |
|---|---|---|---|---|---|---|
| Aug. 20.. | 44s 1d | 31s 1d | 25s 5d | 30s 8d | 44s 6d | 37s 8d |
| — 27.. | 44 5 | 32 11 | 25 5 | 32 8 | 44 6 | 37 9 |
| Sept. 3.. | 44 0 | 34 8 | 24 5 | 30 11 | 43 5 | 38 10 |
| — 10.. | 42 9 | 33 9 | 23 0 | 31 6 | 41 3 | 37 10 |
| — 17.. | 41 11 | 35 3 | 21 7 | 30 6 | 40 4 | 38 8 |
| — 24.. | 41 10 | 35 5 | 21 7 | 30 6 | 40 4 | 38 5 |
| Agg. Aver. | 43 2 | 33 10 | 23 7 | 31 2 | 42 9 | 38 2 |

FLUCTUATIONS IN THE LAST SIX WEEKS AVERAGES.




## TO GARDENERS, NURSERYMEN, ETC.

PARTNERSHIP.—An opportunity offers to a well-disposed Business Man, who is willing to take a Share in a well established and flourishing Nursery and Seed Business in the South.—Z. Z., Post Office, Basingstoke, Hants.

HORTICULTURAL PUPIL.—A young Man furnished with good Certificates residing in Belgium, who has been employed in some of the principal Horticultural establishments in the country, is desirous of continuing his profession in one of the London Botanical Gardens.—T. A., Office de Publicité, 39, Montagne de la Cour, Brussels.

WANTED, by a gentleman in the County of Oxford, an ARTICLED PUPIL. A limited number of Boarders are taken. Terms moderate.—Apply to ALPHA, Kingham, Oxon.

WANTED, A MASTER AND MATRON (without family preferred) for an Agricultural Boarding School, the Master to teach Gardening, &c., the Matron to Cook, &c., for the Boys. Wages 50*l*., with house and other advantages.—Address Miss COOKE, Post Office, Great Malvern.

WANTED, a persevering WORKING FOREMAN in an establishment near a large town, a portion of which is Nursery, the other portions being Vineries, Cucumber Houses, Hardy Fruit, and Market Garden, the proprietor of which desires a competent, trustworthy Man, who wishes for a permanent situation.—Apply by letter, stating terms, reference, &c., to GEO. PARSONS, Nurseryman, Brighton.

WANTED, A GARDENER, as In-door Servant, competent to take care of Land and Cow. None need apply without good references.—Address A. B., Post Office, Perry Barr, near Birmingham.

WANTED, an industrious GARDENER. One with a strong Lad would be preferred. Wife for Laundry. A good Cottage. Apply personally.—WM. CLARK, 25, Bishopsgate Within, E.C.

WANTED, in a small Nursery, a working, persevering YOUNG MAN, who understands the Propagation and Growing of a General Collection of Plants, Early Forcing, &c.—Apply by letter, stating terms, references, &c., O. Z., Post Office, Clifton, Bristol.

WANTED, on a Small Farm in the Midland Counties, a MAN and his WIFE, without incumbrance. The man to be thoroughly acquainted with the agriculture of the district, and to act as FOREMAN and HEAD LABOURER, to take charge of and understand the Buying and Selling of Corn and Farming Stock in general, and a good shepherd. The wife to manage the Dairy (if required) and Poultry. Wages for the two 18*s*. per week, and Cottage.—Address in man's own handwriting, to A. B., Journal Office, Leicester.

WANTED, on a Small Farm in the Midland Counties, a MAN and his WIFE, without incumbrance; the Man to act as FOREMAN or HEAD LABOURER, and to take charge of the Stock; the Woman to manage Dairy and Poultry. The Man must be a good Shepherd, and be able to kill and dress Sheep and Pigs. Wages 1*l*. per week for the two, and Cottage.—Address Y. Z., Post Office, Leicester, in own handwriting.

WANTED, a first-rate hand to undertake the PACKING DEPARTMENT.—Must be a strong, active, and good Workman, who has had great practice. Wages, 18*s*. per week. None need apply whose character will not bear strict investigation.—RICHARD SMITH, St. John's Nurseries, Worcester.

WANTED, on a gentleman's Farm, under a Bailiff, a good COWMAN, who understands also the Breeding, Rearing, and Feeding of Cattle and Sheep, and can Slaughter Sheep and Pigs.—Apply by letter, with full particulars, to H. P., 328, Regent Street, W.

## WANT PLACES.—Letters to be Post Paid.

GARDENER (HEAD).—Age 34, married, two children; perfectly understands his profession. Wife acquainted with the management of a Dairy. Seven years' character from present situation, which he is only leaving through the death of his master.—J. G., Mr. Corner, Bookseller, Wellington, Somerset.

GARDENER (HEAD).—Age 30, single; has a thorough knowledge of his profession, including Pines, Vines, Melons, &c.; also Stove and New Holland Plants. Has had good practice in laying out Grounds, &c. Character will bear the strictest investigation.—A. B., Mr. Chantler, Fruiterer, &c., Bell Street, Reigate, Surrey.

GARDENER (HEAD).—Age 36; thoroughly understands his profession. Unexceptionable character from late and present employers.—H. H. SMITH, Seedsman, High Street Cliffe, Lewes, Sussex.

GARDENER (HEAD).—Age 30, married, one child; thoroughly understands his profession in all its branches. Wife can take charge of Laundry if required. Good character.—M. M., Mr. Taylor, Gardener, Shrubland Park, Ipswich.

GARDENER (HEAD).—Age 30, married; thoroughly competent in every branch of his profession. Five years' good character.—J. P., H. Woodyer's, Esq., Grafham House, Guildford, Surrey.

GARDENER (HEAD).—Age 33, married, no incumbrance; understands Vines, Cucumbers, Melons, Flower and Kitchen Gardens. Wife no objection to make herself useful.—B. M., 3, Paragon Terrace, Surbiton, Kingston, Surrey, S.W.

## TO NOBLEMEN AND GENTLEMEN.

GARDENER (HEAD).—Age 32; has had great experience in every branch of his profession. Unexceptionable references as to character and ability can be obtained from his present and former employers.—M. W., Mr. Barnes, Camden Nursery, Camberwell, Surrey, S.

## TO NOBLEMEN AND GENTLEMEN.

GARDENER (HEAD).—Age 30; first-class working Gardener; experienced in the Management of the Vinery, Greenhouse, Hothouse, and Forcing Department, &c., as well as the Kitchen and Flower Gardens. Highly recommended, being steady, honest, and industrious.—J. R., Royal Botanic Gardens, Regent's Park, London, N.W.

GARDENER (HEAD) OR UNDER STEWARD.—Age 39, well educated; wishes for re-engagement in either or both above capacities; upwards of 25 years' experience. First-class references. No objection to go abroad.—Z., Post Office, Bath.

GARDENER.—A gentleman can with confidence recommend an active man (age 27, single), who has a good practical knowledge of his profession. Can be well recommended for ability and general good conduct. Four years' good character—A. L., Muskett, Seedsman, High Street, Clapham, Surrey, S.

GARDENER.—WILLIAM STRUDWICK, married, no incumbrance; has lived four years with the Countess de Morello; can undertake the management of Kitchen and Flower Gardens and small quantity of Land. Wife can manage small Dairy.—W. S., Post Office, Virginia Water, Staines.

GARDENER, where two or more are kept.—Age 30, married; understands Forcing, Fruits, and Vegetables, is a good Kitchen and Flower Gardener, and has exhibited Plants and Fruit successfully at the London Exhibitions.—W. W., Messrs. Low & Co., Clapton Nursery, London, N.E.

GARDENER.—Age 45, married, no incumbrance; thoroughly understands his profession, growing Orchids and Ferns, and all kinds of Hothouse and Greenhouse Plants, Forcing of all kinds of Vegetables and Fruits; also laying out of Ground. Good character.—A. B., 35, High Street, Portland Town, St John's Wood, London N. W.

GARDENER.—Age 30, married; thorough knowledge of his profession in all its branches: the management of Pines, Vines, Hothouse, Greenhouse, Flower, Fruit, and Kitchen Gardens, Early and Late Forcing, and can grow Fruit and Shrubs for show if required. The highest testimonials as to character and ability. Wages 1*l*. per week with cottage.—W. C., the Hyde Post Office, Edgware Road, Middlesex, W.

GARDENER.—Messrs. Low, Nurserymen, Upper Clapton, London, N.E., wish to recommend to any nobleman or gentleman in want of a good Gardener, a young Man who has lived in some of the best Nurseries and Noblemen's Gardens in England and Scotland; thoroughly understands Early and Late Forcing, also the Cultivation of Orchids, Ferns, Stove and Greenhouse Plants, with the Management of Kitchen and Flower Gardens. Can take charge of Woods and Plantations, if required. No objection to any part of the United Kingdom.—Address as above.

GARDENER (UNDER).—Age 35, single; understands Early and Late Forcing, Vines, Flower and Kitchen Gardens. Highly recommended.—J. B., Mrs. Bryant, King Street, Maidstone, Kent.

PROPAGATOR AND GENERAL PLANT GROWER.—A young Man of considerable experience; thoroughly understands the Propagation of Hard and Soft-wooded Plants, Grafting Camellias, Azaleas, Rhododendrons, Conifers, and Roses, &c.—B. C., Mr. Bunney's Cottage, Maryland Point, Stratford, Essex, E.

## TO NURSERYMEN.

BUDDER, GRAFTER, PACKER, &c.—A young Man wishes to engage as above in a general Nursery Business. Has had four years' practical experience in one of the largest nurseries in the Trade. Good reference if required.—A. B., Post Office, Lower Wick, St. John's, Worcester.

KNIFEMAN.—Middle aged, single; acquainted with Gardening in general, but more especially the Pruning, Training, and Management of Wall, Bush, and other Fruit Trees. Good character.—T. B., Kane's Nursery, Kensington, W.

## TO NOBLEMEN, ESTATE AGENTS, AND OTHERS.

STEWARD.—A highly respectable and industrious person, who perfectly understands the practical mode of Cultivation and Management of Land, Rearing Stock, and Keeping Accounts. Can produce testimonials of the highest class from the principal landowners and occupiers in the county of Kent.—Mr. G. MANDY, Farningham, Kent.

FARM STEWARD OR BAILIFF.—Single; a native of Scotland; long practical experience. Can undertake the management of a large Demesne and Farm or Superintend an Estate. Is accustomed to Light and Heavy Land; understands the Purchase and Sale of Live Stock, the Erection and Repairs of Farm Buildings, Keeping Accounts, &c. Good references. A moderate salary accepted.—D. G., Messrs. Thomas Gibbs & Co., Half-Moon Street, Piccadilly, W.

BAILIFF OR FARM MANAGER.—Age 30; respectably connected, and well versed in every branch of cultivating both Heavy and Light soils on the most approved system, Draining, the management of Woods, &c.; Rearing, Selling, and Purchasing of Stock. The highest references and testimonials can be produced.—E. G., Mr. W. A. Oakley, Land Agent, 8, Regent Street, Waterloo Place, London, W.

FARM BAILIFF.—Married, no incumbrance; thoroughly understands Farming in all its branches, the Breeding, Rearing, and Management of all kinds of Stock. A good Accountant. Wife can undertake the Management of a Dairy and Poultry. Good references.—A. B., Mr. Tubb's, Wimbledon, Surrey, S.W.

## TO SEEDSMEN.

SHOPMAN.—Age 21; has had 7 years' experience in first-class houses. References unexceptionable.—J. L., 15, Tavistock Street, Plymouth.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JOSEPH AMADIO'S Improved Compound MICROSCOPE, 2*l*. 2*s*.; Students', 3*l*. 13*s*. 6*d*.

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SCOTT ADIE,

115, Regent Street, corner of Vigo Street. Patterns sent free.

A SINE-QUA-NON FOR RAINY WEATHER AND ALL TIMES.—BERDOE'S UNIVERSAL CAPES effectually exclude rain, yet freely admit air. The extensive sale of these respectable and economical garments is their best recommendation.—W. BERDOE, Tailor, 96, New Bond Street, W.; and 69, Cornhill (north side), E.C.

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METCALFE, BINGLEY, AND CO.'S New Pattern and Penetrating Tooth Brushes, Penetrating unbleached Hair Brushes, Improved Flesh and Clothes Brushes, and genuine Smyrna Sponges; and every description of Brush, Comb, and Perfumery for the Toilet. The Tooth Brushes search thoroughly between the divisions of the Teeth and clean them most effectually—the hairs never come loose. M., B., and Co. are sole makers of the Oatmeal and Camphor and Orris Root Soaps—sold in Tablets (bearing their names and address) at 6*d*. each; of METCALFE'S celebrated Alkaline Tooth Powder, 2*s*. per box; and of the New Bouquets.—Sole Establishment, 130B and 131, Oxford St. 2d and 3d doors west from Holles St., London, W.

WHITE AND SOUND TEETH are indispensable to personal attraction and to health and longevity by the proper mastication of food. ROWLANDS' ODONTO, or Pearl Dentifrice, compounded of oriental ingredients, is of inestimable value in improving and beautifying the teeth, strengthening the gums, and in rendering the breath sweet and pure. It eradicates tartar from the teeth, removes spots of incipient decay, and polishes and preserves the enamel, to which it imparts a pearl-like whiteness. As the most efficient and fragant aromatic purifier of the breath, teeth, and gums ever known, ROWLANDS' Odonto has for a long series of years occupied a distinguished place at the toilets of the sovereigns and the nobility throughout Europe: while the general demand for it at once announces the favour in which it is universally held.—Price, 2*s*. 9*d*. per box. CAUTION.—The words "ROWLANDS' Odonto" are on the Label, and "A ROWLAND & SONS, 20, Hatton Garden," engraved on the Government stamp affixed on each box.—Sold by them, and by Chemists and Perfumers.

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# The Gardeners' Chronicle Newspaper.

*SATURDAY, OCTOBER* 8, 1859.

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MECHI AND BAZIN'S DESPATCH BOX-WRITING CASES in Russia and Morocco leather are made in 20 different forms and sizes fitted with real Brunah and Claibb Locks. Also others of a cheaper description. Prices vary from 1*l.* to 50*l.* Portable writing and dressing cases, brush cases, courier bags, pic-nic cases, wicker luncheon baskets, sporting knives, wine and spirit flasks, &c.—112, Regent Street, W, and 4, Leadenhall Street, E.C.

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## News of the Week.

MR. BUCHANAN, the President of the United States, has despatched General SCOTT, Lieutenant-General of the American army, to British Columbia, for the purpose of settling the differences which have arisen from General HARNEY's seizure of the Island of San Juan. The selection of an officer of so much experience and judgment as General SCOTT for this delicate and important mission, is regarded at Washington and New York as a proof of the earnest desire of the United States Government to bring the question at issue to a pacific settlement. Mr. BUCHANAN, as Secretary of State, negotiated the treaty of 1846, and is therefore well acquainted with its provisions and with the grounds upon which Great Britain claims the Island of San Juan. This treaty, which concluded by an amicable compromise the controversy between Great Britain and the United States in regard to the territory west of the Rocky Mountains, provided that the line of frontier should be continued westward from a point already determined by a previous treaty "along the 49th parallel of north latitude to the *middle of the channel which separates the continent from the Island of Vancouver*, and thence southerly through the middle of the said channel and of Fuca Straits to the Pacific Ocean." It further provided that "the navigation of the whole of the said channel and straits south of the 49th parallel of north latitude should remain free and open to both parties." Now it appears that there are two channels between the American continent and Vancouver's Island,—the one a broad estuary forming a portion of the Straits of Fuca and now called the Gulf of Georgia, and the other a narrow passage called the Canal de Haro, separating the island of San Juan from Vancouver's Island. A line drawn through the middle of the former leaves the Island of San Juan far within the limits of what have hitherto been considered as British waters; while the Canal de Haro lies far to the westward of the mid-channel between Vancouver's Island and the continent, and is not struck anywhere by the 49th parallel of latitude. The question at issue is therefore whether the line which the treaty intended to be continued through the "middle of the channel" is to be drawn through the narrow passage which separates Vancouver's Island from San Juan, or through the broad gulf which lies between it and the continent. The American Commissioners contend that the narrow passage was intended to be the boundary, while the British Commissioners assert that the existence of such a passage was unknown to the statesmen who negotiated the treaty of 1846, and that by giving to Great Britain and the United States the free navigation of the channel which was to be the boundary of their respective territories, the treaty manifestly referred to the broad gulf or estuary which divides the empires. General HARNEY's seizure of the island while this question was still under discussion might easily have brought about a collision with our small military force in British Columbia and our more powerful naval squadron in the Pacific; but Admiral BAYNES, the commander of the latter, though urged by Governor DOUGLAS to take active measures for the expulsion of the Americans, declined to resort to hostilities without orders from the Home Government. It is now hoped that on receiving General SCOTT's report, Mr. BUCHANAN will disavow the seizure of the island, and that all further disputes will be prevented by bringing the frontier question to a speedy settlement.

Telegraphic despatches in anticipation of the Bombay and Calcutta mails reached town yesterday. It is reported from Calcutta that 8000 of the disbanded Indian army have accepted the bounty and consented to go to China. The Nana and Begum are in Nepaul, Feroze Shah is in Central India, and disturbances seem imminent at Jeypore and on the coast of Kattywar.

The Revenue Returns for the year and quarter, which were published on Saturday, proved to be more favourable than was stated in our last Number, the increase for the year amounting to 828,798*l.*, and the increase on the quarter to 300,724*l.*

## Home News.

THE QUEEN IN SCOTLAND.—On Friday week the Queen, accompanied by the Princess Helena, drove to the Abergeldie Woods. The Prince Consort and the Prince of Wales went to the Abergeldie Woods, which were driven for deer. In the evening her Majesty gave a small dance to which several of the neighbouring gentry were invited. On Saturday the Queen drove in the neighbourhood of the Castle. The Prince Consort went out deer-stalking. The Prince of Wales rode to Invercauld. On Sunday the Queen, Prince Consort, the Prince of Wales, and Princess Alice attended Divine service in the parish church of Crathie; the Rev. Dr. Lee officiated. On Monday the Queen, accompanied by the Prince of Wales and Princess Alice, rode to Lochnagar. The Prince Consort went out deer-stalking. On Tuesday the Queen, Prince Consort, the Prince of Wales, and Princess Alice went to Balloch Bui, where the woods were driven for deer. Sir G. C. Lewis left the Castle.

THE DUCHESS OF KENT is still at Norris Castle, in the Isle of Wight. Her Royal Highness's health is quite re-established, and she will return to Frogmore towards the end of this month.

THE PRINCE OF WALES.—Dr. Enrico Lemmi, who distinguished himself in the Sardinian army under King Charles Albert in the war of 1848, and was subsequently Secretary to the Sardinian Embassy at Constantinople, has been appointed Italian tutor to the Prince of Wales.

PARLIAMENTARY MOVEMENTS.—A new writ has been issued for Ayrshire, vacant by the death of Lord James Stuart. The candidates at the field are Sir Campbell, of Craigie, and Sir James Fergusson, of Kilkerran, the former in the Liberal, the latter in the Conservative interest.

THE GOVERNORSHIP OF THE CAPE.—It was stated by the managing director of the Cape Town Railway, at a meeting of the Company on Friday, that Sir George Grey is no longer the "late" Governor of the Cape, but is forthwith to return to the colony as governor, having been reinstated in his office from which he was recalled by the Derby Administration.

THE REVENUE.—The Revenue returns for the year and quarter ended the 30th September show a net increase of 828,798*l.* on the year, and a net increase of 300,724*l.* on the quarter. The year's account shows an increase in the Customs of 1,335,935*l.*, Excise, 264,000*l.*, Stamps, 259,638*l.*; Taxes, 53,967*l.*, Post Office, 230,000*l.*; Crown Lands, 4639; Miscellaneous, 157,138*l.*; the only item in which there is a decrease being the Income Tax, in which there is a decrease of 2,166,519*l.* The quarter's account shows an increase in the Customs of 461,144*l.*, Excise, 464,000*l.*; Stamps, 106,000*l.*; Taxes, 5000*l.*; Post Office, 35,000*l.*; Crown Lands, 1639*l.* On the other hand there is a decrease in the Income Tax of 580,000; Miscellaneous, 191,759*l.*

## Foreign.

FRANCE.—The *Constitutionnel* of Thursday contains an article signed by its chief editor, stating that "the preliminaries of peace of Villafranca had rescued Italy from every foreign intervention, no matter under what name or from what quarter it might come. France confined herself to giving the Italians proper advice, which, if followed by them, would have assured the prosperity of Central Italy; but, having in vain offered advice, she cannot go so far as to dictate orders to Italy." The Imperial Court will quit Biarritz on the 10th inst., and arrive at Bordeaux on the following day, in accordance with an invitation from the municipality of that city. It was confidently expected that the Emperor, as on a former occasion, would take advantage of this visit to make a speech on his foreign policy; but his Majesty has declined to be present at a banquet offered him by the Prefect as an opportunity for making the speech. The Emperor and Empress, however, will be present at a grand ball to be given in their honour on the evening of the 11th, and will arrive in Paris on the 12th inst. The Imperial Prince will travel direct from Biarritz to Paris. Lord Cowley left Paris on Sunday for Biarritz, in order it is said to arrange with Count Walewski for the joint expedition to China. Marshal Canrobert and Marshal the Duke of Magenta have quitted Paris for Nancy and Lille to resume the command of their military districts. Generals Changarnier and Bedeau have availed themselves of the amnesty and returned to Paris. The *Patrie* states that the Mediterranean squadron has received orders to put to sea immediately, but is unacquainted with the object and duration of the expedition. A French force of about 20,000 men has been concentrated on the frontiers of Morocco under the command of General Martimprey, and it is said that their operations will not be confined to the protection of the frontiers of Algeria, but that they will occupy a portion of the territory of Morocco, of which Ouchda is the centre, and from which point the recent incursions by the Moors have been made. It is said that a special *corps d'armée* of 15,000 men is to be formed, including three new regiments of Zouaves, for the expedition to China. Voluntary enlistment, it is thought, will go far towards composing them, but draughts will also be made from regiments of the line. It is further stated that a portion of the French troops intended for China will embark at Marseilles for Egypt, and be conveyed thence to their destination in British transports.

SPAIN.—The Cortes were to be opened on Saturday without the usual speech by the Queen. The Madrid journals announce that provision will be made in the budget for an army of 100,000 men, and that discretionary power will be left to the Government to increase this number. It is asserted that England will not offer any opposition to the measures Spain may be obliged to take against Morocco.

SWITZERLAND.—The treaty of Zurich will be signed in the course of a few days, in consequence of instructions from Biarritz. There will be three instruments of peace. The first, signed by the Plenipotentiaries of the three Powers, concerns only the conclusion of peace and frontier line; the second, Austro-French, refers to the cession of Lombardy, and renews the stipulations of the preliminaries of Villafranca; the third, Franco-Sardinian, sanctions the cession of Lombardy. It is asserted that Austria has consented to reduce the debt of Lombardy to be borne by Piedmont from 400 millions to little more than half that sum. A congress will be accepted for the settlement of the affairs of Central Italy.

DENMARK.—At the sitting of the Council of the Kingdom on Wednesday, the President in answer to several questions said that the Government was making continued efforts to join Holstein constitutionally to the remainder of the kingdom.

PRUSSIA.—The railway bridge over the Rhine at Cologne was inaugurated on the 3d inst. with great ceremony, in the presence of the Prince of Prussia.

SAXE-COBURG.—The Duke of Saxe-Coburg-Gotha

has returned an answer to the remonstrance which was made to him by the Court of Vienna on the 4th ult., in which it is said that he has maintained his own independence and that of his people with becoming dignity. He has also called upon the Prussian Government to take such measures as may be necessary to prevent the recurrence of any similar interference on the part of Austria with any of the other States of the German Confederation.

AUSTRIA.—The Archduchess Sophia, mother of the Emperor of Austria, is about to leave Vienna for the Palace of Possenhofen, in Bavaria, with the intention of remaining there for an indefinite period. The Viennese papers say that this retirement of the Princess is regarded as a proof that the influence of the ultra-catholic party at Vienna is on the decline.

BAVARIA.—It is said that the Grand Duke Ferdinand of Tuscany and his younger brothers are expected at Munich, to take up their permanent residence in that capital, until the affairs of Italy are definitively settled. The King of Bavaria, in recognition of the services of the Messrs. Schlagintweit, whose valuable collections made during a three years' exploratory journey in Upper India and Thibet are deposited in the India House in London, has conferred upon them titles of nobility.

ITALY.—A fatal disturbance occurred at Parma on Wednesday last. Colonel Anviti, late president of the Military Commission of the ex-Duchy was discovered to have arrived at Parma in disguise, by the Bologna road. He had come for the purpose of getting up a conspiracy, and had remained concealed until Wednesday, when he was recognised by the populace. Heroic efforts were made to save him, but the troops being quartered in the citadel, which is at half an hour's distance, and the door of the guard-house, in which four or five carabineers were stationed, and in which he had taken refuge, having been forced, Colonel Anviti was killed. The greatest tranquillity now reigns in the city. The following is an abstract of the circular note which has been sent by the Sardinian Minister o Foreign Affairs to the diplomatic agents of that country at the Courts of London, Paris, Berlin, and St. Petersburg, for the purpose of communicating it to those Governments:—

"It commences by forcibly setting forth arguments in favour of the formation of a strong and independent Kingdom of Upper Italy, sufficiently powerful to counterbalance the influence of Austria, and keep in check her domineering tendencies. The constitution of such a State would, it urges, dispel the apprehensions and tranquillise the mind of Europe, at the same time that it fulfilled the just wishes, so loudly and unanimously expressed, of those Italian countries which have lately shaken off tyrannical Governments. The note points out the impossibility of Piedmont's resisting Austria should that Power at any future time think fit to attack her, unless she be put in a more favourable position for so doing than has hitherto been secured to her. Intrenched in Venice and the quadrilateral, Austria will always press upon Italy, if there be not in that country a Power capable of inspiring her with respect. With Austrian fortresses overlooking her Lombard provinces, and with Austrian Dukes established by Austrian influence in the other countries adjacent, Sardinia would find herself hemmed in by hostile Governments, and her resistance to an attack might be desperate but must be ineffectual. The note points out that peace made on such bases would be in reality only a truce, to be broken by Austria whenever she saw what she held to be a favourable opportunity. It then calls attention to the fact that the people of Central Italy, with a true instinct of the necessities of the case, have shown by their recent conduct how indispensable they deem the formation of the Kingdom of Upper Italy. Forgetting the long standing feelings of rivalry, and discarding old jealousies, the different States have voted one after the other with the utmost order and unanimity their own annexation to Piedmont. Their wish, the note says, has the strongest claim to respect; its realisation would not be the sanction or introduction of a new and subversive principle, or of one opposed to European law and precedent, since the principle that would be recognised has already been acted upon in various European countries, in Greece, in Belgium, and in the Danubian Principalities, and since it is to its application that the present Emperor of the French owes his crown, and the present dynasty in England their first introduction as sovereigns of Great Britain."

It is officially announced that the French army of Italy will winter in Lombardy. General Ulloa and M. Montanelli have arrived in Paris from Florence. A public proclamation of the Provisional Government was posted up at Florence on Saturday announcing that from this time forward all Government powers will be exercised in the name of Victor Emmanuel, the King chosen by the people. Another proclamation announces the adoption of the monetary system of Sardinia, and states that in future the coinage of Tuscany will bear the effigy of Victor Emmanuel. The Savoy cross and Sardinian standard have been hoisted on the Palazzo Vecchio. The Governor of Bologna, on the proposition of the Minister Marquis de Pepoli, has decreed the abolition of the customs line on the frontiers of Modena and Tuscany, and the adoption of the customs tariff of Sardinia. Accounts from Rome state that the Pope on being informed of the recent answer of the King of Sardinia to the deputation of the National Assembly of Bologna, gave orders that the Count Vittoria de la Minerva, Minister of Sardinia at Rome, should receive his passports. This of course implies a complete rupture of diplomatic relations between Rome and Sardinia. The Papal garrison at Ancona has been reinforced, and there is a strong impression that a collision with the army of Central Italy is at hand. General Fanti, who was recently appointed to the command-in-chief of the military forces of the Central Italian League, has issued an order of the day, calling upon his soldiers to show devotion to their flag, faith in their rights, and perseverance in their object; qualities which, combined, will assuredly lead to the triumph of independence. He says that the tricolour, with the old cross of Savoy, shall precede them in the fresh battles that will for ever free Italy from the stranger. Garibaldi is also displaying his wonted energy and decision; he has summoned the Italians of the Legations to arms, and has opened, with a contribution of 5000f., a subscription fixed at 1,000,000f. for the purchase of muskets. Orders have already been sent to Marseilles to purchase forthwith for the Duchies 3800 common muskets, 2000 rifles of Vincennes, and 1000 rifles of another description. The clerical party at Rome having published a statement that the soldiers of the insurgents had entered the convent of Verrucchio and ill-treated the nuns, the *Monitore* of Bologna publishes a letter from the Abbess of the Convent, declaring that she had never seen a single soldier enter that building. It appears that it was the Pope's own soldiers of the Swiss guard who invaded the convent, and that it was not at Verruechio, but at Perugia. Accounts from Naples state that 14 persons belonging to the highest families had been arrested, including the Baron Galotti, the Marquis d'Afflito, and the Marquis de Bella Caracciolo. They are accused of giving parties for the discussion of politics. An outbreak is said to have occurred at Aquila, in the Abruzzi. From the excited state of the northern districts 15,000 soldiers have been sent to the frontiers, and the number is expected to be increased to 25,000. The King, who has been to Gaeta, has returned to Naples. The French liner, Hellespont, was stranded last week at Posilipo, and, as it is found impossible to get her off, it is reported that she is to be broken up.

RUSSIA.—Schamyl and his son were presented to the Emperor Alexander at Tchougoniev on the 27th ult. The Emir was much moved by the kindness of the Emperor. After assisting at a military review he returned on the 28th to Kharkov to be present at a ball given in his honour.

TURKEY.—Accounts from Constantinople of the 28th ult. state that Omar Pasha, chief of the Army of Bagdad, has been deprived of his command in consequence of serious abuses of his authority; and that the Sultan was about to send Mehemed Pasha to Smyrna, in order to invite Prince Alfred to visit Constantinople. The conspiracy discovered on the 15th ult. at Constantinople, in spite of the efforts of the Turkish Government to diminish its importance and to conceal the true objects of the plot, is now known to have been on a most extensive scale, and to have comprised so large a number of persons that it is surprising it should not have been discovered until two days before the one appointed for its execution. The following details gathered from the various papers contain the leading incidents of the plot:—

"Two years ago a dervish named Halidi, who enjoyed a high reputation in his own country, namely, Soulananié, in the province of Bagdad, came to Constantinople previously to proceeding on a pilgrimage to Mecca. Everything seemed to him so corrupt in the Turkish capital, and the fate of the Ottoman empire appeared to him so certain, that he renounced his pilgrimage and set himself up as the regenerator of Islamism. His project, which at first was known to only a few friends, soon acquired a number of partisans, who went on increasing. Some months ago the plot began to receive a serious organisation, and reckoned its members by thousands. Among its leading adherents was the Circassian Hussein Pasha, a brave resolute man, distinguished in 1855 in the Kars campaign. He was then colonel of the first regiment of Arabistan, and so greatly distinguished himself in the repulse of the Russian attack, that his conduct on that occasion won him a general's rank. Less fortunate last year in Montenegro, where his *corps d'armée* was roughly handled, and he himself had two horses killed under him, and escaped most narrowly, he was removed from his command. He went to Constantinople to demand a court martial, which was refused. Left without employment, and considering himself unjustly treated, he became a malcontent. He deemed himself dishonoured and his character becoming soured, he fell in with the dervish, and readily joined in his plans. They next secured Djafer Pasha, an Albanian of high family, who in former days was more than once in arms against the Porte, but who, during the campaign on the Danube, joined the Sultan's army with 2000 of his countrymen armed and equipped at his own charge. After the war they promised him much, but performed nothing; they would not even let him return to his own country, but compelled him to live in Constantinople on his pay of about 7l. sterling a month. They next endeavoured to seduce from his allegiance Hassan Pasha, General of Artillery who commanded the Bosphorus, with all its batteries and military posts. Several colonels and chiefs of battalions, almost all belonging to the artillery, a number of sailors, priests, students, and Government clerks were then admitted into the plot, which reckoned, in Constantinople alone, from 10,000 to 12,000 members, and throughout the whole empire 70,000, all of whom engaged to sacrifice their lives in the cause. The object of the conspirators was to seize on the Sultan on the 17th September at the mosque of Tophané; to kill him and all the Ministers and other personages in high office with him; and to proclaim as Sultan, Abdul-aziz Effendi, the Sultan's brother. Hassan Pasha, commander of the Bosphorus, is said to have disapproved of the intention to put the Sultan and the Ministers to death, and therefore resolved to reveal the plot. He accordingly put Riza Pasha, Minister of War, in possession of the whole scheme. Prompt measures were at once taken. On the 15th the arrests commenced, in the course of a few days 800 persons were in custody, and fresh and important arrests have since been made. Riza Pasha, the Minister of War, himself presided at a number of them, which took place in the three mosques of Hamet, Soulemanie, and Mehemed. He examined the prisoners at his official residence, and thence sent them to Couleli, where the other Ministers, under the presidency of Aali Pasha, sat as Commissioners to investigate the affair. Almost all the conspirators have boldly avowed their participation in the plot. Djafer Pasha, as already stated, jumped into the Bosphorus as he was proceeding under a guard of soldiers, to Couleli, and was supposed to have been drowned, but as he was a swimmer of rare strength and expertness, many believe that he may have escaped. Since the revelation of the plot Constantinople has been traversed day and night by patrols, and the greater part of the garrison of Pera had been transferred to Stamboul, showing that the Christian quarters of Constantinople had nothing to fear."

INDIA.—Telegraphic despatches were received yesterday in anticipation of the Bombay and Calcutta mails, with news from Bombay to the 12th Sept., and from Calcutta to Aug. 31. The following are the details:—

*Calcutta.*—It is reported that the disbanded European troops have accepted the bounty, and consented to go to China. The Government has increased the licence-tax to an income-tax 7*d.* in the pound on all incomes above 25*l.* a year; officials and landlords are exempted. The Council refuses to pass the Bill without a clear statement of receipts and expenditure, and denounces the clause exempting officials.

*Central India and Nepaul.*—The Nana and Begum are in Nepaul, watched by Gen. Romaine. Feroze Shah is in Central India. Disturbances seem imminent on the coast of Kattywar. A report states that the people of Jeypore will not comply with the disarming order. Captain Richards, of the Central India Field Force, has compelled Chuttersall, a leading rebel, to surrender.

*Bombay.*—The ship Admiral Boxer has been wrecked 3 miles from Kurrachee; all lives saved.

CHINA.—China dates to August reached Bombay to the 2d ult. but there was no additional news of importance. A Supplement to the *London Gazette*, published on Wednesday night, contains the correspondence which has taken place between the Secretary of State for Foreign Affairs and the Hon. F. W. Bruce, her Majesty's Minister in China. The first despatch is from the Earl of Malmesbury to Mr. Bruce, dated March 1, 1859; and the last from Lord John Russell to Mr. Bruce, written as late as the 26th of September and containing the views of the present Government on the late affair of the Peiho. Mr. Bruce's despatches show that the Chinese made every effort to evade the ratification of the Treaty at Pekin. After having in vain proposed a re-discussion of the Treaty, on the ground that it had been "signed under pressure," they suggested an exchange of ratifications at Shanghai, and a land journey from that place to Pekin, instead of an official visit to Pekin in the first instance, the object being to meet the prejudices of the old party in China by placing the Ambassadors in the degrading position hitherto occupied by foreign envoys. It was therefore determined to take the course prescribed by the instructions of the Home Government and force the passage of the Peiho. The following is Lord J. Russell's letter:—

"Foreign Office, Sept. 26, 1859.

"Sir,—I have received and laid before the Queen your despatches of the 30th of May, 1st and 14th of June, and 5th, 13th, and 15th of July, the first three giving an account of your proceedings up to the time of your departure from Shanghae for the mouth of the Peiho, and the last three containing a report of the events which occurred on your arrival off the Peiho and of your subsequent return to Shanghae. The events of the first period are clear and free from all obscurity, and I am happy to convey to you her Majesty's entire approval of your communications with the Chinese commissioners, and of the firmness with which you resisted their attempts to dissuade you from insisting upon the strict fulfilment of the stipulations of the Treaty of Tien-tsin. That treaty provided for the exchange of ratifications at Pekin on a day not later than the 26th of June of the present year, a time so nearly at hand as not to admit of any further delay. You were enjoined by the instructions given you by the Earl of Malmesbury, on your departure from England, to insist on being received at Pekin, and to refuse to exchange ratifications at any other place. You were further informed that it might be advisable before your departure from Shanghae to send an intimation to Pekin of your approach, and to request that suitable arrangements might be made for your honourable reception at the mouth of the Peiho and at Tien-tsin, and for your journey from that place to Pekin. You were informed that the admiral in command of her Majesty's naval forces in China had been directed to send up with you to the mouth of the Peiho a sufficient naval force, and you were instructed that, unless any unforeseen circumstances should appear to make another arrangement more advisable, it would seem desirable that you should reach Tien-tsin in a British ship-of-war. Your conduct, therefore, in insisting upon being received at Pekin, and in proceeding to the mouth of the Peiho, was in strict conformity with your instructions. Upon arriving at the mouth of the Pei-ho you were placed in circumstances of great difficulty in selecting the course you were to pursue; you were obliged to found that course mainly upon presumptive evidence. In these circumstances you had to weigh contingencies upon which no safe calculation could be made. I can only say, therefore, that her Majesty's Government, without being able, in the present state of their information, to judge precisely what measures it might have been most advisable for you to adopt at that moment, see nothing in the decision that you took to diminish the confidence which they repose in you. Her Majesty deeply regrets the loss of life which attended the gallant though unsuccessful efforts of the British and French forces to clear the passage of the river. Her Majesty has commanded preparations to be made which will enable her forces, in conjunction with those of his Majesty the Emperor of the French, to support you in the execution of the instructions which will be hereafter addressed to you.

"I have, &c.,

"J. RUSSELL."

UNITED STATES.—After an interview with the President, Gen. Scott has been despatched to the Pacific coast to prevent complications in the San Juan affair. The Government has left him a wide margin for his action, relying upon his good judgment and wise counsel in adjusting and settling the existing difference between the two Governments. It is understood that the sending of General Scott implies no censure upon General Harney. General Scott was selected because of his experience and clear judgment, and because there was no other general who could be sent to supersede or rank General Harney without implying disapprobation. The Administration does not apprehend any serious difficulty, though it still asserts a right to the island of San Juan. Lord Lyons had a long interview with the Secretary of State on the 19th ult., and is said to be of opinion that the questions in dispute between the two Governments will be satisfactorily arranged. General Scott left New York for California on the 20th ult.

BRITISH COLUMBIA.—We have accounts from San Francisco to the 5th ult., and later intelligence from the Island of San Juan. The number of American troops on the island had been increased to 500, earthworks had been thrown up, and General Harney had declared that he would call for volunteers if attacked. The British Admiral on the station had refused to obey the orders of Governor Douglas to bring on a collision

and he had also refused to bring his fleet to the island, saying that he intended to await orders from the home Government. The relations between the American and British officers continued very friendly.

Canada.—A despatch from Toronto states that on the 16th all the departments of the Government were moved to Quebec, the future seat of the Government, and that the Governor-General left on the day previous. The Government intend to proceed with the Government buildings in Ottawa as speedily as possible. On the 13th ult. the 100th anniversary of the capture of Quebec was celebrated in some parts of Upper Canada. The Governor-General has appointed the 3d of November as a thanksgiving day for the abundant harvest.

## Public Addresses.

The Right Hon. James Wilson has been visiting Hawick, Manchester, and Liverpool, previous to his departure for India, and has addressed large meetings at each place on the nature of the duties he will have to perform, as well as on the encouragement to be given to the growth of cotton and wool in India. The following are extracts from these speeches:—

"I have great confidence that with industry, with attention, with determination, with single-mindedness to apply those principles which have been found to result so beneficially at home, we may, with the able aid and assistance of the local authorities in India, apply the same principles there ultimately with the same benefit. I am one of those who believe that what is right in one part of the world cannot be wrong in another. I am one of those who believe in the universality of principle. I am one of those who believe that human nature is human nature all the world over. I am one of those who believe that Englishmen must not, even in their vainglory and their strength, believe that because they are Englishmen they must trample over everybody else. I am one of those who believe that kindness, generosity, and justice, exercised with a fair and firm hand, whatever the race may be, whatever the time may be, will produce the desired results. I am one of those who believe that if we respect the feelings and obligations, and deep convictions of those over whom Providence has appointed us to rule, we may draw them within the bonds of affection, and peace, and unity, and good citizenship. And if we can do that, then I say the charm of Indian finance is gone. Why, what is the cause of your embarrassment in India? Four years ago your army expenditure was 11,000,000*l.* sterling; since that it has been 24,000,000*l.*; at the present moment it is 31,000,000*l.* If you cannot govern the country and keep the internal peace of the country for less than 21,000,000*l.*, then I say you must abandon it altogether. There is no choice. England will not consent that the blood of Englishmen should be poured out, that English life should be endangered, that we should be exposed to these disasters in keeping a country on principles so ill suited to the habits and manners and feelings, or, if you will, prejudices of the people—that less than 21,000,000*l.* sterling should not suffice to keep people in order. There is one subject on which I am particularly anxious to be explicit on the present occasion, as this is, perhaps, one of the last opportunities that I may have of expressing my views to an English or a Scotch community before I leave these shores. We have passed through, in India, a period of awful suspense. From post to post, and from mail to mail we have known at one period whether India was still under British rule, or whether it had fallen back to that anarchy and confusion which preceded our government. But we have had the evidence of what I would call the greatest statesman and the most distinguished man of the age in regard to Indian matters as to the cause of that revolt—I allude to the report made by Sir John Lawrence to the Governor General; and I am desirous above all things that the cause which he described should be deeply imbedded in the minds of every Englishman and of every Scotchman in all time to come, because, in my opinion in that report there is more wisdom, and more statesmanship, and more truth than is to be found in any State document that I have read for many years. Sir John Lawrence, after the trial of the King of Delhi, made a report to Lord Canning, in which he stated, in the most clear and unequivocal terms, that he had investigated the records in the archives of Delhi, and had had opportunities of *viva voce* communication with the natives at the time, and the result had been the deliberate conclusion that there was one cause, and one cause alone, to which all these misfortunes had to be traced, and that cause was the conviction on the minds of the people of India that the British Government had determined within itself forcibly to change the caste and religion of the natives and to force upon them by the force of Government the Christian religion. Now, Sir J. Lawrence is a man who, upon a topic of that kind, ought in every respect to be trusted. I may say in a very emphatic manner that he is a man and a Christian who has devoted himself perhaps more than any other man in a similar position to exercising his influence in every possible way for the spread of Christianity, and for the progress of that Gospel in which we all rejoice to believe. And therefore we may receive his evidence upon the subject of that movement with confidence—as that of one who would not willingly say one word that was likely to detract from the spread of Christianity in India. And he shows by demonstrations which no man can read and disapprove, that it was the conviction on the part of the Indian mind that we had deliberately determined by the force of Government influence, to change their religion, which alone caused the mutiny. Now, we have, as a Government, invariably practised absolute neutrality with regard to the natives in their religious matters. We have said, as a Government, to the natives of India that they were entitled to exercise all their religious opinions in the same manner that we ourselves do claim at home the free exercise of our religious opinions, and freedom of worship. But though we have said that, no doubt many things have occurred which may have carried to the native mind convictions and feelings of a different kind; and all I can say in respect to this subject is, that while I hope the Government of India will never fail to give every proper encouragement to the missionaries who go forth from this country, who are freely accepted by the natives—while they will never fail to give just and ample encouragement to the administration of the Christian religion in all its forms so far as Christians are concerned, yet I trust that neither public opinion nor Government influence will ever be brought to bear in order, in the slightest degree, through Government influence or other force, to enforce those truths which we ourselves value so much, but which, in proportion as we value, we may be sure that they will make their way if they only have fair play. I for one shall be glad to see that the English people resident in India will, by their example, continue to give to the natives a higher appreciation of the value of the true religion than that which they now possess. I have alluded to this subject because at the bottom of our financial arrangements must lie every question of policy affecting the good and well-being of the country. Unless you have the confidence of a people who are numbered by something like 200,000,000, and who are spread over a million and a half of square acres—for these are the dimensions of your empire—unless you have the confidence of a people so circumstanced, I say that is a misfortune of immense magnitude in the system of government, be where it may, of us or of the East European who has to take the responsibility. You must remember such things are not [illegible] that they come suddenly and [illegible]. I [illegible] —that if you pursue a policy of that kind, you may so far relieve that [illegible] ture that in the course of time without making sacrifices to any very increased [illegible] [illegible] sufficient [illegible] [illegible] those who have read the very interesting report of the committee on Indian Colonization will have come to the conclusion which that committee has itself come to—that it is utterly impossible in the present or probable future condition of India that Indian [illegible] [illegible] Europeans, in the ordinary way of the [illegible] [illegible] I think they would come to the conclusion to which we have to advert came, and to which the committee came—a committee composed of the most distinguished and enlightened men of the House of Commons upon these subjects—the conclusion that really the profitable way by which Indian production can be developed will be by the superintendence of Europeans, be the [illegible] [illegible] by the advice of Europeans, but [illegible] by the actual [illegible] Europeans themselves to cultivate the land. I believe that you have great facilities for that plan of operation, which you never could have for any other projected plan. In the first place, the wages of labour in India are so low that European labour never could compete with it, and it never could be upon the value of European [illegible] [illegible] with the wages of labouring cultivators of the soil. On the other hand, what you want is India-rubber, is your home of the [illegible] where in the world is superintending intelligence which may be easily and rapidly transported from this country by enterprising young men, well backed from home, with a combination of a sufficient amount of capital to purchase the raw products of the country, and to give a price corresponding with the better qualities that are produced. That you will find will be the best and shortest means of inducing the natives to improve their quality. As soon as they see that the better quality of an article brings a higher price I have no doubt that result will be secured. It is some satisfaction to know that the supply of cotton is not standing but rapidly increasing. Although I know it is very difficult to increase the supply of an article so universally in demand over the whole world with sufficient rapidity to meet the increase of that demand, yet I think that we cannot look to the statistics of this trade without feeling that a great deal has been done in all parts of the world for the purpose of meeting your requirements. With regard to wool, if the statistics of the trade were referred to, it would be seen that in 1830 no wool whatever was imported from India; that when we became possessed of Scinde a small quantity only was imported, and that in 1848 it did not exceed 2,000,000*lbs.*, while in 1857 it had risen up to about 4,000,000, and that from 1851, when the last of Runjeet Sing was established, an impulse was given to sheep-farming that increased to 19,000,000 or nearly 20,000,000*lbs.*, and was 12,000,000 or 13,000,000*lbs.* And from a report we had received from the customs department at Kurrachee, we learnt that the trade of that port, which before was nothing, was now two millions sterling. This showed to some extent the vast room there was for a development of the trade in India. Considerable encouragement and protection had been given to trade there by placing a few soldiers in the principal passes leading through the hills, and this had been effected at a trifling cost. Now, what he would suggest was that they should send out samples of the finest staples of wool to the part of Kurrachee, and instruct their agents to explain to natives what large prices could be obtained for long staples as compared with the present short clips; he thought the most natural and easy way of encouraging the change which was sought would thus be attained. With respect to the British possessions in India, all the hill districts were capable of producing wool, and many of the plains, because the sheep fed upon them supplied the chief food for the Calcutta and other great markets, mutton being the principal flesh meat consumed; but the more temperate climates of India were no doubt necessary to produce good wool, such as was required here. One thing against the trade of India, as had been suggested, was the want of the means of transport, and he should take an early opportunity on arriving in India to bring this matter under the notice of the proper authorities. He could only say that in any measure he should advocate he should look to the permanent interest and well-being of India as he would to the interests and well-being of her Majesty's subjects in this country. He believed that good government and wise regulations would ultimately develope the vast and almost untold resources of India to an extent that would greatly add to the prosperity and welfare of this country, for the interests of both were, to an extent, identical."

The Right Hon B. Disraeli, at a meeting of the Royal Bucks Agricultural Society on Wednesday, spoke as follows on the state of agriculture in that county:—

"I can recall the time when it was necessary on every occasion to vindicate assemblies of this kind and institutions of this character. The best answer, however, to the attacks that were made upon them is the fact that 25 years have now elapsed since the foundation and introduction of these societies, and that now they are sown broadcast over the land, and we find men of all parties supporting such societies and endeavouring to carry their [illegible] into effect. We find, also, an unanimous agreement among all who have due acquaintance with real life as to the beneficial effect which attends the operations of such as are open to criticism; but I wish to know what in this world is not open to criticism. But, gentlemen, if there were only critics in the world, society would soon be at a standstill. To animate skill, to encourage enterprise, to reward merit, these have always been considered means by which a community is taught to flourish, by which mankind is rendered happier. But if there were only critics in the world, none of those means would ever be had recourse to, for critics never encourage skill, critics never animate enterprise, critics never reward merit. It is now generally admitted that England is a country which takes the lead in the cultivation of the soil, and there are many other points with respect to which we have been in the habit of assuming superiority. Without now entering into any controversy as to whether that assumption is just or not, I think that superiority has been questioned upon many other points by continental nations and critics, but with respect to agriculture never, and for this simple reason,—the test of the superiority of agriculture is the amount you produce from the soil of the country, and that country which produces the most from its soil is held to be the most skilful in agriculture. That being the case, the condition of agriculture in this country is such that for a very long period of years we have been famed for the cultivation of the soil, and for the progress which England has made in that respect. It has been the boast of the county of Buckingham that it has occupied no mean position, and I am not at all aware, speaking on that subject without [illegible] feeling, I am not aware that the county of Buckingham is at all inferior to that *rôle* it has hitherto occupied in this country. If you go to the extreme south, I can point out the fields of one who is looked upon as one of the most skilful cultivators of whom Buckinghamshire has reason to be proud, [illegible] [illegible] you come to this district I say that there is no portion of it [illegible] which you can, be in this land [illegible] [illegible] [illegible]

were not rude to speak of such an assembly in such language, he should say that it was composed of the most chattering body of men that ever came together to conduct either public or private business. Following the example of some of his Yorkshire friends, he had performed his duties in the House of Commons in silence, and he was not ashamed to confess it; on the contrary, he believed that those duties might be fulfilled in a manner as conscientious to the individual, and with as much good to the country at large, in silence as by making long speeches. One of the great evils in our Legislative Assembly of the present day was a vast amount of conceit and self-ignorance, which made men ignorant of their own defects, and inflicted an amount of tedium upon their audiences which was terrible to endure. This was an evil which must be corrected, and he could not think of it without great indignation. He felt indignant also when he found constituencies classifying the House of Commons on this principle, and talking of one man as a useful member and of another as an obscure one, because the former was constantly trespassing upon the valuable and important time of the House, and the latter performed his duties quietly, though truly and conscientiously. Politics were properly excluded from agricultural meetings, and he hoped he had not violated that rule by the remarks he had made, but as a member of a great Legislative Assembly he felt it his duty to seize the opportunity to warn them against the evil to which he had referred."

THE RT. HON. SIR JOHN COLERIDGE delivered a lecture to the members of the Athenæum, at Exeter, last week, on his "Circuit Reminiscences," of which the following is an abstract:—

"Going the circuit in his younger days was a very different thing to what it had been since the introduction of railways. It was then much more expensive and formal; indeed, it was not untruly considered that the whole body going circuit expended more than it carried away. The judges did not post, but went in sober state, four-in hand. Barristers posted, as it was considered irregular to travel in a public conveyance. The mess was rather expensive; the bar had their own cellar of wine, under the care of their own officers, who went the circuit. The leader of the circuit was expected to be frequent in his attendance at mess, for to him they appealed to decide disputed points of professional etiquette. Those were days when gentlemen in common life wore clothes of every colour, but the barrister was always expected to dine in black. In his early career, although the law did not allow him to languish in idleness, he still had many idle days. He was fond of employing them in note-taking, whenever cases of an interesting character presented themselves, and he had found great benefit therefrom, especially at times when the facility of taking a rapid and accurate note became of great importance to him. He found that he had a note of a remarkable case which he had heard while on circuit in Cornwall. The story was this:—In the county of Cornwall there lived a highly respectable family named Robinson, consisting of two sons, William and Nicholas, and two daughters. The property was settled on the two sons and their male issue, and in case of death on the two daughters. William was to be the 'squire, and Nicholas was placed with an eminent attorney at St. Austell, as his clerk, but with a prospect of one day being admitted into partnership. The young man conducted himself well and respectably, and the attorney became much attached to him. The harmony, however, between the two and between the family was broken, for Nicholas had fallen in love with a young woman at St. Austell, who was a milliner or a milliner's apprentice. The result was that in November, 1782, the young man was sent to London to qualify himself as an attorney, and thence he wrote unhappy letters to his old master and others, but he was ultimately admitted an attorney of the Courts of Queen's Bench and Common Pleas. Thenceforward he was never seen by any member of his family or former friends, and all search for him proved fruitless. In the course of time the old Robinson died. William, the eldest son, succeeded to the property; he never married, and died in May, 1802. As nothing was heard of Nicholas, the two sisters became entitled to the property, and they held possession of it for 20 years, no claim being made to disturb their enjoyment of it. In 1783 a young man, whose looks and manners were above his means and station, made his appearance as a stranger at Liverpool. He called himself Nathaniel Richardson—the same initials as Nicholas Robinson. He bought a cab and horse, and plied for hire in the streets of Liverpool. Being a civil, sober, and prudent man, he soon became prosperous, and drove a coach between London and Liverpool. He married, had children, and gradually acquired considerable property. Having gone to Wales to purchase horses in 1802, he was by an accident drowned in the Mersey. In the year 1821 it was said that this Nathaniel Richardson was no other than Nicholas Robinson, and his eldest son claimed the property which was then inherited by the two daughters, and the action was tried in Cornwall. Nearly 40 years had elapsed since anyone had seen Nicholas Robinson, but it was made out conclusively, in a most remarkable way, and by a variety of small circumstances, all pointing to one conclusion, that Nathaniel Richardson was the identical Nicholas Robinson. The Cornish witnesses and the Liverpool witnesses agreed in the description of his person, his height, the colour of his hair, his general appearance, and more particularly it was mentioned that he had a peculiar habit of biting his nails, and had a great fondness for horses. In addition to other circumstances, there was this most remarkable one,—that Nathaniel's widow married again, and the furniture and effects were taken to the second husband's house. Among the articles was an old trunk which she had never seen opened, but it happened one day that this old trunk was, through curiosity, examined, and, among other letters and papers, the two certificates of Nicholas Robinson's admission as attorney to the Courts of Queen's Bench and Common Pleas were found. On the trial the old master of Nicholas Robinson, *alias* Nathaniel Richardson, swore to his handwriting, and so the property was recovered. The right hon. gentleman in referring to the trials of Feargus O'Connor and O'Brien, at which he presided as judge, observed that the Chartist body at that time interested him a good deal. For the most part, its members appeared to have been honest, but misguided persons. He had no doubt if the movement had not been suppressed that it would have led on to plunder and havoc, and that blood would have flowed like water, for the occupation and habits of these men made them a hard-handed and stern race. The way in which some of them defended themselves was remarkable: although speaking with a Lancashire pronunciation, which was very difficult to understand, they, nevertheless, spoke pure English, and quoted—not the works of Tom Paine and other infidel writers, but such writers as Algernon Sidney, Sir William Jones, John Locke, and John Milton. There were men among them who, after working 10 or 12 hours a day, had been diligent readers, and were better English scholars than many of the jurymen who tried them." After passing a glowing eulogium on the legal and forensic abilities of two of his contemporaries—Erskine and Follett, Sir John Coleridge concluded by warmly advocating the system of trial by jury. "There were some," he said, "who laboured to depreciate trial by jury, or, as it was more correctly termed, 'trial by judge and jury.' He did not mean to say that this mode of trial was perfect, or that it was appropriate in deciding all matters of fact. He was far from saying that it would not admit of some improvement; but, speaking from long experience and from much consideration, in nothing was he more confident than in thinking that to trial by jury they were more indebted, as members of society, as citizens, in respect to their property, their character, their safety, and their liberty, than to any other single institution in the country. He had been a judge for an unusually long period, and he should ever regard with admiration the manner in which juries discharged their duties. Again and again he had reason to marvel at their patience, and again and again he had observed questions put by a jury which had been omitted by counsel and judge, and the answer to which had thrown a light that had guided them to the truth of the whole matter. As regarded the judge and society generally, the institution of trial by jury was most important. Take it away from the merchant, the tradesman, and the farmer, and he ventured to say that they would take away one of the most important institutions which distinguished this country from every other. It was one, and not the least important, part of their system of self-government. It was also a material part of a citizen's education. He had often thought if he had the appointment of the magistrates in the country that he would appoint those gentlemen who had served on petty juries on the Crown side for two assizes at least; for he was sure that a more practical knowledge of criminal law was learnt in that way than could be acquired by several months of careful reading. Earnestly did he hope that in their laudable desire to improve their institutions they would never fancy themselves more wise than their ancestors and dispense with trial by jury. Let them be true to its principle if they improved it in some of its details. Let them cherish it as an inestimable treasure, and guard it as they did their *Habeas Corpus*, their Bill of Rights, and Magna Charta, for sure he was that it was not less essential than any one of these to their liberties and to their well being—civil, social, and national. One thing should always be remembered, that stupid verdicts were no arguments against the institution, for no human institution however wise in itself could be expected to work perfectly. Let them improve their jurymen by raising the character of their national education; let them introduce into their panels all classes who by law were liable to serve; and when they had done that, and not till then, if they found it to fail let them condemn the institution. They lived under a law which, though far from perfect, was framed in a wise and just spirit. They could not possibly overrate the blessing which they possessed, yet it was so much a matter of course that they were apt to think as little of it as they did of the sun that shone upon them from heaven. Such was human nature, and he should not consider that he had spoken so long in vain if what had been said should rouse them to a grateful sense of the blessings they enjoyed, and to an earnest resolution that as far as it was in their power they would hand down this institution of trial by jury pure and undiminished to their latest posterity."

## City Intelligence.

MONEY MARKET, FRIDAY.—BRITISH FUNDS: Consols closed at 95¼ to ⅝ both for Money and the Account; New Indian Loan, 101⅛ to ¾; Ditto Scrip, 101⅛ to ¾; Four per Cent. Debentures of 1859, 95½ to ¾; India Bonds, 5*s.* dis. to par; Exchequer Bills, 24*s.* to 27*s.* prem.—FOREIGN: Buenos Ayres Six per Cents. for Acct., 77½ to 78¼; Danish Three per Cents., 1825, 85 ex div.; Mexican Three per Cents., for Acct., 22⅝ to 22¾; Peruvian Three per Cents., for Acct., 69⅝ ex div.; Russian Three per Cents., 1859, 67¼; Sardinian Five per Cents., 87; Turkish Six per Cents., 1858, for Acct., 70.

## Bank of England.

ISSUE DEPARTMENT.

| | | | |
|---|---|---|---|
| Notes Issued .. .. .. | £31,500,930 | Government Debt .. .. | £11,015,100 |
| | | Other Securities .. .. | 3,459,900 |
| | | Gold Coin and Bullion .. | 17,025,930 |
| | | Silver Bullion .. .. .. | — |
| | £31,500,930 | | £31,500,930 |

BANKING DEPARTMENT

| | | | |
|---|---|---|---|
| Proprietors' Capital.. .. | £14,553,000 | Government Securities (including Dead Weight Annuity) .. .. .. .. | £11,219,969 |
| Rest .. .. .. .. | 3,736,683 | Other Securities .. .. | 19,792,356 |
| Public Deposits (including Exchequer, Savings Banks, Commissioners of Nat. Debt, and Dividend Accts.) .. .. .. | 8,528,088 | Notes .. .. .. .. .. | 9,388,540 |
| Other Deposits .. .. .. | 13,271,438 | Gold and Silver Coin .. | 597,360 |
| Seven day and other bills | 909,006 | | |
| | £40,998,215 | | £40,998,215 |

6th day of Oct, 1859. M. MARSHALL, Chief Cashier.

## Gazette of the Week.

TUESDAY—BANKRUPTS—T. B. BLOCKSIDGE, Birmingham, Tobacconist—J. BROWN, High Street, Hoxton, Beer Seller—C. FLEGG, Great Yarmouth, Milliner—D. A. INGLIS, Liverpool, Commission Agent—B. E. LEIGH, Birmingham, Merchant—T. H. PARR, Newmarket, St. Mary, Grocer—J. THERMANS, St. George's Street East, Tobacconist—T. WILSON, Wickersley, near Rotherham, Yorkshire, Farmer.

SCOTCH SEQUESTRATIONS—J. ARNOT, Glasgow, Accountant—J. DUNLOP, Glasgow, Wine Merchant—J. M'KELLAR, Govan, Lanarkshire, Wright.

FRIDAY—BANKRUPTS—D. GOODMAN, Cardiff, Watchmaker—C. TABBERER, Saltisford, Warwickshire, Beer Seller—C. TEMPLE, Filey Yorkshire, Lodging House Keeper—T. TIDSWELL, Nottingham, Lace Maker—A. A. WILDBORE, Old Street, Middlesex, Chemist.

SCOTCH SEQUESTRATIONS—G. BARCLAY, Palacerig, Dumbartonshire, Farmer—J. DICKSON, Broom House, Blantyre, Lanarkshire, Carter—H. THOMSON, senior, Lesmahagow, Miller.

## Metropolis and its Vicinity.

ELECTION OF AN ALDERMAN.—At a wardmote held at the vestry of St Magnus, Thames Street, on Thursday, Mr. Joseph Abbiss, wholesale tea dealer of Gracechurch Street, was elected without opposition Alderman of the ward of Bridge in the room of Sir Chapman Marshall.

THE METAGE DUES.—An important question affecting the fruit trade was settled in the Court of Common Council on Thursday. A report from the General Purposes Committee, recommending that the metage of fruit be henceforward voluntary, instead of compulsory, was unanimously adopted—thus virtually freeing fruit from the tax hitherto levied. A small metage on potatoes is to be continued, the work of weighing being required by the trade, and an annuity of 800*l.* per annum is to be paid to the remaining fruit-meter in lieu of the fourth part of the fees heretofore payable to him.

THE NEW REFORM BILL.—The following letter from Mr. Bright has been recently received by Mr. John Davidson, the author of a pamphlet entitled, "A New Reform Bill:"—

"Rochdale, Sept. 21. Dear Sir,—I do not think such a Bill as is described in your pamphlet either practicable or just. The exclusions contemplated would turn out most capricious in working. I am in favour of an extension of the franchise, consistent with our ancient practice, based upon [illegible] and unfettered by considerations connected with [illegible] temperance. Fix the franchise at the point which will [illegible] all ratepayers, or at a 6*l.* rental—at some point on which [illegible] majority can agree—but don't confuse the question with [illegible] tions of morals. If you try to exclude all men who are [illegible] perfectly wise and prudent, and to include only the [illegible] your whole system will break down. If you will [illegible] people in the bulk, without attempting definitions and [illegible] selections, you will get a good constituency, and without [illegible] culty.—I am, yours respectfully, JOHN BRIGHT."

MARLBOROUGH HOUSE.—The time having now arrived for Marlborough House to be prepared for the residence of the Prince of Wales, the whole of the paintings forming the English portion of the National Gallery, the Vernon and Turner collections, &c., which for some years past have been exhibited to the public at Marlborough House, have been removed to the new building erected for their reception at Kensington Gore, where they will be opened to view on Monday the 24th inst. The Wellington Funeral Car has been removed to Chelsea Hospital.

FRACTURE OF THE GREAT BELL OF WESTMINSTER.—On Saturday the great bell of the Houses of Parliament sounded for the last time, and while in the very act of striking Big Ben became even more hopelessly cracked than its ill-fated predecessor. It will now be necessary to remove the clock, get down the bell, break it up and recast it for the third time, prove it, get it up the tower again, and refix the clock. These operations are expected to average, on the whole, about three months to each, so that it will be upwards of a year before the Great Bell of Westminster can again be heard. Mr. Denison, in a letter to the *Times*, gives the following account of the cause of the accident:—

"A week ago I should have fully endorsed all you say of Mr. Mears's bell. He certainly worked exactly to my pattern, as to 'the weight, size, and tone were exactly what had been required,' and everybody believed it to be a 'magnificent casting'—everybody, that is, except certain persons at Whitehall who knew a very different secret. Last week, however, Mr. Dent's men found out, and I was immediately informed, and sent the information on to the Board of Works, that this magnificent casting was, like many other fine things, a magnificent imposture; for that there is a place in the bell, on the soundbow, but far from where either clapper or hammer have struck (and this is probably not by accident), full of holes not a quarter of an inch wide and more, and others smaller, of these not certain yet, but some probed down to nearly half an inch, and, in short, every external indication of a perfectly unsound casting, and that from two of those holes cracks were visible nearly a foot long and of depth unknown yet, but with very indications of still wider holes within them. But how could Mr. Taylor and I come to certify such a bell as sound? And how did such unsoundness as this elude the observation of 'the indefatigable clerk of works' who examines all the castings that come to the Palace, and of Sir C. Barry's engineer Mr. Jabez James, and of the hundreds of people of all classes who came to see and hear the bell? For a very good reason, because the holes were all as carefully stuffed as a bad tooth by a dentist with some 'mineral succedaneum,' of which a piece has been sent to me, and which can be shown to you at Mr. Dent's or in the bell itself; and to make all still safer the hole was washed over with some colouring stuff which the atmosphere has now removed. Some persons noticed this colouring as suspicious at the time; but still, with the suspicion to help them, nobody could find anything wrong."

THE BUILDERS' STRIKE.—In consequence of the recent resolution of the Masters' Committee refusing to recognise the Conference, on the ground that it is an irresponsible body, a meeting of about 5000 artizans convened by the Conference was held in St. Martin's Hall on Wednesday week, when it was unanimously resolved that it is the right of the trades to appoint whom they think fit to conduct their affairs, and to [illegible] all communication or negotiation with the employers be transacted by the Conference on behalf of the [illegible] men until the settlement of the present dispute. A meeting pledging itself to support the Conference long as the struggle lasts. The Masters' Committee held their weekly meeting on Tuesday, but as they with closed doors nothing is known of their delibera tions except that they ended in no definite result, that the meeting was adjourned for a week unless circumstances should arise to render earlier meeting necessary. It is understood the masters remain firm in their adhesion to the declaration, or at least to the desire to procure revision of the trade regulations which impede public interests, cramp the freedom of the workmen themselves, and are said to be at variance with the law relating to masters and workmen. It appears from returns of the Masters' Association that nearly [illegible] men in various departments of the building trade now at work under the terms of the declaration in the metropolitan postal district. Meanwhile the Conference is following up its policy of "calling off" the men employed by the masters on building operations in the country beyond the metropolitan district, which, until now, the strike has been confined. In some cases of intimidation within the metropolis have been again brought under the notice of the magistrates. At the usual weekly meeting of the Conference on Tuesday, the delegates from the metropolitan trade societies, not belonging to the building trade, presented themselves in considerable force, and [illegible] contributions to a large amount for the support of the men on strike. The Rev. Mr. Verity, a Lancashire clergyman, also delivered a lecture on Tuesday night in St. Martin's Hall, in the interest of the men, to a crowded assembly of them.

THREATENED STRIKE OF JOURNEYMEN BAKERS. Several meetings of journeymen bakers have been held and associations have been formed in Bermondsey, Lambeth, Shoreditch, Islington, and other districts of the metropolis, for the purpose of taking steps to procure the abolition of night work in bakehouses, and to reduce the hours of labour from 18 to [illegible] day. Resolutions have been adopted to the effect that

account of the privations and degradation the unlimited hours system has entailed, the meetings pledged themselves to use every means in their power to procure the total abolition of night work, and the restriction of the hours of labour to 12 per day; and that in order to bring about an uniform system, the hours be from 4 A.M. to 4 P.M. The speakers said they did not want to strike, but would certainly do so if they could not obtain their just and reasonable demands in any other way.

New Church Movement.—A new Association called the Church Institution has just been formed in connection with the Church of England. The whole metropolitan circuit is to be divided into 20 districts, and it is proposed that an annual general meeting of the several incumbents in each separate district shall take place for the purpose of appointing as consultees 16 laymen resident therein, to adopt measures for the defence of the Church against attacks in and out of Parliament. Accordingly, where practicable, it is proposed that an association should be formed in every parish, with the usual officers—the president or chairman of each being appointed by the incumbent. In order to secure united action among the several parochial associations it is further proposed that an annual general meeting should take place of the incumbents in each rural deanery, for the purpose of appointing as consultees some convenient number of laymen resident therein; the duty of such local or provincial consultees being to attend, at such times as may be deemed advisable, for the sake of joint advice and common consultation with the clergy. By the rules of the association the Archbishop of Canterbury, the Bishop of London, and the Bishop of Winchester, for the metropolis; and for the country, the bishops of the several dioceses will be solicited to sanction annual general meetings of the clergy for the purposes required. The Institution will encourage social progress, premising that such progress, to be salutary, must rest upon religious principles.

New Church at Knightsbridge.—It is stated that, in consequence of the continued dissatisfaction felt by certain parishioners of the Knightsbridge district with the ceremonial still adhered to by the rector, the Hon. and Rev. R. Liddell, a new church is about to be built on the site of the old chapel or lazar-house, on the high road, Knightsbridge, between Albert Gate and Hyde Park Corner.

The Special Sunday Services.—The services which were conducted last winter in St. James's Hall by Nonconformist ministers, and were attended so largely by the working classes, will be resumed early next month. By permission of the military authorities, religious services have been conducted on Woolwich Common on Sunday afternoons during the past season by ministers connected with the London Diocesan Society, of which the Bishop of London is president. Similar services have taken place on Plumstead Common, under the auspices of the vicar, the Rev. W. Acworth; and by permission of the ranger, Lord Aberdeen, special services have been conducted by various ministers in Greenwich Park on Tuesday and Friday afternoons.

Church of England Book-hawking Union.—The first report of this society, the object of which is to assist the local societies and extend the movement into new districts, has been just published. The following extract will show the nature and results of its operations:—

"The general success of the system of book-hawking has been most encouraging; a few details may be given. A society in the eastern counties, employing one hawker, sold during the year to the amount of 310*l.*; another in the south to the amount of 330*l.* The largest association, employing five hawkers and an assistant, sold nearly 855*l.* worth. In one district, where the work is carried on by an individual clergyman employing one hawker, books and prints were sold last year to the amount of 500*l.* A hawker in the north is selling weekly to the amount of 4*l.* 9*s.* almost entirely among the colliers, visiting each colliery in his district once a month. The average weekly sales of one of the southern hawkers amount to more than five guineas. Another near London sometimes sells 9*l.* worth a week. In addition to the large number of secular works circulated by this means, the sale of Bibles and Prayer books has been considerable. In one midland district 840 Bibles and Testaments were sold in one year; by a southern society 877, and by another 1056. One of the Welsh hawkers sold 410 Bibles in the year. Of Prayer-books and Church Services nearly 1000 were sold by one society, and by others 1100, 1400, and 1700 respectively. The county association before mentioned, which employs six men, sold in one year 2500 Bibles and Testaments and nearly 3000 Prayer-books and Church Services. The large number of prints sold in some districts is worthy of notice; in one, 1200 single prints and volumes were sold in the year, and 166 packets of picture cards, also nearly 200 atlases and single maps. Books of a useful kind, such as those on cookery, gardening, &c., meet with a ready sale. So far as the committee has statistics, the book which has sold most largely in any one district throughout the kingdom, excepting Bibles and Prayer-books, is Sir Joseph Paxton's 'Cottager's Calendar of Gardening Operations.' By some of the book-hawkers periodicals are sold readily, by others not at all, as they cannot of course supply them regularly. Of this class the chief favourite is the 'British Workman,' owing in great measure to the first-rate excellence of its illustrations. The total number of publications sold in the year in some districts was more than 20,000 in each, in one county association 22,000. As an instance of the increase during successive years, a south-eastern society may be referred to in which were sold in the first year 3600 publications, in the second year 4980, in the third year (when a second man was employed) 10,500, and in the fourth year, 13,600. Another society in the same county nearly doubled its sales since the hawker was provided with a donkey-cart. With regard to the class of purchasers, it appears from the records of one district, where an accurate account has been kept, that the comparative numbers were—labourers, 1813; servants, 747; tradesmen, 478; mechanics, 278; gentlemen, 139. In another district there were 1600 labourers, servants, and mechanics who had purchased, and 245 gentlemen. In the report of a southern society it is mentioned that by far the greater number of the Bibles, Testaments, and Prayer-books sold, amounting in all to 1500, were disposed of one by one in the families of labouring men. The immense superiority of small books and tracts to a great extent shows that they go to the right quarter. In one instance it is stated that the average value of publications sold was 4*d.* In another we find more than 40 per cent. of the publications sold for 1*d.*, which gives the same average. In a third, out of 2000 publications sold, 7500 were less than 1*s.* 6*d.* each. In a fourth, out of 4000 only 24 were at 1*s.* and upwards."

The Great Eastern.—It is now announced that the great ship will not visit Southampton, as stated last week, but will leave Weymouth to-day, the 8th inst., on her trial trip. Her course will be to the Scilly Isles, and thence across St. George's Channel to the Old Head of Kinsale, and so on up the Channel to Holyhead, where she is expected to arrive on the 11th inst. No passengers will be conveyed on this trial trip, and all persons who have taken berths for the occasion will have the passage money returned to them. It appears that under the provisions of the Mercantile Marine Acts the Great Eastern would not be permitted to carry passengers, and the directors would be liable to heavy penalties if they did so before receiving the certificate of the Marine Department of the Board of Trade. Should the trial trip prove satisfactory, the ship will leave Holyhead for Portland in the United States on the 20th inst. During the trial trip Mr. Scott Russell and Messrs. Boulton & Watt will have the entire management of the engines without any interference on the part of the company's engineers.—At the Judges' Chambers on Tuesday an application was made to Mr. Justice Byles at chambers, for a writ of *certiorari* to bring up the conviction of Francis Johnson, who was sentenced to one month's imprisonment in Dorchester gaol for refusing to clean the decks on Sunday, and also for a writ of *habeas corpus* to bring up the prisoner. He submitted various objections to the conviction on the face of it, and also that the refusal to work on the Sabbath was not an offence, being within the prohibited work specified in the statute of Charles. After some discussion, his lordship granted orders for the writs, so that the questions may be solemnly argued.

Surrey Gardens.—It is said that Mr. Simpson has purchased the remaining 11 years which the lease of this place has to run, for the sum of 3000*l.*, in order to convert the gardens into a winter garden, the chief feature of which will be skating on the lake.

The Amended Law on Weights and Measures.—Some important alterations have been made in the law relating to weights and measures in the new Act of Parliament passed at the end of the late session. A penalty not exceeding 10*l.* is imposed on any person who shall wilfully and knowingly make or sell or cause to be made or sold any false beam, scale, balance, weight or measure. Hawkers in the streets are now made amenable to the law. It is lawful for every inspector of weights and measures, or other persons duly appointed, to inspect all beams, scales, balances, weights and measures in the possession of any person exposing for sale any goods on any open ground or in any public street, lane, or thoroughfare, or any open place, and if found to be false, or if any fraud be wilfully committed in the using thereof, the same shall be liable to be seized and forfeited, and the person using the same, or having in his possession any such false beams, scales, weights and measures, shall be liable to a penalty not exceeding 5*l.* In default of payment, imprisonment will follow. A clerk or toll collector in any public market may weigh or measure goods offered for sale, and if found to be deficient he may summon the offender, and the justice may award him a part of the penalty as a remuneration for his trouble.

New Inventions in Artillery.—The difficulty hitherto experienced in converting the ordinary cast-iron guns into breech-loaders has at length been surmounted by Mr. Warny, the inventor of the new breech-loading percussion cannon, who has just succeeded in attaching a wrought-iron breech to a cast-iron gun, the first attempt of the kind which has yet proved successful. The gun experimented upon consisted of the ordinary cast-iron barrel, weighing about 40 lbs., which having been rifled, Mr. Warny attached his breech-loading invention to it; the gun being fired by percussion. The breech is provided with a lever fixed at the end, which by one movement lubricates the chamber, primes the nipple, and closes the breech. By an exceedingly simple contrivance the breech can be almost instantaneously detached from the other portion of the gun, so that in the case of a sudden surprise by an enemy, these guns can have their breeches removed and be rendered entirely unserviceable. During the trials made at Chatham to test the new gun it was ascertained that with a small charge of gunpowder the shot could be thrown 4000 yards, or upwards of two miles, while by slightly increasing the charge a range of 5000 yards was obtained, the gun throwing a shower of balls at the rate of 10 per minute, a rapidity of firing which the inventor is able to maintain as long as the ammunition lasts, the current of air admitted each time the breech is opened preventing the gun becoming heated and expanding. Mr. Warny expresses his readiness to take any ordinary metal or cast-iron gun now in use, and to convert it into a breech-loader capable of discharging from 10 to 20 shots per minute a distance of at least three miles, the barrel being previously rifled. A long-range cannon, invented by Mr. Jeffries, patentee of the well-known marine glue, is in course of being mounted in the Arsenal, at Woolwich, for experiments at Shoeburyness. Its range or flight of shot is spoken of as certain to eclipse every other weapon hitherto known. The gun, with its present bore of 3-inch diameter, weighs 7 tons, and presents an appearance of a 68-pounder. The charge will consist of 2 lbs. of powder, and a conical shot, weighted with lead to 9 lbs., and hollowed like the Minié bullet. It is said that this shot will be propelled 15 or 20 miles and the authorities intend to carry out a varied course of experiments with it under the inspection of the School Committee of Woolwich Arsenal. After being satisfied of its power in its present form, the bore will be progressively increased to a 68-pounder. To enable the gunners to point the gun, the trunnions will be fitted with a couple of telescopes, to assist the eye over the enormous range predicted. Some experiments have also been made at Chatham by Captain Norton, to show the method by which sporting guns can be utilised as military arms, and the ordinary muzzle-loading patent breech sporting guns rendered available for military purposes in case of emergency. This Captain Norton proposes to effect by using his gossamer-covered cartridges, with a close-fitting spherical bullet, enclosed in a thin greased patch of elastic cotton net. The result of the trials which have already been concluded leaves no doubt that any ordinary musket may by these means be turned into a military arm. During the experiments Captain Lempriere, instructor of musketry to the Royal Engineers, fired two blank gossamer cartridges from an ordinary 14-bore sporting gun, and a "jacketed" rifle shot was fired with the same description of cartridge from a 14-bore grooved rifle having a patent breech, the results in each case being equally satisfactory.

The Wreck of the Alma.—An official inquiry, instituted by the Board of Trade under the provisions of the Merchant Shipping Act, 1854, was opened at the Greenwich Police Court on Wednesday, for the purpose of ascertaining the circumstances attending the recent loss of the Peninsular and Oriental Company's steam ship Alma in the Red Sea. Mr. Traill, the magistrate, conducted the inquiry, assisted by Capt. Walker as nautical assessor. It is expected that the inquiry will last several days.

Lectures on Social Science.—A course of six lectures on this important subject, embracing all the relations between labour and capital, is about to be delivered by Mr. William Ellis, under the authority of the Committee of Council on Education, at the South Kensington Museum. These lectures are particularly addressed to school teachers, but the general public will be admitted as far as there may be room in the theatre. The first will be given on Tuesday, the 11th, and they will be continued on each succeeding Tuesday.

Purification of the Thames.—The following report on the state of the Thames has been presented to the Metropolitan Board of Works by Mr. Bazalgette, the engineer:—"I beg to report that in consequence of the decrease in the temperature the liming operations were maintained during the daytime only from the 12th of August to the 3d inst., at which latter date, upon the advice of Dr. Miller, the operations were discontinued. The total quantity of disinfectant agents used during the past season has been about 4281 tons of chalk lime, 478 tons of chloride of lime, and 56 tons of carbonic acid, at a cost of 17,733*l.*"

The New Westminster Bridge.—The last rib in the southern portion of the new bridge was completed last week, and it is confidently expected that the southern half of the bridge will be opened in November for carriage traffic.

Movements of Convicts.—Sir John Dean Paul and Mr. Strahan, now under sentence in Woking prison, will be released from confinement on the 23d inst. Robson, Redpath, and Jim the Penman have arrived at their destination, the penal settlement in Western Australia.

Drinking Fountains at the British Museum.—Two drinking fountains of a classical design by an eminent living artist, the material to be of white marble, are in course of erection, one on either side of the portico of the British Museum, which, when completed, will be a great benefit to the visitors. It is also contemplated to fix similar fountains, of approved designs, on conspicuous sites in Kew Gardens, at the South Kensington Museum, and other national places of resort.

The Southern Main Drainage.—A large number of excavators in the employ of the contractor for completing the main drainage south of the Thames have commenced operations in Deptford Broadway, and will continue their work along Church Street to Deptford Creek. An immense amount of earth has already been cleared out.

The Case of Dr. Smethurst.—It is said that the report which was current last week, that inquiries had been instituted with regard to other crimes supposed to have been committed by the prisoner, is without foundation, and that the only question under consideration is what ought to be done with the prisoner under the peculiar circumstances of the case.

The Extraordinary Affair at Stepney.—The Coroner's inquest on the body of Philip Yorath, an infant about three weeks old, the illegitimate child of a young lady, the daughter of a clergyman in Wales, was concluded yesterday, when the jury returned the following verdict:—

"That the said Philip Yorath, an illegitimate child of tender age, in the charge of Elizabeth Yorath, his mother, and the Rev. James Bonwell, did die of inanition, which they find is due to one of two causes: either that it did not or could not swallow food: and the said jurors do further say the deceased was able to swallow, and did swallow, food; but whether sufficient to maintain life they are unable to ascertain; and the said jurors do lastly say, from the evidence it appears the conduct of Elizabeth Yorath and the Rev. James Bonwell and Mr. Ayres the undertaker, is highly censurable."

The Public Health.—The Registrar-General's

report states that the deaths registered in the week which ended October 1st were 1014. Excluding the deaths from epidemic cholera in the two years 1849 and 1854, the present return is considerably below the average of the corresponding week of the years 1849-58. During the week the births of 812 boys and 766 girls, in all 1578 children, were registered in London. In the 10 corresponding weeks of the years 1849-58 the average number was 1621.

## Provincial.

BIRKENHEAD.—The foundation stone of the water tower of the Wirral Waterworks, near this town, was laid with much pomp on Monday afternoon by the Earl of Shrewsbury and Talbot. At the dinner given at the conclusion of the ceremony, the noble lord made the following remarks in reference to his present title and claim to the estates:—

"I am, as you know, by the decision of the House of Peers in the possession of the title of Lord Shrewsbury. I was told before I got that title that when I got it there would be an end to all the dispute. Since that, however, I have gone through several phases of law, and I believe I shall have to go through a few more. So far as we have gone I have had a very elaborate and deliberate judgment, which was in my favour, and which I think it will be very difficult to upset. But still, we all know what are the glorious uncertainties of the law. I say this with great respect for that very great institution of our country, the law; but we all know that there is a glorious uncertainty about the law. I therefore do not like to count my chickens before they are hatched. I am consequently, to a certain extent, in a false position. I am saying this and that as if I were the actual and positive landlord of the place. The judgment may be reversed; I do not think it will, and I am sure that if it is, it will not be of long duration. Still it is possible, and therefore I should speak within bounds. So far as in me lies, if I be continued as the landlord of this locality or not, all that I can say is, that I shall ever entertain the most grateful sense of the kindness with which I have been received; and I shall always feel an interest in the place, and always wish for its prosperity."

BIRMINGHAM.—The number of persons who have already died in consequence of the late explosion is 22, viz., two who have died in the hospital, and 20 whose dead bodies have been dug out of the ruins. The funeral of 14 took place in St. Mary's churchyard on Sunday afternoon in the presence of from 30,000 to 40,000 persons.

BLANDFORD.—At a recent meeting of the Bankruptcy Court in the case of Messrs. Oak & Snow, bankers, of this town, the requisite number of creditors agreed to a proposal by which the joint creditors will receive altogether 5*s.* 8*d.* in the pound, the claimants on the separate estate of Mr. Oak, 6*s.* 4*d.*, and those on Mr. Snow, 18*s.* 6*d.* in the pound. The bankruptcy will, consequently, be annulled.

BURY ST. EDMUNDS.—On the 12th ult. died at Chevington Frances Harris, a very aged woman, who for many years imposed upon the credulous by her reputed witchcraft, until the magic implements containing her "spell" were destroyed at the request of the Rev. Lord Arthur Hervey and Lord Alfred Hervey. Her exact age cannot be ascertained; but it appears from the parish register of Hargrave that she was baptised in 1763, and she has often stated that she well remembered walking three miles to church in pattens to be christened. It is therefore probable that she was 103 years of age at the least.—The *Bury Post* states that the Rev. Dr. Amhurst, Roman Catholic Bishop of Northampton, has been making a "visitation" in Suffolk, a proceeding which has not taken place since the Reformation. A report is current that one of the principal noblemen in Norfolk, who has also large estates in Scotland, has "gone over" to the Church of Rome.

CHATHAM.—The authorities at the Horse Guards have directed a number of officers, non-commissioned officers, and men selected from the East India depôts to proceed to Eastbourne for the purpose of going through a course of instruction in the long range rifle firing and skirmishing practice. They had previously directed a number of young officers who have been recently appointed to the West India Regiments to be attached to the depôts at Chatham, for the purpose of acquiring a knowledge of garrison duties, and taking part in brigade field movements previously to joining the head-quarters of their respective regiments. During their stay at Chatham the officers are to be instructed in field works and pontooning with the Royal Engineers; pitching and striking tents, rifle drill with the Enfield musket, and the great gun drill.

LEEDS.—A warrant has been issued by the magistrates for the apprehension of James Hubert Saddler, the Leeds agent of the Butterley Iron Company, for embezzling money belonging to the company. It has been ascertained that Saddler, who was well known as a cricket player, and has long lived a fast life, left Liverpool in the Nova Scotia steamer with the All England Eleven for Montreal, on the 7th ult. The amount of his defalcations to the company is said to be not less than 1000*l.* He has left a wife and two children behind him, and took with him a young woman with whom he had lived a short time previously at Scarborough. Previous to leaving Leeds he left a letter for his wife, stating that in consequence of his accounts being wrong he was going to India, and intimating that if no proceedings were taken against him he would refund the money.

LEWES.—The inquest on the five persons killed by the explosion of the steam-engine at the recent sheep fair, after several adjournments, terminated on Saturday, when the jury, after two hours' deliberation, returned the following verdict:—

"That the deaths of Reuben Lamport, John Gold, Jesse Upton, Albert Hilder, and Thomas Woodhall were occasioned by the explosion of a steam-engine boiler, on the Wallands, September 21, 1859, caused by the non-action of a safety-valve; and that the said engine, from subsequent examination, has been found to be of inferior quality and construction, and not properly repaired and examined before it was used. The jury feel it their duty to recommend that every portable steam-engine should have an indicating pressure-gauge; and that the present system of employing unskilled persons as engineers requires that all persons so employed should be properly examined and certificated; and that a periodical inspection of such engines should be made by competent persons."

There is another victim to the explosion—namely, George Cox, who was removed to the Brighton Hospital, where he died from concussion of the brain and other injuries. The investigation in this case falls within the province of the coroner for Brighton, and is still in progress.

LINCOLN.—The Dean and Chapter of Lincoln have resolved to devote 2000*l.* to the repairs of their cathedral during the ensuing year. The north-east side of the sacred edifice is to receive attention. Last year 1300*l.* was expended on the cathedral.—The influence of the builders' strike in London has not been unfelt in the provinces. The stonemasons of this city have proposed to their masters that they should leave work at 4 P.M. on Saturday, and have carried their point.

LIVERPOOL.—A good deal of excitement has been caused by the announcement that the officers in the Post Office of this town have been called upon to reply to a series of questions of an inquisitorial character. It appears that some persons in the office having become embarrassed in their affairs and entangled in a system of pecuniary accommodation, an investigation was ordered, and that the postmaster in making the investigation addressed the following questions to these officers, but Mr. Rowland Hill states that he did so without the authority of the Postmaster-General:—

"P. O., Liverpool, Aug. 24.

"For Mr. ——, who I request will carefully answer the following questions, for the information of the Postmaster-General:—1. Where do you reside? 2. What rent do you pay—what taxes? 3. Do you pay the rent quarterly, monthly, or weekly? 4. Have you any income beside that received in your official capacity here, or do you carry on or share profits in any kind of business. If so, state particulars. 5. What family have you? If you have any children state their ages, and whether any of them is in employment; and if so, the wages received and by whom employed. 6. Did your expenditure for the year ended 31st July last exceed your income? If so, what amount? 7. State as nearly as you can the principal items of expenditure, and what caused the excess? 8. State the amount of your debts and to whom they are owing. 9. From whom have you borrowed money during the last two years? When did you borrow it, and has any portion of it been repaid? Have you undertaken to repay debts by weekly instalments or otherwise? 10. Have you lent money to any person in this office? If so, state his name, the amount, and when the transaction occurred; also whether such money or any portion of it has been repaid? 11. Are you bondsman for any person (whether connected with this office or not) who has borrowed money from a loan society? If so, state his name, address, the sum you are surety for, and when the loan was contracted; also the name of the society from which the loan was obtained. 12. State the circumstances fully which led to your present pecuniary embarrassment?"

NEWCASTLE-ON-TYNE.—A pitman named William Harrison has made a statement before the magistrates that he was on the spot when the Burnopfield murder was committed, nearly four years ago, and that he knew the two men who perpetrated it. He says that while he was in the lane he heard a gun fired; and on looking through the hedge into the wood he saw a man, whose name he gives. He also states that he heard a man at the head of the place shout, "Come here." The man who was in the wood, observing Harrison looking at him, asked what he was doing there, and clenched his teeth at him, and said he would kill him. Harrison only saw the man's head and shoulders, but he says he knew him. Harrison also alleges that he has been living in fear of the threats of this man, who, if he be innocent of the charge, may prefer the chance of confronting him to flying from the neighbourhood.

OXFORD.—The Bishop of Oxford has issued a commission to five beneficed clergymen of his diocese to inquire into certain charges alleged against the Rev. William Simcox Bricknell, vicar of Ensham, by Mr. Joseph Druce, ex-churchwarden of that parish. The offences specified are reading the Morning and Evening Prayers and Lessons from the pulpit instead of from the reading-desk; not rehearsing the Ten Commandments, nor reading the Epistle and Gospel at the north side of the communion-table; and suffering the reading-desk to be desecrated by a number of bricks placed there. The commissioners named by the bishop are Archdeacon Clerke; the Rev. Dr. Leighton, rural dean; the Rev. Dacres Adams, vicar of Bampton; the Rev. Daniel Goddard, vicar of Burford; and the Rev. W. E. D. Carter, vicar of Shipton-under-Wychwood.

PLYMOUTH.—The transport ship Clara, 938 tons, Captain Sautry, belonging to Messrs. Teighe & Smith, of London, left this port on Sunday for Calcutta, with 9 married men, 188 married women, 91 boys, and 107 girls, in all 412 persons, the families of soldiers in the East. On the following morning at half-past 3 A.M. she grounded on the rocks under Penare Head, near the entrance to Falmouth harbour. Her guns and blue lights brought a pilot, who assisted in carrying out an anchor astern, by which she was hove off as the tide rose. The pilot states that the Clara's jib-boom was within 50 feet of the cliff, against which she would have gone to pieces had the tide been higher. She returned to this port on Tuesday afternoon, making five inches of water per hour. A telegraphic despatch was shortly afterwards received from the Horse Guards ordering the immediate landing of the passengers while the ship is docked. The chief officer was in charge at the time of the accident, which is attributed to [illegible] draught, or swell of the sea.—A report is in circulation that the managing steward of a landed proprietor in this county has forged the name of his employer to a mortgage of a considerable portion, if not the whole, of his estates, amounting to 100,000*l.*, and that the detective police are on the alert to discover the steward, who has left the place in which he resided.

PORTSMOUTH.—A Russian squadron, comprising a screw line-of-battle ship of 84 guns, a screw frigate of 51 guns, bearing the flag of Rear-Admiral Nordmann, and a screw corvette of 11 guns, arrived at Spithead a few days since from the Baltic, and left on Thursday under steam for the Mediterranean. A Russian screw sloop, one of three ships on their way from Cronstadt to the Amoor River, arrived at Spithead as the other vessels were getting under weigh. The New York liner American Congress, from London for New York with cargo and passengers, ran ashore on Thursday during thick weather on the shoal of the Lead near the Owers light-vessel, where she still remains, though no fear is entertained of her ultimate safety.

TAMWORTH.—A branch of the river Tame, near the Moat House, has been recently piled across in the directions of Sir Robert Peel, with the view of ultimately annexing some waste land near the river to his land. The Town Council of Tamworth having not only the right of fishing the river jointly with other parties, but also claiming, as lords of the manor to the waste lands within the borough, objected to the course pursued by Sir R. Peel, and notice was given to his agent that the encroachment was objected to and would be resisted. The work being still proceeded with, the council resolved that the river should be fished, and all obstructions removed. Accordingly the Mayor and several members of the council and other gentlemen went to the spot on the day appointed, with a strong body of workmen, boats, nets, tools, &c., and proceeded at once to remove the embankment, which was accomplished after several hours' labour in the presence of a large number of people, who appeared to take considerable interest in the proceedings. Sir Robert Peel had been down to the spot the morning before with his steward, but had not prevented his men proceeding with the work.

WAKEFIELD.—On Tuesday Mr. Serjeant Pigott, Mr. Willes, and Mr. Slade, the Commissioners appointed by her Majesty to inquire into the corrupt practices which prevailed at the last election for this borough, opened this inquiry at the Town Hall, and have sat daily during the week. The inquiry is expected to last several days.

WELLS.—A man named James Woolley has been committed by the magistrates for trial on the capital offence of feloniously setting fire to a dwelling house. It appeared that the prisoner had married a daughter of the prosecutor, but that, owing to his idle and dissipated habits, they had lived very unhappily. A few days ago he ill-used his wife with so much brutality that she took shelter in the house of her parents. The prisoner was subsequently heard, while drinking in a public-house, to threaten that he would set fire to their cottage, and this he eventually did. If it had not been for very violent rain everybody in the house must have been burned to death, for he had taken care to set fire to the dwelling at a point where the flames would have cut off all communication between the upper and lower storeys.

## Ireland.

LANDLORD AND TENANT.—The example of [illegible] Derby in effecting a clearance of his tenantry has been followed by Mr. Vincent Scully, the popular Roman Catholic member for the county of Cork, by the Right Hon. John Wynne, M.P. for Sligo, and by Mr. Chearnley, of Salterbridge, county of Waterford, who is said to have served every tenant on ten townlands with notice to quit.

LAW APPOINTMENT.—The chairmanship of the county of Waterford became vacant on Sunday by the death, after a short illness, of Mr. James Bessonett, Q.C., at the ripe age of 76. The Lord-Lieutenant on Monday appointed Mr. John Henry Richards, son of ex-Baron Richards, to the chairmanship vacated by the death of Mr. Bessonett. Mr. Richards was called to the bar in 1839.

THE REVIVAL.—The *Dublin Evening Mail* says that since the commencement of the movement Belfast crime has rapidly increased. It appears that in the months of January, February, March, and April of the present year, the number of persons brought before the magistrates of that city amounted to 370. In May commenced the revivals. In the four months from May to August the number of prisoners brought before the magistrates amounted to 3939.

LORD CLONCURRY ON THE GALWAY LINE.—The Lord Mayor of Dublin gave a dinner on Saturday evening to the directors of the Galway Navigation Company, the Carysfort Mining Company, and other noblemen and gentlemen engaged in Irish enterprise. In the course of the evening Lord Cloncurry, being called upon to respond to the toast of the Irish nobility and gentry, made the following remarks on the Galway line, to the manifest annoyance of the company, who frequently interrupted his lordship with expressions of dissatisfaction:—

"He was proud to have his name associated with that of the country gentlemen of Ireland, whom he looked upon as one of the most useful classes in the country. He thought, however, that he deserved to have his name connected with the line, because for the last 23 or 24 years he believed he had not spo[illegible]

four months altogether out of Ireland. He would have sat down without further remark were it not that he would appear in the light of rather a false position, as it was stated that those present had gone there for the purpose of [illegible] the Atlantic Steam Packet Company. In common with all of them, he wished the greatest success to that company; but at the same time he could not sanctify his opinions, and he hoped they would not think the worse of him for openly announcing them. He repeated that he wished every success to the Atlantic Company, but at the same time he must say that he thought there was a great deal of delusion and mistaken talent in it. He had not heard anything that evening calculated to convince him that the more carriage of passengers and mails would be at such extraordinary advantage to the country at large as some persons seemed to think would be the case. The only way to judge of the future was by the experience of the past. He instanced, for example, that Ireland had possessed a large passenger trade for many years. Every Irish gentleman passed through on his way to London, and yet it was the most stand-still place in existence. He did not wish to throw cold water on the undertaking, but as he had been invited, under the circumstances, to express his views on the subject. He decried that passenger traffic encouraged trade and promoted manufactures. For upwards of a century all the mail and passenger traffic from England to two-thirds of the habitable globe started from Falmouth—one of the most ignorant towns in the south of England. Again he said, that he wished the Galway company every success. If there were a trade—well and good—if the holds of their vessels were taken with merchandise to America, they would have a fair prospect of success; but he believed in his conscience that they would derive more advantage by having a steam communication with France or Russia than by establishing the post and line to America. It was said that England, and Liverpool especially, were jealous of this project. He would stake his existence that there was no jealousy in the bosom of any man in England on the subject. He believed that anything tending to promote the benefit of the most remote part of the country would be sympathised with, rather than impeded by the people of England. Why, then, throw out in the newspapers that England wished to crush this project—that Liverpool was jealous of it, and desired to strangle it? This was unworthy of them."

## Scotland.

The Hume Monument at Montrose.—The inauguration of the monument to the memory of the late Mr. Joseph Hume took place at his native town, Montrose, on Saturday week, in the presence of from 6000 to 10,000 persons. The Provost delivered an inaugural address, and the statue was then unveiled amid enthusiastic cheering. The statue, which has been executed by Mr. Calder Marshall, of London, is in Portland stone, and is about 9 feet in height. The monument has been erected at a cost of 500*l.*, raised by public subscription.

The Forbes Mackenzie Act Commission.—The commissioners appointed to examine the working of the Forbes Mackenzie Act in Scotland met in the Town Hall, Inverness, last week. The commissioners present were Sheriff Monteith (in the chair), Professor Swinton, Mr. Maclean, of Ardgour, Mr. M'Geachy, and Mr. Leslie, of Warthill. The investigation lasted nearly nine hours. The evidence was generally favourable to the working of the Act.

The Ayrshire Banking Company.—An action has been raised in the Court of Session, at the instance of the liquidators of the Western Bank, against no fewer than 250 parties in Ayrshire and Wigtonshire, by whom nearly the whole stock of the Ayrshire Bank was held prior to its amalgamation with the Western Bank.

Trial for Murder by Poisoning.—At the recent sitting of the Inverness Circuit Court David Ross was charged with poisoning his uncle, Walter Ross, carrier, Invergordon, by means of arsenic. They lived in the same house, and the libel charged the prisoner with administering the poison in repeated doses between the 21st of February and the 17th of April, 1859, chiefly in tea, toddy, sago, gruel, &c., by which his uncle died on the 17th of April. Fifty witnesses were examined, and from their evidence and that of the medical men there was no doubt of the fact that death had been caused by arsenic, and Lord Cowan in summing up said there could also be no doubt that the poison was administered to deceased by some other person. The prisoner and his wife attended him during his illness, and no other person gave him either food or medicine. It was proved that the prisoner had purchased arsenic at Tain in February last, but it was contended for the defence that he bought it for the purpose of killing rats, and several witnesses bore testimony to the good feeling that existed between the prisoner and deceased, and to the presence of rats on the premises. The jury after an absence of an hour and a half returned a verdict of Not Proven, by a majority of one.

## Railways.

Explosion of an Engine on the South Coast—On Monday evening as a goods train of 45 trucks was proceeding from Lewes to London, with one engine in front and another in the rear, the boiler of the leading engine burst, when the train was about a mile from Ashcombe. The engine driver and fireman were thrown to a distance of 30 yards, the former with his leg and collar bone broken, and the latter with both legs broken, and one thigh smashed in so shocking a manner that he died soon after his removal to Brighton Hospital. The engine was thrown across the up line, while the tender fell in a transverse direction across the down line. A luggage truck filled with pockets of hops was next to the tender, but owing to the propulsion of the train by the engine in the rear, a cattle truck containing two cows was forced completely over the hop truck, and upon the top of the engine. The guards and the drivers of the second engine escaped unhurt.

## Obituary.

The Earl of Jersey died on Monday last at the family residence in Berkeley Square, in his 87th year. His lordship [illegible] Earl of Jersey, Viscount Villiers of Dartford, and Baron Hyde, County of Kent, in the peerage of England, and Viscount Grandison [illegible] in the peerage of Ireland, was the eldest of the two sons of the fourth earl, by his marriage with the eldest [illegible] of the Right Hon. [illegible], Baronet, of Hagbourne. He was born in August, [illegible] and succeeded to the family honours on the death of his father, [illegible]. He married, first, in 1804, Frances Anne, eldest daughter of the late Right Honourable Spencer Perceval, by whom he had issue [illegible]. He married, secondly, in 1821, Sarah, only daughter of Mr. Bonham Child, of Fleet Street, and leaves surviving issue—Viscount Villiers, Hon. Frederick William Hyde Villiers, Hon. Francis William Child Villiers, and Lady Adelaide married to Captain Alexander, late Fifth Dragoons. [illegible] will be succeeded [illegible] Chess at the [illegible] last year. His lordship [illegible] the family by [illegible] the death of his father in 1805. For a few months in 1830 he held the office of Lord Chamberlain of the King's Household, but on the [illegible] Lord Grey succeeding the Duke of Wellington as First Lord of the Treasury he retired. On Sir Robert Peel's accession to office, in 1834, his lordship was again appointed Lord Chamberlain. In 1841 he was appointed Master [illegible] Horse, which office he held until the breaking up of Sir Robert Peel's second Administration. Although a thorough Conservative in politics, he supported the Government of Sir Robert Peel in the repeal of the Corn Laws and all the [illegible] measures of Reform introduced by that statesman. When the Earl of Derby came into power, in 1852, he was selected, it was stated at the Duchess of Montrose's request, to fill the post of Master of the Horse, and on the Earl of Aberdeen succeeding to Lord Derby in the following year, he was [illegible] by the same noble Lord. His lordship [illegible] Lord Chamberlain's Cabinet. Since that period his lordship, though [illegible] a young and increasing family, retired into private life. Lord Jersey was formerly a warm patron of the turf, and was a member of [illegible] of its most successful supporters. He [illegible] a few years after having won the Derby with a horse called Bay Middleton. His lordship is succeeded in the titles and estates by his eldest son, Viscount Villiers, who was born in 1808, and married in 1841 Miss Peel, eldest daughter of the late Sir Robert Peel, by whom he has a [illegible] family.

Major the Hon. Charles Murray, third son of the second Earl of Mansfield, died at Paris on the 17th ult. He became a major in the 17th Dragoons in June, 1825, but he had for many years retired from active service, and has resided principally on the Continent. He had attained the age of 79 years.

His Excellency the Hon. Louis V. Mason, United States Ambassador at the French Court, died on Monday last in Paris. His death was quite unexpected, as only a day or two previously he was in perfect health. Mr. Mason was originally engaged in the [illegible] profession, but was subsequently attorney-general [illegible] his native state, Virginia, and was an [illegible] friend of the respected [illegible] he [illegible] Minister at Paris during the latter [illegible] Tyler's Presidency.

The Rev John Angell James, of Birmingham, died at his residence in that town on Thursday morning, after an illness of only half an hour, in his 75th year. He was well known as an author, and was one of the most prominent members of the Independent body. His work, "The Anxious Inquirer," is said to have had a larger circulation than any book of its class, having been translated into [illegible] languages. He had been connected with Carr's Lane Chapel, Birmingham, as pastor for nearly 36 years. On the occasion of completing the [illegible] year of his ministry a celebration of the event took place, which was attended by [illegible] from all parts of the country, from America, and the [illegible] and [illegible] testimonials [illegible] a handsome chapel was erected at Edgbaston at the cost of many thousand pounds, in which he preached what proved to be his last sermon on the evening of Sunday week.

## Miscellaneous.

The British Pompeii.—The lovers of our national antiquities will rejoice to learn that the Duke of Cleveland has let to the Committee of Excavations four acres of ground at Wroxeter, the two on which the excavations have hitherto been carried on, and two additional acres adjoining, to be kept permanently open to the public, and not be filled up again. Four acres of the buildings of a Roman town in Britain, ruined in the fifth century, will be a monument of great interest, and not the less so by contrast with the mediæval castles and abbeys with which the county abounds. All that remains now is to obtain money enough to carry out actively the designs of the committee. The recent excavations prove beyond a doubt that the whole mass of the ancient Roman city—that is, the floors and lower parts of the walls—exists underground, and also that a better place could not have been chosen for excavating than that selected by the committee. The following details, gathered from a lecture delivered by Mr. Wright at the recent meeting of the Archæological Association of Birmingham, will be read with interest. After describing by the help of some large maps and plans, the topography of Uriconium, and giving a minute account of its brief history from the second century to its recent exhumation, he stated that it was buried under soil varying from 2 to 3 feet in depth, and had evidently been destroyed by violent means. The recent excavations, carried on with great difficulty and at a large expense, had shown the city to be of very great extent, and certainly the largest remnant of the Roman period in Britain. The date of its destruction could be pretty nearly ascertained by the coins found near the skeleton of an old man, who, when the city was attacked by barbarians, had taken refuge in a hypocaust, the remains of the box in woody fragments and the nails having been found near the coins. From these it appears that the city must have been destroyed about the close of the fourth century, or some 1500 years ago. In the corner of another small room of the baths several skeletons had been found, evidently of persons who had hidden themselves when the city was finally destroyed. Among the other remains found, were large quantities of coins, ladies' hair-pins of horn and bone, brooches, bracelets, rings, and other articles of personal use, two ornaments of silver, a quern for grinding corn, spears, javelins, pickaxes of curious form, and other implements, pieces of pottery, glass, human and animal bones, Corinthian capitals admirably carved, and which must have surmounted columns at the least 20 feet high. Several skulls, remarkable for deformities eminently puzzling to physiologists and phrenologists, and which appear to have belonged to some of the savages by whom Uriconium was destroyed, had also been discovered. These and the other relics have been deposited in the museum at Shrewsbury. The chief architectural peculiarities of the city were that its houses, as far as excavated, consisted of one story only, that the doors were very high in the walls, and that they were apparently lighted from the roof, that these roofs were generally flat, and the floors generally cemented, and not mosaic, as in many Roman cities. A very large palace building had been discovered at the corner of two streets. It was 220 feet long and 80 feet wide, and had a central open court, paved with tiles bricks, in zig-zag fashion. Near it a building had been exhumed, where large numbers of bones, including two very fine antlers of a red deer, were found, and as these were mostly sawn, and several weights were found near, it was supposed to be a manufactory of bone and ivory goods. Only a very small portion of the soil had at present been removed, but enough had been done to show that a very valuable and to the illustration of the history of Britain at the period of the decline of the Roman power would be obtained by further research. The pottery found was of two classes, a red kind and one white, and exactly similar to the modern Broseley ware. Specimens of pottery in which harder substances had been employed, to form mortaria and triturating vessels, had been discovered, with pieces of remarkably good window glass, grains of wheat, and an elegantly formed vase or urn of Upchurch pottery, almost in an entire state, which contained besides the common soil with which it was filled a single iron nail and some bones not human. In the southern part of the ground an undoubted street had been met with running eastward from the Watling Street Road, and bounded apparently on the south by houses. This street appeared about four yards south of the centre of the great building containing so many hypocausts. The progress of the excavations in the more important part of the area has hitherto been impeded by the accumulation of earth taken out of them, but as it has now been resolved to keep a portion of the ruins open to the public, this difficulty will be at once removed by carting the earth away.

BIRTHS.—On the 27th ult. at Sconser Lodge, Isle of Skye, Lady Margaretta of Dunvegan House, Yorkshire, of a daughter—26th ult. at Bridgnorth, county Clare, the Lady Frances of a son—7th inst. at 8, Queen's Gate, Lady Dorothea, of a son—26th ult. at Hedgerley, county Worcester, the Hon. [illegible] of a son and heir—25th ult. at Peterborough, Mrs. Maurice Bryan, of a son—the Hon. Mrs. Sackville, wife of the Dean of Peterborough, of a daughter—25th ult. at Dover, the wife of the Hon. Rawson Hankey, of a daughter—25th ult. at Claremont, near Cape Town, the wife of the Hon Rawson W. Rawson, Esq., C.B., Colonial Secretary of the Colony of the Cape of Good Hope, of a son—26th ult, at Bellefield House, Pulham, the wife of Henry B. Sturmer, Esq., M.P., of a son.

MARRIAGES.—On Tuesday, the 4th inst, at All Saints', Knightsbridge, the Rev. William Arthur Duckworth, eldest surviving son of William Duckworth, Esq., of Orchardleigh Park, Somersetshire, to the Hon Edith Campbell, youngest dau. [illegible] of the Lord Chancellor and the late Strathedon and Campbell—[illegible] at St. Pancras Church, Sir William Carnac Rae Ansteruther, of Westrow and Carnbee, Bart., to Mary Ann, second daughter of John Paterson, Esq.—27th ult, at Hove Parish Church, Arthur Hochepied Larpent, Esq., eldest son of Baron de Hochepied Larpent, of Hurstwood House, Dorking, to Catherine Mary, youngest daughter of Colonel Melville, Military Secretary to the Government of Bombay—[illegible] August, at Pictou, Nova Scotia, Augustus H. A. Hendrie, Esq., R.N., son of the late Right Hon. Sir Andrew Hendrie, of New Hall, Suffolk, to Lucie C. Hopkins, widow of the late Hon. Joseph Hobrecht, of Prince Edward's Island, and youngest daughter of the late Captain Campbell, R.N.—1st inst, at the Bavarian Chapel, Warwick Street afterwards at St. James's Church, Piccadilly, Arthur, second surviving son of the late Col. Houston, of Tarbeigh Castle, Somerset, to Martha, widow of the late H. Petre, Esq. of Dunkenhalgh, Lancashire—28th ult. at St. Mary's, Carlisle, Lewis Gilby, LL.D. of Sandford Park, Oxfordshire, and Master of Caius College, Cambridge, to Anne, widow of the late Robert Murray Banner, Major 93d Highlanders, and daughter of Joseph Ferguson, Esq., of Morton, Carlisle—29th ult, at West Horsley, Edward Robert Sullivan, Esq., second son of Vice-Admiral Sir Charles Sullivan, Bart., to Mary, youngest daughter of Henry Cubitt, Esq., of West Horsley Place—4th inst, at St. James's Church, Piccadilly, Charles Campbell Pigneel, Esq., eldest son of William Pringle, Esq., of Annery, Surrey, to Letitia Elizabeth, eldest daughter of Gordon Willoughby James Gyll, Esq., of Lower Seymour Street, Portman Square, and of Wraysbury, Bucks—4th inst, at Wrest, near Bawtry, Major General Charles Warren, C.B., to Mary, the second daughter of the Rev. George Bethell, late Fellow of Eton College—1st inst, at Brighting Church, Sussex, Major-General John Ludlow, H.E.I.C.S., to Bella Leigh, second daughter of Benjamin Smith, Esq., of Blandford Square, and of Goldstone, Sussex.

DEATHS.—On the 12th of August, at Benares, East Indies, John Steel, Esq., Lieutenant 1st Batt. 60th Royal Rifles, second son of Major-General Sir Soudamore W. Steel, K.C.B., aged 29—24th inst. at 4, Clarence Terrace, Leamington, Mary Georgina, wife of John Hampden, Esq., and sister of the late Sir Edmund Filmer, eighth baronet, M.P., of East Sutton Place, Maidstone, Kent, aged 53—21st inst, at Ryde, Lieut.-Colonel Harding, of Cheltenham, aged 79—24th ult. of consumption, at Pentire Castle, Cornwall, Elizabeth, youngest daughter of the late J. T. Corytos, Esq.—28th ult, at the residence of her father, the Venerable Archdeacon Croft, in the Precincts, Canterbury, Anna Maria, widow of the late Henry Coape Kingsford, Esq.—2d inst, at Cambridge, Mary Ann, widow of the late Lieut. Gen. B. W. D. Sealy, aged 70—24th ult, at Homburg, Frankfort on the Maine, after a long illness, Denzil Ibbetson Thomson, Esq., of 29, Great Cumberland Place, Hyde Park, a Justice of the Peace, and Deputy-Lieutenant of the county of Middlesex, aged 70—26th ult, the Rev. Frederick Stephen Bevan, Rector of Carleton Rode, Norfolk, Hon. Canon of Norwich Cathedral, and Rural Dean—24th ult, the Rev. Robert Bailey Fisher, M.A., 46 years vicar of Basildon, aged 73—27th ult, at her residence, 24, Montpelier Road, Brighton, Anne, relict of the late Rev. Robert Bolton, of Pelham Priory, United States, America, and eldest daughter of the late Rev. Wm. Jay, of Bath, aged 65.

# Markets.

### COVENT GARDEN.—Oct. 8.

Pine Apples and Grapes continue plentiful. Pears consist chiefly of Marie Louise, Duchesse d'Angoulême, and Beurré Diel. The best dessert Apples at present in the market are the Ribston and King of the Pippins. What are termed soft fruits are now nearly over. New Madeira Oranges have just arrived. Good Filberts may be had for 9d. per lb. Cabbages, Beans, Carrots, and Artichokes may be obtained in quantity. Cauliflowers are scarce. Potatoes realise from 4s. to 8s. per cwt. Cucumbers abundant. Cut flowers chiefly consist of Orchids, Gardenias, Dahlias, Violets, Mignonette, China Asters, Heaths, and Roses.

#### FRUIT.

| | |
|---|---|
| Pine Apples, per lb., 5s to 7s | Apples, per ½ sieve, 1s 6d to 3s |
| Grapes, per lb., 2s to 5s | Pears, per ½ sieve, 6s to 10s |
| Melons, each, 2s to 4s | Lemons, per doz., 1s to 1s 6d |
| Figs, per doz., 2s | Filberts, p. 100 lbs., 50s to 60s |
| Plums, per punnet, 1s to 2s 6d | Cobbs, do., 60s to 70s |

#### VEGETABLES.

| | |
|---|---|
| Cauliflowers, per doz, 2s to 4s | Artichokes, per doz., 2s to 3s |
| Greens, per dozen bunches, 2s to 2s 6d | Beet, per doz., 1s 6d to 2s |
| Cabbages, do., 1s 6d to 2s 6d | Celery, p. bundle, 1s to 1s 6d |
| French Beans, p. half sieve, 2s to 2s 6d | Onions, p. half sieve, 1s to 1s 6d |
| Potatoes, p. ton, 90s to 100s | — Portugal, each, 2d to 4d |
| — per bus., 2s to 2s 9d | Shallots, per lb., 6d to 8d |
| — per cwt., 4s to 6s | Garlic, per lb., 6d to 8d |
| Carrots, per bunch, 6d | Lettuces, Cabb., per score, 1s to 1s 6d |
| Turnips, per bunch, 4d | Endive, p. score, 1s to 1s 6 |
| Spinach, p. sieve, 1s 6d to 2s | Horse Radish, p. bun. 1s 6d to 4s |
| Cucumbers, p. doz., 1s to 1s 6d | Mushrooms, p. pott, 1s 3d to 1s 9d |
| Frame do., each 4d to 6d | Parsley, p. 12 bunches, 2s to 4s |
| Tomatoes, p. ½ sieve, 2s 6d to 3s 6d | Savory, per bunch, 2d to 4d |

### HOPS.—Borough Market, Friday, Oct. 7.

Messrs. Pattenden & Smith report that the market is firm, and fine samples in good demand.

### COAL MARKET.—Friday, Oct. 7.

Bate's West Hartley, 14s.; Buddle's West Hartley, 15s.; Byass's Bebside West Hartley, 15s.; Holywell, 15s.; Tanfield Moor Butes, 12s. 9d.; Walls End Acorn Close, 16s. 9d.; Wylam, 15s. 6d.; Walls End Eden, 16s. 9d.; Walls End Hilda, 16s.; Eden Main, 16s. 6d.; Walls End Braddyll's Hetton, 17s. 6d.; Walls End Framwellgate, 16s.; Walls End Haswell, 18s.; Walls End Hetton, 18s.; Walls End Kepier Grange, 17s. 6d.; Walls End Russell's Hetton, 17s. 6d.; Walls End South Hetton, 17s. 9d.; Walls End Cassop, 17s. 3d.; Walls End Heugh Hall, 16s. 6d.; Walls End Kelloe, 17s. 6d.; Walls End Shincliffe, 16s.; Walls End Whitworth, 15s. 6d.; Carway and Duffryn Malting, 22s. 6d.; Lyon's Stone 19s.; Nixon's Duffryn, 22s. 6d.; Powell's Duffryn Steam, 22s.—107 ships at market.

### HAY.—Per Load of Thirty-six Trusses.

#### Smithfield, Thursday, Oct. 6.

| | | | | | |
|---|---|---|---|---|---|
| Prime Meadow Hay | 60s | 70s | Clover | 90s | 100s |
| Superior do. (old) | 72 | 80 | New Clover | — | — |
| Inferior do. | 50 | 55 | Second cut do. | 60 | 90 |
| New do. | — | — | Straw | 25 | 30 |
| Rowen | 40 | 50 | | | |

Davis & Co.

#### Cumberland Market, Thursday, Oct. 6.

| | | | | | |
|---|---|---|---|---|---|
| Sup. Meadow Hay | 78s | 86s | Inferior Clover | 70s | 88s |
| Inferior do. | 60 | 72 | New do. | — | — |
| New do. | — | — | Straw | 31 | 35 |
| Superior Clover | 94 | 100 | | | |

Joshua Baker.

#### Whitechapel, Thursday, Oct. 6.

| | | | | | |
|---|---|---|---|---|---|
| Fine old Hay | 76s | 82s | Fine old Clover | 96s | 105s |
| Inferior do. | 60 | 72 | Inferior do. | 84 | 95 |
| Prime New Hay | — | — | Fine new Clover | — | — |
| Inferior do. | — | — | Fine 2d cut | 70 | 84 |
| Straw | 26 | 30 | Inferior do. | — | — |

### BRITISH WOOLS.—London, Friday, Oct. 7.

The large amount of business transacted during the last few weeks has naturally produced a comparative scarcity of wool in this market, and at the same time the wants of the consumers having been supplied there is no demand of any urgency. Prices remain firm.

| | s. | d. | | s. | d. |
|---|---|---|---|---|---|
| South-down Hoggets | 1 | 8 to — | Leicest. Wethers | 1 | 5 to — |
| Half-bred ditto | 1 | 8 — — | Ditto Hoggs | 1 | 7 — — |
| Down Ewes | 1 | 6 — — | Combing Skins | — | — — |
| Kent Fleeces | 1 | 7 — — | Blanket ditto | — | — — |
| | | | Flannel Wool | 1 | 2 — 1 7 |

### METROPOLITAN CATTLE MARKET.

#### Monday, Oct. 3.

The supply of Beasts is very much smaller, yet the trade is by no means brisk; however, prices on the average are better. The number of Sheep is about the same as on Monday last. The demand has increased, and prices consequently have advanced. Good Calves are in demand. From Germany and Holland there are 1190 Beasts, 6130 Sheep, and 64 Calves; from Scotland, 40 Beasts; from Ireland, 550; and 2100 from the northern and midland counties.

| | s | d | s | d | | s | d | s | d |
|---|---|---|---|---|---|---|---|---|---|
| Best Scots, Herefords, &c. | 4 | 8 to | 5 | 0 | Best Long-wools | 4 | 8 — | 5 | 0 |
| Best Short-horns | 4 | 6 — | 4 | 10 | Do. Shorn | .. | .. — | .. | .. |
| 2d quality Beasts | 3 | 6 — | 4 | 0 | Ewes & 2d quality | 4 | 2 — | 4 | 6 |
| Best Downs and Half-breds | 5 | 2 to | 5 | 4 | Do. Shorn | .. | .. to | .. | .. |
| Do. Shorn | .. | .. — | .. | | Lambs | .. | .. .. | — | .. |
| | | | | | Calves | .. | .. | 4 4 — | 4 10 |
| | | | | | Pigs | .. | .. | 4 0 — | 5 0 |

Beasts, 4570; Sheep & Lambs, 22,080; Calves, 103; Pigs, 610.

#### Thursday, Oct. 6.

The number of Beasts is not large, but fully equal to the demand. The warm weather operates against the trade, and prices are scarcely as good as on Monday. There are very few good sheep on offer, and they realise Monday's quotations, but trade is dull for inferior. Calves are rather lower. From Germany and Holland there are 179 Beasts, 1290 Sheep, and 194 Calves; from the northern and midland counties, 500 Beasts; and 112 Milch Cows from the home counties.

| | s | d | s | d | | s | d | s | d |
|---|---|---|---|---|---|---|---|---|---|
| Best Scots, Herefords, &c. | 4 | 8 to | 4 | 10 | Best Long-wools | 4 | 8 — | 5 | 0 |
| Best Short-horns | 4 | 6 — | 4 | 8 | Do. Shorn | .. | .. — | .. | .. |
| 2d quality Beasts | 3 | 4 — | 4 | 4 | Ewes & 2d quality | 4 | 2 to | 4 | 6 |
| Best Downs and Half-breds | 5 | 2 — | 5 | 4 | Do. Shorn | .. | .. — | .. | .. |
| o. Shorn | .. | .. — | .. | | Lambs | .. | .. .. | — | .. |
| | | | | | Calves | .. | .. | 4 0 — | 4 8 |
| | | | | | Pigs | .. | .. | 4 0 — | 4 8 |

Beasts, 1127; Sheep & Lambs, 5010; Calves, 297; Pigs, 180.

### MARK LANE.—Monday, Oct. 3.

The supply of English Wheat to this morning's market was small, and nearly the whole of very poor quality and condition; the few good samples were picked at fully last week's prices, but the value of the others continues to be irregular. The attendance again included several distant buyers from the country; this caused foreign Wheat to be held for somewhat enhanced rates, which resulted in a very limited business; we advance our quotations for old Dantzic 2s per qr. Fine malting Barley brings full prices, inferior descriptions are difficult of sale and rather cheaper; for foreign grinding there is a good demand. New Beans are 1s. per qr. cheaper. Peas are unaltered in value, with a good demand for fine boilers. The Oat trade is quiet, but Russians bring an advance of 6d. per qr. Prices of Flour are unaltered.

| Per Imperial Quarter. | s. | s. | | s. | s. |
|---|---|---|---|---|---|
| Wheat, Essex, Kent, & Suffolk..White | 34 | 46 | Red .... | 36 | 41 |
| — — fine selected runs..ditto | 42 | 44 | Red .... | 38 | 44 |
| — — Talavera ..... | 40 | 50 | | | |
| — Norfolk ..... | — | | Red .. | — | |
| — Foreign ..... | 38 | 54 | | | |
| Barley, grind. & dist., 24s to 30s..Chev. | 38 | 44 | Malting . | 34 | 40 |
| — Foreign..grinding and distilling | 23 | 28 | Malting . | — | |
| Oats, Essex and Suffolk ..... | 19 | 22 | | | |
| — Scotch and Lincolnshire..Potato | 23 | 25 | Feed.... | 19 | 24 |
| — Irish .....Potato | 24 | 25 | Feed.... | 19 | 22 |
| — Foreign ..... Poland and Brew | 23 | 26 | Feed.... | 17 | 24 |
| Rye ..... | — | | Foreign . | — | |
| Rye-meal, foreign..... | — | | | | |
| Beans, Mazagan.... 31s to 39s....Tick | 34 | 41 | Harrow . | 34 | 41 |
| — Pigeon .....41s — 45s..Winds. | 48 | 51 | Longpod | — | |
| — Foreign ..... Small | 38 | 46 | Egyptian | — | |
| Peas, white, Essex and Kent..Boilers | 36 | 41 | Suffolk . | 35 | 43 |
| — Maple .... —s to —s ..... Grey | 33 | 35 | Foreign . | 30 | 38 |
| Maize ..... White | — | | Yellow.. | — | |
| Flour, best marks delivered..per sack | 37 | 43 | | | |
| — 2d do. ..... ditto | 27 | 37 | Country. | 27 | 37 |
| — Foreign ..... ... per barrel | 18 | 27 | Per sack | 30 | 37 |

#### Friday, Oct. 7.

The weather during the past week has been remarkably fine and unusually warm. Our Baltic and Hamburgh advices of this morning generally quote an advance of 1s. to 2s. per qr. upon Wheat. Great firmness has characterised the Wheat trade during the past week, and in several of the principal markets of the kingdom it is quoted 1s. per qr. dearer, particularly for fine qualities, but this in many instances has produced inactivity. Business in all kinds of Spring Corn has remained without alteration. Excepting in Liverpool and Glasgow, where Flour is quoted 1s. per sack higher, no change has occurred. The arrivals of grain and seed-laden vessels off the coast for orders from Southern Europe are again considerable this week, consisting chiefly of Wheat and Maize. The sales also continue on a liberal scale, including Marianopoli Wheat at 43s. 9d. to 45s. and Taganrog Ghirka at 42s. 6d. to 44s. per 496 lbs.; Ibrail Maize at 25s. 6d. o 26s. 9d. per 480 lbs.; Galatz at 28s. 9d. to 29s. 3d. and Odessa at 27s. 10 d. each per 492 lbs.; Egyptian Barley at 22s. 3d. and Odessa at 23s. 6d. per 400 lbs.; Taganrog and Odessa Linseed at 44s. 3d. to 44s. 6d. per qr. delivered. The arrivals of foreign Barley are large, of other grain moderate. The attendance at to-day's market was small; nevertheless English Wheat commanded the extreme prices of Monday, and in a few instances that day's currency was rather exceeded for foreign, but the demand continues to be limited. In the value of Barley, Beans, and Peas there is no alteration. The Oats trade is slow, and Russian qualities are 6d. per qr. cheaper.

#### Arrivals from Oct. 3 to Oct. 7.

| | Wheat. | Barley. | Oats. | Flour. |
|---|---|---|---|---|
| English .. | 1630 qrs. | 1350 qrs. | 610 qrs. | 2960 sks. |
| Irish .... | — ,, | — ,, | 130 ,, | — ,, |
| Foreign .. | 9240 ,, | 9080 ,, | 20150 ,, | 230 ,, — brls. |

Liverpool, Tuesday, Oct. 4.—Grain market dull and attendance small. Holders of Wheat ask higher prices, which checks business. Fine French Flour firm; lower sorts neglected. Indian Corn and Egyptian Beans rather cheaper, and in limited demand. Other articles without change.

Friday, Oct. 7.—In Wheat there was a fair business at full Friday's prices. Flour steady at the advance. Indian Corn 6d. dearer. Retail trade—Beans steady; Oats and meal without alteration. Limited attendance at market.

| Averages | Wheat. | Barley. | Oats. | Rye. | Beans. | Peas. |
|---|---|---|---|---|---|---|
| Aug. 27.. | 44s 1d | 32s 11d | 25s 5d | 32s 8d | 44s 6d | 37s 9d |
| Sept. 3.. | 44 5 | 34 8 | 24 5 | 30 11 | 43 5 | 38 10 |
| — 10.. | 44 0 | 33 9 | 23 0 | 31 6 | 41 8 | 37 10 |
| — 17.. | 42 9 | 35 8 | 21 7 | 30 6 | 40 4 | 38 8 |
| — 24.. | 41 11 | 35 5 | 21 7 | 30 6 | 40 4 | 38 5 |
| Oct. 1.. | 42 1 | 35 9 | 20 10 | 29 9 | 39 7 | 38 5 |
| Agg. Aver. | 42 10 | 34 8 | 22 10 | 31 0 | 41 7 | 38 4 |

#### Fluctuations in the Last Six Weeks Averages.

| Prices. | Aug. 27. | Sept. 3. | Sept. 10. | Sept. 17. | Sept. 24. | Oct. 1. |
|---|---|---|---|---|---|---|
| 44s 5d | — | .. | .. | .. | .. | .. |
| 44 0 | .. | .. | .. | .. | .. | .. |
| 42 9 | .. | .. | .. | .. | .. | .. |
| 42 1 | .. | .. | .. | .. | .. | — |
| 41 11 | .. | .. | .. | .. | .. | .. |
| 41 10 | .. | .. | .. | .. | — | .. |


WANTED, by a gentleman in the County of Oxford, an ARTICLED PUPIL. A limited number of Boarders are taken. Terms moderate.—Apply to Alpha, Kingham, Oxon.

WANTED, in the county of Pembroke, a Man competent to act as GROOM and GARDENER, for a small place, and plain Kitchen Garden. Wages, 24l. a year, with Board.—Address, A. B., Post Office, Narbeth.

WANTED, a first-rate hand to undertake the PACKING DEPARTMENT.—Must be a strong, active, and good Workman, who has had great practice. Wages, 18s. per week. None need apply whose character will not bear strict investigation.—Richard Smith, St. John's Nurseries, Worcester.

WANTED, a DAIRYMAN, of middle-age, accustomed to the Dairy on the Stall Feeding System, to establish a small Dairy Farm not yet fully organised.—Inquiries addressed post paid to Mr. Martin, Pulborough, Sussex. N.B. A good Dwelling House, and if the Wife will undertake to Dairy from 12 to 20 cows, it will be considered a preferable arrangement.

WANTED, as NURSERY FOREMAN, in a Country Nursery, principally for the Hardy Department, a respectable, active, trustworthy Man, not under 25 years of age, who well understands his profession, viz., the Propagating and Growing all kinds of Trees and Shrubs, including Coniferæ, American Plants, Roses, Fruit Trees, &c. He must be quite competent to Direct the hands employed. None need apply whose character for sobriety, honesty, industry, &c., will not bear the strictest investigation.—Applications in own handwriting Address, &c., may be forwarded, post paid, to Messrs. Hurst & M'Mullen, Seedsmen, &c., 6, Leadenhall Street, London, E.C., stating experience, wages, references, &c.

WANT PLACES.—Letters to be Post Paid.

GARDENER (Head).—Age 27, married; no incumbrance; understands his profession in all its branches. Good character.—S. M., Post Office, Dedham, Essex.

GARDENER (Head).—Age 27, married, no incumbrance: understands the Growing of Cucumbers, Melons, the management of Greenhouse, Flower, and Kitchen Gardens.—F. M., R. Pain, Nurseryman, Uxbridge.

GARDENER (Head).—Age 30, married; thoroughly competent in every branch of his profession. First-rate good character.—J. P., H. Woodyer's, Esq., Grafton, Guildford, Surrey.

GARDENER (Head).—Age 36; thoroughly understands his profession, Forcing, &c. First-rate character from the gentleman he is about to leave.—H. H., Seedsman, High Street, Cliffe, Lewes, Sussex.

GARDENER (Head).—Age 28, without incumbrance; has a thorough knowledge of Vines, Peaches, Melons, Cucumbers, Stove and Greenhouse Fruit, Flower, and Kitchen Gardens.—A. B., 5, King's Road, Kentish Town, N.W.

GARDENER (Head).—Age 32, married, no family; 16 years' experience in Forcing all kinds of Pine, Vegetables, Plants, routine of Kitchen and Flower Gardens. Upwards of 8 years' recommendation from last employer.—A. R. G., Messrs. Lee's Nursery, Hammersmith, London.

GARDENER (Head).—Age 30; thoroughly understands the Growing and Forcing of Pines, Vines, Peaches, Strawberries, Cucumbers, Melons, Stove and Greenhouse Plants; management of Flower, Fruit, and Kitchen Gardens. Unexceptionable references as to character and ability.—W. B. R., Post Office, Week Street, Maidstone, Kent.

GARDENER (Head).—Age 36, married, no incumbrance; has a thorough knowledge of his profession. A situation from 20 to 30 miles from London preferred. Wages 1l. per week with House. Part of the Wife's time required. Good references.—A. B., Mr. Green's, Farm, Kingsland Road, Shoreditch, N.E.

GARDENER (Head).—Age 30, married; thoroughly understands the cultivation of Orchids, Ferns, Stove and Greenhouse Plants, together with Pines, Vines, and every description of Early and late Forcing; also a first-rate Flower and Kitchen Gardener. Has been a successful exhibitor of Plants and Fruit at the metropolitan exhibitions.—Messrs. Low & Co., Clapton Nurseries, London, N.E.

GARDENER.—Age 26, single; well understands his profession in all its branches. Can be well recommended by his present and previous employer.—T. A., Hall Gardens, near Worksop.

GARDENER (Single-handed).—Age 30, single; four and a half years' character. Objects to manage Cows or Pigs. Out of the house preferred.—L. B., No. 2, Dartmouth Row, Forest Hill, Sydenham, S.

GARDENER or WORKING BAILIFF.—Age 30, married; highly recommended from late employer. Five years' character.—R. T., Post Office, Hillingdon, Middlesex.

GARDENER, or GROOM and GARDENER.—Age 39, married, two children. Wife would assist in Dairy or Laundry.—W. X., Vang Rectory, Stanford Hill, Essex.

GARDENER (Under).—Strong, active, and willing; has had a thorough good practice in Forcing and Plant-growing for exhibition; leaving in consequence of the break-up of the establishment. Highest references.—F. Jones, Hucclecote Gardens, near Gloucester.

GARDENER (Under) or FOREMAN.—Strong, active, and willing; has had 3 years' practice in Forcing and Plant-growing for exhibition; leaving in consequence of the break-up of the establishment. Highest references.—W. Nutting, Hucclecote Gardens, near Gloucester.

GARDENER (Under).—Age 35, single; understands Early and Late Forcing, Vines, Flower and Kitchen Gardens. Highly recommended.—J. B., Mrs. Bryan, 23, Week Street, Maidstone, Kent.

FARM BAILIFF or STEWARD.—Perfectly understands his profession, having farmed Clay, Sand, and Chalk Land. Has had great experience in Buying and Selling Wise Breeding and Feeding Stock. Respectable references—present employer.—K. T., Mr Chandler, Printer, Basingstoke.

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HEAD SHOPMAN, or TRAVELLER.—A persevering young Man, of good address and steady habits; has had 14 years' experience in first-class houses in the provinces, and is thoroughly conversant with the Seed trade in all its departments.—Apply X. L., Post Office, Sheffield.

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SHOPMAN.—Young Man; has been 8 years in London and Provincial houses, and has a thorough knowledge of every branch of the business.—S. D., 5, Trinity Place East, Hackney Road, London, N.E.

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## News of the Week.

THE EMPEROR OF THE FRENCH on Tuesday delivered a speech at Bordeaux which has produced as great a sensation in the ranks of the

Roman Catholic priesthood as that which was produced in the political world a few years ago by the celebrated speech which proclaimed in the same city that "the Empire was peace." An address had been presented to the EMPEROR by the CARDINAL ARCHBISHOP of Bordeaux in the name of the clergy of the diocese, in which HIS MAJESTY was urged to put an end to the anxieties of the Catholic world by securing to the POPE the integrity of his temporal power. In reply to this address, the EMPEROR indirectly rebuked the ultramontane violence which has recently been exhibited by several of the French bishops, by thanking his Eminence for having understood his high mission by "endeavouring to strengthen confidence in HIS MAJESTY'S good intentions rather than spread needless alarms." The EMPEROR expressed his hope that a new era of glory would rise for the Church on the day when the whole world would share his conviction that "the temporal power of the POPE was not opposed to the liberty and independence of Italy." HIS MAJESTY said that the Government which restored the Holy Father to his throne could only give him such counsels as were dictated by a respectful and sincere devotedness to his interests; but HIS MAJESTY was anxious, and with good cause, about the day which "must soon come," when Rome will be evacuated by his troops; for Europe cannot allow the occupation of Rome by the French troops, which has already lasted for 10 years, to be indefinitely prolonged. "When our army shall be withdrawn," said HIS MAJESTY, "what will it leave behind? Anarchy, terror, or peace?" These are questions, he said, the importance of which no one can deny, and in order to resolve them in the times in which we live, it is necessary, instead of appealing to ardent passions, to search with calmness for the truth, and to pray to Providence to enlighten peoples as well as Sovereigns on "the wise exercise of their rights, and the extent of their duties."

It was reported in Paris on Thursday that the Plenipotentiaries at Zurich had at length received instructions to put their signatures to the Treaty of Peace, so far as it relates to the surrender of Lombardy and the amount of the Lombard debt to be borne by Sardinia. The question of the Duchies, it is said, is to be referred to a Congress at which all the Great Powers, including England, will be represented.

Accounts from Constantinople state that the conspiracy recently discovered in that city was far more serious than at first supposed. It appears to have had ramifications in all parts of the Empire, and to have numbered among its adherents at least two members of the SULTAN'S family, several Pashas, Muftis, and other personages of high rank, and about 15,000 troops. The object of the conspiracy was not only to depose the SULTAN in favour of his brother, who is very popular with the orthodox Mussulmans, but to obtain the recall of the Hatti Humayoun of 1856, and to put an end to the existing system of wasteful extravagance, of which the troops and the people are victims. The latest news adds to these details that incendiary machines which were intended to burn the European quarters of the capital have been discovered, and that the Ambassadors have held meetings to deliberate on the measures to be recommended for the public safety.

## Home News.

THE QUEEN'S RETURN FROM SCOTLAND.—The Queen, Prince Consort, and the Royal family left Balmoral at half-past 10 on Thursday morning, and took the railway at Banchory at half-past 12. The Royal party lunched at Stonehaven, passed through Perth at 4, and arrived at Edinburgh at 20 minutes after 6, the railway journey of 177 miles having been run in less than six hours. Her Majesty alighted at St. Margaret's station, and drove through the park to Holyrood under a salute from the Castle heights. The Duke of Buccleuch, General Viscount Melville, and Sheriff Gordon were in attendance to receive the Royal party. The Duke of Newcastle accompanied her Majesty as Secretary of State. The Queen and Royal family remained at Holyrood on Thursday night, and at 10 o'clock yesterday morning left Edinburgh for Loch Katrine, in the Trossachs, to inaugurate the opening of the new waterworks for the supply of the city of Glasgow, returning to Holyrood in the evening. This morning the Queen, Prince Consort, and Royal family will leave Edinburgh for Penrhyn Castle, near Bangor, travelling by the Lancashire and Carlisle and London and North-Western Railways, through Carlisle, Lancaster, Preston and Chester. The Royal train is appointed to leave Edinburgh at 9 o'clock, and to arrive at Bangor at 5.40 this afternoon, stopping half an hour at Lancaster at 2.12 for refreshment.

THE QUEEN AT BALMORAL.—On Wednesday week the Queen and Princess Alice drove to Alt na Gussack. The Prince Consort and the Prince of Wales went out deer-stalking. The Duke of Newcastle arrived on a visit. In the evening her Majesty gave a ball to the gillies and tenants. On Thursday the Queen, accompanied by Princess Alice and Prince Arthur, drove to Craig Spanie and rode back to the Castle. The Prince Consort went out deer-stalking. The Prince of Wales drove to Mar Lodge. Mr. Headlam arrived on a visit to her Majesty. On Friday the Queen, accompanied by the Prince Consort, the Prince of Wales, and Princess Alice, undertook the ascent of Ben Muick Dhui. The Royal party left the Castle at a quarter before 9 o'clock in the morning and drove by Castleton to the Derry Shiel, in Glen Derry, where they found their hill ponies. They reached the summit of Ben Muick Dhui by 2 o'clock, and returned to Balmoral at a quarter-past 8 in the evening. Mr. Headlam left the Castle. On Saturday the Queen, accompanied by Princess Alice and Princess Helena, drove to Loch Bullig. The Royal party then proceeded to Doldoonie, where they mounted the hill ponies and rode by the Beltie of Gairn and the Hill of Larich, and returned to the Castle in the evening. The Prince Consort and the Prince of Wales went out deer-stalking. Colonel the Hon. Robert Bruce and Dr. Baly arrived on a visit. On Sunday the Queen, Prince Consort, Prince of Wales, and Princess Alice, attended Divine service in the parish church of Crathie; the Rev. Dr. Tulloch officiated. On Monday the Queen Prince Consort, Prince of Wales, and Princess Alice drove to Balloch Buie, where the Princes shot, the woods being driven for deer. Her Majesty and Princess Alice mounted their ponies at the Bridge of Dee, and rode to the Falls of the Garr-valt. The Royal party returned to the Castle in the evening. On Tuesday the Queen, accompanied by Princess Alice and Prince Arthur, drove to the woods of Garmaddie, whence they walked to the hill of Cannape and Invergelder. The Prince Consort went out deer-stalking, and met her Majesty on his return. The Royal party drove home from Invergelder. The Prince of Wales rode to Invercauld.

THE PRINCE OF WALES arrived at Buckingham Palace yesterday from Holyrood Palace. His Royal Highness will leave London for Frewen Hall, Oxford, on Monday, to commence his studies at the university.

PRINCE NAPOLEON.—It is reported from Paris that Prince Napoleon will visit London at the end of the present week, and will remain in England five days.

## Foreign.

FRANCE.—The Emperor and Empress arrived at Bordeaux on Monday and were received with great enthusiasm by the inhabitants. Most of the Italian residents in the town were arrested during his Majesty's stay, but were released after his departure. These arrests were made on account of a despatch having been received from the Prefect of Algiers, stating that four passports had been stolen from the Sardinian Consulate in that place, with which four Italians had started for France and passed through Montpellier, where further trace of them was lost. On Tuesday morning the Emperor received the authorities and clergy of the city, when the Cardinal Archbishop delivered the following address:—

"Sire,—The clergy of this diocese, through the organ of its Archbishop, is happy to renew to your Majesty the sincere homage of its respect and devotion. It is with a pride truly French that it contemplates the monarch whose valiant sword has raised so high the glory of our country. It is with joy that it salutes the mother of the Imperial Prince and the noble Sovereign (*Souveraine*) who knows so well to unite decision with kindness, and who in difficult times manfully undertook the care of public business. Sire, when eight years ago the city of Bordeaux gave you an enthusiastic reception, the walls of our ancient cathedral re-echoed to the shouts of the multitude; we were there, my priests and myself, assisting joyfully at what we supposed to be the baptism of the new empire. We then prayed for him who had stopped the ever-rising tide of revolution, who had restored to the Church and to the priesthood the crown of glory, to steal which from them had been attempted, and who inaugurated his great destinies by restoring to the Vicar of Jesus Christ his city, his people, and the integrity of his temporal power. We now, Sire, pray with more fervour, if possible, that God may give you the means, as he has given you the desire, to remain faithful to that Christian policy which has called down a blessing upon your name, and which is, perhaps, the secret of the prosperity and the source of the glories of your reign. We pray with unswerving confidence, with a hope which deplorable events and sacrilegious acts of violence have not been able to shake, and the motive of this hope, the realisation of which appears now so difficult, is, after God, you Sire, who have been, and still wish to be, the eldest son of the Church; you, who spoke these memorable words:—'The temporal sovereignty of the venerable head of the Church is intimately connected with the fame of Catholicism and the liberty and independence of Italy;'—a noble idea, conformable to the sentiments professed by the august head of your dynasty, when, speaking of the temporal power of the Popes, he said, 'Centuries have established this, and they have done well.' Yesterday, when your Majesty for the first time entered the elegant city which has arisen, as if by enchantment, on a once solitary strand; when you were seen kneeling in an untinished sanctuary, a blessed asylum shut out from the noise of the world, and open heavenwards to receive the falling dews, i appeared to all that the immaculate patroness of the [illegible] shielded you, your august wife, and your beloved son under [illegible] maternal protection. You will acquit a debt of gratitude to [illegible] by preparing a triumph for her Son in the person of her [illegible] Such triumph is worthy of you, Sire; it will put an end to [illegible] anxieties of the Catholic world, who will hail it with transports."

The Emperor replied to this address as follows:—

"I thank your Eminence for the sentiments you have [illegible] expressed. You render justice to my intentions, [illegible] however, overlooking the difficulties which obstruct them, [illegible] I believe you understand your high mission in endeavouring to strengthen confidence rather than to spread useless [illegible] I thank you for having recalled my words, for I entertain the firm hope that a new era of glory will arise for the Church [illegible] the day when the whole world will share my conviction that the temporal power of the Holy Father is not opposed to the liberty and independence of Italy. I [illegible] not now enter into details which the grave question you have touched upon would give rise to, and I confine myself to reminding you that the Government which placed the Holy Father on his throne can only give him counsel inspired by a respectful and sincere devotion to his interests. But he is anxious, and with good cause, as regards the day, which must soon come, when Rome will be evacuated by our troops; for Europe cannot allow that the occupation which has lasted for 10 years shall be indefinitely prolonged, and when our army withdraws, what will it leave behind? Anarchy, terror, or peace? This is a question the importance of which no one can deny. But, believe me, in the times in which we live, to resolve it, we must, instead of appealing to ardent passions, endeavour calmly to fathom the truth, and pray to Providence to enlighten peoples and kings on the wise exercise of their rights and extent of their duties. I do not doubt that the prayers of your Eminence and those of the clergy will continue to call down the blessings of Heaven on the Empress, my son, and myself."

The Emperor and Empress returned to St. Cloud on Wednesday, and on the following day his Majesty presided over a Privy Council. It is said that a Congress has been agreed upon, and that all the Great Powers, including England, will be represented at it. Several alarming rumours were current on the Bourse on Thursday, including the outbreak of a revolution at Rome, a conflict between the English and French naval forces in the Tangier waters, and the departure of Baron de Bourqueney from Zurich, but they have been semi-officially contradicted. It has been reported in Paris this week that the French Government is determined to claim from Sardinia the amount of the expenses incurred by France in the recent war with Austria, but there is at present no official confirmation of the rumour. The French bishops and clergy have latterly assumed a very bold tone in preaching against all who dare to question the temporal power of the Pope, and the Bishop of Orleans has published a protest against any attempt to interfere with the Holy See. The Bishop of Châlons has addressed a letter to the Univers to say that "it would be an insult to the bishops and priests of France" to suppose that they can have any other sentiments respecting the present situation of the Holy See than those expressed in the pastoral letters of the Bishops of Arras, Poitiers, Algiers, Orleans, &c.; and the Bishop of Beauvais has written to the Bishop of Orleans to declare that he adheres to his protest. The clergy of Paris have arranged to give a great banquet in honour of Monseigneur de Tulle, who preached in two churches on Sunday last in favour of upholding the rights of the Pope. Five French ships and two frigates, commanded by a Vice-Admiral, arrived at Algesiras on the 7th inst. on their way to Morocco, and several French frigates have sailed for the coast of Africa with 6000 men. These troops will be landed at the port of Nemours, formerly Djemma Gazaoua, situate seven or eight leagues distant from the frontiers of Morocco, and will reinforce the expeditionary corps which is to occupy the district of Ouchda.

SPAIN AND MOROCCO.—Letters received from Madrid state that the Emperor of Morocco has ratified the arrangement concerning the frontier line of Melilla, and has expressed his readiness to give to Spain all the satisfaction she demanded. The Madrid journals state that the *ultimatum* sent to the Emperor of Morocco was as follows:—

"On a day indicated the Moorish Government shall cause the Spanish flag to be saluted by artilley at Melilla, Ceuta, and other places on the coast. It shall immediately pay an indemnity for the expenses occasioned by the preparation of the expedition. It shall concede near the Spanish fortresses in Africa a certain extent of territory, at the extremity of which it shall construct blockhouses to be occupied by soldiers of the Emperor's guard, charged to prevent any act of hostility against the Spaniards. In case the Kabyles should present themselves in large numbers to attack the Spanish territory, the Spanish authorities may, if they think fit, send troops to assist the Moorish soldiers."

SWITZERLAND.—Letters from Zurich dated Thursday state that the Plenipotentiaries have at length received instructions to put their signature to the Villafranca treaty, confirming the transfer of Lombardy to France, the further conveyance of that country to the King of Sardinia, together with provisions for the payment of the national debt of the Lombard dominions to Austria, as well as confirming the newly traced boundary between the kingdoms of Piedmont and Venetia. The questions of the Duchies are to be left to a Congress. The delay which has lately occurred is caused by the refusal of Austria to diminish the amount of the debt of Lombardy to be borne by Sardinia.

PRUSSIA.—The Prussian Government has sent a reply to the Austrian circular relative to the proposed reform of the German Confederation and the recent speech of the Duke of Saxe-Coburg Gotha, from which the following are extracts:—

"The opinion of the Prince Regent is, that the full confidence which he places in his cousin and friend the Duke of Saxe-Coburg Gotha does not allow it to be supposed that there exist motives to reserve the rights of other German Princes, either of one in particular, or of all of them together, and that the words of the Duke, which expressed the often repeated want of reform of the Federal Constitution, exclude all encouragement of tendencies to achieve that end by illegal means. The

however still undecided great questions which it would be neither prudent nor just to leave pending; and if the solution of them is still to remain reserved for the future the Prussian Government will not carry out selfish tendencies and private views, but will fulfil duties both to Prussia and to Germany."

Holland and Belgium.—The Luxembourg Railway was inaugurated on the 4th and 5th inst. with considerable pomp, the ceremony attracting an unusually large attendance of distinguished persons, including some whose presence was to be attributed to the anticipated courtesies between the reigning houses of Holland and Belgium. King Leopold sent his Minister, M. Tesch, on a special mission to represent him at the ceremony, and to compliment in his name the young Prince of Orange and Prince Henry of the Netherlands. These advances were most courteously received by the Dutch Princes, who greeted M. Tesch with marks of great cordiality, and received from him the official announcement that the article of the constitution banishing the Princes of the house of Orange from the Belgian territory had been expunged. The Grand Vicar, after blessing the line and locomotives, made an appropriate discourse, and the railway company afterwards gave to a large party a magnificent banquet in the Town Hall. The railway, as well as its branches into Prussia and Holland, now in course of construction, is the work of an English firm, Messrs. Waring, of Westminster, who, in addition to the congratulations of the shareholders and directors on the successful issue of their undertaking, received, on the occasion of the inauguration, the Cross of Leopold from the King of the Belgians, and that of the Oaken Crown from the King of Holland. The Count of Flanders has since arrived at the Hague on a visit to the Dutch Court.

Saxe-Coburg Gotha.—The following is a summary of the despatch sent by the Grand Duke to the Austrian Cabinet:—

"The Austrian Cabinet must have misunderstood the words of the Duke, as he only expressed a desire for the union of Germany, which does not render necessary the exclusion of Austria from that union. The Duke however as a reigning Sovereign must make the reservation that he does not consider that an account of words spoken by him is due to any one, and least of all to another Cabinet. The Duke, during the late war, was ready to take up arms for the guarantee of the provinces of Austria not included in the German Confederation, and has always most seriously persisted in the support of Austria by Germany, but such support has lately been rendered impossible by the imperfections of the Federal Constitution, and by the sudden conclusion of peace by Austria. The Duke expresses a doubt that the Emperor of Austria, for whom personally he entertained the highest esteem, had any knowledge of the note that had been addressed to him; he therefore insists that his reply should be submitted to the Emperor."

Italy.—The following despatch contains some further details of the assassination of Count Anviti at Parma on the 5th inst.:—

"The Count Anviti, formerly Colonel of the troops of Parma, and held in detestation by the people for the cruelties he practised while Director General of the Police under the late Duke, was passing through Parma on his way to Piacenza, but was recognised at the railway station and arrested. The populace, informed of his arrest, broke open the barracks of the Gendarmerie where he was confined, and, having seized the Count, dragged him through the city, while he received blows on all sides. His hands were fastened together with a cord, and he was thus pulled through the streets until he arrived opposite a café he was in the habit of frequenting, where, while he was still alive, his head was cut off, and then carried in triumph to the Grand Place, where it was placed on the top of a column. The cries of joy of the populace increased the terrors of the scene. The National Guard and the troops were called out, but arrived when all was over. At 9 o'clock in the evening the dead body was conveyed to the hospital."

The French Consul on Saturday received orders from Paris to quit his post in Parma, unless prompt justice be done and exemplary chastisement inflicted on the authors of this murder. The Government of Parma immediately informed the French Cabinet that the most severe example should be made of those who were guilty of the murder. The Dictator Farini left Turin for Parma on Monday, in order to see that signal justice was administered, and has since issued two energetic proclamations declaring that the guilty shall be punished and the name of Italy shall not be dishonoured. The latest news states that upwards of 50 persons suspected of being concerned in the murder have been arrested, and that the Procureur-Général and the Juge Instructeur in the case have been suspended. The townspeople have begun to deliver up their arms, and the Piedmontese troops garrisoned at Piacenza have been sent to Parma. M. Mazzini has addressed a letter to King Victor Emmanuel, dated from Florence, where he was able for three weeks in September to evade the researches of the police, who had been warned of his presence. In this letter M. Mazzini declares that, far from wishing to excite any party against the policy now followed, he approves and is ready to unite in it; he makes the sacrifice of his particular opinions, provided the King gives independence and unity to Italy; only he recommends the King to dare, and points out how he is infinitely stronger than he thinks. A despatch from Bologna states that on the 7th inst. the functionaries of the Government took the oath of allegiance to the King of Sardinia. The citizens of Ferrara, Ravenna, and Forli, following the example of Bologna, have hoisted the Sardinian flag, and have adopted the arms of Savoy in the midst of the tumultuous enthusiasm of all present. The official journals of Tuscany, Parma, and Modena are printed with the arms of Savoy, and the press ys of Piedmont are observed throughout Central Italy. A Mo the Custom houses on the frontiers of Tuscany, and na, Parma, and the Romagna have been abolished, ferent e Sardinian tariff adopted throughout the dif- ates. Letters from Rome state that the Pope left Rome on Saturday for Castel Gandolfo, where he will have an interview with the King of Naples. It is asserted that his Holiness will prolong his stay at Castel Gandolfo on account of the agitation in Rome. After the departure of the Pope a demonstration took place in honour of the Sardinian Ambassador, and a crowd of visitors, estimated at 10,000, called and left their cards at the Ambassador's residence. The French gendarmerie preserved order, but the effect of the demonstration was profound. The Ambassador left Rome on Monday, when another silent demonstration took place. The 14 persons of rank who were arrested at Naples last week have been released without prosecution. It is credibly reported that 20,000 Neapolitan troops have had orders to cross the frontiers, and join the Papal troops under Gen. Kalbermatten, in order to make a descent on the Legations; while the Duke of Modena with his Austrians will attempt the reduction of the Duchies.

Russia.—A letter from St. Petersburg says that the Emperor had telegraphed to his Ambassadors at Paris, London, and Berlin, to [illegible] at Warsaw on the 15th inst. This news had created some sensation and much conjecture. The Emperor was expected to arrive at Odessa on the 29th inst., and it is reported that after visiting Warsaw, his Majesty and the Cesarewitch will go to Silesia and have an interview with the Prince Regent of Prussia. The *Invalide Russe* contains an article on the value of the treaties of 1815, and the re-establishment of the Archdukes, which bears a striking resemblance both in arguments and expressions to the recent memorandum of the Sardinian Cabinet. It concludes by saying—

"The right conferred by the treaties of Vienna can no longer be invoked, but the right of the Hapsburg Lorraine d'Este and Bourbon dynasties is less invulnerable than Austria would wish to have it thought. In 1815 Europe considered the existence of those dynasties indispensable for its tranquillity, but now they are not only unanimously rejected by the Italian people, but their restoration would be a source for continued agitations and permanent war. We consequently consider such a restoration as dangerous for general peace and tranquillity, and we think that Europe has in it the same right to work out the political combinations which are best suited to her security as she had in 1815 to place Italy under the domination of Austria."

Circassia.—It is stated that Schamyl will receive a yearly pension of 8000 silver roubles from the Czar, and that his relatives will also be endowed with pensions of from 2000 to 3000 silver roubles, and will reside either at Kaluga or Tula. Since the capture of Schamyl the emigration of the Circassians is said to have become enormous. One party which has arrived at Constantinople numbered 661 persons.

Turkey.—Advices from Constantinople to the 3d inst. state that additional discoveries have been made concerning the conspiracy, and it is asserted that incendiary machines have been discovered which were destined to burn the European quarter of the town. The Ambassadors had held deliberations as to what measures should be recommended for public safety. The official journal contains the names of 34 conspirators of high rank, among whom are Ferik Hussein Pasha, Monastir Pasha, and two brothers of the Governor of Yemen. The brothers of the Sultan are suspected, but they have not been arrested. Djafer Pasha, who leaped into the Bosphorus, is said to have saved himself by swimming, and to have arrived at Corfu. Two of the conspirators brought before the Sultan proclaimed boldly the public wrongs they conspired to redress, and accused the Government of wasteful extravagance, of which the people and the army were the victims. The Grand Vizier had tendered his resignation, but it had been refused; evident dissension reigned among the Ministry, and the fact of a dissolution seemed inevitable. One year's pay is now due to the troops in Asia and the Roumelia. A new loan had been contracted under very heavy conditions. Prince Alfred had replied to the invitation of the Sultan that he would visit Constantinople. Edhem Pasha has been ordered to proceed to Odessa to express the friendly feelings of the Sultan towards the Emperor of Russia. Mustapha Nari Pasha has been appointed Governor-General of Bagdad. The reported appearance of the plague at Beyrout has been denied.

Tunis.—The Malta newspapers state that scenes of fanaticism were enacted at the funeral of the Bey of Tunis. The Moors assailed and stoned the Jews, wounding many of them, some mortally. Some Christians were also wounded. A Minister of the new Bey came to the rescue, striking and killing with his sabre some of the culprits on the spot, and caused 30 of the Mussulmans to be arrested. Tranquillity now prevails.

Egypt.—A despatch from Marseilles states that an envoy of the Sultan had arrived at Alexandria, bearing an order to the Viceroy of Egypt to oppose the continuation of the works on the Suez Canal. The Foreign Consuls had immediately assembled.

India.—Telegraphic despatches have been received in anticipation of the Calcutta mail of September 16th. The following are the details:—

*Calcutta.*—The Government of Bengal has ratified the commutation of the land tax. The Bill substituting an income tax for the license tax on trades and professions has been severely criticised by the legal members of the Council. The clause exempting civil and military officers from the payment of the tax has been rejected, and the officers are to pay 3 per cent. on their incomes. The Bill thus amended has passed its second reading, and been referred to a select committee. The Chamber of Commerce and other bodies have petitioned against it, and a large public meeting has been held to petition Parliament for an inquiry into the affairs of India on the spot. The clause in the Criminal Procedure Bill, rendering Europeans liable to preliminary investigation before native magistrates, has been successfully resisted. An act has been passed enabling the Governor-General to leave Calcutta for the North-West provinces and the Punjaub, retaining full powers for seven months. A report had been circulated that Lord Canning had been recalled, and that Lord Clarendon was to succeed him, but it was understood to be without foundation. Some of the discharged Europeans have already gained employment. The reduction of all except the 60th Regiment, which is still at Dumdum, has been made.

Madras.—The Madras Government has [illegible] officers to explore the Neilgherry regions, to report on their adaptability for European colonists and sanitary, and to make a statistical report on the nature of the country.

Bombay.—General Sir W. Mansfield is to [illegible] of the Bombay army at the next vacancy. This is considered a stepping-stone to the command of the army in India. It is believed that Lord Clyde has sent in his resignation, and that he has already left Simla for Lucknow, where he will meet the Governor-General and take leave of him prior to the Governor-General's departure from India at the close of the present year. The 5th Dragoon Guards have been ordered [illegible] Kurrachee. A party of 74 Sepoys recently on their passage from Singapore to Bombay in the ship Arracan mutinied, killed their officers, and attempted to kill the captain and crew and obtain possession of the ship. The captain and his officers defended themselves with great courage, and finally succeeded in overpowering the convicts, 29 of whom were killed or drowning. Two of the crew were killed, and several others severely wounded.

China.—Accounts from Hong Kong to the 10th of August state that the Peiho and the Grand Canal are blockaded by the British and French ships of war. Admiral Hope is in a precarious state, and will have to be invalided. The American Minister was still negotiating about proceeding to Pekin. Chung-Kung-kung, the celebrated leader of the rebels, has been killed by his own people.

British Columbia.—General Harney has written to Governor Douglas, stating that he seized the island of San Juan without instructions from the Government at Washington, on account of "insults and indignities shown to American citizens by the British authorities and the establishment of the Hudson's Bay Company by sending a British ship of war from Vancouver's Island to convey the chief factor of the Hudson's Bay Company to San Juan for the purpose of seizing an American citizen and forcibly transporting him to Vancouver's Island to be tried by British laws." The General adds,—"I have reported this attempted outrage to my Government, and they will doubtless seek the proper redress from the British Government. In the meantime I have the honour to inform Your Excellency I shall not permit a repetition of that insult, and I shall retain a command on San Juan Island, to protect its citizens in the name of the United States, until I receive further orders from my Government." In reply to this communication, Governor Douglas emphatically denies the alleged insults and indignities, stating that the seizure of an American citizen was never thought of, and that no British ship of war ever went to the island on such a mission. Meanwhile the Victoria House of Assembly has adopted an address to Governor Douglas from which the following are extracts:—

"The House would, therefore, respectfully inquire why the British forces were not landed to assert our just right to the island in question and to uphold the honour of our country and our Queen. The House would most urgently impress upon your Excellency to enforce upon her Majesty's Government the necessity of demanding from the Government of the United States not only the immediate withdrawal of those troops, but also strenuously and at all risks to maintain our right to the island in question, and also to all other islands in the same Archipelago, now so clandestinely, dishonourably, and dishonestly invaded. It is not for our country to be wantonly and insolently insulted, but redress must be demanded. The weakness of the colony is its greatest danger, and at the same time an inducement for the repetition of similar offences by similar persons. Let it therefore be urged upon her Majesty's Government, that sending out colonists rapidly from Great Britain is the surest way of not only maintaining peace but of preserving intact her Majesty's possessions; coupled with this, the House would propose that free and liberal grants of land be given to such emigrants after settling thereon for a certain time."

The British residents on Vancouver's Island were very indignant at the proceedings of General Harney. A very cordial feeling, however, existed between the British and American officers, although the latter continued to fortify their position.

Canada.—Mr. John Head, only son and heir of Sir Edward Head, Governor-General of Canada, has been drowned while bathing near the Falls of the Grande Mère. He had gone to the water with the Hon. J. Browne, son of the Earl of Kenmare, who left him for a time. While alone Mr. Head went in, and was immediately perceived by the voyageurs, who were on a hill close by, to struggle on his back in the water. August Bellemare, one of the voyageurs, dashed into the water and dived 16 feet deep, but without success. He then descended to the bottom by the aid of a pole, found the body, and taking it under one arm with the other climbed to the surface. These acts of daring courage were performed within 100 feet of the Falls of La Grande Mère, and in a place where the least false step would have led him over the falls. The body was but 12 minutes in the water, but though every appliance and effort were made to revive it from 8 o'clock till 12, they were without success. Mr. Head was only 17 years of age.—The Montreal papers contain elaborate accounts of the grand cricket match between the All England Eleven and Twenty-two of Lower Canada. Great enthusiasm prevailed and thousands of people came from far and near both from Canada and the United States to behold the game. The All England Eleven won easily at Montreal, although it was acknowledged that the Lower Canadians showed excellent pluck and good average play. The All England Eleven were to play the Upper Canadian Twenty-two at Hamilton, after they had tried their skill against the New York cricket clubs.

Roman Catholic priesthood as that which was produced in the political world a few years ago by the celebrated speech which proclaimed in the same city that "the Empire was peace." An address had been presented to the EMPEROR by the CARDINAL ARCHBISHOP of Bordeaux in the name of the clergy of the diocese, in which HIS MAJESTY was urged to put an end to the anxieties of the Catholic world by securing to the POPE the integrity of his temporal power. In reply to this address, the EMPEROR indirectly rebuked the ultramontane violence which has recently been exhibited by several of the French bishops, by thanking his Eminence for having understood his high mission by "endeavouring to strengthen confidence in HIS MAJESTY's good intentions rather than spread needless alarms." The EMPEROR expressed his hope that a new era of glory would rise for the Church on the day when the whole world would share his conviction that "the temporal power of the POPE was not opposed to the liberty and independence of Italy." HIS MAJESTY said that the Government which restored the Holy Father to his throne could only give him such counsels as were dictated by a respectful and sincere devotedness to his interests; but HIS MAJESTY was anxious, and with good cause, about the day which "must soon come," when Rome will be evacuated by his troops; for Europe cannot allow the occupation of Rome by the French troops, which has already lasted for 10 years, to be indefinitely prolonged. "When our army shall be withdrawn," said HIS MAJESTY, "what will it leave behind? Anarchy, terror, or peace?" These are questions, he said, the importance of which no one can deny, and in order to resolve them in the times in which we live, it is necessary, instead of appealing to ardent passions, to search with calmness for the truth, and to pray to Providence to enlighten peoples as well as Sovereigns on "the wise exercise of their rights, and the extent of their duties."

It was reported in Paris on Thursday that the Plenipotentiaries at Zurich had at length received instructions to put their signatures to the Treaty of Peace, so far as it relates to the surrender of Lombardy and the amount of the Lombard debt to be borne by Sardinia. The question of the Duchies, it is said, is to be referred to a Congress at which all the Great Powers, including England, will be represented.

Accounts from Constantinople state that the conspiracy recently discovered in that city was far more serious than at first supposed. It appears to have had ramifications in all parts of the Empire, and to have numbered among its adherents at least two members of the SULTAN's family, several Pashas, Muftis, and other personages of high rank, and about 15,000 troops. The object of the conspiracy was not only to depose the SULTAN in favour of his brother, who is very popular with the orthodox Mussulmans, but to obtain the recall of the Hatti Humayoun of 1856, and to put an end to the existing system of wasteful extravagance, of which the troops and the people are victims. The latest news adds to these details that incendiary machines which were intended to burn the European quarters of the capital have been discovered, and that the Ambassadors have held meetings to deliberate on the measures to be recommended for the public safety.

## Home News.

THE QUEEN'S RETURN FROM SCOTLAND.—The Queen, Prince Consort, and the Royal family left Balmoral at half-past 10 on Thursday morning, and took the railway at Banchory at half-past 12. The Royal party lunched at Stonehaven, passed through Perth at 4, and arrived at Edinburgh at 20 minutes after 6, the railway journey of 177 miles having been run in less than six hours. Her Majesty alighted at St. Margaret's station, and drove through the park to Holyrood under a salute from the Castle heights. The Duke of Buccleuch, General Viscount Melville, and Sheriff Gordon were in attendance to receive the Royal party. The Duke of Newcastle accompanied her Majesty as Secretary of State. The Queen and Royal family remained at Holyrood on Thursday night, and at 10 o'clock yesterday morning left Edinburgh for Loch Katrine, in the Trossachs, to inaugurate the opening of the new waterworks for the supply of the city of Glasgow, returning to Holyrood in the evening. This morning the Queen, Prince Consort, and Royal family will leave Edinburgh for Penrhyn Castle, near Bangor, travelling by the Lancashire and Carlisle and London and North-Western Railways, through Carlisle, Lancaster, Preston and Chester. The Royal train is appointed to leave Edinburgh at 9 o'clock, and to arrive at Bangor at 5.40 this afternoon, stopping half an hour at Lancaster at 2.12 for refreshment.

THE QUEEN AT BALMORAL.—On Wednesday week the Queen and Princess Alice drove to Alt na Gussack. The Prince Consort and the Prince of Wales went out deer-stalking. The Duke of Newcastle arrived on a visit. In the evening her Majesty gave a ball to the gillies and tenants. On Thursday the Queen, accompanied by Princess Alice and Prince Arthur, drove to Craig Spanie and rode back to the Castle. The Prince Consort went out deer-stalking. The Prince of Wales drove to Mar Lodge. Mr. Headlam arrived on a visit to her Majesty. On Friday the Queen, accompanied by the Prince Consort, the Prince of Wales, and Princess Alice, undertook the ascent of Ben Muick Dhui. The Royal party left the Castle at a quarter before 9 o'clock in the morning and drove by Castleton to the Derry Shiel, in Glen Derry, where they found their hill ponies. They reached the summit of Ben Muick Dhui by 2 o'clock, and returned to Balmoral at a quarter-past 8 in the evening. Mr. Headlam left the Castle. On Saturday the Queen, accompanied by Princess Alice and Princess Helena, drove to Loch Bullig. The Royal party then proceeded to Doldoonie, where they mounted the hill ponies and rode by the Beltie of Gairn and the Hill of Larich, and returned to the Castle in the evening. The Prince Consort and the Prince of Wales went out deer-stalking. Colonel the Hon. Robert Bruce and Dr. Baly arrived on a visit. On Sunday the Queen, Prince Consort, Prince of Wales, and Princess Alice, attended Divine service in the parish church of Crathie; the Rev. Dr. Tulloch officiated. On Monday the Queen Prince Consort, Prince of Wales, and Princess Alice drove to Balloch Buie, where the Princes shot, the woods being driven for deer. Her Majesty and Princess Alice mounted their ponies at the Bridge of Dee, and rode to the Falls of the Garr-valt. The Royal party returned to the Castle in the evening. On Tuesday the Queen, accompanied by Princess Alice and Prince Arthur, drove to the woods of Garmaddie, whence they walked to the hill of Cannape and Invergelder. The Prince Consort went out deer-stalking, and met her Majesty on his return. The Royal party drove home from Invergelder. The Prince of Wales rode to Invercauld.

THE PRINCE OF WALES arrived at Buckingham Palace yesterday from Holyrood Palace. His Royal Highness will leave London for Frewen Hall, Oxford, on Monday, to commence his studies at the university.

PRINCE NAPOLEON.—It is reported from Paris that Prince Napoleon will visit London at the end of the present week, and will remain in England five days.

## Foreign.

FRANCE.—The Emperor and Empress arrived at Bordeaux on Monday and were received with great enthusiasm by the inhabitants. Most of the Italian residents in the town were arrested during his Majesty's stay, but were released after his departure. These arrests were made on account of a despatch having been received from the Prefect of Algiers, stating that four passports had been stolen from the Sardinian Consulate in that place, with which four Italians had started for France and passed through Montpellier, where further trace of them was lost. On Tuesday morning the Emperor received the authorities and clergy of the city, when the Cardinal Archbishop delivered the following address:—

"Sire,—The clergy of this diocese, through the organ of its Archbishop, is happy to renew to your Majesty the sincere homage of its respect and devotion. It is with a pride truly French that it contemplates the monarch whose valiant sword has raised so high the glory of our country. It is with joy that it salutes the mother of the Imperial Prince and the noble Sovereign (*Souveraine*) who knows so well to unite decision with kindness, and who in difficult times manfully undertook the care of public business. Sire, when eight years ago the city of Bordeaux gave you an enthusiastic reception, the walls of our ancient cathedral re-echoed to the shouts of the multitude; we were there, my priests and myself, assisting joyfully at what we supposed to be the baptism of the new empire. We then prayed for him who had stopped the ever-rising tide of revolution, who had restored to the Church and to the priesthood the crown of glory, to steal which from them had been attempted, and who inaugurated his great destinies by restoring to the Vicar of Jesus Christ his city, his people, and the integrity of his temporal power. We now, Sire, pray with more fervour, if possible, that God may give you the means, as he has given you the desire, to remain faithful to that Christian policy which has called down a blessing upon your name, and which is, perhaps, the secret of the prosperity and the source of the glories of your reign. We pray with unswerving confidence, with a hope which deplorable events and sacrilegious acts of violence have not been able to shake, and the motive of this hope, the realisation of which appears now so difficult, is, after God, you Sire, who have been, and still wish to be, the eldest son of the Church; you, who spoke these memorable words: — 'The temporal sovereignty of the venerable head of the Church is intimately connected with the fame of Catholicism and the liberty and independence of Italy;' — a noble idea, conformable to the sentiments professed by the august head of your dynasty, when, speaking of the temporal power of the Popes, he said, 'Centuries have established this, and they have done well.' Yesterday, when your Majesty for the first time entered the elegant city which has arisen, as if by enchantment, on a once solitary strand; when you were seen kneeling in an unfinished sanctuary, a blessed asylum shut out from the noise of the world, and open heavenwards to receive the falling dews, it appeared to all that the immaculate patroness of [illegible] shielded you, your august wife, and your beloved son [illegible] maternal protection. You will acquit a debt of gratitude [illegible] by preparing a triumph for her Son in the person [illegible] Such triumph is worthy of you, Sire; it will put an end [illegible] anxieties of the Catholic world, who will hail it with [illegible]

The Emperor replied to this address as follows:—

"I thank your Eminence for the sentiments you have expressed. You render justice to my intentions, [illegible] however, overlooking the difficulties which obstruct [illegible] I believe you understand your high mission in endeavouring to strengthen confidence rather than to spread useless [illegible] I thank you for having recalled my words, for I entertain firm hope that a new era of glory will arise for the Church the day when the whole world will share my conviction that the temporal power of the Holy Father is not opposed to the liberty and independence of Italy. I will not now enter into details which the grave questions you have touched upon would give rise to, and I confine myself to reminding you that the Government which has replaced the Holy Father on his throne can only give him counsel inspired by a respectful and sincere devotedness to his interests. But he is anxious, and with good cause, as to the day, which must soon come, when Rome will be evacuated by our troops; for Europe cannot allow that the occupation which has lasted for 10 years shall be indefinitely prolonged, and when our army withdraws, what will it leave behind? Anarchy, terror, or peace? This is a question the importance of which no one can deny. But, believe me, in the times in which we live, to resolve it, we must, instead of appealing to ardent passions, endeavour calmly to fathom the truth, and pray to Providence to enlighten peoples and kings on the wise exercise of their rights and extent of their duties. I have no doubt that the prayers of your Eminence and those of the clergy will continue to call down the blessings of Heaven on the Empress, my son, and myself."

The Emperor and Empress returned to St. Cloud on Wednesday, and on the following day his Majesty presided over a Privy Council. It is said that a Congress has been agreed upon, and that all the Great Powers, including England, will be represented at it. Several alarming rumours were current on the Bourse on Thursday, including the outbreak of a revolution at Rome, a conflict between the English and French naval forces in the Tangier waters, and the departure of Baron de Bourqueney from Zurich, but they have been semi-officially contradicted. It has been reported in Paris this week that the French Government had determined to claim from Sardinia the amount of the expenses incurred by France in the recent war with Austria, but there is at present no official confirmation of the rumour. The French bishops and clergy have lately assumed a very bold tone in preaching against all who dare to question the temporal power of the Pope, and the Bishop of Orleans has published a protest against any attempt to interfere with the Holy See. The Bishop of Châlons has addressed a letter to the Clergy to say that "it would be an insult to the bishops and priests of France" to suppose that they can have any other sentiments respecting the present situation of the Holy See than those expressed in the pastoral letter of the Bishops of Arras, Poitiers, Algiers, Orleans, &c. and the Bishop of Beauvais has written to the Bishop of Orleans to declare that he adheres to his principles. The clergy of Paris have arranged to give a great banquet in honour of Monseigneur de Tulle, who preached in two churches on Sunday last in favour of upholding the rights of the Pope. Five French ships and two frigates, commanded by a Vice-Admiral, arrived at Algesiras on the 7th inst. on their way to Morocco, and several French frigates have sailed for the coast of Africa with 6000 men. These troops will be landed at the port of Nemours, formerly Djemma Gazaoua, situate seven or eight leagues distant from the frontiers of Morocco, and will reinforce the expeditionary corps which is to occupy the district of Ouchda.

SPAIN AND MOROCCO.—Letters received from Madrid state that the Emperor of Morocco has ratified the arrangement concerning the frontier line of Melilla, and has expressed his readiness to give to Spain all the satisfaction she demanded. The Madrid journals state that the *ultimatum* sent to the Emperor of Morocco was as follows:—

"On a day indicated the Moorish Government shall cause the Spanish flag to be saluted by artilley at Melilla, Ceuta, and other places on the coast. It shall immediately pay an indemnity for the expenses occasioned by the preparation of the expedition. It shall concede near the Spanish fortresses in Africa a certain extent of territory, at the extremity of which it shall construct blockhouses to be occupied by soldiers of the Emperor's guard, charged to prevent any act of hostility against the Spaniards. In case the Kabyles should present themselves in large numbers to attack the Spanish troops, the Spanish authorities may, if they think fit, send troops to assist the Moorish soldiers."

SWITZERLAND.—Letters from Zurich dated the 7th day state that the Plenipotentiaries have at last received instructions to put their signature to the Villafranca treaty, confirming the transfer of Lombardy to France, the further conveyance of that country to the King of Sardinia, together with provisions for the payment of the national debt of the Lombard dominions to Austria, as well as confirming the newly traced boundary between the kingdoms of Piedmont and Venetia. The questions of the Duchies are to be left to a Congress. The delay which has lately occurred is caused by the refusal of Austria to diminish the amount of the debt of Lombardy to be borne by Sardinia.

PRUSSIA.—The Prussian Government has sent a reply to the Austrian circular relative to the proposed reform of the German Confederation and to a recent speech of the Duke of Saxe-Coburg Gotha, from which the following are extracts:—

"The opinion of the Prince Regent is, that the full confidence which he places in his cousin and friend the Duke of Saxe-Coburg Gotha does not allow it to be supposed that there are motives to reserve the rights of other German Princes, either of one in particular, or of all of them together, and that the views of the Duke, which expressed the often repeated wish for reform of the Federal Constitution, exclude all encouragement of tendencies to achieve that end by illegal means. There

however still undecided great questions which it would be neither prudent nor just to leave pending, and if the solution of them is still to remain reserved for the future the Prussian Government will not carry out selfish tendencies and private views, but will fulfil duties both to Prussia and to Germany."

Holland and Belgium.—The Luxembourg Railway was inaugurated on the 4th and 5th inst. with considerable pomp, the ceremony attracting an unusually large attendance of distinguished persons, including some whose presence was to be attributed to the anticipated courtesies between the reigning houses of Holland and Belgium. King Leopold sent his Minister, M. Tesch, on a special mission to represent him at the ceremony, and to compliment in his name the young Prince of Orange and Prince Henry of the Netherlands. These advances were most courteously received by the Dutch Princes, who greeted M. Tesch with marks of great cordiality, and received from him the official announcement that the article of the constitution banishing the Princes of the house of Orange from the Belgian territory had been expunged. The Grand Vicar, after blessing the line and locomotives, made an appropriate discourse, and the railway company afterwards gave to a large party a magnificent banquet in the Town Hall. The railway, as well as its branches into Prussia and Holland, now in course of construction, is the work of an English firm, Messrs. Waring, of Westminster, who, in addition to the congratulations of the shareholders and directors on the successful issue of their undertaking, received, on the occasion of the inauguration, the Cross of Leopold from the King of the Belgians, and that of the Oaken Crown from the King of Holland. The Count of Flanders has since arrived at the Hague on a visit to the Dutch Court.

Saxe-Coburg Gotha.—The following is a summary of the despatch sent by the Grand Duke to the Austrian Cabinet:—

"The Austrian Cabinet must have misunderstood the words of the Duke, as he only expressed a desire for the union of Germany, which does not render necessary the exclusion of Austria from that union. The Duke however as Reigning Sovereign must make the reservation that he does not consider that an account of words spoken by him is due to any one, and least of all to another Cabinet. The Duke, during the late war, was ready to take up arms for the guarantee of the provinces of Austria not included in the German Confederation, and has always most seriously persisted in the support of Austria by Germany, but such support has lately been rendered impossible by the imperfections of the Federal Constitution, and by the sudden conclusion of peace by Austria. The Duke expresses a doubt that the Emperor of Austria, for whom personally he entertained the highest esteem, had any knowledge of the note that had been addressed to him; he therefore insists that his reply should be submitted to the Emperor."

Italy.—The following despatch contains some further details of the assassination of Count Anviti at Parma on the 5th inst.:—

"The Count Anviti, formerly Colonel of the troops of Parma, and held in detestation by the people for the cruelties he practised while Director General of the Police under the late Duke, was passing through Parma on his way to Piacenza, but was recognised at the railway station and arrested. The populace, informed of his arrest, broke open the barracks of the Gendarmerie where he was confined, and, having seized the Count, dragged him through the city while he received blows on all sides. His hands were fastened together with a cord, and he was thus pulled through the streets until he arrived opposite a café he was in the habit of frequenting, where, while he was still alive, his head was cut off, and then carried in triumph to the Grand Place, where it was placed on the top of a column. The cries of joy of the populace increased the terrors of the scene. The National Guard and the troops were called out, but arrived when all was over. At 9 o'clock in the evening the dead body was conveyed to the hospital."

The French Consul on Saturday received orders from Paris to quit his post in Parma, unless prompt justice be done and exemplary chastisement inflicted on the authors of this murder. The Government of Parma immediately informed the French Cabinet that the most severe example should be made of those who were guilty of the murder. The Dictator Farini left Turin for Parma on Monday, in order to see that signal justice was administered, and has since issued two energetic proclamations declaring that the guilty shall be punished and the name of Italy shall not be dishonoured. The latest news states that upwards of 50 persons suspected of being concerned in the murder have been arrested, and that the Procureur-Général and the Juge Instructeur in the case have been suspended. The townspeople have begun to deliver up their arms, and the Piedmontese troops garrisoned at Piacenza have been sent to Parma. M. Mazzini has addressed a letter to King Victor Emmanuel, dated from Florence, where he was able for three weeks in September to evade the researches of the police, who had been warned of his presence. In this letter M. Mazzini declares that, far from wishing to excite any party against the policy now followed, he approves and is ready to unite in it; he makes the sacrifice of his particular opinions, provided the King gives independence and unity to Italy; only he recommends the King to dare, and points out how he is infinitely stronger than he thinks. A despatch from Bologna states that on the 7th inst. the functionaries of the Government took the oath of allegiance to the King of Sardinia. The citizens of Ferrara, Ravenna, and Forli, following the example of Bologna, have hoisted the Sardinian flag, and have adopted the arms of Savoy in the midst of the tumultuous enthusiasm of all present. The official journals of Tuscany, Parma, and Modena are printed with the arms of Savoy, and the press [illegible]ys of Piedmont are observed throughout Central Italy. A M[illegible] the Custom houses on the frontiers of Tuscany, and [illegible]na, Parma, and the Romagna have been abolished, and [illegible]e Sardinian tariff adopted throughout the different [illegible]ates. Letters from Rome state that the Pope left Rome on Saturday for Castel Gandolfo, where he will have an interview with the King of Naples. It is asserted that his Holiness will prolong his stay at Castel Gandolfo on account of the agitation in Rome. After the departure of the Pope a demonstration took place in honour of the Sardinian Ambassador, and a crowd of visitors, estimated at 10,000, called and left their cards at the Ambassador's residence. The French gendarmerie preserved order, but the effect of the demonstration was profound. The Ambassador left Rome on Monday, when another silent demonstration took place. The 14 persons of rank who were arrested at Naples last week have been released without prosecution. It is credibly reported that 20,000 Neapolitan troops have had orders to cross the frontiers, and join the Papal troops under Gen. Kalkreuther, in order to make a descent on the Legations; while the Duke of Modena with his Austrians will attempt the reduction of the Duchies.

Russia.—A letter from St. Petersburg says that the Emperor had telegraphed to his Ambassadors at Paris, London, and Berlin, [illegible] at Warsaw on the 15th inst. This news had created some sensation, and much conjecture. The Emperor was expected to arrive at Odessa on the 29th inst., and it is reported that after visiting Warsaw, his Majesty and the Cesarewitch will go to Silesia and have an interview with the Prince Regent of Prussia. The *Invalide Russe* contains an article on the value of the treaties of 1815, and the re-establishment of the Archdukes, which bears a striking resemblance both in arguments and expressions to the recent memorandum of the Sardinian Cabinet. It concludes by saying—

"The right conferred by the treaties of Vienna can no longer be invoked, and the right of the Hapsburg Lorraine d'Este and Bourbon dynasties is less invulnerable that Austria would wish to have it thought. In 1815 Europe considered the existence of those dynasties indispensable for its tranquillity, but now they are not only unanimously rejected by the Italian people, but their restoration would be a source for continued agitations and permanent war. We consequently consider such a restoration as dangerous for general peace and tranquillity, and we think that Europe has in 1859 the same right to seek out the political combinations which are best suited to her security as she had in 1815 to place Italy under the domination of Austria."

Circassia.—It is stated that Schamyl will receive a yearly pension of 30000 silver roubles from the Czar, and that his relatives will also be endowed with pensions of from 2000 to 3000 silver roubles, and will reside either at Kaluga or Tula. Since the capture of Schamyl the emigration of the Circassians is said to have become enormous. One party which has arrived at Constantinople numbered 661 persons.

Turkey.—Advices from Constantinople to the 30th inst. state that additional discoveries have been made concerning the conspiracy, and it is asserted that incendiary machines have been discovered which were destined to burn the European quarter of the town. The Ambassadors had held deliberations as to what measures should be recommended for public safety. The official journal contains the names of 34 conspirators of high rank, among whom are Ferik Hussein Pasha, Monastir Pasha, and two brothers of the Governor of Yemen. The brothers of the Sultan are suspected, but they have not been arrested. Djafer Pasha, who leaped into the Bosphorus, is said to have saved himself by swimming, and to have arrived at Corfu. Two of the conspirators brought before the Sultan proclaimed boldly the public wrongs they conspired to redress, and accused the Government of wasteful extravagance, of which the people and the army were the victims. The Grand Vizier had tendered his resignation, but it had been refused; evident dissension reigned among the Ministry, and the fact of a dissolution seemed inevitable. One year's pay is now due to the troops in Asia and the Roumelia. A new loan had been contracted under very heavy conditions. Prince Alfred had replied to the invitation of the Sultan that he would visit Constantinople. Edhem Pasha has been ordered to proceed to Odessa to express the friendly feelings of the Sultan towards the Emperor of Russia. Mustapha Nari Pasha has been appointed Governor-General of Bagdad. The reported appearance of the plague at Beyrout has been denied.

Tunis.—The Malta newspapers state that scenes of fanaticism were enacted at the funeral of the Bey of Tunis. The Moors assailed and stoned the Jews, wounding many of them, some mortally. Some Christians were also wounded. A Minister of the new Bey came to the rescue, striking and killing with his sabre some of the culprits on the spot, and caused 30 of the Mussulmans to be arrested. Tranquillity now prevails.

Egypt.—A despatch from Marseilles states that an envoy of the Sultan had arrived at Alexandria, bearing an order to the Viceroy of Egypt to oppose the continuation of the works on the Suez Canal. The Foreign Consuls had immediately assembled.

India.—Telegraphic despatches have been received in anticipation of the Calcutta mail of September 16th. The following are the details:—

*Calcutta.*—The Government of Bengal has ratified the commutation of the land tax. The Bill substituting an income tax for the license tax on trades and professions has been severely criticised by the legal members of the Council. The clause exempting civil and military officers from the payment of the tax has been rejected, and the officers are to pay 3 per cent. on their incomes. The Bill thus amended has passed its second reading, and been referred to a select committee. The Chamber of Commerce and other bodies have petitioned against it, and a large public meeting has been held to petition Parliament for an inquiry into the affairs of India on the spot. The clause in the Criminal Procedure Bill, rendering Europeans liable to preliminary investigation before native magistrates, has been successfully resisted. An act has been passed enabling the Governor-General to issue Exchequer bills for the Naval Works [illegible] and Tea Plantation purposes, removing the power to issue [illegible] a report had been circulated that Lord Canning had been recalled, and that Lord Clarendon was to succeed him, but it was ascertained to be without foundation. Some of the discharged Europeans have already sailed from Calcutta. The disbandment of all except the 5th Regiment, which is now at Berhampore, has been [illegible].

Madras.—The Madras Government has appointed Messrs. to explore the Nilgiri [illegible] to report on their adaptability for European colonists and residence, and to make a sanitary report on the nature of the country.

Bombay.—General Sir W. Mansfield is to leave the command of the Bombay army at the end of January. This is considered a stepping-stone to the command of the army in India. It is believed that Lord Clyde has sent in his resignation, and that he has already left Simla for Lucknow, where he will meet the Governor-General and take leave of the army he has commanded from India at the close of the present year. The [illegible] Lancer has been [illegible] Kharakpore. A party of 70 Sepoys [illegible] A party of 70 Sepoys mutinied, on their coming from Singapore to Bombay in the Ship Alnwick, and [illegible] attempted to [illegible] the captain and crew and obtain possession of the ship. The captain and his officers defended themselves with great courage, and finally succeeded in overpowering the convicts, 20 of whom were killed or wounded. Two of the crew were killed and several others severely wounded.

China.—Accounts from Hong Kong to the 30th of August state that the Peiho and the Grand Canal are blockaded by the British and French ships of war. Admiral Hope is in a precarious state, and will have to be invalided. The American Minister was still negotiating about proceeding to Pekin. Chung Kwo Kung, the celebrated leader of the rebels, has been killed by his own people.

British Columbia.—General Harney has written to Governor Douglas, stating that he seized the island of San Juan without instructions from the Government at Washington, on account of "insults and the outrages shown to American citizens by the British authorities and the establishment of the Hudson's Bay Company by sending a British ship of war from Vancouver's Island to convey the chief factor of the Hudson's Bay Company to San Juan for the purpose of seizing an American citizen and forcibly transporting him to Vancouver's Island to be tried by British laws." The General adds,—"I have reported this attempted outrage to my Government, and they will doubtless seek the proper redress from the British Government. In the meantime I have the honour to inform Your Excellency I shall not permit a repetition of that insult, and I shall retain a command on San Juan Island, to protect its citizens in the name of the United States, until I receive further orders from my Government." In reply to this communication, Governor Douglas emphatically denies the alleged insults and indignities, stating that the seizure of an American citizen was never the right of, and that no British ship of war ever went to the island on such a mission. Meanwhile the Victoria House of Assembly has adopted an address to Governor Douglas from which the following are extracts:—

"The House would, therefore, respectfully enquire why the British forces were not instructed to assert our just right to the island in question and to uphold the honour of our country and our Queen. The House would most urgently press upon your Excellency to enforce upon her Majesty's Government the necessity of demanding from the Government of the United States not only the immediate withdrawal of those troops, but also strenuously and at all risks to maintain the right to the island in question, and also to all other islands in the same Archipelago, now so clandestinely, dishonourably, and disloyally invaded. It is not for our country to be wantonly and unjustly insulted, but redress must be demanded. The weakness of the colony is its greatest danger, and at the same time an inducement for the repetition of similar offences by similar persons. Let it therefore be urged upon her Majesty's Government, that sending out colonists expressly from Great Britain is the surest way of not only maintaining peace but of preserving intact her Majesty's possessions; coupled with this, the House would propose that free and liberal grants of land be given to such emigrants after settling thereon for a certain time."

The British residents on Vancouver's Island were very indignant at the proceedings of General Harney. A very cordial feeling, however, existed between the British and American officers, although the latter continued to fortify their position.

Canada.—Mr. John Head, only son and heir of Sir Edward Head, Governor-General of Canada, has been drowned while bathing near the Falls of the Grande Mère. He had gone to the water with the Hon. J. Browne, son of the Earl of Kenmare, who left him for a time. While alone Mr. Head went in, and was immediately perceived by the voyageurs, who were on a hill close by, to struggle on his back in the water. August Bellemare, one of the voyageurs, dashed into the water and dived 16 feet deep, but without success. He then descended to the bottom by the aid of a pole, found the body, and taking it under one arm with the other climbed to the surface. These acts of daring courage were performed within 100 feet of the Falls of La Grande Mère, and in a place where the least false step would have led him over the falls. The body was but 12 minutes in the water, but though every appliance and effort were made to revive it from 8 o'clock till 12, they were without success. Mr. Head was only 17 years of age.—The Montreal papers contain elaborate accounts of the grand cricket match between the All England Eleven and Twenty-two of Lower Canada. Great enthusiasm prevailed and thousands of people came from far and near both from Canada and the United States to behold the game. The All England Eleven won easily at Montreal, although it was acknowledged that the Lower Canadians showed excellent pluck and good average play. The All England Eleven were to play the Upper Canadian Twenty-two at Hamilton, after they had tried their skill against the New York cricket clubs.

# Public Addresses.

CAPTAIN V. A. KING, of the 2d Cheshire Rifles, has delivered a lecture at Birkenhead on the Rifle Practice at the Hythe School of Musketry, of which the following is an abstract:—

"We assembled at Hythe on the 23d of July, and reported ourselves to the General. Now, a word about Major-General Hay; he is a fine, handsome man, of very pleasing manners, and much beloved by all about him; he is a splendid shot, and is seldom seen without his rifle in his hand. There were 42 of us from all parts of the kingdom, of all classes; there were two peers, Earl Spencer and Earl Pomfret; there were country gentlemen, there were barristers, there were men from the Universities of Oxford and Edinburgh, there were merchants, there were tradesmen—all classes, in fact. We required no introduction; we were good friends as soon as we met. We felt we were all brethren who had a grand national object in view, the defence of our native land, and this was sufficient introduction. The peer was treated with no more respect than the tradesman, or the tradesman than the peer; and here let me say, for the honour of the aristocracy of England, that the peers worked quite as hard as any of us, there was no distinction; they were drilled by the sergeants just the same as all of us. On Monday, the 25th of July, we assembled in the barrack tent—a rifle, knee-cap, and book of instructions were delivered to each of us. We were then formed into six sections, containing from six to nine each. We were then ushered into the lecture-room to hear a few words from the General. He told us he was a warm friend of the volunteer movement, which he would do all in his power to forward, as he considered it essential to the safety of the country. He thanked us for our zeal in coming so far for instruction, and stated that it would give both him and his Staff the greatest pleasure to impart to us all they could in the very limited time we had for the course. He then stated that if the volunteer force could not shoot they were worse than useless; for 'suppose,' said he, 'there are 200,000 volunteers enrolled, and Government depended on them, and when the hour of trial comes it turns out that not one of them can shoot, why, then, it must be clear we had much better not have a volunteer force at all; for, if they could not shoot, we should be hanging on a rope of sand. Much better to have 20,000 men, even 2000 men who can shoot, than 200,000 men who cannot.' He then combatted and ridiculed the popular error which has been so much dwelt upon of late in the newspapers, that nothing but plenty of ball practice would ever make men good shots. He told us that such practice only perpetuated error; in fact, made it worse; that he could bring forward many instances where men shot worse and worse by mere practice. He told us that the less shooting we had previously had the better; for those of us who had never fired a gun were most probably the best, as he had merely to teach us to shoot, while those of us who had been in the habit of shooting were probably the worst, as he would have first to break them of bad habits, and, until they were broken of them, it was useless to teach them to shoot. He then told us that it was position drill alone which could teach us to shoot; the more of this a man had the better. A man had never had too much of position drill until he had not a single fault. The first object of this position drill was to teach men to shoot without ever firing a shot; and I have not the slightest doubt that this can be done; I am certain of it. He told us that we volunteers ought to be such good shots that our fire would be effective at 600 to 900 yards; for it would not be safe to employ us in the field at a less distance than this, as, of course, our drill and discipline could not be expected to be such as would enable us to come to close quarters with such troops as the Zouaves, for instance. He then told us that it was an extraordinary fact that the riflemen of the British army shot worse than any other troops until the last few years. He asked if there were any volunteer riflemen present who had been embodied some years. There was a gentleman from South Devon. The General asked him if they practised aiming drill? He said, 'No.' 'Exactly so,' said the General, 'you, like all the rest, are riflemen only in name.' He told us that the great object of the instructions at Hythe was to raise the intelligence of the soldier, to make him consider himself an unit, and not a machine. This, from my short experience, I can fully bear out; I feel certain the course of instruction is framed for this object. Now, I will tell you our daily work for the first week. The course of instruction was, cleaning of arms, theoretical principles, aiming drills, position drills, judging distance drills. In the cleaning of arms we were not only taught to clean our rifle, but every part of the weapon was named and explained to us. We were taught to dismount and remount the lock, and name every part of it. After all this explanation we were questioned, to ascertain if we understood all which had been told us. The lectures on theoretical principles explained clearly to us the force which drives the bullet forward, the force which stops its flight, the force which draws it to the ground. The course of the bullet through the air was clearly described, and the reason of having to take a greater elevation when firing at a very distant object. In the aiming drills we placed our rifle upon a tripod, with a sandbag at the top, and laid our aim at the target at all distances, from 150 to 900 yards. After laying the aim, it was examined by one of the Staff, or the sergeant, who pointed out any fault that might be in the aim, such as too full, or a little to the left or to the right. In the position drills we were taught to handle the rifle, to bring the body in the proper position for firing, to bring the rifle to the 'present' quickly and steadily. We were taught always to aim at an object, and never to draw our trigger until we had aligned the eye, the object, the back sight, and the fore sight. The greatest pains were taken with us in this position drill, as it is the foundation of good shooting. In judging distance drills, we were marched out to the shingles, where points were placed at different distances for us to observe, and we then had to judge the distance of men placed at various distances from us. We were many of us at the barrack-yard at 6.30 A.M. for an extra drill. We assembled at 9.30 A.M. and worked till 1 P.M.; then assembled at 2.30 P.M., and worked till 4.30 P.M.; then each section went to the quarters of one of them, and discussed and questioned each other on all they had heard during the day; work was over at 7 P.M., when we dined. So, you see, your representatives were not idle. On Monday, the 1st of August, we fired blank cartridge, and on Tuesday we began firing ball cartridge, and then commenced such excitement as I never witnessed before. The first course was the third class. We fired five rounds at 150 yards, five at 200 yards, five at 250 yards, and five at 300 yards; and, if we did not make 15 points, we were kept in the third class. Our gallant lieutenant made 29 points; another man, Warner, of Oxford, made the same; and this was the largest score. I only made 14 points, and like all blockheads was kept in the third class: but, I have the satisfaction to say, I got out of it, and am now a second class man. Lieutenant Horner is a first class man, and Ensign Bower, of the Rockferry Company, has the honour of being a marksman. The second class was five rounds at 400 yards, five at 500 yards, five at 550 yards, and five at 600 yards. It was necessary to make 12 points out of these to get into the first class, and 17 of our whole number stuck in the second class. The first class was five rounds at 650 yards, five at 700 yards, five at 800 yards, and five at 900 yards. And it was necessary to make seven points out of these to become a marksman, and there were no less than 14 who did this. This practice lasted from Tuesday to Saturday, and I cannot describe to you the excitement of it. It exceeded anything I ever saw. Hunting, or cricket, or boating is nothing to it. I felt, when I saw it, that there was no mistake about the volunteer movement; and there is no reason why there should not be the same excitement when the Cheshire companies march from their parade ground for ball practice as there was at the barrack-yard at Hythe. I ought to tell you that we subscribed for three rifles—one for the best shot of the whole; one for the best shot of the right wing; one for the best shot of the left wing. Warner, of Oxford, won the first; Robert Tinley, of Liverpool, the second; Coxe, of Derby, the third. I cannot attempt to describe to you the excitement on Saturday afternoon. The struggle was between Warner and Tinley for the first prize; they were firing at 900 yards. There were many spectators, and as each of these two men knelt to fire there was not even a whisper heard; all seemed afraid even to breathe. They both got 11 points—a tie; but Warner won, as in the previous classes he had made 53 points and Tinley 51. Tinley had unfortunately twice aimed at the wrong target and hit it, and these two points did not count, otherwise Warner and Tinley would have been ties throughout. On Monday we fired 10 rounds file firing, 10 rounds volley firing, and 10 rounds skirmishing. The last is beautiful work. We loaded as we ran, and fired at distances of 400 to 200 yards; but we had to judge our own distances, and we were kept advancing and retiring as much as possible so as to confuse us. Now, you know if at 200 yards' distance we fired at an elevation of 400 yards our bullets would go at least 5 feet above the target. If at 400 yards' distance we tried to fire at an elevation of 200 yards, then the bullet would strike the ground at 280 yards. Now for the result of our ball practice. You must understand that every shot which is fired at Hythe is registered. If a man fires badly or carelessly he is sure to be found out. All is reduced to figures. There cannot be a question about who shot best and who shot worst. The shooting is estimated by figures, which cannot tell lies. The mean average figure of merit of the battalion was as follows, namely:—Single Third Class, 19.36; file firing, 12.08; volley firing, 10.13; skirmishing, 5.50; total, 47.07. Which means that out of 50 rounds each man on an average had made 47.07 points. Some, of course, had not done so well, and others had done much better. I will now give you the comparison with officers and soldiers who had passed through the previous three courses at Hythe. You will, no doubt, be certain that we volunteers were a long way behind them; for bear in mind they had 16 position drills—we had only 6; they have a preliminary course of 20 rounds of ball cartridge—we had not any, but fired at once in the third class. The mean averages are as follows:—1859, January—officers, 46.08; soldiers, 43.97. April—officers, 46.94; soldiers, 44.35. July—officers, 45.62; soldiers, 42.62. The mean of this is—officers, 46.22; soldiers, 43.65. The General was surprised at this result: he said he expected us to beat the soldiers, because, in shooting, intelligence is what tells, but he could not understand our beating the officers. He could only account for it by the fact that we had worked so much harder."

CAPT. LONGLEY, R.E., son of the Bishop of Durham, made a speech on the affair of the Peiho on Tuesday, in answer to an address of congratulation presented to him on his arrival at Bishop Auckland. The following is an extract from his speech:—

"I was present during the recent engagement. We waited at Canton the arrival of the English Plenipotentiary, Mr. Bruce, and from Canton we had to proceed with that gentleman and the French envoy to Pekin, to ratify the treaties. When we approached the river we found the forts had been rebuilt, which the year before had been destroyed. The entrance up the river was likewise blockaded. The Chinese told the Ambassadors that they could not pass, but that there was another way open to them. The Ambassadors then consulted Admiral Hope and placed the matter in his hands, and he resolved upon forcing the passage. I landed a party of 10 men from one of the gunboats, as skirmishers. Whilst I was in the act of leading the men on towards the embrasures I was unfortunately wounded. If the Chinese had opened out the whole of their batteries, I do not think a single gunboat would have escaped. On the 24th the Chinese fired one gun to warn us to keep off, and waited for us to draw off our forces, and it was on our part that the declaration of war was made. There was no treachery in the case at all. There was no trap laid for us. We saw it all before we went; we saw the masks before the embrasures, and of course concluded that there were guns behind them, and we saw the mud we had to cross. Therefore I hope you will hear no more about traps or treacherous Chinese. Then as to our forcing civilisation upon these barbarians, as we term them, it appears to me to resemble such a case as this. A crusty old gentleman lives in Bishop Auckland, who likes to follow his own crotchets and keep within his own house; but a number of persons meet together, go to him, and say, 'You must come out and be civilised; or, you must let us into your house, and become a Christian.' Now I think that man has a right to defend his own house the best way he can; every man's house is his castle, at least it is acknowledged to be so in England, and I don't know why it should not be so in China. I don't say that we are to give up our trade if we can help it, but I don't think we are right in forcing our civilisation upon China; I don't think we show them very good examples of Christianity, or teach such good customs that they need wish to imitate them; and it is a fact, as stated by Lord Elgin, that the further he went into the interior the better disposed the people were towards us; but at Canton and other places, where we have been established for 200 years, they have very bad feelings towards us, because they have had much injustice done to them."

# City Intelligence.

COURT OF BANKRUPTCY.—At the Court of Bankruptcy on Monday Mr. John Edward Buller, Solicitor, of 56, Lincoln's Inn Fields, whose liabilities have been said to exceed 100,000*l*., surrendered to his bankruptcy. He stated his belief that his assets would realise sufficient to pay all his debts in full. On the proposal of the assignees an adjournment for two months was ordered, the Court granting an allowance of 5*l*. a week to the bankrupt and his family in the mean time.

MONEY MARKET, FRIDAY.—BRITISH FUNDS: Consols closed at 95⅞ for Money, and 96 for the 8th Nov.; Bank Stock, 219½ to 222; Reduced and New Three per Cents., 94⅞ to ⅞; New Indian Loan (stock), 101⅝ to 102⅛; Ditto Scrip, 102 to 102⅛; Four per Cent. Debentures of last year, 96 to 96¼; Ditto 1859, 95¾ to 96; India Bonds, 2*s*. dis. to par; Exchequer Bills, 25*s*. to 21*s*. prem.—FOREIGN: Brazilian Four and a Half per Cents., 1858, 95¼ to 95½; Dutch Two and a Half per Cents., 66; Ditto Four per Cent. Certificates, 100½ to 100; French Three per Cent. Rentes, 68f. 37½c.; Mexican Three per Cents., 22⅜ to 22¾; Ditto for Acct., 22⅜ to 22½; Portuguese Three per Cents., 1853, 46¼; Russian Three per Cents., 1859, 67¼; Spanish Three per Cents., 46¼; Ditto New Deferred Three per Cents., 34 to 33¾; Ditto Passive Bonds, 11; Turkish Six per Cents., 1854, 78½ to 79 ex div.; Ditto for 1858, 69½; Ditto for Acct., 68⅞ to 68½.

## Bank of England.

ISSUE DEPARTMENT.

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|---|---|---|---|
| Notes Issued .. .. .. | £31,136,605 | Government Debt .. .. | £11,015,100 |
| | | Other Securities .. .. | 3,686,900 |
| | | Gold Coin and Bullion .. | 16,434,605 |
| | | Silver Bullion .. .. .. | — |
| | £31,136,605 | | £31,136,605 |

BANKING DEPARTMENT

| | | | |
|---|---|---|---|
| Proprietors' Capital .. .. | £14,553,000 | Government Securities (including Dead Weight Annuity) .. .. .. | £12,299,000 |
| Rest .. .. .. .. .. | 3,087,110 | Other Securities .. .. | 10,882,000 |
| Public Deposits (including Exchequer, Savings Banks, Commissioners of Nat. Debt, and Dividend Accts.) .. .. .. | 9,378,802 | Notes .. .. .. .. .. | 8,900,000 |
| | | Gold and Silver Coin .. | 641,232 |
| Other Deposits .. .. .. | 13,799,686 | | |
| Seven day and other bills | 903,634 | | |
| | £41,722,232 | | £41,722,232 |

13th day of Oct, 1859. M. MARSHALL, Chief Cashier.

## Gazette of the Week.

TUESDAY—BANKRUPTS—J. BARBS, Sedgeley, Staffordshire, Chemist and Druggist—M. W. BAWDEN, Liskeard, Assayer of Minerals—C. BEEVOR, Moreton Street, Pimlico, Upholsterer—JAMES and JOSEPH HAIGH, Manufacturers, Lancashire, Brush Makers—T. HARPER, Sheffield, Cooper—G. HEARN, Truro, Grocer—E. HODGES, Shrewsbury, Boot and Shoe Dealer—J. JACKSON, Digby, Lincolnshire, Cattle Dealer—E. POSTILL, York, Druggist.

BANKRUPTCIES ANNULLED—O. EVANS, late of Liverpool, Innkeeper—N. TAYLOR, Kingston-upon-Hull, Linendraper.

SCOTCH SEQUESTRATIONS—J. DUNLOP, Glasgow, Wine and Spirit Merchant—J. M'FARLANE, Dumbarton, Grocer—D. M'KILLOP, Glasgow, Baker—A. NEWLANDS, Rothes, Elginshire, Flesher.

FRIDAY—BANKRUPTS—S. ALCOCK and T. ALCOCK, Hatton Garden, Earthenware Manufacturers—R. AMISS, Conduit Street, Regent Street, Tailor—W. BARNES and S. PICKERING, Gracechurch Street, Boot and Shoe Manufacturers—G. C. BINGHAM, Nottingham, Boot Manufacturer—T. H. BROWN, Scott's Yard, Cannon Street, City, Builder—C. BRUCE, Stafford, Cabinet Maker—J. DAVIS, Leadenhall Market, Poulterer—W. HARRIS and W. WEST, Kingston-upon-Hull, Drapers—E. C. JONES, Kensington, Printer—L. LESSER and J. LESSER, Tipton, Staffordshire, Shoe Manufacturers—L. PRIESTLEY, Heckmondwike, Yorkshire, Commission Agents—L. PRIESTLEY, Lincoln, Confectioner—T. WREN, Richmond, Surrey, Dealer in Boots and Shoes.

SCOTCH SEQUESTRATIONS—W. H. BAGGALEY, Glasgow, Merchant—R. MARSHALL, Edinburgh, Spirit Merchant—W. MARSHALL, Paisley, Accountant—W. MARSHALL, jun., Waterbrae, Paisley—A. THOMSON, deceased, Saltcoats, Ayrshire, Shipmaster—V. VYVER and COMPANY, late of Fish Street Hill, London, now residing near Glasgow, Merchants.

# Metropolis and its Vicinity.

THE GREAT EASTERN.—The Great Eastern arrived at Holyhead on Monday afternoon from Portland, having accomplished the voyage round under the most favourable circumstances. Her course was from Portland to the Scilly Isles, thence across St. George's Channel to the Old Head of Kinsale, and thence up the Channel to Holyhead. The average rate of speed for the whole trip was a little more than 13 knots, or about 15 miles per hour; the highest which she reached being not more than 15 knots, equal to about 17 miles per hour. During the greater part of the time the engines never went more than half speed, the paddles averaging 10, and the screw 38 revolutions, working at 20lb. steam. The ship was tried under both screw and paddle engines, united and singly, and on both occasions with success. With screw alone it was estimated that at least 10 knots might be obtained if unimpeded by the dead resistance of the paddles. On the other hand it was calculated that the paddle engines would not, if relieved from the screw, give a greater speed than eight knots. The motion of the ship was at all times extremely slight, though the weather was very squally, with at times a heavy sea. The ship, however, in all circumstances was under the most perfect control. On entering Holyhead Bay some trials were made, in order to test the capability of the ship in bringing her head round. The helm was put aport 17 degrees, and a circle made on the starboard side in 19 minutes of one and a quarter mile in diameter. The helm was afterwards put on the starboard, and she went round on the port side in an equally handy manner. After these experiments the ship steamed inside the breakwater, and let go her anchor a few minutes after 4, nearly 24 hours before she was expected, to the disappointment of many persons, including several large parties of excursionists which had been organised at Liverpool to steam out into the channel, and to meet and accompany her to her anchorage. It is now understood that the ship will not sail for America this year. Irrespective of the probable objection of the Board of Trade to grant her an immediate sailing certificate, it is said that there are reasons of policy which render it desirable that she should not leave England at present.

THE WESTMINSTER BELL.—Messrs. Mears have published a reply to Mr. Denison's letter respecting the alleged defects in the casting of the bell, in which they give the most unqualified contradiction to Mr. Denison's statement, and say that as it amounts to a charge of fraud, they will, unless it is at once distinctly withdrawn, take the necessary legal steps to vindicate their character.

THE BUILDERS' STRIKE.—A special meeting of the Masters' Committee was held on the 7th inst. when Mr. Ayrton, M.P., attended on the part of the Conference, and had a long discussion in enforcing the claims of the men. A deputation from the Masons' Society afterwards attended the meeting, consisting of six persons, including Mr. Harnott, the corresponding secretary of that body, who had been specially telegraphed for from Bristol. The meeting was for nearly five hours in discussion on certain propositions that had been submitted by the masons, and from which they renewed negotiations there were strong hopes that would end in a satisfactory settlement. On Tuesday however all chance of a reconciliation was put an end to

by the renewed demand of the deputation of masons for the entire withdrawal of the declaration, and their unwillingness to refer their trade rules to Lord Brougham or Lord Lyndhurst as arbitrators. It was subsequently resolved at a public meeting of their body that the terms already offered should be considered final, that their bye-laws should not be referred to any third party, and that no further communication should be held with the masters if they do not unconditionally withdraw the declaration. The masters on the receipt of this resolution resolved that the entire withdrawal of the declaration as demanded by the masons would admit the workmen of all other trades without any guarantee either that the strike at Messrs. Trollope's was withdrawn, or that the objectionable rules and practices of other trade societies would be modified. The Committee then adjourned for a fortnight. It is now evident, from the determination evinced on both sides, that there is no immediate probability of the dispute being speedily settled. The number of men who had resumed work under the declaration up to Tuesday was 10,740, and in addition 2100 had entered on establishments in which a shop rule embodying the spirit of the declaration is adopted.

Dr. Smethurst.—It is stated by the *Globe* that Dr. Smethurst will not suffer the extreme penalty of the law. But from inquiries that have been made by direction of Government, startling circumstances have come to the knowledge of the authorities which will compel them, with a due regard to justice, to commute the sentence to nothing short of penal servitude for life.

The Wreck of the Alma.—The official inquiry int the loss of the Alma terminated on Monday, when Mr. Traill and Captain Walker announced their intention to report to the Board of Trade that the vessel was lost through the fault of Mr. Davis, the chief officer; that Captain Henry, in giving him directions to haul up, and referring him to the charts, had given him all the information he possessed, and placed him in charge of the ship; and that if he had not been in charge of the vessel it would have been his duty to consult the captain. At the same time Mr. Traill said they would not fail to refer to the good character which they had received of Mr. Davis as an officer. Mr. Baker, the second officer, who received the thanks of the passengers for his daring services in putting off in a boat and obtaining water for the relief of the sufferers, and afterwards putting off and intercepting her Majesty's ship Cyclops, was exonerated by the Court from all blame.

Drinking Fountain for Animals.—The Society for the Prevention of Cruelty to Animals has erected a drinking fountain near Brixton Church, with water-troughs for animals—an example which might be followed with advantage in many parts of the metropolis.

The Public Health.—The Registrar-General's report states that the deaths in the week that ended Saturday, October 8, were 996, having been above 1000 weekly, and in some instances much above that point, during the previous three months. After reducing the mortality in corresponding weeks of the last 10 years 1849-58 to the extent of the deaths from epidemic cholera in two outbreaks, the return of last week was nearly 100 below the average. During the week the births of 917 boys and 840 girls, in all 1757 children, were registered in London. In the 10 corresponding weeks of the years 1849-58 the average number was 1407.

## Provincial.

Bath.—The rectory of Bath, vacant by the death of Bishop Carr, has been conferred on the Rev. Charles Kemble, Incumbent of St. Michael, Stockwell.

Birmingham.—The funeral of the Rev. James Angell James took place on Friday, in Carr's Lane Chapel, of which place he had been the pastor for 55 years. All the shops along the route were closed, and a procession nearly three-quarters of a mile in length, at the head of which was Sir John Ratcliffe, the mayor, Alderman Hodgson, ex-mayor, and the Hon. and Rev. Grantham Yorke, attended the hearse to the chapel. The Rev. Dr. Miller, rector of the parish, was among the bearers of the pall, and men of all shades of politics and religion were present. Such a funeral has never before taken place in Birmingham.

Bradford.—The third annual meeting of the Social Science Association commenced on Monday in this town. The proceedings were inaugurated by a special religious service in the parish church, where an appropriate sermon was preached by the Bishop of Ripon in the presence of the Earl of Shaftesbury, President of the Association, Lord Brougham, President of the Council, and a considerable number of the members and associates. A meeting of the Council was afterwards held, and in the evening the first public meeting of the Association took place in St. George's Hall. The lower part of the Hall was not quite full, but the two galleries were well occupied, and among the audience there was a large number of ladies. The opening address was delivered by the President, the Earl of Shaftesbury. Lord Brougham then moved and the Right Hon. J. Napier, late Lord Chancellor of Ireland, seconded a vote of thanks to Lord John Russell for his services as President during the past year. Sir J. Ramsden moved and the Mayor of Bradford seconded a vote of thanks to Lord Shaftesbury for his opening address. Both resolutions were carried unanimously. On Tuesday Lord Brougham, as President of the Council, delivered his annual address, which occupied more than two hours in the reading. Vice-Chancellor Page Wood then delivered an address on Jurisprudence. Both these addresses were given in St. George's Hall. The five departments of Jurisprudence, Education, Punishment and Reformation, Public Health, and Social Economy, afterwards met in their respective rooms for the reading of papers and discussions. In the evening there was a *soirée* for members and associates at St. George's Hall; separate rooms being appropriated for conversational meetings on special subjects. On Wednesday the Right Hon. C. B. Adderley, M.P., delivered in St. George's Hall an address on Education, after which the departments met in their rooms for papers and discussions. In the evening a meeting of the Bradford Mechanics' Institute was held in St. George's Hall, Lord Brougham presiding. After the meeting his lordship distributed the prizes and certificates in connection with the Mechanics' Institute and the Society of Arts, as well as the prizes offered by Mr. Cassell. There were 548 papers and essays sent in, nearly all of which were written by working men, and some few by working women. A conversational meeting of delegates from Chambers of Commerce and similar bodies was also held in the saloon of the Hall. On Thursday Mr. Monckton Milnes, M.P., delivered in St. George's Hall an address on the Punishment and Prevention of Crime, and the Reformation of Criminals, after which the departments met in their rooms for papers and discussions. In section B. Miss Jessie Parkes read a paper on the market for educated female labour. Another by Miss Jessie Boucherette, on the industrial employment of women, was read by the Secretary. The two ladies lamented the present condition of educated women in regard to employment, and urged the claims of governesses, &c., on society. In the evening a meeting of the working-classes was held in St. George's Hall; the Mayor of Bradford presiding. Yesterday (Friday) the Right Hon. W. Cowper, M.P., was to deliver in St. George's Hall an address on Public Health, after which the departments were to meet in their rooms as usual for papers and discussions, and the Social Economy Department was to receive a report from the Trades' Societies' Committee, and discuss this subject. In the evening there was to be a *soirée* for members and associates in St. George's Hall. To-day (Saturday) Sir James Kay Shuttleworth is to deliver, in St. George's Hall, an address on Social Economy; after which the concluding meeting of the members and associates will take place, and reports will be received and resolutions passed. During the week excursions have been made to the Low Moor Ironworks and to Saltaire, the great spinning and manufacturing establishments of Mr. Titus Salt, M.P. Other manufacturing and mercantile establishments have also been open to members and associates during their stay; and the Exchange News Room, the Bradford Library, the Mechanics' Institute news and reading-rooms, and the Young Men's Christian Association's news-room have been free to members and associates. A large dining-hall was also erected, adjoining St. George's Hall, for the convenience of visitors. The numbers of papers sent to the general secretary with a view to their being read before the departments was about 250. The following is an extract from Lord Shaftesbury's opening address:—

"On the subject of education we all believe that we know something, and can add something to the general information. This, if not precisely accurate, is at least a healthy sign, as contrasted with past days, when many were indifferent, and not a few adverse to the education of the people. A very great advance has been made of late years, in the sense of our duty, the acquisition of experience, and the application of principles. Had not the country been induced, some years ago, to look the evil in the face, and do its best in the encounter, it would, by this time, have attained gigantic and irresistible proportions, and we should, I verily believe, have been a prey to superstition, brutality, and violence. In discussing education, we are apt to be indefinite, and, unknowingly, regard it in different points of view,—sometimes it is moral, sometimes intellectual, sometimes both. But they are very diverse. The intellectual, so to speak, can be given anywhere, and, with some increase of difficulty, even in mature age; the moral, with very few exceptions, can be given in its perfection only at home, and in the very earliest years. The intellectual training of a child may be so lost as to require in later life a renewed course of discipline and study; but the moral, long forgotten and despised, may be revived in an hour of fear or suffering, in the sudden recollection perhaps of the very words of some dying mother, and in an instant turn the hardest heart to thoughts of purity and peace. If this be so, we see the sacred importance of the homes of England, and we have a proof that the education of the people demands its preliminaries and accompaniments, and needs something more than a certain amount of subjects, and the best system of imparting them. We are frequently startled in courts of justice and reports of inspectors by revelations of ignorance: and it is wholesome that we should be so. But let us observe, by way of explanation, that though in many districts there are schools enough and teachers enough, very many children are never sent to them, and except under compulsion by law (which God forbid) never will be; that there are yet many trades and businesses in which the children, who may be counted by thousands, are, by the excess and nature of their toil, excluded from all hope or possibility of education, or even of repose—a state of things destructive alike of their souls and bodies. I appeal to the clergy, teachers, ministers of all denominations, whether in their laborious and earnest career they do not undergo almost daily mortification in the ignorance and neglect of those who, years before, were the pride and joy of their hearts? And can we wonder at it? Taken at early ages from school, these boys and girls are launched into work, removed from domestic or any other guidance. One or two here and there may possess such an indomitable love of knowledge as to give their vacant hours, unaided, to the increase of their stores. Most of them yield to the indomitable love of pleasure; while a few may be ready to accept the proffered help of those who might enable them to 'redeem the time.' Hence the necessity (however feeble as yet may be the means) of evening classes in the agricultural and manufacturing districts. This subject demands far more discussion and experiments. The thing is prodigiously valuable, and prodigiously difficult, and the man who will popularise and perfect it will be as great a benefactor to his generation as the inventors of Sunday and ragged schools. The same may be said [illegible] industrial teaching. Its principle has never so far as I know been disputed, but wise methods, the wisest mode of ascertaining character, and extent of its application. I myself have seen a little of it, and I am disposed to regard it as very beneficial indeed to all classes, not as making the boys real professors in any department of labour, such as tailoring, shoemaking, carpentering (for they may never follow the trade they have learnt), but as teaching them good habits of industry, and showing them that it is both lucrative and honourable. But those classes are more easy of adaptation to females, because everything that they learn, be it washing, sewing, or cooking, must be of use to them, as wives and mothers, in after life. And here I may express a passing wish that, while no attention be withdrawn from the boys a little may be given to the girls. They are sadly overlooked in our remedial and preventive systems, and yet women are the healthy and protectors of social life. All this during the time that the children remain 'under tutors and governors.' But then comes the time when the poorer sort go out into service, and mingle with the world. Then begins the principal danger. Utterly inexperienced, fresh in appetite and passion, with all the wildness of youthful liberty, they are surrounded by every form of allurement. Depend upon it—surely I may speak without fear of contradiction—that temptation to vice and licentiousness, in its manifold and various phases, makes tenfold, ay, fifty-fold more delinquents than all the poverty and ignorance put together. It would be endless to enumerate the sources of temptation; I notice but a few,—money left carelessly about, goods rich and easily exposed in shop windows, low theatres; fairs; low company; dancing taverns; gin palaces with measures for the least and the youngest; dealers in marine stores, which is the euphonious term for receivers of stolen goods, with the certainty of prompt payment for the thing stolen; and for a class somewhat higher, casinos, betting clubs, low races, and the like. Now, none but those who have seen them, heard them, and, as it were, felt them, can estimate the fatal power they exercise over all, and specially the young. This is the state of things—I do not pretend to say how it can be amended, but it is right that you should know it. Here, however, a question arises as to when education may be supposed to terminate. Is it closed with the period of school, or may it not, in one sense, be said to go on through the whole of life? If so, then let us endeavour to meet one influence by another—establish counteracting attractions. They may be comparatively feeble, but you will save some. There are lectures 'grave, gay, lively, and severe;' unions for mutual improvement; here many of the members may commence, or recommence, the study of the first elements, may fasten on the subject they like best, and pursue it with all the zeal and delight that belong to a natural, and not a forced undertaking, proving, in the issue, that the education which a man gives to himself is ever the most lasting and the most effective. There are reading rooms, coffee clubs, Young Men's Christian Associations, lending libraries, and penny banks. It is well to classify trades and callings, the effect is good, for it gives them a corporate spirit and self-respect. I will mention but the one last founded, the 'Society for Improving the Condition of Cabmen.' Here is a class (I am speaking of the metropolis) consisting, with their helpers, of some 15,000 persons,—a class hitherto very little known, much reviled, and, as is always the case, pronounced incurable. Well, we have established local clubs in several districts, provided rooms, libraries, and all the necessary adjuncts; left the members to raise, in great measure, their own funds, name their own committees, and manage their own affairs. The movement has been received with much favour; and the wives especially, short as has been the time, are loud in their gratitude and joy. That these things have contributed to educate the people—if education may be regarded as the means of fitting them for daily life—is manifested by the results we now constantly see. Mr. Cassell, the eminent publisher, offered prizes for the best essays by working men on specified subjects. I had the honour to be the judge of those on sanitary matters and social economy. A great number was passed under review, and few things have ever impressed me more than the good sense, sound morality, and practical knowledge exhibited by the writers. Again, we formed a penny bank to collect the children's gleanings of 60 ragged schools. The collections in one year alone amounted to 2000*l*. Was nothing done here, to teach order, thrift, management, to thousands of the community; and how to substitute the solid savings' bank for the tommy-shop and the beer-house? But so many wise, good, and earnest people of both sexes are engaged on this subject, that we need not fear any want of attention to it. It is of unspeakable importance for the present, for the future, for internal peace, for external security—and the time is coming fast when Great Britain will require that, to sustain her power, her vocation, and even her independence—there be not, in body or mind, one feeble person among her tribes."

Hull.—A fire broke out on Thursday morning in the Theatre Royal of this town, and spread with such rapidity that the entire building, including the wardrobe and other property, was destroyed. The theatre was insured but not the wardrobe. This is the second fire which has occurred in it within a few weeks.

Nottingham.—A shocking attempt at murder was made a few days since in this town. A man named Lamb armed himself with a brace of pistols and endeavoured to shoot his wife, because, he subsequently said, "she had done him an injury." She ran away and obtained the assistance of five policemen. Lamb fired twice on the men, but was eventually captured. The magistrates have committed the prisoner for trial.

Plymouth.—The new steam frigate Orlando, of 51 guns and 1000 horse power, made two trial trips last week to test her machinery and speed. On her first trial last month her average speed was 13.2 knots per hour, which was less than had been expected from her build and engines; and as her screw had been made rather too large for the aperture in which it had to work, there was not sufficient room for the water driven forward by the screw's rotation to escape, so that the result was a succession of vibrations throughout the ship, causing the masts to jump and the rigging and spars to oscillate to an extent dangerous to the men employed on them. To remedy this trembling motion the angles of the screw were reduced, and about 15 cwt. of metal cut off, while the trim of the ship was altered by shifting the position of some of the guns. In this condition she started for a renewed trial on Wednesday of last week. As she passed through the Sound she became an object of great interest to the crews of the ships belonging to the Channel fleet, and of the Dutch, Turkish, and Brazilian ships of war at anchor there. On nearing the Western Channel, when additional steam was put

# Public Addresses.

CAPTAIN V. A. KING, of the 2d Cheshire Rifles, has delivered a lecture at Birkenhead on the Rifle Practice at the Hythe School of Musketry, of which the following is an abstract:—

"We assembled at Hythe on the 23d of July, and reported ourselves to the General. Now, a word about Major-General Hay; he is a fine, handsome man, of very pleasing manners, and much beloved by all about him; he is a splendid shot, and is seldom seen without his rifle in his hand. There were 42 of us from all parts of the kingdom, of all classes; there were two peers, Earl Spencer and Earl Pomfret; there were country gentlemen, there were barristers, there were men from the Universities of Oxford and Edinburgh, there were merchants, there were tradesmen—all classes, in fact. We required no introduction; we were good friends as soon as we met. We felt we were all brethren who had a grand national object in view, the defence of our native land, and this was sufficient introduction. The peer was treated with no more respect than the tradesman, or the tradesman than the peer; and here let me say, for the honour of the aristocracy of England, that the peers worked quite as hard as any of us, there was no distinction; they were drilled by the sergeants just the same as all of us. On Monday, the 25th of July, we assembled in the barrack tent—a rifle, knee-cap, and book of instructions were delivered to each of us. We were then formed into six sections, containing from six to nine each. We were then ushered into the lecture-room to hear a few words from the General. He told us he was a warm friend of the volunteer movement, which he would do all in his power to forward, as he considered it essential to the safety of the country. He thanked us for our zeal in coming so far for instruction, and stated that it would give both him and his Staff the greatest pleasure to impart to us all they could in the very limited time we had for the course. He then stated that if the volunteer force could not shoot they were worse than useless; for 'suppose,' said he, 'there are 200,000 volunteers enrolled, and Government depended on them, and when the hour of trial comes it turns out that not one of them can shoot, why, then, it must be clear we had much better not have a volunteer force at all; for, if they could not shoot, we should be hanging on a rope of sand. Much better to have 20,000 men, even 2000 men who can shoot, than 200,000 men who cannot.' He then combatted and ridiculed the popular error which has been so much dwelt upon of late in the newspapers, that nothing but plenty of ball practice would ever make men good shots. He told us that such practice only perpetuated error; in fact, made it worse; that he could bring forward many instances where men shot worse and worse by mere practice. He told us that the less shooting we had previously had the better; for those of us who had never fired a gun were most probably the best, as he had merely to teach us to shoot, while those of us who had been in the habit of shooting were probably the worst, as he would have first to break them of bad habits, and, until they were broken of them, it was useless to teach them to shoot. He then told us that it was position drill alone which could teach us to shoot; the more of this a man had the better. A man had never had too much of position drill until he had not a single fault. The first object of this position drill was to teach men to shoot without ever firing a shot; and I have not the slightest doubt that this can be done; I am certain of it. He told us that we volunteers ought to be such good shots that our fire would be effective at 600 to 900 yards; for it would not be safe to employ us in the field at a less distance than this, as, of course, our drill and discipline could not be expected to be such as would enable us to come to close quarters with such troops as the Zouaves, for instance. He then told us that it was an extraordinary fact that the riflemen of the British army shot worse than any other troops until the last few years. He asked if there were any volunteer riflemen present who had been embodied some years. There was a gentleman from South Devon. The General asked him if they practised aiming drill? He said, 'No.' 'Exactly so,' said the General, 'you, like all the rest, are riflemen only in name.' He told us that the great object of the instructions at Hythe was to raise the intelligence of the soldier, to make him consider himself an unit, and not a machine. This, from my short experience, I can fully bear out; I feel certain the course of instruction is framed for this object. Now, I will tell you our daily work for the first week. The course of instruction was, cleaning of arms, theoretical principles, aiming drills, position drills, judging distance drills. In the cleaning of arms we were not only taught to clean our rifle, but every part of the weapon was named and explained to us. We were taught to dismount and remount the lock, and name every part of it. After all this explanation we were questioned, to ascertain if we understood all which had been told us. The lectures on theoretical principles explained clearly to us the force which drives the bullet forward, the force which stops its flight, the force which draws it to the ground. The course of the bullet through the air was clearly described, and the reason of having to take a greater elevation when firing at a very distant object. In the aiming drills we placed our rifle upon a tripod, with a sandbag at the top, and laid our aim at the target at all distances, from 150 to 900 yards. After laying the aim, it was examined by one of the Staff, or the sergeant, who pointed out any fault that might be in the aim, such as too full, or a little to the left or to the right. In the position drills we were taught to handle the rifle, to bring the body in the proper position for firing, to bring the rifle to the 'present' quickly and steadily. We were taught always to aim at an object, and never to draw our trigger until we had aligned the eye, the object, the back sight, and the fore sight. The greatest pains were taken with us in this position drill, as it is the foundation of good shooting. In judging distance drills, we were marched out to the shingles, where points were placed at different distances for us to observe, and we then had to judge the distance of men placed at various distances from us. We were many of us at the barrack-yard at 6.30 A.M. for an extra drill. We assembled at 9.30 A.M. and worked till 1 P.M.; then assembled at 2.30 P.M., and worked till 4.30 P.M.; then each section went to the quarters of one of them, and discussed and questioned each other on all they had heard during the day; work was over at 7 P.M., when we dined. So, you see, your representatives were not idle. On Monday, the 1st of August, we fired blank cartridge, and on Tuesday we began firing ball cartridge, and then commenced such excitement as I never witnessed before. The first course was the third class. We fired five rounds at 150 yards, five at 200 yards, five at 250 yards, and five at 300 yards; and, if we did not make 15 points, we were kept in the third class. Our gallant lieutenant made 29 points; another man, Warner, of Oxford, made the same; and this was the largest score. I only made 14 points, and like all blockheads was kept in the third class: but, I have the satisfaction to say, I got out of it, and am now a second class man. Lieutenant Horner is a first class man, and Ensign Bower, of the Rockferry Company, has the honour of being a marksman. The second class was five rounds at 400 yards, five at 500 yards, five at 550 yards, and five at 600 yards. It was necessary to make 12 points out of these to get into the first class, and 17 of our whole number stuck in the second class. The first class was five rounds at 650 yards, five at 700 yards, five at 800 yards, and five at 900 yards. And it was necessary to make seven points out of these to become a marksman, and there were no less than 14 who did this. This practice lasted from Tuesday to Saturday, and I cannot describe to you the excitement of it. It exceeded anything I ever saw. Hunting, or cricket, or boating is nothing to it. I felt, when I saw it, that there was no mistake about the volunteer movement; and there is no reason why there should not be the same excitement when the Cheshire companies march from their parade ground for ball practice as there was at the barrack-yard at Hythe. I ought to tell you that we subscribed for three rifles—one for the best shot of the whole; one for the best shot of the right wing; one for the best shot of the left wing. Warner, of Oxford, won the first; Robert Tinley, of Liverpool, the second; Coxe, of Derby, the third. I cannot attempt to describe to you the excitement on Saturday afternoon. The struggle was between Warner and Tinley for the first prize; they were firing at 900 yards. There were many spectators, and as each of these two men knelt to fire there was not even a whisper heard; all seemed afraid even to breathe. They both got 11 points—a tie; but Warner won, as in the previous classes he had made 53 points and Tinley 51. Tinley had unfortunately twice aimed at the wrong target and hit it, and these two points did not count, otherwise Warner and Tinley would have been ties throughout. On Monday we fired 10 rounds file firing, 10 rounds volley firing, and 10 rounds skirmishing. The last is beautiful work. We loaded as we ran, and fired at distances of 400 to 200 yards; but we had to judge our own distances, and we were kept advancing and retiring as much as possible so as to confuse us. Now, you know if at 200 yards' distance we fired at an elevation of 400 yards our bullets would go at least 5 feet above the target. If at 400 yards' distance we tried to fire at an elevation of 200 yards, then the bullet would strike the ground at 280 yards. Now for the result of our ball practice. You must understand that every shot which is fired at Hythe is registered. If a man fires badly or carelessly he is sure to be found out. All is reduced to figures. There cannot be a question about who shot best and who shot worst. The shooting is estimated by figures, which cannot tell lies. The mean average figure of merit of the battalion was as follows, namely:—Single Third Class, 19.36; file firing, 12.08; volley firing, 10.13; skirmishing, 5.50; total, 47.07. Which means that out of 50 rounds each man on an average had made 47.07 points. Some, of course, had not done so well, and others had done much better. I will now give you the comparison with officers and soldiers who had passed through the previous three courses at Hythe. You will, no doubt, be certain that we volunteers were a long way behind them; for bear in mind they had 16 position drills—we had only 6; they have a preliminary course of 20 rounds of ball cartridge—we had not any, but fired at once in the third class. The mean averages are as follows:—1859, January—officers, 46.08; soldiers, 43.97. April—officers, 46.94; soldiers, 44.35. July—officers, 45.62; soldiers, 42.62. The mean of this is—officers, 46.22; soldiers, 43.65. The General was surprised at this result: he said he expected us to beat the soldiers, because, in shooting, intelligence is what tells, but he could not understand our beating the officers. He could only account for it by the fact that we had worked so much harder."

CAPT. LONGLEY, R.E., son of the Bishop of Durham, made a speech on the affair of the Peiho on Tuesday, in answer to an address of congratulation presented to him on his arrival at Bishop Auckland. The following is an extract from his speech:—

"I was present during the recent engagement. We waited at Canton the arrival of the English Plenipotentiary, Mr. Bruce, and from Canton we had to proceed with that gentleman and the French envoy to Pekin, to ratify the treaties. When we approached the river we found the forts had been rebuilt, which the year before had been destroyed. The entrance up the river was likewise blockaded. The Chinese told the Ambassadors that they could not pass, but that there was another way open to them. The Ambassadors then consulted Admiral Hope and placed the matter in his hands, and he resolved upon forcing the passage. I landed a party of 10 men from one of the gunboats, as skirmishers. Whilst I was in the act of leading the men on towards the embrasures I was unfortunately wounded. If the Chinese had opened out the whole of their batteries, I do not think a single gunboat would have escaped. On the 24th the Chinese fired one gun to warn us to keep off, and waited for us to draw off our forces, and it was on our part that the declaration of war was made. There was no treachery in the case at all. There was no trap laid for us. We saw it all before we went; we saw the masks before the embrasures, and of course concluded that there were guns behind them, and we saw the mud we had to cross. Therefore I hope you will hear no more about traps or treacherous Chinese. Then as to our forcing civilisation upon these barbarians, as we term them, it appears to me to resemble such a case as this. A crusty old gentleman lives in Bishop Auckland, who likes to follow his own crotchets and keep within his own house; but a number of persons meet together, go to him, and say, 'You must come out and be civilised; or, you must let us into your house, and become a Christian.' Now I think that man has a right to defend his own house the best way he can; every man's house is his castle, at least it is acknowledged to be so in England, and I don't know why it should not be so in China. I don't say that we are to give up our trade if we can help it, but I don't think we are right in forcing our civilisation upon China; I don't think we show them very good examples of Christianity, or teach such good customs that they need wish to imitate them; and it is a fact, as stated by Lord Elgin, that the further he went into the interior the better disposed the people were towards us; but at Canton and other places, where we have been established for 200 years, they have very bad feelings towards us, because they have had much injustice done to them."

# City Intelligence.

COURT OF BANKRUPTCY.—At the Court of Bankruptcy on Monday Mr. John Edward Buller, Solicitor, of 56, Lincoln's Inn Fields, whose liabilities have been said to exceed 100,000*l.*, surrendered to his bankruptcy. He stated his belief that his assets would realise sufficient to pay all his debts in full. On the proposal of the assignees an adjournment for two months was ordered, the Court granting an allowance of 5*l.* a week to the bankrupt and his family in the mean time.

MONEY MARKET, FRIDAY.—BRITISH FUNDS: Consols closed at 95⅞ for Money, and 96 for the 8th Nov.; Bank Stock, 219½ to 222; Reduced and New Three per Cents., 94⅝ to ⅞; New Indian Loan (stock), 101⅞ to 102⅛; Ditto Scrip, 102 to 102⅛; Four per Cent. Debentures of last year, 96 to 96¼; Ditto 1859, 95¾ to 96; India Bonds, 2*s.* dis. to par; Exchequer Bills, 25*s.* to 21*s.* prem.—FOREIGN: Brazilian Four and a Half per Cents., 1858, 95¼ to 95½; Dutch Two and a Half per Cents., 66; Ditto Four per Cent. Certificates, 100½ to 100; French Three per Cent. Rentes, 68f. 37½c.; Mexican Three per Cents., 22¼ to 22⅜; Ditto for Acct., 22⅜ to 22½; Portuguese Three per Cents., 1853, 46¼; Russian Three per Cents., 1859, 67¾; Spanish Three per Cents., 46¼; Ditto New Deferred Three per Cents., 34 to 33¾; Ditto Passive Bonds, 11; Turkish Six per Cents., 1854, 78½ to 79 ex div.; Ditto for 1858, 69½; Ditto for Acct., 68⅞ to 68½.

# Bank of England.

ISSUE DEPARTMENT.

| | | | |
|---|---|---|---|
| Notes Issued .. .. .. | £31,136,605 | Government Debt .. .. | £11,015,100 |
| | | Other Securities .. .. | 3,684,900 |
| | | Gold Coin and Bullion .. | 16,436,605 |
| | | Silver Bullion .. .. .. | — |
| | £31,136,605 | | £31,136,605 |

BANKING DEPARTMENT

| | | | |
|---|---|---|---|
| Proprietors' Capital.. .. | £14,553,000 | Government Securities (including Dead Weight Annuity) .. .. .. | £12,220,000 |
| Rest .. .. .. .. .. | 3,067,110 | Other Securities .. .. | 19,897,000 |
| Public Deposits (including Exchequer, Savings Banks, Commissioners of Nat. Debt, and Dividend Accts.) .. .. .. | 9,378,802 | Notes .. .. .. .. | 8,997,000 |
| | | Gold and Silver Coin .. | 607,232 |
| Other Deposits .. .. .. | 13,799,686 | | |
| Seven day and other bills | 903,634 | | |
| | £41,722,232 | | £41,722,232 |

13th day of Oct, 1859. M. MARSHALL, Chief Cashier.

# Gazette of the Week.

TUESDAY—BANKRUPTS—J. BARBS, Sedgeley, Staffordshire, Chemist and Druggist—M. W. BAWDEN, Liskeard, Assayer of Minerals—C. BOTTEN, Moreton Street, Pimlico, Upholsterer—JAMES and JOSEPH HAIGH, Mossley, Lancashire, Brush Makers—T. HARPER, Sheffield, Cooper—G. HEARN, Truro, Grocer—E. HODGES, Shrewsbury, Boot and Shoe Dealer—J. JACKSON, Digby, Lincolnshire, Cattle Dealer—E. POSTILL, York, Druggist.

BANKRUPTCIES ANNULLED—O. EVANS, late of Liverpool, Innkeeper—N. TAYLOR, Kingston-upon-Hull, Linendraper.

SCOTCH SEQUESTRATIONS—J. DUNLOP, Glasgow, Wine and Spirit Merchant—J. M'FARLANE, Dumbarton, Grocer—D. M'KILLOP, Glasgow, Baker—A. NEWLANDS, Rothes, Elginshire, Flesher.

FRIDAY—BANKRUPTS—S. ALCOCK and T. ALCOCK, Hatton Garden, Earthenware Manufacturers—R. AMISS, Conduit Street, Regent Street, Tailor—W. BARNES and S. PICKERING, Gracechurch Street, Boot and Shoe Manufacturers—G. C. BINGHAM, Nottingham, Boot Manufacturer—T. H. BROWN, Scott's Yard, Cannon Street, City, Builder—C. BRUCE, Stafford, Cabinet Maker—J. DAVIS, Leadenhall Market, Poulterer—W. HARRIS and W. WEST, Kingston-upon-Hull, Drapers—E. C. JONES, Kennington, Printer—L. LESSER and J. LESSER, Tipton, Staffordshire, Shoe Manufacturers—L. PRIESTLEY, Heckmondwike, Yorkshire, Commission Agent—M. S. SERLY, Lincoln, Confectioner—T. WREN, Richmond, Surrey, Dealer in Boots and Shoes.

SCOTCH SEQUESTRATIONS—W. H. BAGGALEY, Glasgow, Merchant—R. MARSHALL, Edinburgh, Spirit Merchant—W. MARSHALL, Paisley, Accountant—W. MARSHALL, jun., Waterbrae, Paisley—A. THOMSON, deceased, Saltcoats, Ayrshire, Shipmaster—V. VIVER and COMPANY, late of Fish Street Hill, London, now residing near Glasgow, Merchants.

# Metropolis and its Vicinity.

THE GREAT EASTERN.—The Great Eastern arrived at Holyhead on Monday afternoon from Portland, having accomplished the voyage round under the most favourable circumstances. Her course was from Portland to the Scilly Isles, thence across St. George's Channel to the Old Head of Kinsale, and thence up the Channel to Holyhead. The average rate of speed for the whole trip was a little more than 13 knots, or about 15 miles per hour; the highest which she reached being not more than 15 knots, equal to about 17 miles per hour. During the greater part of the time the engines never went more than half speed, the paddles averaging 10, and the screw 38 revolutions, working at 20lb. steam. The ship was tried under both screw and paddle engines, united and singly, and on both occasions with success. With screw alone it was estimated that at least 10 knots might be obtained if unimpeded by the dead resistance of the paddles. On the other hand it was calculated that the paddle engines would not, if relieved from the screw, give a greater speed than eight knots. The motion of the ship was at all times extremely slight, though the weather was very squally, with at times a heavy sea. The ship, however, in all circumstances was under the most perfect control. On entering Holyhead Bay some trials were made, in order to test the capability of the ship in bringing her head round. The helm was put aport 17 degrees, and a circle made on the starboard side in 19 minutes of one and a quarter mile in diameter. The helm was afterwards put on the starboard, and she went round on the port side in an equally handy manner. After these experiments the ship steamed inside the breakwater, and let go her anchor a few minutes after 4, nearly 24 hours before she was expected, to the disappointment of many persons, including several large parties of excursionists which had been organised at Liverpool to steam out into the channel, and to meet and accompany her on her anchorage. It is now understood that the ship will not sail for America this year. Irrespective of the probable objection of the Board of Trade to grant her an immediate sailing certificate, it is said that there are reasons of policy which render it desirable that she should not leave England at present.

THE WESTMINSTER BELL.—Messrs. Mears have published a reply to Mr. Denison's letter respecting the alleged defects in the casting of the bell, in which they give the most unqualified contradiction to Mr. Denison's statement, and say that as it amounts to a charge of fraud, they will, unless it is at once distinctly withdrawn, take the necessary legal steps to vindicate their character.

THE BUILDERS' STRIKE.—A special meeting of the Masters' Committee was held on the 7th inst. when Mr. Ayrton, M.P., attended on the part of the Conference, and had a long discussion in enforcing the claims of the men. A deputation from the Masons' Society afterwards attended the meeting, consisting of six persons, including Mr. Harnott, the corresponding secretary of that body, who had been specially telegraphed for from Bristol. The meeting was for nearly five hours in discussion on certain propositions that had been submitted by the masons, and from which renewed negotiations there were strong hopes that would end in a satisfactory settlement. On the however all chance of a reconciliation was put

by the renewed demand of the deputation of masons for the entire withdrawal of the declaration, and their unwillingness to refer their trade rules to Lord Brougham or Lord Lyndhurst as arbitrators. It was subsequently resolved at a public meeting of their body that the terms already offered should be considered final, that their bye-laws should not be referred to any third party, and that no further communication should be held with the masters if they do not unconditionally withdraw the declaration. The masters on the receipt of this resolution resolved that the entire withdrawal of the declaration as demanded by the masons would admit the workmen of all other trades without any guarantee either that the strike at Messrs. Trollope's was withdrawn, or that the objectionable rules and practices of other trade societies would be modified. The Committee then adjourned for a fortnight. It is now evident, from the determination evinced on both sides, that there is no immediate probability of the dispute being speedily settled. The number of men who had resumed work under the declaration up to Tuesday was 10,740, and in addition 2100 had entered on establishments in which a shop rule embodying the spirit of the declaration is adopted.

Dr. Smethurst.—It is stated by the *Globe* that Dr. Smethurst will not suffer the extreme penalty of the law. But from inquiries that have been made by direction of Government, startling circumstances have come to the knowledge of the authorities which will compel them, with a due regard to justice, to commute the sentence to nothing short of penal servitude for life.

The Wreck of the Alma.—The official inquiry int the loss of the Alma terminated on Monday, when Mr. Traill and Captain Walker announced their intention to report to the Board of Trade that the vessel was lost through the fault of Mr. Davis, the chief officer; that Captain Henry, in giving him directions to haul up, and referring him to the charts, had given him all the information he possessed, and placed him in charge of the ship; and that if he had not been in charge of the vessel it would have been his duty to consult the captain. At the same time Mr. Traill said they would not fail to refer to the good character which they had received of Mr. Davis as an officer. Mr. Baker, the second officer, who received the thanks of the passengers for his daring services in putting off in a boat and obtaining water for the relief of the sufferers, and afterwards putting off and intercepting her Majesty's ship Cyclops, was exonerated by the Court from all blame.

Drinking Fountain for Animals.—The Society for the Prevention of Cruelty to Animals has erected a drinking fountain near Brixton Church, with water-troughs for animals—an example which might be followed with advantage in many parts of the metropolis.

The Public Health.—The Registrar-General's report states that the deaths in the week that ended Saturday, October 8, were 996, having been above 1000 weekly, and in some instances much above that point, during the previous three months. After reducing the mortality in corresponding weeks of the last 10 years 1849-58 to the extent of the deaths from epidemic cholera in two outbreaks, the return of last week was nearly 100 below the average. During the week the births of 917 boys and 840 girls, in all 1757 children, were registered in London. In the 10 corresponding weeks of the years 1849-58 the average number was 1407.

## Provincial.

Bath.—The rectory of Bath, vacant by the death of Bishop Carr, has been conferred on the Rev. Charles Kemble, Incumbent of St. Michael, Stockwell.

Birmingham.—The funeral of the Rev. James Angell James took place on Friday, in Carr's Lane Chapel, of which place he had been the pastor for 55 years. All the shops along the route were closed, and a procession nearly three-quarters of a mile in length, at the head of which was Sir John Ratcliffe, the mayor, Alderman Hodgson, ex-mayor, and the Hon. and Rev. Grantham Yorke, attended the hearse to the chapel. The Rev. Dr. Miller, rector of the parish, was among the bearers of the pall, and men of all shades of politics and religion were present. Such a funeral has never before taken place in Birmingham.

Bradford.—The third annual meeting of the Social Science Association commenced on Monday in this town. The proceedings were inaugurated by a special religious service in the parish church, where an appropriate sermon was preached by the Bishop of Ripon in the presence of the Earl of Shaftesbury, President of the Association, Lord Brougham, President of the Council, and a considerable number of the members and associates. A meeting of the Council was afterwards held, and in the evening the first public meeting of the Association took place in St. George's Hall. The lower part of the Hall was not quite full, but the two galleries were well occupied, and among the audience there was a large number of ladies. The opening address was delivered by the President, the Earl of Shaftesbury. Lord Brougham then moved and the Right Hon. J. Napier, late Lord Chancellor of Ireland, seconded a vote of thanks to Lord John Russell for his services as President during the past year. Sir J. Ramsden moved and the Mayor of Bradford seconded a vote of thanks to Lord Shaftesbury for his opening address. Both resolutions were carried unanimously. On Tuesday Lord Brougham, as President of the Council, delivered his annual address, which occupied more than two hours in the reading. Vice-Chancellor Page Wood then delivered an address on Jurisprudence. Both these addresses were given in St. George's Hall. The five departments of Jurisprudence, Education, Punishment and Reformation, Public Health, and Social Economy, afterwards met in their respective rooms for the reading of papers and discussions. In the evening there was a *soirée* for members and associates at St. George's Hall; separate rooms being appropriated for conversational meetings on special subjects. On Wednesday the Right Hon. C. B. Adderley, M.P., delivered in St. George's Hall an address on Education, after which the departments met in their rooms for papers and discussions. In the evening a meeting of the Bradford Mechanics' Institute was held in St. George's Hall, Lord Brougham presiding. After the meeting his lordship distributed the prizes and certificates in connection with the Mechanics' Institute and the Society of Arts, as well as the prizes offered by Mr. Cassell. There were 548 papers and essays sent in, nearly all of which were written by working men, and some few by working women. A conversational meeting of delegates from Chambers of Commerce and similar bodies was also held in the saloon of the Hall. On Thursday Mr. Monckton Milnes, M.P., delivered in St. George's Hall an address on the Punishment and Prevention of Crime, and the Reformation of Criminals, after which the departments met in their rooms for papers and discussions. In section B. Miss Jessie Parkes read a paper on the market for educated female labour. Another by Miss Jessie Boucherette, on the industrial employment of women, was read by the Secretary. The two ladies lamented the present condition of educated women in regard to employment, and urged the claims of governesses, &c., on society. In the evening a meeting of the working-classes was held in St. George's Hall; the Mayor of Bradford presiding. Yesterday (Friday) the Right Hon. W. Cowper, M.P., was to deliver in St. George's Hall an address on Public Health, after which the departments were to meet in their rooms as usual for papers and discussions, and the Social Economy Department was to receive a report from the Trades' Societies' Committee, and discuss this subject. In the evening there was to be a *soirée* for members and associates in St. George's Hall. To-day (Saturday) Sir James Kay Shuttleworth is to deliver, in St. George's Hall, an address on Social Economy; after which the concluding meeting of the members and associates will take place, and reports will be received and resolutions passed. During the week excursions have been made to the Low Moor Ironworks and to Saltaire, the great spinning and manufacturing establishments of Mr. Titus Salt, M.P. Other manufacturing and mercantile establishments have also been open to members and associates during their stay; and the Exchange News Room, the Bradford Library, the Mechanics' Institute news and reading-rooms, and the Young Men's Christian Association's news-room have been free to members and associates. A large dining-hall was also erected, adjoining St. George's Hall, for the convenience of visitors. The numbers of papers sent to the general secretary with a view to their being read before the departments was about 250. The following is an extract from Lord Shaftesbury's opening address:—

"On the subject of education we all believe that we know something, and can add something to the general information. This, if not precisely accurate, is at least a healthy sign, as contrasted with past days, when many were indifferent, and not a few adverse to the education of the people. A very great advance has been made of late years, in the sense of our duty, the acquisition of experience, and the application of principles. Had not the country been induced, some years ago, to look the evil in the face, and do its best in the encounter, it would, by this time, have attained gigantic and irresistible proportions, and we should, I verily believe, have been a prey to superstition, brutality, and violence. In discussing education, we are apt to be indefinite, and, unknowingly, regard it in different points of view,—sometimes it is moral, sometimes intellectual, sometimes both. But they are very diverse. The intellectual, so to speak, can be given anywhere, and, with some increase of difficulty, even in mature age; the moral, with very few exceptions, can be given in its perfection only at home, and in the very earliest years. The intellectual training of a child may be so lost as to require in later life a renewed course of discipline and study; but the moral, long forgotten and despised, may be revived in an hour of fear or suffering, in the sudden recollection perhaps of the very words of some dying mother, and in an instant turn the hardest heart to thoughts of purity and peace. If this be so, we see the sacred importance of the homes of England, and we have a proof that the education of the people demands its preliminaries and accompaniments, and needs something more than a certain amount of subjects, and the best system of imparting them. We are frequently startled in courts of justice and reports of inspectors by revelations of ignorance: and it is wholesome that we should be so. But let us observe, by way of explanation, that though in many districts there are schools enough and teachers enough, very many children are never sent to them, and except under compulsion by law (which God forbid) never will be. that there are yet many trades and businesses in which the children, who may be counted by thousands, are, by the excess and nature of their toil, excluded from all hope or possibility of education, or even of repose—a state of things destructive alike of their souls and bodies. I appeal to the clergy, teachers, ministers of all denominations, whether in their laborious and earnest career they do not undergo almost daily mortification in the ignorance and neglect of those who, years before, were the pride and joy of their hearts! And can we wonder at it? Taken at early ages from school, these boys and girls are launched into work, removed from domestic or any other guidance. One or two here and there may possess such an indomitable love of knowledge as to give their vacant hours, unaided, to the increase of their stores. Most of them yield to the indomitable love of pleasure; while a few may be ready to accept the proffered help of those who might enable them to 'redeem the time.' Hence the necessity (however feeble as yet may be the means) of evening classes in the agricultural and manufacturing districts. This subject demands far more discussion and experiments. The thing is prodigiously valuable, and prodigiously difficult, and the man who will popularise and perfect it will be as great a benefactor in his generation as the inventors of Sunday and ragged schools. The same may be said of industrial teaching. Its principle has never, so far as I know, been disputed; but wise men differ widely as to the mode, character, and extent of its application. I myself have seen a little of it, and I am disposed to regard it as very beneficial indeed to all classes, and as making the boys real proficients in one department of labour, such as turning, shoemaking, carpentering (for they may never follow the trade they have learned), but as teaching them good habits of industry, and showing them that it is both lucrative and honourable. But these classes are more easy of adaptation to females, because everything that they learn in it, washing, sewing, or cooking, must be of use to them, as wives and mothers, in after-life. And here I may express a passing wish that, while the attention be withdrawn from the boys a little may be given to the girls. They are sadly overlooked in our remedial and preventive systems; and yet women are the mainstay and protectors of social life. At this moment the cry is that the children remain under bad mothers and governesses. But then comes the time when the poorer sort go out into service, and mingle with the world. Then begins the principal danger. Utterly inexperienced, frank in appetite and passion, with all the wildness of youthful liberty, they are surrounded by every form of allurement. Depend upon it—surely I may speak without fear of contradiction—that temptation is vice and licentiousness in its manifold and various phases, makes tenfold, ay, fifty-fold more victims than all the poverty and ignorance put together. It would be useless to enumerate the sources of temptation. I name but a few—money left carelessly about; goods recklessly exposed in shop windows; low theatres; fairs; low company; betting houses; gin palaces with mansions for the head and the youngest daughter a ministering angel; the euphonious term for receivers of stolen goods, with the certainty of prompt payment for the things stolen; and for a class somewhat higher casinos, betting clubs, low races, and the like. Now, none but those who have seen them, heard them, and, as it were, felt them, can estimate the fatal power they exercise over all, and especially the young. This is the state of things—I do not pretend to say how it can be amended; but it is right that you should know it. Here, however, a question arises as to when education may be supposed to terminate. Is it bound with the period of school, or may it not, in one sense, be said to go on through the whole of life? If so, then let us endeavour to meet one difficulty by another—establish counteracting attractions. They may be comparatively feeble, but you will save some. There are lectures grave, gay, lively, and severe; unions for mutual improvement; here many of the members may commence, or recommence, the study of the first elements, may fasten on the subject they like best, and pursue it with all the zeal and delight that belong to a natural, and not a forced undertaking; proving, in the issue, that the attention which a man gives to himself is ever the most lasting and the most effective. There are reading rooms, coffee rooms, Young Men's Christian Associations, lending libraries, and penny banks. It is well to classify trades and callings; the effect is good, for it gives them a corporate spirit and self-respect. I will mention but the one last founded, the Society for Improving the Condition of Cabmen. Here is a class (I am speaking of the metropolis) consisting, with their helpers, of some 15,000 persons,—a class hitherto very little known, much reviled, and, as it always the case, pronounced incurable. Well, we have established head cabs in several districts, provided rooms, libraries, and all the necessary adjuncts, left the members to raise, in great measure, their own funds, name their own committees, and manage their own affairs. The movement has been received with much favour; and the wives especially, short as has been the time, are loud in their gratitude and joy. That these things have contributed to educate the people—if education may be regarded as the means of fitting them for daily life—is manifested by the results we now constantly see. Mr. Cassell, the eminent publisher, offered prizes for the best essays by working men on specified subjects. I had the honour to be the judge of those on sanitary matters and social economy. A great number was passed under review, and few things have ever impressed me more than the good sense, sound morality, and practical knowledge exhibited by the writers. Again, we formed a penny bank to collect the employer's gleanings of 60 ragged schools. The collections in one year alone amounted to 200*l*. Was nothing done here, to teach order, thrift, management, to thousands of the community; and how to substitute the solid savings bank for the tommy shop and the beer house? But so many wise, good, and earnest people of both sexes are engaged on this subject, that we need not fear any want of attention to it. It is of unspeakable importance for the present, for the future, for internal peace, for external security—and the time is coming fast when, Great Britain will require that, to sustain her power, her position, nay, even her independence—there be not, in body or mind, one feeble person among her tribes."

Hull.—A fire broke out on Thursday morning in the Theatre Royal of this town, and spread with such rapidity that the entire building, including the wardrobe and other property, was destroyed. The theatre was insured but not the wardrobe. This is the second fire which has occurred in it within a few weeks.

Nottingham.—A shocking attempt at murder was made a few days since in this town. A man named Lamb armed himself with a brace of pistols and endeavoured to shoot his wife, because, he subsequently said, "she had done him an injury." She ran away and obtained the assistance of five policemen. Lamb fired twice on the men, but was eventually captured. The magistrates have committed the prisoner for trial.

Plymouth.—The new steam frigate Orlando, of 51 guns and 1000 horse power, made two trial trips last week to test her machinery and speed. On her first trial last month her average speed was 13.2 knots per hour, which was less than had been expected from her build and engines; and as her screw had been made rather too large for the aperture in which it had to work, there was not sufficient room for the water driven forward by the screw's rotation to escape, so that the result was a succession of vibrations throughout the ship, causing the masts to jump and the rigging and spars to oscillate to an extent dangerous to the men employed on them. To remedy this troubling motion the angles of the screw were reduced, and about 15 cwt. of metal cut off, while the trim of the ship was altered by shifting the position of some of the guns. In this condition she started for a renewed trial on Wednesday of last week. As she passed through the Sound she became an object of great interest to the crews of the ships belonging to the Channel fleet, and of the Dutch, Turkish, and Brazilian ships of war at anchor there. On nearing the Western Channel, when additional steam was put

on, most disagreeable evidence of the continuance of the former vibrating tendency was given, and the result of the trials gave only 12.9 knots, instead of 13.2. The condition of the ship therefore, instead of advancing, has actually retrograded since the alterations, a fact which took every one on board by surprise. The engines worked beautifully, and the steering of the ship was perfectly under control. On Friday a third trial took place, the trim of the ship having been again altered by replacing the guns in their old positions. This alteration appeared to have decreased the vibration, and the mean speed obtained was 13.16 knots, the maximum being 13.43. As a result of all the trials the speed of the Orlando may now fairly be put at 13 knots.—The American ship Quebec, 660 tons, of New Orleans, from Bordeaux for Shields, ran on the Eddystone Rocks at 5 o'clock on Tuesday afternoon. Her jibboom end was within 10 feet of the south west kitchen window of the lighthouse, the window being 70 feet high. At half past 9 the ship slipped off the rocks, and the crew who had abandoned her returned, and with the help of a pilot boat attempted to beach her on the Cornish coast, but the sand ballast choked the pumps, and she sank one mile S.S.W. of Downderry Preventive Station, where she will be covered at high water.

SOUTHAMPTON.—The Board of Trade inquiry into the loss of the steamship Express, on the Corbeire Rocks, Jersey, on the 20th ult., was opened in this town on Wednesday, and is still in progress. The body of Mr. Bursell, of Kenilworth, one of the passengers drowned in the wreck, has been found floating between Jersey and Guernsey. An inquest was held at Jersey on Thursday, when a verdict was returned attributing culpable negligence to Mr. Mabb, who was in command of the vessel at the time of the wreck.

SPILSBY.—Measures are in progress to promote the erection of a monument to the late Sir John Franklin in this town, in which the gallant Arctic hero was born.

WOLVERHAMPTON.—On Saturday night a man named John Reynolds had been drinking at Conley, near this town, in company with six other dog-fanciers and prize-fighters, when they were joined by a youth, aged 18, named Thomas Wilkes, a puddler. Not having had sufficient ale when the house closed for the night, they arranged that each should contribute 6*d.* in order to have a "regular fudging" of drink in a field close by. After the sixpences were subscribed, they were unable to get any publican, it being half-past 12 o'clock, to sell them any ale. Wilkes then asked for a return of his 6*d.*, which Reynolds refused, saying it should all be spent on the Sunday afternoon on the Beacon. Thereupon Wilkes rushed at Reynolds, and stabbed him to the heart with a knife. Death immediately ensued; and on apprehending Wilkes, the knife, a formidable weapon used for cutting up horses, was found hidden behind a cupboard and covered with blood. There seems to be something more in the matter than simply the 6*d.* Reynolds has been living with a woman, who appears to have wrought an influence over the lad, who ultimately conceived a passion for her, and became jealous of Reynolds. The jury at the inquest returned a verdict of Wilful Murder against the prisoner, who has been committed for trial.

WORCESTER.—Mrs. Harris, the wife of an artist engaged at the Porcelain Works in this city, threw herself and her two children into the Severn last week in consequence of a quarrel with her husband. Only one body, that of the eldest child, has been recovered, but it is expected that the mother and infant were carried some distance down the river by the flood water. It appears from the evidence given before the magistrates that the poor woman had been shamefully treated by her husband and his relatives, and that, driven almost to madness by their cruelty, she had declared her determination to drown herself and her children. The husband has been charged nominally with assaulting his wife, and has been remanded for the present.

## Ireland.

MANIFESTO IN FAVOUR OF NATIONAL EDUCATION.—An important declaration has been published by members of the Established Church in support of the National system of education. It states that though the schools are not used as instruments of proselytism or to force religious instruction on any children who entertain conscientious objections to receiving it, careful religious instruction is given to Church children in the Holy Scriptures, and ample opportunities are afforded by the National Board for doing so. The document is signed by the Earls of Antrim and Desart, Viscount Monck, the Bishop of Down and Connor, Lord Clermont, the Deans of Elphin and Dromore, General Chesney, four ex-Fellows of Trinity College, several influential clergymen, and a long list of deputy-lieutenants and magistrates.

THE EDUCATION QUESTION.—The Carlow papers mention as the first fruits of the recent pastoral of the Roman Catholic prelates, that the schoolmaster at Carlow who has hitherto acted under the National Board has been dismissed, and the school placed under the management of the Christian Brothers. The national school books have been laid aside, and books and catechisms published, *permissu superiorum*, have been introduced in their stead, thus blotting out the National Board from the map of Carlow.

THE ROMAN CATHOLIC PRELATES.—Another monster pastoral from Archbishop Cullen was read on Sunday in all the Roman Catholic chapels in Dublin. This fresh manifesto is of extraordinary length, and occupies about four columns of the journals which give it publicity. The topics on which it touches are national education, proselytising, the perilous position of the Popedom, and abuse of the revolutionary party in Italy. The following is an abstract of the document:—

"Though living in an age of boasted liberality and progress, we have often to witness acts of bigotry and illiberality scarcely ever equalled in the worst of times." There is an illustration of this state of things to the management of an hospital lately established in Dublin called the Adelaide Hospital, "the managers of which have destroyed the intrinsic merit of their work by enacting rules insulting to the religion of the great majority of the people of Ireland and of the Christian world, and calculated to deprive poor Catholics, who are invited to enter the hospital, of all the spiritual comforts provided for them by their holy church." "The managers of this institution have," it says, "thought fit to prevent the entrance into it of any Catholic priest, thus preventing all Catholic patients admitted therein from receiving the last sacraments and the other consolations of their holy religion. It might be said in justification of the rule that all patients were aware of its existence, and would not enter the hospital if they were unwilling to submit to it. But this statement was far from being satisfactory. Might it not happen that a stranger or a person taken suddenly ill, might be carried to the hospital, and be subjected to the operation of a rule of which he never heard? And if such a person at the approach of death asked for the assistance of a priest, was it to be pretended that his pious wishes were to be refused, or that the rule prohibiting him to receive the rites of the Catholic Church should be justified?" It then comments at some length on the conduct of the British press in reference to the recent pastoral address of the Catholic bishops, "explaining to Catholics their duties in regard to the education of their children." "All that the bishops required was, that a Catholic education on Catholic principles, Catholic masters, and the use of Catholic books, should be guaranteed to Catholic children; and that the bishops themselves should not be debarred from exercising the powers given by Christ when he said, 'Go and teach all nations.'" The treatment of Roman Catholics in Ireland as regarded education is then contrasted with the treatment of Protestants in the Roman Catholic countries of Belgium, Bavaria, France, and Austria. When the Protestants of Austria asked for separate schools, it says, "No clamour was raised upon the subject, and the good Catholic Emperor, yielding to the wishes of his Protestant subjects, freely granted all they could desire." The fullest liberty was granted to them to educate their children in their own religion; and even when the schools had been built by the State, none but Protestant masters could be employed for the education of Protestant children. "In the schools for the poor the fullest liberty of practising their religion must be given, and the unchristian warfare carried on against the cross, the emblem of redemption, must be given up; the class books, mingling religion with knowledge, must be of a character quite different from those at present in use, which are tinged with a spirit of Protestantism derived from their Protestant compilers, and utterly ignore the doctrines and practices of the Catholic Church." It then remarks on the temporal power of the Pope in Italy. It praises Cardinal Antonelli, attacks Lord Malmesbury, Lord Loftus, Sir J. Hudson, and other British diplomatists for interfering with the Pope, and stigmatises Lord Shaftesbury as a Pharisee for his subscription for Italy. Sardinia is described as "a country which, 12 years ago, was happy and flourishing, is now almost reduced to a state of utter destitution and bankruptcy, and groaning under a fearful despotism." As to the complaints that the people of the Pope's States are dissatisfied, that foreign troops are employed to keep them in obedience, and that misery, poverty, and crime abounds, it says that "it is necessary to recollect that no human institution is free from defects, and no Government can render all its subjects rich, happy, and contented. Political economists and enthusiastic statesmen sometimes promise to bring back the golden age, and to banish misery from this world. But their schemes are mere delusions. This earth is only a place of exile and banishment, where man's lot is to suffer." "Even in the greatest and best-governed States there are restless spirits seeking for changes, which frequently only aggravate their miseries, and mutinies, and seditions, and rebellions spring up from time to time. Even the British empire is not exempt from such evils, and very lately it has been considered expedient to repress them in India by fire and sword, by destroying and pillaging great cities, and even by blowing unfortunate soldiers to pieces from the mouth of cannon. The Pope has never found it necessary to have recourse to such violent measures, and his paternal heart would never sanction them. But if great and powerful States cannot always satisfy all their subjects, is it just to pretend that the Sovereign of a small territory, and comparatively weak, should succeed in so arduous an undertaking? Undoubtedly there are poor in the Pope's States, but there is none of that squalid and degrading poverty which you see in London and the great cities of England, and we never heard of millions of his subjects dying of famine or having been turned out by exterminating agents to perish of want on the high roads. There are crimes of course, in the Pope's States, but yet you do not hear of continual child murdering, nor of systematic poisoning, nor do you witness that degrading and scandalous exhibition of immorality which renders it impossible for a stranger to pass through many British cities without being shocked and horrified. Unhappily, too, there is some discontent in a part of the Papal territory; but it is not general, and does not extend to any considerable portion of the inhabitants; and what is more, it owes its origin to foreign influence and to the intrigues and emissaries of secret and Bible societies, and frequently to English money." The pastoral concludes as follows:—"In order to obtain the object of our prayers, you will exhort your pious flocks, rev. brethren, to say five 'Hail Marys' each day, after their night or morning prayers, for the safety of the Head of the Church. I grant them 40 days' indulgence each time they do so. You will also say the collect for the Pope, 'Pro Papa,' at every mass, omitting the collect actually said, until further orders."

THE PHŒNIX CONSPIRACY.—On Friday evening Daniel O'Sullivan, of Ardgroom, who was convicted at the recent assizes, was released from Mountjoy prison.

STOPPAGE OF NAVAN FAIR.—The priests have again succeeded in stopping one of the best of the Irish monthly fairs—the fair of Navan. Great preparations had been made for holding it on the day appointed, but from an early hour in the morning, and before the arrival of any cattle, a body of labourers was engaged with picks and spades, digging over the surface of the green, with a view of preventing any stock standing on it; at the same time offering no illegal opposition to the holding of the fair, as they ceased working when the day advanced. A number of intending purchasers arrived by the special train, but seeing what was going on they immediately returned to Drogheda.

THE DOON MURDER.—The chances of the discovery of Mr Crowe's murderers seem to be as remote as ever. The O'Briens, after having undergone a protracted incarceration, and after three or four committals and re-committals, were on Friday night discharged from the County Gaol, no evidence having been offered on which the authorities could send them to trial.

ATTEMPTED ASSASSINATION BY A CLERGYMAN.—On Tuesday the magistrates of Ballinrobe were engaged in inquiring into two summonses, the first charging the Rev. R. Goodison, a Protestant clergyman, with threatening to shoot the Rev. Mr. Lavelle, of Partry; the second charging Father Lavelle with using threatening language to Mr. Goodison, a dispute having arisen between them on the subject of proselytism. After hearing evidence at great length, the Court decided in the first case to send it for trial at the next assizes, and in the second against Father Lavelle, that it be dismissed without prejudice. Mr. Goodison was admitted to bail. Another case against Father Lavelle was dismissed on the merits.

THE MURDER OF MR. JESSOP.—Two men named Cregh and Manion have been arrested near Clare, in the King's County, on the charge of being implicated in the murder of Mr. Thomas Jessop. They were seized in bed, and on the bolster being raised a pair of pistols, capped and loaded, a bullet mould, and powder and shot were discovered. The prisoners were evidently prepared for resistance, but the police proceeded so cautiously that a scuffle did not take place.

## Scotland.

THE SCOTTISH EPISCOPAL CHURCH.—At the meeting of the annual synod of the bishops of this church, held at Edinburgh last week, a presentment was made against the Bishop of Brechin for teaching unsound doctrine on the question of the Eucharist. In particular, it was charged that the bishop taught and maintained, contrary to the 21st Article, "that the Eucharistic sacrifice is the same substantially with that of the cross," and had declared that "no words of man can strengthen the tremendous and absolute identity of the two sacrifices." Several other charges of a similar kind were made against him, and he was allowed three months to prepare and lodge with the clerk of court his answer to the presentment, which is forthwith to be communicated to the parties; and the synod is to meet on the 7th of February next to hear parties in the case.

UNIVERSITY OF EDINBURGH.—Sir David Brewster has decided on accepting the Principalship of the University of Edinburgh, which the Town Council had unanimously offered him. This acceptance vacates the Principalship of St. Andrew's.

## Railways.

THE RECENT ACCIDENT ON THE SOUTH COAST.—The coroner's inquest in this case terminated on Friday, when the jury returned the following verdict:—

"That the explosion was caused by an excess of steam pressure beyond that to which the steam valve was screwed down, but there is no evidence to show how such increased pressure was obtained. The jury recommend that every locomotive engine should be provided with a locked-up safety valve beyond the control of the driver, in addition to the valves now in use, and that some regulation should be prescribed for ascertaining with more exactness than at present the weight to be taken by engines on railway goods trains."

## Sporting.

NEWMARKET SECOND OCTOBER MEETING.

MONDAY.—*Renewal of the Sweeps.* Lord Zetland's Sequidia beat Mr. Alexander's filly.—*Match.* Lord Glasgow's filly beat Eda.—*Match.* Mr. Locke's New Brighton beat Lord Nelson.—*Match.* Lord W. Powlett's Delusion beat Turret.—*Handicap Sweeps.* Mr. Powney's Felicitas beat Sobersides, Hermit, Merchant, and 4 others.—*Fifty Pounds.* Mr. Alexander's Thunderbolt beat Tyrant, Mr. R. H. Nevill's filly, and 11 others.—*Handicap Plate.* Mr. G. Lambert's Claire beat Newstead, Rechab, and 7 others.

TUESDAY.—*Sweeps.* Mr. R. Boyce's Creeping Kate beat Nutfield, Nereus, and 6 others.—*Sweeps.* Mr. Jackson's Brother to Remedy beat Herman and Brine.—*Clearwell Stakes.* Mr. F. Robinson's Aurora beat Contadina, Thormanby, and 7 others.—*Royal Stakes.* Duke of Bedford's Luff beat Van Dieman.—*Cesarewitch Stakes.* Sir W. Booth's Artless beat Gaspard, Clydesdale, and 32 others. A dead heat between Artless and Gaspard, beating Clydesdale by three lengths, Mazzini being the same distance from Clydesdale; Prioress a bad third, Ambush sixth, and Independence seventh; Des Chiles and Star of the East were the last two. Deciding Heat won by Artless, who led throughout and won by three lengths.—*Selling Handicap Sweeps.* Mr. Quartermaine's Amsterdam beat Circassia, Swertha, and 11 others. *Match.*—Lord Glasgow's filly beat Killigrew.—*Sweeps.* Mr. Whittaker's Raspberry beat Coxcomb and Appendix.

WEDNESDAY.—*Oatlands Plate.* Mr. Hodgman's Wrestler beat Bastion, Cynricus, and 12 others.—*Town Plate.* Mr. T. Hughes's Winkfield beat Scribbler, Lustre, and 3 others.—*Handicap Sweeps.* Mr. Greville's Harry Stanley beat Esperanza, Emblem, and 6 others.—*Handicap Sweeps.* Mr. H. Smith's Ringlet beat Stolzenfels, Dartmouth, and 12 others.—*Match.* Duke of Beaufort's Blue Ruin beat Gallus.—*Sweeps.* Mr. Whittaker's Raspberry beat Miss Eleanor, Mr. Fleming's and Ladybird.—*Bedford Stakes.* Mr. E. Hall's Seclusion beat Jason, Thessalian, and Trovatore.—*Select Stakes.* Baron Rothschild's North Lincoln walked over.

THURSDAY.—*Match.* Mr. F. Robinson's Antonio beat Luff.—*Fifty Pound Plate.* Mr. J. Merry's Brother to Rainbow beat Weatherbound, Clare, and 8 others.—*Renewal of the Bretby Stakes.* Sir C. Monck's Vesta beat Lady Falconer and Lord Glasgow's filly.—*Sweeps.* Mr. R. Ten Broeck's Pomona beat Twang, Fern Leaf, and 4 others.—*Match.* Duke of Bedford's Orlanda beat Croquemitaine.—*Sweeps.* Mr. Morris's Merchant beat Fusee, Fontarabia, and Nutfield.—*Match.* Mr. F. Robinson's Apollo beat Herman.—*Sweeps.* Mr. J. Smith's Infanta beat New Brighton, Olympus, Confusion, and 3 others.—*Match.* Duke of Bedford's Golden Pippin beat Plumper.—*Handicap Sweeps.* Mr. Angell's The Greek beat Osborne, Broadbrim, and 4 others.—*Handicap Plate.* Mr. J. Osborne's Lady Alice beat Joskin, Harry Stanley, Precursor, and 3 others.—*Match.* Captain M. Smith's Nelly beat the Black Prince.—*Match.* Mr. W. Day's The Promised Land received forfeit.

from Musjid.—*Match.* Mr. F. Robinson's Actæon received 50 sovs. forfeit from Indifference.

Friday.—(By Electric Telegraph).—*50l. Plate.* Hop Merchant beat Odd Fellow.—*Sweeps.* Ringlet beat Swertha.—*Handicap Sweeps.* Sobersides beat Lord of Lorn and 3 others.—*Prendergast Stakes.* Thormanby beat Contadina and 5 others.—*Handicap Sweeps.* Oreus beat Parmesan and 9 others.—*Sweeps.* Seclusion beat Madame Eglantine and another.—*Handicap Sweeps.* Actæon walked over, and divided the Stakes with Pandora; 11 ran.—*Sweeps.* Golden Pippin beat Fair Maid of Kent and 7 others.—*Selling Handicap.* Sobersides beat Queenstown and 7 others.—*Matches.* Van beat Flutter Colt. Luff beat Rechab. Twilight beat Lord Berkeley. Mainstay beat Sister to Pandora.

## Obituary.

The Countess Dowager of Listowel died on the 2d inst at her residence in Eaton Square, in her 81st year. She was the second daughter of the late Mr. John Latham, and married in 1812 the first Earl of Listowel, great grandfather of the present peer.

Rear-Admiral Bowyer died on the 8th inst. at Southampton, in his 70th year. He entered the navy in 1803, and was present in Sir Richard Strachan's action in 1805, and at the taking of the Dutch West India Islands in 1807. He was afterwards employed in active operations on the coast of Spain, and was present at the capture of Vigo, and at the defence of Cadiz. He subsequently served on the coast of Africa, in the Baltic, the Brazils, and various parts of South America. In 1848 he was appointed inspecting commander in the Coast Guard, and was promoted to post rank in 1850, becoming a retired Rear-Admiral in 1855. He received a medal for his services in Sir Richard Strachan's action.

Sir George Goodman, formerly M.P. for Leeds, died at his seat at Roundhay, near that town, on Thursday morning. He was a magistrate for the West Riding, and was the first mayor of Leeds under the Municipal Corporations Act in 1836. He was re-elected in 1846, 1850, and 1851, in which year he received the honour of knighthood. While in office as Mayor in 1852 he was returned to Parliament for the borough as the colleague of the Right Hon. M. T. Baines. On the dissolution in 1857 he retired in consequence of failing health, and from that period he was seldom able to appear in public. Some years back he was prominent in all political and philanthropic movements. He was a warm advocate of free trade, and was a decided Liberal in politics.

Mr. Robert Stephenson, M.P., the eminent engineer, died on Wednesday at his residence in Gloucester Square, after a long illness, having survived his friend and competitor Mr. Brunel somewhat less than a month. He was the eldest son of the late Mr George Stephenson, the renowned civil engineer and locomotive manufacturer, of Newcastle-on-Tyne, and was born in 1803 at Wilmington. In 1822 he was sent to Edinburgh University, and in the following year commenced his apprenticeship as an engineer under his father at Newcastle. He remained two years in this situation, at the end of which he set out upon an expedition to explore the gold and silver mines of Columbia and Venezuela. On his return to England in 1828 the subject of railways was beginning to receive considerable attention, and a reward of 500*l.* had been offered for the best locomotive, which should consume its own smoke, weigh no more than 6 tons, with its complement of water, and draw a train of 20 tons at the rate of 10 miles an hour. This prize was won by Mr. Stephenson, and the consequence was a large increase of the business of the engine factory at Newcastle. In 1833 the London and Birmingham railroad was commenced under his sole supervision. After a few years had elapsed Mr. Stephenson and Mr. Brunel became conspicuous as the two champions in the long-pending "battle of the gauges," Mr. Stephenson advocating the "narrow" gauge, and Mr. Brunel the "broad" gauge, as affording the more safe and expeditious means of travelling on railways. As leader of the narrow-gauge interest Mr. Stephenson lived to see his principle carried out in all the main lines throughout the United Kingdom. In addition to the London and Birmingham, he constructed the Blackwall, Norfolk, Aylesbury, and numerous other lines; and was engineer to the North Western, Midland, Eastern Counties, and several other railways. One of his great undertakings was the tubular railway bridge over the Conway. But even that passes almost into insignificance when compared with the Britannia tubular bridge across the Menai Straits, on which his chief reputation will always rest. It is truly called "a wonderful monument of human ingenuity," in which almost insuperable difficulties were overcome, with fewer disappointments from want of forethought or accurate calculations, and attended by a less number of accidents, than any undertaking of far less importance or magnitude. Mr. Stephenson was consulted by the Belgian Government on the best system of railroad lines to be adopted in that country, and was decorated by King Leopold for his services; and in 1846 he visited Norway for a similar purpose. He also assisted the late Mr. Brunel greatly by his experience and advice during the protracted operations in launching the Great Eastern. Mr. Stephenson was first returned to Parliament in 1847 for Whitby, in Yorkshire, in the Conservative interest, and represented that borough in the two following Parliaments. He generally supported Lord Derby and his policy, but on the occasion of Mr. Roebuck's celebrated motion in January, 1855, which led to the dissolution of Lord Aberdeen's Administration, he voted with the minority. He was a Fellow of the Royal Society, and was connected with many other learned and scientific bodies. He married in 1829 Miss Frances Sanderson, only daughter of Mr. John Sanderson, of the City of London, who died in 1842 without leaving any family.

**Wills.**—The will of the Hon. John Kennedy has been sworn under 70,000*l.*; the Hon. Lady Lumley, 35,000*l.*; Lieut.-Gen. Kemm, 9000*l.*; Mr. Thomas Henry Smith, of Bermondsey, 80,000*l.*; Mr. William Edward Russell, brewer and maltster, of Gravesend, 18,000*l.*

BIRTHS.—On the 9th inst, at Teignmouth, the wife of Alan James Goulston, of Llwyn-y-berllan, Caermarthenshire, and of Knuston Hall, Northamptonshire, of a daughter—6th inst, at Callingwood, near Burton-upon-Trent, the wife of Colonel J. A. Ewart, C.B., 78th Highlanders, of a daughter—8th inst, at Hooton Hall, Cheshire, the wife of Richard C. Naylor, Esq., of a daughter—11th inst, at 72, Gloucester Street, Eccleston Square, the wife of William Goodenough Hayter, Esq., of a son—9th inst, at 12, Westbourne Terrace, Hyde Park, the wife of Ilestock R. Reid, Esq., of a son.

MARRIAGES.—On the 6th inst, at Toddington, Gloucestershire, Charles Henry Maude, Esq., of her Majesty's Anglo-Indian Army, second son of Captain the Hon Francis Maude, R.N., to the Hon. Georgiana Henrietta Hanbury Tracy, second daughter of the Right Hon. Lord and Lady Sudeley—7th inst, at St. John's Episcopal Chapel, Edinburgh, the Very Rev. Daniel Bagot, Dean of Dromore, and Vicar-General of Newry and Morne, to Euphemia Elizabeth Anne, youngest daughter of the late Sir William Eliott, of Stobbs, Roxburghshire, Bart.—4th inst, at Withycombe Raleigh, Devon, Colonel Spencer Clifford, late Grenadier Guards, son of Sir Augustus Clifford, Bart., and Lady Elizabeth Clifford, to Emmeline, only child of the late R. Lowe, Esq., her Majesty's Indian Service—6th inst, Francis Nevil Reade, 21st Fusiliers, to Florence Amelia Louisa, youngest daughter of the Hon. Adolphus Capel, niece of the Earl of Essex, and grand-daughter of Viscount Maynard—6th inst. at St. Peter's Church, Dublin, James Mouatt, Esq., C.B. and V.C., Knight of the Legion of Honour, Deputy Inspector-General of Army Hospitals, to Adela Rose Ellen, youngest daughter of the late Rev. Nicolas Tindal, and grand-daughter of the late Sir Nicolas Conyngham Tindal, Lord Chief Justice of the Court of Common Pleas—8th inst, at Holywell Church, Oxford, the Rev. Fred Meyrick, H.M.'s Inspector of Schools, and Fellow of Trinity College, Oxford, to Marion, second daughter of the late Edward F. Danvers, Esq.—6th inst, at St. Peter's Church, Dublin, T. Crawford, Esq., M.D., Surgeon to the 18th Royal Irish Regiment, son of the late Joseph Crawford, Esq., of Drumbram, Co Monaghan, to Clara Frances, daughter of the late Richard Morrison, Esq., Co. Wicklow—11th inst, at Burlescombe, Devon, Thomas Cooke Jones Dryden, Esq., R.N., H.M.S. Formidable, to Eliza, third daughter of J. W. Marder, Esq., of Eastbrooke Cottage.

DEATHS.—On the 27th ult, at the Villa Pignatelli, Strongoli, Sorrento, the Right Hon. Lady Eleanor Butler—5th inst, at Leamington, Lady Duberly, widow of the late Sir James Duberly, of Gaines Hall, Huntingdonshire, aged 73—7th inst, at Roecliffe, Leicestershire, Lady Heygate, widow of the late Sir William Heygate, Bart., aged 83—7th inst, at her son-in-law's, Thorn Faulcon, Somerset, Elizabeth Lady Ramsay, second daughter of Duncan Macdonell, of Glengarry, relict of William Chisholm and of Sir Thomas Ramsay, Bart., aged 82—29th ult, at Leamington, Her Majesty's Consul at Amsterdam, James Annesley, Esq., son of the Hon. Robert Annesley, and grandson of Richard, second Earl Annesley, aged 60—10th inst, at Hastings, Colonel William Fawcett, son of the late Major-General William Fawcett, and grandson of the late General Sir William Fawcett, K.C.B., Governor of Chelsea Hospital, &c., aged 74—15th ult, at Melbourne, killed by a fall from his horse, Colonel John Mallis Bladen Neill, late 40th Regt., Deputy Adjutant General of Victoria, second and only surviving son of the late Lieutenant-Colonel Smith Neill, of Barnweill and Swindrigemmir, Ayrshire—17th ult, at sea, on his passage from Burmah to England, Major James Ross Arrow, of H.M.'s 15th Regiment, M.N.I.—13th August, at sea, Captain Smalpage, 31st Bengal Native Infantry, Brigade-Major of the Bengal Brigade in China—27th ult, at Windsor, Captain Astley Green, late H.M.'s 44th Regiment—1st inst, the Rev. Thomas Gurney, M.A., rector of All Saints' and St. Julian's, Norwich, aged 68—6th inst, at the Windsor Hotel, Edinburgh, Robert Cutlar Fergusson, Esq., of Craigdarroch and Orroland—30th ult, at Lantarrham Abbey, near Newport, Monmouthshire, Richard Brinsley Dowling, Esq., of the Middle Temple, London.

## Markets.

### COVENT GARDEN.—Oct. 13.

Pine Apples and Grapes realise a trifle better prices than last week. Pears still consist of Marie Louise, Duchesse d'Angoulême, and Beurré Diel. The best dessert Apples to be had now are the Ribston and King of the Pippins. New Madeira Oranges may now be obtained. Good Filberts may be had for 9d. per lb. Cabbages, Beans, Carrots, and Artichokes may be obtained in quantity. Cauliflowers are scarce. Potatoes realise from 4s. to 8s. per cwt. Mushrooms are still plentiful. Cucumbers abundant. Cut flower chiefly consist of Orchids, Gardenias, Dahlias, Violets, Mignonette, China Asters, Heaths, and Roses.

#### FRUIT.

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| Pine Apples, per lb., 5s to 7s | Apples, per ½ sieve, 1s 6d to 3s |
| Grapes, per lb., 2s to 5s | Pears, per ½ sieve, 6s to 10s |
| Melons, each, 2s to 4s | Lemons, per doz., 1s to 1s 6d |
| Figs, per doz., 2s | Filberts, p. 100 lbs., 50s to 60s |
| Plums, per punnet, 1s to 2s 6d | Cobbs, do., 60s to 70s |

#### VEGETABLES.

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| Cauliflowers, per doz, 2s to 4s | Artichokes, per doz., 2s to 3s |
| Greens, per dozen bunches, 2s to 2s 6d | Beet, per doz., 1s 6d to 2s |
| Cabbages, do., 1s 6d to 2s 6d | Celery, p. bundle, 1s to 1s 6d |
| French Beans, p. half sieve, 2s to 2s 6d | Onions, p. half sieve, 1s to 1s 6d |
| Potatoes, p. ton, 90s to 100s | — Portugal, each, 2d to 4d |
| — per bus., 2s to 2s 9d | Shallots, per lb., 6d to 8d |
| — per cwt., 4s to 6s | Garlic, per lb., 6d to 8d |
| Carrots, per bunch, 6d | Lettuces, Cabb., per score, 1s to 1s 6d |
| Turnips, per bunch, 4d | Endive, p. score, 1s to 1s 6 |
| Spinach, p. sieve, 1s 6d to 2s | Horse Radish, p. bun. 1s 6d to 4s |
| Cucumbers, p. doz., 1s to 1s 6d | Mushrooms, p. pott, 1s 3d to 1s 9d |
| Frame do., each 4d to 6d | Parsley, p. 12 bunches, 2s to 4s |
| Tomatoes, p. ½ sieve, 2s 6d to 3s 6d | Savory, per bunch, 2d to 4d |

### COAL MARKET.—Oct. 12.

Burnhope, 13s.; Byass's Bebside West Hartley, 15s.; Davison's West Hartley, 15s; Lambert's West Hartley, 14s. 9d.; Tanfield Moor, 12s. 9d.; Walker Primrose, 12s. 6d.; Ward's West Hartley, 14s.; Wylam, 15s.; Walls End Acorn Close, 17s. 6d.; Walls End Eden, 17s. 6d.; Walls End Hetton, 18s. 6d.; Walls End Heugh Hall, 17s. 6d.; Walls End Hunwick, 15s.; Walls End Whitworth, 15s.; Lyon's Stone, 19s.—13 ships at market.

### HAY.—Per Load of Thirty-six Trusses.

Smithfield, Thursday, Oct. 13.

| | | | | |
|---|---|---|---|---|
| Prime Meadow Hay | 5 | 8 to 7 | 0 | |
| Superior do. (old) | .. | 7 | 2 | 8 | 0 |
| Inferior do. | .. | .. | 4 | 4 | 5 | 5 |
| New do. | .. | .. | .. | — | — |
| Rowen | .. | .. | .. | 4 | 0 | 5 | 0 |
| Clover | .. | .. | .. | 9 | 0 to 10 | 0 |
| New Clover | .. | .. | — | — |
| Second cut do. | .. | 6 | 0 | 9 | 0 |
| Straw | .. | .. | .. | 2 | 5 | 3 | 0 |

Davis & Co.

Cumberland Market, Thursday, Oct. 13.

| | | | | |
|---|---|---|---|---|
| Sup. Meadow Hay | 8 | 4 to 8 | 8 | |
| Inferior do. | .. | .. | 6 | 0 | 7 | 6 |
| New do. | .. | .. | — | — |
| Superior Clover | .. | 9 | 4 | 10 | 0 |
| Inferior Clover | .. | 6 | 8 to 8 | 8 |
| New do. | .. | .. | — | — |
| Straw | .. | .. | .. | 3 | 0 | 3 | 4 |

Joshua Baker.

Whitechapel, Thursday, Oct. 13.

| | | | | |
|---|---|---|---|---|
| Fine old Hay | .. | .. | 7 | 8 | 0 to 8 | 2 | 0 |
| Inferior do. | .. | .. | 6 | 5 | 7 | 5 |
| Prime New Hay | .. | — | — |
| Inferior do. | .. | .. | — | — |
| Straw | .. | .. | .. | 2 | 6 | 3 | 0 |
| Fine old Clover | .. | 9 | 5 to 10 | 0 |
| Inferior do. | .. | .. | 8 | 0 | 9 | 0 |
| Fine new Clover | .. | — | — |
| Fine 2d cut | .. | .. | 7 | 8 | 8 | 4 |
| Inferior do. | .. | .. | — | — |

### POTATOES.—Southwark, Monday, Oct. 10.

During the past week, the commencement of this season, the arrivals have been small. Prices various, according to sample and condition. The following are this day's quotations:—York Regents, 80s. to 100s.; Lincolnshire do., 70s. to 90s.; Dunbar do., 80s. to 90s.; Perth, Forfar, and Fifeshire do., 70s. to 85s.; Kent and Essex do., 80s. to 110s.

### BRITISH WOOLS.—London, Friday, Oct. 14.

Prices continue firm and stocks light. The consumers of wool are still very busy, and must come into the market within a few weeks.

| | s. | d. | | s. | d. |
|---|---|---|---|---|---|
| South-down Hoggets | 1 | 8 | to | — | |
| Half-bred ditto | 1 | 8 | — | — | |
| Down Ewes | 1 | 6 | — | — | |
| Kent Fleeces | 1 | 7 | — | — | |
| Leicest. Wethers | 1 | 5 | to | — | |
| Ditto Hoggs | 1 | 7 | — | — | |
| Combing Skins | — | — | — | | |
| Blanket ditto | — | — | — | | |
| Flannel Wool | 1 | 2 | — | 1 | 7 |

### METROPOLITAN CATTLE MARKET.

Monday, Oct. 10.

The number of Beasts is smaller than on Monday last; consequently trade has recovered from Thursday's depression. There are a very few more Sheep; the demand is good, and on the average prices are better. Good Calves are dearer. From Germany and Holland there are 1270 Beasts, 6000 Sheep, and 81 Calves; from Scotland, 50 Beasts; from Ireland, 560; from Norfolk and Suffolk, 100, and 2200 from the northern and midland counties.

| | s | d | s | d |
|---|---|---|---|---|
| Best Scots, Herefords, &c. | 4 | 10 to 5 | 0 |
| Best Short-horns | 4 | 8 — 4 | 10 |
| 2d quality Beasts | 3 | 8 — 4 | 4 |
| Best Downs and Half-breds | 5 | 2 to 5 | 4 |
| Do. Shorn | .. | .. — | .. |
| Best Long-wools | 4 | 10 — 5 | 0 |
| Do. Shorn | .. | .. — | .. |
| Ewes & 2d quality | 4 | 4 — 4 | 8 |
| Do. Shorn | .. | .. to | .. |
| Lambs | .. | .. .. — | .. |
| Calves | .. | .. | 4 | 0 — 5 | 0 |
| Pigs | .. | .. | 4 | 0 — 5 | 0 |

Beasts, 4590; Sheep & Lambs, 23,940; Calves, 400; Pigs, 126.

Thursday, Oct. 13.

The number of Beasts is very small, consequently they are readily disposed of at advanced rates. The supply of Sheep is about the same as of late. Trade is brisk, and some choicest qualities are rather dearer. Good Calves are in demand at higher prices. Our foreign supply consists of 46 Beasts, 830 Sheep, and 31 Calves. The number of Milch Cows is 117.

| | s | d | s | d |
|---|---|---|---|---|
| Best Scots, Herefords, &c. | 4 | 10 to 5 | 2 |
| Best Short-horns | 4 | 8 — 5 | 0 |
| 2d quality Beasts | 3 | 10 — 4 | 4 |
| Best Downs and Half-breds | 5 | 2 — 5 | 4 |
| Do. Shorn | .. | .. — | .. |
| Best Long-wools | 4 | 10 — 5 | 2 |
| Do. Shorn | .. | .. — | .. |
| Ewes & 2d quality | 4 | 4 to 4 | 8 |
| Do. Shorn | .. | .. — | .. |
| Lambs | .. | .. .. — | .. |
| Calves | .. | .. | 4 | 4 — 5 | 2 |
| Pigs | .. | .. | 4 | 0 — 5 | 0 |

Beasts, 957; Sheep & Lambs, 5570; Calves, 150; Pigs, 160.

### MARK LANE.—Monday, Oct. 10.

The supply of Wheat from Essex and Kent to this morning's market was small, and met a quick sale (partly for Yorkshire) at an advance of 1s. per qr. upon the prices of this day se'nnight. The business transacted in foreign was not large, nevertheless full prices were obtained, and French and Russian qualities must be written 1s. per qr. dearer. For finest malting and grinding Barley there is a good demand at late rates; inferior malting is difficult of sale. Beans and Peas bring last week's prices. The Oat trade is slow at a decline of 6d. per qr. The top price of town-made Flour is unaltered, but Norfolk is held for rather more money.

| Per Imperial Quarter. | s. | s. | | s. | s. |
|---|---|---|---|---|---|
| Wheat, Essex, Kent, & Suffolk.. White | 34 | —46 | Red .... | 36 | —41 |
| — — fine selected runs.. ditto | 42 | —44 | Red .... | 38 | —44 |
| — — Talavera ..... | 40 | —50 | | | |
| — Norfolk ..... | — | | Red .. .. | — | |
| — Foreign ..... | 38 | —54 | | | |
| Barley, grind. & dist., 24s to 30s.. Chev. | 38 | —44 | Malting . | 34 | —40 |
| — Foreign .. grinding and distilling | 23 | —28 | Malting . | — | |
| Oats, Essex and Suffolk ..... | 19 | —22 | | | |
| — Scotch and Lincolnshire .. Potato | 23 | —25 | Feed .... | 19 | —24 |
| — Irish ..... Potato | 24 | —25 | Feed .... | 19 | —22 |
| — Foreign ..... Poland and Brew | 23 | —26 | Feed .... | 17 | —24 |
| Rye ..... | — | | Foreign . | — | |
| Rye-meal, foreign ..... | — | | | | |
| Beans, Mazagan .... 31s to 39s .... Tick | 34 | —41 | Harrow . | 34 | —41 |
| — Pigeon .....41s — 45s.. Winds. | 48 | —54 | Longpod | — | |
| — Foreign ..... Small | 38 | —46 | Egyptian | — | |
| Peas, white, Essex and Kent .. Boilers | 36 | —41 | Suffolk . | 35 | —43 |
| — Maple .... —s to —s ..... Grey | 33 | —35 | Foreign . | 30 | —40 |
| Maize ..... White | — | | Yellow.. | — | |
| Flour, best marks delivered.. per sack | 37 | —48 | | | |
| — 2d do. ..... ditto | 27 | —37 | Country. | 27 | —37 |
| — Foreign ..... ... per barrel | 18 | —27 | Per sack | 30 | —37 |

Friday, Oct. 14.

The weather during the past week has been very wet, with variable wind, chiefly easterly; to-day fine. The Wheat trade was not active, although particularly firm, and in the majority of markets good qualities of new English were written 1s. per qr. dearer, a similar advance being obtained on the general descriptions of foreign. Barley has fully maintained its former rates, and in some instances 1s. per qr. improvement has been obtained. Business in Beans, Peas, and Oats was heavy, and their late value barely maintained. In several of the chief markets of the kingdom Flour has advanced about 1s. per sack. This week's arrivals from Southern Europe off the coast show a considerable falling off in the supplies from this quarter. The sales include Berdansk Wheat at 45s., Marianopoli at 45s. 9d., and Taganrog Ghirka at 43s. 6d. to 44s. 6d. per 492 lbs.; Ibrail Maize at 26s. to 27s. per 480 lbs.; Galatz at 29s. 3d. and Odessa at 28s. 9d. to 29s. 6d., each per 492 lbs.; Odessa Barley at 22s. 6d. to 23s. 6d., and Bessarabian at 21s. per 400 lbs. The arrivals of English grain this week are moderate. There was a very thin attendance at to-day's market. Monday's prices for English Wheat were well supported, and the same may be said of foreign, for which, however, the inquiry was limited. Barley sells freely at Monday's quotations. Beans and Peas are unaltered in value. For Oats there is an improved demand at the prices lately current.

Arrivals from Oct. 10 to Oct. 14.

| | Wheat. | Barley. | Oats. | Flour. |
|---|---|---|---|---|
| English .. | 1780 qrs. | 2760 qrs. | 170 qrs. | 470 sks. |
| Irish .... | — „ | — „ | 200 „ | — „ |
| Foreign .. | 18150 „ | 4870 „ | 36260 „ | — „ / — brls. |

Liverpool, Tuesday, Oct. 11.—We had a fair attendance of millers at our Corn Exchange this morning, and holders remained firm at the improvement established yesterday; buyers, however, acted cautiously. Wheat may be quoted about 2d. per cental, and Flour 6d. to 1s. per sack dearer than on Friday. Indian Corn steady at full prices, but demand slow. Oats and Oatmeal sluggish. Egyptian Beans, Peas, and Barley maintain full prices. The market closed steady, but without activity.

Friday, Oct. 14.—Grain market slow, with limited attendance of buyers. The quotations generally are at Tuesday's prices. Wheat in moderate demand; Flour quiet; Beans and Indian Corn steady, and other articles only in retail inquiry.

| Averages | Wheat. | Barley. | Oats. | Rye. | Beans. | Peas. |
|---|---|---|---|---|---|---|
| Sept. 3.. | 44s 0d | 34s 8d | 24s 5d | 30s 11d | 43s 5d | 38s 10d |
| — 10.. | 42 9 | 33 9 | 23 0 | 31 6 | 41 3 | 37 10 |
| — 17.. | 41 11 | 35 8 | 21 7 | 30 6 | 40 4 | 38 8 |
| — 24.. | 41 10 | 35 5 | 21 7 | 30 6 | 40 4 | 38 5 |
| Oct. 1.. | 42 1 | 35 9 | 20 10 | 29 9 | 39 7 | 38 5 |
| — 8.. | 42 5 | 35 8 | 21 7 | 29 10 | 39 3 | 38 0 |
| Agg. Aver. | 42 6 | 35 1 | 22 2 | 30 6 | 40 8 | 38 4 |

Fluctuations in the Last Six Weeks Averages.

| Prices. | Sept. 3. | Sept. 10. | Sept. 17. | Sept. 24. | Oct. 1. | Oct. 8. |
|---|---|---|---|---|---|---|
| 44s 0d | — | .. | .. | .. | .. | .. |
| 42 9 | .. | .. | .. | .. | .. | .. |
| 42 5 | .. | .. | .. | .. | .. | .. |
| 42 1 | .. | .. | .. | .. | .. | .. |
| 41 11 | .. | .. | .. | .. | .. | .. |
| 41 10 | .. | .. | .. | .. | .. | .. |

### HOPS.—Borough Market, Friday, Oct. 14.

Messrs. Pattenden & Smith report that at Weyhill Fair yesterday about 2650 pockets of Farnham and 2500 of country Hops were pitched for sale. About two-thirds of the Farnhams were sold at from 100s. to 112s. per cwt; Golding's ditto at 140s. per cwt. About one-third of the countrys also were sold at about 84s. per cwt. They also report that the

London merchants appeared to be doing a fair business by sample in both Kent and Sussex Hops, and that the market this morning in the Borough is very firm for all Hops with colour and quality.

THE WIDOW OF THE LATE PROFESSOR HENFREY, F.R.S., L.S., &c., of King's College, London, receives a small number of BOYS between the ages of 6 and 12, to EDUCATE with her own family. Terms, from 60 Guineas per Annum.—Turnham Green, W.

WANTED, by a gentleman in the County of Oxford, an ARTICLED PUPIL. A limited number of Boarders are taken. Terms moderate.—Apply to ALPHA, Kingham, Oxon.

WANTED IMMEDIATELY, by a gentleman in Mexico, who is forming a new and extensive place, a first-class GARDENER, who in addition to possessing a perfect knowledge of his profession generally, must have some practice and taste in Landscape Gardening, and be capable of Designing and Carrying out new Works. A single Man would be preferred, and it is desirable that he should be of the Roman Catholic religion. A very liberal salary will be given commensurate with the abilities of the person engaged, and to an energetic and persevering man this will probably prove to be a valuable appointment.—Apply by letter only, stating age, reference, and previous experience, to F. L., care of Mr. James Veitch, jun., Royal Exotic Nursery, Chelsea, S.W.

WANTED, by a gentleman in the neighbourhood of London, a thoroughly active, competent, and experienced GARDENER, from 30 to 40 years of age, who perfectly understands the Management of Hot and Greenhouses, Forcing of all kinds, Kitchen Garden, Pleasure Grounds, &c. He must be married, without family, or only one child. There is a most comfortable Lodge, and the Wife will be required to open the gate occasionally, for which there is the appliance of a spring. Salary 75*l.* per annum, with Fuel and Vegetables, and which would be increased to 80*l.* after the first six months should the party prove deserving and suitable.—Apply, by letter only, to D. E., care of Mr. James Veitch, Jun., Royal Exotic Nursery, Chelsea, S.W.

WANTED, a GARDENER for a situation where there is a large (walled) Garden and Pleasure Ground. He must understand the Pruning and Training of Wall Fruit Trees thoroughly, and know how to Propagate Bedding Plants. No one whose character will not bear a thorough investigation as to industry and honesty need apply. Wages 1*l.* a week.—Address A. B., Messrs. Wright's, Booksellers, Stafford.

WANTED, A STOCKMAN (Single), in a large Firm. 15*s.* to 16*s.* a week and Lodgings.—Address, M. P., Mr. Laking's, 26, Half-Moon Street, Piccadilly, London, W.

WANTED, A PACKER.—Must have satisfactory testimonials as to ability and conduct.—Apply, stating particulars, with wages required, to SUTTON & SONS, Reading.

WANTED, A PACKER, who is also required to understand Budding and Grafting. Likewise two or three strong active WORKMEN, acquainted with out-door Nursery work. The situation will be permanent, and constant employment given.—Apply, stating wages, to JOHN CRANSTON, King's Acre Nurseries, near Hereford.

WANTED, a young Man as ASSISTANT in a SEED SHOP; must be able to write a good, quick hand. One that has some knowledge of the business preferred. EVAN PAUL, The Nurseries, Derby.

## WANT PLACES.—Letters to be Post Paid.

GARDENER (HEAD).—Age 40, married, no incumbrance; thorough knowledge of his profession in all its branches.—E. C., Mr. Inglish, Holland Street, Kensington, W.

GARDENER (HEAD).—Age 27, married; no incumbrance; understands his profession in all its branches. Good character.—S. M., Post Office, Dedham, Essex.

GARDENER (HEAD).—Age 32; thorough practical knowledge of his profession in all departments; seven years' good character.—J. D., Post Office, Edgeware Road, W.

GARDENER (HEAD).—Age 36, married; thoroughly understands his profession in all its branches. Good character.—G. G., Post Office, Hampton, S.W.

GARDENER (HEAD).—Age 36, married; understands Forcing Vines, Melons, Cucumbers, Flower and Kitchen Gardens. Good character.—H. H., Mr. Smith's, Seedsman, High Street, Cliffe, Lewes, Sussex.

GARDENER (HEAD).—Age 30, married, no incumbrance; thoroughly understands his profession in all its branches. Has had great experience in the Growth and Bedding-out of Plants, Forcing of Fruits and Vegetables. No single-handed place accepted. Good references.—X. Y. Z., Mr. W. Widderson, Willoughby, near Loughborough, Leicester.

### TO NOBLEMEN AND GENTLEMEN.

GARDENER (HEAD).—Age 32; First-class Working Gardener; experienced in the Management of the Vinery, Greenhouse, Hothouse, and Forcing Department, &c., as well as the Kitchen and Flower Gardens. Highly recommended, being steady, honest, and industrious.—J. G., Royal Botanic Gardens, Regent's Park.

GARDENER (HEAD).—Age 33, married; has had much experience in Forcing Fruit, Flowers, and Vegetables; cultivation of Stove and Greenhouse Plants, &c., Ferns, and Orchids. Can be highly recommended by his present employer, whom he is leaving on account of a death in the family.—JOHN ROBINSON, W. R. Sandback, Esq., The Cottage, Aigburth, Liverpool.

GARDENER (HEAD).—Age 28, married, no incumbrance; having lived in several of the largest establishments in the West of England, can with confidence offer himself to any lady or gentleman requiring an experienced Gardener. Thoroughly understands Pines, Vines, &c., and all kinds of Tropical and New Holland Plants, and the improvement of everything connected with the garden.—W. A. WILLIAMS, Messrs. J. C. Wheeler and Son, Gloucester.

GARDENER (HEAD).—Age 38, married, no incumbrance; thorough knowledge of the Cultivation of Stove, Greenhouse Plants, Ferns, &c., Forcing Grapes, Peaches and Pines; has had the management of extensive gardens in his late situation 5 years; also has had experience in Farming. His late employers will highly recommend him for ability, sobriety, &c.—R. W., Messrs. Lawson & Son, 27, Great George Street, Westminster, S.W.

GARDENER (HEAD, where one or two Men are kept).—Age 28, married, without incumbrance; has been in the profession 14 years; understands the Cultivation of Ferns, Orchids, Stove and Greenhouse Plants, the Forcing of Vines, Peaches, Strawberries, Cucumbers, and Melons, the general routine of Kitchen and Flower Gardens. Good testimonials and character.—A. E. L., care of Mr. Dedman, Sundridge Park, Bromley, Kent, S.E.

GARDENER (HEAD).—Age 36, married, without incumbrance; has a thorough knowledge of his profession. Good references as to character and abilities.—J. W., Mr. Clarke's, Seedsman, 25, Bishopsgate Within, E.C.

GARDENER (HEAD).—Age 30, single; understands practically Early and Late Forcing of Flowers, Fruits, and Vegetables, Orchard Houses, Kitchen and Flower Gardens. Three years' unexceptionable character from last employer.—E. W., Mr. Williamson, Duke Street, Chelmsford, Essex.

GARDENER (HEAD) OR MANAGER OF AN ESTATE.—Age 44, married; experienced in every branch of Gardening; in the Erection and Heating of Horticultural Buildings, Draining, Fencing, Planting, Road Making, and the general routine of an Estate. Good reference.—E. BUTCHER, Swindon, near Cheltenham.

NURSERY FOREMAN AND PROPAGATOR.—Good Plant Grower, Hard and Soft-wooded Shrubs, Trees, &c. Also the Estimating and Planting of New Work.—E. P., 16, Brunswick Place, Highgate, N.

GARDENER.—Married; perfectly understands his profession; could take charge of Land and Stock. Wife could take charge of Dairy or Poultry. Can be highly recommended.—A. B., Mr. Nash, Ironmonger, 253, Oxford Street, W.

GARDENER.—Age 25, single; a gentleman can with confidence recommend an active man, who has a good practical knowledge of his profession. Can be well recommended for ability and general good conduct. Four years' good character.—A. L., Muskett, Seedsman, High Street, Clapham, Surrey, S.

GARDENER.—EDWARD BENNETT, late Gardener at Perdiswell Hall, Worcester, would be happy to recommend a thoroughly practical Gardener (age 32, married,) to any gentleman in want of such; has lived in good families. Five years' unexceptionable character.—EDWARD BENNETT, Osberton Hall, Worksop, Notts.

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GARDENER (UNDER).—Age 24; understands Hothouses, Greenhouses, Flower and Kitchen Gardens. Good character from last situation.—J. K., Post Office, Aberaman, Aberdare.

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### TO SEEDSMEN.

IMPROVER.—A young Man who has been in the Retail Trade nearly three years wishes for employment in a City house where he could Improve himself. A moderate salary is required the first year.—X. Y. Z., 22, Porteus Road, Paddington, W.

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BAILIFF OR FARM MANAGER.—Married, two children; perfectly understands his profession; has had good experience in Buying and Selling, likewise Breeding and Feeding Stock. Good references from present employer.—A. B., Post Office, Sunbury, Middlesex, S.W.

BAILIFF.—A gentleman leaving a large Arable and Stock Farm in Hampshire is desirous of finding for his BAILIFF another situation. He can give him the highest recommendation in every way.—S. B., Post Office, Basingstoke.

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FARM BAILIFF.—Married, without incumbrance; has been well accustomed to Heavy and Light Land; also to Breeding Stock. Good references given.—A. Z., Mr. Dutton's Printing Office, Chelmsford.

FARM BAILIFF.—Married, without incumbrance; perfectly understands Farming in all its branches, as also the Buying, Selling, and Rearing of Sheep and Cattle; his Wife would attend to a Dairy or Poultry if required.—A. B., Hales Owen.

FARM BAILIFF, at November term.—Age 30, married; understands Farming practically, also has had great experience in Breeding, Rearing, Buying and Selling of Short-horned Cattle, Horses, Sheep, &c. Can be recommended by present employer with satisfactory testimonials from other gentlemen.—W. H., Mr. Proctor's, Stationer, Durham.

SHOPMAN (UNDER, or to make himself useful to his employer).—A young Man; has had experience in good houses.—O. P., *Gardeners' Chronicle* Office, W.C.

THE NEW TARTAN SPUN SILKS for the winter are now on view at
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115, Regent Street, corner of Vigo Street, W. Patterns sent free.

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# The Gardeners' Chronicle Newspaper.

*SATURDAY, OCTOBER 22, 1859.*

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## News of the Week.

THE Treaty of Peace between France and Austria was signed at Zurich on Monday by the Plenipotentiaries of the two Powers, and now awaits the ratification of the respective Governments. It is based upon the provisions of the Convention of Villafranca, and contains little beyond them except the settlement of the Lombard debt, on account of which Sardinia is to pay the sum of ten millions sterling to Austria, in addition to the sum of two millions and a half to France in re-imbursement of her advances during the war. It provides of course for the cession of Lombardy to France, with the exception of Mantua, Peschiera, and as far as the frontier line fixed by a special commission, the limit of which is already known; and it declares that the EMPEROR OF THE FRENCH transfers the ceded portions of Lombardy to the KING OF SARDINIA. It states that the rights of the Grand Duke of TUSCANY, the Duke of MODENA, and the Duke of PARMA are expressly reserved by the contracting Powers, and that the "tranquillity of the Church and the power of the HOLY FATHER" are to be insured by the two Emperors uniting their efforts in order to induce the POPE to carry out a reform in the administration of his States. The treaty also pledges the Emperors to "assist with all their power" in the formation of a Confederation of all the Italian States, with a Federal army to watch over the defence of the interior and exterior of Italy. Venetia, which will remain under the rule of Austria, is to form a part of this Confederation, and to participate in the rights and obligations of the Federal Treaty. All persons who took part in the late war are to be secured from attack either in their person or their property, and are to be allowed to remain unmolested in either country, the new Government undertaking to respect their rights in regard to pensions and invested property. The Treaty concludes with a stipulation that it shall be signed and ratified, and the ratifications exchanged at Zurich within 15 days. Meanwhile the EMPEROR OF THE FRENCH has received the deputations of Tuscany, Parma, and Modena, and is said to have assured them that though he will endeavour, in the spirit of the Treaty, to secure the return of the exiled Sovereigns, he will not employ force or permit force to be employed by any other Power to effect their restoration.

A despatch from Madrid announces that Morocco has agreed to satisfy the demands of Spain, and that an immediate settlement of all the questions at issue between the two Powers may be anticipated.

## Home News.

THE QUEEN AT LOCH KATRINE.—The Queen, Prince Consort, and Princesses Alice and Helena left Edinburgh on Friday morning for Loch Katrine to open the new Glasgow Waterworks. The day was dull, with frequent rain, and the beautiful scenery of the district was half enveloped in the mountain mists, but the Royal party nevertheless seemed greatly to enjoy the visit. The ceremony of opening the aqueduct which is to convey the water of Loch Katrine to Glasgow, a distance of 37 miles, passed off well in presence of a large concourse of spectators, though it rained very fiercely except during the performance of the ceremony. Her Majesty reached the tunnel upon the Loch a little after 2 o'clock, accompanied by the Duke of Newcastle, and was received by the Lord Provost and magistrates of Glasgow, the Dukes of Montrose and Atholl, the Earl of Mansfield, &c. The Secretary to the Water Commission read an address from the Corporation, to which the Queen made the following reply:—

"I accept with great satisfaction your loyal and affectionate address, and thank you sincerely for the expression of your attachment to my throne and person, and for the cordial welcome with which you have received me. It is with much gratification that I avail myself of this opportunity of inaugurating a work which, both in its conception and its execution, reflects so much credit upon its promoters, and is calculated to improve the health and comfort of the vast population which is rapidly increasing round the great centre of manufacturing interest in Scotland. Such a work is worthy of the spirit of enterprise and the philanthropy of Glasgow, and I trust that it will be blessed with complete success. I desire that you will convey to the great community which you represent my earnest wishes for their continued prosperity and happiness."

THE QUEEN AT BANGOR.—The Queen, Prince Consort, and the Royal family arrived at Penrhyn Castle, near Bangor, on Saturday afternoon. At Bangor station Colonel the Hon. Douglas Pennant was in attendance to receive her Majesty, who on alighting entered the carriage of her host, and proceeded, amid the cheers of the inhabitants, through the town of Bangor to Penrhyn, where the Queen was received by Lady Louisa Douglas Pennant and a family circle at half-past 6 o'clock. A small party was invited to meet her Majesty in the evening. A grand display of fireworks took place on the summit of one of the adjacent mountains after dark; the shipping in the Penrhyn docks exhibited blue lights, and the town of Bangor was illuminated. On Sunday morning, though the weather was very unfavourable, her Majesty and the Prince Consort, accompanied by Prince Arthur and the Princesses, walked in the grounds adjacent to the castle. At 11 o'clock the Queen and the Royal family attended Divine service in the private chapel of the castle; the Bishop of Bangor preached the sermon. In the afternoon the Prince Consort, accompanied by Col. Pennant, visited the Penrhyn slate quarries, and returned through the model village of Llandegai, where his Royal Highness was joined by her Majesty, who, although the afternoon was very wet and disagreeable, had driven over from the castle in an open pony phaeton with Lady Louisa Pennant to see the place. The Queen and the Prince returned to the castle at half-past 5 o'clock. In the evening there was a dinner party at the castle. After dinner a choral society, composed of young men and boys employed upon the Colonel's slate works, and numbering more than 100 voices, attended at the castle and sang various pieces of sacred music. On Monday morning the Queen was up early, and took a walk in the grounds with the Princesses and Prince Arthur. At half-past 8 the Prince Consort went by special train to Holyhead and inspected the Great Eastern, returning afterwards to the castle. At 10 o'clock, accompanied by Lady Louisa Douglas Pennant and the company staying at the castle, her Majesty again went out into the grounds and planted an oak sapling in a prominent position upon the lawn; Prince Arthur at the same time planting a young cedar. Soon after 11 the Queen, Prince Consort, and Royal family left the castle for Bangor, and there took the train for Windsor, travelling by the Chester and Holyhead and London and North-Western Railways, and stopping at Stafford half an hour for refreshment. At Willesden the train passed on to the South-Western Junction line, over which the Royal party travelled to Windsor, the whole journey of 254 miles having been performed in 7 hours and three-quarters.

RETURN OF THE COURT TO WINDSOR.—The Queen and Prince Consort, accompanied by Prince Arthur, Princess Alice, Princess Helena, and Princess Louisa, arrived at Windsor Castle on Wednesday evening. Prince Leopold and Princess Beatrice had previously arrived from Osborne. On Tuesday the Queen and Prince Consort walked in the Home Park, accompanied by Prince Arthur and the Princesses Alice, Helena, Louisa, and Beatrice. On Wednesday the Queen, accompanied by Princess Alice, drove in the Home Park. The Prince Consort rode on horseback. On Thursday the Queen, with Prince Arthur and Princess Beatrice, drove out in a carriage-and-four. The Prince Consort came to London by a special train of the Great Western Railway, and visited the South Kensington Museum, returning to Windsor in the afternoon. The Queen will hold a Privy Council this afternoon at Windsor Castle.

VISIT OF THE PRINCE CONSORT TO THE GREAT EASTERN.—The expected visit of her Majesty to the Great Eastern on Monday did not take place. The Prince Consort, however, accompanied by the Duke of Newcastle, Admiral Sir George Seymour, and Colonel Ponsonby, paid an early visit to the ship in Holyhead harbour on Monday. On arriving at the pier-head he was received by Mr. Campbell, the chairman, and Mr. Bold, managing director, by whom he was conducted on board a small steamer, which immediately put off for the ship. After steaming round the vessel, the vast proportions of which were observed to great advantage as she lay at anchor within the breakwater, only a short distance from her Majesty's ship Hastings, the Prince was received on board the Great Eastern by Captain Harrison and the other officers of the ship. Ascending to the deck, near the stern of the vessel, he was first conducted to the steering house, where the mode of working the rudder was pointed out. From the stern, the Prince walked along the deck to the bows of the ship, and viewed her from the forecastle. The main saloon, the ladies' saloon, and cabins were next visited, after which his Royal Highness descended into the paddle engine-room, where he devoted some time to a close examination of the machinery. From the paddle engine-room he proceeded through the watertight tunnel to the screw engine-room, and remained there a considerable period, making various inquiries into the action of the engines. He subsequently examined the auxiliary steam-engine, and, after looking into the boiler-rooms and other compartments of the ship, again ascended to the deck. The Prince was now shown the captain's cabin, after which he ascended the bridge, and inspected the telegraphs by which the machinery and steering apparatus are worked. He then mounted the paddle-boxes, and took a final survey of the ship from that point. The Prince thanked Mr. Campbell and Mr. Bold, as well as Captain Harrison, for the pleasure afforded him by his visit, and, having excused himself from partaking of a *déjeûner* that had been prepared, returned to the small steamer, and, under a salute from the Hastings, proceeded to the pier-head, where a special train was in readiness to re-convey him to Bangor.

VISIT OF PRINCE NAPOLEON TO THE GREAT EASTERN.—On Tuesday morning Prince Napoleon, attended by a numerous suite, arrived at Holyhead in the French steamer Dauphin, and paid a visit to the Great Eastern. His Imperial Highness examined the ship minutely and afterwards breakfasted with Captain Harrison, remaining on board from 8 A.M. till half past 11. After leaving the Great Eastern, the Prince paid a visit to a gunboat and a despatch boat lying in the harbour; and after inspecting the breakwater, proceeded in the afternoon to Liverpool, where he arrived on Wednesday morning. On landing, the Prince proceeded by train to Manchester, where, it was understood, he went to procure some horses for his stud. He returned to Liverpool in the evening and embarked in the Dauphin on his return to France.

THE PRINCE OF WALES arrived at Buckingham Palace on Friday evening from Holyrood Palace. His Royal Highness attended Divine service on Sunday in the Chapel Royal, St. James's. The Prince left London on Monday for Oxford, to commence his studies at the university. On his arrival at Frewen Hall, the residence prepared for him in that city, an address was presented to his Royal Highness by the Mayor and Corporation. Shortly afterwards the Prince proceeded to Christ Church, accompanied by the Dean, and was entered on the College books. He then proceeded to the Vice-Chancellor's lodgings, where he was matriculated with the usual ceremonies.

PRINCE ALFRED has arrived at Smyrna in the Euryalus, and is about to visit Metelin, Salonica, the Greek Archipelago, and Constantinople, the Sultan having issued a firman for the passage of the frigate through the Dardanelles.

THE CABINET.—Cabinet Councils were held on Saturday, Monday, Tuesday, Wednesday, and Thursday, at the official residence of the First Lord of the Treasury.

GOVERNORSHIP OF THE CAPE.—A deputation of gentlemen interested in the Cape colony had an interview with the Duke of Newcastle, as Secretary of State for the Colonies, on Thursday, to express, on their own behalf and on that of all classes in the colony, their desire that Sir George Grey should be reappointed Governor. The result of the interview has not officially transpired, but it is understood that Sir George Grey will be reappointed.

KNIGHTHOOD.—The Queen has conferred the honour of knighthood on the Right Hon. John Melville, Lord Provost of Edinburgh. Her Majesty has directed letters patent to be passed under the Great Seal, granting the dignity of a Knight of the United Kingdom to James Carter, Esq., Chief Justice of New Brunswick.

THE ARMY.—Lieutenant-General Sir William M. G. Colebrooke, C.B., has been appointed Colonel Commandant of a Brigade of Royal Artillery, in the room of the late General Evelegh.

THE CHANNEL FLEET.—Rear-Admiral Elliott hoisted his flag (blue at the mizen) last week, on board the screw steamship Hero, in Plymouth Sound, and took command of the Channel fleet, consisting of the Hero, 91; Aboukir, 90; Algiers, 91; Trafalgar, 91; Donegal, 101; Mersey, 40; Melpomene, 50; and Emerald, 51. The fleet afterwards left the port for a cruise, and anchored in Cork harbour on Saturday.

VOLUNTEER CORPS.—The following circular has been addressed by the Secretary for War to the Lord-Lieutenants of counties announcing an increase in the per centage of arms to be granted in future to Rifle Volunteer Corps:—

"War Office, Oct. 11.

"My Lord,—I have the honour to inform you that her Majesty's Government have determined to issue immediately to Rifle Volunteer Corps an additional supply of long Enfield rifles (pattern 1853), to the extent of 25 per cent. on the effective strength of the corps. This supply will raise the aggregate issue to 50 per cent. on the effective strength of the force; and I have to request that you will be good enough to communicate this decision of the Government to the commanding officers of the various corps in your county, who should at once forward the prescribed requisitions to this office for such portion of the supply as they may be entitled to under the regulations. At a later period I shall be prepared to issue a third instalment of arms of the same pattern as the 50 per cent now granted. And I hope to be in a position, in the course of next summer, to supply the short rifle with sword bayonet, to a limited extent, in exchange for the long one at present issued. I have the honour to add that the amount of ammunition for effective members to be issued at cost price, on the requisition of the commanding officer, is raised from 100 rounds ball, 60 rounds blank, 176 percussion caps, and 20 ditto for snapping practice per man, as laid down in the memorandum of 13th July, to 200 rounds ball, 120 rounds blank, 352 percussion caps, and 40 ditto for snapping practice per man.—I have, &c.,

"SIDNEY HERBERT."

# Foreign.

FRANCE.—The *Moniteur* of Monday announced that the Treaty of Peace was signed on that day at Zurich by the Plenipotentiaries of Austria and France. The following is an analysis of its principal articles:—

"France returns to Austria the Austrian steamers seized during the war, but on which judgment has not been passed, &c. Austria gives up Lombardy, with the exception of Mantua, Peschiera, and as far as the frontier line fixed by a special commission (the limit of which is already known). The Emperor of the French declares that he transfers these portions of Lombardy to the King of Sardinia. The *employés* of Piedmont and Austria are to have the option of remaining in the service of the two Governments, and of transferring within a year their goods to Piedmont, and *vice versâ*; retaining, however, their right to any property left behind them when they move their domicile from Austria to Sardinia, or from Sardinia to Austria. The pensions acquired by persons in Lombardy are to be respected and paid by the new Government to those entitled to them, and, in those cases where it is so stipulated, to the widows and children of those pensioned. The settlement of the debt is the subject of two articles, one of which is an additional agreement for the mode of payment. According to these articles, Piedmont is to pay to Austria 40 millions of florins, and is besides to be responsible for three fifths of the debt of the Monte Lombardo-Venetian. (Altogether the debt transferred to Sardinia amounts to 250 millions of francs.) The religious establishments in Lombardy are to have the liberty to dispose freely of their private and landed property, if the possession of such property is incompatible with the laws of the new Government, and Austria undertakes to restore the securities and deposits of private persons placed in the public establishments belonging to Austria. Desiring that the tranquillity of the Church and the power of the Holy Father should be insured, and being convinced that this end could not be obtained in a more effective manner than by a system suited to the wants of the populations and by reforms, the necessity of which has been already recognised by the Sovereign Pontiff, the two contracting parties will unite their efforts in order that a reform in the Administration of the States of the Church should be carried out by his Holiness. The territorial limits of the independent States of Italy which did not take part in the last war could be changed only with the assent of the other Powers of Europe which took part in forming, and guaranteed the existence of, these States. The rights of the Grand Duke of Tuscany, the Duke of Modena, and the Duke of Parma, are expressly reserved by the high contracting Powers. The two Emperors will assist with all their power in the formation of a Confederation of all the States of Italy, the object of which will be the preservation of the independence and integrity of Italy, which will insure the development of their moral and material interests, and will watch over the defence of the interior and exterior of Italy by means of a Federal army. Venetia, which will remain under the rule of the Emperor of Austria, will form a part of this confederation, and will participate in the rights and in the obligations of the federal treaty, the clauses of which will be established by the representatives of all the States of Italy. Persons who took part in the late events are not to be attacked either in their person or their property, and are to remain unmolested in the two countries; and Austria is to be obliged to free from military service the soldiers belonging to the territory which she gives up. The present treaty is to be signed and ratified, and the ratification exchanged at Zurich within 15 days."

The *Pays*, in announcing the conclusion of the treaty between France and Austria, adds that the Plenipotentiaries will sign the two other treaties in a few days. *Some formalities in the Chancellerie* are, it says, the only cause of delay, the three Powers being agreed upon all points of the treaty, and the decision of the King of the Belgians on the settlement of the debt of Lombardy having arrived at Zurich. It is also announced that the questions not settled at the Conferences will be submitted to a Congress, at which all the European Catholic Powers will be represented. The Emperor on Sunday received the deputations of Tuscany, Parma, and Modena, but the report that his Majesty refused to grant an audience to a deputation from Bologna is not correct, as there is no such deputation in Paris. It is said that his Majesty told the deputations that he would not permit force to be employed to secure the restoration of the Sovereigns of Central Italy from any quarter whatsoever; and that all the deputies were well satisfied with their reception. The *Pays* says that the Court will go to Compiègne on the 1st of November, and mentions a report that during the sojourn of the Emperor and the Empress there the Emperor of Austria and the Grand Duchess Marie of Russia will pay a visit to their Majesties. General Dabormida, the Sardinian Minister for Foreign Affairs, arrived in Paris on Friday and had an interview with the Emperor. He had an interview with Count Walewski on Sunday, and another on Tuesday. It is said that he will proceed to London in the course of a few days. Rear-Admiral Dupony has left for London on a special mission, in order to study the methods followed in manufacturing engines for the navy. The report that France claims 300,000,000 fr. as indemnity of war from Piedmont is said to be without foundation. The French Government, however, having made advances to Piedmont before and during the war to the amount of 60,000,000 fr. in arms, provisions, and money, now claim only reimbursement of that sum. Reports of some changes in the Ministry are current, and Count Walewski and the Duke of Padua are mentioned as being likely to retire. Count Kisseleff, the Russian Ambassador, had an audience of the Emperor on Saturday, and took his departure on Sunday for Warsaw. The Count and Countess of Montemolin (Don Carlos de Bourbon) have arrived in Paris, and are staying at the Hôtel du Rhin, where they occupy the same apartments which Prince Napoleon Bonaparte, deputy to the Constituent Assembly, inhabited in 1848. The Cardinal Archbishop of Lyons, and the Bishops of Soissons, Moulins, Angers, Verdun, Chartres, and Vannes, have published pastoral letters in defence of the temporal power of the Pope; and the Bishop of Luçon has written a letter to the same effect to the Archbishop of Bordeaux. The clergy of Aix also, headed by their Archbishop, have signed an address to the Pope. In order to counteract the effect of these "protests" the Government has forbidden the *Univers*, the Ultramontane organ, to continue their publication in its columns. The *Moniteur* publishes a decree extending the powers and the sphere of action of the Prefect of the Seine.

SPAIN.—A despatch from Madrid of the 17th states that the Government has declared to the Cortes that, before the time granted to Morocco to satisfy the demands of Spain had expired, it had received information that Morocco would give the satisfaction demanded. Spain immediately demanded guarantees from Morocco that peace should not in future be disturbed, and conceded a further delay, so that an immediate settlement may be expected. The debates on the question of the indemnity for Church property are still proceeding in the Cortes. Grisi and Mario have been hissed off the stage of the Opera at Madrid. The opera was Norma, and the uproar in the house was indescribable. A case, resembling that of the Mortara family at Rome, has occurred at Denia, near Alicante. Mrs. Graham, the wife of an English Protestant gentleman, having been prematurely confined of a six months' child, the Spanish surgeon who attended the accouchement, and who is of course a Roman Catholic, seeing that the child would die, baptised it "in the name of the Father, the Son, and the Holy Ghost." The child soon afterwards died and was buried in the Protestant cemetery, after which the priest of the parish, with the sanction of the Archbishop of Valencia, demanded the exhumation of the body in order that it might be dealt with according to the rites of the Roman Catholic Church. Mr. Graham, finding that he could get no redress from the Vice-Consul or the Spanish authorities, applied to the British consul at Alicante, who brought the case before Mr. Buchanan, the British Minister at Madrid. Mr. Buchanan immediately addressed to the Spanish Minister for Foreign Affairs a formal remonstrance against the proceedings of the ecclesiastical authorities in the matter. Lord John Russell has approved the steps taken by Mr. Buchanan for the protection of Mr. Graham, and has instructed him to use every endeavour to secure him from molestation on the part of the ecclesiastical authorities.

SWITZERLAND.—The delay which has occurred in the signature of the second treaty was caused by the difficulties respecting the amount of the debt of Lombardy to be borne by Sardinia. Austria, it is said, proposed Holland as arbitrator of the Lombard debt. France however declined this proposition, as the Dutch Government might evince a certain bias on account of the great number of holders of Austrian stock in Holland. It is also stated that Austria before accepting the arbitration of a third Power for the settlement of the debt of Lombardy, demanded that the maximum and the minimum of the debt of Lombardy should be settled. The Federal Council has bought the Austrian steamers on the Lago Maggiore.

BELGIUM.—The Cardinal Archbishop of Malines, Primate of Belgium, has published a pastoral letter to the clergy and faithful of his diocese, denouncing the attacks made on the temporal power of the Pope.

FRANKFORT.—In the sitting of the Federal Diet on Thursday, the representatives of the four kingdoms, and of the Grand Duchies of Hesse and Mecklenburg, and the Duchy of Nassau, made a proposal for a revision of the federal military system.

AUSTRIA.—The Emperor of Austria is about to proceed to Warsaw to meet the Emperor of Russia on the 23d inst. M. de Balabine, the Russian Ambassador at Vienna, has already left for Warsaw. Letters from Hungary say that the whole country is again politically agitated. The Calvinists belonging to the superintendency on the other side of the Theiss have followed the example recently given by their Lutheran brethren, and requested the Emperor to suspend his patent of the 1st September. Baron Hubner, Minister of Police, has left Vienna for Pesth. The dignitaries of the Roman Catholic Church in Austria are not disposed to be outdone by the French bishops in their demonstrations for the Pope. Cardinal Rauscher, Archbishop of Vienna, has taken the initiative by addressing to all the bishops of his diocese a pastoral letter, to be read in all the churches of his diocese. The prelate describes in the darkest colours the scenes of desolation and disorder which he declares can now be witnessed in Romagna, and the avowed object of which, he asserts, is to despoil the Holy Father of the patrimony of the Apostles. The clergy are directed to offer up public prayers in all the churches to implore the Divine protection for the Sovereign Pontiff, and for the integral preservation of the temporal power transmitted to him by his predecessors.

PRUSSIA.—The Prince Regent and Prince Frederick William, accompanied by the Minister for Foreign Affairs, M. von Schleinitz, left Berlin on Tuesday evening for Breslau, to meet the Emperor of Russia. All the Ministers have returned to Berlin except Prince Hohenzollern and the Minister of War, and Cabinet Councils have been held daily. It is rumoured that a modification of the Ministry is not improbable, as the Cabinet is not unanimous respecting certain Bills to be brought before the Chambers next session. The Government is about to send the Thetis frigate and corvettes Frauenlob and Arcona to China and Japan. A Councillor of State is to go with the expedition, with authority to conclude treaties with China, Japan, and Siam. When this is done one of the corvettes is to remain at Yedo with a resident agent.

RUSSIA.—The papers announce the arrival of Schamyl at St. Petersburg on the 8th inst., by railway from Moscow. The celebrated Imaum of the Caucasus was accompanied by his son and four murides. He alighted at the Znamensky Hotel, facing the station; but the time of his arrival not being known there were few persons assembled to see him. A few hours after his arrival he drove out in an open carriage, and paid visits to the principal military authorities. He then drove along the principal quays and squares. He will remain a few days at St. Petersburg, and it is said he will then join his wife and son at Kalouga.

BADEN.—The Margrave William of Baden died on the 10th inst. He was born in 1792, and was uncle of the Grand Duke.

ITALY.—Accounts from Parma state that justice continues to be energetically carried out, and that some new arrests have taken place. The municipality has determined on the destruction of the column on which the head of Colonel Anviti was placed. The National Guard and all classes of the townspeople have signed an address of thanks and adhesion to the Dictator Farini for the energetic measures he has taken. General Ribotti has issued a proclamation forbidding any one not belonging to the army to wear a military dress. The King of Sardinia arrived at Genoa on Saturday amid the enthusiastic cheers of the people. The Dowager Empress of Russia arrived there on the same day, and was conducted by his Majesty to the Royal palace. The Empress left on the 16th for Nice. From Florence we learn that the Grand Duke has written to his partisans, to abstain from every attempt in favour of the re-establishment of his dynasty. The Provisional Government has diminished the tax on salt. The Argo steam corvette, of the Tuscan navy, hoisted the Sardinian flag on arriving at Spezzia. The Duke de Grammont, French Ambassador, continues to hold conferences with the Pope at Castel Gandolfo. It is said that His Holiness, acting in concert with the Emperor of the French, will address a manifesto to the inhabitants of the States of the Church.

TURKEY.—Accounts from Constantinople to the 15th inst. state that two of the chief conspirators have died at Kulely. Sir Henry Rawlinson, English Minister to the Persian Court, has been received by the Sultan, and afterwards took his departure for Teheran. A vessel with a number of Circassian emigrants on board, has been wrecked, and 203 persons lost their lives. The following note has been addressed to the Sublime Porte by the representatives of the six Powers that signed the Treaty of Paris. It is stated that the document was received with undisguised ill humour by Fuad Pacha, and the only reply made to the six dragomans who presented it was, "We acknowledge the receipt of the paper you have brought." It was even thought that the Porte would avoid sending any reply.

"The representatives of the Powers which, while guaranteeing the maintenance and the integrity of the Ottoman Empire, testified a particular interest in its prosperity, feel it their duty, under the present grave circumstances, to call the earnest attention of the Porte to the political and financial condition of the country. Europe has marked out an important place for Turkey in her midst, but she was well aware that an external guarantee would not suffice to realise her wishes if the Power thus strengthened from without did not exert itself, and if its internal organisation was not promoted by the gradual and continued introduction of reforms, the principles of which have been solemnly and liberally admitted by his Majesty the Sultan. So great a task cannot doubtless be performed in a day; but its furtherance brooks no delay; and in the intermediary state through which the empire is passing between the ruins of a defunct system, and the still incomplete materials of a new one, a continual and incessant impulse is necessary to urge on the laggers, to compel all to work for the common good. Now, the representatives, as undersigned, regret to state, without pointing out the cause, that this impulse does not manifest itself in a manner to attain the object at which the Sublime Porte itself must aim. The unsettled feeling which prevails in the public mind in the different classes of the empire will not subside until the majority of the nation can clearly foresee in a proximate future an epoch where it will enjoy security resulting from the normal movement of a society satisfied with itself, peacefully occupied with the development of its resources, and governed by an administration attentive to its moral as well as to its material wants; the declared enemy of abuses, especially economical and prudent in the outlay of the public revenue. The fulfilment of these general conditions of the prosperity of States is independent of the differences of religion and of race. The question to be resolved is that of the establishment of a Government under which all the subjects of his Majesty the Sultan, Mussulmans or Christians, instead of suffering analogous evils, will enjoy similar advantages."

MOROCCO.—Advices from Morocco state that the Emperor, having put to flight his adversaries, has made a triumphal entry into Mequinez. The Emperor has granted freedom of trade to the inhabitants.

INDIA AND CHINA.—The Bombay mail has arrived with accounts from that Presidency to the 27th Sept., and from Hong Kong to the 24th August. Central India is still unsettled. The frontier districts of Nepaul are still occupied by the Nana and his followers. The Waghers are still in insurrection. A force is to be sent against them. Mr. Ward, the American Minister, has been courteously received by the Chinese authorities, and has entered Pekin, where he was to exchange the ratified treaties. The Chinese authorities are said to have been very polite and condescending, and asserted that the Government was prepared and anxious to receive the Ministers of England and France in a friendly manner. Meanwhile the Indian Government had been applied to for 15,000 troops. Her Majesty's 67th and 99th are under orders for China. General Mouravieff, the Russian Governor of Eastern Siberia, has reached the Peiho, and

is to be followed by four gun-boats. The General immediately despatched special messengers to the Russian Minister at Pekin; his presence excited some surprise. The Russians appeared to have a perfect understanding with the Chinese authorities. Order had been re-established at Shanghai, and confidence among the respectable portion of the Chinese community.

BORNEO.—The retributive expedition had returned to Sarawak, after inflicting severe punishment on the Kanowit people, for the treacherous murder of Messrs. Fox and Steele. The principals had been executed, with 14 other Fostmen. About 200 Dyaks also were killed, who had taken up a position above Kanowit.

AUSTRALIA.—The Yorkshire from Melbourne was off Plymouth on Thursday. She left Port Phillip Heads Aug. 2, and brings 210 passengers and 10,000 ounces of gold.

UNITED STATES.—Another filibustering expedition under Walker set sail in the beginning of the month from New Orleans for Nicagarua, but the whole party was arrested on the 7th inst. at the South-west Pass by the United States' Marshal, assisted by the United States' Artillery. They peaceably surrendered.— A despatch from Washington of the 4th inst. states that Lord Lyons had a protracted interview with the Secretary of State on the 1st. It says:—

"The English Government has not yet made known its views respecting the San Juan affair. Until that is done, of course, the Administration will not move in the matter. The next arrival from Europe will probably bring something from her Majesty's Government in regard to the matter."

Several private despatches had been received at the War Department from General Scott, dated at Key West, where the steamship had put in for the purpose of forwarding them. The old General was in excellent health. Despatches of great importance had been telegraphed to him in reply. The election in Georgia had resulted in Governor Brown's re-election by fully 15,000 majority. Senator Frederic and Judge Terry had fought a duel at San Francisco, and the judge received a wound in the throat, which was supposed to be mortal.—The All England Eleven commenced a match with Twenty-two of the United States at Hoboken, New York, on the 3d inst., and completely defeated the American players, who were delighted and astonished at the skill of the English players.

CANADA.—Accounts from Montreal state that a movement is commencing for a repeal of the union, and for the formation of a confederation of several States to be cut out of the existing provinces of Canada. The idea has been favourably received by the public press.

## Public Addresses.

SIR JOHN PAKINGTON last week, in returning thanks for the Navy at Worcester, spoke as follows with respect to China:—

"He did not consider that he should be justified on that occasion in making any references to party politics, but he believed there was no set of politicians in England that did not feel that the prosperity of the British navy was essential to the prosperity of the country. It was therefore the duty of all parties and of all Governments to take care that that great arm of our strength should not be weakened or impaired. As reference had been made by the chairman to the unfortunate affair at the mouth of the Peiho, he thought it impossible that he could, in acknowledging the toast, pass it over altogether. They would recollect that the policy of England with respect to China became not long ago the subject of a great party struggle; but he hoped that would not be the case now. Whatever might have been the cause of the great and unfortunate disaster—for it would be folly to deny that it was a great disaster—whether or not mistakes had been committed, and if so, by whom—however that might be, he hoped the British public would consider these as matters of comparatively no importance; and he hoped that instead of our policy with respect to China being, as had been heretofore, the subject of party struggles, all parties and the great mass of the British public would be of opinion that any defeat of British arms was a thing that must be redressed. We could not afford to have our prestige impaired nor our honour doubted, and he believed that the general feeling of the public would be that this unfortunate reverse must in some way or other be redressed. Before he sat down he desired to do justice to those brave men who fought at the Peiho. Many of them were personally known to him, and he was proud to be able to call Admiral Hope his friend. He had had the honour of appointing him to the command in the Chinese Seas, and he had selected him solely because he was well known as a man of great ability, and an officer of great experience and skill. It was unnecessary for him to add that he was also a man of the most undoubted bravery, who had been doubly unfortunate in that engagement in suffering what to a British officer was the most painful of all things, defeat, and also in being himself personally wounded. He had had the pleasure of receiving several letters from Admiral Hope since the affair, and he was happy to say that the gallant officer was just recovering from his wounds; and he hoped he would be able to prove hereafter to the world that he was what every man in the British navy knew him to be—a distinguished ornament to the service."

LORD BROUGHAM on Saturday presided at the annual *soirée* of the Halifax Mechanics' Institution, and made the following remarks on the domestic education of women and the advantages of penny banks:—

"What has most attracted my attention in the report which has been read was, first, the great number of the working classes who profit by this institution. It is not confined to one order of society—not confined to those above the working classes; but the working men form about three-fifths, or one-half, of those actually in attendance in the institution. But that is not all. I find there are lessons given adapted to the circumstances of the people; and I particularly noticed that sewing is taught the females. There cannot be a better thing than to teach girls sewing—not, however, to exclude other things, such as history, reading, writing, a little geography, and I have no objection to a little French. But the great thing is to teach women that which will make them good housewives, good mothers of families, good wives of working men—that which will make homes of working men more comfortable than ale-houses. Now this is much neglected in all institutions of this kind. I have complained of it. I complained of it at Bradford; but that which is done here sets a noble example to other places. Now, though three-fifths is a large proportion of the working classes to attend this institution, I have a word to say upon the penny savings bank. It is evidently most successful and useful, and though great numbers of persons belong to this institution between 700 and 800 I think more members might be furnished by the working population of Halifax, though three-fifths is a very satisfactory proportion. I wish to have that which is greatest, and therefore better, and the advice which I ventured to give at Bradford—where the institution is very flourishing—to a committee of the working classes who belong to this institute, that they should canvass their brethren to join with them in this great and good work, I give now. It is for their own interests, and society benefits by it, for that which benefits individuals benefits society; but it is chiefly on the ground of their doing that for their own individual advantage that they should become members of this institution. It was a most delightful thing, that account which the vice-president gave of the penny savings bank in connection with this institute, and there cannot be a more useful branch of your educational system. It is, as was justly observed in the report, a method of, I will not say of teaching people provident habits, but of encouraging them. I asked the mayor what the population of Halifax is. You may say I should know what it is; but I have seen such augmentations in the different towns since I last was among my friends in Yorkshire—such increase as from 110,000 to 160,000 in Bradford. At Sheffield I thought it might be 120,000, though it is more than 160,000. Therefore, I could not tell the number at Halifax; so I asked the mayor, who said it was about 40,000. Let me tell you that 3000 is a very fair proportion of provident persons depositors in your savings bank, because I calculate there are great numbers in every community in good circumstances, and who therefore do not deposit, and to whom a savings bank is of no practical use; then there may be a few more deductions to make, and then reckoning, as is usual, five persons to a family, you have really 15,000 persons, or their representatives, as depositors in your savings bank, and that is nearly one half your whole population, deducting the sort of persons I have referred to. Still I hope that the number will be increased, and the provident habits will be encouraged in those who possess them, and will thus be better imparted to those who have them not. The practical men at the bar, and those who ought to be practical men in Parliament, and those who should be practical men out of Parliament, have a dislike to mere speechification, as it is sometimes called—that is, speaking for mere speaking sake, unless we have some purpose to serve, or some point to which to direct the attention of the hearers, and therefore it is I have singled out these two or three several heads of an important subject, and have troubled you with my remarks upon them."

The EARL OF SHAFTESBURY also attended the meeting at Halifax, and spoke as follows:—

"He endorsed all that the noble chairman had said on the subject of mechanics' institutes and penny banks. He came to Yorkshire and found the mechanics' institutions more prosperous, he thought, than in any other part of the country. He confessed that some years ago, before he was aware of the value of mechanics' institutes, he looked upon them with the greatest possible alarm, and the names of Brougham and Baines were as terrible to him as Gog and Magog to a Chinese. Little did he think at that time that the day would come when he should hear himself spoken of in words of kindness and high eulogium by those two gentlemen on the platform of the Halifax Mechanics' Institution. God speed mechanics' institutions. He liked very much the good sense contained in the report, and was glad there was none of the declamatory stuff about literature. The first consideration with the working man should be to get his family into good order, to have his wages right and correct, to pay his debts and have something to spare, and then come to the mechanics' institute and improve his mind to the utmost extent. He was delighted to hear that classes had been formed for women. He believed this was nearly peculiar to the mechanics' institute at Halifax, and it showed the greatest possible wisdom. It was a matter of vital importance that attention should be given to the education of women; in fact their proper training was a matter of deeper importance than the culture even of the men. Anything that made home attractive was of more value than the thousand Acts of Parliament to put down 10,000 possible evils. He next referred to the penny savings bank, designating it as one of the greatest discoveries of modern times; because if they estimated a discovery, not by its magnitude but beneficial influence on mankind, then these banks must be ranked among the greatest blessings enjoyed by the country. He might say that his visits to this part of the country during the last few days had been a source of the greatest gratification. He was astonished at the progress which had been made. He saw great mills on every side, and handsome residences; he heard of the greatest attention being manifested by the various classes towards each other, most satisfactory to one's feelings, calculated to allay all fears, and to fill the mind with hope; and when he looked on all this, he said with the psalmist, 'Peace be within your walls, and prosperity within your palaces.' But when he turned to these Yorkshire people themselves, he felt a satisfaction and joy which he could not express. Their honest faces, their rough, racy dialect, their hearty shake of the hand, made his heart bound within; and led him to thank God that he ever knew a Yorkshireman. He had not language to express what he felt when he recalled how they had turned to advantage every privilege given them in times gone by; and how, by the measure then granted them, they had shown that concessions to the people were capable of producing untold good. Often when engaged on that great question many persons in both Yorkshire and Lancashire said, 'Only let this measure be passed, and we will never give any annoyance to Government again.' They never had, and he would venture to say that in no part of her Majesty's dominions was there so much peace, loyalty, and affection to the Government as in the great counties of Lancashire and Yorkshire—and it was a source of infinite delight to see the amicable relationship existing between master and employed. When he went amongst the men he rejoiced to hear words of kindness come from the men to their masters; and when he went amongst the masters he heard the kindest expressions about the men. Wherever he went he found feelings of kindness and affection, and they all agreed that the measure which was passed a short time ago was doing great good to the men and no harm to the masters. This was a state of things which every Englishman must rejoice over, and every patriot feel assured by, and every Christian contemplate with gladness. Truly was it said a nation divided against itself cannot stand, and the converse must be equally true that a people of one mind and one heart shall, by the blessing of God never fall."

MR. WALTER, M.P., at a meeting of the East Berks Agricultural Society, at Maidenhead, made the following remarks on trade combinations and benefit societies:—

"They saw a most formidable struggle now in London of labourers in various classes against their employers. He thought that such organisations tended to encourage the idea that the labourer was not the servant of the master, but a sort of abstract quantity, and people began to feel that men were not bound to their masters by any tie of duty, respect, or obligation, but were as public servants, one man's to-day and another man's to-morrow, and might come to look to the people to maintain them, instead of looking to their masters for rewards. His opinion was that such a state of things was dangerous to encourage, and that it would lead to consequences which they could not but deplore. It must lead to the humiliation of the self-respect of one class or the other. In either case the result must be injurious. He hoped it would not be considered that he was wanting in endeavours to encourage the labourers. He believed that the true way to encourage the labourer was by improving his dwelling-place, by giving him a better cottage, by encouraging garden cultivation, by finding him proper schools; and he would mention another institution which might be made extremely useful to his encouragement—that was, by giving proper direction and tone to that common and much-abused institution, called the Benefit Society. From the report just published by the Registrar-General it would be found that the great majority of these institutions were no better than Drinking Clubs. He spoke from a knowledge of the subject and an investigation into the matter. He would say that, as a general rule, the majority of these clubs were no better than drinking clubs. He would give them some figures. Out of 27,000 societies of this kind registered since the constitution of them, nearly 7000 had become bankrupt. He was not decrying benefit societies. He had set one on foot in his own parish, but on the express condition that it should not be a drinking society. If they only considered for one moment the cost and expense which were entailed upon the labourers by the foolish and improvident manner in which these societies were conducted they would find that the labourers spent in a most useless manner ten times as much as was given to them by any agricultural association."

SIR RICHARD BETHELL M.P., the Attorney-General, at the inauguration of the winter session of the Wolverhampton Young Men's Christian Institute, spoke as follows on Christianity:—

"He heartily wished the time had come when all denominations would agree that there was ample field on their common Christianity on which to base a system of national education without the necessity of interfering in the smallest degree with particular feelings or tenets of belief, or peculiar forms of worship. There were undoubtedly in Christianity a variety of sects and denominations; but these were, he believed, permitted to exist for the wise purpose of awakening each other by generous rivalry and noble emulation. Yet, as far as they could, they were endeavouring to frustrate that end when they made the existence of these distinct denominations the reason why they should not concur in teaching the truths which were universally believed and accepted by all. Christianity was lifted above all other religions, past and present, to ensure even success in life. Apart from the virtues of temperance, industry, and sobriety, which it inculcated in common with other systems, Christianity had taught men that all misfortunes, all vicissitudes, had their objects, their particular end, and their beneficial influence on the mind, when regarded in a Christian spirit. Again, the great distinction between Christian and heathen morality consisted in this—that the Christian was taught to love his neighbour; his great rule of conduct was that of love and mutual affection—not looking for reciprocation in return, but pure, simple, mutual love and mutual benevolence. Looking back on his own life, he found that all the success which had attended his career was owing not to any particular ability, but in the great majority of instances to the benefit he had derived from a feeling in his favour whenever he had been fortunate enough to have it in his power to confer any advantage or any favour upon others. With respect to the studies of the members of the Institute, he would remark that there was a great advantage in studying history from a Christian point of view. They had all heard lately of the love of, and a desire for, peace which existed, and they all knew there could be no permanent prosperity without it; but the unfortunate thing was that children were educated from their earliest years in the love and glory of war, and to believe that the slaughtering of their fellow creatures constituted the acme of human reputation. They never heard the high appellation of hero applied to such men as Watt—to men who had been the benefactors of some great and important benefit to the whole human race, on the contrary, that title was exclusively reserved for those who had been most fortunate in exterminating, in murdering, and in destroying the greatest number of the human race. The world was now suffering from the fact that there existed in Europe unquiet spirits who believed that the greatest glory was to be found in a warlike reputation. He traced that in a great degree to the unfortunate circumstance that our histories, and the greater part of our poetry, had been written on that false principle, and that we dedicated so much of our time to the moral contemplation of the history of barbarous heathen nations, all of whom believed in war as a real source and fount of glory; and accordingly the youthful mind was brought up in the conviction that military glory, military reputation, military renown, were the surest passports to distinction, and the best means of having their names permanently preserved in the history of their country. It was very difficult, no doubt, to eradicate this feeling from the public mind; indeed, it could only be so eradicated by the erroneous impressions which history conveyed being corrected when history was taught and read in a Christian point of view."

## City Intelligence.

MONEY MARKET, FRIDAY.—BRITISH FUNDS: Consols closed at 96¼ for Money and the Account; Bank Stock, 222 to 224; Three per Cents. Reduced, 94⅝ to 95; New Three per Cents., 94⅝ to 95½; India Stock, 221½ to 223; New Indian Loan (stock), 103 to 103½; Ditto Scrip, 102½ to 103⅜; Four per Cent. Debentures of 1859, 97; India Bonds, 2s. to 5s. prem.; Exchequer Bills, 28s. prem.—FOREIGN: Dutch Four per Cent. Certificates, 100½; Mexican Three per Cents., 22½; Ditto for Acct., 22⅝; Peruvian Three per Cents., for Acct., 70¼; Portuguese Three per Cents. (1853), 46¼; Russian Three per Cents., 1859 (scrip), ¼ dis.; Spanish Three per Cents., for Acct., 46¼ to 46; Turkish Six per Cents., 1854, for Acct., 79.

## Bank of England.

ISSUE DEPARTMENT.

| | | | |
|---|---|---|---|
| Notes Issued .. .. .. | £30,844,230 | Government Debt .. .. | £11,015,100 |
| | | Other Securities .. .. | 3,459,900 |
| | | Gold Coin and Bullion .. | 16,368,230 |
| | | Silver Bullion .. .. .. | — |
| | £30,844,230 | | £30,844,230 |

BANKING DEPARTMENT.

| | | | |
|---|---|---|---|
| Proprietors' Capital.. .. | £14,553,000 | Government Securities (including Dead Weight Annuity) .. .. .. .. | £10,875,157 |
| Rest .. .. .. .. .. | 3,117,670 | Other Securities .. .. | 18,324,730 |
| Public Deposits (including Exchequer, Savings Banks, Commissioners of Nat. Debt, and Dividend Accts.) .. .. .. | 5,491,631 | Notes .. .. .. .. .. | 8,355,205 |
| Other Deposits .. .. | 11,014,148 | Gold and Silver Coin .. | 561,483 |
| Seven day and other bills | 939,595 | | |
| | £36,116,665 | | £36,116,665 |

20th day of Oct, 1859. M. MARSHALL, Chief Cashier.

## Gazette of the Week.

TUESDAY—BANKRUPTS—R. BRYAN, Liverpool, Wine Merchant—D. W. BISHOP and J. F. FARRINDON, Cornhill, East India Merchants—F. W. BISHOP, Surrey Street, Strand, Navy Agent—S. CLARBROUGH, Kingston-upon-Hull, Broker—J. CRANFIELD, Colchester, Cooper—J. CROW, New Park, Road, Brixton, Upholsterer—R. R. FILMER, Cheltenham, Butcher—G

JAMES, Hanley, Butcher—T. MORRIS, Long Eaton, Derbyshire, Builder—J. NEUMANN, Birmingham, Boot and Shoemaker—J. H. RADFORD, Nottingham, Lace Maker.

BANKRUPTCY ANNULLED—T. S. CURTIPS, York Street, Westminster, Cheesemonger.

SCOTCH SEQUESTRATIONS—J. W. ADAMS, Portobello, Solicitor—D. M'LAREN, Glasgow, Grocer.

FRIDAY—BANKRUPTS—C. BOURNE, Sutton-upon-Trent, Nottinghamshire, Grocer—F. H. DENCH, High Street, Poplar, Currier—W. DRAY, Farningham, Kent, Farmer—C. GENTILE, Crosby Square, Bishopsgate Street, Merchant—L. KERSTEN, Newgate Street, City, Importer of Fancy Goods—W. KINKEAD, Liverpool, Corn Merchant—J. LUSTY, Liverpool, Smallware Dealer—J. M'CLURE, Sale, Chester, Merchant—W. H. NAYLOR, Wisbeach, Cambridgeshire, Builder—J. P. TOWNSEND, Drybrook Gloucestershire, Grocer—J. WHEELER, Coventry, Builder.

BANKRUPTCIES ANNULLED—J. MACHIN, Birmingham, Innkeeper—J. MORGAN, Cardiff, Cattle Dealer.

# Metropolis and its Vicinity.

FUNERAL OF MR. ROBERT STEPHENSON, M.P.—The funeral of this eminent engineer took place yesterday, by permission of the Secretary of State for the Home Department, in Westminster Abbey. The procession, which consisted of the hearse, 12 mourning coaches, and the private carriages of those officially present on the occasion, left Gloucester Square at half-past 10 o'clock, and proceeded by special permission of his Royal Highness the Duke of Cambridge through Hyde Park, entering at Victoria Gate in the Bayswater Road, passing thence along the circular road by the Serpentine, and out by Apsley House. It then crossed to Grosvenor Place, and proceeded by Victoria Street to Dean's Yard, where it was met by the Dean, the dignitaries of the Abbey, and the past presidents, vice-presidents, and council of the Institution of Civil Engineers, attended by the secretary and assistant-secretary. The chief mourner was the nephew and heir of the deceased, Mr. George Robert Stephenson. The pall bearers were the Marquis of Chandos, Sir Roderick Murchison, Mr. G. C. Glyn, M.P., Mr. Chapman, of Whitby; Mr. Beale, M.P., and Mr. Joseph Locke, M.P. A long train of mourners, chiefly composed of men eminent in railway engineering or science, and the Mayors of several northern boroughs wearing their chains and robes, followed the coffin, and completely filled the space not occupied by the clergy and the choir. Nearly the whole of the service was chanted, the Dean reading the rest with deep feeling and emphasis. Admission to the Abbey was only obtained by tickets, upwards of 2000 of which were issued, and from a glance at the number of persons present there appeared to be little doubt that all who received tickets availed themselves of the privilege. The spot selected for the grave was very near the centre of the nave, and was situated between those of Mr. Telford, the constructor of the Menai Bridge, and Dr. Bell, the founder of the Madras system of education.

THE GREAT EASTERN.—At a meeting of the directors held on board the ship, at Holyhead, on Wednesday afternoon, the date of departure for America was postponed *sine die*, and orders were given that all money paid for passages to the United States should be returned. It is now almost certain that the ship will not cross the Atlantic this year. It is understood that she will remain at Holyhead about 10 days longer, and will then proceed to Southampton. Mr. William Patterson, of Bristol, the builder of the Great Western, Great Britain, Royal Charter, and other celebrated ocean steamers, was summoned by telegraph to Holyhead last week for the purpose of surveying the ship in conjunction with the representatives of the Board of Trade.

THE STRIKE IN THE BUILDING TRADE.—According to an official return issued by the Central Association of Master Builders, the total number of men who had resumed work under the declaration up to Saturday, the 15th inst., was 11,692; and the total number of men who have resumed in establishments adopting a shop-rule containing the spirit of the declaration is 2335.

THE FRANKLIN RELICS.—On Saturday the collection of relics of the Franklin expedition, brought home by Captain M'Clintock, was exhibited at a private view at the United Service Institution in Whitehall Yard; and arrangements will shortly be made for the admission of the public to see them under certain restrictions. The following is a correct list of the relics:—

Case 1. A dip circle and box, a sextant, part of telescope, found at Point Victory; bundle of common brimstone matches. Case 2. One ensign—found on King William Island. Case 3. Part of the rim of a strong copper case, one piece of iron hoop, two pieces of flat iron, one iron hook bolt, one piece of sheet copper—Nautical Island. The tie of a black silk handkerchief, belonging, it is supposed, to one of the stewards, and found with the skeleton; part of a blue waistcoat, cloth, with several silk buttons, piece of cotton shirt, coloured, silk covered buttons, cloth, and brush—found round a skeleton nine miles east of Cape Herschell. Case 4. Five watches, 11 silver spoons, seven forks—found in the boat. Case 5. One bead purse, one pocket compass, cover of Testament, two spectacle glasses, one tin case with spectacles, one part of scissors, and Government paper, soap, one snoodle line rolled in leather, part of grass cigar case, awl, clasp knife, one pair of goggles, one brass shot case, two brass hooks and strap, one brass hook, one forceps, one seal with Freemasons' arms, one piece of sealing wax, one gold band, one gold thread, cherry tree pipe stem, gimlet, table knives, pencil-case, German silver stopper of pocket flask; brass match-box, small tin cylinder, two medicine bottles full, piece of canvas—in the boat. Case 6. Water bottle and Royal Marine shako, plate, pair of goggles, palm gauze veil, piece of handkerchief, clay pipe bowl, boot lace, ball of worsted, housewives, pieces of copper—from the boat. Case 7. Shot cases, flannel, cartridge shot charges in kid gloves, percussion caps, stanchions, piece of canvas, blank cartridge, port fire, bristles, waxed thread, telescope glass, bullets, copper nails, shot, glove, knife cases, wood button—from the boat. Case 8. Books, pieces of covers, part of the "Vicar of Wakefield," cover of Family Prayer, part of Bible, part of Testament, ditto Bible, "Christian Melodies," two pieces, French Testament and covers, part of Testament, covers, part of covers, part of Bible, ditto, ditto, ditto, ditto—from the boat. Case 9. Knives made by natives, knife handles, files, and arrows. Case 10. Silver spoon, ditto forks, piece of gold watch chain, silver gilt ornamental work, five buttons, handle of dessert knife and part of razor, scraps of wood—found in a deserted snow hut. Case 11. Metal lid of powder case, two eye pieces of sextant tubes, bung stay, brass screw, part of pair of steel spectacles, bones of salt pork, six or eight packages of needles, two pike heads, two pieces of china (blue and white), the record case, a two-foot rule, one button, two joints of a cleaning rod of a gun, one piece of brass curtain rod. Case 12. Portable cooking apparatus, tea canister—found at Northern Cairn and Point Victory. On the table loose. Two fowling pieces loaded, three pieces of wood, three Esquimaux bows, the medicine chest, block and hoop pieces of canvas, one pemmican, one spear, one paddle.

THE MORTARA CASE.—The efforts of Sir Moses Montefiore and the deputies of the British Jews having proved ineffectual in obtaining the restoration of the child Mortara to its parents, the following protest has been drawn up and signed by several hundred noblemen and gentlemen, including the three archbishops, 19 bishops, 26 peers, 34 members of the House of Commons and other persons of rank and influence, and a copy of it forwarded to the French Ambassador:—

"Whereas a Jewish child, Edgar Mortara, son of Momolo Mortara, late of Bologna, in Italy, was, on the 24th June, 1858, forcibly seized and taken from his parents, by order of the Cardinal Viale Prela, Archbishop of Bologna and Legate of Pope Pius IX.: And whereas the ground of the said seizure was, that the said child Edgar Mortara, had been secretly baptised by a Roman Catholic maidservant six years previously, being then of the age of 12 months: And whereas the said child was, by order of the said Cardinal Legate, conveyed by night, under an escort of Gendarmes, to the Convent of San Pietro in Vincoli at Rome, and is there detained contrary to the wish, and notwithstanding the protestations of his parents: And whereas the Government of France has in vain urged the Court of Rome to restore the said child to his parents: And whereas Sir Moses Montefiore, Bart., at the request of the deputies of the British Jews, made on the 22d December, 1858, went to Rome in their name, to present a memorial to the Pope, signed by the whole of the said deputies, asking for the liberation of the said child Edgar Mortara; and whereas the Pope refused even to see Sir Moses Montefiore; and Cardinal Antonelli, Minister of State, has declared to Sir Moses Montefiore that the Roman Government will not release the child: and whereas it is a dishonour to Christianity in the eyes of the Jews among all nations that the seizure and detention of the said child, Edgar Mortara, should be supposed to be consistent with the principles of the Christian religion:—Now we, the undersigned British Christians, do hereby protest and declare that the proceedings of the Pope of Rome in taking away the Jewish child Edgar Mortara from his parents, and educating him, contrary to his parents' will, in the Roman Catholic faith, are repulsive to the instincts of humanity, and in violation of parental rights and authority, as recognised in the laws and usages of all civilised nations, and, above all, in direct opposition to the spirit and precepts of the Christian religion."

THE RELIGIOUS DISSENSIONS IN ST. GEORGE'S EAST.—At the Westminster Sessions yesterday, John Petersen was placed at the bar on an indictment charging him with inciting to riot in the Mission Chapel in Wellclose Square. The case had not proceeded far when the Assistant Judge recommended the withdrawal of the prosecution, and the suggestion was immediately acted upon.

EMBANKMENT OF THE THAMES.—At the last meeting of the Metropolitan Board of Works the following resolution was adopted on the motion of Mr. F. Doulton:

"That the consideration of the propriety of constructing a Thames embankment in conjunction with the low level sewer on the north side of the Thames be referred to the Main Drainage Committee, and that they be authorised to confer with her Majesty's Government on the mode in which the cost of such embankment might be defrayed, and with the Thames Conservancy Board and the Board of Admiralty."

LONDON MECHANICS' INSTITUTE.—It is announced that the efforts of the Donation Fund Committee have at length proved successful, and that the lease of the institution has been purchased for 3500*l.*; 2000*l.* have been collected and 1500*l.* borrowed on mortgage. The institution is thus relieved of the payment of the heavy annual rental of 200*l.*

NUISANCES ON BOW COMMON.—On Friday and Saturday Mr. Yardley was engaged for several hours each day at the Thames Police Court, in hearing evidence and the arguments of counsel and solicitors on a summons against Mr. Croll, of the Metropolitan Alum Works, Bow Common Lane, Bromley, for an alleged nuisance. The summons stated that in and upon the premises of Mr. Croll noxious gases were copiously evolved from the evaporating pits and ammoniacal liquor tanks, constituting a nuisance injurious to health. Mr. Croll was called upon to show cause why an order should not be made upon him to remove the nuisance and carry on his trade without being injurious to the health of the inhabitants of the neighbourhood. The prosecution was instituted by the Poplar District Board of Works. The case has been several times before the court, and adjournments have taken place to enable Mr. Croll to carry on the scientific operation of converting ammoniacal liquor, the refuse of gas works, into alum in a less offensive manner. The nuisance was described some time ago as a fearful one, and much greater than all the other nuisances on Bow Common combined. Various alterations and improvements, suggested by the magistrate, who made a personal visit to the premises in July last; Dr. Ansell and Dr. Ellison, medical officers of health; Mr. Fulcher, sanitary inspector of the district; and by Mr. Croll himself, have been carried out. The parochial authorities and the inhabitants in the vicinity, however, contend that a nuisance still exists, and attended in large numbers both on Friday and Saturday to maintain that position. Dr. Ansell declared that the vapour from the alum-works had tarnished the brass taps in a public-house 200 yards off, and that he tracked the scent fully half a mile, to Mr. Croll's premises; and another professional witness said that he recognised the scent at 40 yards' distance from the establishment, followed it right into the works, and noticed the vapour itself ascending from the liquor-tanks—a "deleterious and fetid gas, dangerous both to health and comfort." Mr. Croll, on the other hand, brought forward scientific men of great eminence to prove that the process, as at present carried on, was not prejudicial to the health of the inhabitants, and that the noxious effluvia formerly complained of no longer existed. It was also contended that Bow Common was full of nuisances, including ammoniacal works, extensive chemical works, and manure establishments of all kinds, working up stale blood, fish, and night soil, and that the bad smells on the Common did not come from the alum-works only. Mr. Croll, it was said, had invested 20,000*l.* at least in an ingenious and useful process, and had expended large sums for the purpose of rendering the manufacture as inoffensive as possible. Mr. Yardley, in summing up the whole case, said the frequent discussions of it had been productive of much good. The question was now narrowed into this—was there a sufficient amount of sulphuretted hydrogen to injure health and be a nuisance? The importance of the case all must admit. He felt in a great degree the responsibility of disposing of cases of this public importance, and should feel more if he did not know there was an appeal open to either party to a superior court. It ought to be recollected that Mr. Croll, who was a man of great scientific attainments, was utilising an article hitherto worthless, the gas liquor, and converting it by an ingenious process into alum. These were valuable results from a liquor considered dangerous and useless before. He believed it was Mr. Croll's interest to convince his neighbours that he was anxious to carry on his works without being offensive. The Poplar Board of Works and their officers had done their duty, and if they did not like to adopt his judgment they could proceed to investigate the case before another court. He declined to make the order asked for and dismissed the summons, declining to make an order for costs.

THE WRECKS OF 1858.—The annual wreck register has just been published by the Board of Trade. It states that 1555 lives were rescued in 1858 by lifeboats, other boats, and ships, and by the rocket and mortar apparatus, and that out of 1895 lives in equal peril from shipwreck, 340 only were lost, the average number of lives lost during the past seven years, including the number in 1858, being 745. The number of wrecks was about the average, namely, 869, while the number of collisions was above the average of the last six or seven years—301. 172 vessels were lost from stress of weather, 58 from defects in ships or equipments, including charts and compasses; and 69 from various other causes more or less avoidable. 10,902 persons have been saved from shipwreck by lifeboats and other means since the establishment of the National Lifeboat Institution; 28,061*l.* have been expended by it on lifeboat establishments; and 11,651*l.*, besides gold and silver medals, for saving life, have been voted. Many new lifeboats are yet needed on the coast. On the coast of Scotland there is a sad want of lifeboats. Along that coast a large portion of our trade with the Baltic, Greenland, Archangel, Davis's Strait, and much of that with Canada and United States is carried on, while in addition to this traffic the Scotch coast is remarkable for its great herring fishery. Peterhead has 250 fishing-boats; Fraserburgh and Buckie more than 400; and further north, off the coast of Caithness, there are more than 1200 boats manned by 6000 persons. In consequence of the frequent calamities to these boats in recent years the National Lifeboat Institution has made an urgent appeal to the Scotch people generally for assistance to station additional lifeboats on their coast, but the appeal has met with little response. The following statement shows the loss of vessels on different parts of the coast:—East coast, Dungeness to Pentland Frith, 514; west coast, Land's End to Greenock, 304; south coast, Land's End to Dungeness, 89; Irish coast, 168; Scilly Islands, 14; Lundy Island, 15; Isle of Man, 6; Northern Isles, Orkney, &c., 60; total, 1170. A large number of the vessels lost were under 50 tons burden—199 out of the whole 1170; but the class of vessels whose tonnage is between 100 and 300 tons has suffered most, 467 vessels of the former having been lost; 352 vessels between 50 and 100 tons were also lost; 96 between 300 and 600; 28 between 600 and 900; 23 between 900 and 1200; and 5 above 1200.

THE LATE FIRE IN BUCKLERSBURY.—On Tuesday Mr. Serjeant Payne and a jury assembled in Guildhall, to inquire into the cause of a fire which had occurred at the Paraffin Light Company's premises, 19, Bucklersbury, on the night of the 7th inst. Evidence having been taken as to the origin and progress of the fire, and the nature of the paraffin oil, the jury returned a verdict that the fire was accidental, coupled with an expression of opinion that there was great neglect and a thorough absence of the necessary precautions, and that paraffin oil, when stored in such large quantities, is of a character dangerous to the immediate neighbourhood. Mr. T. Atkinson said the suggestion of the jury would be attended to, and that in future the company would only keep small quantities on the premises for immediate use.

FORGERIES AND FRAUDS.—A series of somewhat ingenious forgeries was brought to light at the London Joint-Stock Bank on Tuesday, by the presentation of four or five cheques for small amounts, which had been paid away to newspapers for advertising, the persons paying them making use of advertisements of well-known firms cut from other papers, and obtaining the difference between the charge for advertising and the amount of the cheque. Thus one of the cheques had been paid to the publisher of the *Builder* for two insertions of an advertisement of Messrs. Edwin Smith & Co., auctioneers; the cheque, which was drawn for 6*l.*, apparently bearing the signature of the firm, though

Messrs. Smith do not keep an account at the bank. It appears that a few days since a written request was presented at the bank, as from a customer, for a small cheque-book, and as it was apparently in his handwriting, a book with 50 cheques was issued to the bearer of the note, and this book is now made use of for the purposes of fraud. The cheques however, not being drawn in the names of customers of the bank, can neither affect them nor the bank itself. Already four of these cheques are known to have been uttered, but in one case the change was not obtained, it having been presented in Birchin Lane, almost within a stone's throw of the bank itself. Sir James Duke, as one of the directors of the Bank, called at Guildhall on Tuesday, to give notice of this forgery, when Alderman Copeland, who was present, said it was extraordinary with what perseverance certain systems of fraud were carried on. It was only last year he was very successful in breaking up a very extensive gang of swindlers, whose principal trade was potatoes. He thought he had effectually put an end to the potato fraud; but he was mistaken, as a letter had recently been addressed to his bailiff at Stoke-upon-Trent, requesting him to send a sack of potatoes to Arthur Whittet & Co., 24, Manchester Street, King's Cross, with lowest price and quantity, promising, if the sample suited, to take a quantity and remit a receipt. Alderman Copeland said that on receipt of that letter he wrote for references, but the only answer he received was that cash would be paid on delivery, no notice whatever being taken about the question of reference. He sent his clerk to the address in the letter, and he there found several persons regaling themselves over their pipes with brandy and water, and he had no doubt dividing the plunder obtained from other parties. Had he not made these inquiries he should probably have had to reckon himself among the potato victims.

The Stepney Inquest.—The Bishop of London has caused formal notice to be served on the Rev. James Bonwell, incumbent of St. Philip's, Stepney, of his Lordship's intention to issue a commission under the provisions of the Church Discipline Act, for inquiring into the grounds of the scandal existing against him in reference to the recent inquest. The commission will be addressed to Dr. Twiss, the Vicar-General; Archdeacon Hale; Rev. Canon Dale, Vicar of St. Pancras; Rev. J. E. Kempe, Rector of St. James's, Westminster; and the Rev. W. G. Humphry, Vicar of St. Martin's-in-the-Fields.

The Public Health.—The Registrar-General's official report states that the number of deaths in the week which ended Saturday, October 15, was only 902. This return compared with the average number obtained from corresponding weeks in 10 previous years, raised in proportion to increase of population, is less than the estimated number by about 200, a result indicating that the present state of health in London is comparatively good. During the week the births of 822 boys and 805 girls, in all 1627 children, were registered in London. In the 10 corresponding weeks of the years 1849-58 the average number was 1543.

## Provincial.

Abingdon.—At the Berkshire quarter sessions on Tuesday the Earl of Abingdon moved that the resolution adopted at the January sessions for abolishing Abingdon Gaol and transferring the prisoners to the model prison at Reading be rescinded. Sir R. Throckmorton seconded the motion. The Hon E. Bouverie, M.P., said that they had not yet complied with the Act of Parliament in reference to the necessary resolution for selling the gaol, for though the notice of motion had been duly given at Easter, the motion itself had been overlooked at the Midsummer sessions. They could therefore at present do nothing with reference to closing the gaol. He therefore moved that a committee be appointed to inquire into the matter and report to a future session as to the best course to be adopted. After a long discussion the Earl of Abingdon withdrew his motion, and the amendment of Mr. Bouverie was made a substantive motion, and carried unanimously. The committee was arranged to consist of the chairman of each division of petty sessions in the county, so that each district might be fairly represented.

Berwick.—On Monday week a riot of a singular nature took place at Spittal, at the mouth of the Tweed. The night had set in so thick at sea that the fishermen, who compose the great majority of the inhabitants of the place, were unable to go out in their boats, and being unwilling to lose their time, the whole population, male and female, turned out and proceeded on a salmon poaching expedition in the Tweed. The river bailiffs interfered, and a conflict ensued between them and the fishermen, in which the latter were victorious, for they not only succeeded in driving the bailiffs away, but captured and sunk their boat. A scene of great confusion ensued, and order was not restored till a very late hour. Great difficulty will be experienced in recognising the ringleaders in the riot, for in order to escape detection, they had put on the dresses of their wives.

Bradford.—At the concluding General Meeting of the Social Science Association on Saturday, a report was read stating that the number of members at the meeting was 397, and the associates 645, transferable tickets 324, making a total of 1366. The number of papers read was 175—viz., in the Jurisprudence section, 22; Education, 38; Punishment and Reformation, 27; Public Health, 30; Social Economy, 50; the remaining 8 having been read at special meetings. The report further stated that an invitation having been received to hold their next meeting at Glasgow, the invitation had been accepted, and the next meeting would be held at Glasgow accordingly.

Cambridge.—At a meeting of the Town Council on Thursday week it was agreed, with one dissentient only, to present a petition in favour of the abolition of flogging in the army and navy.

Chatham.—After a considerable interval since the last instance of military flogging in this garrison, the punishment of the lash was again resorted to on Monday morning on a soldier named Norton, belonging to the Connaught Rangers, who has recently returned home wounded from India, and was attached to the Invalid Depôt, awaiting the order for his discharge from the service. The crime for which he was sentenced to this punishment was the serious military offence of striking a non-commissioned officer in the execution of his duty. The prisoner served with the Connaught Rangers in the Crimea, and is decorated with the Crimean medal with three clasps. He subsequently proceeded with his corps to India, and served during the Indian campaign against the rebels until invalided home, having received two wounds. On the evening of the 7th inst. he was walking through the streets of Chatham, when he saw Sergeant Gavin, 31st Regiment, belonging to the garrison military police, giving some directions respecting a disturbance with the military in one of the streets, when the prisoner, without having received the slightest provocation, deliberately walked up to the sergeant and struck him a violent blow with his fist before the whole of the men on guard, being under the impression that, as he was to be discharged from the invalid depôt on the following day, he should escape the consequences of his crime. He was, however, brought to trial by court-martial, when it was ascertained that his character since he had been in the service had been very bad, that he had been several times tried by court-martial for various offences, and had once before been flogged for assaulting a non-commissioned officer. The Court, under these circumstances, sentenced him to receive 50 lashes, and to be imprisoned for 168 days.

Chester.—A maniac called John Stubbs, who was some years back found concealed in Buckingham Palace with dangerous weapons, has escaped from Cheshire Lunatic Asylum, where he has been confined since the discovery of his settlement. It is stated that on Monday week, on hearing some one speaking of the Queen's visit to Bangor, he became fearfully excited, and made two desperate attempts to escape, which were frustrated. On Thursday night, however, he succeeded in breaking out of the asylum, and was traced as far as Upton, near Chester, but as yet has eluded capture.

Colchester.—On Thursday the 13th inst. a fire broke out in the kitchen of the sergeants' mess of the 9th Battalion, situated in the E range of huts. As the building was composed entirely of weather boarding the flames spread with such rapidity that several of the surrounding buildings were in great danger, and once or twice ignited. By the exertions however of the troops in camp the fire was confined to the kitchen, which was entirely destroyed.

Durham.—The scheme of the Ecclesiastical Commissioners for the re-endowment of the see of Durham with real estates has been approved and ratified by her Majesty in Council. By this plan the Bishop of Durham will, in right of his see, be put in possession in fee simple of real estate sufficient to secure him a clear annual income of the amount appointed by the 6th and 7th William IV., cap. 77, to be enjoyed by the Bishop of Durham and his successors, instead of deriving his income from annual money payments made by the Commissioners. Petitions to Parliament have been numerously signed in North Shields and other parts of South Northumberland, praying that any scheme brought forward by the Ecclesiastical Commissioners for the alienation of a portion of the revenues of the diocese to other dioceses should not be sanctioned until proper provision is made for the spiritual wants of the dense populations in the manufacturing, maritime, and mining districts of the county. The population of South Northumberland is very much on the increase, more especially in the Great Hartley steam coal field and on the shores of the Tyne; and a very inadequate provision is made from the revenues of the Church for the maintenance of religion in those parts.

Ely.—A considerable sum has been raised for the restoration of the octagon and lantern of Ely Cathedral as a memorial of the late Dean Peacock. Mr. G. G. Scott has prepared a design, the execution of which will involve an expenditure of 5000*l.* Towards this sum the Dean and Chapter of Ely have subscribed 1000*l.*; the Marquis of Bristol, 100*l.*; the present Dean, Dr. Goodwin, 100*l.*; Rev. Chancellor Sparke, 200*l.*; Rev. Canon Sparke, 200*l.*; Rev. Canon Selwyn, 100*l.*; Rev. Professor Thompson, 50*l.*; Mrs. Peacock, 100*l.*; Mr. L'Estrange, 100*l.*; Mr. Beresford Hope, 50*l.*; the Earl of Hardwicke, 25*l.*; Archdeacon Yorke, 25*l.*; Archdeacon Musgrave, 20*l.*; Lord Macaulay, 10*l.*; Mr. Selwyn, M.P., 50*l.*, &c. In all about 2500*l.* has been collected at present.

Exeter.—A vigorous church-rate contest has recently been carried on in the parish of St. Sidwell's, and ended in the refusal of the rate by a majority of 6, the numbers being—for the rate, 384; against, 390. The Bishop of Exeter has lately sanctioned the establishment of a community of women desirous of devoting themselves exclusively to works of piety and charity under the name of "Sisters of Charity" or "Deaconesses." No perpetual vows are to be taken. A period of probation will first have to be passed, during which it will be allowable to leave at any time. After this an engagement to the society will be made for a period not exceeding five years, renewable at the expiration of that term. The new society is to be established in the vicarage of Buckland Monachorum, near Tavistock, till its growth has enabled it to obtain suitable premises of its own.

Eynsham.—The Commission appointed by the Bishop of Oxford to inquire into the allegations made by the churchwardens of this parish against the vicar gave judgment on Friday, to the effect that there was not sufficient *primâ facie* ground for instituting proceedings against the Rev. W. S. Bricknell, so far as respects his having read the prayers in the pulpit instead of the reading-desk, inasmuch as he had proved his desire to resume the use of the reading-desk as soon as the adjacent walls, lately erected, should cease to emit dampness. Also that there was not sufficient ground for instituting proceedings against him, for having permitted the reading-desk to be desecrated by a number of bricks placed there, inasmuch as they were intended to prevent the chafing dish, used for drying the place, from injuring the wood of the desk, and moreover that it was the duty of the churchwardens to see that the bricks were removed. But the Commissioners expressed their unanimous opinion that there were sufficient grounds for instituting proceedings against the vicar for reading the Communion service from the pulpit, instead of from the north side of the Communion table, in contumacious disregard of the admonition and order delivered to him by the Bishop. His lordship has since given a decision on the report of the Commissioners, from which the following are extracts:—

"On the subject of the first two charges—on which you are substantially acquitted—I need only say that I strongly advise the adoption of the Archdeacon's recommendation, that the reading-desk be advanced further from the wall, the dampness of which has prevented your using the desk. As to the remaining charges, I am glad to find that on the Sundays on which the Lord's Supper is actually administered, the whole Communion service is read from the appointed place; and further, from your own evidence, that this has been your ordinary custom since your ordination, only interrupted at Eynsham from your wish to be made perfectly audible. After the examination of the whole matter by four able and impartial commissioners, and with their conclusion that there is in the conformation of your church no sufficient reason to neglect the rubrical injunction, you will, I trust, see it to be your duty to give a full and fair trial of your power of making yourself audible from the Communion table every Sunday. Should your parishioners generally find, upon that trial, that the great object of their hearing the service is defeated, you will find me ready to leave you, as in very special cases I have left others, to use your own discretion in the matter."

Holyhead.—On Wednesday evening the directors of the London and North-Western Railway Company gave a grand banquet at Holyhead to the directors of the Great Ship Company and a large party of invited guests, to celebrate the arrival of the Great Eastern steam-ship at that port. The entertainment took place in a pavilion erected in the garden at the rear of the Royal Hotel, accommodation being afforded for about 150 guests. The company arrived at Holyhead early on Wednesday, and most of them availed themselves in the course of the day of the invitation of the directors to view the great ship, for which purpose a special steamer was provided. The banquet was presided over by the Marquis of Chandos, and speeches were delivered by the Bishop of Bangor; Mr. Campbell, chairman of the Great Eastern Company; Sir John Pakington; the Chancellor of the Exchequer; Mr. Hinckes, Governor of Barbadoes; the Hon. Mr. Ross, President of the Executive Council of Canada; Capt. Harrison; the Hon. W. O. Stanley, M.P.; Lord Clarence Paget, Secretary to the Admiralty, and Sir Richard Bulkeley, M.P.

Kingston.—On Thursday week a man called Fulker, a wheelwright, 27 years of age, was found dead in the back yard of the premises in which he worked. There were several wounds upon his forehead, inflicted apparently by an axe, which was lying near him; and there was also a punctured wound in the stomach, 3 inches in depth, caused by a chisel, which, as well as a wooden mallet, was also lying near the body. The axe and mallet were stained with blood, and portions of human hair adhered to them. The injuries were of such a peculiar character as at first almost to preclude the idea of their having been inflicted by the deceased, but the evidence at the inquest on Saturday left no doubt that he had been for some time in a desponding state and that he had inflicted all the wounds upon himself. The jury returned a verdict of Temporary Insanity.

Liverpool.—A rather numerous party of cotton buyers sailed for New York on Tuesday in the Persia, to concert measures with the most respectable houses in the United States for putting an end to the system of adulterating that article, which has of late years been resorted to upon a constantly increasing scale. Sand is the ingredient chiefly used, and New Orleans is said to have disgraced itself more than any other port. It appears that the adulteration is from 30 to 50 per cent. on the weight of the bales.

Mansfield.—It is reported that Newstead Abbey, the residence of the late Colonel Wildman, together with the estate, exceeding 3000 acres in extent, will shortly be brought to the hammer in one lot. The late owner purchased the estate in 1818 for 94,000*l.*, and since that period expended very large sums of money in improving it, so that independent of the great increase which has taken place in the value of landed property during the last few years, there is every reason to expect that it will fetch a very high price.

Newcastle-on-Tyne.—The celebrated Walls-end coal field on the Tyne, from which the main supply of

household coal to the metropolis was formerly derived, has to a considerable extent become exhausted, and a large supply of what is known as best Walls-end is now sent from the Wear. The pits at Walls-end, Willington, and Percy Main, on the Northumberland side of the Tyne, and at Jarrow and Hebburn, on the Durham side, are closed, most of them having been drained out by water. On Saturday week Gosforth and Coxlodge collieries, in the Walls-end district, were offered for sale by auction in this town by order of the Court of Chancery. Gosforth was first put up, the price fixed being 16,000*l.*, the valuation named in the prospectus. It appears that the household coal in this colliery is nearly exhausted, the quantity remaining being estimated to last only a year or two. The pit is, however, valuable on account of its proximity to other important collieries in the neighbourhood, such as Killingworth, where the same seam of coal is working at a great angle to the dip—and adjoining the great main dyke—which in Gosforth Colliery is worked to the rise. For Coxlodge Colliery, Mr. Bower, of Leeds, offered 20,000*l.*; but, as this was below the sum named by the Court of Chancery, the colliery was withdrawn. A private negotiation then commenced in an adjoining room, and it was afterwards announced that Mr. Bower had become the purchaser.

NORTH TAWTON.—A few days since six children belonging to different families in this town were poisoned by eating coloured sweetmeats, called birds' nests, which they had purchased during the recent fair of a confectioner called Ryan. One of the children narrowly escaped death, and the lives of the others were probably saved by the copious vomiting which the sweetmeats produced. On inquiry the police ascertained that Ryan had purchased the articles of a confectioner called Sherry, of St. Thomas, near Exeter; and a large quantity of colouring matter called "smalts" and "chrome" was found at Sherry's shop. On Tuesday Sherry was charged before the Exeter magistrates with having unlawfully sold sweetmeats containing poison "with intent to cause bodily injury to her Majesty's subjects," and was remanded in order that an analysis might be made.

NORWICH.—Efforts appear to be making to promote a religious revival in the eastern counties. Special prayer meetings have been held at Chelmsford and Bury St. Edmund's; and St. Andrew's Hall in this city has also been the scene of a similar gathering.

OXFORD.—The ceremony of consecrating the new chapel of Exeter College took place on Tuesday. There was a large gathering of persons connected in different ways with the College, among whom were the Bishops of Exeter and Oxford, Sir John Coleridge, the Regius Professor of Divinity, the Principal of Magdalen Hall, Dr. Sewell, the Rev. Ernest Hawkins, Archdeacon Hony, Mr. Gilbert Scott the architect, and between 200 and 300 others. The services commenced at 10 *o'clock*, when the consecration service and morning prayers were read. At 12 the holy communion was administered, and a sermon preached by the Bishop of Oxford. At 3 o'clock there was a collation in the College Hall, after which several toasts were given and speeches made. Those delivered by the Bishop of Exeter, Visitor of the College, the Bishop of Oxford, Sir John Coleridge, and the Rector of the College were vehemently applauded. The ceremonies of the day concluded with the evening prayers, when a sermon was preached by Dr. Sewell, Warden of Radley and Fellow of the College. The appearance of the chapel was very magnificent, and it will certainly add to the already high fame of the architect, Mr. Scott. Nothing can exceed the beauty of the stone carving, and the ornamental work in wood and iron was much admired by all. At present there are only three painted windows, one in memory of the late rector, two others in memory of two former fellows. These windows are extremely beautiful, and were painted by Clayton and Bell.

READING.—The new fair recently held in this town for the sale of hops was attended by growers from Surrey, Kent, Hampshire, and other districts; the quantity of hops on sale numbering between 1000 and 1500 pockets. At the close of the fair, the mayor of the town thanked the growers and merchants for supporting it, and the merchants agreed to a vote of thanks to the corporation for the accommodation afforded. The London merchants are said to have been particularly satisfied with the result of the fair, and the leading men declared their intention of supporting it.

RIPON.—The Bishop of Ripon has addressed a pastoral letter to the parochial clergy in his diocess, suggesting that to-morrow, the 23d inst., be regarded as a day of special thanksgiving throughout the diocess for the late harvest.

SOUTHAMPTON.—The new Military Hospital at Netley is rapidly approaching completion. The structure occupies 10 acres of ground, is nearly a quarter of a mile in length, as large as the Crystal Palace, and six times as large as Guy's Hospital. The building is in the decorated Italian style, four stories high, 216 feet wide, with a dome-shaped campanile rising above it to the height of 150 feet, and two main wings, each of three stories, 600 feet long and 70 feet high; each floor or story having 12 wards, 10 of which are intended to accommodate 9 and two of them 16 patients. The sum of 200,000*l.* has already been expended in the construction of this hospital, and it is expected that as much more will be required to finish the undertaking and lay out the 193 acres of ground attached to it with gardens and terraces for the use of the patients. The hospital when complete will accommodate between 1000 and 2000 patients, and will surpass in all respects any other institution of the kind in the world.

STAFFORD.—On Monday Sandon Hall in this county, the seat of the Earl of Harrowby, was the scene of a very interesting event. A gold medal, struck at the suggestion of Prince Adam Czartoryski, by a national subscription raised in Poland and among the Polish refugees in honour of the late Lord Dudley Stuart, the well-known champion of the Polish cause, was presented to Lord Harrowby by a deputation from the Polish Association. The medal was originally intended for the Countess of Harrowby, the sister of Lord Dudley Stuart, but in consequence of her recent death, it was presented to her husband. The presentation took place in the part of the Hall called "The Polish Vestibule," which is ornamented with the tapestry presented by the ladies of Poland to Lord Dudley Stuart, by various other reminiscences of Polish gratitude, the bust of Prince Czartoryski, and the portraits of other illustrious Polish patriots.

STAPLEHURST.—A few days ago a family named Penfold, consisting of a man and wife and six children, living in this neighbourhood, were taken suddenly ill. A medical man was called in, but was unable to relieve them, and one child died, then a second, and a third, and subsequently the mother. The husband and the other children were then removed to the union, and have since been gradually recovering. The wife of a man named Cook residing in the next house was also taken ill, and as it was thought that the disease was infectious, Cook's family were removed from the house, which was thoroughly cleansed. They then returned, when the family were again taken suddenly ill, with symptoms similar to those observed in the case of the Penfolds. On inquiries being made it was found that the water used for cooking had been taken from a tub at the back door of the two houses, which had previously been used for sheep-dipping composition and had impregnated the water, thus causing the death of four persons, and placing in jeopardy the lives of several others.

STOCKPORT.—The advowson of Stockport, which has long been in the market without a buyer, has been purchased from Lord Vernon by Mr. Stephen Symonds, of the firm of Symonds, Cunliffe, & Co., calico printers, of Handforth. It includes the perpetual right of presentation to the rectory of St. Mary's, valued at 1400*l.* per annum; the rectory of St. Thomas's, valued at 830*l.* per annum; Chadkirk Chapel, valued at 100*l.* per annum; St. John's, Dukinfield, valued at 320*l.* per annum; St. George's, Hyde, valued at 200*l.* per annum; and Marple, valued at 150*l.* per annum; making a total of 3000*l.* per annum. The purchase money is said to have been about 12,000*l.* It is understood that the rectory of St. Mary's is intended for one of Mr. Symonds's three sons, at the death of the present rector.

WEST BROMWICH.—The convict Worsey, who was condemned to death at the last assizes for the murder of his wife in this town, was removed last week from the county gaol to Millbank Prison, where he will undergo the commuted sentence of penal servitude for life.

WOLVERHAMPTON.—A fortnight ago a young man, named George Kilby, a screw-wrench maker, residing and working in a court off Brickkiln Street, in this town, was found dead in his workshop about midday, under extraordinary circumstances. The body was lying across the shop, with the head pushed under the work-bench into a box half full of iron filings, the neck pressed upon the sharp end of the box, and the hands in the trousers' pockets. At the inquest held on the body evidence was adduced which went to show that deceased, who was a very sober and religious young man, had for a long time been cruelly ill-treated by the father. Great excitement was created in the neighbourhood, and the neighbours were unanimous in attributing the death of the youth to his father. The *post mortem* examination showed that death had been caused by suffocation from the pressure of the throat upon the edge of the filing box. The jury were, however, dissatisfied, and the inquest was thrice adjourned, in order to enable the police to make further inquiries. The fourth sitting took place on Monday, when several new witnesses having deposed to the cruelty with which the young man was treated, the jury found the father guilty of Wilful Murder, and he was committed for trial. The prisoner and his wife have a very respectable appearance for people of their station in life, which is that of a small manufacturer.

WORCESTER.—All doubts as to the fate of Mrs. Harris, who was supposed to have been drowned in the Severn with her two children, have been removed by the discovery of her body about a mile below Worcester. The body of the infant has not yet been found.

YARMOUTH.—At the annual dinner given by the Mayor of this town last week one of the guests was Captain Lemosey, of the French aviso Galilee, now lying off the coast. One of the toasts proposed by the Mayor was the health of the Emperor Napoleon III., and Captain Lemosey, in responding to the toast, reciprocated the desire expressed that England and France might long remain united. The two nations were in close alliance during the Russian war, and he was glad there was as good a prospect of their being united in the Chinese war. For his own part he could see no reason for hatred, but on the contrary many for friendship. The captain's observations were warmly applauded, and were endorsed by Mr. Howes, M.P., Sir E. Lacon, M.P., and Sir H. J. Stracey, M.P., who afterwards addressed the company. The latter baronet said that an adequate force had not been sent up the Pei-ho on the occasion of the late disaster in that river, and he hoped that in the new alliance with France, of which he was glad to hear the French officer speak so warmly, a well-organised expedition would be despatched.

## Ireland.

THE LORD LIEUTENANT ON THE EDUCATION QUESTION.—At a meeting of the Senate of the Queen's University held on Friday in St. Patrick's Hall, Dublin Castle, for the purpose of conferring degrees, the Earl of Carlisle made the following remarks on mixed education:—

"I learn with increasing pleasure that the proportion of different religious communions among the students at the colleges continues to be what it might be expected and wished. The Vice-Chancellor has himself entered upon the general and most important considerations connected with this [illegible]. Thoroughly unwilling as I should be to introduce into the precincts, usually set apart to social festivity, at this moment to the furtherance of polite, useful, and liberal learning, any subject or any syllable that could tend to excite dissension or promote discord, yet there are periods when a frank avowal of opinion is due from any seat of authority or centre of influence. I do, then, continue to think it most desirable that in our great imperial community, where its citizens are to play united parts, and discharge united functions—in short, an united life—the preparation for it should be united and learned in an united education. Such, surely, should be the case with respect to the trades and professions which are to build up and perpetuate our united wealth—to the sciences which are to mould our united wisdom—to the arts which are to constitute our united enjoyment. I feel profoundly, at the same time, that all that we gather under the name of religion is of so paramount, so subtle, so ethereal a nature, that it can properly require to be imparted as something at once separate and separate, which may repel all interference foreign to it, and be communicated by no organs and ministrations but those exclusively and distinctly its own. While I, therefore, earnestly but wish that the education which is general and that which is secular should be united, I as readily admit that what is expressly religious and mainly spiritual should be separate. I will yield to none in respectful deference to the clergy of the respective communions in their appropriate spheres; but assuredly to none whatever of them can I ever—either in public or private capacity—concede the right of denying to the laity, of which I am myself a member, the full power of acting upon the decisions of their own conscience, and of regulating the education of their own children. I have never closed my observations I have been called upon to make on these occasions without specially addressing a few short words to the young persons I see before me. You are the main actors and principal objects in the proceedings which will here terminate. As to all the elders here assembled, myself amongst the number, we must feel that the pursuits in which we are severally engaged, and the cares which occupy us, are mainly carried on in behalf of the generation which is to follow us. Your presence here witnesses that your careers hitherto have attained a certain amount of success; let your subsequent careers exhibit a diligent pursuit of excellence in your several spheres of action, an honest desire to apply your own faculties and opportunities to the benefit of your fellow men, a pervading consecration of your lives to the God who gave them. We introduce you into a splendid arena—the service of your and noble country: may you live to see it, may you contribute to make it yet greater, nobler, worthier than you found it."

MEETING OF THE ROMAN CATHOLIC PRELATES.—A second conference of the Roman Catholic bishops commenced its sittings on Wednesday, and continued in deliberation until an advanced hour in the day. It is understood that the prelates were engaged in discussing the affairs of the Irish College at Paris and of the "Catholic" University of Ireland. They resumed their deliberations on Thursday.

DR. M'HALE AND LORD PALMERSTON.—Dr. M'Hale has addressed a letter to Lord Palmerston, in which he says that the Roman Catholics of Ireland revere the Roman Pontiff "as the successor of St. Peter, and the Vicar of Christ on earth, and will therefore show themselves ready not only to defend his spiritual authority over the entire world, but likewise to assert his temporal as well as his spiritual power throughout the range of his own dominions. They look upon that temporal power, full, entire, and uncontrolled, to be essential to the free exercise of his spiritual authority; nor shall they ever be content to see the Holy Father placed in a subordinate and dependent position that could create a suspicion that his acts for regulating the spiritual interests of the church might be elicited or controlled by the preponderating influence of France, or Germany, or Naples, or any other secular power."

## Scotland.

STATUE TO GENERAL NEILL.—The inauguration of the statue in honour of the late Brigadier Neill took place on the 11th inst. in Wellington Square, Ayr, in the presence of the Earl of Eglinton, Viscount Ingestre, Major Gordon, aide-de-camp to General Neill, and other distinguished persons. The figure is of colossal size, 10 feet high, and stands upon a pedestal of Peterhead granite 12 feet high.

THE EDINBURGH ANNUITY TAX.—Orders have been issued by the Crown Office for the apprehension of several of the parties who assaulted the sheriff's officers in the collection of the annuity tax on the 17th ult. On Saturday week the city officers, aided by the police, made another attempt to arrest Mr. Hunter the confectioner for non-payment of the tax. Mr. Hunter was absent at the time, but Peacock, his foreman, was taken into custody and conveyed to the office of the Procurator Fiscal, where he was afterwards liberated on finding bail for 30*l.* The charge against Mr. Hunter and his foreman is that of assault and deforcement of officers in the execution of their duty.

THE SCOTCH BAKERS AND SUNDAY WORK.—Some of the master bakers of Arbroath have published a declaration that no work shall in future be done in their premises on the Lord's Day, and have made an earnest appeal to the Christian community of the town to

neighbourhood "that they will not tempt them to depart from this resolution by requiring new bread too early in the week."

WRECK OF A STEAMER.—On Saturday week during a dense fog the Duke of Richmond steamer, while on her passage from Caithness to Aberdeen, went on shore 4 miles to the northward of the latter port, and has since become a total wreck. No lives were lost.

THE CHOLERA AT WICK.—The *John o'Groat Journal* states that since Wednesday, the 12th inst., there have been six deaths on the Wick side of the river, and that there are two serious cases in Pulteney Town. The total number of deaths since the appearance of the disease is 21.

## Railways.

ACCIDENT ON THE LONDON AND NORTH-WESTERN.—On Thursday evening the 13th, as the London train was shunting into the Oxford station, the pin which secures the screw of the points over which it was passing suddenly broke, and three of the carriages were consequently thrown off the rails and fell on their side with a great crash. The passengers were got out of the carriages as speedily as possible, but no one was very seriously injured, and most of them were able to walk away from the station.

ACCIDENT ON THE MIDLAND.—A collision took place on the 12th inst. near the Sheffield station, by the passenger train running into a siding. Alderman John Maw, of Doncaster, one of the injured passengers, died on Friday evening, and the Rev. J. A. Moon, of Stannington, is in a precarious state from concussion of the brain. Robt. Wilcockson, the pointsman, has been apprehended on a charge of causing the accident by neglect.

## Obituary.

GENERAL THE EARL OF WESTMORELAND, G.C.B., G.C.H., Colonel of the 56th Regiment, died on Sunday evening at Apthorpe House, Northamptonshire, after a short illness, in his 76th year. His lordship, John Fane, 11th Earl of Westmorland and Baron Burghersh, in the peerage of England, was only son of the 10th Earl, by his first marriage with the only daughter and heir of Mr Robert Child, the opulent banker of Fleet Street. He was born in 1784, and married in 1811 the youngest daughter of the third Earl of Mornington, by whom he leaves two sons and a daughter. His lordship eminently distinguished himself both in the military and diplomatic services for more than half a century. He entered the army in 1803, and became Captain in the 23d Welsh Fusiliers in 1805, when he was appointed Aide-de-Camp to General Don on the expedition to Hanover. In 1806 and 1807 he served in Sicily as Assistant-Adjutant-General, and during his employment in the Mediterranean accompanied Admiral Duckworth's fleet, and was present in the action of the passage of the Dardanelles and the destruction of the Turkish fleet, the actions before Constantinople, at the island of Prota, and at the repassage of the fleet through the Dardanelles. His lordship afterwards served in Egypt under General Wauchope, as Assistant-Adjutant-General, and took part at the first storming of Rosetta, in the retreat, and subsequently in the second attack and siege of that place with the force commanded by General Stewart. In 1808 he joined the army in Portugal as Assistant-Adjutant-General in the army commanded by Sir Arthur Wellesley, and was present at the battles of Roleia and Vimiera. In the following year he acted as extra aide-de-camp to Lord Wellington, and was present at the battle of Talavera. In 1810 he served with the 3d Dragoon Guards in the campaign in Portugal, including the retreat to Torres Vedras, battle of Busaco, and advance to Santarem. In 1813 he proceeded to the head-quarters of the allied armies, under Prince Schwarzenberg, in Germany, accredited as Military Commissioner. He served at the siege of Huninguen, and the campaign of 1814 in France, including the taking of Langres, and the battles of La Rothière and Brienne, capture of Troyes, affairs of Morman and Nangis, in front of Bray, defence of Troyes when attacked by Bonaparte, the battle of Bar-sur-Aube, the subsequent affair upon the Barce, recapture of Troyes, battles of Arcis-sur-Aube and of Fere Champenoise, the advance upon, battle, and capture of Paris. In 1814 he was appointed Minister Plenipotentiary at Florence, and served with the Austrian army in the campaign against Naples in 1815, including the battles of Tolentino and Macerata, and signed, in conjunction with Marshal Bianchi, the Convention of Caza Lanza, by which the kingdom of Naples was restored to its legitimate sovereign. He was appointed a Privy Councillor in 1822, and in 1827 he went on a special mission to the Court of Naples to congratulate Francis I. on his accession to the throne. When the late Sir Robert Peel came into office, in 1841, his lordship was appointed Minister Plenipotentiary at Berlin, where he continued resident Minister till 1851, when he was transferred to Vienna. During his residence at Berlin he acted as mediator between the Danish and Prussian plenipotentiaries in the Schleswig-Holstein affair, and signed with them the treaty of peace between Prussia and Denmark in 1850. During his residence as Minister at Vienna he was unremittingly engaged in the negotiations connected with the Turkish question, and was one of the special plenipotentiaries at the conferences of 1855. In November of the same year he retired on his diplomatic pension, but in the following autumn he was appointed to convey her Majesty's congratulations to the King of the Belgians on the 25th anniversary of his accession to the throne, on which occasion King Leopold conferred on him, by a Royal decree, the Grand Cross of the Order of Leopold, but he did not obtain the Queen's permission to wear it, as it was not given for military services. In 1846, his lordship was nominated a Grand Cross of the Bath, having previously been made a Knight Commander of the order. He was also a Knight Grand Cross of the Guelphic Order of Hanover; Grand Cross of the Red Eagle of Prussia; Henri le Lion of Brunswick; St. Ferdinand and St. Januarius of Naples, and San Joseph of Tuscany; and Knight of Maria Theresa of Austria. His lordship is succeeded in the title and estates by his eldest surviving son, Lieut.-Colonel Lord Burghersh, formerly aide de camp to Lord Hardinge in the Punjaub, and to Lord Raglan in the Crimea, who was born in 1825, and married the second daughter of the Earl Howe.

THE HON JOHN WILLIAM FORTESCUE died at Camacha, Madeira, on the 25th ult., after a long illness, in his 40th year. He was the second son of Earl Fortescue, by his first marriage with Lady Susan Ryder, eldest daughter of the late Earl of Harrowby. He was for some years in the 7th Regiment of Fusiliers, and was for a time aide-de-camp to the Lord Lieutenant of Ireland. In 1845 he was appointed Lieutenant Colonel of the East Devon Militia, but he resigned the following year, from different health. He was a Deputy-Lieutenant of Devon, and represented Barnstaple from 1847 to 1852.

SIR THOMAS TASSELL GRANT, K.C.B. and F.R.S., late Controller of the Victualling and Transport Service in the Admiralty, died on the 15th inst. at his residence, Chester Terrace, Regent's Park, aged 64. He entered the civil service at the Admiralty 47 years ago, and after passing through several grades was in 1838 appointed superintendent at the Clarence Victualling Yard, Gosport. While holding that office he applied his mind to several much-needed improvements in connection with the naval service. In 1839 he devised the steam machinery for the manufacture of biscuit, which has been generally adopted in Government establishments and has effected a saving to the country of £40,000 a year. In recognition of the value of this invention the sum of £5000 was voted by Parliament, and medals presented to him by the King of the French and the Society of Arts. He afterwards constructed a new hide-roy, a feathering paddle wheel, and the patent fuel which bears his name, and which is largely used in the steam marine. As far back as 1834 he proposed a plan of distilling fresh water from the sea; but it was only 10 or 12 years ago that the authorities became alive to the importance of the invention, which he had by that time perfected. The apparatus for effecting this purpose is either connected with the ordinary ship's galley, or (in the case of a steam-vessel) with the boilers of the ship. By this invention the sanitary and moral condition of the navy has been greatly advanced, and it has been described as the greatest benefit ever conferred on the sailor. In 1850 he was appointed Controller of the Victualling and Transport service, which office he held during the Crimean war, when the value of his invention was severely tested. Under the unexampled pressure cast by the war on his department his health gave way, and early last year he was obliged to relinquish his post, when her Majesty conferred upon him the distinction of K.C.B.

MR. FREDERIC CAVENDISH CHARLES CASTLE NORTON, attaché to the English Embassy at Paris, eldest son of the Hon. George and Mrs. Norton, died at his lodgings in Paris on the 14th inst. Mr. Norton entered the diplomatic service in 1847 as attaché to the Legation at Lisbon. He was afterwards attached to the Legations of Naples and Brussels, and in 1851 was appointed second paid attaché at Paris. He had been for some months in a very weak state of health, and had just attained his 30th year.

MAJOR-GENERAL TOWERS died on the 13th inst. at Catlodge, Inverness-shire, in his 63d year, after many years of suffering. He entered the army as a cornet in the 7th Hussars in 1813, and served in that distinguished corps during the Waterloo campaign. He was placed on half-pay in August, 1816, and attained the rank of Major-General in 1858.

REAR-ADMIRAL HOLT died on the 9th inst. at 2, Suffolk Place, aged 69 years. He was midshipman of the Minerva, and served in her boats at the capture of two gun boats on the coast of Spain, in 1806, for which he was gazetted. He served also in the Surveillante, and commanded a rocket boat at Copenhagen in 1807. He became a Lieutenant in 1810, and participated in a variety of services in the Mediterranean. He was present in the San Josef at the capture of Genoa in 1814; was senior lieutenant of the Hussar, and severely wounded while in action, in the boats of that ship, with a horde of pirates on the coast of Cuba in 1824, for which he was promoted to the rank of commander. He became captain in 1838, and rear-admiral on the reserved half-pay list in 1857.

COLONEL NEILL, Deputy-Adjutant-General of Victoria, was killed at Melbourne by a fall from his horse on the 10th of July. He was the second and only surviving son of the late Lieut.-Colonel Smith Neill, of Barnwell and Swindridgemuir, Ayrshire. He entered the army in 1823, and served with the 40th Foot throughout the operations in Candahar and Affghanistan in 1841 and 1842, for which he received a medal. He became a colonel in 1858, and was appointed deputy-adjutant-general in Australia in 1855.

WILLS.—The will of Earl Cathcart, G.C.B., has been sworn under 5000*l.* personalty in the United Kingdom; the Hon J. G. C. Fox-Strangways, of Brickworth House, Wilts, 20,000*l.*; Mr. Brunel, C.E., 90,000*l.*

## Miscellaneous.

COOKING FOR THE ARMY.—Some interesting experiments have recently been made at Woolwich, and in Hyde Park, for the purpose of testing the efficiency of a travelling cooking apparatus, invented by Captain Grant, of the Royal Engineers. The object of the invention is to supply an amount of food cooked by the various processes of baking, stewing, steaming, &c., to an army in the field, and under circumstances when it would be impossible to supply rations by the ordinary means. For the purpose of practically testing the invention the batteries of garrison and field artillery, numbering about 1200 non-commissioned officers and men, were recently marched to Dartford Heath, accompanied by the band of the Royal Artillery, a baggage train, and several waggons fitted with Captain Grant's apparatus. On arriving at the heath a large number of military tents were pitched, and shortly afterwards the whole of the troops were served out with rations, consisting of baked meats, soups, vegetables, &c., which were cooked in an excellent manner by means of Captain Grant's invention. The apparatus is fixed to an ordinary four-wheeled ordnance waggon, which is drawn by two or more horses, as circumstances may require, and the operation of cooking is carried on during transit. A furnace at the extreme end of the apparatus heats the water of a boiler, the steam from which is the power which performs the various modes of cooking—by means of communicating with the various compartments—consisting of oven, stewpans, &c., and a large steamer affixed to the top of the oven for the purpose of cooking vegetables. Each apparatus is calculated to provide food for about 200 men, with a very small amount of fuel. The boiler contains about 120 gallons of water, and the steam is got up in about 10 minutes, proving satisfactorily that an army in the field may be supplied with proper rations even during the most rapid march. A separate apparatus on the same principle, but constructed only for making soup, was also tested with success.

**BIRTHS.**—On the 14th inst. at Cumberland Lodge, Old Windsor, the Countess of MOUNT CHARLES, of a daughter—14th inst. at Laverstoke House, Hants, the Lady CHARLOTTE PORTAL, of a daughter—17th inst. at 6, Portland Place, Lady LAURA PALMER, of a son—20th Aug., at Camoodpore, East Indies, the Hon. Mrs. ANDERSON CHICHESTER, of a son—11th inst. at 40, Chester Square, the wife of Colonel the Hon. A. H. HANDCOCK, C.B., Coldstream Guards, of a son—12th inst. 6, Charlotte Square, Edinburgh, the wife of JOHN TURNER HOPWOOD, Esq., M.P., of a son and heir—16th inst. at 17, John Street, Berkeley Square, the wife of EDWARD HUGESSEN KNATCHBULL-HUGESSEN, Esq., M.P., of a daughter—14th inst. at Bellegrove, the wife of R. P. LONG, Esq., M.P., of a daughter.

MARRIAGES.—On the 11th inst. at St. John's Episcopal Chapel, Perth, Lieut.-Colonel HENRY MACRICE DRUMMOND, youngest son of the late Admiral Sir Adam Drummond, K.C.H., and the Lady Charlotte Drummond, of Megginch Castle, to CHARLOTTE LOUISA RICHARDSON HAY, of Seggieden and Abercairny.—11th inst. at the Bavarian Chapel, Warwick Street, HENRY, eldest son of Sir HENRY PELLY, of Oxburgh Hall, Bart., to AUGUSTA, only child of EDWARD CLAVERING, Esq., of Callaly Castle, Northumberland.—13th inst. at St. John's Episcopal Chapel, Edinburgh, Sir EDWARD CHARLES COCKBURN, Bart., to MARY ANN FRANCES, eldest daughter of ROBERT KERR ELLIOT, Esq., of Clifton and Harwood.—12th inst. at Benhall, Sir HENRY PLOWER EARLY, Bart., of Eggaton Hall, Derbyshire, to MARY ISABELLA, eldest daughter of the Rev. ERMUND HOLLOND, of Benhall Lodge, Suffolk, and granddaughter of the late Rev. Sir John Robinson, Bart., of Rokeby, county Louth.—11th inst. at the parish church, Cheltenham, the Rev. T. TRAFFORD SHERMAN, B.A., Rector of Scaleby, Cumberland, to MARGARET SIDNEY, second daughter of the Hon. J. H. ROPER-CURZON, of St. John's Lodge, Cheltenham.—18th inst. at St. James's, Piccadilly, CLINTON FRAZER HENSHAW, Esq., Rifle Brigade, to ISABELLA JEAN MARGARET, only child of the late Lieutenant-General Sir LEWIS GRANT, K.C.H., Colonel of H.M.'s 93rd Regiment.—15th inst. at the parish church of Bromfield, the Rev. JOHN BRIGHT, of Totterton Hall, and vicar of Lydbury North cum Norbury, and rural dean, to HENRIETTA PHILIPPS, third daughter of Col. SALWEY, of Runnymede Park, Egham, late M.P. for Ludlow.

DEATHS.—On the 16th inst. CECILIA MARIA, widow of the late Right Hon. MAURICE FITZGERALD, Knight of Kerry.—15th inst. at Southport, JAMES POWNALL, Esq., of Pennington Hall, Lancashire, a magistrate of the county palatine of Lancaster, aged 53.—14th inst. at Torquay, ANNE ISABELLA PETRIE PRICE, widow of the late Fowler Price, of Huntington Court, Hereford, aged 68.—12th inst. at Ayranches, in Normandy, JOHN PARKINSON, Esq., late of Kinnersley Castle, Herefordshire.—11th inst. BERTIE ALBEMARLE CATOR, fourth son of Albemarle Cator, Esq., of Woodbastwick Hall, Norfolk, aged 16.—16th inst. at Redleaf, the Rev. FREDERIC WELLS, of the London Oratory, R.I.P., aged 33.—14th inst. at Madrid, after a short illness, MARK WARING, Esq., Chevalier of the Order of Leopold, fourth son of John Waring, Esq., of Haworth Hall, Yorkshire, aged 28.—22d August, killed while in command of a detachment of the 19th Native Infantry, during an outbreak of the prisoners of Mundlesir, Central India, where he had been recently appointed Acting Political Agent, Captain HAWES, eldest son of Sir Benjamin Hawes, K.C.B.—2d ult. of acute dysentery, at Buxar, Central India, Major ROBERT CAMPBELL BARCLAY, of the 68th Regiment, B.N.I., third son of the late Lieutenant G. D. Barclay, R.N., of South Town, Great Yarmouth, aged 35.—On his passage from China to England, for the recovery of his health, Capt. HENRY NORTH EDEN, Royal Artillery, son of Major-General Eden, commanding the Cork District, aged 26.—19th August, at Canton, China, Captain WILLIAM HENRY WALCOT, 47th B.N.I., third son of the Rev. Charles Walcot, of Bitterley Court, Shropshire, aged 36.—2d July, at her residence in Adelaide, South Australia, Mrs HUTCHINSON, mother of Col. Gawler, formerly Governor and Resident Commissioner of that colony, aged 90.—27th August, at Bathurst, Western Africa, WILLIAM PERCIVAL GILBORNE, Lieutenant 1st W.I. Regiment, youngest son of the late Captain Edward Gilborne, of the Royal Hospital, Kilmainham, and formerly of the 71st Regiment, aged 20.—6th of August, in the wreck of the Admella, between Port Adelaide and Melbourne, JAMES VAUX, surgeon to the Norfolk, fourth son of the late George Vaux, M.D., of Ipswich, aged 27.

## Markets.

**COVENT GARDEN.—Oct. 22.**

Pine Apples and Grapes have not altered in price since last week. Pears in season still consist of Marie Louise, Duchesse d'Angoulême, and Beurré Diel. The best dessert Apple now to be obtained is the King of the Pippins. New Madeira Oranges may now be obtained. Good Filberts may be had for 9d. per lb. Cabbages, Beans, Carrots, and Artichokes may be obtained in quantity. Cauliflowers are scarce. Potatoes realise from 4s. to 8s. per cwt. Mushrooms are still plentiful. Cucumbers abundant. Cut flower chiefly consist of Orchids, Gardenias, Dahlias, Violets, Mignonette, China Asters, Heaths, and Roses.

FRUIT.

| | |
|---|---|
| Pine Apples, per lb., 5s to 7s | Apples, per bushel, 6s to 10s |
| Grapes, per lb., 2s to 6s | Pears, per ½ sieve, 6s to 10s |
| Melons, each, 2s to 4s | Lemons, per doz., 1s to 1s 6d |
| Figs, per doz., 2s | Filberts, p. 100 lbs., 50s to 60s |
| Plums, per punnet, 1s to 2s 6d | Cobbs, do., 60s to 70s |

VEGETABLES.

| | |
|---|---|
| Cauliflowers, per doz. 2s to 4s | Artichokes, per doz., 2s to 3s |
| Greens, per dozen bunches, 2s to 2s 6d | Beet, per doz., 1s 6d to 2s |
| Cabbages, do., 1s 6d to 2s 6d | Celery, p. bundle, 1s to 1s 6d |
| French Beans, p. half sieve, 2s to 2s 6d | Onions, p. half sieve, 1s to 1s 6d |
| Potatoes, p. ton, 90s to 100s | — Portugal, each, 2d to 4d |
| — per bus., 2s to 2s 9d | Shallots, per lb., 6d to 8d |
| — per cwt., 4s to 6s | Garlic, per lb., 6d to 8d |
| Carrots, per bunch, 6d | Lettuces, Cabb., per score, 1s to 1s 6d |
| Turnips, per bunch, 4d | Endive, p. score, 1s to 1s 6 |
| Spinach, p. sieve, 1s 6d to 2s | Horse Radish, p. bun. 1s 6d to 4s |
| Cucumbers, p. doz., 1s to 1s 6d | Mushrooms, p. pott, 1s 3d to 1s 9d |
| Frame do., each 4d to 6d | Parsley, p. 12 bunches, 2s to 4s |
| Tomatoes, p. ½ sieve, 2s 6d to 3s 6d | Savory, per bunch, 2d to 4d |

HOPS.—BOROUGH MARKET, FRIDAY, Oct. 21.

Messrs. Pattenden & Smith report that the market is firm, and fine samples fully as high in price. Other sorts are not quite so much sought after.

**HAY.—Per Load of Thirty-six Trusses.**

SMITHFIELD, THURSDAY, Oct. 20.

| | | | | | |
|---|---|---|---|---|---|
| Prime Meadow Hay | 70s | 75s | Clover | 90s | 105s |
| Superior do. (old) | 80 | 84 | New Clover | — | — |
| Inferior do. | 55 | 60 | Second cut do. | 60 | 80 |
| New do. | — | — | Straw | 24 | 30 |
| Rowen | 45 | 55 | | DAVIS & CO. | |

CUMBERLAND MARKET, THURSDAY, Oct. 20.

| | | | | | |
|---|---|---|---|---|---|
| Sup. Meadow Hay | 78s | 86s | Inferior Clover | 70s | 88s |
| Inferior do. | 60 | 72 | New do. | — | — |
| New do. | — | — | Straw | 30 | 34 |
| Superior Clover | 94 | 100 | | JOSHUA BAKER. | |

WHITECHAPEL, THURSDAY, Oct. 20.

| | | | | | |
|---|---|---|---|---|---|
| Fine old Hay | 78s | 84s | Fine old Clover | 98s | 102s |
| Inferior do. | 65 | 75 | Inferior do. | 85 | 92 |
| Prime New Hay | — | — | Fine new Clover | — | — |
| Inferior do. | — | — | Fine 2d cut | 78 | 84 |
| Straw | 26 | 30 | Inferior do. | 68 | 70 |

COAL MARKET.—Oct. 19.

Jones's Hartley, 13s. 6d.; Lambton's West Hartley, 13s. 9d.; Tanfield Moor, 13s.; Walker Primrose, 12s. 6d.; Wood's West Hartley, 14s.; Walls End Acorn Close, 18s.; Walls End Eden, 15s. Eden Main, 17s. 3d.; Walls End Haddyfit's Hetton, 19s.; Walls End Hasswell 19s.; Walls End Hetton, 19s.; Walls End Russell's Hetton, 19s.; Walls End South Hetton, 18s. 9d.; Walls End Stewart's, 19s.; Walls End Tanfield, 16s. 6d.; Walls End Hartlepool, 18s. 6d.; Walls

End Heugh Hall, 17s. 9d.; Walls End Hunwick, 15s. 3d.; Walls End Whitworth, 15s. 3d.; Brown Moor High Main, 15s. 9d.; Carway and Duffryn Malting, 22s.; Nixon's Duffryn, 22s. 6d.; Powell's Duffryn Steam, 22s.—41 ships at market.

POTATOES.—SOUTHWARK, Monday, Oct. 17.

During the past week, the arrivals coastwise have been limited but plentiful by rail; the trade has been dull, and many come to hand in bad condition, in consequence prices have been very various. The following are this day's quotations:—York Regents, 80s. to 105s.; Lincolnshire do., 70s. to 90s.; Dunbar do., 80s. to 95s.; Perth, Forfar, and Fifeshire do., 50s. to 85s.; Kent and Essex do., 80s. to 110s.

BRITISH WOOLS.—LONDON, FRIDAY, Oct. 21.

There has been more inquiry this week. Prices continue firm.

| | s. | d. | s. | d. | | s. | d. | s. | d. |
|---|---|---|---|---|---|---|---|---|---|
| South-down Hoggets | 1 | 8 | to | — | Leicest. Wethers | 1 | 5 | to | — |
| Half-bred ditto | 1 | 8 | — | — | Ditto Hoggs | 1 | 7 | — | — |
| Down Ewes | 1 | 6 | — | — | Combing Skins | — | — | — | — |
| Kent Fleeces | 1 | 7 | — | — | Blanket ditto | — | — | — | — |
| | | | | | Flannel Wool | 1 | 2 | — | 1 7 |

METROPOLITAN CATTLE MARKET.

MONDAY, Oct. 17.

There is a considerable increase in the supply of Beasts, but trade is about as good as on Monday last. Some inferior descriptions do not meet with quite so ready a sale. The number of Sheep is not much larger, and late prices are fully supported. Good Calves are rather dearer. From Germany and Holland there are 1340 Beasts, 5650 Sheep, and 70 Calves; from Scotland, 100 Beasts; from Ireland, 600; and 2800 from the northern and midland counties.

| | s | d | s | d | | s | d | s | d |
|---|---|---|---|---|---|---|---|---|---|
| Best Scots, Herefords, &c. | 4 | 10 | to 5 | 0 | Best Long-wools | 4 | 10 | — 5 | 2 |
| Best Short-horns | 4 | 8 | — 4 | 10 | Do. Shorn | .. | .. | — | .. |
| 2d quality Beasts | 3 | 8 | — 4 | 4 | Ewes & 2d quality | 4 | 6 | — 4 | 8 |
| Best Downs and Half-breds | .. 5 | 2 | to 5 | 4 | Do. Shorn | .. | .. | to | .. |
| Do. Shorn | .. | .. | — | .. | Lambs | .. | .. | .. — | .. |
| | | | | | Calves | .. | .. | 4 4 — 5 | 4 |
| | | | | | Pigs | .. | .. | 4 0 — 5 | 0 |

Beasts, 5450; Sheep & Lambs, 24,410; Calves, 112; Pigs, 560.

THURSDAY, Oct. 20.

Our trade to-day is by no means brisk for Beasts, although we cannot quote lower rates. Good Sheep are scarce, and Monday's prices are fully maintained. In a few instances a slight advance has been realised. Calves are in demand, and on the average dearer. Our foreign supply consists of 80 Beasts, 740 Sheep, and 56 Calves. The number of Milch Cows is 119.

| | s | d | s | d | | s | d | s | d |
|---|---|---|---|---|---|---|---|---|---|
| Best Scots, Herefords, &c. | 4 | 10 | to 5 | 0 | Best Long-wools | 4 | 10 | — 5 | 2 |
| Best Short-horns | 4 | 8 | — 4 | 10 | Do. Shorn | .. | .. | — | .. |
| 2d quality Beasts | 3 | 8 | — 4 | 4 | Ewes & 2d quality | 4 | 6 | to 4 | 8 |
| Best Downs and Half-breds | .. 5 | 2 | — 5 | 4 | Do. Shorn | .. | .. | — | .. |
| Do. Shorn | .. | .. | — | .. | Lambs | .. | .. | .. — | .. |
| | | | | | Calves | .. | .. | 4 6 — 5 | 6 |
| | | | | | Pigs | .. | .. | 4 0 — 5 | 0 |

Beasts, 1249; Sheep & Lambs, 5030; Calves, 180; Pigs, 200.

MARK LANE.—MONDAY, Oct. 17.

The supply of Wheat from Essex and Kent to this morning's market was small; the bulk of it being of very poor quality its value is unaltered from this day se'nnight, and a tolerable clearance was effected. The attendance was not large, and having a considerable arrival of foreign Wheat (much of which went to the millers direct) the demand was restricted, and in the little business transacted the extreme rates of last week with difficulty obtained. Barley brings fully last week's prices, with a good demand for the finest qualities. New Beans are 1s. per qr. cheaper. Peas are unaltered in value, but white boilers are less inquired for than of late. The Oat trade is dull, and new qualities are rather cheaper. Country Flour is held for a trifle more money.

| PER IMPERIAL QUARTER. | s. | s. | | s. | s. |
|---|---|---|---|---|---|
| WHEAT, Essex, Kent, & Suffolk..White | 34 | 46 | Red .... | 36 | 41 |
| — — fine selected runs..ditto | 42 | 44 | Red .... | 38 | 44 |
| — — Talavera ..... | 40 | 50 | | | |
| — Norfolk ..... | — | | Red .. | — | |
| — Foreign ..... | 38 | 51 | | | |
| BARLEY, grind. & dist., 24s to 30s..Chev. | 38 | 44 | Malting. | 34 | 40 |
| — Foreign..grinding and distilling | 23 | 28 | Malting. | — | |
| OATS, Essex and Suffolk ..... | 19 | 22 | | | |
| — Scotch and Lincolnshire..Potato | 23 | 25 | Feed.... | 19 | 24 |
| — Irish .....Potato | 24 | 25 | Feed.... | 19 | 22 |
| — Foreign ..... Poland and Brew | 23 | 26 | Feed.... | 17 | 24 |
| RYE ..... | — | | Foreign. | — | |
| RYE-MEAL, foreign..... | — | | | | |
| BEANS, Mazagan....30s to 39s....Tick | 33 | 41 | Harrow. | 33 | 41 |
| — Pigeon .....41s — 45s..Winds. | 48 | 54 | Longpod | — | |
| — Foreign..... Small | 38 | 46 | Egyptian | — | |
| PEAS, white, Essex and Kent..Boilers | 36 | 41 | Suffolk . | 35 | 43 |
| — Maple.... —s to —s ..... Grey | 33 | 35 | Foreign. | 30 | 40 |
| MAIZE ..... White | — | | Yellow.. | — | |
| FLOUR, best marks delivered..per sack | 37 | 43 | | | |
| — 2d do..... ditto | 27 | 37 | Country. | 27 | 37 |
| — Foreign ..... ... per barrel | 18 | 27 | Per sack | 30 | 37 |

FRIDAY, Oct. 21.

Much rain fell in the beginning of the week, with a dull atmosphere and easterly winds; yesterday S.W. and fine with a lower temperature, rain last night, to-day fine and cold. Since this day se'nnight the Wheat trade has been heavy throughout the kingdom, caused in some degree by the tenacity of holders, who refuse to accept of lower terms, in which perhaps they are justified by the continued and for the present prospective absence of important importations of Flour from either France or America. No change of moment has occurred in the value of spring corn or Flour. In floating cargoes off the coast sales have been to a fair extent, including Taganrog Ghirka Wheat at 44s. to 44s. 6d. and 45s, Odessa Ghirka at 43s. 6d., and Berdiansk at 45s. 3d., all per 492 lbs.; Odessa Maize at 30s. 3d., Galatz at 30s. 6d., both per 492 lbs.; Foxanian at 29s. 7½d., Ibrail at 28s. 9d. to 29s., both per 480 lbs.; Bourgos Barley at 22s., Ibrail at 22s., and Odessa at 24s, all per 400 lbs.; Odessa Rye at 27s. and Egyptian Beans at 32s 6d. per qr. imp. The arrivals of Barley (English and foreign) this week have been good, of all other grain moderate. The attendance at to-day's market was smaller than for some time past. The little English Wheat fresh up or left over from the previous market days was cleared off at Monday's quotations. In foreign very little business was transacted, and its value remains nominally the same. Barley, Beans, and Peas are unaltered in value. The Oat trade is firm, and good qualities are generally held for a trifling advance.

ARRIVALS FROM OCT. 17 TO OCT. 21.

| | Wheat. | Barley. | Oats. | Flour. |
|---|---|---|---|---|
| English .. | 2310 qrs. | 3170 qrs. | 260 qrs. | 780 sks. |
| Irish .... | — „ | 170 „ | 4540 „ | — „ |
| Foreign .. | 9160 „ | 4930 „ | 18060 „ | 160 „ / — brls. |

LIVERPOOL, Tuesday, October 18.—We had a fair attendance of millers and dealers at our Corn Exchange this morning, but they did not appear much inclined to do business. Wheat was little dealt in, and though previous prices were generally asked, the turn was certainly in favour of buyers. Flour had a slow sale at the rates of last market. The business in Indian Corn was confined to retail requirements, without change in value. Oats sluggish; Oatmeal in fair request at rather more money. Beans advanced 6d. to 1s. per quarter, and Barley 1d. per 60 lbs. Peas without alteration. The market was very slow throughout.

FRIDAY, Oct. 21.—Grain market steady, with a fair attendance. Wheat and Flour in good demand at slightly improved rates. Oatmeal somewhat dearer. Beans and Indian Corn in good request at full rates. Other articles unaltered.

| AVERAGES | Wheat. | Barley. | Oats. | Rye. | Beans. | Peas. |
|---|---|---|---|---|---|---|
| Sept. 10.. | 42s 9d | 33s 9d | 23s 0d | 31s 6d | 41s 3d | 37s 10d |
| — 17.. | 41 11 | 35 3 | 21 7 | 30 6 | 40 4 | 38 8 |
| — 24.. | 41 10 | 35 5 | 21 7 | 30 6 | 40 4 | 38 5 |
| Oct. 1.. | 42 1 | 35 9 | 20 10 | 29 9 | 39 7 | 38 5 |
| — 8.. | 42 5 | 35 8 | 21 7 | 29 10 | 39 3 | 38 0 |
| — 15.. | 42 6 | 35 10 | 21 3 | 29 7 | 38 9 | 39 8 |
| Agg. Aver. | 42 3 | 35 3 | 21 7 | 30 3 | 39 11 | 38 0 |

FLUCTUATIONS IN THE LAST SIX WEEKS AVERAGES.

| PRICES. | Sept. 10. | Sept. 17. | Sept. 24. | Oct. 1. | Oct. 8. | Oct. 15. |
|---|---|---|---|---|---|---|
| 42s 9d— | | .. | .. | .. | .. | .. |
| 42 6 | .. | .. | .. | .. | .. | |
| 42 5 | .. | .. | .. | .. | | .. |
| 42 1 | .. | .. | .. | | .. | .. |
| 41 11 | .. | | .. | .. | .. | .. |
| 41 10 | .. | .. | | .. | .. | .. |

THE WIDOW OF THE LATE PROFESSOR HENFREY, F.R.S., L.S., &c., of King's College, London, receives a small number of BOYS between the ages of 6 and 12, to EDUCATE with her own family. Terms, from 60 Guineas per Annum.—Turnham Green, W.

WANTED, by a gentleman in the County of Oxford an ARTICLED PUPIL. A limited number of Boarders are taken. Terms moderate.—Apply to ALPHA, Kingham, Oxon.

TO NURSERY FOREMEN.

WANTED, A FOREMAN, who understands the Propagation of Hardy Trees and Shrubs, Budding, Grafting, and Laying, Growing Forest Trees, Fruit Trees, and general Nursery work; and who could take charge of a number of men.—Apply by letter, enclosing references as to conduct and ability, and stating age and wages expected, to CHARLES SHARPE & Co., Sleaford.

SCARBOROUGH CLIFF BRIDGE COMPANY.

MANAGER WANTED.—The Committee of Scarborough Cliff Bridge Company are wishful to engage a GENERAL MANAGER, who will be required to devote his whole time to their service. His duties will be to keep the Books and Accounts of the Company, to convene the requisite meetings, keep minutes of proceedings, conduct correspondence, and generally superintend the Company's property. One accustomed to the Management of Public Pleasure Grounds will be preferred.—Applications, stating age and qualifications, with testimonials, to be addressed to the Chairman of the Cliff Bridge Company, not later than November 20. He will be required to give security to the satisfaction of the Company to the amount of 300*l.* for the faithful discharge of his duties.—Scarborough, Oct. 22.

WANTED, AS GARDENER, a married man without incumbrance, to undertake Flower and Kitchen Gardens, also Attend and Milk two Cows; his Wife to take charge of the gate and help in the house. Two rooms over the Coach-house. Milk and Vegetables allowed. Wages, 20s. per week.—H. G. H., Mr. Clarke, 25, Bishopsgate Within, E.C.

WANTED, an experienced GARDENER (married), to manage the CARDIFF CEMETERY, with the assistance of Labourers. He must be able to read and write well, and will be required to superintend the Digging of Graves and act as Lodge Keeper. His wife will be expected to clean the Chapels. Wages 1*l.* per week, with house and coals. Applications to be sent to the undersigned on or before October 31st. By Order.

Cardiff, Oct. 22. BENJ. MATTHEWS, Town Clerk.

WANTED a good KITCHEN GARDENER, married (without children preferred), who understands a little of Farming, for an Industrial Boarding-school. The wife to do the household work and cooking for the boys. Salary 50*l.*, house, fuel, and vegetables.—Address Miss COOKE, Montreal House, Great Malvern.

NURSERY PROPAGATOR.

WANTED, A PROPAGATOR, PLANT GROWER, AND FOREMAN of General Trade Experience, and well acquainted with the Management of Roses, Conifers, Rhododendrons, &c.; a good Salesman, and of good address, able to take a local journey, whose character will bear the strictest investigation.—Apply with reference, stating age, experience, and wages expected, to THOMAS KENNEDY & Co., Nurserymen and Seedsmen, Dumfries.

WANTED, an ASSISTANT in the Flower-Seed Department of a London House.—Apply by letter, stating age, amount of salary required, and where last employed, to JAMES CARTER & Co., Seedsmen, 237 and 238, High Holborn, London, W.C.

## WANT PLACES.—Letters to be Post Paid.

GARDENER (HEAD).—Age 36, married, no incumbrance; has a thorough knowledge of his profession. Wages 1*l.* per week with house. Wife can take charge of the Dairy or Poultry.—J. W., Mr. Clarke, Seedsman, 25, Bishopsgate Within, E.C.

GARDENER (HEAD).—Age 29, single, well experienced in Forcing Vines, Peaches, Strawberries, Cucumbers, &c.; the Management of Kitchen and Flower Gardens. Four years' character.—A. B., Mr. Piggot's, Upper East Sheen, Mortlake, Surrey.

GARDENER (HEAD).—Age 38, married, no incumbrance; thorough knowledge of the Cultivation of Stove, Greenhouse Plants, Ferns, &c., Forcing Grapes, Peaches and Pines; has had the management of extensive gardens five years; also experience in Farming. His late employers will highly recommend him for ability, sobriety, &c.—R. W., Messrs. Lawson & Son, 27, Great George Street, Westminster, S.W.

GARDENER (HEAD).—Age 28, married, no incumbrance; having lived in several of the largest establishments in the West of England, can with confidence offer himself to any lady or gentleman requiring an experienced Gardener. Thoroughly understands Pines, Vines, &c., and all kinds of Tropical and New Holland Plants, and the improvement of everything connected with the garden.—W. A. WILLIAMS, Messrs. J. C. Wheeler and Son, Gloucester.

GARDENER (HEAD).—Age 33, married; has had great experience in Forcing all kinds of Fruits, Flowers, and Vegetables; the successful cultivation of Stove and Greenhouse Plants, &c., Ferns, and Orchids. Can be highly recommended by his present employer, whom he is leaving solely on account of a death in the family, which causes a change in the establishment.—JOHN ROBINSON, Gardener, W. R. Sandbach, Esq., The Cottage, Aigburth, Liverpool.

GARDENER (HEAD).—Age 28, single; thoroughly understands Forcing of Fruits, Flowers, &c.; also a good Kitchen and Flower Gardener.—CHARLES TARRER, [illegible] Surrey.

GARDENER (HEAD).—Age 33, married, no incumbrance; has a thorough practical knowledge of his profession. Six and a half years' good character.—O. P., Mr. Cutbush, Nurseryman, Barnet, N.

GARDENER (HEAD).—Age 36, married; understands Early and Late Forcing, Flower and Kitchen Gardens. Good character.—H. H., Mr. Smith, Seedsman, High Street, Cliffe, Lewes, Sussex.

GARDENER (HEAD).—Age 32, married, one child, 16 years' experience in Forcing Fruits, Vegetables and Plants; Kitchen and Flower Gardens. Upwards of [illegible] years' recommendation from last employers.—A. B., Messrs. Lee's Nursery, Hammersmith, London, W.

GARDENER (HEAD).—Age 33, single; has a thorough practical knowledge of Vines, Pines, Peaches and Stove and Greenhouse Plants; also Kitchen and Flower Gardens. Five years' unexceptionable reference.—A. B., Crystal Palace, Sydenham, Kent, S.W.

TO NOBLEMEN AND GENTLEMEN.

GARDENER (HEAD).—Age 30; proficient in Forcing of all descriptions, the Cultivation of Early Fruits, Tropical and New Holland Plants, Flower and Kitchen Gardens, the Erection and Heating Horticultural Buildings, Landscape Operations, and the general routine of Horticulture. Can be highly recommended by his late employer as to ability, sobriety, &c.—W. M., Royal Botanic Gardens, Regent's Park, London, N.W.

GARDENER (HEAD).—Age 28, single; perfectly understands the Management of Flower, Fruit, and Kitchen Gardens; the Forcing of Vines, Pines, Strawberries, &c.; also the Culture of Early Vegetables. Abilities and character will bear the strictest investigation. Good references with four years' excellent character.—B. S., Witley Gardens, Stourport, near Worcester.

TO NOBLEMEN AND GENTLEMEN.

GARDENER (HEAD).—Age 30, married, no incumbrance; thoroughly understands the Forcing of Pines, Vines, Melons, Peaches, &c., also the Growing of Stove and Greenhouse Plants; management of Kitchen and Flower Gardens. Unexceptionable references.—SIMEON MARSHALL, Gardener, Broomfield Hall, near Halifax.

GARDENER (HEAD) OR MANAGER OF AN ESTATE.—Age 44, married; experienced in every branch of Gardening; in the Erection and Heating of Horticultural Buildings, Draining, Fencing, Planting, Road Making, and the general routine of an Estate. Good reference.—E. BOWEN, Swindon, near Cheltenham.

GARDENER (HEAD OR SINGLE-HANDED).—Age 35, single; understands Forcing of Fruits and Flowers in all branches. Two years' good character.—G. W., 9, Grove Street, Surbiton, Surrey, S.W.

GARDENER.—Age 26, single; well acquainted with every branch of his profession. Testimonials of the highest order.—E. W., Mr. Graham's, Nurseryman, [illegible] Chichester, Sussex.

GARDENER.—A nobleman's Gardener wishes to recommend a well experienced Gardener (single). Five years' management in present situation.—W. G., 2, Ann's Cottages, Upper Richmond Road, Putney, Surrey, S.W.

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## News of the Week.

THE hopes which were entertained last week of a pacific settlement of the dispute between Spain and Morocco have proved to be unfounded. After

Morocco had agreed to satisfy the demands of Spain on all the main points at issue, the negotiations broke down on the question of guarantees. A Council of Ministers, presided over by the QUEEN in person, was held at Madrid on Thursday week, at which war with Morocco was unanimously resolved upon, HER MAJESTY offering to contribute, if necessary, a sum from her civil list, and even to apply her private patrimony towards the expenses of the war. General O'DONNELL has since announced to the Cortes that the Government has withdrawn the Spanish Consul from Tangiers, and has resolved to declare war against Morocco. This declaration was received with great enthusiasm in both Chambers, and it is a proof of the popularity of the war that all political parties in the Cortes and the journals of every shade of opinion have offered their support to the Government. The latest news states that the Spanish Consul has arrived at Algesiras from Tangiers with all his household, and that the declaration of war will be made as soon as the military preparations are completed. Accounts from Paris state that this expedition is encouraged by the French Government, and that the impending war, if not a joint one, will certainly commence with a concerted movement on the part of France and Spain. It appears that while the naval forces of Spain are engaged in bombarding the ports of Morocco, a simultaneous attack will be made by France on the provinces of the interior, in revenge for various outrages committed by certain lawless tribes on the frontier villages of Algeria. In accordance with this arrangement, it is said that, at the request of the Spanish Ambassador, the French Government has placed materials of war at the disposal of Spain, and that the EMPEROR has declared his intention of supporting the operations by making advances to the Government of Madrid similar to those made to Piedmont in the late war.

A meeting has taken place at Ohlau, near Breslau, between the EMPEROR OF RUSSIA and the PRINCE REGENT OF PRUSSIA, to which great importance is attached both in Germany and in France. It was reported in Paris on Thursday that the CZAR and the REGENT agreed at this interview to join England in supporting the annexation of Central Italy to Sardinia, and that, in consequence of this resolution and of fresh assurances which have been received from France, England is now disposed to join the Congress and take part in the final settlement of the Italian question.

A telegraphic despatch in anticipation of the India mail was received yesterday with news from Calcutta to the 23d, and from Hong Kong to the 12th ult. Meetings have been held at Calcutta to protest against the Licensing Bill and to petition Parliament for the establishment of local representative councils in India. Oude continues tranquil, but the Rohillas in the Deccan are still committing acts of brigandage. It is intended to send an expeditionary corps against the bands of robbers in Central India, and against the remaining insurgents in the Terai, and the Governor has despatched 1500 men from Bombay against the rebellious Waghers. The American Minister has returned from Pekin without obtaining the ratification of the treaty at that city, but it was subsequently ratified by commissioners at Pehtang.

From New York we learn that a negro insurrection of an alarming character has taken place at Harper's Ferry. The negroes seized the United States arsenal, and sent cartloads of muskets into Maryland and other Slave States, having previously stopped the railway trains and cut the telegraph wires. The latest news states that the Government was sending troops from various points for the purpose of suppressing the insurrection, and that the object of the outbreak was unknown.

## Home News.

THE COURT.—The Queen, Prince Consort, and the Royal family continue at Windsor Castle. On Friday the Duke of Somerset and Viscount Palmerston arrived at the castle on a visit. In the afternoon the Queen, accompanied by Princess Alice, drove out in a carriage and four. The Prince Consort went out shooting, accompanied by the Duke of Somerset. On Saturday the Queen held a Privy Council, at which Parliament was ordered to be further prorogued from Thursday, the 27th inst., until Thursday, the 15th December. Lord John Russell, Viscount Palmerston, Viscount Sydney, and Sir G. C. Lewis had audiences of the Queen. Mr. Christie, Minister for Rio de Janeiro, had an audience, and was presented to her Majesty by Lord John Russell. On Sunday morning the Queen and Prince Consort, Prince Arthur, and the Princesses attended Divine service in the private chapel of the castle; the Dean of Windsor officiated. On Monday the Queen and Prince Consort, with Prince Arthur, walked in the grounds of the castle. The Princesses Alice, Helena, and Louisa rode in the riding-house. The Duke de Nemours visited her Majesty. The Countess Blucher, the Earl of Elgin, Viscount Sydney, and the Right Hon. C. P. Villiers arrived on a visit. On Tuesday morning the Queen, accompanied by Princess Alice, walked in the Home Park. In the afternoon the Prince Consort presided at a meeting of the Council of the Horticultural Society, held at the castle. The Earl of Elgin left the castle for London. On Wednesday morning the Queen and Prince Consort walked in the grounds of the castle. His Royal Highness afterwards went to Oxford and visited the Prince of Wales. The Princesses Alice, Helena, and Louisa rode in the riding-house. The Countess Blucher, Lord Sydney, and the Right Hon. C. P. Villiers left the castle. On Thursday morning the Queen, accompanied by Princess Alice and Prince Arthur, rode in the riding-house.

VISIT OF THE PRINCE AND PRINCESS FREDERICK WILLIAM. — Preparations are making at Windsor Castle for the reception of the Prince and Princess Frederick William of Prussia and suite, who will arrive at Windsor shortly before the 9th November, for the purpose of being present at the grand banquet to be given on the birthday of the Prince of Wales. The royal visitors will not return to Prussia before the latter end of November, in order to be present at the birthday of the Princess Royal on the 21st of the month.

THE DUCHESS OF KENT left Norris Castle in the Isle of Wight yesterday for Frogmore.

PRINCE NAPOLEON arrived at the Brunswick Hotel, Jermyn Street, on Friday night, and remained in London until Monday, when his Imperial Highness returned to Southampton, and rejoined his steam yacht Le Dauphin. On Wednesday the Prince landed at Portsmouth, and immediately proceeded by the South Coast Railway to Brighton. The Dauphin left Portsmouth on Thursday for Cherbourg, accompanied by a pretty little steam yacht of 8 tons named the Mary, which the Prince purchased at Birkenhead for his private use.

THE CABINET.—A Cabinet Council was held yesterday at the official residence of the First Lord of the Treasury.

PARLIAMENTARY MOVEMENTS.—In accordance with the order of the Privy Council held at Windsor on Saturday, Parliament was on Thursday formally prorogued to Thursday the 15th December. The nomination for Ayrshire took place on Wednesday, when the show of hands was in favour of Mr. Campbell; a poll was demanded for Sir James Fergusson.

THE CHINA EXPEDITION.—It is stated that Colonel Ribourg, chief secretary of Marshal Randon, the French Minister of War, has had a conference with Mr. Sidney Herbert this week on the subject of the combined expedition to China, and that the departure of the expedition is fixed for the first fortnight in February.

MANNING THE NAVY.—The daily papers have published two letters from Admirals Sir Charles Napier and Sir Maurice Berkeley in reference to the manning of the navy and the protection of our coasts. Sir C. Napier, in his letter, expresses his belief that seamen are deterred from entering the navy by the existence of a variety of unredressed grievances, including unnecessary confinement, the discomfort of hulks, infrequent payment, a faulty system of clothing, and lengthened periods of service on foreign stations. He assumes that we are henceforth always to have a Channel fleet, and says that there will always be able seamen enough to man it if the Government can devise the means of obtaining their services, which is in his opinion "purely a money question." He suggests that the Admiralty should keep up a respectable Channel fleet of 10 sail of the line, and man the whole of them with able seamen, reducing by one half the complement of Marines, so that the proportion of blue jackets may be in excess. On the outbreak of war he proposes to turn half of each ship's company over to another ship of the same rate, and fill up with Marines, which would instantly give 20 sail of the line instead of 10, and thereby double our available force, independently of the reserve. The Marines he says could be drawn from the garrisons of our seaports, and their places taken by the Militia, which, "protected by the fleet, would have ample time to be disciplined, and thus in one month the country would be armed to the teeth, and ready to fight any two nations that thought proper to attack us." Sir Maurice Berkeley thinks that the country should not only have a Channel fleet of line of battle ships to sustain the first shock, but should also have a large force of small craft and gunboats to protect the coasts in the event of an unsuccessful action on the part of the Channel fleet. He believes that a large stock of gunboats would form the best defence of the coast, and that it would not be difficult to man them if they were expressly reserved for that particular purpose. He believes that there are no grounds for the popular apprehension in regard to Cherbourg. He considers that port to be admirably adapted to our interests, and thinks that a French fleet stationed there in the event of war with us would soon get into trouble.

THE VICTORIA CROSS.—The Queen has conferred the Victoria Cross on the undermentioned officers and privates on account of acts of bravery performed by them in India. Major Charles John Stanley (now) 5th Bengal European Cavalry; Brevet-Capt. Robert Haydon Shebbeare, 60th Bengal Native Infantry; Lieut. Herbert Mackworth Clogstoun, 19th Madras Native Infantry; Lieut. (now Capt.) Andrew Cathcart Bogle, 78th Regiment; Lieut. Harry Hammon Lyster, 7th Bengal Native Infantry; Lieut. Harry North Burke Trymple Prendergast, Madras Engineers; Private Robert Addison, 43d Regiment; and Private Frederick Wilkinson, 3d Bombay European Regiment. Ensign Everard Aloysius Lisle Phillipps, of the 11th Bengal Native Infantry, would have been recommended for the Victoria Cross had he survived.

## Foreign.

FRANCE.—Accounts from Paris state that the Spanish expedition against Morocco is encouraged by the French Government, and that the impending attack on Morocco, if not a joint one, will be certainly simultaneous on the part of Spain and France. A despatch from Paris dated Wednesday last states that at the request of M. Mon, the Spanish Ambassador in Paris, Marshal Randon, the Minister of War, has placed materials of war at the disposal of the Spanish Government, and has declared that the Emperor will support the military operations of Spain by advances made in a similar way to those made to Piedmont during the late war in Italy. It is reported that the Emperor will shortly pay a visit to the King of the Belgians. The Queen of Holland arrived at St. Cloud on Tuesday. The Imperial Court will leave for Compiègne on the 31st inst., and will stay there until the 30th of November. There is no foundation for the rumour that the Emperor of Austria is expected at Compiègne. The Grand Duchess Marie of Russia will visit their Majesties during their sojourn at Compiègne. The Emperor gave audience on Sunday to a deputation of the Council of Administration of the Suez Canal Company. Among its members were the president, M. de Lesseps, MM. Elie de Beaumont, Jomard, the Duke of Albufera, the Mayor of Abbeville, M. Arman, of Bordeaux, and several others. The Emperor expressed much interest for the object they had in view, and exhorted them to patience. General Bedeau and Dr. Lausedat have availed themselves of the amnesty and returned to France. The *Constitutionnel* on Tuesday in an article signed by its principal editor, in reply to the assertions of the English press, that the policy of the Emperor of the French left a state of political incertitude in Europe, states the aim proposed by the Emperor at the beginning of the war, compares it with the advantages gained by the war, and accuses the English journals of inconsistency. It is reported in Paris that the number of the expeditionary force to China has been reduced from 14,000 foot and 1000 horse to less than half that amount. The great cost of transport is mentioned as the cause of this reduction. Admiral Larrieu is about to hoist his flag on board the ship-of-the-line Duguay-Trouin, and to sail for the South Seas. The 10th of next month being the 100th anniversary of the birth of Schiller, the Germans residing at Paris have resolved to celebrate it by a *fête*.

SPAIN.—Accounts from Madrid state that the reply of Morocco to the guarantees demanded by Spain not being of a satisfactory character, a Council of Ministers, presided over by the Queen, was held on the 20th inst., at which war with Morocco was unanimously resolved on, and that her Majesty offered, if necessary, to give a certain sum from her civil list towards the expenses of the war, and even to make over all her private patrimony. On Friday General O'Donnell announced at the sitting of the Cortes that the Government had ordered its representative at Tangiers to take his departure; and on Saturday he further announced that the Government was about to declare war with Morocco. This declaration was received with great enthusiasm, and all political parties in the Senate and the Congress have since offered their support to the Ministry, and the articles of the newspapers express the same feelings. The Spanish Consul at Tangiers arrived at Algesiras on Wednesday with all his household. Reports had been current that the English Ministry had used very strong language in order to deter Spain from undertaking the expedition, but the *Espana* on the contrary asserts that nearly all the foreign ministers, including the representative of England, had called on the Minister for Foreign Affairs to express the opinion that the war with Morocco was a just one. It is asserted that the Ministers have stated that they will not have recourse to a loan, and that the floating debt will not be augmented but the taxes increased. Lord John Russell has directed the Under-Secretary of State to send the following despatch to the British Consul at Alicante relative to the recent proceedings of the Spanish ecclesiastical authorities at Denia:—

"I am directed by Lord John Russell to acknowledge the receipt of your letter of the 29th ult., inclosing a statement received by you from Mr. G. Graham, relative to a demand which had been addressed to him by the parish priest of Denia,

n the province of Valencia, requiring him to disinter the body of his child, which had been buried in the Protestant cemetery; and I am to acquaint you that the British Consul at Alicante having, in consequence of the representation made to him by the British Vice-Consul at Denia, brought Mr. Graham's complaint before Mr. Buchanan, the British Minister at Madrid, Mr. Buchanan has addressed to the Spanish Minister for Foreign Affairs a formal remonstrance against the proceedings of the ecclesiastical authorities in this matter. Lord John Russell has approved of the steps taken by Mr. Buchanan for the protection of Mr. Graham, and has instructed him to use every endeavour to secure that gentleman from molestation on the part of the ecclesiastical authorities."

SWITZERLAND.—Count Colloredo, the Austrian plenipotentiary at Zurich, was attacked with apoplexy on Friday morning. Four physicians were immediately called to his aid, but he could not be restored to consciousness and died on Wednesday morning. A telegraphic despatch from Zurich states that Count Karoly is expected there to take the place of Count Colloredo in the further negotiations.

AUSTRIA.—A Ministerial crisis has occurred at Vienna. Baron von Hübner, Minister of Police, has tendered his resignation, which has been accepted, and Baron Thierry, Ministerial Councillor in the department for Foreign Affairs, has been appointed his successor. The retirement of General and Aide-de-Camp Count Grünne is also announced. It has since been reported that Baron Bruck, the Minister of Finance, has tendered his resignation, and the funds have fallen in consequence. The new Minister of Police has summoned the editors of the different newspapers to his office, and has notified to them in a friendly manner that the Ministerial programme of August last has been modified. The Archduke Albrecht has returned from Warsaw, where he had been sent to arrange a meeting between the Emperors of Russia and Austria. The Emperor of Russia is said to have intimated to the Archduke that he would not touch the Austrian territory, or be able to have an interview with the Emperor of Austria

PRUSSIA AND RUSSIA.—The Prince Regent left Berlin on Sunday morning for Breslau, accompanied by Prince Frederick William, Prince Albrecht, the Minister for Foreign Affairs, the Minister of War, and many councillors of the Foreign Office, to have an interview with the Emperor of Russia at Ohlau. The Emperor arrived at Breslau on Monday morning, accompanied by the Grand Duke of Saxe-Weimar and the Prince of Orange. A grand reception took place at the railway station. His Majesty left Breslau on Monday night, and the Prince Regent left on Tuesday morning. A great political bearing is generally attributed to this meeting, and a very general impression prevails that the Czar and the Regent have agreed not to oppose the annexation of Central Italy to Piedmont. A deputation from Tuscany, entrusted with a mission to Prussia and Russia, has had an interview with the Prussian Minister for Foreign Affairs, but the Government journals state that the interview was strictly private and not official, as the Tuscan Government has not been recognised by Prussia. The Berlin police have refused to allow a proposed torchlight procession in honour of the centenary of Schiller.

ITALY.—A despatch from Turin states that the Minister of Justice has tendered his resignation, on account of the Court of Cassation being transferred from Turin to Milan. Several Deputies held a meeting on Tuesday to solicit the Government to accelerate the armaments and to pursue energetically the work of uniting Central Italy. Considerable excitement is said to prevail in Piedmont on account of the conditions of peace, which are considered unsatisfactory. The state of the Duchies is also represented as very alarming, and it is said that Marshal Vaillant has written to the Emperor suggesting their occupation by French troops, or that a civil war will shortly break out. The official *Piedmontese Gazette* publishes a decree authorising the minister of Finance to contract a loan of 100,000,000fr. by means of alienation of Rentes on the public debt to that amount. Count Rogier, Minister of Belgium, has arrived at Turin. Mazzini has subscribed 200 francs to the Garibaldi fund for purchasing a million of muskets. The Austrians have evacuated five cantons of the district of Gargnano, on the Lago di Garda. The enthusiasm of the inhabitants is very great. The Duchess of Parma has had a funeral service performed at Rappenschwyl, on the occasion of Colonel Anviti's murder. Accounts from the Romagna deny the report that the Bishop of Rimini has been imprisoned, and that the authorities at Pesaro have seized letters from emissaries exciting to rebellion the provinces now held by the Papal troops. It is reported at Turin that some Austrian and Neapolitan steamers have landed troops at Ancona, that both Naples and Austria have despatched troops against the Romagna, and that the Austrian Government has contracted for supplies of provisions, to be delivered within 24 hours after notice, at such places as shall be then indicated. The interview between the Pope and the King of Naples has been adjourned. His Holiness has despatched Monsignore Talbot to the Court of Naples to explain the cause of this adjournment. Conferences have been held between the Pope and the Duke de Gramont, on the subject of which complete secrecy was observed; but it is stated that the ordinances for granting administrative reforms are now ready, and will shortly be made public.

TURKEY.—Advices from Constantinople to the 19th inst. state that four chiefs of the late conspiracy have been condemned to death—namely, Hussein Pasha, a mufti, a colonel, and an individual who was to have killed the Sultan. These condemnations had provoked a ferment among the populace, and direct threats of revenge had mysteriously reached the palace of the Sultan. The executions have consequently been delayed. The Sultan has written a letter to the Ministers reproaching them for allowing the reforms to remain incomplete. Kibrisli Pasha has taken office as Grand Vizier. He was formerly a pupil at the College of Saumur, in France. Modifications of the Cabinet are expected. All the conditions under which Kibrisli Pasha stated that he was willing to enter the Cabinet were accepted. The Montenegrins have begun again to commit great atrocities against the Turks; the members of the commission for the settlement of the boundary question escaped them quite by chance, but have since been obliged to secure their safety by leaving the country. A conspiracy has been discovered at Aleppo, and arrests have taken place. One of the daughters of the Sultan, the bride of Mahmoud Pacha, has recently been confined of a son, who was immediately strangled in accordance with the old State rule in Turkey which guards by the shortest method against the dangers of a disputed succession.

EGYPT.—Accounts from Alexandria to the 19th inst. state that after the Viceroy had communicated to the Consuls the resolution respecting the Suez Canal, they resolved upon notifying to their countrymen who are employed on the works at Suez to leave the place before Nov. 1, the Porte henceforth assuming the responsibility of the undertaking towards Europe.

INDIA.—A telegraphic despatch has been received in anticipation of the Calcutta mail of Sept. 23. The Licensing Bill has been read a second time, and referred to a select committee. Indignation meetings have been held at Calcutta to protest against the Bill, and to petition Parliament to establish local representative councils in India. At the same time the European merchants protest against the necessity of making returns; the native traders protest against taxes altogether, and threaten to close all their shops the day on which the tax is levied. The Governor has despatched 1500 men from Bombay against the rebellious Waghers. The Rohillas in the Deccan continue to commit acts of brigandage. It is intended to send an expeditionary corps against the bands of robbers in Central India, and against the remaining insurgents in the Terai. Oude is tranquil; 300 of the 450 men who had escaped from the prison of Mundleseer have been caught again. The frontier districts of Nepaul are still occupied by the Nana and his followers, but it was reported that the Nana was dying of Terai fever, and that Azim-ulla-Khan was dead. Feroze Shah has had a narrow escape from being captured by a field force under Colonel Nott, which had left Saugor in pursuit of him. Rao Ram Buksh, talookdar of Doondeah Khera, has been captured, and is to be tried for the murder of the few survivors of the Cawnpore massacre who took refuge in the temple. Rajah Jyelall will also be tried as aiding and abetting in the murder of Miss Jackson, Mrs. Green, and others. A Sealkote Faqueer, Hubeeb Shah, has been hanged at the Lahore District Gaol for treason and imposture. He had proclaimed himself the ambassador of the promised prophet, and offered a price for the head of every Christian. His body was afterwards burnt. A meeting has been held at Cawnpore, at which it was resolved that the "Memorial Church" be built on or near the site of the present church of St. John's, which is very near "Wheeler's Intrenchment," the church to be under the care of the Government, and, like all station churches, to be supplied by the chaplains of India, under the direction of the Bishop of Calcutta.

CHINA.—Accounts from Hong Kong to Sept. 12 state that the American Ambassador had returned from Pekin without having obtained the ratification of the treaty at that city. The ratification had taken place by commissioners at Pehtang. The steamer Thebes, which had been hired by the French, was wrecked on the passage between Hong Kong and Turon. Letters from the squadron state that the crews of the various ships are suffering severely from ophthalmia. The Chesapeake is said to have 200 on her sick list from this cause alone, and one of the vessels is named as having the whole of her crew without exception suffering from the same cause. Admiral Hope is stated to be recovering his health, but unable to move across his cabin, and has to be carried whenever necessary to do so.

COCHIN CHINA.—The following unpleasant news appears in the *Journal de Débats*:—

"Our last accounts from Cochin China announce that Vice-Admiral Rigault de Genouilly and the troops under his command, exhausted by disease and fatigue of every description, which incapacitated them from pursuing their operations, were preparing to abandon Tourane and return to China. The Admiral proposed to retain the position he occupies at Saïgon, and which combines the best conditions of defence and salubrity. Rear-Admiral Page had not yet arrived."

UNITED STATES.—Accounts from New York to the 17th inst. state that a fearful insurrection has taken place at Harper's Ferry. The negroes seized the United States arsenal, and sent cartloads of muskets into Maryland and elsewhere. The railway trains were stopped and the telegraph wires cut. The object of the outbreak was unknown. The Government at the latest accounts were sending troops from several points. The Washington papers state that Lord Lyons has submitted to the American Government a proposition for a settlement of the San Juan difficulty. They say:—

"The paper submitted by Lord Lyons was a proposition for a settlement of the dispute, as the Treaty provides no remedy in case of a disagreement between Boundary Commissioners. The treaty being thus exhausted, the parties are thrown back on first principles, and England now submits a programme for an adjustment of the difficulty, in which she claims the island of San Juan. Secretary Cass has returned his reply to this proposition, declining in the most positive terms to recognise so much as the shadow of title on the part of England to the disputed island. This is the present condition of the question, and it remains for England to take the next step, as we hold possession. This turn in affairs is regarded as very serious by our Government, and the result, whether it be peace or war, depends entirely upon the tenacity with which Great Britain holds to her pretended claim."

The New York papers, alluding to the assistance given by the American Commodore to the British on the Peiho, say that a communication has been received from the British Government, through Lord Lyons, requesting that their acknowledgments may be conveyed to Mr. Ward and Commodore Tatnall, for their friendly conduct at the affair of the Peiho. The recent filibustering expedition appears to have had a most inglorious termination. On their arrest the company claimed that they had only gone down to the South-west Pass on a fishing excursion. The United States' officers, after bringing them up to New Orleans, confined them in a guardhouse where there were no guards, and the followers of Colonel Anderson and Captains Maury, Fayssoux, and Scott deliberately walked off, while these leaders were each held to bail in the sum of 3000 dollars. It was reported that the collector at New Orleans had discovered a secret receptacle in the hold of the steamship Philadelphia containing boxes of muskets, which it is supposed had been shipped at New York. The duel at San Francisco on the 13th ult. was fought between Senator Broderick and Judge Terry, Chief Justice of the Supreme Court of California. Mr. Broderick fell mortally wounded at the first fire, and Judge Terry has been arrested. The public were highly incensed at the fatal result to Mr. Broderick, and his funeral was the most imposing ever witnessed in San Francisco. The Philadelphia cricket match has resulted in the success of the All Englanders, with only three down in the second innings. Parr was unable to play owing to a blow on his arm. The All Englanders had promised to revisit America next summer.

BRITISH COLUMBIA.—Accounts from Victoria to the 7th September state that the United States troops on San Juan were throwing up a fortification on the summit of a hill below the Hudson Bay Company's station. The Oregon papers of the 10th publish a reply by General Harney to Governor Douglas's letter of August 30, in which he accepts the Governor's explanation as an apology for his past conduct, but declines to withdraw his troops from San Juan until the pleasure of President Buchanan is known on the subject.

HAYTI.—A conspiracy against the new Government broke out on the 10th September, the first act being the murder of President Geffrard's daughter, who was shot dead with the view of attracting the President to the scene of the crime, and then assassinating him. About 50 of the conspirators have been arrested, and many of them have been found to be persons who aided in the overthrow of the Emperor Soulouque. It was not believed that any great number of them would be condemned to death.

## Public Addresses.

THE CHANCELLOR OF THE EXCHEQUER, at the banquet given to the Directors of the Great Eastern at Holyhead, spoke as follows on financial affairs:—

"I am quite aware that the office which I have been called upon to hold is one of the deepest interest to you; for upon the manner in which my duties are discharged depends much that belongs to your prosperity, happiness, and comfort. Let me, however, on this, as on every occasion, remind an English company that the manner in which that office is to be discharged itself depends not so much upon the individual who holds it as upon the sentiments that animate the mass of the people. If the mass of the people are disposed to adhere to principles of thrift and economy in the administration of finance, then it is alike the duty and the pleasure of the Finance Minister to become their instrument and organ in giving effect to those principles. But if, on the other hand, whether through an increase of wealth, a long continuance of prosperity, an apprehension of danger, or from whatever other cause, a change passes upon the temper of the public mind, and we find at every turn a prevalence, not of the sentiments which governed the Administrations in succession of the Duke of Wellington, of Earl Grey, of Sir Robert Peel, and of Lord Melbourne—but a disposition to recommend right and left the largest effusion of public money for every object of utility—then, I must tell you, and I must tell the English public, that it is vain to look to a Chancellor of the Exchequer to confront such a tide of feeling. He may do what he can to control it, but this is a country of which it is, in some respects, perhaps the danger—but upon the whole the safety and the glory—that it is governed by its own convictions, and that the manner in which the public wills affairs to be conducted depends not upon the inclinations or the abilities of any individual, but upon the tendencies and the convictions of the people of England themselves, and therefore the person who may fill the office that I hold at this moment is an insignificant item altogether in the administration of your affairs. That which really determines his course and conduct is what is felt by the mass of the people, and what is felt by those enlightened and really governing classes of the community whom I now have the honour to address. Let me say, in a very few words, that in my opinion the position of a public man in England, although it may be one in many respects of care and difficulty (for we have a vast, and perhaps too vast, an empire to administer), but it is in many other respects a position of singular felicity, for we serve a Sovereign whom it is a delight to serve. And if in her we have a noble mistress, we have likewise a noble master in the British nation. I have to propose to you that you should drink 'Prosperity to the trading and manufacturing interests of this country.' That prosperity has little to do with my own personal existence, but it has a great deal to do with my official existence, and the comfort of my official existence, I have lived long enough to know very well, depends upon the condition of those interests. I

venture to tell you that the last quarter's revenue presented a return the most satisfactory that we have witnessed for many years, and, if you ask me why, I apprehend that it was in a very great degree owing, mainly owing, to the activity of trade, and that activity of trade was in a very great degree founded upon the great moderation of the prices at which the people are obtaining their provisions. Gentlemen, we have lived in a time of varied and diverse character—a time in which much has occurred that may be of a doubtful character, but in which upon that very account the mind rests with the greater comfort and satisfaction upon all those circumstances that betoken and that demonstrate real progress and advancement in what concerns the interests of mankind, and I do not believe that in the whole history of the world an instance can be found either of an age or of a people, in which it has been graciously conceded to a legislature to do so much for the benefit of the people committed to its charge as has been given to the British Parliament, in the age in which we live, by the changes that it has circumspectly, wisely, but boldly and effectually introduced into the whole of our commercial regulations. I am old enough to recollect when the largest ship that sailed out of Liverpool for a long sea voyage over the Atlantic was about one-fortieth part of the size of the Great Eastern now floating on your waters. It has been said that the age of chivalry is gone; but there is something even of chivalry in the manly resolution in which the projectors of this great scheme have chosen to confront risk and difficulty, and to see whether they cannot achieve something not only greater, but far greater than has been yet dreamt of, through the medium of a ship, on behalf of their country and of mankind, for there cannot be a doubt that if success is to attend that enterprise much will have been achieved both for their country and mankind; as upon the other hand, there cannot be a doubt that if success is to be withheld or to be delayed, even failure in such an undertaking can entail no discredit. Now, there has been comment made upon the treatment by the House of Commons of railway companies, and no doubt that is a subject which the historian will have hereafter to discuss. Some believe that the House of Commons is in fault; some say that the railway companies are in fault. I, for my part, especially at a moment like this, consecrated to festivity, should be exceedingly sorry to imply that anybody is in fault. But, however that may be, there are certain facts on record, and there is this great fact on record, that three or four hundred millions of money have been laid out upon railway enterprise in this country; that the outlay of these three or four hundred millions of money has produced an enormous benefit to every interest in this country, with the exception of one; and, not confined within the bounds of this country, has, on behalf of every country in the world, solved the whole problem of its internal communications, and shown them the way in which they ought to walk; so that, in fact, we have paid the cost of all the errors and the blunders which they must have committed in the endeavour to attain experience for themselves. Inasmuch as that is undeniable—and I must confess that I think it a matter of regret that that being the case the average return on railway capital up to the present moment is so low—I lay no blame upon anybody; but I am firmly convinced that in an enterprise of this kind, novel, and, therefore, necessarily, in one of its aspects, speculative, it would have been much better, not only for the shareholders, but for the country at large, if a more liberal return had been realised upon the capital return laid out than it has been the good or bad fortune of shareholders to receive. Dr. Johnson, I think, says that whatever induces a man to live more in the future and less in the present exalts him in the scale of the creation. If that be so (and I am inclined to believe it is so) the position of the railway shareholder must be an exalted one. The past undoubtedly has not smiled upon him—the present has no extravagant attractions. If he really expects any very great things they must lie in the future; and it is an additional comfort to him, therefore, to know that looking to the future he is by that very fact elevated in the scale of nations. I confess to you that I regret upon another ground the comparative slenderness of the return on railway capital—a fact which is full of curious interest; for I do not believe that there is another like it upon record, namely, of a great social, commercial, economical change introduced into the world by private interest, and without the advantage of a great and immediate premium to the projecture. But, however that may be, I am sorry to say that, in my official capacity, and as one who I am not ashamed to say feels a great interest in the economical administration of public funds, I do think that the lowness of the return upon capital invested in our days has had some not inconsiderable effect in producing a tendency of the public mind, which in this country is in a great degree novel, and which, I do not hesitate to say, is in a great degree mischievous, namely this, that when there is a question of enterprise to be achieved, of some useful object to be attained, immediately and along with the first suggestion there occurs to the mind of the parties an assault upon the public purse. I do not know in what degree I am entitled to ask your sympathy in that matter: but I must confess that I do believe that the principle upon which we have long acted in this country—although we have greatly departed from it of late years—namely, the principle that the assistance of Government should never be had for private enterprise, unless under circumstances of rigid and extreme necessity—is a principle alike sound with regard to finance, with regard to the security of your institutions, with regard to the purity of the public character, and with regard to the maintenance of that spirit of enterprise, of boldness, I will say of daring, which at all times, and alike in peace and in war, has been characteristic of Englishmen. Under these circumstances, I am not prepared to make any distinct answer to the appeal which has been addressed to me on the subject of the liberality of the House of Commons, and the expenditure of money upon harbours. Harbours, no doubt, are exceedingly useful—admirably useful. They serve the most valuable purposes; but with regard to the sources from which the funds are to proceed by which the construction of these harbours all round our coasts is to be provided for, upon that subject I pray your permission to maintain a judicious silence on this occasion. In conclusion I venture to assure you that I have at least this qualification to ask you to drink as a toast the prosperity of the trading and manufacturing interests of this country—that my own life and exertions are cordially devoted to that object—that amidst all the difficulties of politics, amid all the vicissitudes and the disappointments of life, amid all the uncertainties that attend our speculations, I find a comfort and a satisfaction in thinking that it is in our power—if we will sedulously set ourselves about it by a judicious economy, and by enlightened legislation, to do something at least towards raising the condition of the masses of our fellow countrymen, and providing that there shall be some lightening of the burdens which human life entails upon the noble-minded artisans and peasantry of England."

LORD HATHERTON, in his capacity of Lord-Lieutenant of Staffordshire, attended the recent inaugural dinner of the Handsworth Volunteer Riflemen, and spoke as follows on the national defences:—

"I believe it will be found in the next session of Parliament that the main question will be, not 'What do you think of this or that franchise?' but, 'What are your opinions about the defences of the country?' That will be the question of the next few years. I am sure I need not say anything in detail as to the actual condition of our army and navy; but I may cursorily observe with respect to the army, that such is its condition in organisation and substance, and such is its insufficiency of men, that if a sudden quarrel were to take place with our neighbours across the Channel to-morrow, we should not have a single man in the field if our garrisons were supplied in the way they should be. We should require 15,000 men for Plymouth, 10,000 for Portsmouth, and 10,000 for the Isle of Wight; besides these, we should have to man our lines at Chatham, and put smaller military forces into other garrisons, so that when all this was done we should not have a single man to place on the field. It is absolutely necessary that the truth should be spoken. Across the Channel a Government exists of which I say nothing, but of which we all know that secrecy is one of its elements, and that its power is immense. It can man a force, either on land or sea, at the shortest possible notice. We can do nothing of the sort. We can do nothing except by the operation of a Parliamentary vote; the votes once passed cannot be exceeded; and six or nine months may elapse before additions can be made. It is absolutely necessary, therefore, that the people should understand their position, and forego all minor or party considerations for the purpose of giving their representatives authority to do whatever may be necessary in their estimation for the defence of the country. I am old enough to remember when Lord Castlereagh laid it down that at no period could this country ever be safe unless it were able to put to sea at the shortest notice a fleet at least equal to that of any other two Powers. For a very short time a fleet of that description was maintained; but we know how it has dwindled away until at length the country has been excited by alarms, and we are now spending millions in restoring it to its proper position as a steam navy. Now, the navies of the two countries may be equal, but there is one point, I regret to state, in which we are inferior. I believe that France could now put into the Channel a larger fleet, in a shorter period of time, than it is in the power of England to do. Considering the vast resources of this country, the immense foreign possessions it has to defend, our vast wealth at home, and our great population, I say that if any disaster were to be permitted to befall this country by means of its navy it would be the greatest disgrace that ever fell on any country in the history of the world. I believe there is no effort that England is not prepared to make—there is no pecuniary sacrifice we would not submit to—for the purpose of avoiding such a disgrace. Consider what would happen if we had an equally balanced action in the Channel. We might be invaded at every point, and a large army might take the field while we have such inadequate resources to meet it. Or even if our navy sustained disaster and defeat it would not be necessary for France to invade England. We should be already conquered. She could blockade our ports; she could prevent the entrance of food or raw material. If she were mistress of the Channel for a few months she would be mistress of half the world. Therefore it is that the influence of the represented should be brought to bear upon the representative, in order that the House of Commons may see it is your desire that the honour of the country should be protected. Do not let it be supposed that I at all undervalue the volunteer movement. I understand, on the authority of the very best officers—those who have had the largest experience—that, carried on as it is now, it cannot fail to render the most important services to Government in the case of sudden danger. The volunteer artillery will enable Government to dispense with a vast number of troops in our garrisons that must otherwise have been detained; and I believe that, even with the restricted discipline which can only be maintained by solitary companies, yet that connected with regular troops they might be made available in a short time for most important services. This is the opinion of Sir John Burgoyne—a person of the highest authority. But I hope that a good deal more than this may be done. We must have a considerable increase of the army, or the militia must be made more effective. There is no sufficient reason why the old constitutional resource of the ballot, with a modification suiting it to the altered circumstance of the country, may not still be resorted to. I would suggest that an Act of Parliament should direct the lord-lieutenants and the deputy-lieutenants to assemble yearly for the purpose of determining in which parishes the ballot should take effect, and which parishes should be exempted. I would have the latter parishes assessed to their quota of men, and if they declined to raise them by such means as they found available, I would have them assessed to such amount in money as a body of commissioners might declare. As to the permanent expense which must be incurred by the country for the purpose of putting the army and navy on a good footing, I hope the country will be induced to look at the subject in the light which Lord Lyndhurst, shedding on it the last rays of his lengthened wisdom, regarded it last session—as an insurance for the purpose of protecting us from a possible necessity, instead of having to add, by a prolonged struggle, 200,000,000*l.* or 300,000,000*l.* to the national debt."

MR. BLACK, M.P., on Saturday delivered a lecture to the working classes of Edinburgh on wages, trades' unions, and strikes, of which the following is an abstract:—

"Labour and capital are both articles of commerce, and are essential to each other, and capital must necessarily and proportionately share with labour the profits of their united enterprise. There are means by which working men, when the moment was opportune, might obtain higher wages. Instead of organising a determined contest, if workmen were to threaten to leave, or actually to leave their masters, unless their demands were agreed to (but without obstructing or intimidating others), if circumstances warranted a compliance with their terms some masters would agree to them, and others would be obliged to follow their example, as otherwise they would lose their best men. But if already wages had reached their proper level, and masters could not carry on their works with a fair profit if a larger proportion was paid in wages, the resistance to the demand would be so general that the workmen would find it to be their interest to accept the largest wages that could be mutually agreed upon. This would accomplish the same object as a strike in every instance where a strike would have naturally been successful, without the disastrous consequences which uniformly attend these intestine wars. Thus, in the prosperous summer of 1836, the spinners in Glasgow memorialised their masters for a rise in wages, trade being brisk and profits large. The manufacturers were desirous to increase their trade, and there was a competition for workmen. The advance was therefore readily agreed to. But by and by came the commercial crisis of January and February, 1837, and prices fell so much that the masters could not sell with a profit at the advanced rate of wages, and therefore they proposed that their wages should be restored to the former rate, which was from 36*s.* to 26*s.* a-week. The workmen, however, thought that, contrary to the nature of things, wages should be kept up at the same rate in a period of depression as in times of great prosperity. They struck work in a body on the 8th of April, and continued till the 5th of August, a period of 17 weeks, when they unanimously agreed to return to their work on terms lower than those first offered by their masters, after having endured extreme sufferings themselves, and caused wide-spread misery among others through this insane strife, which a knowledge of the laws that regulate wages would have prevented. The number of spinners in Glasgow in 1837 was between 800 and 900; each of these gives employment to a certain number of women and girls, about seven for each spinner—thus about 5000 women were deprived of the means of livelihood through the folly and perverseness of those who ought to have known better. It was calculated that the total loss to Glasgow during this strike was 194,540*l.* No doubt combinations of workmen have been legalised by the Act of 1825, and very properly so. But if workmen may combine to fix prices and resolve upon the conditions on which they will dispose of their labour, even-handed justice requires, and the law provides, that the same rights be accorded to the employers. They may unite to lower the rate of wages and to agree on the conditions on which they will engage workmen. If the workmen may legally have recourse to a strike to compel a rise of wages, or any other concession, the employers may also legally resort to a lock-out to compel a reduction of wages, or an acceptance of any other terms. When I say this, I by no means approve a lock-out. Both may be legal, but very inexpedient, and it is very dangerous for either the one party or the other to exercise this extreme power. It is like the power of the House of Commons to stop the supplies—a power which may be held up *in terrorem*, but which is never exercised. When such intestine contests occur they are accompanied with most of the evils that attend national wars. The country which is the theatre of the war is devastated, property is destroyed, multitudes of innocent persons suffer, the belligerents on each side endeavour to do as much damage to the other side as possible, disease, and crime, and death, follow in the track of war, and, after disaster has done its worst to both parties, very often, from sheer exhaustion, they patch up a peace which leaves both parties in much the same condition as they were before the beginning of the conflict. Such is the usual course of these unhappy internecine contests, which are as disastrous within their own bounds as the wars of nations within the territories of the belligerents. Both parties strive to destroy the property of the other—the workmen try to reduce the employers to bankruptcy; the employers try to starve the workmen into obedience. Multitudes who take no part in the strike, but desire to remain at peace, are thrown out of employment. Wives and children are reduced to beggary, crime becomes more rampant, and disease and death thin their numbers. This was all painfully illustrated by the great strike of the colliers in Lanarkshire, Renfrew, and Stirling, in 1837. According to Dr. Cleland, the loss inflicted on the innocent inhabitants of Glasgow and the surrounding districts by the increase in the price of coals from the 1st of March to the 1st of November, 1837, was 487,000*l.* The loss sustained by the colliers themselves, from stoppage of wages for 26 weeks, was 78,000*l.* The loss occasioned to others by the strike, although most of them were opposed to it, was 111,000*l.* The total loss was 678,000*l.* As national wars are accompanied with rapine and crime these strikes partake of similar atrocities. The number of persons tried in jury courts in Glasgow in 1837 rose from 114 to 392; the number of fever patients in the Infirmary rose from 269 to 3860; the number of deaths rose from 4647 to 10,888—thus showing that these intestine wars are far more destructive comparatively than the great wars between nations. We have a melancholy instance of the intense suffering which must often be endured by the numerous victims of these strikes in the case of Daniel Locke, a plasterer, who lately committed suicide in London, leaving behind him a paper containing these words:—'The strike! the ruinous strike! God protect my unfortunate family!' The rash act of this unhappy man has been made public, but who can tell how many innocent victims of the pride and folly of others weep in their desolate homes unheeded and unseen? Then again there was the recent attempt to coerce a firm at Coventry, where the workpeople of the firm, who were satisfied with certain proposed changes, were so maltreated and intimidated by the operatives' society that the police had every night for more than a month to escort them from the factory to their own doors. It must also be remembered that strikes invariably have the effect of raising up foreign competition, and of thus inflicting serious injury on the entire trade of the country. The proceedings of combined workmen are now happily unaccompanied by criminal violence and outrage. But it is not by illegal violence alone that personal liberty may be encroached upon; there are other means of intimidation that may be as effectual or even more so. The Pope by the threat of excommunication was able to control the most powerful Sovereigns. A similar threat is one of the most effective instruments in the hands of the committees of the unions. When they order a strike, he would be a bold man who would preach the right of private judgment, and act upon it in opposition to the commands of the secret committee. He would not only be shunned by all his companions, but reproached and denounced as a snob, a knobstick, as unfair, and insulted in other opprobious terms. By cajolery, molestation, and threatening the combined leaders strike a general terror into the whole community. In most of these contests I have no doubt there are many who, in their own minds, are satisfied that they are unnecessary and ruinous, but are as much afraid of stating their convictions and acting upon them as men who live under the nightshade of the Inquisition are afraid of professing their faith in the light of private judgment, lest they should be persecuted for heresy. Most men would rather suffer at once some severe loss than submit to the continued isolation, suspicion, and malignity of their fellows. Where such a system of terrorism prevails there can be no liberty—the best energies of men are cramped, and their rise in life rendered impossible. The liberty of both workmen and their employers is often arrogantly encroached upon by rules imposed by the union. One of these prohibits masters to take a certain number of apprentices, though the boys are sons of workmen, and it is workmen who barbarously doom them to idleness, in order to secure a monopoly of the trade, by preventing an increase of workmen. Another way in which unions encroach on the rights of both masters and men is, their dictation of the manner in which work is to be executed. From the nature of these rules, they appear to be devised by the most idle and unskilful men of the union, as they generally favour these at the expense of the industrious and skilful. For example they insist that the wages shall be uniform; that the man whose work is superior in quality and quantity shall receive no more than the man whose work is inferior and deficient. I have known operative masons, industrious, frugal, and skilful, who, by taking piecework and making extraordinary exertions, gained money enough to enable them to commence as masters, and, by good management, rise to great eminence. Had these men been doomed to the dead level of an average wage, cramped and manacled by trade union rules, they never could have reached their eventual prosperity. The noble workmen, George Stephenson, Telford, and Tredgold, laboured as journeymen at not more than 12*s.* a week. They, by the exercise of their free and unfettered talents, increased the power of the country, and added immensely to its wealth and happiness; had they been fettered and confined by trades' union rules and control they would have died unknown and unhonoured, and Britain would have been deprived of the incalculable benefits resulting from their exertions. The consequence of these frequent interferences between workmen and their employers has been that masters have stimulated men of mechanical genius to invent machines which do the work of hundreds of men, and never combine. But, could the operatives have had their way, the nation would have been deprived of the incalculable benefits which these inventions have conferred upon the community. There would have been no power looms, no spinning-jennies, no steam printing press, no boot-closing machines—in short, almost every invention which has abridged labour and increased the comfort and wealth of the people has met with determined opposition from the operatives. One wonders how sensible men—men calling themselves free-born Britons—have so long submitted to the dictation of this secret tribunal. We are accustomed to laud free national constitutions, but

freedom to act in all social relations in such a way as will be most conducive to a man's own happiness, uncontrolled either by prince or priest, or by any committee of his own trade, is the most invaluable of social privileges. Britain has experienced the blessings of free trade, and I hope and believe that our countrymen are determined to resist every attempt to deprive them of this source of national prosperity, and will guard it with the greatest jealousy."

## City Intelligence.

Money Market, Friday.—British Funds: Consols closed at 95⅛ for Money, and 95⅛ to 96 for the 8th November; Bank Stock, 225; Three per Cents. Reduced, 94⅜ to ½; New Three per Cents., 94⅜ to ⅝; India Stock, 222 to 224; New Indian Loan (stock), 102⅝ to 103⅛; Ditto Scrip, 103; Four per Cent. Debentures of 1858, 96½; Ditto 1859, 96½; India Bonds, par to 4*s.* prem.; Exchequer Bills, 27*s.* to 31*s.* prem.—Foreign: Brazilian Old Five per Cents., 102¼; Mexican Three per Cents., 21¾; Ditto for Acct., 22; Russian Three per Cents., 1859, 67½; Sardinian Five per Cents., 86 to 86½; Spanish New Deferred Three per Cents., 32⅞ to 32⅝; Turkish Six per Cents., 1854, 77¼ to 78; Ditto for 1858, 66¼ to 66⅝; Ditto Guaranteed Four per Cents., 103.

## Bank of England.

ISSUE DEPARTMENT.

| | | | |
|---|---|---|---|
| Notes Issued | £30,781,300 | Government Debt | £11,015,100 |
| | | Other Securities | 3,459,900 |
| | | Gold Coin and Bullion | 16,306,300 |
| | | Silver Bullion | — |
| | £30,781,300 | | £30,781,300 |

BANKING DEPARTMENT

| | | | |
|---|---|---|---|
| Proprietors' Capital | £14,555,000 | Government Securities (including Dead Weight Annuity) | £10,875,157 |
| Rest | 3,123,214 | Other Securities | 18,093,163 |
| Public Deposits (including Exchequer, Savings Banks, Commissioners of Nat. Debt, and Dividend Accts.) | 5,590,545 | Notes | 8,547,830 |
| | | Gold and Silver Coin | 612,251 |
| Other Deposits | 13,921,452 | | |
| Seven day and other bills | 940,190 | | |
| | £38,128,401 | | £38,128,401 |

27th day of Oct, 1859. M. MARSHALL, Chief Cashier.

## Gazette of the Week.

TUESDAY—BANKRUPTS—W. R. Baxter and F. G. Baxter, Birmingham, Curriers and Leather Merchants—E. W. Biaggini (trading under the style of E. Biaggini and Co.), Huggin Lane, City, Warehouseman and Dealer in Fancy Goods—W. A. D'Arcy, Alpha Road, Regent's Park, Dealer in Horses and Carriages, Commission Agent—J. Ellis, Nottingham, Victualler and Lace Maker—W. Goode, the younger, Great Bowden, Leicestershire, Cattle Dealer—J. Hawker, jun., Padstow, Cornwall, Merchant and Maltster—W. Machin, Burslem, Staffordshire, Merchant—J. C. Morgan, Ann's Terrace, Cambridge Heath, Hackney, Builder—A. Payne, Grove Terrace, Queen's Road, Bayswater, Poulterer and Cheesemonger.

SCOTCH SEQUESTRATIONS—A. Hood, Inverness, Baker—J. Lawson, Beggar, Merchant—J. Macdougall, Kilmore and Kilbride, Argyleshire, Farmer—D. Shiach, Elgin, Grocer—J. Turner, Lockelbie, Farmer.

FRIDAY—BANKRUPTS—W. Arthur, Leicester, Draper—R. Brown, Great Driffield, Yorkshire, Brewer—S. Davidson and A. Kanter, St. Mary Axe, City, General Merchants—G. Freeman and H. B. Wrixon, Bienheim Street, Oxford Street, Lead Merchants—W. Gray, Ipswich, Grocer—T. Jackson, Cannon Street, City, Contractor—W. Moore, Leicester and Apsty, Shoe Manufacturer—W. J. Scribben, Plymouth, Butcher—J. H. and W. R. Smith, Bristol, Publicans.

SCOTCH SEQUESTRATIONS—D. and A. Bennett, Dumbarton Road, Glasgow, Grocers—J. Rogers, Edinburgh, Solicitor Supreme Courts of Scotland.

## Metropolis and its Vicinity.

Destructive Gale.—On Wednesday last the metropolis and suburbs were visited by a gale of wind which raged with terrific violence nearly the whole day, and caused the loss of several lives, severe injury to many persons, and great destruction of property. The persons killed were either drowned by being blown into the river or canals, or killed by the fall of tiles and chimneys. Upwards of 60 vessels in the river were damaged, and on some of the railways the covered vans of the goods trains were unroofed, and the drivers and firemen were compelled to tie themselves to their engines. In all parts of the suburbs houses were unroofed, conservatories and greenhouses shattered, trees, shrubs, and even hedges were blown down and uprooted, and the roadways for several miles were strewn with broken branches. The gale was felt with equal violence on the whole range of the western, southern, and eastern coasts, causing excessive destruction of shipping and great loss of life. Nearly 100 vessels were wrecked, and it would fill many columns to give even a brief list of the disasters reported from the outports. The storm appears to have raged with unusual violence at Liverpool, Cardiff, Bristol, Minehead, Burnham, Falmouth, Plymouth, Torquay, Teignmouth, Dawlish, Exeter, Portland, Christchurch, Portsmouth, Brighton, Hastings, Eastbourne, Dover, Yarmouth, Shields, Hartlepool, &c. At most of these places houses were unroofed, and the sea rose so high as to cause great destruction of property in the lower parts of the towns. On the south coast of Devon the turnpike roads were in many places greatly injured by the overflow, and the South Devon railroad was broken in upon by the sea at four different points. On the Chester and Holyhead line also some portions of the rails along the Menai Straits were washed away, and some of the telegraph wires blown down.

Loss of the Royal Charter.—The most lamentable disaster which occurred during the gale of Wednesday was the wreck of this fine iron screw steamer of 2749 tons, belonging to Messrs. Gibbs, Bright & Co., on her voyage home from Australia to Liverpool, with the loss of 469 lives. She sailed from Melbourne on the 26th August, with 388 passengers, and a crew of 112 persons. While the ship was passing Queenstown, on Monday morning, 13 of the passengers landed in a pilot boat. On Tuesday she took on board in St. George's Channel 11 riggers who had been assisting in the working of a ship to Cardiff, and wished to return to Liverpool; so that there were on board at the time of the wreck 498 souls, and of these only 39 were saved. It seems that the ship passed Holyhead on Tuesday evening, and was keeping near the shore of Point Lynas, in the hope of meeting with a pilot when the gale came on. The captain, fearing to run for the Mersey in such a storm, hove-to, and having drifted to Dulas Bay, let go her anchors, keeping her screw working to ease the cables. A rescued passenger states that the vessel rode safely, burning blue lights and rockets, until her masts were cut away, when the screw ceased to work; the cables then parted in quick succession, and she went on the rocks at 2 A.M. on Wednesday, and broke up about 7. The probability is that the wreck fouled the screw. After she struck, a Portuguese sailor swam ashore with a hawser, by which two men were saved, and there was every probability of numbers more reaching land, when the vessel split amidships, and directly afterwards the forward portion divided longitudinally. The sea immediately swept away men, women, and children, and though some few passed by the hawser and some more were washed ashore from different portions of the wreck, the result was that only 39 were saved, and several of these were seriously hurt. Many bodies were subsequently washed ashore, and the rocks were strewed with sovereigns which the passengers had vainly attempted to save. The latest accounts state that the ironwork of the vessel is torn to shreds, the woodwork reduced to chips. The coast is strewed with wool, leather, bedding, and clothing, and the fields above the cliffs are covered with fragments, while the bodies which have been cast ashore are lying in the adjacent church; most of them frightfully mutilated. The bullion chest, which was substantially built of iron and secured to the framing of the ship, and is said to have contained gold to the value of 316,000*l.*, is supposed to have been shattered, from the fact of a gold box having been picked up with the address of a leading banking firm upon it. All the officers perished with the ship, and the last person seen alive on board was Capt. Taylor the commander, who maintained the most rigid order and discipline to the last, and had all the boats in perfect readiness for lowering had circumstances permitted. It was only two days previously, while the ship was off the coast of Ireland, that a sum of money was subscribed for a testimonial to Captain Taylor, and a purse was made up by the lady passengers for the Rev. Mr. Hodge, of East Retford, who zealously discharged the customary religious duties during the voyage, and offered up prayers with the passengers in the crowded saloon of the vessel after she had been driven ashore. The following is a list of the passengers saved:—

W. Moss, Thomas Gundry, H. Carew Taylor, saloon passengers. M. Meaton, second-class; Colin M'Phiel, third-class; John Judge, ditto; William John Ferris, ditto; James M'Capper, ditto; S. Edward Capper, ditto; William Bowden, James Dean, William Russell Bradbury (leg broken), Samuel Grenfell, James Russell, Carl Bartel (maimed), Hagan, John Noon.

The following are among the passengers drowned, but as the list is furnished from recollection by the surviving passengers it is necessarily incomplete:—

Mr., Mrs., and Miss Fowler; Mr., Mrs., Miss Murray, and three children; Mr. Walter Nugent, Mr. Grove, Mr. Molyneux, Mr. Moss, Mr. Tweddale, Mr. Grundy, Mr. M'George, Rev. Mr. Hodge, Mrs. Foster, Mrs. Fenwick and children, Mrs. Bruce, Mr. Gardiner, Mr. Pritchard, Mrs. Hutton, Dr. Hatch, Mr. and Mrs. Pilcher and two children, Mrs. Beams, Dr. Wright, Mr. Emery, Mr. S. J. Henry, M. La Forgue, Mr. Rufford, Mr. Welsh, Mr. Mellor, Mr. Watson, Captain Withers (who had lost a ship on the Feejee Island), Mr. and Mrs. Woodruff and two servants, Mr. and Mrs. Jenkins and four children, Mrs Nahmur (Consul's wife), Mr. and Mrs. Davies, two daughters, and a son, from Tasmania, and a captain who had lost his vessel through a collision with the Red Jacket.

The Builders' Strike.—This contest still continues, accompanied with indications that it is beginning to tell seriously against such of the men as persist in their refusal to resume work. The supplies from the provinces are falling off, and, with the winter setting in, the prospect for the men is very gloomy. The recent returns of the Registrar-General have shown that the mortality among the wives and families of the operatives in the building trades is excessive, and there is too much reason for believing that scores of innocent persons and young children are perishing from sheer want. At a meeting held on Monday night in St. Martin's Hall, Mr. Potter admitted that the dividend paid that day at the Paviours' Arms was smaller than usual, and a resolution was passed appealing to the public for support, the tone of the speakers inducing the impression that they themselves had not confidence in the continuance of pecuniary aid to the extent to which it has hitherto been given them. One of the leading members of the Masons' Society was summoned on Monday to the Clerkenwell Police Office on a charge of inducing a number of men to leave their employment; but some necessary witnesses being absent the hearing of the case was adjourned.

The Great Eastern.—The Lords of the Admiralty have given orders to the authorities of Portsmouth dockyard to lay down moorings for the Great Eastern off Fawley beacon, about four miles down the Southampton-water, where she will have plenty of room to swing freely at all times of tide. The ship is expected to arrive at Southampton from Holyhead early next week, but the impression that Southampton has been fixed on as the port of arrival and departure is incorrect. During the past week the Mayor of Bristol and other official persons connected with that port have been in communication with the directors of the company, with the view of inducing them to make Bristol the head-quarters of the ship. At an interview which took place on Friday Mr. Campbell, the chairman, said they had found that Holyhead was not conveniently situated for making the necessary alterations and that it was now intended to remove the Great Eastern to Southampton, and when she was ready for sea to send her on a trip in the Mediterranean. The question of the port to which she would return would depend entirely upon the result of inquiries as to their relative advantages in the meantime. From the fact of the number of shareholders in Bristol and that district, and the exceedingly favourable report which had been made of the accommodation which could be provided at that port, the Board would be most happy to take the Great Eastern to Bristol on her first return voyage, if, in the mean time, they received satisfactory evidence that Bristol could offer a harbour where she could go with safety, and where she would find those facilities which such a vessel would require.

St. George's in the East.—It appears from a letter read on Thursday at a meeting of the vestry, that the Rev. Mr. King, the rector, leaves to the bishop's decision only two points:—1. The hour of the lecturer's afternoon service. 2. The use of coloured stoles and the chasuble.

Church Rates in the City.—At the Guildhall Police Court on Tuesday, Mr. Tallent, bookseller in Paternoster Row, was summoned before Sir Peter Laurie to show cause why he refused to pay the amount of 17*s.* 6*d.* for a church-rate in the parish of St. Faith the Virgin, under St. Paul's. Mr. Tallent was unable to attend from illness, but his clerk handed in a formal notice from him, stating his objection to the rate, "on account of the Popish practices in the church," and his determination to contest its validity. It appeared from the statements of the churchwarden that the rector of the parish is Mr. Milman, son of the Dean of St. Paul's, who has introduced, at his own expense, the practice of intoning the service, but none of the parishioners attend the church, as they all live out of town. After some discussion Sir Peter Laurie said that they did not want any of the St. George's-in-the-East practices in the City, and Mr. Martin, the chief clerk, said that if the churchwardens would make a rate including only such items as the law recognised as necessary for the decent observance of public worship in the church, then they might come there and enforce their demand, but the application of the rate to other purposes was illegal, and any claim for a rate so applied could not be supported. The summons was then dismissed for want of jurisdiction, the churchwardens being left to their remedy in the Ecclesiastical Court.

The Vernon and Turner Galleries.—Mr. Ruskin has addressed a latter to the *Times* to relieve himself from any supposed responsibility as to lighting the pictures either of Sir Joshua Reynolds or Turner with gas; "on the contrary," he says, "my experience would lead me to apprehend serious injury to those pictures from such a measure; and it is with profound regret that I have heard of its adoption." He specifies the pictures of Reynolds and Turner because "the combinations of colouring material employed by both these painters are various, and to some extent unknown; and also because the body of their colours shows peculiar liability to crack and to detach itself from the canvas."

British Museum.—The Count de Salis has presented to the Museum his well-known collection of coins, consisting of 14 cabinets, containing altogether 7000 coins. The count, who has devoted many years of his life to the formation of this collection at an expense of about 5000*l.*, has offered his gratuitous services to the trustees to assist in arranging the collection.

Early Snow.—Accounts from the provinces state that on Friday night and Saturday snow fell in the North Riding of Yorkshire, on the hills and coast of Northumberland, in Lancashire, Cheshire, Somersetshire, Gloucestershire, and parts of Breconshire.

The Public Health.—The Registrar-General's weekly return states that the deaths in the week ending Saturday, Oct. 22, were 910, a number which is nearly the same as that of the previous week, but less (if allowance is made for increase of population) by about 200 than the average return for the third week of October in the 10 years 1849-58. During the week the births of 872 boys and 918 girls, in all 1790 children, were registered in London. In the 10 corresponding weeks of the years 1849-58 the average number was 1533.

## Provincial.

Bristol.—Lord Redesdale has addressed a letter to the Poor Law Board questioning the legal and moral right of the Bristol board of guardians to hire out female pauper orphans in a silk mill, at a long distance from the city. It appears that in June last 12 girls were hired to Mr. Smith, silk-throwster, of Blockley, in the Shipton-on-Stour Union, of which Lord Redesdale is the chairman. On this coming to his lordship's knowledge, he wrote to the Poor Law Board questioning the power of the guardians to hire the orphans under their charge to any such service. After dwelling upon the dangers to which the children are subjected by this "sort of infant slave trade," his lordship charges the Bristol guardians with merely considering the pecuniary saving to the union, instead of the good to the children.

Chatham.—The screw line-of-battle ship Irresistible, 80 guns, was launched on Thursday from this dockyard in the presence of many thousand persons, and is to be immediately supplied with her machinery and be got ready for sea. Another line-of-battle ship, to be called the Royal Oak, of 91 guns, is to be laid down on the same slip.

LIVERPOOL.—In consequence of the opposition of a large number of buyers in the Liverpool corn market to the use of the cental for all kinds of grain, a general meeting of the Corn Association was held on the 12th inst., at which two resolutions were proposed, by way of bringing the matter to a final issue. The first proposed simply to rescind the resolution of the 1st of February last establishing the cental as the common weight of the market. This was passed by a large majority. The second came from the original opponents of the cental, and proposed a return to the old system. But this was at once negatived by a large majority. The result therefore was simply to release the members from any pledge to use the cental, and to leave all free to act as they might deem fit. Hence the use of the cental is now very generally abandoned, except for wheat.

NEWCASTLE-ON-TYNE.—A very solemn and impressive spectacle was presented by the northern towns on Friday, on the occasion of the funeral of Mr. Robert Stephenson in Westminster Abbey. Funeral chimes pealed from the belfries of the parish churches, and with scarcely an exception all the vessels in the Tyne and Wear, and in the Northumberland and Tyne Docks, and in the Sunderland South Dock and Monkwearmouth Dock, had their flags half mast high. At noon, the shops, merchants' offices, banks, and other places of business were closed, and trade ceased in all the busy thoroughfares of Newcastle. About 11 o'clock a long procession of workmen from the factory of Messrs. Stephenson & Co. walked in procession to St. Nicholas Church, where Divine service was performed, the sacred edifice being quite crowded, and a very solemn feeling pervaded the whole assembly. Mr. Stephenson has bequeathed to the Newcastle Infirmary a legacy of 10,000*l.*; to the Literary and Philosophical Society, Newcastle, 7000*l.*; the North of England Mining Institution at Newcastle, 2000*l.*; the Institution of Civil Engineers, 2000*l.*; the Society for Promoting Christian Knowledge, 2000*l.*; and the Society for Providing Additional Curates in Populous Places, 2000*l.*; making a total of 25,000*l.*

PLYMOUTH.—The wreck of a large steamer of foreign build was seen floating off the Bolt Head last week, and has since been washed ashore on the Cornish coast. Captain Eden, R.N., of Plymouth dockyard, immediately proceeded to inspect it; and from his report, which has been forwarded to Lloyd's, it appears that the wreck is that of some foreign steamer which had apparently blown up, and had not been long in the water.

SHEFFIELD.—Two more outrages, attributed to trade disputes, were perpetrated in this town last week. The first case occurred at the house of Mr. James Robinson, an extensive brick manufacturer. A small stone bottle, filled with powder, hobnails, and fragments of glass, and having a lighted fuse attached, was thrown into one of his bedrooms at 3 o'clock on Wednesday morning. Fortunately, owing to the violence with which it was thrown, the bottle broke, scattering the contents before the powder ignited, and consequently no serious damage resulted. During the last two years Mr. Robinson has had a large quantity of unburnt bricks destroyed, a pig killed, a donkey poisoned, and a valuable cow stabbed. All these outrages he attributes to his persisting in employing non-union as well as union men. The victim of the second outrage was a saw-grinder named Helliwell, not connected with the saw-grinders' union. Some powder was placed under his glazing wheel, and, being ignited by sparks caused in glazing, exploded, seriously burning his face and arms. The saw-grinders' union, through their secretary, reprehend the latter outrage, and offer a reward of 10*l.* for information as to the perpetrator.

SOUTHAMPTON.—The court of inquiry into the wreck of the Express re-assembled on Monday, but as the two magistrates who heard the evidence (Mr. Bernard and Captain Engledue) were divided in opinion, and the Board of Trade had made no report, the court returned Captain Mabb his certificate without expressing any opinion, and the proceedings ended without any further result. Mr. Bernard stated that he had forwarded a report of his own to the Board of Trade on the subject.

WASHINGTON.—On Saturday a fatal explosion took place in the Maudlin seam of Washington Old Colliery, by which three pitmen, a boy, and several horses and ponies lost their lives. The after-damp which filled the pit after the explosion made it impossible to descend for the purpose of rendering any assistance, and it was not until Tuesday that the bodies could be recovered, when it was ascertained that they must all have been suffocated by carbonic acid gas. The pit was considered one of the best managed in the district, and only an hour before the accident had been found well ventilated and perfectly free from gas.

WINDSOR.—In consequence of the prevalence of typhus fever among the troops quartered at the barracks, a new inquiry into the sanitary state of this town has been set on foot. At a special meeting of the Board of Health, a few days since, the Mayor stated that, in consequence of a letter he had received from the Privy Council Office, inquiries had been made of the various medical men of the town, including the officers of the Union, the surgeon of the Infirmary, &c., and he was glad to learn that the general health of the town had never been in a more satisfactory condition. He had likewise requested the surveyor to frame a report, showing what had been done in the way of flushing, cleansing, water supply, &c., since he had held office.

## Ireland.

THE ROMAN CATHOLIC PRELATES concluded their sittings on Saturday; but it is supposed that several days will elapse before the result is officially announced. In the meantime the *Nation* undertakes to satisfy the public by giving an outline of what will hereafter be fully expounded in a second pastoral. Mr. Cardwell, it alleges, has evaded giving an answer to the bishops, who, in return, are determined to attack the national education system without delay.

THE CUNARD STEAMERS AT CORK.—It is officially announced that Mr. Cunard has volunteered to permit his steamers to call every fortnight at Queenstown, on their way to and from Boston, and that the first of the line will leave Queenstown with the mails on Sunday, the 6th November.

MR. JOHN MITCHELL, who is now residing in Paris, has commenced a series of letters in a Dublin paper called the *Irishman*, in which his object is to suggest to the Irish peasantry that France will soon be at war with England in the Mediterranean, and that the opportunity will then have arrived for inducing the Emperor Napoleon to invade Ireland.

THE QUEEN'S COLLEGES.—In spite of the recent pastorals against the progress of mixed education the Queen's Colleges in Ireland are, to say the least, not losing ground, while the two most exposed to ecclesiastical influence are actually making slow but steady way in public confidence. At Galway at the entrance examination, which has just concluded, 31 new students were admitted, being considerably in advance of the corresponding number of last year; and of these 18 are Roman Catholics, while the number of Roman Catholics at this time last year was only 10. At Cork, also, no less than 50 new students were enrolled, being a large increase on last year's numbers. It appears also from Carlow, that though the "Christian Brothers" have superseded the teacher of the National Board in the male school of that city, the nuns of the convent still retain the National Board books in their schools, and continue to use them for the benefit of their pupils.

## Scotland.

BANQUET TO LORD BROUGHAM AT EDINBURGH.—On Wednesday evening the citizens of Edinburgh gave a banquet to Lord Brougham under the presidency of the Lord Provost. About 650 sat down to dinner, and about 400 ladies and gentlemen were present as spectators. The Lord Provost having in appropriate language proposed the health of the noble lord, Lord Brougham in reply spoke to the following effect:—

"He considered this invitation and this reception as one of the two greatest honours that had crowned a not very short and a very variegated life. His being chosen to represent the great county of York was the other. He referred to the instances of gross bribery and corruption lately disclosed in England, and expressed his great gratification that in Scotland electoral corruption did not exist at all. Until it was extirpated with a steady, unflinching, and strong hand the constitution of this country would be upon its trial. That it would survive he entertained no doubt, because he entertained no doubt that that corruption would yet be entirely extirpated. He adverted, in affecting terms, to the many changes that had taken place since his last appearance in Edinburgh 25 years ago, and expressed his pain to think that he was the survivor now of nearly all his private friends. One change, however, he found of a more happy description—he had survived those rancours and delusions of party which then to some extent prevailed—those delusions which allowed no merit in an adversary, and admitted no fault in a friend. Referring to the affairs of Italy, he said that whatever motive had originated the late war a certain amount of good had come out of it—a very great step had been made towards the independence of the Italian people; and his hope was to see them under the King of Sardinia, as the only practicable mode of insuring their independence. Alluding to France, he pictured the great tempter holding out before that nation the laurel, the emblem of warlike glory, and expressed his hope that the French would not be deceived by it; and he described the tempter as likewise offering to this country the apple, the emblem of the fruits of the earth, and trying to lull this country into a false security, leading it to abandon its preparations for defence. In this last he knew that the tempter would fail. This country, he said, did not distrust its neighbours, but it trusted to itself. Their duty was to be prepared by sea and land in every way in which an attack was possible, so as to render it impossible not only that the attack should succeed, but that it should be attempted. We did the best both for our neighbour and ourselves by being completely and absolutely prepared for whatever might happen."

BANQUET TO THE 78TH REGIMENT AT NAIRN.—On Tuesday week the 78th Highlanders, who so greatly distinguished themselves in India during the mutiny, especially at Cawnpore and Lucknow, were honoured with a public reception and a banquet at Nairn.

THE LATE WRECK OF THE DUKE OF RICHMOND STEAMER.—The Board of Trade has instructed the Collector of Customs at Aberdeen to institute an inquiry into the circumstances connected with the wreck of this steamer.

## Sporting.

### NEWMARKET HOUGHTON MEETING.

MONDAY.—*Handicap Plate.* Mr. Mills's Greenwich Fair beat Joskin, Solomon, and 13 others.—*Sweeps.* Lord Strathmore's Marseillaise beat Neophyte, Leontes, Star of the East, and The Argosy.—*Maiden Plate.* Mr. Golding's filly beat Lady Emily, Tormentor, Mesmer, and 8 others.—*Match.* Lord Strathmore's Mouravieff beat Antonio.—*Match.* Lord W. Pawlett's Adulation beat Lord Glasgow's filly.—*Match.* Duke of Bedford's Eda beat Lord Glasgow's filly.—*Match.* Lord Glasgow's filly beat Mr. Merry's colt.—*Match.* Mr. Locke's Olympus beat Actæon.—*Match.* Mr. R. Ten Broeck's Prioress beat Toxophilite.—*Selling Handicap.* Mr. Saxon's Jenny Longlegs beat Fern Leaf, Lord Clifden's filly, and Lucknow.—*Sweeps.* Mr. Merry's Lady Falconer beat Mr. Barnard's filly, Ringlet, and Buttercup.—*Handicap Sweeps.* Mr. Brown's Joskin beat Antonio, Harlestone, Indifference, and [illegible] *Criterion Stakes.* Mr. Merry's Thormanby beat [illegible] Aurora, and 5 others.

TUESDAY.—*Fifty Pounds.* Mr. T. Dawson's The Premier Simple Simon, Neoptolemus, and 8 others.—*Cambridgeshire Stakes.* Mr. J. Osborne's Red Eagle beat Ariadne, Merrilies, and 27 others. Won cleverly by half a length. A veritable outsider who had been scarcely mentioned in betting, while his stable companion, Lady Alice, was the trusted representative of his owner and his friends. At the start, however, Mr. J. Osborne took 500 to 5 [illegible] winner.—*Sweeps.* Mr. Steven's Boundaway beat Grimalkin.—*Match.* Duke of Bedford's Orlando beat Lord Clifden's [illegible].—*Optional Selling Stakes.* Lord Ailesbury's Puzzle, Tousle, Buttercup, and 9 others.—*Free Handicap Sweeps.* Mr. Merry's Lord of Lorn beat Newstead, Argosy, and [illegible].—*Handicap Sweeps.* Mr. Towneley's Sparrow Hawk beat Procatore, Rara Avis, and 5 others.—*Fifty Pounds.* Mr. W. Crawfurd's Zuyder Zee beat Bastion, Pax, Starke, and [illegible].—*Selling Handicap Sweeps.* Mr. Maufield's Charles the Second beat Knuckle Duster, The Argosy, Bel Esperance, and Queenstown.

WEDNESDAY.—*Optional Selling Plate.* Mr. Hughes's [illegible] beat Sichæus and Broadbrim.—*Free Handicap.* Mr. [illegible] Tight-fit beat Brown Middleton, Little Gerard, Pandora, Mutineer.—*Fifty Pounds.* Mr. Shelly's Lifeboat beat [illegible] Lady Alice.—*Sweeps.* Mr. Locke's Infanta beat Lady Fanny, Lord W. Powlett's colt, and 7 others.—*Match.* Lord [illegible] colt beat Arethusa.—*Subscription Plate.* Mr. Mills's [illegible] beat La Beliotte, Adulation, and 14 others.—*Sweeps.* Mr. Stephenson's Twang beat Plumper, Vouralak, and [illegible].—*Sweeps.* Mr. W. Day's Gleesinger beat The Speaker, Enchant, Volta, and Beauty.—*Sweeps.* Mr. Mellish's [illegible] beat Miss Eleanor, Dove, and 3 others.—*Sweeps.* Mr. [illegible] der's Thunderbolt beat Rattlebone.—*Free Handicap Sweeps.* Mr. Mundy's Confectioner beat Gentle, Von Stroom, and 5 others.—*Match.* Mr. Sextie's Mazzini received from [illegible].—*Match.* Mr. H. S. Thompson's Glenbuck received from Cath.—*Match.* Duke of Bedford's Harry received from [illegible].—*Match.* Mr. Sutton's Von Stroom received from Tramp.—*Match.* Mr. F. Robinson's Aurora received from Toxophilite.

THURSDAY.—*Subscription Handicap Plate.* Lord Portsmouth's Tame Deer beat Rechab, Joskin, and 7 others.—*Sweeps.* Mr. Merry's Madrid beat Nana Sahib and Baron Rothschild.—*Handicap Sweeps.* Mr. Fuller's Simple Simon beat Mr. Webster, Clio, and 7 others.—*Sweeps.* Mr. T. Parr's Peeress beat Tousle, Jessie Brown, and Hop Merchant.—*Match.* Duke of Bedford's Leontes beat Brother to Bird-on-the-Wing.—*Handicap Sweeps.* Mr. Savile's Montebello beat Benvolio, Mr. [illegible], and 5 others.—*Handicap Sweeps.* Mr. W. Thornton's [illegible] beat Lord Clifden's filly, Sherborne, and 5 others.—*Sweeps.* Mr. Fleming's Raspberry beat Greenwich Fair, Dame [illegible], 9 others.—*Sweeps.* Mr. T. Dawson's Tousle beat Butterfly, Golden Pippin, and 6 others.—*Free Handicap Sweeps.* Mr. [illegible] Day's Schism beat Mazzini, Newcastle, Wild Rose, and Hercules.—*Renewal of the Glasgow Stakes.* Mr. Mills's Dalmouth beat Trovatore, Tom Bowline, and Winton.—*Optional Selling Plate.* Mr. Gibbs's colt beat Ladybird, Mr. Saxon's Swertha, and 13 others.—*Match.* Mr. F. Robinson's Aurora received forfeit from Musjid.

FRIDAY.—(By Electric Telegraph).—*Match.* North Lincoln beat Toxophilite.—*Handicap Sweeps.* Ellen beat Van, 4 others.—*Handicap Sweeps.* Amsterdam beat Lady Alice, 8 others.—*Sweeps.* Odd Fellow beat Hop Merchant.—*Handicap.* Precursor beat Gallus and 8 others.—*Match.* Prioress beat Maid of Masham.—*First Class Nursery.* Curio beat Paleface and 12 others.—*Second Class Nursery.* Viatka beat Ben Webster and 11 others.—*Sweeps.* Arioso walked over.—*Handicap Plate.* Ellen beat Bordeaux and 7 others.—*Match.* Orlando beat Fractious.—*Selling Plate.* Lord Palmerston beat Confusion and 11 others.—*Sweeps.* Infanta beat Ripon and 5 others.

## Law.

CENTRAL CRIMINAL COURT.—*Murder at Sea.*—Charles Anna alias *Francisca Antonio Piero Guimaraens*, aged 25, a Portuguese was indicted for the wilful murder of Philip Barker, captain of the ship Margaret, upon the high seas, and within the jurisdiction of the Admiralty of England. The prisoner, upon being asked whether he wished to avail himself of his privilege of being tried by a jury partly composed of foreigners and partly of Englishmen, replied, "No; all Englishmen." An interpreter [illegible] was sworn to interpret the evidence. The particulars of [illegible] have already appeared in our Provincial News, and the evidence left no doubt of the fact that the prisoner committed the murder, the only question for the jury was whether the prisoner was in a state of mind to be responsible criminally for his conduct. Mr. Justice Williams in summing up said that the atrocity of a crime and the apparent absence of motive were not sufficient to justify a jury in acquitting a prisoner on the ground of insanity, and they ought not to do so unless they were perfectly satisfied that at the time the offence was committed the party accused was in such a state of mind as not to be aware of the difference between right and wrong, or the quality and nature of the act he was committing. The jury after deliberating for about 20 minutes found the prisoner guilty of Wilful Murder. Mr. Justice Williams then put on the black cap, and passed sentence of *Death* in the usual form. The prisoner did not appear in the slightest degree affected by the result of the trial. *The Poplar Murder.*—George Frost, *alias Royal*, 31, was placed at the bar on Thursday before the Lord Chief Baron and Mr. Justice Williams, charged with the wilful murder of Zipporah Wright. The Solicitor-General [illegible] on behalf of the Government. It will be remembered from the reports of this case which have already been published that the prisoner was a married man, but had left his wife a considerable time, and lived with the deceased, who passed as his wife. A short time before her death, she had a child, and during her illness following her confinement she suddenly [illegible] of suffering quite inconsistent with the results of [illegible] disease, and therefore leading to the supposition that deceased herself suspected, the prisoner had given her some acrid poison. It was at first supposed that [illegible] cantharides, but Dr. Letheby and other medical men who examined the body were of opinion that the poison [illegible] was croton oil. The trial lasted the whole of Tuesday and yesterday, when Mr. Sleigh for the defence called witnesses to show that deceased was in the habit of using large quantities of soda in her tea, and that the women about her house suffered from sickness and irritation of the stomach which [illegible] had produced. He contended that no reliance could be placed on the medical evidence, and that there was no proof that the prisoner had administered any poison, or that she had died of poison at all. The Lord Chief Baron summed up, and the jury retired at half past 6. At 10 minutes to 7 they returned into Court and delivered a verdict of *Not Guilty.*

## Railways.

THE LATE ACCIDENT ON THE MIDLAND.—The jury at the inquest on Alderman Maw of Doncaster returned a verdict of Manslaughter against Robert Wilcock, the pointsman, who had been apprehended on a charge of causing the accident at the Sheffield station by neglect. He has accordingly been committed for trial on the coroner's warrant, but admitted to bail.

# Obituary.

The Earl of Jersey, who succeeded to the earldom on the death of his father on the 3d inst., died on Monday last at the Royal Crescent Hotel, Brighton, in his 52d year. His lordship had for months past been suffering from consumption, and early last spring repaired to the south of France, but only received temporary relief, and has gradually continued to get weaker since his return home. His lordship was the eldest son of the fifth earl, by the eldest daughter of the 10th Earl of Westmoreland, and heiress of Mr. Child, the wealthy banker of Temple Bar. He was educated at Christ Church, Oxford, at which University he graduated B.A. in 1830, and M.A. in 1837. Shortly after he attained his majority he entered the House of Commons for Rochester, and in 1831 was elected for Minehead. From 1832 to 1835 he sat for Honiton. At the next general election he unsuccessfully contested Weymouth; he was returned for that borough in 1841, but was unseated on petition. In 1844 he was elected for Cirencester, which he continued to represent up to 1852. On the general election in that year he was defeated by the narrow minority of 4. In politics he was a Conservative; but during the late Sir R. Peel's administration voted in favour of the repeal of the Corn Laws and the subsequent Free Trade measures of that statesman. He married in 1841 the eldest daughter of the late Sir R. Peel, by whom he leaves issue three sons and two daughters, the eldest of whom Victor Albert George, Viscount Villiers, born in 1845, succeeds to the title and estates. The late Earl was a Deputy-Lieutenant of the counties of Oxford and Warwick, and in 1855 was appointed Major of the Oxford Yeomanry Cavalry.

Vice-Admiral the Earl of Waldegrave, C.B., died on the 24th inst. at his residence at Hastings. The deceased William Waldegrave, eighth Earl of Waldegrave, and Viscount Chewton, Baron Waldegrave, and a baronet of the United Kingdom, was the fourth son of the fourth Earl, and was born at Navestock Hall, in Essex, in 1788. He lost his father while in infancy—that nobleman dying while on a visit to the Earl of Aylesford, in Warwickshire, leaving his widow and four sons and one daughter, Lady Maria Waldegrave, subsequently married to Mr. Micklethwait, of Cossy Hall, Norfolk. Of the sons George, the fifth earl, was accidentally drowned at Eton, and was succeeded by John James, the sixth earl, who entered the army, and served in the Peninsular war, and also in the short campaign ending with the battle of Waterloo. The third son, Edward, was also in the military service, and, after sharing in the retreat of Sir John Moore, was drowned in the wreck of the transport in which he was returning to England, on the Manacle Rocks, near Plymouth. William, the fourth son—the subject of this memoir—was educated at Eton, and entering the Navy in 1801, served in the Mediterranean, India, the Channel, and the coast of Spain during the war with France, and was present in several engagements. In 1809 he commanded the Seringapatam on the South American and Pacific stations, and in 1839 commanded the Revenge at the siege of Acre. For his services in the Syrian war he was nominated a Companion of the Bath. In 1841 he was senior officer in the Bay of Tunis, with the Ganges, 84, and the Implacable, 74, under his orders. He obtained the captain's good service pension in 1842, and returned to England in March of the same year. In 1846 he accepted the rank of retired rear-admiral in accordance with his long-expressed opinion that older though still vigorous men should make room for younger men in the service. In the same year he succeeded to the family dignity as eighth Earl of Waldegrave on the death of his nephew. His lordship was twice married, first in 1812 to the eldest daughter of Mr. Samuel Whitbread, by the Lady Elizabeth Grey, and second in 1847 to Mrs. Milward of Hastings, which place became henceforward his principal residence. His eldest son, Viscount Chewton, died on the 8th October, 1854, of wounds received at the battle of the Alma, but left by his wife, daughter of Captain Bastard, R.N., of Sharpham, Devon, two sons, one born in 1851, and another born on the 14th October, 1854, a few days after the death of his father. The eldest of these sons, William Frederick, now in his 8th year, succeeds his grandfather the late earl in his title and estates.

The Dowager Lady Peel, widow of the late Right Hon. Sir Robert Peel, died suddenly on Thursday night at her residence, 4, Whitehall Gardens. It appears that she retired to rest at an early hour on Thursday night, apparently in her usual health, but on the lady's maid going into the bedroom yesterday morning her ladyship was found dead in her bed. She was the youngest daughter of the late General Sir John Floyd, Bart., was born in 1795, and married the late Sir R. Peel in 1820.

Captain Lawson, of the 42d Highlanders, died in India on the 18th August, from a wound on the knee received during the suppression of the mutiny. The career of this gallant soldier is worthy of note. He was a native of Lanark, and entered the army in 1837, having before that time been employed in Scotland as a ploughboy. He served as a non-commissioned officer for nearly 16 years, during which period he gained for himself the confidence and respect of his superiors and the esteem of his fellow-soldiers. In 1854 he embarked with the regiment for the Crimea, was present at the Alma, and passed unscathed through all the hardships and perils of that memorable campaign. After Inkermann he received his commission as ensign. In March, 1855, he was promoted to the rank of lieutenant, and for some time previous to the conclusion of the war acted as captain in the late Land Transport Corps. On his return to England, in 1856, he rejoined the 42d, and shortly afterwards received the appointment of instructor of musketry to the regiment. At this time the magistrates and Council of Lanark, his native town, in consideration of his distinguished conduct, resolved to present him with the freedom of the burgh; this honour however he never had an opportunity of personally receiving. The outbreak of the Indian mutiny called him again to the field, and in August, 1857, he left England with the headquarters of the regiment for Calcutta. In 1858 he obtained his commission as captain, and commanded the picket of the 42d, 37 in number, which was engaged in the terrible fight on the banks of the Suarda, on the morning of the 15th January, with upwards of 2000 rebels. The little band of Highlanders defended themselves with extraordinary courage from sunrise to sunset, until relief arrived from General Walpole. Captain Lawson was honourably mentioned in the General's despatches for the manner in which he acquitted himself on that day. Shortly afterwards he received the wound which has now ended his honourable career.

Major Groves, Crown Equerry to her Majesty, died suddenly on Wednesday night, at his residence at the Royal Mews, Pimlico, in his 56th year.

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BIRTHS.—On the 21st inst, at Tapely Park, North Devon, the wife of W. W. Beach, Esq., M.P., of a son and heir—24th inst, at 2, Park Square West, the wife of Samuel Lang, Esq., M.P., of a son—19th inst, at Cooper's Hill, county of Sligo, the wife of Charles W. Cooper, Esq., M.P., of a daughter—18th inst, at Gresham Terrace, Kingstown, the wife of Mr. T. H. Kavanagh, V.C., Assistant-Commissioner in Oude, of twin daughters—22d inst, at 11, Grosvenor Crescent, Mr. Antrobus, of a son—16th inst, at Rugby, the wife of Colonel Thorndike, Royal Artillery, of a daughter.

MARRIAGES.—On the 26th inst, at St. George's, Hanover Square, the Hon. Cecil Duncombe, second son of Lord Feversham, to Eleanor Jane, youngest daughter of Charles Mills, Esq., of Hillingdon Court, Middlesex—27th inst, at St. Paul's, Knightsbridge, the Hon. F. G. Ibby, only son of Lord Boston, to Augusta Caroline, second daughter of Colonel the Hon. John St. Vincent Saumarez, and niece of Lord de Saumarez—18th inst, at Stradbally Church, Robert Ashworth Godolphin Cosby, Esq., of Stradbally Hall, late Inniskilling Dragoons, son of the late Sydney Cosby, Esq., to Alice Sofia Elizabeth, only daughter of Sir George Pocock, Bart., of The Priory, Christchurch, Hants—20th inst, at the British Embassy, Lisbon, Bentley Mureas, youngest son of the late Wm. Murray, Esq., of Monkland, to Lucy Jane Eleanora, second daughter of the late Sir John William Pitt Mein Mackenzie, of Dochcairnie and Cassencarrie, Bart.—2nd August, at the Mauritius, Louis Tatton, Esq., R.A., to Mary Barbara, youngest daughter of Sir David Barclay, Bart.—25th inst, at Walcott Church, John, son of John Dickinson, Esq., Abbots Hill, Herts, to Alicia Martha, elder daughter of the late George Bicknell, Esq.—20th inst, at the parish church of Llandulas, Denbighshire, the Hon. Edmund Hayes, one of the Judges of the Court of Queen's Bench in Ireland, to Mary Harriet, relict of James Agnew Shaw, Esq., late of H.M.'s 61st Foot.

DEATHS.—On the 19th inst, Sophia Elizabeth, wife of Boyd Alexander, Esq., of Ballochmaie and South Barr, daughter of the late Sir Benjamin Hobhouse, Bart., and sister of the Right Hon. Lord Broughton, G.C.B.—21st inst, at the Palace, Cork, Anne Frances Fitzgerald, wife of The Lord Bishop of Cork, aged 80—16th inst, at Leeds, Henrietta, eldest daughter of the late Sir Wm. Strickland, of Boynton, Bart., aged 80—23d inst, at Burton Constable, the seat of her sister, Lady Clifford Constable, Mary Elizabeth, eldest daughter of Charles Chichester, Esq., of Bally Griffin, county Cork, Ireland, and Calverleigh Court, Devonshire—23d ult, at the Island of Trinidad, West Indies, Roger William Cotes, Esq., third son of Admiral Sir Lucius Curtis, Bart., C.B., of East Cosham, Hants—23d inst, of apoplexy, at Windsor Terrace, Kingstown, Sir John Kingsmill, Bart., of Hermitage, Lucan, near Dublin—18th inst, suddenly, from hemorrhage of the lungs, at Montpelier, France, Joseph Randolph Mullins, Esq., of Eastcourt, Wilts, late M.P. for Cirencester, aged 67—19th inst, at Axminster, Devon, Walter Buckland, Esq., brother to the late Very Rev. Dr. Buckland, Dean of Westminster, aged 67—20th inst, at Clifton, Daniel Rowland, Esq., of 28, Grosvenor Place, aged 81—14th inst, at Eastbourne, Edward Pottinger, Esq., of Brunswick Square, Brighton—21st inst, at 9, Queen Street, May Fair, Jane, widow of the Rev. Temple Frere, Canon of Westminster, and Rector of Roydon, Norfolk, aged 70—24th inst, at her residence, Prior's Court, near Newbury, Jane, widow of Lieut.-Colonel Hugh Stadroolle, 45th Regiment, formerly of Clanville Lodge, Andover—21st inst, Mrs. Elizabeth Mountford, wife of Mr. W. Mountford, of Kinmel Park Gardens, St. Asaph, N. Wales.

# Markets.

## COVENT GARDEN.—Oct. 29.

Pine Apples and Grapes have not altered in price since last week. Pears in season consist of Glou Morceau and Beurré Diel. The best dessert Apple now to be obtained is still King of the Pippins. Apples this year are not found to keep well. New Oranges may now be had. Good Filberts are realising 9d. per lb. Cabbages, Beans, Carrots, and Artichokes may be obtained in quantity. Cauliflowers are scarce. Potatoes realise from 4s. to 8s. per cwt. Mushrooms still make their appearance. Cucumbers tolerably abundant. Cut flowers chiefly consist of Orchids, Gardenias, Violets, Mignonette, China Asters, Heaths, and Roses.

FRUIT.

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| Pine Apples, per lb., 5s to 7s | Pears, per ½ sieve, 6s to 10s |
| Grapes, per lb., 2s to 5s | Lemons, per doz., 1s to 1s 6d |
| Melons, each, 2s to 4s | Filberts, p. 100 lbs., 50s to 60s |
| Pomegranates, each, 4d | Cobbs, do., 100s |
| Apples, per bushel, 6s to 10s | Chesnuts, per peck, 5s |

VEGETABLES.

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|---|---|
| Cauliflowers, per doz, 2s to 4s | Artichokes, per doz., 2s to 3s |
| Greens, per dozen bunches, 2s to 2s 6d | Beet, per doz., 1s 6d to 2s |
| Cabbages, do., 1s 6d to 2s 6d | Celery, p. bundle, 1s to 1s 6d |
| French Beans, p. half sieve, 5s | Onions, p. half sieve, 1s to 1s 6d |
| Potatoes, p. ton, 90s to 100s | — Portugal, each, 2d to 4d |
| — per bus., 2s to 2s 9d | Shallots, per lb., 6d to 8d |
| — per cwt., 4s to 6s | Garlic, per lb., 6d to 8d |
| Carrots, per bunch, 6d | Lettuces, Cabb., per score, 1s to 1s 6d |
| Turnips, per bunch, 4d | Endive, p. score, 1s to 1s 6 |
| Spinach, p. sieve, 1s 6d to 2s | Horse Radish, p. bun. 1s 6d to 4s |
| Cucumbers, p. doz., 1s to 1s 6d | Mushrooms, p. pott, 1s 3d to 1s 9d |
| Frame do., each 4d to 6d | Parsley, p. 12 bunches, 2s to 4s |
| Tomatoes, p. ½ sieve, 2s 6d to 3s 6d | Savory, per bunch, 2d to 4d |

## HOPS.—Borough Market, Friday, Oct. 28.

Messrs. Pattenden & Smith report that there is still a fair demand for fine samples; other sorts are neglected. Nothing doing on duty. Present prices:—Mid and East Kents, 70s. to 100s. to 150s. per cwt.; Weald Kents, 50s. to 63s. to 75s. do.; Sussex, 50s. to 60s. to 70s.

## HAY.—Per Load of Thirty-six Trusses.

Smithfield, Thursday, Oct. 27.

| | | | | | |
|---|---|---|---|---|---|
| Prime Meadow Hay | 70s | to 75s | Clover .. .. .. | 90s | to 105s |
| Superior do. (old) .. | 80 | 84 | New Clover .. .. | — | — |
| Inferior do. .. .. | 55 | 60 | Second cut do. .. | 60 | 80 |
| New do. .. .. .. | — | — | Straw .. .. .. | 28 | 32 |
| Rowen .. .. .. | 45 | 55 | | | |

Davis & Co.

Cumberland Market, Thursday, Oct. 27.

| | | | | | |
|---|---|---|---|---|---|
| Sup. Meadow Hay . | 80s | to 87s | Inferior Clover .. | 70s | to 88s |
| Inferior do. .. .. | 65 | 74 | New do. .. .. | — | — |
| New do. . .. | — | — | Straw .. .. .. | 31 | 34 |
| Superior Clover .. | 94 | 100 | | | |

Joshua Baker.

Whitechapel, Thursday, Oct. 27.

| | | | | | |
|---|---|---|---|---|---|
| Fine old Hay .. .. | 80s | to 85s | Fine old Clover .. | 98s | to 105s |
| Inferior do. .. .. | 65 | 75 | Inferior do. .. .. | 84 | 92 |
| Prime New Hay .. | — | — | Fine new Clover .. | — | — |
| Inferior do. .. .. | — | — | Fine 2d cut .. .. | 80 | 88 |
| Straw .. .. .. | 26 | 30 | Inferior do. .. .. | 63 | 70 |

## POTATOES.—Southwark, Monday, Oct. 24.

During the past week, the arrivals have been limited, and towards the end of the week there was a better demand for the best samples. The following are this day's quotations:—York Regents, per ton, 80s. to 115s.; Lincolnshire do., 70s. to 90s.; Dunbar do., 80s. to 105s.; Perth, Forfar, and Fifeshire do., 50s. to 85s.; Kent and Essex do., 80s. to 110s.

## BRITISH WOOLS.—London, Friday, Oct 28.

Our stocks of all descriptions of wool continue light, and a disposition exists to supply the manufacturers as their requirements demand at about late rates.

| | s. | d. | | s. | d. |
|---|---|---|---|---|---|
| South-down Hoggets .. .. .. | 1 | 8 | to — | | |
| Half-bred ditto .. | 1 | 8 | — — | | |
| Down Ewes .. | 1 | 6 | — — | | |
| Kent Fleeces .. | 1 | 7 | — — | | |
| Leicest. Wethers | 1 | 5 | to — | | |
| Ditto Hoggs .. | 1 | 7 | — — | | |
| Combing Skins | — | — | — | | |
| Blanket ditto .. | — | — | — | | |
| Flannel Wool .. | 1 | 2 | — 1 | 7 | |

## METROPOLITAN CATTLE MARKET.

Monday, Oct. 24.

There is a large supply of Beasts to-day, and consequently trade is not so brisk, however there is not much reduction in prices. The number of Sheep is not much larger, and choicest kinds. The number of Sheep is not much larger, and choicest kinds remain unaltered. Good Calves are still scarce and dear. From Germany and Holland there are 1780 Beasts, 5850 Sheep, and 94 Calves; from Scotland, 100 Beasts; from Ireland, 750; and 2800 from the northern and midland counties.

| | s. | d. | s. | d. | | s. | d. | s. | d. |
|---|---|---|---|---|---|---|---|---|---|
| Best Scots, Herefords, &c. .. | 4 | 10 | to 5 | 0 | Best Long-wools . | 4 | 10 | — 5 | 2 |
| Best Short-horns | 4 | 8 | — 4 | 10 | Do. Shorn .. .. | | | — .. | |
| 2d quality Beasts | 3 | 8 | — 4 | 4 | Ewes & 2d quality | 4 | 0 | — 4 | 8 |
| Best Downs and Half-breds .. | 5 | 2 | to 5 | 4 | Do. Shorn .. Lambs .. .. .. | | | to .. — .. | |
| Do. Shorn .. .. | | — | .. | | Calves .. .. | 4 | 4 | — 5 | 4 |
| | | | | | Pigs .. .. | 4 | 0 | — 5 | 0 |

Beasts, 6940; Sheep & Lambs, 24,910; Calves, 123; Pigs, 546.

Thursday, Oct. 27.

We have a large supply of Beasts, but choice qualities are not very plentiful. Prices are not much lower for best descriptions. The trade is very slow for Sheep; however, quotations are not much altered. Good Calves in demand, other kinds are lower. From Germany and Holland there are 450 Beasts, 1900 Sheep, and 140 Calves; from Ireland, 15 Beasts; from the northern and midland counties, 900; and 125 Milch Cows from the home counties.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Best Scots, Herefords, &c. .. | 4 | 8 | to 5 | 0 | Best Long-wools . | 4 | 8 | — 5 0 |
| Best Short-horns | 4 | 6 | — 4 | 8 | Do. Shorn .. .. | | | — .. |
| 2d quality Beasts | 3 | 4 | — 4 | 0 | Ewes & 2d quality | 4 | 4 | to 4 8 |
| Best Downs and Half-breds .. | 5 | 0 | — 5 | 2 | Do. Shorn .. Lambs .. .. | | | — .. — .. |
| Do. Shorn .. .. | | — | .. | | Calves .. .. | 4 | 0 | — 5 4 |
| | | | | | Pigs .. .. | 4 | 0 | — 5 0 |

Beasts, 1625; Sheep & Lambs, 6180; Calves, 200; Pigs, 180.

## MARK LANE.—Monday, Oct. 24

The supply of English Wheat to this morning's market was moderate, and tolerably cleared at our former quotations. There was a fair attendance, but the sale of foreign was limited, and its value unaltered. Barley sells at last week's prices, with a good demand for the malting qualities. Beans and Hog Peas are unaltered in value; of white Peas there is a considerable arrival from the Continent, and they are a dull sale at a decline of 2s. per qr. The Oat trade is quiet at the rates of last week.

| Per Imperial Quarter. | s. | s. | | s. | s. |
|---|---|---|---|---|---|
| Wheat, Essex, Kent, & Suffolk .. White | 34 | —46 | Red .... | 36 | —41 |
| — — fine selected runs . ditto | 42 | —44 | Red .. | 38 | —44 |
| — — Talavera ..... | 40 | —50 | | | |
| — Norfolk ..... | — | | Red ... | — | |
| — Foreign ..... | 38 | —55 | | | |
| Barley, grind & dist., 24s to 28s Chev. | 38 | —44 | Malting . | 24 | —40 |
| — Foreign .. grinding and distilling | 23 | —28 | Malting . | — | |
| Oats, Essex and Suffolk ..... | 19 | —22 | | | |
| — Scotch and Lincolnshire .. Potato | 23 | —25 | Feed .... | 19 | —24 |
| — Irish ..... Potato | 24 | —25 | Feed .... | 19 | —22 |
| — Foreign ..... Poland and Brew | 23 | —26 | Feed .... | 17 | —24 |
| Rye ..... | — | | Foreign . | — | |
| Rye-meal, foreign ..... | — | | | | |
| Beans, Mazagan .... 30s to 32s .... Tick | 33 | —41 | Harrow . | 33 | —41 |
| — Pigeon ..... 41s — 45s .. Winds | 48 | —54 | Lentpod | — | |
| — Foreign ..... Small | 38 | —46 | Egyptian | — | |
| Peas, white, Essex and Kent .. Boilers | 36 | —39 | Suffolk . | 38 | —41 |
| — Maple . .. —s to —s ..... Grey | 33 | —35 | Foreign . | 30 | —38 |
| Maize ..... White | — | | Yellow .. | — | |
| Flour, best marks delivered .. per sack | 37 | —43 | | | |
| — 2d do. ..... ditto | 27 | —37 | Country . | 27 | —37 |
| — Foreign ..... per barrel | 18 | —27 | Per sack | 30 | —37 |

Friday, Oct. 28.

The weather during the last eight days has been variable and unusually severe (10° of frost). The Wheat trade in the chief market of the kingdom has been quiet but firm, and it now appears tolerably certain that the American farmers will not sell their stocks this autumn at prices which will admit of any important exportation thence; indeed, in some parts the crop has turned out badly, and there are districts which are now drawing supplies instead of exporting. Great complaints also reach us of the keeping of Potatoes both in England and Ireland. These facts must tend to support prices in this country through the winter. The weather has not been without effect on Spring Corn, and all descriptions are held for very full rates, each commanding a slight advance in several markets. In the Flour trade we observe no alteration. The arrivals from Southern Europe are considerable this week. A very large business has been transacted, the sales comprising Taganrog Ghirka Wheat at 44s. to 44s. 9d., Odessa Ghirka at 42s. 11d. to 42s. 6d., and Berdiansk at 44s. 6d. to 45s., all per 492 lbs.; Odessa Maize at 29s 3d. to 30s. 9d., Galatz at 31s. 1½d. to 31s. 6d., both per 492 lbs.; Odessa Barley at 23s. 4½d. to 24s. 3d. per 400 lbs.; Odessa Oats at 18s. and Egyptian Beans at 33s. per qr imp. The arrivals of Barley (English and foreign) this week are large, of all other grain moderate. The little English Wheat on sale was cleared at Monday's prices; there was a small attendance, and the demand for foreign most trifling; holders, however insisted on fully former rates. Barley is firm, with a good demand for fine malting qualities. Oats are held for full prices, but the business doing was not extensive.

Arrivals from Oct. 24 to Oct. 28.

| | Wheat. | Barley. | Oats. | Flour. |
|---|---|---|---|---|
| English .. | 1540 qrs. | 3890 qrs. | 150 qrs. | 1080 sks. |
| Irish .... | — ,, | — ,, | 7530 ,, | — ,, |
| Foreign .. | 3750 ,, | 10010 ,, | 12160 ,, | 180 ,, 50 brls. |

Liverpool, Tuesday, October 25.—There was a fair attendance of millers and dealers at our Corn Exchange this morning, and we had a more general consumptive demand for both Wheat and Flour at the rates current last market day. Indian Corn sold to a fair extent at full prices. Oats must be noted 1d. per bushel and Oatmeal 6d. per load dearer than this day se'nnight. Beans, Peas, and Barley all brought extreme rates.

Friday, Oct. 28.—Grain market moderately attended, and business very quiet. Prices of all articles about the same as on Tuesday. Wheat and Flour freely offered, but prices are firm.

| Averages | Wheat. | Barley. | Oats. | Rye | Beans. | Peas. |
|---|---|---|---|---|---|---|
| Sept. 17.. | 41s 11d | 35s 2d | 21s 7d | 30s 6d | 40s 4d | 38s 8d |
| — 24.. | 41 10 | 35 5 | 21 7 | 30 6 | 40 4 | 38 5 |
| Oct. 1.. | 42 1 | 35 9 | 20 10 | 29 9 | 39 7 | 38 5 |
| — 8.. | 42 5 | 35 8 | 21 7 | 29 10 | 39 3 | 38 0 |
| — 15.. | 42 6 | 35 10 | 21 3 | 29 7 | 38 9 | 39 8 |
| — 22.. | 44 10 | 35 5 | 21 2 | 29 6 | 39 2 | 37 7 |
| Agg. Aver. | 42 3 | 35 7 | 21 4 | 29 11 | 39 7 | 38 6 |

Fluctuations in the Last Six Weeks Averages.

| Prices. | Sept. 17 | Sept. 24. | Oct. 1. | Oct. 8. | Oct 15. | Oct. 22. |
|---|---|---|---|---|---|---|
| 44s 10d | .. | .. | .. | .. | .. | |
| 42 6 | .. | .. | .. | .. | | .. |
| 42 5 | .. | .. | .. | | .. | .. |
| 42 1 | .. | .. | | .. | .. | .. |
| 41 11 — | | .. | .. | .. | .. | .. |
| 41 10 | .. | | .. | .. | .. | .. |

## COAL MARKET.—Oct. 26.

Holywell, 15s. 6d.; Ward's West Hartley, 14s. 6d.; West Hartley, 15s. 6d.; Walls End Acorn Close, 17s 6d.; Walls End Eden, 17s. 6d.; Walls End Hetton, 17s.; Walls End Riddell, 17s.; Walls End Braddyll's Hetton, 19s. 3d.; Walls End Haswell, 19s. 3d.; Walls End Hetton, 19s. 3d.; Walls End Kepier Grange, 18s. 6d.; Walls End Russell's Hetton, 18s. 3d.; Walls End Stewart's, 18s.; Walls End Hough Hall, 17s. 6d.; Walls End Hunwick, 15s. 3d.; Walls End Kelloe, 18s. 6d.; Walls End South Hartlepool, 18s. 6d.; Walls End

outh Kelloe, 18s. 3d.; Walls End Thornley, 17s; Walls End Whitworth, 15s. 3d.; Carway and Duffryn Malting, 22s. 6d.; Nixon's Duffryn, 22s. 6d.; Powell's Duffryn Steam, 22s. 6d.—34 ships at market.

THE WIDOW OF THE LATE PROFESSOR HENFREY, F.R.S., L.S., &c., of King's College, London, receives a small number of BOYS between the ages of 6 and 12, to EDUCATE with her own family. Terms, from 60 Guineas per Annum.—Turnham Green, W.

WANTED, by a gentleman in the County of Oxford, an ARTICLED PUPIL. A limited number of Boarders are taken. Terms moderate.—Apply to ALPHA, Kingham, Oxon.

**SCARBOROUGH CLIFF BRIDGE COMPANY.**

MANAGER WANTED.—The Committee of Scarborough Cliff Bridge Company are wishful to engage a GENERAL MANAGER, who will be required to devote his whole time to their service. Salary 120*l.* per annum. His duties will be to keep the Books and Accounts of the Company, to convene the requisite meetings, keep minutes of proceedings, conduct correspondence, and generally superintend the Company's property. One accustomed to the Management of Public Pleasure Grounds will be preferred.—Applications, stating age and qualifications, with testimonials, to be addressed to the Chairman of the Cliff Bridge Company, not later than Nov. 20. He will be required to give security to the satisfaction of the Company to the amount of 300*l.* for the faithful discharge of his duties.—Scarborough, Oct. 29.

**TO GARDENERS.**

WANTED IMMEDIATELY, for Egypt, a First-class GARDENER. A very liberal salary will be given to an energetic and persevering man. No one need apply who cannot produce the very best character as to ability and general good conduct.—Apply to JAMES CUTHBERT, 12, Clayton Square, Liverpool.

WANTED IMMEDIATELY, by a clergyman, 80 miles north of London, a thoroughly active, working, competent, and experienced GARDENER, who perfectly understands the management of Hot and Greenhouses, with the Forcing of all kinds of Fruits and Vegetables, Kitchen and Pleasure Gardens. He must be a Churchman, and his character for ability and good conduct must bear the strictest investigation, and as a permanent servant is wanted, none need apply who is not fully competent.—Address, stating net wages per week required, with cottage, and references to last place, and all particulars, &c., to the Rev. T. G., Messrs. Sawyer's, News' Agents, 1, Castle Court, Birchin Lane, London, E.C.

WANTED IMMEDIATELY, a good practical MAN, who understands Forcing Vines, Pines, Cucumbers, &c., for Market.—Apply to J. MEREDITH, Vine Cottage, Garston, near Liverpool.

WANTED, AS GARDENER AND LABOUR MASTER, at a Reformatory School, a young Man, unmarried. Salary 25*l.* per annum, with board and lodging.—Apply to G. W. LATHAM, Bradwall Hall, Sandbach.

WANTED, AS SHOPMAN, in a Nursery and Seed establishment, a respectable, well-educated young Man, of genteel address, who writes a good hand, is quick at Accounts, and who thoroughly understands the Seed Trade in all its branches. A Junior Hand from a first-rate house of business would be preferred.—Address, J. SHILLING, High Street, Winchester.

WANTED, AS SHOPMAN, a Man of good address and unimpeachable character. One acquainted with the Nursery Trade would be preferred.—Apply in own handwriting, stating salary expected, to THOMAS WARNER, Nurseryman, &c., Leicester Abbey.

WANTED, AN ASSISTANT PACKER, by Mr. JAMES VEITCH, Jun., of the Royal Exotic Nursery, Chelsea, S.W. He must be an active, industrious Man, to act as Second Packer, and make himself generally useful.—Application to be made as above, either personally or by letter.

WANTED, A MAN AND HIS WIFE, without incumbrance, to take charge of a Garden, Cows, and Laundry.—Apply H. R., Scarborough, Yorkshire.

WANTED, MAN AND WIFE.—Man as thorough Fruit and Kitchen Gardener, and to Manage Land, Stock, &c., and Keep Accounts; Wife, Poultry and to take charge of the House in the family's absence—Address O. O., Post Office, Southampton.

WANTED, A DAIRY MAID, with a perfect knowledge of her business, either married or single. If single to live in the gentleman's house; if married, the man to take care of the Stock, and Cottage rent free.—Direct to Mr. NUNN, Saltwood, near Hythe, Kent.

## WANT PLACES.—Letters to be Post Paid.

**TO NOBLEMEN AND GENTLEMEN.**

GARDENER (HEAD).—Married; first-class experience in Early Forcing of all kinds of Fruits, Flowers, and Vegetables; also in the cultivation of Stove, Greenhouse, and Orchidaceous Plants, and Ferns; understands Kitchen and Flower Gardening. Seven years' good character.—A. B., Messrs. Lee's Nursery, Hammersmith, London, W.

GARDENER (HEAD).—Age 30; thoroughly practical, having had considerable experience in noblemen's and gentlemen's establishments; has a thorough knowledge of the Management of Pines, Vines, Peaches, Melons, &c., and every description of Early and Late Forcing, the Growing of Stove and Greenhouse Plants for Exhibition, &c., Fruit, Flower, and Kitchen Gardens; Landscape operations. Can take charge of Pasture Land if required. Satisfactory testimonials as to character and ability.—ALPHA, Messrs. E. G. Henderson & Son, Wellington Nursery, St. John's Wood, London, N.W.

GARDENER (HEAD, where one or two others are kept).—Age 28, married, without incumbrance; is desirous of engaging himself to any lady or gentleman. Has been in the profession 14 years. Understands the cultivation of Stove and Greenhouse Plants, Ferns, and Orchids, the Forcing of Peaches, Grapes, Strawberries, Cucumbers, and Melons, Flowers and Vegetables, with the general routine of Kitchen and Flower Gardens. Excellent character from present and former situation.—A. C., Mr. Dedman's, Sundridge Gardens, Bromley, Kent, S.E.

**TO NOBLEMEN AND GENTLEMEN.**

GARDENER (HEAD).—Age 30; proficient in Forcing, the Cultivation of Exotic Fruits, Tropical and New Holland Plants, Flower and Kitchen Gardens, the Erection and Heating Horticultural Buildings, Landscape Operations, and the general routine of Horticulture. Can be highly recommended by his late employers for ability, sobriety, &c.—W. M., Royal Botanic Gardens, Regent's Park, London, N.W.

GARDENER (HEAD OR SINGLE-HANDED).—Age 37, married; perfectly understands his profession in all its branches; also the care of Meadow Land and Stock. Can have 3 years' good character. The wife as Laundress, or to take charge of Dairy or Poultry, if required.—M. A. B., 8, West Street, Warwick Town, Red Hill, Reigate.

**TO NOBLEMEN AND GENTLEMEN.**

GARDENER (HEAD).—Age 34, married, without incumbrance; understands his profession in all its branches.—A. B., Mr. Foster's Nursery, Edgware, N.W.

GARDENER (HEAD).—Age 36, married; thoroughly understands his profession. Good character.—H. H., Mr. Smith, Seedsman, High Street, Cliffe, Lewes, Sussex.

GARDENER (HEAD).—Age 33, married; seven years in a nobleman's family; thoroughly understands Forcing, Flower and Kitchen Gardens. Good character.—W. PEPPER, Gardener, Wandsworth Common, S.W.

GARDENER (HEAD).—Age 36, married, without incumbrance; understands Early and Late Forcing Plants, &c. Part of the Wife's services if required.—Y. Z., *Gardeners' Chronicle* Office, W.C.

GARDENER.—A. KAY, The Gardens, Lillesden, Hawkhurst, Kent, is at liberty to engage with any nobleman or gentleman requiring the services of a thoroughly practical Gardener.—Address as above.

GARDENER.—Age 26, single; understands his profession in all its branches. Can be well recommended from his present and previous employers.—T. A., Blyth Hall Gardens, near Worksop, Notts.

GARDENER.—Age 40, married, no incumbrance; nine years in last situation. Understands Vineries, Greenhouse, Flower and Kitchen Gardens. Good character.—J. G. BENTLY, Farnham, Surrey.

GARDENER.—Age 30, married; practically experienced in all departments of his profession, including Designing, Laying-out, and Ornamental Planting to any extent. An engagement with a Nurseryman not objected to.—A., Mr. Sims, Ham, Surrey, S.W.

GARDENER (UNDER), in a gentleman's family.—A Nurseryman's Son, age 18; to board and lodge in the house.—Mr. HEAD, Nurseryman and Florist, Upper Street, Islington, N.

GARDENER, OR GARDENER AND BAILIFF.—Married, no incumbrance; thoroughly understands his profession in all its branches, including Forcing and Laying Out grounds, the management of Woods, Buying and Selling, Stock, the management of Land and Timber. Is a good Accountant, and his Wife could manage the Dairy. The highest references as to character and ability.—A. R., Messrs. Fraser's Nursery, Lea Bridge Road, N.E.

FARM BAILIFF.—Age 31, single; a native of Scotland. Has been three and a half years in England.—T. R., The Royal Nurseries, Slough, Bucks.

FARM BAILIFF, at November term.—Age 30, married; understands Farming practically, also has had great experience in Breeding, Rearing, Buying and Selling of Short-horned Cattle, Horses, Sheep, &c. Can be recommended by present employer with satisfactory testimonials from other gentlemen.—W. H., Mr. Proctor's, Stationer, Durham.

WORKING BAILIFF.—Age 40, single; a native of East Lothian. Best references will be given.—X. Y., Post Office, Wavendon by Woburn, Beds.

**TO LANDED PROPRIETORS.**

FARM MANAGER.—One of the best Farmers in England wishes for an engagement as above; he thoroughly understands machinery, from steam plough to flail, and would have no objection to assist a tenant farmer with money and knowledge.—B. P., Deacon's News Rooms, 154, Leadenhall Street, London, E.C.

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FOREMAN.—Thoroughly understands Forcing Pines, Grapes, Peaches, Strawberries, and every variety of Plants required for Market.—T. G., Mr. Clarke, Market Gardener, Twickenham, Middlesex.

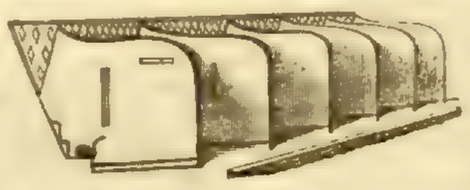
**IMPROVEMENTS IN HEATING, &c.**

MUSGRAVE'S PATENT SLOW-COMBUSTION STOVE, for Warming Public Buildings, Hall, Shops, Conservatories, Factories, Drying Rooms, &c. Will burn in Churches from Saturday till Sunday evening, avoiding attention during the hours of worship. In Halls will burn day and night for weeks, with little care. Capable of warming a large apartment for 24 hours, at a cost of 3*d.*; and deserving of special attention, because of its safety, healthfulness, durability, and extreme simplicity. This Stove is the nearest approach to warming by hot water.

MUSGRAVE'S PATENT STABLE FITTINGS AND HARMLESS LOOSE BOXES have obtained the award of a large Council Medal from the R. I. A. Society for the following improvements:—1st, The Horse cannot injure himself or others in the same stable if he breaks loose in his stall. 2d, He cannot waste the hay. 3d, He can have cut or uncut hay at pleasure. 4th, He has clean water always before him. 5th, A pure and wholesome atmosphere is secured. 6th, The whole fittings are stronger than usual, without increase in price, and there is no risk of infection.

The Loose Box is really what its name denotes, and the most spirited Horse may be turned into it without danger.

MUSGRAVE'S PATENT IRON COW-HOUSE FITTINGS, as approved by the Board of Works, adopted in the Ulster Model Farm, and by many of the most eminent Stock Breeders in the Kingdom, are made wholly of iron, very durable, cleanly, and attractive in appearance. The fodder is always fresh, being freely exposed to the air, removed from the breath of the animal, and separated from the roots or damp food. The range of Troughs can be quickly filled with water for the use of the Cows, or for washing out in case of epidemic, and the cost is very moderate.



These inventions being distinguished for strength, simplicity, and practical usefulness will repay public inquiry.

MUSGRAVE BROTHERS are also Makers of Wire Fencing, Hurdles, Field and Entrance Gates, Corn Rick Stands, Conservatories, Hot-water Apparatus, Verandahs, Rural Bridges, &c.; and their works being favourably placed for cheap labour and materials, they can offer corresponding advantages in price.

MUSGRAVE'S Patent Field Gates have gained the 1st Prize from the R. I. A. Society for strength, durability, and cheapness.

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Patronised by His Royal Highness the Prince Consort.

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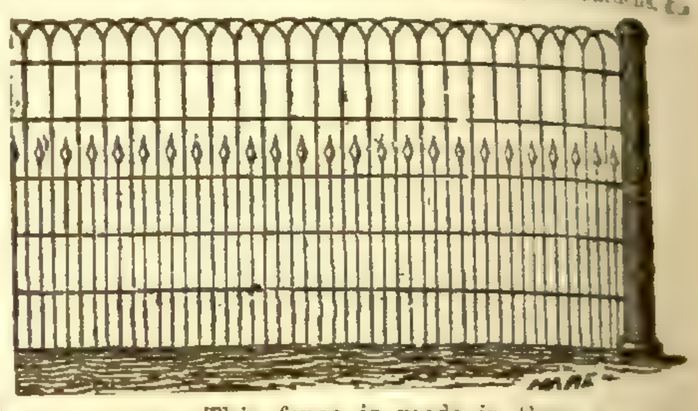

SPECIFICATION.—This fence is made in three strengths of wire corresponding to the patent cattle fences, the patent sheep fences, and the patent rabbit fences.

Prices: For Cattle—3 feet 10 inches high, 2*s.* 6*d.* per yard.
" 3 feet 4 inches high, 2*s.* 3*d.* "
For Sheep—2 feet 10 inches high, 2*s.* 0*d.* "
For Game—2 feet 4 inches high, 1*s.* 9*d.* "
" 1 foot 10 inches high, 1*s.* 6*d.* "

The Silver Medals of the Royal Dublin and the Manchester Botanical Societies have been awarded to GREENING & Co. for the application of their patent to horticultural purposes.

*From* RICHARD BURTON PHILLIPSON, Esq., *Dunstan House, Penkridge.*

"Your fence for my flower garden is everything I could have desired, and has met with the commendation of all that have seen it. I am perfectly content with the price, and enclose you a cheque for the amount."

G. & Co.'s Illustrated Catalogue contains descriptions of the above and other Iron and Wire Fences for Parks, Farms, Gardens, Game Preserves, Poultry Courts, &c., also of Iron Gates, Iron Hurdles, &c. Post free on application.

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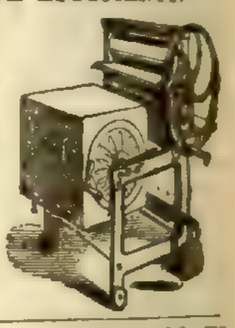
BRADFORD'S PATENT WASHING MACHINE. SIMPLICITY AND WONDERFUL EFFICIENCY.



"I very gratefully acknowledge the extraordinary patronage I have received from all parts of England, Ireland, and Scotland, and which has very far exceeded my most sanguine expectations."—THOMAS BRADFORD, Patentee, Manchester.

N.B. My Machines always have, and always will be sent on approval, if desired, before payment. Description and Price free by post.

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HEAL AND SON'S EIDER-DOWN QUILTS, from One Guinea to Ten Guineas. Also GOOSE-DOWN QUILTS, from 8*s.* 6*d.* to 24*s.* List of prices and sizes sent free by post. HEAL & SON'S New Illustrated Catalogue of Bedsteads and Priced List of Bedding also sent post free.

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WHITE AND SOUND TEETH are indispensable to personal attraction and to health and longevity by the proper mastication of food. ROWLANDS' ODONTO, or Pearl Dentifrice, compounded of oriental ingredients, is of inestimable value in improving and beautifying the teeth, strengthening the gums, and in rendering the breath sweet and pure. It eradicates tartar from the teeth, removes spots of incipient decay, and polishes and preserves the enamel, to which it imparts a pearl-like whiteness. As the most efficient and fragant aromatic purifier of the breath, teeth, and gums ever known, ROWLANDS' Odonto has for a long series of years occupied a distinguished place at the toilets of the sovereigns and the nobility throughout Europe: while the general demand for it at once announces the favour in which it is universally held. Price, 2*s.* 9*d.* per box. CAUTION.—The words "ROWLANDS' Odonto" are on the Label, and "A. ROWLAND & SONS, 20, Hatton Garden," engraved on the Government stamp affixed on each box.—Sold by them, and by Chemists and Perfumers.

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(KNIGHT OF THE ORDER OF LEOPOLD OF BELGIUM)

LIGHT-BROWN COD LIVER OIL administered with the greatest success in cases of CONSUMPTION, BRONCHITIS, COUGHS, RHEUMATISM, GOUT, NEURALGIA, GENERAL DEBILITY, DISEASES OF THE SKIN, RICKETS, INFANTILE WASTING, AND ALL SCROFULOUS AFFECTIONS,

is the most efficacious, the most palatable, and, from its rapid curative effects, unquestionably the most economical of all kinds. Its immeasurable therapeutic superiority over every other variety is attested by innumerable spontaneous testimonials from Physicians and Surgeons of European reputation.

OPINION OF W. MURDOCH, ESQ., M.D., M.R.C.S., *Medical Officer of Health, St. Mary, Rotherhithe, &c. &c.*

"I entertain a high opinion of Dr. DE JONGH'S valuable Oil. the results of my practice being much more satisfactory since I have administered it, than when I used the preparation Pale Oil usually sold by the druggists. I never could get samples of them alike, whereas Dr. DE JONGH'S Oil is always the same in taste, colour, and other properties. MY OPINION IS, THAT IT IS THE BEST OIL SOLD."

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HEALTH WITHOUT PHYSIC.—Nervousness cured by a novel and successful mode of treatment discovered in America. The most convincing proof of the efficacy of this wonderful remedy, with other details, will be sent on any address on receipt of one stamp.—Address, Mr HILL, Alfred Place, Bedford Square, London, W.C.

HOLLOWAY'S PILLS AND OINTMENT.—CONSUMPTION is almost invariably preceded by indigestion, debility, cough, loss of appetite, and flushes. The alterative and tonic influence of HOLLOWAY'S invaluable remedies operates like a charm in subduing these formidable symptoms. A course of these purifying Pills should at once be commenced, and at the same time HOLLOWAY'S Ointment should be well rubbed at least twice a day over the back and chest. The Ointment is more effective when used after sponging with warm brine and well drying. The conjoint effect of this treatment is marvellous, a change for the better is observed almost a week, and the improvement steadily progresses. The appetite returns, the shortness of breath ceases, and the harassing cough soon vanishes altogether.

# The Gardeners' Chronicle Newspaper.

*SATURDAY, NOVEMBER 5, 1859.*



**LECTURES TO WORKING MEN.**

GOVERNMENT SCHOOL OF MINES, Jermyn Street.—The FIRST COURSE of SIX LECTURES on the FIRST PRINCIPLES of CHEMISTRY, by Dr. HOFMANN, F.R.S., will be commenced on **MONDAY evening, the 14th inst., at 8 o'Clock. Tickets may be obtained by Working Men** only, on MONDAY, the 7th inst., from 10 to 4 o'Clock, upon payment of a Registration Fee of 6*d*. Each applicant is requested to bring his name, address, and occupation, written on a piece of paper, for which the Ticket will be exchanged.

TRENHAM REEKS, Registrar.

**BANK OF DEPOSIT,**

ESTABLISHED A. D. 1844; 3, PALL MALL EAST, LONDON, W.

CAPITAL STOCK 100,000*l*.

PARTIES desirous of INVESTING MONEY are requested to examine the Plan of THE BANK OF DEPOSIT, by which a high rate of Interest may be obtained with ample security. Deposits made by Special Agreement may be withdrawn without notice. The Interest is payable in January and July. PETER MORRISON, Managing Director.

Forms for opening Accounts sent free on application.

NEXT OF KIN WANTED, AND OTHERS who have been Advertised for; being exact Copies of Advertisements from the *Times*, *Gazette*, *Post*, *Advertiser*, *Chronicle*, also *Melbourne Argus*, *Sydney Herald*, *Canadian News*, *New York Herald*, *Indian Mail*, &c., for the last 60 years, covering many hundreds of Names and Descriptions of Persons of all classes Entitled to Property of several millions value. This invaluable **new Book (just out) is worth its weight in gold.** Hidden treasures are to be found in this extraordinary publication. It is sent post-free to every part of the United Kingdom for 12 penny post stamps by the publishers, FISHER & SON, Kingsland, London, N E Sent punctually per return of post.

FENDERS, STOVES, FIRE-IRONS, AND CHIMNEY PIECES.—Buyers of the above are requested, before finally deciding, to visit WILLIAM S. BURTON'S SHOW ROOMS. They contain such an assortment of FENDERS, STOVES, RANGES, CHIMNEY PIECES, FIRE-IRONS, and GENERAL IRONMONGERY as cannot be approached elsewhere, either for variety, novelty, beauty of design, or exquisiteness of workmanship. Bright Stoves, with ormolu ornaments and two sets of bars, 3*l*. 15*s*. to 33*l*. 10*s*.; Bronzed Fenders, **with standards, 7*s*. to 5*l*. 12*s*.; Steel Fenders, 2*l*. 15*s*. to 11*l*.; ditto, with rich ormolu ornaments, 2*l*. 15*s*. to 18*l*.; Chimney Pieces, from 1*l*. 8*s*. to 80*l*.; Fire-Irons, from 2*s*. 3*d*. the set to 4*l*. 4*s*. The BURTON and all other PATENT STOVES, with radiating hearth-plates.**

BEDSTEADS, BATHS, AND LAMPS.—WILLIAM S. BURTON has SIX LARGE SHOW ROOMS devoted exclusively to the SEPARATE DISPLAY of Lamps, Baths, and Metallic Bedsteads. The stock of each is at once the largest, newest, and most varied ever submitted to the public, and marked at prices proportionate with those that have tended to make his establishment the most distinguished in this country.

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| Bedsteads, from .. .. .. | 12*s*. 6*d*. | to | £20 | 0*s*. | each. |
| Shower Baths, from .. .. | 8 0 | „ | 6 0 | „ | |
| Lamps (Moderateur), from .. | 6 0 | „ | 7 7 | „ | |

(All other kinds at the same rate.)

Pure Colza Oil .. .. .. .. 4*s*. 0*d*. per gallon.

DISH COVERS AND HOT-WATER DISHES.—In every material, in great variety, and of the newest and most recherché patterns. Tin Dish Covers, 7*s*. 6*d*. the set of six; Block Tin, 12*s*. 3*d*. to 27*s*. 0*d*. the set of six; elegant modern patterns, 35*s*.6*d*. to 62*s*.6*d*. the set; Britannia Metal, with or without silver-plated handles, 3*l*. 11*s*. 0*d*. to 6*l*. 8*s*. 0*d*. the set; Sheffield plated, 10*l*. to 16*l*. 10*s*. the set; Block-tin Hot-water Dishes, with wells for gravy, 12*s*. to 30*s*.; Britannia Metal, 22*s*. to 77*s*.; Electro-plated on Nickel, full size, 11*l*. 11*s*.

WILLIAM S. BURTON'S GENERAL FURNISHING IRONMONGERY CATALOGUE may be had gratis, and free by post. It contains upwards of 400 Illustrations of his illimited Stock of Electro and Sheffield Plate, Nickel Silver and Britannia Metal goods, Dish Covers and Hot-water Dishes, Stoves, Fenders, Marble Chimney-pieces, Kitchen Ranges, Lamps, Gaseliers, Tea Urns and Kettles, Tea Trays, Clocks, Table Cutlery, Baths and Toilet Ware, Turnery, Iron and Brass Bedsteads, Bedding, Bedroom Furniture, &c., with Lists of Prices and Plans of the 16 large Show Rooms at 39, Oxford Street, W.; 1, 1A, 2, and 3, Newman Street, W.; and 4, 5, and 6, Perry's Place, W., London.—Established 1820.

**FINE HEAD OF HAIR.**

THE BEARD, WHISKERS, AND MOUSTACHIOS.

ROWLANDS' MACASSAR OIL is universally in high repute as the most successful article ever known in the growth, restoration, and in improving and beautifying the human hair, proved beyond question by its unprecedented results for more than half a century past, and when every other specific has failed. It prevents it from falling off or turning grey, strengthens weak hair, cleanses it from scurf and dandriff, and makes it beautifully soft, curly, and glossy. For children it is especially recommended, as forming the basis of a beautiful head of hair. Its invaluable properties have obtained the patronage of Royalty and the aristocracy throughout Europe; while its introduction into the nursery of Royalty, and the high esteem in which it is universally held, with numerous testimonials constantly received of its efficacy, afford the best and surest proofs of its merits. Price 3*s*. 6*d*. and 7*s*.; family bottles (equal to four small), 10*s*. 6*d*.; and double that size, 21*s*.—CAUTION: on the wrapper of each bottle are the words, ROWLANDS' MACASSAR OIL, &c., in white letters; and their signature, "A. ROWLAND & SONS," in red ink.—Sold at 20, Hatton Garden, London, E.C.; and by Chemists and Perfumers.

PERFECT FREEDOM FROM COUGHS is secured by DR. LOCOCK'S PULMONIC WAFERS.—To singers and public speakers they are invaluable for clearing and strengthening the voice. They have a pleasant taste. Price 1*s*. 1½*d*., 2*s*. 9*d*., and 11*s*. per box. Sold by all medicine vendors.

HEALTH WITHOUT PHYSIC.—Nervousness cured by a novel and successful mode of treatment, discovered in America. The most convincing proof of the efficacy of this wonderful remedy, with other details, will be sent to any address on receipt of one stamp.—Address, Mr. HILL, 27, Alfred Place, Bedford Square, London, W.C.

HOLLOWAY'S OINTMENT AND PILLS have been used freely by millions of human beings, of both sexes and all ages, in every part of the world; and while the public press has teemed with authenticated cases of extraordinary cures in a vast variety of disease (such as Indigestion, Scorbutic Eruptions, and Liver Complaints), there is not a public record of a single case in which their use has been attended with a bad effect. None, when using HOLLOWAY'S Ointment and Pills, need suffer the hope of cure to be counterbalanced by the fear of injury. They are peculiarly mild in their operations, and yet they never fail to effect a complete and permanent cure. Whilst using them no special restrictions are requisite.

BERDOE'S WINTER CAPES AND OVER-COATS effectually exclude rain, yet freely admit air. The extensive sale of these first class garments is their best recommendation.—WALTER BERDOE, Tailor, 96, New Bond Street, W., and 69, Cornhill (north side), E.C.

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## News of the Week.

THE EMPEROR OF THE FRENCH has addressed a letter to the KING OF SARDINIA, in which he definitively lays down the principles on which he is prepared to settle the Italian question. HIS MAJESTY proposes that Italy shall be composed of several independent States, united by a Federal bond, each State to adopt a particular representative system and salutary reforms; the Confederation to ratify the principle of Italian nationality; to have but one flag, one system of Customs, and one currency; the directing centre to be at Rome, and composed of representatives named by the Sovereigns from the lists prepared by the Chambers, in order that the influence of the reigning families suspected of a leaning to Austria may be counteracted by the element resulting from election. The Emperor proposes that the honorary Presidency of the Confederacy shall be vested in the POPE; that Parma and Piacenza shall be ceded to Sardinia; that the Duchess of PARMA shall be called to Modena; that Tuscany, augmented perhaps by a portion of territory, shall be restored to the Grand Duke FERDINAND; and that Austria shall be called upon to recognise Mantua and Peschiera as federal fortresses, and to complete the nationality of Venetia as a purely Italian province by giving her a separate representation and an Italian army. Accounts from Turin state that this letter has been very unfavourably received in Northern and Central Italy. The arrangements which it proposes have failed to give satisfaction to any party, and it is considered probable that, if an attempt were made to carry them into effect, they would rather add to, than diminish, the complications in which the Italian question is already involved.

Accounts from Madrid announce that a circular was addressed by the Spanish Government to the Diplomatic corps on Saturday, informing the foreign Powers that Tangiers, Tetuan, and Larrache had been declared in a state of blockade. The Paris papers state that though France does not actually co-operate with Spain in these operations the French army under General MARTIMPREY has invaded the interior of the empire and seized the defile of Ain-Tacouralt, in revenge for the outrages committed by the Moors on the frontier of Algeria.

Advices from New York inform us that the insurrection at Harper's Ferry has been suppressed without much loss of life. There is no longer any doubt as to the real character of the outbreak. Papers have been found in the possession of the prisoners which show that it was intended to be the commencement of a negro rising throughout the slave states, and that several well-known abolitionists had furnished the necessary funds. The whole affair had been organised with considerable deliberation and skill, and a constitution and code of rules had been drawn up, to which the conspirators were required to accede. Apprehensions of a further outbreak were current in the neighbourhood of Harper's Ferry at the departure of the mail, and the citizens were organising companies for their defence. The news of the insurrection had also caused great excitement and alarm in Washington, and precautions had been taken in case of an outbreak occurring in that city. The San Juan difficulty had been the subject of discussion at several meetings of the Cabinet, and it had been finally determined to take no further action in the matter until the receipt of despatches from General SCOTT. The latest news states that Lord LYONS had received despatches expressing the satisfaction entertained by the British Government at the conciliatory course which Mr. BUCHANAN had adopted in sending General SCOTT to the scene of the dispute.

## Home News.

THE COURT.—The Queen, Prince Consort, and the royal family continue at Windsor Castle. On Thursday week the Duke of Cambridge, the French Ambassador and Countess de Persigny, and the Right Hon. Sidney and Mrs. Herbert arrived on a visit to her Majesty. On Friday morning the Queen walked in the Home Park. The Princesses Helena and Louisa rode in the riding-house. The Prince Consort, accompanied by the Duke of Cambridge and the Count de Persigny, went out shooting. In the afternoon the Queen and Prince Consort visited the Duchess of Kent on her arrival at Frogmore. On Saturday morning the Queen, accompanied by Princess Helena, walked and drove in the Home Park, and visited the Duchess of Kent at Frogmore. The Duke of Cambridge, the French Ambassador and Countess de Persigny, and the Right Hon. Sidney and Mrs. Herbert left the castle. The Queen Marie Amélie and the Prince and Princess de Joinville visited her Majesty. On Sunday morning the Queen, Princess Alice, Princess Helena, Princess Louisa, and Prince Arthur attended Divine service in the private chapel; the Dean of Windsor performed the service and administered the Sacrament. On Monday morning the Queen, accompanied by Princess Alice, walked and drove in the Home Park, and visited the Duchess of Kent. In the afternoon the Duchess of Kent visited her Majesty. On Tuesday morning the Queen, accompanied by Princess Alice, walked in the grounds of the castle. In the afternoon the Queen, accompanied by the Princess Alice, drove out and visited the Duchess of Kent. On Wednesday morning the Queen, with Princess Helena, walked and drove in the Home Park. The Duchess of Kent visited her Majesty. In the afternoon the Queen drove out, accompanied by the Princesses Alice and Louisa. On Thursday morning the Queen and Prince Consort walked and drove in the Home Park. The Grand Duchess Marie of Russia and the Duke of Leuchtenburg visited the Queen from London. In the afternoon her Majesty drove out in the park, accompanied by the Grand Duchess and the Duke. Their Imperial Highnesses afterwards returned to London. The Duchess of Kent visited her Majesty.

THE PRINCE CONSORT has been confined to the castle for several days during the week by indisposition from a cold, and the usual attendance of the military and private bands in the evening has on this account been dispensed with. His Royal Highness was sufficiently recovered on Thursday to take exercise in the Home Park.

ARRIVAL OF THE PERSIAN EMBASSY.—Hussan Aly Khan, Minister Plenipotentiary from the Shah of Persia to the Courts of England, France, and Belgium, arrived at Claridge's Hotel on Wednesday from the Continent, for the purpose of presenting his credentials to the Queen. His Excellency will remain six weeks in this country, and then proceed to Brussels, for the purpose of presenting an autograph letter from the Shah to the King of the Belgians, and of arranging the terms of a large contract of firearms for the Persian army.

THE ARMY.—The colonelcy of the 56th Foot, vacant by the death of the Earl of Westmoreland, has been conferred on Lieut.-General Home.

CONVOCATION.—The Convocation of the prelates and clergy of the province of Canterbury was prorogued on Friday in the Jerusalem Chamber, pursuant to the Royal Writ, under a commission from the Archbishop, to Friday, December 15.

VOLUNTEER CORPS.—The progress made in the formation of rifle and artillery corps throughout the kingdom since we noticed the subject on the 17th September has been so rapid that we have now to add the following important towns and districts to the list of places in which companies had then been formed:—Aberdeen, Bath, Bridgewater, Beverley, Burnham, Burton-on-Trent, Blackheath, Brixton, Chester, Camborne, Charlestown, Chorley, Camberwell, Clapham, Devonport, Devizes, Doncaster, Dunbar, Gateshead, Glasgow, Greenlaw, Haddington, Halifax, Hamilton, Hereford, Handsworth, Huddersfield, Hull, Holloway, Hornsey, Highgate, Harrow, Hounslow, Islington, Isleworth, Kensington, Kingsclere, Lancaster, Leamington, Leeds, Leith, Leicester, Longton, Long Sutton, Marlow, Malvern, Nottingham, Northampton, North Walsham, Newcastle-on-Tyne, Newcastle-under-Lyme, Oxford, Oxford University, Oundle, Preston, Peterborough, Perth, Portsmouth, Reading, Retford, Rye, St. George's Hanover Square, St. Pancras, Sydenham, Streatham, Skipton, Southport, Spalding, Swansea, Twickenham, Tenbury, Towcester, Torquay, Truro, Wells, Wellington, Whittlesea, Windsor, Walham Green, Woodbridge, Woodbury, Wolverley, Wolverhampton, and York. Lieut.-Gen. Sir William Napier has addressed a letter to the *Times* for the purpose of correcting what he calls the "mischievous tendency" of a remark made by one of the speakers at a recent agricultural meeting at Dorking, to the effect that "no man of the Surrey Rifle Volunteers would hide behind a bush or tree." He says:—

"The art of hiding behind trees and bushes, rocks, sticks, and stones, is the very essence of modern warfare. The teaching regular soldiers how to move in masses is an absolutely necessary foundation to support the superstructure of real warfare, which is, in fact, this very hiding behind sticks and stones. A great deal is said about bayonet charges and solid onsets of heavy columns, but much less of that takes place than is supposed by men who only read of war; three-fourths of every battle between regular armies depend upon the stick and stone practice, and the whole of a battle, as between volunteer rifle corps and regular troops, will depend upon the former's skill in

hiding. This is called light infantry work—a very applicable name in the days when heavy armour was worn by the main body of pikemen, and lightly armed troops were employed for the more fatiguing work of covering the marches of the heavy body; but now that all soldiers are armed alike they should all be taught alike, and skirmishing well is, I say again, three-fourths of a battle. But I find that the making men good shots is placed above the art of manœuvring irregular corps. It should be just the reverse. To be a good shot is a very good thing, but is of less importance than the art—using a slang expression—of 'bringing the shooters to the scratch.' This is much the most difficult, also; for Englishmen are almost sure to have a natural disposition to fire well, and with very little teaching, having their rifles constantly in hand, will become good marksmen. Still, the more teaching the better, provided the higher branch of their business be not neglected. An invading enemy's column must generally march along the main roads; it will therefore be well for volunteer officers, either singly or with their companies, to examine all the roads leading through their county upon London or any other great town, and thus ascertain all the points of advantage offered for hiding behind sticks and stones; and to trees and bushes should be added railroads, banks, houses, public or private, bridges, &c., from whence their rifle balls will pitch into the enemy's columns. All ranges are good, but the longest range is best here, because it will give time for the rifleman to retire from the enemy's sharpshooters, and to find a new stick or stone for hiding. And be it remarked that, in examining the county, our volunteers should look well to the line of their retreat, choosing that which will be the most difficult country for the enemy's riflemen to follow, or that which will lead the enemy towards the rear of his line of march, and that, also, which will enable the volunteer most readily to join other volunteer corps acting in the same way. Thus they will inevitably enforce delay on the enemy, who cannot advance until he recalls his skirmishers, or they will be left behind to be overwhelmed by the accumulating numbers of our riflemen. Accumulation in this case will be most efficacious, but the forming large bodies of riflemen to move about in masses under the command of one man cannot be too strongly deprecated; it will be entirely opposed to the vital principle of rifle warfare, and will only make bad regulars instead of good irregulars. It is not meant, however, that there should not be commanding officers of large bodies, for that will be essential to concert and combination; but in the actual fighting and minor movements small bodies only should be employed; the seeking or declining a fight should be left entirely to the inferior commanders with small bodies, whose intelligence would thus be very soon awakened to what was right, and those endowed with a natural talent for war would very soon be distinguished and looked to both by their friends and enemies. I feel sure that with this system England may be successfully defended against any numbers, but I do not think London can be defended so easily; it is too near the coast, and there must be for its defence combinations between the regular army outside and the metropolitan volunteers inside, who must be taught how to occupy lines of houses, and docks, and canals, and bridges; and the best of those lines should now be examined and marked out upon maps for the instruction of the City volunteers, if any should be enrolled. For my part, I think all able to bear arms should be enrolled in time. I hope it will be so, for assuredly a very dangerous crisis is impending."

## Foreign.

FRANCE.—The following letter on the settlement of the Italian question was addressed by the Emperor of the French to King Victor Emmanuel on the 20th inst.:—

"Monsieur mon Frère—I write to-day to your Majesty in order to set forth to you the present situation of affairs, to remind you of the past, and to settle with you the course which ought to be followed for the future. The circumstances are grave; it is requisite to lay aside illusions and sterile regrets, and to examine carefully the real state of affairs. Thus, the question is not now whether I have done well or ill in making peace at Villafranca, but rather to obtain from the treaty results the most favourable for the pacification of Italy and for the repose of Europe. Before entering on the discussion of this question, I am anxious to recall once more to your Majesty the obstacles which rendered every definitive negotiation and every definitive treaty so difficult. In point of fact, war has often fewer complications than peace. In the former, two interests only are in presence of each other—the attack and the defence: in the latter, on the contrary, the point is to reconcile a multitude of interests—often of an opposite character. This is what actually occurred at the moment of the peace. It was necessary to conclude a treaty that should secure in the best manner possible the independence of Italy, which should satisfy Piedmont and the wishes of the population, and yet which should not wound the Catholic sentiment or the rights of the Sovereigns in whom Europe felt an interest. I believed then that, if the Emperor of Austria wished to come to a frank understanding with me, with the view of bringing about this important result, the causes of antagonism which for centuries had divided these two empires would disappear, and that the regeneration of Italy would be effected by common accord, and without further bloodshed. I now state what are, in my opinion, the essential conditions of that regeneration:—Italy to be composed of several independent States, united by a federal bond. Each of these States to adopt a particular representative system and salutary reforms. The Confederation to then ratify the principle of Italian nationality; to have but one flag, but one system of Customs, and one currency. The directing centre to be at Rome, which should be composed of representatives named by the Sovereigns from a list prepared by the Chambers, in order that, in this species of Diet, the influence of the reigning families suspected of a leaning towards Austria should be counterbalanced by the element resulting from election. By granting to the Holy Father the honorary Presidency of the Confederation, the religious sentiment of Catholic Europe would be satisfied, the moral influence of the Pope would be increased throughout Italy, and would enable him to make concessions in conformity with the legitimate wishes of the population. Now the plan which I had formed at the moment of making peace may still be carried out if your Majesty will employ your influence in promoting it. Besides, a considerable advance has been already made in that direction. The cession of Lombardy with a limited debt is an accomplished fact. Austria has given up her right to keep garrisons in the strong places of Piacenza, Ferrara, and Commachio. The rights of the Sovereigns have, it is true, been reserved, but the independence of Central Italy has also been guaranteed, inasmuch as all idea of foreign intervention has been formally set aside; and, lastly, Venetia is to become a province purely Italian. It is the real interest of your Majesty, as of the Peninsula, to second me in the development of this plan, in order to obtain from it the best results; for your Majesty cannot forget that I am bound by the treaty, and I cannot, in the Congress which is about to open, withdraw myself from my engagements. The part of France is traced beforehand. We demand that Parma and Piacenza shall be united to Piedmont, because this territory is, in a strategical point of view, indispensable to her. We demand that the Duchess of Parma shall be called to Modena; that Tuscany, augmented perhaps by a portion of territory, shall be restored to the Grand Duke Ferdinand; that a system of moderate liberty shall be adopted in all the states of Italy. That Austria shall frankly disengage herself from an incessant cause of embarrassment for the future, and that she shall consent to complete the nationality of Venetia, by creating not only a separate representation and administration, but also an Italian army. We demand that the fortresses of Mantua and Peschiera shall be recognised as federal fortresses; and, lastly, that a Confederation based on the real wants, as well as on the traditions of the Peninsula, to the exclusion of every foreign influence, shall consolidate the fabric of the independence of Italy. I shall neglect nothing for the attainment of this great result. Let your Majesty be convinced of it, my sentiments will not vary; and, so far as the interests of France are not opposed to it, I shall always be happy to serve the cause for which we have combated together. Palace of St. Cloud, 20th October, 1859."

It was reported yesterday in Paris that the French and English Governments have completely agreed on the bases of the Congress, which is to be held at Brussels, and that all that remains to be settled is the official notification from the English Government. The *Moniteur* of Sunday contains an article giving an account of the attacks of the Moors on the French territory during the months of August and September last, and stating that an expedition having been decided on, General Martimprey has energetically commenced the campaign by occupying the defile of Ain-Tacouralt, without serious loss. Beni-Snassen has since submitted to the French, accepting conditions of peace of a most severe character, and the expedition is pursuing the other tribes. A semi-official communicated article says that "the statement that France has supplied Spain with resources for operating against Morocco is not correct. France does not co-operate with Spain in her operations against Morocco." The Duke of Padua has retired from the post of Minister of the Interior on account of ill health, and has been succeeded by M. Billault. The Emperor and Empress arrived on Tuesday evening at Compiègne, and were received with much cheering by the people. The Grand Duchess Marie of Russia will visit their Majesties during their sojourn at Compiègne. Prince and Princess Metternich, Lord and Lady Cowley, and Count Walewski are among the guests invited to remain at Compiègne from the 7th to the 13th of November. The Queen of Holland and the Grand Duchess Stephanie of Baden have arrived at Nice. Prince Napoleon arrived at the Palais Royal on Thursday week on his return from England, and is said to have been highly gratified with the attention he received from all classes of persons with whom he came in contact in this country. A great fire took place on Friday at the Palace of the Luxembourg. The Chamber of the Senate was completely destroyed, and four persons were dangerously injured. The galleries, the museum, the library, the Throne-room, the archives, the historical apartments, &c., are all saved. It is stated by the Havre papers that the King of Abyssinia has made over to France the isle and port of Massenah in the Red Sea, and that the French Government has resolved on converting it into a naval station, in imitation of the English occupation of the island of Perim. The *Moniteur* of Monday contained a notification that the *Correspondant* had received a first warning for an article by the Count de Montalembert entitled "Pope Pius IX. and France in 1849 and 1859." It stated that the reasons for this warning were—that in condemning the war carried on by France in Italy as having caused the annihilation of the temporal authority of the Pope, the article had quite distorted the results of the war, and calumniated the policy of the Emperor, and was also insulting to the nations allied with France, while the comparison which the writer of the article designedly and offensively made between the names of Machiavelli and those of Napoleon III. and the King of Sardinia was wanting in that respect which was due to the Emperor. The *Ami de la Religion* also received a first warning for having published Count de Montalembert's article in its columns. It has since been announced that as M. de Montalembert has republished the article in a pamphlet, he is again to be prosecuted for "exciting to hatred and contempt of the government." The following are extracts from this article:—

"As for England, I admit without difficulty all the accusations alleged against her for the part she has played in Italy. More than ever I have thought it right to express in these pages the embarrassment and the annoyance one feels in speaking the truth on the faults and vices of England for fear of being confounded (at a period when the art of confounding is very willingly practised) with her stupid and brawling detractors, who attack in her only liberty, dignity, and political vitality, and who believe they defend Catholicity by maintaining that people are more happy, prouder, and more free in Naples than in London, simply because they work less at the foot of Mount Vesuvius than on the banks of the Thames! But one has less pain in overcoming this embarrassment and this annoyance when he is, as I am, and when he remains, the sincere friend and passionate admirer—I have perhaps the right to say the well-known confessor to the manly virtues and glorious institutions which have placed England in the high position she occupies. She must take care not to fall from that height. She will assuredly not long remain on it if she continue to follow in the affairs of Europe the tortuous and immoral policy which characterises her attempts at action in Italy. At first to do her utmost to prevent the war; to take when war is once declared no part direct or indirect in it; but the moment peace is made to intervene with an arrogance and a persistance which the noblest sacrifices on her part would hardly justify; to intervene in order to envenom all the difficulties and to increase all the dangers—such a part has but one name—it is ignoble! It is true that since the sensible and honourable despatches of Lord Malmesbury before the opening of the war, and the recent harangue of Lord John Russell at Aberdeen, a change of Ministry has taken place. Twenty-one Catholic deputies of Ireland, the masters of the majority in a new Parliament, have had at a moment the most critical for the Papacy the fine idea of transferring power from the hands of Lord Derby and a Ministry essentially Conservative, moderate, and full of good will towards the Catholics, to those of Lord Palmerston, whom every one knows, and Lord John Russell, who distinguished himself among all the statesmen of England by the violence of his invectives against the religion which is professed by 150 millions of Christians and 10 millions of British subjects; and of Mr. Gladstone, who, I regret to say, placed himself by his last tirade against Pius IX. on a level with Lord John. But, as has been already observed with respect to France, nations are, and continue to be, participators of the foreign policy of their Governments. Whatever be the changes that have occurred in the English Ministry, all England bears, and will bear, the moral responsibility of the tergiversations, the perfidies, and the violence of her leaders. England is alarmed at her isolated and menaced condition in contemporaneous Europe. She is right to be so alarmed. In spite of the heroism displayed by her children against the insurgents of India, she feels instinctively that the days of Nelson and Wellington, of Burke and of Chatham, have passed away, and she deplores it. She would do better to deplore the gradual destruction of public and social spirit which produced her great men. But a day will come, perhaps will soon come, but still too soon for the friends of liberty and civilisation, when she shall find what matchless folly she has committed in arraying against her with all the animosities, all the rancours, all the jealousies which she excites, and which she aggravates every day, the just resentment and the filial anguish of 100,000,000 of Catholics." * * * "God keep me from wishing to offend honest and sincere, but deluded people, who have seen in the war in Italy a work of liberal emancipation! We make allowances for their hopes and their illusions; we do not confound them with the stupid or culpable revolutionists who have substituted an unfortunate enterprise, and a question impossible of solution, for the great and legitimate cause of Italian independence. But we must declare that, if Italy had really understood her mission and her glory; if, instead of decreeing a statue to cunning, to deceit, to political depravity, personified in Machiavelli, she had remained faithful to the inspirations of the Foscolos, the Manzonis, and the Balbos, the original and real promoters of her modern patriotism, she would have set apart, and beyond all question, the two-fold majesty of the Holy See."

SPAIN.—Preparations are actively making in every branch of the War Department for the expedition against Morocco. On Saturday a circular was addressed to the Diplomatic corps, informing the foreign Powers that Tangiers, Tetuan, and Larrache have been declared in a state of blockade by the Spanish Government. The Staff of General O'Donnell was to leave Madrid about the 3rd or 5th inst. The Queen intended giving to the expedition a flag bearing the image of the Virgin. The newly-born child of the Infanta Dona Amelia and Prince Adalbert of Bavaria had been baptised with great pomp in the Royal Palace, the Queen and King acting as sponsors, the latter as a representative of the King of Bavaria. The Queen has conferred the honours and prerogatives of Infante of Spain on the Duke of Montpensier, her sister's husband. The Archbishops of Tarragona and Burgos and the Bishops of Avila and Barcelona have published pastoral letters ordering prayers to be offered up for the Pope; and their example was to be followed by other prelates. The Spanish battery of Tarifa has lately fired shot at several English, Dutch, Belgian, and Danish vessels which have passed it.

BELGIUM.—On Sunday week a fire burnt down one of the wings of the Royal Arsenal at Antwerp. Several persons lost their lives, and others were injured. It is not known how the fire was occasioned.

SWITZERLAND.—Despatches from Zurich state that the treaty between France and Sardinia was expected to be signed on Wednesday or Thursday, and the triple one in two or three days afterwards.

PRUSSIA.—The project of reorganising the army, which had been for some time under consideration, was signed by the Prince Regent on the 28th ult., exactly as proposed by the Minister at War.

RUSSIA.—A letter from St. Petersburg announces that Schamyl has left that city for Moscow. He was so ill that two servants had to lift him into the carriage. An exhibition of agricultural products is to take place in St. Petersburg early next year. A special committee has been appointed to make, in conjunction with the Economic Society, all the arrangements called for by such an occasion. This committee is composed of Admiral Lutke, Baron Wrangel, Prince B. Galitzin, and several other gentlemen. Besides this industrial competition, it is probable that St. Petersburg will have a National Statistical Congress.

ITALY.—The letter of the Emperor of the French to the King of Sardinia on the Italian question has caused great astonishment in Northern and Central Italy, and the arrangements which it proposes are said to have produced a very bad effect. It is reported from Turin that the Pope has threatened to launch a bull of excommunication against the King of Sardinia, and that the King has intimated his intention if necessary to accept the struggle, and embrace another religion, advising the people to follow his example. Garibaldi arrived at Turin on the 28th ult., in compliance with the summons from the King. He was enthusiastically received everywhere along the road, especially at Voghera, where, in addressing the multitude, he said:—"With a King like Victor Emmanuel, with an army like ours, and with a people like you, Italy should not stop until she has freed the last inch of her soil from the heel of the foreigner!" It is said, however, that his interview with the King was not satisfactory to either party. Garibaldi is said to have declared frankly that Italy was betrayed, and that he should put himself at the head of the revolution; and the King is said to have replied that he hoped he would not commit such an absurdity, but that, if he did so, there was no alternative but to employ force to prevent it. Accounts from Venice of the 2d inst. state that on the occasion of the reopening of the Opera a noisy demonstration has taken place in that city. Brigandage continues in the Venetian provinces. Several persons have been arrested in Verona by Hungarian soldiers for distributing revolutionary prints.—The Turin papers state upon what they consider good authority that 40,500 inhabitants of the Venetian territory have emigrated since January last. The elections of the members of the Municipalities at Florence and other places in Tuscany

have terminated without any result, on account of almost all the electors having abstained from voting. The National Assembly has been convoked for the 7th of November. A conspiracy has been discovered at Florence. A proclamation was issued to which the conspirators appended the names of Baron Ricasoli, Count Ridolfi, and other Ministers, announcing to the people that events rendered imminent the restoration of Ferdinand V., and that annexation to Sardinia was manifestly impossible. It exhorted the Tuscans to resignation, and stated that the Ministers were prepared to resign their powers into the hands of the Grand Duke's representatives. This document was, on a fixed day, to have been posted up in all the towns of Tuscany, and scattered by thousands over the country. A Tuscan agent at Rome warned the Government of what was going forward, and enabled them to seize a packet of papers that threw full light on the plot. Ten or 12 persons were arrested on suspicion of being concerned in this conspiracy, but they have since been quietly set at liberty. The Pope has accepted the principle of the reforms that have been suggested to him by the Emperor Napoleon, and has stated to the French Ambassador that he is ready to grant them after the insurgents in the Romagna have returned to their allegiance, which he presumes they will do after the restoration of the Grand Dukes. The Bologna papers contradict the news of the arrest of the Bishop of Rimini, and state that three monks have been arrested in consequence of serious accusations against them. Advices from Naples to the 27th ult. state that General Filangieri has again resumed the direction of the Ministry of War. The full strength of the army of the Abruzzi has been made up, and has been provisioned. This army retains its character of a corps of observation. According to advices from Sicily the insurrection in that island has not ceased. The insurgents have withdrawn into the mountains. The brothers Mantrichi are at the head of the movement. Reinforcements of troops are continually despatched by the Neapolitan Government to quell the insurrection. Numerous arrests have taken place at Palermo, Cassano, and Messina.

MOROCCO.—Accounts from Tangiers state that war with Spain being now considered certain, a panic has seized the European inhabitants, and the people of the city were flying in all directions from the dread of the Kabyle tribes that had entered in order to defend the city from attack. The Governor was indefatigable in using his greatest efforts to prevent pillage, and the various European representatives had still their flags hoisted over the Cousular houses. The most respectable Moors of the city had succeeded in removing the greatest portion of their goods into the interior for safety. Nearly 3000 fugitives, including Christians, Jews, and Moors, have already arrived at Gibraltar; and British vessels of war have sailed for Mogadore and Tetuan to bring away all persons who may wish to leave.

TURKEY.—Advices from Constantinople of the 26th ult. state that in the night following the delivery of the judgment on the persons concerned in the recent conspiracy, a placard threatening the Sultan and his Ministers with terrible reprisals, if a hair of the head of the condemned were injured, was stuck up at the gate of the palace of the Grand Vizier, and another of a like kind at that of his counsellor. A similar menace was also addressed direct to the Sultan, together with a letter couched in very respectful terms, which warned his Majesty that it was of urgent importance, in order to prevent the horrors of a general rising—first, to exercise clemency to the conspirators; secondly, to dismiss all the Ministers; thirdly, to put down abuses and frauds; and fourthly, to reform the finances of the State. In addition to this Fuad Pasha, the new Grand Vizier, on taking office insisted that the conspirators should not be executed. To this the Sultan readily gave his consent, and the sentence of death pronounced on Hussein Pasha, one of the principals in the late conspiracy who took so glorious a part in the defence of Kars, has accordingly been commuted into two years' banishment. The Grand Vizier next demanded complete reforms, and wished that the chief religious dignitaries should contribute largely to the public taxes, and that the Sultan should sacrifice one-third of his own revenue. The Grand Vizier having met with resistance to these measures among his colleagues, a modification of the Ministry has taken place, and it is stated that Ethem Pasha will succeed Fuad Pasha. The Chief of the General Staff, Riza Pasha, has been banished. The following Imperial Hatt was read at the Sublime Porte, on the 15th ult., in the presence of all the Ministers and the high functionaries of the empire:—

"TO THE ILLUSTRIOUS GRAND VIZIER.—The first basis and the foundation of all the strength and all the prosperity of a State rest on its financial position. Without credit and without confidence progress becomes impracticable. Notwithstanding the material expenses of the country it is incontestable that if order were introduced into the administration of the public money, and it were employed usefully, the country would in a short time arrive at the realisation of this strength and this prosperity. It has, however, been proved to be true for some time past, and from different causes, that the blow that has been given to the credit of Turkey has thrown the country into the abyss where it is now plunged. Powerful and daily calls on the Government have necessitated the contract of loans from the merchants in Galata on heavy and ruinous conditions, as likewise the issue of different kinds of paper money, and all confidence has been destroyed as well in the interior as in the exterior of the State. Disorder in the expenses has, on another side, increased the evil, and brought matters to the situation that they now are in. With the aid of the Most High, I am about to employ an incessant zeal in order to anticipate the dangerous effects of this state of things. My sovereign and absolute will is that my Ministers, on their part, should spare neither pains nor efforts, and should devote themselves to the development of those means which will insure the wellbeing of People, without allowing themselves to be led away by considerations of personal rivalry. He who shall act in opposition to this end will have to render an account of his conduct in this world and in the next; and, as it is only by the adoption of energetic measures that we can draw ourselves from the abyss in which we are now plunged, and likewise save the credit of the empire, we must examine in a serious and profound manner, both in principle and in detail, the great point, namely, the abolishment of or the change in those customs and acts which have occasioned all those expenses and, with God's assistance, reorganise the general administration of the country in a manner that will give confidence to the world. In order that the result of the examination which shall be made into this important question shall be submitted to me."

CHINA.—The American papers publish a long despatch from Commodore Tattnall and a letter from Mr. Ward, the American Ambassador, describing the affair of the Peiho, as it was observed from the American squadron. Both these documents give high praise to the gallantry of the English and French forces, and speak with admiration of the bravery of Admiral Hope. They state that the circumstances attending the engagement left no doubt that the Chinese had prepared "a deception and ambuscade, intending, in the confidence of their own strength and the small force of the English, to invite a conflict in order to annul the treaties of last year." The papers also publish a very long narrative of the adventures of the American Minister in his course to Pekin in order to obtain a ratification of the treaty. It appears that Mr. Ward was compelled, as stated in our Number of the 3d ult., to travel to Pekin with his suite in a closed box on two wheels drawn by a mule and a donkey, and that on his arrival in the capital he was told that he could only be admitted to the Emperor on his consenting to perform one kneeling and three knocks of the head before his Majesty. The Ambassador refused to submit to this ceremonial, and was accordingly dismissed from Pekin without having had an audience of the Emperor, and was taken back in the same close box to Pehtang, in which little seaport town the ratified copy of the American treaty was handed to him by commissioners, to whom at the same time he delivered the American ratification.

UNITED STATES.—Accounts from New York state that the insurrection at Harper's Ferry has been suppressed with a very small loss of life. The details of the affair are very confused, but in spite of the denial of some of the papers there is no doubt that it was a negro insurrection, and that it had been planned and organised for some time past with considerable care by white men, several well-known abolitionists furnishing the money. It is said that the Secretary of War had intimation of it some months ago, but gave the story no credence. The intention of the negro plotters was to arm the slaves of Virginia and the neighbouring States, establish themselves at several points, and regain their freedom. The affair was planned by the notorious Kansas outlaw "Old Ossawotamie Brown," and white men from Iowa and Connecticut were lieutenants in the conspiracy. Old Brown is badly wounded, and his son is dead. The total loss of life was 6 citizens and 15 insurgents killed, while 3 insurgents were wounded, and 7 taken prisoners. The Government has despatched troops in pursuit of those of the insurgents who left Harper's Ferry on the 17th, and the orders of the President are to follow them into other States. Accounts from Washington state that the Cabinet has lately had a series of protracted meetings, over which Mr. Buchanan presided, in which the trouble at the North-western boundary was the principal topic, and it has been finally determined to take no further action in the matter until after the receipt of advices from General Scott. Lord Lyons is said to have received despatches from the British Government, in which the action of the Administration in sending General Scott to San Juan is favourably construed and commended.

CANADA.—The Grand Trunk Railway Company announce the opening of their line from Detroit to the Atlantic seaboard on the 7th of November. The English cricketers won the game at Hamilton without the loss of a wicket in their second innings. They are playing a match at Rochester against Twenty-two chosen from the American and Canadian Clubs.

## Public Addresses.

THE EARL OF DERBY at Liverpool on Friday made the following remarks on the Conservative party and their policy in regard to public affairs:—

"I have watched with the deepest anxiety and have seen with the highest gratification the progressive improvement in strength, in unity, in everything which marks political power, of the Conservative party during the last 14 years. I wish to speak in this assembly, as I have spoken upon all occasions, in terms of the highest respect for the distinguished genius and the personal character of that great statesman whom England has recently had to lament—the late Sir Robert Peel. Indeed, if upon any occasion I could speak of that great man in terms other than those which I have always used, it certainly would not be at a moment when a melancholy bereavement [illegible] prevented the attendance of his nearest relation—one of my most valued colleagues in the late Government, who gave me most able and admirable assistance in the management of a difficult department, namely, the civil administration of military affairs. But, gentlemen, I am not saying anything disrespectful to the memory of a statesman with whom I had the honour of many years of personal friendship, and I believe of reciprocal esteem, when I state that the course which at the close of 1845 was taken by the late Sir Robert Peel completely and entirely for the moment shattered the Conservative party in this country. I am now about to state a fact which I believe is not known to half a dozen individuals. Upon the failure of Lord John Russell's endeavour to form a Government I wrote confidentially to the most eminent man in the country, the late Duke of Wellington, a warm and cordial admirer and supporter of Sir Robert Peel, a man who had stood for many years the foremost man in the world in the eyes of his countrymen. I wrote to consult him as to the position of the Conservative party and the best means of restoring that unity which had been so lamentably destroyed. I received a long letter from the Duke of Wellington, which I need hardly say I have kept and keep very safely, in which he explained to me that, having accepted under the abortive attempt of Lord John Russell to form a Government the duties of the neutral position of Commander-in-Chief he considered he had for ever broken off his political connexion with any party. He intimated, however, his concurrence in the opinion which I had ventured to express that the alienation of the Conservative party from Sir Robert Peel was not a mere temporary feeling, but that it was impossible he should ever again place himself at their head with any prospect of success, and the Duke of Wellington, I will not say entreated, but exhorted me, as a matter of duty to my Sovereign and to my country, to throw aside all doubts and all hesitations, and to assume at once the leadership of that great Conservative party whose existence and whose power he deemed to be essential to the well-being of the country in all its institutions and he advised me if her Majesty should at any time lay her commands upon me to attempt to form an administration, not to be discouraged by any difficulty, except such as might be absolutely insuperable, but to sacrifice every other feeling to a desire of serving my Sovereign and my country. Gentlemen, for 14 years I have endeavoured to act in the spirit of that wise and patriotic advice, coming from so eminent a man, and I have been rewarded by seeing the Conservative party taking their roots in the feelings and hearts of the country, and, as our opponents are compelled to acknowledge, though in doing so their fears rather magnify our strength, forming at the present moment an absolute majority in Parliament. It is also admitted, with a melancholy sense of the painful contrast between the two sides, that the advantage thus obtained is doubled by the fact that our majority is that of a united party. You may perhaps ask me—and it is a fair question on the part of those before whom I appear to justify the course which I have pursued, and to whom I am prepared to speak with entire and absolute frankness—what is the use which I desire to make of that greatly increased Parliamentary strength, or, as our opponents say, of that majority in the House of Commons? Perhaps I shall disappoint the expectations and wishes of some of the more enthusiastic, and probably of most of the younger members of this assembly, when I say that I have no desire for the immediate overthrow of the present Administration. I should hold the same language which I now do even if a momentary party advantage might be so gained, but there are considerations higher than those of party, which have still greater weight with me—considerations of what is for the benefit of my Sovereign, for the reputation of the country in the eyes of foreign nations, and for the respect due to Parliament itself. All these considerations militate against a succession of ephemeral Governments, acquiring office by a bare majority, liable at any moment to be displaced by the caprice of some half dozen votes in the House of Commons, and exposing the Crown and the country to a perpetual change of persons and of principles, which renders all steady legislation impossible, and which, weakening their internal strength and their external power, paralyses the hands of those to whom the duties of administration may for the moment be intrusted. Moreover it appears to me that the policy which is dictated by a due consideration of the interests of the country at large is also recommended by the interests, well-considered, of the party to which I have the honour to belong. It cannot be for the advantage of that party that for the third time it should be prematurely called upon to form a Government without sufficient strength to maintain itself against all attacks and against all combination. What is required is the determination of the country itself, or, at all events, of the Conservative strength of the country, to prepare for future events. Let every man consider that he has a duty to perform and a cause to sustain. Remember that by the combination of small efforts great results are produced, and do not compel me or any one who may represent the Conservative party to accept office when I cannot be confident of holding it, at least so long as I honestly endeavour to discharge the duty which I owe to my Sovereign and my country. Your chairman has spoken of the period of difficulty and of anxiety at which we acceded to office. I believe that in some respects the difficulties and anxieties of the present Government are fully as great as those to which we were exposed. I know nothing beyond what I learn from the public organs of intelligence; but I am much mistaken if our foreign relations at the present moment are upon as satisfactory a footing or are as generally amicable as they were a few months ago. The present Government have difficulties to contend with in what is commonly called the Italian question, with respect to which I hope and trust they will be steady in their purpose not to entangle themselves in the negotiations of any Congress that may be proposed. They have difficulties in China. They have difficulties upon the Coast of Africa—difficulties which may seriously threaten us unless a decided tone be taken, and unless this country is disposed to maintain rights which are absolutely essential to its welfare. They have difficulties in the North Pacific where our Transatlantic brethren appear, if I may use a familiar expression, to be 'trying it on.' They are contending with difficulties in various quarters, but they are not difficulties which may not be surmounted by a mixture of firmness and good temper, and at the same time by a determination to maintain the rights and the honour of England. Ministers have, on the other hand, great advantages in their favour. They preside over the destinies of a nation which never at any time was so abounding in material resources, in wealth and in prosperity, as it is at the present moment. They preside over a nation in which commerce is flourishing and active almost beyond precedent, and at the same time, as I believe, free from all unhealthy speculation. They preside over a country in which labour is abundantly employed, and the population is generally contented. They have the consciousness that within a certain number of months—I shall not say how many—the military and naval resources of the country have been greatly improved, and that, if our national defences are not altogether what we would desire them to be, our great fortifications of Gibraltar and Malta have received from the labours of the late Government an amount of reinforcements which has placed them in a far better position of defence than they have enjoyed for the last 20 years. Moreover, they know they preside over a country the population of which are again alive to the necessity of maintaining adequate defensive armaments, in which our military ardour has been again awakened, and in which private and personal efforts will not be spared for the vindication of the national honour. Of one thing, at least, they may feel assured, that, while the country and while Parliament will not readily forgive a Ministry which lastily embroils us in an unnecessary war, they will, without regard of party or any other consideration, bring forward the whole weight of public opinion in support of any Minister who shall steadily resist, from whatever quarter it may proceed, any attack upon the independence, the honour, or the interests of the country. Above all the present Government had this great advantage over their predecessors, that they will not have to contend with an Opposition which will descend to any factious combination, nor need they fear that we shall seek to eject them from office without regard to the interests of the country or to the probability of being able to succeed them. It may be that the present Government may fall by their own internal dissensions. Indeed, looking to the composition of that Government, I can feel no great confidence that such

may not unhappily be the case; but honestly and sincerely I say that I desire that their differences may be made up. Among the members of the Government, and still more among those who support them, there are men who in their hearts are as sincerely Conservative as any of those whom I now have the honour of addressing; there are others who most unwillingly submit to a power which they feel to be too strong for them; while a third section, though the loudest in clamouring for certain measures, and ready to place themselves at the head of a movement which they feel unable to resist, would, I believe, deplore and deprecate the success of their own schemes. The present is not a fitting opportunity for entering upon the consideration of individual questions; but I can say in all sincerity of heart that I earnestly desire that the present Government may be enabled to bring forward such a measure of Parliamentary reform as may be honestly supported by the great body of Conservatives. I think it is of the highest importance that this question should be finally and speedily settled; and if the Government of which I was a member undertook to attempt a settlement of it, we did so not because we admitted that a Bill was called for by imperative necessity, but because it had been repeatedly promised in speeches from the Throne and in declarations of Ministers, and because we felt it was of the most vital consequence that a question of so much importance should not be left in suspense. I do not intend to enter now into a defence of that measure. We certainly considered that an extension of the franchise founded upon the principle of uniformity between counties and boroughs was likely, as it largely increased the constituencies, to satisfy the claims of justice, and at the same time hold out the best hope, I will not say of a final, but, at least, of a durable settlement of the question; but the House of Commons repudiated that principle; and I presume that whatever measure may be introduced by the present Government will contain some extension of the borough franchise. I am not prepared to say that no such reduction may be attempted without danger, but I do say that it is necessary, before adopting such a measure, to exercise the greatest caution, and to enter into the most minute calculations as to the practical effects of whatever extension of the franchise may be so proposed. I am not jealous—the Conservative party are not jealous—of the working classes. I desire to see their interests fully and fairly represented, but I confess that, looking to the revelations of Gloucester, Wakefield, and other places, I doubt whether any great reduction of the franchise would not tend largely to extend that corruption which is the bane of our electoral system, while, if I look to the manner in which even the most intelligent workmen have been misled by false and delusive advisers, I think it is at least a subject for serious consideration how far, in the interests of the lower classes themselves, it would be desirable to give a preponderating power to men who, if legislation were thrown into their hands, would probably introduce and pass measures which would be absolutely fatal to themselves. I say therefore that while the Reform Bill introduced by the present Government shall meet with no factious opposition from the Conservative party, I hold it to be the duty of any Ministry who are responsible to their Sovereign and their country not to be led away by mere popular clamour upon a subject which may be of such vital importance, but seriously to consider the effect of their proposed legislation: and God grant that the present Government may have wisdom and prudence enough to introduce such a measure as may pass with the approbation of a united Parliament! Before I sit down I desire to say a few words on a subject of some delicacy, because the greatest possible misrepresentations have been made with respect to it. Among other inventions which were circulated to calumniate the policy of the late Government and to produce prejudice against us was one that we had entered into a corrupt alliance with the Roman Catholic body of this country for the purpose of obtaining their support by concessions dangerous to Protestant interests. I need not say, gentlemen, that that imputation was as baseless as one to which I have seen great currency given—viz., that I had countersigned a paper containing stipulations with regard to a Reform Bill, upon the faith of which I was to obtain the support of certain Liberal members. I am happy to say with regard to the great body of the intelligent Roman Catholics of this country I have for some time past observed a growing tendency to alienate themselves from the so-called Liberal party, and to unite themselves with those who are their natural allies, the Conservatives. I have many personal friends among the Roman Catholics; I have Roman Catholic tenants, I have Roman Catholic labourers in my employment, and I should be ashamed of myself if there could be detected the slightest difference between my treatment of them and that of those of my own persuasion. I go further—I say that I cordially and earnestly sympathised and concurred with the endeavours which were made, so much to his own credit, by my gallant friend General Peel, to afford to our Roman Catholic soldiers greater opportunities than they had previously enjoyed for exercising the rights of their religion. But, I think I may appeal to the whole course of a somewhat long political life, whether, though always ready to maintain the principles of entire toleration and religious liberty, I am a man who would ever voluntarily yield to any of the encroachments of the Roman Catholic Church as a political body, whether I would sacrifice one jot or iota of the rights and privileges of that church to which I myself belong, whether I would diminish its means of public usefulness, or whether I would depreciate it as a great portion of our political institutions by lowering its position or lessening its influence in the country. To that church I have always been sincerely attached; for that church I have made many sacrifices; for that church, even against the opinion of its members, I have introduced measures the value of which has been subsequently acknowledged; and you may depend upon it that there are few things dearer to my heart—few principles which I am more determined to uphold—than the maintenance of the dignity, the rights, and the privileges of the established church of these realms."

**The EARL of MALMESBURY at Liverpool spoke as follows on the French alliance:—**

"It is impossible for any one living in this great emporium of trade and commerce, and acquainted with the transactions of business, not to understand the unspeakable value of a cordial alliance with France. On the first occasion when my noble friend was called upon to be Prime Minister of this country, we found France at that time likewise in a very anxious position. She had determined to alter the form of her Government, and even to change the dynasty of her Sovereign. My noble friend and I, acting under him, saw at once the only course to pursue consistent with the feelings both of the English and French people. We at once and without hesitation recognized that Prince whom France had chosen to rule over her, and though other countries did not follow our steps and hesitated to take the same course, we nevertheless cordially acknowledged Louis Napoleon as the Emperor of the French. It so happened that it was my fortune in early life to be intimately acquainted with that Prince even before he was an exile in this country, and I assure you that I deeply and completely appreciated, from the moment I first knew him, his great qualities and abilities, and there are many now who can bear witness of my having constantly and publicly stated what I thought of those abilities and qualities, when very few Englishmen had the same opportunity of forming a judgment on the subject like myself. It will be satisfactory to you, and right for the sake of truth, that, speaking on this occasion of that Prince, I should say that whenever I had conversations with him on political matters long ago, and since, and even to the last time that I had the honour of any conversation with His Majesty, he has always held the same language, expressing his belief not only that it was the best policy for France itself, but that his earnest personal wish was to maintain a cordial alliance with this country. That is a fact which ought to be known and pondered on by statesmen in this country; but, notwithstanding the feelings of the Emperor of the French, we have again, since the occasion I just now referred to, been under considerable apprehension as to the sentiments of the French nation and Government towards us; and, if I may be permitted from my experience of foreign affairs in reference to the feelings and policy of the French Government, I would say that, however earnest the French Ministers might be to maintain a friendly alliance with us, I do not think they could understand the policy and nature of this country. It appears to me that we could with perfect ease maintain a courteous friendship and complete alliance with France, and she with England, without being obliged to go hand in hand, foot by foot, and step by step, in a policy she probably may feel consistent with her own political interests; and it is unreasonable, because there may be certain principles we cannot agree with in her policy and which we cannot in prudence follow, because the policies of the two countries are different, to turn round, as the French press has often done, and say that we are no longer a faithful and cordial ally. I go further, and say that it is not to the interest of our alliance with France that we should go hand in hand, arm in arm, foot by foot with her, because if by any chance it should not be seen by the world at any time that we were joining France in that intimate manner, the suspicion is immediately raised that our cordial alliance has ceased. I maintain that the policy of England is entirely different on many points from that of France. The writers in the French press taunt us now with having lost our former power, with being isolated from the other nations of Europe, and taking up the position of a second-rate Power, because we do not interfere with the affairs of Italy. I accept that word isolation in its original sense, from its Latin derivation, and I say that on our geographical isolation frequently depend our isolation from foreign politics and our safety also. We may be a warlike, but may not be a military nation. We may be an industrious and commercial people, but that does not prevent us from defending our own rights and country, but it essentially prevents, or ought to prevent, us from meddling in the internal affairs of other States."

**MR. DISRAELI at Liverpool made the following remarks on the state and duties of political parties:—**

"When I consider what was the position of the Conservative party, as far as the House of Commons is concerned, 10 years ago, I think I may be allowed to say, whether I look at its numbers, its intelligence, its influence in the country, or its power in debate, its position at this moment need not shrink from any comparison with what it was at that previous period. Therefore I trust that even under my humble guidance it has not suffered in public estimation or lost in public position. I venture to say that those have been 10 years of great difficulty and great exertion; but I may be allowed to add, that during that period, however various may have for the moment appeared the vicissitudes, and however capricious the changes, we ourselves have always had a main object in the course which we have pursued, and in the purpose which we at length have achieved. It has been our wish to put an end to that which I may describe as 'the monopoly of Liberalism,' which in our opinion has exercised a very pernicious influence on the course of public proceedings and on the character of public men. Now, for more than a quarter of a century, by this theory of a monopoly of Liberalism, half the public men in England have been held up as individuals incapable and unqualified to attempt any measure which might improve the institutions or administration of the country; while on the other hand the other half were, in order to sustain this monopoly, perpetually pledging themselves to changes and alterations injudicious in almost every case, and in many utterly impracticable, and when they were in power they expended all their resources in inventing evasions by which they might extricate themselves from the fulfilment of their previous promises. Now I believe, and all my colleagues believe, that that state of affairs was a principal cause of that insincerity in public life which of late years has so frequently been attributed to the conduct of public men; but I believe that that is now completely terminated. I believe we have brought about a healthy state of political parties. Men will now be judged of by the policy which they recommend and the measures they bring forward, not by traditions, which are generally false—not by promises which are seldom fulfilled. I know we are told that this 'monopoly of Liberalism' is extirpated—that it is at length shown that no single party is to have a peculiar privilege of governing by right the country. Now we are told, gentlemen, that party has no importance whatever, because there are no longer any public questions to settle. He would in my opinion be an arrogant and not a very far-seeing statesman who, in dealing with the affairs of a mighty empire, would presume to say that great questions would not often occur; but let that pass. I maintain that it is an error, a pernicious error, to associate the existence in England of great Parliamentary parties solely with the existence of great political questions. Great political questions should be rare, and will be rare, in communities which enjoy so salutary a political state as, on the whole, England has long enjoyed. The duties of Opposition are not to be confined merely to emergencies; they are duties which perpetually exist and ought to be constantly fulfilled. They are duties of vigilance and criticism, and it is only on great emergencies that the Opposition is called on to propose and to initiate. I therefore hold that our duties as a great Conservative party, though there may not at the moment be questions which concern the existence of the principal institutions of the State, are still duties which are urgent, which cannot be neglected, and which must be fulfilled; and it is a doctrine which I trust will never be popular in this country, that political party is a constitutional arrangement which ought to be obsolete. If Parliamentary government be, as I believe it is, and as I cannot doubt you and the great majority of Englishmen must believe it is, the best guarantee for public liberty, then rely on it, political party must be acknowledged as a salutary influence in the State, because Parliamentary government is impossible except on the condition that there should be political parties. But I should be blind to the signs of the times—I should, indeed, be insensible to the feelings that are now universally expressed—I should be treating them with a haughty negligence if I did not recognise what is the anxiety of a great people. I know not whether it be true or not that designs upon the independence of our empire are cherished by any Governments or potentates in other countries, I presume not to read State secrets, nor is it for me in the irresponsible position in which I and my colleagues have been placed—it is not for us, I say, to presume to pretend that we can communicate to you any intelligence of which you are not already masters; but this I will say that if there be any foreign Government or foreign potentate who, in the supposed party distractions and political dissensions of our form of government, believes that he has found elements on which he may calculate for pursuing with success any scheme of aggressive or of violent ambition, then I can assure that Government and that ruler that they mistake the character and the genius of the English people and the English Constitution. And if they count on our dissensions, and on the noble rivalries of our public life as the means for the successful prosecution of those designs, they will count on them to their confusion. They will find, if ever the time should come when the independence of this country or the empire of our Sovereign should be menaced, that the Sovereign of these realms rules over a devoted people and a united Parliament."

## City Intelligence.

MONEY MARKET, FRIDAY.—BRITISH FUNDS: Consols closed at 96¼ to ⅜ for Money, and 96⅜ to ½ for the 6th Dec.; Bank Stock, 227; Reduced and New Three per Cents., 94⅝ to ⅞; India Stock, 224; New India Loan (stock), 103 to 103¼; Four per Cent. Debentures of 1858, 96⅝; Ditto 1859, 96⅜ to ⅝; India Bonds, 2s prem.; Exchequer Bills, 31s. prem.—FOREIGN: Brazilian Four and a Half per Cents., 1858, 96¼ to ⅜; Dutch Two and a Half per Cents., 66⅝; Mexican Three per Cents., for Acct., 22⅜; Peruvian Four and a Half per Cents., 90¾; Ditto Three per Cents., for Acct., 69; Russian Four and a Half per Cents., 98¾; Ditto Three per Cents. (scrip), ¾ dis., ex div.; Sardinian Five per Cents., 86¼; Spanish New Deferred Three per Cents., for Acct., 32⅛ to 32¼; Turkish Six per Cents., 185¼, for Acct., 78¼; Ditto for 1858 for Acct., 67⅛ to 67¾; Ditto Guaranteed Four per Cents., 103⅝.

## Bank of England.

ISSUE DEPARTMENT.

| | | | |
|---|---|---|---|
| Notes Issued .. .. .. | £30,755,905 | Government Debt .. .. | £11,015,100 |
| | | Other Securities .. .. | 3,684,900 |
| | | Gold Coin and Bullion .. | 16,055,905 |
| | | Silver Bullion .. .. .. | — |
| | £30,755,905 | | £30,755,905 |

BANKING DEPARTMENT

| | | | |
|---|---|---|---|
| Proprietors' Capital.. .. | £14,553,000 | Government Securities (including Dead Weight Annuity) .. .. .. | £10,877,114 |
| Rest .. .. .. .. .. | 3,131,785 | Other Securities .. .. | 15,209,650 |
| Public Deposits (including Exchequer, Savings Banks, Commissioners of Nat. Debt, and Dividend Accts.) .. .. .. | 5,512,538 | Notes .. .. .. .. .. | 8,435,450 |
| | | Gold and Silver Coin .. | 153,900 |
| Other Deposits .. .. .. | 14,571,619 | | |
| Seven day and other bills | 907,172 | | |
| | £38,676,114 | | £38,676,114 |

3d day of Nov., 1859.

M. MARSHALL, Chief Cashier.

## Gazette of the Week.

TUESDAY—BANKRUPTS—J. BARNARD, jun., Aldershott, Hampshire, Licensed Victualler and Baker—B. BARNETT, Burlington Gardens, Bond Street, Dealer in Pictures and Curiosities—W. C. CALDWELL, Nassau Place, Commercial Road East, Tailor and Draper—G. K. JACKSON, Elizabeth Street, South Pimlico, Grocer—W. LAYTON, Portsea, Boot and Shoemaker—E. L. MAYNE, Exeter, Milliner and Fancy Draper—S. RUSSELL, West Hartlepool, Builder and Cabinetmaker—T. SIMISTER, Liverpool, lately of Ardwick, near Manchester, Pastrycook and Confectioner.

BANKRUPTCY ANNULLED—J. BATSTONE, Tooley [illegible], Southwark, Builder.

SCOTCH SEQUESTRATIONS—J. CARSWELL, Johnstone, Renfrewshire, Grocer—J. FERGUSON, Wallace Town, Ayrshire, Slater—D. GRANT, Clachbain, Elgin, Cattle Dealer—D. M'NEE, R. M'NEE, and J. MUIR, Bellfield, Lanark and Dumbartonshires, Printers—J. M. MURDOCH, Glasgow, Merchant—N. OVERBURY, Edinburgh, Solicitor.

FRIDAY—BANKRUPTS—W. ATTWELLS, Arundel Street, Strand, Victualler—W. M. AYLWARD, Sermon Lane, Doctors' Commons, City, Wine Merchant—T. H. FAIRHALL and W. SUTER, jun., London Road, Southwark, Ironmongers—B. G. GOODE, Heston, Middlesex, Brickmaker—W. P. GRENYON, Liverpool, Clothier—C. KOEBER, Vigo Street, Regent Street, Middlesex, Woollen Draper—E. LEATHERLANDS, Aston Street, Toll End, Tipton, Licensed Victualler—L. MILLARD and R. HARCOURT, Birmingham, Modellers—J. PORTER, J. W. PORTER, T. W. PORTER, and R. ROGERS, Salford, Screw Bolt Manufacturers—W. REX, Wandsworth and Putney, Cowkeeper—P. TUNSTALL, Golden Hill, Stafford, Builder—S. WALTERS and T. WALTERS, Caverswell, Cattle Dealers—C. WILLMER, Liverpool, Printer.

BANKRUPTCY ANNULLED—W. C. OAK and C. H. SNOW, Blandford Forum, Dorsetshire, Bankers.

## Metropolis and its Vicinity.

PRESENTATION OF THE LORD MAYOR ELECT.—On Wednesday, being the first day of Term, Alderman Carter, the Lord Mayor elect, according to ancient usage, was presented to the Lord Chancellor with the usual ceremonies, and received from his lordship her Majesty's sanction to his election.

THE LORD CHANCELLOR'S LEVEE.—On Wednesday morning Lord Chancellor Campbell held his first reception of the Judges and Queen's Counsel since his elevation to the woolsack, and entertained them at breakfast at Stratheden House, Knightsbridge. After breakfast his lordship and the judges proceeded to Westminster Hall in state, and opened their respective courts.

THE GREAT EASTERN left Holyhead for Southampton on Wednesday soon after noon. She was off Mount's Bay at 12 on Thursday, passed Falmouth about 1, and was off Plymouth at half-past 2, steering for the Start under sail and steam, at a distance of 5 miles south of the Eddystone, and at a speed estimated at from 14 to 17 knots. She rounded the east end of the Isle of Wight about 9 o'clock yesterday morning, and anchored in Southampton Water before 11.

ANOTHER GALE.—On Monday night and during the whole of Tuesday a gale of wind, equalling in duration and occasionally in fury that of last week, swept over the metropolis and suburbs, blowing from the west and south, and accompanied now and then by driving showers of rain. The shipping in the river suffered severely from the violence of the gale, and in the suburban districts buildings of a light character were partially or wholly demolished. Several persons were killed and wounded, as in the storm of last week, by being blown into the river or by the fall of chimneys and other materials in the public thoroughfares. The accounts from the provinces state that the gale was felt with great severity at Chatham, Eastbourne, Portsmouth, the Isle of Wight, Southampton, Plymouth, Bristol, and other places on the southern and western coasts. During the storm of last week a large part of the breakwater works at Holyhead was destroyed, and vessels anchored far inside and sheltered either went down bodily, or were driven high and dry ashore. For one hour or so the Great Eastern herself was as near destruction as she is ever likely to be, and nothing but the unceasing vigilance and experience of Captain Harrison and his officers saved the vessel from driving ashore with the others.

THE WRECK OF THE ROYAL CHARTER.—Two experienced divers from Liverpool made a descent on Sunday, and remained a considerable time under water but they saw no bodies nor did they find any gold. On Monday morning they made another descent but dis-

covered no bodies. They succeeded however in raising about three tons of copper bars, which had undergone some smelting, and had a good deal of silver mixed with them. Some additional articles of wearing apparel have been cast up upon the beach, and a few more bodies have been washed ashore at Moelfra and Penmanmaur, but very few of them have been identified. The wreck remains in the state in which it was left by the storm, and is under the charge of the coast-guard. At low water a large piece of the hull is visible, and at high water there are only portions of two of the masts. The fragments of the spars, and even of the mainmast, seem as if they had been smashed into small pieces by some mighty crushing blades impelled by steam power, and if an army of giants had undertaken to hew up the ship it could not have presented a more fragmentary appearance. The people in the neighbourhood are reported to have acted very well upon the whole, and several sums of money found by them have been given up to the coastguard. The inquest was opened on Friday in the churches of Llanallgo and Penrhos, and is still in progress, a large number of witnesses having offered themselves for examination, and an interpreter having been sworn to explain their evidence to the Welsh jurors. In spite of the difficulty of reaching the scene of the wreck on account of its distance from any railroad or coach road, large numbers are visiting the spot, and the country people are flocking to it as to a fair.

Church Rates.—A meeting of archdeacons of both provinces was held in London on the 18th ult., at which it was resolved to petition Parliament against any measure which may be introduced next session for the abolition of church-rates, and the following declaration was adopted and signed by 61 archdeacons:—

"1. That the provision made for the worship and service of Almighty God, by means of church-rate, is an integral part of the establishment of the National Church. 2. That such provision is especially the inheritance of the poor. 3. That all persons purchasing or renting house or land, or building house, purchase or rent such house or land, or build such house, subject to the liability to pay church-rate. 4. That, for these principal reasons, it is the duty of the legislature not to destroy but to maintain the law of church-rate."

The Strike.—The number of men who had resumed work under the declaration up to Saturday last was 12,638. Under the shop rule about 2700 were at work. William Pereham, one of the delegates of the Strike Committee, and Secretary of the Masons' Union, has been sentenced this week by Mr. Corrie, of the Clerkenwell Police Court, to two months' imprisonment, without hard labour, for intercepting certain workmen from the shop of Messrs. Piper, who had engaged and brought them up from Devonshire, and inducing them to go back into the country. An appeal was entered against this sentence, and the case will be heard at the next Quarter Sessions.

Society of Arts.—The Council of this Society have appointed Dr. Lindley, F.R.S., Professor of Botany in University College, Examiner in Botany to the Society of Arts.

Sir John Franklin's Expedition.—The following is an extract from a reply by Captain M'Clintock to some queries addressed to him by Mr. Selby, of Spalding:—

"Dublin, Oct. 17.—In my published report I simply stated the leading facts of our discoveries. There was not room to express opinions; besides which I wished that all interested readers should draw their own inferences. The boat was only 65 miles from the ship, and I believe it to have been returning for more provisions. The two skeletons found in it were probably the boat-keepers—men unable to march with the others, all of whom I suppose to have proceeded for the short remaining distance without the boat. There was ammunition in abundance, but the country—the early spring, at least, when our countrymen were there—affords no game whatever. Even Esquimaux cannot live there. With regard to provisions, you will observe that I mentioned chocolate, tea, and tobacco. It is clear that these alone will not sustain life. You are doubtless aware that an unusually large quantity of solid animal food is necessary, even to men in vigorous health, in cold climates. Had the country been capable of sustaining natives, not one of these traces would have remained for us to gather up. With respect to an overland expedition, you may recollect that such a one was sent out by the Admiralty under a Hudson's Bay officer, Mr. Anderson, in 1855, in preference to a boat expedition by Barrow's Strait. Mr. Anderson descended the Black River to its mouth, and discovered traces of Europeans upon Montreal Island. Therefore I do not think further records would be found by a second expedition over the same ground. You will observe that my first care was to reach Montreal Island and Point Ogle, where Anderson's search terminated, and after re-examining those positions to complete the search from thence to where the lost people landed from their ships. The greater part of this painfully interesting route was gone over three times—twice by Lieutenant Hobson, and once by myself. The natives repeatedly told us that all the white people had died.—I am, &c., F. L. M'Clintock."

Greenwich Hospital.—The *Gazette* of last evening announces that the Queen has directed letters patent to be passed under the Great Seal, appointing Robert Ingham, Esq., M.P., Q.C., William Hutt, Esq., M.P., and Captain J. C. Dalrymple Hay, R.N., to be Commissioners for inquiring into the internal economy and management of Greenwich Hospital, and of the funds by which it is maintained; and also whether the resources of the Hospital can be more advantageously applied for the benefit of seamen who have served in the Royal Navy.

Infanticide in the Metropolis.—Mr. Wakley, the coroner, at a recent inquest made the extraordinary statement that in consequence of the defective state of the law, and the facilities given by parishes for the interment of alleged still-born children, there were at that moment hundreds upon hundreds of murdered children lying in the cemeteries and grave-yards of the Metropolis. The subject has since been taken up by the Marylebone Board of Guardians, and Dr. Bachhoffner has ascertained from the official records of the parish that within a given period in the rectory district of Marylebone there were registered the births of 1109 illegitimate children, of which number 516 died. In the district of Christ Church, out of 223 illegitimate births registered there were 209 deaths. In All Souls, out of 145 illegitimate births there were 87 deaths. In St. John's, out of 148 illegitimate births there were 129 deaths, or 87 per cent.; and in the Cavendish Square district there were 10 births and 96 deaths, or 96 per cent! Many of these deaths were registered as being caused by mesenteric disease, diarrhœa, inanition, &c., all of which are believed to have resulted from dry-nursing or improper attention to the children. In consequence of these disclosures the Marylebone Board has asked for a committee of the vestry to co-operate with them in collecting facts upon the question. On Friday Mr. Humphreys held an inquest at Mile End Old Town on the body of a still-born child, the mother of which, Ann Smith, had been a servant in a public-house at Shadwell, and had gone to a Mrs. Gibbon, who keeps a chemist's shop in that parish, for the purpose of being operated on with instruments. The jury, after a long investigation, returned a verdict of Wilful Murder against Ann Smith and Martha Gibbon, and the coroner issued warrants for their committal to Newgate for trial.

Committal of Hughes the Fraudulent Bankrupt.—At the Guildhall Police Court on Tuesday David Hughes, solicitor, who was recently brought from Australia upon a warrant issued from that court, was formally committed for trial upon various charges preferred against him in connection with his bankruptcy.

St. George's in-the-East.—A special meeting of the vestry of this parish was held on Thursday, at which it was unanimously resolved to request the Bishop of London to permit the church, which has now been closed for several weeks without result, to be forthwith reopened for the lecturer's afternoon service. The consecration of the new church of St. Matthew in this parish was performed yesterday by the Bishop of London, who strongly urged in his sermon the restoration of peace. A disturbance was anticipated, but the ceremony passed off quietly.

The Public Health.—The Registrar-General's return shows the effect of increased cold in an increase of deaths, which rose in the week that ended Saturday, October 29, from 902 to 1048. In the corresponding weeks of 10 years, 1849-58, the average number was 1023; which, if raised in proportion to the increase of population, will become 1125. The present return is therefore 77 below the average. During the week the births of 823 boys and 822 girls, in all 1645 children, were registered in London. In the 10 corresponding weeks of the years 1849-58 the average number was 1564.

## Provincial.

Ashburton.—At the recent petty sessions in this town, Mr. Cockayne, formerly assistant master of Berkhampstead school, was charged before four of the county magistrates by Mr. John Stuart Littler, a young gentleman of 20 years of age, and a son of the late General Sir John Littler, with assault. The defendant about a year ago married Lady Littler, the complainant's mother, and the evidence given by the latter was to the effect that a short time ago he was in his room dressing, and had on his trousers and a flannel shirt, when Mr. Cockayne entered with a cane, accompanied by Mr. Enrick, who had a walking-stick, a labourer called Arscott, and the coachman, each having straps. Mr. Cockayne said to complainant, "I have a duty to perform," and then instructed Arscott to seize him, but the man evinced reluctance to do so. Mr. Cockayne then ordered him to take down his trousers, which, however, complainant refused to do, upon which Mr. Cockayne did it himself, pushed the complainant on the bed, and commenced caning him. He gave him 20 lashes, upon which complainant asked him how many more he was to have, and defendant said "I shall complete the number of 39." He then struck him over the back and arms, leaving blue stripes there for some time afterwards. For the defence it was urged that the punishment was only a reasonable one for some matter alleged against the complainant. The chairman said, in giving judgment, that the defendant was convicted of a cowardly, brutal, and indecent assault. The bench had at first considered that they could only do their duty by sending the case to the sessions. They had, however, resolved to inflict on him a penalty of 5*l.*, or, in default of payment, to be sent to gaol for two months, with hard labour. The fine was immediately paid.

Birmingham.—The inquest on the persons killed by the late explosion in this town terminated on Saturday, when the jury by a majority of 15 to 2, and after a deliberation of two hours, returned the following verdict:—

"That deceased all came to their deaths immediately, upon the 27th of September, at 22, Whittall Street, the cause of death being divers burns and other injuries from an explosion of percussion powder, but by what means such powder became ignited the jurors have not sufficient evidence to show. The jury therefore say the verdict is Accidental Death. The jurors desire the coroner to endorse the record of the above verdict by a memorandum of their opinion that Messrs. William Pursall and John Phillips have not exercised due caution in allowing the dangerous process of priming to be carried on in the immediate vicinity of numerous workpeople only separated by a thin partition. The jury further consider that the employment of young and inexperienced children in a priming room is much to be deprecated; and they earnestly hope that speedy steps will be taken by the Legislature for the compulsory removal out of towns of all places where dangerous compounds are manufactured."

Cambridge.—On Tuesday afternoon a great meeting was held in the Senate-house on behalf of the Oxford and Cambridge Mission to Central Africa. The Vice-Chancellor presided, and was supported by Dr. Whewell, Master of Trinity; the Right Hon. S. H. Walpole, M.P.; the Masters of Magdalene, Clare, Downing, Corpus Christi, and Emmanuel; the Provost of King's, the President of Queen's, Professors Sedgwick, Selwyn, Jeremie, Challis, Browne, and Grote. The Oxford Committee was represented by the Bishop of Oxford, the Chancellor of the Exchequer, Dr. Heurtley, and Captain Burrows; while the London deputation consisted of Sir George Grey, late Governor of the Cape, the Bishop of Graham's Town, Canon Wordsworth, Mr. Puller, M.P., Mr. Beresford Hope, Rev. T. Jackson, Rev. E. Hawkins, and other gentlemen. The galleries and a portion of the hall were crowded with undergraduates, who evinced the most lively interest in the proceedings, and the remaining seats were occupied by members of the University and the general public. The audience included many ladies. Before the meeting took place the degree of Doctor of Laws was conferred upon the Bishop of Oxford, Mr. Gladstone, Mr. Walpole, and Sir George Grey. A report from the Cambridge committee having been read, Dr. Jeremie moved the first resolution expressing the gratification with which the meeting received the intelligence of the steps taken by the two Universities for establishing a mission to Central Africa, and more especially to the regions explored by Dr. Livingstone. Mr. Gladstone, who was received with great cheering, seconded the resolution, and spoke to the following effect:—

"The fate of Africa has been peculiar in one respect, that, after having suffered the extremity of the bitterness of human woe and affliction in every form that could be conceived at the hands of Mahomedan conquerors, it has been reserved for her to sustain yet more cruel wrongs, yet more piercing sorrows, and yet more extreme degradation at the hands of those who have called themselves Christians. The resolution which I have undertaken to second calls by its language specially to our minds the union of the two universities. The universities have before them a common work; they are the heirs in common of recollections such as scarcely any institution in the world can boast, and in this day of what might be thought their extreme old age, thank God they are developing themselves with new vigour on every side, and promising from day to day to become less unequal to the numerous claims that the wants of this mighty nation continually make upon them. Never could they be united for a better, a holier, a wiser purpose than that in which they are now engaged, and permit me to say that never could they be united for a purpose more entirely germane to their work; for, although that work is in the first instance to be bulwarks to the Christian faith in this land, yet he has a narrow view of the functions of universities who considers that to any single operation, even though it be the greatest of all connected with the development of the mind of man, the office of universities can be confined. Their very name—I do not enter into the question as to its origin—may at any rate serve as a symbol of the width and the extension of the purposes they contemplate; and when you are told to undertake a missionary work, you know well that you are invited to go forth as the ministers alike of spiritual and of temporal blessings, and that as our Lord himself, bringing the Word of life and immortality into the world, spent the greater portion of his time in direct ministry for the consolation and the relief of human woes, so you, when you carry the Gospel into Africa, are not merely to provide the natives of that country with a passport to immortal life, but you are to give them the hope for themselves, for their children, for their descendants, for their race, for their country, for all that is dear to them, that when at length the light of civilisation shall begin to burn they shall owe to Christianity, along with everything that belongs to the other world, everything that belong to this. Eminently fitting is it for the universities to be in the van of such a work, and well it is that we should see that if the growth of civilisation and the immense development of this nation in all ranks, classes, and pursuits have rendered it far more difficult than before for the universities to answer to the demands upon them, at least there will not be wanting the effort nor the will; but whether it be a question of extending their operations for the cultivation of other classes hitherto not within their reach in England, or whether it be a question of carrying forth the ministries of the Church beyond the limits of the country and beyond the limits of the empire, the universities have still vigorously within them a desire to strain every nerve to be the standard-bearers of their countrymen in the way of what is good and great. Where is it, I will venture to say, even as between these two universities, that this appeal can be made with resistless force, unless it be within the precincts of that university which had the honour of forming the mind and character of Bishop Selwyn, and which divides the affections of that illustrious man with his other home at Eton? It is part of the reward of such a man as Bishop Selwyn, that even after his personal presence has departed his name still remains a power in the place where it has once been known. There is a contagious influence that waits upon such examples; it is in Cambridge much more than in any other spot that the force of that contagion can be felt, and it may be there are those here in the flower of their youth, in the fulness of their hopes, perhaps now tasting the first sweetness of successful exertion and of honourable reward, who from the recollection of Bishop Selwyn may even now be forming the resolution to brace themselves for the work of self-dedication in which he has shown them the way. I had not the honour of forming the personal acquaintance of Dr. Livingstone, but yet, having become acquainted with his labours as he has given them to the world, and having watched his course of proceedings in this country, I cannot refrain from adding my tribute to the universal admiration which his whole character has drawn from the willing hearts of his fellow-countrymen. Dr. Livingstone, in my opinion, gave no more significant mark of the height of his intelligence and the true greatness of his mind than when he chose to make Oxford and Cambridge the great centres of his efforts at home. He knew well that there was no more fruitful field. He knew well that though this great country has much beside her universities, yet no small part of her interior life is still nurtured within their sacred and venerable precincts. He knew well that, though she is everywhere full of energy and power, yet no small part of that energy and power beats within the hearts of our two universities, and especially of their youth. He knew well that it was his duty to elevate himself, to carry himself beyond the narrow limits of the particular organisation to which he himself was immediately related. Desiring the propagation of the Gospel in Africa, he asked himself where he could find the most powerful, most effective, most durable engine for the prosecution of that great work, and his heart, his conscience, and his intelligence told him that he could not answer that question without giving a prominent place in the answer to the two universities of England. Dr. Livingstone is such a man as raises our idea

of the age in which we live. That simplicity inseparable from true grandeur, that breadth and force, that superiority to all worldly calls and enjoyments, that rapid and keen intelligence, that power of governing men, and that delight in governing them for their own good—he has every sign upon him of a great man, and his qualities are precisely those which commend themselves with resistless power to the young by whom we see this building crowded. Let us render to Dr. Livingstone the full tribute of what we feel. Dr. Livingstone is a Christian, a missionary, a great traveller; he corresponds in every particular to that great name which the admiration of all ages has consecrated—he is a hero. Your own great poet—the great poet of this age—Alfred Tennyson—in his 'Idylls of the King,' a work which has taken its place in the deathless literature of the world, has carried us back to a period of heroic manners, heroic deeds, and heroic characters; but if the power which he possesses could have gone beyond what it has effected, could have gone beyond the almost living men whom it has portrayed, and could actually have evoked them from the tomb, not one among them, though the ideal of human nature, would have failed to recognise Dr. Livingstone as a brother, and to acknowledge him as his most worthy companion. It is among my deepest convictions that the two Universities of England are the places in which we are to find, not the mere silver and gold, but the human materials by which, under God, this great work is to be accomplished; and I close what I have to say by simply and solemnly commending each one of us in his own mind and conscience to ask himself whether this special and particular undertaking does not in itself combine, with a singular freedom from every opening for cavil or objection, the presentation of every hopeful prospect and of every solid advantage that can possibly be found in any civilising or any Christianising scheme. If it be so, let us not shrink, but let us by honest efforts strive to support in act that which we have commended in word, using our acts as if by virtue of them we could prevail, but remembering their insufficiency, and recommending the prosecution of the cause to the favour and protection of Almighty God."

Dr. Plumptre, Master of University College, Oxford, briefly supported the resolution, which was carried with acclamation. The Bishop of Oxford moved the second resolution, declaring that the Oxford and Cambridge mission to Central Africa is entitled to especial support, not only because there is great reason to hope for a very favourable reception of the Gospel on the part of the natives of Central Africa, but also on account of the important bearing which the proposed operations of the mission have upon the civilisation of Africa by the extinction of the slave trade. His lordship said that among other reasons why an endeavour should be made at the present moment to combine commerce, colonisation, and Christianity in a mission to Central Africa, there was the fact that in Dr. Livingstone God had raised up a man specially fitted for the work. His remarkable patience of fatigue, his energy and perseverance, his knowledge of mankind, the broad catholicity of his spirit, were all so many proofs that he had been sent to open new fields of missionary enterprise, and the Christian people of England were as much bound to support and aid him as the sons of Israel were to flock round the standard of some mighty man of valour whom God had designed for their leader. It was likewise obvious from the fact that if the manufactures of Britain were to maintain their pre-eminence they must have a more abundant and more certain supply of cotton, that God was as distinctly calling upon us by our necessities to civilise and Christianise Africa as if a voice spoke from the heavens to our material ears, telling us that the prospect of England was bound up with our doing His will on the African continent. Sir George Grey seconded the resolution, and said he had no doubt that one of the first effects of the proposed mission would be the destruction of the slave trade. The people who acknowledged Moshesh as their chief had been already taught by the French Protestants to regard the slave traffic as infamous, and the same result would be produced by similar means elsewhere. The resolution was agreed to amid great cheering. Mr. Walpole moved the third resolution, pledging the meeting to strenuous endeavours for the purpose of supplying the necessary funds. The resolution was seconded by the Bishop of Graham's Town, supported by Professor Sedgwick, and unanimously agreed to.

KENDAL.—The practice of shooting wild bullocks on the mountains has for the last few weeks been resorted to by Mr. Rigg of the Windermere Hotel, in consequence of the extreme wildness of a herd of young oxen bred and now grazing in a large healthy allotment on Hugill Fell, about three miles east of the Windermere Railway station. The most skilful marksmen, with first-rate rifles, have been engaged on these occasions. About a week or two ago one of the wild animals was brought down by a ball which entered the middle of the neck, and instantly killed him, after an exciting chase of more than an hour. Last week another muster was made of riflemen and herdsmen to kill two more of the remaining lot, which numbered about 12 or 14. After an arduous chase to get them into a circumscribed space, two were selected for the bullet. At the first shot all escaped uninjured, but the second told right in the forehead of one of the selected animals, who rolled over dead, falling nearly out of sight among the bushy heather. The second was hit at the first fire, the ball entering behind the left ear, and rolling him also over, like his wild comrade, dead among the ling. An expert butcher instantly applied the whittle, and after bleeding a sufficient time they were placed in carts, ready to receive them, and moved off to Windermere to be cut up, when they proved uncommonly fine fat beef. This mode of slaughter is said to be more quick, and consequently less painful than that which is generally followed in the common slaughterhouses.

LIVERPOOL.—On Saturday evening the Conservatives of this town entertained the Earl of Derby and his colleagues in the late Ministry at a dinner in the Philharmonic Hall. Covers were laid for about 600 persons, and every seat was occupied. The boxes and orchestra were filled with ladies, while the upper galleries were crowded to excess by those who were unable to obtain seats at the dinner tables. Mr. Francis Shand, president of the Liverpool Constitutional Association, occupied the chair, and was supported right and left by nearly all the members of the Derby Administration. In the body of the hall there were several Conservative members of the House of Commons, but the great majority of the company of course consisted of the most influential adherents of the Conservative party residing in Liverpool and its neighbourhood. Speeches of great length were delivered by the Earl of Derby, the Earl of Malmesbury, the Earl of Hardwicke, Mr. Disraeli, Lord Chelmsford, the Earl of Eglinton, Sir J. Pakington, Lord Stanley, Sir Hugh Cairns, and other members of the late Administration. An abstract of those delivered by Lord Derby, Lord Malmesbury, and Mr. Disraeli will be found in another column. Previous to the banquet a complimentary address from the Conservatives of Liverpool was presented to Lord Derby, inclosed in an elegant casket of silver ornamented with gold moulding.

LLANBERRIS.—Mr. Richardson Rogers Cox, eldest son of the Rev. R. Cox, of Tickenhall, Derbyshire, died on the 23d ult. from cold and exhaustion while making the ascent of Snowdon. An inquest was held on the body on the next day, when the jury returned a verdict to the effect that he died from exhaustion.

MAIDSTONE.—The Earl of Romney has signified his intention of retiring from the chairmanship of the quarter sessions, which his lordship has discharged since 1846. The election of his successor has been fixed for the 29th inst., and it is understood that Mr. Gathorne Hardy, M.P., will succeed him.

MANCHESTER.—On Tuesday evening the Right Hon. Benjamin Disraeli, M.P., distributed in the Free Trade Hall prizes and certificates of honour to 133 students in the Association of Mechanics' Institutes of Lancashire and Cheshire. The hall and galleries were closely filled with a respectable audience, of whom a large proportion were ladies. Mr. Disraeli addressed the meeting at great length, and was followed by Lord Stanley, the Hon. A. Egerton, M.P., Mr. Massey, M.P., the Marquis of Chandos, the Hon. W. Egerton, M.P., Mr. Oliver Heywood, and other gentlemen.

PLYMOUTH.—Rear-Admiral Elliot's division of the Channel fleet was at sea during the disastrous storm of last week, on its passage from Queenstown to Portland. The squadron comprised the Hero, Captain Seymour, bearing the Admiral's flag; Trafalgar, Captain Fanshawe; Donegal, Captain Glanville; Algiers, Captain O'Callaghan; Aboukir, Captain Schomberg; Mersey, Captain Caldwell; Emerald; and Melpomene, Captain Ewart. The ships were caught by the storm on Monday night, after the crews had been exercising at gunnery practice at the entrance of the Channel. The storm commenced with heavy showers of hail and sleet from the N.W., and continued during the night, with very variable winds. After quarters at sunset the topsails were double-reefed, and courses reefed for the night. Land was seen about the Land's End, and the Lizard lights were sighted at about daylight, 6.30 on Tuesday morning. The weather then set in very dirty at S.E., with increasing wind and heavy rain. The third reefs were taken in the topsails about 9 A.M., and shortly after topgallant yards were sent on deck; topgallant masts were struck by signal; and a signal was made, "Admiral will endeavour to go to Plymouth," "Form two columns; form line of battle." About 10 A.M. a signal was made, "Prepare to move with bowers. Bend sheet cable." Towards 11 A.M. the wind increased to such a fury, with torrents of rain and very thick weather, the wind heading the ships off, that it became very doubtful if the sternmost ships could possibly get into the Sound, although it was probable that the Hero and the headmost ships could do so. Admiral Elliot then, with the spirit of a British Admiral, decided at once (although he knew his exact position, having made the Eddystone Lighthouse) to wear the fleet together and stand off and face the gale. Although the leading ships were in good positions to wear, it was not so with those in rear of the line. The Aboukir had just passed the Eddystone; the Trafalgar and Emerald were still in the rear, the Trafalgar having been detained to pick up a man who had fallen overboard from the jibboom, which was executed with great skill. The Aboukir immediately wore, set her courses, and dashed to windward of the lighthouse by carrying a press of sail, and weathered it half a mile, followed closely by the Mersey. The Algiers, Melpomene, and Trafalgar passed it very closely to leeward, as the Hand Deeps were under their lee. Added to these difficulties there was a perfect fleet of trawlers, vessels unmanageable while their trawl is towing, so that it required the greatest skill to avoid running them down. The signal was then made to get up steam to secure the safety of the ships, which reduced their canvass and stood off the land. The Mersey and the Melpomene furled their sails, and got up steam, the former moving along like an ocean giant. The gale still increased until about 3 P.M., remaining very thick with rain. About 3 it lifted, the wind fell, the sun shone; but the sea remained towering up and breaking. The barometer then stood at about 28.50. The Hero, Trafalgar, Algiers, Aboukir, and Melpomene were not far separated. A signal was then made, "Form the order of sailing in two columns." This was partially executed, when in a squall the wind shifted to N.W. It then for some three hours blew a perfect hurricane, considerably harder than it had previously blown at S.E. The ships stood well. The Hero, dauntless as her name, [illegible] take it easy. The Aboukir, close to leeward, carried one reef out of her maintopsail [illegible] whole of it; and the Algiers, Trafalgar, and Mel[illegible] all did well. The former eased up her topsail [illegible] the squalls. The Mersey and the Emerald, it is [illegible] had steamed into Plymouth, as they were [illegible] The ships kept in open order through the night, wore in succession by night signal at 1 A.M. [illegible] nesday morning, and made the land at daylight [illegible] Start Point. They then formed the line of [illegible] signal, got steam up, and carrying sail [illegible] Channel at about 11-knot speed, steamed into P[illegible] and took up their anchorage without the loss of a [illegible] spar, or a rope yarn.

TRURO.—A shock of an earthquake was felt at [illegible] quay, on the north coast of Cornwall, on the 2[illegible] about 7.10. The sound resembled that of [illegible] waggons passing through a street. In many [illegible] the town it shook the houses to such an extent [illegible] many of the inmates ran into the street to inquire [illegible] the strange sensation was. The vessels that [illegible] aground in the pier shook and trembled very [illegible] The shock lasted for about one minute. It is said [illegible] there is no record of any similar occurrence on that [illegible]

WINDSOR.—The Maharajah of Cashmere's [illegible] present to her Majesty, consisting of a Cash[illegible] shawl tent, and solid gold bedstead, of the [illegible] 150,000*l.*, was brought to Windsor Castle on Wednes[illegible] from the India House, and temporarily placed [illegible] Throne-room previous to its being formally pre[illegible] to the Queen by the gentleman under whose charge [illegible] was brought from Cashmere.

WORCESTER.—The inquest on the body of the unfortunate young woman, Mrs. Emily Harris, who recently drowned herself and her two children in the Severn, terminated in the following verdict:—"That deceased came by her death by drowning herself in the river Severn, being at the time in a state of temporary insanity caused by the brutal treatment of her husband and her sister; and the jury severely censure the mother-in-law of deceased for her conduct towards her, and express their dissatisfaction at not having more testimony to guide them." This concluded the inquest, and on the mother-in-law leaving the house she was followed by a crowd of persons who gave vent to their indignation by hissing and hooting at her until she took shelter in the cottage of a friend in the Ham Road. The funeral of Mrs. Harris took place in the New Cemetery on Sunday afternoon, in the presence of large numbers of persons, the body being followed to the grave by about 80 of the operatives at Messrs. [illegible] manufactory, who subscribed liberally towards the expenses, and provided funds for the payment of the men who searched for the body. Harris was brought before the magistrates on Friday to answer the charge of assaulting his wife, when the chairman, after a impressive address alluding to the way in which the prisoner had brought himself into his present position, and the lamentable effect of his conduct, which had deprived him of an affectionate wife and two children, sentenced him to three months' imprisonment.

## Ireland.

LORD DERBY AND HIS TENANTRY.—At the Liverpool dinner on Friday the Earl of Eglinton, in speaking of the affairs of Ireland, said that the only plague-spot now remaining in Ireland was the secret combination, blood which occasionally pollutes the country by the murder of innocent individuals, and he believed that would soon be put an end to if every Christian, whether layman or churchman, were to put his shoulder to the wheel, and like the Earl of Derby, were not only to do his utmost to convict and punish the assassin, but refuse to have any communion with those who were abettors and aiders of assassination. The Earl of [illegible] in referring to this observation, made the following remarks on the course he has taken in reference to the Doon estates:—

"I am not fond of introducing into public controversy anything which relates to the private management of my property or my dealings with my tenants. I believe I may trust to my general character both here and there to prove that I am a harsh landlord nor an unjust or unforgiving man. In Ireland and in England more especially—although indeed I should say more especially in England than in Ireland, [illegible] the one country and the other—I believe it is [illegible] known, at least it is known by all of those who know [illegible] of the circumstances, that I have never interfered with the exercise of the political franchise of a single tenant. I mention one case in Ireland—that of a tenant who [illegible] of 36 years has been conversant with all my operations, has received many marks of favour from me; who [illegible] own expression, would walk through fire and water for me; and who has voted against me at every election, has never been interfered with. This tenant, a tenant in Ireland, of the name of Michael Ryan, most honourably came forward to bear testimony to those letter which was published in all the papers. But I charged as a general exterminator, as an oppressor of people, and as a tyrant landlord, because I have used means in my power to bring to justice the authors of a brutal murder. Permit me to say that upon me and upon eulogiums which have been passed upon me [illegible] and the calumnies—for they are little less—with which been assailed upon the other, are equally void of truth because they rest upon an entire misapprehension [illegible] of the case. I have never thought it worth my while to contradict anything which has been said upon the subject adverted to, as it has been upon a public occasion. At present, I will state to you the simple facts. It is true I have property of mine in the county Limerick, where [illegible] some 700*l.* a year, I have some 11 or 12 tenants, three [illegible] hold by lease, and the remainder hold as tenants from

...an who was murdered upon that property was ... of a Roman Catholic, the son of a very old ... who occupied with his family the property long ... I became acquainted with it. He was the first man ... met when I visited the property. He was then connected ... her in very disorderly circumstances, and was the leader of ... persecution. Gradually I reclaimed that man, and retained ... a respectable and useful tenant. His son succeeded ... and became the tenant of a small farm. He was from his ... in industrious, active, respectable, steady young ... He managed to a great extent his father's property, and ... with great industry a small farm in which I placed him ... father's second marriage, when there was a separation of ... family. This man, for no fault of his own, but in consequence ... having by my orders ejected a sub-tenant whom ... had no means of ejecting without his consent, and who was ... worthless, and had done nothing for the property, but was ... deteriorating the little holding he had—this man was ... brutally murdered in the noonday, in the presence, as I know, ... a number of persons. He was first shot through the heart, ... body was then brutally mangled, and his head knocked ... with stones. I have never been able to obtain legal evidence ... those who were witnesses of this brutal murder. But I had, ... I have, reason to believe that more than one of those who ... under me as tenants at will—of the small number of eight ... nine persons—were parties to the conspiracy. I gave ... notice, therefore, at Michaelmas, the latest time that I could, ... all those persons who hold by that tenure, in order to ... me to obtain satisfactory evidence, if not sufficient to satisfy a jury, at least sufficient to satisfy me, of the ... guilt of the concealment of the murder, to eject at once, ... Lady day next, any person against whom I could bring that ... evidence, and whom otherwise, however strong the evidence ... against me, I could not remove from the property until the ... following Lady day. The whole of the notices which have been ... served have been upon some eight or ten persons, being all the ... persons who hold under that tenure. The intention of serving ... those notices was to give me the power of carrying into execution ... their removal in those cases in which I should find moral ... evidence sufficient to justify me in taking such proceeding. It ... was by means followed, nor was it for a single moment my intention, even with regard to that number of eight or ten ... persons, to be the wholesale and indiscriminate exterminator ... of the tenants. The service of notice upon eight or ten tenants, ... holding some 5 or 10 acres each, has been represented in the ... Irish papers as a wholesale extermination of tenants, the ... 'doom of Doom,' the turning out upon the wide world of hundreds of families, the fact being that there is not one of those ... names now under notice who have not received at my hands, ... in some way or another, more than the value of the fee-simple of ... the land they hold. Now, I have never condescended before to ... reply to any of the anonymous attacks which have been made ... upon me, and I shall never condescend to reply to any of them ... again. I have stated to you these plain facts, and I say this, ... that in my judgment it is the duty of a landlord, if he has ... reason to believe that the people upon his property are conniving at the suppression of evidence and the concealment of ... facts with regard to a brutal murder, not, as has been said, to punish the innocent for the guilty, and to pass sentence upon ... men who have not been found guilty, but it is the duty of the ... landlord to say, 'You and I—you standing under a grave suspicion and I being responsible for the interest and for the ... happiness of the district—you and I shall not hereafter stand ... in the relation of landlord and tenant.'"

THE EDUCATION QUESTION.—Mr. Corballis, Q.C., the chairman of Kilkenny, one of the most eminent members of the Roman Catholic laity, in opening the recent quarter sessions for that county made the following remarks on the recent pastoral of the prelates of his church:—

"It was not without hesitation that he referred to a subject which might excite unpleasant feeling or provoke ill-will; but ... connected officially with their county, and anxious for ... improvement and prosperity of its inhabitants, he could not refrain from noticing what he saw with regret—the considerable falling off which had recently occurred in the attendance of children at the school. To what was that falling off ... attributable? It would be mere affectation to attempt to conceal that it was owing to the publication of a document emanating from the Roman Catholic hierarchy of Ireland. There was no one who could entertain a more sincere respect for that body than he; many of them were his private friends, all were entitled to his most respectful consideration, and nothing but a sense of the duty which he owed to the public would induce him to state the opinion which he held on the subject. He deeply regretted the publication of that document, and the effect which it would have on the poor and on the country generally. The grand jurors and he, and every one, had a full and free right to use their own discretion with respect to the education of their children; and he would wish all those whom he addressed, each in his respective sphere, and in his connection with the humbler classes, to ask them seriously to consider whether in sending the children to those schools—the boys to learn reading, writing, and arithmetic, the girls to receive instruction in those branches of knowledge and in needlework, and other humble accomplishments suited to their class—they had ever suffered from their religious creed. He did not feel called on to consult his clergyman as to the propriety of his entering Trinity College, Dublin, and why ... did he with respect to any other arrangement for secular instruction? It might be supposed that he was prejudiced in favour of the system from having been 10 years engaged in forwarding the arrangements of the board to the best of his ability. He certainly did feel a more than ordinary interest in the subject; but he would ask them, as they valued the social and moral elevation of the people, was it not his duty and theirs to endeavour to sustain an institution doing so much for the instruction of the poor? This prohibition was intended to lead to a different system of education, but the prospect of any such thing was very remote indeed. Let them look to the Earl of Carlisle, and ask themselves was he likely to become in any way auxiliary to the doing away with a system to which he had shown himself so partial—one to the encouragement of which he had himself given such large pecuniary aid? To expect him to forward a proposition of the kind was a thing very hard to be supposed; and, without speaking for the Lord Lieutenant or any one but himself, he would say the probable answer which would be given to this proposition from the Roman Catholic hierarchy was, that the system had been instituted to promote the mental cultivation of the people, to advance morally and morally the condition of the humbler classes, and ... was for the hierarchy themselves to give the religious instruction which the Government knew was a necessary foundation of every good system. It was the right of every one to ask what task does the poor man's son run as to his religion, in learning reading, writing, and arithmetic, under this system—a system 25 years in operation in this country, and sanctioned by all the bishops and archbishops with one particular exception. That could not be a bad system which they had upheld. Archbishop Murray, the most perfect man and the most exemplary prelate he ever knew, had been most conspicuous in ... carrying the system; the learned Archbishop Whately had given his time and his talents to its advancement; Bishop ... never had been its supporter, as was the Rev. Dr. Meyler. ... why did he refer to these names? Because that could not ... a Protestant system where they were found connected with it; ... they should not deprive the children of the poor of the ... means of an education so important to their welfare and the ... advancement of their country."

# Scotland.

THE CHANCELLORSHIP OF EDINBURGH UNIVERSITY.—The General Council of the University of Edinburgh met on Friday in the Music Hall, for the election of their first Chancellor; Sir David Brewster, Principal, presided. Professor Christison nominated and Sir George Clerk seconded the Duke of Buccleugh, resting his claims on the fact that his Grace is more identified with Scotland by residence and local interests than any other candidate who was likely to be proposed. The Solicitor-General Maitland proposed and Dr. Alexander Wood seconded the nomination of Lord Brougham. The speaking lasted till 2 o'clock, and the roll of 1393 members was then called over, which occupied the meeting till nearly 5 o'clock, the doors of the hall being meanwhile strictly closed. At the close of the poll the numbers were for Lord Brougham, 654; for the Duke of Buccleuch, 419; majority for Lord Brougham, 235. The result was received with loud cheers by Lord Brougham's supporters, and a large crowd waited the result outside. In the evening Lord Brougham's election was celebrated by the ringing of the bells of the city churches. At 7 the Council again met to elect an assessor to the University Court. Lord Neaves, seconded by Professor Syme, proposed Sir John M'Neill; Dr. Douglas Maclagan, seconded by Mr. Morton, proposed the Solicitor-General. The numbers were:—For the Solicitor-General, 272; Sir John M'Neill, 184; majority for the Solicitor-General, 88.

NEW BATTERY ON THE CLYDE.—It is said that the Government have resolved to erect a new battery on the Clyde, on the shores of Roseneath, nearly opposite Gourock; some officers of the Engineers have been inspecting the grounds and holding consultation with the Duke of Argyle, who is lord of the manor. With this battery of Roseneath and the other one already erected at Gourock, both sides of the Clyde will be completely protected.

# Railways.

ACCIDENT ON THE MIDLAND.—On Saturday evening as a coal train was passing over the wooden bridge, about a mile north of Belper, the axle of one of the waggons broke just as the engine and tender had crossed the bridge. The broken axle ripped up the cross beams of the bridge, and 25 waggons filled with coal were precipitated into the river. The shock caused the guard's van to rebound and run back upon the line, where another coal train ran into it, causing the destruction both of the engine and van. No lives were lost, but the damage to the bridge is so considerable that all the traffic over it is stopped.

# Sporting.

## NEWMARKET HOUGHTON MEETING.

SATURDAY.—*Sweeps.* Mr. Arthur's Raspberry beat The Speaker and Vilikins.—*Handicap Plate.* Mr Locke's Infanta beat Jessie Brown, Maypole, Pipo, and 16 others.—*The Houghton Handicap.* Mr Higgins's Tiara beat M. Phillippe, Bel Esperanza, Montebello, and 8 others.—*Sweeps.* Mr. T. Brown's Plumper beat Mr. Watts's filly Gleesinger, Delusion, and 4 others.—*Sweeps.* Mr. W. Etwall's Jessie Brown beat Chère Amie, Gentle, and 3 others.—*Sweeps.* Mr Hunt's Cumberland beat Buttercup Golden Pippin, Chantress, and 4 others.—*Handicap Sweeps.* Mr. Sutton's Man-at-Arms beat Queen of May and 3 others.—*Handicap Sweeps.* Mr. Hodgman's filly beat Harlestone, Eller, Katherine Logie, and 5 others.—*Selling Handicap Sweeps.* Mr. Saxon's Jenny Longlegs beat Actress, Catherine, and Fernleaf.—*Matches.* Mr. Crawfurd's Wantin received forfeit from Loiterer. Mr. Alexander's Thunderbolt received forfeit from Aliptes. Mr Sutton's Man at-Arms received forfeit from Tyburn. Mr. F. Robinson's Ariadne received forfeit from Cantine. Mr. F. Robinson's Antonio received forfeit from Indifference.

# Obituary.

LIEUT.-GENERAL LEWIS, C.B., Colonel Commandant of Royal Engineers, died at Brighton on the 24th ult. at an advanced age. He entered the service upwards of half a century ago, and served the campaign in Naples and Calabria in 1805 and 1806, including the battle of Maida, siege of Scylla Castle, and capture of Ischia and Procida in the Bay of Naples in 1809. He was also engaged at the siege of Santa Maura in 1810; served the campaign of 1813 in the Peninsula, and lost his leg above the knee at the assault of the breach of San Sebastian. He attained the rank of Lieut.-General in 1858, and that of Colonel Commandant in the same year. He received the war medal and two clasps, and was also in receipt of the pension for distinguished services.

MAJOR-GENERAL DICKINSON, Colonel of the 10th Bengal Native Infantry, died at Teignmouth, Devon, on the 24th ult. at an advanced age. He had seen much active service during our earliest campaigns in India, having been in the Indian army more than half a century, during which period he had received many decorations for his services. He entered the Bengal army in May, 1806, and became Major-General in 1854.

MR. PULMAN, Clarenceux King of Arms, and for many years Yeoman Usher of the Black Rod, died on the 29th ult at his residence at East Hill, Wandsworth, from an attack of paralysis. He had been for a long series of years connected with the Heralds' College, and was for a time Richmond Herald, and afterwards Norroy, and subsequently received promotion as afterwards Norroy, and subsequently received promotion as Clarenceux on the death of Mr Martin. He was a Fellow of the Society of Antiquaries and of several other learned bodies.

WILLS.—The will of Mr. Robert Stephenson, M.P., has been sworn under 400,000*l.* personalty. The will of Mr. Brunel has been sworn under 90,000*l.* The will of the Right Hon. Sir James Stephen, K.C.B., has been sworn under 25,000*l.*; the Dowager Lady Suffield, 20,000*l.*; the Right Rev. Bishop Carr, late Bishop of Bombay, 8000*l.*; Right Rev. Dr Bowen, Bishop of Sierra Leone, 4000*l.*

BIRTHS.—On the 27th ult, at Thirkleby Park, Lady PAYNE GALLWEY, of a daughter—25th ult, at Blacklands, Cavendish, Suffolk, the wife of Sir WILLIAM PARKER, Bart., of a daughter—19th Sept., at Madras, the wife of Sir ADAM BITTLESTON, of a daughter—25th inst. at St Andrew's, Fifeshire, the wife of Major Colonel MACMURDO, of a son.

MARRIAGES.—On the 20th ult. at Howth, THOMAS GALSFORD, Esq., of Offington, Sussex, to the Lady EMILY ST. LAWRENCE—27th ult. at Barrington Church, Yorkshire, Lieut.-Colonel HAY, late of the Carabineers, to SOPHIA, widow of the late WILLIAM VILLERS, Esq., of Aston Hall, Yorkshire, and Grayingham—27th ult, at Barnes, HENRY DAVIS, second son of the late Sir HENRY WILLOCK, of Monthake, to MARY ELIZABETH, daughter of Major C. L. BOILEAU, of Castleacre, and late of the Rifle Brigade—20th ult, at the British Embassy, Brussels, BENTLEY MURRAY, youngest son of the late William Murray, Esq., of Monkland, to LUCY JANE ELEANORA, second daughter of the late Sir JOHN WILLIAM PITT M. MACKENZIE, of Delvine and Cassencarrie, Bart.—27th ult, at St. John's, Potter's Bar, Major FREDERICK BISCOE, 5th Depôt Battalion, Parkhurst, to Selina Charlotte, second daughter of CHARLES MARRYAT, of Parkfield, Middlesex, Esq.—27th ult, at Battersea Church, the Rev. ALFRED HENRY LOCOCK, incumbent of Lemsford, Hertfordshire, second son of Sir Charles Locock, Bart., to ANNA MARIA, youngest daughter of the late Archdeacon DEALTRY, rector of Clapham.

DEATHS.—On the 25th ult, at Bayswater, JOHN LENNOX M'ANDREW, Esq., late Captain in H.M.'s 4th (King's Own) and 94th Regiment, eldest son of Sir John M'Andrew, K.C.B., M.D., &c., aged 38—30th ult, at his residence, 31, St. James's Street, Bath, CHRISTOPHER DOMVILE, Esq., late of H.M.'s 21st Fusileers, youngest son of Charles Compton Domvile, Esq., M.P., of Santry House, Templeogue, co. Dublin, aged 71—6th ult, in Calcutta, from the effects of a fall, GEORGE HENRY DICKSON, Ensign H.M.'s 89th Regiment, and third son of the late Colonel Dickson, K.I.C., aged 20—18th ult, at Pisa, VENUS, eldest daughter of F. D. MASSEY DAWSON, Esq., aged 28—26th ult, after a long illness, at 13, Upper Berkeley Street, MATILDA, relict of ROWLAND CHILD, Esq., son of the late Admiral Child, of Tunstall—29th ult. at 6, Princes Terrace, Hyde Park, after a long illness, JANE, only daughter of the late Admiral RAPER—24th ult, at her mother's residence, MARY HARRIETT ANSELL, relict of Major Edward Charges Ansell, late of the 74th Highlanders, and daughter of the late Major Andrew Marcus Trevor, of Loughbrickland—27th ult, at Tunbridge Wells, ADOLPHUS KENT ORM, Esq., of the Foreign Office, and 1, Duchess Street, Portland Place, aged 52—31st ult, CHARLES TINDAL, Commander Royal Navy, and agent of the Western Branch of the Bank of England, Burlington Gardens, London, aged 73—26th ult, at Wooton Rivers, Wilts, the Rev T. STONE, D.D., late Fellow of Brasenose College, Oxon., and 46 years Rector of Wooton Rivers, aged 83—24th ult, at his residence in Regent Street, Plymouth, JOHN PREDEAUX, Esq., for many years an eminent chemist in that town, aged 72—31st ult, at his residence, 13A, Compton Road, Islington, the Rev JOHN TYRRELL BAYLEE, B.A., Secretary to the Society for Promoting the Due Observance of the Lord's Day.

# Markets.

## COVENT GARDEN.—Nov. 3.

Fruits are tolerably well supplied; but vegetables have, as might be expected, suffered from the late frosts, and therefore they are not furnished in such abundance as they have been. Pine Apples and Grapes have not altered in price since last week. Pears in season still consist of Glou Morceau and Beurré Diel. The best dessert Apple now to be obtained is King of the Pippins. Ribstons are scarce. New Oranges may now be had. Good Filberts are realising 9d. per lb. Chesnuts are plentiful. Cabbages, Savoys, Carrots, and Parsnips may be obtained in quantity. Cauliflowers are scarce. Potatoes realise from 4s. to 8s. per cwt. Mushrooms from the open field are nearly over. Cucumbers tolerably abundant. Cut flowers chiefly consist of Orchids, Gardenias, Violets, Mignonette, China Asters, Heaths, and Roses.

### FRUIT.

| | | | |
|---|---|---|---|
| Pine Apples, per lb | 5s to 7s | Pears, per ½ sieve | 6s to 10s |
| Grapes, per lb | 2s to 5s | Lemons, per doz. | 1s to 1s 6d |
| Melons, each | 2s to 4s | Filberts, p. 100 lbs. | 50s to 60s |
| Pomegranates, each | 4d | Cobbs, do. | 100s |
| Apples, per bushel | 6s to 10s | Chesnuts, per peck | 5s |

### VEGETABLES.

| | | | |
|---|---|---|---|
| Cauliflowers, per doz | 2s to 4s | Artichokes, per doz. | 2s to 3s |
| Greens, per dozen bunches | 2s to 2s 6d | Beet, per doz. | 1s 6d to 2s |
| Cabbages, do. | 1s 6d to 2s 6d | Celery, p. bundle | 1s to 1s 6d |
| French Beans, p. half sieve | 5s | Onions, p. half sieve | 1s to 1s 6d |
| Potatoes, p. ton | 90s to 100s | — Portugal, each | 2d to 4d |
| — per bus. | 2s to 2s 9d | Shallots, per lb. | 6d to 8d |
| — per cwt. | 4s to 6s | Garlic, per lb. | 6d to 8d |
| Carrots, per bunch | 6d | Lettuces, Cabb., per score | 1s to 1s 6d |
| Turnips, per bunch | 4d | Endive, p. score | 1s to 1s 6 |
| Spinach, p. sieve | 1s 6d to 2s | Horse Radish, p. bun. | 1s 6d to 4s |
| Cucumbers, p. doz. | 1s to 1s 6d | Mushrooms, p. pott | 1s 3d to 1s 9d |
| Frame do., each | 4d to 6d | Parsley, p. 12 bunches | 2s to 4s |
| Tomatoes, p. ½ sieve | 2s 6d to 3s 6d | Savory, per bunch | 2d to 4d |

## HOPS.—BOROUGH MARKET, FRIDAY, NOV 4.

Messrs. Pattenden & Smith report that there is no alteration in Hop market. All parties are anxious for the official declaration of the duty, which it is thought by many persons will fall between 340,000*l.* and 360,000*l.*

## HAY.—Per Load of Thirty six Trusses.

### SMITHFIELD, THURSDAY, Nov. 3.

| | | | | | |
|---|---|---|---|---|---|
| Prime Meadow Hay | 75s | to 75s | Clover | 90s | to 105s |
| Superior do. (old) | 80 | 84 | New Clover | — | — |
| Inferior do. | 55 | 60 | Second cut do. | 60 | 80 |
| New do. | — | — | Straw | 28 | 32 |
| Rowen | 45 | 55 | | | |

DAVIS & Co.

### CUMBERLAND MARKET, THURSDAY, NOV. 3.

| | | | | | |
|---|---|---|---|---|---|
| Sup. Meadow Hay | 80s | to 88s | Inferior Clover | 80s | to 92s |
| Inferior do. | 65 | 75 | New do. | — | — |
| New do. | — | — | Straw | 31 | 34 |
| Superior Clover | 100 | 105 | | | |

JOSHUA BAKER.

### WHITECHAPEL, THURSDAY, NOV. 3.

| | | | | | |
|---|---|---|---|---|---|
| Fine old Hay | 80s | to 84s | Fine old Clover | 100s | to 105 |
| Inferior do. | 65 | 75 | Inferior do. | 75 | 95 |
| Prime New Hay | — | — | Fine new Clover | — | — |
| Inferior do. | — | — | Fine 2d cut | — | — |
| Straw | 27 | 32 | Inferior do. | — | — |

## BRITISH WOOLS.—LONDON, FRIDAY, NOV 4.

The amount of business generally has not been to any extent except in Down fleeces, which have been in fair demand.

| | s. | d. | | s. | d. |
|---|---|---|---|---|---|
| South down Hoggets | 1 | 8 | to — | | |
| Half-bred ditto | 1 | 8 | — — | | |
| Down Ewes | 1 | 6 | — — | | |
| Kent Fleeces | 1 | 7 | — — | | |
| Leicest. Wethers | 1 | 5 | to — | | |
| Ditto Hoggs | 1 | 7 | — — | | |
| Combing Skins | — | — | — | | |
| Blanket ditto | — | — | — | | |
| Flannel Wool | 1 | 2 | — 1 | 7 | |

## METROPOLITAN CATTLE MARKET.

MONDAY, Oct. 31.

We have a very large supply of Beasts, and consequently a slow trade with lower prices. Sheep are also more plentiful; a considerable number remain unsold, and lower prices are taken where sales are effected. Calves are not quite so dear. From Germany and Holland there are 1790 Beasts, 5760 Sheep, and 128 Calves; from Scotland, 150 Beasts; from Ireland, 900; and 2900 from the northern and midland counties.

| | s | d | s | d | | s | d | s | d |
|---|---|---|---|---|---|---|---|---|---|
| Best Scots, Herefords, &c. .. | 4 | 6 | to 4 | 8 | Best Long-wools . | 4 | 8 | to 4 | 10 |
| Best Short-horns | 4 | 4 | — 4 | 6 | Do. Shorn .. .. | | — | | .. |
| 2d quality Beasts | 3 | 0 | — 3 | 8 | Ewes & 2d quality | 4 | 0 | — 4 | 6 |
| Best Downs and Half-breds .. | 5 | 0 | to 5 | 2 | Do. Shorn .. .. | | — | | .. |
| Do. Shorn .. .. | | — | | .. | Lambs .. .. | | — | | .. |
| | | | | | Calves .. .. | 4 | 0 | — 5 | 2 |
| | | | | | Pigs .. .. | 3 | 8 | — 4 | 8 |

**Beasts, 6540; Sheep & Lambs, 28,620; Calves, 165; Pigs, 640.**

THURSDAY, Nov. 4.

We have again a large supply of Beasts, but choicest descriptions are not very plentiful. The small amount of business transacted is at about Monday's prices. The number of Sheep is small, but it exceeds the demand. Quotations as on Monday. Calves are rather lower. From Germany and Holland there are 458 Beasts, 1430 Sheep, and 143 Calves; from the northern and midland counties, 500 Beasts; and 116 Milch Cows from the home counties.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Best Scots, Herefords, &c. .. | 4 | 6 | to 4 | 8 | Best Long-wools . | 4 | 8 | to 4 | 10 |
| Best Short-horns | 4 | 4 | — 4 | 6 | Do. Shorn .. .. | | — | | .. |
| 2d quality Beasts | 3 | 0 | — 3 | 8 | Ewes & 2d quality | 4 | 0 | — 4 | 6 |
| Best Downs and Half-breds .. | 5 | 0 | — 5 | 2 | Do. Shorn .. .. | | — | | .. |
| Do. Shorn .. .. | | — | | .. | Lambs .. .. | | — | | .. |
| | | | | | Calves .. .. | 4 | 0 | — 5 | 0 |
| | | | | | Pigs .. .. | 3 | 8 | — 4 | 8 |

**Beasts, 1516; Sheep & Lambs, 4500; Calves, 20; Pigs, 150.**

## MARK LANE.—MONDAY, Oct. 31.

The supply of English Wheat to this morning's market was small, the quality very indifferent, and cleared at fully our previous quotations. Foreign was more inquired after, but without leading to much increase of business; prices, however, are fully maintained. Fine malting Barley meets with ready buyers at the extreme value of this day se'nnight; other descriptions are unaltered. New Beans are 1s. dearer. Peas bring last week's prices. The Oat trade is very firm, and in some instances fine qualities bring some advance. Flour remains unaltered.

| PER IMPERIAL QUARTER. | s. | s. | | s. | s. |
|---|---|---|---|---|---|
| WHEAT, Essex, Kent, & Suffolk..White | 34 | 46 | Red .... | 36 | 41 |
| — — fine selected runs..ditto | 42 | 44 | Red .... | 38 | 44 |
| — — Talavera ..... | 40 | 50 | | | |
| — Norfolk ..... | — | | Red .. .. | — | |
| — Foreign ..... | 38 | 55 | | | |
| BARLEY, grind. & dist., 24s to 30s..Chev. | 38 | 44 | Malting . | 34 | 40 |
| — Foreign..grinding and distilling | 23 | 28 | Malting . | — | |
| OATS, Essex and Suffolk ..... | 19 | 22 | | | |
| — Scotch and Lincolnshire..Potato | 23 | 25 | Feed.... | 19 | 24 |
| — Irish .....Potato | 24 | 25 | Feed.... | 19 | 22 |
| — Foreign ..... Poland and Brew | 23 | 26 | Feed.... | 17 | 24 |
| RYE ..... | — | | Foreign . | — | |
| RYE-MEAL, foreign..... | — | | | | |
| BEANS, Mazagan.....30s to 39s....Tick | 33 | 41 | Harrow . | 33 | 41 |
| — Pigeon .....41s — 45s..Winds. | 48 | 54 | Longpod | — | |
| — Foreign ..... Small | 38 | 46 | Egyptian | — | |
| PEAS, white, Essex and Kent .. Boilers | 36 | 39 | Suffolk . | 38 | 41 |
| — Maple .... —s to —s ..... Grey | 33 | 35 | Foreign . | 30 | 38 |
| MAIZE ..... White | — | | Yellow.. | — | |
| FLOUR, best marks delivered..per sack | 37 | 43 | | | |
| — 2d do. ..... ditto | 27 | 37 | Country. | 27 | 37 |
| — Foreign ..... ... per barrel | 18 | 27 | Per sack | 30 | 37 |

FRIDAY, Nov. 4.

The weather during the last eight days has been very wet and boisterous, with heavy gales of wind, chiefly from S.W. and S.; to-day we have much rain and S.E. wind. The Wheat trade during the above period has generally been firm but inactive; prices, particularly of fine white second quality, being well supported and more inquired after. For all descriptions of Spring Corn there was an improving tendency, without any quotable change being generally observed. Business in Flour was quiet. The arrivals from Southern Europe off the coast are fair this week. The sales comprise Odessa Ghirka Wheat at 42s. 6d. to 42s. 7½d., Taganrog Ghirka at 44s. 6d. to 45s., and Berdiansk at 44s. 9d. all per 492 lbs.; Galatz Maize at 31s. to 32s., Odessa at 31s. 6d. to 32s., both per 492 lbs.; Ibrail at 29s. 4½d. to 30s., Wallachian at 28s., both per 480 lbs.; Danube Barley at 24s. 9d. per 400 lbs.; Odessa Oats at 18s. and Egyptian Beans on passage at 33s. per qr. imp.; Taganrog Linseed at 44s. 3d. to 45s., and at 43s. 9d. c. f. and i. for the Continent. The arrivals of English Wheat this week have been large, but small of all other grain. The market was only thinly attended. Fine English Wheat is inquired after, and commands the full prices of Monday last, which are also obtained for foreign; this, however, is in more limited request. For Barley there is a good inquiry at full prices. Beans and Peas bring late rates. The Oat trade is very firm, and in some instances a slight advance is obtained.

ARRIVALS FROM OCT. 31 TO NOV. 4.

| | Wheat. | Barley. | Oats. | Flour. |
|---|---|---|---|---|
| English .. | 3530 qrs. | 2340 qrs. | 410 qrs. | 1550 sks. |
| Irish .... | — ,, | — ,, | 2060 ,, | — ,, |
| Foreign .. | 4300 ,, | 4280 ,, | 8720 ,, | 45 ,, — brls. |

LIVERPOOL, Tuesday, November 1.—Market very quiet, the demand for Wheat and Flour being limited, without any material change in prices. Oats and Oatmeal in moderate demand; p[illegible] advanced ½d. to 1d. per 45 lbs., and 6d. per load. Barley v[illegible] Beans firm, with little doing. Indian Corn in fair request, and extreme prices paid for sound qualities.

FRIDAY, Nov. 4.—Grain market steady; Wheat in fair demand, and slightly dearer. Flour firm. Indian Corn quiet in consequence of the high prices demanded. Beans and other articles steady.

| AVERAGES | Wheat. | Barley. | Oats. | Rye. | Beans. | Peas. |
|---|---|---|---|---|---|---|
| Sept. 24.. | 41s 10d | 35s 5d | 21s 7d | 30s 6d | 40s 4d | 38s 5d |
| Oct. 1.. | 42 1 | 35 9 | 20 10 | 29 9 | 39 7 | 38 5 |
| — 8.. | 42 5 | 35 8 | 21 7 | 29 10 | 39 3 | 38 0 |
| — 15.. | 42 6 | 35 10 | 21 3 | 29 7 | 38 9 | 39 8 |
| — 22.. | 44 10 | 35 5 | 21 2 | 29 6 | 39 2 | 37 7 |
| — 29.. | 43 1 | 35 6 | 20 11 | 30 4 | 38 9 | 38 2 |
| Agg. Aver. | 42 6 | 35 7 | 21 2 | 29 11 | 39 4 | 38 5 |

FLUCTUATIONS IN THE LAST SIX WEEKS AVERAGES.

| PRICES. | Sept. 24. | Oct. 1. | Oct. 8. | Oct. 15. | Oct. 22. | Oct. 29. |
|---|---|---|---|---|---|---|
| 43s 1d | .. | .. | .. | .. | .. | |
| 44 10 | .. | .. | .. | .. | | .. |
| 42 6 | .. | .. | .. | | .. | .. |
| 42 5 | .. | .. | | .. | .. | .. |
| 42 1 | .. | | .. | .. | .. | .. |
| 41 10 — | | .. | .. | .. | .. | .. |

POTATOES.—SOUTHWARK, Monday, Oct. 31.

During the past week, the arrivals have been very light owing to the bad weather, and the few Potatoes left were cleared off at better prices. The following are this day's quotations:—York Regents, per ton, 80s. to 120s.; Lincolnshire do., 70s. to 100s.; Dunbar do., 90s. to 115s.; Perth, Forfar, and Fifeshire do., 60s. to 90s.; Kent and Essex do., 90s. to 110s.

## COAL MARKET.—Nov. 2.

Bell's Primrose, 13s.; Bowers West Hartley, 15s. 9d.; Buddle's West Hartley, 15s. 6d.; Byass's Bebside West Hartley, 15s. 6d.; Tanfield Moor, 13s. 6d.; Tanfield Moor Butes, 13s. 6d.; West Wylam, 14s. 6d.; Walls End Acorn Close, 18s. 6d.; Walls End Eden, 18s. 6d.; Walls End Gosforth, 17s. 6d.; Walls End Harton, 17s. 6d.; Walls End Belmont, 17s. 3d.; Walls End Braddyll's Hetton, 18s. 9d.; Walls End Hetton, 20s.; Walls End Russell's Hetton, 18s. 9d.; Walls End South Hetton, 19s. 9d.; Walls End Hartlepool, 19s. 6d.; Walls End Heugh Hall, 18s. 6d.; Walls End Kelloe, 19s. 3d.; Walls End South Hartlepool, 18s. 6d.; Walls End Trimdon Hartlepool, 19s. 3d.; Walls End Trimdon Thornley, 17s.; Walls End North Hartlepool, 14s. 3d.; Walls End Whitworth, 16s.; Carway and Duffryn Malting, 22s. 6d.; Nixon's Duffryn, 22s. 6d.; Powell's Duffryn Steam, 22s. 6d.—71 ships at market.


THE WIDOW OF THE LATE PROFESSOR HENFREY, F.R.S., L.S., &c., of King's College, London, receives a small number of BOYS between the ages of 6 and 12, to EDUCATE with her own family. Terms, from 60 Guineas per Annum.—Turnham Green, W.

WANTED, by a gentleman in the County of Oxford, an ARTICLED PUPIL. A limited number of Boarders are taken. Terms moderate.—Apply to ALPHA, Kingham, Oxon.

WANTED, A PROPAGATOR AND FOREMAN, in the Plant Department. He will be required to have a perfect knowledge of the Propagation of all kinds of Plants under glass, as well as their Cultivation, and must also understand the Grafting of Camellias, Roses, Conifers, &c.—Apply in own handwriting only, stating terms, with references, to HORTULANUS, at Messrs. Hurst & McMullen's, 6, Leadenhall Street, London, E.C.

NURSERY PROPAGATOR.

WANTED, A PROPAGATOR, PLANT GROWER, AND FOREMAN of General Trade Experience, and well acquainted with the Management of Roses, Conifers, Rhododendrons, &c.; a good Salesman, and of good address, able to take a local journey, whose character will bear the strictest investigation.—Apply with reference, stating age, experience, and wages expected, to THOMAS KENNEDY & Co., Nurserymen and Seedsmen, Dumfries.

WANTED, an experienced SOFT-WOODED PROPAGATOR, who has been accustomed to large establishments. First-class testimonials as to ability and character required.—Apply by letter to F. & A. SMITH, Dulwich, Surrey, S.

WANTED, AN UNDER GARDENER, at Wimbledon; must be well recommended for sobriety and industry. Wages, 18s. per week.—Apply to Mr. CHURCHILL, 11, New Burlington Street, W.C.

WANTED, by a gentleman on a Farm of 160 Acres, a MAN and his WIFE; the Man to act as Working Bailiff, and his Wife to take care of the Farm-house and look after Poultry. The Man will also be required to attend to the Live Stock.—Address, B. A., Post Office, Great Malvern.


## WANT PLACES.—Letters to be Post Paid.


WANTED, A RESIDENT LAND AGENCY on a nobleman or gentleman's Estate by the Advertiser, who can produce the most satisfactory testimonials.—A. Z., Mr. Sotheron's, 44, Coney Street, York.

AGENT OR MANAGER.—A gentleman who thoroughly understands farming in all its branches, with a practical knowledge of the same, is anxious to obtain an Agency or the Management of an Estate. Satisfactory testimonials with the highest reference will be given.—AGRICOLA, Mr. W. Sharland, 33, High Street, Southampton.

TO LANDSCAPE GARDENERS, &c.—The subscriber (age 24), proprietor of a Forest Nursery in the West of England, wishes to form an engagement with some one where he could gain an insight in Landscape Gardening, &c. The highest references can be given. No one need answer this advertisement who is not thoroughly competent in his profession, and has considerable practice.—G. FROST, Nurseryman and Seedsman, Brushford, Tiverton.

GARDENER (HEAD).—Single; is a successful cultivator of Early and Late Fruits, Flowers, &c. Character unexceptionable.—Mr. G. DICKERS, Westerham, Kent.

GARDENER (HEAD).—J. SANDY (married, one child aged 13) is now in want of a situation; perfectly understands his profession in all its branches. Has had the charge of Land and Plantations. Wife can undertake the care of the house.—The Cottage, Edwardes Square, Kensington, W.

GARDENERS (HEAD).—TWO OR THREE Married MEN, having a thorough practical knowledge of their profession, including the Early and Late Forcing of all kinds of Fruits, Flowers, and Vegetables, and the general routine of the Flower Garden and Pleasure Grounds, would be glad to make an engagement with any noblemen or gentlemen.—Mr. R. SMITH, Nurseryman, Wick, near Worcester.

GARDENER (HEAD, where one or two others are kept).—Age 28, married, without incumbrance; is desirous of engaging himself to any lady or gentleman. Has been in the profession 14 years. Understands the cultivation of Stove and Greenhouse Plants, Ferns, and Orchids, the Forcing of Peaches, Grapes, Strawberries, Cucumbers, and Melons, Flowers and Vegetables, with the general routine of Kitchen and Flower Gardens. Excellent character from present and former situation.—A. C., Mr. Dedman's, Sundridge Gardens, Bromley, Kent, S.E.

GARDENER (HEAD).—Age 40, married, no incumbrance; has a thorough practical knowledge of the Management of Pines, Vines, Melons, &c., and every description of Early and Late Forcing; the Growing of Stove and Greenhouse Plants for Exhibition, also Fruit, Flower, and Kitchen Gardens. Can take charge of Pasture Land if required. Satisfactory testimonials as to character and ability.—A. B., Messrs. Milne & Arnott, Vauxhall Nursery, Wandsworth Road, S.W.

GARDENER (HEAD).—Age 34, married, without incumbrance; a native of Scotland; can leave his situation any time between now and Christmas. Has been 10 years Head Gardener to a nobleman where a number of men are employed in the Gardens. Is familiar with all kinds of Garden work, Laying-out Grounds, Planting, Hothouse Building, &c.; is a good Penman and Accountant. Can be fully recommended. Reference may be made to Mr. BARRON, Elvaston, near Derby.—Mr. MAJOR, Seedsman, Oundle, Northamptonshire.

GARDENER (HEAD).—Age 28, married; thoroughly understands early and late Forcing; also Fruit, and Flower Gardens. Good character from former employers.—J. B., Reading Room, Norwood, Surrey, S.

GARDENER (HEAD).—Age 28, single; thorough practical knowledge of his profession; the Forcing Fruits, Flowers, Vegetables, and the Stove and Greenhouse Plants. Good character.—H. Marsh Terrace, Newbury, Berks.

GARDENER (HEAD).—Age 32, married, no incumbrance; first-class experience in his profession; fully competent to take the Management of a gentleman's Gardens. Good character. Wages, 1 per Cottage, &c.—L. G., Post Office, Maidstone.

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# News of the Week.

SIR GEORGE CORNEWALL LEWIS, the Home Secretary, at the Lord Mayor's dinner on Wednesday, responded to the toast of HER MAJESTY'S

Ministers, in the absence of Lord PALMERSTON and Lord JOHN RUSSELL, and gave a brief exposition of the state of public affairs. He congratulated the citizens upon the fact that perhaps at no previous period of our history have our internal affairs exhibited a condition of greater prosperity than at the present moment, by whatever standard that prosperity is to be tried, whether we regard the great increase of the revenue, the condition of trade, or the diminution of pauperism throughout the kingdom. He referred briefly to the recent strike in the building trade, and said that, while the Government had been no unconcerned spectators of the disturbance which is now, he trusts, approaching its termination, they had pursued with respect to it the policy of consistent non-intervention. With regard to the Reform Bill, he said that the Government relied upon being able, early in the ensuing session, to redeem the pledge which they had given by introducing a measure for improving the representation of the people in the House of Commons. On the subject of foreign policy the right hon. baronet made a statement which shows that there was no foundation for the report of the French journals that the French and English Governments had arrived at a complete agreement on the bases of a Congress on the Italian question. "The time," he said, "may come when, treaties having been signed, ulterior measures may be contemplated by the great Powers of the Continent, and when, probably, invitations may be addressed to the Powers which were parties to the Treaty of Vienna to join in a Congress for the settlement of the affairs of Italy. Hitherto, I may say, no formal invitation with respect to a Congress upon the affairs of Italy has been addressed to her Majesty's Government. But if at any future time such invitation should be addressed to them, it will be their duty to deliberate upon the matter with a view to maintain the principle which they consider sacred—namely, that no force should be used for the purpose of dictating to the Italian people the choice of their rulers—or for coercing them with respect to the form of government which, after mature deliberation, they may prefer."

The three Treaties of Peace were signed at Zurich on Thursday by the Plenipotentiaries of France, Austria, and Sardinia, and the *Moniteur* of yesterday announces that the two Emperors have agreed to convene a Congress for the purpose of deliberating on the means of founding the pacification of Italy on solid and durable bases. During the past week the National Assemblies of Tuscany, Parma, Modena, and the Romagna have appointed the PRINCE DE CARIGNAN Regent of Central Italy in the name of his cousin the KING OF SARDINIA; but a telegraphic despatch from Turin was received in town yesterday stating that KING VICTOR EMMANUEL, in consequence of a very urgent representation from the French Government, has refused to grant permission to the Prince to accept the Regency.

From the United States we learn that General Cass has addressed a despatch to Mr. DALLAS, in reply to Lord JOHN RUSSELL'S despatch to Lord LYONS, the tone of which is said by letters from Washington to be "firm, dignified, and decided in its tone," and certain to "commend itself to the hearty approval of the American people." It is understood however that General SCOTT'S instructions are peaceful and conciliatory; and, to show the good intentions of the American Government, copies of all instructions both to General HARNEY and General SCOTT have been forwarded to Mr. DALLAS for communication to the British Government.

## Home News.

THE COURT.—The Queen, Prince Consort, and the Royal family continue at Windsor Castle. On Friday morning the Queen, with Princess Louisa, rode in the riding-house. The Prince Consort went to London, and presided at a meeting of the council of the Duchy of Cornwall. In the afternoon her Majesty received and inspected the presents sent over by the Maharajah of Cashmere for her Majesty's acceptance. The Princess Alice dined with her Majesty. On Saturday morning the Queen and Prince Consort walked in the grounds of the castle. The Princess of Salerno and the Duke and Duchess of Aumale visited her Majesty. On Sunday morning the Queen, Prince Consort, and the Royal family attended Divine service in the private chapel; the Dean of Windsor officiated. On Monday morning the Queen, accompanied by Princess Alice, walked and drove in the Home Park. The Prince Consort visited the Wellington College. On Tuesday morning the Queen and Prince Consort walked in the grounds of the castle. The Prince and Princess Frederick William of Prussia arrived from Berlin on a visit to her Majesty. The Prince of Wales arrived in the afternoon from Oxford. In the evening the Queen had a dinner party. On Wednesday morning the Queen, Prince Consort, and the Royal family, and Prince and Princess Frederick William witnessed the parade of troops in the Home Park in honour of the birthday of the Prince of Wales. The Prince Consort afterwards went out shooting, accompanied by Prince Frederick William, the Prince of Wales, and the Prince of Leiningen. The Duchess of Kent paid her Majesty a visit of congratulation early in the morning. The Duke of Cambridge, the Prussian Minister and Countess Bernstorff, and Lord and Lady Palmerston, arrived on a visit to her Majesty. In the evening the Queen had a dinner and evening party. On Thursday morning the Queen, with the Princess Frederick William and Princess Alice, walked in the Home Park, and visited the Duchess of Kent at Frogmore. The Prince Consort went ont shooting, accompanied by Prince Frederick William of Prussia, the Duke of Cambridge, Prince Leiningen, and Count Bernstorff. The Prince of Wales left Windsor on his return to Oxford. The Count de Paris visited her Majesty.

THE PRINCE OF WALES attained his 18th year on Wednesday last. By the Act of 1842 his Royal Highness is now old enough, in case of a demise of the Crown, to govern without a Regency; but he will not otherwise be considered of age till he is 21, and will not take his seat in the House of Lords till that period arrives. The Prince left Oxford on Tuesday for Windsor to spend his birthday with the Queen and Prince Consort at Windsor Castle. On Wednesday morning the 1st Life Guards and 2d battalion of Grenadier Guards paraded in the Home Park in honour of the day, and on the arrival of the Queen and Royal family the line fired a *feu-de-joie*, gave three cheers, marched past in slow and quick time, presented arms, and afterwards marched to their barracks. In the evening the Queen gave a dinner and evening party in honour of the occasion. In the metropolis the day was observed with the usual honours, and the theatres and houses of the Royal tradesmen were illuminated in the evening. At Oxford the day was celebrated on the part of the University by a distribution of blankets among the adult poor, and, on the part of the town, by a dinner to the poor children in the Town Hall. On Thursday his Royal Highness returned to Oxford.

THE PRINCE AND PRINCESS FREDERICK WILLIAM OF PRUSSIA landed at Dover at 2 o'clock on Tuesday morning and proceeded to the Ship Hotel, where they passed the night. At 10 o'clock their Royal Highnesses left for London amidst the cheers of a vast concourse of spectators, the road from the hotel to the station being lined with troops, and the batteries firing royal salutes. On arriving at the Bricklayer's Arms station, the Royal party drove to Paddington station, and proceeded thence by a special train of the Great Western Railway to Windsor. At all parts of their route their Royal Highnesses were received with every mark of loyalty and respect, and the Princess Frederick William seemed especially touched with this hearty welcome to her native country. At the Windsor station the Prince and Princess were met by the Queen, the Prince Consort, Princess Alice, and Princess Helena, who had driven down from the castle to meet them.

THE GRAND DUCHESS MARIE OF RUSSIA arrived at Dover on Friday, and, after passing the night at the Ship Hotel, embarked on Saturday for Calais on her way to visit the Emperor and Empress of the French at Compiègne.

THE PERSIAN AMBASSADOR had his first interview with Lord John Russell on Wednesday at the Foreign Office.

THE CABINET.—A Cabinet Council was held on Monday at the official residence of the First Lord of the Treasury in Downing Street. Another Council was held on Wednesday.

## Foreign.

FRANCE.—The *Moniteur* of yesterday morning contains an article announcing the signing of the Treaties of Zurich, of which the following is a summary:—

"There are three treaties conceived in the spirit of the preliminaries agreed upon at Villafranca; and on ratifying the provisions the two Emperors have agreed to bring about the assembling of a Congress, which shall have communicated to it the Treaties of Zurich, and deliberate on the most proper means of founding the pacification of Italy on solid and durable bases."

The *Moniteur* also publishes a circular issued on Saturday last by Count Walewski, Minister of Foreign Affairs, to the diplomatic agents of the French Government abroad, of which the following is an abstract:—

"After explaining the advantages of the different clauses of the treaty of peace signed at Zurich, and stating that France will not have to advance the amount due by Piedmont to Austria, but will co-operate with Piedmont in making the stipulated payment by arrangements which have been agreed upon France and Sardinia, it says that France has demanded Sardinia the payment of 60,000,000 for the expenses war. The circular further announces that the two propose to include in the Congress the Two Sicilies, Sardinia; and that the Government of France has assurances that the Pope was only waiting an moment to make public certain reforms by which the ment of the clergy would be replaced by a government rally composed of the laity, and which would give to try better guarantees for the administration of justice the control of the public finances by means of an assembly elected by the people."

The Emperor arrived in Paris on Tuesday from Compiègne, and proceeded to the Hotel du Louvre to pay a visit to the Grand Duchess Marie of Russia. The first stag hunt at Compiègne took place on Friday. The Emperor was not present, but his Majesty, in hunting costume, arrived on the ground at 1 o'clock, the imperial carriage being followed by others containing the guests at the palace. A fine antlered stag was soon after found and killed, after a splendid run of an hour. At night the *curée* took place by torchlight in the courtyard of the Palace with the usual ceremonial, the Emperor and Empress witnessing it from the balcony. The second hunt took place on Wednesday, and other hunts will take place on the 16th, 23d, and 28th. The residence of the Court at Compiègne is said to be likely to have a decided influence upon the fashions of the season. At the instance of the Empress, crinoline is to be definitively abandoned, and woollen stuffs are to be adopted for walking dresses, not worn as long in the skirt as of late, but so as to show the ankle. The Empress has recently assisted at the Councils of Ministers presided over by the Emperor. Count Walewski, since his return to Paris, has held conferences with Prince Metternich, Lord Cowley, Count Kisseleff, and the Marquis de Villamarina. Accounts from Algiers state that the Ben-Snassen have submitted to the French, accepting conditions of peace of a most severe character, and the *Moniteur* of Wednesday publishes a despatch from General Martimprey, dated near Zekkora on the Morocco frontier, Nov. 6, stating that General Deligny, with two divisions, had attacked the Zekkora, and forced the tribes to retire towards the south, and that General Durieux, by skilful manœuvring, had obtained a victory over the tribes equally as brilliant as the victory of Malah. In addition to a great quantity of booty, the horses and arms of the Spahis, who had been killed at Sidi-Zaer, were retaken. The troops are said to be in excellent health, and spread terror everywhere before them, and the people implore their mercy. Notwithstanding this official statement it is reported that the cholera has committed great ravages in the French army, and that Colonel Lafont and 1500 officers and men have died of it. The *Moniteur* announces that the Duke of Padua, the late Minister of the Interior, has been appointed by an exceptional measure Grand Cross of the Legion of Honour, in order to testify in a striking manner the satisfaction of the Emperor with his services. The preparations for the Chinese expedition are continued with great activity; 8000 men will probably take their departure during the first fortnight in December. Preliminaries have been entered into with some shipping-houses at Marseilles for the conveyance of 7500 tons of coal to the Cape, Mauritius, Shanghai, Singapore, and Cochin China, and the four regiments of Marines have been ordered to supply 1600 men, to be formed into two battalions, under the command of Colonel de Vassigue, of the Marine Corps, with Lieut.-Colonel Favre as second in command.

SPAIN.—Despatches from Madrid state that the expedition against Morocco is far from complete. The means of transport are wanting, and must be obtained from France and England. The Spanish Government have discovered their fleet to be in anything but a satisfactory condition; while all is confusion in the commissariat department.

BADEN.—It is reported in Germany that a marriage is likely to take place between Prince William of Baden, the younger brother of the reigning Grand Duke, and the Princess Mary of Cambridge.

HESSE CASSEL.—In the secret sitting of the Second Chamber on Saturday, the proposal of M. Herrleins to present an address to the Elector, in favour of the re-establishment of the Constitution of 1831, was definitively agreed to by 38 to 5 votes. The Elector however, refused to receive the address, and on Tuesday the Second Chamber was to pass further resolutions and probably to forward an address to the Federal Diet.

SWITZERLAND.—The Sardinian Plenipotentiaries on Monday received orders from Turin to sign the treaty of peace; but at the last moment the signature was delayed on account of Austria claiming payment of the 40,000,000 of florins due by France on account of Piedmont in Conventions-Münze, instead of the new Austrian currency, and demanding explanations on the elections of the Prince de Carignan as President of the Romagna and Tuscany. The Emperor of the French immediately gave orders to the French Plenipotentiaries not to allow the difficulty in the settlement of the financial question raised by Austria to interfere with the signature of the Treaty, but to attach their signatures to it immediately. On Wednesday night a message was received from Vienna stating that Austria would consent to the financial settlement proposed by France—namely, that Austria should receive 102,000,000f., instead of the 104,000,000f.

which she had previously demanded. In consequence of this message the three treaties were signed on Thursday at the Hotel de Ville, and M. Armand, M. Hoffman, and Signor Nigra left Zurich yesterday to convey the treaties to their different Governments. The Plenipotentiaries will take their departure to-day (Saturday). It is believed that the convocation of the Congress to be held at Paris will take place immediately. The Austrian Minister, Baron Menshengen, having consigned the Austrian steamers into the hands of the Swiss commissioners, has returned to Zurich.

PRUSSIA AND RUSSIA.—It is stated on reliable authority that at the interview at Breslau the Emperor of Russia and the Prince Regent of Prussia determined not to consent to a revision of the treaties of 1815, nor to take part in any Congress in which England was not represented; the last resolution being proposed by Prussia. An honour seldom paid to a foreigner having no connection with Prussia has just been paid at Berlin to the memory of the late Earl of Westmoreland, so many years British Ambassador in that capital. All the principal military bands were assembled in presence of the Prince Regent and the most distinguished persons in Berlin, and performed Beethoven's Funeral March, a favourite work of the late earl, whose compositions were well known and appreciated in the Prussian capital.

HOLLAND.—A despatch from the Hague announces that Prince Alexander, second son of the Queen of the Netherlands, has been suddenly attacked with serious illness. Her Majesty, who was at Toulon, has been recalled to the Hague.

AUSTRIA.—The Schiller Festival at Vienna was celebrated on Tuesday in a most brilliant manner in presence of immense crowds of people. The torch-light processions were numerous and well attended. The greatest order and enthusiasm prevailed throughout the city. The weather was exceedingly fine until towards the conclusion of the festival. The Archduke Ferdinand Maximilian and the Archduchess Charlotte have left Vienna for Trieste, whence they intend to sail to the Dalmatian Island of Croma, which has been purchased by the Archduchess. After a short stay there, their Imperial Highnesses will embark in the steam-frigate Elisabeth for Madeira, where they intend to remain for a month. The Archduke will then go to Rio Janeiro, and is expected to return to Vienna in March next. It is not yet arranged whether the Archduchess will accompany her husband to South America.

GREECE.—A collective note of the three protecting Powers has been presented to the Greek Government demanding payment of a million of drachmas per annum, which has long been unpaid, on account of the loan and interest on the debt of 60 millions contracted in London many years ago. The note took the Government by surprise, but at a Cabinet Council presided over by the King, the principle of the payment of one million was adopted, and the Chambers were convoked for the 10th inst.

ITALY.—The National Assembly of the Romagna on Monday unanimously voted the regency of the Prince de Carignan, and invested him with full powers. On the same day the National Assembly of Parma resolved upon conferring full powers on the Prince de Carignan, and appointed his Highness Regent. The Assembly of Modena also determined unanimously to elect the Prince de Carignan as Regent. The Assembly of Florence on Tuesday, with the exception of one vote, unanimously appointed the Prince de Carignan Regent of Tuscany in the name of the King of Sardinia, the elected King. On Wednesday the National Assembly of the Romagna approved, by a large majority, a proposition to accept the resignation of the Governor-General of the Romagna, and to transfer to the Dictator of Parma and Modena full powers to govern the Romagna until the Prince de Carignan has assumed the Regency. The Sardinian Constitution was also proclaimed by the Assembly, which resolved that the time for its application shall be fixed by the Government. It was also resolved that the power to dissolve the present Assembly shall rest with the Prince de Carignan. A telegraphic despatch from Turin dated Thursday last, states that King Victor Emmanuel, in consequence of a very urgent representation received from the French Government, has refused to grant permission to the Prince de Carignan to accept the Regency which has thus been offered to him by the several states of Central Italy. Signor Farini, however, the Dictator of Modena and Parma, having been provisionally appointed Governor of the Romagna by the National Assembly, has issued a proclamation accepting the office, and stating that the only way of securing the peace of Italy is to render Italy to the Italians, and that the people of the Romagna, if forbearance and moderation should be of no avail, sooner than submit to the yoke, "would be advised only by their duty to their country and the pursuit of the path of honour." Accounts from Naples state that though the army of the Abruzzi has been provisioned, it will go into cantonments during the winter. Sicily is more tranquil. Large public works are spoken of as about to be commenced throughout the kingdom. It is asserted that the principle of an amnesty had been decided on. The submarine telegraph between Corsica and Genoa has been re-established.

MALTA.—The Renown and the Brunswick, liners, left Malta on the 26th October, it is supposed for Ancona. The Hannibal, the St. Jean d'Acre, and the London left on the 31st for Corfu.

TURKEY.—It is reported that instructions have been sent to M. Thouvenel, the French Ambassador at Constantinople, to represent to the Sultan the advantages to be derived from the construction of the Suez Canal, and also to confer with the Russian Ambassador on this subject, in order that the two Ambassadors may act in concert in this matter.

MOROCCO.—Mohamed El Kateeb, the Morocco Minister for Foreign Affairs, has addressed a long statement to the representatives of Foreign Powers resident at Tangiers, on the differences between his Government and that of Spain, for the purpose of showing that the Emperor has always been willing to maintain friendly relations with the Spanish Government, and that there are no real grounds for the intended attack on the part of that Power. Meanwhile the Moors are making active military preparations, and the Cherifs have begun to preach up the Holy War. At Tangiers large bodies of men are employed night and day in throwing up earthworks. The towns of Tetuan and Rabat, which are occupied by a fanatical population, are already fortified, and the Emperor of Morocco intends to collect large stores and to concentrate troops there. At Rabat, when the authorities learned that hostilities with Spain were imminent, they caused the famous "keys of Cordova" to be carried in procession through the town, and afterwards to be exhibited on a silver plate for three days in the great mosque.

EGYPT.—The English General Malcolm has presented a rich present from Queen Victoria to Said Pasha. The English authorities are making preparations at Alexandria for the transport of troops to China. The attempt to lay the Alexandria and Constantinople cable has again failed between the islands of Scio and Candia. The Austrian engineers foretold that it would be very difficult to construct a submarine telegraph in the Archipelago.

INDIA.—The Bombay mail has arrived with news from that Presidency to the 13th October; and a telegraphic despatch has been received by Mr. Reuter's special Indian service with accounts from Calcutta to the 14th October, being four days later than the date of the departure of the mail, which has brought news to the 10th. The following are the details:—

*Bombay.*—Lord Elphinstone will resign the government of Bombay in March next. The expedition for the reduction of the Waghurs (a piratical race inhabiting the north-west point of Kattiawar, where the famous shrine of Dwarka is situated), who had thrown off their allegiance to the Guicowar and betaken themselves to piracy the traditionary practice of their tribe, for the suppression of which three expeditions have been fitted out from Bombay within this century, has brought its operations to a successful close. The fort and island of Beyt were stormed on the 7th ult. The expedition arrived off the island on the 3d. On the morning of the 4th, two boats, armed, from her Majesty's steamer Feroze, two from her Majesty's steamer Zenobia, and one boat from her Majesty's steamer Victoria, the whole under the command of Lieutenant Chitty of the Indian navy, were sent to cut off the boats belonging to the enemy. On the 5th the Feroze, the Zenobia, the Victoria, the Clyde, and the Constance opened fire on the fort, which was continued all day. On the 6th the troops landed under cover of the guns of the fleet at 2 P.M. The enemy made a stout resistance, and 60 to 80 of our men were killed or wounded. Our loss is 2 officers killed, 2 officers wounded, 13 men of the 28th Regiment killed and 33 wounded; 9 men of the 6th Native Infantry killed and 12 wounded. The names of the officers killed are—Lieut. M'Kormick, 28th Foot, and Ensign Willaume, 6th Native Infantry. The Zenobia has brought down the following wounded officers and men:—Captain Glasspoole, Lieut Grant, 33 men of her Majesty's 58th Regiment; 10 men of the 6th Native Infantry; 2 men of the Marine Battalion.

*Calcutta.*—The Governor-General has left for the North-West Provinces. He was to hold a grand Durbar at Lucknow on or about the 20th ult., to which all the grandees in Oude had been invited. He was then to proceed to Agra and Delhi, receiving *en route* native Princes of all grades. The expense of the journey will be very great, the Viceregal escort alone including 3000 men, and the camp numbering not less than 20,000 persons. Rajah Jeylall Singh, who murdered Miss Jackson, Mrs. Green, and others; and Rao Ram Buksh, who treacherously betrayed or murdered the Cawnpore fugitives, have been found guilty and executed; and Tham Shah, a Rewar Sirdar, who wrote to Runmust Singh requesting him to kill the railway engineers at Pindera, was killed on the 17th September by a party of the Rewah Rajah's troops. The trial of Raheem Ali for the murder of Major Waterfield is still in progress. Her Majesty's 67th Regiment have left Calcutta for Hong Kong; the head-quarters on board the Indomitable, and the left wing on the Australian. This is the first instalment of troops from Bengal for service in China.

*Nepaul.*—It is said that Jung Bahadoor had resolved to expel the fugitive rebels from the Terrai. Nana Sahib is, with several hundred men, on the banks of the Raptee.

CHINA.—It is stated that the treaty between China and the United States will not come into operation until matters are settled with England and France. It appears that a fortified camp has been established in an excellent position at two miles from Pekin, and that the Emperor is collecting his best troops there. It is said that his Majesty, in case his capital be attacked, intends to retire into Tartary with his family and his guard, the latter consisting of 70,000 Mongols. The French and English admirals had been informed that the Chinese were adding to the defences of the Peiho, by constructing new batteries in advance of the others. On a hill to the right of the forts they had built a small temple to commemorate their victory, and had celebrated its opening by bonfires and fireworks for several consecutive nights. Notwithstanding these demonstrations, however, the intercourse of the French and English with the Chinese authorities continued on a friendly footing.

COCHIN CHINA.—A Tourane letter from a good source states that a considerable force of Cochin Chinese had attacked the French troops, but had been repulsed with severe loss.

JAPAN.—Mr. Ward, the American Minister, has gone to Japan, where matters remain in an unsettled state. 12 Russian ships of war are at Jeddo. Three men belonging to this force have been murdered, and serious consequences are not improbable. In consequence of this and other serious news, the French admiral had sent the Duchayla to Nangasaki. That steamer was to visit the different ports open to Europeans, and enforce respect for the French flag. The Japanese Government seemed anxious to avoid executing the chief stipulations of the treaties concluded with foreigners, but it was not supposed that recourse to arms would be necessary to bring them to a sense of duty.

UNITED STATES.—The preliminary examination of the Harper's Ferry conspirators took place at Charlestown, Virginia, on the 25th ult., before a court of magistrates. Brown, when called upon to accept counsel named for him by the court, made a bold and disdainful speech declining to trouble himself with a defence on the ground that his case was prejudged. The court, nevertheless, assigned the duty of defending the prisoners to two counsel, who accepted the office. Accounts from Washington state that the despatch of General Cass to Mr. Dallas, in reply to the despatch of Lord John Russell to Lord Lyons, went out by the steamer which left New York on the 22d. It is said to be firm and decided in its tone. At the same time it is understood that the instructions to General Scott are firm and conciliatory; whilst, to show the good intentions of the American Government, copies of all instructions both to General Harney and General Scott have been forwarded to Mr. Dallas. The Walker filibusters lately tried at New Orleans have all been acquitted. Professor Lowe has constructed a leviathan balloon for a journey to Europe; the process of filling it with gas commenced on the 26th ult. No definite time was fixed for the ascent, but it was to be made on some day when the weather was favourable and promised to continue so. It is said that six persons will accompany the professor.

AUSTRALIA.—Accounts from Melbourne of the 17th Sept. state that the first batch at elections had gone against Ministers. The law officers, Treasurer, and Commissioner of Crown Lands were defeated. Don, a stone-mason, had been returned to the Assembly, defeating the Treasurer. The Solicitor-General had been since returned. Trade was dull, and there was considerable speculation in mining companies; 40 of which were in the market—some of them mere bubbles. The supply of gold continued good.

## Public Addresses.

LORD BROUGHAM, on Saturday, at the distribution of prizes to the pupils in connection with the East Lancashire Union of Mechanics' Institute, made the following remarks on the Maine Liquor Law:—

"Nothing can possibly be more highly interesting, more deeply important to the best interests of society than the education and general training of women. Upon that depends whether the working man shall have a good housewife for his wife, whether his children shall have a good mother to attend them, whether his home shall be made comfortable and happy to himself, and thereby a formidable rival, and the best possible rival, raised to another place, of which other place I will not go further for the present than to say, it neither has the comforts of home nor the innocence of home nor the instruction, and sound relaxation, and refreshment of home; but its enjoyment is obtained by the sacrifice of the domestic duties, by robbing the wife and children of the pence which are spent there to support the indulgences obtained, and in return for those indulgences the health of mind and body alike are undermined, and ultimately are totally subverted. There has been in some quarters a great complaint, which, however is not founded upon fact, of my having declared myself at the Bradford Social Science Congress a convert to the Maine Liquor Law. I did not declare that I was a convert to the Maine Liquor Law. I said that we were not prepared in this country for anything of the kind, that it would take a long time to prepare us for it, but that the greatest care should be taken not to encourage intemperance if we did not discourage it—nay, that the greatest care should be taken by all lawful, moderate, rational means to discourage it; and that the public mind being prepared (which I am afraid it will not be until after a long course of discussion and controversy for its enlightenment), then, I did not say the Maine Liquor Law, but a legislative repression, should be applied to the sale of intoxicating liquors, which fill our gaols with criminals and our workhouses with paupers. It is always disagreeable, as well as unprofitable for the cause one supports, to commit any exaggerations. It is an old saying that you diminish all that you exaggerate. It is like turning the telescope round the wrong way, so that instead of bringing near the objects of your view and making them appear great, you make near objects appear distant. That is the consequence of exaggeration; therefore I would carefully avoid it; and yet I have very high authority on the subject to which I have been referring—the authority of one of the most eloquent preachers who ever appeared in this country—I would say the most eloquent preacher, and I speak from having read his sermons and from having had the advantage also of hearing him upon one occasion. When I went with my late lamented friend Lord Denman, the Chief Justice, to hear Robert Hall, I can only say that, at one part of the admirable sermon which he then preached, we both, as by one impulse and of one accord, turned round one to the other and said, 'Plunkett!' which was comparing him to the greatest orator of late times, who since Pitt, Fox, and Sheridan have been no more, is the greatest orator by much who has been known in this country. Well, Robert Hall was applied to one day, by a reverend friend of his who called upon him in the course of the morning, and who was fatigued with his walk, to give him a little brandy and water. 'I will,' said Robert Hall, 'if you will give it its right name.' 'What is that?' asked his friend. 'Distilled damnation.' Now, Robert Hall is a man of great eloquence, and may be allowed to exaggerate a little, which I do not. I give you this as an instance that I might have gone a great deal further with high authority than I did at Bradford upon this subject."

The EARL of ELLENBOROUGH has addressed the following letter to Lord Brougham on the state of Italy:—

"I propose to subscribe a small sum to the fund for the purchase of arms to be placed at the disposal of Garibaldi. If all those who wish well to the cause of independence in Italy would, for the same purpose, subscribe such small sums as they can spare without inconvenience, the aggregate amount of their contributions would be large, and they would materially assist in supplying the Italians with the means of making themselves respected. Arms, organization, and discipline

constitute the real strength of a people. In proportion to that strength is the respect it obtains. Upon that foundation alone the independence of every country must really rest. I admit, with deep regret, that the Italians have, as yet, made but little use of the opportunity which the events of the war have placed before them. They have confined themselves very much to rejoicings in anticipation of the independence which they have neither achieved nor deserved. They have been waiting to receive from the hands of others that which they should disdain to owe to any other hands but their own. Acting under the direction of men hastily selected, and unequal to the crisis in which they were called forth to govern, they are even now, I fear, in Central Italy, insufficiently prepared against the threatened invasion of the two most contemptible of armies—those of Naples and of the Pope. I will still hope for better things. I will hope that, stimulated by the insults to Italy which are conveyed in the demands France is about to make in the Congress, they will rise to vindicate their right to choose their own Government, and clutch the arms by which alone it can be secured. There is in Italy one man who has at once a head to direct, a hand to execute, and a heart which tells him what is right. That man is Garibaldi. Let the Italians follow where he leads, and they will at least acquire the honour which has been so long unknown to them as a people. He has no measures to observe with France. If he should obtain success, he will not consent to hold the provinces he liberates as a fief of the French Empire. He will not lend himself to the carrying out of the idea of the First Napoleon, that France should be surrounded by weak dependent States. If the Italians should obtain no change but that of substituting the influence of France for that of Austria, they will only have changed the outward form of their humiliation, and have laid the foundations of perpetual disunion and of constantly recurring war in their country. I believe that the creation of a great, united, and independent State in Italy (and to be independent it must be great) would tend more than any other measure which could be adopted to secure the peace of Central Europe. Incapable of entertaining projects of conquest beyond the Alps, which it would be evidently impossible to realise, such a state would have a common interest with Austria in closing that natural barrier against the foreigner; and Austria, relieved from all apprehension on the side of Italy, would, in union with Germany, present on the Rhine and on the Vistula a concentrated strength which no ambition would assail, because none could hope to overcome. This was the opinion I formed at the Congress of Vienna. I expressed it in the House of Commons in 1816. I have adhered to it through life. The unexpected events in the early part of this year appeared at one time to place this great result almost within our grasp. I will still trust that such high hopes have not been held out to Europe only for a moment, to be then dashed away and to deceive. I will still trust that the Italians may prove themselves not unworthy of their fortune, and may be mindful of other and higher traditions than those to which France has directed their regards. At least, let us, sympathising with them in circumstances which were once our own, place in their hands the arms by which alone, under Providence, their redemption can be achieved. In the will of Providence must rest their success, but with arms in their hands they may at least, instead of being unresistingly transferred, like cattle, by foreigners, fall nobly like soldiers in the field, and acquire that glorious name which has been accorded by the concurrence of all ages to those who perish in the attempt to liberate their country. It would give me much satisfaction to learn that you approve the step I propose to take, and that, although you may not agree with me in all particulars, you agree with me in the main in the views I have expressed."

**MR. DISRAELI** at Manchester last week spoke as follows on the advantages of knowledge and on the opportunity which comes to every man once in his life of bettering his condition:—

"It is generally the custom with those who occupy the position which I fill to-night to dilate upon the advantage of knowledge in itself, and to assure all those whom they address that 'knowledge is its own reward,' and that its acquisition is quite sufficient to compensate for all exertions and stimulate to further efforts. Certainly I am the last man who would for a moment maintain a contrary opinion. I know very well from my own experience, as many must know who are here, that there is a reward in learning which far outweighs all the social advantages of life; that knowledge is its own exceeding reward; and that whatever may be the position of the individual, the possession of a certain amount of knowledge will always alleviate the circumstances that otherwise might be productive to him of discontent or annoyance. I am anxious however to meet some hard assertions that are often made with regard to institutions of this kind, and the great labour of love in which many are engaged for the advancement of their fellow creatures and the dissemination of knowledge—some hard assertions which would maintain that in a country like this it is useless or almost hopeless for a man to attempt to raise himself by cultivating his mind, the obstacles to advancement being so very considerable. Now I am of quite a contrary opinion. I do not think there is any fallacy greater than that which holds up England as a country where it is difficult to advance for those who have intelligence and integrity. I quite admit that in a new country, in a colony, for example, where land is not appropriated, and there is a scattered population, there is, at first sight, a coarse facility offered to physical energy, which reaps a rapid and considerable reward. Those opportunities, though obvious, are of a monotonous character; there is only one means, and that means often becomes sooner exhausted than is expected. But, in a country of ancient civilisation, I maintain that according to the social combinations the opportunities proportionately increase—that there is a greater amount of social combinations which allow a qualified individual to rise in the world than in countries less advanced. I remember Lord Stanley pointing out to me a gentleman in the House of Commons who had been recently returned there, and he said 'That is a very able man, from whom I think something may be expected.' I won't mention his name, not because I wish to avoid personalities, for, alas! he is no longer among us; a terrible and unforeseen accident took him from this world. But Lord Stanley said, 'That is a man who has one of the greatest establishments in England'—I believe it was the making of machines—'and he has three persons in his employment who have all risen from the ranks, who are engaged at a salary each of 1500*l.* a year.' And as my noble friend remarked to me on the benches of the House of Commons, when we were venturing to enjoy ourselves with a little private conversation during a dull speech, 'You see how that gentleman is endeavouring to become an Under-Secretary of State; why, this manufacturer has got three men in his employ at the same salary as an Under-Secretary of State.' Now these are facts not to be passed over with negligence, and I want to know what country in the world offers such a reward and such a premium for intelligence and integrity as the one to which I am referring? I know it may be said that this is a very peculiar circumstance, that the North of England is in possession of a considerable industry of a remarkable kind; but that it is 'exceptional,' to use a fashionable epithet, and that you cannot pretend that in England generally that is the course of human affairs. Now, I totally differ again from this opinion; and these are opinions that are perpetually brought forward to damp the ardour of the aspiring people of this country. I live in a part of the world very different from the world in which the majority of those by whom I am at present surrounded live. I live in a part of the world where there are no great towns, and none of the obvious means upon which you count to stimulate emulation and to facilitate co-operation; where the industry, though it is a great industry, is chiefly, if not entirely, employed in the cultivation of land; and there we are constantly told that it is impossible that an Englishman can rise. Well, now, I have always been very much interested in the subject of how men rise in the world, and I have analysed the community in which I live, and I find myself surrounded by self-formed men, who by their character and intelligence have raised themselves always to a respectable and often to an influential position. I will venture to give you an instance. A little while ago a farmer asked me to dine with him in a barn. Now, the barn I will not say was as noble a building as this hall, but I can assure you it was a barn in which a very considerable public meeting might have been held. However, his public meeting consisted only of his sons and two generations besides of his descendants. There was a patriarch with 70 or 80 of his progeny, and he had followed the plough when a boy upon the broad acres which he had successfully cultivated; and he told me that as now, though not weary, he had had sufficient of the labour of life, it was his intention—and he fulfilled the intention—to divide his fortune, which was not inconsiderable, among his sons, and retire upon the rents of a freehold property which he possessed. Well, that is not a single case; it is a case I won't say not remarkable, but one for which many parallels may even in the same class of society be furnished. I could go through a variety of instances in our rural life in which men have risen to a considerable position under my eye, as it were, and within my own experience, and I have found invariably that if a man has a head upon his shoulders, whether he lives in Lancashire or Buckinghamshire, he generally gets on in the world. I would therefore impress upon those whom I have the honour of addressing this evening, not for a moment to suppose that all that they obtain by the effort which they have made is that they are to be applauded by their fellow-citizens, and to be recognised with momentary approbation under circumstances like the present. I want to impress upon them that if they continue the effort by which they have arrived at this result, they will advance themselves in the social sphere, and will obtain that which every Englishman ought as a right to look forward to—the raising of his social condition. Now, I would very humbly, if I might presume to offer any advice, especially to young men who are present, I would say this, 'Take this as an incontrovertible principle, accept this as a moral dogma in your life—every man has his opportunity.' Now, the great point is this, it may be a long time coming; but, depend upon it, it is sure to arrive, and what you have got to do in the interval is to prepare yourself for that opportunity. When I say that every man has his opportunity, and venture to lay that down as a principle which cannot for a moment be controverted, I will admit to you that many men have their opportunity and are not capable of availing themselves of it. I will venture to give you two instances occurring in my own experience within a very few months. In the first a gentleman in a public office, in consequence of an unexampled combination of circumstances arising from deaths and retirements, rose to the head of his department, and though he knew for more than 20 years that that high post might sooner or later be the prize of his existence, he was so dreadfully alarmed by his own want of ability when it came to him, that he refused to accept that which for nearly a quarter of a century he had been dreaming of. In the second case a young man who had distinguished himself highly in official life was recommended for advancement, and was appointed to a post which would have secured his independence, and have led him to a high position at no distant day, but he was unable to accept the offer because he was not a French scholar. That was an instance of opportunity lost, not by want of ability, but by a want of acquirement. I say, therefore, that every man has an opportunity, and though he may not be equal to the occasion that offers, it is not his destiny that he ought to condemn, but his own indifference or negligence. Now, it is said, and it is a very dangerous saying, though a very common one, that 'life is a lottery.' Life is not a lottery. Life is a science, and certain qualities and certain talents, properly handled and properly managed, must lead to certain results. Depend upon it, that this is a truth which you must accept, which, if you believe in, you will find a very considerable change in your life. No man has a right to be discontented with his position if he accepts as a principle of existence that an opportunity will be offered him in the course of that existence, because, until the opportunity offers, he ought to be preparing himself for it. And what a source—I will not say of amusement, that is a minor phrase—what a source of interest and excitement is the continual preparation for the inevitable occasion."

**MR. BRIGHT**, M.P., has addressed the following letter to an association of small house-owners in Birmingham:—

"Rochdale, October 10, 1859.

"Sir,—I have to thank you for sending me the pamphlet on the income tax. You ask my opinion of that tax: I have often expressed it in public, both in the House of Commons and out of it, and it seems scarcely necessary for me to state it again. I may however say that I agree with almost every word said against it in your pamphlet; and the longer I know the tax and the more I examine it, the more I think it hateful and intolerable. Up to this point we are agreed, but here you leave me in the dark. As one of your representatives you expect me to do something, and you wish me to promise that I will oppose, at all risks, any re-enactment of the income-tax laws. Now, let me ask you how it is that with a population greatly increased, and with wealth greatly increased, even beyond the increase of population, there is so much and, as we all feel, such just dissatisfaction with the amount and with the system of our taxation? Is it not because the national expenditure rises constantly and rapidly, apparently without any regard to the real necessities of Government? There is no department in which the expenditure has not largely increased during the last 10 years, and every year exhibits a greater contempt of economy on the part of the Administration and the Parliament. The Russian war threw wide open the door of the national exchequer, and since 1854 the great fund gathered from the industry of the people has been an easy prey to those who, on hollow pretences of every kind, manage to live at the expense of the payers of taxes. The House of Commons does nothing to check the extravagance, it encourages it. Its members are not so much of the tax-paying as of the tax-consuming class. They come from, and they chiefly represent those whose families have for generations considered the taxation of the people as their lawful patrimony. The eldest of the family takes the estate in land, and the rest of the family occupy their lives mainly in a scramble for their undivided interest in that other estate, contributed yearly by the payers of taxes. The House of Commons will not check the extravagance of the administration of the department, and it will not levy the taxes with any reference to what is just in the imposition of national burdens. For 60 years it has levied a heavy probate duty on personal property, from which land and freehold property have been and are now exempt. For nearly 60 years it levied a heavy legacy duty on personal property, from which land and freehold property were exempt. In the year 1853 it pretended to correct this injustice as regards the legacy duty, by imposing a succession tax on land and freehold property, but it did this in a way to charge land and freehold property not more than one-fourth of the amount which is charged on all other kinds of property. This succession tax was to have raised two millions sterling a year; up to this time I believe it has not reached 800,000*l.* in any one year. The whole taxation of the country last year exceeded 65 millions sterling. Of this vast sum not 10 millions were raised by taxes affecting only the possessors of the visible property of the country. The Customs and Excise alone raised more than 42,000,000*l.*, collected on articles the great bulk of which is consumed by that portion of the population which has no property but its labour and no income but its wages, and which, as might be expected from the fact just stated, has no voice in Parliament, and is wholly without representation in the government of the country. The Parliament (I speak of the two Houses) is a Parliament of the rich, it has no immediate interest in economy or in equal taxation. It is powerful enough to secure to the class which it really represents the patronage and the emoluments which are to be disposed of, in the spending of the vast sums which find their way into the national exchequer. What can I do? What can any single member of Parliament do? I can protest—I can describe your grievance! I can denounce the wrong! I can say that a Government that is unjust will some day be overthrown. But all this and much more will not loosen the grasp of the insatiable hand against whose extortion you complain. So long as the middle class of our population will tolerate a system of mock representation, based on the coercion of county constituencies, and the corruption of the boroughs; so long as the power of the great proprietors of the soil in the one case, and the power of money in the other, return an overwhelming majority of the House of Commons—so long there can be no hope of any economical administration, and of a just distribution of the public burdens; and so long as the millions of workmen, whose toil and skill produce all the wonders of which our national industry can boast, are purposely and insultingly excluded from any direct and legal influence in the election of members of Parliament, so long they may and must bear a load of taxation wholly beyond their means to support. There is something essentially mean and singularly cruel in the manner in which the taxation of this country has been and is still levied. Our rich class is the richest in Europe; the administration of the country is in its hands, and a greater proportion of the heaviest taxation in the world is thrown upon the class possessing no property but its labour and wages than is the case in any other country with whose system of taxation we are acquainted. What is the remedy? It is to be found only in a change in the authority by which taxes are levied and the public funds expended. A monarch solely, or a monarch and an aristocracy, or both, working with a mock representation, never did, and never can give any security for economy in governments, or for a just imposition of public burdens. They are admirable institutions, uncontrolled, to enrich the rich; and an aristocracy working with and through a mock representation is the most complete instrument ever devised to squeeze wealth from the toil of a nation under the pretence of governing it. The only real security for economy in government and for fairness in the laying on of burdens is to be found in a House of Commons which shall honestly represent the people of the United Kingdom. Let the householders of England, Scotland, and Ireland, let the heads of families, let those who form the nation speak through fairly chosen representatives in Parliament, and justice in raising taxes and economy in spending them may be hoped for. I shall do all I can in favour of this justice and this economy, but every effort will be in vain until the public purse is taken from the custody of a class, and placed under the safe keeping of the people. I will thank you to convey this expression of my views to the association you represent. I am very sorry I see so little prospect of rendering them any service. "Yours very faithfully, "JOHN BRIGHT."

## City Intelligence.

**MONEY MARKET, FRIDAY.**—BRITISH FUNDS: Consols closed at 96⅜ for Money, and 96½ for the 6th Dec; Reduced and New Three per Cents., 94¾ to 95; India Stock, 224 to 226; New Indian Loan (stock), 104 to 104¼; Ditto Scrip, 103⅞ to 104⅛; Four per Cent. Debentures of 1858, 96½; Ditto 1859, 96½; India Bonds, 1*s.* to 2*s.* prem.; Exchequer Bills, 29*s.* prem.—FOREIGN: Buenos Ayres Deferred Bonds, 20½ to 20¾; Equador New Consolidated Bonds, 14¾; Ditto Provisional Land Warrants, 3⅝ to 4; Mexican Three per Cents., for Acct., 22¾ to 22⅞; Russian Four and a Half per Cents., 99½; Ditto Three per Cents., 1859, 65⅞ to 66, ex div; Spanish Three per Cents., for Acct., 44⅝; Committee's Certificates, 5; Turkish Six per Cents., 1854, for Acct., 78; Ditto 1858, for Acct., 67.

## Bank of England.

ISSUE DEPARTMENT.

| | | | |
|---|---|---|---|
| Notes Issued .. .. .. | £30,692,905 | Government Debt .. .. | £11,015,100 |
| | | Other Securities .. .. | 3,458,000 |
| | | Gold Coin and Bullion .. | 16,277,905 |
| | | Silver Bullion .. .. .. | — |
| | £30,692,905 | | £30,692,905 |

BANKING DEPARTMENT

| | | | |
|---|---|---|---|
| Proprietors' Capital.. .. | £14,553,000 | Government Securities (including Dead Weight Annuity) .. .. .. .. | £10,575,153 |
| Rest .. .. .. .. .. | 3,175,289 | | 13,649,359 |
| Public Deposits (including Exchequer, Savings Banks, Commissioners of Nat. Debt, and Dividend Accts.) .. .. .. | 6,997,259 | Other Securities .. .. | 8,999,490 |
| | | Notes .. .. .. .. | 613,363 |
| Other Deposits .. .. .. | 14,571,619 | Gold and Silver Coin .. | |
| Seven day and other bills | 888,494 | | |
| | £39,025,223 | | £33,837,365 |

10th day of Nov., 1859.

M. MARSHALL, Chief Cashier.

## Gazette of the Week.

**TUESDAY—BANKRUPTS**—R. MILBURN and J. L. WHITE, Cheapside and MARTIN, JEUNE and Co., Paris, Merchants—J. OWEN, Westminster, Bridge Road, Grocer.

SCOTCH SEQUESTRATIONS—J. R. LAING, Glasgow, Watchmaker—J. M'DOUGALL, Glasgow—I. T. WELCHMAN, Glasgow, Commission Agent.

FRIDAY—BANKRUPTS—T. ALLEN, Newport, Monmouthshire, Corn Factor—W. CULLINGFORD, Gerrard Street, Soho, Woollen Draper—G. H. EDWARDS, Birmingham, Victualler—E. GIBSON, Brook's Mews, Hyde Park Gardens, Livery Stable Keeper—J. JEYES, Northampton, Seedsman—W. KNAPTON, York, Iron Founder—M. G. WHITE and J. H. MUNRO, Strand, Picture Dealers—R. O. WILKINS, Appledam, Surrey, Corn Dealer—J. WYCHERLEY, Adderbury, Oxfordshire, Maltster.

## Metropolis and its Vicinity.

LORD MAYOR'S DAY.—The presentation of the Lord Mayor at Westminster took place on Wednesday with the usual ceremonies, the unusual fineness of the day giving additional interest to the procession in its passage through the principal streets. In the evening the customary banquet was given in Guildhall. Her Majesty's Ministers were represented by Sir G. C. Lewis, the Chancellor of the Exchequer, the Duke of Somerset, Mr. Sidney Herbert, the Duke of Newcastle, and the Lord Chancellor, but the absence of Lord Palmerston and Lord John Russell deprived the dinner of the importance which their speeches would have given to it.

The toast of her Majesty's Ministers was acknowledged by Sir G. C. Lewis, who spoke as follows on Public Affairs:—

"My Lord Mayor, the portion of public affairs in which the inhabitants of this city are more immediately interested is our domestic and internal concerns; and I may congratulate the citizens of London that at perhaps no previous period in our history has our internal condition exhibited greater prosperity than at the present moment. Whatever standard or test you apply to that prosperity, whether you look to the great increase in our revenue, the present state of our trade, or the diminution of pauperism throughout the kingdom, you will still find the most gratifying evidence of the sound and healthy condition of our domestic affairs. There have, no doubt, been slight ripples on the surface of the stream, which would otherwise have been untroubled. We have seen one unfortunate event in which the inhabitants of this metropolis have been especially interested—I mean the disturbance which has occurred in the building trade, but which I trust is now approaching its termination. That has been an event of which her Majesty's Government have been no unconcerned spectators, although in regard to it we have felt it our duty to maintain a policy of consistent non intervention. It has been our desire not to interfere in any question between employers and their workmen, but to leave both parties to adjust their differences according to the natural law of supply and demand. And I trust the time will never arrive when any scheme of intimidation will be attempted, or any endeavour made to introduce a system of protection for labour, which must prove not less unsound in principle than the exploded doctrine of protection to agriculture, which was recently expunged from the legislation of this country with so much advantage to all classes of the community. It will not be expected that I should detain a company composed of many persons who are not politicians with lengthened remarks upon the measures which her Majesty's Government may contemplate in the existing state of the country. I need only say that their time has not been wasted or their attention diverted from the discharge of their public duties; that early in the ensuing session they will be prepared to redeem the pledge they formerly entered into to submit to the consideration of the Legislature a measure for the amendment of the representation of the people. There is, however, a branch of our public affairs over which we have not so much control as over our domestic concerns—I mean our foreign relations. In regard to these we are more dependent on the conduct of other States, and cannot always maintain that undisturbed tranquillity which I am happy to say has characterised our internal condition. We have seen our Minister who was sent to obtain the ratification of a treaty at Pekin treated with outrage. We have seen that our agents, acting literally upon their instructions as to ascending the river which led to that capital, were without notice fired upon by the Chinese, and that a disastrous loss of life ensued. My lord, it will be the purpose of her Majesty's Government, in unison with the Emperor of the French, to take such measures as will enable us to secure from the Chinese Emperor the terms to which we are entitled by treaty, and which will at the same time maintain our national honour. I need hardly call your attention to the events recently witnessed on the Continent which have led to a sanguinary campaign in Italy, and in respect to which her Majesty's Government have abstained from all interference. But the time may come when, treaties having been signed, ulterior measures may be contemplated by the great Powers of Europe, and when it is probable that invitations may be addressed to the Governments which were parties to the Treaty of Vienna to join in a continental Congress for the settlement of the affairs of Italy. Hitherto however I may say that no formal invitation to a Congress relative to the affairs of Italy has been addressed to her Majesty's Government. But if at any future time such an invitation should be sent to them, it will be their duty to deliberate upon the matter with a view to maintain a principle which we regard as sacred—viz., that no force shall be used for the purpose of dictating to the Italian nation in the choice of their rulers, or of coercing them in respect to the Government which, after mature deliberation, they may prefer. The recent campaign in Italy has led to a general arming among the great Powers of Europe. The storm which raged in Italy created a disturbance in other countries which has not yet subsided; and it becomes us, looking to the unsettled state of Europe, to be prepared with our national defences, and not to be dependent on the sufferance of any other Power whatever, however friendly. I rejoice to find that all the assurances which her Majesty's Government have received from foreign States are of a perfectly friendly and pacific character. Her Majesty's Government have no reason to believe that any nation in Europe, or in any other part of the world, entertains hostile intentions towards this country. Nevertheless, having regard to the present aspect and condition of foreign States, it behoves us, as our greatest poet says, to 'wear our eye not jealous, nor secure.' We must remember—and it is a most satisfactory and consolatory reflection—that, considering the wealth and resources of this country, if any real danger presented itself, we should always be enabled to confront it in an adequate and effective manner. But I trust that nobody in this hall will think it is the wish of her Majesty's Government to countenance or encourage any light or groundless alarm. We are bound to guard against not merely a probable, but even a possible danger. Whenever probable danger does arise her Majesty's Government will feel it their duty to take every necessary step for the protection of our shores; and in doing so they feel confident that they can at all times rely on the spirit of a great, a generous, and a mighty people."

METROPOLITAN BOARD OF WORKS.—At a special meeting of the Board on Friday at Guildhall, it was resolved by a considerable majority, after a long and angry discussion, to contribute to the City Commissioners of Sewers one-third of the estimated cost of certain improvements about to be made in the thoroughfares of Little Knightrider Street, Sise Lane Budge Row, and at the corner of Broad Street and Fish Street. The Works and Improvements Committee, to whom this proposition had been referred by the Board, recommended the Board to decline entertaining it, on the ground that the improvements in question were of a purely local, and not a metropolitan character. The vote of Friday not only rejected this recommendation but affirmed the principle that all the outlying parts of the metropolis are liable to contribute towards street improvements within the limits of the city.

THE MORTARA ABDUCTION.—On Monday afternoon a deputation waited on Lord John Russell at the Foreign Office for the purpose of laying before him, as Secretary of State for Foreign Affairs, a protest against the abduction of the boy Mortara, and to ask "that her Majesty's Government, in case they should take any part in the settlement of the Italian question, will cause the subject of the Papal treatment of the Jews to be brought before the consideration of the Governments of Europe." The deputation consisted of Sir Culling Eardley, Mr. Samuel Gurney, M.P., Major-General Alexander, and other gentlemen. Sir Culling Eardley having addressed his lordship in a long speech, and handed the protest to him, Lord John Russell made the following reply:—

"I believe I have correctly understood the views of the deputation. With regard to the case itself, it is, as you have very properly observed, unnecessary to use argument with any person in my situation as British Minister for Foreign Affairs. We should of course consider it a gross violation of parental rights for any person to take a child from its parents, and for the State to protect that violation. Nor does the allegation which has been made, that the parents of this child have violated the law of the country by taking a Christian nursemaid into their service, make the case any better. I am sure that if in this country any one was to propose that Roman Catholics should be prevented from taking a Protestant nursery-maid into their service every Roman Catholic would cry out against it as a gross violation of religious liberty, and would maintain that such a law would be only an aggravation of the offence of taking the child from its parents. So that upon the justice of the case there need be no argument. But as to the conduct of the British Government, you ask that I should communicate the wishes of this respectable deputation to my colleagues, which I will certainly do. Of course, when one has to deal with the laws and usages of foreign nations the matter is always surrounded with difficulties. In the first place, one ought to have a very strong case of violation, not merely of our notions of freedom, whether political or religious, but of the common sentiments of justice which all European nations entertain. In the next place, the peculiar laws of the different nations before whom the question might come must be considered. The laws of Rome are not such as we can at all approve. In France there is complete toleration for the Jews, and has been for a considerable time; but with regard to other European nations it is impossible to say what view they may take as bearing upon their own legislation with respect to the Jews. I can only say, therefore, that the matter must be well considered before the name of the British nation is put forward in making representations to procure redress. At the same time I admit the case is one in which all our feelings of what is due to parents are violated, and that must I think be very generally felt. It is, no doubt, part of the legislation of Rome, with its view of the necessity of belonging to the Roman Catholic Church, and which would of course make that Church and the Roman authorities entirely hostile to any representation which might be made, and therefore I think it would be of no use whatever to make representations to the Papal Government on this subject. I have, however, listened attentively to what has been said, and will take care that my colleagues shall hear of what has taken place at this interview."

SCHILLER FESTIVAL AT THE CRYSTAL PALACE.—The centenary festival of Schiller was celebrated on Thursday at the Crystal Palace, in the presence of upwards of 20,000 persons. It commenced with a musical performance, followed by an oration on the genius of Schiller delivered by Dr. Kinkel. A cantata to the memory of Schiller was then sung, during the performance of which a colossal bust of Schiller, by Grass, which occupied the centre of the orchestra, was unveiled amid loud cheers. This was followed by another musical performance, including the "Song of the Bell" with Romberg's music, and the festival closed with a torchlight procession in the grounds, accompanied by a display of the great fountains.

THE WRECK OF THE ROYAL CHARTER.—The inquest terminated on Friday when the jury returned the following verdict:—"From the evidence tendered we are unanimously of opinion that the deceased, James Walton and others, unfortunately lost their lives on board the Royal Charter by pure accident; that Captain Taylor was perfectly sober, and had done all in his power to save the ship and the lives of passengers." The Board of Trade has since instituted an inquiry into the loss of the ship, and it is understood that the inquiry will be opened on Tuesday next at Liverpool. A subscription has been opened in that town for the relief of the sufferers, and upwards of 1000*l.* has already been contributed. Another bar of gold has been recovered from the wreck. From the advices received at Lloyd's the wreck does not appear to have materially changed in position, and hopes are entertained that by far the greater part, if not the whole, of the gold will be saved. In connection with the melancholy facts attending the wreck, it may be stated that Lord Boston, as lord of the manor of the district near which the disaster took place, has sent in a claim to all property or treasure that may be washed ashore. The following is a complete list of the passengers on board the Royal Charter, furnished by Messrs. Gibbs, Bright, & Co., the owners:—

*Saloon.*—Mr. Hugh Bethune, Mr. and Mrs. Bruce, infant, and servant; Mr. H. Beamer, jun; Mr. and Mrs. Davis, two daughters and two sons; Mr. and Mrs. Edwin Fowler, and two Miss Fowlers, and servant; Mrs. Fenwick and four children, Mrs. Foster, Mr. and Mrs. J. Grove, Mr and Mrs. Gardner (Mr. Gardner landed at Cork), Mr. Gundry (saved), Mr. F. T. Hatton, Rev. Charles Hodge, Dr. Hatch, Mr. J. S. Henry, Mr. and Mrs. Robert Jenkins and five sons, Mr. Walter Lafargue, Mr. and Mrs. James Murray, Miss, and Master Murray; Mr. Joseph M'Evoy (landed at Cork), Mr. Mellor, Mr. Molineux, Mr. W. H. Morse (saved), Mr. R. F. MacGeorge, Mrs. Von der Nahmer and child (landed at Cork), Mr. W. H. and Mrs. Pitcher, two children and servant; Mr. Rufford, Mrs. Tweedale, Mr. Henry E. Taylor, child, and servant (Mr. Taylor saved), Mr. Welsh, Captain Withers, Mrs. Woodruff and child, and Mr. G. Watson.

*Second Class.*—Mr. Allen and two children (landed at Cork), Captain Adams, Mr Barratt and son, Mr. Charles Cadbs, Mr and Mrs. Dodd and two children, Miss F. Davis, Mr. Eddowes, Mr. Bird, Mr. Edward Gates, Mr T. E. Gapper (saved), Mrs. Glover, Mr. John Griffiths, Mr. William Harlden, Mr Henderson, Mr. John Loome (saved), Mr. Lothlaine, Mr. L. E. Mention (saved), Mr. John Maule, Mr. M'Nab, Mr. T. Macready, Mr. Nicholas, Mrs. Norman and two children, Mr. Portnay, Mr. Perry, Mr. Edmund Pearce, Mrs. R Rose, Mr. and Mrs Russell, and two children (Mr. Russell saved); Mr. and Mrs. Smith, and three children; Mr. Solomon Samuel, Mr. Lansan, Mr. Julius Stirke (landed at Cork); Miss Elizabeth Ward, Miss M. E Wrigley, Mr. Edward Watson, Mr. John Wilks, and Mr. Watson.

*Steerage and Third Class.*—John Bradbury (saved), Mr. Lyons, wife, and three children; J. Trusteman and two children; Henry Burns and child, Nathaniel Nathan, Alice Newton, J. Churton, John and Catharine Drygan, John Judge (saved), Maurice Boyle, James Dean (saved), Wright Lockwood, J. Moss, Mr. Faulkner and child, Robert Jeffrey, P. De La Lande, David Thompson, Mrs. Kennedy and two children, Thomas Wade, J. W. Kett and party, C. Zuccemann, Messrs. Jones and Rice, C. Kisterman, Messrs. Culma, Sturt, and Lyon; Charles Conway, Mr. Kirkbride and two sons, Mr. Kennedy, wife, and three children; William Banks, David Thomas, C. R. Ross, W. S. Fenis (saved), J. M'Cappin (saved), T. Taylor, Robert Hagarth, Henry Ingmans, William and John Row, Messrs. Tripit and Lowe, William Makepeace, Thomas Fawcett, William Bowles (saved), James King, Denis Collins, William and T. Murray, John Buchanan, C. M'Phail (saved), J. Robinson, Alexander Pettinger, R. Oliver and party, P. Hogarth and one child, William Ford, C. Shanahan, David Fell, William Wilson, George Smith, Michael Frawley, Messrs. Derose and Kenny, John Pardy, R. Haystaff, Frank Webber, George Watson, Mr. Holland and three children, Isaac Stephenson, Mrs. Athey and child, T. Newton, Agett Richards, James Stanard (saved), Minister and Ellis, Mr. Terril, Jessie Thomden, Baptiste Philippine, Bates and Rosely, James Johnston, James Pardy, J. Spyagbe, George Chesney, Thomas Byrne, John Grice, Matthew Scott, Houghton and Thomson, T. Wood, Thomson and Milliken, Noah Lyons, Wm. Green, Robert Tuck, Joseph Gibson, John Wotherspoon, John Lynch, Charles Anderson, P. Thomson, E. Fowler, H. Ivey, L. Perut, Michael Kavanagh, Antonio Albergati, Drithon and Rella, Morelli and Cavagna, John and P. Martin, George Lenn, Henry Lawton, George Taylor, Samuel Grenfell (saved), E. Allen, John Anderson, S. Dalton, William Storey, W. Crowley, Mrs. Ross, child, and infant, D. Travers, T. Wyatt, James Sullivan, James Turner, Mr. Carthy and three children, B. Bladen, Mr. Patterite, Williams Bebop, Mrs. Wells and two children, John Gillespie, Thomas Kelly, Mr. Mitchell and wife, William Fleming, John Scott, John Mathieson, Charles Parkinson, John Parkinson (or Ranson), James Pamplin, Miss Davidson, Henry Sims, John Manton, Samuel Mosely Wade, Nicolai Le Page, Mrs. M'Leod and two children, William Tany, John Inglis, Richard Davis, Joseph Potts, Frank Heyland, E. Willray, Miss Susannah Morton, John Mason, T. Bakewell, James Black, and Beratti Vingenga.

THE WRECK OF THE PARAMATTA.—An official inquiry, instituted by the Board of Trade, into the circumstances attending the loss of the Royal Mail Steamship Paramatta was opened on Wednesday at the Greenwich Police Court before Mr. Traill, police magistrate, and Captain Harris, nautical assessor. The ship, supposed to be the finest ever built, and of an estimated value of nearly 200,000*l.*, was wrecked on the 30th June last on the Anegeda Reef, on her voyage from Southampton to St. Thomas, being her first and only voyage. After the examination of Captain Baynton and other officers of the ship, the inquiry was adjourned to Thursday, when it appeared that the company were desirous of adjourning the case for the attendance of witnesses who are now in the West Indies. Mr. Traill and Capt. Harris expressed their opinion that they were already in possession of correct grounds on which to form a judgment, but it was ultimately determined to adjourn the inquiry until a day, hereafter to be fixed, in December next.

THE CONVICT SMETHURST.—It was stated yesterday by one of the morning papers that the case of Smethurst had been disposed of, and that he had received a free pardon. The *Globe* of last evening says that this statement is not correct. No free pardon has been granted, and the case has not been disposed of in any way.

THE WESTMINSTER BELL.—It is said that a commission of scientific and practical men is to be appointed to report upon the condition of the bell and the causes of its fracture, and that nothing will be decided with respect to the recasting until they have made their report. An officer of the Board of Works has possession of the key of the belfry, and access is denied to every person, with the exception of the person appointed to wind up the clock every eighth day.

THE GREAT EASTERN.—The Mayor and Corporation of Southampton paid an official visit to the Great Eastern on Saturday, and presented the Directors with a congratulatory address. The ship had very rough weather during her late voyage from Holyhead, and rolled considerably in the heavy sea which was running off the Land's End. She will remain at Southampton until she is refitted, and is to be exhibited to the public daily until further notice.

COLLECTION OF LAND, ASSESSED, AND INCOME TAXES.—It is understood that the authorities have decided upon a plan for the collection of these taxes which will be more economical, impartial, and safer than the present system of employing tradesmen as collectors in the respective districts. All vacancies occurring among the local tax collectors before the 5th of April next will be filled up by excise officers, and after that period the present collectors will be dispensed with, and their duties handed over to the excise officers.

THE LATE FLOGGING CASE AT WOOLWICH.—The Artilleryman Davis, who was recently flogged at Woolwich under circumstances which excited a large amount of public sympathy, deserted from the regiment a few days after his release from hospital, and has not since been heard of. Before leaving Woolwich he stated that he had such a dread of the lash that he would sooner be shot than remain a soldier. Every kindness and attention was paid to the man after he left the hospital, and in consideration of the unhealed state of his back he was ordered to be relieved from drill. It is stated that no steps will be taken for his apprehension.

THE STRIKE.—The number of men who had resumed work under the declaration up to Saturday, the 5th inst., was 13,320; under shop rule, about 3000. The committee at its rising adjourned for a month.

THE RUSSIAN COMPANY.—A letter from the Board of Trade, stating that the Government is considering the advisability of abolishing the Russian Company, was read at the meeting of the Liverpool Chamber of Commerce on Monday. The Chamber, on the report of a special committee, agreed to memorialise the Government for the abolition of the Elbe tolls.

ST. GEORGE'S IN THE EAST.—At the conclusion of the consecration of St. Matthew's church on Friday the Bishop of London took advantage of the presence of the

rector and churchwardens to endeavour to bring about some arrangement which might be satisfactory to both parties, and might thus tend to the restoration of peace in the parish. After hearing the statements, made with great temper and forbearance on both sides, and on a distinct engagement at the time given by both parties to be bound by his judgment, the Bishop decided that the rector's afternoon service should precede that of the lecturer, and that the service of the latter should commence at half-past 3 o'clock. His lordship also decided that the unusual vestments which had caused so much dissatisfaction to the parishioners should be discontinued. It was consequently arranged that the parish church should be re-opened forthwith. In accordance with this arrangement the church was re-opened on Sunday, but the result has shown that the mediation has ended in nothing, except indeed in inducing a fiercer and more outrageous display of passion on the part of the parishioners than has hitherto been experienced. The morning service was conducted by the Rev. Bryan King, the rector, in his usual way, with the single exception that he omitted the Communion service, and stated in his sermon that he had done so because he could not wear the coloured vestments, telling the congregation that "their services henceforward would be performed without those Eucharistic vestments which were familiar to them, that he could never again put on those beautiful robes, and henceforth, therefore, they must worship God in this holy sacrifice in the garb of humiliation." The service was slightly disturbed by hisses at one or two points, but it passed off on the whole without disturbance. In the afternoon however, when the rector's service, which the Bishop had ordered to precede that of the lecturer, was commenced by Mr. King kneeling before the altar and chanting the Litany, he was hissed, hooted, and yelled at during the whole of the service, and at its close made his way with difficulty to the vestry, from which in a few minutes afterwards the Rev. Hugh Allen came, habited in a surplice, without either hood or stole, and performed the second service. In order to prevent any further disturbance the 7 o'clock service was suspended by desire of the rector, and contrary to the wishes of the churchwardens. The rector has since issued a notice requesting gentlemen who are willing to act as special constables to communicate with him immediately, intimating that strangers must forward a clerical reference. In consequence of this notice the churchwardens and vestry have had an interview with the Home Secretary and the Commissioners of Police, the result of which appears to be that the enrolment of special constables will be forbidden, and a sufficient body of police be sent to the church to-morrow to preserve order.

THE PUBLIC HEALTH.—The Registrar-General's Return states that the deaths in London rose to 1182 in the week that ended Saturday, Nov. 3. In the corresponding weeks of the ten years 1849-58 the average number was 1038; which if raised in proportion to the increase of population will become 1141. The return of last week was therefore 41 above the average. During the week the births of 980 boys and 908 girls, in all 1888 children, were registered in London. In the 10 corresponding weeks of the years 1849-58 the average number was 1570.

## Provincial.

CAMBRIDGE.—At a congregation held on Friday the Hon. and Rev. Latimer Neville, Master of Magdalen College, was appointed Vice-Chancellor for the ensuing year.—Since the great meeting in the Senate House for promoting the mission to Central Africa, the members of the Oxford, Cambridge, and London committees have held a conference, and determined to prosecute the enterprise if possible on a more extended scale than was at first proposed. It is now contemplated to send out six clergymen, with a bishop at their head, to be consecrated either in this country or by the three bishops of Southern Africa, and also to despatch at the same time a medical practitioner and a number of artificers and labourers, with a view especially to the cultivation of cotton. The cost of establishing such a mission is estimated at 20,000*l.*, and it is also calculated that subscriptions to the amount of 2000*l.* per annum will be required for five years, after which time it is calculated that the work will become self-supporting. Communications are to be opened at once with the clergy and the friends of missions generally, and also with the great centres of manufactures and commerce for the purpose of raising the required funds. The Bishop of Oxford has requested Archdeacon Mackenzie, of Pieter-Maritzburg, in the colony of Natal, to head the mission; and the rev. gentleman will probably do so, as he has for some time been carrying on the missionary work in Natal without fee or reward.

HALIFAX.—The church of All Souls erected in this town, on the estate and at the sole cost of Mr. Edward Ackroyd, late M.P. for Huddersfield, was opened for Divine service last week by the Bishops of Ripon and Durham. The entire cost, independent of the burial-ground, is estimated at from 60,000*l.* to 80,000*l.* A permanent endowment has been provided by Mr. Ackroyd, in whom the patronage of the new ecclesiastical parish of Haley Hill is vested.

HANLEY.—On Saturday afternoon an accident occurred at one of the pits belonging to Earl Granville at Star Green, by which 10 men were killed and 10 others severely injured. A "cage" containing 14 men was ascending the shaft of the "Big Pit," while another cage with six or seven men in it was going down at the same time. As the ascending cage drew near the surface the signal bell in the engine-room sounded as usual in order that the engine might be at once stopped. The engine tenter was, however, a few seconds too late in attending to his signal, and the consequence was that one cage was drawn up beyond the wheel while the other went to the bottom of the shaft with a heavy shock. As the ascending cage was drawn over the wheel, the whole 14 men, with one exception, were precipitated beneath. Six fell down the shaft and were dashed to pieces. Three fell on the pavement at the pit's mouth, and one on the iron pavement and was killed on the spot. Four who were thrown on the ground received fearful injuries. The occupants of the descending cage were all more or less injured by their fall, but none of them were killed. The engine tenter, Gallard, whose negligence led to the accident was taken into custody, and the Government inspector having stated at the inquest on Tuesday that the accident was caused by his not beginning soon enough to slacken speed, the jury, after consulting together for a quarter of an hour, returned a verdict of Manslaughter against him. The jury at the same time stated their opinion that if two men had not gone in to him and diverted his attention, the accident in all probability would not have happened. Gallard, who bears a most excellent character, was then committed to Stafford gaol for trial.

HULL.—Mr. Jesse Arbon, the rate collector of this town, has been committed for trial charged with embezzling money belonging to the board, and with obtaining other money belonging to them. The defalcations already discovered amount to nearly 3000*l.*

KIDSGROVE.—A fatal explosion of gunpowder took place in this village on Sunday week. Mr. Leadbetter, watchmaker, intending to shoot at a pigeon match on Monday morning took a fancy for drying his powder on Saturday night, and with this view put his flask into the oven of the back room grate, after the fire had been raked out. Of course he intended to take it out again early the next morning before the fire was lighted, but he forgot to do so, or to mention what he had done, and the consequence was an explosion which broke the leg of his wife in so shocking a manner that she died from loss of blood before it was possible to amputate the limb.

LIVERPOOL.—The Austrian bark Tyro, of Fiume, from Sulina, went ashore on Monday on the Little Burbo bank, the sea making a clear breach over her. Lifeboats and steam-tugs went to her assistance, but their efforts were of no avail, the ship rapidly went to pieces, and the captain, crew, and pilot were drowned.

PLYMOUTH.—A court-martial was held on Monday on board her Majesty's ship Impregnable for the trial of Lieut. Marcus Patrick Costello, of the Diadem, 32, for having been drunk on board in the forenoon of the 28th of October, and incapable of performing his duty. The prisoner pleaded "Guilty" to the charge, and in extenuation said he attended a ball on shore on the previous night, and had not had any rest for the night. He drank but very little, but, having received a sunstroke some time back, a small quantity of liquor took effect on him. In reply to the Court, the captain said the prisoner was not offensive, but, on the contrary, his demeanour was quite respectful. The Court sentenced the prisoner to be dismissed her Majesty's service.

SHEFFIELD.—An attempt was made last week to blow up the house of Mr. Joseph Wilson, of Headford Street, saw manufacturer in this town, while he and his family, six in number, were asleep in bed. The explosion tore up the floors of two sitting-rooms, smashing the marble mantelpieces in each room, and destroying portions of the furniture. It also blew down a partition wall, forced out the light over the front door, and considerably damaged the external walls, but none of the inmates were personally injured. The outrage is attributed to trade disputes, Mr. Wilson having refused for 14 years to employ union men, and having frequently been held up to opprobrium in placards for refusing compliance with union regulations. No clue has been obtained to the perpetrators of the outrage.

STURMINSTER.—A murder has just been committed in this county, which for some years has been remarkably free from crimes of a serious character. The victim in this case is a woman 62 years of age, the wife of George Trowbridge, a woodman in the employ of Mr. Grove, of Fern, on the borders of Dorset. They resided in a lonely spot known as Ashcombe Copse, and on Thursday morning the man went to his employment about 7 o'clock, leaving his wife at home. On his return about mid-day he found her lying on the floor with her head leaning against the wall and one of her arms resting on a chair, three or four wounds having been inflicted on different parts of her body apparently with a razor, the handle of which was found in one part of the room and the blade in another, showing that a desperate struggle must have taken place. The murderer then appears to have seized a saw, which was hanging in the lobby, with which he clett the poor woman's head almost in two. Information was at once given to the police, who commenced the most active inquiries; but up to Saturday evening they had obtained no clue to the murderer. A shepherd on an adjoining hill saw a man pass up the valley with a bundle, but beyond this nobody appears to have been seen near the premises. The motive for the perpetration of the crime remains a mystery. Several articles of wearing apparel, however, are said to have been stolen, including a coat given for long servitude by the Sturminster Agricultural Society, waistcoats, a pair of boots, and a hat; but Trowbridge's best clothes remained untouched. An inquest was held on the body of the murdered woman on Friday, and a verdict returned of Wilful Murder against some person or persons unknown.

TAMWORTH.—Sir Robert Peel, by the death of his mother has become possessor of the family mansion in Whitehall Gardens and the family plate, besides an annuity of 5000*l.* charged upon the Staffordshire estates.

WALSINGHAM.—The Rev. N. H. Pilkington, chaplain to Walsingham Bridewell, one of the Norfolk county prisons, draws a gloomy picture of what he describes as "the awful, almost incredible, ignorance of the agricultural classes in this district of Norfolk." During the past year 240 prisoners were committed to the Bridewell, and of these 121 could not read a letter in a book, 157 could not write their names, 57 could not say a word of the Lord's Prayer, and 84 could say it but very imperfectly, 61 could not tell who Jesus Christ was, state how or for what purpose He died, and were "to all intents and purposes heathens, being ignorant of the simplest and commonest Christian truths. . . Many who could say the Lord's Prayer said it by rote, without knowing its meaning or why it was so called. Many of them had been at school when children, some even for three or four years, but having been early removed and from that time uncared for very soon forgot what they had learnt, and in a short time became perfect heathens, not only practically, but intellectually." Mr. Pilkington strongly recommends adult evening schools as the "best means of checking and counteracting such a melancholy state of things."

WEDNESBURY.—A man named Benjamin Owen, landlord of the Cottage Spring beer-house in this town, killed his wife a few days since by a blow on the head producing congestion of the brain. Owen is about 46 years of age, and had hitherto borne a fair character as a peaceable well-disposed man. His wife was a few years younger. Owen had been at Walsall during the day and had lost there a considerable sum of money. On his return he found his wife in a state of intoxication drinking in the bar with three women of low character. An altercation ensued, during which he desired his wife to go to bed, which she refused to do. He then struck her and turned her out of the house, telling the people who were present that she began to drink a few weeks before, that she had respectable neighbours, and he was surprised that she harboured such women in his absence; that he worked hard to keep a good home, but if she continued that course he would break the home up. A quarter of an hour afterwards he followed his wife to the house of a neighbour where she had taken shelter, and having obtained admittance commenced beating and kicking her savagely until she dropped insensible. The neighbours sent for the police and a medical man was also promptly in attendance, but the unfortunate woman died in 10 minutes from the effects of a blow under the ear. The husband on hearing of her death expressed deep concern for what he had done, and said it was the first time he had struck her, and he was willing to die with her. The jury at the inquest, after several adjournments, and in spite of the opinion of the coroner that murder had been committed, returned a verdict of Manslaughter, two of the 14 jurymen, however, holding out for a verdict of wilful murder. The magistrates have since taken up the case and have committed the prisoner for trial on the charge of Wilful Murder.

## Ireland.

SYMPATHY WITH THE POPE.—A meeting of the Roman Catholic clergy of the archdiocess of Dublin was held on the 3d inst. in the Cathedral in Marlborough Street, under the presidency of Archbishop Cullen, for the purpose of adopting an address to the Pope, "expressive of sympathy at the persecutions he is at present subjected to." Dr. Cullen addressed the meeting at great length, and denounced the "Biblicals and Evangelicals," "the Evangelical Alliance and the Evangelical Lord Shaftesbury," and the agents of the Bible societies who have "spread like locusts over a great part of Italy and are making every exertion to undermine the attachment of the people to the Catholic religion, encouraging committees to collect money for the purpose of arming outlaws, and rebels, and banditti of the worst description, against a peace-loving and humane Sovereign, who has never given to England, or to any of her subjects the slightest ground of complaint, but, on the contrary, has always acted towards them a kind and friendly part. If," he said, "the titles upon which the Pope holds his territory be set at nought, how will the nobility or gentry of this country be able to maintain their rights? Besides, the enemies of the Pope—the agents of Evangelical and Bible societies—are teaching continually that in Italy there is no obligation of obedience to established authorities, that the people at every whim can resist their lawful Sovereign, and they loudly proclaim that treason, treachery, and rebellion are great and noble virtues in the subjects of the Pope. Let their principles be widely spread, indoctrinate the inhabitants of the colonies and dependencies of Great Britain with such dangerous teaching, and will we not fear that treason, and sedition, and rebellion will soon rule throughout the land?" The meeting was afterwards addressed by several clergymen, whose addresses, with that of the chairman, fill 10 columns

of the Dublin papers. The following resolutions were unanimously adopted:—

"Resolved, 1. That this meeting views with grief and abhorrence the violent and sacrilegious invasion of the territories of the Church which is now being perpetrated, together with the efforts unceasingly made to undermine the legitimate authority of the Sovereign Pontiff: and that we repudiate as false and calumnious the charges so unsparingly uttered by the enemies of the Holy See, and industriously propagated by the anti-Catholic press, against the paternal Government of the Supreme Pontiff. 2 That the temporal Government of the Holy See, most venerable for its antiquity, most legitimate in its origin, and most providentially secured and preserved for so many ages for the benefit of religion, is justly deemed necessary for the freedom of the Church and the independence of the Sovereign Pontiff in its Government. An attack, therefore, upon the temporal dominions of the Church is, not so much a violation, however unjust, of the supreme rights of a most august and venerable temporal ruler, as a sacrilegious invasion of the Church and an injury inflicted on the whole Catholic body throughout the world. 3. That an humble address of condolence and sympathy with our Holy Father the Pope under his present severe trials be prepared in the name of this meeting, and that his Grace the Archbishop be respectfully requested to forward this expression of our sentiments for presentation to his Holiness. 4. That we call upon the Catholic laity of all classes, and especially on our Catholic representatives in Parliament, on gentlemen of station and property, on the members of the Catholic and Liberal press, and all who possess political, social, or literary influence, to unite with us in defence of the unjustly assailed character and prerogatives of their supreme Pastor, and in support of the sacred and inalienable rights of the Church."

## Scotland.

LORD RECTORSHIP OF EDINBURGH UNIVERSITY.—In addition to the office of Chancellor, who is elected for life by the graduates, the Act which has now come into operation gives to the students the choice of a Lord Rector, who is a member of the University Court, and who also appoints an assessor to sit in that court of seven members. The election takes place to-day, and among the names that have been mentioned, are the Lord Chancellor, Lord John Russell, Mr. Gladstone, and Lord Neaves. It is however settled that the election will be between Mr. Gladstone and Lord Neaves, the committees which had been formed for Lord Campbell and Lord John Russell having united with Mr. Gladstone's committee.

PRINCIPALSHIP OF ST. ANDREWS.—Professor Forbes, who at present fills the chair of Natural Philosophy at the University of Edinburgh, has been appointed to succeed Sir David Brewster as principal of the United College of St. Salvador and St. Leonard, in the University of St. Andrews.

## Law.

COURT OF QUEEN'S BENCH.—*The Sale of Commissions.—The Queen* v. *Marshall and others.*—In this case, *Thomas Robert Marshall, Edward Henry Mortimer,* and *Henry Septimus Eicke* had been charged with a misdemeanour in receiving money in respect of the sale of a commission in the army, and for keeping open an office for the sale of such commissions, contrary to the provisions of the Act for the further Prevention of the Sale and Brokerage of Offices. The defendants Mortimer and Eicke pleaded "Guilty," but the defendant Marshall pleaded "Not guilty," and was tried in this court before Lord Chief Justice Cockburn on the 27th and 28th June last and found *Guilty*, judgment being reserved for the full Court. The defendants were now brought up for judgment, and were each sentenced to six months' imprisonment, with fines proportioned to the sums they had received by their practices, Marshall to pay a fine of 200*l.*, Mortimer and Eicke to pay a fine of 100*l.* each, and all three to be imprisoned until the fines be paid.

COURT OF EXCHEQUER: *Swinfen* v. *Lord Chelmsford—Rights of Counsel.*—The Lord Chief Baron yesterday delivered the judgment of the court in this case, which was argued a few days since by Mr. Kennedy as a motion for a new trial in the well-known cause of Swinfen *v.* Lord Chelmsford, for having, when Sir Frederick Thesiger, as her leading counsel, entered into a compromise in a suit for the possession of the Swinfen estates. The verdict passed at the trial for Lord Chelmsford. The Lord Chief Baron said—We are of opinion that there ought to be a rule on the question of what is the liability of an advocate who undertakes the conduct of a cause. It was laid down broadly by me at the trial that provided an advocate acted *bonâ fide*, he was entitled to the verdict of a jury if complaint were made against him. We think that on that point, and that point only, there ought to be a rule. Rule *nisi* accordingly.

## Obituary.

THE COUNTESS DOWAGER OF HAREWOOD died on Tuesday morning at Goldsborough Hall, near Leeds, after a very short illness. She was the second daughter of the second Marquis of Bath, by the third daughter of the fourth Viscount Torrington, and was born in 1801. Her ladyship married in 1823 the third and late Earl of Harewood, who died in 1857 from the effects of injuries sustained by being thrown from his horse in the hunting field. The marriage of the Earl of Dalkeith, M.P., and Lady Louisa Hamilton, which was fixed to take place on Wednesday, has, in consequence of the death of the Countess, who was sister to the Duchess of Buccleuch, and therefore aunt of the bridegroom elect, been postponed to a more distant day.

VICE-ADMIRAL SIR HENRY LORAINE BAKER, Bart., C.B., died on the 2d inst. at Dunstable House, Richmond, in his 73d year. He was born at Nancy, in Loraine, in 1787, and married in 1820 the only daughter of Mr. William Williams, who for a long succession of years represented Weymouth in the House of Commons. He succeeded his father, the first baronet, in 1826. Having entered the navy in 1797, he became a retired rear-admiral in 1850. He assisted at the storming of Sunnana in St. Domingo in 1827, and was promoted for his conduct at the defence of Anholt in 1811. He served with considerable distinction at Guadaloupe in 1815. He is succeeded in the baronetcy by the Rev. H. Williams Baker, formerly of Trinity College, Cambridge, and now vicar of Monklands, in the diocese of Hereford.

MR. MITCHELL, the originator of the Zoological Gardens in the Regent's Park, and inventor of the aquarium, who was intrusted in Paris with the organisation of the grounds belonging to the Société d'Acclimatation, committed suicide at his residence at Neuilly on the 3d inst.

BIRTHS.—On the 10th inst, at 23, Grosvenor Street, the Lady FREDERICK FITZROY, of a daughter—8th inst, at 164, Piccadilly, the Lady MARGARET BEAUMONT, of a daughter —2d inst, at Millichen, Renfrewshire, Lady MILLICENT NAPIER of a daughter —3d inst, at St Michael's Mount, Cornwall, the Lady ELIZABETH ST AUBYN, of a son —7th inst, at 25, Brunswick Place, Brighton, the Hon. Mrs. PHILLIPS, of a daughter—8th inst, at the Lodge, Berkeley, the Hon. Mrs. ROBERT HENLEY, of a daughter—1st inst, at Wroxwardine, county of Salop, the Hon Mrs. ROBERT HERBERT, of a son—6th inst, at Angerville, Paris, Bedfordshire, the Hon. Mrs. WILLIAM LOWTHER, of a daughter—1st inst, at Fir Hill, Monkstown, county of Cork, the wife of the Worshipful JOHN ARNOTT, M.P., Mayor of Cork, of a son.

MARRIAGES.—On the 10th inst, at All Saints' Church, Knightsbridge, the Right Hon. Viscount FALKLAND, to ELIZABETH CATHERINE, Duchess of St. Albans—5th inst, at All Saints' Church, Knightsbridge, WILLIAM VERNON HARCOURT, to MARIE THERESE LISTER, daughter of the late Thomas H. Lister and Lady Theresa Lewis—3d inst, at St. John's Church, Lumburgh, EDWARD O. DOUGLAS, Esq., son of the late Henry A Douglas, Esq., third brother of Charles, fifth Marquis of Queensberry, to HANNAH CHARLOTTE, youngest daughter of the late Sir JOHN SCOTT DOUGLAS, Bart., of Springwood Park—31st ult, by special license, at Castle Forbes, the seat of the Right Hon the Earl of Granard, JOHN STRATFORD KIRWAN Esq., of Moyne, county of Galway, to Lady VICTORIA MARY LOUISA, third daughter of GEORGE, second Marquis of HASTINGS, and sister of the present peer—1st inst, at the parish church, East Barnet, the Rev. HORACE MEYER, vicar of North Mymms, Herts, to LOUISA CLARA, eldest daughter of AUGUSTUS H BOSANQUET, of Osidge, Herts, Esq—1st inst, at Peterborough Cathedral, R M. PHILLIPPS, Esq., of Manor Lodge, Hackney, and Reed Lane, City, to MARIANA, daughter of the Rev. S T. BLOOMFIELD, D.D., canon of Peterborough and vicar of Bisbrooke.

DEATHS.—On the 5th inst, at Brighton, GEORGIANA MARIA, the Dowager Lady DE TABLEY—5th inst, at Canaan Park, Edinburgh, CHARLES HAY FORBES, Esq., second surviving son of the late Sir William Forbes, of Pitsligo, Bart—6th inst, at Breadsall Priory, near Derby, Sir FRANCIS SACHEVERELL DARWIN, Kt., M.D., aged 73—2d inst. at Ham House, WILLIAM JAMES FELIX TOLLEMACHE, Esq, only son of the late Hon Felix Thomas Tollemache, aged 32—19th May, at Rome, Col. HENRY STISTED, formerly of Lucca, aged 72—30th ult, at the Rectory, Puttenham, Surrey, the Rev. THOMAS WATKIN RICHARDS, fourth son of the late Chief Baron of the Exchequer, aged 67—1st inst, at Paris, EDWARD COTTERILL SCHOLEFIELD, Esq., son of the late Joshua Scholefield, Esq, M.P., aged 34—2d inst, at her residence in Exeter, JANE, eldest daughter of the late FRANCIS ROBD, Esq., of Trebartha Hall, Cornwall aged 87—26th ult, at Starboro' Castle, Surrey, JOHN TONGE, Esq., one of her Majesty's Justices of the Peace for that county, aged 55—29th ult, in London, suddenly, JOHN THOMAS CROWE, Esq., eldest son of John Rice Crowe, Esq, Consul-General of Christiania, Norway, aged 44—26th ult, in the wreck of the Royal Charter, off Moelfra, North Wales, WALTER NUGENT LA FARGUE, Esq., aged 32—26th ult, in the wreck of the Royal Charter, ROBERT C MACGEORGE, Esq, of Urr Brae, Adelaide, S.A.—26th ult, in the wreck of the Royal Charter, FRANCIS FREDERICK HUTTON, eldest son of the Rev F. H Hutton, Vicar of Leckford, Hants, aged 32—26th ult, in the wreck of the Royal Charter, ELLEN, the wife of ROBERT WYNDHAM FENWICK, Esq., of Melbourne, Australia, together with her four children—26th ult, in the wreck of the Royal Charter, HENRY TODD, son of George Todd, Esq., of Stanley House, Brompton, together with his wife and two children, aged 26—26th ult, in the wreck of the Royal Charter, JAMES, eldest son of the late JAMES EDWARDS, Esq., of South Shields—26th ult, in the wreck of the Royal Charter, WILLIAM, eldest son of Mr. BISHOP, of Stock Orchard Villas, Holloway, and Marlborough Street Police Court, aged 24—26th ult, in the wreck of the Royal Charter, SARAH ANN, wife of Mr. JOHN FOSTER, of Grindlow House, Longsight, Manchester—6th ult, from a wound received in the assault of the Fort of Beyt, EDWARD TANQUERAY WILLAUME, Esq., Ensign 6th Regiment Bombay Native Infantry, second son of Thomas B. Tanqueray Willaume, Esq., of Leinster Gardens, Hyde Park, aged 20.

# Markets.

### COVENT GARDEN.—Nov. 12.

The supply of vegetables is still more abundant than might have been expected, considering how much they suffered from the late frosts. Pine Apples and Grapes have not altered in price since last week, but the latter are getting scarcer. Pears in season consist of Glou Morceau, Beurré Diel, Chaumontel, Winter Nelis, and Crassane. The best dessert Apple now to be obtained is still King of the Pippins. Ribstons are scarce. Oranges may now be had. Good Cobs are realising from 1s. to 1s. 6d. per lb. Chesnuts are plentiful. Cabbages, Savoys, Carrots, and Parsnips may be obtained in quantity. Cauliflowers are scarce. Potatoes realise from 4s. to 8s. per cwt. Mushrooms can still be had. Cucumbers tolerably abundant. Cut flowers chiefly consist of Orchids, Gardenias, Violets, Mignonette, Chrysanthemums, Heaths, and Roses.

#### FRUIT.

| | |
|---|---|
| Pine Apples, per lb., 5s to 7s | Pears, per ½ sieve, 6s to 10s |
| Grapes, per lb., 2s to 6s | Oranges, per doz., 9d to 1s 6d |
| Melons, each, 2s to 4s | Lemons, per doz., 1s to 1s 6d |
| Pomegranates, each, 4d | Filberts, p. 100 lbs., 50s to 60s |
| Apples, per bushel, 8s to 10s | Cobbs, do., 100s |

#### VEGETABLES.

| | |
|---|---|
| Cauliflowers, per doz, 2s to 4s | Artichokes, per doz, 2s to 3s |
| Greens, per dozen bunches, 2s to 2s 6d | Beet, per doz, 1s 6d to 2s |
| Cabbages, do., 1s 6d to 2s 6d | Celery, p. bundle, 1s to 1s 6d |
| French Beans, p. half sieve, 5s | Onions, p. half sieve, 1s to 1s 6d |
| Potatoes, p. ton, 90s to 100s | — Portugal, each, 2d to 4d |
| — per bus., 2s to 2s 9d | Shallots, per lb., 6d to 8d |
| — per cwt., 4s to 6s | Garlic, per lb., 6d to 8d |
| Carrots, per bunch, 6d | Lettuces, Cabb., per score, 1s to 1s 6d |
| Turnips, per bunch, 4d | Endive, p score, 1s to 1s 6 |
| Spinach, p. sieve, 1s 6d to 2s | Horse Radish, p. bun. 1s 6d to 4s |
| Cucumbers, p. doz., 1s to 1s 6d | Mushrooms, p. pott, 1s 3d to 1s 9d |
| Frame do., each 4d to 6d | Parsley, p. 12 bunches, 2s to 4s |
| Tomatoes, p. ½ sieve, 2s 6d to 3s 6d | Savory, per bunch, 2d to 4d |

### COAL MARKET.—Nov. 9.

Bell's Primrose, 13s. 6d.; Burnhope, 13s. 6d; Byass's Bebside West Hartley, 15s. 3d; Davison's West Hartley, 15s. 6d; Holywell, 15s. 6d; Lambert's West Hartley, 15s; Tanfield Moor Butes, 13s. 6d.; Walls End Northumberland, 16s.; Walls End Haswell, 19s. 9d.; Walls End South Hetton, 19s 6d.; Walls End Heugh Hall, 18s. 6d; Walls End Whitworth, 15s. 6d.; Carway and Duffryn Malting, 22s. 6d.; Nixon's Duffryn, 22s. 6d.; Powell's Duffryn Steam, 22s. 6d.—15 ships at market.

### POTATOES.—SOUTHWARK, Monday, Nov. 7.

During the past week, the supplies to this market have still been limited, and prices kept much the same as during the previous week. The following are this day's quotations:—York Regents, per ton, 80s. to 120s.; Lincolnshire do., 70s. to 100s.; Dunbar do., 90s. to 115s.; Perth, Forfar and Fifeshire do., 60s. to 90s.; Kent and Essex do., 90s to 110s.

### HOPS.—BOROUGH MARKET, FRIDAY, Nov. 11.

Messrs. Patterson & Smith report that the consequence of the cold fog having been declared at a less value than many expected, namely 2*l.* 17*s.* 2*s.* 10*pd.*, the duty was in some cases obtained from 1s. to 2s. per cwt. since last week. It appears that the gross average per acre is 14 cwt. 3 qrs. 1 lbs., and after deducting 2*l.* per cent. for cloth 13 cwt. 1 qr. 15 lbs., being the largest average per acre since 1808, when the gross average was 15 cwt. 0 qr. 2 lbs., and that on which duty was charged 13 cwt. 2 qrs. 2 lbs.

OLD HOP DUTY OFFICIALLY DECLARED, NOV 4 1859

| | | | |
|---|---|---|---|
| Rochester | £158,[illegible] | 3 | 7½ |
| Canterbury | 68,194 | 6 | 0½ |
| Kent | 206,847 | 11 | 8 |
| Sussex | 62,515 | 2 | 0½ |
| Worcester | 28,[illegible] | 9 | 11½ |
| Farnham | 21,029 | 6½ | 8½ |
| Kingdom | 203 | 6 | 0½ |
| | £328,070 | 2 | 10½ |

### HAY.—Per Load of Thirty-six Trusses

SMITHFIELD, THURSDAY, NOV. 10.

| | | | | |
|---|---|---|---|---|
| Prime Meadow Hay | 70s | to 75s | Clover | 95s to 165s |
| Superior do (old) | 80 | 84 | New Cover | — — |
| Inferior do. | 55 | 60 | Second cut do | 60 80 |
| New do. | — | — | Straw | 27 32 |
| Rowen | 45 | 60 | | |

DAVIS & Co.

CUMBERLAND MARKET, THURSDAY, NOV. 10.

| | | | | |
|---|---|---|---|---|
| Sup. Meadow Hay | 80s | to 88s | Inferior Clover | 70s to 90s |
| Inferior do. | 60 | 74 | New do. | — — |
| New do. | — | — | Straw | 21 33 |
| Superior Clover | 98 | 105 | | |

JOSHUA BAKER.

WHITECHAPEL, THURSDAY, NOV. 10.

| | | | | |
|---|---|---|---|---|
| Fine old Hay | 80s | to 86s | Fine old Clover | 100s to 106s |
| Inferior do. | 65 | 75 | Inferior do. | 75 90 |
| Prime New Hay | — | — | Fine new Clover | — — |
| Inferior do. | — | — | Fine 2d cut | — — |
| Straw | 27 | 32 | Inferior do. | — — |

### BRITISH WOOLS.—LONDON, FRIDAY, Nov 11.

Our market continues about the same, some sorts not being in demand, but others, in expectation of the large Government contracts about to be given out, being more inquired after.

| | s. | d. | | s. | d. |
|---|---|---|---|---|---|
| South-down Hoggets | 1 | 8 | to — | | |
| Half-bred ditto | 1 | 8 | — — | | |
| Down Ewes | 1 | 6 | — — | | |
| Kent Fleeces | 1 | 7 | — — | | |
| Leicest. Wethers | 1 | 5 | to — | | |
| Ditto Hoggs | 1 | 7 | — — | | |
| Combing Skins | — | — | — — | | |
| Blanket ditto | — | — | — — | | |
| Flannel Wool | 1 | 2 | — 1 | 7 | |

### METROPOLITAN CATTLE MARKET.

MONDAY, Nov. 7.

The number of Beasts is considerably less than on Monday last. Trade is brisk at advanced prices. Although we have a much smaller supply of Sheep the demand is so limited that trade is not much improved. A better clearance is effected, but quotations remain unaltered. Calf trade is more cheerful. From Germany and Holland there are 1110 Beasts, 4110 Sheep, and 102 Calves; from Scotland, 200 Beasts; from Ireland, 400; from Norfolk and Suffolk, 100; and 2000 from the northern and midland counties.

| | s | d | | s | d |
|---|---|---|---|---|---|
| Best Scots, Herefords, &c. | 4 | 8 | to 5 | 0 | |
| Best Short-horns | 4 | 6 | — 4 | 8 | |
| 2d quality Beasts | 3 | 4 | — 4 | 0 | |
| Best Downs and Half-breds | 5 | 0 | to 5 | 2 | |
| Do. Shorn | — | | — | | |
| Best Long-wools | 4 | 8 | to 4 | 10 | |
| Do. Shorn | — | | — | | |
| Ewes & 2d quality | 4 | 0 | — 4 | 6 | |
| Do. Shorn | — | | — | | |
| Lambs | — | | — | | |
| Calves | 4 | 0 | — 5 | 0 | |
| Pigs | 3 | 8 | — 4 | 8 | |

Beasts, 5360; Sheep & Lambs, 22,820; Calves, 168; Pigs, 460.

THURSDAY, Nov. 11.

The supply of Beasts is not quite so large as of late, still it exceeds the demand. Trade is dull at Monday's quotations. Sheep are rather more plentiful than on Thursday last, and there are very few purchasers. A considerable proportion remains unsold. There is no alteration in the Calf trade. Our foreign supply consists of 370 Beasts, 1530 Sheep, and 130 Calves. The number of Milch Cows is 125.

| | s | d | | s | d |
|---|---|---|---|---|---|
| Best Scots, Herefords, &c. | 4 | 8 | to 5 | 0 | |
| Best Short-horns | 4 | 6 | — 4 | 8 | |
| 2d quality Beasts | 3 | 4 | — 4 | 0 | |
| Best Downs and Half-breds | 5 | 0 | — 5 | 2 | |
| Do. Shorn | — | | — | | |
| Best Long-wools | 4 | 8 | to 4 | 10 | |
| Do. Shorn | — | | — | | |
| Ewes & 2d quality | 4 | 0 | — 4 | 6 | |
| Do. Shorn | — | | — | | |
| Lambs | — | | — | | |
| Calves | 4 | 0 | — 5 | 0 | |
| Pigs | 3 | 8 | — 4 | 8 | |

Beasts, 1385; Sheep & Lambs, 6030; Calves, 230; Pigs, 110.

### MARK LANE.—MONDAY, Nov. 7.

There was a fair supply of English Wheat to this morning's market, which was taken quickly by the millers at the extreme prices of this day se'nnight; foreign was also in improved request, but the sale was not large; we advance our quotations, however, 1s. per qr. on several descriptions. For Barley of all descriptions there is a fair inquiry at last week's rates. Beans are scarce and rather dearer. Peas are unaltered in value. Of Oats the supply is short; trade firm, and in some instances a slight advance is obtained on the prices lately current. In Flour there is no alteration.

| PER IMPERIAL QUARTER. | s. | s. | | s. | s. |
|---|---|---|---|---|---|
| WHEAT, Essex, Kent, & Suffolk | White | 34—46 | Red | 36—41 | |
| — — fine selected runs | ditto | 42—44 | Red | 38—44 | |
| — — Talavera | | 40—60 | | | |
| — Norfolk | | — | Red | — | |
| — Foreign | | 38—56 | | | |
| BARLEY, grind. & dist., 24s to 30s | Chev. | 38—44 | Malting | 34—40 | |
| — Foreign | grinding and distilling | 23—28 | Malting | — | |
| OATS, Essex and Suffolk | | 19—22 | | | |
| — Scotch and Lincolnshire | Potato | 23—27 | Feed | 19—24 | |
| — Irish | Potato | 24—25 | Feed | 19—22 | |
| — Foreign | Poland and Brew | 23—26 | Feed | 17—24 | |
| RYE | | — | Foreign | — | |
| RYE-MEAL, foreign | | — | | | |
| BEANS, Mazagan 30s to 30s | Tick | 36—41 | Harrow | 38—41 | |
| — Pigeon 41s—45s | Winds. | 48—54 | Longpod | — | |
| — Foreign | Small | 38—46 | Egyptian | — | |
| PEAS, white, Essex and Kent | Boilers | 36—39 | Suffolk | 38—41 | |
| — Maple —s to —s | Grey | 33—35 | Foreign | 30—38 | |
| MAIZE | White | — | Yellow | — | |
| FLOUR, best marks delivered | per sack | 37—43 | | | |
| — 2d do. | ditto | 27—37 | Country | 27—37 | |
| — Foreign | per barrel | 18—27 | Per sack | 30—37 | |

FRIDAY, Nov 11.

Heavy showers of rain, accompanied with violent gales of wind from the south west, continued until the 9th inst, since when we have enjoyed fine weather with sharp night frosts. The corn trade during the past week has presented a very healthy appearance, with an upward tendency in the value of all kinds of grain. Flour also in several markets was written 6d. to 1s. per sack dearer. The arrivals from Southern Europe this week are trifling, and consist chiefly of Maize. The sales are to a liberal extent, which may also be said of

cargoes still on passage to this kingdom, and include Taganrog Ghirka Wheat at 45s 3d., Odessa Ghirka at 43s. to 41s. 6d. imperfect, and Berdiansk at 47s. 6d., all per 492 lbs.; Galatz Maize at 33s., Ibrail at 32s. 9d., both per 492 lbs. and 31s. per 480 lbs.; Odessa at 32s. 10½d. per 492 lbs.; Odessa Barley at 24s., Danube at 23s. 9d. both per 400 lbs. On passage were sold Odessa Maize at 33s. 9d. condition guaranteed, and at 32s. 3d. not guaranteed, Galatz at 33s. 1½d., and both per 492 lbs. Galatz Barley at 21s. 3d. per qr. imp. nett, without guarantee of condition. The arrivals of grain, English and foreign, this week have been small. To-day's market was very badly attended. The English Wheat fresh up realised prices which on Monday were unobtainable, and the same may be said of the sales effected of foreign, which however were limited, although chiefly confined to speculators. Barley of all descriptions is in full demand at fully Monday's prices. Oats were in fair request at late rates.

ARRIVALS FROM NOV. 7 TO NOV. 11.

| | Wheat. | Barley. | Oats. | Flour. |
|---|---|---|---|---|
| English .. | 1730 qrs. | 1270 qrs. | 940 qrs. | 620 sks. |
| Irish .... | — ,, | — ,, | — ,, | — ,, |
| Foreign .. | 610 ,, | 1760 ,, | 6330 ,, | — ,, 500 brls. |

FRIDAY, Nov. 11.—Grain market active; Wheat selling at 1d. to 2d. advance; Flour 6d. dearer; demand good. Indian Corn in active request at 6d. to 1s. advance. Beans 6d. dearer. Oats and meal steady at late rates.

| AVERAGES | Wheat. | Barley. | Oats. | Rye. | Beans. | Peas. |
|---|---|---|---|---|---|---|
| Oct. 1.. | 42s 1d | 35s 9d | 20s10d | 29s 9d | 39s 7d | 38s 5d |
| — 8.. | 42 5 | 35 8 | 21 7 | 29 10 | 39 3 | 38 0 |
| — 15.. | 42 6 | 35 10 | 21 3 | 29 7 | 38 9 | 39 8 |
| — 22.. | 44 10 | 35 5 | 21 2 | 29 6 | 39 2 | 37 7 |
| — 29.. | 43 1 | 35 6 | 20 11 | 30 4 | 38 9 | 38 2 |
| Nov. 5.. | 42 9 | 35 9 | 22 1 | 30 2 | 39 3 | 38 5 |
| Agg. Aver. | 42 7 | 35 8 | 21 3 | 29 10 | 39 2 | 38 5 |

FLUCTUATIONS IN THE LAST SIX WEEKS AVERAGES.

| PRICES. | Oct. 1. | Oct. 8. | Oct. 15. | Oct. 22. | Oct. 29. | Nov. 5. |
|---|---|---|---|---|---|---|
| 43s 1d | .. | .. | .. | .. | .. | .. |
| 44 10 | .. | .. | .. | .. | .. | .. |
| 42 9 | .. | .. | .. | .. | .. | .. |
| 42 6 | .. | .. | .. | .. | .. | .. |
| 42 5 | .. | .. | .. | .. | .. | .. |
| 42 1 | .. | .. | .. | .. | .. | .. |

THE WIDOW OF THE LATE PROFESSOR HENFREY, F.R.S., L.S., &c., of King's College, London, receives a small number of BOYS between the ages of 6 and 12, to EDUCATE with her own family. Terms, from 60 Guineas per Annum.—Turnham Green, W.

WANTED, by a gentleman in the County of Oxford, an ARTICLED PUPIL. A limited number of Boarders are taken. Terms moderate.—Apply to ALPHA, Kingham, Oxon.

WANTED, A PROPAGATOR AND FOREMAN, in the Plant Department. He will be required to have a perfect knowledge of the Propagation of all kinds of Plants under glass, as well as their Cultivation, and must also understand the Grafting of Camellias, Roses, Conifers, &c.—Apply in own handwriting only, stating terms, with references, to HORTULANUS, at Messrs. Hurst & McMullen's, 6, Leadenhall Street, London, E.C.

WANTED, two Men of unexceptionable character to act as HEAD GARDENERS, and several young men as UNDER GARDENERS.—Applications, stating age and qualifications, with testimonials, to be addressed to Mr. MELVILLE, John Drummond, Esq., jun., Hanley Lodge, Corstorphine, Edinburgh, N.B.

WANTED, a good KITCHEN GARDENER, married (without children preferred), who understands a little of Farming, for an Agricultural Boarding School. The Wife to do the Household Work and Cooking for the boys. Salary, 50*l*., house, fuel, and vegetables.—Miss COOKE, Montreal House, Great Malvern.

WANTED IMMEDIATELY, an active YOUNG MAN, to assist in Potting and Growing Soft-wooded Plants.—Apply by letter or personally to Messrs. BREFFIT, Barnes Terrace, Surrey, S.W.

WANTED, for the Plant Department in an extensive London Nursery, a steady active Young MAN. One who has been accustomed to Potting and tying Plants for London or the Provincial Markets will have the preference. Apply by letter only, stating where last employed, what length of time, and wages expected.—C. B., Mr. Allerd, Conduit Street West, Westbourne Terrace, Paddington, W.

TO GARDENERS.

WANTED, a few good JOBBING HANDS; constant employment at good wages.—Apply at Mr. CLING'S, Nurseryman and Seedsman, 14, Portland Place, Circus Road, St. John's Wood, N.W.

TO SEEDSMEN.

WANTED, AN ASSISTANT, by one of the oldest English houses, of middle age, active habits, and good address, whose qualifications and antecedents are alike unexceptionable. It is indispensable that he be *au fait* in the Clover trade.—Letters to D., care of Mr. Henry Lambden, Tram Road Office, Gloucester.

SEED TRADE.

WANTED, AS CLERK AND TRAVELLER, an active young or middle-aged Man who is thoroughly conversant with the Seed Trade, particularly with the articles of large consumption, such as Clover, Rye-grass, Turnip, Mangel, &c. He must have a fair knowledge of Book-keeping, a good legible hand-writing, and not less than 3 or 4 years' experience in travelling. Salary for the first two years, 150*l*. per annum.—Application to be made in writing, stating age, circumstances, and antecedents, with references to Mr. WM. BAXTER SMITH, 27, Great George Street, Westminster, London, S.W.

## WANT PLACES.—Letters to be Post Paid.

GARDENER (HEAD).—Age 42, married; understands Pines, Vines, Orchard House, and has a thorough knowledge of Plants, Flower and Kitchen Gardens. Good character.—A. B., Ashburnham Lodge, Richmond, Surrey.

GARDENER (HEAD).—JOHN LAUDER, Witley Court, can with confidence recommend a Man (age 30, married) to any lady or gentleman wanting a trustworthy servant; is fully competent in his profession.—S. B., Witley Court Gardens, Stourport, Worcestershire.

GARDENER (HEAD).—Age 30; proficient in Forcing, the cultivation of Exotic Fruits, Tropical and New Holland Plants, Flower and Kitchen Gardens, the erection and heating Horticultural Buildings, Landscape Operations, and the general routine of Horticulture. Can be highly recommended by his late employers for ability, sobriety, &c.—W. M., Royal Botanic Gardens, Regent's Park, London, N.W.

TO NOBLEMEN AND GENTLEMEN.

GARDENER (HEAD).—Age 34, married, without incumbrance; understands his profession in all its branches.—A. B., Mr. Foster's Nursery, Edgware.

GARDENERS (HEAD).—Two single, and one as Under Gardener or Foreman, at liberty to engage with any nobleman or gentleman requiring practical men.—A. B., the Nurseries, Saint John's, Worcester.

GARDENER (HEAD).—Age 28, single; has a thorough practical knowledge of his profession, including the Forcing Fruits, Flowers, Vegetables, and the Culture of Stove and Greenhouse Plants. Good character.—H. W., 4, Marsh Terrace, Newbury, Berks.

GARDENER (HEAD).—Age 40; thorough practical experience in every branch of his profession, particularly in Arranging and Laying-out new ground, Planting, &c. Good testimonials.—D. M., Bedford Nursery, Haverstock Hill, London, N.W.

GARDENER (HEAD).—Age 27, single; thoroughly acquainted with his profession in all its various branches; Late and Early Forcing, and the Management of Kitchen and Flower Gardens. Has had great experience in first-class Pine Growing, Forcing Pot Vines, &c.—A. M., Mr. T. Young, Gardener to C. Bailey, Esq., M.P., Aberaman Park, Aberdare, Glamorgan.

TO THE NOBILITY AND GENTRY.

GARDENER (HEAD).—Age 33, single; great experience; is minutely and practically acquainted with the whole course of Fruit, Flower, and Kitchen Gardening, and very successful in the culture of Pines, Grapes, Peaches, Melons, and Mushrooms. Many years' excellent character and superior references.—Mr. JAMES, 3, Eden Terrace, Rotherhithe, London, S.E.

TO NOBLEMEN AND GENTLEMEN.

GARDENER (HEAD).—Age 30; thoroughly understands Forcing Pines, Vines, also all kinds of fruits in pots, Orchard Houses, &c. Thoroughly acquainted with Kitchen and Flower Gardens. Understands the management of Stock. Good references from both former and late employers.—W. A., Royal Botanic Gardens, Regent's Park, N.W.

GARDENER (HEAD or SINGLE-HANDED.)—Age 26, married, no incumbrance; understands the Kitchen and Flower Gardens. Two years good character. Wages 1*l*. per week, with cottage.—E. M., Charles Paginton, Swindon, Wilts.

GARDENER (HEAD or SINGLE-HANDED).—Age 30, married, no incumbrance; well understands his profession. Good character from the gentleman he is about to leave.—H. S., Gardener's Cottage, the Hyde, near Cheltenham.

GARDENER.—Age 36, married; one child. Has a good practical knowledge of his profession in all its branches, with 2½ years good character.—F. S., Frog Grove, near Guildford.

GARDENER.—A. KAY, The Gardens, Lillesden, Hawkhurst, Kent, is at liberty to engage with any nobleman or gentleman requiring the services of a thoroughly practical Gardener.—Address as above.

TO LANDSCAPE GARDENERS, &c.—The subscriber (age 24), proprietor of a Forest Nursery in the West of England, wishes to form an engagement with some one where he could gain an insight in Landscape Gardening, &c. The highest references can be given. No one need answer this advertisement who is not thoroughly competent in his profession, and has considerable practice.—G. FROST, Nurseryman and Seedsman, Brushford, Tiverton.

TO NURSERYMEN.—Age 21; is an expert hand at Grafting and Budding, and acquainted with the general out-door department of Nursery work. Wishes to engage himself to any of the above who require his services. Good references.—A. B., Post Office, Erdington, near Birmingham.

LAND STEWARD OR BAILIFF.—Age 40, married; a native of Scotland. Has had considerable experience in the management of Landed Property, Buying, Selling, and management of Stock in general, &c. Testimonials of the highest character.—H. A., Eastbury Farm, Watford, Herts.

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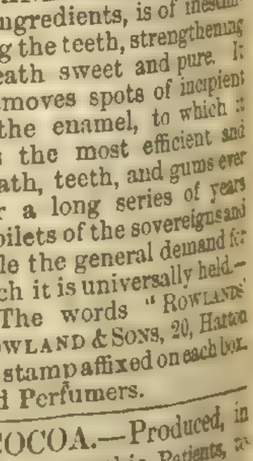

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# The Gardeners' Chronicle Newspaper.

*SATURDAY, NOVEMBER* 19, 1859.



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## News of the Week.

THE urgent representations which were addressed last week by the French Government to that of Sardinia against the acceptance of the Regency of Central Italy by the PRINCE DE CARIGNAN, have led to results for which the French Government were unprepared, and has added another complication to the Italian question by creating a difference which may hereafter assume a more serious character between France and Sardinia. On Sunday evening, on the arrival of the deputies at Turin, charged by the Assemblies at the Romagna, Tuscany, Modena, and Parma, to offer the Regency to the PRINCE DE CARIGNAN, his Royal Highness told them that "weighty representations, reasons of political propriety, and the approaching Congress deterred him, much to his regret, from responding to their appeal, and accepting the charge offered to him," but at the same time he thought he should do a service by designating the Chevalier BUONCOMPAGNI as the person who ought to be intrusted with the Regency of Central Italy. The deputies readily assented to this transfer of their offer, and the Chevalier BUONCOMPAGNI, on being summoned by the Prince to undertake the Regency, expressed his willingness to accept the honour and responsibility of the office. The States of Parma, Modena, and the Romagna have since tendered their thanks to the Prince DE CARIGNAN, and have informed his Royal Highness that they have accepted with gratitude the regency of the Chevalier BUONCOMPAGNI. On the arrival of this news in Paris the French Government, regarding the transaction as the act of the Sardinian Government, called upon the Cabinet of Turin to annul the appointment of M. BUONCOMPAGNI, inasmuch as it prejudged the questions about to be brought before the Congress and encroached upon the powers of that Assembly. The latest news from Turin informs us that the departure of Chevalier BUONCOMPAGNI has been postponed, and that General GARIBALDI has resigned his office as one of the Generals of the army of Central Italy, and is about to retire to the island of Sardinia. Accounts from Bologna state that Signor Farini, who holds the chief power in the Romagna until the arrival of the Regent, has signalised the approaching close of his dictatorship by summarily abolishing the Inquisition as "incompatible with modern civilisation," and by issuing a decree by which the Church and religious establishments of all kinds are incapacitated from acquiring real property either by gift or legacy without a previous authorisation by a sovereign rescript to that effect.

A circular has been addressed by the French Government to the Powers which signed the Treaty of Vienna and to the three principal Powers of Italy, inviting them to send Plenipotentiaries to the Congress. If these invitations be accepted the Powers represented at the Congress will be France, Great Britain, Austria, Russia, Prussia, Spain, Portugal, Sweden, Sardinia, Rome, and Naples.

## Home News.

THE COURT.—The Queen, Prince Consort, and the Royal family continue at Windsor Castle. On Friday morning the Queen, with Princess Frederick William, Princess Alice, and Princess Helena, rode in the riding-house. The Prince Consort went out shooting, accompanied by Prince Frederick William, the Duke of Cambridge, and Count Bernstorff. The Duchess of Kent visited her Majesty. Mirza Ali Khan, the Persian Ambassador, was presented to the Queen at an audience by Lord John Russell, Secretary of State for Foreign Affairs, and presented his credentials as Minister from the Shah of Persia. The Duke of Cambridge, the Prussian Minister and Countess Bernstorff, and Lord and Lady Palmerston, left the castle. In the evening after dinner the Queen and Prince Consort, accompanied by Prince and Princess Frederick William and Princess Alice, went to Frogmore and visited the Duchess of Kent. On Saturday morning the Queen and Prince Consort, accompanied by Prince and Princess Frederick William, Princess Alice, Princess Helena, Princess Louisa, and Prince Arthur, went to Portsmouth by a special train, and were present at the launch of the Victoria line-of-battle ship. The Royal party returned to Windsor Castle shortly before 5 o'clock. In the evening Lord John Russell, Lord and Lady Sydney, Sir George and Lady Grey, and Colonel F. Seymour, arrived on a visit. On Sunday morning the Queen and Prince Consort, Prince and Princess Frederick William, the Princesses Alice, Helena, and Louisa, and Prince Arthur, and the visitors at the castle, attended Divine service in the private chapel; the Rev. Charles Kingsley preached the sermon. On Monday morning the Queen, accompanied by Princess Frederick William, drove out in an open carriage and four. The Prince Consort, with Prince Frederick William and Prince Leiningen, went out shooting. Lord John Russell, Lord and Lady Sydney, Sir George and Lady Grey, and Colonel F. Seymour, C.B., left the castle. The Duchess of Cambridge and Princess Mary, the Duchess of Wellington, the Portuguese Minister, the Marquis and Marchioness of Ailesbury, the Earl and Countess Spencer, Count Brandenburg, and Major-General Wylde arrived on a visit. On Tuesday morning the Queen, accompanied by Princess Frederick William, the Princess Alice, and Princess Mary of Cambridge, walked in the Home Park, and visited the Duchess of Kent at Frogmore. The Prince Consort went out shooting, accompanied by Prince Frederick William, the Prince of Leiningen, the Marquis of Ailesbury, and Earl Spencer. The Hereditary Prince of Hohenzollern-Sigmaringen arrived on a visit to her Majesty. On Wednesday morning the Queen, with Princess Frederick William, walked in the grounds of the castle. The Prince Consort went out shooting, accompanied by Prince Frederick William, the Hereditary Prince of Hohenzollern, and the Prince of Leiningen. The Duchess of Cambridge and Princess Mary, the Duchess of Wellington, the Portuguese Minister, the Marquis and Marchioness of Ailesbury, Earl and Countess Spencer, and Major-General Wylde left the castle. The Marquis and Marchioness of Abercorn, the Earl of St. Germans, the Earl and Countess of Malmesbury, the Countess Blucher, Count Gustave Blucher, the Right Hon. Sidney and Mrs. Herbert, and Colonel the Hon. A. and Mrs. Gordon arrived on a visit. On Thursday morning the Queen, with Princess Frederick William and Princess Alice, walked in the Home Park, and visited the Duchess of Kent at Frogmore. The Prince Consort, accompanied by Prince Frederick William, came to town by a special train of the Great Western Railway. The Prince Consort drove to Buckingham Palace and presided at a meeting of the British Association. Prince Frederick William visited the Museum at South Kensington, and afterwards joined his Royal Highness at Paddington and returned with him to Windsor. The Duchess of Kent and the Prince and Princess of Leiningen visited her Majesty. The Hereditary Prince of Hohenzollern Sigmaringen took leave of her Majesty and left the castle.

THE CABINET.—A Cabinet Council was held on Saturday at the official residence of the First Lord of the Treasury in Downing Street. Another Council was held on Thursday.

KNIGHTHOOD. — The Queen has directed letters patent to be passed under the Great Seal, granting the dignity of a Knight of the United Kingdom to Bryan Edwards, Esq., Chief Justice of Jamaica.

ROYAL NAVAL VOLUNTEERS.—Her Majesty's Government have given notice that, under the Act of Parliament of last session, the enrolment of the reserve force of 30,000 seamen under the name of the Royal Naval Volunteers will commence on the 1st of January next. The following is an abstract of the conditions on which the enrolment will take place:—

Every volunteer must be a British subject, and under 35 years of age. He must also have been at least five years at sea within the 10 years previous, and he must have served at least one of those five years as an able seaman. He must further produce certificates of good character, and be free from any bodily infirmity. The pay is to be 6*l.* a year, payable quarterly; and a pension of 12*l.* a year whenever he becomes incapacitated from earning a livelihood; or at 60 years of age, if not previously incapacitated. In consideration of these allowances he must attend drill for 28 days in each year, the place of drill being either some ship of war, or some battery on shore. In places where the numbers of volunteers are sufficient to admit of it, provision is to be made for drilling them in the port where they reside, and in such places the volunteer will only be required to attend in the daytime, and will be allowed to return to his home at night. In cases where he has to leave home to attend drill his travelling and other expenses are to be paid. And, in order to ensure at all times a permanent force of naval volunteers within the Kingdom he must not, without special permission, proceed upon any voyage that will occupy more than six months. If called out for actual service, he will be provided with the same necessaries, receive the same pay and allowances, and enjoy the same chances of promotion and prize-money, as a continuous service seaman of the fleet; he will be equally eligible to the Coastguard and Greenwich Hospital, and, in case of wounds or injury, be entitled to the same pension as the regular seaman of his own rating. At the expiration of every five years he may, if not actually called out at the time, retire from the reserve; or he may do so, subject to the same condition, at any time by paying back his retainers. If, however, he should rise in his profession to be master or mate, and obtain employment in that capacity, he will be allowed to quit without any repayment. In time of war the volunteers may be called into active service by royal proclamation; but it is expressly stated, that it is intended to exercise this power only in case of an emergency arising which should require a sudden increase in the naval forces of the country.

FLOGGING IN THE ARMY.—His Royal Highness the Commander-in-Chief has decided upon establishing a classification of soldiers, for the purpose of maintaing a distinction between the classes as regards liability to corporal punishment. The following are the leading features of this arrangement:—

All men on entering the army will be placed in the first class, and will not, except for aggravated mutinous conduct during time of war, be liable to corporal punishment. They will continue in the first class unless they should incur degradation into the second class by the commission of crime, and for this purpose his Royal Highness has classified the offences committed by soldiers under two distinct heads, the effect of which will be the virtual abolition of corporal punishment for all soldiers except those who have degraded themselves by their bad conduct. His Royal Highness has further determined that after a soldier has been disrated from the first to the second class, a year's uninterrupted good conduct shall restore him to the first class as showing a desire for reformation and amendment. In making known these regulations the Commander-in-Chief expresses his hope that they "will give confidence to the good soldier by securing to him, on entering her Majesty's service, an immunity from degrading punishment, which immunity it will be in his power to preserve to the day when his engagement shall expire."

VOLUNTEER RIFLE CORPS.—An influential meeting was held at the Thatched House Tavern on Wednesday, Lord Elcho in the chair, at which it was resolved to establish a National Association for the encouragement of volunteer rifle corps and the promotion of rifle shooting throughout Great Britain, by offering prizes for competition among riflemen according to the rules of the School of Musketry at Hythe, as well as prizes for the improvement of fire-arms, sighting of guns, or anything relating to the science of rifle shooting. The meeting was addressed by Earl Spencer, Lord Radstock, General Hay, Admiral Best, the Earl of Lichfield, Sir H. De Vœux, Colonel Charteris, Capt. Gladstone, and other gentlemen, and it was intimated by Lord Spencer that the Prince Consort had promised to support the movement in any way, and that the Queen and his Royal Highness would probably offer prizes for competition if the association should prosper. It was resolved that Mr. Sidney Herbert, the Minister of War, should be the first president, and that Lord Ashburton, Lord Eversley, and General Peel should be the trustees of the Society. Twelve noblemen and gentlemen were elected vice-presidents, with a council of 15, and a working committee of 7, Mr. George Russell acting as honorary secretary. On the same evening General Hay, of the Hythe School of Musketry, inspected about 300 effective men belonging to the Scottish Volunteers, under the command of Lord Elcho, M.P., and to the Queen's Volunteers, of which Earl Grosvenor, M.P., is Colonel, in Westminster Hall. At the close of the inspection General Hay expressed his admiration at the perfect manner in which they had gone through their drill, and took occasion to recommend that the volunteer corps generally should adopt a uniform which would render them invisible in point of colour, and should take every means of promoting their efficiency by drill and practice, instead of allowing them to degenerate into "an affair of brass bands and luncheons." He said that he had identified himself with the movement, and he felt it must succeed; but he had only identified himself with it on one condition, and that was, that it was to be thoroughly effective.

## Foreign.

FRANCE.—The French Government on Tuesday addressed a circular to all the Powers which signed the Final Act of the Treaty of Vienna and to the three principal Powers of Italy, inviting them to send Plenipotentiaries to the Congress. The measures adopted by the States of Central Italy and subsequently by the Royal family of Sardinia in reference to the Regency have given great dissatisfaction to the French Government, which has made known its disapproval to the Sardinian Cabinet, and to all the other

Governments of Italy. The *Moniteur* of Saturday in noticing the proceedings of the different Assemblies in offering the Regency to the Prince de Carignan, says :—

"This resolution is to be regretted, especially under the present circumstances of the approaching assembling of an European Congress—called to deliberate on the affairs of Italy—because it tends to prejudge questions which must there be settled."

The *Constitutionnel* of Tuesday in an article signed by its chief editor says :—

"The acceptance of the Regency by the Prince de Carignan would have caused the open intervention of Sardinia in the affairs of Central Italy, and then Sardinia could not have prevented, on the other hand, the entry of Neapolitan troops into the Roman territory."

A semi-official organ of Wednesday contains the following :—

"The message received from Turin stating that the Prince de Carignan did not confine himself to the refusal of the Regency, but undertook to offer a substitute in the person of M. Buoncompagni, has produced a very bad impression here. It was stated that the Government of Sardinia had not followed the wise counsels offered by the Government of France, as expressed in the letter of the Emperor to the King. It is questioned by what right Sardinia undertakes to prejudge the decisions of the Congress in naming a Regent for Central Italy, and thus by his nomination assuming that the Duchies were already annexed to Sardinia. This proceeding is contrary to all custom, and not in accordance with the rights of the people."

The *Constitutionnel* of Thursday, in an article signed by its secretary, says :—

"The French Government, true to the principles of its policy, has recommended the Cabinet of Turin to annul the appointment of the Regency which the Government of the King of Sardinia has delegated to Chevalier Buoncompagni, as such appointment prejudged the questions brought before, and encroach upon the competency of, the Congress. This advice must be considered as a proof of the solicitude of the Emperor for the Italian cause; which cause he made to triumph on the field of battle, and the final settlement of which awaits to-day only the decision of Europe."

The *Moniteur* of yesterday contains a note of which the following is an abstract :—

"Several journals, from improper motives, enumerate daily the pastoral circulars of the Bishops, in order to represent the French Episcopate as a body filled with mistrust towards the Government. These papers endeavour to give publicity to all those circulars, notwithstanding they express entire confidence in the intentions of the Emperor towards his Holiness the Pope."

General Montauban has been named General-in-Chief of the French expeditionary force to China. It is understood to be a most unpopular nomination in the army. The General appeared as a witness at the celebrated Doineau trial. The Senators Rouland, General Lelièvre, Saulcy, the Archbishops of Bruges and Toulouse, and the Bishops of Nancy and Limoges, took the oaths of allegiance to the Emperor on Sunday last at Compiègne. The Marquis de Moustier, French Ambassador at Berlin, has been appointed Ambassador to the Imperial Court at Vienna in the room of M. de Bourqueney, who will retire from public life. M. de Menneval also retires from diplomacy, and intends to enter a monastery. The trial of Mademoiselle Léonie Cherean, who was charged with stealing the infant child of Judge Hua, has terminated in a verdict of Not Guilty, the jury having been induced by her counsel to believe that she was unconscious of right and wrong, and ought to be acquitted on the ground of irresistible impulse. To produce this effect he read a pathetic and deeply sentimental letter which had, he said, been written by her to her lover, but the *Charivari* prints in parallel columns this letter and the exact original copied out of "La Dame aux Camelias," Act iii., Scene 4, not a word being changed save a "hackney coach" substituted for a "Seine wherry."

SPAIN AND MOROCCO. — Marshal O'Donnell has returned to Cadiz, after having effected a survey of the coasts of Africa. The military operations will immediately begin. Generals Ros de Olano, Zabala, Prim, and Echague, who hold commands in the expedition, are now at Cadiz. The grandees have nominated a deputation charged to offer the Queen a pecuniary donation towards the expenses of the war. The King has offered to serve in the expedition if necessary; the Queen has presented to Marshal O'Donnell, to be worn constantly round his neck, a chain, to which, with her own hand, she has attached some medals supposed to possess miraculous virtue; and the Duke de Montpensier has paid the expense of 24 rifled cannon prepared at the foundry of Seville for the purposes of the expedition. The latest news which has reached Madrid from Tangiers states that the Moors, with a force of 1000 men, have attacked Ceuta, and that the besieged were preparing to make a sortie to repulse them. The Christian population of the seaports have been exposed to great danger from the fanaticism of the Moors, and nothing but the presence of her Majesty's ships Doris and Coquette, and the tact and good management of Captains Heathcote and Foley, could have saved the Christians at Mogador and Taffi from being massacred. The number brought off from both places was 350 men, women, and children.

SWITZERLAND.—M. Armand, Secretary to the French Plenipotentiary at Zurich, will leave for Zurich to-day (Saturday) with the ratifications of the Treaty of Peace. The exchange of the ratifications is definitely fixed for the 21st inst.

FRANKFORT.—At the sitting of the Federal Diet on Saturday the affair of the constitution of Hesse Cassel was referred to a committee. Prussia, Thuringia, Oldenburg, and the Hanseatic Towns voted for the re-establishment of the constitution of 1831; the representatives of Austria and her allies voted in favour of the constitution of 1852, and others abstained altogether from voting. The committee has unanimously adopted the proposal concerning the re-organisation of the Federal military constitution, and has sent its report to the special military committee.

PRUSSIA.—The Berlin journals report a great improvement in the condition of the King, and state that his Majesty continues to take rather long walks and rides in the neighbourhood of Potsdam, and that his powers of observation are also much improved. On the occasion of the Schiller Festival the Prince Regent signed a decree founding a triennial prize of 1000 dollars in gold, and a gold medal of the value of 100 dollars for the best work of German dramatic poetry. The following is the text of the reply of the *Prussian Gazette* to certain allegations of the *Augsburg Gazette* respecting the recent interview between the Emperor of Russia and the Prince Regent of Prussia :—

"Despite our recent denials, despite our formal assurances that the relations between Prussia and England could not and have not suffered in consequence of the meeting at Breslau, the *Augsburg Gazette* continues to endeavour to make its readers believe that that meeting was directed against England; that Prussia, at the instigation of France and of Russia, had entered into the views of those Powers to isolate England, and had taken the engagement, in the event of a war between France and England, to maintain absolute neutrality. The *Augsburg Gazette* finds support for its absurd insinuations in the suppositions and imaginations of the opposition journals in Prussia, who have a natural interest in distorting every act of the Government so as to attack it. The *Augsburg Gazette*, by adopting such a line of conduct, places itself on the same footing as those few French journals which turn to account the language of the opposition journals in Prussia, and state as facts what are but malicious falsehoods. Such tactics may be clever, but are scarcely in keeping with the sentiments of German patriotism."

AUSTRIA.—An Imperial autograph letter has been addressed to the Minister of Finance, Baron von Bruck, expressing the desire of the Emperor to make good the deficit in the budget of the year 1860 to 1861. In order to carry out the desire of the Emperor a committee will be appointed, whose work is to be terminated at the end of March, and the result submitted to the Council of the Empire. In accordance with the articles 13 and 16 of the decree dated the 13th April, 1851, the number of members of the Council of the Empire will temporarily be increased for the discussion of this subject. Decrees will shortly be issued granting to the Jews additional political and social privileges. During the recent Schiller Festival at Vienna several popular demonstrations of a liberal character took place.

THE ADRIATIC. — The Austrian Lloyd's steamer Bombay, on her voyage from Constantinople, ran ashore on the 9th inst. near the island of Unie, in the Bay of Quarnerio, in Austrian Illyria. The passengers, specie, and letters were all saved, and with the assistance of several steamers from Trieste the vessel has been floated off.

ITALY.—Accounts from Turin state that the recent letter of the Emperor of the French to the King of Sardinia, respecting the Regency of the Prince de Carignan, intimated that if the King should allow himself to be drawn into such an offer he could no longer rely on the concurrence of France, and would create a situation compromising at once his own kingdom and the future of Italy. The *Patrie* says that the King of Sardinia replied to this letter, expressing confidence in the sympathies of the Emperor in favour of the Italian cause, and declaring that the King will leave to the decision of the Congress all that relates to the reorganisation of Italy. The Prince de Carignan gave an audience on Sunday evening, at 9 o'clock, to the Chevalier Minghotti and the Chevalier Peruzzi, who had arrived at Turin to request the Prince to accept the Regency conferred upon him by the National Assemblies of Parma, Modena, the Romagna, and Tuscany. The Prince in his reply said :—

"I am deeply moved by your offer, and tender my thanks to the Assemblies and the people of Central Italy who have given me so great a proof of their confidence. I believe that in making this offer you are influenced less by my personal merits than by your devotedness towards the King and by your feelings, which are not only liberal and national, but also those of order and respect for monarchical institutions. Weighty representations, reasons of political propriety, and the approaching Congress, deter me, much to my regret, from responding to your appeal, and accepting the charge offered to me. This forbearance on my part, and the sacrifice I am thus making will prove more useful to the interests of our common country than if I had acted otherwise. Nevertheless, I think I may do an act of service in designating the Chevalier Buoncompagni as the person who ought to be intrusted with the Regency of Central Italy. Return my thanks to the people you represent, tell them that their perseverance and their general conduct deserve the sympathies of Europe; tell them to reckon always on the King, who will support their wishes, and who will never abandon those who intrust their destinies to his loyalty."

The Prince de Carignan then summoned the Chevalier Buoncompagni to undertake the Regency, and Chevalier Buoncompagni in reply intimated his readiness to accept the honour and responsibility of that office. The States of Parma, Modena, and the Romagna have since tendered their thanks to the Prince de Carignan for naming a substitute, and have informed the Prince that they accept with gratitude the Regency of the Chevalier Buoncompagni. The French Government however has protested against the nomination, and it is reported from Turin that the Chevalier Buoncompagni, who was on the point of leaving for Central Italy to enter upon his functions has postponed his departure. It is also stated that Garibaldi has sent in his resignation as one of the generals of the army of Central Italy, and is about to retire to the island of Sardinia. The King, it is added, has named him a Lieut.-General in his own army. Fifty Venetians belonging to Garibaldi's corps have returned to Venice. It was reported in Turin on Saturday that a Ministerial crisis had been caused by the question of the Regency, but the report is officially denied. A Council of the Ministers of State however has taken place, at which several influential gentlemen of high political standing were present. It is said that the Sardinian Chambers will be summoned to assemble before the Congress meets. The question of the annexation of Central Italy to Sardinia will be fully discussed, and numerous addresses from the people of the Duchies will be presented, in order to give additional weight to their cause. Signor Farini, Governor of Bologna, has published a decree suppressing the tribunal of the Inquisition as incompatible with modern civilisation. Such proceedings as those of the Mortara child cannot, therefore, again occur in Bologna. According to advices from the Romagna the Provisional Government of Bologna is abundantly supplied with money. Accounts from Florence of the 12th inst. state that General Garibaldi, with several battalions, had marched towards the frontiers in consequence of a rumour that disturbances had taken place at Ancona. The rumour, however, turned out to be without foundation. It is asserted that the volunteers under the command of General Mezzacapo have asked permission to march against the Papal troops, and that it is difficult to restrain their ardour. Letters from Rome state that the Pope intends to send Cardinal Antonelli as his representative to the Congress, and that it is also the wish of the King of Naples to be represented at the Congress. Orders have been given to the Neapolitan Embassies to deliver passports to all Neapolitan exiles who may ask permission to return to their country.

TURKEY.—Advices from Constantinople to the 12th inst. state that the Ministers Fuad Pasha and Riza Pasha remain definitively in office. All the Ministers have now acquiesced in the reform measures of the new Grand Vizier. The tax on fundholders is approved by the European holders of stock, who hope that their property will by that means be recognised and respected by the Government. The proposed financial reorganisation and the contemplated loan have already tended to raise the price of Government securities, and lowered the rate of exchange. A decree of the Sultan has been published, in which the expensive lives, luxury, and corruption of the Turkish ladies of high rank is censured, and wherein certain changes regarding their costume are ordered. It is asserted that Vely Pasha is to be appointed Ambassador at Paris. The sentences of death and penal servitude in the bagnes recorded against those concerned in the late conspiracy have been commuted into imprisonment in the State fortresses of Lemnos, Tenedos, and Mitylene. A reduction of the civil list, amounting to 6,000,000 only, and a diminution of the salaries of the *employés* have been decided upon, and all the troops quartered at Constantinople have received their pay. The Porte has addressed a memorandum to the Powers which have signed the Treaty of Paris. Kabuli Effendi has returned from Crete. It is said that the difficulties there have been settled. Said Pasha has been appointed Governor-General of Widdin. All the Redifs have been dismissed, and sent to their homes. The Apostolic Prefect, M. Planchet, of Syria, has been murdered by the Kurds. Letters from Smyrna, of the 5th inst., state that Sir Henry Bulwer had arrived there on his way to Salonica and Volo, to meet Prince Alfred. The screw gunboat Intrepid, in which he returned from Smyrna, ran ashore near Mitylene.

EGYPT.—The official *Gazette* declares that the Porte has by no means placed a definitive veto upon the carrying out of the Suez Canal. It is however reported at Pera that the stoppage of the works of the Canal has been made the subject of an explicit and somewhat disagreeable note from the French to the English Government. M. de Lesseps took his departure from Marseilles on Saturday for Constantinople. The Marseilles papers state that instructions from the French Government were received at Alexandria on the 27th October to prevent any act that would interfere with the privileges of the Suez Canal Company. The works of the canal continue.

COCHIN CHINA. — The *Moniteur* of Sunday publishes the report of Admiral Rigault de Genouilly on the fight of the 7th of September with the Cochin Chinese, in which the enemy suffered severe loss. The report says :—"We have put the enemy to flight, and have destroyed their forts and artillery. Our loss amounts to 10 killed and 40 wounded."

UNITED STATES.—Capt. Brown, the leader of the riot at Harper's Ferry, has been found guilty of treason, advising and conspiring with slaves and others to rebel, and of murder in the first degree. Brown was sitting up on his bed at the time, and, on hearing his sentence, quietly lay down without a word escaping from his lips. Mr. Chilton, one of his counsel, immediately moved an arrest of judgment, both on account of errors in the indictment and errors in the verdict. On the following day the prisoner was brought into court and sentenced to be hanged on the 2d of December. He heard his sentence with composure, and before it was passed made a brief and earnest address to the Court, in which he stated that his intention was simply to run off slaves from Virginia in the same manner as he had previously from Missouri; but that he had no intention of shedding blood, nor of treason against the State. His counsel gave notice of appeal to the highest tribunal of Virginia. Edwin Croppie was then tried and pronounced guilty of conspiracy, treason, and murder. The case of Cook, Brown's second in command, is to be

during the hours of business. The traffic of the streets was seriously impeded; cabs, omnibuses, and other vehicles having great difficulty in traversing the streets, while pedestrians were almost at a loss to find their way, and the link-men reaped a rich harvest by conducting persons across the roadways. At several of the hospitals a large number of persons were admitted with injuries received by being run over and in other ways, and the shipping in the river sustained considerable damage by collisions. The river steam-boats above bridge were unable to run during the day, and the traffic on the railways was greatly impeded.

ST. GEORGE'S IN THE EAST.—In spite of the precautions taken to preserve order by stationing a body of police within this church on Sunday last, it was again the scene of disgraceful uproar and disturbance at each of the rector's services, and though the presence of the police prevented any actual rioting within the building, the mob gave vent to their feelings by coughing, hissing, and repeating the responses in so loud a manner as to excite the laughter of the congregation, while dogs were brought into the church to add to the disturbance by their howling and barking. The officiating clergyman and choristers were only protected from the violence of the people by a strong escort of police. Two boys were taken into custody for hissing, and were fined on Monday, the one 20*s.* and the other 10*s.* each, and on Thursday a tradesman was fined 3*l.* for assaulting one of the curates. The intended anniversary of the Mission Chapel, which was to have been commemorated on the 24th inst. by a sermon by the Dean of Westminster, has been abandoned in the present state of the parish, at the suggestion of the Bishop of London.

ST. PHILIP'S, CLERKENWELL.—On Monday evening, at a large meeting of the committee of the Parochial Schools, in Amwell Street, Clerkenwell, it was unanimously resolved to withdraw from attendance at the church of St. Philip, Granville Square, Bagnigge Wells Road, that portion of the charity children which had been in the habit of attending that church for Divine worship, "in consequence of the Popish practices carried on there under the ministry of the Rev. W. Wroth."

CONSECRATION OF NEW CHURCHES AT HAMPSTEAD.—The church of St. Paul's recently erected in Upper Avenue Road, Regent's Park, and the church of St. Martin's erected in Belsize Lane near the Swiss Cottage, in the parish of Hampstead, have recently been consecrated by the Bishop of London. The former, which is from the designs of Mr. Teulon, of Craig's Court, is capable of seating 570 persons, and has been erected at a cost of about 3500*l.* It is built of red and black brick, richly diapered, with apsidal chancel and bell turret, and is said to be an original adaptation of the architecture prevailing in the brick churches of Belgium and Germany. The latter, which is a Gothic structure and cruciform in shape, is capable of accommodating 700 persons, and has been erected from the designs of Mr. Mumford.

DRINKING FOUNTAINS.—On Tuesday morning the first public pillar drinking fountain in the metropolis, which has been a long time in course of erection, on the northern side of Regent Circus, Oxford Street, was opened by Mr. Samuel Gurney, M.P., its donor, with much ceremony, in the presence of a large concourse of persons. This fountain differs from any other yet erected in the metropolis, inasmuch as it is accessible to the public from all its four sides, the water falling from a shell over the centre of the cistern below. The cost of this structure has been about 200*l.* The mural fountains at the British Museum are now completed. The basins are sculptured from blocks of grey marble representing shells, and streams of water issue from the mouths of lions carved in bas-relief, forming a highly ornamental object on either side of the principal entrance under the portico. It has been determined to place a drinking fountain in a suitable locality at Chelsea, and the south-west angle of the north-west entrance of Sloane Square has been chosen as the most appropriate site for its erection.

THE CASE OF DR. SMETHURST.—The Government have granted a free pardon to Dr. Smethurst so far as the alleged murder of Miss Bankes is concerned, but have determined to prosecute him for bigamy. A writ of *habeas corpus* was received on Friday night by the Governor of Horsemonger Lane Gaol for the removal of the prisoner to the custody of the police upon the charge of bigamy, and on Saturday morning he was charged at the Southwark police-court with intermarrying with Miss Isabella Bankes, his wife, formerly Mary Durham, being at the time alive. The charge was proved by several witnesses. The prisoner, who reserved his defence, was fully committed for trial, and was sent back to Horsemonger Lane in charge of the Governor of the prison, the magistrate refusing to admit him to bail. The following letter has been addressed by the Secretary of State to the Lord Chief Baron, communicating the grant of the free pardon:—

"Whitehall, Nov. 15, 1859.

"My Lord,—I have the honour to acknowledge the receipt of your lordship's further report, of the 18th ult., on the case of Thomas Smethurst, who was convicted at the Central Criminal Court in August last of murder, and sentenced to death. As your lordship suggests in that report that reference should be made to the judgment of medical and scientific persons selected by the Secretary of State, for the purpose of considering the symptoms and appearances of the deceased Isabella Bankes, and the result of the analysis, I have sent the evidence, your lordship's reports, and all the papers bearing upon the medical points of the case, to Sir Benjamin Brodie, from whom I have received a letter, of which I enclose you a copy, and who is of opinion that, although the facts are full of suspicion against Smethurst, there is not absolute and complete evidence of his guilt. After a very careful and anxious consideration of all the facts of this very peculiar case, I have come to the conclusion that there is sufficient doubt of the prisoner's guilt to render it my duty to advise the grant to him of a free pardon, which will be restricted to the particular offence of which he stands convicted; it being my intention to institute a prosecution against him for bigamy. The necessity which I have felt for advising her Majesty to grant a free pardon in this case has not, as it appears to me, arisen from any defect in the constitution or proceedings of our criminal tribunals. It has arisen from the imperfection of medical science, and from the fallibility of judgment, in an obscure malady, even of skilful and experienced medical practitioners.—I have, &c., G. C. LEWIS."

RESPITE OF THE PORTUGUESE MURDERER.—A respite was received by the Sheriffs on Saturday evening for the prisoner Charles Annois, a Portuguese seaman, who was convicted of murder at the last session of the Central Criminal Court, and left for execution, the day appointed for carrying out the sentence being Monday morning last. The respite has been granted for 14 days, in order to allow time for inquiries to be made into the truth of a statement that the convict was shortly before the murder in confinement in a lunatic asylum at Lisbon.

WRECK OF THE ROYAL CHARTER.—The Government inquiry into the loss of the Royal Charter commenced on Tuesday at Liverpool, and is not likely to be concluded for many days. Four more bodies have been cast up and at the inquest held upon them on Tuesday, at Amlwch, a verdict of Found Drowned was returned. One appeared to be an officer of the Royal Charter; around his waist was a leather belt which contained 13 sovereigns and several nuggets of gold. The total amount of gold recovered by the divers up to the present time is 5700*l.*

THE PUBLIC HEALTH.—The Registrar-General's official report states that the deaths registered in London in the week that ended November 12, were 1051. In the corresponding week of the 10 years 1849-58 the average number was 1068; which, if raised in proportion to the increase of population, will become 1174. The return of last week was therefore 121 below the average. During the week the births of 918 boys and 930 girls, in all 1848 children, were registered in London. In the 10 corresponding weeks of the years 1849-58, the average number was 1592.

## Provincial.

CAMBRIDGE.—Archdeacon Mackenzie has accepted the invitation addressed to him by the Bishop of Oxford to head the new mission to Central Africa. The fact is officially announced, and has been received with much satisfaction.—The Bishop of Oxford has presented the munificent sum of 500*l.* to the mission, with a promise of a subscription for five years of 20*l.*, on condition that the resolutions are carried out in their integrity. The mission has also received two other donations of 100*l.* each, but scarcely one-seventh part of the sum required has been as yet subscribed.

CHATHAM.—On Saturday the shipwrights employed at Chatham dockyard completed the breaking up of the famous frigate St. Lawrence, formerly called the Shannon, which made the gallant capture of the American frigate Chesapeake during the war with the United States.—The military authorities of this garrison, acting under the orders received from the Government, have again recurred to the practice of setting at liberty in the public streets of the town insane soldiers discharged from the lunatic hospital at Fort Pitt, in order that they may become chargeable to the parish. The parish authorities however having declined to receive the insane soldiers, the Government have decided on taking legal proceedings against them, under the Lunacy Act, to recover the penalties to which it is alleged they have rendered themselves liable, and notice to that effect has been given them. The parish authorities have determined to defend the actions, in order that it may be decided by the courts of law whether the Government are justified in the course they have adopted.

CHELTENHAM.—The committee appointed to make arrangements for the wife and family of Dr. Humphreys, having determined that they had better join him in the United States, Mrs. Humphreys and her children left Liverpool by a recent packet and arrived at Boston, after a very stormy passage, on the 23d ult. Dr. Humphreys was then in prison awaiting his trial on a charge of adultery.

COVENTRY.—A shocking murder was committed in the public street of this town on Saturday morning. A man called John Kingston, formerly a drummer in the 1st Warwick Militia, and known among his associates as a person of violent and ungovernable passions, murdered his wife, an inoffensive woman employed in the riband trade in the town. It appears that Kingston was bound over to keep the peace towards his wife for some threats on a former occasion, and the bail ran out on Saturday. She had, in consequence of his violent conduct, been obliged to live apart from him, and on meeting her in the street on Saturday, he asked her whether she meant to live with him again. She said that she did not. He then laid hold of her, drew out a knife which he had concealed about him, and aimed a blow at her breast. She cried lustily for help, and a man and a boy ran to the spot, but arrived a moment too late. The knife had only grazed the woman's cheek, but the murderer plunged his weapon savagely into her throat, drew it across from ear to ear, and turned the knife completely round, to render it effectual. She fell dead at his feet, her head almost severed from her body. Kingston was immediately apprehended and taken before the magistrates, and on Monday was fully committed for trial at the assizes on the charge of Wilful Murder.

CREDITON.—A few days ago the Earl of Portsmouth inaugurated his foxhunting season at Eggesford, North Devon, with a generous hospitality. The house was open to all comers, whether attired in fustian or scarlet, and a sumptuous repast was provided for about 300 guests. Advantage was taken of the occasion to present a testimonial to the Rev. John Russell, incumbent of Swymbridge, who for many years had discharged the duties of a master of hounds in the district. In presenting the testimonial Lord Portsmouth said that few men had so many friends as Mr. Russell, who met a warm welcome in every house he visited. It was true that he had shown an attachment to the noble sport of foxhunting; but he had never heard that he had even in a single instance neglected his duties as a clergyman for the sports of the field. He was one of those who thought that a clergyman was quite as much in his place in following field sports as he was in gadding about to balls and parties. To show that the pleasures of the chase are not incompatible with a zealous discharge of ministerial duty it was stated that the Rev. Mr. Russell had received a testimonial from his parishioners on leaving a former curacy, and that he was so highly esteemed by his present parishioners that they had also presented him with a testimonial of their esteem.

ELY.—Several serious incendiary fires have taken place lately in this part of Cambridgeshire. Willingham, which was so severely devastated a few weeks since by a disastrous conflagration, has been the scene of a second fire, in which several stacks of grain were consumed. Several fires, also supposed to have been the act of an incendiary, have taken place at Streatham in the Isle of Ely. A reward of 120*l.* in the former case and a reward of 50*l.* in the latter has been offered for the apprehension of the offenders.

HALIFAX.—One of the most brutal assaults ever known to be perpetrated in the West Riding was brought under the notice of the magistrates on Saturday last, when five rough-looking men from the neighbourhood of Brighouse, named Samuel Earnshaw, George Chappell, William Scott, Charles Cookson, and John Marsden, were charged with a scandalous attack upon two young women of excellent character, called Martha and Sarah Burrow. They are cousins, and both reside in this town, one being her uncle's housekeeper, and the other having been employed at Mr. Kirk's dye-house for the last 10 years. On Saturday night they were walking from Brighouse to Halifax, accompanied by two young men called Tweeddale and Wood, the former of whom was the sweetheart of Martha Burrow. When they had got 200 or 300 yards from Brighouse two men hustled against them, and the same thing was repeated by three other men further on the road; but they managed to get away in both cases without sustaining any injury. When, however, they arrived at the fields below Boothrode, a very shocking outrage was committed. The girls were walking with their protectors, about 100 yards apart, when two groups of men (numbering together seven or eight) rushed upon them simultaneously, and subjected both of them to such brutal treatment that their screams were heard for half a mile. The two young men who were with them, and another young man who witnessed part of what took place, made frequent efforts to rescue them, but the ruffians threatened to kill them and throw them into a neighbouring quarry if they interfered. One of the girls was at length rescued by the other, who dashed in among the ruffians with great courage and liberated her cousin; but while the one rescued ran off for assistance, the other was seized and subjected to a still more dreadful outrage, which was subsequently repeated in Elland Wood, into which they had dragged her when she became exhausted. The unfortunate sufferer is of spotless character, and is now in a distressing state of health. On Friday, when some of the prisoners were first brought up, she fainted; and on Saturday morning, when called to identify one just apprehended, she fainted again the moment she saw him. After hearing the evidence the chairman, addressing the prisoners, said that this was one of the most diabolical acts he had ever heard of, next to actual murder. Virtually they were one as bad as another, and if the whole of them were hanged together the country would be the better for it. They were then remanded to Wednesday, when they were again brought up with two other men who had been apprehended at Huddersfield, to which place they had absconded. Six of them were identified as having been concerned in the outrage, and were fully committed for trial at the York assizes on the capital charge.

MACCLESFIELD.—Some weeks ago a paragraph appeared in some of the London papers, stating that the Hon. Henry Stanley, son of Lord Stanley of Alderley, had during his travels embraced the doctrines of Mahomedanism, and identified himself with the manners and superstitions of the East. The *Macclesfield Courier* now says that the statement is entirely without foundation. "Mr. Stanley," it says, "like many other English gentlemen, has mixed with the inhabitants of the countries through which he passed, with a desire to become thoroughly acquainted with their manners, language, habits, and religion, and in his intercourse with the natives may have assimilated his costume somewhat to their habits. But that he had become in any way imbued with their religious ideas is wholly a calumny."

NOTTINGHAM.—Messrs. Hall, Sons, & Co, of this town, have brought to light an ingenious swindle. They had been applied to for starch to a large amount by a Mr. Flood, of Manchester, but declined sending it, not knowing him. A few days after they received the half of a 10*l.* Bank of England note, No. BH 05858, and the starch was immediately forwarded. The other half of the note was not, however, sent. When pressed for payment, Flood said his wife had mislaid it; but if Messrs. Hall would return the half already forwarded it should be made right at the bank, and a Post-office order sent in payment of the bill. Suspicions were aroused that all was not right, and it was subsequently ascertained that Flood was one of a gang of swindlers, who had obtained the halves of 800*l.* worth of notes, which they used for the procuring of goods fraudulently. A warrant was issued for the apprehension of Flood, but he had left Manchester, and could not be traced for several days. He has, however, been found at Liverpool, and is now at Nottingham in custody.

PLYMOUTH.—On Saturday night, the 12th inst., some thieves scaled the graveyard wall in Catherine Street, broke through the stained glass window on the south-west end of St. Andrew's Church, and entered the sacred edifice. They burst open the money boxes for the poor, took away the velvet covering of the communion table, the velvet covers of the cushions there and in the corporation seats, and the vergers' cloaks. The gold fringe and ornaments were stripped from the cover and cushions, but the greater portion was dropped, apparently by accident, in the aisle; the cloaks were found in the yard. The communion table cover is of scarlet Genoa velvet, valued at about 25*l.*, and is supposed to be 50 years old. A reward of 30*l.* was immediately offered for the apprehension of the culprits; and on Tuesday four seamen belonging to her Majesty's ship Trafalgar were apprehended on the charge. A portion of the stolen property was found on each, and a Jew stated that the prisoners came to him on Sunday morning and sold a piece of plush velvet. The prisoners, who said they had found the property, were remanded.

PORTSMOUTH.—The new line-of-battle ship Victoria, of 4126 tons, 1000 horse-power, and 121 guns, was launched on Saturday from this dockyard in the most successful manner in the presence of the Queen, Prince Consort, Prince and Princess Frederick William of Prussia, the younger members of the Royal family, and an immense concourse of spectators. The ceremony of naming the ship was performed by the Princess Frederick William. After the launch the Queen and Royal family honoured Admiral Bowles with their company at luncheon, and then returned to Windsor.—On Saturday evening the crew of the Princess Royal, which is clearing out for paying off, broke out into open mutiny on being forbidden to leave the ship. It appears that on account of the launch of the Victoria in the presence of her Majesty, the men's wives and friends had been allowed on board for the day, and that there had been dancing and other enjoyments on deck. After the visitors had left the ship, one watch of the crew received leave to go ashore for the night, upon which the remainder showed great dissatisfaction. This was reported to the admiral, and on the watch to which leave had been granted arriving at the dockyard gates, the were not allowed to pass, but ordered to return to the ship on account of the dissatisfaction of their comrades. When they got on board, they all were so much exasperated that they put out the lights on the lower deck and uttered the most discordant yells, destroying their mess traps, tables, and stools, and taking possession of the deck. Marines were sent on board from all the ships in harbour, and more than 110 of the crew were taken prisoners on board the Victory and placed in irons. A number of naval officers assembled on board the Princess Royal on Wednesday to open an inquiry into the cause of the disturbance.

SHEFFIELD.—A reward of 200*l.* has been offered for the apprehension of the persons concerned in the recent attempt to blow up the house of Mr. Wilson, with the promise of her Majesty's free pardon to any accomplice giving such information as will lead to their conviction.

STEVENAGE.—The *Wolverhampton Chronicle* contains a story to the effect that there is now living near this town, not 30 miles from London, a real hermit. It says that he lives in a wretched cell, constructed near the ruins of a large mansion, of which he is the owner, and which is in a state of complete decay. In this cell he has dwelt for 11 years without once having washed, and with none but rats to bear him company, his food, consisting chiefly of bread and milk, being supplied by his neighbours and tenantry, to whom the secret of his desolate retirement is a mystery.

STURMINSTER.—A man answering in every description to the supposed murderer of Mrs. Trowbridge at Ashcombe Copse was apprehended on Friday at Hythe, near Southampton, and is now in the custody of the Wiltshire police. He is a Spaniard called Manzano, 29 years of age. Some of the clothes stolen from the cottage were found in his possession, and his own clothes were stained with blood.

WAKEFIELD.—On Saturday last the Election Commissioners resumed the inquiry which had been adjourned three weeks ago in consequence of the absence of several of the principal witnesses on the continent. One of the witnesses examined was "the Man in the Moon," who had been so often described in the previous stages of the inquiry as the immediate distributor of the money spent in bribery, but of whose name and connection with the chief persons in the election the witnesses professed themselves to be ignorant. He now appeared in person, and stated that he keeps an upholsterer's shop at Bradford, under the name of John Whitehead. He said that he had been brought to Wakefield by Mr. George Moore, who kept a draper's shop in the town, and who thought it best to have nothing to do, directly, with the election accounts, but employed him to bribe the electors. He received 20*l.* from Mr. Moore for his services during the election, and his expenses would run away with half that sum. Among the other witnesses examined were Mr. John Charlesworth, cousin of the defeated candidate, and Mr. Fernandes, the former of whom received from his cousin the sum of 4700*l.* to be spent without his knowledge, and handed it over to the latter, who proceeded with the assistance of the "Man in the Moon" to do the actual work of bribery in the most business-like manner. Hams were bought for 25*l.* apiece; independent electors who could not take a bribe allowed it to be slipped into their waistcoat pockets; another would not touch it himself, but begged that it might be given to his wife, so that he might be able to say he never had it; another would take nothing, but had no objection to pocket what might be left for him; another effected a mock loan, another a mock sale; while others less scrupulous took bribes from both sides. After examining these witnesses the Commissioners on Wednesday adjourned the inquiry to Monday next in London.

WORCESTER.—A county meeting, convened by the Lord-Lieutenant in compliance with a requisition, was held at the Shire Hall on Saturday, "to consider the best method of improving the system of hiring agricultural servants." Lord Lyttelton took the chair and said that subject had been much discussed at the recent agricultural gatherings in the county, and the demoralisation introduced and encouraged by adhering to the old custom of hirings at "mops" and statute fairs had been loudly denounced. That these mops were evils was beyond controversy; the only question was whether they were necessary evils, or were counterbalanced by attendant advantages. Looking at them as applicable for the object which they professed—the engagement of agricultural servants—he could not see that they were either convenient or desirable means to the end. The relations between master and servant ought to be commenced on a different footing; there should be some previous mutual acquaintance, and some knowledge of the respective character of both master and servant, which could not exist under a system of hiring at mops. He had no doubt that if mops and statutes were simply abolished at once, other modes of hiring would be found, as in other counties. It was not, however, proposed to do this now, but to establish a system of registration in lieu of statute hirings. Sir John Pakington then proposed the first resolution, to the following effect:—"That the present system of hiring servants at statutes or mops does not conduce to the interests of the master or the servant, and that its alteration and amendment, without injuring the employer or employed, is most desirable." He said that he had heard it argued that the abolition of the statutes would deprive the agricultural labourers of the holiday or day of recreation which they enjoyed under the mop system. Now he was sure that it was not the object of those who had originated this meeting to debar the working classes of any rational amusement or recreation. If a yearly holiday was desirable for the working classes, let some other mode of enjoyment be adopted which would be free from the evils which attended the holding of statutes. In conclusion he expressed his belief that the abolition of mops or statutes would confer essential benefits, not only upon the employers of labour, but upon the labouring classes especially. Mr. B. Bull, a tenant farmer, seconded the resolution, and said he had been compelled to resort to statutes to get his servants. He likened them to going to a fair to buy a horse, with this difference, that one might be a judge of the quadruped but must be in perfect ignorance of the qualities of the human servant. With regard to the holiday question, he thought that was a matter which might be easily arranged between master and man. The resolution having been carried unanimously, Mr. T. G. Curtler, county magistrate, moved, and Colonel Wall seconded, a resolution affirming the propriety of establishing a system of registration in districts, with a central office at Worcester, thus affording masters and servants the means of suiting themselves with the least trouble and inconvenience. This was also unanimously carried, as were also resolutions for forming a Worcestershire Servants' Registration Society, of which Lord Lyttelton is to be president. On the motion of Sir E. A. H. Lechmere, seconded by the Hon. F. Lygon, M.P., thanks were voted to Lord Lyttelton for convening the meeting.

## Ireland.

LORD CARLISLE IN THE SOUTH.—The Dublin papers are filled with accounts of the viceregal progress in Cork. His Excellency last week laid the first stone of a new bridge in the city of Cork, upon which occasion he conferred the honour of knighthood upon Mr. John Arnott, M.P., mayor of Cork. The city work being completed, his Excellency started for Dunkettle, and superintended the opening of the Cork and Youghal line of railway. At Middleton he was entertained at a grand *déjeûner*, at which upwards of 200 persons were present. On Monday his Excellency presided at the distribution of prizes awarded at the June examinations at the Queen's College, and in the evening was entertained by the citizens at a grand banquet at the [illegible] næum. At the Queen's College in the morning the President, Sir Robert Kane, delivered a lengthened address, in the course of which he made the following important statement in reference to the education question generally, and to the position assumed by the Roman Catholic hierarchy at this particular juncture. As he is himself a zealous member of that Church his remarks excited the greatest interest:—

"In one regard it is my duty to bring under the notice of your Excellency and of this meeting some details [illegible] the absolute number of our students, although that [illegible] valled, but as to the relative numbers of our students belonging to each of the more important religious denominations this country. The Queen's University and this College were founded for the special advantage of the Roman [illegible] middle and upper classes of this country, excluded, by necessary ecclesiastical character of the University of Dublin, Trinity College, from participation in its government and possession of its highest honours and appointments. It highly important to examine into what manner the Catholics of this province have received this intellectual to what degree they have availed themselves of the educational advantages thus presented to them. From a table the number of the matriculated students in the college session since the college opened, it appears that the proportion of Roman Catholic students was greatest in the years 1854, when it reached 56 per cent., and least in when it was 44 per cent., since which time it steadily increased, and this year, so far as the examinations have gone, the proportion of Roman Catholics is precisely one-half the total number of students, the average proportion during the entire time being 51 per cent. number of 1214 students. To those who are acquainted middle and upper class society in our large towns and it will be apparent that this proportion fully represents proportion of the Roman Catholic element in those classes the lower classes, of course, it is known that the Roman Catholic element immensely preponderates, but, looking class of society from which the students of this college derived, it is certain that 50 per cent. fairly represents Roman Catholic population. It is, therefore, satisfactory observe that, although from the newness of those institutions from doubts as to the views of the authorities in their rules from the great prestige and deservedly high character of institutions, and from many other causes, which every one trust, will have less influence, the total number of students below what I expect it will before long become. Yet it evident that the Roman Catholic middle and upper classes availed themselves to a very large extent of those institutions and have, after 10 years' experience, found this course not undeserving of their confidence and support. It is known that eminent authorities of the Roman Catholic Church have latterly expressed a strong opinion against mixed education, and have demanded to have placed under their exclusive control the educational institutions of the country, in order that the Roman Catholic people of classes may therein be separately trained. Such a system as that thus demanded scarcely exists even in the most despotic States, and is apparently inconsistent with the responsibilities of a constitutional country. It is certain, however, that a proposal from such learned and such venerable persons should be, and has been, received with profound respect by educated Roman Catholic laity, and if we had not to deal with the practical realities of professional and business life, and did not live in communities of mixed and often jarring interests and ideas; if we had merely our sentiments as religionists, and not our duties as citizens and as fathers, to consult; if were not before us our country torn asunder, and paralysed for centuries by the hatreds and antagonism of religious feuds, it might be our duty to consider how far these aspirations after an ideal monastic perfection could be carried into effect in civil life and in a free country. But imperfect as all human institutions necessarily are, limited as public expenditure must be, having to consult in a mixed community, and under a constitutional Government the feelings and opinions of others besides ourselves, it is incumbent on us as Roman Catholics to make use of and improve what is practically at hand—to appreciate the substance rather than risk its loss by clutching after a shadowy ideal, a splendid phantom. Such has been, after ten years' experience, the practical verdict of the Roman Catholic laity of this province. Such was the opinion of the venerated Catholic prelates who sanctioned by their counsels the statutes and regulations of these colleges, and who were named by our gracious Sovereign to the influential positions of Visitors and Senators of the University. It is to be hoped that the ephemeral necessities of foreign policy which now compel this question will yet give way to the great interests of learning and of society, and that the educated Roman Catholics, while firm in their independent and conscientious support of liberal and united education, will have the happiness to be guided by those eminent authorities the venerated guardians of religion and morality in the important task of rendering more and more perfect the great system of public instruction for all classes which, even in its incomplete form, has already effected so much good."

SYMPATHY FOR THE POPE.—The Young Men's Catholic Society held a meeting on Tuesday evening to express sympathy with the Pope. The O'Donoghue, M.P., who has recently thrown up his commission in the Queen's service as Major in the Kerry Militia, was in the chair, and the meeting was addressed by Mr. Maguire, M.P., Mr. P. O'Brien, M.P., Mr. [illegible] Hennessy, M.P., Professor Hennessy of the Catholic University, Mr. O'Sullivan, of the *Nation*, and Mr. O'Dwyer, ex-Filazer of the Exchequer. A long address of condolence with the Pope was agreed to, and a letter from Archbishop Cullen was read, in which he traced all the evils which had fallen upon nations owing to their separation from the Holy See, or to their disregard of its injunctions. He declared that the Pope was the most benevolent of Sovereigns, and the government of his dominions far superior in its effects to public and private happiness and morals than that of England.

DESTRUCTIVE FIRE AT SLIGO.—The extensive mills belonging to Mr. Robert Culbertson, of Rockdore, within four miles of Sligo, were completely destroyed by fire on Saturday morning. Four men killed, and 10 others severely injured.

ATTEMPTED MURDER IN THE KING'S COUNTY.—On Sunday evening the 6th inst. Mr. John [illegible], under bailiff on the estate of Mr. Stackpoole, while on recently purchased property at Cooraclevin, was shot and wounded by an assassin who deliberately walked away after firing the gun. The contents lodged in the neck, arm, and body, but the wounds were fortunately not fatal. In explanation of this outrage it is said

removed to the United States District Court. Some very serious riots took place at Baltimore on the 1st inst., on the occasion of the Maryland election. Several persons were killed and a large number wounded. The Washington correspondent of the *New York Herald*, in reference to the San Juan difficulty, says that negotiations of a very serious character are pending between the two Governments, and that the United States are much nearer to a violent rupture with England than is generally supposed. It adds that the despatch of Lord John Russell is neither conciliatory nor pacific, and that it peremptorily demands full explanations of the conduct of Gen. Harney. The New York and Albany steamer New World had foundered, with a loss of eight or nine lives. The famous yacht Wanderer has been stolen and carried out to sea. Since her condemnation by the Government as a slaver, she had been sold to Mr. Lamar, and fitted up as a pleasure yacht. There seems to be no doubt that she has been again sent to the coast of Africa for a cargo of slaves.

CANADA.—The North Briton has arrived with the Canadian mails of the 29th ult. Among the passengers are the English cricketers. The Lower Canada members of the Parliamentary Opposition have published a report recommending a federal union of the provinces of Upper and Lower Canada. The Grand Trunk Railway will be opened through to Sarnia, on Lake Huron, on the 21st inst. The city council of Montreal has decided to offer 50,000 dollars to purchase a site within the city limits for the railway terminus, on the spot selected by the Grand Trunk Railway authorities. Thursday, the 3d inst., was observed as a day of general thanksgiving for the late abundant harvest. Mr. Fellowes, member of the Provincial Parliament for Russell, has been convicted of obtaining his seat by fraudulent means, and has resigned. The *Montreal Pilot* announces, on authority, that the Prince of Wales will visit Canada in June next. The International Bank of Toronto suspended payment on the 26th and the Colonial Bank on the following day.

MEXICO.—Advices from Vera Cruz to the 22d ult. state that it was rumoured at Vera Cruz that the acting British Minister, Mr. Mathews, had authorised the British Consul at Vera Cruz to recognise the Juarez Government. Robles had returned to Tuspan. Miramon was busy in preparing his expedition against San Luis. Degollado remained at the latter place, Ampudia at Vera Cruz, and Marquez at Guadalajara, all inactive.

## Public Addresses.

LORD STANLEY, at Accrington, spoke as follows on National Education, and the biography of self-raised men:—

"Whatever may be the faults or merits of the system of school teaching—though I don't think it at all perfect—I wish to do it all justice, and I do not think that in the actual constitution of society it gets fair play. Parliament votes about three-quarters of a million for schools for the instruction chiefly of the children of the working class. Nearly twice as much, or perhaps a million and a half more, is contributed for the same purpose, partly by the parents themselves, and in much greater measure from the benevolence or sensibility of those interested in the cause. Now, what happens? A very large number of our working children go to school, they attend while there pretty regularly, and they learn to read, to write, and to cypher with tolerable ease. But if you take the average of England through, the schooling of children ceases between the ages of 12 and 10—I am afraid nearer 10 than 12. They read nor learn nothing more; what they have picked up at school is apt to be quickly forgotten; and probably I should not be overstating the case if I said, speaking perhaps of the agricultural districts rather than these, that of every three or perhaps every two lads who at 15 are able to read and write with tolerable comfort to themselves, only one can do the same when he reaches the age of 25. Now, what is the effect of that? Why clearly that of this large sum voted by Parliament, and of the vast sums added by private exertions, a large proportion is for all practical and ultimate results as absolutely wasted as if it had been thrown into the sea. To some extent you cannot prevent that state of things. Young men and lads who have their bread to earn may or may not study, but they must work. From a very early time their days are taken up with their daily work, and if any instruction is to be provided for them at all it can only be by the means of the evening school. It is precisely that form of instruction which you provide here, but beyond supplying the school, you afford an incentive and inducement to attend it by your system of examinations, the competition for prizes, and the public honour and respect which on occasions like the present you pay to intellect, industry, and culture. These honours are, if I may so say, a sample and a foretaste only of the more substantial distinctions which later life presents to those who are competent to obtain them. You whom I address are Lancashire men, you know the conditions of life in these swarming regions of the north, where every man, be he rich or poor, is a worker, and where fortunes are made with hardly less rapidity than in America or Australia. You will own, therefore, how false and foolish is that belief, sometimes entertained in ignorance, sometimes, it may be, professed to be entertained with no good purpose; that England affords no scope for the social ambition of the working man. I believe that one of the most interesting volumes that could possibly be written, which, when it is written, ought to find a place in every hamlet, and almost in every cottage, would be a biographical record of a few select instances, at least, of those eminent and illustrious persons who, in various occupations and departments of life, have raised themselves from the ranks. Many a story might be told in such a volume that would buoy up the courage and cheer the heart of the struggling operative in his most distressed hours. But you need no such volume to recall to your recollection the fortunes and the fame of the elder Stephenson, you do not require to be told of the rise and of the wealth of Arkwright, and, above all, you in these districts, and meeting in this hall, know well, and history will record, what was the origin of the family of Peel. You may say, no doubt, that these are remarkable instances. Remarkable instances they are, exceptional instances I believe they are not. I believe that there is not one town, westward from here to Liverpool, or if you look eastward over the hills, there is not one town in all the West Riding, where you may not find at least some one or two men who are wealthy and powerful, men who are large employers of labour, men who perhaps are magistrates and deputy-lieutenants in the society in which they reside, who have in early life earned their 15s. or 20s. a week, it may be in the very mill of which they afterwards became the owners. There is, therefore, I say, a chance for all here. It is not a chance, no doubt. Many competent men must doubtless fail, and by no fault of their own, while in the uncertainty of human affairs it may happen that some who have not equally deserved fortune unaccountably, and even undeservedly, succeed. But whatever may be these uncertainties of fortune, it is something at least to know that to educated and intelligent men the door stands open, and the course is cleared. It is something to know, as was lately said at Manchester, that to every man the opportunity comes once in his life, and something still to be assured, as I am confident are many of those whom I address, that if the opportunity comes it will not be missed through ignorance, or apathy, or sloth, while if, unhappily, it should fail to come, we at least have had the consolation of knowing that the failure arose from causes above and beyond your control, and that you have not been unfaithful to your own destinies."

LORD BROUGHAM has addressed the following to the Earl of Ellenborough, in answer to his letter on the affairs of Italy:—

"You might well expect that I should agree with you in hearty good wishes for the independence of Italy. I can only repeat what I said at the great Edinburgh meeting the other day, that, whatever may be my opinions upon the real cause of the war (which I had to ly given in our House), it had led to a state of things which affords the Italians some prospect of success, provided foreign interference is excluded, and that the best practical course for them to take is an union with Sardinia, although I retain my opinion upon the conduct of that Power. With regard to General Garibaldi, I confess my hopes of partisan or guerilla action are somewhat slender, admitting, as I do, his great qualities, as far as we are acquainted with his public conduct and connections. But I recollect that those Powers with whom Cato differed are said to have a preference for great battalions, and I wish we may not have to mourn over the kind of cause which he is inclined to favour. At all events, I am sure neither you nor I would desire to have the peace of Europe at large disturbed even for the sake of Italy."

THE HON. F. H. F. BERKELEY, M.P., at a public dinner at Bristol on Monday, spoke as follows on the disclosures made before the Election Commissioners at Gloucester and Wakefield:—

"It has been my fortune in urging that great question which I think essential to the liberty of the electoral body—I need not tell you I mean the ballot—in urging that question on the House of Commons it has been twice my fortune to do so on the eve of a general election. I felt it to be my duty to point out to that House into what kind of Saturnalia the country was about to be plunged. I laid before them the miserable position, the degraded position in which the electors were in various boroughs. I pointed out to them that while intimidation would be rampant through the land drunkenness would stagger after it, and bribery would not be far behind, and that intimidation, bribery, and drunkenness would reduce our electoral system—the most beautiful working system in the world in theory—to the most degrading thing possible in practice. Both times that which I stated was realised. Both elections proved that, instead of intimidation having ceased, bribery being dead, and the electoral body being in a more exalted position, it never was in a more degraded one. You have had precious specimens in Gloucester, and in Wakefield, and in other constituencies; and now, Lord Derby, in talking of a Reform Bill coming forward, says: 'Why really the state of corruption in these boroughs is such that it makes us pause before we can extend the franchise.' Did you ever hear such a wretched pretence? Do you mean to say that Lord Derby and the rest of his party in the House of Commons did not know that Mr Rolt's committee disclosed exactly that state of things which exists now? There is nothing new in electors being corrupted and debauched in Gloucester, or in any other city. It is monstrous for Lord Derby to say, 'I will not grant you a 6*l.* franchise, because the 10*l.* householders are a bad lot.' He knew what they were before his agents bought them—not in his name—oh, dear no! but in other persons', in the name of the 'Man in the Moon,' who came down and debauched various places for pleasure. I think that very disgraceful. Will it be believed, that when a gentleman and a candidate for a borough goes to the Treasury, or the Conservative Club, as the case may be, and offers to spend 2000*l.* or 3000*l.* in contesting a small borough, is it possible that he does not know it must be spent illegally? We know how it is with these candidates, what they all say when examined: 'I set my face against bribery; I hate corruption; I told Mr Thingamy that I would not have corruption for the world; there was 2000*l.* for him, but it must be spent in the most virtuous manner possible.' It is a most disgraceful state of things that such a set of men should exist as candidates, and it is no credit to the House of Commons that there should be there the vast number of men who have got into it in that way. There is a farce I have seen for 20 years in the House of Commons exceeding all belief. Such a horrid state of corruption is proved in some borough,—men have been bought wholesale. Mr. So-and-so is supposed to know something about it. He comes into the House in a grave and florid manner, he looks around him, and he says—that is, he makes a declaration by which he states that we are mistaken. What is it, after all? If any gentlemen are here who frequent the theatre they must have seen the farce of 'High Life below Stairs,' in which there are a couple of rascally serving-men, who assume the titles of their masters, the one being 'my Lord Duke' and the other 'Sir Harry.' My Lord Duke is given to telling lies, or speaking more politely, to romancing a good deal. Sir Harry each time contradicts him flatly. Whenever he does so my Lord Duke draws himself up, lays his hand on his heart, and says, 'Upon my honour;' on which Sir Harry raises his hand to his hat, takes it off his head, and says, 'Oh-h-h!' Now that is what I have seen acted in the House of Commons over and over again. The candidate says 'I come to declare that I have not been guilty; I know nothing of this corruption, upon my honour' 'Oh-h-h!' And there the farce ends, and we all know it to be a farce, because we cannot fancy it to ourselves that any third person would go and pay money to elect a man to Parliament for his own pleasure. The man who thinks proper to take an oath that he knows nothing at all about corruption because the money has not passed through his hands to the unfortunate wretch corrupted is little else than guilty of perjury. That is the state of things with which we have to deal. One party sometimes falls into error and is guilty, as at Gloucester. The Liberals there were exceedingly guilty; they bribed in the most extensive manner, and not only did they bribe to a great degree but they did it stupidly. The Tories the moment it was found out exclaimed. 'Oh, dreadful! what a state of things in this world!' Thus it is: these Liberals, who are always talking of purity at elections, bribing away; we must petition. They did so; they stated that bribery by the Liberals had taken place. A commission is issued, and then it is found that the Tories have bribed ten times more than the Liberals, and that the only difference was that the Tory agents lied through thick and thin, while the Liberal agents blurted it all out. It is not the genius of Liberals to bribe: they do it badly, and very stupidly; but it is the genius of Tories, and they do it to perfection. We had a Coppock, the late unfortunate Coppock, but he was not to blame; but they have got a Coppock here, and Norton, and where they have them they will not let the Whig nobility into it. That is a system that ought to be done away with, but it never will be until the people rise in their majesty and say it shall be done. As Parliament is constituted now, you cannot expect a man, a candidate for a rotten borough, to disenfranchise himself, and to vote with that body opposed to Reform. There is nothing but the people using and insisting on it that can carry it. I say you have now they are ready to do so. They do not lead us their members, to believe they are in that position, the people, as are the last to stand by us. If they do not do so the Tories will go on in the old way; the Whig lords, the Whig aristocracy will bribe against the Tory aristocracy, and the Tories will always have the best of it. If you increase the franchise I am all for it. I will take anything they will give me. I do not press even for that question which I think of such infinite importance, and which must come one day; but I do not believe you will find any measure of Reform satisfactory to the minds of the Liberal part of the country until you have a large extension of the franchise, and put down intimidation by the ballot."

MR. CAIRD, M.P., at a meeting of his constituents at Dunfermline made the following remarks on the army, navy, and packet contracts:—

"During the last session there was a debate on packet contracts. The amount of money expended in this country on these contracts had risen to a very large sum, and it was thought necessary to name a committee to inquire into the mode in which the contracts were entered into; and it came out on examination in that committee, of which Mr Colden was chairman and Mr Baxter and Mr Dudley Fortescue, that in the case of Dover there was a desire entertained to enter into with the Government contractors there, to extend the contract for a considerable number of years, on condition that we would return two Conservative members for Dover. Members of Government were not directly implicated in this, and the onus was thrown on private secretaries, who had no such official responsibility; and thus the Government escaped the condemnation which otherwise undoubtedly would have attached to it. On the question of navy estimates a very interesting and important debate took place. He was quite sure they would all agree with him that the right arm of the country in armaments was the navy, and that they should never grudge any necessary expenditure in making it thoroughly effective. But it was stated by men who understood the subject, that a great deal of money was voted in Parliament to make the navy effective which was squandered in a very improper manner, and instances were given in the course of debate which proved this. It was shown that in the different navy yards where ships were built by the Government the wages expended in them varied as much as 5s and 6s per week, while the rate of wages was the same. It was quite evident that some irregularity existed; but it was also shown that the ships were twice or thrice dearer than what it would have been if the ships had been built in private yards. Then a very strong point was brought out regarding the bounties offered to seamen, and the difficulties of getting them to join a service which should be the most popular service in the country. It was found that within the last three years 11,000 seamen had deserted from the navy, and that these men were so much in earnest that they forfeited no less than £7,000 in wages before they would continue in the service. There must be something wrong in this, and the secret of it seemed to be just this, that they committed the charge of the navy to country gentlemen, who knew nothing about it. It was a remarkable fact that the last two lords of the Admiralty—Sir Charles Wood and Sir John Pakington—were both natives of inland counties, where perhaps the ocean might have been a pond, but could not have known anything about them. He then entered into a comparison of the expenses of the armaments of England and France, showing that the expenditure of the army and navy of England during the last two years was 53 millions more than that of France."

SIR JOHN BOWRING delivered two lectures on "China" last week at Edinburgh, of which the following is an abstract:—

"The question of China was a very great and a very important question whether they considered the geographical extent of that immense empire—which, if reduced only to what was called the 18 provinces of China proper, extends in breadth nearly 1300 miles, and in length nearly 1200 miles, if the dependent and tributary regions were taken into account the distance from east to west exceeds 4800 miles, and from north to south 2200—or whether they took into account the great variety of climate, embracing the snowy regions in the north down to the tropical districts in the south, with all their immense varieties of animal, mineral, and vegetable existence; or whether they took into account its population, at present more than one third of the human family, for, according to the last census, there was reason to believe that at present the population of China was 412,000,000, while it had been represented in our books for the last 40 years as amounting to 360,000,000. Those who were acquainted with the teeming population of the central kingdom, and the pressure of population upon subsistence—those whose attention had been turned to the subject, were aware of the fact that millions of Chinamen quit their native country because that country is unable to afford them adequate means of existence. And perhaps that fact—one of the most interesting and one of the most remarkable which was now in progress—the pouring out of a superior upon an inferior population,—was producing results of the greatest possible value to political, commercial, and social interests. He might perhaps be allowed to state that he had lately visited a number of Oriental regions—the islands of the Eastern Archipelago belonging to Great Britain, the islands which form one of the most valuable possessions of the Netherlands Government, and the Philippine Islands, which are under the dominion of the Spaniards—and everywhere where an opening was to be found he had discovered the Chinese race introducing great habits of industry, absorbing those employments in which there was the greatest remuneration, superseding to a great extent the labours of the inferior and less instructed, and less economical, and less persevering population, and carrying out what he believed was the great law of Providence—the law of progress and improvement, by which a superior race of men pressing upon the inferior are elevating the general social character. As to the productive powers of China, he scarcely knew how to estimate them. Little by little we are gathering valuable knowledge and experience on this matter. It might be in the recollection of many that when the question of the East India Company's charter was under discussion, the East India Company ventured to say that China could produce no more tea than they were willing to buy—that 30,000,000 lbs. per annum were all that China could produce, or that Great Britain could consume; and that the destruction of those two monopolies—that of the privileged merchants in China, and of the Company or privileged merchants at home—would be prejudicial to the interests of both countries. Well, what had we now seen? China was at this moment exporting 120,000,000 lbs. of tea, and so far from the quality being deteriorated, it was improved; and so far from prices being elevated, they were lowered. As to the power of production, he should be glad if parents of families would call upon the young calculating heads of their children to solve him this problem—to tell him, in a country where there were 400,000,000 of inhabitants, and where it was the usage to drink tea five

imes per day—allowing what quantity they pleased for each time—to tell him what the consumption of China must be. He believed China was in a condition to double and treble their supplies of tea if necessary, and he was further of opinion that in course of time China would help to solve the difficulty which is at present embarrassing our cotton districts. After some remarks on the amount of British capital engaged in the trade with China, he referred to the magnificence of some of the great public works in China, noticing specially the great wall and the great canal, and proceeded to notice at some length the characteristics of the Chinese language, which had remained unchanged, or little changed, for 40 centuries, while there was scarcely a language in Europe which was 600 or 800 years old. Noticing next the attention paid in China in ancient times to the arts and sciences, he stated that the Chinese deified one of their kings because he encouraged the cultivation of the mulberry, and that a similar honour was paid to one of their queens because she had improved the art of weaving; and while our ancestors were wandering about, painted savages of the forest, even the middle classes in China were clad in silken robes, and it was said to be an opprobrium to the working man who had reached the age of 50 years without being able to throw a silken garment over his shoulders. A Chinese author of the third century gave a minute description of the manner in which the Chinese tore up their garments, reduced them into pulp, and made paper. There was a description of burning-glasses 2000 years before Christ, and the use of the mariners' compass was absolutely lost in the darkness of antiquity. The art of printing was familiar to the Chinese long before there was any record of its existence in other nations, and they had also very early been in the habit of using gunpowder, respecting which there might be a controversy whether it had added to the amount of human felicity or augmented human misery; but he was of opinion that there was no contribution to knowledge which was not a contribution to civilisation, to progress, to religion, to all we ought to hope and pray for. He next gave a detailed notice of the character and writings of Confucius, whose aphorisms had tended so much to inform the Chinese mind. He stated that Confucius was severe in his treatment of inferior officers, who then, as now, were too apt to display 'the insolence of office.' The remainder of the lecture was occupied with a brief notice of the superstitious and religious belief of the Chinese, and an interesting account of the educational machinery in China, in the course of which he described their decimal system of coinage, which he thought would be valuable in this country as a means of education. While remarking on the opposition to change manifested by the Chinese, he expressed his gratification that the law of England is becoming a progressive thing, and that all parties are now happily agreed that there is in future to be 'no monopoly of Liberalism'—that we are all to be Liberals together. In that he heartily rejoiced, and he honoured the man who proclaimed so important a truth, of which he hoped he would enjoy the fullest and completest development."

## City Intelligence.

THE NEW INDIA STOCK.—In the Court of Appeal in Chancery on Tuesday, the Lord Chancellor and the Lords Justices gave judgment in a case which had been submitted to them for the purpose of ascertaining whether the new India Stock can be considered a legal investment for trust funds. Their lordships stated that as the Act of Parliament now stands the new India Stock may legally be used by trustees, but the Court decline to recommend such investments as proper, in addition to which Lord St. Leonards had informed them that he proposes to bring in a Bill next session forbidding such investments.

MONEY MARKET, FRIDAY.—BRITISH FUNDS: Consols closed at 96 for Money, and 96 to ⅛ for the 6th Dec.; Bank Stock, 226 to 227½; Three per Cents. Reduced, 94⅜ to 94½; New Three per Cents., 94⅜ to 94⅝; India Stock, 226; New Indian Loan (stock), 103¼ to 103⅜; Ditto Scrip, 103⅜; Four per Cent. Debentures of 1859, 96¼ to 95¾; India Bonds, 1*s.* dis.; Exchequer Bills, 27*s.* to 30*s.* prem.—FOREIGN: Brazilian Four and a Half per Cents., 1858, 96⅜; Dutch Four per Cent. Certificates, 99⅞ to 99½; Mexican Three per Cents., 22¼; Ditto for Acct., 22⅛ to 22⅜; Peruvian Four and a Half per Cents., for Acct., 91¼; Portuguese Three per Cents., 1853, 45¼; Ditto for 1856, 1857, and 1859, 44; Russian Five per Cents., 109½; Ditto Three per Cents., 1859, 65⅝; Ditto Scrip, ⅜ dis.; Spanish Three per Cents., for Acct., 44⅜; Turkish Six per Cents., 1854, 76; Ditto for Acct., 76⅛; Ditto for 1858, for Acct., 65¼ to 65⅜; Ditto Guaranteed Four per Cents., 103¼.

## Bank of England.

ISSUE DEPARTMENT.

| | | | |
|---|---|---|---|
| Notes issued .. .. .. | £30,711,170 | Government Debt .. .. | £11,015,100 |
| | | Other Securities .. .. | 3,459,900 |
| | | Gold Coin and Bullion .. | 16,236,170 |
| | | Silver Bullion .. .. .. | — |
| | £30,711,170 | | £30,711,170 |

BANKING DEPARTMENT

| | | | |
|---|---|---|---|
| Proprietors' Capital.. .. | £14,535,000 | Government Securities (including Dead Weight Annuity) .. .. .. .. | £10,925,157 |
| Rest .. .. .. .. | 2,190,956 | Other Securities .. .. | 18,370,735 |
| Public Deposits (including Exchequer, Savings Banks, Commissioners of Nat. Debt, and Dividend Accts.) .. .. .. | 6,425,606 | Notes .. .. .. | 2,243,090 |
| Other Deposits .. .. | 14,642,617 | Gold and Silver Coin .. | 624,500 |
| Seven day and other bills | 862,053 | | |
| | £39,663,592 | | £39,863,592 |

17th day of Nov., 1859. M. MARSHALL, Chief Cashier.

## Gazette of the Week.

TUESDAY—BANKRUPTS—W. BALDAW, Bolton, Lancashire, Cotton Manufacturer, and Wigan, Lancashire, Banker's Clerk—I. DAVIS, Bristol, Cigar Manufacturer and General Factor—J. HOOKE, Bersham Mills, Wrexham, Denbighshire, Paper Manufacturer—C. W. F LIDDELL, Bull Inn Court, Strand, Licensed Victualler J. S MORRIS and J. BROOKS, Earl Street, Blackfriars, Stove Grate Manufacturers and Ironmongers—W. SWEDLEY, York, Grocer—F. WHITNALL, Herne Bay, Miller and Baker.

SCOTCH SEQUESTRATIONS—W FREELAND and A. FREELAND Finnery, Dumbartonshire, Farmers—A MACDONALD and J BAIN, Thurso, Builders—S. E. W. MILLAR Edinburgh, Salesman—J. MORRISON, Perth, Painter.

FRIDAY—BANKRUPTS—D ALLEN and J SMITH, Manchester, Warehousemen—J L. ANDERSON, Cannon Street West, City, Linen Factor S. J BACK, Kingston-upon-Hull, Tailor—E DUVAL, New Bond Street, Milliner—W. H. ELLIOTT, Cheapside, City, Clothier—T FORRMAN and T JOHNSON, Faversham Kent, Carpenters—T. PRATT, Dean street, Soho, Farrier—J. PRICE, Maidenhead, Berks, Builder—W. H. WARBLIN, Ealing, Builder—A. WYDHAM, Lower Thames Street, City, Ship Broker.

## Metropolis and its Vicinity.

GREENWICH HOSPITAL COMMISSION.—On Thursday morning the commissioners appointed by her Majesty for inquiring into the internal economy and management of Greenwich Hospital, assembled in the library of the Admiralty for the purpose of prosecuting their inquiry. The commissioners were Mr. Hutt, M.P. (Chairman), Mr. Ingham, Q.C., M.P., and Captain Dalrymple Hay, R.N. Mr. Lethbridge, solicitor to the Hospital was first called, and explained at great length the provisions of the Acts of Parliament under which Greenwich Hospital is founded and maintained. It is expected that the inquiry will last about a week or 10 days, and that the report of the commissioners will be ready to be laid before Parliament at the commencement of the next session.

THE NEW DIOCESS OF BRITISH COLUMBIA.—A numerously attended meeting was held at the Mansion House on Wednesday, in aid of the fund now raising for the support of the mission to this new diocess. The Lord Mayor, in opening the proceedings, announced, among other donations, that her Majesty, with the benevolence which at all times distinguished her, had sent a subscription of 250*l.*; the Archbishop of Canterbury, 20*l.*; the Marquis of Westminster, 200*l.*, &c. The Bishop of Columbia then addressed the meeting, and said that the new colony, including Vancouver's Island, was equal in size to France and Ireland put together. The mission first proposed to take in hand the European population by occupying the towns as they rose up. Already there were eight or ten towns marked out and in course of erection. In these a zealous pastor ought at once to be planted, and there should also be a band of itinerant missionary clergy constantly visiting the unsettled districts. There would be a large immigration of Chinese, not less than 50,000 of whom might in time be expected, and these, it was hoped, would be so taught as to take back with them into their own country something better than 'the gold which perisheth.' It was proposed, besides this, to have native Christian settlements in the neighbourhood of the Indian villages, and there to teach the industrial arts, to provide the means of Christian worship, and impart Christian instruction to the children and those adults who were willing to receive it. For the promotion of these objects assistance was now sought. The cost of living was very great, and they could not at first hope for much support from the colonists. Of course, however, their plan would be that of a self-supporting Church. No State aid would be granted. From the first they would proceed on the voluntary principle; and aided at the outset by the offerings of Churchmen at home, their aim would be to call forth a spirit of liberality in the people, and train them up to support their own religious institutions. The Hon. A. Kinnaird moved the first resolution, to the effect that it is a high Christian privilege and duty to assist in the great spiritual work now opened out by Divine Providence in the interesting and important colony of Columbia; and that the bishop and clergy who are going forth there have claims of a strong and special nature, not only for warm and Christian sympathy, but also for sincere and earnest support in their arduous mission. The Bishop of Oxford, in seconding the resolution, spoke at great length on the duties of a great Christian people in founding a new colony, and on the special fitness of Dr. Hills for carrying among the Indians the blessings of Christianity. The resolution having been carried unanimously, the Bishop of London moved the second resolution, declaring that, as the British nation is indebted for the founding of a mission from the Church of England in Columbia to the munificence of a Christian lady, and as it must depend on voluntary contributions alone for additional strength and support, a committee of gentlemen be appointed for the purpose of collecting contributions towards the special fund so urgently required for outfitting and maintaining a sufficient number of missionary clergymen. His lordship read an extract from a letter from Sir E. B. Lytton, when Colonial Secretary, expressing his admiration of the munificence of Miss Burdett Coutts, who has given the munificent sum of 25,000*l.* for the endowment of the bishopric and two chaplaincies. Sir George Grey seconded the resolution, which was carried unanimously. Previous to the meeting there was a religious service in St. James's, Piccadilly, at which the Bishops of London and Oxford administered the sacrament, and the Bishop of Columbia preached the sermon. The Bishop embarked on Thursday at Southampton for his new diocese.

THE EXHIBITION OF 1862.—At the opening meeting of the Society of Arts for the present session on Wednesday evening, Sir Thomas Phillips, the chairman, announced that it is the intention of the Council to originate measures for carrying into effect an international exhibition of works of art and industry to be held in 1862; and that they propose to invite the manufacturers, merchants, public companies, and other capitalists willing to promote such an exhibition, to unite in raising a guarantee fund, not less in amount than 250,000*l.*, to be vested in trustees whose position, character, and qualifications will secure the confidence of those capitalists who are prepared to share the responsibility of the undertaking. It is intended to seek the assistance of her Majesty's Government in order to obtain the friendly assistance of foreign Governments to secure the co-operation of foreign exhibitors, and otherwise to promote the success of the exhibition. It is also intended to apply to the Royal Commissioners for the Exhibition of 1851 to grant a convenient portion of the ground purchased at Kensington out of the surplus funds of the Exhibition of that year for the next and future exhibitions.

ROYAL SOCIETY.—The Council of the Royal Society have awarded the Copley Medal this year to Professor Wilhelm Eduard Weber, of Göttingen, Foreign Member, for his researches in Electricity, Magnetism, Acoustics, &c. One of the Royal Medals has been awarded to Mr. George Bentham, for his important contributions to the advancement of Systematic and Descriptive Botany; and the other Royal Medal to Mr. Arthur Cayley, for his Mathematical Papers published in the "Philosophical Transactions" and in various English and Foreign journals.

METROPOLITAN BOARD OF WORKS.—At a meeting of this Board on Friday it was resolved by a majority of 23 to 9, after a long discussion, to confide the execution of the great southern outfall sewer from Deptford Creek to Crossness Point, which is estimated to cost nearly 300,000*l.*, to one contractor, instead of dividing it into several contracts, and tenders are accordingly to be invited, to besent in before the first Friday in January.

EMPLOYMENT OF WOMEN.—A society has been established for promoting the employment of women. The committee includes several ladies of title, and Lord Raynham, M.P., is the treasurer. A statement has been published from which it appears that it is the intention of the society to establish a large school for girls and young women, where they will be specially trained to wait in shops, by being thoroughly well instructed in accounts, bookkeeping, &c.; be taught to fold and tie up parcels, and perform many other little acts which a retired shopwoman could teach them. The necessity of politeness towards customers, and a constant self-command, will also be duly impressed upon them. Girls educated in this school will be capable of becoming clerks, cashiers, and ticket-sellers at railway stations. It is also contemplated to establish workshops in connection with the school, where the girls may be taught other trades—trades well suited to women, but now almost exclusively in the hands of men, such as printing and hairdressing, for instance. As the means of the society increase so will the number of workshops and the variety of trades taught. No girl will be admitted to either school or workshop who does not bear a good character; nor, on leaving, will she be recommended for employment till she has passed such examinations as will prove her to be competent for it.

HOUSES OF PARLIAMENT.—The new gas pedestals at the entrance of St. Stephen's Hall are now in course of being erected. The candelabra in the interior are permanently fixed. The stained glass windows with the arms of the various cities and boroughs of the United Kingdom are placed in their allotted positions. The only thing remaining to be done now is the placing the frescoes in their respective panels.

NATIONAL GALLERY.—At the recent sale of Count Stolberg's pictures at Söder, in Hanover, two very beautiful Ruysdaels were bought for the National Gallery, at the respective prices of 1180*l.* and 1060*l.* The pictures represent grand waterfalls, and were probably painted as companion pictures, being of the same size, if not from the same locality.

THE CHAPTER-HOUSE AT WESTMINSTER.—This beautiful building, which has for many years been used as a depository for the public records, has now been made accessible to public examination by the removal of the records to the new office in Fetter Lane. Though the presses and shelves which contained these records still disfigure the building, enough is visible to show that it far surpasses in size and artistic interest any other chapter-house in the kingdom. An arcade of Gothic runs round the walls, which are filled with paintings, and the whole floor is laid down with tesselated pavement. It is hoped that measures will at once be taken to restore it.

THE STRIKE.—At a conference of the building trades of London, held on Friday, it was determined, after careful consideration, that the strike at Messrs. Trollope's should immediately cease, its further continuance being held to be prejudicial to the influence of the "lock-outs" in regard to their combined opposition to the "declaration" of the masters, which it is determined if possible to overthrow.

TAXATION OF THE METROPOLIS FOR CITY IMPROVEMENTS.—A preliminary meeting of gentlemen connected with various metropolitan vestries and district boards has been held at the St. Pancras Vestry Hall, for the purpose of taking measures to ascertain how far the outlying parishes of districts will consent to submit to taxation for City improvements, while the Corporation of London appropriate to their own exclusive use and benefit the local dues and other taxes levied upon the inhabitants of the metropolis generally. Another object of the meeting was to bring the power and influence of the metropolitan vestries and district boards to bear upon the members elected by them to the Metropolitan Board of Works, so as to put a check to the eagerness with which many of them support the representatives of the City of London at the Board in the outlay of money for City purposes, at the expense of their own constituents. It was resolved to send an address to the various vestries and district boards on the subject.

THE FOG.—On Monday and part of Tuesday a dense fog hung over the metropolis and suburbs, causing an almost complete darkness, so that in the banking-house and city offices gas was obliged to be burnt

Mr. Stackpoole proposed raising the rents of the tenantry, who, having refused to comply with the proposed increase, were served with notices to quit, which duty was performed by Harlin, who consequently became disliked by the tenantry, and was therefore fired at. Four men were apprehended on suspicion, but three of them have since been discharged.

## Scotland.

ELECTION OF LORD RECTOR OF EDINBURGH UNIVERSITY.—The election of a Lord Rector took place on Saturday, when Mr. Gladstone was elected by a majority of 116 over Lord Neaves, the numbers being 643 to 527. There was great excitement during the election. The divinity students voted nearly unanimously for Lord Neaves. A great majority of the medical students voted for Mr. Gladstone. The others were more equally divided. The contest it is said was not a political one, the election turning upon Mr. Gladstone's high reputation and influence, while the strength of Lord Neaves lay in his scholarship and local residence.

ELECTION OF LORD RECTOR OF GLASGOW UNIVERSITY.—The election of Lord Rector of the University of Glasgow took place on Tuesday, when Lord Elgin was chosen by a majority of all the Nations; the total numbers being for Lord Elgin, 553; for Mr. Disraeli, 411.

## Railways.

NEW RAILWAY IN THE CITY.—At a meeting of the Common Council on Thursday a letter was read from the London, Dover, and Chatham Railway Company proposing to carry their line over the Thames by a bridge below Blackfriars Bridge, and by means of an arch over Ludgate Hill, to proceed to the vacant space formerly occupied by the Fleet prison on the eastern side of Farringdon Street, where they will erect their terminus. The letter was favourably received, and was referred to a committee to consider and report upon it. The site of the proposed terminus will be one of the very best in the whole metropolis, within a few minutes' walk from the Post Office, Newgate Market, St. Paul's, and Cheapside, within sight of Holborn and the westward roads, and close to the intended site of the Metropolitan Railway.

## Obituary.

EARL DE GREY, K.G., died on the 14th inst., at his house, 4, St. James's Square, in his 78th year. His death was somewhat sudden, for up to the close of the past week his lordship was to all appearance in his customary health. Only a few days since he attended the meeting of the Institute of British Architects, of which he was the president, and delivered a long address with so much spirit as to elicit remarks on the vigorous health he was enjoying. The Right Hon. Thomas Philip De Grey, Earl De Grey, of Wrest, Bedfordshire, Baron Lucas, of Crudwell, Wilts, and Baron Grantham, of Grantham, Lincolnshire, in the peerage of the United Kingdom, and a baronet, was the eldest of the two sons of Thomas Robinson, Esq., second Lord Grantham, and Lady Mary Jemima Yorke, second daughter of the second Earl of Hardwicke, and Marchioness Grey, sister and heiress of the late Countess De Grey. He was born at Whitehall in 1781, and succeeded his father in the barony of Grantham in 1786, being at that time not five years of age, and on the death of his maternal aunt, the Countess De Grey, in 1833, he succeeded to the earldom of De Grey. His lordship had previously changed his family name of Robinson for that of Weddell, and on his accession to the earldom assumed that of De Grey only. He married in 1805 Lady Henrietta Frances Cole, fifth daughter of the first Earl of Enniskillen, by whom, who died in 1848, he leaves surviving issue the Countess Dowager Cowper; and Lady Mary Gertrude Vyner, married to Mr. Henry Vyner. His lordship was educated at St. John's College, Cambridge, where he graduated M.A. in 1801. During Sir Robert Peel's short administration in 1834-35 he held the office of First Lord of the Admiralty, and was made a Privy Councillor on being appointed to that office. When Sir Robert Peel again came into power in 1841 Earl De Grey was appointed Lord-Lieutenant of Ireland, which office he held up to June, 1844. On his retirement from Ireland his lordship may be said to have relinquished political life, for beyond an occasional vote in support of the Conservative party he has not interfered in political matters. He had been for many years Lord Lieutenant of Bedfordshire and Aide-de-Camp to her Majesty, and in 1844 was nominated a Knight of the Garter. He was also for more than 40 years Lieut.-Colonel Commandant of the Yorkshire Hussar Regiment of Yeomanry Cavalry; he was President of the Institute of British Architects, a Fellow of the Royal Society, and of the Society of Antiquaries and other learned institutions. As his lordship has died without male issue the earldom of De Grey and the barony of Grantham devolve upon his nephew, the Earl of Ripon. The ancient barony of Lucas of Crudwell, Wilts, passes to his lordship's eldest daughter, the Countess Dowager Cowper.

CAPTAIN DODGIN, late of the 20th Regiment, shot himself on Saturday evening at his lodgings in Panton Street, Haymarket. He had been for 5 years in command of the police of the island of Barbadoes, and had been dismissed by the local authorities without a retiring pension. This treatment preyed upon his mind, and caused much depression of spirits. An inquest was held on the body on Wednesday, when the jury returned a verdict of temporary insanity.

MR. GEORGE ANTHONY, a well-known artist at Manchester, died on Tuesday from the effects of gastric fever. Though not so well known as some of his brother artists in the profession, he was a man of highly cultivated tastes, and stood high in their estimation as an art-critic. He was the author of art-criticisms which appeared for many years in one of the leading Manchester papers under the signature of "Gabriel Tinto."

WILLS.—The will of General Sir Henry Cunliffe, Bart., has been sworn under 6,000*l.* personalty in India; Mr. William Caldwell Roscoe, formerly of Dolgwy, near Machynlleth, Montgomeryshire, but late of Tyddyn Helen, Carnarvonshire, 25,000*l.*; Mr William St. Quintin, late of Scampston Hall, Yorkshire, 25,000*l.*; Sir William Norris, formerly of Barrow Green House, Oxted, Surrey, but late of Ashurst Lodge, Sunning Hill, Berks, 30,000*l.*; the Rev. Sir Charles Francis Farnaby, Bart., of Wickham Court, Kent, 40,000*l.*

## Miscellaneous.

THE FRANKLIN EXPEDITION.—Dr. King, who accompanied Sir George Back's exhibition to the Great Fish River, the point to which Captains Crozier and Fitzjames intended to direct their course, has delivered a lecture at Brighton in which he expresses his belief that some of the party may still survive. If, however, they are all dead, he thinks that some particulars of their fate may be discovered by examining the abandoned ships, the position of which is clearly ascertained; and which an expedition, availing itself of the proper season, and directing its attention to the special object, might, he believes, effect without much difficulty. Captain Parker Snow, the merchant captain who went out in the Prince Albert under Captain Forsyth on Lady Franklin's private expedition in 1845, has also published a letter stating his reasons for believing it possible that some members of the expedition still survive. He considers that the evidence is not conclusive that they were all lost, and that it is the duty of England to make an attempt to ascertain their fate. At the meeting of the Geographical Society on Monday evening, Captain M'Clintock read a paper on the results of his recent voyage, in which he discussed the question whether some of the 105 survivors might not be living among the Esquimaux? He said that the various families or communities of Esquimaux met with by Rae, Anderson, and himself, at different times and places, all agreed in saying, "No, they all died." The western shore of King William Island, along which they were compelled to travel for two-thirds of their route, was uninhabited, and all that was known to us of the mouth of the Back River was derived from the journeys of Back, Simpson, Anderson, and himself. None of them had met natives there, consequently it was very fair to conclude that the Esquimaux but seldom resorted to so inhospitable a locality. In fact their life was spent in a struggle for existence, and depended mainly upon their skill in taking seals during the long winter—a matter which required such long training that no European had ever yet succeeded in acquiring it. His (Capt. M'Clintock's) two Greenland Esquimaux tried various methods at Bellot Strait, yet did not succeed; and without dogs trained to scent out the small breathing holes of the seals through the ice, and through the snow which overlays the ice and conceals them from observation, he did not think that even the Boothian Esquimaux could live. It required not only that a man should possess a trained dog, but that he himself should be so well trained in the only successful mode of seal-hunting in this locality in order to subsist. It was therefore evidently an error to suppose that where an Esquimaux could live a civilised man could live there also. Esquimaux habits were so entirely different from those of other people that he believed there was no instance on record of either a white man or an Indian becoming domesticated among them or acquiring tolerable expertness in the management of a kayak. With regard to the probability of procuring the means of subsistence independently of the Esquimaux, he stated what was shot by his own sledge party—and they never lost a chance of shooting anything—during the journey along the lands in question, which occupied them for 79 days and covered nearly 1000 geographical miles of distance. The sum total amounted to two reindeer, one hare, 17 willow grouse, and three gulls. The second question was, why had the remains of so few of our lost countrymen been found? It was indeed true that only three of the 105 were discovered, but it was to be borne in mind that from the time they left their ships they were dragging sledges and boats, and therefore they must have travelled almost constantly upon the ice—not upon the land, consequently all traces or remains there vanished with the summer thaw of 1848. There was no doubt that many relics still remained strewed along the uninhabited shore of King William Island, beneath the snow; but as it was most carefully examined three times over, he could not think that any conspicuous object, such as would be put up to indicate where records were deposited, could possibly have escaped them. An interesting discussion followed, in which several of the experienced explorers of the Arctic regions present took part, including Sir Edward Belcher, Captain Collinson, Captain Sherard Osborn, Captain Hobson, Captain Snow, and Captain Kennedy. Captain Collinson gave it as his opinion that after Franklin and his comrades abandoned the ships, it was almost impossible, having regard to the question of provisions, and to the probable rate at which they would be able to travel, encumbered as they were with sick, with boats, and facilities for prosecuting their journey, that they could have reached further than the bottom of the estuary of the Great Fish River, and that they all perished. He thought that Captain M'Clintock had nobly carried out the motto with which he entered upon the expedition, "Persevere to the end;" and in after times it would be remembered that after the nation's treasure failed, "the widow's mite" prevailed. Captain Sherard Osborn, as an Arctic navigator, said he could not resist the conclusion that the search for Franklin was now closed. He had read Captain M'Clintock's journal, which was written from day to day, without any wish to arrive at a particular theory, and therefore on that ground eminently valuable, and he felt that, whatever the track Franklin and his comrades took after abandoning the ships, it was their last journey upon earth, and that they must have perished. Capt. Parker Snow, the merchant captain mentioned above as having been engaged in Lady Franklin's former expedition, stated his dissent from these opinions, and said if his health be spared to him, and whether he be assisted or not, he intends to leave England next spring with the view of going over the whole ground, and, if need be, allying himself with the Esquimaux until the riddle is solved. Captain Kennedy, who commanded a former Arctic expedition in search of Sir John Franklin, supported Captain Snow's opinion. Sir R. Murchison in closing the discussion said that there was no doubt that Sir John Franklin went further to the north in a ship than any British seaman — he was speaking of the search made in Wellington Channel — and then he returned and performed that extraordinary voyage round Cornwallis Island, by which in the first year of his enterprise he proved it to be an island. And it was a great fact in which all the naval officers who had taken part in the discussion, whether belonging to her Majesty's service or to the mercantile marine, agreed that, although Captain M'Clure was worthily rewarded for making a North-West passage, Franklin was the man who made *the* North-West passage.—Lady Franklin's screw steam yacht Fox, in which Captain M'Clintock made his recent exploration, was sold last week by public auction for 2825*l.* She cost 6500*l.*, and 3000*l.* was expended on her preparatory to the expedition.

BIRTHS.—On the 11th inst, at Spetchley Park, Worcestershire, the Lady CATHERINE BERKELEY, of a son—15th inst, at Norwood Park, Lady EDWIN HILL, of a son—8th inst, at Bruntisfield House, Edinburgh, the Lady BINNING, of a daughter—10th inst, at Rischolme, near Lincoln, the wife of the Bishop of LINCOLN, of a son—8th inst, at Brackley, the Hon. Mrs. HARVIE FARQUHAR, of a daughter—5th inst, at The Limes, Horsham, the Hon. Mrs. ROBERT HENLEY, of a daughter—5th inst, at 26, Brunswick Place, Brighton, the Hon. Mrs. PHILIPS, of a daughter—9th inst, at New Hall, County of Clare, the Hon. Mrs MACDONNELL, of a daughter.

MARRIAGES.—On the 17th inst, at St. George's, Hanover Square, Lord BINGHAM, eldest son of the Earl of LUCAN, to Lady CECILIA CATHERINE GORDON LENNOX, youngest daughter of the Duke and Duchess of RICHMOND—8th inst, at St. George's, Hanover Square, EDWARD MAXWELL BROWNLOW, Esq., youngest son of the late Rev John Brownlow, to CHARLOTTE ANNE, youngest daughter of the late Lieutenant-General Sir LIONEL SMITH, Bart., G.C.B., G C H. — 13th inst, at All Souls' Church, Langham Place, Lieutenant-Colonel SIDNEY BURRARD, Grenadier Guards, son of the late Rev. Sir George Burrard, Bart., of Walhampton, Hants, to GERALDINE AUGUSTA, only daughter of W. J. RICHARDSON, Esq., of 67, Portland Place, London, and Oak Hall, Wanstead, Essex—10th inst, at St. Leonard's-on-Sea, the Rev. JOHN MARTEN CRIPPS, Rector of Great Yeldham, Essex, to MARY ANNE, third daughter of Sir WOODBINE PARISH, K.C.H.—15th inst, at St. Mary's, Henel Hempstead, GEORGE STAUNTON, Esq., Lieutenant-Colonel, Cape Mounted Rifles, to HENRIETTA, youngest daughter of the late BRANSBY BLAKE COOPER, F.R.S.—1st Aug., at Christ Church, Mussoorie Hills, north of Delhrah, East Indies, CHARLES EDWARD DELAFOSSE, Lieutenant Bengal Artillery, to ISABELLA SOPHIA, eldest daughter of Lieutenant-Colonel G. P. RICKETTS, of the late Bengal Light Cavalry (retired list)—10th inst, at Aberdeen, DAVID OWEN BATESON, Esq., of Liverpool, to MARGARET, fifth daughter of Sir THOMAS BLAIKIE, of Kingseat, Aberdeenshire.

DEATHS—On the 11th inst, at his residence, 15, Cambridge Street, Hyde Park Square, HENRY SWINBURNE MINASI, Esq., his Sicilian Majesty's Consul-General—2d Sept., of fever, near Bangkok, Siam, CHARLES BELL, Esq., late of H.M.'s Chinese Consular Service; and on the 9th September, at the same place, CHARLOTTE ERSKINE, his widow, daughter of Mr. and the late Lady Frances Jemima Goodeve, of Clifton—31st ult, at Torwoodlee, Selkirkshire, Vice-Admiral JAMES PRINGLE, of Torwoodlee—12th inst, Colonel E. G. W. KEPPEL, of Lexham Hall, Norfolk, and 3, Grange Terrace, Brompton, aged 60—11th inst, at 3, Lower Belgrave Place, Pimlico, Lieut.-Colonel JOSEPH SMITH, late of her Majesty's 14th Regiment, aged 67—1st inst, at 8, Royal Crescent, Brighton, MARGARET ELEANOR, wife of Lieutenant Colonel CHARLES PURVIS, of Darsham House, Suffolk, aged 80—10th September last, at Toungboo, in Pegu, Burmah, GEORGE FENDALL D'OYLY, Captain in the 67th Bengal Native Infantry, and Assistant-Commissioner, second son of Sir John Hadley D'Oyly, Bart., of Steepleton House, Dorsetshire, aged 35 — 2d ult, at Futtehgur, N. W. Provinces of India, HENRIETTA FRANCES, wife of JOHN SCARLETT CAMPBELL, Esq., of H.M.'s East India Civil Service, and youngest daughter of W. Butterworth Bayley, Esq., aged 28—8th inst, at 26, Devonshire Terrace, Hyde Park, WILLIAM FREDERICK RAITT, late Captain Oxford Militia, eldest surviving son of the late Lieut.-Colonel G. E. Raitt, aged 37—18th ult, at the Henfaes House, Welshpool, WILLIAM JOHNES, Esq., formerly of Lower Garthmyl, Montgomeryshire, age 84—26th ult, at the Oatland's Park Hotel, after a few hours' illness, SIMON DIGBY MORSE BOYCOTT, Esq., late of Osbers Town, County Kildare, aged 62—7th inst, at St. Mary's College, Oscott, the Right Rev. MONSIGNORE WEEDALL, D.D., aged 71—8th inst, at his residence, 15, Grenville Street, Brunswick Square, GEORGE MOORE, Esq., F.R.S., aged 82—26th ult, in the wreck of the Royal Charter, MONTAGUE WM. PITCHER, Esq., of the house of Pitcher, Fanning, and Co., Geelong, Australia, Consul of the Free Hanseatic City of Hamburg, and one of the Government Territorial Magistrates of that place; also his wife, ELIZA MANSELL, and their two infant children, MANSELL SOTHEBY and MARY LOUISA LEFEBVRE PITCHER; and their nurse, whose name is at present unknown—26th ult, in the wreck of the Royal Charter, ROBERT WADILOVE, sixth son of the late ROBERT HENDERSON, Esq., of Rylston House, Yorkshire, and formerly of Justus Town, Cumberland, aged 28—26th ult, in the wreck of the Royal Charter, GEORGE E. F. HATCH, Esq., M.R.C.S., of Farnham Royal, Bucks, Surgeon Superintendent in the Government Emigration Service—26th ult, in the wreck of the Royal Charter, MARY ELLEN, fourth daughter of the late Mr. JOHN WRIGLEY, of Manchester, aged 28 years—26th ult, in the wreck of the Royal Charter, GEORGE, only son of GEORGE S. WEBRANTS, Esq., of Harcourt Street, Dublin, solicitor—26th ult, in the wreck of the Royal Charter, JOHN MYERS BODDY, eldest son of Mr. John Boddy, bookseller, Artillery Place, Woolwich, aged 14 years and 5 months.

## Markets.

COAL MARKET.—Nov. 16.

Buddle's West Hartley, 15s.; Clark's West Hartley, 15s.; Davison's West Hartley, 15s.; Holywell, 15s.; Howard's West Hartley, 15s.; West Hartley, 15s.; Walls End Belmont, 17s. 9d.; Walls End Framwellgate, 17s. 9d.; Walls End Haswell, 20s.; Walls End Hetton, 20s.; Walls End Kepier Grange, 19s. 3d.; Walls End Russell's Hetton, 19s, 3d.; Walls End Heugh Hall, 19s.; Walls End Thornley, 17s. 6d.; Walls End Trimdon Thornley, 17s. 6d.; Walls End Whitworth, 15s. 6d.—33 ships at market.

COVENT GARDEN.—Nov. 19.

The supply of vegetables still continues tolerably abundant. This week Asparagus and Seakale have made their appearance.

Pine Apples and Grapes have not altered in price since last week. Pears in season consist of Glou Morceau, Beurré Diel, Chaumontel, Winter Nelis, Passe Colmar, and Crassane. The best dessert Apples now to be obtained are King of the Pippins, Cockle Pippin, and Court Pendu Plat. Ribstons are very scarce. Oranges may now be had. Good Cobs are realising from 1s. to 1s. 6d. per lb. Chesnuts are plentiful. Cabbages, Savoys, Carrots, and Parsnips may be obtained in quantity. Cauliflowers are scarce. Potatoes realise from 4s. to 8s. per cwt. Mushrooms can still be had. Cucumbers tolerably abundant. Cut flowers chiefly consist of Orchids, Gardenias, Violets, Mignonette, Chrysanthemums, Heaths, and Roses.

### FRUIT.

| | |
|---|---|
| Pine Apples, per lb., 4s to 6s | Pears, per doz., 3s to 6s |
| Grapes, per lb., 4s to 6s | Oranges, per 100, 6s to 10s |
| Melons, each, 2s to 4s | Lemons, per 100, 5s to 8s |
| Pomegranates, each, 4d to 6d | Filberts, p. 100 lbs., 50s to 60s |
| Apples, per bushel, 8s to 10s | Cobbs, do., 100s |

### VEGETABLES.

| | |
|---|---|
| Asparagus, p. bundle, 7s | Artichokes, per doz., 2s to 3s |
| Seakale, per basket, 3s to 4s | Beet, per doz., 1s 6d to 2s |
| Cauliflowers, per doz, 2s to 4s | Celery, p. bundle, 1s to 1s 6d |
| Greens, per dozen bunches, 2s to 2s 6d | Onions, p. half sieve, 1s to 1s 6d |
| Cabbages, do., 1s 6d to 2s 6d | — Portugal, each, 2d to 4d |
| Potatoes, p. ton, 90s to 100s | Shallots, per lb., 6d to 8d |
| — per bus., 2s to 2s 6d | Garlic, per lb., 6d to 8d |
| — per cwt., 4s to 6s | Lettuces, Cabb., per score, 1s to 1s 6d |
| Carrots, per bunch, 6d | Endive, p. score, 1s to 1s 6 |
| Turnips, per bunch, 4d | Horse Radish, p. bun. 1s 6d to 4s |
| Spinach, p. sieve, 1s 6d to 2s | Mushrooms, p. pott, 1s 3d to 1s 9d |
| Cucumbers, p. doz., 1s to 1s 6d | Parsley, p. 12 bunches, 2s to 4s |
| Frame do., each 4d to 6d | Savory, per bunch, 2d to 4d |
| Tomatoes, p. ½ sieve, 2s 6d to 3s 6d | |

POTATOES.—SOUTHWARK, Monday, Nov. 14.

During the past week, the arrivals coastwise have been more liberal, and towards the end of the week prices declined from 5s. to 10s. per ton. The following are this day's quotations:—York Regents, per ton, 80s. to 120s.; Lincolnshire do., 70s. to 95s.; Dunbar do., 90s. to 115s.; Perth, Forfar, and Fifeshire do., 60s. to 90s.; Kent and Essex do., 80s. to 100s.; French whites, 70s. to 80s.

HOPS.—BOROUGH MARKET, FRIDAY, Nov. 18.

Messrs. Pattenden & Smith report that since the declaration of the duty fine samples have been in demand at fully 2s. per cwt. advance. Other sorts remain very firm.

HAY.—Per Load of Thirty-six Trusses.

SMITHFIELD, THURSDAY, Nov. 17.

| | | | | | |
|---|---|---|---|---|---|
| Prime Meadow Hay | 70s | to 80s | Clover .. .. .. | 95s | to 105s |
| Superior do. (old) .. | 80 | 85 | New Clover .. .. | — | — |
| Inferior do. .. .. | — | — | Second cut do. .. | 70 | 90 |
| New do. .. .. .. | — | — | Straw .. .. .. | 28 | 32 |
| Rowen .. .. .. | 60 | 70 | | | |

DAVIS & Co.

CUMBERLAND MARKET, THURSDAY, Nov. 17.

| | | | | | |
|---|---|---|---|---|---|
| Sup. Meadow Hay . | 80s | to 88s | Inferior Clover .. | 75s | to 90s |
| Inferior do. .. .. | 65 | 74 | New do. .. .. | — | — |
| New do. . .. | — | — | Straw .. .. .. | 30 | 34 |
| Superior Clover .. | 98 | 105 | | | |

JOSHUA BAKER.

WHITECHAPEL, THURSDAY, Nov. 17.

| | | | | | |
|---|---|---|---|---|---|
| Fine old Hay .. .. | 80s | to 85s | Fine old Clover .. | 100s | to 105s |
| Inferior do. .. .. | 65 | 75 | Inferior do. .. .. | 84 | 92 |
| Prime New Hay .. | — | — | Fine new Clover .. | — | — |
| Inferior do. .. .. | — | — | Fine 2d cut .. .. | 84 | 86 |
| Straw .. .. .. | 27 | 32 | Inferior do. .. .. | 63 | 72 |

BRITISH WOOLS.—LONDON, FRIDAY, Nov. 18.

Our trade continues in a quiet state, and no business is transacted unless to meet immediate requirements. Flat accounts are received from the north country town (Bradford), where not long ago they were making great efforts to increase the supply of wool, their trade having considerably overstepped the supply from the farmers.

| | s. | d. | s. | d. | | s. | d. | s. | d. |
|---|---|---|---|---|---|---|---|---|---|
| South-down Hoggets .. .. .. | 1 | 8 | to | — | Leicest. Wethers | 1 | 5 | to | — |
| Half-bred ditto.. | 1 | 8 | — | — | Ditto Hoggs .. | 1 | 7 | — | — |
| Down Ewes .. | 1 | 6 | — | — | Combing Skins | — | — | — | — |
| Kent Fleeces .. | 1 | 7 | — | — | Blanket ditto .. | — | — | — | — |
| | | | | | Flannel Wool .. | 1 | 2 | — | 1 7 |

COLONIAL WOOL SALES.—These sales are progressing at the opening rates. The attendance is good and the prices remunerating.

MARK LANE.—MONDAY, Nov. 14

The supply of Wheat from Essex and Kent to this morning's market was unusually small, and quickly taken by our own millers and buyers from the interior at an advance of 2s. per qr. on the prices of this day se'nnight; foreign was held for a similar improvement, but business was rendered impossible by the fog; we advance our quotations 1s. to 2s. per qr. Barley brings an advance of 1s. per qr. Beans are 1s. dearer. Peas unaltered in value. The Oat trade is very firm, the arrivals being small, and needy purchasers are compelled to pay an advance of fully 6d. per qr. The top price of town-made Flour is unaltered, but Norfolks are 1s dearer.

| PER IMPERIAL QUARTER. | s. | s. | | s. | s. |
|---|---|---|---|---|---|
| WHEAT, Essex, Kent, & Suffolk.. White | 40 | 48 | Red .... | 40 | 45 |
| — — fine selected runs.. ditto | 46 | 48 | Red .... | 42 | 48 |
| — — Talavera ..... | 46 | 52 | | | |
| — Norfolk ..... | — | | Red . .. | — | |
| — Foreign ..... | 38 | 56 | | | |
| BARLEY, grind. & dist., 24s to 30s..Chev. | 38 | 44 | Malting . | 34 | 40 |
| — Foreign..grinding and distilling | 23 | 33 | Malting . | — | |
| OATS, Essex and Suffolk ..... | 19 | 24 | | | |
| — Scotch and Lincolnshire..Potato | 23 | 29 | Feed.... | 19 | 26 |
| — Irish .....Potato | 24 | 28 | Feed.... | 19 | 24 |
| — Foreign ..... Poland and Brew | 23 | 26 | Feed.... | 17 | 24 |
| RYE ..... | 35 | 38 | Foreign . | — | |
| RYE-MEAL, foreign..... | — | | | | |
| BEANS, Mazagan.... 33s to 39s....Tick | 33 | 41 | Harrow . | 33 | 41 |
| — Pigeon .....41s — 45s..Winds. | 48 | 54 | Longpod | — | |
| — Foreign ..... Small | 38 | 46 | Egyptian | — | |
| PEAS, white, Essex and Kent .. Boilers | 36 | 39 | Suffolk . | 38 | 41 |
| — Maple .... —s to —s ..... Grey | 33 | 35 | Foreign . | 30 | 38 |
| MAIZE ..... White | — | | Yellow.. | — | |
| FLOUR, best marks delivered..per sack | 37 | 43 | | | |
| — 2d do. ..... ditto | 27 | 37 | Country. | 27 | 37 |
| — Foreign ..... ... per barrel | 18 | 27 | Per sack | 30 | 37 |

FRIDAY, Nov. 18.

During the past eight days we have had very dry foggy weather, with severe frosts and easterly winds. Considerable activity has prevailed in the Wheat trade in several parts of the kingdom, restricted in others by the enhanced rates insisted upon by the holders; an advance of about 2s. per qr in prices has been general, and the majority look for a further improvement. Some purchases of English Wheat have been made on the east coast and shipped to Belgium, where prices continue higher than with us. Spring Corn of all descriptions has also risen, Barley, Beans, and Peas in most markets being written 1s. and Oats 6d. dearer. Flour in several markets of the Interior is 1s. to 2s. per sack higher. The arrivals from Southern Europe this week are limited to 1 cargo of Wheat, 3 of Maize, and 1 of Barley. The few sales of cargoes off the coast include Taganrog Ghirka Wheat at 48s. to 48s. 3d. per 492 lbs.; Ibrail Maize at 31s. 6d., Mazagan at 32s. 6d., both per 480 lbs., Odessa at 32s. 6d. per 492 lbs. (part imperfect); Levant Barley at 23s. per 400 lbs.; Oats (imperfect) at 16s. 6d. and Egyptian Beans at 34s. per qr. imp. The arrivals of English and foreign Wheat and English Barley this week have been to a fair extent, large of foreign Barley, and small of Oats. To-day's market was but thinly attended. English Wheat met a fair sale at Monday's prices; the inquiry for foreign was limited, and in the business transacted our former quotations were fully supported. Barley is a steady sale at Monday's prices. Beans and Peas bring the extreme rates lately current. The Oat trade is very firm, and good fresh corn on board ship is rather dearer.

ARRIVALS FROM Nov. 14 TO Nov. 18.

| | Wheat. | Barley. | Oats. | Flour. |
|---|---|---|---|---|
| English .. | 2520 qrs. | 4070 qrs. | 140 qrs. | 2060 sks. |
| Irish .... | — ,, | — ,, | 180 ,, | — ,, |
| Foreign .. | 16090 ,, | 8760 ,, | 10010 ,, | 40 ,, / — brls. |

LIVERPOOL, Tuesday, Nov. 15.—Grain market firm. Wheat 2d., and Flour 6d. to 1s. dearer. Indian Corn and Beans very firm, at full quotations. Oats 1d. advance. Oatmeal and Barley firm.

FRIDAY, Nov. 18.—Grain market very firm, but without recent activity; Wheat selling freely at extreme rates. Flour quiet but steady. Indian Corn offering more freely, but prices maintained. Egyptian Beans retailing at 37s. 6d. Oats, Oatmeal, and Barley unaltered.

| AVERAGES | Wheat. | Barley. | Oats. | Rye. | Beans. | Peas. |
|---|---|---|---|---|---|---|
| Oct. 8.. | 42s 5d | 35s 8d | 21s 7d | 29s 10d | 39s 3d | 38s 0d |
| — 15.. | 42 6 | 35 10 | 21 3 | 29 7 | 38 9 | 39 8 |
| — 22.. | 42 10 | 35 5 | 21 2 | 29 6 | 39 2 | 37 7 |
| — 29.. | 43 1 | 35 6 | 20 11 | 30 4 | 38 9 | 38 2 |
| Nov. 5.. | 42 9 | 35 9 | 22 1 | 30 2 | 39 3 | 38 5 |
| — 12.. | 42 10 | 35 11 | 21 5 | 29 7 | 40 3 | 37 9 |
| Agg. Aver. | 42 9 | 35 8 | 21 5 | 29 10 | 39 3 | 38 4 |

FLUCTUATIONS IN THE LAST SIX WEEKS AVERAGES.

| PRICES. | Oct. 8. | Oct. 15. | Oct. 22. | Oct. 29. | Nov. 5. | Nov. 12. |
|---|---|---|---|---|---|---|
| 43s 1d | .. | .. | .. | | .. | .. |
| 42 10 | .. | .. | | .. | .. | |
| 42 9 | .. | .. | .. | .. | | .. |
| 42 6 | .. | | .. | .. | .. | .. |
| 42 5 — | | .. | .. | .. | .. | .. |
| .. | .. | .. | .. | .. | .. | .. |

METROPOLITAN CATTLE MARKET.

MONDAY, Nov. 14.

The supply of Beasts is again shorter and trade is brisk prices have consequently advanced. There are a few more Sheep than on Monday last; however, the demand has increased, and we are enabled to quote rather higher for choicest descriptions. Calves are selling about the same as on Thursday. From Germany and Holland there are 1170 Beasts, 4130 Sheep, and 59 Calves; from Scotland, 100 Beasts; from Ireland, 600; and 4130 from the northern and midland counties.

| | s | d | s | d | | s | d | s | d |
|---|---|---|---|---|---|---|---|---|---|
| Best Scots, Herefords, &c. .. | 4 | 10 | to | — | Best Long-wools . | 4 | 8 | to 5 | 0 |
| Best Short-horns | 4 | 8 | — | — | Do. Shorn .. .. | — | | — | .. |
| 2d quality Beasts | 3 | 8 | — | 4 0 | Ewes & 2d quality | 4 | 4 | — 4 | 6 |
| Best Downs and Half-breds .. | 5 | 0 | to 5 | 4 | Do. Shorn .. .. | — | | — | .. |
| Do. Shorn .. .. | — | | — | .. | Lambs .. .. | .. | | — | .. |
| | | | | | Calves .. .. | 4 | 0 | — 5 | 0 |
| | | | | | Pigs .. .. | 3 | 8 | — 4 | 8 |

Beasts, 5020; Sheep & Lambs, 28,560; Calves, 80; Pigs, 280.

THURSDAY, Nov. 18.

The number of Beasts is about an average; but choice qualities are scarce, and consequently find purchasers at fully late rates. Although the supply of sheep is very short it exceeds the demand. There is scarcely any business transacted. There is no alteration in the Calf trade. From Germany and Holland there are 210 Beasts, 97 Sheep, and 134 Calves; from the northern and midland counties, 600 Beasts; and 120 Milch Cows from the home counties.

| | s | d | s | d | | s | d | s | d |
|---|---|---|---|---|---|---|---|---|---|
| Best Scots, Herefords, &c. .. | 4 | 10 | to 5 | 0 | Best Long-wools . | 4 | 8 | to 5 | 0 |
| Best Short-horns | 4 | 8 | — 4 | 10 | Do. Shorn .. .. | — | | — | .. |
| 2d quality Beasts | 3 | 4 | — 4 | 0 | Ewes & 2d quality | 4 | 0 | — 4 | 6 |
| Best Downs and Half-breds .. | 5 | 0 | — 5 | 4 | Do. Shorn .. .. | — | | — | .. |
| Do. Shorn .. .. | — | | — | .. | Lambs .. .. | .. | | — | .. |
| | | | | | Calves .. .. | 4 | 0 | — 5 | 0 |
| | | | | | Pigs .. .. | 3 | 8 | — 5 | 0 |

Beasts, 1340; Sheep & Lambs, 4710; Calves, 202; Pigs, 170.


PARTNERSHIP.

WANTED, a well disposed active Man as PARTNER, in a well established Nursery and Seed Business, doing a first-class trade in a seaport town in the south, situated in a leading thoroughfare. The business may be greatly increased by the help of a persevering man. The Business would be parted with if preferred.—G. G., Ford's Nursery, Southampton, Hants.

WANTED, by a gentleman in the County of Oxford, an ARTICLED PUPIL. A limited number of Boarders are taken. Terms moderate.—Apply to ALPHA, Kingham, Oxon.

WANTED, A GARDENER, to look after two Cows and Pigs, and a small Greenhouse. Wages 22s. per week.—Apply to W. CLARK, Seedsman, 25, Bishopsgate Street Within, E.C.

WANTED, a respectable young MAN, age not exceeding 25, who has been accustomed to the In-door Department of a London or country Establishment.—Address Florist, E. J. Hewitt, Esq., 23, Abbey Place, St. John's Wood, London, W.

WANTED AS GARDENER, a married Man to keep a small Garden, Hothouse, Conservatory, &c. in thorough good order; with the assistance of a lad, and extra help when required.—Address Mr. C. E. FLOWER, Stratford-on-Avon.

WANTED, AS SHOPMAN in a SEED and FRUIT SHOP in a large town in the South of England.—Further particulars on application by letter, post paid, to A. B., Messrs. Charlwood & Cummins, Covent Garden, London, W.C.

WANTED, A PROPAGATOR AND FOREMAN, in the Plant Department. He will be required to have a perfect knowledge of the Propagation of all kinds of Plants under glass, as well as their Cultivation, and must also understand the Grafting of Camellias, Roses, Conifers, &c.—Apply in own handwriting only, stating terms, with references, to HORTULANUS, at Messrs. Hurst & McMullen's, 6, Leadenhall Street, London, E.C.

NURSERY PROPAGATOR.

WANTED, A PROPAGATOR, PLANT GROWER, &c., of General Trade experience. He will be required to have a perfect knowledge of the Propagation of Plants under Glass, also to understand Grafting, &c.—Apply with reference, stating age, experience, and wages expected, to J. SAMPSON, Nurseryman, &c., Pilsley, near Chesterfield.

THE WIDOW OF THE LATE PROFESSOR HENSLOW, F.R.S., L.S., &c., of King's College, London, requires a small number of BOYS between the ages of 6 and 12 to EDUCATE with her own family. Terms, from 60 Guineas per Annum.—Turnham Green, W.

WANT PLACES.—Letters to be Post Paid.

GARDENER (HEAD).—Age 37, married, without incumbrance; understands his profession in all its branches; two years' character.—Y. Z., Mr. Carter's, Seedsman, 238, High Holborn, W.C.

GARDENER (HEAD).—Single; in or out of the house; has a thorough practical knowledge of his profession. Unexceptionable testimonials.—V. O., Paradise Nursery, Holloway, London, N.

GARDENER (HEAD).—Age 28, married, one child; has a practical knowledge of his profession. Good reference.—H. C., 4, Lees Cottages, Nightingdale Lane, Clapham, Surrey, S.

GARDENER (HEAD).—Single; understands Flower and Kitchen Gardens, Greenhouses, Forcing, Vines, Grapes, and all kinds of Vegetables. Full particulars.—W. G. Dickers, Westerham, Kent.

GARDENERS (HEAD).—Two single, and one as Under Gardener or Foreman, at liberty to engage with any nobleman or gentleman requiring practical men.—A 1, the Nurseries, Saint John's, Worcester.

GARDENER (HEAD).—A Gentleman altering his establishment wishes to recommend his Head Gardener, who has lived with him four years, and thoroughly understands his profession in all its branches.—T. T., Post Office, Sydenham, Norwood, Surrey, S.

GARDENER (HEAD).—EDWARD BENNETT, Gardener at Perdiswell Hall, Worcester, would be happy to recommend a thoroughly practical Gardener (married) to a gentleman in want of such. Has lived in first-class families. Five years' unexceptionable character. No single-handed need accepted.—EDWARD BENNETT, Osberton Hall, Worksop, Notts.

GARDENER (HEAD).—Age 34, married; has had good practice and experience in the garden; takes great interest in his profession, and has been a successful Grower and Exhibitor of Plants, Flowers, and Vegetables. Good Testimonials from late employer.—T. P., 20, Frederick Street, Ramsgate, Kent.

GARDENER (HEAD).—Age 35, single; has a thorough practical knowledge of his profession in its various branches, the Forcing of Fruits, Flowers, and Vegetables, and the general routine of Kitchen and Flower Gardens, Plants, &c. Highest references.—B. B., Mr. Burdett's, Walton-upon-Thames.

GARDENER (HEAD).—HENRY MAY, Belvedere House, Wimbledon, Surrey, can with confidence recommend a Young Man (age 27, single); has a thorough knowledge of his profession, including the Culture of Pines, Vines, Cucumbers, Early and Late Forcing, Stove and Greenhouse Plants, the Management of the Flower and Kitchen Garden, &c.—Direct as above.

GARDENER.—A. KAY, The Gardens, Lillesden, Hawkhurst, Kent, is at liberty to engage with any nobleman or gentleman requiring the services of a thoroughly practical Gardener.—Address as above.

GARDENER (SINGLE-HANDED, or otherwise).—EDWARD ROSE, Gardener to the Rev. H. Palmer, Chalfont St. Giles, Bucks, will shortly be disengaged. An industrious gardener. Good references as to character, &c.—Address as above.

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## News of the Week.

THE *Times* of Monday announced that the EMPEROR OF THE FRENCH has directed M. BILLAULT, Minister of the Interior, to send to the Prefect of each department a confidential circular,

expressing regret at the exaggerated language of the French Press with regard to England; and calling attention to the fact that such language, being found in journals which usually support the Imperial Government, tends to identify that Government with attacks upon an allied and friendly Power. The Minister therefore expresses his opinion that it is desirable for the dignity of the Imperial policy and the maintenance of peace that the Prefects should use their influence with the journals to put an end to the practice. Lord COWLEY left Paris on Monday for London, and it is stated, on what is said to be reliable authority, that the object of his lordship's visit is to lay before the British Government a proposal from the French Government for a simultaneous disarmament by England and France.

The EMPEROR OF THE FRENCH has withdrawn his opposition to the nomination of the Chevalier BUONCOMPAGNI to the Regency of Central Italy; and Baron RICASOLI, President of the National Assembly of Tuscany, who had sent a deputation to Turin to protest against the appointment, has now accepted the nomination. This result has been produced by the explanations given by the Government of Sardinia, which has assured the French Cabinet that the maintenance of public order was the sole object and aim of the delegation to M. BUONCOMPAGNI, that the concentration in his hands of the Governments of Central Italy had in no manner the character of a virtual Regency; and that it was intended to reserve for the Congress the definitive settlement of the Italian Peninsula. General GARIBALDI has issued a proclamation, stating that he has retired for the present from the military service in consequence of the "miserable tortuous policy" which for the moment disturbs the "majestic march of their affairs;" but will be ready to resume his command whenever KING VICTOR EMMANUEL shall again call his soldiers to arms for the redemption of the country.

The ratification of the Treaties of Peace were exchanged at Zurich on Monday by the Plenipotentiaries of France, Austria, and Sardinia, and the Marquis DE BANNEVILLE has since arrived in Paris with the ratified treaties. On the same day M. ARMAND, the Secretary to the French Legation, delivered to the Austrian Plenipotentiary a draft at sight for two millions sterling, as the first instalment of the 10 millions to be paid to Austria for the surrender of Lombardy; the remaining eight millions being made payable in four instalments at short intervals.

The first division of the Spanish expedition against Morocco landed last week at Ceuta and proceeded to entrench itself. The Moors had already attacked both Melilla and Ceuta, but no engagement of any importance has yet taken place. The French campaign against Morocco has been brought to a satisfactory conclusion, after having lasted only 20 days, and without having passed the limits of Algeria. Its object has been limited to the chastisement of the frontier tribes, which have accepted the French conditions and given hostages for their observance.

The Bombay and China mails have arrived with news from Bombay to the 26th, and from Hong-Kong to the 13th October. The Lahore papers announce that NANA SAHIB died on the 2d October in the Dhang valley on the Nepaul frontier; but there is reason to suspect that the account of his death has been circulated by himself in the hope of preventing the winter campaign which had been determined on with the view of driving him out of Nepaul. The Chinese Government has repudiated its treaty with the United States, by refusing to open the ports of Swartow and Taiwan, as stipulated by that treaty.

## Home News.

THE COURT.—The Queen, Prince Consort, and the Royal family continue at Windsor Castle. On Friday morning the Queen, with Princess Frederick William, walked in the grounds of the castle. The Prince Consort went out shooting, accompanied by Prince Frederick William of Prussia, Prince Leiningen, and Mr. Sydney Herbert. The Marquis and Marchioness of Abercorn, the Earl and Countess of Malmesbury, Count Blucher, the Hon. Colonel and Mrs. Gordon, the Secretary for War and Mrs. Sidney Herbert left the castle. On Saturday morning the Queen and Prince Consort, accompanied by Princess Frederick William and Princess Alice, walked in the Home Park. The Prince of Wales arrived from Oxford, and the Prince and Princess Frederick William visited the Duchess of Cambridge at Kew. The Earl and Countess of Clarendon, with the Ladies Constance and Alice Villiers, and Lord and Lady Raglan, arrived on a visit. The Earl of St. Germans left the castle. On Sunday morning the Queen, Prince Consort, Prince and Princess Frederick William, the Prince of Wales, Princess Alice, Princess Helena, Princess Louisa, the Prince and Princess of Leiningen, and the visitors at the castle attended Divine Service in the private chapel; the Hon. and Rev. C. L. Courtenay preached the sermon. On Monday morning at 7 o'clock, the day being the birthday of the Princess Frederick William, the band of the 1st Life Guards played a selection of music in front of the castle. The Duchess of Kent and Prince and Princess Leiningen breakfasted with her Majesty. The Queen, with Princess Frederick William, walked in the Home Park. The Prince Consort went out shooting, accompanied by the Prince of Wales, Prince Frederick William, and the Prince of Leiningen. The Countess Blucher and Lord and Lady Raglan left the castle. The Duchess of Cambridge and Princess Mary, the Duke of Cambridge, Prince Edward of Saxe-Weimar, the Prussian Minister and Countess Bernstorff, Viscount Sydney, Viscount Valletort, and Lord and Lady Bloomfield arrived on a visit. In the evening the Queen gave a dinner party in the Waterloo Chamber, and afterwards had an evening party. On Tuesday morning the Prince Consort went out shooting, accompanied by Prince Frederick William, Prince Edward of Saxe-Weimar, and Viscount Sydney. The Prince of Wales left Windsor for Oxford. The Prussian Minister and Countess Bernstorff, the Earl and Countess Clarendon, the Ladies Constance and Alice Villiers, and Viscount Valletort left the castle. On Wednesday morning the Queen and Prince Consort, accompanied by Prince and Princess Frederick William, went to Claremont, and visited Queen Marie Amelie. In the afternoon Earl Cowley had an audience of her Majesty. The Duchess of Cambridge and Princess Mary, the Duke of Cambridge, Prince Edward of Saxe-Weimar, Viscount Sydney, and Lord and Lady Bloomfield left the castle. The Duke and Duchess of Manchester, the Duke of Newcastle and Lady Susan P. Clinton, the Earl and Countess of Derby and Lady Emma Stanley, Lord and Lady Churchill, and the Right Hon. Sir G. C. and Lady Theresa Lewis arrived on a visit. In the evening the first dramatic performance this season took place in St. George's Hall, the pieces selected being Mr. Bayle Bernard's comedy of "The Evil Genius," and Mr. Tom Taylor's comedietta, entitled "To Oblige Benson." A large party was invited to witness the performance, which was under the management of Mr. George Ellis, directed by Mr. W. B. Donne, her Majesty's Examiner of Plays. On Thursday morning the Queen accompanied by Princess Alice walked in the Home Park, and visited the Duchess of Kent at Frogmore. The Prince Consort, with Prince and Princess Frederick William, came to town by a special train of the South-Western Railway, and drove from the private station, Vauxhall, to the Westminster Palace. The Prince Consort afterwards went to Marlborough House. Prince Frederick William visited Merchant Taylors' Hall in the city. In the afternoon the Royal party met at the private station and returned to the castle. —On the 5th of the ensuing month her Majesty and the Prince Consort, accompanied by the Prince and Princess Frederick William and the junior members of the Royal family, will leave the castle for Osborne. The Court will remain there until the 24th, when her Majesty will return to Windsor for the Christmas holidays.

THE PRINCE OF WALES left Oxford on Saturday for Windsor Castle to be present at the celebration of the birthday of the Princess Frederick William on Monday. His Royal Highness returned to Oxford on Tuesday.

PRINCE ALFRED.—The Euryalus, with Prince Alfred on board, arrived at the Pirœus of Athens on the 10th inst. It is said that his Royal Highness will not visit Constantinople, but will return to Malta about Christmas, and probably come to England.

THE CABINET.—A Cabinet Council was held on Thursday at the official residence of the First Lord of the Treasury in Downing Street.

THE BISHOPRIC OF SIERRA LEONE, after having been vacant nearly six months, has been conferred upon the Rev. E. H. Beckles, for many years rector of St. Peter's, St. Christopher's, in the diocese of Antigua. Mr. Beckles's views are Evangelical, and in matters of ecclesiastical discipline he is said to incline to the Low Church party.

PARLIAMENTARY MOVEMENTS.—The election for the seat at Whitby vacant by the death of Mr. R. Stephenson has terminated in the return of Mr. H. B. Thompson, the Liberal candidate, by a majority of 39 over Mr. Chapman, the numbers being 229 to 190.

THE ARMY.—It is understood that the Government have decided on making a considerable increase in the army by the formation of second battalions to each of the regiments up to and including the 35th Regiment, by which an increase equivalent to 11 regiments will be obtained. The first batch of 800 disaffected troops from the Bengal Artillery, who have been discharged at their own request after having served the allotted term of 12 years, having arrived at Gravesend, Capt. and Adjt. Byrne, belonging to the Depôt Brigade of Royal Artillery, and a party of 10 non-commissioned officers of the corps at Woolwich, have been sent down with instructions to re-enlist and bring up to head-quarters any number of the men who are disposed to join.

THE DISEMBODIED MILITIA.—A circular has been addressed by Mr. Sidney Herbert to the officers commanding disembodied regiments of militia stating that it has been determined to supply those regiments with Enfield rifles of the 1853 pattern, and that the musketry instruction of the permanent staff is to be proceeded with as soon as the qualified instructors shall return from Hythe, in order that the system may be commenced for the whole regiment at the next annual training. The circular gives minute instructions as to the forms to be observed in obtaining supplies of the new arms.

THE VOLUNTEER CORPS.—On Wednesday afternoon the enrolled members, upwards of 200 in number, of the Volunteer Rifle Corps now in course of formation among the members of the Inns of Court, met together in the Lords Justices' Court at Lincoln's Inn, for the purpose of electing their permanent managing committee, and of making the necessary arrangements for commencing drill forthwith. Mr. Selwyn, M.P., acted as chairman, and a considerable number of the members of the bar of note and standing were present. The working committee, elected by the enrolled members and subscribers by means of voting papers, were Sir Hugh Cairns, M.P., Mr. Selwyn, M.P., Mr. Kenyon Parker, Q.C., Mr. Rodwell, Q.C., Mr. J. W. Chitty, the Hon. Adolphus Liddell, Mr. Leigh Pemberton, and Mr. Lonsdale—the four first being subscribers, and the last four enrolled members of the corps. Mr. Bacon, Q.C., and Mr. Macaulay, Q.C., were appointed treasurers, and Mr. J. H. Patteson and Mr. A. Bailey, honorary secretaries. The selection of a site for practising shooting was on the motion of Mr. Phinn, Q.C., seconded by Mr. Whateley, Q.C., left to the decision of the managing committee. On this point some discussion arose, in the course of which it was stated that the Provisional Committee considered that the ground at Sheen Common united in itself the most advantages, but the Chairman promised that if any 14 members could fix on a particular place and a particular hour most convenient to them for drill, the services of a drill sergeant should be assigned to them. The consideration of the choice of a uniform was deferred for the present, in order that the members and subscribers might devote their attention to the question. A member of the Chancery bar, who is one of the Highgate Volunteers, appeared at the meeting in the uniform of that corps, which, consisting principally of a dark gray tunic, relieved by no other colour calculated to catch the eye, seems to possess all the invisibility desirable in the costume of a rifleman. The question of the choice of officers underwent some discussion, and Mr. Phinn, Q.C., moved that the commissioned officers of the corps should be selected from among gentlemen who had served either in the army or in the Marines. The motion met with some opposition, but was eventually carried on a show of hands. A company of barristers is forming in the Temple, with a view to join the South Middlesex corps, on account of the head-quarters at Beaufort House, Walham Green, being within such an easy and convenient distance. The London Scottish Corps having proved completely successful, measures have been taken for the formation of a rifle brigade to consist of Irishmen resident in London, under the title of "The London Irish Volunteer Rifle Corps." In order to render the organisation thoroughly effective, communications have been addressed to the Irish nobility and gentry resident in the metropolis, without reference to political opinions or creed, and the replies already received are of the most favourable character. The Marquis of Donegal, the Earl of Lucan, and other Irish noblemen have consented to act on the committee, and there is no doubt that the corps will be an exceedingly efficient body in a very short period. A circular has been sent from the Audit Office to the various public offices in London with a view to the formation of a "Civil Service Rifle Brigade." The invitation has been highly successful. Several companies are forming in the large departments, while the Audit Office company is receiving a great accession of numbers from the smaller establishments. The brigade, which will be identified entirely with the Civil Service, and be quite distinct from any other corps, promises to be one of the most important in course of formation. The London Brigade is progressing with such success that more than 700 gentlemen have applied for enrolment, and the number is increasing daily. The Corporation have voted 100 guineas in favour of the brigade, and several of the City companies have made liberal contributions. At a special Court of Lieutenancy on Thursday, Alderman Rose and Alderman Allen, with five other gentlemen, were in accordance with a report from the Council unanimously nominated Captains. Mr. Thomas Davies Sewell, Mr. John Carter, son of the Lord Mayor, and four other gentlemen were nominated Lieutenants; and there were also several nominations as Ensigns. The nominations for full Colonel and Major, as well as that of Lieut.-Colonel, were left open for the present, the Court considering in regard to the latter that Captain Hicks, who had been recommended for it, being at present governor of a City gaol, must obtain the consent of the Court of Aldermen and Sheriffs before the recommendation can be confirmed. It was stated to the Court that the Council had made an

application for the use of the Artillery Ground in Finsbury for the purposes of drill, the present drill-ground of the brigade at Sion College having become too small in consequence of the great accession of new members, but the Artillery Company had refused their permission. After some discussion it was finally arranged that the Council should make an official application to the Court, in order that the Commissioners of Lieutenancy might forward it officially to the Artillery Company, and in the event of this application failing that application should be made to Prince Albert as Colonel of the Artillery Company. For the convenience of members attending the night drills the Lord Mayor has given directions that the Guildhall shall be prepared for the drill and suitably lighted. A general meeting of the entire body of the effective and non-effective members of the Marylebone Volunteer Rifle Corps has been held in the Pavilion of the Lord's Cricket-ground, for the purpose of electing a council and vice-presidents of the brigade. Lord Radstock, President and Captain of the Corps presided, and announced amidst loud cheers that General Hay, who had been mainly instrumental in urging the Government to aid this movement, as well as Lord Elcho and Sir C. Rowley, had consented to join them. It was then unanimously resolved that Sir J. J. Hamilton, Mr. Raikes Currie, Mr. F. H. Bridgman, Sir John Anson, Mr. H. Dark, and Sir Gardner Wilkinson be elected the Council; and that Major-General Hay, Lord Elcho, Lieut.-Col. Wood, Sir Charles Rowley, Colonel Burlton, C.B., Sir Charles J. J. Hamilton, C.B., Mr. Thompson Hankey, M.P., Mr. Keith Barnes, Mr. W. S. Burton, Mr. Peter Graham, Mr. Thomas Little, Mr. John Bentley, Mr. W. Debenham, Mr. Octavius Wigram, Mr. Richard B. Wade, and Mr. D. E. Cameron be elected the Vice-Presidents of the Marylebone Corps. The Horse Guards have approved of the site for a butt and practice ground for the corps at Wormwood Scrubs, and the Secretary for War has given his sanction to the arrangement. An important meeting of the magistrates, burgesses, and other principal inhabitants of the city of Westminster, convened by the Lord Lieutenant, was held at the Guildhall on Wednesday for the formation of a volunteer rifle corps for the City of Westminster. Mr. Miller, M.P., as Deputy Lieutenant, officiated as chairman, and among the gentlemen present were the Dean of Westminster, Lord Ranelagh, Mr. Baron Bramwell, Sir John Scott Lilly, Mr. Antrobus, Mr. John Lettsom Elliott, Mr. Carter Wood, Mr. Anderson Rose, and Mr. Twining. At a previous meeting, held in the same place, a resolution had been adopted for the immediate formation of a volunteer corps, and a provisional committee had been appointed to make the necessary arrangements, one of which was to invite the co-operation of the inhabitants of the nine parishes composing the city of Westminster in carrying out the proposed object. The result of that invitation, as stated on Wednesday, was that seven out of the nine parishes had sent three delegates each to represent them. The parish of St. James, another of the nine, had convened a meeting for the election of representatives, and St. George's, the remaining parish, had already formed a volunteer corps of its own. It was stated in the course of the proceedings that the Duke of Northumberland had contributed 200*l.* towards the expenses incidental to the establishment of a corps for the parish of St. Martin's-in-the-Fields, of which his Grace is a parishioner; and that at all the parochial meetings, the subject had been entertained with great enthusiasm, and subscriptions opened for defraying the expenses of embodying the corps. At the meeting in St. Paul's, Covent Garden, the suggestion that a united effort should be made among the several parishes of Westminster was cordially adopted, and a committee appointed to co-operate with delegates from the rest of the parishes with that view. At St. Mary-le-Strand it was resolved not only that a corps should be formed in the parish, but also that one should be formed in King's College under the sanction of the Principal and College authorities, to be amalgamated with the City of Westminster Corps. The gentlemen of the Metropolitan Termini of Railways and the Railway Clearing House have formed themselves into a corps, under the denomination of "The Railway Rifles," and upwards of 100 have enrolled themselves members. Several drills have already taken place in the open ground at the Metropolitan Cattle Market, which has been lent by the Markets Improvement Committee. The 1st Middlesex (Victoria Rifles) assembled at Kilburn on Saturday, and, after being formed into four companies, marched to Hampstead Heath, preceded by the band of the 1st Surrey Militia. The corps then proceeded to the St. John's Wood Barracks, the riding school of which has been lit with gas at the Government expense for the accommodation of the corps during the winter months. The South Middlesex holds its meetings at the ground recently obtained by Lord Ranelagh for the corps at Walham Green. The officers of the 1st Company of the North London have received their commissions, and the enrolment of members is steadily progressing at Myddelton Hall, Islington, every evening. The Hornsey corps, enrolled as the 13th Middlesex, is drilled twice a week at Crouch End. The Scottish Central continues to make rapid progress with its drills in Westminster Hall, under the tuition of three sergeants of the Scots Fusilier Guards. The formation of a rifle and artillery corps in the neighbourhood of the Victoria docks has commenced, and it is proposed to raise 100 riflemen and 50 artillerymen. At a public meeting held at Bermondsey in compliance with a requisition signed by the principal inhabitants, it has been resolved to form a corps for that and the adjoining parishes on the Surrey side of the Thames. The Richmond corps has received such an accession of volunteers that it will soon have sufficient members to be enrolled as a company instead of a subdivision. At a crowded meeting held at Clapham it has been resolved to form a corps for the district of Clapham, Battersea, Wandsworth, and its neighbourhood, in connexion with the 1st Surrey. The 5th Surrey has selected Wimbledon Common for its evolutions, and the 6th Surrey has adopted two exercising grounds—one at West End Common, commanding a range of upwards of 1000 yards; and another at Fox Warren, the seat of Mr. Charles Buxton, M.P., for the convenience of the residents of Weybridge, Rytleet, and Cobham. —In the provinces and in Scotland the movement is also advancing with great rapidity. A great meeting was held in the City Hall at Glasgow on Wednesday evening, in compliance with a requisition addressed to the Lord Provost, "to consider the best means of promoting and encouraging the volunteer movement in Glasgow." The hall was densely crowded in every corner, and the demonstration was of the most enthusiastic and successful character, the volunteers in uniform, to the amount of between 700 and 800, occupying the galleries—a magnificent body of young men. The meeting was addressed at great length by Sir Archibald Alison, Sheriff Bell, Mr. Lawrence Oliphant, Sir James Campbell, and other gentlemen, and resolutions for extending the organisation of volunteer corps over the country, and raising subscriptions for their support, were carried by acclamation. In addition to the cities and towns mentioned in previous numbers of our Paper, the following towns and districts have held meetings for the formation of corps, those on the coast adopting either artillery alone, or artillery and rifles combined:—Altrincham, Ashbourne, Ashton-under-Lyne, Aberdeen, Annan, Arbroath, Bolton, Bromyard, Bewdley, Bala, Bridlington, Burnley, Barnsley, Braintree, Brecon, Burntisland, Brierley Hill, Burslem, Bilston, Chippenham, Carlisle, Chepstow, Dudley, Dunfermline, Derby, Dedham, Dolgelly, Dundee, Dumfries, Epsom, Forfar, Greenock, Glencairn, Harrowgate, Howden, Hartlepool, Hanley, Halesowen, Hastings, Harleston, Haddington, Havant, Keynsham, Kinver, Kingswinford, Kingston-on-Thames, Kingham, Kidderminster, Loddon, Ledburn, Liskeard, Launceston, Lymington, Manchester, Malton, Merthyr, Montrose, Macclesfield, Newton-Stewart, Newark, Newport, Oldbury, Poole, Reigate, Rowley Regis, Ross, Ryde, St. Leonard's, Sudbury, Stirling, Stockton-on-Tees, Southampton, Sandwich, Sunderland, Silverton, Sanquhar, Trowbridge, Tunstall, Tipton, Wareham, Wordsey, Walsall, Warwick, Wavertree, Wallasey, Wrexham, Wigan, Worcester.

## Foreign.

FRANCE.—The following is an abstract of a letter from the Paris correspondent of the *Times* respecting a circular which has, it says, been issued to all the Prefects of France, with the view of obviating the effect produced in England by the violent language of a considerable portion of the French press:—

"A confidential communication of an important nature has been addressed by the Minister of the Interior, M. Billault, to all the Prefects in France, in which the Minister expresses his regret that such exaggerated language should be used when speaking of the English people, as well by reason of the disquietude which it must excite among them, as that it tends to destroy the confidence and embitter the feelings of those of whose opinions the English press is the channel. The Prefects are reminded how much greater that unpleasant effect must be when this violent language is employed by journals usually supporting the policy of the Imperial Government and which is made responsible abroad for these excesses. The Prefects are therefore instructed to request the journals in question to be more circumspect; and, while they are at liberty to refute errors, protest against injustice and calumny, and defend energetically the rights of the country, they might easily avoid offending the susceptibilities of a great people, and rather promote friendly relations between the two countries. By pursuing this line of conduct the Minister is of opinion that the dignity of the Imperial policy may be reconciled with the interests of the alliances of France and the maintenance of peace, and with this view the Prefects are requested to use their influence with the press, and with public opinion. The Prefects are requested to communicate their views on this subject, in a confidential manner, to those journals which usually support the Government, and not to interfere with the others unless in cases where their exaggeration tends too manifestly to counteract the wishes of the Government on this point."

Lord Cowley left Paris on Monday for London, and it is stated on reliable authority, that the object of his lordship's visit is to lay before the British Government a proposal from the French Government for a simultaneous disarmament by England and France. The following paragraph was lithographed and sent to all the departments of France on Thursday:—

"The Emperor is said to have charged Lord Cowley to assure her Britannic Majesty that his fidelity to the alliance remains intact; that he has proved his sentiments by his acts; and that if England is willing he is ready to promote a general disarmament in Europe. The impression made here by this news is excellent; it will not be less well received in the departments, where the desire for peace is always more strongly marked than in Paris. We are assured that in the course of the conversation which preceded Lord Cowley's departure for London, the Emperor said to him, 'France has need of England to settle the Italian question, and England has need of France to bring the Chinese affair to an end.'"

The official organs of the French Government announce that the Imperial Government has withdrawn its opposition to the appointment of M. Buoncompagni to the Regency of Central Italy, the explanations of the Sardinian Government having satisfied it that the object of the Regency is to maintain order until the Congress shall definitively settle the affairs of the Italian peninsula. The *Moniteur* of Wednesday publishes the following statement on the subject, at the same time reminding the public that it is the only political organ of the Government:—

"The French Government, believing that the acceptance of the Regency of Central Italy by M. Buoncompagni would prejudice the questions which will be submitted to the approaching Congress, had looked upon the adoption of the above measure with regret. This impression is now modified by the explanations given by the Government of Sardinia which declares that the maintenance of public order was the sole object and only aim of the above delegation to M. Buoncompagni, and that the concentration in his hands of the Government of Central Italy had in no manner the character of a virtual Regency."

The *Moniteur* announces that the Plenipotentiaries of France, Austria, and Sardinia exchanged on Monday at Zurich the ratifications of the treaties of the 10th of November, and the Marquis de Banneville arrived in Paris on Thursday from Zurich with the ratified treaties. On the day when the ratifications were exchanged M. Armand delivered to the Austrian Plenipotentiary a draught at sight for 20,000,000*fl.* The remaining 80,000,000*fl.* will be paid by four instalments, at short intervals. The *Moniteur* contains a decree to insure the execution of that clause of the treaty of Zurich wherein the giving up of the Austrian vessels captured during the late war, but not yet adjudged as prizes, is stipulated. No formal invitation to take part in the Congress which is to be held on the 15th of December next has yet been addressed by France to England, but Count de Persigny has been instructed to arrange the preliminary conditions with Lord John Russell. The formal and official invitations will be sent to the different Powers from the Cabinets of Vienna and Paris simultaneously. The notes containing the invitation will not be identical, but Austria will propose that the Congress shall assemble in Paris, while France will abstain from indicating any place. Prince Metternich has already delivered to Count Walewski the letters from the Austrian Government, and these invitations will be delivered by the French couriers conveying similar invitations from the French Government. The delay in the delivery of these documents is attributed to some objections on the part of Austria respecting the nomination of M. Buoncompagni to the Regency, while it is asserted in other quarters that an objection made by Russia has caused the delay. Sir F. G. Moon, Bart., Sir J. Duke, Bart., and Alderman Salomons, all three formerly Lord Mayors of London; Alderman Sir Henry Muggeridge, Sir C. Crosley, ex-Sheriff, Mr. Thomas Weguelin, Mr. Thomas Dent, Mr. William Gladstone, Mr. John Distin Powles, Mr. Matthew Uzielli, and Sir William Topham, Lieutenant of the Corps of Gentlemen-at-Arms, have been nominated by the Emperor Chevaliers of the Legion of Honour. The French campaign against Morocco may be considered as concluded, after having lasted no more than 20 days. Its object has been limited to the chastisement of the frontier tribes, without the French expeditionary columns having passed the limits of Algeria. A despatch from General Martimprey, dated Isly, 9th inst., states that, after an immense razzia undertaken against the Maias and the Angades, Benigal and Si-Hamza have been taken by surprise by the commander of the French troops. The French conditions have been accepted and hostages surrendered. The expeditionary force was to recross the frontiers on the 11th inst., and was then to be broken up.

SPAIN AND MOROCCO.—Accounts from Madrid of the 21st inst. state that the embarkation of the 1st division commenced on the 18th at Algesiras, and was completed in the course of the night. The first portion of the division, under General Echague, landed at Ceuta, and immediately proceeded to intrench itself at a spot called El Serrallo. At first the Moors offered some resistance, but they soon fled. The embarkation of the 2d division has since commenced. Most of the Madrid journals contain articles blaming the Government with great severity for the concessions which the recently published correspondence with England about Morocco shows that it has made to that Power, in promising not to make any conquest on the coast of the Straits of Gibraltar. The latest news states that the Moors were attacking Melilla, as well as Ceuta, and that the commerce of Gibraltar was suffering from the interruption of relations with Africa. Mr. Drummond Hay, the English Consul-General, was at Tangiers, and was having frequent conferences with Kaïd, the Moorish Minister of Foreign Affairs. A duel with swords took place at Madrid a few days since between M. San Miguel, director of the theatre del Principe (nephew of the Duke), and Mario the singer, in which both were slightly wounded. The cause of the duel was the affront recently offered to Grisi at the Madrid Opera House.

HESSE CASSEL.—The Second Chamber on Thursday, by a vote of 32 against 8, resolved upon addressing a memorial to the Federal Diet for the re-establishment of the Constitution of 1831.

FRANKFORT.—In the sitting of the Federal Diet of Thursday, the Plenipotentiary of Hesse Electoral acceded to the proposals of the committee, and granted some concessions in reference to the wishes of the Chambers, but persevered in maintaining the Constitution of 1852.

DENMARK.—A Council of Ministers was held on Monday at Copenhagen, at which it was resolved that

the President of the Cabinet should tender to the King the resignation of the whole Ministry. M. Cottwitt has been summoned by his Majesty to form a new Administration.

BAVARIA.—A Conference of the Ministers of the States of second rank, and also of the minor States of Germany, was opened on the 23d inst. at Wurzburg, on the invitation of Bavaria, in order to come to some agreement about the pending questions of German policy. The Governments of Bavaria, Saxony, Wurtemburg, Hesse Electoral, Hesse Darmstadt, Schwerin, Nassau, Saxe-Meiningen, and Saxe-Altenburg are taking part in these Conferences. The principal questions under consideration are—the settlement of the right of domicile, the establishment of federal courts of justice, the national demonstration in favour of unity, reform of the federal laws relating to the army, the Hesse electoral and Holstein questions, and regulations for an uniform system of weights and measures for all Germany.

HAMBURGH.—At the elections of Burgesses, which took place on the 18th inst., neither the Conservative party nor the party of the Guilds succeeded in bringing in their candidates. The chief leaders of the moderate Liberal party were beaten by the leaders of the extreme Liberals.

PRUSSIA.—The health of the King of Prussia has so far improved, that his medical attendants have advised his Majesty to remove to the Isle of Wight. It is believed that this advice will be followed. Count Pourtales, Prussian Ambassador, has returned to Paris, and visited the Emperor and Empress at Compiègne. It is stated that his Excellency is instructed to give to the French Government authentic explanations of the late interview between the Prince Regent of Prussia and the Emperor of Russia.

MALTA.—Letters from Malta of the 15th inst. report a slight shock of earthquake on the day preceding, attended by a loud rumbling noise. There was little wind at the time, although it had been blowing for 48 hours previous very heavily from the northward and eastward. It had rained all day on the 14th, after unusually dry weather and great heat.

AUSTRIA.—An Imperial autograph letter orders the Ministers to grant a full amnesty to all persons compromised by the part they have taken in Italian affairs. This amnesty will apply to civil as well as to military persons, and criminal offences of no political character are to be excepted. The Reformation festival was celebrated at Vienna on the 15th, in the three evangelical churches in a very solemn and impressive manner. Among those present were the Minister of State, Baron Bruck, with several other Government officials, and many generals and high staff officers, the representatives of several foreign embassies, and a considerable attendance of the public, among whom were numbers of students from the academies. Luther's famous hymn, "Eine feste Burg ist unser Gott" ("Our God is a strong castle"), was sung with great devotional feeling.

RUSSIA.—A despatch from Nice announces that the Empress-Mother of Russia is very seriously indisposed.

ITALY.—A deputation from Tuscany, consisting of Signor Galleotti, Signor Coppi, and Signor Febrizzi, sent by the Baron Ricasoli, President of the National Assembly, to protest against the regency of M. Buoncompagni, arrived last week in Turin. The deputation was not received by the King, but the Prince de Carignan received them in a private audience. It appears that their objections were removed on being assured by the Sardinian Government that the Regency was only a temporary arrangement for the preservation of order in Central Italy, and subject to the decision of the Congress. For this reason the French Government has also withdrawn its opposition, but it is said that Austria, through the medium of Prince de Metternich, has protested against the nomination of a Regent as being contrary to the conditions of the treaties of Zurich. Great exertions are making by the Piedmontese Government to maintain tranquillity in Tuscany, Parma, Modena, and the Romagna. Chevalier Buoncompagni has left Turin for Parma and Modena, to assume the Regency. The 2d regiment of the Bolognese Brigade has taken the oath to the King of Sardinia, and received its colours amid the applause of the populace. The uniform of the brigade is the same as that of the Piedmontese army. Garibaldi has sent in his resignation as one of the generals of the army of Central Italy, and is about to retire to the island of Sardinia. He has issued the following proclamation to the Italians:—

"As underhand machinations were continually impeding the freedom of action attached to the rank I occupy in the Army of Central Italy, and which I made use of in the endeavour to attain the object which every good Italian has in view, I leave for the moment the military service. On the day when Victor Emmanuel shall again call his soldiers to arms for the redemption of the country I will again find a weapon of some sort, and a place by the side of my valiant companions. The miserable tortuous policy which for a moment disturbs the majestic march of our affairs must convince us that it is necessary for us to draw close round the valorous and loyal soldier of independence, incapable of retrograding in his sublime and generous path, and that we ought now, more than ever, to prepare gold and steel, so as to be able to meet those who should endeavour to plunge us back again into the miseries of the past."

He left Nice on Monday for Genoa. Before his departure he addressed the inhabitants of Nice, and said,—'I shall be ready to resume my command when necessary. Let us be united under Victor Emmanuel; let us continue under arms as long as an inch of Italian soil remains oppressed.' The official journal of Naples announces that M. Paulin Talabot is expected in that city in order to consult with Messrs. Rothschild and Blount concerning the line and works of the railway from Naples to Tarento, of which M. Talabot is the founder.

GREECE.—The sixth Legislative session of the Greek Chambers was opened on the 10th inst. by King Otho. After stating that Greece was at peace with all foreign Powers, his Majesty said:—

"Gentlemen, Deputies, and Senators.—You are aware that my Government, always anxious to fulfil its engagements towards the Powers who guaranteed the loan, has proposed to them to make a final settlement of the affair according to the resources of the State. They have claimed, for the present, an annual payment of 900,000f., convinced that the payment of that sum will not create any embarrassment to the public service. My Government will ask from you the grants necessary to cover this sum, and will follow up the negotiations relative to the final settlement of this question—a settlement which is indispensable to the consolidation of public credit and a healthy system of our finances. I entertain the hope that the kindness always shown to Greece by the protecting Powers will facilitate the result of this negotiation."

TUNIS.—Advices from Tunis to the 15th inst. state that the new Bey is about to send an Ambassador Extraordinary to Constantinople to demand a religious investiture from the Sultan.

TURKEY.—Advices from Constantinople to the 16th inst. state that tremendous tempests have prevailed of late, and many shipwrecks have taken place in the Black Sea, especially on the coast of Roumelia. Kiamil Pacha, President of the High Court of Justice, has been suspended, and Saffetti Pacha, late Minister of Religious Institutions, has been appointed his successor. Circassian emigrants continue to arrive in large numbers and 700 of them have been sent to the island of Rhodes. The editor of the *Presse d'Orient* has received permission again to publish that paper, but under certain conditions.

INDIA.—The Bombay mail has arrived with news to the 26th October. The following are the details:—

*Beyt.*—The fortress of Beyt was not stormed, as at first announced, but was evacuated by its garrison on the night of the 6th ult, the attempt to carry it during the day having failed, from the breach being impracticable, and the scaling-ladders too short. The force arrived off the island on the morning of the 3d. On the 4th the boats, under the command of Lieut. Chitty, cut out the native craft lying in shore, and the squadron came into position on the south side of the fort. The bombardment began on the morning of the 5th within 800 yards of the fort, and lasted throughout the day; the Feroze, Victoria, Zenobia, Clyde, and Constance between them pouring in a terrific storm of shot and shell. A breach was declared practicable the next morning, and the storming party, consisting of detachments of the Royal Artillery, Sappers and Miners, her Majesty's 28th Foot, Marine Battalion, and 6th Native Infantry, landed under cover of the guns, about 2 o'clock. No casualty occurred in landing, although the enemy kept up a brisk fire of musketry upon the troops. But the breach was found impracticable, and the scaling ladders useless, from the height of the walls. The men of the 28th and the 6th Native Infantry were consequently exposed to a galling fire of musketry from the walls, which had been extensively loophooled for the purpose. The face of the wall which had been destroyed by the bombardment was protected with a *chevaux-de-frise* of prickly pear, and it was therefore resolved to withdraw the troops, and recommence the bombardment. At this juncture a white flag was hung out from the fort, and a well-known native shopkeeper of Bombay, who has been unlucky enough to fall into the Wagheers' hands, was seen approaching as an ambassador. He came from the garrison with an offer to surrender the fort, on condition of their being transported with their arms across the Gulf to Mandavee. Colonel Donovan replied that he would treat only with the chief in person. The chief then came out and repeated the former proposal. He was told that upon laying down their arms the garrison would be allowed to leave the fort without molestation, and, not approving the stipulation, the chief returned to the fort. The flag was hauled down, and the firing recommenced, and soon after dark the enemy is supposed to have evacuated the place. On taking possession the next day it was a marvel to the observer that the garrison had so long sustained the terrible fire poured into the place. The body of the chief, who must have fallen soon after the recommencement of hostilities, was found amid heaps of dead. The fort is said to be amazingly strong; the walls are earthwork of from 18 to 40 feet thick, and 30 to 40 feet high. A somewhat serious question has arisen out of the demolition of Beyt. It contains celebrated temples, rich temples, and bejewelled gods. When the place was taken, this treasure was looked upon as fair loot, and both private and public plunder was acquired by the sackful. Moreover, when the walls were blown up the temples were unavoidably destroyed, being within the warlike enclosure. The consequence has been a great outcry from the Hindoo community, not of Bombay only, but all over Western India. "You have desecrated and destroyed our temples, stolen our gods, and we won't light up at the great festival of the Dewali." They have applied to Lord Elphinstone, who has told them that all the public loot shall be returned, but that what the soldiers pocketed is gone beyond recall.

*Cawnpore.*—Lord Canning arrived at Allahabad on the 14th Oct., and after a stay of a few hours went on to Cawnpore. The object of the journey is said to be "the recognition of many of the new tenures in Oude, the reception of native Princes of the Punjab and others, his direct intercourse with those who loyally lent their aid to uphold the British power, and the personal acknowledgment of these services, and for inspecting Delhi and Oude." Every chief of note is commanded to appear before the Governor-General and Commander-in-Chief.

*Lucknow.*—Rajah Jeyloll Singh was hung on the 1st ult., and Bundeh Hussein and Futteh Ali on the 12th. They were all deeply implicated in the massacre of our captive countrymen, and were executed at the scene of the massacre. Rajah Jeyloll Singh offered to pay any amount—from a lac upwards—for a commutation of his sentence. The ex-King of Oude is said to have accepted a pension of 12 lacs (120,000*l.*), and relinquished all claims on Oude.

*Nepaul.*—A postscript to the *Lahore Chronicle* of Oct. 13 says that it has received from its Oude correspondent the important news that Nana Sahib died in the Dhang valley in the Nepaul frontier on the 2d Oct., and that his followers had all dispersed in several gangs. There is however reason to doubt the truth of the statement, as it is not corroborated by the Oude papers of later date. A letter from Allahabad of Oct. 16, says that it was there believed that the handbill announcing his death had been printed by the Nana himself, in order to prevent the winter campaigns, which would be sure to *puckerow* him; for, once driven out of Nepaul, he has no place to retreat on except Tartary, and at this season of the year it would be impossible for him to cross the high plateaus of the snowy range. Banee Madho of Byswarrah is very unwell, and it is apprehended he will not survive long.

*Bombay.*—On the 11th ult. a great native meeting was held, at which a petition to Parliament from the native community was signed by 2500 persons, and by as many more on the day of the mail's leaving. One of the chief points in the petition was the offer to raise 6,000,000*l.* sterling for the relief of Government, only stipulating that they should be allowed to raise the sum in their own way. It is a "continuous" tax which the natives dread.

*Calcutta.*—Only 50 out of 1000 of the discharged Europeans at and near Calcutta have accepted bounty for China. By an order of the 21st October, two years' service are to be granted to those men of the local army who have not taken their discharge, and are to be permitted to enlist for China; they will receive a bounty of 50 r. on condition that they enlist for 3 years. Radical changes are looked for on Mr. Wilson's arrival, including the abolition of the Supreme Council, and a Government of Secretaries for the Civil, Military, and Marine Departments.

CHINA AND JAPAN.—The following telegrams have been received in anticipation of the China mail of the 13th October:—

*Hong Kong.*—The Peninsular and Oriental Company's steamer Canton has been lost in a gale off Macao. The crew were saved. The Governor has refused to revise the sentence passed on Mr. Tarrant.

*Shanghai.*—The Chinese Government has repudiated its treaty with the United States by refusing to open the ports of Swatow and Taiwan, as stipulated by that treaty. Admiral Hope was so far recovered from his wounds as to be able to walk, and had arrived at Shanghai on a visit to Mr. Bruce. Officers have been employed in surveying the coast at the mouth of the Peiho, and have found a favourable position for the landing of troops, by which the forts may be taken in the rear, and obviate the necessity of forcing the river's mouth. A report was prevalent in Shanghai that the Chinese were engaged in razing some of the forts at the entrance to the Peiho.

*Jeddo.*—The affairs in Japan remain still unsettled. A change of Ministry favourable to foreigners is daily expected. A Russian officer, Marifat, and one of his crew, have been murdered by the Japanese. Atonement for this outrage has been demanded by the Russian Ambassador, and has been granted by the Government. The dollar question has not yet been decided.

*Java.*—The Governor-General is seriously ill, and it is urged that he should be relieved. The expeditionary force to Bali was to leave in October. Her Majesty's ship Esk, Captain Sir Robert Maclure, is in dock at Onrust.

UNITED STATES.—A despatch of the 11th, from Washington, says that the Government had received important despatches from the English Government relative to the San Juan difficulty, expressing an earnest desire to settle the question; the details proposed had not been made known, but it was believed that there was no longer danger of any serious difficulty between the two countries. The approaching Presidential election is the great topic of interest in all parts of the Union, and fears are entertained that the question of slavery may at length lead to a split between the Northern and Southern States. Cook and the other prisoners convicted of being implicated in the rising at Harper's Ferry had been sentenced to death at Charleston.

WEST INDIES.—The Tasmanian mail steamer arrived at Southampton on Wednesday with 132,613*l.* in specie. She was six days overdue, having been obliged to put back to repair damage in her steam apparatus. Yellow fever has raged very badly on board during her voyage. 51 cases having occurred, of which 11 were fatal. There has been no new case for the last 14 days. Of those who were left in hospital at St. Thomas by the last homeward steamer, La Plata, Mr. Bushby has died. Messrs. Clapperton, Elridge, and Stiles are recovered.

PERU.—A terrible earthquake has occurred at Copiapo, by which more than one half of the town has been destroyed, causing a great loss of life. The shock was sensibly felt at Caldera, where the sea receded 23 feet in the harbour, and ships swayed to and fro as if in a heavy sea. The Caldera and Copiapo Railroad suffered considerable damage, in consequence of which no trains could pass over it. The Chilian Minister at Peru was murdered on the night of the 15th of October at Chorillas. This is the second foreign Minister who has been assassinated in Peru within the last 18 months.

CHILI. — Accounts from Chili by the Tasmanian announce the assassination of General Vidaurre Leal, Intendente of Valparaiso, on the 18th of September, the anniversary of Chilian Independence. It appears that during the celebration of a high mass in the principal church, at which the General and an immense concourse of citizens were present, some of the populace attempted to possess themselves of the arms of the National Guard, who had drawn out in the square in front of the church. A riot ensued, shots were fired, and the General left the church for the purpose of restoring order; but had scarcely descended the steps when he fell mortally wounded by one of the insurgents' balls.

## Public Address.

COLONEL WILFORD, Assistant Commandant and Chief Instructor of the Government School of Musketry at Hythe, delivered an interesting lecture in the theatre of the United Service Institution, on Monday evening, on rifles and rifle practice, of which the following is an abstract:—

"The rifle was first used at a target practice at Hamburgh in 1498. It was then employed by the German Jägers, who carried them for the destruction of game that required to be shot by ball. The Austrians did not at first train riflemen, but they found them ready made to their hands among the Jägers. Frederick the Great, in order to meet the Austrian army on equal terms, was obliged to employ riflemen. They remained unknown among English troops until the necessity for them was called forth by the war of American independence. It is contended that we owed our defeat in North America not to our want of discipline, or to any deficiency of the courage which has gained us so high a name in other countries, but solely to the superiority of the early training of the young America. The rifle was necessary to the existence of the backwoodsmen, and when they had the advantage of cover the troops could not stand before them. England was at first behind

to go to Hesse, to Hanover, and to Denmark for riflemen to bring against the Americans; and in 1794 the Government established the 60th battalion of Rifles, which was called the Royal American Regiment. Our first riflemen carried a mallet, with which to hammer down the ball; and the rifleman was so long in loading that it was necessary the red coats should be near that he might take refuge behind them while he loaded. The Duke of Richmond once said that in the Peninsular war our riflemen were supplied with tight-fitting bullets that would kill and plenty of small ones that would miss, in order that they might have the pleasure of shooting off. It was at length discovered that the musket supplied to the English infantry was the worst in Europe—the heaviest, the shortest, requiring the largest ball, the greatest charge of powder, having the greatest windage, the shortest range, and the least accuracy. It showed what the English soldier must be when he could gain such splendid victories with Brown Bess. The Kaffir war was irksome and inglorious, and public attention became attracted to the shortcoming of our firearms. General Cathcart was sent out to the Cape with a *carte blanche*, and what did he ask for? He said to the Government at home, 'Send me out 4000 Swiss.' He wanted soldiers who could hit small objects at long ranges. Brown Bess was clearly unable to bring the war to a close, for it was upon record that one morning 80,000 rounds of ball cartridge were fired, and only 25 Kaffirs were bagged. George IV. was very anxious that the cuirass should be adopted in the British army, and that experiments should be tried to show whether it would resist a bullet. A cuirass was accordingly fixed upon a pole and Brown Bess was set to work at it, with the advantage of a 'rest.' The experiment would have been very satisfactory, only none of the balls could be persuaded to hit the cuirass. At last an officer put a musket to his shoulder, and by great good luck hit the cuirass, when the ball of course went through it. He believed that a man might sit in a chair, at 200 yards, and let a man blaze away at him all day with Brown Bess, with one condition only, that the shooter should be bound upon his honour to aim at the mark. A general officer told him that in Spain, being charged with the defence of a breastwork thrown up in a hurry, with a very few soldiers, the order was given to them to fire as rapidly as possible, not in any hope or intention of hitting anybody, but to make the enemy think they were stronger than they actually were. Firing to 'make the enemy think!' Contrast this with what took place during the mutiny at Cawnpore. An officer in command of his company was attacked by some sowars (irregular native cavalry). He formed his men into two lines, made both kneel, and at the word 'Fire!' 69 dragoons fell to the ground like a wall. One man alone escaped the fire, seeing which a soldier came to the front, fired, and brought the sowar from his horse at a distance of 300 yards. That was the way to 'make an enemy think.' Our troops were now all armed with the Enfield rifle, which was the best rifle made, which in similar numbers had been placed in the hands of any army. By contrast and comparison with Brown Bess it was a weapon of transcendant value and superiority. Upon the beach at Hythe one day, when Sir John Burgoyne was present, a target was put up, 8 feet by 6 feet, upon which was outlined the figure of a man on horseback. A detachment of 32 men was formed in line at 600 yards distance, who lodged three balls in the horse and two in the man before an officer could get a glass to his eye. Sir John Burgoyne, when he saw this, exclaimed, 'No dragoon can stand before you, and no artillery can stand before you unless it is protected.' But a new gun required a new man. Men must be taught to shoot as they were trained in any other skilled calling. What was wanted was that all the men in a regiment should be taught to shoot, as all the dragoons in a regiment were taught to ride. In the Government School of Musketry shooting was taught as a drill, without ball at all. There was 'aiming drill' and 'position drill,' and he strongly insisted upon the necessity of commencing rifle practice by snapping caps and firing blank cartridge. To begin with firing ball cartridge was fatal. The volunteer who did so would never become a good shot, for he would only perpetuate his errors. If there were any sportsmen who wanted to improve their shooting, let them go through a course of 'position drill,' then let them fire blank cartridges at swallows or other small birds, and he would promise them that when the 1st of September came round, they would fire half as well again. He had never fired a ball until he was 56 years of age, and for a long time he could not get into the first class. He used to miss 18 shots out of 20, but he persevered, and one day he got 19 points in the first class (650 to 900 yards). The next drill was 'aiming drill.' The eye might be strengthened by exercise, and it was desirable to shoot at smaller objects than a rifleman would ordinarily require to hit. 'Aiming drill' at 500 yards with blank cartridge was excellent training. The ball cartridge merely gave you the power to find out if you could shoot, and what progress you were making. With this exception marksmen learned nothing with ball cartridge. An important part of a rifleman's training was the ability to judge distances. It was not at first easy, but it could be learnt. There were certain distances at which horses seemed to have no ears—when flesh could not be discerned, when men seemed to have no necks, when cannon wheels had no spokes, and when all horses seemed to be of one colour. Savages could judge of distances with great accuracy, and the faculty only required to be cultivated. The gallant colonel then proceeded to explain by means of diagrams the line of sight, the line of fire, and the trajectory of the Enfield rifle. The whole difficulty in firing bullets was that they were always travelling through the air at a curve, so that at long ranges it was necessary literally to drop them on a man's head. Armed with the Enfield rifle, no infantry soldiers ever need form a square to resist cavalry, unless surprised. The cavalry might come down upon them, but not a man would escape the aim of their rifles. They talked of the 'common soldier,' but we did not want the 'common soldier' in these days. What was wanted was a taught, educated, and trained man. Some persons said that a range of 400 yards was long enough for the bulk of our troops, but if one soldier had a gun that would kill at 1000 yards the man whose rifle would only carry 400 yards would not be able to get a single shot at his enemy. The only limit to the range of a gun was the power of the human eye. You might get a longer range by increasing the charge of powder and the weight of the gun, but the rifle then kicked, and where the recoil was great there was an end of accurate shooting. The weight of a gun was also an important consideration, for an infantry soldier required a weapon that he could carry in a 25 miles' march and fight with afterwards. How, then, was a long range to be obtained? The resistance of the air to any object in motion was in proportion to the magnitude of its surface. In artillery the 68lb. ball, with a charge of 16lb. of powder, was at present the most accurate of aim, but in firearms the whole secret of extended range was in narrowing the bore. The Whitworth rifle was constructed on this principle, and at 900 yards' range the bullet from this rifle was going three times as fast as the Enfield. The greater the elevation a rifle required the more skill was wanted to drop the bullet down just where it would hit. It followed that the worse a soldier was the better his gun ought to be, and that the best guns ought to be given to the worst shots. Firing with the Enfield rifle at 800 or 900 yards he often missed the target twice out of five, and sometimes four times out of five, but with the Whitworth rifle he could hit it directly. Mr. Whitworth's rifle possessed the very great advantage of having a low trajectory, and the Enfield rifle the disadvantage of having a very high one. Now it might be laid down as a rule in rifle shooting that the certainty of hitting was just in proportion to the lowness of the angle of elevation. He had heard that the trajectory in the Swiss Federal rifle was very low. Perhaps it would be more correct to say that the improvement made of late years in the rifle was not so much in the barrel as in the back. He came there to assure them that accurate shooting could be acquired after a little drill, in a pleasurable manner, if they would only go to work in the same painstaking way as the volunteers who had recently been at Hythe. Had England as a nation nothing to defend? Had we not an excellent Sovereign, a glorious Constitution, an open Bible, free thoughts, and a free press? Was it not a country in which no passports were required, and in which every man's cottage was his castle? With such liberties and wealth to defend the Volunteer Rifle Corps must become a national institution. It was not a thing of to-day or to-morrow, and he would have nothing to do with the movement if he did not think that our grandchildren would maintain it. Our soil had been unpolluted by the foot of an invader for 800 years, and in the words of Lord Brougham he would make it an impossibility for an enemy to invade us. If they made the attempt and succeeded in landing, the riflemen in our hedges would, under the blessing of God, prove the salvation of our land. Let the men of England rally round the Queen that she might remain the monarch of a free and united people, a 'terror to evil-doers, and the praise of them that do well.' Most heartily did he say to the volunteers of England, the members of the true Peace League, 'I wish you good luck in the name of the Lord.'"

## City Intelligence.

MONEY MARKET, FRIDAY.—BRITISH FUNDS: Consols closed at 96¼ to ⅜ for Money, and 96⅜ for the 6th Dec.; Reduced and New Three per Cents., 94⅛ to 94¼; New Indian Loan, 104⅛ to ¼; Four per Cent. Debentures of 1858, 96¼; Exchequer Bills, 27*s.* to 30*s.* prem.—FOREIGN; Brazilian Four and a Half per Cents., 1858, 96¼; Buenos Ayres Six per Cents., for Acct., 81½; Chilian Four and a Half per Cents., 89½; Russian Four and a Half per Cents., 100; Spanish Three per Cents., for Acct., 44⅞; Turkish Six per Cents., 1854, for Acct., 77; Ditto for 1858, for Acct., 65¼ to 66.

## Bank of England.

ISSUE DEPARTMENT.

| | | | |
|---|---|---|---|
| Notes Issued .. .. .. | £30,806,080 | Government Debt .. .. | £11,015,100 |
| | | Other Securities .. .. | 3,459,900 |
| | | Gold Coin and Bullion .. | 16,330,080 |
| | | Silver Bullion .. .. .. | — |
| | £30,806,080 | | £30,806,080 |

BANKING DEPARTMENT

| | | | |
|---|---|---|---|
| Proprietors' Capital.. .. | £14,553,000 | Government Securities (including Dead Weight Annuity) .. .. .. .. | £10,925,157 |
| Rest .. .. .. .. | 3,185,972 | Other Securities .. .. | 19,058,503 |
| Public Deposits (including Exchequer, Savings Banks, Commissioners of Nat. Debt, and Dividend Accts.) .. .. .. | 8,062,071 | Notes .. .. .. .. .. | 9,640,125 |
| Other Deposits .. .. .. | 13,662,550 | Gold and Silver Coin .. | 655,584 |
| Seven day and other bills | 815,776 | | |
| | £40,279,369 | | £40,279,369 |

24th day of Nov., 1859. M. MARSHALL, Chief Cashier.

## Gazette of the Week.

TUESDAY—BANKRUPTS—J. BARLOW, Burslem, Earthenware Dealer—A. BERNAL, Whitechapel Road, China and Glass Dealer—M. E. CHRISTIE, late of Oxford Street, Baker—J. GODFREY and J. D. DELANY, Savoy Street, Strand, Printers—C. HARRIS, Pangbourne, Berks, Draper—C. MOODY, Portsea, Cutler—J. REYNOLS, Manchester, Yarn Dealer—J. and D. SHAW, John Street, Cambridge Heath, Boiler Makers.

SCOTCH SEQUESTRATIONS—W. CRICHTON, Hawick, Bookseller—D. LIND and H. B SPENCE, Edinburgh, Stationers—J. M'DONALD, Achnahannet, Elginshire, Cattle Dealer—P. G. MILNE, Edinburgh, Grocer.

FRIDAY—BANKRUPTS—J. ALLEN, Deptford, Bootmaker—C. BARTELS, Elmina, Africa, Merchant—A. CALVOCORESSI, Manchester, Merchant—J. CAWTON and E. WOOD, Bradford, Commission Agents—T. CHARLES, Piccadilly, Italian Warehouseman—S. COTTAM, Westbromwich, Staffordshire, Innkeeper—T. HANCORN, Hereford, Timber Merchant.

## Metropolis and its Vicinity.

EMPLOYMENT OF WOMEN. — The council of the National Association for the Promotion of Social Science have appointed a committee to consider and report on the best means which the association can adopt to assist the present movement for increasing the industrial employment of women. The committee consists of the Earl of Shaftesbury, the Hon. A. Kinnaird, M.P., Mr. E. Akroyd, Mr. Hastings, Mr. Horace Mann, Mr. W. S. Cookson, Mrs. Jameson, Miss Parkes, Miss Adelaide Proctor, Miss Boucherett, Miss Faithful, and Miss Craig, the latter acting as secretary.

REORGANISATION OF WOOLWICH ARSENAL.—It is announced that Government have decided to put an end to the dangerous anomaly of having only one national war laboratory and arsenal, and that one close to the metropolis; and that a new arsenal is forthwith to be established at some place in one of the inland counties, having the advantage of a position that shall oppose, not only distance, but strategical difficulties to the attack of a hostile force. It is thought that Weedon, from its central situation, its facility of communication with all the ports, by railway and telegraph, and its convenient position, in the heart of the iron and coal districts, will be the place selected. It is also understood that the management of the new arsenal will be committed to civilians instead of military men. The first step towards this reorganisation has been taken by handing over the direction of the gun factories from the military to the civil service, to be conducted in future under Sir W. Armstrong, C.B., and the resident superintendence of Mr. John Anderson, late inspector of machinery. Great preparations are making for manufacturing rifled ordnance on Sir William's principle, calculated, according to present arrangements, to bring out, at the lowest computation, 1000 guns a year, with the prospect of a considerable addition to that number, in case of actual demand. These guns are not finished at Woolwich but are sent to Elswick to be completed, a regulation having been established to manufacture a portion only at each of the factories, in order to insure a greater degree of caution in guarding the secret of the principle from the public. The War Department have issued a most stringent order for the exclusion of every person, without exception, from visiting the factories. As a proof of the strictness with which the injunctions are observed, it may be stated that a few days ago the members of the Royal Defence Commission requested permission to visit the establishment. Their request was telegraphed to Pall Mall, and a reply was promptly received, to the effect "that Mr. Secretary Herbert regretted that the regulations could not be departed from even in that peculiar instance." A similar denial was a few days ago given to the application for admission of General Dacres, commanding the garrison at Woolwich. It is stated that, as a necessary consequence of the whole of the gun factories being employed for the manufacture of Sir W. Armstrong's guns, the shot and shell foundries and the superintendence of the laboratory will be ultimately handed over to the same direction, which will create a reduction of no small importance in the general expenditure.

THE BANKRUPTCY AND INSOLVENCY LAWS.—A deputation of considerable importance as affecting the commercial interests waited upon Lord Palmerston on Tuesday to represent the present unsatisfactory state of the bankruptcy laws and suggest a remedy—the more especially in the reduction of expenses and the more stringent punishment of fraudulent debtors. Sir John Ramsden, Mr. Hastings, of the Worcester Chamber of Commerce, Mr. S. Morley, Mr. Hadfield, M.P., Mr. Miller, M.P., and other members of the deputation urged that this was a commercial and not a legal question, and said that they were disposed to give an almost unanimous support to the Bill which on two occasions has been introduced by Lord John Russell. Lord Palmerston assured the deputation that the subject had engaged the attention of the Cabinet; and the Attorney-General, who attended with his lordship, stated that in conjunction with a committee of the Cabinet he had been entrusted with the preparation of a Bill which it is intended to introduce immediately upon the meeting of Parliament. It is understood that it is the intention of her Majesty's Ministers to abolish the distinction between traders and non-traders, and to limit imprisonment for debt, except in cases of fraud, concealment of property, mutilation of books, absconding, and other offences which in reality belong to the category of penal offences.

THE LATE CASE OF FLOGGING AT WOOLWICH.—The recruit William Davis, whose flogging at Woolwich was recently the subject of comment, and who deserted from the artillery on his release from the hospital, has been officially discharged from the regiment.

BIRD SHOW AT THE CRYSTAL PALACE.—A bird show of a very extensive kind was opened on Saturday at the Crystal Palace, and was continued during the first three days of this week. There were in all more than 400 cages, containing about 500 birds of various kinds. The collection of canaries was most numerous, including specimens of every known variety, and the larger birds—parrots, cockatoos, macaws, &c.—were present in considerable force.

ST. GEORGE'S-IN-THE-EAST.—On Sunday last there was a renewal of the riots in the parish church, and one gentleman, who gave his name as Mr. William Cornwallis, was taken into custody by the police, charged for wilfully disturbing the congregation. There was considerable uproar and hissing during the different services, but the rector's party assembled in sufficient strength to overpower the voices of the malcontents during the choral services. There was a large body of police on duty, but their presence seemed to exasperate rather than intimidate the people. At the close of the services the clergymen and choristers managed to get away without being insulted. Mr. Cornwallis was brought up on Monday to the Thames Police Court, when in consideration of his having been locked up for eight hours the magistrate discharged him on making an apology to the churchwarden, telling him at the same time that he had been guilty of brawling in the church, for which he was liable to ecclesiastical censure and the payment of heavy costs. A man named Arnott was afterwards fined 5*s.* for being drunk and disorderly in the church in the afternoon while the Rev. Hugh Allen was officiating. On Thursday evening at a vestry meeting of the parish, it was unanimously resolved that the rector be called upon to resign his office, on the ground that he has lost the confidence of the parish by his obstinate perseverance in carrying out a form of worship distasteful to the parishioners.

METROPOLITAN BOARD OF WORKS.—At a meeting of this Board held on Friday at Guildhall a discussion of several hours took place on a report of a committee of the whole Board, affecting the relations of the Board with the clerk, Mr. Woolrych, and incidentally the interests of the ratepayers at large. The report of the committee, after stating that the salary of the clerk—originally 800*l.*—was now 1000*l.*, and that he was bound to devote the whole of his time and attention to the service of the Board, recommended that Mr. Woolrych be appointed legal adviser and standing counsel of the Board, in accordance with a letter he had addressed to them, at a salary of 800*l.* a year as a retaining fee for his services; that after fulfilling his engagements to the Board as defined in the report, he should be at liberty to practise as a barrister; and that in all cases in which he should hold briefs as counsel of the Board in the

superior courts, before Parliamentary committees, arbitrators, and the like, he should receive the usual professional fee upon his brief, the arrangement to take effect on the appointment of the new clerk. Mr. Bristow, M.P., having moved the adoption of the report, Mr. Deputy Harrison moved an amendment to refer the report back for re-consideration, as by its adoption the Board would be establishing a principle that would prejudicially interfere with the due transaction of the public business, and creating an office at present unknown to that or any District Board established under the Local Management Act, expressly for the purpose of providing a place for an individual, and also establishing a principle subversive of public good by giving the proposed legal adviser a direct pecuniary interest in promoting litigation by the Board. A long and desultory discussion ensued, in which Mr. Doulton, Mr. Freeman, Mr. Lowman Taylor, Mr. Diffanger, Mr. Leslie, Mr. Savage, Mr. Crellin, Mr. Bennet, and other members took part, the result being the adoption of the original motion on a division, by a large majority, only three voting for the amendment. A motion proposed by Mr. Savage and supported by Mr. Nicholay, to reduce the salary from 800*l.* to 600*l.*, was negatived on a division by 24 to 10.

ST. PAUL'S CATHEDRAL SPECIAL SERVICES.—It is found impossible to commence the special services at St. Paul's before the 1st of January next, on which day it is expected that they will be opened with a sermon by the Lord Bishop of London.

THE STRIKE.—At the Middlesex sessions on Tuesday, the magistrates dismissed the appeal of William Perham, the mason, against the conviction of Mr. Corrie, the police magistrate, and ordered him to be committed for two months to the House of Correction, the sentence passed upon him for threatening and intimidating one of Messrs. Piper's workmen. An application was made on Wednesday to the Court of Queen's Bench for a writ of *habeas corpus*, with a view to quash the conviction, but the Court refused to grant it. An appeal against this decision was made on Thursday to the Court of Exchequer, and after hearing the case argued, the Court reserved its judgment until yesterday, when the Lord Chief Baron said that in the opinion of the Court the magistrate's conviction was sufficient, and there would therefore be no rule. The conviction was therefore affirmed.—The masons' committee have submitted to the Master Builders' Association the following proposal as the basis of a settlement:—

"Gentlemen,—We have the pleasure of forwarding you propositions for the final adjustment of the existing dispute:—1. The masons are prepared to resume work on the same terms as when 'locked out' in August 6. 2. The masters to dispense with the declaration. 3. The masons are willing to resume work with those of their own trade or others who may have accepted the declaration. 4. The masons will work in strict conformity with the law of the land. 5. The masons of London are willing to enter into a discussion of their bye-laws, to be represented by six masons with six employers, and should the masters and the operatives not agree to the satisfaction of both parties upon any point at issue, the matter to be decided by a chairman selected from the following gentlemen:—Sir Charles Barry, Mr. P. C. Hardwick, Mr. Digby Wyatt, Mr. J. Vulliamy, Mr. G. G. Scott, and Mr. W. Butterfield. 6. The masons of London wish it to be distinctly understood that they have withdrawn from the Conference, and that they give up the strike at Trollope's for the nine hours, it being considered by them useless to contend longer upon that question. 7. Several attempts having failed to bring about a reconciliation with the master builders (for all parties) we respectfully solicit the employers to dispense with the declaration from the masons.—Signed on behalf of the masons of London."

LOSS OF THE SHIP DUKE OF WELLINGTON BY FIRE.—The ship Duke of Wellington, of Liverpool, was burnt at sea on the 11th inst., about 200 miles to the westward of Cape Finisterre. She was a full-rigged ship of 1091 tons, belonging to Messrs. Lemon, and commanded by Captain John Campbell. The fire broke out at 5 o'clock in the morning on the 11th inst., and spread with such rapidity that it was impossible to save the ship's log or papers. The captain and crew took to the boats with the few articles of clothing and provisions which could be obtained, and remained close to the ship till evening, when she was burnt nearly to the water's edge. They then proceeded in the direction of Cape Finisterre, and after being in the boats 48 hours were picked up by the French schooner Idée of Nantes, Captain Lesquelee, by whom they were received on board, treated with great kindness, and conveyed to Lisbon.

THE WRECK OF THE ROYAL CHARTER.—The adjourned inquiry of the Board of Trade has been resumed this week at Liverpool and is still in progress, the present object of the inquiry being to ascertain whether the ship was constructed on safe principles and properly managed. The body of the unfortunate Captain Withers was washed ashore at Bull Bay on Thursday week. The face and hands were much disfigured. All his clothes were on except his coat. In the pockets were found a gold watch and chain, two gold seals, 36*l.* in gold, and a silver snuff-box bearing the inscription—"Presented by the passengers of the ship Gloucester to Captain Withers, Nov. 7, 1838." The body of Mr. John Emery, the chief steward of the vessel, was picked up last week about 15 miles N.E. of Holyhead and carried into Drogheda, where it was identified by one of the survivors of the wreck. On Tuesday week two bags of sovereigns, supposed to contain 500*l.* each, and a lot of gold, were brought up from the wreck. Near the point to the westward a male body was found with 17*l.* 13*s.* 7½*d.*, two mourning rings, a small clasp, and a piece of foreign coin. Another body was washed ashore with 17*l.*, three gold rings, three breast pins, and two pairs of earrings in a belt. About 39 bodies have since been found of which the following only have been identified:—Francis F. Hutton, saloon passenger; F. Rufford, passenger; David Bell, Anthony Belt, Captain James Morris, Mrs. Norman, Dr. Hatch, Mr. Edwin Fowler, and Mr. M. W. Pitcher. 1200 sovereigns were recovered on Tuesday evening from the wreck, and as the lump has fast hold of a large piece of the wreck, just over the bullion room, it is expected that a large quantity of gold will be recovered.

SMITHFIELD MARKET.—It is stated that Sir George Lewis has given his consent to the conversion of the north side of Smithfield into a dead meat market.

SPIRITUAL DESTITUTION IN THE METROPOLIS.—A large meeting was held at the Assembly Rooms, Ealing, on Monday evening to afford an opportunity to the laity of conferring with the Bishop of London upon the spiritual wants of the diocese. The Bishop presided, and the meeting having been addressed at some length by his lordship, the Right Hon. S. Walpole, M.P., Archdeacon Sinclair, Captain Sullivan, and other gentlemen, resolutions were adopted pledging the meeting to co-operate with the Bishop in promoting and expanding the parochial system throughout the diocese, and declaring that the spiritual destitution in portions of the rural deanery of Ealing is such as to require immediate erections, and providing for the establishment of a ruridecanal association, consisting of the clergy and laity of the district.

CAPTURE OF A KAFFIR IN HIGHGATE WOODS.—A Kaffir, in a very wild state, and who cannot speak one word of English, was captured on Tuesday morning in Highgate Woods, where he had made a cave and was roasting a sheep which he had stolen. The police received information of his proceedings on Sunday evening, and immediately commenced searching the woods, assisted by a number of the inhabitants, but as soon as he saw the people he darted into a thick part of the wood, and his movements were so nimble that he was more like a wild monkey than a man, and it was very difficult to get near him. It was not till Tuesday morning that he was secured, and after a hard struggle taken to the station. In addition to having stolen the sheep he had also stolen a quantity of articles of clothing. The prisoner when taken before the magistrates on Wednesday behaved in a very wild manner, and was remanded for further inquiry.

POISONING WITH BELLADONNA.—At the Bow Street Police Court on Wednesday three little boys, two of them 10 years old and the other 12, were charged with stealing from Covent Garden Market about 12 oz. of belladonna, and administering it to divers others boys, whereby their lives were endangered. It appeared that Messrs. Butler & McCulloch, the herbalists and seedsmen, had packed a hamper, containing two jars of belladonna, to be sent into the country to a customer, and that while it was standing at their door waiting for the carrier, the prisoners, who were well known-market thieves, cut the strings and stole the jar, believing that they had got some honey or a preparation of liquorice, which they then sold to other boys for a pin each. In the course of the evening, several of the boys who had eaten the extract were sent to the hospitals in a raving state, and some of them are still lying in Charing Cross and Middlesex Hospitals in a very dangerous condition. The magistrate remanded the prisoners for a few days, to see if any of the boys died, and expressed his intention to send them to Feltham Reformatory, if they should not be removed from his jurisdiction by the verdict of a coroner's inquest.

MURDERS ON THE HIGH SEAS.—The Sheriffs of London and Middlesex have received a further respite, until the 26th December next, for the Portuguese convict under sentence of death in Newgate. A seaman called Francis Boland, belonging to the ship Medina, was committed for trial on Thursday at the Thames Police Court, for the Wilful Murder of Edward Hyland, another seaman, in Lagos Roads on the coast of Africa, on the 11th of July last.

REMOVAL OF DR. SMETHURST.—On Tuesday morning Dr. Smethurst was removed in a cab by the governor of Horsemonger Lane gaol to Newgate; there to await his trial for bigamy at the forthcoming sessions of the Central Criminal Court. His looks are said to have much improved since the announcement of his pardon.

THE PUBLIC HEALTH.—The Registrar-General's Weekly Return states that the low temperature which commenced on the 9th inst., and continued during 11 days, caused the deaths in London to rise in the week ending Saturday the 19th inst., from 1051, the number returned in the previous week, to 1233. In the corresponding weeks of the 10 years 1849-58 the average number was 1114; which, if raised in proportion to the increase of population, will become 1225. The mortality of last week therefore agreed very closely with the result obtained from calculation. During the week the births of 958 boys and 902 girls—in all 1860 children—were registered in London. In the 10 corresponding weeks of the years 1849-58 the average number was 1526.

## Provincial.

GLOUCESTER.—The Election Commissions held a sitting on Thursday in one of the committee-rooms of the House of Commons. Sir R. W. Carden, Sir W. G. Hayter, Mr. Moffatt, M.P., and other witnesses were examined, after which the proceedings were again adjourned.

HULL.—The ship Friends, Captain Turner, has arrived in this port with 180 pieces of cannon and 237 tons of bones from Sebastopol. Some excitement was at first caused by a question which had been raised whether these were the bones of the Russian or the allied [illegible] or the bones of horses and of other animals [illegible] perished in the siege. The agents of the ship, however, state that they are the bones of animals, and that every precaution has been taken by the authorities to secure an immediate report in case of any human bones being found during the discharge of the vessels, but no other interference has been found necessary.

NEWCASTLE-ON-TYNE.—On Saturday last a [illegible] meeting of the leading inhabitants of this town and the neighbouring counties of Durham and Northumberland was held in the new Town Hall, to consider the best mode of testifying their respect for the memory of the late Mr. Robert Stephenson. Lord Ravensworth presided, and the meeting was addressed by Mr. G. Ridley, M.P., the Hon. H. G. Liddell, M.P., Mr. Clayton, Mayor of Tynemouth, Rev. Dr. Bruce, and other gentlemen, and resolutions were unanimously adopted to the effect that the best mode of testifying respect to the memory of Mr. Stephenson would be to erect a statue of him in Newcastle, and devote a portion of the funds subscribed to educational purposes. A committee was appointed to carry the resolutions into effect.

NORWICH.—The magistrates of this city were occupied last week with hearing a charge brought by the Liberals in the borough against Mr. Albert J. Collins, a solicitor, for unlawfully conspiring with Mr. Henry Croxford and other persons to corrupt by a bribe of 500*l.* Mr. Joel Fox, a member of the Liberal party, to induce him to vote for eight Conservative aldermen with a view to obtain a Conservative majority in the Town Council for the next three years. Mr. Fox refused to entertain the offer until the halves of the notes for 300*l.* and the numbers of the remainder were given to him. Messrs. Collins and Croxford after consulting together complied with this condition, and after receiving the notes Mr. Fox went to the Council chamber where the election of aldermen was about to take place, and after publicly exhibiting the half-notes voted for the eight Liberal aldermen who were elected. After evidence to this effect had been given by several witnesses, Mr. Harvey, the banker, and one of his clerks who had been summoned to give evidence as to the payment of the notes, refused to answer any question on the subject lest their answers might criminate them. After some discussion on this point the magistrates adjourned the inquiry, admitting Mr. Collins to bail in two sureties of 250*l.* each, and himself in 500*l.* Mr. Croxford is stated to have left Norwich. On the resumption of the inquiry on Tuesday, Mr. Sergeant Ballantine, who appeared for the defence, applied for a further adjournment to the 8th December, on the ground that since the first hearing summonses had been issued against other parties in reference to the Parliamentary election, the whole of which had been adjourned to that day. After some discussion the magistrates acceded to the application and the case was accordingly postponed to December 8. The summonses referred to as having been granted since this case was first made public have been issued, at the instance of the Conservatives, against Mr. William Wilde, Mr. William Wilde, jun., Mr. William George Wilde, Mr. James Stowes, and Sir William Foster, Bart., for a conspiracy to bribe at the last election; and at the instance of the Liberals against Sir Samuel Bignold, his two sons—the Rev. S. F. Bignold, rector of Twetshall, Mr. J. H. Bignold, Captain Ferdinand Ives, Mr. James Hardy, and Mr. George Priest, who are all charged with conspiring to effect Sir S. Bignold's election in April last by bribery and improper means. All these gentlemen are persons of more or less influence in the Conservative ranks. Opinions vary as to whether the summonses will really be proceeded with on the day named. The general impression seems to be that the object of the postponement is to enable the parties concerned to gain time, with a view to a compromise. It does not seem probable that the whole truth will be known in reference to bribery in Norwich until the appointment of a Royal Commission.

PORTSMOUTH.—The officers appointed to investigate the recent outbreak on board the Princess Royal concluded their labours on Saturday, and forwarded their report to the Admiralty. A court-martial has since been ordered to be held next week for the trial of the ringleaders. It is stated that several of her crew have been recognised as old acquaintances in Portsmouth dockyard, where they have worn quite a different uniform to the one they at present appear in.

STURMINSTER.—The Spaniard Manzano, who was apprehended last week at Hyde near Southampton, on suspicion of being the murderer of Mrs. Trowbridge, at Ashcombe, has been identified by several persons as having been seen in the neighbourhood at the time of the murder, and as having sold portions of the property stolen from the cottage. The stains found upon his clothes have also been ascertained by Mr. Herapath to be spots of blood. The magistrates have thereupon committed the prisoner for trial at the next assizes on the charge of Wilful Murder.

WAKEFIELD.—The inquiry of the Election Commissioners, which was to have been resumed in London on Monday last, has been again further adjourned to Friday, the 23d of December, when it will be resumed in this town.

WOLVERHAMPTON.—On Friday night a destructive accident occurred at the extensive iron works of Messrs. Gibbs Brothers, at Deepfields, near this town, by which

a large iron rolling mill was levelled with the ground, one man killed, and several others severely injured. Most of the workmen had gone to supper, and others had ceased work whilst some alteration was making in the rollers, when suddenly the large driving-wheel, some tons in weight, broke into fragments, which were propelled on all sides with great force. Several of the iron pillars that supported the roof, the principal iron beam, and several of the lesser ones, were broken, and the entire roof shortly afterwards fell down. Of the men who were in the mill at the time, one was dug out insensible, and died shortly afterwards. Three others sustained severe fractures and other injuries, and two or three escaped unhurt. The damage is estimated at about 3000*l*.

## Ireland.

THE CATHOLIC UNIVERSITY.—Dr. Cullen and 28 of the Roman Catholic bishops in Ireland have issued a "pastoral" adopted at the recent meeting of the prelates, stating that Protestant universities are not suited for a Catholic people, and that in order not to expose them farther to the danger to which they would be liable in Protestant or mixed Colleges or Universities, it has become necessary for the Catholic body to subscribe liberally for the permanent maintenance of the Catholic University and support the movement for obtaining a charter of incorporation.

THE PREMIER AND DR. M'HALE.—The Roman Catholic Archbishop of Tuam has addressed a letter to Lord Palmerston upon mixed education, the Italian difficulty, the Established Church and tenant right. The following extracts will indicate its general character:—

"It is in vain that you calculate on the Pope's defenceless position and his want of the material muniments of war. His weakness is his strength, and, though entitled to defensive armour, he prefers not being encumbered with the sword or the buckler. He fights with weapons of a different kind, whose temper has already singularly told since the commencement of this contest. His confidence is in the prayers which released the first and greatest of his predecessors from prison. You may perceive how society is now agitated to its depths by the sympathies and supplications of his children all over Christendom. The most callous nations have partaken of the impulse. Even those who sided with opposing armies in the late battle-fields have poured their united prayers into one common channel for the safety of the successor of St. Peter. No sooner has the perfidious blow been aimed at their common father than its echo has been sent back from the most distant parts of the Christian world. Thousands who were hitherto mute and silent have uttered their loud reprobation of the cruelty with which he is treated, and, like the dumb and dutiful youth in ancient story, whose tongue was loosened by the horror of the attempted parricide, the voices of millions have broken forth at the tenour of the indignities heaped on the Holy Father, proclaiming in intelligible accents that the most revered monarch in the universe shall not be dethroned. Whilst we sympathise with the sufferings of the Holy Father and reprobate the tyrannies that are striving to overturn his legitimate power, we cannot forget or overlook the systematic oppression to which our own people are continually subjected. If the secure possession of property be the strongest and most expressive feature that distinguishes civilised from savage life, it is not easy to understand what claims to the extension of civilisation can be possessed by any government that leaves the land, the industry, and the tenements (if tenements such precarious dwellings can be called) of an entire people, together with the fruits of that industry, as much at the mercy of a landlord as any wandering tribe was ever at the beck of a barbarous chieftain."

COAST DEFENCES IN IRELAND.—The Belfast Harbour Commissioners have received a letter from the War Office stating that measures will be shortly taken for preparing Carrickfergus Castle to receive an armament of heavy guns for the protection of Belfast Lough, and for the security of the anchorage of Carrickfergus Roads, and that early in the ensuing year, so soon as the season will permit, it is contemplated to undertake works for defending the mouth of the Belfast river against an enemy's approach.

THE PACKET STATION AT QUEENSTOWN.—In accordance with the arrangement already announced, the Cunard steamers now call regularly at Queenstown for the mails and passengers for Halifax and Boston, and the Australian packets belonging to the firm of Messrs. Baines & Co. are in future to call at Queenstown on their home voyage to land mails and passengers. Arrangements are also making for the New York mails to be forwarded through Queenstown, as well as the Canadian and Australian mails.

## Railways.

ACCIDENT ON THE SOUTH WESTERN.—During the fog of Tuesday, the morning Express from Waterloo ran into a goods train which was shunting at the Fleetpond Station in order to allow it to pass. The engine of the Express, worth upwards of 2000*l*. was broken to pieces, the tender and guard's van were destroyed, as were likewise several trucks of the goods train. The passengers were severely shaken, and many of them were more or less bruised, but fortunately no lives were lost.

SOUTH EASTERN AND EAST KENT LINES.—It is reported that committees of directors of the South-Eastern and East Kent lines met on Wednesday and agreed to recommend to their respective Boards to consider the expediency of arranging terms of amalgamation.

FATAL ACCIDENT ON THE NORTH LONDON.—On Saturday a long inquiry took place before the coroner for East Middlesex, respecting the death of Miss Mary Brown, a single lady of independent means, aged 84, residing in the Avenue Road, Bow, who lost her life last week on the North London line. The body of the deceased was shockingly mutilated, the back and abdomen being extensively cut by the steps of the carriages striking her. Two of the ribs were broken, the skull fractured, and her spine dislocated, in addition to other injuries. The evidence proved that the deceased lady intended to get out at the Bow station, but some delay occurred in consequence of her inability to open the window of the carriage. When the door was opened, and while her foot was on the carriage step the train started. One of the passengers made great efforts to pull her back, and finding that to be impossible called to a porter on the platform, who ran up and tried to catch her in his arms. As the train had now gained speed they were both thrown down and dragged along the platform by the steps catching her clothes, until they fell upon the permanent way, the porter as well as deceased sustaining severe injuries. The jury, after a brief deliberation, returned a verdict—

"That deceased met with her death on the North London Railway by a train being set in motion without sufficient care being taken by the company's servants in seeing after the security of the passengers before starting; and that the coroner be directed to communicate with the company, pointing out the defective state of some of the carriage windows."

NEW CITY LINE.—The necessary Parliamentary notices have been given this week with reference to a new railway through the northern part of the City to connect the Great Northern line with a large and convenient terminus close to the Bank of England. It will pass by the side of Gray's Inn Road to a station at Gray's Inn; thence by a viaduct across Holborn valley to Smithfield; thence near Barbican, with a goods station at Fore Street, and so across London Wall to a large available area at the back of Tokenhouse Yard, within 340 feet of the Bank. The route which is brought forward with the concurrence of the Great Northern Board will be above ground through the whole distance, and will pass amid poor property, the removal of which will be an advantage to the metropolis, while its main recommendation consists in its direct advance to the grand centre of business, thereby supplying the long-desired relief for the London streets.

## Obituary.

THE HON. MOUNTSTUART ELPHINSTONE died on Sunday last at his residence, Hookwood Park, near Limpsfield, Surrey. He was the son of the 11th Lord Elphinstone, and was formerly in the civil service of the East India Company at Bengal. He retired from that service in 1827, and acquired considerable literary reputation for his work on Cabul.

PROFESSOR LAWRIE, M.D., Professor of Surgery in the University of Glasgow, died a few days since at the Bridge of Allan, after a long illness. He was son of the Rev. Dr. Archibald Lawrie, of London (the friend of Burns), and practised his profession for some years in the Madras Presidency, where he contracted the disease which has now proved fatal. He succeeded the late Dr. Burns in the Professorship at Glasgow in 1830.

PROFESSOR GEORGE WILSON, M.D., the first Professor of Technology in the University of Edinburgh and Regius Keeper of the Industrial Museum, died on Tuesday last after a long illness from pulmonary disease. He was an accomplished chemist as well as an elegant scholar, and he was highly esteemed as a graceful lecturer and writer.

MR. FRANK STONE, A.R.A., died on the 18th inst. at his residence, Russell House, Tavistock Square. He originally practised in water colours, and as late as 1840 continued to be a member of the Old Society of Painters in Water Colours. He first exhibited at the Royal Academy in 1837, and was elected Associate in 1851.

BIRTHS.—On the 10th inst. at Cortachy Castle, the Countess of AIRLIE, of a daughter—18th inst. at 19, Hanover Square, the Lady BURGHLEY, of a daughter—17th inst. at Veitch's Hotel, Edinburgh, Lady LOUISA BROOKE, of a son—19th inst. at 9, Leinster Street, Dublin, the Lady FANNY LAMBART, of a daughter—19th inst. at Cheddington Rectory, Lady EMMA CUST, of a daughter—19th inst. at 55, Portland Place, Lady ANSON, wife of Sir John W. H. Anson, Bart., of a daughter—17th inst. at 5, Chapel Street, Grosvenor Square, the Hon. Mrs. FRANCIS STONOR, of a son—17th inst. at 53, Cadogan Place, the Hon. Mrs. HAY, of a daughter—15th inst. at Overton House, near Wakefield, the Hon. Mrs. FRANCIS STUART WORTLEY, of a daughter.

MARRIAGES.—On the 22d inst. at St. George's, Hanover Square, the Earl of DALKEITH, M.P., son of the Duke and Duchess of Buccleuch, to Lady LOUISA HAMILTON, third daughter of the Marquis and Marchioness of Abercorn—19th inst. at St. Luke's, Chelsea, Captain GERARD NAPIER, R.N., to ELLA LOUISA, third daughter of Colonel Sir J. M. WILSON, C.B., K.H., of the Royal Hospital, Chelsea—15th inst. at Norton Church, Yorkshire, DIGBY, second son of Sir DIGBY CAYLEY, Bart., of Brompton Hall, to CHARLOTTE PHILADELPHIA, youngest daughter of ROBERT BOWER, Esq., of Welham, near Malton, in the same county—17th inst. at Hurstpierpoint, Major-General DICKINSON to MARY, relict of RICHARD WEEKES, Esq., F.L.S., F.S.A., of Norton House, Hurstpierpoint, Sussex—17th inst. in the family chapel of the mansion, THOMAS M'DONOUGH, Esq., of Killarney, to MARY ANNE, only daughter and heiress of the late KEAN MAHONY, Esq., J.P., of Castlequin, in the county of Derry—17th inst. at Bray Church, THEODORE WALROND, Esq., late Fellow of Balliol College, Oxford, and eldest son of Theodore Walrond, of Calder Park, Glasgow, Esq., to CHARLOTTE ELLIOT, youngest daughter of RIVERSDALE W. GRENFELL, Esq., of Bay Lodge, Maidenhead.

DEATHS.—On the 17th inst. at Bruntsfield House, Edinburgh, ISABEL HENRIETTA BAILLIE-HAMILTON, infant daughter of Lord and Lady BINNING—22d September, at Moultan, Captain JAMES ABERCROMBY DICK, H.M.'s 52d Light Infantry, youngest son of the late Major-General Sir Robert H. Dick, K.C.B. and K.C.H., of Tullymet, Perthshire—11th inst. at Cheltenham, DURELL DE SAUSMAREZ, Esq., Post Captain, Royal Navy, son of the late Thomas De Sausmarez, Esq., of Sausmarez Manor, Guernsey—16th inst. at St. Andrew's, WILLIAM SPALDING, Professor of Logic, Rhetoric, and Metaphysics in the United College of the University of St. Andrew—10th inst. at 31, Park Street, Grosvenor Square, of China fever, Commander ARMINE WOODHOUSE, R.N., late of H.M.S. Cormorant, aged 36—15th inst. at 20, Grosvenor Square, JOSEPHA HEATH GULSTON, eldest daughter of the late Joseph Gulston, Esq., of Knuston Hall, Northamptonshire, and of Derwydd, Caermarthenshire—14th inst. at Lisbon, ROBERT GUNN, Esq., Proprietor of the *North British Daily Mail*, and on the 16th, at Glasgow, JOHN, aged 11 years—16th inst. at Round GEORGE, his youngest son, aged 11 years—16th inst. at Round Croft Cottage, Cheshunt, JAMES WARD, Esq., R.A., aged 90—15th inst. at Berlin, CHARLOTTE AUGUSTA, wife of THOMAS SOLLY, Esq., of Berlin, and only daughter of the late Hollis Solly, Esq., aged 39—17th inst. at Upton Lodge, St. Peter's, [illegible], aged 71—9th inst. at Tainton Rectory, [illegible], the Rev. LAURENCE PALK WILLAND, aged [illegible].

## Markets.

COVENT GARDEN.—Nov. 24.

Vegetables continue tolerably abundant. Asparagus and Seakale make their appearance. Pine Apples and Grapes have not altered in price since last week. Pears in season still consist of Glou. Morceau, Beurré Diel, Chaumontel, Winter Nelis, Passe Colmar, and Crassane. The best dessert Apples how to be obtained are King of the Pippins, Cox's Pippin, and Court Pend. Plat. Kentish are very scarce. Oranges are improving in quality. Good Cos are realising from 1s. to 1s 6d. per lb. Chestnuts are plentiful. Cabbages, Savoys, Carrots, and Parsnips may be obtained in quantity. Cauliflowers are scarce. Potatoes realise from 4s. to 5s. per cwt. Mushrooms can still be had. Cucumbers tolerably abundant. Cut flowers chiefly consist of Orchids, Gardenias, Violets, Mignonette, Chrysanthemums, Heaths, and Roses.

FRUIT.

| | | | |
|---|---|---|---|
| Pine Apples, per lb., 4s to 6s | | Pears, per doz., [illegible] | |
| Grapes, per lb., 1s to 4s | | Oranges, per [illegible] | [illegible] |
| Melons, each, 2s to 4s | | Lemons, per 100, 2s to 4s | |
| Pomegranates, each 4d to 6d | | Filberts, per lb., 2d to 3d | |
| Apples, per bushel, 8s to 10s | | Cobs, do., 100s | |

VEGETABLES

| | |
|---|---|
| Asparagus, p. bundle, 7s | Artichokes, per doz., 2s to 3s |
| Seakale, per basket, 3s to 4s | Beet, per doz., 1s 6d to 2s |
| Cauliflowers, per doz., 2s to 4s | Celery, p. bundle, 1s to 1s 6d |
| Greens, per dozen bunches, 2s to 2s 6d | Onions, p. half sieve, 1s to 1s 6d |
| | Parsley, per sieve, 2d to 4d |
| Cabbages, do., 1s 6d to 2s 6d | Shalots, per lb., 6d to 8d |
| Potatoes, p. ton, 90s to 100s | Garlic, per lb., 6d to 8d |
| — per bus., 2s to 2s 9d | Lettuces, Cabb., per score, 1s to 1s 6d |
| — per cwt., 4s to 6s | Endive, p. score, 1s to 1s 6 |
| Carrots, per bunch, 6d | Horse Radish, p. bun. 1s 6d to 4s |
| Turnips, per bunch, 4d | Mushrooms, p. pott, 1s 6d to 1s 9d |
| Spinach, p. sieve, 1s 6d to 2s | Parsley, p. l. bunches, 2s to 4s |
| Tomatoes, p. half sieve, 2s 6d to 8s 6d | Savory, per bunch, 2d to 4d |
| Cucumbers, each 4d to 6d | |

METROPOLITAN CATTLE MARKET.

MONDAY, Nov. 21.

We have a large supply of Beasts, yet the finest qualities are not much more plentiful, and late prices are fully supported. The number of Sheep is rather smaller, but a large supply to the dead markets causes a slow trade here, and prices on the average are scarcely as good as on Monday last. No alteration in the Calf trade. From Germany and Holland there are 920 Beasts, 4350 Sheep, and 96 Calves; from Scotland, 80 Beasts; from Ireland, 700; Norfolk and Suffolk, 100; and 1700 from the northern and midland counties.

| | s | d | s | d | | s | d | s | d |
|---|---|---|---|---|---|---|---|---|---|
| Best Scots, Herefords, &c. | 4 | 8 | to 5 | 0 | Best Long-wools | 4 | 8 | to 5 | 0 |
| Best Short-horns | 4 | 6 | — 4 | 10 | Do. Shorn | .. | .. | — | .. |
| 2d quality Beasts | 3 | 4 | — 4 | 4 | Ewes & 2d quality | 4 | 0 | — 4 | 6 |
| Best Downs and Half-breds | .. | 5 | 0 — 5 | 2 | Do. Shorn | .. | .. | — | .. |
| Do. Shorn | .. | .. | — | .. | Lambs | .. | .. | — | .. |
| | | | | | Calves | .. | .. | 4 0 — 5 | 0 |
| | | | | | Pigs | .. | .. | 3 8 — 5 | 0 |

Beasts, 5340; Sheep & Lambs, 22,410; Calves, 146; Pigs, 390.

THURSDAY, Nov. 24.

We have a shorter supply of Beasts, especially of choice qualities; consequently best descriptions readily make Monday's quotations, otherwise trade is dull. The number of Sheep is very small, yet it exceeds the demand. Trade is dull for Calves at lower prices. From Germany and Holland there are 305 Beasts, 770 Sheep, and 174 Calves, from the northern and midland counties, 400 Beasts; and 130 Milch Cows from the home counties.

| | s | d | s | d | | s | d | s | d |
|---|---|---|---|---|---|---|---|---|---|
| Best Scots, Herefords, &c. | .. 4 | 8 | to 5 | 0 | Best Long-wools | 4 | 8 | to 5 | 0 |
| Best Short-horns | 4 | 6 | — 4 | 10 | Do. Shorn | .. | .. | — | .. |
| 2d quality Beasts | 3 | 2 | — 4 | 0 | Ewes & 2d quality | 4 | 0 | — 4 | 6 |
| Best Downs and Half-breds | .. 5 | 0 | — 5 | 2 | Do. Shorn | .. | .. | — | .. |
| Do. Shorn | .. .. | — | | | Lambs | .. | .. | — | .. |
| | | | | | Calves | .. | .. | 4 0 — 4 | 8 |
| | | | | | Pigs | .. | .. | 3 8 — 4 | 8 |

Beasts, 1120; Sheep & Lambs, 3050; Calves, 237; Pigs, 180.

HOPS.—BOROUGH MARKET, FRIDAY, Nov. 25.

Messrs. Pattenden & Smith report that the market for fine samples continues gradually to advance, and such are very scarce.

HAY.—Per Load of Thirty-six Trusses.

SMITHFIELD, THURSDAY, Nov. 24.

| | | | | |
|---|---|---|---|---|
| Prime Meadow Hay | 70s to 75s | Clover | .. .. .. | 85s to 105s |
| Superior do. (old) | .. 80 84 | New Clover | .. .. | — — |
| Inferior do. | .. .. 50 60 | Second cut do. | .. | 70 85 |
| New do. | .. .. .. — — | Straw | .. .. .. | 26 30 |
| Rowen | .. .. .. 45 55 | | | DAVIS & CO. |

CUMBERLAND MARKET, THURSDAY, Nov. 24.

| | | | | |
|---|---|---|---|---|
| Sup. Meadow Hay | .. 80s to 86s | Inferior Clover | .. | 70s to 92s |
| Inferior do. | .. .. 65 74 | New do. | .. .. | — — |
| New do. | .. .. — — | Straw | .. .. .. | 30 34 |
| Superior Clover | .. 98 105 | | | JOSHUA BAKER. |

WHITECHAPEL, THURSDAY, Nov. 24.

| | | | |
|---|---|---|---|
| Fine old Hay | .. .. 80s to 85s | Fine old Clover | .. 100s to 105s |
| Inferior do. | .. .. 70 75 | Inferior do. | .. .. 84 94 |
| Prime New Hay | .. — — | Fine new Clover | .. — — |
| Inferior do. | .. .. — — | Fine 2d cut | .. .. 80 86 |
| Straw | .. .. .. 28 32 | Inferior do. | .. .. 65 75 |

BRITISH WOOLS.—LONDON, FRIDAY, Nov. 25.

There has been a large amount of business transacted and at fair rates, consumers having entered the market for many descriptions of fleeces and of combing sorts, from which they had been holding off for several weeks.

| | s. | d. | s. | d. | | s. | d. | s. | d. |
|---|---|---|---|---|---|---|---|---|---|
| South-down Hoggets | .. .. .. | 1 | 8 | to — | Leicest. Wethers | 1 | 5 | to — | |
| Half-bred ditto | .. | 1 | 8 | — — | Ditto Hoggs | .. | 1 | 7 | — — |
| Down Ewes | .. | 1 | 6 | — — | Combing Skins | | — | — | — |
| Kent Fleeces | .. | 1 | 7 | — — | Blanket ditto | .. | — | — | — |
| | | | | | Flannel Wool | .. | 1 | 2 | — 1 7 |

POTATOES.—SOUTHWARK, Monday, Nov. 21.

During the past week, the arrivals both coastwise and by rail have been quite equal to the demand, with some cargoes from France and Belgium. The trade has been dull with a fall in prices. The following are this day's quotations:—York Regents, per ton, 80s. to 120s.; Lincolnshire do., 70s. to 90s.; Dunbar do., 90s. to 110s.; Perth, Forfar, and

Fifeshire do., 60s. to 90s.; Kent and Essex do., 80s. to 100s.; French Whites, 70s. to 80s.; Belgian do., 65s. to 75s.

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**COAL MARKET.—Nov. 23.**

Walls End Braddyll's Hetton, 20s.; Walls End Haswell, 21s.; Walls End Belmont, 18s. 9d.; Walls End Bells, 18s. 9d.; Walls End Heugh Hall, 20s.; Haswell Gas, 14s. 6d.; Walls End Evenwood, 15s. 6d.; Buddle's Hartley, 15s. 6d.; North Holywell Main, 15s. 6d.—26 ships at market.

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**MARK LANE.—MONDAY, Nov. 21.**

The supply of Wheat from Essex to this morning's market was moderate, from Kent small; and having no distant buyers the town millers were disinclined to purchase excepting at a decline of 1s. per qr. upon last week's quotations, which factors being unwilling to accept few sales had been effected towards the close of the market. In foreign scarcely any business was transacted, and prices remain nominally as before. Finest malting Barley brings the prices of this day se'nnight, but secondary qualities are very unsaleable and rather cheaper. Beans bring an advance of 1s. to 2s. per qr. Peas are unaltered in value. The Oat trade is quiet, and sales are slow at the rates of this day week. In the value of Flour there is no alteration.

| PER IMPERIAL QUARTER. | s. s. | | s. s. |
|---|---|---|---|
| WHEAT, Essex, Kent, & Suffolk..White | 40—48 | Red .... | 40—45 |
| — — fine selected runs..ditto | 46—48 | Red .... | 42—48 |
| — — Talavera ..... | 46—52 | | |
| — Norfolk..... | — | Red . .. | — |
| — Foreign ..... ..... | 38—56 | | |
| BARLEY, grind. & dist., 24s to 30s..Chev. | 38—44 | Malting . | 34—40 |
| — Foreign..grinding and distilling | 23—33 | Malting . | 35—41 |
| OATS, Essex and Suffolk ..... | 19—24 | | |
| — Scotch and Lincolnshire..Potato | 23—29 | Feed.... | 19—26 |
| — Irish .....Potato | 24—28 | Feed.... | 19—24 |
| — Foreign ..... Poland and Brew | 23—26 | Feed.... | 17—24 |
| RYE ..... | 35—38 | Foreign . | — |
| RYE-MEAL, foreign..... | — | | |
| BEANS, Mazagan.... 33s to 40s....Tick | 33—43 | Harrow . | 33—43 |
| — Pigeon .....44s —47s..Winds. | 48—54 | Longpod | — |
| — Foreign..... Small | 38—46 | Egyptian | — |
| PEAS, white, Essex and Kent.. Boilers | 36—39 | Suffolk . | 38—41 |
| — Maple.... —s to —s ..... Grey | 33—35 | Foreign . | 30—38 |
| MAIZE ..... White | — | Yellow.. | — |
| FLOUR, best marks delivered..per sack | 37—48 | | |
| — 2d do..... ditto | 27—37 | Country. | 27—37 |
| — Foreign ..... ... per barrel | 18—27 | Per sack | 30—37 |

**FRIDAY, Nov. 25.**

During the past week, with the exception of several very foggy days, the weather has been fine, and the latter day or two milder. The excitement in the grain trade had attained its height last week, and has since subsided. During the present business in Wheat has been dull and inactive in nearly every market of the kingdom, and there are few in which purchases could not have been made at fully 1s. per qr. decline. The value of Spring Corn has been better supported, but with a less active business. The demand for Flour has also fallen off, and caused the sale to be dull. From the Baltic c. f. and i. we have scarcely heard of a transaction, and our latest advices intimate that the navigation of the Russian and German ports appeared to be on the point of closing. The arrivals from Southern Europe this week continue to be small, but an increase of the same is at hand; this trade has also been dull. The sales of arrived cargoes are confined to 2 of Ibrail Maize at 30s. 4½d. to 30s. 6d. per 480 lbs.; 1 of Odessa Oats at 19s. 1½d. per qr. imp., nett; and 1 of Marionopoli Linseed at 49s. per qr. delivered. The arrivals of foreign Barley are large, fair of Oats, and moderate of all other grain. The attendance at to-day's market was small, and the English Wheat left over from Monday was chiefly disposed of on Wednesday at rates unobtainable on the previous market day, and on the sales effected to-day Wednesday's prices were fully supported. Foreign Wheat is held with firmness at former rates, but business is limited. With the exception of grinding Barley, which is 1s. per qr. dearer, Spring Corn of all descriptions is quiet at Monday's prices.

**ARRIVALS FROM Nov. 21 TO Nov. 25.**

| | Wheat. | Barley. | Oats. | Flour. |
|---|---|---|---|---|
| English .. | 1850 qrs. | 1540 qrs. | 1160 qrs. | 1360 sks. |
| Irish .... | — ,, | — ,, | 1900 ,, | — ,, |
| Foreign .. | 11630 ,, | 9490 ,, | 24270 ,, | — ,, 2250 brls. |

LIVERPOOL, Tuesday, Nov. 22.—We had a fair attendance of country millers and dealers at our Corn Exchange this morning, but the amount of business done in Wheat was only small, and that at a reduction of about 2d. per cental on Friday's rates. Flour had a fair inquiry, but tellers were obligod to give way 6d. per sack in most instances. Indian Corn declined 6d. per qr., with only a moderate business passing. Oats and Oatmeal were steady. Peas advanced 6d. to 1s. per qr. Beans and Barley brought full prices.

FRIDAY, Nov. 25.—Corn market languid; few sales in any articles, and prices in favour of buyers.

| AVERAGES | Wheat. | Barley. | Oats. | Rye. | Beans. | Peas. |
|---|---|---|---|---|---|---|
| Oct. 8.. | 42s 5d | 35s 8d | 21s 7d | 29s 10d | 39s 3d | 38s 0d |
| — 15.. | 42 6 | 35 10 | 21 3 | 29 7 | 38 9 | 39 8 |
| — 22.. | 42 10 | 35 5 | 21 2 | 29 6 | 39 2 | 37 7 |
| — 29.. | 43 1 | 35 6 | 20 11 | 30 4 | 38 9 | 38 2 |
| Nov. 5.. | 42 9 | 35 9 | 22 1 | 30 2 | 39 3 | 38 5 |
| — 12.. | 42 10 | 35 11 | 21 5 | 29 7 | 40 3 | 37 9 |
| Agg. Aver. | 42 9 | 35 8 | 21 5 | 29 10 | 39 3 | 38 4 |

**FLUCTUATIONS IN THE LAST SIX WEEKS AVERAGES.**

| PRICES. | Oct. 8. | Oct. 15. | Oct. 22. | Oct. 29. | Nov. 5. | Nov. 12. |
|---|---|---|---|---|---|---|
| 43s 1d | .. | .. | .. | | .. | .. |
| 42 10 | .. | .. | .. | .. | .. | |
| 42 9 | .. | .. | .. | .. | .. | .. |
| 42 6 | .. | .. | .. | .. | | .. |
| 42 5 | .. | | .. | .. | .. | .. |
| .. | .. | .. | .. | .. | .. | .. |

THE WIDOW OF THE LATE PROFESSOR HENFREY F.R.S., L.S., &c., of King's College, London, receives a small number of BOYS between the ages of 6 and 12, to EDUCATE with her own family. Terms, from 60 Guineas per Annum.—Turnham Green, W.

WANTED, by a gentleman in the County of Oxford, an ARTICLED PUPIL. A limited number of Boarders are taken. Terms moderate.—Apply to ALPHA, Kingham, Oxon.

TO WOODMEN.

WANTED, A WORKING FOREMAN of Woodmen.—Any person having experience in the management of Woodland, as Planting, Pruning, Felling, Barking, &c., and the management of Fences, may address, stating age, present and previous occupation, references, and wages required (a cottage and garden being found), to W. P. AYRES, Orchard-leigh Park, Frome.

WANTED, in an extensive Forcing Establishment a Young MAN, to take charge of Pines, Vines, &c. No objection to his being married.—JOHN ELLIOTT, Fulham Fields, London, S.W.

NURSERY PROPAGATOR.

WANTED, A PROPAGATOR, PLANT GROWER, &c., of General Trade experience. He will be required to have a perfect knowledge of the Propagation of all kinds of Plants under Glass, also to understand Grafting, Budding, &c.—Apply with reference, stating age, experience, and wages expected, to J. SAMPSON, Nurseryman, &c., Pilsley, near Clay Cross, Chesterfield.

WANTED, several GROUND WORKMEN, competent to carry out designs without regard to the localities in which their services are required.—Apply by letter only to W. B. PAGE, Hill and Sidford Nurseries, Southampton.

WANTED, an industrious Working GARDENER, who understands Kitchen and Flower Gardens, Vinery, and Conservatory; also to have the care of a small Farmyard and a few acres of Land. Wages 20s. per week with a cottage and garden. Assistance in the Garden.—Apply first by letter directed to A. B. S., Messrs. Larkin's Library, Egham, Surrey.

WANTED, A GARDENER and his WIFE, without incumbrance, to occupy a Lodge; the former to have competent knowledge of Flowers, Grapes, Pruning of Fruit Trees, and Kitchen Garden; the latter to undertake the Washing. The family consists of four, and three maid servants.—State full particulars by letter to W. K., Terlings Park, near Harlow, Essex, stating terms, &c.

WANT PLACES.—Letters to be Post Paid.

GARDENER (HEAD).—Age 28, married, no incumbrance; thoroughly understands his profession in all its branches. Four years' spotless character.—A. B., Post Office, Peasemore, Berks.

GARDENER (HEAD).—Age 37, married, without incumbrance; has a thorough knowledge of his business in all its branches. Two years' reference.—Y. Z., Mr. Carter, Seedsman, 238, High Holborn, W.C.

GARDENER (HEAD).—Age 34, married; has had good practice and experience in the garden; takes a great interest in his profession, and has been a successful Grower and Exhibitor of Plants, Flowers, and Vegetables. Good Testimonials from late employer.—T. P., 20, Frederick Street, Ramsgate, Kent.

GARDENER (HEAD).—Age 36; 20 years' experience in first-class families in Scotland, England, and Ireland. His late master will be happy to recommend him as a thoroughly practical Gardener to any gentleman in want of such. Also four years Foreman in a first class London Nursery.—S. D., 24, Sussex Road, Brixton, S.

GARDENER (HEAD), to a nobleman or gentleman.—Married, no incumbrance; has had extensive practical experience in every department of Gardening, Laying out and Improving Gardens and Pleasure Grounds, the Erection of Hothouses, and is well experienced in Ground work. First-class testimonials.—J. D., 24, Earnest Street, Regent's Park, N.W.

GARDENER (HEAD).—Age 40, married, no incumbrance; has a thorough practical knowledge of the management of Pines, Vines, Melons, &c., and every description of Early and Late Forcing, the Growing of Stove and Greenhouse Plants for exhibition, also Fruit, Flower, and Kitchen Gardens, and can take charge of Meadow Land if required. Satisfactory testimonials as to character and ability. Ten years' character.—A. B., Messrs. Milne & Arnott, Vauxhall Nursery, Wandsworth Road, London, S.W.

GARDENER.—A. KAY, The Gardens, Lillesden, Hawkhurst, Kent, is at liberty to engage with any nobleman or gentleman requiring the services of a thoroughly practical Gardener.—Address as above.

GARDENER.—Middle-aged, single; has had considerable experience in the Pruning, Training of Wall and Bush Fruits, and the general routine of Gardening. Would prefer an appointment under a nobleman's or gentleman's Gardener.—S. E., 54, Britannia Row, Lower Road, Islington, N.

GARDENER (UNDER).—Age 23, single; 16 months' good character.—B. M., Mr. Buckingham, Blackheath Vale, Blackheath, Kent.

GARDENER (UNDER).—Age 22; understands Hothouses, Greenhouses, and Flower Garden. Good character from last situation.—B. B., Wyddial Hall, near Buntingford, Herts.

GARDENER OR GARDENER AND STEWARD.—A first-rate general Plant and Fruit grower, understands the management of Land, Timber, and Stock. Well known at the London and Provincial Exhibitions for several years.—E. R., Messrs. Lee, Nurserymen, Hammersmith, London, W.

GARDENER AND BAILIFF.—Age 41, married, native of Scotland; well understands his profession. Good reference.—W. K., Scotforth Road, Lancaster.

FARM BAILIFF.—An experienced Man, who perfectly understands his profession in all its branches: has farmed in different counties, and understands Buying, Selling, Breeding, and Feeding Stock. Reference from the gentleman, who is giving up his farm, with whom he has lived five years.—A. B., Mr. Chandler's, Basingstoke.

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HOLLOWAY'S PILLS AND OINTMENT.—BEWARE.—In low-lying districts and damp foggy situations diseases of the throat and chest always gain footing in November, and if the early symptoms proceed unchecked, diphtheria, quinsey, asthma, bronchitis, or consumption may result. All desirous of avoiding so serious a termination should have at hand the purifying Pills invented by Professor HOLLOWAY. These Pills should be taken freely, while the Ointment is energetically rubbed at least twice a day on the skin covering the organs unhealthily affected. A short use will work a favourable change. An immediate and very sensible diminution of the patient's sufferings will compensate for the trouble of rubbing, and daily improvement will encourage the afflicted vigorously to persevere till complete recovery is wrought.

# The Gardeners' Chronicle Newspaper.

*SATURDAY, DECEMBER* 3, 1859.

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| 50 | 4 6 3 | 2 4 3 | 1 2 8 |

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CHUBB & SON, 57, St. Paul's Churchyard, London, E.C; 28, Lord Street, Liverpool; 16, Market Street, Manchester; and Wolverhampton.—Illustrated Price Lists sent free.

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| | | | | | |
|---|---|---|---|---|---|
| Bedsteads, from .. .. .. | 12*s.* 6*d.* | to | £20 | 0*s.* | each. |
| Shower Baths, from .. .. | 8 0 | „ | 6 0 | „ | |
| Lamps (Moderateur), from .. | 6 0 | „ | 7 7 | „ | |

(All other kinds at the same rate.)
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WILLIAM S. BURTON'S GENERAL FURNISHING IRONMONGERY CATALOGUE may be had gratis, and free by post. It contains upwards of 400 Illustrations of his illimited Stock of Electro and Sheffield Plate, Nickel Silver and Britannia Metal goods, Dish Covers and Hot-water Dishes, Stoves, Fenders, Marble Chimney-pieces, Kitchen Ranges, Lamps, Gaseliers, Tea Urns and Kettles, Tea Trays, Clocks, Table Cutlery, Baths and Toilet Ware, Turnery, Iron and Brass Bedsteads, Bedding, Bedroom Furniture, &c., with Lists of Prices and Plans of the 16 large Show Rooms at 39, Oxford Street, W.; 1, 1A, 2, and 3, Newman Street, W.; and 4, 5, and 6, Perry's Place, W., London.—Established 1820.


RESERVE FORCE OF ROYAL NAVAL VOLUNTEERS.—HER MAJESTY'S GOVERNMENT having with the Sanction of Parliament determined on establishing a Reserve Volunteer Force of Seamen trained to the Use of Arms:—

**THIS IS TO GIVE NOTICE.**

That any Seaman possessing the following qualifications may be enrolled as a Royal Naval Volunteer in the Reserve Force, and will thereupon be entitled to the advantages and be subject to the obligations mentioned below:—

**QUALIFICATIONS FOR THE RESERVE.**

1. A Volunteer must be a British Subject:
2. He must be free from infirmity:
3. He must not be over 35 years of age:
4. He must within the 10 years previous to his joining the Reserve have been five years at sea, one year of that time as an A.B.

**ADVANTAGES OF THE RESERVE.**

1. A Volunteer will at once receive an annual payment or retainer of 6*l.*, payable quarterly:
2. He will, if he fulfils his obligations and is in the Reserve the requisite time, receive a pension of not less than 12*l.* a year whenever he becomes incapacitated from earning a livelihood, or at 60 years of age, if not previously incapacitated:
3. He may elect either to take the whole pension himself, or to take a smaller pension for himself during his life, and to allow his wife a pension after his death, for the remainder of her life:
4. He will not, on account of belonging to the Reserve, forfeit any interest in any Friendly or Benefit Society:
5. His travelling expenses to and from the place of drill will, when necessary, be provided:
6. He will, during drill, receive, in addition to the retaining fee, the same pay, victualling, and allowances as a seaman of the Fleet according to his rating:
7. He will, if called out on actual service, receive the same pay, allowances, and victuals, and have the same prospect of promotion and prize money, as a continuous service seaman of the Fleet according to his rating, and he will on joining receive the same clothing, bedding, and mess traps:
8. He will, if wounded or injured in actual service, receive the same pension as a seaman in the Navy of the same rating:
9. He will be eligible to the Coast Guard Service and Greenwich Hospital:
10. He may quit the Reserve, if not at the time called out for actual service, at the end of every five years; he may also quit it when not called out, on paying back the retainers he has received; or, without payment, if he passes an examination as Master or Mate, and obtains bonâ fide employment as Master or Mate.

OBLIGATIONS OF THE RESERVE.

1. A Volunteer must attend drill for 28 days each year; he may do so, so far as the convenience of the public service will permit, at a time and place convenient to himself; but he cannot in any case take less than seven days' drill at any one time:
2. He must not, without special permission, proceed on a voyage that will occupy more than six months:
3. He must appear before some Shipping Master once in every six months, unless he has leave to be abroad longer, and he must report every change of residence and employment:
4. In order to earn a Pension he must continue in the Reserve as long as he is physically competent to serve, and he must also have been in the force 15 years if engaged above 30, or 20 years if engaged under 30. In reckoning this time actual service in the Fleet will count double:
5. Volunteers may be called upon for actual service in the Navy by Royal Proclamation. It is intended to exercise this power only when an emergency requires a sudden increase in the Naval Force of the country:
6. A Volunteer may in the first instance be called out for three years. If there is then actual war, and he is then serving in one of her Majesty's ships, he may be required to serve for two years longer; but for the additional two years he will receive 2*d.* a day additional pay:
7. Volunteers when on drill or actual service will be subject to Naval Discipline:
8. A Volunteer who fails to fulfil the obligations of the Reserve will forfeit his claim to Retainer and Pension, and if he fails to join when called out for actual service may be treated as a straggler or Deserter from the Navy.

**THE INROLMENT WILL COMMENCE ON 1st JANUARY, 1860.**

Full information and detailed condition may be obtained on application to the Shipping Master at any Port in the United Kingdom, or to the Officers of Customs in the Channel Islands and Isle of Man.

# News of the Week.

THE official invitations from France and Austria were sent out on Tuesday to all the Powers who are to take part in the approaching Congress. It is understood in Paris that each Power will be represented by two Plenipotentiaries, the first to be a Minister specially appointed for that purpose, and the second to be the Minister accredited to the Court of the Tuileries. Lord PALMERSTON has been mentioned as the fittest statesman to represent England on this occasion as first Plenipotentiary; but it is not yet known whether he would be willing to undertake the duty. It is generally believed that the first sitting of the Congress will take place at the Hotel of the French Minister for Foreign Affairs on or about the 5th of January next.

Accounts from the Morocco coast inform us that a sharp engagement took place on the 25th ult. between the Spanish expeditionary force and the Moors, in which the latter sustained a heavy loss, and the Spaniards had 80 killed and 400 wounded. An engagement has also taken place between four French war steamers and the Moorish forts at the mouth of the river Tetuan. The commander of these forts having cannonaded the frigate St. Louis without any provocation, Admiral ROMAIN DESFOSSES, commanding the French fleet at Algesiras, proceeded with four steamers to the spot and destroyed the forts. The Admiral has since made "severe representations" on the subject to the Morocco Government, and it is said that the Governor of Tetuan has given satisfaction by ordering the arrest of the Moorish officer who committed the aggression.

From the United States we learn that the excitement in Virginia, arising out of the affair at Harper's Ferry, has been increased to an alarming extent by the outbreak of numerous incendiary fires in the neighbourhood of Charlestown, and by the general report that the incendiaries were the advance guard of a body of Abolitionists who were to come from the north and rescue BROWN and his confederates. Large bodies of troops were under arms at Richmond and Alexandria, and Charlestown itself was so strictly guarded as to be really under martial law. A despatch from Washington states that the San Juan affair, in the present state of the negotiations with England, cannot form the subject of comment in the PRESIDENT'S forthcoming message, and will simply be mentioned as a question that is still pending.

The Bombay mail has arrived with news from Bombay to the 12th Nov. Lord CANNING has addressed the talookdars of Oude in open durbar at Lucknow with good effect. The campaign against the rebels in Bundelcund has been opened, and another upon the Chumbul is expected. The agitation against the Bill for licensing trades and professions continues at Bombay. The Waghurs have evacuated Dwarka after several days' bombardment, which reduced the town to ashes.

# Home News.

THE COURT.—The Queen, Prince Consort, and the Royal family continue at Windsor Castle. On Friday morning the Queen, with Princess Frederick William, walked and drove in the Home Park, and visited the Duchess of Kent at Frogmore. The Prince Consort and Prince Frederick William went out shooting. The Duke and Duchess of Manchester, the Duke of Newcastle and Lady Susan Pelham Clinton, the Earl and Countess of Derby and Lady Emma Stanley, Lord and Lady Churchill, and the Right Hon. G. C. and Lady Theresa Lewis, left the castle. In the afternoon her Majesty and the Prince Consort, accompanied by Prince and Princess Frederick William, the Princess Alice, and Princess Helena, went to Eton College and inspected the memorial windows lately erected in the chapel to commemorate the Etonians who fell in the Crimean war. The Queen and Royal party also visited the upper school, the college, hall, and libraries. On Saturday morning the Queen and Prince Consort, accompanied by Prince and Princess Frederick William and the Princess Alice, visited the camp at Aldershott, returning to the castle in the afternoon. The Lord Chancellor and Lady Stratheden, the Duchess of Sutherland, the Countess of Dunmore and Lady Susan Murray, the Earl and Countess De La Warr and the Right Hon. Sir Charles and Lady Mary Wood, arrived on a visit. On Sunday morning the Queen and Prince Consort, Prince and Princess Frederick William, Princess Alice, Princess Helena, Princess Louisa, Prince Arthur, and the visitors attended Divine service in the private chapel; the Dean of Windsor officiated. The Duchess of Kent visited her Majesty. On Monday morning the Queen drove out in an open carriage accompanied by Princess Frederick William. The Prince Consort and Prince Frederick William came to town by a special train of the Great Western Railway. The Prince Consort drove from Paddington to Mr. Theed's studio; thence to the South Kensington Museum, and afterwards returned to Windsor. Prince Frederick William visited the gun factories at Woolwich and returned to Windsor in the afternoon. The Duke of Nemours visited her Majesty and Princess Frederick William. The Lord Chancellor and Lady Stratheden, Earl and Countess De la Warr, the Countess of Dunmore and Lady Susan Murray, and the Right Hon. Sir Charles and Lady Mary Wood left the castle. On Tuesday morning the Queen and Prince Consort, accompanied by Prince and Princess Frederick William, walked in the Home Park and visited the Duchess of Kent at Frogmore. Prince and Princess Frederick William afterwards went to Oxford, and visited the Prince of Wales, returning to Windsor in the evening. In the afternoon the Queen held a Privy Council, at which Parliament was ordered to be further prorogued from Thursday, the 15th inst., to Tuesday, the 24th of January, then to meet for the despatch of business. The Duke of Bedford took the oaths on being appointed Lord-Lieutenant of Bedfordshire. Her Majesty gave audiences to Earl Granville.

Lord John Russell, the Duke of Newcastle, and the Right Hon. Sidney Herbert. Sir A. C. Magenis had an audience of her Majesty. After the Council the Duke of Argyll and the Earl of Elgin remained on a visit. The Duke and Duchess of Aumale, the Duke and Duchess of Somerset, the Duchess of Argyll, and the Countess of Elgin arrived on a visit. On Wednesday morning the Queen, with Princess Frederick William and the Duchess of Aumale, walked in the Home Park, and visited the Duchess of Kent at Frogmore. The Prince Consort went out shooting, accompanied by Prince Frederick William and the Duke of Aumale. The Duchess of Sutherland left the castle. General Knollys arrived on a visit. In the evening the second dramatic performance took place in St. George's Hall, the play selected being "Romeo and Juliet." A large party was invited by the Queen to witness the performance. On Thurday morning the Queen, accompanied by Princess Frederick William, the Princess Alice, and Princess Helena, walked in the Home Park and visited the Duchess of Kent at Frogmore. The Prince Consort and Prince Frederick William of Prussia came to town, and the Prince Consort presided at a meeting at the Council of the Duchy of Cornwall. The Duke and Duchess of Aumale, the Duke and Duchess of Argyll, the Duke and Duchess of Somerset, the Earl and Countess of Elgin, and General Knollys left the castle. The Court will leave Windsor on Monday for Osborne.

THE PRINCE AND PRINCESS FREDERICK WILLIAM will leave Windsor Castle to-day for Dover on their return to Berlin. Their Royal Highnesses will proceed to Dover, and thence cross to Calais, from which place they will travel by railway to Brussels, for the purpose of paying a visit to the King of the Belgians.

THE PRINCE OF WALES paid a visit to the Duke and Duchess of Marlborough at Blenheim Palace on Wednesday, and spent the day in shooting over the duke's domain. In the evening the duke and duchess gave a grand banquet to a party of 36, and an evening party to which upwards of 300 were invited.

THE EX-ROYAL FAMILY OF FRANCE.—The Count de Paris and the Duke de Chartres embarked at Trieste on Sunday in the Austrian Lloyd's steamer for Egypt.

THE CABINET.—A Cabinet Council was held on Wednesday at the official residence of the First Lord of the Treasury in Downing Street. Another Council was held yesterday.

PARLIAMENTARY MOVEMENTS.—A proclamation was issued on Wednesday proroguing Parliament from the 15th inst. to Tuesday the 24th January, and summoning it then to meet "for the despatch of divers urgent and important affairs."

THE PEERAGE.—Lord Ebrington, eldest son and heir of Earl Fortescue, is to be called up to the House of Peers.

THE ROYAL DOCKYARDS.—The Admiralty have called for a return of the ages, pay, &c., of officers and clerks on civil salaries, with the view it is said of obtaining an Order in Council making it compulsory on all salaried men to retire at 65, instead of 70, as at present.

THE VOLUNTEER MOVEMENT.—An influential public meeting of the parishioners of St. James's, Piccadilly, was held in St. James's Hall, on Wednesday, to take into consideration the propriety of forming a volunteer rifle corps for that Royal parish, to act in concert with those now in course of formation in the eight other parishes of the city of Westminster. Lord Elcho, M.P., took the chair, and the meeting was addressed by Lord Ranelagh, Hon. F. Byng, the High Bailiff of Westminster, Rev. J. E. Kempe, Mr. Bidgood, Mr. H. Grenfell, and other gentlemen, and it was unanimously resolved to form a corps in connection with the other parishes of Westminster. — On Wednesday afternoon Lord Radstock, the commanding officer of the Marylebone Rifle Corps, administered the oath of allegiance to about 200 of the effective members, who assembled in the Pavilion at Lord's Cricket Ground for the purpose. The ceremony took place in the presence of the principal members of the council. The corps now numbers about 400 members, half of whom are effective, and the enrolment of new members continues satisfactory, 20 or 30 young men presenting themselves each evening of drill for that purpose. The council are about to take a lease of the practice ground at Wormwood Scrubs, and erect a suitable butt.—The movement set on foot by the Irish noblemen and gentlemen in the metropolis for the establishment of a London Irish Volunteer Rifle Corps, similar to the one organised by the Scotch residents of London, is progressing favourably, and already the committee comprises the Marquis of Donegal, the Marquis of Conyngham, the Earl of Arran, the Earl of Donoughmore, Lord Cremorne, Lord Annesley, the Earl of Desart, the Right Hon. Sir W. M. Somerville, M.P., Colonel O'Brien, &c. Communications in support of the movement have also been received from various other distinguished Irishmen, and the greatest success is looked forward to. A meeting on behalf of the movement will be held in the course of a few days.—At a meeting of the London Brigade the Lord Mayor reported that additional contributions to a large amount had been received, and that the mercantile firms are giving signs of encouragement to the gentlemen in their establishments. His lordship added that he was much gratified at being able to state distinctly that the Government would shortly be in a position to hand the brigade a rifle for the use of every volunteer in the regiment, and that the long Enfields would be withdrawn and short ones with sword-bayonets substituted as soon as practicable.—The formation of the Civil Service Brigade is proceeding most successfully, the number of recruits being already nearly sufficient to form a battalion. In addition to the Audit Office corps already formed, companies are forming in the departments of the Post Office, Admiralty, and Inland Revenue. The preliminary drills are held in Westminster Hall, by permission of the First Commissioner of Works. A committee of representatives from the different departments is about to assemble to select the uniform, and a council or general committee will eventually be appointed to manage the general affairs of the brigade.—A meeting was held on Monday in the Museum at South Kensington, Mr. H. Cole, C.B., in the chair, at which it was resolved to organise an engineer corps, to be composed of the officers and others connected with the Department of Science and Art, and of such gentlemen of the neighbourhood as might desire to join. Before the meeting broke up 75 volunteers signed their names.—A general meeting of the members of the Railway Rifles corps was held at Camden Town on Tuesday evening, when it was arranged that there should be two additional drills on Tuesday and Thursday evenings, the afternoon drill on Saturdays at the Metropolitan Cattle Market remaining as at present. It was also decided to form a cadet class of youths from 14 to 18 years of age, to prepare them for enrolment; to be drilled by competent members of the corps.—The volunteer movement at the Victoria Docks has been attended with singular success, and much enthusiasm has been displayed by all the permanent staff of the establishment, who have volunteered to a man. At the first meeting it was announced that the manager intended to provide a complete outfit for those who were desirous of volunteering.—A committee, consisting of the local magistracy, the senior churchwarden, and a large number of the vestry and directors of the poor, with some of the clergy, is forming to carry out an effective organisation for the establishment of Rifle Corps for St. Pancras. The regulations and expenses of admission into other corps have been consulted, and it is determined to establish the St. Pancras Rifles upon a more liberal and popular basis than any other yet before the public.—A public meeting was held on Monday night at Battersea, at which it was resolved to adopt measures for establishing a Rifle Corps for Battersea and district; Mr. Baker, of the Cedars, liberally offering to guarantee all the money required, or, with the influence of himself and friends, to lighten the burden which otherwise would press upon the movement.—A large meeting was held on Monday at Putney, the Rev. C. T. Robinson, the incumbent, in the chair, at which it was determined to form a corps in Putney consisting of effective and non-effective members and subscribers, and forming a division of the Richmond volunteers. The Richmond corps, which has hitherto been only a subdivision, is rapidly increasing, and will at once become a company.—A preliminary meeting of gentlemen connected with Clerkenwell has been held, at which it was resolved to form a corps in Clerkenwell, and circulars were ordered to be sent out inviting persons favourable to the movement to attend a meeting to be held on a future day.—The members of the volunteer corps of the Inns of Court, of whom 320 are now enrolled, were drilled for the first time on Monday in the fine hall of Lincoln's Inn, the use of which has been granted by the benchers. The drill commenced at half-past 8 in the morning, and was repeated twice during the day and evening, lasting two hours on each occasion. The name of one learned judge figures in the list of enrolled members, and another is expected to join and to take his drill with the rest of the volunteers.—The Queen's Corps is progressing in a most satisfactory manner. The number of effective members is now close upon 200, and applications for enrolment are made daily. The members of the corps drill in Westminster Hall on Mondays and Wednesdays from 7 till 9, and on Saturdays from 4 till 6, and the committee have secured a piece of ground at the Crystal Palace for the purposes of a "range."—The St. George's Corps have applied to Lieut.-General Sir Harry Smith to become their commanding officer, but the gallant general has replied that his position in the army must prevent his accepting the offer, adding that "no man in England has a higher opinion of the rifle volunteer movement, and no general officer has ever found the well-armed people of a gallant nation more formidable in the field."—The 1st company of the 14th Middlesex (Highgate) corps is nearly approaching its full complement, and it is proposed to take steps to form a second. The commanding officer of the 2d battalion Scots Fusilier Guards has permitted the officers to learn company and battalion drill at the Wellington Barracks.— The services of the 3d Kent (Blackheath and Lee) company, which now numbers 90 effective members, have been accepted by her Majesty. The members have for some time past been actively engaged in light infantry drill.—The effective strength of the enrolled members of the Croydon and East Surrey corps now exceeds that requisite for a complete company. It has therefore been decided to proceed at once with the formation of a second Croydon company.—A public meeting was held at the Town Hall, Chertsey, on Saturday, attended by several influential gentlemen, magistrates, &c., Mr. Briscoe, M.P., in the chair, when resolutions were passed for the formation of a volunteer rifle corps for the hundred of Godley.—From the provinces we learn that meetings in aid of the movement or for the formation of local corps have been held during the week at Altrincham, Aberdeen, Ashton-under-Lyne, Aberdare, Beaufort, Boston, Birkenhead, Buckingham, Burslem, Burton, Bedford, Blackburn, Bradford, Bristol, Brixham, Bideford, Bilston, Barnard Castle, Chatham, Cirencester, Cardiff, Cupar, Carlisle, Cullompton, Dover, Dowlais, Doncaster, Dunbar, Dawlish, Derby, Dorchester, Egham, Edinburgh, Exeter, Framlingham, Guildford, Gravesend, Greenock, Hartlepool (West), Hereford, Hastings, Harrogate, Haddington, Kingston-on-Thames, Holmfirth, Hull, Ipswich, Kendal, Kidsgrove, Liverpool, Lynn, Lanark, Lichfield, Lytham, Leamington, Malmesbury, Malton, Middlesborough, Newark, Newton Abbott, Neath, Newcastle-on-Tyne, Newport (Monmouthshire), Nottingham, Portsmouth, Penrith, Pontefract, Pontypool, Penshurst, Perth, Petworth, Ross, South Shields, Swansea, Sheerness, Stockport, Sheffield, Stratford-upon-Avon, Stafford, Stoke-upon-Trent, Stourport, Sunderland, St. Leonard's, Truro, Thirsk, Tamworth, Tranmere, Totnes, Topsham, Tunstall, Trowbridge, Wakefield, Warwick, Weston-super-Mare, Weymouth, Worcester, Wimborne, Woodbury. At the General Sessions of the county of Kent on Tuesday Mr. Beattie, a magistrate for the counties of Kent and Sussex, gave notice of the following motion:—

"That this Court do take into consideration, at its next meeting, the expediency of having the police of the county instructed in the practice of the rifle, and such other drill as would enable them to act in a body, under legal authority, in any emergency; and that the chief constable be directed to report on the possibility of such instruction being afforded without detriment to the service or trenching on the daily duties."

## Foreign.

FRANCE.—The *Moniteur* announces that the communications convoking the assembling of the Congress were sent out on Tuesday to the several Powers who are to take part in it. The first sitting of the Congress will take place on the 5th January next, and all the Powers which take part in the Congress will be represented by two Plenipotentiaries. The *Moniteur*, in addition to the treaties published in our Italian news, gives the text of the treaty concluded between France and Austria. It is as follows:—

"The Emperor of the French and the Emperor of Austria, desirous of putting an end to the calamities of the war, and to prevent the renewal of the complications which gave rise to it, by contributing to erect on solid and durable foundations the internal and external independence of Italy, have resolved to convert into a definitive treaty of peace the preliminaries signed by their hand at Villafranca. [Here follow the names and titles of the Zurich Plenipotentiaries.] Art. 1. There shall be in future peace and friendship between the Emperor of the French and the Emperor of Austria, as also between their heirs and successors, their respective States and subjects, for ever. Art. 2. All prisoners of war shall be immediately returned on both sides. Art. 3. To attenuate the evils of war, an exception is made to the general law, and all Austrian vessels captured, not yet condemned as prizes, shall be restored. The vessels and cargoes shall be restored in the same state as when taken, after payment of all expenses, charges, &c., incurred by their capture, and on payment of the usual allowance to the captors; no indemnity can be claimed on account of prizes sunk or destroyed, nor for the loss of merchandise, even not condemned as prize property. It is also understood distinctly that all decisions given hold good. [Art. 4 declares the cession of Lombardy to the Emperor of the French, with the details given in the treaties with Sardinia.] Art. 5. The Emperor of the French declares his intention of handing over to the King of Sardinia the territories ceded by the preceding article. Art. 6. The territories still occupied in virtue of the armistice of the 8th of July last shall be reciprocally evacuated by the belligerent Powers, the troops of which will retire immediately beyond the frontier line stipulated in Art. 4. [Art. 7 to 17 inclusive are *verbatim* the same as those which are published in the treaty between France and Sardinia, relative to the settlement of the financial points between the two countries, and the money indemnity to be paid to Austria and France.] Art. 18. The Emperor of the French and the Emperor of Austria engage themselves to favour with all their efforts the creation of a Confederation between the Italian States, to be placed under the honorary presidency of the Holy Father, and the object of which would be to maintain the independence and the inviolability of the Confederated States, to assure the development of their moral and material interests, and to guarantee the internal and external safety of Italy by the existence of a federal army. Venetia, which remains placed under the Crown of his Imperial, Royal, and Apostolic Majesty, will form one of the States of this Confederation, and will participate in the obligations as well as in the privileges resulting from the federal pact, the clauses of which shall be determined by an assembly consisting of representatives of all Italian States. Art. 19. As the territorial eliminations of the independent States of Italy which took no part in the late war cannot be changed except with the sanction of the Powers that presided at their formation and acknowledged their existence, the rights of the Grand Duke of Tuscany, of the Duke of Modena, and of the Duke of Parma are expressly reserved between the high contracting parties. Art. 20. Desirous of seeing the tranquillity of the States of the Church and the power of the Holy Father assured; convinced that such object could be more efficaciously attained than by the adoption of a system suited to the wants of the populations and conformable to the generous intentions already manifested by the Sovereign Pontiff, the Emperor of the French and the Emperor of Austria will unite their efforts to obtain from his Holiness that the necessity of introducing into the Administration of his States the reforms admitted as indispensable shall be taken into serious consideration by his Government. Art. 21. With a view to contribute by every effort to quiet the public mind, the high contracting parties declare and promise that in their respective territories, and in the latter restored or ceded, no individual compromised by the recent events in the Peninsula, no matter what his rank or position in society, shall be prosecuted, annoyed, or troubled, in person or property, on account of his conduct or political opinions. Art. 22. The present treaty shall be ratified, and the ratifications exchanged within one fortnight, or earlier if possible. In faith of which the respective Plenipotentiaries have signed it and fixed their seals thereunto. Done at Zurich on the 10th November, 1859. — BOURQUENEY, BANNEVILLE, KAROLYI, MEYSENBURG."

"ADDITIONAL ARTICLE.—The Government of the Emperor of the French engages itself towards the Government of his Imperial, Royal, and Apostolic Majesty to make, on account of the new Government of Lombardy, which will guarantee its repayment, to pay to it 40,000,000 florins (C. M.), stipulated by

the 7th article of the present treaty, in instalments, as [illegible]—Eight millions of florins shall be paid each, by a bill [illegible] Paris, without interest, on the expiration of the three months, dating from the day on which the present treaty was [illegible] which will be handed to the Plenipotentiaries of [illegible] Royal, and Apostolic Majesty when the exchange [illegible] shall have taken place. The payment of the remaining [illegible] shall take place at Vienna, cash, in 10 successive instalments, to be made every two months, by bills on Paris, each of 14,000,000 florins. The first of these payments will be made two months after the payment of the last of 8,000,000 florins above separated. For that date, as for the other following, the interest will be reckoned at 5 per cent., dating from the first day of the month which will follow the exchange of the ratifications of the present treaty. The present additional article shall have the same force and value as if inserted [illegible] in the treaty of this day. It shall be ratified in one single act, and the ratifications exchanged at the same time. In faith of which the respective Plenipotentiaries have signed the present additional article, and affixed their seals thereunto. Done at Zurich on the 10th November, 1859. BOURQUENEY, BANNEVILLE, KAROLYI, MEYSENBURG.

"Art. 2. Our Minister and Secretary of State in the Department of Foreign Affairs is charged with the execution of the present decree. Done at Compiègne, the 27th November, 1859. Seen and sealed with the Seal of State. NAPOLEON. (Countersigned) DELANGLE, Keeper of the Seals, Minister of Justice; A. WALEWSKI, Minister of Foreign Affairs."

It has been currently rumoured this week that the French fleet has bombarded Tangiers or Tetuan. In explanation of this report the official journals state that the French squadron has bombarded neither of those places. The forts at the mouth of the Tetuan river having fired at the French line-of-battle-ship St. Louis, the French Admiral proceeded with four steamers to the mouth of the river and dismantled the fortifications. The *Moniteur* of yesterday contains the following despatch on the subject:—

"The Bretagne, off Algesiras, Nov. 26.

"Yesterday the vessel St. Louis was cannonaded by the forts at the entrance of the river Tetuan. Informed of that the same night, I have this morning, with four steamers, destroyed the two forts, which have been abandoned by the Moroccans. To-morrow the Foudre will proceed to Tangiers to make severe representations to the Minister Katil. Justice fulfilled, I resume the part of neutrality. Admiral ROMAIN DESFOSSES."

It is stated that this event does not change in any respect the relations between the two countries; and that the Governor of Tetuan has ordered the arrest of the commander of the Moorish fort, who has without orders' been guilty of an unjust aggression against a nation at peace with Morocco. The 101st and 102d Regiments of the Line, forming part of the Chinese expeditionary force, embarked at Toulon on Monday. The Dryade got under way during the evening. A great movement is visible among the vessels in the Toulon roads. It is stated that four merchants of Liverpool, who had written to the Emperor in order to express their fears on the subject of the unsatisfactory relations between France and England, have been honoured with a reply from his Majesty. The *Moniteur* of Friday announces the appointment of the Marquis de Moustier to the post of Ambassador to the Emperor of Austria. M. de Bourqueney has received from the Emperor of Austria the Grand Cross of the Order of St. Stephen, accompanied by a letter from the Austrian Minister for Foreign Affairs, regretting, in the name of his Sovereign, the definitive retirement of the Marquis from the post of the French Ambassador at Vienna. M. de Banneville at the same time received from the Emperor of Austria the Grand Cordon of the Order of the Iron Crown of Lombardy. On the other hand the Emperor of the French has raised Baron Meysenburg and Chevalier Joctau to the dignity of Grand Officers of the Legion of Honour, and presented Count Karolyi and Chevalier Des Ambrois with gold snuff-boxes with the portrait of his Majesty set in diamonds. The other members of the Austrian and French missions have also received decorations, according to their rank. The *Moniteur* of Thursday publishes a decree, placing the Prefect of Police under the authority of the Minister of the Interior, who is henceforth charged with the general direction of the public safety, and the officers of the Ministry of the Interior forming this division are placed under his control.

SPAIN AND MOROCCO.—Advices from the seat of war state that a sharp engagement took place on the 25th ult. between the Spanish troops and the Moors. The losses of the latter were heavy. On the Spanish side the casualties were 80 dead and 400 wounded.

HOLLAND.—The Amsterdam Crystal Palace is to be completed and opened in 1861. It will be 400 feet in length by 200 feet in width, and the central dome will be 200 feet in height, at the junction of which will be a transept and the nave of the edifice. The structure is to be of iron and glass; the iron to be obtained from England.

DENMARK.—Accounts from Copenhagen state that by a letter of the King, dated the 24th ult., the Councillor Rottwitt has been intrusted with the formation of a new Ministry. The Danish Government has made to the Federal Diet, through the medium of its representative at Frankfort, the following proposal for settling the difficulties of the Holstein question:—

"A committee, one half appointed by the Danish Council of State and the other half by the Diet of Holstein, to meet at Copenhagen, and propose the modifications to be made in the Constitution of Holstein. The proposed modifications to be submitted to the direct examination of the Diet of Holstein before the Danish Government decides definitively on them, thereby giving the Diet of Holstein a consultative vote on the project of the proposed reforms of its constitution."

PRUSSIA.—Prussian agents have left Berlin for England to inspect those places in the Isle of Wight and Dorsetshire which may be suitable as a residence for the King during the winter months, and to make such preparations as may be requisite. The Minister of War, General Bonin, has tendered his resignation, and is to be replaced by General Herrmann. M. von Scheele has refused the office of Lord Chamberlain, which had been offered to him, stating that he does not intend to take any part in the present political movement.

HESSE.—A quarrel seems likely to occur between Prussia and Electoral Hesse. For some time past there has been a conflict on the subject of a constitution between the Elector and his subjects. The Prussian Government 10 years ago lent its weight and authority to the Elector and enabled him to get the upper hand, but is now inclined to repair this wrong, and support the re-establishment of the old liberal constitution of 1832. The simultaneous departure of the Hessian Minister from Berlin and of the Prussian Minister from Cassel is supposed to be connected with these disputes.

AUSTRIA.—In consequence of the conclusion of peace at Zurich the diplomatic relations between Austria and Piedmont, which have been interrupted for the last three years, will be immediately re-established by the mutual nomination of official representatives having the rank of Minister Plenipotentiary. Count Edmund von Hartig, son of an ex-Governor of Lombardy, is to be the new Austrian Minister at Turin.

ITALY.—The *Piedmontese Gazette* of the 23d inst. publishes the text of the two treaties concluded at Zurich, as follows:—

"Victor Emmanuel II., &c., to all whom the present letters may concern, greeting. A treaty having been concluded between us and the Emperor of the French, and signed by our respective plenipotentiaries at Zurich on the 10th of November, 1859, with a view to consolidate an alliance and regulate, by a definitive agreement, the results of our participation in the late war, the tenour of which is as follows:—'In the name of the Most Holy Trinity. The King of Sardinia and the Emperor of the French, wishing to consolidate their alliance, and regulate by a definitive agreement the results of our participation in the last war, have resolved to confirm by a treaty the dispositions of the preliminaries of Villafranca relative to the cession of Lombardy, to which purpose they appointed, as their plenipotentiaries, for the King of Sardinia, M. Francis Louis Chevalier des Ambrois de Nerache, &c., and the Chevalier Joctau, &c.; for the Emperor of the French, Baron de Bourqueney, &c., and the Marquis de Banneville, &c. Art. 1. By a treaty of this day's date, the Emperor of Austria having renounced, for himself and for all his descendants and successors, in favour of the Emperor of the French, his claims and titles to Lombardy, the Emperor of the French transfers to the King of Sardinia the claims and titles which accrue to him in virtue of article 4 of the above-quoted treaty, of which the tenour follows:—The Emperor of Austria renounces for himself and for his successors in favour of the Emperor of the French, his claims and titles to Lombardy, with the exception of the fortresses of Peschiera and of Mantua, and of the territories determined by the new delimitation, which remain in the possession of his Imperial Majesty. The frontier, starting from the southern limit of the Tyrol, on the Lake of Garda, will follow the middle of the lake as far as the height of Bardolino and Manerba, whence it will join in a straight line the point of intersection of the zone of defence of the fortress of Peschiera with the Lake of Garda. That zone shall be determined by a circumference at a range of 7000 metres from the centre of the fortress plus the distances of the said centre to the glacis of the most advanced fort. From the point of intersection of the circumference thus drawn with the Mincio the frontier will follow the valley of the river to Le Grazie, will extend from Le Grazie in a straight line to Scorzarolo, will follow the valley of the Po to Luzzara, from which point there is no alteration in the frontier line already existing before the war. A military commissioner appointed by the Governments interested will be charged with drawing out the line on the localities within the shortest possible delay. Art. 2. The King of Sardinia, in taking possession of the territories ceded to him by the Emperor of the French, accepts the charges and conditions attached to that cession, such as they are stipulated in articles 7, 8, 9, 10, 11, 12, 13, 14, 15 and 16 of the treaty concluded under this day's date between the Emperor of the French and the Emperor of Austria, which are thus conceived:—(*a*). The new Government of Lombardy will be charged with three-fifths of the debt of the Monte Lombardo-Veneto. It will also be charged with a portion of the national loan of 1854, fixed between the high contracting parties at 40,000,000 florins* (C. M.). (*b.*) An international commission shall be immediately appointed to wind up the affairs of the Monte-Lombardo-Veneto; the creditor and debtor balance to be drawn on the principle of three-fifths to the new Government, and two-fifths to Austria. (*c.*) The new Government of Lombardy succeeds to the rights and obligations resulting from contracts regularly stipulated by the Austrian Administration for objects of public interest, concerning especially the ceded territory. (*d.*) The Austrian Government is charged to refund all sums paid in by Lombard subjects, communal districts, religious societies, public establishments, &c., as caution money, deposits, &c. Vice versâ, the new Government is charged to refund any such sums paid in by Austrian subjects. (*e.*) The new Government of Lombardy recognises and sanctions the railway concessions granted by the Austrian Government on the ceded territory, and for their full length of time, and especially the concessions resulting from the contracts passed under date of March 14, 1856, April 8, 1857, and September 23, 1858. Dating from the ratification of the present treaty, the new Government is bound to fulfil all the obligations which were incumbent upon the Austrian Government on account of the above mentioned concessions as regard railways on the ceded territory. A special convention will regulate the railway arrangements between the respective countries. (*f.*) Lombard subjects living on the ceded territory are allowed one year, dating from the exchange of the ratifications, to remove their goods and chattels to the Austrian territory; they are at liberty to retain their landed property in Lombardy. The same facility is given to individuals born on the ceded territory of Lombardy and established in the States of his Majesty the Emperor of Austria. Absentees are allowed an extension to two years to decide upon their movements. (*g.*) Lombard subjects belonging to the Austrian army, with the exception of those born on that portion of the Lombard territory which remains the property of the Emperor of Austria in virtue of the present treaty, are immediately free from military service, and may return to their homes. It is understood that those who prefer remaining in the service of his Imperial, Royal, and Apostolic Majesty shall not therefore suffer in their persons or property. The same applies to *employés* of Lombard origin in the service of Austria. (*h.*) Pensions, civil and military, will be paid as heretofore by the new Government of Lombardy. (*i.*) All deeds, titles, and documents relating to that portion of the Lombard territory which remains to Austria or to Venetia are to be handed over to the Austrian authorities, and *vice versâ*. (*j.*) Functionaries established in Lombardy are at liberty to dispose of their property, landed or movable, in case the new Government should not sanction the maintenance of their establishments. Art. 3. By the additional article of the treaty concluded under this day's date between the Emperor of the French and the Emperor of Austria, the King of Sardinia will hand over to the Government of the Emperor of the French Sardinian scrip of 5 per cent. income to bearer to the amount of [illegible] francs; the French Government takes them at the average rate of exchange of the Paris Bourse of the 22d of October 1859. The balance of the sum, after the payment in favour of France which [illegible] after the ratifications of the present [illegible]. Art. 4. To indemnify the expenses incurred by the French Government during the late war, the Government of the King of Sardinia engages to pay to the Government of the Emperor of the French the sum of 62,000,000 f. for the payment of which a 5 per cent. scrip of 3,100,000 will be handed over, on the budget of the public debt of Sardinia. The scrip will be handed over to the French Government, which accepts it at par. The interest on this scrip will be in favour of France when it is handed over, within one month after the exchange of the ratifications. Art. 5. The present treaty is to be ratified, and the ratifications to be exchanged at Zurich within a fortnight, or earlier if possible. In faith of which the respective plenipotentiaries have signed and affixed their seals thereunto. Done at Zurich on the 10th November, 1859. (Signed) LES AMBROIS, JOCTEAU, BOURQUENEY, BANNEVILLE.

"We, having adopted the above treaty in each and all the dispositions it contains, declare for ourselves and for our heirs and successors that it is approved, accepted, ratified and confirmed, and by these presents we approve, accept, ratify, and confirm it, promising to observe it and to cause it to be observed inviolable. In faith of which we have signed with our hand the present letters of ratification, and have affixed thereunto the great seal of our arms. Done at Turin the 17th November, 1859. VICTOR EMMANUEL. (Countersigned) DABORMIDA, Minister of Foreign Affairs; CARUTTI, Secretary-General of the Ministry of Foreign Affairs."

TREATY BETWEEN PIEDMONT AND AUSTRIA.

"Victor Emmanuel, &c., to all who these presents may concern, greeting. A treaty of peace having been concluded between us, the Emperor of the French, and the Emperor of Austria, signed at Zurich on the 10th November, 1859, by the respective plenipotentiaries of which the following is the tenour:—Art. 1. Dating from the day of the exchange of the ratifications of the present treaty, there shall be peace and friendship between the King of Sardinia and the Emperor of Austria, their heirs and successors, their respective subjects and States for ever. Art. 2. The Austrian and Sardinian prisoners of war shall be immediately restored on either side." There follow verbatim the articles already given in the first treaty, articles 3 to 16, &c., &c., with the following additions:—Art. 17. All treaties and conventions concluded between the King of Sardinia and the Emperor of Austria, which were in force before the 1st of April, 1859, are confirmed, in so far as they do not interfere with the present treaty. However, the two high contracting parties engage themselves to enter, within the term of one year, into new treaties and conventions to replace, revision, to make by common agreement, such modifications as may be in the interest of both countries. Meantime those treaties and conventions are extended to the territory recently acquired by the King of Sardinia. Art. 18. The navigation of the Lake of Garda is free except the particular port and coastguard regulations. The free navigation of the Po and its tributaries is maintained conformable to treaties. A Convention to put a stop to smuggling on those waters shall be concluded between Sardinia and Austria, within the term of one year dating from the exchange of the ratifications of the present treaty. Meanwhile the regulations will be enforced as stipulated in the Convention of November 22, 1851, for the suppression of smuggling on the Lago Maggiore, the Po, and the Ticino, and during the same interval no new regulations shall be made respecting the navigation of the Po and its tributaries. Art. 19. The Sardinian Government and the Austrian Government engage to settle by a special agreement everything connected with the maintenance of bridges and passes on the frontier line of the Mincio, and the tolls to be levied. Art. 20 stipulates that the two Governments will act in common as regards embankments and alterations in the bed of the river, if required. Art. 21. The inhabitants on the frontier line shall reciprocally enjoy the same advantages as were formerly granted to the dwellers on the banks of the Ticino. Art. 22. To contribute, by all means in their power, to calm the public mind, the King of Sardinia and the Emperor of Austria declare and promise that, in their respective territories, and in the countries restored or ceded, no person compromised by recent events in the Peninsula, no matter what his position in society, can be prosecuted, annoyed, or disturbed, either in his person or property, on account of his conduct or of political opinions. Art. 23. The present treaty shall be ratified and the ratifications exchanged at Zurich within a fortnight or earlier if possible. In faith whereof the respective plenipotentiaries have signed it and affixed their seals thereunto. Done at Zurich on the 10th of November, 1859. DES AMBROIS, JOCTEAU, KAROLYI, MEYSENBURG, BOURQUENEY, BANNEVILLE."

"We, having seen and examined the above treaty, have approved it, accepted it, ratified it, and confirmed it, and by these presents we approve, accept, ratify, and confirm, promising to observe it and to cause it to be observed inviolate. In faith of which we have signed with our hand the present letters of ratification, and have affixed thereto our great seal. Done at Turin, the 17th November, 1859. VICTOR EMMANUEL. (Countersigned) DABORMIDA (Minister of Foreign Affairs), CARUTTI (Secretary General of the Ministry of Foreign Affairs)."

TURKEY.—Advices from Constantinople to the 23d inst. state that during the preceding six days storms of unparalleled violence had prevailed in the Euxine. All the vessels out at sea had been driven on shore, and about 80 vessels had been lost. The coast was strewed with wrecks and with hundreds of corpses. The inhabitants of these inhospitable shores had stripped the survivors of the wreck of their property. Tug steamers had been sent to the Black Sea to render assistance in the recovery of property wrecked. The Grand Vizier had given a very good reception to M. de Lesseps.

INDIA.—The Bombay mail has arrived with news to the 12th November. The following are the details:—

*Peerla.*—The Wagheers have evacuated Dewarka, after several days' bombardment, which reduced the town to ashes.

*Lucknow.*—Lord Clyde has arrived at Lucknow, where he has addressed the Talookdars of Oude in open durbar with good effect.

*Bundelcund.*—The campaign against the rebels in Bundelcund has been opened, and another upon the Chumbul is looked for.

*Bombay.*—The agitation against the Bill for Licensing Trades and Professions continues.

*Calcutta.*—A force of 5000 men will be sent from India to China, but there is a hitch of some kind about the Sikhs.

CHINA.—Accounts from Hong Kong to the 13th

* 10 florins to 1*l.* sterling.

Oct. state that his Excellency the Hon. F. Bruce remains at Shanghai. Admiral Hope arrived at Hong Kong in her Majesty's ship Chesapeake on the 9th. Oct. and has quite recovered from his wounds. A story is in circulation apparently derived from a Chinese pamphlet translated in the *Northern Bee*, which attributes to the Cabinet of Pekin an idea of invading India.

UNITED STATES.—The Harper's Ferry negro insurgents are to be executed on the 16th of December, and the whites on the afternoon of the same day. The excitement in Virginia arising out of this affair has revived with augmented energy. On the 17th ult. the most alarming accounts were forwarded from Charlestown to Richmond to the effect that a movement for the liberation of Brown was hourly anticipated, and that various barns and sheds had been fired by his confederates. Large bodies of troops were at once placed under arms at Richmond and at Alexandria, with orders to move next morning upon the scene of the contemplated hostilities. The panic throughout the State suddenly attained the wildest stage. Indiscriminate arrests were made; the pedlars, who are to be found in every village and upon every road, were imprisoned in large numbers; and the pursuit of them appeared to be universal. In the meantime all the parties supposed to have been implicated have secured their safety by flight. Dr. Howe, of Boston, has fled from Boston to Canada. Mr. F. Douglass has left for England, and Mr. Gerrit Smith has been sent to a lunatic asylum, the rebellion having overturned his mind. A Washington despatch says that, in the present state of the negotiations with England concerning the San Juan affair, the correspondence cannot be submitted to Congress, or form the subject of comment in the President's message, which will refer to it only as a question that is still pending.

CANADA. — The Reform Convention at Toronto adjourned on the 11th ult., after passing resolutions almost unanimously declaring the existing union between Upper and Lower Canada to have resulted in a heavy public debt and burdensome taxation; also declaring for the dissolution of the present union between Upper and Lower Canada, with local government for each section, and a central power for dealing with matters affecting both sections. About 600 delegates were in attendance.

BRITISH COLUMBIA.—A meeting of the inhabitants of Victoria was held in the Assembly Hall on the 1st October for the purpose of concerting measures to effect an extension of the elective franchise. Resolutions defining the qualifications of voters and members, the union of districts, and the time of polling, and limiting the duration of the House of Assembly to two years from the day of election were unanimously agreed to.

MEXICO.—The Liberal expedition against Tehuacan, Orizaba, and Cordova has proved a disastrous failure, General Mejia retreating without firing a gun, losing 600 men, who were taken prisoners, also 1000 muskets and 12 cannon, which General Minon captured without killing a man. General Marquez had pronounced for Santa Anna, after seizing a conducta with 120,000*l.* of treasure belonging chiefly to French and Spanish merchants, of which he appropriated 600,000 dollars to himself, and detained the rest at Guanajuato. The British and French Ministers had energetically protested against this conduct. The same General Marquez, on taking possession of Tepic, shot, in the Plaza, many persons who were suspected of sympathy with the constitutionalists, and imposed a very heavy contribution upon the population. An American citizen called Chase having been ordered to be shot without trial, and afterwards hung to a tree as an example to all foreigners who opposed the Government, Mr. Matthew, the British Minister, in the absence of any Minister from the United States, had demanded that General Marquez should be arrested and brought to trial. A repayment of the duties exacted by Marquez having been demanded, the British Consul, Mr. Allsopp, refused to pay, and was instantly consigned to a dungeon, whence he escaped and took refuge on board her Majesty's ship Amethyst. General Miramon, against the wishes of his Cabinet, with only four aides de camp, had left the capital, ostensibly to collect troops and pursue Marquez as a traitor; but it was feared that he was really leagued with him. General Degollado had defeated General Alford, capturing his artillery, and entering Guanajuato with 5000 men. General Woll was at Legros, and General Degollado was pushing on to attack him. A portion of the band of Cortinas had attacked the city of Rio Grande, pillaging nearly every house. It was reported that the two bands of Cortinas numbered 700 men. The people of Brownsville were in the greatest distress. All the mails were interrupted by the outlaws, and Cortinas had threatened to destroy the town and cut off and murder all the reinforcements that might be sent on to the relief of the terror-stricken citizens.

## Public Addresses.

SIR ARCHIBALD ALISON at the Glasgow Volunteer Meeting last week spoke as follows on the subject of the national defences:—

"This great movement is felt from the Land's End to the furthest extremity of Scotland, and it will, I trust, enable the united British empire to show a front to every hostile force which may set the united powers of the world at defiance, and make us maintain that high position among the nations, and those liberties and that religion which has been handed down to us by our predecessors. I need not say that the policy, the wishes, and the interest of England and Scotland are to remain at peace. No defensive preparations, no eliciting of unanimous enthusiasm in defence of the country, can ever give a foreign nation a pretext to say that we are actuated by aggressive motives, that we are disposed to invade or disturb other countries. We are essentially a pacific people. There is no war can be waged in any part of the world which does not strike at some British industry, and there is no war can be waged by ourselves that would not bring upon us, if it were with a great Power, an amount of distress and suffering which it is painful to contemplate. Therefore we are a pacific people. And if we now show a warlike attitude, if we now show that we are determined to maintain the independence of the country and its honour and the honour and reputation of the State, it is not because we are a warlike or aggressive people, but because we are a free and independent people, and that while we will do no injury to any man we will allow no man to injure us. It is not surprising to me that this crisis has arisen. It has arisen, I think, not so much from the aggressive policy of any foreign Power by which we may be immediately threatened—but partly from a feeling of unbounded security and confidence which has arisen from the magnitude of our former triumphs—and partly from the jealousy of other nations, which have seen in us a wealth which they had not the industry to acquire, a liberty which they had not the stability to bear, a glory which they had not been able to attain. Such has been the effect of the cause I have mentioned—an exhibition of envy on the one hand, and a remissness of preparation on the other. We see the effect of this in the serious wars in which European nations have been lately engaged. We see that our want of preparation tempted the Russians to cross the Pruth and led to the Crimean war. We see that immediately afterwards it led to a dreadful revolt in our Indian empire. We are already engaged in hostilities with China, we are approaching to hostilities with America, and we are on very doubtful terms even with the great Power on the other side of the Channel. You will see, therefore, that our ideas of security have not been realised. On the contrary, so far from being secure, our danger arises from those circumstances, mainly, that we have not made sufficient preparations to maintain our position. I have taken especial care in these remarks to say nothing in regard to that great Power, recently our ally—I hope it may never become our enemy—from which an attack is more immediately apprehended. I will always speak with respect of the Emperor of the French. I admire the talent and I know the ability of the French Emperor. It is because I know the bravery of France, because I know the power of France, and because I know the spirit and the ability of the Emperor—it is just for this reason that I say the volunteer movement is indispensably called for by Great Britain. There are many circumstances independently of what I have said which loudly call for this movement. It is often said by people in this country that we need not be afraid of the French, for we have a great mercantile navy of 220,000 sailors, who at any time can be added to our regular navy, and therefore we are perfectly secure. Now in the present state of matters the great mercantile navy of England, so far from being a refuge or support, is—people say that it can easily be made otherwise—but as matters stand it is the most serious weakness that we have. The wages of the seamen in the mercantile navy are 50*s.* a month, while the wages of seamen in the Royal navy are only 31*s.* a month. It has been often said, how does it happen that there are so many English sailors in the American navy? And in the late strife with that country we were really often fighting our own navy. The answer to that question simply is, that there is a wonderful strength in half a dollar a day. That is the way that matters stands as regards our mercantile navy. Then, again, consider the state of the army. When the militia was called out in January last there were 100,000 men less in the militia and regular army than had been voted by the Parliament of last year. It was just an affair of money, like the other. The pay of the soldiers is 1*s.* 1*d.* a day, and the same class of men are earning at their respective employments 2*s.*, 2*s.* 6*d.*, 3*s.*, 4*s.*, or 5*s.* a day. Can you wonder that there is a difficulty in raising men for the Royal army when you see that there is a difference in the reward? There is another consideration of the last importance, and it is this—unlike any other country in Europe, we are compelled to maintain an immense standing army in India and in the colonies. At this moment there are 90,000 men in India, and 30,000 or 40,000 in the colonies, making a total of 130,000 veterans who are out of the country. The only other State which has to maintain an army abroad is France, which has a certain number of soldiers in Algeria. They, however, can be brought over in a few days to be of service in Europe. But there is another most important consideration—we have for the last 15 years been subject to so serious a drain in the way of emigration. Parliamentary returns prove that during that time about 3,000,000 persons have emigrated, averaging about 250,000 a-year; and you will be able to form some idea of the drain that has been made on the military service, when I say that the annual drain by emigration has been double the loss sustained by the empire of France from the retreat from Moscow. Now, I think I can point out how it is that these evils may be remedied, and how it is that we will be able to make our strength of what at present is the source of our weakness. The first step I would take would be at one blow, and without the least delay, to raise the pay of the soldiers and sailors and the militia from 1*s.* 1*d.* to 1*s.* 8*d.* or 2*s.* a day. If you do this you will find that the ships of the line will be filled with sailors, and that the ranks of the regular army will be filled with able and valiant men, and you will have no difficulty whatever in raising such a force as is requisite to defend the country. I have gathered from a Parliamentary return issued the other day that since the year 1814 we have repealed taxes to the amount of 31,500,000*l.*, 10,000,000*l.* being the double income tax. There remains therefore 21,500,000*l.* that has been given up since 1844. Now, one fourth of that sum would raise the pay of our soldiers and sailors to an adequate amount, and would put us in a state of comparative security. What in comparison with the restoring of those indirect taxes in a question of pounds, shillings, and pence, is the danger of being conquered by the French? I will just give you one or two facts to let you know what you may expect if the French ever conquered this country, in addition to the horrors of war and the massacre of men. In the matter of pounds, shillings, and pence it will affect the pockets of every human being in the country. In 1808 when Napoleon went to Portugal as a liberator he levied a contribution of 4,000,000*l.*, equal to at least 10,000,000*l.* in Scotland. In 1796 he went to Milan as a liberator, and levied 800,000*l.* upon the liberated city. He next went to Venice, and imposed there 2,500,000*l.* In 1806 he went to Prussia, and levied upon that country a contribution of 24,000,000*l.* sterling, and actually squeezed the money out of the people in five years by military occupation. In 1812 he ordered Davoust to levy about 2,000,000*l.* upon the city of Hamburgh, which at that time contained only 80,000 inhabitants. You see at what price the peace-at-any-price gentlemen would purchase their salvation. I would say that although we may by increasing the pay increase our regular forces, and of course our militia, yet it is indispensable that we should, in addition, have the support of a great body of volunteers. I hope that the time is coming when we shall see 30 sail of the line in the Mediterranean, 100,000 regular troops in Great Britain, and 80,000 militia. I am sure the object could be gained if the Government would adopt the plan which I propose, and I am sure no one would feel it a burden. That done, all that we require is the assistance of a great volunteer force. A force that would bring 100,000 men together [illegible] of 20,000, which could be done now in front of London, would not be sufficient, unless it were supported by a great force in the rear, for the French, if they once got the command of the Channel, could throw as many men over in a week as were brought to fight at Solferino. But if there is a sufficient and adequate volunteer force in the country, then, I say, we may be altogether invincible. I do not pretend to say that volunteers, however brave and skilful they may be, can at once be brought to equal efficiency with regular soldiers, but I say that volunteers may be the greatest of supports to a nation engaged in a struggle for independence. What should be done is that there should be a thorough organisation. The point of danger would be London or Woolwich. Woolwich, being our only arsenal, would probably be one of the first places attacked. We must not only have great resources in Scotland and England, and other parts, but we must have the means to bring these resources at once to bear on the point of danger. Now, if France landed on the coast of Sussex, in five days they would be in London, if they were not resisted. Now, consider that we have a railway system throughout the whole country, and by its means the volunteers might be sent up to the support of the regulars from Plymouth and other places. They could support them as light troops in every possible way, and in that way they could more than double the strength of the whole army. With these volunteers in the various parts of the country Great Britain would be altogether invincible."

MR. BRIGHT, M.P., was present at the *soirée* of the Liverpool Financial Reform Association on Thursday evening, and delivered a long address, of which the following is an abstract:—

"He should always be ready to come and co-operate with the association in carrying out the great and noble principles on which it was founded. These principles he defined to be—firstly, to require from Government an economical expenditure of the public money; and, secondly, the act of simple justice, that whatever money the Government might require should be levied in proportion to the property which every man possessed by reason of the security which Government gave him. That justice, he contended, could only be arrived at by a system of direct taxation, for although there might be an equal consumption of articles of food amongst all classes, that was no guarantee that there was an equal possession of property. In other words, the consumption of taxed articles was no test whatever of the means of particular individuals or families, and therefore could never honestly be adopted as a rule or measure of taxation by those who admitted the principle that taxation should be regulated by the means of the taxpayer. Touching upon the results of free trade policy so far, he observed that twice as much cattle had come into the country since the repeal of the corn laws, or an increased value of nearly 20,000,000*l.* sterling per annum. When the repeal of the corn laws was agitated most of the landed interest were dreadfully alarmed. One noble duke went so far as to say that if the repeal was carried he would leave the country: and it was generally understood that in a very few years, if you wanted to see an English duke you would have to go out of England to find him. Yet those dukes were not gone, land was more valuable, the class of farmers was higher, more capital was laid out on the land, and millions of our countrymen who were previously suffering periodical starvation of the bitterest kind were now living in a degree of comparative comfort to which in previous times they were wholly unaccustomed. He would go a little further. When the income tax was first levied there was a great dislike to it, especially on the part of the landed proprietors. Yet the effect of the income tax had been to give additional security to the property of the landed proprietors—in short, every step hitherto taken towards reducing the taxes on articles of general consumption had given additional salvation and comfort to those who happened to be poor, and additional security to those who happened to be rich. After answering with considerable minuteness the statements of several metropolitan journals, he showed by statistics the great increase which had taken place during the last twenty years in tea, sugar and tobacco. He contended that the great bulk of that increase was owing to increased consumption by the working classes in consequence of the reduction of price through the reduction of duties. Taking the whole proportion of the customs and excise duties he put down revenue yielded by the consumption of the higher classes about 7,350,000*l.* a year, of the middle classes about 15,960,000*l.* a year, of the working classes at about 18,690,000*l.* a year. They must remember, too, that one-half of the consumption of the upper classes was really the consumption of their servants, and not what was properly called 'the family.' Taking the calculations of Professor Newmarsh, of the Statistical Society, he stated that there were 24,000,000 of people in the United Kingdom who lived in houses under the yearly value of 10*l.*, and 6,000,000 only in houses above the yearly value of 10*l.* Was it not fair to presume that the 24,000,000 consumed more of the taxed articles than the 6,000,000 who lived in houses of the better class. Now, what was the change they proposed? He was not going to propose that the Chancellor of the Exchequer should this next session advertise all the custom-houses to be let, and that the last custom-house officer and the last smuggler should be preserved in the British Museum; but he would state what he thought would be a practicable step towards the legitimate object which the association had in view. The value of the whole property of the country approached seven hundred thousand millions a year. He advocated, therefore, a direct property tax—say of 8*s.* a year on every 100*l.* worth of property, which would produce 17,000,000*l.* sterling, or about four times the amount of the income tax produced last year. At this rate a man with real property worth 1000*l.* a year would pay 4*l.*; a man worth 10,000*l.* would pay 40*l.*; and a man with 1,000,000*l.* would pay 4000*l.* a year. Was there any revolution in that? By direct taxation, he argued, trade and commerce would be benefited. He complained that the rich people who governed this country were not informed, and did not care to be informed, of the great injustice they were committing on the poorer classes. Only a fortnight ago they had had on that very platform the members of the lately expelled Cabinet. They know the ignominious way in which the Cabinet was thrust from office, for their utter inattention in their abortive Reform Bill to the wants of the people. They had now another Cabinet considering the very same question. He knew there were men in that Cabinet who were sincerely anxious for the welfare of the working classes; he knew the pledges with which a majority was secured against the Government of Lord Derby, and he also knew the difficulties which the present had to contend with. There might be colleagues who were not anxious, who were not even courageous in the cause. He made no comment upon the Cabinet, but he only hoped and prayed that they might have courage enough to avow that the future of their Government, and for a long time to come the future of their party, depended upon the honesty and courage with which they dealt with great and unavoidable questions. He only desired to state what were facts; yet because he did so he was attacked by those masked conspirators who wrote against the commonwealth in the leading columns of the *Times*; and congenial slanders were vomited forth weekly in the columns of the great Saturday reviler. But these facts remained, to the dishonour of our country. They made government and authority insecure, for authority of every kind must be insecure, and must pass away, unless it were based upon the true interest and commended itself to the consciences of the people. He asked, then, that Parliament should be made a

...representative of the property, of the industry, of the intelligence of the nation—that we might be delivered, if possible, from chaotic legislation, from reckless expenditure, and from a taxation oppressive, unequal, and unjust. The monopolists of power rejected this demand with scorn; but the day would come when it would be made with a louder voice than his, when the question would be grasped with a ruder hand than his, and when it was so made, as was the case in 1832, that would be surrendered amid terror and humiliation which reason and justice now appealed for in vain."

**Mr. Roebuck, M.P., at a meeting at Bath on Wednesday made the following remarks on the relations of this country with France under the Bourbon dynasties;**

"I have been lately in foreign countries, where I have heard a good deal talked about the position of England. A friend of mine, a gentleman well known in the world, M. de Montalembert, has said that the position of England is 'ignoble.' Why? Because England will not go to war for the principles which M. de Montalembert delights to support. But we have gone to war before this for great principles. We have a debt of 800,000,000*l.* incurred in support of great principles. We spent that, and 800,000,000*l.* more on the top of that, and we gave the lives of many millions of our sons to maintain great principles. We freed the people of Spain, and we placed the Bourbons on the throne of France, and what was the result? I will tell you two results? When the Duke of Wellington passed from Spain into France circumstances occurred which led him to prepare his retreat, and he found it impossible to retreat through that part of Spain which he had just liberated because he would have been risen on by the Spaniards themselves. That was the gratitude of the Spanish people for the many thousands of lives and of pounds we spent on their behalf. Well, we put the Bourbons on the throne of France, and the consequence was that the elder portion of the Bourbon race were always our enemies. From the very moment that Louis XVIII. got into Paris their intrigues against us began. But there is something worse than that. We acknowledged the second branch of the Bourbons. They were driven out of France in 1848, and they were received in hospitable England. Sheltered by her mighty ægis they were safe. When they put their feet on the shore of England none could harm them. What was the gratitude of these illustrious personages? Why, one of these illustrious exiles actually made plans of the southern shores of England, pointing out where we could be best attacked, and sent these plans to the Ministry of France, saying that though an exile he was still a child of France, and would be willing to enter into the ranks of those who were to carry French principles across the Channel. That was told me by a nobleman now dead, whose name I don't think it right to mention, and who said that he himself had seen the letter. He told me that circumstances had then occurred which would render it not a politic proceeding to mention it at that time. The present is the proper time for mentioning it, when we are asked to entangle ourselves in European disputes, and to risk again the blood and treasure of England to obtain gratitude like this. 'Ignoble' indeed! M. de Montalembert may wish to keep the Pope on his throne by English bayonets; other friends of Italy may wish to drive out the three Dukes by English bayonets; but we should make enemies whichever course we took. We should make enemies of those we put down, and ungrateful friends of those whom we set up. Therefore, I say, keep yourselves, my insular countrymen, to your own island, and mix not yourselves up with European contests. If you are attacked strike back a blow which shall annihilate the offender. If you wish for friends, look to the great colonies you have established all over the world. Believe me, I know what I am saying, if you were to adopt this course there are millions of men speaking the English language, who have derived from England their literature, their institutions, and their laws, who would then be ready to maintain us in the position we now hold—the only really free people in Europe."

## City Intelligence.

Money Market, Friday.—British Funds: Consols closed at 96⅜ to ⅝ both for Money and Account; Bank Stock, 226 to 228; Reduced and New Three per Cents., 95½ to ⅝; India Stock, 228 and 226½; New Indian Loan, 105⅜; Four per Cent. Debentures of 1859, 96⅜ to ½; India Bonds, 2*s.* to 5*s.* prem.; Exchequer Bills, 29*s.* prem.—Foreign: Brazilian Old Five per Cents., 102¾; Ditto Four and a Half per Cents., 1852, 95½ ex div.; Ditto for 1858, 95 ex div.; Chilian Four and a Half per Cents., 87½ ex div.; Dutch Four per Cent. Certificates, 100; Mexican Three per Cents., for Acct., 23 to 22¾; New Granada Active Bonds, 16¾; Ditto Deferred, 5; Peruvian Four and a Half per Cent. Dollar Bonds, 79 to 81 ex div.; Sardinian Five per Cents., for Acct., 85½ ex div.; Turkish Six per Cents., 1854, for Acct., 76¾; Ditto for 1858 for Acct., 65½ to 65; Venezuela Two and a Half per Cents., for Acct., 29⅛ to 29.

## Bank of England.

ISSUE DEPARTMENT.

| | | | |
|---|---|---|---|
| Notes Issued .. .. .. | £30,824,755 | Government Debt .. .. | £11,015,100 |
| | | Other Securities .. .. | 3,459,900 |
| | | Gold Coin and Bullion .. | 16,349,755 |
| | | Silver Bullion .. .. .. | — |
| | £30,824,755 | | £30,824,755 |

BANKING DEPARTMENT.

| | | | |
|---|---|---|---|
| Proprietors' Capital.. .. | £14,555,000 | Government Securities (including Dead Weight Annuity) .. .. .. .. | £10,925,157 |
| Rest .. .. .. .. | 3,131,770 | Other Securities .. .. | 19,376,439 |
| Public Deposits (including Exchequer, Savings Banks, Commissioners of Nat. Debt, and Dividend Accts.) .. .. .. | 8,679,315 | Notes .. .. .. .. .. | 9,580,125 |
| Other Deposits .. .. .. | 13,364,382 | Gold and Silver Coin .. | 668,757 |
| Seven day and other bills | 822,011 | | |
| | £40,550,478 | | £40,550,478 |

1st day of Dec., 1859.

M. MARSHALL, Chief Cashier.

## Gazette of the Week.

TUESDAY—BANKRUPTS—J. Cartwright, Dunston, Lincolnshire, Corn Merchant—A. Cross, Westbromwich, Ironfounder—W. Dugard, Birmingham, Coach and Harness Furniture Maker—H. Johnson, St. James's Walk, Clerkenwell Close, Builder—J. Lomax, Bolton, Lancashire, Tailor—J. R. Lyon, Cambridge, Brewer—S. Welldon, Manea, Cambridgeshire, Merchant.

BANKRUPTCIES ANNULLED—G. Corbett, Shotteswell, Warwickshire, Cattle Salesman—S. Johnson, Burslem, Draper.

SCOTCH SEQUESTRATIONS—T. Colpar, Pollock Street, near Glasgow, Shipowner—J. Nicolson, Kirkwall, Baker—G. Smith, Aberdeen, Hotel Keeper—J. B. Thomson, Glasgow, Master Mariner.

FRIDAY—BANKRUPTS—R. T. Coulins, Princes Road, Lambeth, Chemical Proprietor—J. Craven and T. Craven, Rothwell, Yorkshire, Glue Makers—T. Davies, St. John's Street, Clerkenwell, Cowkeeper—J. Fell, Guernsey Bridge, Over Darwen, Lancashire, Dealer—J. R. Fitch, Hatton Garden, Jeweller—W. H. Knight Powell Street King Square, Watch Tool Maker—N. Morrish, Heath Farm, Dorsetshire, Farmer—W. Smith, Tabernacle Row, Finsbury, Carpenter—I. White, Higglestrade, Bedfordshire, Ironmonger—W. A. Wilson, St. Helen's, Lancashire, Flour Dealer.

BANKRUPTCY ANNULLED—Smith, Lawson, and Co., Peterborough, Engineers.

SCOTCH SEQUESTRATIONS—R. Byars, Bazaar, Glasgow, Fruit Merchant—J. and J. Millar, Glasgow, Lace Merchants, and L. Millar, Glasgow, Lace Merchant.

## Metropolis and its Vicinity.

The Shipping Interest.—A large and influential meeting of shipowners, shipbuilders, and others interested in British shipping, was held on Tuesday at the London Tavern, "to take into consideration the present ruinous condition of the British shipping interest, and to adopt petitions to Parliament praying for a comprehensive, searching, and impartial inquiry into the actual state of British navigation, and the causes that have led to its present depression, as well as into all the laws and regulations under which it is now conducted." The meeting was attended by deputations from Hull, Sunderland, Middlesborough, Montrose, Scarborough, Topsham, Liverpool, West Hartlepool, and Jersey; while letters were read from the shipowners' societies of Glasgow, Plymouth, Maldon, Yarmouth, Dover, Falmouth, Greenock, Brixham, North Shields, Bristol, and Swansea, cordially agreeing with all the objects of the meeting, but not considering it necessary to send a deputation. Mr. R. W. Crawford, M.P., took the chair, and explained the object of the meeting at some length. Mr. Somes, M.P., proposed the first resolution, which was as follows:—

"That in the month of December of the past year the shipping interest, with an unanimity without precedent, declared by public resolution that British shipping was 'in a state of deplorable and ruinous depression,' and addressed the Crown, praying for a specific measure of relief. That the Executive Government, while admitting the fact of depression, declared it in reply to be 'temporary and accidental,' and that British navigation was even then 'recovering' therefrom; while the shipowners insisted that, its principal cause being the impolicy of the existing system of maritime commerce, no permanent improvement could take place while that system remained unaltered; that nearly 12 months have submitted to the test of practical experience the correctness of these respective opinions; and that at the expiration of that time the shipping interest of the country now finds itself placed in a position of continued depression, difficulty, and distress, threatening the ruin of all who are engaged in the varied and extensive pursuits connected with navigation."

Mr. Bramley Moore seconded the motion, stating that he took an active part in opposing the repeal of the Navigation Laws, and saw no reason for changing the opinion he then entertained, for the foreign shipping had now secured so much of the carrying trade that even our coasting trade was now chiefly carried on by foreigners. Mr. Lindsay, M.P., next addressed the meeting, and was received with mingled cheers and hisses. He said that he could not concur in the resolution, as it called upon the Legislature to enforce reciprocity, which would be not only retaliation but protection in its worst and most pernicious form. This remark was received with cries of "shame" and "question;" and after a scene of great uproar, during which Mr. G. F. Young rose to order, Mr. Lindsay proceeded to say that under a free trade policy the British shipping had increased in a far greater ratio than it ever did under a Protectionist policy, and that the entries and clearances of British shipping had also increased. Loud cries of "Turn him out!" "Turncoat!" "Sit down!" and other signs of disapprobation interrupted the remainder of the speech, and Mr. Lindsay concluded amidst renewed uproar in moving as an amendment:—

"That a petition be presented to both Houses of Parliament, praying for an inquiry into the actual condition of British navigation and for relief from all peculiar burdens and restrictions that still fetter maritime enterprise."

Mr. Duncan Dunbar now rose and said he would not call Mr. Lindsay his friend, but the man who called himself a British shipowner, and moved such an amendment, was the worst enemy the British shipowner could have. Every one must admit that the shipowners were on the road to ruin, and he assured the meeting that the very property he had made by his industry and hard labour was melting away like snow before the sun. Mr. Bramley of Liverpool read extracts from two letters written by a merchant and M.P. for a shipping port during the emigration movement of 1852, to his American correspondent at Liverpool, telling them that his position was such that he was quite prepared to guarantee to any American friend to obtain for them from the Government the highest rate given on the day of tender and to place more ships than they had sent. The reading of these letters was followed by loud cries of "name," and the announcement that the writer was the hon. member for Sunderland was received with bursts of derisive cheers, and cries of "Turn him out," "Don't call him honourable," and Mr. Bramley proceeded to say that it would have better that the hand should have withered than moved to write so un-English a letter. He believed that the House of Commons was composed of 653—he would leave out one—English gentlemen and loyal subjects of the Queen who would not assist in making the "stars and stripes" triumph over the flag of England, or rejoice to see this country anything but mistress of the seas. Mr. Clint, of Liverpool, and Mr. Potts, of Sunderland, next addressed the meeting, after which the chairman put Mr. Lindsay's amendment to the meeting. Five hands only were held up in its favour, the great majority of those present holding up their hands against it. The original resolution was then put and carried, only one dissentient hand being raised against it. Mr. John Smith, chairman of the Liverpool Shipowners' Association, moved, and Mr. H. Taylor seconded, the next resolution as follows:—

"That Parliament, the Government, and the public opinion of the country, fully recognising the peculiar importance of the shipping interest as connected with national safety, public policy and justice to great private interests alike demand that the system of maritime commerce should be forthwith submitted to full and fair examination by competent authority."

The resolution was carried, with only one dissentient. Mr. Wigram moved, and Mr. Cave, M.P., seconded the next resolution:—

"That it be, therefore, earnestly recommended to all persons interested in British shipping at the various seaports of the United Kingdom to prepare petitions for presentation to Parliament at the opening of the approaching session, which, while abstaining from all expression of opinion on disputed points, should pray for a comprehensive, searching, and impartial inquiry into the actual condition of British navigation, and the causes that have led to its present disastrous depression as well as into all the laws and regulations under which it is now conducted; and that they be further recommended, by public meetings, and by communication with the members representing in the House of Commons their respective localities, to invite and enforce a consideration of a question so clearly involving the safety as well as the prosperity of the nation."

Mr. Carroll, M.P., of Cork, supported the resolution, which was put and carried. Mr. Marshall then moved, and Mr. Digby Seymour, M.P., moved the adoption of a petition to be presented to Parliament by Lord John Russell, and the appointment of a deputation to wait upon Lord Palmerston previous to the meeting of Parliament for the purpose of soliciting the Government to give their favourable consideration to its prayer. The petition having been read and adopted, Lord Valletort, M.P., moved, and Sir James Duke, M.P., seconded a vote of thanks to the chairman, which was carried by acclamation.

The Great Eastern.—The surveyors appointed to examine the Great Eastern for the purpose of ascertaining whether the contract to fit her for sea had been properly carried out, have transmitted to the solicitors of the company the following report, accompanied by some general remarks containing very unfavourable criticisms of the deck beams and pillaring, the deck fittings, capstan, anchor gear, &c.:—

"Great Eastern Steam-ship, Holyhead, Oct. 18.

"Gentlemen,—In compliance with your request we have made a complete survey of the Great Eastern, but not having had time to prepare our detailed report we beg to submit the following remarks upon the points referred to in your letter, and some others which we think it important you should bring under the consideration of the board. With reference to the intimation that Mr. Russell alleges that his contract is completed, we remark that the hull of the ship to which our survey has been specially directed (exclusive of the engines) is not completed either as to the 'general scope' or the 'details of the contract,' as a first-class passenger ship, such as those of Cunard's line or the Royal West India Mail Company, and that in her present state it would be imprudent to send her to sea on a lengthened voyage. We are unable at present to arrive at a definite opinion as to the cost of the works necessary for the completion of the ship in all respects in accordance with the contract. The amount must be very large. We are unable to state the amount of damage consequent on the delay in sending her to sea. We may remark generally that, with the exception of a few cabins, the accommodations are by no means equal to the requirements of a first-class passenger steamer, such as Cunard's line or the Royal West India mail steamers, but are very inferior—materials, workmanship, and furniture. The accommodation for the officers and crew is by no means such as ought to have been provided and is required by the contract. The decks are not tight, and a great deal of inferior material and workmanship has been used in them. There is no heating apparatus for warming the cabins in winter. There is a considerable amount of work which is absolutely necessary to be performed before the ship can be trusted on a lengthened voyage across the Atlantic, which work would require a considerable time to execute in an efficient manner, and, even with this done, the ship would not be what the contract requires her to be; and deficiencies in other respects would be a constant source of expense and annoyance to the company.—We are, gentlemen, your obedient servants,

"George Bayley, William Patterson, John Jordan."

The Mastership of Harrow.—The head mastership of Harrow School, rendered vacant by the resignation of the Rev. Dr. Vaughan, has been conferred upon the Rev. Henry Montagu Butler, M.A., Fellow of Trinity College, Cambridge. Mr. Butler graduated in 1855, when he was placed first in the first class of the classical tripos, and 32d junior optime in the mathematical tripos. He is a son of the late Dean of Peterborough, who was formerly head master of Harrow. In 1852 he gained the "Bell's Scholarship." In 1853 and 1854 successively he obtained Sir William Browne's medal for the Greek ode. In 1854 he gained the Porson prize for a translation into Greek verse, the Camden medal for Latin hexameters, and the prize given by the members of the university for the best dissertation in Latin prose. He was elected fellow of Trinity in 1856.

Metropolitan Board of Works.—At the last meeting of the Board Mr. Robert Taylor presented a communication, stating that at a recent meeting of the vestry of St. Mary's, Lambeth, a resolution was passed requesting the Board to stay any further proceedings in reference to the appointment of Mr. Woolrych as standing counsel to the Board, until the vestries and district boards throughout the metropolis had had an opportunity of expressing their opinions on the subject. On the motion of Mr. Leslie the communication was received and ordered to be entered on the minutes of the Board; as was also a protest against Mr. Woolrych's appointment, on the ground of expense to the Board, in the employment of additional clerks, emanating from the vestry of Bermondsey. At a meeting of the Marylebone vestry on Saturday, a resolution was unanimously adopted declaring that the vestry "regards with great dissatisfaction the recent appointment by the Metropolitan Board of a 'legal adviser' and standing counsel, and desires to record its earnest protest against it; first, because by the terms of this appointment the highly objectionable and universally condemned practice of paying a public officer by fees in addition to a fixed stipend is adopted, thereby offering a direct premium to litigation; and secondly, because

it is a direct violation of those economic principles by which the administration of the Metropolitan Board of Works should be characterised."

THE NORTHERN HIGH LEVEL SEWER.—At a meeting of the Metropolitan Board of Works on Friday a long discussion took place in reference to certain mistakes that had been made in taking out the quantities for the contract for the great sewer on the north side of the Thames. Those quantities had been taken out by engineers, appointed jointly by the Board and the contractor, but paid by the latter. After the contract had been partially executed, discrepancies were discovered which induced the Board to appoint an independent surveyor to test these quantities; and the result has been that inaccuracies have been found of a serious character. All parties are agreed that the difference will at least be 7,000*l.*, while the majority of the professional members of the Board estimate the amount at between 15,000*l.* and 30,000*l.* As this is only one of about eight contracts that will be required before the main drainage of the metropolis is completed, the matter was made the subject of serious discussion, and it was at first ordered that the bill of the engineers who had made the errors, Messrs. Roberts & Gotto, should not be paid. After several divisions on Friday it was resolved by 21 to 7, that the report of the independent surveyor, Mr. Pole, did not contain a sufficient justification to continue the previous order of the Board not to pay the claim, and that such order ought to be rescinded.

SUPPLY OF GAS TO THE METROPOLIS.—A deputation from the vestries and district boards of the metropolis had an interview on Wednesday with the President of the Board of Trade, and another on Thursday with the Home Secretary, to call attention to the conduct of the companies in dividing the metropolis into districts, and to ask the intervention of Government, as in the case of the water supply in 1852, with a view to secure the passing of an Act for the regulation of the companies and for fixing the price and quality of the gas. Mr. Gibson and Sir G. Lewis said that the subject should receive the attention of the Government. The latter added that he had been asked to receive a deputation from the companies, and after he had heard their views he should be able to state what course the Government would take.

ST. GEORGE'S-IN-THE-EAST.—On Sunday night there was a marked change for the better in the behaviour of the congregation at the evening service in this church. The attendance was scarcely so large as on most previous occasions during the disturbances, though there were not less than 2000 people present. Half of them, at least, were very young men and women, having the appearance of shop-boys and domestic servants, and what unseemly conduct there was chiefly proceeded from that class.

THE LOSS OF THE ROYAL CHARTER.—The Board of Trade inquiry terminated on Friday, the last witness being Mr. Clay, managing partner of the Mersey Ironworks, who said the tests made as to the tensile strength of the iron proved that the plates were of first-rate quality. Mr. Mansfield then made some remarks in reference to the gallantry of the captain and crew, and repudiated the calumny which had been circulated as to the sobriety of Captain Taylor. During the last few days several bodies have been washed ashore at Moelfra, as well as on the coast of the Isle of Man, and even so far off the scene of disaster as the coast of Ireland. Among those which have been identified are Miss F. Davis, Mrs. Foster, John Mawle, John Grise, Robert Evans, J. C. Ellison, J. Potts, and H. J. Walsh. The subscriptions in aid of the sufferers by the wreck of the Royal Charter have reached fully 3000*l.* in Liverpool alone.

THE ARMSTRONG GUN AT SEA.—Her Majesty's ship Wrangler returned to Woolwich on Friday from an experimental cruise to try the 40-lb. and 80-lb. Armstrong guns at sea. A complete course of experiments was carried out under the inspection of Capt. Sir William Wiseman, Vice-President of the Royal Ordnance Select Committee of Woolwich Arsenal, and Lieut. Ward, of the gunnery-ship Excellent. Sixty rounds of ammunition with the elongated shot were fired with perfect success, and every equipment pertaining to the gun was pronounced faultless.

MURDER IN SHOREDITCH.—A very shocking murder was committed on Monday morning in King's Head Court, Shoreditch, a man named James Moore, an umbrella maker, who had only lately been discharged from a lunatic asylum, having murdered his wife by stunning her with a poker and then cutting off her head and ripping up her abdomen. It appears from the evidence given at the police station on Tuesday, that the murderer and his wife, with one child about two years and a half old, entered their lodgings on Friday last and were considered by the landlord and landlady to be quiet and respectable people. On Monday morning, however, cries of murder were heard to proceed from their room, and on the landlady running up to see what was the matter, the cries ceased and she obtained no reply to her questions. She called out to the prisoner through the door that he should leave her house that day, and her husband agreed to give a formal notice to quit in the course of the day. The prisoner subsequently went out and did not return till the afternoon, when he went up to his room but suddenly came down again, and in a tone of great anxiety asked the landlord if any one had been into his room while he was out, requesting him to go up to the room immediately, as something very dreadful had occurred there. On entering the room the landlord was horrified at seeing the headless body of the woman lying stretched at full length upon her back, nearly naked, with a large open wound in her abdomen, and her head placed upright in a washhand basin by her side and partly covered by a pillow, while the child was lying on the other side wholly unconscious of the fate of its mother. In one corner of the room was a pail, containing a quantity of blood and clothing, while the boards bore evidence of having been recently washed, as they were covered for a considerable distance with smears and dampness, only partially dried. The prisoner told the landlord that he had not the slightest idea as to who had committed the murder, and declared that he had only that moment discovered it on returning home. The landlord asked him to go with him to the police court, which he did without the slightest objection, and stood quietly by, and seemingly without any indications of participation in the crime, while the landlord related the frightful particulars to the office-keeper. The latter however on looking at the prisoner's trousers saw stains of blood upon them, and the sergeant on duty after examining the room took him into custody and lodged him in the Old Street station. It was then ascertained by the police that the prisoner, who has two other children in addition to the one referred to, but who were not at home at the time of this sad occurrence, was convicted a few months ago of violently assaulting a woman and biting her severely in the hand, and sentenced to nine months' imprisonment, but before he had been three months in prison he displayed such manifest symptoms of his mind being affected that he was transferred to a lunatic asylum at Hoxton, from which it is not yet known whether he was formally discharged or escaped. After these facts had been proved in evidence the magistrate remanded the prisoner, and issued a summons for the attendance of the surgeon attached to the asylum.

THE PUBLIC HEALTH.—The Registrar-General's weekly return states that the deaths in London continued to increase in the week that ended Saturday, Nov. 26. The numbers registered in the two previous weeks were successively 1051 and 1233; last week the number was 1307. In the corresponding weeks of the 10 years 1849-58 the average number was 1210; which, if raised in proportion to the increase of population, will become 1331. The deaths of last week were therefore slightly below the average. During the week the births of 904 boys and 881 girls—in all 1785 children—were registered in London. In the 10 corresponding weeks of the years 1849-58 the average number was 1548.

## Provincial.

DERBY.—A shocking attempt at wholesale poisoning has been brought to light at Stuffynwood Hall, the residence of Mr. Joseph Paget, a magistrate of this county. The coachman, who had been engaged to marry one of the maidservants, drugged the beer which they drank at supper with cantharides, and afterwards drugged the coffee with the same poison. Five of the six maidservants were first taken ill, and then the whole of the servants, as well as Mr. and Mrs. Paget and their aunt who was staying with them; but fortunately no lives were lost. Mr. and Mrs. Paget were taken ill while riding to a meet of the Derbyshire Hounds. The coachman was taken into custody and identified as having bought an ounce of cantharides at Mansfield. He was taken before the magistrates at Chesterfield on Tuesday, when after a consultation the presiding magistrate, Mr. E. G. Maynard, decided that there was no criminal law to meet the case. The prisoner was therefore discharged.

DURSLEY.—One of the most deliberate murders which has ever been known in this neighbourhood was perpetrated on Saturday evening at North Nibley. The murderer's name is John Shepherd; he is about 32 years of age, the son of respectable parents, who have been farmers and were possessed of some property, but the whole, or nearly so, has been spent by the son, who has always borne a bad character, and is of a very vicious turn of mind. He has been in several police forces, among them the Somerset county police, but was discharged for bad conduct. For some time he has done nothing to gain a livelihood. It appears that he had for some time been paying his addresses to a respectable young woman named Ann Smitham, the only daughter of a weaver at Nibley, but from circumstances which came to her knowledge she determined not to receive his attentions any longer. This exasperated him very much, and he has been heard to say that he would kill her; but it was not thought that he would carry out his threat. On Saturday evening, at about 6 o'clock, he was observed near the cottage of the Smithams, and on the inmates hearing a noise outside the young woman looked out to see what it was, and finding it was Shepherd said, "What! are you there again?" and immediately after the report of a gun was heard and the unfortunate girl fell to the ground with a scream and never moved afterwards. She had been shot through the heart and died in about 10 minutes. After the discharge of the gun search was made for Shepherd, but without success until 8 o'clock the next morning (Sunday), when he was discovered by the police in a small orchard still alive but with half of his face shattered in a most fearful manner, having shot himself in a shed about 15 yards from the place where he was lying. An inquest was held on Monday on the body of the young woman, when the jury returned a verdict of Wilful Murder against John [illegible], who died during the inquiry. A second inquest was therefore held on his body, and a verdict of felo de se returned.

PORTSMOUTH.—Five separate Courts-martial have been ordered by the Admiralty to assemble here on the late outbreak on board the Princess Royal. The first Court met on Saturday, and proceeded to try the prisoners on the following charges:—

1st. For making a mutinous assembly; 2d, for endeavouring to do so; 3d, for being present at a mutiny on board the Princess Royal, and not using their endeavours to suppress the same; and 4th, for disobeying the lawful commands of their superior officers when the drum had beaten to quarters, and going on the upper deck when the well disposed men were piped to do so.

The inquiry occupied the whole of Monday and Tuesday, when the Court after six hours deliberation found the fourth charge not proved against the whole of the prisoners; found four prisoners guilty on the first, second, and third charges; three prisoners guilty on the third charge; and in consideration of the peculiar circumstances of the case, only sentenced six of them to 18 months' imprisonment in Winchester gaol with hard labour; one to 12 months' imprisonment in Winchester gaol, with hard labour; and three to six months' imprisonment in Winchester gaol with hard labour. The Court added that they would separate without noticing with approbation the conduct of one of the witnesses, George Hoad, in standing under the sentries when released from irons in the cockpit. Hoad was found guilty a few days since of assault on the second master of the Princess Royal, and sentenced to receive 48 lashes, to lose six months' pay, undergo two years' imprisonment. No part of the sentence has, however, been yet carried out. The Court again assembled on board the Victory on Wednesday morning to proceed with the second case, and found the prisoner on trial guilty of four of the five charges against him, and sentenced him to 18 months' imprisonment with hard labour in Winchester gaol. The third case was then entered upon with the same result, and the prisoner was sentenced to two years' imprisonment and hard labour. On Thursday the Court proceeded with the fourth case, and have found the prisoner guilty of four of the charges, and sentenced him to the same punishment—two years' imprisonment with hard labour. The Court then proceeded to try the last case, in which the prisoners were charged—1st, with being present at the mutiny, and not using their utmost endeavours to suppress the same; and 2nd, with disobeying the lawful commands of their superior officers by not repairing to their station when the drum beat to quarters, and by not subsequently going on the upper deck when the well-disposed men were piped to do so. The trial was not concluded when the Court rose.

## Ireland.

SYMPATHY WITH THE POPE.—On Sunday a meeting in favour of the Pope was held at Kingstown after morning mass. The meeting was convened by the Roman Catholic priest of the parish, and was held in the chapel, which was crowded. The chair was taken by Mr. Waldron, M.P., who addressed the meeting at some length, and was followed by Mr. P. O'Brien, M.P., and other gentlemen. The following resolutions were unanimously adopted:—

"That while the spiritual authority of the successor of Peter is recognised by the Catholic world, irrespective of temporal power, yet it is necessary for the free exercise of the Church that the Pope should be an independent sovereign. That the interests of nations forbid the spiritual head of 200,000,000 Catholics to be the subject of any State or reign; that the Catholic people of Ireland feel deeply for the troubles which oppress the Supreme Pontiff, fomented by foreign intrigue, aided by the enemies of Catholic faith all over the world. That the elevated morality displayed by his Holiness Pius IX., when ascending the throne, proves that his anxiety for the amelioration of his subjects is only surpassed by his paternal solicitude for the welfare of his faithful children."

MR. JOHN MITCHELL.—The Irish newspapers received in New York are republishing the letters which Mr. Mitchell is contributing weekly to the Dublin papers. In one of his latest productions he makes the following remarks on the amnesty movement in his favour, and the possible invasion by France:—

"I do not know whether my two friends and countrymen of the United States would avail themselves of the amnesty if granted. For my part, I certainly would not. I hope never to go to Ireland again, but never by the Queen's [illegible] good-will. It would be impossible for me to live under her Government without endeavouring to overthrow it. I should instantly conspire, confederate, and combine against the person and persons, once more, against the peace and dignity of Lady the now Queen, her crown and dignity. And then whereupon she would again pack a jury of true Protestants, again steal my letters in the Post Office, get Baron Lefroy upon my track (does the baron still live?), get all the detectives and suborners, again seize [illegible] plunder my children, under a false pretence of [illegible] I cannot go back to live in Ireland under her rule; yet I hope to go back to live in Ireland [illegible] Emperor of the French pouncing down upon [illegible] or invading England, that is a mere panic [illegible] Bull; the rogue knows he has a bad conscience [illegible] there is a heavy balance outstanding against [illegible] the uttermost farthing of which he must pay. The Emperor Napoleon is no brigand; he is not [illegible] quarrel, nor to rush over at a day's warning with [illegible] and dragoons to harry England, burn the factories, [illegible] Bank. By no means; but he intends simply, honestly [illegible] fully if he can) to elevate France to that [illegible] by sea and shore which the allied Sovereigns [illegible] conspired to take away from her. It needs nothing [illegible] development of France will be the ruin of England; [illegible] England, or any other Power, shall interfere with [illegible]

...and by another means—*à la bonne heure!* But this all comes to the same result. There will be a war. England cannot stand ... There will be war, but it is ... that England will be the first to declare it. England ... who will make the peace, and the peace-makers ... Disraeli prophesies that England will ... pursue the policy of Pitt, will make the best ... and least in blows (for you know she ... enough to a sudden interest of battle by sea ...

## Scotland.

EDINBURGH UNIVERSITY COURT.—The Chancellor, Lord Brougham, has appointed Sir John Melville, late Lord Provost of the city, as his assessor, and the rector, Mr. Gladstone, has chosen Dr. John Brown, a medical gentleman of high literary standing, as his assessor in the University Court.

LORDSHIP OF ST. ANDREWS.—Colonel Mure, of Caldwell, has been elected Lord Rector of St. Andrews by a majority of 22 over Sir Ralph Anstruther, the numbers being 73 to 51.

THE COLLISION ON THE FIRTH OF CLYDE.—On Friday morning about 12 o'clock, while the steamer Arran was off the Arran shore, on her passage from Ardrossan to Londonderry, she came into collision with the outward-bound timber laden ship Pladda. She was struck heavily abaft the funnel, and sunk in a quarter of an hour. About 12 passengers and the second mate are believed to be drowned. Forty-six persons, including the captain and crew, were saved by the Pladda and a tug. The steamer had also 200 sheep on board, which were drowned.

## Law.

COURT OF CRIMINAL CAUSES. *Trial of Dr. Smethurst for bigamy.*—On Wednesday morning *Dr. Smethurst* was brought from Bedford to Bedmarsh on the charge of bigamy. It appeared by the evidence that the prisoner was married in 1858 to a young woman named Mary Duriam, who is still living, and was only last year to Isabella Banks under circumstances which, in some measure, led to the recent trial for the murder of Miss Banks. It was proved that Mary Duriam, before she was married to the prisoner, had lived with Mr. Laporte as his wife, and had children by him, under the name of Johnson, one of her sons being Mr. Laporte, who was brought into Court. Shortly after the prisoner's marriage with Miss Banks, he was informed by Mr. Laporte, who was not aware until that marriage was made that his father's name was Laporte, or that Mrs. Johnson was not his wife. On the other hand it was clearly proved that Mr. Laporte had a family by a lady who bore his name, and who was recognised as his wife by the relatives of both; and one of the witnesses for the defence was called to prove that the father's reputed wife was Mrs. Johnson, otherwise Mary Duriam, and not Mrs. Laporte. At the same time there was no legal proof that Mary Duriam was the married name of Mrs. Smethurst. For the defence a theory was taken of these circumstances, in order to set up the probability that Mary Duriam, otherwise Mrs. Johnson, was really the wife of Laporte, that she was the person who was guilty of the crime of bigamy in marrying the prisoner, and that he was not guilty of that offence when he married Miss Isabella Bramwell, in summing up, said that there was nothing logically any one in coming to the conclusion that Mary Johnson was a married woman at the time she went through the ceremony of marriage with the prisoner, and that nothing in the case appeared to him to point the other way. The jury immediately found the prisoner *Guilty*. Baron Bramwell, in passing sentence, said that there could be no doubt that Miss Banks knew the prisoner was married when she went through the ceremony with him, and that she knew perfectly well what she was about, and, so far as she was concerned, therefore, she was not one that called for severe punishment. There was, however, one fact in connection with the case which was, that the prisoner, in order to carry out the intercourse with the deceased lady, had made a false oath in saying that there was no impediment to it, when he must have known that this was not true. It was an offence, perhaps, strictly to the crime of perjury, but undoubtedly a false oath, and he, as a man of education, must have known what he was doing, and the consequences of such a proceeding. When, therefore, he took into consideration that he had deserted his first wife, that he had taken a false oath, and that he had endeavoured to impute to his first wife the crime of bigamy, without any probable justification, he had arrived at the conclusion that the case required a more severe punishment than was usually passed under similar circumstances. He had consulted Mr. Justice Byles and the other Judges of the Court upon the subject, and they concurred with him that the sentence he was about to pronounce was a proper one, and this was that he be imprisoned and kept to hard labour for the term of one year. The prisoner, who did not say a word during the proceedings, was then removed from the bar. *Serious Assaults.*—*The Rev. Henry John Hatch*, the late chaplain of the Wandsworth House of Correction, was charged with an assault upon two little girls, one 11 and the other 9, the daughters of a Mr. Plummer, a gentleman residing in Wiltshire, who had placed them in the temporary charge at a school kept by him at Wandsworth. The children who were examined gave their evidence in a clear and precise manner, and detailed the conduct that had been practised towards them by the prisoner, even in the presence of his wife. They were subjected to a severe cross-examination by Serjeant Ballantine, but very little was elicited from them that in any way tended to invalidate their testimony. A great number of magistrates and clergymen were present to speak to the prisoner's high character. Baron Bramwell, in summing up said that it certainly was most extraordinary that the prisoner should have commenced such a course of conduct almost before the mother of the children was cold, and still more so that he should have acted as he appeared to have done while his wife was in the room, who, if the evidence was to be believed, must really have been an accessory to the transaction. The jury after deliberating for about a quarter of an hour returned a verdict of *Guilty*. Baron Bramwell, in passing sentence, said that he had considered the case very carefully, and had come to the conclusion that he would be acting most mercifully to the prisoner if he sentenced him to be imprisoned for the period of about 18 months. It was impossible to conceive worse conduct than that of the prisoner, who had taken advantage of his position, and acted in such a way to two poor little children who had been placed under his protection, and he therefore felt it his duty to pass the full sentence of the law for such an offence, which was to be imprisoned and kept to hard labour for seven years. In each charge, the second period of two years to commence on the expiration of the first. The prisoner addressed the Court, with great excitement, declaring that the witnesses had been telling abominable lies, and that the time would come when his innocence would be made out.—*Mr. Thomas Hall*, watch-maker, of Cornhill, was found guilty of [illegible] a young lady who had been entrusted to his care on a journey to London by the Brighton Railway, and was sentenced to a month's imprisonment in Newgate.—*Murder on the High Seas.*—*Francis Bidwell*, 48, seaman, was indicted for the wilful murder of Edmund Hayward on the High seas. The boy Hayward, a nephew of Bidwell's, had been apprenticed on board the ship Hindostan, and he was subjected to the most brutal ill-treatment by the prisoner. *Verdict, Guilty.*—Sentence deferred.—*Wilful Murder of Jessie White.*—A short time ago a girl named Jessie White, a child about six years old, was found murdered in a field at Hackney. It was a very mysterious case. The prisoner lived with the father of the child and two of his other children in Chandos Cottages, Hackney Wick, and he was proved to have taken the child out on the night of Saturday 3 with great cruelty and then strangled it in the ditch. On the 5th September she returned and this was discovered with such severity that the child was left all night exposed to the inclemency of the weather, and during the whole of the following day. The prisoner, in her defence, said that she had been ill-used by the father of the child, and that she was afraid to go home, as he would beat her. She had been in a very excited state, and was not aware of what she was doing. The jury, after a short consultation, found the prisoner guilty of Manslaughter. The learned Judge, in passing sentence, said there could be no doubt that she entertained an animosity for the poor child, and that she must, on being questioned as to another matter, have told a falsehood. Sentence deferred [illegible] penal servitude for six years.

BIRTHS.—On the 7th ult. at Palmerston Park, the Lady Portarlington of a son and heir.—On the 9th ult. at 14, Dawson Street, the Hon. Mrs. Hamilton, of a son.—On the 11th, at 7, Clarendon Square, the Hon. Mrs. Cavendish, of a son and heir.—On the 12th ult. at 40, Charlotte Street, Bedford Square, the Hon. Mrs. Cowper, of a son, still-born.—On the 13th ult. at Stapleford Park, Lincolnshire, the wife of Sir Gervase Wheler, Bart., of a son and heir.—On the 14th ult. at Beckington, Somerset, the wife of Sir Thos. Farnaby Lett, Bart., of a son.—On the 15th ult. at Southfield Park, Cheltenham, the wife of Sir Edward Vaughan Kay, Bart., of a son and heir.—On the 16th ult. at Beckington, Somerset, the wife of Sir Thos. Farnaby Lett, Bart., of a son.—On the 17th ult. at Southam House, Moreton, the wife of J. G. Dodson, Esq., M.P., of a daughter.

MARRIAGES.—On the 24th ult. at St. James's Church, near Dublin, G. H. Wells, Esq., Commander R.N., son of the late General Sir C. Wells, K.C.B., of Spellbrook, Hertfordshire, to Frances, youngest daughter of the Hon. the Lord Chief Baron of Dublin.—On the 26th ult. at the Church of the Holy Communion, New York, Thomas Charles Baring, Esq., M.A., Fellow of Brasenose College, Oxford, eldest son of the Lord Bishop of Gloucester and Bristol, to Sarah Cadwalader, eldest daughter of Reginald Lothbury Rowland, Esq., of New York.—On the 27th ult. at St. Mary's, Lancaster, Spencer Alexander Compton, Esq., of Southampton, to Mary Isabel, widow of the late E. F. Cox, Esq., of Lincoln's Inn.—On the 29th ult. at St. Paul's, Knightsbridge, by the Rev. Canon Duckworth, Rector of Whitburn, Durham, assisted by the Rev. Canon Hawtrey, Provost of Eton, Edward Ernest Vaughan, Esq., of Trinity College, Cambridge, and Rector of Stanhope, Durham, to Mary Catherine, youngest daughter of the late Sir Edward Blackett, Bart., of Matfen Hall, Northumberland.—On the 29th ult. at St. George's, Bloomsbury, Henry Cecil Raikes, Esq., M.A., Lincoln's Inn, Barrister-at-Law, and late Fellow of Trinity College, Cambridge, to Georgiana Frances, youngest daughter of the late Rev. Charles Dyson, M.A., Incumbent of St. Mary's, Bryanston Square.—On the 29th ult. at St. Mary's, Bryanston Square, Alfred Cornwallis, Esq., of Linton Park, Kent, to Mary Isabella

it is a direct violation of those economic principles by which the administration of the Metropolitan Board of Works should be characterised."

THE NORTHERN HIGH LEVEL SEWER.—At a meeting of the Metropolitan Board of Works on Friday a long discussion took place in reference to certain mistakes that had been made in taking out the quantities for the contract for the great sewer on the north side of the Thames. Those quantities had been taken out by engineers, appointed jointly by the Board and the contractor, but paid by the latter. After the contract had been partially executed, discrepancies were discovered which induced the Board to appoint an independent surveyor to test these quantities; and the result has been that inaccuracies have been found of a serious character. All parties are agreed that the difference will at least be 7,000*l*., while the majority of the professional members of the Board estimate the amount at between 15,000*l*. and 30,000*l*. As this is only one of about eight contracts that will be required before the main drainage of the metropolis is completed, the matter was made the subject of serious discussion, and it was at first ordered that the bill of the engineers who had made the errors, Messrs. Roberts & Gotto, should not be paid. After several divisions on Friday it was resolved by 21 to 7, that the report of the independent surveyor, Mr. Pole, did not contain a sufficient justification to continue the previous order of the Board not to pay the claim, and that such order ought to be rescinded.

SUPPLY OF GAS TO THE METROPOLIS.—A deputation from the vestries and district boards of the metropolis had an interview on Wednesday with the President of the Board of Trade, and another on Thursday with the Home Secretary, to call attention to the conduct of the companies in dividing the metropolis into districts, and to ask the intervention of Government, as in the case of the water supply in 1852, with a view to secure the passing of an Act for the regulation of the companies and for fixing the price and quality of the gas. Mr. Gibson and Sir G. Lewis said that the subject should receive the attention of the Government. The latter added that he had been asked to receive a deputation from the companies, and after he had heard their views he should be able to state what course the Government would take.

ST. GEORGE'S-IN-THE-EAST.—On Sunday night there was a marked change for the better in the behaviour of the congregation at the evening service in this church. The attendance was scarcely so large as on most previous occasions during the disturbances, though there were not less than 2000 people present. Half of them, at least, were very young men and women, having the appearance of shop-boys and domestic servants, and what unseemly conduct there was chiefly proceeded from that class.

THE LOSS OF THE ROYAL CHARTER.—The Board of Trade inquiry terminated on Friday, the last witness being Mr. Clay, managing partner of the Mersey Iron-works, who said the tests made as to the tensile strength of the iron proved that the plates were of first-rate quality. Mr. Mansfield then made some remarks in reference to the gallantry of the captain and crew, and repudiated the calumny which had been circulated as to the sobriety of Captain Taylor. During the last few days several bodies have been washed ashore at Moelfra, as well as on the coast of the Isle of Man, and even so far off the scene of disaster as the coast of Ireland. Among those which have been identified are Miss F. Davis, Mrs. Foster, John Mawle, John Grise, Robert Evans, J. C. Ellison, J. Potts, and H. J. Walsh. The subscriptions in aid of the sufferers by the wreck of the Royal Charter have reached fully 3000*l*. in Liverpool alone.

THE ARMSTRONG GUN AT SEA.—Her Majesty's ship Wrangler returned to Woolwich on Friday from an experimental cruise to try the 40-lb. and 80-lb. Armstrong guns at sea. A complete course of experiments was carried out under the inspection of Capt. Sir William Wiseman, Vice-President of the Royal Ordnance Select Committee of Woolwich Arsenal, and Lieut. Ward, of the gunnery-ship Excellent. Sixty rounds of ammunition with the elongated shot were fired with perfect success, and every equipment pertaining to the gun was pronounced faultless.

MURDER IN SHOREDITCH.—A very shocking murder was committed on Monday morning in King's Head Court, Shoreditch, a man named James Moore, an umbrella maker, who had only lately been discharged from a lunatic asylum, having murdered his wife by stunning her with a poker and then cutting off her head and ripping up her abdomen. It appears from the evidence given at the police station on Tuesday, that the murderer and his wife, with one child about two years and a half old, entered their lodgings on Friday last and were considered by the landlord and landlady to be quiet and respectable people. On Monday morning, however, cries of murder were heard to proceed from their room, and on the landlady running up to see what was the matter, the cries ceased and she obtained no reply to her questions. She called out to the prisoner through the door that he should leave her house that day, and her husband agreed to give a formal notice to quit in the course of the day. The prisoner subsequently went out and did not return till the afternoon, when he went up to his room but suddenly came down again, and in a tone of great anxiety asked the landlord if any one had been into his room while he was out, requesting him to go up to the room immediately, as something very dreadful had occurred there. On entering the room the landlord was horrified at seeing the headless body of the woman lying stretched at full length upon her back, nearly naked, with a large open wound in her abdomen, and her head placed upright in a washhand basin by her side and partly covered by a pillow, while the child was lying on the other side wholly unconscious of the fate of its mother. In one corner of the room was a pail, containing a quantity of blood and clothing, while the boards bore evidence of having been recently washed, as they were covered for a considerable distance with smears and dampness, only partially dried. The prisoner told the landlord that he had not the slightest idea as to who had committed the murder, and declared that he had only that moment discovered it on returning home. The landlord asked him to go with him to the police court, which he did without the slightest objection, and stood quietly by, and seemingly without any indications of participation in the crime, while the landlord related the frightful particulars to the office-keeper. The latter however on looking at the prisoner's trousers saw stains of blood upon them, and the sergeant on duty after examining the room took him into custody and lodged him in the Old Street station. It was then ascertained by the police that the prisoner, who has two other children in addition to the one referred to, but who were not at home at the time of this sad occurrence, was convicted a few months ago of violently assaulting a woman and biting her severely in the hand, and sentenced to nine months' imprisonment, but before he had been three months in prison he displayed such manifest symptoms of his mind being affected that he was transferred to a lunatic asylum at Hoxton, from which it is not yet known whether he was formally discharged or escaped. After these facts had been proved in evidence the magistrate remanded the prisoner, and issued a summons for the attendance of the surgeon attached to the asylum.

THE PUBLIC HEALTH.—The Registrar-General's weekly return states that the deaths in London continued to increase in the week that ended Saturday, Nov. 26. The numbers registered in the two previous weeks were successively 1051 and 1233; last week the number was 1307. In the corresponding weeks of the 10 years 1849-58 the average number was 1210; which, if raised in proportion to the increase of population, will become 1331. The deaths of last week were therefore slightly below the average. During the week the births of 904 boys and 881 girls—in all 1785 children—were registered in London. In the 10 corresponding weeks of the years 1849-58 the average number was 1548.

## Provincial.

DERBY.—A shocking attempt at wholesale poisoning has been brought to light at Stuffynwood Hall, the residence of Mr. Joseph Paget, a magistrate of this county. The coachman, who had been engaged to marry one of the maidservants, drugged the beer which they drank at supper with cantharides, and afterwards drugged the coffee with the same poison. Five of the six maidservants were first taken ill, and then the whole of the servants, as well as Mr. and Mrs. Paget and their aunt who was staying with them; but fortunately no lives were lost. Mr. and Mrs. Paget were taken ill while riding to a meet of the Derbyshire Hounds. The coachman was taken into custody and identified as having bought an ounce of cantharides at Mansfield. He was taken before the magistrates at Chesterfield on Tuesday, when after a consultation the presiding magistrate, Mr. E. G. Maynard, decided that there was no criminal law to meet the case. The prisoner was therefore discharged.

DURSLEY.—One of the most deliberate murders which has ever been known in this neighbourhood was perpetrated on Saturday evening at North Nibley. The murderer's name is John Shepherd; he is about 32 years of age, the son of respectable parents, who have been farmers and were possessed of some property, but the whole, or nearly so, has been spent by the son, who has always borne a bad character, and is of a very vicious turn of mind. He has been in several police forces, among them the Somerset county police, but was discharged for bad conduct. For some time he has done nothing to gain a livelihood. It appears that he had for some time been paying his addresses to a respectable young woman named Ann Smitham, the only daughter of a weaver at Nibley, but from circumstances which came to her knowledge she determined not to receive his attentions any longer. This exasperated him very much, and he has been heard to say that he would kill her; but it was not thought that he would carry out his threat. On Saturday evening, at about 6 o'clock, he was observed near the cottage of the Smithams, and on the inmates hearing a noise outside the young woman looked out to see what it was, and finding it was Shepherd said, "What! are you there again?" and immediately after the report of a gun was heard and the unfortunate girl fell to the ground with a scream and never moved afterwards. She had been shot through the heart and died in about 10 minutes. After the discharge of the gun search was made for Shepherd, but without success until 8 o'clock the next morning (Sunday), when he was discovered by the police in a small orchard still alive but with half of his face shattered in a most fearful manner, having shot himself in a shed about 15 yards from the place where he was lying. An inquest was held on Monday on the body of the young woman, when the jury returned a verdict of Wilful Murder against John Shepherd, who died during the inquiry. A second inquest was therefore held on his body, and a verdict of *felo de se* returned.

PORTSMOUTH.—Five separate Courts-martial have been ordered by the Admiralty in connection with the late outbreak on board the Princess Royal. The first Court met on Saturday, and proceeded to try seven prisoners on the following charges:—

1st. For making a mutinous assembly; 2d, for endeavouring to do so; 3d, for being present at a mutiny on board the Princess Royal, and not using their endeavours to suppress the same; and 4th, for disobeying the lawful commands of their superior officers when the drum had beaten to quarters, and for going on the upper deck when the well disposed men were piped to do so.

The inquiry occupied the whole of Monday and Tuesday, when the Court after six hours deliberation found the fourth charge not proved against the whole of the prisoners; found four prisoners guilty on the first, second, and third charges; three prisoners guilty on the third charge; and in consideration of the peculiar circumstances of the case, only sentenced three of them to 18 months' imprisonment in Winchester gaol with hard labour; one to 12 months' imprisonment in Winchester gaol, with hard labour; and three others to six months' imprisonment in Winchester gaol, with hard labour. The Court added that they could not separate without noticing with approbation the conduct of one of the witnesses, George Hoad, in remaining under the sentries when released from irons in the fore cockpit. Hoad was found guilty a few days since of an assault on the second master of the Princess Royal, and sentenced to receive 48 lashes, to lose all pay, and undergo two years' imprisonment. No part of the sentence has, however, been yet carried out. The Court again assembled on board the Victory on Wednesday morning to proceed with the second case, and found the prisoner on trial guilty of four of the first charges against him, and sentenced him to 18 months' imprisonment with hard labour in Winchester gaol. The third case was then entered upon with the same result, and the prisoner was sentenced to two years' imprisonment and hard labour. On Thursday the Court proceeded with the fourth case, and having found the prisoner guilty of four of the charges sentenced him to the same punishment of two years' imprisonment with hard labour. The Court then proceeded to try the last case, in which the prisoners were charged—1st, with being present at the mutiny, and not using their utmost endeavours to suppress the same; and 2nd, with disobeying the lawful commands of their superior officers by not repairing to their station when the drum beat to quarters, and by not subsequently going on the upper deck when the well-disposed men were piped to do so. The trial was not concluded when the Court rose.

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MR. JOHN MITCHELL.—The Irish newspapers in New York are republishing the letters which Mr. Mitchell is contributing weekly to the Dublin papers. In one of his latest productions he makes the following remarks on the amnesty movement in his favour, and the alleged possible invasion by France:—

"I do not know whether my two friends and comrades in the United States would avail themselves of the 'amnesty' granted. For my part, I certainly would not. I hope, indeed, to go to Ireland again, but never by the Queen of England's good-will. It would be impossible for me to live there under her Government without endeavouring to overthrow it. I should instantly conspire, confederate, and combine with person and persons, once more, against the peace of Our Lady the now Queen, her crown and dignity, and so forth; whereupon she would again pack a jury of true blue Protestants, again steal my letters in the post office, as Baron Lefroy upon my track (does the baron still live?), all the detectives and suborners, again seize my person, plunder my children, under a false pretence of law, and I cannot go back to live in Ireland under her dominion yet I hope to go back to live in Ireland. As to the Emperor of the French pouncing down upon England, or invading England, that is a mere panic terror of John Bull; the rogue knows he has a bad conscience, and that there is a heavy balance outstanding against him, the uttermost farthing of which he must pay; but Emperor Napoleon is no brigand; he is not going to seek quarrel, nor to rush over at a day's warning with horse and dragoons to harry England, burn the factories, and rob the Bank. By no means, but he intends simply, honestly (as fully if he can) to elevate France to that commanding position by sea and shore which the allied Sovereigns of Europe conspired to take away from her. It needs nothing else but development of France will be the ruin of England; and England, or any other Power, shall interfere with that development

...ed by unfair means—*à la bonne heure!* But this all comes to the same point. There will be a war. England cannot stand ... and see this mighty Power growing to proportions which ... overshadow Europe and Asia. There will be war, but it is ... that England will be the first to declare it. England ... who will make the pounce, and the *guet à-pens*—in her usual Copenhagen style. I hereby prophesy that England will ... more pursue the policy of Pitt; will make the best ... she can, and burst on France (for you know she ... puck enough) in a sudden tempest of battle by land ... sea."

## Scotland.

EDINBURGH UNIVERSITY COURT.—The Chancellor, Lord Brougham, has appointed Sir John Melville, late Lord Provost of the city, as his assessor, and the rector, Mr. Gladstone, has chosen Dr. John Brown, a medical gentleman of high literary standing, as his assessor in the University Court.

RECTORSHIP OF ST. ANDREWS.—Colonel Mure, of Caldwell, has been elected Lord Rector of St. Andrews by a majority of 22 over Sir Ralph Anstruther, the numbers being 73 to 51.

FATAL COLLISION ON THE FIRTH OF CLYDE.—On Tuesday morning about 12 o'clock, while the steamer Eagle was off the Arran shore, on her passage from Glasgow to Londonderry, she came into collision with the waterlogged timber-laden ship Pladda. She was struck heavily abaft the funnel, and sunk in a quarter of an hour. About 12 passengers and the second mate are believed to be drowned. Forty-six persons, including the captain and crew, were saved by the Pladda and a tug. The steamer had also 200 sheep on board, which were drowned.

## Law.

CENTRAL CRIMINAL COURT: *Trial of Dr. Smethurst for bigamy.*—On Wednesday morning *Dr. Smethurst* was tried before Baron Bramwell on the charge of bigamy. It appeared from the evidence that the prisoner was married in 1828 to a person called Mary Durham who is still living, and was married last year to Isabella Banks under circumstances which have become notorious by his recent trial for the murder of that lady. It was proved that Mary Durham, before her marriage with the prisoner, had lived with Mr. Laporte as his wife and had children by him, under the name of Johnson, and one of her sons by Mr. Laporte, who was brought into court to identify her signature to the register of her marriage with the prisoner, said he was not aware until that marriage took place that his father's name was Laporte, or that Mrs Johnson was not his wife. On the other hand it was clearly proved that Mr. Laporte had a family by a lady who bore his name, and who was recognised as his wife by the relatives of both; and one of the sons of this marriage was called to prove that his father's connection with Mrs. Johnson, otherwise Mary Durham, was an adulterous one. At the same time there was no legal proof that Mary Durham was the maiden name of Mrs. Smethurst. For the defence advantage was taken of these circumstances, in order to set up the probability that Mary Durham, otherwise Mrs. Johnson, was really the wife of Mr. Laporte, that she was the person who was really guilty of the crime of bigamy in marrying the prisoner, and that he was not guilty of that offence when he married Miss Bankes. Baron Bramwell, in summing up, said that there was nothing to justify any one in coming to the conclusion that Mrs. Johnson was a married woman at the time she went through the ceremony of marriage with the prisoner, and that everything in the case appeared to him to point the other way. The jury almost immediately found the prisoner *Guilty*. Baron Bramwell, in passing sentence, said that there could be no doubt that Miss Bankes knew the prisoner was married when she went through the ceremony with him, and that she did so voluntarily, and was of an age to know perfectly well what she was about, and, so far as she was concerned, therefore, the case was not one that called for severe punishment. There was, however, one fact in connection with the case which was, that the prisoner, in order to carry out the marriage with the deceased lady, had made a false oath in swearing that there was no impediment to it, when he must have known that this was not true. It might not amount, perhaps, strictly to the crime of perjury, but it was undoubtedly a false oath, and he, as a man of education, must have known what he was doing, and the consequences of such a proceeding. When, therefore, he took into account that he had deserted his first wife, that he had taken a false oath, and that he had endeavoured to impute to his first wife the crime of bigamy, without any probable justification, he had come to the conclusion that the case required a more severe punishment than was usually passed under similar circumstances. He had consulted Mr. Justice Byles and the Judges of the Court upon the subject, and they concurred with him that the sentence he was about to pronounce was a proper one, and this was that he be imprisoned and kept to hard labour for one year. The prisoner, who did not say a word throughout the proceedings, was then removed from the bar.

*Indecent Assaults.—The Rev. Henry John Hutch*, the late chaplain of the Wandsworth House of Correction, was charged with an indecent assault upon two little girls, one 11 and the other 9 years old, the daughters of a Mr. Plummer, a gentleman of some residing in Wiltshire, who had placed them in the prisoner's charge at a school kept by him at Wandsworth. The two children who were examined gave their evidence in a simple and artless manner, and detailed the conduct that had been practised towards them by the prisoner, even in the presence of his wife. They were subjected to a severe cross-examination by Serjeant Ballantine, but very little was elicited from them that in any way tended to invalidate their testimony. A great number of magistrates and clergymen were called to speak to the prisoner's high character. Baron Bramwell in summing up said that it certainly was most extraordinary that the prisoner should have commenced such a course of proceeding almost before the mother of the children was out of sight, and still more so that he should have acted as was represented while his wife was in the room, who, if the evidence was to be believed, must really have been an accomplice in the transaction. The jury after deliberating about an hour found the prisoner *Guilty*. Baron Bramwell in passing sentence said he had been convicted of about as hateful an offence as could possibly be imagined. It was impossible to conceive a worse crime than for a man to take advantage of his position, and act in such a manner towards two poor little children who had been placed under his protection, and he therefore felt it his duty to pass upon him the extreme sentence of the law for such an offence, which was, that he be imprisoned and kept to hard labour for seven years upon each charge, the second period of two years to commence at the expiration of the first. The prisoner addressed the Court, and, with great excitement, declared that the parents had been telling abominable lies, and that the time would come when his innocence would be made out.—*Mr. Henry French*, watchmaker, of Cornhill, was found guilty of assaulting a young lady who had been entrusted to his care in a journey to London by the Brighton Railway, and was sentenced to a month's imprisonment in Newgate.—*Murder on the High Seas.—Frances Boland*, 45, seaman, was indicted for the wilful murder of Edward Hyland on the high seas. The jury returned a verdict of Manslaughter, and he was sentenced to four years' penal servitude.—*Child Murder at Hackney.—Sarah Jane Wynne*, 14, was indicted for the Wilful Murder of James White, a child about 3½ years old. This was a very shocking case. The prisoner lived with the father of the child and two of his other children in Clarence Cottages, Hackney. She conceived a violent dislike to this child, and was in the habit of beating it with great cruelty and then strapping it to the bedpost. On the 22d September she carried out this punishment with such severity that the child was left all night strapped to the bedpost in an upright position, and nature at last becoming exhausted, his head fell back in such a position as to produce apoplexy, and when released the child was quite dead. The jury after a very short deliberation found the prisoner *Guilty* of Manslaughter. The learned Judge, in passing sentence, said there could be no doubt that she entertained an aversion for this poor child, and that she went on from one cruel act to another until she had caused its death. He then sentenced her to be kept in penal servitude for 16 years.

BIRTHS.—On the 29th ult., at Poltimore Park, the Lady POLTIMORE, of a son and heir—26th ult, at 14, Dawson Street, the Hon. Mrs. HANDCOCK, of a son—27th ult, at 78, Chester Square, the Hon. Mrs CHETWYND, of a son—28th ult, at 46, Charles Street, Berkeley Square, Hon. Mrs. CURZON of a son, which only survived its birth a short time—27th ult, at 5, Spanish Place, the Hon. Mrs LEVESON RANDOLPH, of a son—26th ult, at Somerford Park, Cheshire, the wife of Sir CHARLES WATKIN SHAKERLEY, of a son and heir—29th ult, at Reddington Manor, near Nottingham, the wife of Sir THOS. PARKYNS, Bart., of a son—24th ult, at 6, Seamore Place, Mayfair, the wife of J. G. DODSON, Esq., M.P., of a daughter.

MARRIAGES.—On the 22d ult, at St. Morgan Church, near Dublin, G. H WALE, Esq., Commander R.N., son of the late General Sir C. Wale, K.C.B., of Shelford, Cambridgeshire, to BLANCHE, youngest daughter of his Grace the Lord Archbishop of Dublin—15th ult, at the Church of the Holy Communion, New York, THOMAS CHARLES BARING, Esq., M.A., Fellow of Brasenose College, Oxford, eldest son of the Lord Bishop of Gloucester and Bristol, to SUSAN CARTER, eldest daughter of ROBERT BOWNE MINTURN, Esq., of New York—26th ult, at St. Mary's, Bryanston Square, ADAM SCHOALES, Esq., of Southampton, to MARY EMILY, widow of the late T. F. COX, Esq., of Landford Park, Oxfordshire (Captain of the 1st Life Guards), and third daughter of the late Rev. Sir Robert Sheffield, Bart—29th ult, at St. George's Church, Hanover Square, Sir BENJAMIN C. C. PINE, M.A., Lieutenant-Governor, St Kitts, to MARGARETTA ANNE, only daughter of the late Colonel JOHN STIPSON, of the Bengal Army—20th ult, at Belgaum, Maitland, W B. SABINE PASLEY, Lieutenant in H.M.'s Bombay Artillery, third son of Rear-Admiral Sir Thomas Sabine Pasley, Bart., to KATE HENSON, youngest daughter of Major GRAHAM, late 78th Highlanders—22d ult, at Fremington, North Devon, GEORGE WHITLOCK, Esq., Captain 84th Regiment, eldest son of Major-General Sir Cornish Whitlock, K.C.B., commanding Saugor Field Division, India, to LAURA, youngest daughter of the late J. VELLACOTT, Esq., of Ashford, North Devon.

DEATHS.—On the 28th ult, at Salisbury, Lady WILLIAMS, widow of the late Colonel Sir Richard Williams, of the Royal Marine Artillery, K.C.B., and theretofore widow of the Rev. Peregrine Bingham, Rector of Berwick St. John, Wilts, aged 90—23d ult, at Bath, the Hon. and Mrs. HENRY HOWARD widow of the late Hon. Captain H. T. Howard, and eldest daughter of Sir John W. Guise, Bart., of Rendcombe Park, Gloucestershire—19th ult, at the Rectory, Little Packington, Warwickshire, the Hon. and Rev. CHARLES FINCH, M.A., Rector of Packington and of Meriden, youngest brother of the late Earl of Aylesford, aged 60—25th ult. at their residence in Connaught Place, the youngest daughter of Lord and Lady METHUEN—27th ult, at Boulogne-sur-Mer, WILLIAM THOMAS, eldest son of the Hon. and Rev. WILLIAM WOLFHOUSE—24th ult, at the Rectory, Potter Hanworth, Lincolnshire, the Rev. ARTHUR HENRY ANSON, B.C.L., youngest son of the Very Rev the Dean of Chester, aged 42 years—23d ult, at 19, Heytesbury Terrace, Dublin, LETITIA SYNGE BRADY, eldest daughter of the late Francis T. Brady, Esq., of Willow Park, county Dublin, and sister of the Right Hon. the Lord Chancellor—27th ult, at 12, Royal Terrace, Edinburgh, Major-General JOHN GRAHAM, H.E.I.C.S.—25th ult, at 35, Grand Parade, Brighton, Mrs. BROWN, widow of the late Charles Brown, Esq., of Hornsey, Middlesex, and sister of the late Sir Felix Booth, Bart.—25th ult, at his residence, 7, Great Cumberland Street, DAVID ALBEMARLE BERTIE DEWAR, Esq., of Doles, Hants, aged 65—26th ult, at Florence, CHARLES LANKHEAD, Esq., M.D., formerly Physician Extraordinary to his Majesty King George IV., aged 91—27th ult, at his residence, Acre Lane, Brixton, Mr. C. W. HICK, formerly a leading member of the Court of Common Council, and for the last quarter of a century Swordbearer to the City of London, aged 94.

## Markets.

### COVENT GARDEN.—Dec. 3.

Asparagus and Seakale now make their appearance. Pine Apples and Grapes have not altered in price since last week. Apples and good dessert Pears are scarce; the latter consist of Glou Morceau, Beurré Diel, Chaumontel, Winter Nelis, Passe Colmar, and Crassane. Onions are improving in quality. Good Cobs are realising from 1s. to 1s. 6d. per lb. Chesnuts are plentiful. Vegetables are for the most part sufficient for the demand. Cabbages, Savoys, Carrots, and Parsnips may be obtained in quantity. Broccoli is scarce. Potatoes realise from 4s. to 8s. per cwt. Mushrooms can still be had. Cucumbers tolerably abundant. Cut flowers chiefly consist of Orchids, Gardenias, Violets, Mignonette, Chrysanthemums, Heaths, and Roses.

#### FRUIT.

| | |
|---|---|
| Pine Apples, per lb., 4s to 6s | Pears, per doz., 3s to 6s |
| Grapes, per lb., 4s to 6s | Oranges, per 100, 6s to 10s |
| Melons, each, 2s to 4s | Lemons, per 100, 5s to 8s |
| Pomegranates, each, 4d to 6d | Filberts, p 100 lbs., 55s to 60s |
| Apples, per bushel, 8s to 10s | Cobs, do., 1os |

#### VEGETABLES.

| | |
|---|---|
| Asparagus, p. bundle, 7s | Artichokes, per doz., 2s to 3s |
| Seakale, per basket, 3s to 4s | Beet, per doz., 1s 6d to 2s |
| Cauliflowers, per doz, 2s to 4s | Celery, p. bundle, 1s to 1s 6d |
| Greens, per dozen bunches, 2s to 2s 6d | Onions, p. half sieve, 1s to 1s 6d |
| Cabbages, do., 1s 6d to 2s 6d | — Portugal, each, 2d to 4d |
| Potatoes, p. ton, 2os to 2s 3d | Shallots, per lb., 6d to 8d |
| — per bus., 1s to 2s 3d | Garlic, per lb., 6d to 8d |
| — per cwt., 4s to 6s | Lettuces, Cabb., per score, 1s to 1s 6d |
| Carrots, per bunch, 6d | Endive, p. score, 1s to 1s 6 |
| Turnips, per bunch, 4d | Horse Radish, p. bun., 1s 6d to 4s |
| Spinach, p. sieve, 1s 6d to 2s | Mushrooms, p. pott, 1s 6d to 3s 6d |
| Tomatoes, p. half sieve, 2s 6d to 3s 6d | Parsley, p. 12 bunches, 2s to 4s |
| Cucumbers, each 4d to 6d | Savory, per bunch, 2d to 4d |

### METROPOLITAN CATTLE MARKET.

MONDAY, Nov 28.

The number of Beasts is very much smaller, consequently prices have advanced on all descriptions. There are not quite so many Sheep as on Monday last, however trade is dull at not much advance. Calves are dearer. From Germany and Holland there are 560 Beasts, 750 Sheep, and 11 Calves; from Scotland, 130 Beasts; from Ireland, 760; from Norfolk and Suffolk, 190; and 2560 from the Northern and midland counties.

| | s | d | s | d | | s | d | s | d |
|---|---|---|---|---|---|---|---|---|---|
| Best Scots, Herefords, &c | 4 | 10 | to 5 | 2 | Best Long-wools | 4 | 10 | to 5 | 0 |
| Best Short-horns | 4 | 8 | — 5 | 0 | Do. Shorn | .. | .. | — | .. |
| 2d quality Beasts | 3 | 6 | — 4 | 4 | Ewes & 2d quality | 4 | 4 | — 4 | 8 |
| Best Downs and Half-breds | 5 | 2 | to 5 | 4 | Do. Shorn | .. | .. | — | .. |
| Do. Shorn | .. | .. | — | .. | Lambs | .. | .. | — | .. |
| | | | | | Calves | .. | .. | 4 4 | — 4 10 |
| | | | | | Pigs | .. | .. | 5 8 | — 5 0 |

Beasts, 4240; Sheep & Lambs, 20,[illegible]0; Calves, 127; Pigs, 480.

THURSDAY, Dec 1

The number of Beasts is rather larger than on Tuesday last; there is however a fair demand at Monday's quotations. The supply of Sheep is small, and best descriptions are readily disposed of, but trade is dull for inferior. Good Calves are dearer. From Germany and Holland there are 260 Beasts, 580 Sheep, and 129 Calves, from Ireland, 1 0 Beasts; from the northern and midland counties, 500; and 128 Milch Cows from the home counties.

| | s | d | s | d | | s | d | s | d |
|---|---|---|---|---|---|---|---|---|---|
| Best Scots, Herefords, &c | 4 | 10 | to 5 | 2 | Best Long-wools | 4 | 10 | to 5 | 0 |
| Best Short-horns | 4 | 8 | — 5 | 0 | Do Shorn | .. | .. | — | .. |
| 2d quality Beasts | 3 | 6 | — 4 | 4 | Ewes & 2d quality | 4 | 4 | — 4 | 8 |
| Best Downs and Half-breds | 5 | 2 | — 5 | 4 | Do Shorn | .. | .. | — | .. |
| Do. Shorn | .. | .. | — | .. | Lambs | .. | .. | — | .. |
| | | | | | Calves | .. | .. | 4 4 | — 5 0 |
| | | | | | Pigs | .. | .. | 3 8 | — 5 0 |

Beasts, 1248; Sheep & Lambs, 3110; Calves, 201; Pigs, 170.

HOPS.—BOROUGH MARKET, FRIDAY, Dec 2.

Messrs. Pattenden & Smith report that the market continues gradually to advance for all fine samples, which are scarce.

HAY.—Per Load of Thirty-six Trusses.

SMITHFIELD, THURSDAY, Dec. 1.

| | | | | |
|---|---|---|---|---|
| Prime Meadow Hay | 75s | to 75s | Clover | 85s to 100s |
| Superior do. (old) | 76 | 80 | New Clover | — — |
| Inferior do. | 50 | 60 | Second cut do. | 75 80 |
| New do. | — | — | Straw | 25 30 |
| Rowen | 36 | 50 | | |

DAVIS & Co.

CUMBERLAND MARKET, THURSDAY, Dec. 1.

| | | | | |
|---|---|---|---|---|
| Sup. Meadow Hay | 80s | to 86s | Inferior Clover | 75s to 90s |
| Inferior do. | 60 | 74 | New do. | — — |
| New do. | — | — | Straw | 60 33 |
| Superior Clover | 98 | 105 | | |

JOSHUA BAKER.

WHITECHAPEL, THURSDAY, Dec. 1.

| | | | | |
|---|---|---|---|---|
| Fine old Hay | 78s | to 82s | Fine old Clover | 97s to 100s |
| Inferior do. | 65 | 72 | Inferior do. | 84 90 |
| Prime New Hay | — | — | Fine new Clover | — — |
| Inferior do. | — | — | Fine 2d cut | 80 84 |
| Straw | 26 | 30 | Inferior do. | 60 75 |

BRITISH WOOLS.—LONDON, FRIDAY, Dec 2.

We have had a fair demand for most descriptions and at full rates. Kent fleeces do not realise prices in proportion to the rates paid the farmers.

| | s. | d. | s. | d. | | s. | d. | s. | d. |
|---|---|---|---|---|---|---|---|---|---|
| South down Hoggets | 1 | 8 | to | — | Leicest. Wethers | 1 | 5 | to | — |
| Half-bred ditto | 1 | 8 | — | — | Ditto Hoggs | 1 | 7 | — | — |
| Down Ewes | 1 | 6 | — | — | Combing Skins | — | — | — | — |
| Kent Fleeces | 1 | 6 | — | — | Blanket ditto | — | — | — | — |
| | | | | | Flannel Wool | 1 | 2 | — 1 | 7 |

COLONIAL WOOL SALES.—This series of fine wool will terminate to-morrow. The rates have been satisfactory all through the auctions.

POTATOES.—SOUTHWARK, Monday, Nov. 28

During the past week, the arrivals both coastwise and by rail have been plentiful, and more liberal from France and Belgium. The former week's prices have been barely maintained. The following are this day's quotations:—Yorkshire Regents, per ton, 80s to 110s.; Lincolnshire do., 70s. to 90s.; Dunbar do., 70s. to 110s.; Perth, Forfar, and Fifeshire do., 60s. to 85s.; Kent and Essex do., 70s. to 90s.; French Whites, 70s. to 80s.; Belgian do., 55s. to 65s.

MARK LANE.—MONDAY, Nov 28.

The supply of English Wheat to this morning's market was again moderate, the quality and condition poor, and sales could only be effected at a decline of 1s. per qr. upon the prices offered this day se'nnight, or 2s. below the rates of this day fortnight. The attendance was very small, and to have forced the sale of foreign Wheat lower prices must have been submitted to, but it was generally held firmly at former quotations. Fine malting Barley is 1s. to 2s. per qr. cheaper, secondary sorts very unsaleable; grinding and distilling bring last week's rates. New Beans are 2s. per qr. cheaper. Peas unaltered in value. The Oat trade is quiet, and in some instances 6d. per qr. less money is accepted. Flour remains the same as last week.

| PER IMPERIAL QUARTER. | s. | s. | | s. | s. |
|---|---|---|---|---|---|
| WHEAT, Essex, Kent, & Suffolk, White | 40 | 58 | Red | 40 | 47 |
| — — fine selected rans ditto | 46 | 48 | Red | 42 | 48 |
| — — Talavera | 46 | 52 | | | |
| — Norfolk | — | | Red | — | |
| — Foreign | 38 | 56 | | | |
| BARLEY, grind. & dist., 24s to 30s. | Chev. | 38 | 44 | Malting | 34 | 40 |
| — Foreign grinding and distilling | 23 | 23 | Malting | 35 | 41 |
| OATS, Essex and Suffolk | 19 | 24 | | | |
| — Scotch and Lincolnshire | Potat. | 24 | 29 | Feed | 19 | 26 |
| — Irish | Potato | 24 | 28 | Feed | 19 | 24 |
| — Foreign Poland and Brew | | 25 | 26 | Feed | 17 | 24 |
| RYE | | 35 | 38 | Foreign | — | |
| RYE MEAL, foreign | | — | | | | |
| BEANS, Mazagan 33s to 40s | Tick | 33 | 42 | Harrow | 36 | 48 |
| — Pigeon 44s — 47s | Winds. | 48 | 54 | Longpod | — | |
| — Foreign | Small | 38 | 46 | Egyptian | — | |
| PEAS, white, Essex and Kent | Boilers | 36 | 39 | Suffolk | 38 | 41 |
| — Maple —s to —s | Grey | 34 | 36 | Foreign | 30 | 38 |
| MAIZE | White | — | | Yellow | — | |
| FLOUR, best marks delivered | per sack | 37 | 48 | | | |
| — 2d do. | ditto | 27 | 37 | Country | 27 | 37 |
| — Foreign | per barrel | 18 | 27 | Per sack | 30 | 37 |

FRIDAY, Dec. 25.

The weather during the last eight days has been wet, with snow, and occasional night frosts. The Wheat trade throughout the kingdom has been very inanimate, and a decline of 1s. per qr. has been general, but considering the unusually large arrival into the Scotch ports, and of Black Sea cargoes on the coast, the trade evinces very great firmness and confi

dence. Spring Corn of all kinds has also declined slightly in value. In several markets Flour is quoted 6d. to 1s. per sack cheaper. The arrivals of grain and seed cargoes off the coast for the week amount to 178 cargoes, consisting of 41 Wheat, 11 Rye, 77 Maize, 20 Barley, 9 Beans, 2 Oats, 17 Linseed. The sales comprise Odessa Ghirka Wheat at 45s. to 46s., Taganrog Ghirka at 47s. to 48s., Marionopoli at 48s., all per 492 lbs.; Odessa Maize at 31s. to 32s. 3d., Ismail at 32s. 6d. per 492 lbs., Ibrail at 30s. 1½d. per 480 lbs.; Galatz Barley at 26s. 6d. per 400 lbs.; Egyptian Beans at 34s. per qr. imp., and Taganrog Linseed at 48s. 6d. per qr. delivered. The quantity of foreign Wheat reported as arrived up to last night was 760 qrs. only, but we believe there are several vessels in the river; of Barley and Oats the arrivals are large, and good of English grain. The English Wheat fresh up or left over from last day met a slow sale on previous terms, and the business transacted in foreign was to a limited extent at late rates. In Spring Corn but few sales were effected, and prices must be considered nominally as on Monday.

ARRIVALS FROM Nov. 28 TO Dec. 1.

| | Wheat. | Barley. | Oats. | Flour. |
|---|---|---|---|---|
| English .. | 2490 qrs. | 2550 qrs. | 2260 qrs. | 2080 sks. |
| Irish .... | — ,, | 150 ,, | 1970 ,, | — ,, |
| Foreign .. | 760 ,, | 12670 ,, | 31620 ,, | — ,, / — brls. |

LIVERPOOL, Tuesday, Nov. 29.—We had only few buyers at our Corn Exchange this morning, and the demand for all articles was quite in retail. Wheat must be noted 1d. to 2d. per bushel, Flour fully 6d. per barrel and sack, and Indian Corn 6d. per quarter lower than last market day. Oats might have been bought at 6d. per bushel, and Oatmeal 6d. per load less money. Beans and Peas each declined 6d. to 1s. per qr., and Barley 1d. per bushel. The market closed extremely dull.

FRIDAY, Dec. 2.—There was a moderate business in Wheat, but no change. Flour steady at Tuesday's prices. Indian Corn a turn dearer. Beans steady. Oatmeal 6d. lower. Oats in favour of buyers. There was a limited attendance at market.

| AVERAGES | Wheat. | Barley. | Oats. | Rye. | Beans. | Peas. |
|---|---|---|---|---|---|---|
| Oct. 22.. | 42s 10d | 35s 5d | 21s 2d | 29s 6d | 39s 2d | 37s 7d |
| — 29.. | 43 1 | 35 6 | 20 11 | 30 4 | 38 9 | 38 2 |
| Nov. 5.. | 42 9 | 35 9 | 22 1 | 30 2 | 39 3 | 38 5 |
| — 12.. | 42 10 | 35 11 | 21 5 | 29 7 | 40 3 | 37 9 |
| — 19.. | 43 1 | 35 11 | 21 11 | 28 4 | 40 9 | 39 6 |
| — 26.. | 44 1 | 36 1 | 22 6 | 29 1 | 41 2 | 39 0 |
| Agg. Aver. | 43 1 | 35 9 | 21 8 | 29 6 | 39 11 | 38 5 |

FLUCTUATIONS IN THE LAST SIX WEEKS AVERAGES.

| PRICES. | Oct. 22. | Oct. 29. | Nov. 5. | Nov. 12. | Nov. 19. | Nov. 26. |
|---|---|---|---|---|---|---|
| 44s 1d | .. | .. | .. | .. | .. | |
| 43 1 | .. | | .. | .. | | |
| 42 10 — | | .. | .. | | .. | .. |
| 42 9 | .. | .. | | .. | .. | .. |
| .. | .. | .. | .. | .. | .. | .. |
| .. | .. | .. | .. | .. | .. | .. |

**JAMES HUDSON'S ASSIGNMENT.**—The Creditors of JAMES HUDSON, late of No. 12, Hanover Square, in the County of Middlesex, Secretary to the Royal Agricultural Society of England, but now deceased, are requested to take notice that shortly after the 10th day of December next a Dividend will be paid to such of the Creditors of the said JAMES HUDSON as shall on or before the said 10th day of December execute an Indenture of Assignment made for the benefit of the Creditors of the said JAMES HUDSON, dated the 10th day of June last, and that all Creditors who shall not execute the said Indenture on or before the said 10th day of December, will be excluded from all benefit to be derived under the said Indenture, and that the same is lying at our office for execution.—Dated this 28th day of November, 1859.

RAW & GURNEY, 7, Furnival's Inn, E.C.

## SEED TRADE.

**WANTED,** A PARTNER in a GENERAL SEED and IMPLEMENT TRADE of first class connection in the South of Ireland. Practical knowledge and Business Habits more an object than Capital, on account of the proprietor's present delicate health. Apply by letter with particulars to C. W., at Messrs. HURST & MCMULLEN'S, 6, Leadenhall Street, London, E.C.

**THE WIDOW OF THE LATE PROFESSOR HENFREY** F.R.S., L.S., &c., of King's College, London, receives a small number of BOYS between the ages of 6 and 12, to EDUCATE with her own family. Terms, from 60 Guineas per Annum.—Turnham Green, W.

**WANTED,** by a gentleman in the County of Oxford, an ARTICLED PUPIL. A limited number of Boarders are taken. Terms moderate.—Apply to ALPHA, Kingham, Oxon.

## TO GARDENERS, &c.

**DEWSBURY CEMETERY.**—The Burial Board of the Township of Dewsbury are prepared to receive offers from any person desirous of undertaking the duties of REGISTRAR of the above Cemetery at a salary not exceeding 65*l* per annum. The person appointed will be required to keep all the Books of the Board, to superintend all interments and the making and filling up of Graves, to keep the Cemetery Grounds in proper order and trench them when necessary, and to prune and cut the Trees and Shrubs at proper seasons. He will occasionally have to officiate as Clerk at funerals in the unconsecrated part of the Grounds, both in the Chapel and at the Graves, and to undertake all other duties appertaining to the office of Registrar. He will also have to reside (rent free) in the Lodge at the Cemetery. All charges for coals and rates will be paid by the Board.

Applicants must state in their own handwriting their residence, age, and present occupation, whether married or not; if married what family they have, what amount of salary required, and references as to character. All applications must be forwarded to me on or before 4 o'clock in the afternoon of TUESDAY, the 13th of December next.

Dewsbury, Dec. 3. C. R. SCHOLES, jun. Clerk to the Board.

**WANTED,** A FOREMAN, for a Brick and Tile-yard, who has a thorough knowledge of his duties in the Making by Machinery and Steam-power or otherwise. Stating wages, age, &c.—Address Mr. A. GREGORY, Post Office, Caterham, Red Hill, Surrey.

## HEAD GARDENER AND FARM BAILIFF.

**WANTED,** AS HEAD GARDENER AND FARM BAILIFF, by a gentleman in South Lancashire, an experienced man; he must have a thorough knowledge of gardening in all its branches, the Early Forcing of Fruits and Vegetables, and the Propagation and Management of both Stove and Greenhouse Plants, there being an extensive range of glass. He will also be required to superintend the general business of the Home Farm under the direction of the owner. Satisfactory references as to respectability and competency will be indispensable. A married man of middle age will be preferred.—Address, D. E., Post Office, Stretford, Manchester.

**WANTED,** a good GARDENER, and his Wife as LAUNDRESS; without incumbrance, about 30 years of age.—Apply at 4, Strand, near Charing Cross, W.C.

## NURSERY PROPAGATOR.

**WANTED,** A PROPAGATOR, PLANT GROWER, &c., of General Trade experience. He will be required to have a perfect knowledge of the Propagation of all kinds of Plants under Glass, also to understand Grafting, Budding, &c.—Apply with reference, stating age, experience, and wages expected, to J. SAMPSON, Nurseryman, &c., Pilsley, near Clay Cross, Chesterfield.

**WANTED,** AS OUT-DOOR GARDENER, a married Man, of active and orderly habits, who has lived in a gentleman's service before. His Wife a good Laundress, and no children. A Cottage, and 18s. a week. The Wife paid according to her work.—Address P. Q., Post Office, Alford, Lincolnshire.

## WANT PLACES.—Letters to be Post Paid.

**GARDENER (HEAD).**—Age 28, married, one child has a practical knowledge of his profession. Good reference.—T. B., 3, Cowper's Place, Brixton Hill, Surrey, S.

**GARDENER (HEAD).**—Age 28, married, no incumbrance; thoroughly understands his profession in all its branches. Four years' spotless character.—A. B., Post Office, Peasemore, Berks.

**GARDENER (HEAD).**—Age 30, married, one child; cannot undertake the charge of Stock or Land. Six years' first-class reference on application to J. T., Mr. Terry's, Fryston Lodge, near Milford Junction, Yorkshire.

**GARDENER (HEAD).**—Age 37, single; practical knowledge of his profession in its various branches, the forcing of Fruits, Flowers, and Vegetables, and the routine of Kitchen and Flower Gardens, Plants, &c. Three years' good character.—B. B., Mr. Burdett's, Walton-upon-Thames.

**GARDENER (HEAD).**—Age 30, single; has a thorough practical knowledge of his profession, including the Early and Late Forcing of all kinds of Fruits, Flowers, Vegetables, and the culture of Stove and Greenhouse Plants. Character will bear the strictest investigation.—A. Z., Post Office, Sutton, Surrey.

**GARDENER (HEAD).**—Age 30; proficient in Forcing, the cultivation of Exotic Fruits, Tropical and New Holland Plants, Flower and Kitchen Gardens, the erection and heating Horticultural Buildings, Landscape Operations, and the general routine of Horticulture. Can be highly recommended by his late employers for ability, sobriety, &c.—M. J. W., Mr. Veitch, Exotic Nursery, King's Road, Chelsea, London, S.W.

**GARDENER.**—Age 34, married; understands his profession. Can take charge of Cows if required.—A. B., Messrs. Gray & Warren, High Street, Croydon.

**GARDENER.**—Age 23, single; understands Hothouse, Greenhouse, and Flower Garden. Good character.—A. B., Post Office, Notting Hill, W.

**GARDENER.**—A strong Lad, who has some practical knowledge of Gardening; can use the Spade, and manage a small Garden.—P. O., Mr. Smith, 15, Ledbury Road, Northb, Westbourne Grove, W.

**GARDENER.**—Age 40, married, one child, 14 years old; understands Forcing Fruits, Flowers, Kitchen and Flower Gardens; also a small Farm. Good character.—A. B., Mr. J. May, 1, Wellington Street, Strand, W.C.

**GARDENER.**—A. KAY, The Gardens, Lillesden, Hawkhurst, Kent, is at liberty to engage with any nobleman or gentleman requiring the services of a thoroughly practical Gardener.—Address as above.

**GARDENER.**—Middle-aged, married, without incumbrance; good practical Man; understands Meadow Land, &c., if required. Can have a good character from the situation he is about to leave.—J. C., J. F. Muskett, Seedsman, &c., Clapham, Surrey.

**GARDENER.**—Age 46, married, without incumbrance; for 16 years Head Gardener to a gentleman now deceased; in any capacity where implicit trust and confidence are placed; has a thorough knowledge of Accounts. Testimonials of a high order. Security if required; is a member of the Established Church.—J. POTTER, Shirley, Southampton.

**GARDENER.**—Age 35, married, without incumbrance; can grow Cucumbers and Melons, manage Greenhouse Plants, &c., and, understands Wall Trees and Kitchen and Flower gardening. Wife can manage a Dairy and Poultry if required. Five years' good character.—J. H. L., at H. Davies's Seedsman, Great Stanmore, Middlesex, N.W.

**GARDENER** (UNDER or SINGLE-HANDED to a Clergyman, or where there is a small Garden).—Age 21, married; understands Stable Work. Two years' good character.—Mr. J. YOUNG, Weston, Stevenage, Herts.

**GARDENER,** OR GARDENER AND STEWARD.—A first-rate general Plant and Fruit Grower, understands the management of Land, Timber, and Stock. Well known at the London and Provincial Exhibitions for several years.—E. R., Messrs. Lee, Nurserymen, Hammersmith, London, W.

**GARDENER AND BAILIFF** (or in either capacity).—Twenty years' practical experience; is leaving present service in consequence of the death of his employer. His wife, a native of Cheshire, would take charge of Dairy if required, being first class in her profession.—T. M. N., Berwick Grange, Lympne, near Hythe, Kent.

**FOREMAN** (in a small place), or JOBBING MAN, &c.—Middle-aged; is a good Plantman and a first-rate Knifeman; also understands the general routine of his profession.—M T., Mr. Smith, 15, Ledbury Road North, Westbourne Grove, W.

**FOREMAN AND PROPAGATOR,** lately, is at liberty to engage with any Nurseryman requiring a business-like person, with excellent character.—G. TIZZARD, Bowood, Beaminster, Dorset.

**SUB-FACTOR,** or otherwise.—A young Man, with a thorough knowledge of High Farming, management of Sheep, &c., Draining, Levelling, Surveying, Breaking up and Improving Land, Keeping Accounts, and the application of Chemistry to Agriculture. The highest references.—J. DICKSON, Clifton Bank, Buxton, Derbyshire.

**LAND STEWARD OR BAILIFF.**—Age 40, married; native of Scotland; has had considerable experience in the Management of Land; Buying, Selling, and Management of Stock in general; Draining, Planting, &c.—A. H., Wright's Buildings, Watford, Herts.

**BAILIFF OR FARM MANAGER.**—Age 30, of energetic business habits; is desirous of an engagement at Christmas or before it required. Well experienced in the Management of Heavy and Light Soils, Drainage, Measuring Land, Timber, &c; Breeding, Purchasing, and Selling all kinds of Stock. The highest reference and testimonials can be given.—Z. Z., Mr. Thomas Scott, Land Agent, 18, Parliament Street, London, S.W.

**BAILIFF.**—A young Man who thoroughly understands his business; has had a practical knowledge of Farming, Draining, and improving of Land both in England and Scotland, the management of Stock, and first-rate testimonials.—J. G., Mr. Ellison, Hatton, near Warrington.

**FARM BAILIFF.**—An experienced Man, who perfectly understands his profession in all its branches; has farmed in different counties, and understands Buying, Selling, Breeding, and Feeding Stock. Reference from gentleman, who is giving up his farm, with whom he has been five years.—A. B., Mr. Chandler's, Basingstoke.

**BAILIFF, COWMAN, AND BUTCHER.**—Perfectly understands the management of Land and Stock in all its branches. Can have a good character.—B. A., Post Office, Leatherhead, Surrey.

## TO THE SEED TRADE.

**SHOPMAN OR WAREHOUSEMAN.**—Age 27, married; has had upwards of 12 year's experience in Scotland and England. Can be well recommended.—*Gardeners' Chronicle* Office, W.C.

## TO NURSERYMEN AND SEEDSMEN.

**SHOPMAN.**—A young man, English; has had seven years' experience in one of the first houses in England, and the last two years with Messrs. W. Drummond & Son, Dawson Street, Dublin—one year as Warehouseman, and as Shopman.—J. W., 41, Dame Street, Dublin.

**CATTLE SHOW, 1859.**—VISITORS will find every convenience for LUNCHEON, DINING, and REFRESHMENT, combined with great comfort, economy, and despatch, at HIS LORDSHIP'S LARDER, 111, Cheapside, E.C., opposite Bow Church. Private Apartments for Ladies.—J. PEARS, Proprietor.

**EPPS'S HOMŒOPATHIC COCOA.**—Produced in 1839, specially for the use of Homœopathic Patients, to provide them with a beverage highly nutritious and free from those effects of Coffee and Tea which to many persons are pernicious. Rendered attractive to the taste by its delicate aroma and grateful smoothness, it has become adopted by the public generally for breakfast, luncheon, and supper. Sold by the principal Grocers at 1*s.* 6*d.* per lb., in ½ lb. and ¼ lb. packets. Each packet is labelled, "JAMES EPPS, Homœopathic Chemist, London."

**BUTTER—GOOD FRESH BUTTER.**—TRY DOWMAN'S BUTTER POWDER, by the use of which, and following the simple directions given with each box, Butter comes in less than one-half the time it does when made in the usual mode. It is more abundant, and the quality and colour are greatly improved. The unpleasant taste of Swedes, Turnips, or other strong feed is entirely removed. The Butter will keep in a fresh state firm, and free from all rancidity, for a longer period; it is also more pure, as the cheesy part of the cream is neutralised and washed out by this process. Sold 1*s.* per Box, by Druggists and Grocers.—London Wholesale Agents: EDWARDS, 67, St. Paul's Churchyard; BARCLAY & SONS, Farringdon Street. Sole Proprietor, J. DOWMAN, Chemist, Southampton. Agents wanted in every town. The public are cautioned against being imposed upon by worthless imitations. This article has been in use 15 years, and the test of experience has been successfully applied.

**WATERPROOF HIGHLAND CLOAKS** for Gentlemen's Winter wear are now on view in every description of Scotch manufactured Tweed.—SCOTT ADIE'S Real Tartan Warehouse, 115, Regent Street, corner of Vigo Street.

**ALLEN'S PATENT PORTMANTEAUS AND TRAVELLING BAGS,** with SQUARE OPENING Ladies' Dress Trunks, Dressing Bags, with Silver Fittings, Despatch Boxes, Writing and Dressing Cases, and 500 other articles for Home or Continental Travelling, illustrated in the New Catalogue for 1859. By post for two stamps. J. W. & T. ALLEN, Manufacturers of Officers' Barrack Furniture and Military Outfitters (see separate Catalogue), 18 & 22, Strand, W.

**GLENFIELD PATENT STARCH,** used in the Royal Laundry, and pronounced by Her Majesty's Laundress to be the finest Starch she ever used. When you ask for Glenfield Patent Starch, see that you get it, as inferior sorts are often substituted. Sold by all Chandlers, Grocers, &c. WOTHERSPOON & Co., Glasgow and London.

## FINE HEAD OF HAIR.
## THE BEARD, WHISKERS, AND MOUSTACHIOS.

**ROWLANDS' MACASSAR OIL** is universally in high repute as the most successful article ever known for the growth, restoration, and in improving and beautifying the human hair, proved beyond question by its unprecedented results for more than half a century past, and when every other specific has failed. It prevents it from falling or turning grey, strengthens weak hair, cleanses it from scurf and dandriff, and makes it beautifully soft, curly, and glossy. For children it is especially recommended, as forming the basis of a beautiful head of hair. Its invaluable properties have obtained the patronage of Royalty and the aristocracy throughout Europe; while its introduction into the nurseries of Royalty, and the high esteem in which it is universally held, with numerous testimonials constantly received of its efficacy, afford the best and surest proofs of its merits. Price 3*s.* 6*d.* and 7*s.*; family bottles (equal to four small), 10*s.* 6*d.*; and double that size, 21*s.*—CAUTION: on the wrapper of each bottle are the words, ROWLANDS' MACASSAR OIL, &c., in white letters, and their signature, "A. ROWLAND & SONS," in red ink. Sold at 20, Hatton Garden, London, E.C.; and by Chemists and Perfumers.

**ASTHMA.**—DR. LOCOCK'S PULMONIC WAFERS give instant relief and a rapid cure of Asthma, Consumption, Coughs, and all disorders of the Breath and Lungs. They have a most pleasant taste. Price 1*s.* 1½*d.*, 2*s.* 9*d.*, and 11*s.* per box. Sold by all medicine vendors.

**PERFECT DIGESTION,** Strong Nerves, Sound Lungs, and Refreshing Sleep restored by Dr BARRY'S delicious health-restoring REVALENTA ARABICA FOOD, which saves 50 times its cost in other remedies, and restores effectually habitual constipation, indigestion (dyspepsia), acidity, flatulence, sleeplessness, torpidity of the liver, diarrhœa, bilious headaches, nervousness, biliousness, general debility, diabetes, cough, asthma, consumption, despondency, spleen. Canisters 1 lb., 2*s.* 9*d.*; 2 lb. 4*s.* 6*d.*; 5 lb. 11*s.*, 10 lb. 22*s.* The 12 lb. free of carriage on receipt of Post-office order.—BARRY DU BARRY & Co., 77, Regent Street, London, W.; 60, Gracechurch Street, E.C.; 63, at 182, Piccadilly, W.; 150, Oxford Street, W.; 4, Cheapside, E.C.

**HOLLOWAY'S OINTMENT AND PILLS** do not belong to any especial and exclusive class of remedies. They seem to comprehend the finest remedial properties of the great specifics. Thus the Ointment in cases of eruptive diseases appears not only to remove the external inflammation, but to sink deeper into the recesses of the system, putting out in the last spark the fires of fever, invigorating the circulation, and purifying the fluids which course through the flesh to the glands, and the skin. In most cases the operation of the Ointment is materially assisted by an occasional dose of the Pills, which acting in unison with the Ointment combine to form a bulwark impregnable to any known disorder.

# The Gardeners' Chronicle Newspaper.

*SATURDAY, DECEMBER* 10, 1859.

THE SOUTH KENSINGTON MUSEUM, with the NATIONAL GALLERY BRITISH PICTURES presented by Messrs. Vernon, Turner, Jacob Bell, Sheepshanks, &c., is now OPEN DAILY, and on the three first nights of the week, according to the Regulations of the Museum. By order of the Committee of Council on Education.

BANK OF DEPOSIT,

ESTABLISHED A. D. 1844; 3, PALL MALL EAST, LONDON, W.
CAPITAL STOCK 100,000*l*.

PARTIES desirous of INVESTING MONEY are requested to examine the Plan of THE BANK OF DEPOSIT, by which a high rate of Interest may be obtained with ample security. Deposits made by Special Agreement may be withdrawn without notice. The Interest is payable in January and July. PETER MORRISON, Managing Director.
Forms for opening Accounts sent free on application.

PELICAN LIFE INSURANCE COMPANY.
Established in 1797. 70, Lombard Street, City, E.C., and 57, Charing Cross, Westminster, S.W.
BONUS OF 1861.—All policies effected prior to the 1st July, 1861, on the Bonus Scale of Premium, will participate in the next Division of Profits.
For Prospectuses and Forms of Proposal apply at the Offices as above, or to any of the Company's Agents.

ESTABLISHED 1838.

VICTORIA AND LEGAL AND COMMERCIAL LIFE ASSURANCE COMPANY, 18, King William Street, City, E.C.
The business of the Company embraces every description of risk connected with Life Assurance.
Credit allowed of one-third of the premiums till death, or half the premiums for five years, on policies taken out for the whole of life.
Advances in connection with Life Assurance are made on advantageous terms, either on real or personal security.
WILLIAM RATRAY, Actuary.

LIFE ASSURANCE.

THE BRITISH MUTUAL LIFE ASSURANCE SOCIETY entertains proposals of any description involving the contingency of human life.

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The public are invited to examine for themselves the advantages gained for assurers by the plan on which policies are granted by this Office.
Premiums to Assure 100*l*., Payable at Death (with Profits).

| Age next Birthday. | Annually. | Half-yearly. | Quarterly. |
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| 30 | £2 6 11 | £1 4 2 | £0 12 5 |
| 40 | 3 2 5 | 1 12 1 | 0 16 5 |
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Peculiar advantages are afforded to respectable and active parties who would undertake the agency in places where no agent has yet been appointed. Apply (if for an agency with references and full particulars) to
CHARLES JAMES THICKE, Secretary.
17, New Bridge Street, Blackfriars, E.C.

WHAT WILL THIS COST TO PRINT? is a thought often occurring to literary minds, public characters, and persons of benevolent intentions. An immediate answer to the inquiry may be obtained on application to RICHARD BARRETT, 13, Mark Lane, London, E.C. R. B. is enabled to execute every description of Printing on very advantageous terms, his office being furnished with a large and choice assortment of Types, Steam Printing Machines, Hydraulic and other Presses, and every modern improvement in the Printing Art. A Specimen Book of Types, and information for Authors, sent on application, by
RICHARD BARRETT, 13, Mark Lane, London, E.C.


## News of the Week.

M. MOCQUARD, the Secretary of the EMPEROR OF THE FRENCH, has addressed a letter to four merchants of Liverpool who had written to HIS MAJESTY inquiring his intentions in regard to England. In this letter M. MOCQUARD states that until now, under whatever circumstances, there has not been a word or an act of the EMPEROR which could permit a doubt of his sentiments, and, consequently, of his intentions towards England; that his conduct, invariably the same, has not ceased for one moment to show him a faithful and irreproachable ally; and that what he has been hitherto, he will continue to be. M. MOCQUARD urges the Liverpool merchants to oppose the imaginary trouble which appears to have seized England with the "rapidity of an epidemic," and concludes by observing that "great nations should appreciate, not fear each other."—The five Great Powers, with Sardinia, Portugal, and Spain, have sent in their adhesion to the Congress, which will assemble at Paris on the 5th of January. The report which prevailed last week that Lord PALMERSTON was likely to represent the British Government on this occasion has proved to be premature. At a Cabinet Council held on Friday it was resolved that his lordship's absence from England at the opening of Parliament would be productive of serious inconvenience; that no special Plenipotentiary should be sent; and that Lord COWLEY, the resident Minister in Paris, should attend the Congress as the representative of Great Britain.

Accounts from Madrid inform us that the Spanish expeditionary force has sustained very serious losses in its first encounters with the Moors, who not only fight well, but are commanded by officers who are evidently skilled in European strategy. It is reported at Madrid that Marshal O'DONNELL will shortly return to Spain, and that the army will remain encamped in Africa for the winter.

From Italy we learn that the separate Governments of Parma, Modena, and the Romagna have been suppressed, and that the three provinces will henceforth have one Government, with a Ministry sitting at Modena, and a Legislative Commission and Commander-in-Chief sitting at Bologna. The question of the Regency has been arranged to the satisfaction of all parties, and M. BUONCOMPAGNI will proceed immediately to Florence, with the rank of Governor-General of the League of the States of Central Italy.

By the arrival of the Indian mail we have the important intelligence that the Talookdars or great landowners of Oude, whose estates had been in most cases forfeited by rebellion, have received fresh grants of their lands as the beneficial lessees of the British Crown. They are established and confirmed in feudal supremacy, and their possessions and privileges are to descend in perpetuity to their heirs on fixed conditions, which give them such an interest in the country that they will henceforth be deeply concerned in the maintenance of British rule.

The United States Secretary of War has received a despatch from General SCOTT, dated "Straits of Fuca," stating that he had proposed to Governor DOUGLAS a temporary adjustment of the difficulties in regard to the island of San Juan, on the basis suggested by the PRESIDENT, and had no doubt that the proposition would be accepted. General HARNEY left Portland soon after General SCOTT's arrival, having taken offence at being superseded in his command. The British naval force had been withdrawn from San Juan, with the exception of the steamer Satellite.

## Home News.

THE COURT.—The Queen, Prince Consort, and the younger members of the Royal family are at Osborne. On Friday evening the Prince of Wales arrived at Windsor Castle from Oxford on a visit to her Majesty. On Saturday morning the Prince and Princess Frederick William left the castle on their return to Prussia. The Queen, Prince Consort, Prince of Wales, and Princess Alice accompanied their Royal Highnesses to Paddington, where the Prince and Princess took leave of her Majesty. The Queen and Prince Consort, with Princess Alice, returned to Windsor after the departure of their Royal Highnesses, and the Prince of Wales proceeded from Paddington to Oxford. In the afternoon the Duchess of Kent visited the Queen. The Judge-Advocate-General had an audience of her Majesty, and submitted the proceedings of some courts-martial. On Sunday morning the Queen and Prince Consort, the Princess Alice, Princess Helena, Princess Louisa, and Prince Arthur attended Divine service in the private chapel; the Rev. C. F. Tarver officiated. On Monday morning the Queen and Prince Consort walked in the grounds of the castle. Her Majesty afterwards visited the Duchess of Kent at Frogmore, and the Prince Consort came to London, and visited the Cattle Show. On Tuesday morning the Queen and Prince Consort accompanied by the Princesses Alice, Helena, Louisa, and Beatrice, Prince Arthur, and Prince Leopold, left Windsor for Osborne. On Wednesday the Prince and Princess Leiningen visited her Majesty. On Thursday the Queen, Prince Consort, and Royal family walked in the grounds.

THE PRINCE DE JOINVILLE has addressed a letter to the daily papers stating that there is no foundation for the assertion made last week by Mr. Roebuck at Bath that his Royal Highness had supplied the French Ministry with a plan of the English coast, pointing out where we could be best attacked. The following is a translation of the letter:—

"Sir,—Your number of to-day contains an extract from a speech delivered a few days ago by Mr. Roebuck, in which I am pointed out too clearly for me not to feel obliged to reply to it. The assertion of Mr. Roebuck is entirely devoid of foundation. I have made no plan of the coasts of England. I have drawn up no project for an attack on this country: and lastly, it is unnecessary for me to say I have sent nothing to the French Ministry. I may add that, although I always consider myself a 'son of France,' I would be the last to wish that the 'principles' which now govern her should cross the Straits I request, sir, from your sense of justice, the insertion of this letter in your next number, and I beg you to accept my compliments. "FR. D'ORLEANS, PRINCE DE JOINVILLE."
"Claremont, Dec. 2, 1859."

THE CABINET.—A Cabinet Council was held on Monday at the official residence of the First Lord of the Treasury in Downing Street. Another Council was held on Thursday.

THE PEERAGE.—The Queen has ordered a writ to be issued under the Great Seal of the United Kingdom, summoning Viscount Ebrington to the House of Peers by the title of Baron Fortescue, of Castle Hill, in the county of Devon.

THE ARCHDEACONRY OF SURREY.—The Rev. J. S. Utterton, Vicar of Farnham, has been appointed Archdeacon of Surrey, in the room of the Rev. J. C. Hoare, who has resigned.

THE VOLUNTEER RIFLE MOVEMENT.—At a meeting of the Court of Aldermen on Tuesday it was resolved unanimously to allow Capt. G. Montagu Hicks, Governor of Whitecross Street Prison, and late of her Majesty's 41st Regiment, to accept the office of Lieutenant-Colonel of the London Rifle Brigade.—On Monday afternoon a public meeting of Irish noblemen and gentlemen resident in the metropolis was held at the Freemasons' Tavern, at which it was unanimously resolved to organise a corps under the name of the London Irish Volunteers. The Marquis of Donegal presided, and the Marquis of Conyngham, the Earl of Arran, Sir John Scott Lillie, Sir Justin Shiel, Mr. Cogan, M.P., Mr. Digby Seymour, M.P., Mr. Samuel Lover, and Mr. Morgan John O'Connell took part in the proceedings. It was announced that the Marquis of Clanricarde, the Earl of Donoughmore, the Earl of Desart, the Marquis of Londonderry, Lord Cremorne, the Earl of Kenmare, the Earl of Bessborough, Mr. Justice Hill, the Attorney-General for Ireland, Mr. W. H. Russell, Captain Agar Ellis, and Lord Palmerston had intimated their intention to enrol themselves members of the corps.—At the drill meeting of the London Scottish on Thursday in Westminster Hall Lord Elcho, the commanding officer, made some remarks on the Knickerbocker dress which appears to be very unpopular in the corps, and stated that a Government commission was about to examine the value of the Knickerbocker for military purposes, and, if advisable, to recommend its adoption by all the rifle corps in the kingdom. The directors of the Oriental Bank of London have equipped a company of about 60 strong from their establishment for this corps. Recruits are coming in at the rate of about 40 a week, and the strength of the corps is already so great that they have been obliged to secure Westminster Hall, on alternate nights with the other corps, to afford space for the drill.—A numerously attended meeting of gentlemen belonging to the Admiralty was held a few days since, at which it was unanimously resolved that a corps of volunteers should be enrolled at the Admiralty in connection with the Civil Service brigade. A Whitehall company of the Brigade is also to be formed, under the sanction of the Government, to be composed of volunteers from the various public offices in the vicinity of Whitehall.—The enrolled members of the Inns of Court corps now amount to upwards of 400, not less than 100 having been added within the last week. They are divided into five companies, composed of from 80 to 90 men each; two additional drill sergeants have been engaged, making now five; and the drill proceeds daily with great spirit.—A body of gentlemen, principally barristers, who are about to join the South Middlesex corps, and who now amount to about 50 in number, met on Friday evening in Tichbourne Street, for the purpose of enrolment and drill. Viscount Ranelagh attended, and administered the requisite oath. The Adelaide Gallery has been secured for drill, until the 23d inst., after which day they will join the main body of the corps at Beaufort House, Walham Green.—About 90 of the students of the Working Men's College in Great Ormond Street have formed themselves into a corps, and fresh accessions are made to the number daily. Mr. Thomas Hughes, the author of "Tom Brown's School-days," who has long taken a practical interest in the college, has been instrumental in organising this small force of working-men, which will probably become the nucleus of a large body enrolled from the same class of the population.—The committee appointed to organise the establishment of a rifle corps for the parish of St. Pancras held a meeting on Tuesday at the vestry hall, St. Pancras Road, at which it was resolved to commence subscriptions forthwith, and Mr. J. Shoolbred, on the part of the firm, headed it with a donation of 50*l*.—An influential meeting of the parishioners and inhabitants of St. Giles-in-the-Fields and St. George, Bloomsbury, was held on Monday, the Rev. Emilius Bayley in the chair, at which it was resolved to form a corps for those parishes.—Mr. W. H. Smith, of the Strand, has resolved to equip and pay the first annual subscription of 20 of the persons employed by him, in order that they may be enabled to join the St. Clement Danes corps.—About 250 of the artisans employed at the Royal Carriage Department at Woolwich have expressed their anxiety to commence the formation of a corps, to be composed exclusively of Government workmen, and a requisition has been forwarded to the War Department to sanction the formation of the corps.—It is intended to form a Brewers' Corps in the metropolis, and Messrs. Truman, Hanbury, Buxton, & Co. have given the first impulse to the movement by agreeing to pay the expenses of a corps formed in their establishment, the number to be at first limited to 100.—The officers and men employed at the great railway stations in the metropolis have determined to form a Railway Rifle corps. 800 persons employed at the King's Cross Station of the Great Northern have already

offered themselves; and the persons employed at the Stratford station of the Eastern Counties have commenced a similar movement, and invited the inhabitants of the district to join it.—On Monday night a public meeting of the inhabitants of Southwark was held at the Literary Institution, Borough Road, with the view of adding to the effective strength of the 7th Surrey corps. It was stated that all the preliminary arrangements in connection with this body are now completed, and that the services of one company have already been accepted by her Majesty; and it is expected that other companies will shortly be formed, thus raising the Southwark and Lambeth, or 7th Surrey, to a considerable strength.—A crowded meeting was held on Monday at the Horns, Kennington, the Rector of Lambeth in the chair, at which it was resolved on the motion of the borough members and other gentlemen to form a corps for the districts of Kensington, Lambeth, and Newington, in connection with the 1st Surrey Volunteers.—A meeting of the 13th Middlesex Corps was held on Saturday at Crouch End, when Mr. James Bird was elected lieutenant, and Mr. J. M. Fletcher ensign.—The Lord Lieutenant has accepted the services of the Sydenham Corps, which now numbers 60 effective members, and has nominated Mr. John Scott Russell as the captain, Mr. J. H. Crossman as lieutenant, and Mr. William Morphew as ensign, subject to her Majesty's approval.—At Glasgow separate corps have been formed by the warehousemen, the railway clerks, and the architects, surveyors, and engineers; and the students of the University have resolved to form two or three additional companies in connection with the one already in existence.—At Manchester a third regiment is about to be formed, in addition to a Scottish Corps and a corps of the working classes.—At Liverpool the Welsh, Irish, and Scotch residents and the clerks of the Telegraph Office have resolved to form separate corps in addition to those already in operation in that port.—Meetings for the formation of new corps and for the extension of those already formed have also been held during the week at Ashburton, Ayr, Aberdeen, Brighouse, Bury (Lancashire), Buxton, Beverley, Bradford, Berwick, Bewdley, Brighton, Bakewell, Bedford, Bridgnorth, the Cinque Ports, Coldstream, Congleton, Cuckfield, Colchester, Dartford, Denbigh, Droitwich, Dalkeith, Dronfield, Durham, Easdale, Falmouth, Grantham, Glastonbury, Grimsby, Gloucester, Henley-on-Thames, Huntly (Aberdeenshire), Harwich, Horsforth, Helston, Hereford, Halifax, Harwich, Ilford, Ipswich, Jersey, Kenilworth, Kilmarnock, Kelso, Leek, Leighton Buzzard, Leiston, Lunesdale, Ledbury, Lyme Regis, Mansfield, Mottram, Monmouth, Northfleet, North Walsham, Norwich, Newark, Newtown, Otley, Perth, Poole, Prittlewell, Romford, Redcar, Rochdale, Sidmouth, Shrewsbury, St. Agnes, St. Andrews, Stamford, Saxmundham, Southampton, Tenby, Tredegar, Tunbridge Wells. Ulverston, Wells, West Kilbride (Ayrshire), Windsor, Yarmouth, and York.

VACCINATION.—A Supplement to Tuesday's *Gazette* contains an order in Council, prescribing regulations to be adopted in regard to vaccination. To secure the efficient performance of vaccination by persons with whom contracts are made no person is in future to be admitted as a contractor or deputy of contractors for vaccination unless he shall possess the same qualifications as are required for a district medical officer. Instructions are given to vaccinators under contract. They are only to vaccinate subjects who are in good health unless there be immediate danger of smallpox. Certain precautions are also to be adopted in regard to the lymph to be used; and certain signs are noticed to denote when the vaccination has been successfully performed. After a notification of the qualities required for public vaccinators a list of places is given where vaccination is to be performed, and also of the names of public vaccinators, who are authorised to give certificates of proficiency in vaccination.

## Foreign.

FRANCE.—The following is a translation of a letter addressed by M. Mocquard, in the name of the Emperor of the French, to four merchants of Liverpool, who had written to his Majesty inquiring his intentions in reference to England:—

"Palace of the Tuileries, Nov. 30.

"To Messrs. Shaw, Mellor, Irving, and Gaskell, merchants at Liverpool.

"Gentlemen,—You have addressed yourselves direct to the Emperor 'to know what were his intentions as regards England.' Great fear or great confidence alone could explain this step. On the one side, you are possessed by the imaginary trouble which appears to have seized your country with the rapidity of an epidemic; and on the other, you reckon on the loyalty of him from whom you desire a reply. It was however easy for you yourselves to give it, if you had calmly examined the true cause of your apprehensions; that cause you would have found only in all those rumours created among your fellow-countrymen by the obstinate propagation of the most chimerical of alarms; because, until now, under whatever circumstances, there has not been a word or an act of the Emperor which could permit a doubt of his sentiments, and consequently of his intentions towards your country. His conduct, invariably the same, has not ceased for one moment to show him as a faithful and irreproachable ally. That what he has been, he will (I declare it to you in his name) continue to be—witness again to-day the approaching community of perils to be shared at a great distance by your soldiers and ours. Thus henceforth, fully reassured, oppose an error too much spread. Great nations should appreciate, but not fear each other. Receive, gentlemen, the expression of my distinguished sentiments.—The Secretary of the Emperor, Chef du Cabinet, MOCQUARD."

It is decided that the Congress shall assemble in Paris on the 5th January. Among the Powers which have already sent in their adhesion are Great Britain, Austria, Prussia, Russia, Spain, Sardinia, and Portugal. The answers of Rome, Naples, and Sweden have not yet been received. Lord Cowley is to represent her Majesty's Government as first Plenipotentiary. It is stated that Austria and France have agreed that no delegate or representative of the States of Central Italy, the Governments of which are not recognised by the European Courts, shall be admitted to the Congress, either in an official capacity or with any *titre officieux*. The trial concerning the publication of the apocryphal letter in the *Ami de la Religion* terminated on Wednesday. Its responsible editor, the Abbé Sisson, has been sentenced to three months' imprisonment and a fine of 1000f., and the printer to one month's imprisonment and a fine of 500f. The *Opinion Nationale* has received a first warning for an article containing the following phrase:—"The temporal power of the Pope is a bleeding wound in the side of the Catholic Church, and disgraces it in the eyes of the world." The Juge d'Instruction has decided that there is no ground for further proceeding in the affair of M. Girardin's pamphlet, entitled "Napoleon et l'Europe." The copies seized by the police have been returned. The Emperor has just given to M. Aladenize, formerly French consul at Nice, an estate worth 300,000f., as a return for the services rendered by that gentleman when lieutenant of infantry to Prince Louis Napoleon, whose cause he zealously supported. The Emperor had already given a handsome dower to one of the daughters of M. Aladenize.

SPAIN AND MOROCCO.—Official despatches from Madrid show that the Spanish forces have been roughly handled during the late engagements. On both sides religious fanaticism has been employed, and the losses already sustained by the Spanish army have produced a painful impression throughout all ranks of society. In the affair of the 25th ult., at the Serallo, the Bourbon and Barbastro battalions were almost cut to pieces, more than 300 men were killed including 40 officers, and nearly 1000 were put *hors de combat*. On the 30th ult. a considerable Moorish force attacked the redoubt to the right of the Spanish encampment before Ceuta, but was repulsed by the division Grasset, directed by Marshal O'Donnell, the Commander-in-Chief; 120 men of the Spanish army were put *hors de combat*, and the losses of the enemy were 500 killed and 1500 wounded. The *Iberia* says that in the engagements between the Spaniards and the Moors which have already taken place the latter not only fought well, but were commanded by officers who evidently understand European strategy. The embarkation of troops continues incessantly at Malaga, Algesiras, and Cadiz. It was rumoured that Gen. O'Donnell will shortly return to Madrid, and that the army will remain encamped in Africa for the winter. The Duke de Montpensier's offer to serve in Morocco not having been accepted, his Royal Highness has offered to go out as a simple volunteer in the Artillery, but the offer has also been declined.

PRUSSIA.—It is said that the intended journey of the King of Prussia to England has been entirely given up. The *Prussian Moniteur* announces the appointment of Lieut.-General Von Roon as Minister of War. General Bonin, the late Minister, has been appointed Commander of the Rhine Provinces and Coblentz. His retirement is attributed to a difference of opinion on the new organisation of the army.

HESSE.—The differences between Prussia and Hesse Electoral are in a fair way of being settled by the friendly intervention of the Federal Diet.

DENMARK.—The new Ministry has been provisionally formed as follows:—Councillor Rottwitt, President of the Council and Minister of Justice, and also *ad interim* Minister for Holstein and Lauenburg; Baron Blixen Fineck, Minister for Foreign Affairs, and also *ad interim* for Schleswig; Major-General Thestrup, Minister of War and Marine; Councillor of State M. Westenholz, Minister of Finance; the Chamberlain, M. Jessen, Minister of the Interior.

BADEN.—The Concordat with Baden has been published, and is similar to that concluded with Austria and Wurtemberg.

AUSTRIA.—The *Vienna Gazette* of the 3d publishes the treaties concluded between France and Austria, and between Austria and Sardinia. The affairs of Hungary occupy the chief attention of the Government. It is felt that the agitation which prevails in that country may take a dangerous turn, and means are adopted to calm down the excitement. For that object, it is in contemplation to suppress the tobacco monopoly, which is very obnoxious to the inhabitants. The famous steeple of St. Stephen's Cathedral at Vienna is in a dangerous state. A commission is about to examine the building, and to decide whether the steeple shall be removed, or whether it can be repaired.

ITALY.—Baron Ricasoli has returned to Florence from Turin, where he has had a long conference with the Minister for Foreign Affairs. The affair of the delegation of the Regency of Central Italy to M. Buoncompagni has been arranged to the satisfaction of all parties. M. Buoncompagni will proceed immediately to Florence, with the rank of Governor-General of the League of the provinces of Central Italy. The functions of the Governor-General will extend to the command of the military forces of the line, and to the relations of Central Italy with Piedmont and the foreign Powers. The separate Governments of the provinces of Parma, Modena, and the Romagna are suppressed by a decree of Signor Farini, the Dictator, from the 8th of December. These provinces will henceforth have one sole Government, with a Ministry sitting at Modena, and a Legislative Commission and commander of the military forces of the line sitting at Bologna. The Provisional Government of Tuscany has just despatched orders to all diplomatic agents and public functionaries appointed by the Grand Duke, and being at present abroad, to return to Tuscany within a fortnight, under penalty of losing their pecuniary allotments or pensions. The Austrians evacuated Rocca d'Anfo on the 29th ult. The report that the Pope had already consented to be represented at the approaching Congress, and that his Holiness had appointed Cardinal Antonelli First Plenipotentiary, is without foundation. The King of Naples has authorised the laying of a telegraph cable between Gaeta and Corsica, by means of which Naples will come into direct communication with Paris. The *Piedmontese Gazette* publishes a decree nominating M. Desambrois as Minister Plenipotentiary of Sardinia to the Emperor Napoleon. The session of the Roman Council of State was opened on Saturday by the President, Cardinal di Pietro. The Financial Consulta was afterwards received by the Pope; and Cardinal Sarelli, its President, frankly explained the wishes of the Assembly. His Holiness replied that he would consider what steps are necessary to give satisfaction.

TURKEY.—A Ministerial crisis has been brought about by the dissensions between Fuad Pacha and Riza Pacha. Fuad had tendered his resignation, which was refused by the Sultan, but a permanent agreement between the two Ministers appeared impossible. Fuad Pacha is the only Minister who continues to oppose the Suez Canal. M. de Thouvenel and Baron Prokesch, the Ambassadors of France and Austria, have made joint representations in favour of M. de Lesseps, and the adhesion of the other Continental Powers to his scheme was expected, as the language of their Ambassadors was extremely favourable. The retention of from 20 to 30 per cent. of the salaries of the *employés* in the superior public establishments and the taxation of licences had been ordered.

RUSSIA.—The following is an extract of a letter dated St. Petersburg, the 1st inst.:—"A courier arrived to-day in 42 days from the Amoor, with great news. The Emperor of China has given the Russians notice to quit, as he had never authorised the cession of territory, and had only just heard of the settlement! Meanwhile the Russian Embassy at Pekin is 'sealed up' in its palace."

INDIA.—We have accounts from Calcutta to the 14th, and from Bombay to the 15th of November. The following are the details:—

*Lucknow.*—The Governor-General made his triumphal entry into Lucknow on the 22d October, and received and decorated all the Princes and higher noblesse of Oude. Two days after a grand Durbar was held, attended by the majority of the Talookdars of Oude, at which the Governor-General delivered the following speech, which has since been circulated in an official handbill all over India:—

"Talookdars of Oude,—I am glad to find myself in your country and among you, and to have this opportunity of speaking to you in the name of the Queen your Sovereign. A year has not passed away since this province was the seat of anarchy and war. The conduct of its people had been such that the Government was compelled to lay a heavy hand upon it. But peace and order are now restored to every corner of Oude, and I am come to speak to you not of the past, but of the future. You have all of you who are here present received yesterday the grants of these estates which the Government has restored to you. You will have seen by the terms of those grants that the ancient Talookdaree system of Oude is revived and perpetuated. Be assured that so long as each one of you is a loyal and faithful subject, and a just master, his rights and dignity as a Talookdar will be upheld by me and by every representative of your Queen, and that no man shall disturb them. You will also have seen by those grants that the same rights are secured on the same conditions to your heirs for ever. Let this security be an encouragement to you to spend your care, and time, and money upon the improvement of your possessions. As the Government has been generous to you, so do you be generous to those who hold under you, down to the humblest tiller of the soil. Aid them by advances of money and other indulgences to increase the productiveness of the land, and set them an example of order and obedience to your rulers. Let the same security in your possessions encourage you to bring up your sons in a manner befitting the position which they will hereafter occupy as the chiefs of Oude. Learn yourselves, and teach them to look to the Government as a father. Talookdars, I trust that there are none among you who are so infatuated as to believe that the Government has had designs against your religion. Even if there be any such, I will not condescend to repeat the assurances which they have already received on this head. I leave it to time and experience, and their own senses to dispel their perverse suspicions. But for their own sakes I warn them not to be led into acts of opposition or distrust towards the Government by the false tales of designing men. Lastly, Talookdars, whenever in any matter you have doubts to be resolved or wishes to make known, address yourselves to the Chief Commissioner. He will tell you the truth in all things. He is the high and trusted representative of the Government in Oude, and, depend upon it, he will be your best adviser and your truest friend. I wish that I could speak to you in your own language. That which I have said will now be interpreted to you, and I enjoin you to bear it in your memories."

*Dwarka.*—Dwarka has been evacuated by the Waghers, who availed themselves of the darkness of the night to cut their way through the outlying pickets of her Majesty's 28th Regiment on the 30th October; losing only six or seven men in this brilliant feat. The town was closely invested by about 3000 men, nearly half of whom were Europeans, but they were unable to keep the Waghers in. There were about 2000 of them, including women and children, and they removed all their valuables and one mounted gun. The whole town is a heap of ruins.

*Central India.*—A campaign is about to open from Neemuch against a body of rebels said to be 5000 strong, encamped in a mud fortress on the banks of the Chumbul. In Bundlecund, in the fastnesses of the hills and jungle of which Feroze Shah and a body of rebels are still hiding, the campaign has been already opened.

*Nepaul.*—From Nepaul it is again confidently rumoured that

the Nana is dead, but considerable suspicion, of course, hangs over a story which it is so much his interest to get believed.

*Calcutta.*—The 45 discharged Europeans who volunteered for China have been sent back as incurably bad characters. The Buffs left for China on the 15th November.

CHINA.—Accounts from Hong Kong to the 29th October state that the new Anglo-Chinese Customs' rules have been opened, but do not work well. A part of the 68th Regiment had arrived from Calcutta. A great fire broke out in Queen's Road, Hong Kong, on the 19th October, by which property to the value of 100,000 dollars was burnt. The James Hartley steamer had been lost on the rocks 80 miles from Hong Kong; the crew and treasure were saved. The ship Inkermann, of London, had also been lost.

JAPAN.—The United States' Minister has returned to Hong Kong from Japan, and was to leave for Washington by the Powhattan on the 22d February.

CEYLON.—The Chief Justice of Ceylon is dead. There is a great scarcity of labour.

JAVA.—The second expeditionary force for Boni left Batavia on the 22d Oct. Great fears were entertained that the natives of Java would rise. Every European was well armed. Much excitement prevailed among the natives, owing to their being forced on board ship as Coolies for Boni. A conspiracy to murder the European residents had been detected at Danda.

BORNEO.—The Datoo Patingi Gapoor had been seized for plotting with the Dyak Chiefs to murder the Europeans. The Datoo was to be banished to Singapore. Tranquillity was restored on the 17th Oct.

AUSTRALIA.—The Victorian Parliament was opened on the 13th of October, and Mr. Murphy was elected Speaker without opposition. The Want of Confidence debate was to commence on the 18th of October, and a majority against the Ministers was certain. The great horse race for the championship of the Australian colonies was run on the 1st of October, before a concourse of 40,000 persons—the largest number ever assembled in Australia. The winner (Flying Buck) was a Victorian horse, and was scarcely named in the betting. Accounts from Sydney of the 15th October state that a resolution against the separation of Moreton Bay had been carried in Council. The quarter's revenue had increased 90,000*l.*, and the capital of the Bank of New South Wales had been increased 50 per cent. The *Ballaarat Star* reports the arrival of a donkey in that district. The incident seems to have created much excitement among the population.

NEW CALEDONIA.—Three Englishmen have been shot in New Caledonia for having provided the natives with arms against the French Government. These men were the agents of a Mr. Padden, the owner of large tracts of land in the island, who secured his safety by escaping to Sydney.

UNITED STATES.—Congress was about to assemble at Washington, and the President was busy preparing his Message, which may be expected next week. The Secretary of War received on the 25th ult. the following despatch from General Scott, dated Straits of Fuca, and sent by way of Leavenworth:—"Two days ago I despatched from Fort Townsend a communication to Governor Douglas, proposing a temporary adjustment of the existing difficulties on the basis suggested by the President in his suggestions to me. There has been no answer yet, but there is no doubt the proposition will be accepted. Everything is tranquil in these islands." The reception of General Scott at Portland, Oregon, was enthusiastic. Soon after General Scott's arrival General Harney retired from his command with undisguised disgust and anger. The British naval force, with the exception of the Satellite, had been withdrawn from San Juan. It is believed at Washington that all differences between the United States and Great Britain, growing out of the Clayton-Bulwer treaty, will soon be adjusted through the agency of Mr. Wyke, English Minister to Central America. A point of the arrangement was the recent settlement of the boundary of Honduras. The excitement at Charleston continues. The Governor of Pennsylvania had tendered the services of 10,000 men to guard the boundary between Pennsylvania and Maryland; and Governor Wise had ordered 500 additional troops to be present at the execution of Brown and his colleagues. The following telegram from St. Louis, dated November 18, received per Vanderbilt, announces the discovery of a new gold field:—

"The accounts from the Carson Valley (Walker River) Mines continue to excite great attention. The mines promise to be equal to those on the Fraser River. These mines are on the east side of the Sierra Nevada, and are supposed to extend from Honey Lake, north, to Walker's River, south. The distance is 200 miles. The principal discovery announced is called the Gold Hill, a mound 60 feet high, 5000 feet long, and 2000 wide, 20 miles north of the Carson Valley, with veins of auriferous quartz. Large quantities of silver ore continue to arrive from Carson Valley."

CANADA.—The first train, consisting of an engine and single carriage, passed over the Victoria bridge at Montreal on the 24th ult. Portland has been brought within 93¼ hours of New Orleans by means of the railway connections now completed. The distance between the two cities is 2045 miles. The first mails from the Western and North and South-Western States, contracted for by the Federal Government to be carried to Europe *viâ* the Grand Trunk Railway and the Canadian Ocean Line, have been brought over in this packet.

MEXICO.—It was reported at Vera Cruz on the 11th ult. that President Miramon had joined Marquez, and that both had fled on board a British steamer, taking the two millions of specie seized by Marquez, whereupon Miramon's army had pronounced for Santa Anna.

# Public Addresses.

LORD TAUNTON, at a recent meeting of Somersetshire agriculturists at Taunton, made the following remarks on the National Defences:—

"They were met at a time of profound peace—they entertained no projects of invasion or conquest against any neighbour—but they could not disguise from themselves that at this moment the attention of the country was being directed to the condition of our army and navy, and to the fact that throughout the length and breadth of the land Englishmen were arming themselves. For what were they arming? Not, he was sure, to attack any one. No foreign nation need add one soldier to her standing army, or one ship to her fleet in consequence of any designs that were entertained by the people of this country. Their object in arming themselves was the most legitimate, the most sacred, the most indispensable a people could have. It was that they might be safe at home—that their own shores might be safe from insult and attack. The people of this country had watched attentively what was going on abroad. They were willing to believe in the peaceful professions of their neighbours, and they anxiously hoped those peaceful professions might be true; but at the same time, when they saw the continent bristling with bayonets—when they saw the great military Powers of Europe girding up their strength, placing their armaments on a footing unparalleled in modern times—above all, when they saw the fleets of the maritime powers of Europe increasing more and more powerfully than they had ever been, the people of England felt that it was a sacred duty on their part to be prepared for all emergencies. He, therefore, for one, heartily rejoiced and heartily sympathised with the feeling that animated his countrymen from Land's End to John O'Groats' house, bidding them to be prepared for all events. He rejoiced at any of the manifestations of this almost universal feeling. He was glad to see the people of this country watching the conduct of the Government with regard to the army and navy, and enforcing upon their rulers that whatever money was voted, and liberally voted, by the representatives of the people for these purposes, should be strictly and judiciously applied. He had no doubt that the Government of this country were fully impressed with the responsibility of their situation. He must say that a most awful responsibility would lie upon them, or upon any other Government, if, when the people were offering their most liberal assistance—money and aid of every kind—only requiring the authorities to give efficiency and concert to that assistance, they were to neglect in any degree their duty in promoting the wishes of her Majesty's subjects. He might, perhaps, be led to speak with some partiality of old and respected colleagues now in office, but he must say that he believed their present Government were fully alive to their duties on this subject, and prepared to place the army and navy of this kingdom in the most efficient state possible. The nation had felt there was a duty to be performed by the country at large as well as by the Government. Our institutions, habits, and wishes were altogether opposed to the existence of a large standing army. It had never been the custom of this country—it was not now the desire of this country—to have a single soldier more upon its shores than was absolutely necessary. What was required was that any military force we might have should be of the best possible description, and be managed in the best possible manner. The duty the people of this country could perform and were performing was to aid in protecting their country by a volunteer force. Volunteer exertion had long been a field in which English activity had been particularly conspicuous. Englishmen had been accustomed not to look to the Government to direct their efforts, but to act for themselves when they felt occasions required them to act. He was quite satisfied, consequently, that the movement lately commenced in this country would not be a mere momentary or transitory thing, but that they should never rest till they had placed the country by means of volunteer forces in such a situation of perfect safety that she would be secure against any hostile attack."

MR. T. D. ACLAND at the Taunton meeting made the following appeal to the farmers on the subject of the yeomanry cavalry:—

"It was well expressed in an article in a northern newspaper the other day, that though England was an island it was an island moored close to a continent. The Duke of Wellington said that steam had bridged over the Channel. What was true in the Duke's life was true now, and he asked the farmers of England, as men of facts and not of theory, to look the facts fairly in the face. They were a part of the great continent of Europe, and whether for good or evil they must take the consequences of the railway and the telegraph. That consequence was, that they must be in a state to defend their country, that they must have a permanent institution for self-defence, and always be in a state of preparation to meet an enemy, whether he came from our neighbours the Gauls, or from the Sclavonians. They were aware that the admiral who landed the British forces in the Crimea had given it as his opinion that 200,000 men could be landed on the south coast of Devonshire, whence they might proceed to Exeter, along that way to Bristol, and thence to London. Would any man present stand up to say that at any time they could have on the south coast of Devonshire half or even a quarter of that force if they wanted to stop the French advance? Picture, then, what would happen near the coast. Either the French army would live upon their property, or the English General, as would be his solemn duty, would set fire to all their farmsteads and drive their cattle away to Exmoor, Dartmoor, or South Wales. That must inevitably be the case. That was the way the Duke of Wellington beat the French in Spain. Now, he was the captain of a troop of yeomanry, of which he had a very high opinion; but he said solemnly, in the presence of yeomen, that unless they had better instructions and more opportunity of exercise they were not fit for such times as these. He was happy to say his troop had volunteered to go out for six days between this and their time for permanent duty. That had been done as an experiment to see if the plan would be followed up. If well-drilled, the yeomanry would be a most useful body. A plan had been laid before Government, with the full sanction of the Lord-Lieutenant of the county in which he resided, by which the farmers of the West of England might organise themselves for defensive purposes. They did not want fast young men to join, but married men, men of business, men who knew the value of time, men who would not join the yeomanry, steady and respectable men, who had good reason for not joining the yeomanry as matters now stood. The proposed plan was that these yeomen should meet somewhere near their homes for a few hours each day for practice in the use of arms. They should have a guarantee for the perfect respectability of the body, for it was intended that every new member should be proposed by two members of the body. The members would have a similar voice in the selection of their officers. The plan had met with support from practical soldiers. The only objection they had met with was a proposal that the men should meet on horseback. It was said a farmer could not shoulder his musket and walk seven miles at the close of the day's labour, when he wanted to be attending to his own stock. The matter had been taken up by a large body of yeomanry, and they were now engaged in canvassing the several towns in their neighbourhoods. He had seen quite enough of Somerset men to know what they could do. He knew they were as good as their forefathers. Men of business in the towns were making

[illegible] to join the rifle corps, and the farmers should be prepared to do the same. If Englishmen were only true to themselves for the next six months they would care nothing for any threats of invasion, come from what quarter they might. He asked them not to defer making some movement. The towns had set a noble example, and in the north the volunteers were to be counted by thousands.

MR. NEWDEGATE, M.P., at a meeting at Rugby on the 24th ult. spoke as follows on public affairs and the National Defences:—

"Towards the end of the session I appeared in what has been thought an anomalous character—namely, as the defender of the property rights of the Roman Catholic laity against the attacks of Cardinal Wiseman. The Roman Catholic laity possess certain endowments for the administration of their religion, which under the free laws of England they themselves administer; but Cardinal Wiseman, through the weakness of certain parties, grasped at those trusts in a manner which could not but be considered an aggression upon the institutions of the country. There are Roman Catholics in this country as loyal as ourselves, and it was against the introduction of the Jesuit system that I defended the Catholic laity at the fag end of the session, and happily succeeded. With reference to our foreign politics, I trust that there is no fear of an invasion, but that there is a possibility that an invasion might succeed, I say upon the authority of the late Duke of Wellington. In 1847 the Duke published a letter, in which he told Sir John Burgoyne that for years he had urged upon successive governments the dangerous state of our defences, and he concluded in these emphatic terms—emphatic as coming from a man of such undoubted courage—'I thank God that I may not live to witness the consummation of those dangers which I have failed to persuade my countrymen to prevent.' And what was it he thought necessary for the effective defence of the country? He said, 'He might be deemed rash, but with 16,000 well-organised militia, a small increase of the [illegible] and a considerable increase of the artillery he would undertake the protection of England.' Well, I read that letter in the House of Commons in 1852, during the discussion upon the Militia Bill, and to the honour of Lord Derby's government and the patriotic spirit of Lord Palmerston we with much difficulty passed that measure. But remember this, 16,000 well-organised militia was the minimum that the Duke of Wellington said was necessary, and we have never had 85,000. We have, in point of fact, never had half. Looking to the state of the navy, it has been observed that it is scarcely superior to the navy of France alone, and totally unable to resist any combination. Such was the length which the apathy of this country, and the economical mania of some, actuated by the designing policy of others, have gone, that it has rendered us exposed to the aggressions of France for years. Even Louis Philippe warned her Majesty that though he would be the last man to [illegible] he could not guarantee to leave the country in such a defenceless condition, before the people of France, who in some evil hour might be incited to impel their government, in remembrance of former victories of ours, to make an inroad on our shores. It is therefore a subject of congratulation to find such a [illegible] throughout the country as is manifested in the formation of volunteer corps. As to Portsmouth, though it is generally believed that as the principal arsenal of our navy, and the port which commands the Channel, it is defended, the truth is that the defences it possesses are utterly worthless, and you could not devise a better scheme for the destruction of the garrison than the present state of its fortifications. No man with any military knowledge can doubt that under certain circumstances it would be possible to land 50,000 men upon our shores, and if they turned Portsmouth, took it in the rear, and possessed themselves of that arsenal, they would have the best basis they could procure for their operations. No doubt in the course of time we should beat them back; but remember that the experience of the Crimea has shown that the sea is the best basis of operations, and if an army [illegible] a lodgement on our coast, and we happen to lose Portsmouth arsenal, the Channel would no longer be at our command, and the 50,000 invaders might soon be augmented by 50,000 more, and 50,000 after them. And we should have hard work indeed to stop an army of 100,000 men from advancing on the capital. I do not say that this will happen, but I do say that there ought not to be a possibility of its occurring."

# City Intelligence.

MONEY MARKET, FRIDAY.—BRITISH FUNDS: Consols closed at 97¼ to ⅜ for Money, and 95¾ to 96 ex div. for the 10th January; Reduced and New Three per Cents., 96 and 95¾; New Indian Loan, 106⅝ to ½; India Bonds, 3*s.* prem.; Exchequer Bills, 27*s.* to 30*s.* prem.—FOREIGN: Brazilian Old Five per Cents., 103; Buenos Ayres Six per Cents., for Acct., 78 to 77; Dutch Two and a Half per Cents., 64½; Mexican Three per Cents., for Acct., 22½; Peruvian Three per Cents., for Acct., 70¼ to 70; Russian Four and a Half per Cents., 101 to 100¼; Ditto Threes for 1859, 66½; Ditto Scrip, ½ dis.; Spanish Three per Cents., for Acct., 15¼ to 15½; Ditto New Deferred Threes, for Acct., 33¾; Turkish Six per Cents., 1854, for Acct., 78¼ to 78½; Ditto for 1858, for Acct., 66¼ to 66½; Ditto Guaranteed Fours, for Acct., 104¾ to 104; Venezuela Two and a Half per Cents., 28½; Ditto for Acct., 28¼ to 28¾.

# Bank of England.

ISSUE DEPARTMENT.

| | | | |
|---|---|---|---|
| Notes issued .. .. .. | £30,743,815 | Government Debt .. .. | £11,015,100 |
| | | Other Securities .. .. | 3,459,900 |
| | | Gold Coin and Bullion .. | 16,268,815 |
| | | Silver Bullion .. .. .. | — |
| | £30,743,815 | | £30,743,815 |

BANKING DEPARTMENT.

| | | | |
|---|---|---|---|
| Proprietors' Capital.. .. | £14,553,000 | Government Securities (including Dead Weight Annuity) .. .. . | £10,021,[illegible] |
| Rest .. .. .. .. | 3,150,380 | Other Securities . . | 12,[illegible] |
| Public Deposits (including Exchequer, Savings Banks, Commissioners of Nat. Debt, and Dividend Accts.) .. .. .. | 3,608,215 | Notes .. .. | [illegible] |
| Other Deposits . .. | 13,444,[illegible] | Gold and Silver Coin .. | [illegible] |
| Seven day and other bills | 792,125 | | |
| | £[illegible] | | £[illegible] |

9th day of Dec., 1859. M. MARSHALL, Chief Cashier.

# Gazette of the Week.

TUESDAY—BANKRUPTS—J. ALLEN, Pelham Terrace, Bayswater, Omnibus Proprietor—J. BIGGS, Wolverhampton, Coal Dealer—G. G. EDWIN, C. FREDERICK, and D. A. TUCKER, John Street, Bedford Row, Metropolitan Permanent Advertising Company—J. HEATHER, Lead Merchant, Builder—J. JACKSON, Sheffield, Ironmonger—S. JAY, Hadleigh, Suffolk, Miller—T. LLEWELLIN, jun., Cardiff, Ironmonger—B. WATTS, Northampton, Draper—R. G. WEBB, Brixton, Silk Mercer.

BANKRUPTCY ANNULLED—W. ILLAND, Plaistow, Essex, Licensed Victualler.

SCOTCH SEQUESTRATIONS—A. DALLAS, Inverness, Solicitor—T. and

W. GRAHAM, Perth, Coal Merchants — J. M'KENZIE, Glasgow, Grocer—G. B. M'NAIR, Glasgow, Fruit Merchant—R. PRATT, Glasgow, Glazier.

FRIDAY—BANKRUPTS—J. CROCKER, Nottingham, Hosier—W. and S. DICKINS and Co., Liverpool, Woollen Drapers—M. GUTKIND, Noble Street, City, Merchant—E. HARRIS, Folkestone, Tailor—W. H. HENDRY, Milton-next-Gravesend, Coal Merchant—W. KNIGHT, Portobello Terrace, Kensington Park, Cowkeeper—C. MOREY, Southsea, Southampton, Builder—T. POWNING, Truro, Grocer—F. W. THOMAS, Water Lane, City, Commission Agent—J. R. W. J. P. WOODWARD, Oundle, Northamptonshire, Dealer in Poultry.

## Metropolis and its Vicinity.

LOSS OF THE CANADIAN MAIL STEAMER INDIAN.—The Royal Mail screw steamer Indian, Captain Smith, one of the line of the Montreal Ocean Steamship Company, which left Liverpool on the 9th ult. for Portland, was totally wrecked on the rocks off Mary Joseph Guysboro, at the eastern extremity of the mainland of Nova Scotia, and near the Gut of Canso, on the 21st ult., at 5 o'clock in the morning. The weather was thick and stormy, and the captain being deceived by soundings supposed he was off Sable Island. The ship, which was going under full steam and canvas, struck on a sunken ledge and parted amidships in half an hour afterwards; one boat was capsized and several persons drowned; another boat was stove alongside the hull, while two boats, containing a portion of the passengers and crew, drifted to sea and had not been heard of at the latest date. 24 persons were saved by the schooner Alexander and landed at Halifax, and five others, including Mr. Bingham, the third mate, and four seamen, were picked up by the schooner Wave. The breakers raged with force on all sides of the steamer, and the schooner Lutea was also lost while running close to the wreck. Very little cargo was saved, and the passengers complain of being plundered by people from shore. The mail was saved and forwarded to Windsor, in the care of the purser.

REFORM CONFERENCE.—A conference of "those who are in favour of a real and honest measure of parliamentary reform," convened by the Parliamentary Reform Committee, was held at the Guildhall Coffee House on Wednesday. Mr. W. Hargreaves took the chair, and the meeting was addressed by Mr. E. S. Pryce, Mr. W. Jansen, Mr. Bristow, M.P., Mr. P. A. Taylor, Lord Teynham, Mr. Serjeant Parry, Mr. Clay, M.P., Mr. Bright, M.P., Mr. Lucraft, Mr. C. A. Rawlins, of Liverpool, Mr. E. Potter, Mr. H. Cosham, Mr. S. Morley, and other gentlemen. The following resolutions were unanimously adopted:—

"1. That this conference desires to express its cordia acknowledgments to Mr. Bright, M.P., for the ability with which he has urged the question of Parliamentary Reform on the attention of the country; and for the care and labour he has bestowed, at the request of a preceding conference, in the preparation of a Bill which, in its main provisions, as set forth by him, appears eminently adapted to meet the wishes of the great body of earnest reformers throughout the kingdom. 2. That, in the judgment of this conference, no measure will be regarded as a settlement which does not include a large extension of the suffrage, both in counties and in boroughs; an equitable redistribution of seats, in proportion to the population and property of the constituencies; an assimilation of electoral laws for England, Scotland, and Ireland; the repeal of the Septennial Act; and such protection to the voter, by means of the ballot, as may arrest that corruption and intimidation which have been so fearfully prevalent in the late election, and which threaten to undermine the political institutions of the country. 3. That a subscription be opened to meet the expenses of the Parliamentary Reform Committee for the ensuing year. 4. That, inasmuch as the defeat of the obnoxious and illusory Reform Bill of the Derby Administration was accomplished by the zeal and co-operation of Parliamentary Reformers, this Conference appeals to them to continue their efforts with unsparing earnestness, and to be prepared, on the production of a new Reform Bill by the present Government, to pronounce with equal promptitude upon its fitness to satisfy the just requirements of the country."

IMPROVEMENTS IN THE TEMPLE.—In a short time considerable improvements will be commenced in the Temple for the purpose of throwing open the architecture of the Temple church. The eastern side of Inner Temple Lane is to be pulled down, and a carriage drive made from Fleet Street to the church. The whole of Church Yard Court is to come down, including the corner house, No. 1, which is the only building that escaped the ravages of the Great Fire of London in 1666. The houses near the church, facing the new buildings, which are partly converted into shops, are to be demolished, in order to make the new approach. In future it is intended that the occupancy of chambers is to be confined to members of the bar. The alterations are expected to be commenced immediately after Christmas, as all the tenants have received notice to vacate their respective chambers in the next quarter.

HARROW SCHOOL.—On Tuesday night the Rev. Dr. Vaughan, late head master of Harrow, was entertained by his pupils at dinner in Freemasons' Hall. The chair was occupied by Mr. Charles Currer, and about 250 gentlemen joined in the demonstration, including Lord Spencer, Lord Radstock, Lord Sandon, Lord Hamilton, Lord Eustace Cecil, Lord Mahon, Mr. Abel Smith, M.P., the Hon. E. Ashley, the Hon. Reginald Capel, Mr. Spencer Percival, Mr. Vaughan Hawkins, Mr. Ralph Earle, and Hon. E. Chandos Leigh. In returning thanks for the toast of his health, Dr. Vaughan said:—

"The present was a marked, a peculiar, in one sense an unprecedented occasion. In ordinary cases the connection between a head master and his school was broken by one of these causes—death, failing strength, ecclesiastical preferment. It had been his ambition to add a fourth, and to allow it to be said that one man at least had left the school where he had served during a considerable part of his working life, at the very summit of its prosperity. He need hardly say that the life of a head master was a very fatiguing as well as a very responsible one. It had to know long days and short nights; it had to verify and illustrate a beautiful passage of Scripture—'There were many coming and going, and they had no leisure so much as to eat.' It was a life at all times of great anxiety. To control something like 3 0 human wills, especially if they were young wills, subject to every gust of temper and passion, must always be a difficult, arduous, and anxious task. In such a life, indeed, teaching was a relaxation. The hours he spent with his sixth form were the lightest he had known in the service of Harrow. Moreover, the life of a public school was a somewhat precarious one. The public judgment was not always just. A school might rise and might fall, and in neither case entirely by its own merits. His great master, Dr. Arnold, intended to have availed himself of the close of his 15th year of service for the same purpose of stepping not upward, but backward on the ladder of human advancement. But the execution of his design was prevented by death, which removed him from among the living at the end of his 14th year. What Dr. Arnold did not live to accomplish he had been permitted to do. It had always been his intention to retire at the close of 15 years. Unquestionably circumstances might have prevented him from carrying his resolution into effect. If the school had been exposed to difficulties from without, or if there had been any cause of peculiar anxiety within, he should have remained at his post. Never would he have thrown difficulties upon his successor which he was unable or too timid to face himself. Pecuniary considerations of course could not be overlooked, and he frankly stated that a year ago he should not have had the means of living in retirement. But when he saw that, with a due regard to the safety of the school, and in common prudence as respected himself, he might resign his post, his resolution was soon taken. The friends whom he consulted approved his intention, and one of them, a person of great distinction in the public service, told him that having been blessed with 15 years of remarkable prosperity he ought to tempt fortune no longer. He had always been a great lover of completeness. He liked to see a round period, a finished work, and he had from the first intended to quit Harrow at the exact end of 15 years, which to his mind was a very different thing from leaving it at the end of 15 years and a-half, or at the end of 17 years. He had always likewise been a lover of decision. The most important events of his life had been brief, rapid, almost sudden. In September, 1840, he commenced his residence in London as a student of law, and in September, 1841, he was a clergyman in full orders, and incumbent of a populous parish. In November, 1844, he was quietly pursuing his parochial duties, and in January, 1845, he was installed in the chair at Harrow and busily engaged in the administration of its affairs. If, then, in August, 1859, he formed the deliberate conviction that he could with safety and propriety retire from Harrow at the close of the year, they need not be surprised to find him in January, 1860, the occupant of a humble home in the parish of Southborough, near Tunbridge Wells."

It was announced in the course of the evening that it is intended to establish a Vaughan Library at Harrow, for the use of about 100 of the upper boys of the school. The cost is estimated at 4000*l.*, of which a half has been already subscribed. One of Dr. Vaughan's pupils has contributed the munificent sum of 1000*l.*

THE MORTARA CASE.—Signor Mortara, the Jewish father whose child is detained by the Pope in confinement at Rome, has just arrived in this country after passing a fortnight in Paris. On Friday last he had an interview with the committee of the Evangelical Alliance, and expressed in warm terms his obligation to the committee for having originated the movement for the liberation of his child. The precise course to be taken by Signor Mortara and his friends to influence the Congress of Paris in favour of the religious liberty of Italian Jews has not yet been decided upon.

THE GREAT EASTERN STEAMSHIP.—In consequence of the recent reports of the surveyors exaggerated rumours have been in circulation respecting the great ship, which have produced something like a panic among the shareholers of the company. In order to afford complete information respecting the actual condition of the ship, and the financial position of the company, an extraordinary meeting of the shareholders has been called by the directors for the 15th inst., at which the chairman will propose the appointment of a committee of shareholders for the purpose of instituting a thorough investigation into the affairs of the company from its formation, and of throwing some light on the circumstances which have tended to depress the property. Mr. Lever has made an offer for the purchase of the ship on the following terms, 60,000*l.* to be paid down to form a working capital to complete the ship, to charter her for 12 months, pay the shareholders 5 per cent. in advance, and to have the option of purchasing the ship for 330,000*l.*, being the amount of the capital of the present company. The Southampton Chamber of Commerce have determined on inviting the directors of the company to a grand commercial banquet. In addition to Lord Elgin and several other distinguished personages, Lord Palmerston has accepted an invitation to be present, and has stated that some time at the end of the present month will be most convenient to him. The precise day for holding the banquet has not yet been fixed.

MEETING OF THE CLERGY AND LAITY IN THE EAST OF LONDON.—On Monday evening an important meeting of the clergy and laity of the east end of London was held at Rokeby House, Stratford, for the purpose of concerting measures for extending the machinery more effectually throughout the diocese. The meeting was one of the series which the Bishop of London intends holding in the various rural deaneries of his diocese, and of which the late meeting at Ealing was the first. The Bishop presided and addressed the meeting at some length, recommending to their support the Diocesan Home Mission, the Diocesan Church Building Society, and the Diocesan Board of Education, and expressing an earnest hope that clergy and laity would henceforth combine energetically, according to an organised plan, for the extension of the influence of the Church throughout the diocese. Mr. W. Cotton, late Governor of the Bank of England, Mr. Money Wigram, Rev. T. Jackson, Mr. John Davis, Archdeacon Hale, Mr. Fowell Buxton, and the Rev. A. J. Ram afterwards addressed the meeting, and resolutions were unanimously adopted pledging the meeting to do all in their power to co-operate with the various diocesan societies already in operation; and to assist in forming ruridecanal associations where they do not at present exist, consisting of clergy and laity who may be willing to co-operate. Earlier in the day a private meeting of the Bishop and clergy, forming a ruridecanal chapter, was held, at which the clergy resolved to preach annual sermons on behalf of the societies indicated by the Bishop.

THE STATUE OF RICHARD CŒUR DE LION.—Baron Marochetti's statue of Richard I., the model of which was exhibited in 1851 in Hyde Park, and became so familiar to visitors to the Great Exhibition in that year, is about to be placed in Palace Yard, in the large open space opposite to the peers' entrance to the new palace at Westminster.

ST. PAUL'S CATHEDRAL.—The Dean and Chapter have decided that the organ, which has been recently taken down for enlargement, shall not again be erected over the entrance to the choir. It is proposed to take away the present screen, and on the removal of the monuments of Lord Nelson and Lord Collingwood to some other part of the Cathedral to throw the whole space, to the verge of the dome area, open to the choir. This will be a great improvement as regards the increase of room—so much wanted on Sundays for the afternoon services, and also by its making all the three arches perfect in the choir. The organ will be retained in its present case, which was designed by Sir Christopher Wren, and will be removed to the gallery under the centre arch on the north side. The oak screen, with its marble columns, will be placed as an entrance to the dome area in the south transept. The rails of the Whispering Gallery and the heavy cornice under it have been recently gilded, which gives a splendour to the dome that is very striking. Since the organ has been taken away, the choral services and anthems have been sung without accompaniment by the vicars-choral and choristers in the early morning chapel at the western entrance.

VICARAGE OF ST. PANCRAS.—The Rev. Thomas Dale having announced his intention of resigning the vicarage of St. Pancras at the close of the present year, memorials signed by several hundreds of the parishioners and also by the clergy of the parish have been presented to him, earnestly requesting him to reconsider his determination, and if possible to continue at his post in order that he may be able to carry out the scheme of parochial church extension which he inaugurated, and which he has so successfully developed. Mr. Dale in reply has expressed his sense of the compliment paid to him, and his conviction that it is his duty to adhere to his intention of resigning, in order that the parish, which is far beyond the powers of any one man, may at once be divided into five separate incumbencies. The Bishop however had intimated to him that it would facilitate the passing of an Act of Parliament for the division of the parish if he retained the vicarage until the Act had passed. This he had agreed to do, and he was therefore spared the pain of fixing any day for his separation from the parish. The living, which is worth about 1200*l.* a year, is in the gift of the Dean and Chapter of St. Paul's, and, when vacant, will be conferred on the Rev. W. Champneys, of Whitechapel.

THE NEW STREET FROM SOUTHWARK TO WESTMINSTER.—The Metropolitan Board of Works, having purchased a large number of houses on the line of the new street from Southwark to Westminster, have issued notices stating that in a few days the first portion of the property will be sold. This will consist of a large number of houses on the west side of High Street, Borough, below the Town Hall, most of which have been built little more than 20 years, and are in good condition. As soon as these houses are taken down and removed a further sale will take place, the Board intending to proceed with the construction of the new line of street as rapidly as possible.

MONUMENT TO MR. BRUNEL.—A meeting of gentlemen, most of them members of the profession of which the late Mr. Brunel was so distinguished an ornament, has been held to consider the propriety of erecting a suitable monument to perpetuate his name and the memory of his genius and public services. The Earl of Shelburne took the chair, and the meeting was addressed by the Recorder of London, Mr. H. T. Hope, Mr. St. George Burke, Mr. Joseph Locke, M.P.; Mr. Errington, C.E.; Mr. Fowler, Mr. Hawkshaw, C.E.; Mr. Thomas Woollcombe, Chairman of the South Devon Railway; Mr. M'Clean, C.E.; Mr. Wyatt, and other gentlemen. The following resolution was unanimously adopted, and a committee appointed to carry it into effect:—

"That, in order to mark the high sense universally entertained of the genius and professional attainments of the late Mr. Brunel, as exemplified in his great public and national works, as well as of the worth of his private character, measures be taken for the erection of a public monument to his memory."

ST. GEORGE'S-IN-THE-EAST. — The three services on Sunday passed off with less interruption than usual, and the arrangements of the churchwardens and police prevented any renewal of the rioting in the chancel. It is hoped therefore that the fierce party spirit which has hitherto prevailed is beginning to subside. Three young men were brought before the magistrates of the Thames Police Court on Friday, charged, under an old Act of Queen Mary, with having disturbed the services on the previous Sunday by saying the responses in a loud tone of voice, and thereby interrupting the chanting. After hearing evidence at great length, Mr. Selfe said that there was a difficulty in the case, as the rubric permitted the responses "to be said or sung;" he should therefore endeavour to bring about a reconciliation by adjourning the cases for three weeks in the hope that in the meantime proper good sense and Christian

feeling would prevail, and there would be no more of these disturbances. On Saturday the Rev. Bryan King, the rector, applied to the Consistory Court for the office of the judge to be promoted against two persons called Rosier and Chester for brawling in the church. The judge granted the application in the case of Rosier and refused it in the other. The Rev. Mr. Lowder, the curate, has since been summoned to the police court and fined 2s. for assaulting Mr. Sones, one of the parishioners, the magistrate expressing his belief that a religious principle did not actuate either of the parties. At a vestry meeting on Thursday it was unanimously resolved to petition the Houses of Lords and Commons on the state of the parish; and a requisition has been presented to the churchwarden, calling on him to convene a meeting of the parishioners to petition the Queen for the removal of the Rev. B. King from the office of rector. The Rev. Hugh Allen, the afternoon lecturer, has been appointed by the Lord Chancellor to the rectory of St. George's, Southwark.

The Loss of the Royal Charter.—Mr. Mansfield, the stipendiary magistrate at Liverpool, and Capt. Harris, the nautical assessor, have transmitted to the Board of Trade a long report on the results of their late inquiry into the loss of this vessel. They state that the iron plating of the vessel was decidedly above the average strength of the plating used for shipbuilding, that the anchors and cables were free from objection, and that the ship was seaworthy and fully equal in strength to the average of ships of her class built in 1855. They say that it is to be lamented that the masts were not cut away when the anchors were let go, as it is evident that with the top hamper aloft the steam power was inadequate to keep the ship under command; but they at the same time notice the probability that the captain was deterred from this course by the apprehension that the falling rigging and spars might foul her screw, thus repeating the catastrophe undergone by the Prince, in 1854, off Balaklava. They also express an opinion that it is a dangerous practice to steam ahead to the anchors in a gale of wind and in a seaway. "A gale of wind," they observe, "is not uniform in strength, but there are moments of comparative lull. During these the steam power not being readily controlled is apt to shoot the ship ahead. After this, when a violent gust occurs, the ship drops astern, bringing up with a sudden and a severe jerk on her cables—a kind of strain most likely to make them part. It is not impossible that such may be the true explanation of the parting of the cables of the Royal Charter." In conclusion they say that the officers and crew to the last were indifferent to the preservation of their own lives, and solely intent on their duty. Taking into account the unexampled fury of the gale, which entirely neutralised the powerful action of the screw propeller, so that the ship was no longer under command—a circumstance which Captain Taylor could not have anticipated; and considering also the apprehension he may have entertained, while at anchor, that the masts would foul the screw if they were cut away, and possibly that the action of the screw to ease the cables could not be safely intermitted—they do not think that this is a case in which they could report that the ship was lost by the default of the master.—The marine department of the Board of Trade have awarded Rogers, the Maltese seaman who swam from the vessel with a rope to the shore, the sum of 10*l.* and a silver medal for his gallantry in saving life before the ship broke up. On Monday afternoon the lumps succeeded in lifting the starboard quarter of the vessel, when the divers recovered 12 boxes and 12 bags of gold, besides several loose ingots, of a total value of at least 80,000*l.* On Tuesday 39 bars of gold, 2000 loose sovereigns, a quantity of gold dust, mixed with clay and sand, and several broken ingots of gold were recovered. The whole amount saved is about 180,000*l.*, being nearly one-half of the gold which was shipped on board the vessel. Several bodies have been washed ashore during the week, but very few could be identified. Among those who have been recognised, chiefly by the marks on their linen, were Mrs. Pitcher, Mrs. J. M. Murray, Edward P. Sanson, Matthew Scott, and Mrs. F. R. Munro.

The Finsbury Murder.—The adjourned inquest on the body of Mary Ann Moore was resumed on Saturday when Mr. Mather, divisional surgeon, and Dr. Letheby were examined, and expressed their opinion that the woman was stunned first by the tongs and poker, and that her head was then severed from her body. The coroner stated that he had applied for the attendance of the prisoner before the jury, and had received a reply stating that the Secretary of State had no power to grant them such an application. The foreman and jury declared that they would refuse to give any verdict unless the prisoner was brought before them, and the inquiry was accordingly adjourned. On Monday the prisoner was taken before the jury, and was afterwards examined before the magistrate. He was in a very excited state, and refused to allow a solicitor to act for him, saying that he could examine the witnesses upon various points better than any one, and that he was not labouring under any delusions. Mr. Mather the police surgeon, however, deposed that the prisoner had sent for him in his cell in order to make a private communication to him, and had told him that he had a tumour in his inside filled with steam or wind; and Dr. Dixon, of the Hoxton Lunatic Asylum, deposed that he had been confined in that place for more than a year, during which period he was subject to mania, with delusions of a limited character, believing that he had an engine in his inside, and that he had been electrified by wires passed round his cell. After some further evidence relating to the weapon with which the murder was committed, and to the general conduct of the prisoner to his wife, Mr. D'Eyncourt ordered a remand for the purpose of completing the depositions, on hearing which the prisoner insisted upon his solicitor applying for bail, and there was some difficulty in assuring him such an application would be useless. On Tuesday he was again brought up, and formally committed to Newgate for trial on the charge of Wilful Murder.

Double Suicide.—On Monday evening Mr. Humphreys held an inquest in the East Road, City Road, on Edmund Shirley, a photographer, aged 24, and Rosetta Greenwood, aged 18, who had poisoned themselves at the Railway Coffee House in the City Road by drinking a solution of cyanide of potass, used by photographers in their business. It appeared from the evidence that the deceased were recognised by their families as lovers, and that in consequence of some disputes connected with a stepmother the young man had been forbidden his father's house. In a state of desperation he told a friend of the family that as he had no shelter or home he should destroy himself, and the young woman who was with him declared that she would never leave him upon earth but would die with him. They went on the same night to the coffee house and engaged a bed, and as nothing was heard of them on the next morning, the door was broken open by the police, when they were found quite dead, the girl lying on her back with a white pocket handkerchief in her right hand, as though she was asleep: and the man with his right arm round the girl's waist. At the side of the bed was a tumbler and bottle labelled "poison," and two letters, one from the man to his father, the other from the girl to her aunt with whom she lived in Praed Street, Paddington, both announcing their intention to destroy themselves. The jury, after a short deliberation, returned a verdict in each case of "Death from the mortal effects of poison taken while in a state of unsound mind."

The Public Health.—The Registrar-General's return states that the number of deaths registered in London in the week that ended Saturday, Dec. 3, was 1304, being nearly the same as that returned for the preceding week. In the corresponding weeks of the ten years 1849-58 the average number was 1233; which, if raised in proportion to the increase of population, will become 1356. The present return is therefore 52 below the average. During the week the births of 915 boys and 912 girls, in all 1827 children, were registered in London. In the 10 corresponding weeks of the years 1849-58 the average number was 1609.

## Provincial.

Bath.—The Master of the Rolls has recently made an order of some interest in respect to an unclaimed fund of large amount in the Court of Chancery, belonging to the hospitals of Bath. It appeared that about 1790 a legacy of 500*l.* was bequeathed by General Joseph Smith to the Bath hospitals, and a similar sum of 500*l.* to the Madras Charity School for soldiers' children, and that the affairs of the testator were administered under the direction of the Court of Chancery. The money was set aside to meet the legacy, but, from some unexplained cause, no application had ever been made for it. During the long period of nearly 70 years the legacy had now accumulated to 3914*l.* in Bank Stock and 3158*l.* cash in the Bank of England, which sums the Court has ordered to be divided into two equal moieties, one moiety to be divided equally between Bellett's Hospital, the Bath Mineral Water Hospital, and the Bath United Hospital, and the other moiety to be carried to the account of the Madras Charity School, as at present represented by the Military Orphan Asylum at Madras.

Birkenhead.—The Birkenhead Commissioners held a special meeting on Tuesday for the purpose of taking into consideration a proposal made by Mr. John Laird to establish a naval arsenal in this neighbourhood. The following resolution was passed on the subject:—

"That the establishment of one of the Government dockyards and arsenals in the neighbourhood of Wallasey Pool, as proposed by Mr. Laird, would, in the opinion of the Board, be of advantage to the public as well as local interests, and that Mr. Laird therefore be authorised and requested to seek the co-operation of the members for Lancashire and Cheshire, of the Mersey Docks Board, and all other interests concerned, and to take such other steps as he shall deem expedient to give further effect to his proposal."

Cambridge.—A county meeting numerously attended, in behalf of the Cambridgeshire Auxiliary of "The United British Army Scripture Readers and Soldiers' Friend Society," was held on Friday in the town hall, the Earl of Hardwicke, Lord Lieutenant of the county, in the chair. The special object of the meeting was to send out and maintain at Lucknow a Scripture reader from Cambridgeshire, to be designated "The Sir Henry Lawrence Scripture Reader." Among those present were the Countess of Hardwicke, the Earl of Shaftesbury, Sir John Lawrence, General Lawrence, and Lieut.-Colonel Pitcairn, who attended as a deputation from the parent society; the Rev. Professor Selwyn, the Rev. C. Clayton, the Rev. O. T. Thorpe, the Rev. F. Chalmers, Mr. R. B. Williams, &c. Sir John Lawrence, who was received with great applause, said in his speech, speaking of his brother, "I need scarcely say that he was the originator and founder of the 'Lawrence Asylum,' at Sunawn, in the Simla Hills, Northern India—an institution established solely for the benefit of the orphans of British soldiers. For many years it was maintained almost entirely by private subscriptions, and no one contributed so bounteously as my brother did. From first to last his contributions exceeded 10,000*l.*, and it was partly through his influence that the asylum was liberally supported by others. At the time of his death 340 orphans were clothed, fed, and educated within its walls. There, in a climate which accords with the European constitution, these children lived and flourished, receiving an education which fitted them for the career in life they were to follow. This institution has been enlarged, and 10,000*l.* per annum allowed for its support, which will cover the expense of 500 children." Resolutions in favour of the establishment of a Scripture reader at Lucknow were unanimously adopted.—A meeting of clergy and laymen was held a few days since at Cambridge, at which it was resolved "That the persons present form themselves into a 'Church Defence Association;'" and also that the objects of the Association should be—1. The circulation by means of pamphlets and newspaper articles of information respecting the position, rights, and claims of the Church. 2. The furnishing replies to all attacks made upon the Church, and especially those of the Society for the Liberation of Religion from State Control; and 3. The presentation of petitions to Parliament in all cases when such a course should seem desirable.

Canterbury.—A case of wholesale poisoning has been under investigation by the magistrates of this city. A young man who had taken a black draught purchased at the shop of Mr. John Reeve, chemist and druggist, died suddenly last week, and as the surgeons believed that he had died of epilepsy, the jury returned a verdict of Natural Death. An inspector of police, however, having suspicions of the case, bought a similar draught at Mr. Reeve's shop, and was afterwards called upon by Mr. Reeve, who offered to pay him money, and even to keep him and his family if he would give it up. The officer refused, and reported the facts to the superintendent. The contents of the bottle were then analysed and found to contain one of the strongest preparations of opium. After hearing this evidence the magistrates committed Mr. Reeve for trial at the assizes on the charge of manslaughter, but admitted him to bail. Since this occurred, fresh facts have come to light, and there is reason to believe that other persons who have recently died suddenly in Canterbury and the neighbourhood have been poisoned in the same way. One of the bodies having been exhumed in order that a *post mortem* examination may be made, an inquest was opened upon it, but though the essential principle of opium was found in the body, the medical men stated that they could not ascertain whether the opium had been taken in sufficient quantity to cause death. The jury therefore returned a verdict of "Natural Death."

Chatham.—The Commissioners in Lunacy have paid a visit to Chatham garrison, for the purpose of instituting an investigation in connection with the recent case of discharging an insane soldier from the lunatic hospital at Fort Pitt, and turning him adrift in the public streets. The Commissioners during their visit placed themselves in communication with the military authorities, and also with the officials connected with the Poor-law, and from what has transpired it would seem that the Commissioners expressed themselves decidedly opposed to the course adopted by the authorities under the orders of the Government.

Chippenham.—A very full meeting of the committee appointed some time since to consider the best mode of putting the hiring of agricultural servants on a better footing was recently held in this town. Sir J. Neeld took the chair, and many of the leading gentlemen and farmers of the neighbourhood were present. A declaration signed by 140 of the principal clergy, landowners, and farmers of the neighbourhood was read, pledging themselves to discountenance in every way in their power the present mode of hiring servants, and to use their best exertions to induce young men and women to avail themselves of the facilities offered them by the proposed system of registration. After considerable discussion the following resolutions were carried unanimously:—

"That in lieu of the present mops or hiring fairs held at Chippenham at Lady Day and Michaelmas, a central register office for servants be established at Chippenham, with branch offices at the following places, to communicate with the central office, namely, — Box, Colerne, Christian Malford, Castle Coombe, Corsham, Calne, Dauntsey, Grittleton, Lacock, Hillmarton, Stanton St. Quintin, Somerford Magna. It was also resolved that the clergy in each of the above-named parishes be requested to recommend to the committee a proper person to act as registrar, to assist the secretary in providing the necessary books and forms, and to make such other arrangements as may be required to enable them to carry out the proposed system of registration. It was further resolved that servants on entering their names for a situation should pay 6*d.*; that masters or mistresses on procuring a servant should pay 1*s.*; that returns be made by the several branch offices to the central office at Chippenham at least once a month, and as much earlier as circumstances will admit."

Devonport.—Col. Greene and Mr. Wilberforce surveyed the land to the north of the steam-yard at Keyham last week, with a view to the extension of that establishment. The land in question belongs to the St. Aubyn estates, and the foreshore belongs to the Duchy of Cornwall. It includes Weston Mill Creek, which is close to the powder-works at Bull Point. Should the Government succeed in making the purchase, it will then possess nearly all the Devonshire coast of Hamoaze, from Plymouth Sound to the Albert Bridge at Saltash.

Exeter.—A meeting of churchmen was held in this

city on Friday, for the purpose of adopting a petition to Parliament in favour of church-rates. The Rev. H. Sanders, rural dean, presided; and among those present were the Right Hon. Sir J. T. Coleridge, Sir Stafford Northcote, Bart., M.P.; Sir E. S. Prideaux, Bart.; Mr. Kekewich, M.P.; Admiral Moresby, Archdeacon Bartholomew, and the Hon. and Rev. J. Fortescue. Sir John Coleridge moved the first resolution, to the effect that the meeting viewed with great regret the repeated attempts to procure the unconditional abolition of church-rates, and spoke to the following effect:—

"He maintained that their 'title' to church-rates was unquestionable. We have had the question of church-rates before the judges of the law again and again; and what has been the result? The result has been that in the Court of Queen's Bench, in the Exchequer Court, and in the House of Lords, without a single dissentient voice, even when they have decided against the maintenance of a particular rate, not one judge has been found who has not laid it down (ay, and the same law has prevailed in Doctors' Commons, in the ecclesiastical courts), that by the common law of England the burden of repairing the nave of the church lay with the parishioners. When you come to examine it, who may be said truly to pay the rate? Why, clearly the landowners of the country, the owners of land, and not the occupiers. I know very well that in point of form the rate, for the purposes of collection, is upon the occupier of land; but suppose at this moment that the rates were done away with. Let me address you, gentlemen, who hold land from the landowner. Does not the tenant consider that the rates are an outgoing upon the estate, and when he takes his estate, when he settles with his landlord, does he not consider the rates and taxes which he has to pay, and does he not include in them church-rates? But there is still another observation to be made. I deny that either the landowner or the occupier pays the rate It is a charge upon the estate which existed before he took the land. It never was his, and if you were now to abolish the rate you would be making a present to the landowners of this country of the value of that rate. It has been calculated—it may be a rough calculation, but it is enough for our purpose—that the church-rate of the kingdom amounts to about 300,000*l.* a year. [Archdeacon Bartholomew: 350,000*l.*] Sir. J. Coleridge: Well, I will take it at 300,000*l.*, multiply that by 30 years' purchase, and you get a sum of 9,000,000*l.* I do not hesitate to say that it would be 9,000,000*l.* put into the pockets of the land for nothing. It would be giving them that which they had not before if the church-rate was abolished. The history of this fight is curious. It began with a proposition for substituting something for church-rates; and again and again a scheme was proposed; but nobody was ingenious enough to frame a scheme that was satisfactory. And because you cannot do justice, you will do the greatest possible injustice. Support therefore the Church here and elsewhere, and among your friends; and try to excite a feeling among churchmen to declare with one voice, 'We will not surrender the Church of our fathers into the hands of any one whatever.' We have no right to surrender it. Creatures of a day, our interest in the church will pass away. We have been baptised in it, we have carried our children there, we go Sunday after Sunday to hear the word of God, and from time to time receive the Holy Communion; and we trust to lie in the yards of our parish churches. We are but creatures of a day, but we are trustees for others. We are trustees for our forefathers who have gone before us. They sleep around and in those churches; we are trustees for the precious associations connected with their memories, but we are also trustees for those who are to come after. The treasure which we have received we are bound by God's grace to hand down, untouched, to those who come after us. Do not let it be said that we have done anything to weaken that strong hold which the Church of England has upon the hearts and feelings of this nation."

The Ven. Archdeacon Bartholomew seconded the resolution, which was carried. Sir S. Northcote, M.P., in proposing the adoption of a petition to Parliament, said: "I go so far as to say that if we had not church-rates it would be necessary to invent them, because I do not see how we can more satisfactorily provide for the maintenance of religious worship throughout the country. It is all very well to talk of populous districts, where there may be other means to accomplish the purpose, but if you are really anxious to maintain the Church throughout the length and breadth of the land, you must come to a system of rating." Mr. W. H. Peters seconded the resolution, which was also carried unanimously.

LEEDS.—The late Mr. J. Redfearn, chief cashier of the Leeds Banking Company, who died suddenly in a railway carriage near Wakefield, while on his return with his wife and children from Hastings a few weeks ago, has been found a serious defaulter at the bank. It appears that after his death his post at the bank was duly filled by the next clerk in rank, who soon discovered a very serious falsification in the accounts. Mr. Redfearn, as cashier, had charge of the London agency account with Messrs. Smith, Payne, & Smith, of London. In this account falsifications have been discovered to the amount of nearly 13,000*l.* The exact mode in which this was effected has not been allowed to transpire, but it is understood that the "cooking" has been managed in a manner which only an experienced accountant could have devised. As soon as the discovery became known a meeting of the directors was held, when the deceased's pecuniary position at the time of his death was carefully considered. It was then found that Mr. Redfearn's personal and real estate—to be made available for the loss—amounted to nearly 4000*l.*, which will leave the bank a loser to the extent of 9000*l.*

LIVERPOOL.—The local papers state, in reference to the recent correspondence between the four merchants of Liverpool and the Emperor of the French, that the letter in question was concocted in a railway carriage and written by the four gentlemen while enjoying the pleasures of a "full board" one evening, about a fortnight since. It is alleged that the letter was so laconic in its terms, and so discourteous in its intention, that although a copy is in existence, the holders refuse to give it publicity. On Friday, when the reply of the Imperial Secretary arrived, not one of the four could read it, as it was written in the French language. The conduct of the writers of the letter to the Emperor has been met with a hearty denunciation by nearly all the local papers. The affair also appears to be assuming a more serious aspect than the writers could have anticipated. The Law Society of Liverpool, having on Wednesday discussed the matter, came to the following resolution:—"That the president be requested to inform her Majesty's Attorney-General that, in case it be the intention of her Majesty's Government to take any proceedings against the four Liverpool merchants who recently made a communication to the Emperor of the French, this committee will be happy to render the Attorney-General any assistance in its power." It turns out that the "four merchants" have been guilty of petty treason; and some persons insist that, for the credit of the nation, a prosecution against them should be instituted. The names of the four merchants are Mr. Godfrey B. Shaw, cotton broker; Mr. Henry Gaskell, of the firm of Sleigh, Gaskell, & Co.; Mr. Frederick Irving, of the same firm, produce brokers; and Mr. Samuel Mellor, of the firm of Mellor & Southall, in the Brazil trade.

NORWICH.—On Thursday the city magistrates were engaged for nearly four hours in further hearing the charge preferred against Mr. Albert J. Collins, of conspiring with Mr. Henry Croxford and others to bribe Mr. Joel Fox, by offering him 500*l.* to vote for eight Tory aldermen on the 9th November. After a long and desultory discussion, the examination of several witnesses, and the speeches of counsel, the Mayor said there were three courses open to the magistrates—first, to commit Mr. Collins for trial; secondly, to dismiss the case; and, thirdly, to call upon Mr. Collins to enter into recognisances to answer any charge which might be preferred against him. On these questions the magistrates retired to consult in private, and it was decided by a majority of 15 to 6 not to commit the defendant, but, at the same time, it was determined by 12 to 10 to call upon him to enter into two recognisances of 250*l.* each, and himself in 500*l.*, to answer any future charge. On this decision being announced, Mr. Serjeant Ballantine said he should advise his client to decline entering into the proposed recognisances, except under protest, and until he had been taken into custody by force. This "force" having been theoretically exhibited by one of the officers of the court laying his hand on Mr. Collins, the recognisances were entered into. Mr. Serjeant Ballantine then announced that it was not his intention to offer any evidence to support the charge of bribery at the general election preferred against Sir W. Foster and the Messrs. Wilde. Mr. Askew, solicitor, also withdrew, amid laughter, the counter-charges preferred by the Liberals against Sir Samuel Bignold, Captain Ives, and other Conservatives.

PORTSMOUTH.—The trial of the 108 prisoners who were the objects of the fifth Court-martial in connection with the outbreak on board the Princess Royal terminated on Friday, when the Court found the first charge proved, and the second charge not proved; but in consideration of the peculiar circumstances of the case, they only sentenced the prisoners to three months' imprisonment with hard labour. On Thursday evening Captain Farquhar read on the quarter-deck of the Victory a letter addressed to the Commander-in-chief, by the direction of the Lords of the Admiralty, in which their lordships stated, "that having taken into consideration the paragraph appended to the sentence of the Court on Tuesday, in which they noticed with approbation the conduct of George Hoad in remaining under the sentry's charge in the fore cockpit when released from irons by the rioters, their lordships had fully considered this expressed opinion of the Court-martial, and the previous good character of George Hoad, and had recommended her Majesty to grant him a free pardon. He is to remain on board the Victory a prisoner at large until her Majesty's pleasure is known."

RYDE.—The Bishop of Winchester has directed proceedings to be instituted against the Rev. Dunbar Heath, vicar of Brading, in the Isle of Wight, for a volume of sermons published by him in this town. Under the provisions of the 3d and 4th of Victoria, cap. 86, the Bishop has the option of sending the case in the first instance by letters of request to the Court of Appeal of the province, and this course will be adopted. Mr. Heath is known to scholars by his translation of six Egyptian Papyri previously undeciphered, and is the author of the "Future Human Kingdom of Christ," a work which has excited considerable attention in certain quarters. The doctrines impugned by the Bishop are of the same class as those held by Messrs. Maurice, Jowett, and others, and the point sought to be determined is whether these doctrines, especially that of the Atonement, are comprehended within the limits of our articles and formularies.

STOCKTON.—Messrs. Pearse & Co., of this port, have on the stocks for the Government a river steamer for India of such immense proportions that she will be the largest river steamer in the world. Her water line is 350 feet; over all 375 feet; breadth, 46 feet, and engines 200 horse-power. She will be impelled by paddles, and is expected to attain a speed of 13 miles an hour. She will contain sleeping berths and every suitable and sanitary arrangement for about 800 soldiers. She is to be flat-bottomed, and when laden will only take 2 feet of water. She is to be made of steel, and will weigh about 370 tons. Her framework will be completed in about a month, when she will be taken to pieces and fitted up entirely on the Thames, on which she will perform two experimental trips. She will then be taken to pieces again and sent to India by ship. If she be successful, it is thought a number of other vessels of this kind will be built for the transport of troops in India.

VENTNOR.—The ship Marabita from Ma[illegible] with oats and barley, was wrecked on Sunday evening in Chale Bay, 10 of her crew being drowned and 5 saved. On Monday morning the schooner Sentinel of Carnarvon then was wrecked in the same bay, and two of the crew were drowned. Both vessels have gone to pieces.

## Ireland.

SYMPATHY FOR THE POPE.—Lord Castlerosse has addressed a letter to the requisitionists for the Killarney demonstration in favour of the Pope, stating though in common with every sincere Catholic he sympathises most deeply with the Pope in his present position, he "cannot conceal from himself that the calling together large masses of the rural population in country districts may (without giving additional weight to the expression of sympathy with the Holy Father) be construed into a menace to the home, and possibly to a foreign Government, and also give rise to alarm and distrust in the minds of our fellow-subjects who differ from us in religious opinions." He has therefore returned the requisition unsigned. Mr. James O'Connell (brother of the late Daniel O'Connell) and his son, Mr. Thomas Gallwey, and Mr. Cronin Collsman, all Roman Catholic gentlemen of position in the county, have expressed their concurrence in his lordship's views. Mr. Michael Joseph Barry, a Roman Catholic gentleman of literary attainments, a member of the Irish bar, and secretary to a late Parliamentary commission, has published a letter in the *Cork Reporter* in which he declares without reserve that though he sympathises sincerely with the Pope, he has no sympathy with him as a Sovereign. On the contrary, he considers that the maintenance of his rule in its existing state is a grievous infliction on his subjects, and is, so far as anything human can be so, a serious injury to Catholicism. A meeting of the Christian Doctrine Confraternity was held on Sunday in the Carmelite Church, Dublin, for the purpose of adopting an address to the Pope. The Rev. Dr. Bennett, the Provincial of the Carmelite Order, presided, and the meeting was addressed at great length by Father Fox and some of the lay brotherhood. Resolutions were adopted, pledging the meeting "to use every legitimate means in their power to counteract the treacherous and foul attempts that are now being made by base and designing enemies to overthrow not only his temporal but also his spiritual domination in those States which an all-wise Providence has committed to his charge." The Cork and Waterford demonstrations also took place on Sunday in the Roman Catholic Cathedrals. At Waterford the meeting was addressed by the bishop, Mr. Thomas Meagher, and Sir Henry Winston Barron. At Cork, the bishop, the Messrs. Murphy, Maguire, and Hennessy were the principal speakers. The following scene occurred during the speech of Dean Murphy, in which he maintained the advantage of government by priests, and concluded thus:—

"Contrast Leo X., Pauls IV. and V., Pius IV and V Gregory XVI., with the Monarchs of England—the Henries the Charleses, the Georges—(oh, oh)—monsters of lust, and imbecility, until the list was closed by her present gracious Majesty—(groans)—who has commenced a new dynasty and has given an example of virtue. (Here the cries of 'No, no,' and other expressions of disapproval rendered the reverend speaker inaudible except to those in his vicinity. A Voice—'She starved 2,000,000 of Irish.' (Hear, hear, and groans.) The speaker concluded by hoping that God would give her Majesty grace to direct her councils and see justice done to all, and especially to the Holy Pope, the Father of the Church."

THE CATHOLIC UNIVERSITY.—A public collection was made on Sunday by order of Archbishop Cullen in all the chapels in Dublin, in favour of the Catholic University, but the result is said to have by no means answered the expectations of the promoters. In the metropolitan church (Dr. Cullen's own) the amount was about 15*l.* less than on the occasion of a former appeal, and as the collection in other quarters was also a small one, it has been determined to allow the subscription lists to remain open for a week.

MR. SMITH O'BRIEN has been delivering a series of lectures at the Mechanics' Institute on America and her institutions. The following is an extract from one of his addresses:—

"For my own part, I denounce as nefarious usurpation wherever or by whomsoever it may have been effected denounce, as a national crime, the piratic war which has been carried on against China—a war in the guilt of which, as Ireland, as well as England, is at present participating, and feel convinced that speedy retribution will avenge these crimes. Even now the fate of England hangs upon the caprice of a single individual who may be found more dangerous as a friend than he would have been as an avowed enemy. It is difficult to conjecture what would have been the fate of the Eastern empire of Great Britain if the moment of the Sepoy mutiny had been chosen as the suitable occasion for wiping out the stain upon French honour which still clings to the memories of Waterloo. If, when a moment even more propitious shall arise, the avenger of Waterloo shall strike a blow at the heart of a Power which is hated by the whole French nation—if, at such a moment, the forces of the British empire shall be scattered, and its resources exhausted in buccaneering expeditions, the people of England will repent, when it will be too late, that they lent themselves in the hour of prosperity to the rapacious and unprincipled career of plunder and usurpation."

THE GOLDSMITH MONUMENT.—The committee of the Goldsmith memorial, which is to be erected in front of Trinity College, Dublin, have decided that its execution shall be confided to Mr. Foley, R.A.

TESTIMONIAL TO CAPTAIN M'CLINTOCK.—A subscription has been opened in Dublin for the purpose of presenting a testimonial to this gallant officer, and expressive of the high esteem in which his chivalrous and daring services are held by his countrymen. The subscription is confined to 1*l.* a head.

MURDER IN WICKLOW.—The county of Wicklow, which has hitherto borne a good name, has been the scene of a frightful murder committed in the open day. On Monday week, at Mucklow, near Tinnahely, the agents of Earl Fitzwilliam were taking possession of some land from a man named Behan in order to restore the farm of an old man named Boland. Behan and his wife, with about 20 or 30 others, rushed upon Boland, threw him down the ditch, and inflicted such injuries that he died in a few minutes. When he was dead Behan danced on the road with joy, thanking God that he had "struck him dead" before "he got possession;" and five or six of the women were seen kneeling on the road praying that he might never recover, and that the priest-selling dog might never be forgiven "in this world or the next." The jury at the inquest, after deliberating for about three-quarters of an hour, found the following verdict:—"That Michael Boland came by his death from a rupture of the heart which might or might not be caused by excitement and violence which he received on Monday, the 28th November, at the hands of Richard Behan and Bridget Behan, assisted by Edward Behan, Catherine Behan, and Mary Byrne." One of the jury observed that the country could have no complaint to make against Earl Fitzwilliam, and that Mr. Lawrenson had always given general satisfaction. Behan, his son and wife, and three women who had previously been arrested, were then committed to gaol on the warrant of the coroner.

MURDER IN WESTMEATH.—On Sunday last a shocking murder was perpetrated in broad daylight at Newtown, near the village of Drumrany, 7 miles from Athlone. The victim was a man named Laurence Kelly, a comfortable farmer, holding about 300 acres of land, and who was shot dead while eating his dinner in his own house, the murderer having fired through the window. No person was at the time in the house with deceased except his man servant and housekeeper, neither of whom made any effort to secure the murderer. Death must have been instantaneous, as several slugs passed through his head and lodged in the wall of the apartment. The deceased had in the morning attended mass at the chapel of Ballymore, and was murdered immediately after his return. The jury at the inquest on Monday returned a verdict of Wilful Murder against some persons unknown.

MURDER IN DUNGANNON.—A dreadful affair occurred on Monday in the town of Dungannon. A constable, named Holden, who had for 15 years maintained an exemplary character in the police, had privately married, contrary to the rules of the service. He was on the point, however, of obtaining the permission when the fact transpired that he was already married. For this offence he was reduced to the rank and pay of a sub-constable for six months. This information was conveyed to him by a brother constable named M'Clelland, who was suspected by Holden of being instrumental in discovering the secret marriage. Acting upon this suspicion Holden fell upon M'Clelland and shot him dead. The assassin then started off, and in his flight encountered his sub-inspector coming out of a house where he had been paying a visit, and was about to mount his horse, when Holden rushed upon him and inflicted upon his head several fearful wounds with some dagger-like instrument with which he was armed. The sub-inspector, Mr. W. H. Mathew, is reported to be in an extremely precarious state. The murderer then mounted his victim's horse and rode off at a furious speed, and was not heard of till Tuesday morning, when he was arrested in the town of Dundalk, where it was supposed he was about to embark on board one of the steamers for Liverpool.

## Scotland.

THE TOBERMORY SEQUESTRATION CASE. — The second division of the Court of Session has delivered a final judgment on the petition of Mr. Joel for recall of the sequestration granted to Mr. William Gill, at Tobermory, in the Island of Mull, in August, 1858. The petitioner sought the recall of the sequestration on the following grounds:—

"1. Because the designation of the bankrupt in the petition for sequestration was in itself so inaccurate, defective, and insufficient as to come short of the requisites of the Bankruptcy Act of 1856. 2. Because the process of sequestration was a fraudulent scheme on the part of the bankrupt to obtain his protection and discharge without due notice to his creditors, and without allowing them due facilities for protecting their interests."

The judges, by a majority of three to one, dismissed the petition, holding that the designation given by the bankrupt, though not full, was sufficient, there being no special statutory designation requisite, and that the allegations of the present petitioner were insufficient to support a case of fraud. Lord Benholme dissented from the judgment, holding the designation to be imperfect; and Lord Wood was absent. Subsequently Lord Ivory, in relation to an analogous case, expressed regret that the Tobermory proceedings were not laid before the whole Court. It is now said that the question is to be carried by appeal to the House of Lords.

## Railways.

NEW CITY OF LONDON LINE.—Notice of intended application to Parliament has been given for authority to incorporate a company to construct a railway from the Grand Junction Canal, Paddington, to Moorgate and Finsbury Square, and Limehouse, and to form junctions with the North London at Camden Town and the Great Northern near Maiden Lane; to enter into traffic and other arrangements with those companies, and to purchase the Regent's Canal and convert it into a railway.

THAMES TUNNEL LINE.—It is intended to apply to Parliament for power to construct a railway from the London, Brighton, and South Coast, and South Eastern Lines, passing through the Thames Tunnel to the London and Blackwall. It is proposed to purchase the Tunnel, and to authorise the Brighton, South Eastern, London and North Western, Eastern Counties, and North London Companies to subscribe to the undertaking, and to make traffic arrangements.

## Law.

COURT OF EXCHEQUER *Pentallow v. The Mersey Harbour and Docks Company.—The Great Liverpool Shipping Case.* This case, which has been before the Court two days, terminated yesterday afternoon shortly before five o'clock, when the jury returned a verdict for the plaintiff, with £1200 damages, the amount claimed by him for the injury sustained by his vessel.

THE ASSIZES.—NORTHERN CIRCUIT: NEWCASTLE-ON-TYNE.—*Murder of an American Seaman.—John Watson Manley*, second mate of the American ship Mary, was indicted for the wilful murder of Daniel Witham, one of the seamen, by fracturing his skull with an iron bolt, while the ship was lying in the Northumberland Dock. This case was noticed at the time in our Provincial News, and excited a good deal of attention in connection with the frequent acts of cruelty practised by the mates of American ships upon their crews. It was clearly proved that the blow inflicted by the prisoner caused the death of deceased, but the witnesses for the defence asserted that deceased had threatened to rip up the prisoner, and had put his hand to his side for the purpose of doing it. A knife The judge therefore left it to the jury to say whether such provocation had been given as to reduce the crime to manslaughter. The jury returned a verdict of *Guilty* of Manslaughter, and the prisoner was sentenced to penal servitude for life.

MIDDLESEX SESSIONS.—*Shoplifting by a Dressmaker.* — On Tuesday *Sarah Dyer*, a dressmaker, pleaded *Guilty* to the charge of stealing from the shop of Messrs. Shoolbred a few yards of ribband, a few yards of silk braid, and a reel of cotton. It appeared from the evidence that the prisoner for many years past had been a customer of Messrs. Shoolbred, of whom she purchased her materials, and that though she had an abundance of work and abundance of customers, the ladies for whom she worked omitted to pay her their debts. There were several ladies who owed her money, two of whom living Montague Place, Russell Square, and Highbury Terrace, owed her 11*l.* or 12*l.*, but she could not get a penny from any of them, not even in repayment of the sums she had expended in materials purchased on their account. Her landlord, with whom she had lodged for 14 years, deposed that, up to this occurrence, she had borne a most excellent respectable character. She was a widow, had a young and well-conducted, and had a son, whom she had apprenticed to a tailor. She was in the habit of working until 2, 3, and even 4 o'clock in the morning at dressmaking, in order to support herself and her son. But in spite of all her industry she was without money; she had been many times seriously ill and on the verge of starvation; she could not pay her rent; and on the day on which the offence was committed she was at a standstill, unable to complete her work for want of money to purchase the materials required. These facts, which elicited Court, excited the deepest commiseration. Messrs. Shoolbred, the prosecutors, who had no choice but to institute the prosecution, implored the mercy of the Court in her behalf. The Assistant-Judge, in giving his decision, said that he considered this to be a case in which the greatest amount of mercy might safely be extended to the prisoner, and said that if what had been stated found its way into publicity, those who had so cruelly used this poor creature by depriving her so long of the reward of her labour would understand what must be thought of their conduct. No sentence was passed upon the prisoner, but she was ordered to be discharged at once. She fell down on her knees in the dock and thanked the Court for the mercy shown to her.

CENTRAL CRIMINAL COURT. *The Kaffir at Hadgate.*—On Friday morning the Zulu Kaffir who was found in Highgate Wood and sent for trial on a charge of sheep-stealing, was ordered to be discharged, the grand jury having ignored the bill against him. The poor fellow, who can only be made to understand by signs, kept grinning and dancing with the gaoler who came into dock with him. He will be detained in Newgate until his history can be ascertained.

## Obituary.

THE PRINCESS ANNA SAPIEHA, mother-in-law of Prince Adam Czartoryski, died in Paris on the 26th ult. in her 88th year. She belonged to the most illustrious families of Poland, and was born in 1772. Her father, Count Andrew Zamoyski, Grand Chancellor of the Crown of Poland, enjoyed the reputation of being the most noble and upright character of the reign of Stanislaus Augustus. In 1794 the Princess married, at Warsaw, Prince Alexander Sapieha, who was born at Strasburg, where, driven by the misfortunes of Poland, his father had sought refuge.

DON NERI CORSINI, MARQUIS DE LAJATICO, the distinguished Tuscan statesman and diplomatist, died on Thursday the 1st inst. at the Clarendon Hotel, Bond Street, after a short illness, from an attack of small-pox. He had been staying in London for a considerable period, discharging the duties of Special Envoy from the present Government of Tuscany. A fortnight ago he was in possession of excellent health, but he was attacked by smallpox of so alarming a character, that the medical men by whom he was attended—Sir Henry Holland and Mr. Thomas Young, of Sackville Street—declared his recovery to be hopeless on the second or third day after the attack. The marchioness, who had started from Florence on the first intelligence of her husband's illness, accompanied by her second son and second daughter, arrived at Calais on Thursday evening, when a telegraphic despatch, transmitted by Lord John Russell to the English Consul, conveyed to her the intelligence of his death.

LORD WILLIAM KEITH DOUGLAS, youngest brother of the Marquis of Queensbury, died at 16, Chesham Place, on the 8th inst. He represented the Dumfries district of burghs in Parliament for 22 years, and was in his 77th year. His lordship was one of the council of the Duke of Clarence when Lord High Admiral under the administration of Mr. Canning.

MR. JUSTICE CROWDER, one of the judges of the Common Pleas, died suddenly on Monday morning at his residence in Carlton House Terrace. For the last 12 months he had suffered from inveterate ague, the paroxysms of which always affected the heart, and though he was in court on Saturday, apparently in his usual health, he was seized during Sunday night with a paroxysm of more than ordinary severity, which proved fatal before his medical attendant could arrive. Sir Richard Budden Crowder was the eldest son of the late Mr W. H. Crowder, of Montague Place, and was educated at Eton and Trinity College, Cambridge. In 1821 he was called to the bar at Lincoln's Inn, and for a long series of years went the Western Circuit. In 1837 he became a Queen's Counsel, and in 1846 on the death of Sir Charles Wetherall was appointed Recorder of Bristol, which position he held till 1854, when he was appointed one of the puisne judges of the Court of Common Pleas, on which occasion he received the customary honour of knighthood. He sat for a few years in the House of Commons, having represented [illegible] Jan[illegible] in the place of his [illegible] Winchester in 18[illegible]. He was [illegible] Counsel to the Admiralty and Judge Advocate to the Fleet. He was born [illegible] and was in his [illegible] year.

SIR [illegible] ALEXANDER, [illegible] died on the [illegible] at his residence in St. James's Place. He was the son of Archibald Sir William Alexander, of Dublin, upon whom the baronetcy was conferred in 1809. He is succeeded in the title by his son, William John Alexander, Q.C., who was called to the bar of Lincoln's Inn in 1825, and appointed Queen's Counsel in 1844.

COLONEL BRAY, C.B., late of the 39th Foot, died on the 3d inst. at Brighton, in his 71st year. He entered the army above [illegible] years ago, and had seen much active service abroad. He served in the Mahratta campaign from 1817 to 1819, and was present at the siege and capture of Bhurtpur, Ameinuggur and Asseerghur. He was on board the [illegible] which was burned in the Bay of Biscay in March 1813. He commanded the 39th Regiment in the action of Maharajpoor, in which he was severely wounded. In consequence of his wounds he retired from the army on full pay, with the rank of major. In 1846 he was nominated a Companion of the Bath in recognition of his services.

COLONEL HODDER, of the North Cork Rifles, died on Sunday the 27th ult. at Ayr, where the regiment is now stationed. It appears that he was out riding on the previous Thursday in the neighbourhood of that town, and on his return felt very cold and numbed. On alighting from his horse the [illegible] of his limbs, [illegible] a kerbstone, [illegible] under which he suffered until Sunday morning, when he expired. He was a deputy lieutenant of the county, and had been Colonel of the North Cork Rifles since 1851. He had been previously a lieutenant in the 88th Connaught Rangers, in which he served in the Peninsula, and was present at the battles of Talavera, Busaco, and Fuentes d'Onor, the affair of Fox d'Arouce and Sabugal, and lines of Torres Vedras, for which he received a medal and three clasps.

LIEUT.-COLONEL D CAMPBELL, C.B., of the 71st Highlanders, died on Saturday last at his lodgings in Jermyn Street, St. James's, in his 63d year. He entered the army as Cornet in the 4th Light Dragoons in 1833. He served with that Regiment during the campaign in Afghanistan under Lord Keane, and was present at the siege and capture of Ghuznee, for which he received the medal. He served with the 71st at the siege and fall of Sebastopol, and in addition to the medal and clasp was made a Companion of the Bath for his services in the Crimean campaign.

COMMANDER WALTERS, R.N., died at Lemon Road, Ipswich, on the 24th ult. in his 70th year. He entered the navy in 1820, and served in the Bellerophon, 74, at the battle of Trafalgar, in 1805. He afterwards served in the Bedford, 74, which escorted the Royal family of Portugal to the Brazils in 1809. In 1810 he became a Lieutenant, and subsequently served in the Hyacinth, Skylark, Forester, Goliath, Doyne, and again in the Bellerophon on the North and South American stations. In 1811 he assisted at the destruction of a French flotilla of 12 gun vessels near Calais. He was senior of the Bellerophon when Napoleon surrendered to that ship off Rochefort in July, 1815, and was placed on half-pay in September of the same year, and had not been since afloat. He retired with the rank of commander in 1850.

BIRTHS.—On the 3d inst, at Withington Hall, Cheshire, the Viscountess St. Vincent, of a son—4th inst, at Cranmer Hall, Norfolk, Lady JONES, wife of Sir WILLOUGHBY JONES, Bart., of a daughter—2d inst, at Boulogne sur Mer, the wife of Rear-Admiral HATHORNE, of a daughter—3d inst, at Sudbury Rectory, Derbyshire, the wife of the Rev. FREDERICK ANSON, of a son—1st inst, at Kilpeacon House, the wife of Major GAVIN, M.P., of a daughter.

MARRIAGES.—1st inst, at Luke's Chapel, Chelsea, FRANCIS WILLIAM NEWDIGATE, Esq., late Coldstream Guards, eldest son of Francis Newdigate, Esq., of CHARLOTTE ELIZABETH, daughter of General Sir ALEXANDER and Lady WORSLEY—1st inst, at St. James's Church, Piccadilly, JOHN GEORGE C. L. NEWSHAM, H.B.M.'s Consul at Amsterdam, to LOUISA COLSTELLA, daughter of the Rev. HENRY DOBLEY BYRON, canon of Lichfield—6th inst, at St. John's, Hampstead, CHARLES DUDLEY KINGSFORD, Esq., M.D., of Upper Clapton, to FRANCES FRANCIS, eldest daughter of the Rev. T. O. GOODENOUGH, rector of the parish—At St. John's, Paddington, MALCOLM TALBOT, Esq., M.P., of Canada, eldest surviving son of the late Henry W. Talbot, Esq., of Corrig Avenue, Kingstown, and Mary-borough, Ireland, to JESSICA, youngest daughter of the late Captain HUGH ECCLES, of her Majesty's 61st Regiment, and of Toronto, Upper Canada.

DEATHS.—On the 30th ult, at her residence, Eccles Street, Dublin, the Dowager Lady DILLON, relict of General Sir Arthur Richard Dillon, Bart., of Lismullen, county Meath, aged 85—20th ult, at 7, Westbourne Terrace, of bronchitis, HANNAH, Lady O'CONOR, widow of the late Rear-Admiral Sir Richard O'Conor, K.C.H.—1st inst, at Cranmer Hall, Norfolk, the Dowager Lady JONES, widow of the late Major-General Sir John Thomas Jones, Bart., K.C.B., of the Royal Engineers—28th ult, at Boulogne sur Mer, Lieut.-Colonel JOHN ROGER PALMER, Colonel of the South Mayo Militia, formerly Captain 17th Lancers, and third son of the late Sir William H. Palmer, Bart., of Kenure Park, Ireland, aged 40—30th ult, at 35, St. George's Road, Eccleston Square, THOMASINE EMILY, wife of the Right Hon. FREDERICK SHAW, of Kilmainge House, Dublin—30th ult, at 4, Margaret Place, London, ELIZA, daughter of the late Capt. the Hon. RICHARD LE MARCHANT, J.P., of Dingle, county Kerry—25th ult, at Penryn, DEBORAH, relict of HENRY DUNSFORD, Esq., and last surviving sister of the late Sir Matthew Wood, Bart., M.P., aged 80—29th ult, JERARD ACLAND, third son of Sir J. KENNAWAY, Bart., M.P., aged 14—29th ult, in Summer Hill, MARGARET, relict of HUGH HARRIS, Esq., of Ashfort, county Armagh, and eldest daughter of John Porter, D.D., late Lord Bishop of Clogher—10th ult, at Florence, ELIZA, widow of the late Bishop DOANE, of New Jersey, U.S.A., aged 69—25th ult, at Heston, the Rev. HENRY SCOTT TRIMMER, eldest surviving son of the celebrated Mrs. Trimmer, vicar of Heston, Middlesex, and Deputy Lieutenant for the county, aged 84; and on the 6th inst, MARY DRIVER TRIMMER, his widow—3d ult, at Windsor, Nova Scotia, SARAH, relict of the Hon. Judge WILKINS, late of the Supreme Court of Nova Scotia, aged 88—27th ult, suddenly, at Lambley Rectory, near Nottingham, the Rev. H. F. C. COLLYNS, son-in-law of Sir George Carroll, of Cavendish Square, aged 52—2d inst, at Poppar Park, near Reading, JOHN SILVERLOCK, Esq., Deputy Lieutenant and Magistrate for the counties of Berks and Oxon, aged 66—2d inst, at Kingston-on-Thames, Dr WILLIAM ROBERTS, M.D., aged 81.

## Markets.

COVENT GARDEN.—Dec. 10

Asparagus, Sea-kale, and French Beans now make their appearance. Pine Apples and Grapes are a trifle dearer since last report. Apples and good dessert Pears are scarce, and for the most part inferior in quality; the latter consist of Glou Morceau, Beurré Diel, Chaumontel, Winter Nelis, Passe Colmar, and Crassane. Oranges are improving in

quality. Good Cobs are realising from 1s. to 1s. 6d. per lb. Chesnuts are plentiful. Vegetables are for the most part sufficient for the demand. Cabbages, Savoys, Carrots, Parsnips, and Leeks may be obtained in quantity. Broccoli is scarce. Potatoes realise from 4s. to 8s. per cwt. Mushrooms can still be had. Cucumbers are getting dearer. Cut flowers chiefly consist of Orchids, Gardenias, Violets, Mignonette, Chrysanthemums, Camellias, Heaths, and Roses.

**FRUIT.**

| | |
|---|---|
| Pine Apples, per lb., 5s to 7s | Pears, per doz., 4s to 6s |
| Grapes, per lb., 7s to 10s | Oranges, per 100, 6s to 10s |
| Melons, each, 2s to 4s | Lemons, per 100, 5s to 8s |
| Pomegranates, each, 4d to 6d | Filberts, p. 100 lbs., 50s to 60s |
| Apples, per doz., 1s to 2s | Cobs, do., 100s |

**VEGETABLES.**

| | |
|---|---|
| Asparagus, p. bundle, 7s to 10s | Cucumbers, each 9d to 1s 6d |
| Seakale, per basket, 2s to 3s | Artichokes, per doz., 2s to 3s |
| F. Beans, per 100, 2s to 2s 6d | Beet, per doz., 1s 6d to 2s |
| Cauliflowers, per doz, 2s to 4s | Celery, p. bundle, 1s to 1s 6d |
| Greens, per dozen bunches, 2s to 2s 6d | Onions, p. half sieve, 1s to 1s 6d |
| Cabbages, do., 1s 6d to 2s 6d | — Portugal, each, 2d to 4d |
| Potatoes, p. ton, 90s to 100s | Shallots, per lb., 6d to 8d |
| — per bus., 2s to 2s 9d | Garlic, per lb., 6d to 8d |
| — per cwt., 4s to 6s | Lettuces, Cabb., per score, 1s to 1s 6d |
| Carrots, per bunch, 6d | Endive, p. score, 1s to 1s 6d |
| Turnips, per bunch, 4d | Horse Radish, p. bun. 1s 6d to 4s |
| Spinach, p. sieve, 1s 6d to 2s | Mushrooms, p. pott, 1s 3d to 1s 9d |
| Tomatoes, p. half sieve, 2s 6d to 3s 6d | Parsley, p. 12 bunches, 2s to 4s |
| | Savory, per bunch, 2d to 4d |

## METROPOLITAN CATTLE MARKET.

**MONDAY, Dec. 5.**

We have again a short supply of Beasts, especially of good ones; and consequently prices have advanced. The number of Sheep is also small, and although trade is not brisk late prices are fully maintained. Calves are selling about the same as on Thursday. From Germany and Holland there are 550 Beasts, 2800 Sheep, and 140 Calves; from Scotland, 200 Beasts; from Ireland, 600; from Norfolk and Suffolk, 100; and 2600 from the northern and midland counties.

| | s d | s d | | s d | s d |
|---|---|---|---|---|---|
| Best Scots, Herefords, &c. | .. 5 0 | to 5 4 | Best Long-wools | 4 10 | to 5 0 |
| Best Short-horns | 4 10 | — 5 0 | Do. Shorn | .. .. | — .. |
| 2d quality Beasts | 3 6 | — 4 6 | Ewes & 2d quality | 4 4 | — 4 8 |
| Best Downs and Half-breds | .. 5 2 | to 5 4 | Do. Shorn | .. .. | — .. |
| Do. Shorn | .. .. | — .. | Lambs | .. .. | — .. |
| | | | Calves | .. .. | 4 4 — 5 0 |
| | | | Pigs | .. .. | 3 8 — 5 0 |

Beasts, 4740; Sheep & Lambs, 19,970; Calves, 143; Pigs, 390.

**THURSDAY, Dec. 8.**

The supply of good Beasts is very short, and on the average prices are better than on Monday. In a few instances our top quotation is exceeded. The number of Sheep is about the same as of late; the average quality is inferior, for which there is but little demand; but choice descriptions are readily disposed of. There is not much alteration in the Calf trade. Our foreign supply consists of 260 Beasts, 520 Sheep, and 178 Calves. The number of Milch Cows is 140.

| | | | | | |
|---|---|---|---|---|---|
| Best Scots, Herefords, &c. | .. 5 | 2 to 5 4 | Best Long-wools | 5 0 | to 5 2 |
| Best Short-horns | 4 10 | — 5 2 | Do. Shorn | .. .. | — .. |
| 2d quality Beasts | 4 0 | — 4 4 | Ewes & 2d quality | 4 6 | — 4 8 |
| Best Downs and Half-breds | .. 5 | 2 — 5 4 | Do. Shorn | .. .. | — .. |
| Do. Shorn | .. .. | — .. | Lambs | .. .. | — .. |
| | | | Calves | .. .. | 4 4 — 5 0 |
| | | | Pigs | .. .. | 4 0 — 5 0 |

Beasts, 1330; Sheep & Lambs, 3340; Calves, 245; Pigs, 160.

**HOPS.—BOROUGH MARKET, FRIDAY, Dec. 9.**

Messrs. Pattenden & Smith report a brisk demand for all fine Hops at improved prices.

**BRITISH WOOLS.—LONDON, FRIDAY, Dec. 9.**

There has been a fair demand for most descriptions of fleece and skin at full rates. All branches of the trade are sound and healthy.

| | s. d. | s. d. | | s. d. | s. d. |
|---|---|---|---|---|---|
| South-down Hoggets | .. .. .. 1 | 8 to — | Leicest. Wethers | 1 5 | to — |
| Half-bred ditto | .. 1 | 8 — — | Ditto Hoggs | .. 1 7 | — — |
| Down Ewes | .. 1 | 6 — — | Combing Skins | — — | — |
| Kent Fleeces | .. 1 | 6 — — | Blanket ditto | .. — | — — |
| | | | Flannel Wool | .. 1 2 | — 1 7 |

COLONIAL LOW WOOL SALES.—These sales took place on Tuesday and Wednesday, and realised about previous rates with the exception of low Russian, which went off on somewhat easier terms.

**POTATOES.—SOUTHWARK, Monday, Dec. 5.**

During the past week, the arrivals coastwise have been much greater than at any time this season, and the trade is extremely dull. The following are this day's quotations:—Yorkshire Regents, per ton, 75s. to 120s.; Lincolnshire do., 70s. to 90s.; Dunbar do., 90s. to 110s.; Perth, Forfar, and Fifeshire do., 60s. to 80s.; Kent and Essex do., 70s. to 90s.; Rocks and Reds, 60s. to 70s.; French Whites, 65s. to 75s.; Belgian do., 55s. to 60s.

## MARK LANE.—MONDAY, Dec. 5.

The supply of English Wheat to this morning's market was small, and tolerably cleared at an early hour for shipment to the West Coast at the prices of last Monday. Foreign continues to be held firmly at former rates, but business is confined to the merest retail transactions Barley (with the exception of the finest qualities of malting) is 1s. per qr. cheaper. Beans and Peas bring the prices of this day se'nnight. Oats are a slow sale at a decline of fully 1s. per qr. Flour is unaltered in value.

| PER IMPERIAL QUARTER. | s. s. | | s. s. |
|---|---|---|---|
| WHEAT, Essex, Kent, & Suffolk .. White | 40—48 | Red .... | 40—45 |
| — — fine selected runs .. ditto | 46—48 | Red .... | 42—48 |
| — — Talavera ..... | 46—52 | | |
| — Norfolk ..... | — | Red .. .. | — |
| — Foreign ..... | 38—56 | | |
| BARLEY, grind & dist., 24s to 30s .. Chev. | 38—44 | Malting . | 34—40 |
| — Foreign .. grinding and distilling | 23—33 | Malting . | 35—41 |
| OATS, Essex and Suffolk ..... | 19—24 | | |
| — Scotch and Lincolnshire .. Potato | 23—29 | Feed .... | 19—26 |
| — Irish ..... Potato | 24—28 | Feed .... | 19—24 |
| — Foreign ..... Poland and Brew | 23—26 | Feed .... | 17—24 |
| RYE ..... | 35—38 | Foreign . | — |
| RYE-MEAL, foreign ..... | — | | |
| BEANS, Mazagan .... 33s to 40s .... Tick | 33—43 | Harrow . | 33—43 |
| — Pigeon ..... 44s — 47s .. Winds. | 48—54 | Longpod | — |
| — Foreign ..... Small | 38—46 | Egyptian | — |
| PEAS, white, Essex and Kent .. Boilers | 36—39 | Suffolk . | 38—41 |
| — Maple .... —s to —s ..... Grey | 33—35 | Foreign . | 30—38 |
| MAIZE ..... White | — | Yellow .. | — |
| FLOUR, best marks delivered .. per sack | 37—43 | | |
| — 2d do. ..... ditto | 27—37 | Country . | 27—37 |
| — Foreign ..... ... per barrel | 18—27 | Per sack | 30—37 |

**FRIDAY, Dec. 9.**

The severe frost and snow of the 3d changed to milder weather on the 4th, since when much rain has fallen. Prices of Wheat in the English markets have been generally well supported this week with the exception of Liverpool, and in many it has been difficult to purchase at former rates. In Scotland the arrivals of foreign continue to be large, and sales at former quotations are impossible. Spring Corn of all kinds has in the majority of cases been sold on rather lower terms, and Flour has also receded 6d. to 1s. per sack in Liverpool and Glasgow. The cost and freight business from the Baltic may be considered closed for the winter, and for spring there is at present little disposition to purchase. The arrivals of grain-laden vessels from Southern Europe at ports of call this week are small. The sales are to a liberal extent, including Taganrog Ghirka Wheat at 47s. to 48s., Odessa Ghirka at 45s. 9d. and at 42s. nett, Marionopoli at 48s. 9d., all per 492 lbs.; Odessa Maize at 32s. to 32s. 3d., Ismail at 32s. 3d., Galatz, 32s. 6d., all per 492 lbs., Ibrail at 29s. 6d. to 30s. 4½d. per 480 lbs.; Odessa Barley at 24s. 6d. to 25 1½d. per 400 lbs.; Odessa Oats at 17s. 9d. to 18s. per qr. imp., c. f. and i.; and Taganrog Linseed at 48s. to 48s. 3d. per qr. delivered. The arrivals of foreign Barley this week are again considerable, of all other grain small. The English Wheat fresh up to this morning's market met a quick sale at our late quotations. The attendance was limited, and also the extent of business in foreign Wheat, but on the sales effected full prices were obtained. Barley is a very slow sale at Monday's prices. Beans and Peas are unaltered in value The Oat trade is firm, and good corn brings an advance of 6d. per qr.

**ARRIVALS FROM Dec. 5 TO Dec. 8.**

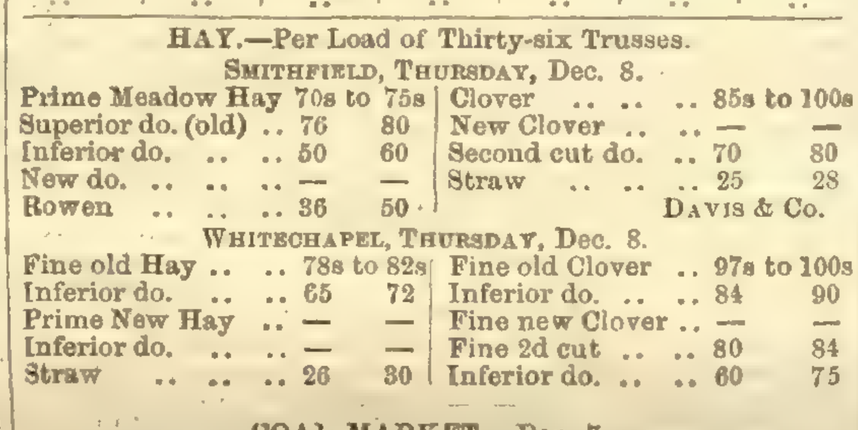
| | Wheat. | Barley. | Oats. | Flour. |
|---|---|---|---|---|
| English .. | 1320 qrs. | 3140 qrs. | 430 qrs. | 1110 sks. |
| Irish .... | — ,, | — ,, | 2050 ,, | — ,, |
| Foreign .. | 5060 ,, | 13510 ,, | 11070 ,, | 40 ,, 100 brls. |

LIVERPOOL, Tuesday, Dec. 6.—Grain market inactive. Wheat and Flour in moderate demand, without change in prices. Oats and Barley steady. Indian Corn without quotable change, but rather pressed by holders.

FRIDAY, Dec. 9.—The grain market was moderately attended, and prices firmer. Wheat in good speculative demand at 1d. advance upon Tuesday's rates. Indian Corn and Beans steady. Oats, Oatmeal, and Barley firm at late prices.

| AVERAGES | Wheat. | Barley. | Oats. | Rye. | Beans. | Peas. |
|---|---|---|---|---|---|---|
| Oct. 29.. | 43s 1d | 35s 6d | 20s 11d | 30s 4d | 38s 9d | 38s 2d |
| Nov. 5.. | 42 9 | 35 9 | 22 1 | 30 2 | 39 3 | 38 5 |
| — 12.. | 42 10 | 35 11 | 21 5 | 29 7 | 40 3 | 37 9 |
| — 19.. | 43 1 | 35 11 | 21 11 | 28 4 | 40 9 | 39 6 |
| — 26.. | 44 1 | 36 1 | 22 6 | 29 1 | 41 2 | 39 0 |
| Dec. 3.. | 44 8 | 36 5 | 21 9 | 30 7 | 41 9 | 39 3 |
| Agg. Aver. | 43 5 | 35 11 | 21 9 | 29 8 | 40 4 | 38 9 |

**FLUCTUATIONS IN THE LAST SIX WEEKS AVERAGES.**




**HAY.—Per Load of Thirty-six Trusses.**

SMITHFIELD, THURSDAY, Dec. 8.

| | | | |
|---|---|---|---|
| Prime Meadow Hay | 70s to 75s | Clover .. .. .. | 85s to 100s |
| Superior do. (old) .. | 76 80 | New Clover .. .. | — — |
| Inferior do. .. .. .. | 50 60 | Second cut do. .. | 70 80 |
| New do. .. .. .. | — — | Straw .. .. .. | 25 28 |
| Rowen .. .. .. | 36 50 | | |

DAVIS & Co.

WHITECHAPEL, THURSDAY, Dec. 8.

| | | | |
|---|---|---|---|
| Fine old Hay .. .. | 78s to 82s | Fine old Clover .. | 97s to 100s |
| Inferior do. .. .. | 65 72 | Inferior do. .. .. | 84 90 |
| Prime New Hay .. | — — | Fine new Clover .. | — — |
| Inferior do. .. .. | — — | Fine 2d cut .. .. | 80 84 |
| Straw .. .. .. | 26 30 | Inferior do. .. .. | 60 75 |

**COAL MARKET.—Dec. 7.**

Bower's West Hartley, 14s. 6d.; Buddle's West Hartley, 14s. 6d.; Byass's Bebside West Hartley, 14s. 6d.; Davison's West Hartley, 14s. 6d.; Hastings Hartley, 14s. 6d.; Howard's West Hartley, 14s. 6d.; Lambert's West Hartley, 14s. 6d.; Tanfield Moor, 14s. 6d.; Tanfield Moor Butes, 14s. 6d.; West Hartley, 14s. 6d.; West Wylam, 14s. 3d.; Wylam, 15s. 9d.; Walls End Gibson 17s. 9d.; Walls End Gosforth, 17s. 9d.; Walls End Northumberland, 15s. 6d.; Walls End Riddell, 17s. 9d.; Walls End West Stanley, 15s. 6d.; Walls End Heugh Hall, 18s. 3d.; Walls End Whitworth, 15s.; Walls End South Durham, 19s.; Carway and Duffryn Malting 22s. 6d.; Nixon's Duffryn, 22s. 6d.; Powell's Duffryn Steam, 22s. 6d.—41 ships at market.

THE WIDOW OF THE LATE PROFESSOR HENFREY F.R.S., L.S., &c., of King's College, London, receives a small number of BOYS between the ages of 6 and 12, to EDUCATE with her own family. Terms, from 60 Guineas per Annum.—Turnham Green, W.

WANTED, by a gentleman in the County of Oxford, an ARTICLED PUPIL. A limited number of Boarders are taken. Terms moderate.—Apply to ALPHA, Kingham, Oxon.

**TO GARDENERS, &c.**

DEWSBURY CEMETERY.—The Burial Board of the Township of Dewsbury are prepared to receive offers from any person desirous of undertaking the duties of REGISTRAR of the above Cemetery at a salary not exceeding 65*l* per annum. The person appointed will be required to keep all the Books of the Board, to superintend all interments and the making and filling up of Graves, to keep the Cemetery Grounds in proper order and trench them when necessary, and to prune and cut the Trees and Shrubs at proper seasons. He will occasionally have to officiate as Clerk at funerals in the unconsecrated part of the Grounds, both in the Chapel and at the Graves, and to undertake all other duties appertaining to the office of Registrar. He will also have to reside (rent free) in the Lodge at the Cemetery. All charges for coals and rates will be paid by the Board.

Applicants must state in their own handwriting their residence, age, and present occupation, whether married or not; if married what family they have, what amount of salary required, and references as to character. All applications must be forwarded to me on or before 4 o'clock in the afternoon of TUESDAY, the 13th of December next. C. R. SCHOLES, jun.
Dewsbury, Dec. 10. Clerk to the Board.

LAND DRAINERS WANTED, at Wimbledon Park, Wandsworth, Surrey; at Emberton, Newport Pagnell, Bucks; at Buscot Park, Farringdon, Berks; and at Theydon Bois, Loughton, Essex. Good hands only are required.—Apply to the Foreman on the Works, or to Mr. SCOTT, 18, Parliament Street, London, December 9.

WANTED, A GARDENER.—There are two Cows, and sometimes Pigs, Greenhouse, and small Kitchen Garden. Wages 22s. per week.—Apply to WILLIAM CLARK, 25, Bishopsgate Street Within, E.C.

WANTED, a good plain practical GARDENER.—Apply by letter, stating wages and reference, to F. WYTHES, Esq., Ravensden House, Bedford.

WANTED, A BAILIFF AND GARDENER, with a knowledge of ordinary country business.—Address, post paid, C., Ford's Hotel, Manchester Street, Manchester Square, W.

WANTED, in a small family, a young Man of good character, to act as GROOM and GARDENER (one Horse kept).—Apply personally between 3 and 4 o'Clock at 43, Monkwell Street, Falcon Square, City, E.C.

**TO LAUNDRESSES.**

WANTED, 20 miles from London, a LAUNDRESS, thoroughly competent to undertaking the Washing getting up of fine Linen, &c., for a gentleman's family. She will have a Cottage within the grounds properly fitted for the purpose and all necessary implements provided. Employment could also if required be found for the Husband or Son of the Laundress taking this situation. High testimonials as to character and competency will be required.—Apply to X. Y. Z., 20, Parliament Street, Westminster, S.W.

**WANT PLACES.—Letters to be Post Paid**

GARDENER (HEAD).—Age 28, married, no incumbrance; thoroughly understands his profession in all its branches. Four years' spotless character.—A. B., Post Office, Peasemore, Berks.

GARDENER (HEAD).—Age 38, with one child 10 years old; understands his profession in all its various branches. Wife a good Cook or Laundress.—E. P., Post Office, Chingford, Essex, N.E.

GARDENER (HEAD).—Single; is a successful cultivator of Early Grapes, Cucumbers, and Melons, all kinds of Vegetables, Stove and Greenhouse Plants, &c. Unexceptionable character.—W. C., G. Dickers, Westerham, Kent.

GARDENER (HEAD).—Age 26, single; a native of Scotland; thoroughly practised in every branch of his profession, including Landscape Gardening, &c. Of very steady habits. Character excellent. No single-handed place accepted.—JAMES CUTHILL, Camberwell, London, S.

**TO THE NOBILITY AND GENTRY.**

GARDENER (HEAD).—H. POTTS (age 28), the Gardens, Sir Charles Mordaunt's, Walton House, near Warwick, will shortly be disengaged; is practically acquainted with his profession in all its various branches, including Early and Late Forcing, and the Culture of Stove and Greenhouse Plants, &c. Good references.

GARDENER (HEAD).—Aged 34, married, no incumbrance; Scotch; will be at liberty on January 1. Has been 10 years in his present situation as Head Gardener to a nobleman; is a good Draughtsman, Accountant, and used to all kinds of Ground Work, and Hothouse Building, Forcing, Planting, &c. Can be fully recommended, and reference made to Mr. Barron, Elvaston, near Derby; also to London Nurserymen and others, named when required.—A. Z., Post Office, Oundle, Northamptonshire.

GARDENER.—Married; well acquainted with Early and Late Forcing. Has lived three years in a nobleman's family.—J. C., Post Office, Huttoft, near Alford.

PROPAGATOR.—WILLIAM CHURCH, for the last three years Propagator and Foreman to Messrs. Fisher, Holmes & Co., Handsworth Nurseries, Sheffield, will soon be disengaged, and begs respectfully to offer himself to any Nurseryman requiring the services of a Practical man.—Handsworth, Sheffield, Dec. 10.

GARDENER AND GENERAL OVERSEER.—Age 32, married, no incumbrance; Scotch; has nearly 3 years' experience in England. Along with his duties as Gardener he has been accustomed to Keep Accounts and Superintend new work and improvements carried on at a gentleman's country residence. Anything regarding the Advertisement will bear the strictest inquiry.—G. G., *Gardeners' Chronicle* Office, W.C.

GENERAL FOREMAN in a Provincial Nursery.—H. M'MILLAN begs to offer his services as above; he is to take the entire management of a first-class Nursery, is a good Propagator and Cultivator of Rhododendrons, Hardy and Indian Azaleas, Coniferæ, Roses, Hard and Soft-Wooded Greenhouse Plants, Bulbs, &c.; also the Management of the Vegetable and Flower Seed Stocks, in fact, has made the general business of the Nursery his constant study, is a good Salesman, and also a good manager of labour. The most unexceptionable references can be given.—Address, stating terms, H. M'MILLAN, Westerham, Kent.

OVERSEER OR LAND STEWARD.—Age 26; has Managed a Farm in Mid-Lothian for several years and has also been some time in a Factor's Office on a large estate. Can produce satisfactory references both as to character and ability.—S. T., Post Office, Liberton, Edinburgh.

LAND STEWARD AND AGENT.—An active, practical Man, who filled his last appointment with a gentleman of title, and on a large estate for nearly 20 years; has had a very extensive experience in the Sale of Underwood and Timber, the Management of Farms, Government Drainage, Correspondence, Repairs, and General Business, and has accustomed himself to zeal and perseverance in promoting the interests of his employer.—L. S., Mr. Warner, Stationer, 116, Oxford Street, London, W.

LAND STEWARD OR BAILIFF.—Age 40, married, a native of Scotland; has had considerable experience in the management of Landed Property, Buying, Selling, and management of Stock in general, &c.—S. S., Wright's Buildings, Watford, Herts.

SUB-FACTOR, or otherwise.—A young Man, with a thorough knowledge of High Farming, management of Sheep, &c., Draining, Levelling, Surveying, Breaking up and Improving Land, Keeping Accounts, and the application of Chemistry to Agriculture. The highest references.—J. DICKSON, Clifton Bank, Buxton, Derbyshire.

GAMEKEEPER (HEAD).—Age 38, married; thoroughly understands his profession. Twelve years good character from last employer.—A. B., Post Office, Caythorpe, Grantham, Lincolnshire.

**TO THE SEED TRADE.**

MANAGER, SHOPMAN, OR CLERK.—Age 26, has a thorough knowledge of the Wholesale and Retail Seed Trade in all its branches, and accustomed to Keep Books. Eleven years' experience in two of the largest Wholesale Houses in Scotland. Unexceptionable references given.—FESCUE, Mr. Love's, Bookseller, Nelson Street, Glasgow.

**TO NURSERYMEN AND SEEDSMEN.**

SHOPMAN.—A young Man, who has been seven years at the Seed Trade.—A. Z., Messrs. John Stewart & Sons, Nurserymen and Seedsmen, Dundee.

**TO THE NURSERY AND SEED TRADE.**

SHOPMAN.—A good Salesman, great experience, thorough business habits. Many years' experience in the general routine of the Nursery business in all its various branches.—A. B. C., *Gardeners' Chronicle* Office, W.C.

**TO NURSERYMEN.**

SALESMAN OR CLERK.—Age 25; has a general knowledge of all branches of the Nursery and Seed Trade. Of active business habits, and good address, &c.—W. W. W., Messrs. A. Henderson & Co., Pine-apple Place, Edgware Road, W.

# The Gardeners' Chronicle Newspaper.

*SATURDAY, DECEMBER* 17, 1859.

**BANK OF DEPOSIT,**

ESTABLISHED A. D. 1844 ; 3, PALL MALL EAST, LONDON, W.
CAPITAL STOCK 100,000*l.*

PARTIES desirous of INVESTING MONEY are requested to examine the Plan of THE BANK OF DEPOSIT, by which a high rate of Interest may be obtained with ample security. Deposits made by Special Agreement may be withdrawn without notice. The Interest is payable in January and July. PETER MORRISON, Managing Director.
Forms for opening Accounts sent free on application.

SCOTTISH UNION FIRE AND LIFE INSURANCE COMPANY.—The 35th Annual General Meeting of the Scottish Union Insurance Company was held on Wednesday, December 7, 1859. A Report by the Directors, giving full and detailed statements of the Company's transactions, was submitted to the meeting, and unanimously approved of.

The Report by the Auditor of the Company, certifying the accuracy of the Balance Sheets and of the various Statements, was also submitted to the meeting.

It appeared from the Report that—

| | |
|---|---|
| The number of Life Policies issued during the year was | 522 |
| The amount insured thereby was .. .. .. | £252,740 |
| Yielding of new premiums .. .. .. | £7814 1s. 9d. |

That the amount paid for life claims, including bonuses, was considerably less than in the previous year; and that after payment of all claims, expenses of management, &c., a large sum was added to the Life Assurance funds.

In the Fire Department it was stated that the premiums amounted to 40,572*l.*, being an increase of upwards of 3600*l.*, when compared with the amount for the previous year, and that, after payment of all fire losses, expenses of management, &c., there was a considerable surplus on the fire account

A dividend was declared payable to the shareholders on the 3d of January, 1860, at the rate of 8 per cent., free of Income-tax.

London Board.

*President.*—The Right Hon. the EARL OF MANSFIELD.

*Directors.*

P. Anstruther, Esq. | John Kingston, Esq.
Charles Balfour, Esq. | J. R. Robertson, Esq.
Robert Collum, Esq., M.D. | Hugh F. Sandeman, Esq.
J. E. Goodhart, Esq. | George Ramsay, Esq., Manager.
H. M. Kemshead, Esq.

*Secretary.*—F. G. Smith, Esq. *Surgeon.*—E. W. Duffin, M.D.
*Solicitors.*—Messrs. Oliverson, Lavie, and Peachey.

Forms for proposals, and prospectuses, containing all the necessary particulars, may be had at any of the Company's offices and of the agents throughout the kingdom.

F. G. SMITH, Secretary to the London Board.
37, Cornhill, London, E.C.

**LIFE ASSURANCE.**

THE BRITISH MUTUAL LIFE ASSURANCE SOCIETY entertains proposals of any description involving the contingency of human life.

*Directors.*

Henry Currey, Esq. | Thomas Hamber, Esq.
Ralph Etwall, Esq | Rev. William Palin, M.A.
John S. Feltoe, Esq. | Joseph Stainburn, Esq.
J. V. Gooch, Esq. | George Alfred Walker, Esq.

The public are invited to examine for themselves the advantages gained for assurers by the plan on which policies are granted by this Office.

Premiums to Assure 100*l.*, Payable at Death (with Profits).

| Age next Birthday. | Annually. | Half-yearly. | Quarterly. |
|---|---|---|---|
| 30 | £2 6 11 | £1 4 2 | £0 12 5 |
| 40 | 3 2 5 | 1 12 1 | 0 16 5 |
| 50 | 4 6 3 | 2 4 3 | 1 2 8 |

Peculiar advantages are afforded to respectable and active parties who would undertake the agency in places where no agent has yet been appointed. Apply (if for an agency with references and full particulars) to

CHARLES JAMES THICKE, Secretary.
17, New Bridge Street, Blackfriars, E.C.

**ESTABLISHED 1838.**

VICTORIA AND LEGAL AND COMMERCIAL LIFE ASSURANCE COMPANY, 18, King William Street, City, E.C.

The business of the Company embraces every description of risk connected with Life Assurance.

Credit allowed of one-third of the premiums till death, or half the premiums for five years, on policies taken out for the whole of life.

Advances in connection with Life Assurance are made on advantageous terms, either on real or personal security.

WILLIAM RATRAY, Actuary.

THE LIVERPOOL AND LONDON FIRE AND LIFE INSURANCE COMPANY.—ESTABLISHED 1836.

Offices: No. 1, Dale Street, Liverpool; and 20 and 21, Poultry, London, E.C.

LIABILITY OF PROPRIETORS UNLIMITED.

INVESTED FUNDS .. .. .. .. £1,156,035

PROGRESS OF THE COMPANY:—

| Year | Fire Premiums. | Life Premiums. | Invested Funds. |
|---|---|---|---|
| 1848 | .. 35,472 | .. 19,840 | .. 388,990 |
| 1853 | .. 113,612 | .. 49,128 | .. 620,898 |
| 1858 | .. 276,058 | .. 121,411 | .. 1,156,035 |

The Annual Income exceeds £450,000.

Policies expiring on CHRISTMAS DAY should be renewed before the 9th of January.

SWINTON BOULT, Secretary to the Company.


## News of the Week.

THE Governments of Rome and Naples have signified their adhesions to the Congress of Paris, and all the Powers invited to take part in it have now accepted the invitation. The official journals state that the late belligerent Powers will be represented by their Ministers for Foreign Affairs, and that each of the remaining Powers will be represented by a special Plenipotentiary in addition to the ordinary Ambassador resident in Paris. In accordance with this arrangement Lord COWLEY will act as first Plenipotentiary for Great Britain, and it is understood that Lord WODEHOUSE will represent HER MAJESTY'S Government as second Plenipotentiary.

The EMPEROR OF THE FRENCH received on Wednesday in great state PRINCE METTERNICH, the new Austrian Ambassador at the Court of the Tuileries. The PRINCE, in presenting his credentials said that the EMPEROR OF AUSTRIA had commanded him most particularly to assure HIS MAJESTY of the high value he attached to his personal friendship; adding that nothing would be more agreeable to HIS MAJESTY than to see the completion and consolidation of the relations of good understanding and intimacy with which the general interests of Europe were so closely connected. The EMPEROR OF THE FRENCH, in his reply, said that he entertained the firm hope that the relations which had been so happily re-established between the EMPEROR OF AUSTRIA and himself could not but become more friendly by an attentive examination of the interests of the two countries, and that since he had seen the Emperor he attached a great value to his friendship.

A despatch from Morocco has reached Madrid stating that a severe engagement took place on Friday last before the Spanish camp of Elottro. The Moors twice attacked the Spanish redoubts with great impetuosity, but were repulsed on both occasions with a loss of 300 killed and 1000 wounded, while the Spaniards are said to have lost 40 killed, and 30 officers and 280 men wounded. The Moors afterwards attacked General PRIM on the road to Tetuan, but were repulsed with great loss. The third *corps d'armée*, consisting of 4000 infantry and 6000 cavalry, has since landed at Ceuta, and the Spaniards were preparing to assume the offensive and offer battle to the Moors. The cholera which had broken out in the Spanish camp had begun to subside, but the disease is said to be raging fearfully at Tetuan.

Accounts from Sicily state that an attempt has been made to assassinate Signor MANESCALCHI, the superintendent of police, in the streets of Palermo. The assassin made his escape, and though numerous arrests of suspected persons have been made, all attempts to discover the culprit have been ineffectual.

The French Ambassador at Constantinople has officially demanded from the Porte a firman for the construction of the Suez Canal, according to the project of M. DE LESSEPS. The Ambassadors of Austria, Prussia, Russia, and Sardinia simultaneously supported this demand, in accordance with instructions received from their respective Governments; and after a long and stormy discussion the Turkish Ministers resolved to request the Powers which had made the demand to come to an understanding with England on the matter. The latest news states that the Porte was deliberating whether it would be convenient to bring the question before all the great Powers.

From the United States we learn that the PRESIDENT'S forthcoming Message, in touching upon the subject of foreign policy, will give the first place to the San Juan question, which is described as being at this moment in an "irritating position." Lord JOHN RUSSELL is said to have complicated the question materially by a despatch stating that England held undisputed right to the island, and "would insist on its recognition." The PRESIDENT, it is added, cannot withdraw under this "implied threat," and will therefore set forth the rights of the United States to the island in the most distinct manner, and advise Congress to maintain them. Captain BROWN, the leader of the recent insurrection at Harper's Ferry, was hung at Charlestown on the 2d inst.

## Home News.

THE COURT.—The Queen, Prince Consort, and Royal family continue at Osborne. On Friday Mr. Wentworth Dilke, Vice-President of the Horticultural Society, Professor Lindley, and Mr. Nesfield, had an interview with the Prince Consort. The Queen and Prince Consort, with Prince Leopold and Princess Louisa, drove out in an open carriage. The Queen walked out in the grounds. Admiral Bowles, Commander-in-Chief at Portsmouth, and Major-General the Hon. Sir J. Scarlett, Commanding the South-West District, arrived on a visit to her Majesty. On Saturday morning the Prince Consort embarked in the Fairy and visited the Military Hospital at Netley. Prince and Princess Leiningen left Osborne. On Sunday morning the Queen, Princess Alice, Princess Helena, and Princess Louisa attended Divine service at Whippingham Church; the Rev. G. Prothero officiated. On Monday morning the Queen, Prince Consort, Princess Alice, Princess Helena, and Princess Louisa crossed over to Portsmouth in the Fairy. On their return to Osborne in the afternoon, her Majesty and the Royal family took a short cruise up the Southampton Water, and steamed round the Great Eastern. The Prince Consort visited Prince and Princess Leiningen. The Queen walked out in the grounds. On Tuesday the Queen, Prince Consort, and Royal family walked and drove in the grounds. On Wednesday Major-General Foster, commanding the Royal Engineers of the South-Western District, arrived on a visit to her Majesty.

ORDER OF THE GARTER.—The death of Earl De Grey would under ordinary circumstances have placed a Blue Riband at the disposal of her Majesty; but in consequence of an extra Garter having been conferred by the Queen on Lord Derby, his lordship will now occupy the vacant stall in St. George's Chapel, and the present vacancy will not be filled up.

THE CABINET.—A Cabinet Council was held yesterday afternoon at the official residence of Lord Palmerston, in Downing Street.

THE NEW JUDGE.—The *Gazette* of last evening announced that the judgeship of the Common Pleas, vacant by the death of Mr. Justice Crowder, has been conferred on the Solicitor-General, Sir Henry Keating.

THE SOLICITOR GENERALSHIP vacant by the promotion of Sir H. Keating has been conferred on Mr. William Atherton, Q.C., M.P. for Durham. The learned gentleman is the son of the late Rev. William Atherton, Wesleyan Minister, and some time President of the Conference, his mother being a daughter of the late Rev. Walter Morison, a clergyman of the Kirk of Scotland. He was born in Glasgow in 1806, and married in 1843 Agnes Mary, second daughter of Mr. Hall, Chief Magistrate of Bow Street. In politics he is an advanced Liberal, being in favour of the ballot, an extensive law reform, the removal of all religious disabilities, and the extension of the suffrage.

THE JAPAN EMBASSY.—The Queen has appointed Rutherford Alcock, Esq., now Consul-General in Japan, to be Envoy Extraordinary and Minister Plenipotentiary and Consul-General in Japan.

PARLIAMENTARY MOVEMENTS.—The dispute between Mr. Childers and Mr. Overend as to the last Parliamentary election for Pontefract has at last been decided by Sir J. T. Coleridge. The award, which is as follows, was made known at a meeting of Mr. Childers's supporters at Pontefract on Friday evening:—

"Sir J. T. Coleridge, the referee appointed by Sir George Grey and Sir John Pakington to settle the question between Mr. Overend and Mr. Childers, hereby makes his award, by which he declares that Mr. Overend, as a man of honour, ought, and the referee directs that he shall, forthwith make vacant the seat, and that he do not become a candidate, or in any way interfere, oppose, or attempt to prevent, the election of Mr. Childers on the vacancy to be occasioned."

In consequence of this decision Mr. Overend will immediately accept the stewardship of the Chiltern Hundreds; and it is expected that Mr. Childers will be returned without opposition.—The elevation of Sir H. Keating to the bench has caused a vacancy at Reading. Mr. R. A. Benson, who was expected to offer himself in the Conservative interest, has declined to come forward, and Sir F. H. Goldsmid, who has again offered himself on Liberal principles, is the only candidate in the field.

THE NATIONAL DEFENCE COMMISSION.—It is stated that the Commissioners on Fortifications have sent in a report recommending works of defence for the Dockyards of the kingdom, and that the sum of ten millions sterling, which they set down as the necessary cost of the works, will most likely be asked for next year by the Chancellor of the Exchequer.

THE INDIAN ARMY.—It is now said to be settled that Sir Hugh Rose will succeed Lord Clyde as Commander-in-Chief in India; that Sir William Mansfield will become Commander-in-Chief at Bombay, in the room of Sir Henry Somerset, who has completed his term of service; that Major-General Malcolm, C.B., and Major-General Spencer, C.B., will succeed Major-Generals Beresford and Craigie in the Madras commands, and that Major-General Cunynghame, C.B., will succeed to the Bombay command now held by Sir Hugh Rose. The first batch of the discharged soldiers of the Indian army consisting of 500 men landed at Blackwall on Friday, and were immediately re-enlisted by sergeants of the Royal Artillery, the 20th, and other regiments who were waiting their arrival. A formidable riot took place among them at Gravesend on their passage up the river, and also at Blackwall after they landed. Many of them were without money, and were glad to enlist again.

CARDINAL WISEMAN left England a few days since for Rome, and it is stated in the *Freeman's Journal* that his Eminence is not likely to return to this country as a permanent place of residence. The state of his health, making a sojourn in a mild climate absolutely necessary, and other circumstances will in all probability induce him to select Rome as the scene of his future labours. The Cardinal has delegated all his powers to the Very Rev. Dr. Hearn, of the Church of the Assumption, Warwick Street, who is Vicar-General of the diocese.

VOLUNTEER RIFLE CORPS.—In consequence of numerous applications to the War Office for advice as to the proper uniform for volunteer corps, &c., in course of formation, a committee has been appointed, and is about to be assembled at the War Office, Pall Mall, to

consider the question of rifle volunteer uniforms, and to report to the Secretary of State for War upon the colour and pattern which shall be recommended as the most appropriate for general adoption by those rifle volunteer corps which have not yet selected their uniform. When decided upon a sealed pattern of the clothing so selected will be deposited with the Volunteer Branch, War Office, Pall Mall, for general guidance in this matter.—A Court of Lieutenancy was held at Guildhall on Wednesday, at which a letter was read from the Secretary at War expressing the Queen's approval of the names submitted for officers of the London Rifle Brigade, and the several commissions were ordered to be signed. The name of Captain Hicks was unanimously ordered to be forwarded to her Majesty for approval as Lieutenant-Colonel, and it was resolved that at the next Court the nomination of a full colonel shall be made. An application was made from the Council of the Brigade for the assistance of the Court in obtaining the use of the Artillery ground for drill, and the application was forwarded to the Court of the Artillery Company, with the unanimous request of the commissioners that they would comply with it. Upwards of 850 members are now enrolled as effective members of the Brigade; and a civil service corps, including the officers of the Registrar-General's Department at Somerset House, is about to be formed in connection with it.—The London Irish is making rapid progress. Lord Gough and the Earl of Cork have joined the council, and the Earl of Belmore, the Marquis of Sligo, Lord Leconfield, Lord Garvagh, Lord Otho Fitzgerald, Mr. Serjeant Murphy, and other gentlemen have become honorary members.—The London Scottish now numbers an effective strength of between 400 and 500 men. Lord Elcho, M.P., the active promoter of the movement, has been gazetted as major, Mr. George Mackenzie, of Pall Mall, as captain, and Mr. Bain, of Parliament Street, as hon. secretary.—A public meeting of the inhabitants of Pimlico was held on Thursday evening, Earl Grosvenor, M.P., in the chair, at which it was resolved to promote the formation of additional companies in connection with the Queen's Volunteer Rifle Corps, which now numbers 250 effective members. After the meeting had been addressed by the Rev. T. J. Barker, Mr. A. W. Jaffray, the Hon. G. Denman, M.P., and Mr. H. J. Smith, a working man named Simes rose and said that there were plenty of young men of his own class ready to join this movement who had as great an interest in the country and in their little homes as the chairman himself had in his estates, but they were unable to join any corps which was not conducted in an economical manner. He wanted to see these rifle corps made up of the bone and sinew of the country, and not of men like some in the Crimea, who, as soon as they saw smoke, wanted to go home "on urgent private affairs."—A meeting of the members of the Admiralty Corps was held on Tuesday, at which resolutions were passed to complete the arrangements for its organisation and for the commencement of drill in Westminster Hall on Thursday evening under the direction of two sergeants of the Scots Fusilier Guards. It was announced that 55 effective members and 25 honorary members had already joined the corps.—A meeting of gentlemen attached to the several departments of the Inland Revenue at Somerset House was held on Saturday, when it was resolved to form a volunteer corps in connection with the Civil Service Brigade, to be governed, however, by its own rules, and equipped, drilled, officered, and fully organised by its own members.—Meetings have been held in the parishes of St. Margaret's and St. John's, Westminster, at which it was resolved to raise companies in those parishes, to form part of the Westminster corps. The following parishes have already joined the movement:—St. Clement's Danes, St. Martin's-in-the-Fields, St. Mary-le-Strand, St. Paul's, Covent Garden, St. Ann's, Soho, St. Margaret's, and St. John's. The parishes of St. George's and St. James's have not yet joined the union, but there is no doubt they will both be eventually embodied in the Westminster corps.—A crowded meeting of the inhabitants of St. Pancras has been held in the Vestry Hall, at which the Rev. Canon Dale, vicar of the parish, Mr. Edwin James, M.P., Mr. Wyld, M.P., and other gentlemen moved and seconded the different resolutions for organising forthwith a volunteer brigade for that parish.—A general meeting of the effective and honorary members of the Marylebone Corps was held on Tuesday, Lord Radstock in the chair, at which it was resolved by a large majority to alter the title of the corps to that of the West Middlesex for the purpose of including the districts of Acton, Ealing, Hammersmith, Bayswater, Shepherd's Bush, Notting Hill, and other places lying between Marylebone and the practice ground at Wormwood Scrubs.—A large meeting of the inhabitants of Southwark and Lambeth has been held at Kennington, Mr. Roupell, M.P., in the chair, at which it was resolved on the motion of Mr. J. E. Johnson, Mr. Williams, and Mr. Hodges, to form additional companies in the two boroughs for the 7th Surrey Corps.—An influential meeting of the Bermondsey Corps was held on Tuesday when two companies of 60 each nominated their officers, and sent their names to the Lord Lieutenant for approval. The third company is nearly formed, and it is fully expected that this corps will in a short time number at least 500 effectives.—At a crowded meeting at Wandsworth it has been resolved to take steps to promote the formation of a company for Battersea and Wandsworth, in conjunction with the Clapham company of the 1st Surrey.—Upwards of 500 workmen of Woolwich Arsenal have entered their names as members of the corps established under the auspices of Colonel Tulloh and other officers of the establishment.—An influential meeting was held at Knightsbridge on Tuesday, Colonel Vereker in the chair, at which it was resolved to form companies for Belgravia, Knightsbridge, and Brompton, to be incorporated with the main body of the South Middlesex.—A crowded meeting has been held at Wimbledon, Colonel Oliphant in the chair, to concert measures for the formation of a volunteer rifle corps for that place. The Earl of Lovelace, Lord-Lieutenant of the county, the Duke of Somerset, Duke of Wellington, Earl Spencer, lord of the manor, Earl de Grey, the Hon. Charles Gore, General the Hon. H. Murray, C.B., Colonel Lysons, and the Rev. A. W. Haygarth, incumbent of the parish, support the movement.—A public meeting was held on Thursday at Plumstead, at which it was resolved to form an artillery corps for that parish, in which is situated the extensive Government practice range, near the Royal Arsenal. A large number of the most influential inhabitants have expressed their intention to join the corps.—From the provinces we learn that at a meeting at Rochdale on Friday, convened by requisition to the mayor to consider the propriety of establishing a rifle corps in that town, an amendment declaring the movement to be the result of groundless panic, and deferring the question of forming a corps for the present, was carried by a large majority. On the other hand meetings in favour of the movement have been held during the week at Abingdon, Aytoun, Axbridge, Alston, Aberfeldy, St. Andrew's, Anstruther, Bath, Birmingham, Brierley Hill, Bruton, Buckingham, Bury St. Edmund's, Bitterne, Bocking, Brampton, Banbury, Bradford, Burlington, Canterbury, Chirnside, Cockermouth, Cupar, Cheltenham College, Camelford, Dundee, Dunfermline, Dover, Eye, Eyemouth, Edinburgh, Frome, Fareham, Folkestone, Faversham, Framlingham, Fakenham, Grantham, Hatherleigh, Howden, Hull, St. Helen's, Halesworth, Ilfracombe, Idle, Ipswich, Knaresborough, Kenmore, Kendal, Linlithgow, Leven, Liverpool, Lynn, Monmouth, Maiden Bradley, Maidstone, Margate, Marlow, Merthyr, Newtyle, Northfleet, Norwich, Newport (Isle of Wight), Oxford University, Penrith, Penwortham, Peterborough, Preston, Rotherham, Rugeley, Ross, Ryde, Sittingbourne, Southampton, Sheerness, Saxmundham, Sheffield, Stafford, South Shields, Stamford, Stoke-on-Trent, Torquay, Tipton, Topsham, Truro, Tunstall, Tynemouth, Whitby, Wickham Market, Worthing, Walmer, Westbromwich, Wilton, Warminster, Wirksworth, Wolverhampton, Woodbury, Wellington, Wycombe, Wigton, Wiveliscombe, and Woodbridge.

## Foreign.

FRANCE.—The Ministerial journals announce that the adhesions of Rome and Naples to the Congress have arrived; and that all the Powers invited to attend it have now sent in their adhesions. It appears that without absolutedly refusing to be represented at the Congress the Pope had at first an objection to appearing before what his Minister called a tribunal, or to discuss the question of reform until he is reinstated in all his rights. Each Power is to be represented by two Plenipotentiaries. Lord Cowley is to represent her Majesty's Government as first Plenipotentiary, and Lord Woodhouse will probably be appointed second Plenipotentiary. Count Lavradio and Count Paiva Pereira, the Portuguese Ambassadors at London and Paris, will represent Portugal; and M. Mon, the Spanish Ambassador, will represent Spain as second Plenipotentiary; Count Pourtales and Baron Schleinitz will represent Prussia; Prince Gortschakoff will be first, and Count Kisseleff second, Plenipotentiary of Russia; and it is generally believed that Count Cavour will be one of the representatives of Sardinia. On Wednesday afternoon Prince Metternich presented his credentials to the Emperor as Austrian Ambassador. Two court carriages and six conveyed the Ambassador and his suite to the Tuileries. At the Place du Carrousel a battalion of Chasseurs of the Guard and a battalion of Infantry of the Line, with music and standard, were drawn up. The Chamberlain and the Master of the Ceremonies conducted the Ambassador into the Salle du Trône. Prince Metternich, in his speech to the Emperor, expressed his satisfaction at the happy re-establishment of good relations between Austria and France, and hoped that the ties uniting the two countries would become every day stronger. The Emperor replied as follows:—

"I have the firm hope that the relations which have been so happily re-established between the Emperor of Austria and myself cannot but become more friendly by an attentive examination of the interests of the two countries. Since I have seen the Emperor I attach a great value to his personal friendship. A sincere agreement between us will be facilitated, I doubt it not, by the choice he has made of a representative whose conciliatory spirit is well known, and who has so many claims to my confidence and to my esteem."

Prince Metternich was afterwards presented to the Empress, and paid his first state visit to the Ambassadors of England, Russia, and Spain. Their Majesties received on Wednesday the Prince of Orange. Prince Jerome has been again seriously ill with inflammation of the lungs, but is now said to be out of danger. The Prussian Ambassador, Count Pourtales, left Paris for Berlin on Tuesday in consequence of a telegram received from his Government. He is expected to return in time to be present at the diplomatic reception on New Year's Day.—A remarkable trial has just taken place at Tours. Madame Lemoine and her daugher Angelina were placed at the bar on one of the most appalling charges of infanticide which has ever been set forth in any indictment, French or English. The mother, who has not yet attained her 40th year, belongs to a family of old *noblesse de robe*, called Mignot. Her ancestors for generations were judicial presidents at Touraine, and her grandfather sat in the Convention. She married, for love, a person of low family, an attorney of Chinon named Lemoine, from whom she separated after having had two children, a boy and a girl, to support whom she had her own private fortune of 10,000 francs, or about 400*l.* per annum. The girl, who was named Angelina, now 16 years of age, received her education from a private governess at home. Her beauty is described as extraordinary; but it appears that it was equalled by her indiscretion and unblushing levity. When only 15 years old she publicly declared that she was quite ripe for the married state, and her course of reading was most extraordinary for one in her condition of life. She next made advances to her mother's coachman—a man called Fetis, 29 years of age, and described as a remarkable compound of extraordinary ugliness and rusticity, equally awkward, ungainly, and ignorant. The result was that the girl became *enceinte*, and that with a view to conceal her daughter's shame the mother destroyed the offspring by burning the body of the infant. This was the accusation with which mother and daughter were alone charged, the coachman not being included in the indictment. He, it appeared, believed that his young mistress really intended to marry him; and was simple enough to ask her hand in marriage of the mother. Madame Lemoine instantly ordered him out of the house, and on the following day discharged him from her service. The coachman wrathfully complained, in the presence of the young lady, that he was not allowed to marry Madlle Angelina, while she remarked that her mamma "would get rid of it"—meaning of course the child. Rumours of these occurrences soon spread through the small town of Chinon, but Madame Lemoine, the mother, gave to every scandalous report a distinct denial. She persisted in maintaining that her daughter was not pregnant, and by means of "an expansive crinoline," deceived many; but the boasting of the coachman satisfied others more incredulous that the rumours were not mere scandal. At length on the 30th of July Angelina gave birth to a living infant, and this, it was alleged, Madame Lemoine had burned on a fire of wood, which had been prepared for the purpose. The Court and jury at Tours, after hearing a number of witnesses, and among others the daughter herself who declared that the child moved after it was born, acquitted the daughter on the ground that she was not in a state to be aware of what was going on, but found her mother Guilty, with extenuating circumstances. The sentence of the Court on Madame Lemoine was pronounced on Sunday evening, when the judges condemned her to 20 years' hard labour. Madame Lemoine has lodged an appeal against her sentence before the Court of Cassation.

SPAIN AND MOROCCO.—The Madrid journals of Saturday publish a despatch from Camp Elottro, stating that on Friday morning the Moors impetuously attacked the Spanish redoubts, but were energetically repulsed by the garrisons, and retired to the valley commanded by these redoubts. The enemy then came up again, but were attacked and repulsed by 10,000 men of the Second Corps, serving as the Spanish vanguard. The Moors lost 300 killed and 1000 wounded. The approximate loss of the Spanish was 30 officers, 260 men wounded, and 40 killed. General Prim has since been attacked on the road to Tetuan. The Moors were repulsed with great loss. The Spaniards had 40 killed and wounded. The third *corps d'armée* has disembarked at Ceuta, and the Spaniards were preparing to take the offensive, and offer battle to the enemy. Cholera had broken out in the encampment, but was diminishing; it is said to be raging fearfully at Tetuan.

FRANKFORT.—In the sitting of the Federal Diet on Saturday, the committee of Electoral Hesse was increased by the appointment of representatives of Austria, Prussia, Bavaria, and Saxony.

PRUSSIA.—At Berlin on Saturday Count Schwerin was re-elected a member of the Chamber of Deputies by 270 votes out of 271. After the election the electors signed a declaration expressing approval of the programme of Eisenach, and calling on the Chamber to solicit the Government to take the initiative in the national question.

SWITZERLAND.—The Grand Duke Ferdinand IV. of Tuscany has arrived at Basle in the strictest *incognito*. The Grand Duke, it is expected, will reside in France during the sitting of the Congress.

DENMARK.—Prince Christian of Denmark has refused the post of Governor of Holstein, which had been offered to him. The Government has, in consequence, given up the project. Fifty-eight of the principal members of the Diet have presented an address of confidence to the former President of the Ministry, M. von Hall. This address includes a vote of defiance against the present Prime Minister, M. Rottwitt.

SWEDEN.—The Swedish journals are discussing a Bill submitted to the Stockholm Diet by the Rev. Mr. Janson. The object of the Bill in question is to charge all the clergymen throughout the country with the

control of the publications sold by hawkers, and to affix severe punishment on every layman who may venture to discuss religious matters without being previously authorised by a competent minister. All the members of the Assembly unanimously adhered to M. Janson's proposition, and one speaker even recommended that still more extensive powers should be given to the clergy the more effectually to attain the end desired. Another singular project has been presented to the Chamber of Nobles of the Swedish Diet. Baron Creutz has proposed that, from the age of 15, young girls should be allowed to accept and refuse of their own accord any suitor for their hand, and the project has been referred to a committee.

AUSTRIA.—The *Imperial Gazette* of the 13th publishes a decree ordering the payment of the interest on the National Loan falling due on and after the 1st January next to be effected in silver, as formerly. Lieut.-General Baron von Eynatten, who was formerly Commissary-General, has returned to Vienna, and is prepared to have an examination made into the truth of the general reports respecting the supplies sent to the army in Italy.

HUNGARY.—The community of the Augsburg Confession of Protestants at Pesth has resolved to address to the Emperor a petition to the same effect as that of the Protestants of Kœsmark, praying him to remove the obstacles thrown in the way of district and other meetings of the Protestants, and to stop the prosecutions of certain Protestants which have been instituted.

IONIAN ISLANDS.—The Lord High Commissioner opened the Ionian Parliament on the 10th inst., and in his speech announced numerous measures of administrative reform.

ITALY.—Mazzini has published at Lugano a pamphlet of 60 pages addressed to the youth of Italy, in which he explains what he considers the false direction the movement in Italy has taken, and appeals to those who have enlisted as volunteers to rally round Garibaldi and fight the holy war. He reproaches them with confiding too much in "the man whose hands are still red with the blood of our best youth who have fallen 10 years to replace that Vicar of the Genius of Evil, the Pope, whose name is a negation of country and freedom. You have kissed," he continues, "the hem of his usurped garments, saturated with the blood of brave men and the tears of mothers, and you adored him like idolators disinherited of every ray of truth and justice." "His genius is the consciousness of evil, his word a lie, his strength treason and contempt of everything which men love and believe in. His soul is balancing like a pendulum in the hands of Satan, between cunning and voluptuousness. His works are those of the fox and hyena." In consequence of a pastoral letter issued by the Cardinal Archbishop of Naples, the upper and lower clergy in all the churches of that city have anathematised all who wish to attack the temporal power of the Pope, designating them as wretches and revolutionists.

SICILY.—News from Palermo to the 27th ult. states that the Commander Manescalchi, Director-General of the Sicilian police, had been stabbed while walking with his wife and children in the Place of the Cathedral. The wound inflicted was very severe, but probably not mortal. The assassin, who was well dressed, escaped. Fears were entertained that the attempted assassination would be followed by an insurrection, but tranquillity prevailed. All the efforts of the police of Palermo to discover the assassin have hitherto proved fruitless. Several persons have been arrested and examined, but without result.

TURKEY.—Letters from Constantinople to the 7th inst. announce that on the preceding Thursday M. de Thouvenel had remitted a note to the Porte, containing an official demand for a firman favourable to the Suez Canal project of M. de Lesseps. The Ambassadors of Austria, Prussia, Russia, and Sardinia simultaneously supported that demand, according to their instructions. A Council of Ministers was then held. Fuad Pacha confessed that he had formally engaged himself to refuse an authorisation to the canal project. The Grand Vizier declared he would not recognise such engagements. After a stormy discussion, the Ministers agreed to request the Powers which had made the above demand to come to an understanding with England on the matter. Sir Henry Bulwer had been received by the Sultan, and had numerous conferences with the Ministers. The Circassians continued to emigrate in great numbers.

EGYPT.—A letter from Alexandria states that for some days past the Viceroy of Egypt has been much engaged at Cairo with festivities of welcome to his little son, Toussoun Pacha, who has just returned from his usual summer excursion to Europe. Toussoun Pacha is now about seven years of age. He has acquired from his English nurse, and through his frequent visits to England, a perfect knowledge of our language, which he speaks more fluently than his mother tongue. He has just now been placed under the charge of an English tutor.

COAST OF AFRICA.—Accounts from Sierra Leone to the 21st November state that the Cameroons were in a very unsettled state, in consequence of an anticipated rise of the slave population. Great sacrifice of life was apprehended. Dysentery was very prevalent among the Kroomen. At Bonny the Regent, Illollah Popple, had murdered a woman accused of witchcraft, and a civil war was feared in consequence. A large number of soldiers and emigrants had arrived at Fernando Po from Spain. Another attempt had been made to fire Lagos. Cojoe, King of Accra, had been taken prisoner, and confined in the fort. Her Majesty's ship Spitfire had captured a slaver at Tacknel, with 469 slaves on board.

INDIA.—By the arrival of the Calcutta mail we have further accounts from Calcutta to the 10th of November; and from Hong Kong to the 29th of October.

*Calcutta*.—The final decree on the subject of compensation has been published. All who have lost irrecoverable property are to receive half its value up to 1000*l.*, and a third of its value after that. All who have lost moveable property are to receive one third its value, and that third is not to exceed 500*l.* The Delhi bank, therefore, and one or two more sufferers will obtain practically no compensation at all, and all the insurance offices are excluded. Some of the Europeans of Lucknow, who lost more than any class, and did soldiers' work besides, have been splendidly rewarded. Mr. Scheling, for example, the two Captains Orr, the two Hearseys, and Captain Bunbury have received pensions worth 1000*l.* a year each. Almost the whole of the escheated estates in Oude have now been given away, some of them in enormous slices. It is said that one man has got more than the Duke of Wellington received for Waterloo. These gifts stand in curious contrast with a measure which has been adopted abolishing all brigade commands in spite of the opposition of the Commander-in-Chief. The brigade is now to be commanded by the senior officer of the station without allowances. This measure, which causes a saving of only 1800*l.* a month, has created considerable annoyance. The commands of Gwalior, Lucknow, Lahore, Ferozepore, Jullundur, Sealkote and Barrackpore have already been abolished by general order. Sir Hope Grant has accepted the command of the China expedition. No details, however, have yet transpired and it is said they will not be settled till the return of Lord Canning to Calcutta in December. It is known that a strong force of Sikhs are to go, but none of the regiments are yet named. The Assam Tea Company has just escaped a danger caused by a strike of all their labourers thousands in number, and all Cacharees, for an increase of pay. Not receiving it, they threatened the managing director, Mr. de Mornay, and the superintendent of the factory, Mr. M'Intosh, with death, and marched on the residence of the latter to execute their threat. Fortunately for the company, the Assistant Commissioner, Captain Holroyd, was personally cognisant of the affair, and aware that the labourers really meant murder. He marched down to Sepoys from Debroogleem, disarmed the rioters, arrested 26 ringleaders, sentenced 21 to imprisonment for short periods, and offered the remainder their discharge. They refused to accept it, and, joining their hands, declared themselves in the wrong, and went back to work.

CHINA.—Accounts from Hong Kong state that political affairs were quiet. His Excellency Mr. Bruce remained at Shanghai, and Admiral Hope was at Hong Kong. Advices from the north state that the Chinese were taking energetic measures with the view of defence, and that Sankolinsin, the Tartar Chief, was at the head of affairs. Contributions were sought for by Government from the trading communities, which had responded but feebly to this call on their patriotism.

UNITED STATES.—The Bohemian has arrived with the mails from Portland of the 3d inst. Captain John Brown was executed at Charlestown on the 2d. Previously to going to the scaffold he had an interview with several of his fellow conspirators, and accused some of them of treachery. The evening before the execution he had an interview with his wife. He died bravely. Numerous sympathy meetings were held at New York on the evening of the 2d. The correspondent of the *New York Herald*, writing from Washington, gives an epitome of the President's forthcoming Message, from which the following are extracts:—

"Whatever designs France and Spain may have on Mexico, with a view to fix its future form of government, there is nothing to warrant the suspicion that Great Britain is united with them for that purpose. This subject of the affairs of Mexico will doubtless be presented prominently to the consideration of Congress during the ensuing session. Although the trade of the country will exhibit a vast recovery from the depression of the last two years, there is room to doubt whether it would not be prudent to return to the tariff of 1846 until the whole question can be arranged on a more stable basis. Under the present unwise system every fluctuation in prices affects the revenue. In speculative years, when the Government should not have the temptation which a large revenue gives it to entertain all kinds of schemes, the high prices of merchandise flood the treasury with income from duties and stimulate the general intoxication. On the other hand, in years of commercial depression, the low prices of goods deplete the revenue and increase the general uneasiness. The recommendations in regard to revenue and finance will be added to the message at the last moment. Recent events in Virginia will bring forth some pointed remarks in the message, on the danger which all sections of the country incur from the growing tendency to arrange parties on geographical grounds, and also from the increased disposition in the public mind to hold lightly the obligations of loyalty to the constitution. Another point of domestic policy which it will touch upon is the protection to slavery in the territories. While the President holds to the constitutional doctrine on this point, he deprecates legislation in anticipation of its being required, and thinks we should wait until the emergency comes up. If Congress will follow his advice the whole subject will sink quietly down; for in five years more we shall have no territories on which to agitate the question. In our foreign policy the message will give the first place to the San Juan question, which is at this moment in an irritating position. During the last Administration an understanding was established between us and England that neither Government should exclusively occupy San Juan until the pending question of its dominion was settled. General Harney, either from some ambiguity in his instructions, or from not understanding them clearly, took possession of the island. This step called out from Lord John Russell a despatch to Lord Lyons, which was communicated by direction to General Cass, stating that England held undisputed right to the island, and would insist upon its recognition by this country. This ill-advised despatch has complicated the question materially. We cannot withdraw under its implied threat, and the President will set forth our rights to the island in the clearest and most distinct manner, and advise Congress that they be maintained. In the meantime it is hoped that the prudence of General Scott will prevent any collision at the island. Mexican affairs are to be lightly touched upon, in view of pending negotiations; but the President will recommend that the present absurd restrictions of our neutrality laws be so far modified as to permit our citizens who may desire to do so to enlist in the defence of the legitimate Government of that republic, without incurring the penalty of fine and a term in the State Prison. In view of the increasing value of our trans-isthmus trade and travel, the message will call the attention of Congress again to the insecurity of those routes, and renew the recommendations of last year's special messages on this subject."

# Public Addresses.

THE MARQUIS OF WESTMINSTER at a meeting at Stockport on Tuesday made the following statement as to the effect produced by the Rifle Volunteer movement on foreign countries:—

"It had given him the highest satisfaction to see the energetic manner in which the volunteer movement had been, and is being, carried on. Foreign nations were surprised at the energy and liberality that had been displayed in the matter, and the moral effect of the agitation was, he had no doubt, very great. For our credit sake, he trusted it would continue to be conducted in such a respectable way as to prove a support to our friends and a terror to our enemies. With reference to certain remarks which had been made in some quarters in disparagement of the Emperor of the French and the French nation, he considered them highly censurable, and calculated to cause the Sovereign of France and his people to take measures very seriously against this country. He knew, nevertheless, that the Emperor Napoleon had an army of 500,000 men, and that forts were in course of erection which would frown over our shores. England should therefore be prepared, and should occupy such a position as to be able to resist any attack that might be made against us."

THE DUKE OF RUTLAND at a recent meeting at Leicester made the following remarks on the Volunteer movement:—

"There is at the present moment a great movement going on in this country. There is very considerable alarm caused by the feeling that our defences are not in a perfect state that they ought to be, and that a foreign power and that that power would be France. Now, I would have to say that I for one have not shared in the apprehensions that have been so generally entertained by my countrymen. I am now speaking, mind, my own individual opinion, which is worth nothing more than the individual opinion of any man in this room. But I repeat again that I, for one, think that we have been alarmed rather needlessly. I say this because I think that if the Emperor of the French had ever seriously contemplated the invasion of this country, a man of his sagacity, of his foresight, and of his intellect would not have allowed the opportunity to slip that was presented during the time of the Indian mutiny. If he had contemplated such a thing as the invasion of this country, that was the time, that was the opportunity that he would naturally have seized upon. Now, I don't wish to be misunderstood. By no means do I decry the military ardour of the country—by no means do I decry the volunteer rifle movement: on the contrary, I give it my earnest and most sincere support. But the ground on which I rest my support is this—formerly our defence was the army and our fleet. Circumstances, time, steam, and science have swept away our defences. Formerly it was impossible for an army to land here without having to encounter in a naval engagement, a superior fleet. That is no longer necessary. It is now possible in a few hours to land an enormous army in this country. But when I say, therefore, for God's sake let us put this country in an efficient state of defence—let us call out the militia, encourage the rifle corps, and do all we can to make ourselves safe—I may say also, let us not in the same breath, which is not necessary, abuse the ruler whom the French people have chosen, or run down the Church which they choose to support. I am rejoiced to hear that you accord with me in these sentiments, because I am quite sure that these are the sentiments that become a great and powerful country like England. I may be told that the press of France is encouraging and fomenting the invasion of this country, but my answer to that is, look to our own press. What provocation is not our own press giving? And if there is a feeling in France—and I fear to some extent it is true—against this country, I ask whether it has not been mainly fomented, and whether it is not mainly owing to the vituperative language that has been used by the press of England."

CAPTAIN VERNON, M.P., at a recent dinner at Abingdon, made a speech on the Rifle movement, from which the following are extracts:—

"The Russian war, that of India, and now the war in China, have followed each other in such quick succession that the minds of men of peace have scarcely realised the termination of the one before the commencement of the other. I shall not touch upon the political question of the China war, but regret that we have not undertaken it single handed. If I had a voice in the question I would not allow a Frenchman to pull a trigger in the quarrel. We are men enough to vindicate our arms with our own resources without the aid of any foreigner, and we have thousands of well-disciplined natives in India—not Sepoys—who, based on our indomitable resolution, would have been amply sufficient for the purpose. It diminishes our prestige to admit the participation of France in our wars. Continental Powers assert that we cannot do without each and This is a gross mistake. In the time of the first Napoleon England, almost without assistance—for Portugal was little and Spain none—we, I say, paralysed all his efforts, though he was backed by almost all the nations of Europe, and commanded armies of fabulous numerical strength. The army he led to leave its bones in Russia was [illegible] speaking eight different languages. The anti-chamber of his tent was crowded with kings and princes, and foreign nations, elevated to his nod, were swayed by his imperial will. Is the present Napoleon a greater man than his uncle, the hero of a hundred fights? History says 'No' to that. Are the French soldiers of this day superior to the 30,000 French men who, opposed to 80,000 Austrians and Sardinians, in 15 days overran Italy, fought six battles, and killed 25,000 men? Magenta and Solferino say 'No' to that. Are we inferior to the Parliamentarians who destroyed the veteran conquerors of Europe at Waterloo? The Crimea and India say 'No' to that. I have just returned from the Continent, where with a view to passing coming events I made it my special business to examine the armies that will next have to stand opposed to France. The French army I know by heart. I say that our army and navy need fear no comparison with those of any nation under the sun as to officers, to men, or to the materials of war. We heard much of the Austrian Staff. Wonders were expected from them. They failed utterly. General Gyulai seemed ignorant of the first principles of war, and his successor Hess was no better. The strategy of the French was little superior. The battles in Italy were fought by the men; the hand to hand fights of officers side was desperate and admirable. 'Send me help,' cried the French General Neil, 'they are turning me!' Half a dozen rushed to the rescue, and [illegible] emerged from the murderous struggle. Either then, the Austrians are much improved or the French have fallen off since the days of the first Napoleon. But, for argument's sake, let us admit that they are equal to the heroes of Marengo and Austerlitz, we should not reckon them a rush—we were better men then and we are better men now. The general military spirit of the country is increased. There is not a man in the length and breadth of the land who is not prepared, in the defence of his home, to cast in his lot with those whose profession it is 'to seek the bubble reputation, even in the cannon's mouth.' The rifle movement is a great fact. It has an important physical effect in England, because it in some sort increases our effective defences. It has a great moral effect on the Continent, because it shows England bristling with bayonets,

and the hardiest people in the world—the Anglo-Saxon race—standing shoulder to shoulder to protect the land from invasion. I believe that, exclusive of volunteers, we could by means of our railways place 100,000 men, regulars and militia, artillery, horse, foot, and dragoons, on any part of our land in 24 hours. I believe that three thousand in this quarrel—'for thrice is he armed that hath his quarrel just'—would equal double the number of foreigners. I believe that our fleet and our sailors would never suffer a French soldier's foot to touch the soil of England. I believe that if we permitted the French army to land—such is the military spirit now pervading England—it would be no war, it would be a crusade. The country would rise as one man, and not a Frenchman would live to see his native land again. I have no fear of France; still we do well to be on our guard. It does not befit a great people to be taken unawares. That country is most certain of peace which is best prepared for war. Well, we are prepared. I have it from the highest military and scientific authority in the land that our coast defences are hourly becoming more formidable. Our navy is the finest in the world—our artillery matchless. I do not believe Louis Napoleon has any direct intention of his own mere motive against England, but the more I study his political career, the more do I see that, like an adventurer, he is the sport of fortune, driven hither and thither by the circumstances of the moment. Already he has lost half his power in his country by the defection of the priesthood; he now depends entirely on the army. War is necessary to them. Turbulent, excitable, and vainglorious, they may compel Napoleon to take steps against his better judgment. They say they have a Waterloo to revenge. We have no defeats to revenge; from Cressy to Waterloo we can contemplate our encounters with the French with great complacency. It needs not the gift of prophecy to reason on past events, and I venture to predict that if the present generation attempts by invasion of England to revenge Waterloo, they will bequeath to their posterity the task of revenging a defeat more complete, more disastrous, and more decisive."

SIR FITZROY KELLY, M.P., Attorney-General in the late administration of Lord Derby, presided at a recent dinner at Ipswich and made the following remarks on the present position of agriculture:—

"Perhaps he might be allowed to observe that if there was one class of persons throughout the British empire who were entitled to expect and demand from their fellow subjects all that could be done to aid and assist them in the efforts they were making to advance their own well-being and prosperity, that class was the tenant farmers and agriculturists of England. It was impossible to deny that while the other departments of human life and human exertion—while in the army and navy, and still more in the different civil offices of the Government—while among the merchants, shipowners, and manufacturers, and even ordinary traders, large fortunes were realised from the smallest beginnings, and enterprise and industry were rewarded by the possession of immense wealth—nothing of the kind occurred among the tenant farmers of England. This might perhaps not be the effect of adverse legislation alone, but might perhaps be ascribed in some measure to the very limited field to which the operations of British farmers were confined. Even in the most prosperous times the most he could hope for was to support his family with credit; as to raising himself in the scale of society and advancing like other members of the community to a large fortune, it was entirely out of the question. If this was the case, we had to consider in what way it was possible, humanly speaking, to assist the efforts of tenant farmers in some material degree, and how best to contribute to their well-being and success. He could not pretend to a twentieth part of the practical knowledge possessed by those whom he had the honour of addressing; but it might perhaps be supposed that he could point out something in the way of legislation by which some good might possibly be done to the farmers of England. But he must warn them not to be too sanguine in their expectations in this respect. Unfortunately the case was not now as it was in those times, which some of those present were old enough to remember, when the agricultural interest was so represented that it was absolutely impossible to do anything like signal or substantial injustice to the class of men of whom it was composed. Then the farmers had the protection of the corn laws; then they had not over light taxation, but something like equally proportioned taxation, which if it fell heavily, as at times it did, upon the owners and occupiers of land, was equally distributed among other classes of the community. By the great measure of reform which was passed in 1832 the balance of the elective body, and consequently of the representation of the different classes of the community in the House of Commons, was not merely altered but overthrown; and from that time to the present the power of the Legislature had been exercised by a class of persons avowedly adverse to the agricultural community. Formerly the counties of England and half the towns of England were represented, if not by members of the agricultural interest, at least by those connected with the agriculture of the country; but since the great measure of 1832 the towns had multiplied, and the power of the commercial interest had entirely overwhelmed the whole of the agricultural class. If a proof of this were wanted, it might be seen in the course of the legislation of the last 25 years. Since 1832 the course of legislation had been directed rather to the remission than to the imposition of a tax upon any one or other class of the population; but wherever a tax had been taken off or imposed with the view of bearing upon one class rather than on another the effect had been adverse to the interests of agriculture. The great tax which has been put on during the last few years—which the youngest person could remember—although happily it could not well operate personally upon any one of them, was the succession tax. It was necessary to raise some 2,000,000*l.* or 3,000,000*l.* a year, and the Ministry of the day accordingly imposed the succession tax. The struggle impending at the present time referred to that which had been brought forward over and over again in the House of Commons, which, but for the dread of a collision between the two Houses of Parliament, would have been carried, and which would probably soon be carried in the Lower House, viz., the imposition of a probate duty in respect to land equal to the probate duty in respect to personal property. But it was not only in the imposition of taxes, or in the relief of portions of the community from taxes, that one might witness what he had adverted to in recent legislation. Every effort which had been made, not merely to take off the malt tax but even to reduce it, had from the commencement of the agitation on the subject in 1835 to the present hour utterly and totally failed; and so far from any success having attended the efforts of agriculturists in this respect, the effect of the last budget of the present Chancellor of the Exchequer was, he would not say to increase the malt tax, but to diminish certain benefits which, notwithstanding the tax, were allowed to maltsters. It was quite impossible not to see that in the present state of the Legislature, and in the present state of the representation of the country, the agricultural interest was not adequately represented, and remained comparatively powerless. The time was approaching when the whole system of the taxation of the country was about to undergo the consideration of Parliament. The malt tax, which produced he believed some 5,000,000*l.* a year, was one of those taxes which were classed within the designation of the Excise and Customs, and these raised of themselves a revenue sufficient for the entire expenditure of the country in ordinary times. It was only because we were a little troubled—he would not say alarmed—as to what might possibly be the intentions of our neighbours, and whether we might not be called to defend our own shores for the first time for seven centuries—it was for this reason only that the income tax had been increased, and would be continued in future if it was still levied. Whenever the alarm was passed, and the taxation of the country resumed its ordinary course, the expenditure of the country would be from 50,000,000*l.* to 55,000,000*l.*, 30,000,000*l.* of which or nearly so was for the interest of the national debt. Nearly the whole of this expenditure must be provided for out of those taxes to which he had alluded, and which, considering the great increase in the population, wealth, and resources of the country, would produce much more every year than they did at the present moment, just as they produced more now, though we were at the same nominal amount of taxation, than they produced 10, 15, or 20 years since. The whole question would be considered on this ground, and there would be very large remissions of the present system of taxation. Other questions would arise in which every agriculturist, every occupier, though only perhaps of 20 acres of land, was deeply interested, and whatever politics they might support, to whatsoever Ministry they might be attached, and for whatever candidate they might vote, he appealed to all who valued the prosperity of agriculture to exert their influence in every way to procure a remission of that burden of taxation which now oppressed the agricultural community. He did not think that they could at once prevail upon the Legislature, when Parliament was about to take off 3,000,000*l.* or 4,000,000*l.* of taxes, to select the malt tax as the one and only tax not to be retained; but he believed that, comparatively powerless as they were, if all who belonged to the agricultural interest of the country and had votes and the shadow of a shade of influence with members of either House, would only unite in drawing attention to all that related to the tax, they would succeed in making it one of the first imposts to be—if not altogether taken off—at least materially reduced. An indirect species of relief might also be afforded, for he hoped that before long, by cheapening, expediting, and facilitating the transfer of land, an increase would be effected in the real solid permanent value of property, not merely as regards landed proprietors who had to buy and sell in large quantities, mortgage, and lend their money on mortgage, but also as regards the owners of a few acres, and even occupiers. Again, it was said that something might be done in favour of tenant farmers in respect to the granting of leases. This was a very delicate and difficult subject. But if he might venture to make a suggestion he would recommend such covenants as would enable the tenant to cultivate the land so as to make it as profitable as it could properly and lawfully be made for him, without forcing upon the landlord improvements of which he might not approve, and which, after all, he might not be able to effect. And he would also recommend any one who during the next four or five years might enter upon the relations of tenant to a landlord to endeavour, even at some increase of rent, and even although he might be bound by covenants of which he might not altogether approve, to obtain as long a lease as possible at what might be considered the fair rent of the day. The immense influx of gold into this country was such that before very long it must have the effect of lowering the value of money, and consequently of enhancing the value of every commodity which money would purchase; and the result would be that the man who paid 400*l.* a year for his land now, and undertook to pay no more for the next 14 or 15 years, would find that he was paying that which his landlord when he received it would discover to be of much less value seven, eight, ten, and certainly 15 years hence, than it was at the present moment. It was only because the immense influx of gold during the last 12 or 15 years, which exceeded the amount received into this country during the first 100 years after the discovery of the Americas, had not been accompanied by a proportionate increase in the supply of silver, that the effect had not been felt at present; but he believed that a man who only paid 400*l.* a year on a lease for 14 years would find before one-half that term was at an end that he was paying a rent quite inadequate, as compared with the additional value his lands acquired by reason of the fall in the actual value of gold. Therefore, if they could obtain leases for 14 years at present prices they would be very fortunate."

MR. SEYMOUR FIRZGERALD, M.P., at a dinner at Horsham on Wednesday spoke as follows on the alliance of England and France:—

"It is I think a salutary rule at all public meetings such as this that what are called political questions should be avoided, that is to say, questions which can by possibility raise discussion or create difference of opinion at a meeting which ought to be marked by a general accord of opinion. But I do not think I shall at all infringe upon that rule if I make an observation or two on a matter of public importance, and yet a matter upon which there can be no difference of opinion among all classes of people. We are possibly, I am afraid, entering upon troublous times. After long years of general and happy peace there seems to be such an uneasy feeling abroad that men's minds are full of the anticipation of war. Now I am not an alarmist. I am not one of those who think it possible that there should be an invasion of this country. On the contrary, I believe that the present ruler of France for a long time has shown an earnest desire to cultivate an intimate alliance with this country. Long may that alliance subsist and endure, and I cannot conceive it possible that it should be in any danger. Heaven knows that on this side of the water there is no man who does not feel that anything like hostilities with France would be the greatest national calamity which could befall us. I believe that equally among the people of France the same feeling is commonly entertained. Such, at all events, is my confident opinion, and I believe that I have very good reason for entertaining it. Surely, then, upon the part of the Sovereign of France personally there can be no desire to enter into anything like a quarrel with this country. Let him for one moment consider what his position is as ruler of France in alliance with this country. So long as France and England are combined what coalition is there possible on the face of the earth which could give a moment's anxiety either to the one Power or the other? It is not only that, but so long as we are combined our commerce must increase, and we fetter the whole world in those chains which I believe to be more firm, more enduring, and stronger than any others which you can fancy in political life. Nothing in point of fact can be better or more durable than the fettering together of nations by bonds of common interest and association. If this, then, be the position both of the people of France and the ruler of France, what reason can there be to anticipate anything like a rupture of the amicable relations which have so long subsisted between this country and our French neighbours? Still less, what is there to give rise to that panic of invasion which has been so common throughout the country of late? At the same time I think it not only the interest but the duty of every man present, and of every man who loves his country, to contribute to the utmost in his power to that movement which, I am happy to say, has been so general throughout the country, and the object of which is to improve and increase, by voluntary means, the defences of the country. This, at least, I may say, that no man here can forget that that which we now feel to be a want is that which was pointed out by a man who was the greatest warrior of his age, and one of the most distinguished politicians and statesmen of this country—namely, the late Duke of Wellington, as an imperative national necessity. Therefore I would ask you, not as the result of a sudden panic—for that would be beneath our dignity and beneath our position, as England is strong enough to defend herself, and she need fear no man—but I would ask you when your attention at any time is called specifically to that which is known to be a great national want—namely, the want of a complete system of national defence, whether you would not be wanting to yourselves and the people at large if you did not do all in your power to put the defences of the country upon a satisfactory and sound basis."

## City Intelligence.

MONEY MARKET, FRIDAY.—BRITISH FUNDS: Consols closed at 95⅝ to ¾ ex div. for the 10th Jan.; Bank Stock, 228; Reduced and New Three per Cents., 95¾ to ⅞; Indian Four per Cent. Debentures, 97⅜; Ditto 1859, 97⅛; India Bonds, 4s. to 7s. prem.; New Indian Loan, for Acct., 104⅜ to ½; Exchequer Bills, 29s. to 31s. prem.—FOREIGN: Austrian Five per Cents., 60½; Brazilian Four and a Half per Cents., 1858, 93½ ex div.; Dutch Four per Cent. Certificates, 99¾ to 100; Mexican Three per Cents., for Acct. 22½; Portuguese Three per Cents., 1853, 45⅞ to 46; Russian Four and a Half per Cents., 100½; Ditto Three per Cents., 1859, 66¼; Ditto Scrip, ¼ dis.; Turkish Six per Cents., 1858, for Acct., 66⅛ to 66½.

## Bank of England.

ISSUE DEPARTMENT.

| | | | |
|---|---|---|---|
| Notes Issued .. .. .. | £30,791,305 | Government Debt .. .. | £11,015,100 |
| | | Other Securities .. .. | 3,684,900 |
| | | Gold Coin and Bullion .. | 16,091,305 |
| | | Silver Bullion .. .. .. | — |
| | £30,791,305 | | £30,791,305 |

BANKING DEPARTMENT.

| | | | |
|---|---|---|---|
| Proprietors' Capital.. .. | £14,553,000 | Government Securities (including Dead Weight Annuity) .. .. .. .. | £10,925,875 |
| Rest .. .. .. .. .. | 3,143,099 | Other Securities .. .. | 19,405,350 |
| Public Deposits (including Exchequer, Savings Banks, Commissioners of Nat. Debt, and Dividend Accts.) .. .. .. | 8,938,987 | Notes .. .. .. .. .. | 10,943,190 |
| Other Deposits .. .. .. | 13,636,760 | Gold and Silver Coin .. | 693,577 |
| Seven day and other bills | 785,630 | | |
| | £41,057,476 | | £41,057,476 |

15th day of Dec., 1859. M. MARSHALL, Chief Cashier.

## Gazette of the Week.

TUESDAY—BANKRUPTS—J. BYATT, Longtown, Cumberland, Draper—W. FORRESTER, Hanley, Iron Merchant—H. HARRIS, Wood Street, Cheapside, Mantle Manufacturer—R. HOCKLEY, Chrisp Street, Poplar, Victualler—C. JONES, Gloucester, Shipowner.

BANKRUPTCIES ANNULLED—J. GILLHAM, Exeter, Boot and Shoe Manufacturer—W. IREDALE, Ranskill, Notts, Horse Dealer.

SCOTCH SEQUESTRATIONS—J. FORBES, Inverness, Corn Merchant—J. KINDNESS, Aberdeen, Baker—J. M'CONNECHY, Glasgow, Hotel Keeper—H. M'DOUGALL, Leith, Market Gardener—J. SWAN and W. M'KITTRICK, Dumfries, Drapers.

FRIDAY—BANKRUPTS—J. LATTIMORE, Sandridge, Hertfordshire, Timber Merchant—T. LEAH and H. LEAH, Liverpool, Merchants—J. MASON, Pentonville Road, Furniture Dealer—J. B. WILLIAMS, Bristol, Wine Merchant.

SCOTCH SEQUESTRATIONS—C. C. AIKMAN, Leith, Merchant—T. CHAMNEY, Edinburgh, Bootmaker—Rev. J. G. CUMMING, late of Birmingham, now of Musselburgh—A. M'KENZIE, Glasgow, Machinist—R. MENZIES, Glasgow, Spirit Dealer—A. SMITH, Glasgow, Millwright—R. J. and W. THOMSON, Glasgow, Wool Merchants.

## Metropolis and its Vicinity.

THE NEW STAFF COLLEGE.—The first stone of the projected college for officers of the army who, having served a probation in regimental duties, seek by a higher course of training to qualify themselves for Staff appointments, was formally laid at Sandhurst on Wednesday by the Commander-in-Chief, the Duke of Cambridge. The College is pleasantly situated on a gentle slope half a mile to the eastward of the Cadets' College, and within the spacious grounds attached to that establishment. The new edifice, the foundations and basement of which are already laid up to within a foot of the ground floor, is to be in the modern Italian style, with a tower at each end, and is expected to be completed in 18 months. When finished it will afford accommodation for 40 students.

THE REV. JAMES BONWELL AND THE STEPNEY SCANDAL.—On Thursday morning a commission was opened in the hall of Doctors' Commons to inquire into the conduct of the Rev. James Bonwell, incumbent of St. Philip's, Stepney, in relation to the paternity, birth, and death of an illegitimate child, Philip Yorath, of which he was stated to be the putative father. The commissioners were Dr. Travers Twiss, chancellor of the diocese; Archdeacon Hale; Rev. T. Dale, vicar of St. Pancras; Rev. J. E. Kempe, rector of St. James's, Westminster; and Rev. W. G. Humphrey, rector of St. Martin's-in-the-Fields. Mr. Coleridge and Mr. Buller appeared for the Bishop of London; and Mr. Best for Mr. Bonwell. Witnesses were examined at great length to prove the facts already familiar to the public, together with some further details of a still more aggravated character. The Court then adjourned to yesterday, when Mr. Best addressed the Commissioners for the defence. At the close of his speech the Commissioners consulted together for some time, when Dr. Twiss announced that the Commissioners had come to the unanimous conclusion that there are *primâ facie* grounds for instituting further proceedings. The Commission was then declared to be closed.

REVISION OF THE LITURGY.—A circular signed by the Dean of Westminster, the Rev Dr. Jelf of King's College, the Rev Dr. Irons of Brompton, the Rev J. E. Kempe of St. James's Piccadilly, and the Rev. J. P. Eyre of Marylebone, has been distributed among the clergy, with a view of calling forth an explicit declaration of their opinion on the question raised by Lord Ebury, in regard to the revision of the Liturgy. The circular quotes an extract from Lord Ebury's speech in the House of Lords on the 6th May, 1858, and revised and published in the present year, expressing his conviction that their lordships would agree with him in thinking that "any attempt to force alterations on the clergy of the Established Church which are distasteful, he would not say to the majority, but even to any considerable minority of them, would be as foolish as it

would be fruitless." The circular therefore invites the co-operation of the clergy in satisfying his lordship that the great body of them object to any alterations in the Liturgy at the present time, by signing the following declaration:—

"We, the undersigned, clergy of the United Church of England and Ireland, desire to express our conviction that any attempt at the present time to alter the Book of Common Prayer would be attended with great danger to the peace and unity of the Church."

The Builders' Strike.—Lord St. Leonard's has addressed a letter to the *Times* proposing a plan with the view of inducing both masters and men to bring the strike to a satisfactory conclusion. He suggests that the declaration should be no longer acted on, and that in lieu thereof a paper to the following effect shall be printed, framed, and glazed, and hung up in every shop, &c., where all may see it. It will require no signature nor any counterfoil or number, and will, of course, leave the workman's liberty of quitting his employment untouched. It is self-acting and mutual, binds both master and man, and is not confined in its operation to the present time:—

"The law affecting masters and workmen was framed with a jealous regard to the interests of the working man. The Act of Parliament (6 George IV., cap. 129) which repealed all the former laws relative to the combination of workmen, states that combinations interfering with the free employment of capital and labour are injurious to trade and commerce, dangerous to the tranquillity of the country, and especially to the interests of all who are concerned in them. The object of the Act is then declared to be to make provision as well for the security and personal freedom of individual workmen in the disposal of their skill and labour as for the security of property and persons of masters and employers. The Act then makes the following offences punishable by imprisonment not exceeding three months, with or without hard labour—viz:—Where any person shall by violence to the person or property, or by threats, or by intimidation, or by molesting, or in any way obstructing another,—1. Force or endeavour to force any journeyman, manufacturer, or workman, or other person to depart from his hiring, employment, or work, or to return his work before it is finished; 2. Or prevent or endeavour to prevent any journeyman, manufacturer, workman, or other person not being hired or employed, from hiring himself to, or from accepting work or employment from, any person or persons; 3. Or for the purpose of forcing or inducing any other person to belong to any club or association, or to contribute to any common fund, or to pay any fine or penalty, or on account of his not belonging to any club or association, or not having contributed or having refused to contribute to any common fund, or to pay any fine or penalty; or on account of his not having complied, or his refusing to comply with any rules, orders, resolutions, or regulations made to obtain an advance or to reduce the rate of wages, or to lessen or alter the hours of working, or to decrease or alter the quantity of work, or to regulate the mode of carrying on any manufacture, trade, or business, or the management thereof. 4. Or shall force or endeavour to force any manufacturer or person carrying on any trade or business to make any alterations in his mode of regulating, managing, or carrying on such trade, manufacture, or business, or to limit his number of apprentices or the number or description of his journeymen, workmen, or servants. But the Act provides:—1. That any persons may meet together for the sole purpose of consulting upon and determining the rate of wages or prices upon which the persons present at such meeting, or any of them, shall require or demand for his or their work, or the hours or time for which he or they shall work in any manufacture, trade, or business; or may enter into any agreement, verbal or written, among themselves for the purposes of fixing the rate of wages or prices which the parties entering into such agreement, or any of them, shall require or demand for his or their work, or the hours or time for which he or they will work in any manufacture, trade, or business. This relates to the men. 2. The like powers are conferred upon the master in regard to consulting upon and fixing the rate of wages or price, and the hours or time of working—each class, masters and men, are subject to the same law. By a later Act, 22d Victoria, cap. 34, passed to protect the working man, it is provided that no one, whether in actual employment or not, shall by reason merely of his entering into any agreement with any workman, or other person or persons, for the purpose of fixing or endeavouring to fix the rate of wages or remuneration at which they, or any of them, shall work, or by reason merely of his endeavouring peaceably and in reasonable manner, and without threats or intimidation, direct or indirect, to persuade others to cease or abstain from work, in order to obtain the rate of wages or the altered hours of labour so fixed or agreed upon, shall be deemed or taken to be guilty of 'molestation or obstruction' within the meaning of the former Act, and shall not therefore be subject to prosecution or indictment for conspiracy. But it is provided that nothing contained in this later Act shall authorise any workman to break or depart from any contract, or authorise any attempt to induce any workman to break or depart from any contract. Such is the law which binds both classes. The masters accept its obligations without reserve, and pledge themselves to obey it both in letter and spirit. They have set forth the provisions of the Acts of Parliament in order that every workman may be informed of the law which binds him. The law itself, the masters find, lays down the true rules both for them and their men; they, therefore, have withdrawn the declaration originally required from the men, and substitute this paper. It alone will bind the workmen who have already made or accepted the original declaration—all will be placed on the same footing. There will be no distinction between those now at work and those who may resume work. The masters, in the spirit of peace and goodwill, require nothing of the men but the same obedience to the law as they themselves are ready to pay. The law itself, and nothing more, but nothing less, shall become the Rule of Trade. The simple object of the masters is, that, according to the law, they and their workmen shall be free to make what agreements they please, without the interference or coercion of any other persons. With that object the acceptance of employment where this paper is hung up will be considered to amount to an admission by the workman that he is not at that time, and to a declaration that during his employment he will not become, bound to any rules or customs which do or would deprive him or his fellow workmen of their free liberty to accept and continue or to relinquish employment upon such terms as they think fit. Freedom of action will place every man according to his merit, but the motto of both men and masters should be 'Let labour be unshackled.'"

The Great Eastern.—A meeting of shareholders (privately convened) of the Great Ship Company was held on Tuesday, Mr. Guedalla in the chair, in anticipation of the meeting called by the directors on Thursday. The latter, however, having been put off to the 11th of January, it was resolved unanimously to adjourn to the 6th of that month. There was a long and somewhat stormy discussion, in the course of which considerable dissatisfaction was expressed with the past management, and resolutions to that effect were at one period proposed, but, in consequence of the adjournment, they were not submitted. The Southampton banquet to the directors has been postponed till after the Christmas holidays.

Crystal Palace.—The report of the Crystal Palace directors, issued on Tuesday, states that the gross income of the year has amounted to 134,668*l.*, and the expenditure to 88,753*l.*, leaving a balance on the year to the credit of revenue of 45,315*l.*, which, with the amount brought forward from the last account, gives 57,940*l.* available for division amongst the shareholders. Of this, 26,663*l.* is to be appropriated to the payment of preference dividend and debenture bonds; and the directors recommend the payment of 2*s.* a share on the ordinary shares of the company, which will amount to 20,059*l.*, leaving a reserve of 11,218*l.* to be carried forward to the next accounts. The whole of the debenture stock has been allotted, the balance of the purchase money for the land (64,238*l.*) has been paid, and the property conveyed to the company as their freehold. The number of visitors during the year was 1,384,183, being an increase of 20,000 on the average of the four preceding years.

Property and Income-tax Association.—A conference of this association was held on Tuesday evening at the London Coffee House, to consider the best means during the ensuing session for securing "either an adjustment of the income-tax, or the total abolition of the charge upon trades and professions." Mr. Collier, M.P., took the chair and expressed his strong opinion that the income-tax, as it did not distinguish between incomes derived from permanent and those from uncertain property, was unjust. He hoped, on the reimposition of the tax, that some member of the House of Commons would move a resolution to make such a distinction, but if no member came forward to do so he would move the resolution himself. Mr. Elt moved and Mr. Potter seconded a resolution, declaring that the present mode of charging one uniform rate on all classes of income (except under Schedule B), is manifestly unjust, and pledging the meeting to endeavour to obtain such a reduction in the charges on trades and professions that the amount levied thereon shall not exceed one-half that levied on property. Mr. Hyam moved an amendment to the effect that the tax on precarious incomes derived from trades and professions should not be reimposed except under circumstances of great emergency. After considerable discussion, during which it was stated that the Chancellor of the Exchequer had in his speech made in October last, on board the Great Eastern, invited the expression of public opinion on these and similar topics, both the resolution and amendment were withdrawn, and the following resolution was agreed to, with only one dissentient voice:—

"That this meeting is of the opinion that the present mode of charging one uniform rate on all classes of income (except under Schedule B) is manifestly unjust, and hereby pledges itself, in anticipation of a proposal to reimpose the tax, to use the most strenuous exertions to secure its re-adjustment upon the footing of a fair and just distinction between permanent and precarious incomes."

The chairman then said, he was a practical man, and as a practical man he wanted the resolution to succeed, and thought they ought to set at work at once without waiting for the Chancellor of the Exchequer, or they would be too late. He was very glad that both the resolution and the amendment had been withdrawn, as the resolution now agreed would meet with the concurrence of the country and the House of Commons. It was then resolved unanimously that meetings should be held forthwith in all parts of the country, for the purpose of co-operating with the association, and a committee was appointed to carry out the objects of the meeting and receive subscriptions.

The New Meat Market.—At the Court of Common Council on Thursday, two reports were presented from the Improvement Committee and the Markets Improvement Committee respectively, upon references previously made to them, to consider whether any plan could be devised to establish a direct communication between the intended Metropolitan Railroad and the contemplated dead meat market at Smithfield. The reports were accompanied by a model and estimates, showing that the site could be cleared, the market built, railway communication provided, and large warehouses erected for the sum of 637,500*l.* After a long discussion, in which it was stated that the Great Northern Railway Company had agreed to connect their line with the New Cattle Market and the Metropolitan Railway, it was resolved by a large majority to agree to the reports and refer them back to the Committees to prosecute further inquiries, and open negotiations with the Railway Companies and other parties, with a view to the production of improved and more definite plans.

London Cabs.—The Assistant Judge of the Middlesex Sessions, at the recent sitting of the court called the attention of the magistrates to the practice which had prevailed of removing prisoners labouring under small-pox to the hospitals in public street cabs, and said that there is reason to believe that this fearful disease is propagated to a great extent by cabs being employed, and it behoves guardians and other parish officials to ascertain without delay what the practice is in their respective parishes.

Mr. Spurgeon.—The Surrey Music Hall being now opened on Sunday evenings for the performance of music, although chiefly sacred, Mr. Spurgeon has declined to preach there again. He will commence preaching to-morrow morning at Exeter Hall, and continue to do so every Sunday until further notice.

Destruction of the Trees and Shrubs in the Parks.—On Friday deputations from the parishes of Marylebone and Paddington waited upon Lord Palmerston for the purpose of calling his lordship's attention to the wholesale destruction of trees and plants in Hyde Park, and to urge his lordship to exercise his authority to put a stop to the same. Mr. Soden said the public considered a great wrong had been perpetrated towards them. Under the Chief Commissionership of Sir Benjamin Hall, great improvements had been made in Hyde Park, by laying down new walks and planting shrubs mixed with flowers, and the public were highly gratified with the result. They were now, however, astonished and annoyed to find that the whole of these shrubs and flowers had been removed from the walks between the Marble Arch and Stanhope Gate, and in the Green Park between the entrances at Hyde Park Corner and Devonshire House. Thus the public had been deprived of a useful and elegant recreation, and they appealed to his lordship to order the restoration of what had been, as they considered, wantonly destroyed. Professor Marks said the entire metropolitan public took a deep, and, he might say painful, interest in this matter, because a feeling prevailed that the rights of the working classes had been sacrificed to the selfishness of a class, between whom and the labouring population good will should prevail. In 1857 the House of Commons granted 1000*l.*, and the further sum of 350*l.* for making new roads and planting walks in Hyde Park, and the then First Commissioner carried out the work with right good will. That such improvement had the approval of the Queen was evident, as when Sir B. Hall mentioned to her Majesty that he desired to plant trees, but could not get a supply, the Queen unhesitatingly assigned to him for that purpose a large portion of land near Kew Palace to be used as a nursery. The shrubs were duly planted, but had, it appeared, become an eyesore to some inhabitants of Park Lane, who imagined that they would obstruct their view. Sir B. Hall was applied to to remove the trees, but refused. The same attempt was made with Lord John Manners with a like result; but he feared, in consequence of the illness of the present Chief Commissioner, the administration of the office had been induced to comply with this unreasonable request. Mr. Mann's proposal to sow the present vacant place with flowers in the spring was evidently an afterthought, and contrary to taste. He urged his lordship, as a popular Minister, not to suffer the working classes to go to the wall. Lord Palmerston said he had just received a report from the Office of Works, in which it was denied that what had been done had been in consequence of any representation from persons in Park Lane; but that the borders of the walk referred to were intended as a nursery; that what had been done was to take away some shrubs which did not flourish very well, and next year it was intended to put flowers. Plants that flowered in spring and summer would not stand the winter, and there was a difficulty. He certainly however thought that stripping the ground entirely of shrubs and flowers was not desirable. Mr. Dickson said since Sir B. Hall had left office the shrubs had been shamefully neglected. He said this as a visitor to the park daily. Another wrong was the removal of the seats placed in the park for the convenience of the public when Sir B. Hall was chief commissioner, which were only replaced after strong public remonstrance. Lord Palmerston said that he had heard of the subject for the first time from the deputation. He would however make it his business to inquire into it and see what was best to be done.

The Metropolitan Gas Question.—A deputation, composed of the directors of the various metropolitan gas companies, waited upon Mr. Milner Gibson, President of the Board of Trade, and subsequently upon Sir George Cornewall Lewis, the Home Secretary, on Friday, for the purpose of laying their views before them relative to the recent agitation respecting the supply of gas to the metropolis. The deputation was introduced by Alderman Salomons, M.P., Mr. F. Russell, and Mr. C. S. Butler, M.P. After a long discussion of the question, Sir G. C. Lewis said the Government were very unwilling to interfere in local legislation, and would not use their influence on one side or the other; and even in private bill legislation they were very reluctant to interfere; but there was something peculiar in the position of the metropolis. He thought what the deputation had stated showed that if there were to be any litigation, the only course would be to appoint a select committee of inquiry, or send them before a committee of the House of Commons; but there was not a case made out for the Government to interfere in one way or the other. If there were any chance of an arrangement he would ask the other side if they would make a proposal and place it in his hands. He would then consider it, and if he thought it a fair one he would hand it to the deputation and take their opinion on it; but if the gas companies were determined to stand upon their rights and have a war of select committees, then things must take their course. Mr. Burke assured the right hon. gentleman they did not adopt the course they were pursuing in any factious spirit. Sir G. C. Lewis did not believe they did, but when their pecuniary interests were attacked they were right in defending them. It was not desirable for the Government to interfere, except for a good purpose; and if they approved of his suggestion, he would do all he could to bring about a

settlement of the question. Mr. Richards, chairman of the Imperial Gas Company, expressed their entire concurrence in the proposal. Sir G. C. Lewis said, then he understood he was to communicate with the delegates of the metropolitan vestries, and when he heard from them he would let the deputation know.

ST. GEORGE'S-IN-THE-EAST.—On Sunday there were four services as usual at this church, at one of which the Rev. Bryan King, the rector, officiated. That conducted by Mr. Hugh Allen passed off quietly, but the other three, in which the regular parochial clergy were engaged, were interrupted by hissing and coughing, the interruption proceeding entirely from boys and girls, who evidently looked upon the matter as a good joke. Some few grown-up persons made a point of "saying" the responses in a loud tone, in order to destroy the effect of the choristers' chanting, but their efforts were by no means successful. At the close of the sermon the preacher did not turn his face to the altar, a proceeding which has always hitherto occasioned an outbreak of feeling on the part of the people, and it may therefore be fairly assumed that the clergy are willing to make concessions.

THE ROYAL CHARTER.—The letters from Moelfra received on Monday report a further recovery of gold from the wreck of the Royal Charter—namely, 540lb. of gold coin, 40 ingots of gold, 286½ sovereigns, 47 rupees, 38 lbs. of golddust, five bars of gold, and one cup ingot and a piece of iron plate, with part of a bar of gold and some sovereigns driven into it. A further amount of about 50,000*l.* in gold bars, broken pieces of ingots, sovereigns and rupees, has since been recovered from the wreck. The sand and clay around that portion of the wreck where the bullion has been found is described as very rich in golddust. The total recovered now amounts to about 275,000*l.*

NEW VESTRY HALL AT CHELSEA.—The ceremony of laying the foundation stone of a new vestry hall in the parish of St. Luke's, Chelsea, took place on Monday in the King's Road, in the presence of the vestrymen and churchwardens, the local magistrates, the parochial clergy, Messrs. Hanbury and Byng, the county members; Mr. Tite, M.P., representative of the vestry at the Metropolitan Board of Works; and upwards of 1000 spectators. Viscount Chelsea, who had presented the parish with the freehold site of the hall, officiated on the occasion. The estimated cost of the hall will be 5600*l.*, and its accommodation very ample. The principal hall will measure 65 feet 6 inches by 40 feet, and be 30 feet in height, with elliptic ceiling, and a gallery in one end, and is expected to provide sitting accommodation for 1500. There will be also a smaller hall, or board room residences for the vestry clerk and messenger, a library, two reading rooms, vestry clerk's office, &c.

RELIEF OF THE PARALYTIC.—An institution for the relief of persons afflicted with paralytic and epileptic complaints has recently been formed under influential patronage. It is not intended to build a hospital but to take a house in an airy situation where they can give relief and subsistence, and it is also proposed to form a fund to enable the committee to allow a weekly sum to those sufferers who from motives deserving of respect preferred remaining at their own homes. It is stated that 100,000 persons are at present suffering from this disease, and that there are 10,000 cases annually which have a fatal termination. The total sums already received and promised amount to upwards of 1000*l.*

THE PUBLIC HEALTH.—The Registrar-General's Weekly Return states that the number of deaths in London in the week that ended Saturday, Dec. 10, was 1289, exhibiting a small decrease on the numbers of the two previous weeks. In the corresponding weeks of the 10 years 1849-58 the average number was 1221; which, if raised in proportion to the increase of population, will become 1343. The return of last week was therefore 54 below the average. During the week the births of 920 boys and 918 girls, in all 1838 children, were registered in London. In the 10 corresponding weeks of the years 1849-58 the average number was 1585.

## Provincial.

BRADFORD.—On Wednesday night, the 7th inst., the house of Mr. James Farish, a retired worsted spinner and woolstapler in this town, was forcibly entered by thieves, and robbed of about 1500*l.* in gold coin and 60*l.* in provincial bank-notes. The door of the kitchen was found wide open, and an entrance had been effected by breaking a square of glass in the kitchen window, which looks into the back yard. A chisel which had belonged to the thieves was lying on the floor of the passage, and on the chisel were marks of blood, as well as on the kitchen floor, from which it is inferred that one of the thieves had cut himself in opening the window. It appears that Mr. Farish recently sold some stock or shares belonging to him, and the money of which he has been robbed was the proceeds of the sale. On Saturday week he advertised in a Bradford paper that he was ready to lend 1500*l.* at interest on good security, and it was only on the Monday before the robbery that he went to a bank and converted the money from paper into gold. He slept from home on the Wednesday night, and the thieves, who are supposed to have been watching the house since Monday, immediately took advantage of his absence to commit the robbery. At present there does not appear to be any clue to the detection of the robbers.

EAST RETFORD.—The Nottingham papers mention a report that the Government have it in contemplation to establish an arsenal on an extensive scale at or near Retford. The place is one of the most central in the kingdom, and situate at the confluence of two lines of railways, the one stretching from the Irish Channel to the German Ocean, the other from the north to the south of the kingdom.

HYTHE.—Major-General Hay, Inspector-General of Musketry, and head of the establishment at Hythe, has addressed his usual annual report to his Royal Highness the Duke of Cambridge:—

"The number," he says, "of officers trained during the year is 195 (which number includes three cavalry, seven artillery, and 17 officers of her Majesty's Indian forces), being an increase of 48 over the previous year; of these 195 officers, who were exercised in every respect as the non-commissioned officers and privates, 98 practised under the old system, and 97 (including the cavalry and artillery) under the new. Of the former 75 (or 77½ per cent.) became first-class shots, and 21 (or 21¾ per cent.) second-class shots, leaving only one in the third class. Under the latter 52 (or 59¾ per cent.) became first-class shots and 33 (or 38 per cent.) second-class shots, leaving only two in the third class. From the return, in which the performances of the non commissioned officers and privates under the old and new system are detailed, it will be observed that under the former 230 (or 60½ per cent.) passed into the first class, and 148 (or 39¾ per cent.) into the second class, leaving only 2 in the third class; and that under the latter 168 (or 52¾ per cent.) passed into the first class, and 142 (or 44½ per cent.) into the second class, leaving 11 (or 3½ per cent.) in the third class. In the foregoing calculations the cavalry and artillery are not included, the men of these branches of the service being armed, the former with breech-loading, and the latter with rifled, carbines. The results of the performances of the officers, non-commissioned officers, and privates in judging distances, are most satisfactory. Of the 195 officers, 131 (or 67 per cent.) passed into the first class; and of the 771 sergeants and rank and file, 529 (or 68½ per cent) passed into the first class, leaving of officers only two, and of non-commissioned officers and privates only seven, in the third class. The falling off in the per centage of first class in judging distance of the last two parties is not to be attributed to any increased difficulty in passing from one class to another, but to the fact that an instrument has been used to determine the correct distance instead of the chain formerly in use for this purpose, which circumstance prevented the possibility of any collusion on the part of the men by which their judgment could be assisted in arriving at the correct distance; thus the results in this exercise are rendered more truthful, and the men more efficient." Gen. Hay here supplies a table showing the performance of the pupils in those practices which are taken to establish the figure of merit. From this it appears that there is a slight improvement in favour of the practice on the old system in 1858-9; but comparing the performances on the new system with those on the old, the former are superior in the file and skirmishing practices, though otherwise slightly inferior, occasioned, no doubt, by the practices to 300 yards inclusive having been performed standing instead of kneeling, after 200 yards. Shooting standing, however, to at least 300 yards is, General Hay says, essential to efficiency, and will improve as the soldier becomes more perfect in the first practice of the present "position drill." Of the 195 officers who underwent the course of training to qualify for the position of instructor of musketry during the year, 163 obtained certificates, and 28 obtained second-class certificates; four failed, and consequently received no certificate.

NEWCASTLE-ON-TYNE.—The second report of the liquidators of the Northumberland and Durham District Bank, which was one of the concerns that helped to cause the panic of 1857, has been published this week. The total of liabilities stated in the first report was 2,255,000*l.*, and the deficiency in the available assets, exclusive of the entire loss of the paid-up capital, was estimated at 1,191,118*l.*, but the present report shows an improvement of 111,666*l.* It appears that 587,227*l.* has since been extracted from the shareholders, that 40,000*l.* more is expected from the same source, and that 575,200*l.* is calculated upon as the result of an arrangement effected by certain of the shareholders to carry on the Derwent Ironworks, making an aggregate of 1,202,227*l.* The assets to meet outstanding liabilities, exclusive of interest, are now considered to show an excess of 136,160*l.*, but it is said they will require peculiar care, and that their collection cannot be completed before 1866.

PLYMOUTH.—It has been determined by Government to erect an extensive fort on the centre of the Plymouth breakwater, sufficient, with the land batteries on either shore, to effectually protect the entrance to the Sound. The work is to be commenced with all possible speed.

OXFORD.—A meeting, principally composed of undergraduate members of the University, was held recently in the Radcliffe Library, for the purpose of taking into consideration the best means of providing against those fatal boat accidents on the Cherwell and the Isis which have unfortunately been somewhat frequent during the last few years. Dr. Acland, Regius Professor of Medicine, presided, and stated that there was no foundation for the report that, within the memory of a well-known gentleman in the University, 46 of its members had been drowned in the rivers. The coroner had informed him that since the year 1828 there had only been 15 deaths of members of the University chargeable to drowning, while he had made the calculation that during that time the rivers had been traversed by from 800,000 to 900,000 persons. All this considered, he thought boating was not so dangerous as was supposed. The proportion of deaths was much smaller than had been imagined, and the remedy for the evils which did exist was in their own hands—they might learn to swim if they could not already do so. No doubt most of them would agree that these deaths ought not to have taken place at all, and that men who could not swim should not go into the light boats in which many of the accidents had taken place. A good deal of discussion followed, and several resolutions of a restrictive or compulsory character were proposed, such as that no member of the University be allowed to enter a light boat before having availed himself of a swimming belt to be provided; and that boatowners should not be permitted to let out such boats to persons who cannot swim under penalty of discommoning for one or more days. All these motions however were rejected, there being evidently a great reluctance in the meeting to restrict in any way the enjoyment of the river, as well as a strong desire to render boating more safe. Ultimately the following resolutions were agreed to, and ordered to be placed before the Hebdomadal Council:—

"1. That, although the number of fatal accidents from boating at Oxford are fewer proportionally than is generally supposed, it is highly expedient that steps be taken by the boating men themselves to make them as rare as is possible. 2. It is desirable that no person should go in canoes, wherries, or skiffs who cannot swim with ease; that the freshmen who cannot swim well and who desire to use canoes, wherries, or skiffs should, while bathing in company and under proper direction, practise swimming from an overset boat. 3. That whereas the means for learning to swim in Oxford are inconvenient and insufficient, the Hebdomadal Council be requested to take into consideration the construction, and, if necessary, to undertake the management of a proper swimming bath, fit for daily use during the two winter terms, and conveniently placed. 4. That the Council be requested also to consider whether they can obtain, and, if necessary, undertake the management of, a good open swimming pool in the river, with a proper swimming master in attendance at certain hours of the day during the summer term. 5. That the meeting offers the above resolutions to the attention of the Council, not only from the desire to diminish accidents, but from a wish to keep alive the English love of aquatic exercises, and to promote, as far as they can, the healthy as well as useful art of swimming for its own sake. 6. That it is desirable that in the case of all light boats strings be placed across the ruddocks before they go on the river. 7. That it is desirable that at the swimming bath a swimming master be engaged, and that he instruct pupils in the best means of saving drowning persons, and of recovering persons apparently drowned."

PORTSMOUTH.—The screw line-of-battle ship Duncan, 101, was launched on Tuesday in this dockyard in the presence of a large concourse of spectators. The Duncan, which bears the name and figure-head of the celebrated admiral the hero of Camperdown, is 3727 tons, and is to be propelled by engines of 800 horse-power. She will carry 101 guns on two decks, one of which will be a pivot gun of 95 cwt., 10 feet in length. She will receive her machinery in the steam basin at this port, and be completed as fast as possible for sea service.

SHIELDS.—Two hours after the conviction of Moody, the American mate, at the assizes last week, another case of stabbing occurred amongst Americans at this port. Steinmetz and Kelly, two American seamen, were drinking in a public-house about 10 at night, when they quarrelled and turned out to fight in the streets. While fighting among a crowd of persons Steinmetz drew out a spring knife and stabbed Kelly twice in the chest and once in the back. One of the wounds in the chest is nearly 3 inches deep, and has penetrated the lungs. Steinmetz is in the custody of the police.

## Ireland.

THE NATIONAL EDUCATION QUESTION.—It is rumoured in Dublin that Mr. Cardwell has transmitted to Dr. Cullen and his colleagues the decision of Government upon their demands of a grant for separate educational purposes. The Chief Secretary, it is alleged, states that the Government will not depart from the national system of education, but will entertain any suggestions for its more efficient application to the circumstances of the country.

SYMPATHY FOR THE POPE.—The opinion of Lord Castlerosse in regard to the tendency of the clerical agitation on this subject has been singularly verified. The Roman Catholic hierarchy, finding that the Emperor Napoleon has disappointed their expectations, are now flocking upon the platforms of the "sympathy meetings" and "menacing" the ruler of France. At the Drogheda demonstration on Sunday Dr. Dixon, the Roman Catholic primate, delivered a speech, from which the following are extracts:—

"The world was beginning to become accustomed to this robbery of the Papal territory till at length a voice was raised, and what was that voice? It was the voice of the Catholic bishops of France. What did the Emperor Napoleon do? Did he welcome this expression of Catholic feeling? No: but he issued an edict that no newspaper in France should publish a pastoral from a Catholic bishop on the subject. We don't know the reason. Perhaps some will say his sleep was disturbed at the Tuileries or at Compiègne, and that he who could sleep soundly after the carnage of Magenta and Solferino could not sleep because of the sound of these pastorals. The newspapers of France went on to say, although they could not publish the pastorals, that such a bishop came out yesterday and such a bishop the day before with a pastoral. They are not allowed now to say that. If all the Catholic bishops of the world were to publish pastorals in France simultaneously there is not newspaper in France dare declare the fact. There is the freedom of the press in France, in that great country, the hero of which fights for freedom in other countries. I do not pronounce upon this; but it is not a new thing for Catholic bishops to be troublesome to the princes of the earth. It was the case before the days of Henry II. and St. Thomas of Canterbury, and I trust will always be the case when princes do wrong. They say that Napoleon III. is a man of deep views, and like an able dramatist who will not discover until the last act the great result his plot is intended to bring about, keeping for the last act of the Congress the statement of his good designs, and that the result will be to place the Pontiff on an eminence far higher than he ever occupied before. But up to this time no intimation of that kind is given. I cannot speak for the Pope, or for any member of the Roman Government but beyond that circle there is only one opinion in Rome that Napoleon is responsible for the state of Italy to day, that every injury done to the Pope is ascribable to him. It remains for him now to redress all this. We shall leave it now to the hopes of his friends, and the fears of those who distrust him. If he shall in the Congress make reparation for what has been done we shall applaud him; but if, on the contrary, he shall rise from the Congress after putting the seal of that body to a robbery the most sacrilegious and atrocious history will have to record—the abstraction of the Romagna from the Papal throne—it does not require the spirit of prophecy, but only a glance at the past, to say that from that day it will be seen that the star of Napoleon is no longer in the ascendant. It will be seen that the meridian

—that he is a falling man. It will not be im- but on the first occasion when he shall attempt the great Emperor his position will be manifested. —it will be either Solferinos or Magentas—it will be a prelude to it. He will not require to see the writing on the wall to know that he is weighed in and found wanting—that his empire, if not divided, from him and be given to the Bourbons and who have forgotten their differences now while for the reversion of his kingdom. That is a hypothe- If that should arise, happy will he be in the end if he could find some quiet island where, away from the cares of the world, he may prepare for that eternity even emperors must enter."

Dr. Moriarty, Roman Catholic Bishop of Kerry, has issued a pastoral in which he makes the following remarks on the same subject :—

"There is one on whom rests the entire responsibility of the present condition of Italy, and that one is the Emperor of the French. What may be his intentions for the future—whether he will use his dangerous powers to sustain the Holy Father, or curtail his dominions—no one can tell; but for what is past and doing he is answerable to Christian Europe. His present conduct may be as much a secret for himself as it is for others; but the principal indication we have had of his views would lead us to believe that he wishes to confine the Papal dominions between the Appenines and the Mediterranean, and thus ultimately to make the Pope a pensioner of the im- kingdom. How England can cheer him on in the execution of this project is not explicable by any sound political theory that we know of. A blind hatred of the Papacy can alone induce her thus to strengthen the arm of one who may become her enemy, and to estrange from her those who should be her defenders. When there was a question of persecuting Christ Pilate and Herod made friends."

At Clonmel on Sunday the Very Rev. Dr. Burke, the Papal returning officer for the borough, made the following remarks :—

"What has the British Government to do with the question of Italian liberty? Don't the French want liberty? They are governed by a despot—I don't want to censure him, because a despot rule is in his case necessary, but I am turning an argu- ment on the question. I admire Napoleon, because but for him, but for the supreme authority which he acquired, the affairs of religion and of society all over the world would be turned topsy turvy. But his subjects, nevertheless, want liberty in the sense those English statesmen mean, and why, then, don't they send over to aid the French? This is the reason, they are afraid of the French eagle—they fear that he might flutter over their shores, and that he would suddenly pounce down and stick his beak in the back of John Bull. In Russia the very lives of the people are in the power of the despot Nicholas. Why don't these English statesmen send their fleets up the Baltic to insist that this great monster of the north shall give full liberty to his subjects as they have in glorious England? As in the other case, they are afraid of the grunting of the Russian bear—they fear that he may descend from his northern fastnesses and fix his tusks and his claws in the back of John Bull and tear himself and his power to shreds and patches. They are afraid to touch Napoleon or Nicholas of the North; but the poor Pope, they are not afraid of him, because he is weak in a temporal sense. Thus they are acting the part of a cowardly boaster and bully, who is afraid of a strong man, but who illtreats a weak one. [A Voice.—'That they may not succeed.'] You are a good preacher, and I will say Amen to you. I think you would wield your power for the Pope against the Saxon enemy. [A Voice.—'No doubt of it.']—Will these men succeed with the power of England at their back? ('No, no.') I say no a thousand times. It is impossible they can succeed, for two reasons—first, because the Pope is shielded by the Omnipotent hand of Him who said, 'Thou art Peter; upon this rock I will build my church, and the gates of hell shall not prevail against it;' and, next, the prayers of the glorious saints who, when living here below, were an ornament to the Church, will defeat every foe."

At Queenstown on Sunday Father Fielding spoke as follows on the English Government:—

"We are told in Ireland that we are not loyal; he told them that the Irish were loyal—were foolishly loyal, loyal for no reason, no object, no protection. Were the Irish loyal in the Crimea, or in China, or in India? They shed their blood like brave soldiers there; and it was too much to say they were then disloyal. There was a report now that it was to be feared was only too true—that England may soon want soldiers to protect herself, and that she cannot get them. (A Voice, 'Thank God.') There was a report abroad at present—whether it was true or false he could not say—that the English were secretly—they dare not do it openly—arming the Orangemen of the north to put down the Catholics of the south, lest they might rise in the midst of England's troubles, and give her annoyance. (A Voice—'Well, we're strong enough.') That showed the spirit of the Government. If that rumour be true, let the Orangemen come; they would meet their army, and defend themselves. And he said in the face of any Government they would not allow it to place the charge of Ireland in the hands of Orangemen, to come to the south for blood and slaughter. (A Voice—'Let them try it.') The Government knew very well that the people of this country hesitated very little, or would not care much, if Napoleon III. would step into this country at any moment. The Government knew very well that the Government of France would be as acceptable to the Irish people as the present Government. (A Voice—'That's a fact.') We are loyal, and only too loyal; but we would be more loyal if protected. As to the peace of the country, how can the people be expected to protect it? When the poor man is turned out of his house and holding and sees his wife and children wretched, what can you expect from any man in his miserable state? Putting myself in such a position, and saw this, what would I do? I declare I do not know what I would do. When the wild spirit of revenge prompts a man, can it will satiate it? It cries out, 'Give me justice, or I will take it myself.'"

## Law.

THE ASSIZES.—NORTHERN CIRCUIT: YORK.—*Joseph Briggs*, 27; *William Shaw*, 23; *George Chappell*, 21; *Samuel Earnshaw*, 23; *Victor Cookson*, 20; and *John Marsden*, 33, were charged with having committed a rape on Sarah Ann Burrow at Raistrick, near Halifax, on the 6th ult. This case was one of a very revolting character, the details of which, so far as they were fit for publication, have already been noticed in our Provincial News. The charge was fully proved, and the jury found all the prisoners Guilty—Briggs and Shaw of the rape, and the other prisoners of aiding and abetting. Mr. Justice Wightman said that they had been convicted of a most cruel and brutal out- rage upon a decent, respectable young woman—an outrage which must have a destructive influence upon her future happiness. It was an offence of the deepest atrocity, and for such a brutal outrage the sentence must be one of the utmost severity. Not many years had elapsed since the prisoners would have paid the penalty of their lives for this offence, but the Legislature had since considered that a secondary punish- ment might prevent the commission of such crimes. The sentence of the Court therefore was that the prisoners be kept in penal servitude, Briggs for 25 years, and the other prisoners for 20 years each. *The Manslaughter at Sheffield.*—*Abraham Bunney*, an edge-tool grinder, of Sheffield, was found *Guilty* of the manslaughter of his wife, on Tuesday, the 27th of September, by striking her on the head with a sand hammer in a drunken dispute in which she had struck the prisoner. The jury recommended him to mercy, and he was sentenced to penal servitude for seven years. *John Reed* was tried for the man- slaughter of James Nolan at Sheffield, on the 16th Oct. This was an Irish fight, and the evidence was so contradictory that the jury acquitted the prisoner.—*The Burglary at Worsborough.*—*Joseph Worrall* was convicted of stealing a bank-note for 20*l.*, a pair of trousers, a pair of boots, a gold pin, two pairs of scissors, and a button-hook, the property of Major Charles Fraser, from the dwelling-house of Lord Wharncliffe, at Tankersley, on the 2d of August, and was sentenced to 12 months imprisonment with hard labour. *Forgery.*—*Edward Gorman* was found Guilty of uttering a forged 5*l.* Bank of England note, well knowing it to be forged, at Leeds on the 15th of September last, and sentenced to penal servitude for five years. LIVERPOOL.—*Christopher Kelly* was found *Guilty* of uttering a forged Bank of England note for 5*l.*, with intent to defraud the Governor and Company of the Bank of England, and was sentenced to six years' penal servitude. *Murder of a Husband.*—*Susan Trotter* was indicted for the murder of her husband. This was a melan- choly case of quarrels between husband and wife. Threats and violence had been used towards her by her husband, who, as well as she, was intoxicated at the time. She stabbed him with a table knife in the neck, and, in so doing, divided the artery to the arm, and caused his death. Her contrition after- wards was most touching. The jury found her *Guilty* of man- slaughter. The learned Judge feelingly addressed the prisoner, commenting upon this sad result of intemperance, which had made her by her own act a widow, and deprived her of the support of a man, for whom, it appeared, though too late, she had strong affection. He sentenced her to three months' imprisonment.

HOME CIRCUIT: MAIDSTONE.—*George Howells*, 18, and *Charles Thomas Willis*, 28, two soldiers, were convicted of arson under very peculiar circumstances, both of them having committed the crime in order to escape from serving in the army. Mr. Justice Williams in passing sentence said there was no doubt that the prisoners had committed the offences of which they had been convicted, in order that they might no longer con- tinue in the military service, and that they appeared to prefer the condition of convicts to that of soldiers. The offence they had committed was a very serious one, and, as a warning to others, he felt it his duty to sentence them to six years' penal servitude.

OXFORD CIRCUIT: STAFFORD.—*The Wolverhampton Murder.*—*William Kilby*, 46, wrench-maker, was tried for the wilful murder of George Kilby, his son, on the 30th Sept. last, at Wolverhampton, under the circumstances described at the time in our Provincial News. The evidence failed to show that the prisoner was near the shop when his son died; and the medical men stated that death might have resulted from natural causes. The jury at once *Acquitted* the prisoner. *The Wednesbury Murder.*—*Benjamin Owen*, 40, gasfitter, was tried for the wilful murder of Jane Owen, his wife, on the 18th October last, at Wednesbury. This was a very painful case. The prisoner, who bore a high character in the town, and had hitherto been a kind husband, had become exasperated by the drunken habits of his wife, and inflicted upon her such serious injuries that they caused her death. Mr. Justice Wiles summed up the case as one of manslaughter, and the jury, after a brief consultation, found the prisoner *Guilty* of that offence. The judge, addressing the prisoner, said he could hardly bring him- self to sentence to any punishment a man in favour of whom such testimony had been borne by the witnesses called for the defence, yet, in consequence of the frequency of offences of this character in recent times, the feelings of the country had been harrowed, and the character of the country had become hateful. He must therefore pass upon the prisoner a sentence that might tend to deter men from acting so ruffianly. The sentence of the court was that he must be kept in penal servi- tude for six years.

WESTERN CIRCUIT: WINCHESTER.—*Forgeries by a Solicitor.*—*Edmund Wardroper*, a solicitor, aged 45, pleaded *Guilty* to two indictments charging him with forging and uttering a pro- missory note for 257*l.*, and another for 350*l.*, with intent to defraud. The prisoner had been in extensive practice at Mid- hurst, in Sussex, and it is understood that his misconduct has been consequent on losses in betting transactions. Mr. Baron Channell addressing the prisoner said that a few years ago his life would have been forfeited for this offence, and considering his position in society, it was necessary to pass upon him a sentence of penal servitude for 10 years. The prisoner gave a suppressed groan, and was removed from the bar.

CENTRAL CRIMINAL COURT.—*The Finsbury Murder.*—*James Moore*, 32, described as an umbrella maker, was indicted for the wilful murder of his wife, Mary Anne Moore, by cutting off her head with a razor. The prisoner was charged with the same offence on the coroner's inquisition. When he was called upon to plead, he said in a loud tone of voice, "No, no; not guilty." After the counsel for the prosecution had briefly stated the case, the prisoner said he thought he had a right to complain of being called a wretched man, as he had been several times by the learned counsel. He was not wretched, but very happy and comfortable. Baron Watson told the prisoner that it was certainly a very wretched position for any one to be placed in the condition he now stood in. His learned counsel, therefore, was not doing anything improper when he made use of the expression. Witnesses were then examined who proved the facts of the case which are already familiar to our readers, and several medical men, including the surgeon of Newgate who has recently had him under his charge, expressed their belief that when the prisoner committed the act he was not of sound mind. At the close of the evidence the prisoner insisted upon addressing the jury, and made a long, rambling, and incohe- rent statement, the principal object of which appeared to be to show that he was of perfectly sound mind. He said that when he was originally sentenced to nine months' imprison- ment he was healthy and strong, and able to bear the punish- ment, and nobody had a right to send him to a lunatic asylum. As to the crime of which he was accused, no one saw him do it; and with regard to the evidence as to the blood on his clothes, they were second-hand clothes, and the blood might have been on them when they were purchased. Mr. Baron Watson having summed up, the jury retired for a few minutes to deliberate upon their verdict, and on their return into Court gave a verdict of *Not Guilty*, on the ground of insanity. The learned judge ordered the prisoner to be detained during her Majesty's pleasure. He was evidently very much displeased at the result, and seemed anxious again to address the jury, when he was removed from the bar.

## Obituary.

THE DOWAGER COUNTESS OF COURTOWN died on Sunday last, at her residence at Edinburgh, in her 35th year. She was the youngest daughter of the late Right Hon. Edward Pennefather, Chief Justice of the Queen's Bench in Ireland, and married in 1850 the fourth and late Earl of Courtown.

GENERAL SIR FREDERICK WILLIAM TRENCH, K.C.H., died on the 6th inst. at 81, Marine Parade, Brighton, at the advanced age of 84. He entered the army in 1803, and served in Sicily through- out 1806 and 1807; in the Walcheren campaign of 1809, in the Peninsula in 1811, and in Holland in 1814. He was formerly aide-de-camp to George IV. and William IV., also assistant quartermaster-general, secretary and storekeeper to the Ord- nance. He represented St. Michael's in Parliament from 1807 until 1812, Dundalk from 1812 till 1818, Cambridge from 1812 till 1832, and Scarborough from 1832 till 1847. He attained the rank of general in 1854.

THE HON. GEORGE JAMES WARREN died on the 16th inst. at Sydenham, in his 75th year. He served with the Grenadiers in the Peninsula, and was severely wounded at the siege of Burgos. He represented Lynn in Parliament from 1837 to 1851, was private secretary to Lord Palmerston when Secretary for Foreign Affairs from 1830 till 1841, when he was appointed Consul-General in Chili; he was promoted to the rank of Charge d'Affaires in 1847, and held that office until 1852, when he retired upon a pension. He was third son of the second Earl of Ormathwaite, by his first wife, and has left issue.

MR. WASHINGTON IRVING, one of the great pioneers of Ameri- can literature, whose name and works are as familiar to all English readers as if he had been a native of Great Britain, and whose genial life has long won for him golden opinions on both sides of the Atlantic, died on the 28th Nov. at his residence, "Sunny side," at the venerable age of 76. He was born on the 3rd April, 1783, in the city of New York. His early studies were directed to the profession of the law, but a love of literature was even then, pre-dominant, and seemed to be engrafted in his nature as its master passion; and before he was 21 he began his career as a writer. In 1809 he published the well-known "History of New York," by Diedrich Knickerbocker. Mr. Irving did not choose the profession of law, but in 1803 went into mercantile business with his brother, but the house was not successful, and in 1817 it failed. At the time of the failure Mr. Irving was in Europe, where his reputation was such as to gain for him the friendship of Sir Walter Scott. Here he resolved to make the pursuit of literature the object of his life, and as a result the "Sketch Book" appeared in 1820. It was recognised as the product of taste and genius, and the highest praise was justice to its merits. Other well-known works followed, as, in 1822, "Bracebridge Hall;" in 1824, the "Tales of a Traveller;" in 1826, the "Life of Columbus;" in 1829 the "Conquest of Granada;" and, in 1832, the "Alhambra." Meanwhile Mr. Irving, in 1828, 1829, and 1831, had become Secretary to the American Embassy in London, and had spent much time in Spain and in various parts of Europe. In 1832 he returned to the United States, after an absence of 17 years; and his return was a triumph—so heartily was he welcomed home by his fellow-countrymen. Mr. Irving continued his literary labours, and the result of a visit made to the Indian tribes was in 1835, the "Tour on the Prairies." Then followed "Abbotsford and Newstead Abbey," "Legends of the Conquest of Spain," in 1836, "Astoria," and in 1837, "The Adventures of Captain Bonneville." In 1839 he engaged to supply the "Knickerbocker Magazine" with a monthly article. In 1842 Mr. Irving was appointed American Minister to Spain, and at the end of his official term in 1846 he returned to the United States. In 1848 he superintended a revised edition of his works; in 1849 published "Oliver Goldsmith, a Biography;" in 1850, "Mahomet and his Successors," and "Wolfert's Roost;" and in 1855, his "Life of Washington." No American writer has ever held so high a place in popular regard in England as Washington Irving, and it has been truly said that he was never considered a foreigner in English society. During his residence in London in 1830, the Royal Society of Literature conferred on him one of the 50-guinea gold medals provided by George IV. for eminence in historical composition; and in the following year the University of Oxford conferred on him the degree of D.C.L.

MR. THOMAS DE QUINCEY, author of the celebrated "Con- fessions of an English Opium-eater," and other philosophic works, died at Edinburgh on the 8th inst. in his 75th year. For many months past he has resided in that city, preferring the town to his house at Lasswade, mainly for the convenience of superintending the passage through the press of the collected edition of his works, of which the 14th and last volume is nearly ready for publication. For some weeks past his health had been seriously affected, but as he was frequently so, no and alarm was not excited as to his condition until very lately, and the end, though it could not be said to be either sudden or premature, was so far unexpected. Two of his daughters, his youngest and eldest, were with him at the close. The second, the wife of Colonel Baird Smith, is in India with her husband; one of his sons is also in India—a captain in the army; the other, a physician, is in the Brazils. The eldest daughter is the wife of Mr. Robert Craig, now a farmer in Ireland, whence she was called to her father's death-bed. The youngest is un- married. Mr. De Quincey was esteemed by a large circle of friends as an accomplished scholar and courteous gentleman, and his conversation had the charm of uniting with that beauty and language, subtlety of thought, variety of illustration, and quaintness of humour that distinguish his writings.

MR. JOHN FINCHAM, the well-known naval architect, died a few days since at his residence at Highland Lodge, near Ports- mouth, in his 75th year. He was for many years master ship- wright of Portsmouth Dockyard, and superintendent of the School of Naval Architecture. He was also well known as the builder of the celebrated Arrogant, the first screw frigate pos- sessed by this country, and still looked upon as one of the best of her class. Much of his time and study was devoted to the introduction of the screw propeller into the British navy. His "History of Naval Architecture," "Outlines of Shipbuilding," "Treatise on Laying-off Ships," and on "Masting Ships," are unequalled in the English language for the amount of research and professional knowledge they contain. As an acknowledg- ment of their merits the Emperor Nicholas of Russia presented Mr. Fincham with a snuff-box set with diamonds, and Mehemet Ali presented him with the order of the "Bey."

THE REV. T. W. LANCASTER, M.A., Fellow of Queen's College, Oxford, was found dead in his bed on Monday morning. He had been in failing health for some time past, but had latterly become so much better that he dined in the common room at Magdalen on the previous evening, and appeared in better health and spirits than usual. The evidence at the inquest showed that death had been caused by a sudden attack of disease of the heart, and the jury returned a verdict accordingly. Mr. Lancaster, besides being Fellow of Queen's and Public Examiner, had been the Bampton Lecturer and published several theological works of a standard character. At the time of his death he was engaged in seeing a volume of his sermons through the press.

WILLS.—The will of the Earl of Westmoreland, G.C.B., has been sworn under 100,000*l.*; Earl St. Vincent, 25,000*l.*; the Dowager Lady Blackett, widow of Sir W. Blackett, Bart., of Malfen Hall, Northumberland, 100,000*l.*; Rev. Dr. Wesley, Sub-Dean of the Chapel Royal, 20000*l.*; Vice-Admiral Sir Henry Loraine Baker, Bt., 80000*l.*; Mr. W. J. T. Tollemache, of Ham House, Surrey, 10,000*l.*; Mr. Henry Raphael, of Tavistock Square, 100,000*l.*

BIRTHS.—On the 6th inst. at 26, East Cliff, Dover, the Viscountess HAWARDEN, prematurely, of a son—11th inst. at 58, Rutland Gate, the Lady RAGLAN, of a son—29th ult. at Caen, the Lady AUDLEY, of a daughter—9th inst. at Kilvington Hall, Thirsk, the Lady CECILIA TURTON, of a son—8th inst. at 146, Piccadilly, the wife of WILLIAM MILLER, Esq., M.P., of a daughter.

MARRIAGES.—On the 14th inst. by special license, at Curzon Chapel, Curzon Street, Mayfair, the Right Hon. Lord VERNON to FRANCES MARIA EMMA, only daughter of the late Rev. BROOKE BOOTHBY and the Hon. Mrs. Boothby.—On the 8th inst. at Bolton Percy Church, Yorkshire, EGERTON VERNON HARCOURT, Esq., to LAURA MILNER, the youngest daughter of the late Sir William Milner, Bart., of Nunappleton.—13th inst. at St. Paul's, Knightsbridge, the Rev. CHARLES W. BENTINCK, eldest son of the late Lord Charles Bentinck, to CAROLINE LOUISA, eldest daughter of EDWYN BURNABY, Esq., of Baggrave Hall, Leicestershire.—6th inst. at Tully-acky Church, Sir JOHN WOLSELEY, Bart., of

Mount Wolseley, county Carlow, to FRANCES ARABELLA, daughter of the late ARTHUR BLENNERHASSET, of Ballyseeny, and M.P. for the county of Kerry—13th inst, at Wimpole, Cambridgeshire, HENRY WILLIAM CURRIE, Esq., only son of Henry Currie, Esq., of West Horsley Place, to FLORA CAROLINE, eldest daughter of the Hon. and Venerable Archdeacon YORKE—10th inst, at the parish church, Hampstead, THOMAS PLATT, of Lincoln's Inn, Esq., Barrister-at-law, to EMILY ANN, eldest daughter of the late CHARLES PHILLIPS, Esq., one of her Majesty's Commissioners for the Relief of Insolvent Debtors.

DEATHS.—On the 7th inst, EUSTACE MOUNTSTUART, infant son of Viscount and Viscountess HAWARDEN—2d inst, at Tunbridge Wells, Lady M'CASKILL, widow of the late Major-General Sir John M'Caskill, K.C.B.—2d inst, at Florence, of typhus fever, EDMUND WILLIAM ELTON, Esq., second surviving son of the late Sir Charles Abraham Elton, Bart., of Clevedon Court, Somerset, aged 36—29th ult. at Gibraltar, of scarlatina, ARTHUR WELLESLEY FLOYD, naval cadet, H.M S. Marlborough, youngest son of Major-General Sir Henry Floyd, Bart.—28th ult, at Boulogne, after a long and painful illness, JOHN ROGER PALMER, youngest son of the late Sir William Palmer, Bart., formerly of the 17th Lancers, and Lieutenant-Colonel of the South Mayo Rifles—29th September last, at Calcutta, HENRY HOLROYD, Esq., barrister-at-law, youngest surviving son of the late Sir George Sowley Holroyd, formerly one of the Judges of her Majesty's Court of Queen's Bench, age 55—9th inst, suddenly, at Cresswell, Northumberland, ALICE HENRIETTA, wife of JOHN HARRY JENKINSON, Esq., and third daughter of the late Sir William Gordon Cumming, Bart., of Altyre, aged 31—26th October, at the Phoolbagh, near Gwalior, East Indies, WALTER DIGBY SEYMOUR, Captain H.M.'s 17th Lancers, only son of W. Digby Seymour, Esq., Lowndes Square, aged 25—29th Oct., at Neemuch, Bombay, from sunstroke, Lieutenant ARTHUR C. HAYMES, 8th Hussars, eldest son of Arthur Haymes, Esq., of Leamington, aged 24—10th inst, at Eton, MARY, the wife of the Rev. EDWARD COLERIDGE, Fellow of Eton College, aged 55—9th inst, at Hampton Court Palace, JANE, widow of the late ASHBURNHAM BULLY, Esq., of her Majesty's Exchequer, and only daughter of the late Rev. Wm. Beloe, rector of Allhallow's, London Wall, translator of Herodotus, aged 74—23d ult, at Pau, in the south of France, of typhus fever, AUGUSTA, wife of HENRY ALEXANDER KENNEDY, Esq.; and on the 30th ult, of the same disease, CAROLINE, wife of GEORGE HERBERT, of the Middle Temple, Esq., barrister-at-law.

# Markets.

## COVENT GARDEN.—Dec. 17.

Pine Apples and Grapes still maintain the prices quoted in last report. Apples and good dessert Pears are scarce, and very dear. Among the latter may still be found good examples of Glou Morceau, Beurré Diel, Chaumontel, Winter Nelis, Passe Colmar, and Crassane. Oranges are improving in quality. Good Cobs are realising from 1s. to 1s. 6d. per lb. Chesnuts are plentiful. Vegetables are for the most part sufficient for the demand. Asparagus, Seakale, and French Beans make their appearance. Cabbages, Savoys, Carrots, Parsnips, and Leeks may be obtained in quantity. Broccoli is scarce. Potatoes realise from 4s. to 8s. per cwt. Mushrooms can still be had. Cucumbers are getting dearer. Cut flowers chiefly consist of Orchids, Gardenias, Violets, Mignonette, Chrysanthemums, Camellias, Heaths, and Roses.

### FRUIT.

| | |
|---|---|
| Pine Apples, per lb., 5s to 7s | Pears, per doz., 4s to 6s |
| Grapes, per lb., 7s to 10s | Oranges, per 100, 6s to 10s |
| Melons, each, 2s to 4s | Lemons, per 100, 5s to 8s |
| Pomegranates, each, 4d to 6d | Filberts, p. 100 lbs., 50s to 60s |
| Apples, per doz., 1s to 2s | Cobs, do., 100s |

### VEGETABLES.

| | |
|---|---|
| Asparagus, p. bundle, 7s to 10s | Cucumbers, each 9d to 1s 6d |
| Seakale, per basket, 2s to 3s | Artichokes, per doz., 2s to 3s |
| F. Beans, per 100, 2s to 2s 6d | Beet, per doz., 1s 6d to 2s |
| Cauliflowers, per doz, 2s to 4s | Celery, p. bundle, 1s to 1s 6d |
| Greens, per dozen bunches, 2s to 2s 6d | Onions, p. half sieve, 1s to 1s 6d |
| Cabbages, do., 1s 6d to 2s 6d | — Portugal, each, 2d to 4d |
| Potatoes, p. ton, 90s to 100s | Shallots, per lb., 6d to 8d |
| — per bus., 2s to 2s 9d | Garlic, per lb., 6d to 8d |
| — per cwt., 4s to 6s | Lettuces, Cabb., per score, 1s to 1s 6d |
| Carrots, per bunch, 6d | Endive, p. score, 1s to 1s 6d |
| Turnips, per bunch, 4d | Horse Radish, p. bun. 1s 6d to 4s |
| Spinach, p. sieve, 1s 6d to 2s | Mushrooms, p. pott, 1s 3d to 1s 9d |
| Tomatoes, p. half sieve, 2s 6d to 3s 6d | Parsley, p. 12 bunches, 2s to 4s |
| | Savory, per bunch, 2d to 4d |

## METROPOLITAN CATTLE MARKET.

### MONDAY, Dec. 12.

We have a larger supply of Beasts than has been known for several years; however, there are many of inferior quality, consequently choicest kinds are dear. We are not heavily supplied with Sheep, yet trade is dull. Late prices are fully maintained, and in some instances exceeded. Good Calves are scarce and dear. From Germany and Holland there are 540 Beasts, 980 Sheep, and 125 Calves; from Scotland, 1000 Beasts; from Ireland, 500; from Norfolk and Suffolk, 500; and 3000 from the northern and midland counties; West Country, 500.

| | s | d | | s | d |
|---|---|---|---|---|---|
| Best Scots, Herefords, &c. .. | 5 | 4 | to 5 | 6 | |
| Best Short-horns | 5 | 0 | — 5 | 4 | |
| 2d quality Beasts | 4 | 4 | — 4 | 8 | |
| Best Downs and Half-breds .. | 5 | 4 | to 5 | 6 | |
| Do. Shorn .. .. | — | | .. | | |

| | s | d | | s | d |
|---|---|---|---|---|---|
| Best Long-wools . | 5 | 0 | to 5 | 4 | |
| Do. Shorn .. .. | — | | .. | | |
| Ewes & 2d quality | 4 | 6 | — 4 | 8 | |
| Do. Shorn .. .. | — | | .. | | |
| Lambs .. .. | — | | .. | | |
| Calves .. .. | 4 | 4 | — 5 | 4 | |
| Pigs .. .. | 4 | 0 | — 5 | 0 | |

Beasts, 7560; Sheep & Lambs, 24,420; Calves, 160; Pigs, 430.

### THURSDAY, Dec. 15.

We have a considerable supply of Beasts, and trade for them is dull; notwithstanding the favourable weather prices are decidedly lower. The number of Sheep is not larger than expected. yet it exceeds the demand. The liberal supply of last Monday of all kinds of stock in some measure accounts for the dull trade to-day. Calves are also lower. From Germany and Holland there are 290 Beasts, 1140 Sheep, and 159 Calves; from Scotland 100 Beasts; from Norfolk and Suffolk, 400; from Ireland, 200; from the northern and midland counties, 500; and 142 Milch Cows from the home counties.

| | s | d | | s | d |
|---|---|---|---|---|---|
| Best Scots, Herefords, &c. .. | 5 | 0 | to 5 | 4 | |
| Best Short-horns | 4 | 10 | — 5 | 2 | |
| 2d quality Beasts | 4 | 0 | — 4 | 6 | |
| Best Downs and Half-breds .. | 5 | 2 | — 5 | 4 | |
| Do. Shorn .. .. | — | | .. | | |

| | s | d | | s | d |
|---|---|---|---|---|---|
| Best Long-wools . | 4 | 10 | to 5 | 0 | |
| Do. Shorn .. .. | — | | .. | | |
| Ewes & 2d quality | 4 | 4 | — 4 | 6 | |
| Do. Shorn .. .. | — | | .. | | |
| Lambs .. .. | — | | .. | | |
| Calves .. .. | 4 | 0 | — 5 | 0 | |
| Pigs .. .. | 3 | 8 | — 4 | 8 | |

Beasts, 2972; Sheep & Lambs, 6406; Calves, 244; Pigs, 150.

## HOPS.—BOROUGH MARKET, FRIDAY, Dec. 16.

Messrs. Pattenden & Smith report that the demand for fine Hops is very extensive, and such on offer being scarce are expected to go much higher after Christmas is over.

## HAY.—Per Load of Thirty-six Trusses.

### SMITHFIELD, THURSDAY, Dec. 15.

| | | | | | |
|---|---|---|---|---|---|
| Prime Meadow Hay | 70s | to 75s | Clover .. .. .. | 85s | to 100s |
| Superior do. (old) .. | 76 | 80 | New Clover .. .. | — | — |
| Inferior do. .. .. | 50 | 60 | Second cut do. .. | 70 | 80 |
| New do. .. .. .. | — | — | Straw .. .. .. | 25 | 28 |
| Rowen .. .. .. | 36 | 50 | | | |

DAVIS & Co.

### CUMBERLAND MARKET, THURSDAY, Dec. 15.

| | | | | | |
|---|---|---|---|---|---|
| Sup. Meadow Hay . | 80s | to 86s | Inferior Clover .. | 75s | to 90s |
| Inferior do. .. .. | 60 | 74 | New do. .. .. | — | — |
| New do. . .. | — | — | Straw .. .. .. | 30 | 34 |
| Superior Clover .. | 98 | 105 | | | |

JOSHUA BAKER.

### WHITECHAPEL, THURSDAY, Dec. 15.

| | | | | | |
|---|---|---|---|---|---|
| Fine old Hay .. .. | 80s | to 84s | Fine old Clover .. | 98s | to 102s |
| Inferior do. .. .. | 65 | 75 | Inferior do. .. .. | 84 | 92 |
| Prime New Hay .. | — | — | Fine new Clover .. | — | — |
| Inferior do. .. .. | — | — | Fine 2d cut .. .. | 80 | 84 |
| Straw .. .. .. | 25 | 28 | Inferior do. .. .. | 60 | 75 |

## BRITISH WOOLS.—LONDON, FRIDAY, Dec. 16.

Our trade continues healthy and active, and full rates are realised for all descriptions of wool.

| | s. | d. | s. | d. | | s. | d. | s. | d. |
|---|---|---|---|---|---|---|---|---|---|
| South-down Hoggets .. .. .. | 1 | 8 | to | — | Leicest. Wethers | 1 | 5 | to | — |
| Half-bred ditto.. | 1 | 8 | — | — | Ditto Hoggs .. | 1 | 7 | — | — |
| Down Ewes .. | 1 | 6 | — | — | Combing Skins | 1 | 1 | — | 1 4 |
| Kent Fleeces .. | 1 | 6 | — | — | Blanket ditto .. | 0 | 6 | — | 10½ |
| | | | | | Flannel Wool .. | 1 | 2 | — | 1 7 |

## MARK LANE.—MONDAY, Dec. 12.

The supply of English Wheat to this morning's market was small, poor in quality, and in bad condition; a few picked samples were taken at the full prices of this day se'nnight, but the bulk remained unsold at a late hour. The demand for foreign was quite in retail, and its value remains unaltered. Finest malting Barley brings last week's rates, secondary qualities are very difficult of sale, and 1s. to 2s per qr. cheaper. Beans and Peas are unchanged in value. The Oat trade is quiet at an advance of 6d. per qr. upon the forced sales of this day week. In the price of Flour there is no alteration.

| PER IMPERIAL QUARTER. | s. | s. | | s. | s. |
|---|---|---|---|---|---|
| WHEAT, Essex, Kent, & Suffolk .. White | 40 | —48 | Red .... | 40 | —45 |
| — — fine selected runs.. ditto | 46 | —48 | Red .... | 42 | —48 |
| — — Talavera ..... | 46 | —52 | | | |
| — Norfolk ..... | — | | Red . .. | — | |
| — Foreign ..... ..... | 38 | —56 | | | |
| BARLEY, grind. & dist., 24s to 30s .. Chev. | 38 | —44 | Malting . | 34 | —40 |
| — Foreign .. grinding and distilling | 23 | —33 | Malting . | 35 | —41 |
| OATS, Essex and Suffolk ..... | 19 | —24 | | | |
| — Scotch and Lincolnshire .. Potato | 23 | —29 | Feed.... | 19 | —26 |
| — Irish ..... Potato | 24 | —28 | Feed.... | 19 | —24 |
| — Foreign ..... Poland and Brew | 23 | —26 | Feed.... | 17 | —24 |
| RYE ..... | 35 | —38 | Foreign . | — | |
| RYE-MEAL, foreign ..... | — | | | | |
| BEANS, Mazagan .... 33s to 40s .... Tick | 33 | —43 | Harrow . | 33 | —43 |
| — Pigeon ..... 44s — 47s .. Winds. | 43 | —54 | Longpod | — | |
| — Foreign ..... Small | 38 | —46 | Egyptian | — | |
| PEAS, white, Essex and Kent .. Boilers | 36 | —39 | Suffolk . | 38 | —41 |
| — Maple .... —s to —s ..... Grey | 33 | —35 | Foreign . | 30 | —38 |
| MAIZE ..... White | — | | Yellow.. | — | |
| FLOUR, best marks delivered .. per sack | 37 | —43 | | | |
| — 2d do. ..... ditto | 27 | —37 | Country. | 27 | —37 |
| — Foreign ..... ... per barrel | 18 | —27 | Per sack | 30 | —37 |

### FRIDAY, Dec. 16.

During the last eight days the weather has been frosty, since Monday severe, with some fog and an occasional slight fall of snow. The Wheat trade throughout the kingdom has been inactive, caused partly by the bad condition of the English, and the firmness of holders of foreign Wheat. The markets for spring corn of all kinds were dull, with a lowering tendency of prices. The Flour trade has been steady, without any alteration of value. The arrivals of grain-laden vessels from Southern Europe off the coast this week are limited to 2 cargoes of Wheat, 1 of Maize, and 1 of Barley. The sales also are very insignificant, including Taganrog Ghirka Wheat at 46s. 9d. to 47s., Sandomirca at 46s. 9d. per 480 lbs.; Ibrail Maize at 30s. to 30s. 3d. per 480 lbs. On passage were sold Galatz Maize at 33s. nett, per 492 lbs.; Danube Barley at 25s. 6d. nett per 400 lbs. The arrivals of English Barley this week are large, moderate of English Wheat, small of Oats, and unusually small of all foreign grain. This morning's market was very thinly attended, nevertheless the English Wheat fresh up or left over from last day was sold at the extreme prices of Monday last. Foreign was in limited request, and being held for a greater advance than millers were willing to comply with little business resulted. Barley is a slow sale at late rates. Beans and Peas are unaltered in value. The Oat trade is steady at an advance of 6d. per qr.

ARRIVALS FROM Dec. 12 TO Dec. 15.

| | Wheat. | Barley. | Oats. | Flour. |
|---|---|---|---|---|
| English .. | 2330 qrs. | 5670 qrs. | 710 qrs. | 1720 sks. |
| Irish .... | — ,, | — ,, | — ,, | — ,, |
| Foreign .. | 450 ,, | 2120 ,, | 4890 ,, | — ,, / — brls. |

LIVERPOOL, Tuesday, Dec. 13.—We have had a fair attendance of buyers at our Corn Exchange this morning, but they showed little disposition to operate, and only a trifling business consequently resulted. Both Wheat and Flour are, however, held steadily at previous rates, the American advices to hand during market imparting additional firmness to holders. Indian Corn was little inquired for, and previous quotations are with difficulty obtainable. Oats and Oatmeal dull and rather cheaper. Beans, Peas, and Barley all rule in buyers' favour.

FRIDAY, Dec. 16.—The grain market was quiet but firm. Common Wheat in fair demand. Flour dull. Feeding stuffs of all kinds dearer. Indian Corn and Oatmeal 6d. advance. Oats, Beans, and Barley firm.

| AVERAGES | Wheat. | Barley. | Oats. | Rye. | Beans. | Peas. |
|---|---|---|---|---|---|---|
| Nov. 5.. | 42s 9d | 35s 9d | 22s 1d | 30s 2d | 39s 3d | 38s 5d |
| — 12.. | 42 10 | 35 11 | 21 5 | 29 7 | 40 3 | 37 9 |
| — 19.. | 43 1 | 35 11 | 21 11 | 28 4 | 40 9 | 39 6 |
| — 26.. | 44 1 | 36 1 | 22 6 | 29 1 | 41 2 | 39 0 |
| Dec. 3.. | 44 8 | 36 5 | 21 9 | 30 7 | 41 9 | 39 3 |
| — 10.. | 43 11 | 35 10 | 21 5 | 32 10 | 41 1 | 39 1 |
| Agg. Aver. | 43 7 | 36 0 | 21 10 | 30 1 | 40 8 | 38 10 |

FLUCTUATIONS IN THE LAST SIX WEEKS AVERAGES.

| PRICES. | Nov. 5. | Nov. 12. | Nov. 19. | Nov. 26. | Dec. 3. | Dec. 10. |
|---|---|---|---|---|---|---|
| 44s 8d | .. | .. | .. | .. | | .. |
| 44 1 | .. | .. | .. | | .. | .. |
| 43 11 | .. | .. | .. | .. | .. | |
| 43 1 | .. | .. | | .. | .. | .. |
| 42 10 | .. | | .. | .. | .. | .. |
| 42 9 — | | .. | .. | .. | .. | .. |

## COAL MARKET.—Dec. 14.

Byass's Bebside West Hartley, 14s. 6d.; Davison's West Hartley, 14s. 6d.; Lambert's West Hartley, 14s. 6d.; Tanfield Moor Butes, 14s. 6d.; Wylam, 15s. 9d.; Walls End Sheriff Hill, 17s. 6d.; Eden Main, 18s. 6d; Walls End Braddyll's Hetton, 19s. 3d.; Walls End Framwellgate, 18s. 9d.; Walls End Hetton, 20s.; Walls End Hetton Lyons, 18s. 3d.; Walls End Kepier Grange, 19s. 3d.; Walls End [illegible] 19s. 9d.; Walls End Stewart's, 19s. 9d.; Walls End [illegible] 17s. 3d.; Walls End Cassop, 19s. 3d.; Walls End [illegible] 19s. 9d.; Walls End Heugh Hall, 18s. 6d.; Walls End [illegible] wick, 14s. 6d.; Walls End Kelloe, 19s. 6d.; Walls End [illegible] Hartlepool, 18s. 9d.; Walls End Whitworth, 15s.; Walls End South Durham, 18s. 6d.—83 ships at market.

POTATOES.—SOUTHWARK, Monday, Dec. [illegible]. During the past week, the arrivals have not been as the previous week, but still more than equal to the demand. The trade still dull. The following are this day's prices:—Yorkshire Regents, per ton, 75s. to 110s.; [illegible] do., 70s. to 90s.; Dunbar do., 90s. to 110s.; Perth, Fifeshire do., 60s. to 80s.; Kent and Essex do., 70s. Rocks and Reds, 60s. to 65s.; French Whites, 60s. Belgian do., 55s. to 65s.

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# The Gardeners' Chronicle Newspaper.

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SCOTTISH UNION FIRE AND LIFE INSURANCE COMPANY.—The 35th Annual General Meeting of the Scottish Union Insurance Company was held on Wednesday, December 7, 1859. A Report by the Directors, giving full and detailed statements of the Company's transactions, was submitted to the meeting, and unanimously approved of.

The Report by the Auditor of the Company, certifying the accuracy of the Balance Sheets and of the various Statements, was also submitted to the meeting.

It appeared from the Report that—

The number of Life Policies issued during the year was 522
The amount insured thereby was .. .. .. £252,740
The annual new premiums .. .. .. £7814 1s. 9d.

That the amount paid for life claims, including bonuses, was considerably less than in the previous year; and that after payment of all claims, expenses of management, &c., a large sum was added to the Life Assurance funds.

In the Fire Department it was stated that the premiums amounted to 40,572*l.*, being an increase of upwards of 3600*l.*, when compared with the amount for the previous year, and that, after payment of all fire losses, expenses of management, &c., there was a considerable surplus on the fire account.

A dividend was declared payable to the shareholders on the 3d of January, 1860, at the rate of 8 per cent., free of Income-tax.

London Board.

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THE ARMY AND NAVY GAZETTE, and JOURNAL of the MILITIA and VOLUNTEER FORCES. Edited by W. H. RUSSELL, Esq., LL.D., late Special Correspondent of *The Times*

On Saturday, January 7, 1860 be published, price 6*d.*, the First Number of a New Weekly Paper, under the above title devoted to the discussion of questions relating to the Military Services and National Defence, and the dissemination of authentic information upon those subjects

Office 16, Wellington Street North, Strand, W.C

# News of the Week.

An important pamphlet has just been published in Paris on the subject of the Papal States, under the title of "The Pope and the Congress." It is from the pen of M. DE LAGUERONIERE, the

author of the famous pamphlet entitled "NAPOLEON III. and Italy," which heralded the recent war with Austria, and is universally regarded as the manifesto of the EMPEROR OF THE FRENCH on the Papal question. After examining at great length the position of the POPE in his spiritual capacity as the infallible head of the Roman Catholic Church, it proceeds to discuss the relations of his spiritual dominion to his temporal power. As the result of this examination, it declares that the POPE is not fit to govern a large State, and that his temporal sovereignty ought in future to be restricted to the city of Rome; that the Romagna ought to be separated from the Papacy—first, because the POPE ought not to have many subjects; secondly, because it is already separated; thirdly, because France can neither restore the Papal power by force nor allow any other Power to do so; and fourthly, because France, as a liberal nation, cannot compel a people to submit to a Government which their will rejects. At the same time it is declared that the POPE must not be a subject of any one Power, and therefore must be left in possession of Rome, rich in so many associations, and be there supported by the contributions of the whole Catholic world. The city of Rome, as the seat of the Papal Court, must have no army, representation, press, or magistracy, the occupations of the citizens being "contemplation, the arts, the preservation of their ruins, and prayer." As to the power of the Congress to effect these arrangements, the pamphlet observes that Europe, which could sacrifice Italy in 1815, can emancipate her in 1860; and it disposes of the special objection that the majority of the great Powers are by the fact of their being schismatic rendered incompetent to deprive the POPE of any of his provinces, by declaring that as these same Powers gave the provinces to the POPE in 1815, they have certainly the right to consider in 1860 whether they can leave them in his possession.

A despatch from Madrid informs us that on Tuesday last 8000 Moors attacked the Spanish position, but were compelled to retreat in great disorder, and with a loss of only 51 wounded on the part of the Spaniards.

Accounts from St. Petersburg announce the important news that the war in the Caucasus is at an end, the Circassian chief, MAHOMED AMINE, having made his submission to Prince BARIATINSKI, with all the people of Abadzekhe, amounting to 100,000 men. In consequence of this surrender Prince BARIATINSKI has been promoted to the rank of a Field-Marshal of the Empire, and the Borodino Regiment is henceforth to bear his name.

From the United States we learn that the President's message was not delivered on the 13th inst., the election of Speaker having been delayed by the angry discussions in both Houses on the slavery question. General SCOTT has proposed to Governor DOUGLAS a joint occupation of the island of San Juan by a small military force of each nation, as a precautionary measure for the protection of their respective countrymen, without prejudice to the claim of either nation to the sovereignty of the island. Governor DOUGLAS, in reply, has expressed his conviction that no obstacle exists to a completely amicable and satisfactory adjustment, either on the plan suggested by General SCOTT or on some other that may be mutually agreed upon, pending the diplomatic discussion of the title to the island.

## Home News.

THE COURT.—The Queen, Prince Consort, and the Royal family arrived at Windsor Castle on Wednesday from Osborne. On Friday the Prince and Princess Leiningen and Baron de Loewenfels arrived at Osborne on a visit to her Majesty. On Saturday the Prince of Wales arrived from Oxford on a visit to her Majesty. Baron de Loewenfels, on the part of the reigning Duke of Saxe-Coburg, presented the Prince of Wales with the Insignia of the Order of the Ducal Houses of Saxony. On Sunday morning the Queen, Prince Consort, Prince of Wales, Princess Alice, Princess Helena, Princess Louisa, and Prince Arthur attended Divine service at Whippingham Church; the Rev. George Prothero officiated. On Monday morning the Queen and Prince Consort walked out. Baron de Loewenfels left Osborne on his return to Germany. On Tuesday the Queen and Prince Consort walked in the grounds. The Prince of Wales, Princess Alice, and the Royal family took their usual exercise. On Wednesday morning the Queen and Prince Consort, accompanied by the Prince of Wales, Prince Arthur, Prince Leopold, and the Princesses Alice, Helena, Louisa, and Beatrice, left Osborne for Windsor Castle, where they arrived at 2 o'clock. In the afternoon her Majesty, the Prince Consort, the Prince of Wales, and the Princesses visited the Duchess of Kent at Frogmore. On Thursday morning the Prince Consort, with the Prince of Wales, Prince Arthur, Princess Alice, Princess Helena, and Princess Louisa, skated on the ice in the Home Park in the presence of the Queen. The Duc de Nemours, with the Comte d'Eu and the Duc d'Alençon, visited her Majesty.

PRINCE ALFRED arrived at Corfu on the 5th inst. in the Euryalus, after having paid visits to Mount Athos and Mount Olympus since his visit to Athens. His Royal Highness was received with great ceremony by the Lord High Commissioner, and the civil, military, and ecclesiastical authorities of the Ionian islands. On the 7th the Prince, accompanied by the Lord High Commissioner, the Admiral, and a numerous party of naval and military officers, crossed over to Albania for the purpose of woodcock shooting. On the 8th his Royal Highness was entertained at a grand dinner by the President of the Senate, followed by a ball at the palace, and on the 9th he returned to Malta.

THE EX-ROYAL FAMILY OF FRANCE.—Letters from Egypt announce the arrival at Alexandria of the Count de Paris and the Duke de Chartres. The princes were to remain at Alexandria until the 7th, and at Cairo until the 11th, and then to continue their journey into Upper Egypt.

PARLIAMENTARY MOVEMENTS.—It is now announced that Mr. Ralph Benson, notwithstanding his recent retirement, will again come forward as the Conservative candidate for Reading, in opposition to Sir F. Goldsmid.

THE NAVY.—The Lords of the Admiralty have issued a circular revising the punishments hitherto in operation in the Navy, by dividing all seamen and marines into two classes on the plan lately adopted by the Duke of Cambridge in regard to the Army. This circular is ordered to be read to the crews of her Majesty's ships on all occasions when the Articles of War are read.

LAW APPOINTMENTS.—Mr. Collier, M.P., Q.C., has been appointed Counsel to the Admiralty and Judge-Advocate of the Fleet, in succession to Mr. Atherton, Solicitor-General. The appointment, not being an office under the Crown, does not vacate Mr. Collier's seat in Parliament as member for Plymouth.

VOLUNTEER RIFLE CORPS.—A meeting of the enrolled members of the London Brigade was held on Thursday at Guildhall, at which it was unanimously resolved to present an address to the Duke of Cambridge inviting his Royal Highness to accept the colonelcy of the Brigade. On Saturday afternoon about 700 members of the brigade, preceded by their band, marched to Guildhall, and took the oath of allegiance before the Lord Mayor. The ceremony attracted more than ordinary attention, and a large concourse of spectators assembled in the hall to witness the proceedings.—The executive committee of the London Irish received on Saturday a communication from the Lord-Lieutenant of Ireland, the Earl of Carlisle, expressing his Excellency's willingness to form one of the council, and co-operate in carrying out the effectual organisation of the corps. Communications have also been received from Liverpool and Manchester stating that the committee engaged in forming an Irish corps in those towns have resolved upon co-operating with the London body. The corps met on Thursday in Westminster Hall for drill, and though it was only formed within the last month, there was a strong mustering of effectives of all ranks, and of all political and religious opinions.—The directors of the Oriental Bank have given the London Scottish permission to drill in their spacious hall. A company is forming in the Islington district in connection with this corps.—The officers of the British Museum, with the sanction of the trustees, have resolved on forming a rifle corps in connection with that institution.—The secretary to the Audit Office corps has received, through the Lord-Lieutenant, a communication from the Secretary of State for War stating that her Majesty has accepted the services of the Civil Service brigade, which will rank as the 21st Middlesex. The brigade will be formed of companies of the effective members of the various Civil Service corps in London, each company being equipped, drilled, officered, and fully organised by its own corps or club; and the general affairs of the combined force will be managed by a council of representatives from each of the corps furnishing companies.—The members of the Inland Revenue Corps at Somerset House are now regularly drilled in the newspaper stamping-room of the establishment, which, being large and well lighted with gas, is exceedingly commodious for the purpose and available in unfavourable weather. The enrolled members amount now to nearly 100, and fresh accessions are made daily.—A meeting of gentlemen belonging to the various public offices in the vicinity of Whitehall was held on Friday, Mr. Tom Taylor in the chair, when resolutions were unanimously adopted for the formation of a Whitehall Corps, in connection with the Civil Service Brigade. A committee composed of members of the several departments was elected, and Mr. Merrifield, of the Privy Council Office, was [illegible] honorary secretary.—An attempt, originating [illegible] themselves, is now making to organise a corps [illegible] among the students of King's College, and about [illegible] volunteers have been already enrolled.—The Inns Court corps continues to receive additions to [illegible] numerical strength daily. Starting, little more than a fortnight ago, with about 200 members, the number has increased to 520, and the practice proceeds with unflagging energy and spirit. The corps is divided into six companies, each of which is drilled twice a week either in the hall or grounds of Lincoln's Inn, or those of the Inner and Middle Temple. Shortly after Christmas the whole corps is to be assembled for the purpose of electing officers.—The five companies appointed by the Lord-Lieutenant for the Northern District of London have amalgamated under the title of the North London Rifle Volunteers. An influential council is formed, and will shortly be announced. The 4th and 5th companies are now in an advanced state of drill, and the 4th has received the proportion of rifles allowed by Government.—On Saturday afternoon there was a large muster of effective members of the South Middlesex corps at Beaufort House, Walham Green, for the purpose of drill and parade. At the close of the drill Lord Ranelagh administered the oath of allegiance to several new members. The total effective strength of the corps now amounts to upwards of 600, exclusive of nearly 300 honorary members.—On Saturday evening a crowded public meeting of inhabitants of Belgravia and Knightsbridge was held in the school-room attached to St. Paul's Church, Wilton Place, Earl Grosvenor, M.P., in the chair, at which it was resolved to form a company for the district of St. Paul's, in connection with the Queen's Corps. In the course of his address Lord Grosvenor said he did not know how many volunteers had enrolled themselves throughout the country; but he was quite sure before long—putting it at a very moderate figure—we should have 150,000 trained and skilled riflemen and that, he felt sure, would be one of the best guarantees we could have for the peace not only of this country, but of Europe. He also adverted to the meeting held last week for the formation of a rifle corps for the districts of Belgravia and Knightsbridge, to be incorporated with the South Middlesex under Lord Ranelagh, and said that considering how extensive South Middlesex was, he thought it was hardly fair in Lord Ranelagh to encroach on a much smaller one, previously occupied by the Queen's Volunteers. Colonel Knox, M.P., Colonel Vereker, and Mr. Curzon assured the meeting that there was no rivalry on the part of Lord Ranelagh, and Colonel Knox added that instead of allowing the movement to dwindle into small isolated bodies it was desirable to associate together in large masses, trained and disciplined.—The St. Clement Danes corps, which now numbers upwards of 60 members, meets for the purpose of drill every Tuesday, Thursday, and Friday evening, in the hall of St. Clement's Inn.—The fund of the St. James's Westminster corps now amounts to upwards of 500*l*., and nearly 100 effective members have been enrolled, including Earl Spencer, the Hon. Frederick Byng, and Mr. Henry Grenfell.—The corps of St. Martin's in the Fields and St. George's Hanover Square meet regularly for drill in Westminster Hall, and the numbers of both corps are daily increasing.—The St. Pancras and North Middlesex corps now numbers upwards of 100 effective members.—A crowded meeting was held at the Music Hall, Store street, on Thursday evening, in furtherance of the establishment of a volunteer corps for the united parishes of St. Giles and St. George, Bloomsbury, at which it was resolved that the corps to be raised in these parishes should form part of one of the Middlesex corps.—A numerously attended meeting was held at the Beaumont Institution on Thursday evening, Mr. Butler, M.P., in the chair, at which it was resolved to form a company in the Mile End district to be incorporated with the Tower Hamlets Corps.—The musters of the Victoria Rifles continue to increase weekly, while the candidates for admission are so numerous that its effective strength will soon reach 1000. The corps, in addition to their parade ground of 14 acres at Kilburn, have obtained from Government the use of the riding-school at the St. John's Wood Barracks, and have also secured another ground for rifle practice, with a range of nearly 2000 yards.—A meeting was held at Ealing on Tuesday, the Right Hon. S. H. Walpole, M.P., in the chair, at which it was unanimously resolved to form a rifle volunteer corps in the immediate neighbourhood of that parish.—On Saturday afternoon a numerous and influential meeting of the residents of Blackheath and Lee was held, General Alexander in the chair, when the oath of allegiance was administered to the members of the Blackheath and Lee Company of Kent Rifles.—A numerously attended meeting was held on Tuesday at Albion Hall, Dalston, Mr. Ayrton, M.P., in the chair, at which it was resolved to form a rifle corps for Dalston and its vicinity.—A public meeting has been held at Stockwell, Mr. Roupell, M.P., in the chair, at which it was resolved to form a Stockwell and South Lambeth company, in connection with the 1st Surrey.—From the provinces we learn that meetings in aid of the movement have been held during the week at Ashton-under-Lyne, Botley, Bishopstoke, Boston, Bridgend, Banbury, Barnard Castle, Blandford, Cardiff, Colchester, Carnarvon, Chester-le-Street, Diss, Driffield, Exeter, Epperstone, Greenhithe, Greenwich, Guildford, Glasgow, Harwich,

Hexham, Horsforth, Henley, Halifax, Irvine, Keswick, Knutsford, Kington, Kirkham, Leeds, Leyburn, Lydd, Lymington, Leicester, Lytham, Largs, Leominster, Market Drayton, Mansfield, Melton Mowbray, Northwich, Newton, Newark, Nottingham, Patshull, Padstow, Pontypool, Otterhead, Runcorn, Rochdale, Sedgeley, Stonehouse, Stourbridge, Stowmarket, Skipton-in-Craven, Seaham, Stirling, Stranraer, Tredegar, Tavistock, Tiverton, Uxbridge, Warkworth, Wadebridge, Worcester, Walsall, Wednesbury, Woolston, West End, Whitney, and Yarmouth.

## Foreign.

FRANCE.—The French Cabinet yesterday by telegraph informed the Powers concerned that the opening of the Congress will not take place before the 19th January.—The Pope has addressed an autograph letter to the Emperor, declaring that he is willing to be represented at the Congress, "having full confidence in the loyalty and firmness of the eldest son of the Church, to whom God has intrusted the mission to protect the patrimony of St. Peter against illegal covetousness." Prince de la Tour d'Auvergne will be the Second Plenipotentiary of France; the Marquis d'Antonini will be the Second Plenipotentiary of Naples; Count Rechberg will be the First Plenipotentiary of Austria; and Cardinal Antonelli will represent the Pope. The French Ambassador at St. Petersburg has communicated to the Russian Government the wish of the Emperor Napoleon that the functions of first Plenipotentiary of Russia may be intrusted to the Minister for Foreign Affairs. Prince Gortschakoff has accepted the invitation, but has expressed a desire that the opening of the Congress shall not take place until after the Russian new year (January 13), as he is detained at the Court on that day by the duties of his office. Count Avigdor, representative of the Republic of San Marino at the Court of Paris, has presented a memorandum to Count Walewski, addressed to the future Congress, against the encroachments of Piedmont. The Emperor of the French has conferred the Grand Cordon of the Legion of Honour on the Prince of Orange. It is officially announced that on the 1st of January the Emperor will receive the *corps diplomatique* and the legislative bodies. On Monday, Tuesday, and Wednesday Prince Metternich received at his hotel the principal members of the diplomatic corps, the grand dignitaries of State and of the Crown, the officers of the household of the Emperor, of the Empress, and the Imperial Princes. Princess Metternich will hold her receptions next week, immediately after having been presented to the Empress. Prince Jerome's health continues to improve, and no bulletins will be published for some days.—M. de Laguerronière, the author of the pamphlet "Napoleon III. et l'Italie," which heralded the late war with Austria, has just published an important pamphlet on the political condition of the Roman States under the title of "Le Pape et le Congrès." The following extracts relative to the sovereignty of the Holy See over the Romagna will give an idea of the general tenour of the work:—

"We ourselves are of the opinion that the separation of the Romagna would not tend to diminish the temporal power of the Pope. His territory, it is true, would be diminished, but his political authority, disencumbered of a resistance which paralyses it, would not be weakened, but morally strengthened. For, let us repeat it, the authority of the Head of the Church does not lie in the extent of a territory which he cannot retain except by the support of foreign arms, and in the number of subjects which he is obliged to oppress to make them submit; it lies in the confidence and respect which he inspires, and which relieve him from having recourse to extreme measures of rigour and constraint, bad for all Governments, but especially so for a Prince who reigns gospel in hand. What matters it, then, to the prestige, to the dignity, to the greatness of the Sovereign Pontiff, the square miles comprised in his States? Does he want space to be beloved and venerated? Are not his benedictions and his teachings the most powerful manifestation of his right? Does he not love and bless the whole universe? Whether he rules over few or many, that is not the question; what is essential is that he should have a sufficient number of subjects to be independent, and that he should not have too many to be carried away by those currents of passions, of interests, of novelties which are produced everywhere where there are considerable agglomerations. The importance of the Pope does not consist in the 21 provinces which he actually possesses. Bologna, Ancona, and Ravenna, separated from Rome by a chain of mountains, the character of their inhabitants and historical souvenirs add nothing to the splendour of Rome. The Pope throned at Rome, his seat at the Vatican, is what awes the world. The Sovereign of the Roman States is scarcely thought of. By restoring the Romagna to the Holy Father it would not be restoring to him respectful, submissive, and devoted subjects, ready to obey his behests; it would be giving him enemies of his power, resolved to resist him, and whom force alone could keep under. What would the Church gain thereby? It would be obliged to see unfaithful sons in rebellious subjects, and to excommunicate those it ought to strike. To assert its sovereignty it would, perhaps, have to renounce its noblest title, that of Mother. This is not what it desires. This is not what the Bishops and the Catholics desire. A resumption of possession acquired at such sacrifices would be a disaster, and not a triumph. For some 100,000 inhabitants restored to the temporal sway of the Pope, it would give a blow to his spiritual authority, from which the protection of God and the wisdom of Europe will know how to protect it. * * * The territory of the Papal States, therefore, is no more indivisible than its extent is invariable. Like all possessions, this one is subjected to the influence of events; it is extended or diminished, according as its interests and the general necessities of policy impose changes upon it. In this respect nothing is exempted. Only the spiritual authority of the Pope is immutable, like the truths it represents and the doctrines it teaches. As to the temporal authority allied to the other, it, by a superior principle, necessarily remains subjected to all the conditions of human things. To endow with a divinity that which is only human would be to lower the power that is Divine, and give the character of eternity to institutions as mutable and fluctuating as the accidents, the changes, and the progress of society. All the reasons that are brought forward to impeach the competence of the Congress and fetter its freedom of action, are therefore valueless. Europe, which in 1815 could succour Italy, can in 1860 emancipate and save her. The right of acting is the same; the only question is its better application. As to the special objection that the majority of the great Powers being schismatic they are by that fact alone rendered incompetent to deprive the Pope of one of his provinces, we reply—since these same Powers in 1815 gave them to the Pope, they have certainly the right to consider whether they can or cannot leave them in his possession in 1860. What is to be done in the actual position of affairs to reconcile interests that appear irreconcilable? Two extreme parties are opposed to each other—one wishes to deprive the Pope of everything, the other to give him all. They are two hypotheses equally inadmissible, and both, though radically contrary to each other, would have the same result for the Papacy. We believe there is another course that may be taken. First, we wish that the Congress should recognise as an essential principle of European order the necessity of the temporal power of the Pope. That is for us the chief point. The principle here appears to us to have more value than the territorial possession, more or less extensive, that will be its natural consequence. As for this territory itself, the city of Rome includes all that is most important in it; the rest is only secondary. The city of Rome and the patrimony of St. Peter must be guaranteed to the Sovereign Pontiff by the great Powers, with a considerable revenue, that the Catholic States will pay, as a tribute of respect and protection to the Head of the Church. An Italian militia, chosen from the *élite* of the Federal army, should assure the tranquillity and inviolability of the Holy See. Municipal liberties, as extensive as possible, should release the Papal Government from all the details of administration, and thus give a share of public local life to those who are disinherited of political activity. Finally, every complication, every idea of war and of revolt, must be for ever banished from the territory governed by the Pope, that it may be said, where reigns the Vicar of Christ, there also reign wellbeing, concord, and peace. It is the task of the Congress to effect this transformation, become necessary to consolidate the temporal authority of Rome. As we have before said, this consolidation is absolutely connected with the interests of Europe. As a temporal and divine institution, the Papacy has nothing to fear from men; it is eternal. As a political institution it is exposed to all the trials and calamities that impend over all human things. Well! it is important to the security and honour of all that it should not be attacked in the constitution it has received from time and history. Catholic or schismatic, the great Powers have the same interest, for the independence of the head of the Church is not only a question of conscience and religion, it is also a guarantee of the moral equilibrium of the world. This great cause, therefore, cannot be indifferent to any one; and we know no cause more worthy of the arbitration of those who are called on to judge it."

The Tours papers state, in reference to the recent trial in that city, that M. Lachaud, the counsel for the prisoners, has received since the trial 10 offers of marriage for Angelina Lemoine.

SPAIN AND MOROCCO.—On Tuesday last 8000 Moors attacked the Spanish, but were energetically repulsed, and compelled, by grapeshot and grenades, to retreat in great disorder. The Spanish had 51 wounded. Ten men-of-war, formerly stationed at Havannah, have arrived to reinforce the squadron at Algesiras. A great quantity of provisions has been despatched to the army in Africa. Accounts from Cadiz state that the plan of the Spaniards is to attack Tetuan on two sides simultaneously—by land from Ceuta, and by sea from the river of Tetuan. The bad state of the sea and the defensive measures adopted by the Moors will render the attempt very difficult. It has been ascertained that Tetuan is defended by earthworks and redans, as Sebastopol was, constructed with a degree of skill not to have been expected from the Moors. In consequence of the late victories the Queen has raised General O'Donnell to the rank of Marshal. The *Gibraltar Chronicle* of the 10th inst. publishes a despatch from the Moorish Minister for Foreign Affairs, which has been transmitted for publication to various English and foreign journals, in order to show that Spain had no just grounds for the present war. The Madrid papers have been discussing a demand made by the English Government for the payment of a long-standing debt of 440,000*l.* due by Spain for "material of war" supplied by England during the civil war against Don Carlos. It appears that the Spanish Government, "willing to give another proof of its good faith in the matter of legitimate claims," named a commission to examine the present one, and having found it quite right, intends to pay the debt.

PORTUGAL. — Accounts have been received from Lisbon of the discovery of a crime as mysterious and revolting as the Waterloo Bridge tragedy. In one of the environs of Lisbon, near the Palace of Ajuda, a box was discovered in a field, which, being opened by the police, was found to contain a young female corpse, doubled up so that the knees were pressed against the chin. Death appeared to have been caused by a wound in the throat, and the texture of the nightclothes in which she was dressed, and the general appearance of the body, showed she had belonged to the better class of society. This affair created the greatest excitement, as the police had failed to obtain a clue to the assassin.

FRANKFORT.—In the sitting of the Federal Diet on Saturday the proposals of the Würzburg Conference were brought forward. They are as follows:—1. The publication of the proceedings of the Federal Diet. 2. A common civil and criminal legislation. 3. A common law of domicile. 4. A revision of the Federal military constitution, by increasing the Federal forces organically and not numerically; and, 5. The fortification of the coasts of the North and Baltic Seas. The Christmas vacation of the Federal Diet has been declared, and will continue till the 5th of January.

AUSTRIA.—In the last Cabinet Council presided over by the Emperor it was resolved that in the next budget a reduction of 38,000,000fl. shall be made in the expenses of the War Department. It is stated that Austria is about to proceed to a complete disarmament. The report of an intended abdication of the Emperor is totally unfounded. The statement that the Archduke Maximilian would be absent from Austria two years is likewise incorrect. The journey of his Imperial Highness to the Brazils will only occupy six months.

SWITZERLAND.—In reply to a memorandum addressed by Switzerland to the Powers composing the Congress, the majority have expressed themselves favourable to the admission of Plenipotentiaries of Switzerland at the time when the Congress deliberates on the neutrality of the province of Savoy.

HUNGARY.—Accounts from Pesth state the political agitation in Hungary is augmenting daily. The Government of Vienna has given up all idea of reconciliation, and is employing military law and political persecution against all who dare to speak of "nationality." In accordance with this policy the Emperor has issued a decree, by which the German is substituted for the Hungarian language in the University of Pesth.

PRUSSIA.—The state of the King of Prussia, which has been getting more and more alarming since the 12th, now inspires so much uneasiness that even the official papers do not attempt to disguise the fact. The two gentlemen attached to the Court who were commissioned to find a suitable residence for their Majesties in England have been recalled. They had fixed upon a country house near Torquay.

BADEN.—There is a great agitation in Baden against the Concordat, although two-thirds of the inhabitants of the Grand Duchy are Roman Catholics. It daily becomes more evident that the wholesale importation of Jesuits into Germany has given great offence to its enlightened inhabitants, and it is now thought that the Concordat will not obtain the constitutional approbation of the Chambers.

HANSE TOWNS.—The merchants of Bremen and Stettin having recently resolved to take measures for inducing the great Powers to guarantee the protection of private property at sea in time of war, the shipowners and merchants of Hamburg have gone a step further by asking that the protection should extend to the vessels and cargoes belonging to the subjects of the belligerent Powers. The navigation between Stettin and Swinemunde was suspended on the 14th by the ice.

DENMARK.—The magnificent château of Frederiksburg, the residence of King Frederick VII., was entirely destroyed by fire on Saturday night. An official despatch says that the King was in the palace when the fire broke out. No lives were lost. The proposal of a Scandinavian expedition to China and Japan has been agreed to. Sweden is to send a screw line-of-battle ship, and Denmark and Norway are each to send steam-frigates, but they will not take their departure before October, 1860.

ITALY.—M. Buoncompagni arrived at Florence from Turin on Wednesday. The Tuscan Government issued a manifesto to the Tuscans of the 16th, announcing that four days after "the Governor-General of the League of the Independent States of Italy, appointed by the august Prince of Savoy," would arrive at Florence, in order to give them additional strength. The document concludes with recommending the Tuscans to persevere, until their union with Sardinia be acknowledged. "Let us salute," it says, "him who possesses the confidence of the King, of Prince Eugene, and ourselves. With this concord and confidence, let us progress with courage towards the goal which is reserved for constant and united people." The designation of Count Cavour as first Plenipotentiary of Sardinia at the Congress is definitive, and will be notified to the different Powers after the communications of the other Plenipotentiaries have been published. The frigate Eurydice is about to sail for China, to protect the interests of the Italian subjects residing there. The Tuscan Government has issued a decree enacting that the mortal remains of the Marquis de Lajatico, who died recently in London, shall be transferred to Florence in state, and that a monument to his memory shall be erected in the church of Santa Croce, already celebrated for the number of its monuments of great men. Letters from Rome state that Cardinal Antonelli will embark on the 28th inst. on board a Pontifical corvette for France. Monsignore Bernardi will be intrusted *ad interim* with the Ministerial functions of the Cardinal. In order to cover the deficit in the Papal Exchequer the Minister of Finance has sold 2,000,000*l.* of Roman Consolidated Funds without having recourse to a loan. Cardinal Wiseman has arrived in Rome, where he has been cordially received by the members of the Sacred College, and has had an interview with the Pope. The Cardinal Vicar of Rome has issued an edict, forbidding ladies to go to church in crinoline, and directing the confessors to forbid them to present themselves at the altar for the sacrament unless they are dressed in a simple manner. Complaints are made of the small number of foreigners at present in Rome. The police-books have only 4000 passports inscribed, while last year at the same period the number was 10,000. Gen. Fanti has, by an order of the day, dated Modena, 12th, fixed the head-quarters of the army of Central Italy at Bologna. The territory is to be divided into two military divisions, viz., one comprising Parma and Modena, and the other the Romagna. General Mezzacappo is to command the first, and General Roselli the second. Letters from Naples state that during the

night between the 12th and 13th inst. numerous arrests, including several eminent persons, were made. The persons arrested are accused of having clandestinely printed journals, and of having supported a subscription in behalf of General Garibaldi, several documents concerning which have been seized. The police were searching for the distributors of the photographic portraits of Agesilas Milano. The Sardinian Consul had been arrested by mistake, but was immediately set at liberty.

RED SEA.—The Imperador, with 926 knots of the Indian cable on board, arrived at Aden, December 8, all well; passage 67½ days.

CAPE OF GOOD HOPE.—The Captain Cook, from Kurrachee, with the East India Company's disbanded troops, grounded on November 12th, as she was beating into Table Bay. After landing the troops and throwing cargo overboard, with the assistance of the Imperador, she floated again next morning. When the Imperador left the troops were re-embarking, and the ship was reported as making no water.

THE CAUCASUS.—A despatch from St. Petersburg announces the termination of the war in the Caucasus. Mohamed Amine, the principal chief of the mountaineers of the right wing of the Circassians, has submitted, the consequence of which is the submission of the whole people of that country. The Czar has raised General Bariatinski to the rank of Marshal

TURKEY.—Ahmed Wefik Effendi has been appointed Ambassador to the Court of Paris.

THE PRINCIPALITIES.—Despatches from Jassy dated Dec. 18 state that the National Assembly, after having received a message from Prince Couza, has been dissolved.

INDIA.—The Bombay mail of the 26th ult. reached London yesterday morning. The following are the details:—

*Calcutta.*—A very important change is about to take place in the constitution of the executive council, which is to be remodelled after the fashion of her Majesty's cabinet, the members of council becoming secretaries of state. It is said that the new Indian cabinet will stand as follows:—President and Secretary for Political Affairs, Lord Canning; Home Secretary, Sir Bartle Frere; Secretary at War, Sir James Outram; Minister of Finance, Right Hon. James Wilson.

*Futteghur.*—The Governor-General and Commander-in-Chief left Cawnpore on the morning of the 5th and arrived at Futteghur on the 12th. They encamped at the Luckpeere Bagh and immediately held a station levee. The Durbar was held next day, and was attended by a large number of native chiefs. Lord Canning's camp is expected to be at Delhi about Christmas.

CHINA.—Accounts from Hong Kong state that political affairs were quiet. His Excellency Mr. Bruce remained at Shanghai, and Admiral Hope was at Hong Kong. Advices from the north state that the Chinese were taking energetic measures with the view of defence, and that Sankolinsin, the Tartar Chief, was at the head of affairs. Contributions were sought for by Government from the trading communities, which had responded but feebly to this call on their patriotism.

UNITED STATES.—Congress was opened on the 5th, but the Senate had not elected their Speaker, and the President's Message had not been delivered on the 13th. Both Houses jumped at once into the middle of the slavery question. In the Senate the Virginia senators moved for an inquiry into the Brown invasion at Harper's Ferry, and the seizure of the national arsenal there. The Republicans met this by an amendment asking also an inquiry into the attack by the "border ruffians" three years since upon the arsenal at Liberty, in Missouri, to furnish them with arms against the Free State party in Kansas. The Southern Democratic Senators took the ground that it was the duty of the Federal Government to protect the States, and if Congress were not disposed to afford that protection the south would take care of itself. The Republicans replied, disclaiming all sympathy with Brown's invasion, and courting the proposed investigation, if the two investigations can be conducted together. In the other House, after a single ballot for Speaker, in which the votes of all parties were much scattered, the Southern representatives took the same course as in the Senate, and the debate in both Houses was bitter and personal. Captain John Brown, as already announced, was executed at Charlestown on the 2d. The accounts say that he went to the gallows with the courage of a martyr and died like a Christian. A large number of military were in attendance, but no attempt at rescue was made. No event for years has created so profound a sensation throughout the country. Religious services and solemn meetings were held in many of the cities in the States during the time of the execution. At Boston there was a mass meeting at the Temple, which was so densely packed that hundreds were unable to gain admittance; and in the Massachusetts Legislative several attempts were made to adjourn the House during the execution out of respect for his principles, but they were negatived on division.

BRITISH COLUMBIA.—The following is the proposition submitted by General Scott to Governor Douglas for the joint occupation of the island of San Juan:—"Without prejudice to the claim of either nation to the sovereignty of the entire island of San Juan, now in dispute, it is proposed that each shall occupy a separate portion of the same by a detachment of infantry, riflemen or marines, not exceeding 100 men, with their appropriate arms, only for the equal protection of their respective countrymen on the said island in their persons and property, and to repel any descent on the part of hostile Indians." General Scott added in his note that any addition or modification suggested by Governor Douglas would meet with respectful consideration. Lieut.-Colonel Lay returned with the following reply:—"Memorandum. — His Excellency Governor Douglas authorises me to say, having yet no time to consider the proposition offered by Lieut.-General Scott, or to consult with his official advisers here, he is at a glance satisfied that no obstacle exists to a completely amicable and satisfactory adjustment continuing throughout the period of diplomatic discussion respecting the title of the Island of San Juan, either upon the plan suggested by General Scott, or some other that may be mutually agreed to after advisement." A copy of this memorandum was retained by Governor Douglas, after being read and approved by him, and signed by Lieut.-Colonel Lay.

MEXICO.—Captain Grenfell, of her Majesty's ship Amethyst, has seized two Mexican cotton-laden ships, and has threatened to take more if Mr. Allsop, the British Consul at Tepic, is not immediately released by Generals Coronado and Rojas. Senor Don Placido Vega, the Governor of Sinaloa, professes to have no means of inducing those Generals to comply with Captain Grenfell's demand.

## Public Addresses.

LORD PALMERSTON presided on Wednesday at the annual meeting of the Romsey Labourers' Encouragement Association and delivered six speeches, of which the following is an abstract. His lordship first addressed the labourers as follows:—

"My friends,—Perhaps you will allow me to address a few words to you to express the great pleasure which I have derived from having to hand over to so many deserving men and women in this neighbourhood these prizes—prizes which are not intended, I need hardly say, as rewards, but as tokens and memorials of your good conduct in your several vocations. I need hardly say that they are not rewards, because no man is so foolish as to think that these tokens of good conduct which are given are intended to be substantial rewards for the conduct on account of which they are bestowed. That is not the principle upon which decorations and memorials and tokens are given to mankind for their meritorious conduct. The soldier who hazards his life upon the field of battle, and who has attracted the attention of his superiors and of his comrades by distinguished and heroic bravery, is rewarded by a cross, very insignificant in intrinsic value, but which he wears on his breast as a token and a record of that good conduct which has obtained for him that which is a real reward—namely, the esteem and respect of all around him. In the same way in other classes of life, men who perform distinguished services to the State are rewarded by a little riband which they wear in their button-hole or over their shoulder, but nobody imagines that half a yard or two yards of red or blue riband are in themselves intrinsic rewards. They are tokens and records of that good conduct in the life of those on whom they are bestowed which testify to mankind that they have deserved well of their country. Therefore, my friends, I am delighted that so many of you have received these tokens of your good conduct in your respective vocations, and I am glad to say that these rewards have been given for almost every kind of service which an agricultural labourer is capable of performing. We have had prizes for ploughmen, for thatchers, for drill-men, for team-men, for the cultivation of gardens, for keeping cottages neat, and for good service in the families where labourers have been employed. And, my friends, without saying anything to flatter you, you may have the satisfaction of reflecting that you belong to a class most deserving of the esteem and respect of your fellow-countrymen, because the labour in which you are employed is at the root and foundation of the wealth and prosperity of a country. * * * These opportunities of meeting familiarly with those whom one does not meet every day in the year are most gratifying to me, and must be to every right-minded man. The fabric of society is constructed by an infinite gradation of ranks and conditions, and those who are perhaps separated from each other, and have not often an occasion of meeting, when the opportunities do occur should meet in order that they may reciprocally understand each other. I am sure that all classes of Englishmen if they do understand each other will value and love each other. I am not led away by any national vanity in that opinion, but I have that conviction with regard to the character of my country that I am sure the oftener the different classes of society meet together the more the whole fabric of society will be cemented, the stronger the nation will be, and the more each class will look to the other without jealousy, without suspicion, without enmity—with a conviction that there are no antagonistic interests, but that the interests of all are bound up in one general aggregate, which forms the interests of the country at large." * * * In proposing the "Army and Navy" his lordship said:—"We have already drunk 'The Ministers of Peace,' but peace cannot be reckoned upon for ever, and it is possible that it may be succeeded in all countries by war. Therefore I now propose to you the health and success of those establishments which defend us in war and enable us to regain the blessings of peace. I propose to you 'The Army and Navy,' and I am proud to say that I believe there never was a moment—a moment of peace at least—in which both of those services were in a condition of greater efficiency than they are at the present time. I am sure that the country is deeply convinced that the best method of preserving peace is to show that you are capable of defending yourselves in the event of being attacked. I trust that there is no likelihood in the present state of affairs that our army and navy will have to perform with the same distinction those duties which their predecessors have already performed. The spirit which the country has recently shown by the immense extent of volunteer organisation has produced a great effect not only in this country, but all over the world. It has tended to inspire that respect which all nations feel for a country which, without any aggressive intentions, shows that it is determined to hold its own, and to defend itself against all comers. Again I say that I trust there is nothing in the present state of things that betokens the likelihood of any occasion for that martial spirit to be displayed otherwise than by showing that we are ready to defend our shores; but it must be a great satisfaction to all of us to know that the army and navy are in a state of complete efficiency according to the numbers to which in a time of peace they can be carried, and that there are means in the country by which—if unfortunately unforeseen events should render it necessary that we should increase our armaments—those armaments might be rapidly increased to whatever the exigencies of the moment might require." * * * On the subject of employers his lordship said, "We are met here as a body of employers, and I hold that these associations affect the interest of the employer quite as much as they do the interests of those who are employed; for it is manifest that no agriculturist can pursue his avocation with advantage if he does not inspire in the minds of those he employs zeal in their calling, energy, industry, and especially good conduct. Agriculture has undergone a great change in the last few years. It used to be a practice—it is now raised to the condition of a science, and no man can be a successful agriculturist who does not raise his mind beyond the mere traditions of those who went before him, and who does not study the principles on which success in agriculture must mainly depend. A farmer ought to know now something, and perhaps not a little, of chemistry. He ought to know what are the ingredients of the soil which different crops take out for their nourishment. He ought to know how, by various manures and by various processes, to restore to the soil those ingredients essential to the growth of plants which former crops have taken out. He ought also to a certain extent to know the fundamental principles of political economy, and to be aware that he does not prosper by grinding down those who labour on his farm—that it is no real saving to give inadequate wages to those who work for him; that he gains nothing by avoiding to employ labour in the winter months; and that, in fact, there is no more advantageous and profitable investment in the cultivation of the land than labour. It is quite true that the ingenuity of mechanics has of late years introduced a great number of machines, which to some extent are substitutes for the work of the hands; but a farmer ought to know that the use of these machines is not to supersede the employment of labour, but to enable him to divert labour from those processes to which machinery is applicable, and to employ it profitably in other occupations. A great improvement has been made in the intelligence of the labouring classes. Some of us are old enough to remember the time when threshing machines were held in hatred by the labourer, when all sorts of improvements in machinery were thought to be means for taking bread out of the mouths of the labourers. But they are now wise enough to know that those processes and machines, instead of superseding labour, are simply an addition to labour. We all know the story of the farmer who, on his deathbed, told his two sons that he had a great treasure buried in a certain field, and that if they only dug over it they would find it. The sons did dig for it. Money they found not, but money's worth they did find, and the increased produce of the field by the application of manual labour repaid them amply for their exertions. That story is applicable to all farming occupations. I am sure that I am now addressing an enlightened audience, most of you practical farmers, who must have discovered that it is no economy to spare labour on your farms—that the more labour you are able to employ the more advantage you will derive from the crops; but the labour cannot be useful unless the labourer is well looked to, well housed, well fed, and well cared for. When the employers of labour bestow proper attention upon their labourers they engender a feeling of reciprocal regard; and it is in human nature that a man will work better for an employer he loves, and who treats him well, than for a man who is niggardly and churlish, who just pays him as much as will keep body and soul together, and neglects him in other respects. * * * I would now briefly advert to one topic which has been alluded to, the lodging of the labouring classes. Now, it is quite true that Mr. Dutton and myself have built some very good double cottages for the labourers on our own respective properties, but I have heard it said by many that it is all very well for us to do that, but that these buildings are altogether too expensive, that they do not pay, and that other people could not afford to erect them. Now, in the first place, I hold that observation to be founded on a fundamental error. When I build a cottage for a labourer on a farm I do not expect it to pay in money. When I build a good farm-house for a tenant I do not expect rent for that house separate from the farm. Well, the cottage for the labourer ought to be looked upon as a part of the appurtenances of a farm just as much as the buildings for cattle, or any of those other erections essential to the cultivation of the land. How can the land be well cultivated if the labourers are not well housed? if they are obliged to trudge three or four miles in order to get at their work, and the same distance home again? It is manifest that they must be not only exhausted physically, but that their time must be wasted in walking to and from their work, and that the farmer does not get from them his money's worth for the wages he pays. Therefore I consider that in providing a farm with accommodation for the number of labourers to be employed on it you are giving facilities to the tenant to cultivate his farm, and increasing the value of the farm which you let to a good tenant. If you get a shilling a week from the labourer it is more to impress upon his mind that he is earning the accommodation you give him rather than from any idea that it is to repay the expense of the erection. It is not like building houses in a town, which are built to be let at a profitable investment, but it is an addition to the value of the farm; and depend upon it a good tenant will give you more rent for a farm which he can cultivate to advantage. Then as to the expense of these cottages. Now, the cottages which Mr. Dutton and myself have built contain really no more accommodation than a decent family ought to have. They have simply one room to live in, a back kitchen, and what is of the utmost importance, three sleeping places. No cottage ought to be without three sleeping places—one for the man and his wife, another for the girls, and another for the boys. It is not necessary to pull down old cottages to build new ones. A great deal can be done at a moderate expense in improving old ones. All you require is to put a little porch in front of the door, which costs little; to give them a boarded floor instead of bricks; to make the walls air-tight and the roof water-tight; to give three sleeping-rooms, and to put up a sort of shealing at the back, with a little place below for a wood house. It is quite a mistake to suppose, then, that nothing real and essential can be done in improving the dwellings of the labouring classes short of pulling down the old ones and erecting new ones. The effect of improving those dwellings is almost marvellous. In the first place, you know that the comfort of a man's house depends upon the tidiness of his wife and the mode in which she tries to make him comfortable; but there is a temper of the human mind which is denominated recklessness. When a thing seems impossible it is given up in despair. When a cottage is in such a ramshackle state that it is impossible for the wife to keep it clean she becomes a slattern, everything goes to ruin, the man is disgusted, and flies to the beershop. If, on the contrary, the wife feels that she can by a little exertion make the cottage decent and respectable she does so, and then the man enjoys the comfort and happiness of his home, stays away from the beershop, and the sum of money he would spend in liquor goes to the benefit of his wife and children. I had an example of that in a double cottage of my own. It was in a dreadful state; the walls were not air-tight, it had a brick floor, a bad roof, and everything uncomfortable. The people who occupied it were slovens and slatterns, and quarrelsome ill-neighbours. At a small expense it was made tidy; boarded floors were put down; a little porch erected, with a wood-house and other conveniences, and from that moment these people altered entirely their character, altered entirely their conduct, became well-conditioned people and good neighbours, which they had never been before. Therefore I entreat everybody not to run away with the notion that nothing can be done to improve the dwellings of the poor, short of building cottages, which they may think too expensive for their means. Depend upon it that a very great deal can be done, at a moderate expense, towards making old cottages decent and habitable." In proposing the toast of "The Press," his lordship said:—"I rise to do homage to that which may properly be said to be one of the wonders of modern civilisation. I mean 'The Press.' If any man compares now a newspaper published in the last century with one of those wonderful sheets we read every day, the contrast is the most striking that the mind of

man can imagine. The quantity of information, the talent of dissertation, the amount of news of every kind which we now find in almost every newspaper we meet with is really one of the most striking proofs of the progress which the human intellect has made in the days in which we live. It may really be put in competition with the steam engine and the electric telegraph, but there is one part of the functions of the press which, beyond all others, has improved of late years. I have heard that towards the end of the last century there was a man named Woodfall who used to publish debates; and how did he do it? It is said that he used to go to the gallery of the House of Commons, listen attentively with his face in his hands to what passed, go home, drink two pots of porter, go to bed, get up next morning, and from his dreams and his recollections make out what he called a report of a debate. Now-a-days, so marvellous is the ability and so wonderful the rapidity with which reporters take down what men say that if speakers are not very careful the reporters take down what they had much better not have said. I remember a very worthy M.P., an Irish M.P., Mr. Richard Keene, who once complained that the reporters in the gallery had not done full justice to a speech he had made the night before. The reply he received had, perhaps, more of sharpness than civility in it, for it was—'Mr. Keene, we made the best speech we could for you, but, if you are not satisfied with our endeavours, the next time we will report what you do say, and, whatever you may think of it, we suspect your friends will hardly relish the infliction.' Now, it is quite marvellous to see the accuracy with which debates in the House of Commons are reported. When the speeches are such as are calculated to attract attention they are reported word for word as they are uttered, and how it is possible for the human hand to follow with such rapidity and such exactness I am at a loss to conceive. I once, as many others have done, began to learn shorthand, but I confess that I found out two difficulties, which turned out to be quite insurmountable. The one was to write it, and the next and greatest to read it when it was written. I beg now to propose that institution to which the progress of civilisation and all the interests of the country are so deeply indebted, 'The Press.'"

SIR JOHN PAKINGTON, at a meeting at Droitwich on Monday for the establishment of a rifle corps, made the following remarks on the national defences:—

"He heartily desired to promote the movement now going on throughout the country for the establishment of volunteer corps. They would remember that this movement was sanctioned and encouraged by the late Government, and it was also sanctioned and encouraged by the present, and there was, therefore, no possibility of anything like party feeling marring it. The patriotic movement now being made throughout the country was most encouraging, and reminded him of the great volunteer movement of 1803. Happily, he could add that the circumstances which marked the movement in 1803 were different from the circumstances which distinguished that of 1859. In the year 1803 they were in the very midst of that great European war which only ended finally in 1815; and the first Napoleon—the great Napoleon—had then assembled an army on the opposite coast of France, with the avowed intention of invading this country; and the general expectation was that the time was at hand when we should have to fight a French army on English ground, and to defend our hearths and homes from foreign invaders. With regard to the probabilities of a French invasion, if there was anything like a panic in England on the subject, which he must confess he could hardly believe—if there was a feeling of alarm in the minds of the people of England generally—he would say that he for one did not share in it. In the first place, they must recollect that of all the modes of warfare, one of the most difficult, one of the most arduous, one of the most dangerous, was the attempt to invade the territory of a great Power. They would remember in the history of the great Napoleon, that it was perfectly true that he subdued the German Powers by his vast and highly disciplined army, and that he overran Italy, and at that period of his history he acquired a degree of power which he might truly say no other European monarch ever possessed. But when he extended his attempts to Spain and Russia he signally failed, and the attempt to invade a great territorial Power recoiled upon himself, and entailed ruin upon him. Now, to invade England troops would have to be conveyed across the Channel, and the naval force of Great Britain must be defeated before the country could be invaded by a foe. The mayor in his opening remarks had speculated on the possibility of our navy being defeated or evaded. He was aware that the introduction of steam into the navy had made a great change, and perhaps had increased the possibility of invasion, but he for one did not contemplate, unless an overwhelming force was brought to bear upon this country, the possibility of our sustaining a defeat in the Channel. He confessed, therefore, that he was not one who contemplated invasion as a probability. But although we were still on friendly terms with France, and although he for one did not feel distrust in the personal intentions of the Emperor towards this country, nevertheless he thought that the state of public affairs on the Continent was such as to make it desirable to foster this movement. There could be no doubt that we had fallen into a state of false security during the long peace we had enjoyd. During the 40 years of peace Englishmen seemed to have adopted the idea that the days of war had passed away, and that the days of peace were to last for ever. He wished he could contemplate such a state of things, but it was not to be so, and although that long peace had had no effect in diminishing the national spirit it had had the effect of reducing the national defences. Successive Administrations had been vieing with each other in order to show which should call upon Parliament to vote the lowest estimates for the national service, and the lowest amount of national taxation, and no doubt it was due to any Government to carry on the affairs of the country with as little pressure as possible; but one result of this feeling had been that the national defences had been reduced to a point which was not consistent with the national safety, the national dignity, or the maintenance of that power in Europe and that influence among the nations of the world which England was bound to support. There was no country in the world, no great empire in the world, in which it was so essential that the means of national defence, and the means of carrying on war, should be greater than in ours on account of the extent of our empire, it being spread over the four quarters of the world, and on account of the geographical smallness of the great centre of the empire—England. In addition to all these considerations, it was impossible to deny that the present state of Europe warned us that we could not with prudence allow the state of things which had prevailed to continue. It was true we were at peace with France, and we had no reason to distrust the good intentions of the French Government. On the other hand, startling events had taken place this year in France, and immense naval and warlike preparations were making in that country; and although our alliance with France might be close, and we had fought side by side with the French, both in the Crimea and in China, and although he earnestly hoped that that good feeling might long continue, still there had been occasions within the last two or three years in which our friendly relations with France had been in danger, and in the present extremely complicated state of European affairs it was impossible to say how soon again our alliance might be endangered, and therefore they were bound to be prepared for all contingencies. He wanted Europe to see that we were prepared for all contingencies—that our navy was strong, and our people loyal and united; and on that ground he was very anxious for the success of this movement. While such a feeling was stirred up throughout the country, and while every town in Worcester was joining in it, he had full hope that Droitwich would not be behind in manifestation of national spirit."

## City Intelligence.

MONEY MARKET, FRIDAY.—BRITISH FUNDS: Consols closed at 95⅝ ex div. for the 10th January; Bank Stock, 226½; Three per Cents. Reduced, 95¼ to ⅜; New Three per Cents., 95¼ to ⅜; Indian Four per Cent. Debentures of 1858, 98; Ditto 1859, 97½; New Indian Loan, for Acct., 104¼ to ⅜ ex div.; India Bonds, 9s. pm.; Exchequer Bills, 28s. to 29s. prem.—FOREIGN: Brazilian Old Five per Cents., 102½; Chilian Six per Cents., 104⅛; Dutch Two and a Half per Cents., 66½; Ditto Four per Cent. Certificates, 101; Mexican Three per Cents., for Acct., 22½; Russian Three per Cents., 1859, (scrip), ½ dis.; Turkish Six per Cents., 1854, for Acct., 77; Ditto for 1858, 63½; Ditto for Acct., 64¼.

## Bank of England.

ISSUE DEPARTMENT.

| | | | |
|---|---|---|---|
| Notes Issued .. .. .. | £30,757,625 | Government Debt .. .. | £11,015,100 |
| | | Other Securities .. .. | 3,484,900 |
| | | Gold Coin and Bullion .. | 16,257,625 |
| | | Silver Bullion .. .. .. | — |
| | £30,757,625 | | £30,757,625 |

BANKING DEPARTMENT.

| | | | |
|---|---|---|---|
| Proprietors' Capital.. .. | £14,553,000 | Government Securities (including Dead Weight Annuity) .. .. .. .. | £10,925,157 |
| Rest .. .. .. .. .. | 3,148,926 | Other Securities .. .. | 19,580,986 |
| Public Deposits (including Exchequer, Savings Banks, Commissioners of Nat. Debt, and Dividend Accts) .. .. .. | 9,575,026 | Notes .. .. .. .. .. | 10,112,015 |
| Other Deposits .. .. .. | 13,310,224 | Gold and Silver Coin .. | 719,115 |
| Seven day and other bills | 756,107 | | |
| | £41,343,283 | | £41,343,283 |

22d day of Dec., 1859. M. MARSHALL, Chief Cashier

## Gazette of the Week.

TUESDAY—BANKRUPTS—T. BIRD, Market Harborough, Chemist and Druggist—J. CARTWRIGHT, Nottingham, Innkeeper—J. B. LAICHFORD, late of Regent Street, Hosier—S. MASON, Basford, Notts, Lace Maker—C. MURTON, Red Lion Street, Clerkenwell, Watch Case Maker—E. PARRY, Liverpool, Timber Dealer.

BANKRUPTCY ANNULLED—J. L. GROSER and J. T. BRADLEY, Moorgate Street, Merchants.

SCOTCH SEQUESTRATIONS—A. CAMERON, Glasgow, Commission Agent—W. DOUGLAS, Glasgow, Wool Merchant—A. KELSO, South Thunderguy, Island of Arran, Farmer—A. MACKAY, Milton and Barbaraville, Rossshire, Merchant—W. NEILSON and D. KING, Glasgow, Iron Manufacturers—R. NICOL, Dundee, Brewer—J. WOOD, Brechin, Draper.

FRIDAY—BANKRUPTS—R. CASTLE, Wantage, Berkshire, Cattle Dealer—R. DARLYN, Diss, Norfolk, Grocer—R. W. FRARY and H. FRARY, Victoria Road, Islington, Oilmen—I. T. PERRINS, Dudley, Iron Merchant.

SCOTCH SEQUESTRATIONS—P. BIRNIE, Edinburgh, Livery Stable Keeper—G. CAMPBELL, Dundee, Draper and Clothier—T. HENDERSON, Auchenlock, Ayrshire, Grocer and Spirit Dealer.

## Metropolis and its Vicinity.

DECLARATION OF THE CATHOLIC LAITY IN FAVOUR OF THE POPE.—The *Tablet* publishes the following declaration, as having been agreed to by the Roman Catholic laity of England and Scotland in favour of maintaining the temporal power of the Pope:—

"We, the undersigned, Roman Catholics of England and Scotland, mindful of that inviolable fidelity to the Holy Father and the Apostolic See which we have inherited from our forefathers, together with a devoted loyalty to our gracious Sovereign and a sincere attachment to the constitution of our country—moved, also, by the wrongs already inflicted on the Holy Father, and the dangers which still threaten him—seeing that a portion of his subjects have risen in unjustifiable rebellion against his authority, and at the instigation and by the assistance of foreigners and invaders have deprived him of certain provinces which are still kept from him—seeing that certain European Governments, by the employment of money and troops, as well as by open encouragement and secret intrigue, have assisted this usurpation; while other Governments, through fear or hostility, have witnessed the spoliation of the Holy Father without protest or opposition—seeing that, in our own country, the person, the character, and the acts of the Holy Father have been assailed and calumniated, while his rights have been denied and his Government denounced—seeing that these denunciations and hostile manifestations have been so general on the part of the Protestant press, of many leading statesmen, and of other public characters in our country, that our silence might expose us to the imputation of complicity with such proceedings, or of indifference to the Holy Father, or of timidity in the exercise of our right to make known to the Government, the Legislature, and the public, our views and feeling on matters of public concernment—have resolved, in discharge of our duty to the Holy Father, to our country, and to ourselves, on publishing the following declaration:—Firstly, we declare, that while we have no doubt of the permanency, so long as time shall endure, of the Head of the Catholic Church, as the successor of St. Peter and the Vicar of Christ upon earth, it is not to be endured by Catholics that the Sovereign Pontiff should be the subject of any temporal potentate; and further, that the preservation of the temporal sovereignty of the Holy Father is of the highest importance to secure the independent exercise of his supreme spiritual power. Secondly, we declare that the forcible abstraction from the Holy Father of a portion of his dominions is, in principle, an assumption of the right to deprive him of the whole, and would afford a pretext and a precedent for the entire abolition of his temporal power. Thirdly, we declare that, by recognising the discontent and disaffection of a portion of the population of the Romagna, encouraged as it has been by foreign influence and aid, as a sufficient justification for depriving the Holy Father of those provinces, a principle is sanctioned subversive of all order, authority, and government, and destructive of peace, religion, and society. Fourthly, we declare that among the cases in which the tyranny, oppression, or misgovernment of any sovereign have ever at any time been deemed to justify his subjects in renouncing their allegiance, nothing can be found on which to base a justification of the present rebellion in the Romagna. Fifthly, we declare that, on the evidence of facts and on the testimony of all competent and impartial witnesses, we believe that among living sovereigns there is none who has deserved more than the Holy Father the character of a benignant, enlightened, and paternal ruler, and that his benevolent endeavours and intentions to promote improvements in the administration of his States have been, and are, impeded by the conduct of those very persons, both within and without his dominions, who attempt to justify the present rebellion by the allegation of misgovernment. Finally, therefore, and for the above reasons,—we protest against this wrong done to the Holy Father by depriving him of his territories, we protest against the wrong done to all Catholics by the attempt to compromise the independent exercise of the Pope's spiritual power, of which his temporal sovereignty is the safeguard; we protest against the rebellion of a portion of his subjects in the Romagna as unjustifiable, and against the aid given to them by foreign Governments, and by travelers from neighbouring States as well as by European statesmen and rulers, as injurious to religion and dangerous to the peace of the world and to the security of all Governments. Further, we protest against every infraction of the Holy Father's rights as an independent sovereign; we protest against any assumption on the part of any other State or ruler, or of any Congress of States, to dispose of the Holy Father's territories, or to impose upon him any conditions against his own will, being persuaded that both justice and expediency dictate that any changes in the laws or administration of his dominions should be left to his own unfettered judgment and unquestioned benevolence. Especially, we protest against the power or influence of our country being used—whether in a Congress of European States or separately—in favour of the Holy Father's rebel subjects, or to despoil him of his dominions, or to interfere with his independent sovereignty, by imposing any conditions upon him. And we hereby make known our determination to resist and resent, in the spirit of the constitution, any such course on the part of the responsible advisers of the Crown, to whatever party in the State they may belong.—18, Clifford Street, London, Dec. 14, 1859."

CRYSTAL PALACE.—At the half-yearly meeting of the Crystal Palace Company on Tuesday the report of the directors was adopted, and a dividend of 2s. per share declared. A long discussion took place on the question of "specialties," some contending that they operated injuriously on the interests of the company by closing the palace on shilling days during the preparations for these festivals, while others contended that they were necessary as inducing people to take season tickets. Some of the shareholders asserted that the sum received from the Handel Festival was more than counterbalanced by the falling off in the revenue from other sources, that the flower shows, opera concerts, news-room, lectures, and picture galleries, were kept up at a loss, and that the sum of 120*l.* charged for gardeners' breakfasts at the flower shows was excessive. The chairman admitted that the sum of 34,000*l.* received from the Handel Festival had infringed in some degree upon the other sources of revenue, and was not to be considered as absolute gain to the company. The news-room was, no doubt, a heavy item, and did not pay, but it afforded a great amount of information to the visitors, and he did not think it would be wise to discontinue it. The picture charges were also heavy; but they tended to improve and render the gallery attractive. The most popular of the specialties were flower shows, and they also did not pay. The expenses of the gardens had been reduced from 12,000*l.* in 1857, to a little more than 6000*l.* in the present year. The gardeners' breakfast was an item of expense which was absolutely necessary. It was a custom which had grown up in connection with flower shows, and in point of fact it was "no breakfast, no show." The cost of the breakfast was 2s. a head. In his opinion it would be a bold policy to abolish the specialties, and might be a successful one, but he was not prepared to recommend its adoption. The motion for the payment of a dividend of 2s. per share having been carried, the meeting was made special, and resolutions were carried empowering the directors to consolidate the shares, both ordinary and preference, into stock, and extending the time for closing the transfer book from seven to 14 days. A resolution proposed by Captain Young, and seconded by Mr. Astbury, to the effect "That the Crystal Palace be closed on Sunday, shareholders being admitted as at present into the grounds without charge," was negatived by a large majority.

THE ROYAL CHARTER.—A further amount of treasure was recovered from the wreck of the Royal Charter on Saturday, comprising nine bars or ingots and sovereigns, valued at about 5000*l.* On Sunday one bar or ingot, 2¼ lb. weight, 410½ sovereigns, several portions of an ingot, seven rupees, and one shilling were recovered. Another small parcel of gold was recovered on Monday, including two bags of gold, 15 sovereigns, and nine rupees. Four bars, and several sovereigns and rupees were recovered on Tuesday, and 35 sovereigns and 17 rupees were brought up on Wednesday. About 180,000*l.* of the total saved has been fully identified and disposed of for the continent. The remainder will stand over until the adjustment of the various claims for salvage.

THE CHRISTMAS HOLIDAY.—There is now no doubt that Monday next, the 26th inst., will be almost universally kept as a holiday, both in London and the provinces, in consequence of Christmas Day falling upon a Sunday. In accordance with a recommendation from the Lord Mayor, all the principal houses in the Manchester trade, the West-end silk mercers, and other leading tradesmen, have announced their intention to observe the holiday: and the principal merchants, factors, and manufacturers of Manchester, Birmingham, and other important towns have signified their intention to comply with the general desire that all business shall be suspended on Monday. The Banks will be open as usual, but the clearing-house will be closed at 2 o'clock, at which hour Lloyd's will also be closed by order of the committee.

ILLUMINATED INDICATORS IN THE CITY.—The City Sewers Commission having recently given permission for the erection of one of these "indicators" in Royal Exchange Buildings, the inhabitants of St. Michael's, Cornhill, have by notices and threats of Chancery proceedings successfully prevented the erection and compelled the parties concerned to restore the pavement to its old state. At a meeting of the Commissioners of Sewers on Tuesday the churchwardens and a deputation from the parishioners presented a memorial

signed by 125 bankers, merchants, common councilmen, and others, stating that they considered such a structure detrimental to the property in the vicinity, offensive, unnecessary, and tending to cause obstructions, and therefore respectfully and earnestly remonstrated against any authority being given for its erection. The memorial was referred to a committee, and Deputy Harrison gave notice that at the next meeting of the commission he will move the revocation of the permission previously given for the erection of the indicator.

DESTRUCTION OF ST. MATTHEW'S CHURCH, BETHNAL GREEN.—On Sunday night at 11.15 P.M., a fire broke out in the roof of St. Matthew's, the ancient parish church of Bethnal Green, which by 4 A.M. on Monday morning had destroyed the fine peal of eight bells, organ, pulpit, pews, and all the church furniture, leaving nothing but the tower, denuded of its antique clock, and the four outside walls, entirely gutted, the whole of the interior being reduced to charcoal and ashes. The parish registers, going back nearly 200 years, were rescued from the flames and safely deposited in the rectory house; and the communion plate, including the ancient piece of silver, representing the "Blind Beggar of Bethnal Green and his Dog," which is upwards of 200 years old, and is only exhibited on particular occasions, was saved by being kept at the rector's house. The church was insured in the Imperial for 5000*l*.

FATAL FIRE IN WESTMINSTER.—Yesterday morning, about half-past 2 o'clock, a fire, attended with a serious loss of property and life, occurred in the extensive premises of Mr. Adam Clark Hook, in Little George Street, Westminster, about midway between Story's Gate and the Broad Sanctuary. The housekeeper and three other persons were burnt to death, and two women and a child who jumped from the windows into the street were so seriously injured that it was necessary to take them to the hospital.

THE WEATHER AND THE PARKS.—The severe frost of Friday ushered in the season for skating and sliding upon the waters of the Royal parks, but as the ice had not perfectly consolidated many accidents occurred, one of which was fatal to Mr. Decks, a clerk in the house of Messrs. Caldecott & Co., Cheapside. On Sunday and Monday the parks were crowded with skaters, and several accidents occurred involving in some instances fractured limbs, but not attended by any fatal consequences. The skating, which was continued in the evening by torchlight with great spirit, was arrested by the thaw of Tuesday. Several persons were taken to the hospitals during the severe frost with serious injuries caused by falling on the pavements of the streets, which have been so glassy as to be extremely dangerous.

PAINFUL ELOPEMENT.—The *Times* states that the wife of Mr. J. H. Gurney, M.P. for King's Lynn, has eloped with one of the family domestics. The lady has a fortune in her own right of 500,000*l*. Proceedings have been commenced with a view to a divorce.

FRAUDULENT LABELS.—A public meeting of merchants and manufacturers was held a few days since, at the Guildhall Coffee House. Mr. Dillon, of the house of Morrison, Dillon & Co. in the Chair, at which it was resolved to form an Association for Suppressing the Practice of False Marking or Labelling Goods for Sale; and an influential committee, consisting of members of the highest firms in the country, was appointed to carry the resolution into effect.

THE PUBLIC HEALTH.—The Registrar-General's Weekly Return states that the number of deaths registered in London in the week that ended Saturday, Dec. 17, was 1289, being the same as that of the preceding week. In the corresponding weeks of the 10 years 1849-58 the average number was 1218; which, if raised in proportion to the increase of population, will become 1339. The return of last week was therefore 50 below the average. During the week the births of 952 boys and 879 girls, in all 1831 children, were registered in London. In the 10 corresponding weeks of the years 1849-58 the average number was 1508.

## Provincial.

BANGOR.—On the occasion of her Majesty's visit to Penrhyn Castle, the members of the Penrhyn Choral Society sang before the Royal family. The Queen was so pleased with the efforts of the choristers that she has presented a silver cup to the society through the Hon. Mr. Pennant, of Penrhyn Castle. The cup weighs 90 ounces, and bears the following inscription:—"Presented by her Majesty the Queen to the Choral Society of the Penrhyn Slate Quarries, which sang before her Majesty on Sunday evening, 16th of October, 1859." Sir Charles Phipps, in a letter to Mr. Pennant, says:—"Her Majesty and the Prince Consort would be glad if this cup, while it was considered as a mark of the satisfaction with which they heard the very creditable performance of the numerous body who sang before them, might also be looked upon as testifying the approval with which her Majesty and his Royal Highness regard the cultivation by all under your employment, and in your neighbourhood, of so laudable and humanising a taste, and of their wish that all should unite in encouraging a mode of employing their leisure hours so likely to prove beneficial to their social and moral condition."

BRISTOL.—On Saturday morning a fire broke out on board the American ship Sea Belle, lying in the floating harbour, and was not subdued until the vessel was reduced to such a perfect wreck that it was found necessary to scuttle her. She was laden with coals, and the fire is attributed to spontaneous combustion.

FOLKESTONE.—An extensive land-slip took place a few days since in the Warren, near this town. The Warren is a tract of undercliff, extending some two miles on either side of the South-Eastern Railway, and the portion where the slip took place is to the seaward of the railway, and comprises an area of about 40 acres. From the testimony of an eyewitness, a platelayer on the railway who was passing over the ground at the time, the subsidence commenced about half-past 6 o'clock A.M., the part where he was standing going down about 3 feet, and, as far as he could see, the whole mass sinking at once. The ground continued to settle the whole of the day, and is now at an average of 15 feet below its original level. The banks along the beach have been forced nearly down to low-water mark, and the rocks are considerably elevated.

PORTSMOUTH.—A petition signed by the principal bankers, merchants, and traders of the City of London has been presented to the Government in favour of the sailors sentenced to imprisonment for the disturbance on board her Majesty's ship Princess Royal.

## Ireland.

MEETING OF THE ROMAN CATHOLIC MEMBERS.—The Irish Roman Catholic members who, at the suggestion of Dr. Cullen and other prelates, have organised an opposition to national education in Ireland, met on the 15th inst. in Dublin. The chair was taken by Mr. M. E. Corbally, M.P. for Meath. The other M.P.'s present were Messrs. R. M. Bellew, J. A. Blake, Dr. Brady, J. Pope Hennesy, John Lanigan, Edward M'Evoy, J. F. Maguire, Patrick O'Brien, The O'Donoghoe, and Colonel White. Mr. Bowyer, Mr. Dunne, Mr. M'Mahon, and Mr. Redmond gave authority to use their names as assenting to the proceedings. No reporters were allowed to be present, but the following resolutions were communicated to the journals at a subsequent period of the day as having been adopted by the meeting:—

"1. That, in our opinion, the pastoral address of the Catholic archbishops and bishops of Ireland, published last August, contains a fair exposition of the present wants of Ireland, as able and comprehensive as it is temperate and dignified, such as might have been expected from their lordships, thoroughly acquainted as they are with the condition of their country, and sincerely interested in its welfare; and that, without having recourse to any proceedings of a factious character, we will avail ourselves of our position and influence as members of Parliament to press upon the Government the just demands put forward in that important document. 2. That the principle of free, separate education—collegiate, intermediate, and primary—Catholic for the Catholic, Protestant for the Protestant—is in itself just, expedient, and, under all the circumstances of this country, the best suited to the constitution of Ireland, and is confirmed by the established precedent of Great Britain and the colonies. 3. That so long as Government allocates a portion of the public funds to the purpose of education, there can be no objection to such control and inspection as would assure the Government that the funds so applied had not been misappropriated—a provision in which, we have reason to know, their lordships, the Catholic archbishops and bishops, while demanding separate education, readily concur. 4. That, as regards the material prosperity and social happiness of Ireland, the measure of all measures the most required is one which would settle the land question upon a basis of justice to all parties—that is, in such a manner as would secure to the tenant full compensation for his labour and capital, without, on the other hand, interfering with the just rights of property. 5. That the Catholic soldiers and sailors have a right to the same facilities for the practice of their religion, with the same freedom from interference of every kind, for themselves and their children, as their Protestant comrades in either service enjoy; and that the duty of the Government to provide the facilities and secure that freedom is the same towards Catholic and Protestant. 6. That the administration of the poor law in Ireland, amongst a people for the most part Catholic, by a board exclusively English or Protestant, is a grievance demanding redress, by the reconstruction of the board; that the experience of every day proves the present Poor-law Commissioners do not discharge the duties with which they are entrusted in a manner to command the confidence of the community, and that their impracticability is displayed by the disputes in which they have involved themselves with boards of guardians in different parts of the country, as well as with Catholic chaplains, by reason of their ignorance or disrespect of Catholic discipline. 7. That any Government which attempts to interfere or to countenance an attack upon the temporal sovereignty of the Holy Father is unworthy the confidence of the Irish people and support of their representatives."

Colonel White voted on the education and tenant-right resolutions only. Mr. Bellew voted for the 1st, 3d, 4th, 5th, and 6th resolutions.

SYMPATHY FOR THE POPE.—A meeting in favour of the temporal power of the Pope was held on Sunday at Galway, the Roman Catholic Bishop M'Evilly in the chair, supported by the Hon. Thomas Ffrench, Mr. Pierse Joyce, J.P., Mr. Morris, the Recorder of Galway, and others. The following is an extract from the bishop's address on the subject of the Congress:—

"We are all aware that in a few days the representatives of the leading Powers of Europe are to assemble in Congress at Paris, with the view, I believe, of settling those complications in the Italian States which some of those leading Powers were chiefly instrumental in creating. A prominent place, no doubt, will be assigned to our own Government in the deliberations of this august assembly; and we are here congregated to join our Catholic brethren throughout this empire in declaring that if the British plenipotentiary be a party to enacting anything opposed to the temporal sovereignty of the Holy Father, he will, as the organ of a responsible Government, misrepresent the feelings and convictions of at least one-third of the subjects of these realms; he will prove to the world, and strengthen the conviction everywhere prevailing, that England is at the bottom of all the disturbances in the Roman States: that it is not a love for peace or order in the Italian Continent that animates her, but a blind hatred of the spiritual authority of Christ's vicar on earth. Coming nearer home, we owe to ourselves as Catholics, who prize the freedom of our religion above every other blessing, to declare that, if the accredited organ of any English Government attempt to forge fetters for our religion by enacting anything adverse to the Holy Father, such a Government will forfeit the confidence of the Catholic constituency; and we have no hesitation in declaring to our representatives—and I am sure it is a sentiment which will extend to every Catholic constituency in Ireland—that, however disposed we may be to make allowances in other respects, we cannot be parties to the [illegible] our religion, to forging fresh chains, to enthral [illegible] religious servitude, by supporting such a Government—I, of course, speak hypothetically. They will forfeit all support from us, and when the day of reckoning shall come round our rallying cry shall be, 'Remember the insulted majesty of Pius IX.; remember the Congress of Paris.'"

A meeting of sympathy with the Pope was held last week in Mallow. The Roman Catholic Bishop of Clogher, Dr. Keane, occupied the chair, and in opening the proceedings spoke as follows:—

"What a moment is chosen for the attempt to deprive the Sovereign Pontiff of his independence, of that independence which has been enjoyed by the Pope from a time when the oldest among the royal families of Europe are not yet mentioned in history? The attempt is made at the present moment when there sits in the chair of St. Peter one of the most amiable, the most charitable, and the most dignified men that ever sat upon any throne, secular or ecclesiastical. It is said that there is discontent. That may be frankly and fairly admitted, because of the imperfections of all human governments. But it may be asked in return was there no discontent among the Chartists of England? Was there no discontent among the operative masses, the upheavings of which every English Minister fears to contemplate? Was there no discontent in Canada—in the Ionian Islands—in India? Is there no discontent in Ireland? Is there an English Minister—I don't care on which side he sits, that will not denounce in strong terms the oppression practised towards this country for centuries past, although he will refuse the remedial measures we demand, and which ought long ago to have been conceded? And may it not have been fairly asked, were there not among those who, by the neglect or misrule of England, were provoked to hostility against her, many of the Protestant and Presbyterian creeds? Yet, although treason and rebellion are punished with exile or with death in India and in Ireland, treason and rebellion will be fostered and encouraged and supported in Italy by British contributions and by the applauding cheers of British statesmen. These proceedings are a scandal upon any Government. Care ought to be taken at a time when there is no recognised principle sufficiently strong to sway men's minds and hearts—care ought to be taken that that line be not too eagerly caught up."

A meeting of sympathy is to be held at Meath on the 29th inst. in which Bishop Cantwell, the Earl of Fingall, Lord Killeen, and Lord Germanstown will take part; and the Limerick papers announce that the requisition of Bishop Ryan has secured the signatures of the High Sheriff, the Mayor, the Earl of Dunraven, Lord Southwell, the Right Hon. W. Monsell, M.P., Sir Vere de Vere, Major Gavan, M.P., Mr. Aubrey de Vere, and a long list of county magistrates for a meeting in that city. There is also to be a great aggregate meeting in Dublin, and the weekly organ of Archbishop Cullen states that in connection with this meeting another movement is in progress of organisation, having for its object the despatch of an Irish Catholic representative to the Congress at Paris.

THE MURDER AT IRELAND'S EYE.—The Dublin papers state that Kirwan, who was sentenced to death some years ago for the murder of his wife on Ireland's Eye, and whose sentence was commuted to transportation for life, has obtained, through the exertions of his friends at home, a further commutation of his sentence; and on a report of his "very proper conduct" while in Bermuda, has been liberated and will be allowed to return home.

## Law.

THE ASSIZES.—NORTHERN CIRCUIT: YORK.—*The Leeds Murder.*—*Charles Normington*, 18, was indicted for the wilful murder of Richard Broughton, between Roundhay and Leeds, on the 6th of August last. This case will be familiar to our readers from the frequent mention of it in our Provincial News at the time of the occurrence. It will be remembered that Mr. Broughton while walking in open day on a footpath leading from Roundhay to Leeds, was knocked down, stunned, and robbed of his watch and riband, and received such severe injuries that he died of their effects next day. The prisoner and another man who has not yet been identified were seen in the neighbourhood of the place where the murder was committed, and a short time afterwards he pawned the watch and riband of the murdered man at a pawnbroker's in Leeds. Subsequently he found his way to Whitworth, near Castleford, where marks of blood were found upon him. And shortly after that time he sold the pawn-ticket for deceased's watch to a collier, from whom it was traced back, and so led to the apprehension of the prisoner. The facts were proved by numerous witnesses, and the defence offered was that the prisoner, who is a mere boy, was made a tool of by an older man, who was the actual perpetrator of the murder, and that he was simply an accessory after the fact to a robbery with violence, and a receiver of stolen property, knowing it to have been stolen. Mr Justice Wightman, in summing up, directed the jury that if they were of opinion that two persons were present at the attack on the deceased, and two persons had been spoken to, then it was immaterial which was the hand that did it, and both were equally guilty. The jury after an absence of half-an-hour returned a verdict of *Guilty*. The Judge then put on the black cap and pronounced the extreme sentence of the law in the usual form, amid the repeated cries from the gallery of a woman stated to be the mother of the prisoner. The prisoner, who looks younger than the age stated in the calender, maintained an extraordinary degree of self possession amounting almost to indifference during the trial, but broke down at last, when the judge was pronouncing the sentence of death, and was led off weeping bitterly.

MIDLAND CIRCUIT: WARWICK.—*The Coventry Murder.*—*John Kington*, aged 22, was indicted for the wilful murder of Elizabeth Ann Kington, his wife, at Coventry, on the 12th November. The circumstances of the murder were of a shocking description. The prisoner had been subject to fits, and his marriage had been an unhappy one. He had ill-treated his wife, and appears to have nourished suspicions as to her conduct. On the day in question they were living apart, but he met her in the streets of Coventry, took her to a field on the foot road from Coventry to Stoke, knocked her down and cut her throat, severing the carotid artery, the windpipe, and indeed all the arteries leading to the spine. On being placed at the bar the prisoner pleaded "Guilty." The learned Judge said he trusted that the prisoner had not adopted such a course under any hope or persuasion that it would be better for him in this world if he did so. The prisoner in a low voice said that it was of no use, and that he could not plead against his conscience. A plea of *Guilty* having been recorded on the coroner's inquisition, the prisoner handed in a written paper, the perusal of which occupied the learned judge for some minutes. On concluding it his lordship said he hoped

the prisoner did not wish the contents of the paper to be read publicly. The prisoner persisted in his resolution of having it read in public, and expressed a wish that the clergyman who had acted as his spiritual adviser should be called. The Rev. Mr. Widdrington, vicar of St. Michael's, was then sworn, and stated that the prisoner had acted under his advice in pleading Guilty, and that otherwise his spiritual ministrations would have been unavailing to the prisoner. He had made inquiries respecting the case, and had examined the evidence given before the magistrates and the coroner, and he could come to no other conclusion than that the proofs were overwhelming, and that the prisoner had committed an atrocious murder. He had assisted in drawing up the written statement, in conformity with the wishes of the prisoner, and for the purpose of its being handed to the judge, but he agreed with his lordship that it was not advisable that it should be read in public. After some little persuasion the prisoner was induced to forego the reading of the paper. The learned Judge then put on the black cap, and said: "Prisoner at the bar, you have been found guilty on your confession of the murder of your wife. I have read through the depositions of the witnesses before the coroner and the committing magistrates, and having done so, and finding their evidence conclusive, it is not a matter of surprise or regret to me that you have thought it better to plead guilty, not in hopes of obtaining mercy in this world, but from a consciousness that the evidence was overwhelming, and in order to avoid the pain of hearing the details of your crime proved by the witnesses in face of the public. You have handed in a paper, which I have read, and which I will take care shall be forwarded to the proper quarter. But I am bound to say that there is nothing in it to justify you in hoping that mercy will be extended to you. I have prayed you not to have that paper read in public. It contains imputations on others of the most dreadful kind, and I should regret that the last act of your life should have been to impute to others such a dreadful crime as that which you have suggested. I have no wish to increase your pain, but it is my duty to pass upon you the sentence of the law, and I can hold out to you no hope of mercy in this world." The learned judge then proceeded to pass sentence of *Death* in the usual form.

## Obituary.

THE EARL OF CAMPERDOWN, K.T., died on Thursday at his residence in Wilton Terrace after a short illness, in his 75th year. His lordship, although not quite the father of the Upper House, was one of its very oldest members, having taken his seat soon after he attained his majority in 1806, and sat it is believed in 16 Parliaments. He was the third son of the celebrated Admiral Viscount Duncan, on whose death in 1804 he succeeded to the family estates and honours achieved by the great victory over the Dutch fleet off Camperdown in 1797. The late peer took his seat with the Whig Opposition, but seldom spoke in Parliament till 1820, when he took an active part in the trial of Queen Caroline. On the coronation of William IV. his lordship was elevated to the rank of an earldom, the King being pleased, as his own special act and as a tribute to the memory of the first peer, to adopt the unusual step in the case of a new creation of giving Lord Camperdown's brothers and sisters the rank of earl's children. He married in 1805 the daughter of Sir Hew Dalrymple, of North Berwick and Tantallon Castle, in East Lothian, who still survives, together with two sons and two daughters. His lordship is succeeded by his eldest son, Viscount Duncan, M.P. for Forfarshire.

THE RIGHT HON. LORD HOLLAND died at Naples on Sunday after a short but severe illness. His lordship, Henry Edward Fox, Baron Holland of Holland, Lincolnshire, and Baron Holland of Foxley, Wiltshire, in the peerage of Great Britain, was the only son of the third Baron by his marriage with Elizabeth, daughter of Mr. Richard Vassall, whose previous marriage with Sir Godfrey Webster had been dissolved. He was born in 1802, and married in 1823 Lady Mary Augusta Coventry, only daughter of the late Earl of Coventry. His lordship entered the diplomatic service in 1831, and was for some time attaché to the Embassy at St. Petersburg, whence he was removed in 1832 to Turin as Secretary of Legation. In 1835 he proceeded to Vienna in a similar capacity, and continued there till 1838, when he was appointed Minister Plenipotentiary to the Germanic Confederation. Having held that post for a few months he was removed to Florence, where he was Resident Minister up to June, 1846, when he retired altogether from diplomatic duties, mainly from the indifferent state of his health. On the death of his father in October, 1840, he succeeded to the title and estates. His lordship not leaving any issue the barony becomes extinct, but the property at Kensington devolves it is said on his only sister, Lady Lilford.

THE RIGHT HON. HENRY FITZROY, M.P., died on Saturday last at his residence, 3, Sussex Square, Kemptown, Brighton, from a combination of fever and ague, induced it is said by his zealous application to the duties of his office as First Commissioner of Works. Mr. Fitzroy was the second son of the late Lord Southampton, and would have inherited the peerage on the death of his brother, the present lord. He was born in 1807, and was consequently in his 53d year. At the early age of 24 he was returned to Parliament for Great Grimsby, and since that time has been constantly immersed in politics. In 1846 he became a Lord of the Admiralty, and in 1852 Under Secretary for the Home Department. He became Chairman of Committees of the House of Commons in 1855, and held that office up to the time of his death. On the accession of the present Government to office he was appointed First Commissioner of Works. As a member of Parliament Mr. Fitzroy will be rememb red by three measures of an eminently practical character—the regulation of London cabs, the protection of females from brutal assaults, and the Act extending the jurisdiction of county courts from 20*l.* to 50*l.*, all of which were perfected while he was Under Secretary for the Home Department.

SIR JAMES MACAULAY, C.B., late Chief Justice of the Court of Common Pleas, Upper Canada, died suddenly at Toronto a few days since. He had been actively connected with the history of Upper Canada since the beginning of the century, and had served his country in the battle field and the Legislature as well as on the judicial bench. Although for a year or two past, owing to failing sight, he had retired from the bench, he still continued to labour for the public, and had been so employed on the morning of the day on which he died. He was chairman of the commission for the codification of the laws, and only last year completed his labours in that capacity. Many of the Upper Canada papers appear in mourning, as a mark of respect to his memory.

BIRTHS.—On the 18th inst, the Lady HESTER LEEKE, of a daughter—11th Oct., at Barrackpore, near Calcutta, East Indies, Lady HEARSEY, of a daughter—18th inst, at 2, Inverness Terrace, Kensington Gardens, the Hon. Mrs. ROBERT A. J. DRUMMOND, of a daughter.

MARRIAGES.—On the 12th Oct. at Sydney, New South Wales, the Hon. LOUIS HOPE, son of John, fourth Earl of Hopetown, to SUSAN FRANCES SOPHIA, eldest daughter of WILLIAM JOHN DUMARESQ, Esq.—17th inst, at All Saints', Knightsbridge, OSCAR WM. HAMBROUGH, Esq., at Pipewell Hall, Northamptonshire, to the Hon. CAROLINE MARY WOOD, only daughter of the late Right Hon. SAMUEL TIBBITS, third Viscount Hood—10th inst, at Antony Church, Cornwall, GEORGE SOLTAU SYMONS, Esq, of Chaddlewood, in the county of Devon, eldest son of GEORGE SOLTAU, Esq., of Efford, in the same county, to the Hon. ADELE ISABELLA GRAVES, second daughter of Lord and Lady Graves — 15th inst, at Walcot Church, Bath, the Rev. JOSEPH ABBOTT Vicar of Corsham, Wilts, to SELINA MATILDA CAROLINE, daughter of the late Sir John E. Eardley Wilmot, Bart., and widow of the late WADE BROWNE, Esq., of Monkton Farleigh House, Wilts — 15th inst, at Torquay, Captain Sir HENRY VERE HUNTLEY, R.N., to CAROLINE, daughter of the late Rev. HENRY DRURY, of Harrow, and Rector of Fingest, Bucks—20th inst, at the parish church, Kensington, MICHAEL, eldest son of the late MICHAEL HUGHES, Esq., of Shenley Hall, Lancashire, to ELLINOR MARY, only daughter of the late Rear-Admiral COLIN CAMPBELL, of Ardpatrick, Argyleshire, N.B.

DEATHS.—On the 16th inst. at her residence, Bayswater, the Dowager Lady GRAHAM, widow of the late Sir Robert Graham, Bart., of Esk, Cumberland, aged 70—4th ult., at Calcutta, ELEANOR MARIA, wife of Captain EDWARD DAVIDSON, Bengal Engineers, and third surviving daughter of Sir G. H. Freeling, Bart., aged 26—15th inst, in Albemarle Street, London, JULIA, wife of Major-General Hutt, C.B.—13th inst, at Pontefract, Yorkshire, D'ARCY WILLIAM, second son of the Rev Sir T. E. W. Blomefield, Bart., aged 5 years and 4 months—17th inst, at his residence, Batheaston Court, the Ven C. A. MOYSEY, D.D., 19 years Archdeacon of Bath, aged 80—19th inst, at 73, Gloucester Place, Hyde Park, SARAH, the only daughter of the late ISAAC DISRAELI, Esq., of Bradenham, Bucks, author of "Curiosities of Literature"—16th inst, at Carobane, county of Tipperary, Sir HENRY BROOKE, Bart., only surviving son of the late Colonel Sir Joseph Brooke, Bart., of the 20th Regiment, aged 57—14th inst, at Pisa, EMMA AMELIA MAY, 16, Grosvenor Square, eldest daughter of the late Major J. Frere May May, aged 27—5th ult, at Malvern, Worcestershire, J. G. J. PYM, Ap Ednyfed, Esq., M.A., Oxon, of Chiswick Lodge, London, and Malvern Villa, Anglesea—5th inst, JOSEPH HUME SPRY, M.D., of Bath, aged 84—19th inst, at his residence, 4, Sussex Place, THOMAS PARGITER DICKENSON, Esq., Retired Commissioner of H.M.'s Customs, aged 76—19th inst, at his residence, Barley House, Plymouth, Colonel JOHN ELLIOT, H.M.'s Indian Army, and a Deputy Lieutenant for the county of Devon.

## Markets.

### COVENT GARDEN.—Dec. 24.

Mistletoe and other Christmas evergreens have been supplied in great abundance during the last week. Trade has been tolerably brisk. Pine Apples and Grapes still maintain the prices quoted in last report. Apples and good dessert Pears are scarce, and very dear. Among the latter only Glou Morceau and Winter Nelis can be had good. Oranges are improving both in quality and quantity. Good Cobs are realising from 1s. to 1s. 6d. per lb. Chesnuts are plentiful. Owing to the late severe weather the supply of Vegetables is limited, and prices are in consequence higher. Asparagus, Sea kale, and French Beans make their appearance. Cabbages, Savoys, Carrots, Parsnips, and Leeks may also be obtained. Broccoli and Parsley are scarce. Potatoes realise from 4s. to 8s. per cwt. Mushrooms can still be had. Cucumbers are getting dearer. Cut flowers chiefly consist of Orchids, Gardenias, Violets, Mignonette, Chrysanthemums, Camellias, Heaths, and Roses.

#### FRUIT.

| | |
|---|---|
| Pine Apples, per lb., 5s to 7s | Pears, per doz., 4s to 6s |
| Grapes, per lb., 7s to 10s | Oranges, per 100, 6s to 10s |
| Melons, each, 2s to 4s | Lemons, per 100, 5s to 8s |
| Pomegranates, each, 4d to 6d | Filberts, p. 100 lbs., 50s to 60s |
| Apples, per doz., 1s to 2s | Cobs, do., 100s |

#### VEGETABLES.

| | |
|---|---|
| Asparagus, p. bundle, 7s to 10s | Beet, per doz., 1s 6d to 2s |
| Seakale, per basket, 2s to 3s | Celery, per bundle, 1s 6d to 2s |
| F. Beans, per 100, 2s to 2s 6d | Onions, p. half sieve, 1s to 1s 6d |
| Cauliflowers, per doz, 4s to 8s | — Portugal, each, 2d to 4d |
| Greens, per dozen bunches, 4s 6d to 6s | Shallots, per lb., 6d to 8d |
| Cabbages, do., 2s to 3s | Garlic, per lb., 6d to 8d |
| Potatoes, p. ton, 90s to 100s | Lettuces, Cabb., per score, 1s to 1s 6d |
| — per bus., 2s to 2s 9d | Endive, p. score, 1s to 2s |
| — per cwt., 4s to 6s | Horse Radish, p. bun. 1s 6d to 4s |
| Carrots, per bunch, 6d to 8d | Mushrooms, p. pott, 1s 3d to 1s 9d |
| Turnips, per bunch, 5d to 7d | Parsley, p. 12 bunches, 4s to 6s |
| Spinach, p. sieve, 4s to 5s | Savory, per bunch, 2d to 4d |
| Cucumbers, each 1s 6d to 2s 6d | |
| Artichokes, per doz., 2s to 3s | |

### POTATOES.—SOUTHWARK, Monday, Dec. 19.

During the past week, the arrivals have been limited, and a little more money was made of best sorts, but second-rate or inferior samples are still a drag. The following are the quotations:—Yorkshire Regents, per ton, 80s. to 130s.; Lincolnshire do., 75s. to 100s.; Dunbar do., 90s. to 110s.; Perth, Forfar, and Fifeshire do., 65s. to 90s.; Kent and Essex do., 70s. to 100s.; Rocks and Reds, 60s. to 65s.; French Whites, 60s. to 70s.; Belgian do., 55s. to 65s.

### BRITISH WOOLS.—LONDON, FRIDAY, Dec. 23.

Our trade continues active at full rates. All branches of the manufacturing interest are actively employed, and there is every probability of a continuation of good trade for some time to come.

| | s. | d. | | s. | d. |
|---|---|---|---|---|---|
| South-down Hoggets | 1 | 8 to | — | | |
| Half-bred ditto | 1 | 8 — | — | | |
| Down Ewes | 1 | 6 — | — | | |
| Kent Fleeces | 1 | 6 — | — | | |
| Leicest. Wethers | 1 | 5 to | — | | |
| Ditto Hoggs | 1 | 7 — | — | | |
| Combing Skins | 1 | 1 — | 1 | 4 | |
| Blanket ditto | 0 | 6 — | 10½ | | |
| Flannel Wool | 1 | 2 — | 1 | 7 | |

### HOPS.—BOROUGH MARKET, FRIDAY, Dec. 23.

Messrs. Pattenden & Smith report the trade better than usual at this season for all fine and middling samples of Mid Kent, East do., Weald, and Sussex, at improving prices.

### HAY.—Per Load of Thirty-six Trusses.

SMITHFIELD, THURSDAY, Dec. 22.

| | | | | | |
|---|---|---|---|---|---|
| Prime Meadow Hay | 75s | to 78s | Clover | 90s | to 100s |
| Superior do. (old) | 80 | 84 | New Clover | — | — |
| Inferior do. | 50 | 60 | Second cut do. | 66 | 80 |
| New do. | — | — | Straw | 24 | 30 |
| Rowen | 40 | 55 | | | |

DAVIS & Co.

CUMBERLAND MARKET, THURSDAY, Dec. 22.

| | | | | | |
|---|---|---|---|---|---|
| Sup. Meadow Hay | 80s | to 90s | Inferior Clover | 75s | to 90s |
| Inferior do. | 65 | 74 | New do. | — | — |
| New do. | — | — | Straw | 30 | 34 |
| Superior Clover | 98 | 105 | | | |

JOSHUA BAKER.

WHITECHAPEL, THURSDAY, Dec. 22.

| | | | | | |
|---|---|---|---|---|---|
| Fine old Hay | 80s | to 86s | Fine old Clover | 96s | to 102s |
| Inferior do. | 70 | 76 | Inferior do. | 84 | 92 |
| Prime New Hay | — | — | Fine new Clover | — | — |
| Inferior do. | — | — | Fine 2d cut | 84 | 90 |
| Straw | 26 | 30 | Inferior do. | 60 | 75 |

### MARK LANE.—MONDAY, Dec. 19.

The supply of Wheat to this morning's market was moderate from Essex, but small from Kent; a few picked samples were realised at an improvement of 1s per qr. upon the prices of this day se'nnight, the majority being poor both in quality and condition remained unsold towards the close. The attendance was small, and although 1s. per qr advance was occasionally established on foreign, the business transacted was very limited. Barley is a slow sale at the prices of this day week. Beans and Peas bring fully late rates. For Oats there is a fair inquiry at an advance of 6d per qr. The Flour trade is firm, and country marks rather dearer.

| PER IMPERIAL QUARTER. | s. | s. | | s. | s. |
|---|---|---|---|---|---|
| WHEAT, Essex, Kent, & Suffolk | White | 40—48 | Red | 40—45 | |
| — — fine selected runs | ditto | 46—48 | Red | 42—48 | |
| — — Talavera | | 46—52 | | | |
| — Norfolk | | — | Red | — | |
| — Foreign | | 38—56 | | | |
| BARLEY, grind. & dist., 24s to 30s | Chev. | 38—44 | Malting | 34—40 | |
| — Foreign | grinding and distilling | 28—33 | Malting | 35—41 | |
| OATS, Essex and Suffolk | | 19—24 | | | |
| — Scotch and Lincolnshire | Potato | 25—29 | Feed | 19—26 | |
| — Irish | Potato | 24—28 | Feed | 19—24 | |
| — Foreign ..... Poland and Brew | | 23—26 | Feed | 17—24 | |
| RYE | | 35—38 | Foreign | — | |
| RYE-MEAL, foreign | | — | | | |
| BEANS, Mazagan ....33s to 40s | Tick | 33—43 | Harrow | 35—43 | |
| — Pigeon ....44s —47s | Winds | 48—54 | Longpod | — | |
| — Foreign | Small | 38—46 | Egyptian | — | |
| PEAS, white, Essex and Kent | Boilers | 36—39 | Suffolk | 38—41 | |
| — Maple ....—s to —s | Grey | 33—35 | Foreign | 30—38 | |
| MAIZE | White | — | Yellow | — | |
| FLOUR, best marks delivered | per sack | 37—43 | | | |
| — 2d do. | ditto | 27—37 | Country | 27—37 | |
| — Foreign | per barrel | 18—27 | Per sack | 30—37 | |

FRIDAY, Dec. 23.

The frost during the last eight days has been more severe for the time of year than for very many years past, and in this vicinity but little snow has fallen. On Tuesday night the temperature rose considerably with a fall of snow and rain, and on Wednesday the frost had disappeared, but returned again on that night. The Wheat trade has been inactive, caused in a great measure by the firmness of holders, who generally insist on higher prices. An advance of 6d. to 1s. per qr. has been realised in many markets on fine samples of English. The value of Spring Corn has not undergone any change of moment. Prices of Flour have been well maintained. The arrivals of grain-laden vessels from Southern Europe off the coast this week are large; the sales trifling, including Ibrail Maize at 30s 3d. per 480 lbs.; Odessa at 31s. 6d., Galatz at 31s 6d., both per 492 lbs.; Ibrail Barley on passage at 19s 6d per qr. imp., less 2½ per cent., Danubian and spring at 23s 9d to 24s per 480 lbs., c. f. and i.; Odessa Oats, inperfect, at 16s 10½d. per qr. imp.; Taganrog Linseed at 47s 6d to 50s, Odessa at 50s to 52s per qr. delivered. The arrivals of English grain this week have been to a fair extent, and very small of all descriptions of foreign. The attendance at to-day's market was small. Fine English Wheat is inquired after, but some portion of the inferior samples left over from Monday remained unsold towards the close of the market, being offered in vain at that day's prices. Foreign was held firmly at former rates, but scarcely any business transacted. Barley, Beans, and Peas bring Monday's quotations. The Oat trade is firm, and in some instances an advance of 6d. per qr. is obtained.

ARRIVALS FROM Dec. 19 TO Dec. 22.

| | Wheat. | Barley. | Oats. | Flour. |
|---|---|---|---|---|
| English | 2450 qrs. | 4670 qrs. | 1440 qrs. | 840 sks. |
| Irish | — " | — " | — " | — " |
| Foreign | 1140 " | 2460 " | 2890 " | — " |
| | | | | — brls. |

LIVERPOOL, Tuesday, Dec. 20.—We had a moderate attendance of millers and dealers at our Corn Exchange this morning, and Wheat met a fair consumptive demand at an improvement of fully 1s. per cental on the rates of this day week. Flour was also the turn dearer. Indian Corn being held for 6d. per qr more money found few buyers, except in retail. Oats and Oatmeal both steady at full prices. Beans advanced 6d per qr. Peas and Barley without change.

FRIDAY, Dec. 23.—The grain market was very dull, and the attendance limited. Prices for all articles, however, are very firm, and holders are not disposed to accept less than the extreme quotations of Tuesday.

| AVERAGES | Wheat. | Barley. | Oats. | Rye. | Beans. | Peas. |
|---|---|---|---|---|---|---|
| Nov. 12.. | 42s 10d | 35s 11d | 21s 5d | 29s 7d | 41s 3d | 37s 9d |
| — 19.. | 43 1 | 35 11 | 21 11 | 28 4 | 40 9 | 39 6 |
| — 26.. | 44 1 | 36 1 | 22 6 | 29 1 | 41 2 | 39 0 |
| Dec. 3.. | 44 8 | 36 5 | 21 9 | 30 7 | 41 9 | 39 3 |
| — 10.. | 43 11 | 35 10 | 21 5 | 32 10 | 41 1 | 39 1 |
| — 17.. | 43 8 | 35 1 | 21 9 | 30 6 | 41 6 | 38 9 |
| Agg Aver | 43 8 | 35 11 | 21 9 | 30 1 | 41 4 | 38 11 |

FLUCTUATIONS IN THE LAST SIX WEEKS AVERAGES.

| PRICES. | Nov. 12. | Nov. 19. | Nov. 26. | Dec. 3. | Dec. 10. | Dec. 17. |
|---|---|---|---|---|---|---|
| 44s 8d | .. | .. | .. | | .. | .. |
| 44 1 | .. | .. | | .. | .. | .. |
| 43 11 | .. | .. | .. | .. | | .. |
| 43 8 | .. | .. | .. | .. | .. | |
| 43 1 | .. | | .. | .. | .. | .. |
| 42 10 — | | .. | .. | .. | .. | .. |

### COAL MARKET.—Dec. 21.

Bowers West Hartley, 15s. 6d.; Byass's Bebaide West Hartley, 15s. 6d.; Clark's West Hartley, 15s. 6d.; Earsden Hartley, 15s.; Hastings Hartley, 15s. 6d.; Lambert's West Hartley, 15s. 6d.; Wylam, 16s.; Walls End Clennell, 15s. 6d.; Walls End Northumberland, 16s.; Walls End Belmont, 18s 6d.; Walls End Framwellgate, 18s 6d.; Walls End Montague, 17s 6d.; Walls End Russells Hetton, 20s; Walls End Benson, 18s. 6d.; Walls End Heugh Hall, 19s. 6d.; Walls End South Hartlepool, 19s. 9d.; Walls End Kelloe, 20s.; Walls End Whitworth, 15s. 6d.—22 ships at market.

### METROPOLITAN CATTLE MARKET.

MONDAY, Dec 19.

The number of Beasts, although small, is fully adequate to the demand; indeed, purchasers have pretty well supplied with the Christmas stock, and cannot be induced except at reduced prices, and many remain unsold. There is a fair average supply of Sheep for the day. Calves are good, and they are readily disposed of at late quotations. Calf trade remains unaltered. From Germany and Holland there are 450 Beasts, 2650 Sheep, and 150 Calves; from Spain, 140 Beasts; from Scotland, 250; from Ireland, 230; from Norfolk and Suffolk, 300; and 1500 from the northern and midland counties.

| | s. | d. | | s. | d. |
|---|---|---|---|---|---|
| Best Scots, Herefords, &c. | 4 | 10 to 5 | 0 | | |
| Best Short-horns | 4 | 8 — 4 | 10 | | |
| 2d quality Beasts | 3 | 8 — 4 | 4 | | |
| Best Downs and Half-breds | 5 | 2 to 5 | 4 | | |
| Do. Shorn | .. | .. — | .. | | |
| Best Long-wools | 4 | 10 to 5 | 0 | | |
| Do. Shorn | .. | .. — | .. | | |
| Ewes & 2d quality | 4 | 4 — 4 | 8 | | |
| Do. Shorn | .. | .. — | .. | | |
| Lambs | .. | .. — | .. | | |
| Calves | .. | .. 4 | 0 — 5 | 0 | |
| Pigs | .. | .. 3 | 8 — 4 | 8 | |

Beasts, 3730; Sheep & Lambs, 15,120; Calves, 198; Pigs, 240.

THURSDAY, Dec. 22.

The supply of both Beasts and Sheep, although not very large, far exceeds the demand. There is a very small amount of business transacted in either department, and on the average at lower rates. The few Calves on offer are sold a

Monday's quotations. Our foreign supply consists of 50 Beasts and 440 Sheep. The number of Milch Cows is 150.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Best Scots, Herefords, &c. | .. | 4 | 8 to 5 | 0 | Best Long-wools | 4 | 8 to 5 0 |
| Best Short-horns | | 4 | 6 — 4 | 10 | Do. Shorn .. .. | — | .. |
| 2d quality Beasts | | 3 | 4 — 4 | 0 | Ewes & 2d quality | 4 | 4 — 4 6 |
| Best Downs and Half-breds | .. | 5 | 0 — 5 | 4 | Do. Shorn .. .. | — | .. |
| Do. Shorn | .. .. | — | .. | | Lambs .. .. .. | — | .. |
| | | | | | Calves .. .. | 4 | 0 — 5 0 |
| | | | | | Pigs .. .. | 3 | 8 — 4 8 |

Beasts, 920; Sheep & Lambs, 2350; Calves, 26; Pigs, 130.

WANTED, a good WORKING PRACTICAL GARDENER to manage a Kitchen Garden and small Flower Garden, and Greenhouse.—Apply to C. L. HIGGINS, Esq., Turvey Abbey, Olney, Bucks.

**GARDENER AND LAUNDRESS.**

WANTED, a good practical WORKING GARDENER, who will be required to manage Kitchen and Flower Gardens, with Wall and other Fruit trees; no houses at present. Must be a married man, whose Wife can act as LAUNDRESS. A house provided in which the washing will have to be done.—Address, stating terms, to Mr. OAKDEN, Sutton, Potton, St. Neots.

WANTED, a good practical WORKING GARDENER, to Manage Flower Garden, a Small Vinery, and Kitchen Garden, and accustomed to the Management of Cows. Must be a married Man without incumbrance. The Wife to undertake a Small Dairy and assist in the Laundry.—Apply any Tuesday or Friday between 10 and 1 o'clock to Mr. AMBLER, 1, Oakley Square, King's Road, Chelsea, S.W.

WANTED, as GARDENER, an industrious and trustworthy single Man (on the South Coast); he must be well acquainted with Growing and Forcing all kinds of Flowers; also accustomed to a full supply of Fruits and Vegetables for a family, and take charge of Pleasure Grounds; he will have to overlook several Meadows, and must understand Cows and Pigs. He will have sufficient assistance. A Roman Catholic preferred.—Apply by letter H. P., care of Young & Danvers, 17, Portman Street, W.

WANTED, as OUT-DOOR GARDENER, a married Man without incumbrance, of active and orderly habits, who has been regularly brought up to his profession, and who has lived last in a gentleman's service. A Cottage and 1*l.* a week. The Wife a good Laundress, and paid according to her work.—Address P. Q., Post Office, Alford.

WANTED, AS UNDER-GARDENER, a respectable young Man; he will have a good opportunity to improve himself.—Apply to the Gardener, Brixworth, Northamptonshire.

WANTED, by a gentleman in Wiltshire, a FARM BAILIFF, between 30 and 40 years old, whose wife will undertake the Dairy and Poultry. A family of children objected to.—Address letters to G. WESTBURY, Esq., Andover.

## WANT PLACES.—Letters to be Post Paid.

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GARDENER (HEAD).—Age 29, single; has a thorough practical knowledge of his profession in all its branches. Two years' good character.—O. P., Post Office, Greenhithe, Kent.

GARDENER (HEAD).— Middle-aged, single; can undertake the entire management of any nobleman or gentleman's gardens, having a thorough practical knowledge of his profession in all its branches; can also take charge of Land. Can be highly recommended.—M. G., A. Stuart, Seedsman and Florist, Holloway, N.

**TO THE NOBILITY AND GENTRY.**

GARDENER (HEAD).—H. POTTS (age 28), the Gardens, Sir Charles Mordaunt's, Walton House, near Warwick, will shortly be disengaged; is practically acquainted with his profession in all its various branches, including Early and Late Forcing, and the Culture of Stove and Greenhouse Plants, &c. Good references.

GARDENER.—Age 27, married; has no objection to look after a Horse and Chaise. Can wait at table well, and is willing to make himself generally useful. Two years' good character.—W. A. C., 2, Belle Vue Terrace, Crouch End, Hornsey, N.

GARDENER (where another or more is kept).—Age 25; thoroughly understands the Management of the Flower, Fruit, and Kitchen Gardens; the Forcing of Vines, Pines, Melons, Stove and Greenhouse Plants, &c.—C. T. MORISS, News Agent, Camberwell, Surrey, S.

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GARDENER AND GENERAL SUPERINTENDENT.—Age 38, married, without incumbrance. Has had extensive practical knowledge as a Horticulturist and Agriculturist. His Gardening experience extends to all departments, including the management of Plantations, Landscape Gardening, Garden Architecture, and Engineering; in Farming to improved modes of Cultivation, Rearing and Fattening, Buying and Selling Stock, Erecting Buildings, &c., and the general management of a gentleman's establishment. Is a good Accountant. The highest testimonials from his late employer, with whom he had the sole managements of Farm, Garden, Tradesmen, &c.—A. B., 1, Post Office, Lombard Street, London, E.C.

OVERSEER OR LAND STEWARD.—Age 26; has Managed a Farm in Mid-Lothian for several years, and has also been some time in a Factor's Office on a large estate. Can produce satisfactory references both as to character and ability.—S. T., Post Office, Liberton, Edinburgh.

LAND STEWARD OR BAILIFF.—Age 40, married; a native of Scotland; has had considerable experience in the management of Landed Property, Buying, Selling, and management of Stock in general; Draining, Planting, and Reclaiming of Land, &c. Testimonials of the highest character.—S. S., Wright's Buildings, Watford, Herts.

BAILIFF.—Single; has had considerable experience in Farming in all its branches, Stock, &c. Unexceptionable references can be given.—A. Z., Mr. Deakin, News Agent, 4, Osborn Street, Whitechapel, E.

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MANAGER OR SHOPMAN. — Age 28; a good knowledge of the business, and well acquainted with Plants; could Travel if required. Five years in last situation.—W. B. C., *Gardeners' Chronicle* Office, W.C.

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The publisher begs to call the attention of Agriculturists to this Diary and Account Book. It has been favourably received during the last 6 years by a great many eminent agriculturists in England, Ireland, and Scotland; and high encomiums have been passed upon it by all the leading journals (London and Provincial), advocating the cause of agriculture.

The publisher has pleasure in stating that it has received the high patronage of the Right Hon. the Earl of Carlisle, and will by permission be dedicated to him.

This Diary contains Space for Memoranda; Complete Almanack—Almanack with Breeder's Tables—Memoranda—Cash Account—Farmer's Account Book—Inventory, Cash, Stock, &c., beginning of year—Extent of Farm—Cropping or Produce Table—Outlay and Income during the Year—Inventory, Cash, Stock, &c., ending of year—Summary of Outlay and Income—a great many useful Tables, Stamps, Taxes, Licenses, &c.—Valuable recipes for Farmers—A complete List of Fairs in the United Kingdom, &c.

The publisher would recommend that an early application be made for this Diary, as a great many were disappointed in ordering copies for 1859, after the edition was sold off and too late to print a second edition.

"The great desiderata in farm account-books are simplicity and brevity, leaving nothing for the farmer to do but to enter under printed heads the transactions of each day, when the labour of the day is finished. In looking over the 'Diary' of Mr. Peat, we think he has met these requirements of the farmer in a very satisfactory manner, so that any farmer, by making himself familiar with the various headings, may settle the day's accounts of his farm in a very few minutes. We have no hesitation in recommending it to our readers."—*Mark Lane Express.*

Sold by SIMPKIN, MARSHALL, & Co., London; WHITTAKER & Co., London; M'GLASHAN & GILL, Dublin; JOHN MENZIES, Edinburgh; DAVID PEAT, Thirsk; all Booksellers, and at the Railway Stations.

EDINBURGH VETERINARY REVIEW AND ANNALS OF COMPARATIVE PATHOLOGY, No. V., Price 3*s.*—The Proprietors of the "Edinburgh Veterinary Review and Annals of Comparative Pathology," beg to inform their Subscribers and the Profession that the Fifth Number of the "Review" will be published the beginning of January next. They regret exceedingly the delay that has taken place in the issuing of this Number, and the disappointments that have occurred in consequence. These have arisen from various unavoidable circumstances, and especially the many professional engagements of the principal Editor. Now, however, these obstacles have been removed, and the Veterinary and Medical Profession may rest confident that the "Review" will, in future, appear with regularity in the months of January, April, July, and October The Proprietors have to thank the Profession generally for the favour that has so liberally been awarded to their publication, and for the many letters of approbation received by the Editor from all parts of the kingdom.—Published for the Proprietors by SUTHERLAND & KNOX, Edinburgh; SIMPKIN, MARSHALL, & Co., London.

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# The Gardeners' Chronicle Newspaper.

*SATURDAY, DECEMBER* 31, 1859.



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WILLIAM RATRAY, Actuary.

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LIABILITY OF PROPRIETORS UNLIMITED.
INVESTED FUNDS .. .. .. .. £1,156,035
PROGRESS OF THE COMPANY:—

| Year | Fire Premiums. | Life Premiums. | Invested Funds. |
|---|---|---|---|
| .. | 35,472 | 19,840 | 388,990 |
| .. | 113,612 | 49,128 | 620,898 |
| .. | 276,058 | 121,411 | 1,156,035 |

The Annual Income exceeds £450,000.
Policies expiring on CHRISTMAS DAY should be renewed before the 9th of January.
SWINTON BOULT, Secretary to the Company.

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THE BRITISH MUTUAL LIFE ASSURANCE SOCIETY entertains proposals of any description involving the contingency of human life.

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| 50 | 4 6 3 | 2 4 3 | 1 2 8 |

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SCOTTISH UNION FIRE AND LIFE INSURANCE COMPANY.—The 35th Annual General Meeting of the Scottish Union Insurance Company was held on Wednesday, December 7, 1859. A Report by the Directors, giving full and detailed statements of the Company's transactions, was submitted to the meeting, and unanimously approved of.
The Report by the Auditor of the Company, certifying the accuracy of the Balance Sheets and of the various Statements, was also submitted to the meeting.
It appeared from the Report that—
The number of Life Policies issued during the year was 522
The amount insured thereby was .. .. .. £252,740
Yielding of new premiums .. .. .. £7814 1s. 9*d.*
That the amount paid for life claims, including bonuses, was considerably less than in the previous year; and that after payment of all claims, expenses of management, &c., a large sum was added to the Life Assurance funds.
In the Fire Department it was stated that the premiums amounted to 40,572*l.*, being an increase of upwards of 3600*l.*, when compared with the amount for the previous year, and that, after payment of all fire losses, expenses of management, &c., there was a considerable surplus on the fire account.
A dividend was declared payable to the shareholders on the 3d of January, 1860, at the rate of 8 per cent., free of Income-tax.

London Board.
*President.*—The Right Hon. the EARL OF MANSFIELD.
*Directors.*

| | |
|---|---|
| P. Anstruther, Esq. | John Kingston, Esq. |
| Charles Balfour, Esq. | J. R. Robertson, Esq. |
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| J. E. Goodhart, Esq. | George Ramsay, Esq., Manager. |
| H. M. Kemshead, Esq. | |

*Secretary*—F. G. Smith, Esq. *Surgeon.*—E. W. Duffin, M.D.
*Solicitors.*—Messrs. Oliverson, Lavie, and Peachey.
Forms for proposals, and prospectuses, containing all the necessary particulars, may be had at any of the Company's offices and of the agents throughout the kingdom.
F. G. SMITH, Secretary to the London Board.
37, Cornhill, London, E.C.

EDINBURGH REVIEW, No. CCXXV.—ADVERTISEMENTS intended for insertion are requested to be forwarded to the Publishers immediately. ADVERTISEMENTS and BILLS cannot be received later than Saturday next.
London: LONGMAN & Co., 39, Paternoster Row, E.C.

**ANNUAL SUBSCRIPTION. TWELVE SHILLINGS.**

THE JOURNAL OF AGRICULTURE, AND THE TRANSACTIONS OF THE HIGHLAND AND AGRICULTURAL SOCIETY OF SCOTLAND. No. LXVII. January, 1860. Price 3s.; free by post, 3s. 4*d.* Published Quarterly.
WILLIAM BLACKWOOD & SONS, Edinburgh and London.

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The publisher has pleasure in stating that it has received the high patronage of the Right Hon. the Earl of Carlisle, and will by permission be dedicated to him.
This Diary contains Space for Memoranda; Complete Almanack—Almanack with Breeder's Tables—Memoranda—Cash Account—Farmer's Account Book—Inventory, Cash, Stock, &c., beginning of year—Extent of Farm—Cropping or Produce Table—Outlay and Income during the Year—Inventory, Cash, Stock, &c., ending of year—Summary of Outlay and Income—a great many useful Tables, Stamps, Taxes, Licenses, &c.—Valuable recipes for Farmers—A complete List of Fairs in the United Kingdom, &c.
The publisher would recommend that an early application be made for this Diary, as a great many were disappointed in ordering copies for 1859, after the edition was sold off and too late to print a second edition.
"The great desiderata in farm account-books are simplicity and brevity, leaving nothing for the farmer to do but to enter under printed heads the transactions of each day, when the labour of the day is finished. In looking over the 'Diary' of Mr. Peat, we think he has met these requirements of the farmer in a very satisfactory manner, so that any farmer, by making himself familiar with the various headings, may settle the day's accounts of his farm in a very few minutes. We have no hesitation in recommending it to our readers."—*Mark Lane Express.*
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All Communications for the Editors to be addressed to Mr. W. DEAN, Bradford Nursery, Shipley, Yorkshire.
London: HOULSTON & WRIGHT.
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On the 1st of November was published, price 7*s.*,
THE ROSE ANNUAL FOR 1859-60. With four Coloured Plates of New Roses. By WILLIAM PAUL, F.H.S., author of "The Rose Garden," &c.
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ARMY AND NAVY GAZETTE, AND JOURNAL OF THE MILITIA AND VOLUNTEER FORCES. Edited by W. H. RUSSELL, Esq. LL.D. (late Special Correspondent of *The Times*). No. 1 will be published on the 7th January, in time for the Morning Mails.
Office (where Advertisements and Subscriptions are received), 16, Wellington Street North, Strand.—Sold by all Newsmen and Booksellers.


## News of the Week.

THE death of Lord MACAULAY, leaving his last and greatest work as an unfinished monument of his genius, will be received with regret in all parts of the world where the English language is spoken, or English oratory and literature are understood. He died suddenly on Wednesday last from disease of the heart, from which he had been long suffering; but his health had latterly experienced so much amendment that this sudden termination of his brilliant career was not anticipated by his friends. He was only 59 years of age, and as he has died unmarried, the title which he had earned so well has expired with him.

The approaching meeting of the Congress is likely to be considerably influenced by the recent pamphlet on "The Pope and the Congress," which

has caused an immense sensation in all parts of Europe. The POPE is said to have informed the French Ambassador in Rome that in consequence of its publication the departure of Cardinal ANTONELLI has been suspended; while the Papal Nuncio in Paris has intimated to COUNT WALEWSKI that it is impossible for the POPE to send a representative to the Congress if an authentic denial be not given to the rumour that the pamphlet had an official origin and expressed the sentiments of the French Ministry. The Governments of Austria, Naples, and Spain have since declared that they will not send Plenipotentiaries to the Congress if the POPE be not represented; and the Russian Ambassador is said to have informed COUNT WALEWSKI that as the pamphlet, irrespective of the religious question with which Russia does not intend to interfere, contains principles opposed to that respect for authority on which the Russian Government is founded, it is the intention of Russia to oppose in the Congress the programme which it embodies. It was reported in Paris on Thursday that the Nuncio had demanded his passports, but there is reason to believe that the rumour was premature, and that the Nuncio has no intention at present of quitting Paris. The latest news states that the Council of Ministers has resolved on not giving any official denial to the pamphlet, on the ground that as it has not been mentioned in the *Moniteur*, the only official organ of the Government, it cannot be considered an affair to be noticed by foreign Powers in their diplomatic relations with France.

The *Times* of Saturday published a conversation which has recently taken place on the relations of France and England between a Frenchman and an Englishman, who are understood to have been the EMPEROR and Mr. COBDEN. In the course of this conversation, which will be found at length in our Foreign News, "the Frenchman" is described as having characterised the invasion panic in England as "actual folly," and as having reminded his auditor that the EMPEROR co-operated with England in the Mediterranean, in spite of the Assembly; that he again united himself with her in the Crimea; that when the Indian rebellion broke out he offered a passage for her troops, although he had then his opportunity if he had been minded to invade our shores; and that on every occasion when efforts were made to detach him from the English alliance by proposals inconsistent with English principles, he steadily refused complicity in any such policy or plans. With regard to the increase of the French navy, he is represented to have said that the application of steam to the purposes of naval warfare had compelled the Government of France, like that of England, wholly to reorganise her naval force, and that it will take 10 years more to bring the French navy up to the point of efficiency determined upon under LOUIS PHILIPPE, a Sovereign who was not accused of any hostile plans against England. On the subject of war, "the Frenchman" is described as having expressed his belief that the late Tory Government wished to range England on the side of Austria in the recent struggle in Italy, and that the present movement in favour of putting the country in an efficient state of defence originated in a party manœuvre. It cannot, he said, be denied that there still exists in both countries a remnant of rancour and rivalry; but at the same time there are "material interests on the one side and liberal ideas on the other, which tend incessantly to draw the two countries closer to each other;" and he emphatically declared that "a war with England could bring to France no advantage, material or moral."

## Home News.

THE COURT.—The Queen, Prince Consort, and the Royal family continue at Windsor Castle. On Friday morning the Queen, accompanied by Princess Alice, walked in the Home Park, and visited the Duchess of Kent at Frogmore. The Prince Consort, with the Prince of Wales, went out shooting. The Duchess of Kent and the Prince and Princess of Leiningen visited her Majesty in the afternoon. Count de Lavradio, the Portuguese Minister, arrived on a visit. On Saturday morning the Queen, with the Princess Alice, walked in the Home Park, and visited the Duchess of Kent at Frogmore. The Prince Consort, accompanied by the Prince of Wales, rode out on horseback. The Portuguese Minister returned to London. The Hon. Mrs. R. Bruce arrived on a visit. In the evening the choir of St. George's Chapel, under the direction of Dr. Elvey, had the honour of singing before her Majesty, and her Majesty's private band performed various pieces in the drawing-room. On Sunday (Christmas Day) the Queen and Prince Consort, the Prince of Wales, Prince Arthur, the Princesses, the Duchess of Kent, and the Prince and Princess of Leiningen, attended Divine service in the private chapel; the Dean of Windsor performed the service and administered the Sacrament. On Monday morning the Queen, with Princess Alice, walked in the Home Park, and visited the Duchess of Kent at Frogmore. The Prince Consort went out shooting, accompanied by the Prince of Wales and the Prince of Leiningen. The Duchess of Kent and the Prince and Princess of Leiningen visited her Majesty in the afternoon. Marshal the Duke of Malakoff arrived at the castle and paid his respects to her Majesty, the Prince Consort, and the Royal family, and afterwards returned to London. On Tuesday morning the Queen, accompanied by the Princesses Alice, Helena, and Louisa, walked in the Home Park, and visited the Duchess of Kent at Frogmore. The Prince Consort came to London, went to the South Kensington Museum, and met a Committee of the Horticultural Society. The Prince of Wales went out shooting. The Princess of Leiningen paid a visit to the Queen. On Wednesday morning the Queen and Prince Consort, with the Princess Alice, rode in the riding-house. The Hon. Mrs. R. Bruce left the castle. In the afternoon Sir C. Eastlake, President, and Mr. Knight, Secretary of the Royal Academy, had an audience of her Majesty. Mr. H. F. Howard had an audience, to which he was introduced by Lord John Russell, as Secretary for Foreign Affairs. His lordship and Mr. Howard afterwards remained on a visit. On Thursday morning the Queen and Prince Consort walked in the grounds of the castle. The Prince of Wales and the Princesses Alice, Helena, and Louisa rode in the riding-house. The Duchess of Kent and the Prince and Princess of Leiningen visited her Majesty. Mr. H. F. Howard left the castle.

VICTORIA CROSS.—Notice has been given by the War Office that it is her Majesty's intention to hold a presentation of the Victoria Cross at Windsor Castle on Wednesday next, the 4th January, at 11 o'clock. Those persons who have had the distinction awarded to them, but have not yet received it, are accordingly requested to send their addresses to the Adjutant-General, and to be in attendance at the time mentioned.

THE ARMY.—Major General the Hon. T. Ashburnham, C.B., has been appointed to the Colonelcy of the 82d Regiment, vacant by the death of General Hamilton. The Colonelcy of the 66th Regiment has also become vacant by the death of General Blunt.

VOLUNTEER RIFLE CORPS.—The decision of the Government Commissioners on the question of dress was made known by Lord Elcho on Friday, at a meeting of the London Scottish in the hall of the United Service Institution. His lordship stated that the Commissioners, after a deliberation of four hours, had agreed to recommend a gray dress, consisting of a loose blouse, pegtop trousers and leggings, a great coat, and light forage cap, with slanting peak. His lordship appeared in the dress, and said that with the belts, its cost had only been 2*l.* 2*s.* exclusive of the great coat, which would be from 30*s.* to 35*s.*, so that the whole sum for which the volunteer could equip himself would not exceed four guineas. After some discussion the dress was unanimously adopted, subject to such alterations as the Council may deem advisable after examining the sealed patterns. The question of having distinctive badges indicating nationality was decided in the negative.—A meeting of the council of the London Rifles was held at the Mansion House on Tuesday, when the Lord Mayor stated that 1012 gentlemen had enrolled themselves as effective members, and the progress they were making in the drill was highly satisfactory.—A general meeting of the effective and honorary members of the St. James's Westminster corps was held on Tuesday in the Vestry Hall, Piccadilly, at which it was resolved to amalgamate with the other eight parishes in the city of Westminster, with the view to the eventual formation of an effective brigade. It was stated during the meeting that the Westminster authorities had made an arrangement with the copyholders of the manor of Fulham for the use of a very fine practice-ground, with a range of upwards of 700 yards, and 100 yards in breadth.—A meeting of the Irish residents of Islington and the adjacent districts was held at Myddelton Hall on Wednesday, at which it was resolved on the motion of Major-General Sir John Scott Lillie, seconded by Major-General Sir Justin Sheil, K.C.B., to form a local committee for the purpose of co-operating with the General Council of the London Irish in the organisation of the corps.—A general meeting of the council of the West Middlesex (late Marylebone) Rifle Corps was held on Thursday at Lord's Cricket-ground, when Lord Radstock announced that the corps had by a large majority determined on retaining the present material for the uniform, and that it was proposed to adopt the cap decided on by the War Office Committee.—The members of the North London, comprising the 4th, 5th, 6th, and 7th Middlesex, took the oath of allegiance on Wednesday at Myddelton Hall, after which they marched to their future practice-ground in the Seven Sisters Road, Holloway.—A public meeting of the parishioners of Clerkenwell was held at the parochial schoolroom on Tuesday [illegible] a committee was appointed to take measures [illegible] mation of a rifle corps for that parish.—The [illegible] the Railway Corps have been accepted by her [illegible] and its order on the county roll is 20th. [illegible] time about 150 gentlemen, principally connected [illegible] the London and North-Western, Great Northern, [illegible] Midland Railways, and the Clearing House [illegible] —The services of the Working Men's College [illegible] been accepted by her Majesty, and the corps [illegible] sanctioned as the 19th Middlesex. The establishment [illegible] is to consist of 1 captain commandant, 1 captain, [illegible] lieutenants, 2 ensigns, and 200 men of all ranks [illegible] into two companies. Several other bodies of [illegible] workmen, however, are in process of organisation, [illegible] it is hoped that a battalion will be formed [illegible] weeks. The present strength of the corps is 15[illegible] whom are members of the college.—A crowded meeting [illegible] was held on Wednesday at Tottenham, at which [illegible] was resolved to form a volunteer rifle corps [illegible] Tottenham and its neighbourhood.—In other [illegible] vinces meetings in aid of the movement [illegible] been held during the week at Abingdon, Ashby-de-la-Zouch, Alston, Barnstaple, Bovey Tracey, Collumpton, Crediton, Chorley, Doncaster, Farnham, Filey, Grantham, Hailsham, Hasleigh, Honiton, Holbeach, Huntingdon, Kirkby Lonsdale, Louth, Ludlow, Malvern, Morpeth, Pwllheli, Ripon, Richmond (Yorkshire), Romsey, Saxmundham, St. Austell, Sleaford, Swansea, Spilsby, Stamford, Stanhope, Walmer, Witham, Wigton, and Worcester.—The following circular has been issued from the War Office to the Lords Lieutenants of the different counties:—

"War Office, [illegible]

"My Lord,—I have the honour to inform you that Her Majesty's Government have determined to issue to Rifle Volunteer Corps, after the 1st January next, an additional number of long Enfield rifles (pattern 1853), to the extent of [illegible] on the effective strength of the corps. This supply will make the aggregate issue to 100 per cent. on the effective strength of the force; and I have to request that you will be good enough to communicate this decision of the Government to the commanding officers of the various corps in your county, who should at once forward the prescribed requisitions to this office for such portion of the supply as they may be entitled to under the regulations. I hope to be in a position, in the course of next year, to exchange these rifles gradually for the Pattern Enfield, in the case of any corps which may desire it, on the understanding that the long rifles must be returned in serviceable condition, fair wear and tear excepted, or that the corps must pay for any damage they may have received.—I am, &c.

"SIDNEY HERBERT."

## Foreign.

FRANCE.—The *Times* of Saturday published the following conversation which has, it says, taken place in Paris between an "Englishman" and a "Frenchman," who are understood to be Mr. Cobden and the Emperor:—

*The Englishman.*—"You know my sentiments with regard to France, and my sincere desire to see the most complete harmony always subsist between my country and yours. Judge then of my surprise, and allow me to add my sorrow, at finding the relations between our respective countries have greatly and profoundly altered—at least, if we may judge by appearances. I have carefully and conscientiously examined the state of the public mind in England. I have interrogated and listened to persons of every class, from the highest to the lowest. Well, then, I declare to you, to my deep regret, I have found, with the one, as with the other, mistrust pushed to the point of only believing in menaces on the part of your country and fear to that of deeming it necessary to put themselves in a state of defence. I address myself, therefore, to you, to the plain facts which are generally represented in England as flagrant proofs of the bad intentions of France with regard to us."

*Frenchman.*—"What! you, my dear sir? You, whose mind is so just and upright; you, whose judgment is so sound, whose reason so firm and enlightened—you, too, caught by contagion? In truth, you would make me laugh if I did not know you to be serious, and I would class you among the foolish if I did not know you to be the contrary. Yes, I declare to you, in the eyes of my countrymen, as in my own, the panic spread abroad in England is actual folly."

*Englishman.*—"Folly as much as you please. The fact does not the less exist; and, as it exists, it must be taken into serious consideration. Do you not foresee a fatal result? How many unfounded rumours are credited? People's minds on both sides will grow embittered, and the merest cause will suffice to bring about a rupture, and the slightest spark to light up a flame."

*Frenchman.*—"The difficulty is to lead back to the truth those who obstinately wander from it, and to cure the blind who will not see. Nevertheless, I wish to submit to your diseased imagination facts that cannot be refuted—to chase phantoms that flit about on the other side of the Channel realities which can be easily verified and proved beyond dispute. Facts shall speak first and figures after. Now, the Emperor has given to no foreign power, more than to England, guarantees of his desire to live in good harmony. Hardly had he ascended to power when he despatched [illegible] spite of the Assembly, the French fleet to make common cause with yours in the East. Subsequently he united his arms with you in the Crimean war; and when the insurrection which broke out in India employed all your army in Asia, did he profit by the absence of your force to pick a quarrel with you? On the contrary, he offered to the English troops passage through France. He subscribed, as well as the Imperial Guard, for your wounded, while (be it said *en passant*, and without meaning reproach) our wounded in Italy seemed to you indifferent. Finally, how many measures for the last two years have been proposed by divers Governments which might have shocked England? He has rejected them all, and made no merit whatever in your eyes of the rejection. How can so many proofs of a cordiality so constant be all at once forgotten? And how does it come to pass that mistrust and error are substituted for the legitimate effect which it should have produced? Why should a line of conduct so honest be answered by passionate and mistaken alarm? I look about me in vain, and I cannot understand the cause of this sudden terror in England. And, good heavens! what a time has been selected to propagate it? Why, the very moment when the Emperor has given a rare example of moderation. From the very day when he proposed and concluded peace people were pleased to attribute to him ambitious designs; he was represented as marching to new conquests when, arresting the impetuosity of his troops, he so resolutely traced the limit beyond which he would not push his victory. There is, then, something insensate in converting into one eager for war the man

than whom none can wish to be more pacific; and into a cause of fear what ought to be a pledge of security."

*Englishman.*—"The conduct of the Emperor would, I admit, be the most appropriate argument to convince us, and his sympathy for England has never ceased to inspire us with confidence. But, the people—but the army! Come now, frankly speaking, do they not both detest us? And will not public opinion force your Sovereign some day to declare war against us?"

*Frenchman.*—"To such questions as these I reply—Error, error the most grave, my dear sir. It cannot be denied that there is at bottom, in both countries, a remnant of rancour and rivalry which still subsists, but subsists much more in a latent than in an aggressive state. Material interests on one side, liberal ideas on the other, tend incessantly to draw the two countries closer to each other. Moreover, France is more practical than you imagine. What advantage, material or moral, could a war with you bring us? None—absolutely none. Consequently no one desires it. But have you expressed *all* your thoughts? Do you not keep silent as to the cause of this mistrust which is so universal in England against the Emperor and his Government? Be candid, and I shall be the same.

*Englishman.*—"Well then, I will be candid. Here is our decisive reason, our principal grievance; the development given to the French navy is out of all proportion to the requirements and the greatness of your country."

*Frenchman.*—"This is another prejudice; is it possible that a man like you should share it? Truly, if instead of being some hours distant from our frontier, England was at the Antipodes, one would not find it a greater stranger than you appear to be as to what is passing in France. You speak of our extraordinary armaments, but are you quite sure of the fact? Some journals have printed it; you have read it. Some persons have told you of it; you have repeated it, and you believe it—that's all. Such is the only source of your conviction. Learn, then, what is doing in France, and hold it for certain. Not a *centime* can be spent without the vote of the Legislative Corps, and without the previous examination of the Council of State. Consult the estimates of navy and army, and you shall find in them no excessive expenditure on the part of the Government."

*Englishman.*—"Your estimates are nothing to me, my dear sir; I am ignorant as to how they are arranged. Figures are easy of handling, and are susceptible of every combination. Facts on the contrary, are inflexible; and, since you have appealed to them, I will appeal to them in turn. At Toulon and Brest you are building plated ships. Against whom can they be intended if not against us? At Nantes you have on the stocks hundreds of flat-bottomed boats. For what purpose, if it be not to throw in an instant 20,000 soldiers on our coast? And then your immense supplies of fuel, and the prodigious activity of your arsenals? Everywhere you are building ships; everywhere you are casting rifled cannon and projectiles of all kinds. These are so many evident facts, and of public notoriety. What answer will you give me to them?"

*Frenchman.*—"The most categorical in the world. Give me your attention, for I will now quote laws and regulations, authentic reports, and go back to a period which will not be suspected by you:—According to a royal ordinance of the 22d November, 1846, the total strength of the naval forces on the peace footing was to be 328 ships, of which 40 were liners and 50 frigates—sailing vessels. When the war in the Crimea came on France had very few steam-ships; it was easy to see that sailing ships had passed their time, and that it was necessary boldly to admit the principle that henceforth every man-of-war must be a steamer. The Emperor consequently named in 1855, under the presidency of Admiral Hamelin, a commission to fix the basis of the new fleet necessary for France. The commission reported in favour of transforming the sailing ships, and of appropriating to them our ports, giving them especially the yards and docks which they required. The report terminated by demanding that the annual grant for the maintenance of the *materiel* of the fleet should be augmented by an annual sum of 25,000,000f. for 13 years, the period judged indispensable to complete their transformation. Of that sum 5,000,000f. were applied to the ports. The Council of State, when called upon to give its opinion, reduced to 17,000,000f. for 13 years the amount of extraordinary credits demanded for the navy. Do not tire, my dear sir, with these details. Here is one quite recent, and not less precise:—In 1859 our fleet consisted of 27 ships of the line (*vaisseaux*) and 15 frigates, screws, completed; and of three plated frigates. We have, then, in order to arrive at the force on a peace footing, decided under Louis Philippe, 13 ships of the line to transform, and 35 frigates to build, which, I repeat, will still require 10 years at least. As for the plated frigates—the invention of the Emperor—nothing is more natural than to construct them as an experiment, since if they succeed they can be advantageously substituted for ships of the line. But this is not all; the necessity of having only a steam fleet entailed on us expenses from which England may be exempted. When our fleet used sails, and we had an expedition to send, as for instance to Africa, to the Crimea, and to Italy, it was easy to find among the trade sailing transport for men, horses, or stores. But at the present day our merchant navy is not sufficiently developed to enable us to find steam transports when we have need of them. We are therefore forced to build them, in order to have at all times a certain number ready, and this imperious obligation is so present to us, that at the very moment I am speaking to you all our transports are proceeding to China; and, that we may not be entirely without resources, and be unprovided, the Naval Department has been obliged to purchase three large steamships in England. You see, then, I have at heart to convince you that I penetrate without hesitation to the very bottom of things, and I disclose to you the minutest details of our situation."

*Englishman.*—"These categorical explanations begin to reassure me. But have you any such to give me on the supplies of coals and the boats intended for the landing of troops?"

*Frenchman.*—"I will continue with the same frankness. Some months back your Tory Ministry was so much opposed to the war in Italy that everything announced its wish to place itself on the side of Austria. It was even on the point of causing coal to be considered as contraband of war. Now, our navy used only English coal. The Minister had then to occupy himself with that semi-hostile attitude of your Ministry, and to look about for the means of supplying, in case of need, the French fleet with French coal. It was his duty not to leave our supplies at the mercy of your Government. With this object, essays were made in changing our boilers, and coal was brought to Nantes, which was to be directed to Brest by the internal canals. Sixty iron barques, of a very small draught of water, were built to facilitate the transport of coals over the docks; but these boats, very different from those which serve for the landing of troops, did not merit the honour of exciting your apprehensions and disturbing your sleep."

*Englishman.*—"Very good. Yet, for all that, you did not the less order from us a very considerable quantity of coal."

*Frenchman.*—"That is perfectly true. The important part, however, is to know for what purpose we wanted this great quantity of coal which frightens you. Well, then, it is exclusively destined to supply our fleet in China and in other parts of the globe. Thus, since the 1st of July we have chartered in France 51 ships, carrying 26,000 tons of coal to Martinique, to French Guiana, to Senegal, to Goree, to the island of Reunion, to Mayotte, to Hong Kong, to Shanghai, to Saigon, to the Mauritius, to Singapore. We have chartered in England 25 ships, carrying 31,000 tons of coal to Hong Kong, Woosung, Singapore, Chusan, St. Paul de Loanda, and the Cape of Good Hope. Of all these details there is not one of which you may not procure the material proof, and then you must agree with me that the apprehensions of your countrymen are chimerical, and without reasonable foundation."

*Englishman.*—"I am willing to admit that what you tell me has the appearance of truth. I have a last objection, and it concerns your arsenals. If, as you assure me, your Government does not contemplate recommencing the war, why does it continue to show such great activity?"

*Frenchman.*—"I have in vain insisted on one essential point, viz., that, like other countries, we are in a complete state of transformation, but you seem not to wish to comprehend it. We have to change not only all the *matériel* of the navy, but on land also the whole of our artillery; and, although the Emperor had in Italy 200 rifled cannon, he will still require three or four years to entirely accomplish the definitive transformation."

*Englishman.*—"I thank you for all this information; and I shall turn it to account."

*Frenchman.*—"Permit me one more observation. You have avowed frankly all the apprehensions which my country causes you; but I have not expressed to you the whole of my opinion on yours. If, in England, people are convinced that France desires to declare war against you, we here are, in our turn, well convinced that the mistrust on the other side of the Channel is a party manœuvre. The Tory party, dissolved, as you are aware, by Sir Robert Peel, seeks the means of reconstructing itself; and, according to it, the best possible one would be by reviving the hatred of France, and by seeking, as in 1804, to form a European coalition against her. The statesmen who at this day take the lead in public opinion cannot be ignorant of all that I have just told you. Among us it is well understood that the Tories, in place of combating these errors, labour to gain them credit, and pursue their policy with traditional perseverance. People ought to care, however, lest by dint of wishing to deceive others they end by deceiving themselves. There was a certain Marseillaise, whose history occurs to me quite opportunely, and with which I may close a conversation which is already too long. Our Marseillaise, wishing to have a joke at the expense of his fellow citizens, went about crying out that a whale had just entered the port of Marseilles. His pleasantry succeeded, and every one ran to the port. Soon, drawn on by the example, he himself began to run in the same direction to see, with the others, if his invention was not a reality."

The pamphlet, "Le Pape et le Congrès," has caused an immense sensation in Paris. The Papal Nuncio and the Austrian Ambassador are said to have called upon the French Government for explanations, and the Russian Ambassador, Count Kisseleff, has declared to Count Walewski that the pamphlet contains—without considering the religious question, with which Russia does not intend to interfere—principles in opposition to the respect for authority on which the Russian Government is founded, and that, consequently, Russia will oppose the programme drawn up in the pamphlet. It is asserted that Austria, Naples, and Spain will not send Plenipotentiaries to the Congress should the Pope not be represented. A despatch is said to have been sent by Prince Metternich to Vienna, stating that Count Walewski has declared to the Diplomatic Corps that so long as he remains at the head of the Ministry for Foreign Affairs, the pamphlet shall not be considered as the programme of the French Ministry; but on the other hand, a telegram from Paris reached London yesterday stating that the council of ministers has resolved upon not giving any official denial to the pamphlet "The Pope and the Congress." As the *Moniteur*, the only official organ of the French Government, has not mentioned the pamphlet, its publication is to be considered as a home affair, which the foreign powers could not notice in their diplomatic intercourse with France. The anger of the Ultramontane and Legitimist parties at the sentiments promulgated by the pamphlet can hardly be kept within bounds. M. Louis Veuillot, editor of the *Univers*, has published an address to the Pope in which he apostrophises him as "Oh father! oh king! oh, most holy and immortal victim," and asserts that it is "the Pope's independence which saves human liberty, and if he were no longer King, the Cross would be torn from every Crown, and nothing could preserve the world, which would soon be brought back to the worship of idols." For this address the *Univers* has received a second warning from the Government. The reason given for this warning is, that though the question of the Papal States may be freely discussed, it cannot be allowed to endeavour to organise a political agitation in France under religious pretexts. The other Paris papers are almost unanimous in praise of the pamphlet. The *Débats* contains an article in which M. Lemoine proves, by quotations from his former articles, that he always had expressed the same opinions on this subject, and demands that Italy should remain mistress of her own destinies. According to his view, the Congress of 1860 can take no resolution of its own, but is only called together to recognise the expressed wishes of the Italians. The *Constitutionnel* of Monday in an article signed by its principal editor, M. Grandguillot, says that the *Times* is perfectly correct in considering the pamphlet as a political expression of the good understanding and conciliation between France and England. It congratulates itself on this result, as it is necessary that the two great nations of the West remain united in the interest of civilisation and of the European balance of power. M. Grandguillot calls, however, the attention of his readers to the difference in the political motives of the two nations, and states that France, far from intending to destroy the temporal power of the Pope, will on the contrary consolidate it by transforming it according to the wants of modern times. The *Patrie* publishes a long article to prove that the real enemies of the Papacy are not the persons who call for reforms which the general opinion of Europe has admitted to be urgent, but the Legitimists and the clerical party, who affirm that it is sacrilege to interfere in any respect with the present organisation of the Holy See. These persons, says the *Patrie*, would at present attempt to save the Pope as they tried formerly to protect Charles X., and the result would be precisely the same in both cases, utter failure. It is officially announced that the Government has given up the prosecution against M. de Montalembert's pamphlet "Pie IX. et la France en 1849 et 1859." The Emperor left Paris on Thursday for Fontainebleau, where his Majesty will stay two days. There will be a grand hunting party during his stay, and Prince Metternich is among the persons invited. The *Moniteur* of Tuesday announces that Prince Jerome has entered into a state of convalescence.

SPAIN AND MOROCCO.—The Queen of Spain was safely delivered of a Princess on Monday morning. On the 22d inst. the Moors again attacked the Spaniards on the road to Tetuan, in order to obstruct the works. They were victoriously repulsed. For the first time the Spanish cavalry charged the enemy, who fled without awaiting the shock. Generals Prim and Quesada distinguished themselves by their bravery. The Spaniards had 4 killed and 40 wounded. All the works, and even the new fortlets, have been completed. The commercial community of Cadiz has offered the Queen the 44 millions of reals claimed by England, but it is said that Lord John Russell has sent an order to the British Minister at Madrid to defer all further mention of the debt for six months.

SWEDEN.—In the sitting of the Diet on Friday the Minister for Foreign Affairs declared that at the Congress he will pursue a policy in conformity with the constitutional interests of Sweden. General Norden and the Swedish Ambassador at Paris, Baron Adelsward, have been appointed Plenipotentiaries of Sweden to the Congress.

BAVARIA.—The King of Bavaria has appointed Baron Liebig president of the Academy of Sciences, in place of M. Tiersch, who resigned the office on account of his great age.

AUSTRIA.—The Vienna official journals are anything but pleased with the compromise proposed in the French pamphlet on the Pope and the Congress. The *Ost Deutsche Post* condemns it on the ground that it is a complete abandonment of the policy which that journal has attributed to France since the day of Villafranca. The *Post Ampt Gazette* looks on it as a direct menace for Austria, and exclaims—"If Austria has no longer any rights in Italy, none exist anywhere for anybody."

SAXONY.—The official *Dresden Journal* contains an ordinance of the Minister of Finance removing, from the 1st of January next, the prohibition to export horses over the frontiers.

PRUSSIA.—Prince Gortschakoff, who has been appointed first Plenipotentiary of Russia at the approaching Congress, will stay one or two days at Berlin on his journey to Paris.

ITALY.—Letters from Rome assert that the Duke de Grammont has been officially informed by Cardinal Antonelli that, in consequence of the publication of the pamphlet "Le Pape et le Congrès," the departure of the First Plenipotentiary of the States of the Church for Paris, to be present at the Congress, has been suspended. In consequence of the embarrassments of the Papal Exchequer, the Minister of Finance has been obliged to sell Consolidated Funds to an amount double that previously stated (2,000,000f.) The *Milan Gazette* announces that the ex-Duke of Modena has advanced with his troops towards the frontiers of his former States. Part of his army is already at Gonzaga, quite a frontier town. Letters from Naples state that Lord Holland died in the Roman Catholic faith, and was buried in one of the Catholic churches on the Chiaja.

TURKEY.—Letters from Constantinople of the 14th inst. state that, after numerous sittings of the Divan, a definitive resolution has been adopted, calling upon Europe to settle the Suez Canal question in its political bearing by guaranteeing the integrity of the Turkish Empire. M. de Thouvenel and the four other Ambassadors had agreed to that arrangement. The Grand Vizier and Fuad Pacha had drawn up a notification to that effect, which was to be sent to the different Powers. The Bulgarians, to escape the tyranny of the Pachs, were seeking refuge in large numbers in Servia. There was some rumour of the Turkish Government intending to interfere. The religious investiture had been granted to the Bey of Tunis, but the Porte claimed tribute from him.

SERVIA.—The Pacha of the fortress of Belgrade has ceased his relations with the Servian Government. The Pacha had demanded the extradition of a Turkish subject, which was refused by the Government of Servia, and that circumstance caused the relations between them to be broken off. The Servian Minister of Foreign Affairs has addressed a memorial on the subject to all the foreign consuls resident at Belgrade.

CYPRUS.—A letter from Nicosia, in the Island of Cyprus, gives an account of a terrible inundation which took place there, on the 10th November. No fewer than 47 houses and 150 shops were undermined and fell, and 4 men, 11 women, and a child, and more than 100 mules perished beneath the ruins. Considerable injury was done to the merchandise in the bazaar, and the total loss is estimated at 2,000,000 of piastres.

THE PRINCIPALITIES.—Prince Couza intends to contract a loan of 60,000,000f. at Paris, under the guarantee of France, Prussia, and Russia. The Principalities offer to mortgage, as security for the loan, the income resulting from the salt pits, the Customs, and the landed property belonging to the convents.

INDIA.—A telegraphic despatch arrived on Monday in anticipation of the Calcutta mail of November 22, and the China mail of November 15. A telegram has

also been received from Bombay to December 12. The following are the details:—

*Cawnpore.*—The Governor-General held a grand durbar here on the 3d November, at which he announced to the Maharajas of Rewah and Chirkaree, and the Jaghirdars of Logassee and Gourihar, that in consideration of their loyalty to the British Government and of the services rendered by them during the rebellion, the Government will, in the event of failure to any one of them of direct heirs, recognise the privilege of adoption according to the ancient customs of their respective families. It appears that the Maharajah of Rewah, encouraged by Captain Osborne's nerve, did all his limited means permitted, while the Rajah of Chirkaree fought with his own hand, defended a European officer, his fort, and finally surrendered, or offered to surrender, his own son as a hostage instead of the Englishman.

*Nepaul.*—The death of the Nana is again reported on the statement of a Brahmin, who says that he attended him in his last illness, and was present when he died. The Brahmin was employed as a spy in the Nana's camp, and his testimony is not considered to be conclusive.

*Khandeish.*—Mr. Souter, Superintendent of Police in Khandeish, on the 11th ult. came up with the rebel Bheels, under Bhagojee Nalk, and succeeded in shooting and cutting up the gang to a man. Fifty-one bodies were counted on the ground. The Bheels and Arabs composing the gang fought with great obstinacy, and we lost a Jemadar, two Sepoys, and a sowar of the police killed, several men and horses wounded. Mr. Souter's own horse fell under him pierced with three shots. Bhagojee Naik fell in the action, but Mr. Souter hung his body at Nandoosingoba, the spot where Captain Henry was murdered.

*Oude.*—The *Oude Gazette* states with reference to the grand durbar at Lucknow, that "a list of the recusant talookdars and city nobles has been prepared, and that no less than 60 odd names are enrolled in it. Each of them has been called upon to account satisfactorily for his absence from the Viceroy's durbar after being summoned, and some 35 or 40 of them after having obtained admission tickets from the Secretary." In a fight on the frontier of Oude, under Lieutenant Roddy, commanding the police, about 20 of the rebels have been killed. A party of Rohillas have been routed under Major Abbott, from Hingolee. He came up with them in a gorge, near Guntoor, and another score were killed, including their leader.

*Punjab.*—Captain R. Mecham, of the Bengal Artillery, and lately commanding a light field battery in the Punjab, was murdered on the night of the 5th ult., while travelling in a dooly from Bunnoo to Khant. His assailants were five or six in number. His escort was to have been four men, but there were only two with him at the time, and they behaved badly. Four of the murderers have been traced. They are the followers of a notorious Wuzzeera robber named Zingee, from Billund Kheil.

*Calcutta.*—Sir Hope Grant has arrived in Calcutta, to organise the Indian expedition to China. It is said that it will not in any case exceed 13,000 men, and will probably not exceed 10,000. Of these one-half will be Sikhs, but the regiments have not yet been requested to volunteer. The 67th and 3d Buffs were despatched some time since to Hong Kong and Shanghai, and the 27th, 53d, 60th, 76th, and 99th, with the 1st and 2d Bengal Europeans, have now been warned for service in China. Two batteries of Artillery and all the Royal Engineers available are also to be despatched.

JAPAN.—The accounts from Japan are more satisfactory. The currency question has been arranged on a fair basis, and trade had commenced briskly at Kanagawa. The port of Hakodadi has been opened, and Mr. Hodgson has been established there as her Britannic Majesty's Consul.

CHINA.—Accounts from Shanghai of November 5th state that the Chinese Government has applied for an American mediation on the late differences. A system for the free emigration of Chinese to the West Indies has been organised by Mr. J. G. Austin, the agent, it is understood, of British Government. It has met with the approval and co-operation of the native authorities in Canton, and is likely to work well under proper supervision. The last Russian courier, who left on the 17th October, announces that the Russian Embassy at Pekin was enjoying perfect safety and liberty. All the alarming reports to the contrary are, therefore, unfounded. Admiral Rigault de Genouilly and Admiral Reynaud have returned to France. The American vessel Flora Temple, having on board 800 Coolies for Havannah, has been wrecked in the China Seas, and only about 30 of the crew were saved. The submarine cable intended to be laid between Singapore and Java had arrived at Singapore.

UNITED STATES.—The House of Representatives had not elected a Speaker on the 17th inst., and the President's Message had not, therefore, been communicated to Congress. Advices from Washington state that, on the whole, the mission of General Scott to San Juan has proved satisfactory to the Government, although it has not quite accomplished all that was desired. The temporary engagements entered into are approved by the President and Cabinet. The remainder of the prisoners in the Harper's Ferry affair were executed at Charlestown, Virginia, on the 16th. All passed off quietly, no attempt at rescue having been made. John Brown was interred at North Elba, Essex County, on the 8th, with considerable ceremony. A great meeting to express sympathy with the South was held at Boston on the 8th, Mr. Everett in the chair. In the course of his speech he showed the wickedness of Brown's attempt, and referred to the revolt in St. Domingo and its results as a proof of how little the world is likely to gain by the establishment of a Negro commonwealth. He called upon the people of the North to discontinue the system of provocation which they have used towards the Southern people, and to use all means to strengthen the Union, which Abolitionist madness had endangered. The Winana (cigar-shaped) steamer is reported to have made a very successful trial trip at Norfolk, attaining a speed of 15 knots.

BRITISH COLUMBIA.—Accounts from San Juan state that on the arrival of General Scott in the vicinity of the island he at once entered upon a personal inspection of the localities involved in the dispute, and on the 27th of October despatched Colonel Lay to Victoria. He was cordially received by Governor Douglas, who made him at home in his mansion, and discussed the whole matter with much freedom and cordiality. A correspondence then ensued between General Scott (who did not go to Victoria, but remained in the steamer Massachusetts) and Governor Douglas, in which General Scott offered to withdraw some of the American forces, and proposed a joint military occupation of the island, to be continued by an equal force of English and American soldiers until the question of the title should be settled by the two Governments by diplomacy. Governor Douglas declined a joint military occupation but proposed a joint civil occupation. This was rejected by General Scott, and after some parleying on paper, in which the best possible feeling was displayed on both sides, the General determined to remove all the troops and artillery except one company, which was ordered to remain for the protection of American settlers. He therefore issued an order to this effect, of which he sent the Governor a copy, and afterwards called at the island to enforce the execution of his order. General Scott also ordered the fortifications commenced by the orders of General Harney to be suspended. As soon as these steps had been taken he immediately returned to San Francisco.

# Public Addresses.

EARL GREY presided on Friday at a dinner of the Newcastle-on-Tyne Volunteer Rifles, and in the course of the evening made the following remarks on the Volunteer movement:—

"I rejoice in the manner in which the formation of volunteer rifle corps has been taken up, not only in this town but throughout the country, because I confess that it appears to me to be of great importance for the nation's safety that there should be efficient bodies of volunteers formed upon a very large scale indeed. I hope that we shall soon be able to reckon upon the services of 50,000 men—I should be glad if it were even double that number—but, at all events, upon the services of 50,000 men, well drilled, and well taught in the use of that formidable weapon, the rifle, ready at a moment's notice to come forward in the defence of our common country. I know there are some persons who throw cold water, if not absolute ridicule, upon the present movement in favour of the formation of volunteer rifle corps. I have heard it said, 'What is the necessity for doing so? We have no near neighbour who can possibly attack us, except France, which by its geographical position is the only European Power from which it is possible to apprehend any attack, and with France we are upon the very best terms. The Emperor is our faithful ally; we have no reason whatever to be distrustful; therefore all this labour in the formation of volunteer corps is totally useless—it has only caused a panic to seize upon the nation.' I cannot regard it in that light. Far be it from me to impute to the Emperor of the French, or the gallant nation which he governs, that he or they cherish hostile designs against this country. I am willing to give him credit for those assurances of a friendly disposition towards England which we are told are constantly reiterated by the Emperor, but still I say that within the last few years circumstances have arisen which make it expedient that this country should increase its means of defence. France has always had a much larger land force than England. In France itself, and within a few days' call, in Algeria, she has a land force three or four times as large as our own. Considering, then, her position as a continental nation, considering the unsettled state of her internal affairs, I do not think that we have any right to be surprised, however much we may doubt the wisdom of the course, at her thinking it proper to keep up so large an army. But, having this great superiority of force on land, and considering that France has within the last few years been making gigantic efforts to be as strong as we ourselves at sea—seeing that she has greatly increased her naval power—more than this, seeing that it has been announced in the French newspapers (which possess almost a semi-official character) that while increasing her naval power she is, as part of that great measure, providing a fleet of steam transports of the largest class, that she has also lately finished the construction of a magnificent naval station where these steam transports and a formidable steam-fleet of the line may be assembled under the protection of almost impregnable fortresses, where there are arrangements of the most complete and elaborate character for embarking in the shortest possible time a very large army—I say that while we know all this, and know moreover that within the last few years the system of railroads in France has been completed (at all events is nearly completed), so that now in a few days a very large and gallant army may be assembled—I say, that seeing all this, what is our duty? Remember that we have had very recently the strongest proof of how very great and sudden an effort France can make; for at a moment when we were told that she could not disarm because she had never armed, in an incredibly short space of time she was able to assemble beyond the Alps an army of 200,000 or 300,000 men. Now I say when we see all these measures we are bound also to look to our own means of protection. I have no doubt—I don't mean to throw any doubt—upon the declarations of the Emperor that these preparations imply any hostility to us, but when I consider the nature of these measures, that they are not all of them of a defensive character, I think it must be admitted that their object is this—namely, that if France should be unexpectedly engaged in war with any Power she may be enabled promptly to strike a severe if not a fatal blow upon her antagonist. Now it is possible that we may be that antagonist; and if France is ready to strike, I say we ought to be ready to defend. We must not owe the safety, we must not owe the security of this land, which has been for centuries unpolluted by the foot of an invader—I say we must not owe our safety to the forbearance or to the good faith of any other nation; but, under God's providence, we must rely upon ourselves. Among nations as among citizens quarrels may arise very suddenly, and from very slight causes. We cannot forget that a very few years ago a dispute relating to a missionary in the South Seas had almost involved this country in a war with France; nor can we forget that a difference of opinion which arose between the two nations regarding Turkey and Egypt brought us to the brink of a similar calamity. Have we not lately too, had proof of how suddenly a war may arise between two nations which were not looking for it? This day 12 months all Europe believed that there was no reason to apprehend that its tranquillity would be disturbed; but, on New Year's Day that ominous speech was made which was the first symptom of those gathering clouds which soon covered the political horizon, and in the course of no very long time afterwards ended in war. I say, then, that we are bound to stand upon the defensive, and that more is required of us in this respect than was required a few years ago. I am quite aware that when I speak of the defence of the country every Englishman feels that the first and greatest reliance should be placed in our navy. I believe we can rely upon it. I trust that the British navy is, and I hope that it long will be, in a state in which it need not fear to meet any hostile fleet that may be brought against it. In these days of steam, and especially when those steam transports to which I have alluded have been constructed on such a gigantic scale that they can carry, we are told, 2000 men, and for a very short passage even 3000 men, with a fair propertion of artillery,—I say in these days it does appear to me that we cannot too confidently reckon upon its being impossible that a hostile expedition might elude our navy and be thrown upon our shores. I trust that such a contingency is not likely to happen; but I do say that such an attempt is far more likely to be made if it is known that the party to be attacked does not possess the means of promptly encountering the force to be landed. On the other hand, if it is known that a hostile expedition, after encountering all the risks which it must meet with at sea, and having safely reached our shores, even if it should accomplish this, the moment it lands, with the sea behind and no retreat, it would be compelled to fight for its existence with a powerful rifle force. I say that the moment this is known, I believe that so hazardous an enterprise would never be attempted. I think it is of the greatest importance that our peace establishment shall not be less than it has heretofore been. But something more is wanted, and I for one cannot believe that our safety is to be placed in a very large increase of our permanent peace establishment. I am persuaded that this country is at this moment infinitely better prepared for any war in which it may be engaged than if it had, during the last 30 years, kept so large a standing army, which would have prevented that increase of wealth, that advancement in trade and manufactures, which constitutes so great an element in our present strength. It seems to me most advantageous that a part, at all events, of our means of defence shall consist of volunteers. They are open to none of the objections to which a large increase in the regular army is liable. They cost the nation nothing, or next to nothing, and I think it important that this shall be maintained. It is the self-supporting character of these corps which is the great security against their degenerating into abuses. They can give no jealousy or uneasiness to other countries, because these volunteer corps cannot possibly be used for offensive purposes. They are established only for defence, and any amount to which they may be raised can give no cause for alarm or suspicion to other Powers. Instead of being open to political and social objections, they have, on the contrary, great political and social recommendations. They bring together various ranks of men meeting as comrades and as friends on terms of good fellowship, which tends to knit together the various orders of society; and they keep up in the nation, in the safest way, that sort of martial spirit without which no nation can be safe."

SIR HAMILTON SEYMOUR at a recent meeting at Knightsbridge made the following remarks on the volunteer movement:—

"He could truly say—and that must be his apology for engaging their attention—that if there was any one man in this country more than another who had long been aware of the necessity for this great national movement it was himself. For months and months past his declaration to his most intimate friends and to members of his family had been this, 'I see an enormous danger impending; I see one, and one only, safeguard against that danger, and that safeguard is that we all of us, young and old, should enrol ourselves as volunteers, should exercise ourselves in arms, and should be ready, if occasion offer, to come forward in defence of our country.' At first that sentiment was rather laughed at, particularly by members of his own family. He was at that time eager to come forward; he was not afraid of ridicule, but he was apprehensive of injuring a cause which he had so much at heart. He felt he was too insignificant a man to presume to take the initiative; he therefore kept quiet, but he said, at the same time, as soon as any one man moved in the matter he, if it pleased God, would be second. And that, too, he would have done if the movement, instead of originating in the great and wealthy parish of St. George, had been set on foot by the Blind Fiddler of Bethnal Green. It happened, however, that a gallant friend of his, for whom he had great respect—Sir De Lacy Evans—assembled a meeting in Hanover Square. He (Sir H. Seymour) wrote to him, offering to come forward to take part in the proceedings. What was said was done, for he had the pleasure of attending the meeting—the first that was held on the subject. He entirely agreed as to the necessity of being allowed to attend to our own business, and of abstaining from everything that could in the remotest degree be supposed to give offence to any foreign nation. For his own part, he utterly detested the meddling with other people's affairs, and all he asked was that we should be allowed to transact our own business in our own way. There had been warlike men on the throne of France, and we had seen a man on that throne quite as peaceable as they were otherwise—he meant the late Louis Philippe. What, he would ask, was one of the most remarkable features in Louis Philippe's reign? If his memory did not fail him, it was the fortification of his own capital. He was not aware that we were going to fortify London or to erect a Malakoff tower in Belgrave Square; but we were going to take a measure, and a very mild one, for the protection of our whole isle. None but the most unreasonable man in the world could find fault with that. To whom could it give offence? He threw such an idea to the winds. In Heaven's name let us abstain from giving offence to every one; but let us take every measure to protect our shores. If he thought there was anything in this movement calculated to wound the sensibilities of any foreign nation he should be the last man to identify himself with it, or if any English Minister were to come forward with a measure so designed he should be for impeaching him; but when he knew that the movement had only for its object the security of our own 'tight little island' he asked again who had a right to find fault? There were reasons enough for disclaiming anything like offence to France. He had a great respect for Louis Napoleon. It so happened that he had been fortunate enough in the course of his life to have the opportunity of rendering not unimportant services to different members of that very distinguished family; and he was free to confess—it was in the time of their adversity—that it was with infinite pleasure, and with very great zeal and alacrity, that he availed himself of that opportunity. On their part, too, he met not only the greatest courtesy, but the very greatest kindness; and, therefore, he should be the very last in the world to do aught that might by possibility give umbrage to any one of them. If he was speaking in this way it was because he was impressed with the necessity of taking measures to insure, as far as might be, our own national safety. Nothing could be better than the spirit which animated them now; and for that reason let them identify this movement with the habits, and, if possible, the pleasures of society. He could not but think that the precautions we were now taking were those best adapted to the situation by our constitutional habits. Those habits would naturally have prevented us increasing our army, a course in favour of which, also, the *argumentum ad crumenam* might be used. But besides that, it appeared to him that this great national movement had the additional advantage of the establishment of a sort of club, which would bring together various classes of society who under no other circumstances would have opportunities afforded them for friendly intercourse and for co-operation in a good cause. That was a very important feature, and he believed it would tend very much to increase the harmony and goodwill in which all ranks of the community ought to be united. In conclusion, he would suggest to them the motto of '*Noli me tangere*,' as being particularly applicable to this great movement."

## City Intelligence.

ONEY MARKET, FRIDAY.—BRITISH FUNDS: Consolosed at 95⅝ for the 10th January; Reduced and Three per Cents., 95⅝ to ¾; New Indian Five per Loan, for Acct., 104⅛ to ⅜ ex div.; Ditto Four Cent. Debentures of 1859, 98⅝ to ½; India Bonds, to 10s.; Exchequer Bills, 28s. prem.—FOREIGN: ch Four per Cent. Certificates, 100½; Mexican ee per Cents., for Acct., 22½; Portuguese Three per s., 1853, 46¼; Sardinian Five per Cents., 84¾; ish Six per Cents., 1854, for Acct., 77; Ditto for 63¾; Ditto for Acct., 63¾ to 63½; Venezuela Two a Half per Cents., 28⅝.

## Bank of England.

ISSUE DEPARTMENT.

| | | | |
|---|---|---|---|
| es Issued .. .. .. | £30,609,455 | Government Debt .. .. | £11,015,100 |
| | | Other Securities .. .. | 3,459,900 |
| | | Gold Coin and Bullion .. | 16,134,455 |
| | | Silver Bullion .. .. .. | — |
| | £30,609,455 | | £30,609,455 |

BANKING DEPARTMENT.

| | | | |
|---|---|---|---|
| ..etors' Capital.. .. | £14,553,000 | Government Securities (including Dead Weight Annuity) .. .. .. .. | £10,925,157 |
| .. .. .. .. .. | 3,156,573 | Other Securities .. .. | 19,907 580 |
| ..ne Deposits (including Exchequer, Savings anks, Commissioners f Nat. Debt, and Dividend Accts.) .. .. .. | 9,804,730 | Notes .. .. .. .. .. | 9,780,980 |
| ..her Deposits .. .. .. | 13,071,410 | Gold and Silver Coin .. | 675,599 |
| ..ven day and other bills | 703,603 | | |
| | £41,289,316 | | £41,289,316 |

..th day of Dec., 1859. M. MARSHALL, Chief Cashier.

## Gazette of the Week.

TUESDAY—BANKRUPTS—J. M'EVILY, Great Portland Street, Saddler E. PINKESS, Liverpool, Oil and Colourman—E. and W. TRIGGS, Southpton, Upholsterers—H. ZELTNER and J. SHIERS, Manchester, Fancy mming Manufacturers,

SCOTCH SEQUESTRATIONS—Gen. J. IRVING, Edinburgh, formerly the Royal Irish Artillery—R. LAING, Kinder Mills, Kirkcudbright—M'DOUGALL, Garngabert, Dumbartonshire, Farmer—D. C. DE MEDEWE, rnt Island—N. MITCHELL, Rothesay.

FRIDAY—BANKRUPTS—T. ASTON, Willenhall, Staffordshire, Engineer T. BIGGLESTONE, Hereford, Grocer—G. ELLIS, Sheffield, Baker—W. VETT, Union Street, Borough, Patent Wadding Manufacturer—C. PRICE, lverhampton, Butcher.

## Metropolis and its Vicinity.

SPECIAL SERVICES AT ST. PAUL'S.—The Special rvices will commence at St. Paul's Cathedral to-orrow evening at 7 o'clock. The sermon will be reached by the Bishop of London. On Sunday, nuary 8, the sermon will be preached by the Rev. aniel Moore, incumbent of Camden Church, Camberell, and Golden Lecturer at St. Margaret's, Lothbury.

WESTMINSTER ABBEY SERVICES.—The special ser-es in Westminster Abbey will commence to-morrow ening, when the sermon will be preached by the Dean. n Sunday the 8th the sermon will be preached by the ev. Thomas Rowsell, Incumbent of St. Peter's, Stepney.

THE SPECIAL SERVICES AT EXETER HALL.—The ew series of special services by clergymen of the hurch of England, to be held at Exeter Hall, will mmence to-morrow, when the Rev. R. Burgess, Rector f Upper Chelsea, will officiate. The following is a list f the other preachers:—Jan. 8, Rev. W. B. Mackenzie, incumbent of St. James's Church, Holloway; Jan. 15, the Rev. J. T. Manley, incumbent of Mortlake; Jan. 22, Rev. Clement Skrine, incumbent of Trent, East Barnet; Jan. 29, Rev. R. Fayle, incumbent of Trinity Church, Torquay; Feb. 5, Rev. E. G. Arnold, rector of Stapleford; Feb. 12, Rev. T. Nolan, incumbent of Regent Square Chapel; Feb. 19, Rev. J. Knapp, incumbent of St. John's, Portsea; Feb. 26, Rev. E. Bayley, rector of St. George's, Bloomsbury; March 4, Rev. J. N. Griffin, incumbent of St. Mary's, Spring Grove; March 11, Rev. J. Cohen, chaplain of the City of London Prison; March 18, Rev. Dr. MacNeile, incumbent of St. Paul's, Liverpool; March 25, Rev. E. Garbett, incumbent of St. Bartholomew's, Gray's Inn Road.

THE LOSS OF THE PARAMATTA.—Mr. Traill, the Greenwich police magistrate, has reported to the Board of Trade, as the result of the recent inquiry, that the Royal Mail Company's steam-ship Paramatta was wrecked on the Horseshoe Reef, near St. Thomas's, on her first voyage, through the fault of Captain Baynton, her commander, who proceeded through the Sombrero Channel at full speed without ascertaining his position, and in utter disregard of the printed instructions of the company. Captain Harris, who assisted Mr. Traill as nautical assessor, having expressesed his concurrence in the report, the Board of Trade have directed that Captain Baynton's certificate of competency be suspended for 12 months, and have intimated that a suggestion of the magistrate as to placing a light in the Sombrero Channel will receive attention.

THE CHURCH INSTITUTION.—An influential meeting was held a few days since at the Freemasons' Tavern, under the presidency of Earl Nelson, for the purpose of taking measures to establish a Church Institution before the meeting of Parliament. The arrangements relating to the meeting have been some time in progress, in connection with an energetic movement which has been commenced for the purpose of protecting the Church of England against the aggressions which are from time to time made upon it. During the last session of Parliament joint meetings of the clergy and laity were held in Sion College and elsewhere, at which 250 laymen of the Archdeaconry of London and 300 of the Archdeaconry of Middlesex were nominated by the clergy as consultees on Church matters; and upon the recommendation of the laity of the Archdeaconry of Middlesex the present meeting was convened. The chairman having opened the proceedings, Mr. Howels Davies read a brief report, containing a record of the proceedings of preliminary meetings, and setting forth the names of a vast number of nobility, clergymen, and laymen who had given in their adhesion to the principles of the association. Mr. Henry Hoare, the banker, then moved the adoption of the report in a long address, in which he stated that the archbishops and bishops were strongly in favour of the joint action of the clergy and laity in Church matters. He also informed the meeting that he saw his way through the church-rate question as to a legislative settlement of it which he thought would not be unacceptable to the present House of Commons. He had been in communication with Archdeacon Hale on the subject, and he believed he might say that the district incumbents who now complained might easily be placed upon an equality with their more favoured brethren. Mr. T. Erskine seconded the motion, and the report was unanimously adopted. Mr. Beresford Hope then moved a resolution expressing the satisfaction of the meeting at the approval given by the bishops to the work of the institution, and declaring that the progress made has been eminently satisfactory and encouraging. After some remarks from Mr. M'Gregor, who thought there was not at present cohesion enough amongst churchmen on the subject of church-rates to enable the association to deal definitely with it, the resolution was agreed to. On the motion of Mr. A. Brady, seconded by Mr. Traill, an influential executive committee, consisting of noblemen, members of Parliament, and others, was appointed, Mr. Henry Hoare was elected treasurer, and the new institution was declared duly organised.

THE ROMAN CATHOLIC LAITY AND THE POPE.—The London meeting of Roman Catholics to address the Pope is definitively fixed for Tuesday next, Jan. 3. The list of names appended to the "Declaration" in favour of the temporal power of the Pope includes those of Lords Stourton, Arundel, Petre, Dormer, Clifford, Lovat, Herries, Feilding, Campden, eight honourables, 10 baronets, &c.

ST. GEORGE'S-IN-THE-EAST.—At the Thames Police Court on Saturday the summons obtained by the clergy against Mr. Barnes, charging him under the Act of Queen Mary with disturbing the congregation, was, after a long investigation, dismissed by consent, on Mr. Barnes signing a document, drawn up by Mr. Selfe the magistrate, pledging himself not to interrupt the choral services by saying the responses at irregular times, or in so loud a tone as to disturb the minister and choristers.

MR. ALBERT SMITH had an attack of apoplexy on Friday, but he has been restored to consciousness, and hopes are entertained of his recovery.

DREADFUL WRECK IN THE CHANNEL.—*The ship* Blervie Castle, Capt. M'Hardy, one of the fleet of Messrs. Duncan, Dunbar, & Son, of Limehouse, which left the river on the 15th inst. for Adelaide, was totally lost on the night of the 20th on one of the shoals off the French coast between Folkestone and Cape Grinez. The captain and crew of 34 hands, and 22 passengers, who joined in the river, were drowned. Large quantities of the goods which formed her cargo have been washed up in the neighbourhood of Calais. The Blervie Castle was almost a new ship of 610 tons, and was to have called at Plymouth to take on board 18 passengers, who were there waiting her arrival. The value of the ship and cargo is estimated at 30,000*l*. The following are the names of the passengers who went on board in the river and have perished:—

1st Class.—Mr. and Mrs. Emanuel Daniels and family, consisting of four sons and one daughter, late of Upper Belgrave Place, Belgrave Square; Master Stone, aged 16.

2d Cabin Passengers.—Mr. James Young, his wife, and four children; Mr. Joseph Saunders, Mr. James White, Mr. and Mrs. Denham, Mr. and Mrs. Cameron, Mr. Duncan M'Coll, and Mr. Edward Chard.

POISONING AT SEA.—The ship Accrington, from Liverpool for Calcutta, with soldiers' wives and children, was spoken with on 17th of November, in lat. 2 N. and long. 31 W., with the captain and mate dead, supposed to have been poisoned, and upwards of 50 children dead of the measles and scarlatina. The Accrington intended putting into Rio Janeiro.

THE ELOPEMENT OF MRS. GURNEY.—It was announced briefly last week that the wife of Mr. J. H. Gurney, M.P. for King's Lynn, has eloped with her footman. She was the daughter of the late Mr. Richard Gurney, by whom she had a fortune of nearly 25,000*l*. a year, secured absolutely to herself, and was considered the richest married woman in England. All this fortune she is now free to dispose of as she likes. Mr. Gurney, as already stated, has taken the first steps for obtaining a divorce, but such is the pressure of divorce business before Sir Cresswell Cresswell's court that his solicitor has been informed that 14 months are likely to elapse before the case can be brought to issue.

THE WRECK OF THE ROYAL CHARTER.—A heavy sea rolling into Moelfra Bay, and a strong N.W. wind, prevented the divers resuming their operations for recovering the remainder of the sunken gold until Wednesday, when a further sum of treasure was recovered, comprising 456½ sovereigns, 11 rupees, 4½ oz. of gold dust, one small cup ingot, and a piece of an ingot of gold. The suggestion to blow up portions of the wreck with gunpowder (chains and cables having failed to lift them) is not entertained by those interested in the salvage, on account of its being likely to disturb the ground where the wreck lies, and which is represented to be still rich with gold dust and sovereigns.

DEATH OF THE TALKING FISH.—The seal which has been engaged during the last few months in grunting "papa" and "mamma" to the groups assembled round its tub in Piccadilly, died on the 21st inst. For three days previous to its death it had been seriously ill; its constitution having been gradually breaking up for some time, owing to the artificial habits which it had been compelled to adopt. It was wrapped up in blankets, and several medical men were called in, but their efforts were unavailing. On the day of its death the wife of its proprietor visited the invalid, when it endeavoured to raise itself and plaintively grunted "mamma," but the effort was evidently too great, and it fell over on its side and expired. The seal has contrived, in one sense at least, to take 1500*l*. with it out of this world, that sum having been recently offered to its proprietor for possession of its person.

SERIOUS ACCIDENT TO MR. RENNIE.—A few days since Mr. Rennie, the engineer, while crossing the Blackfriars Road, on his way to his house in Whitehall Place, was knocked down by the horses of a coal-waggon, both wheels passing over his legs, dreadfully lacerating them. He now lies in a very precarious state, attended by Mr. Lawrence, the surgeon.

THE LATE FATAL FIRE IN WESTMINSTER.—The inquest on the four persons who were burnt to death in the fire in Little George Street last week terminated on Thursday, when the foreman returned the following as the verdict of 12 of the jury, the remainder withholding their assent to the latter portion of it:—"That deceased died from the effect of burns by the house taking fire, but how it took fire there is no evidence to show. The jury cannot part without expressing how greatly they feel obliged to all parties who have assisted in this inquiry, but still they do extremely regret that the parish engines were not sent for at the time."

THE PUBLIC HEALTH.—The Registrar-General's Weekly Return states that the cold weather which set in with severity on the 11th inst. has produced an increase of mortality. The deaths in London, which were about 1300 in each of the four previous weeks, rose to 1548 in the week that ended Saturday, Dec. 24. In the corresponding weeks of the 10 years 1849-58, the average number was 1155; which, if raised in proportion to the increase of population, will become 1270. The present return is, therefore, 278 above the average. During the week the births of 961 boys and 807 girls, in all 1768 children, were registered in London. In the 10 corresponding weeks of the years 1849-58 the average number was 1478.

## Provincial.

ALDERSHOTT.—A serious riot took place at Aldershott on the evening of Christmas Day, between some men *belonging to the 2d battalion of the 24th Regiment and* a company of the Tower Hamlets Militia, which was unfortunately attended by the loss of one life, and three men wounded. It is the custom in most regiments for the officers of each company to subscribe a certain sum to provide their men with a Christmas dinner. This has tended to promote good feeling and sympathy between the officers and their men; but, unfortunately, in the present case it has been the cause of bloodshed. It appears that the Tower Hamlets Militia and part of the 24th Foot occupy the same block in the barracks, and that after both corps had partaken of a hearty Christmas dinner, the 24th got up a dispute as to which dinner was the best. The quarrel was at first confined to words, but soon extended to mops and brooms, after which the 24th loaded their rifles with ball cartridges, and fired into the quarters of the Militia. The officers on hearing the firing were speedily on the spot, but it was some time before they could quell the riot; by that time four men of the Militia had been wounded, and, from the marks left by the bullets, several shots must have been fired. It does not appear that the Militia fired at all; at any rate, if they did, they did so without effect. Of the wounded men, one expired after great suffering at 8 o'clock on Monday morning; the others are said to be progressing favourably. A searching investigation has been instituted into the origin of these proceedings, and 47 men of the 24th are in confinement for having taken part in the riot. The remainder of the regiment was removed yesterday to Cork. The inquest on the man who was killed commenced on Thursday, and is still in progress.

CLIFTON.—A case occurred at Clifton on the 16th inst. which might have been attended with fatal consequences had not prompt measures been taken to counteract the effects of some poisonous matter used in the composition of Bath buns, and which nearly cost the lives of six young gentlemen, pupils in one of the first boarding-schools in the place. It appears that three of the youths had been walking at Redland, and purchased some Bath buns at the shop of a confectioner named Farr. In the course of the afternoon three other lads from the school went to the same place and bought more buns. In the evening all six were seized with violent sickness, and presented the symptoms of having partaken of some poisonous substance. A surgeon was called in, who prescribed the necessary remedies, but the boys continued so ill during the night that two of them were not expected to survive. After great suffering, however, they all recovered. Some of the buns which had not been consumed were subjected to analysis, when it was found that each of them contained seven grains of pure orpiment, or yellow sulphide of arsenic, one of the most deadly of mineral poisons, which a chemist had supplied to the confectioner instead of chromate of lead, a slow poison which he had been

in the habit of using as a cheap substitute for eggs, for the purpose of colouring the buns. The confectioner on being examined said that he was not aware that the use of chromate of lead was attended by injurious qualities, and the chemist on being applied to for a sample of the powder, took it from a parcel labelled "yellow arsenic," though he wrote "chrome yellow" on the sample. Mr. May, a publican, who had also partaken of the buns with like effect, applied to the magistrates for advice on Monday, but as he had not been poisoned outright they told him they could afford no assistance.

LIVERPOOL.—An inquiry, instituted by the Board of Trade into the circumstances attending the loss of the screw steamer Indian, on the Newfoundland coast, commenced in this town on Thursday, and will probably last for several days. Mr. O'Dowd came down from London to conduct the inquiry for the Board of Trade.

PORTSMOUTH.—In consequence of a recommendation from the Admiralty, to the effect that the sailors of the Princess Royal would be sufficiently punished by a month's imprisonment, the Secretary of State has advised her Majesty to remit the remainder of the sentence of three months' imprisonment inflicted by the sentence of the court-martial. The men were therefore discharged on Tuesday from the gaols of Lewes, Salisbury, Southampton, Winchester, and Dorchester. They arrived at this port at different hours of the day, and were at once paid their wages in the dockyard. Considerable excitement was manifested on the first appearance of the men in passing through the town.

WORCESTER.—On Wednesday night a public dinner took place at the Guildhall, for the purpose of presenting to Sir John Pakington, M.P., a testimonial of his public services to the county of Worcester. The chair was taken by Lord Lyttelton, and among the company present were Lord Ward, Earl Beauchamp, Lord Northwick, Hon. F. Lygon, M.P., Mr. Foley, M.P., Mr. Knight, M.P., Sir T. E. Winnington, M.P., Mr. Ricardo, M.P., Mr. B. Westhead, M.P., Sir E. A. H. Lechmere, and about 220 gentlemen connected with the county of Worcester, comprising all shades of politics. The testimonial consisted of a handsome silver-gilt shield, 40 inches in diameter, from the design of Mr. Armsted, intended to illustrate those branches of the public service to which the right hon. baronet had particularly devoted himself—viz., the navy, the colonies, education, and justice. The subject selected to illustrate education is the presentation of the first book printed in England to Edward IV., by Lord Rivers and Caxton. The navy is illustrated by figures representing the death of Nelson; the colonies, by the landing of Captain Cook in New Holland; and justice, by Prince Henry and Judge Gascoigne. There are also portraits of men famous for the administration of justice—Judge Lyttelton, Lord Somers, and Lord-Keeper Coventry (all Worcestershire men); in the navy, King Alfred, Blake, and Nelson; in maritime discovery, Drake, Cook, and Franklin; in education, King Henry VI., Cardinal Wolsey, and Sir Thomas Bodley. The outer border of the shield is decorated with oak leaves and acorns, and the shield bears within the border the following dedication:—

"Presented to the Right Hon. Sir John S. Pakington, Bart., G.C.B., M.P., by the County and City of Worcester, in grateful recognition of his services for 24 years as Chairman of the County Quarter Sessions. This shield also illustrates his public and official career as First Lord of the Admiralty, Secretary of State for the Colonies, and an able advocate of general education."

In acknowledging the compliment Sir John Pakington spoke to the following effect:—

"I hope that you will not think I am guilty of presumption or egotism if I venture to touch for a moment on those principles of action to which I mainly attribute the honour which on this occasion it has been my fortune to receive. Have I attained those honours through the exercise of any great or transcendent talents? Certainly not. Have I gained them as the reward of extensive and varied acquirements? Certainly not. But, if it has been my good fortune to merit in any degree that favour which I have received from my most gracious Sovereign; if I have deserved any portion of that kindness which I have received in this my native county; if I have been able to administer those various departments of the State which have been intrusted to me, and which my noble friend in the chair has alluded to in such flattering terms—if I have been able to administer them without disadvantage to the public service, and without discredit to myself, I firmly believe that I am indebted to the exercise of qualities and the adoption of rules which are equally in the power and compass of those who hear me, and of any man who is desirous to take part in the public affairs of the county. I am indebted for whatever measure of success I have attained in my public life to a combination of moderate abilities with honesty of intention, firmness of purpose, and steadiness of conduct. If I were to offer advice to any young man anxious to make himself useful in public life, I would sum up the results of my experience in three short rules—rules so simple that any man may understand them, and so easy that any man may act upon them. My first rule would be—leave it to others to judge of what duties you are capable and for what position you are fitted; but never refuse to give your services in whatever capacity it may be the opinion of others who are competent to judge that you may benefit your neighbours or your country. My second rule is—when you agree to undertake public duties, concentrate every energy and faculty in your possession with the determination to discharge those duties to the best of your ability. Lastly, I would counsel you that, in deciding on the line which you will take in public affairs, you should be guided in your decision by that which, after mature deliberation, you believe to be right, and not by that which, in the passing hour, may happen to be fashionable or popular. Fashion has its uses, and is all very well when applied to the light and trivial things to which it relates; but fashion in public affairs is out of place. Popularity in the lowest and most common sense is not worth the having. Do your duty to the best of your power. Win the approbation of your own conscience, and popularity in its best and highest sense is sure to follow."

YORK.—The local papers contain several accounts of a shock of an earthquake having been felt on the 15th inst. in different parts of this county. One account says that several room doors were hastily thrown open, a trembling or vibratory motion was given to many articles of furniture, and even the beds on which the alarmed inmates lay were shaken as if by a strong man. The phenomenon was felt at Pateley Bridge, Grassington, and throughout the whole of Wharfedale.

## Ireland.

THE LORD-LIEUTENANT.—His Excellency the Earl of Carlisle left Dublin on the 21st inst. for Trentham for the Christmas holidays. Lords Commissioners have been sworn in, as usual, during his Excellency's absence.

SYMPATHY FOR THE POPE.—The Limerick demonstration took place on Monday, Dr. Ryan, the Roman Catholic bishop, in the chair. The speakers were Lord Dunraven, a recent convert, Mr. Monsell, M.P., Major Gavin, M.P., Mr. W. Hawley, J.P., Sir Vere de Vere, &c. Lord Dunraven spoke at considerable length, and exalted the Papal Government to the skies as the model of human institutions. Mr. W. Monsell, M.P., in a discursive address which occupies more than two columns, thus dealt with the question of the Pope's temporal power:—

"If you take the Pope's territories from him, where would you put him? Would you put him, for instance, in France, where, only a few months ago, the Emperor of the French—the champion of liberty in Italy—forbad the pastorals of the bishops to appear in the public journals? Would you place him in Austria, the benumbing influence of which upon the intelligence of the age has been referred to by my noble friend, with whose observations I entirely agree? Would you place him in Russia—in the territories of the persecutor of the Polish nuns? Would you place him in this new Italian kingdom which some people wish to establish? Why, the first act of the Provisional Governments in Florence and Bologna was to suppress a number of religious orders, to throw insult on religion, and to control the clergy in the exercise of their spiritual functions. Would we, living in Ireland, be satisfied that our intercourse with his Holiness should be rendered liable to interruption by placing him under the control and influence of persons animated by such principles as those which the acts of this Provisional Government have indicated up to the present moment, when, be it remembered, they are on their good behaviour?"

The Kilkenny demonstration also took place on Monday. Dr. Walsh, the bishop, took the chair, and defended the course taken by the Papal Government in the Mortara case, declaring that many of the English peers and others of high station who had signed the late address on the subject had up to the latest moment resisted the emancipation of the Jews, both in Parliament and out of Parliament, forgetting that in the first year of the reign of Queen Anne an Act was passed to compel Jewish parents to provide for the maintenance of their Protestant children. One of the speakers, Mr. Bryan of Jenkinstown, thus denounced the "Catholics of high rank" who declined to rally round the Pontiff in the present crisis:—

"You have all, no doubt, as well as myself, read with regret in the public prints letters from a few Catholics of high rank and much respectability declining to rally round the Holy Father in the present crisis. Let those gentlemen not forget the words lately quoted by the Lion of the Fold of Judah,—'He who is not for me is against me;' and, I would further add, that the man standing to his colours is respected by all, while a man who deserts them is likely to be despised. While I am upon this subject there are two documents that have lately appeared, concerning which I think a few words ought to be said. The first, an important one, is a pamphlet lately published by M. Laguerroniere, in Paris. I will not dwell on the illogical arguments adduced by the writer to show that part of the Papal dominions should be taken away and part left to him. Surely, if a portion of his subjects are to be left to him to misgovern and ill use, it is most unfair to them. Why take a portion and not all his possessions, or none? What is good for one part must be good for all. Now, the anti-Catholic journals have made a great handle of this, and insinuate that the pamphlet speaks the sentiments of the Emperor of the French. I think, however, the most reasoning men will agree that Louis Napoleon has shown himself to be too clever and calculating a man to strike on the same rock where split his uncle, the first Napoleon."

IRISH LOYALTY.—The Lord Chancellor has called upon Mr. James Gallagher, the magistrate who presided at the recent meeting in Queenstown, to explain his conduct in allowing Father Fielding to deliver the speech reported in our Paper of the 17th inst. Mr. Gallagher, in reply, states that as soon as he found that Mr. Fielding was commencing to use language which he ought not to hear he rose to leave the chair, and it was during the excitement consequent upon that movement, and which did not occupy more than a minute or two, that the language reported must have been spoken, as Mr. Fielding immediately ceased speaking when he consented to resume the chair. He regrets now that he did not at once retire, and assures the Lord Chancellor that his loyalty is undoubted, and that he has no sympathy with the sentiments expressed in the address in question. The Lord Chancellor replies that the occurrence will no doubt make Mr. Gallagher more cautious for the future; and placing implicit reliance on the assurances of his loyalty to her Majesty, his lordship does not feel called upon to interfere further in relation to the proceeding.—Another discussion has arisen in reference to the speech of Dean Murphy at the Cork meeting, and to the hissing of the Queen's name which took place during its delivery. The Bishop, Dr. Delany, has published a protest, signed by Mr. Maguire, M.P., and other magistrates, denying that the Queen's name was hissed; but the *Cork Constitution*, which first published the speech, distinctly asserts that the report was perfectly correct, and reprints the passage *verbatim* from the short-hand writer's notes to prove it. In connection with this question we may quote from Mr. Maguire's own journal, the *Cork Examiner*, the following passage from a report of the recent sympathy meeting at Skibbereen:—

"Again (continued Mr. M'Carthy Downing) it is said that reforms are required at Rome. Probably it is so, and the people of Ireland, ay, of England, say that reforms are required in these kingdoms; but if the Queen and her Ministers do not forthwith grant them, is a section of the people to form themselves into illegal societies, assassinate the First Lord of the Treasury, and by force of arms try to expel the Queen from her throne? A voice—Certainly. (Cheers and uproar.) Mr. Downing—No, no. Voices—Yes, yes. (Renewed cheers and uproar.) Mr. Downing—I am astonished to hear such an observation come from any one. I regret exceedingly that at this meeting and in this house—the temple of God—any man should say that he would take a dagger to deprive our gracious Queen of her throne. (Cries of 'Hear, hear.') The Chairman—And as chairman of this meeting I denounce the observation as unchristian and uncatholic. (Renewed cries of 'Hear, hear.')"

## Scotland.

LORD JOHN RUSSELL'S ITALIAN POLICY.—The following address, unanimously agreed to at a meeting of the citizens of Glasgow held on the 16th inst., has been presented to Lord John Russell signed by the Lord Provost, the members for Glasgow and Paisley, and nearly 5000 persons:—

"We, the undersigned citizens of Glasgow, beg to express to your lordship our high satisfaction that, in the present critical aspect of Italian affairs, the direction of the foreign policy of this empire is in the hands of one who has proved his attachment to liberty by noble and successful labours on behalf of the civil and religious rights of his own countrymen. We hailed with the heartiest sympathy your lordship's 'loud and solemn protest' at Aberdeen (on occasion of your acceptance of the freedom of that city, Sept. 28, 1859), 'against any interference by foreign force' to prevent the Italian people from 'having their own Government,' and 'conducting their affairs as they like,' and becoming 'the free citizens of a free country.' Your lordship is reported to have said that if there should be a Congress of the Powers of Europe, 'we might assist only upon one condition—viz., that with respect to the using of foreign force, in order to compel those conditions of peace, whatever they may be, to be enforced, so as to interfere with the rights of the people of these countries to manage their own concerns—that if such is the object, or may be the result of such a Congress, England must stand apart and take no concern in it;' and we therefore hopefully conclude that the fact of her Majesty's Government consenting to take part in the Congress is a sign that the just rights of a great people are not to be outraged or destroyed. We now venture to address your lordship to give you the clearest and most earnest assurance that in the maintenance of the principles enunciated at Aberdeen you will be supported by this great community, and also, we firmly believe, by the nation at large. We accept gladly the guiding law of the foreign policy of our country your lordship's declaration that the different States of Europe should be independent, 'that (in your lordship's own words) they should manage their own concerns, and that no one State should have a preponderance in Europe, no matter what should be the constitutions or the internal government of the rest.' We assure your lordship that the practical maintenance of this principle, in its application to the affairs of Italy, will add to the gratitude of an Italian nation to the gratitude felt by your countrymen for your services unto them, and will join to the gratitude of Britain and Italy the admiring respect of every lover of freedom in the world at large. In times of anxious difficulty like the present, it cannot but strengthen the hands of a British Statesman if the world knows that he possesses the confidence of the people, the maintenance of whose honour he holds in charge. Such confidence we now express. You yourself declared 'the independence of the several States of Europe an object which Great Britain ought to feel a sympathy for and an interest in.' Feeling such sympathy and interest, we trust your lordship will stretch to the utmost the influence of Britain at the coming Congress to procure the withdrawal of all foreign troops whatsoever from Italian soil. Seldom in history has any people so suddenly proved itself adequate to the task of self-government as have the Italians in recent times. Seldom in history has so clear a way been opened for the spread of religious liberty over a land long held in spiritual bondage and foreign intervention has no excuse to plead, for it has no wrong to redress and no blessing to bestow. We believe that over the issue of the Congress a matter not merely of Italian but European moment. What safety can any State possess in its internal affairs are subject to the decision of a Congress? If the States of Central Italy are to be enforced to act against their own recorded convictions, why may not any other State be compelled to exist under like subordination to a few paramount Powers? It is the great question of European liberty itself which is now at stake. Finally, we would express our hope that your lordship's influence will be exerted to prevent undue delay in the proceedings of the Congress, as tending to complicate still more dangerously the difficulties of a land whose past history civilised Europe has a grateful interest—a land bounteously blessed by Providence, but too long unhappy through the misrule of men not native to its soil, and not rejoicing in its freedom or its glory. With high respect we remain your lordship's faithful obedient servants."

In reply to this address the committee has received the following letter:—

"Foreign Office, Dec. 26.

"Sir,—I have received with great satisfaction the address of nearly 5000 of the inhabitants of Glasgow, including the Lord Provost and the members of Parliament for the city. The support which is thus given by the flourishing and enlightened city of Glasgow to the principles by which her Majesty's Government have been guided, and the policy they have announced, cannot fail to give encouragement and add strength to the just cause they have espoused. I beg you to accept my cordial thanks for your letter accompanying the address, and have the honour to be, sir, your most obedient servant,

"J. RUSSELL."

INSTALLATION OF THE LORD RECTOR OF GLASGOW.—The formal installation of the Earl of Elgin and Kincardine, K.C.B., as Lord Rector of Glasgow University, took place on the 22d inst. in the City Hall. His lordship delivered a long and appropriate address on the occasion.

THE CASTLE OF EDINBURGH.—At the Court of Session last week judgment was given in the well-known case of "The Secretary of State for War v. The Magistrates of Edinburgh," relating to the right of property in the Esplanade of the Castle of Edinburgh, the ground forming the banks on both sides of it, and the ground around the foot of these banks and the Castle rock. These subjects were claimed by the Secretary of State as part of the patrimonial property of the Crown, and by the city of Edinburgh as having been granted to it by the Golden Charter of King James VI., dated 1603. When the cause was first tried the Lord Ordinary sustained the right of the Crown to the whole of the property in dispute, which includes the ground on which the Edinburgh and Glasgow Railway is formed (payment of the compensation in respect of which the city got from the railway

company), on the grounds that the charter of 1603 had been resigned by the city to the Crown; and that the Crown had besides had prescriptive possession, which was a sufficient answer to any title the city could possibly set up. The city reclaimed against his lordship's judgment, and the case having been debated in June last, the judgment of the court was delivered by Lord Deas on Saturday in a very elaborate speech, adhering to the Lord Ordinary's interlocutor. Expenses were also found due to the Crown since the date of that interlocutor, and the case was remitted to the Outer House, in order that any procedure necessary for having the boundaries marked off may be taken.

ST. ANDREW'S UNIVERSITY.—On the 24th ult. the election of a rector took place under the new Act, when Col. Mure was chosen over Sir Ralph Anstruther by a majority of the matriculated students. Colonel Mure however having declined to accept the office, a new election has taken place, when Sir Ralph Anstruther and Sir William Dunbar, M.P., being put in nomination, the former was elected by 64 to 57 votes.

## Law.

WINTER ASSIZES.—SOUTH WALES CIRCUIT: CARDIFF.—*Henry O'Connell*, 23, mariner, one of a class known in Welsh seaports as "Irish Yankees," was indicted for the wilful murder of Antonio Tesmecher, a Bremen seaman, at Cardiff, on the 21st November. The prisoner and a messmate named Rickards lodged in a low and vicious locality in the town, and were in the habit of visiting a house of ill repute. On the night named Rickards sought admission into the house, and on being denied kicked the panels of the door in. The prisoner then came out and the two men began scuffling, though whether in joke or not was not exactly apparent. One of a number of girls attracted to the spot upon laughing at the men was threatened by the prisoner, and the quarrel was then taken up by several men, by one of whom Rickards was knocked down senseless. The deceased was stated to be a mere spectator, standing by with his hands in his pockets, though others said he was fighting. He was however rushed upon by the prisoner with a knife, and received a stab in the left side, which penetrated to the heart, and another in the left shoulder. They fell together, the deceased crying "The knife! the knife!" A bystander attempted to drag the prisoner away, but was near being stabbed in so doing. Ultimately the prisoner and deceased rose together, when the latter staggered a few yards and fell dead. The jury returned a vedict of *Manslaughter*, and the prisoner was sentenced to 15 years' penal servitude.

MIDLAND CIRCUIT: DERBY.—*Child Murder at Ilkeston.*—*Sarah Allridge*, described in the calendar as a charwoman, was charged with the wilful murder of a newly born child, at Ilkeston on the 5th inst. It appeared that a daughter of the prisoner, who had always borne a respectable character in the village as a dressmaker had on or about the 5th inst. been delivered of a male child, and a rumour spread that the child had been given to the pigs. The prisoner and her daughter were apprehended, and as they denied the fact of a child having been born, a medical man was requested to examine the latter, when he ascertained that she had been delivered eight days previously. The mother subsequently admitted that the child was "not a whole child," and that she had buried it in the garden. The body was found buried in the garden at the spot indicated, and Mr. Eaton, the surgeon, described, from the *post mortem* examination he had made of the body, that the child had received several injuries, and had been buried alive, from the trace of earth having penetrated into the lungs and windpipe. For the defence it was contended that the child died from injuries sustained in its birth, and Mr. Gisborne, surgeon to the Derby Infirmary, differed from Mr. Eaton's opinion as to the earth having been inhaled, considering it possible that it had been washed down the throat by the heavy rain which occurred between the 5th and the 15th. Mr. Justice Crompton intimated his opinion that the case could not be supported as one of manslaughter, and that the question lay between a verdict of murder or of acquittal. The case was one requiring very full investigation, and as the medical evidence was so conflicting it was to be lamented that there were not two medical men engaged before the coroner, in whose court the case had originated, to make the *post mortem* examination. The jury *Acquitted* the prisoner and concurred in his lordship's opinions as to the propriety of two surgeons being always employed.

## Obituary.

THE MARCHIONESS OF BUTE died in Edinburgh on Wednesday. Her ladyship was the second daughter of the first Marquis of Hastings, and was married to the late Marquis of Bute in January, 1845. The late peer died in 1848, and left at his decease the present marquis, now in his 13th year.

LORD MACAULAY died suddenly at his residence in Kensington, on Wednesday evening. Although in 1852 he had a serious and protracted illness, from disease of the heart, the attack was subdued, and till within the last three weeks his health was tolerably good. About a fortnight since he had a second attack, from which, however, he rallied, and his medical advisers considered him out of immediate danger. Up to the end of last week he continued to amend, but a relapse took place, and terminated fatally. Lord Macaulay was the son of Mr. Zachary Macaulay, well known for his exertions for the abolition of the slave trade. He was born at Rothley Temple, Leicestershire, in 1800, and was therefore in his 59th year. He graduated at Cambridge with high honour, and in 1826 was called to the bar of Lincoln's Inn. In the same year he commenced his celebrated series of Essays in the "Edinburgh Review," which he continued at intervals down to 1844, though he filled in the meantime various important offices of state. In 1842, he published his "Lays of Ancient Rome," and in 1849 the first two volumes of his "History of England," now left incomplete by his death. For some time it has been rumoured that the fifth and sixth volumes of the work were about to appear, but even with this addition to the history, the work will be but a fragment after all. Lord Macaulay entered Parliament in 1830 as member for Calne, and afterwards sat for Leeds and Edinburgh, representing the latter city until raised to the peerage in 1857. He was never married, and the title has therefore died with him.

LORD HASTINGS died on the 27th inst. at his residence, 45, York Terrace, Regent's Park, after a short illness. His lordship

r quotations. Of spring Corn the few sales made were at e rates.

ARRIVALS FROM Dec. 26 TO Dec. 29.

| | Wheat. | Barley. | Oats. | Flour. |
|---|---|---|---|---|
| nglish .. | 1020 qrs. | 2940 qrs. | 1680 qrs. | 670 sks. |
| ish .... | — ,, | — ,, | 1500 ,, | — ,, |
| oreign .. | 2730 ,, | 12450 ,, | 8070 ,, | 150 ,, 1470 brls. |

LIVERPOOL, Tuesday, Dec. 27.—We had a moderate attendance our Corn Exchange this morning, and Wheat met a brisk emand at an improvement in some instances of 1d. per cental n Friday's rates. Flour without any change in price, but a stricted sale. Indian Corn is moving off freely, and more oney has been asked. Oats a slow sale. Oatmeal firm, good ualities scarce. Beans very dull, and may be quoted 6d. to s less. Peas without alteration.

FRIDAY, Dec. 30.—The grain market was well attended. Wheat in good demand at a slight advance. Flour unchanged. Beans and Indian Corn very firm. Oats, Oatmeal, and Barley teady.

| AVERAGES | Wheat. | Barley. | Oats. | Rye. | Beans. | Peas. |
|---|---|---|---|---|---|---|
| Nov. 19.. | 43s 1d | 35s11d | 21s11d | 28s 4d | 40s 9d | 39s 6d |
| — 26.. | 44 1 | 36 1 | 22 6 | 29 1 | 41 2 | 39 0 |
| Dec. 3.. | 44 8 | 36 5 | 21 9 | 30 7 | 41 9 | 39 3 |
| — 10.. | 43 11 | 35 10 | 21 5 | 32 10 | 41 1 | 39 1 |
| — 17.. | 43 8 | 35 1 | 21 9 | 30 0 | 41 0 | 38 9 |
| — 24.. | 43 6 | 34 9 | 21 1 | 28 10 | 39 11 | 37 6 |
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| 43 11 | .. | .. | .. | .. | .. | .. |
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| 43 6 | .. | .. | .. | .. | .. | .. |
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